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

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Addendum I

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

From data-month October 2002, a new location program ISCloc has been used in operations. Also, the IASPEI standard seismic phase list has now been adopted by the ISC, please see the last pages of this Bulletin for details.

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

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

The following example illustrates the changes :-

September 2002

*NEIC **01** 18:45:41.7±1.7,2170S×17955W,h600km,mb4.6/6,Error ellipse: s-maj=75.5km s-min=25.7km az=151.0*
*IDC **01** 18:45:46.3±2.6,2176S×17970W,h627km±37km,mb3.5/4, mb1 3.7/4,mb1mx3.2/14,Error ellipse: s-maj=83.2km s-min=20.6km az=159.0*
ISC 01 18:45:43.1±2.7,223S±02×1796W±03,h613km±42km,n22, σ1§15/21,mb4.4/9,1C,South of Fiji Islands

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

From data-month January 2006 the ISC hypocentres are computed using the AK135 earth velocity model (*Kennett, B.L.N. Engdahl, E.R. & Buland R., 1995. Constraints on seismic velocities in the Earth from travel times, Geophys J Int, 122, 108-124; B.L.N. Kennett, 2005. Seismological tables: ak135. Research School of Earth Sciences, the Australian National University, Canberra*) and then reviewed by the ISC seismologists. The ISC still produces the hypocentre solutions based on Jeffreys-Bullen travel time tables (agency code ISCJB), yet these solutions are no longer reviewed.

The ISC is planning to re-compute the entire ISC dataset using AK135 once new location procedures are designed, tested, discussed and approved by the ISC Governing Council. Until that time the automatic ISCJB locations will continue to be produced alongside the AK135 solutions to observe the long-time continuity of the ISC Bulletin.

*BJI **01** 00:02:13.8, 6075N× 16744E, h20km, mB5.1, mb4.7, Ms4.9, Msz4.7*
*KRSC **01** 00:02:13.7± 0.6, 6045N× 16746E, h4km± 5km, ML4.5*
*IDC **01** 00:02:13.4± 0.5, 6045N× 16728E, h0km, mb4.4/21, mb1 4.6/22, mb1mx4.6/25, mbtmp4.4/22, ML3.8/1, Error ellipse: s-maj=13.5km s-min=12.7km az=174.0*
*MOS **01** 00:02:14.6± 0.8, 6048N× 167.14E, h16km, mb5.1/72, MS4.4/4, Error ellipse: s-maj=10.5km s-min=4.2km az=94.0*
*ISCJB **01** 00:02:14.7± 0.2, 6049N± 002× 16724E± 006, h15km, mb4.8/147, MS4.8/11, Error ellipse: s-maj=4.5km s-min=2.5km az=66.8*
*SZGRF **01** 00:02:15.5, 5975N× 16535E, h33km, mb5.0, Eastern Siberia, Russia*
*NEIC **01** 00:02:15.8± 0.1, 6041N× 16720E, mb5.0/71, MS5.3/1, Error ellipse: s-maj=3.9km s-min=2.9km az=160.0*

ISC 01 00:02:16.5± 0.2, 6053N± 002× 16723E± 006, h16km, h16km± 1.5km: pP-P, n375, σ0 s91/387, mb4.8/147, MS4.8/11, 112C-9D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
KAMR	**Kamenskoye**	**2.00**	**346**	*i* P		**Pn**	**00 02 50.9**	**+1.4**
KAMR				*e*S		**Sn**	**00 03 17.5**	**+3.4**
KAMR				Smax				
	8μm,1.0s							
OSSR	**Ossora**	**2.46**	**240**	*e*P		**Pn**	**00 02 55.5**	**-0.4**
KBG	**Krutoberegovo**	**4.90**	**211**	*e*P		**Pn**	**00 03 29.7**	**+0.3**
KBG				Smax				
	400nm,1.1s							
KBTR	**Krutoberegovo**	**4.91**	**210**	P		**Pn**	**00 03 28.5**	**-1.1**
KBTR				S		**Sn**	**00 04 24.2**	**-1.8**
KBTR	**Krutoberegovo**	**4.91**	**210**	*e*P		**Pn**	**00 03 29.3**	**-0.3**
KBTR				*e*S		**Sn**	**00 04 24.8**	**-1.2**
SMKR	**Semkarok**	**4.97**	**220**	*e*P		**Pn**	**00 03 31.0**	**+0.6**
SRKR	**Sorokina**	**5.01**	**222**	*e*P		**Pn**	**00 03 31.6**	**+0.7**
BDR	**Baidarnaya**	**5.07**	**221**	*e*P		**Pn**	**00 03 32.4**	**+0.7**
BKI	**Bering**	**5.38**	**188**	*e*P		**Pn**	**00 03 36.0**	**0.0**
BKI				Smax				
	170nm,1.4s							
KLY	**Klyuchi**	**5.46**	**222**	*e*P		**Pn**	**00 03 37.4**	**+0.4**
KRSR	**Krestovskiy**	**5.56**	**222**	*e*P		**Pn**	**00 03 38.9**	**+0.4**
CIRR	**Tsirk**	**5.59**	**221**	*e*P		**Pn**	**00 03 39.8**	**+1.0**
LGNR	**Loginova**	**5.63**	**221**	*e*P		**Pn**	**00 03 40.9**	**+1.5**
ZLN	**Zelenaya**	**5.65**	**220**	*e*P		**Pn**	**00 03 40.7**	**+1.0**
SRDR	**Sredinnyy**	**5.78**	**226**	*e*P		**Pn**	**00 03 42.7**	**+1.3**
KPT	**Kopyto**	**5.88**	**222**	*e*P		**Pn**	**00 03 43.9**	**+1.1**
KOZ	**Kozyrevsk**	**5.92**	**224**	P		**Pn**	**00 03 42.3**	**-1.2**
KMNR	**Kamenistaya**	**6.05**	**221**	*e*P		**Pn**	**00 03 46.8**	**+1.7**
TUMR	**Tumrok**	**6.47**	**219**	*e*P		**Pn**	**00 03 53.1**	**+2.2**
MKZ	**Mys Kozlova**	**6.68**	**209**	P		**Pn**	**00 03 54.7**	**+0.9**
MKZ	**Mys Kozlova**	**6.68**	**209**	P		**Pn**	**00 03 55.8**	**+2.0**
SEY	**Seymchan**	**7.45**	**295**	*e*P		**Pn**	**00 04 08.3**	**+3.9**
BILL	**Bilíbino**	**7.56**	**357**	*e*PN		**Pn**	**00 04 07.5**	**+1.6**
BILL	**Bilibino**	**7.56**	**357**	*e*Pn		**Pn**	**00 04 07.5**	**+1.7**
BILL				*e*S		**Sb**	**00 06 01.1**	**+4.2**
BILL	**Bilibino**	**7.56**	**357**	*e*P		**Pn**	**00 04 08.9**	**+3.0**
BILL				Smax				
	690nm,1.3s							
MA2	**Magadan**	**8.29**	**271**	*e*PN		**Pn**	**00 04 17.1**	**+1.1**
MA2				pmax	pmax			
	comp=E,40nm,0.5s							
MA2				pmax	pmax			
	comp=Z,40nm,0.5s							
MA2				MLR	MLR			
	comp=Z,16μm,19.4s							
MA2	**Magadan**	**8.29**	**271**	*i* P		**Pn**	**00 04 19.0**	**+3.0**
FX1	**Attu Island--F**	**8.33**	**154**	Pn		**Pn**	**00 04 12.7**	**-3.8**
	comp=Z,3.9nm,0.3s,baz=66,slow=23,SNR=4.3							
FX1	**Attu Island--F**	**8.33**	**154**	PN		**Pn**	**00 04 12.7**	**-3.7**
FX1				pmax	pmax			
	comp=Z,4.0nm,0.3s							
SPN	**Mys Shipunski**	**8.43**	**211**	P		**Pn**	**00 04 18.5**	**+0.7**
SPN				*e*S		**Sn**	**00 05 50.2**	**-2.3**
GNL	**Ganaly**	**8.50**	**220**	*e*P		**Pn**	**00 04 20.8**	**+1.9**
NLC	**Nalytchevo**	**8.54**	**214**	P		**Pn**	**00 04 20.7**	**+1.3**
NLC	**Nalytchevo**	**8.54**	**214**	*e*P		**Pn**	**00 04 20.5**	**+1.1**
NLC				*e*S		**Sn**	**00 05 53.3**	**-2.0**
SDLR	**Sedlovina**	**8.57**	**216**	*e*P		**Pn**	**00 04 21.1**	**+1.3**
SMAR	**Somma**	**8.61**	**216**	*e*P		**Pn**	**00 04 21.0**	**+0.6**
AVH	**Avacha**	**8.63**	**216**	*e*P		**Pn**	**00 04 23.2**	**+2.6**
KOK	**Koryaka**	**8.63**	**217**	*e*P		**Pn**	**00 04 23.2**	**+2.5**
UGLR	**Uglovaya**	**8.65**	**216**	*e*P		**Pn**	**00 04 23.3**	**+2.4**
PET	**Petropavlovsk**	**8.87**	**216**	*de*PN		**Pn**	**00 04 27.3**	**+3.5**
PET	**Petropavlovsk**	**8.87**	**216**	P		**Pn**	**00 04 27.9**	**+4.1**
APC	**Apacha**	**9.41**	**220**	*e*P		**Pn**	**00 04 31.3**	**+0.1**
TTA	**Tatalina**	**17.42**	**66**	*e*P		**Pn**	**00 06 20.9**	**+2.2**
TTA				pmax	pmax			
	comp=Z,104nm,1.7s							
TTA	**Tatalina**	**17.42**	**66**	*e*P		**Pn**	**00 06 20.9**	**+2.2**
	comp=Z,104nm,1.7s							
YAK	**Yakutsk**	**17.95**	**291**	*e*P		**Pn**	**00 06 26.2**	**+1.0**
YAK				*e*S		**Sn**	**00 09 49.4**	**+4.5**
YAK				pmax	pmax			
	comp=E,94nm,1.3s							
YAK				pmax	pmax			
	comp=Z,161nm,1.3s							
YAK				pmax	pmax			
	comp=N,14nm,1.1s							
YAK				smax				
	comp=N,6.0nm,1.7s							
YAK				MLR	MLR			
	comp=Z,812nm,16.0s							
YAK				MLR	MLR			
	comp=E,666nm,15.0s							
YAK	**Yakutsk**	**17.95**	**291**	*e*Pn		**Pn**	**00 06 26.8**	**+1.6**
	comp=E,182nm,0.9s							
TIXI	**Tiksi**	**18.70**	**322**⇑	*e*P		**Pn**	**00 06 33.6**	**-0.8**
TIXI				pmax	pmax			
	comp=Z,14nm,0.8s							
YSS	**Yuzh-Sakhalins**	**19.69**	**237**	*e*P		**Pn**	**00 06 43.8**	**-2.5**
KDAK	**Kodiak Island**	**20.56**	**80**	P		**P**	**00 06 53.3**	**-1.0**
	comp=Z,11nm,0.7s,baz=283,slow=1.1,SNR=8.3							
COLA	**College**	**20.70**	**59**	||*i* P		**P**	**00 06 56.9**	**+1.1**
ILAR	**Eielson Array**	**21.12**	**59**	P		**P**	**00 07 00.4**	**+0.1**
	comp=Z,23nm,0.9s,mb4.5,baz=260,slow=7.1,SNR=41							
CLNS	**Chul'man**	**22.02**	**279**	*e*P		**P**	**00 07 09.6**	**-0.5**
CLNS				*e*PP			00 07 15.9	
CLNS				*e*PPP			00 07 28.9	
CLNS				*e*S		**S**	**00 11 03.3**	**-9.1**
CLNS				*e*			00 11 08.7	
CLNS				pmax	pmax			
	comp=Z,19nm,0.7s,mb4.6							
CLNS				pmax	pmax			
	comp=N,10.0nm,0.9s							
CLNS				pmax	pmax			
	comp=E,13nm,0.8s							
CLNS				smax				
	comp=N,13nm,1.0s							
CLNS				smax				
	comp=Z,7.0nm,0.8s							
CLNS				smax				
	comp=E,10.0nm,0.9s							
CLNS				MLR	MLR			
	comp=N,300nm,11.0s,MS4.5							
CLNS				MLR	MLR			
	comp=Z,1μm,11.0s,MS4.5							
CLNS				MLR	MLR			
	comp=E,900nm,12.0s,MS4.5							
KLR	**Kul'dur**	**23.02**	**257**	*e*P		**P**	**00 07 15.9**	**-4.8**
DAWY	**Dawson**	**24.45**	**59**	*e*P		**P**	**00 07 34.2**	**-0.2**
INK	**Inuvik**	**25.73**	**47**	P		**P**	**00 07 45.9**	**-0.1**
	comp=E,42nm,0.9s,mb5.0,baz=286,slow=11,SNR=54							
INK	**Inuvik**	**25.73**	**47**	*e*P		**P**	**00 07 45.8**	**-0.2**
INK				pmax	pmax			
	comp=Z,194nm,1.4s							
INK	**Inuvik**	**25.73**	**47**	*e*P		**P**	**00 07 45.8**	**-0.2**
	comp=Z,194nm,1.4s,mb5.4							
BOD	**Bodaibo**	**26.79**	**288**	*e*P		**P**	**00 07 55.0**	**-0.6**
BOD				pmax	pmax			
	comp=Z,56nm,1.4s,mb4.9							
MDJ	**Mudanjiang**	**27.37**	**252**	*e*P		**P**	**00 07 59.3**	**-1.5**
HIA	**Hailar**	**28.88**	**269**⇑	*i*P		**P**	**00 08 13.5**	**-0.8**
CN2	**Changchun**	**29.95**	**255**	*e*P		**P**	**00 08 28.1**	**+4.4**
CN2				*e*XP		sP	00 08 35.0	+4.2
CN2				*e*S		**S**	**00 13 24.1**	**+3.5**
CN2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.6							
CN2				LR	LR			
	comp=Z,1μm,19.0s,MS4.5							
MAJO	**Matsushiro**	**30.29**	**231**	*e*P		**P**	**00 08 25.6**	**-1.2**
MAT	**Matsushiro**	**30.29**	**231**	P		**P**	**00 08 26.1**	**-0.7**
MAT	**Matsushiro**	**30.29**	**231**	*e*P		**P**	**00 08 26.0**	**-0.8**
MAT				pmax	pmax			
	comp=Z,8.0nm,0.7s,mb4.6							
MAT	**Matsushiro**	**30.29**	**231**	*e*P		**P**	**00 08 26.0**	**-0.8**
	comp=Z,8.2nm,0.7s,mb4.6							
MJAR	**Matsushiro Arr**	**30.29**	**231**	P		**P**	**00 08 25.9**	**-0.9**
	comp=Z,7.4nm,0.9s,mb4.4,baz=15,slow=8.5,SNR=12							
DLBC	**Dease Lake**	**30.87**	**66**	P		**P**	**00 08 30.8**	**-1.1**
	comp=Z,1.8nm,0.7s,mb4.0,baz=320,slow=16,SNR=2.0							
SNY	**Shenyang**	**32.34**	**255**	⇑P		**P**	**00 08 44.4**	**-0.4**
SNY				AMB	AMB			
	comp=Z,16nm,1.8s,mb4.5							
KS15	**Wonju Array Si**	**33.84**	**245**	P		**P**	**00 08 56.9**	**-1.0**
ALE	**Alert**	**34.97**	**10**	P		**P**	**00 09 07.6**	**-0.1**
	comp=Z,54nm,0.9s,mb5.5,SNR=8.6							
TLY	**Talaya**	**35.20**	**285**	*e*P		**P**	**00 09 07.8**	**-1.9**
YKA	**Yellowknife Ar**	**35.23**	**52**	P		**P**	**00 09 09.3**	**-0.6**
	comp=Z,1.2nm,0.6s,mb4.0,baz=302,slow=8.1,SNR=20							
YKA				PcP	PcP		00 11 39.4	-1.2
	comp=Z,1.9nm,1.0s,baz=306,slow=2.5,SNR=9.0							
YKA	**Yellowknife Ar**	**35.23**	**52**	P		**P**	**00 09 09.3**	**-0.6**
YKA				PcP	PcP		00 11 39.4	-1.2
ULN	**Ulaanbaatar**	**36.08**	**277**⇑	*e*P		**P**	**00 09 17.4**	**+0.1**
ULN	**Ulaanbaatar**	**36.08**	**277**	*e*P		**P**	**00 09 17.7**	**+0.4**
	comp=Z,17nm,1.2s,mb4.8							
ZAK	**Zakamensk**	**36.22**	**283**	*e*P		**P**	**00 09 14.5**	**-4.0**
ZAK				pmax	pmax			
	comp=Z,15nm,1.5s,mb4.7							
SONM	**Songino Array**	**36.42**	**278**	P		**P**	**00 09 21.2**	**+1.0**
	comp=Z,6.5nm,1.0s,mb4.5,baz=37,slow=9.3,SNR=6.4							
SONM				PcP	PcP		00 11 43.8	-0.4
	comp=Z,2.7nm,1.0s,baz=80,slow=1.6,SNR=5.4							
MOY	**Mondy**	**36.48**	**286**	*e*P		**P**	**00 09 21.5**	**+0.9**
MOY				pmax	pmax			
	comp=Z,69nm,1.9s,mb5.3							
BJI	**Beijing**	**37.29**	**260**	P		**P**	**00 09 27.4**	**-0.2**
BJI				AMB	AMB			
	comp=Z,15nm,0.9s,mb4.8							
BJT	**Baijiatuau**	**37.31**	**260**	*e*P		**P**	**00 09 27.5**	**-0.2**
HHC	**Hu-ho-hao-te**	**38.93**	**265**	*e*P		**P**	**00 09 43.8**	**+2.4**
HHC				AP	pP		00 09 48.7	+2.2
HHC				XP	sP		00 09 51.7	+3.2
HHC				PCP	PcP		00 11 54.9	+3.0
HHC				S	**S**		**00 15 39.6**	**+0.5**
HHC				SCP	ScP		00 15 41.9	+2.4
HHC				XS	sS		00 15 48.7	+1.2
HHC				SS	SS		00 18 23.9	-7.0
HHC				SCS	ScS		00 19 51.1	+0.6
HHC				AMB	AMB			
	comp=Z,18nm,1.1s,mb4.7							
HHC				LR	LR			
	comp=N,472nm,13.7s,MS4.7							
HHC				LR	LR			
	comp=E,571nm,12.7s,MS4.7							
HHC				LR	LR			
	comp=Z,753nm,16.7s,MS4.6							
EDM	**Edmonton**	**41.49**	**63**	*e*P		**P**	**00 10 02.9**	**+0.3**
EDM	**Edmonton**	**41.49**	**63**	*e*P		**P**	**00 10 02.5**	**-0.1**
SSE	**Sheshan**	**42.17**	**247**	P		**P**	**00 10 10.3**	**+2.1**
SSE				AMB	AMB			
	comp=Z,12nm,0.8s,mb4.6							
SSE				AMB	AMB			
	comp=Z,149nm,10.9s							
NVS	**Novosibirsk**	**42.36**	**301**	*i* P		**P**	**00 10 08.7**	**-1.0**
NVS				*e*			00 11 46.5	
NVS				pmax	pmax			
	comp=E,30nm,1.3s							
NVS				pmax	pmax			
	comp=Z,34nm,1.3s,mb4.8							
NVS				pmax	pmax			
	comp=N,27nm,1.7s							
NJ2	**Nanjing**	**42.44**	**250**	*e*P		**P**	**00 10 14.8**	**+4.4**
NJ2				AP	pP		00 10 19.2	+3.7
NJ2				XP	sP		00 10 22.8	+5.3
NJ2				PP	PP		00 11 55.4	+6.6
NJ2				S	**S**		**00 16 36.0**	**+4.5**
NJ2				XS	sS		00 16 44.0	+4.1
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.7s,mb4.5							
NJ2				AMB	AMB			
	comp=Z,120nm,6.0s							
NJ2				LR	LR			
	comp=N,800nm,15.6s,MS4.9							
NJ2				LR	LR			
	comp=E,800nm,15.3s,MS4.9							
FCC	**Fort Churchill**	**45.34**	**46**	*e*P		**P**	**00 10 33.0**	**-0.7**
FCC				pmax	pmax			
	comp=Z,29nm,1.4s,mb4.9							
FCC	**Fort Churchill**	**45.34**	**46**	*e*P		**P**	**00 10 33.0**	**-0.7**
	comp=Z,29nm,1.4s,mb4.9							
GTA	**Gaotai**	**45.84**	**274**	*e*P		**P**	**00 10 37.5**	**-0.1**
GTA				AP	pP		00 10 46.5	+3.7
GTA				XP	sP		00 10 51.2	+6.4
GTA				PCP	PcP		00 12 16.1	+1.3
GTA				PP	PP		00 12 25.7	+0.7
GTA				PPP			00 13 10.0	
GTA				SCP	ScP		00 16 04.5	-2.6
GTA				PCS	PcS		00 16 09.3	+0.2
GTA				S	**S**		**00 17 21.5**	**+0.6**
GTA				XS	sS		00 17 37.1	+7.7
GTA				SCS	ScS		00 20 28.7	-4.3
GTA				SS	SS		00 20 37.0	-8.5
GTA				AMB	AMB			
	comp=Z,8.0nm,1.4s,mb4.5							
GTA				AMB	AMB			
	comp=Z,280nm,11.5s							
GTA				LR	LR			
	comp=N,629nm,19.1s,MS4.7							
GTA				LR	LR			
	comp=E,578nm,17.6s,MS4.7							
GTA				LR	LR			
	comp=Z,694nm,15.3s,MS4.7							
SUMG	**Summit**	**46.01**	**10**	*e*P		**P**	**00 10 39.1**	**+0.1**
	comp=Z,27nm,0.9s,mb5.2							
CHMT	**Chamberlain Mo**	**46.02**	**70**	*e*P		**P**	**00 10 38.6**	**-0.4**
LZH	**Lanzhou**	**46.44**	**268**	*e*P		**P**	**00 10 41.1**	**-1.3**
LZH				AP	pP		00 10 47.4	-0.1
LZH				XP	sP		00 10 52.2	+2.7
LZH				PP	PP		00 12 30.0	-1.4
LZH				*e*S		**S**	**00 17 24.0**	**-5.5**
LZH				*e*SS		SS	00 20 42.0	-13
LZH				AMB	AMB			
	comp=Z,70nm,1.6s,mb5.3							
LZH				AMB	AMB			
	comp=Z,210nm,4.4s							
LZH				LR	LR			
	comp=E,1μm,14.3s							
LZH				LR	LR			
	comp=Z,2μm,15.2s,MS5.2							
KEV	**Kevo**	**46.96**	**342**	*e*p		**P**	**00 10 42.6**	**-3.9**
	comp=Z,0.5nm,0.3s,mb3.9							
KEV	**Kevo**	**46.96**	**342**	*e*P		**P**	**00 10 42.6**	**-3.9**
KEV				pmax	pmax			
	comp=Z,1.0nm,0.3s,mb4.2							
KURK	**Kurchatov**	**47.27**	**300**	P		**P**	**00 10 48.6**	**-0.3**
	comp=Z,165nm,1.3s,mb5.8,SNR=14							
KURK	**Kurchatov**	**47.27**	**300**	*e*P		**P**	**00 10 48.6**	**-0.3**
KURK				*e*PP		pP	00 10 52.7	-1.3
KURK				*e*			00 12 39.3	
KURK				pmax	pmax			
	comp=Z,52nm,1.3s,mb5.3							
KURK	**Kurchatov**	**47.27**	**300**	*e*P		**P**	**00 10 48.6**	**-0.3**
	comp=Z,52nm,1.3s,mb5.3							
KURK				*e*pP		pP	00 10 52.6	-1.4
KURK				*e*PP		PP	00 12 39.3	-0.6
TATO	**Taipei**	**47.30**	**242**	*e*P		**P**	**00 10 47.4**	**-1.7**
LVZ	**Lovozero**	**47.32**	**338**⇑	*e*P		**P**	**00 10 48.7**	**-0.6**
LVZ				pmax	pmax			
	comp=Z,19nm,1.1s,mb4.9							
ARCES	**ARCESS Array B**	**47.38**	**343**	P		**P**	**00 10 49.3**	**-0.4**
	comp=Z,11nm,0.8s,mb4.8,baz=31,slow=8.6,SNR=21							
WMQ	**Urumqi**	**48.34**	**288**	P		**P**	**00 10 58.2**	**+1.0**
WMQ				AP	pP		00 11 02.7	+0.4
WMQ				XP	sP		00 11 05.2	+0.9
WMQ				PCP	PcP		00 12 25.7	+2.0
WMQ				PP	PP		00 12 50.0	+0.3
WMQ				*e*S		**S**	**00 17 56.0**	**-0.6**
WMQ				XS	sS		00 18 03.5	-1.6
WMQ				AMB	AMB			
	comp=Z,17nm,1.1s,mb5.0							
WMQ				AMB	AMB			
	comp=Z,405nm,7.4s							
WMQ				LR	LR			
	comp=N,873nm,20.4s,MS4.8							
WMQ				LR	LR			
	comp=E,610nm,21.4s,MS4.8							
WMQ				LR	LR			
	comp=Z,905nm,23.4s,MS4.7							
ENH	**Enshi**	**48.37**	**258**	P		**P**	**00 10 56.5**	**-0.9**
GCMT	**Greycliff**	**48.51**	**68**	*e*P		**P**	**00 11 00.0**	**+1.6**
MKAR	**Makanchi Array**	**48.59**	**294**	P		**P**	**00 10 57.6**	**-1.4**
	comp=Z,0.9nm,0.5s,mb4.1,baz=32,slow=5.5,SNR=8.1							
MKAR				PP	PP		00 12 48.8	-3.1
	comp=Z,3.2nm,0.9s,baz=49,slow=8.8,SNR=5.1							
BRVK	**Borovoye**	**48.94**	**307**	P		**P**	**00 11 01.2**	**-0.6**
	comp=Z,186nm,0.9s,SNR=22							
BRVK	**Borovoye**	**48.94**	**307**	*e*P		**P**	**00 11 01.3**	**-0.5**
BRVK				*e*PP		pP	00 11 06.1	-0.8
BRVK				pmax	pmax			
	comp=Z,34nm,1.2s,mb5.2							
BRVK	**Borovoye**	**48.94**	**307**	*e*P		**P**	**00 11 01.3**	**-0.5**
	comp=Z,34nm,1.2s,mb5.3							
BRVK				*e*pP		pP	00 11 06.1	-0.8
IMW	**Indian Meadow**	**49.36**	**71**	*e*P		**P**	**00 11 05.3**	**+0.4**
	comp=Z,12nm,1.4s,mb4.8							
ZRNK	**Zerenda**	**49.52**	**308**	*e*P		**P**	**00 11 05.8**	**-0.4**
ZRNK				*e**PP		pP	00 11 10.3	-1.1
ZRNK				pmax	pmax			
	comp=Z,38nm,1.1s,mb5.3							
ZRNK	**Zerenda**	**49.52**	**308**	*e*P		**P**	**00 11 05.8**	**-0.5**
	comp=Z,38nm,1.1s,mb5.3							
ZRNK				*e*pP		pP	00 11 10.3	-1.1
MOOW	**Moose Ponds**	**49.56**	**71**	*e*P		**P**	**00 11 07.2**	**+0.6**
	comp=Z,7.6nm,1.6s,mb4.5							
GUMO	**Guam**	**49.64**	**209**	P		**P**	**00 11 06.2**	**-0.9**
GUMO				*e**PP		pP	00 11 10.0	-2.3
TPAW	**Teton Pass**	**49.66**	**71**	*e*P		**P**	**00 11 07.6**	**+0.3**
	comp=Z,5.4nm,1.0s,mb4.5							
LOHW	**Long Hollow**	**49.73**	**71**	*e*P		**P**	**00 11 08.3**	**+0.5**
	comp=Z,4.6nm,1.2s,mb4.4							
NVAR	**Mina Array Bea**	**50.06**	**81**	P		**P**	**00 11 10.0**	**-0.3**
	comp=Z,0.8nm,0.7s,mb3.8,baz=308,slow=5.3,SNR=6.4							
ARU	**Arti**	**50.60**	**317**	P		**P**	**00 11 14.3**	**-0.1**
	comp=Z,133nm,1.2s,mb5.7,SNR=7.3							
ARU	**Arti**	**50.60**	**317**⇑	*i*P		**P**	**00 11 14.4**	**0.0**
ARU				*e*			00 13 09.6	
ARU				*e*S		**S**	**00 18 27.6**	**-0.7**
ARU				*e*SS		SS	00 22 05.7	+3.3
ARU				pmax	pmax			
	comp=Z,28nm,1.2s,mb5.1							
ARU	**Arti**	**50.60**	**317**	*e*P		**P**	**00 11 13.8**	**-0.6**
	comp=Z,46nm,1.3s,mb5.2							
ARU				*e*pP		pP	00 11 18.2	-1.4
CD2	**Chengdu**	**50.65**	**264**	*e*P		**P**	**00 11 19.0**	**+4.2**
CD2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.8							
PDAR	**Pinedale Array**	**50.87**	**70**	P		**P**	**00 11 15.6**	**-0.8**
	comp=Z,2.3nm,0.9s,mb4.1,baz=328,slow=5.3,SNR=11							
ULM	**Lac du Bonnet**	**51.08**	**55**	P		**P**	**00 11 16.3**	**-1.7**
	comp=Z,2.8nm,0.7s,mb4.3,baz=294,slow=8.2,SNR=3.8							
JOF	**Joensuu**	**52.40**	**336**	*e*p		**P**	**00 11 27.8**	**-0.1**
	comp=Z,0.5nm,0.3s,mb3.9							
KLMR	**Klimovskoe**	**52.43**	**331**	*c i*P		**P**	**00 11 27.9**	**-0.2**
KLMR				pmax	pmax			
	comp=Z,40nm,1.5s,mb5.1							
GYA	**Guiyang**	**52.91**	**258**⇑	*i*P		**P**	**00 11 30.9**	**-0.8**
GYA				AP	pP		00 11 35.8	-1.1
GYA				XP	sP		00 11 38.2	-0.7
GYA				PCP	PcP		00 12 42.6	+2.0
GYA				PP	PP		00 13 29.4	-1.8
GYA				S	**S**		**00 18 53.1**	**-7.0**
GYA				AMB	AMB			
	comp=Z,20nm,1.0s,mb5.0							
GYA				AMB	AMB			
	comp=Z,90nm,3.8s							
GYA				LR	LR			
	comp=N,420nm,18.0s,MS4.7							
GYA				LR	LR			
	comp=E,410nm,17.9s,MS4.7							
GYA				LR	LR			
	comp=Z,480nm,18.2s,MS4.6							
ARUT	**Antelope Range**	**52.92**	**77**	*e*P		**P**	**00 11 31.7**	**-0.1**
MSU	**Marysvale**	**52.96**	**76**	*e*P		**P**	**00 11 34.7**	**+2.7**
SRU	**San Rafael**	**53.28**	**74**	*e*P		**P**	**00 11 34.7**	**+0.4**
SRU				pmax	pmax			
	comp=Z,12nm,1.0s,mb4.8							
SRU	**San Rafael**	**53.28**	**74**	*e*P		**P**	**00 11 34.7**	**+0.3**
	comp=Z,12nm,1.0s,mb4.8							
KAF	**Kangasniemi**	**54.09**	**339**	*e*p		**P**	**00 11 39.1**	**-1.2**
	comp=Z,0.7nm,0.3s,mb4.1,baz=20,slow=6.9							
KAF	**Kangasniemi**	**54.09**	**339**	*e*P		**P**	**00 11 39.1**	**-1.2**
KAF				pmax	pmax			
	comp=Z,1.0nm,0.3s,mb4.2							
PV10	**Paradox Valley**	**54.56**	**74**	*e*P		**P**	**00 11 45.1**	**+1.4**
FINES	**FINESS Array B**	**54.75**	**338**	P		**P**	**00 11 43.9**	**-1.2**
	comp=Z,6.4nm,0.8s,mb4.7,baz=21,slow=7.7,SNR=25							
FINES	**FINESS Array B**	**54.75**	**338**	*i* P		**P**	**00 11 44.2**	**-0.9**
FINES				pmax	pmax			
	comp=Z,6.0nm,0.8s							
PV01	**Paradox Valley**	**54.98**	**73**	*e*P		**P**	**00 11 46.9**	**+0.1**
FRU	**Bishkek**	**55.10**	**296**	*e*P		**P**	**00 11 47.0**	**-0.6**
PECR	**Pechory**	**55.18**	**325**	*i* P		**P**	**00 11 48.0**	**-0.2**
PECR				pmax	pmax			
	comp=Z,400nm,1.6s							
AAK	**Ala-Archa**	**55.31**	**296**	P		**P**	**00 11 48.6**	**-0.6**
	comp=Z,27nm,1.1s,mb5

GUN Gumba 61.93 277 *e*P P 00 12 34.9 -0.4
comp=E,91nm,0.9s,mb5.9
JIRN Jiri 61.99 277 *e*P P 00 12 35.2 -0.5
comp=E,62nm,1.5s,mb5.5
SUW Suwalki 62.27 337 *e*P P 00 12 36.5 -1.0
WMOK Wichita Mounta 62.31 68 *e*P P 00 12 36.9 -0.9
WMOK pmax pmax
comp=Z,13nm,1.3s,mb4.9
WMOK Wichita Mounta 62.31 68 *e*P P 00 12 36.9 -0.9
comp=Z,13nm,1.3s,mb4.9
KKN Kakani 62.33 278 *e*P P 00 12 37.8 -0.1
comp=Z,26nm,0.9s,mb5.3
PKI Pulchoki 62.44 278 *e*P P 00 12 38.6 -0.1
comp=Z,38nm,1.0s,mb5.5
GKN Gorkha 62.46 279 *e*P P 00 12 38.3 -0.5
comp=Z,81nm,1.1s,mb5.8
DMN Daman 62.56 278 *e*P P 00 12 39.4 -0.1
comp=Z,23nm,0.8s,mb5.3
KOLN Koldanda 63.16 279 *e*P P 00 12 43.2 -0.3
comp=Z,44nm,1.0s,mb5.6
GKP Gorka Klasztor 64.04 340 *e*P P 00 12 49.4 +0.1
AKASG Malin Array Be 64.08 332 P P 00 12 48.9 -0.7
comp=Z,8.6nm,0.8s,mb4.8,baz=22,slow=6.3,SNR=34
AKASG Malin Array Be 64.08 332 *i* P P 00 12 49.0 -0.6
AKASG pmax pmax
comp=Z,9.0nm,0.8s
ESK Eskdalemuir 64.25 354 *e*P P 00 12 50.9 +0.2
ESK pmax pmax
comp=Z,29nm,1.1s,mb5.2
ESK Eskdalemuir 64.25 354 *e*P P 00 12 50.9 +0.2
comp=Z,29nm,1.1s,mb5.2
BSEG Bad Segeberg 64.41 345 *e*P P 00 12 52.2 +0.5
comp=Z,15nm,1.1s,mb4.9
GOF Gofitskoye 65.41 320 *e*P P 00 12 58.4 +0.2
WVT Waverly 65.98 59 *e*P P 00 13 01.3 -0.6
WVT pmax pmax
comp=Z,14nm,1.1s,mb4.9
WVT Waverly 65.98 59 *e*P P 00 13 01.3 -0.7
comp=Z,14nm,1.1s,mb4.9
IBBN Ibbenburen 66.32 346 *e*P P 00 13 04.3 +0.2
comp=Z,20nm,1.0s,mb5.1
CLZ Clausthal 66.45 345 *e*P P 00 13 05.2 +0.3
comp=Z,20nm,1.2s,mb5.0
CLZ Clausthal 66.45 345 *e*P P 00 13 05.2 +0.3
CLZ pmax pmax
comp=Z,20nm,1.2s,mb5.0
KIV Kislovodsk 66.51 320⇑ *e*P P 00 13 05.5 +0.2
KIV pmax pmax
comp=Z,11nm,1.0s,mb4.8
KIV Kislovodsk 66.51 320 *e*P P 00 13 04.7 -0.6
comp=Z,10nm,0.9s,mb4.9
KWP Kalwaria 66.52 336 *e*P P 00 13 05.7 +0.3
OJC Ojcow 66.52 338 *e*P P 00 13 05.6 +0.2
KSP Ksiaz 66.54 340 *e*P P 00 13 05.3 -0.2
CLL Collm 66.61 343 *e*P P 00 13 05.3 -0.6
comp=Z,13nm,1.1s,mb4.9
CLL Collm 66.61 343⇑ *i*P P 00 13 05.3 -0.6
comp=Z,10.0nm,1.1s,mb4.8
CLL *i* (pP) pP 00 13 07.5 -3.8
comp=Z,17nm,1.3s
CLL *i* x x 00 13 09.9
CLL *ex* x 00 13 30.0
CLL Collm 66.61 343⇑ *i*P P 00 13 05.3 -0.6
CLL *i* *PP pP 00 13 07.5 -3.8
CLL pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
CLL Collm 66.61 343⇑ *i*P P 00 13 05.3 -0.6
comp=Z,10.0nm,1.1s,mb4.8
CLL *i* pP pP 00 13 07.5 -3.8
BRG Berggiesshubel 66.89 342 *e*P P 00 13 07.1 -0.6
comp=Z,6.0nm,1.2s,mb4.5
BRG Berggiesshubel 66.89 342 *e*P P 00 13 07.2 -0.5
comp=Z,3.7nm,1.2s,mb4.3
UPC Upice 66.91 340 *e*P P 00 13 07.5 -0.4
DPC Dobruska-Polom 67.01 340 *e*P P 00 13 08.5 0.0
STHS Stebnicka Huta 67.02 337 *e*P P 00 13 08.7 +0.2
STHS *e*pP pP 00 13 13.5 -0.4
STHS Stebnicka Huta 67.02 337 *e*P P 00 13 08.7 +0.2
STHS *e* pP 00 13 13.5 -0.4
STHS pmax pmax
comp=Z,11nm,1.1s,mb4.8
ZEI Tsey 67.17 318 *e*P P 00 13 10.3 +0.8
ZEI *e*PP pP 00 13 19.1 +4.2
ZEI *e* 00 13 35.3
ZEI pmax pmax
comp=Z,11nm,1.0s,mb4.8
OKC Ostrava-Krasne 67.19 339 *e*P P 00 13 10.2 +0.5
NIE Niedzica 67.19 337 *e*P P 00 13 10.2 +0.5
BUG Bochum--Univer 67.23 347 *e*P P 00 13 09.9 0.0
comp=Z,19nm,1.4s,mb4.9
KOLS Kolonicke sedl 67.27 336 *e*P P 00 13 11.4 +1.2
KOLS Kolonicke sedl 67.27 336 *e*P P 00 13 11.5 +1.3
KOLS pmax pmax
comp=Z,14nm,1.6s,mb4.7
ANN Anapa 67.36 324 *e*P P 00 13 08.8 -1.9
ANN pmax pmax
comp=Z,55nm,1.2s,mb5.5
MORC Moravsky Berou 67.36 339⇓ *i*P P 00 13 11.0 +0.3
MORC Moravsky Berou 67.36 339 *e*P P 00 13 10.2 -0.5
MORC pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
MORC Moravsky Berou 67.36 339 *e*P P 00 13 10.2 -0.5
comp=Z,10nm,1.4s,mb4.7
MOX Moxa 67.45 343 *e*P P 00 13 11.0 -0.3
comp=Z,9.0nm,1.1s,mb4.7
MOX Moxa 67.45 343 *e*P P 00 13 11.2 -0.1
comp=Z,13nm,1.3s,mb4.8
MOX Moxa 67.45 343 *e*P P 00 13 11.2 -0.1
MOX pmax pmax
comp=Z,13nm,1.3s,mb4.8
CRVS Cervenica-Dubn 67.46 336 *e*P P 00 13 11.6 +0.2
WERD Werda 67.55 343 *e*P P 00 13 11.8 -0.1
comp=Z,10.0nm,1.1s,mb4.8
PRU Pruhonice 67.65 341 *e*P P 00 13 12.3 -0.3
NKC Novy Kostel 67.73 343 *e*P P 00 13 13.4 +0.3
SOC Sochi 67.78 321 *e*P P 00 13 11.9 -1.4
SOC *e*S S 00 22 14.6 +4.0
SOC pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
BURAR Bucovina Array 67.90 333⇓ *i*P P 00 13 14.6 +0.5
VRAC Vranov 67.97 340⇑ *i*P P 00 13 15.5 +0.9
MANZ Manzenberg 68.03 343 *e*P P 00 13 14.8 -0.1
comp=Z,8.0nm,1.2s,mb4.6
KECS Kecovo 68.06 337 *e*P P 00 13 15.3 +0.2
KECS *e* 00 13 32.8
KECS Kecovo 68.06 337 *e*P P 00 13 15.3 +0.2
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
SIM Simferopol' 68.17 326⇑ *e*P P 00 13 17.1 +1.3
SIM pmax pmax
comp=Z,13nm,1.1s,mb4.9
TREC Trest 68.17 340 *e*P P 00 13 15.7 -0.1
MEM Membach 68.19 347 P P 00 13 15.8 -0.1
comp=Z,10.0nm,1.1s,mb4.8
ROTZ Rotzenmuhle 68.22 343 *e*P P 00 13 16.1 -0.1
comp=Z,10.0nm,1.3s,mb4.7
TNS Taunus Mts 68.28 346 *e*P P 00 13 16.6 +0.1
comp=Z,10.0nm,1.1s,mb4.8
TNS Taunus Mts 68.28 346 *e*P P 00 13 16.6 +0.1
TNS pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
VYHS Vyhne 68.36 338 *e*P P 00 13 17.0 0.0
VYHS pmax pmax
comp=Z,8.0nm,1.5s,mb4.5
GRA1 Grafenberg Arr 68.44 344 *e*P P 00 13 17.9 +0.4
comp=Z,33nm,1.4s,mb5.2
GRF Grafenberg Arr 68.44 344 *e*P P 00 13 17.9 +0.4
comp=Z,33nm,1.4s,mb5.2
GRF Grafenberg Arr 68.44 344 *e*P P 00 13 17.9 +0.4
GRF pmax pmax
comp=Z,33nm,1.4s,mb5.2
GRF Grafenberg Arr 68.44 344 *e*P P 00 13 17.9 +0.4
GRF pmax pmax
comp=Z,33nm,1.4s,mb5.2
SNF Seneffe 68.47 348 P P 00 13 17.1 -0.6
SMOL Smolenice 68.60 339 *e*P P 00 13 19.4 +0.9
KHC Kasperske Hory 68.64 342 *e*P P 00 13 19.1 +0.3
KHC Kasperske Hory 68.64 342⇑ *e*P P 00 13 18.9 +0.1
GIVF Givet 68.81 348⇑ *i*P P 00 13 19.7 -0.2
DOU Dourbes 68.84 348 ⇑P P 00 13 19.7 -0.4
DOU AP pP 00 13 22.1 -3.3
GEC2 GERESS Array S 68.90 342 *e*P P 00 13 20.1 -0.3
comp=Z,5.0nm,1.1s,mb4.4
GEC2 GERESS Array S 68.90 342 *e*P P 00 13 20.1 -0.3
GEC2 pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
GERES GERESS Array B 68.90 342 P P 00 13 20.1 -0.3
comp=Z,1.7nm,0.7s,mb4.1,baz=35,slow=4.9,SNR=19
BAIF Baives 68.92 348⇑ *i*P P 00 13 20.5 0.0
comp=Z,83nm,1.6s,mb5.1
BAIF Baives 68.92 348⇑ *i*P P 00 13 20.5 0.0
BAIF pmax pmax
comp=Z,42nm,1.6s,mb5.1
BAIF Baives 68.92 348⇑ *i*P P 00 13 20.5 0.0
comp=Z,42nm,1.6s,mb5.1
ZST Bratislava 68.96 339 *e*P P 00 13 18.7 -2.1
ZST pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
WLF Walferdange 69.11 347 *e*P P 00 13 22.1 +0.4
comp=Z,30nm,1.4s,mb5.0
WLF Walferdange 69.11 347 P P 00 13 21.6 -0.1
comp=Z,7.1nm,1.2s,mb4.5
SRO Srobarova 69.11 338 *e*P P 00 13 22.6 +0.9
SRO2 Moca 69.14 338 *e*P P 00 13 22.9 +1.0
VRI Vrincioaia 69.20 332⇑ *i*P P 00 13 24.3 +2.1
GNI Garni 69.23 316⇑ *e*P P 00 13 21.8 -0.6
GNI pmax pmax
comp=Z,16nm,1.7s
CFR Carcaliu 69.51 330⇓ *i*P P 00 13 24.5 +0.3
STU Stuttgart 69.61 345 *e*P P 00 13 24.4 -0.4
comp=Z,8.0nm,0.8s,mb4.7
MLR Muntele Rosu 69.74 332⇓ *i*P P 00 13 27.5 +1.9
FUR Furstenfeldbru 69.92 343 *e*P P 00 13 26.7 0.0
comp=Z,50nm,2.0s,mb5.1
FUR Furstenfeldbru 69.92 343 *e*P P 00 13 26.7 0.0
FUR pmax pmax
comp=Z,50nm,2.0s,mb5.1
HARR Harsova 70.02 330⇑ *i*P P 00 13 27.2 -0.1
BFO Black Forest 70.16 345 *e*P P 00 13 27.8 -0.4
comp=Z,27nm,1.6s,mb4.9
BFO Black Forest 70.16 345 *e*P P 00 13 27.9 -0.3
CDF Champ du Feu 70.21 346⇑ *i*P P 00 13 28.3 -0.2
MEZF Maizieres J'vi 70.37 348⇑ *i*P P 00 13 29.6 +0.1
comp=Z,48nm,1.4s,mb5.0
MEZF Maizieres J'vi 70.37 348⇑ *i*P P 00 13 29.6 +0.1
comp=Z,48nm,1.4s,mb5.2
BZS Buzias 70.57 335⇓ *i*P P 00 13 31.0 +0.3
PKSM Moragy 70.59 337⇓ *i*P P 00 13 30.6 -0.2
FLN La Foliniere 70.61 351⇑ *i*P P 00 13 30.3 -0.6
comp=Z,37nm,1.0s,mb5.0
FLN La Foliniere 70.61 351⇑ *i*P P 00 13 30.3 -0.6
FLN pmax pmax
comp=Z,18nm,1.0s,mb5.0
FLN La Foliniere 70.61 351⇑ *i*P P 00 13 30.3 -0.6
comp=Z,18nm,1.0s,mb5.0
HAU Haudompre 70.72 347⇑ *i*P P 00 13 32.3 +0.7
comp=Z,56nm,1.1s,mb4.8
HAU Haudompre 70.72 347⇑ *i*P P 00 13 32.3 +0.7
HAU pmax pmax
comp=Z,13nm,1.1s,mb4.8
HAU Haudompre 70.72 347⇑ *i*P P 00 13 32.3 +0.7
comp=Z,13nm,1.1s,mb4.8
LDF La Druitiere 70.75 351⇑ *i*P P 00 13 31.1 -0.7
comp=Z,75nm,1.3s,mb5.2
LDF La Druitiere 70.75 351⇑ *i*P P 00 13 31.1 -0.7
LDF pmax pmax
comp=Z,37nm,1.3s,mb5.2
LDF La Druitiere 70.75 351⇑ *i*P P 00 13 31.1 -0.7
comp=Z,37nm,1.3s,mb5.2
GRR Gorron 71.01 352⇑ *i*P P 00 13 33.0 -0.4
comp=Z,46nm,1.1s,mb5.0
GRR Gorron 71.01 352⇑ *i*P P 00 13 33.0 -0.4
GRR pmax pmax
comp=Z,23nm,1.1s,mb5.0
GRR Gorron 71.01 352⇑ *i*P P 00 13 33.0 -0.4
comp=Z,23nm,1.1s,mb5.0
ROSF Rostrenen 71.22 353⇑ *i*P P 00 13 34.4 -0.2
comp=Z,73nm,1.4s,mb5.1
ROSF Rostrenen 71.22 353⇑ *i*P P 00 13 34.4 -0.2
ROSF pmax pmax
comp=Z,36nm,1.4s,mb5.1
ROSF Rostrenen 71.22 353⇑ *i*P P 00 13 34.4 -0.2
comp=Z,36nm,1.4s,mb5.1
PMG Port Moresby 71.50 201 *e*P P 00 13 35.1 -1.2
QUIF Quistinic 71.63 353⇑ *i*P P 00 13 36.8 -0.3
comp=Z,81nm,1.4s,mb5.2
QUIF Quistinic 71.63 353⇑ *i*P P 00 13 36.8 -0.3
QUIF pmax pmax
comp=Z,40nm,1.4s,mb5.2
QUIF Quistinic 71.63 353⇑ *i*P P 00 13 36.8 -0.3
comp=Z,40nm,1.4s,mb5.2
LOR Lormes 71.72 348⇑ *i*P P 00 13 37.3 -0.3
comp=Z,67nm,1.2s,mb5.1
LOR Lormes 71.72 348⇑ *i*P P 00 13 37.3 -0.3
LOR pmax pmax
comp=Z,34nm,1.2s,mb5.2
LOR Lormes 71.72 348⇑ *i*P P 00 13 37.3 -0.3
comp=Z,34nm,1.2s,mb5.2
HYF Humbligny 71.83 349⇑ *i*P P 00 13 38.5 +0.2
SSF Saint Saulge 71.96 348⇑ *i*P P 00 13 38.8 -0.3
comp=Z,33nm,1.2s,mb4.8
SSF Saint Saulge 71.96 348⇑ *i*P P 00 13 38.8 -0.3
SSF pmax pmax
comp=Z,17nm,1.2s,mb4.8
SSF Saint Saulge 71.96 348⇑ *i*P P 00 13 38.8 -0.3
comp=Z,16nm,1.2s,mb4.8
CABF La Chapelle 72.12 346⇑ *i*P P 00 13 40.0 -0.1
comp=Z,43nm,1.3s,mb4.9
CABF La Chapelle 72.12 346⇑ *i*P P 00 13 40.0 -0.1
CABF pmax pmax
comp=Z,22nm,1.3s,mb4.9
CABF La Chapelle 72.12 346⇑ *i*P P 00 13 40.0 -0.1
comp=Z,22nm,1.3s,mb4.9
AVF Avril sur Loir 72.24 348⇑ *i*P P 00 13 40.5 -0.3
comp=Z,75nm,1.3s,mb5.2
AVF Avril sur Loir 72.24 348⇑ *i*P P 00 13 40.5 -0.3
AVF pmax pmax
comp=Z,37nm,1.3s,mb5.2
AVF Avril sur Loir 72.24 348⇑ *i*P P 00 13 40.5 -0.3
comp=Z,37nm,1.3s,mb5.2
SMF Signal de Mont 72.33 348⇑ *i*P P 00 13 40.8 -0.5
comp=Z,43nm,1.4s,mb4.9
SMF Signal de Mont 72.33 348⇑ *i*P P 00 13 40.8 -0.5
SMF pmax pmax
comp=Z,22nm,1.4s,mb4.9
SMF Signal de Mont 72.33 348⇑ *i*P P 00 13 40.8 -0.5
comp=Z,22nm,1.4s,mb4.9
BGF Bois d'Agland 72.52 349⇑ *i*P P 00 13 42.2 -0.2
comp=Z,41nm,1.2s,mb4.9
BGF Bois d'Agland 72.52 349⇑ *i*P P 00 13 42.2 -0.2
BGF pmax pmax
comp=Z,20nm,1.2s,mb4.9
BGF Bois d'Agland 72.52 349⇑ *i*P P 00 13 42.2 -0.2
comp=Z,20nm,1.2s,mb4.9
MFF Saint Martin d 72.74 351⇑ *i*P P 00 13 43.7 0.0
TCF Toulx Ste Croi 72.85 349⇑ *i*P P 00 13 44.2 -0.2
comp=Z,34nm,1.1s,mb4.9
TCF Toulx Ste Croi 72.85 349⇑ *i*P P 00 13 44.2 -0.2
TCF pmax pmax
comp=Z,17nm,1.1s,mb4.9
TCF Toulx Ste Croi 72.85 349⇑ *i*P P 00 13 44.2 -0.2
comp=Z,17nm,1.1s,mb4.9
MALT Malatya 72.97 320⇑ *i*P P 00 13 47.2 +2.1
VTS Vitosha 73.11 333⇓ *i*P P 00 13 46.2 +0.3
BR131 Keskin Array S 73.12 324 *e*P P 00 13 47.2 +1.2
comp=Z,5.1nm,0.9s,mb4.5
BRTR Keskin Array B 73.12 324 P P 00 13 46.5 +0.5
comp=Z,4.9nm,1.0s,mb4.4,baz=48,slow=3.7,SNR=18
BRTR PP PP 00 16 19.2 -10
comp=Z,0.7nm,0.8s,baz=27,slow=9.7,SNR=4.1
LPL La Plagne 73.13 346⇑ *i*P P 00 13 46.7 +0.7
comp=Z,21nm,1.2s,mb4.6
LPL La Plagne 73.13 346⇑ *i*P P 00 13 46.7 +0.7
LPL pmax pmax
comp=Z,11nm,1.2s,mb4.7
LPL La Plagne 73.13 346⇑ *i*P P 00 13 46.7 +0.7
comp=Z,11nm,1.2s,mb4.7
LPG La Plagne 73.14 346⇑ *i*P P 00 13 46.9 +0.8
comp=Z,42nm,1.2s,mb4.9
LPG La Plagne 73.14 346⇑ *i*P P 00 13 46.9 +0.8
LPG pmax pmax
comp=Z,21nm,1.2s,mb4.9
LPG La Plagne 73.14 346⇑ *i*P P 00 13 46.9 +0.8
comp=Z,21nm,1.2s,mb4.9
BNI Bardonecchia 73.59 346 *e*P P 00 13 49.5 +0.7
BNI pmax pmax
comp=Z,13nm,1.2s,mb4.7
BNI Bardonecchia 73.59 346 *e*P P 00 13 49.5 +0.8
comp=Z,12nm,1.2s,mb4.7
ORIF Oris-en-Rattie 73.82 346⇑ *i*P P 00 13 50.5 +0.4
comp=Z,37nm,1.4s,mb4.8
ORIF Oris-en-Rattie 73.82 346⇑ *i*P P 00 13 50.5 +0.4
ORIF pmax pmax
comp=Z,19nm,1.4s,mb4.8
ORIF Oris-en-Rattie 73.82 346⇑ *i*P P 00 13 50.5 +0.4
comp=Z,18nm,1.4s,mb4.8
RJF Les Rejaudoux 73.89 350 *e*P P 00 13 50.4 -0.1
MBDF Montbardon 73.90 346⇑ *i*P P 00 13 50.9 +0.3
comp=Z,18nm,1.1s,mb4.6
MBDF Montbardon 73.90 346⇑ *i*P P 00 13 50.9 +0.3
MBDF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
MBDF Montbardon 73.90 346⇑ *i*P P 00 13 50.9 +0.3
comp=Z,8.9nm,1.1s,mb4.6
VIVF Saint-Julien-l 74.02 347⇑ *i*P P 00 13 51.4 +0.1
comp=Z,19nm,1.1s,mb4.6
VIVF Saint-Julien-l 74.02 347⇑ *i*P P 00 13 51.4 +0.1
VIVF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
VIVF Saint-Julien-l 74.02 347⇑ *i*P P 00 13 51.4 +0.1
comp=Z,9.6nm,1.1s,mb4.6
CAF Calviac 74.21 349⇑ *i*P P 00 13 52.7 +0.3
comp=Z,43nm,1.2s,mb4.9
CAF Calviac 74.21 349⇑ *i*P P 00 13 52.7 +0.3
CAF pmax pmax
comp=Z,22nm,1.2s,mb5.0
CAF Calviac 74.21 349⇑ *i*P P 00 13 52.7 +0.3
comp=Z,22nm,1.2s,mb5.0
LFF La Frestale 74.32 350⇑ *i*P P 00 13 53.1 +0.1
comp=Z,30nm,1.0s,mb4.9
LFF La Frestale 74.32 350⇑ *i*P P 00 13 53.1 +0.1
LFF pmax pmax
comp=Z,15nm,1.0s,mb4.9
LFF La Frestale 74.32 350⇑ *i*P P 00 13 53.1 +0.1
comp=Z,15nm,1.0s,mb4.9
HYB Hyderabad 74.37 278 *i* P P 00 13 52.5 -0.8
HYB Hyderabad 74.37 278 *e*P P 00 13 52.5 -0.8
SMRF Simiane la Rot 74.78 346 *e*P P 00 13 56.5 +0.8
comp=Z,46nm,1.2s,mb5.0
SMRF Simiane la Rot 74.78 346 *e*P P 00 13 56.5 +0.8
comp=Z,46nm,1.2s,mb5.3
LASF Ste Croix 74.87 348 *e*P P 00 13 57.1 +0.9
comp=Z,81nm,1.7s,mb5.1
FRF La Foret Royal 75.06 346⇑ *i*P P 00 13 56.7 -0.6
comp=Z,80nm,1.7s,mb5.1
FRF La Foret Royal 75.06 346⇑ *i*P P 00 13 56.7 -0.6
FRF pmax pmax
comp=Z,40nm,1.7s,mb5.1
FRF La Foret Royal 75.06 346⇑ *i*P P 00 13 56.7 -0.6
comp=Z,40nm,1.7s,mb5.1
PGF Pioggiola 75.75 344⇑ *i*P P 00 14 01.9 +0.6
comp=Z,34nm,1.1s,mb4.9
PGF Pioggiola 75.75 344⇑ *i*P P 00 14 01.9 +0.6
PGF pmax pmax
comp=Z,17nm,1.1s,mb4.9
PGF Pioggiola 75.75 344⇑ *i*P P 00 14 01.9 +0.6
comp=Z,17nm,1.1s,mb4.9
ISP Isparta 75.76 326 *e*P P 00 14 01.8 +0.4
ISP pmax pmax
comp=Z,12nm,1.1s,mb4.7
ISP Isparta 75.76 326 *e*P P 00 14 01.8 +0.4
comp=Z,12nm,1.1s,mb4.7
MTLF Montolieu 75.77 349⇑ *i*P P 00 14 01.8 +0.4
comp=Z,26nm,1.1s,mb4.8
MTLF Montolieu 75.77 349⇑ *i*P P 00 14 01.8 +0.4
MTLF pmax pmax
comp=Z,13nm,1.1s,mb4.8
MTLF Montolieu 75.77 349⇑ *i*P P 00 14 01.8 +0.4
comp=Z,13nm,1.1s,mb4.8
EPF Esparros 76.25 350⇑ *i*P P 00 14 03.7 -0.4
comp=Z,41nm,1.5s,mb4.8
EPF Esparros 76.25 350⇑ *i*P P 00 14 03.7 -0.4
EPF pmax pmax
comp=Z,20nm,1.5s,mb4.8
EPF Esparros 76.25 350⇑ *i*P P 00 14 03.7 -0.4
comp=Z,20nm,1.5s,mb4.8
SJPF Ste Jean 76.29 351⇑ *i*P P 00 14 04.9 +0.6
comp=Z,9.8nm,1.1s,mb4.3
SJPF Ste Jean 76.29 351⇑ *i*P P 00 14 04.9 +0.6
SJPF pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
SJPF Ste Jean 76.29 351⇑ *i*P P 00 14 04.9 +0.6
comp=Z,4.9nm,1.1s,mb4.3
ETSF Etsaut 76.45 351⇑ *i*P P 00 14 05.8 +0.5
comp=Z,48nm,1.4s,mb4.9
ETSF Etsaut 76.45 351⇑ *i*P P 00 14 05.8 +0.5
ETSF pmax pmax
comp=Z,24nm,1.4s,mb4.9
ETSF Etsaut 76.45 351⇑ *i*P P 00 14 05.8 +0.5
comp=Z,24nm,1.4s,mb4.9
MIB Mutribah 77.55 309 *e*P P 00 14 11.1 -0.3
MIB AMb AMB 00 14 12.4
comp=Z,27nm,0.8s,mb5.2
NAY Al-Naaiem 78.08 309 *e*P P 00 14 14.0 -0.4
NAY AMb AMB 00 14 15.2
comp=Z,13nm,0.9s,mb4.9
RDF Al-Radifah 78.25 309 *e*P P 00 14 15.3 0.0
RDF AMb AMB 00 14 19.6
comp=Z,40nm,1.1s,mb5.3
PVRL Vila Real 78.47 356 *e*P P 00 14 16.4 -0.2
comp=Z,11nm,1.2s,mb4.7
MTE Manteigas 79.34 356 *e*P P 00 14 20.6 -0.7
comp=Z,16nm,1.4s,mb4.7
ESDC Sonseca Array 79.89 353 P P 00 14 24.4 0.0
comp=Z,7.4nm,1.0s,mb4.6,baz=4.4,slow=5.6,SNR=29
ESLA Sonseca Array 79.89 353 *e*P P 00 14 24.4 +0.1
comp=Z,5.7nm,1.2s,mb4.4
PCBR Castelo Branco 79.89 356 *e*P P 00 14 24.4 0.0
comp=Z,24nm,1.3s,mb5.0
PBEJ Beja 81.72 356 *e*P P 00 14 34.6 +0.5
comp=Z,9.6nm,1.2s,mb4.6
PALK Pallekele 82.01 271 PFAKE 00 14 50.0 +14
PALK LR LR
comp=Z,1μm,19.0s,MS5.3
CTAO Charters Tower 82.11 200 *e*P P 00 14 35.2 -1.0
CTAO *e*PP pP 00 14 39.3 -2.3
PTEO Sao Teotonio 82.22 357 *e*P P 00 14 37.0 +0.2
comp=Z,14nm,1.4s,mb4.7
WRAB Tennant Creek 84.48 211 *e*P P 00 14 47.5 -0.9
WRAB pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
WRAB Tennant Creek 84.48 211 *e*P P 00 14 47.5 -0.9
comp=Z,5.9nm,0.8s,mb4.8
WB2 Warramunga Arr 84.49 211⇑ *i*P P 00 14 47.0 -1.4
WRA Warramunga Arr 84.49 211 P P 00 14 47.1 -1.4
comp=Z,3.5nm,0.9s,mb4.5,baz=19,slow=5.2,SNR=11
FITZ Fitzroy Crossi 85.22 219 *e*P P 00 14 50.7 -1.4
comp=Z,5.6nm,1.0s,mb4.7
ASAR Alice Springs 88.17 210 P P 00 15 05.0 -1.6
comp=Z,0.7nm,0.8s,mb4.0,baz=7.2,slow=4.4,SNR=7.6
STKA Stephens Creek 94.44 202 P P 00 15 34.5 -1.2
TORD Torodi Ar. Bea 105.67 345 PP PP 00 20 43.6 -4.7
comp=Z,2.0nm,0.7s,baz=0.0,slow=6.2,SNR=13
SIV San Ignacio 123.67 60 PKP PKPdf 00 21 12.1 -1.1
comp=Z,0.8nm,0.9s,baz=260,slow=4.3,SNR=3.0
SIV PP PP 00 22 52.2 -3.2
comp=Z,1.4nm,1.1s,baz=316,slow=3.4,SNR=5.1
MAW Mawson 148.19 225 PKPbc PKPbc 00 21 59.1 -2.4
comp=Z,5.3nm,0.9s,baz=82,slow=2.5,SNR=7.3
QSPA South Pole Qui 150.29 180 *e*P PKPdf 00 22 03.6 +2.0

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*ISCJB **01** 00:08:32.5±2.2, 2709S±004×713W±0.1, h29km±11km, mb3.9/3, Error ellipse: s-maj=22.0km s-min=6.1km az=170.4*

*IDC **01** 00:08:32.1±2.4, 2695S×7091W, h0km, mb4.3/3, mb1 3.9/6, mb1mx3.7/16, mbtmp3.8/6, ML3.3/3, Error ellipse: s-maj=61.6km s-min=28.4km az=86.0*

*NEIC **01** 00:08:32.1, 2707S×7128W, h38km, MG3.7(GUC), After GUC.*

*GUC **01** 00:08:32.1±1.0, 2707S×7128W, h38km±8km, ML3.7*

ISC 01 00:08:32.8±1.7, 2709S±004×7131W±009, h18km±8km, n16, σ1§18/25, mb3.9/3, 1C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.43**	**87**	⇓*i*P	**Pg**	**00 08 41.5**	**-0.1**
CDCH				*i* S	**Sg**	**00 08 47.9**	**+0.4**
CDCH				AML	AML	00 08 48.2	
	comp=N,4μm,0.2s						
CDCH	**Caldera**	**0.43**	**87**	⇓*i*P	**Pg**	**00 08 41.5**	**-0.1**
CDCH				*i* S	**Sg**	**00 08 47.9**	**+0.4**
CPCH	**Copiapo**	**0.89**	**107**	⇓*i*P	**Pb**	**00 08 48.1**	**-1.7**
CPCH				*i* S	**Sb**	**00 09 00.8**	**-0.6**
CPCH				AML	AML	00 09 03.4	
	comp=E,22μm,0.1s						

CPCH	**Copiapo**	**0.89**	**107**	⇓	*i*P		**Pb**	**00 08 48.1**	**-1.7**
CPCH					*i* S		**Sb**	**00 09 00.8**	**-0.6**
CRCH	**Chaqaral**	**0.97**	**40**	*e*P			**Pb**	**00 08 51.3**	**+0.3**
CRCH					*i* S		**Sb**	**00 09 04.9**	**+1.4**
CRCH					AML	AML		00 09 10.5	
	comp=N,2µm,0.7s								
CRCH	**Chaqaral**	**0.97**	**40**	*e*P			**Pb**	**00 08 51.3**	**+0.3**
CRCH					*i* S		**Sb**	**00 09 04.9**	**+1.4**
LCO	**Las Campanas**	**1.99**	**164**	⇑	*i*P		**Pn**	**00 09 05.2**	**-0.3**
LCO					*i* S		**Sn**	**00 09 28.5**	**-1.5**
CPN1	**Cerro Paranal**	**2.59**	**19**	*e*P			**Pn**	**00 09 13.4**	**-0.4**
CPN1					*i* S		**Sn**	**00 09 44.0**	**-0.9**
CPN1					AML	AML		00 10 04.3	
	comp=E,658nm,0.4s								
CEN1	**Los Morros**	**3.82**	**16**	*e*P			**Pn**	**00 09 26.4**	**-4.3**
CEN1					*i* S		**Sn**	**00 10 07.1**	**-8.2**
CEN1					AML	AML		00 10 48.0	
	comp=E,127nm,0.9s								
CFAA	**Coronel Fontan**	**5.24**	**150**		Pn		**Pn**	**00 09 51.9**	**+1.7**
	comp=E,0.3nm,0.3s,baz=5.9,slow=11,SNR=6.0								
CFAA					Sn		**Sn**	**00 10 52.5**	**+2.4**
	comp=E,0.6nm,0.3s,baz=337,slow=13,SNR=4.6								
LPAZ	**La Paz**	**11.15**	**16**		Pn		**Pn**	**00 11 11.7**	**+0.4**
	comp=E,0.1nm,0.3s,baz=209,slow=6.8,SNR=5.2								
SIV	**San Ignacio**	**14.58**	**43**		Pn		**Pn**	**00 11 54.5**	**-3.6**
	comp=E,0.1nm,0.3s,baz=277,slow=13,SNR=4.1								
BDFB	**Brasilia**	**24.46**	**67**		P		**P**	**00 13 48.9**	**-1.7**
	comp=E,1.5nm,0.4s,mb3.8,baz=258,slow=6.2,SNR=4.0								
DBIC	**Dimbokro**	**72.45**	**73**		P		**P**	**00 19 59.1**	**+0.9**
	comp=E,4.2nm,1.0s,mb4.3,baz=236,slow=6.4,SNR=2.8								
TORD	**Torodi Ar. Bea**	**81.29**	**70**		P		**P**	**00 20 48.9**	**+0.9**
	comp=E,0.7nm,0.8s,mb3.8,baz=260,slow=5.1,SNR=4.4								
MKAR	**Makanchi Array**	**151.38**	**40**		PKPbc		PKPbc	00 28 26.3	+0.8
	comp=E,2.3nm,0.7s,baz=320,slow=2.0,SNR=27								

*IDC **01** 00:20:53.0±2.5, 27.14S×71.00W, h0km, mb4.1/2, mb1 3.9/4, mb1mx3.7/15, mbtmp3.8/4, ML3.5/2, Error ellipse: s-maj=71.5km s-min=52.3km az=119.0*
*ISCJB **01** 00:20:54.0±1.4, 27.17S±0.004×71.4W±0.02, h37km±13km, mb4.0/2, Error ellipse: s-maj=24.2km s-min=6.0km az=11.3*
*NEIC **01** 00:20:54.3, 27.18S×71.20W, h44km, mb3.5/1, After GUC.*
*GUC **01** 00:20:54.3±0.9, 27.18S×71.20W, h44km±6km, ML3.9*

ISC 01 00:20:54.5±2.6, 2718S±004×713W±02, h22km±16km, n15, σ0§87/19, mb4.0/2, 2C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.42**	**75**	⇓	*i*P	**Pb**	**00 21 03.3**	**0.0**
CDCH					AML	AML	00 21 13.7	
	comp=N,2µm,0.1s							
CPCH	**Copiapo**	**0.85**	**102**	⇓	*i*P	**Pb**	**00 21 09.5**	**-1.0**
CRCH	**Chaqaral**	**1.02**	**36**	⇓	*i*P	**Pn**	**00 21 13.7**	**+0.2**
CRCH					*i* S	**Sb**	**00 21 27.8**	**+1.3**
LCO	**Las Campanas**	**1.89**	**164**	⇑	*i*P	**Pn**	**00 21 25.9**	**+0.4**
LCO					*i* S	**Sn**	**00 21 48.8**	**+0.2**
CPN1	**Cerro Paranal**	**2.67**	**17**	⇓	*i*P	**Pn**	**00 21 36.0**	**-0.2**
CPN1					*e*S	**Sn**	**00 22 07.7**	**-0.1**
CPN1					AML	AML	00 22 25.6	
	comp=E,846nm,0.4s							
TLL	**Tololo Astrono**	**3.00**	**172**	*e*P		**Pn**	**00 21 41.1**	**+0.4**
TLL					*i* S	**Sn**	**00 22 15.8**	**-0.2**
TLL					AML	AML	00 22 35.8	
	comp=N,2µm,0.7s							
TLL	**Tololo Astrono**	**3.00**	**172**	*e*P		**Pn**	**00 21 41.1**	**+0.4**
TLL					*i* S	**Sn**	**00 22 15.8**	**-0.2**
CEN1	**Los Morros**	**3.90**	**15**	⇑	*i*P	**Pn**	**00 21 49.0**	**-4.1**
LPAZ	**La Paz**	**11.23**	**16**		Pn	**Pn**	**00 23 34.2**	**+0.6**
	comp=N,0.1nm,0.3s,baz=194,slow=10,SNR=7.1							
SIV	**San Ignacio**	**14.63**	**42**		Pn	**Pn**	**00 24 18.2**	**-1.8**
	comp=N,0.1nm,0.3s,baz=242,slow=12,SNR=3.5							
SAML	**Samuel**	**19.69**	**24**	*e*Pn		**Pn**	**00 25 23.9**	**+0.3**
	comp=N,1.3nm,0.5s							
BDFB	**Brasilia**	**24.47**	**67**		P	**P**	**00 26 11.5**	**-0.3**
	comp=N,1.7nm,0.5s,mb3.7,baz=230,slow=10,SNR=4.8							
SDV	**Santo Domingo**	**35.86**	**1**		P	**P**	**00 27 51.1**	**-1.5**
TORD	**Torodi Ar. Bea**	**81.30**	**70**		P	**P**	**00 33 10.7**	**+1.7**
	comp=N,2.2nm,0.7s,mb4.2,baz=257,slow=5.1,SNR=28							
MKAR	**Makanchi Array**	**151.43**	**40**		PKPbc	PKPbc	00 40 47.8	+1.3
	comp=N,1.8nm,0.7s,baz=326,slow=2.1,SNR=21							

*NEIC **01** 00:34:32.1, 2728S×7121W, h16km, ML3.6(GUC), After GUC.*

GUC 01 00:34:32.1±0.8, 2728S×7121W, h16km±9km, ML3.6, 3C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.40**	**59**	⇓	*i*P	Pg	00 34 40.2	+0.1
CDCH					*i* S	Sg	00 34 46.0	+0.4
CDCH					AML	AML	00 34 47.1	
	comp=E,3µm,0.2s							
CDCH	**Caldera**	**0.40**	**59**	⇓	*i*P	Pg	00 34 40.2	+0.1
CDCH					*i* S	Sg	00 34 46.0	+0.4
CPCH	**Copiapo**	**0.77**	**96**	⇑	*i*P	Pg	00 34 46.3	-0.7
CPCH					*i* S	Sg	00 34 56.9	-0.2
CPCH					AML	AML	00 34 58.1	
	comp=E,16µm,0.1s							
CPCH	**Copiapo**	**0.77**	**96**	⇑	*i*P	Pg	00 34 46.3	-0.7
CPCH					*i* S	Sg	00 34 56.9	-0.2
CRCH	**Chaqaral**	**1.07**	**30**	*e*P		Pb	00 34 51.0	-1.2
CRCH					*e*S	Sb	00 35 04.6	-1.4
CRCH					AML	AML	00 35 06.0	
	comp=N,2µm,0.3s							
CRCH	**Chaqaral**	**1.07**	**30**	*e*P		Pb	00 34 51.0	-1.2
CRCH					*e*S	Sb	00 35 04.6	-1.4
LCO	**Las Campanas**	**1.78**	**166**	⇑	*i*P	Pn	00 35 03.0	+0.8
LCO					*i* S	Sn	00 35 25.5	+0.9
TLL	**Tololo Astrono**	**2.90**	**173**	*e*P		Pn	00 35 19.6	+2.0
TLL					*i* S	Sn	00 35 54.8	+2.7
TLL					AML	AML	00 36 13.7	
	comp=N,356nm,0.4s							
TLL	**Tololo Astrono**	**2.90**	**173**	*e*P		Pn	00 35 19.6	+2.0
TLL					*i* S	Sn	00 35 54.8	+2.7

IDC 01 00:36:29.6±4.0, 2714S×7116W, h0km, mb3.8/1, mb1 3.6/2, mb1mx3.4/14, mbtmp3.5/2, ML3.0/1, Error ellipse: s-maj=140.5km s-min=64.5km az=90.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**11.16**	**15**		Pn	Pn	00 39 11.1	+0.7
	0.1nm,0.3s,baz=162,slow=14,SNR=2.5							
TORD	**Torodi Ar. Bea**	**81.18**	**70**		P	P	00 48 47.7	+0.6
	0.6nm,0.7s,baz=258,slow=4.6,SNR=6.2							
MKAR	**Makanchi Array**	**151.33**	**40**		PKPbc	PKPbc	00 56 24.9	-0.3
	0.3nm,0.7s,baz=292,slow=2.2,SNR=4.0							

IDC 01 00:36:59.9±2.7, 2707S×7103W, h0km, mb4.2/3, mb1 4.1/4, mb1mx3.8/14, mbtmp4.1/4, ML4.0/1, Error ellipse: s-maj=68.6km s-min=60.6km az=99.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**11.06**	**15**		Pn	Pn	00 39 40.3	+0.9
	0.5nm,0.3s,baz=213,slow=5.3,SNR=12							
BDFB	**Brasilia**	**24.22**	**67**		P	P	00 42 18.2	0.0
	2.3nm,0.8s,baz=244,slow=11,SNR=6.0							
DBIC	**Dimbokro**	**72.21**	**73**		P	P	00 48 27.6	+0.9
	1.9nm,0.7s,baz=243,slow=9.0,SNR=3.4							
TORD	**Torodi Ar. Bea**	**81.05**	**70**		P	P	00 49 17.4	+0.6
	2.5nm,0.8s,baz=251,slow=5.4,SNR=16							
MKAR	**Makanchi Array**	**151.20**	**40**		PKPbc	PKPbc	00 56 54.6	-0.5
	1.4nm,0.7s,baz=300,slow=2.7,SNR=11							

*ISCJB **01** 00:39:24.9±1.3, 4204N±002×6932E±004, h26km±10km, mb4.3/74, Error ellipse: s-maj=4.5km s-min=3.9km az=148.5*
*BJI **01** 00:39:25.3, 4234N×6936E, h32km, mB4.8, mb4.6, ML4.8, Ms4.3, Msz4.2*
*NNC **01** 00:39:26.8±1.2, 4239N×6920E, h15km±15km, mb4.6, mpv4.7, Error ellipse: s-maj=15.9km s-min=5.9km az=169.0*
*MOS **01** 00:39:27.0±1.1, 4238N×6935E, h34km, mb4.6/35, Error ellipse: s-maj=7.7km s-min=5.6km az=130.6*

MOS Felt (III-IV) at Chimkent, (II) at Tashkent.
*NEIC **01** 00:39:27.5±0.3, 4231N×6940E, mb4.4/52, Error ellipse: s-maj=7.2km s-min=4.4km az=176.0*
NEIC Felt [IV] at Shymkent. Felt [II] at Tashkent, Uzbekistan.
*IDC **01** 00:39:28.0±3.0, 4223N×6942E, h32km±22km, mb3.9/18, mb1 4.1/21, mb1mx4.1/24, mbtmp4.1/21, ML4.2/3, Error ellipse: s-maj=14.3km s-min=10.3km az=12.0*
*SZGRF **01** 00:39:39.2, 4234N×6903E, h33km, mb4.0, Central Kazakhstan*

ISC 01 00:39:25.1±1.3, 4216N±002×6934E±003, h14km±8km, h23km±5.7km: pP-P, n241, σ1§26/239, mb4.3/74, 23C-6D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KK07	**Karatay Array**	**1.27**	**42**	P		**Pn**	**00 39 48.6**	**+0.4**
KK08	**Karatay Array**	**1.27**	**42**	P		**Pn**	**00 39 48.6**	**+0.3**
KK03	**Karatay Array**	**1.28**	**42**	P		**Pn**	**00 39 48.8**	**+0.3**
KK01	**Karatay Array**	**1.28**	**42**	P		**Pn**	**00 39 48.9**	**+0.4**
KK02	**Karatay Array**	**1.28**	**42**	P		**Pn**	**00 39 48.9**	**+0.4**
KK31	**Karatay Array**	**1.28**	**42**	⇑	P	**Pn**	**00 39 48.9**	**+0.4**
	542nm,0.6s,baz=223,slow=18							
KK31				⇑	S	**Sb**	**00 40 05.2**	**0.0**
	2µm,0.3s,baz=222,slow=26							
KK06	**Karatay Array**	**1.28**	**43**	P		**Pn**	**00 39 48.9**	**+0.4**
KK04	**Karatay Array**	**1.28**	**42**	P		**Pn**	**00 39 48.9**	**+0.4**
KK09	**Karatay Array**	**1.29**	**41**	P		**Pn**	**00 39 49.0**	**+0.4**
KK05	**Karatay Array**	**1.30**	**42**	P		**Pn**	**00 39 49.1**	**+0.4**
AML	**Almayashu**	**3.24**	**89**	P		**Pn**	**00 40 17.9**	**+2.5**
	SNR=90							
EKS2	**Erkin-Say**	**3.33**	**80**	P		**Pn**	**00 40 18.2**	**+1.6**
	SNR=65							
UCH	**Uchtor**	**3.85**	**87**	P		**Pn**	**00 40 26.3**	**+2.6**
	SNR=24							
AAK	**Ala-Archa**	**3.85**	**81**	P		**Pn**	**00 40 25.4**	**+1.6**
	SNR=13							
AAK	**Ala-Archa**	**3.85**	**81**	*e*Pn		**Pn**	**00 40 24.5**	**+0.7**
AAK				*e*S		**Sg**	**00 41 23.6**	**-5.0**
FRU	**Bishkek**	**3.96**	**78**	*e*PN		**Pn**	**00 40 26.4**	**+1.0**
FRU				*i*			00 40 36.8	
FRU				*e*			00 41 20.8	
FRU				*i* S		**Sg**	**00 41 27.4**	**-4.9**
FRU				pmax	pmax			
	comp=Z,320nm,1.2s							
FRU				smax				
	comp=N,3µm,1.4s							
USP	**Ospenovka**	**3.96**	**72**	P		**Pn**	**00 40 25.8**	**+0.5**
	SNR=229							
CHMS	**Chumysh**	**4.09**	**76**	P		**Pn**	**00 40 27.9**	**+0.8**
	SNR=19							
KBK	**Karagaybulak**	**4.18**	**81**	P		**Pn**	**00 40 29.8**	**+1.4**
	SNR=36							
KZA	**Kyzart**	**4.40**	**89**	P		**Pn**	**00 40 33.4**	**+2.1**
	SNR=55							
TKM2	**Tokmak 2**	**4.69**	**79**	P		**Pn**	**00 40 36.1**	**+0.8**
	SNR=40							
ULHL	**Ulahol**	**5.13**	**87**	P		**Pn**	**00 40 43.1**	**+1.7**
	SNR=30							
KSH	**Kashi**	**5.68**	**115**	P		**Pn**	**00 40 51.6**	**+2.6**
KSH				S		**Sn**	**00 42 01.1**	**+7.1**
KSH				Smax				
	comp=N,437nm,1.0s							
KSH				Smax				
	comp=E,485nm,0.8s							
AAA	**Alma-Ata**	**5.72**	**76**	*e*PN		Px	00 41 10.1	
AAA				*e*S		Sx	00 42 20.2	
AAA				smax				
	comp=E,1.0nm,1.0s							
AAA				pmax	pmax			
	comp=Z,1.0nm,1.1s							
AAA				smax				
	comp=N,1.0nm,1.7s							
KNDC	**Almaty**	**5.72**	**77**	⇓	Pn	**Pn**	**00 40 52.0**	**+2.5**
	comp=N,23nm,0.7s							
KNDC				⇑	Pg	**Pg**	**00 41 12.8**	**-1.8**
	comp=N,136nm,0.6s							
KNDC				⇑	Lg		00 42 27.7	
	comp=N,2µm,1.3s							
CEP	**Cherat**	**8.57**	**165**	⇓	P	**Pn**	**00 41 31.5**	**+2.9**
CEP					S	**Sn**	**00 43 05.0**	**0.0**
CHCP	**Chirak Chowk**	**9.04**	**159**		P	**Pn**	**00 41 36.1**	**+1.1**
THW	**Thamme Wali**	**9.54**	**168**		P	**Pn**	**00 41 43.9**	**+1.9**
AB31	**Akbulak array**	**9.66**	**320**	⇑	Pn	**Pn**	**00 41 42.4**	**-1.3**
	comp=N,4.4nm,0.3s							
AB31				⇑	Sn	**Sn**	**00 43 28.9**	**-3.0**
	comp=N,14nm,0.4s							
AB31				⇓	Lg		00 44 27.3	
	comp=N,42nm,0.6s							
MK09	**Makanchi Array**	**10.33**	**59**	⇓	Pn	**Pn**	**00 41 51.6**	**-1.2**
	comp=N,14nm,0.6s,baz=245,slow=14							
MK09				⇑	Lg		00 44 54.3	
	comp=N,102nm,0.8s,baz=256,slow=29							
MKAR	**Makanchi Array**	**10.35**	**59**		Pn	**Pn**	**00 41 52.1**	**-0.9**
	comp=N,1.3nm,0.3s,baz=246,slow=14,SNR=73							
MKAR					Lg		00 44 52.0	
	comp=N,4.2nm,0.3s,baz=255,slow=33,SNR=8.7							
DRP	**Derazinda**	**10.42**	**176**		P	**Pn**	**00 41 56.2**	**+2.2**
VOSK	**Vostochnaya**	**10.63**	**5**	⇑	Pn	**Pn**	**00 41 55.2**	**-1.6**
	comp=N,7.4nm,0.5s							
VOSK				⇑	Sn	**Sn**	**00 43 53.2**	**-2.4**
	comp=N,27nm,0.6s							
VOSK				⇑	Lg		00 44 58.1	
	comp=N,137nm,1.1s							
KURK	**Kurchatov**	**10.68**	**34**	⇓	Pn	**Pn**	**00 41 57.6**	**0.0**
	comp=N,8.7nm,1.3s							
KURK				⇑	Sn	**Sn**	**00 43 55.8**	**-1.1**
	comp=N,36nm,0.8s							
KURK				⇑	Lg		00 45 02.7	
	comp=N,193nm,0.9s							
KURK	**Kurchatov**	**10.68**	**34**	*e*P		**Pn**	**00 41 55.7**	**-1.9**
KURK				*e*S		**Sn**	**00 43 55.2**	**-1.7**
ZRNK	**Zerenda**	**10.80**	**359**	*e*P		**Pn**	**00 41 58.1**	**-1.1**
ZRNK				*e*			00 43 54.6	
ZRNK				pmax	pmax			
	comp=Z,27nm,0.6s							
ZRNK	**Zerenda**	**10.80**	**359**	*e*Pn		**Pn**	**00 41 58.1**	**-1.1**
	comp=Z,27nm,0.6s							
ZRNK				*e*Sn		**Sn**	**00 43 54.6**	**-5.2**
BVA0	**Borovoye Array**	**10.89**	**3**	Pn		**Pn**	**00 41 59.4**	**-1.1**
	comp=Z,3.2nm,0.8s,baz=174,slow=12,SNR=112							
BVA0				⇑	Sn	**Sn**	**00 43 59.2**	**-2.9**
	comp=Z,6.7nm,0.7s,baz=176,slow=18,SNR=4.3							
BVA0				⇑	Lg		00 45 07.3	
	comp=Z,33nm,1.4s,baz=181,slow=29,SNR=4.8							
BVAR	**Borovoye Array**	**10.89**	**3**	Pn		**Pn**	**00 41 59.4**	**-1.1**
	comp=Z,1.9nm,0.3s,baz=173,slow=12,SNR=56							
BVAR				Sn		**Sn**	**00 43 53.4**	**-8.8**
	comp=Z,2.6nm,0.3s,baz=171,slow=19,SNR=2.5							
BVAR				Lg			00 45 06.3	
	comp=Z,3.9nm,0.3s,baz=177,slow=27,SNR=2.7							
BVAR	**Borovoye Array**	**10.89**	**3**	P		**Pn**	**00 41 59.4**	**-1.1**
BVAR							00 43 53.4	
BRVK	**Borovoye**	**10.92**	**3**	*e*P		**Pn**	**00 42 00.0**	**-0.9**
BRVK				*e*			00 44 02.1	
BRVK				pmax	pmax			
	comp=Z,15nm,0.6s							
BRVK	**Borovoye**	**10.92**	**3**	*e*Pn		**Pn**	**00 41 60.0**	**-0.9**
	comp=Z,15nm,0.6s							
BRVK				*e*Sn		**Sn**	**00 44 02.1**	**-0.7**
AKTK	**Aktyubinsk**	**11.38**	**321**		Pn	**Pn**	**00 42 06.5**	**-0.6**
AKTK					Sn	**Sn**	**00 44 07.2**	**-6.8**
AKTO	**Aktyubinsk**	**11.38**	**321**	⇓	Pn	**Pn**	**00 42 05.9**	**-1.3**
	comp=Z,0.4nm,0.7s							
AKTO				⇑	Sn	**Sn**	**00 44 10.7**	**-3.3**
	comp=Z,0.8nm,0.7s							
AKTO				⇑	Lg		00 45 21.6	
	comp=Z,3.9nm,1.0s							
AKTO	**Aktyubinsk**	**11.38**	**321**		Pn	**Pn**	**00 42 06.5**	**-0.6**
	comp=Z,2.2nm,0.3s,baz=109,slow=16,SNR=34							
AKTO					Sn	**Sn**	**00 44 07.2**	**-6.8**
	comp=Z,3.9nm,0.3s,baz=21,slow=23,SNR=5.6							
AKTO	**Aktyubinsk**	**11.38**	**321**		P	**Pn**	**00 42 06.5**	**-0.6**
AKTO							00 44 07.2	
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.3s							
AKTO				smax				
	comp=N,4.0nm,0.3s							
SDNR	**Sundarnagar**	**12.26**	**148**	*e*P		**Pn**	**00 42 18.0**	**-1.2**
SDNR				*e*x		x	00 44 25.4	
SMLA	**Simla**	**12.67**	**148**	*e*P		**Pn**	**00 42 21.3**	**-3.5**
SMLA				*i* S		**Sn**	**00 44 31.6**	**-14**
KLP	**Kalpa**	**12.78**	**143**	*e*P		**Pn**	**00 42 22.6**	**-3.6**
KLP				*e*x		x	00 44 19.7	
WMQ	**Urumqi**	**13.54**	**77**	*e*P		**Pn**	**00 42 36.2**	**-0.5**
ORR	**Orenburg**	**13.72**	**319**	*e*P		**Pn**	**00 42 41.2**	**+2.1**
ORR				*e*S		**Sn**	**00 45 03.5**	**-7.8**
ORR				pmax	pmax			
	comp=Z,2.0nm,0.3s							
DDI	**Dehra Dun**	**13.74**	**146**	*e*P		**Pn**	**00 42 36.5**	**-2.9**
DDI				*e*x		x	00 45 04.0	
NDI	**New Delhi**	**14.89**	**152**	*e*x		**Pn**	**00 42 49.0**	**-6.1**
NDI				*e*P			00 42 52.0	
NDI				*e*x		x	00 45 28.4	
KHET	**Khetri**	**15.01**	**157**	*e*P		**Pn**	**00 42 53.8**	**-2.9**
KHET				AMb		AMB	00 42 55.0	
	comp=Z,5.3nm,0.6s							
KHET				*e*x		x	00 45 26.0	
AYAN	**Aya Nagar**	**15.04**	**153**	*e*P		**Pn**	**00 42 55.5**	**-1.6**
KUDL	**Kundal**	**15.15**	**155**	*e*P		**Pn**	**00 42 56.5**	**-2.0**
KUDL				AMb		AMB	00 43 14.8	
	comp=Z,18nm,0.8s							
KUDL				*e*x		x	00 45 31.7	
SONA	**Sohna**	**15.24**	**153**	*e*P		**Pn**	**00 42 56.9**	**-2.9**
SONA				*e*x		x	00 45 33.8	
JASL	**Jaisalmer**	**15.25**	**175**	*e*P		**Pn**	**00 42 58.6**	**-1.3**
NVS	**Novosibirsk**	**15.64**	**31**	*e*P		**Pn**	**00 43 08.0**	**+3.1**
NVS				*e*S		**Sn**	**00 46 01.2**	**+3.2**
ARU	**Arti**	**15.89**	**338**	*e*P		**Pn**	**00 43 05.3**	**-2.8**
ARU				*e*S		**Sn**	**00 45 58.2**	**-5.8**
ARU	**Arti**	**15.89**	**338**	*e*Pn		**Pn**	**00 43 05.2**	**-3.0**
	comp=Z,22nm,0.7s							
ARU				*e*Sn		**Sn**	**00 45 52.2**	**-12**
AJM	**Ajmer**	**16.24**	**163**	*e*P		**Pn**	**00 43 10.5**	**-2.1**
AJM				AMb		AMB	00 43 17.8	
	comp=Z,9.1nm,1.0s							
AJM				*e*x		x	00 46 01.8	
AGRA	**Agra**	**16.48**	**152**	*e*P		**Pn**	**00 43 12.9**	**-2.8**
KOLN	**Koldanda**	**18.48**	**136**	*e*P		**Pn**	**00 43 37.9**	**-2.7**
	comp=Z,32nm,0.5s							
GNI	**Garni**	**18.61**	**272**	P		**Pn**	**00 43 46.3**	**+4.1**
	comp=Z,0.5nm,0.3s,baz=129,slow=7.5,SNR=4.1							
GNI	**Garni**	**18.61**	**272**	⇑	*e*P	**Pn**	**00 43 45.9**	**+3.6**
GNI				pmax	pmax			
	comp=Z,23nm,1.7s							
GNI	**Garni**	**18.61**	**272**	*e*P		**Pn**	**00 43 46.2**	**+3.9**
	comp=Z,17nm,0.7s							
ZEI	**Tsey**	**18.76**	**280**	*e*P		**Pn**	**00 43 48.9**	**+4.9**
ZEI				*e*S		**Sn**	**00 47 18.0**	**+4.3**
GKN	**Gorkha**	**18.83**	**134**	*e*P		**Pn**	**00 43 42.3**	**-2.6**
	comp=Z,41nm,0.4s							
GOF	**Gofitskoye**	**19.24**	**288**	*e*P		pP	00 43 55.7	+2.9
KKN	**Kakani**	**19.35**	**133**	*e*P		**Pn**	**00 43 48.8**	**-2.3**
	comp=Z,41nm,0.6s							
DMN	**Daman**	**19.40**	**133**	*e*P		**Pn**	**00 43 49.9**	**-1.8**
	comp=Z,23nm,0.5s							
KIV	**Kislovodsk**	**19.53**	**284**	*e*P		**Pn**	**00 43 53.7**	**+0.4**
KIV				*e*S		**Sn**	**00 47 29.4**	**-2.8**
KIV				pmax	pmax			
	comp=Z,31nm,0.6s							
KIV	**Kislovodsk**	**19.53**	**284**	*e*P		**Pn**	**00 43 53.7**	**+0.4**
	comp=Z,31nm,0.6s							
KIV				*e*S		**Sn**	**00 47 29.4**	**-2.9**
GUN	**Gumba**	**19.59**	**131**	*e*P		**Pn**	**00 43 52.7**	**-1.3**
	comp=Z,91nm,1.1s							
PKI	**Pulchoki**	**19.59**	**133**	*e*P		**Pn**	**00 43 51.8**	**-2.2**
	comp=Z,44nm,0.7s							
JIRN	**Jiri**	**19.95**	**131**	*e*P		**Pn**	**00 43 57.0**	**-1.3**
	comp=Z,46nm,0.5s							
BHPL	**Bhopal**	**20.04**	**158**	*e*P		**P**	**00 43 53.6**	**-4.0**
BHPL				AMb		AMB	00 43 59.0	
	comp=Z,26nm,0.7s							
BHPL				*e*x		x	00 47 27.7	
MSL	**Mosul**	**21.12**	**263**	*e*x		x	00 44 16.0	
LSA	**Lhasa**	**21.53**	**118**	*e*P		**P**	**00 44 15.7**	**+2.0**
SOC	**Sochi**	**21.71**	**284**	*e*P		pP	00 44 21.7	+2.0
SOC				*e*			00 44 35.5	
SOC				*e*S		**S**	**00 48 18.9**	**+3.6**
SOC				*e*SS			00 48 47.1	
SOC				pmax	pmax			
	comp=Z,23nm,0.6s,mb4.8							
VORD	**Divnogorie**	**22.33**	**304**	*e*P		pP	00 44 27.7	+1.4
VORD				pmax	pmax			
	comp=Z,20nm,1.4s,mb4.3							
VORD				pmax	pmax			
	comp=N,9.0nm,0.8s							
VORD				pmax	pmax			
	comp=E,30nm,1.0s							
NGP	**Nagpur**	**22.49**	**156**	*e*P		**P**	**00 44 20.4**	**-3.5**
VOR	**Voronezh**	**22.55**	**305**	P		pP	00 44 30.0	+1.4
VOR				pmax	pmax			
	comp=E,50nm,1.4s							
VOR				pmax	pmax			
	comp=Z,30nm,1.4s,mb4.5							
BOK	**Bokaro**	**22.91**	**138**	*e*P		**P**	**00 44 26.1**	**-2.2**
BOK				AMb		AMB	00 44 30.8	
	comp=Z,22nm,0.9s,mb4.6							
GTA	**Gaotai**	**23.18**	**87**	*e*P		**P**	**00 44 31.3**	**0.0**
GTA				AP			00 44 35.4	
GTA				XP		sP	00 44 39.1	+1.9
GTA				AMB		AMB		
	comp=Z,7.0nm,1.0s,mb4.0							
ANN	**Anapa**	**

comp=Z,10.0nm,0.8s,mb4.8
IDI Anoyia 35.03 274 P **P** **00 46 19.2 +2.0**
comp=Z,3.3nm,0.7s,mb4.4,baz=96,slow=9.2,SNR=7.8
HIA Hailar 35.34 61 *e*P **P** **00 46 20.0 +0.1**
ARCES ARCESS Array B 35.45 335 P **P** **00 46 21.6 +0.9**
comp=Z,2.3nm,0.7s,mb4.2,baz=99,slow=7.1,SNR=12
BRG Berggiesshubel 38.29 303 *e*(P) pP 00 46 52.0 +2.6
comp=Z,2.3nm,0.8s
BRG Berggiesshubel 38.29 303 *e*P pP 00 46 52.0 +2.6
BRG pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
GERES GERESS Array B 38.80 300 P **P** **00 46 50.8 +1.5**
comp=Z,0.9nm,0.7s,mb3.6,baz=65,slow=8.3,SNR=7.3
KHC Kasperske Hory 38.83 300 *e*P **P** **00 46 51.0 +1.5**
KHC x x 00 46 58.0
NB2 NORSAR Subarra 39.17 319 P **P** **00 46 52.4 +0.1**
comp=Z,2.2nm,0.8s,mb3.9,baz=92,slow=8.6
NOA NORSAR Array B 39.17 319 P **P** **00 46 52.6 +0.3**
comp=Z,1.4nm,0.6s,mb3.9,baz=92,slow=8.3,SNR=7.6
GRA1 Grafenberg Arr 40.22 301 *e*P pP 00 47 09.4 +3.9
comp=Z,4.0nm,1.0s
GRF Grafenberg Arr 40.22 301 *e*P pP 00 47 09.4 +3.9
comp=Z,4.0nm,1.0s
GRF Grafenberg Arr 40.22 301 *e*P pP 00 47 09.4 +3.9
GRF pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
GRF Grafenberg Arr 40.22 301 *e*P pP 00 47 09.4 +3.9
GRF pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
YAK Yakutsk 40.26 39 *e*P **P** **00 47 01.1 -0.3**
YAK pmax pmax
comp=Z,17nm,0.9s,mb4.8
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK Yakutsk 40.26 39 *e*P **P** **00 47 01.0 -0.4**
comp=E,33nm,0.6s,mb5.2
TIXI Tiksi 41.09 25⇑*e*P **P** **00 47 08.1 -0.1**
TIXI pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
SSE Sheshan 42.47 88 P **P** **00 47 19.0 -0.5**
SSE AMB AMB
comp=Z,8.0nm,0.9s,mb4.3
SSE AMB AMB
comp=Z,540nm,9.9s
MDJ Mudanjiang 42.99 65 P **P** **00 47 23.0 -0.8**
MDJ AMB AMB
comp=Z,5.0nm,0.7s,mb4.3
MDJ AMB AMB
comp=Z,63nm,5.0s
CDF Champ du Feu 43.05 300 *e*P **P** **00 47 23.9 -0.3**
KLR Kul'dur 43.06 58 *e*P **P** **00 47 21.2 -3.1**
HINF Hinteralfeld 43.49 300 *e*P **P** **00 47 27.5 -0.3**
PGF Pioggiola 43.74 292 *e*P **P** **00 47 29.9 0.0**
UCC Uccle 44.24 304 AP pP 00 47 40.7 +2.4
LPG La Plagne 44.26 297 *e*P **P** **00 47 34.6 +0.6**
comp=Z,3.6nm,0.6s,mb4.0
LPG La Plagne 44.26 297 *e*P **P** **00 47 34.6 +0.6**
LPG pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
LPG La Plagne 44.26 297 *e*P **P** **00 47 34.6 +0.6**
comp=Z,1.8nm,0.6s,mb4.0
LPL La Plagne 44.27 297 *e*P **P** **00 47 34.5 +0.4**
comp=Z,5.9nm,0.5s,mb4.2
LPL La Plagne 44.27 297 *e*P **P** **00 47 34.5 +0.4**
LPL pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
LPL La Plagne 44.27 297 *e*P **P** **00 47 34.5 +0.4**
comp=Z,3.0nm,0.5s,mb4.3
CABF La Chapelle 44.35 298 *e*P **P** **00 47 34.8 +0.1**
MEZF Maizieres J'vi 44.44 301 *e*P **P** **00 47 35.0 -0.5**
comp=Z,7.9nm,0.9s,mb4.2
MEZF Maizieres J'vi 44.44 301 *e*P **P** **00 47 35.0 -0.5**
comp=Z,7.9nm,0.9s,mb4.4
MBDF Montbardon 44.51 296 *e*P **P** **00 47 36.0 0.0**
comp=Z,9.7nm,0.8s,mb4.4
MBDF Montbardon 44.51 296 *e*P **P** **00 47 36.0 0.0**
MBDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
MBDF Montbardon 44.51 296 *e*P **P** **00 47 36.0 0.0**
comp=Z,4.8nm,0.8s,mb4.4
BAIF Baives 44.53 304 *e*P **P** **00 47 35.2 -1.0**
FRF La Foret Royal 44.99 294 *e*P **P** **00 47 40.2 +0.3**
comp=Z,11nm,0.7s,mb4.5
FRF La Foret Royal 44.99 294 *e*P **P** **00 47 40.2 +0.3**
FRF pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
FRF La Foret Royal 44.99 294 *e*P **P** **00 47 40.2 +0.3**
comp=Z,5.6nm,0.7s,mb4.5
LMR La Mourre 45.17 294 *e*P **P** **00 47 40.9 -0.4**
LOR Lormes 45.59 300 *e*P **P** **00 47 43.8 -0.8**
SMF Signal de Mont 45.80 299 *e*P **P** **00 47 45.5 -0.8**
comp=Z,5.7nm,0.8s,mb4.2
SMF Signal de Mont 45.80 299 *e*P **P** **00 47 45.5 -0.8**
SMF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
SMF Signal de Mont 45.80 299 *e*P **P** **00 47 45.5 -0.8**
comp=Z,2.8nm,0.8s,mb4.2
VIVF Saint-Julien-l 45.86 296 *e*P **P** **00 47 46.7 -0.1**
comp=Z,15nm,1.0s,mb4.6
VIVF Saint-Julien-l 45.86 296 *e*P **P** **00 47 46.7 -0.1**
VIVF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
VIVF Saint-Julien-l 45.86 296 *e*P **P** **00 47 46.7 -0.1**
comp=Z,7.6nm,1.0s,mb4.6
SSF Saint Saulge 45.88 300 *e*P **P** **00 47 46.1 -0.8**
AVF Avril sur Loir 46.07 299 *e*P **P** **00 47 48.1 -0.3**
comp=Z,4.8nm,0.6s,mb4.3
AVF Avril sur Loir 46.07 299 *e*P **P** **00 47 48.1 -0.3**
AVF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
AVF Avril sur Loir 46.07 299 *e*P **P** **00 47 48.1 -0.3**
comp=Z,2.4nm,0.6s,mb4.3
BGF Bois d'Agland 46.48 299 *e*P **P** **00 47 50.9 -0.7**
LASF Ste Croix 46.69 296 *e*P **P** **00 47 53.3 +0.1**
comp=Z,17nm,0.9s,mb4.7
TCF Toulx Ste Croi 46.98 299 *e*P **P** **00 47 55.2 -0.3**
comp=Z,9.5nm,0.9s,mb4.4
TCF Toulx Ste Croi 46.98 299 *e*P **P** **00 47 55.2 -0.3**
TCF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
TCF Toulx Ste Croi 46.98 299 *e*P **P** **00 47 55.2 -0.3**
comp=Z,4.8nm,0.9s,mb4.4
CAF Calviac 47.57 297 *e*P **P** **00 48 00.2 +0.1**
LDF La Druitiere 47.68 303 *e*P **P** **00 48 00.0 -1.0**
comp=Z,7.6nm,0.6s,mb4.6
LDF La Druitiere 47.68 303 *e*P **P** **00 48 00.0 -1.0**
LDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
LDF La Druitiere 47.68 303 *e*P **P** **00 48 00.0 -1.0**
comp=Z,3.8nm,0.6s,mb4.6
RJF Les Rejaudoux 47.79 298 *e*P **P** **00 48 02.0 +0.2**
comp=Z,11nm,0.9s,mb4.6
RJF Les Rejaudoux 47.79 298 *e*P **P** **00 48 02.0 +0.2**
RJF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
RJF Les Rejaudoux 47.79 298 *e*P **P** **00 48 02.0 +0.2**
comp=Z,5.5nm,0.9s,mb4.6
FLN La Foliniere 47.85 303 *e*P **P** **00 48 01.2 -1.1**
comp=Z,8.8nm,0.7s,mb4.6
FLN La Foliniere 47.85 303 *e*P **P** **00 48 01.2 -1.1**
FLN pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
FLN La Foliniere 47.85 303 *e*P **P** **00 48 01.2 -1.1**
comp=Z,4.4nm,0.7s,mb4.6
MTLF Montolieu 48.07 295 *e*P **P** **00 48 03.9 -0.1**
comp=Z,20nm,1.0s,mb4.8
MTLF Montolieu 48.07 295 *e*P **P** **00 48 03.9 -0.1**
MTLF pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
MTLF Montolieu 48.07 295 *e*P **P** **00 48 03.9 -0.1**
comp=Z,9.8nm,1.0s,mb4.8
GRR Gorron 48.21 303 *e*P **P** **00 48 04.2 -0.9**
MFF Saint Martin d 48.39 300 *e*P **P** **00 48 05.2 -1.3**
comp=Z,16nm,1.0s,mb4.7
MFF Saint Martin d 48.39 300 *e*P **P** **00 48 05.2 -1.3**
MFF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
MFF Saint Martin d 48.39 300 *e*P **P** **00 48 05.2 -1.3**
comp=Z,8.1nm,1.0s,mb4.7
LFF La Frestale 48.44 298 *e*P **P** **00 48 06.7 -0.1**
comp=Z,12nm,0.7s,mb4.8
LFF La Frestale 48.44 298 *e*P **P** **00 48 06.7 -0.1**
LFF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
LFF La Frestale 48.44 298 *e*P **P** **00 48 06.7 -0.1**
comp=Z,5.8nm,0.7s,mb4.7
EMIR Miracle 49.11 294 P P **00 48 13.2 +1.2**
comp=Z,1.8nm,0.4s,mb4.5
SGMF Saint Gilles 49.32 303 *e*P **P** **00 48 12.8 -0.8**
EPF Esparros 49.45 296 *e*P **P** **00 48 14.2 -0.4**
comp=Z,4.7nm,0.6s,mb4.4
EPF Esparros 49.45 296 *e*P **P** **00 48 14.2 -0.4**
EPF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
EPF Esparros 49.45 296 *e*P **P** **00 48 14.2 -0.4**
comp=Z,2.3nm,0.6s,mb4.4
EPOB Poblet 49.65 293 P P **00 48 16.8 +0.7**
comp=Z,0.5nm,0.4s,mb3.9
EBIE Bielsa 49.72 295 P P **00 48 17.5 +0.8**
comp=Z,0.8nm,0.4s,mb4.1
ROSF Rostrenen 49.73 303 *e*P **P** **00 48 15.7 -1.1**
EGRA Graus 49.81 295 P P **00 48 18.4 +1.0**
comp=Z,9.4nm,1.0s,mb4.8
QUIF Quistinic 49.82 303 *e*P **P** **00 48 16.5 -0.9**
comp=Z,12nm,0.7s,mb4.8
QUIF Quistinic 49.82 303 *e*P **P** **00 48 16.5 -0.9**
QUIF pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
QUIF Quistinic 49.82 303 *e*P **P** **00 48 16.5 -0.9**
comp=Z,6.3nm,0.6s,mb4.8
ETSF Etsaut 50.11 296 *e*P **P** **00 48 19.5 -0.1**
comp=Z,8.4nm,0.7s,mb4.6
ETSF Etsaut 50.11 296 *e*P **P** **00 48 19.5 -0.1**
ETSF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
ETSF Etsaut 50.11 296 *e*P **P** **00 48 19.5 -0.1**
comp=Z,4.2nm,0.7s,mb4.6
ERTA Horta de San J 50.33 293 P P **00 48 21.9 +0.6**
comp=Z,1.9nm,0.5s,mb4.4
SJPF Ste Jean 50.46 296 *e*P **P** **00 48 22.1 -0.2**
EIBI Ibiza 50.48 291 P P **00 48 24.3 +1.9**
ESAC San Caprasio 50.54 294 P P **00 48 23.8 +0.9**
comp=Z,4.6nm,0.5s,mb4.7
EALK Alkurruntz 50.60 297 P P **00 48 24.3 +0.9**
comp=Z,1.5nm,0.5s,mb4.2
ELIZ Elizondo 50.64 297 P P **00 48 25.1 +1.5**
comp=Z,0.3nm,0.2s,mb3.9
EMOS Mosqueruela 51.13 293 P P **00 48 28.5 +1.1**
comp=Z,1.0nm,0.6s,mb3.9
EBEN Beniarda 51.71 291 P pP 00 48 35.7 -0.6
comp=Z,1.6nm,0.7s
ELAN Lanestosa 51.88 297 P P **00 48 34.2 +1.3**
comp=Z,1.6nm,0.8s,mb4.0
KMBO Kilima Mbogo 51.92 222 P P **00 48 34.2 +1.0**
comp=Z,0.9nm,0.9s,mb3.7,baz=33,slow=9.7,SNR=2.0
KMBO Kilima Mbogo 51.92 222 *i* P pP 00 48 39.5 +1.7
KMBO pmax pmax
comp=Z,2.0nm,0.9s
MJAR Matsushiro Arr 52.25 72 P P **00 48 35.8 +0.1**
comp=Z,4.6nm,1.0s,mb4.4,baz=295,slow=8.9,SNR=6.9
EARI Arriondas 53.01 298 P P **00 48 42.3 +1.0**
comp=Z,0.4nm,0.4s,mb3.7
GUD Guadarrama 53.51 295 P pP 00 48 51.7 +2.1
comp=Z,0.3nm,0.2s
EHUE Huescar 53.78 291 P pP 00 48 51.6 +0.1
ESDC Sonseca Array 53.83 294 P P **00 48 47.7 +0.3**
comp=Z,0.7nm,0.5s,mb3.9,baz=60,slow=7.0,SNR=12
ESDC Sonseca Array 53.83 294 P P **00 48 47.7 +0.3**
ESDC P pP 00 48 51.5 -0.4
EQES Quesada 54.11 291 P pP 00 48 54.3 +0.3
comp=Z,0.9nm,0.4s
BILL Bilibino 54.14 27⇑*i* P P **00 48 50.3 +0.7**
BILL pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
EPON Pontenova 54.27 299 P pP 00 48 55.5 +0.4
comp=Z,3.2nm,0.4s
EADA Adamuz 54.98 292 P pP 00 49 00.8 +0.6
comp=Z,0.9nm,0.6s
SUMG Summit 55.30 340 *e*P P **00 48 59.5 +1.4**
comp=Z,9.8nm,0.9s,mb4.8
SUMG *e*pP pP 00 49 05.9 +3.2
ELOB Lobios 55.54 298 P pP 00 49 07.0 +2.7
comp=Z,1.2nm,0.4s
EMIJ Mijas 55.91 291 P pP 00 49 07.4 +0.5
comp=Z,1.3nm,0.5s
EBAD Badajoz 56.35 294 P pP 00 49 12.4 +2.3
comp=Z,1.8nm,0.6s
ESPR Espera 56.50 292 P pP 00 49 12.8 +1.6
comp=Z,1.3nm,0.6s
EMIN Mina Concepcio 56.61 293 P pP 00 49 13.6 +1.6
comp=Z,1.8nm,0.4s
EGRO El Granado 57.28 293 P pP 00 49 18.8 +2.1
comp=Z,1.9nm,0.4s
TORD Torodi Ar. Bea 64.74 265 P P **00 50 02.8 0.0**
comp=Z,1.2nm,0.7s,mb4.0,baz=50,slow=6.3,SNR=10
ILAR Eielson Array 69.69 16 P P **00 50 33.6 -0.6**
comp=Z,0.4nm,0.9s,mb3.4,baz=335,slow=5.4,SNR=5.4
DBIC Dimbokro 73.84 264 P P **00 50 59.2 0.0**
comp=Z,4.9nm,1.0s,mb4.4,baz=165,slow=13,SNR=5.9
YKA Yellowknife Ar 75.65 2 P P **00 51 09.1 -0.6**
comp=Z,1.0nm,0.5s,mb4.0,baz=354,slow=6.1,SNR=48
SCHQ Schefferville 76.40 336 P P **00 51 13.2 -0.7**
comp=Z,2.2nm,0.9s,mb4.1,baz=62,slow=11,SNR=3.9
WRA Warramunga Arr 86.05 121 P P **00 52 04.8 -0.4**
comp=Z,2.7nm,0.7s,mb4.6,baz=328,slow=4.5,SNR=16
WRAB Tennant Creek 86.05 121 *e*P P **00 52 04.8 -0.4**
WRAB *e**PP pP 00 52 15.5 +5.5
ASAR Alice Springs 88.52 124 P P **00 52 16.9 -0.3**
comp=Z,1.5nm,0.9s,mb4.3,baz=316,slow=4.5,SNR=10
PDAR Pinedale Array 95.45 359 P P **00 52 50.0 +0.7**
comp=Z,0.8nm,0.8s,mb4.2,baz=28,slow=3.5,SNR=6.0

*CSEM **01** 00:43:38.6±1.3, 3866N×2857W, h13km±7km, ML1.0, Error ellipse: s-maj=4.3km s-min=3.6km az=176.0, After PDA PDA **01** 00:43:38.6±1.3, 3866N×2857W, h13km±7km, MD2.7, ML1.0, Error ellipse: s-maj=4.3km s-min=3.6km az=176.0*
SVSA 01 00:43:38.6±1.3, 3866N×2857W, h13km±7km, MD2.7, ML1.0, Error ellipse: s-maj=4.3km s-min=3.6km az=176.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**0.11**	**253**	*i* P	Pg	00 43 41.4	-0.3
PCED				*e*S	Sg	00 43 43.5	-0.4
PCED	24nm,0.1s						
PCED	**Cedros**	**0.11**	**253**	*e*S	Sg	00 43 43.5	-0.4
CALA	**Caldeira**	**0.13**	**233**	*e*P	Pg	00 43 41.8	-0.2
CALA				*e*S	Sg	00 43 44.6	+0.2
HOR	**Horta**	**0.14**	**199**	*e*P	Pg	00 43 41.4	-0.7
HOR				*e*S	Sg	00 43 43.7	-0.9
PICO	**Pico**	**0.20**	**144**	*e*P	Pg	00 43 42.1	-0.9
PICO				*e*S	Sg	00 43 45.1	-0.9
PCND	**Candelaria**	**0.21**	**156**	*e*P	Pg	00 43 43.0	-0.2
PCND				*e*S	Sg	00 43 46.2	-0.1
PCND	14nm,0.1s						
PTEI	**Pico do Teixo**	**0.23**	**134**	*e*S	Sg	00 43 46.9	-0.2
PTEI	11nm,0.1s						
ROSA	**Rosais**	**0.27**	**77**	*i* P	Pg	00 43 43.5	-0.7
ROSA				*e*S	Sg	00 43 47.2	-0.7
ROSA	**Rosais**	**0.27**	**77**	*e*S	Sg	00 43 47.2	-0.7
PBOI	**Pico dos Bois**	**0.27**	**145**	*e*S	Sg	00 43 47.8	-0.3
PBOI	11nm,0.1s						
PID	**Ribeirinha**	**0.41**	**121**	*e*S	Sg	00 43 51.1	-1.4

*ISCJB **01** 00:46:58.9±0.5, 3948N×2048E×004, h10km, Error ellipse: s-maj=5.0km s-min=4.5km az=15.6*
*ATH **01** 00:46:58.1, 3950N×2051E, h22km±7km, MD3.3/5*
*CSEM **01** 00:46:59.3±0.2, 3946N×2044E, h5km, ML3.1, Error ellipse: s-maj=5.8km s-min=3.0km az=24.0*
*THE **01** 00:46:59.4, 3945N×2042E, h3km, ML3.1*
ISC 01 00:46:59.3±0.6, 3947N×004×2046E×004, h10km, n23, σ1ŝ19/30, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.12**	**305**	*e*Pg	**Pg**	**00 47 01.5**	**-0.7**
IGT				*e*Sg	**Sg**	**00 47 03.1**	**-1.0**
JAN	**Janina**	**0.36**	**58**	*e*PB	**Pg**	**00 47 05.0**	**-1.4**
JAN				*e*SB	**Sg**	**00 47 09.8**	**-1.5**
KEK	**Kerkira**	**0.57**	**296**	*e*PN	**Pg**	**00 47 09.9**	**-0.4**
LSK	**Leskovik**	**0.69**	**9**	*i* Pg	**Pg**	**00 47 12.2**	**-0.5**
EVR	**Evrytania**	**1.19**	**117**	*e*PN	**Pn**	**00 47 20.5**	**-1.5**
VLS	**Valsamata**	**1.29**	**175**	*e*PN	**Pn**	**00 47 22.8**	**-0.6**
VLS				*e*SN	**Sn**	**00 47 42.1**	**+1.4**
KZN	**Kozani**	**1.31**	**50**	*e*PB	**Pb**	**00 47 20.6**	**-3.5**
FNA	**Florina**	**1.49**	**28**	*e*Pg	**Pg**	**00 47 27.1**	**-1.0**
FNA				*e*Sg	**Sg**	**00 47 47.7**	**+0.3**
FNA	**Florina**	**1.49**	**28**	*e*Pg	**Pg**	**00 47 27.0**	**-1.0**
FNA				*e*Sg	**Sg**	**00 47 47.7**	**+0.3**
AGG	**Agios Georgios**	**1.52**	**106**	*e*Pg	**Pg**	**00 47 27.2**	**-1.3**
AGG				*e*Sg	**Sg**	**00 47 48.0**	**-0.2**
OHR	**Ohrid**	**1.67**	**9**	*e*Pn	**Pn**	**00 47 31.4**	**+2.8**
OHR	**Ohrid**	**1.67**	**9**	*e*Pn	**Pn**	**00 47 31.3**	**+2.7**
BIA	**Bitola**	**1.69**	**23**	*e*Pn	**Pn**	**00 47 30.1**	**+1.2**
BIA	**Bitola**	**1.69**	**23**	*e*Pn	**Pn**	**00 47 30.0**	**+1.1**
LIT	**Litokhoron**	**1.69**	**67**	*e*Pb	**Pb**	**00 47 29.7**	**-0.8**
LIT				*e*Sb	**Sb**	**00 47 52.8**	**+1.0**
GRG	**Griva**	**2.11**	**44**	*e*Pn	**Pn**	**00 47 35.4**	**+0.7**
XOR	**Xorichti**	**2.12**	**92**	*e*Pn	**Pn**	**00 47 35.0**	**+0.1**
VAY	**Valandovo**	**2.46**	**40**	*e*Pn	**Pn**	**00 47 41.5**	**+2.1**
PAIG	**Paliouri**	**2.53**	**78**	*e*Pn	**Pn**	**00 47 41.4**	**+0.9**
STIP	**Stip**	**2.59**	**30**	*e*Pn	**Pn**	**00 47 43.4**	**+2.1**
STIP	**Stip**	**2.59**	**30**	*e*Pn	**Pn**	**00 47 43.3**	**+2.1**
OUR	**Ouranopolis**	**2.85**	**71**	*e*Pn	**Pn**	**00 47 45.5**	**+0.7**
OUR	**Ouranopolis**	**2.85**	**71**	*e*Pn	**Pn**	**00 47 45.5**	**+0.7**

*MOS **01** 00:59:09.9±1.0, 4242N×6941E, h33km, mb4.6/23, Error ellipse: s-maj=8.0km s-min=5.7km az=132.5*
*IDC **01** 00:59:10.1±3.7, 4224N×6938E, h28km±25km, mb3.7/19, mb1 4.0/22, mb1mx3.9/27, mbtmp3.9/22, ML3.8/3, Error ellipse: s-maj=14.1km s-min=10.1km az=9.0*
*ISCJB **01** 00:59:10.6±0.7, 4232N×005×6940E×005, h44km±6km, mb4.2/51, MS3.7/1, Error ellipse: s-maj=8.5km s-min=5.4km az=31.0*
*NNC **01** 00:59:10.9±0.8, 4263N×6916E, h16km±10km, mb4.7, mpv4.9, Error ellipse: s-maj=11.3km s-min=4.0km az=177.0*
*NEIC **01** 00:59:11.4±0.3, 4233N×6944E, h35km, mb4.4/24, Error ellipse: s-maj=7.2km s-min=4.3km az=179.0*
NEIC Felt at Shymkent.
*BJI **01** 00:59:12.1, 4242N×6980E, h35km, mB5.0, mb4.6, ML4.3, Ms4.2, Msz4.0*
ISC 01 00:59:10.4±1.4, 4234N±004×6935E±004, h26km±10km, n167, σ0ŝ90/185, mb4.2/51, MS3.7/1, 15C-9D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK07	**Karatay Array**	**1.13**	**48**	P	**Pn**	**00 59 31.3**	**+0.7**
KK08	**Karatay Array**	**1.14**	**47**	P	**Pn**	**00 59 31.3**	**+0.7**
KK03	**Karatay Array**	**1.14**	**48**	P	**Pn**	**00 59 31.5**	**+0.7**
KK01	**Karatay Array**	**1.15**	**48**	P	**Pn**	**00 59 31.5**	**+0.7**
KK02	**Karatay Array**	**1.15**	**48**	P	**Pn**	**00 59 31.6**	**+0.8**
KK31	**Karatay Array**	**1.15**	**48**	⇓P	**Pn**	**00 59 31.4**	**+0.5**
KK31	782nm,0.6s,baz=225,slow=18			⇑S	**Sn**	**00 59 46.8**	**+1.1**
	6µm,0.8s,baz=223,slow=27,SNR=16						
KK04	**Karatay Array**	**1.15**	**47**	P	**Pn**	**00 59 31.6**	**+0.7**
KK06	**Karatay Array**	**1.15**	**49**	P	**Pn**	**00 59 31.6**	**+0.7**
KK09	**Karatay Array**	**1.16**	**47**	P	**Pn**	**00 59 31.7**	**+0.8**
KK05	**Karatay Array**	**1.17**	**48**	P	**Pn**	**00 59 31.9**	**+0.8**
AML	**Almayashu** SNR=78	**3.23**	**92**	P	**Pn**	**01 00 00.5**	**+1.0**
EKS2	**Erkin-Say** SNR=54	**3.29**	**83**	P	**Pn**	**01 00 00.5**	**+0.2**
AAK	**Ala-Archa** SNR=37	**3.82**	**84**	P	**Pn**	**01 00 07.9**	**+0.4**
AAK	**Ala-Archa**	**3.82**	**84**	*e*Pn	**Pn**	**01 00 06.9**	**-0.6**
AAK				*e*Sg	**Sn**	**01 01 05.8**	**+14**
UCH	**Uchtor** SNR=33	**3.83**	**90**	P	**Pn**	**01 00 08.2**	**+0.5**
USP	**Ospenovka** SNR=57	**3.90**	**74**	P	**Pn**	**01 00 08.5**	**-0.2**
FRU	**Bishkek**	**3.92**	**81**	*e*PN	**Pn**	**01 00 08.8**	**-0.1**
FRU				*e*		01 00 19.6	
FRU				*e*S	**Sn**	**01 00 58.6**	**+4.5**
FRU				*i* S	**Sn**	**01 01 10.8**	**+17**
FRU	comp=Z,120nm,1.2s			pmax	pmax		
FRU	comp=Z,2µm,1.4s			smax			
CHMS	**Chumysh** SNR=18	**4.04**	**79**	P	**Pn**	**01 00 10.3**	**-0.2**
KBK	**Karagaybulak** SNR=17	**4.15**	**84**	P	**Pn**	**01 00 12.5**	**+0.4**
KZA	**Kyzart** SNR=30	**4.39**	**91**	P	**Pn**	**01 00 16.0**	**+0.6**
TKM2	**Tokmak 2** SNR=23	**4.65**	**81**	P	**Pn**	**01 00 18.7**	**-0.2**
ULHL	**Ulahol** SNR=10	**5.11**	**89**	P	**Pn**	**01 00 25.7**	**+0.4**
KNDC	**Almaty**	**5.67**	**79**	⇑Pg	Px	01 00 55.7	
KNDC	comp=E,91nm,0.7s			⇑Lg		01 02 13.8	
KSH	**Kashi**	**5.75**	**117**	P	**Pn**	**01 00 33.6**	**-0.5**
KSH	comp=E,1µm,1.1s			Smax			
KSH	comp=N,308nm,0.8s			Smax			
AB31	**Akbulak array**	**9.53**	**320**	⇓Pn	**Pn**	**01 01 24.0**	**-2.0**
AB31	comp=E,15nm,0.7s			⇑Sn	**Sn**	**01 03 07.8**	**-4.5**
AB31	comp=E,34nm,0.5s			⇓Lg		01 04 03.7	
MKAR	comp=E,75nm,0.7s **Makanchi Array**	**10.25**	**60**	Pn	**Pn**	**01 01 34.9**	**-0.9**
MKAR	comp=E,0.5nm,0.3s,baz=246,slow=14,SNR=28			Lg		01 04 29.5	
MK05	comp=E,0.7nm,0.3s,baz=335,slow=38,SNR=3.5 **Makanchi Array**	**10.25**	**60**	⇓Pn	**Pn**	**01 01 34.5**	**-1.3**
MK05	comp=E,11nm,0.7s,baz=248,slow=15			⇑Lg		01 04 35.3	
VOSK	comp=E,124nm,1.1s,baz=253,slow=23 **Vostochnaya**	**10.45**	**5**	⇓Pn	**Pn**	**01 01 36.4**	**-2.1**
VOSK	comp=E,5.3nm,0.7s			⇑Sn	**Sn**	**01 03 30.2**	**-4.6**
VOSK	comp=E,21nm,0.8s			⇑Lg		01 04 33.8	
KURK	comp=E,239nm,1.4s **Kurchatov**	**10.53**	**34**	⇑Pn	**Pn**	**01 01 39.5**	**-0.1**
KURK	comp=E,7.2nm,2.0s			⇑Sn	**Sn**	**01 03 36.0**	**-0.7**
KURK	comp=E,22nm,0.8s			⇑Lg		01 04 40.2	
KURK	comp=E,148nm,1.1s **Kurchatov**	**10.53**	**34**	*e*P	**Pn**	**01 01 40.6**	**+1.0**
KURK				*e*		01 03 37.6	
KURK	comp=Z,7.0nm,0.8s			pmax	pmax		
KURK	**Kurchatov**	**10.53**	**34**	*e*Pn	**Pn**	**01 01 40.6**	**+1.0**
KURK	comp=Z,6.7nm,0.8s			*e*Sn	**Sn**	**01 03 37.6**	**+0.9**
ZRNK	**Zerenda**	**10.62**	**359**	*e*Pn	**Pn**	**01 01 40.6**	**-0.3**
ZRNK				*e*Sn	**Sn**	**01 03 38.0**	**-1.0**
BVA0	**Borovoye Array**	**10.72**	**3**	⇓Pn	**Pn**	**01 01 40.3**	**-1.8**
BVA0	comp=Z,1.9nm,0.8s,baz=173,slow=12,SNR=58			⇓Sn	**Sn**	**01 03 37.7**	**-3.6**
BVA0	comp=Z,4.9nm,0.6s			⇓Lg		01 04 42.2	
BVAR	comp=Z,18nm,1.1s,baz=171,slow=28,SNR=4.1 **Borovoye Array**	**10.72**	**3**	Pn	**Pn**	**01 01 41.5**	**-0.7**
BVAR	comp=Z,0.8nm,0.3s,baz=175,slow=12,SNR=50			Sn	**Sn**	**01 03 36.6**	**-4.6**
BVAR	comp=Z,2.2nm,0.3s,baz=171,slow=19,SNR=3.3			Lg		01 04 48.4	
BVAR	comp=Z,2.4nm,0.3s,baz=204,slow=31,SNR=3.9 **Borovoye Array**	**10.72**	**3**	P	**Pn**	**01 01 41.5**	**-0.7**
BVAR						01 03 36.6	
BRVK	**Borovoye**	**10.75**	**3**	*e*P	**Pn**	**01 01 42.4**	**-0.2**
BRVK				*e*		01 03 35.7	
BRVK	comp=Z,5.0nm,1.9s			pmax	pmax		
BRVK	**Borovoye**	**10.75**	**3**	*e*Pn	**Pn**	**01 01 42.4**	**-0.2**
BRVK	comp=Z,5.2nm,1.9s			*e*Sn	**Sn**	**01 03 35.7**	**-6.3**
AKTK	**Aktyubinsk**	**11.25**	**320**	Pn	**Pn**	**01 01 48.5**	**-1.1**
AKTK				Sn	**Sn**	**01 03 49.1**	**-5.3**
AKTK				Lg		01 05 08.0	
AKTO	**Aktyubinsk**	**11.25**	**320**	Pn	**Pn**	**01 01 48.5**	**-1.1**
AKTO	comp=Z,0.8nm,0.3s,baz=122,slow=14,SNR=17			Sn	**Sn**	**01 03 49.1**	**-5.3**
AKTO	comp=Z,2.6nm,0.3s,baz=356,slow=20,SNR=3.7			Lg		01 05 08.0	
	comp=Z,1.4nm,0.3s,baz=92,slow=21,SNR=1.8						

AKTO	**Aktyubinsk**	**11.25**	**320**	P		**Pn**	**01 01 48.5**	**-1.0**
AKTO							01 03 49.1	
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.3s							
AKTO				smax				
	comp=N,3.0nm,0.3s							
AKTO				MLR	MLR			
	comp=Z,1.0nm,0.3s							
SDNR	**Sundarnagar**	**12.41**	**148**	*e*P		**Pn**	**01 02 01.4**	**-3.9**
SDNR				*e*S		**Sn**	**01 04 09.4**	**-13**
ORR	**Orenburg**	**13.60**	**318**	*e*P		**Pn**	**01 02 30.0**	**+8.5**
ORR				*e*S		**Sn**	**01 04 46.0**	**-5.7**
ORR				pmax	pmax			
	comp=Z,10.0nm,0.6s							
NVS	**Novosibirsk**	**15.48**	**31**	*e*P		**Pn**	**01 02 57.2**	**+10**
NVS				*e*S		**Sn**	**01 05 44.0**	**+6.3**
ARU	**Arti**	**15.73**	**337**	*e*P		**Pn**	**01 02 47.6**	**-2.5**
ARU				*e*			01 05 35.3	
ARU				pmax	pmax			
	comp=Z,27nm,1.0s							
ARU	**Arti**	**15.73**	**337**	*e*Pn		**Pn**	**01 02 47.5**	**-2.6**
	comp=Z,27nm,1.0s							
ARU				*e*Sn		**Sn**	**01 05 35.3**	**-8.3**
KOLN	**Koldanda**	**18.60**	**137**	*e*P		**Pn**	**01 03 20.5**	**-5.5**
	comp=Z,44nm,0.6s							
GNI	**Garni**	**18.62**	**272**	P		**Pn**	**01 03 28.9**	**+2.7**
	comp=Z,0.9nm,0.3s,baz=186,slow=1.6,SNR=10							
GNI	**Garni**	**18.62**	**272**	*e*P		**Pn**	**01 03 28.6**	**+2.3**
GNI				pmax	pmax			
	comp=Z,21nm,1.7s							
GNI	**Garni**	**18.62**	**272**	*e*P		**Pn**	**01 03 28.7**	**+2.5**
	comp=Z,17nm,0.9s							
ZEI	**Tsey**	**18.74**	**280**	*e*P		**Pn**	**01 03 29.9**	**+2.2**
GKN	**Gorkha**	**18.95**	**134**	*e*P		**Pn**	**01 03 24.3**	**-6.0**
	comp=Z,36nm,0.5s							
GOF	**Gofitskoye**	**19.19**	**287**	*e*P		**Pn**	**01 03 31.9**	**-1.3**
KKN	**Kakani**	**19.46**	**133**	*e*P		**Pn**	**01 03 30.7**	**-5.7**
	comp=Z,40nm,0.6s							
KIV	**Kislovodsk**	**19.50**	**284**	*e*P		**Pn**	**01 03 36.0**	**-0.8**
KIV				pmax	pmax			
	comp=Z,22nm,0.6s							
KIV	**Kislovodsk**	**19.50**	**284**	*e*P		**Pn**	**01 03 36.0**	**-0.8**
	comp=Z,22nm,0.6s							
KIV				*e*S		**Sn**	**01 07 24.1**	**+9.3**
DMN	**Daman**	**19.51**	**134**	*e*P		**Pn**	**01 03 31.0**	**-6.0**
	comp=Z,30nm,0.6s							
GUN	**Gumba**	**19.70**	**132**	*e*P		**Pn**	**01 03 34.2**	**-5.0**
	comp=Z,70nm,1.0s							
PKI	**Pulchoki**	**19.71**	**133**	*e*P		**Pn**	**01 03 34.4**	**-4.9**
	comp=Z,39nm,0.7s							
JIRN	**Jiri**	**20.06**	**131**	*e*P		**P**	**01 03 39.5**	**-2.2**
	comp=Z,52nm,0.6s							
VRHR	**Novokhopersk**	**20.83**	**304**	*e*P		**P**	**01 03 50.2**	**+0.2**
VRHR				pmax	pmax			
	comp=Z,10.0nm,0.6s							
VRHR				pmax	pmax			
	comp=N,10.0nm,0.9s							
VRHR				pmax	pmax			
	comp=E,10.0nm,0.6s							
LSA	**Lhasa**	**21.61**	**119**	*e*P		**P**	**01 03 57.7**	**-0.7**
LSA				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.1							
LSA	**Lhasa**	**21.61**	**119**	*e*P		**P**	**01 03 57.7**	**-0.6**
	comp=Z,4.6nm,0.6s,mb4.1							
SOC	**Sochi**	**21.67**	**283**	*e*P		**P**	**01 04 04.4**	**+5.3**
SOC				pmax	pmax			
	comp=Z,16nm,0.6s,mb4.6							
MALT	**Malatya**	**23.84**	**271**	*e*P		**P**	**01 04 23.4**	**+1.9**
MALT				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.0							
MALT	**Malatya**	**23.84**	**271**	*e*P		**P**	**01 04 23.4**	**+1.9**
	comp=Z,6.2nm,0.9s,mb4.0							
OBN	**Obninsk**	**24.86**	**312**⇓	*e*P		**P**	**01 04 37.5**	**+6.8**
OBN				*e*			01 04 54.1	
OBN				pmax	pmax			
	comp=Z,14nm,1.4s,mb4.3							
OBN				MLR	MLR			
	comp=Z,200nm,17.0s,MS3.7							
TLY	**Talaya**	**24.98**	**56**	*e*P		**P**	**01 04 32.5**	**+0.6**
TLY				pmax	pmax			
	comp=Z,3.0nm,1.3s,mb3.7							
SIM	**Simferopol'**	**25.51**	**288**⇑	*e*P		**P**	**01 04 44.4**	**+7.7**
SIM				pmax	pmax			
	comp=Z,31nm,1.0s,mb4.8							
KLMR	**Klimovskoe**	**25.84**	**326**	*e*P		**P**	**01 04 40.5**	**+0.8**
KLMR				pmax	pmax			
	comp=Z,10.0nm,2.0s,mb4.0							
SONM	**Songino Array**	**26.55**	**65**	P		**P**	**01 04 46.4**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=270,slow=10,SNR=2.6							
BR131	**Keskin Array S**	**26.94**	**277**	*e*P		**P**	**01 04 50.1**	**+0.4**
	comp=Z,1.9nm,0.6s,mb3.8							
BRTR	**Keskin Array B**	**26.94**	**277**	P		**P**	**01 04 50.0**	**+0.4**
	comp=Z,1.1nm,0.8s,mb3.5,baz=89,slow=8.0,SNR=8.3							
ULN	**Ulaanbaatar**	**26.99**	**65**⇑	*e*P		**P**	**01 04 50.0**	**-0.1**
ULN	**Ulaanbaatar**	**26.99**	**65**	*e*P		**P**	**01 04 49.5**	**-0.6**
	comp=Z,1.2nm,0.8s,mb3.5							
AKASG	**Malin Array Be**	**28.55**	**301**	P		**P**	**01 05 05.4**	**+1.4**
	comp=Z,1.5nm,0.8s,mb3.8,baz=79,slow=8.3,SNR=2.5							
JOF	**Joensuu**	**30.24**	**326**	*e*p		**P**	**01 05 12.2**	**-6.8**
	comp=Z,0.2nm,0.3s,mb3.3							
MLR	**Muntele Rosu**	**31.14**	**291**	P		**P**	**01 05 27.9**	**+0.9**
	comp=Z,0.9nm,0.7s,mb3.7,baz=174,slow=22,SNR=2.2							
FINES	**FINESS Array B**	**32.02**	**322**	P		**P**	**01 05 35.5**	**+0.9**
	comp=Z,0.7nm,0.4s,mb3.9,baz=107,slow=9.3,SNR=17							
KAF	**Kangasniemi**	**32.11**	**323**	*e*p		**P**	**01 05 35.1**	**-0.4**
	comp=Z,0.3nm,0.3s,mb3.6							
KMI	**Kunming**	**32.38**	**111**	P		**P**	**01 05 37.5**	**-0.4**
KMI				AP	pP		01 05 44.1	-1.4
KMI				AMB	AMB			
	comp=Z,8.0nm,0.8s,mb4.6							
IDI	**Anoyia**	**35.03**	**273**	P		**P**	**01 06 00.2**	**-0.7**
	comp=Z,1.4nm,0.5s,mb4.2,baz=76,slow=8.3,SNR=11							
HIA	**Hailar**	**35.25**	**61**	*e*P		**P**	**01 06 02.6**	**-0.2**
ARCES	**ARCESS Array B**	**35.29**	**335**	P		**P**	**01 06 03.5**	**+0.4**
	comp=Z,1.2nm,0.6s,mb4.0,baz=95,slow=6.1,SNR=6.8							
GERES	**GERESS Array B**	**38.73**	**299**	P		**P**	**01 06 33.8**	**+1.5**
	comp=Z,0.5nm,0.6s,mb3.4,baz=67,slow=7.8,SNR=5.0							
KHC	**Kasperske Hory**	**38.75**	**300**	*e*P		**P**	**01 06 40.5**	**+8.0**
NB2	**NORSAR Subarra**	**39.04**	**319**	P		**P**	**01 06 35.1**	**+0.1**
	comp=Z,0.4nm,0.5s,mb3.4,baz=93,slow=8.6							
NOA	**NORSAR Array B**	**39.04**	**319**	P		**P**	**01 06 35.0**	**+0.1**
	comp=Z,0.6nm,0.7s,mb3.4,baz=144,slow=24,SNR=2.9							
YAK	**Yakutsk**	**40.11**	**39**⇑	*e*P		**P**	**01 06 43.6**	**-0.3**
YAK				pmax	pmax			
	comp=Z,13nm,0.7s,mb4.8							
YAK	**Yakutsk**	**40.11**	**39**	*e*P		**P**	**01 06 44.0**	**+0.1**
GRA1	**Grafenberg Arr**	**40.14**	**301**	*e*P		**P**	**01 06 51.2**	**+7.1**
GRF	**Grafenberg Arr**	**40.14**	**301**	*e*P		**P**	**01 06 51.2**	**+7.1**
NJ2	**Nanjing**	**40.25**	**88**	*e*P		**P**	**01 06 46.5**	**+1.5**
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.7s,mb4.7							
TIXI	**Tiksi**	**40.92**	**25**⇑	*e*P		**P**	**01 06 50.6**	**0.0**
TIXI				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb3.9							
SSE	**Sheshan**	**42.45**	**88**	P		**P**	**01 07 01.5**	**-1.6**
SSE				AMB	AMB			
	comp=Z,9.0nm,0.6s,mb4.6							
SSE				AMB	AMB			
	comp=Z,162nm,8.1s							
CDF	**Champ du Feu**	**42.97**	**300**	*e*P		**P**	**01 07 07.3**	**0.0**
HINF	**Hinteralfeld**	**43.41**	**300**	*e*P		**P**	**01 07 10.8**	**0.0**
LPG	**La Plagne**	**44.19**	**296**	*e*P		**P**	**01 07 18.6**	**+1.5**
LPL	**La Plagne**	**44.20**	**296**	*e*P		**P**	**01 07 18.6**	**+1.4**
MEZF	**Maizieres J'vi**	**44.36**	**301**	*e*P		**P**	**01 07 19.0**	**+0.5**
MBDF	**Montbardon**	**44.44**	**295**	*e*P		**P**	**01 07 19.7**	**+0.6**
	comp=Z,14nm,1.0s,mb4.3							
MBDF	**Montbardon**	**44.44**	**295**	*e*P		**P**	**01 07 19.7**	**+0.6**
MBDF				pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.3							
MBDF	**Montbardon**	**44.44**	**295**	*e*P		**P**	**01 07 19.7**	**+0.6**
	comp=Z,6.8nm,1.0s,mb4.3							
BAIF	**Baives**	**44.44**	**303**	*e*P		**P**	**01 07 18.8**	**-0.4**
	comp=Z,12nm,1.1s,mb4.2							
BAIF	**Baives**	**44.44**	**303**	*e*P		**P**	**01 07 18.8**	**-0.4**
BAIF				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.2							
BAIF	**Baives**	**44.44**	**303**	*e*P		**P**	**01 07 18.8**	**-0.4**
	comp=Z,6.0nm,1.1s,mb4.2							
FRF	**La Foret Royal**	**44.93**	**294**	*e*P		**P**	**01 07 23.6**	**+0.6**
	comp=Z,9.3nm,0.8s,mb4.3							
FRF	**La Foret Royal**	**44.93**	**294**	*e*P		**P**	**01 07 23.6**	**+0.6**
FRF				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.4							
FRF	**La Foret Royal**	**44.93**	**294**	*e*P		**P**	**01 07 23.6**	**+0.6**
	comp=Z,4.7nm,0.8s,mb4.4							
LOR	**Lormes**	**45.51**	**300**	*e*P		**P**	**01 07 27.8**	**+0.2**
VIVF	**Saint-Julien-l**	**45.79**	**296**	*e*P		**P**	**01 07 30.1**	**+0.2**
	comp=Z,16nm,1.1s,mb4.6							
VIVF	**Saint-Julien-l**	**45.79**	**296**	*e*P		**P**	**01 07 30.1**	**+0.2**
VIVF				pmax	pmax			
	comp=Z,8.0nm,1.1s,mb4.6							
VIVF	**Saint-Julien-l**	**45.79**	**296**	*e*P		**P**	**01 07 30.1**	**+0.2**
	comp=Z,7.9nm,1.1s,mb4.6							
SSF	**Saint Saulge**	**45.80**	**300**	*e*P		**P**	**01 07 30.1**	**+0.2**
AVF	**Avril sur Loir**	**45.99**	**299**	*e*P		**P**	**01 07 31.8**	**+0.4**
	comp=Z,5.6nm,0.7s,mb4.3							
AVF	**Avril sur Loir**	**45.99**	**299**	*e*P		**P**	**01 07 31.8**	**+0.4**
AVF				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.3							
AVF	**Avril sur Loir**	**45.99**	**299**	*e*P		**P**	**01 07 31.8**	**+0.4**
	comp=Z,2.8nm,0.7s,mb4.3							
BGF	**Bois d'Agland**	**46.40**	**299**	*e*P		**P**	**01 07 34.4**	**-0.2**
LASF	**Ste Croix**	**46.62**	**296**	*e*P		**P**	**01 07 36.7**	**+0.3**
	comp=Z,23nm,1.1s,mb4.7							
TCF	**Toulx Ste Croi**	**46.91**	**299**	*e*P		**P**	**01 07 38.8**	**+0.2**
	comp=Z,7.6nm,0.9s,mb4.3							
TCF	**Toulx Ste Croi**	**46.91**	**299**	*e*P		**P**	**01 07 38.8**	**+0.2**
TCF				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.3							
TCF	**Toulx Ste Croi**	**46.91**	**299**	*e*P		**P**	**01 07 38.8**	**+0.2**
	comp=Z,3.8nm,0.9s,mb4.3							
EKA	**Eskdalemuir Ar**	**47.31**	**312**	P		**P**	**01 07 41.8**	**0.0**
	comp=Z,1.4nm,0.8s,mb3.9,baz=49,slow=19,SNR=4.6							
CAF	**Calviac**	**47.49**	**297**	*e*P		**P**	**01 07 43.6**	**+0.4**
LDF	**La Druitiere**	**47.59**	**303**	*e*P		**P**	**01 07 43.5**	**-0.4**
	comp=Z,14nm,0.8s,mb4.7							
LDF	**La Druitiere**	**47.59**	**303**	*e*P		**P**	**01 07 43.5**	**-0.4**
LDF				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.7							
LDF	**La Druitiere**	**47.59**	**303**	*e*P		**P**	**01 07 43.5**	**-0.4**
	comp=Z,7.0nm,0.8s,mb4.7							
RJF	**Les Rejaudoux**	**47.71**	**298**	*e*P		**P**	**01 07 45.4**	**+0.5**
	comp=Z,4.3nm,0.7s,mb4.3							
RJF	**Les Rejaudoux**	**47.71**	**298**	*e*P		**P**	**01 07 45.4**	**+0.5**
RJF				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.3							
RJF	**Les Rejaudoux**	**47.71**	**298**	*e*P		**P**	**01 07 45.4**	**+0.5**
	comp=Z,2.2nm,0.7s,mb4.3							
FLN	**La Foliniere**	**47.76**	**303**	*e*P		**P**	**01 07 44.6**	**-0.6**
MTLF	**Montolieu**	**48.00**	**295**	*e*P		**P**	**01 07 47.4**	**+0.3**
	comp=Z,8.5nm,0.9s,mb4.5							
MTLF	**Montolieu**	**48.00**	**295**	*e*P		**P**	**01 07 47.4**	**+0.3**
MTLF				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.5							
MTLF	**Montolieu**	**48.00**	**295**	*e*P		**P**	**01 07 47.4**	**+0.3**
	comp=Z,4.3nm,0.9s,mb4.5							
GRR	**Gorron**	**48.12**	**303**	*e*P		**P**	**01 07 47.8**	**-0.3**
MFF	**Saint Martin d**	**48.31**	**300**	*e*P		**P**	**01 07 48.8**	**-0.7**
	comp=Z,12nm,1.1s,mb4.5							
MFF	**Saint Martin d**	**48.31**	**300**	*e*P		**P**	**01 07 48.8**	**-0.7**
MFF				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.5							
MFF	**Saint Martin d**	**48.31**	**300**	*e*P		**P**	**01 07 48.8**	**-0.7**
	comp=Z,6.0nm,1.1s,mb4.5							
LFF	**La Frestale**	**48.36**	**298**	*e*P		**P**	**01 07 50.2**	**+0.3**
	comp=Z,8.4nm,0.7s,mb4.6							
LFF	**La Frestale**	**48.36**	**298**	*e*P		**P**	**01 07 50.2**	**+0.3**
LFF				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.6							
LFF	**La Frestale**	**48.36**	**298**	*e*P		**P**	**01 07 50.2**	**+0.3**
	comp=Z,4.2nm,0.7s,mb4.6							
SGMF	**Saint Gilles**	**49.23**	**303**	*e*P		**P**	**01 07 56.3**	**-0.3**
	comp=Z,93nm,1.4s,mb5.3							
SGMF	**Saint Gilles**	**49.23**	**303**	*e*P		**P**	**01 07 56.3**	**-0.3**
SGMF				pmax	pmax			
	comp=Z,47nm,1.4s,mb5.3							
SGMF	**Saint Gilles**	**49.23**	**303**	*e*P		**P**	**01 07 56.3**	**-0.3**
	comp=Z,46nm,1.4s,mb5.3							
EPF	**Esparros**	**49.38**	**296**	*e*P		**P**	**01 07 58.2**	**+0.5**
ROSF	**Rostrenen**	**49.64**	**303**	*e*P		**P**	**01 07 59.2**	**-0.5**
	comp=Z,20nm,1.0s,mb4.8							
ROSF	**Rostrenen**	**49.64**	**303**	*e*P		**P**	**01 07 59.2**	**-0.5**
ROSF				pmax	pmax			
	comp=Z,10.0nm,1.0s,mb4.8							
ROSF	**Rostrenen**	**49.64**	**303**	*e*P		**P**	**01 07 59.2**	**-0.5**
	comp=Z,10nm,1.0s,mb4.8							
QUIF	**Quistinic**	**49.73**	**303**	*e*P		**P**	**01 08 00.0**	**-0.4**
ETSF	**Etsaut**	**50.04**	**296**	*e*P		**P**	**01 08 03.0**	**+0.3**
	comp=Z,8.0nm,0.9s,mb4.5							
ETSF	**Etsaut**	**50.04**	**296**	*e*P		**P**	**01 08 03.0**	**+0.3**
ETSF				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.5							
ETSF	**Etsaut**	**50.04**	**296**	*e*P		**P**	**01 08 03.0**	**+0.3**
	comp=Z,4.0nm,0.9s,mb4.5							
SJPF	**Ste Jean**	**50.39**	**296**	*e*P		**P**	**01 08 05.3**	**-0.1**
MJAR	**Matsushiro Arr**	**52.18**	**72**	P		**P**	**01 08 18.0**	**-0.9**
	comp=Z,15nm,0.3s,mb3.9,baz=298,slow=8.8,SNR=4.2							
ESDC	**Sonseca Array**	**53.77**	**294**	P		**P**	**01 08 30.2**	**-0.3**
	comp=Z,0.7nm,0.6s,mb3.8,baz=55,slow=7.4,SNR=9.2							
ESLA	**Sonseca Array**	**53.77**	**294**	*e*P		**P**	**01 08 30.5**	**-0.1**
BILL	**Bilibino**	**53.98**	**27**⇑	*i*P		**P**	**01 08 32.0**	**-0.1**
BILL				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2							
SUMG	**Summit**	**55.14**	**340**	*e*P		**P**	**01 08 42.0**	**+1.4**
	comp=Z,9.3nm,0.8s,mb4.9							
TORD	**Torodi Ar. Bea**	**64.77**	**265**	P		**P**	**01 09 45.6**	**-1.0**
	comp=Z,0.9nm,0.7s,mb3.9,baz=51,slow=6.4,SNR=9.3							
ILAR	**Eielson Array**	**69.52**	**16**	P		**P**	**01 10 16.9**	**+0.2**
	comp=Z,0.4nm,0.9s,mb3.4,baz=335,slow=4.0,SNR=4.0							
ILAR	**Eielson Array**	**69.52**	**16**	P		**P**	**01 10 16.9**	**+0.2**
DBIC	**Dimbokro**	**73.86**	**264**	P		**P**	**01 10 41.8**	**-1.2**
	comp=Z,6.0nm,1.1s,mb4.4,baz=45,slow=2.9,SNR=3.4							
YKA	**Yellowknife Ar**	**75.47**	**2**	P		**P**	**01 10 51.8**	**-0.4**
	comp=Z,0.6nm,0.7s,mb3.7,baz=354,slow=6.1,SNR=22							
WRA	**Warramunga Arr**	**86.14**	**121**	P		**P**	**01 11 47.5**	**-1.7**
	comp=Z,2.7nm,0.8s,mb4.5,baz=327,slow=4.6,SNR=13							
WRAB	**Tennant Creek**	**86.14**	**121**	*e*P		**P**	**01 11 47.5**	**-1.7**
WRAB				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.9							
WRAB	**Tennant Creek**	**86.14**	**121**	*e*P		**P**	**01 11 47.5**	**-1.7**
	comp=Z,4.9nm,0.6s,mb4.9							
ASAR	**Alice Springs**	**88.61**	**124**	P		**P**	**01 11 59.4**	**-1.7**
	comp=Z,1.0nm,0.9s,mb4.1,baz=344,slow=5.9,SNR=6.6							
PDAR	**Pinedale Array**	**95.28**	**359**	P		**P**	**01 12 32.1**	**+0.2**
	comp=Z,0.3nm,0.8s,mb3.8,baz=354,slow=3.2,SNR=2.4							

*IDC **01** 01:08:48.7±1.3,2701S×71.18W, h0km, mb4.3/6, mb1 4.2/8, mb1mx4.0/16, mbtmp4.1/8, ML3.7/2, Error ellipse: s-maj=40.8km s-min=22.0km az=90.0*
*ISCJB **01** 01:08:49.7±1.5,2703S±003×714W±0.1, h29km±10km, mb4.2/6, Error ellipse: s-maj=16.0km s-min=4.8km az=176.2*
*NEIC **01** 01:08:50.1,2707S×7129W, h41km, mb3.9/1, After GUC.*
*GUC **01** 01:08:50.1±0.8, 2707S×7129W, h41km±5km, ML4.2*

ISC 01 01:08:49.1±1.6,**2705S**±003×**7141W**±008,**h13**km±9km,**n30,**
σ1§**22**/39,**mb4.2**/6,**3C-5D,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.52**	**93**	*i*P		**Pg**		**01 08 59.5**	**+0.3**
CDCH						AML	AML	01 09 13.6	
	comp=N,3μm,0.4s								
CPCH	**Copiapo**	**0.99**	**109**	*i*P		**Pb**		**01 09 06.6**	**-1.5**
CPCH						AML	AML	01 09 22.7	
	comp=E,17μm,0.1s								
CRCH	**Chaqaral**	**0.99**	**45**⇑	*i*P		**Pb**		**01 09 08.8**	**+0.7**
CRCH				*i*	S	**Sb**		**01 09 22.0**	**+1.0**
CRCH						AML	AML	01 09 27.0	
	comp=N,5μm,0.3s								
CRCH	**Chaqaral**	**0.99**	**45**⇑	*i*P		**Pb**		**01 09 08.8**	**+0.7**
CRCH				*i*	S	**Sb**		**01 09 22.0**	**+1.0**
LCO	**Las Campanas**	**2.06**	**163**⇑	*i*P		**Pn**		**01 09 23.4**	**+0.1**
LCO				*e*	S	**Sn**		**01 09 47.9**	**-0.9**
CPN1	**Cerro Paranal**	**2.57**	**21**⇓	*i*P		**Pn**		**01 09 30.8**	**+0.4**
CPN1				*i*	S	**Sn**		**01 10 01.3**	**-0.3**
CPN1						AML	AML	01 10 20.2	
	comp=E,2μm,0.5s								
TLL	**Tololo Astrono**	**3.16**	**170**	*e*P		**Pn**		**01 09 39.7**	**+1.2**
TLL				*i*	S	**Sn**		**01 10 16.5**	**+0.6**
TLL						AML	AML	01 10 34.6	
	comp=E,3μm,0.3s								
TLL	**Tololo Astrono**	**3.16**	**170**	*e*P		**Pn**		**01 09 39.7**	**+1.2**
TLL				*i*	S	**Sn**		**01 10 16.5**	**+0.6**
ANCH	**Antofagasta**	**3.47**	**15**⇓	*i*P		**Pn**		**01 09 42.2**	**-0.6**
ANCH				*e*	S	**Sn**		**01 10 22.6**	**-1.0**
ANCH						AML	AML	01 10 57.6	
	comp=N,1μm,0.6s								
ANCH	**Antofagasta**	**3.47**	**15**⇓	*i*P		**Pn**		**01 09 42.2**	**-0.6**
ANCH				*e*	S	**Sn**		**01 10 22.6**	**-1.0**
CFAA	**Coronel Fontan**	**5.32**	**149**	Pn		**Pn**		**01 10 10.6**	**+2.4**
	comp=N,0.7nm,0.3s,baz=333,slow=11,SNR=14								
CFAA						Sn	**Sn**	**01 11 09.3**	**0.0**
	comp=N,0.7nm,0.3s,baz=268,slow=23,SNR=3.5								
CFAA	**Coronel Fontan**	**5.32**	**149**	Pn		**Pn**		**01 10 10.6**	**+2.4**
CFAA						Sn	**Sn**	**01 11 09.3**	**0.0**
LPAZ	**La Paz**	**11.13**	**17**	Pn		**Pn**		**01 11 29.2**	**+1.3**
	comp=N,0.6nm,0.3s,baz=206,slow=7.0,SNR=24								
LPAZ	**La Paz**	**11.13**	**17**	Pn		**Pn**		**01 11 29.2**	**+1.3**
CPUP	**Villa Florida**	**12.61**	**90**	*e*Pn		**Pn**		**01 11 44.7**	**-3.4**
TRQA	**Tornquist**	**13.55**	**146**	*e*Pn		**Pn**		**01 11 59.2**	**-1.7**
PLCA	**Paso Flores**	**13.67**	**177**	*e*Pn		**Pn**		**01 12 00.0**	**-2.6**
SIV	**San Ignacio**	**14.60**	**43**	Pn		**Pn**		**01 12 11.7**	**-3.6**
	comp=N,0.3nm,0.3s,baz=232,slow=11,SNR=9.3								
NNA	**Nana**	**15.83**	**340**	Pn		**Pn**		**01 12 30.6**	**-1.0**
SAML	**Samuel**	**19.61**	**25**	*e*P		**Pn**		**01 13 19.1**	**+0.6**
	comp=N,8.2nm,1.1s								
BDFB	**Brasilia**	**24.52**	**67**	P		**P**		**01 14 07.6**	**-0.5**
	comp=N,6.5nm,0.8s,mb4.2,baz=239,slow=9.4,SNR=14								
RCBR	**Riachuelo**	**39.83**	**64**	P		**P**		**01 16 19.8**	**-2.3**
TEIG	**Tepich**	**49.75**	**339**	P		**P**		**01 17 39.7**	**-1.4**
SNAA	**Sanae**	**57.85**	**160**	P		**P**		**01 18 40.9**	**+0.5**
	comp=N,1.3nm,1.0s,mb3.9,baz=272,slow=6.1,SNR=5.2								
DBIC	**Dimbokro**	**72.52**	**73**	P		**P**		**01 20 17.0**	**+1.4**
	comp=N,1.7nm,0.5s,mb4.2,baz=52,slow=16,SNR=6.6								
DBIC	**Dimbokro**	**72.52**	**73**	P		**P**		**01 20 17.0**	**+1.4**
MAW	**Mawson**	**79.68**	**164**	P		**P**		**01 20 57.7**	**+1.3**
	comp=N,1.4nm,0.6s,mb4.1,baz=220,slow=7.9,SNR=4.6								
TORD	**Torodi Ar. Bea**	**81.35**	**71**	P		**P**		**01 21 06.9**	**+1.5**
	comp=N,9.4nm,0.7s,mb4.8,baz=259,slow=5.1,SNR=50								
YKA	**Yellowknife Ar**	**95.66**	**341**	P		**P**		**01 22 15.3**	**+0.9**
	comp=N,0.2nm,0.8s,mb3.6,baz=142,slow=5.0,SNR=4.7								
MKAR	**Makanchi Array**	**151.40**	**39**	PKPbc	PKPbc			01 28 44.1	+1.6
	comp=N,4.6nm,0.8s,baz=308,slow=2.2,SNR=48								

*IDC **01** 01:26:23.8±2.2, 2700S×71.17W, h0km, mb4.3/3, mb1 4.0/6, mb1mx3.8/16, mbtmp4.0/6, ML3.6/3, Error ellipse: s-maj=53.0km s-min=29.3km az=78.0*
*GUC **01** 01:26:23.0±0.7, 2709S×7147W, h24km±8km, ML4.0*
*ISCJB **01** 01:26:25.0±1.6, 2706S±004×713W±0.1, h28km±11km, mb4.2/3, Error ellipse: s-maj=15.4km s-min=5.6km az=159.9*
*NEIC **01** 01:26:25.5±1.8, 2709S×7126W, h19km±11km, mb3.6/1, ML4.0(GUC), Error ellipse: s-maj=14.7km s-min=7.5km az=82.0*

ISC 01 01:26:24.3±1.8,**2709S**±004×**7137W**±010,**h9**km±10km,**n24,**
σ1§**06**/29,**mb4.2**/3,**2C-6D,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.49**	**88**	⇓*i*P		**Pg**		**01 26 34.0**	**+0.2**
CDCH				

CFAA Coronel Fontan 5.04 152 Pn **Pn 01 37 06.5 +1.3**
comp=N,7.6nm,0.3s,baz=327,slow=9.4,SNR=146
CFAA Sn **Sn 01 38 04.7 +2.2**
comp=N,14nm,0.3s,baz=327,slow=14,SNR=3.8
CFAA LR LR 01 39 03.8
comp=N,2µm,18.4s,baz=334,slow=39
FCH Farellones 6.18 174 *e*P **Pn 01 37 20.1 -0.7**
CLCH Cerro Calan 6.23 176 *i* P **Pn 01 37 20.5 -1.0**
LPAZ La Paz 11.14 14 Pn **Pn 01 38 27.9 -0.9**
comp=N,5.4nm,0.3s,baz=196,slow=7.8,SNR=239
LPAZ La Paz 11.14 14 *e*P **Pn 01 38 27.5 -1.3**
LPAZ pmax pmax
comp=Z,55nm,0.6s
LPAZ La Paz 11.14 14 *e*Pn **Pn 01 38 27.4 -1.4**
comp=Z,55nm,0.6s
CPUP Villa Florida 12.25 89 Pn **Pn 01 38 43.1 -0.9**
comp=Z,0.2nm,0.3s,baz=250,slow=14,SNR=4.8
CPUP LR LR 01 43 25.6
comp=Z,4µm,20.5s,baz=246,slow=38
CPUP Villa Florida 12.25 89 *e*P **Pn 01 38 42.6 -1.4**
CPUP pmax pmax
comp=Z,3.0nm,1.1s
CPUP Villa Florida 12.25 89 *e*Pn **Pn 01 38 42.6 -1.3**
comp=Z,2.7nm,1.1s
TRQA Tornquist 13.25 147 *e*Pn **Pn 01 38 57.3 -0.4**
comp=Z,110nm,0.9s
PLCA Paso Flores 13.54 179 *e*P **Pn 01 39 05.7 +4.1**
PLCA pmax pmax
comp=Z,2.0nm,0.4s
PLCA Paso Flores 13.54 179 *e*Pn **Pn 01 39 05.7 +4.1**
comp=Z,2.4nm,0.4s
SIV San Ignacio 14.44 42 Pn **Pn 01 39 08.5 -5.3**
comp=Z,3.5nm,0.3s,baz=238,slow=13,SNR=86
SIV Sn **Sn 01 41 51.6 -1.3**
comp=Z,1.2nm,0.3s,baz=249,slow=14,SNR=2.6
NNA Nana 16.06 339 *e*Pn **Pn 01 39 36.1 +0.9**
comp=Z,24nm,0.8s
NNA Sn **Sn 01 42 31.6 -0.8**
SAML Samuel 19.57 24 *e*P **Pn 01 40 14.1 -4.3**
comp=Z,68nm,0.8s
BDFB Brasilia 24.23 66 P **P 01 41 05.1 -0.6**
comp=Z,113nm,0.6s,mb5.5,baz=244,slow=10,SNR=198
BDFB S **S 01 45 25.0 +2.6**
comp=Z,7.0nm,0.9s,baz=204,slow=20,SNR=1.7
BAO Brasilia Array 24.25 66 P **P 01 41 05.0 -0.9**
EFI East Falkland 26.36 162 PFAKE 01 41 40.0 +15
EFI LR LR
comp=Z,5µm,19.0s,MS5.1
USHA Ushuaia 27.71 177 P **P 01 41 36.7 -0.5**
comp=Z,14nm,1.1s,mb4.5,baz=195,slow=4.4,SNR=2.6
USHA LR LR 01 53 23.7
comp=Z,5µm,18.3s,MS5.1,baz=338,slow=38
ROSC El Rosal 31.99 354 P **P 01 42 15.1 0.0**
comp=Z,31nm,1.0s,mb5.1,baz=185,slow=7.8,SNR=14
PAYG Puerto Ayora 32.19 322 PFAKE 01 42 30.0 +13
PAYG LR LR
comp=Z,2µm,21.0s,MS4.8
RPN Rapa Nui 34.02 261 LR LR 01 52 48.7
comp=Z,4µm,18.3s,MS5.2,baz=179,slow=30
SDV Santo Domingo 35.83 1 P **P 01 42 47.3 -1.1**
comp=Z,19nm,0.9s,mb5.0,baz=207,slow=6.7,SNR=24
SDV Santo Domingo 35.83 1⇑*i*P **P 01 42 47.3 -1.1**
comp=Z,38nm,0.9s,mb5.3
SDV LR LR
comp=Z,639nm,20.0s,MS4.4
PMSA Palmer Station 37.88 175 PFAKE 01 43 20.0 +14
PMSA LR LR
comp=Z,2µm,19.0s,MS5.0
JTS JuntasAbangare 39.61 338 P **P 01 43 18.6 -1.7**
comp=Z,5.6nm,0.9s,mb4.3,baz=104,slow=22,SNR=3.2
JTS JuntasAbangare 39.61 338 P **P 01 43 18.6 -1.7**
JTS LR LR
comp=Z,576nm,21.0s,MS4.4
SJG San Juan 45.25 7 P **P 01 44 04.3 -1.9**
comp=Z,44nm,0.9s,mb5.3,baz=186,slow=3.0,SNR=13
SJG San Juan 45.25 7 *e*P **P 01 44 03.6 -2.6**
SJG pmax pmax
comp=Z,44nm,1.0s
SJG MLR MLR
comp=Z,554nm,19.0s
SJG San Juan 45.25 7 *e*P **P 01 44 03.6 -2.6**
comp=Z,44nm,1.0s,mb5.2
SJG LR LR
comp=Z,554nm,19.0s,MS4.5
TEIG Tepich 49.99 339 *e*P **P 01 44 42.0 -1.0**
comp=Z,11nm,1.1s,mb4.8
VNA3 Neumayer Olymp 55.40 160 *e*P **P 01 45 22.6 -0.4**
VNA3 *e* 01 45 25.9
VNA3 *e* pP 01 45 29.2 -2.7
VNA3 *e* pP 01 45 33.0 +1.1
VNA3 *e* 01 45 36.8
VNA3 *e* 01 45 46.1
VNA3 Neumayer Olymp 55.40 160 *e*P **P 01 45 22.6 -0.4**
VNA3 *e* 01 45 25.9
VNA3 *e* pP 01 45 29.2 -2.7
VNA3 *e* pP 01 45 33.0 +1.1
VNA3 *e* 01 45 36.8
VNA3 *e* 01 45 46.1
VNA3 *e* 01 56 26.1
VNA1 Neumayer--Stat 55.66 159 *e*P **P 01 45 24.8 -0.1**
VNA1 *e* 01 45 27.8
VNA1 *e* pP 01 45 35.2 +1.4
VNA1 *e* 01 45 38.6
VNA2 Neumayer--Watz 56.01 159 *e*P **P 01 45 27.0 -0.4**
baz=287,slow=6.7
VNA2 *e* 01 45 30.2
VNA2 *e* pP 01 45 33.6 -2.8
VNA2 *e* 01 45 37.5
VNA2 *e* 01 45 41.1
VNA2 *e* 01 45 59.5
VNA2 Neumayer--Watz 56.01 159 *e*P **P 01 45 27.0 -0.4**
VNA2 *e* 01 45 30.2
VNA2 *e* pP 01 45 33.6 -2.8
VNA2 *e* 01 45 37.5
VNA2 *e* 01 45 41.1
VNA2 *e* 01 45 59.5
VNA2 *e* 01 56 27.3
RKT Rikitea 57.51 259 *e*S **S 01 53 30.5 -3.1**
comp=Z,580nm,27.2s
RKT eLR LR 02 02 27.5
comp=Z,691nm,24.5s
SNAA Sanae 57.62 160 P **P 01 45 38.0 -0.8**
comp=Z,12nm,0.9s,mb4.9,baz=282,slow=6.3,SNR=48
SNAA Sanae 57.62 160 *e*P **P 01 45 38.1 -0.7**
SNAA *e* 01 45 41.2
SNAA *e* pP 01 45 45.0 -2.8
SNAA *e* pP 01 45 48.5 +0.7
SNAA *e* 01 45 52.3
SNAA *e* 01 46 01.4
SNAA Sanae 57.62 160 *e*P **P 01 45 38.1 -0.7**
SNAA *e* pP 01 45 48.5 +0.7
SNAA *e* 01 45 52.3
HKT Hockley 61.56 336 *e*P **P 01 46 05.6 -0.3**
HKT pmax pmax
comp=Z,22nm,1.0s,mb5.2
HKT Hockley 61.56 336 *e*P **P 01 46 05.6 -0.3**
comp=Z,22nm,1.0s,mb5.2
LRAL Lakeview Retre 61.76 345 *e*P **P 01 46 06.3 -1.0**
comp=Z,28nm,1.3s,mb5.2
JSC Jenkinsville 61.87 350 *e*P **P 01 46 07.7 -0.4**
JSC *e* pP 01 46 15.4 -1.7
NVL N'lazarevskaya 62.28 158⇓*i*P **P 01 46 11.2 +0.4**
NVL *e*S **S 01 54 41.5 +6.5**
NVL pmax pmax
comp=Z,52nm,1.6s,mb5.4
NATX Nacogdoches 62.78 337 *e*P **P 01 46 14.5 +0.3**
comp=Z,108nm,1.3s,mb5.8
NATX *e* pP 01 46 22.7 -0.6
QSPA South Pole Qui 63.06 180 *e*P **P 01 46 15.6 -0.4**
CPCT Cooper Cave 63.57 348 *e*P **P 01 46 18.3 -1.1**
SWET Sewanee 63.62 346 *e*P **P 01 46 18.8 -1.0**
OXF Oxford 63.77 343 *e*P **P 01 46 19.5 -1.2**
OXF pmax pmax
comp=Z,91nm,1.1s,mb5.7
OXF MLR MLR
comp=Z,344nm,21.0s,MS4.5
OXF Oxford 63.77 343 *e*P **P 01 46 19.5 -1.1**
comp=Z,91nm,1.1s,mb5.7
OXF LR LR
comp=Z,344nm,21.0s,MS4.5
PLAL Pickwick Lake 63.88 344 *e*P **P 01 46 20.2 -1.3**
comp=Z,43nm,1.1s,mb5.4
PLAL *e*pP pP 01 46 28.2 -2.3
LTX Lajitas 64.30 328 *e*P **P 01 46 24.7 +0.5**
LTX *e**PP pP 01 46 33.5 +0.2
LTX pmax pmax
comp=Z,14nm,1.0s,mb5.0
LTX MLR MLR
comp=Z,547nm,20.0s,MS4.7
LTX Lajitas 64.30 328 *e*P **P 01 46 24.7 +0.6**
comp=Z,14nm,1.0s,mb5.0
LTX *e*pP pP 01 46 33.5 +0.2
LTX LR LR
comp=Z,547nm,20.0s,MS4.7
ELN Prospectdale 64.70 351 *e*P **P 01 46 26.6 -0.2**
UALR University of 64.83 341 *e*P **P 01 46 27.2 -0.5**
comp=Z,26nm,1.0s,mb5.2
WVT Waverly 64.92 345 *e*P **P 01 46 26.9 -1.3**
WVT pmax pmax
comp=Z,46nm,1.0s,mb5.5
WVT MLR MLR
comp=Z,230nm,21.0s,MS4.3
WVT Waverly 64.92 345 *e*P **P 01 46 26.9 -1.4**
comp=Z,46nm,1.0s,mb5.5
WVT LR LR
comp=Z,230nm,21.0s,MS4.3
MIAR Mount Ida 64.98 340 *e*P **P 01 46 28.4 -0.3**
MIAR pmax pmax
comp=Z,51nm,1.1s,mb5.5
MIAR MLR MLR
comp=Z,283nm,20.0s,MS4.5
MIAR Mount Ida 64.98 340 *e*P **P 01 46 28.4 -0.3**
comp=Z,51nm,1.1s,mb5.5
MIAR LR LR
comp=Z,283nm,20.0s,MS4.5
HBAR Harrisburg 65.08 342 *e*P **P 01 46 29.2 -0.1**
PARMO Parma 65.89 344 *e*P **P 01 46 34.3 -0.2**
SDMD Soldier's Deli 66.45 355 *e*P **P 01 46 37.9 -0.2**
WCI Wyandotte Cave 66.60 347 *e*P **P 01 46 37.7 -1.4**
WCI *e* pP 01 46 45.3 -2.9
WCI pmax pmax
comp=Z,22nm,0.8s,mb5.2
WCI Wyandotte Cave 66.60 347 *e*P **P 01 46 37.7 -1.4**
comp=Z,22nm,0.8s,mb5.2
WCI *e* pP 01 46 45.3 -2.9
SIUC Southern Illin 66.76 344 *e*P **P 01 46 38.9 -1.2**
comp=Z,12nm,0.4s,mb5.3
SIUC *e*pP pP 01 46 45.1 -4.1
SIUC *e*sP sP 01 46 47.3 -5.3
CLNB Carlsbad 66.87 330 *e*P **P 01 46 42.0 +1.2**
CLNB *e* pP 01 46 50.9 +0.9
WMOK Wichita Mounta 66.94 335 *e*P **P 01 46 40.3 -0.9**
WMOK *e* pP 01 46 47.7 -2.7
WMOK pmax pmax
comp=Z,13nm,1.1s,mb4.9
WMOK Wichita Mounta 66.94 335 *e*P **P 01 46 40.3 -0.9**
comp=Z,13nm,1.1s,mb4.9
WMOK *e* pP 01 46 47.7 -2.7
GDL2 Guadalupe Moun 67.04 330 *e*P **P 01 46 42.5 +0.7**
MNTX Cornudas Mount 67.08 328 *e*P **P 01 46 41.1 -1.0**
comp=Z,18nm,0.9s,mb5.1
MNTX *e* pP 01 46 50.7 -0.6
FVM French Village 67.31 343 *e*P **P 01 46 42.7 -0.9**
FVM pmax pmax
comp=Z,129nm,1.1s,mb5.9
FVM French Village 67.31 343 *e*P **P 01 46 42.7 -0.9**
comp=Z,129nm,1.1s,mb5.9
TAOE Nuku Hiva Isla 67.49 271 *e*S S 01 55 35.9 -3.1
comp=Z,883nm,23.8s
TAOE eLR LR 02 07 03.3
comp=Z,4µm,24.8s
CPRX Cap Rock 67.52 330 *e*P **P 01 46 45.8 +0.9**
CPRX *e*pP pP 01 46 54.8 +0.7
BLO Bloomington 67.56 347 *e*P **P 01 46 43.6 -1.6**
BLO *e**PP pP 01 46 50.4 -3.9
BLO pmax pmax
comp=Z,19nm,0.8s,mb5.2
BLO Bloomington 67.56 347 *e*P **P 01 46 43.6 -1.6**
comp=Z,19nm,0.8s,mb5.2
BLO *e*pP pP 01 46 50.4 -3.9
SLM Saint Louis 67.88 344 *e*P **P 01 46 46.5 -0.7**
SLM pmax pmax
comp=Z,60nm,1.0s,mb5.6
SLM Saint Louis 67.88 344 *e*P **P 01 46 46.5 -0.7**
comp=Z,60nm,1.0s,mb5.6
ACSO Alum Creek Sta 67.97 350 *e*P **P 01 46 46.4 -1.3**
comp=Z,38nm,0.9s,mb5.4
ACSO *e* pP 01 46 54.5 -2.3
AMTX Amarillo 68.19 333 *e*P **P 01 46 49.0 -0.1**
comp=Z,29nm,1.0s,mb5.3
ALLY Alegheny Colle 68.98 353 *e*P **P 01 46 53.3 -0.8**
QUA2 Belchertown 69.10 359 *e*P **P 01 46 55.2 +0.4**
comp=Z,43nm,1.0s,mb5.3
BINY Binghamton 69.16 356 *e*P **P 01 46 54.4 -0.8**
comp=Z,37nm,1.1s,mb5.2
HRV Harvard--Oak R 69.32 360 *e*P **P 01 46 56.6 +0.4**
HRV pmax pmax
comp=Z,54nm,0.9s,mb5.5
HRV Harvard--Oak R 69.32 360 *e*P **P 01 46 56.6 +0.5**
comp=Z,54nm,0.9s,mb5.5
ERPA Erie 69.43 353 *e*P **P 01 46 56.2 -0.6**
comp=Z,46nm,0.9s,mb5.4
BNM Barren Site 69.70 329 *e*P **P 01 46 59.8 +1.3**
LPM Los Pinos Moun 69.84 329 *e*P **P 01 47 00.2 +0.8**
LPM *e* pP 01 47 08.8 +0.3
LENM Lemitar 69.87 329 *e*P **P 01 47 00.4 +0.8**
SBA Scott Base 69.94 191 *e*P **P 01 47 00.1 +0.1**
SBA pmax pmax
comp=Z,61nm,1.7s,mb5.2
SBA MLR MLR
comp=Z,544nm,20.0s,MS4.8
SBA Scott Base 69.94 191 *e*P **P 01 47 00.1 +0.2**
comp=Z,61nm,1.7s,mb5.2
SBA LR LR
comp=Z,544nm,20.0s,MS4.8
TBI Tubuai 69.95 253 *e*S S 01 56 06.0 -2.3
comp=Z,319nm,26.2s
TBI eLR LR 02 08 12.9
comp=Z,693nm,28.5s
KSU1 Kansas State U 70.12 339 *e*P **P 01 47 00.4 -0.7**
LAZ Ladron 70.14 329 *e*P **P 01 47 02.9 +1.6**
LAZ *e* pP 01 47 11.4 +1.0
TUC Tucson 70.23 325 *e*P **P 01 47 02.3 +0.6**
TUC *e* pP 01 47 11.1 +0.2
TUC pmax pmax
comp=Z,12nm,1.3s,mb4.7
TUC Tucson 70.23 325 *e*P **P 01 47 02.3 +0.6**
comp=Z,12nm,1.3s,mb4.7
TUC *e* pP 01 47 11.1 +0.2
ACCN Adirondack Com 70.24 358 *e*P **P 01 47 02.4 +0.6**
ACCN *e*pP pP 01 47 07.2 -3.8
ANMO Albuquerque 70.29 330 *e*P **P 01 47 02.1 0.0**
ANMO *e* pP 01 47 12.5 +1.2
ANMO pmax pmax
comp=Z,12nm,1.0s
ANMO MLR MLR
comp=Z,597nm,19.0s
ANMO Albuquerque 70.29 330 *e*P **P 01 47 02.1 -0.1**
comp=Z,12nm,1.0s,mb4.8
ANMO *e* pP 01 47 12.5 +1.2
ANMO LR LR
comp=Z,597nm,19.0s,MS4.9
HNH Hanover 70.53 359 *e*P **P 01 47 04.3 +0.8**
comp=Z,8.7nm,1.3s,mb4.5
NCB Newcomb 70.84 358 *e*P **P 01 47 05.3 -0.2**
comp=Z,29nm,1.1s,mb5.1
NCB *e* pP 01 47 12.8 -1.9
VNDA Vanda 70.97 191 P **P 01 47 06.4 +0.2**
comp=Z,2.8nm,1.0s,mb4.2,baz=157,slow=3.7,SNR=11
VNDA LR LR 02 14 05.5
comp=Z,427nm,20.8s,MS4.7,baz=145,slow=32
LONY Lake Ozonia 71.50 357 *e*P **P 01 47 09.2 -0.3**
FRNY Flat Rock 71.68 358 *e*P **P 01 47 10.4 -0.2**
LIC Lamto 71.84 73⇑*i*P **P 01 47 11.6 +0.1**
comp=Z,74nm,0.9s,mb5.3
LIC *e*R
comp=Z,2µm,22.8s
LIC Lamto 71.84 73⇑*i*P **P 01 47 11.6 +0.1**
comp=Z,37nm,0.9s,mb5.3
LIC LR LR
comp=Z,1µm,22.8s,MS5.1
MSNY Massena 71.89 357 *e*P **P 01 47 11.8 -0.1**
SYO Syowa Base 71.91 159⇓*e*P **P 01 47 10.5 -1.4**
SYO Syowa Base 71.91 159⇓*e*pP pP 01 47 18.5 -2.6
DBIC Dimbokro 72.21 73 P **P 01 47 14.4 +0.7**
comp=Z,54nm,0.8s,mb5.5,baz=213,slow=6.1,SNR=42
DBIC LR LR 02 16 33.2
comp=Z,1µm,21.6s,MS5.2,baz=221,slow=34
PPT Papeete 72.27 259 *e*S S 01 56 32.2 -2.9
comp=Z,599nm,26.0s
PPT *e*LR LR 02 09 18.1
WUAZ Wupatki 73.07 326 *e*P **P 01 47 20.2 +1.3**
comp=Z,28nm,1.1s,mb5.1
WUAZ *e* pP 01 47 29.8 +1.7
MVCO Mesa Verde 73.08 329 *e*P **P 01 47 19.5 +0.6**
MVCO *e* pP 01 47 27.7 -0.4
PV01 Paradox Valley 73.88 330 *e*P **P 01 47 25.0 +1.4**
PV01 *e* pP 01 47 33.4 +0.6
ISCO Idaho Springs 74.01 333 *e*P **P 01 47 25.0 +0.6**
ISCO *e* 01 47 29.4
ISCO pmax pmax
comp=Z,18nm,1.1s,mb4.9
ISCO Idaho Springs 74.01 333 *e*P **P 01 47 25.0 +0.6**
comp=Z,18nm,1.1s,mb4.9
ISCO *e* 01 47 29.4
SMCO Snowmass 74.05 332 *e*P **P 01 47 26.4 +1.8**
comp=Z,49nm,1.0s,mb5.4
SMCO *e*PcP PcP 01 47 38.9 -0.8
PV10 Paradox Valley 74.28 330 *e*P **P 01 47 26.4 +0.4**
NEN Nelson 74.93 324 *e*P **P 01 47 29.5 -0.2**
NEN *e* pP 01 47 39.0 0.0
EGOM La Gomera 75.43 47 P **P 01 47 33.2 +0.6**
comp=Z,33nm,0.8s,mb5.3
SRU San Rafael 75.55 329 *e*P **P 01 47 33.8 +0.5**
SRU pmax pmax
comp=Z,14nm,0.6s,mb5.1
SRU San Rafael 75.55 329 *e*P **P 01 47 33.8 +0.5**
comp=Z,14nm,0.6s,mb5.1
MWC Mount Wilson 75.59 321 *e*P **P 01 47 32.7 -0.8**
CCUT Cedar City 75.66 326 *e*P **P 01 47 35.2 +1.3**
CCUT *e* pP 01 47 45.1 +2.0
MSU Marysvale 75.84 328 *e*P **P 01 47 35.6 +0.6**
MSU *e* pP 01 47 42.4 -1.8
MSU *e* pP 01 47 46.0 +1.8
MVU Marysvale 75.85 328 *e*P **P 01 47 34.5 -0.5**
comp=Z,14nm,0.9s,mb4.9
MVU *e*PcP PcP 01 47 46.5 -1.0
ARUT Antelope Range 75.88 327 *e*P **P 01 47 36.4 +1.2**
ARUT *e* pP 01 47 46.5 +2.1
RWWY Rawlins 76.25 333 *e*P **P 01 47 37.7 +0.4**
comp=Z,34nm,0.9s,mb5.3
RWWY *e* pP 01 47 45.7 -0.8
TPNV Topopah Spring 76.66 324 *e*P **P 01 47 40.3 +0.7**
TPNV *e* pP 01 47 50.0 +1.2
TPNV pmax pmax
comp=Z,17nm,1.0s,mb4.9
TPNV Topopah Spring 76.66 324 *e*P **P 01 47 40.3 +0.7**
comp=Z,17nm,1.0s,mb4.9
TPNV *e*PcP PcP 01 47 50.0 -0.9
MPU Maple Canyon 76.79 329 *e*P **P 01 47 41.7 +1.4**
comp=Z,35nm,1.2s,mb5.2
MPU *e*PcP PcP 01 47 50.5 -1.1
DAC Darwin (Calif) 76.86 323 *e*P **P 01 47 41.7 +1.0**
DAC *e* pP 01 47 51.6 +1.6
DAC pmax pmax
comp=Z,11nm,0.9s,mb4.8
DAC Darwin (Calif) 76.86 323 *e*P **P 01 47 41.7 +1.0**
comp=Z,11nm,0.9s,mb4.8
DAC *e*PcP PcP 01 47 51.6 -0.2
ISA Isabella 76.88 322 PFAKE 01 47 50.0 +9.1
ISA LR LR
comp=Z,125nm,19.0s,MS4.2
DAU Daniels Canyon 76.94 330 *e*P **P 01 47 42.9 +1.7**
DAU *e* pP 01 47 52.1 +1.7
NLU North Lily Min 76.94 329 *e*P **P 01 47 42.4 +1.2**
NLU *e*PcP PcP 01 47 51.5 -0.7
RSSD Black Hills 77.11 336 *e*P **P 01 47 42.6 +0.4**
RSSD *e* pP 01 47 51.3 -0.1
RSSD pmax pmax
comp=Z,17nm,1.0s,mb4.9
RSSD Black Hills 77.11 336 *e*P **P 01 47 42.6 +0.4**
comp=Z,17nm,1.0s,mb4.9
RSSD *e* pP 01 47 51.3 -0.1
SUR Sutherland 77.40 120 PFAKE 01 48 00.0 +16
SUR LR LR
comp=Z,1µm,21.0s,MS5.3
DUG Dugway 77.48 328 *e*P **P 01 47 44.6 +0.4**
DUG *e* pP 01 47 54.5 +1.0
DUG pmax pmax
comp=Z,32nm,1.3s,mb5.1
DUG Dugway 77.48 328 *e*P **P 01 47 44.6 +0.4**
comp=Z,32nm,1.3s,mb5.1
DUG *e*PcP PcP 01 47 54.5 0.0
PTRM Twissleman Ran 77.84 321 *e*P **P 01 47 43.5 -2.7**
TPH Tonopah 78.01 324 *e*P **P 01 47 47.6 +0.4**
TPH *e* pP 01 47 56.9 +0.5
TPH pmax pmax
comp=Z,24nm,1.2s,mb5.0
TPH MLR MLR
comp=Z,325nm,19.0s,MS4.7
TPH Tonopah 78.01 324 *e*P **P 01 47 47.6 +0.4**
comp=Z,24nm,1.2s,mb5.0
TPH *e*PcP PcP 01 47 56.9 +0.1
TPH LR LR
comp=Z,325nm,19.0s,MS4.7
HWUT Hardware Ranch 78.04 330 *e*P **P 01 47 47.4 0.0**
comp=Z,28nm,0.9s,mb5.2
HWUT *e* 01 47 54.0
HWUT LR LR
comp=Z,512nm,20.0s,MS4.8
PDAR Pinedale Array 78.12 332 P **P 01 47 47.7 -0.1**
comp=Z,6.2nm,1.0s,mb4.5,baz=142,slow=5.5,SNR=32
PDAR LR LR 02 18 54.1
comp=Z,240nm,20.1s,MS4.5,baz=150,slow=33
SPUT South Promonto 78.19 329 *e*P **P 01 47 48.3 +0.1**
SPUT *e*PcP PcP 01 47 57.8 +0.2
HVU Hansel Valley 78.72 329 *e*P **P 01 47 51.1 0.0**
HVU *e* pP 01 48 00.8 +0.5
HVU pmax pmax
comp=Z,29nm,1.1s,mb5.1
HVU Hansel Valley 78.72 329 *e*P **P 01 47 51.1 0.0**
comp=Z,29nm,1.1s,mb5.1
HVU *e* pP 01 48 00.8 +0.4
AHID Auburn Hatcher 78.77 331 *e*P **P 01 47 51.4 0.0**
comp=Z,34nm,0.9s,mb5.3
NVAR Mina Array Bea 78.84 324 P **P 01 47 52.5 +0.7**
comp=Z,2.1nm,0.7s,mb4.2,baz=139,slow=6.4,SNR=13
ELK Elko 79.06 327 *e*P **P 01 47 53.3 +0.4**
ELK *e* pP 01 48 00.3 -1.9
ELK *e* pP 01 48 02.8 +0.6
ELK pmax pmax
comp=Z,14nm,0.9s
ELK Elko 79.06 327 *e*P **P 01 47 53.3 +0.4**
comp=Z,14nm,0.9s,mb4.9
ELK *e* pP 01 48 00.3 -1.9
ELK *e* pP 01 48 02.8 +0.6
REDW Red Top Meadow 79.15 332 *e*P **P 01 47 53.5 +0.1**
comp=Z,39nm,1.0s,mb5.3
REDW *e* 01 48 05.6
LOHW Long Hollow 79.25 332 *e*P **P 01 47 54.1 +0.1**
comp=Z,25nm,0.9s,mb5.1
LOHW *e*pP pP 01 48 03.2 0.0
TPAW Teton Pass 79.29 332 *e*P **P 01 47 54.6 +0.4**
comp=Z,52nm,1.0s,mb5.4
TPAW *e* 01 48 07.8
MOOW Moose Ponds 79.42 332 *e*P **P 01 47 55.6 +0.7**
comp=Z,18nm,1.3s,mb4.8
MOOW *e* pP 01 48 04.4 +0.2
MAW Mawson 79.47 164⇑*i*P **P 01 47 54.8 -0.4**
comp=Z,28nm,0.9s,mb5.2
MAW Mawson 79.47 164 P **P 01 47 54.7 -0.5**
comp=Z,30nm,0.9s,mb5.2,baz=216,slow=6.9,SNR=45
MAW LR LR 02 24 37.5
comp=Z,550nm,18.0s,MS4.9,baz=12,slow=37
MAW Mawson 79.47 164⇑*i*P **P 01 47 54.8 -0.4**
MAW pmax pmax
comp=Z,28nm,0.9s
IMW Indian Meadow 79.62 332 *e*P **P 01 47 56.6 +0.6**
comp=Z,41nm,1.2s,mb5.2
FLWY Flagg Ranch 79.67 332 *e*P **P 01 47 57.0 +0.8**
comp=Z,35nm,0.9s,mb5.3
FLWY *e*pP pP 01 48 03.9 -1.7
LKWY Lake 79.94 333 *e*P **P 01 47 59.8 +2.1**
LKWY pmax pmax
comp=Z,13nm,0.9s,mb4.9
LKWY Lake 79.94 333 *e*P **P 01 47 59.8 +2.0**
comp=Z,13nm,0.9s,mb4.9
YFT Old Faithful 80.03 332 *e*P **P 01 48 00.2 +2.0**
ULM Lac du Bonnet 80.16 344 P **P 01 47 58.0 -1.0**
comp=Z,30nm,1.1s,mb5.2,baz=162,slow=5.8,SNR=25
TSUM Tsumeb 80.26 107 *e*P **P 01 48 00.2 +0.8**
comp=Z,55nm,1.0s,mb5.4
TSUM LR LR
comp=Z,1µm,19.0s,MS5.4
YMR Madison River 80.26 332 *e*P **P 01 48 00.9 +1.4**

comp=Z,67nm,1.0s,mb5.5
YMR e 01 48 06.9
PAHR Pah Rah Range 80.35 324 *e*P **P** **01 48 01.0 +1.1**
comp=Z,18nm,1.0s,mb5.0
QLMT Earthquake Lak 80.58 332 *e*P **P** **01 48 02.1 +0.9**
GCMT Greycliff 80.65 334 *e*P **P** **01 48 02.2 +0.6**
HLID Hailey 80.87 330 *e*P **P** **01 48 03.4 +0.7**
comp=Z,24nm,1.0s,mb5.1
HLID e pP 01 48 12.8 +0.8
HLID LR LR
comp=Z,409nm,20.0s,MS4.8
TORD Torodi Ar. Bea 81.05 70 P **P** **01 48 04.2 +0.5**
comp=Z,146nm,0.8s,mb5.9,baz=266,slow=5.1,SNR=675
TORD PP PP 01 51 03.7 -5.0
comp=Z,9.1nm,1.2s,baz=232,slow=7.4,SNR=4.2
MCMT McKenzie Canyo 81.18 331 *e*P **P** **01 48 05.2 +0.8**
MCMT e 01 48 11.3
DLMT Dillon 81.50 332 *e*P **P** **01 48 06.7 +0.6**
comp=Z,33nm,1.1s,mb5.2
SCHQ Schefferville 81.73 2 P **P** **01 48 06.7 -0.6**
comp=Z,19nm,1.1s,mb4.9,baz=148,slow=5.1,SNR=11
SCHQ LR LR 02 25 20.4
comp=Z,150nm,21.4s,MS4.3,baz=213,slow=36
WVOR Wild Horse Val 82.00 326 *e*P **P** **01 48 08.7 0.0**
WVOR e 01 48 12.8
WVOR pmax pmax
comp=Z,12nm,1.1s,mb4.7
WVOR Wild Horse Val 82.00 326 *e*P **P** **01 48 08.7 0.0**
comp=Z,12nm,1.1s,mb4.7
WVOR ePcP PcP 01 48 12.8 -1.4
HRY Holter Researc 82.27 333 *e*P **P** **01 48 10.2 +0.1**
MOD Modoc 82.44 325 *e*P **P** **01 48 11.2 +0.2**
comp=Z,21nm,1.0s,mb5.0
MOD ePcP PcP 01 48 15.6 -0.5
WDC Whiskeytown Da 82.65 323 *e*P **P** **01 48 11.3 -0.8**
WDC e 01 48 16.5
WDC pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
WDC Whiskeytown Da 82.65 323 *e*P **P** **01 48 11.3 -0.8**
comp=Z,9.0nm,0.9s,mb4.8
WDC ePcP PcP 01 48 16.5 -0.5
CHMT Chamberlain Mo 83.02 332 *e*P **P** **01 48 14.3 +0.3**
MSO Missoula 83.23 332 *e*P **P** **01 48 15.7 +0.5**
comp=Z,5.8nm,1.1s,mb4.5
LBTB Lobatse 84.38 115 *e*P **P** **01 48 21.5 +0.5**
LBTB pmax pmax
comp=Z,42nm,0.8s,mb5.6
LBTB MLR MLR
comp=Z,795nm,20.0s,MS5.1
LBTB Lobatse 84.38 115 *e*P **P** **01 48 21.5 +0.5**
comp=Z,42nm,0.8s,mb5.6
LBTB LR LR
comp=Z,795nm,20.0s,MS5.1
WALA Waterton Lakes 84.99 333 *e*P **P** **01 48 23.6 -0.4**
comp=Z,18nm,1.0s,mb5.1
FFC Flin Flon 85.80 343 P **P** **01 48 26.2 -1.9**
comp=Z,53nm,1.1s,mb5.7,SNR=5.9
FFC Flin Flon 85.80 343 *e*P **P** **01 48 26.7 -1.4**
FFC pmax pmax
comp=Z,20nm,1.4s,mb5.2
FFC Flin Flon 85.80 343 *e*P **P** **01 48 26.7 -1.4**
comp=Z,20nm,1.4s,mb5.1
CASY Casey 86.85 181 *e*P **P** **01 48 33.1 -0.2**
PTEO Sao Teotonio 86.91 45 *e*P **P** **01 48 33.9 +0.3**
comp=Z,102nm,1.0s,mb6.0
EGRO El Granado 87.69 45 P **P** **01 48 38.2 +0.8**
comp=Z,37nm,1.1s,mb5.5
FCC Fort Churchill 87.73 348 *e*P **P** **01 48 36.6 -0.9**
FCC pmax pmax
comp=Z,40nm,1.2s,mb5.5
FCC Fort Churchill 87.73 348 *e*P **P** **01 48 36.6 -0.9**
comp=Z,40nm,1.2s,mb5.5
MOE Montemor 87.74 44 *e*P **P** **01 48 38.3 +0.7**
PBEJ Beja 87.74 45 *e*P **P** **01 48 37.7 +0.1**
comp=Z,44nm,1.3s,mb5.5
EDM Edmonton 88.10 336 *e*P **P** **01 48 37.6 -1.7**
EDM *e**PP pP 01 48 44.8 -3.9
ESPR Espera 88.33 47 P **P** **01 48 41.4 +1.0**
comp=Z,22nm,0.9s,mb5.4
EMIN Mina Concepcio 88.34 46 P **P** **01 48 40.9 +0.5**
comp=Z,7.5nm,0.8s,mb5.0
EJIF Jimena Fronter 88.34 47 P **P** **01 48 41.6 +1.2**
EJIF pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
EJIF Jimena Fronter 88.34 47 P **P** **01 48 41.6 +1.2**
comp=Z,8.7nm,0.9s,mb5.0
PTOM Tomar 88.37 43 *e*P **P** **01 48 40.7 +0.1**
comp=Z,47nm,0.8s,mb5.8
EBAD Badajoz 88.71 45 P **P** **01 48 42.6 +0.5**
comp=Z,16nm,0.9s,mb5.3
EMIJ Mijas 88.86 47 P **P** **01 48 43.0 +0.1**
comp=Z,18nm,1.0s,mb5.5
PCBR Castelo Branco 89.08 44 *e*P **P** **01 48 43.7 -0.2**
comp=Z,14nm,1.1s,mb5.2
MTE Manteigas 89.37 43 *e*P **P** **01 48 45.8 +0.5**
comp=Z,19nm,1.3s,mb5.3
MTE Manteigas 89.37 43 *e*S 01 59 25.5
MTE Manteigas 89.37 43 *e*LR LR 02 18 49.5
comp=Z,916nm,16.9s
ERON Agron 89.76 48 P **P** **01 48 47.5 +0.4**
comp=Z,2.3nm,0.4s,mb4.9
PVRL Vila Real 89.80 42 *e*P **P** **01 48 47.6 +0.3**
comp=Z,25nm,1.2s,mb5.4
ECOG Cogollos-Vega 90.06 47 P **P** **01 48 49.2 +0.7**
ECOG pmax pmax
comp=Z,5.0nm,0.6s,mb5.0
ECOG Cogollos-Vega 90.06 47 P **P** **01 48 49.2 +0.7**
comp=Z,4.6nm,0.6s,mb5.0
EBAN Banos Encina 90.42 47 P **P** **01 48 50.2 0.0**
EQES Quesada 90.69 47 P **P** **01 48 50.9 -0.5**
comp=Z,18nm,1.0s,mb5.3
ENIJ Nijar 90.79 48 P **P** **01 48 52.1 +0.2**
ENIJ pmax pmax
comp=Z,11nm,0.8s,mb5.2
ENIJ Nijar 90.79 48 P **P** **01 48 52.1 +0.2**
comp=Z,11nm,0.8s,mb5.2
LSZ Lusaka 91.06 108 *e*P **P** **01 48 54.9 +1.8**
LSZ pmax pmax
comp=Z,60nm,1.5s,mb5.7
LSZ MLR MLR
comp=Z,1µm,21.0s,MS5.2
LSZ Lusaka 91.06 108 *e*P **P** **01 48 54.9 +1.8**
comp=Z,60nm,1.5s,mb5.7
LSZ LR LR
comp=Z,1µm,21.0s,MS5.2
ESDC Sonseca Array 91.17 45 P **P** **01 48 53.9 +0.2**
comp=Z,3.4nm,0.8s,mb4.7,baz=263,slow=3.8,SNR=24
ESDC Sonseca Array 91.17 45 P **P** **01 48 54.3 +0.6**
comp=Z,3.1nm,0.8s,mb4.7
ESLA Sonseca Array 91.17 45 PFAKE 01 49 10.0 +16
ESLA LR LR
comp=Z,4µm,19.0s,MS5.9
EVIA Vianos 91.53 47 P **P** **01 48 55.0 -0.3**
EVIA pmax pmax
comp=Z,14nm,0.6s,mb5.5
EVIA Vianos 91.53 47 P **P** **01 48 55.0 -0.3**
comp=Z,14nm,0.6s,mb5.5
ETOB Tobarra 92.15 47 P **P** **01 48 57.9 -0.3**
ECHE Chera 93.05 47 P **P** **01 49 03.0 +0.7**
ECHE pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
ECHE Chera 93.05 47 P **P** **01 49 03.0 +0.7**
comp=Z,8.6nm,0.8s,mb5.2
ELAN Lanestosa 93.52 43 P **P** **01 49 03.7 -0.9**
comp=Z,8.5nm,0.9s,mb5.2
ESAC San Caprasio 94.52 45 P **P** **01 49 09.5 +0.4**
comp=Z,18nm,0.8s,mb5.5
ERTA Horta de San J 94.62 46 P **P** **01 49 09.9 +0.3**
comp=Z,12nm,1.0s,mb5.3
EBR Ebro Roquetas 94.65 46 *e*P **P** **01 49 10.5 +0.8**
SJPF Ste Jean 94.80 44⇑*i*P **P** **01 49 10.8 +0.4**
comp=Z,31nm,1.1s,mb5.3
SJPF Ste Jean 94.80 44⇑*i*P **P** **01 49 10.8 +0.4**
SJPF pmax pmax
comp=Z,16nm,1.1s,mb5.4
SJPF Ste Jean 94.80 44⇑*i*P **P** **01 49 10.8 +0.4**
comp=Z,16nm,1.1s,mb5.3
ETSF Etsaut 95.09 44⇑*i*P **P** **01 49 12.3 +0.6**
comp=Z,23nm,1.0s,mb5.2
ETSF Etsaut 95.09 44⇑*i*P **P** **01 49 12.3 +0.6**
ETSF pmax pmax
comp=Z,11nm,1.0s,mb5.2
ETSF Etsaut 95.09 44⇑*i*P **P** **01 49 12.3 +0.6**
comp=Z,11nm,1.0s,mb5.3
EGRA Graus 95.27 45 P **P** **01 49 12.8 +0.3**
comp=Z,8.6nm,0.8s,mb5.2

EBIE Bielsa 95.42 45 P **P** **01 49 13.8 +0.6**
comp=Z,5.4nm,0.8s,mb5.0
EPF Esparros 95.72 44⇑*i*P **P** **01 49 14.8 +0.2**
comp=Z,26nm,1.2s,mb5.2
EPF Esparros 95.72 44⇑*i*P **P** **01 49 14.8 +0.2**
EPF pmax pmax
comp=Z,13nm,1.2s,mb5.2
EPF Esparros 95.72 44⇑*i*P **P** **01 49 14.8 +0.2**
comp=Z,13nm,1.2s,mb5.2
YKA Yellowknife Ar 95.89 341 P **P** **01 49 13.7 -1.6**
comp=Z,3.3nm,0.9s,mb4.8,baz=138,slow=4.3,SNR=53
YKA Yellowknife Ar 95.89 341 P **P** **01 49 13.7 -1.6**
YKW3 Yellowknife Ar 95.94 341 *e*P **P** **01 49 14.1 -1.5**
SALF Salau 96.11 45 *e*P **P** **01 49 17.3 +0.9**
MLS Moulis 96.16 45 *e*P **P** **01 49 16.7 +0.1**
QUIF Quistinic 96.31 39⇑*i*P **P** **01 49 16.1 -1.2**
comp=Z,34nm,1.1s,mb5.4
QUIF Quistinic 96.31 39⇑*i*P **P** **01 49 16.1 -1.2**
QUIF pmax pmax
comp=Z,17nm,1.1s,mb5.4
QUIF Quistinic 96.31 39⇑*i*P **P** **01 49 16.1 -1.2**
comp=Z,17nm,1.1s,mb5.4
ROSF Rostrenen 96.48 38 *e*P **P** **01 49 17.0 -1.1**
comp=Z,46nm,1.4s,mb5.4
ROSF Rostrenen 96.48 38 *e*P **P** **01 49 17.0 -1.1**
ROSF pmax pmax
comp=Z,23nm,1.4s,mb5.4
ROSF Rostrenen 96.48 38 *e*P **P** **01 49 17.0 -1.1**
comp=Z,23nm,1.4s,mb5.4
SGMF Saint Gilles 96.83 39 *e*P **P** **01 49 18.3 -1.4**
comp=Z,46nm,1.3s,mb5.5
SGMF Saint Gilles 96.83 39 *e*P **P** **01 49 18.3 -1.4**
SGMF pmax pmax
comp=Z,23nm,1.3s,mb5.5
SGMF Saint Gilles 96.83 39 *e*P **P** **01 49 18.3 -1.4**
comp=Z,23nm,1.3s,mb5.5
LFF La Frestale 96.97 43⇑*i*P **P** **01 49 19.9 -0.4**
comp=Z,28nm,1.1s,mb5.3
LFF La Frestale 96.97 43⇑*i*P **P** **01 49 19.9 -0.4**
LFF pmax pmax
comp=Z,14nm,1.1s,mb5.3
LFF La Frestale 96.97 43⇑*i*P **P** **01 49 19.9 -0.4**
comp=Z,14nm,1.1s,mb5.3
MTLF Montolieu 97.06 45⇑*i*P **P** **01 49 20.3 -0.4**
comp=Z,23nm,1.1s,mb5.2
MTLF Montolieu 97.06 45⇑*i*P **P** **01 49 20.3 -0.4**
MTLF pmax pmax
comp=Z,11nm,1.1s,mb5.2
MTLF Montolieu 97.06 45⇑*i*P **P** **01 49 20.3 -0.4**
comp=Z,11nm,1.1s,mb5.2
MFF Saint Martin d 97.32 41⇑*i*P **P** **01 49 21.3 -0.6**
comp=Z,41nm,1.1s,mb5.5
MFF Saint Martin d 97.32 41⇑*i*P **P** **01 49 21.3 -0.6**
MFF pmax pmax
comp=Z,21nm,1.1s,mb5.5
MFF Saint Martin d 97.32 41⇑*i*P **P** **01 49 21.3 -0.6**
comp=Z,21nm,1.1s,mb5.5
RJF Les Rejaudoux 97.63 43⇑*i*P **P** **01 49 22.7 -0.6**
comp=Z,24nm,1.3s,mb5.3
RJF *e*R
comp=Z,1µm,19.0s
RJF Les Rejaudoux 97.63 43⇑*i*P **P** **01 49 22.7 -0.6**
RJF pmax pmax
comp=Z,12nm,1.3s,mb5.3
RJF MLR MLR
comp=Z,1µm,19.0s,MS5.3
RJF Les Rejaudoux 97.63 43⇑*i*P **P** **01 49 22.7 -0.6**
comp=Z,12nm,1.3s,mb5.3
RJF LR LR
comp=Z,1µm,19.0s,MS5.3
CAF Calviac 97.77 43⇑*i*P **P** **01 49 23.7 -0.2**
comp=Z,9.8nm,1.1s,mb5.0
CAF Calviac 97.77 43⇑*i*P **P** **01 49 23.7 -0.2**
CAF pmax pmax
comp=Z,5.0nm,1.1s,mb5.0
CAF Calviac 97.77 43⇑*i*P **P** **01 49 23.7 -0.2**
comp=Z,4.9nm,1.1s,mb5.0
GRR Gorron 97.86 39⇑*i*P **P** **01 49 23.1 -1.2**
comp=Z,15nm,0.8s,mb5.3
GRR Gorron 97.86 39⇑*i*P **P** **01 49 23.1 -1.2**
GRR pmax pmax
comp=Z,7.0nm,0.8s,mb5.2
GRR Gorron 97.86 39⇑*i*P **P** **01 49 23.1 -1.2**
comp=Z,7.4nm,0.8s,mb5.3
FLN La Foliniere 98.27 39 *e*P **P** **01 49 25.1 -1.0**
comp=Z,44nm,1.2s,mb5.6
FLN *e*R
comp=Z,625nm,22.2s
FLN La Foliniere 98.27 39 *e*P **P** **01 49 25.1 -1.0**
FLN pmax pmax
comp=Z,22nm,1.2s,mb5.6
FLN MLR MLR
comp=Z,620nm,22.3s,MS5.0
FLN La Foliniere 98.27 39 *e*P **P** **01 49 25.1 -1.0**
comp=Z,22nm,1.2s,mb5.6
FLN LR LR
comp=Z,620nm,22.3s,MS5.0
LDF La Druitiere 98.38 39⇑*i*P **P** **01 49 25.6 -1.0**
comp=Z,21nm,0.9s,mb5.4
LDF La Druitiere 98.38 39⇑*i*P **P** **01 49 25.6 -1.0**
LDF pmax pmax
comp=Z,11nm,0.9s,mb5.4
LDF La Druitiere 98.38 39⇑*i*P **P** **01 49 25.6 -1.0**
comp=Z,11nm,0.9s,mb5.4
LASF Ste Croix 98.45 45⇑*i*P **P** **01 49 27.0 0.0**
comp=Z,9.9nm,0.9s,mb5.0
TCF Toulx Ste Croi 98.55 42 *e*P **P** **01 49 26.6 -0.8**
comp=Z,9.6nm,1.0s,mb5.0
TCF Toulx Ste Croi 98.55 42 *e*P **P** **01 49 26.6 -0.8**
TCF pmax pmax
comp=Z,5.0nm,1.0s,mb5.0
TCF Toulx Ste Croi 98.55 42 *e*P **P** **01 49 26.6 -0.8**
comp=Z,4.8nm,1.0s,mb5.0
LBL Lubilhac 98.65 43 *e*P **P** **01 49 28.6 +0.8**
PYM Petit Puy Mans 98.76 43 *e*P **P** **01 49 28.9 +0.6**
BGF Bois d'Agland 99.07 42⇑*i*P **P** **01 49 29.2 -0.5**
comp=Z,27nm,1.2s,mb5.3
BGF Bois d'Agland 99.07 42⇑*i*P **P** **01 49 29.2 -0.5**
BGF pmax pmax
comp=Z,14nm,1.2s,mb5.4
BGF Bois d'Agland 99.07 42⇑*i*P **P** **01 49 29.2 -0.5**
comp=Z,14nm,1.2s,mb5.3
HYF Humbligny 99.30 41 *e*P **P** **01 49 30.3 -0.4**
VIVF Saint-Julien-l 99.34 44⇑*i*P **P** **01 49 31.2 +0.3**
comp=Z,23nm,1.2s,mb5.3
VIVF Saint-Julien-l 99.34 44⇑*i*P **P** **01 49 31.2 +0.3**
VIVF pmax pmax
comp=Z,11nm,1.2s,mb5.3
VIVF Saint-Julien-l 99.34 44⇑*i*P **P** **01 49 31.2 +0.3**
comp=Z,11nm,1.2s,mb5.3
AVF Avril sur Loir 99.48 42⇑*i*P **P** **01 49 30.9 -0.7**
comp=Z,9.8nm,1.1s,mb4.9
AVF Avril sur Loir 99.48 42⇑*i*P **P** **01 49 30.9 -0.7**
AVF pmax pmax
comp=Z,5.0nm,1.1s,mb5.0
AVF Avril sur Loir 99.48 42⇑*i*P **P** **01 49 30.9 -0.7**
comp=Z,4.9nm,1.1s,mb5.0
SMRF Simiane la Rot 99.49 45 *e*P **P** **01 49 32.4 +0.8**
comp=Z,40nm,1.4s,mb5.4
SMRF Simiane la Rot 99.49 45 *e*P **P** **01 49 32.4 +0.8**
comp=Z,40nm,1.4s,mb5.8
SMF Signal de Mont 99.71 42⇑*i*P Pdif 01 49 32.2 -0.3
comp=Z,31nm,1.3s
SMF Signal de Mont 99.71 42⇑*i*P Pdif 01 49 32.2 -0.3
SMF pmax pmax
comp=Z,16nm,1.3s,mb5.3
SMF Signal de Mont 99.71 42⇑*i*P Pdif 01 49 32.2 -0.3
comp=Z,16nm,1.3s
SSF Saint Saulge 99.71 42⇑*i*P Pdif 01 49 31.6 -1.0
comp=Z,19nm,1.3s
SSF Saint Saulge 99.71 42⇑*i*P Pdif 01 49 31.6 -1.0
SSF pmax pmax
comp=Z,10.0nm,1.3s,mb5.1
SSF Saint Saulge 99.71 42⇑*i*P Pdif 01 49 31.6 -1.0
comp=Z,9.7nm,1.3s
LMR La Mourre 99.78 46⇑*i*P Pdif 01 49 33.1 +0.2
comp=Z,49nm,1.2s
LMR La Mourre 99.78 46⇑*i*P Pdif 01 49 33.1 +0.2
LMR pmax pmax
comp=Z,24nm,1.2s,mb5.5
LMR La Mourre 99.78 46⇑*i*P Pdif 01 49 33.1 +0.2
comp=Z,24nm,1.2s
FRF La Foret Royal 99.98 46⇑*i*P Pdif 01 49 34.1 +0.4
comp=Z,21nm,0.9s
FRF La Foret Royal 99.98 46⇑*i*P Pdif 01 49 34.1 +0.4
FRF pmax pmax
comp=Z,10.0nm,0.9s,mb5.2

FRF La Foret Royal 99.98 46⇑*i*P Pdif 01 49 34.1 +0.4
comp=Z,10nm,0.9s
LOR Lormes 100.02 42 *e*P Pdif 01 49 33.1 -0.8
comp=Z,13nm,1.0s
LOR *e*R
comp=Z,782nm,18.5s
LOR Lormes 100.02 42 *e*P Pdif 01 49 33.1 -0.8
LOR pmax pmax
comp=Z,6.0nm,1.0s
LOR MLR MLR
comp=Z,780nm,18.5s,MS5.2
LOR Lormes 100.02 42 *e*P Pdif 01 49 33.1 -0.8
comp=Z,6.3nm,1.0s
LOR LR LR
comp=Z,780nm,18.5s,MS5.2
ORIF Oris-en-Rattie 100.13 45⇑*i*P Pdif 01 49 35.2 +0.8
comp=Z,22nm,0.9s
ORIF *e*R
comp=Z,1µm,22.2s
ORIF Oris-en-Rattie 100.13 45⇑*i*P Pdif 01 49 35.2 +0.8
ORIF pmax pmax
comp=Z,11nm,0.9s
ORIF Oris-en-Rattie 100.13 45⇑*i*P Pdif 01 49 35.2 +0.8
comp=Z,11nm,0.9s
ESK Eskdalemuir 100.37 33 PFAKE 01 49 50.0 +14
ESK LR LR
comp=Z,382nm,20.0s,MS4.9
MBDF Montbardon 100.60 45⇑*i*P Pdif 01 49 37.2 +0.7
comp=Z,7.2nm,1.3s
MBDF Montbardon 100.60 45⇑*i*P Pdif 01 49 37.2 +0.7
MBDF pmax pmax
comp=Z,14nm,1.3s
MBDF Montbardon 100.60 45⇑*i*P Pdif 01 49 37.2 +0.7
comp=Z,14nm,1.3s
SBF Sospel 100.62 46⇑*i*P Pdif 01 49 37.1 +0.5
comp=Z,40nm,1.0s
SBF Sospel 100.62 46⇑*i*P Pdif 01 49 37.1 +0.5
SBF pmax pmax
comp=Z,20nm,1.0s
SBF Sospel 100.62 46⇑*i*P Pdif 01 49 37.1 +0.5
comp=Z,20nm,1.0s
LPL La Plagne 100.94 44⇑*i*P Pdif 01 49 39.0 +1.0
comp=Z,18nm,1.0s
LPL La Plagne 100.94 44⇑*i*P Pdif 01 49 39.0 +1.0
LPL pmax pmax
comp=Z,9.0nm,1.0s
LPL La Plagne 100.94 44⇑*i*P Pdif 01 49 39.0 +1.0
comp=Z,8.9nm,1.0s
LPG La Plagne 100.94 44⇑*i*P Pdif 01 49 39.1 +1.1
comp=Z,22nm,1.0s
LPG La Plagne 100.94 44⇑*i*P Pdif 01 49 39.1 +1.1
LPG pmax pmax
comp=Z,11nm,1.0s
LPG La Plagne 100.94 44⇑*i*P Pdif 01 49 39.1 +1.1
comp=Z,11nm,1.0s
PGF Pioggiola 101.05 48⇑*i*P Pdif 01 49 38.9 +0.4
comp=Z,46nm,1.3s
PGF Pioggiola 101.05 48⇑*i*P Pdif 01 49 38.9 +0.4
PGF pmax pmax
comp=Z,23nm,1.3s
PGF Pioggiola 101.05 48⇑*i*P Pdif 01 49 38.9 +0.4
comp=Z,23nm,1.3s
CABF La Chapelle 101.05 43 *e*P Pdif 01 49 38.7 +0.2
MEZF Maizieres J'vi 101.32 41⇑*i*P Pdif 01 49 39.2 -0.5
comp=Z,7.8nm,0.9s
MEZF Maizieres J'vi 101.32 41⇑*i*P Pdif 01 49 39.2 -0.5
comp=Z,7.8nm,0.9s
DOU Dourbes 101.81 40 P Pdif 01 49 41.7 -0.1
HAU Haudompre 101.85 42⇑*i*P Pdif 01 49 42.4 +0.3
comp=Z,9.4nm,1.0s
HAU *e*R
comp=Z,568nm,20.0s
HAU Haudompre 101.85 42⇑*i*P Pdif 01 49 42.4 +0.3
HAU pmax pmax
comp=Z,5.0nm,1.0s
HAU MLR MLR
comp=Z,570nm,20.0s,MS5.1
HAU Haudompre 101.85 42⇑*i*P Pdif 01 49 42.4 +0.3
comp=Z,4.7nm,1.0s
HAU LR LR
comp=Z,570nm,20.0s,MS5.1
GIVF Givet 101.94 40 *e*P Pdif 01 49 42.0 -0.5
UCC Uccle 102.01 39 P Pdif 01 49 42.2 -0.6
HINF Hinteralfeld 102.07 42 *e*P Pdif 01 49 42.3 -0.8
WLF Walferdange 102.50 40 P Pdif 01 49 45.4 +0.4
WLF E 01 49 48.7
CDF Champ du Feu 102.59 42 *e*P Pdif 01 49 44.9 -0.5
comp=Z,7.4nm,1.0s
CDF Champ du Feu 102.59 42 *e*P Pdif 01 49 44.9 -0.5
CDF pmax pmax
comp=Z,4.0nm,1.0s
CDF Champ du Feu 102.59 42 *e*P Pdif 01 49 44.9 -0.5
comp=Z,3.7nm,1.0s
GERES GERESS Array B 106.65 43 Pdiff Pdif 01 50 03.5 +0.1
comp=Z,0.6nm,0.8s,baz=237,slow=4.4,SNR=5.1
ILAR Eielson Array 108.49 334 PP PP 01 54 31.7 -11
comp=Z,0.6nm,0.9s,baz=108,slow=7.2,SNR=4.1
KWP Kalwaria 112.48 45 *e*PKIKP PKiKP 01 54 24.5 -0.3
FINES FINESS Array B 116.81 32 PKP PKPdf 01 54 32.1 -1.0
comp=Z,1.7nm,0.8s,baz=101,slow=1.9,SNR=6.7
FINES PP PP 01 55 38.6 -2.9
comp=Z,4.1nm,1.1s,baz=267,slow=8.4,SNR=4.2
AKASG Malin Array Be 116.81 45 PKP PKPdf 01 54 31.7 -1.4
comp=Z,10nm,0.8s,baz=263,slow=2.9,SNR=38
AKASG PP PP 01 55 38.8 -2.8
comp=Z,0.1nm,0.3s,baz=255,slow=9.3,SNR=5.2
ARCES ARCESS Array B 117.42 23 PKP PKPdf 01 54 33.1 -1.2
comp=Z,4.6nm,1.1s,baz=264,slow=2.3,SNR=6.2
BR131 Keskin Array S 117.56 57 *e*PKPdf PKPdf 01 54 34.6 0.0
BR131 *e* 01 54 42.4
BRTR Keskin Array B 117.56 57 PKP PKPdf 01 54 34.4 -0.2
comp=Z,2.4nm,0.8s,baz=180,slow=1.7,SNR=19
BRTR PP PP 01 55 41.7 -5.2
comp=Z,2.0nm,1.0s,baz=251,slow=4.4,SNR=4.6
MALT Malatya 120.90 60 *e*PKIKP PKPdf 01 54 41.0 +0.1
OBN Obninsk 121.75 40*c i*PKIKP PKPdf 01 54 41.5 -1.1
OBN *e*SS SS 02 13 12.4 +22
OBN pmax pmax
comp=Z,34nm,1.0s
OBN MLR MLR
comp=Z,800nm,18.0s,MS5.4
OBN Obninsk 121.75 40 *e*PKPdf PKPdf 01 54 41.6 -0.9
SOC Sochi 122.75 54 *e*P Pdif 01 51 20.8 +5.8
SOC *i* 01 54 44.3
SOC *e* 01 56 21.9
KLMR Klimovskoe 123.29 33 *i* PKIKP PKPdf 01 54 44.7 -0.8
KLMR pmax pmax
comp=Z,50nm,1.3s
ASAR Alice Springs 124.04 208 PKP PKPdf 01 54 46.3 -0.7
comp=Z,2.9nm,0.8s,baz=142,slow=2.2,SNR=26
ASAR PKKPbc PKKPbc 02 04 32.8 +0.7
comp=Z,1.0nm,0.8s,baz=344,slow=3.9,SNR=9.1
VRHR Novokhopersk 124.65 45 *e*PKIKP PKPdf 01 54 47.7 -0.4
VRHR pmax pmax
comp=Z,30nm,0.9s
VRHR pmax pmax
comp=N,6.0nm,0.8s
VRHR pmax pmax
comp=E,6.0nm,0.6s
KIV Kislovodsk 124.93 54⇑*i*PKIKP PKPdf 01 54 47.8 -0.9
KIV Kislovodsk 124.93 54 *e*PKPdf PKPdf 01 54 47.9 -0.7
GNI Garni 126.03 59⇑*i*PKIKP PKPdf 01 54 51.5 +0.7
NAY Al-Naaiem 126.10 72 *e*P PKPdf 01 54 51.1 +0.2
NAY AMb AMB 01 54 52.3
comp=Z,13nm,1.0s
RDF Al-Radifah 126.28 73 *e*P PKPdf 01 54 51.8 +0.5
MIB Mutribah 126.31 72 *e*P PKPdf 01 54 51.5 +0.2
MIB AMb AMB 01 54 52.9
comp=Z,27nm,0.8s
BILL Bilibino 127.00 337 *i* PKIKP PKPdf 01 54 51.7 -1.0
WB2 Warramunga Arr 127.12 210 *e*P PKPdf 01 54 52.4 -0.5
WRA Warramunga Arr 127.13 210 PKP PKPdf 01 54 52.6 -0.3
comp=Z,4.7nm,0.8s,baz=156,slow=1.7,SNR=24
WRAB Tennant Creek 127.13 210 *e*PKIKP PKPdf 01 54 53.0 +0.1
PMG Port Moresby 128.14 231⇑*i*PKIKP PKPdf 01 54 55.7 +0.9
FITZ Fitzroy Crossi 132.20 202 *e*P PKPdf 01 55 03.7 +1.2
comp=Z,6.7nm,0.8s
ARU Arti 133.85 36 *i* PKIKP PKPdf 01 55 05.8 +0.2
ARU *e* 01 57 34.4
ARU *e*SS SS 02 15 19.2 -1.4
ARU Arti 133.85 36 *e*PKPdf PKPdf 01 55 05.2 -0.5
TIXI Tiksi 134.11 351⇑*i*PKIKP PKPdf 01 55 05.4 -0.7
ZRNK Zerenda 140.76 38 *e*PKHKP 01 55 12.0
BRVK Borovoye 141.41 37 *e*PKIKP PKPdf 01 55 18.7 -0.8
YAK Yakutsk 142.50 344 *e*PKIKP PKPdf 01 55 21.2 -0.3
YAK *e* 01 55 34.3

YAK					pmax	pmax			
	comp=Z,19nm,1.0s								
YAK					pmax	pmax			
	comp=N,1.0nm,0.7s								
YAK					pmax	pmax			
	comp=E,1.0nm,0.7s								
YAK					pmax	pmax			
	comp=Z,15nm,0.9s								
YAK					pmax	pmax			
	comp=N,1.0nm,0.7s								
YAK	**Yakutsk**	**142.50**	**344**	*e*PKPdf	PKPdf	01 55 20.2	-1.3		
BHJ	**Bhuj**	**144.29**	**87**	*e*P	PKPdf	01 55 23.9	-0.8		
BHJ				AMb	AMB	01 55 25.2			
	comp=Z,173nm,1.2s								
TRD	**Trivandrum**	**144.47**	**115**	*e*P	PKPdf	01 55 24.4	-0.5		
MNGI	**Mangalore**	**145.05**	**107**	*e*P	PKPbc	01 55 22.9	-2.5		
KAD	**Karad**	**146.41**	**100**	*e*P	PKPdf	01 55 28.4	+0.2		
KAD				AMb	AMB	01 55 31.3			
	comp=Z,90nm,0.9s								
NVS	**Novosibirsk**	**146.57**	**27**	*i* PKIKP	PKPdf	01 55 28.0	-0.5		
NVS				pmax	pmax				
	comp=N,17nm,1.2s								
NVS				pmax	pmax				
	comp=E,36nm,1.2s								
NVS				pmax	pmax				
	comp=Z,152nm,1.2s								
POO	**Poona**	**146.58**	**97**⇑	*i* P	PKPdf	01 55 30.0	+1.4		
	comp=Z,70nm,1.0s								
POO				*ex*	x	01 56 03.7			
KURK	**Kurchatov**	**147.05**	**36**	*e*PKP2	PKPab	01 55 29.7	-3.3		
EKS2	**Erkin-Say**	**147.51**	**52**	P	PKPdf	01 55 31.6	+1.4		
	SNR=64								
AML	**Almayashu**	**147.60**	**53**	P	PKPdf	01 55 31.8	+1.5		
	SNR=62								
USP	**Ospenovka**	**147.83**	**51**	P	PKPdf	01 55 31.7	+1.0		
	SNR=72								
AAK	**Ala-Archa**	**148.02**	**52**	P	PKPdf	01 55 32.5	+1.6		
	SNR=63								
AAK	**Ala-Archa**	**148.02**	**52**	*e*PKPdf	PKPdf	01 55 31.4	+0.4		
FRU	**Bishkek**	**148.05**	**52**	*e*PKIKP	PKPdf	01 55 32.0	+1.0		
FRU				*i*		01 55 35.5			
FRU				pmax	pmax				
	comp=Z,252nm,2.0s								
CHMS	**Chumysh**	**148.09**	**51**	P	PKPdf	01 55 35.4	+4.3		
	SNR=35								
UCH	**Uchtor**	**148.16**	**53**	P	PKPdf	01 55 33.1	+2.0		
	SNR=126								
CLNS	**Chul'man**	**148.24**	**343**	*e*PKP2	PKPdf	01 55 33.5	+2.2		
CLNS				pmax	pmax				
	comp=N,15nm,1.0s								
CLNS				pmax	pmax				
	comp=Z,41nm,1.0s								
CLNS				pmax	pmax				
	comp=E,10.0nm,0.9s								
KBK	**Karagaybulak**	**148.33**	**52**	P	PKPdf	01 55 36.0	+4.5		
	SNR=22								
TKM2	**Tokmak 2**	**148.70**	**51**	P	PKPdf	01 55 33.1	+1.0		
	SNR=40								
KZA	**Kyzart**	**148.72**	**53**	P	PKPdf	01 55 34.0	+1.9		
	SNR=29								
BOD	**Bodaibo**	**149.15**	**355**	*e*PKIKP	PKPdf	01 55 31.2	-1.6		
BOD				pmax	pmax				
	comp=Z,28nm,1.1s								
ULHL	**Ulahol**	**149.37**	**52**	P	PKPdf	01 55 34.7	+1.6		
	SNR=10								
AJM	**Ajmer**	**149.39**	**83**	*e*P	PKPdf	01 55 34.5	+1.3		
AJM				AMb	AMB	01 55 39.3			
	comp=Z,78nm,1.5s								
KSH	**Kashi**	**149.95**	**57**	*e*PKP	PKPdf	01 55 35.3	+1.2		
KSH				*e*PKS		01 59 10.2			
KSH				*e*SKS	SKSdf	02 02 39.6	-0.3		
KSH				PP	PP				
	comp=Z,231nm,5.2s								
KSH				LR	LR				
	comp=N,236nm,7.3s								
KSH				LR	LR				
	comp=E,347nm,10.8s								
KSH				LR	LR				
	comp=Z,354nm,12.1s,MS5.4								
HYB	**Hyderabad**	**150.28**	**103**	*i* PKP	PKPdf	01 55 36.0	+1.4		
HYB				*e*		01 55 40.5			
HYB				*e*		01 55 43.0			
HYB	**Hyderabad**	**150.28**	**103**	*e*P	PKPdf	01 55 36.0	+1.4		
BHPL	**Bhopal**	**151.21**	**91**	*e*P	PKPdf	01 55 36.1	0.0		
BHPL				AMb	AMB	01 55 44.9			
	comp=Z,37nm,0.7s								
MKAR	**Makanchi Array**	**151.25**	**40**	PKP	PKPdf	01 55 35.1	-1.0		
	comp=Z,5.1nm,1.0s,baz=325,slow=1.5,SNR=35								
MKAR				PKPbc	PKPbc	01 55 42.4	+0.3		
	comp=Z,101nm,0.8s,baz=323,slow=2.3,SNR=276								
MKAR				PP	PP	01 59 17.8	-2.7		
	comp=Z,2.1nm,0.9s,baz=299,slow=4.4,SNR=2.0								
KLR	**Kul'dur**	**151.82**	**328**	*e*PKIKP	PKPdf	01 55 38.8	+1.8		
KLR				pmax	pmax				
	comp=Z,50nm,1.6s								
NDI	**New Delhi**	**151.92**	**79**	*e*P	PKPdf	01 55 38.5	+1.4		
SMLA	**Simla**	**151.97**	**74**	*e*P	PKPdf	01 55 35.6	-1.5		
NGP	**Nagpur**	**152.07**	**96**	*e*P	PKPdf	01 55 37.1	-0.2		
DDI	**Dehra Dun**	**152.73**	**76**	*ex*	x	01 55 45.0			
MJAR	**Matsushiro Arr**	**153.57**	**298**	PKP	PKPdf	01 55 39.1	-0.4		
	comp=Z,0.6nm,0.4s,baz=195,slow=3.9,SNR=4.1								
MJAR				PKPbc	PKPbc	01 55 46.9	-0.3		
	comp=Z,4.8nm,0.9s,baz=99,slow=2.5,SNR=7.4								
MAT	**Matsushiro**	**153.57**	**298**	PKP	PKPbc	01 55 47.2	-0.1		
MAT	**Matsushiro**	**153.57**	**298**	*e*PKP	PKPbc	01 55 47.0	-0.3		
KSM	**Kuching**	**154.43**	**183**	*e*PKPdf	PKPdf	01 55 38.6	-2.2		
VIS	**Vishakhapatnam**	**154.53**	**106**	*e*P	PKPdf	01 55 42.2	+1.4		
IRK	**Irkutsk**	**154.70**	**7**	*e*PKIKP	PKPdf	01 55 41.5	+0.4		
IRK				*e*		01 59 39.7			
IRK				pmax	pmax				
	comp=Z,45nm,2.9s								
MOY	**Mondy**	**154.79**	**12**	*e*PKIKP	PKPdf	01 55 42.7	+1.5		
MOY				pmax	pmax				
	comp=Z,51nm,3.9s								
CIT	**Chita**	**154.93**	**353**	*e*PKIKP	PKPdf	01 55 42.2	+0.8		
MDJ	**Mudanjiang**	**155.99**	**322**	PKP	PKPdf	01 55 42.3	-0.6		
MDJ				PP	PP	01 59 47.9	+0.6		
MDJ				SKS	SKSdf	02 02 46.5	-0.6		
MDJ				PP	PP				
	comp=Z,122nm,6.3s								
WMQ	**Urumqi**	**156.08**	**40**	⇓PKP	PKPdf	01 55 43.4	+0.4		
WMQ				PKP2	PKPab	01 56 12.9	+2.4		
WMQ				PP	PP	01 59 50.9	+3.1		
WMQ				SKKS	SKKSac	02 06 34.4	-1.0		
WMQ				PP	PP				
	comp=Z,83nm,8.2s								
WMQ				LR	LR				
	comp=N,353nm,26.5s,MS5.5								
WMQ				LR	LR				
	comp=E,809nm,28.4s,MS5.5								
WMQ				LR	LR				
	comp=Z,348nm,25.0s,MS5.1								
KOLN	**Koldanda**	**157.47**	**83**	*e*P	PKPdf	01 55 45.1	+0.3		
	comp=Z,35nm,1.2s								
GKN	**Gorkha**	**158.40**	**82**	*e*P	PKPdf	01 55 46.2	+0.3		
	comp=Z,42nm,1.0s								
CN2	**Changchun**	**158.73**	**326**	*e*PKP	PKPdf	01 55 46.0	-0.3		
DMN	**Daman**	**158.78**	**83**	*e*P	PKPdf	01 55 46.7	+0.3		
	comp=Z,38nm,1.2s								
KKN	**Kakani**	**158.95**	**83**	*e*P	PKPdf	01 55 47.0	+0.4		
	comp=Z,37nm,1.1s								
PKI	**Pulchoki**	**159.05**	**83**	*e*P	PKPdf	01 55 47.1	+0.4		
	comp=Z,21nm,1.0s								
SONM	**Songino Array**	**159.26**	**5**	PKP	PKPdf	01 55 46.9	0.0		
	comp=Z,14nm,1.1s,baz=0.0,slow=0.0,SNR=18								
SONM				PKPab	PKPab	01 56 24.4	+0.1		
	comp=Z,3.9nm,0.7s,baz=298,slow=3.2,SNR=4.8								
SONM				PP	PP	02 00 04.1	-1.2		
	comp=Z,0.6nm,0.4s,baz=326,slow=3.2,SNR=4.2								
ULN	**Ulaanbaatar**	**159.27**	**4**	*e*PKIKP	PKPdf	01 55 47.1	+0.1		
GUN	**Gumba**	**159.49**	**83**	*e*P	PKPdf	01 55 47.4	+0.2		
	comp=Z,113nm,1.7s								
JIRN	**Jiri**	**159.75**	**83**	*e*P	PKPdf	01 55 48.1	+0.6		
	comp=Z,22nm,1.2s								
SNY	**Shenyang**	**161.10**	**324**	*e*PKP	PKPdf	01 55 47.9	-1.1		
SHL	**Shillong**	**164.58**	**92**	*e*P	PKPdf	01 55 55.0	+2.6		
SHL				*ex*	x	01 56 49.5			
GTA	**Gaotai**	**165.58**	**30**	*e*PKP	PKPdf	01 55 54.1	+0.9		
GTA				PKS		01 59 25.3			
GTA				PP	PP	02 00 41.8	+3.0		
GTA				SKS	SKSdf	02 02 52.6	-2.7		
GTA				SKKS	SKKSac	02 07 24.4	-0.1		
GTA				SS	SS	02 21 13.7	-0.6		
GTA				PP	PP				
	comp=Z,150nm,6.8s								
GTA				LR	LR				
	comp=N,274nm,18.6s								
GTA				LR	LR				
	comp=E,445nm,22.0s								
GTA				LR	LR				
	comp=Z,255nm,20.9s								
BJI	**Beijing**	**165.84**	**337**	PKP	PKPdf	01 55 53.5	+0.1		
BJI				PP	PP				
	comp=Z,267nm,4.4s								
BJI				LR	LR				
	comp=N,779nm,18.4s								
BJI				LR	LR				
	comp=E,741nm,18.4s								
BJI				LR	LR				
	comp=Z,934nm,19.8s								
HHC	**Hu-ho-hao-te**	**166.18**	**352**	*e*PKP	PKPdf	01 55 53.3	-0.4		
HHC				PKP2	PKPab	01 56 55.7	+1.1		
HHC				PP	PP	02 00 44.5	+2.6		
HHC				PP	PP				
	comp=Z,169nm,7.1s								
HHC				LR	LR				
	comp=N,396nm,20.2s								
HHC				LR	LR				
	comp=E,307nm,19.0s								
HHC				LR	LR				
	comp=Z,298nm,19.0s								
SSE	**Sheshan**	**168.65**	**293**	PKP	PKPdf	01 55 55.3	-0.2		
SSE				PP	PP				
	comp=Z,51nm,6.1s								
SSE				LR	LR				
	comp=N,697nm,22.6s								
SSE				LR	LR				
	comp=E,837nm,22.5s								
SSE				LR	LR				
	comp=Z,1μm,19.1s								
LZH	**Lanzhou**	**170.08**	**25**	*e*PKP	PKPdf	01 55 57.5	+1.1		
LZH				APKP		01 56 06.0			
NJ2	**Nanjing**	**170.13**	**302**	*e*PKP	PKPdf	01 55 56.1	-0.3		
NJ2				PP	PP				
	comp=Z,450nm,9.2s								
NJ2				LR	LR				
	comp=N,2μm,35.6s								
NJ2				LR	LR				
	comp=E,770nm,34.9s								
NJ2				LR	LR				
	comp=Z,260nm,36.0s								
QIZ	**Qiongzhong**	**171.87**	**186**	PKP	PKPdf	01 55 58.5	+1.2		
QIZ				PP	PP	02 01 15.6	+4.9		
QIZ				PP	PP				
	comp=Z,164nm,6.0s								
QIZ				LR	LR				
	comp=N,407nm,16.4s								
QIZ				LR	LR				
	comp=E,696nm,20.2s								
QIZ				LR	LR				
	comp=Z,840nm,17.2s								
XAN	**Xi'an**	**173.14**	**1**	PKP	PKPdf	01 55 58.2	+0.4		
KMI	**Kunming**	**174.02**	**108**	PKP	PKPdf	01 55 58.4	+0.2		
CD2	**Chengdu**	**174.08**	**50**	*e*PKP	PKPdf	01 55 57.8	-0.4		
GYA	**Guiyang**	**177.80**	**108**	PKP	PKPdf	01 55 59.1	0.0		
GYA				PKP2	PKPab	01 57 46.4	+0.3		
GYA				PP	PP				
	comp=Z,240nm,8.6s								
GYA				LR	LR				
	comp=N,460nm,20.9s								
GYA				LR	LR				
	comp=E,870nm,21.6s								
GYA				LR	LR				
	comp=Z,640nm,21.4s								

CASC 01 01:48:28.5±3.1, 1252N×8774W, h69km±38km, MD3.8, ML3.6,11C-4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.69**	**75**⇓	*e*P		Pn		01 48 44.0	+0.8
CRIN				*e*S		Sn		01 48 56.5	+2.4
CNCH	**Conchagua**	**0.76**	**353**⇑	*e*P		Pn		01 49 03.3	+19
CNCH				*e*S		Sn		01 49 16.0	+21
LEON	**Leon**	**0.83**	**97**⇑	*e*P		Pn		01 48 44.3	-0.5
TEL3	**Telica 3**	**0.87**	**87**⇑	*e*P		Pn		01 48 45.4	+0.1
TEL3				*e*S		Sn		01 48 57.3	-0.5
TELN	**Telica**	**0.89**	**85**⇑	*e*P		Pn		01 48 45.6	+0.1
TELN				*e*S		Sn		01 49 00.1	+2.0
MIRN	**Miramar**	**1.00**	**95**⇑	*e*P		Pn		01 48 46.9	0.0
MIRN				*e*S		Sn		01 49 00.3	-0.3
CNGN	**Cerro Negro**	**1.01**	**91**⇑	*e*P		Pn		01 48 47.0	-0.1
CNGN				*e*S		Sn		01 49 02.0	+1.1
BLLM	**Bellamira**	**1.04**	**332**⇑	*e*P		Pn		01 49 06.3	+19
BLLM				*e*S		Sn		01 49 21.5	+20
VSM	**San Miguel**	**1.04**	**330**	*e*P		Pn		01 49 06.9	+19
VSM				*e*S		Sn		01 49 21.9	+20
COPN	**Copaltepe**	**1.17**	**107**⇓	*e*P		Pn		01 48 48.8	-0.2
COPN				*e*S		Sn		01 49 04.3	-0.1
APYN	**Apoyeque**	**1.38**	**102**⇑	*e*P		Pn		01 48 52.0	+0.1
APYN				*e*S		Sn		01 49 09.0	-0.4
XAVN	**Gruta Xavier**	**1.43**	**105**⇓	*e*P		Pn		01 48 52.6	+0.2
XAVN				*e*S		Sn		01 49 11.4	+1.0
TISN	**Laguna Tiscapa**	**1.48**	**105**⇑	*e*P		Pn		01 48 53.5	+0.3
TISN				*e*S		Sn		01 49 12.5	+0.7
MGAN	**Managua**	**1.50**	**104**	*e*P		Pn		01 48 53.6	+0.2
MGAN				*e*S		Sn		01 49 12.4	+0.2
	comp=N,794nm,0.3s								
MGAN				*e*				01 49 13.9	
	comp=E,796nm,0.3s								
SNVI	**San Vicente**	**1.53**	**315**	*e*P		Pn		01 49 12.4	+19
SNVI				*e*S		Sn		01 49 31.3	+19
TICN	**Ticuantepe**	**1.55**	**108**⇑	*e*P		Pn		01 48 54.4	+0.3
TICN				*e*S		Sn		01 49 12.7	-0.6
LCBS	**La Ceiba**	**1.65**	**313**	*e*P		Pn		01 49 14.2	+19
LCBS				*e*S		Sn		01 49 34.2	+18
LFRS	**El Faro**	**1.69**	**310**⇓	*e*P		Pn		01 49 14.3	+18
LFRS				*e*S		Sn		01 49 34.5	+18
APON	**Apoyo**	**1.74**	**110**	*e*P		Pn		01 48 56.9	+0.3
LFU	**La Fuente**	**1.81**	**312**	*e*P		Pn		01 49 16.6	+19
LFU				*e*S		Sn		01 49 38.4	+19
BOQS	**Boqueron**	**1.93**	**309**	*e*P		Pn		01 49 19.0	+20
BOQS				*e*S		Sn		01 49 41.1	+19
VCR	**Vista de Mar**	**3.15**	**139**	*e*P		Pn		01 49 14.9	-0.8
PRS1	**Puriscal**	**4.20**	**127**⇑	*e*P		Pn		01 49 32.5	+2.4
LCR2	**La Lucha 2**	**4.59**	**127**	*e*P		Pn		01 49 38.8	+3.4
LCR2				*e*S		Sn		01 50 27.7	+0.4
URSC	**Urasca**	**4.71**	**124**	*e*P		Pn		01 49 40.9	+3.8
BUS	**Buena Vista**	**4.89**	**127**	*e*P		Pn		01 49 41.9	+2.4
BUS				*e*S		Sn		01 50 36.6	+1.8

*ISCJB **01** 01:56:13.1±1.1, 2409N±007×9426E±006, h80km±10km, mb4.1/25, Error ellipse: s-maj=12.3km s-min=8.4km az=61.6*
*IDC **01** 01:56:14.7±5.2, 2412N×9450E, h78km±47km, mb3.7/16, mb1 3.9/16, mb1mx3.8/22, mbtmp4.0/16, Error ellipse: s-maj=27.2km s-min=12.7km az=58.0*
*BJI **01** 01:56:18.9, 2412N×9444E, h135km, mB4.9, mb4.5*
*NEIC **01** 01:56:20.2±1.2, 2410N×9447E, h131km±11km, mb4.1/7, Error ellipse: s-maj=11.8km s-min=6.5km az=59.0*

ISC 01 01:56:15.2±0.9, 2412N±007×9421E±006, h81km±8km, n47, σ1°27/54, mb4.1/25, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**6.20**	**335**	P		**Pn**		**01 57 51.0**	**+7.0**
LSA				S		**Sn**		**01 58 53.4**	**0.0**
LSA				Smax					
	comp=N,30nm,0.8s								
LSA				Smax					
	comp=E,40nm,0.8s								
LSA	**Lhasa**	**6.20**	**335**	*e*Pn		**Pn**		**01 57 51.9**	**+7.9**
	comp=E,9.3nm,0.4s								
LSA				*e*Sn		**Sn**		**01 58 54.7**	**+1.3**
KMI	**Kunming**	**7.83**	**81**	P		**Pn**		**01 58 07.6**	**+1.3**
KMI				AMB		AMB			
	comp=Z,19nm,1.2s								
JIRN	**Jiri**	**8.04**	**298**	*e*Pn		**Pn**		**01 58 10.2**	**+1.0**
JIRN				*e*Sn		**Sn**		**01 59 36.3**	**-2.1**
	comp=Z,72nm,0.3s								
GUN	**Gumba**	**8.39**	**299**	*e*Pn		**Pn**		**01 58 14.5**	**+0.5**
GUN				*e*Sn		**Sn**		**01 59 45.1**	**-2.0**
	comp=Z,69nm,0.4s								
PKI	**Pulchoki**	**8.64**	**295**	*e*Pn		**Pn**		**01 58 18.3**	**+0.9**
PKI				*e*Sn		**Sn**		**01 59 50.5**	**-2.7**
	comp=Z,33nm,0.4s								
KKN	**Kakani**	**8.83**	**296**	*e*Pn		**Pn**		**01 58 20.5**	**+0.5**
KKN				*e*Sn		**Sn**		**01 59 54.9**	**-2.9**
	comp=Z,27nm,0.3s								
DMN	**Daman**	**8.90**	**295**	*e*Pn		**Pn**		**01 58 21.6**	**+0.6**
DMN				*e*Sn		**Sn**		**01 59 57.2**	**-2.4**
	comp=Z,26nm,0.4s								
GKN	**Gorkha**	**9.44**	**296**	*e*Pn		**Pn**		**01 58 28.6**	**+0.4**
GKN				*e*Sn		**Sn**		**02 00 08.9**	**-3.7**
	comp=Z,68nm,0.3s								
KOLN	**Koldanda**	**10.22**	**293**	*e*Pn		**Pn**		**01 58 38.7**	**-0.2**
KOLN				*e*Sn		**Sn**		**02 00 26.6**	**-5.0**
	comp=Z,37nm,0.4s								
PSI	**Prapat**	**21.68**	**167**	P		**P**		**02 01 00.5**	**+1.3**
	comp=Z,1.5nm,0.4s,mb3.7,baz=310,slow=13,SNR=3.0								
NJ2	**Nanjing**	**23.10**	**64**	*e*P		**P**		**02 01 11.6**	**-2.4**
NJ2				AMB	AMB				
	comp=Z,10.0nm,0.6s,mb4.3								
MKAR	**Makanchi Array**	**24.57**	**340**	P		**P**		**02 01 29.1**	**+1.7**
	comp=Z,3.2nm,0.4s,mb4.1,baz=152,slow=9.9,SNR=60								
MKAR				PcP	PcP			02 05 04.0	+0.5
	comp=Z,0.6nm,0.7s,baz=215,slow=2.1,SNR=4.2								
AAK	**Ala-Archa**	**24.64**	**323**	*e*P		**P**		**02 01 30.2**	**+2.1**
	comp=Z,6.3nm,1.0s,mb4.0								
SONM	**Songino Array**	**25.58**	**19**	P		**P**		**02 01 35.6**	**-0.9**
	comp=Z,2.2nm,0.6s,mb3.8,baz=215,slow=6.7,SNR=4.2								
ULN	**Ulaanbaatar**	**25.81**	**20**	*e*P		**P**		**02 01 38.5**	**-0.1**
KURK	**Kurchatov**	**29.17**	**339**	*e*P		**P**		**02 02 10.4**	**+1.7**
HIA	**Hailar**	**32.10**	**32**	*e*P		**P**		**02 02 34.1**	**-0.5**
BVAR	**Borovoye Array**	**34.03**	**334**	P		**P**		**02 02 51.9**	**+0.5**
	comp=Z,1.5nm,0.8s,mb3.9,baz=162,slow=10,SNR=4.8								
BVAR				PcP	PcP			02 05 28.0	+0.6
	comp=Z,1.6nm,0.8s,baz=145,slow=3.6,SNR=6.2								
BRVK	**Borovoye**	**34.10**	**334**	*e*P		**P**		**02 02 52.7**	**+0.8**
ZRNK	**Zerenda**	**34.54**	**333**	*e*P		**P**		**02 02 56.8**	**+1.0**
	comp=Z,1.7nm,0.5s,mb4.1								
MDJ	**Mudanjiang**	**35.27**	**46**	P		**P**		**02 03 01.1**	**-0.9**
MDJ				AMB	AMB				
	comp=Z,10.0nm,1.2s,mb4.5								
MDJ				AMB	AMB				
	comp=Z,124nm,4.7s								
YAK	**Yakutsk**	**44.83**	**23**	*e*P		**P**		**02 04 19.7**	**-1.4**
BR131	**Keskin Array S**	**52.78**	**302**	*e*P		**P**		**02 05 23.6**	**+1.7**
BRTR	**Keskin Array B**	**52.78**	**302**	P		**P**		**02 05 22.7**	**+0.8**
	comp=Z,0.7nm,0.6s,mb3.9,baz=122,slow=7.4,SNR=4.2								
AKASG	**Malin Array Be**	**55.99**	**316**	P		**P**		**02 05 45.5**	**+0.2**
	comp=Z,3.6nm,0.9s,mb4.4,baz=85,slow=6.1,SNR=12								
JOF	**Joensuu**	**56.51**	**331**	*e*p		**P**		**02 05 50.2**	**+1.3**
	comp=Z,1.2nm,0.3s,mb4.4								
KAF	**Kangasniemi**	**58.65**	**329**	*e*p		**P**		**02 06 03.7**	**-0.3**
	comp=Z,0.5nm,0.3s,mb4.0,baz=93,slow=6.5								
FINES	**FINESS Array B**	**58.68**	**329**	P		**P**		**02 06 04.8**	**+0.6**
	comp=Z,2.0nm,0.5s,mb4.4,baz=94,slow=6.3,SNR=21								
WRA	**Warramunga Arr**	**58.70**	**135**	P		**P**		**02 06 02.7**	**-1.6**
	comp=Z,3.8nm,0.7s,mb4.5,baz=322,slow=7.4,SNR=14								
WRAB	**Tennant Creek**	**58.70**	**135**	*e*P		**P**		**02 06 03.6**	**-0.7**
	comp=Z,5.3nm,0.5s,mb4.8								
WB2	**Warramunga Arr**	**58.71**	**135**	*e*P		**P**		**02 06 03.1**	**-1.3**
KEV	**Kevo**	**59.73**	**338**	*e*p		**P**		**02 06 09.8**	**-1.6**
	comp=Z,0.5nm,0.4s,mb3.9								
ARCES	**ARCESS Array B**	**60.19**	**338**	P		**P**		**02 06 15.4**	**+0.9**
	comp=Z,1.3nm,0.5s,mb4.2,baz=105,slow=7.1,SNR=11								
ASAR	**Alice Springs**	**61.15**	**138**	P		**P**		**02 06 20.2**	**-0.9**
	comp=Z,2.5nm,0.6s,mb4.4,baz=320,slow=6.8,SNR=39								
NB2	**NORSAR Subarra**	**65.85**	**328**	P		**P**		**02 06 51.8**	**-0.2**
	comp=Z,1.0nm,0.5s,mb3.9,baz=84,slow=6.5								
NOA	**NORSAR Array B**	**65.85**	**328**	P		**P**		**02 06 52.0**	**0.0**
	comp=Z,1.2nm,0.6s,mb3.9,baz=85,slow=6.4,SNR=7.5								
NOA	**NORSAR Array B**	**65.85**	**328**	P		**P**		**02 06 52.0**	**0.0**
GERES	**GERESS Array B**	**66.14**	**315**	P		**P**		**02 06 55.2**	**+1.3**
	comp=Z,0.8nm,0.6s,mb3.8,baz=72,slow=6.3,SNR=10								
ILAR	**Eielson Array**	**79.76**	**22**	P		**P**		**02 08 12.3**	**-2.0**
	comp=Z,0.8nm,0.7s,mb3.6,baz=300,slow=4.4,SNR=9.1								
ESDC	**Sonseca Array**	**80.90**	**309**	P		**P**		**02 08 21.2**	**+0.7**
	comp=Z,0.3nm,0.7s,mb3.2,baz=51,slow=4.5,SNR=6.7								
INK	**Inuvik**	**81.45**	**16**	*e*P		**P**		**02 08 22.8**	**-0.6**
	comp=Z,5.6nm,0.9s,mb4.4								
TORD	**Torodi Ar. Bea**	**86.97**	**283**	P		**P**		**02 08 53.5**	**+2.2**
	comp=Z,1.1nm,0.9s,mb3.8,baz=66,slow=3.1,SNR=12								
YKA	**Yellowknife Ar**	**90.68**	**13**	P		**P**		**02 09 07.6**	**-1.2**
	comp=Z,0.3nm,0.4s,mb3.7,baz=334,slow=5.2,SNR=12								
YKA				PP	PP	02 12 41.7	-3.2		
	comp=Z,0.3nm,0.8s,baz=336,slow=7.7,SNR=4.9								
YKA	**Yellowknife Ar**	**90.68**	**13**	P		**P**		**02 09 07.6**	**-1.2**
YKA				PP	PP	02 12 41.7	-3.2		
ROSC	**El Rosal**	**149.11**	**337**	PKPbc	PKPbc	02 15 56.6	+2.5		
	comp=Z,13nm,0.5s,baz=100,slow=11,SNR=13								
CPUP	**Villa Florida**	**154.18**	**259**	PKPbc	PKPbc	02 16 05.4	-0.3		
	comp=Z,0.5nm,0.5s,baz=117,

comp=Z,9.0nm,1.2s
CLL Collm 146.12 352 *i* (P) pPKPbc 02 41 05.3 +1.7
comp=Z,11nm,1.1s
BRG Berggiesshubel 146.41 351 *e*(P) pPKPbc 02 41 07.1 +2.6
comp=Z,2.7nm,0.9s
BRTR Keskin Array B 147.53 318 PKPbc PKPbc 02 40 52.6 +1.5
comp=Z,0.5nm,0.8s,baz=62,slow=2.9,SNR=3.8
BAIF Baives 147.82 2 *e*PKP1 pPKPbc 02 41 11.2 +2.7
comp=Z,6.0nm,0.8s
KHC Kasperske Hory 148.16 350 *e*pPKP pPKPdf 02 41 07.0 +0.8
KHC x x 02 41 13.0
GERES GERESS Array B 148.41 350 PKPbc PKPbc 02 40 54.6 +1.2
comp=Z,0.4nm,0.8s,baz=25,slow=5.5,SNR=4.1
GERES pPKPbc pPKPbc 02 41 09.9 -0.2
comp=Z,1.3nm,0.8s,baz=2.9,slow=2.0,SNR=8.2
CDF Champ du Feu 149.48 358 *e*PKP1 pPKPbc 02 41 16.2 +3.4
comp=Z,8.6nm,0.9s
HAU Haudompre 149.90 359 *e*PKP1 pPKPbc 02 41 18.1 +4.3
LOR Lormes 150.60 3 *e*PKP1 pPKPbc 02 41 18.8 +3.3
comp=Z,12nm,1.1s
SSF Saint Saulge 150.78 3 *e*PKP1 pPKPbc 02 41 19.4 +3.5
comp=Z,16nm,1.1s
SMF Signal de Mont 151.22 3 *e*PKP1 pPKPbc 02 41 21.0 +4.0
comp=Z,4.5nm,1.0s
BGF Bois d'Agland 151.25 4 *e*PKP1 pPKPbc 02 41 20.3 +3.3
comp=Z,6.1nm,0.7s
CABF La Chapelle 151.30 360 *e*PKP1 pPKPbc 02 41 20.9 +3.8
comp=Z,14nm,1.0s
TCF Toulx Ste Croi 151.46 5 *e*PKP1 pPKPbc 02 41 20.7 +3.2

MOS ***01*** *02:24:39.5±2.0, 2817S×17683W, h29km, mb5.5/27, MS5.6/10, Error ellipse: s-maj=12.0km s-min=8.8km az=64.9*

ISCJB ***01*** *02:24:39.4±0.2, 2862S±004×17685W±005, h35km, mb5.2/71, MS5.5/24, Error ellipse: s-maj=6.7km s-min=4.1km az=72.9*

CSEM ***01*** *02:24:41.0, 2841S×17685W, h40km, ML5.7*

NEIC ***01*** *02:24:41.0±0.1, 2846S×17685W, mb5.3/44, MS5.7/6, Error ellipse: s-maj=6.5km s-min=4.3km az=132.0*

BJI ***01*** *02:24:41.0, 2850S×17690W, h37km, mB5.6, mb5.5, Ms5.5, Msz5.4*

IDC ***01*** *02:24:43.4±1.7, 2831S×17683W, h57km±15km, mb4.8/19, mb1 4.8/19, mb1mx4.8/19, mbtmp5.0/19, Error ellipse: s-maj=16.4km s-min=10.4km az=168.0*

ISC 01 02:24:41.3±0.2, 2856S±003×17679W±005, h37km, h37km±.8km: pP-P, n349, σ1 901/186, mb5.2/71, MS5.5/24, 25C-7D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.21**	**235**	P	**Pn**	**02 25 05.3**	**+3.6**
	992nm,0.3s,baz=274,slow=3.4,SNR=31						
RAO				S	**Sn**	**02 25 29.2**	**+12**
	3μm,0.3s,baz=274,slow=23,SNR=14						
RAO	**Raoul Island**	**1.21**	**235**	P	**Pn**	**02 25 05.3**	**+3.6**
RAO				S	**Sn**	**02 25 29.2**	**+12**
RAO				pmax	pmax		
	comp=Z,992nm,0.3s						
RAO	**Raoul Island**	**1.21**	**235**	*e*Pn	**Pn**	**02 25 05.3**	**+3.6**
MXZ	**Matakaoa Point**	**9.88**	**203**	SN	**Sn**	**02 28 50.1**	**-0.2**
PUZ	**Puketiti**	**10.36**	**202**	SN	**Sn**	**02 28 58.2**	**-3.9**
OUZ	**Omahuta**	**10.53**	**228**	*e*PN	**Pn**	**02 27 14.2**	**+4.6**
MWZ	**Matawai**	**10.85**	**204**	*e*PN	**Pn**	**02 27 08.6**	**-5.4**
MWZ				SN	**Sn**	**02 29 13.7**	**-0.4**
URZ	**Urewera**	**10.94**	**206**	P	**Pn**	**02 27 10.2**	**-5.0**
	comp=Z,2.1nm,0.3s,baz=221,slow=9.3,SNR=4.9						
URZ				S	**Sn**	**02 29 15.4**	**-0.8**
	comp=Z,4.3nm,0.3s,baz=317,slow=21,SNR=9.4						
BFZ	**Birch Farm**	**13.38**	**203**	SN	**Sn**	**02 30 08.0**	**-8.0**
KIW	**Kapiti Island**	**14.04**	**207**	*e*PN	**Pn**	**02 27 48.8**	**-8.8**
KIW	**Kapiti Island**	**14.04**	**207**	*e*P	**Pn**	**02 27 55.7**	**-1.9**
SNZO	**South Karori**	**14.50**	**206**	*e*Pn	**Pn**	**02 28 03.1**	**-0.8**
	comp=Z,114nm,0.9s						
NNZ	**Nelson**	**14.98**	**210**	*e*P	**Pn**	**02 28 08.3**	**-1.9**
AFI	**Afiamalu**	**15.30**	**19**	P	**Pn**	**02 28 05.6**	**-8.8**
	comp=Z,6.1nm,0.3s,baz=50,slow=21,SNR=2.1						
AFI				S	S	02 30 41.2	-37
	baz=65,slow=22,SNR=2.0						
THZ	**Tophouse**	**15.63**	**210**	*e*PN	**Pn**	**02 28 10.2**	**-8.5**
THZ				SN	**Sn**	**02 31 00.3**	**-10**
THZ				SN	**Sn**	**02 31 00.4**	**-10**
DZM	**Mont Dzumac**	**16.47**	**289**	P	**Pn**	**02 28 33.3**	**+3.8**
	comp=Z,0.1nm,0.3s,baz=111,slow=17,SNR=6.6						
LTZ	**Lake Taylor**	**16.73**	**209**	*e*PN	**Pn**	**02 28 27.7**	**-5.0**
RAR	**Rarotonga**	**17.07**	**68**	P	**Pn**	**02 28 25.3**	**-12**
	comp=Z,3.2nm,0.3s,baz=205,slow=4.5,SNR=10						
RAR				S	S	02 31 16.6	-38
	comp=Z,1.4nm,0.3s,baz=101,slow=20,SNR=2.8						
BKM	**Butte a Klehm**	**17.50**	**305**	⇑*i*P	**Pn**	**02 28 45.9**	**+3.5**
RPZ	**Rata Peaks**	**18.01**	**210**	P	**Pn**	**02 28 39.0**	**-10**
	comp=Z,0.7nm,0.3s,baz=359,slow=14,SNR=13						
RPZ				S	S	02 31 51.4	-22
	comp=Z,0.9nm,0.3s,baz=265,slow=5.2,SNR=3.0						
RPZ	**Rata Peaks**	**18.01**	**210**	*e*PN	**Pn**	**02 28 47.1**	**-1.5**
ODZ	**Otahua Downs**	**19.25**	**208**	*e*P	**Pn**	**02 29 04.9**	**+1.2**
JCZ	**Jackson Bay**	**19.33**	**213**	*e*PN	**Pn**	**02 29 00.4**	**-4.2**
JCZ	**Jackson Bay**	**19.33**	**213**	*e*P	**Pn**	**02 29 00.0**	**-4.6**
MLZ	**Mavora Lakes**	**20.57**	**211**	*e*PN	**P**	**02 29 11.1**	**-5.7**
WHZ	**Wether Hill Ro**	**21.09**	**211**	*e*P	**P**	**02 29 22.8**	**+0.4**
TBI	**Tubuai**	**25.09**	**84**	*e*LR	LR	02 36 17.7	
	comp=Z,8μm,31.5s						
PPT	**Papeete**	**27.26**	**72**	*e*LR	LR	02 37 10.2	
	comp=Z,7μm,27.8s						
PPT	**Papeete**	**27.26**	**72**	P	**P**	**02 30 20.7**	**-1.2**
	comp=Z,32nm,0.7s,mb5.0,baz=284,slow=21,SNR=2.7						
ARMA	**Armidale**	**27.51**	**258**	*e*P	**P**	**02 30 28.6**	**+4.4**
HNR	**Honiara**	**28.98**	**306**	P	**P**	**02 30 35.7**	**-1.6**
	comp=Z,66nm,0.6s,mb5.5,baz=159,slow=1.7,SNR=4.7						
CTA	**Charters Tower**	**34.61**	**276**	*e*P	**P**	**02 31 26.0**	**-0.7**
	comp=Z,14nm,0.7s,mb5.0						
CTA				*es*P	sP	02 31 39.4	-2.3
CTA	**Charters Tower**	**34.61**	**276**	P	**P**	**02 31 26.3**	**-0.4**
	comp=Z,21nm,0.8s,mb5.1,baz=100,slow=9.7,SNR=33						
CTA	**Charters Tower**	**34.61**	**276**	*e*P	**P**	**02 31 26.0**	**-0.7**
CTA				*e**SP	sP	02 31 39.4	-2.3
CTA				pmax	pmax		
	comp=Z,14nm,0.7s						
STKA	**Stephens Creek**	**35.96**	**254**	*e*P	**P**	**02 31 38.2**	**-0.1**
	comp=Z,24nm,0.9s,mb5.1						
STKA	**Stephens Creek**	**35.96**	**254**	P	**P**	**02 31 38.5**	**+0.1**
	comp=Z,22nm,0.8s,mb5.2,baz=92,slow=8.6,SNR=34						
RKT	**Rikitea**	**37.88**	**92**	*e*LR	LR	02 42 22.1	
	comp=Z,6μm,31.2s						
PMG	**Port Moresby**	**38.83**	**292**	P	**P**	**02 32 02.6**	**-0.1**
	comp=Z,31nm,0.9s,mb5.1,baz=154,slow=3.6,SNR=20						
PMG	**Port Moresby**	**38.83**	**292**	*e*P	**P**	**02 32 03.5**	**+0.8**
PMG				pmax	pmax		
	comp=Z,24nm,0.8s						
PMG	**Port Moresby**	**38.83**	**292**	*e*P	**P**	**02 32 03.5**	**+0.8**
	comp=Z,24nm,0.8s,mb5.0						
TAOE	**Nuku Hiva Isla**	**39.62**	**68**	*e*LR	LR	02 43 01.6	
	comp=Z,12μm,36.1s						
ASAR	**Alice Springs**	**44.30**	**265**	P	**P**	**02 32 47.6**	**+0.2**
	comp=Z,12nm,0.8s,mb4.6,baz=119,slow=8.1,SNR=44						
ASAR				S	**S**	**02 39 18.2**	**-0.7**
	comp=Z,0.7nm,1.0s,baz=105,slow=14,SNR=2.7						
ASAR	**Alice Springs**	**44.30**	**265**	P	**P**	**02 32 47.6**	**+0.2**
ASAR				S	**S**	**02 39 18.2**	**-0.7**
WB2	**Warramunga Arr**	**45.12**	**270**	*e*P	**P**	**02 32 53.9**	**0.0**
WB2				*ep*P	pP	02 33 05.0	+0.3
WB2				*e*S	**S**	**02 39 28.8**	**-1.8**
WRAB	**Tennant Creek**	**45.12**	**270**	P	**P**	**02 32 54.0**	**0.0**
	comp=Z,245nm,1.1s,mb6.0,SNR=13						
WRAB	**Tennant Creek**	**45.12**	**270**	⇑*i*P	**P**	**02 32 54.4**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,103nm,1.1s,mb5.6						
WRAB	**Tennant Creek**	**45.12**	**270**	⇑*i*P	**P**	**02 32 54.4**	**+0.5**
	comp=Z,102nm,1.1s,mb5.6						
WRA	**Warramunga Arr**	**45.13**	**270**	P	**P**	**02 32 53.8**	**-0.2**
	comp=Z,21nm,0.8s,mb5.0,baz=106,slow=7.9,SNR=47						
WRA				S	**S**	**02 39 29.6**	**-1.2**
	comp=Z,2.2nm,1.1s,baz=107,slow=14,SNR=3.3						
FORT	**Forrest**	**47.57**	**253**	*e*P	**P**	**02 33 12.2**	**-1.0**
	comp=Z,79nm,0.9s,mb5.7						
KAKA	**Kakadu**	**49.70**	**278**	*e*P	**P**	**02 33 30.3**	**+0.8**
	comp=Z,13nm,0.9s,mb5.0						
SBA	**Scott Base**	**49.95**	**184**	*e*P	**P**	**02 33 34.6**	**+3.1**
SBA				pmax	pmax		
	comp=Z,90nm,1.0s,mb5.8						
SBA	**Scott Base**	**49.95**	**184**	*e*P	**P**	**02 33 34.6**	**+3.1**
	comp=Z,90nm,1.0s,mb5.8						
VNDA	**Vanda**	**50.03**	**186**	P	**P**	**02 33 33.9**	**+1.8**
	comp=Z,3.4nm,0.9s,mb4.4,baz=13,slow=7.3,SNR=8.5						
VNDA	**Vanda**	**50.03**	**186**	*e*P	**P**	**02 33 34.6**	**+2.5**
VNDA				pmax	pmax		
	comp=Z,11nm,0.9s						
VNDA	**Vanda**	**50.03**	**186**	*e*P	**P**	**02 33 34.6**	**+2.5**
	comp=Z,11nm,0.9s,mb4.9						
VNDA				*e*		02 34 44.1	
FITZ	**Fitzroy Crossi**	**53.45**	**268**	*e*P	**P**	**02 33 58.3**	**+0.7**
	comp=Z,36nm,1.1s,mb5.2						
FITZ				*ep*P	pP	02 34 09.3	+0.7
FITZ				*e*S	**S**	**02 41 40.9**	**+13**
KLBR	**Kellerberrin**	**55.97**	**250**	*e*P	**P**	**02 34 14.4**	**-1.4**
	comp=Z,63nm,1.1s,mb5.6						
KLBR				*ep*P	pP	02 34 26.4	-0.5
MUN	**Mundaring**	**57.13**	**249**	*e*P	**P**	**02 34 23.7**	**-0.4**
MUN				*e*S	**S**	**02 42 32.3**	**+16**
CASY	**Casey**	**57.26**	**207**	*e*P	**P**	**02 34 25.1**	**+0.1**
RPN	**Rapa Nui**	**58.92**	**106**	P	**P**	**02 34 38.1**	**+1.5**
	comp=Z,42nm,0.3s,mb5.9,baz=309,slow=2.7,SNR=2.3						
QSPA	**South Pole Qui**	**61.55**	**180**	*e*P	**P**	**02 34 56.6**	**+2.0**
	comp=Z,42nm,1.2s,mb5.4						
MIR	**Mirnyy**	**64.24**	**206**	*d*/*i*P	**P**	**02 35 09.0**	**-3.5**
MIR				*i*		02 35 46.5	
MIR				pmax	pmax		
	comp=Z,700nm,1.5s						
CBIJ	**Chichi jima**	**67.90**	**321**	P	**P**	**02 35 35.0**	**-1.0**
	comp=Z,41nm,0.9s,mb5.5,baz=98,slow=23,SNR=2.9						
TSM	**Tawau**	**70.69**	**286**	P	**P**	**02 35 53.2**	**0.0**
KKM	**Kota Kinabalu**	**73.01**	**287**	P	**P**	**02 36 07.8**	**+0.6**
MAW	**Mawson**	**74.40**	**200**	*e*P	**P**	**02 36 17.2**	**+1.9**
	comp=Z,18nm,0.9s,mb5.0						
MAW	**Mawson**	**74.40**	**200**	P	**P**	**02 36 17.2**	**+1.8**
	comp=Z,15nm,1.0s,mb4.9,baz=104,slow=6.3,SNR=14						
MAW	**Mawson**	**74.40**	**200**	*e*P	**P**	**02 36 17.2**	**+1.9**
MAW				pmax	pmax		
	comp=Z,18nm,0.9s						
KSM	**Kuching**	**75.74**	**280**	*e*P	**P**	**02 36 23.1**	**+0.1**
KSM				*ep*P	pP	02 36 34.5	0.0
MJAR	**Matsushiro Arr**	**77.35**	**324**	P	**P**	**02 36 31.3**	**-0.9**
	comp=Z,25nm,0.9s,mb5.1,baz=160,slow=5.6,SNR=34						
MAJO	**Matsushiro**	**77.35**	**324**	*e*P	**P**	**02 36 30.9**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,35nm,0.8s,mb5.3						
MAJO	**Matsushiro**	**77.35**	**324**	*e*P	**P**	**02 36 30.9**	**-1.3**
	comp=Z,35nm,0.8s,mb5.3						
MAT	**Matsushiro**	**77.35**	**324**	P	**P**	**02 36 31.1**	**-1.1**
MAT				S	S	02 46 27.0	+7.3
MAT	**Matsushiro**	**77.35**	**324**	*e*P	**P**	**02 36 31.0**	**-1.2**
MAT				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.1						
MAT				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.4						
MAT	**Matsushiro**	**77.35**	**324**	*e*P	**P**	**02 36 31.0**	**-1.2**
	comp=Z,24nm,0.9s,mb5.1						
MAT				*e*S	S	02 46 27.0	+7.3
MAT				LR	LR		
	comp=Z,2μm,20.0s,MS5.4						
JNU	**Nakatsue**	**78.90**	**317**	P	**P**	**02 36 40.6**	**-0.2**
	comp=Z,13nm,0.5s,mb5.1,baz=225,slow=2.0,SNR=3.8						
SNAA	**Sanae**	**79.96**	**178**	⇑*i*P	**P**	**02 36 46.7**	**+0.2**
SNAA				*e*	pP	02 36 58.2	+0.2
SNAA				*e*		02 37 02.7	
SNAA				*e*		02 37 07.4	
SNAA				*e*		02 37 45.7	
SNAA				*e*		02 37 57.1	
SNAA				*e*		02 38 06.0	
SNAA				*e*		02 38 16.5	
SNAA				*e*		02 38 37.4	
SNAA				*e*		02 38 45.0	
SNAA				*e*		02 38 52.8	
SNAA	**Sanae**	**79.96**	**178**	⇑*i*P	**P**	**02 36 46.7**	**+0.2**
SNAA				*e*	pP	02 36 58.2	+0.2
SNAA	**Sanae**	**79.96**	**178**	⇑*i*P	**P**	**02 36 46.7**	**+0.2**
SNAA				*e*	pP	02 36 58.2	+0.2
SNAA				*e*		02 37 02.7	
SNAA				*e*		02 37 45.7	
SNAA				*e*		02 37 57.1	
SNAA				*e*		02 38 06.0	
SNAA				*e*		02 38 16.5	
SNAA				*e*		02 38 37.4	
SNAA				*e*		02 38 45.0	
SNAA				*e*		02 38 52.8	
VNA3	**Neumayer Olymp**	**80.07**	**176**	⇑*i*P	**P**	**02 36 47.2**	**+0.1**
VNA3				*e*		02 36 54.2	
VNA3				*e*	pP	02 36 58.3	-0.3
VNA3				*e*		02 37 02.6	
VNA3				*e*		02 37 07.4	
VNA3				*e*		02 37 12.3	
VNA3				*e*		02 37 23.0	
VNA3				*e*		02 37 25.9	
VNA3				*e*		02 37 47.7	
VNA3				*e*		02 37 59.9	
VNA3				*e*		02 38 07.0	
VNA3				*e*		02 38 38.8	
VNA3				*e*		02 38 44.2	
VNA3				*e*		02 38 49.9	
VNA3				*e*		02 38 59.3	
VNA2	**Neumayer--Watz**	**80.52**	**176**	⇑*i*P	**P**	**02 36 50.1**	**+0.6**
VNA2				*e*		02 36 56.9	
VNA2				*e*	pP	02 37 01.2	+0.2
VNA2				*e*		02 37 05.5	
VNA2				*e*		02 37 12.2	
VNA2				*e*		02 37 17.0	
VNA2				*e*		02 37 28.2	
VNA2				*e*		02 37 31.0	
VNA2				*e*		02 37 38.6	
VNA2				*e*		02 37 49.1	
VNA2				*e*		02 38 03.0	
VNA2				*e*		02 38 09.6	
VNA2				*e*		02 38 21.0	
VNA2				*e*		02 38 39.3	
VNA2				*e*		02 38 46.0	
VNA2				*e*		02 38 52.5	
VNA2				*e*		02 39 00.2	
VNA1	**Neumayer--Stat**	**80.74**	**176**	⇑*i*P	**P**	**02 36 51.4**	**+0.7**
VNA1				*e*		02 36 57.6	
VNA1				*e*	pP	02 37 02.3	+0.1
VNA1				*e*		02 37 06.0	
VNA1				*e*		02 37 10.1	
VNA1				*e*		02 37 14.8	
VNA1				*e*		02 37 29.7	
VNA1				*e*		02 37 32.7	
VNA1				*e*		02 37 53.7	
VNA1				*e*		02 38 04.3	
VNA1				*e*		02 38 10.9	
VNA1				*e*		02 38 21.0	
VNA1				*e*		02 38 43.0	
VNA1				*e*		02 38 49.4	
VNA1				*e*		02 38 54.3	
VNA1				*e*		02 39 00.6	
ASAJ	**Asahikawa**	**81.31**	**332**	P	**P**	**02 36 53.3**	**-0.4**
	comp=Z,22nm,0.8s,mb5.1,baz=271,slow=13,SNR=7.3						
ASAJ	**Asahikawa**	**81.31**	**332**	P	**P**	**02 36 53.3**	**-0.4**
ASAJ				pmax	pmax		
	comp=Z,22nm,0.8s						
QZH	**Quanzhou**	**81.79**	**304**	⇑*i*P	**P**	**02 36 57.0**	**+0.7**
QZH				AMB	AMB		
	comp=Z,670nm,9.5s						
QZH				LR	LR		
	comp=N,1μm,10.8s						
QZH				LR	LR		
	comp=E,3μm,18.3s						
QZH				LR	LR		
	comp=Z,4μm,21.2s						
KGM	**Kluang**	**82.09**	**277**	P	**P**	**02 36 58.9**	**+1.0**
SKR	**Severo-Kuril's**	**82.45**	**343**	*e*P	**P**	**02 36 57.0**	**-2.8**
SKR				*e*		02 48 19.0	
SKR				MLR	MLR		
	comp=E,3μm,18.0s						
SKR				MLR	MLR		
	comp=Z,3μm,18.0s,MS5.7						
PLCA	**Paso Flores**	**82.98**	**133**	*e*P	**P**	**02 37 03.2**	**+0.7**
PLCA				pmax	pmax		
	comp=Z,24nm,1.1s						
PLCA	**Paso Flores**	**82.98**	**133**	*e*P	**P**	**02 37 03.2**	**+0.7**
	comp=Z,24nm,1.1s,mb5.2						
YSS	**Yuzh-Sakhalins**	**83.56**	**333**	*e*P	**P**	**02 37 06.8**	**+1.3**
YSS				pmax	pmax		
	comp=Z,47nm,0.8s,mb5.7						
YSS	**Yuzh-Sakhalins**	**83.56**	**333**	*e*P	**P**	**02 37 06.8**	**+1.2**
	comp=Z,47nm,0.8s,mb5.7						
KS15	**Wonju Array Si**	**83.66**	**319**	*e*P	**P**	**02 37 06.7**	**+0.7**
SSE	**Sheshan**	**83.71**	**310**	P	**P**	**02 37 06.5**	**+0.3**
SSE				AP	pP	02 37 18.5	+0.7
SSE				PP	PP	02 40 19.4	0.0
SSE				S	S	02 47 26.0	-0.2
SSE				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.3						
SSE				AMB	AMB		
	comp=Z,252nm,8.1s						
SSE				LR	LR		
	comp=N,795nm,20.8s,MS5.2						
SSE				LR	LR		
	comp=E,873nm,20.7s,MS5.2						
SSE				LR	LR		
	comp=Z,1μm,21.2s,MS5.3						
GZH	**Guangzhou**	**84.64**	**300**	P	**P**	**02 37 09.8**	**-1.2**
GZH				S		02 47 36.3	
GZH				LR	LR		
	comp=N,286nm,20.8s,MS5.3						
GZH				LR	LR		
	comp=E,1μm,19.8s,MS5.3						
GZH				LR	LR		
	comp=Z,2μm,21.0s,MS5.4						
GSC	**Goldstone**	**85.04**	**45**	*e*P	**P**	**02 37 12.8**	**-0.2**
QIZ	**Qiongzhong**	**85.18**	**295**	P	**P**	**02 37 15.2**	**+1.5**
QIZ				AP	pP	02 37 23.5	-1.8
QIZ				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.8						
QIZ				AMB	AMB		
	comp=Z,298nm,10.0s						
QIZ				LR	LR		
	comp=N,298nm,19.7s,MS5.0						
QIZ				LR	LR		
	comp=E,586nm,21.1s,MS5.0						
QIZ				LR	LR		
	comp=Z,670nm,17.2s,MS5.1						
WDC	**Whiskeytown Da**	**85.22**	**38**	*e*P	**P**	**02 37 13.7**	**-0.2**
WDC				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.4						
WDC	**Whiskeytown Da**	**85.22**	**38**	*e*P	**P**	**02 37 13.7**	**-0.1**
	comp=Z,40nm,1.4s,mb5.3						
IPM	**Ipoh**	**85.28**	**278**	P	**P**	**02 37 15.3**	**+1.1**
NJ2	**Nanjing**	**85.86**	**310**	*e*P	**P**	**02 37 15.9**	**-1.2**
NJ2				AP	pP	02 37 25.1	-3.6
NJ2				PP	PP	02 40 39.2	+2.3
NJ2				S		02 47 44.0	
NJ2				XS	sS	02 48 01.0	-5.9
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,270nm,5.2s						
NJ2				LR	LR		
	comp=N,7μm,28.6s,MS6.0						
NJ2				LR	LR		
	comp=E,3μm,25.2s,MS6.0						
NJ2				LR	LR		
	comp=Z,430nm,22.2s,MS4.8						
YBH	**Yreka Blue Hor**	**85.93**	**37**	P	**P**	**02 37 16.4**	**-1.0**
	comp=Z,3.4nm,0.7s,mb4.7,baz=40,slow=5.8,SNR=4.8						
YBH	**Yreka Blue Hor**	**85.93**	**37**	*e*P	**P**	**02 37 17.9**	**+0.5**
YBH				pmax	pmax		
	comp=Z,12nm,0.9s						
YBH	**Yreka Blue Hor**	**85.93**	**37**	*e*P	**P**	**02 37 17.9**	**+0.4**
	comp=Z,12nm,0.9s,mb5.1						
KULM	**Kulim**	**86.00**	**278**	*e*P	**P**	**02 37 18.4**	**+0.7**
NVAR	**Mina Array Bea**	**86.17**	**42**	P	**P**	**02 37 18.0**	**-0.6**
	comp=Z,5.2nm,0.8s,mb4.8,baz=213,slow=7.1,SNR=24						
NVAR	**Mina Array Bea**	**86.17**	**42**	P	**P**	**02 37 18.0**	**-0.6**
PAHR	**Pah Rah Range**	**86.39**	**41**	*e*P	**P**	**02 37 19.7**	**0.0**
	comp=Z,15nm,1.2s,mb5.1						
PAHR				*e*PcP	PcP	02 37 23.3	+1.2
PAHR				*ep*P	pP	02 37 30.3	-1.0
PAHR				*es*P	sP	02 37 34.3	-1.2
HUMO	**Hull Mountain**	**86.41**	**37**	*e*P	**P**	**02 37 19.9**	**+0.1**
	comp=Z,29nm,1.4s,mb5.3						
HUMO				*ep*P	pP	02 37 31.2	-0.2
TPNV	**Topopah Spring**	**86.44**	**44**	*e*P	**P**	**02 37 20.5**	**+0.5**
TPNV				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.2						
TPNV	**Topopah Spring**	**86.44**	**44**	*e*P	**P**	**02 37 20.5**	**+0.5**
	comp=Z,17nm,1.0s,mb5.2						
NEN	**Nelson**	**86.50**	**46**	*e*P	**P**	**02 37 20.6**	**+0.4**
NEN				*ep*P	pP	02 37 31.3	-0.6
TPH	**Tonopah**	**86.58**	**43**	*e*P	**P**	**02 37 20.5**	**-0.1**
TPH				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.2						
TPH	**Tonopah**	**86.58**	**43**	P	**P**	**02 37 20.5**	**-0.1**
	comp=Z,20nm,1.2s,mb5.2						
TUC	**Tucson**	**87.13**	**51**	*e*P	**P**	**02 37 23.5**	**+0.2**
TUC				*e**PP	pP	02 37 35.3	+0.4
TUC				pmax	pmax		
	comp=Z,13nm,1.1s,mb5.1						
TUC	**Tucson**	**87.13**	**51**	*e*P	**P**	**02 37 23.5**	**+0.2**
	comp=Z,13nm,1.1s,mb5.1						
TUC				*ep*P	pP	02 37 35.3	+0.4
MDJ	**Mudanjiang**	**87.72**	**325**	P	**P**	**02 37 28.4**	**+2.3**
MDJ				AP	pP	02 37 37.1	-0.7
MDJ				AMB	AMB		
	comp=Z,13nm,1.2s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,295nm,5.0s						
MDJ				LR	LR		
	comp=N,696nm,16.7s,MS5.5						
MDJ				LR	LR		
	comp=E,1μm,15.1s,MS5.5						
MDJ				LR	LR		
	comp=Z,2μm,17.6s,MS5.5						
MDJ	**Mudanjiang**	**87.72**	**325**	*e*P	**P**	**02 37 26.4**	**+0.3**
	comp=Z,56nm,1.3s,mb5.6						
WHN	**Wuhan**	**88.09**	**306**	⇑P	**P**	**02 37 29.5**	**+1.6**
WHN				AP	pP	02 37 40.8	+1.2
WHN				S		02 47 58.0	
WHN				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
DL2	**Dalian**	**88.33**	**317**	⇑P	**P**	**02 37 29.0**	**0.0**
DL2				S		02 48 11.8	
DL2				PS		02 49 24.0	
DL2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.6						
DL2				AMB	AMB		
	comp=Z,310nm,7.5s						
DL2				LR	LR		
	comp=N,390nm,17.3s,MS5.0						
DL2				LR	LR		
	comp=E,310nm,

KLR e pP 02 37 46.3 -2.2
KLR e 02 49 33.5
KLR pmax pmax
comp=Z,100nm,2.0s,mb5.8
LTX Lajitas 90.50 57 *e*P **P 02 37 38.3 -0.9**
LTX *e**PP pP 02 37 51.0 +0.1
LTX pmax pmax
comp=Z,21nm,1.4s,mb5.3
LTX Lajitas 90.50 57 *e*P **P 02 37 38.3 -0.9**
comp=Z,21nm,1.4s,mb5.3
LTX *e*pP pP 02 37 51.0 +0.1
MNTX Cornudas Mount 90.55 54 *e*P **P 02 37 37.8 -1.6**
comp=Z,6.7nm,1.1s,mb4.9
MNTX *e*pP pP 02 37 50.6 -0.5
LAZ Ladron 90.83 51 *e*P **P 02 37 41.4 +0.7**
LAZ *e*pP pP 02 37 52.9 +0.5
TMUT Trail Mountain 91.02 45 *e*P **P 02 37 41.3 -0.3**
TMUT *e*pP pP 02 37 53.4 +0.1
BNM Barren Site 91.04 51 *e*P **P 02 37 42.2 +0.5**
LPM Los Pinos Moun 91.12 51 *e*P **P 02 37 43.0 +0.9**
SRU San Rafael 91.33 45 *e*P **P 02 37 42.8 -0.3**
SRU pmax pmax
comp=Z,18nm,1.3s,mb5.2
SRU San Rafael 91.33 45 *e*P **P 02 37 42.8 -0.3**
comp=Z,18nm,1.3s,mb5.2
SLKM Skilak Lake 91.37 13 *e*P **P 02 37 42.4 -0.8**
ENH Enshi 91.45 304 PFAKE 02 37 50.0 +6.4
ENH LR LR
comp=Z,3μm,21.0s,MS5.7
SPUT South Promonto 91.47 43 *e*P **P 02 37 43.0 -0.7**
GDL2 Guadalupe Moun 91.54 54 *e*P **P 02 37 44.4 +0.4**
GYA Guiyang 91.56 299⇑ *i*P **P 02 37 44.8 +0.7**
GYA AP pP 02 37 54.2 -1.6
GYA XP sP 02 37 58.6 -1.4
GYA PP PP 02 41 26.4 +3.9
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.7
GYA AMB AMB
comp=Z,290nm,8.1s
GYA LR LR
comp=N,620nm,20.7s,MS5.2
GYA LR LR
comp=E,550nm,20.4s,MS5.2
GYA LR LR
comp=Z,1μm,19.2s,MS5.3
HVU Hansel Valley 91.57 42 *e*P **P 02 37 44.1 -0.1**
HVU pmax pmax
comp=Z,29nm,1.4s,mb5.4
HVU Hansel Valley 91.57 42 *e*P **P 02 37 44.1 -0.1**
comp=Z,29nm,1.4s,mb5.4
ANMO Albuquerque 91.60 51 *e*P **P 02 37 44.4 +0.1**
ANMO *e**PP pP 02 37 55.4 -0.6
ANMO pmax pmax
comp=Z,10.0nm,1.1s
ANMO Albuquerque 91.60 51 *e*P **P 02 37 44.4 +0.1**
comp=Z,10.0nm,1.1s,mb5.1
ANMO *e*pP pP 02 37 55.4 -0.5
ANMO *e*sP sP 02 38 00.9 +0.7
DAU Daniels Canyon 91.65 44 *e*P **P 02 37 44.2 -0.4**
HLID Hailey 91.72 40 *e*P **P 02 37 45.0 +0.1**
comp=Z,12nm,1.3s,mb5.1
HLID *e*pP pP 02 37 56.3 -0.2
PV01 Paradox Valley 92.00 47 *e*P **P 02 37 46.0 -0.2**
BJI Beijing 92.36 315 P **P 02 37 47.8 0.0**
BJI XP sP 02 38 00.4 -3.3
BJI AMB AMB
comp=Z,17nm,1.8s,mb5.1
BJI AMB AMB
comp=Z,365nm,4.6s
BJI LR LR
comp=N,741nm,18.9s,MS5.3
BJI LR LR
comp=E,779nm,18.9s,MS5.3
BJI LR LR
comp=Z,934nm,19.7s,MS5.2
PMR Palmer 92.58 13 *e*P **P 02 37 47.3 -1.5**
PMR pmax pmax
comp=Z,66nm,2.0s,mb5.7
PMR Palmer 92.58 13 *e*P **P 02 37 47.3 -1.6**
comp=Z,66nm,2.0s,mb5.7
TTA Tatalina 92.67 9 *e*P **P 02 37 48.3 -0.9**
TTA pmax pmax
comp=Z,21nm,1.4s,mb5.4
TTA Tatalina 92.67 9 *e*P **P 02 37 48.3 -0.9**
comp=Z,20nm,1.4s,mb5.4
REDW Red Top Meadow 93.65 42 *e*P **P 02 37 54.0 +0.2**
comp=Z,34nm,1.4s,mb5.6
REDW *e*pP pP 02 38 04.9 -0.5
TPAW Teton Pass 93.67 42 *e*P **P 02 37 53.7 -0.2**
comp=Z,15nm,1.1s,mb5.3
XAN Xi'an 93.85 307 P **P 02 37 56.3 +1.6**
XAN SKS 02 48 26.9
XAN AMB AMB
comp=Z,11nm,1.3s,mb5.1
XAN AMB AMB
comp=Z,229nm,9.6s
XAN LR LR
comp=N,521nm,19.7s,MS5.3
XAN LR LR
comp=E,1μm,20.4s,MS5.3
XAN LR LR
comp=Z,2μm,20.8s,MS5.5
DLMT Dillon 93.85 40 P **P 02 37 54.1 -0.6**
comp=Z,25nm,1.4s,mb5.5
IMW Indian Meadow 93.92 41 *e*P **P 02 37 55.4 +0.4**
comp=Z,24nm,1.4s,mb5.4
KMI Kunming 93.94 296 P **P 02 37 56.9 +1.8**
KMI AP pP 02 38 08.5 +1.7
KMI PP PP 02 41 46.1 +4.9
KMI S 02 49 02.1
KMI AMB AMB
comp=Z,15nm,1.6s,mb5.2
KMI AMB AMB
comp=Z,217nm,7.2s
KMI LR LR
comp=N,319nm,19.2s,MS5.2
KMI LR LR
comp=E,743nm,19.2s,MS5.2
KMI LR LR
comp=Z,1μm,20.0s,MS5.3
MOOW Moose Ponds 93.94 42 *e*P **P 02 37 55.1 -0.1**
comp=Z,16nm,1.4s,mb5.2
PDAR Pinedale Array 94.07 43 P **P 02 37 55.0 -0.8**
comp=Z,2.5nm,0.9s,mb4.7,baz=208,slow=2.9,SNR=11
FLWY Flagg Ranch 94.17 41 *e*P **P 02 37 56.5 +0.4**
comp=Z,18nm,1.0s,mb5.5
QLMT Earthquake Lak 94.19 40 *e*P **P 02 37 56.4 +0.1**
CHMT Chamberlain Mo 94.44 38 *e*P **P 02 37 56.6 -0.8**
LKWY Lake 94.63 41 *e*P **P 02 37 58.9 +0.6**
LKWY pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
LKWY Lake 94.63 41 *e*P **P 02 37 58.9 +0.7**
comp=Z,9.3nm,1.0s,mb5.2
HHC Hu-ho-hao-te 95.72 314 *e*P **P 02 38 05.1 +1.8**
HHC AP pP 02 38 15.2 +0.3
HHC SKS 02 48 37.9
HHC S 02 49 17.7
HHC AMB AMB
comp=Z,22nm,0.8s,mb5.6
HHC AMB AMB
comp=Z,133nm,5.4s
HHC LR LR
comp=N,624nm,22.6s,MS5.2
HHC LR LR
comp=E,752nm,22.6s,MS5.2
HHC LR LR
comp=Z,2μm,22.7s,MS5.4
GCMT Greycliff 95.76 40 *e*P **P 02 38 03.2 -0.3**
COLA College 95.81 12*c* *i*P **P 02 38 02.1 -1.6**
HIA Hailar 95.85 324 PFAKE 02 38 10.0 +6.2
HIA LR LR
comp=Z,2μm,20.0s,MS5.5
ILAR Eielson Array 95.90 12 P **P 02 38 01.6 -2.5**
comp=Z,3.0nm,0.9s,mb4.7,baz=223,slow=5.7,SNR=19
CD2 Chengdu 96.01 302 *e*P **P 02 38 06.8 +2.2**
CD2 SKS 02 48 39.7
CD2 S 02 49 21.7
CD2 XS sS 02 49 33.6 -6.4
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.3
CD2 AMB AMB
comp=Z,50nm,4.6s
CD2 LR LR
comp=N,670nm,19.0s
CD2 LR LR
comp=Z,970nm,22.1s,MS5.2
BILL Bilibino 97.13 354 *e*P **P 02 38 08.9 -0.7**
BILL pmax pmax
comp=Z,8.0nm,1.5s,mb4.9
BILL Bilibino 97.13 354 *e*P **P 02 38 08.0 -1.6**
comp=Z,16nm,1.6s,mb5.2
LPAZ La Paz 97.92 113 P **P 02 38 13.2 0.0**
comp=Z,0.8nm,0.7s,mb4.3,baz=120,slow=24,SNR=2.7
RSSD Black Hills 98.16 44 *e*P **P 02 38 13.6 -0.7**
RSSD pmax pmax
comp=Z,14nm,1.2s,mb5.4
RSSD Black Hills 98.16 44 *e*P **P 02 38 13.6 -0.8**
comp=Z,14nm,1.2s,mb5.4
LZH Lanzhou 98.47 306 *e*P **P 02 38 16.0 +0.3**
LZH AP pP 02 38 27.0 -0.4
LZH XP sP 02 38 31.0 -0.6
LZH PP PP 02 42 18.0 +1.8
LZH SKS 02 48 51.0
LZH *e*S 02 49 41.0
LZH AMB AMB
comp=Z,20nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,70nm,4.5s
LZH LR LR
comp=E,2μm,18.0s
LZH LR LR
comp=Z,2μm,19.4s,MS5.7
INK Inuvik 101.73 15 *e*P Pdif 02 38 28.6 -1.6
INK pmax pmax
comp=Z,17nm,2.0s
INK Inuvik 101.73 15 *e*P Pdif 02 38 28.6 -1.6
comp=Z,17nm,2.0s
YKA Yellowknife Ar 103.33 25 Pdiff Pdif 02 38 36.3 -1.0
comp=Z,0.4nm,0.9s,baz=247,slow=3.1,SNR=4.3
YKA PKKPbc PKKPbc 02 54 33.1 +1.7
comp=Z,0.2nm,0.6s,baz=37,slow=2.7,SNR=6.1
YKA PKKP PKKPbc 02 54 45.5 +14
comp=Z,0.3nm,0.8s,baz=54,slow=3.0,SNR=4.8
YKA Yellowknife Ar 103.33 25 Pdif Pdif 02 38 36.3 -1.0
YKA PKKPbc PKKPbc 02 54 33.1 +1.7
YKA PKKP PKKPbc 02 54 45.5 +14
MKAR Makanchi Array 117.39 311 PKP PKPdf 02 43 20.8 -2.0
comp=Z,2.0nm,0.9s,baz=72,slow=4.0,SNR=11
MKAR Makanchi Array 117.39 311 PKP PKPdf 02 43 20.8 -2.0
NVS Novosibirsk 118.43 320 *e*PKIKP PKPdf 02 43 21.6 -3.2
KURK Kurchatov 120.53 314 *e*PKIKP PKPdf 02 43 27.1 -1.8
KURK *e* 02 43 37.9
AAK Ala-Archa 121.95 305 *e*PKIKP PKPdf 02 43 30.2 -1.4
AAK *e* 02 43 40.3
BVAR Borovoye Array 125.81 317 PKP PKPdf 02 43 37.0 -2.0
comp=Z,2.5nm,0.8s,baz=103,slow=3.2,SNR=15
BRVK Borovoye 125.87 317 *e*PKIKP PKPdf 02 43 37.7 -1.4
BRVK *e* 02 43 51.0
ARU Arti 132.32 322 *i* PKIKP PKPdf 02 43 49.9 -1.5
ARU *e* 02 46 16.2
ARU MLR MLR
comp=Z,2μm,20.0s,MS5.9
ARU MLR MLR
comp=N,900nm,19.0s,MS5.8
ARU MLR MLR
comp=E,2μm,20.0s,MS5.8
ARU Arti 132.32 322 *e*PKPdf PKPdf 02 43 51.2 -0.2
AKTK Aktyubinsk 133.62 314 PKP PKPdf 02 43 51.5 -2.3
AKTO Aktyubinsk 133.62 314 PKP PKPdf 02 43 51.5 -2.3
ORR Orenburg 135.47 316 *i* PKIKP PKPdf 02 43 56.7 -0.6
ORR pmax pmax
comp=Z,4.0nm,0.7s
ARCES ARCESS Array B 137.00 349 PKP PKPdf 02 43 58.0 -2.1
comp=Z,4.7nm,0.9s,baz=329,slow=2.1,SNR=6.3
KLMR Klimovskoe 139.61 333 *i* PKIKP PKPdf 02 44 01.0 -3.9
KLMR *e* 02 46 56.5
KLMR pmax pmax
comp=Z,30nm,1.8s
JOF Joensuu 141.07 340 *e*pkp PKPdf 02 44 04.5 -3.1
KAF Kangasniemi 143.15 342 *e*pkp PKPdf 02 44 05.0 -6.3
DGRG David-gareji 143.49 302 P PKPdf 02 44 09.3 -2.6
FINES FINESS Array B 143.76 342 PKhKP 02 44 07.6
comp=Z,3nm,0.7s,baz=60,slow=4.0,SNR=22
MTA Mtatsminda 143.89 302 P PKPdf 02 44 11.0 -1.6
TBLG Delisi 143.93 303 P PKPdf 02 44 10.3 -2.3
TBLG Delisi 143.93 303 PKIKP PKPdf 02 44 10.2 -2.4
GNI Garni 144.12 300 *e*PKIKP PKPdf 02 44 12.4 -0.6
GNI *e* 02 44 23.6
OBN Obninsk 144.23 327α *i* PKIKP PKPdf 02 44 10.6 -2.6
OBN *e* 02 44 20.0
OBN pmax pmax
comp=Z,68nm,1.7s
OBN Obninsk 144.23 327 *e*PKPdf PKPdf 02 44 10.2 -3.0
ZEI Tsey 144.38 304 *e*PKIKP PKPdf 02 44 13.1 -0.3
VOR Voronezh 144.59 321 PKIKP PKPdf 02 44 11.0 -2.8
VOR pmax pmax
comp=Z,50nm,1.6s
ONI Oni 144.74 304 P PKPdf 02 44 14.8 +0.7
AMRG 144.98 304 P PKPbc 02 44 15.4 +1.7
KIV Kislovodsk 145.02 307⇑ *i* PKIKP PKPdf 02 44 14.1 -0.4
KIV Kislovodsk 145.02 307 *e*PKPdf PKPdf 02 44 13.9 -0.7
DIGO Kars 145.12 301 *i* P PKPbc 02 44 13.0 -1.2
TVAN Van 145.29 297 *i* P PKPbc 02 44 14.9 +0.1
MSL Mosul 145.65 293 *ex* x 02 44 16.5
MSL *ex* x 02 44 29.5
ARTV Artvin 146.10 302 *i* P PKPdf 02 44 15.9 -0.5
BNGL BINGOL 147.00 298 *i* P PKPdf 02 44 18.8 +0.9
NB2 NORSAR Subarra 147.07 353 PKPa PKPdf 02 44 17.9 -0.1
comp=Z,31nm,1.0s,baz=11,slow=2.9
NB2 NORSAR Subarra 147.07 353 PKPa PKPdf 02 44 17.9 -0.1
baz=11,slow=2.9
NOA NORSAR Array B 147.07 353 PKPbc PKPbc 02 44 18.2 -2.0
comp=Z,13nm,0.9s,baz=16,slow=4.5,SNR=28
NOA NORSAR Array B 147.07 353 PKPbc PKPbc 02 44 18.2 -2.0
SOC Sochi 147.19 307 *i* PKP2 PKPab 02 44 20.4 -1.8
SOC pmax pmax
comp=Z,18nm,0.7s
NAO01 NORSAR Array S 147.30 353 *e*PKPbc PKPbc 02 44 19.8 -0.9
MARD Mardin 147.46 295 *i* P PKPdf 02 44 16.9 -1.8
MACK Trabzon 147.75 302 *i* P PKPdf 02 44 19.7 +0.6
ANN Anapa 148.41 310 *i* PKP2 PKPab 02 44 25.9 -1.2
ANN pmax pmax
comp=Z,67nm,0.9s
MNK Minsk 148.51 332 *e*PKP2 PKPbc 02 44 22.0 -2.0
KONO Kongsberg 148.61 354 *e*PKP2 PKPbc 02 44 23.1 -1.2
ELZG Elazig 148.74 298 *i* P PKPbc 02 44 25.5 +0.9
GRSN GIRESUNGRSN 148.87 303 *i* P PKPdf 02 44 19.7 -1.2
MALT Malatya 149.20 298⇓ *i* P PKPbc 02 44 26.9 +1.1
MALT Malatya 149.20 298 *e*PKPbc PKPbc 02 44 26.4 +0.6
ATAB Bozova 149.41 296 *i* P PKPbc 02 44 27.4 +1.1
AKASG Malin Array Be 150.43 326 PKPbc PKPbc 02 44 26.7 -2.0
comp=Z,20nm,0.9s,baz=46,slow=2.4,SNR=28
SIM Simferopol' **150.55 312**⇑ *i* PKIKP PKPbc 02 44 29.5 +0.4
SIM pmax pmax
comp=Z,36nm,0.8s
SUW Suwalki 150.68 336 *e*PKP PKPbc 02 44 28.1 -1.2
COBT Iskenderun 151.14 294 *i* P PKPbc 02 44 29.3 -1.1
BOYT Boyabat 151.21 305 *i* P PKPbc 02 44 29.3 -1.3
CTKT Corum 151.50 303 *i* P PKPbc 02 44 32.2 +0.9
MUD Monsted U'grnd 151.79 353 *i* P PKPbc 02 44 31.7 -0.2
comp=Z,20nm,1.1s
MUD *i* 02 44 49.7
MUD *e* 02 45 40.5
MUD Monsted U'grnd 151.79 353 *e*P PKPbc 02 44 31.7 -0.2
MUD *i* 02 44 49.7
MUD *e* 02 45 40.5
AVNT Avonos 151.88 300 *i* P PKPbc 02 44 30.3 -1.9
BSD Bornholm Skovb 152.14 346 *i* P PKPab 02 44 40.5 -1.9
comp=Z,24nm,1.3s
BSD *e* 02 45 34.4
EIL Elat 152.29 280 *e*PKPbc PKPbc 02 44 33.1 0.0
ELDT Eldivan 152.54 304 *i* P PKPbc 02 44 31.2 -2.4
BR131 Keskin Array S 152.59 302 *e*PKPbc PKPbc 02 44 33.2 -0.5
BRTR Keskin Array B 152.59 302 PKPbc PKPbc 02 44 33.4 -0.4
comp=Z,5.4nm,0.9s,baz=108,slow=2.7,SNR=27
MEST Erdemli 152.82 295 *i* P PKPbc 02 44 33.2 -1.1
ANTO Ankara 153.18 303⇓ *i* P PKPbc 02 44 35.7 +0.7
ANTO Ankara 153.18 303 *e*PKPbc PKPbc 02 44 35.3 +0.3
GKP Gorka Klasztor 153.23 341 *e*PKP PKPbc 02 44 35.4 +0.3
GKP *e* 02 44 43.5
BSEG Bad Segeberg 154.11 350 *e*PKPab PKPab 02 44 49.4 -1.3
KWP Kalwaria 154.22 330 *e*PKP PKPab 02 44 49.9 -1.3
KWP Kalwaria 154.22 330 *e*PKIKP PKPbc 02 44 36.8 -0.5
KWP *e* 02 44 49.9
PDA Ponta Delgada 154.23 62 *e* 03 48 28.5
BURAR Bucovina Array 154.42 324⇓ *i* P PKPab 02 44 52.1 0.0
VRI Vrincioaia 154.66 319⇑ *i* P PKPab 02 44 53.5 +0.4
PLOR Plostina 154.72 319⇑ *i* P PKPab 02 44 55.1 +1.8
RUE Ruedersdorf 154.84 345 *e*PKPab PKPab 02 44 52.4 -1.4
KOLS Kolonicke sedl 154.93 329 *e* PKPbc 02 44 41.0 +2.2
KOLS *e* 02 45 01.2
OJC Ojcow 154.96 334 *e*PKP PKPbc 02 44 38.8 -0.1
STHS Stebnicka Huta 155.01 331 *e*PKP PKPab 02 44 54.6 0.0
CRVS Cervenica-Dubn 155.31 330 *e*PKP PKPab 02 44 55.9 0.0
MLR Muntele Rosu 155.33 319⇑ *i* P PKPab 02 44 54.6 -1.3
KSP Ksiaz 155.64 340 *e*PKP PKPdf 02 44 39.8 +8.8
KSP *e* 02 44 57.6
KSP Ksiaz 155.64 340 *e*PKIKP PKPdf 02 44 40.0 +9.0
KSP *e* 02 44 57.5
KSP *e*SS SS 03 08 20.0 +2.1
KSP MLR MLR
comp=Z,2μm,21.0s,MS6.0
KSP Ksiaz 155.64 340 *e*PKP PKPdf 02 44 40.0 +9.0
KSP *e* 02 44 57.5
KSP *e* 02 45 57.4
KSP *e*SS SS 03 08 20.0 +2.1
KSP LR LR
comp=Z,2μm,21.0s,MS6.0
OKC Ostrava-Krasne 155.89 336 *e*PKPAB PKPab 02 44 58.1 -0.2
OKC *ex* x 02 45 58.0
OKC AMS AMS 03 55 30.0
comp=Z,1μm,19.0s
UPC Upice 156.02 340 *e*PKPAB PKPab 02 44 55.2 -3.7
UPC *ex* x 02 45 58.0
IBBN Ibbenburen 156.03 353 *e*PKPab PKPab 02 44 57.5 -1.4
KECS Kecovo 156.05 331 *e*PKP PKPab 02 44 58.2 -0.8
KECS *e* 02 45 10.6
DPC Dobruska-Polom 156.06 339 *e*PKPAB PKPab 02 44 55.5 -3.6
DPC *ex* x 02 45 55.0
DPC AMS AMS 03 58 00.0
comp=Z,1μm,21.9s
CLL Collm 156.11 345 *e*PKPdf PKPdf 02 44 35.2 +3.6
CLL *e*PKPdif 02 44 39.9
CLL *e*PKPab PKPab 02 44 56.8 -2.5
comp=Z,16nm,1.2s
CLL *e*pPKPab pPKPab 02 45 09.2 -1.8
CLL *e*PP PP 02 48 33.7 -2.9
CLL Collm 156.11 345 *e*PKPdif 02 44 41.0
comp=Z,8.0nm,1.5s
CLL *i* PKPab PKPab 02 44 56.6 -2.7
comp=Z,16nm,1.2s
CLL *i* pPKPab pPKPab 02 45 09.2 -1.8
comp=Z,14nm,1.0s
CLL *e*PP PP 02 48 34.0 -2.6
CLL Collm 156.11 345 *e*PKIKP PKPdf 02 44 41.0 +9.4
CLL *i* 02 44 56.6
CLL pmax pmax
comp=Z,8.0nm,1.5s
CLL pmax pmax
comp=Z,16nm,1.2s
CLL Collm 156.11 345 *e*PKP PKPdf 02 44 41.0 +9.4
CLL *i* PKP PKPab 02 44 56.6 -2.7
CLL *i* pPKP pPKPab 02 45 09.2 -1.8
CLZ Clausthal 156.13 349 *e*PKPab PKPab 02 44 58.1 -1.3
BRG Berggiesshubel 156.28 343 *e*PKPab PKPab 02 44 58.7 -1.3
BRG Berggiesshubel 156.28 343 *e*PKP PKPab 02 44 54.3 -5.7
comp=Z,12nm,1.8s
BRG *e* 02 45 07.4
comp=Z,15nm,1.5s
BRG *e* 02 45 54.4
comp=Z,12nm,1.4s
GTTG Gyttingen 156.48 349 *e*PKPab PKPab 02 44 59.5 -1.4
VYHS Vyhne 156.72 333 *e*PKP PKPab 02 45 01.4 -0.5
PSZ Piszkesteto 156.74 331⇑ *e* PKPab 02 45 01.8 -0.2
VRAC Vranov 156.88 337⇑ *i*P PKPab 02 45 02.6 0.0
PRU Pruhonice 156.92 341 *e*PKPAB PKPab 02 45 01.3 -1.5
PRU *ex* x 02 46 01.8
PRU AMS AMS 04 07 50.0
comp=Z,1μm,18.4s
BUG Bochum--Univer 156.94 354 *e*PKPab PKPab 02 45 01.0 -1.8
MOX Moxa 157.04 346 *e*PKPab PKPab 02 45 01.7 -1.6
MOX Moxa 157.04 346 *e*PKP PKPab 02 45 02.8 -0.5
comp=Z,27nm,1.9s
MOX *e* 02 45 48.5
MOX
comp=Z,1μm,21.0s
WERD Werda 157.07 345 *e*PKPab PKPab 02 45 02.2 -1.2
NKC Novy Kostel 157.24 345 *e*PKPAB PKPab 02 45 03.9 -0.2
NKC *ex* x 02 46 02.0
NKC AMS AMS 03 57 30.0
comp=Z,1μm,19.4s
SMOL Smolenice 157.25 335 *e* PKPab 02 45 05.1 +0.9
SMOL Smolenice 157.25 335 *e*PKP PKPab 02 45 15.2 +11
SMOL *e* 02 46 05.2
SMOL *e* 02 46 16.3
TREC Trest 157.25 339 *e*PKPAB PKPab 02 45 03.9 -0.3
TREC *ex* x 02 46 02.3
MANZ Manzenberg 157.55 345 *e*PKPab PKPab 02 45 04.4 -1.1
BZS Buzias 157.60 324⇓ *i*P PKPab 02 45 06.6 +0.9
ZST Bratislava 157.63 335 *e*PKP PKPab 02 45 06.2 +0.3
ZST *e* 02 46 02.2
ROTZ Rotzenmuhle 157.73 344 *e*PKPab PKPab 02 45 05.5 -0.8
KHC Kasperske Hory 157.97 342 *e*PKPAB PKPab 02 45 07.2 -0.1
KHC pPKP pPKPab 02 45 18.0 -1.0
KHC *ex* x 02 46 06.9
KHC AMS AMS 04 08 20.0
comp=Z,1μm,18.1s
TNS Taunus Mts 158.00 351 *e*PKPab PKPab 02 45 06.0 -1.4
GRA1 Grafenberg Arr 158.02 346 *e*PKPab PKPab 02 45 06.6 -0.9
GRA1 *e*SS SS 03 08 46.1 +2.7
GRA1 LR LR
comp=Z,1μm,20.6s,MS5.7
GRF Grafenberg Arr 158.02 346 *e*PKPab PKPab 02 45 06.6 -0.9
GRF *e*SS SS 03 08 46.1 +2.7
GRF *e*L 03 59 01.3
comp=Z,1μm,20.6s
GEC2 GERESS Array S 158.19 341 *e*PKPab PKPab 02 45 07.4 -0.8
SOP Sopron 158.26 335⇑ *e* PKPab 02 45 08.9 +0.3
BAIF Baives 158.51 358 *e*PKP2 PKPab 02 45 07.5 -2.1
comp=Z,19nm,1.2s
PKSM Moragy 158.60 330⇑ *i*P PKPab 02 45 07.3 -2.7
VTS Vitosha 158.61 316⇓ *i*P PKPab 02 45 12.4 +2.3
WLF Walferdange 158.80 355 *e*PKPab PKPab 02 45 09.9 -1.0
STU Stuttgart 159.29 349 *e*PKPab PKPab 02 45 11.4 -1.6
FUR Furstenfeldbru 159.45 344 *e*PKPab PKPab 02 45 12.7 -1.0
FLN La Foliniere 159.62 7 *e*PKP2 PKPab 02 45 13.2 -1.3
comp=Z,68nm,1.2s
FLN *e*R
comp=Z,1μm,19.5s
FLN La Foliniere 159.62 7 *e*PKPab PKPab 02 45 13.2 -1.3
FLN LR LR
comp=Z,1μm,19.5s,MS5.7
SANT Santorini 159.70 298 *e*PKPab PKPab 02 45 13.7 -1.1
VAY Valandovo 159.71 314 *e*PKP PKPab 02 45 14.2 -0.6
LDF La Druitiere 159.83 6 *e*PKP2 PKPab 02 45 14.0 -1.4
comp=Z,34nm,1.2s
BFO Black Forest 159.86 350 *e*PKPab PKPab 02 45 15.0 -0.5
CDF Champ du Feu 159.93 352 *e*PKP2 PKPab 02 45 14.8 -1.0
MEZF Maizieres J'vi 160.03 356 *e*PKP2 PKPab 02 45 15.3 -1.0
comp=Z,36nm,1.3s
SKO Skopje 160.04 317 *e*PKP PKPab 02 45 18.2 +1.9
HAU Haudompre 160.43 354 *e*PKP2 PKPab 02 45 17.9 -0.1
comp=Z,20nm,1.0s
HAU *e*R
comp=Z,2μm,21.5s
HAU Haudompre 160.43 354 *e*PKPab PKPab 02 45 17.9 -0.1
HAU LR LR
comp=Z,2μm,21.5s
HINF Hinteralfeld 160.56 353 *e*PKP2 PKPab 02 45 17.3 -1.3
DAVA Damuels 160.59 346⇓ *i*P PKPab 02 45 18.0 -0.7
comp=Z,13nm,1.0s
GVD Gavdhos 161.18 295 *e*PKPab PKPab 02 45 21.6 +0.3
LOR Lormes 161.31 359 *e*PKP2 PKPab 02 45 20.6 -1.2
comp=Z,20nm,1.3s
LOR *e*R
comp=Z,2μm,20.5s
LOR Lormes 161.31 359 *e*PKPab PKPab 02 45 20.6 -1.2
LOR LR LR
comp=Z,2μm,20.5s
SSF Saint Saulge 161.52 359 *e*PKP2 PKPab 02 45 21.7 -1.1
comp=Z,11nm,0.9s
MFF Saint Martin d 161.79 7 *e*PKP2 PKPab 02 45 21.7 -2.2
comp=Z,30nm,1.0s
AVF Avril sur Loir 161.79 360 *e*PKP2 PKPab 02 45 22.7 -1.3
comp=Z,17nm,1.1s
SMF Signal de Mont 161.93 359 *e*PKP2 PKPab 02 45 23.5 -1.1
comp=Z,24nm,1.1s
TCF Toux Ste Croi 162.28 2 *e*PKP2 PKPab 02 45 24.9 -1.2
comp=Z,29nm,1.5s
LPL La Plagne 162.84 352 *e*PKP2 PKPab 02 45 28.5 0.0
comp=Z,7.2nm,0.9s

LPG	**La Plagne**	**162.86**	**352**	*e*PKP2	PKPab	02 45 28.7	+0.1		
	comp=Z,18nm,1.1s								
RJF	**Les Rejaudoux**	**163.23**	**4**	*e*PKP2	PKPab	02 45 28.8	-1.4		
RJF				*e*R					
	comp=Z,2μm,20.2s								
RJF	**Les Rejaudoux**	**163.23**	**4**	*e*PKPab	PKPab	02 45 28.8	-1.4		
RJF				LR	LR				
	comp=Z,2μm,20.3s								
LFF	**La Frestale**	**163.53**	**6**	*e*PKP2	PKPab	02 45 30.6	-1.0		
	comp=Z,50nm,1.3s								
ORIF	**Oris-en-Rattie**	**163.53**	**353**	*e*PKP2	PKPab	02 45 31.3	-0.3		
ORIF	comp=Z,26nm,1.1s			*e*R					
	comp=Z,2μm,18.8s								
MBDF	**Montbardon**	**163.61**	**351**	*e*PKP2	PKPab	02 45 31.3	-0.6		
VIVF	**Saint-Julien-l**	**163.69**	**356**	*e*PKP2	PKPab	02 45 31.9	-0.4		
	comp=Z,22nm,1.5s								
AQU	**L'Aquila**	**163.94**	**332**	⇑ *i*P	PKPab	02 45 31.8	-1.6		
LASF	**Ste Croix**	**164.50**	**358**	*e*PKP2	PKPab	02 45 35.5	-0.3		
TIP	**Timpagrande**	**164.56**	**317**	*e*PKPab	PKPab	02 45 36.2	+0.1		
TORD	**Torodi Ar. Bea**	**164.60**	**174**	PKP	PKPdf	02 44 41.6	+0.6		
	comp=Z,2.5nm,1.0s,baz=295,slow=1.6,SNR=12								
TORD				PKPab	PKPab	02 45 37.5	+1.2		
	comp=Z,3.7nm,0.8s,baz=189,slow=3.2,SNR=10								
FRF	**La Foret Royal**	**164.77**	**350**	*e*PKP2	PKPab	02 45 35.9	-1.1		
	comp=Z,32nm,1.2s								
LMR	**La Mourre**	**165.01**	**351**	*e*PKP2	PKPab	02 45 37.1	-1.0		
SJPF	**Ste Jean**	**165.04**	**13**	*e*PKP2	PKPab	02 45 36.8	-1.4		
	comp=Z,6.4nm,0.9s								
MTLF	**Montolieu**	**165.22**	**3**	*e*PKP2	PKPab	02 45 38.3	-0.7		
	comp=Z,36nm,1.5s								
ETSF	**Etsaut**	**165.37**	**11**	*e*PKP2	PKPab	02 45 39.0	-0.6		
	comp=Z,11nm,1.0s								
ESDC	**Sonseca Array**	**167.42**	**26**	PKP	PKPdf	02 44 45.1	+1.8		
	comp=Z,0.8nm,0.8s,baz=6.7,slow=2.5,SNR=5.8								
ESDC				PKPab	PKPab	02 45 48.3	-0.4		
	comp=Z,1.8nm,0.8s,baz=316,slow=4.1,SNR=8.7								

ISCJB ***01*** *02:25:33.9±1.9, 2884S±005×17691W±007, h3km±11km, mb5.3/45, MS5.4/8, Error ellipse: s-maj=11.2km s-min=5.5km az=65.1*

MOS ***01*** *02:25:36.5±1.6, 2805S×17677W, h13km, mb5.7/16, Error ellipse: s-maj=14.1km s-min=10.6km az=63.2*

HRVD ***01*** *02:25:41.4±0.1, 2843S×17628W, h13km, MW5.7/104, Centroid moment Tensor Solution. LP body waves: s84,c171;Mantle waves: s104,c210; Half duration: 1s8 Moment tensor: Scale 10^17 Nm; Mrr 2.91±.06; Mθθ -0.17±.04; Mϕϕ -2.74±.05; Mrθ 0.27±.11; Mrϕ -1.23±.04; Mθϕ 3.72±.19; Best double couple: M0 4.83900×10^17 NP1:ϕ=217.00000°, δ22.00000°, λ117.00000°. NP2: ϕ=8.00000°, δ71.00000°, λ80.00000°. Principal axes: T 4.7760, Plg63.0000°, Azm262.0000°; N 0.1260, Plg10.0000°, Azm11.0000°; P -4.9020, Plg25.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***01*** *02:25:41.4±0.3, 2826S×17690W, h35km, mb5.4/28 Error ellipse: s-maj=14.8km s-min=8.3km az=153.0*

BJI ***01*** *02:25:41.3, 2830S×17690W, h35km, mB5.6, mb5.2, Ms5.7, Msz5.4*

IDC ***01*** *02:25:44.7±1.7, 2837S×17680W, h68km±14km, mb4.9/17, mb1 4.9/17, mb1mx4.9/18, mbtmp5.1/17, MS5.5/6, Ms1 5.5/6, ms1mx4.9/19, Error ellipse: s-maj=18.0km s-min=12.1km az=162.0*

ISC 01 02:25:35.4±2.3, 2872S±004×17688W±007, h0km±13km, n156, σ1s33/115, mb5.3/45, MS5.4/8, 1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.05**	**239**	P	**Pg**	**02 26 06.9**	**+11**
	3μm,0.3s,baz=292,slow=23,SNR=4.4						
RAO				S	**Sg**	**02 26 28.2**	**+19**
	9μm,0.3s,baz=96,slow=22,SNR=8.3						
MXZ	**Matakaoa Point**	**9.70**	**203**	*e*PN	**Pn**	**02 27 56.0**	**-0.2**
PUZ	**Puketiti**	**10.18**	**202**	*e*PN	**Pn**	**02 28 00.3**	**-2.4**
PUZ				SN	**Sn**	**02 29 56.5**	**-1.0**
PUZ				SN	**Sn**	**02 29 57.9**	**+0.4**
PUZ	**Puketiti**	**10.18**	**202**	*e*P	**Pn**	**02 27 58.6**	**-4.1**
PUZ				S	**Sn**	**02 29 56.5**	**-1.0**
MWZ	**Matawai**	**10.66**	**204**	*e*PN	**Pn**	**02 28 08.1**	**-1.3**
MWZ				SN	**Sn**	**02 30 12.6**	**+3.1**
URZ	**Urewera**	**10.76**	**206**	P	**Pn**	**02 28 09.1**	**-1.5**
	2.3nm,0.3s,baz=45,slow=22,SNR=2.6						
URZ				S	**Sn**	**02 30 11.1**	**-0.6**
	8.1nm,0.3s,baz=11,slow=12,SNR=3.2						
URZ	**Urewera**	**10.76**	**206**	*e*PN	**Pn**	**02 28 09.5**	**-1.1**
KNZ	**Kokohu**	**11.23**	**202**	*e*PN	**Pn**	**02 28 13.9**	**-3.2**
KNZ	**Kokohu**	**11.23**	**202**	*e*P	**Pn**	**02 28 13.9**	**-3.2**
MRZ	**Mangatainoka R**	**13.43**	**205**	SN	**Sn**	**02 31 11.6**	**-5.5**
TUWZ	**Tuamarina**	**14.73**	**208**	*e*PN	**Pn**	**02 29 08.6**	**+3.7**
THZ	**Tophouse**	**15.45**	**210**	*e*PN	**Pn**	**02 29 13.4**	**-1.1**
THZ				SN	**Sn**	**02 31 59.2**	**-7.1**
AFI	**Afiamalu**	**15.48**	**19**	P	**Pn**	**02 29 04.4**	**-11**
	7.8nm,0.3s,baz=252,slow=6.0,SNR=3.9						
AFI				S	Sn	02 31 40.3	-27
	4.0nm,0.3s,baz=224,slow=23,SNR=2.1						
DZM	**Mont Dzumac**	**16.45**	**290**	P	**Pn**	**02 29 33.7**	**+6.2**
	0.3nm,0.3s,baz=91,slow=20,SNR=1.8						
DZM				LR	LR	02 34 25.6	
	comp=Z,29μm,20.5s,baz=179,slow=32						
LTZ	**Lake Taylor**	**16.55**	**209**	*e*PN	**Pn**	**02 29 27.2**	**-1.6**
RAR	**Rarotonga**	**17.21**	**68**	P	**Pn**	**02 29 26.9**	**-10**
	4.7nm,0.3s,baz=216,slow=7.8,SNR=4.0						
RAR				S	Sn	02 32 15.0	-34
	0.6nm,0.3s,baz=238,slow=23,SNR=1.9						
RAR				LR	LR	02 34 12.4	
	comp=Z,10μm,21.0s,baz=253,slow=30						
WVZ	**Waitaha Valley**	**17.46**	**212**	*e*PN	**Pn**	**02 29 39.2**	**-1.1**
WVZ	**Waitaha Valley**	**17.46**	**212**	*e*P	**Pn**	**02 29 39.2**	**-1.1**
RPZ	**Rata Peaks**	**17.82**	**210**	P	**Pn**	**02 29 42.7**	**-2.1**
	2.1nm,0.3s,baz=41,slow=9.9,SNR=2.1						
RPZ				S	Sn	02 32 49.4	-15
	1.7nm,0.3s,baz=190,slow=21,SNR=2.4						
RPZ				LR	LR	02 36 26.0	
	comp=Z,13μm,21.5s,baz=26,slow=35						
RPZ	**Rata Peaks**	**17.82**	**210**	*e*PN	**Pn**	**02 29 42.6**	**-2.2**
RPZ	**Rata Peaks**	**17.82**	**210**	*e*P	**Pn**	**02 29 42.6**	**-2.2**
ODZ	**Otahua Downs**	**19.07**	**208**	*e*PN	**Pn**	**02 29 56.5**	**-3.6**
ODZ	**Otahua Downs**	**19.07**	**208**	*e*P	**Pn**	**02 30 00.0**	**0.0**
JCZ	**Jackson Bay**	**19.15**	**213**	*e*PN	**Pn**	**02 29 58.3**	**-2.7**
JCZ	**Jackson Bay**	**19.15**	**213**	*e*P	**Pn**	**02 29 57.3**	**-3.7**
TBI	**Tubuai**	**25.18**	**84**	*e*LR	LR	02 37 19.6	
	12μm,25.2s,baz=252						
PPT	**Papeete**	**27.38**	**72**	*e*LR	LR	02 38 11.9	
	11μm,24.2s,baz=236						
ARMA	**Armidale**	**27.40**	**259**	*e*P	**P**	**02 31 27.7**	**+5.2**
HNR	**Honiara**	**29.01**	**307**	P	**P**	**02 31 36.9**	**+0.1**
	94nm,0.8s,mb5.7,baz=261,slow=4.6,SNR=2.1						
HNR				LR	LR	02 41 16.1	
	comp=Z,7μm,18.2s,MS5.3,baz=177,slow=32						
CNB	**Canberra Magne**	**29.27**	**248**	*e*P	**P**	**02 31 45.1**	**+5.9**
	252nm,2.0s,mb5.7						
TOO	**Toolangi**	**32.55**	**244**	*e*P	**P**	**02 32 12.5**	**+4.4**
	18nm,0.8s,mb5.0						
TOO	**Toolangi**	**32.55**	**244**	*e*P	**P**	**02 32 12.5**	**+4.4**
TOO				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.0						
CTA	**Charters Tower**	**34.54**	**276**	*e*P	**P**	**02 32 28.0**	**+2.5**
	comp=Z,36nm,0.7s,mb5.4						
CTA	**Charters Tower**	**34.54**	**276**	P	**P**	**02 32 28.0**	**+2.5**
	comp=Z,43nm,0.7s,mb5.5,baz=106,slow=11,SNR=13						
CTA	**Charters Tower**	**34.54**	**276**	*e*P	**P**	**02 32 28.0**	**+2.5**
CTA				pmax	pmax		
	comp=Z,36nm,0.7s						
STKA	**Stephens Creek**	**35.84**	**254**	*e*P	**P**	**02 32 37.3**	**+0.7**
	comp=Z,30nm,0.7s,mb5.2						
STKA	**Stephens Creek**	**35.84**	**254**	P	**P**	**02 32 37.8**	**+1.1**
	comp=Z,36nm,0.7s,mb5.3,baz=98,slow=9.2,SNR=12						
RKT	**Rikitea**	**37.96**	**91**	*e*LR	LR	02 43 29.4	
	comp=Z,7μm,22.8s,baz=259						
PMG	**Port Moresby**	**38.82**	**292**	P	**P**	**02 33 04.5**	**+2.5**
	comp=Z,31nm,0.8s,mb5.0,baz=111,slow=7.6,SNR=8.4						
PMG				LR	LR	02 46 48.3	
	comp=Z,9μm,19.6s,MS5.6,baz=104,slow=33						
PMG	**Port Moresby**	**38.82**	**292**	P	**P**	**02 33 02.4**	**+0.4**
	comp=Z,25nm,0.8s,mb4.9						
TAOE	**Nuku Hiva Isla**	**39.76**	**68**	*e*LR	LR	02 44 08.2	
	comp=Z,15μm,22.0s,baz=245						
ASAR	**Alice Springs**	**44.20**	**265**	P	**P**	**02 33 47.3**	**+1.2**
	comp=Z,12nm,0.6s,mb4.8,baz=96,slow=7.1,SNR=12						
ASAR				S	**S**	**02 40 17.8**	**-2.6**
	comp=Z,1.4nm,1.2s,baz=107,slow=16,SNR=3.5						
WB2	**Warramunga Arr**	**45.03**	**270**	*e*P	**P**	**02 33 52.4**	**-0.3**
WRA	**Warramunga Ar**	**45.04**	**270**	P	**P**	**02 33 52.6**	**-0.2**
	comp=Z,25nm,0.7s,mb5.3,baz=109,slow=7.6,SNR=11						
WRA				PcP	PcP	02 35 33.6	-0.2
	comp=Z,8.4nm,0.8s,baz=112,slow=3.3,SNR=2.6						
WRA				S	**S**	**02 40 30.2**	**-2.4**
	comp=Z,1.2nm,0.8s,baz=114,slow=10,SNR=2.5						
FORT	**Forrest**	**47.44**	**253**	*e*P	**P**	**02 34 12.3**	**+0.6**
	comp=Z,163nm,0.7s,mb6.3						
KAKA	**Kakadu**	**49.64**	**278**	*e*P	**P**	**02 34 31.0**	**+2.4**
	comp=Z,17nm,0.6s,mb5.1						
VNDA	**Vanda**	**49.86**	**186**	P	**P**	**02 34 35.1**	**+4.8**
	comp=Z,7.9nm,1.1s,mb4.5,baz=39,slow=2.8,SNR=4.1						
FITZ	**Fitzroy Crossi**	**53.36**	**268**	*e*P	**P**	**02 34 57.7**	**+1.2**
	comp=Z,34nm,0.9s,mb5.3						
KLBR	**Kellerberrin**	**55.83**	**250**	*e*P	**P**	**02 35 14.9**	**+0.4**
	comp=Z,91nm,1.6s,mb5.5						
GUMO	**Guam**	**56.00**	**313**	LR	LR	02 56 05.5	
	comp=Z,3μm,20.1s,MS5.4,baz=317,slow=33						
MUN	**Mundaring**	**57.00**	**249**	*e*P	**P**	**02 35 19.9**	**-2.9**
CASY	**Casey**	**57.08**	**207**	*e*P	**P**	**02 35 25.6**	**+2.3**
MIR	**Mirnyy**	**64.06**	**206**	*d i*P	**P**	**02 36 14.0**	**+3.0**
MIR				pmax	pmax		
	comp=Z,700nm,2.0s						
CBIJ	**Chichi jima**	**67.97**	**321**	P	**P**	**02 36 36.2**	**+0.1**
	comp=Z,68nm,0.7s,mb6.0,baz=303,slow=19,SNR=5.2						
MAW	**Mawson**	**74.22**	**200**	*e*P	**P**	**02 37 17.1**	**+3.0**
	comp=Z,36nm,1.0s,mb5.4						
MAW	**Mawson**	**74.22**	**200**	P	**P**	**02 37 16.3**	**+2.3**
	comp=Z,14nm,0.7s,mb5.1,baz=121,slow=8.4,SNR=9.6						
MAW	**Mawson**	**74.22**	**200**	*e*P	**P**	**02 37 17.1**	**+3.0**
MAW				pmax	pmax		
	comp=Z,36nm,1.0s						
MJAR	**Matsushiro Arr**	**77.43**	**324**	P	**P**	**02 37 30.9**	**-1.5**
	comp=Z,34nm,0.7s,mb5.6,baz=158,slow=5.5,SNR=14						
MAJO	**Matsushiro**	**77.43**	**324**	*e*P	**P**	**02 37 31.7**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,59nm,0.8s,mb5.8						
MAJO	**Matsushiro**	**77.43**	**324**	*e*P	**P**	**02 37 31.7**	**-0.7**
	comp=Z,59nm,0.8s,mb5.8						
JNU	**Nakatsue**	**78.96**	**317**	P	**P**	**02 37 40.9**	**0.0**
	comp=Z,26nm,0.5s,mb5.5,baz=119,slow=3.3,SNR=6.4						
NVL	**N'lazarevskaya**	**80.61**	**183**	*e*P	Px	02 38 03.6	
NVL				*e*S	S	02 48 05.8	+7.8
NVL				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.1						
NVL				MLR	MLR		
	comp=Z,3μm,18.0s,MS5.7						
ASAJ	**Asahikawa**	**81.41**	**332**	P	**P**	**02 37 53.7**	**-0.4**
	comp=Z,43nm,0.7s,mb5.6,baz=188,slow=5.2,SNR=10						
ASAJ	**Asahikawa**	**81.41**	**332**	P	**P**	**02 37 53.7**	**-0.4**
ASAJ				pmax	pmax		
	comp=Z,43nm,0.7s						
PLCA	**Paso Flores**	**82.93**	**133**	*e*P	**P**	**02 38 04.2**	**+2.1**
PLCA				pmax	pmax		
	comp=Z,93nm,1.5s						
PLCA	**Paso Flores**	**82.93**	**133**	*e*P	**P**	**02 38 04.2**	**+2.1**
	comp=Z,93nm,1.5s,mb5.8						
YSS	**Yuzh-Sakhalins**	**83.67**	**333**	*e*P	**P**	**02 38 02.1**	**-3.8**
YSS				pmax	pmax		
	comp=Z,78nm,0.8s,mb6.0						
YSS	**Yuzh-Sakhalins**	**83.67**	**333**	*e*P	**P**	**02 38 02.1**	**-3.8**
	comp=Z,78nm,0.8s,mb6.0						
KS15	**Wonju Array Si**	**83.72**	**319**	*e*P	**P**	**02 38 06.8**	**+0.6**
NSHM	**Saint Helena R**	**83.92**	**40**	*e*P	**P**	**02 38 06.2**	**-1.0**
OHCM	**Honcut**	**85.12**	**40**	*e*P	**P**	**02 38 15.2**	**+2.0**
QIZ	**Qiongzhong**	**85.17**	**295**	P	**P**	**02 38 14.8**	**+1.3**
QIZ				S		02 48 39.1	
QIZ				AMB	AMB		
	comp=Z,19nm,1.3s,mb5.2						
QIZ				AMB	AMB		
	comp=Z,478nm,10.6s						
QIZ				LR	LR		
	comp=N,407nm,16.4s,MS5.2						
QIZ				LR	LR		
	comp=E,696nm,20.1s,MS5.2						
QIZ				LR	LR		
	comp=Z,782nm,17.4s,MS5.2						
GSC	**Goldstone**	**85.21**	**45**	*e*P	**P**	**02 38 13.9**	**+0.2**
YBH	**Yreka Blue Hor**	**86.11**	**37**	P	**P**	**02 38 14.8**	**-3.4**
	comp=Z,3.2nm,0.6s,mb4.6,baz=188,slow=13,SNR=3.2						
NVAR	**Mina Array Bea**	**86.34**	**42**	P	**P**	**02 38 18.5**	**-0.8**
	comp=Z,4.6nm,0.7s,mb4.7,baz=212,slow=7.0,SNR=6.1						
TPH	**Tonopah**	**86.75**	**43**	*e*P	**P**	**02 38 20.7**	**-0.7**
TPH				pmax	pmax		
	comp=Z,41nm,1.3s,mb5.5						
TPH	**Tonopah**	**86.75**	**43**	*e*P	**P**	**02 38 20.6**	**-0.7**
	comp=Z,42nm,1.3s,mb5.5						
MDJ	**Mudanjiang**	**87.80**	**325**	P	**P**	**02 38 27.0**	**+0.6**
MDJ				AP		02 38 35.6	
MDJ				XP	sP	02 38 39.7	+13
MDJ				S		02 48 57.9	
MDJ				AMB	AMB		
	comp=Z,33nm,0.9s,mb5.7						
MDJ				AMB	AMB		
	comp=Z,534nm,6.8s						
MDJ				LR	LR		
	comp=N,696nm,17.7s,MS5.5						
MDJ				LR	LR		
	comp=E,1μm,14.9s,MS5.5						
MDJ				LR	LR		
	comp=Z,2μm,17.7s,MS5.5						
WVOR	**Wild Horse Val**	**88.80**	**39**	*e*P	**P**	**02 38 35.4**	**+4.2**
WVOR				pmax	pmax		
	comp=Z,20nm,1.3s,mb5.2						
WVOR	**Wild Horse Val**	**88.80**	**39**	*e*P	**P**	**02 38 35.4**	**+4.3**
	comp=Z,20nm,1.3s,mb5.2						
WVOR				*e*pP		02 38 47.0	
WUAZ	**Wupatki**	**88.82**	**48**	*e*P	**P**	**02 38 31.3**	**+0.1**
	comp=Z,37nm,1.3s,mb5.5						
MSU	**Marysvale**	**90.11**	**45**	*e*P	**P**	**02 38 37.1**	**-0.2**
MNTX	**Cornudas Mount**	**90.71**	**54**	*e*P	**P**	**02 38 39.5**	**-0.6**
	comp=Z,28nm,1.7s,mb5.3						
LAZ	**Ladron**	**90.99**	**51**	*e*P	**P**	**02 38 45.8**	**+4.4**
BGU	**Big Grassy Mou**	**91.06**	**43**	*e*P	**P**	**02 38 44.3**	**+2.5**
TMUT	**Trail Mountain**	**91.19**	**45**	*e*P	**P**	**02 38 43.0**	**+0.6**
BNM	**Barren Site**	**91.20**	**51**	*e*P	**P**	**02 38 42.5**	**+0.1**
LPM	**Los Pinos Moun**	**91.29**	**51**	*e*P	**P**	**02 38 42.3**	**-0.5**
SRU	**San Rafael**	**91.50**	**45**	*e*P	**P**	**02 38 44.1**	**+0.3**
SRU				pmax	pmax		
	comp=Z,30nm,1.3s,mb5.5						
SRU	**San Rafael**	**91.50**	**45**	*e*P	**P**	**02 38 44.1**	**+0.3**
	comp=Z,30nm,1.3s,mb5.5						
SPUT	**South Promonto**	**91.65**	**43**	*e*P	**P**	**02 38 44.6**	**+0.2**
CTU	**Camp Tracy**	**91.69**	**44**	P	**P**	**02 38 44.3**	**-0.3**
	comp=Z,7.3nm,1.0s,mb5.0						
HVU	**Hansel Valley**	**91.74**	**42**	*e*P	**P**	**02 38 43.9**	**-1.0**
HVU				pmax	pmax		
	comp=Z,27nm,1.3s,mb5.4						
HVU	**Hansel Valley**	**91.74**	**42**	*e*P	**P**	**02 38 43.9**	**-1.0**
	comp=Z,27nm,1.3s,mb5.4						
ANMO	**Albuquerque**	**91.76**	**51**	*e*P	**P**	**02 38 45.4**	**+0.4**
ANMO				pmax	pmax		
	comp=Z,15nm,1.2s						
ANMO	**Albuquerque**	**91.76**	**51**	*e*P	**P**	**02 38 45.4**	**+0.4**
	comp=Z,15nm,1.2s,mb5.2						
HLID	**Hailey**	**91.89**	**40**	*e*P	**P**	**02 38 43.9**	**-1.7**
	comp=Z,5.9nm,0.9s,mb4.9						
HLID				*e*		02 38 50.5	
PV01	**Paradox Valley**	**92.17**	**47**	*e*P	**P**	**02 38 46.4**	**-0.4**
BJT	**Baijiatuau**	**92.41**	**315**	*e*P	**P**	**02 38 46.6**	**-1.4**
BJT				pmax	pmax		
	comp=Z,33nm,0.9s						
BJT	**Baijiatuau**	**92.41**	**315**	*e*P	**P**	**02 38 46.6**	**-1.4**
	comp=Z,33nm,0.9s,mb5.7						
BJI	**Beijing**	**92.42**	**315**	P	**P**	**02 38 46.6**	**-1.4**
BJI				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.9						
BJI				LR	LR		
	comp=N,888nm,17.0s,MS5.4						
BJI				LR	LR		
	comp=E,844nm,17.0s,MS5.4						
REDW	**Red Top Meadow**	**93.83**	**42**	*e*P	**P**	**02 38 54.0**	**-0.5**
	comp=E,23nm,1.3s,mb5.4						
DLMT	**Dillon**	**94.03**	**40**	*e*P	**P**	**02 39 00.4**	**+5.0**
	comp=E,15nm,1.1s,mb5.2						
IMW	**Indian Meadow**	**94.09**	**41**	*e*P	**P**	**02 38 54.6**	**-1.1**
	comp=E,35nm,1.4s,mb5.5						
PDAR	**Pinedale Array**	**94.24**	**43**	P	**P**	**02 38 55.8**	**-0.7**
	comp=E,2.0nm,0.8s,mb4.5,baz=150,slow=2.4,SNR=4.8						
QLMT	**Earthquake Lak**	**94.37**	**40**	*e*P	**P**	**02 38 57.6**	**+0.6**
YMR	**Madison River**	**94.54**	**41**	P	**P**	**02 38 58.6**	**+0.9**
	comp=E,35nm,1.3s,mb5.6						
GCMT	**Greycliff**	**95.94**	**40**	*e*P	**P**	**02 39 04.0**	**-0.1**
ILAR	**Eielson Array**	**96.07**	**12**	P	**P**	**02 39 01.6**	**-3.2**
	comp=E,3.1nm,0.8s,mb4.9,baz=218,slow=5.1,SNR=8.9						
BILL	**Bilibino**	**97.28**	**354**	*e*P	**P**	**02 39 04.0**	**-6.2**
BILL				pmax	pmax		
	comp=Z,17nm,1.4s,mb5.5						
BILL	**Bilibino**	**97.28**	**354**	*e*P	**P**	**02 39 04.0**	**-6.2**
	comp=Z,17nm,1.4s,mb5.5						
LPAZ	**La Paz**	**97.93**	**113**	P	**P**	**02 39 14.6**	**+1.4**
	comp=Z,1.8nm,0.8s,mb4.9,baz=256,slow=3.9,SNR=6.1						
YKA	**Yellowknife Ar**	**103.51**	**25**	PKiKP	PKiKP	02 43 52.8	-3.9
	comp=Z,0.3nm,0.7s,baz=254,slow=1.5,SNR=3.2						
YKA				PKKPbc	PKKPbc	02 55 32.7	+1.9
	comp=Z,0.4nm,0.7s,baz=36,slow=2.5,SNR=7.3						
YKA				PKKP	PKKPbc	02 55 41.2	+10
	comp=Z,1.2nm,0.8s,baz=41,slow=2.9,SNR=8.5						
MKAR	**Makanchi Array**	**117.43**	**311**	PKP	PKPdf	02 44 20.6	-2.4
	comp=Z,3.1nm,0.8s,baz=72,slow=2.1,SNR=5.4						
NVS	**Novosibirsk**	**118.50**	**320**	*e*PKiKP	PKPdf	02 44 14.8	-10
NVS				pmax	pmax		
	comp=Z,12nm,1.3s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.4s						
KSH	**Kashi**	**120.21**	**301**	PKP	PKPdf	02 44 26.3	-2.0
KSH				PP	PP		
	comp=Z,165nm,6.1s						
KSH				LR	LR		
	comp=N,223nm,6.8s						
KSH				LR	LR		
	comp=E,630nm,14.5s						
KSH				LR	LR		
	comp=Z,785nm,19.4s,MS5.4						
KURK	**Kurchatov**	**120.58**	**314**	*e*PKiKP	PKPdf	02 44 27.1	-1.9
AAK	**Ala-Archa**	**121.98**	**304**	*e*PKiKP	PKPdf	02 44 30.0	-1.7
SCHQ	**Schefferville**	**124.34**	**41**	*e*P	Pdif	02 41 03.8	-6.8
BVAR	**Borovoye Array**	**125.87**	**317**	PKP	PKPdf	02 44 37.8	-1.4
	comp=Z,4.0nm,0.7s,baz=90,slow=3.0,SNR=5.8						
BRVK	**Borovoye**	**125.93**	**317**	*e*PKiKP	PKPdf	02 44 37.6	-1.7
ZRNK	**Zerenda**	**126.70**	**316**	*e*PKiKP	PKPdf	02 44 38.8	-2.0
AKTK	**Aktyubinsk**	**133.67**	**314**	PKP	PKPdf	02 44 52.2	-1.8
AKTO	**Aktyubinsk**	**133.67**	**314**	PKP	PKPdf	02 44 52.2	-1.8
	comp=Z,3.5nm,0.7s,baz=26,slow=3.5,SNR=3.5						
AKTO	**Aktyubinsk**	**133.67**	**314**	PKiKP	PKPdf	02 44 52.2	-1.8
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KEV	**Kevo**	**136.69**	**348**	*e*p	PKPdf	02 45 02.8	+3.2
	comp=Z,0.7nm,0.4s						
ARCES	**ARCESS Array B**	**137.15**	**349**	PKP	PKPdf	02 44 58.9	-1.5
	comp=Z,4.3nm,0.6s,baz=99,slow=0.4,SNR=7.3						
PECR	**Pechory**	**140.04**	**325**	*e*PKiKP	PKPdf	02 45 08.8	+3.0
JOF	**Joensuu**	**141.20**	**340**	*e*p	PKPdf	02 45 03.8	-4.1
	comp=Z,4.7nm,0.6s						
KAF	**Kangasniemi**	**143.27**	**342**	*e*p	PKPdf	02 45 07.8	-3.8
	comp=Z,7.6nm,0.7s						
FINES	**FINESS Array B**	**143.88**	**341**	PKhKP		02 45 07.0	
	comp=Z,3.6nm,0.5s,baz=51,slow=3.8,SNR=11						
OBN	**Obninsk**	**144.32**	**327**	*e*PKPdf	PKPdf	02 45 09.6	-3.8
GOF	**Gofitskoye**	**144.56**	**308**	*e*PKiKP	PKPdf	02 45 11.3	-2.5
DOMB	**Dombas**	**146.44**	**355**	*e*P	PKPdf	02 45 17.9	+0.8
DOMB				AMb	AMB	02 45 21.7	
	comp=Z,67nm,1.6s						
FOO	**Floro**	**147.09**	**358**	*e*P	PKPdf	02 45 19.7	+1.5
NB2	**NORSAR Subarra**	**147.22**	**353**	PKPa	PKPdf	02 45 17.4	-0.9
	comp=Z,194nm,2.0s,baz=21,slow=3.2						
NB2	**NORSAR Subarra**	**147.22**	**353**	PKPa	PKPdf	02 45 17.4	-0.9
	baz=21,slow=3.2						
NOA	**NORSAR Array B**	**147.22**	**353**	PKPbc	PKPbc	02 45 17.5	-3.1
	comp=Z,8.8nm,0.6s,baz=14,slow=4.4,SNR=12						
NAO01	**NORSAR Array S**	**147.45**	**353**	*e*PKPdf	PKPdf	02 45 19.5	+0.8
AKASG	**Malin Array Be**	**150.51**	**325**	PKPbc	PKPbc	02 45 26.8	-2.2
	comp=

STKA Stephens Creek 35.94 254 P P 02 48 09.9 -0.7
comp=Z,7.5nm,0.8s,mb4.7,baz=89,slow=10,SNR=11
STKA Stephens Creek 35.94 254 eP P 02 48 09.4 -1.2
PMG Port Moresby 38.75 292 eP P 02 48 36.2 +1.8
PMG pmax pmax
comp=Z,6.0nm,0.8s
PMG Port Moresby 38.75 292 eP P 02 48 36.1 +1.8
comp=Z,5.7nm,0.8s,mb4.3
ASAR Alice Springs 44.26 264 P P 02 49 19.9 +0.4
comp=Z,2.4nm,0.6s,mb4.1,baz=94,slow=7.0,SNR=31
WB2 Warramunga Arr 45.07 270 eP P 02 49 25.9 0.0
WRAB Tennant Creek 45.07 270 eP P 02 49 25.8 -0.1
WRAB e*PP pP 02 49 34.7 -6.6
WRA Warramunga Arr 45.08 270 P P 02 49 25.8 -0.2
comp=Z,7.6nm,0.9s,mb4.5,baz=106,slow=7.9,SNR=20
FORT Forrest 47.55 253 eP P 02 49 44.0 -1.4
comp=Z,14nm,0.6s,mb5.2
SBA Scott Base 50.05 184 eP P 02 50 03.8 -0.7
SBA e*PP pP 02 50 15.4 -4.6
SBA pmax pmax
comp=Z,18nm,1.0s,mb5.1
SBA Scott Base 50.05 184 eP P 02 50 03.8 -0.7
comp=Z,18nm,1.0s,mb5.0
SBA epP pP 02 50 15.3 -4.7
VNDA Vanda 50.13 186 P P 02 50 07.3 +2.2
comp=Z,1.2nm,0.9s,mb3.9,baz=17,slow=7.9,SNR=4.1
VNDA Vanda 50.13 186 eP P 02 50 07.4 +2.3
VNDA pmax pmax
comp=Z,2.0nm,0.8s
VNDA Vanda 50.13 186 eP P 02 50 07.3 +2.3
comp=Z,1.9nm,0.8s,mb4.2
FITZ Fitzroy Crossi 53.41 268 eP P 02 50 29.7 +0.2
comp=Z,6.4nm,1.1s,mb4.5
KLBR Kellerberrin 55.96 249 eP P 02 50 46.3 -1.7
comp=Z,30nm,1.3s,mb5.2
CASY Casey 57.33 207 eP P 02 50 57.4 -0.3
CASY Casey 57.33 207 eP P 02 50 57.5 -0.2
comp=Z,12nm,0.8s,mb5.0
CASY epP pP 02 51 08.8 -4.7
QSPA South Pole Qui 61.65 180 eP P 02 51 27.6 +0.2
comp=Z,13nm,1.0s,mb5.0
QSPA epP pP 02 51 37.2 -6.3
MAW Mawson 74.48 200 eP P 02 52 48.1 +0.2
comp=Z,6.1nm,1.0s,mb4.5
MAW Mawson 74.48 200 P P 02 52 48.0 +0.1
comp=Z,2.9nm,0.7s,mb4.3,baz=134,slow=5.2,SNR=5.2
MAW Mawson 74.48 200 eP P 02 52 48.1 +0.2
MAW e*PP pP 02 52 58.8 -5.5
MAW pmax pmax
comp=Z,16nm,1.1s
MAW Mawson 74.48 200 eP P 02 52 48.0 +0.2
comp=Z,16nm,1.1s,mb4.9
MAW epP pP 02 52 58.8 -5.5
MJAR Matsushiro Arr 77.24 324 P P 02 53 03.0 -0.6
comp=Z,5.9nm,0.8s,mb4.6,baz=158,slow=5.2,SNR=12
SNAA Sanae 80.06 178 eP P 02 53 20.1 +1.0
SNAA pmax pmax
comp=Z,2.0nm,0.7s
SNAA Sanae 80.06 178 eP P 02 53 20.1 +0.9
comp=Z,1.6nm,0.7s,mb4.1
MSU Marysvale 89.90 45 P P 02 54 08.7 +0.3
PDAR Pinedale Array 94.03 43 P P 02 54 27.7 +0.2
comp=Z,0.3nm,0.8s,mb3.8,baz=228,slow=4.7,SNR=2.6
ILAR Eielson Array 95.81 12 P P 02 54 33.5 -2.2
comp=Z,0.3nm,0.7s,mb3.8,baz=215,slow=4.3,SNR=4.8
YAK Yakutsk 99.84 337 eP Pdif 02 54 55.5 +1.7
YAK pmax pmax
comp=N,13nm,1.3s
YAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
YAK pmax pmax
comp=E,13nm,1.4s
MKAR Makanchi Array 117.29 311 PKP PKPdf 02 59 52.8 -1.7
comp=E,0.4nm,0.6s,baz=80,slow=1.4,SNR=4.2
BVAR Borovoye Array 125.71 317 PKP PKPdf 03 00 07.0 -3.7
comp=E,0.5nm,0.6s,baz=57,slow=5.3,SNR=4.1
AKTK Aktyubinsk 133.51 314 PKP PKPdf 03 00 21.7 -3.8
AKTO Aktyubinsk 133.51 314 PKP PKPdf 03 00 21.7 -3.8
comp=E,0.7nm,0.8s
KEV Kevo 136.44 348 epkp PKPdf 03 00 36.6 +5.7
ARCES ARCESS Array B 136.90 349 PKhKP 03 00 25.9
comp=E,1.2nm,0.7s,baz=341,slow=21,SNR=2.4
JOF Joensuu 140.97 340 epkp PKPdf 03 00 36.3 -2.9
KAF Kangasniemi 143.04 342 epkp PKPdf 03 00 36.0 -6.9
FINES FINESS Array B 143.65 342 PKhKP 03 00 38.2
comp=E,0.8nm,0.5s,baz=35,slow=3.9,SNR=13
NB2 NORSAR Subarra 146.97 353 PKPa PKPdf 03 00 50.3 +0.6
comp=Z,1.3nm,0.6s,baz=11,slow=2.9
NOA NORSAR Array B 146.97 353 PKPbc PKPbc 03 00 50.6 -1.1
comp=Z,2.1nm,0.8s,baz=15,slow=4.5,SNR=9.4
MALT Malatya 149.11 298 ⇑*iP* PKPbc 03 00 59.3 +1.9
MALT Malatya 149.11 298 *e*PKPbc PKPbc 03 00 58.5 +1.1
AKASG Malin Array Be 150.32 326 PKPbc PKPbc 03 00 59.5 -0.8
comp=Z,3.3nm,0.7s,baz=44,slow=3.0,SNR=16
BR131 Keskin Array S 152.50 302 *e*PKPbc PKPbc 03 01 05.9 +0.5
BRTR Keskin Array B 152.50 302 PKPbc PKPbc 03 01 03.4 -2.0
comp=Z,1.3nm,0.8s,baz=80,slow=2.7,SNR=11
BURAR Bucovina Array 154.31 324 ⇑*iP* PKPab 03 01 24.5 +0.9
KHC Kasperske Hory 157.86 342 *e*PKPab PKPab 03 01 37.0 -1.8

*BJI **01** 02:42:22.7, 44.70N×102.51E, h9km, mb3.9, ML4.2, Ms3.6, Msz3.5*
*ISCJB **01** 02:42:24.1±0.5, 44.56N±0.05×102.36E±0.08, h10km, mb3.8/11, Error ellipse: s-maj=8.5km s-min=6.7km az=74.8*
*IDC **01** 02:42:25.3±1.1, 44.68N×102.35E, h0km, mb3.7/9, mb1 3.9/11,mb1mx3.7/23, mbtmp3.7/11, ML3.6/2, Error ellipse: s-maj=24.4km s-min=15.8km az=159.0*
*NEIC **01** 02:42:26.4±0.6, 44.57N×102.27E, h10km, mb3.9/5, Error ellipse: s-maj=11.5km s-min=7.9km az=161.0*
*MOS **01** 02:42:28.5±1.1, 44.73N×102.29E, h35km, mb4.0/2, Error ellipse: s-maj=16.7km s-min=9.8km az=91.9*
ISC 01 02:42:26.1±0.5, 44.59N±0.06×102.32E±0.08, h10km, n32, σ0.99/38, mb3.8/11, Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SONM	**Songino Array**	**4.31**	**40**	Pn		**Pn**	**02 43 32.4**	**+0.7**
	11nm,0.3s,baz=217,slow=15,SNR=54							
SONM				Pg		**Pg**	**02 43 43.3**	**-5.3**
	29nm,0.3s,baz=216,slow=19,SNR=39							
SONM				Sn		**Sn**	**02 44 21.4**	**-0.6**
	24nm,0.3s,baz=222,slow=18,SNR=10							
SONM				Lg			02 44 38.3	
	64nm,0.3s,baz=223,slow=31,SNR=14							
SONM	**Songino Array**	**4.31**	**40**	P		**Pn**	**02 43 32.4**	**+0.7**
SONM							02 44 21.4	
ULN	**Ulaanbaatar**	**4.64**	**43**	*e*Pn		**Pn**	**02 43 36.7**	**+0.5**
ULN				*e*Sn		**Sn**	**02 44 36.9**	**+6.7**
GTA	**Gaotai**	**5.50**	**201**	P		**Pn**	**02 43 49.0**	**+0.9**
GTA				PG		**Pg**	**02 44 05.0**	**-6.4**
GTA				Smax				
	comp=N,183nm,1.1s							
GTA				Smax				
	comp=E,203nm,1.1s							
BTO	**Baotou**	**6.94**	**122**	*e*P		**Pn**	**02 44 06.7**	**-1.1**
BTO				Smax				
	comp=N,75nm,1.2s							
BTO				Smax				
	comp=E,97nm,0.9s							
MOY	**Mondy**	**7.14**	**353**	*e*P		**Pn**	**02 44 12.4**	**+1.9**
MOY				*e*S		**Sn**	**02 45 37.0**	**+5.3**
MOY				pmax	pmax			
	comp=Z,28nm,0.6s							
MOY				pmax	pmax			
	comp=E,683nm,1.2s							
TLY	**Talaya**	**7.15**	**7**	Pn		**Pn**	**02 44 12.8**	**+2.1**
	comp=E,113nm,0.4s,SNR=6.8							
TLY	**Talaya**	**7.15**	**7**	*e*P		**Pn**	**02 44 12.2**	**+1.5**
TLY				pmax	pmax			
	comp=Z,15nm,0.5s							
TLY	**Talaya**	**7.15**	**7**	*e*Pn		**Pn**	**02 44 12.2**	**+1.5**
	comp=Z,15nm,0.5s							
TLY				*e*S		**Sg**	**02 46 11.4**	**-4.3**
IRK	**Irkutsk**	**7.77**	**9**	*e*P		**Pn**	**02 44 17.7**	**-1.5**
IRK				pmax	pmax			
	comp=Z,92nm,0.1s							
MKAR	**Makanchi Array**	**14.17**	**286**	Pn		**Pn**	**02 45 45.5**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=94,slow=11,SNR=3.0							
MKAR				Lg			02 49 53.4	
	comp=Z,0.1nm,0.3s,baz=87,slow=27,SNR=3.8							
MKAR	**Makanchi Array**	**14.17**	**286**	Pn		**Pn**	**02 45 45.5**	**-1.4**
MKAR				Lg			02 49 53.4	

KURK Kurchatov 17.06 299 eP Pn 02 46 24.0 -0.7
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 17.06 299 *e*Pn **Pn 02 46 24.0 -0.7**
comp=Z,6.6nm,0.8s
AAK Ala-Archa 20.21 274 eP P 02 47 01.2 +0.2
AAK pmax pmax
comp=Z,5.0nm,1.2s
AAK Ala-Archa 20.21 274 eP P 02 47 01.2 +0.2
comp=Z,5.0nm,1.2s
BVAR Borovoye Array 22.50 303 P P 02 47 26.2 +0.4
comp=Z,3.7nm,0.7s,mb3.9,baz=102,slow=9.4,SNR=10
BRVK Borovoye 22.57 303 eP P 02 47 24.8 -1.7
BRVK pmax pmax
comp=Z,6.0nm,1.1s,mb3.9
BRVK Borovoye 22.57 303 eP P 02 47 24.8 -1.7
comp=Z,5.7nm,1.1s,mb3.9
KULM Kulim 39.17 183 eP P 02 49 53.5 -0.6
FINES FINESS Array B 45.96 320 P P 02 50 49.2 0.0
comp=Z,1.2nm,0.9s,mb3.8,baz=80,slow=10.0,SNR=3.2
AKASG Malin Array Be 47.77 305 P P 02 51 03.4 0.0
comp=Z,0.3nm,0.3s,mb3.7,baz=58,slow=8.9,SNR=4.1
AKASG Malin Array Be 47.77 305 P P 02 51 03.4 0.0
BR131 Keskin Array S 49.78 290 eP P 02 51 19.7 +0.9
comp=Z,1.3nm,0.8s,mb4.0
BRTR Keskin Array B 49.78 290 P P 02 51 20.6 +1.7
comp=Z,1.0nm,0.8s,mb3.9,baz=64,slow=8.2,SNR=5.7
KWP Kalwaria 52.03 306 eP P 02 51 36.7 +0.9
comp=Z,4.1nm,0.7s,mb4.5
NOA NORSAR Array B 52.81 322 P P 02 51 41.4 -0.2
comp=Z,0.8nm,0.9s,mb3.6,baz=63,slow=7.3,SNR=3.0
ILAR Eielson Array 58.44 28 P P 02 52 20.8 -1.2
comp=Z,0.7nm,0.9s,mb3.7,baz=292,slow=5.7,SNR=6.5
INK Inuvik 59.98 21 P P 02 52 32.6 -0.1
comp=Z,0.6nm,0.9s,mb3.6,baz=29,slow=12,SNR=3.7
YKA Yellowknife Ar 69.24 17 P P 02 53 32.9 -0.3
comp=Z,0.4nm,0.6s,mb3.5,baz=332,slow=6.3,SNR=12
YKA Yellowknife Ar 69.24 17 P P 02 53 32.9 -0.3
ASAR Alice Springs 73.81 150 P P 02 54 01.8 +1.0
comp=Z,0.8nm,0.9s,mb3.6,baz=352,slow=6.2,SNR=5.7

*NEIC **01** 02:46:25.2±4.3, 31.04S×69.21W, h10km, ML3.9(GUC), Error ellipse: s-maj=59.4km s-min=13.3km az=69.0*
GUC 01 02:46:15.3±1.1, 30.85S±6.68N, 38W±28km, MD4.1, ML3.9, 4C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TLL	**Tololo Astrono**	**2.19**	**286**	*e*P		Pn	02 46 54.0	+1.5
TLL				*i* S		Sn	02 47 22.5	+2.6
TLL				AML		AML	02 47 31.2	
	comp=N,991nm,0.6s							
TLL	**Tololo Astrono**	**2.19**	**286**	*e*P		Pn	02 46 54.0	+1.5
TLL				*i* S		Sn	02 47 22.5	+2.6
CMCH	**Combarbala**	**2.28**	**260**	⇑*i*P		Pn	02 46 53.3	-0.5
CMCH				*i* S		Sn	02 47 23.4	+1.1
CMCH				AML		AML	02 47 28.3	
	comp=E,5μm,0.8s							
CMCH	**Combarbala**	**2.28**	**260**	⇑*i*P		Pn	02 46 53.3	-0.5
CMCH				*i* S		Sn	02 47 23.4	+1.1
OVCH	**Ovalle**	**2.44**	**274**	*i* S		Sn	02 47 28.8	+2.6
OVCH				AML		AML	02 47 34.9	
	comp=E,799nm,0.7s							
JACH	**Jahuel**	**2.66**	**225**	*e*P		Pn	02 46 59.7	+0.8
CHNG	**Los Chungos**	**2.88**	**247**	⇓*i*P		Pn	02 47 03.3	+1.4
CHNG				*i* S		Sn	02 47 39.3	+2.3
CHNG				AML		AML	02 47 43.4	
	comp=N,349nm,0.7s							
FCH	**Farellones**	**3.00**	**212**	*e*P		Pn	02 47 04.9	+1.3
FCH				*i* S		Sn	02 47 43.9	+3.9
FCH				AML		AML	02 47 48.6	
	comp=E,163nm,0.1s							
PEL	**Peldehue**	**3.05**	**219**	⇑*i*P		Pn	02 47 04.7	+0.4
PEL				*i* S		Sn	02 47 42.2	+1.0
PEL				AML		AML	02 47 46.6	
	comp=N,324nm,0.3s							
PEL	**Peldehue**	**3.05**	**219**	⇑*i*P		Pn	02 47 04.7	+0.4
PEL				*i* S		Sn	02 47 42.2	+1.0
CLCH	**Cerro Calan**	**3.17**	**215**	*i* P		Pn	02 47 09.3	+3.3
CLCH				*i* S		Sn	02 47 46.6	+2.4
CLCH				AML		AML	02 47 56.8	
	comp=E,376nm,0.5s							
PCH	**Pirque**	**3.34**	**212**	*i* S		Sn	02 47 51.2	+2.7
LMEL	**Las Melosas**	**3.41**	**206**	*e*P		Pn	02 47 13.4	+4.1
LMEL				*i* S		Sn	02 47 56.4	+6.3
LMEL				AML		AML	02 48 06.4	
	comp=N,76nm,0.6s							
LMEL	**Las Melosas**	**3.41**	**206**	P		Pn	02 47 13.4	+4.1
LMEL				S		Sn	02 47 56.4	+6.3
TACH	**Talagante**	**3.58**	**217**	*e*P		Pn	02 47 10.8	-0.7
TACH				*i* S		Sn	02 47 54.5	+0.3
LCCH	**Las Cruces**	**3.80**	**225**	*e*P		Pn	02 47 15.4	+0.8
CACH	**El Canelo**	**3.80**	**209**	⇓*i*P		Pn	02 47 16.4	+1.8

*IDC **01** 02:49:36.1±0.5, 27.10S×71.08W, h0km, mb4.5/13, mb1 4.6/15, mb1mx4.5/17, mbtmp4.5/15, ML4.3/2, MS5.1/6, Ms1 5.1/6, ms1mx4.6/20, Error ellipse: s-maj=23.1km s-min=14.4km az=80.0*
*GUC **01** 02:49:37.7±0.7, 27.04S×71.09W, h47km±3km, ML5.0*
*BJI **01** 02:49:39.5, 27.28S×71.97W, h23km, mB5.4, Ms5.3, Msz5.2*
*ISCJB **01** 02:49:40.3±0.2, 27.18S±0.02×71.98W±0.04, h30km, mb4.8/76, MS5.2/8, Error ellipse: s-maj=5.6km s-min=3.1km az=152.5*
*NEIC **01** 02:49:40.8±0.8, 27.22S×70.95W, h24km±5km, mb5.0/67, ML5.0(GUC), Error ellipse: s-maj=8.9km s-min=4.7km az=72.0*
*HRVD **01** 02:49:40.8±0.3, 27.34S×71.61W, h23km±1km, MW5.4/65, Centroid moment Tensor Solution. LP body waves: s39,c48;Mantle waves: s65,c95; Half duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}1.11±.07; $M_{\theta\theta}$0.05±.04; $M_{\phi\phi}$-1.16±.05; $M_{r\theta}$0.43±.06; $M_{r\phi}$0.15±.03; $M_{\theta\phi}$-1.20±.08; Best double couple: $M_0$1.71300×10^{17} NP1:ϕ_{s3}.00000°, δ22.00000°, λ108.00000°. NP2:ϕ_s164.00000°, δ69.00000°, λ83.00000°. Principal axes: T 1.6950, Plg65.0000°, Azm61.0000°; N 0.0400, Plg7.0000°, Azm166.0000°; P -1.7320, Plg24.0000°, Azm259.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **01** 02:49:41.3±1.4, 27.08S×70.93W, h33km, mb5.2/32 Error ellipse: s-maj=14.6km s-min=7.2km az=104.3*
ISC 01 02:49:42.2±0.2, 27.20S±0.02×70.91W±0.04, h32km, h32km±5km: pP-P, n241, σ1.18/189, mb4.8/76, MS5.2/8, 15C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CDCH	**Caldera**	**0.15**	**29**	⇓*i*P		**Pb**	**02 49 46.4**	**-1.7**
CDCH				*i* S		**Sb**	**02 49 51.9**	**-0.2**
CDCH				AML		AML	02 49 53.0	
	comp=N,35μm,0.6s							
CDCH	**Caldera**	**0.15**	**29**	⇓*i*P		**Pb**	**02 49 46.4**	**-1.7**
CDCH				*i* S		**Sb**	**02 49 51.9**	**-0.2**
CPCH	**Copiapo**	**0.52**	**108**	⇓*i*P		**Pb**	**02 49 52.4**	**-0.5**
CPCH				*i* S		**Sb**	**02 50 03.2**	**+2.9**
CRCH	**Chaqaral**	**0.89**	**17**	⇑*i*P		**Pn**	**02 49 57.3**	**-1.2**
CRCH				*i* S		**Sn**	**02 50 09.0**	**-1.3**
CRCH				AML		AML	02 50 15.5	
	comp=E,33μm,0.6s							
CRCH	**Chaqaral**	**0.89**	**17**	⇑*i*P		**Pn**	**02 49 57.3**	**-1.2**
CRCH				*i* S		**Sn**	**02 50 09.0**	**-1.3**
LCO	**Las Campanas**	**1.81**	**174**	⇑*i*P		**Pn**	**02 50 09.9**	**-1.2**
LCO				*i* S		**Sn**	**02 50 33.4**	**+0.4**
TLL	**Tololo Astrono**	**2.96**	**178**	⇑*i*P		**Pn**	**02 50 26.1**	**-0.8**
TLL				*e*S		**Sn**	**02 51 02.4**	**+1.2**
TLL				AML		AML	02 51 21.6	
	comp=E,37μm,0.1s							
TLL	**Tololo Astrono**	**2.96**	**178**	⇑*i*P		**Pn**	**02 50 26.1**	**-0.8**
TLL				*e*S		**Sn**	**02 51 02.4**	**+1.2**
CEN1	**Los Morros**	**3.85**	**10**	⇑*i*P		**Pn**	**02 50 30.4**	**-8.8**
CEN1				AML		AML	02 51 42.9	
	comp=E,3μm,0.5s							
CFAA	**Coronel Fontan**	**4.97**	**153**	Pn		**Pn**	**02 50 56.5**	**+2.0**
	comp=E,7.4nm,0.3s,baz=328,slow=16,SNR=12							
CFAA				Sn		**Sn**	**02 51 53.6**	**+2.7**
	comp=E,2.2nm,0.3s,baz=17,slow=22,SNR=3.0							
CFAA				LR		LR	02 52 21.5	
	comp=E,142nm,19.2s,baz=326,slow=32							
JACH	**Jahuel**	**5.47**	**177**	*e*P		**Pn**	**02 51 00.2**	**-1.2**
PEL	**Peldehue**	**5.92**	**178**	*e*P		**Pn**	**02 51 05.8**	**-1.9**

FCH Farellones 6.13 175 eP Pn 02 51 09.0 -1.5
CLCH Cerro Calan 6.18 177 eP Pn 02 51 09.5 -1.7
LPAZ La Paz 11.16 14 Pn Pn 02 52 17.8 -1.7
comp=E,1.2nm,0.3s,baz=195,slow=7.1,SNR=41
LPAZ Sn **Sn 02 54 24.5 +1.4**
baz=134,slow=18,SNR=1.5
LPAZ La Paz 11.16 14 eP Pn 02 52 17.5 -2.0
LPAZ pmax pmax
comp=Z,29nm,0.8s
LPAZ La Paz 11.16 14 ePn Pn 02 52 17.5 -1.9
comp=Z,29nm,0.8s
CPUP Villa Florida 12.16 89 LR LR 02 57 15.8
comp=Z,3μm,19.7s,baz=240,slow=37
CPUP Villa Florida 12.16 89 eP Pn 02 52 35.2 +2.0
CPUP pmax pmax
comp=Z,71nm,0.6s
CPUP Villa Florida 12.16 89 ePn Pn 02 52 35.1 +2.0
comp=Z,71nm,0.6s
CPUP eS **Sn 02 55 01.3 +14**
TRQA Tornquist 13.17 147 ePn Pn 02 52 50.5 +3.6
comp=Z,42nm,0.8s
TRQA e*Sn* **Sn 02 55 17.5 +5.2**
PLCA Paso Flores 13.50 179 eP Pn 02 52 55.6 +4.2
PLCA e 02 55 18.6
PLCA pmax pmax
comp=Z,111nm,1.6s
PLCA Paso Flores 13.50 179 ePn Pn 02 52 55.6 +4.2
comp=Z,111nm,1.6s
PLCA e*Sn* **Sn 02 55 18.6 -1.7**
SIV San Ignacio 14.42 41 Pn Pn 02 52 59.1 -4.8
comp=Z,0.8nm,0.3s,baz=234,slow=9.4,SNR=16
SIV Sn **Sn 02 55 40.7 -1.9**
baz=52,slow=21,SNR=1.8
NNA Nana 16.13 339 ePn Pn 02 53 26.8 +0.3
comp=Z,60nm,1.2s
NNA e 02 58 36.0
SAML Samuel 19.57 23 eP Pn 02 54 06.9 -1.9
comp=Z,46nm,1.1s
BDFB Brasilia 24.17 66 P P 02 54 54.7 -0.8
comp=Z,24nm,0.7s,mb4.8,baz=247,slow=8.5,SNR=36
BDFB LR LR 03 05 43.7
comp=Z,11μm,18.2s,MS5.4,baz=245,slow=40
PAYG Puerto Ayora 32.28 322 P P 02 56 10.0 +2.1
comp=Z,23nm,1.0s,mb5.0
SDV Santo Domingo 35.87 0 P P 02 56 36.0 -3.1
comp=Z,5.5nm,0.9s,mb4.5,baz=206,slow=6.1,SNR=6.9
SDV Santo Domingo 35.87 0 eP P 02 56 37.1 -1.9
comp=Z,15nm,1.1s,mb4.8
SDV epP pP 02 56 48.8 +0.5
RCBR Riachuelo 39.50 64 eP P 02 57 09.7 -0.1
comp=Z,45nm,1.4s,mb5.0
JTS JuntasAbangare 39.68 338 eP P 02 57 12.4 +1.1
JTS pmax pmax
comp=Z,22nm,1.3s
JTS JuntasAbangare 39.68 338 eP P 02 57 12.4 +1.1
comp=Z,22nm,1.3s,mb4.7
SJG San Juan 45.28 6 eP P 02 57 55.4 -1.3
SJG pmax pmax
comp=Z,15nm,0.9s
SJG San Juan 45.28 6 eP P 02 57 55.4 -1.4
comp=Z,15nm,0.9s,mb4.8
TEIG Tepich 50.06 339 eP P 02 58 32.6 -1.2
comp=Z,6.5nm,1.2s,mb4.5
VNA3 Neumayer Olymp 55.33 160 eP P 02 59 11.9 -0.9
VNA3 e 02 59 18.3
VNA3 e pP 02 59 20.6 -1.8
VNA3 e pP 02 59 22.6 +0.2
VNA3 comp=Z,1.2nm,0.3s,baz=195,slow=7.1,SNR=41 e 02 59 25.6
VNA3 e 02 59 32.7
VNA3 e 02 59 37.1
VNA3 e 02 59 45.2
VNA3 e 02 59 49.6
VNA3 e 03 00 09.1
VNA3 e 03 00 12.4
VNA3 e 03 00 18.2
VNA3 e 03 00 22.7
VNA3 e 03 00 26.2
VNA3 Neumayer Olymp 55.33 160 eP P 02 59 11.9 -0.9
VNA3 e 02 59 18.3
VNA3 e pP 02 59 20.6 -1.8
VNA3 e pP 02 59 22.6 +0.2
VNA3 e 02 59 25.6
VNA3 e 02 59 32.7
VNA3 e 02 59 37.1
VNA3 e 02 59 45.2
VNA3 e 02 59 49.6
VNA3 e 03 00 09.1
VNA3 e 03 00 12.4
VNA3 e 03 00 18.2
VNA3 e 03 00 22.7
VNA3 e 03 00 26.2
VNA1 Neumayer--Stat 55.59 159 eP P 02 59 14.1 -0.6
VNA1 e 02 59 20.8
VNA1 e pP 02 59 23.2 -1.1
VNA1 e 02 59 25.9
VNA1 e 02 59 27.7
VNA1 e 02 59 34.9
VNA1 e 02 59 38.2
VNA1 e 02 59 40.4
VNA1 e 02 59 45.1
VNA1 e 02 59 48.8
VNA1 e 03 00 09.3
VNA1 e 03 00 13.1
VNA1 e 03 00 16.5
VNA1 e 03 00 19.4
VNA1 e 03 00 24.8
VNA2 Neumayer--Watz 55.94 159 eP P 02 59 16.5 -0.7
baz=287,slow=8.1
VNA2 e 02 59 22.6
VNA2 e pP 02 59 25.9 -1.0
VNA2 e 02 59 28.0
VNA2 e 02 59 31.0
VNA2 e 02 59 37.0
VNA2 e 02 59 41.0
VNA2 e 02 59 43.0
VNA2 e 02 59 48.9
VNA2 e 02 59 52.0
VNA2 e 03 00 13.5
VNA2 e 03 00 16.8
VNA2 e 03 00 21.8
VNA2 e 03 00 25.3
VNA2 e 03 00 30.1
VNA2 Neumayer--Watz 55.94 159 eP P 02 59 16.5 -0.7
VNA2 e 02 59 22.6
VNA2 e pP 02 59 25.9 -1.0
VNA2 e 02 59 28.0
VNA2 e 02 59 31.0
VNA2 e 02 59 37.0
VNA2 e 02 59 41.0
VNA2 e 02 59 43.0
VNA2 e 02 59 48.9
VNA2 e 02 59 52.0
VNA2 e 03 00 13.5
VNA2 e 03 00 16.8
VNA2 e 03 00 21.8
VNA2 e 03 00 25.3
VNA2 e 03 00 30.1
SNAA Sanae 57.55 160 P P 02 59 27.4 -1.2
comp=Z,3.0nm,0.7s,mb4.5,baz=296,slow=6.7,SNR=26
SNAA Sanae 57.55 160 eP P 02 59 27.5 -1.1
SNAA e 02 59 33.7
SNAA e pP 02 59 36.2 -2.1
SNAA e pP 02 59 37.4 -0.9
SNAA e 02 59 40.7
SNAA e 02 59 44.5
SNAA e 02 59 48.5
SNAA e 02 59 51.2
SNAA e 02 59 53.4
SNAA e 03 00 11.2
SNAA e 03 00 18.5
SNAA e 03 00 21.6
SNAA e 03 00 26.1
SNAA Sanae 57.55 160 eP P 02 59 27.5 -1.1
SNAA e pP 02 59 37.4 -0.9
SNAA e 02 59 40.7
SNAA e 03 00 21.6
RKT Rikitea 57.58 259 eS S 03 07 24.0 -0.6
comp=Z,685nm,26.5s
RKT eLR LR 03 16 18.8
comp=Z,549nm,23.0s
HKT Hockley 61.63 335 eP P 02 59 56.6 -0.1
HKT e*PP pP 03 00 04.3 -2.2

HKT pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
HKT Hockley 61.63 335 *e*P **P** **02 59 56.6 -0.1**
comp=Z,9.8nm,1.1s,mb4.8
HKT *e*pP pP 03 00 04.3 -2.2
NVL N'lazarevskaya 62.21 158 ⇓ *i*P **P** **03 00 07.7 +7.1**
NVL pmax pmax
comp=Z,22nm,1.2s,mb5.2
NVL MLR MLR
comp=Z,3µm,18.4s,MS5.5
NVL MLR MLR
comp=Z,784nm,23.8s
NVL MLR MLR
comp=Z,2µm,25.0s
QSPA South Pole Qui 63.01 180 *e*P **P** **03 00 04.8 -1.2**
comp=Z,24nm,0.8s,mb5.4
SWET Sewanee 63.69 346 *e*P **P** **03 00 09.4 -1.0**
PLAL Pickwick Lake 63.94 344 *e*P **P** **03 00 09.8 -2.3**
comp=Z,14nm,1.3s,mb4.8
LTX Lajitas 64.38 328 *e*P **P** **03 00 15.5 +0.5**
LTX *e**PP pP 03 00 23.1 -1.7
LTX pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
LTX Lajitas 64.38 328 *e*P **P** **03 00 15.5 +0.5**
comp=Z,8.5nm,0.9s,mb4.8
LTX *e*pP pP 03 00 23.1 -1.7
WVT Waverly 64.98 345 *e*P **P** **03 00 17.1 -1.8**
WVT *e**PP pP 03 00 28.5 -0.2
WVT pmax pmax
comp=Z,19nm,0.9s,mb5.1
WVT Waverly 64.98 345 *e*P **P** **03 00 17.1 -1.8**
comp=Z,19nm,0.9s,mb5.1
WVT *e*pP pP 03 00 28.5 -0.2
MIAR Mount Ida 65.06 339 *e*P **P** **03 00 18.8 -0.6**
MIAR pmax pmax
comp=Z,16nm,1.0s,mb5.0
MIAR Mount Ida 65.06 339 *e*P **P** **03 00 18.8 -0.6**
comp=Z,16nm,1.0s,mb5.0
WMOK Wichita Mounta 67.02 335 *e*P **P** **03 00 31.0 -1.0**
WMOK *e**PP pP 03 00 40.6 -1.2
WMOK *e**SP sP 03 00 44.9 -0.6
WMOK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
WMOK Wichita Mounta 67.02 335 *e*P **P** **03 00 31.0 -1.0**
comp=Z,3.3nm,0.8s,mb4.4
WMOK *e*pP pP 03 00 40.6 -1.2
WMOK *e*sP sP 03 00 44.9 -0.6
GDL2 Guadalupe Moun 67.12 330 *e*P **P** **03 00 33.5 +0.9**
GDL2 *e*pP pP 03 00 41.5 -1.0
MNTX Cornudas Mount 67.16 328 *e*P **P** **03 00 32.0 -0.9**
comp=Z,9.7nm,0.8s,mb4.9
MNTX *e*pP pP 03 00 39.8 -2.9
FVM French Village 67.38 343 *e*P **P** **03 00 33.5 -0.8**
FVM *e**PP pP 03 00 42.7 -1.4
FVM pmax pmax
comp=Z,41nm,1.0s,mb5.4
FVM French Village 67.38 343 *e*P **P** **03 00 33.5 -0.8**
comp=Z,41nm,1.0s,mb5.4
FVM *e*pP pP 03 00 42.7 -1.4
TAOE Nuku Hiva Isla 67.57 271 *e*LR LR 03 21 00.6
comp=Z,6µm,26.0s
CPRX Cap Rock 67.60 330 *e*P **P** **03 00 35.3 -0.4**
CPRX *e*pP pP 03 00 44.6 -0.9
CCM Cathedral Cave 67.66 343 *e*P **P** **03 00 34.5 -1.5**
CCM *e**PP pP 03 00 44.9 -1.0
CCM pmax pmax
comp=Z,21nm,0.8s,mb5.2
CCM Cathedral Cave 67.66 343 *e*P **P** **03 00 34.5 -1.5**
comp=Z,21nm,0.8s,mb5.2
CCM *e*pP pP 03 00 44.9 -1.0
BNM Barren Site 69.78 329 *e*P **P** **03 00 49.2 0.0**
LPM Los Pinos Moun 69.92 329 *e*P **P** **03 00 51.0 +0.9**
LPM *e*pP pP 03 00 58.9 -1.2
LENM Lemitar 69.95 329 *e*P **P** **03 00 50.2 -0.1**
LENM *e*pP pP 03 01 01.4 +1.1
TBI Tubuai 70.02 253 *e*S S 03 09 59.8 +0.6
comp=Z,362nm,23.2s
TBI *e*LR LR 03 21 58.5
comp=Z,688nm,28.0s,baz=109
KSU1 Kansas State U 70.19 339 P **P** **03 00 52.2 +0.4**
LAZ Ladron 70.22 329 *e*P **P** **03 00 53.4 +1.4**
LAZ *e*pP pP 03 01 01.5 -0.4
ACCN Adirondack Com 70.28 358 *e*P **P** **03 00 53.0 +0.6**
TUC Tucson 70.31 325 *e*P **P** **03 00 52.9 +0.4**
TUC *e**PP pP 03 01 03.2 +0.8
TUC pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
TUC Tucson 70.31 325 *e*P **P** **03 00 52.9 +0.4**
comp=Z,6.5nm,1.0s,mb4.5
TUC *e*pP pP 03 01 03.1 +0.7
FFD Franklin Falls 70.33 359 P **P** **03 00 53.7 +1.1**
comp=Z,13nm,0.8s,mb4.9
ANMO Albuquerque 70.37 330 P **P** **03 00 51.2 -1.7**
comp=Z,0.9nm,0.7s,mb3.8,baz=143,slow=5.9,SNR=6.3
ANMO Albuquerque 70.37 330 ⇑ *e*P **P** **03 00 52.9 0.0**
ANMO Albuquerque 70.37 330 P **P** **03 00 51.2 -1.7**
VNDA Vanda 70.94 191 P **P** **03 00 55.8 -0.6**
comp=Z,1.5nm,1.0s,mb3.9,baz=90,slow=2.0,SNR=6.5
CBKS Cedar Bluff 70.99 337 *e*P **P** **03 00 55.3 -1.4**
CBKS pmax pmax
comp=Z,15nm,0.9s,mb4.9
CBKS Cedar Bluff 70.99 337 *e*P **P** **03 00 55.2 -1.4**
comp=Z,15nm,0.9s,mb4.9
SYO Syowa Base 71.83 159 ⇑ *e*P **P** **03 01 06.4 +4.6**
SYO Syowa Base 71.83 159 ⇑ *e*sP sP 03 01 11.1 -4.3
DBIC Dimbokro 72.14 73 P **P** **03 01 04.0 +0.4**
comp=Z,18nm,1.0s,mb5.0,baz=210,slow=5.8,SNR=12
DBIC LR LR 03 30 54.5
comp=Z,1µm,19.4s,MS5.1,baz=214,slow=34
PPT Papeete 72.34 259 *e*S S 03 10 26.4 +0.4
comp=Z,551nm,25.5s
PPT *e*LR LR 03 23 11.2
comp=Z,436nm,20.2s
PPT Papeete 72.34 259 LR LR 03 25 21.7
comp=Z,1µm,19.5s,MS5.2,baz=267,slow=30
WUAZ Wupatki 73.15 326 *e*P **P** **03 01 10.8 +1.1**
comp=Z,20nm,1.0s,mb5.0
WUAZ *e*pP pP 03 01 18.7 -0.8
PV01 Paradox Valley 73.95 330 *e*P **P** **03 01 15.4 +1.1**
PV01 *e*pP pP 03 01 24.9 +0.6
ISCO Idaho Springs 74.09 333 *e*P **P** **03 01 16.1 +1.0**
ISCO *e**PP pP 03 01 25.0 -0.1
ISCO pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ISCO Idaho Springs 74.09 333 *e*P **P** **03 01 16.1 +1.0**
comp=Z,5.7nm,0.8s,mb4.5
ISCO *e*pP pP 03 01 25.0 0.0
SMCO Snowmass 74.13 332 *e*P **P** **03 01 15.7 +0.4**
comp=Z,22nm,0.9s,mb5.1
SMCO *e*pP pP 03 01 24.7 -0.6
PFO Pinyon Flat Ob 74.33 322 *e*P **P** **03 01 18.2 +1.7**
PFO pmax pmax
comp=Z,15nm,1.1s,mb4.8
PFO Pinyon Flat Ob 74.33 322 *e*P **P** **03 01 18.1 +1.6**
comp=Z,15nm,1.1s,mb4.8
PV10 Paradox Valley 74.36 330 *e*P **P** **03 01 17.1 +0.4**
PV10 *e*pP pP 03 01 25.8 -0.9
NEN Nelson 75.02 324 *e*P **P** **03 01 20.6 +0.1**
PHWY Pilot Hill 75.30 334 *e*P **P** **03 01 22.8 +0.7**
PHWY *e*pP pP 03 01 31.5 -0.6
SRU San Rafael 75.63 329 *e*P **P** **03 01 23.4 -0.6**
SRU *e**PP pP 03 01 34.2 +0.2
SRU pmax pmax
comp=Z,12nm,0.8s,mb4.9
SRU San Rafael 75.63 329 *e*P **P** **03 01 23.4 -0.7**
comp=Z,12nm,0.8s,mb4.9
SRU *e*pP pP 03 01 34.2 +0.2
MWC Mount Wilson 75.68 321 *e*P **P** **03 01 24.6 +0.3**
MWC *e**PP pP 03 01 34.5 +0.2
CCUT Cedar City 75.74 326 *e*P **P** **03 01 25.9 +1.2**
CCUT *e*pP pP 03 01 36.0 +1.4
MSU Marysvale 75.92 328 *e*P **P** **03 01 26.8 +1.1**
MSU *e**PP pP 03 01 35.9 +0.2
MVU Marysvale 75.93 328 P **P** **03 01 24.9 -0.9**
comp=Z,12nm,0.8s,mb4.9
MVU *e*pP pP 03 01 35.5 -0.2
ARUT Antelope Range 75.96 326 *e*P **P** **03 01 27.6 +1.7**
RWWY Rawlins 76.33 333 *e*P **P** **03 01 28.8 +0.8**
comp=Z,10nm,1.1s,mb4.7
RWWY *e*pP pP 03 01 37.2 -0.8
RWWY *e*PcP PcP 03 01 39.8 0.0
TPNV Topopah Spring 76.74 324 *e*P **P** **03 01 31.6 +1.3**
TPNV *e**PP pP 03 01 41.0 +0.7
TPNV pmax pmax
comp=Z,17nm,1.1s,mb4.9
TPNV Topopah Spring 76.74 324 *e*P **P** **03 01 31.6 +1.3**
comp=Z,17nm,1.1s,mb4.9
TPNV *e*pP pP 03 01 41.0 +0.7
DAC Darwin (Calif) 76.95 323 *e*P **P** **03 01 32.2 +0.7**
DAC *e**PP pP 03 01 42.1 +0.6
DAC pmax pmax
comp=Z,11nm,0.9s,mb4.8
DAC Darwin (Calif) 76.95 323 *e*P **P** **03 01 32.2 +0.7**
comp=Z,11nm,0.9s,mb4.8
DAC *e*pP pP 03 01 42.1 +0.6
DAU Daniels Canyon 77.02 330 *e*P **P** **03 01 33.1 +1.2**
DAU *e**PP pP 03 01 42.4 +0.5
DAU *e**SP sP 03 01 46.3 +0.7
NLU North Lily Min 77.02 329 *e*P **P** **03 01 33.0 +1.0**
NLU *e*pP pP 03 01 42.1 +0.2
RSSD Black Hills 77.19 336 *e*P **P** **03 01 33.2 +0.4**
RSSD *e**PP pP 03 01 42.5 -0.3
RSSD pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
RSSD Black Hills 77.19 336 *e*P **P** **03 01 33.1 +0.3**
comp=Z,7.0nm,0.8s,mb4.6
RSSD *e*pP pP 03 01 42.5 -0.3
CTU Camp Tracy 77.47 329 *e*P **P** **03 01 29.9 -4.5**
comp=Z,8.5nm,0.9s,mb4.7
CTU *e*pP pP 03 01 41.2 -3.2
DUG Dugway 77.56 328 *e*P **P** **03 01 35.7 +0.8**
DUG *e**PP pP 03 01 45.1 +0.2
DUG *e**SP sP 03 01 48.7 +0.1
DUG pmax pmax
comp=Z,16nm,1.1s,mb4.9
DUG Dugway 77.56 328 *e*P **P** **03 01 35.7 +0.8**
comp=Z,16nm,1.1s,mb4.8
DUG *e*pP pP 03 01 45.1 +0.2
DUG *es*P sP 03 01 48.7 +0.1
PTRM Twissleman Ran 77.93 321 *e*P **P** **03 01 34.2 -2.8**
TPH Tonopah 78.10 324 P **P** **03 01 36.2 -1.7**
TPH *e* pP 03 01 47.1 -0.8
TPH pmax pmax
comp=Z,11nm,1.0s,mb4.7
TPH Tonopah 78.10 324 P **P** **03 01 36.2 -1.7**
comp=Z,11nm,1.0s,mb4.8
TPH *e*PcP PcP 03 01 47.1 -0.3
HWUT Hardware Ranch 78.12 330 *e*P **P** **03 01 38.5 +0.5**
comp=Z,22nm,0.8s,mb5.1
HWUT *e*PcP PcP 03 01 46.9 -0.6
PDAR Pinedale Array 78.19 332 P **P** **03 01 38.0 -0.4**
comp=Z,1.0nm,0.6s,mb3.9,baz=116,slow=6.9,SNR=10
BGU Big Grassy Mou 78.24 329 *e*P **P** **03 01 44.8 +6.1**
BGU *e*pP pP 03 01 54.6 +5.9
SPUT South Promonto 78.28 329 *e*P **P** **03 01 39.5 +0.6**
SPUT *e*pP pP 03 01 47.9 -1.1
HVU Hansel Valley 78.80 329 *e*P **P** **03 01 41.8 0.0**
HVU pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
HVU Hansel Valley 78.80 329 *e*P **P** **03 01 41.8 0.0**
comp=Z,10nm,0.8s,mb4.8
ELK Elko 79.14 327 *e*P **P** **03 01 44.0 +0.4**
ELK *e* pP 03 01 52.6 -1.1
ELK pmax pmax
comp=Z,16nm,0.9s
ELK Elko 79.14 327 *e*P **P** **03 01 44.0 +0.4**
comp=Z,16nm,0.9s,mb5.0
ELK *e*PcP PcP 03 01 52.6 +0.7
REDW Red Top Meadow 79.23 332 *e*P **P** **03 01 44.7 +0.6**
comp=Z,36nm,1.1s,mb5.2
REDW *e*pP pP 03 01 54.0 -0.1
LOHW Long Hollow 79.33 332 *e*P **P** **03 01 45.1 +0.5**
comp=Z,18nm,1.1s,mb4.9
LOHW *e*pP pP 03 01 54.6 -0.1
TPAW Teton Pass 79.37 332 *e*P **P** **03 01 44.9 0.0**
comp=Z,22nm,1.0s,mb5.0
TPAW *e*pP pP 03 01 54.9 0.0
MAW Mawson 79.41 164 ⇑ *i*P **P** **03 01 44.2 -0.9**
comp=Z,18nm,0.9s,mb5.0
MAW Mawson 79.41 164 P **P** **03 01 44.6 -0.5**
comp=Z,12nm,0.9s,mb4.8,baz=222,slow=6.4,SNR=19
MAW LR LR 03 38 07.5
comp=Z,1µm,18.0s,MS5.2,baz=3.8,slow=37
MAW Mawson 79.41 164 ⇑ *i*P **P** **03 01 44.2 -0.9**
MAW pmax pmax
comp=Z,18nm,0.9s
MOOW Moose Ponds 79.50 332 *e*P **P** **03 01 46.0 +0.4**
comp=Z,6.1nm,0.9s,mb4.5
RAR Rarotonga 79.63 252 LR LR 03 27 26.6
comp=Z,1µm,20.0s,MS5.3,baz=30,slow=29
IMW Indian Meadow 79.70 332 *e*P **P** **03 01 45.2 -1.5**
comp=Z,33nm,1.4s,mb5.1
FLWY Flagg Ranch 79.75 332 *e*P **P** **03 01 47.6 +0.6**
comp=Z,32nm,1.0s,mb5.2
FLWY *e*PcP PcP 03 01 53.8 -0.8
FLWY *e*pP pP 03 01 57.3 +0.3
LKWY Lake 80.02 333 *e*P **P** **03 01 50.0 +1.6**
LKWY pmax pmax
comp=Z,26nm,1.3s,mb5.0
LKWY Lake 80.02 333 *e*P **P** **03 01 50.0 +1.5**
comp=Z,26nm,1.3s,mb5.0
YFT Old Faithful 80.11 332 *e*P **P** **03 01 51.9 +3.0**
TSUM Tsumeb 80.17 107 *e*P **P** **03 01 50.6 +1.4**
comp=Z,23nm,1.1s,mb5.0
ULM Lac du Bonnet 80.23 344 P **P** **03 01 48.3 -1.3**
comp=Z,8.1nm,1.1s,mb4.6,baz=145,slow=6.5,SNR=8.0
YMR Madison River 80.34 332 *e*P **P** **03 01 51.1 +1.0**
comp=Z,45nm,1.1s,mb5.3
YMR *e*pP pP 03 02 00.3 +0.1
PAHR Pah Rah Range 80.44 324 *e*P **P** **03 01 51.3 +0.6**
comp=Z,28nm,1.3s,mb5.0
PAHR *e*PcP PcP 03 01 57.3 -0.3
PAHR *e*pP pP 03 02 00.7 0.0
PAHR *es*P sP 03 02 04.7 +0.3
QLMT Earthquake Lak 80.66 332 *e*P **P** **03 01 52.7 +0.9**
GCMT Greycliff 80.73 334 *e*P **P** **03 01 52.8 +0.6**
GCMT *e*pP pP 03 02 01.9 -0.4
GCMT *es*P sP 03 02 05.9 -0.1
HLID Hailey 80.95 330 *e*P **P** **03 01 54.1 +0.7**
comp=Z,14nm,0.9s,mb4.9
HLID *e*PcP PcP 03 02 00.6 +0.7
HLID *es*P sP 03 02 03.8 -3.4
TORD Torodi Ar. Bea 80.99 70 P **P** **03 01 53.7 0.0**
comp=Z,46nm,1.0s,mb5.4,baz=267,slow=5.4,SNR=143
MCMT McKenzie Canyo 81.26 331 *e*P **P** **03 01 55.4 +0.3**
MCMT *e*PcP PcP 03 02 02.0 +0.8
SCHQ Schefferville 81.77 2 P **P** **03 01 54.0 -3.8**
comp=Z,3.2nm,0.9s,mb4.2,baz=229,slow=17,SNR=3.3
WVOR Wild Horse Val 82.08 326 *e*P **P** **03 01 59.5 +0.1**
WVOR *e**PP pP 03 02 08.7 -0.8
WVOR pmax pmax
comp=Z,12nm,1.1s,mb4.7
WVOR Wild Horse Val 82.08 326 *e*P **P** **03 01 59.5 +0.1**
comp=Z,12nm,1.1s,mb4.7
WVOR *e*PcP PcP 03 02 05.5 +0.7
WVOR *e*pP pP 03 02 08.7 -0.8
MOD Modoc 82.52 325 *e*P **P** **03 02 00.7 -1.0**
comp=Z,16nm,1.0s,mb5.0
MOD *e*pP pP 03 02 11.2 -0.6
WDC Whiskeytown Da 82.74 323 *e*P **P** **03 02 03.3 +0.5**
WDC pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
WDC Whiskeytown Da 82.74 323 *e*P **P** **03 02 03.3 +0.4**
comp=Z,6.0nm,0.8s,mb4.7
MSO Missoula 83.31 332 *e*P **P** **03 02 07.6 +1.8**
comp=Z,4.3nm,1.1s,mb4.4
MSO *e*pP pP 03 02 17.0 +1.1
LBTB Lobatse 84.28 115 *e*P **P** **03 02 11.3 +0.5**
LBTB pmax pmax
comp=Z,18nm,1.0s,mb5.2
LBTB Lobatse 84.28 115 *e*P **P** **03 02 11.3 +0.6**
comp=Z,18nm,1.0s,mb5.2
WALA Waterton Lakes 85.07 333 *e*P **P** **03 02 15.0 +0.3**
comp=Z,87nm,1.9s,mb5.6
WALA *e*pP pP 03 02 24.0 -0.8
FFC Flin Flon 85.86 343 *e*P **P** **03 02 17.6 -1.1**
FFC *e**PP pP 03 02 28.2 -0.6
FFC pmax pmax
comp=Z,5.0nm,1.3s,mb4.6
FFC Flin Flon 85.86 343 *e*P **P** **03 02 17.6 -1.1**
comp=Z,5.3nm,1.3s,mb4.6
FFC *e*pP pP 03 02 28.2 -0.6
CASY Casey 86.81 181 *e*P **P** **03 02 23.5 +0.1**
CASY Casey 86.81 181 *e*P **P** **03 02 23.4 +0.1**
comp=Z,32nm,1.0s,mb5.5
EGRO El Granado 87.66 45 P **P** **03 02 29.5 +2.1**
comp=Z,2.0nm,0.6s,mb4.5
FCC Fort Churchill 87.79 348 *e*P **P** **03 02 27.6 -0.5**
FCC *e**PP pP 03 02 36.4 -1.8
FCC pmax pmax
comp=Z,38nm,1.8s,mb5.3
FCC Fort Churchill 87.79 348 *e*P **P** **03 02 27.6 -0.4**
comp=Z,38nm,1.8s,mb5.3
FCC *e*pP pP 03 02 36.4 -1.8
EDM Edmonton 88.17 336 *e*P **P** **03 02 26.7 -3.2**
EDM *e**PP pP 03 02 36.5 -3.5
ESPR Espera 88.30 47 P **P** **03 02 31.8 +1.3**
comp=Z,2.1nm,0.8s,mb4.4
ESPR PcP PcP 03 02 40.1 +7.9
EMIN Mina Concepcio 88.31 46 P **P** **03 02 30.9 +0.4**
comp=Z,1.2nm,0.6s,mb4.3
EMIN PcP PcP 03 02 40.7 +8.4
EBAD Badajoz 88.68 45 P **P** **03 02 33.0 +0.6**
comp=Z,1.9nm,0.9s,mb4.4
EMIJ Mijas 88.83 47 P **P** **03 02 30.8 -2.2**
comp=Z,1.0nm,0.5s,mb4.4
EBAN Banos Encina 90.39 47 P **P** **03 02 41.7 +1.4**
EBAN pmax pmax
comp=Z,2.0nm,0.7s,mb4.6
EBAN Banos Encina 90.39 47 P **P** **03 02 41.6 +1.3**
comp=Z,2.1nm,0.7s,mb4.6
EQES Quesada 90.65 47 P **P** **03 02 41.1 -0.4**
comp=Z,0.8nm,0.5s,mb4.3
LSZ Lusaka 90.96 108 *e*P **P** **03 02 46.3 +3.3**
LSZ *e**PP pP 03 02 56.5 +3.4
LSZ pmax pmax
comp=Z,33nm,1.6s,mb5.4
LSZ Lusaka 90.96 108 *e*P **P** **03 02 46.3 +3.3**
comp=Z,33nm,1.6s,mb5.4
LSZ *e*pP pP 03 02 56.5 +3.4
ESDC Sonseca Array 91.14 45 P **P** **03 02 44.3 +0.5**
comp=Z,0.1nm,0.4s,baz=250,slow=2.9,SNR=5.0
ESDC Sonseca Array 91.14 45 P **P** **03 02 45.1 +1.4**
comp=Z,0.2nm,0.8s
ETOB Tobarra 92.12 47 P **P** **03 02 48.4 +0.1**
comp=Z,1.7nm,0.9s,mb4.4
YKA Yellowknife Ar 95.95 341 P **P** **03 03 02.8 -3.1**
comp=Z,0.9nm,0.9s,mb4.2,baz=138,slow=4.2,SNR=17
YKW3 Yellowknife Ar 96.01 341 *e*P **P** **03 03 04.0 -2.1**
AKASG Malin Array Be 116.78 45 PKP PKPdf 03 08 21.1 -2.1
comp=Z,1.6nm,0.6s,baz=265,slow=3.2,SNR=11
BRTR Keskin Array B 117.51 57 PKP PKPdf 03 08 24.6 0.0
comp=Z,0.7nm,0.7s,baz=46,slow=3.6,SNR=5.1
OBN Obninsk 121.72 40 *c i* PKIKP PKPdf 03 08 32.8 0.0
OBN *e* 03 08 41.0
OBN pmax pmax
comp=Z,14nm,1.4s
KLMR Klimovskoe 123.27 33 *i* PKIKP PKPdf 03 08 35.2 -0.6
KLMR pmax pmax
comp=Z,10.0nm,1.2s
ASAR Alice Springs 124.04 208 PKP PKPdf 03 08 36.0 -1.3
comp=Z,0.7nm,0.5s,baz=126,slow=1.5,SNR=13
BILL Bilibino 127.08 337 *i* PKIKP PKPdf 03 08 43.1 +0.1
WB2 Warramunga Arr 127.13 210 *e*P PKPdf 03 08 42.4 -0.7
WRA Warramunga Arr 127.13 210 PKP PKPdf 03 08 42.2 -1.0
comp=Z,1.3nm,0.8s,baz=245,slow=1.6,SNR=5.3
PMG Port Moresby 128.18 231 ⇑ *i* PKIKP PKPdf 03 08 44.5 -0.6
FITZ Fitzroy Crossi 132.19 201 *e*P PKPdf 03 08 58.9 +6.1
comp=Z,6.9nm,0.8s
ARU Arti 133.84 36 *i* PKIKP PKPdf 03 08 55.2 -0.6
ARU *e* 03 11 25.9
ARU *e*SS SS 03 29 12.6 +2.2
ARU Arti 133.84 36 *e*PKPdf PKPdf 03 08 55.4 -0.5
TIXI Tiksi 134.17 351 ⇑ *i* PKIKP PKPdf 03 08 58.6 +2.1
AKTK Aktyubinsk 135.03 45 PKP PKPdf 03 08 58.4 +0.3
AKTO Aktyubinsk 135.03 45 PKP PKPdf 03 08 58.4 +0.3
comp=Z,3.1nm,0.9s,baz=294,slow=2.2,SNR=14
ZRNK Zerenda 140.74 38 *e*PKIKP PKPdf 03 09 08.3 -0.3
BVAR Borovoye Array 141.46 37 PKP PKPdf 03 09 09.4 -0.4
comp=Z,4.0nm,1.0s,baz=270,slow=1.4,SNR=12
POO Poona 146.49 97 *e*P PKPdf 03 09 21.0 +2.3
NVS Novosibirsk 146.56 27 *i* PKIKP PKPdf 03 09 17.7 -1.1
NVS pmax pmax
comp=N,4.0nm,0.9s
NVS pmax pmax
comp=Z,48nm,0.9s
NVS pmax pmax
comp=E,16nm,1.4s
KURK Kurchatov 147.03 36 *e*PKIKP PKPdf 03 09 19.3 -0.3
KURK *e* 03 09 21.1
EKS2 Erkin-Say 147.47 52 P PKPdf 03 09 21.6 +1.3
SNR=18
AML Almayashu 147.56 53 P PKPdf 03 09 22.9 +2.5
SNR=18
USP Ospenovka 147.79 51 P PKPbc 03 09 25.5 +1.7
SNR=17
AAK Ala-Archa 147.98 52 P PKPbc 03 09 26.3 +2.0
SNR=24
AAK Ala-Archa 147.98 52 *e*PKPdf PKPdf 03 09 21.2 +0.1
AAK *e*PKPbc PKPbc 03 09 25.0 +0.8
FRU Bishkek 148.01 52 *e*PKIKP PKPdf 03 09 22.5 +1.3
FRU *i* 03 09 26.2
FRU pmax pmax
comp=Z,121nm,2.0s
CHMS Chumysh 148.05 51 P PKPbc 03 09 26.3 +1.9
SNR=9.8
UCH Uchtor 148.12 53 P PKPdf 03 09 24.3 +2.9
SNR=50
ASAJ Asahikawa 148.25 311 PKPbc PKPbc 03 09 22.8 -2.2
comp=Z,7.2nm,0.9s,baz=262,slow=32,SNR=1.8
KBK Karagaybulak 148.29 52 P PKPdf 03 09 24.1 +2.5
SNR=7.0
TKM2 Tokmak 2 148.66 51 P PKPbc 03 09 26.9 +0.8
SNR=8.2
BOD Bodaibo 149.20 355 *e*PKP2 PKPab 03 09 25.5 -6.4
BOD pmax pmax
comp=Z,17nm,1.9s
ULHL Ulahol 149.33 52 P PKPbc 03 09 28.5 +0.8
SNR=12
KSH Kashi 149.90 57 *e*PKP PKPdf 03 09 28.1 +3.8
KSH *e*PKS 03 13 00.2
KSH *e*SKS SKSdf 03 16 29.7 -0.1
KSH PP PP
comp=Z,189nm,5.1s
KSH LR LR
comp=N,205nm,5.3s
KSH LR LR
comp=E,630nm,14.5s
HYB Hyderabad 150.19 103 *i* PKP PKPbc 03 09 30.0 +0.2
HYB *e* 03 09 42.0
HYB *e* 03 09 56.5
HYB Hyderabad 150.19 103 *e*P PKPbc 03 09 30.0 +0.2
MKAR Makanchi Array 151.23 40 PKP PKPdf 03 09 26.7 +0.4
comp=E,0.5nm,0.9s,baz=167,slow=19,SNR=14
MKAR PKPbc PKPbc 03 09 32.0 -0.3
comp=E,33nm,0.8s,baz=304,slow=2.4,SNR=25
NDI New Delhi 151.84 79 *e*P PKPbc 03 09 33.0 -0.7
KLR Kul'dur 151.91 328 *e*PKIKP PKPdf 03 09 28.8 +1.5
KLR pmax pmax
comp=Z,72nm,2.0s
DDI Dehra Dun 152.66 76 *ex* x 03 09 35.5
MJAR Matsushiro Arr 153.66 298 PKPbc PKPbc 03 09 35.8 -1.9
comp=Z,1.1nm,0.6s,baz=46,slow=34,SNR=3.9
MAT Matsushiro 153.66 298 PKP2 PKPab 03 09 47.5 -2.9
MAT Matsushiro 153.66 298 *e*PKP PKPab 03 09 48.0 -2.4
IRK Irkutsk 154.73 7 *e*PKIKP PKPdf 03 09 31.2 -0.2
IRK *e* 03 13 28.1
IRK pmax pmax
comp=Z,32nm,2.5s
MOY Mondy 154.81 12 *e*PKIKP PKPdf 03 09 33.5 +2.0
WMQ Urumqi 156.06 41 PKP PKPdf 03 09 32.0 -1.2
WMQ APKP 03 09 43.0
WMQ XPKP 03 09 46.6
WMQ PKP2 PKPab 03 10 01.3 +0.6
WMQ PP PP 03 13 39.5 +1.6
WMQ PP PP
comp=Z,446nm,10.2s
WMQ LR LR
comp=N,105nm,17.4s,MS5.0
WMQ LR LR
comp=E,167nm,19.8s,MS5.0
WMQ LR LR
comp=Z,268nm,19.0s,MS5.1
MDJ Mudanjiang 156.07 322 PKP PKPdf 03 09 32.7 -0.5
MDJ PKS 03 13 06.7
MDJ PP PP 03 13 38.7 +0.7
MDJ SKS SKSdf 03 16 36.8 -0.3
MDJ PP PP
comp=Z,349nm,5.2s
MDJ LR LR
comp=N,166nm,20.9s,MS5.1
MDJ LR LR
comp=E,236nm,17.5s,MS5.1
MDJ LR LR

comp=Z,310nm,15.0s,MS5.3
ZAK Zakamensk 156.43 9⇑ *i*PKIKP PKPdf 03 09 33.4 -0.3
ZAK pmax pmax
comp=Z,11nm,1.9s
ZAK pmax pmax
comp=Z,14nm,1.6s
CN2 Changchun 158.81 326 *e*PKP PKPdf 03 09 36.2 -0.5
SONM Songino Array 159.29 5 PKP PKPdf 03 09 37.5 +0.3
comp=Z,1.6nm,0.7s,baz=292,slow=0.8,SNR=7.2
GTA Gaotai 165.58 30 *e*PKP PKPdf 03 09 44.2 +0.7
GTA APKP 03 09 53.7
GTA PKS 03 13 15.4
GTA PP PP 03 14 29.6 +0.5
GTA SKS SKSdf 03 16 43.1 -2.2
GTA SKKS SKKSac 03 21 14.9 +0.5
GTA PP PP
comp=Z,205nm,8.7s
GTA LR LR
comp=N,191nm,16.0s
GTA LR LR
comp=E,223nm,17.5s
GTA LR LR
comp=Z,243nm,16.4s
BJI Beijing 165.91 337 PKP PKPdf 03 09 47.2 +3.5
HHC Hu-ho-hao-te 166.24 352 *e*PKP PKPdf 03 09 43.5 -0.5
HHC APKP 03 09 54.3
HHC XPKP 03 09 58.2
HHC PKP2 PKPab 03 10 49.2 +4.1
HHC PKS 03 13 16.8
HHC PP PP 03 14 33.9 +1.4
HHC SKS SKSdf 03 16 42.5 -3.2
HHC SKKS SKKSac 03 21 16.9 -0.8
HHC LR LR
comp=N,172nm,21.0s
HHC LR LR
comp=E,195nm,19.6s
HHC LR LR
comp=Z,322nm,20.4s
SSE Sheshan 168.74 293 PKP PKPdf 03 09 45.3 -0.5
SSE PP PP
comp=Z,341nm,11.1s
LZH Lanzhou 170.08 25 *e*PKP PKPdf 03 09 48.5 +1.9
LZH LR LR
comp=E,236nm,19.6s
LZH LR LR
comp=Z,456nm,20.5s
NJ2 Nanjing 170.23 302 *e*PKP PKPdf 03 09 46.6 -0.1
NJ2 APKP 03 09 57.3
NJ2 PKS 03 13 18.0
NJ2 PP PP
comp=Z,670nm,10.0s
NJ2 LR LR
comp=N,1μm,37.6s
NJ2 LR LR
comp=E,3μm,33.5s
NJ2 LR LR
comp=Z,530nm,26.5s
KMI Kunming 173.93 109 PKP PKPdf 03 09 48.1 -0.3
CD2 Chengdu 174.05 50 *e*PKP PKPdf 03 09 45.7 -2.7
GYA Guiyang 177.71 108 *e*PKP PKPdf 03 09 48.9 -0.4
GYA APKP 03 09 59.7
GYA PKP2 PKPab 03 11 37.3 +1.3
GYA PP PP 03 15 31.2 +2.1
GYA PPP 03 19 52.4
GYA PP PP
comp=Z,140nm,8.7s
GYA LR LR
comp=N,240nm,21.8s
GYA LR LR
comp=E,140nm,20.9s
GYA LR LR
comp=Z,180nm,21.4s

IDC 01 02:53:12.5±2.9, 981S×10988E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.6/15, mbtmp3.6/4, Error ellipse: s-maj=160.5km s-min=21.9km az=46.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.67**	**116**	P	P	02 58 43.2	-0.8
	0.3nm,0.5s,baz=286,slow=12,SNR=3.2						
ASAR	**Alice Springs**	**26.76**	**124**	P	P	02 58 55.4	+1.5
	0.7nm,0.6s,baz=299,slow=9.4,SNR=12						
MKAR	**Makanchi Array**	**61.49**	**339**	P	P	03 03 31.2	+0.2
	0.8nm,0.5s,baz=148,slow=7.9,SNR=12						
BVAR	**Borovoye Array**	**71.06**	**336**	P	P	03 04 32.2	-0.1
	0.4nm,0.5s,baz=140,slow=7.6,SNR=3.3						

*IDC **01** 02:55:06.0±3.2, 2153S×6825W, h124km±26km, mb3.6/5, mb1 3.8/8, mb1mx3.6/16, mbtmp4.1/8, Error ellipse: s-maj=29.7km s-min=20.4km az=51.0*
*NEIC **01** 02:55:06.0±2.3, 2159S×6827W, h125km±19km, Error ellipse: s-maj=30.0km s-min=14.2km az=53.0*
*ISCJB **01** 02:55:07.0±2.0, 215S±01×681W±01, h146km±19km, mb3.7/4, Error ellipse: s-maj=19.7km s-min=16.5km az=147.4*

ISC 01 02:55:07.8±2.0, 215S±01×681W±01, h137km±19km, n11, σ1§04/11, mb3.7/4, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**5.17**	**360**	P	**Pn**	**02 56 24.2**	**+1.1**
	2.7nm,0.3s,baz=191,slow=7.6,SNR=33						
SIV	**San Ignacio**	**8.62**	**52**	P	**Pn**	**02 57 09.1**	**-0.4**
	1.2nm,0.3s,baz=233,slow=12,SNR=12						
SIV				S	**Sn**	**02 58 44.3**	**-0.9**
	0.5nm,0.3s,baz=302,slow=21,SNR=3.0						
CPUP	**Villa Florida**	**10.98**	**118**	P	**Pn**	**02 57 40.3**	**-0.7**
	0.7nm,0.3s,baz=182,slow=19,SNR=2.3						
BDFB	**Brasilia**	**19.92**	**76**	P	**P**	**02 59 30.8**	**+2.2**
	4.6nm,0.5s,baz=236,slow=7.1,SNR=6.9						
VNA3	**Neumayer Olymp**	**59.86**	**161**	*e*	**P**	**03 04 59.7**	**+0.9**
VNA3				*e*		03 05 11.8	
VNA2	**Neumayer--Watz**	**60.42**	**161**	*e*	**P**	**03 05 02.7**	**0.0**
	baz=303,slow=6.7						
VNA2				*e*		03 05 15.2	
SNAA	**Sanae**	**62.06**	**161**	P	**P**	**03 05 12.7**	**-1.0**
	0.5nm,0.6s,mb3.5,baz=266,slow=7.5,SNR=5.6						
PDAR	**Pinedale Array**	**74.46**	**330**	P	**P**	**03 06 30.1**	**-0.9**
	0.3nm,0.5s,mb3.2,baz=129,slow=8.2,SNR=3.0						
TORD	**Torodi Ar. Bea**	**76.66**	**70**	P	**P**	**03 06 44.6**	**+1.2**
	0.8nm,0.4s,mb3.7,baz=259,slow=5.8,SNR=18						
YKA	**Yellowknife Ar**	**91.42**	**340**	P	**P**	**03 07 57.1**	**-1.1**
	1.4nm,0.5s,mb4.2,baz=134,slow=4.4,SNR=52						
MKAR	**Makanchi Array**	**145.19**	**36**	PKPbc	PKPbc	03 14 29.8	+1.0
	0.7nm,0.6s,baz=340,slow=3.2,SNR=4.1						

*NEIC **01** 03:02:14.5, 2749S×7126W, h12km, ML3.6(GUC), After GUC.*

GUC 01 03:02:14.5±0.8, 2749S×7126W, h12km±9km, ML3.6, 1C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.57**	**43**	⇓*i*P	Pg	03 02 25.0	-0.5
CDCH				*i* S	Sg	03 02 34.2	+1.2
CDCH				AML	AML	03 02 39.3	
	comp=E,1μm,0.2s						
CDCH	**Caldera**	**0.57**	**43**	⇓*i*P	Pg	03 02 25.0	-0.5
CDCH				*i* S	Sg	03 02 34.2	+1.2
CPCH	**Copiapo**	**0.82**	**81**	⇓*i*P	Pg	03 02 29.8	-0.5
CPCH				*i* S	Sg	03 02 41.4	+0.3
CPCH				AML	AML	03 02 41.9	
	comp=E,28μm,0.1s						
CRCH	**Chaqaral**	**1.27**	**27⇑**	*i*P	Pn	03 02 37.1	-1.0
CRCH				*i* S	Sb	03 02 53.8	-1.0
LCO	**Las Campanas**	**1.59**	**162**	*i* P	Pn	03 02 43.1	+0.5
LCO				*i* S	Sn	03 03 03.7	+0.6

*ISCJB **01** 03:09:17.0±0.6, 3979N±003×2071E±005, h7km, Error ellipse: s-maj=5.2km s-min=4.5km az=179.3*
*ATH **01** 03:09:16.9, 3977N×2062E, h5km, MD3.0/3*
*THE **01** 03:09:17.6, 3982N×2063E, h7km*

ISC 01 03:09:17.0±0.8, 3977N±004×2071E±005, h17km±7km, n8, σ1§08/13, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.16**	**136**	*e*PG	**Pg**	**03 09 20.5**	**-0.8**
JAN				*e*SG	**Sg**	**03 09 24.5**	**+0.3**
IGT	**Igoumenitsa**	**0.38**	**230**	*e*Pg	**Pg**	**03 09 24.2**	**-0.5**
IGT				*e*Sg	**Sg**	**03 09 30.5**	**+0.5**
LSK	**Leskovik**	**0.39**	**348**	*i* Pg	**Pg**	**03 09 23.5**	**-1.5**
LSK				*i* Sg	**Sg**	**03 09 30.2**	**-0.1**
SRN	**Sarande**	**0.55**	**281**	*i* Pg	**Pg**	**03 09 27.9**	**-0.1**
SRN				*i* Sg	**Sg**	**03 09 38.2**	**+2.7**
KEK	**Kerkira**	**0.70**	**265**	*e*PB	**Pb**	**03 09 29.5**	**-1.3**
FNA	**Florina**	**1.13**	**27**	*e*Pg	**Pg**	**03 09 38.4**	**-0.6**
FNA				*e*Sg	**Sg**	**03 09 55.2**	**+1.5**
EVR	**Evrytania**	**1.21**	**135**	*e*PB	**Pb**	**03 09 41.0**	**+1.6**
AGG	**Agios Georgios**	**1.46**	**120**	*e*Pg	**Pg**	**03 09 44.7**	**-0.5**

JMA 01 03:16:57.0±0.4, 4397N×14805E, h0km, M3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.78**	**251**	P	Pn	03 17 29.4	+0.4
NEM2				*e*S	Sn	03 17 53.2	+0.9
JRA	**Rausu**	**2.12**	**270**	P	Pn	03 17 34.2	+0.6
JNK	**Nakash**	**2.44**	**262**	P	Pn	03 17 38.9	+0.8
JNK				*e*S	Sn	03 18 09.7	+1.0
JAK	**Akkeshi**	**2.63**	**249**	P	Pn	03 17 41.7	+1.0
JAK				*e*S	Sn	03 18 14.3	+1.1
JAR	**Ashorobuto**	**3.18**	**259**	P	Pn	03 17 50.2	+2.0
JCH	**Churui**	**3.68**	**250**	*e*S	Sn	03 18 41.5	+2.3
JNBK	**Urakawa-nobuka**	**4.23**	**248**	P	Pn	03 18 04.9	+2.2
JKB	**Kayabe**	**5.56**	**250**	P	Pn	03 18 22.7	+1.8

*NEIC **01** 03:17:40.1, 1592N×9882W, h23km, mb5.0/42, MD4.7(MEX), After MEX.*
*MEX **01** 03:17:40.2±1.5, 1592N×9883W, h23km±34km, MD4.7*
*BJI **01** 03:17:40.1, 1590N×9880W, h22km, mB5.5, Ms5.4, Msz5.0*
*ISCJB **01** 03:17:41.2±0.4, 1612N±003×9869W±003, h23km, mb4.8/60, MS5.0/5, Error ellipse: s-maj=4.9km s-min=3.6km az=55.6*
*MOS **01** 03:17:48.7±1.6, 1677N×9890W, h33km, mb5.1/23, Error ellipse: s-maj=13.5km s-min=5.5km az=89.3*
*IDC **01** 03:17:55.1±5.7, 1679N×9826W, h94km±49km, mb4.0/15, mb1 4.2/16, mb1mx4.1/24, mbtmp4.4/16, Error ellipse: s-maj=33.4km s-min=13.2km az=44.0*

ISC 01 03:17:43.5±0.4, 1616N±003×9864W±003, h24km, h24km±.6km: pP-P, n198, σ1§21/202, mb4.8/60, MS5.0/5, 2C-4D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.54**	**65**	*i* P	**Pb**	**03 17 53.0**	**-1.4**
PNIG				*i* S	**Sb**	**03 18 01.7**	**-0.1**
ACX	**Acapulco**	**1.41**	**300**	*i* P	**Pn**	**03 18 01.0**	**-6.7**
CAIG	**El Cayaco**	**1.79**	**300**	*i* P	**Pn**	**03 18 06.4**	**-6.5**
CAIG				*i* S	**Sn**	**03 18 28.4**	**-6.5**
UTMO	**Huajuapan**	**1.84**	**26**	*i* P	**Pn**	**03 18 13.2**	**-0.4**
UTMO				*i* S	**Sn**	**03 18 38.5**	**+2.4**
MEIG	**Mezcala**	**1.99**	**332**	*i* P	**Pn**	**03 18 13.3**	**-2.4**
MEIG				*i* S	**Sn**	**03 18 37.1**	**-2.6**
VHO	**Vista Hermosa**	**2.04**	**63**	*e*P	**Pn**	**03 18 15.5**	**-0.8**
VHO				*e*S	**Sn**	**03 18 42.9**	**+1.9**
OXX	**Oaxaca**	**2.05**	**63**	*i* P	**Pn**	**03 18 15.7**	**-0.8**
PLIG	**Platanillo**	**2.37**	**340**	*e*P	**Pn**	**03 18 17.1**	**-3.7**
PLIG				*i* S	**Sn**	**03 18 46.8**	**-2.3**
HUIG	**Huatulco**	**2.46**	**99**	*e*P	**Pn**	**03 18 19.0**	**-3.1**
HUIG				*e*S	**Sn**	**03 18 48.0**	**-3.4**
TPIG	**Tehuac#an**	**2.56**	**28**	*i* P	**Pn**	**03 18 23.1**	**-0.3**
TPIG				*i* S	**Sn**	**03 18 54.6**	**+0.8**
YAIG	**Yautepec**	**2.72**	**351**	*e*P	**Pn**	**03 18 22.4**	**-3.2**
YAIG				*e*S	**Sn**	**03 18 56.0**	**-1.7**
PPM	**Popocatepetl**	**2.89**	**0**	*e*P	**Pn**	**03 18 28.0**	**0.0**
PPM				*i* P		03 18 29.7	
PPM				*i* P		03 18 30.0	
CIVM	**Cilcuayo**	**2.95**	**354**	*e*P	**Pn**	**03 18 30.6**	**+1.8**
CIVM				*i* S	**Sn**	**03 19 07.6**	**+4.3**
CHVM	**Chichinautzin**	**2.95**	**351**	*e*P	**Pn**	**03 18 29.8**	**+1.0**
CHVM				*i* S	**Sn**	**03 19 08.2**	**+4.7**
IIZ	**Mezontepec**	**3.07**	**349**	*i* P	**Pn**	**03 18 29.6**	**-0.8**
RFVM	**Rio Frio**	**3.16**	**358**	*e*P	**Pn**	**03 18 32.0**	**+0.3**
RFVM	**Rio Frio**	**3.16**	**358**	*e*P	**Pn**	**03 18 34.4**	**+2.7**
UNM	**Universidad Na**	**3.19**	**351**	*e*P	**Pn**	**03 18 27.5**	**-4.7**
UNM				*e*P		03 18 30.4	
UNM				*e*P		03 18 32.6	
UNM				*i* S	**Sn**	**03 19 08.7**	**-0.8**
PTVM	**Pico Tres Padr**	**3.45**	**353**	*e*P	**Pn**	**03 18 35.2**	**-0.4**
PTVM				*i* S	**Sn**	**03 19 19.9**	**+4.2**
LVIG	**Laguna Verde**	**4.13**	**30**	*e*P	**Pn**	**03 18 42.5**	**-2.4**
LVIG				*e*S	**Sn**	**03 19 34.3**	**+1.9**
MOIG	**Morelia**	**4.26**	**326**	*e*P	**Pn**	**03 18 45.8**	**-1.0**
MOIG				*i* S	**Sn**	**03 19 34.3**	**-1.5**
MRX	**Morelia**	**4.28**	**326**	*i* P	**Pn**	**03 18 43.7**	**-3.4**
MRX				*e*S	**Sn**	**03 19 35.2**	**-1.1**
MRX	**Morelia**	**4.28**	**326**	*e*P	**Pn**	**03 18 50.5**	**+3.4**
MRX				*i* S	**Sn**	**03 19 42.5**	**+6.2**
TUIG	**Tuzandepetl**	**4.44**	**65**	*e*P	**Pn**	**03 18 47.7**	**-1.6**
TUIG				*e*S	**Sn**	**03 19 39.1**	**-1.1**
SFJM	**Santa Fe**	**6.00**	**317**	*e*P	**Pn**	**03 19 09.8**	**-0.9**
CCIG	**Comitan**	**6.25**	**88**	*e*P	**Pn**	**03 19 13.2**	**-0.9**
CCIG				*e*S	**Sn**	**03 20 23.6**	**-1.1**
LNIG	**Linares**	**8.73**	**355**	*e*P	**Pn**	**03 19 50.0**	**+1.9**
LNIG				*e*S	**Sn**	**03 21 29.2**	**+3.4**
HKT	**Hockley**	**13.97**	**10**	*e*P	**Pn**	**03 21 02.4**	**+2.6**
HKT				pmax	pmax		
	comp=Z,54nm,1.5s						
HKT	**Hockley**	**13.97**	**10**	*e*Pn	**Pn**	**03 21 02.4**	**+2.6**
	comp=Z,54nm,1.5s						
JTS	**JuntasAbangare**	**14.54**	**112**	P	**Pn**	**03 21 09.2**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=305,slow=7.0,SNR=6.8						
JTS	**JuntasAbangare**	**14.54**	**112**	*e*P	**Pn**	**03 21 08.7**	**+1.1**
JTS				pmax	pmax		
	comp=Z,76nm,1.0s						
JTS	**JuntasAbangare**	**14.54**	**112**	*e*Pn	**Pn**	**03 21 08.7**	**+1.0**
	comp=Z,76nm,1.0s						
NATX	**Nacogdoches**	**15.95**	**12**	*e*Pn	**Pn**	**03 21 29.0**	**+2.8**
	comp=Z,62nm,1.0s						
MNTX	**Cornudas Mount**	**16.64**	**340**	*e*Pn	**Pn**	**03 21 35.4**	**+0.3**
	comp=Z,34nm,1.2s						
CLNB	**Carlsbad**	**16.73**	**344**	*e*P	**Pn**	**03 21 37.9**	**+1.7**
GDL2	**Guadalupe Moun**	**16.80**	**343**	*e*P	**Pn**	**03 21 37.9**	**+0.9**
CPRX	**Cap Rock**	**17.45**	**345**	*e*P	**Pn**	**03 21 44.6**	**-0.6**
WMOK	**Wichita Mounta**	**18.50**	**360**	*e*P	**Pn**	**03 21 56.7**	**-1.4**
WMOK				pmax	pmax		
	comp=Z,11nm,1.0s						
WMOK	**Wichita Mounta**	**18.50**	**360**	*e*P	**Pn**	**03 21 56.7**	**-1.4**
	comp=Z,11nm,1.0s						
AMTX	**Amarillo**	**18.85**	**352**	*e*P	**Pn**	**03 22 00.8**	**-1.5**
	comp=Z,49nm,1.1s						
MIAR	**Mount Ida**	**18.87**	**13**	*e*P	**Pn**	**03 22 01.4**	**-1.1**
MIAR				pmax	pmax		
	comp=Z,24nm,0.8s						
MIAR	**Mount Ida**	**18.87**	**13**	*e*P	**Pn**	**03 22 01.4**	**-1.2**
	comp=Z,24nm,0.8s						
BNM	**Barren Site**	**19.30**	**340**	*e*P	**Pn**	**03 22 05.7**	**-2.1**
UALR	**University of**	**19.38**	**16**	*e*P	**Pn**	**03 22 07.3**	**-1.4**
	comp=Z,24nm,0.9s						
LENM	**Lemitar**	**19.44**	**339**	*e*P	**Pn**	**03 22 09.8**	**+0.5**
LPM	**Los Pinos Moun**	**19.45**	**340**	*e*P	**Pn**	**03 22 09.6**	**0.0**
LAZ	**Ladron**	**19.71**	**339**	*e*P	**Pn**	**03 22 11.8**	**-0.8**
ANMO	**Albuquerque**	**19.98**	**341**	P	**Pn**	**03 22 15.6**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=155,slow=12,SNR=49						
ANMO	**Albuquerque**	**19.98**	**341⇑**	*e*P	**Pn**	**03 22 14.4**	**-1.5**
ANMO	**Albuquerque**	**19.98**	**341**	P	**Pn**	**03 22 15.6**	**-0.3**
OXF	**Oxford**	**20.07**	**23**	*e*P	**P**	**03 22 15.4**	**+0.4**
OXF				pmax	pmax		
	comp=Z,105nm,1.4s						
OXF	**Oxford**	**20.07**	**23**	*e*P	**P**	**03 22 15.3**	**+0.4**
	comp=Z,105nm,1.4s						
HBAR	**Harrisburg**	**20.59**	**19**	*e*P	**P**	**03 22 21.9**	**+1.3**
PLAL	**Pickwick Lake**	**21.00**	**25**	*e*P	**P**	**03 22 25.0**	**0.0**
	comp=Z,86nm,1.1s,mb5.0						
GLAT	**Glass**	**21.69**	**21**	*e*P	**P**	**03 22 30.8**	**-1.7**
PARMO	**Parma**	**21.90**	**19**	*e*P	**P**	**03 22 36.2**	**+1.5**
UTMT	**University of**	**21.90**	**22**	*e*P	**P**	**03 22 35.5**	**+0.7**
	comp=Z,121nm,0.8s,mb5.4						
WVT	**Waverly**	**22.10**	**24**	*e*P	**P**	**03 22 38.4**	**+1.5**
WVT				pmax	pmax		
	comp=Z,84nm,0.9s,mb5.2						
WVT	**Waverly**	**22.10**	**24**	*e*P	**P**	**03 22 38.4**	**+1.5**
	comp=Z,84nm,0.9s,mb5.2						
SWET	**Sewanee**	**22.12**	**29**	*e*P	**P**	**03 22 36.6**	**-0.5**
RCC	**Rio Carpintero**	**22.14**	**77**	*e*P	**P**	**03 22 37.8**	**+0.5**
WUAZ	**Wupatki**	**22.39**	**332**	*e*P	**P**	**03 22 41.7**	**+1.8**
	comp=Z,74nm,1.1s,mb5.0						
MVCO	**Mesa Verde**	**22.71**	**339**	*e*P	**P**	**03 22 44.1**	**+0.7**
CCM	**Cathedral Cave**	**22.77**	**15**	⇓*i*P	**P**	**03 22 43.0**	**-1.0**
CCM				pmax	pmax		
	comp=Z,39nm,1.0s,mb4.8						
CCM	**Cathedral Cave**	**22.77**	**15**	⇓*i*P	**P**	**03 22 43.0**	**-0.9**
	comp=Z,39nm,1.0s,mb4.8						
FVM	**French Village**	**22.92**	**17**	*e*P	**P**	**03 22 46.0**	**+0.5**
FVM				pmax	pmax		
	comp=Z,81nm,1.1s,mb5.1						
FVM	**French Village**	**22.92**	**17**	*e*P	**P**	**03 22 46.0**	**+0.5**
	comp=Z,81nm,1.1s,mb5.1						
KSU1	**Kansas State U**	**22.93**	**4**	*e*P	**P**	**03 22 44.7**	**-0.9**
CPCT	**Cooper Cave**	**22.98**	**31**	*e*P	**P**	**03 22 46.4**	**+0.1**
PV01	**Paradox Valley**	**23.58**	**340**	*e*P	**P**	**03 22 53.3**	**+0.9**
SLM	**Saint Louis**	**23.58**	**17**	*e*P	**P**	**03 22 52.0**	**-0.3**
SLM				pmax	pmax		
	comp=Z,142nm,1.3s,mb5.2						
SLM	**Saint Louis**	**23.58**	**17**	*e*P	**P**	**03 22 52.0**	**-0.3**
	comp=Z,142nm,1.3s,mb5.2						
JSC	**Jenkinsville**	**23.87**	**38**	*e*P	**P**	**03 22 54.7**	**-0.3**
PV10	**Paradox Valley**	**23.95**	**340**	*e*P	**P**	**03 22 55.8**	**+0.1**
SMCO	**Snowmass**	**24.07**	**344**	*e*P	**P**	**03 22 58.5**	**+1.6**
	comp=Z,77nm,1.2s,mb5.0						
NEN	**Nelson**	**24.21**	**326**	*e*P	**P**	**03 22 57.8**	**-0.4**
ISCO	**Idaho Springs**	**24.33**	**347**	*e*P	**P**	**03 23 00.2**	**+1.0**
ISCO				pmax	pmax		
	comp=Z,105nm,1.5s,mb5.0						
ISCO	**Idaho Springs**	**24.33**	**347**	*e*P	**P**	**03 23 00.2**	**+1.0**
	comp=Z,105nm,1.5s,mb5.0						
TZTN	**Tazewell**	**24.33**	**31**	*e*P	**P**	**03 22 59.4**	**+0.1**
WCI	**Wyandotte Cave**	**24.53**	**24**	*e*P	**P**	**03 23 01.5**	**+0.5**
WCI				pmax	pmax		
	comp=Z,88nm,0.9s,mb5.3						
WCI	**Wyandotte Cave**	**24.53**	**24**	*e*P	**P**	**03 23 01.5**	**+0.5**
	comp=Z,88nm,0.9s,mb5.3						
MWC	**Mount Wilson**	**25.07**	**319**	*e*P	**P**	**03 23 06.5**	**+0.6**
SRU	**San Rafael**	**25.12**	**338**	*e*P	**P**	**03 23 06.7**	**+0.2**
SRU				pmax	pmax		
	comp=Z,48nm,1.1s,mb4.9						
SRU	**San Rafael**	**25.12**	**338**	*e*P	**P**	**03 23 06.7**	**+0.2**
	comp=Z,48nm,1.1s,mb4.9						
ARUT	**Antelope Range**	**25.20**	**332**	*e*P	**P**	**03 23 09.0**	**+1.9**
MSU	**Marysvale**	**25.25**	**334**	*e*P	**P**	**03 23 08.9**	**+1.3**
MVU	**Marysvale**	**25.26**	**334**	*e*P	pP	03 23 19.1	+4.2
BLO	**Bloomington**	**25.26**	**22**	*e*P	**P**	**03 23 07.9**	**+0.2**
BLO				pmax	pmax		
	comp=Z,68nm,0.9s,mb5.2						
BLO	**Bloomington**	**25.26**	**22**	*e*P	**P**	**03 23 07.9**	**+0.2**
	comp=Z,68nm,0.9s,mb5.2						
TMUT	**Trail Mountain**	**25.54**	**337**	*e*P	**P**	**03 23 11.3**	**+1.1**
PHWY	**Pilot Hill**	**25.74**	**348**	*e*P	**P**	**03 23 12.4**	**+0.4**
TPNV	**Topopah Spring**	**25.93**	**326**	*e*P	**P**	**03 23 14.8**	**+1.0**
TPNV				pmax	pmax		
	comp=Z,97nm,1.7s,mb5.1						
TPNV	**Topopah Spring**	**25.93**	**326**	*e*P	**P**	**03 23 14.8**	**+1.0**
	comp=Z,98nm,1.7s,mb5.1						
ROSC	**El Rosal**	**26.37**	**113**	P	**P**	**03 23 22.8**	**+5.1**
	comp=Z,2.4nm,0.5s,mb4.0,baz=87,slow=23,SNR=2.9						
BLA	**Blacksburg**	**26.45**	**34**	*e*P	**P**	**03 23 18.0**	**-0.5**
BLA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BLA	**Blacksburg**	**26.45**	**34**	*e*P	**P**	**03 23 18.0**	**-0.5**
	comp=Z,2.5nm,0.9s,mb3.7						
RWWY	**Rawlins**	**26.49**	**346**	*e*P	**P**	**03 23 22.1**	**+3.2**
	comp=Z,133nm,1.5s,mb5.2						
DAU	**Daniels Canyon**	**26.54**	**338**	*e*P	**P**	**03 23 20.8**	**+1.5**
DUG	**Dugway**	**26.94**	**336**	*e*P	**P**	**03 23 22.2**	**-0.7**
DUG				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.4						
DUG	**Dugway**	**26.94**	**336**	*e*P	**P**	**03 23 22.2**	**-0.7**
	comp=Z,16nm,1.2s,mb4.4						
ACSO	**Alum Creek Sta**	**27.58**	**27**	*e*P	**P**	**03 23 27.9**	**-0.7**
	comp=Z,11nm,0.8s,mb4.5						
ACSO				*e*pP	pP	03 23 36.2	+0.3
HWUT	**Hardware Ranch**	**27.70**	**339**	*e*P	**P**	**03 23 30.8**	**+1.1**
	comp=Z,20nm,1.2s,mb4.6						
PDAR	**Pinedale Array**	**28.12**	**343**	P	**P**	**03 23 34.4**	**+1.0**
	comp=Z,7.7nm,1.0s,mb4.3,baz=146,slow=8.2,SNR=32						
PDAR				PcP	PcP	03 26 47.2	0.0
	comp=Z,0.6nm,0.8s,baz=197,slow=4.6,SNR=3.4						
NVAR	**Mina Array Bea**	**28.12**	**326**	P	**P**	**03 23 35.3**	**+1.8**
	comp=Z,3.4nm,0.9s,mb4.0,baz=153,slow=9.9,SNR=21						
NVAR				PcP	PcP	03 26 48.1	+0.8
	comp=Z,0.9nm,0.9s,baz=204,slow=3.3,SNR=3.6						
SDV	**Santo Domingo**	**28.25**	**101**	P	**P**	**03 23 36.0**	**+1.4**
	comp=Z,5.7nm,0.8s,mb4.2,baz=320,slow=2.7,SNR=9.8						
GCMT	**Greycliff**	**30.96**	**345**	*e*P	**P**	**03 23 59.3**	**+0.7**
GCMT				*e*pP	pP	03 24 06.4	+0.6
DLMT	**Dillon**	**31.39**	**341**	*e*P	**P**	**03 24 04.1**	**+1.7**
	comp=Z,32nm,1.1s,mb5.1						
DLMT				*e*pP	pP	03 24 11.2	+1.6
MTP	**Monte Pirata**	**31.65**	**82**	*e*P	**P**	**03 24 07.6**	**+2.9**
MTP				*e*pP	pP	03 24 12.8	+0.9
HRY	**Holter Researc**	**32.38**	**343**	*e*P	**P**	**03 24 11.9**	**+0.8**
YBH	**Yreka Blue Hor**	**32.84**	**326**	PcP	PcP	03 27 00.9	+1.3
	comp=Z,2.2nm,0.8s,baz=304,slow=4.7,SNR=2.9						
SADO	**Sadowa**	**32.92**	**26**	P	**P**	**03 24 13.8**	**-2.0**
	comp=Z,4.2nm,0.9s,mb4.4,baz=221,slow=7.4,SNR=4.2						
SADO	**Sadowa**	**32.92**	**26**	P	**P**	**03 24 13.8**	**-2.0**
CHMT	**Chamberlain Mo**	**32.98**	**341**	*e*P	**P**	**03 24 15.7**	**-0.7**
ULM	**Lac du Bonnet**	**34.08**	**3**	P	**P**	**03 24 24.9**	**-1.0**
	comp=Z,7.8nm,1.1s,mb4.6,baz=192,slow=6.7,SNR=6.0						
NEW	**Newport**	**35.44**	**339**	P	**P**	**03 24 38.1**	**+0.5**
	comp=Z,4.4nm,0.9s,mb4.4,baz=146,slow=8.9,SNR=4.1						
FFC	**Flin Flon**	**38.58**	**357**	P	**P**	**03 25 04.9**	**+0.6**
	comp=Z,81nm,0.9s,mb5.5,SNR=6.1						
FFC	**Flin Flon**	**38.58**	**357**	*e*P	**P**	**03 25 03.9**	**-0.4**
FFC				*e**PP	pP	03 25 10.9	-0.8
FFC				pmax	pmax		
	comp=Z,12nm,0.9s,mb

TTA					*e*pP		pP	03 28 01.1	-2.2
SUMG	**Summit**	**65.94**	**17**		*e*P		**P**	**03 28 27.5**	**0.0**
	comp=Z,14nm,0.9s,mb5.0								
SUMG					*e*pP		pP	03 28 34.5	-0.7
BILL	**Bilibino**	**77.05**	**337**	⇑	*i*P		**P**	**03 29 34.1**	**-0.3**
BILL					pmax		pmax		
	comp=Z,13nm,2.2s,mb4.5								
BILL	**Bilibino**	**77.05**	**337**		*e*P		**P**	**03 29 33.3**	**-1.1**
	comp=Z,5.2nm,0.8s,mb4.5								
BILL					*e*pP		pP	03 29 40.6	-1.7
ROSF	**Rostrenen**	**81.60**	**42**		*e*P		**P**	**03 30 05.2**	**+5.9**
	comp=Z,170nm,1.6s,mb5.4								
SGMF	**Saint Gilles**	**82.09**	**42**		*e*P		**P**	**03 30 06.8**	**+5.0**
	comp=Z,44nm,1.1s,mb5.0								
SGMF	**Saint Gilles**	**82.09**	**42**		*e*P		**P**	**03 30 06.8**	**+5.0**
SGMF					pmax		pmax		
	comp=Z,22nm,1.1s,mb5.0								
SGMF	**Saint Gilles**	**82.09**	**42**		*e*P		**P**	**03 30 06.8**	**+5.0**
	comp=Z,22nm,1.1s,mb5.0								
GRR	**Gorron**	**83.14**	**42**		*e*P		**P**	**03 30 12.9**	**+5.6**
	comp=Z,28nm,1.1s,mb4.9								
ESDC	**Sonseca Array**	**83.37**	**51**		P		**P**	**03 30 08.3**	**-0.2**
	comp=Z,0.6nm,0.8s,mb3.7,baz=291,slow=3.9,SNR=5.0								
ETSF	**Etsaut**	**84.93**	**47**		*e*P		**P**	**03 30 22.6**	**+6.1**
	comp=Z,13nm,1.0s,mb4.7								
LFF	**La Frestale**	**85.21**	**45**		*e*P		**P**	**03 30 23.5**	**+5.6**
	comp=Z,36nm,1.2s,mb5.1								
NB2	**NORSAR Subarra**	**85.25**	**27**		P		**P**	**03 30 25.2**	**+7.1**
	comp=Z,7.2nm,1.2s,mb4.7,baz=295,slow=5.1								
NOA	**NORSAR Array B**	**85.25**	**27**		P		**P**	**03 30 17.9**	**-0.2**
	comp=Z,0.9nm,0.9s,mb3.9,baz=301,slow=5.0,SNR=3.1								
EPF	**Esparros**	**85.52**	**47**		*e*P		**P**	**03 30 25.2**	**+5.8**
	comp=Z,19nm,1.1s,mb4.9								
RJF	**Les Rejaudoux**	**85.62**	**44**		*e*P		**P**	**03 30 25.3**	**+5.4**
	comp=Z,23nm,1.1s,mb5.0								
RJF	**Les Rejaudoux**	**85.62**	**44**		*e*P		**P**	**03 30 25.3**	**+5.4**
RJF					pmax		pmax		
	comp=Z,11nm,1.1s,mb5.0								
RJF	**Les Rejaudoux**	**85.62**	**44**		*e*P		**P**	**03 30 25.3**	**+5.4**
	comp=Z,11nm,1.1s,mb5.0								
TCF	**Toulx Ste Croi**	**85.77**	**43**		*e*P		**P**	**03 30 26.0**	**+5.4**
	comp=Z,40nm,1.2s,mb5.2								
TCF	**Toulx Ste Croi**	**85.77**	**43**		*e*P		**P**	**03 30 26.0**	**+5.4**
TCF					pmax		pmax		
	comp=Z,20nm,1.2s,mb5.2								
TCF	**Toulx Ste Croi**	**85.77**	**43**		*e*P		**P**	**03 30 26.0**	**+5.4**
	comp=Z,20nm,1.2s,mb5.2								
BGF	**Bois d'Agland**	**86.09**	**43**		*e*P		**P**	**03 30 27.5**	**+5.3**
	comp=Z,32nm,1.2s,mb5.1								
BGF	**Bois d'Agland**	**86.09**	**43**		*e*P		**P**	**03 30 27.5**	**+5.3**
BGF					pmax		pmax		
	comp=Z,16nm,1.3s,mb5.1								
BGF	**Bois d'Agland**	**86.09**	**43**		*e*P		**P**	**03 30 27.5**	**+5.3**
	comp=Z,16nm,1.3s,mb5.1								
CAF	**Calviac**	**86.11**	**44**		*e*P		**P**	**03 30 27.6**	**+5.3**
	comp=Z,8.6nm,1.0s,mb4.6								
CAF	**Calviac**	**86.11**	**44**		*e*P		**P**	**03 30 27.6**	**+5.3**
CAF					pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.6								
CAF	**Calviac**	**86.11**	**44**		*e*P		**P**	**03 30 27.6**	**+5.3**
	comp=Z,4.3nm,1.0s,mb4.6								
AVF	**Avril sur Loir**	**86.34**	**42**		*e*P		**P**	**03 30 28.1**	**+4.6**
	comp=Z,6.9nm,0.9s,mb4.6								
AVF	**Avril sur Loir**	**86.34**	**42**		*e*P		**P**	**03 30 28.1**	**+4.6**
AVF					pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.5								
AVF	**Avril sur Loir**	**86.34**	**42**		*e*P		**P**	**03 30 28.1**	**+4.6**
	comp=Z,3.5nm,0.9s,mb4.6								
SSF	**Saint Saulge**	**86.35**	**42**		*e*P		**P**	**03 30 28.6**	**+5.1**
	comp=Z,16nm,1.1s,mb4.8								
SSF	**Saint Saulge**	**86.35**	**42**		*e*P		**P**	**03 30 28.6**	**+5.1**
SSF					pmax		pmax		
	comp=Z,8.0nm,1.1s,mb4.9								
SSF	**Saint Saulge**	**86.35**	**42**		*e*P		**P**	**03 30 28.6**	**+5.1**
	comp=Z,7.8nm,1.1s,mb4.8								
LOR	**Lormes**	**86.51**	**42**		*e*P		**P**	**03 30 29.6**	**+5.3**
	comp=Z,21nm,1.1s,mb5.0								
LOR	**Lormes**	**86.51**	**42**		*e*P		**P**	**03 30 29.6**	**+5.3**
LOR					pmax		pmax		
	comp=Z,11nm,1.1s,mb5.0								
LOR	**Lormes**	**86.51**	**42**		*e*P		**P**	**03 30 29.6**	**+5.3**
	comp=Z,11nm,1.1s,mb5.0								
MTLF	**Montolieu**	**86.73**	**46**		*e*P		**P**	**03 30 30.9**	**+5.5**
	comp=Z,24nm,1.1s,mb5.0								
MTLF	**Montolieu**	**86.73**	**46**		*e*P		**P**	**03 30 30.9**	**+5.5**
MTLF					pmax		pmax		
	comp=Z,12nm,1.1s,mb5.0								
MTLF	**Montolieu**	**86.73**	**46**		*e*P		**P**	**03 30 30.9**	**+5.5**
	comp=Z,12nm,1.1s,mb5.0								
LASF	**Ste Croix**	**87.60**	**45**		*e*P		**P**	**03 30 35.8**	**+6.2**
	comp=Z,41nm,1.4s,mb5.2								
HAU	**Haudompre**	**87.82**	**40**		*e*P		**P**	**03 30 36.6**	**+6.0**
	comp=Z,6.8nm,0.8s,mb4.7								
VIVF	**Saint-Julien-l**	**87.88**	**44**		*e*P		**P**	**03 30 36.2**	**+5.3**
	comp=Z,11nm,1.1s,mb4.7								
VIVF	**Saint-Julien-l**	**87.88**	**44**		*e*P		**P**	**03 30 36.2**	**+5.3**
VIVF					pmax		pmax		
	comp=Z,6.0nm,1.1s,mb4.7								
VIVF	**Saint-Julien-l**	**87.88**	**44**		*e*P		**P**	**03 30 36.2**	**+5.3**
	comp=Z,5.5nm,1.1s,mb4.7								
ORIF	**Oris-en-Rattie**	**88.66**	**43**		*e*P		**P**	**03 30 40.9**	**+6.3**
OBN	**Obninsk**	**99.53**	**24**	*d*	*i*P		**P**	**03 31 32.5**	**+8.1**
OBN								03 35 29.0	
OBN					pmax		pmax		
	comp=Z,6.0nm,0.6s,mb5.2								
OBN					MLR		MLR		
	comp=Z,500nm,19.0s,MS5.0								
SNY	**Shenyang**	**110.38**	**328**		*e*PKP	PKiKP		03 36 15.6	+2.1
HHC	**Hu-ho-hao-te**	**116.73**	**335**		*e*PKP	PKPdf		03 36 25.0	-0.6
HHC					PP	PP		03 37 37.7	+4.0
HHC					PKS			03 40 00.2	
HHC					SKS	SKSdf		03 43 33.3	-2.9
HHC					SKKS	SKKSac		03 44 23.5	-10
HHC					SS	SS		03 53 43.7	+5.0
HHC					LR	LR			
	comp=N,254nm,20.6s,MS4.9								
HHC					LR	LR			
	comp=E,211nm,20.1s,MS4.9								
HHC					LR	LR			
	comp=Z,296nm,21.0s,MS4.9								
MKAR	**Makanchi Array**	**117.34**	**359**		PKP	PKPdf		03 36 31.9	+5.1
	comp=Z,0.5nm,0.8s,baz=46,slow=3.5,SNR=5.9								
SSE	**Sheshan**	**119.41**	**321**		PKP	PKPdf		03 36 28.5	-2.3
SSE					PP	PP			
	comp=Z,148nm,9.6s								
WMQ	**Urumqi**	**120.04**	**355**		PKP	PKPdf		03 36 32.3	+0.3
WMQ					XPKP			03 36 42.3	
WMQ					PP	PP		03 38 00.8	+4.2
WMQ					SKKS	SKKSac		03 44 49.9	-5.1
WMQ					PP	PP			
	comp=Z,414nm,6.8s								
WMQ					LR	LR			
	comp=N,268nm,23.8s,MS5.0								
WMQ					LR	LR			
	comp=E,212nm,19.8s,MS5.0								
WMQ					LR	LR			
	comp=Z,245nm,21.0s,MS4.8								
NJ2	**Nanjing**	**120.09**	**323**		*e*PKP	PKPdf		03 36 32.4	+0.3
NJ2					PP	PP		03 38 03.0	+6.0
NJ2					PKS			03 40 07.0	
NJ2					PPP			03 40 35.0	
NJ2					PP	PP			
	comp=Z,190nm,10.4s								
NJ2					LR	LR			
	comp=N,2μm,32.8s								
NJ2					LR	LR			
	comp=E,680nm,20.3s								
NJ2					LR	LR			
	comp=Z,200nm,26.0s								
GTA	**Gaotai**	**122.10**	**343**		*e*PKP	PKPdf		03 36 36.8	+0.9
GTA					PP	PP		03 38 16.0	+5.4
GTA					PKS			03 40 12.0	
GTA					SKS	SKSdf		03 43 44.1	-2.3
GTA					SKKS	SKKSac		03 45 04.7	-3.8
GTA					SS	SS		03 54 48.8	+1.0
GTA					PP	PP			
	comp=Z,308nm,11.4s								
GTA					LR	LR			
	comp=N,273nm,18.6s,MS5.1								
GTA					LR	LR			
	comp=E,342nm,18.6s,MS5.1								
GTA					LR	LR			
	comp=Z,461nm,17.9s,MS5.2								
LZH	**Lanzhou**	**123.85**	**338**		*e*PKP	PKPdf		03 36 37.3	-2.0
LZH					XPKP			03 36 51.7	
LZH					LR	LR			
	comp=N,353nm,19.7s								
LZH					LR	LR			
	comp=Z,552nm,20.4s,MS5.2								
CD2	**Chengdu**	**128.49**	**335**		*e*PKP	PKPdf		03 36 44.4	-3.8
WRA	**Warramunga Arr**	**129.65**	**257**		PKP	PKPdf		03 36 56.5	+6.1
	comp=Z,1.2nm,0.8s,baz=87,slow=2.5,SNR=9.4								
ASAR	**Alice Springs**	**130.26**	**253**		PKP	PKPdf		03 36 57.1	+5.6
	comp=Z,0.7nm,0.7s,baz=112,slow=1.9,SNR=6.7								
KMI	**Kuming**	**133.98**	**333**		PKP	PKPdf		03 37 00.4	+1.8
HYB	**Hyderabad**	**146.52**	**5**		*i* PKP	PKPdf		03 37 22.0	+0.8
HYB					*e*			03 37 28.5	
HYB					*e*			03 37 39.0	
HYB	**Hyderabad**	**146.52**	**5**		*e*P	PKPdf		03 37 22.0	+0.8

*ISCJB **01** 03:21:58.6±0.9, 1643N±005×9874W±003, h9km±6km, mb4.1/14, Error ellipse: s-maj=8.4km s-min=5.0km az=44.4*
*NEIC **01** 03:21:59.9, 1627N×9881W, h29km, mb4.1/7, MD4.4(MEX), After MEX.*
*MEX **01** 03:21:59.4±0.8, 1623N×9881W, h37km±23km, MD4.4*
*BJI **01** 03:22:03.9, 1630N×9880W, h29km, Ms4.5, Msz4.2*
*IDC **01** 03:22:09.4±6.8, 1633N×9845W, h80km±63km, mb3.8/10, mb1 4.0/12, mb1mx3.8/24, mbtmp4.2/12, ML3.8/1, Error ellipse: s-maj=58.1km s-min=17.4km az=45.0*

ISC 01 03:22:01.8±0.9, 1650N±005×9863W±004, h13km±6km, n68, σ1§67/83, mb4.1/14, Near coast of Guerrero

Code	Station Name	Δ°	AZ°		Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.49**	**102**			*i* P		**Pg**	**03 22 11.6**	**+0.1**
PNIG						*i* S		**Sg**	**03 22 19.1**	**+1.0**
PNIG	**Pinotepa**	**0.49**	**102**			*i* P		**Pg**	**03 22 11.6**	**+0.1**
PNIG						*i* S		**Sg**	**03 22 19.1**	**+1.1**
ACX	**Acapulco**	**1.29**	**287**			*i* P		**Pn**	**03 22 18.5**	**-7.0**
ACX						*i* S		**Sb**	**03 22 33.0**	**-9.4**
UTMO	**Huajuapan**	**1.54**	**31**			*i* P		**Pn**	**03 22 28.1**	**-0.9**
UTMO						*i* S		**Sn**	**03 22 49.6**	**+0.7**
CAIG	**El Cayaco**	**1.66**	**289**			*e*P		**Pn**	**03 22 23.7**	**-6.9**
CAIG						*i* S		**Sn**	**03 22 43.5**	**-8.4**
MEIG	**Mezcala**	**1.71**	**326**			*e*P		**Pn**	**03 22 26.1**	**-5.2**
MEIG						*i* S		**Sn**	**03 22 49.4**	**-3.5**
VHO	**Vista Hermosa**	**1.91**	**72**			*e*P		**Pn**	**03 22 31.1**	**-2.9**
VHO						*i* S		**Sn**	**03 22 58.1**	**+0.3**
OXX	**Oaxaca**	**1.92**	**72**			*e*P		**Pn**	**03 22 31.0**	**-3.2**
PLIG	**Platanillo**	**2.06**	**336**			*e*P		**Pn**	**03 22 32.3**	**-3.9**
PLIG						*e*S		**Sn**	**03 22 57.6**	**-4.1**
TPIG	**Tehuac#an**	**2.26**	**32**			*e*P		**Pn**	**03 22 38.4**	**-0.5**
TPIG						*i* S		**Sn**	**03 23 07.7**	**+1.0**
YAIG	**Yautepec**	**2.39**	**350**			*e*P		**Pn**	**03 22 38.0**	**-2.6**
YAIG						*e*S		**Sn**	**03 23 08.2**	**-1.6**
HUIG	**Huatulco**	**2.53**	**106**			*e*P		**Pn**	**03 22 37.8**	**-4.8**
HUIG						*i* S		**Sn**	**03 23 07.7**	**-5.6**
HUIG	**Huatulco**	**2.53**	**106**			*e*P		**Pn**	**03 22 38.9**	**-3.7**
HUIG						*e*S		**Sn**	**03 23 06.5**	**-6.8**
PPM	**Popocatepetl**	**2.56**	**0**			*e*P		**Pn**	**03 22 38.8**	**-4.2**
PPM						*e*P			03 22 42.5	
PPM	**Popocatepetl**	**2.56**	**0**			*e*P		**Pn**	**03 22 35.0**	**-7.9**
CIVM	**Cilcuayo**	**2.61**	**353**			*e*P		**Pn**	**03 22 42.7**	**-1.0**
CIVM						*i* S		**Sn**	**03 23 10.8**	**-4.6**
CHVM	**Chichinautzin**	**2.62**	**349**			*e*P		**Pn**	**03 22 42.9**	**-0.9**
RFVM	**Rio Frio**	**2.82**	**357**			*e*P		**Pn**	**03 22 46.1**	**-0.5**
RFVM						*i* S		**Sn**	**03 23 22.2**	**+1.7**
UNM	**Universidad Na**	**2.87**	**350**			*e*P		**Pn**	**03 22 41.0**	**-6.2**
UNM						*e*P			03 22 43.7	
UNM						*i* P			03 22 48.0	
UNM						*i* S		**Sn**	**03 23 17.6**	**-3.9**
UNM						*i* S		**Sn**	**03 23 20.2**	**-1.3**
PTVM	**Pico Tres Padr**	**3.11**	**352**			*e*P		**Pn**	**03 22 47.2**	**-2.4**
MOIG	**Morelia**	**3.99**	**323**			*i* P		**Pn**	**03 22 60.0**	**-2.7**
MOIG						*e*S		**Sn**	**03 23 43.5**	**-5.9**
MOIG	**Morelia**	**3.99**	**323**			*e*P		**Pn**	**03 23 01.3**	**-1.4**
MOIG						*e*S		**Sn**	**03 23 43.5**	**-5.9**
MRX	**Morelia**	**4.01**	**323**			*e*P		**Pn**	**03 23 02.0**	**-1.0**
SFJM	**Santa Fe**	**5.77**	**314**			*e*P		**Pg**	**03 23 53.0**	**+0.8**
TEIG	**Tepich**	**10.51**	**68**			*e*Pn		**Pn**	**03 24 31.1**	**-1.0**
	4.5nm,0.9s									
JTS	**JuntasAbangare**	**14.66**	**113**		P			**Pn**	**03 25 29.9**	**+1.0**
	0.5nm,0.3s,baz=231,slow=8.7,SNR=3.5									
JTS	**JuntasAbangare**	**14.66**	**113**		*e*Pn			**Pn**	**03 25 27.4**	**-1.4**
	14nm,0.3s									
MNTX	**Cerritos Mount**	**16.33**	**339**		*e*P			**Pn**	**03 25 51.7**	**+0.9**
GDL2	**Guadalupe Moun**	**16.48**	**343**		Pn			**Pn**	**03 25 59.0**	**+6.3**
MIAR	**Mount Ida**	**18.54**	**13**		*e*P			**Pn**	**03 26 19.3**	**+1.0**
	7.7nm,0.8s									
BNM	**Barren Site**	**18.99**	**339**		*e*P			**Pn**	**03 26 26.6**	**+2.8**
LPM	**Los Pinos Moun**	**19.14**	**339**		*e*P			**Pn**	**03 26 29.0**	**+3.4**
TUC	**Tucson**	**19.22**	**327**		*e*P			**Pn**	**03 26 29.0**	**+2.5**
	5.6nm,1.2s									
ANMO	**Albuquerque**	**19.67**	**341**		P			**Pn**	**03 26 34.5**	**+2.6**
	0.2nm,0.3s,baz=154,slow=11,SNR=12									
ANMO	**Albuquerque**	**19.67**	**341**		*e*P			**Pn**	**03 26 34.5**	**+2.6**
PLAL	**Pickwick Lake**	**20.69**	**25**		*e*P			**P**	**03 26 44.9**	**+3.3**
UTMT	**University of**	**21.59**	**22**		*e*P			**P**	**03 26 44.4**	**-6.8**
	72nm,0.3s									
WUAZ	**Wupatki**	**22.09**	**331**		*e*P			**P**	**03 27 01.3**	**+4.6**
	16nm,1.4s,mb4.2									
MVCO	**Mesa Verde**	**22.40**	**339**		*e*P			**P**	**03 27 02.9**	**+2.9**
FVM	**French Village**	**22.59**	**17**		*e*P			**P**	**03 27 05.0**	**+3.0**
	9.3nm,0.9s,mb4.2									
CPCT	**Cooper Cave**	**22.69**	**31**		*e*P			**P**	**03 27 04.8**	**+1.8**
PV01	**Paradox Valley**	**23.26**	**340**		*e*P			**P**	**03 27 12.3**	**+3.2**
SMCO	**Snowmass**	**23.75**	**344**		*e*P			**P**	**03 27 12.4**	**-1.5**
ISCO	**Idaho Springs**	**24.00**	**347**		*e*P			**P**	**03 27 18.4**	**+2.2**
WCI	**Wyandotte Cave**	**24.21**	**24**		*e*P			**P**	**03 27 13.9**	**-4.3**
ARUT	**Antelope Range**	**24.90**	**331**		*e*P			**P**	**03 27 25.0**	**+0.6**
MSU	**Marysvale**	**24.95**	**334**		*e*P			**P**	**03 27 27.5**	**+2.7**
PHWY	**Pilot Hill**	**25.41**	**348**		*e*P			**P**	**03 27 30.0**	**+1.0**
OTAV	**Otavalo**	**25.63**	**127**		P			**P**	**03 27 28.0**	**-3.0**
	1.4nm,0.6s,mb3.7									
DAU	**Daniels Canyon**	**26.23**	**338**		*e*P			**P**	**03 27 39.1**	**+2.7**
PTRM	**Twissleman Ran**	**27.09**	**319**		*e*P			**P**	**03 27 38.5**	**-5.7**
PDAR	**Pinedale Array**	**27.80**	**343**		P			**P**	**03 27 53.6**	**+3.1**
	2.6nm,0.9s,mb3.8,baz=139,slow=8.8,SNR=9.1									
NVAR	**Mina Array Bea**	**27.85**	**326**		P			**P**	**03 27 53.6**	**+2.6**
	0.7nm,0.7s,mb3.4,baz=151,slow=10,SNR=5.6									
SDV	**Santo Domingo**	**28.31**	**102**		P			**P**	**03 27 54.1**	**-1.0**
	4.1nm,0.9s,mb4.0,baz=344,slow=4.2,SNR=4.0									
SDV	**Santo Domingo**	**28.31**	**102**		*e*P			**P**	**03 27 53.7**	**-1.5**
	5.3nm,0.9s,mb4.2									
ULM	**Lac du Bonnet**	**33.74**	**3**		P			**P**	**03 28 44.0**	**+1.0**
	1.9nm,0.7s,mb4.1,baz=207,slow=3.9,SNR=3.4									
FFC	**Flin Flon**	**38.24**	**357**		*e*P			**P**	**03 29 22.8**	**+1.2**
	2.8nm,0.9s,mb4.0									
EDM	**Edmonton**	**38.42**	**346**		*e*P			**P**	**03 29 24.3**	**+1.2**
EDM					*e*pP			pP	03 29 31.7	+4.6
SCHQ	**Schefferville**	**45.42**	**25**		P			**P**	**03 30 20.9**	**+0.7**
	4.7nm,0.9s,mb4.3,baz=218,slow=7.8,SNR=5.5									
YKA	**Yellowknife Ar**	**47.30**	**350**		P			**P**	**03 30 35.5**	**+0.5**
	1.7nm,1.0s,mb3.9,baz=157,slow=7.3,SNR=7.8									
YKA	**Yellowknife Ar**	**47.30**	**350**		P			**P**	**03 30 35.5**	**+0.5**
DLBC	**Dease Lake**	**47.88**	**338**		P			**P**	**03 30 41.0**	**+1.5**
	4.3nm,1.0s,mb4.4,baz=98,slow=5.2,SNR=4.8									
INK	**Inuvik**	**56.32**	**345**		P			**P**	**03 31 42.9**	**+0.6**
	3.3nm,0.9s,mb4.3,baz=133,slow=8.1,SNR=7.4									
ILAR	**Eielson Array**	**58.08**	**338**		P			**P**	**03 31 55.6**	**+0.9**
	3.2nm,1.0s,mb4.3,baz=145,slow=4.5,SNR=16									
BDFB	**Brasilia**	**59.28**	**120**		P			**P**	**03 32 01.7**	**-1.4**
	2.2nm,1.0s,mb4.2,baz=106,slow=8.4,SNR=3.4									
SNY	**Shenyang**	**110.10**	**328**		*e*PKP	PKiKP			03 40 32.6	-0.6
NJ2	**Nanjing**	**119.83**	**323**		*e*PKP	PKPdf			03 40 54.2	+2.4
CD2	**Chengdu**	**128.18**	**335**		*e*PKP	PKPdf			03 41 07.8	0.0

*IDC **01** 03:29:22.2±2.9, 2707S×7102W, h0km, mb3.6/1, mb1 3.3/4, mb1mx3.2/16, mbtmp3.2/4, ML2.9/3, Error ellipse: s-maj=86.9km s-min=28.7km az=82.0*
*NEIC **01** 03:29:22.7, 2725S×7126W, h43km, MG3.5(GUC), After GUC.*
*GUC **01** 03:29:22.7±0.7, 2725S×7126W, h43km±5km, ML3.5*
*ISCJB **01** 03:29:24.6±1.3, 2719S±005×7129W±0.1, h43km, mb3.4/1, Error ellipse: s-maj=15.0km s-min=6.4km az=157.4*

ISC 01 03:29:27.3±1.3, 2713S±005×7107W±01, h43km, n13, σ1§28/20, mb3.4/1, 6D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°		Phase	ID	Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.20**	**75**	⇓	*i*P			**Pn**	**03 29 32.5**	**-2.5**
CDCH					*i* S			**Sn**	**03 29 40.3**	**+0.1**
CDCH					AML		AML		03 29 40.7	
	comp=E,1μm,0.1s									
CPCH	**Copiapo**	**0.65**	**111**	⇓	*i*P			**Pn**	**03 29 38.5**	**-1.7**
CPCH					*i* S			**Sn**	**03 29 49.9**	**+0.4**
CPCH					AML		AML		03 29 52.5	
	comp=E,19μm,0.1s									
CPCH	**Copiapo**	**0.65**	**111**	⇓	*i*P			**Pn**	**03 29 38.5**	**-1.7**
CPCH					*i* S			**Sn**	**03 29 49.9**	**+0.4**
CRCH	**Chaqaral**	**0.86**	**26**	⇓	*i*P			**Pn**	**03 29 43.5**	**+0.5**
CRCH					*i* S			**Sn**	**03 29 58.2**	**+3.8**
CRCH					AML		AML		03 30 02.9	
	comp=N,813nm,0.2s									
CRCH	**Chaqaral**	**0.86**	**26**	⇓	*i*P			**Pn**	**03 29 43.5**	**+0.5**
CRCH					*i* S			**Sn**	**03 29 58.2**	**+3.8**
CPN1	**Cerro Paranal**	**2.55**	**13**	⇓	*i*P			**Pn**	**03 30 05.7**	**-0.5**
CPN1					*e*S			**Sn**	**03 30 37.9**	**+1.8**
CPN1					AML		AML		03 30 54.9	
	comp=E,290nm,0.6s									
CEN1	**Los Morros**	**3.80**	**12**		*e*P			**Pn**	**03 30 18.5**	**-4.7**
CFAA	**Coronel Fontan**	**5.09**	**152**		Pn			**Pn**	**03 30 41.7**	**+0.6**
	comp=E,0.1nm,0.3s,baz=323,slow=9.6,SNR=3.1									
CFAA					Sn			**Sn**	**03 31 39.4**	**+0.9**
	comp=E,0.1nm,0.3s,baz=191,slow=20,SNR=2.5									
CFAA	**Coronel Fontan**	**5.09**	**152**		Pn			**Pn**	**03 30 41.7**	**+0.6**
CFAA					Sn			**Sn**	**03 31 39.4**	**+0.9**
LPAZ	**La Paz**	**11.12**	**15**		Pn			**Pn**	**03 32 02.8**	**-0.9**
	comp=E,0.1nm,0.3s,baz=231,slow=6.9,SNR=3.1									
SIV	**San Ignacio**	**14.44**	**42**		Pn			**Pn**	**03 32 47.4**	**-1.5**
	comp=E,0.1nm,0.3s,baz=231,slow=14,SNR=2.5									
TORD	**Torodi Ar. Bea**	**81.07**	**70**		P			**P**	**03 41 39.3**	**+1.5**
	comp=E,0.4nm,0.9s,mb3.4,baz=258,slow=3.7,SNR=6.2									
MKAR	**Makanchi Array**	**151.25**	**40**		PKPbc	PKPbc			03 49 17.0	+1.0
	comp=E,0.6nm,0.8s,baz=300,slow=2.0,SNR=7.0									

*NEIC **01** 03:30:51.5, 1580N×9870W, h16km, MD3.9(MEX), After MEX.*

MEX 01 03:30:51.8±0.7, 1583N×9871W, h16km±26km, MD3.9, Off coast of Guerrero

Code	Station Name	Δ°	AZ°		Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.79**	**45**		*i*P			Pb	03 31 04.1	-3.1
PNIG					*i* S			Sb	03 31 14.4	-3.3
ACX	**Acapulco**	**1.55**	**312**		*e*P			Pn	03 31 16.0	-2.8
ACX					*i* S			Sn	03 31 33.0	-5.6
UTMO	**Huajuapan**	**2.17**	**23**		*i*P			Pn	03 31 24.5	-2.8
UTMO					*i* S			Sn	03 31 50.6	-3.2
MEIG	**Mezcala**	**2.26**	**337**		*i*P			Pn	03 31 24.6	-3.9
MEIG					*i* S			Sn	03 31 51.9	-4.2
VHO	**Vista Hermosa**	**2.26**	**57**		*i*P			Pn	03 31 26.1	-2.4
VHO					*i* S			Sn	03 31 51.4	-4.7
OXX	**Oaxaca**	**2.28**	**56**		*e*P			Pn	03 31 26.0	-2.7
OXX					*i* S			Sn	03 31 50.0	-6.4
PPM	**Popocatepetl**	**3.22**	**1**		*i*P			Pn	03 31 40.4	-1.3
PPM					*i* S			Sn	03 32 19.3	-0

KRNR				*e*S	**Sg**	**04 02 53.0**	**-0.2**
KRNR				pmax	pmax			
	comp=Z,25nm,0.2s							
KRNR	**Karanay**	**1.18**	**141**	*e*Pg	**Pg**	**04 02 37.0**	**-0.9**
	comp=Z,25nm,0.2s							
KRNR				*e*Sg	**Sg**	**04 02 53.0**	**-0.2**
KMSR	**Komsomolskaya**	**1.22**	**253**	*i* Pg	**Pg**	**04 02 39.5**	**+0.9**
KMSR				*e*Sg	**Sg**	**04 02 56.0**	**+1.5**
ARNR	**Ardon**	**1.30**	**245**	*i* PG	**Pg**	**04 02 40.0**	**-0.1**
ARNR				*i* S	**Sg**	**04 02 56.9**	**-0.1**
KORR	**Kora**	**1.48**	**244**	*e*Pg	**Pg**	**04 02 42.5**	**-1.2**
LACR	**Lac**	**1.49**	**232**	*e*Pg	**Pg**	**04 02 41.6**	**-2.1**
ZEI	**Tsey**	**1.75**	**237**	⇓*i*PN	**Pn**	**04 02 46.4**	**-0.2**
ZEI				pmax	pmax			
	comp=Z,44nm,0.1s							
ZEI	**Tsey**	**1.75**	**237**	*i* Pn	**Pn**	**04 02 46.4**	**-0.2**
	comp=Z,44nm,0.1s							
KMKR	**Kumukh**	**1.84**	**151**	*e*PN	**Pn**	**04 02 48.0**	**+0.2**
KMKR				*i* S	**Sn**	**04 03 12.0**	**+0.3**
KMKR				pmax	pmax			
	comp=Z,25nm,0.2s							
KMKR	**Kumukh**	**1.84**	**151**	*e*Pn	**Pn**	**04 02 48.0**	**+0.2**
	comp=Z,25nm,0.2s							
KMKR				*i* Sg	**Sn**	**04 03 12.0**	**+0.3**
DIGR	**Digorskoe uzhe**	**1.89**	**244**	*i* Pn	**Pn**	**04 02 47.9**	**-0.5**

*ISCJB **01** 04:07:29.3±0.3, 36.36N×002×353W×003, h10^{km}, Error ellipse: s-maj=3.7km s-min=3.1km az=56.0*
*CSEM **01** 04:07:30.6±0.1, 36.32N×347W, h2^{km}, ML3.4/10, Error ellipse: s-maj=2.3km s-min=1.8km az=179.0*
*MDD **01** 04:07:31.2±0.4, 3636N×347W, h11^{km}, mbLg2.7/17, Error ellipse: s-maj=3.7km s-min=3.0km az=74.0, PRXIMO*
*NEIC **01** 04:07:31.2, 3636N×348W, h11^{km}, MN2.7(MDD), After MDD.*
*SFS **01** 04:07:31.0, 3635N×348W, h0^{km}, ML2.7*
*INMG **01** 04:07:32.8±1.5, 3644N×350W, h11^{km}±3^{km}, ML2.6, Error ellipse: s-maj=3.3km s-min=2.9km az=118.0*
*IGIL **01** 04:07:34.2, 3660N×360W, h2^{km}, ML2.8*

ISC 01 04:07:30.5±0.4, 3634N±002×353W±003, h10^{km}±3^{km}, n75, σ1^{s}33/114, 2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EGUA	**Guajares**	**0.49**	**356**	⇓	Pg	**Pg**	**Pg**	**04 07 40.2**	**+0.2**
	62nm,0.2s,SNR=18								
EGUA					Lg			04 07 46.6	
	190nm,0.4s,SNR=7.9								
ERON	**Agron**	**0.71**	**342**		Pg	**Pg**	**Pg**	**04 07 43.8**	**-0.5**
	26nm,0.2s,SNR=23								
ERON					Lg			04 07 53.3	
	84nm,0.2s,SNR=12								
MAL	**Malaga**	**0.81**	**299**	*e*	P	**Pg**	**Pg**	**04 07 46.8**	**+0.7**
MAL				*e*	S	**Sg**	**Sg**	**04 07 58.1**	**+1.5**
EQUE	**Quentar**	**0.86**	**5**		Pg	**Pg**	**Pg**	**04 07 46.8**	**-0.3**
	42nm,0.2s,SNR=118								
EQUE					Lg			04 07 57.5	
	180nm,0.3s,SNR=19								
ECOG	**Cogollos-Vega**	**0.94**	**358**		Pg	**Pg**	**Pg**	**04 07 48.4**	**-0.1**
	21nm,0.2s,SNR=58								
ECOG					Lg			04 07 59.6	
	165nm,0.4s,SNR=13								
ELOJ	**Sierra Loja**	**0.95**	**328**		Pg	**Pg**	**Pg**	**04 07 48.2**	**-0.6**
	5.3nm,0.2s,SNR=7.9								
ELOJ					Lg			04 08 01.7	
	48nm,0.4s,SNR=4.0								
EMIJ	**Mijas**	**1.03**	**283**		Pg	**Pg**	**Pg**	**04 07 49.4**	**-0.9**
	18nm,0.2s,SNR=62								
EMIJ					Lg			04 08 02.0	
	140nm,0.3s								
EMEL	**Melilla**	**1.14**	**156**	⇓	Pg	**Pg**	**Pg**	**04 07 51.3**	**-1.0**
	111nm,0.1s,SNR=18								
EMEL					Lg			04 08 06.4	
	516nm,0.2s,SNR=7.9								
EMLI	**Melilla**	**1.14**	**156**		Pg	**Pg**	**Pg**	**04 07 51.3**	**-1.1**
	111nm,0.1s,SNR=18								
MELI	**Melilla**	**1.15**	**155**		Pg	**Pg**	**Pg**	**04 07 52.0**	**-0.6**
MELI					Lg			04 08 05.8	
MELI	**Melilla**	**1.15**	**155**	*e*	P	**Pb**	**Pb**	**04 07 52.0**	**-0.4**
MELI				*e*	S	**Sb**	**Sb**	**04 08 05.8**	**-1.6**
ENIJ	**Nijar**	**1.23**	**59**		Pg	**Pg**	**Pg**	**04 07 51.8**	**-2.3**
	64nm,0.2s,SNR=41								
ENIJ					Lg			04 08 08.0	
	204nm,0.4s,SNR=13								
ELUQ	**Luque**	**1.35**	**334**		Pg	**Pg**	**Pg**	**04 07 56.6**	**+0.1**
	0.1nm,0.2s,SNR=4.0								
ELUQ					Lg			04 08 16.6	
	0.1nm,0.2s,SNR=4.0								
EQES	**Quesada**	**1.50**	**14**		Pg	**Pg**	**Pg**	**04 07 58.2**	**-1.1**
	26nm,0.2s,SNR=90								
EQES					Lg			04 08 19.3	
	74nm,0.2s,SNR=7.5								
EQES	**Quesada**	**1.50**	**14**		Pg	**Pg**	**Pg**	**04 07 58.2**	**-1.1**
	26nm,0.2s,SNR=90								
EJIF	**Jimena Fronter**	**1.57**	**275**		Pg	**Pg**	**Pg**	**04 07 59.9**	**-0.7**
	4.6nm,0.3s,SNR=12								
EJIF					Lg			04 08 22.9	
	24nm,0.6s,SNR=4.0								
LIJA	**Lijar**	**1.61**	**291**	*e*	P	**Pn**	**Pn**	**04 08 02.0**	**+3.1**
LIJA				*e*	S	**Sn**	**Sn**	**04 08 22.0**	**+2.3**
EHUE	**Huescar**	**1.65**	**27**		Pg	**Pg**	**Pg**	**04 08 00.6**	**-1.5**
	12nm,0.2s,SNR=7.9								
EHUE					Lg			04 08 22.2	
	17nm,0.2s,SNR=7.9								
EBAN	**Banos Encina**	**1.83**	**354**		Pn	**Pn**	**Pn**	**04 08 02.0**	**0.0**
	0.3nm,0.2s,SNR=7.9								
EBAN					Pg	**Pg**	**Pg**	**04 08 04.8**	**-0.8**
	22nm,0.3s,SNR=7.9								
EBAN					Lg			04 08 27.5	
	60nm,0.4s,SNR=7.9								
ESPR	**Espera**	**1.95**	**286**		Pg	**Pg**	**Pg**	**04 08 06.8**	**-0.9**
	5.3nm,0.3s,SNR=14								
ESPR					Lg			04 08 34.3	
	33nm,0.3s,SNR=6.1								
ESPR	**Espera**	**1.95**	**286**		Pg	**Pg**	**Pg**	**04 08 06.8**	**-1.0**
	5.3nm,0.3s,SNR=14								
EADA	**Adamuz**	**2.01**	**336**		Pn	**Pn**	**Pn**	**04 08 05.1**	**+0.7**
	19nm,0.3s,SNR=7.9								
EADA					Lg			04 08 34.0	
	57nm,0.3s,SNR=7.9								
EADA	**Adamuz**	**2.01**	**336**		Pn	**Pn**	**Pn**	**04 08 05.1**	**+0.7**
	19nm,0.3s,SNR=7.9								
EMUR	**La Murta**	**2.36**	**50**		Pn	**Pn**	**Pn**	**04 08 08.8**	**-0.4**
	5.5nm,0.2s,SNR=11								
EMUR					Sn	**Sn**	**Sn**	**04 08 34.2**	**-4.2**
	34nm,0.4s,SNR=4.0								
EMUR	**La Murta**	**2.36**	**50**		Pn	**Pn**	**Pn**	**04 08 08.8**	**-0.5**
	5.5nm,0.2s,SNR=11								
EVIA	**Vianos**	**2.43**	**19**		Pn	**Pn**	**Pn**	**04 08 13.0**	**+2.8**
	9.5nm,0.2s,SNR=4.0								
ETOB	**Tobarra**	**2.79**	**34**		Pn	**Pn**	**Pn**	**04 08 16.3**	**+1.2**
	4.6nm,0.2s,SNR=31								
ETOB					Sn	**Sn**	**Sn**	**04 08 49.2**	**+0.4**
	9.5nm,0.3s,SNR=4.0								
ETOB					Lg			04 08 58.8	
	29nm,0.4s,SNR=4.0								
ETOB	**Tobarra**	**2.79**	**34**		Pn	**Pn**	**Pn**	**04 08 16.3**	**+1.2**
	4.6nm,0.2s,SNR=31								
ETOB					Sn	**Sn**	**Sn**	**04 08 49.2**	**+0.4**
	9.5nm,0.3s,SNR=4.0								
EMIN	**Mina Concepcio**	**2.89**	**300**		Pn	**Pn**	**Pn**	**04 08 16.7**	**+0.2**
	2.4nm,0.2s,SNR=15								
EMIN					Sn	**Sn**	**Sn**	**04 08 51.4**	**+0.1**
	5.6nm,0.2s,SNR=7.9								
EMIN	**Mina Concepcio**	**2.89**	**300**		Pn	**Pn**	**Pn**	**04 08 16.7**	**+0.2**
	2.4nm,0.2s,SNR=15								
EMIN					Sn	**Sn**	**Sn**	**04 08 51.4**	**+0.1**
	5.6nm,0.2s,SNR=7.9								
ESDC	**Sonseca Array**	**3.34**	**354**		Pn	**Pn**	**Pn**	**04 08 23.7**	**+0.9**
	2.4nm,0.1s,baz=174,slow=12,SNR=18								
ESDC					Sn	**Sn**	**Sn**	**04 08 59.3**	**-3.3**
	2.6nm,0.2s,baz=171,slow=16,SNR=6.3								
ESDC					Lg			04 09 16.1	
	15nm,0.5s,baz=175,slow=28,SNR=6.5								
ESDC	**Sonseca Array**	**3.34**	**354**		Pn	**Pn**	**Pn**	**04 08 23.7**	**+0.9**
	2.4nm,0.1s,SNR=18								
ESLA	**Sonseca Array**	**3.34**	**354**	*e*	Pn	**Pn**	**Pn**	**04 08 24.7**	**+1.9**
ESLA				*e*	Sg	**Sg**	**Sg**	**04 09 18.2**	**+0.4**
EGRO	**El Granado**	**3.38**	**292**		Pn	**Pn**	**Pn**	**04 08 23.7**	**+0.4**
	7.6nm,0.3s,SNR=14								
EGRO					Sn	**Sn**	**Sn**	**04 09 03.2**	**-0.3**
	19nm,0.4s,SNR=5.0								
EGRO	**El Granado**	**3.38**	**292**		Pn	**Pn**	**Pn**	**04 08 23.7**	**+0.4**
	7.6nm,0.3s,SNR=14								
EGRO					Sn	**Sn**	**Sn**	**04 09 03.2**	**-0.3**
	19nm,0.4s,SNR=5.0								
EBEN	**Beniarda**	**3.53**	**47**		Pn	**Pn**	**Pn**	**04 08 25.0**	**-0.3**
	0.9nm,0.2s,SNR=6.6								
EBEN					Sn	**Sn**	**Sn**	**04 09 01.3**	**-5.8**
	2.5nm,0.4s								
EBEN	**Beniarda**	**3.53**	**47**		Pn	**Pn**	**Pn**	**04 08 25.0**	**-0.3**
	0.9nm,0.2s,SNR=6.6								
EBAD	**Badajoz**	**3.67**	**312**		Pn	**Pn**	**Pn**	**04 08 28.1**	**+0.9**
	4.6nm,0.2s,SNR=19								
EBAD					Sn	**Sn**	**Sn**	**04 09 06.9**	**-3.7**
	12nm,0.2s,SNR=5.0								
EBAD	**Badajoz**	**3.67**	**312**		Pn	**Pn**	**Pn**	**04 08 28.1**	**+0.8**
	4.6nm,0.2s,SNR=19								
ECHE	**Chera**	**3.82**	**31**		Pn	**Pn**	**Pn**	**04 08 29.5**	**+0.1**
	1.3nm,0.4s,SNR=6.7								
PBEJ	**Beja**	**3.85**	**297**	*e*	Pn	**Pn**	**Pn**	**04 08 30.6**	**+0.9**
PBEJ				*e*	Sn	**Sn**	**Sn**	**04 09 14.0**	**-1.0**
PBEJ									
	6.3nm,0.1s								
PBEJ	**Beja**	**3.85**	**297**	*e*	Pn	**Pn**	**Pn**	**04 08 30.6**	**+0.9**
PBEJ				*e*	Sn	**Sn**	**Sn**	**04 09 14.0**	**-1.0**
	6.3nm,0.1s								
MORF	**Marmelete**	**4.22**	**285**	*e*	P	**Pn**	**Pn**	**04 08 36.2**	**+1.3**
MORF				*e*	S	**Sn**	**Sn**	**04 09 21.4**	**-2.8**
MORF				*e*	S	**Sn**	**Sn**	**04 09 21.4**	**-2.7**
MORF					AML	AML	AML	04 09 28.7	
	comp=N,21nm,0.3s								
MORF	**Marmelete**	**4.22**	**285**	*e*	P	**Pn**	**Pn**	**04 08 36.2**	**+1.4**
MORF				*e*	S	**Sn**	**Sn**	**04 09 21.4**	**-2.8**
PTEO	**Sao Teotonio**	**4.33**	**288**	*e*	Pn	**Pn**	**Pn**	**04 08 38.4**	**+2.1**
PTEO				*e*	Sn	**Sn**	**Sn**	**04 09 26.8**	**-0.1**
PTEO									
	comp=N,7.6nm,0.5s								
PTEO	**Sao Teotonio**	**4.33**	**288**	*e*	Pn	**Pn**	**Pn**	**04 08 38.4**	**+2.1**
PTEO				*e*	Sn	**Sn**	**Sn**	**04 09 26.8**	**-0.1**
	comp=N,7.6nm,0.5s								
MOE	**Montemor**	**4.41**	**301**	*e*	Pn	**Pn**	**Pn**	**04 08 39.0**	**+1.5**
MOE				*e*	Sn	**Sn**	**Sn**	**04 09 27.8**	**-1.1**
EMOS	**Mosqueruela**	**4.68**	**30**		Pn	**Pn**	**Pn**	**04 08 42.2**	**+1.0**
	SNR=4.0								
EMOS	**Mosqueruela**	**4.68**	**30**		Pn	**Pn**	**Pn**	**04 08 42.2**	**+1.1**
	SNR=4.0								
PCBR	**Castelo Branco**	**4.68**	**319**	*e*	Pn	**Pn**	**Pn**	**04 08 42.0**	**+0.9**
PCBR				*e*	Sn	**Sn**	**Sn**	**04 09 32.1**	**-3.4**
PCBR									
	comp=N,8.6nm,1.1s								
PCBR	**Castelo Branco**	**4.68**	**319**	*e*	Pn	**Pn**	**Pn**	**04 08 42.0**	**+0.9**
PCBR				*e*	Sn	**Sn**	**Sn**	**04 09 32.1**	**-3.4**
	comp=N,8.6nm,1.1s								
EIBI	**Ibiza**	**4.70**	**54**		Pn	**Pn**	**Pn**	**04 08 41.0**	**-0.4**
	comp=N,1.2nm,0.2s,SNR=7.9								
EIBI					Sn	**Sn**	**Sn**	**04 09 29.5**	**-6.6**
	comp=N,3.6nm,0.2s,SNR=7.9								
EIBI	**Ibiza**	**4.70**	**54**		Pn	**Pn**	**Pn**	**04 08 41.0**	**-0.4**
	comp=N,1.2nm,0.2s,SNR=7.9								
PTOM	**Tomar**	**5.06**	**312**	*e*	Pn	**Pn**	**Pn**	**04 08 47.3**	**+1.0**
PTOM				*e*	Sn	**Sn**	**Sn**	**04 09 42.2**	**-2.6**
PTOM									
	comp=N,11nm,0.5s								
PTOM	**Tomar**	**5.06**	**312**	*e*	Pn	**Pn**	**Pn**	**04 08 47.3**	**+1.0**
PTOM				*e*	Sn	**Sn**	**Sn**	**04 09 42.2**	**-2.6**
	comp=N,11nm,0.5s								
MTE	**Manteigas**	**5.13**	**323**	*e*	Pn	**Pn**	**Pn**	**04 08 48.9**	**+1.5**
MTE				*e*	Sn	**Sn**	**Sn**	**04 09 44.3**	**-2.4**
MTE									
	comp=N,20nm,0.6s								
PLOU	**Loures**	**5.14**	**301**	*e*	Sn	**Sn**	**Sn**	**04 09 44.7**	**-2.0**
PLOU									
	comp=N,7.6nm,0.4s								
PLOU	**Loures**	**5.14**	**301**	*e*	Sn	**Sn**	**Sn**	**04 09 44.7**	**-2.0**
	comp=N,7.6nm,0.4s								
ERTA	**Horta de San J**	**5.51**	**32**		Pn	**Pn**	**Pn**	**04 08 53.8**	**+1.3**
	comp=N,0.2nm,0.2s,SNR=4.0								
ERTA					Lg			04 10 27.5	
	comp=N,2.7nm,0.3s,SNR=7.9								
ERTA	**Horta de San J**	**5.51**	**32**		Pn	**Pn**	**Pn**	**04 08 53.8**	**+1.3**
	comp=N,0.2nm,0.2s,SNR=4.0								
PVIS	**Viseu**	**5.55**	**323**	*e*	Pn	**Pn**	**Pn**	**04 08 54.1**	**+1.0**
PVIS				*e*	Sn	**Sn**	**Sn**	**04 09 54.4**	**-2.5**
PVIS									
	comp=N,6.8nm,0.4s								
ESAC	**San Caprasio**	**5.88**	**23**		Lg			04 10 33.8	
	comp=N,23nm,0.5s,SNR=4.0								
PVRL	**Vila Real**	**5.91**	**328**	*e*	Pn	**Pn**	**Pn**	**04 08 58.6**	**+0.5**
PVRL				*e*	Sn	**Sn**	**Sn**	**04 10 01.3**	**-4.6**
PVRL									
	comp=N,7.4nm,0.6s								
PBRG	**Braganca**	**6.00**	**336**	*e*	Pn	**Pn**	**Pn**	**04 09 01.0**	**+1.7**
PBRG				*e*	Sn	**Sn**	**Sn**	**04 10 06.5**	**-1.5**
PBRG									
	comp=N,3.7nm,0.9s								
ETOS	**Mallorca**	**6.06**	**54**		Pn	**Pn**	**Pn**	**04 09 00.4**	**+0.3**
	SNR=4.0								
ETOS	**Mallorca**	**6.06**	**54**		Pn	**Pn**	**Pn**	**04 09 00.4**	**+0.3**
ECAL	**Calabor**	**6.12**	**337**		Pn	**Pn**	**Pn**	**04 09 02.7**	**+1.8**
	comp=N,0.9nm,0.2s,SNR=7.9								
ECAL					Sn	**Sn**	**Sn**	**04 10 07.9**	**-3.1**
	comp=N,0.6nm,0.3s,SNR=7.9								
ECAL					Lg			04 10 45.9	
	comp=N,6.0nm,0.3s,SNR=7.9								
ECAL	**Calabor**	**6.12**	**337**		Pn	**Pn**	**Pn**	**04 09 02.7**	**+1.8**
PCAB	**Cabril**	**6.40**	**328**	*e*	Pn	**Pn**	**Pn**	**04 09 05.4**	**+0.6**
PCAB				*e*	Sn	**Sn**	**Sn**	**04 10 14.7**	**-3.2**
PCAB									
	comp=N,7.0nm,0.5s								
ELOB	**Lobios**	**6.55**	**329**		Pn	**Pn**	**Pn**	**04 09 08.3**	**+1.5**
	comp=N,1.0nm,0.2s,SNR=4.0								
ELOB					Sn	**Sn**	**Sn**	**04 10 16.3**	**-5.1**
	comp=N,0.7nm,0.3s,SNR=7.9								
ELOB					Lg			04 10 56.9	
	comp=N,3.7nm,0.4s,SNR=7.9								
ELOB	**Lobios**	**6.55**	**329**		Pn	**Pn**	**Pn**	**04 09 08.3**	**+1.5**
ELAN	**Lanestosa**	**6.88**	**1**		Pn	**Pn**	**Pn**	**04 09 11.9**	**+0.5**
	comp=N,0.5nm,0.2s,SNR=4.0								
ELAN					Lg			04 11 09.1	
	SNR=4.0								
ELAN	**Lanestosa**	**6.88**	**1**		Pn	**Pn**	**Pn**	**04 09 11.9**	**+0.5**
EALK	**Alkurruntz**	**7.04**	**12**		Pn	**Pn**	**Pn**	**04 09 15.0**	**+1.4**
	comp=N,1.2nm,0.3s,SNR=4.7								
EALK					Sn	**Sn**	**Sn**	**04 10 29.8**	**-3.9**
	comp=N,1.6nm,0.3s,SNR=5.1								
EARI	**Arriondas**	**7.07**	**350**		Pn	**Pn**	**Pn**	**04 09 15.1**	**+1.1**
	SNR=7.9								
EARI					Sn	**Sn**	**Sn**	**04 10 29.9**	**-4.4**
	SNR=7.9								
EARI					Lg			04 11 15.4	
	SNR=7.9								

*NEIC **01** 04:14:21.8, 27.16S×71.04W, h33^{km}, ML3.8(GUC), After GUC.*

GUC 01 04:14:21.8±0.4, 27.16S×71.04W, h33^{km}±3^{km}, ML3.8, 1C-5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.21**	**66**	⇓	*i*P		Pb	04 14 28.1	-0.4
CDCH					*i* S		Sb	04 14 33.4	+0.4
CDCH					AML	AML	AML	04 14 33.5	
	comp=E,4μm,0.2s								
CPCH	**Copiapo**	**0.65**	**108**	⇓	*i*P		Pn	04 14 35.8	+1.2
CPCH					*i* S		Sb	04 14 45.2	+1.7
CPCH					AML	AML	AML	04 14 48.6	
	comp=E,43μm,0.1s								
CPCH	**Copiapo**	**0.65**	**108**	⇓	*i*P		Pn	04 14 35.8	+1.2
CPCH					*i* S		Sb	04 14 45.2	+1.7
CRCH	**Chaqaral**	**0.89**	**25**	⇓	*i*P		Pn	04 14 38.0	0.0
CRCH					*i* S		Sn	04 14 50.2	+0.5
CRCH					AML	AML	AML	04 14 51.4	
	comp=N,4μm,0.3s								
CRCH	**Chaqaral**	**0.89**	**25**	⇓	*i*P		Pn	04 14 38.0	0.0
CRCH					*i* S		Sn	04 14 50.2	+0.5
LCO	**Las Campanas**	**1.87**	**171**	⇑	*i*P		Pn	04 14 53.4	+2.0
LCO					*i* S		Sn	04 15 17.5	+3.7
TLL	**Tololo Astrono**	**3.00**	**176**	*e*	P		Pn	04 15 09.2	+2.2
TLL					AML	AML	AML	04 16 08.2	
	comp=E,466nm,0.5s								

*IDC **01** 04:26:47.5±2.1, 26.73S×70.95W, h0^{km}, mb4.5/3, ML3.8/3, Error ellipse: s-maj=48.4km s-min=27.8km az=84.0*
*NEIC **01** 04:26:47.4±0.7, 26.91S×71.29W, h10^{km}, mb4.0/1, ML4.3(GUC), Error ellipse: s-maj=12.0km s-min=6.6km az=94.0*

*GUC **01** 04:26:47.5±1.0, 26.90S×71.31W, h35^{km}±9^{km}, ML4.3*
*ISCJB **01** 04:26:48.1±1.5, 26.88S±0.003×71.2W±0.1, h31^{km}±6^{km}, mb4.4/3, Error ellipse: s-maj=18.2km s-min=5.2km az=178.9*

ISC 01 04:26:48.1±1.5, 26.90S±003×71.28W±008, h16^{km}±8^{km}, n30, σ0^{s}96/39, mb4.4/3, 1C-7D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.44**	**113**	⇓	*i*P		**Pg**	**04 26 56.9**	**-0.1**
CDCH					*i* S		**Sg**	**04 27 02.6**	**-0.3**
CDCH					AML	AML		04 27 04.9	
	comp=N,8μm,0.6s								
CDCH	**Caldera**	**0.44**	**113**	⇓	*i*P		**Pg**	**04 26 56.9**	**-0.1**
CDCH					S		**Sg**	**04 27 02.6**	**-0.3**
CRCH	**Chaqaral**	**0.81**	**47**	⇓	*i*P		**Pb**	**04 27 04.9**	**+1.1**
CRCH					*i* S		**Sb**	**04 27 16.9**	**+2.4**
CRCH					AML	AML		04 27 18.7	
	comp=N,8μm,0.4s								
CRCH	**Chaqaral**	**0.81**	**47**	⇓	*i*P		**Pb**	**04 27 04.9**	**+1.1**
CRCH					*i* S		**Sb**	**04 27 16.9**	**+2.4**
CPCH	**Copiapo**	**0.94**	**119**	⇓	*i*P		**Pb**	**04 27 05.3**	**-0.7**
CPCH					*i* S		**Sb**	**04 27 18.2**	**-0.1**
LCO	**Las Campanas**	**2.16**	**166**	⇑	*i*P		**Pn**	**04 27 23.3**	**-0.1**
LCO					*i* S		**Sn**	**04 27 49.1**	**-0.7**
CPN1	**Cerro Paranal**	**2.40**	**19**	⇓	*i*P		**Pn**	**04 27 27.0**	**+0.3**
CPN1					AML	AML		04 28 10.9	
	comp=E,3μm,0.8s								
TLL	**Tololo Astrono**	**3.28**	**173**	*e*	P		**Pn**	**04 27 39.3**	**+0.5**
TLL				*i*	S		**Sn**	**04 28 17.3**	**-0.1**
TLL					AML	AML		04 28 36.6	
	comp=N,3μm,0.5s								
TLL	**Tololo Astrono**	**3.28**	**173**		P		**Pn**	**04 27 39.3**	**+0.5**
TLL				*i*	S		**Sn**	**04 28 17.3**	**-0.1**
ANCH	**Antofagasta**	**3.30**	**14**	*i*	P		**Pn**	**04 27 38.3**	**-0.8**
ANCH				*i*	S		**Sn**	**04 28 15.9**	**-2.1**
ANCH					AML	AML		04 28 43.3	
	comp=N,718nm,0.7s								
ANCH	**Antofagasta**	**3.30**	**14**	*i*	P		**Pn**	**04 27 38.3**	**-0.8**
ANCH				*i*	S		**Sn**	**04 28 15.9**	**-2.1**
CEN1	**Los Morros**	**3.63**	**16**	⇓	*i*P		**Pn**	**04 27 40.0**	**-3.7**
CEN1					AML	AML		04 28 42.5	
	comp=E,495nm,0.8s								
CMCH	**Combarbala**	**4.26**	**177**	*e*	P		**Pn**	**04 27 51.3**	**-0.9**
CFAA	**Coronel Fontan**	**5.39**	**151**		Pn		**Pn**	**04 28 09.4**	**+1.7**
	comp=E,1.0nm,0.3s,baz=334,slow=12,SNR=42								
CFAA					Sn		**Sn**	**04 29 14.5**	**+5.1**
	comp=E,1.2nm,0.3s,baz=267,slow=16,SNR=3.1								
LPAZ	**La Paz**	**10.96**	**16**		Pn		**Pn**	**04 29 24.5**	**+0.3**
	comp=E,0.3nm,0.3s,baz=193,slow=7.5,SNR=13								
LPAZ	**La Paz**	**10.96**	**16**	*e*	Pn		**Pn**	**04 29 24.9**	**+0.8**
	comp=E,5.8nm,1.0s								
CPUP	**Villa Florida**	**12.50**	**91**		Pn		**Pn**	**04 29 44.2**	**-1.0**
	baz=0.0,slow=5.1								
CPUP	**Villa Florida**	**12.50**	**91**	*e*	Pn		**Pn**	**04 29 44.1**	**-1.1**
	comp=E,8.7nm,0.5s								
TRQA	**Tornquist**	**13.60**	**147**	*e*	Pn		**Pn**	**04 30 00.0**	**-0.3**
	comp=E,6.2nm,0.8s								
SIV	**San Ignacio**	**14.42**	**43**		Pn		**Pn**	**04 30 07.6**	**-3.8**
	comp=E,0.7nm,0.3s,baz=250,slow=8.7,SNR=22								
SAML	**Samuel**	**19.43**	**25**	*e*	P		**Pn**	**04 31 15.2**	**+0.2**
	comp=E,7.6nm,0.8s								
BDFB	**Brasilia**	**24.36**	**67**		P		**P**	**04 32 04.1**	**-1.2**
	comp=E,4.9nm,0.6s,mb4.1,baz=241,slow=11,SNR=19								
VNA3	**Neumayer Olymp**	**55.72**	**160**	*e*			**P**	**04 36 24.7**	**+0.9**
VNA3				*e*			pP	04 36 27.5	-1.5
VNA3				*e*				04 36 33.5	
VNA3				*e*				04 36 36.2	
VNA2	**Neumayer--Watz**	**56.34**	**159**	*e*			**

STKA	**Stephens Creek**	**52.33**	**160**	P	**P**	**04 49 11.0**	**-2.4**
	3.0nm,0.7s,mb4.3,baz=340,slow=10,SNR=6.7						
STKA	**Stephens Creek**	**52.33**	**160**	*e*P	**P**	**04 49 11.5**	**-1.9**
ILAR	**Eielson Array**	**74.58**	**26**	P	**P**	**04 51 40.5**	**0.0**
	0.2nm,0.6s,mb3.2,baz=270,slow=2.3,SNR=4.7						
NOA	**NORSAR Array B**	**84.77**	**333**	LR	LR	05 34 28.0	
	comp=Z,44nm,18.0s,MS3.9,baz=245,slow=38						
RAR	**Rarotonga**	**85.20**	**114**	LR	LR	05 22 46.1	
	comp=Z,124nm,19.6s,MS4.3,baz=244,slow=30						
YKA	**Yellowknife Ar**	**88.62**	**23**	P	**P**	**04 52 55.2**	**+0.7**
	0.3nm,0.6s,mb3.8,baz=306,slow=4.3,SNR=16						
YKA	**Yellowknife Ar**	**88.62**	**23**	P	**P**	**04 52 55.2**	**+0.7**

*NEIC **01** 04:42:05.6, 26.93S×71.13W, h38km, MG3.9(GUC), After GUC.*

GUC 01 04:42:05.6±0.8, 2693S×7113W, h38km±5km, ML3.9, 4D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.30**	**119**	⇓*i*	P	04 42 13.7	-0.2
CDCH				*i*	S	04 42 19.7	+0.2
CDCH					AML	AML	04 42 20.7	
	comp=N,2μm,0.4s						
CDCH	**Caldera**	**0.30**	**119**	⇓*i*	P	04 42 13.7	-0.2
CDCH				*i*	S	04 42 19.7	+0.2
CPCH	**Copiapo**	**0.81**	**122**	*e*	P	04 42 21.9	+1.4
CPCH				*e*	S	04 42 34.3	+2.8
CPCH					AML	AML	04 42 36.7	
	comp=E,22μm,0.1s						
CPCH	**Copiapo**	**0.81**	**122**	*e*	P	04 42 21.9	+1.4
CPCH				*e*	S	04 42 34.3	+2.8
LCO	**Las Campanas**	**2.11**	**170**	⇓*i*	P	04 42 40.1	+1.7
LCO				*i*	S	04 43 06.5	+3.1
CPN1	**Cerro Paranal**	**2.38**	**16**	*e*	P	04 42 44.0	+1.8
CPN1				*i*	S	04 43 13.1	+3.0
CPN1					AML	AML	04 43 29.0	
	comp=E,843nm,0.6s						
TLL	**Tololo Astrono**	**3.24**	**175**	*e*	P	04 42 56.1	+2.2
TLL					AML	AML	04 43 56.4	
	comp=N,823nm,0.7s						
ANCH	**Antofagasta**	**3.29**	**12**	⇓*i*	P	04 42 56.1	+1.4
CEN1	**Los Morros**	**3.62**	**14**	*e*	P	04 42 57.3	-1.9
CEN1					AML	AML	04 44 02.2	
	comp=E,130nm,0.3s						
LPAZ	**La Paz**	**10.95**	**15**	*e*	P	04 44 42.1	+2.5
	comp=E,1.9nm,0.8s						

*NEIC **01** 04:46:01.6, 27.18S×71.29W, h38km, MG3.5(GUC), After GUC.*

GUC 01 04:46:01.6±0.9, 2718S×7129W, h38km±7km, ML3.5, 4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.42**	**76**	⇓*i*	P	04 46 11.1	-0.2
CDCH				*i*	S	04 46 17.8	-0.1
CDCH					AML	AML	04 46 18.1	
	comp=N,1μm,0.4s						
CDCH	**Caldera**	**0.42**	**76**	⇓*i*	P	04 46 11.1	-0.2
CDCH				*i*	S	04 46 17.8	-0.1
CPCH	**Copiapo**	**0.85**	**102**	⇓*i*	P	04 46 17.8	+0.7
CPCH				*i*	S	04 46 29.6	+1.3
CPCH					AML	AML	04 46 30.7	
	comp=E,12μm,0.1s						
CPCH	**Copiapo**	**0.85**	**102**	⇓*i*	P	04 46 17.8	+0.7
CPCH				*i*	S	04 46 29.6	+1.3
CRCH	**Chaqaral**	**1.02**	**36**	*e*	P	04 46 21.8	+2.3
CRCH				*e*	S	04 46 36.1	+3.6
CRCH					AML	AML	04 46 38.3	
	comp=N,606nm,0.7s						
CRCH	**Chaqaral**	**1.02**	**36**	*e*	P	04 46 21.8	+2.3
CRCH				*e*	S	04 46 36.1	+3.6
CPN1	**Cerro Paranal**	**2.66**	**18**	*e*	P	04 46 43.9	+1.9
CPN1				*i*	S	04 47 16.1	+3.1
CPN1					AML	AML	04 47 36.8	
	comp=N,249nm,0.6s						
TLL	**Tololo Astrono**	**3.01**	**172**	*e*	P	04 46 49.3	+2.6
TLL				*i*	S	04 47 24.0	+2.4
TLL					AML	AML	04 47 38.6	
	comp=E,373nm,0.3s						
TLL	**Tololo Astrono**	**3.01**	**172**	*e*	P	04 46 49.3	+2.6
TLL				*i*	S	04 47 24.0	+2.4

*ISCJB **01** 05:00:26.8±5.4, 299S±02×1785W±08, h404km±41km, mb3.7/5, Error ellipse: s-maj=108.7km s-min=33.0km az=180.0*
*IDC **01** 05:00:31.5±5.1, 3005S×17905W, h392km±45km, mb3.3/3, mb1 3.4/5, mb1mx3.2/13, mbtmp4.1/5, Error ellipse: s-maj=53.1km s-min=36.2km az=57.0*
*NEIC **01** 05:00:32.4±2.5, 3013S×17909W, h403km±22km, mb3.8/2, Error ellipse: s-maj=35.6km s-min=22.3km az=57.0*

ISC 01 05:00:31.4±7.1, 301S±02×1789W±08, h402km±40km, n8, σ0$35/8, mb3.7/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**8.77**	**201**	P	**P**	**05 02 35.2**	**0.0**
	2.7nm,0.3s,baz=324,slow=5.6,SNR=13						
URZ				S	**S**	**05 04 16.7**	**0.0**
	1.0nm,0.3s,baz=267,slow=22,SNR=11						
DZM	**Mont Dzumac**	**15.38**	**298**	P	**P**	**05 03 47.8**	**0.0**
	0.4nm,0.3s,baz=125,slow=15,SNR=9.0						
CTAO	**Charters Tower**	**32.96**	**279**	*e*P	**P**	**05 06 30.5**	**+0.1**
	1.7nm,0.7s,mb3.5						
STKA	**Stephens Creek**	**33.76**	**257**	P	**P**	**05 06 37.1**	**-0.2**
	1.0nm,0.4s,mb3.5,baz=90,slow=8.1,SNR=3.2						
ASAR	**Alice Springs**	**42.32**	**267**	P	**P**	**05 07 48.4**	**+0.5**
	1.7nm,0.7s,mb3.5,baz=99,slow=7.2,SNR=20						
WRAB	**Tennant Creek**	**43.28**	**272**	*e*P	**P**	**05 07 55.4**	**0.0**
	10.0nm,1.0s,mb4.1						
WRA	**Warramunga Arr**	**43.28**	**272**	P	**P**	**05 07 55.1**	**-0.4**
	2.4nm,0.5s,mb3.8,baz=110,slow=7.4,SNR=12						
FINES	**FINESS Array B**	**144.60**	**339**	PKP	PKPdf	05 19 20.6	-0.2
	1.1nm,0.5s,baz=52,slow=4.3,SNR=19						

*IDC **01** 05:13:44.2±0.9, 2889N×7669E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.6/22, mbtmp3.6/8, ML2.8/1, Error ellipse: s-maj=34.9km s-min=20.4km az=47.0*
*ISCJB **01** 05:13:47.9±0.4, 2894N±002×7668E±003, h10km, mb3.6/7, Error ellipse: s-maj=4.1km s-min=2.9km az=170.8*
*NDI **01** 05:13:47.9±3.2, 2896N×7667E, h2km±7km, ML3.6*

ISC 01 05:13:48.8±0.7, 2892N±002×7670E±004, h17km±5km, n32, σ1$28/49, mb3.6/7, Northern India

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NDI	**New Delhi**	**0.51**	**117**	*e*P	**Pg**	**05 13 58.5**	**-0.6**
NDI				*e*S	**Sg**	**05 14 05.5**	**-0.6**
AYAN	**Aya Nagar**	**0.58**	**139**	*e*P	**Pg**	**05 14 00.4**	**+0.1**
AYAN				*e*S	**Sg**	**05 14 08.5**	**+0.5**
BISR	**Bishrakh**	**0.74**	**118**	*e*P	**Pb**	**05 14 03.1**	**-0.1**
BISR				*e*S	**Sb**	**05 14 13.9**	**+0.9**
SONA	**Sohna**	**0.75**	**153**	*e*P	**Pb**	**05 14 03.7**	**+0.3**
SONA				*e*S	**Sb**	**05 14 14.6**	**+1.3**
SONA					AML	AML	05 14 20.5	
	comp=N,2μm,0.3s						
SONA					AML	AML	05 14 21.7	
	comp=E,3μm,0.2s						
KUDL	**Kundal**	**0.80**	**193**	*e*P	**Pb**	**05 14 04.2**	**0.0**
KUDL				*e*S	**Sb**	**05 14 15.7**	**+1.1**
KUDL					AML	AML	05 14 18.0	
	comp=N,1μm,0.1s						
KUDL					AML	AML	05 14 18.2	
	comp=E,1μm,0.2s						
KKR	**Kurukshetra**	**1.04**	**6**	*e*P	**Pb**	**05 14 08.0**	**-0.4**
KKR					AML	AML	05 14 22.2	
	comp=Z,650nm,0.4s						
KHET	**Khetri**	**1.15**	**223**	*e*P	**Pn**	**05 14 09.8**	**-0.3**
KHET				*e*S	**Sb**	**05 14 26.0**	**+1.1**
KHET					AML	AML	05 14 26.4	
	comp=E,1μm,0.4s						
KHET					AML	AML	05 14 28.6	
	comp=N,1μm,0.2s						
KHET					AML	AML	05 14 28.8	
	comp=E,1μm,0.3s						
DDI	**Dehra Dun**	**1.83**	**40**	*e*P	**Pn**	**05 14 19.5**	**0.0**
DDI				*e*S	**Sn**	**05 14 45.6**	**+3.4**
KALG	**Kalgarh**	**1.89**	**72**	*e*P	**Pn**	**05 14 09.7**	**-11**
KALG				*e*S	**Sn**	**05 14 34.0**	**-10**
AGRA	**Agra**	**2.01**	**146**	*e*P	**Pn**	**05 14 23.1**	**+1.2**
AGRA				*e*S	**Sn**	**05 14 51.1**	**+4.4**
AGRA				*e*S	**Sn**	**05 14 52.9**	**+6.2**
SMLA	**Simla**	**2.24**	**10**	*i* P	**Pn**	**05 14 26.7**	**+1.7**
SMLA				*i* x	x	05 14 49.2	
SDNR	**Sundarnagar**	**2.58**	**5**	*e*P	**Pn**	**05 14 29.4**	**-0.4**
SDNR				*e*S	**Sn**	**05 15 02.8**	**+2.1**
KLP	**Kalpa**	**2.93**	**27**	*e*P	**Pn**	**05 14 37.5**	**+2.9**
KLP				*e*S	**Sn**	**05 15 11.1**	**+1.8**
KLP					AML	AML	05 15 30.2	
	comp=N,362nm,0.6s						
KLP					AML	AML	05 15 30.7	
	comp=E,496nm,0.6s						
AJM	**Ajmer**	**3.04**	**217**	*e*P	**Pn**	**05 14 36.9**	**+0.8**
AJM				*i* P		05 14 37.0	
AJM				*e*S	**Sn**	**05 15 13.6**	**+1.6**
AJM					AML	AML	05 15 30.6	
	comp=E,619nm,0.4s						
PONG	**Pong**	**3.09**	**348**	*ex*	**Pn**	**05 14 32.0**	**-4.8**
PONG				*ex*	**Sn**	**05 15 17.0**	**+3.7**
PTH	**Pithoragarh**	**3.14**	**78**	*ex*	**Pb**	**05 14 43.0**	**-1.1**
PTH				*e*S	**Sn**	**05 15 15.0**	**+0.5**
LGTI	**Lohaghat**	**3.15**	**79**	*e*PN	**Pn**	**05 14 36.7**	**-0.9**
LGTI				*e*P		05 14 36.7	
LGTI				*ex*	x	05 15 23.0	
DLH	**Dalhousie**	**3.66**	**350**	*ex*	**Pg**	**05 15 00.0**	**+1.0**
DLH				*ex*	**Sg**	**05 15 50.0**	**+3.5**
BHPL	**Bhopal**	**5.69**	**173**	*e*P	**Pn**	**05 15 12.9**	**+0.3**
BHPL				*e*S	**Sn**	**05 16 16.9**	**-0.5**
AKL	**Akola**	**8.19**	**178**	*ex*	x	05 16 41.1	
AKL				*ex*	**Sn**	**05 17 27.0**	**+8.1**
POO	**Poona**	**10.67**	**195**	*e*P	**Pn**	**05 16 20.0**	**-0.8**
POO				*ex*	x	05 18 07.0	
POO				*i* S	**Sn**	**05 18 15.0**	**-4.8**
POO				*e*SS		05 18 29.0	
POO				*ex*	x	05 18 35.5	
POO				*e*SSS		05 18 40.0	
HYB	**Hyderabad**	**11.58**	**171**	*i* P	**Pn**	**05 16 31.0**	**-2.2**
HYB				*e*		05 16 41.0	
HYB				*e*S	**Sn**	**05 18 33.5**	**-8.6**
VIS	**Vishakhapatnam**	**12.70**	**150**	*i* x	x	05 17 58.2	
VIS				*i* x	x	05 20 29.2	
SHL	**Shillong**	**13.92**	**100**	*ex*	x	05 19 08.0	
SHL				*ex*	x	05 20 10.0	
MKAR	**Makanchi Array**	**18.37**	**12**	P	**Pn**	**05 18 00.4**	**-2.3**
	comp=E,0.0nm,0.3s,baz=187,slow=10,SNR=2.9						
BVAR	**Borovoye Array**	**24.53**	**351**	P	**P**	**05 19 04.7**	**-2.6**
	comp=E,0.8nm,0.8s,mb3.3,baz=153,slow=4.4,SNR=3.6						
AKTO	**Aktyubinsk**	**25.71**	**332**	P	**P**	**05 19 18.2**	**0.0**
	comp=E,0.7nm,0.4s,mb3.6,baz=133,slow=14,SNR=5.0						
BRTR	**Keskin Array B**	**36.84**	**299**	P	**P**	**05 20 54.4**	**-1.6**
	comp=E,0.7nm,0.6s,mb3.7,baz=113,slow=11,SNR=5.2						
TORD	**Torodi Ar. Bea**	**70.75**	**275**	P	**P**	**05 25 02.4**	**-1.6**
	comp=E,0.3nm,0.6s,mb3.4,baz=65,slow=4.7,SNR=9.4						
WRA	**Warramunga Arr**	**73.84**	**124**	P	**P**	**05 25 22.0**	**-0.5**
	comp=E,0.7nm,0.7s,mb3.7,baz=320,slow=5.8,SNR=8.4						
ASAR	**Alice Springs**	**75.92**	**127**	P	**P**	**05 25 32.4**	**-2.1**
	comp=E,0.6nm,0.6s,mb3.7,baz=309,slow=5.9,SNR=10.0						
YKA	**Yellowknife Ar**	**88.46**	**5**	P	**P**	**05 26 37.4**	**-2.7**
	comp=E,0.3nm,0.9s,mb3.5,baz=335,slow=5.5,SNR=3.6						

*NEIC **01** 05:45:53.9, 2728S×7125W, h15km, ML3.4(GUC), After GUC.*
NEIC Felt [II] at Copiapo.

GUC 01 05:45:53.9±2.0, 2728S×7125W, h15km±23km, MD3.8, ML3.4, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.43**	**62**	*i* P	Pg	05 46 00.8	-1.8
CDCH				*i* S	Sg	05 46 06.5	-1.8
CPCH	**Copiapo**	**0.80**	**96**	*i* P	Pg	05 46 08.1	-1.5
CPCH				*i* S	Sg	05 46 19.9	-0.2
CPCH					AML	AML	05 46 22.4	
	comp=E,3μm,0.1s						
CPCH	**Copiapo**	**0.80**	**96**	*i* P	Pg	05 46 08.1	-1.5
CPCH				*i* S	Sg	05 46 19.9	-0.2
CRCH	**Chaqaral**	**1.09**	**31**	*i* P	Pb	05 46 11.4	-3.0
CRCH				*i* S	Sb	05 46 24.9	-3.4
LCO	**Las Campanas**	**1.79**	**164**	*e*P	Pn	05 46 23.7	-0.6
LCO				*i* S	Sn	05 46 45.7	-1.1

*SZGRF **01** 05:50:47.5, 2205S×17822W, h33km, South of Fiji Islands*
*ISCJB **01** 05:51:18.7±1.8, 2179S±009×1778W±01, h291km±19km, mb3.8/12, Error ellipse: s-maj=19.7km s-min=11.2km az=59.0*
*IDC **01** 05:51:21.4±2.7, 2188S×17767W, h312km±25km, mb3.6/11, mb1 3.8/13, mb1mx3.7/18, mbtmp4.3/13, Error ellipse: s-maj=23.9km s-min=12.9km az=145.0*
*NEIC **01** 05:51:21.2±1.4, 2183S×17768W, h311km±13km, mb4.2/3, Error ellipse: s-maj=20.1km s-min=9.4km az=144.0*

ISC 01 05:51:21.1±1.7, 2188S±008×1777W±01, h308km±19km, n54, σ0$95/25, mb3.8/12, 3C-5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**9.70**	**36**	P	**Pn**	**05 53 34.8**	**-0.7**
	9.7nm,0.3s,baz=130,slow=2.2,SNR=14						
AFI				S	**S**	**05 55 14.9**	**-10**
	5.6nm,0.3s,baz=234,slow=23,SNR=6.8						
AFI	**Afiamalu**	**9.70**	**36**	P	**Pn**	**05 53 34.8**	**-0.7**
AFI				*e*Pn	**Pn**	**05 53 35.5**	**0.0**
AFI				*S*	**S**	**05 55 14.9**	**-10**
AFI				*e*Sn	**S**	**05 55 18.0**	**-7.2**
DZM	**Mont Dzumac**	**14.75**	**266**	P	**P**	**05 54 39.4**	**+4.4**
	0.8nm,0.3s,baz=80,slow=18,SNR=22						
URZ	**Urewera**	**16.93**	**194**	P	**P**	**05 54 59.3**	**+0.6**
	1.3nm,0.3s,baz=72,slow=1.9,SNR=6.6						
URZ				S	**S**	**05 57 59.0**	**-0.4**
	3.2nm,0.3s,baz=109,slow=22,SNR=11						
CTA	**Charters Tower**	**33.70**	**266**	P	**P**	**05 57 35.2**	**+1.3**
	6.6nm,0.5s,mb4.4,baz=95,slow=9.8,SNR=21						
CTAO	**Charters Tower**	**33.70**	**266**	*e*P	**P**	**05 57 35.2**	**+1.4**
	7.8nm,0.6s,mb4.4						
PMG	**Port Moresby**	**35.98**	**285**	P	**P**	**05 57 54.2**	**+0.9**
	5.8nm,0.5s,mb4.4,baz=50,slow=3.4,SNR=5.5						
PMG	**Port Moresby**	**35.98**	**285**	*e*P	**P**	**05 57 54.0**	**+0.7**
	8.9nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**37.50**	**246**	P	**P**	**05 58 04.8**	**-1.2**
	1.0nm,0.5s,mb3.5,baz=78,slow=13,SNR=4.8						
ASAR	**Alice Springs**	**44.53**	**258**	P	**P**	**05 59 03.0**	**+0.1**
	5.6nm,0.7s,mb3.9,baz=98,slow=8.0,SNR=64						
ASAR				PcP	PcP	06 00 40.0	-0.1
	0.7nm,0.5s,baz=114,slow=3.5,SNR=6.2						
WRAB	**Tennant Creek**	**44.73**	**263**	*e*P	**P**	**05 59 04.3**	**-0.1**
	7.8nm,1.0s,mb3.9						
WRA	**Warramunga Arr**	**44.74**	**263**	P	**P**	**05 59 03.4**	**-1.1**
	1.8nm,0.6s,mb3.5,baz=96,slow=8.4,SNR=14						
WRA				PcP	PcP	06 00 42.4	+1.5
	0.2nm,0.4s,baz=96,slow=3.9,SNR=3.8						
FITZ	**Fitzroy Crossi**	**53.17**	**263**	P	**P**	**06 00 08.5**	**+0.4**
	1.7nm,0.8s,mb3.5,baz=146,slow=18,SNR=4.1						
MJAR	**Matsushiro Arr**	**71.51**	**324**	P	**P**	**06 02 08.1**	**-0.6**
	0.8nm,0.3s,mb3.8,baz=154,slow=6.1,SNR=5.2						
NVAR	**Mina Array Bea**	**81.81**	**43**	P	**P**	**06 03 08.0**	**+2.0**
	0.7nm,0.7s,mb3.5,baz=216,slow=5.6,SNR=5.3						
NVAR	**Mina Array Bea**	**81.81**	**43**	P	**P**	**06 03 08.0**	**+2.0**
ILAR	**Eielson Array**	**89.58**	**13**	P	**P**	**06 03 43.0**	**-1.0**
	0.9nm,0.5s,mb3.9,baz=218,slow=5.5,SNR=25						
PDAR	**Pinedale Array**	**89.75**	**43**	P	**P**	**06 03 45.7**	**+0.9**
	0.8nm,0.8s,mb3.6,baz=214,slow=1.6,SNR=6.2						
INK	**Inuvik**	**95.52**	**15**	P	**P**	**06 04 10.3**	**-1.0**
	1.3nm,1.1s,mb4.0,baz=180,slow=5.7,SNR=4.0						
INK	**Inuvik**	**95.52**	**15**	P	**P**	**06 04 10.3**	**-1.0**
ARCES	**ARCESS Array B**	**130.33**	**350**	PKP	PKPdf	06 09 53.5	-1.4
	1.8nm,0.5s,baz=26,slow=1.5,SNR=16						
JOF	**Joensuu**		**134.54**	**342**	*ep*	PKPdf	06 10 00.7	-2.1
	0.7nm,0.4s						
KAF	**Kangasniemi**	**136.56**	**344**	*ep*	PKPdf	06 10 05.4	-1.2
	0.6nm,0.3s						
FINES	**FINESS Array B**	**137.18**	**343**	PKhKP		06 09 54.7	
	3.7nm,1.2s,baz=240,slow=29,SNR=3.3						
FINES				PKP	PKPdf	06 10 05.7	-2.0
	0.7nm,0.6s,baz=113,slow=4.4,SNR=7.1						
FINES	**FINESS Array B**	**137.18**	**343**	PKP	PKPdf	06 10 05.7	-2.0
NOA	**NORSAR Array B**	**140.38**	**353**	PKP	PKPdf	06 10 14.4	+0.9
	0.6nm,0.6s,baz=13,slow=4.1,SNR=3.1						
NOA	**NORSAR Array B**	**140.38**	**353**	PKP	PKPdf	06 10 14.4	+0.9
AKASG	**Malin Array Be**	**144.37**	**330**	PKP	PKPdf	06 10 18.1	-2.6
	3.3nm,0.3s,baz=44,slow=4.2,SNR=40						
BSEG	**Bad Segeberg**	**147.43**	**351**	*e*PKPbc	PKPbc	06 10 28.3	-0.5
BRTR	**Keskin Array B**	**147.99**	**311**	PKPbc	PKPbc	06 10 28.9	-1.3
	1.4nm,0.6s,baz=129,slow=5.2,SNR=8.6						
BURAR	**Bucovina Array**	**148.41**	**330**	⇓*i* P	PKPbc	06 10 31.8	+0.5
CLZ	**Clausthal**	**149.45**	**350**	*e*PKPbc	PKPbc	06 10 33.8	-0.1
CLL	**Collm**	**149.48**	**347**	*e*PKPbc	PKPbc	06 10 33.5	-0.5
CLL	**Collm**	**149.48**	**347**	⇓*i* PKPbc	PKPbc	06 10 33.6	-0.4
	comp=Z,11nm,1.1s						
CLL				*i* PKPab	PKPab	06 10 39.1	-0.9
CLL	**Collm**	**149.48**	**347**	⇓*i* P	PKPbc	06 10 33.6	-0.4
CLL				*i*		06 10 39.1	
CLL				*i*		06 10 41.1	
UPC	**Upice**	**149.48**	**343**	*e*PKPbc	PKPbc	06 10 33.7	-0.3
DPC	**Dobruska-Polom**	**149.53**	**342**	*e*PKPbc	PKPbc	06 10 34.2	+0.1
MLR	**Muntele Rosu**	**149.55**	**326**	⇑*i* P	PKPbc	06 10 35.0	+0.9
BRG	**Berggiesshubel**	**149.67**	**345**	*i* P	PKPbc	06 10 34.1	-0.4
	comp=Z,3.0nm,0.5s						
MORC	**Moravsky Berou**	**149.68**	**340**	⇑*i* P	PKPbc	06 10 34.8	+0.3
PRU	**Pruhonice**	**150.34**	**344**	*e*PKPbc	PKPbc	06 10 35.7	-0.3
VRAC	**Vranov**	**150.38**	**341**	⇓*i* P	PKPbc	06 10 36.3	+0.2
WERD	**Werda**	**150.43**	**347**	*e*PKPbc	PKPbc	06 10 35.9	-0.4
TREC	**Trest**	**150.72**	**342**	*e*PKPbc	PKPbc	06 10 36.7	-0.2
MANZ	**Manzenberg**	**150.91**	**347**	*e*PKPbc	PKPbc	06 10 37.4	0.0
TNS	**Taunus Mts**	**151.31**	**352**	*e*PKPbc	PKPbc	06 10 38.0	-0.3
GRA1	**Grafenberg Arr**	**151.37**	**348**	*e*PKPbc	PKPbc	06 10 37.9	-0.5
GRF	**Grafenberg Arr**	**151.37**	**348**	*e*PKPbc	PKPbc	06 10 37.9	-0.5
KHC	**Kasperske Hory**	**151.38**	**345**	*e*PKPbc	PKPbc	06 10 38.2	-0.2
BZS	**Buzias**	**151.56**	**331**	⇑*i* P	PKPbc	06 10 38.5	-0.3
GEC2	**GERESS Array S**	**151.61**	**344**	*e*PKPbc	PKPbc	06 10 38.2	-0.8
GERES	**GERESS Array B**	**151.61**	**344**	PKPbc	PKPbc	06 10 38.2	-0.7
	comp=Z,2.9nm,0.8s,baz=45,slow=2.1,SNR=22						
PKSM	**Moragy**	**152.34**	**335**	⇓*i* P	PKPbc	06 10 39.8	-0.8
TORD	**Torodi Ar. Bea**	**171.29**	**176**	PKP	PKPdf	06 10 52.5	-0.1
	comp=Z,1.1nm,0.9s,baz=357,slow=1.0,SNR=5.9						
TORD				PKPab	PKPab	06 12 14.8	+0.1
	comp=Z,0.2nm,0.6s,baz=184,slow=5.3,SNR=3.6						

IDC 01 05:59:56.5±4.7, 3071S×13817E, h0km, mb1 3.0/3, mb1mx3.0/10, mbtmp2.8/3, ML2.7/3, Error ellipse: s-maj=103.8km s-min=18.4km az=38.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.15**	**113**	P	Pn	06 00 47.4	0.0
	0.4nm,0.3s,baz=300,slow=13,SNR=5.8						
STKA				Pg	Pg	06 00 53.6	-3.3
	1.9nm,0.3s,baz=297,slow=15,SNR=22						
STKA				Lg		06 01 37.2	
	2.3nm,0.3s,baz=203,slow=22,SNR=5.9						
ASAR	**Alice Springs**	**7.97**	**331**	Pn	Pn	06 01 54.0	+0.4
	0.1nm,0.3s,baz=154,slow=12,SNR=5.7						
ASAR				Sn	Sn	06 03 21.1	-3.3
	0.1nm,0.3s,baz=150,slow=22,SNR=3.7						
WRA	**Warramunga Arr**	**11.26**	**341**	Pn	Pn	06 02 38.7	+0.1
	0.1nm,0.3s,baz=151,slow=12,SNR=2.6						

*ISCJB **01** 06:14:54.0±0.4, 6017N±004×15215W±008, h91km±3km, mb4.1/30, Error ellipse: s-maj=6.3km s-min=6.0km az=39.9*
*IDC **01** 06:14:53.8±1.1, 6025N×15230W, h69km±11km, mb3.8/15, mb1 4.0/20, mb1mx3.9/26, mbtmp4.1/20, MS2.9/1, Ms1 2.9/1, ms1mx2.4/25, Error ellipse: s-maj=15.6km s-min=8.5km az=103.0*
*NEIC **01** 06:14:56.6, 6016N×15202W, h75km, MG4.1(AEIC), After AEIC.*
NEIC Felt [II] at Homer. Also felt at Anchor Point.
*BJI **01** 06:14:57.2, 6115N×15155W, h50km, mB5.2, mb4.7, Ms4.4, Msz3.9*

ISC 01 06:14:55.1±0.4, 6017N±004×15213W±008, h89km±3km, n86, σ0$77/91, mb4.1/30, 1C, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLKM	**Skilak Lake**	**1.01**	**69**	*e*Pn	**Pn**	**06 15 14.7**	**-0.2**
SLKM				*e*Sn	**Sn**	**06 15 30.1**	**+0.5**
SEW	**Seward**	**1.34**	**92**	P	**Pn**	**06 15 18.3**	**-0.6**
FIB	**Fire Island**	**1.39**	**43**	P	**Pn**	**06 15 21.1**	**+1.7**
RC01	**Rabbit Creek A**	**1.50**	**51**	P	**Pn**	**06 15 21.1**	**+0.3**
SVW2	**Sparrevohn**	**1.94**	**300**	*e*P	**Pn**	**06 15 25.6**	**-0.9**
PMR	**Palmer**	**2.05**	**44**	*e*P	**Pn**	**06 15 28.0**	**+0.1**
GHO	**Glory Hole Cre**	**2.25**	**43**	P	**Pn**	**06 15 30.8**	**+0.3**
KDAK	**Kodiak Island**	**2.40**	**186**	P	**Pn**	**06 15 32.3**	**-0.3**
	40nm,0.3s,baz=26,slow=9.1,SNR=283						
KDAK				S	**Sn**	**06 16 00.8**	**-0.6**
	206nm,0.3s,baz=112,slow=22,SNR=34						
KDAK	**Kodiak Island**	**2.40**	**186**	P	**Pn**	**06 15 32.3**	**-0.3**
SML	**Sawmill**	**2.48**	**47**	P	**Pn**	**06 15 33.8**	**+0.2**
MID	**Middleton Isla**	**3.02**	**102**	P	**Pn**

comp=Z,2.6nm,0.6s,mb4.4,baz=76,slow=8.7
KAF Kangasniemi 58.04 1 *ep* **P 06 24 37.3 -1.4**
comp=Z,1.6nm,0.3s,mb4.5
NB2 NORSAR Subarra 58.44 9 P **P 06 24 40.3 -1.2**
comp=Z,0.9nm,0.7s,mb3.9,baz=352,slow=6.9
NOA NORSAR Array B 58.44 9 P **P 06 24 40.5 -1.0**
comp=Z,1.5nm,0.8s,mb4.1,baz=352,slow=6.9,SNR=5.2
HHC Hu-ho-hao-te 58.49 298 *eP* **P 06 24 48.0 +6.1**
HHC AP pP 06 25 07.4 +3.3
HHC PCP PcP 06 25 37.7 +6.2
HHC PP PP 06 26 59.7 +7.6
HHC SCP ScP 06 29 29.6 +5.9
HHC PCS PcS 06 29 36.4 +3.2
HHC S **S** **06 32 45.8 +7.3**
HHC SCS ScS 06 34 26.4 +3.2
HHC SS SS 06 36 41.8 +10
HHC AMB AMB
comp=Z,6.0nm,1.0s,mb4.6
HHC AMB AMB
comp=Z,161nm,6.2s
HHC LR LR
comp=N,152nm,18.5s
HHC LR LR
comp=E,117nm,18.1s
HHC LR LR
comp=Z,64nm,18.9s
FINES FINESS Array B 58.71 1 P **P 06 24 42.4 -1.0**
comp=Z,2.5nm,0.7s,mb4.4,baz=18,slow=7.5,SNR=13
FINES FINESS Array B 58.71 1 P **P 06 24 42.4 -1.0**
BVAR Borovoye Array 62.12 332 P **P 06 25 06.3 -0.3**
comp=Z,3.0nm,0.6s,mb4.5,baz=34,slow=6.0,SNR=16
MKAR Makanchi Array 64.57 322 P **P 06 25 22.2 -0.6**
comp=Z,0.8nm,0.5s,mb3.8,baz=45,slow=6.8,SNR=13
WMQ Urumqi 65.44 317 ⇑P **P 06 25 34.6 +6.2**
WMQ PCP PcP 06 26 05.6 +5.9
WMQ AMB AMB
comp=Z,4.0nm,0.4s,mb4.6
AKTK Aktyubinsk 67.09 340 P **P 06 25 38.0 -1.0**
AKTO Aktyubinsk 67.09 340 P **P 06 25 38.0 -1.0**
comp=Z,0.8nm,0.5s,mb3.8,baz=11,slow=8.9,SNR=5.2
BAIF Baives 68.47 16 *eP* **P 06 25 47.3 -0.3**
GRR Gorron 69.31 20 *eP* **P 06 25 53.0 +0.2**
AKASG Malin Array Be 69.48 359 P **P 06 25 53.0 -0.9**
comp=Z,1.9nm,0.6s,mb4.1,baz=2.7,slow=6.1,SNR=17
KHC Kasperske Hory 70.44 10 *eP* **P 06 26 00.0 +0.2**
CDF Champ du Feu 70.49 14 *eP* **P 06 25 59.6 -0.5**
GERES GERESS Array B 70.74 10 P **P 06 26 01.9 +0.4**
comp=Z,0.6nm,0.6s,mb3.6,baz=338,slow=3.2,SNR=7.1
HAU Haudompre 70.77 15 *eP* **P 06 26 02.3 +0.5**
HINF Hinteralfeld 71.02 15 *eP* **P 06 26 03.3 0.0**
comp=Z,8.4nm,0.9s,mb4.3
LOR Lormes 71.15 17 *eP* **P 06 26 04.2 +0.1**
comp=Z,8.7nm,0.8s,mb4.3
MFF Saint Martin d 71.16 20 *eP* **P 06 26 04.6 +0.5**
SSF Saint Saulge 71.30 17 *eP* **P 06 26 05.2 +0.2**
comp=Z,7.7nm,0.8s,mb4.3
AVF Avril sur Loir 71.54 17 *eP* **P 06 26 06.4 0.0**
comp=Z,13nm,0.9s,mb4.4
BGF Bois d'Agland 71.69 18 *eP* **P 06 26 07.3 0.0**
comp=Z,16nm,0.9s,mb4.5
SMF Signal de Mont 71.75 17 *eP* **P 06 26 07.7 0.0**
TCF Toulx Ste Croi 71.86 18 *eP* **P 06 26 08.7 +0.4**
comp=Z,8.2nm,0.9s,mb4.3
CABF La Chapelle 72.11 16 *eP* **P 06 26 10.3 +0.5**
comp=Z,19nm,1.1s,mb4.5
CAF Calviac 73.16 19 *eP* **P 06 26 16.2 +0.2**
VIVF Saint-Julien-l 73.63 17 *eP* **P 06 26 19.2 +0.4**
ETSF Etsaut 74.68 21 *eP* **P 06 26 25.9 +1.0**
comp=Z,2.9nm,0.7s,mb3.8
MTLF Montolieu 74.73 19 *eP* **P 06 26 25.5 +0.3**
comp=Z,5.2nm,0.8s,mb4.0
KMI Kunming 75.68 295 P **P 06 26 38.5 +7.9**
KMI AMB AMB
comp=Z,4.0nm,0.8s,mb4.2
ESDC Sonseca Array 77.12 25 P **P 06 26 39.6 +0.8**
comp=Z,1.0nm,0.7s,mb3.7,baz=339,slow=6.0,SNR=7.5
BRTR Keskin Array B 80.35 355 P **P 06 26 56.6 +0.1**
comp=Z,0.3nm,0.4s,mb3.5,baz=20,slow=4.7,SNR=3.6

*IDC **01** 06:23:44.4±3.0,3449N×7337E,h0km,mb3.7/4,mb1 3.7/6, mb1mx3.4/21,mbtmp3.6/6,ML3.7/2,Error ellipse: s-maj=71.2km s-min=38.5km az=117.0*
*ISCJB **01** 06:23:47.0±4.2,3452N±010×730E±02,h21km±33km, mb3.6/4,Error ellipse: s-maj=30.5km s-min=6.1km az=119.1*
ISC 01 06:23:48.4±2.3,3464N±008×731E±02,h16km±13km,n15, σ0s98/17,mb3.6/4,1C-1D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**3.17**	**131**	*eP*	**Pn**	**06 24 42.0**	**+4.4**
DLH				*eS*	**Sg**	**06 25 29.0**	**-1.3**
SDNR	**Sundarnagar**	**4.51**	**133**	*eP*	**Pn**	**06 24 57.2**	**+1.2**
SDNR				*ex*	x	06 26 06.2	
SMLA	**Simla**	**4.89**	**135**	*ex*	**Sn**	**06 25 58.3**	**+0.8**
SMLA				*ex*	x	06 26 16.8	
KLP	**Kalpa**	**5.31**	**124**	*eP*	**Pn**	**06 25 08.1**	**+1.0**
KLP				*ex*	x	06 26 08.1	
KLP				AML	AML	06 26 18.7	
	comp=N,129nm,0.6s						
KLP				AML	AML	06 26 19.4	
	comp=E,97nm,0.9s						
DDI	**Dehra Dun**	**6.00**	**135**	*ex*	**Sn**	**06 26 35.0**	**+10**
KHET	**Khetri**	**6.94**	**160**	*eS*	**Sn**	**06 26 46.4**	**-1.7**
KHET				AML	AML	06 27 37.4	
	comp=N,6.2nm,0.2s						
KHET				AML	AML	06 27 37.9	
	comp=E,6.1nm,0.3s						
KUDL	**Kundal**	**7.09**	**155**	*eS*	**Sn**	**06 26 51.6**	**-0.2**
KUDL				AML	AML	06 27 38.7	
	comp=N,4.8nm,0.4s						
KUDL				AML	AML	06 27 38.8	
	comp=E,5.6nm,0.3s						
SONA	**Sohna**	**7.22**	**151**	*eS*	**Sn**	**06 26 55.3**	**+0.5**
SONA				AML	AML	06 27 09.7	
	comp=E,9.9nm,0.3s						
SONA				AML	AML	06 27 10.1	
	comp=N,7.8nm,0.3s						
KK31	**Karatay Array**	**8.69**	**347**	⇓P	**Pn**	**06 25 54.7**	**+1.3**
	comp=N,1.5nm,0.3s,baz=156,slow=12,SNR=40						
KK31				⇑S	**Sn**	**06 27 29.0**	**-2.0**
	comp=N,0.5nm,0.3s,baz=154,slow=24,SNR=5.3						
BVAR	**Borovoye Array**	**18.48**	**355**	P	**Pn**	**06 28 04.1**	**+0.4**
	comp=N,0.2nm,0.3s,baz=162,slow=9.8,SNR=3.3						
AKTO	**Aktyubinsk**	**19.25**	**330**	P	**Pn**	**06 28 13.2**	**+0.2**
	comp=N,0.3nm,0.3s,baz=151,slow=12,SNR=4.2						
FINES	**FINESS Array B**	**39.98**	**327**	P	**P**	**06 31 21.7**	**-0.4**
	comp=N,1.7nm,1.0s,mb3.7,baz=129,slow=11,SNR=4.0						
ARCES	**ARCESS Array B**	**43.51**	**338**	P	**P**	**06 31 51.0**	**-0.1**
	comp=N,1.2nm,0.6s,mb3.8,baz=104,slow=8.9,SNR=8.6						
TORD	**Torodi Ar. Bea**	**67.43**	**271**	P	**P**	**06 34 43.6**	**+0.5**
	comp=N,0.4nm,0.5s,mb3.7,baz=48,slow=5.7,SNR=11						
YKA	**Yellowknife Ar**	**83.00**	**4**	P	**P**	**06 36 12.0**	**-0.8**
	comp=N,0.2nm,0.5s,mb3.4,baz=348,slow=5.4,SNR=8.0						

*NEIC **01** 06:35:11.1,2737S×7128W,h8km,ML3.5(GUC),After GUC.*
GUC 01 06:35:11.1±0.7,2737S×7128W,h8km±3km,ML3.5,7D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.50**	**54**	⇓*i*P	Pg	06 35 21.3	+0.4
CDCH				*i* S	Sg	06 35 29.3	+1.9
CDCH				AML	AML	06 35 31.6	
	comp=E,2μm,0.3s						
CDCH	**Caldera**	**0.50**	**54**	⇓*i*P	Pg	06 35 21.3	+0.4
CDCH				*i* S	Sg	06 35 29.3	+1.9
CPCH	**Copiapo**	**0.83**	**89**	⇓*i*P	Pg	06 35 26.8	-0.3
CPCH				*i* S	Sg	06 35 39.2	+1.4
CPCH				AML	AML	06 35 41.2	
	comp=E,18μm,0.2s						
CPCH	**Copiapo**	**0.83**	**89**	⇓*i*P	Pg	06 35 26.8	-0.3
CPCH				*i* S	Sg	06 35 39.2	+1.4
CRCH	**Chaqaral**	**1.18**	**30**	⇓*i*P	Pg	06 35 33.0	-0.8
CRCH				*i* S	Sg	06 35 48.3	-0.9
CRCH				AML	AML	06 35 54.5	
	comp=N,2μm,0.2s						
CRCH	**Chaqaral**	**1.18**	**30**	⇓*i*P	Pg	06 35 33.0	-0.8
CRCH				*i* S	Sg	06 35 48.3	-0.9
LCO	**Las Campanas**	**1.71**	**163**	⇓*i*P	Pn	06 35 41.7	+0.5
LCO				*i* S	Sn	06 36 04.4	+1.1

*ISCJB **01** 06:38:46.6±0.3,2221S×005×6848W×007,h106km, mb4.3/31,Error ellipse: s-maj=10.4km s-min=6.3km az=126.3*
*IDC **01** 06:38:48.4±0.5,2210S×6851W,h106km±4km,mb4.1/12, mb1 4.2/14,mb1mx4.1/18,mbtmp4.4/14,MS3.2/1, Ms1 3.2/1,ms1mx2.6/14,Error ellipse: s-maj=17.1km s-min=13.9km az=66.0*
*NEIC **01** 06:38:48.3±0.2,2216S×6846W,mb4.4/27,Error ellipse: s-maj=7.6km s-min=4.6km az=64.0*
*BJI **01** 06:38:48.3,2220S×6850W,h106km,mB4.9*
ISC 01 06:38:48.6±0.3,2220S×005×6848W×007,h108km, h108km±9km:pP-P,n72,σ0s84/60,mb4.3/31,5D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**5.89**	**3**	P	**Pn**	**06 40 15.1**	**+1.6**
	5.6nm,0.3s,baz=200,slow=6.3,SNR=87						
LPAZ	**La Paz**	**5.89**	**3**	*e*Pn	**Pn**	**06 40 14.2**	**+0.8**
	23nm,0.6s						
SIV	**San Ignacio**	**9.33**	**50**	P	**Pn**	**06 40 58.6**	**-1.5**
	13nm,0.3s,baz=241,slow=13,SNR=153						
CFAA	**Coronel Fontan**	**9.37**	**179**	P	**Pn**	**06 40 56.1**	**-4.5**
	0.1nm,0.3s,baz=349,slow=14,SNR=9.2						
CFAA				S	**Sn**	**06 42 34.1**	**-10**
	0.1nm,0.3s,baz=267,slow=19,SNR=4.0						
CPUP	**Villa Florida**	**10.97**	**114**	P	**Pn**	**06 41 22.0**	**-0.2**
	0.5nm,0.3s,baz=265,slow=12,SNR=5.9						
CPUP	**Villa Florida**	**10.97**	**114**	*e*Pn	**Pn**	**06 41 21.7**	**-0.5**
	51nm,1.0s						
NNA	**Nana**	**12.92**	**320**	*e*Pn	**Pn**	**06 41 48.2**	**+0.1**
TRQA	**Tornquist**	**16.76**	**162**	*e*P	**Pn**	**06 42 36.3**	**-0.4**
	3.7nm,0.4s						
PLCA	**Paso Flores**	**18.56**	**185**	*e*P	**P**	**06 42 56.0**	**-1.0**
	12nm,0.9s						
BDFB	**Brasilia**	**20.41**	**75**	P	**P**	**06 43 17.3**	**+0.2**
	15nm,0.6s,baz=257,slow=11,SNR=31						
BAO	**Brasilia Array**	**20.44**	**75**	P	**P**	**06 43 17.5**	**+0.2**
ROSC	**El Rosal**	**27.49**	**347**	LR	LR	06 55 04.7	
	comp=Z,46nm,18.5s,baz=138,slow=36						
SDV	**Santo Domingo**	**30.96**	**356**	P	**P**	**06 44 53.9**	**-1.5**
	1.3nm,0.4s,mb4.0,baz=246,slow=2.3,SNR=3.1						
USHA	**Ushuaia**	**32.59**	**180**	P	**P**	**06 45 09.1**	**-0.5**
	8.6nm,1.0s,mb4.5,baz=25,slow=1.3,SNR=6.1						
VNA3	**Neumayer Olymp**	**59.29**	**161**	⇓*i*P	**P**	**06 48 39.1**	**+0.2**
VNA3				*e*		06 48 41.1	
VNA3				*e*	pP	06 49 05.4	+0.2
VNA3				*e*		06 49 17.8	
VNA3				*e*		06 49 26.2	
VNA1	**Neumayer--Stat**	**59.49**	**160**	⇓*i*P	**P**	**06 48 40.2**	**-0.1**
VNA1				*e*		06 48 42.5	
VNA1				*e*	pP	06 49 07.1	+0.5
VNA1				*e*		06 49 18.8	
VNA1				*e*		06 49 27.5	
VNA2	**Neumayer--Watz**	**59.86**	**161**	⇓*i*P	**P**	**06 48 43.0**	**+0.2**
VNA2				*e*		06 48 45.0	
VNA2				*e*	pP	06 49 09.3	+0.2
VNA2				*e*		06 49 21.2	
VNA2				*e*		06 49 28.1	
WVT	**Waverly**	**60.83**	**342**	*e*P	**P**	**06 48 47.5**	**-1.9**
	4.2nm,0.6s,mb4.7						
SNAA	**Sanae**	**61.49**	**161**	P	**P**	**06 48 53.8**	**0.0**
	2.7nm,0.6s,mb4.5,baz=287,slow=7.8,SNR=39						
SNAA	**Sanae**	**61.49**	**161**	⇓*i*P	**P**	**06 48 53.7**	**-0.2**
SNAA				*e*		06 48 55.6	
SNAA				*e*	pP	06 49 18.6	-1.7
SNAA				*e*		06 49 32.5	
SNAA				*e*		06 49 35.7	
SNAA	**Sanae**	**61.49**	**161**	⇓*i*P	**P**	**06 48 53.7**	**-0.2**
CCM	**Cathedral Cave**	**63.64**	**340**	*e*P	**P**	**06 49 05.9**	**-2.2**
	5.1nm,0.6s,mb4.5						
CCM				*ep*P	pP	06 49 33.7	-1.1
MNTX	**Cornudas Mount**	**64.20**	**325**	*e*P	**P**	**06 49 10.3**	**-1.5**
	6.4nm,1.4s,mb4.3						
MNTX				*es*P	sP	06 49 48.4	-1.8
KSU1	**Kansas State U**	**66.42**	**336**	*e*P	**P**	**06 49 24.9**	**-1.3**
ANMO	**Albuquerque**	**67.31**	**327**	*e*P	**P**	**06 49 31.9**	**+0.1**
	2.8nm,0.8s,mb4.1						
ANMO				*ep*P	pP	06 49 59.2	+0.6
ANMO				*es*P	sP	06 50 10.3	-0.1
QSPA	**South Pole Qui**	**68.00**	**180**	*e*P	**P**	**06 49 36.4**	**+0.3**
	12nm,0.6s,mb4.9						
DBIC	**Dimbokro**	**68.55**	**73**	P	**P**	**06 49 40.8**	**+1.3**
	5.0nm,0.5s,mb4.6,baz=225,slow=7.2,SNR=10						
DBIC				pP	pP	06 50 06.4	-0.1
	4.6nm,0.8s,baz=211,slow=7.4,SNR=3.0						
DBIC	**Dimbokro**	**68.55**	**73**	*e*P	**P**	**06 49 40.4**	**+0.8**
	4.9nm,0.5s,mb4.6						
DBIC				*ep*P	pP	06 50 06.1	-0.4
MVCO	**Mesa Verde**	**70.10**	**327**	*e*P	**P**	**06 49 49.2**	**+0.1**
MVCO				*ep*P	pP	06 50 17.1	+1.0
WUAZ	**Wupatki**	**70.33**	**324**	*e*P	**P**	**06 49 51.0**	**+0.5**
	7.7nm,1.0s,mb4.5						
WUAZ				*ep*P	pP	06 50 17.4	-0.2
WUAZ				*es*P	sP	06 50 30.4	+1.1
ISCO	**Idaho Springs**	**70.75**	**330**	*e*P	**P**	**06 49 53.2**	**+0.1**
	3.8nm,0.9s,mb4.2						
ISCO				*ep*P	pP	06 50 20.4	+0.2
PV01	**Paradox Valley**	**70.85**	**327**	*e*P	**P**	**06 49 54.1**	**+0.5**
PV01				*ep*P	pP	06 50 21.9	+1.2
PV01				*es*P	sP	06 50 32.3	-0.1
SMCO	**Snowmass**	**70.89**	**329**	*e*P	**P**	**06 49 54.6**	**+0.7**
	5.5nm,0.9s,mb4.4						
SMCO				*ep*P	pP	06 50 22.0	+1.0
SMCO				*es*P	sP	06 50 33.0	+0.3
PV10	**Paradox Valley**	**71.27**	**327**	*e*P	**P**	**06 49 56.2**	**0.0**
PV10				*ep*P	pP	06 50 22.8	-0.5
SRU	**San Rafael**	**72.58**	**327**	*e*P	**P**	**06 50 04.2**	**+0.2**
	7.2nm,1.0s,mb4.5						
SRU				*ep*P	pP	06 50 31.7	+0.5
SRU				*es*P	sP	06 50 42.8	-0.1
CCUT	**Cedar City**	**72.91**	**324**	*e*P	**P**	**06 50 07.0**	**+1.0**
CCUT				*ep*P	pP	06 50 34.6	+1.4
CCUT				*es*P	sP	06 50 46.4	+1.6
RWWY	**Rawlins**	**72.99**	**331**	*e*P	**P**	**06 50 06.9**	**+0.4**
	5.2nm,0.8s,mb4.4						
RSSD	**Black Hills**	**73.60**	**334**	*e*P	**P**	**06 50 09.8**	**-0.2**
	2.2nm,0.5s,mb4.1						
RSSD				*ep*P	pP	06 50 36.9	-0.4
PDAR	**Pinedale Array**	**74.91**	**330**	P	**P**	**06 50 17.6**	**0.0**
	0.9nm,0.5s,mb3.8,baz=135,slow=7.1,SNR=10						
PDAR				pP	pP	06 50 43.5	-1.5
	0.7nm,0.6s,baz=133,slow=8.7,SNR=3.5						
HWUT	**Hardware Ranch**	**74.99**	**328**	*e*P	**P**	**06 50 17.6**	**-0.4**
	3.1nm,0.6s,mb4.2						
LOHW	**Long Hollow**	**76.05**	**330**	*e*P	**P**	**06 50 24.5**	**+0.3**
	8.0nm,1.2s,mb4.3						
LOHW				*ep*P	pP	06 50 51.7	+0.1
ULM	**Lac du Bonnet**	**76.10**	**342**	P	**P**	**06 50 23.1**	**-1.3**
	2.7nm,0.5s,mb4.2,baz=160,slow=7.1,SNR=8.1						
TPAW	**Teton Pass**	**76.12**	**330**	*e*P	**P**	**06 50 24.9**	**+0.4**
	6.2nm,1.3s,mb4.2						
TPAW				*ep*P	pP	06 50 52.7	+0.7
MOOW	**Moose Ponds**	**76.22**	**330**	*e*P	**P**	**06 50 26.0**	**+0.9**
	1.4nm,0.6s,mb3.9						
MOOW				*ep*P	pP	06 50 53.5	+1.0
VNDA	**Vanda**	**76.23**	**190**	P	**P**	**06 50 26.1**	**+1.0**
	1.8nm,1.0s,mb3.8,baz=158,slow=3.8,SNR=6.9						
VNDA	**Vanda**	**76.23**	**190**	*e*P	**P**	**06 50 25.6**	**+0.5**
	3.6nm,1.4s,mb3.9						
NVAR	**Mina Array Bea**	**76.29**	**322**	P	**P**	**06 50 24.9**	**-0.6**
	0.6nm,0.8s,mb3.4,baz=180,slow=7.5,SNR=4.6						
NVAR				pP	pP	06 50 53.9	+1.0
	0.5nm,0.7s,baz=156,slow=4.9,SNR=3.0						
NVAR				sP	sP	06 51 04.2	-0.3
	0.8nm,0.8s,baz=136,slow=7.0,SNR=4.0						
NVAR	**Mina Array Bea**	**76.29**	**322**	P	**P**	**06 50 24.9**	**-0.6**
NVAR				pP	pP	06 50 53.9	+1.0
NVAR				sP	sP	06 51 04.2	-0.3
IMW	**Indian Meadow**	**76.43**	**330**	*e*P	**P**	**06 50 26.6**	**+0.3**
	14nm,1.3s,mb4.5						
IMW				*ep*P	pP	06 50 54.3	+0.6
FLWY	**Flagg Ranch**	**76.46**	**330**	*e*P	**P**	**06 50 27.2**	**+0.8**
	15nm,1.0s,mb4.7						
FLWY				*ep*P	pP	06 50 54.7	+0.8
LKWY	**Lake**	**76.69**	**331**	*e*P	**P**	**06 50 29.1**	**+1.4**
	5.1nm,0.9s,mb4.2						
LKWY				*ep*P	pP	06 50 53.6	-1.6
TORD	**Torodi Ar. Bea**	**77.21**	**70**	P	**P**	**06 50 31.2**	**+0.6**
	7.8nm,0.5s,mb4.7,baz=260,slow=5.7,SNR=46						
TORD				pP	pP	06 50 58.4	+0.3
	4.0nm,1.0s,baz=250,slow=4.9,SNR=2.7						
GCMT	**Greycliff**	**77.32**	**332**	*e*P	**P**	**06 50 31.3**	**0.0**
GCMT				*ep*P	pP	06 50 58.6	-0.1
HLID	**Hailey**	**77.85**	**328**	*e*P	**P**	**06 50 34.7**	**+0.5**
	7.3nm,1.0s,mb4.4						
HLID				*ep*P	pP	06 51 02.4	+0.7
MCMT	**McKenzie Canyo**	**78.03**	**329**	*e*P	**P**	**06 50 35.8**	**+0.6**
MCMT				*ep*P	pP	06 51 03.2	+0.5
TSUM	**Tsumeb**	**79.45**	**106**	*e*P	**P**	**06 50 44.9**	**+1.8**
	1.8nm,0.6s,mb4.1						
TSUM				*e*PcP	PcP	06 50 51.4	+0.7
TSUM				*ep*P	pP	06 51 12.4	+1.7
MAW	**Mawson**	**83.55**	**163**	P	**P**	**06 51 04.9**	**+0.4**
	4.0nm,0.6s,mb4.4,baz=219,slow=4.4,SNR=14						
MAW	**Mawson**	**83.55**	**163**	*e*P	**P**	**06 51 03.8**	**-0.8**
	5.3nm,0.7s,mb4.5						
YKA	**Yellowknife Ar**	**91.98**	**340**	P	**P**	**06 51 44.0**	**-1.0**
	1.9nm,0.7s,mb4.5,baz=134,slow=4.4,SNR=73						
YKA				pP	pP	06 52 10.1	-3.2
	1.9nm,0.9s,baz=136,slow=4.6,SNR=7.1						
YKA				sP	sP	06 52 23.6	-1.1
	1.3nm,0.8s,baz=136,slow=4.3,SNR=4.8						
YKA	**Yellowknife Ar**	**91.98**	**340**	P	**P**	**06 51 44.0**	**-1.0**
YKA				pP	pP	06 52 10.1	-3.2
YKA				sP	sP	06 52 23.6	-1.1
ASAR	**Alice Springs**	**129.48**	**207**	PKP	PKPdf	06 57 44.9	+0.3
	1.0nm,0.4s,baz=168,slow=2.2,SNR=12						
WRA	**Warramunga Arr**	**132.55**	**210**	PKP	PKPdf	06 57 51.2	+0.8
	1.6nm,0.5s,baz=159,slow=1.7,SNR=12						
FITZ	**Fitzroy Crossi**	**137.63**	**200**	PKP	PKPdf	06 58 02.3	+2.4
	1.2nm,0.6s,baz=186,slow=10,SNR=4.8						
MKAR	**Makanchi Array**	**145.96**	**37**	PKPbc	PKPbc	06 58 15.4	-0.1
	3.1nm,0.8s,baz=306,slow=3.2,SNR=19						
MKAR				pPKPbc	pPKPbc	06 58 44.2	-0.4
	1.5nm,0.7s,baz=325,slow=1.9,SNR=4.1						
MKAR	**Makanchi Array**	**145.96**	**37**	PKPbc	PKPbc	06 58 15.4	-0.1
MKAR				pPKPbc	pPKPbc	06 58 44.2	-0.4
WMQ	**Urumqi**	**150.79**	**37**	*e*PKP	PKPdf	06 58 21.0	-1.6
WMQ				PKP2	PKPab	06 58 36.5	+0.8
WMQ				APKP		06 58 49.0	
WMQ				XPKP		06 59 00.0	
MDJ	**Mudanjiang**	**153.15**	**331**	PKP	PKPdf	06 58 25.6	-0.5
SONM	**Songino Array**	**154.09**	**8**	pPKP	pPKPdf	06 58 58.8	+1.8
	1.0nm,0.6s,baz=326,slow=1.2,SNR=5.4						
CN2	**Changchun**	**155.56**	**335**	*e*PKP	PKPdf	06 58 29.6	+0.1
HHC	**Hu-ho-hao-te**	**161.41**	**360**	*e*PKP	PKPdf	06 58 35.7	-0.8
HHC				APKP		06 59 02.8	
HHC				XPKP		06 59 13.7	
HHC				PKP2	PKPab	06 59 22.2	+1.0
HHC				PKS		07 02 08.3	
HHC				PP	PP	07 03 07.4	+2.7
HHC				SKS	SKSdf	07 05 29.5	-2.0
HHC				SKKS	SKKSac	07 09 44.2	+1.2
HHC				SS	SS	07 23 12.5	+0.4
HHC				PP	PP		
	comp=Z,122nm,5.7s						
HHC				LR	LR		
	comp=N,146nm,21.0s						
HHC				LR	LR		
	comp=E,92nm,19.4s						
HHC				LR	LR		
	comp=Z,178nm,22.9s						
NJ2	**Nanjing**	**168.22**	**328**	*e*PKP	PKPdf	06 58 43.2	+0.9
CD2	**Chengdu**	**168.89**	**37**	*e*PKP	PKPdf	06 58 41.0	-1.8

*NIED **01** 07:00:00,3620N×13970E,h62km,Mw4.4 Best double couple: M03.9900×1015 NP1:φs253.00000°,δ73.00000°, λ66.00000°. NP2:φs130.00000°,δ29.00000°,λ143.00000°.*
*MOS **01** 07:00:38.1±0.8,3604N×13965E,h33km,mb4.6/13,Error ellipse: s-maj=16.4km s-min=7.4km az=99.7*
*ISCJB **01** 07:00:42.5±0.3,3611N±002×13975E±005,h70km±2km, mb4.3/40,Error ellipse: s-maj=6.1km s-min=4.2km az=7.5*
*BJI **01** 07:00:42.0,3628N×14002E,h78km,mB5.0,mb4.5,Ms4.2, Msz3.9*
*NEIC **01** 07:00:43.4±0.3,3604N×13965E,mb4.5/14,MW4.3(NIED), Error ellipse: s-maj=7.8km s-min=6.7km az=56.0*
NEIC Felt at Tokyo and Yokohama. Recorded [3 JMA] in Ibaraki and Tochigi; [2 JMA] in Chiba, Fukushima, Gumma, Kanagawa, Saitama and Tokyo; [1 JMA] in Shizuoka and Yamanashi Prefectures.
*JMA **01** 07:00:43.9,3614N×13973E,h59km±1km,M4.4 Broadband fault plane solution: P waves. NP1: φs129.00000°,δ21.00000°,λ140.00000°. NP2: φs257.00000°,δ77.00000°,λ74.00000°. Principal axes: T Plg55.0000°, Azm147.0000°; N Plg16.0000°, Azm261.0000°; P Plg30.0000°, Azm0.0000°;*
JMA Felt III J1.
*IDC **01** 07:00:44.1±0.6,3604N×13953E,h69km±6km,mb3.9/19, mb1 4.1/21,mb1mx4.1/25,mbtmp4.3/21,MS3.2/5, Ms1 3.2/5,ms1mx2.8/28 Error ellipse: s-maj=15.2km s-min=8.0km az=78.0*
ISC 01 07:00:43.6±0.3,3612N±002×13972E±005,h64km±2km, h65km±2.0km:pP-P,n94,σ0s90/106,mb4.4/40,14C-6D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAG	**Ashikaga**	**0.38**	**325**	⇑P	**Pn**	**07 00 54.5**	**-0.3**
JAG				S	**Sn**	**07 01 02.8**	**-0.1**
JYT	**Yasato**	**0.40**	**74**	⇑P	**Pn**	**07 00 54.7**	**-0.3**
JYT				S	**Sn**	**07 01 02.8**	**-0.5**
JHU	**Hanno**	**0.44**	**233**	⇓P	**Pn**	**07 00 55.5**	**+0.1**
JHU				S	**Sn**	**07 01 03.8**	**-0.1**
JRY	**Ryogami san**	**0.67**	**262**	⇑P	**Pn**	**07 00 58.0**	**+0.2**
JRY				S	**Sn**	**07 01 08.1**	**0.0**
JKT	**Katashina**	**0.75**	**330**	⇑P	**Pn**	**07 00 58.4**	**-0.3**
JKT				S	**Sn**	**07 01 09.7**	**-0.2**
JOD2	**Odawara 2**	**0.99**	**211**	⇓P	**Pn**	**07 01 01.9**	**+0.2**
JOD2				S	**Sn**	**07 01 15.5**	**+0.3**
JYN	**Shimob**	**1.14**	**237**	⇓P	**Pn**	**07 01 04.7**	**+1.1**
JHK	**Hiroka**	**1.26**	**334**	⇑P	**Pn**	**07 01 05.3**	**+0.1**
JHK				S	**Sn**	**07 01 21.4**	**0.0**
JFY	**Yanaizu**	**1.29**	**360**

NJ2 LR LR
comp=N,580nm,16.1s
NJ2 LR LR
comp=E,200nm,15.3s
NJ2 LR LR
comp=Z,400nm,15.2s
BJT Baijiatuao 18.93 289 *e*P **Pn 07 05 06.8 +6.3**
BJT pmax pmax
comp=Z,11nm,0.8s
BJT Baijiatuao 18.93 289 *e*P **Pn 07 05 06.8 +6.3**
comp=Z,11nm,0.8s
GUMO Guam 22.90 167 LR LR 07 13 50.2
comp=Z,82nm,21.9s,baz=149,slow=34
MA2 Magadan 24.55 14 *e*P **P 07 05 57.2 0.0**
MA2 pmax pmax
comp=Z,20nm,0.8s,mb4.7
YAK Yakutsk 26.69 349↑ *e*P **P 07 06 16.1 -0.5**
YAK pmax pmax
comp=Z,13nm,0.6s,mb4.6
YAK MLR MLR
comp=Z,100nm,20.0s
ULN Ulaanbaatar 26.77 306↑ *e*P **P 07 06 17.6 +0.3**
SONM Songino Array 27.19 306 P **P 07 06 21.2 +0.1**
comp=Z,2.9nm,0.8s,mb3.9,baz=115,slow=7.8,SNR=11
SONM LR LR 07 17 44.1
comp=Z,95nm,19.8s,baz=20,slow=38
BOD Bodaibo 27.61 330 *e*P **P 07 06 23.9 -0.9**
BOD *e* pP 07 06 38.8 -1.6
BOD pmax pmax
comp=Z,5.0nm,1.6s,mb3.9
BOD pmax pmax
comp=Z,7.0nm,1.2s,mb4.2
KMI Kunming 33.47 261 P **P 07 07 20.0 +3.4**
KMI AP pP 07 07 34.1 +1.8
KMI S **S 07 12 33.3 -0.3**
KMI SS SS 07 14 38.7 -21
KMI AMB AMB
comp=Z,6.0nm,0.6s,mb4.7
KMI AMB AMB
comp=Z,32nm,3.6s
KMI LR LR
comp=Z,64nm,22.6s
TIXI Tiksi 36.05 354↑ *e*P **P 07 07 37.5 -1.3**
TIXI pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
TIXI MLR MLR
comp=Z,100nm,16.0s
NVS Novosibirsk 42.50 314 *e*P **P 07 08 32.0 -0.5**
NVS pmax pmax
comp=Z,14nm,1.0s,mb4.5
NVS pmax pmax
comp=E,11nm,1.1s
MKAR Makanchi Array 43.46 303 P **P 07 08 39.8 -0.4**
comp=E,2.9nm,0.7s,mb4.1,baz=89,slow=10,SNR=22
MKAR Makanchi Array 43.46 303↑ *e*P **P 07 08 41.7 +1.5**
KURK Kurchatov 45.43 309↑ *e*P **P 07 08 54.8 -1.2**
KURK Kurchatov 45.43 309 *e*P **P 07 08 55.0 -0.9**
comp=E,27nm,1.0s,mb5.0
KDAK Kodiak Island 48.69 41 P **P 07 09 22.3 +1.0**
comp=E,11nm,0.6s,mb5.0,baz=236,slow=8.3,SNR=12
KAKA Kakadu 49.05 189 *e*P **P 07 09 23.5 -0.6**
comp=E,8.4nm,0.6s,mb5.0
AAK Ala-Archa 49.73 299↓ *i*P **P 07 09 29.1 -0.2**
AAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
AAK Ala-Archa 49.73 299 *e*P **P 07 09 28.9 -0.4**
comp=Z,1.9nm,0.7s,mb4.2
PMR Palmer 50.17 36 *e*P **P 07 09 32.2 -0.4**
PMR pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
PMR Palmer 50.17 36 *e*P **P 07 09 32.2 -0.5**
comp=Z,3.8nm,0.8s,mb4.5
BVAR Borovoye Array 50.19 313 P **P 07 09 32.0 -0.7**
comp=Z,2.2nm,0.7s,mb4.3,baz=90,slow=7.4,SNR=11
BRVK Borovoye 50.24 313 *e*P **P 07 09 33.0 -0.2**
BRVK pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
BRVK Borovoye 50.24 313 *e*P **P 07 09 33.0 -0.1**
comp=Z,1.4nm,0.5s,mb4.2
COLA College 50.58 32↑ *i*P **P 07 09 36.7 +1.0**
COLA College 50.58 32 *e*P **P 07 09 36.5 +0.8**
comp=Z,6.7nm,0.8s,mb4.6
ILAR Eielson Array 51.00 32 P **P 07 09 39.1 +0.3**
comp=Z,6.6nm,0.7s,mb4.7,baz=275,slow=6.4,SNR=39
INK Inuvik 55.82 27 P **P 07 10 14.6 +0.4**
comp=Z,5.9nm,0.7s,mb4.7,baz=284,slow=6.8,SNR=45
INK Inuvik 55.82 27 *e*P **P 07 10 14.3 +0.1**
INK *e**PP pP 07 10 29.8 -1.2
INK pmax pmax
comp=Z,7.0nm,0.8s
INK Inuvik 55.82 27 *e*P **P 07 10 14.3 +0.1**
comp=Z,6.5nm,0.8s,mb4.7
INK *e*pP pP 07 10 29.8 -1.2
WRAB Tennant Creek 55.97 186 *e*P **P 07 10 14.7 -0.6**
WRAB *e**PP pP 07 10 31.6 -0.5
WRAB pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
WRAB Tennant Creek 55.97 186 *e*P **P 07 10 14.7 -0.6**
comp=Z,6.1nm,0.6s,mb4.8
WRAB *e*pP pP 07 10 31.6 -0.5
WB2 Warramunga Arr 55.98 186 *e*P **P 07 10 14.4 -1.0**
WRA Warramunga Arr 55.98 186 P **P 07 10 15.1 -0.3**
comp=Z,4.3nm,0.6s,mb4.6,baz=2.0,slow=7.5,SNR=68
WRA pP pP 07 10 33.3 +1.1
comp=Z,4.2nm,0.8s,baz=2.8,slow=7.5,SNR=5.6
ARU Arti 56.15 319↓ *i*P **P 07 10 17.5 +1.0**
ARU *e* 07 12 25.6
ARU *e*PPP 07 13 36.6
ARU *e*S **S 07 18 06.7 +5.9**
ARU *e*SS SS 07 21 52.5 +4.6
ARU pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
ARU Arti 56.15 319 *e*P **P 07 10 16.0 -0.6**
comp=Z,4.7nm,0.6s,mb4.7
ARU *e*pP pP 07 10 31.4 -2.0
ASAR Alice Springs 59.71 186 P **P 07 10 40.9 -0.6**
comp=Z,1.3nm,0.7s,mb4.1,baz=24,slow=7.0,SNR=25
ASAR pP pP 07 10 59.5 +1.0
comp=Z,2.2nm,0.9s,baz=2.3,slow=7.4,SNR=6.1
DZM Mont Dzumac 63.15 152 P **P 07 11 06.3 +1.6**
comp=Z,1.6nm,0.7s,mb4.3,baz=302,slow=22,SNR=3.9
KEV Kevo 63.81 339 *e*p **P 07 11 10.7 +1.7**
comp=Z,0.3nm,0.3s,mb3.8
RES Resolute Bay 63.82 14 *e*P **P 07 11 08.1 -1.0**
RES pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
RES Resolute Bay 63.82 14 *e*P **P 07 11 08.1 -1.1**
comp=Z,5.3nm,1.0s,mb4.5
ARCES ARCESS Array B 64.37 339 P **P 07 11 11.9 -0.8**
comp=Z,1.6nm,0.6s,mb4.2,baz=44,slow=7.3,SNR=7.8
YKA Yellowknife Ar 65.28 29 P **P 07 11 18.8 +0.2**
comp=Z,1.1nm,0.7s,mb4.0,baz=304,slow=6.7,SNR=16
YKA Yellowknife Ar 65.28 29 *i*P **P 07 11 18.7 +0.1**
YKA pmax pmax
comp=Z,1.0nm,0.7s
JOF Joensuu 66.13 332 *e*p **P 07 11 23.4 -0.7**
comp=Z,0.7nm,0.3s,mb4.2
STKA Stephens Creek 67.66 178 *e*P **P 07 11 31.4 -2.4**
comp=Z,3.6nm,0.8s,mb4.5
STKA Stephens Creek 67.66 178 P **P 07 11 31.8 -2.0**
comp=Z,4.5nm,0.7s,mb4.6,baz=333,slow=6.3,SNR=8.1
STKA pP pP 07 11 51.0 -0.1
comp=Z,2.9nm,0.8s,baz=354,slow=16,SNR=3.7
KAF Kangasniemi 68.49 332 *e*p **P 07 11 33.8 -5.2**
comp=Z,2.0nm,0.7s,mb4.3
FINES FINESS Array B 68.98 332 P **P 07 11 41.2 -0.8**
comp=Z,3.6nm,0.8s,mb4.4,baz=70,slow=8.3,SNR=13
KIV Kislovodsk 70.47 310*c* *i*P **P 07 11 51.6 +0.4**
KIV pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
SUMG Summit 71.59 359 *e*P **P 07 11 58.5 +0.5**
comp=Z,6.4nm,0.8s,mb4.6
SUMG *e*pP pP 07 12 15.6 +0.2
AKASG Malin Array Be 74.18 322 P **P 07 12 12.2 -1.1**
comp=Z,0.5nm,0.3s,mb4.0,baz=47,slow=6.7,SNR=11
NB2 NORSAR Subarra 74.50 337 P **P 07 12 13.5 -1.6**
comp=Z,7.7nm,0.9s,mb4.6,baz=40,slow=6.2
NOA NORSAR Array B 74.50 337 P **P 07 12 14.4 -0.8**
comp=Z,4.2nm,0.8s,mb4.4,baz=40,slow=5.8,SNR=12
NVAR Mina Array Bea 76.63 52 P **P 07 12 29.4 +2.1**
comp=Z,0.9nm,0.7s,mb3.8,baz=309,slow=3.6,SNR=9.9
NVAR Mina Array Bea 76.63 52 P **P 07 12 29.4 +2.1**
BRTR Keskin Array B 78.43 311 P **P 07 12 37.9 +0.5**
comp=Z,1.3nm,1.0s,mb3.8,baz=103,slow=5.5,SNR=3.5
BRTR pP pP 07 12 55.0 0.0
comp=Z,0.9nm,0.8s,baz=120,slow=4.4,SNR=3.7

PDAR Pinedale Array 79.28 45 P **P 07 12 44.5 +2.4**
comp=Z,0.4nm,0.6s,mb3.5,baz=270,slow=3.0,SNR=3.8
MORC Moravsky Berou 80.37 326 *e*P **P 07 12 48.3 +0.4**
MORC pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
MORC Moravsky Berou 80.37 326 *e*P **P 07 12 48.3 +0.4**
comp=Z,1.5nm,0.7s,mb4.0
CLL Collm 81.20 329 *i*P **P 07 12 52.0 -0.4**
PV10 Paradox Valley 82.40 48 *e*P **P 07 13 01.1 +2.4**
PV10 *e*pP pP 07 13 16.7 +0.2
KHC Kasperske Hory 82.60 328 *e*P **P 07 13 01.5 +1.8**
KHC Kasperske Hory 82.60 328↑ *e*P **P 07 12 59.9 +0.2**
GERES GERESS Array B 82.76 327 P **P 07 13 00.1 -0.5**
comp=Z,0.7nm,0.7s,mb3.8,baz=36,slow=5.3,SNR=7.8
ANMO Albuquerque 86.22 49↑ *e*P **P 07 13 21.1 +3.1**
SAML Samuel 145.85 43 *e*PKPdf PKPdf 07 20 16.2 +1.3
LPAZ La Paz 148.33 59 PKPbc PKPbc 07 20 24.0 +1.4
comp=Z,0.7nm,0.6s,baz=281,slow=5.2,SNR=4.7
LPAZ La Paz 148.33 59 *e*PKPdf PKPdf 07 20 20.4 +1.3
LPAZ *e*PKPbc PKPbc 07 20 24.3 +1.7

ISCJB ***01*** *07:22:08.6±2.4, 27.22S±0.04×715W±0.1, h23km±15km, mb3.6/2, Error ellipse: s-maj=20.6km s-min=6.2km az=0.4*
IDC ***01*** *07:22:09.5±2.6, 27.16S×71.15W, h0km, mb3.7/2, mb1 3.7/3, mb1mx3.5/14, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=70.4km s-min=62.4km az=119.0*
GUC ***01*** *07:22:10.1±0.8, 27.22S×71.33W, h47km±4km, ML3.5*
ISC 01 07:22:09.7±1.8, 27.24S±0.04×71.45W±0.09, h18km±9km, n11, σ0§72/17, mb3.6/2, 2C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CDCH	**Caldera**	**0.57**	**74**	↓ *i*P		**Pg**	**07 22 20.8**	**-0.2**
CDCH				*i* S		**Sg**	**07 22 29.0**	**+0.3**
CDCH				AML	AML		07 22 31.7	
	comp=E,864nm,0.2s							
CPCH	**Copiapo**	**0.98**	**97**	↓ *i*P		**Pb**	**07 22 26.9**	**-1.3**
CPCH				*i* S		**Sb**	**07 22 41.2**	**+0.5**
CRCH	**Chaqaral**	**1.15**	**40**	↑ *i*P		**Pn**	**07 22 30.7**	**-0.2**
CRCH				*i* S		**Sb**	**07 22 46.0**	**+0.3**
LCO	**Las Campanas**	**1.89**	**160**	↓ *i*P		**Pn**	**07 22 41.1**	**+0.1**
LCO				*i* S		**Sn**	**07 23 03.9**	**-0.5**
CPN1	**Cerro Paranal**	**2.76**	**20**	↓ *i*P		**Pn**	**07 22 52.7**	**-0.3**
CPN1				*i* S		**Sn**	**07 23 24.9**	**-1.1**
CPN1				AML	AML		07 23 45.2	
	comp=E,284nm,0.4s							
TLL	**Tololo Astrono**	**2.98**	**169**	*e*P		**Pn**	**07 22 56.5**	**+0.5**
TLL				*i* S		**Sn**	**07 23 30.8**	**-0.5**
TLL				AML	AML		07 23 51.6	
	comp=N,529nm,0.6s							
CEN1	**Los Morros**	**3.99**	**17**	↑ *i*P		**Pn**	**07 23 05.7**	**-4.3**
CEN1				*i* S		**Sn**	**07 23 48.5**	**-7.8**
LPAZ	**La Paz**	**11.32**	**16**	Pn		**Pn**	**07 24 50.9**	**+0.4**
	comp=N,0.2nm,0.3s,baz=212,slow=8.2,SNR=7.3							
BDFB	**Brasilia**	**24.62**	**67**	P		**P**	**07 27 29.4**	**+0.4**
	comp=N,1.0nm,0.8s,mb3.4,baz=225,slow=2.9,SNR=2.7							
TORD	**Torodi Ar. Bea**	**81.45**	**71**	P		**P**	**07 34 27.5**	**+1.8**
	comp=N,0.8nm,0.7s,mb3.8,baz=256,slow=5.3,SNR=5.3							
MKAR	**Makanchi Array**	**151.56**	**40**	PKPbc		PKPbc	07 42 04.4	+1.6
	comp=N,0.7nm,0.7s,baz=320,slow=1.7,SNR=7.8							
MKAR				PKPab		PKPab	07 42 13.4	+2.2
	comp=N,0.4nm,0.7s,baz=333,slow=2.3,SNR=4.9							

CRAAG 01 07:27:28.2, 3780N×280E, Ml3.9, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EMHD	**Djebel Mahouad**	**1.60**	**176**	P		Pn	07 28 01.1	+3.3
EBNR	**Beni Rached**	**1.82**	**214**	P		Pn	07 28 05.2	+4.4
AKF	**Akfadou**	**1.83**	**129**	P		Pn	07 28 05.2	+4.3
ECHA	**Ech Chlef**	**2.01**	**215**	P		Pn	07 28 07.5	+4.1
EANR	**'Ain N'Sour**	**2.30**	**217**	P		Pn	07 28 11.0	+3.7
ETRT	**Tiaret**	**2.69**	**207**	P		Pn	07 28 14.0	+1.2

IDC 01 07:30:57.4±1.3, 1511S×7559W, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/16, mbtmp3.8/6, ML4.2/1, MS3.1/3, Ms1 3.1/3, ms1mx2.6/29, Error ellipse: s-maj=43.1km s-min=25.8km az=41.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
LPAZ	**La Paz**	**7.28**	**100**	Pn		Pn	07 32 52.1	+7.2
	1.8nm,0.3s,baz=276,slow=8.9,SNR=63							
LPAZ				LR		LR	07 35 33.1	
	comp=Z,42nm,20.4s,baz=272,slow=38							
SIV	**San Ignacio**	**14.02**	**96**	Pn		Pn	07 34 17.1	-0.1
	0.6nm,0.3s,baz=283,slow=14,SNR=18							
CPUP	**Villa Florida**	**20.38**	**126**	P		P	07 35 35.0	-0.6
	0.4nm,0.6s,baz=328,slow=19,SNR=1.9							
CPUP				LR		LR	07 44 07.9	
	comp=Z,113nm,18.9s,baz=244,slow=39							
SDV	**Santo Domingo**	**24.34**	**12**	P		P	07 36 17.7	+0.8
	2.1nm,0.7s,baz=146,slow=2.1,SNR=2.7							
BDFB	**Brasilia**	**26.59**	**95**	P		P	07 36 38.0	+0.8
	1.4nm,0.7s,baz=273,slow=13,SNR=3.6							
BDFB				LR		LR	07 46 26.2	
	comp=Z,79nm,21.6s,baz=23,slow=35							
TORD	**Torodi Ar. Bea**	**81.46**	**74**	P		P	07 43 17.2	+0.9
	1.7nm,0.6s,baz=266,slow=5.8,SNR=13							
YKA	**Yellowknife Ar**	**83.17**	**343**	P		P	07 43 24.1	-1.2
	0.4nm,0.5s,baz=144,slow=5.8,SNR=24							
ASAR	**Alice Springs**	**131.87**	**217**	PKP		PKPdf	07 50 13.4	+0.8
	0.4nm,0.6s,baz=139,slow=1.5,SNR=7.3							
WRA	**Warramunga Arr**	**134.40**	**221**	PKP		PKPdf	07 50 18.6	+1.3
	0.4nm,0.4s,baz=125,slow=2.0,SNR=14							
SONM	**Songino Array**	**147.33**	**358**	PKPbc		PKPbc	07 50 43.2	+0.3
	1.1nm,0.5s,baz=343,slow=2.8,SNR=9.8							

ISCJB ***01*** *07:32:41.7±1.5, 27.28S±0.04×71.49W±0.07, h7km±9km, mb3.7/1, Error ellipse: s-maj=11.2km s-min=6.4km az=40.1*
NEIC ***01*** *07:32:43.8, 27.33S×71.34W, h6km, ML4.4(GUC), After GUC.*
NEIC Felt [II] at Copiapo.
IDC ***01*** *07:32:43.9±2.7, 27.12S×71.07W, h0km, mb3.8/1, mb1 3.4/2, mb1mx3.3/14, mbtmp3.4/2, ML2.7/1, Error ellipse: s-maj=112.9km s-min=32.8km az=71.0*
GUC ***01*** *07:32:43.8±0.8, 27.33S×71.34W, h6km±3km, ML4.4*
ISC 01 07:32:42.1±1.9, 2726S±005×7148W±009, h1km±13km, n15, σ0§97/22, mb3.8/1, 4C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CDCH	**Caldera**	**0.61**	**72**	↓ *i*P		**Pg**	**07 32 54.5**	**+0.7**
CDCH				*i* S		**Sg**	**07 33 02.2**	**+0.4**
CPCH	**Copiapo**	**1.01**	**96**	↓ *i*P		**Pg**	**07 33 00.5**	**-1.0**
CPCH				*i* S		**Sg**	**07 33 13.6**	**-1.0**
CPCH				AML	AML		07 33 15.7	
	comp=E,22μm,0.2s							
CPCH	**Copiapo**	**1.01**	**96**	↓ *i*P		**Pg**	**07 33 00.5**	**-1.0**
CPCH				*i* S		**Sg**	**07 33 13.6**	**-1.0**
CRCH	**Chaqaral**	**1.20**	**40**	↑ *i*P		**Pg**	**07 33 05.1**	**+0.1**
CRCH				*i* S		**Sg**	**07 33 21.4**	**+0.8**
LCO	**Las Campanas**	**1.87**	**159**	↑ *i*P		**Pn**	**07 33 15.2**	**-0.1**
LCO				*i* S		**Sn**	**07 33 38.9**	**-0.6**
CPN1	**Cerro Paranal**	**2.80**	**21**	*e*P		**Pn**	**07 33 26.5**	**-1.5**
TLL	**Tololo Astrono**	**2.95**	**169**	↑ *i*P		**Pn**	**07 33 30.5**	**+0.4**
TLL				*i* S		**Sn**	**07 34 06.2**	**+0.1**
TLL				AML	AML		07 34 21.3	
	comp=E,1μm,0.5s							
TLL	**Tololo Astrono**	**2.95**	**169**	↑ *i*P		**Pn**	**07 33 30.5**	**+0.4**
TLL				*i* S		**Sn**	**07 34 06.2**	**+0.1**
CMCH	**Combarbala**	**3.92**	**174**	*e*P		**Pn**	**07 33 41.7**	**-1.7**
CFAA	**Coronel Fontan**	**5.17**	**148**	Pn		**Pn**	**07 34 02.6**	**+2.0**
	comp=E,0.3nm,0.3s,baz=308,slow=11,SNR=27							
CFAA				Sn		**Sn**	**07 35 01.1**	**+0.2**
	comp=E,0.1nm,0.3s,baz=227,slow=18,SNR=2.4							
PEL	**Peldehue**	**5.90**	**173**	*e*P		**Pn**	**07 34 09.6**	**-1.0**
FCH	**Farellones**	**6.13**	**171**	*e*P		**Pn**	**07 34 15.6**	**+1.8**
FCH				*i* S		**Sn**	**07 35 25.1**	**+0.5**
TORD	**Torodi Ar. Bea**	**81.49**	**71**	P		**P**	**07 45 01.2**	**+0.1**
	comp=E,0.7nm,0.7s,mb3.8,baz=251,slow=5.4,SNR=2.6							
ZAL	**Zalesovo**	**148.14**	**27**	PKPbc		PKPbc	07 52 29.5	-0.1
	comp=E,1.5nm,0.6s,baz=158,slow=5.7,SNR=9.6							
MKAR	**Makanchi Array**	**151.61**	**40**	PKPbc		PKPbc	07 52 38.7	+0.6
	comp=E,1.3nm,0.7s,baz=323,slow=1.9,SNR=15							
MKAR				PKPab		PKPab	07 52 47.8	+1.1
	comp=E,1.2nm,0.8s,baz=295,slow=2.4,SNR=8.1							

IDC ***01*** *07:47:57.5±0.6, 8.26N×82.75W, h0km, mb4.6/23, mb1 4.8/23, mb1mx4.8/25, mbtmp4.6/23, ML5.7/1, MS5.5/25, Ms1 5.5/25, ms1mx5.4/34, Error ellipse: s-maj=24.7km s-min=9.9km az=55.0*
BJI ***01*** *07:47:57.3, 7.88N×82.45W, h13km, mB6.0, Ms6.2, Msz6.0*
MOS ***01*** *07:47:59.3±0.9, 8.30N×82.83W, h16km, mb5.4/62, MS5.6/47, Error ellipse: s-maj=6.4km s-min=4.6km az=102.7*
HRVD ***01*** *07:47:59.9±0.1, 8.11N×82.88W, h12km, MW5.9/107, Centroid moment Tensor Solution. LP body waves: s102, c235; Mantle waves: s107, c338; Half duration: 2s2 Moment tensor: Scale 10^18Nm; Mrr 0.72±.01; Mθθ -0.52±.01; Mφφ -0.19±.01; Mrθ 0.35±.02; Mrφ 0.54±.01; Mθφ 0.02±.02; Best double couple: M0 0.90700×10^18 NP1: φs 326.00000°, δ 39.00000°, λ 121.00000°. NP2: φs 108.00000°, δ 57.00000°, λ 67.00000°. Principal axes: T 0.8430, Plg 68.0000°, Azm 329.0000°; N 0.1270, Plg 19.0000°, Azm 121.0000°; P -0.9700, Plg 9.0000°, Azm 215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***01*** *07:47:59.9±0.2, 8.17N×82.88W, h13km, mb5.1/121, ME5.1, MS5.6/127, MW5.9, ML5.9(HDC) Error ellipse: s-maj=6.4km s-min=3.2km az=210.0, Moment Tensor Solution. s46 Moment tensor: Scale 10^17Nm; Mrr 7.69; Mθθ -2.96; Mφφ -4.73; Mrθ -0.84; Mrφ 4.07; Mθφ -1.44; Best double couple: M0 8.00000×10^17 NP1: φs 152.00000°, δ 48.00000°, λ 105.00000°. NP2: φs 310.00000°, δ 44.00000°, λ 73.00000°. Principal axes: T 8.0300, Plg 78.0000°, Azm 131.0000°; N 0.0100, Plg 11.0000°, Azm 322.0000°; P -8.0400, Plg 2.0000°, Azm 232.0000°; Broadband fault plane solution: P waves. NP1: φs 285.00000°, δ 20.00000°, λ 90.00000°. NP2: φs 105.00000°, δ 70.00000°, λ 90.00000°. Principal axes: T Plg 65.0000°, Azm 15.0000°; N Plg 0.0000°, Azm 0.0000°; P Plg 25.0000°, Azm 195.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [III] at Bajo Boquete, Panama. Felt at Bocas del Toro, Bugaba, David and Puerto Armuelles, Panama. Also felt at Golfito and San Vito, Costa Rica.
SZGRF ***01*** *07:48:00.2, 7.50N×82.50W, h33km, mb5.3, MS6.1, South of Panama*
CASC ***01*** *07:48:00.7±2.6, 8.15N×82.84W, h13km, MD4.9, ML3.9, mb5.1(NEIC)*
ISCJB ***01*** *07:48:01.3±0.2, 8.13N±0.003×82.93W±0.002, h34km, mb5.0/153, MS5.6/173, Error ellipse: s-maj=4.9km s-min=2.5km az=53.9*
ISC 01 07:48:03.2±0.2, 810N±003×8292W±002, h36km, h36km±1.3km: pP-P, n614, σ1§12/495, mb5.0/153, MS5.6/173, 42C-13D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ACR	**Cerro Adams**	**0.60**	**336**	*e*P		**Pn**	**07 48 09.6**	**-5.7**
ACR				*e*S		**Sn**	**07 48 22.9**	**-1.6**
ACR	**Cerro Adams**	**0.60**	**336**	*e*P		**Pn**	**07 48 09.9**	**-5.4**
ACR				*e*S		**Sn**	**07 48 20.4**	**-3.4**
BUS	**Buena Vista**	**1.67**	**330**	↑ *i*P		**Pn**	**07 48 27.2**	**-2.7**
BUS	**Buena Vista**	**1.67**	**330**	*e*P		**Pn**	**07 48 26.9**	**-3.0**
URSC	**Urasca**	**1.92**	**334**	↑ *i*P		**Pn**	**07 48 30.9**	**-2.5**
URSC	**Urasca**	**1.92**	**334**	*e*P		**Pn**	**07 48 31.0**	**-2.4**
LCR2	**La Lucha 2**	**1.95**	**327**	↑ *i*P		**Pn**	**07 48 31.4**	**-2.4**
LCR2	**La Lucha 2**	**1.95**	**327**	↑ *e*P		**Pn**	**07 48 31.2**	**-2.6**
ICR	**Volcan Irazu**	**2.08**	**334**	↑ *e*P		**Pn**	**07 48 35.4**	**-0.1**
ICR				*e*S		**Sn**	**07 49 03.9**	**+3.7**
ICR	**Volcan Irazu**	**2.08**	**334**	*e*P		**Pn**	**07 48 35.3**	**-0.2**
SJS	**Escuela Geolog**	**2.14**	**329**	↑ *e*P		**Pn**	**07 48 35.5**	**-1.0**
SJS				*e*S		**Sn**	**07 49 04.5**	**+2.6**
SJS	**Escuela Geolog**	**2.14**	**329**	↑ *e*P		**Pn**	**07 48 35.6**	**-0.9**
SJS				*e*S		**Sn**	**07 49 02.4**	**+0.6**
PRS1	**Puriscal**	**2.32**	**324**	*e*P		**Pn**	**07 48 35.7**	**-3.2**
JTS	**JuntasAbangare**	**2.96**	**318**	Pn		**Pn**	**07 48 45.0**	**-2.2**
	59μm,0.4s							
JTS	**JuntasAbangare**	**2.96**	**318**	Pn		**Pn**	**07 48 45.0**	**-2.7**
	961nm,0.3s,baz=120,slow=5.7,SNR=770							
JTS				Sn		**Sn**	**07 49 21.5**	**-0.4**
	289nm,0.3s,baz=145,slow=14,SNR=4.5							
JTS	**JuntasAbangare**	**2.96**	**318**	↑ *i*P		**Pn**	**07 48 45.2**	**-2.5**
JTS	**JuntasAbangare**	**2.96**	**318**	P		**Pn**	**07 48 45.0**	**-2.7**
JTS							07 49 21.5	
JTS				pmax	pmax			
	comp=Z,961nm,0.3s							
JTS				smax				
	comp=N,289nm,0.3s							
JTS	**JuntasAbangare**	**2.96**	**318**	*e*Pn		**Pn**	**07 48 45.1**	**-2.6**
PINA	**Piqa, Costa Ab**	**3.05**	**68**	*e*P		**Pn**	**07 48 49.5**	**+0.5**
ZANG	**Zanguenga, Cho**	**3.14**	**74**	*e*P		**Pn**	**07 48 50.3**	**+0.1**
VCR	**Vista de Mar**	**3.35**	**307**	↑ *e*P		**Pn**	**07 48 50.1**	**-3.0**
ACLA	**Agua Clara, Si**	**3.42**	**68**	*e*P		**Pn**	**07 48 52.6**	**-1.4**
LIM1	**Limonal**	**3.46**	**319**	*i* P		**Pn**	**07 48 53.0**	**-1.6**
MADN	**Villa Maderas**	**4.18**	**322**	*e*P		**Pn**	**07 49 05.2**	**+0.8**
SSNN	**San Juan del S**	**4.29**	**318**	*e*P		**Pn**	**07 49 06.6**	**+0.7**
CONN	**Concepcion**	**4.35**	**323**	*e*P		**Pn**	**07 49 07.1**	**+0.3**
APON	**Apoyo**	**4.90**	**321**	↓ *e*P		**Pn**	**07 49 15.2**	**+0.9**
MASN	**Masaya**	**5.00**	**321**	*e*P		**Pn**	**07 49 15.8**	**0.0**
MASN				↓ *e*P			07 49 16.8	
TICN	**Ticuantepe**	**5.09**	**320**	*e*P		**Pn**	**07 49 18.2**	**+1.2**
MGAN	**Managua**	**5.19**	**321**	*e*		**Pn**	**07 49 23.9**	**+5.6**
	comp=N,262nm,0.4s							
TISN	**Laguna Tiscapa**	**5.20**	**321**	↑ *e*P		**Pn**	**07 49 19.3**	**+0.9**
XAVN	**Gruta Xavier**	**5.24**	**321**	↑ *e*P		**Pn**	**07 49 19.1**	**+0.1**
APYN	**Apoyeque**	**5.32**	**321**	↓ *e*P		**Pn**	**07 49 21.5**	**+1.4**
COPN	**Copaltepe**	**5.43**	**319**	*e*P		**Pn**	**07 49 22.0**	**+0.4**
MOMJ	**Momotombo**	**5.57**	**321**	↑ *e*P		**Pn**	**07 49 23.3**	**-0.2**
MIRN	**Miramar**	**5.70**	**319**	↓ *e*P		**Pn**	**07 49 26.0**	**+0.6**
CNGN	**Cerro Negro**	**5.74**	**320**	↑ *e*P		**Pn**	**07 49 26.2**	**+0.3**
LEON	**Leon**	**5.80**	**318**	*e*P		**Pn**	**07 49 27.7**	**+1.0**
TEL3	**Telica 3**	**5.89**	**319**	↑ *e*P		**Pn**	**07 49 28.6**	**+0.6**
TELN	**Telica**	**5.90**	**320**	*e*P		**Pn**	**07 49 29.4**	**+1.3**
CRIN	**San Cristobal**	**6.12**	**319**	*e*P		**Pn**	**07 49 31.9**	**+0.9**
LFRS	**El Faro**	**8.15**	**313**	↓ *e*P		Px	07 50 20.4	
LFRS				*e*S		Sx	07 51 53.0	
LBRS	**Las Brisas**	**8.22**	**314**	↑ *e*P		Px	07 50 23.7	
LBRS				*e*S		Sx	07 51 59.6	
RTR	**El Retiro**	**8.76**	**312**	*e*P		Px	07 50 29.8	
ROSC	**El Rosal**	**9.12**	**110**	Pn		**Pn**	**07 50 16.3**	**+4.0**
	comp=N,0.9nm,0.3s,baz=273,slow=17,SNR=19							
ROSC				Sn		**Sn**	**07 52 03.2**	**+9.5**
	comp=N,1.4nm,0.3s,baz=108,slow=20,SNR=2.

MASC e
comp=E,65nm,15.5s
MOAC Moa 14.67 31 eP **Pn 07 51 31.0 +2.9**
MOAC eS **Sn 07 54 22.6 +13**
comp=N,14nm,4.8s
MOAC e
comp=E,13nm,6.1s
HUIG Huatulco 14.98 302 eP **Pn 07 51 29.0 -3.2**
OXX Oaxaca 16.15 305 eP **Pn 07 51 48.0 +0.6**
VHO Vista Hermosa 16.15 305 eP **Pn 07 51 46.9 -0.6**
PNIG Pinotepa 16.98 300 eP **Pn 07 52 03.4 +5.4**
PPM Popocatepetl 18.74 307 eP **Pn 07 52 19.9 +0.4**
YAIG Yautepec 18.98 306 eP **Pn 07 52 20.0 -2.4**
PLIG Platanillo 19.09 304 i P **Pn 07 52 24.0 +0.2**
SJG San Juan 19.11 57 P **Pn 07 52 24.5 +0.5**
comp=E,6.7nm,0.3s,baz=260,slow=6.3,SNR=48
SJG S **S 07 56 02.6 +4.8**
comp=E,3.8nm,0.3s,baz=354,slow=19,SNR=2.7
SJG LR LR 07 59 14.6
comp=E,30µm,19.0s,baz=229,slow=36
SJG San Juan 19.11 57 P **Pn 07 52 24.5 +0.5**
SJG pmax pmax
comp=Z,7.0nm,0.3s
SJG MLR MLR
comp=Z,30µm,19.0s
SJG San Juan 19.11 57 eP **Pn 07 52 25.4 +1.4**
comp=Z,182nm,0.8s
CPD Cerro la Pandu 19.27 57‖ eP **Pn 07 52 27.2 +1.3**
UNM Universidad Na 19.32 307 i P **Pn 07 52 27.3 +0.8**
MTP Monte Pirata 19.60 58 eP **Pn 07 52 30.2 +0.4**
DWPF Disney 19.96 4 eP **Pn 07 52 33.3 -0.8**
comp=Z,80nm,0.9s
NNA Nana 20.85 163 eP **P 07 52 42.9 +1.0**
comp=Z,168nm,1.0s
NNA LR LR
comp=Z,8µm,20.0s,MS5.1
BUAY Buenos Aires 21.06 83 eP **P 07 52 48.0 +3.8**
MOIG Morelia 21.11 305 i P **P 07 52 46.1 +1.3**
SIPA Siparia 21.24 83 eP **P 07 52 49.5 +3.3**
TPP Pointe-a-Pierr 21.31 82 eP **P 07 52 50.9 +4.1**
TRN Trinidad (W) 21.38 82 eP **P 07 52 49.8 +2.2**
TBH Brigand Hill 21.70 82 eP **P 07 52 53.8 +2.8**
SVB Belmont 21.90 75 eP **P 07 52 55.0 +1.8**
SSV Crater Summit 21.97 74 eP **P 07 52 55.0 +1.1**
LZG Guadaloupe-1 22.15 67 eP **P 07 52 56.9 +1.0**
TBG Guadaloupe-3 22.18 68 eP **P 07 52 58.2 +2.0**
BBL Barber's Block 22.24 69 eP **P 07 52 59.0 +2.2**
BPA Boggy Peak 22.38 65 eP **P 07 53 00.1 +1.8**
DWS Wesley 22.40 69 eP **P 07 53 01.8 +3.3**
SEG Port Louis 22.48 66 eP **P 07 53 01.4 +2.1**
MGG Marie-Galante 22.50 68 eP **P 07 53 01.7 +2.1**
CPB Codrington 22.62 63 eP **P 07 53 01.4 +0.5**
DEG La Desirade 22.86 67 eP **P 07 53 11.2 +7.8**
SFJM Santa Fe 23.02 304 eP **P 07 53 08.5 +3.4**
ZAIG Zacatecas 23.86 310 i P **P 07 53 14.0 +0.8**
HKT Hockley 24.89 333‖ eP **P 07 53 21.4 -1.2**
HKT pmax pmax
comp=Z,727nm,2.3s,mb5.8
HKT MLR MLR
comp=Z,1µm,20.0s,MS4.5
HKT Hockley 24.89 333‖ eP **P 07 53 21.4 -1.2**
comp=Z,727nm,2.3s,mb5.8
HKT LR LR
comp=Z,1µm,20.0s,MS4.5
NHSC New Hope 25.02 5 PFAKE 07 53 30.0 +6.2
NHSC LR LR
comp=Z,28µm,19.0s,MS5.8
LRAL Lakeview Retre 25.10 352 eP **P 07 53 24.0 -0.5**
comp=Z,340nm,1.4s,mb5.7
LRAL LR LR
comp=Z,9µm,21.0s,MS5.3
NATX Nacogdoches 25.96 337 eP **P 07 53 33.4 +1.1**
comp=Z,115nm,0.9s,mb5.4
NATX LR LR
comp=Z,6µm,20.0s,MS5.1
JSC Jenkinsville 26.10 3 eP **P 07 53 33.9 +0.3**
OXF Oxford 26.96 348 eP **P 07 53 39.3 -2.0**
OXF pmax pmax
comp=Z,114nm,1.1s,mb5.3
OXF MLR MLR
comp=Z,8µm,20.0s,MS5.3
OXF Oxford 26.96 348 eP **P 07 53 39.3 -2.0**
comp=Z,114nm,1.1s,mb5.3
OXF LR LR
comp=Z,8µm,20.0s,MS5.3
SWET Sewanee 27.13 355‖ eP **P 07 53 42.2 -0.7**
PLAL Pickwick Lake 27.17 351 eP **P 07 53 42.0 -1.3**
comp=Z,81nm,1.3s,mb5.1
PLAL LR LR
comp=Z,9µm,20.0s,MS5.3
CPCT Cooper Cave 27.26 357 eP **P 07 53 43.7 -0.3**
UALR University of 27.93 343 eP **P 07 53 48.3 -1.7**
comp=Z,52nm,0.9s,mb5.2
HBAR Harrisburg 28.23 347 eP **P 07 53 51.6 -1.1**
WVT Waverly 28.26 352 eP **P 07 53 51.5 -1.5**
WVT e 07 57 05.8
WVT pmax pmax
comp=Z,49nm,1.1s,mb5.0
WVT MLR MLR
comp=Z,7µm,19.0s,MS5.3
WVT Waverly 28.26 352 eP **P 07 53 51.5 -1.5**
comp=Z,49nm,1.1s,mb5.0
WVT ePcP PcP 07 57 05.8 +0.2
WVT LR LR
comp=Z,7µm,19.0s,MS5.3
LPAZ La Paz 28.31 149 P **P 07 53 55.1 +1.7**
comp=Z,5.2nm,0.7s,mb4.3,baz=331,slow=9.7,SNR=15
LPAZ S **S 07 58 42.8 +5.4**
comp=Z,1.3nm,1.1s,baz=192,slow=19,SNR=2.0
LPAZ La Paz 28.31 149 eP **P 07 53 55.1 +1.7**
LPAZ pmax pmax
comp=Z,19nm,1.3s
LPAZ MLR MLR
comp=Z,9µm,21.0s
LPAZ La Paz 28.31 149 eP **P 07 53 55.1 +1.7**
comp=Z,19nm,1.3s,mb4.6
LPAZ LR LR
comp=Z,9µm,21.0s,MS5.3
LTX Lajitas 28.75 320 eP **P 07 53 57.9 +0.6**
LTX e 07 57 08.9
LTX pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
LTX MLR MLR
comp=Z,4µm,19.0s,MS5.1
LTX Lajitas 28.75 320 eP **P 07 53 57.9 +0.6**
comp=Z,4.8nm,0.8s,mb4.3
LTX ePcP PcP 07 57 08.9 +2.0
LTX LR LR
comp=Z,4µm,19.0s,MS5.1
ELN Prospectdale 29.07 4 eP **P 07 54 01.1 +1.0**
BLA Blacksburg 29.07 4 eP **P 07 54 00.3 +0.1**
BLA e 07 55 01.9
BLA pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
BLA MLR MLR
comp=Z,988nm,21.0s
BLA Blacksburg 29.07 4 eP **P 07 54 00.3 +0.1**
comp=Z,2.3nm,0.9s,mb3.9
BLA ePP PP 07 55 01.9 -4.2
BLA LR LR
comp=Z,988nm,21.0s
FWV Forest Hill 29.41 3 eP **P 07 54 03.0 -0.2**
BBSR BB Station 29.49 33 PFAKE 07 54 20.0 +16
BBSR LR LR
comp=Z,10µm,19.0s,MS5.5
SIUC Southern Illin 30.03 350 eP **P 07 54 08.1 -0.5**
comp=Z,34nm,0.8s,mb5.1
WCI Wyandotte Cave 30.15 355 eP **P 07 54 08.8 -1.0**
WCI pmax pmax
comp=Z,88nm,1.0s,mb5.4
WCI MLR MLR
comp=Z,3µm,19.0s,MS4.9
WCI Wyandotte Cave 30.15 355 eP **P 07 54 08.8 -1.0**
comp=Z,88nm,1.0s,mb5.5
WCI LR LR
comp=Z,3µm,19.0s,MS4.9
WMOK Wichita Mounta 30.25 333 eP **P 07 54 09.2 -1.5**
WMOK pmax pmax
comp=Z,18nm,1.0s,mb4.8
WMOK MLR MLR
comp=Z,4µm,20.0s,MS5.1
WMOK Wichita Mounta 30.25 333 eP **P 07 54 09.2 -1.5**
comp=Z,18nm,1.0s,mb4.8
WMOK LR LR
comp=Z,4µm,20.0s,MS5.1

CBN Corbin 30.39 9 PFAKE 07 54 20.0 +8.1
CBN LR LR
comp=Z,67µm,19.0s,MS6.3
FVM French Village 30.52 348 eP **P 07 54 12.5 -0.5**
FVM pmax pmax
comp=Z,75nm,1.3s,mb5.4
FVM French Village 30.52 348 eP **P 07 54 12.5 -0.5**
comp=Z,75nm,1.3s,mb5.4
LPIG La Paz 30.65 304 LR LR 08 08 48.1
comp=Z,4µm,18.3s,MS5.1,baz=112,slow=41
CCM Cathedral Cave 30.76 347 PFAKE 07 54 30.0 +15
CCM LR LR
comp=Z,2µm,20.0s,MS4.7
BLO Bloomington 31.11 355 eP **P 07 54 17.2 -1.0**
BLO pmax pmax
comp=Z,62nm,0.8s,mb5.5
BLO Bloomington 31.11 355 eP **P 07 54 17.2 -1.0**
comp=Z,62nm,0.8s,mb5.5
SLM Saint Louis 31.11 349‖ eP **P 07 54 17.0 -1.2**
SLM pmax pmax
comp=Z,72nm,0.9s,mb5.5
SLM Saint Louis 31.11 349‖ eP **P 07 54 16.9 -1.3**
comp=Z,72nm,0.9s,mb5.5
MNTX Cornudas Mount 31.44 321 eP **P 07 54 20.6 -0.6**
comp=Z,7.3nm,0.9s,mb4.5
AMTX Amarillo 31.74 330 eP **P 07 54 24.1 +0.4**
comp=Z,6.9nm,0.7s,mb4.6
AMTX ePP PP 07 55 42.8 +7.0
AMTX ePcP PcP 07 57 16.1 +1.5
AMTX LR LR
comp=Z,5µm,21.0s,MS5.2
ACSO Alum Creek Sta 32.00 360 eP **P 07 54 24.8 -1.2**
comp=Z,55nm,1.2s,mb5.3
ACSO LR LR
comp=Z,11µm,19.0s,MS5.6
KSU1 Kansas State U 33.23 340 eP **P 07 54 34.9 -1.9**
KSU1 epP pP 07 54 46.6 -0.4
BNM Barren Site 33.89 323 eP **P 07 54 45.2 +2.6**
ERPA Erie 33.98 4 PFAKE 07 54 50.0 +6.7
ERPA LR LR
comp=Z,27µm,19.0s,MS6.0
CBKS Cedar Bluff 34.12 336 eP **P 07 54 43.1 -1.5**
CBKS pmax pmax
comp=Z,28nm,0.9s,mb5.2
CBKS MLR MLR
comp=Z,4µm,19.0s,MS5.2
CBKS Cedar Bluff 34.12 336 eP **P 07 54 43.1 -1.4**
comp=Z,28nm,0.9s,mb5.2
CBKS LR LR
comp=Z,4µm,19.0s,MS5.2
ANMO Albuquerque 34.36 324 P **P 07 54 45.6 -1.0**
comp=Z,2.1nm,0.8s,mb4.1,baz=149,slow=9.9,SNR=8.1
ANMO PcP PcP 07 57 22.4 +0.4
comp=Z,2.0nm,0.9s,baz=124,slow=7.3,SNR=2.5
ANMO Albuquerque 34.36 324 P **P 07 54 45.6 -1.0**
ANMO 07 57 22.4
ANMO pmax pmax
comp=Z,2.0nm,0.8s
ANMO pmax pmax
comp=Z,2.0nm,0.9s
ANMO Albuquerque 34.36 324 eP **P 07 54 48.6 +2.0**
comp=Z,7.0nm,0.8s,mb4.6
ANMO LR LR
comp=Z,6µm,20.0s,MS5.3
LAZ Ladron 34.37 323 eP **P 07 54 47.4 +0.7**
LAZ epP pP 07 54 56.4 -0.6
LAZ esP sP 07 55 02.3 +1.0
BINY Binghamton 34.51 9 eP **P 07 54 47.7 -0.3**
comp=Z,68nm,1.4s,mb5.4
BINY epP pP 07 54 58.2 +0.1
BINY LR LR
comp=Z,29µm,19.0s,MS6.0
TUC Tucson 35.34 317 eP **P 07 54 56.2 +1.1**
TUC pmax pmax
comp=Z,42nm,1.4s,mb5.2
TUC MLR MLR
comp=Z,6µm,19.0s,MS5.4
TUC Tucson 35.34 317 eP **P 07 54 56.2 +1.1**
comp=Z,42nm,1.4s,mb5.2
TUC LR LR
comp=Z,6µm,19.0s,MS5.4
WES Weston 35.65 15 PFAKE 07 55 10.0 +12
WES LR LR
comp=Z,6µm,20.0s,MS5.3
HRV Harvard--Oak R 35.70 14 PFAKE 07 55 10.0 +12
HRV LR LR
comp=Z,13µm,20.0s,MS5.7
NCB Newcomb 36.53 11 PFAKE 07 55 20.0 +15
NCB LR LR
comp=Z,10µm,22.0s,MS5.5
HNH Hanover 36.67 13 eP **P 07 55 06.9 +0.5**
comp=Z,1.4nm,0.9s
SADO Sawa 36.68 5 P **P 07 55 03.8 -2.8**
comp=Z,8.4nm,0.8s,mb4.6,baz=187,slow=6.7,SNR=7.5
MVCO Mesa Verde 37.12 325 eP **P 07 55 10.8 +0.5**
MVCO epP pP 07 55 18.2 -2.4
MVCO esP sP 07 55 25.8 +0.9
LBNH Lisbon 37.26 13 PFAKE 07 55 20.0 +8.5
LBNH LR LR
comp=Z,9µm,21.0s,MS5.6
ISCO Idaho Springs 37.53 331 eP **P 07 55 14.1 +0.3**
ISCO e 07 57 33.2
ISCO pmax pmax
comp=Z,198nm,2.4s,mb5.4
ISCO MLR MLR
comp=Z,6µm,20.0s,MS5.4
ISCO Idaho Springs 37.53 331 eP **P 07 55 14.1 +0.3**
comp=Z,198nm,2.4s,mb5.4
ISCO ePcP PcP 07 57 33.1 +1.8
ISCO LR LR
comp=Z,6µm,20.0s,MS5.4
WUAZ Wupatki 37.71 321 eP **P 07 55 17.1 +1.9**
comp=Z,40nm,1.4s,mb5.0
WUAZ epP pP 07 55 27.7 +2.1
WUAZ LR LR
comp=Z,7µm,19.0s,MS5.5
SMCO Snowmass 37.73 329 eP **P 07 55 16.5 +1.0**
comp=Z,74nm,1.7s,mb5.1
SMCO esP sP 07 55 32.5 +2.4
PV01 Paradox Valley 37.82 326 eP **P 07 55 16.9 +0.7**
PV01 epP pP 07 55 28.3 +1.8
PV10 Paradox Valley 38.25 326 eP **P 07 55 19.1 -0.7**
PV10 epP pP 07 55 27.3 -2.9
GLA Glamis 38.56 315‖ eP **P 07 55 23.2 +0.7**
PHWY Pilot Hill 38.64 332 eP **P 07 55 22.9 -0.2**
SRU San Rafael 39.59 326 eP **P 07 55 31.0 -0.1**
SRU pmax pmax
comp=Z,35nm,1.2s,mb5.0
SRU San Rafael 39.59 326 eP **P 07 55 31.0 -0.1**
comp=Z,35nm,1.2s,mb5.0
RWWY Rawlins 39.76 331 eP **P 07 55 32.2 -0.3**
comp=Z,23nm,1.0s,mb4.9
RWWY epP pP 07 55 43.2 +0.4
PFO Pinyon Flat Ob 40.01 314 P **P 07 55 36.9 +2.3**
comp=Z,100nm,1.3s,mb5.4,SNR=6.5
PFO Pinyon Flat Ob 40.01 314 eP **P 07 55 36.1 +1.5**
PFO pmax pmax
comp=Z,47nm,1.4s,mb5.0
PFO MLR MLR
comp=Z,5µm,20.0s,MS5.3
PFO Pinyon Flat Ob 40.01 314 eP **P 07 55 36.1 +1.5**
comp=Z,47nm,1.4s,mb5.0
PFO LR LR
comp=Z,5µm,20.0s,MS5.3
NEN Nelson 40.03 318 eP **P 07 55 36.1 +1.4**
NEN epP pP 07 55 46.4 +1.3
TMUT Trail Mountain 40.11 325 eP **P 07 55 36.8 +1.4**
TMUT ePcP PcP 07 57 41.0 +1.5
MSU Marysvale 40.14 324 eP **P 07 55 37.1 +1.5**
MSU Marysvale 40.14 324 eP **P 07 55 37.4 +1.8**
MVU Marysvale 40.15 323 eP pP 07 55 46.2 +0.1
MVU LR LR
comp=Z,7µm,21.0s,MS5.5
CCUT Cedar City 40.23 321 eP **P 07 55 38.3 +1.9**
CCUT e 07 55 53.0
CCUT ePcP PcP 07 57 43.1 +3.3
RSSD Black Hills 40.33 336 eP **P 07 55 37.4 +0.2**
RSSD pmax pmax
comp=Z,64nm,1.5s,mb5.1
RSSD MLR MLR
comp=Z,1µm,21.0s,MS4.7
RSSD Black Hills 40.33 336 eP **P 07 55 37.4 +0.2**
comp=Z,64nm,1.5s,mb5.1
RSSD LR LR
comp=Z,1µm,21.0s,MS4.7

EYMN Ely 40.37 351 PFAKE 07 55 50.0 +12
EYMN LR LR
comp=Z,5µm,20.0s,MS5.4
ARUT Antelope Range 40.43 322 eP **P 07 55 39.7 +1.7**
ARUT e*PP pP 07 55 50.8 +2.4
MPU Maple Canyon 40.84 326 eP **P 07 55 42.5 +1.1**
comp=Z,17nm,1.0s,mb4.6
MPU epP pP 07 55 53.1 +1.4
MPU ePcP PcP 07 57 43.7 +1.9
MPU LR LR
comp=Z,6µm,21.0s,MS5.5
DAU Daniels Canyon 40.90 326 eP **P 07 55 42.2 +0.3**
DAU e*PP pP 07 55 53.3 +1.0
NLU North Lily Min 41.04 325‖ eP **P 07 55 43.2 +0.1**
NLU ePcP PcP 07 57 44.0 +1.5
CTU Camp Tracy 41.37 326 eP **P 07 55 46.4 +0.7**
comp=Z,25nm,1.1s,mb4.8
MWC Mount Wilson 41.47 314 eP **P 07 55 48.2 +1.6**
NOQ North Oquirrh 41.54 326 eP **P 07 55 48.5 +1.3**
comp=Z,41nm,1.2s,mb4.9
NOQ epP pP 07 55 59.3 +1.7
DUG Dugway 41.62 325 eP **P 07 55 48.9 +1.0**
DUG e*PP pP 07 55 59.6 +1.4
DUG pmax pmax
comp=Z,27nm,1.5s,mb4.7
DUG MLR MLR
comp=Z,5µm,22.0s,MS5.3
DUG Dugway 41.62 325 eP **P 07 55 48.9 +1.1**
comp=Z,27nm,1.5s,mb4.7
DUG epP pP 07 55 59.6 +1.4
DUG LR LR
comp=Z,5µm,22.0s,MS5.3
TPNV Topopah Spring 41.71 319 eP **P 07 55 50.6 +2.1**
TPNV pmax pmax
comp=Z,37nm,1.2s,mb4.9
TPNV MLR MLR
comp=Z,9µm,21.0s,MS5.6
TPNV Topopah Spring 41.71 319 eP **P 07 55 50.6 +2.1**
comp=Z,37nm,1.2s,mb4.9
TPNV LR LR
comp=Z,9µm,21.0s,MS5.6
BW06 Boulder Array 41.72 330 PFAKE 07 56 00.0 +11
BW06 LR LR
comp=Z,6µm,19.0s,MS5.5
PDAR Pinedale Array 41.72 330 P **P 07 55 47.4 -1.3**
comp=Z,2.7nm,0.7s,mb4.0,baz=128,slow=9.6,SNR=13
PDAR PcP PcP 07 57 44.3 -0.3
comp=Z,2.2nm,0.9s,baz=107,slow=5.8,SNR=3.5
PDAR LR LR 08 17 25.4
comp=Z,4µm,18.6s,MS5.3,baz=139,slow=42
BDFB Brasilia 41.86 124 P **P 07 55 49.9 +0.1**
comp=Z,5.6nm,0.7s,mb4.3,baz=301,slow=12,SNR=9.7
BDFB LR LR 08 13 56.4
comp=Z,12µm,18.9s,MS5.8,baz=163,slow=37
CFAA Coronel Fontan 41.90 161 LR LR 08 13 39.6
comp=Z,246nm,20.5s,baz=152,slow=37
HWUT Hardware Ranch 41.91 327 eP **P 07 55 49.4 -0.8**
comp=Z,40nm,1.0s,mb5.0
HWUT epP pP 07 56 01.4 +0.8
HWUT LR LR
comp=Z,5µm,20.0s,MS5.4
SNCC San Nicolas Is 42.06 312 PFAKE 07 56 00.0 +8.6
SNCC LR LR
comp=Z,4µm,20.0s,MS5.2
DAC Darwin (Calif) 42.23 317 eP **P 07 55 53.8 +1.0**
DAC pmax pmax
comp=Z,62nm,1.8s,mb4.9
DAC MLR MLR
comp=Z,8µm,21.0s,MS5.6
DAC Darwin (Calif) 42.23 317 eP **P 07 55 53.8 +1.0**
comp=Z,62nm,1.8s,mb4.9
DAC LR LR
comp=Z,8µm,21.0s,MS5.6
BGU Big Grassy Mou 42.24 326 eP **P 07 55 59.2 +6.3**
BGU ePcP PcP 07 57 54.4 +8.0
CPUP Villa Florida 42.30 145 P **P 07 55 53.1 -0.2**
comp=Z,3.6nm,0.7s,mb4.1,baz=318,slow=7.7,SNR=7.3
CPUP LR LR 08 15 34.2
comp=Z,4µm,19.3s,MS5.3,baz=305,slow=39
CPUP Villa Florida 42.30 145 eP **P 07 55 54.0 +0.7**
CPUP pmax pmax
comp=Z,23nm,0.9s
CPUP MLR MLR
comp=Z,837nm,21.0s
CPUP Villa Florida 42.30 145 eP **P 07 55 54.0 +0.7**
comp=Z,23nm,0.9s,mb4.8
CPUP LR LR
comp=Z,837nm,21.0s,MS4.6
AHID Auburn Hatcher 42.49 329 PFAKE 07 56 10.0 +15
AHID LR LR
comp=Z,5µm,19.0s,MS5.4
ISA Isabella 42.50 316 eP **P 07 55 55.9 +0.9**
ISA pmax pmax
comp=Z,25nm,1.3s,mb4.8
ISA MLR MLR
comp=Z,1µm,22.0s,MS4.8
ISA Isabella 42.50 316 eP **P 07 55 55.9 +0.9**
comp=Z,25nm,1.3s,mb4.8
ISA LR LR
comp=Z,1µm,22.0s,MS4.8
HVU Hansel Valley 42.68 327 eP **P 07 55 57.5 +1.1**
HVU e*PP pP 07 56 06.6 -0.2
HVU pmax pmax
comp=Z,12nm,1.0s,mb4.6
HVU Hansel Valley 42.68 327 eP **P 07 55 57.5 +1.0**
comp=Z,12nm,1.0s,mb4.6
HVU epP pP 07 56 06.6 -0.2
REDW Red Top Meadow 42.80 330 eP **P 07 55 57.0 -0.4**
comp=Z,45nm,1.0s,mb5.2
LOHW Long Hollow 42.86 330 eP **P 07 55 57.5 -0.4**
comp=Z,35nm,1.3s,mb4.9
LOHW epP pP 07 56 09.0 +0.7
TPAW Teton Pass 42.94 330 eP **P 07 55 58.7 +0.1**
comp=Z,14nm,0.7s,mb4.8
TPAW epP pP 07 56 13.5 +4.5
TPH Tonopah 42.99 319 eP **P 07 56 00.2 +1.2**
TPH pmax pmax
comp=Z,39nm,1.3s,mb5.0
TPH MLR MLR
comp=Z,7µm,20.0s,MS5.6
TPH Tonopah 42.99 319 eP **P 07 56 00.2 +1.2**
comp=Z,39nm,1.3s,mb5.0
TPH LR LR
comp=Z,7µm,20.0s,MS5.6
MOOW Moose Ponds 43.03 330 eP **P 07 55 58.4 -0.9**
comp=Z,9.2nm,0.8s,mb4.6
IMW Indian Meadow 43.23 330 eP **P 07 56 00.5 -0.5**
comp=Z,20nm,0.8s,mb4.9
IMW epP pP 07 56 08.8 -2.5
IMW esP sP 07 56 14.7 -0.9
FLWY Flagg Ranch 43.25 331 eP **P 07 56 01.2 +0.1**
comp=Z,34nm,0.9s,mb5.1
FLWY epP pP 07 56 08.0 -3.4
FLWY esP sP 07 56 15.9 +0.2
LAO LASA Array 43.32 337 eP **P 07 56 00.5 -1.1**
comp=Z,64nm,1.0s,mb5.3
LAO epP pP 07 56 09.5 -2.6
LAO LR LR
comp=Z,3µm,22.0s,MS5.2
RPN Rapa Nui 43.37 215 LR LR 08 09 49.5
comp=Z,6µm,18.3s,MS5.5,baz=32,slow=30
RPN Rapa Nui 43.37 215 PFAKE 07 56 10.0 +7.9
RPN LR LR
comp=Z,12µm,21.0s,MS5.8
ULM Lac du Bonnet 43.38 348 P **P 07 55 59.1 -3.1**
comp=Z,17nm,0.6s,mb4.9,baz=151,slow=7.1,SNR=12
ELK Elko 43.38 324 eP **P 07 56 02.4 +0.2**
ELK e*PP pP 07 56 13.6 +1.0
ELK pmax pmax
comp=Z,43nm,1.5s
ELK MLR MLR
comp=Z,6µm,22.0s
ELK Elko 43.38 324 eP **P 07 56 02.4 +0.2**
comp=Z,43nm,1.5s,mb5.0
ELK epP pP 07 56 13.6 +1.0
ELK LR LR
comp=Z,6µm,22.0s,MS5.5
LKWY Lake 43.47 331 eP **P 07 56 04.1 +1.3**
LKWY pmax pmax
comp=Z,154nm,2.1s,mb5.4
LKWY MLR MLR
comp=Z,11µm,22.0s,MS5.7
LKWY Lake 43.47 331 eP **P 07 56 04.1 +1.3**
comp=Z,154nm,2.1s,mb5.4
LKWY LR LR
comp=Z,11µm,22.0s,MS5.7

YFT Old Faithful 43.59 331 *e*P **P** **07 56 04.3 +0.5**
YFT *e*pP pP 07 56 12.1 -2.1
YMR Madison River 43.81 331 *e*P **P** **07 56 05.7 +0.1**
comp=Z,24nm,0.9s,mb4.9
YMR LR LR
comp=Z,4µm,19.0s,MS5.4
NVAR Mina Array Bea 43.89 319 P **P** **07 56 07.9 +1.6**
comp=Z,7.1nm,0.7s,mb4.5,baz=119,slow=7.5,SNR=65
GCMT Greycliff 44.06 333 *e*P **P** **07 56 06.8 -0.8**
GCMT *e*pP pP 07 56 13.5 -4.5
QLMT Earthquake Lak 44.16 331 *e*P **P** **07 56 09.3 +0.9**
QLMT *e* 07 56 15.5
QLMT *e*pP pP 07 56 20.6 +1.8
BMN Battle Mountai 44.37 322 *e*P **P** **07 56 11.5 +1.4**
BMN *e**PP pP 07 56 21.8 +1.3
BMN pmax pmax
comp=Z,66nm,1.1s,mb5.3
BMN MLR MLR
comp=Z,6µm,22.0s,MS5.4
BMN Battle Mountai 44.37 322 *e*P **P** **07 56 11.5 +1.4**
comp=Z,66nm,1.1s,mb5.3
BMN *e*pP pP 07 56 21.8 +1.2
BMN LR LR
comp=Z,6µm,22.0s,MS5.4
HLID Hailey 44.77 327 *e*P **P** **07 56 13.1 -0.2**
comp=Z,16nm,1.0s,mb4.8
HLID *e*pP pP 07 56 23.8 0.0
HLID LR LR
comp=Z,5µm,19.0s,MS5.5
MCMT McKenzie Canyo 44.85 330 *e*P **P** **07 56 14.4 +0.5**
DLMT Dillon 45.11 330 *e*P **P** **07 56 16.3 +0.3**
comp=Z,48nm,1.2s,mb5.2
SAO San Andreas Ge 45.13 315 P **P** **07 56 17.6 +1.4**
SAO MLR MLR
comp=Z,5µm,20.0s,MS5.4
PAHR Pah Rah Range 45.30 320 *e*P **P** **07 56 18.5 +1.0**
comp=Z,140nm,1.9s,mb5.5
PAHR *e*pP pP 07 56 28.6 +0.6
HRY Holter Researc 45.73 332 *e*P **P** **07 56 20.6 -0.3**
HRY *e*pP pP 07 56 31.6 +0.2
WVOR Wild Horse Val 46.43 323 *e*P **P** **07 56 26.5 +0.1**
WVOR pmax pmax
comp=Z,109nm,1.3s,mb5.6
WVOR MLR MLR
comp=Z,5µm,20.0s,MS5.5
WVOR Wild Horse Val 46.43 323 *e*P **P** **07 56 26.4 +0.1**
comp=Z,110nm,1.3s,mb5.6
WVOR LR LR
comp=Z,5µm,20.0s,MS5.5
OHCM Honcut 46.47 318 *e*P **P** **07 56 27.2 +0.6**
CHMT Chamberlain Mo 46.55 332 *e*P **P** **07 56 27.0 -0.3**
MSO Missoula 46.81 331 *e*P **P** **07 56 28.5 -0.9**
comp=Z,15nm,1.0s,mb4.9
MSO LR LR
comp=Z,4µm,20.0s,MS5.3
MOD Modoc 47.12 322 *e*P **P** **07 56 32.2 +0.4**
comp=Z,5.0nm,0.6s,mb4.6
MOD *e*pP pP 07 56 42.6 +0.3
MOD *e*sP sP 07 56 47.2 +0.8
MOD LR LR
comp=Z,6µm,19.0s,MS5.6
BMO Blue Mountains 47.19 327 *e*P **P** **07 56 34.1 +1.8**
comp=Z,28nm,1.4s,mb5.0
BMO *e*pP pP 07 56 41.9 -0.9
BMO LR LR
comp=Z,4µm,20.0s,MS5.4
HOPS Hopland 47.35 317 PFAKE 07 56 50.0 +16
HOPS LR LR
comp=Z,6µm,22.0s,MS5.5
WDC Whiskeytown Da 47.81 319 PFAKE 07 56 50.0 +13
WDC LR LR
comp=Z,2µm,22.0s,MS5.1
SCHQ Schefferville 48.35 12 P **P** **07 56 39.6 -1.7**
comp=Z,13nm,0.8s,mb5.0,baz=210,slow=6.4,SNR=21
SCHQ LR LR 08 17 58.2
comp=Z,7µm,19.1s,MS5.6,baz=204,slow=37
SCHQ Schefferville 48.35 12 *e*P **P** **07 56 39.3 -2.0**
comp=Z,16nm,0.8s,mb5.1
SCHQ LR LR
comp=Z,14µm,22.0s,MS5.9
WALA Waterton Lakes 48.41 333 *e*P **P** **07 56 41.3 -0.5**
comp=Z,21nm,0.9s,mb5.2
YBH Yreka Blue Hor 48.52 320 PFAKE 07 56 50.0 +7.3
YBH LR LR
comp=Z,6µm,19.0s,MS5.6
KHMM Horse Mountain 48.73 319 *e*P **P** **07 56 45.4 +1.1**
KHMM *e*pP pP 07 56 56.0 +1.2
FFC Flin Flon 48.94 345 P **P** **07 56 44.5 -1.3**
comp=Z,126nm,0.8s,mb6.0,SNR=8.0
FFC Flin Flon 48.94 345 *e*P **P** **07 56 44.4 -1.4**
FFC pmax pmax
comp=Z,54nm,1.4s,mb5.4
FFC MLR MLR
comp=Z,3µm,22.0s,MS5.3
FFC Flin Flon 48.94 345 *e*P **P** **07 56 44.4 -1.4**
comp=Z,54nm,1.4s,mb5.4
FFC LR LR
comp=Z,3µm,22.0s,MS5.3
BBOR Butler Butte 49.13 322 P **P** **07 56 47.0 -0.3**
HUMO Hull Mountain 49.15 321 PFAKE 07 57 00.0 +13
HUMO LR LR
comp=Z,5µm,19.0s,MS5.6
NEW Newport 49.36 330 P **P** **07 56 47.6 -1.4**
comp=Z,17nm,0.9s,mb5.1,baz=126,slow=5.8,SNR=6.2
NEW Newport 49.36 330 *e*P **P** **07 56 47.6 -1.5**
NEW *e**PP pP 07 56 58.6 -1.0
NEW pmax pmax
comp=Z,19nm,0.9s
NEW MLR MLR
comp=Z,6µm,19.0s
NEW Newport 49.36 330 *e*P **P** **07 56 47.6 -1.5**
comp=Z,19nm,0.9s,mb5.1
NEW *e*pP pP 07 56 58.6 -1.0
NEW LR LR
comp=Z,6µm,19.0s,MS5.6
HAWA Hanford 49.37 327 *e*P **P** **07 56 48.7 -0.4**
comp=Z,2.7nm,1.4s,mb4.1
HAWA LR LR
comp=Z,329nm,22.0s
HBO Huckleberry Mo 49.44 323 P **P** **07 56 50.2 +0.6**
IRO Indian Ridge 49.49 323 P **P** **07 56 50.8 +0.8**
FRIS Frissel Point 49.52 323 P **P** **07 56 51.2 +0.9**
KBO Bosley Butte 49.74 320 *e*P **P** **07 56 53.0 +1.1**
BROR Big Rock Looko 49.76 323 P **P** **07 56 52.3 +0.2**
VFP Flag Point 49.79 325 P **P** **07 56 53.0 +0.6**
TRQA Tornquist 49.90 158 *e*P **P** **07 56 55.1 +2.0**
TRQA LR LR
comp=Z,3µm,22.0s,MS5.2
PLCA Paso Flores 49.91 168 *e*P **P** **07 56 52.6 -0.6**
PLCA pmax pmax
comp=Z,93nm,1.7s
PLCA MLR MLR
comp=Z,2µm,19.0s
PLCA Paso Flores 49.91 168 *e*P **P** **07 56 52.6 -0.6**
comp=Z,93nm,1.7s,mb5.5
PLCA LR LR
comp=Z,2µm,19.0s,MS5.2
COR Corvallis 50.44 323 PFAKE 07 57 10.0 +13
COR LR LR
comp=Z,1µm,20.0s,MS4.9
FCC Fort Churchill 51.27 353 *e*P **P** **07 57 01.5 -2.0**
FCC pmax pmax
comp=Z,18nm,0.6s,mb5.2
FCC Fort Churchill 51.27 353 *e*P **P** **07 57 02.1 -1.4**
comp=Z,18nm,0.6s,mb5.2
EDM Edmonton 51.30 337 *e*P **P** **07 57 02.0 -1.8**
OCWA Octopus Mounta 52.73 326 PFAKE 07 57 30.0 +16
OCWA LR LR
comp=Z,6µm,19.0s,MS5.7
FRB Frobisher Bay 56.50 8 P **P** **07 57 39.0 -2.7**
comp=Z,22nm,0.8s,mb5.2,baz=212,slow=7.9,SNR=13
YKA Yellowknife Ar 58.99 343 P **P** **07 57 57.1 -2.1**
comp=Z,4.5nm,0.7s,mb4.6,baz=137,slow=7.4,SNR=39
YKA LR LR 08 26 44.4
comp=Z,7µm,19.2s,MS5.8,baz=115,slow=40
YKA Yellowknife Ar 58.99 343 P **P** **07 57 57.1 -2.1**
YKA pmax pmax
comp=Z,5.0nm,0.7s
YKA MLR MLR
comp=Z,7µm,19.2s
YKW3 Yellowknife Ar 59.05 344 *e*P **P** **07 57 57.4 -2.2**
PDA Ponta Delgada 59.35 51 *e*P **P** **07 58 07.0 +5.3**
PDA *e*S S 08 06 35.0 +27
PDA *i* LR LR 08 16 00.0
TAOE Nuku Hiva Isla 59.45 255 *e*LQ 08 13 04.8
comp=Z,29µm,28.9s
TAOE Nuku Hiva Isla 59.45 255 *e*PP PP 08 00 12.2 -1.6
comp=Z,530nm,32.3s
TAOE Nuku Hiva Isla 59.45 255 *e*S **S** **08 06 09.4 +0.3**
comp=Z,5µm,25.9s
TAOE *e*SS SS 08 10 04.7 +0.2
comp=Z,4µm,26.3s
TAOE *e*LR LR 08 15 19.7
comp=Z,10µm,24.9s,baz=78
RKT Rikitea 59.60 237 *e*S **S** **08 06 09.2 -1.9**
comp=Z,6µm,28.0s
RKT *e*SS SS 08 09 59.3 -7.6
comp=Z,1µm,31.0s
RKT *e*LQ 08 13 07.5
comp=Z,3µm,29.5s
RKT *e*LR LR 08 15 39.2
comp=Z,22µm,27.5s,baz=56
DLBC Dease Lake 61.74 334 P **P** **07 58 18.6 +0.6**
comp=Z,6.4nm,0.7s,mb4.8,baz=172,slow=7.0,SNR=13
DLBC Dease Lake 61.74 334 *e*P **P** **07 58 18.0 0.0**
SFJD Kangerlussuaq 62.77 14 *i* P **P** **07 58 23.1 -1.8**
SFJD *i* S **S** **08 06 54.2 +2.9**
SFJD *i* 08 11 09.2
SFJD *i* 08 14 29.5
SFJD
comp=Z,11µm,17.0s
SFJD Kangerlussuaq 62.77 14 *i* P **P** **07 58 23.1 -1.8**
SFJD *i* S **S** **08 06 54.2 +2.9**
SFJD MLR MLR
comp=Z,11µm,17.0s,MS6.1
EFI East Falkland 63.26 163 PFAKE 07 58 40.0 +12
EFI LR LR
comp=Z,2µm,19.0s,MS5.4
SIT Sitka 63.43 331 PFAKE 07 58 40.0 +11
SIT LR LR
comp=Z,6µm,20.0s,MS5.8
USHA Ushuaia 63.86 171 LR LR 08 22 35.4
comp=Z,1µm,20.6s,MS5.0,baz=71,slow=32
RES Resolute Bay 66.90 357 *e*P **P** **07 58 49.5 -2.3**
RES pmax pmax
comp=Z,18nm,0.9s,mb5.1
RES Resolute Bay 66.90 357 *e*P **P** **07 58 49.5 -2.3**
comp=Z,18nm,0.9s,mb5.1
RES *e*pP pP 07 59 01.5 -1.2
DAWY Dawson 68.52 337 *e*P **P** **07 59 00.9 -1.1**
DAWY *e*pP pP 07 59 13.6 +0.6
INK Inuvik 68.68 342 P **P** **07 59 02.6 -0.4**
comp=Z,9.6nm,1.0s,mb4.7,baz=120,slow=6.8,SNR=17
INK Inuvik 68.68 342 *e*P **P** **07 59 02.4 -0.6**
INK pmax pmax
comp=Z,36nm,1.2s
INK Inuvik 68.68 342 *e*P **P** **07 59 02.4 -0.6**
comp=Z,36nm,1.2s,mb5.2
INK *e*pP pP 07 59 17.3 +3.3
SUMG Summit 69.74 13 *e*P **P** **07 59 07.6 -1.9**
comp=Z,40nm,1.1s,mb5.3
MENT Mentasta 69.79 335 *e*P **P** **07 59 11.3 +1.4**
ASCN Ascension 70.17 101 PFAKE 07 59 20.0 +7.8
ASCN LR LR
comp=Z,2µm,22.0s,MS5.3
PPT Papeete 70.59 248 *e*S S 08 08 24.0 -1.9
comp=Z,3µm,30.0s
PPT *e*SS SS 08 12 57.4 -0.4
comp=Z,1µm,30.5s
PPT *e*LQ 08 17 40.5
comp=Z,3µm,26.8s
PPT *e*LR LR 08 20 42.1
comp=Z,4µm,26.2s,baz=67
PPT Papeete 70.59 248 LR LR 08 23 03.2
comp=Z,3µm,18.5s,MS5.6,baz=74,slow=30
BORG Borgarnes 70.83 24 PFAKE 07 59 30.0 +14
BORG LR LR
comp=Z,7µm,21.0s,MS5.9
POHA Pohakuloa 70.99 288 PFAKE 07 59 30.0 +13
POHA LR LR
comp=Z,4µm,19.0s,MS5.7
PMR Palmer 71.70 333 *e*P **P** **07 59 20.6 -0.9**
PMR *e**PP pP 07 59 31.9 -0.6
PMR pmax pmax
comp=Z,22nm,1.5s,mb4.9
PMR Palmer 71.70 333 *e*P **P** **07 59 21.2 -0.3**
comp=Z,61nm,2.2s,mb5.1
PMR LR LR
comp=Z,6µm,17.0s,MS5.9
ILAR Eielson Array 71.78 336 P **P** **07 59 21.3 -0.6**
comp=Z,4.6nm,0.7s,mb4.5,baz=113,slow=4.0,SNR=49
ILAR PP PP 08 01 52.7 -8.8
comp=Z,1.3nm,1.1s,baz=107,slow=7.8,SNR=2.8
ILAR LR LR 08 35 46.4
comp=Z,4µm,18.1s,MS5.7,baz=118,slow=40
SLKM Skilak Lake 71.90 331 *e*P **P** **07 59 21.8 -0.9**
TBI Tubuai 72.11 242 *e*S S 08 08 41.9 -1.6
comp=Z,2µm,30.8s
TBI *e*SS SS 08 13 20.8 -0.3
comp=Z,1µm,30.5s
TBI *e*LQ 08 18 23.1
comp=Z,3µm,29.5s
TBI *e*LR LR 08 21 26.9
comp=Z,5µm,25.5s,baz=68
COLA College 72.20 336 *e*P **P** **07 59 23.6 -0.9**
COLA *e**PP pP 07 59 35.9 +0.4
COLA pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
COLA MLR MLR
comp=Z,3µm,21.0s,MS5.6
COLA College 72.20 336 *e*P **P** **07 59 23.6 -0.9**
comp=Z,9.9nm,0.9s,mb4.7
COLA *e*pP pP 07 59 35.9 +0.4
COLA LR LR
comp=Z,3µm,21.0s,MS5.6
KDAK Kodiak Island 72.39 328 P **P** **07 59 26.0 +0.4**
comp=Z,7.9nm,0.7s,mb4.8,baz=64,slow=2.4,SNR=6.8
KDAK Kodiak Island 72.39 328 P **P** **07 59 26.0 +0.4**
PTEO Sao Teotonio 72.59 53 *e*P **P** **07 59 27.0 +0.2**
comp=Z,44nm,1.1s,mb5.3
MOE Montemor 72.94 52 *e*P **P** **07 59 30.2 +1.3**
PTOM Tomar 72.96 51 *e*P **P** **07 59 29.3 +0.3**
comp=Z,19nm,1.2s,mb4.9
PBEJ Beja 73.29 53 *e*P **P** **07 59 31.3 +0.3**
comp=Z,9.5nm,1.1s,mb4.6
HOPE Hope Point 73.33 154 PFAKE 07 59 40.0 +8.8
HOPE LR LR
comp=Z,2µm,19.0s,MS5.5
PCAB Cabril 73.39 49 *e*P **P** **07 59 30.3 -1.2**
comp=Z,29nm,1.5s,mb5.0
PVIS Viseu 73.42 50 *e*P **P** **07 59 32.0 +0.3**
comp=Z,14nm,1.1s,mb4.8
EGRO El Granado 73.57 53 P **P** **07 59 32.0 -0.6**
comp=Z,38nm,1.3s,mb5.2
PVRL Vila Real 73.59 49 *e*P **P** **07 59 33.1 +0.4**
comp=Z,10nm,1.6s,mb4.5
MTE Manteigas 73.67 50 *e*P **P** **07 59 32.7 -0.5**
comp=Z,14nm,1.2s,mb4.8
MTE *e*S S 08 09 04.7 +3.5
MTE Manteigas 73.67 50 *e*LR LR 08 22 24.0
comp=Z,4µm,22.0s
PCBR Castelo Branco 73.69 51 *e*P **P** **07 59 33.7 +0.4**
comp=Z,13nm,1.1s,mb4.8
EBAD Badajoz 74.00 52 P **P** **07 59 35.4 +0.3**
comp=Z,35nm,2.1s,mb4.9
PBRG Braganca 74.35 49 *e*P **P** **07 59 37.6 +0.4**
comp=Z,8.1nm,1.3s,mb4.5
SVW2 Sparrevohn 74.59 331 *e*P **P** **07 59 37.4 -1.2**
ESPR Espera 74.85 54 P **P** **07 59 41.1 +1.1**
comp=Z,56nm,1.5s,mb5.3
TTA Tatalina 75.16 333 *e*P **P** **07 59 40.2 -1.6**
EMIJ Mijas 75.72 54 P **P** **07 59 44.8 -0.3**
comp=Z,46nm,1.5s,mb5.2
EADA Adamuz 75.89 53 P **P** **07 59 45.3 -0.8**
comp=Z,54nm,2.1s,mb5.1
ELOJ Sierra Loja 76.22 54 P **P** **07 59 49.0 +1.1**
ELOJ pmax pmax
comp=Z,25nm,1.5s,mb4.9
ELOJ Sierra Loja 76.22 54 P **P** **07 59 49.0 +1.1**
comp=Z,25nm,1.5s,mb4.9
GUD Guadarrama 76.26 50 P **P** **07 59 49.1 +1.0**
GUD pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GUD Guadarrama 76.26 50 P **P** **07 59 49.1 +0.9**
comp=Z,7.6nm,0.9s,mb4.6
ESDC Sonseca Array 76.39 51 P **P** **07 59 48.3 -0.6**
comp=Z,7.7nm,0.8s,mb4.7,baz=275,slow=5.3,SNR=28
ESDC Sonseca Array 76.39 51 P **P** **07 59 49.1 +0.3**
comp=Z,13nm,0.9s,mb4.9
ESLA Sonseca Array 76.39 51 *e*P **P** **07 59 49.1 +0.2**
comp=Z,2.5nm,0.8s,mb4.2
ESLA LR LR
comp=Z,27µm,20.0s,MS6.6
DAG Danmarks Havn 76.40 12 *i* P **P** **07 59 46.3 -2.6**
comp=Z,4.8nm,0.7s,mb4.5
DAG Danmarks Havn 76.40 12 *i* P **P** **07 59 46.3 -2.6**
DAG pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ERON Agron 76.50 54 P **P** **07 59 50.6 +1.1**
comp=Z,4.4nm,0.8s,mb4.4
EBAN Banos Encina 76.51 53 P **P** **07 59 49.6 0.0**
EBAN pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
EBAN Banos Encina 76.51 53 P **P** **07 59 49.6 0.0**
comp=Z,3.5nm,0.8s,mb4.3
EQES Quesada 77.08 53 P **P** **07 59 52.6 -0.2**
comp=Z,62nm,1.7s,mb5.3
ROSF Rostrenen 77.12 42 *e*P **P** **07 59 52.1 -0.9**
LIC Lamto 77.20 85 *e*P **P** **07 59 53.6 +0.1**
comp=Z,207nm,1.2s,mb5.6
LIC *e*R
comp=Z,3µm,20.2s
LIC Lamto 77.20 85 *e*P **P** **07 59 53.6 +0.1**
comp=Z,104nm,1.2s,mb5.6
LIC LR LR
comp=Z,1µm,20.3s,MS5.2
DBIC Dimbokro 77.32 85 P **P** **07 59 54.2 +0.1**
comp=Z,17nm,0.8s,mb5.0,baz=279,slow=4.9,SNR=16
DBIC LR LR 08 32 40.3
comp=Z,1µm,20.7s,MS5.2,baz=257,slow=35
DBIC Dimbokro 77.32 85 *e*P **P** **07 59 55.2 +1.1**
DBIC *e**PP pP 08 00 04.2 -1.0
DBIC pmax pmax
comp=Z,81nm,1.3s
DBIC MLR MLR
comp=Z,2µm,22.0s
DBIC Dimbokro 77.32 85 *e*P **P** **07 59 55.2 +1.1**
comp=Z,81nm,1.3s,mb5.5
DBIC *e*pP pP 08 00 04.2 -1.0
DBIC LR LR
comp=Z,2µm,22.0s,MS5.3
JMIC Jan Mayen 77.32 19 *e*P **P** **07 59 52.0 -2.1**
JMIC Jan Mayen 77.32 19 LR LR 08 31 03.6
comp=Z,3µm,20.9s,MS5.6,baz=100,slow=34
EHUE Huescar 77.46 53 P **P** **07 59 55.7 +0.8**
EHUE pmax pmax
comp=Z,78nm,1.7s,mb5.4
EHUE Huescar 77.46 53 P **P** **07 59 55.7 +0.8**
comp=Z,78nm,1.7s,mb5.4
ESK Eskdalemuir 77.53 35 PFAKE 08 00 10.0 +15
ESK LR LR
comp=Z,5µm,19.0s,MS5.8
ETOB Tobarra 78.27 52 P **P** **08 00 00.6 +1.2**
comp=Z,61nm,2.3s,mb5.1
SJPF Ste Jean 78.46 48 *e*P **P** **08 00 00.8 +0.3**
comp=Z,24nm,0.9s,mb4.8
SJPF Ste Jean 78.46 48 *e*P **P** **08 00 00.8 +0.3**
SJPF pmax pmax
comp=Z,12nm,0.9s,mb4.8
SJPF Ste Jean 78.46 48 *e*P **P** **08 00 00.8 +0.3**
comp=Z,12nm,0.9s,mb4.8
GRR Gorron 78.73 42 *e*P **P** **08 00 01.3 -0.6**
comp=Z,83nm,1.3s,mb5.2
GRR Gorron 78.73 42 *e*P **P** **08 00 01.3 -0.6**
GRR pmax pmax
comp=Z,42nm,1.3s,mb5.2
GRR Gorron 78.73 42 *e*P **P** **08 00 01.3 -0.6**
comp=Z,42nm,1.3s,mb5.2
ETSF Etsaut 78.95 48 *e*P **P** **08 00 02.3 -0.9**
comp=Z,7.7nm,0.9s,mb4.3
ETSF Etsaut 78.95 48 *e*P **P** **08 00 02.3 -0.9**
ETSF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
ETSF Etsaut 78.95 48 *e*P **P** **08 00 02.3 -0.9**
comp=Z,3.8nm,0.9s,mb4.3
FLN La Foliniere 78.98 42 *e*P **P** **08 00 02.7 -0.6**
FLN *e*R
comp=Z,9µm,22.0s
FLN La Foliniere 78.98 42 *e*P **P** **08 00 02.7 -0.6**
FLN LR LR
comp=Z,9µm,22.0s,MS6.1
ESAC San Caprasio 79.04 49 P **P** **08 00 04.3 +0.7**
comp=Z,89nm,1.8s,mb5.4
MFF Saint Martin d 79.21 44 *e*P **P** **08 00 03.9 -0.7**
comp=Z,23nm,1.1s,mb4.7
MFF Saint Martin d 79.21 44 *e*P **P** **08 00 03.9 -0.7**
MFF pmax pmax
comp=Z,11nm,1.1s,mb4.7
MFF Saint Martin d 79.21 44 *e*P **P** **08 00 03.9 -0.7**
comp=Z,11nm,1.1s,mb4.7
LDF La Druitiere 79.22 42 *e*P **P** **08 00 04.8 +0.2**
comp=Z,32nm,0.9s,mb4.9
LDF La Druitiere 79.22 42 *e*P **P** **08 00 04.8 +0.2**
LDF pmax pmax
comp=Z,16nm,0.9s,mb5.0
LDF La Druitiere 79.22 42 *e*P **P** **08 00 04.8 +0.2**
comp=Z,16nm,0.9s,mb4.9
EBIE Bielsa 79.47 48 P **P** **08 00 06.5 +0.5**
comp=Z,11nm,1.0s,mb4.8
EPF Esparros 79.61 48 *e*P **P** **08 00 06.9 +0.2**
comp=Z,19nm,0.9s,mb4.7
EPF Esparros 79.61 48 *e*P **P** **08 00 06.9 +0.2**
EPF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
EPF Esparros 79.61 48 *e*P **P** **08 00 06.9 +0.2**
comp=Z,9.6nm,0.9s,mb4.7
EGRA Graus 79.61 49 P **P** **08 00 07.1 +0.3**
comp=Z,14nm,0.8s,mb4.9
LFF La Frestale 79.86 46 *e*P **P** **08 00 07.7 -0.4**
RJF Les Rejaudoux 80.39 45 *e*P **P** **08 00 10.3 -0.7**
RJF *e*R
comp=Z,6µm,21.2s
RJF Les Rejaudoux 80.39 45 *e*P **P** **08 00 10.3 -0.7**
RJF LR LR
comp=Z,6µm,21.3s,MS5.9
CAF Calviac 80.80 46 *e*P **P** **08 00 12.7 -0.4**
comp=Z,9.3nm,0.8s,mb4.4
CAF Calviac 80.80 46 *e*P **P** **08 00 12.7 -0.4**
CAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CAF Calviac 80.80 46 *e*P **P** **08 00 12.7 -0.4**
comp=Z,4.7nm,0.8s,mb4.5
RAR Rarotonga 80.80 247 LR LR 08 29 54.7
comp=Z,2µm,18.8s,MS5.4,baz=242,slow=31
TCF Toulx Ste Croi 80.85 44 *e*P **P** **08 00 13.0 -0.4**
MTLF Montolieu 80.97 47 *e*P **P** **08 00 13.7 -0.4**
comp=Z,49nm,1.6s,mb4.9
MTLF Montolieu 80.97 47 *e*P **P** **08 00 13.7 -0.4**
MTLF pmax pmax
comp=Z,24nm,1.6s,mb4.9
MTLF Montolieu 80.97 47 *e*P **P** **08 00 13.7 -0.4**
comp=Z,24nm,1.6s,mb4.9
BGF Bois d'Agland 81.28 44 *e*P **P** **08 00 15.4 -0.3**
AVF Avril sur Loir 81.61 44 *e*P **P** **08 00 17.5 0.0**
comp=Z,8.9nm,0.9s,mb4.4
AVF Avril sur Loir 81.61 44 *e*P **P** **08 00 17.5 0.0**
AVF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
AVF Avril sur Loir 81.61 44 *e*P **P** **08 00 17.5 0.0**
comp=Z,4.4nm,0.9s,mb4.4
LOR Lormes 81.93 43 *e*P **P** **08 00 19.1 -0.1**
LOR *e*R
comp=Z,7µm,20.8s
LOR Lormes 81.93 43 *e*P **P** **08 00 19.1 -0.1**
LOR LR LR
comp=Z,7µm,20.8s,MS6.0
SMF Signal de Mont 81.96 44 *e*P **P** **08 00 18.9 -0.4**
UCC Uccle 82.07 40 P **P** **08 00 17.5 -2.4**
LASF Ste Croix 82.12 47 *e*P **P** **08 00 20.1 0.0**
comp=Z,24nm,1.1s,mb4.7
BER Bergen 82.16 30 *e*P **P** **08 00 20.1 -0.3**
BER *e*PP PP 08 03 29.4 +0.6
BER AMS AMS 08 34 23.0
comp=Z,3µm,17.7s,MS5.8
VIVF Saint-Julien-l 82.65 46 *e*P **P** **08 00 23.1 +0.2**
comp=Z,16nm,0.9s,mb4.8
VIVF Saint-Julien-l 82.65 46 *e*P **P** **08 00 23.1 +0.2**
VIVF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
VIVF Saint-Julien-l 82.65 46 *e*P **P** **08 00 23.1 +0.2**
comp=Z,7.8nm,0.9s,mb4.7
MEZF Maizieres J'vi 82.66 42 *e*P **P** **08 00 22.9 -0.1**
comp=Z,37nm,1.1s,mb5.0
MEZF Maizieres J'vi 82.66 42 *e*P **P** **08 00 22.9 -0.1**
comp=Z,37nm,1.1s,mb5.3
BEBN Eben Emael 82.91 40 P **P** **08 00 23.2 -1.0**
TORD Torodi Ar. Bea 82.99 78 P **P** **08 00 24.4 -0.3**
comp=Z,9.3nm,0.8s,mb4.9,baz=274,slow=4.5,SNR=32
KBS Kingsbay 83.05 11 *e*P **P** **08 00 25.4 +0.4**

KBS ePP PP 08 03 34.0 -2.0
KBS eS S 08 10 40.6 -1.2
KBS AMS AMS 08 36 32.8
comp=Z,3µm,20.6s,MS5.7
HGN Heimansgroeve 83.07 40 eP **P 08 00 25.4 +0.3**
comp=Z,0.4nm,2.4s
HGN Heimansgroeve 83.07 40 eS S 08 10 42.4 +0.3
MEM Membach 83.13 40 P **P 08 00 24.4 -1.0**
WLF Walferdange 83.30 41 eP **P 08 00 25.4 -0.8**
comp=Z,108nm,2.1s,mb5.5
WLF Walferdange 83.30 41 P **P 08 00 25.9 -0.4**
SMRF Simiane la Rot 83.36 47 eP **P 08 00 26.3 -0.3**
comp=Z,16nm,0.9s,mb4.7
SMRF Simiane la Rot 83.36 47 eP **P 08 00 26.3 -0.3**
comp=Z,16nm,0.9s,mb5.0
ORIF Oris-en-Rattie 83.50 46 eP **P 08 00 27.6 +0.3**
comp=Z,28nm,1.0s,mb5.0
ORIF eR
comp=Z,5µm,21.2s
ORIF Oris-en-Rattie 83.50 46 eP **P 08 00 27.6 +0.3**
ORIF pmax pmax
comp=Z,14nm,1.0s,mb5.0
ORIF Oris-en-Rattie 83.50 46 eP **P 08 00 27.6 +0.3**
comp=Z,14nm,1.0s,mb5.0
CABF La Chapelle 83.50 44 eP **P 08 00 27.5 +0.2**
WTSB Winterswijk 83.52 39 eP **P 08 00 25.2 -2.2**
comp=Z,35nm,3.4s
HAU Haudompre 83.56 43 eP **P 08 00 27.5 -0.1**
HAU eR
comp=Z,7µm,22.8s
HAU Haudompre 83.56 43 eP **P 08 00 27.5 -0.1**
HAU LR LR
comp=Z,7µm,22.8s,MS6.0
BUG Bochum-Univer 83.85 39 eP **P 08 00 29.3 +0.2**
comp=Z,55nm,2.0s,mb5.3
LPG La Plagne 84.06 45 eP **P 08 00 30.5 +0.3**
comp=Z,28nm,1.4s,mb4.9
LPG La Plagne 84.06 45 eP **P 08 00 30.5 +0.3**
LPG pmax pmax
comp=Z,14nm,1.4s,mb4.9
LPG La Plagne 84.06 45 eP **P 08 00 30.5 +0.3**
comp=Z,14nm,1.4s,mb4.9
LMR La Mourre 84.10 47 eP **P 08 00 29.9 -0.4**
MBDF Montbardon 84.15 46 eP **P 08 00 30.7 +0.1**
comp=Z,8.7nm,0.8s,mb4.7
MBDF Montbardon 84.15 46 eP **P 08 00 30.7 +0.1**
MBDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
MBDF Montbardon 84.15 46 eP **P 08 00 30.7 +0.1**
comp=Z,4.3nm,0.8s,mb4.6
FRF La Foret Royal 84.17 47 eP **P 08 00 30.2 -0.5**
comp=Z,19nm,1.0s,mb4.9
FRF La Foret Royal 84.17 47 eP **P 08 00 30.2 -0.5**
FRF pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
FRF La Foret Royal 84.17 47 eP **P 08 00 30.2 -0.5**
comp=Z,9.5nm,1.0s,mb4.9
KONO Kongsberg 84.35 31 eP **P 08 00 31.0 -0.7**
KONO eSS SS 08 16 28.3 +3.1
KONO Kongsberg 84.35 31 eP **P 08 00 31.0 -0.7**
KONO LR LR
comp=Z,3µm,20.0s,MS5.6
MUD Monsted U'grnd 84.47 34 *i* P **P 08 00 33.0 +0.7**
MUD *i* S 08 11 01.2
TNS Taunus Mts 84.72 40 eP **P 08 00 32.2 -1.3**
comp=Z,22nm,1.3s,mb5.1
TNS Taunus Mts 84.72 40 eP **P 08 00 32.2 -1.3**
TNS pmax pmax
comp=Z,22nm,1.3s,mb5.1
NAO01 NORSAR Array S 84.85 29 PFAKE 08 00 40.0 +5.9
NAO01 LR LR
comp=Z,3µm,19.0s,MS5.7
BFO Black Forest 84.85 42 eP **P 08 00 32.9 -1.3**
comp=Z,48nm,2.2s,mb5.2
BFO Black Forest 84.85 42 eP **P 08 00 33.5 -0.7**
NSS Namsos 84.86 26 *e* **P 08 00 35.3 +1.2**
NSS eSKSa 08 10 56.7
NSS AMS AMS 08 34 25.1
comp=Z,2µm,21.8s,MS5.5
NB2 NORSAR Subarra 84.98 29 P **P 08 00 34.1 -0.7**
comp=Z,32nm,1.4s,mb5.2,baz=277,slow=5.1
NOA NORSAR Array B 84.98 29 P **P 08 00 34.0 -0.8**
comp=Z,4.0nm,0.8s,mb4.6,baz=277,slow=4.7,SNR=10
NOA LR LR 08 35 27.6
comp=Z,2µm,20.4s,MS5.5,baz=290,slow=34
BSEG Bad Segeberg 85.42 36 eP **P 08 00 35.6 -1.4**
comp=Z,134nm,2.9s,mb5.6
BJO Bjornoya 85.47 15 eP **P 08 00 38.6 +1.3**
BJO AMS AMS 08 36 02.3
comp=Z,3µm,16.4s,MS5.7
CLZ Clausthal 85.73 38 eP **P 08 00 38.2 -0.4**
comp=Z,26nm,1.5s,mb5.2
CLZ Clausthal 85.73 38 eP **P 08 00 38.2 -0.4**
CLZ pmax pmax
comp=Z,26nm,1.5s,mb5.2
DAVOX Davos 86.08 43 LR LR 08 36 58.6
comp=Z,3µm,19.5s,MS5.8,baz=279,slow=34
HFS Hagfors 86.33 30 LR LR 08 39 26.3
comp=Z,3µm,19.0s,MS5.7,baz=282,slow=36
COP Copenhagen 86.39 34 *i* P **P 08 00 42.2 +0.4**
COP *i* S 08 11 18.5
COP pmax pmax
comp=Z,31nm,1.1s,mb5.5
COP MLR MLR
comp=Z,1µm,19.0s,MS5.3
COP Copenhagen 86.39 34 *i* P **P 08 00 42.2 +0.4**
comp=Z,31nm,1.1s,mb5.5
COP *i* S 08 11 18.5
COP *i* 08 17 14.3
COP *e* 08 23 32.0
COP LR LR
comp=Z,1µm,19.0s,MS5.3
GRA1 Grafenberg Arr 86.56 40 eP **P 08 00 41.7 -1.0**
comp=Z,44nm,1.7s,mb5.4
GRA1 ePP PP 08 04 01.4 -3.3
GRA1 eS 08 11 18.7
GRA1 eSS SS 08 17 21.1 +23
GRA1 LR LR
comp=Z,8µm,22.0s,MS6.1
GRF Grafenberg Arr 86.56 40 eP **P 08 00 41.7 -1.0**
comp=Z,44nm,1.7s,mb5.4
GRF ePP PP 08 04 01.4 -3.3
GRF eS 08 11 18.7
GRF eSS SS 08 17 21.1 +23
GRF eL 08 33 06.7
comp=Z,8µm,22.0s
GRF Grafenberg Arr 86.56 40 eP **P 08 00 41.7 -1.0**
GRF e 08 04 01.4
GRF eS 08 11 18.7
GRF pmax pmax
comp=Z,44nm,1.7s,mb5.4
GRF MLR MLR
comp=Z,8µm,22.0s,MS6.1
GRF Grafenberg Arr 86.56 40 eP **P 08 00 41.7 -1.0**
GRF e 08 04 01.4
GRF eS 08 11 18.7
GRF pmax pmax
comp=Z,44nm,1.7s,mb5.4
GRF MLR MLR
comp=Z,8µm,22.0s,MS6.1
TRO Tromso 86.57 20 eP **P 08 00 40.7 -2.0**
TRO ePP PP 08 04 03.0 -1.7
TRO eSKSa 08 11 07.5
TRO AMS AMS 08 35 19.4
comp=Z,2µm,22.3s,MS5.3
TRO Tromso 86.57 20 eP **P 08 00 41.2 -1.4**
TRO LR LR
comp=Z,1537µm,22.3s
MOX Moxa 86.67 39 eP **P 08 00 41.8 -1.4**
comp=Z,42nm,2.0s,mb5.3
MOX Moxa 86.67 39 eP **P 08 00 43.0 -0.2**
MOX *e* 08 00 49.8
comp=Z,46nm,2.2s
MOX
comp=Z,5µm,22.0s
MOX Moxa 86.67 39 eP **P 08 00 43.0 -0.2**
MOX *e* 08 00 49.8
MOX pmax pmax
comp=Z,46nm,2.2s,mb5.3
MOX MLR MLR
comp=Z,5µm,22.0s,MS5.8
MOX Moxa 86.67 39 eP **P 08 00 43.0 -0.2**
comp=Z,46nm,2.2s,mb5.3
MOX *e* 08 00 49.8
MOX LR LR
comp=Z,5µm,22.0s,MS5.8

FUR Furstenfeldbru 86.82 42 eP **P 08 00 43.4 -0.5**
comp=Z,12nm,0.5s,mb5.4
FUR Furstenfeldbru 86.82 42 eP **P 08 00 43.4 -0.5**
FUR pmax pmax
comp=Z,12nm,0.5s,mb5.4
MANZ Manzenberg 87.09 40 eP **P 08 00 45.1 -0.1**
comp=Z,42nm,2.2s,mb5.3
WERD Werda 87.14 40 eP **P 08 00 45.0 -0.5**
comp=Z,28nm,1.7s,mb5.2
ROTZ Rotzenmuhle 87.18 40 eP **P 08 00 45.8 +0.1**
comp=Z,35nm,2.0s,mb5.2
NKC Novy Kostel 87.26 40 eP **P 08 00 45.7 -0.4**
NKC epP pP 08 00 54.7 -2.6
NKC eSKS 08 11 13.0
CLL Collm 87.43 39⇑ *i*P **P 08 00 46.3 -0.6**
comp=Z,56nm,2.1s,mb5.4
CLL epP pP 08 00 55.3 -2.8
CLL eSP sP 08 01 02.0 -0.2
CLL ePP PP 08 04 08.4 -3.3
CLL eSKSac SKSac 08 11 12.2 +0.3
CLL eS 08 11 28.2
CLL ePS 08 12 27.3
CLL ePPS 08 12 58.6
CLL eSS SS 08 17 17.3 +6.8
CLL eSSS 08 20 36.0
CLL eLR LR 08 28 39.1
CLL eL 08 34 57.6
comp=Z,3µm,22.0s
CLL Collm 87.43 39⇑ *i*P **P 08 00 46.3 -0.6**
comp=Z,55nm,2.1s,mb5.4
CLL *i* pP pP 08 00 55.0 -3.1
CLL *i* x x 08 01 01.7
CLL ePP PP 08 04 09.0 -2.7
CLL *ex* x 08 07 02.0
CLL eSKSac SKSac 08 11 15.0 +3.1
CLL eS 08 11 26.0
CLL ePS 08 12 27.0
CLL ePPS 08 12 55.0
CLL *ex* x 08 14 12.0
CLL eSS SS 08 17 11.0 +0.5
CLL *e*(SSS) 08 20 30.0
CLL *ex* x 08 25 54.0
CLL Lm 08 41 00.0
comp=N,700nm,18.2s
CLL Lm 08 41 00.0
comp=E,3µm,18.5s
CLL Lm 08 41 00.0
comp=Z,3µm,18.7s
CLL Collm 87.43 39⇑ *i*P **P 08 00 46.3 -0.6**
CLL *i* *PP pP 08 00 55.0 -3.1
CLL *e* 08 11 15.0
CLL eS 08 11 26.0
CLL pmax pmax
comp=Z,55nm,2.1s,mb5.4
CLL MLR MLR
comp=Z,3µm,18.7s,MS5.7
CLL Collm 87.43 39⇑ *i*P **P 08 00 46.3 -0.6**
comp=Z,55nm,2.1s,mb5.4
CLL *i* pP pP 08 00 55.0 -3.1
CLL eSKS 08 11 15.0
CLL eS 08 11 26.0
CLL LR LR
comp=Z,3µm,18.7s,MS5.7
RUE Ruedersdorf 87.71 37 eP **P 08 00 47.7 -0.5**
comp=Z,19nm,1.2s,mb5.2
BSD Bornholm Skovb 87.88 35⇑ *i*P **P 08 00 47.1 -1.9**
BSD *i* S 08 11 23.3
BSD pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
BSD Bornholm Skovb 87.88 35⇑ *i*P **P 08 00 47.1 -1.9**
comp=Z,5.8nm,0.8s,mb4.9
BSD *i* S 08 11 23.3
BRG Berggiesshubel 88.09 39 eP **P 08 00 48.9 -1.1**
comp=Z,22nm,1.6s,mb5.1
BRG Berggiesshubel 88.09 39 eP **P 08 00 49.5 -0.5**
comp=Z,18nm,1.8s,mb5.0
BRG *e* 08 00 51.9
comp=Z,7.7nm,1.3s
BRG PP PP 08 04 16.0 -1.0
BRG SKS 08 11 19.0
BRG S 08 11 46.0
BRG SS SS 08 17 29.0 +8.9
BRG
comp=N,672nm,18.9s
BRG
comp=E,2µm,20.8s
BRG
comp=Z,3µm,21.7s
BRG Berggiesshubel 88.09 39 eP **P 08 00 49.5 -0.5**
BRG *e* 08 00 51.9
BRG 08 04 16.0
BRG 08 11 19.0
BRG pmax pmax
comp=Z,18nm,1.8s,mb5.0
BRG pmax pmax
comp=Z,8.0nm,1.3s,mb4.8
BRG MLR MLR
comp=N,672nm,18.9s,MS5.6
BRG MLR MLR
comp=E,2µm,20.8s,MS5.6
BRG MLR MLR
comp=Z,3µm,21.7s,MS5.7
KHC Kasperske Hory 88.17 41 eP **P 08 00 49.5 -0.9**
KHC epP pP 08 00 57.2 -4.5
KHC eSKS 08 11 20.1
KHC *ex* x 08 17 43.9
KHC AMS AMS 08 32 50.0
comp=Z,7µm,23.3s
KHC Kasperske Hory 88.17 41 eP **P 08 00 49.5 -0.9**
KHC *e*PP pP 08 00 57.2 -4.5
KHC *e* 08 11 20.1
KHC MLR MLR
comp=Z,7µm,23.3s,MS6.0
GEC2 GERESS Array S 88.30 41 eP **P 08 00 50.3 -0.7**
comp=Z,21nm,1.6s,mb5.1
GEC2 GERESS Array S 88.30 41 eP **P 08 00 50.3 -0.7**
GEC2 pmax pmax
comp=Z,21nm,1.6s,mb5.1
GERES GERESS Array B 88.30 41 P **P 08 00 50.4 -0.7**
comp=Z,2.5nm,0.8s,mb4.5,baz=270,slow=2.7,SNR=17
GERES LR LR 08 34 28.8
comp=Z,5µm,21.9s,MS5.9,baz=266,slow=32
KBA Koelnbreinsper 88.38 43⇓ *i*P **P 08 00 51.3 -0.1**
comp=Z,530nm,6.1s
KBA Koelnbreinsper 88.38 43⇓ *i*P **P 08 00 51.3 -0.1**
KBA pmax pmax
comp=Z,530nm,6.1s
PRU Pruhonice 88.63 40 eP **P 08 00 52.7 +0.1**
PRU epP pP 08 01 01.7 -2.1
PRU eSKS 08 11 23.8
PRU *ex* x 08 17 45.1
PRU AMS AMS 08 35 40.0
comp=Z,8µm,20.5s
PRU Pruhonice 88.63 40 eP **P 08 00 52.7 +0.1**
PRU *e*PP pP 08 01 01.7 -2.1
PRU *e* 08 11 23.8
PRU MLR MLR
comp=Z,8µm,20.5s,MS6.1
CADS Cadrg 88.80 44 eP **P 08 00 52.7 -0.7**
ARCES ARCESS Array B 88.80 19 P **P 08 00 51.9 -1.5**
comp=Z,4.0nm,0.8s,mb4.8,baz=267,slow=4.4,SNR=7.7
ARCES LR LR 08 42 03.2
comp=Z,2µm,18.4s,MS5.6,baz=299,slow=37
MOA Molln 88.86 42⇑ *i*P **P 08 00 53.3 -0.4**
comp=Z,474nm,4.6s
VOJS Vojsko 88.93 44 eP **P 08 00 54.0 0.0**
KEV Kevo 89.22 19 PFAKE 08 01 10.0 +15
KEV LR LR
comp=Z,2µm,21.0s,MS5.5
LJU Ljubljana 89.37 44 eP **P 08 00 56.0 -0.1**
LJU ePP PP 08 04 46.7 +19
LJU eS 08 11 28.3
LJU eSS SS 08 17 53.7 +15
LJU Ljubljana 89.37 44 eP **P 08 00 56.0 -0.1**
LJU eS 08 11 28.3
TREC Trest 89.37 40 eP **P 08 00 57.6 +1.5**
TREC eSKS 08 11 26.9
UPC Upice 89.46 39 eP **P 08 00 53.9 -2.6**
UPC epP pP 08 01 03.6 -4.1
KSP Ksiaz 89.56 39 eP **P 08 00 56.8 -2.8**
KSP epP pP 08 01 05.4 -2.8
KSP eSKS 08 11 28.7
KSP eS 08 11 49.7
KSP L 08 36 08.5
comp=Z,5.1nm,22.6s
KSP Ksiaz 89.56 39⇑ *e*P **P 08 00 56.8 -0.1**
KSP *e*PP PP 08 04 30.0 +1.3
KSP *e*SKS 08 11 23.0
KSP *e*S 08 11 45.5
KSP *e*SS SS 08 17 35.0 -6.4
KSP LR LR
comp=Z,6µm,22.6s,MS6.0
GKP Gorka Klasztor 89.60 36 eP **P 08 00 57.2 +0.1**
GKP eS 08 11 49.8
GKP L 08 38 23.7
comp=Z,4.6nm,21.0s
DPC Dobruska-Polom 89.68 39 eP **P 08 00 57.7 +0.2**
DPC eSKS 08 11 26.6
DPC AMS AMS 08 36 10.0
comp=Z,6µm,20.2s
CRES Cresnjev 90.05 44 eP **P 08 00 59.5 +0.3**
CRES eS 08 11 32.1
CRES eSS SS 08 18 09.2 +21
VRAC Vranov 90.08 40 LR LR 08 36 16.9
comp=Z,8µm,21.1s,MS6.1,baz=274,slow=32
BILL Bilibino 90.15 339 eP **P 08 00 59.0 -0.7**
BILL e*PP pP 08 01 09.4 -1.5
BILL pmax pmax
comp=Z,28nm,1.4s,mb5.4
BILL MLR MLR
comp=Z,3µm,19.0s,MS5.7
BILL Bilibino 90.15 339 eP **P 08 00 59.0 -0.7**
comp=Z,28nm,1.4s,mb5.4
BILL epP pP 08 01 09.4 -1.5
BILL LR LR
comp=Z,3µm,19.0s,MS5.7
SOP Sopron 90.40 42⇑ ePcP PcP 08 01 00.5 -1.5
MORC Moravsky Berou 90.58 40 eP **P 08 01 01.5 -0.2**
MORC pmax pmax
comp=Z,55nm,2.2s,mb5.5
MORC Moravsky Berou 90.58 40 eP **P 08 01 01.5 -0.2**
comp=Z,55nm,2.2s,mb5.5
ZST Bratislava 90.65 41 eP **P 08 01 01.9 -0.1**
ZST eS 08 11 58.7
ZST MLR MLR
comp=Z,626nm,23.3s,MS5.0
AFI Afiamalu 90.81 256 PFAKE 08 01 20.0 +17
AFI LR LR
comp=Z,1µm,20.0s,MS5.4
VAE Valguarnera 90.90 52 LR LR 08 35 19.8
comp=Z,6µm,21.9s,MS6.0,baz=98,slow=31
OKC Ostrava-Krasne 90.94 39 eSKS 08 11 33.3
OKC AMS AMS 08 37 00.0
comp=Z,6µm,20.0s
SRO Srobarova 91.53 41 eP **P 08 01 06.1 0.0**
VYHS Vyhne 91.70 41 eP **P 08 01 06.9 0.0**
VYHS eS 08 11 41.9
FINES FINESS Array B 91.84 27 P **P 08 01 04.8 -2.7**
comp=Z,3.4nm,1.0s,mb4.6,baz=250,slow=4.0,SNR=3.5
FINES LR LR 08 38 42.8
comp=Z,2µm,21.5s,MS5.5,baz=102,slow=33
OJC Ojcow 91.88 39 eP **P 08 01 07.4 -0.3**
OJC ePP PP 08 04 46.3 -0.8
OJC eSKSac SKSac 08 11 42.9 +5.0
OJC eS 08 12 07.0
OJC L 08 37 55.9
comp=Z,24nm,21.1s
BUD Budapest 92.07 42 eP **P 08 01 02.8 -5.8**
PKSM Moragy 92.13 43⇑ eP **P 08 01 08.4 -0.5**
APA Apatity 92.25 20⇑ *i*P **P 08 01 07.0 -2.5**
APA *i* 08 04 48.0
APA pmax pmax
comp=Z,500nm,10.0s
VNA3 Neumayer Olymp 92.30 162 eP **P 08 01 07.8 -1.9**
VNA3 *e* 08 01 10.3
VNA3 *e* 08 01 12.0
VNA3 *e* 08 01 14.2
VNA3 *e* pP 08 01 17.3 -3.6
VNA3 *e* 08 01 21.9
LVZ Lovozero 92.52 20 PFAKE 08 01 20.0 +9.3
LVZ LR LR
comp=Z,2µm,20.0s,MS5.6
PSZ Piszkesteto 92.53 41⇑ ePcP PcP 08 01 11.4 -0.1
VNA1 Neumayer--Stat 92.56 161 eP **P 08 01 10.2 -0.7**
VNA1 *e* 08 01 13.0
VNA1 *e* 08 01 14.2
VNA1 *e* 08 01 15.9
VNA1 *e* pP 08 01 18.9 -3.2
VNA1 *e* pP 08 01 23.4 +1.3
KECS Kecovo 92.77 40 eP **P 08 01 10.2 -1.6**
KECS pmax pmax
comp=Z,2.0nm,1.2s,mb4.4
VNA2 Neumayer--Watz 92.91 161 eP **P 08 01 11.9 -0.6**
VNA2 *e* 08 01 14.5
VNA2 *e* 08 01 16.3
VNA2 *e* 08 01 18.4
VNA2 *e* pP 08 01 20.9 -2.9
VNA2 *e* pP 08 01 24.4 +0.6
STHS Stebnicka Huta 93.00 39 eP **P 08 01 09.4 -3.5**
KOLS Kolonicke sedl 93.78 40 eP **P 08 01 16.2 -0.3**
KOLS eS 08 12 24.3
KOLS MLR MLR
comp=Z,4µm,21.8s,MS5.8
SNAA Sanae 94.52 162 eP **P 08 01 19.7 -0.2**
SNAA *e* 08 01 23.1
SNAA *e* 08 01 24.7
SNAA Sanae 94.52 162 *i* P **P 08 01 17.2 -2.7**
MLR Muntele Rosu 97.23 42 LR LR 08 42 55.3
comp=Z,5µm,20.8s,MS6.0,baz=280,slow=34
TIXI Tiksi 97.69 350 *i* P **P 08 01 32.8 -1.5**
TIXI MLR MLR
comp=Z,3µm,20.0s,MS5.8
KLMR Klimovskoe 97.93 25*c i*P **P 08 01 33.5 -1.9**
KLMR *e* 08 05 31.3
KLMR ePPP 08 07 40.1
KLMR eS 08 12 06.8
KLMR ePS PS 08 14 20.2 -6.7
KLMR eSS SS 08 19 48.6 +7.6
KLMR eSSS 08 23 22.8
KLMR pmax pmax
comp=Z,30nm,2.2s,mb5.4
KLMR pmax pmax
comp=Z,120nm,7.2s
QSPA South Pole Qui 98.09 180 PFAKE 08 01 50.0 +14
QSPA LR LR
comp=Z,1.0nm,19.0s
RAO Raoul Island 98.24 242 LR LR 08 36 17.5
comp=Z,1µm,20.4s,MS5.5,baz=129,slow=30
OBN Obninsk 99.53 30 P **P 08 01 42.0 -0.5**
OBN *e* pP 08 01 53.4 -0.4
OBN *i* 08 12 23.9
OBN ePS PS 08 14 43.4 -0.7
OBN *e* 08 15 28.8
OBN MLR MLR
comp=Z,2µm,18.0s,MS5.7
OBN Obninsk 99.53 30 PFAKE 08 01 50.0 +7.5
OBN LR LR
comp=Z,2µm,20.0s,MS5.7
IDI Anoyia 99.63 52 LR LR 08 43 51.5
comp=Z,1µm,21.0s,MS5.3,baz=295,slow=34
PET Petropavlovsk 99.97 327 PFAKE 08 02 00.0 +15
PET LR LR
comp=Z,2µm,19.0s,MS5.6
SBA Scott Base 102.10 192 PFAKE 08 02 10.0 +16
SBA LR LR
comp=Z,2µm,19.0s,MS5.7
TSUM Tsumeb 102.50 108 PFAKE 08 02 10.0 +14
TSUM LR LR
comp=Z,2µm,19.0s,MS5.6
VNDA Vanda 103.20 192 PFAKE 08 02 10.0 +11
VNDA LR LR
comp=Z,2µm,22.0s,MS5.6
ANTO Ankara 103.97 46 PFAKE 08 02 10.0 +7.8
ANTO LR LR
comp=Z,2µm,20.0s,MS5.6
SNZO South Karori 104.59 229 PFAKE 08 02 20.0 +15
SNZO LR LR
comp=Z,3µm,19.0s,MS5.9
BR131 Keskin Array S 104.62 45 PFAKE 08 02 20.0 +15
BR131 LR LR
comp=Z,1µm,20.0s,MS5.3
YAK Yakutsk 105.66 345 PFAKE 08 06 30.0 +7.3
YAK LR LR
comp=Z,4µm,22.0s,MS5.9
SUR Sutherland 105.87 121 PFAKE 08 06 40.0 +17
SUR LR LR
comp=Z,3µm,20.0s,MS5.9
SOC Sochi 106.97 40 eP Pdif 08 02 08.9 -6.7

SOC				*e*			08 06 39.6	
SOC				*e*			08 12 56.0	
SOC				*e*			08 13 39.6	
SOC				*e*PS		PS	08 16 06.0	+3.5
SOC				*e*SS		SS	08 21 56.9	+11
ARU	**Arti**	**108.30**	**21**	PFAKE			08 06 40.0	+12
ARU				LR	LR			
comp=Z,4μm,20.0s,MS6.0								
KIV	**Kislovodsk**	**108.64**	**38**	PFAKE			08 06 40.0	+12
KIV				LR	LR			
comp=Z,2μm,20.0s,MS5.7								
LBTB	**Lobatse**	**110.13**	**114**	PFAKE			08 06 40.0	+8.9
LBTB				LR	LR			
comp=Z,4μm,21.0s,MS6.0								
YSS	**Yuzh-Sakhalins**	**111.84**	**328**	PFAKE			08 06 50.0	+16
YSS				LR	LR			
comp=Z,4μm,20.0s,MS6.0								
GNI	**Garni**	**111.96**	**41**	PFAKE			08 06 50.0	+15
GNI				LR	LR			
comp=Z,1μm,19.0s,MS5.6								
LSZ	**Lusaka**	**112.39**	**103**	PFAKE			08 06 50.0	+15
LSZ				LR	LR			
comp=Z,2μm,19.0s,MS5.7								
DRV	**Dumont d'Urvil**	**114.66**	**197**	PP	PP		08 07 44.0	+6.7
DRV				SP	SP		08 17 15.0	+3.3
DRV				SS	SS		08 23 40.0	+11
ERM	**Erimo**	**114.74**	**324**	PFAKE			08 06 50.0	+10
ERM				LR	LR			
comp=Z,22nm,20.0s								
BRVK	**Borovoye**	**114.96**	**17**	PFAKE			08 06 50.0	+10
BRVK				LR	LR			
comp=Z,2μm,19.0s,MS5.8								
HNR	**Honiara**	**117.92**	**264**	PFAKE			08 07 00.0	+14
HNR				LR	LR			
comp=Z,1μm,20.0s,MS5.6								
KURK	**Kurchatov**	**119.28**	**13**	PFAKE			08 07 00.0	+11
KURK				LR	LR			
comp=Z,5μm,21.0s,MS6.1								
TLY	**Talaya**	**120.19**	**355**	PFAKE			08 07 00.0	+10
TLY				LR	LR			
comp=Z,2μm,21.0s,MS5.8								
CASY	**Casey**	**121.17**	**186**	PFAKE			08 07 00.0	+7.8
CASY				LR	LR			
comp=Z,2μm,20.0s,MS5.7								
MJAR	**Matsushiro Arr**	**121.17**	**322**	PKP		PKPdf	08 06 52.1	-0.1
comp=Z,1.6nm,0.8s,baz=123,slow=0.6,SNR=4.2								
MAJO	**Matsushiro**	**121.18**	**322**	PFAKE			08 07 00.0	+7.8
MAJO				LR	LR			
comp=Z,1μm,21.0s,MS5.4								
CN2	**Changchun**	**122.30**	**336**	*e*PKP		PKPdf	08 06 55.2	+0.8
CN2				PP	PP			
comp=Z,800nm,9.0s								
CN2				LR	LR			
comp=N,2μm,19.0s,MS6.0								
CN2				LR	LR			
comp=E,2μm,19.0s,MS6.0								
CN2				LR	LR			
comp=Z,3μm,18.0s,MS6.0								
ULN	**Ulaanbaatar**	**123.59**	**352**	*i* PKIKP		PKPdf	08 06 56.5	-0.4
ULN				MLR	MLR			
comp=Z,3μm,19.0s,MS5.9								
SONM	**Songino Array**	**123.70**	**352**	PKP		PKPdf	08 06 57.2	+0.1
comp=Z,2.2nm,0.7s,baz=340,slow=1.4,SNR=15								
SONM				PP	PP		08 08 39.6	-0.1
comp=Z,0.9nm,0.9s,baz=351,slow=5.8,SNR=4.9								
MKAR	**Makanchi Array**	**123.79**	**12**	PKP		PKPdf	08 06 56.9	-0.3
comp=Z,0.8nm,0.7s,baz=303,slow=3.4,SNR=10								
MKAR	**Makanchi Array**	**123.79**	**12**	PKP		PKPdf	08 06 56.9	-0.3
TAU	**Tasmania Unive**	**124.07**	**223**	PFAKE			08 07 10.0	+12
TAU				LR	LR			
comp=Z,3μm,20.0s,MS6.0								
SNY	**Shenyang**	**124.70**	**336**	*e*PKP		PKPdf	08 06 58.0	-1.0
SNY				PP	PP		08 08 46.7	+0.3
SNY				SKS	SKSdf		08 14 03.7	-4.4
SNY				SKKS	SKKSac		08 15 37.7	-4.4
SNY				LR	LR			
comp=N,2μm,18.0s,MS5.9								
SNY				LR	LR			
comp=E,2μm,19.4s,MS5.9								
SNY				LR	LR			
comp=Z,3μm,15.6s,MS6.0								
AAK	**Ala-Archa**	**125.47**	**20**	*i* PKIKP		PKPdf	08 06 59.2	-1.3
AAK				MLR	MLR			
comp=Z,3μm,19.0s,MS6.0								
KS15	**Wonju Array Si**	**126.31**	**330**	*e*PKPdf		PKPdf	08 07 02.8	+0.7
WMQ	**Urumqi**	**127.63**	**9**	↑PKP		PKPdf	08 07 06.1	+1.5
WMQ				PP	PP		08 09 11.4	+5.6
WMQ				PKS			08 10 41.3	
WMQ				SKS	SKSdf		08 14 12.6	-1.0
WMQ				SKKS	SKKSac		08 15 59.1	-1.6
WMQ				SS	SS		08 26 17.6	+3.0
WMQ				PP	PP			
comp=Z,441nm,9.1s								
WMQ				LR	LR			
comp=N,3μm,20.3s,MS6.0								
WMQ				LR	LR			
comp=E,2μm,19.3s,MS6.0								
WMQ				LR	LR			
comp=Z,4μm,22.8s,MS6.0								
GUMO	**Guam**	**127.89**	**294**	PFAKE			08 07 20.0	+15
GUMO				LR	LR			
comp=Z,716nm,22.0s,MS5.3								
DL2	**Dalian**	**127.97**	**336**	PKP		PKPdf	08 07 05.8	+0.6
DL2				SS	SS		08 26 19.4	+0.6
DL2				PP	PP			
comp=Z,290nm,7.7s								
DL2				LR	LR			
comp=N,540nm,17.6s,MS5.6								
DL2				LR	LR			
comp=E,870nm,17.8s,MS5.6								
DL2				LR	LR			
comp=Z,1μm,17.3s,MS5.6								
KSH	**Kashi**	**128.75**	**21**	PKP		PKPdf	08 07 03.0	-3.7
KSH				PP	PP			
comp=Z,298nm,5.3s								
KSH				LR	LR			
comp=N,3μm,16.5s,MS6.1								
KSH				LR	LR			
comp=E,2μm,18.4s,MS6.1								
KSH				LR	LR			
comp=Z,4μm,17.1s,MS6.2								
BJI	**Beijing**	**128.95**	**341**	PKP		PKPdf	08 07 07.1	0.0
BJI				PP	PP			
comp=Z,584nm,8.8s								
BJI				LR	LR			
comp=N,4μm,18.4s,MS6.2								
BJI				LR	LR			
comp=E,2μm,18.4s,MS6.2								
BJI				LR	LR			
comp=Z,3μm,18.5s,MS6.0								
HHC	**Hu-ho-hao-te**	**129.50**	**346**	*e*PKP		PKPdf	08 07 08.1	-0.1
HHC				PP	PP		08 09 20.4	+2.3
HHC				PKS			08 10 42.5	
HHC				SKS	SKSdf		08 14 14.4	-2.6
HHC				SKKS	SKKSac		08 16 15.4	+3.0
HHC				SS	SS		08 26 41.3	+3.6
HHC				PP	PP			
comp=Z,736nm,9.6s								
HHC				LR	LR			
comp=N,2μm,20.2s,MS5.9								
HHC				LR	LR			
comp=E,1μm,20.0s,MS5.9								
HHC				LR	LR			
comp=Z,2μm,20.0s,MS5.9								
PMG	**Port Moresby**	**130.52**	**265**	PFAKE			08 07 20.0	+10
PMG				LR	LR			
comp=Z,1μm,20.0s,MS5.7								
CTA	**Charters Tower**	**131.01**	**250**	*e*PKP		PKPdf	08 07 12.2	+1.2
comp=Z,4.8nm,1.0s								
CTAO	**Charters Tower**	**131.01**	**250**	*e*PKIKP		PKPdf	08 07 11.4	+0.4
CTAO				MLR	MLR			
comp=Z,945nm,20.0s,MS5.5								
STKA	**Stephens Creek**	**132.39**	**234**	*e*PKP		PKPdf	08 07 12.4	-1.2
comp=Z,2.7nm,0.6s								
STKA	**Stephens Creek**	**132.39**	**234**	PKP		PKPdf	08 07 12.5	-1.2
comp=Z,3.9nm,0.7s,baz=161,slow=2.0,SNR=7.8								
GTA	**Gaotai**	**132.67**	**357**	PKP		PKPdf	08 07 14.9	+0.8
GTA				PKS			08 10 51.5	
GTA				SKS	SKSdf		08 14 21.0	-1.7
GTA				SKKS	SKKSac		08 16 28.0	-3.9
GTA				SS	SS		08 27 15.9	-0.5
GTA				PP	PP			
comp=Z,824nm,10.3s								
GTA				LR	LR			
comp=N,407nm,24.7s,MS5.6								
GTA				LR	LR			
comp=E,1μm,22.8s,MS5.6								
GTA				LR	LR			
comp=Z,2μm,27.4s,MS5.6								
NJ2	**Nanjing**	**134.98**	**334**	*e*PKP		PKPdf	08 07 20.4	+1.9
NJ2				PP	PP		08 09 56.0	+2.7
NJ2				PKS			08 10 55.0	
NJ2				PPP			08 12 54.0	
NJ2				PP	PP			
comp=Z,570nm,12.0s								
NJ2				LR	LR			
comp=N,2μm,23.0s								
NJ2				LR	LR			
comp=E,1μm,17.4s								
NJ2				LR	LR			
comp=Z,390nm,16.6s								
LZH	**Lanzhou**	**135.59**	**352**	PKP		PKPdf	08 07 16.1	-3.5
LZH				PP	PP		08 09 55.2	-2.0
LZH				SKS	SKSdf		08 14 26.0	-1.9
LZH				PP	PP			
comp=Z,810nm,7.7s								
LZH				LR	LR			
comp=N,3μm,19.2s								
LZH				LR	LR			
comp=Z,3μm,20.0s,MS6.1								
XAN	**Xi'an**	**136.62**	**346**	PKP		PKPdf	08 07 19.3	-2.2
XAN				LR	LR			
comp=N,3μm,20.5s								
XAN				LR	LR			
comp=Z,4μm,21.7s,MS6.1								
WHN	**Wuhan**	**138.16**	**337**	PKP		PKPdf	08 07 27.0	+2.6
WHN				PP	PP		08 10 13.0	-0.2
WHN				PKS			08 10 59.0	
WHN				LR	LR			
comp=Z,3μm,17.0s,MS6.1								
TATO	**Taipei**	**139.43**	**325**	PFAKE			08 07 40.0	+13
TATO				LR	LR			
comp=Z,2μm,21.0s,MS5.9								
CD2	**Chengdu**	**140.69**	**351**	*e*PKP		PKPdf	08 07 26.5	-2.5
CD2				PP	PP		08 10 29.1	+0.3
CD2				PKS			08 11 00.7	
CD2				SKS	SKSdf		08 14 31.3	-5.1
CD2				PP	PP			
comp=Z,460nm,9.6s								
CD2				LR	LR			
comp=N,970nm,21.6s								
CD2				LR	LR			
comp=Z,1μm,22.8s,MS5.6								
QZH	**Quanzhou**	**141.04**	**328**	*i* PKPR		PKPdf	08 07 26.6	-3.0
QZH				PP	PP		08 10 30.5	-0.4
QZH				PP	PP			
comp=Z,1μm,11.5s								
QZH				LR	LR			
comp=N,2μm,15.2s								
QZH				LR	LR			
comp=E,6μm,21.6s								
QZH				LR	LR			
comp=Z,3μm,21.1s								
ASAR	**Alice Springs**	**141.50**	**242**	PKhKP			08 07 25.2	
comp=Z,2.6nm,0.7s,baz=123,slow=3.5,SNR=22								
ASAR	**Alice Springs**	**141.50**	**242**	PKHKP			08 07 25.2	
ASAR				pmax	pmax			
comp=Z,3.0nm,0.7s								
WB2	**Warramunga Arr**	**142.06**	**248**	*e*PKP		PKPdf	08 07 27.5	-4.0
WRAB	**Tennant Creek**	**142.07**	**248**	*e*PKHKP			08 07 27.9	
WRAB				MLR	MLR			
comp=Z,2μm,19.0s,MS5.9								
WRA	**Warramunga Arr**	**142.07**	**248**	PKhKP			08 07 27.2	
comp=Z,10nm,1.0s,baz=102,slow=3.0,SNR=37								
WRA	**Warramunga Arr**	**142.07**	**248**	PKHKP			08 07 27.2	
WRA				pmax	pmax			
comp=Z,11nm,1.0s								
FORT	**Forrest**	**143.31**	**228**	*e*PKP		PKPdf	08 07 27.7	-6.0
comp=Z,13nm,0.6s								
GYA	**Guiyang**	**144.41**	**345**	↑*i* PKP		PKPdf	08 07 34.4	-1.2
GYA				PKS			08 11 09.1	
GYA				PP	PP			
comp=Z,580nm,10.6s								
GYA				LR	LR			
comp=N,1μm,20.7s,MS5.8								
GYA				LR	LR			
comp=E,1μm,21.4s,MS5.8								
GYA				LR	LR			
comp=Z,1μm,22.5s,MS5.7								
KAKA	**Kakadu**	**144.94**	**259**	*e*PKP		PKPdf	08 07 36.9	+0.4
comp=Z,55nm,1.0s								
KMI	**Kunming**	**146.52**	**351**	PKP		PKPdf	08 07 40.4	+1.2
HYB	**Hyderabad**	**148.73**	**36**	*i* PKP		PKPdf	08 07 43.0	+0.1
HYB				*e*			08 07 46.0	
HYB				*es*PKP			08 07 51.5	
NWAO	**Narrogin (SRO)**	**149.03**	**214**	PFAKE			08 08 00.0	+17
NWAO				LR	LR			
comp=Z,988nm,19.0s,MS5.6								
KLBR	**Kellerberrin**	**149.71**	**217**	*e*PKP		PKPdf	08 07 48.6	+4.2
comp=Z,15nm,0.8s								
QIZ	**Qiongzhong**	**150.25**	**335**	PKP		PKPdf	08 07 46.7	+1.4
QIZ				PP	PP		08 11 25.3	-0.3
QIZ				PPP			08 14 46.4	
QIZ				SKKS	SKKSac		08 18 12.4	-1.5
QIZ				PP	PP			
comp=Z,1μm,11.2s								
QIZ				LR	LR			
comp=N,1μm,19.8s,MS6.0								
QIZ				LR	LR			
comp=E,2μm,18.3s,MS6.0								
QIZ	**Qiongzhong**	**150.25**	**335**	*e*PKPdf		PKPdf	08 07 47.5	+2.3
QIZ				*e*PKPbc		PKPbc	08 07 51.5	+1.1
QIZ				*e*PKPab		PKPab	08 07 56.2	-0.5
MUN	**Mundaring**	**150.31**	**214**	*e*PKP		PKPdf	08 07 50.6	+5.2
FITZ	**Fitzroy Crossi**	**150.50**	**247**	*e*PKP		PKPdf	08 07 51.2	+5.5
comp=E,33nm,0.8s								
CHTO	**Chiang Mai**	**153.20**	**356**	PFAKE			08 08 00.0	+10
CHTO				LR	LR			
comp=Z,2.0nm,21.0s								
MBWA	**Marble Bar**	**154.57**	**237**	PFAKE			08 08 00.0	+8.3
MBWA				LR	LR			
comp=Z,2μm,20.0s,MS6.0								
DGAR	**Diego Garcia**	**155.59**	**90**	PFAKE			08 08 10.0	+17
DGAR				LR	LR			
comp=Z,2μm,19.0s,MS5.8								
PALK	**Pallekele**	**157.65**	**47**	PFAKE			08 08 10.0	+14
PALK				LR	LR			
comp=Z,2μm,21.0s,MS6.0								

IDC 01 07:49:47.5±4.6, 1540S×17171W, h103km±50km, mb3.6/4, mb1 3.7/4, mb1mx3.4/16, mbtmp4.0/4, Error ellipse: s-maj=66.7km s-min=55.0km az=124.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.48**	**357**	P		Pn	07 50 14.5	+0.8
33nm,0.3s,baz=173,slow=1.2,SNR=47								
AFI				S		Sn	07 50 33.6	+0.1
130nm,0.3s,baz=72,slow=20,SNR=26								
DZM	**Mont Dzumac**	**21.72**	**249**	P		P	07 54 30.2	0.0
5.2nm,0.8s,baz=94,slow=16,SNR=8.0								
STKA	**Stephens Creek**	**45.46**	**240**	P		P	07 57 55.3	-0.8
1.4nm,0.7s,baz=92,slow=12,SNR=3.5								
WRA	**Warramunga Arr**	**51.44**	**257**	P		P	07 58 42.9	+0.9
0.4nm,0.5s,baz=91,slow=6.8,SNR=7.1								
ASAR	**Alice Springs**	**51.66**	**252**	P		P	07 58 44.4	+0.6
2.4nm,0.7s,baz=87,slow=7.8,SNR=32								

IDC 01 08:19:51.5±0.9, 1782S×16778E, h0km, mb3.8/8, mb1 4.0/9, mb1mx4.0/15, mbtmp3.9/9, ML3.4/1, MS3.6/3, Ms1 3.6/3, ms1mx3.2/31, Error ellipse: s-maj=28.6km s-min=20.9km az=136.0

ISCJB 01 08:19:52.2±0.6, 1799S±008×16767E±009, h10km, mb3.8/7, MS4.1/1, Error ellipse: s-maj=14.3km s-min=8.8km az=68.3

ISC 01 08:19:54.3±1.9, 1799S±008×1678E±01, h14km±14km, n31, σ1°09/14, mb3.8/7, MS4.1/1, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**0.54**	**54**	‖*i*P		**Pg**	**08 20 04.4**	**-0.5**
DZM	**Mont Dzumac**	**4.25**	**197**	Pn		**Pn**	**08 20 58.9**	**+0.3**
1.8nm,0.3s,baz=22,slow=13,SNR=59								
DZM				Sn		**Sn**	**08 21 46.3**	**-1.7**
9.9nm,0.3s,baz=294,slow=23,SNR=8.9								
DZM				LR		LR	08 21 57.0	
comp=Z,115nm,21.1s,baz=197,slow=28								

HNR	**Honiara**	**11.41**	**317**	LR		LR	08 26 15.6	
comp=Z,380nm,21.2s,baz=178,slow=34								
CTA	**Charters Tower**	**20.46**	**261**	*e*P		**P**	**08 24 32.7**	**+1.4**
3.3nm,0.7s								
CTA	**Charters Tower**	**20.46**	**261**	P		**P**	**08 24 33.0**	**+1.7**
4.0nm,0.8s,baz=77,slow=11,SNR=9.0								
URZ	**Urewera**	**21.78**	**160**	P		**P**	**08 24 47.7**	**+2.1**
4.5nm,0.7s,mb4.0,baz=336,slow=10.0,SNR=4.6								
STKA	**Stephens Creek**	**27.39**	**235**	P		**P**	**08 25 38.8**	**-0.3**
2.0nm,0.8s,mb3.7,baz=107,slow=10,SNR=3.6								
STKA				LR		LR	08 36 18.6	
comp=Z,472nm,18.2s,MS4.1,baz=107,slow=36								
WRA	**Warramunga Arr**	**31.66**	**261**	P		**P**	**08 26 16.3**	**-0.7**
0.8nm,1.0s,mb3.5,baz=140,slow=12,SNR=4.6								
ASAR	**Alice Springs**	**32.11**	**254**	P		**P**	**08 26 20.7**	**-0.3**
1.1nm,0.7s,mb3.8,baz=79,slow=8.5,SNR=11								
SONM	**Songino Array**	**85.40**	**324**	P		**P**	**08 32 31.5**	**+0.3**
0.3nm,0.5s,mb3.7,baz=113,slow=3.7,SNR=3.0								
NVAR	**Mina Array Bea**	**89.02**	**49**	P		**P**	**08 32 48.2**	**-0.5**
0.8nm,0.8s,mb4.1,baz=215,slow=5.9,SNR=6.5								
ILAR	**Eielson Array**	**89.46**	**18**	P		**P**	**08 32 47.5**	**-3.3**
0.5nm,0.8s,mb3.9,baz=227,slow=4.3,SNR=6.8								
VNA3	**Neumayer Olymp**	**90.98**	**181**	*e*		**P**	**08 32 57.8**	**-0.1**
VNA3				*e*			08 33 07.6	
VNA2	**Neumayer--Watz**	**91.26**	**182**	*e*		**P**	**08 33 00.2**	**+1.1**
baz=153,slow=3.5								
VNA2				*e*			08 33 09.8	
YKA	**Yellowknife Ar**	**100.20**	**27**	P		Pdif	08 33 38.8	-1.0
0.2nm,0.6s,baz=258,slow=4.7,SNR=6.9								
ARCES	**ARCESS Array B**	**123.51**	**345**	PKP		PKPdf	08 38 49.8	-1.3
1.7nm,0.8s,baz=83,slow=2.1,SNR=8.5								
CDF	**Champ du Feu**	**145.75**	**337**	*e*PKP1		PKPbc	08 39 31.0	-1.8
9.0nm,0.8s								
HINF	**Hinteralfeld**	**146.41**	**337**	*e*PKP1		PKPbc	08 39 32.7	-2.0
HAU	**Haudompre**	**146.44**	**337**	*e*PKP1		PKPbc	08 39 33.9	-0.9
MEZF	**Maizieres J'vi**	**146.48**	**339**	*e*PKP1		PKPbc	08 39 33.6	-1.3
LOR	**Lormes**	**147.95**	**339**	*e*PKP1		PKPbc	08 39 37.2	-1.8
SSF	**Saint Saulge**	**148.25**	**339**	*e*PKP1		PKPbc	08 39 38.1	-1.7
17nm,1.0s								
LPL	**La Plagne**	**148.34**	**334**	*e*PKP1		PKPbc	08 39 38.9	-1.2
7.1nm,0.7s								
LPG	**La Plagne**	**148.34**	**334**	*e*PKP1		PKPbc	08 39 39.0	-1.1
14nm,0.9s								
BGF	**Bois d'Agland**	**148.91**	**340**	*e*PKP1		PKPbc	08 39 39.7	-1.8
17nm,0.9s								
MBDF	**Montbardon**	**148.96**	**333**	*e*PKP1		PKPbc	08 39 39.7	-2.0
7.2nm,0.7s								
ORIF	**Oris-en-Rattie**	**149.18**	**334**	*e*PKP1		PKPbc	08 39 40.7	-1.5
9.5nm,0.8s								
FRF	**La Foret Royal**	**149.94**	**332**	*e*PKP1		PKPbc	08 39 42.1	-2.0
LASF	**Ste Croix**	**150.68**	**336**	*e*PKP1		PKPbc	08 39 44.5	-1.4
ETSF	**Etsaut**	**153.27**	**341**	*e*PKP1		PKPbc	08 39 51.7	0.0
TORD	**Torodi Ar. Bea**	**165.76**	**252**	PKP		PKPdf	08 39 59.3	+0.7
0.9nm,0.9s,baz=196,slow=2.8,SNR=4.3								

ISCJB 01 08:20:10.9±0.6, 3247N±005×14197E±008, h10km, mb3.7/8, Error ellipse: s-maj=9.9km s-min=5.7km az=134.5

IDC 01 08:20:11.3±0.8, 3234N×14189E, h0km, mb3.7/8, mb1 4.0/11, mb1mx3.8/21, mbtmp3.8/11, ML4.0/3, Error ellipse: s-maj=20.8km s-min=16.2km az=74.0

JMA 01 08:20:13.9±0.3, 3245N×14191E, h77km, M3.8

ISC 01 08:20:13.0±2.0, 3246N±005×14191E±008, h12km±14km, n26, σ0°95/31, mb3.7/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.88**	**291**	P		**Pn**	**08 20 44.5**	**-0.4**
JHJ	**Hachijo jima 2**	**1.91**	**291**	Pn		**Pn**	**08 20 44.9**	**-0.5**
51nm,0.3s,baz=256,slow=21,SNR=12								
JHJ				Sn		**Sn**	**08 21 09.1**	**-0.2**
54nm,0.3s,baz=71,slow=23,SNR=6.1								
BSO1	**Boso 1**	**2.32**	**341**	P		**Pn**	**08 20 50.7**	**-0.3**
BSO1				*e*S		**Sn**	**08 21 20.2**	**+0.8**
BSO3	**Boso 3**	**2.61**	**334**	P		**Pn**	**08 20 55.1**	**+0.1**
BSO4	**Boso 4**	**2.84**	**333**	*e*S		**Sn**	**08 21 32.3**	**0.0**
JOD2	**Odawara 2**	**3.65**	**321**	P		**Pn**	**08 21 09.1**	**-0.2**
JHU	**Hanno**	**4.02**	**328**	P		**Pn**	**08 21 14.6**	**+0.2**
JHO	**Hitachi**	**4.28**	**345**	P		**Pn**	**08 21 17.6**	**-0.4**
JHO				S		**Sn**	**08 22 06.5**	**-1.4**
JRY	**Ryogami san**	**4.33**	**326**	P		**Pn**	**08 21 19.9**	**+1.2**
JAG	**Ashikaga**	**4.44**	**333**	P		**Pn**	**08 21 20.8**	**+0.6**
JAG				S		**Sn**	**08 22 10.8**	**-1.0**
JFK	**Kawauchi**	**4.96**	**350**	P		**Pn**	**08 21 26.2**	**-1.2**
JFK				S		**Sn**	**08 22 21.3**	**-3.4**
MJAR	**Matsushiro Arr**	**5.09**	**324**	Pn		**Pn**	**08 21 30.0**	**+0.9**
1.8nm,0.3s,baz=203,slow=8.9,SNR=13								
MAT	**Matsushiro**	**5.09**	**324**	P		**Pn**	**08 21 30.3**	**+1.2**
MAT				S		**Sn**	**08 22 28.0**	**+0.2**
CBIJ	**Chichi jima**	**5.36**	**177**	Pn		**Pn**	**08 21 32.1**	**-0.6**
14nm,0.3s,baz=279,slow=17,SNR=21								
CBIJ	**Chichi jima**	**5.36**	**177**	P		**Pn**	**08 21 31.6**	**-1.1**
JMM	**Marumori**	**5.47**	**351**	P		**Pn**	**08 21 33.3**	**-1.0**
ASAJ	**Asahikawa**	**11.65**	**2**	Pn		**Pn**	**08 22 58.3**	**-0.7**
1.5nm,0.3s,baz=209,slow=10,SNR=8.0								
SONM	**Songino Array**	**30.87**	**310**	P		**P**	**08 26 31.1**	**+2.0**
1.3nm,0.8s,mb3.8,baz=102,slow=7.1,SNR=8.8								
MKAR	**Makanchi Array**	**47.01**	**306**	P		**P**	**08 28 44.4**	**+0.3**
0.7nm,0.6s,mb3.8,baz=84,slow=9.6,SNR=9.5								
WRA	**Warramunga Arr**	**52.61**	**189**	P		**P**	**08 29 25.9**	**-0.8**
2.5nm,0.5s,mb4.4,baz=5.3,slow=7.6,SNR=57								
ILAR	**Eielson Array**	**53.17**	**30**	P		**P**	**08 29 31.1**	**+0.2**
0.6nm,0.7s,mb3.6,baz=264,slow=5.9,SNR=11								
ASAR	**Alice Springs**	**56.34**	**189**	P		**P**	**08 29 52.2**	**-1.5**
0.3nm,0.5s,mb3.6,baz=358,slow=6.2,SNR=8.3								
YKA	**Yellowknife Ar**	**67.57**	**29**	P		**P**	**08 31 09.7**	**+0.4**
0.4nm,0.6s,mb3.6,baz=301,slow=6.6,SNR=12								
NOA	**NORSAR Array B**	**78.56**	**338**	P		**P**	**08 32 15.9**	**+1.6**
0.8nm,0.8s,mb3.7,baz=86,slow=7.8,SNR=3.2								
PDAR	**Pinedale Array**	**80.59**	**45**	P		**P**	**08 32 27.2**	**+1.8**
0.3nm,0.6s,mb3.4,baz=298,slow=3.2,SNR=4.1								
LPAZ	**La Paz**	**148.40**	**67**	PKPbc		PKPbc	08 40 01.3	+1.9
0.8nm,0.8s,baz=270,slow=2.0,SNR=4.6								

**IDC 01 08:26:38.3±8.7, 7405×12905E, h75km±88km, mb3.5/3, mb1 3.7/5, mb1mx3.5/

ABH	**Alteburg**	**0.69**	**41**	Pg	**Pg**	**08 28 22.6**	**-0.7**
LANF	**Langenberg**	**0.74**	**121**	Pg	**Pg**	**08 28 24.1**	**-0.2**
LANF				Sg	**Sg**	**08 28 35.6**	**+1.7**
BGG	**Burgeitz**	**0.90**	**21**	*e*Pg	**Pg**	**08 28 28.7**	**+1.4**
BGG				*e*Sg	**Sg**	**08 28 39.0**	**+0.1**
	comp=E,24nm,0.6s						
HILG	**Hillesheim**	**0.93**	**353**	*e*Sg	**Sg**	**08 28 42.3**	**+2.2**
CDF	**Champ du Feu**	**1.00**	**163**	*e*Pn	**Pn**	**08 28 30.1**	**-1.3**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**08 28 41.9**	**-0.4**
	comp=E,26nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**1.00**	**163**	*e*Pg	**Pg**	**08 28 29.0**	**-0.3**
CDF				*e*Pn	**Pn**	**08 28 30.1**	**-1.3**
CDF				*e*Sg	**Sg**	**08 28 41.9**	**-0.4**
CDF	**Champ du Feu**	**1.00**	**163**	*e*Pn	**Pn**	**08 28 30.1**	**-1.3**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**08 28 41.9**	**-0.4**
	comp=E,13nm,0.3s,SNR=1.0						
WLS	**Welschbruch**	**1.01**	**161**	Pg	**Pg**	**08 28 30.0**	**+0.4**
WLS				Sg	**Sg**	**08 28 44.3**	**+1.5**
RFYF	**Reffroy**	**1.17**	**231**	*e*Pg	**Pg**	**08 28 34.2**	**+1.6**
	baz=45						
RFYF				*e*Sg	**Sg**	**08 28 49.5**	**+1.7**
	comp=E,39nm,0.3s						
RFYF	**Reffroy**	**1.17**	**231**	*e*Pg	**Pg**	**08 28 34.2**	**+1.6**
RFYF				*e*Sg	**Sg**	**08 28 49.5**	**+1.7**
	comp=E,20nm,0.3s						
ECH	**Echery**	**1.17**	**170**	Pg	**Pg**	**08 28 33.2**	**+0.5**
ECH				Sg	**Sg**	**08 28 48.1**	**+0.2**
STB	**Steinbach**	**1.23**	**360**	*e*Pg	**Pg**	**08 28 34.5**	**+0.8**
STB				*e*Sg	**Sg**	**08 28 50.2**	**+0.7**
	comp=E,18nm,0.4s						
THEF	**They Montfort**	**1.28**	**207**	Pg	**Pg**	**08 28 35.1**	**+0.4**
THEF				Sg	**Sg**	**08 28 51.6**	**+0.4**
TOD	**Tromm**	**1.30**	**79**	Pg	**Pg**	**08 28 34.4**	**-0.6**
TOD				Sg	**Sg**	**08 28 51.7**	**-0.1**
KLL	**Kalltalsperre**	**1.32**	**345**	*e*Pg	**Pg**	**08 28 35.6**	**+0.1**
KLL				*e*Sg	**Sg**	**08 28 52.2**	**-0.5**
TNS	**Taunus Mts**	**1.34**	**50**	*e*Pg	**Pg**	**08 28 35.4**	**-0.5**
TNS				*e*Sg	**Sg**	**08 28 53.9**	**+0.6**
MEM	**Membach**	**1.35**	**337**	P	**Pg**	**08 28 36.8**	**+0.6**
MEM				S	**Sg**	**08 28 49.8**	**-3.9**
	comp=E,17nm,0.0s						
HAU	**Haudompre**	**1.41**	**194**	*e*Pg	**Pg**	**08 28 38.1**	**+1.0**
HAU				*e*Sg	**Sg**	**08 28 56.4**	**+1.1**
	comp=E,45nm,0.4s,SNR=1.0						
HAU	**Haudompre**	**1.41**	**194**	*e*Pg	**Pg**	**08 28 38.1**	**+1.0**
HAU				*e*Sg	**Sg**	**08 28 56.4**	**+1.1**
	comp=E,22nm,0.4s,SNR=1.0						
BFO	**Black Forest**	**1.43**	**136**	*e*Pg	**Pg**	**08 28 36.7**	**-0.9**
BFO				*e*Sg	**Sg**	**08 28 56.1**	**0.0**
MEZF	**Maizieres J'vi**	**1.47**	**234**	*e*Pg	**Pg**	**08 28 39.3**	**+1.0**
	baz=53,SNR=1.0						
MEZF				*e*Sg	**Sg**	**08 28 58.2**	**+0.8**
	comp=E,21nm,0.4s						
MEZF	**Maizieres J'vi**	**1.47**	**234**	*e*Pg	**Pg**	**08 28 39.3**	**+1.0**
	SNR=1.0						
MEZF				*e*Sg	**Sg**	**08 28 58.2**	**+0.8**
	comp=E,10nm,0.4s						
GIVF	**Givet**	**1.50**	**300**	*e*Pg	**Pg**	**08 28 38.3**	**-0.7**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**08 28 58.4**	**-0.3**
	comp=E,27nm,0.4s,SNR=1.0						
GIVF	**Givet**	**1.50**	**300**	*e*Pn	**Pn**	**08 28 37.3**	**-1.1**
GIVF				*e*Pg	**Pg**	**08 28 38.3**	**-0.7**
GIVF				*e*Sn	**Sn**	**08 28 58.4**	**-0.3**
GIVF	**Givet**	**1.50**	**300**	*e*Pg	**Pg**	**08 28 38.3**	**-0.7**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**08 28 58.4**	**-0.3**
	comp=E,13nm,0.4s,SNR=1.0						
MOF	**Molkenrain**	**1.53**	**173**	Pg	**Pg**	**08 28 39.6**	**+0.1**
MOF				Sg	**Sg**	**08 28 59.7**	**+0.3**
HINF	**Hinteralfeld**	**1.56**	**180**	*e*Pg	**Pg**	**08 28 39.7**	**-0.3**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**08 29 00.0**	**-0.1**
	comp=E,72nm,0.2s						
HINF	**Hinteralfeld**	**1.56**	**180**	*e*Pg	**Pg**	**08 28 39.7**	**-0.3**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**08 29 00.0**	**-0.1**
	comp=E,36nm,0.2s						
DOU	**Dourbes**	**1.63**	**297**	P	**Pn**	**08 28 40.5**	**+0.4**
DOU				S	**Sn**	**08 29 02.3**	**+0.4**
	comp=E,12nm,0.0s						
HOBG	**Hohbusch**	**1.65**	**11**	*e*Pg	**Pg**	**08 28 40.3**	**-1.4**
HOBG				*e*Sg	**Sg**	**08 28 58.0**	**-5.0**
SFTF	**Sexfontaines**	**1.67**	**226**	*e*Pn	**Pn**	**08 28 40.3**	**-0.4**
	baz=44						
SFTF				*e*Sg	**Sg**	**08 29 03.8**	**-0.1**
	comp=E,16nm,0.4s						
SFTF	**Sexfontaines**	**1.67**	**226**	*e*Pn	**Pn**	**08 28 40.3**	**-0.4**
SFTF				*e*Sg	**Sg**	**08 29 03.8**	**-0.1**
	comp=E,8.1nm,0.4s						
FELD	**Feldberg im Sc**	**1.68**	**152**	Pg	**Pg**	**08 28 41.6**	**-0.8**
SPAK	**Spaichingen-Ko**	**1.81**	**134**	Pg	**Pg**	**08 28 44.2**	**-0.6**
BAIF	**Baives**	**1.85**	**293**	*e*Sn	**Sn**	**08 29 05.4**	**-1.8**
	comp=E,13nm,0.5s,SNR=1.0						
BAIF	**Baives**	**1.85**	**293**	*e*Sn	**Sn**	**08 29 05.4**	**-1.8**
	comp=E,6.4nm,0.5s,SNR=1.0						
CABF	**La Chapelle**	**2.81**	**191**	*e*Sg	**Sg**	**08 29 41.1**	**+0.7**
	comp=E,12nm,0.6s,SNR=1.0						
CABF	**La Chapelle**	**2.81**	**191**	*e*Sg	**Sg**	**08 29 41.1**	**+0.7**
	comp=E,5.8nm,0.6s,SNR=1.0						
LOR	**Lormes**	**2.90**	**225**	*e*Pn	**Pn**	**08 28 56.4**	**-1.2**
LOR				*e*Pg	**Pg**	**08 29 06.4**	**+0.7**
SSF	**Saint Saulge**	**3.21**	**225**	*e*Pn	**Pn**	**08 28 59.9**	**-2.0**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**08 29 37.6**	**-3.3**
	comp=E,8.6nm,0.5s,SNR=1.0						
SSF	**Saint Saulge**	**3.21**	**225**	*e*Pn	**Pn**	**08 28 59.9**	**-2.0**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**08 29 37.6**	**-3.3**
	comp=E,4.3nm,0.5s,SNR=1.0						
SMF	**Signal de Mont**	**3.39**	**218**	*e*Pn	**Pn**	**08 29 02.9**	**-1.4**
	SNR=1.0						
AVF	**Avril sur Loir**	**3.49**	**224**	*e*Sn	**Sn**	**08 29 45.1**	**-2.5**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**08 30 03.2**	**+1.0**
	comp=E,5.2nm,0.6s,SNR=1.0						
AVF	**Avril sur Loir**	**3.49**	**224**	*e*Sn	**Sn**	**08 29 45.1**	**-2.5**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**08 30 03.2**	**+1.0**
	comp=E,2.6nm,0.6s,SNR=1.0						
BGF	**Bois d'Agland**	**3.89**	**225**	*e*Pn	**Pn**	**08 29 07.5**	**-3.7**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**08 29 54.7**	**-2.9**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**08 30 15.8**	**+0.6**
	comp=E,21nm,0.5s,SNR=1.0						
BGF	**Bois d'Agland**	**3.89**	**225**	*e*Pn	**Pn**	**08 29 07.5**	**-3.7**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**08 29 54.7**	**-2.9**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**08 30 15.8**	**+0.6**
	comp=E,10nm,0.5s,SNR=1.0						
TCF	**Toulx Ste Croi**	**4.39**	**227**	*e*Sg	**Sg**	**08 30 28.8**	**-2.4**
	comp=E,2.1nm,0.2s,SNR=1.0						
TCF	**Toulx Ste Croi**	**4.39**	**227**	*e*Sg	**Sg**	**08 30 28.8**	**-2.4**
	comp=E,1.0nm,0.2s,SNR=1.0						
KHC	**Kasperske Hory**	**4.42**	**91**	*e*PN	**Pn**	**08 29 18.0**	**-0.4**
KHC				SG	**Sg**	**08 30 31.5**	**-0.5**
GRR	**Gorron**	**5.18**	**262**	*e*Pn	**Pn**	**08 29 29.1**	**+0.2**
	SNR=1.0						

*ISCJB **01** 08:43:05.8±1.0, 1465N±0.10×9276W±0.06, h20km, Error ellipse: s-maj=15.6km s-min=5.4km az=56.8*
*CASC **01** 08:43:07.4±2.4, 1458N×9268W, h20km±11km, MD4.0*
*MEX **01** 08:43:13.5±0.6, 1613N×9245W, h190km±17km, MD4.3*
*NEIC **01** 08:43:17.8, 1601N×9262W, h146km, MD4.3(MEX), After MEX.*

ISC 01 08:43:06.9±1.0, 1460N±009×9273W±006, h20km, n13, σ1§16/17, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.09**	**105**	*e*P		**Pn**	**08 43 27.7**	**+0.6**
JAT				*e*S		**Sb**	**08 43 40.0**	**-1.0**
CCIG	**Comitan**	**1.77**	**19**	*i* P		**Pn**	**08 43 37.9**	**+1.5**
CCIG				*i* S		**Sn**	**08 43 56.4**	**-1.9**
CCIG	**Comitan**	**1.77**	**19**	*i* P		**Pn**	**08 43 37.9**	**+1.5**
CCIG				*i* S		**Sn**	**08 43 52.7**	**-5.6**
FUG	**Fuego 3**	**1.83**	**94**	*e*P		**Pn**	**08 43 37.6**	**+0.3**
SCX	**San Cristobal**	**2.13**	**2**	*e*P		**Pn**	**08 43 39.0**	**-2.3**
SCX				*i* S		**Sn**	**08 44 10.5**	**+3.3**
IXG	**Ixpaco**	**2.25**	**101**	*e*P		**Pn**	**08 43 43.1**	**+0.1**
IXG				*e*S		**Sn**	**08 44 10.2**	**+0.1**
MRL	**Marmol**	**2.98**	**81**	*e*P		**Pn**	**08 43 52.9**	**-0.1**
RTR	**El Retiro**	**3.07**	**103**	*e*P		Px	08 44 18.4	
RTR				*e*S		Sx	08 44 56.2	
SBLS	**San Blas**	**3.11**	**104**	*e*P		Px	08 44 18.6	
SBLS				*e*S		Sx	08 44 56.0	
SNJE	**San Jose**	**3.12**	**103**	*e*P		Px	08 44 18.5	
SNJE				*e*S		Sx	08 44 57.2	
OXX	**Oaxaca**	**4.57**	**303**	*e*P		**Pn**	**08 44 20.0**	**+5.1**
VHO	**Vista Hermosa**	**4.57**	**303**	*e*P		**Pn**	**08 44 15.7**	**+0.8**
VHO				*i* S		**Sn**	**08 45 06.5**	**-0.9**
VHO	**Vista Hermosa**	**4.57**	**303**	*e*P		**Pn**	**08 44 15.5**	**+0.6**
VHO				*i* S		**Sn**	**08 45 06.5**	**-0.9**

*BJI **01** 08:53:05.9, 5434N×16294W, h42km, mB5.1, mb4.7, Ms4.6, Msz4.4*
*MOS **01** 08:53:08.5±1.2, 5394N×16368W, h33km, mb4.6/12, Error ellipse: s-maj=17.0km s-min=8.2km az=92.4*
*ISCJB **01** 08:53:09.3±0.7, 5371N±008×16358W±006, h52km±5km, mb4.5/49, MS4.3/3, Error ellipse: s-maj=13.9km s-min=5.2km az=160.7*
*NEIC **01** 08:53:09.9±0.7, 5367N×16365W, h43km±6km, mb4.4/15, ML3.9(AEIC), Error ellipse: s-maj=12.5km s-min=5.3km az=167.0*
*IDC **01** 08:53:12.8±5.6, 5433N×16366W, h33km±40km, mb3.9/16, mb1 4.0/20, mb1mx3.9/28, mbtmp4.0/20, ML3.4/3, MS3.9/2, Ms1 3.9/2, ms1mx3.1/36, Error ellipse: s-maj=28.6km s-min=16.0km az=13.0*

ISC 01 08:53:10.4±0.7, 5368N±008×16360W±005, h49km±5km, n102, σ1§08/107, mb4.5/49, MS4.3/3, 8C-5D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AKA	**Akutan**	**1.36**	**290**	P		**Pn**	**08 53 32.3**	**-0.7**
AKA				S		**Sn**	**08 53 51.0**	**+1.1**
AKUT	**Akutan**	**1.37**	**290**	*e*P		**Pn**	**08 53 32.4**	**-0.6**
AKLV	**Akutan Long Va**	**1.48**	**290**	P		**Pn**	**08 53 33.8**	**-0.8**
AKLV				S		**Sn**	**08 53 54.6**	**+1.9**
UNV	**Unalaska Valle**	**1.73**	**277**	P		**Pn**	**08 53 36.6**	**-1.4**
UNV				S		**Sn**	**08 54 00.8**	**+1.8**
SDPT	**Sand Point**	**2.47**	**46**	*e*P		**Pn**	**08 53 48.4**	**+0.3**
OKCD	**Okmok Cone D**	**2.71**	**266**	P		**Pn**	**08 53 50.5**	**-0.9**
OKCE	**Okmok Cone E**	**2.74**	**267**	P		**Pn**	**08 53 51.2**	**-0.6**
NIKO	**Nikolski**	**3.23**	**259**	P		**Pn**	**08 53 56.8**	**-1.8**
KDAK	**Kodiak Island**	**7.45**	**52**	Pn		**Pn**	**08 54 52.5**	**-3.9**
	0.9nm,0.3s,baz=276,slow=5.7,SNR=13							
KDAK				Sn		**Sn**	**08 56 12.1**	**-7.4**
	0.3nm,0.3s,baz=205,slow=14,SNR=3.2							
KDAK				LR		LR	08 57 35.4	
	comp=Z,880nm,18.6s,baz=157,slow=37							
KDAK	**Kodiak Island**	**7.45**	**52**	P		**Pn**	**08 54 53.4**	**-3.1**
SVW2	**Sparrevohn**	**8.60**	**27**	*e*P		**Pn**	**08 55 13.7**	**+1.6**
SLKM	**Skilak Lake**	**9.97**	**41**	*e*P		**Pn**	**08 55 31.5**	**+0.5**
TTA	**Tatalina**	**10.09**	**20**	*e*P		**Pn**	**08 55 37.2**	**+4.7**
PMR	**Palmer**	**11.06**	**38**	*e*P		**Pn**	**08 55 45.2**	**-0.7**
COLA	**College**	**13.75**	**29**	*e*P		**Pn**	**08 56 28.8**	**+6.2**
COLA	**College**	**13.75**	**29**	*e*Pn		**Pn**	**08 56 23.4**	**+0.8**
	5.2nm,0.9s							
MENT	**Mentasta**	**13.91**	**40**	*e*P		**Pn**	**08 56 24.6**	**-0.1**
ILAR	**Eielson Array**	**13.97**	**31**	Pn		**Pn**	**08 56 18.4**	**-7.1**
	0.1nm,0.3s,baz=225,slow=11,SNR=10							
DAWY	**Dawson**	**16.15**	**40**	*e*P		**Pn**	**08 56 56.6**	**+2.6**
DLBC	**Dease Lake**	**19.20**	**62**	P		**Pn**	**08 57 30.8**	**-0.6**
	0.1nm,0.3s,baz=274,slow=8.8,SNR=4.3							
BILL	**Bilibino**	**20.23**	**327**	*e*P		**P**	**08 57 41.6**	**+0.3**
BILL				pmax		pmax		
	comp=Z,8.0nm,1.1s							
BILL	**Bilibino**	**20.23**	**327**	*e*P		**P**	**08 57 42.0**	**+0.7**
	comp=Z,16nm,1.3s							
INK	**Inuvik**	**20.35**	**32**	P		**P**	**08 57 40.2**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=240,slow=11,SNR=29							
INK	**Inuvik**	**20.35**	**32**	*e*P		**P**	**08 57 39.7**	**-2.9**
INK				pmax		pmax		
	comp=Z,7.0nm,0.9s							
INK	**Inuvik**	**20.35**	**32**	*e*P		**P**	**08 57 39.7**	**-2.9**
	comp=Z,7.2nm,0.9s							
YKW3	**Yellowknife Ar**	**26.72**	**51**	*e*P		**P**	**08 58 44.8**	**-0.2**
YKA	**Yellowknife Ar**	**26.73**	**51**	P		**P**	**08 58 44.7**	**-0.4**
	comp=Z,2.0nm,0.7s,mb3.8,baz=270,slow=8.9,SNR=38							
YKA	**Yellowknife Ar**	**26.73**	**51**	P		**P**	**08 58 44.7**	**-0.4**
TIXI	**Tiksi**	**33.45**	**328**	*i* P		**P**	**08 59 43.4**	**-1.1**
TIXI				pmax		pmax		
	comp=Z,2.0nm,1.0s,mb4.0							
NVAR	**Mina Array Bea**	**34.29**	**98**	P		**P**	**08 59 58.7**	**+6.8**
	comp=Z,0.9nm,0.8s,mb3.7,baz=303,slow=8.7,SNR=5.2							
NVAR	**Mina Array Bea**	**34.29**	**98**	P		**P**	**08 59 58.7**	**+6.8**
ELK	**Elko**	**34.62**	**92**	*e*P		**P**	**08 59 55.4**	**+0.7**
ELK				pmax		pmax		
	comp=Z,4.0nm,0.9s							
ELK	**Elko**	**34.62**	**92**	*e*P		**P**	**08 59 55.4**	**+0.7**
	comp=Z,4.1nm,0.9s,mb4.4							
YAK	**Yakutsk**	**34.95**	**311**	*i* P		**P**	**08 59 55.4**	**-2.1**
YAK				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.7							
PDAR	**Pinedale Array**	**36.77**	**85**	P		**P**	**09 00 16.1**	**+3.0**
	comp=Z,0.4nm,0.8s,mb3.3,baz=272,slow=3.7,SNR=3.5							
FCC	**Fort Churchill**	**37.39**	**54**	*e*P		**P**	**09 00 17.9**	**-0.5**
FCC				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.2							
FCC	**Fort Churchill**	**37.39**	**54**	*e*P		**P**	**09 00 17.9**	**-0.5**
	comp=Z,3.2nm,0.8s,mb4.2							
ARUT	**Antelope Range**	**37.59**	**94**	*e*P		**P**	**09 00 22.7**	**+2.6**
PV10	**Paradox Valley**	**39.82**	**90**	*e*P		**P**	**09 00 38.8**	**0.0**
PV01	**Paradox Valley**	**40.25**	**90**	*e*P		**P**	**09 00 42.0**	**-0.3**
MDJ	**Mudanjiang**	**43.12**	**286**	P		**P**	**09 01 05.9**	**+0.1**
MDJ				PP		PP	09 02 46.7	+0.1
MDJ				SCP		ScP	09 06 38.2	-3.7
MDJ				PCS		PcS	09 06 47.3	0.0
MDJ				S		**S**	**09 07 26.5**	**-2.0**
MDJ				SS		SS	09 10 41.9	-0.5
MDJ				AMB		AMB		
	comp=Z,7.0nm,1.8s,mb4.1							
MDJ				AMB		AMB		
	comp=Z,603nm,7.7s							
MDJ				LR		LR		
	comp=N,464nm,18.0s,MS4.5							
MDJ				LR		LR		
	comp=E,262nm,16.8s,MS4.5							
MDJ				LR		LR		
	comp=Z,440nm,16.8s,MS4.4							
MJAR	**Matsushiro Arr**	**43.20**	**271**	P		**P**	**09 01 10.3**	**+3.9**
	comp=Z,2.4nm,0.8s,mb4.0,baz=30,slow=6.2,SNR=4.4							
ANMO	**Albuquerque**	**43.65**	**92**	P		**P**	**09 01 14.7**	**+4.6**
	comp=Z,0.3nm,0.3s,mb3.5,baz=316,slow=12,SNR=2.5							
ANMO				LR		LR	09 18 25.8	
	comp=Z,145nm,18.9s,MS3.9,baz=0.0,slow=35							
BOD	**Bodaibo**	**43.85**	**310**	*e*P		**P**	**09 01 10.2**	**-1.5**
CN2	**Changchun**	**45.98**	**288**	*e*P		**P**	**09 01 27.8**	**-0.8**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.8							
DAG	**Danmarks Havn**	**47.93**	**10**	*i* P		**P**	**09 01 43.1**	**-0.7**
	comp=Z,4.7nm,0.6s,mb4.7							
DAG	**Danmarks Havn**	**47.93**	**10**	*i* P		**P**	**09 01 43.1**	**-0.7**
DAG				pmax		pmax		
	comp=Z,5.0nm,0.6s,mb4.7							
SNY	**Shenyang**	**48.29**	**287**	*e*P		**P**	**09 01 49.0**	**+2.4**
WMOK	**Wichita Mounta**	**48.36**	**86**	*e*P		**P**	**09 01 46.2**	**-0.9**
WMOK				pmax		pmax		
	comp=Z,4.0nm,1.1s,mb4.4							
WMOK	**Wichita Mounta**	**48.36**	**86**	*e*P		**P**	**09 01 46.2**	**-0.9**
	comp=Z,4.2nm,1.1s,mb4.4							
SUMG	**Summit**	**48.45**	**19**	*e*P		**P**	**09 01 47.8**	**0.0**
	comp=Z,10nm,0.8s,mb4.9							
SCHQ	**Scheefferville**	**52.04**	**47**	P		**P**	**09 02 14.4**	**-0.6**
	comp=Z,3.6nm,0.9s,mb4.3,baz=257,slow=3.7,SNR=3.7							
TLY	**Talaya**	**52.33**	**308**	*i* P		**P**	**09 02 17.3**	**+0.2**
ULN	**Ulaanbaatar**	**53.22**	**303**	*i* P		**P**	**09 02 23.4**	**-0.3**
ULN	**Ulaanbaatar**	**53.22**	**303**	*e*P		**P**	**09 02 23.6**	**-0.1**
	comp=Z,2.6nm,0.6s,mb4.3							
SONM	**Songino Array**	**53.56**	**303**	P		**P**	**09 02 26.7**	**+0.4**
	comp=Z,1.8nm,0.9s,mb4.0,baz=46,slow=8.6,SNR=7.8							
HHC	**Hu-ho-hao-te**	**55.65**	**294**	*e*P		**P**	**09 02 41.8**	**+0.5**
HHC				PCP		PcP	09 03 43.0	+2.6
HHC				PP		PP	09 04 50.5	+4.6
HHC				SCP		ScP	09 07 33.4	-1.8
HHC				PCS		PcS	09 07 40.5	-0.1
HHC				S		**S**	**09 10 21.4**	**-2.4**
HHC				SCS		ScS	09 12 19.8	-6.4
HHC				SS		SS	09 14 04.0	-5.4
HHC				AMB		AMB		
	comp=Z,9.0nm,1.2s,mb4.7							
HHC				AMB		AMB		
	comp=Z,304nm,11.8s							
HHC				LR		LR		
	comp=N,325nm,19.1s,MS4.6							
HHC				LR		LR		
	comp=E,253nm,16.2s,MS4.6							
HHC				LR		LR		
	comp=Z,290nm,18.1s,MS4.4							
KEV	**Kevo**	**56.63**	**356**	*ep*		**P**	**09 02 45.7**	**-2.7**
	comp=Z,0.5nm,0.4s,mb3.9							
KEV	**Kevo**	**56.63**	**356**	*e*P		**P**	**09 02 45.7**	**-2.7**
KEV				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.2							
ARCES	**ARCESS Array B**	**56.92**	**356**	P		**P**	**09 02 49.4**	**-1.0**
	comp=Z,2.4nm,0.7s,mb4.3,baz=17,slow=8.9,SNR=5.6							
SSE	**Sheshan**	**57.09**	**279**	P		**P**	**09 02 50.9**	**-0.7**
SSE				AMB		AMB		
	comp=Z,12nm,0.7s,mb5.0							
SSE				AMB		AMB		
	comp=Z,373nm,10.4s							
NJ2	**Nanjing**	**57.76**	**281**	*e*P		**P**	**09 02 59.9**	**+3.6**
NJ2				AMB		AMB		
	comp=Z,10.0nm,1.1s,mb4.8							
JOF	**Joensuu**	**63.16**	**352**	*ep*		**P**	**09 03 33.4**	**+0.3**
	comp=Z,0.5nm,0.3s,mb4.1							
LZH	**Lanzhou**	**63.27**	**295**	*e*P		**P**	**09 03 34.5**	**+0.7**
LZH				PP		PP	09 05 55.3	+1.9
LZH				AMB		AMB		
	comp=Z,22nm,1.4s,mb5.1							
KURK	**Kurchatov**	**63.63**	**321**	*i* P		**P**	**09 03 36.5**	**+0.3**
KAF	**Kangasniemi**	**64.29**	**355**	*ep*		**P**	**09 03 39.4**	**-1.2**
	comp=Z,1.1nm,0.4s,mb4.2							
KAF	**Kangasniemi**	**64.29**	**355**	*e*P		**P**	**09 03 39.4**	**-1.2**
KAF				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.2							
BVAR	**Borovoye Array**	**64.58**	**327**	P		**P**	**09 03 43.0**	**+0.5**
	comp=Z,3.7nm,0.7s,mb4.5,baz=49,slow=6.8,SNR=21							
ARU	**Arti**	**64.95**	**336**	*i* P		**P**	**09 03 44.6**	**-0.3**
ARU				*e*			09 06 05.5	
ARU				*e*S		**S**	**09 12 16.3**	**-6.7**
ARU				*e*SS		SS	09 16 28.2	-7.1
ARU				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.6							
ARU	**Arti**	**64.95**	**336**	*e*P		**P**	**09 03 43.3**	**-1.6**
	comp=Z,5.2nm,0.8s,mb4.6							
FINES	**FINESS Array B**	**64.97**	**355**	P		**P**	**09 03 44.7**	**-0.3**
	comp=Z,3.2nm,0.9s,mb4.3,baz=30,slow=12,SNR=9.2							
FINES	**FINESS Array B**	**64.97**	**355**	P		**P**	**09 03 44.7**	**-0.3**
MKAR	**Makanchi Array**	**65.35**	**316**	P		**P**	**09 03 47.2**	**-0.2**
	comp=Z,0.9nm,0.6s,mb4.0,baz=46,slow=5.7,SNR=13							
MKAR	**Makanchi Array**	**65.35**	**316**	*i* P		**P**	**09 03 47.2**	**-0.3**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
WMQ	**Urumqi**	**65.39**	**311**	P		**P**	**09 03 42.7**	**-5.0**
WMQ				AP		pP	09 04 02.2	+0.6
WMQ				AMB		AMB		
	comp=Z,7.0nm,0.4s,mb5.0							
NB2	**NORSAR Subarra**	**65.55**	**3**	P		**P**	**09 03 47.9**	**-0.9**
	comp=Z,1.4nm,0.8s,mb4.0,baz=357,slow=6.5							
NOA	**NORSAR Array B**	**65.55**	**3**	P		**P**	**09 03 49.1**	**+0.3**
	comp=Z,3.0nm,0.9s,mb4.3,baz=357,slow=6.5,SNR=5.7							
CD2	**Chengdu**	**67.22**	**291**	*e*P		**P**	**09 03 58.0**	**-1.4**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.9							
GYA	**Guiyang**	**68.98**	**286**	P		**P**	**09 04 11.6**	**+1.1**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.9							
ORR	**Orenburg**	**70.27**	**336**	*e*P		**P**	**09 04 18.5**	**+0.1**
ORR				pmax		pmax		
	comp=Z,10.0nm,1.4s,mb4.5							
OBN	**Obninsk**	**70.30**	**348**	*e*P		**P**	**09 04 18.4**	**-0.2**
OBN				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.8							
AKTK	**Aktyubinsk**	**70.52**	**333**	P		**P**	**09 04 20.5**	**+0.6**
AKTO	**Aktyubinsk**	**70.52**	**333**	P		**P**	**09 04 20.5**	**

nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
*MOS **01** 09:13:33.3±1.1, 8.19N×82.85W, h26km, mb5.4/80, MS4.8/36 Error ellipse: s-maj=6.4km s-min=4.6km az=103.2*
*CSEM **01** 09:13:34.0, 8.12N×82.94W, h30km, ML5.5*
*IDC **01** 09:13:36.6±1.4, 8.13N×83.04W, h49km±12km, mb4.5/22, mb1 4.7/25, mb1mx4.7/26, mbtmp4.8/25, ML4.8/2, MS5.0/17, Ms1 5.0/17, ms1mx4.8/20, Error ellipse: s-maj=13.7km s-min=7.9km az=36.0*
ISC 01 09:13:32.1±0.2, 805N±003×8293W±002, h10km, (h13km±1.9km: pP-P), n581, σ1s22/477, mb5.0/164, MS5.0/115, 44C-27D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.65**	**339**	*e*P		**Pg**		**09 13 42.4**	**-2.3**
ACR	**Cerro Adams**	**0.65**	**339**	*e*P		**Pg**		**09 13 42.6**	**-2.1**
BUS	**Buena Vista**	**1.71**	**332**	*e*P		**Pn**		**09 14 00.2**	**-1.8**
BUS	**Buena Vista**	**1.71**	**332**	*e*P		**Pn**		**09 13 59.9**	**-2.0**
URSC	**Urasca**	**1.96**	**335**	*e*P		**Pn**		**09 14 04.0**	**-1.4**
URSC	**Urasca**	**1.96**	**335**	*e*P		**Pn**		**09 14 03.9**	**-1.6**
LCR2	**La Lucha 2**	**1.99**	**328**	*e*P		**Pn**		**09 14 04.6**	**-1.2**
LCR2	**La Lucha 2**	**1.99**	**328**	*e*P		**Pn**		**09 14 04.2**	**-1.7**
OCM	**Ochomogo**	**2.10**	**331**	*e*P		**Pn**		**09 14 06.2**	**-1.1**
ICR	**Volcan Irazu**	**2.12**	**335**	*e*P		**Pn**		**09 14 08.4**	**+0.8**
VTU	**Volcan Turrial**	**2.13**	**338**	*e*P		**Pn**		**09 14 08.1**	**+0.4**
IRZ2	**Volcan Irazu 2**	**2.14**	**334**	*e*P		**Pn**		**09 14 08.2**	**+0.4**
SJS	**Escuela Geolog**	**2.18**	**330**	*e*P		**Pn**		**09 14 08.4**	**0.0**
SJS	**Escuela Geolog**	**2.18**	**330**	*e*P		**Pn**		**09 14 08.2**	**-0.3**
SJS				*e*S		**Sn**		**09 14 39.3**	**+3.7**
PRS1	**Puriscal**	**2.36**	**325**	*e*P		**Pn**		**09 14 08.6**	**-2.3**
PRS1	**Puriscal**	**2.36**	**325**	*e*P		**Pn**		**09 14 08.6**	**-2.3**
POA2	**Poas 2**	**2.49**	**329**	*e*P		**Pn**		**09 14 12.5**	**-0.1**
EPA	**Esparza**	**2.53**	**320**	*e*P		**Pn**		**09 14 12.0**	**-1.3**
CAO	**Cobano**	**2.70**	**308**	*i*P		**Pn**		**09 14 12.8**	**-2.9**
VACR	**Volcan Arenal**	**2.96**	**325**	*e*P		**Pn**		**09 14 18.9**	**-0.3**
JTS	**JuntasAbangare** 39µm,0.4s	**2.99**	**318**	Pn		**Pn**		**09 14 18.6**	**-1.0**
JTS	**JuntasAbangare** 835nm,0.3s,baz=123,slow=5.6,SNR=1029	**2.99**	**318**	P		**Pn**		**09 14 18.5**	**-1.1**
JTS	359nm,0.3s,baz=319,slow=22,SNR=8.4			S		**Sn**		**09 14 54.0**	**-1.5**
JTS	**JuntasAbangare**	**2.99**	**318**	P		**Pn**		**09 14 18.5**	**-1.1**
JTS				S		**Sn**		**09 14 54.1**	**-1.4**
JTS	comp=Z,835nm,0.3s			pmax	pmax				
JTS	comp=N,359nm,0.3s			smax					
JTS	**JuntasAbangare**	**2.99**	**318**	*e*Pn		**Pn**		**09 14 17.7**	**-1.9**
JTS				*e*Sn		**Sn**		**09 14 56.0**	**+0.5**
PINA	**Piqa, Costa Ab**	**3.08**	**67**	*e*P		**Pn**		**09 14 21.0**	**+0.1**
ZANG	**Zanguenga, Cho**	**3.17**	**73**	*e*P		**Pn**		**09 14 22.4**	**+0.4**
VCR	**Vista de Mar**	**3.37**	**308**	*e*P		**Pn**		**09 14 23.4**	**-1.4**
VCR	**Vista de Mar**	**3.37**	**308**	*e*P		**Pn**		**09 14 23.0**	**-1.9**
ACLA	**Agua Clara, Si**	**3.45**	**67**	*e*P		**Pn**		**09 14 24.8**	**-1.1**
LIM1	**Limonal**	**3.49**	**319**	*i*P		**Pn**		**09 14 26.0**	**-0.5**
RIN3	**Volcan Rincon**	**3.64**	**319**	*e*P		**Pn**		**09 14 28.7**	**+0.2**
MADN	**Villa Maderas**	**4.21**	**323**	*e*P		**Pn**		**09 14 36.2**	**-0.1**
SSNN	**San Juan del S**	**4.32**	**318**	*e*P		**Pn**		**09 14 38.0**	**+0.1**
CONN	**Concepcion**	**4.39**	**323**	*e*P		**Pn**		**09 14 38.8**	**0.0**
APON	**Apoyo**	**4.93**	**322**	*e*P		**Pn**		**09 14 46.5**	**+0.2**
MASN	**Masaya**	**5.04**	**321**	*e*P		**Pn**		**09 14 46.5**	**-1.2**
MASN	comp=N,2µm,0.8s			*i*				09 16 49.6	
TICN	**Ticuantepe**	**5.12**	**321**	*e*P		**Pn**		**09 14 49.8**	**+0.9**
MGAN	**Managua**	**5.22**	**322**	*e*P		**Pn**		**09 14 50.3**	**0.0**
TISN	**Laguna Tiscapa**	**5.23**	**321**	*e*P		**Pn**		**09 14 50.8**	**+0.5**
XAVN	**Gruta Xavier**	**5.27**	**321**	*e*P		**Pn**		**09 14 51.2**	**+0.3**
APYN	**Apoyeque**	**5.35**	**321**	*e*P		**Pn**		**09 14 52.6**	**+0.6**
COPN	**Copaltepe**	**5.46**	**319**	*e*P		**Pn**		**09 14 53.7**	**+0.2**
MOMJ	**Momotombo**	**5.60**	**321**	*e*P		**Pn**		**09 14 55.5**	**0.0**
MIRN	**Miramar**	**5.74**	**320**	*e*P		**Pn**		**09 14 57.9**	**+0.6**
CNGN	**Cerro Negro**	**5.77**	**320**	*e*P		**Pn**		**09 14 58.0**	**+0.2**
LEON	**Leon**	**5.83**	**318**	*e*P		**Pn**		**09 14 59.1**	**+0.5**
TEL3	**Telica 3**	**5.92**	**320**	*e*P		**Pn**		**09 15 00.1**	**+0.3**
TELN	**Telica**	**5.94**	**320**	*e*P		**Pn**		**09 15 00.9**	**+0.9**
CRIN	**San Cristobal**	**6.15**	**319**	*e*P		**Pn**		**09 15 03.4**	**+0.4**
LCBS	**La Ceiba**	**8.14**	**314**	*e*P		Px		09 15 53.8	
LCBS				*e*S		Sx		09 17 28.9	
LFRS	**El Faro**	**8.18**	**313**	*i*P		Px		09 15 54.8	
LFRS				*e*S		Sx		09 17 29.5	
SBLS	**San Blas**	**8.73**	**312**	*e*P		Px		09 16 03.2	
SBLS				*e*S		Sx		09 17 42.1	
ROSC	**El Rosal**	**9.12**	**110**	P		**Pn**		**09 15 48.3**	**+4.6**
ROSC	comp=N,3.0nm,0.3s,baz=102,slow=2.6,SNR=31			S		**Sn**		**09 17 35.7**	**+9.3**
IXG	**Ixpaco**	**9.57**	**310**	*e*P		**Pn**		**09 15 51.7**	**+1.8**
MRL	**Marmol**	**9.62**	**317**	*e*P		**Pn**		**09 15 51.6**	**+1.0**
MCJ	**Malvern**	**11.07**	**27**	*e*P		**Pn**		**09 16 10.3**	**-0.1**
PAYG	**Puerto Ayora**	**11.35**	**221**	*e*Pn		**Pn**		**09 16 18.2**	**+3.9**
CVJ	**Coleyville**	**11.40**	**27**	*e*P		**Pn**		**09 16 15.6**	**+0.5**
STH	**Stony Hill**	**11.62**	**30**	*e*P		**Pn**		**09 16 18.8**	**+0.9**
GWJ	**Greenwich**	**11.65**	**31**	*e*P		**Pn**		**09 16 18.4**	**-0.1**
BBJ	**Bamboo Saint A**	**11.66**	**28**	*e*P		**Pn**		**09 16 19.2**	**+0.7**
SDV	**Santo Domingo** comp=N,0.9nm,0.3s,baz=294,slow=8.6,SNR=24	**12.20**	**85**	P		**Pn**		**09 16 27.6**	**+1.7**
SDV	comp=N,1.5nm,0.3s,baz=5.7,slow=20,SNR=2.5			S		**Sn**		**09 18 48.6**	**+6.7**
SDV	comp=N,11µm,20.4s,baz=276,slow=39			LR	LR			09 21 41.5	
SDV	**Santo Domingo** comp=N,66nm,0.8s	**12.20**	**85**	*e*Pn		**Pn**		**09 16 27.6**	**+1.7**
TEIG	**Tepich** comp=N,38nm,1.7s	**13.17**	**337**	*e*Pn		**Pn**		**09 16 42.3**	**+3.2**
LMGC	**Las Mercedes**	**13.26**	**25**	*e*P		**Pn**		**09 16 43.0**	**+2.6**
LMGC	comp=N,4µm,18.2s			*e*S		Sn		09 19 41.1	+33
LMGC	comp=E,5µm,17.0s			*e*					
RCC	**Rio Carpintero**	**13.79**	**30**	*e*P		**Pn**		**09 16 50.7**	**+3.0**
RCC	comp=N,4µm,24.4s			*e*S		**Sn**		**09 19 29.3**	**+8.4**
RCC	comp=E,4µm,19.1s			*e*					
HLGC	**Holguin**	**14.39**	**27**	*e*P		**Pn**		**09 16 54.8**	**-1.1**
SOR	**Soroa**	**14.66**	**360**	*e*P		**Pn**		**09 17 02.3**	**+2.7**
SOR	comp=N,4.8nm,5.4s			*e*S		**Sn**		**09 19 45.4**	**+3.3**
SOR	comp=E,1.6nm,3.4s			*e*					
MASC	**Masc**	**14.71**	**34**	*e*P		**Pn**		**09 17 04.4**	**+4.2**
MASC	comp=N,14nm,16.4s			*e*S		**Sn**		**09 19 55.1**	**+12**
MASC	comp=E,14nm,21.1s			*e*					
MOAC	**Moa**	**14.72**	**31**	*e*P		**Pn**		**09 17 04.3**	**+4.0**
MOAC	comp=N,6.1nm,4.8s			*e*S		**Sn**		**09 19 59.9**	**+16**
MOAC	comp=E,8.2nm,5.2s			*e*					
OXX	**Oaxaca**	**16.17**	**305**	*e*P		**Pn**		**09 17 20.0**	**+0.6**
ACX	**Acapulco**	**18.74**	**300**	*e*P		**Pn**		**09 17 51.0**	**-0.5**
PPM	**Popocatepetl**	**18.76**	**307**	*e*P		**Pn**		**09 17 54.0**	**+2.3**
PLIG	**Platanillo**	**19.11**	**304**	*e*P		**Pn**		**09 18 03.9**	**+8.0**
SJG	**San Juan** comp=E,6.7nm,0.3s,baz=259,slow=5.9,SNR=68	**19.15**	**57**	P		**Pn**		**09 17 57.4**	**+1.1**
SJG	comp=E,2.7nm,0.3s,baz=327,slow=20,SNR=2.2			S		**Sn**		**09 21 32.8**	**+1.9**
SJG	comp=E,7µm,18.9s,baz=236,slow=35			LR	LR			09 24 45.5	
SJG	**San Juan** comp=Z,245nm,0.8s	**19.15**	**57**	*e*P		**Pn**		**09 17 57.4**	**+1.0**
SJG				pmax	pmax				
SJG	**San Juan** comp=Z,244nm,0.8s	**19.15**	**57**	*e*P		**Pn**		**09 17 57.4**	**+1.0**
NNA	comp=Z,497nm,1.1s			LR	LR				
NNA	comp=Z,1µm,20.0s,MS4.3								
MOIG	**Morelia**	**21.14**	**305**	*e*P		**P**		**09 18 16.3**	**-0.8**
MRX	**Morelia**	**21.15**	**305**	*e*P		**P**		**09 18 18.0**	**+0.7**
SABT	**Saba**	**21.41**	**62**	*e*P		**P**		**09 18 11.5**	**-8.5**
SVB	**Belmont**	**21.92**	**74**	*e*P		**P**		**09 18 26.8**	**+1.2**
SSV	**Crater Summit**	**21.99**	**74**	*e*P		**P**		**09 18 29.9**	**+3.5**
LZG	**Guadaloupe-1**	**22.18**	**67**	*e*P		**P**		**09 18 29.5**	**+1.1**
TBG	**Guadaloupe-3**	**22.21**	**68**	*e*P		**P**		**09 18 29.3**	**+0.6**
BBL	**Barber's Block**	**22.27**	**69**	*e*P		**P**		**09 18 30.4**	**+1.1**
BPA	**Boggy Peak**	**22.41**	**64**	*e*P		**P**		**09 18 33.7**	**+2.9**
SEG	**Port Louis**	**22.51**	**66**	*e*P		**P**		**09 18 33.6**	**+1.8**
MGG	**Marie-Galante**	**22.53**	**68**	*e*P		**P**		**09 18 24.5**	**-7.6**
CPB	**Codrington**	**22.66**	**63**	*e*P		**P**		**09 18 31.0**	**-2.4**
CPB	**Codrington**	**22.66**	**63**	*e*P		**P**		**09 18 33.8**	**+0.4**
SFJM	**Santa Fe**	**23.04**	**305**	*e*P		**P**		**09 18 40.0**	**+2.5**
HKT	**Hockley**	**24.93**	**333**	*e*P		**P**		**09 18 56.6**	**+1.2**
HKT	comp=Z,89nm,1.1s,mb5.2			pmax	pmax				
HKT	comp=Z,2µm,20.0s,MS4.5			MLR	MLR				
HKT	**Hockley** comp=Z,89nm,1.1s,mb5.2	**24.93**	**333**	*e*P		**P**		**09 18 56.6**	**+1.2**
HKT	comp=Z,2µm,20.0s,MS4.5			LR	LR				
NHSC	**New Hope**	**25.07**	**5**	PFAKE				09 19 10.0	+13
NHSC	comp=Z,7µm,19.0s,MS5.2			LR	LR				
LRAL	**Lakeview Retre** comp=Z,432nm,1.4s,mb5.8	**25.15**	**352**	*e*P		**P**		**09 18 57.6**	**+0.2**
LRAL	comp=Z,1µm,20.0s,MS4.5			LR	LR				
NATX	**Nacogdoches** comp=Z,302nm,1.1s,mb5.7	**26.00**	**337**	*e*P		**P**		**09 19 07.3**	**+2.2**
NATX	comp=Z,1µm,21.0s,MS4.4			LR	LR				
JSC	**Jenkinsville**	**26.16**	**3**	*e*P		**P**		**09 19 07.1**	**+0.6**
OXF	**Oxford**	**27.01**	**348**	*e*P		**P**		**09 19 14.3**	**+0.1**
OXF	comp=Z,110nm,1.1s,mb5.3			pmax	pmax				
OXF	comp=Z,2µm,20.0s,MS4.6			MLR	MLR				
OXF	**Oxford** comp=Z,110nm,1.1s,mb5.3	**27.01**	**348**	*e*P		**P**		**09 19 14.3**	**+0.1**
OXF	comp=Z,2µm,20.0s,MS4.6			LR	LR				
MAIG	**Mazatlaan**	**27.11**	**306**	*e*P		**P**		**09 19 16.6**	**+1.4**
SWET	**Sewanee**	**27.18**	**355**	*e*P		**P**		**09 19 15.3**	**-0.5**
PLAL	**Pickwick Lake** comp=Z,142nm,1.4s,mb5.3	**27.22**	**351**	*e*P		**P**		**09 19 16.7**	**+0.6**
PLAL	comp=Z,2µm,19.0s,MS4.6			LR	LR				
CPCT	**Cooper Cave**	**27.32**	**357**	*e*P		**P**		**09 19 17.6**	**+0.6**
UALR	**University of** comp=Z,81nm,0.9s,mb5.4	**27.97**	**343**	*e*P		**P**		**09 19 21.5**	**-1.4**
MIAR	**Mount Ida**	**28.13**	**341**	*e*P		**P**		**09 19 23.9**	**-0.4**
MIAR	comp=Z,54nm,0.8s,mb5.2			pmax	pmax				
MIAR	comp=Z,1µm,20.0s,MS4.5			MLR	MLR				
MIAR	**Mount Ida** comp=Z,54nm,0.8s,mb5.2	**28.13**	**341**	*e*P		**P**		**09 19 23.9**	**-0.4**
MIAR	comp=Z,1µm,20.0s,MS4.5			LR	LR				
LPAZ	**La Paz**	**28.27**	**149**	P		**P**		**09 19 27.1**	**+1.6**
LPAZ	**La Paz** comp=Z,13nm,1.0s,mb4.5,baz=339,slow=10,SNR=28	**28.27**	**149**	P		**P**		**09 19 27.2**	**+1.7**
LPAZ	comp=Z,2µm,18.5s,MS4.7,baz=109,slow=38			LR	LR			09 31 49.7	
LPAZ	**La Paz**	**28.27**	**149**	*e*P		**P**		**09 19 26.8**	**+1.3**
LPAZ				*e*				09 22 40.3	
LPAZ	comp=Z,23nm,1.1s			pmax	pmax				
LPAZ	comp=Z,2µm,19.0s			MLR	MLR				
LPAZ	**La Paz** comp=Z,22nm,1.1s,mb4.7	**28.27**	**149**	*e*P		**P**		**09 19 26.8**	**+1.3**
LPAZ				*e*PcP	PcP			09 22 40.3	+1.7
LPAZ	comp=Z,2µm,19.0s,MS4.7			LR	LR				
HBAR	**Harrisburg**	**28.28**	**347**	*e*P		**P**		**09 19 28.3**	**+2.7**
WVT	**Waverly**	**28.31**	**352**	*e*P		**P**		**09 19 24.1**	**-1.8**
WVT	comp=Z,89nm,1.4s,mb5.2			pmax	pmax				
WVT	comp=Z,1µm,19.0s,MS4.5			MLR	MLR				
WVT	**Waverly** comp=Z,89nm,1.4s,mb5.2	**28.31**	**352**	*e*P		**P**		**09 19 24.1**	**-1.8**
WVT	comp=Z,1µm,19.0s,MS4.5			LR	LR				
HALT	**Halls**	**28.35**	**349**	*e*P		**P**		**09 19 26.4**	**+0.1**
TZTN	**Tazewell**	**28.37**	**359**	*e*P		**P**		**09 19 27.5**	**+1.1**
GLAT	**Glass**	**28.69**	**349**	*e*P		**P**		**09 19 31.9**	**+2.7**
LTX	**Lajitas**	**28.78**	**320**	*e*P		**P**		**09 19 31.5**	**+1.4**
LTX	comp=Z,13nm,1.1s,mb4.6			pmax	pmax				
LTX	comp=Z,977nm,19.0s,MS4.4			MLR	MLR				
LTX	**Lajitas** comp=Z,13nm,1.1s,mb4.6	**28.78**	**320**	*e*P		**P**		**09 19 31.5**	**+1.5**
LTX	comp=Z,977nm,19.0s,MS4.4			LR	LR				
ELN	**Prospectdale**	**29.12**	**4**	*e*P		**P**		**09 19 33.4**	**+0.3**
BLA	**Blacksburg**	**29.12**	**4**	*e*P		**P**		**09 19 32.8**	**-0.3**
BLA	comp=Z,2.0nm,0.8s			pmax	pmax				
BLA	comp=Z,244nm,19.0s			MLR	MLR				
BLA	**Blacksburg** comp=Z,1.8nm,0.8s	**29.12**	**4**	*e*P		**P**		**09 19 32.8**	**-0.3**
BLA	comp=Z,244nm,19.0s			LR	LR				
FWV	**Forest Hill**	**29.47**	**3**	*e*P		**P**		**09 19 35.2**	**-1.0**
BBSR	**BB Station**	**29.54**	**32**	PFAKE				09 19 50.0	+13
BBSR	comp=Z,3µm,20.0s,MS5.0			LR	LR				
SIUC	**Southern Illin** comp=Z,30nm,0.8s,mb5.1	**30.08**	**350**	*e*P		**P**		**09 19 41.6**	**0.0**
WCI	**Wyandotte Cave**	**30.20**	**355**	*e*P		**P**		**09 19 41.2**	**-1.5**
WCI				*e*				09 22 43.2	
WCI	comp=Z,213nm,1.6s,mb5.6			pmax	pmax				
WCI	comp=Z,2µm,19.0s,MS4.8			MLR	MLR				
WCI	**Wyandotte Cave** comp=Z,213nm,1.6s,mb5.6	**30.20**	**355**	*e*P		**P**		**09 19 41.2**	**-1.4**
WCI				*e*PcP	PcP			09 22 43.2	-0.3
WCI	comp=Z,2µm,19.0s,MS4.8			LR	LR				
WMOK	**Wichita Mounta**	**30.30**	**334**	*e*P		**P**		**09 19 44.8**	**+1.3**
WMOK				*e*				09 22 44.1	
WMOK	comp=Z,34nm,1.2s,mb5.0			pmax	pmax				
WMOK	comp=Z,1µm,21.0s,MS4.5			MLR	MLR				
WMOK	**Wichita Mounta** comp=Z,34nm,1.2s,mb5.0	**30.30**	**334**	*e*P		**P**		**09 19 44.8**	**+1.3**
WMOK				*e*PcP	PcP			09 22 44.1	+0.3
WMOK	comp=Z,1µm,21.0s,MS4.5			LR	LR				
CBN	**Corbin**	**30.44**	**9**	PFAKE				09 20 00.0	+15
CBN	comp=Z,14µm,19.0s,MS5.6			LR	LR				
FVM	**French Village**	**30.57**	**348**	*e*P		**P**		**09 19 45.0**	**-0.9**
FVM				*e*				09 20 44.3	
FVM	comp=Z,89nm,1.4s,mb5.4			pmax	pmax				
FVM	**French Village** comp=Z,89nm,1.4s,mb5.4	**30.57**	**348**	*e*P		**P**		**09 19 45.0**	**-0.9**
FVM				*e*PP	PP			09 20 44.3	-11
CCM	**Cathedral Cave**	**30.81**	**347**	PFAKE				09 20 00.0	+12
CCM	comp=Z,2µm,20.0s,MS4.7			LR	LR				
BLO	**Bloomington**	**31.16**	**355**	*e*P		**P**		**09 19 49.4**	**-1.7**
BLO	comp=Z,36nm,0.7s,mb5.3			pmax	pmax				
BLO	**Bloomington** comp=Z,36nm,0.7s,mb5.3	**31.16**	**355**	*e*P		**P**		**09 19 49.4**	**-1.7**
SLM	**Saint Louis**	**31.16**	**349**	*e*P		**P**		**09 19 50.2**	**-0.9**
SLM	comp=Z,56nm,0.8s,mb5.5			pmax	pmax				
SLM	**Saint Louis** comp=Z,56nm,0.8s,mb5.5	**31.16**	**349**	*e*P		**P**		**09 19 50.2**	**-0.9**
MNTX	**Cornudas Mount** comp=Z,11nm,0.9s,mb4.7	**31.48**	**321**	*e*P		**P**		**09 19 53.9**	**0.0**
MNTX				*e*PP	PP			09 21 02.0	-3.0
MNTX				*e*PcP	PcP			09 22 47.4	+0.5
CPRX	**Cap Rock**	**31.52**	**325**	*e*P		**P**		**09 19 54.2**	**-0.1**
CPRX				*e*PcP	PcP			09 22 48.0	+1.0
AMTX	**Amarillo** comp=Z,23nm,1.2s,mb4.9	**31.78**	**330**	*e*P		**P**		**09 19 58.2**	**+1.6**
AMTX				*e*PcP	PcP			09 22 48.2	+0.5
AMTX				LR	LR				
ACSO	comp=Z,1µm,19.0s,MS4.6 **Alum Creek Sta** comp=Z,71nm,1.0s,mb5.5	**32.05**	**360**	*e*P		**P**		**09 19 57.9**	**-1.1**
ACSO	comp=Z,2µm,20.0s,MS4.9			LR	LR				
KSU1	**Kansas State U**	**33.28**	**340**	*e*P		**P**		**09 20 07.1**	**-2.6**
BNM	**Barren Site**	**33.93**	**323**	*e*P		**P**		**09 20 16.9**	**+1.5**
BNM				*e*PcP	PcP			09 22 55.0	+1.3
BNM				*e*ScP	ScP			09 26 42.7	+4.2
ERPA	**Erie**	**34.03**	**4**	PFAKE				09 20 30.0	+14
ERPA	comp=Z,4µm,19.0s,MS5.1			LR	LR				
LPM	**Los Pinos Moun**	**34.05**	**324**	*e*P		**P**		**09 20 17.8**	**+1.4**
LPM				*e*PP	PP			09 21 43.6	+10
LPM				*e*PcP	PcP			09 22 55.0	+1.0
CBKS	**Cedar Bluff**	**34.17**	**336**	*e*P		**P**		**09 20 18.9**	**+1.5**
CBKS	comp=Z,31nm,0.9s,mb5.2			pmax	pmax				
CBKS	comp=Z,1µm,20.0s,MS4.7			MLR	MLR				
CBKS	**Cedar Bluff** comp=Z,31nm,0.9s,mb5.2	**34.17**	**336**	*e*P		**P**		**09 20 18.9**	**+1.5**
CBKS	comp=Z,1µm,20.0s,MS4.7			LR	LR				
ANMO	**Albuquerque** comp=Z,3.2nm,0.8s,mb4.3,baz=160,slow=13,SNR=7.7	**34.40**	**325**	P		**P**		**09 20 19.7**	**+0.3**
ANMO	comp=Z,4.2nm,0.9s,baz=171,slow=9.1,SNR=3.7			PcP	PcP			09 22 55.2	+0.2
ANMO	comp=Z,1µm,20.2s,MS4.7,baz=66,slow=44			LR	LR			09 38 28.5	
ANMO	**Albuquerque**	**34.40**	**325**	*e*P		**P**		**09 20 20.5**	**+1.1**
ANMO				*e*				09 22 55.9	
ANMO	comp=Z,10.0nm,0.9s			pmax	pmax				
ANMO	comp=Z,1µm,21.0s			MLR	MLR				
ANMO	**Albuquerque** comp=Z,10nm,0.9s,mb4.8	**34.40**	**325**	*e*P		**P**		**09 20 20.5**	**+1.1**
ANMO				*e*PcP	PcP			09 22 55.9	+0.9
ANMO	comp=Z,1µm,21.0s,MS4.7			LR	LR				
LAZ	**Ladron**	**34.41**	**323**	*e*P		**P**		**09 20 21.3**	**+1.8**
LAZ				*e*PcP	PcP			09 22 56.1	+1.0
BINY	**Binghamton** comp=Z,70nm,1.3s,mb5.4	**34.56**	**9**	*e*P		**P**		**09 20 20.4**	**-0.5**
BINY	comp=Z,6µm,19.0s,MS5.4			LR	LR				
TUC	**Tucson**	**35.37**	**317**	*e*P		**P**		**09 20 28.7**	**+0.8**
TUC				*e*				09 22 58.7	
TUC	comp=Z,53nm,1.5s,mb5.2			pmax	pmax				
TUC	comp=Z,2µm,19.0s,MS4.9			MLR	MLR				
TUC	**Tucson** comp=Z,53nm,1.5s,mb5.2	**35.37**	**317**	*e*P		**P**		**09 20 28.7**	**+0.8**
TUC				*e*PcP	PcP			09 22 58.7	+0.8
TUC	comp=Z,2µm,19.0s,MS4.9			LR	LR				
WES	**Weston**	**35.70**	**15**	PFAKE				09 20 40.0	+9.3
WES	comp=Z,1µm,19.0s,MS4.7			LR	LR				
HRV	**Harvard--Oak R**	**35.76**	**14**	PFAKE				09 20 40.0	+8.8
HRV	comp=Z,3µm,19.0s,MS5.1			LR	LR				
NCB	**Newcomb**	**36.59**	**11**	PFAKE				09 20 50.0	+12
NCB	comp=Z,3µm,22.0s,MS5.0			LR	LR				
SADO	**Sadowa** comp=Z,7.5nm,0.8s,mb4.6,baz=197,slow=7.2,SNR=5.2	**36.73**	**5**	P		**P**		**09 20 38.9**	**-0.6**
SADO	comp=Z,3µm,21.6s,MS5.0,baz=198,slow=35			LR	LR			09 35 15.3	
MVCO	**Mesa Verde**	**37.16**	**325**	*e*P		**P**		**09 20 44.2**	**+1.1**
MVCO				*e*PcP	PcP			09 23 02.8	-0.4
LBNH	**Lisbon**	**37.31**	**13**	PFAKE				09 21 00.0	+16
LBNH	comp=Z,3µm,19.0s,MS5.1			LR	LR				
ISCO	**Idaho Springs**	**37.57**	**331**	*e*P		**P**		**09 20 45.4**	**-1.3**
ISCO				*e*				09 23 05.4	
ISCO	comp=Z,35nm,1.7s,mb4.8			pmax	pmax				
ISCO	comp=Z,2µm,20.0s,MS4.8			MLR	MLR				
ISCO	**Idaho Springs** comp=Z,35nm,1.7s,mb4.8	**37.57**	**331**	*e*P		**P**		**09 20 45.4**	**-1.2**
ISCO				*e*PcP	PcP			09 23 05.4	+1.0
ISCO	comp=Z,2µm,20.0s,MS4.8			LR	LR				
WUAZ	**Wupatki** comp=Z,59nm,1.6s,mb5.1	**37.74**	**321**	*e*P		**P**		**09 20 49.7**	**+1.7**
WUAZ				*e*PcP	PcP			09 23 06.0	+1.0
WUAZ	comp=Z,2µm,19.0s,MS4.9			LR	LR				
SMCO	**Snowmass** comp=Z,16nm,0.9s,mb4.8	**37.77**	**329**	*e*P		**P**		**09 20 49.2**	**+0.9**
SMCO				*e*PcP	PcP			09 23 06.8	+1.7
PV01	**Paradox Valley**	**37.86**	**326**	*e*P		**P**		**09 20 51.8**	**+2.7**
PV10	**Paradox Valley**	**38.29**	**326**	*e*P		**P**		**09 20 52.0**	**-0.7**
PV10				*e*PcP	PcP			09 23 07.2	+0.6
SRU	**San Rafael**	**39.63**	**326**	*e*P		**P**		**09 21 03.5**	**-0.4**
SRU				*e*				09 23 11.1	
RWWY	**Rawlins** comp=Z,50nm,1.3s,mb5.1	**39.80**	**331**	*e*P		**P**		**09 21 06.3**	**+0.9**
RWWY				*e*PcP	PcP			09 23 11.9	+0.4
PFO	**Pinyon Flat Ob** comp=Z,94nm,1.0s,mb5.5,SNR=8.9	**40.04**	**314**	P		**P**		**09 21 08.9**	**+1.6**
PFO	**Pinyon Flat Ob**	**40.04**	**314**	*e*P		**P**		**09 21 08.8**	**+1.5**
PFO				*e*				09 23 13.1	
PFO	comp=Z,20nm,1.1s,mb4.8			pmax	pmax				
PFO	comp=Z,2µm,21.0s,MS5.0			MLR	MLR				
PFO	**Pinyon Flat Ob** comp=Z,20nm,1.1s,mb4.8	**40.04**	**314**	*e*P		**P**		**09 21 08.8**	**+1.4**
PFO				*e*PcP	PcP			09 23 13.1	+0.9
PFO	comp=Z,2µm,21.0s,MS5.0			LR	LR				
NEN	**Nelson**	**40.06**	**318**	*e*P		**P**		**09 21 08.8**	**+1.3**
TMUT	**

TPNV **Topopah Spring** 41.74 319 eP P 09 21 22.8 +1.4
TPNV pmax pmax
comp=Z,219nm,2.2s,mb5.4
TPNV MLR MLR
comp=Z,3µm,21.0s,MS5.1
TPNV Topopah Spring 41.74 319 eP P **09 21 22.8 +1.4**
comp=Z,219nm,2.2s,mb5.4
TPNV LR LR
comp=Z,3µm,21.0s,MS5.1
PDAR Pinedale Array 41.76 330 P P **09 21 20.2 -1.3**
comp=Z,6.1nm,1.1s,mb4.2,baz=126,slow=7.5,SNR=16
PDAR PcP PcP 09 23 17.8 +0.1
comp=Z,5.1nm,1.0s,baz=132,slow=5.6,SNR=5.6
PDAR LR LR 09 41 24.8
comp=Z,1µm,20.2s,MS4.7,baz=138,slow=40
BW06 Boulder Array 41.76 330 PFAKE 09 21 30.0 +8.5
BW06 LR LR
comp=Z,1µm,19.0s,MS4.9
BDFB Brasilia 41.84 124 P P **09 21 23.3 +1.2**
comp=Z,12nm,1.0s,mb4.5,baz=296,slow=10,SNR=14
BDFB PP PP 09 23 06.8 +8.0
comp=Z,17nm,1.1s,baz=290,slow=14,SNR=5.2
BDFB LR LR 09 39 45.4
comp=Z,3µm,18.4s,MS5.2,baz=312,slow=37
BDFB Brasilia 41.84 124 P P **09 21 23.3 +1.2**
BDFB 09 23 06.9
CFAA Coronel Fontan 41.86 161 P P **09 21 22.9 +0.6**
comp=Z,4.7nm,1.1s,mb4.0,baz=331,slow=7.2,SNR=35
CFAA Coronel Fontan 41.86 161 P P **09 21 22.9 +0.6**
HWUT Hardware Ranch 41.94 327 eP P **09 21 22.3 -0.7**
comp=Z,52nm,1.3s,mb5.0
HWUT ePcP PcP 09 23 18.2 -0.1
HWUT LR LR
comp=Z,1µm,21.0s,MS4.8
SNCC San Nicolas Is 42.08 312 PFAKE 09 21 40.0 +16
SNCC LR LR
comp=Z,2µm,21.0s,MS5.0
SPUT South Promonto 42.21 326 eP P **09 21 26.8 +1.6**
SPUT ePcP PcP 09 23 19.8 +0.5
CPUP Villa Florida 42.26 145 P P **09 21 24.7 -0.9**
CPUP Villa Florida 42.26 145 P P **09 21 25.0 -0.6**
comp=Z,12nm,1.0s,mb4.5,baz=322,slow=10.0,SNR=9.3
CPUP Villa Florida 42.26 145 eP P **09 21 25.3 -0.3**
CPUP pmax pmax
comp=Z,50nm,1.0s
CPUP Villa Florida 42.26 145 eP P **09 21 25.3 -0.3**
comp=Z,50nm,1.0s,mb5.1
DAC Darwin (Calif) 42.26 317 eP P **09 21 26.5 +0.9**
DAC e 09 23 20.5
DAC pmax pmax
comp=Z,18nm,1.1s,mb4.6
DAC MLR MLR
comp=Z,2µm,21.0s,MS5.0
DAC Darwin (Calif) 42.26 317 eP P **09 21 26.4 +0.9**
comp=Z,18nm,1.1s,mb4.6
DAC ePcP PcP 09 23 20.5 +1.1
DAC LR LR
comp=Z,2µm,21.0s,MS5.0
BGU Big Grassy Mou 42.27 326 eP P **09 21 32.2 +6.5**
BGU ePcP PcP 09 23 25.3 +5.8
AHID Auburn Hatcher 42.53 329 PFAKE 09 21 40.0 +12
AHID LR LR
comp=Z,881nm,20.0s,MS4.7
ISA Isabella 42.53 316 eP P **09 21 29.7 +1.9**
ISA e 09 23 22.2
ISA pmax pmax
comp=Z,39nm,1.4s,mb4.9
ISA MLR MLR
comp=Z,351nm,21.0s,MS4.2
ISA Isabella 42.53 316 eP P **09 21 29.6 +1.8**
comp=Z,39nm,1.4s,mb4.9
ISA ePcP PcP 09 23 22.2 +1.9
ISA LR LR
comp=Z,351nm,21.0s,MS4.2
HVU Hansel Valley 42.71 327 eP P **09 21 29.8 +0.5**
HVU e 09 23 22.5
HVU pmax pmax
comp=Z,32nm,1.4s,mb4.9
HVU Hansel Valley 42.71 327 eP P **09 21 29.8 +0.5**
comp=Z,32nm,1.4s,mb4.9
HVU ePcP PcP 09 23 22.5 +1.6
REDW Red Top Meadow 42.84 330 eP P **09 21 31.2 +1.0**
comp=Z,88nm,1.3s,mb5.3
FCH Farellones 42.86 164 eP P **09 21 31.2 +0.7**
LOHW Long Hollow 42.90 330 eP P **09 21 30.3 -0.5**
comp=Z,18nm,1.1s,mb4.7
TPAW Teton Pass 42.98 330 eP P **09 21 30.9 -0.5**
comp=Z,43nm,1.2s,mb5.0
TPH Tonopah 43.02 319 eP P **09 21 33.0 +1.2**
TPH pmax pmax
comp=Z,42nm,1.3s,mb5.0
TPH MLR MLR
comp=Z,2µm,20.0s,MS4.9
TPH Tonopah 43.02 319 eP P **09 21 33.0 +1.2**
comp=Z,42nm,1.3s,mb5.0
TPH LR LR
comp=Z,2µm,20.0s,MS4.9
MOOW Moose Ponds 43.07 330 eP P **09 21 31.0 -1.1**
comp=Z,18nm,1.2s,mb4.7
IMW Indian Meadow 43.27 330 eP P **09 21 32.9 -0.9**
comp=Z,22nm,1.0s,mb4.8
IMW ePcP PcP 09 23 23.3 +0.6
FLWY Flagg Ranch 43.29 331 eP P **09 21 33.5 -0.4**
comp=Z,65nm,1.3s,mb5.2
LAO LASA Array 43.36 337 eP P **09 21 32.9 -1.7**
comp=Z,37nm,1.0s,mb5.1
LAO LR LR
comp=Z,727nm,21.0s,MS4.6
ELK Elko 43.42 324 eP P **09 21 35.3 +0.3**
ELK e 09 23 24.7
ELK pmax pmax
comp=Z,48nm,1.4s
ELK MLR MLR
comp=Z,1µm,20.0s
ELK Elko 43.42 324 eP P **09 21 35.3 +0.3**
comp=Z,48nm,1.4s,mb5.0
ELK ePcP PcP 09 23 24.6 +1.4
ELK eScP ScP 09 27 17.4 +2.7
ELK LR LR
comp=Z,1µm,20.0s,MS4.9
ULM Lac du Bonnet 43.43 348 P P **09 21 32.0 -3.1**
comp=Z,32nm,0.9s,mb5.0,baz=152,slow=6.0,SNR=16
ULM PcP PcP 09 23 23.5 +0.2
comp=Z,7.4nm,1.0s,baz=158,slow=11,SNR=3.8
ULM LR LR 09 42 48.0
comp=Z,952nm,18.3s,MS4.7,baz=328,slow=40
LKWY Lake 43.51 331 eP P **09 21 36.3 +0.6**
LKWY pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
LKWY MLR MLR
comp=Z,2µm,19.0s,MS5.0
LKWY Lake 43.51 331 eP P **09 21 36.2 +0.6**
comp=Z,9.5nm,0.9s,mb4.5
LKWY LR LR
comp=Z,2µm,19.0s,MS5.0
YFT Old Faithful 43.63 331 eP P **09 21 39.2 +2.5**
YFT ePcP PcP 09 23 26.0 +2.0
PTRM Twissleman Ran 43.75 314 eP P **09 21 39.1 +1.4**
YMR Madison River 43.85 331 eP P **09 21 38.4 -0.1**
comp=Z,29nm,1.0s,mb5.0
YMR ePcP PcP 09 23 26.7 +2.0
YMR LR LR
comp=Z,1µm,22.0s,MS4.7
NVAR Mina Array Bea 43.92 319 P P **09 21 38.4 -0.6**
comp=Z,11nm,0.7s,mb4.7,baz=121,slow=7.5,SNR=76
GCMT Greycliff 44.10 333 eP P **09 21 39.4 -1.0**
QLMT Earthquake Lak 44.20 331 eP P **09 21 41.6 +0.4**
QLMT ePcP PcP 09 23 28.8 +2.9
BMN Battle Mountai 44.41 322 eP P **09 21 44.5 +1.6**
BMN pmax pmax
comp=Z,36nm,0.8s,mb5.2
BMN MLR MLR
comp=Z,1µm,19.0s,MS4.9
BMN Battle Mountai 44.41 322 eP P **09 21 44.5 +1.6**
comp=Z,36nm,0.8s,mb5.2
BMN LR LR
comp=Z,1µm,19.0s,MS4.9
HLID Hailey 44.81 327 eP P **09 21 45.6 -0.6**
comp=Z,11nm,0.8s,mb4.7
HLID ePcP PcP 09 23 29.3 +1.3
HLID LR LR
comp=Z,1µm,20.0s,MS4.8
MCMT McKenzie Canyo 44.89 330 eP P **09 21 47.0 +0.2**
DLMT Dillon 45.15 331 eP P **09 21 50.4 +1.6**
comp=Z,59nm,1.3s,mb5.3
SAO San Andreas Ge 45.16 315 PFAKE 09 22 00.0 +11
SAO LR LR
comp=Z,2µm,19.0s,MS5.0
PAHR Pah Rah Range 45.34 320 eP P **09 21 50.7 +0.4**
comp=Z,75nm,1.7s,mb5.2
HRY Holter Researc 45.78 332 eP P **09 21 53.0 -0.8**
WVOR Wild Horse Val 46.47 323 eP P **09 21 59.0 -0.2**
WVOR e 09 22 09.6
WVOR pmax pmax
comp=Z,76nm,1.2s,mb5.5
WVOR MLR MLR
comp=Z,2µm,19.0s,MS5.0
WVOR Wild Horse Val 46.47 323 eP P **09 21 59.0 -0.2**
comp=Z,76nm,1.2s,mb5.5
WVOR e 09 22 09.6
WVOR LR LR
comp=Z,2µm,19.0s,MS5.0
OHCM Honcut 46.50 318 eP P **09 22 00.3 +0.8**
OHCM ePcP PcP 09 23 36.3 +2.4
CHMT Chamberlain Mo 46.59 332 eP P **09 21 59.6 -0.6**
MSO Missoula 46.85 331 eP P **09 22 01.1 -1.2**
comp=Z,24nm,1.3s,mb5.0
MSO LR LR
comp=Z,752nm,19.0s,MS4.7
MOD Modoc 47.15 322 PFAKE 09 22 20.0 +15
MOD LR LR
comp=Z,2µm,20.0s,MS5.0
BMO Blue Mountains 47.23 327 PFAKE 09 22 20.0 +15
BMO LR LR
comp=Z,1µm,22.0s,MS4.8
HOPS Hopland 47.38 317 PFAKE 09 22 20.0 +14
HOPS LR LR
comp=Z,1µm,20.0s,MS5.0
WDC Whiskeytown Da 47.84 319 PFAKE 09 22 20.0 +10
WDC LR LR
comp=Z,1µm,21.0s,MS4.8
SCHQ Schefferville 48.40 12 P P **09 22 12.2 -2.1**
comp=Z,17nm,0.9s,mb5.1,baz=205,slow=5.6,SNR=19
SCHQ LR LR 09 44 28.5
comp=Z,2µm,18.1s,MS5.1,baz=214,slow=38
SCHQ Schefferville 48.40 12 eP P **09 22 12.1 -2.2**
comp=Z,54nm,1.2s,mb5.5
SCHQ LR LR
comp=Z,3µm,22.0s,MS5.2
WALA Waterton Lakes 48.45 333 eP P **09 22 13.5 -1.3**
comp=Z,22nm,1.0s,mb5.2
YBH Yreka Blue Hor 48.56 320 P P **09 22 13.8 -1.7**
comp=Z,8.4nm,0.8s,mb4.8,baz=52,slow=4.8,SNR=11
YBH Yreka Blue Hor 48.56 320 P P **09 22 13.8 -1.7**
YBH LR LR
comp=Z,1µm,20.0s,MS4.9
KHMM Horse Mountain 48.77 319 eP P **09 22 17.8 +0.6**
FFC Flin Flon 48.98 345 P P **09 22 18.6 -0.2**
comp=Z,133nm,1.2s,mb5.8,SNR=10
FFC Flin Flon 48.98 345 eP P **09 22 17.8 -1.0**
FFC pmax pmax
comp=Z,65nm,1.5s,mb5.4
FFC MLR MLR
comp=Z,962nm,21.0s,MS4.8
FFC Flin Flon 48.98 345 eP P **09 22 17.8 -1.0**
comp=Z,65nm,1.5s,mb5.4
FFC LR LR
comp=Z,962nm,21.0s,MS4.8
HUMO Hull Mountain 49.18 321 PFAKE 09 22 30.0 +10
HUMO LR LR
comp=Z,1µm,22.0s,MS4.9
NEW Newport 49.40 330 P P **09 22 20.4 -1.6**
comp=Z,13nm,1.0s,mb4.9,baz=20,slow=1.0,SNR=8.2
NEW Newport 49.40 330 eP P **09 22 20.2 -1.8**
NEW pmax pmax
comp=Z,22nm,1.1s
NEW MLR MLR
comp=Z,1µm,20.0s
NEW Newport 49.40 330 eP P **09 22 20.2 -1.7**
comp=Z,22nm,1.1s,mb5.1
NEW LR LR
comp=Z,1µm,20.0s,MS4.9
HAWA Hanford 49.41 327 PFAKE 09 22 30.0 +7.9
HAWA LR LR
comp=Z,67nm,19.0s
TRQA Tornquist 49.86 158 eP P **09 22 25.9 +0.5**
comp=Z,252nm,2.0s,mb5.9
TRQA LR LR
comp=Z,1µm,19.0s,MS4.8
PLCA Paso Flores 49.86 168 eP P **09 22 25.6 +0.1**
PLCA e 09 23 45.8
PLCA pmax pmax
comp=Z,53nm,1.2s
PLCA Paso Flores 49.86 168 eP P **09 22 25.6 +0.2**
comp=Z,53nm,1.2s,mb5.4
PLCA ePcP PcP 09 23 45.8 -0.1
COR Corvallis 50.48 323 PFAKE 09 22 40.0 +10
COR LR LR
comp=Z,1µm,20.0s,MS4.9
FCC Fort Churchill 51.32 353 eP P **09 22 35.4 -1.1**
FCC e 09 24 33.5
FCC pmax pmax
comp=Z,211nm,1.7s,mb5.8
FCC Fort Churchill 51.32 353 eP P **09 22 35.4 -1.1**
comp=Z,211nm,1.7s,mb5.8
FCC ePP PP 09 24 33.5 +0.1
EDM Edmonton 51.35 337 eP P **09 22 34.3 -2.4**
EDM e 09 23 55.3
EDM e 09 24 37.3
EDM Edmonton 51.35 337 eP P **09 22 34.3 -2.5**
EDM ePcP PcP 09 23 55.3 +3.9
EDM ePP PP 09 24 37.3 +3.6
EDM eScP ScP 09 27 27.2 -21
OCWA Octopus Mounta 52.76 326 PFAKE 09 23 00.0 +13
OCWA LR LR
comp=Z,1µm,20.0s,MS5.0
FRB Frobisher Bay 56.55 8 P P **09 23 11.5 -3.3**
comp=Z,19nm,0.8s,mb5.2,baz=175,slow=6.1,SNR=8.2
YKA Yellowknife Ar 59.04 343 P P **09 23 30.1 -2.1**
comp=Z,11nm,0.9s,mb4.9,baz=141,slow=6.3,SNR=43
YKA LR LR 09 52 16.4
comp=Z,2µm,19.8s,MS5.2,baz=120,slow=39
YKA Yellowknife Ar 59.04 343 P P **09 23 30.1 -2.1**
YKA LR LR 09 52 16.4
YKW3 Yellowknife Ar 59.10 344 eP P **09 23 31.7 -0.9**
TAOE Nuku Hiva Isla 59.42 255 eS S **09 31 38.1 -5.9**
comp=Z,2µm,24.8s
TAOE eLQ 09 38 40.5
TAOE eLR LR 09 41 05.9
comp=Z,4µm,26.7s
RKT Rikitea 59.57 237 eS S **09 31 39.6 -6.2**
comp=Z,3µm,28.0s
RKT eSS SS 09 35 33.9 -7.2
comp=Z,459nm,29.5s
RKT eLR LR 09 41 05.1
comp=Z,8µm,27.5s,baz=55
DLBC Dease Lake 61.78 334 eP P **09 23 50.7 -0.3**
DLBC e 09 23 59.7
SIT Sitka 63.47 331 PFAKE 09 24 10.0 +7.7
SIT LR LR
comp=Z,2µm,20.0s,MS5.3
RES Resolute Bay 66.95 357 eP P **09 24 22.0 -2.9**
RES pmax pmax
comp=Z,14nm,0.8s,mb5.0
RES Resolute Bay 66.95 357 eP P **09 24 22.0 -2.8**
comp=Z,14nm,0.8s,mb5.0
EFAM Famara 68.15 62 P P **09 24 33.8 +1.4**
comp=Z,112nm,1.5s,mb5.7
DAWY Dawson 68.56 337 eP P **09 24 33.7 -1.3**
DAWY e 09 24 40.5
INK Inuvik 68.73 342 eP P **09 24 34.6 -1.4**
INK e 09 24 41.7
INK e 09 27 10.0
INK pmax pmax
comp=Z,101nm,1.4s
INK Inuvik 68.73 342 eP P **09 24 34.6 -1.4**
comp=Z,101nm,1.4s,mb5.6
INK e 09 24 41.7
INK ePP PP 09 27 10.0 +2.3
SUMG Summit 69.79 13 eP P **09 24 40.4 -2.2**
comp=Z,63nm,1.0s,mb5.5
MENT Mentasta 69.84 335 eP P **09 24 42.8 -0.1**
ASCN Ascension 70.17 101 PFAKE 09 25 00.0 +15
ASCN LR LR
comp=Z,958nm,19.0s,MS5.1
PPT Papeete 70.56 248 eS S 09 33 54.8 -6.1
comp=Z,625nm,26.0s
PPT eLR LR 09 46 11.3
comp=Z,2µm,27.8s,baz=65
PPT Papeete 70.56 248 LR LR 09 46 56.4
comp=Z,810nm,19.9s,MS5.0,baz=87,slow=28
BORG Borgarnes 70.88 24 PFAKE 09 25 00.0 +11
BORG LR LR
comp=Z,2µm,19.0s,MS5.4
PMR Palmer 71.75 333 eP P **09 24 53.8 -0.7**
PMR pmax pmax
comp=Z,39nm,1.4s,mb5.1
PMR Palmer 71.75 333 eP P **09 24 53.8 -0.7**
comp=Z,39nm,1.4s,mb5.2
ILAR Eielson Array 71.82 336 P P **09 24 53.9 -1.1**
comp=Z,9.7nm,1.1s,mb4.6,baz=112,slow=4.7,SNR=44
ILAR PP PP 09 27 33.2 -1.1
comp=Z,1.9nm,0.9s,baz=104,slow=5.6,SNR=5.1
ILAR LR LR 10 01 09.2
comp=Z,657nm,18.5s,MS4.9,baz=123,slow=40
ILAR Eielson Array 71.82 336 P P **09 24 53.9 -1.1**
ILAR 09 27 33.3
SLKM Skilak Lake 71.94 331 eP P **09 24 54.9 -0.8**
TBI Tubuai 72.08 242 eS S 09 34 11.8 -6.6
comp=Z,2µm,29.0s
TBI eLR LR 09 46 52.7
comp=Z,1µm,25.5s,baz=72
COLA College 72.24 336‖ eP P **09 24 56.5 -1.0**
COLA College 72.24 336 eP P **09 24 56.5 -1.0**
comp=Z,45nm,1.5s,mb5.2
COLA LR LR
comp=Z,610nm,21.0s,MS4.8
PTEO Sao Teotonio 72.63 53 eP P **09 25 00.3 +0.5**
comp=Z,38nm,2.1s,mb5.0
EMAZ Mazaricos 72.82 48 P P **09 25 04.3 +3.4**
comp=Z,66nm,1.6s,mb5.3
EZAM Zamans 72.96 48 P P **09 25 03.3 +1.5**
EZAM pmax pmax
comp=Z,17nm,0.7s,mb5.1
EZAM Zamans 72.96 48 P P **09 25 03.3 +1.5**
comp=Z,17nm,0.7s,mb5.1
STS Santiago 73.13 48 P P **09 25 04.9 +2.1**
STS pmax pmax
comp=Z,38nm,1.4s,mb5.1
STS Santiago 73.13 48 P P **09 25 04.9 +2.1**
comp=Z,38nm,1.4s,mb5.1
PBEJ Beja 73.33 53 eP P **09 25 04.6 +0.6**
comp=Z,39nm,2.0s,mb5.0
PCAB Cabril 73.43 49 eP P **09 25 05.1 +0.6**
comp=Z,35nm,1.3s,mb5.1
PVIS Viseu 73.46 50 eP P **09 25 04.1 -0.6**
comp=Z,16nm,1.1s,mb4.8
EGRO El Granado 73.61 53 P P **09 25 05.4 -0.2**
comp=Z,84nm,1.7s,mb5.4
PVRL Vila Real 73.63 49 eP P **09 25 06.1 +0.4**
comp=Z,27nm,1.4s,mb5.0
MTE Manteigas 73.71 50 eP P **09 25 07.2 +1.0**
comp=Z,26nm,1.5s,mb4.9
MTE eS S 09 34 21.7 -15
MTE Manteigas 73.71 50 eLR LR 09 47 41.5
comp=Z,1µm,22.0s
PCBR Castelo Branco 73.73 51 eP P **09 25 05.2 -1.1**
comp=Z,7.7nm,1.3s,mb4.5
EBAD Badajoz 74.04 52 P P **09 25 08.5 +0.4**
comp=Z,8.4nm,1.3s,mb4.5
EPON Pontenova 74.19 47 P P **09 25 10.3 +1.3**
comp=Z,42nm,1.6s,mb5.1
EMIN Mina Concepcio 74.27 53 P P **09 25 09.7 +0.3**
comp=Z,12nm,1.2s,mb4.7
PBRG Braganca 74.39 49 eP P **09 25 09.1 -1.1**
comp=Z,12nm,1.0s,mb4.8
ECAL Calabor 74.40 49 P P **09 25 11.8 +1.6**
comp=Z,17nm,1.1s,mb4.9
SVW2 Sparrevohn 74.63 331 eP P **09 25 10.3 -1.3**
ESPR Espera 74.89 54 P P **09 25 16.2 +3.1**
comp=Z,14nm,1.1s,mb4.8
EJIF Jimena Fronter 75.19 54 P P **09 25 16.3 +1.5**
EJIF pmax pmax
comp=Z,22nm,1.2s,mb5.0
EJIF Jimena Fronter 75.19 54 P P **09 25 16.3 +1.5**
comp=Z,22nm,1.2s,mb5.0
TTA Tatalina 75.20 333 eP P **09 25 13.5 -1.3**
EARI Arriondas 75.60 47 P P **09 25 17.3 +0.2**
comp=Z,33nm,1.6s,mb5.0
EMIJ Mijas 75.76 54 P P **09 25 20.0 +2.0**
comp=Z,6.3nm,0.9s,mb4.5
EADA Adamuz 75.93 53 P P **09 25 20.0 +0.9**
comp=Z,60nm,1.7s,mb5.2
ELOJ Sierra Loja 76.26 54 P P **09 25 21.2 +0.3**
ELOJ pmax pmax
comp=Z,45nm,1.3s,mb5.2
ELOJ Sierra Loja 76.26 54 P P **09 25 21.1 +0.2**
comp=Z,45nm,1.3s,mb5.2
GUD Guadarrama 76.30 50 P P **09 25 21.7 +0.5**
GUD pmax pmax
comp=Z,13nm,1.1s,mb4.8
GUD Guadarrama 76.30 50 P P **09 25 21.7 +0.5**
comp=Z,13nm,1.1s,mb4.8
ESDC Sonseca Array 76.43 51 P P **09 25 22.0 +0.1**
comp=Z,13nm,1.0s,mb4.8,baz=275,slow=5.2,SNR=24
ESDC Sonseca Array 76.43 51 P P **09 25 21.7 -0.2**
comp=Z,55nm,1.4s,mb5.3
ESLA Sonseca Array 76.43 51 eP P **09 25 22.6 +0.7**
comp=Z,17nm,1.4s,mb4.8
ESLA ePcP PcP 09 25 34.5 +0.9
ESLA LR LR
comp=Z,6µm,20.0s,MS5.9
ESBB Sonseca Array 76.43 51 P P **09 25 21.7 -0.2**
comp=Z,55nm,1.4s,mb5.3
DAG Danmarks Havn 76.45 12⇑*iP* P **09 25 19.3 -2.7**
comp=Z,5.2nm,0.8s,mb4.5
DAG Danmarks Havn 76.45 12⇑*iP* P **09 25 19.3 -2.7**
DAG pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
EBAN Banos Encina 76.56 53 P P **09 25 24.2 +1.6**
EBAN pmax pmax
comp=Z,35nm,1.4s,mb5.1
EBAN Banos Encina 76.56 53 P P **09 25 24.2 +1.6**
comp=Z,35nm,1.4s,mb5.1
ECOG Cogollos-Vega 76.73 54 P P **09 25 24.6 +1.0**
ECOG pmax pmax
comp=Z,13nm,0.9s,mb4.9
ECOG Cogollos-Vega 76.73 54 P P **09 25 24.6 +1.1**
comp=Z,13nm,0.9s,mb4.9
ELAN Lanestosa 76.89 48 P P **09 25 25.9 +1.4**
comp=Z,32nm,1.3s,mb5.1
EQES Quesada 77.12 53 P P **09 25 26.8 +1.0**
comp=Z,56nm,1.4s,mb5.3
LIC Lamto 77.22 85 eP P **09 25 26.0 -0.3**
comp=Z,84nm,0.9s,mb5.4
LIC eR
comp=Z,712nm,22.8s
LIC Lamto 77.22 85 eP P **09 25 26.0 -0.3**
comp=Z,42nm,0.9s,mb5.4
LIC LR LR
comp=Z,360nm,22.8s,MS4.6
DBIC Dimbokro 77.33 85 P P **09 25 27.8 +0.8**
comp=Z,25nm,0.9s,mb5.1,baz=265,slow=6.2,SNR=16
DBIC LR LR 09 56 56.3
comp=Z,505nm,21.4s,MS4.8,baz=234,slow=34
DBIC Dimbokro 77.33 85 eP P **09 25 27.3 +0.3**
DBIC pmax pmax
comp=Z,46nm,1.1s
DBIC MLR MLR
comp=Z,470nm,20.0s
DBIC Dimbokro 77.33 85 eP P **09 25 27.3 +0.3**
comp=Z,46nm,1.1s,mb5.3
DBIC LR LR
comp=Z,470nm,20.0s,MS4.8
EHUE Huescar 77.50 53 P P **09 25 28.8 +0.9**
EHUE pmax pmax
comp=Z,107nm,1.6s,mb5.5
EHUE Huescar 77.50 53 P P **09 25 28.8 +0.9**
comp=Z,107nm,1.6s,mb5.5
ESK Eskdalemuir 77.58 35 PFAKE 09 25 40.0 +12
ESK LR LR
comp=Z,976nm,19.0s,MS5.2
ENIJ Nijar 77.82 54 P P **09 25 31.2 +1.5**
ENIJ pmax pmax
comp=Z,15nm,1.0s,mb4.9
ENIJ Nijar 77.82 54 P P **09 25 31.2 +1.6**
comp=Z,15nm,1.0s,mb4.9
ELIZ Elizondo 78.28 48 P P **09 25 33.6 +1.3**
ELIZ pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
ELIZ Elizondo 78.28 48 P P **09 25 33.6 +1.3**
comp=Z,9.2nm,1.2s,mb4.6
EALK Alkurruntz 78.30 48 P P **09 25 32.3 -0.1**
comp=Z,8.8nm,1.0s,mb4.6
ETOB Tobarra 78.31 52 P P **09 25 34.1 +1.7**
comp=Z,41nm,1.5s,mb5.1
SJPF Ste Jean 78.51 48 eP P **09 25 32.9 -0.6**
comp=Z,68nm,1.3s,mb5.1
SJPF Ste Jean 78.51 48 eP P **09 25 32.9 -0.6**

SJPF pmax pmax
comp=Z,34nm,1.3s,mb5.1
SJPF Ste Jean 78.51 48 *e*P **P 09 25 32.9 -0.6**
comp=Z,34nm,1.3s,mb5.1
ECHE Chera 78.74 51 P **P 09 25 35.5 +0.7**
ECHE pmax pmax
comp=Z,11nm,1.2s,mb4.7
ECHE Chera 78.74 51 P **P 09 25 35.5 +0.7**
comp=Z,11nm,1.2s,mb4.7
GRR Gorron 78.78 42 *e*P **P 09 25 33.3 -1.7**
comp=Z,174nm,1.7s,mb5.4
GRR Gorron 78.78 42 *e*P **P 09 25 33.3 -1.7**
GRR pmax pmax
comp=Z,87nm,1.7s,mb5.4
GRR Gorron 78.78 42 *e*P **P 09 25 33.3 -1.7**
comp=Z,87nm,1.7s,mb5.4
ETSF Etsaut 79.00 48 *e*P **P 09 25 35.7 -0.5**
comp=Z,28nm,1.2s,mb4.8
ETSF Etsaut 79.00 48 *e*P **P 09 25 35.7 -0.5**
ETSF pmax pmax
comp=Z,14nm,1.2s,mb4.8
ETSF Etsaut 79.00 48 *e*P **P 09 25 35.7 -0.5**
comp=Z,14nm,1.2s,mb4.8
FLN La Foliniere 79.03 42 *e*P **P 09 25 34.8 -1.6**
comp=Z,41nm,1.1s,mb5.0
FLN *e*R
comp=Z,2µm,21.2s
FLN La Foliniere 79.03 42 *e*P **P 09 25 34.8 -1.6**
FLN pmax pmax
comp=Z,20nm,1.1s,mb5.0
FLN MLR MLR
comp=Z,2µm,21.3s,MS5.5
FLN La Foliniere 79.03 42 *e*P **P 09 25 34.8 -1.6**
comp=Z,20nm,1.1s,mb5.0
FLN LR LR
comp=Z,2µm,21.3s,MS5.5
ESAC San Caprasio 79.08 49 P **P 09 25 36.6 -0.1**
comp=Z,17nm,0.8s,mb5.9
MFF Saint Martin d 79.26 44 *e*P **P 09 25 36.2 -1.4**
comp=Z,68nm,1.5s,mb5.1
MFF Saint Martin d 79.26 44 *e*P **P 09 25 36.2 -1.4**
MFF pmax pmax
comp=Z,34nm,1.5s,mb5.1
MFF Saint Martin d 79.26 44 *e*P **P 09 25 36.2 -1.4**
comp=Z,34nm,1.5s,mb5.0
LDF La Druitiere 79.27 42 *e*P **P 09 25 36.0 -1.7**
comp=Z,198nm,1.7s,mb5.3
LDF La Druitiere 79.27 42 *e*P **P 09 25 36.0 -1.7**
LDF pmax pmax
comp=Z,69nm,1.7s,mb5.3
LDF La Druitiere 79.27 42 *e*P **P 09 25 36.0 -1.7**
comp=Z,69nm,1.7s,mb5.3
EBIE Bielsa 79.52 48 P **P 09 25 39.1 +0.1**
comp=Z,5.9nm,0.9s,mb4.5
EPF Esparros 79.66 48 *e*P **P 09 25 39.1 -0.7**
comp=Z,46nm,1.2s,mb5.0
EPF Esparros 79.66 48 *e*P **P 09 25 39.1 -0.7**
EPF pmax pmax
comp=Z,23nm,1.2s,mb5.0
EPF Esparros 79.66 48 *e*P **P 09 25 39.1 -0.7**
comp=Z,23nm,1.2s,mb5.0
EGRA Graus 79.66 49 P **P 09 25 39.6 -0.2**
LFF La Frestale 79.90 46 *e*P **P 09 25 39.8 -1.3**
comp=Z,26nm,1.0s,mb4.8
LFF La Frestale 79.90 46 *e*P **P 09 25 39.8 -1.3**
LFF pmax pmax
comp=Z,13nm,1.0s,mb4.8
LFF La Frestale 79.90 46 *e*P **P 09 25 39.8 -1.3**
comp=Z,13nm,1.0s,mb4.8
RJF Les Rejaudoux 80.44 45 *e*P **P 09 25 42.6 -1.4**
comp=Z,116nm,1.8s,mb5.2
RJF *e*R
comp=Z,1µm,20.8s
RJF Les Rejaudoux 80.44 45 *e*P **P 09 25 42.6 -1.4**
RJF pmax pmax
comp=Z,58nm,1.8s,mb5.2
RJF MLR MLR
comp=Z,1µm,20.8s,MS5.3
RJF Les Rejaudoux 80.44 45 *e*P **P 09 25 42.6 -1.4**
comp=Z,58nm,1.8s,mb5.2
RJF LR LR
comp=Z,1µm,20.8s,MS5.3
CAF Calviac 80.84 46 *e*P **P 09 25 44.8 -1.4**
comp=Z,46nm,1.5s,mb4.9
CAF Calviac 80.84 46 *e*P **P 09 25 44.8 -1.4**
CAF pmax pmax
comp=Z,23nm,1.5s,mb4.9
CAF Calviac 80.84 46 *e*P **P 09 25 44.8 -1.4**
comp=Z,23nm,1.5s,mb4.9
TCF Toulx Ste Croi 80.89 44 *e*P **P 09 25 44.7 -1.8**
comp=Z,48nm,1.5s,mb4.9
TCF Toulx Ste Croi 80.89 44 *e*P **P 09 25 44.7 -1.8**
TCF pmax pmax
comp=Z,24nm,1.5s,mb4.9
TCF Toulx Ste Croi 80.89 44 *e*P **P 09 25 44.7 -1.8**
comp=Z,24nm,1.5s,mb4.9
MTLF Montolieu 81.02 47 *e*P **P 09 25 46.0 -1.1**
comp=Z,64nm,1.6s,mb5.0
MTLF Montolieu 81.02 47 *e*P **P 09 25 46.0 -1.1**
MTLF pmax pmax
comp=Z,32nm,1.6s,mb5.0
MTLF Montolieu 81.02 47 *e*P **P 09 25 46.0 -1.1**
comp=Z,32nm,1.6s,mb5.0
BGF Bois d'Agland 81.32 44 *e*P **P 09 25 47.0 -1.7**
AVF Avril sur Loir 81.66 44 *e*P **P 09 25 48.2 -2.3**
comp=Z,51nm,1.6s,mb4.9
AVF Avril sur Loir 81.66 44 *e*P **P 09 25 48.2 -2.3**
AVF pmax pmax
comp=Z,26nm,1.6s,mb4.9
AVF Avril sur Loir 81.66 44 *e*P **P 09 25 48.2 -2.3**
comp=Z,26nm,1.6s,mb4.9
SSF Saint Saulge 81.75 44 *e*P **P 09 25 48.7 -2.3**
comp=Z,20nm,1.3s,mb4.6
SSF Saint Saulge 81.75 44 *e*P **P 09 25 48.7 -2.3**
SSF pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
SSF Saint Saulge 81.75 44 *e*P **P 09 25 48.7 -2.3**
comp=Z,10nm,1.3s,mb4.6
LOR Lormes 81.98 43 *e*P **P 09 25 50.1 -2.1**
LOR *e*R
comp=Z,2µm,20.5s
LOR Lormes 81.98 43 *e*P **P 09 25 50.1 -2.1**
LOR LR LR
comp=Z,2µm,20.5s,MS5.4
SMF Signal de Mont 82.00 44 *e*P **P 09 25 51.0 -1.3**
LASF Ste Croix 82.17 47 *e*P **P 09 25 52.3 -0.9**
comp=Z,36nm,1.3s,mb4.8
VIVF Saint-Julien-l 82.70 46 *e*P **P 09 25 55.2 -0.8**
comp=Z,45nm,1.3s,mb5.0
VIVF Saint-Julien-l 82.70 46 *e*P **P 09 25 55.2 -0.8**
VIVF pmax pmax
comp=Z,23nm,1.3s,mb5.0
VIVF Saint-Julien-l 82.70 46 *e*P **P 09 25 55.2 -0.8**
comp=Z,22nm,1.3s,mb5.0
MEZF Maizieres J'vi 82.71 42 *e*P **P 09 25 54.3 -1.7**
TORD Torodi Ar. Bea 83.01 78 P **P 09 25 57.1 -0.5**
comp=Z,9.7nm,1.1s,mb4.8,baz=285,slow=5.2,SNR=38
TORD PKKPbc PKKPbc 09 44 20.1 +0.6
comp=Z,0.8nm,1.0s,baz=33,slow=2.0,SNR=4.7
KBS Kingsbay 83.10 11 PFAKE 09 26 10.0 +12
KBS LR LR
comp=Z,1µm,19.0s,MS5.3
SMRF Simiane la Rot 83.41 47 *e*P **P 09 25 57.9 -1.8**
comp=Z,56nm,1.4s,mb5.1
SMRF Simiane la Rot 83.41 47 *e*P **P 09 25 57.9 -1.8**
comp=Z,56nm,1.4s,mb5.4
ORIF Oris-en-Rattie 83.55 46 *e*P **P 09 25 59.8 -0.6**
comp=Z,27nm,1.2s,mb5.0
ORIF *e*R
comp=Z,1µm,22.0s
ORIF Oris-en-Rattie 83.55 46 *e*P **P 09 25 59.8 -0.6**
ORIF pmax pmax
comp=Z,13nm,1.2s,mb4.9
ORIF Oris-en-Rattie 83.55 46 *e*P **P 09 25 59.8 -0.6**
comp=Z,13nm,1.2s,mb5.0
CABF La Chapelle 83.55 44 *e*P **P 09 25 58.8 -1.6**
comp=Z,33nm,1.2s,mb5.0
CABF La Chapelle 83.55 44 *e*P **P 09 25 58.8 -1.6**
CABF pmax pmax
comp=Z,17nm,1.2s,mb5.0
CABF La Chapelle 83.55 44 *e*P **P 09 25 58.8 -1.6**
comp=Z,16nm,1.2s,mb5.0
HINF Hinteralfeld 83.96 43 *e*P **P 09 26 00.3 -2.2**
LPL La Plagne 84.09 45 *e*P **P 09 26 01.4 -1.8**
LPG La Plagne 84.11 45 *e*P **P 09 26 01.6 -1.6**
comp=Z,18nm,1.2s,mb4.8
LPG La Plagne 84.11 45 *e*P **P 09 26 01.6 -1.6**
LPG pmax pmax
comp=Z,9.0nm,1.2s,mb4.8
LPG La Plagne 84.11 45 *e*P **P 09 26 01.6 -1.6**
comp=Z,8.9nm,1.2s,mb4.8
LMR La Mourre 84.14 47 *e*P **P 09 26 02.1 -1.3**
comp=Z,58nm,1.4s,mb5.2
LMR La Mourre 84.14 47 *e*P **P 09 26 02.1 -1.3**
LMR pmax pmax
comp=Z,29nm,1.4s,mb5.2
LMR La Mourre 84.14 47 *e*P **P 09 26 02.1 -1.3**
comp=Z,29nm,1.4s,mb5.2
CDF Champ du Feu 84.19 42 *e*P **P 09 26 01.9 -1.7**
MBDF Montbardon 84.20 46 *e*P **P 09 26 01.6 -2.1**
FRF La Foret Royal 84.22 47 *e*P **P 09 26 01.5 -2.3**
comp=Z,17nm,1.1s,mb4.8
FRF La Foret Royal 84.22 47 *e*P **P 09 26 01.5 -2.3**
FRF pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
FRF La Foret Royal 84.22 47 *e*P **P 09 26 01.5 -2.3**
comp=Z,8.6nm,1.1s,mb4.8
KONO Kongsberg 84.40 31 PFAKE 09 26 20.0 +15
KONO LR LR
comp=Z,861nm,19.0s,MS5.2
NAO01 NORSAR Array S 84.90 29 PFAKE 09 26 20.0 +13
NAO01 LR LR
comp=Z,1µm,19.0s,MS5.3
NB2 NORSAR Subarra 85.03 29 P **P 09 26 06.2 -1.7**
comp=Z,2.7nm,0.9s,mb4.4,baz=278,slow=5.1
NOA NORSAR Array B 85.03 29 P **P 09 26 06.9 -1.0**
comp=Z,5.6nm,1.0s,mb4.6,baz=277,slow=4.7,SNR=8.2
NOA LR LR 10 01 44.1
comp=Z,639nm,20.4s,MS5.0,baz=285,slow=34
PGF Pioggiola 86.05 48 *e*P **P 09 26 11.5 -1.5**
comp=Z,104nm,1.4s,mb5.6
PGF Pioggiola 86.05 48 *e*P **P 09 26 11.5 -1.5**
PGF pmax pmax
comp=Z,52nm,1.4s,mb5.6
PGF Pioggiola 86.05 48 *e*P **P 09 26 11.5 -1.5**
comp=Z,52nm,1.4s,mb5.6
DAVA Damuels 86.06 43⇑ *i*P **P 09 26 12.8 -0.2**
comp=Z,228nm,3.3s
GRA1 Grafenberg Arr 86.61 40 *e*P **P 09 26 15.1 -0.6**
comp=Z,17nm,1.3s,mb5.1
GRA1 LR LR
comp=Z,2µm,21.2s,MS5.5
GRF Grafenberg Arr 86.61 40 *e*P **P 09 26 15.1 -0.6**
comp=Z,17nm,1.3s,mb5.1
GRF *e*L 09 59 40.9
comp=Z,2µm,21.2s
GRF Grafenberg Arr 86.61 40 *e*P **P 09 26 15.1 -0.6**
GRF pmax pmax
comp=Z,17nm,1.3s,mb5.1
GRF MLR MLR
comp=Z,2µm,21.2s,MS5.5
GRF Grafenberg Arr 86.61 40 *e*P **P 09 26 15.1 -0.6**
GRF pmax pmax
comp=Z,17nm,1.3s,mb5.1
GRF MLR MLR
comp=Z,2µm,21.2s,MS5.5
MOX Moxa 86.72 39 *e*P **P 09 26 17.0 +0.7**
comp=Z,37nm,1.9s,mb5.3
MOX Moxa 86.72 39 *e*P **P 09 26 17.0 +0.7**
MOX pmax pmax
comp=Z,37nm,1.9s,mb5.3
WTTA Wattenberg 87.25 43⇑ *i*P **P 09 26 18.3 -0.6**
comp=Z,175nm,3.4s
WTTA Wattenberg 87.25 43⇑ *i*P **P 09 26 18.3 -0.5**
WTTA pmax pmax
comp=Z,175nm,3.4s
NKC Novy Kostel 87.31 40 *e*P **P 09 26 19.8 +0.6**
CLL Collm 87.48 39 *e*P **P 09 26 19.1 -0.9**
comp=Z,32nm,1.5s,mb5.3
CLL *e*PP PP 09 29 56.3 +12
CLL *e*SKSac SKSac 09 36 49.5 +1.7
CLL *e*S 09 37 04.0
CLL *e*PS 09 38 03.8
CLL *e*SS SS 09 42 59.1 +13
CLL *e*LR LR 09 54 07.9
CLL *e*L 10 03 17.2
comp=Z,985nm,20.0s
CLL Collm 87.48 39⇓ *i*P **P 09 26 20.3 +0.3**
comp=Z,31nm,1.5s,mb5.3
CLL *i* pP pP 09 26 22.5 -0.8
CLL *e*sP sP 09 26 23.0 -1.5
CLL *e*SKSac SKSac 09 36 50.0 +2.2
CLL *e*PS 09 37 57.0
CLL *e*SS SS 09 42 59.0 +13
CLL *ex* x 09 50 33.0
CLL Lm 10 02 00.0
comp=N,500nm,18.7s
CLL Lm 10 02 00.0
comp=E,600nm,18.2s
CLL Lm 10 02 00.0
comp=Z,1µm,19.3s
CLL Collm 87.48 39⇓ *i*P **P 09 26 20.3 +0.3**
CLL *e* 09 36 50.0
CLL pmax pmax
comp=Z,31nm,1.5s,mb5.3
CLL MLR MLR
comp=Z,1µm,19.3s,MS5.2
CLL Collm 87.48 39⇓ *i*P **P 09 26 20.3 +0.3**
comp=Z,31nm,1.5s,mb5.3
CLL *i* pP pP 09 26 22.5 -0.8
CLL *e*SKS 09 36 50.0
CLL LR LR
comp=Z,1µm,19.3s,MS5.2
BRG Berggiesshubel 88.14 39 *e*P **P 09 26 22.3 -0.8**
comp=Z,13nm,1.5s,mb4.9
BRG *i* pP 09 26 27.0 +0.6
comp=Z,15nm,1.5s
BRG
comp=N,461nm,19.2s
BRG
comp=E,531nm,20.7s
BRG
comp=Z,686nm,19.1s
BRG Berggiesshubel 88.14 39 *e*P **P 09 26 22.3 -0.8**
BRG *i* pP 09 26 27.0 +0.5
BRG pmax pmax
comp=Z,13nm,1.5s,mb4.9
BRG pmax pmax
comp=Z,15nm,1.5s,mb5.0
BRG MLR MLR
comp=N,461nm,19.2s,MS5.1
BRG MLR MLR
comp=E,531nm,20.7s,MS5.1
BRG MLR MLR
comp=Z,686nm,19.1s,MS5.1
KHC Kasperske Hory 88.22 41 *e*P **P 09 26 22.8 -0.7**
KHC AMS AMS 10 00 00.0
comp=Z,2µm,21.6s
KHC Kasperske Hory 88.22 41⇓ *i*P **P 09 26 23.6 +0.1**
GERES GERESS Array B 88.35 41 P **P 09 26 23.1 -1.0**
comp=Z,2.8nm,0.9s,mb4.5,baz=264,slow=1.3,SNR=14
GERES PKKPbc PKKPbc 09 44 09.0 +2.2
comp=Z,0.4nm,0.8s,baz=106,slow=2.9,SNR=4.8
GERES LR LR 10 00 51.7
comp=Z,1µm,20.8s,MS5.4,baz=266,slow=32
KBA Koelnbreinsper 88.43 43⇑ *i*P **P 09 26 24.8 +0.3**
comp=Z,127nm,2.7s,mb5.7
KBA Koelnbreinsper 88.43 43⇑ *i*P **P 09 26 24.8 +0.3**
KBA pmax pmax
comp=Z,127nm,2.7s,mb5.7
PRU Pruhonice 88.68 40 *e*P **P 09 26 25.9 +0.2**
PRU AMS AMS 10 01 10.0
comp=Z,2µm,20.0s
CADS Cadrg 88.84 44 *e*P **P 09 26 26.3 -0.2**
ARCES ARCESS Array B 88.86 19 P **P 09 26 24.9 -1.5**
comp=Z,5.7nm,0.9s,mb4.9,baz=284,slow=4.9,SNR=9.0
ARCES LR LR 10 07 34.5
comp=Z,568nm,18.5s,MS5.0,baz=293,slow=36
MOA Molln 88.90 42⇑ *i*P **P 09 26 25.9 -0.9**
comp=Z,138nm,3.4s
KEV Kevo 89.27 19 PFAKE 09 26 40.0 +12
KEV LR LR
comp=Z,607nm,20.0s,MS5.0
CEY Cerknica 89.41 44 *e*P **P 09 26 28.7 -0.4**
LJU Ljubljana 89.42 44 *e*P **P 09 26 28.7 -0.4**
TREC Trest 89.42 40 *e*P **P 09 26 29.6 +0.5**
UPC Upice 89.50 39 *e*P **P 09 26 29.0 -0.5**
KSP Ksiaz 89.61 39⇑ *e*P **P 09 26 29.6 -0.4**
KSP *e*SS SS 09 43 25.0 +7.9
KSP LR LR
comp=Z,2µm,21.4s,MS5.4
DPC Dobruska-Polom 89.73 39 *e*P **P 09 26 30.1 -0.5**
BILL Bilibino 90.20 339⇑ *e*P **P 09 26 32.1 -0.7**
BILL MLR MLR
comp=Z,959nm,19.0s,MS5.2
MORC Moravsky Berou 90.62 40 *e*P **P 09 26 35.2 +0.4**
MORC pmax pmax
comp=Z,38nm,1.9s,mb5.4
MORC Moravsky Berou 90.62 40 *e*P **P 09 26 35.2 +0.5**
comp=Z,38nm,1.9s,mb5.4
ZST Bratislava 90.70 41 *e*P **P 09 26 32.9 -2.2**
ZST pmax pmax
comp=Z,52nm,2.2s,mb5.5
OKC Ostrava-Krasne 90.99 39 *e*P **P 09 26 37.5 +1.0**
OKC AMS AMS 10 02 20.0
comp=Z,2µm,18.7s
VYHS Vyhne 91.75 41 *e*P **P 09 26 40.0 0.0**
VYHS pmax pmax
comp=Z,15nm,1.8s,mb5.0
FINES FINESS Array B 91.90 27 P **P 09 26 38.5 -2.2**
comp=Z,5.5nm,1.1s,mb4.8,baz=214,slow=9.2,SNR=6.1
FINES LR LR 10 02 03.4
comp=Z,685nm,21.8s,MS5.1,baz=354,slow=32
FINES FINESS Array B 91.90 27 P **P 09 26 38.5 -2.2**
FINES LR LR 10 02 03.4
OJC Ojcow 91.93 39 *e*P **P 09 26 41.7 +0.9**
VNA3 Neumayer Olymp 92.25 162⇑ *i*P **P 09 26 41.8 -0.5**
VNA3 *e* 09 26 42.7
VNA3 *e* pP 09 26 45.3 -0.4
VNA3 *e* pP 09 26 46.7 +1.0
VNA3 *e* 09 26 50.9
VNA3 *e* 09 26 56.4
APA Apatity 92.31 20⇑ *e*P **P 09 26 38.0 -4.6**
APA *e* 09 30 24.0
APA *e*S 09 37 38.0
APA *e*SS SS 09 43 50.0 -6.0
APA MLR MLR
comp=Z,600nm,18.0s,MS5.1
VNA1 Neumayer--Stat 92.51 161⇑ *i*P **P 09 26 43.5 0.0**
VNA1 *e* 09 26 44.3
VNA1 *e* pP 09 26 47.0 +0.1
VNA1 *e* pP 09 26 48.1 +1.2
VNA1 *e* 09 26 52.0
VNA1 *e* 09 26 57.4
LVZ Lovozero 92.57 20 PFAKE 09 26 50.0 +6.2
LVZ LR LR
comp=Z,731nm,19.0s,MS5.2
PSZ Piszkesteto 92.58 41 *e*P **P 09 26 44.7 +0.9**
PSZ pmax pmax
comp=Z,40nm,1.8s,mb5.5
PSZ Piszkesteto 92.58 41 *e*P **P 09 26 44.7 +0.8**
comp=Z,40nm,1.8s,mb5.5
KECS Kecovo 92.82 40 *e*P **P 09 26 43.8 -1.1**
KECS pmax pmax
comp=Z,4.0nm,1.4s,mb4.7
VNA2 Neumayer--Watz 92.87 161⇑ *i*P **P 09 26 44.5 -0.6**
VNA2 *e* 09 26 45.3
VNA2 *e* pP 09 26 47.7 -0.8
VNA2 *e* pP 09 26 49.2 +0.7
VNA2 *e* 09 26 53.2
VNA2 *e* 09 26 59.5
STHS Stebnicka Huta 93.05 39 *e*P **P 09 26 46.2 +0.2**
STHS pmax pmax
comp=Z,3.0nm,1.2s,mb4.6
KOLS Kolonicke sedl 93.83 40 *e*P **P 09 26 56.4 +6.8**
KOLS pmax pmax
comp=Z,15nm,1.5s,mb5.2
SNAA Sanae 94.47 162⇑ *i*P **P 09 26 51.8 -0.7**
SNAA *e* 09 26 52.4
SNAA *e* pP 09 26 55.2 -0.7
SNAA *e* pP 09 26 56.3 +0.4
AKASG Malin Array Be 97.48 36 PKKPbc PKKPbc 09 43 41.6 -1.6
comp=Z,0.4nm,0.3s,baz=76,slow=1.2,SNR=5.8
TIXI Tiksi 97.74 350⇓ *e*P **P 09 27 05.1 -2.3**
KLMR Klimovskoe 97.98 25 *e*P **P 09 27 07.7 -0.8**
KLMR pmax pmax
comp=Z,30nm,1.7s,mb5.5
QSPA South Pole Qui 98.04 180 *e*P **P 09 27 09.2 +0.5**
comp=Z,23nm,1.1s,mb5.6
OBN Obninsk 99.58 30 *be*P **P 09 27 18.7 +3.1**
OBN pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
OBN MLR MLR
comp=Z,700nm,19.0s,MS5.2
OBN Obninsk 99.58 30 PFAKE 09 27 30.0 +14
OBN LR LR
comp=Z,699nm,19.0s,MS5.2
PET Petropavlovsk 100.01 327 PFAKE 09 27 30.0 +12
PET LR LR
comp=Z,508nm,20.0s,MS5.0
SBA Scott Base 102.05 192 PFAKE 09 27 40.0 +13
SBA LR LR
comp=Z,662nm,22.0s,MS5.1
TSUM Tsumeb 102.49 108 PFAKE 09 27 40.0 +11
TSUM LR LR
comp=Z,675nm,20.0s,MS5.2
VNDA Vanda 103.15 192 PFAKE 09 27 40.0 +8.5
VNDA LR LR
comp=Z,807nm,19.0s,MS5.3
ANTO Ankara 104.01 46 PFAKE 09 27 50.0 +15
ANTO LR LR
comp=Z,442nm,20.0s,MS5.0
SNZO South Karori 104.54 229 PFAKE 09 27 50.0 +12
SNZO LR LR
comp=Z,1µm,19.0s,MS5.4
BR131 Keskin Array S 104.66 45 PFAKE 09 27 50.0 +12
BR131 LR LR
comp=Z,300nm,19.0s,MS4.8
BRTR Keskin Array B 104.66 45 PKKPbc PKKPbc 09 43 22.7 +0.2
comp=Z,0.9nm,0.9s,baz=121,slow=4.8,SNR=3.7
KIV Kislovodsk 108.69 38 PFAKE 09 32 10.0 +8.7
KIV LR LR
comp=Z,584nm,21.0s,MS5.1
AKTK Aktyubinsk 112.64 26 PKPdf PKiKP 09 32 07.5 -1.3
AKTO Aktyubinsk 112.64 26 PKiKP PKiKP 09 32 07.5 -1.3
comp=Z,1.3nm,0.8s,baz=286,slow=3.0,SNR=5.1
AKTO Aktyubinsk 112.64 26 *i* PKiKP PKiKP 09 32 07.5 -1.3
AKTO pmax pmax
comp=Z,1.0nm,0.8s
BOD Bodaibo 112.93 350 *e*PKiKP PKiKP 09 32 03.7 -5.7
BOD pmax pmax
comp=Z,11nm,1.9s
BVAR Borovoye Array 115.07 17 PKP PKiKP 09 32 12.3 -1.2
comp=Z,0.6nm,0.8s,baz=343,slow=1.5,SNR=2.7
ZAL Zalesovo 117.39 8 PKP PKPdf 09 32 17.4 -0.5
comp=Z,1.4nm,0.7s,baz=218,slow=1.8,SNR=9.1
KURK Kurchatov 119.33 13 *i* PKiKP PKPdf 09 32 21.0 -0.7
MJAR Matsushiro Arr 121.21 322 PKP PKPdf 09 32 24.5 -0.7
comp=Z,2.5nm,0.8s,baz=133,slow=1.0,SNR=5.8
ZAK Zakamensk 121.57 355 *e*PKiKP PKPdf 09 32 23.5 -2.5
ZAK pmax pmax
comp=Z,7.0nm,1.7s
ZAK pmax pmax
comp=Z,17nm,2.2s
CN2 Changchun 122.34 336 *e*PKP PKPdf 09 32 24.4 -3.0
CN2 *e*PP PP 09 33 58.6 -4.6
CN2 LR LR
comp=N,700nm,19.0s,MS5.5
CN2 LR LR
comp=E,600nm,19.0s,MS5.5
CN2 LR LR
comp=Z,900nm,18.0s,MS5.5
ULN Ulaanbaatar 123.64 352 *i* PKiKP PKPdf 09 32 29.5 -0.4
ULN Ulaanbaatar 123.64 352 *e*PKPdf PKPdf 09 32 29.2 -0.8
SONM Songino Array 123.76 352 PKP PKPdf 09 32 29.6 -0.6
comp=Z,4.6nm,0.8s,baz=333,slow=1.1,SNR=14
SONM PKKPbc PKKPbc 09 42 18.5 +1.6
comp=Z,0.6nm,0.5s,baz=183,slow=2.5,SNR=4.2
MKAR Makanchi Array 123.84 12 PKP PKPdf 09 32 28.9 -1.4
comp=Z,1.0nm,0.5s,baz=322,slow=2.7,SNR=14
MKAR PKKPbc PKKPbc 09 42 15.8 -0.8
comp=Z,0.7nm,0.9s,baz=140,slow=4.0,SNR=4.2
MKAR Makanchi Array 123.84 12 PKP PKPdf 09 32 28.9 -1.4
MKAR PKKPbc PKKPbc 09 42 15.8 -0.8
SNY Shenyang 124.75 336 *e*PKP PKPdf 09 32 31.8 -0.3
FRU Bishkek 125.39 20 *e*PKiKP PKPdf 09 32 35.0 +1.7
AAK Ala-Archa 125.52 20⇓ *i*PKiKP PKPdf 09 32 32.7 -0.8
AAK MLR MLR
comp=Z,600nm,20.0s,MS5.3
AAK Ala-Archa 125.52 20 *e*PKPdf PKPdf 09 32 32.8 -0.8
KS15 Wonju Array Si 126.35 330 *e*PKPdf PKPdf 09 32 34.5 -0.7
WMQ Urumqi 127.69 9⇑ PKP PKPdf 09 32 37.3 -0.4
WMQ PP PP 09 34 42.3 +3.4
WMQ PP PP
comp=Z,268nm,8.4s
WMQ LR LR
comp=N,753nm,21.2s,MS5.4

WMQ				LR	LR			
	comp=E,445nm,18.3s,MS5.4							
WMQ				LR	LR			
	comp=Z,890nm,21.6s,MS5.4							
KSH	**Kashi**	**128.80**	**21**	*e*PKP	PKPdf	09 32 40.2	+0.4	
KSH				*e*PP	PP	09 34 49.6	+3.4	
KSH				*e*PKS		09 36 15.0		
KSH				*e*PPP		09 37 49.1		
KSH				*e*SKS	SKSdf	09 39 46.0	-5.5	
KSH				PP	PP			
	comp=Z,246nm,5.5s							
KSH				LR	LR			
	comp=N,236nm,5.6s							
KSH				LR	LR			
	comp=E,179nm,4.8s							
KSH				LR	LR			
	comp=Z,625nm,17.7s,MS5.3							
HHC	**Hu-ho-hao-te**	**129.55**	**346**	*e*PKP	PKPdf	09 32 41.1	-0.1	
HHC				PP	PP	09 34 54.0	+2.9	
HHC				PKS		09 36 16.7		
HHC				SKS	SKSdf	09 39 52.5	-0.4	
HHC				SKKS	SKKSac	09 41 44.5	-3.8	
HHC				PP	PP			
	comp=Z,227nm,6.1s							
HHC				LR	LR			
	comp=N,419nm,20.2s,MS5.2							
HHC				LR	LR			
	comp=E,240nm,21.4s,MS5.2							
HHC				LR	LR			
	comp=Z,521nm,23.8s,MS5.2							
CTA	**Charters Tower**	**130.98**	**250**	*e*P	PKPdf	09 32 44.6	+0.7	
	comp=Z,6.1nm,1.1s							
CTAO	**Charters Tower**	**130.98**	**250**	*e*PKIKP	PKPdf	09 32 44.3	+0.4	
STKA	**Stephens Creek**	**132.35**	**234**	*e*P	PKPdf	09 32 44.5	-2.0	
	comp=Z,7.4nm,1.0s							
STKA	**Stephens Creek**	**132.35**	**234**	PKP	PKPdf	09 32 44.8	-1.7	
	comp=Z,8.5nm,0.9s,baz=69,slow=2.9,SNR=8.1							
GTA	**Gaotai**	**132.72**	**357**	*e*PKP	PKPdf	09 32 47.6	+0.4	
GTA				PP	PP	09 35 11.5	-0.1	
GTA				PKS		09 36 16.9		
GTA				SKS	SKSdf	09 39 54.0	-4.6	
GTA				SKKS	SKKSac	09 42 02.5	-5.4	
GTA				SS	SS	09 52 48.5	-3.8	
GTA				PP	PP			
	comp=Z,364nm,8.7s							
GTA				LR	LR			
	comp=N,234nm,22.4s,MS5.1							
GTA				LR	LR			
	comp=E,387nm,22.8s,MS5.1							
GTA				LR	LR			
	comp=Z,384nm,26.2s,MS5.0							
SSE	**Sheshan**	**134.74**	**330**	PKP	PKPdf	09 32 47.2	-3.8	
SSE				PP	PP	09 35 24.0	-0.5	
SSE				SS	SS	09 53 10.0	-6.7	
SSE				PP	PP			
	comp=Z,148nm,12.3s							
SSE				LR	LR			
	comp=N,116nm,23.1s,MS5.0							
SSE				LR	LR			
	comp=E,354nm,23.0s,MS5.0							
SSE				LR	LR			
	comp=Z,300nm,23.5s,MS4.9							
NJ2	**Nanjing**	**135.03**	**334**	*e*PKP	PKPdf	09 32 52.9	+1.3	
NJ2				PP	PP	09 35 27.0	+0.7	
NJ2				PKS		09 36 22.0		
NJ2				PPP		09 38 24.0		
NJ2				SKS	SKSdf	09 39 57.0	-5.7	
NJ2				PP	PP			
	comp=Z,160nm,10.7s							
NJ2				LR	LR			
	comp=N,730nm,16.5s							
NJ2				LR	LR			
	comp=E,880nm,24.0s							
NJ2				LR	LR			
	comp=Z,230nm,19.4s,MS4.9							
LZH	**Lanzhou**	**135.64**	**352**	*e*PKP	PKPdf	09 32 51.1	-1.6	
LZH				PP	PP	09 35 28.1	-2.1	
LZH				SKS	SKSdf	09 39 57.0	-6.8	
LZH				*e*SS	SS	09 53 20.7	-6.9	
LZH				PP	PP			
	comp=Z,330nm,5.3s							
LZH				LR	LR			
	comp=N,1μm,19.0s							
LZH				LR	LR			
	comp=Z,2μm,21.0s,MS5.8							
XAN	**Xi'an**	**136.66**	**346**	PKP	PKPdf	09 32 55.5	+0.9	
NDI	**New Delhi**	**138.77**	**27**	*e*P	PKPdf	09 33 00.0	+1.5	
AJM	**Ajmer**	**139.36**	**32**	*e*P	PKPdf	09 32 58.7	-0.9	
CD2	**Chengdu**	**140.74**	**351**	*e*PKP	PKPdf	09 32 59.0	-3.1	
ASAR	**Alice Springs**	**141.46**	**242**	PKhKP		09 32 57.8		
	comp=Z,9.8nm,1.0s,baz=120,slow=3.6,SNR=43							
ASAR	**Alice Springs**	**141.46**	**242**	PKHKP		09 32 57.8		
ASAR				pmax	pmax			
	comp=Z,10.0nm,1.0s							
WB2	**Warramunga Arr**	**142.03**	**248**	⇓*i*P	PKPdf	09 32 59.9	-4.5	
LSA	**Lhasa**	**142.04**	**8**	*e*PKP	PKPdf	09 33 05.6	+1.2	
WRA	**Warramunga Arr**	**142.04**	**248**	PKhKP		09 32 59.8		
	comp=Z,23nm,0.9s,baz=105,slow=3.0,SNR=101							
WRA	**Warramunga Arr**	**142.04**	**248**	PKHKP		09 32 59.8		
WRA				pmax	pmax			
	comp=Z,23nm,0.9s							
KOLN	**Koldanda**	**142.09**	**20**	*e*P	PKPdf	09 32 59.5	-5.0	
	comp=Z,74nm,1.6s							
GKN	**Gorkha**	**142.20**	**18**	*e*P	PKPdf	09 33 01.0	-3.7	
	comp=Z,36nm,0.9s							
KKN	**Kakani**	**142.60**	**17**	*e*P	PKPdf	09 33 01.3	-4.1	
	comp=Z,131nm,1.5s							
GUN	**Gumba**	**142.66**	**16**	*e*P	PKPdf	09 33 01.5	-4.0	
	comp=Z,128nm,1.3s							
DMN	**Daman**	**142.71**	**18**	*e*P	PKPdf	09 33 01.6	-4.0	
	comp=Z,110nm,1.4s							
PKI	**Pulchoki**	**142.84**	**17**	*e*P	PKPdf	09 33 01.7	-4.1	
	comp=Z,54nm,1.2s							
JIRN	**Jiri**	**142.98**	**16**	*e*P	PKPdf	09 33 02.8	-3.3	
	comp=Z,29nm,1.0s							
FORT	**Forrest**	**143.26**	**228**	*e*P	PKPdf	09 33 02.6	-4.0	
	comp=Z,17nm,0.8s							
BHPL	**Bhopal**	**143.45**	**31**	*e*P	PKPdf	09 33 05.4	-1.5	
BHPL				AMb	AMB	09 33 09.7		
	comp=Z,37nm,1.2s							
GYA	**Guiyang**	**144.46**	**345**	⇑*i*PKP	PKPdf	09 33 07.1	-1.6	
GYA				PKS		09 36 41.8		
GYA				SKS	SKSdf	09 40 16.0	-2.1	
GYA				PP	PP			
	comp=Z,340nm,9.4s							
GYA				LR	LR			
	comp=N,570nm,20.4s,MS5.4							
GYA				LR	LR			
	comp=E,480nm,21.0s,MS5.4							
GYA				LR	LR			
	comp=Z,640nm,22.1s,MS5.3							
KAKA	**Kakadu**	**144.92**	**259**	⇓*i*P	PKPdf	09 33 09.3	-0.2	
	comp=Z,73nm,0.9s							
POO	**Poona**	**145.04**	**41**	⇑*i*P	PKPbc	09 33 07.5	-1.6	
	comp=Z,50nm,1.0s							
POO				*ex*	x	09 33 42.7		
POO	**Poona**	**145.04**	**41**	⇑*i*P	PKPbc	09 33 07.5	-1.6	
	comp=Z,50nm,1.0s							
AKL	**Akola**	**145.29**	**34**	*ex*	x	09 32 35.1		
	comp=Z,275nm,1.8s							
AKL				*ex*	x	09 37 37.7		
KAD	**Karad**	**146.15**	**42**	*e*P	PKPdf	09 33 11.7	+0.1	
BOK	**Bokaro**	**146.52**	**19**	*i* P	PKPdf	09 33 12.1	-0.1	
BOK				*e*P		09 33 12.8		
BOK				AMb	AMB	09 33 21.2		
	comp=Z,158nm,1.9s							
BOK				*i* x	x	09 34 33.5		
KMI	**Kunming**	**146.57**	**351**	PKP	PKPdf	09 33 13.3	+1.0	
HYB	**Hyderabad**	**148.78**	**36**	*i* PKP	PKPdf	09 33 16.0	+0.1	
HYB				*e*		09 33 19.0		
NWAO	**Narrogin (SRO)**	**148.98**	**214**	*e*PKIKP	PKPdf	09 33 17.0	+0.7	
NWAO				*e*		09 33 20.1		
KLBR	**Kellerberrin**	**149.66**	**217**	*e*P	PKPdf	09 33 17.3	-0.1	
	comp=Z,66nm,1.1s							
MUN	**Mundaring**	**150.26**	**214**	*e*P	PKPdf	09 33 18.7	+0.4	
QIZ	**Qiongzhong**	**150.29**	**335**	*e*PKPbc	PKPbc	09 33 24.5	+1.0	
FITZ	**Fitzroy Crossi**	**150.47**	**247**	*e*P	PKPdf	09 33 19.3	+0.7	
	comp=Z,62nm,0.9s							
VIS	**Vishakhapatnam**	**151.02**	**28**	*e*P	PKPdf	09 33 19.3	-0.2	
VIS				AMb	AMB	09 33 31.0		
	comp=Z,98nm,1.4s							
PSI	**Prapat**	**169.07**	**350**	PKP	PKPdf	09 33 40.0	+0.5	
	comp=Z,2.6nm,0.5s,baz=191,slow=11,SNR=7.4							

*ISCJB **01** 09:22:51.6±0.5, 3860N×003×2370E×005, h10km, Error ellipse: s-maj=5.6km s-min=3.5km az=158.2*
*ATH **01** 09:22:52.3, 3858N×2367E, h25km±1km, MD3.1/10, ML2.9*
*THE **01** 09:22:54.2, 3867N×2364E, h11km, ML2.3*

ISC 01 09:22:52.0±0.5, 3860N±003×2371E±005, h10km, n15, σ1§08/21, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKR	**Lokris**	**0.56**	**275**	*e*PN	**Pg**	**09 23 02.5**	**-0.4**
LKR				*e*SN	**Sg**	**09 23 11.3**	**+1.0**
PTL	**Penteli**	**0.56**	**168**	*e*PN	**Pg**	**09 23 03.5**	**+0.5**
AOS	**Alonnisos**	**0.58**	**13**	*e*Pg	**Pg**	**09 23 04.5**	**+1.1**
AOS				*e*Sg	**Sg**	**09 23 12.4**	**+1.4**
ATH	**Athens Observa**	**0.63**	**180**	*e*PN	**Pg**	**09 23 04.4**	**+0.2**
ATH				*e*SN	**Sg**	**09 23 13.6**	**+1.2**
MGER	**Gerania Oros**	**0.71**	**210**	*e*PN	**Pg**	**09 23 05.5**	**-0.3**
KVR	**Kavouri**	**0.77**	**177**	*e*PN	**Pn**	**09 23 07.5**	**-1.5**
NEO	**Neokhori**	**0.80**	**332**	⇓*i*PN	**Pn**	**09 23 08.0**	**-1.4**
NEO				*e*SN	**Sn**	**09 23 19.0**	**-2.4**
XOR	**Xorichti**	**0.86**	**332**	*e*Pg	**Pg**	**09 23 09.2**	**+0.5**
XOR				*e*Sg	**Sg**	**09 23 20.2**	**+0.2**
AGG	**Agios Georgios**	**1.16**	**292**	*e*Pg	**Pg**	**09 23 14.0**	**-0.3**
AGG				*e*Sg	**Sg**	**09 23 30.3**	**+0.9**
PAIG	**Paliouri**	**1.32**	**359**	*e*Pg	**Pg**	**09 23 16.6**	**-0.9**
EVR	**Evrytania**	**1.52**	**283**	*e*PN	**Pn**	**09 23 20.0**	**+0.7**
OUR	**Ouranopolis**	**1.74**	**7**	*e*Pb	**Pb**	**09 23 23.0**	**-1.1**
PLG	**Polygyros**	**1.78**	**353**	*e*PN	**Pn**	**09 23 23.6**	**+0.7**
VLI	**Veliai**	**1.98**	**198**	*e*PB	**Pb**	**09 23 25.5**	**-2.6**
APE	**Apeiranthos**	**2.10**	**136**	*e*PN	**Pn**	**09 23 28.2**	**+0.9**

SSNC 01 10:24:09.7, 2026N×7232W, h0km, MD3.7, ML2.3, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MASC	**Masc**	**1.79**	**268**	*e*PG	Pg	10 24 40.2	-3.9
	baz=87						
MASC				*e*SG	Sg	10 25 18.9	+12
	comp=N,4.8nm,0.2s						
MASC				*e*			
	comp=E,4.9nm,0.3s						
RCC	**Rio Carpintero**	**3.18**	**266**	*e*P	Pn	10 24 57.8	-3.2
	baz=100						
RCC				*e*S	Sn	10 25 47.8	+8.2
	comp=N,28nm,0.8s						
RCC				*e*			
	comp=E,31nm,0.7s						

IDC 01 10:42:22.3±5.4, 1302N×14591E, h71km±53km, mb3.0/4, mb1 3.4/4, mb1mx3.2/20, mbtmp3.3/4, Error ellipse: s-maj=70.9km s-min=21.9km az=104.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.16**	**299**	P	Pn	10 42 44.7	+1.8
	262nm,0.3s,baz=233,slow=1.8,SNR=52						
GUMO				S	Sn	10 42 58.1	-0.2
	517nm,0.3s,baz=324,slow=23,SNR=84						
WRA	**Warramunga Arr**	**34.68**	**199**	P	P	10 49 04.9	-0.1
	0.6nm,0.8s,baz=30,slow=9.5,SNR=5.3						
ASAR	**Alice Springs**	**38.30**	**198**	P	P	10 49 36.1	+0.2
	0.3nm,0.8s,baz=21,slow=12,SNR=5.8						
ILAR	**Eielson Array**	**68.65**	**25**	P	P	10 53 17.2	-0.7
	0.2nm,0.5s,baz=256,slow=5.7,SNR=5.0						
YKA	**Yellowknife Ar**	**82.90**	**27**	P	P	10 54 39.5	+0.3
	0.1nm,0.4s,baz=284,slow=5.2,SNR=4.4						

*GRAL **01** 10:43:47.2±0.5, 3378N×3605E, h118km±8km, MD2.8*
*ISCJB **01** 10:43:49.8±1.0, 3365N±003×3649E±006, h5km, Error ellipse: s-maj=8.1km s-min=4.2km az=133.9*
*CSEM **01** 10:43:49.4±0.2, 3359N×3646E, h5km, Mc1.3, Error ellipse: s-maj=7.5km s-min=2.8km az=65.0*
*NSSC **01** 10:43:49.1, 3368N×3643E, h7km±3km*

ISC 01 10:43:50.4±1.1, 3364N±003×3648E±007, h5km, n12, σ1§06/21, 2D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QASN	**Qassioun**	**0.20**	**238**	⇑P	**Pg**	**10 43 53.3**	**-1.0**
QASN				⇑S	**Sg**	**10 43 56.6**	**-0.5**
QASN	**Qassioun**	**0.20**	**238**	⇑*i*P	**Pg**	**10 43 53.3**	**-1.1**
TOTH	**TOTAH**	**0.28**	**189**	⇑P	**Pg**	**10 43 55.2**	**-0.7**
TOTH				⇑S	**Sg**	**10 44 01.4**	**+1.8**
TOTH	**TOTAH**	**0.28**	**189**	⇑*i*P	**Pg**	**10 43 55.2**	**-0.7**
BRBR	**Barbar**	**0.50**	**243**	⇑P	**Pg**	**10 43 59.5**	**-0.6**
BRBR				⇑S	**Sg**	**10 44 06.5**	**0.0**
BRBR	**Barbar**	**0.50**	**243**	⇑*i*P	**Pg**	**10 43 59.5**	**-0.5**
BHL	**Bhannes**	**0.74**	**291**	*e*Pg	**Pg**	**10 44 03.7**	**-0.8**
BHL				*e*Sg	**Sg**	**10 44 15.5**	**+1.3**
HWQ	**Hawqa**	**0.78**	**325**	*e*Pg	**Pg**	**10 44 04.5**	**-0.8**
HWQ				*e*Sg	**Sg**	**10 44 17.0**	**+1.6**
SALA	**Sala**	**0.95**	**167**	⇓P	**Pg**	**10 44 08.4**	**-0.3**
SALA				⇑S	**Sg**	**10 44 22.2**	**+1.2**
SALA	**Sala**	**0.95**	**167**	⇓*i*P	**Pg**	**10 44 08.4**	**-0.2**
SALA				⇑*i*S	**Sg**	**10 44 22.2**	**+1.2**
TCHB	**Talchebab**	**1.06**	**204**	⇑P	**Pg**	**10 44 08.9**	**-1.8**
TCHB				⇑S	**Sg**	**10 44 25.1**	**+0.6**
TCHB	**Talchebab**	**1.06**	**204**	⇑*i*P	**Pg**	**10 44 08.9**	**-1.8**
TCHB				⇑*i*S	**Sg**	**10 44 25.1**	**+0.6**

KRSC 01 10:45:46.2±1.9, 4931N×15624E, h54km±45km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.38**	**357**	*e*P	Pn	10 46 10.0	+0.9
SKR				*e*S	Sn	10 46 25.6	-0.6
ALID	**Alaid**	**1.62**	**344**	P	Pn	10 46 12.6	+0.2
MIPR	**Malaya Ipel'ka**	**2.99**	**6**	*e*P	Pn	10 46 31.8	+0.7
RUS	**Russkaya**	**3.44**	**24**	P	Pn	10 46 38.2	+0.9
RUS				*e*S	Sn	10 47 16.6	-0.2
GRL	**Gorelyy**	**3.45**	**19**	*e*P	Pn	10 46 39.4	+2.0
GRL				*e*S	Sn	10 47 18.8	+1.9
APC	**Apacha**	**3.67**	**9**	*i* P	Pn	10 46 44.7	+4.3
KRMR	**Karymshinskiy**	**3.72**	**18**	P	Pn	10 46 41.8	+0.7
PET	**Petropavlovsk**	**4.02**	**21**	*e*P	Pn	10 46 47.0	+1.8
PET				*e*S	Sn	10 47 32.4	+1.5
UGLR	**Uglovaya**	**4.23**	**22**	*e*P	Pn	10 46 50.6	+2.5
AVH	**Avacha**	**4.26**	**21**	*e*P	Pn	10 46 51.5	+3.0
KOK	**Koryaka**	**4.26**	**20**	*e*P	Pn	10 46 51.6	+3.1
SMAR	**Somma**	**4.27**	**21**	*e*P	Pn	10 46 52.0	+3.3
SDLR	**Sedlovina**	**4.31**	**22**	*i* P	Pn	10 46 50.9	+1.8
SPN	**Mys Shipunski**	**4.48**	**31**	*e*P	Pn	10 46 52.7	+1.2
GNL	**Ganaly**	**4.52**	**13**	*e*P	Pn	10 46 55.4	+3.4
KBTR	**Krutoberegovo**	**7.98**	**27**	*e*P	Pn	10 47 41.5	+2.1

CASC 01 10:52:41.8±2.0, 1455N×9157W, h116km±12km, MD3.6, 1C-4D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.24**	**195**	⇓*e*P	Pn	10 52 58.4	+0.5
FUG	**Fuego 3**	**0.72**	**98**	⇓*i*P	Pn	10 53 01.5	+0.7
IXG	**Ixpaco**	**1.15**	**109**	⇓*e*P	Pn	10 53 04.9	-0.1
IXG				*e*S	Sn	10 53 24.6	+2.1
MRL	**Marmol**	**1.89**	**74**	⇓*i*P	Pn	10 53 14.6	+1.0
MRL				*e*S	Sn	10 53 39.4	+1.4
SNJE	**San Jose**	**2.02**	**109**	*e*P	Pn	10 53 41.6	+26
SNJE				*e*S	Sn	10 54 12.7	+32
LFRS	**El Faro**	**2.60**	**110**	⇓*e*P	Pn	10 53 47.2	+24
LFRS				*e*S	Sn	10 54 18.6	+24

*LDG **01** 10:53:48.4±0.2, 4312N×061W, h15km±2km, Md1.8/2, Error ellipse: s-maj=4.3km s-min=2.0km az=19.0*
*STR **01** 10:53:48.6±0.3, 4315N×058W, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **01** 10:53:49.1±0.1, 4312N×061W, h10km, ML2.1, Error ellipse: s-maj=4.0km s-min=2.3km az=7.0*

MDD 01 10:53:49.1±0.4, 4316N×058W, h0km, mbLg0.5/4, Error ellipse: s-maj=4.2km s-min=1.8km az=15.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATE	**Arette**	**0.12**	**230**	Pg	Pg	10 53 51.4	+0.1
ATE				Sg	Sg	10 53 53.6	+0.8
ATE	**Arette**	**0.12**	**230**	Pg	Pg	10 53 51.4	+0.1
ATE				Lg		10 53 53.5	
REYF	**Montagne du Re**	**0.16**	**123**	Pg	Pg	10 53 52.2	-0.1
REYF				Lg		10 53 55.0	
ETSF	**Etsaut**	**0.26**	**177**	*e*Pg	Pg	10 53 53.5	-0.6
ETSF				*e*Sg	Sg	10 53 57.4	-0.1
	3.1nm,0.3s						
ETSF	**Etsaut**	**0.26**	**177**	*e*Pg	Pg	10 53 53.5	-0.6
ETSF				*e*Sg	Sg	10 53 57.4	-0.1
	1.5nm,0.3s						
ORDF	**Ordiarp**	**0.27**	**282**	Pg	Pg	10 53 54.1	-0.1
ORDF				Sg	Sg	10 53 58.2	+0.6
ORDF	**Ordiarp**	**0.27**	**282**	Pg	Pg	10 53 54.1	-0.1
ORDF				Lg		10 53 58.2	
LARF	**Larrau**	**0.32**	**248**	Pg	Pg	10 53 54.8	-0.5
LARF				Sg	Sg	10 53 59.5	0.0
LARF	**Larrau**	**0.32**	**248**	Pg	Pg	10 53 54.9	-0.4
LARF				Lg		10 53 59.6	
SJPF	**Ste Jean**	**0.47**	**265**	*e*Pg	Pg	10 53 57.1	-1.1
SJPF				*e*Sg	Sg	10 54 03.2	-1.2
	1.8nm,0.2s						
SJPF	**Ste Jean**	**0.47**	**265**	*e*Pg	Pg	10 53 57.1	-1.1
SJPF				*e*Sg	Sg	10 54 03.2	-1.2
	0.9nm,0.2s						
EPF	**Esparros**	**0.69**	**101**	*e*Pg	Pg	10 54 02.0	-0.3
EBIE	**Bielsa**	**0.71**	**131**	Pg	Pg	10 54 02.0	-0.8
	0.2nm,0.0s,SNR=7.9						
EBIE				Lg		10 54 10.3	
	0.5nm,0.1s,SNR=6.4						
IUSE	**Utxeti**	**0.74**	**254**	Lg		10 54 13.1	
	0.4nm,0.1s,SNR=7.9						

*GEN **01** 10:58:37.2, 4469N×10.18E, h23km, ML2.0*
*LDG **01** 10:58:37.0±0.3, 4460N×1041E, h10km, Ml3.1/17, Error ellipse: s-maj=6.3km s-min=3.5km az=106.0*
*ISCJB **01** 10:58:38.0±0.3, 4466N±001×1010E±002, h11km±2km, Error ellipse: s-maj=2.4km s-min=2.3km az=101.1*
*ROM **01** 10:58:38.4±0.4, 4463N×1008E, h9km±4km, Ml2.7/15, Error ellipse: s-maj=2.7km s-min=1.6km az=54.0*
*CSEM **01** 10:58:38.5±0.1, 4461N×1021E, h12km, ML3.2/17, Error ellipse: s-maj=2.5km s-min=2.0km az=61.0*
*NEIC **01** 10:58:38.4, 4463N×1008E, h9km, ML3.1(LDG), ML3.5(STR), After ROM.*
*PRU **01** 10:58:40.5, 4473N×1048E, h0km*
*STR **01** 10:58:41.2±0.7, 4453N×994E, h5km±1km, Ml3.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 01 10:58:38.8±0.3, 4465N±001×1010E±002, h11km±2km, n102, σ1§08/167, 6C-9D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GRAM		**0.16**	**189**	P	**Pg**	**10 58 42.9**	**+0.4**
CODM		**0.32**	**215**	P	**Pg**	**10 58 45.2**	**0.0**
VALM		**0.32**	**161**	P	**Pg**	**10 58 44.7**	**-0.6**
ERBM	**Eremo**	**0.32**	**136**	**Pg**	**Pg**	**10 58 45.1**	**-0.2**
ERBM				Sg	**Sg**	**10 58 51.0**	**+1.4**
	1μm,0.7s						
BACM		**0.38**	**183**	P	**Pg**	**10 58 45.7**	**-0.5**
GSCL	**Gusciola**	**0.46**	**131**	Pg	**Pg**	**10 58 47.4**	**-0.4**
GSCL				Sg	**Sg**	**10 58 54.8**	**+0.8**
SC2M	**Scurtabr**	**0.48**	**239**	P	**Pg**	**10 58 47.9**	**-0.2**
BOB	**Bobbio (Coli)**	**0.48**	**284**	Pg	**Pg**	**10 58 48.0**	**-0.2**
BOB				Sg	**Sg**	**10 58 55.7**	**+1.1**
	364nm,0.6s						
VINC	**Vinca**	**0.51**	**176**	P	**Pg**	**10 58 47.9**	**-0.9**
SARO	**Sassorosso**	**0.52**	**155**	P	**Pg**	**10 58 47.8**	**-1.1**
VLC	**Villacollemand**	**0.53**	**157**	Pg	**Pg**	**10 58 48.4**	**-0.8**
VLC				Sg	**Sg**	**10 58 56.3**	**0.0**
	615nm,0.8s						
BDI	**Bagni Di Lucca**	**0.69**	**149**	Pg	**Pg**	**10 58 51.0**	**-1.2**
BDI				Sg	**Sg**	**10 59 01.4**	**+0.2**
	279nm,0.4s						
ZCCA	**Zocca**	**0.69**	**115**	Pg	**Pg**	**10 58 52.5**	**+0.2**
	29nm,0.5s						
PZZT	**Monte Pizzetto**	**0.75**	**134**	Pg	**Pg**	**10 58 52.3**	**-1.1**
PZZT				Sg	**Sg**	**10 59 03.9**	**+0.7**
	430nm,0.7s						
MAIM		**0.79**	**159**	P	**Pg**	**10 58 52.0**	**-2.1**
FNVD	**Fontana Vidola**	**0.88**	**123**	Pg	**Pg**	**10 58 55.2**	**-0.5**
	302nm,0.6s						
PII	**Pisa**	**0.98**	**162**	Pg	**Pg**	**10 58 56.8**	**-0.9**
PII				Sg	**Sg**	**10 59 11.4**	**+1.0**
SAL	**Salo**	**1.00**	**17**	Pg	**Pg**	**10 58 58.5**	**+0.4**
SAL				Sg	**Sg**	**10 59 11.9**	**+0.8**
	565nm,0.3s						
SEI	**Scarperia**	**1.08**	**123**	Pg	**Pg**	**10 58 59.1**	**-0.5**
	181nm,0.2s						
VMG	**Vicchio**	**1.24**	**123**	Pg	**Pg**	**10 59 03.2**	**+0.5**
	348nm,0.9s						
FIN	**Finale Ligure**	**1.43**	**253**	Pg	**Pn**	**10 59 04.6**	**-0.1**
	51nm,0.5s						
MABI	**Malga Bissina**	**1.43**	**12**	Pg	**Pn**	**10 59 04.2**	**-0.6**
MABI				Sg	**Sg**	**10 59 24.7**	**-0.2**
	89nm,0.4s						
CSNT	**Castellina Chi**	**1.46**	**144**	Pg	**Pn**	**10 59 04.5**	**-0.6**
CSNT				Sg	**Sn**	**10 59 24.4**	**+0.2**
	80nm,0.4s						
SFI	**Santa Sofia**	**1.46**	**120**	Pg	**Pg**	**10 59 06.4**	**-0.4**
MUGIO	**Muggio**	**1.47**	**330**	Pg	**Pg**	**10 59 07.0**	**-0.1**
VAI	**Varese**	**1.54**	**323**	Pg	**Pn**	**10 59 06.8**	**+0.6**
VAI				Sg	**Sg**	**10 59 28.6**	**+0.3**
	66nm,0.4s						
GRFL	**Gerfalco**	**1.63**	**157**	Pg	**Pn**	**10 59 07.1**	**-0.4**
	11nm,0.6s						
CRE	**Caprese Michel**	**1.69**	**127**	Pg	**Pn**	**10 59 08.5**	**+0.3**
CRE				Sg	**Sn**	**10 59 30.2**	**+0.4**
	43nm,0.5s						
IMI	**Imperia**	**1.75**	**246**	Pg	**Pn**	**10 59 08.7**	**-0.5**
IMI				Sg	**Sn**	**10 59 31.0**	**-0.5**
	18nm,0.2s						
CTI	**Castel Tesino**	**1.77**	**37**	Pg	**Pn**	**10 59 08.4**	**-1.0**
	188nm,0.3s						
BRMO	**Bormio**	**1.83**	**6**	Pg	**Pn**	**10 59 10.3**	**0.0**
	46nm,0.9s						
TUE	**Stuetta**	**1.90**

LPG					*e*Sn		**Sn**	**10 59 50.7**	**+0.3**
	16nm,0.5s										
LPL	**La Plagne**	**2.54**	**291**		*e*Pn		**Pn**	**10 59 20.3**	**+0.3**
	SNR=1.0										
LPL					*e*Sn		**Sn**	**10 59 50.9**	**0.0**
	23nm,0.5s,SNR=1.0										
LPL	**La Plagne**	**2.54**	**291**		*e*Pn		**Pn**	**10 59 20.3**	**+0.3**
	SNR=1.0										
LPL					*e*Sn		**Sn**	**10 59 50.9**	**0.0**
	11nm,0.5s,SNR=1.0										
SEST	**Monte Rota**	**2.57**	**34**	Pg			**Pn**	**10 59 21.1**	**+0.7**
	87nm,0.8s										
SCE	**Schlegeis**	**2.64**	**25**	⇓*i*	Pn		**Pn**	**10 59 20.8**	**-0.5**
DAVA	**Damuels**	**2.64**	**357**		*e*Pn		**Pn**	**10 59 23.5**	**+2.2**
	SNR=20										
DAVA				⇓	*i*Sn		**Sn**	**10 59 56.7**	**+3.3**
SQTA	**Sankt Quirin**	**2.68**	**16**	⇓	*e*Pn		**Pn**	**10 59 23.4**	**+1.5**
	SNR=5.6										
SQTA				⇓	*i*Sn		**Sn**	**10 59 56.3**	**+1.9**
FRF	**La Foret Royal**	**2.72**	**248**		*e*Pn		**Pn**	**10 59 20.8**	**-1.6**
	SNR=1.0										
FRF					*e*Sn		**Sn**	**10 59 53.9**	**-1.4**
	14nm,0.3s,SNR=1.0										
FRF	**La Foret Royal**	**2.72**	**248**		*e*Pn		**Pn**	**10 59 20.8**	**-1.6**
	SNR=1.0										
FRF					*e*Sn		**Sn**	**10 59 53.9**	**-1.4**
	6.8nm,0.3s,SNR=1.0										
MOTA	**Moosalm**	**2.78**	**14**	⇑	*i*Pn		**Pn**	**10 59 24.7**	**+1.4**
MOTA				⇑	*i*Sn		**Sn**	**10 59 59.1**	**+2.2**
WTTA	**Wattenberg**	**2.82**	**22**		*e*Pn		**Pn**	**10 59 24.6**	**+0.7**
	SNR=18										
WTTA				⇓	*i*Sn		**Sn**	**10 59 59.7**	**+1.8**
WATA	**Walderalm**	**2.87**	**20**	⇓	*e*Pn		**Pn**	**10 59 25.4**	**+0.8**
	SNR=13										
WATA				⇑	*i*Sn		**Sn**	**11 00 01.1**	**+2.0**
WATA	**Walderalm**	**2.87**	**20**	⇓	*e*Pn		**Pn**	**10 59 25.4**	**+0.8**
WATA					*i* Sn		**Sn**	**11 00 01.1**	**+2.0**
LMR	**La Mourre**	**2.91**	**244**		*e*Pn		**Pn**	**10 59 24.3**	**-0.8**
	SNR=1.0										
LMR					*e*Sn		**Sn**	**10 59 56.4**	**-3.6**
	23nm,0.4s,SNR=1.0										
LMR	**La Mourre**	**2.91**	**244**		*e*Pn		**Pn**	**10 59 24.3**	**-0.8**
	SNR=1.0										
LMR					*e*Sn		**Sn**	**10 59 56.4**	**-3.6**
	12nm,0.4s,SNR=1.0										
VOY	**Vojsko**	**3.01**	**61**		*e*Pn		**Pn**	**10 59 24.7**	**-1.7**
VOY					*e*Sn		**Sn**	**10 59 58.6**	**-3.9**
ORIF	**Oris-en-Rattie**	**3.02**	**277**		*e*Pg		**Pg**	**10 59 37.8**	**+1.1**
	SNR=1.0										
ORIF					*e*Sn		**Sn**	**11 00 02.6**	**-0.1**
	26nm,0.6s										
ORIF	**Oris-en-Rattie**	**3.02**	**277**		*e*Pn		**Pn**	**10 59 28.3**	**+1.7**
ORIF					*e*Pg		**Pg**	**10 59 37.8**	**+1.1**
ORIF					*e*Sn		**Sn**	**11 00 02.6**	**-0.1**
ORIF	**Oris-en-Rattie**	**3.02**	**277**		*e*Pg		**Pg**	**10 59 37.8**	**+1.1**
	SNR=1.0										
ORIF					*e*Sn		**Sn**	**11 00 02.6**	**-0.1**
	13nm,0.6s										
TAVF	**Tavernes**	**3.09**	**252**		P		**Pn**	**10 59 29.3**	**+1.7**
TAVF					S		**Sn**	**11 00 05.6**	**+1.1**
VILF	**Villemus**	**3.25**	**257**		P		**Pn**	**10 59 31.9**	**+2.1**
KBA	**Koelnbreinsper**	**3.32**	**42**	⇑	*i*Pn		**Pn**	**10 59 30.8**	**+0.1**
KBA				⇓	*i*Sn		**Sn**	**11 00 08.9**	**-1.3**
SMRF	**Simiane la Rot**	**3.32**	**260**		*e*Pn		**Pn**	**10 59 31.8**	**+1.1**
	SNR=1.0										
PUYF	**Puyloubier**	**3.36**	**252**		P		**Pn**	**10 59 32.6**	**+1.3**
GELF	**Grande-Etoile**	**3.60**	**251**		P		**Pn**	**10 59 36.3**	**+1.7**
BGLD	**Berchtesgaden**	**3.62**	**33**	⇓	*i*Pn		**Pn**	**10 59 35.1**	**+0.3**
VIVF	**Saint-Julien-l**	**3.87**	**275**		*e*Pn		**Pn**	**10 59 38.8**	**+0.5**
	SNR=1.0										
VIVF					*e*Sn		**Sn**	**11 00 25.0**	**+1.2**
	6.1nm,0.5s,SNR=1.0										
VIVF	**Saint-Julien-l**	**3.87**	**275**		*e*Pn		**Pn**	**10 59 38.8**	**+0.5**
	SNR=1.0										
VIVF					*e*Sn		**Sn**	**11 00 25.0**	**+1.2**
	3.0nm,0.5s,SNR=1.0										
BFO	**Black Forest**	**3.88**	**342**		*e*Pn		**Pn**	**10 59 38.1**	**-0.3**
BFO					*e*Sn		**Sn**	**11 00 23.0**	**-0.9**
HINF	**Hinteralfeld**	**3.88**	**326**		*e*Pn		**Pn**	**10 59 37.3**	**-1.2**
	SNR=1.0										
HINF					*e*Sn		**Sn**	**11 00 21.7**	**-2.4**
	8.7nm,0.3s,SNR=1.0										
HINF	**Hinteralfeld**	**3.88**	**326**		*e*Pn		**Pn**	**10 59 37.3**	**-1.2**
	SNR=1.0										
HINF					*e*Sn		**Sn**	**11 00 21.7**	**-2.4**
	4.3nm,0.3s,SNR=1.0										
CDF	**Champ du Feu**	**4.24**	**334**		*e*Pn		**Pn**	**10 59 42.9**	**-0.4**
	SNR=1.0										
CDF					*e*Sn		**Sn**	**11 00 29.5**	**-3.3**
	SNR=1.0										
CDF					*e*Sg		**Sg**	**11 00 53.6**	**-1.3**
	4.4nm,0.6s,SNR=1.0										
HAU	**Haudompre**	**4.24**	**324**		*e*Pn		**Pn**	**10 59 42.9**	**-0.5**
	SNR=1.0										
HAU					*e*Sn		**Sn**	**11 00 30.8**	**-2.2**
	4.9nm,0.3s										
MOA	**Molln**	**4.31**	**41**	⇓	*i*Pn		**Pn**	**10 59 44.1**	**-0.2**
MOA				⇑	*i*Sn		**Sn**	**11 00 33.9**	**-0.7**
LASF	**Ste Croix**	**4.51**	**265**		*e*Pn		**Pn**	**10 59 47.9**	**+0.7**
	SNR=1.0										
PLDF	**La Plantade**	**4.76**	**288**		P		**Pn**	**10 59 51.3**	**+0.8**
SMF	**Signal de Mont**	**4.82**	**297**		*e*Pn		**Pn**	**10 59 51.9**	**+0.5**
	SNR=1.0										
SMF					*e*Sn		**Sn**	**11 00 45.2**	**-2.0**
	5.5nm,0.3s,SNR=1.0										
SMF	**Signal de Mont**	**4.82**	**297**		*e*Pn		**Pn**	**10 59 51.9**	**+0.5**
	SNR=1.0										
SMF					*e*Sn		**Sn**	**11 00 45.2**	**-2.0**
	2.8nm,0.3s,SNR=1.0										
GEC2	**GERESS Array S**	**4.87**	**29**		*e*Pn		**Pn**	**10 59 50.6**	**-1.4**
GEC2					*e*Sn		**Sn**	**11 00 44.5**	**-3.9**
LBL	**Lubilhac**	**4.90**	**279**		P		**Pn**	**10 59 53.0**	**+0.5**
KHC	**Kasperske Hory**	**5.07**	**27**		*e*PN		**Pn**	**10 59 53.6**	**-1.2**
KHC					*e*SN		**Sn**	**11 00 49.1**	**-4.3**
KHC					*ex*			11 01 08.0	
KHC						SG	**Sg**	**11 01 17.5**	**-4.2**
KHC	**Kasperske Hory**	**5.07**	**27**		*e*Pn		**Pn**	**10 59 53.6**	**-1.2**
KHC					*e*Sn		**Sn**	**11 00 49.1**	**-4.3**
KHC					*e*			11 01 08.0	
KHC					*e*			11 01 17.5	
KHC	**Kasperske Hory**	**5.07**	**27**		*e*Pn		**Pn**	**10 59 53.6**	**-1.2**
KHC					*e*Sn		**Sn**	**11 00 49.1**	**-4.3**
LOR	**Lormes**	**5.08**	**303**		*e*Pn		**Pn**	**10 59 54.9**	**0.0**
	SNR=1.0										
LOR					*e*Sn		**Sn**	**11 00 51.4**	**-2.1**
	11nm,0.4s,SNR=1.0										
LOR	**Lormes**	**5.08**	**303**		*e*Pn		**Pn**	**10 59 54.9**	**0.0**
	SNR=1.0										
LOR					*e*Sn		**Sn**	**11 00 51.4**	**-2.1**
	5.3nm,0.4s,SNR=1.0										
AVF	**Avril sur Loir**	**5.19**	**297**		*e*Pn		**Pn**	**10 59 55.4**	**-1.0**
	SNR=1.0										
SSF	**Saint Saulge**	**5.20**	**300**		*e*Pn		**Pn**	**10 59 56.4**	**-0.2**
	SNR=1.0										
SSF					*e*Sn		**Sn**	**11 00 54.5**	**-2.0**
	6.4nm,0.4s,SNR=1.0										
SSF	**Saint Saulge**	**5.20**	**300**		*e*Pn		**Pn**	**10 59 56.4**	**-0.2**
	SNR=1.0										
SSF					*e*Sn		**Sn**	**11 00 54.5**	**-2.0**
	3.2nm,0.4s,SNR=1.0										
BGF	**Bois d'Agland**	**5.44**	**293**		*e*Pn		**Pn**	**10 59 59.4**	**-0.4**
	SNR=1.0										
BGF					*e*Sn		**Sn**	**11 01 00.0**	**-2.4**
	7.5nm,0.3s,SNR=1.0										
BGF	**Bois d'Agland**	**5.44**	**293**		*e*Pn		**Pn**	**10 59 59.4**	**-0.4**
	SNR=1.0										
BGF					*e*Sn		**Sn**	**11 01 00.0**	**-2.4**
	3.8nm,0.3s,SNR=1.0										
CAF	**Calviac**	**5.73**	**276**		*e*Pn		**Pn**	**11 00 04.3**	**+0.5**
	SNR=1.0										
MTLF	**Montolieu**	**5.84**	**260**		*e*Pn		**Pn**	**11 00 05.9**	**+0.6**
	SNR=1.0										
RJF	**Les Rejaudoux**	**6.13**	**279**		*e*Sn		**Sn**	**11 01 16.2**	**-3.2**
	4.3nm,0.8s,SNR=1.0										
RJF	**Les Rejaudoux**	**6.13**	**279**		*e*Sn		**Sn**	**11 01 16.2**	**-3.2**
	2.2nm,0.8s,SNR=1.0										

*NEIC **01** 11:17:57.0, 1576N×9894W, h19km, MD4.1(MEX), After MEX.*

MEX 01 11:17:57.0±0.8,**1576N**×**9894W**,**h19**km±33km,**MD4.1**,**Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**1.01**	**51**	*e*P		Pb	11 18 12.7	-3.0
PNIG				*e*S		Sb	11 18 24.9	-3.7
ACX	**Acapulco**	**1.45**	**320**	*i* P		Pn	11 18 20.0	-2.1
ACX				*i* S		Sn	11 18 35.0	-5.5
CAIG	**El Cayaco**	**1.81**	**315**	*e*P		Pn	11 18 22.5	-4.5
CAIG				*e*S		Sn	11 18 45.9	-3.5
MEIG	**Mezcala**	**2.25**	**343**	*i* P		Pn	11 18 30.1	-3.0
MEIG				*i* S		Sn	11 18 58.0	-2.4
UTMO	**Huajuapan**	**2.33**	**28**	*i* P		Pn	11 18 32.3	-1.9
UTMO				*i* S		Sn	11 18 58.9	-3.5
VHO	**Vista Hermosa**	**2.49**	**58**	*e*P		Pn	11 18 35.2	-1.2
VHO				*e*S		Sn	11 19 03.3	-3.0
OXX	**Oaxaca**	**2.50**	**58**	*i* P		Pn	11 18 34.5	-2.1
OXX				*i* S		Sn	11 19 08.0	+1.4
PLIG	**Platanillo**	**2.67**	**349**	*e*P		Pn	11 18 36.0	-2.9
PLIG				*e*S		Sn	11 19 06.6	-4.2
HUIG	**Huatulco**	**2.73**	**89**	*i* S		Sn	11 19 08.3	-3.9
YAIG	**Yautepec**	**3.09**	**358**	*e*P		Pn	11 18 42.8	-1.8
YAIG				*e*S		Sn	11 19 17.7	-3.3
PPM	**Popocatepetl**	**3.30**	**5**	*e*P		Pn	11 18 44.0	-3.6
PPM				*e*P			11 18 45.8	
PPM				*i* S		Sn	11 19 24.9	-1.4
PPM	**Popocatepetl**	**3.30**	**5**	*e*P		Pn	11 18 45.8	-1.8
PPM				*i* S		Sn	11 19 24.9	-1.4
MOIG	**Morelia**	**4.45**	**332**	*i* P		Pn	11 19 02.7	-0.6
MOIG				*i* S		Sn	11 19 53.1	-1.4
MRX	**Morelia**	**4.47**	**332**	*e*P		Pn	11 19 05.0	+1.3

*IDC **01** 11:32:00.9±0.7, 1008S×7531W, h0km, mb4.0/8, mb1 4.2/10, mb1mx4.1/18, mbtmp4.0/10, ML4.0/2, MS3.1/3, Ms1 3.1/3, ms1mx2.8/27, Error ellipse: s-maj=27.8km s-min=14.2km az=47.0*
*ISCJB **01** 11:32:01.7±3.7, 1017S±006×7542W±007, h18km±27km, mb4.2/16, MS4.8/1, Error ellipse: s-maj=12.3km s-min=9.7km az=78.1*
*BJI **01** 11:32:01.8, 1020S×7540W, h20km, mB5.3, Ms5.1, Msz4.9*
*NEIC **01** 11:32:03.9±5.2, 1018S×7539W, h20km±34km, mb4.4/10, Error ellipse: s-maj=11.2km s-min=11.0km az=64.0*

ISC 01 11:32:04.5±3.6,**1021S**±006×**7541W**±007,**h24**km±27km, **n41**,σ0**96**/32,**mb4.2**/16,**MS4.8**/1,**Central Peru**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NNA	**Nana**	**2.26**	**218**	*e*Pn		**Pn**	**11 32 39.4**	**-0.8**
NNA				*e*Sn		**Sn**	**11 33 06.4**	**-0.9**
LPAZ	**La Paz**	**9.31**	**131**	Pn		**Pn**	**11 34 19.3**	**+2.2**
	0.4nm,0.3s,baz=327,slow=12,SNR=16							
LPAZ				Lg			11 36 57.4	
	0.7nm,0.3s,baz=159,slow=17,SNR=3.6							
LPAZ				LR		LR	11 37 47.2	
	comp=Z,61nm,19.6s,baz=97,slow=37							
LPAZ	**La Paz**	**9.31**	**131**	*e*Pn		**Pn**	**11 34 20.0**	**+2.9**
	3.8nm,0.7s							
SAML	**Samuel**	**12.12**	**85**	*e*Pn		**Pn**	**11 34 53.5**	**-2.1**
	20nm,0.6s							
ROSC	**El Rosal**	**15.01**	**4**	LR		LR	11 42 06.4	
	comp=Z,87nm,20.0s,baz=13,slow=41							
SIV	**San Ignacio**	**15.10**	**114**	Pn		**Pn**	**11 35 35.2**	**-0.9**
	0.7nm,0.3s,baz=296,slow=12,SNR=12							
SIV				Lg			11 39 56.2	
	2.1nm,0.3s,baz=205,slow=21,SNR=4.4							
SDV	**Santo Domingo**	**19.56**	**14**	P		**Pn**	**11 36 33.0**	**+1.2**
	0.4nm,0.3s,baz=267,slow=7.2,SNR=5.0							
SDV				Lg			11 42 24.7	
	0.4nm,0.3s,baz=58,slow=17,SNR=3.3							
SDV				LR		LR	11 45 01.6	
	comp=Z,92nm,21.1s,baz=160,slow=40							
SDV	**Santo Domingo**	**19.56**	**14**	*e*P		**Pn**	**11 36 32.9**	**+1.1**
	7.4nm,0.8s							
CFAA	**Coronel Fontan**	**22.30**	**164**	P		**P**	**11 37 00.7**	**+0.6**
	0.4nm,0.3s,baz=334,slow=10,SNR=11							
CPUP	**Villa Florida**	**23.44**	**136**	P		**P**	**11 37 12.3**	**+0.3**
	1.3nm,0.5s,mb3.6,baz=303,slow=8.5,SNR=6.3							
CPUP	**Villa Florida**	**23.44**	**136**	*e*P		**P**	**11 37 12.1**	**+0.1**
	9.2nm,0.7s,mb4.3							
BDFB	**Brasilia**	**27.23**	**104**	P		**P**	**11 37 46.5**	**+0.1**
	1.9nm,0.7s,mb3.7,baz=246,slow=13,SNR=4.4							
RPN	**Rapa Nui**	**36.11**	**238**	P		**P**	**11 39 06.2**	**+1.7**
	55nm,0.4s,baz=86,slow=4.5,SNR=3.8							
MNTX	**Cornudas Mount**	**50.60**	**327**	*e*P		**P**	**11 41 01.4**	**+0.2**
	6.5nm,1.6s,mb4.3							
ANMO	**Albuquerque**	**53.68**	**328**	*e*P		**P**	**11 41 25.3**	**+1.2**
TUC	**Tucson**	**54.13**	**323**	*e*P		**P**	**11 41 26.4**	**-1.0**
	1.3nm,1.1s,mb3.8							
PV01	**Paradox Valley**	**57.21**	**329**	*e*P		**P**	**11 41 51.0**	**+1.4**
RSSD	**Black Hills**	**59.99**	**337**	*e*P		**P**	**11 42 09.9**	**+1.0**
	1.0nm,0.5s,mb4.1							
PDAR	**Pinedale Array**	**61.27**	**332**	P		**P**	**11 42 17.8**	**+0.1**
	0.4nm,0.7s,mb3.7,baz=145,slow=5.4,SNR=5.1							
HWUT	**Hardware Ranch**	**61.34**	**330**	*e*P		**P**	**11 42 17.9**	**-0.2**
	4.2nm,0.3s,mb4.6							
NVAR	**Mina Array Bea**	**62.78**	**323**	P		**P**	**11 42 28.9**	**+1.1**
	1.0nm,0.8s,mb4.0,baz=133,slow=7.0,SNR=7.6							
ULM	**Lac du Bonnet**	**62.80**	**345**	P		**P**	**11 42 27.3**	**-0.6**
	3.7nm,0.7s,mb4.6,baz=131,slow=4.2,SNR=7.8							
FCC	**Fort Churchill**	**70.39**	**350**	*e*P		**P**	**11 43 15.6**	**-0.7**
EDM	**Edmonton**	**70.97**	**337**	*e*P		**P**	**11 43 19.1**	**-0.8**
SNAA	**Sanae**	**74.91**	**162**	*e*P		**P**	**11 43 43.9**	**+0.7**
	5.0nm,1.0s,mb4.4							
YKA	**Yellowknife Ar**	**78.57**	**343**	P		**P**	**11 44 03.0**	**-0.8**
	1.7nm,0.9s,mb4.0,baz=139,slow=6.1,SNR=27							
YKW3	**Yellowknife Ar**	**78.62**	**343**	*e*P		**P**	**11 44 03.4**	**-0.8**
TORD	**Torodi Ar. Bea**	**79.97**	**75**	P		**P**	**11 44 12.1**	**+0.5**
	3.2nm,0.8s,mb4.3,baz=272,slow=5.3,SNR=20							
SUMG	**Summit**	**86.04**	**10**	*e*P		**P**	**11 44 42.7**	**-0.3**
	9.3nm,1.2s,mb4.9							
INK	**Inuvik**	**88.29**	**342**	*e*P		**P**	**11 44 52.9**	**-1.0**
	7.1nm,1.0s,mb4.8							
ILAR	**Eielson Array**	**91.44**	**336**	P		**P**	**11 45 08.2**	**-0.3**
	0.7nm,0.8s,mb4.0,baz=159,slow=3.1,SNR=8.3							
COLA	**College**	**91.86**	**336**	*e*P		**P**	**11 45 10.1**	**-0.5**
	2.6nm,0.8s,mb4.6							
ZAL	**Zalesovo**	**133.60**	**16**	PKP		PKPdf	11 51 18.7	-0.2
	1.1nm,0.5s,baz=100,slow=2.4,SNR=6.8							
ASAR	**Alice Springs**	**135.78**	**220**	PKP		PKPdf	11 51 23.5	+0.6
	0.7nm,0.5s,baz=143,slow=1.9,SNR=9.0							
WRA	**Warramunga Arr**	**138.10**	**224**	PKP		PKPdf	11 51 28.2	+0.9
	1.1nm,0.7s,baz=124,slow=1.9,SNR=18							
MKAR	**Makanchi Array**	**138.91**	**23**	PKP		PKPdf	11 51 28.9	+0.2
	0.4nm,0.7s,baz=301,slow=1.3,SNR=4.9							
MDJ	**Mudanjiang**	**139.50**	**332**	PKP		PKPdf	11 51 29.6	-0.2
MDJ				PP		PP		
	comp=Z,376nm,4.3s							
WMQ	**Urumqi**	**143.44**	**21**	*e*PKP		PKPdf	11 51 36.1	-0.7
HHC	**Hu-ho-hao-te**	**148.87**	**350**	*e*PKP		PKPdf	11 51 44.6	-1.4
HHC				PKP2		PKPab	11 51 54.4	+0.5
HHC				APKP			11 51 56.2	
HHC				PP		PP	11 55 22.9	+2.5
HHC				SKS		SKSdf	11 58 47.4	-5.3
HHC				SKKS		SKKSac	12 02 06.8	-3.6
HHC				SS		SS	12 14 31.1	+1.6
HHC				PP		PP		
	comp=Z,104nm,5.5s							
HHC				LR		LR		
	comp=N,119nm,22.6s,MS4.8							
HHC				LR		LR		
	comp=E,132nm,20.6s,MS4.8							
HHC				LR		LR		
	comp=Z,164nm,19.0s,MS4.8							
NJ2	**Nanjing**	**154.57**	**331**	*e*PKP		PKPdf	11 51 51.6	-3.0
CD2	**Chengdu**	**159.39**	**2**	*e*PKP		PKPdf	11 51 55.5	-5.3

WEL 01 11:40:33.2±0.3,**3542S**×**17821E**,**h197**km±9km,**ML3.5**/9, **Error ellipse: s-maj=8.2km s-min=8.1km az=0.0**,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.14**	**178**	PN		Pn	11 41 13.2	+0.3
MXZ				SN		Sn	11 41 43.7	-0.1
PUZ	**Puketiti**	**2.65**	**179**	PN		Pn	11 41 18.5	0.0
PUZ				SN		Sn	11 41 53.7	-0.2
MWZ	**Matawai**	**2.96**	**190**	PN		Pn	11 41 22.6	+0.5
MWZ				SN		Sn	11 42 00.5	+0.1
URZ	**Urewera**	**2.97**	**197**	PN		Pn	11 41 22.4	+0.2
URZ				SN		Sn	11 42 00.9	+0.3
BKZ	**Black Stump Fm**	**3.98**	**200**	PN		Pn	11 41 34.1	-0.5
TSZ	**Takapari Road**	**4.96**	**200**	PN		Pn	11 41 44.6	-2.4
BFZ	**Birch Farm**	**5.48**	**196**	PN		Pn	11 41 51.2	-2.3

*IDC **01** 11:44:05.4±1.1, 2706S×7130W, h0km, mb4.6/3, mb1 4.4/4, mb1mx3.9/14, mbtmp4.5/4, ML3.6/2, Error ellipse: s-maj=36.9km s-min=27.9km az=95.0*
*ISCJB **01** 11:44:06.4±2.1, 2705S±004×7141W±0.1, h24km±12km, mb4.3/3, Error ellipse: s-maj=21.8km s-min=7.5km az=178.8*
*NEIC **01** 11:44:06.7, 2721S×7137W, h8km, ML3.9(GUC), After GUC.*
*GUC **01** 11:44:06.7±1.1, 2721S×7137W, h8km±6km, ML3.9*

ISC 01 11:44:06.1±2.2,**2711S**±005×**714W**±01,**h7**km±12km, **h6**km±2km:**pP-P**,**n22**,σ1**90**/29,**mb4.3**/3,**3C-5D**,**Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CDCH	**Caldera**	**0.53**	**87**	⇓	*i*P	**Pg**	**11 44 16.8**	**+0.4**
CDCH				*e*S		**Sg**	**11 44 22.4**	**-1.0**
CDCH				AML		AML	11 44 24.6	
	comp=E,3μm,0.3s							
CDCH	**Caldera**	**0.53**	**87**	⇓	*i*P	**Pg**	**11 44 16.8**	**+0.4**
CDCH				S		**Sg**	**11 44 22.4**	**-1.0**
CPCH	**Copiapo**	**0.99**	**105**	⇓	*i*P	**Pg**	**11 44 23.9**	**-1.2**
CPCH				AML		AML	11 44 40.8	
	comp=E,12μm,0.2s							
CRCH	**Chaqaral**	**1.04**	**44**	⇑	*i*P	**Pg**	**11 44 26.1**	**-0.1**
CRCH				*i* S		**Sg**	**11 44 42.0**	**+2.3**
CRCH				AML		AML	11 44 44.6	
	comp=N,4μm,0.3s							
CRCH	**Chaqaral**	**1.04**	**44**	⇑	*i*P	**Pg**	**11 44 26.1**	**-0.1**
CRCH				*i* S		**Sg**	**11 44 42.0**	**+2.3**
LCO	**Las Campanas**	**2.00**	**162**	⇑	*i*P	**Pn**	**11 44 40.5**	**+0.1**
LCO				*i* S		**Sn**	**11 45 04.8**	**-0.9**
TLL	**Tololo Astrono**	**3.10**	**170**	⇓	*i*P	**Pn**	**11 44 55.9**	**+0.5**
TLL				*i* S		**Sn**	**11 45 33.2**	**+0.5**
TLL				AML		AML	11 45 50.8	
	comp=N,2μm,0.7s							
TLL	**Tololo Astrono**	**3.10**	**170**	⇓	*i*P	**Pn**	**11 44 55.9**	**+0.5**
TLL				*i* S		**Sn**	**11 45 33.2**	**+0.5**
CFAA	**Coronel Fontan**	**5.28**	**149**	Pn		**Pn**	**11 45 27.3**	**+1.9**
	comp=N,0.3nm,0.3s,baz=340,slow=9.6,SNR=8.9							
CFAA				Pg		**Pg**	**11 45 34.7**	**-13**
	comp=N,0.5nm,0.3s,baz=343,slow=12,SNR=12							
CFAA				Sn		**Sn**	**11 46 27.9**	**+1.5**
	comp=N,0.6nm,0.3s,baz=208,slow=21,SNR=3.0							
CFAA				Lg			11 46 44.5	
	comp=N,1.8nm,0.3s,baz=233,slow=21,SNR=20							
CFAA	**Coronel Fontan**	**5.28**	**149**	Pn		**Pn**	**11 45 27.3**	**+1.9**
CFAA				Pg		**Pg**	**11 45 34.7**	**-13**
CFAA				Sn		**Sn**	**11 46 27.9**	**+1.5**
CFAA				Lg			11 46 44.5	
LPAZ	**La Paz**	**11.19**	**17**	Pn		**Pn**	**11 46 46.4**	**-0.1**
	comp=N,0.6nm,0.3s,baz=202,slow=8.3,SNR=18							
SIV	**San Ignacio**	**14.65**	**43**	Pn		**Pn**	**11 47 29.1**	**-4.7**
	comp=N,0.5nm,0.3s,baz=244,slow=7.1,SNR=6.6							
BDFB	**Brasilia**	**24.56**	**67**	P		**P**	**11 49 25.0**	**-1.5**
	comp=N,5.3nm,0.6s,mb4.2,baz=280,slow=8.1,SNR=6.5							
VNA3	**Neumayer Olymp**	**55.58**	**160**	*e*		**P**	**11 53 41.2**	**-1.1**
VNA3				*e*		pP	11 53 43.0	-1.5
VNA3				*e*			11 53 46.4	
VNA3				*e*			11 53 51.0	
VNA1	**Neumayer--Stat**	**55.85**	**159**	*e*		**P**	**11 53 43.5**	**-0.7**
VNA1				*e*		pP	11 53 45.1	-1.3
VNA1				*e*			11 53 49.6	
VNA1				*e*			11 53 53.7	
VNA2	**Neumayer--Watz**	**56.20**	**159**	*e*		**P**	**11 53 47.0**	**+0.3**
	baz=293,slow=8.9							
VNA2				*e*		pP	11 53 48.8	-0.1

FRF				*e*Sn		**Sn**	**12 00 30.6**	**+0.3**
	1.1nm,0.3s							
LMR	**La Mourre**	**2.91**	**245**	*e*Pn		**Pn**	**12 00 00.7**	**+0.2**
LMR				*e*Sn		**Sn**	**12 00 32.4**	**-2.6**
	6.5nm,0.5s							
LMR	**La Mourre**	**2.91**	**245**	*e*Pn		**Pn**	**12 00 00.7**	**+0.2**
LMR				*e*Sn		**Sn**	**12 00 32.4**	**-2.6**
	3.2nm,0.5s							
ORIF	**Oris-en-Rattie**	**3.04**	**277**	*e*Pn		**Pn**	**12 00 04.7**	**+2.4**
ORIF				*e*Sn		**Sn**	**12 00 38.8**	**+0.6**
	4.4nm,0.6s							
ORIF	**Oris-en-Rattie**	**3.04**	**277**	*e*Pn		**Pn**	**12 00 04.7**	**+2.4**
ORIF				*e*Sn		**Sn**	**12 00 38.8**	**+0.6**
	2.2nm,0.6s							
SMRF	**Simiane la Rot**	**3.33**	**261**	*e*Pn		**Pn**	**12 00 08.2**	**+1.9**
VIVF	**Saint-Julien-l**	**3.89**	**275**	*e*Pn		**Pn**	**12 00 15.1**	**+1.0**
HINF	**Hinteralfeld**	**3.92**	**326**	*e*Pn		**Pn**	**12 00 13.1**	**-1.5**
HINF				*e*Sn		**Sn**	**12 00 58.5**	**-1.6**
	2.2nm,0.4s							
HINF	**Hinteralfeld**	**3.92**	**326**	*e*Pn		**Pn**	**12 00 13.1**	**-1.5**
HINF				*e*Sn		**Sn**	**12 00 58.5**	**-1.6**
	1.1nm,0.4s							
CDF	**Champ du Feu**	**4.28**	**334**	*e*Pn		**Pn**	**12 00 18.8**	**-0.6**
KHC	**Kasperske Hory**	**5.10**	**26**	*e*P		**Sn**	**12 01 26.5**	**-2.7**

ISCJB ***01*** *12:14:54.9±2.6, 1849N×1008×1468E±02, h86km±23km, mb3.8/13, Error ellipse: s-maj=37.1km s-min=13.1km az=1.1*

IDC ***01*** *12:14:56.6±3.2, 1847N×14669E, h84km±29km, mb3.5/10, mb1 3.7/12, mb1mx3.6/21, mbtmp3.9/12, Error ellipse: s-maj=32.8km s-min=14.1km az=92.0*

NEIC ***01*** *12:14:57.0±1.8, 1845N×14668E, h89km±15km, mb4.1/3, Error ellipse: s-maj=24.8km s-min=8.8km az=89.0*

ISC 01 12:14:56.7±2.4, 1848N±009×1468E±02, h88km±21km, n17, σ0§87/19, mb3.8/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**5.20**	**201**	P		**Pn**	**12 16 10.7**	**-1.3**
	4.3nm,0.3s,baz=0.0,slow=20,SNR=3.1							
GUMO				S		**Sn**	**12 17 11.5**	**+0.8**
	3.9nm,0.3s,baz=24,slow=21,SNR=1.8							
GUMO	**Guam**	**5.20**	**201**	Pn		**Pn**	**12 16 11.9**	**-0.1**
GUMO				*e*Sn		**Sn**	**12 17 13.3**	**+2.6**
MJAR	**Matsushiro Arr**	**19.52**	**339**	P		**Pn**	**12 19 15.7**	**-3.3**
	0.3nm,0.3s,baz=162,slow=9.6,SNR=5.9							
WRAB	**Tennant Creek**	**40.08**	**198**	*e*P		**P**	**12 22 22.3**	**-1.1**
	3.2nm,0.7s,mb4.3							
WB2	**Warramunga Arr**	**40.09**	**198**	*e*P		**P**	**12 22 23.5**	**0.0**
WRA	**Warramunga Arr**	**40.09**	**198**	P		**P**	**12 22 23.3**	**-0.2**
	0.7nm,0.5s,mb3.7,baz=22,slow=8.1,SNR=22							
WRA				PcP		PcP	12 24 27.5	+0.9
	0.4nm,0.5s,baz=18,slow=3.2,SNR=5.2							
FITZ	**Fitzroy Crossi**	**41.88**	**211**	P		**P**	**12 22 37.7**	**-0.5**
	0.9nm,0.8s,mb3.6,baz=32,slow=17,SNR=4.0							
ULN	**Ulaanbaatar**	**43.58**	**321**	P		**P**	**12 22 52.6**	**+0.6**
	1.1nm,0.6s,mb3.8							
ASAR	**Alice Springs**	**43.74**	**197**	P		**P**	**12 22 53.1**	**-0.1**
	0.5nm,0.5s,mb3.5,baz=18,slow=9.4,SNR=11							
SONM	**Songino Array**	**43.96**	**321**	P		**P**	**12 22 55.1**	**+0.2**
	0.8nm,0.4s,mb3.8,baz=137,slow=6.3,SNR=12							
ZAL	**Zalesovo**	**58.83**	**322**	P		**P**	**12 24 46.1**	**+0.1**
	1.0nm,0.4s,mb4.2,baz=18,slow=3.4,SNR=6.0							
MKAR	**Makanchi Array**	**59.36**	**314**	P		**P**	**12 24 50.0**	**+0.4**
	0.8nm,0.7s,mb3.9,baz=94,slow=9.6,SNR=10							
ILAR	**Eielson Array**	**63.38**	**26**	P		**P**	**12 25 16.8**	**0.0**
	0.8nm,0.8s,mb3.7,baz=273,slow=4.1,SNR=6.9							
BRVK	**Borovoye**	**67.36**	**321**	*e*P		**P**	**12 25 42.5**	**+0.1**
	1.7nm,0.7s,mb4.0							
YKA	**Yellowknife Ar**	**77.70**	**28**	P		**P**	**12 26 45.1**	**+1.4**
	0.2nm,0.6s,mb3.0,baz=288,slow=5.8,SNR=4.1							
ARCES	**ARCESS Array B**	**83.01**	**342**	P		**P**	**12 27 11.0**	**-1.2**
	3.9nm,1.0s,mb4.2,baz=76,slow=7.6,SNR=3.8							
FINES	**FINESS Array B**	**87.51**	**336**	P		**P**	**12 27 35.4**	**+0.7**
	0.5nm,0.3s,mb4.0,baz=68,slow=5.0,SNR=9.8							

IDC ***01*** *12:21:60.0±0.8, 6274S×6250W, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.9/16, mbtmp3.8/10, ML3.6/1, MS3.6/3, Ms1 3.6/3, ms1mx3.3/21, Error ellipse: s-maj=39.0km s-min=16.6km az=82.0*

ISCJB ***01*** *12:22:07.1±1.6, 6265S±006×620W±03, h58km±18km, mb3.8/11, MS3.6/3, Error ellipse: s-maj=23.2km s-min=9.6km az=175.4*

NEIC ***01*** *12:22:07.7±1.2, 6267S×6228W, h55km±13km, mb4.2/3, Error ellipse: s-maj=21.8km s-min=8.9km az=81.0*

ISC 01 12:22:07.7±1.1, 6265S±005×620W±03, h52km±14km, n29, σ1§16/23, mb3.8/11, MS3.6/3, South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PMSA	**Palmer Station**	**2.32**	**202**	*e*Pn		**Pn**	**12 22 44.1**	**+0.8**
PMSA				*e*Sg		**Sn**	**12 23 11.1**	**+0.5**
USHA	**Ushuaia**	**8.52**	**334**	Pn		**Pn**	**12 24 06.1**	**-2.2**
	0.8nm,0.3s,baz=102,slow=11,SNR=7.7							
EFI	**East Falkland**	**11.21**	**13**	*e*Pn		**Pn**	**12 24 44.5**	**-0.6**
VNA3	**Neumayer Olymp**	**21.48**	**136**	*e*		**P**	**12 26 52.7**	**+0.8**
VNA3				*e*			12 26 54.3	
VNA3				*e*			12 27 01.0	
VNA3				*e*			12 27 06.4	
VNA3				*e*			12 27 09.4	
VNA3				*e*			12 27 26.8	
VNA3				*e*			12 27 38.0	
VNA3				*e*			12 27 58.9	
VNA3	**Neumayer Olymp**	**21.48**	**136**	*e*P		**P**	**12 26 52.7**	**+0.8**
VNA3				*e*			12 26 54.3	
VNA3				*e*			12 27 01.0	
VNA3				*e*			12 27 06.4	
VNA3				*e*			12 27 09.4	
VNA3				*e*			12 27 26.8	
VNA3				*e*			12 27 38.0	
VNA3				*e*			12 27 58.9	
VNA1	**Neumayer--Stat**	**21.99**	**134**	*e*		**P**	**12 26 51.2**	**-6.1**
VNA1				*e*			12 26 59.9	
VNA1				*e*			12 27 05.0	
VNA1				*e*			12 27 10.3	
VNA2	**Neumayer--Watz**	**22.25**	**135**	*e*		**P**	**12 26 58.9**	**-1.2**
	baz=265,slow=10							
VNA2				*e*			12 27 00.7	
VNA2				*e*			12 27 07.5	
VNA2				*e*			12 27 10.5	
VNA2				*e*			12 27 12.8	
VNA2				*e*			12 27 15.0	
VNA2				*e*			12 27 23.5	
VNA2				*e*			12 27 43.4	
VNA2				*e*			12 28 04.3	
VNA2	**Neumayer--Watz**	**22.25**	**135**	*e*P		**P**	**12 26 58.9**	**-1.2**
VNA2				*e*			12 27 00.7	
VNA2				*e*			12 27 07.5	
VNA2				*e*			12 27 10.5	
VNA2				*e*			12 27 12.8	
VNA2				*e*			12 27 15.0	
VNA2				*e*			12 27 23.5	
VNA2				*e*			12 27 43.4	
VNA2				*e*			12 28 04.3	
PLCA	**Paso Flores**	**22.54**	**343**	*e*P		**P**	**12 27 04.0**	**+0.9**
	5.4nm,0.8s,mb4.0							
SNAA	**Sanae**	**23.62**	**137**	P		**P**	**12 27 14.5**	**+0.6**
	2.2nm,1.0s,mb3.5,baz=284,slow=5.4,SNR=10.0							
SNAA				LR		LR	12 34 15.7	
	comp=Z,58nm,21.7s,MS3.0,baz=127,slow=31							
SNAA	**Sanae**	**23.62**	**137**	*e*		**P**	**12 27 14.1**	**+0.2**
SNAA				*e*			12 27 19.5	
SNAA				*e*			12 27 26.1	
SNAA	**Sanae**	**23.62**	**137**	*e*P		**P**	**12 27 14.3**	**+0.4**
	11nm,1.0s,mb4.2							
SNAA				LR		LR	12 34 15.7	
TRQA	**Tornquist**	**24.62**	**0**	*e*P		**P**	**12 27 24.8**	**+1.7**
	9.1nm,1.0s,mb4.3							
CPUP	**Villa Florida**	**36.45**	**7**	P		**P**	**12 29 08.2**	**+0.7**
	0.3nm,0.3s,mb3.7,baz=90,slow=11,SNR=2.8							
VNDA	**Vanda**	**37.51**	**194**	P		**P**	**12 29 13.4**	**-3.1**
	0.3nm,0.6s,mb3.2,baz=17,slow=11,SNR=3.8							
MAW	**Mawson**	**44.11**	**153**	P		**P**	**12 30 11.2**	**+0.4**
	4.3nm,1.1s,mb4.1,baz=201,slow=8.1,SNR=4.1							
LPAZ	**La Paz**	**46.51**	**352**	P		**P**	**12 30 29.9**	**+0.1**
	0.4nm,0.5s,mb3.6,baz=176,slow=13,SNR=2.2							
LPAZ				LR		LR	12 50 32.9	
	comp=Z,89nm,20.1s,MS3.7,baz=193,slow=37							
LPAZ	**La Paz**	**46.51**	**352**	P		**P**	**12 30 29.9**	**+0.1**
LPAZ				LR		LR	12 50 32.9	
SIV	**San Ignacio**	**46.61**	**1**	P		**P**	**12 30 30.9**	**+0.3**
	0.3nm,0.5s,mb3.5,baz=157,slow=10.0,SNR=4.2							
BDFB	**Brasilia**	**47.98**	**18**	P		**P**	**12 30 42.3**	**+1.1**
	1.5nm,0.5s,mb4.3,baz=153,slow=4.5,SNR=3.0							
STKA	**Stephens Creek**	**83.91**	**200**	LR		LR	13 08 20.4	
	comp=Z,72nm,21.0s,MS4.0,baz=206,slow=33							
TORD	**Torodi Ar. Bea**	**90.07**	**61**	P		**P**	**12 35 00.5**	**-1.3**
	0.2nm,0.5s,mb3.8,baz=208,slow=4.1,SNR=3.4							
WRA	**Warramunga Arr**	**96.67**	**195**	P		**P**	**12 35 30.1**	**-2.2**
	0.4nm,0.7s,mb4.0,baz=176,slow=4.0,SNR=5.4							
YKA	**Yellowknife Ar**	**130.94**	**331**	PKP		PKPdf	12 41 11.4	-1.9
	0.1nm,0.5s,baz=160,slow=2.0,SNR=11							
INK	**Inuvik**	**140.25**	**327**	PKhKP			12 41 20.7	
	baz=160,slow=1.9							
ILAR	**Eielson Array**	**141.59**	**317**	PKhKP			12 41 26.5	
	0.3nm,0.5s,baz=168,slow=1.9,SNR=9.3							
ARCES	**ARCESS Array B**	**145.41**	**38**	PKPbc		PKPbc	12 41 36.4	-3.4
	3.0nm,0.5s,baz=230,slow=2.0,SNR=51							
ARCES	**ARCESS Array B**	**145.41**	**38**	PKPbc		PKPbc	12 41 36.4	-3.4
MKAR	**Makanchi Array**	**154.45**	**112**	PKPab		PKPab	12 42 15.1	-1.7
	0.8nm,0.5s,baz=227,slow=5.2,SNR=10							

NEIC ***01*** *12:29:20.8, 1559N×9877W, h20km±39km,* **MD3.7, Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**1.01**	**38**	*i* P		Pb	12 29 36.1	-3.6
PNIG				*i* S		Sb	12 29 49.4	-3.2
ACX	**Acapulco**	**1.68**	**319**	*i* P		Pn	12 29 47.0	-2.0
ACX				*i* S		Sn	12 30 05.0	-5.0
UTMO	**Huajuapan**	**2.42**	**22**	*i* P		Pn	12 29 57.2	-2.0
UTMO				*i* S		Sn	12 30 25.6	-2.6
VHO	**Vista Hermosa**	**2.45**	**53**	*e*P		Pn	12 29 58.0	-1.7
VHO				*i* S		Sn	12 30 26.3	-2.7
MEIG	**Mezcala**	**2.46**	**341**	*i* P		Pn	12 29 57.8	-2.0
MEIG				*i* S		Sn	12 30 27.7	-1.5
OXX	**Oaxaca**	**2.46**	**53**	*e*P		Pn	12 29 58.0	-1.8
OXX				*i* S		Sn	12 30 27.0	-2.3
PLIG	**Platanillo**	**2.88**	**346**	*e*P		Pn	12 30 02.5	-3.0
PLIG				*e*S		Sn	12 30 34.5	-4.9

ISCJB ***01*** *12:41:11.2±1.7, 516N±02×1795E±0.1, h77km±15km, mb3.3/7, Error ellipse: s-maj=28.0km s-min=11.3km az=178.3*

NEIC ***01*** *12:41:12.5±1.3, 5144N×17953E, h74km±13km, MG3.4(AEIC), Error ellipse: s-maj=23.0km s-min=10.7km az=165.0*

IDC ***01*** *12:41:17.2±3.9, 5180N×179.13E, h121km±36km, mb3.1/7, mb1 3.4/8, mb1mx3.2/24, mbtmp3.5/8, Error ellipse: s-maj=41.1km s-min=15.4km az=147.0*

ISC 01 12:41:12.6±1.5, 515N±02×1795E±01, h79km±15km, n13, σ0§73/14, mb3.3/7, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ATKA	**Atka Island**	**3.99**	**78**	P		**Pn**	**12 42 10.9**	**-0.5**
FX1	**Attu Island--F**	**4.09**	**292**	P		**Pn**	**12 42 13.4**	**+0.6**
	4.9nm,0.3s,baz=50,slow=13,SNR=19							
FX1				S		**Sn**	**12 42 59.0**	**-0.4**
	3.8nm,0.3s,baz=276,slow=23,SNR=2.7							
FX1	**Attu Island--F**	**4.09**	**292**	*e*Pn		**Pn**	**12 42 13.5**	**+0.7**
ILAR	**Eielson Array**	**21.81**	**40**	P		**P**	**12 45 59.4**	**+1.1**
	0.2nm,0.5s,mb2.7,baz=322,slow=33,SNR=6.9							
INK	**Inuvik**	**27.96**	**35**	P		**P**	**12 46 56.5**	**+0.8**
	0.5nm,0.5s,mb3.3,baz=292,slow=8.4,SNR=7.0							
INK	**Inuvik**	**27.96**	**35**	*e*P		**P**	**12 46 56.2**	**+0.6**
YKA	**Yellowknife Ar**	**35.91**	**46**	P		**P**	**12 48 04.6**	**-0.6**
	0.3nm,0.6s,mb3.4,baz=281,slow=8.0,SNR=7.5							
YKA	**Yellowknife Ar**	**35.91**	**46**	P		**P**	**12 48 04.6**	**-0.7**
PDAR	**Pinedale Array**	**47.30**	**71**	P		**P**	**12 49 38.0**	**-0.2**
	0.4nm,0.6s,mb3.3,baz=318,slow=3.3,SNR=4.7							
NB2	**NORSAR Subarra**	**67.38**	**354**	P		**P**	**12 51 58.4**	**-1.1**
	comp=Z,1.2nm,0.9s,mb3.7,baz=11,slow=6.5							
NOA	**NORSAR Array B**	**67.38**	**354**	P		**P**	**12 51 56.1**	**-3.4**
	comp=Z,1.3nm,0.8s,mb3.8,baz=204,slow=5.2,SNR=4.3							
WRA	**Warramunga Arr**	**81.38**	**222**	P		**P**	**12 53 20.6**	**-0.2**
	comp=Z,0.2nm,0.4s,mb3.3,baz=30,slow=5.8,SNR=8.4							
ASAR	**Alice Springs**	**84.88**	**221**	P		**P**	**12 53 39.2**	**+0.5**
	comp=Z,0.3nm,0.4s,mb3.5,baz=23,slow=5.1,SNR=8.8							

NEIC ***01*** *12:42:46.9±1.0, 2718S×7141W, h10km, mb3.4/1, ML3.9(GUC), Error ellipse: s-maj=16.8km s-min=8.9km az=103.0*

ISCJB ***01*** *12:42:47.8±1.8, 2719S±003×714W±0.1, h29km±11km, mb4.0/2, Error ellipse: s-maj=16.9km s-min=5.4km az=178.9*

IDC ***01*** *12:42:48.8±2.5, 2706S×7080W, h0km, mb4.1/2, mb1 3.8/5, mb1mx3.6/16, mbtmp3.7/5, ML3.4/3, Error ellipse: s-maj=63.7km s-min=27.9km az=84.0*

GUC ***01*** *12:42:48.0±1.0, 2722S×7134W, h41km±7km, ML3.9*

ISC 01 12:42:48.0±1.6, 2720S±003×7138W±008, h16km±9km, n24, σ1§18/32, mb4.0/2, 2C-5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CDCH	**Caldera**	**0.51**	**76**	*i* P		**Pg**	**12 42 58.0**	**0.0**
CDCH				AML		AML	12 43 07.7	
	comp=N,2μm,0.5s							
CPCH	**Copiapo**	**0.93**	**100**	*i* P		**Pb**	**12 43 04.9**	**-0.8**
CPCH				*i* S		**Sb**	**12 43 16.9**	**-0.9**
CPCH				AML		AML	12 43 18.4	
	comp=E,29μm,0.1s							
CPCH	**Copiapo**	**0.93**	**100**	*i* P		**Pb**	**12 43 04.9**	**-0.8**
CPCH				*i* S		**Sb**	**12 43 16.9**	**-0.9**
CRCH	**Chaqaral**	**1.09**	**39**	*i* P		**Pb**	**12 43 09.0**	**+0.6**
CRCH				*i* S		**Sb**	**12 43 23.9**	**+1.6**
CRCH				AML		AML	12 43 34.2	
	comp=E,2μm,0.4s							
CRCH	**Chaqaral**	**1.09**	**39**	*i* P		**Pb**	**12 43 09.0**	**+0.6**
CRCH				*i* S		**Sb**	**12 43 23.9**	**+1.6**
LCO	**Las Campanas**	**1.91**	**162**	*i* P		**Pn**	**12 43 19.1**	**-0.7**
LCO				*i* S		**Sn**	**12 43 42.9**	**-0.5**
CPN1	**Cerro Paranal**	**2.71**	**19**	*i* P		**Pn**	**12 43 31.3**	**+0.5**
CPN1				*i* S		**Sn**	**12 44 02.9**	**-0.3**
CPN1				AML		AML	12 44 23.7	
	comp=N,728nm,0.5s							
TLL	**Tololo Astrono**	**3.00**	**170**	*e*P		**Pn**	**12 43 35.4**	**+0.5**
TLL				*i* S		**Sn**	**12 44 09.7**	**-0.9**
TLL				AML		AML	12 44 25.2	
	comp=N,1μm,0.6s							
TLL	**Tololo Astrono**	**3.00**	**170**	P		**Pn**	**12 43 35.4**	**+0.5**
TLL				*i* S		**Sn**	**12 44 09.7**	**-0.9**
CMCH	**Combarbala**	**3.98**	**175**	*e*P		**Pn**	**12 43 47.1**	**-1.1**
CFAA	**Coronel Fontan**	**5.18**	**149**	Pn		**Pn**	**12 44 07.0**	**+2.2**
	comp=N,0.3nm,0.3s,baz=343,slow=8.6,SNR=19							
CFAA				Sn		**Sn**	**12 45 06.2**	**+2.0**
	comp=N,0.7nm,0.3s,baz=176,slow=20,SNR=2.9							
CFAA	**Coronel Fontan**	**5.18**	**149**	Pn		**Pn**	**12 44 07.0**	**+2.2**
CFAA				Sn		**Sn**	**12 45 06.2**	**+2.0**
LPAZ	**La Paz**	**11.27**	**16**	Pn		**Pn**	**12 45 29.3**	**+1.0**
	comp=N,0.1nm,0.3s,baz=184,slow=8.4,SNR=4.6							
LPAZ	**La Paz**	**11.27**	**16**	*e*Pn		**Pn**	**12 45 29.2**	**+0.9**
TRQA	**Tornquist**	**13.41**	**146**	*e*P		**Pn**	**12 46 00.6**	**+3.0**
SIV	**San Ignacio**	**14.69**	**43**	Pn		**Pn**	**12 46 13.0**	**-2.1**
	comp=N,0.3nm,0.3s,baz=241,slow=14,SNR=5.3							
SAML	**Samuel**	**19.74**	**25**	P		**Pn**	**12 47 15.8**	**-2.7**
	comp=N,1.5nm,0.6s							
BDFB	**Brasilia**	**24.56**	**67**	P		**P**	**12 48 05.5**	**-1.4**
	comp=N,1.4nm,0.4s,mb3.8,baz=260,slow=8.9,SNR=3.4							
VNA3	**Neumayer Olymp**	**55.48**	**160**	*e*		**P**	**12 52 22.2**	**+0.2**
VNA2	**Neumayer--Watz**	**56.10**	**159**	*e*		**P**	**12 52 26.5**	**+0.1**
	baz=298,slow=8.8							
SNAA	**Sanae**	**57.70**	**160**	*e*P		**P**	**12 52 38.0**	**+0.2**
TORD	**Torodi Ar. Bea**	**81.38**	**70**	P		**P**	**12 55 04.5**	**+0.6**
	comp=N,2.2nm,0.8s,mb4.2,baz=250,slow=4.8,SNR=10							
ZAL	**Zalesovo**	**148.04**	**27**	PKPbc		PKPbc	13 02 34.2	+1.5
	comp=N,2.0nm,0.7s,baz=160,slow=4.1,SNR=13							
ZAL	**Zalesovo**	**148.04**	**27**	PKPbc		PKPbc	13 02 34.2	+1.5

BJI ***01*** *12:48:54.1, 2717N×12726E, h15km, mb3.3*

ISCJB ***01*** *12:48:56.9±0.5, 2819N±005×12766E±007, h10km, mb3.6/6, MS3.1/2, Error ellipse: s-maj=9.3km s-min=6.6km az=139.1*

IDC ***01*** *12:48:57.5±1.0, 2791N×127.10E, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.6/23, mbtmp3.7/6, ML4.2/1, MS3.2/2, Ms1 3.2/2, ms1mx2.5/36, Error ellipse: s-maj=37.6km s-min=12.1km az=52.0*

JMA ***01*** *12:48:59.2±0.4, 2807N×12773E, h9km, M2.8*

NEIC ***01*** *12:49:01.9±0.9, 2778N×12705E, h35km, mb3.8/1, Error ellipse: s-maj=18.4km s-min=13.9km az=57.0*

ISC 01 12:48:58.1±0.5, 2815N±005×12772E±007, h10km, n21, σ0§72/21, mb3.6/6, MS3.1/2, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JIH	**Iheya**	**1.13**	**169**	P		**Pb**	**12 49 18.8**	**-0.9**
JTK	**Tokunoshima**	**1.15**	**108**	P		**Pb**	**12 49 20.1**	**+0.1**
JOW	**Kunigami**	**1.40**	**159**	Pg		**Pg**	**12 49 24.1**	**-1.0**
	43nm,0.3s,baz=355,slow=8.9,SNR=97							
JOW				Lg			12 49 45.4	
	54nm,0.3s,baz=109,slow=26,SNR=12							
JOW				LR		LR	12 50 07.3	
	comp=Z,793nm,18.7s,baz=291,slow=46							
JOW	**Kunigami**	**1.40**	**159**	P		**Pn**	**12 49 23.5**	**-0.2**
JAGN	**Aguni-jima**	**1.61**	**195**	P		**Pn**	**12 49 27.3**	**+0.7**
JAM	**Amami Oshima**	**1.69**	**81**	P		**Pn**	**12 49 28.8**	**+1.2**
JKE	**Kume jima 2**	**2.00**	**205**	P		**Pn**	**12 49 32.4**	**+0.5**
JKE				*e*S		**Sn**	**12 49 57.4**	**+0.5**
JNU	**Nakatsue**	**5.66**	**28**	Pn		**Pn**	**12 50 30.6**	**+8.5**
	5.5nm,0.3s,baz=193,slow=0.6,SNR=3.5							
SSE	**Sheshan**	**6.40**	**299**	PG		**Pb**	**12 50 50.6**	**+1.1**
MJAR	**Matsushiro Arr**	**12.19**	**44**	Pn		**Pn**	**12 52 04.2**	**+12**
	0.1nm,0.3s,baz=234,slow=10,SNR=12							
MJAR	**Matsushiro Arr**	**12.19**	**44**	Pn		**Pn**	**12 52 04.2**	**+12**
CN2	**Changchun**	**15.73**	**354**	*e*P		**Pn**	**12 52 50.3**	**+11**
CD2	**Chengdu**	**21.02**	**283**	P		**P**	**12 53 40.8**	**-1.1**
GUMO	**Guam**	**21.56**	**129**	LR		LR	13 00 24.0	
	comp=Z,54nm,20.2s,MS2.9,baz=110,slow=31							
ULN	**Ulaanbaatar**	**25.40**	**326**	*e*P		**P**	**12 54 25.9**	**+0.2**
	2.0nm,0.8s,mb3.7							
GTA	**Gaotai**	**25.67**	**303**	*e*P		**P**	**12 54 27.8**	**-0.3**
GTA				AP		pP	12 54 32.5	+1.4
GTA				XP		sP	12 54 35.4	+3.0
SONM	**Songino Array**	**25.71**	**326**	P		**P**	**12 54 28.2**	**-0.3**
	2.4nm,1.0s,mb3.7,baz=140,slow=7.3,SNR=9.7							
SONM				LR		LR	13 05 07.9	
	comp=Z,68nm,18.6s,MS3.2,baz=236,slow=38							
ZAL	**Zalesovo**	**40.46**	**322**	P		**P**	**12 56 36.0**	**-0.9**
	0.7nm,0.4s,mb3.7,baz=321,slow=9.3,SNR=3.4							
WRA	**Warramunga Arr**	**48.23**	**172**	P		**P**	**12 57 38.7**	**-0.3**
	0.6nm,0.8s,mb3.7,baz=352,slow=8.2,SNR=3.5							
BVAR	**Borovoye Array**	**48.55**	**317**	P		**P**	**12 57 41.0**	**-0.5**
	0.5nm,0.5s,mb3.8,baz=50,slow=7.8,SNR=3.8							
ASAR	**Alice Springs**	**51.86**	**173**	P		**P**	**12 58 07.5**	**+1.1**
	0.3nm,0.7s,mb3.3,baz=355,slow=10,SNR=5.2							

IDC ***01*** *12:49:34.4±3.9, 1355S×167.13E, h214km±39km, mb3.7/8, mb1 3.8/9, mb1mx3.6/17, mbtmp4.2/9, Error ellipse: s-maj=25.2km s-min=17.6km az=171.0*

ISCJB ***01*** *12:49:37.5±3.0, 137S±02×167.1E±0.1, h261km±30km, mb3.9/8, Error ellipse: s-maj=27.1km s-min=20.2km az=10.8*

NEIC ***01*** *12:49:38.2±2.4, 1377S×167.12E, h254km±23km, mb3.9/2, Error ellipse: s-maj=21.8km s-min=11.6km az=188.0*

ISC 01 12:49:37.6±3.1, 137S±02×1672E±01, h250km±31km, n40, σ0§72/15, mb3.9/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.36**	**185**	P		**Pn**	**12 51 35.1**	**-0.2**
	0.7nm,0.3s,baz=25,slow=19,SNR=13							
RAO	**Raoul Island**	**20.75**	**141**	P		**P**	**12 54 00.1**	**+0.8**
	260nm,0.3s,baz=122,slow=23,SNR=4.6							
RAO	**Raoul Island**	**20.75**	**141**	*e*P		**P**	**12 54 00.1**	**+0.8**
	235nm,0.4s							
CTA	**Charters Tower**	**20.99**	**250**	P		**P**	**12 54 02.2**	**+0.3**
	3.5nm,0.5s,baz=78,slow=13,SNR=11							
CTAO	**Charters Tower**	**20.99**	**250**	*e*P		**P**	**12 54 01.8**	**-0.1**
	3.7nm,0.6s							
STKA	**Stephens Creek**	**29.60**	**228**	P		**P**	**12 55 19.5**	**0.0**
	3.2nm,0.4s,mb4.3,baz=47,slow=9.5,SNR=20							
STKA	**Stephens Creek**	**29.60**	**228**	*e*P		**P**	**12 55 19.4**	**-0.1**
WRAB	**Tennant Creek**	**31.99**	**254**	*e*P	

Azm143.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
*NEIC **01** 12:59:20.4±0.2, 6069N×16603E, mb4.7/42, MS4.0/1 Error ellipse: s-maj=5.8km s-min=3.6km az=189.0*
*ISCJB **01** 12:59:20.8±0.9, 6073N±003×166.15E±005, h23km±7km, mb4.5/95, MS3.9/24, Error ellipse: s-maj=5.1km s-min=3.3km az=91.6*
*BJI **01** 12:59:20.4, 6070N×16600E, h11km, mB5.1, mb4.6, Ms4.6, Msz4.2*
*SZGRF **01** 12:59:28.7, 6138N×16721E, h33km, mb4.6, Eastern Siberia, Russia*
ISC 01 12:59:24.0±1.0, 6077N±003×16613E±005, h34km±7km, h15km±1.2km: pP-P, n227, σ0≤99/237, mb4.5/95, MS3.9/24, 2C-D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAMR	**Kamenskoye**	**1.70**	**1**	*i* P		**Pn**	**12 59 50.8**	**-0.3**
KAMR				*i* S		**Sn**	**13 00 14.0**	**+2.4**
KAMR				Smax				
	13μm,1.1s							
OSSR	**Ossora**	**2.17**	**227**	*e*P		**Pn**	**12 59 55.7**	**-1.9**
OSSR				*e*S		**Sn**	**13 00 24.0**	**+0.7**
SMKR	**Semkarok**	**4.85**	**212**	*e*P		**Pn**	**13 00 33.9**	**-0.6**
KBG	**Krutoberegovo**	**4.87**	**203**	*e*P		**Pn**	**13 00 34.1**	**-0.7**
KBG				Smax				
	280nm,0.9s							
SRKR	**Sorokina**	**4.87**	**214**	*e*P		**Pn**	**13 00 34.0**	**-0.8**
KBTR	**Krutoberegovo**	**4.89**	**202**	P		**Pn**	**13 00 33.2**	**-1.9**
KBTR				S		**Sn**	**13 01 30.6**	**+0.1**
KBTR	**Krutoberegovo**	**4.89**	**202**	*e*P		**Pn**	**13 00 33.8**	**-1.3**
BDR	**Baidarnaya**	**4.93**	**214**	*e*P		**Pn**	**13 00 34.7**	**-0.9**
KLY	**Klyuchi**	**5.31**	**215**	*e*P		**Pn**	**13 00 39.0**	**-1.8**
KLY				*e*S		**Sn**	**13 01 39.5**	**-1.3**
KRSR	**Krestovskiy**	**5.42**	**215**	P		**Pn**	**13 00 42.6**	**+0.3**
CIRR	**Tsirk**	**5.45**	**214**	*e*P		**Pn**	**13 00 43.2**	**+0.4**
LGNR	**Loginova**	**5.50**	**214**	*e*P		**Pn**	**13 00 45.3**	**+1.9**
ZLN	**Zelenaya**	**5.53**	**213**	*e*P		**Pn**	**13 00 43.9**	**+0.1**
ZLN				*e*S		**Sn**	**13 01 46.4**	**+0.3**
BKI	**Bering**	**5.58**	**181**	*e*P		**Pn**	**13 00 44.1**	**-0.4**
SRDR	**Sredinnyy**	**5.58**	**220**	P		**Pn**	**13 00 46.5**	**+1.9**
KPT	**Kopyto**	**5.73**	**215**	P		**Pn**	**13 00 45.2**	**-1.4**
KMNR	**Kamenistaya**	**5.91**	**214**	*e*P		**Pn**	**13 00 47.7**	**-1.3**
ESO	**Esso**	**6.23**	**222**	*e*P		**Pn**	**13 00 54.5**	**+1.0**
ESO				Smax				
	130nm,1.3s							
TUMR	**Tumrok**	**6.35**	**213**	P		**Pn**	**13 00 57.2**	**+2.1**
MKZ	**Mys Kozlova**	**6.66**	**203**	P		**Pn**	**13 00 59.5**	**+0.1**
SEY	**Seymchan**	**6.86**	**294**	*i* P		**Pn**	**13 01 03.6**	**+1.5**
BILL	**Bilibino**	**7.30**	**0**	⇓*e*PN		**Pn**	**13 01 08.1**	**-0.1**
BILL				pmax	pmax			
	comp=Z,31nm,0.8s							
BILL				MLR	MLR			
	comp=Z,1μm,17.0s							
BILL	**Bilibino**	**7.30**	**0**	*e*P		**Pn**	**13 01 07.5**	**-0.7**
	comp=Z,48nm,0.6s							
BILL	**Bilibino**	**7.30**	**0**	*e*P		**Pn**	**13 01 09.3**	**+1.1**
MA2	**Magadan**	**7.75**	**268**	*e*PN		**Pn**	**13 01 13.2**	**-1.2**
MA2				pmax	pmax			
	comp=Z,30nm,0.7s							
MA2				pmax	pmax			
	comp=E,30nm,0.6s							
MA2				MLR	MLR			
	comp=Z,5μm,7.5s							
MA2	**Magadan**	**7.75**	**268**	*e*P		**Pn**	**13 01 15.2**	**+0.8**
GNL	**Ganaly**	**8.36**	**216**	*e*P		**Pn**	**13 01 23.0**	**+0.3**
SPN	**Mys Shipunski**	**8.38**	**206**	P		**Pn**	**13 01 22.7**	**-0.2**
SPN	**Mys Shipunski**	**8.38**	**206**	*e*P		**Pn**	**13 01 23.8**	**+0.9**
SDLR	**Sedlovina**	**8.48**	**211**	*e*P		**Pn**	**13 01 25.5**	**+1.2**
AVH	**Avacha**	**8.53**	**211**	P		**Pn**	**13 01 26.1**	**+1.1**
KOK	**Koryaka**	**8.53**	**212**	*e*P		**Pn**	**13 01 28.4**	**+3.4**
UGLR	**Uglovaya**	**8.56**	**211**	P		**Pn**	**13 01 26.2**	**+0.8**
FX1	**Attu Island--F**	**8.79**	**151**	Pn		**Pn**	**13 01 27.5**	**-1.0**
	comp=Z,7.5nm,0.3s,baz=315,slow=2.9,SNR=9.6							
FX1	**Attu Island--F**	**8.79**	**151**	PN		**Pn**	**13 01 27.5**	**-1.1**
FX1				pmax	pmax			
	comp=Z,8.0nm,0.3s							
FX1	**Attu Island--F**	**8.79**	**151**	*e*P		**Pn**	**13 01 27.1**	**-1.5**
APC	**Apacha**	**9.26**	**216**	*e*P		**Pn**	**13 01 35.2**	**+0.1**
YAK	**Yakutsk**	**17.35**	**290**	*e*P		**Pn**	**13 03 25.2**	**+1.8**
YAK				*e*S		**Sn**	**13 06 39.3**	**+3.8**
YAK				pmax	pmax			
	comp=Z,38nm,0.8s							
YAK				pmax	pmax			
	comp=N,4.0nm,1.3s							
YAK				pmax	pmax			
	comp=E,8.0nm,0.7s							
YAK				smax				
	comp=N,29nm,4.9s							
YAK				smax				
	comp=E,49nm,7.4s							
YAK				MLR	MLR			
	comp=Z,256nm,11.0s							
YAK				MLR	MLR			
	comp=N,141nm,10.0s							
YAK				MLR	MLR			
	comp=E,201nm,10.0s							
YAK	**Yakutsk**	**17.35**	**290**	*e*P		**Pn**	**13 03 24.7**	**+1.3**
	comp=E,72nm,0.8s							
TTA	**Tatalina**	**17.82**	**67**	*e*P		**Pn**	**13 03 30.2**	**+1.0**
TTA				pmax	pmax			
	comp=Z,31nm,1.0s							
TTA	**Tatalina**	**17.82**	**67**	*e*P		**Pn**	**13 03 30.2**	**+1.0**
	comp=Z,31nm,1.0s							
TIXI	**Tiksi**	**18.18**	**322**	*e*P		**Pn**	**13 03 33.5**	**0.0**
TIXI				pmax	pmax			
	comp=Z,9.0nm,0.9s							
COLA	**College**	**21.03**	**59**	*e*P		**P**	**13 04 05.6**	**+0.8**
COLA	**College**	**21.03**	**59**	*e*P		**P**	**13 04 06.2**	**+1.4**
	comp=Z,38nm,1.3s,mb4.6							
KDAK	**Kodiak Island**	**21.05**	**80**	P		**P**	**13 04 05.8**	**+0.8**
	comp=Z,15nm,0.8s,mb4.3,baz=65,slow=2.4,SNR=5.1							
ILAR	**Eielson Array**	**21.46**	**59**	P		**P**	**13 04 09.3**	**0.0**
	comp=Z,8.0nm,0.7s,mb4.2,baz=276,slow=10,SNR=60							
ILAR				LR		LR	13 12 37.6	
	comp=Z,117nm,19.6s,MS3.3,baz=300,slow=37							
HABR	**Khabarovsk**	**21.55**	**249**	P		**P**	**13 04 12.2**	**+1.8**
ASAJ	**Asahikawa**	**21.80**	**231**	LR		LR	13 12 53.8	
	comp=Z,360nm,18.8s,MS3.8,baz=7.5,slow=38							
DAWY	**Dawson**	**24.78**	**59**	*e*P		**P**	**13 04 41.6**	**-1.0**
INK	**Inuvik**	**25.96**	**48**	P		**P**	**13 04 53.2**	**-0.1**
	comp=Z,7.6nm,0.6s,mb4.4,baz=325,slow=6.5,SNR=65							
INK				LR		LR	13 15 33.8	
	comp=Z,97nm,18.6s,MS3.4,baz=306,slow=38							
INK	**Inuvik**	**25.96**	**48**	*e*P		**P**	**13 04 52.8**	**-0.5**
INK				pmax	pmax			
	comp=Z,20nm,0.9s							
INK	**Inuvik**	**25.96**	**48**	*e*P		**P**	**13 04 52.8**	**-0.4**
	comp=Z,20nm,0.9s,mb4.6							
BOD	**Bodaibo**	**26.20**	**287**	*e*P		**P**	**13 04 54.7**	**-0.7**
BOD				pmax	pmax			
	comp=Z,13nm,1.0s,mb4.4							
MDJ	**Mudanjiang**	**26.94**	**250**	P		**P**	**13 05 01.4**	**-0.7**
MDJ				AP		pP	13 05 04.4	-7.4
MDJ				PCP		PcP	13 08 25.4	+2.0
MDJ				S		**S**	**13 09 37.3**	**+0.4**
MDJ				SCP		ScP	13 12 05.5	+4.5
MDJ				PCS		PcS	13 12 06.7	+1.9
MDJ				SCS		ScS	13 15 55.9	+4.0
MDJ				AMB		AMB		
	comp=Z,7.0nm,1.3s,mb4.0							
MDJ				AMB		AMB		
	comp=Z,323nm,4.7s							
CN2	**Changchun**	**29.49**	**254**	*e*P		**P**	**13 05 26.0**	**+1.2**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.6							
MJAR	**Matsushiro Arr**	**30.03**	**229**	P		**P**	**13 05 28.6**	**-1.0**
	comp=Z,3.5nm,1.0s,mb4.1,baz=19,slow=7.8,SNR=6.1							
MJAR				LR		LR	13 19 31.4	
	comp=Z,137nm,18.0s,MS3.6,baz=25,slow=40							
DLBC	**Dease Lake**	**31.26**	**65**	P		**P**	**13 05 41.6**	**+1.1**
	comp=Z,5.2nm,0.8s,mb4.4,baz=296,slow=13,SNR=8.7							
DLBC				LR		LR	13 20 38.4	
	comp=Z,101nm,19.3s,MS3.5,baz=125,slow=41							
DLBC	**Dease Lake**	**31.26**	**65**	*e*P		**P**	**13 05 41.3**	**+0.8**
TLY	**Talaya**	**34.62**	**284**	*e*P		**P**	**13 06 10.2**	**+0.4**
YKW3	**Yellowknife Ar**	**35.46**	**52**	*e*P		**P**	**13 06 16.1**	**-1.0**
YKA	**Yellowknife Ar**	**35.50**	**52**	P		**P**	**13 06 16.8**	**-0.6**
	comp=Z,3.8nm,0.8s,mb4.4,baz=304,slow=8.1,SNR=60							
YKA				PcP		PcP	13 08 45.2	-1.0
	comp=Z,1.4nm,0.9s,baz=308,slow=3.3,SNR=7.2							
YKA				LR		LR	13 23 23.9	
	comp=Z,76nm,18.7s,MS3.5,baz=310,slow=41							
YKA	**Yellowknife Ar**	**35.50**	**52**	P		**P**	**13 06 16.8**	**-0.6**
YKA							13 08 45.2	
YKA	**Yellowknife Ar**	**35.50**	**52**	P		**P**	**13 06 16.8**	**-0.6**
YKA				PcP		PcP	13 08 45.2	-1.0
YKA				LR		LR	13 23 23.9	
SONM	**Songino Array**	**35.86**	**277**	P		**P**	**13 06 19.1**	**-1.3**
	comp=Z,1.0nm,0.9s,mb3.8,baz=62,slow=6.7,SNR=5.1							
SONM				PcP		PcP	13 08 47.2	-0.1
	comp=Z,1.8nm,0.9s,baz=53,slow=2.2,SNR=6.3							
SONM				LR		LR	13 21 46.6	
	comp=Z,181nm,18.5s,MS3.9,baz=242,slow=38							
SONM	**Songino Array**	**35.86**	**277**	P		**P**	**13 06 19.1**	**-1.4**
SONM							13 08 47.2	
MOY	**Mondy**	**35.89**	**285**	*e*P		**P**	**13 06 24.4**	**+3.7**
BJI	**Beijing**	**36.80**	**259**	P		**P**	**13 06 28.6**	**+0.1**
BJI				AMB		AMB		
	comp=Z,19nm,1.2s,mb4.8							
BJI				LR		LR		
	comp=N,424nm,14.7s,MS4.4							
BJI				LR		LR		
	comp=E,235nm,14.7s,MS4.4							
BJI				LR		LR		
	comp=Z,80nm,19.9s							
HHC	**Hu-ho-hao-te**	**38.41**	**264**	*e*P		**P**	**13 06 42.0**	**-0.2**
HHC				AP		pP	13 06 46.6	-5.5
HHC				XP		sP	13 06 49.6	-6.5
HHC				PP		PP	13 08 13.7	+3.3
HHC				PCP		PcP	13 08 57.2	+2.1
HHC				S		**S**	**13 12 36.2**	**+1.3**
HHC				SCP		ScP	13 12 42.1	+1.7
HHC				PCS		PcS	13 12 44.7	+0.5
HHC				SS		SS	13 15 11.8	-13
HHC				SCS		ScS	13 16 52.5	+2.0
HHC				AMB		AMB		
	comp=Z,9.0nm,1.2s,mb4.4							
HHC				AMB		AMB		
	comp=Z,179nm,4.9s							
HHC				LR		LR		
	comp=N,166nm,12.2s,MS4.4							
HHC				LR		LR		
	comp=E,274nm,10.4s,MS4.4							
HHC				LR		LR		
	comp=Z,232nm,13.1s,MS4.2							
ZAL	**Zalesovo**	**41.73**	**299**	P		**P**	**13 07 09.7**	**+0.1**
	comp=Z,0.8nm,0.4s,mb3.7,baz=126,slow=7.8,SNR=5.5							
ZAL				LR		LR	13 27 04.7	
	comp=Z,248nm,19.7s,MS4.1,baz=67,slow=40							
NVS	**Novosibirsk**	**41.77**	**300**	*e*P		**P**	**13 07 08.2**	**-1.8**
NVS				*e*PPP			13 08 53.3	
NVS				*e*S		**S**	**13 13 19.8**	**-5.3**
NVS				pmax	pmax			
	comp=Z,26nm,2.0s,mb4.5							
NVS				pmax	pmax			
	comp=N,10.0nm,1.6s							
NVS				pmax	pmax			
	comp=E,10.0nm,1.3s							
NVS				smax				
	comp=N,14nm,2.1s							
SSE	**Sheshan**	**41.77**	**245**	P		**P**	**13 07 10.8**	**+0.8**
SSE				AP		pP	13 07 17.2	-2.8
SSE				XP		sP	13 07 18.9	-5.2
SSE				S		**S**	**13 13 27.5**	**+2.4**
SSE				XS		sS	13 13 38.2	-3.3
SSE				AMB		AMB		
	comp=Z,13nm,0.7s,mb4.7							
SSE				AMB		AMB		
	comp=Z,40nm,8.0s							
SSE				LR		LR		
	comp=N,45nm,24.0s,MS3.5							
SSE				LR		LR		
	comp=E,57nm,23.9s,MS3.5							
SSE				LR		LR		
	comp=Z,64nm,18.6s							
EDM	**Edmonton**	**41.86**	**63**	*e*P		**P**	**13 07 11.0**	**+0.3**
NJ2	**Nanjing**	**42.02**	**249**	*e*P		**P**	**13 07 13.4**	**+1.4**
NJ2				AP		pP	13 07 17.0	-5.0
NJ2				XP		sP	13 07 19.8	-6.3
NJ2				PP		PP	13 08 52.2	+2.6
NJ2				S		**S**	**13 13 30.0**	**+1.3**
NJ2				XS		sS	13 13 38.0	-7.2
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.6							
NJ2				AMB		AMB		
	comp=Z,80nm,3.9s							
NJ2				LR		LR		
	comp=N,470nm,13.6s							
NJ2				LR		LR		
	comp=E,500nm,19.5s							
NJ2				LR		LR		
	comp=Z,270nm,16.4s,MS4.2							
WALA	**Waterton Lakes**	**44.56**	**67**	*e*P		**P**	**13 07 31.9**	**-0.7**
	comp=Z,13nm,0.9s,mb4.8							
GTA	**Gaotai**	**45.28**	**273**	*e*P		**P**	**13 07 37.4**	**-0.9**
GTA				PCP		PcP	13 09 16.6	-1.1
GTA				PP		PP	13 09 25.0	+0.5
GTA				PCS		PcS	13 13 10.9	-0.7
GTA				S		**S**	**13 14 19.7**	**+3.4**
GTA				AMB		AMB		
	comp=Z,2.0nm,1.2s,mb3.8							
GTA				AMB		AMB		
	comp=Z,108nm,5.3s							
GTA				LR		LR		
	comp=N,205nm,12.2s,MS4.4							
GTA				LR		LR		
	comp=E,200nm,12.2s,MS4.4							
GTA				LR		LR		
	comp=Z,321nm,9.1s							
FCC	**Fort Churchill**	**45.56**	**46**	*e*P		**P**	**13 07 39.0**	**-1.5**
FCC				pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.5							
FCC	**Fort Churchill**	**45.56**	**46**	*e*P		**P**	**13 07 39.0**	**-1.5**
	comp=Z,7.1nm,1.0s,mb4.5							
YBH	**Yreka Blue Hor**	**45.86**	**81**	LR		LR	13 24 17.6	
	comp=Z,71nm,20.0s,MS3.6,baz=315,slow=33							
SUMG	**Summit**	**45.87**	**10**	*e*P		**P**	**13 07 42.5**	**-0.4**
	comp=Z,35nm,1.3s,mb5.1							
LZH	**Lanzhou**	**45.91**	**267**	*e*P		**P**	**13 07 45.1**	**+1.9**
LZH				AP		pP	13 07 49.6	-3.7
LZH				XP		sP	13 07 52.1	-5.2
LZH				PP		PP	13 09 32.5	+1.4
LZH				AMB		AMB		
	comp=Z,21nm,1.4s,mb4.9							
KEV	**Kevo**	**46.56**	**342**	*e*p		**P**	**13 07 39.3**	**-9.1**
	comp=Z,0.2nm,0.4s							
KURK	**Kurchatov**	**46.68**	**299**	*e*P		**P**	**13 07 48.7**	**-0.6**
KURK				*e*			13 07 51.9	
KURK				pmax	pmax			
	comp=Z,11nm,0.6s,mb5.0							
KURK	**Kurchatov**	**46.68**	**299**	*e*P		**P**	**13 07 48.7**	**-0.6**
	comp=Z,11nm,0.6s,mb5.0							
KURK				*e*			13 07 51.9	
ARCES	**ARCESS Array B**	**46.99**	**342**	P		**P**	**13 07 50.8**	**-0.9**
	comp=Z,4.2nm,0.8s,mb4.4,baz=27,slow=11,SNR=7.9							
HRY	**Holter Researc**	**47.24**	**68**	*e*P		**P**	**13 07 53.9**	**+0.3**
WVOR	**Wild Horse Val**	**47.29**	**77**	*e*P		**P**	**13 07 54.2**	**+0.2**
WVOR				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.4							
WVOR	**Wild Horse Val**	**47.29**	**77**	*e*P		**P**	**13 07 54.1**	**+0.1**
	comp=Z,3.9nm,0.8s,mb4.4							
APA	**Apatity**	**47.41**	**337**	⇓*e*P		**P**	**13 07 53.5**	**-1.5**
APA				pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.6							
WMQ	**Urumqi**	**47.75**	**287**	⇓P		**P**	**13 08 01.2**	**+3.6**
WMQ				AP		pP	13 08 05.7	-2.0
WMQ				XP		sP	13 08 08.2	-3.6
WMQ				PCP		PcP	13 09 30.4	+4.0
WMQ				PP		PP	13 09 52.2	+2.7
WMQ				PPP			13 10 41.7	
WMQ				S		**S**	**13 14 56.7**	**+5.0**
WMQ				XS		sS	13 15 02.7	-5.6
WMQ				AMB		AMB		
	comp=Z,7.0nm,1.0s,mb4.7							
WMQ				AMB		AMB		
	comp=Z,52nm,3.8s							
WMQ				LR		LR		
	comp=N,98nm,16.6s,MS4.0							
WMQ				LR		LR		
	comp=E,86nm,18.6s,MS4.0							
WMQ				LR		LR		
	comp=Z,75nm,19.7s,MS3.7							
DLMT	**Dillon**	**47.90**	**70**	*e*P		**P**	**13 07 59.2**	**+0.4**
	comp=Z,9.3nm,1.1s,mb4.7							
MKAR	**Makanchi Array**	**47.99**	**293**	P		**P**	**13 07 58.6**	**-0.9**
	comp=Z,1.3nm,0.6s,mb4.2,baz=47,slow=7.5,SNR=22							
MCMT	**McKenzie Canyo**	**48.19**	**71**	*e*P		**P**	**13 08 01.5**	**+0.5**
BVAR	**Borovoye Array**	**48.34**	**306**	P		**P**	**13 08 02.1**	**-0.1**
	comp=Z,19nm,0.6s,mb5.3,baz=51,slow=7.5,SNR=126							
BRVK	**Borovoye**	**48.36**	**307**	*e*P		**P**	**13 08 02.2**	**-0.1**
BRVK				pmax	pmax			
	comp=Z,10.0nm,0.6s,mb5.0							
BRVK	**Borovoye**	**48.36**	**307**	*e*P		**P**	**13 08 02.2**	**-0.2**
	comp=Z,9.8nm,0.6s,mb5.0							
HLID	**Hailey**	**48.43**	**73**	*e*P		**P**	**13 08 02.7**	**-0.2**
	comp=Z,2.4nm,0.7s,mb4.3							
GCMT	**Greyclif**	**48.92**	**67**	*e*P		**P**	**13 08 07.0**	**+0.4**
ZRNK	**Zerenda**	**48.95**	**307**	*e*P		**P**	**13 08 08.7**	**+1.9**
ZRNK				pmax	pmax			
	comp=Z,11nm,0.6s,mb5.1							
ZRNK	**Zerenda**	**48.95**	**307**	*e*P		**P**	**13 08 08.7**	**+1.8**
	comp=Z,11nm,0.6s,mb5.0							
LKWY	**Lake**	**49.52**	**69**	*e*P		**P**	**13 08 12.8**	**+1.6**
LKWY				pmax	pmax			
	comp=Z,10.0nm,0.7s,mb5.0							
LKWY	**Lake**	**49.52**	**69**	*e*P		**P**	**13 08 12.8**	**+1.6**
	comp=Z,9.8nm,0.7s,mb5.0							
FLWY	**Flagg Ranch**	**49.75**	**70**	*e*P		**P**	**13 08 13.9**	**+0.9**
	comp=Z,15nm,0.8s,mb5.1							
IMW	**Indian Meadow**	**49.79**	**70**	*e*P		**P**	**13 08 14.0**	**+0.8**
	comp=Z,5.1nm,0.7s,mb4.7							
ARU	**Arti**	**50.05**	**316**	⇑*i*P		**P**	**13 08 14.6**	**-0.7**
ARU				*e*			13 10 07.4	
ARU				*e*S		**S**	**13 15 22.3**	**-1.7**
ARU				*e*SS		SS	13 18 54.4	-2.9
ARU				pmax	pmax			
	comp=Z,9.0nm,0.8s,mb4.8							
TPAW	**Teton Pass**	**50.09**	**70**	*e*P		**P**	**13 08 16.1**	**+0.5**
	comp=Z,9.3nm,0.8s,mb4.9							
CD2	**Chengdu**	**50.14**	**263**	*e*P		**P**	**13 08 14.8**	**-1.1**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.8							
LOHW	**Long Hollow**	**50.16**	**70**	*e*P		**P**	**13 08 16.3**	**+0.2**
	comp=Z,4.3nm,0.6s,mb4.7							
LOHW				*e*			13 08 19.9	
NVAR	**Mina Array Bea**	**50.55**	**80**	P		**P**	**13 08 19.3**	**+0.2**
	comp=Z,2.5nm,0.6s,mb4.3,baz=317,slow=7.1,SNR=16							
NVAR	**Mina Array Bea**	**50.55**	**80**	P		**P**	**13 08 19.3**	**+0.2**
PDAR	**Pinedale Array**	**51.30**	**70**	P		**P**	**13 08 24.9**	**+0.3**
	comp=Z,7.0nm,0.7s,mb4.7,baz=328,slow=4.3,SNR=18							
TPH	**Tonopah**	**51.35**	**79**	*e*P		**P**	**13 08 25.0**	**-0.1**
TPH				*e*			13 08 28.4	
TPH				pmax	pmax			
	comp=Z,11nm,0.9s,mb4.8							
TPH	**Tonopah**	**51.35**	**79**	*e*P		**P**	**13 08 25.0**	**0.0**
	comp=Z,11nm,0.9s,mb4.8							
TPH				*e*			13 08 28.4	
ULM	**Lac du Bonnet**	**51.38**	**54**	P		**P**	**13 08 24.1**	**-1.2**
	comp=Z,2.5nm,0.8s,mb4.2,baz=277,slow=3.5,SNR=2.4							
KLMR	**Klimovskoe**	**51.95**	**330**	*e*P		**P**	**13 08 29.1**	**-0.4**
KLMR				pmax	pmax			
	comp=Z,20nm,1.8s,mb4.8							
KLMR				MLR	MLR			
	comp=Z,160nm,15.0s,MS4.2							
JOF	**Joensuu**	**51.96**	**336**	*e*p		**P**	**13 08 29.0**	**-0.6**
	comp=Z,0.4nm,0.5s,mb3.6							
DAC	**Darwin (Calif)**	**52.60**	**81**	*e*P		**P**	**13 08 34.1**	**-0.3**
DAC				*e*			13 08 37.9	
DAC				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.2							
DAC	**Darwin (Calif)**	**52.60**	**81**	*e*P		**P**	**13 08 34.1**	**-0.3**
	comp=Z,3.5nm,0.9s,mb4.3							
DAC				*e*			13 08 37.9	
TPNV	**Topopah Spring**	**52.72**	**80**	P		**P**	**13 08 35.1**	**-0.1**
TPNV				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.2							
TPNV	**Topopah Spring**	**52.72**	**80**	P		**P**	**13 08 35.1**	**-0.1**
	comp=Z,3.1nm,0.9s,mb4.2							
RSSD	**Black Hills**	**52.74**	**65**	*e*P		**P**	**13 08 35.2**	**-0.2**
RSSD				*e*			13 08 38.6	
RSSD				pmax	pmax			
	comp=Z,6.0nm,0.7s,mb4.6							
RSSD	**Black Hills**	**52.74**	**65**	*e*P		**P**	**13 08 35.2**	**-0.2**
	comp=Z,5.7nm,0.7s,mb4.6							
RSSD				*e*			13 08 38.6	
ARUT	**Antelope Range**	**53.40**	**77**	P		**P**	**13 08 40.5**	**+0.3**
ARUT				*e*			13 08 44.0	
MSU	**Marysvale**	**53.42**	**75**	*e*P		**P**	**13 08 40.5**	**+0.1**
KAF	**Kangasniemi**	**53.66**	**338**	*e*p		**P**	**13 08 40.9**	**-1.3**
	comp=Z,0.6nm,0.4s,mb3.9							
SRU	**San Rafael**	**53.73**	**73**	*e*P		**P**	**13 08 43.2**	**+0.5**
SRU				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.6							
SRU	**San Rafael**	**53.73**	**73**	*e*P		**P**	**13 08 43.2**	**+0.6**
	comp=Z,7.5nm,0.8s,mb4.7							
FINES	**FINESS Array B**	**54.32**	**338**	P		**P**	**13 08 45.9**	**-1.1**
	comp=Z,3.6nm,0.9s,mb4.3,baz=16,slow=7.7,SNR=9.1							
FINES	**FINESS Array B**	**54.32**	**338**	P		**P**	**13 08 45.9**	**-1.1**
NEN	**Nelson**	**54.44**	**79**	*e*P		**P**	**13 08 48.5**	**+0.7**
AAK	**Ala-Archa**	**54.72**	**295**	*e*P		**P**	**13 08 49.4**	**-0.5**
AAK				*e*			13 08 52.2	
AAK				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.3							
AAK	**Ala-Archa**	**54.72**	**295**	*e*P		**P**	**13 08 49.4**	**-0.5**
	comp=Z,3.4nm,0.9s,mb4.4							
AAK				*e*			13 08 52.2	
PV10	**Paradox Valley**	**55.01**	**73**	*e*P		**P**	**13 08 52.9**	**+0.9**
AKTK	**Aktyubinsk**	**55.10**	**312**	P		**P**	**13 08 52.2**	**-0.4**
AKTO	**Aktyubinsk**	**55.10**	**312**	P		**P**	**13 08 52.2**	**-0.4**
	comp=Z,5.

comp=Z,5.5nm,0.8s,mb4.7,baz=23,slow=6.3,SNR=10
AKASG Malin Array Be 63.61 331 *i* P **P** **13 09 53.5 +2.1**
AKASG pmax pmax
comp=Z,6.0nm,0.8s
EKA Eskdalemuir Ar 63.94 353 P **P** **13 09 53.4 -0.2**
comp=Z,3.7nm,0.8s,mb4.5,baz=351,slow=5.0,SNR=5.4
NCB Newcomb 64.69 44 P **P** **13 09 58.8 +0.3**
LTX Lajitas 64.97 75 P **P** **13 10 00.1 -0.2**
LTX pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
LTX Lajitas 64.97 75 P **P** **13 10 00.1 -0.2**
comp=Z,9.1nm,1.2s,mb4.7
KIV Kislovodsk 65.97 319 *e*P **P** **13 10 07.4 +0.6**
KIV pmax pmax
comp=Z,12nm,0.9s,mb4.9
OJC Ojcow 66.09 337 *e*P **P** **13 10 07.4 -0.2**
CLL Collm 66.21 342 *i* P **P** **13 10 09.2 +0.9**
STHS Stebnicka Huta 66.58 336 *e*P **P** **13 10 11.8 +1.1**
STHS *e* 13 10 31.2
STHS Stebnicka Huta 66.58 336 *e*P **P** **13 10 11.8 +1.1**
STHS pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
ZEI Tsey 66.63 317 *e*P **P** **13 10 11.7 +0.7**
ZEI pmax pmax
comp=Z,13nm,1.1s,mb4.9
KOLS Kolonicke sedl 66.83 335 *e*sP sP 13 10 17.1 -10
MORC Moravsky Berou 66.94 338 *e*P **P** **13 10 11.8 -1.2**
MORC pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
MORC Moravsky Berou 66.94 338 *e*P **P** **13 10 11.8 -1.2**
comp=Z,3.3nm,0.9s,mb4.4
VRAC Vranov 67.56 339 P **P** **13 10 14.6 -2.3**
comp=Z,1.9nm,0.6s,mb4.3,baz=338,slow=5.4,SNR=3.3
KECS Kecovo 67.62 336 *e*P **P** **13 10 17.5 +0.2**
KECS *e*pP pP 13 10 21.3 -6.5
KECS Kecovo 67.62 336 *e*P **P** **13 10 17.5 +0.2**
KECS pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
VYHS Vyhne 67.93 337 *e*P **P** **13 10 19.4 +0.2**
VYHS pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
GRA1 Grafenberg Arr 68.05 343 *e*P **P** **13 10 20.4 +0.4**
comp=Z,5.0nm,1.1s,mb4.5
GRF Grafenberg Arr 68.05 343 *e*P **P** **13 10 20.4 +0.4**
comp=Z,5.0nm,1.1s,mb4.5
GRF Grafenberg Arr 68.05 343 *e*P **P** **13 10 20.4 +0.4**
GRF pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
GRF Grafenberg Arr 68.05 343 *e*P **P** **13 10 20.4 +0.4**
GRF pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
KHC Kasperske Hory 68.24 341 *e*P **P** **13 10 21.0 -0.2**
GERES GERESS Array B 68.49 341 P **P** **13 10 22.2 -0.6**
comp=Z,1.0nm,0.7s,mb4.0,baz=31,slow=5.4,SNR=10
ZST Bratislava 68.54 338 *e*P **P** **13 10 26.3 +3.2**
ZST pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
GNI Garni 68.68 315 P **P** **13 10 23.2 -0.7**
comp=Z,4.0nm,0.4s,mb4.7,baz=323,slow=20,SNR=2.1
SRO Srobarova 68.68 337 *e*P **P** **13 10 24.1 +0.2**
SRO2 Moca 68.72 337 *e*P **P** **13 10 24.1 -0.1**
MLR Muntele Rosu 69.27 331 P **P** **13 10 28.2 +0.6**
comp=Z,3.2nm,0.5s,mb4.5,baz=90,slow=1.0,SNR=4.8
CDF Champ du Feu 69.84 345 *e*P **P** **13 10 31.4 +0.3**
HNR Honiara 70.14 186 LR LR 13 36 16.8
comp=Z,80nm,20.5s,MS4.0,baz=358,slow=32
ROSF Rostrenen 70.92 353 *e*P **P** **13 10 37.0 -0.7**
LOR Lormes 71.36 347 *e*P **P** **13 10 39.6 -0.8**
comp=Z,18nm,1.1s,mb4.6
LOR *e*R
comp=Z,85nm,21.5s
LOR Lormes 71.36 347 *e*P **P** **13 10 39.6 -0.8**
LOR pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
LOR MLR MLR
comp=Z,90nm,21.5s,MS4.0
LOR Lormes 71.36 347 *e*P **P** **13 10 39.6 -0.8**
comp=Z,9.1nm,1.1s,mb4.6
LOR LR LR
comp=Z,90nm,21.5s,MS4.0
PMG Port Moresby 71.54 200 P **P** **13 10 38.4 -3.1**
comp=Z,14nm,0.9s,mb4.9,baz=18,slow=6.4,SNR=4.2
PMG LR LR 13 40 20.1
comp=Z,65nm,20.2s,MS3.9,baz=197,slow=34
CABF La Chapelle 71.76 346 *e*P **P** **13 10 42.3 -0.5**
AVF Avril sur Loir 71.89 348 *e*P **P** **13 10 43.0 -0.6**
comp=Z,24nm,1.2s,mb4.7
AVF Avril sur Loir 71.89 348 *e*P **P** **13 10 43.0 -0.6**
AVF pmax pmax
comp=Z,12nm,1.2s,mb4.7
AVF Avril sur Loir 71.89 348 *e*P **P** **13 10 43.0 -0.6**
comp=Z,12nm,1.2s,mb4.7
SMF Signal de Mont 71.98 347 *e*P **P** **13 10 43.3 -0.8**
TCF Toulx Ste Croi 72.50 348 *e*P **P** **13 10 46.7 -0.5**
comp=Z,12nm,1.0s,mb4.5
TCF Toulx Ste Croi 72.50 348 *e*P **P** **13 10 46.7 -0.5**
TCF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
TCF Toulx Ste Croi 72.50 348 *e*P **P** **13 10 46.7 -0.5**
comp=Z,5.8nm,1.0s,mb4.5
BR131 Keskin Array S 72.61 323 *e*P **P** **13 10 48.0 +0.1**
comp=Z,3.7nm,0.8s,mb4.4
BRTR Keskin Array B 72.61 323 P **P** **13 10 48.5 +0.7**
comp=Z,3.7nm,0.9s,mb4.3,baz=44,slow=3.5,SNR=11
BRTR Keskin Array B 72.61 323 *i* P **P** **13 10 48.5 +0.6**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
LPL La Plagne 72.76 345 *e*P **P** **13 10 49.0 +0.3**
LPG La Plagne 72.77 345 *e*P **P** **13 10 49.4 +0.6**
comp=Z,17nm,1.1s,mb4.6
LPG La Plagne 72.77 345 *e*P **P** **13 10 49.4 +0.6**
LPG pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
LPG La Plagne 72.77 345 *e*P **P** **13 10 49.4 +0.6**
comp=Z,8.6nm,1.1s,mb4.6
ORIF Oris-en-Rattie 73.45 345 *e*P **P** **13 10 52.8 0.0**
ORIF *e*R
comp=Z,119nm,18.8s
CAF Calviac 73.87 348 *e*P **P** **13 10 55.3 0.0**
LFF La Frestale 73.98 349 *e*P **P** **13 10 55.7 -0.3**
SBF Sospel 74.29 344 *e*P **P** **13 10 57.4 -0.3**
comp=Z,32nm,1.0s,mb4.9
SBF Sospel 74.29 344 *e*P **P** **13 10 57.4 -0.3**
SBF pmax pmax
comp=Z,16nm,1.0s,mb4.9
SBF Sospel 74.29 344 *e*P **P** **13 10 57.4 -0.3**
comp=Z,16nm,1.0s,mb4.9
FRF La Foret Royal 74.69 345 *e*P **P** **13 10 59.7 -0.4**
LMR La Mourre 74.93 345 *e*P **P** **13 11 00.9 -0.6**
comp=Z,28nm,1.3s,mb4.8
LMR La Mourre 74.93 345 *e*P **P** **13 11 00.9 -0.6**
LMR pmax pmax
comp=Z,14nm,1.3s,mb4.7
LMR La Mourre 74.93 345 *e*P **P** **13 11 00.9 -0.6**
comp=Z,14nm,1.3s,mb4.7
MTLF Montolieu 75.42 348 *e*P **P** **13 11 04.5 +0.2**
comp=Z,9.4nm,1.0s,mb4.4
MTLF Montolieu 75.42 348 *e*P **P** **13 11 04.5 +0.2**
MTLF pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MTLF Montolieu 75.42 348 *e*P **P** **13 11 04.5 +0.2**
comp=Z,4.7nm,1.0s,mb4.4
ETSF Etsaut 76.12 350 *e*P **P** **13 11 09.1 +0.8**
comp=Z,10nm,1.1s,mb4.4
ETSF Etsaut 76.12 350 *e*P **P** **13 11 09.1 +0.8**
ETSF pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
ETSF Etsaut 76.12 350 *e*P **P** **13 11 09.1 +0.8**
comp=Z,5.2nm,1.1s,mb4.4
IDI Anoyia 79.17 329 P **P** **13 11 23.2 -2.1**
comp=Z,4.1nm,0.6s,mb4.5,baz=23,slow=11,SNR=11
ESDC Sonseca Array 79.58 352 P **P** **13 11 27.2 -0.3**
comp=Z,4.2nm,1.0s,mb4.3,baz=4.8,slow=5.8,SNR=14
CTA Charters Tower 82.16 199 P **P** **13 11 40.4 -0.9**
comp=Z,4.2nm,0.9s,mb4.4,baz=23,slow=7.6,SNR=6.3
CTA LR LR 13 45 10.3
comp=Z,51nm,18.5s,MS3.9,baz=49,slow=34
DZM Mont Dzumac 82.54 180 P **P** **13 11 42.2 -1.0**
comp=Z,2.0nm,0.8s,mb4.2,baz=12,slow=20,SNR=2.7
WB2 Warramunga Arr 84.42 210 *e*P **P** **13 11 51.9 -1.1**
WRA Warramunga Arr 84.43 210 P **P** **13 11 51.5 -1.4**
comp=Z,5.8nm,1.1s,mb4.6,baz=17,slow=5.2,SNR=16
PPT Papeete 85.77 138 LR LR 13 41 54.1
comp=Z,211nm,21.1s,MS4.5,baz=239,slow=30
ASAR Alice Springs 88.11 209 P **P** **13 12 10.0 -1.1**
comp=Z,1.3nm,0.8s,mb4.2,baz=14,slow=4.1,SNR=14

*ISCJB **01** 13:15:06.9±0.6, 787N×006×8307W±007, h10km, mb3.5/6, MS3.4/5, Error ellipse: s-maj=12.3km s-min=4.8km az=104.0*
*IDC **01** 13:15:07.4±1.4, 802N×8306W, h0km, mb3.6/5, mb1 4.0/8, mb1mx3.8/22, mbtmp3.8/8, ML4.4/1, MS3.4/6, Ms1 3.4/6, ms1mx3.1/22, Error ellipse: s-maj=43.5km s-min=20.8km az=43.0*
*CASC **01** 13:15:07.9±2.2, 786N×8298W, h23km, MD4.4, mb4.0(NEIC)*
*NEIC **01** 13:15:10.8±4.3, 801N×8311W, h23km±33km, mb4.0/3, Error ellipse: s-maj=19.3km s-min=10.3km az=49.0*
ISC 01 13:15:08.7±0.6, 793N±006×8310W±007, h10km, n35, σ1§27/36, mb3.5/6, MS3.4/5, 1C-5D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**1.75**	**338**	⇓*e*P			**Pn**	**13 15 37.7**	**-1.3**
BUS				*e*S			**Sn**	**13 16 02.2**	**+0.8**
URSC	**Urasca**	**2.01**	**341**	*e*P			**Pn**	**13 15 41.5**	**-1.2**
LCR2	**La Lucha 2**	**2.02**	**334**	⇑*e*P			**Pn**	**13 15 41.9**	**-0.8**
OCM	**Ochomogo**	**2.13**	**336**	⇓*e*P			**Pn**	**13 15 43.0**	**-1.4**
OCM				*e*S			**Sn**	**13 16 13.2**	**+2.3**
ICR	**Volcan Irazu**	**2.17**	**341**	*e*P			**Pn**	**13 15 45.9**	**+1.1**
ICR				*e*S			**Sn**	**13 16 13.7**	**+2.0**
IRZ2	**Volcan Irazu 2**	**2.18**	**339**	*e*P			**Pn**	**13 15 44.8**	**-0.2**
IRZ2				*e*S			**Sn**	**13 16 12.8**	**+0.8**
VTU	**Volcan Turrial**	**2.18**	**343**	*e*P			**Pn**	**13 15 44.0**	**-1.1**
SJS	**Escuela Geolog**	**2.21**	**335**	*e*P			**Pn**	**13 15 45.9**	**+0.5**
SJS				*e*S			**Sn**	**13 16 15.6**	**+2.7**
PRS1	**Puriscal**	**2.37**	**330**	⇓*e*P			**Pn**	**13 15 46.2**	**-1.4**
PRS1				*e*S			**Sn**	**13 16 16.3**	**-0.5**
POA2	**Poas 2**	**2.51**	**333**	⇓*e*P			**Pn**	**13 15 50.2**	**+0.6**
EPA	**Esparza**	**2.53**	**324**	*e*P			**Pn**	**13 15 50.6**	**+0.8**
CAO	**Cobano**	**2.65**	**312**	⇓*e*P			**Pn**	**13 15 50.0**	**-1.6**
JTS	**JuntasAbangare**	**2.98**	**322**	Pn			**Pn**	**13 15 56.9**	**+0.9**
	55nm,0.3s,baz=70,slow=3.2,SNR=125								
JTS				Sn			**Sn**	**13 16 31.6**	**-0.2**
	24nm,0.3s,baz=334,slow=22,SNR=10								
JTS	**JuntasAbangare**	**2.98**	**322**	*e*Pn			**Pn**	**13 15 55.1**	**-0.9**
JTS				Sn			**Sn**	**13 16 31.6**	**-0.2**
VCR	**Vista de Mar**	**3.32**	**311**	*e*P			**Pn**	**13 16 00.6**	**-0.1**
RIN3	**Volcan Rincon**	**3.63**	**322**	*e*P			**Pn**	**13 16 03.6**	**-1.4**
ACLA	**Agua Clara, Si**	**3.65**	**67**	*e*P			**Pn**	**13 16 03.3**	**-1.8**
SDV	**Santo Domingo**	**12.37**	**85**	Pn			**Pn**	**13 18 06.2**	**+1.4**
	0.1nm,0.3s,baz=289,slow=11,SNR=3.9								
SJG	**San Juan**	**19.35**	**57**	P			**Pn**	**13 19 34.6**	**-0.7**
	4.0nm,0.3s,baz=312,slow=18,SNR=4.1								
SJG				LR			LR	13 24 52.1	
	comp=Z,137nm,21.9s,baz=84,slow=30								
NNA	**Nana**	**20.74**	**162**	*e*P			**P**	**13 19 51.1**	**+1.8**
	11nm,1.0s								
SAML	**Samuel**	**25.97**	**130**	*e*P			**P**	**13 20 42.1**	**+0.7**
	3.6nm,0.8s,mb4.0								
LPAZ	**La Paz**	**28.25**	**148**	P			**P**	**13 21 03.7**	**+1.8**
	0.3nm,0.5s,mb3.2,baz=350,slow=11,SNR=4.5								
LPAZ	**La Paz**	**28.25**	**148**	*e*P			**P**	**13 21 03.5**	**+1.6**
	1.4nm,0.9s,mb3.6								
LPIG	**La Paz**	**30.61**	**305**	LR			LR	13 32 16.3	
	comp=Z,61nm,21.4s,MS3.2,baz=187,slow=34								
NVAR	**Mina Array Bea**	**43.91**	**319**	P			**P**	**13 23 17.8**	**+2.3**
	0.6nm,0.6s,mb3.5,baz=119,slow=5.6,SNR=4.9								
SCHQ	**Schefferville**	**48.55**	**12**	LR			LR	13 44 58.6	
	comp=Z,41nm,19.4s,MS3.4,baz=316,slow=37								
YKA	**Yellowknife Ar**	**59.11**	**344**	P			**P**	**13 25 07.6**	**-1.7**
	0.1nm,0.6s,mb3.0,baz=141,slow=6.8,SNR=4.5								
YKA	**Yellowknife Ar**	**59.11**	**344**	P			**P**	**13 25 07.6**	**-1.7**
INK	**Inuvik**	**68.79**	**342**	P			**P**	**13 26 11.9**	**-1.0**
	1.3nm,1.1s,mb3.8,baz=145,slow=3.3,SNR=2.5								
ILAR	**Eielson Array**	**71.86**	**336**	P			**P**	**13 26 30.9**	**-0.9**
	0.3nm,0.7s,mb3.3,baz=102,slow=4.0,SNR=6.0								
DBIC	**Dimbokro**	**77.51**	**85**	LR			LR	13 59 13.1	
	comp=Z,39nm,19.7s,MS3.7,baz=190,slow=34								
NOA	**NORSAR Array B**	**85.22**	**29**	LR			LR	14 02 01.5	
	comp=Z,12nm,18.2s,MS3.3,baz=260,slow=33								
HFS	**Hagfors**	**86.56**	**30**	LR			LR	14 06 36.4	
	comp=Z,18nm,19.0s,MS3.5,baz=136,slow=36								
ASAR	**Alice Springs**	**141.26**	**242**	PKhKP				13 34 35.1	
	0.4nm,0.5s,baz=132,slow=3.6,SNR=6.4								
WRA	**Warramunga Arr**	**141.85**	**248**	PKhKP				13 34 36.1	
	1.1nm,0.8s,baz=107,slow=2.8,SNR=9.3								

*CSEM **01** 13:28:28.7±0.3, 4755N×2671E, h10km, MD3.8/3, Error ellipse: s-maj=6.3km s-min=3.6km az=16.0*
*ISCJB **01** 13:28:29.0±1.0, 4752N±006×2671E±005, h6km±8km, Error ellipse: s-maj=10.5km s-min=4.5km az=45.7*
*BUC **01** 13:28:30.1±1.7, 4749N×2671E, h20km, MD3.7/3, Error ellipse: s-maj=22.0km s-min=8.8km az=33.0*
ISC 01 13:28:29.3±0.9, 4752N±005×2672E±004, h4km±4km, n17, σ0§92/32, 8C-7D, Romania

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IAS	**Iasi**	**0.66**	**119**	⇑*i*P			**Pg**	**13 28 42.7**	**+0.8**
IAS				*i* S			**Sg**	**13 28 51.7**	**+1.2**
TESR		**1.01**	**183**	⇓*i*P			**Pg**	**13 28 48.0**	**-0.6**
TESR				*i* S			**Sg**	**13 29 00.8**	**-0.9**
BURAR	**Bucovina Array**	**1.02**	**276**	⇑*i*P			**Pg**	**13 28 49.3**	**+0.4**
BURAR				*i* S			**Sg**	**13 29 03.1**	**+0.9**
ONCR	**Oncesti**	**1.12**	**160**	⇑*i*P			**Pg**	**13 28 50.3**	**-0.5**
ONCR				*i* S			**Sg**	**13 29 04.8**	**-0.5**
LEOM	**Leova**	**1.48**	**134**	⇓*i*P			**Pn**	**13 28 55.8**	**-0.9**
	150nm,0.4s								
LEOM				*i* S			**Sn**	**13 29 14.5**	**-1.9**
	2µm,0.4s								
KIS	**Kishinev**	**1.52**	**109**	*e*P			**Pn**	**13 28 57.0**	**-0.3**
KIS				*i* S			**Sn**	**13 29 18.0**	**+0.5**
	600nm,0.6s								
VRI	**Vrincioaia**	**1.65**	**180**	⇑*i*P			**Pn**	**13 29 00.2**	**+1.1**
VRI				*i* S			**Sn**	**13 29 21.2**	**+0.5**
VRI	**Vrincioaia**	**1.65**	**180**	⇓*i*P			**Pn**	**13 29 00.0**	**+0.9**
VRI				*i* S			**Sn**	**13 29 21.0**	**+0.3**
PLOR	**Plostina**	**1.67**	**182**	⇓*i*P			**Pn**	**13 29 00.0**	**+0.7**
PLOR				*i* S			**Sn**	**13 29 22.0**	**+0.9**
KGL	**Cahul**	**1.91**	**147**	S			**Sn**	**13 29 28.2**	**+1.1**
MLR	**Muntele Rosu**	**2.10**	**195**	⇑*i*P			**Pn**	**13 29 05.6**	**+0.4**
MLR				*i* S			**Sn**	**13 29 33.2**	**+1.5**
VOIR		**2.38**	**210**	⇓*i*P			**Pn**	**13 29 08.5**	**-0.6**
VOIR				*i* S			**Sn**	**13 29 39.7**	**+1.0**
CFR	**Carcaliu**	**2.54**	**157**	⇓*i*P			**Pn**	**13 29 10.8**	**-0.4**
CFR				*i* S			**Sn**	**13 29 42.3**	**-0.3**
DRGR		**2.83**	**257**	⇑*i*P			**Pn**	**13 29 15.2**	**-0.1**
DRGR				*i* S			**Sn**	**13 29 48.5**	**-1.3**
HARR	**Harsova**	**2.95**	**163**	⇑*i*P			**Pn**	**13 29 14.7**	**-2.2**
TIRR	**Tirgusor**	**3.28**	**158**	⇑*i*P			**Pn**	**13 29 21.9**	**+0.4**
TIRR				*i* S			**Sn**	**13 30 00.6**	**-0.3**
BZS	**Buzias**	**4.00**	**243**	⇓*i*P			**Pn**	**13 29 30.5**	**-0.8**
BZS				*i* S			**Sn**	**13 30 14.6**	**-4.1**

*CSEM **01** 13:49:09.2±1.1, 3855N×2957W, h5km, ML2.6, Error ellipse: s-maj=14.0km s-min=7.0km az=179.0, After PDA*
*PDA **01** 13:49:09.2±1.1, 3855N×2957W, h5km, MD3.4, ML2.6, Error ellipse: s-maj=14.0km s-min=7.0km az=179.0*
SVSA 01 13:49:09.2±1.1, 3855N×2957W, h5km, MD3.4, ML2.6, Error ellipse: s-maj=14.0km s-min=7.0km az=179.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.60**	**87**	*e*S			**Sg**	**13 49 27.3**	**-1.3**
PTCA									
	94nm,0.2s								
CALA	**Caldeira**	**0.68**	**87**	*e*P			Pg	13 49 20.9	-1.3
CALA				*e*S			Sg	13 49 28.9	-2.1
PCED	**Cedros**	**0.68**	**83**	*i* P			Pg	13 49 20.2	-2.1
PCED				*i* S			Sg	13 49 29.0	-2.1
PCED									
	226nm,0.2s								
PCED	**Cedros**	**0.68**	**83**	*i* S			Sg	13 49 29.0	-2.1
HOR	**Horta**	**0.73**	**92**	*e*P			Pg	13 49 21.0	-2.3
HOR				*e*S			Sg	13 49 29.8	-3.0
PCND	**Candelaria**	**0.87**	**95**	*e*S			Sg	13 49 33.8	-3.4
PCND									
	39nm,0.1s								
PICO	**Pico**	**0.90**	**93**	*e*P			Pg	13 49 23.6	-2.8
PICO				*e*S			Sg	13 49 34.2	-3.8
PBOI	**Pico dos Bois**	**0.94**	**97**	*e*S			Sg	13 49 35.6	-3.9
PBOI									
	74nm,0.1s								
PTEI	**Pico do Teixo**	**0.95**	**93**	*e*S			Sg	13 49 36.0	-3.7
PTEI									
	51nm,0.2s								
ROSA	**Rosais**	**1.05**	**80**	*e*P			Pg	13 49 25.6	-3.7
ROSA				*e*S			Sg	13 49 37.8	-5.2
PAMA	**Santo Amaro**	**1.09**	**83**	*e*S			Sg	13 49 39.8	-4.5
PAMA									
	37nm,0.2s								
PID	**Ribeirinha**	**1.14**	**95**	*e*P			Pg	13 49 27.0	-4.1
PID				*e*S			Sg	13 49 40.4	-5.4
PMAN	**Manadas**	**1.16**	**86**	*e*P			Pg	13 49 27.6	-3.8
PMAN				*e*S			Sg	13 49 40.4	-6.1
PMAN									
	36nm,0.2s								
PMAN	**Manadas**	**1.16**	**86**	*e*P			Pg	13 49 27.6	-3.8
PMAN				*e*S			Sg	13 49 40.4	-6.1
PSBA	**Serra de Santa**	**1.77**	**82**	*e*S			Sn	13 49 55.5	-7.8
PSBA									
	21nm,0.3s								

*ISCJB **01** 13:57:27.8±1.1, 2714S±003×7143W±0.10, h33km±12km, mb4.0/3, Error ellipse: s-maj=14.7km s-min=5.4km az=176.8*
*IDC **01** 13:57:27.4±1.6, 2711S×7097W, h0km, mb4.0/3, mb1 3.8/6, mb1mx3.7/17, mbtmp3.8/6, ML3.6/2, Error ellipse: s-maj=52.7km s-min=23.7km az=89.0*
*GUC **01** 13:57:27.5±0.9, 2713S×7138W, h38km±9km, ML4.1*
*NEIC **01** 13:57:30.3±2.4, 2713S×7109W, h29km±13km, mb4.4/1, ML4.1(GUC), Error ellipse: s-maj=32.2km s-min=9.4km az=91.0*
ISC 01 13:57:28.0±2.1, 2715S±003×714W±01, h20km±13km, n23, σ1§12/28, mb4.0/3, 1C-5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.50**	**82**	⇓*i*P			**Pb**	**13 57 37.5**	**-0.6**
CDCH					AML		AML	13 57 46.7	
	comp=N,4µm,0.6s								
CPCH	**Copiapo**	**0.94**	**103**	⇓*i*P			**Pb**	**13 57 45.0**	**-0.8**
CPCH				*i* S			**Sb**	**13 57 57.8**	**0.0**
CRCH	**Chaqaral**	**1.05**	**41**	⇓*i*P			**Pn**	**13 57 48.0**	**+0.4**
CRCH				*i* S			**Sb**	**13 58 02.1**	**+1.3**
CRCH					AML		AML	13 58 12.8	
	comp=N,4µm,0.5s								
CRCH	**Chaqaral**	**1.05**	**41**	⇓*i*P			**Pn**	**13 57 48.0**	**+0.4**
CRCH				*i* S			**Sb**	**13 58 02.1**	**+1.3**
LCO	**Las Campanas**	**1.96**	**162**	⇑*i*P			**Pn**	**13 57 60.0**	**-0.1**
LCO				*i* S			**Sn**	**13 58 22.6**	**-1.4**
CPN1	**Cerro Paranal**	**2.66**	**20**	⇓*i*P			**Pn**	**13 58 10.3**	**+0.6**
CPN1				*i* S			**Sn**	**13 58 41.5**	**+0.2**
CPN1					AML		AML	13 59 03.5	
	comp=E,2µm,0.5s								
TLL	**Tololo Astrono**	**3.06**	**170**	*e*P			**Pn**	**13 58 15.5**	**+0.3**
TLL					AML		AML	13 59 10.0	
	comp=N,2µm,0.7s								
ANCH	**Antofagasta**	**3.56**	**15**	*e*P			**Pn**	**13 58 21.2**	**-0.9**
ANCH				*i* S			**Sn**	**13 59 01.5**	**-2.0**
ANCH					AML		AML	13 59 35.3	
	comp=E,604nm,0.3s								
ANCH	**Antofagasta**	**3.56**	**15**	*e*P			**Pn**	**13 58 21.2**	**-0.9**
ANCH				*i* S			**Sn**	**13 59 01.5**	**-2.0**
CFAA	**Coronel Fontan**	**5.23**	**149**	Pn			**Pn**	**13 58 46.7**	**+1.8**
	comp=E,0.2nm,0.3s,baz=323,slow=8.9,SNR=26								
CFAA				Sn			**Sn**	**13 59 45.9**	**+1.3**
	comp=E,1.0nm,0.3s,baz=73,slow=21,SNR=3.3								
CFAA	**Coronel Fontan**	**5.23**	**149**	Pn			**Pn**	**13 58 46.7**	**+1.8**
CFAA				Sn			**Sn**	**13 59 45.9**	**+1.3**
LPAZ	**La Paz**	**11.22**	**16**	Pn			**Pn**	**14 00 08.2**	**+1.0**
	comp=E,0.2nm,0.3s,baz=196,slow=7.4,SNR=7.1								
LPAZ	**La Paz**	**11.22**	**16**	*e*P			**Pn**	**14 00 08.1**	**+0.9**
	comp=E,1.6nm,0.6s								
TRQA	**Tornquist**	**13.45**	**146**	P			**Pn**	**14 00 35.8**	**-2.0**
SIV	**San Ignacio**	**14.66**	**43**	Pn			**Pn**	**14 00 50.6**	**-3.6**
	comp=E,0.2nm,0.3s,baz=265,slow=13,SNR=4.4								
BDFB	**Brasilia**	**24.54**	**67**	P			**P**	**14 02 45.4**	**-0.9**
	comp=E,1.7nm,0.5s,mb3.8,baz=168,slow=14,SNR=2.5								
SNAA	**Sanae**	**57.75**	**160**	P			**P**	**14 07 17.8**	**+0.3**
	comp=E,0.4nm,0.7s,mb3.5,baz=248,slow=11,SNR=5.9								
SNAA	**Sanae**	**57.75**	**160**	*e*P			**P**	**14 07 17.6**	**+0.2**
	comp=E,4.5nm,1.2s,mb4.4								
TORD	**Torodi Ar. Bea**	**81.37**	**70**	P			**P**	**14 09 44.9**	**+1.7**
	comp=E,3.8nm,0.8s,mb4.4,baz=256,slow=5.0,SNR=18								
ZAL	**Zalesovo**	**148.00**	**27**	PKPbc		PKPbc		14 17 13.8	+1.9
	comp=E,2.4nm,0.6s,baz=155,slow=2.4,SNR=13								
ZAL	**Zalesovo**	**148.00**	**27**	PKPbc		PKPbc		14 17 13.8	+1.9
AAK	**Ala-Archa**	**148.28**	**52**	*e*PKPdf		PKPdf		14 17 11.4	+2.1
MKAR	**Makanchi Array**	**151.46**	**40**	PKPbc		PKPbc		14 17 22.1	+1.7
	comp=E,2.8nm,0.8s,baz=310,slow=2.3,SNR=26								

*IDC **01** 14:00:20.2±0.7, 2713S×7139W, h0km, mb4.3/8, mb1 4.4/9, mb1mx4.1/16, mbtmp4.3/9, ML3.7/2, MS3.3/3, Ms1 3.3/3, ms1mx2.9/21, Error ellipse: s-maj=29.3km s-min=20.1km az=84.0*
*ISCJB **01** 14:00:22.5±3.9, 2709S±006×712W±02, h26km±27km, mb4.2/9, MS3.9/1, Error ellipse: s-maj=26.9km s-min=8.7km az=153.4*
*NEIC **01** 14:00:22.0±0.6, 2703S×7131W, h10km, mb3.9/2, Error ellipse: s-maj=18.3km s-min=9.8km az=84.0*
ISC 01 14:00:25.9±1.7, 2710S±006×713W±02, h37km±14km, h32km±4.6km: pP-P, n29, σ0§84/22, mb4.2/9, MS3.9/1, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.22**	**150**	Pn			**Pn**	**14 01 41.8**	**+0.4**
	0.3nm,0.3s,baz=330,slow=11,SNR=5.1								
CFAA				Sn			**Sn**	**14 02 39.6**	**-0.7**
	0.5nm,0.3s,baz=344,slow=12,SNR=2.4								
CFAA				LR			LR	14 03 47.1	
	comp=Z,64nm,19.8s,baz=288,slow=40								
LPAZ	**La Paz**	**11.16**	**16**	Pn			**Pn**	**14 03 02.5**	**-0.3**
	0.8nm,0.3s,baz=195,slow=6.5,SNR=18								
LPAZ	**La Paz**	**11.16**	**16

0.1nm,0.5s,mb3.5,baz=138,slow=4.7,SNR=5.1

YKA	**Yellowknife Ar**	**95.75**	**341**	P		**P**		**14 13 47.8**	**-0.2**
ASAR	**Alice Springs**	**123.96**	**208**	PKP		PKPdf		14 19 19.9	-0.1
	0.3nm,0.6s,baz=140,slow=1.6,SNR=6.3								
WRA	**Warramunga Arr**	**127.04**	**211**	PKP		PKPdf		14 19 26.4	+0.5
	0.7nm,0.6s,baz=154,slow=1.7,SNR=12								
KURK	**Kurchatov**	**147.16**	**36**	*e*PKPdf		PKPdf		14 20 03.3	+0.6
ZAL	**Zalesovo**	**147.92**	**27**	PKPbc		PKPbc		14 20 05.0	-2.1
	4.7nm,0.7s,baz=172,slow=3.5,SNR=20								
ZAL	**Zalesovo**	**147.92**	**27**	PKPbc		PKPbc		14 20 05.0	-2.1
AAK	**Ala-Archa**	**148.20**	**52**	*e*PKPbc		PKPbc		14 20 08.6	+0.9
MKAR	**Makanchi Array**	**151.38**	**40**	PKPbc		PKPbc		14 20 16.2	+0.7
	6.2nm,0.8s,baz=315,slow=2.2,SNR=48								
MKAR				PKPab		PKPab		14 20 26.1	+2.3
	5.0nm,0.7s,baz=323,slow=2.0,SNR=16								

*ISCJB **01** 14:08:46.2±0.4, 3500N±002×396W±003, h10km, Error ellipse: s-maj=3.5km s-min=3.3km az=104.4*
*CSEM **01** 14:08:46.3±0.1, 3498N×388W, h20km, MD3.0, Error ellipse: s-maj=4.7km s-min=3.1km az=109.0*
*CNRM **01** 14:08:48.0, 3504N×389W, h17km, MD3.0*
*MDD **01** 14:08:48.1±0.5, 3497N×389W, h12km±5km, mb3.3/12, Error ellipse: s-maj=6.6km s-min=4.7km az=117.0, PRXIMO*

ISC 01 14:08:46.7±0.3, 3498N±002×394W±003, h10km, n28, σ1§20/49, Morocco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOU	**Touzarine**	**0.15**	**98**	P	**Pg**	**14 08 51.0**	**+0.9**
TOU				S	**Sg**	**14 08 53.0**	**+0.6**
TOU	**Touzarine**	**0.15**	**98**	*i* P	**Pg**	**14 08 51.0**	**+0.9**
MPAL	**Palemas**	**0.24**	**359**	*i* P	**Pg**	**14 08 53.5**	**+1.8**
EMEL	**Melilla**	**0.86**	**68**	P	**Pg**	**14 09 03.0**	**-0.3**
	97nm,0.1s,SNR=7.9						
EMEL				S	**Sg**	**14 09 13.9**	**-0.8**
	435nm,0.2s,SNR=7.9						
EMLI	**Melilla**	**0.87**	**68**	P	**Pg**	**14 09 03.0**	**-0.5**
	97nm,0.1s,SNR=7.9						
EMLI				S	**Sg**	**14 09 13.9**	**-0.9**
	435nm,0.2s,SNR=7.9						
ZAI	**Zaio**	**0.98**	**90**	*i* P	**Pg**	**14 09 05.5**	**0.0**
ZAI				*i* S	**Sg**	**14 09 19.0**	**+0.7**
TGT	**Taghat**	**1.29**	**226**	*e*P	**Pn**	**14 09 10.5**	**-0.3**
TGT				*i* S	**Sb**	**14 09 28.0**	**+0.2**
EMIJ	**Mijas**	**1.72**	**337**	P	**Pn**	**14 09 16.0**	**-0.6**
	0.3nm,0.1s,SNR=9.1						
EMIJ				S	**Sn**	**14 09 36.8**	**-1.9**
	4.8nm,0.2s,SNR=5.5						
EMIJ	**Mijas**	**1.72**	**337**	P	**Pn**	**14 09 16.7**	**0.0**
	0.5nm,0.1s,SNR=9.1						
EMIJ				S	**Sn**	**14 09 36.5**	**-2.2**
	3.7nm,0.3s,SNR=5.5						
EGUA	**Guajares**	**1.87**	**9**	P	**Pn**	**14 09 17.8**	**-1.0**
	0.2nm,0.1s,SNR=7.9						
EGUA				S	**Sn**	**14 09 39.6**	**-2.8**
	0.4nm,0.1s,SNR=7.9						
MIF	**Mishlifen**	**1.90**	**215**	*e*P	**Pn**	**14 09 19.0**	**-0.1**
MIF				*e*S	**Sn**	**14 09 43.0**	**-0.1**
EJIF	**Jimena Fronter**	**1.92**	**320**	P	**Pn**	**14 09 21.5**	**+2.0**
	0.6nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**14 09 44.1**	**+0.4**
	2.1nm,0.2s,SNR=4.0						
EJIF	**Jimena Fronter**	**1.92**	**320**	S	**Sn**	**14 09 46.4**	**+2.7**
	3.5nm,0.3s,SNR=4.0						
ELOJ	**Sierra Loja**	**2.17**	**355**	P	**Pn**	**14 09 22.7**	**-0.1**
	0.6nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.44**	**321**	P	**Pn**	**14 09 28.7**	**+2.1**
	0.5nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**14 09 56.7**	**+0.2**
	1.9nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.90**	**14**	P	**Pn**	**14 09 34.5**	**+1.6**
	0.3nm,0.1s,SNR=5.8						
EQES				S	**Sn**	**14 10 06.4**	**-1.4**
	3.1nm,0.2s,SNR=4.8						
EQES	**Quesada**	**2.90**	**14**	S	**Sn**	**14 10 08.0**	**+0.2**
	1.8nm,0.3s,SNR=4.8						
ZFT	**Errachidia**	**2.96**	**187**	*e*P	**Pn**	**14 09 34.0**	**+0.3**
ZFT				*e*S	**Sn**	**14 10 08.0**	**-1.3**
KIB	**El Ksiba**	**2.97**	**217**	*e*P	**Pn**	**14 09 34.0**	**+0.1**
KIB				*i* S	**Sn**	**14 10 08.0**	**-1.5**
EADA	**Adamuz**	**3.22**	**351**	P	**Pn**	**14 09 37.1**	**-0.2**
	1.1nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**14 10 15.3**	**-0.4**
	1.3nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.22**	**351**	P	**Pn**	**14 09 37.2**	**-0.1**
	2.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**14 10 19.7**	**+4.0**
	1.0nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.55**	**322**	P	**Pn**	**14 09 42.9**	**+1.1**
	0.3nm,0.1s,SNR=11						
EMIN				S	**Sn**	**14 10 22.3**	**-1.5**
	0.8nm,0.3s,SNR=5.8						
EMIN	**Mina Concepcio**	**3.55**	**322**	P	**Pn**	**14 09 43.3**	**+1.5**
	0.5nm,0.2s,SNR=11						
EMIN				S	**Sn**	**14 10 22.3**	**-1.5**
	1.0nm,0.3s,SNR=5.8						
EMUR	**La Murta**	**3.59**	**37**	S	**Sn**	**14 10 20.8**	**-4.0**
	0.3nm,0.7s,SNR=7.9						
EMUR	**La Murta**	**3.59**	**37**	S	**Sn**	**14 10 20.8**	**-4.0**
	0.5nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.83**	**313**	P	**Pn**	**14 09 47.1**	**+1.4**
	0.3nm,0.1s,SNR=10						
EGRO				S	**Sn**	**14 10 28.4**	**-2.4**
	1.5nm,0.1s,SNR=5.3						
ETOB	**Tobarra**	**4.13**	**27**	P	**Pn**	**14 09 51.1**	**+1.3**
	0.3nm,0.1s,SNR=7.9						
ETOB				S	**Sn**	**14 10 34.4**	**-3.7**
	0.4nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.50**	**328**	P	**Pn**	**14 09 56.2**	**+1.2**
	0.9nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**14 10 36.9**	**-10**
	2.2nm,0.2s,SNR=7.9						

*ISCJB **01** 14:09:26.0±0.6, 3490N±003×399W±004, h18km±7km, Error ellipse: s-maj=6.5km s-min=4.1km az=54.0*
*CSEM **01** 14:09:25.3±0.3, 3487N×392W, h16km±2km, MD3.1, Error ellipse: s-maj=7.0km s-min=5.0km az=127.0*
*MDD **01** 14:09:26.5±0.8, 3485N×397W, h0km±8km, mb3.7/3, Error ellipse: s-maj=8.6km s-min=4.1km az=132.0, PRXIMO*
*CNRM **01** 14:09:27.0, 3491N×396W, h11km, MD3.1*

ISC 01 14:09:26.3±0.7, 3488N±003×394W±004, h17km±4km, n24, σ1§11/37, Morocco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOU	**Touzarine**	**0.17**	**63**	P	**Pg**	**14 09 31.0**	**+0.2**
TOU				S	**Sg**	**14 09 33.0**	**-0.8**
TOU	**Touzarine**	**0.17**	**63**	*i* P	**Pg**	**14 09 31.0**	**+0.2**
MPAL	**Palemas**	**0.34**	**0**	*i* P	**Pg**	**14 09 33.5**	**0.0**
EMEL	**Melilla**	**0.91**	**63**	P	**Pb**	**14 09 43.3**	**-0.3**
	92nm,0.2s,SNR=7.9						
EMEL				S	**Sb**	**14 09 55.2**	**-0.3**
	530nm,0.2s,SNR=7.9						
EMLI	**Melilla**	**0.92**	**63**	P	**Pb**	**14 09 43.3**	**-0.4**
	92nm,0.2s,SNR=7.9						
EMLI				S	**Sb**	**14 09 55.2**	**-0.4**
	530nm,0.2s,SNR=7.9						
ZAI	**Zaio**	**0.99**	**85**	*i* P	**Pb**	**14 09 45.0**	**0.0**
ZAI				*i* S	**Sb**	**14 09 58.5**	**+0.8**
TGT	**Taghat**	**1.23**	**229**	*e*P	**Pn**	**14 09 48.0**	**-0.7**
TGT				*e*S	**Sb**	**14 10 03.0**	**-1.5**
EMIJ	**Mijas**	**1.81**	**338**	P	**Pn**	**14 09 57.7**	**+1.1**
	2.4nm,0.2s,SNR=4.0						
EMIJ				S	**Sn**	**14 10 19.9**	**+0.7**
	5.8nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.81**	**338**	P	**Pn**	**14 09 57.7**	**+1.0**
	2.4nm,0.2s,SNR=4.0						
EMIJ				S	**Sn**	**14 10 17.6**	**-1.6**
	5.8nm,0.2s,SNR=7.9						
MIF	**Mishlifen**	**1.82**	**216**	*e*P	**Pn**	**14 09 57.5**	**+0.7**
MIF				*i* S	**Sn**	**14 10 19.0**	**-0.4**
EGUA	**Guajares**	**1.97**	**9**	P	**Pn**	**14 10 00.6**	**+1.7**
	SNR=7.9						
EGUA				S	**Sn**	**14 10 22.3**	**-0.9**
	SNR=7.9						
EGUA	**Guajares**	**1.97**	**9**	P	**Pn**	**14 10 00.6**	**+1.7**
	SNR=7.9						
EGUA				S	**Sn**	**14 10 21.0**	**-2.2**
	SNR=7.9						
ESPR	**Espera**	**2.52**	**322**	S	**Sn**	**14 10 38.7**	**+2.0**
	1.7nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.52**	**322**	S	**Sn**	**14 10 38.7**	**+2.0**
	1.7nm,0.2s,SNR=7.9						
ZFT	**Errachidia**	**2.86**	**187**	*e*P	**Pn**	**14 10 13.0**	**+1.8**
ZFT				*e*S	**Sn**	**14 10 45.0**	**-0.2**
EQES	**Quesada**	**3.00**	**13**	S	**Sn**	**14 10 50.4**	**+1.9**
	1.5nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.00**	**13**	S	**Sn**	**14 10 48.6**	**+0.1**
	1.5nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.32**	**351**	P	**Pn**	**14 10 20.3**	**+2.8**
	1.4nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**14 10 57.4**	**+1.0**
	0.8nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.32**	**351**	P	**Pn**	**14 10 20.3**	**+2.9**
	1.4nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**14 10 57.4**	**+1.0**
	0.8nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.62**	**323**	S	**Sn**	**14 11 03.1**	**-0.9**
	1.2nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.62**	**323**	S	**Sn**	**14 11 03.1**	**-0.9**
	1.2nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**3.67**	**36**	S	**Sn**	**14 11 03.1**	**-2.1**
	0.2nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.90**	**314**	S	**Sn**	**14 11 10.1**	**-0.7**
	1.6nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.58**	**328**	S	**Sn**	**14 11 26.5**	**-1.1**
	2.5nm,0.2s,SNR=7.9						

*IDC **01** 14:37:18.8±2.6, 1635S×17429W, h0km, mb4.1/5, mb1 4.3/5, mb1mx4.0/14, mbtmp4.1/5, Error ellipse: s-maj=173.6km s-min=33.1km az=149.0*
*NEIC **01** 14:37:19.7±0.9, 1669S×174.13W, h10km, mb3.8/1, Error ellipse: s-maj=31.0km s-min=18.5km az=159.0*
*ISCJB **01** 14:37:21.6±1.2, 168S±03×1742W±02, h33km, mb4.0/6, Error ellipse: s-maj=42.2km s-min=25.1km az=138.7*

ISC 01 14:37:23.7±1.2, 168S±03×1741W±02, h35km, n9, σ0§42/9, mb4.0/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTAO	**Charters Tower**	**37.70**	**259**	*e*P	**P**	**14 44 35.4**	**-0.4**
	1.1nm,0.7s,mb3.7						
STKA	**Stephens Creek**	**42.78**	**241**	P	**P**	**14 45 18.3**	**+0.5**
	1.0nm,0.5s,mb3.8,baz=75,slow=12,SNR=6.2						
STKA	**Stephens Creek**	**42.78**	**241**	*e*P	**P**	**14 45 17.9**	**+0.1**
WRAB	**Tennant Creek**	**48.88**	**258**	P	**P**	**14 46 05.5**	**-0.5**
WRA	**Warramunga Arr**	**48.89**	**258**	P	**P**	**14 46 05.7**	**-0.4**
	0.8nm,0.6s,mb4.0,baz=93,slow=7.3,SNR=21						
ASAR	**Alice Springs**	**49.06**	**253**	P	**P**	**14 46 07.8**	**+0.5**
	7.1nm,0.5s,mb4.9,baz=89,slow=8.0,SNR=153						
FITZ	**Fitzroy Crossi**	**57.28**	**259**	P	**P**	**14 47 08.5**	**+0.7**
	1.4nm,0.8s,mb4.0,baz=52,slow=3.5,SNR=6.5						
VNDA	**Vanda**	**61.94**	**186**	P	**P**	**14 47 39.8**	**-0.1**
PDAR	**Pinedale Array**	**83.74**	**42**	P	**P**	**14 49 49.1**	**0.0**
	0.2nm,0.6s,mb3.4,baz=171,slow=6.4,SNR=3.4						

*ISCJB **01** 14:38:11.4±3.9, 24N±07×1040W±09, h10km, mb3.8/5, MS3.9/6, Error ellipse: s-maj=162.4km s-min=23.1km az=107.9*
*IDC **01** 14:38:12.4±1.6, 252N×10376W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.8/15, mbtmp3.8/4, MS3.9/6, Ms1 3.9/6, ms1mx3.4/29, Error ellipse: s-maj=73.5km s-min=26.8km az=56.0*
*NEIC **01** 14:38:13.9±1.4, 255N×10373W, h10km, mb3.8/2, Error ellipse: s-maj=61.7km s-min=23.4km az=60.0*

ISC 01 14:38:13.4±3.9, 24N±07×1040W±09, h10km, n11, σ1§21/7, mb3.8/5, MS3.9/6, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**29.84**	**190**	LR	LR	14 53 09.5	
	comp=Z,263nm,19.4s,MS3.9,baz=338,slow=30						
LPAZ	**La Paz**	**40.05**	**119**	P	**P**	**14 45 48.9**	**+0.2**
	1.6nm,0.6s,mb3.9,baz=300,slow=12,SNR=8.7						
LPAZ	**La Paz**	**40.05**	**119**	*e*P	**P**	**14 45 48.7**	**0.0**
	1.2nm,0.5s,mb3.9						
BW06	**Boulder Array**	**40.45**	**354**	P	**P**	**14 45 51.4**	**-0.7**
	1.9nm,0.9s,mb3.8						
PDAR	**Pinedale Array**	**40.45**	**354**	P	**P**	**14 45 54.3**	**+2.2**
	1.5nm,0.8s,mb3.8,baz=146,slow=8.0,SNR=8.7						
PDAR				LR	LR	15 01 09.4	
	comp=Z,152nm,20.8s,MS3.8,baz=170,slow=34						
PDAR	**Pinedale Array**	**40.45**	**354**	P	**P**	**14 45 54.3**	**+2.2**
PDAR				LR	LR	15 01 09.4	
ULM	**Lac du Bonnet**	**48.14**	**7**	LR	LR	15 06 56.9	
	comp=Z,50nm,18.8s,MS3.5,baz=28,slow=36						
SCHQ	**Schefferville**	**60.33**	**24**	LR	LR	15 12 54.3	
	comp=Z,190nm,21.1s,MS4.2,baz=268,slow=35						
YKA	**Yellowknife Ar**	**60.43**	**354**	P	**P**	**14 48 21.5**	**-1.6**
	1.2nm,1.2s,mb3.8,baz=159,slow=7.1,SNR=6.0						
YKA				LR	LR	15 14 46.9	
	comp=Z,162nm,18.9s,MS4.2,baz=135,slow=36						
ILAR	**Eielson Array**	**69.39**	**342**	P	**P**	**14 49 21.9**	**+0.4**
	1.0nm,1.2s,mb3.6,baz=201,slow=4.8,SNR=3.1						
ILAR				LR	LR	15 16 56.6	
	comp=Z,56nm,18.6s,MS3.8,baz=177,slow=34						
WRA	**Warramunga Arr**	**120.49**	**248**	PKP	PKPdf	14 57 07.4	+2.2
	0.5nm,0.8s,baz=92,slow=2.4,SNR=5.2						

WEL 01 14:42:41.6±0.3, 3775S×17641E, h182km±2km, ML3.6/17, Error ellipse: s-maj=3.2km s-min=3.1km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.75**	**133**	PN	Pn	14 43 07.8	-0.1
URZ				SN	Sn	14 43 28.3	+0.2
MWZ	**Matawai**	**1.06**	**124**	PN	Pn	14 43 10.3	+0.3
MWZ				SN	Sn	14 43 31.9	+0.1
BKZ	**Black Stump Fm**	**1.42**	**177**	PN	Pn	14 43 13.0	0.0
BKZ				SN	Sn	14 43 36.8	-0.5
PUZ	**Puketiti**	**1.50**	**103**	PN	Pn	14 43 13.5	-0.1
PUZ				SN	Sn	14 43 37.7	-0.7
MXZ	**Matakaoa Point**	**1.51**	**84**	PN	Pn	14 43 13.8	0.0
MXZ				SN	Sn	14 43 39.7	+0.9
TWVZ	**Taurewa**	**1.53**	**210**	PN	Pn	14 43 14.5	+0.5
OTVZ	**Oturere**	**1.53**	**202**	PN	Pn	14 43 14.7	+0.7
WPVZ	**Whakapapa**	**1.61**	**205**	PN	Pn	14 43 14.9	+0.2
KNZ	**Kokohu**	**1.61**	**142**	PN	Pn	14 43 15.2	+0.4
TUVZ	**Tukino**	**1.63**	**201**	PN	Pn	14 43 15.4	+0.4
FWVZ	**Far West T-bar**	**1.65**	**204**	PN	Pn	14 43 15.7	+0.5
WNVZ	**Wahianoa**	**1.70**	**202**	PN	Pn	14 43 16.0	+0.3
MOVZ	**Moawhango**	**1.74**	**197**	PN	Pn	14 43 15.8	-0.2
PKVZ	**Pokaka**	**1.75**	**208**	PN	Pn	14 43 16.4	+0.2
MTVZ	**Mangateitei**	**1.79**	**204**	PN	Pn	14 43 16.8	+0.2
WAZ	**Wanganui**	**2.29**	**209**	PN	Pn	14 43 22.0	-0.1
PXZ	**Pawanui**	**2.31**	**171**	PN	Pn	14 43 21.9	-0.3
TSZ	**Takapari Road**	**2.34**	**189**	PN	Pn	14 43 21.9	-0.6
BFZ	**Birch Farm**	**2.93**	**182**	PN	Pn	14 43 28.3	-1.2
MRZ	**Mangatainoka R**	**2.98**	**192**	PN	Pn	14 43 28.4	-1.7

IDC 01 14:45:48.7±5.2, 504N×9482W, h0km, mb3.4/2, mb1 3.8/2, mb1mx3.4/19, mbtmp3.4/2, MS3.7/2, Ms1 3.7/2, ms1mx3.0/19, Error ellipse: s-maj=419.5km s-min=45.0km az=89.0, Eastcentral Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDAR	**Pinedale Array**	**39.78**	**343**	P	P	14 53 23.7	+0.3
	0.8nm,0.9s,baz=148,slow=5.2,SNR=4.9						
YKA	**Yellowknife Ar**	**59.17**	**349**	P	P	14 55 51.2	-0.2
	0.3nm,1.0s,baz=146,slow=6.5,SNR=4.3						
ASAR	**Alice Springs**	**129.60**	**243**	PKP	PKPdf	15 04 59.9	+0.3
	0.2nm,0.7s,baz=72,slow=3.0,SNR=4.6						
WRA	**Warramunga Arr**	**129.98**	**248**	PKP	PKPdf	15 05 01.5	+1.2
	0.4nm,0.7s,baz=90,slow=2.3,SNR=6.5						

*IDC **01** 14:47:59.6±2.9, 3492N×8678E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/20, mbtmp3.3/4, ML2.2/1, Error ellipse: s-maj=231.3km s-min=25.5km az=60.0*
*ISCJB **01** 14:48:00.8±1.1, 3429N±009×855E±03, h33km, mb3.3/3, Error ellipse: s-maj=38.5km s-min=12.7km az=173.2*

ISC 01 14:48:03.1±1.0, 3432N±009×855E±03, h35km, n10, σ0§76/10, mb3.3/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GKN	**Gorkha**	**6.34**	**187**	*e*P	**Pn**	**14 49 34.8**	**+0.8**
	12nm,0.6s						
GUN	**Gumba**	**6.40**	**177**	*e*P	**Pn**	**14 49 35.5**	**+0.7**
	37nm,0.7s						
KKN	**Kakani**	**6.51**	**182**	*e*P	**Pn**	**14 49 36.4**	**0.0**
	13nm,0.6s						
JIRN	**Jiri**	**6.66**	**175**	*e*P	**Pn**	**14 49 37.6**	**-0.8**
	13nm,0.5s						
DMN	**Daman**	**6.70**	**183**	*e*P	**Pn**	**14 49 38.7**	**-0.2**
	9.6nm,0.5s						
PKI	**Pulchoki**	**6.73**	**181**	*e*P	**Pn**	**14 49 38.7**	**-0.6**
	16nm,0.6s						
MKAR	**Makanchi Array**	**12.70**	**350**	Pn	**Pn**	**14 50 56.0**	**-5.1**
	0.0nm,0.3s,baz=152,slow=9.5,SNR=3.8						
BVAR	**Borovoye Array**	**21.59**	**335**	P	**P**	**14 52 49.6**	**-0.1**
	0.4nm,0.6s,mb3.0,baz=134,slow=12,SNR=2.7						
WRA	**Warramunga Arr**	**71.19**	**132**	P	**P**	**14 59 17.3**	**-1.0**
	0.6nm,0.8s,mb3.5,baz=327,slow=6.6,SNR=4.9						
ASAR	**Alice Springs**	**73.74**	**134**	P	**P**	**14 59 34.9**	**+1.4**
	0.3nm,0.7s,mb3.4,baz=322,slow=5.9,SNR=4.3						

MAN 01 14:48:49.3, 847N×12304E, h22km, mb2.0, ML3.8, MS0.4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCPH	**Dipolog City**	**0.33**	**69**	↑*i* P	Pb	14 48 57.8	+1.3
DCPH				*e*S	Sb	14 49 06.4	+5.0
PAGZ	**Pagadian**	**0.70**	**151**	*e*P	Pb	14 49 02.9	+0.1
PAGZ				*e*S	Sb	14 49 15.1	+3.1
IPIL	**Ipil**	**0.82**	**215**	*e*P	Pb	14 49 04.8	0.0
IPIL				*e*S	Sb	14 49 17.9	+2.5

IDC 01 15:10:36.1±9.2, 1729S×17390W, h170km±200km, mb3.6/4, mb1 3.7/5, mb1mx3.4/16, mbtmp4.1/5, ML2.4/1, Error ellipse: s-maj=201.7km s-min=37.4km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.93**	**32**	P	Pn	15 11 37.8	+1.8
	14nm,0.3s,baz=270,slow=4.0,SNR=67						
AFI				S	Sn	15 12 22.8	+0.1
	48nm,0.3s,baz=57,slow=22,SNR=23						
URZ	**Urewera**	**22.33**	**199**	P	P	15 15 20.1	+0.2
	3.7nm,0.5s,baz=303,slow=8.1,SNR=5.3						
STKA	**Stephens Creek**	**42.70**	**242**	P	P	15 18 14.3	-1.9
	3.0nm,1.1s,baz=86,slow=16,SNR=3.6						
WRA	**Warramunga Arr**	**48.97**	**258**	P	P	15 19 05.9	+0.6
	0.4nm,0.4s,baz=96,slow=7.0,SNR=16						
ASAR	**Alice Springs**	**49.09**	**253**	P	P	15 19 07.2	+1.0
	2.5nm,0.6s,baz=89,slow=8.4,SNR=60						

*IDC **01** 15:18:54.8±1.1, 206N×9947W, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.8/16, mbtmp3.6/5, MS3.9/12, Ms1 3.9/12, ms1mx3.7/20, Error ellipse: s-maj=62.3km s-min=25.1km az=62.0*
*ISCJB **01** 15:18:55.1±2.6, 2.1N±04×993W±05, h10km, mb4.0/12, MS3.9/11, Error ellipse: s-maj=99.9km s-min=14.3km az=102.2*
*NEIC **01** 15:18:56.2±0.7, 202N×9941W, h10km, mb4.3/7, Error ellipse: s-maj=28.5km s-min=10.4km az=58.0*

ISC 01 15:18:56.9±2.7, 21N±05×994W±06, h10km, n30, σ0§93/16, mb4.0/12, MS3.9/11, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**16.50**	**60**	LR	LR	15 27 04.7	
	comp=Z,490nm,19.4s,baz=225,slow=30						
LPIG	**La Paz**	**24.31**	**335**	LR	LR	15 31 44.8	
	comp=Z,799nm,18.2s,MS4.2,baz=25,slow=32						
LTX	**Lajitas**	**27.41**	**352**	*e*P	**P**	**15 24 43.8**	**+1.2**
	3.1nm,0.8s,mb3.9						
SDV	**Santo Domingo**	**29.39**	**76**	LR	LR	15 34 25.6	
	comp=Z,146nm,18.7s,MS3.6,baz=34,slow=32						
MNTX	**Cornudas Mount**	**30.00**	**350**	*e*P	**P**	**15 25 05.3**	**-0.3**
	12nm,1.8s,mb4.3						
RPN	**Rapa Nui**	**30.58**	**198**	LR	LR	15 34 25.6	
	comp=Z,232nm,21.7s,MS3.8,baz=319,slow=30						
BNM	**Barren Site**	**32.62**	**349**	*e*P	**P**	**15 25 29.6**	**+0.8**
LPAZ	**La Paz**	**35.87**	**122**	P	**P**	**15 25 58.2**	**+1.3**
	1.4nm,1.0s,mb3.9,baz=307,slow=7.1,SNR=4.8						
LPAZ				LR	LR	15 38 32.3	
	comp=Z,180nm,19.5s,MS3.9,baz=79,slow=33						
LPAZ	**La Paz**	**35.87**	**122**	P	**P**	**15 25 58.2**	**+1.3**
LPAZ				LR	LR	15 38 32.3	
SAML	**Samuel**	**37.71**	**107**	*e*P	**P**	**15 26 11.6**	**-1.0**
	11nm,1.8s,mb4.3						
NVAR	**Mina Array Bea**	**40.11**	**337**	P	**P**	**15 26 34.1**	**+1.3**
	0.4nm,0.7s,mb3.3,baz=165,slow=10,SNR=5.1						
HWUT	**Hardware Ranch**	**40.85**	**346**	*e*P	**P**	**15 26 38.6**	**-0.2**
	12nm,1.3s,mb4.4						
BW06	**Boulder Array**	**41.52**	**349**	*e*P	**P**	**15 26 44.1**	**-0.2**
	4.4nm,1.1s,mb4.0						
PDAR	**Pinedale Array**	**41.52**	**349**	P	**P**	**15 26 44.3**	**-0.1**
	2.5nm,0.9s,mb3.9,baz=146,slow=6.9,SNR=20						
PDAR				LR	LR	15 45 21.5	
	comp=Z,59nm,19.5s,MS3.5,baz=189,slow=38						
LOHW	**Long Hollow**	**42.54**	**348**	*e*P	**P**	**15 26 52.3**	**-0.4**
	6.2nm,1.0s,mb4.3		

TBI	**Tubuai**	**23.76**	**113**	*e*LR	LR	15 29 28.4			
	161nm,24.2s								
HNR	**Honiara**	**26.81**	**280**	LR	LR	15 35 05.7			
	comp=Z,142nm,18.6s,MS3.5,baz=179,slow=34								
TAOE	**Nuku Hiva Isla**	**33.02**	**82**	*e*LR	LR	15 34 15.7			
	880nm,26.3s								
CTA	**Charters Tower**	**38.73**	**257**	LR	LR	15 41 03.1			
	comp=Z,94nm,20.5s,MS3.6,baz=51,slow=33								
STKA	**Stephens Creek**	**44.09**	**240**	P	**P**	**15 27 58.4**	**-1.0**		
	2.1nm,0.6s,mb4.1,baz=99,slow=12,SNR=20								
STKA	**Stephens Creek**	**44.09**	**240**	*e*P	**P**	**15 27 57.9**	**-1.5**		
WRAB	**Tennant Creek**	**49.92**	**257**	*e*P	**P**	**15 28 46.3**	**+1.4**		
WRA	**Warramunga Arr**	**49.93**	**257**	P	**P**	**15 28 45.9**	**+0.9**		
	0.4nm,0.4s,mb3.8,baz=88,slow=7.1,SNR=21								
ASAR	**Alice Springs**	**50.19**	**252**	P	**P**	**15 28 47.7**	**+0.8**		
	2.9nm,0.5s,mb4.5,baz=88,slow=7.5,SNR=101								
FITZ	**Fitzroy Crossi**	**58.30**	**258**	LR	LR	15 52 59.2			
	comp=Z,66nm,20.1s,MS3.8,baz=356,slow=34								
NVAR	**Mina Array Bea**	**74.33**	**42**	P	**P**	**15 31 28.9**	**+0.4**		
	1.0nm,0.8s,mb3.8,baz=221,slow=7.4,SNR=6.2								
ANMO	**Albuquerque**	**80.78**	**50**	LR	LR	15 59 20.7			
	comp=Z,75nm,22.0s,MS4.0,baz=122,slow=29								
DLBC	**Dease Lake**	**81.75**	**21**	LR	LR	15 59 25.0			
	comp=Z,66nm,21.3s,MS4.0,baz=138,slow=29								
PDAR	**Pinedale Array**	**82.26**	**42**	P	**P**	**15 32 12.3**	**-0.2**		
	0.8nm,0.7s,mb3.8,baz=215,slow=4.8,SNR=5.0								
ILAR	**Eielson Array**	**82.52**	**11**	P	**P**	**15 32 13.5**	**-0.3**		
	1.0nm,0.9s,mb3.9,baz=222,slow=6.1,SNR=12								
YKA	**Yellowknife Ar**	**90.14**	**23**	P	**P**	**15 32 50.6**	**-0.6**		
	0.7nm,0.7s,mb4.1,baz=238,slow=4.9,SNR=16								
VNA3	**Neumayer Olymp**	**92.75**	**175**	*e*	**P**	**15 33 03.4**	**+0.1**		
VNA3				*e*		15 33 06.3			
VNA2	**Neumayer--Watz**	**93.24**	**175**	*e*	**P**	**15 33 05.8**	**+0.2**		
	baz=209,slow=2.5								
VNA2				*e*		15 33 07.3			
VNA2				*e*		15 33 09.2			
KHC	**Kasperske Hory**	**146.00**	**352**	*e*PKPbc	PKPbc	15 39 32.0	+1.3		
GERES	**GERESS Array B**	**146.26**	**352**	PKPbc	PKPbc	15 39 33.2	+1.8		
	0.3nm,0.6s,baz=46,slow=5.8,SNR=4.3								
BR131	**Keskin Array S**	**146.31**	**321**	*e*PKPbc	PKPbc	15 39 33.5	+1.9		
BRTR	**Keskin Array B**	**146.31**	**321**	PKPbc	PKPbc	15 39 33.5	+1.8		
	2.4nm,0.8s,baz=105,slow=2.6,SNR=12								

IDC 01 15:22:58.1±5.1, 192N×9970W, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.7/16, mbtmp3.6/4, Error ellipse: s-maj=237.4km s-min=27.1km az=52.0, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**36.05**	**121**	P	P	15 30 02.3	+1.1
	0.3nm,0.4s,baz=283,slow=11,SNR=2.9						
PDAR	**Pinedale Array**	**41.61**	**349**	P	P	15 30 48.1	+0.3
	2.0nm,1.0s,baz=147,slow=5.7,SNR=10						
YKA	**Yellowknife Ar**	**61.45**	**352**	P	P	15 33 16.1	-0.2
	0.9nm,1.1s,baz=153,slow=6.0,SNR=6.4						
ILAR	**Eielson Array**	**71.26**	**341**	P	P	15 34 19.1	-0.2
	0.8nm,1.1s,baz=145,slow=4.1,SNR=4.9						

*ISCJB **01** 15:55:25.7±0.7, 3908N±004×2420E±004, h20km±7km, Error ellipse: s-maj=7.3km s-min=5.1km az=9.0*
*ATH **01** 15:55:25.1, 3908N×2422E, h27km±1km, MD2.9/4*
*THE **01** 15:55:26.0, 39.14N×2421E, h12km, ML2.1*
ISC 01 15:55:25.1±0.7, 3910N±005×2421E±004, h16km±5km, n11, σ0§80/19, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AOS	**Alonnisos**	**0.27**	**286**	*e*Pg	**Pg**	**15 55 31.0**	**0.0**
AOS				*e*Sg	**Sg**	**15 55 35.6**	**+0.7**
NEO	**Neokhori**	**0.79**	**285**	*e*PN	**Pn**	**15 55 41.0**	**-0.6**
NEO				*e*SN	**Sn**	**15 55 52.5**	**-0.6**
XOR	**Xorichti**	**0.83**	**289**	*e*Pg	**Pg**	**15 55 41.9**	**-0.5**
XOR				*e*Sg	**Sg**	**15 55 53.3**	**+1.0**
PAIG	**Paliouri**	**0.92**	**334**	*e*Pg	**Pg**	**15 55 42.9**	**-0.1**
PAIG				*e*Sg	**Sg**	**15 55 55.9**	**+0.8**
LKR	**Lokris**	**1.04**	**245**	*e*PN	**Pn**	**15 55 44.9**	**-0.2**
LKR				*e*SN	**Sn**	**15 56 00.0**	**+0.7**
LOS	**Limnos**	**1.07**	**39**	*e*Pg	**Pg**	**15 55 45.6**	**-0.3**
LOS				*e*Sg	**Sg**	**15 56 00.6**	**+0.7**
LIA	**Limnos Island**	**1.10**	**43**	*e*PN	**Pn**	**15 55 46.4**	**+0.6**
OUR	**Ouranopolis**	**1.25**	**352**	*e*Pg	**Pg**	**15 55 47.9**	**-1.3**
OUR				*e*Sg	**Sg**	**15 56 04.5**	**-0.9**
PLG	**Polygyros**	**1.40**	**335**	*e*PN	**Pn**	**15 55 50.8**	**+0.8**
AGG	**Agios Georgios**	**1.47**	**268**	*e*Pg	**Pg**	**15 55 51.5**	**-1.8**
CHOS	**Chios island**	**1.61**	**116**	*e*Pb	**Pb**	**15 55 53.5**	**-0.9**
CHOS				*e*Sb	**Sb**	**15 56 15.3**	**+0.8**

*IDC **01** 15:56:55.8±0.7, 2678S×7077W, h0km, mb4.2/8, mb1 4.2/10, mb1mx4.1/16, mbtmp4.1/10, ML3.9/1, MS4.0/2, Ms1 3.9/2, ms1mx3.3/19, Error ellipse: s-maj=27.3km s-min=21.9km az=92.0*
*ISCJB **01** 15:56:58.9±0.4, 2681S±003×7097W±007, h33km, mb4.2/13, MS4.1/3, Error ellipse: s-maj=9.3km s-min=4.1km az=176.9*
*NEIC **01** 15:56:59.3, 2688S×7096W, h33km, mb4.3/6, ML4.9(GUC), After GUC.*
NEIC Felt [III] at Copiapo.
*BJI **01** 15:56:59.3, 2690S×7100W, h32km, mB5.0, Ms5.1, Msz4.8*
*GUC **01** 15:56:59.3±1.1, 2688S×7096W, h33km±5km, ML4.9*
ISC 01 15:56:59.9±0.8, 2682S±003×7094W±010, h27km±5km, n49, σ0§84/46, mb4.2/13, MS4.1/3, 4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.27**	**159**	⇓*i*P	**Pb**	**15 57 05.9**	**-0.7**
CDCH				*i* S	**Sb**	**15 57 10.8**	**-0.4**
CRCH	**Chaqaral**	**0.55**	**31**	⇓*i*P	**Pb**	**15 57 11.5**	**+0.6**
CRCH				*i* S	**Sb**	**15 57 19.7**	**+1.3**
CPCH	**Copiapo**	**0.75**	**136**	⇓*i*P	**Pb**	**15 57 14.4**	**+0.1**
CPCH				*i* S	**Sb**	**15 57 25.0**	**+0.9**
CPCH				AML	AML	15 57 27.0	
	comp=E,69μm,0.1s						
CPCH	**Copiapo**	**0.75**	**136**	⇓*i*P	**Pb**	**15 57 14.4**	**+0.1**
CPCH				*i* S	**Sb**	**15 57 25.0**	**+0.9**
LCO	**Las Campanas**	**2.19**	**175**	*e*P	**Pn**	**15 57 34.2**	**-0.3**
LCO				*i* S	**Sn**	**15 58 00.4**	**-0.4**
CPN1	**Cerro Paranal**	**2.24**	**13**	*e*P	**Pn**	**15 57 34.4**	**-0.7**
ANCH	**Antofagasta**	**3.16**	**9**	*e*P	**Pn**	**15 57 46.0**	**-1.8**
TLL	**Tololo Astrono**	**3.34**	**178**	*e*P	**Pn**	**15 57 50.6**	**+0.3**
TLL				*i* S	**Sn**	**15 58 29.4**	**+0.3**
TLL				AML	AML	15 58 48.9	
	comp=E,3μm,0.3s						
TLL	**Tololo Astrono**	**3.34**	**178**	*e*P	**Pn**	**15 57 50.6**	**+0.3**
TLL				*i* S	**Sn**	**15 58 29.4**	**+0.3**
OVCH	**Ovalle**	**3.78**	**183**	*i* S	**Sn**	**15 58 48.2**	**+8.2**
CFAA	**Coronel Fontan**	**5.32**	**154**	Pn	**Pn**	**15 58 22.4**	**+4.8**
	comp=E,1.3nm,0.3s,baz=342,slow=13,SNR=10						
CFAA				Sn	**Sn**	**15 59 25.3**	**+7.4**
	baz=0.0,slow=0.0						
FCH	**Farellones**	**6.51**	**175**	*e*P	**Pn**	**15 58 32.9**	**-1.0**
LPAZ	**La Paz**	**10.80**	**15**	Pn	**Pn**	**15 59 32.6**	**0.0**
	comp=E,0.4nm,0.3s,baz=195,slow=7.2,SNR=13						
LPAZ				LR	LR	16 02 34.3	
	comp=E,39nm,21.9s,baz=212,slow=32						
LPAZ	**La Paz**	**10.80**	**15**	*e*Pn	**Pn**	**15 59 32.3**	**-0.4**
	comp=E,4.1nm,0.6s						
CPUP	**Villa Florida**	**12.19**	**91**	Pn	**Pn**	**15 59 55.7**	**+4.0**
	comp=E,0.2nm,0.3s,baz=235,slow=13,SNR=5.6						
CPUP	**Villa Florida**	**12.19**	**91**	P	**Pn**	**15 59 51.9**	**+0.2**
	comp=E,17nm,0.7s						
SIV	**San Ignacio**	**14.15**	**42**	Pn	**Pn**	**16 00 14.7**	**-3.7**
	baz=246,slow=8.9						
SAML	**Samuel**	**19.23**	**24**	*e*P	**Pn**	**16 01 22.1**	**-0.9**
	comp=E,5.6nm,0.8s						
SAML				*e*		16 01 28.7	
BDFB	**Brasilia**	**24.04**	**67**	P	**P**	**16 02 10.7**	**-2.0**
	comp=E,5.0nm,0.6s,mb4.1,baz=239,slow=9.2,SNR=8.6						
BDFB				LR	LR	16 12 54.3	
	comp=E,396nm,19.2s,MS3.9,baz=250,slow=40						
SDV	**Santo Domingo**	**35.49**	**1**	P	**P**	**16 03 53.7**	**-0.5**
	comp=E,2.0nm,0.8s,mb4.1						
VNA3	**Neumayer Olymp**	**55.70**	**160**	*e*	**P**	**16 06 34.1**	**+0.3**
VNA3				*e*	pP	16 06 41.4	-0.7
VNA3	**Neumayer Olymp**	**55.70**	**160**	*e*P	**P**	**16 06 34.1**	**+0.3**
VNA3				*e*	pP	16 06 41.4	-0.7
VNA3				*e*		16 20 57.1	
VNA3				*e*		16 20 59.0	
VNA3				*e*		16 21 04.1	
VNA2	**Neumayer--Watz**	**56.31**	**159**	*e*	**P**	**16 06 38.4**	**+0.2**
	baz=288,slow=8.3						
VNA2				*e*		16 06 41.0	
VNA2				*e*	pP	16 06 44.3	-2.2
VNA2				*e*	pP	16 06 46.4	-0.1
VNA2	**Neumayer--Watz**	**56.31**	**159**	*e*P	**P**	**16 06 38.4**	**+0.2**
VNA2				*e*		16 06 41.0	
VNA2				*e*	pP	16 06 44.3	-2.2
VNA2				*e*	pP	16 06 46.4	-0.1
VNA2				*e*		16 20 44.4	
VNA2				*e*		16 20 46.0	
VNA2				*e*		16 20 48.1	
VNA2				*e*		16 20 49.8	
VNA2				*e*		16 20 58.6	
SNAA	**Sanae**	**57.92**	**160**	P	**P**	**16 06 49.4**	**-0.2**
	comp=E,1.1nm,0.6s,mb4.1,baz=278,slow=7.2,SNR=15						
SNAA	**Sanae**	**57.92**	**160**	*e*	**P**	**16 06 49.6**	**0.0**
SNAA				*e*		16 06 51.9	
SNAA	**Sanae**	**57.92**	**160**	*e*P	**P**	**16 06 49.6**	**0.0**
SNAA				*e*		16 06 51.9	
QSPA	**South Pole Qui**	**63.40**	**180**	*e*P	**P**	**16 07 27.7**	**+0.8**
	comp=E,5.2nm,0.9s,mb4.7						
MNTX	**Cornudas Mount**	**66.83**	**328**	*e*P	**P**	**16 07 49.1**	**-0.1**
	comp=E,2.4nm,0.9s,mb4.2						
DBIC	**Dimbokro**	**72.05**	**73**	P	**P**	**16 08 21.0**	**-0.4**
	comp=E,2.1nm,0.6s,mb4.2,baz=194,slow=9.9,SNR=5.1						
DBIC				LR	LR	16 38 17.6	
	comp=E,79nm,20.1s,MS4.0,baz=302,slow=34						
DBIC	**Dimbokro**	**72.05**	**73**	P	**P**	**16 08 21.0**	**-0.5**
DBIC				LR	LR	16 38 17.6	
SMCO	**Snowmass**	**73.78**	**332**	*e*P	**P**	**16 08 32.2**	**+0.5**
	comp=E,4.6nm,1.0s,mb4.4						
PDAR	**Pinedale Array**	**77.84**	**332**	P	**P**	**16 08 55.7**	**+0.8**
	comp=E,0.4nm,0.6s,mb3.5,baz=149,slow=3.1,SNR=4.3						
NVAR	**Mina Array Bea**	**78.50**	**324**	P	**P**	**16 09 00.4**	**+1.3**
	comp=E,0.4nm,0.6s,mb3.5,baz=148,slow=7.5,SNR=4.2						
FLWY	**Flagg Ranch**	**79.40**	**332**	*e*P	**P**	**16 09 05.1**	**+1.6**
	comp=E,4.7nm,0.8s,mb4.5						
MAW	**Mawson**	**79.78**	**164**	P	**P**	**16 09 05.8**	**+0.2**
	comp=E,3.7nm,0.8s,mb4.4,baz=228,slow=6.7,SNR=5.3						
TORD	**Torodi Ar. Bea**	**80.88**	**70**	P	**P**	**16 09 12.1**	**+0.6**
	comp=E,7.9nm,0.6s,mb4.8,baz=264,slow=5.1,SNR=72						
YKA	**Yellowknife Ar**	**95.58**	**341**	P	**P**	**16 10 22.0**	**-0.7**
	comp=E,0.6nm,0.9s,mb4.0,baz=134,slow=4.6,SNR=12						
ASAR	**Alice Springs**	**124.36**	**208**	PKP	PKPdf	16 15 56.5	+0.1
	comp=E,0.4nm,0.7s,baz=134,slow=1.6,SNR=9.5						
WRA	**Warramunga Arr**	**127.45**	**210**	PKP	PKPdf	16 16 03.0	+0.8
	comp=E,0.8nm,0.7s,baz=154,slow=1.7,SNR=13						
KURK	**Kurchatov**	**146.74**	**36**	*e*PKPbc	PKPbc	16 16 38.5	-0.8
ZAL	**Zalesovo**	**147.52**	**27**	PKPbc	PKPbc	16 16 39.8	-1.6
	comp=E,6.0nm,0.9s,baz=171,slow=3.0,SNR=23						
AAK	**Ala-Archa**	**147.77**	**52**	*e*PKPdf	PKPdf	16 16 39.9	+0.7
AAK				*e*PKPbc	PKPbc	16 16 42.9	+0.7
HYB	**Hyderabad**	**150.29**	**102**	*i* PKP	PKPdf	16 16 50.0	+6.7
MKAR	**Makanchi Array**	**150.96**	**40**	PKPbc	PKPbc	16 16 50.5	+0.4
	comp=E,6.1nm,0.7s,baz=317,slow=2.3,SNR=70						
MDJ	**Mudanjiang**	**155.76**	**322**	PKP	PKPdf	16 16 51.3	0.0
WMQ	**Urumqi**	**155.78**	**40**	PKP	PKPdf	16 16 50.0	-1.3
WMQ				APKP		16 16 55.0	
WMQ				PKP2	PKPab	16 17 19.5	+1.6
WMQ				LR	LR		
	comp=N,71nm,27.3s						
WMQ				LR	LR		
	comp=Z,70nm,22.7s,MS4.4						
HHC	**Hu-ho-hao-te**	**165.85**	**352**	*e*PKP	PKPdf	16 17 02.1	0.0
HHC				PKP2	PKPab	16 18 04.2	+2.4
HHC				PKS		16 20 34.3	
HHC				PP	PP	16 21 48.9	0.0
HHC				SKS	SKSdf	16 24 04.9	+0.5
HHC				SKKS	SKKSac	16 28 37.4	+2.6
HHC				PP	PP		
	comp=Z,143nm,6.1s						
HHC				LR	LR		
	comp=N,142nm,19.4s						
HHC				LR	LR		
	comp=E,148nm,20.6s						
HHC				LR	LR		
	comp=Z,113nm,19.0s						
NJ2	**Nanjing**	**170.00**	**304**	*e*PKP	PKPdf	16 17 07.8	+2.8

*CSEM **01** 15:59:13.9±0.1, 4263N×1257E, h12km, ML3.7/5, Error ellipse: s-maj=1.2km s-min=0.9km az=64.0*
*ISCJB **01** 15:59:14.1±0.3, 4263N±002×1254E±003, h13km±4km, Error ellipse: s-maj=4.4km s-min=3.3km az=143.8*
*ROM **01** 15:59:14.8±0.1, 4262N×1256E, h10km, Md3.0/24, Ml2.8/20, Error ellipse: s-maj=1.9km s-min=1.4km az=116.0*
*NEIC **01** 15:59:14.8, 4262N×1256E, h10km, ML2.8(ROM), ML2.9(LDG), After ROM.*
*LDG **01** 15:59:16.1±0.3, 4260N×1272E, h10km, Ml2.9/2, Error ellipse: s-maj=9.9km s-min=6.8km az=57.0*
ISC 01 15:59:14.9±0.3, 4263N±002×1254E±003, h6km±5km, n39, σ0§96/50, 4C-1D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.47**	**64**	⇑*i*Pg	**Pg**	**15 59 23.9**	**-0.1**
SACS	**San Casciano d**	**0.51**	**296**	Pg	**Pg**	**15 59 25.2**	**+0.4**
	519nm,1.0s						
FIAM	**Fiamignano**	**0.56**	**130**	Pg	**Pg**	**15 59 25.3**	**-0.4**
FIAM				Sg	**Sg**	**15 59 34.0**	**+1.0**
	465nm,0.4s						
MTCE	**Montecelio**	**0.62**	**166**	Pg	**Pg**	**15 59 26.8**	**-0.1**
MTCE				Sg	**Sg**	**15 59 36.5**	**+1.5**
	336nm,0.4s						
MURB	**Monte Urbino**	**0.64**	**359**	Pg	**Pg**	**15 59 27.0**	**-0.1**
MURB				Sg	**Sg**	**15 59 37.5**	**+2.1**
	847nm,0.5s						
CAMP	**Campotosto**	**0.65**	**98**	Pg	**Pg**	**15 59 26.9**	**-0.5**
CAMP				Sg	**Sg**	**15 59 36.6**	**+0.7**
	594nm,0.7s						
TOLF	**Tolfa**	**0.69**	**215**	Pg	**Pg**	**15 59 28.0**	**-0.1**
	426nm,0.7s						
SNTG	**Essanatoglia**	**0.69**	**25**	Pg	**Pg**	**15 59 27.9**	**-0.3**
	107nm,0.3s						
AQU	**L'Aquila**	**0.70**	**113**	Pg	**Pg**	**15 59 28.2**	**-0.1**
	678nm,1.1s						
AQU	**L'Aquila**	**0.70**	**113**	*e*Pg	**Pg**	**15 59 27.6**	**-0.7**
AQU	**L'Aquila**	**0.70**	**113**	*e*Pg	**Pg**	**15 59 27.5**	**-0.8**
CERT	**Cerreto**	**0.75**	**154**	Pg	**Pg**	**15 59 28.8**	**-0.6**
CERT				Sg	**Sg**	**15 59 40.2**	**+1.0**
	394nm,0.5s						
TERO	**Teramo**	**0.79**	**90**	Pg	**Pg**	**15 59 29.0**	**-1.0**
TERO				Sg	**Sg**	**15 59 41.1**	**+0.8**
	509nm,0.5s						
ARCI	**Arcidosso**	**0.81**	**286**	Pg	**Pg**	**15 59 30.8**	**+0.3**
	91nm,0.8s						
FAGN	**Fagnano**	**0.85**	**115**	Pg	**Pg**	**15 59 31.2**	**-0.1**
	911nm,0.4s						
CING	**Cingoli**	**0.89**	**33**	Pg	**Pg**	**15 59 31.3**	**-0.7**
CING				Sg	**Sg**	**15 59 45.1**	**+1.5**
	316nm,0.5s						
ARV	**Arcevia**	**0.92**	**19**	Pg	**Pg**	**15 59 31.9**	**-0.6**
	168nm,0.8s						
ARVD	**Arcevia**	**0.92**	**19**	Pg	**Pg**	**15 59 31.9**	**-0.7**
	663nm,1.7s						
VCEL	**Villa Celiera**	**0.99**	**103**	Pg	**Pg**	**15 59 33.3**	**-0.6**
	489nm,0.4s						
GUAR	**Guarcino**	**1.01**	**145**	Pg	**Pg**	**15 59 33.3**	**-1.0**
	145nm,0.3s						
MAON	**Monte Argentar**	**1.06**	**260**	Pg	**Pg**	**15 59 34.0**	**-1.2**
	170nm,1.3s						
FSSB	**Fossombrone**	**1.08**	**9**	Pg	**Pg**	**15 59 35.0**	**-0.6**
	94nm,0.4s						
CRE	**Caprese Michel**	**1.08**	**337**	Pg	**Pg**	**15 59 36.7**	**+1.1**
	98nm,0.7s						
VVLD	**Villa Vallelon**	**1.10**	**133**	Pg	**Pg**	**15 59 36.7**	**+0.6**
	223nm,0.6s						
INTR	**Introdacqua**	**1.19**	**121**	Pg	**Pg**	**15 59 36.6**	**-1.1**
	248nm,0.6s						
GIUL	**Giuliano Di Ro**	**1.19**	**153**	Pg	**Pg**	**15 59 35.9**	**-1.9**
GIUL				Sg	**Sg**	**15 59 54.1**	**+0.8**
	114nm,0.5s						
AOI	**Ancona**	**1.21**	**40**	Pg	**Pg**	**15 59 37.3**	**-0.8**
	114nm,0.3s						
CSNT	**Castellina Chi**	**1.24**	**313**	Pg	**Pg**	**15 59 38.3**	**-0.5**
	33nm,0.5s						
SFI	**Santa Sofia**	**1.37**	**339**	Pg	**Pg**	**15 59 41.3**	**+0.1**
	49nm,0.7s						
PGF	**Pioggiola**	**2.61**	**269**	*e*Pn	**Pn**	**15 59 57.0**	**-0.7**
FRF	**La Foret Royal**	**4.41**	**284**	*e*Pn	**Pn**	**16 00 22.1**	**-0.3**
LMR	**La Mourre**	**4.48**	**281**	*e*Pn	**Pn**	**16 00 23.2**	**-0.1**
KBA	**Koelnbreinsper**	**4.49**	**7**	⇑*i*Pn	**Pn**	**16 00 23.0**	**-0.5**
KBA				⇑*i*Sn	**Sn**	**16 01 15.8**	**-0.2**
MBDF	**Montbardon**	**4.68**	**299**	*e*Pn	**Pn**	**16 00 28.4**	**+2.3**
WTTA	**Wattenberg**	**4.68**	**352**	⇑*i*Pn	**Pn**	**16 00 26.6**	**+0.5**
WTTA				⇓*i*Sn	**Sn**	**16 01 21.0**	**+0.2**
LPG	**La Plagne**	**5.06**	**307**	*e*Pn	**Pn**	**16 00 33.0**	**+1.7**
LPL	**La Plagne**	**5.08**	**307**	*e*Pn	**Pn**	**16 00 33.3**	**+1.7**
HINF	**Hinteralfeld**	**6.56**	**324**	*e*Sn	**Sn**	**16 02 04.1**	**-2.9**
	1.7nm,0.5s						
CDF	**Champ du Feu**	**6.86**	**329**	*e*Pn	**Pn**	**16 00 56.2**	**+0.1**
CDF				*e*Sn	**Sn**	**16 02 11.0**	**-3.5**
	2.4nm,0.6s						

IDC 01 16:01:48.8±2.0, 241N×12561E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, Error ellipse: s-maj=186.5km s-min=25.3km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.81**	**159**	P	P	16 07 03.4	0.0
	0.8nm,0.5s,baz=338,slow=10,SNR=15						
ASAR	**Alice Springs**	**27.15**	**163**	P	P	16 07 34.4	+0.7
	0.2nm,0.4s,baz=341,slow=6.8,SNR=6.6						
MKAR	**Makanchi Array**	**58.01**	**326**	P	P	16 11 43.3	0.0
	0.2nm,0.5s,baz=122,slow=7.9,SNR=5.9						

*ISCJB **01** 16:07:09.0±1.3, 2.1N±02×99.1W±02, h10km, mb4.0/11, MS3.7/10, Error ellipse: s-maj=32.8km s-min=14.2km az=77.9*
*IDC **01** 16:07:10.1±1.1, 227N×99.10W, h0km, mb3.8/5, mb1 4.2/5, mb1mx3.9/17, mbtmp3.8/5, MS3.8/11, Ms1 3.8/11, ms1mx3.6/17, Error ellipse: s-maj=61.8km s-min=24.8km az=61.0*
*NEIC **01** 16:07:10.9±0.8, 2.17N×99.04W, h10km, mb4.2/7, Error ellipse: s-maj=21.7km s-min=12.6km az=46.0*
ISC 01 16:07:11.1±1.3, 21N±02×991W±02, h10km, n29, σ1§06/15, mb4.0/11, MS3.7/10, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**16.22**	**59**	LR	LR	16 15 16.3	
	comp=Z,372nm,20.3s,baz=216,slow=30						
JTS	**JuntasAbangare**	**16.22**	**59**	P	**Pn**	**16 10 59.3**	**+0.4**
LPIG	**La Paz**	**24.38**	**335**	LR	LR	16 19 51.6	
	comp=Z,807nm,20.9s,MS4.2,baz=24,slow=31						
ROSC	**El Rosal**	**24.86**	**83**	LR	LR	16 20 22.3	
	comp=Z,122nm,21.2s,MS3.4,baz=191,slow=32						
SDV	**Santo Domingo**	**29.10**	**76**	LR	LR	16 22 59.7	
	comp=Z,95nm,21.7s,MS3.4,baz=234,slow=33						
MNTX	**Cornudas Mount**	**29.99**	**349**	*e*P	**P**	**16 13 19.6**	**-0.2**
	6.3nm,1.5s,mb4.1						
LPAZ	**La Paz**	**35.65**	**122**	P	**P**	**16 14 11.8**	**+2.6**
	2.6nm,0.9s,mb4.2,baz=307,slow=11,SNR=5.3						
LPAZ				LR	LR	16 26 52.0	
	comp=Z,101nm,20.2s,MS3.6,baz=282,slow=33						
LPAZ	**La Paz**	**35.65**	**122**	*e*P	**P**	**16 14 10.9**	**+1.7**
	3.1nm,0.9s,mb4.2						
LPAZ				LR	LR	16 26 52.0	
SAML	**Samuel**	**37.45**	**108**	P	**P**	**16 14 22.7**	**-1.8**
	4.6nm,1.3s,mb4.2						
DUG	**Dugway**	**39.87**	**344**	*e*P	**P**	**16 14 44.8**	**0.0**
	6.0nm,1.1s,mb4.2						
NVAR	**Mina Array Bea**	**40.17**	**336**	P	**P**	**16 14 49.2**	**+1.8**
	0.6nm,0.7s,mb3.5,baz=155,slow=9.6,SNR=6.2						
NVAR	**Mina Array Bea**	**40.17**	**336**	P	**P**	**16 14 49.2**	**+1.8**
HWUT	**Hardware Ranch**	**40.86**	**346**	*e*P	**P**	**16 14 53.9**	**+0.8**
	4.6nm,1.0s,mb4.1						
BW06	**Boulder Array**	**41.52**	**348**	*e*P	**P**	**16 14 58.3**	**-0.2**
	7.4nm,1.3s,mb4.2						
PDAR	**Pinedale Array**	**41.52**	**348**	P	**P**	**16 14 58.8**	**+0.3**
	3.0nm,0.9s,mb3.9,baz=148,slow=7.2,SNR=16						
TAOE	**Nuku Hiva Isla**	**42.35**	**254**	*e*LR	LR	16 26 35.9	
	781nm,26.8s						
IMW	**Indian Meadow**	**42.89**	**347**	*e*P	**P**	**16 15 09.7**	**+0.1**
	3.0nm,0.7s,mb4.1						
RKT	**Rikitea**	**43.03**	**232**	*e*LR	LR	16 26 55.6	
	117nm,36.0s						
GCMT	**Greycliff**	**44.45**	**349**	*e*P	**P**	**16 15 21.9**	**-0.3**
CFAA	**Coronel Fontan**	**44.55**	**141**	LR	LR	16 30 26.4	
	comp=Z,13nm,20.1s,MS2.8,baz=261,slow=31						
ULM	**Lac du Bonnet**	**48.01**	**3**	LR	LR	16 36 38.1	

EBEN S **Sn** **16 30 20.0 -1.5**
0.5nm,0.2s,SNR=7.9
EBEN **Beniarda** **3.73 311** P **Pn** **16 29 38.3 +0.7**
0.1nm,0.1s,SNR=7.9
EBEN S **Sn** **16 30 20.0 -1.5**
0.5nm,0.2s,SNR=7.9
ETOB **Tobarra** **4.56 302** P **Pn** **16 29 50.9 +1.9**
0.6nm,0.3s,SNR=7.2
ETOB S **Sn** **16 30 42.0 -0.1**
2.5nm,0.4s,SNR=4.5
ETOB **Tobarra** **4.56 302** P **Pn** **16 29 50.9 +1.9**
0.6nm,0.3s,SNR=7.2
ETOB S **Sn** **16 30 42.0 0.0**
2.5nm,0.4s,SNR=4.5
ECHE **Chera** **4.74 315** P **Pn** **16 29 52.0 +0.5**
1.3nm,0.2s,SNR=7.9
ECHE S **Sn** **16 30 44.7 -1.8**
2.3nm,0.5s,SNR=7.9
ECHE **Chera** **4.74 315** P **Pn** **16 29 52.0 +0.5**
ECHE S **Sn** **16 30 47.5 +0.9**
ECHE **Chera** **4.74 315** P **Pn** **16 29 52.0 +0.5**
1.3nm,0.2s,SNR=7.9
ECHE S **Sn** **16 30 47.5 +1.0**
2.3nm,0.5s,SNR=7.9
EMOS **Mosqueruela** **5.05 324** P **Pn** **16 29 57.1 +1.4**
0.3nm,0.2s,SNR=5.8
EMOS S **Sn** **16 30 53.1 -0.9**
0.3nm,0.1s,SNR=7.9
EMOS **Mosqueruela** **5.05 324** P **Pn** **16 29 57.1 +1.4**
0.3nm,0.2s,SNR=5.8
EMOS S **Sn** **16 30 53.1 -0.9**
0.3nm,0.1s,SNR=7.9
EMIR **Miracle** **5.76 346** P **Pn** **16 30 08.5 +3.0**
0.3nm,0.1s,SNR=6.9
EMIR S **Sn** **16 31 09.7 -2.0**
SNR=4.9
EMIR **Miracle** **5.76 346** P **Pn** **16 30 08.5 +3.0**
0.3nm,0.1s,SNR=6.9

IDC 01 16:28:45.9±9.6, 2042S×17890W, h643km±94km, mb2.9/5, mb1 3.2/5, mb1mx2.9/13, mbtmp4.0/5, Error ellipse: s-maj=154.3km s-min=37.9km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.66**	**264**	P	P	16 34 28.6	+0.8
	1.5nm,0.5s,baz=100,slow=7.1,SNR=5.3						
ASAR	**Alice Springs**	**43.72**	**257**	P	P	16 35 56.9	+0.2
	1.9nm,0.5s,baz=94,slow=7.4,SNR=54						
ASAR				PcP	PcP	16 37 29.4	+0.9
	0.3nm,0.6s,baz=89,slow=3.1,SNR=5.7						
WRA	**Warramunga Arr**	**43.78**	**262**	P	P	16 35 57.4	+0.3
	0.9nm,0.4s,baz=97,slow=7.3,SNR=42						
ILAR	**Eielson Array**	**88.42**	**13**	P	P	16 40 30.8	-0.7
	0.4nm,0.7s,baz=227,slow=5.6,SNR=4.3						
PDAR	**Pinedale Array**	**89.48**	**44**	P	P	16 40 36.9	+0.5
	0.1nm,0.4s,baz=132,slow=1.3,SNR=3.6						
AKASG	**Malin Array Be**	**142.53**	**330**	PKP	PKPdf	16 47 04.9	-2.3
	1.2nm,0.5s,baz=44,slow=4.1,SNR=11						
GERES	**GERESS Array B**	**149.89**	**343**	PKPbc	PKPbc	16 47 25.9	+0.7
	0.5nm,0.7s,baz=46,slow=3.9,SNR=4.6						

*ISCJB **01** 17:05:26.6±0.9, 540S±004×14704E±005, h179km±9km, mb4.6/51, Error ellipse: s-maj=8.6km s-min=5.6km az=33.9*

*MOS **01** 17:05:27.9±0.9, 537S×14699E, h195km, mb4.5/15, Error ellipse: s-maj=12.5km s-min=7.3km az=93.6*

*HRVD **01** 17:05:28.5±0.1, 549S×14706E, h202km±1km, MW5.3/98, Centroid moment Tensor Solution. LP body waves: s75,c108;Mantle waves: s98,c168; Half duration: 1s1 Moment tensor: Scale 10^17^Nm; Mrr 0.29±.02; Mθθ-0.39±.02; Mφφ 0.10±.02; Mrθ-0.22±.01; Mφθ 0.87±.01; Mφr-0.52±.02; Best double couple: M0 1.09600×10^17^ NP1 φ267.00000°, δ62.00000°, λ21.00000°. NP2: φ167.00000°, δ72.00000°, λ150.00000°. Principal axes: T 1.1270, Plg33.0000°, Azm125.0000°; N -0.0620, Plg56.0000°, Azm319.0000°; P -1.0650, Plg6.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **01** 17:05:28.5±0.2, 540S×14701E, mb4.7/28 Error ellipse: s-maj=7.6km s-min=5.0km az=100.0*

*IDC **01** 17:05:28.4±0.5, 549S×14701E, h186km±4km, mb4.6/14, mb1 4.8/18, mb1mx4.8/19, mbtmp5.2/18, MS4.1/7, Ms1 4.1/7, ms1mx3.6/22, Error ellipse: s-maj=10.8km s-min=6.8km az=103.0*

*BJI **01** 17:05:28.0, 570S×14704E, h209km, mB4.9, mb4.5*

ISC 01 17:05:29.5±0.8, 549S±003×14702E±005, h192km±8km, h194km±1.8km; pP-P, n153, σ1s19/132, mb4.5/51, 9C-14D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.90**	**178**	P	**Pn**	**17 06 29.5**	**-0.2**
	265nm,0.3s,baz=16,slow=5.5,SNR=740						
PMG				S	**Sn**	**17 07 15.2**	**-1.7**
	147nm,0.3s,baz=258,slow=21,SNR=17						
PMG				LR	LR	17 07 41.7	
	comp=Z,2μm,18.7s,baz=116,slow=34						
PMG	**Port Moresby**	**3.90**	**178**	⇓*i*P	**Pn**	**17 06 29.5**	**-0.2**
PMG				*e*S	**Sn**	**17 07 11.8**	**-5.1**
HNR	**Honiara**	**13.40**	**108**	P	**Pn**	**17 08 32.1**	**-0.1**
	30nm,0.3s,baz=262,slow=1.6,SNR=120						
HNR	**Honiara**	**13.40**	**108**	⇑*e*P	**Pn**	**17 08 31.6**	**-0.6**
HNR				pmax	pmax		
	comp=Z,1μm,1.0s						
HNR	**Honiara**	**13.40**	**108**	⇑*e*P	**Pn**	**17 08 31.6**	**-0.6**
	comp=Z,1μm,1.0s						
HNR				*e*S	**Sn**	**17 11 08.7**	**+7.1**
CTA	**Charters Tower**	**14.54**	**183**	⇓*i*P	**Pn**	**17 08 48.2**	**+1.9**
	comp=Z,52nm,0.8s						
CTA				*e*S	**Sn**	**17 11 31.1**	**+2.5**
CTA	**Charters Tower**	**14.54**	**183**	P	**Pn**	**17 08 48.4**	**+2.1**
	comp=Z,2.6nm,0.3s,baz=3.6,slow=13,SNR=55						
CTA	**Charters Tower**	**14.54**	**183**	⇓*i*P	**Pn**	**17 08 48.2**	**+1.9**
CTA				*e*S	**Sn**	**17 11 31.1**	**+2.5**
CTA				pmax	pmax		
	comp=Z,52nm,0.8s						
CTAO	**Charters Tower**	**14.54**	**183**	⇓*i*P	**Pn**	**17 08 48.3**	**+2.0**
CTAO				pmax	pmax		
	comp=Z,112nm,0.9s						
CTAO	**Charters Tower**	**14.54**	**183**	⇓*i*P	**Pn**	**17 08 48.3**	**+2.0**
	comp=Z,112nm,0.9s						
KAKA	**Kakadu**	**16.08**	**242**	⇑*i*P	**Pn**	**17 09 04.2**	**-1.0**
	comp=Z,792nm,0.4s						
WRAB	**Tennant Creek**	**18.93**	**220**	⇓*e*P	**P**	**17 09 36.5**	**+0.6**
WRAB				*e*S	**S**	**17 13 00.1**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,606nm,0.6s						
WRAB	**Tennant Creek**	**18.93**	**220**	⇓*e*P	**P**	**17 09 36.5**	**+0.6**
	comp=Z,606nm,0.6s						
WRAB				*e*S	**S**	**17 13 00.1**	**-0.5**
WB2	**Warramunga Arr**	**18.93**	**219**	⇓*i*P	**P**	**17 09 36.7**	**+0.8**
WB2				*e*S	**S**	**17 12 59.7**	**-1.0**
WRA	**Warramunga Arr**	**18.94**	**220**	P	**P**	**17 09 37.3**	**+1.2**
	comp=Z,63nm,0.3s,baz=37,slow=11,SNR=1867						
WRA				S	**S**	**17 12 59.8**	**-1.1**
	baz=40,slow=20,SNR=17						
GUMO	**Guam**	**19.07**	**354**	P	**P**	**17 09 37.8**	**+0.4**
	comp=Z,5.6nm,0.3s,baz=135,slow=11,SNR=4.4						
GUMO	**Guam**	**19.07**	**354**	P	**P**	**17 09 37.8**	**+0.4**
ASAR	**Alice Springs**	**22.05**	**214**	P	**P**	**17 10 09.7**	**+0.9**
	comp=Z,226nm,0.9s,mb5.7,baz=50,slow=8.2,SNR=2032						
ASAR				S	**S**	**17 13 58.6**	**+0.6**
	comp=Z,32nm,1.0s,baz=17,slow=24,SNR=8.9						
BKM	**Butte a Klehm**	**24.02**	**122**	⇑*i*P	**P**	**17 10 27.3**	**+0.6**
FITZ	**Fitzroy Crossi**	**24.36**	**237**	⇓*i*P	**P**	**17 10 29.8**	**0.0**
	comp=Z,220nm,0.9s,mb5.8						
FITZ				*e*		17 10 32.3	
FITZ				*e*S	**S**	**17 14 31.5**	**-3.5**
FITZ	**Fitzroy Crossi**	**24.36**	**237**	P	**P**	**17 10 29.9**	**0.0**
	comp=Z,185nm,0.6s,baz=59,slow=9.6,SNR=524						
FITZ				S	**S**	**17 14 38.0**	**+3.0**
	comp=Z,15nm,1.0s,baz=106,slow=22,SNR=3.5						
DZM	**Mont Dzumac**	**25.00**	**133**	P	**P**	**17 10 35.3**	**-0.3**
	comp=Z,57nm,0.7s,mb5.3,baz=105,slow=19,SNR=60						
ARMA	**Armidale**	**25.18**	**171**	⇑*i*P	**P**	**17 10 38.3**	**+1.1**
STKA	**Stephens Creek**	**26.74**	**190**	*e*P	**P**	**17 10 49.2**	**-2.1**
	comp=Z,18nm,0.4s,mb5.1						
STKA				*e*		17 11 01.9	
STKA	**Stephens Creek**	**26.74**	**190**	P	**P**	**17 10 48.7**	**-2.6**
	comp=Z,3.8nm,0.5s,mb4.3,baz=2.5,slow=7.2,SNR=17						
STKA				LR	LR	17 20 44.4	
	comp=Z,314nm,20.3s,baz=8.2,slow=34						
CNB	**Canberra Magne**	**29.76**	**176**	*e*P	**P**	**17 11 19.1**	**+1.1**
	comp=Z,27nm,1.4s,mb4.7						
MBWA	**Marble Bar**	**30.70**	**237**	*e*P	**P**	**17 11 26.1**	**-0.3**
	comp=Z,51nm,0.8s,mb5.2						
FORT	**Forrest**	**30.84**	**213**	⇓*i*P	**P**	**17 11 28.0**	**+0.5**
	comp=Z,86nm,0.6s,mb5.6						
TOO	**Toolangi**	**31.97**	**182**	*e*P	**P**	**17 11 38.6**	**+1.2**
	comp=Z,8.0nm,0.7s,mb4.4						
TOO	**Toolangi**	**31.97**	**182**	*e*P	**P**	**17 11 38.6**	**+1.2**
TOO				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.4						
KLBR	**Kellerberrin**	**37.76**	**223**	*e*P	**P**	**17 12 26.6**	**-0.3**
	comp=Z,30nm,0.7s,mb4.9						
KLBR				*i*		17 12 34.1	
NWAO	**Narrogin (SRO)**	**38.92**	**222**	P	**P**	**17 12 36.6**	**0.0**
	comp=Z,8.6nm,0.6s,mb4.4,baz=62,slow=5.2,SNR=9.0						
NWAO				PP	PP	17 14 05.4	-4.6
	comp=Z,54nm,1.0s,baz=48,slow=13,SNR=4.0						
NWAO				LR	LR	17 29 41.7	
	comp=Z,698nm,20.0s,baz=33,slow=37						
NWAO	**Narrogin (SRO)**	**38.92**	**222**	*e*P	**P**	**17 12 36.7**	**+0.1**
NWAO				pmax	pmax		
	comp=Z,38nm,0.9s						
NWAO	**Narrogin (SRO)**	**38.92**	**222**	*e*P	**P**	**17 12 36.7**	**0.0**
	comp=Z,38nm,0.9s,mb4.9						
NWAO				*e*		17 12 44.4	
MUN	**Mundaring**	**39.05**	**224**	⇓*i*P	**P**	**17 12 37.6**	**-0.1**
MUN				*e*		17 12 45.4	
AFI	**Afiamalu**	**41.41**	**105**	P	**P**	**17 12 57.9**	**+0.9**
	comp=Z,93nm,0.8s,mb5.3,baz=41,slow=1.4,SNR=24						
AFI	**Afiamalu**	**41.41**	**105**	*e*P	**P**	**17 12 57.4**	**+0.4**
AFI				pmax	pmax		
	comp=Z,118nm,0.9s,mb5.3						
AFI	**Afiamalu**	**41.41**	**105**	*e*P	**P**	**17 12 57.4**	**+0.3**
	comp=Z,118nm,0.9s,mb5.3						
MJAR	**Matsushiro Arr**	**42.61**	**349**	P	**P**	**17 13 06.9**	**+0.1**
	comp=Z,3.5nm,0.9s,mb3.8,baz=176,slow=8.4,SNR=7.4						
MJAR				pP	pP	17 13 46.2	-1.8
	comp=Z,10nm,1.2s,baz=172,slow=8.0,SNR=4.3						
MAT	**Matsushiro**	**42.61**	**349**	P	**P**	**17 13 06.3**	**-0.5**
MAT				S	**S**	**17 19 11.0**	**-4.0**
MAT	**Matsushiro**	**42.61**	**349**	*e*P	**P**	**17 13 09.0**	**+2.2**
MAT				*e*S	**S**	**17 19 12.0**	**-3.0**
MAT				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.1						
MAT	**Matsushiro**	**42.61**	**349**	*e*P	**P**	**17 13 09.0**	**+2.2**
	comp=Z,9.4nm,1.2s,mb4.1						
MAT				*e*S	**S**	**17 19 12.0**	**-3.0**
SNZO	**South Karori**	**43.40**	**149**	*e*P	**P**	**17 13 13.1**	**0.0**
	comp=Z,204nm,1.4s,mb5.4						
SSE	**Sheshan**	**43.96**	**327**	P	**P**	**17 13 18.4**	**+0.8**
SSE				AP	pP	17 14 01.5	+2.5
SSE				XP	sP	17 14 23.1	+2.5
SSE				S	**S**	**17 19 35.0**	**+0.4**
SSE				XS	sS	17 20 51.4	+4.1
SSE				AMB	AMB		
	comp=Z,19nm,0.9s,mb4.4						
SSE				AMB	AMB		
	comp=Z,27nm,4.0s						
SSE				LR	LR		
	comp=N,160nm,22.2s						
SSE				LR	LR		
	comp=E,169nm,22.2s						
SSE				LR	LR		
	comp=Z,131nm,21.2s						
QIZ	**Qiongzhong**	**43.98**	**305**	*e*P	**P**	**17 13 17.5**	**-0.2**
QIZ				S	**S**	**17 19 35.4**	**+0.5**
QIZ				XS	sS	17 20 48.8	+1.2
QIZ				AMB	AMB		
	comp=Z,12nm,1.5s,mb4.0						
QIZ				AMB	AMB		
	comp=Z,112nm,2.7s,mb4.7						
NJ2	**Nanjing**	**45.97**	**326**	*e*P	**P**	**17 13 34.3**	**+0.9**
NJ2				AP	pP	17 14 16.1	+0.9
NJ2				XP	sP	17 14 37.4	+0.8
NJ2				PP	PP	17 15 25.0	+0.7
NJ2				S	**S**	**17 20 05.0**	**+1.6**
NJ2				XS	sS	17 21 18.0	+1.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.4						
NJ2				AMB	AMB		
	comp=Z,70nm,4.3s						
NJ2				LR	LR		
	comp=N,470nm,29.7s						
NJ2				LR	LR		
	comp=E,480nm,34.0s						
NJ2				LR	LR		
	comp=Z,360nm,26.1s						
NANT	**Nan**	**51.62**	**299**	⇑P	**P**	**17 14 14.0**	**-2.4**
	comp=Z,172nm,1.0s,mb5.4						
MDJ	**Mudanjiang**	**52.28**	**344**	P	**P**	**17 14 22.2**	**+1.0**
MDJ				AP	pP	17 15 04.5	+0.5
MDJ				PP	PP	17 16 23.1	+1.4
MDJ				SCP	ScP	17 19 08.1	-0.3
MDJ				PCS	PcS	17 19 28.7	+0.3
MDJ				S	**S**	**17 21 33.6**	**+2.3**
MDJ				XS	sS	17 22 49.1	+3.0
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,269nm,4.3s						
MDJ				LR	LR		
	comp=N,97nm,25.0s						
MDJ				LR	LR		
	comp=E,332nm,30.0s						
MDJ				LR	LR		
	comp=Z,156nm,23.3s						
KMI	**Kunming**	**52.70**	**307**	P	**P**	**17 14 24.9**	**+0.6**
KMI				AP	pP	17 15 08.5	+1.3
KMI				XP	sP	17 15 29.7	+1.3
KMI				PP	PP	17 16 26.7	+1.2
KMI				S	**S**	**17 21 39.1**	**+2.0**
KMI				XS	sS	17 22 53.8	+1.8
KMI				SS	SS	17 25 14.3	-3.9
KMI				SSS		17 27 31.9	
KMI				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb3.8						
KMI				AMB	AMB		
	comp=Z,55nm,3.6s						
KMI				LR	LR		
	comp=N,149nm,25.6s						
KMI				LR	LR		
	comp=E,89nm,17.3s						
KMI				LR	LR		
	comp=Z,92nm,27.5s						
CN2	**Changchun**	**52.78**	**340**	*e*P	**P**	**17 14 27.4**	**+2.5**
CHRT	**Chiangrai**	**52.84**	**300**	⇓P	**P**	**17 14 25.0**	**-0.3**
XAN	**Xi'an**	**53.30**	**320**	P	**P**	**17 14 28.3**	**-0.4**
CD2	**Chengdu**	**54.93**	**314**	*e*P	**P**	**17 14 41.4**	**+0.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.6						
KLR	**Kul'dur**	**56.09**	**348**	*e*P	**P**	**17 14 46.3**	**-2.4**
HHC	**Hu-ho-hao-te**	**56.41**	**328**	*e*P	**P**	**17 14 53.4**	**+2.4**
HHC				AP	pP	17 15 37.1	+2.6
HHC				PCP	PcP	17 15 48.2	+2.5
HHC				XP	sP	17 15 58.3	+2.8
HHC				PP	PP	17 16 58.3	-0.3
HHC				SCP	ScP	17 19 26.8	+0.3
HHC				PCS	PcS	17 19 46.6	+0.1
HHC				S	**S**	**17 22 29.3**	**+2.8**
HHC				XS	sS	17 23 43.3	+0.9
HHC				SCS	ScS	17 24 20.0	-0.7
HHC				SS	SS	17 26 20.6	+4.1
HHC				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.2						
HHC				AMB	AMB		
	comp=Z,155nm,5.1s						
HHC				LR	LR		
	comp=N,187nm,17.1s						
HHC				LR	LR		
	comp=E,244nm,16.2s						
HHC				LR	LR		
	comp=Z,180nm,17.3s						
LZH	**Lanzhou**	**57.84**	**319**	*e*P	**P**	**17 15 02.0**	**+1.0**
LZH				AP	pP	17 15 47.5	+2.8
LZH				XP	sP	17 16 08.0	+2.4
LZH				PP	PP	17 17 14.2	+2.9
LZH				AMB	AMB		
	comp=Z,26nm,1.0s,mb4.8						
HIA	**Hailar**	**59.48**	**340**	*e*P	**P**	**17 15 12.7**	**+0.4**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HIA	**Hailar**	**59.48**	**340**	*e*P	**P**	**17 15 12.7**	**+0.4**
	comp=Z,3.8nm,0.7s,mb4.1						
SHL	**Shillong**	**61.76**	**303**	*e*P	**P**	**17 15 39.2**	**+12**
GTA	**Gaotai**	**62.36**	**320**	*e*P	**P**	**17 15 32.1**	**+0.4**
GTA				PP	PP	17 17 53.4	+2.2
GTA				PCS	PcS	17 20 12.6	-0.3
GTA				S	**S**	**17 23 45.8**	**+3.0**
GTA				SS	SS	17 27 51.5	+1.6
GTA				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.1						
GTA				AMB	AMB		
	comp=Z,72nm,5.7s						
GTA				LR	LR		
	comp=N,107nm,20.5s						
GTA				LR	LR		
	comp=E,69nm,17.1s						
GTA				LR	LR		
	comp=Z,134nm,14.5s						
PPT	**Papeete**	**63.02**	**107**	*e*LQ		17 31 46.7	
	comp=Z,547nm,27.5s						
PPT				*e*LR	LR	17 34 24.8	
	comp=Z,98nm,24.0s						
TBI	**Tubuai**	**63.55**	**113**	*e*LQ		17 31 59.1	
	comp=Z,421nm,35.5s						
TBI				*e*LR	LR	17 34 41.6	
	comp=Z,138nm,37.0s						
ULN	**Ulaanbaatar**	**63.67**	**331**	*e*P	**P**	**17 15 40.0**	**-0.3**
ULN				*e*	pP	17 16 23.4	-1.4
ULN				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.4						
ULN	**Ulaanbaatar**	**63.67**	**331**	*e*P	**P**	**17 15 40.0**	**-0.3**
	comp=Z,8.0nm,0.8s,mb4.4						
ULN				*e*	pP	17 16 23.4	-1.5
LSA	**Lhasa**	**63.95**	**307**	P	**P**	**17 15 43.0**	**+0.9**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
LSA	**Lhasa**	**63.95**	**307**	P	**P**	**17 15 43.0**	**+0.9**
	comp=Z,2.6nm,0.6s,mb4.0						
SONM	**Songino Array**	**63.97**	**331**	P	**P**	**17 15 42.6**	**+0.4**
	comp=Z,3.3nm,0.7s,mb4.1,baz=155,slow=6.6,SNR=25						
SONM				pP	pP	17 16 29.6	+2.8
	comp=Z,8.0nm,1.0s,baz=148,slow=5.9,SNR=8.4						
CIT	**Chita**	**63.99**	**338**	*e*P	**P**	**17 15 41.4**	**-1.0**
CIT				*e*	pP	17 16 29.9	+2.9
CIT				pmax	pmax		
	comp=Z,76nm,2.1s,mb5.0						
CASY	**Casey**	**65.76**	**195**	*e*P	**P**	**17 15 53.1**	**-0.7**
ZAK	**Zakamensk**	**67.20**	**331**	*e*P	**P**	**17 16 02.7**	**-0.2**
ZAK				*e*	pP	17 16 49.8	+1.9
ZAK				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.5						
ZAK				pmax	pmax		
	comp=Z,32nm,1.4s,mb4.8						
ZAK				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.4						
JIRN	**Jiri**	**67.26**	**303**	*e*P	pP	17 16 46.8	-1.5
GUN	**Gumba**	**67.61**	**303**	*e*P	pP	17 16 45.9	-4.6
PKI	**Pulchoki**	**67.89**	**303**	*e*P	pP	17 16 49.5	-2.8
	comp=Z,78nm,1.4s						
TLY	**Talaya**	**67.90**	**333**	*e*P	**P**	**17 16 07.3**	**0.0**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
TLY	**Talaya**	**67.90**	**333**	*e*P	**P**	**17 16 07.3**	**0.0**
	comp=Z,2.0nm,0.6s,mb3.9						
KKN	**Kakani**	**68.07**	**303**	*e*P	pP	17 16 49.1	-4.4
	comp=Z,58nm,1.0s						
DMN	**Daman**	**68.16**	**302**	*e*P	pP	17 16 50.0	-4.0
	comp=Z,72nm,0.9s						
BOD	**Bodaibo**	**68.50**	**342**	*e*P	**P**	**17 16 10.1**	**-0.9**
BOD				*e*	pP	17 16 55.0	-1.2
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.2						
BOD				pmax	pmax		
	comp=Z,9.0nm,1.8s,mb4.1						
YAK	**Yakutsk**	**68.64**	**351**	*e*P	**P**	**17 16 10.8**	**-1.1**
YAK				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.4						
GKN	**Gorkha**	**68.67**	**303**	*e*P	pP	17 16 49.1	-8.2
	comp=Z,100nm,1.2s						
MOY	**Mondy**	**69.14**	**331**	*e*P	**P**	**17 16 15.5**	**+0.5**
MOY				*e*	pP	17 17 03.2	+3.0
KOLN	**Koldanda**	**69.47**	**302**	*e*P	pP	17 16 54.2	-8.1
	comp=Z,41nm,0.9s						
MIR	**Mirnyy**	**71.27**	**200**	*d*iP	**P**	**17 16 24.5**	**-3.4**
MIR				pmax	pmax		
	comp=Z,260nm,1.0s						
WMQ	**Urumqi**	**72.42**	**319**	⇑P	**P**	**17 16 36.2**	**+1.4**
WMQ				PCP	PcP	17 16 53.2	+1.7
WMQ				AP	pP	17 17 20.5	+0.1
WMQ				PP	PP	17 19 21.7	+3.4
WMQ				S	S	17 25 42.7	0.0
WMQ				SKS		17 26 17.7	
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,19nm,3.8s						
WMQ				LR	LR		
	comp=N,75nm,22.8s						
WMQ				LR	LR		
	comp=E,87nm,29.0s						
WMQ				LR	LR		
	comp=Z,37nm,22.0s						
VNDA	**Vanda**	**72.42**	**177**	P	**P**	**17 16 34.5**	**-0.3**
	comp=Z,21nm,0.7s,mb4.9,baz=330,slow=6.6,SNR=203						
VNDA	**Vanda**	**72.42**	**177**	*e*P	**P**	**17 16 34.2**	**-0.6**
VNDA				pmax	pmax		
	comp=Z,20nm,0.7s						
VNDA	**Vanda**	**72.42**	**177**	*e*P	**P**	**17 16 34.1**	**-0.6**
	comp=Z,20nm,0.7s,mb4.8						
SBA	**Scott Base**	**73.06**	**176**	*e*P	**P**	**17 16 39.1**	**+0.5**
SBA				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3						
SBA	**Scott Base**	**73.06**	**176**	*e*P	**P**	**17 16 39.1**	**+0.6**
	comp=Z,8.5nm,0.9s,mb4.4						
BILL	**Bilibino**	**74.60**	**7**	⇓*e*P	**P**	**17 16 45.8**	**-1.7**
BILL				*e**PP	pP	17 17 33.1	-0.3
BILL				*e*		17 19 38.2	
BILL				*e*S	S	17 26 12.9	+5.7
BILL				*e*SSS		17 30 50.4	
BILL				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.2						
BILL	**Bilibino**	**74.60**	**7**	*e*P	**P**	**17 16 45.1**	**-2.4**
	comp=Z,5.7nm,1.0s,mb4.2						
MKAR	**Makanchi Array**	**77.12**	**320**	P	**P**	**17 17 01.1**	**-0.6**
	comp=Z,1.6nm,0.6s,mb3.8,baz=98,slow=7.8,SNR=22						
MKAR				pP	pP	17 17 46.6	-1.2
	comp=Z,25nm,1.0s,baz=103,slow=5.5,SNR=17						
TIXI	**Tiksi**	**77.90**	**354**	*e*P	**P**	**17 17 03.8**	**-2.3**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.9						
ZAL	**Zalesovo**	**78.60**	**328**	P	**P**	**17 17 08.2**	**-1.7**
	comp=Z,2.3nm,0.4s,mb4.1,baz=356,slow=6.1,SNR=15						
ZAL				pP	pP	17 17 53.9	-2.3
	comp=Z,4.3nm,0.7s,baz=4.7,slow=3.7,SNR=3.4						
ZAL				LR	LR	17 49 51.7	
	comp=Z,116nm,21.2s,baz=189,slow=34						
ZAL	**Zalesovo**	**78.60**	**328**	P	**P**	**17 17 08.2**	**-1.7**
ZAL				*PP	pP	17 17 53.9	-2.3
SVW2	**Sparrevohn**	**79.77**	**25**	*e*P	**P**	**17 17 18.3**	**+2.1**
NVS	**Novosibirsk**	**79.81**	**328**	*e*P	**P**	**17 17 13.3**	**-3.1**
NVS				*e*	pP	17 17 59.0	-3.9
KURK	**Kurchatov**	**80.81**	**323**	*e*P	**P**	**17 17 20.8**	**-1.0**
KURK	**Kurchatov**	**

CHKZ					pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0							
CHKZ	**Chkalovo**	**86.39**	**325**	*e*P	**P**		**17 17 47.9**	**-2.3**
	comp=Z,2.0nm,0.6s,mb4.0							
ZRNK	**Zerenda**	**87.17**	**324**	*e*P	**P**		**17 17 51.5**	**-2.4**
ZRNK					pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8							
ZRNK	**Zerenda**	**87.17**	**324**	*e*P	**P**		**17 17 51.5**	**-2.4**
	comp=Z,1.1nm,0.5s,mb3.8							
DAWY	**Dawson**	**87.80**	**25**	*e*P	**P**		**17 17 56.4**	**-0.5**
NVAR	**Mina Array Bea**	**97.03**	**52**	P	**P**		**17 18 40.3**	**+0.8**
	comp=Z,3.9nm,0.8s,mb4.7,baz=255,slow=5.0,SNR=25							
NVAR					PP	PP	17 22 37.4	-0.3
	comp=Z,0.2nm,0.4s,baz=253,slow=9.0,SNR=3.1							
DAC	**Darwin (Calif)**	**97.55**	**54**	*e*P	**P**		**17 18 42.6**	**+0.8**
DAC					pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.9							
DAC	**Darwin (Calif)**	**97.55**	**54**	*e*P	**P**		**17 18 42.6**	**+0.8**
	comp=Z,7.2nm,1.1s,mb4.9							
TPNV	**Topopah Spring**	**98.64**	**54**	*e*P	**P**		**17 18 47.1**	**+0.4**
TPNV					pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.3							
TPNV	**Topopah Spring**	**98.64**	**54**	*e*P	**P**		**17 18 47.1**	**+0.4**
	comp=Z,1.4nm,0.6s,mb4.5							
YKA	**Yellowknife Ar**	**98.71**	**28**	P	**P**		**17 18 46.9**	**-0.1**
	comp=Z,1.7nm,1.0s,mb4.3,baz=274,slow=4.9,SNR=14							
YKA					pP	pP	17 19 34.4	-0.2
	comp=Z,0.7nm,0.7s,baz=274,slow=4.7,SNR=4.3							
YKA					PKiKP	PKiKP	17 23 15.9	-1.4
	comp=Z,0.2nm,0.7s,baz=258,slow=1.4,SNR=6.5							
YKA					PKKPbc	PKKPbc	17 35 12.2	-2.0
	comp=Z,0.5nm,0.9s,baz=96,slow=3.0,SNR=7.7							
YKA					LR	LR	17 58 25.0	
	comp=Z,55nm,19.3s,baz=90,slow=32							
YKA	**Yellowknife Ar**	**98.71**	**28**	P	**P**		**17 18 46.9**	**-0.1**
YKA					pP	pP	17 19 34.4	-0.2
CHMT	**Chamberlain Mo**	**100.63**	**43**	*e*P	Pdif		17 18 55.8	+0.3
VNA2	**Neumayer--Watz**	**101.86**	**188**	*e*Pdiff	Pdif		17 19 01.3	+0.3
VNA3	**Neumayer Olymp**	**101.88**	**188**	*e*Pdiff	Pdif		17 18 58.6	-2.5
TMUT	**Trail Mountain**	**102.56**	**51**	*e*Pdif	Pdif		17 19 05.1	+1.0
PDAR	**Pinedale Array**	**102.55**	**47**	Pdiff	Pdif		17 19 08.6	0.0
	comp=Z,2.7nm,0.9s,baz=273,slow=1.9,SNR=17							
ARCES	**ARCESS Array B**	**105.78**	**342**	Pdiff	Pdif		17 19 16.4	-2.0
	comp=Z,1.9nm,0.8s,baz=70,slow=8.9,SNR=5.4							
ARCES					PKiKP	PKiKP	17 23 28.1	-2.0
	comp=Z,1.6nm,0.9s,baz=77,slow=1.2,SNR=6.3							
ARCES					PKKPbc	PKKPbc	17 34 51.8	-1.9
	comp=Z,0.5nm,0.5s,baz=241,slow=3.0,SNR=13							
CLL	**Collm**	**120.54**	**328**	⇑*i*PKPdf	PKPdf		17 23 56.9	-1.3
	comp=Z,5.0nm,0.9s							
CLL				*e*pPKPdf	pPKPdf		17 24 48.0	0.0
CLL	**Collm**	**120.54**	**328**	⇑*i*PKIKP	PKPdf		17 23 56.9	-1.3
CLL				*e*			17 24 48.0	
CLL				pmax	pmax			
	comp=Z,5.0nm,0.9s							
GERES	**GERESS Array B**	**121.50**	**326**	PKP	PKPdf		17 23 59.0	-1.1
	comp=Z,1.3nm,0.6s,baz=77,slow=1.5,SNR=16							
GERES				PKKPab	PKKPab		17 34 00.3	-1.5
	comp=Z,0.2nm,0.5s,baz=205,slow=2.2,SNR=5.5							
SCHQ	**Schefferville**	**123.76**	**29**	PKP	PKPdf		17 24 03.2	-1.2
	comp=Z,3.9nm,0.7s,baz=18,slow=3.6,SNR=12							
SCHQ	**Schefferville**	**123.76**	**23**	PKP	PKPdf		17 24 03.2	-1.2
CDF	**Champ du Feu**	**125.24**	**328**	*e*PKP1	PKPdf		17 24 06.3	-0.9
HINF	**Hinteralfeld**	**125.83**	**328**	*e*PKP1	PKPdf		17 24 07.4	-1.0
HAU	**Haudompre**	**125.98**	**328**	*e*PKP1	PKPdf		17 24 08.6	0.0
CABF	**La Chapelle**	**126.99**	**327**	*e*PKP1	PKPdf		17 24 10.4	-0.2
LPG	**La Plagne**	**127.30**	**326**	*e*PKP1	PKPdf		17 24 11.0	-0.2
LPL	**La Plagne**	**127.30**	**326**	*e*PKP1	PKPdf		17 24 10.9	-0.3
	comp=Z,3.0nm,0.8s							
TCF	**Toulx Ste Croi**	**129.24**	**329**	*e*PKP1	PKPdf		17 24 14.7	-0.2
GRR	**Gorron**	**129.26**	**333**	*e*PKP1	PKPdf		17 24 15.3	+0.4
ROSC	**El Rosal**	**138.82**	**89**	PKP	PKPdf		17 24 32.9	+0.1
	comp=Z,6.9nm,0.5s,baz=103,slow=18,SNR=6.5							
LPAZ	**La Paz**	**139.04**	**122**	PKhKP			17 24 24.8	
	comp=Z,1.1nm,0.6s,baz=16,slow=4.9,SNR=6.7							
LPAZ				PKP	PKPdf		17 24 35.4	+2.2
	comp=Z,2.9nm,0.7s,baz=282,slow=2.8,SNR=10							
LPAZ	**La Paz**	**139.04**	**122**	*e*PKPpre			17 24 23.7	
LPAZ				PKP	PKPdf		17 24 35.4	+2.2
CPUP	**Villa Florida**	**140.53**	**144**	PKhKP			17 24 27.9	
	comp=Z,0.9nm,0.4s,baz=317,slow=2.2,SNR=7.2							
CPUP				PKP	PKPdf		17 24 36.4	+0.5
	comp=Z,5.5nm,0.9s,baz=236,slow=3.6,SNR=6.5							
CPUP	**Villa Florida**	**140.53**	**144**	PKP			17 24 27.9	
CPUP				PKP	PKPdf		17 24 36.4	+0.5
SDV	**Santo Domingo**	**142.50**	**83**	*e*PKPpre			17 24 36.2	
TORD	**Torodi Ar. Bea**	**144.98**	**285**	PKP	PKPdf		17 24 42.6	-1.1
	comp=Z,3.4nm,0.6s,baz=68,slow=3.5,SNR=26							
SJG	**San Juan**	**145.27**	**66**	*e*PKIKP	PKPdf		17 24 43.6	-0.6
MTP	**Monte Pirata**	**145.81**	**66**	*e*PKPdf	PKPdf		17 24 45.5	+0.3
SAML	**Samuel**	**146.65**	**115**	*e*PKPdf	PKPdf		17 24 47.2	+0.6
LZG	**Guadaloupe-1**	**149.84**	**67**	*e*P	PKPbc		17 24 56.6	-0.1
TBG	**Guadaloupe-3**	**150.05**	**68**	*e*P	PKPbc		17 24 57.1	-0.1
DEG	**La Desirade**	**150.44**	**66**	*e*P	PKPbc		17 24 58.0	-0.3
DBIC	**Dimbokro**	**152.01**	**274**	PKPbc	PKPbc		17 25 01.9	+0.1
	comp=Z,2.2nm,0.7s,baz=123,slow=8.9,SNR=5.4							
DBIC				pPKP	pPKPdf		17 25 42.8	-2.3
	comp=Z,2.8nm,0.5s,baz=63,slow=4.3,SNR=2.9							
DBIC				pPKPbc	pPKPbc		17 25 49.6	-1.9
	comp=Z,3.7nm,0.6s,baz=97,slow=4.5,SNR=3.5							
BDFB	**Brasilia**	**154.26**	**145**	PKP	PKPdf		17 24 57.9	-0.5
	comp=Z,0.9nm,0.4s,baz=148,slow=1.5,SNR=3.9							
BDFB				PKPbc	PKPbc		17 25 07.4	+0.6
	comp=Z,7.5nm,0.5s,baz=265,slow=1.6,SNR=15							

ATH 01 17:24:09.9, 3478N×2644E, h28km±2km, MD3.6/6, 1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
XRY	**Khrisi**	**0.62**	**279**	*e*PN	Pn	17 24 22.0	-0.8
XRY				*e*SN	Sn	17 24 32.0	+0.2
NPS	**Neapolis**	**0.83**	**306**	⇓*i*PN	Pn	17 24 26.5	+0.8
NPS				*e*SN	Sn	17 24 37.0	-0.1
KARP	**Karpathos**	**0.97**	**37**	*e*PN	Pn	17 24 28.8	+1.2
KARP				*e*SN	Sn	17 24 42.6	+2.2
VAM	**Vamos**	**1.94**	**289**	*e*PN	Pn	17 24 44.1	+3.1
ARG	**Arkhangelos**	**1.99**	**43**	*e*PN	Pn	17 24 43.0	+1.4
APE	**Apeiranthos**	**2.40**	**342**	*e*PN	Pn	17 24 49.9	+2.6
VLI	**Veliai**	**3.44**	**305**	*e*PN	Pn	17 25 04.8	+3.1

IDC 01 17:27:25.0±1.6, 993S×12185E, h0km, mb3.6/1, mb1 3.5/4, mb1mx3.4/15, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=154.8km s-min=25.0km az=57.0, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**8.92**	**156**	Pn	Pn	17 29 34.1	-1.0
	0.1nm,0.3s,baz=21,slow=8.4,SNR=14						
FITZ				Sn	Sn	17 31 05.2	-11
	0.2nm,0.3s,baz=188,slow=14,SNR=3.9						
WRA	**Warramunga Arr**	**15.63**	**131**	Pn	Pn	17 31 06.3	-0.3
	0.1nm,0.3s,baz=309,slow=15,SNR=9.2						
WRA				Sn	Sn	17 33 49.6	-11
	0.1nm,0.3s,baz=277,slow=24,SNR=5.2						
ASAR	**Alice Springs**	**17.86**	**141**	P	Pn	17 31 36.6	+1.7
	0.1nm,0.3s,baz=324,slow=13,SNR=13						
MKAR	**Makanchi Array**	**66.58**	**332**	P	P	17 38 17.1	+0.1
	0.3nm,0.5s,baz=144,slow=7.5,SNR=15						

JMA 01 17:31:20.2±0.4, 4397N×14812E, h0km, M3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.83**	**251**	P	Pn	17 31 53.3	+0.4
NEM2				*e*S	Sn	17 32 16.9	+0.2
JRA	**Rausu**	**2.17**	**270**	P	Pn	17 31 58.1	+0.6
JNK	**Nakash**	**2.49**	**262**	P	Pn	17 32 02.9	+0.9
JAK	**Akkeshi**	**2.67**	**250**	P	Pn	17 32 05.6	+1.1
JAR	**Ashorobuto**	**3.23**	**259**	P	Pn	17 32 14.2	+2.1
JAR				*e*S	Sn	17 32 54.0	+2.7
JCH	**Churui**	**3.73**	**250**	P	Pn	17 32 20.4	+1.4
JCH				*e*S	Sn	17 33 05.3	+1.7
JNBK	**Urakawa-nobuka**	**4.28**	**249**	P	Pn	17 32 28.6	+2.1
JKB	**Kayabe**	**5.60**	**251**	P	Pn	17 32 46.5	+1.7
JKB				*e*S	Sn	17 33 50.7	+0.8

*ROM **01** 17:53:18.8±0.2, 4461N×1008E, h10km, Md2.5/3, Ml1.7/3, Error ellipse: s-maj=6.2km s-min=1.6km az=33.0*
*ISCJB **01** 17:53:19.8±0.6, 4453N±007×1006E±009, h24km±9km, Error ellipse: s-maj=14.5km s-min=5.6km az=85.4*
*LDG **01** 17:53:20.6±0.8, 4450N×1014E, h10km, Ml2.3/4, Error ellipse: s-maj=18.9km s-min=7.9km az=60.0*

ISC 01 17:53:20.2±0.6, 4452N±007×1005E±008, h17km±7km, n16, σ0$91/23, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERBM	**Eremo**	**0.28**	**112**	Pg	**Pg**	**17 53 25.5**	**-0.8**
ERBM				Sg	**Sg**	**17 53 31.1**	**+0.7**
	72nm,0.4s						
GSCL	**Gusciola**	**0.42**	**114**	Pg	**Pg**	**17 53 27.9**	**-0.9**
GSCL				Sg	**Sg**	**17 53 35.0**	**+0.4**
	68nm,0.5s						
VLC	**Villacollemand**	**0.44**	**146**	Pg	**Pg**	**17 53 28.8**	**-0.2**
VLC				Sg	**Sg**	**17 53 36.4**	**+1.4**
	68nm,0.8s						
BOB	**Bobbio (Coli)**	**0.49**	**300**	Pg	**Pg**	**17 53 28.4**	**-1.7**
BOB				Sg	**Sg**	**17 53 37.2**	**+0.5**
	40nm,0.6s						
BDI	**Bagni Di Lucca**	**0.61**	**139**	Pg	**Pg**	**17 53 31.8**	**-0.3**
	36nm,0.4s						
PZZT	**Monte Pizzetto**	**0.70**	**124**	Pg	**Pg**	**17 53 33.1**	**-0.8**
SBF	**Sospel**	**1.99**	**252**	*e*Pn	**Pn**	**17 53 54.4**	**+1.4**
PGF	**Pioggiola**	**2.12**	**202**	*e*Pn	**Pn**	**17 53 54.3**	**-0.4**
PGF				*e*Sn	**Sn**	**17 54 19.9**	**-0.7**
	1.4nm,0.3s						
MBDF	**Montbardon**	**2.35**	**276**	*e*Pn	**Pn**	**17 53 58.3**	**+0.4**
MBDF				*e*Sn	**Sn**	**17 54 26.8**	**+0.4**
	9.8nm,0.5s						
LPG	**La Plagne**	**2.53**	**294**	*e*Pn	**Pn**	**17 53 59.5**	**-1.0**
LPG				*e*Sn	**Sn**	**17 54 30.4**	**-0.5**
	1.3nm,0.3s						
FRF	**La Foret Royal**	**2.64**	**250**	*e*Pn	**Pn**	**17 54 01.8**	**-0.1**
LMR	**La Mourre**	**2.82**	**246**	*e*Pn	**Pn**	**17 54 04.3**	**-0.1**
LMR				*e*Sn	**Sn**	**17 54 36.6**	**-1.4**
	3.5nm,0.4s						
ORIF	**Oris-en-Rattie**	**3.00**	**279**	*e*Pn	**Pn**	**17 54 08.6**	**+1.7**
SMRF	**Simiane la Rot**	**3.26**	**262**	*e*Pn	**Pn**	**17 54 12.0**	**+1.5**
VIVF	**Saint-Julien-l**	**3.85**	**277**	*e*Pn	**Pn**	**17 54 19.3**	**+0.7**
EBR	**Ebro Roquetas**	**7.95**	**246**	*e*S*S*		17 52 06.5	

*NEIC **01** 17:59:42.5±12.0, 606S×15068E, h56km±49km, mb4.2/3, Error ellipse: s-maj=129.4km s-min=34.4km az=219.0*
*ISCJB **01** 17:59:43.6±5.2, 62S±03×1505E±03, h70km±34km, mb3.7/3, Error ellipse: s-maj=51.1km s-min=40.8km az=97.0*
*IDC **01** 17:59:44.5±8.4, 621S×15057E, h66km±60km, mb3.6/4, mb1 3.8/5, mb1mx3.5/15, mbtmp3.9/5, ML2.9/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/18, Error ellipse: s-maj=59.4km s-min=50.9km az=85.0*

ISC 01 17:59:44.5±5.1, 62S±03×1505E±03, h62km±34km, n12, σ0$68/13, mb3.7/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.66**	**226**	P	**Pn**	**18 00 52.5**	**+0.2**
	3.6nm,0.3s,baz=47,slow=11,SNR=16						
PMG				S	**Sn**	**18 01 45.5**	**+0.5**
	1.8nm,0.3s,baz=89,slow=21,SNR=3.1						
PMG				LR	LR	18 02 59.2	
	comp=Z,138nm,20.6s,baz=104,slow=42						
PMG	**Port Moresby**	**4.66**	**226**	*e*P	**Pn**	**18 00 52.6**	**+0.3**
PMG				*e*Sn	**Sn**	**18 01 44.2**	**-0.8**
PMG				LR	LR	18 02 59.2	
KAKA	**Kakadu**	**19.00**	**249**	*e*P	**Pn**	**18 04 01.6**	**-0.8**
	26nm,1.5s						
WRAB	**Tennant Creek**	**20.86**	**227**	*e*P	**P**	**18 04 21.6**	**+0.3**
	7.8nm,0.5s						
WB2	**Warramunga Arr**	**20.87**	**227**	*e*P	**P**	**18 04 21.8**	**+0.5**
WRA	**Warramunga Arr**	**20.88**	**227**	P	**P**	**18 04 21.7**	**+0.2**
	2.1nm,0.5s,baz=52,slow=10,SNR=27						
ASAR	**Alice Springs**	**23.65**	**221**	P	**P**	**18 04 51.1**	**+0.9**
	1.1nm,0.8s,mb3.3,baz=54,slow=9.1,SNR=26						
STKA	**Stephens Creek**	**26.93**	**197**	P	**P**	**18 05 18.2**	**-1.7**
	3.4nm,0.8s,mb4.0,baz=17,slow=13,SNR=6.6						
STKA	**Stephens Creek**	**26.93**	**197**	*e*P	**P**	**18 05 19.4**	**-0.5**
FITZ	**Fitzroy Crossi**	**27.04**	**242**	*e*P	**P**	**18 05 21.4**	**+0.5**
	2.4nm,0.4s,mb4.1						
FITZ	**Fitzroy Crossi**	**27.04**	**242**	P	**P**	**18 05 20.1**	**-0.8**
	0.6nm,0.3s,mb3.5,baz=59,slow=9.7,SNR=8.5						
TORD	**Torodi Ar. Bea**	**148.53**	**285**	PKPbc	PKPbc	18 19 24.8	+0.5
	3.5nm,0.7s,baz=53,slow=2.7,SNR=21						

*ISCJB **01** 18:03:38.1±0.6, 4378N±005×10522W±008, h0km, mb4.0/3, Error ellipse: s-maj=8.8km s-min=6.1km az=73.6*
*IDC **01** 18:03:40.0±2.0, 4394N×10567W, h0km, mb3.9/3, mb1 3.8/7, mb1mx3.6/25, mbtmp3.6/7, ML3.6/2, Error ellipse: s-maj=69.6km s-min=9.7km az=144.0*
*NEIC **01** 18:03:40.1±0.5, 4377N×10522W, h0km, ML3.4, Error ellipse: s-maj=7.3km s-min=5.7km az=129.0, Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.

ISC 01 18:03:39.7±0.5, 4381N±005×10519W±007, h0km, n26, σ0$95/28, mb4.0/3, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.89**	**69**	*e*P	**Pg**	**18 03 58.4**	**+1.6**
LAO	**LASA Array**	**2.97**	**346**	*e*P	**Pn**	**18 04 28.7**	**+0.6**
PDAR	**Pinedale Array**	**3.35**	**253**	Pn	**Pn**	**18 04 33.0**	**-0.4**
	8.7nm,0.3s,baz=71,slow=16,SNR=113						
PDAR				Pg	**Pg**	**18 04 38.4**	**-5.6**
	21nm,0.3s,baz=69,slow=19,SNR=66						
PDAR				Lg		18 05 18.9	
	26nm,0.3s,baz=74,slow=28,SNR=11						
GCMT	**Greyciff**	**3.75**	**303**	*e*P	**Pn**	**18 04 39.7**	**+0.8**
LKWY	**Lake**	**3.82**	**283**	*e*Pn	**Pn**	**18 04 41.7**	**+1.9**
ISCO	**Idaho Springs**	**4.02**	**185**	*e*P	**Pn**	**18 04 42.7**	**+0.2**
ISCO				*e*S	**Sn**	**18 05 36.8**	**+6.5**
YFT	**Old Faithful**	**4.11**	**281**	*e*Pn	**Pn**	**18 04 43.6**	**-0.3**
HWUT	**Hardware Ranch**	**5.18**	**247**	*e*P	**Pn**	**18 04 57.9**	**-0.6**
	13nm,0.4s						
HRY	**Holter Researc**	**5.51**	**304**	*e*P	**Pn**	**18 05 02.9**	**-0.2**
MCMT	**McKenzie Canyo**	**5.59**	**283**	*e*P	**Pn**	**18 05 06.6**	**+2.5**
DAU	**Daniels Canyon**	**5.64**	**235**	*e*P	**Pn**	**18 05 04.6**	**-0.2**
SPUT	**South Promonto**	**5.91**	**247**	*e*P	**Pn**	**18 05 08.6**	**0.0**
HVU	**Hansel Valley**	**5.94**	**253**	*e*P	**Pn**	**18 05 08.7**	**-0.2**
	6.8nm,0.3s						
PV10	**Paradox Valley**	**6.16**	**209**	*e*P	**Pn**	**18 05 12.9**	**+1.1**
SRU	**San Rafael**	**6.17**	**222**	*e*P	**Pn**	**18 05 10.9**	**-1.2**
	21nm,0.4s						
PV01	**Paradox Valley**	**6.22**	**205**	*e*P	**Pn**	**18 05 13.2**	**+0.4**
TMUT	**Trail Mountain**	**6.38**	**227**	*e*P	**Pn**	**18 05 14.7**	**-0.3**
CHMT	**Chamberlain Mo**	**6.47**	**301**	*e*P	**Pn**	**18 05 16.2**	**0.0**
BGU	**Big Grassy Mou**	**6.48**	**246**	*e*P	**Pn**	**18 05 21.7**	**+5.3**
MSU	**Marysvale**	**7.47**	**227**	*e*P	**Pn**	**18 05 29.3**	**-0.6**
ULM	**Lac du Bonnet**	**9.05**	**41**	Pn	**Pn**	**18 05 51.4**	**-0.2**
	0.7nm,0.3s,baz=236,slow=11,SNR=7.1						
NVAR	**Mina Array Bea**	**11.25**	**246**	Pn	**Pn**	**18 06 22.2**	**+0.4**
	0.1nm,0.3s,baz=50,slow=9.9,SNR=3.4						
YKA	**Yellowknife Ar**	**19.51**	**347**	P	**Pn**	**18 08 07.1**	**-2.5**
	baz=159,slow=12,SNR=8.5						
ARCES	**ARCESS Array B**	**61.33**	**18**	P	**P**	**18 13 55.9**	**-1.3**
	2.3nm,1.0s,mb4.3,baz=336,slow=8.0,SNR=3.6						
BVAR	**Borovoye Array**	**83.47**	**3**	P	**P**	**18 16 08.6**	**-0.6**
	0.4nm,0.7s,mb3.8,baz=336,slow=6.5,SNR=3.7						
MKAR	**Makanchi Array**	**89.54**	**355**	P	**P**	**18 16 38.5**	**-0.5**
	0.5nm,0.7s,mb3.9,baz=11,slow=3.4,SNR=7.0						

*ROM **01** 18:06:18.7±0.3, 4460N×1007E, h6km±3km, Md3.0/17, Ml2.5/10, Error ellipse: s-maj=3.0km s-min=1.8km az=46.0*
*GEN **01** 18:06:18.2, 4467N×1021E, h22km, ML2.0*
*CSEM **01** 18:06:19.0±0.1, 4449N×1005E, h25km, ML3.1/3, Error ellipse: s-maj=1.9km s-min=1.1km az=14.0*
*NEIC **01** 18:06:19.0, 4459N×1008E, h7km, ML2.5(ROM), ML3.0(LDG), After ROM.*
*ISCJB **01** 18:06:19.2±0.3, 4464N±002×1008E±002, h18km±3km, Error ellipse: s-maj=2.9km s-min=2.3km az=172.2*
*LDG **01** 18:06:19.7±0.1, 4467N×1030E, h10km, Ml3.0/17, Error ellipse: s-maj=2.8km s-min=2.0km az=39.0*
*PRU **01** 18:06:21.7, 4478N×1059E, h0km*
*STR **01** 18:06:23.3±0.4, 4461N×984E, h10km±1km, Ml3.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 01 18:06:19.7±0.2, 4461N±002×1013E±002, h19km±2km, n102, σ1$28/167, 6C-9D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GRAM		**0.13**	**202**	P	**Pg**	**18 06 23.5**	**-0.3**
GRAM				S	**Sg**	**18 06 27.2**	**+0.7**
VALM		**0.28**	**163**	P	**Pg**	**18 06 25.2**	**-0.7**
ERBM	**Eremo**	**0.28**	**134**	Pg	**Pg**	**18 06 25.6**	**-0.3**
ERBM				Sg	**Sg**	**18 06 31.2**	**+1.1**
	776nm,0.7s						
CODM		**0.30**	**223**	P	**Pg**	**18 06 26.0**	**-0.3**
CODM				S	**Sg**	**18 06 31.5**	**+0.7**
BACM		**0.34**	**187**	P	**Pg**	**18 06 26.2**	**-0.7**
BACM				S	**Sg**	**18 06 31.8**	**0.0**
GSCL	**Gusciola**	**0.42**	**129**	Pg	**Pg**	**18 06 27.9**	**-0.4**
GSCL				Sg	**Sg**	**18 06 35.4**	**+1.3**
SARO	**Sassorosso**	**0.47**	**156**	P	**Pg**	**18 06 28.3**	**-0.9**
SARO				S	**Sg**	**18 06 35.1**	**-0.5**
VINC	**Vinca**	**0.47**	**178**	P	**Pg**	**18 06 28.4**	**-0.9**
VINC				S	**Sg**	**18 06 35.6**	**-0.1**
SC2M	**Scurtabr**	**0.48**	**244**	P	**Pg**	**18 06 28.9**	**-0.4**
SC2M				S	**Sg**	**18 06 36.3**	**+0.5**
VLC	**Villacollemand**	**0.49**	**158**	Pg	**Pg**	**18 06 28.7**	**-0.9**
VLC				Sg	**Sg**	**18 06 36.7**	**+0.5**
	504nm,0.8s						
VLC	**Villacollemand**	**0.49**	**158**	*e*P	**Pg**	**18 06 28.1**	**-1.4**
VLC				*e*S	**Sg**	**18 06 37.0**	**+0.8**
VLC	**Villacollemand**	**0.49**	**158**	*e*P	**Pg**	**18 06 28.1**	**-1.5**
VLC	**Villacollemand**	**0.49**	**158**	Pg	**Pg**	**18 06 28.7**	**-0.9**
VLC				Sg	**Sg**	**18 06 36.7**	**+0.5**
	504nm,0.8s						
VLC				*e*S	**Sg**	**18 06 37.0**	**+0.8**
BOB	**Bobbio (Coli)**	**0.51**	**288**	Pg	**Pg**	**18 06 28.5**	**-1.5**
BOB				Sg	**Sg**	**18 06 37.5**	**+0.5**
	302nm,0.5s						
BDI	**Bagni Di Lucca**	**0.64**	**149**	Pg	**Pg**	**18 06 31.7**	**-0.7**
BDI				Sg	**Sg**	**18 06 41.2**	**+0.2**
	220nm,0.4s						
ZCCA	**Zocca**	**0.66**	**113**	Pg	**Pg**	**18 06 33.1**	**+0.4**
	23nm,0.5s						
PZZT	**Monte Pizzetto**	**0.71**	**132**	Pg	**Pg**	**18 06 33.2**	**-0.4**
PZZT				Sg	**Sg**	**18 06 44.5**	**+1.4**
	354nm,0.7s						
MAIM		**0.74**	**160**	P	**Pb**	**18 06 32.9**	**-1.1**
MAIM				S	**Sb**	**18 06 42.8**	**-1.0**
FNVD	**Fontana Vidola**	**0.84**	**122**	Pg	**Pg**	**18 06 35.8**	**-0.2**
	228nm,0.6s						
GENL	**Genova Univers**	**0.86**	**256**	P	**Pb**	**18 06 33.8**	**-2.1**
GENL				S	**Sb**	**18 06 44.5**	**-2.5**
PII	**Pisa**	**0.93**	**162**	Pg	**Pg**	**18 06 37.6**	**-0.2**
PII				Sg	**Sg**	**18 06 51.7**	**+1.5**
SAL	**Salo**	**1.03**	**15**	Pg	**Pg**	**18 06 39.1**	**-0.6**
SAL				Sg	**Sg**	**18 06 54.5**	**+1.2**
	518nm,0.4s						
SEI	**Scarperia**	**1.04**	**122**	Pg	**Pg**	**18 06 39.6**	**-0.3**
	152nm,0.3s						
PCP	**Pian Castagno**	**1.14**	**267**	P	**Pn**	**18 06 38.8**	**-1.7**
PCP				S	**Sb**	**18 06 52.2**	**-2.9**
GROG	**Isola di Gorgo**	**1.20**	**188**	Pg	**Pn**	**18 06 41.1**	**-0.3**
	120nm,1.2s						
TEOL	**Teolo**	**1.32**	**55**	⇑*i*Pg	**Pn**	**18 06 42.1**	**-1.0**
CSNT	**Castellina Chi**	**1.41**	**143**	Pg	**Pn**	**18 06 45.2**	**+0.9**
CSNT				Sg	**Sg**	**18 07 04.3**	**-1.1**
	105nm,0.6s						
SFI	**Santa Sofia**	**1.42**	**119**	Pg	**Pg**	**18 06 47.1**	**0.0**
	44nm,0.4s						
FIN	**Finale Ligure**	**1.44**	**254**	Pg	**Pn**	**18 06 45.1**	**+0.4**
	44nm,0.5s						
FIN	**Finale Ligure**	**1.44**	**254**	P	**Pn**	**18 06 42.3**	**-2.4**
FIN	**Finale Ligure**	**1.44**	**254**	Pg	**Pn**	**18 06 45.1**	**+0.4**
	44nm,0.5s						
VAI	**Varese**	**1.58**	**323**	Pg	**Pg**	**18 06 48.2**	**-2.0**
	48nm,0.4s						
CRE	**Caprese Michel**	**1.

NVLJ	**Novalja**	**3.38**	**89**	*i* Pn		**Pn**	**18 07 11.0**	**-0.5**
NVLJ				*i* Sn		**Sn**	**18 07 49.0**	**-2.2**
NVLJ	**Novalja**	**3.38**	**89**	*i* Pn		**Pn**	**18 07 10.9**	**-0.6**
NVLJ				*i* Sn		**Sn**	**18 07 48.9**	**-2.2**
CABF	**La Chapelle**	**3.47**	**307**	*e*Pn		**Pn**	**18 07 14.4**	**+1.7**
	SNR=1.0							
VIVF	**Saint-Julien-l**	**3.90**	**275**	*e*Pn		**Pn**	**18 07 18.4**	**-0.1**
	SNR=1.0							
VIVF				*e*Sn		**Sn**	**18 08 04.7**	**+0.9**
	5.7nm,0.5s,SNR=1.0							
HINF	**Hinteralfeld**	**3.93**	**326**	*e*Pn		**Pn**	**18 07 18.9**	**-0.1**
	SNR=1.0							
HINF				*e*Sn		**Sn**	**18 08 02.3**	**-2.3**
	6.8nm,0.3s,SNR=1.0							
HINF	**Hinteralfeld**	**3.93**	**326**	*e*Pn		**Pn**	**18 07 18.9**	**-0.1**
	SNR=1.0							
HINF				*e*Sn		**Sn**	**18 08 02.3**	**-2.3**
	3.4nm,0.3s,SNR=1.0							
CDF	**Champ du Feu**	**4.28**	**334**	*e*Pn		**Pn**	**18 07 23.5**	**-0.3**
	SNR=1.0							
CDF				*e*Sn		**Sn**	**18 08 09.8**	**-3.4**
	SNR=1.0							
CDF				*e*Sg		**Sg**	**18 08 34.3**	**-2.8**
	6.4nm,0.6s,SNR=1.0							
CDF	**Champ du Feu**	**4.28**	**334**	*e*Pn		**Pn**	**18 07 23.5**	**-0.3**
	SNR=1.0							
CDF				*e*Sn		**Sn**	**18 08 09.8**	**-3.4**
	SNR=1.0							
CDF				*e*Sg		**Sg**	**18 08 34.3**	**-2.8**
	3.2nm,0.6s,SNR=1.0							
HAU	**Haudompre**	**4.29**	**324**	*e*Pn		**Pn**	**18 07 24.5**	**+0.6**
	SNR=1.0							
HAU				*e*Sn		**Sn**	**18 08 11.4**	**-2.0**
	9.7nm,0.3s,SNR=1.0							
HAU	**Haudompre**	**4.29**	**324**	*e*Pn		**Pn**	**18 07 24.5**	**+0.6**
	SNR=1.0							
HAU				*e*Sn		**Sn**	**18 08 11.4**	**-2.0**
	4.8nm,0.3s,SNR=1.0							
MOA	**Molln**	**4.33**	**40**	⇓*i* Pn		**Pn**	**18 07 24.7**	**+0.3**
MOA				⇑*i* Sn		**Sn**	**18 08 14.5**	**+0.2**
LASF	**Ste Croix**	**4.53**	**265**	*e*Pn		**Pn**	**18 07 28.0**	**+0.7**
	SNR=1.0							
SMF	**Signal de Mont**	**4.86**	**297**	*e*Pn		**Pn**	**18 07 33.0**	**+1.3**
	SNR=1.0							
SMF				*e*Sn		**Sn**	**18 08 26.3**	**-1.1**
	5.2nm,0.3s,SNR=1.0							
GEC2	**GERESS Array S**	**4.89**	**29**	*e*Pn		**Pn**	**18 07 31.1**	**-1.1**
GEC2				*e*Sn		**Sn**	**18 08 25.8**	**-2.5**
GEC2	**GERESS Array S**	**4.89**	**29**	*e*Pn		**Pn**	**18 07 31.1**	**-1.1**
GEC2				*e*Sn		**Sn**	**18 08 25.8**	**-2.5**
KHC	**Kasperske Hory**	**5.10**	**26**	*e*PN		**Pn**	**18 07 34.1**	**-0.9**
KHC				*e*PG		**Pg**	**18 07 58.5**	**+1.2**
KHC				*e*SN		**Sn**	**18 08 29.5**	**-3.9**
KHC				*e*SG		**Sg**	**18 08 58.0**	**-5.3**
KHC	**Kasperske Hory**	**5.10**	**26**	*e*Pn		**Pn**	**18 07 34.1**	**-0.9**
KHC				*e*Sn		**Sn**	**18 08 29.5**	**-3.9**
LOR	**Lormes**	**5.12**	**303**	*e*Pn		**Pn**	**18 07 34.0**	**-1.3**
	SNR=1.0							
LOR				*e*Sn		**Sn**	**18 08 32.5**	**-1.4**
	7.5nm,0.3s							
AVF	**Avril sur Loir**	**5.22**	**297**	*e*Pn		**Pn**	**18 07 37.0**	**+0.2**
SSF	**Saint Saulge**	**5.24**	**300**	*e*Pn		**Pn**	**18 07 37.0**	**+0.1**
	SNR=1.0							
SSF				*e*Sn		**Sn**	**18 08 34.8**	**-2.0**
	4.8nm,0.4s,SNR=1.0							
ROTZ	**Rotzenmuhle**	**5.35**	**15**	*e*Pn		**Pn**	**18 07 35.6**	**-2.8**
BGF	**Bois d'Agland**	**5.47**	**293**	*e*Pn		**Pn**	**18 07 41.1**	**+1.0**
	SNR=1.0							
CAF	**Calviac**	**5.75**	**276**	*e*Pn		**Pn**	**18 07 45.0**	**+1.0**
TCF	**Toulx Ste Croi**	**5.82**	**290**	*e*Sn		**Sn**	**18 08 50.0**	**-1.2**
	1.5nm,0.3s,SNR=1.0							
MTLF	**Montolieu**	**5.85**	**260**	*e*Pn		**Pn**	**18 07 46.1**	**+0.7**
	SNR=1.0							
ETSF	**Etsaut**	**7.93**	**261**	*e*Pn		**Pn**	**18 08 15.7**	**+1.8**
	SNR=1.0							

*SZGRF **01** 18:12:49.8,2162S×17657W,h33km,Fiji Islands region*
*BJI **01** 18:13:53.2,21.13S×17772W,h627km,mB5.1,mb4.6*
*ISCJB **01** 18:13:55.5±1.1,2083S±008×17877W±008,h602km±15km, mb4.1/26,Error ellipse: s-maj=14.0km s-min=8.8km az=96.6*
*MOS **01** 18:13:55.4±2.7,2053S×17902W,h563km,mb4.4/4,Error ellipse: s-maj=19.4km s-min=13.1km az=161.1*
*NEIC **01** 18:13:56.1±0.8,2077S×17869W,h600km±9km,mb4.3/9, Error ellipse: s-maj=13.8km s-min=7.4km az=146.0*
*IDC **01** 18:13:59.1±1.6,2074S×17886W,h628km±18km,mb3.6/18, mb1 3.7/19,mb1mx3.7/21,mbtmp4.5/19,Error ellipse: s-maj=15.9km s-min=10.1km az=151.0*
ISC 01 18:13:56.2±1.1,2085S±008×17867W±008,h597km±13km, n124,σ1§00/47,mb4.1/26,5C-6D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AFI	**Afiamalu**	**9.54**	**45**	P		**P**	**18 16 08.7**	**-1.5**
	4.6nm,0.3s,baz=49,slow=14,SNR=5.0							
AFI				S		**S**	**18 17 52.8**	**-7.4**
	2.5nm,0.3s,baz=22,slow=24,SNR=3.2							
DZM	**Mont Dzumac**	**13.91**	**262**	P		**P**	**18 16 54.6**	**+0.5**
	0.4nm,0.3s,baz=78,slow=19,SNR=11							
URZ	**Urewera**	**17.73**	**191**	P		**P**	**18 17 27.7**	**-1.7**
	4.0nm,0.3s,baz=6.9,slow=4.3,SNR=17							
URZ				S		**S**	**18 20 21.3**	**-1.4**
	0.4nm,0.3s,baz=182,slow=23,SNR=3.7							
RPZ	**Rata Peaks**	**24.36**	**198**	P		**P**	**18 18 29.9**	**+1.1**
	3.2nm,0.4s,mb4.3,baz=90,slow=19,SNR=4.9							
CTA	**Charters Tower**	**32.83**	**265**	*e*P		**P**	**18 19 43.1**	**+1.1**
	5.0nm,0.4s,mb4.5							
CTA	**Charters Tower**	**32.83**	**265**	P		**P**	**18 19 42.6**	**+0.6**
	6.6nm,0.5s,mb4.5,baz=96,slow=10,SNR=11							
CTA	**Charters Tower**	**32.83**	**265**	*e*P		**P**	**18 19 43.1**	**+1.1**
CTA				pmax		pmax		
	comp=Z,5.0nm,0.4s							
CTAO	**Charters Tower**	**32.83**	**265**	*e*P		**P**	**18 19 43.2**	**+1.2**
PMG	**Port Moresby**	**34.81**	**284**	P		**P**	**18 19 58.9**	**+0.4**
	comp=Z,14nm,0.8s,mb4.7,baz=86,slow=4.0,SNR=5.7							
STKA	**Stephens Creek**	**37.07**	**244**	*e*P		**P**	**18 20 16.5**	**-0.6**
	comp=Z,1.9nm,0.5s,mb3.9							
STKA	**Stephens Creek**	**37.07**	**244**	P		**P**	**18 20 16.6**	**-0.5**
	comp=Z,2.1nm,0.5s,mb4.0,baz=80,slow=9.3,SNR=12							
STKA	**Stephens Creek**	**37.07**	**244**	*e*P		**P**	**18 20 16.2**	**-0.9**
ASAR	**Alice Springs**	**43.83**	**257**	P		**P**	**18 21 11.4**	**+0.8**
	comp=Z,11nm,0.6s,mb4.6,baz=89,slow=7.6,SNR=342							
ASAR				PcP		PcP	18 22 43.9	+0.4
	comp=Z,2.1nm,0.6s,baz=103,slow=4.0,SNR=9.4							
ASAR				ScP		ScP	18 25 37.5	-1.4
	comp=Z,0.4nm,0.7s,baz=94,slow=5.0,SNR=4.3							
ASAR				S		**S**	**18 26 57.5**	**-1.7**
	comp=Z,3.4nm,0.8s,baz=92,slow=16,SNR=19							
ASAR	**Alice Springs**	**43.83**	**257**	P		**P**	**18 21 11.5**	**+0.9**
ASAR							18 22 43.9	
ASAR				S		**S**	**18 26 57.5**	**-1.7**
WB2	**Warramunga Arr**	**43.92**	**263**	⇓*i* P		**P**	**18 21 11.5**	**+0.1**
WB2				*e*S		**S**	**18 26 57.2**	**-3.3**
WRAB	**Tennant Creek**	**43.92**	**263**	*e*P		**P**	**18 21 11.1**	**-0.3**
WRAB				pmax		pmax		
	comp=Z,9.0nm,0.5s,mb4.6							
WRAB	**Tennant Creek**	**43.92**	**263**	*e*P		**P**	**18 21 11.1**	**-0.2**
	comp=Z,8.6nm,0.5s,mb4.5							
WRA	**Warramunga Arr**	**43.93**	**263**	P		**P**	**18 21 11.6**	**+0.1**
	comp=Z,8.5nm,0.3s,mb4.7,baz=97,slow=7.6,SNR=783							
WRA				PcP		PcP	18 22 45.7	+1.9
	comp=Z,0.3nm,0.4s,baz=105,slow=3.2,SNR=3.0							
WRA				S		**S**	**18 26 57.9**	**-2.8**
	comp=Z,1.9nm,1.0s,baz=97,slow=13,SNR=6.5							
KAKA	**Kakadu**	**47.35**	**272**	⇓*i* P		**P**	**18 21 37.6**	**+0.2**
	comp=Z,7.8nm,0.3s,mb4.7							
FORT	**Forrest**	**48.58**	**247**	*e*P		**P**	**18 21 46.8**	**+0.3**
	comp=Z,12nm,0.6s,mb4.5							
FITZ	**Fitzroy Crossi**	**52.36**	**263**	*e*P		**P**	**18 22 14.5**	**+0.6**
	comp=Z,5.1nm,0.4s,mb4.2							
FITZ	**Fitzroy Crossi**	**52.36**	**263**	P		**P**	**18 22 14.0**	**+0.1**
	comp=Z,2.7nm,0.5s,mb3.8,baz=188,slow=14,SNR=27							
MBWA	**Marble Bar**	**57.16**	**258**	*e*P		**P**	**18 22 47.2**	**-0.1**
KLBR	**Kellerberrin**	**57.34**	**245**	*e*P		**P**	**18 22 48.6**	**+0.1**
	comp=Z,8.9nm,0.7s,mb4.1							
VNDA	**Vanda**	**57.51**	**185**	P		**P**	**18 22 50.9**	**+1.2**
	comp=Z,1.3nm,0.7s,mb3.2,baz=357,slow=7.3,SNR=13							
NWAO	**Narrogin (SRO)**	**57.65**	**244**	P		**P**	**18 22 50.8**	**+0.2**
	comp=Z,9.1nm,1.0s,mb3.9,baz=125,slow=12,SNR=4.1							
MUN	**Mundaring**	**58.61**	**245**	*e*P		**P**	**18 22 57.9**	**+0.8**
MJAR	**Matsushiro Arr**	**70.12**	**324**	P		**P**	**18 24 08.9**	**-0.7**
	comp=Z,3.4nm,0.6s,mb4.0,baz=158,slow=5.9,SNR=13							
KDAK	**Kodiak Island**	**81.30**	**14**	P		**P**	**18 25 11.9**	**+0.7**
	comp=Z,16nm,1.0s,mb4.4,baz=275,slow=10,SNR=3.2							

NVAR	**Mina Array Bea**	**81.71**	**44**	P		**P**	**18 25 14.3**	**+1.0**
	comp=Z,2.7nm,0.7s,mb3.9,baz=213,slow=6.3,SNR=11							
HLID	**Hailey**	**87.00**	**41**	*e*P		**P**	**18 25 40.0**	**+0.9**
	comp=Z,1.4nm,0.7s,mb3.8							
MNTX	**Cornudas Mount**	**87.47**	**55**	*e*P		**P**	**18 25 42.2**	**+1.0**
	comp=Z,1.9nm,1.0s,mb3.8							
LTX	**Lajitas**	**87.77**	**58**	*e*P		**P**	**18 25 44.1**	**+1.4**
LTX				pmax		pmax		
	comp=Z,4.0nm,1.1s,mb4.1							
LTX	**Lajitas**	**87.77**	**58**	*e*P		**P**	**18 25 44.1**	**+1.4**
	comp=Z,4.2nm,1.1s,mb4.1							
XAN	**Xi'an**	**87.84**	**308**	P		**P**	**18 25 43.9**	**+0.9**
XAN				AMB		AMB		
	comp=Z,7.0nm,0.9s,mb4.4							
DLBC	**Dease Lake**	**88.62**	**23**	P		**P**	**18 25 46.9**	**+0.2**
	comp=Z,1.9nm,0.6s,mb4.1,baz=125,slow=26,SNR=6.1							
ILAR	**Eielson Array**	**88.79**	**13**	P		**P**	**18 25 45.5**	**-1.9**
	comp=Z,3.2nm,0.9s,mb4.2,baz=223,slow=5.3,SNR=23							
PDAR	**Pinedale Array**	**89.65**	**43**	P		**P**	**18 25 51.7**	**+0.3**
	comp=Z,2.2nm,0.6s,mb4.1,baz=210,slow=4.7,SNR=8.5							
INK	**Inuvik**	**94.77**	**15**	P		**P**	**18 26 12.9**	**-2.0**
	comp=Z,0.5nm,0.5s,mb3.9,baz=152,slow=4.3,SNR=3.6							
SONM	**Songino Array**	**95.60**	**319**	P		**P**	**18 26 17.3**	**-1.3**
	comp=Z,0.4nm,0.8s,mb3.7,baz=161,slow=3.6,SNR=3.6							
YKA	**Yellowknife Ar**	**97.09**	**25**	P		**P**	**18 26 24.0**	**-1.3**
	comp=Z,0.4nm,0.7s,mb3.7,baz=246,slow=4.5,SNR=9.1							
MKAR	**Makanchi Array**	**110.98**	**313**	PKKP		PKiKP	18 31 20.6	-1.9
	comp=Z,0.6nm,0.4s,baz=139,slow=0.5,SNR=24							
BVAR	**Borovoye Array**	**118.94**	**320**	PKP		PKPdf	18 31 36.1	-1.6
	comp=Z,3.0nm,0.4s,baz=125,slow=2.2,SNR=36							
BRVK	**Borovoye**	**119.00**	**320**	*e*PKIKP		PKPdf	18 31 36.3	-1.6
ARU	**Arti**	**125.13**	**325**	*i* PKIKP		PKPdf	18 31 46.2	-3.5
ARU	**Arti**	**125.13**	**325**	*e*P		PKPdf	18 31 48.6	-1.0
AKTK	**Aktyubinsk**	**126.90**	**318**	PKP		PKPdf	18 31 52.0	-1.1
AKTO	**Aktyubinsk**	**126.90**	**318**	PKP		PKPdf	18 31 52.0	-1.1
	comp=Z,1.9nm,0.6s,baz=83,slow=2.8,SNR=11							
ARCES	**ARCESS Array B**	**129.15**	**349**	PKP		PKPdf	18 31 55.6	-1.7
	comp=Z,2.3nm,0.6s,baz=7.9,slow=1.1,SNR=28							
ARE0	**ARCESS Array S**	**129.15**	**349**	*e*PKPdf		PKPdf	18 31 55.4	-1.9
FINES	**FINESS Array B**	**135.93**	**343**	PKP		PKPdf	18 32 10.0	0.0
	comp=Z,1.0nm,0.6s,baz=73,slow=3.9,SNR=7.7							
NB2	**NORSAR Subarra**	**139.25**	**353**	PKPa			18 32 07.9	
	comp=Z,0.9nm,0.6s,baz=11,slow=3.1							
NOA	**NORSAR Array B**	**139.25**	**353**	PKhKP			18 32 06.8	
	comp=Z,1.2nm,0.7s,baz=15,slow=5.1,SNR=4.6							
NOA				PKP		PKPdf	18 32 16.0	-0.1
	comp=Z,0.4nm,0.7s,baz=23,slow=3.4,SNR=3.1							
AKASG	**Malin Array Be**	**143.01**	**330**	PKP		PKPdf	18 32 19.2	-3.7
	comp=Z,10nm,0.4s,baz=43,slow=4.2,SNR=127							
AKASG	**Malin Array Be**	**143.01**	**330**	PKP		PKPdf	18 32 19.2	-3.7
MALT	**Malatya**	**143.64**	**307**	⇓*i* P		PKPdf	18 32 23.6	-0.4
BSEG	**Bad Segeberg**	**146.26**	**350**	*e*PKPbc		PKPbc	18 32 29.9	-0.9
BR131	**Keskin Array S**	**146.60**	**312**	*e*PKPbc		PKPbc	18 32 31.3	-0.4
BRTR	**Keskin Array B**	**146.60**	**312**	PKPbc		PKPbc	18 32 31.1	-0.6
	comp=Z,3.7nm,0.6s,baz=139,slow=5.0,SNR=26							
BURAR	**Bucovina Array**	**147.05**	**330**	⇓*i* P		PKPbc	18 32 33.0	+0.1
CFR	**Carcaliu**	**147.20**	**324**	⇓*i* P		PKPbc	18 32 33.3	0.0
KOLS	**Kolonicke sedl**	**147.35**	**334**	*e*PKP		PKPbc	18 32 33.2	-0.5
KOLS				*e*			18 32 41.5	
STHS	**Stebnicka Huta**	**147.38**	**336**	*e*PKP		PKPbc	18 32 33.8	+0.1
STHS	**Stebnicka Huta**	**147.38**	**336**	*e*PKIKP		PKPbc	18 32 33.9	+0.2
VRI	**Vrincioaia**	**147.51**	**326**	*i* P		PKPbc	18 32 34.2	-0.9
CRVS	**Cervenica-Dubn**	**147.71**	**335**	*e*PKP		PKPbc	18 32 34.9	+0.3
CRVS				*e*			18 32 39.1	
KSP	**Ksiaz**	**147.83**	**342**	*e*PKIKP		PKPbc	18 32 34.5	-0.4
KSP				*e*			18 32 39.5	
MLR	**Muntele Rosu**	**148.17**	**326**	PKPbc		PKPbc	18 32 34.8	-0.9
	comp=Z,6.1nm,0.6s,baz=320,slow=7.5,SNR=14							
MLR	**Muntele Rosu**	**148.17**	**326**	⇑*i* P		PKPbc	18 32 34.9	-0.8
UPC	**Upice**	**148.21**	**342**	*e*PKPbc		PKPbc	18 32 35.2	-0.7
UPC				*e*PKPab		PKPab	18 32 40.9	-0.3
CLL	**Collm**	**148.25**	**346**	*e*PKPbc		PKPbc	18 32 35.2	-0.8
CLL				*e*PKPab		PKPab	18 32 40.3	-1.1
CLL	**Collm**	**148.25**	**346**	*i* PKPbc		PKPbc	18 32 35.2	-0.8
	comp=Z,12nm,0.9s							
CLL				*i* PKPab		PKPab	18 32 40.5	-0.9
	comp=Z,9.0nm,0.8s							
CLL	**Collm**	**148.25**	**346**	*i* PKHKP			18 32 35.2	
CLL				*i* *PP			18 32 40.5	
CLL				pmax		pmax		
	comp=Z,12nm,0.9s							
CLL				MLR		MLR		
	comp=Z,200nm,19.3s							
DPC	**Dobruska-Polom**	**148.26**	**342**	*e*PKPbc		PKPbc	18 32 35.4	-0.6
DPC				*e*PKPab		PKPab	18 32 41.7	+0.3
CLZ	**Clausthal**	**148.27**	**349**	*e*PKPbc		PKPbc	18 32 35.4	-0.6
KECS	**Kecovo**	**148.43**	**335**	*e*PKP		PKPbc	18 32 36.1	-0.3
KECS				*e*			18 32 41.7	
BRG	**Berggiesshubel**	**148.43**	**345**	*e*PKPbc		PKPbc	18 32 35.9	-0.5
BRG				*e*PKPab		PKPab	18 32 41.3	-0.8
BRG	**Berggiesshubel**	**148.43**	**345**	*i* P		PKPbc	18 32 36.0	-0.4
	comp=Z,3.3nm,0.7s							
BRG				*e*			18 32 41.3	
	comp=Z,2.2nm,0.6s							
BRG	**Berggiesshubel**	**148.43**	**345**	*i* PKHKP			18 32 36.0	
BRG				*e*			18 32 41.3	
BRG				pmax		pmax		
	comp=Z,3.0nm,0.7s							
BRG				pmax		pmax		
	comp=Z,2.0nm,0.6s							
GTTG	**Gvttingen**	**148.63**	**350**	*e*PKPbc		PKPbc	18 32 36.0	-0.9
GTTG				*e*PKPab		PKPab	18 32 42.3	-0.6
VYHS	**Vyhne**	**149.04**	**337**	*e*PKP		PKPbc	18 32 37.5	-0.4
VYHS				*e*			18 32 44.0	
PRU	**Pruhonice**	**149.09**	**343**	*e*PKPbc		PKPbc	18 32 37.3	-0.7
PRU				*e*PKPab		PKPab	18 32 44.2	-0.7
VRAC	**Vranov**	**149.10**	**340**	PKPbc		PKPbc	18 32 37.5	-0.5
	comp=Z,2.4nm,0.8s,baz=44,slow=19,SNR=3.9							
VRAC				PKPab		PKPab	18 32 44.9	0.0
	comp=Z,4.4nm,0.8s,baz=23,slow=2.8,SNR=4.5							
VRAC	**Vranov**	**149.10**	**340**	⇑*i* P		PKPbc	18 32 37.4	-0.6
MOX	**Moxa**	**149.18**	**347**	*e*PKPbc		PKPbc	18 32 37.4	-0.8
MOX				*e*PKPab		PKPab	18 32 44.0	-1.2
WERD	**Werda**	**149.21**	**346**	*e*PKPbc		PKPbc	18 32 37.8	-0.5
NKC	**Novy Kostel**	**149.38**	**346**	*e*PKPbc		PKPbc	18 32 36.1	-2.6
TREC	**Trest**	**149.45**	**342**	*e*PKPbc		PKPbc	18 32 38.3	-0.6
MANZ	**Manzenberg**	**149.69**	**346**	*e*PKPbc		PKPbc	18 32 39.1	-0.3
ROTZ	**Rotzenmuhle**	**149.88**	**346**	*e*PKPbc		PKPbc	18 32 39.4	-0.5
KHC	**Kasperske Hory**	**150.13**	**344**	*e*PKPbc		PKPbc	18 32 39.7	-0.8
KHC				*e*PKPab		PKPab	18 32 49.0	-0.2
TNS	**Taunus Mts**	**150.15**	**351**	*e*PKPbc		PKPbc	18 32 39.6	-0.9
GRF	**Grafenberg Arr**	**150.16**	**347**	*e*PKPbc		PKPbc	18 32 40.0	-0.5
GEC2	**GERESS Array S**	**150.36**	**343**	*e*PKPbc		PKPbc	18 32 40.3	-0.7
GEC2	**GERESS Array S**	**150.36**	**343**	*e*PKPbc		PKPbc	18 32 40.3	-0.7
GERES	**GERESS Array B**	**150.36**	**343**	PKPbc		PKPbc	18 32 39.6	-1.4
	comp=Z,2.4nm,0.6s,baz=32,slow=2.0,SNR=26							
GIVF	**Givet**	**150.68**	**355**	*e*PKP1		PKPbc	18 32 40.5	-1.2
	comp=Z,12nm,0.5s							
BAIF	**Baives**	**150.76**	**356**	*e*PKP1		PKPbc	18 32 40.8	-1.1
	comp=Z,16nm,1.0s							
PKSM	**Moragy**	**151.00**	**335**	⇓*i* P		PKPbc	18 32 41.4	-1.1
MOA	**Molln**	**151.10**	**342**	⇑*i* P		PKPbc	18 32 41.6	-1.0
	comp=Z,2.1nm,0.5s							
STU	**Stuttgart**	**151.43**	**349**	*e*PKPbc		PKPbc	18 32 42.9	-0.5
PERS	**Pernice**	**151.92**	**340**	*i* PKPbc		PKPbc	18 32 43.2	-1.3
PERS				*e*			18 32 57.2	
BFO	**Black Forest**	**152.01**	**350**	*e*PKPbc		PKPbc	18 32 44.1	-0.6
BFO				*e*PKPab		PKPab	18 32 56.0	-1.1
KBA	**Koelnbreinsper**	**152.07**	**342**	⇓*i* P		PKPbc	18 32 43.6	-1.3
	comp=Z,3.4nm,0.7s							
CDF	**Champ du Feu**	**152.09**	**352**	*e*PKP1		PKPbc	18 32 44.2	-0.7
	comp=Z,7.4nm,0.8s							
FLN	**La Foliniere**	**152.11**	**3**	*e*PKP1		PKPbc	18 32 43.2	-1.7
	comp=Z,5.4nm,0.4s							
MEZF	**Maizieres J'vi**	**152.25**	**355**	*e*PKP1		PKPbc	18 32 45.0	-0.2
LDF	**La Druitiere**	**152.29**	**2**	*e*PKP1		PKPbc	18 32 43.5	-1.8
	comp=Z,3.5nm,0.5s							
ROSF	**Rostrenen**	**152.33**	**7**	*e*PKP1		PKPbc	18 32 43.5	-1.9
GCIS	**Gornji Cirnik**	**152.42**	**338**	*i* PKPbc		PKPbc	18 32 44.9	-0.7
GRR	**Gorron**	**152.47**	**3**	*e*PKP1		PKPbc	18 32 44.2	-1.5
	comp=Z,7.6nm,0.7s							
HAU	**Haudompre**	**152.60**	**353**	*e*PKP1		PKPbc	18 32 46.2	+0.2
	comp=Z,3.8nm,0.5s							
LJU	**Ljubljana**	**152.64**	**340**	*i* PKPbc		PKPbc	18 32 45.3	-0.8
HINF	**Hinteralfeld**	**152.73**	**352**	*e*PKP1		PKPbc	18 32 45.3	-1.0
BOJS	**Bojanci**	**152.87**	**338**	*i* PKPbc		PKPbc	18 32 46.0	-0.5
LOR	**Lormes**	**153.56**	**356**	*e*PKP1		PKPbc	18 32 47.9	-0.2
	comp=Z,1.8nm,0.4s							
SSF	**Saint Saulge**	**153.79**	**357**	*e*PKP1		PKPbc	18 32 48.5	0.0
	comp=Z,1.5nm,0.4s							
SMF	**Signal de Mont**	**154.19**	**356**	*e*PKP1		PKPbc	18 32 48.7	-0.7
MFF	**Saint Martin d**	**154.28**	**2**	*e*PKP1		PKPbc	18 32 48.5	-1.1
TCF	**Toulx Ste Croi**	**154.62**	**359**	*e*PKP1		PKPdf	18 32 49.8	+8.6
IDI	**Anoyia**	**154.80**	**310**	PKPbc		PKPdf	18 32 50.1	+8.6
	comp=Z,2.2nm,0.9s,baz=339,slow=11,SNR=3.3							
IDI				PKPab		PKPab	18 33 07.6	-1.5
	comp=Z,1.1nm,0.5s,baz=305,slow=16,SNR=4.3							
ORIF	**Oris-en-Rattie**	**155.70**	**352**	*e*PKP1		PKPdf	18 32 52.2	+10
	comp=Z,7.6nm,1.0s							
MBDF	**Montbardon**	**155.76**	**351**	*e*PKP1		PKPdf	18 32 53.0	+10
	comp=Z,4.0nm,0.7s							
TORD	**Torodi Ar. Bea**	**172.33**	**183**	PKP		PKPdf	18 32 56.3	-1.0
	comp=Z,0.7nm,0.8s,baz=7.4,slow=1.2,SNR=4.7							

*IDC **01** 18:17:13.8±1.0,240N×99.24W,h0km,mb4.0/10, mb1 4.2/11,mb1mx4.1/21,mbtmp4.0/11,ML3.7/1,MS4.0/8, Ms1 4.0/8,ms1mx3.8/24,Error ellipse: s-maj=34.8km s-min=16.7km az=43.0*
*ISCJB **01** 18:17:14.7±0.7,24N±0.1×99.11W±009,h10km,mb4.2/24, MS4.0/8,Error ellipse: s-maj=16.8km s-min=9.8km az=73.2*
*HRVD **01** 18:17:15.4±0.4,237N×9873W,h18km±2km,MW5.0/59, Centroid moment Tensor Solution. LP body waves: s26,c29;Mantle waves: s59,c80; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr~0.09±.16; Mθθ2.95±.17; Mϕϕ-2.86±.20; Mrθ1.48±.39; Mϕθ1.75±.15; Mϕr~0.20±.39; Best double couple: Mo3.68500×10^16 NP1:ϕs28.00000°,δ69.00000°,λ174.00000°. NP2: ϕs120.00000°,δ84.00000°,λ21.00000°. Principal axes: T 3.9130, Plg19.0000°, Azm346.0000°; N -0.4520, Plg68.0000°, Azm135.0000°; P -3.4580, Plg11.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **01** 18:17:15.4±0.7,220N×99.19W,h10km,mb4.4/16 Error ellipse: s-maj=18.2km s-min=9.7km az=45.0*
*BJI **01** 18:17:15.3,220N×99.20W,h10km,mB5.4,Ms5.1,Msz4.7*
*MOS **01** 18:17:16.7±1.8,220N×99.05W,h33km,mb4.7/9,Error ellipse: s-maj=22.8km s-min=11.0km az=97.7*
**ISC 01 18:17:16.6±0.7,23N±01×9915W±009,h10km,n61, σ1§09/

MDJ Mudanjiang 116.26 323 PKP PKPdf 18 35 57.9 -2.3
ASAR Alice Springs 124.53 243 PKP PKPdf 18 36 16.1 +0.1
comp=Z,0.6nm,0.8s,baz=95,slow=1.6,SNR=4.6
WRA Warramunga Arr 124.96 247 PKP PKPdf 18 36 16.4 -0.5
comp=Z,1.3nm,0.7s,baz=93,slow=2.3,SNR=9.5
HHC Hu-ho-hao-te 128.72 330 *e*PKP PKPdf 18 36 21.6 -2.5
HHC PP PP 18 38 33.0 +2.9
HHC PKS 18 39 57.5
HHC SKS SKSdf 18 43 31.8 -4.0
HHC SKKS SKKSac 18 45 24.1 -3.5
HHC SS SS 18 55 53.8 +6.1
HHC PP PP
comp=Z,99nm,7.6s
HHC LR LR
comp=N,177nm,21.0s,MS4.8
HHC LR LR
comp=E,137nm,20.6s,MS4.8
HHC LR LR
comp=Z,127nm,18.3s,MS4.6
NJ2 Nanjing 130.34 317 *e*PKP PKPdf 18 36 27.1 -0.1
MKAR Makanchi Array 131.07 359 PKP PKPdf 18 36 26.6 -1.9
comp=Z,0.3nm,0.9s,baz=270,slow=5.6,SNR=3.5
KMI Kunming 145.43 323 PKP PKPdf 18 36 54.5 -0.3

IDC ***01*** *18:30:45.5±2.6, 3356N×4885E, h0km, mb3.7/4, mb1 3.7/7, mb1mx3.5/23, mbtmp3.7/7, ML3.4/3, MS3.1/1, Ms1 3.1/1, ms1mx2.2/29, Error ellipse: s-maj=52.3km s-min=25.8km az=146.0*
THR ***01*** *18:30:47.0±0.3, 3377N×4890E, h15km±4km, ML3.8*
ISCJB ***01*** *18:30:47.7±0.4, 3364N±003×4875E±005, h10km, mb3.7/3, MS3.0/1, Error ellipse: s-maj=5.9km s-min=4.0km az=44.9*
CSEM ***01*** *18:30:48.6±0.1, 3360N×4884E, h15km, ML3.8, Error ellipse: s-maj=2.9km s-min=1.9km az=121.0*
KISR ***01*** *18:30:48.7±0.9, 3342N×4949E, h33km, ML3.3*
TEH ***01*** *18:30:50.5, 3355N×4879E, h18km, Mn3.8*
OMAN ***01*** *18:30:51.5, 3338N×4922E, h12km*

ISC 01 18:30:49.0±0.3, 3365N±003×4879E±005, h10km, n41, σ1§25/44, mb3.7/3, MS3.0/1, 1C-3D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAO	**Ashtian**	**1.36**	**48**	*e*PG	**Pn**	**18 31 09.6**	**-4.5**
ASAO				*e*SG	**Sn**	**18 31 26.3**	**-5.9**
ASAO				AML	AML	18 31 31.0	
	comp=E,2μm,0.6s						
ASAO				AML	AML	18 31 32.8	
	comp=N,1μm,0.6s						
ASAO	**Ashtian**	**1.36**	**48**	*e*Pg	**Pn**	**18 31 09.6**	**-4.5**
	SNR=91						
ASAO				*e*Sg	**Sn**	**18 31 26.3**	**-5.9**
	comp=N,1μm,0.6s,SNR=91						
SHGR	**Shooshtar-Gavs**	**1.53**	**180**	*e*PG	**Pg**	**18 31 17.3**	**-1.2**
SHGR				AML	AML	18 31 43.4	
	comp=E,1μm,0.4s						
SHGR				AML	AML	18 31 50.1	
	comp=N,1μm,0.8s						
SNGE	**Sanandaj**	**1.87**	**321**	*e*PG	**Pn**	**18 31 20.7**	**-0.5**
IGHG	**Ghaleghazi**	**1.97**	**291**	*e*Pn	**Pn**	**18 31 24.1**	**+1.7**
IPIR	**Pirpir**	**2.01**	**118**	*e*Pn	**Pn**	**18 31 22.2**	**-0.8**
IDHR	**Dehrash**	**2.25**	**298**	*e*Pn	**Pn**	**18 31 26.8**	**+0.4**
IKLH	**Kalahroud**	**2.35**	**97**	*e*Pn	**Pn**	**18 31 28.0**	**+0.3**
IMHD	**Mahdasht**	**2.56**	**37**	*e*Pn	**Pn**	**18 31 30.6**	**+0.1**
IVRN	**Varamin**	**2.78**	**60**	*e*Pn	**Pn**	**18 31 34.9**	**+1.3**
ISFB	**Sefidab**	**2.95**	**75**	*e*Pn	**Pn**	**18 31 36.7**	**+0.8**
IGZV	**Gazvin**	**2.97**	**23**	*e*Pn	**Pn**	**18 31 38.0**	**+1.7**
IZEF	**Zefreh**	**3.06**	**103**	*e*Pn	**Pn**	**18 31 38.2**	**+0.8**
IAFJ	**Afjeh**	**3.26**	**47**	*e*Pn	**Pn**	**18 31 42.5**	**+2.3**
IDMV	**Damavand**	**3.29**	**53**	*e*Pn	**Pn**	**18 31 41.4**	**+0.7**
NASN	**Na'in**	**3.47**	**103**	*e*PN	**Pn**	**18 31 42.0**	**-1.1**
IFIR	**Firoozkooh**	**3.83**	**58**	*e*Pn	**Pn**	**18 31 48.7**	**+0.7**
MIB	**Mutribah**	**4.03**	**198**	*e*P	**Pn**	**18 31 52.1**	**+1.4**
MIB				*e*S	**Sn**	**18 32 40.0**	**+2.1**
UMR	**Umm Al-Rimmam**	**4.18**	**193**	*e*P	**Pn**	**18 31 53.2**	**+0.3**
UMR	**Umm Al-Rimmam**	**4.18**	**193**	*e*P	**Pn**	**18 31 53.2**	**+0.3**
ISAD	**Sadrabad**	**4.47**	**111**	*e*Pn	**Pn**	**18 31 56.4**	**-0.4**
KBD	**Kabd**	**4.55**	**192**	*e*P	**Pn**	**18 31 58.6**	**+0.6**
KBD				AML	AML	18 32 49.7	
	comp=Z,56nm,0.3s						
KBD				*e*S	**Sn**	**18 32 50.7**	**-0.2**
NAY	**Al-Naaiem**	**4.58**	**197**	*e*P	**Pn**	**18 31 59.1**	**+0.7**
NAY				AML	AML	18 32 40.4	
	comp=Z,16nm,0.5s						
NAY				*e*S	**Sn**	**18 32 52.1**	**+0.6**
RDF	**Al-Radifah**	**4.82**	**193**	*e*P	**Pn**	**18 32 02.4**	**+0.7**
RDF				AML	AML	18 32 59.2	
	comp=Z,25nm,0.5s						
QRN	**Al-Qurain**	**4.94**	**189**	*e*P	**Pn**	**18 32 03.6**	**+0.3**
QRN				AML	AML	18 33 00.1	
	comp=Z,20nm,0.3s						
MSL	**Mosul**	**5.37**	**301**	*ex*	x	18 32 11.5	
MSL				*ex*	x	18 33 32.5	
BANOM	**Banah**	**10.09**	**138**	⇓P	**Pn**	**18 33 11.0**	**-2.9**
BANOM	**Banah**	**10.09**	**138**	P	**Pn**	**18 33 11.0**	**-2.9**
ASHO	**Ashiyiah**	**10.95**	**143**	P	**Pn**	**18 33 22.5**	**-3.3**
	SNR=10						
BRTR	**Keskin Array B**	**13.58**	**301**	Pn	**Pn**	**18 34 02.1**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=104,slow=11,SNR=3.5						
WHFO	**Wadi Hawf**	**16.29**	**163**	⇑P	**Pn**	**18 34 32.1**	**-5.7**
ABTO	**Aybut**	**16.72**	**165**	⇓P	**Pn**	**18 34 38.0**	**-5.3**
	SNR=6.7						
RBK	**Rabkut**	**16.79**	**162**	⇓P	**Pn**	**18 34 42.4**	**-1.8**
	SNR=10						
AKTO	**Aktyubinsk**	**18.10**	**19**	P	**Pn**	**18 35 00.1**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=194,slow=14,SNR=3.2						
IDI	**Anoyia**	**19.77**	**281**	P	**Pn**	**18 35 17.8**	**-2.9**
	comp=Z,0.5nm,0.3s,baz=115,slow=7.3,SNR=7.6						
AKASG	**Malin Array Be**	**22.26**	**326**	P	**P**	**18 35 44.2**	**-1.9**
	comp=Z,1.7nm,0.8s,mb3.5,baz=133,slow=12,SNR=6.3						
BVAR	**Borovoye Array**	**24.77**	**32**	PKIKP	**P**	**18 36 08.9**	**-1.9**
BVAR				*p*max	*p*max		
	comp=Z,1.0nm,0.6s						
VRAC	**Vranov**	**28.48**	**313**	LR	LR	18 48 39.0	
	comp=Z,33nm,18.7s,MS3.0,baz=322,slow=38						
NB2	**NORSAR Subarra**	**36.53**	**330**	P	**P**	**18 37 52.9**	**-1.8**
	comp=Z,1.6nm,0.8s,mb3.9,baz=121,slow=8.6						
NOA	**NORSAR Array B**	**36.53**	**330**	P	**P**	**18 37 53.4**	**-1.3**
	comp=Z,1.1nm,0.8s,mb3.8,baz=121,slow=8.4,SNR=3.9						
TORD	**Torodi Ar. Bea**	**47.33**	**256**	P	**P**	**18 39 21.5**	**-1.4**
	comp=Z,1.4nm,1.0s,mb3.9,baz=66,slow=6.0,SNR=6.8						

ISCJB ***01*** *18:33:21.9±0.3, 2.18N±005×9906W±006, h10km, mb4.9/53, MS4.9/28, Error ellipse: s-maj=8.3km s-min=6.1km az=127.4*
IDC ***01*** *18:33:21.6±0.7, 221N×99.19W, h0km, mb4.5/14, mb1 4.6/15, mb1mx4.5/21, mbtmp4.5/15, MS4.9/19, Ms1 4.9/19, ms1mx4.7/23, Error ellipse: s-maj=27.5km s-min=12.9km az=50.0*
MOS ***01*** *18:33:22.5±1.1, 234N×9894W, h10km, mb5.4/22, MS4.9/4, Error ellipse: s-maj=15.9km s-min=7.0km az=101.7*
NEIC ***01*** *18:33:23.2±0.3, 2.12N×99.11W, h10km, mb5.1/45, Error ellipse: s-maj=10.0km s-min=5.5km az=61.0*
HRVD ***01*** *18:33:23.2±0.2, 226N×9891W, h13km±1km, MW5.4/89, Centroid moment Tensor Solution. LP body waves: s72,c112;Mantle waves: s89,c154; Half duration: 1§2 Moment tensor: Scale 10^17 Nm; Mrr~0.05±.02; Mθθ 1.19±.03; Mφφ~1.14±.03; Mrθ 0.61±.08; Mθφ 0.59±.02; Mφr~0.09±.05; Best double couple: M0 1.43300×10^17 NP1:ϕs 122.00000°, δ 84.00000°, λ 23.00000°. Principal axes: T 1.5400, Plg20.0000°, Azm348.0000°; N -0.2140, Plg67.0000°, Azm136.0000°; P -1.3260, Plg11.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***01*** *18:33:23.2, 2.10N×99.10W, h10km, mB5.5, Ms5.2, Msz4.8*

ISC 01 18:33:23.8±0.3, 216N±004×9910W±005, h10km, n178, σ1§15/139, mb4.9/53, MS4.9/28, 9C-2D, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**14.18**	**4**	*e*P	**Pn**	**18 36 46.4**	**+1.7**
CAIG	**El Cayaco**	**14.84**	**356**	⇑*i*P	**Pn**	**18 36 56.1**	**+2.3**
VHO	**Vista Hermosa**	**15.01**	**9**	*i* P	**Pn**	**18 36 59.6**	**+3.7**
OXX	**Oaxaca**	**15.02**	**9**	*e*P	**Pn**	**18 37 01.5**	**+5.4**
CCIG	**Comitan**	**15.62**	**26**	⇑*i*P	**Pn**	**18 37 04.1**	**0.0**
PLIG	**Platanillo**	**16.14**	**359**	⇑*i*P	**Pn**	**18 37 12.3**	**+1.5**
JTS	**JuntasAbangare**	**16.21**	**60**	P	**Pn**	**18 37 13.4**	**+1.7**
	212nm,1.1s,SNR=5.8						
JTS	**JuntasAbangare**	**16.21**	**60**	Pn	**Pn**	**18 37 11.1**	**-0.6**
	baz=257,slow=2.2,SNR=7.2						
JTS				LR	LR	18 41 29.0	
	comp=Z,7μm,20.2s,baz=233,slow=30						
JTS	**JuntasAbangare**	**16.21**	**60**	⇑*i*P	**Pn**	**18 37 10.2**	**-1.5**
JTS	**JuntasAbangare**	**16.21**	**60**	*e*P	**Pn**	**18 37 10.7**	**-1.0**
	63nm,1.3s						
YAIG	**Yautepec**	**16.60**	**0**	⇑*i*P	**Pn**	**18 37 18.6**	**+1.9**
PPM	**Popocatepetl**	**16.81**	**2**	⇑*i*P	**Pn**	**18 37 22.1**	**+2.8**
UNM	**Universidad Na**	**17.07**	**360**	*e*P	**Pn**	**18 37 27.0**	**+4.5**
MOIG	**Morelia**	**17.53**	**353**	⇑*i*P	**Pn**	**18 37 30.7**	**+2.4**
MRX	**Morelia**	**17.56**	**353**	*e*P	**Pn**	**18 37 33.0**	**+4.3**
SFJM	**Santa Fe**	**18.62**	**348**	*e*P	**Pn**	**18 37 43.0**	**+1.3**
TEIG	**Tepich**	**20.84**	**30**	P	**P**	**18 38 04.7**	**-0.9**
	37nm,2.0s						
MAIG	**Mazatlaan**	**22.08**	**342**	⇑*i*P	**P**	**18 38 20.2**	**+1.3**
LPIG	**La Paz**	**24.36**	**335**	P	**P**	**18 38 42.2**	**+0.3**
	19nm,0.3s,mb5.0,baz=149,slow=2.0,SNR=5.5						
LPIG				LR	LR	18 46 12.1	
	comp=Z,10μm,18.3s,MS5.4,baz=167,slow=32						
ROSC	**El Rosal**	**24.87**	**83**	P	**P**	**18 38 49.1**	**+2.5**
	2.2nm,0.3s,mb4.1,baz=86,slow=16,SNR=8.7						
ROSC				LR	LR	18 47 25.1	
	comp=Z,665nm,18.4s,MS4.2,baz=190,slow=34						
LTX	**Lajitas**	**27.38**	**351**	*e*P	**P**	**18 39 09.5**	**+0.3**
LTX				*p*max	*p*max		
	comp=Z,51nm,1.2s,mb4.9						
LTX	**Lajitas**	**27.38**	**351**	*e*P	**P**	**18 39 09.5**	**+0.2**
	comp=Z,50nm,1.2s,mb4.9						
HKT	**Hockley**	**27.82**	**6**	*e*P	**P**	**18 39 12.4**	**-0.8**
HKT				*p*max	*p*max		
	comp=E,85nm,1.8s,mb5.1						
HKT	**Hockley**	**27.82**	**6**	*e*P	**P**	**18 39 12.4**	**-0.8**
	comp=E,85nm,1.8s,mb5.1						
SDV	**Santo Domingo**	**29.10**	**76**	P	**P**	**18 39 26.1**	**+1.5**
	comp=Z,1.4nm,0.4s,mb4.1,baz=36,slow=23,SNR=5.0						
SDV				LR	LR	18 49 03.1	
	comp=Z,2μm,22.0s,MS4.7,baz=265,slow=32						
SDV	**Santo Domingo**	**29.10**	**76**	P	**P**	**18 39 26.1**	**+1.5**
SDV				LR	LR	18 49 03.1	
MNTX	**Cornudas Mount**	**29.98**	**349**	*e*P	**P**	**18 39 31.5**	**-0.9**
	comp=Z,98nm,1.8s,mb5.2						
GDL2	**Guadalupe Moun**	**30.29**	**351**	P	**P**	**18 39 35.3**	**+0.1**
CPRX	**Cap Rock**	**31.04**	**352**	*e*P	**P**	**18 39 41.9**	**+0.1**
TUC	**Tucson**	**31.95**	**341**	*e*P	**P**	**18 39 49.8**	**0.0**
TUC				*e*		18 39 55.9	
TUC				*p*max	*p*max		
	comp=Z,73nm,1.8s,mb5.2						
TUC	**Tucson**	**31.95**	**341**	*e*P	**P**	**18 39 49.8**	**0.0**
	comp=Z,74nm,1.8s,mb5.2						
TUC				*e*		18 39 55.9	
WMOK	**Wichita Mounta**	**32.42**	**0**	*e*P	**P**	**18 39 52.8**	**-1.1**
WMOK				*p*max	*p*max		
	comp=Z,35nm,1.7s,mb4.9						
WMOK	**Wichita Mounta**	**32.42**	**0**	*e*P	**P**	**18 39 52.8**	**-1.1**
	comp=Z,35nm,1.7s,mb4.9						
BNM	**Barren Site**	**32.60**	**348**	*e*P	**P**	**18 39 55.6**	**+0.1**
MIAR	**Mount Ida**	**32.63**	**8**	*e*P	**P**	**18 39 54.9**	**-0.9**
MIAR				*p*max	*p*max		
	comp=Z,5.0nm,0.9s,mb4.4						
MIAR	**Mount Ida**	**32.63**	**8**	*e*P	**P**	**18 39 54.9**	**-0.9**
	comp=Z,4.9nm,0.9s,mb4.4						
AMTX	**Amarillo**	**32.65**	**356**	*e*P	**P**	**18 39 55.5**	**-0.5**
	comp=Z,83nm,1.4s,mb5.5						
LENM	**Lemitar**	**32.68**	**348**	*e*P	**P**	**18 39 56.8**	**+0.6**
LPM	**Los Pinos Moun**	**32.75**	**348**	*e*P	**P**	**18 39 57.6**	**+0.7**
LAZ	**Ladron**	**32.95**	**348**	*e*P	**P**	**18 39 59.1**	**+0.6**
ANMO	**Albuquerque**	**33.34**	**349**	*c i*P	**P**	**18 40 02.0**	**0.0**
ANMO	**Albuquerque**	**33.34**	**349**	*e*P	**P**	**18 40 01.9**	**0.0**
	comp=Z,24nm,0.6s,mb5.3						
PFO	**Pinyon Flat Ob**	**35.26**	**334**	P	**P**	**18 40 19.3**	**+0.7**
	comp=Z,181nm,1.2s,mb5.9,SNR=12						
PFO	**Pinyon Flat Ob**	**35.26**	**334**	*e*P	**P**	**18 40 19.7**	**+1.1**
PFO				*p*max	*p*max		
	comp=Z,38nm,1.1s,mb5.2						
PFO	**Pinyon Flat Ob**	**35.26**	**334**	*e*P	**P**	**18 40 19.7**	**+1.1**
	comp=Z,38nm,1.1s,mb5.2						
LPAZ	**La Paz**	**35.66**	**122**	P	**P**	**18 40 21.9**	**-0.1**
	comp=Z,7.9nm,1.0s,mb4.6,baz=320,slow=8.3,SNR=22						
LPAZ				LR	LR	18 53 03.2	
	comp=Z,1μm,18.1s,MS4.7,baz=309,slow=33						
LPAZ	**La Paz**	**35.66**	**122**	*e*P	**P**	**18 40 23.0**	**+0.9**
LPAZ				*p*max	*p*max		
	comp=Z,21nm,1.4s						
LPAZ	**La Paz**	**35.66**	**122**	*e*P	**P**	**18 40 23.0**	**+0.9**
	comp=Z,21nm,1.4s,mb4.9						
MVCO	**Mesa Verde**	**35.94**	**347**	*e*P	**P**	**18 40 24.7**	**+0.2**
JSC	**Jenkinsville**	**36.04**	**26**	*e*P	**P**	**18 40 24.6**	**-0.7**
NEN	**Nelson**	**36.39**	**338**	*e*P	**P**	**18 40 28.6**	**+0.4**
MWC	**Mount Wilson**	**36.48**	**333**	*e*P	**P**	**18 40 29.9**	**+0.8**
PV01	**Paradox Valley**	**36.84**	**348**	*e*P	**P**	**18 40 32.4**	**+0.3**
PV10	**Paradox Valley**	**37.18**	**347**	*e*P	**P**	**18 40 34.6**	**-0.4**
SAML	**Samuel**	**37.46**	**108**	*e*P	**P**	**18 40 35.9**	**-1.5**
	comp=Z,10nm,1.2s,mb4.5						
SMCO	**Snowmass**	**37.54**	**350**	*e*P	**P**	**18 40 38.6**	**+0.6**
	comp=Z,28nm,1.1s,mb4.9						
WCI	**Wyandotte Cave**	**37.77**	**17**	*e*P	**P**	**18 40 38.9**	**-1.1**
WCI				*p*max	*p*max		
	comp=Z,227nm,2.2s,mb5.5						
WCI	**Wyandotte Cave**	**37.77**	**17**	*e*P	**P**	**18 40 38.9**	**-1.2**
	comp=Z,227nm,2.2s,mb5.5						
ISCO	**Idaho Springs**	**37.93**	**352**	*e*P	**P**	**18 40 41.9**	**+0.5**
ISCO				*p*max	*p*max		
	comp=Z,117nm,1.9s,mb5.3						
ISCO	**Idaho Springs**	**37.93**	**352**	*e*P	**P**	**18 40 41.9**	**+0.5**
	comp=Z,117nm,1.9s,mb5.3						
DAC	**Darwin (Calif)**	**38.02**	**335**	*e*P	**P**	**18 40 43.0**	**+0.9**
DAC				*p*max	*p*max		
	comp=Z,94nm,1.9s,mb5.2						
DAC	**Darwin (Calif)**	**38.02**	**335**	*e*P	**P**	**18 40 43.0**	**+0.9**
	comp=Z,94nm,1.9s,mb5.2						
TPNV	**Topopah Spring**	**38.06**	**337**	*e*P	**P**	**18 40 43.9**	**+1.4**
TPNV				*p*max	*p*max		
	comp=Z,17nm,1.0s,mb4.7						
TPNV	**Topopah Spring**	**38.06**	**337**	*e*P	**P**	**18 40 43.9**	**+1.4**
	comp=Z,18nm,1.0s,mb4.7						
TPH	**Tonopah**	**39.42**	**337**	*e*P	**P**	**18 40 54.9**	**+1.0**
TPH				*p*max	*p*max		
	comp=Z,78nm,1.8s,mb5.1						
TPH	**Tonopah**	**39.42**	**337**	*e*P	**P**	**18 40 54.9**	**+1.0**
	comp=Z,78nm,1.8s,mb5.1						
DUG	**Dugway**	**39.85**	**344**	*e*P	**P**	**18 40 58.4**	**+0.9**
DUG				*p*max	*p*max		
	comp=Z,116nm,1.8s,mb5.3						
DUG	**Dugway**	**39.85**	**344**	*e*P	**P**	**18 40 58.4**	**+0.9**
	comp=Z,116nm,1.8s,mb5.3						
NVAR	**Mina Array Bea**	**40.15**	**336**	P	**P**	**18 41 00.9**	**+0.9**
	comp=Z,8.4nm,1.0s,mb4.4,baz=148,slow=8.4,SNR=44						
HWUT	**Hardware Ranch**	**40.85**	**346**	*e*P	**P**	**18 41 05.9**	**+0.2**
	comp=Z,207nm,1.8s,mb5.5						
BMN	**Battle Mountai**	**41.49**	**339**	*e*P	**P**	**18 41 11.2**	**+0.2**
BMN				*e*		18 41 17.4	
BMN				*p*max	*p*max		
	comp=Z,105nm,1.8s,mb5.2						
BMN	**Battle Mountai**	**41.49**	**339**	*e*P	**P**	**18 41 11.2**	**+0.3**
	comp=Z,105nm,1.8s,mb5.2						
BMN				*e*		18 41 17.4	
BW06	**Boulder Array**	**41.50**	**348**	*e*P	**P**	**18 41 10.7**	**-0.4**
	comp=Z,50nm,0.4s,mb5.5						
PDAR	**Pinedale Array**	**41.50**	**348**	P	**P**	**18 41 10.9**	**-0.2**
	comp=Z,20nm,0.9s,mb4.7,baz=152,slow=7.5,SNR=118						
PDAR				LR	LR	18 57 03.1	
	comp=Z,1μm,21.0s,MS4.7,baz=186,slow=34						
PAHR	**Pah Rah Range**	**41.68**	**336**	*e*P	**P**	**18 41 13.6**	**+1.1**
	comp=Z,92nm,1.7s,mb5.1						
SIV	**San Ignacio**	**41.68**	**117**	P	**P**	**18 41 13.4**	**+0.8**
	comp=Z,1.4nm,0.7s,mb3.7,baz=280,slow=11,SNR=4.8						
RSSD	**Black Hills**	**42.02**	**355**	*e*P	**P**	**18 41 14.7**	**-0.6**
RSSD				*p*max	*p*max		
	comp=Z,103nm,1.8s,mb5.2						
RSSD	**Black Hills**	**42.02**	**355**	*e*P	**P**	**18 41 14.7**	**-0.7**
	comp=Z,103nm,1.8s,mb5.2						
OHCM	**Honcut**	**42.25**	**334**	P	**P**	**18 41 18.0**	**+0.8**
REDW	**Red Top Meadow**	**42.34**	**347**	*e*P	**P**	**18 41 17.8**	**-0.2**
	comp=Z,80nm,1.5s,mb5.1						
TAOE	**Nuku Hiva Isla**	**42.34**	**254**	*e*S	**S**	**18 47 38.4**	**-0.7**
	comp=Z,713nm,25.5s						
TAOE				*e*LR	LR	18 52 55.7	
	comp=Z,1μm,26.1s,baz=79						
TPAW	**Teton Pass**	**42.49**	**347**	*e*P	**P**	**18 41 19.0**	**-0.2**
	comp=Z,16nm,0.9s,mb4.6						
TPAW				*e*		18 43 07.2	
LOHW	**Long Hollow**	**42.53**	**348**	*e*P	**P**	**18 41 19.1**	**-0.4**
	comp=Z,22nm,0.8s,mb4.9						
LOHW				*e*		18 41 25.5	
MOOW	**Moose Ponds**	**42.69**	**348**	*e*P	**P**	**18 41 20.0**	**-0.8**
	comp=Z,17nm,1.0s,mb4.7						
MOOW				*e*		18 41 27.1	
IMW	**Indian Meadow**	**42.87**	**347**	*e*P	**P**	**18 41 22.2**	**-0.1**
	comp=Z,52nm,1.3s,mb5.1						
FLWY	**Flagg Ranch**	**43.00**	**348**	*e*P	**P**	**18 41 23.4**	**+0.1**
	comp=Z,139nm,1.8s,mb5.4						
RKT	**Rikitea**	**43.03**	**232**	*e*S	**S**	**18 47 52.1**	**+2.9**
	comp=Z,319nm,27.0s						
RKT				*e*LR	LR	18 53 21.0	
	comp=Z,2μm,28.2s,baz=49						
HLID	**Hailey**	**43.42**	**344**	*e*P	**P**	**18 41 27.1**	**+0.3**
	comp=Z,15nm,1.0s,mb4.7						
WVOR	**Wild Horse Val**	**43.75**	**339**	*e*P	**P**	**18 41 29.4**	**0.0**
WVOR				*p*max	*p*max		
	comp=Z,8.0nm,0.3s,mb4.9						
WVOR	**Wild Horse Val**	**43.75**	**339**	*e*P	**P**	**18 41 29.4**	**0.0**
	comp=Z,7.9nm,0.3s,mb4.9						
MCMT	**McKenzie Canyo**	**44.19**	**346**	P	**P**	**18 41 33.8**	**+0.8**
CFAA	**Coronel Fontan**	**44.57**	**141**	P	**P**	**18 41 37.5**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=318,slow=12,SNR=2.9						
YBH	**Yreka Blue Hor**	**44.75**	**335**	P	**P**	**18 41 37.2**	**-0.3**
	comp=Z,4.0nm,0.4s,mb4.6,baz=163,slow=3.9,SNR=5.9						
YBH	**Yreka Blue Hor**	**44.75**	**335**	*e*P	**P**	**18 41 37.1**	**-0.3**
YBH				*e*		18 41 43.0	
YBH				*p*max	*p*max		
	comp=Z,11nm,0.9s						
YBH	**Yreka Blue Hor**	**44.75**	**335**	*e*P	**P**	**18 41 37.1**	**-0.3**
	comp=Z,11nm,0.9s,mb4.7						
YBH				*e*		18 41 43.0	
BINY	**Binghamton**	**44.93**	**24**	*e*P	**P**	**18 41 37.9**	**-1.0**
	comp=Z,160nm,1.9s,mb5.5						
HUMO	**Hull Mountain**	**45.58**	**335**	P	**P**	**18 41 41.4**	**-2.6**
BBOR	**Butler Butte**	**45.69**	**336**	P	**P**	**18 41 44.5**	**-0.4**
IRO	**Indian Ridge**	**46.46**	**337**	P	**P**	**18 41 51.3**	**+0.4**
FRIS	**Frissel Point**	**46.57**	**337**	P	**P**	**18 41 52.3**	**+0.5**
MPOR	**Mary's Peak**	**47.39**	**336**	P	**P**	**18 41 59.5**	**+1.3**
PRW	**Prosser**	**47.43**	**341**	P	**P**	**18 41 59.0**	**+0.5**
HAWA	**Hanford**	**47.54**	**341**	*e*P	**P**	**18 41 59.0**	**-0.3**
	comp=Z,2.7nm,1.3s						
ULM	**Lac du Bonnet**	**48.00**	**3**	P	**P**	**18 42 00.3**	**-2.6**
	comp=Z,20nm,1.1s,mb5.1,baz=190,slow=8.6,SNR=15						
ULM				LR	LR	19 02 02.3	
	comp=Z,716nm,19.8s,MS4.7,baz=76,slow=36						
ULM	**Lac du Bonnet**	**48.00**	**3**	P	**P**	**18 42 00.3**	**-2.6**
ULM				LR	LR	19 02 02.3	
OD2	**Odessa Site #2**	**48.16**	**342**	P	**P**	**18 42 03.6**	**-0.6**
WALA	**Waterton Lakes**	**48.42**	**347**	*e*P	**P**	**18 42 05.7**	**-0.5**
	comp=Z,7.8nm,0.9s,mb4.7						
NEW	**Newport**	**48.49**	**344**	*e*P	**P**	**18 42 05.0**	**-1.7**
NEW				*e*		18 42 11.8	
NEW				*p*max	*p*max		
	comp=Z,9.0nm,0.8s						
NEW	**Newport**	**48.49**	**344**	*e*P	**P**	**18 42 05.0**	**-1.7**
	comp=Z,9.2nm,0.8s,mb4.9						
NEW				*e*		18 42 11.8	
CPUP	**Villa Florida**	**49.28**	**128**	P	**P**	**18 42 13.1**	**+0.3**
	comp=Z,1.2nm,0.6s,mb4.1,baz=279,slow=9.0,SNR=3.7						
CPUP				LR	LR	19 01 27.2	
	comp=Z,561nm,18.7s,MS4.6,baz=293,slow=34						
VDB	**Vedder Mountai**	**50.68**	**341**	P	**P**	**18 42 22.4**	**-1.0**
EDM	**Edmonton**	**52.25**	**349**	*e*P	**P**	**18 42 33.6**	**-1.5**
FFC	**Flin Flon**	**52.45**	**358**	*e*P	**P**	**18 42 34.6**	**-2.1**
FFC				*p*max	*p*max		
	comp=Z,90nm,2.3s,mb5.3						
FFC	**Flin Flon**	**52.45**	**358**	*e*P	**P**	**18 42 34.6**	**-2.1**
	comp=Z,90nm,2.3s,mb5.3						
PPT	**Papeete**	**53.45**	**246**	*e*S	**S**	**18 50 15.8**	**-0.7**
	comp=Z,525nm,27.0s						
PPT				*e*SS	SS	18 53 52.1	-4.4
	comp=Z,180nm,25.5s						
PPT				*e*LR	LR	18 58 06.4	
	comp=Z,3μm,25.0s,baz=63						
PPT	**Papeete**	**53.45**	**246**	LR	LR	18 59 41.2	
	comp=Z,1μm,19.2s,MS5.0,baz=77,slow=30						
BDFB	**Brasilia**	**53.51**	**111**	P	**P**	**18 42 46.0**	**+1.6**
	comp=Z,2.4nm,0.8s,mb4.2,baz=232,slow=2.0,SNR=3.6

comp=Z,300nm,19.0s,MS4.8
OBN Obninsk 112.34 26 P Pdif 18 48 10.0 +5.9
OBN *e*SS SS 19 08 16.1 -8.7
OBN SSS 19 12 29.0
OBN MLR MLR
comp=Z,200nm,21.0s,MS4.7
MDJ Mudanjiang 116.42 323 PKP PKPdf 18 52 07.1 -0.7
MDJ PP PP 18 53 13.4 -0.7
MDJ PKS 18 55 43.4
MDJ SKS SKSdf 18 59 18.9 -1.0
MDJ PS PS 19 02 55.7 -0.5
MDJ SS SS 19 09 21.3 +2.7
MDJ PP PP
comp=Z,13nm,3.1s
MDJ LR LR
comp=N,58nm,29.7s,MS4.5
MDJ LR LR
comp=E,134nm,25.6s,MS4.5
MDJ LR LR
comp=Z,138nm,23.5s,MS4.5
CN2 Changchun 119.33 324 *e*PKP PKPdf 18 52 09.0 -4.4
SNY Shenyang 121.62 323 *e*PKP PKPdf 18 52 11.9 -5.9
ZAL Zalesovo 124.01 357 PKP PKPdf 18 52 23.1 +0.8
comp=Z,0.7nm,0.4s,baz=153,slow=2.3,SNR=3.0
BRVK Borovoye 124.27 8 *e*PKIKP PKPdf 18 52 22.6 -0.3
BRVK *e* 18 52 27.6
BVAR Borovoye Array 124.31 8 PKP PKPdf 18 52 21.7 -1.2
comp=Z,1.4nm,1.0s,baz=198,slow=0.5,SNR=7.0
ASAR Alice Springs 124.49 243 PKP PKPdf 18 52 22.9 -0.4
comp=Z,0.6nm,0.7s,baz=116,slow=1.9,SNR=9.0
WRA Warramunga Arr 124.93 247 PKP PKPdf 18 52 23.9 -0.3
comp=Z,1.2nm,0.6s,baz=96,slow=2.0,SNR=12
ULN Ulaanbaatar 125.20 339 *i* PKIKP PKPdf 18 52 23.6 -1.0
SONM Songino Array 125.46 339 PKP PKPdf 18 52 24.0 -1.2
comp=Z,0.8nm,1.0s,baz=63,slow=2.5,SNR=6.5
BJI Beijing 127.04 326 PKP PKPdf 18 52 28.2 0.0
BJI LR LR
comp=N,235nm,18.2s,MS5.0
BJI LR LR
comp=E,219nm,18.2s,MS5.0
BJI LR LR
comp=Z,206nm,25.5s
KURK Kurchatov 127.30 2 *e*PKIKP PKPdf 18 52 26.7 -1.9
KURK *e* 18 54 24.0
SSE Sheshan 129.40 314 PKP PKPdf 18 52 33.0 +0.3
SSE PP PP 18 54 47.0 +5.2
SSE SS SS 19 12 07.5 +4.1
SSE LR LR
comp=N,152nm,23.5s,MS4.6
SSE LR LR
comp=E,56nm,23.6s,MS4.6
SSE LR LR
comp=Z,128nm,20.4s,MS4.6
NJ2 Nanjing 130.49 317 *e*PKP PKPdf 18 52 36.1 +1.4
NJ2 PP PP 18 54 57.0 +8.0
NJ2 PKS 18 56 11.0
NJ2 PPP 18 57 45.0
NJ2 SKS SKSdf 18 59 46.0 -0.3
NJ2 PP PP
comp=Z,770nm,8.0s
NJ2 LR LR
comp=N,260nm,15.9s
NJ2 LR LR
comp=E,270nm,23.9s
NJ2 LR LR
comp=Z,110nm,24.8s
MKAR Makanchi Array 131.24 359 PKP PKPdf 18 52 35.0 -1.1
comp=Z,1.8nm,1.0s,baz=23,slow=4.0,SNR=11
WMQ Urumqi 133.83 353 PKP PKPdf 18 52 39.8 -1.2
WMQ XPKP 18 52 48.8
WMQ PP PP 18 55 14.0 +3.6
WMQ PKS 18 56 14.8
WMQ SKKS SKKSac 19 02 00.5 -5.8
WMQ PP PP
comp=Z,122nm,5.4s
WMQ LR LR
comp=N,225nm,28.2s,MS4.8
WMQ LR LR
comp=E,46nm,24.4s,MS4.8
WMQ LR LR
comp=Z,197nm,22.5s,MS4.8
AAK Ala-Archa 135.04 7 *i* PKIKP PKPdf 18 52 42.8 -0.5
AAK MLR MLR
comp=Z,300nm,18.0s,MS5.1
GTA Gaotai 135.13 339 PKP PKPdf 18 52 44.7 +1.2
GTA PP PP 18 55 23.3 +4.6
GTA PKS 18 56 19.6
GTA PP PP
comp=Z,100nm,6.8s
GTA LR LR
comp=N,184nm,17.9s,MS5.0
GTA LR LR
comp=E,171nm,19.0s,MS5.0
GTA LR LR
comp=Z,286nm,18.6s,MS5.0
LZH Lanzhou 136.34 333 *e*PKP PKPdf 18 52 40.4 -5.3
LZH XPKP 18 52 50.4
LZH LR LR
comp=N,236nm,19.2s
LZH LR LR
comp=Z,452nm,20.5s,MS5.2
CD2 Chengdu 140.56 328 *e*PKP PKPdf 18 52 49.6 -3.9
KMI Kunming 145.59 323 PKP PKPdf 18 53 03.1 +0.8
LSA Lhasa 146.84 344 *e*PKP PKPdf 18 53 06.4 +1.9
LSA Lhasa 146.84 344 *e*PKPdf PKPdf 18 53 06.5 +2.0
GUN Gumba 149.73 351 *e*P PKPdf 18 53 13.8 +4.6
comp=Z,169nm,1.2s
GKN Gorkha 149.80 353 *e*P PKPdf 18 53 13.3 +4.0
comp=Z,22nm,1.0s
JIRN Jiri 149.92 351 *e*P PKPdf 18 53 14.1 +4.6
comp=Z,18nm,0.9s
KKN Kakani 149.93 352 *e*P PKPdf 18 53 13.7 +4.2
comp=Z,36nm,1.0s
PKI Pulchoki 150.13 352 *e*P PKPdf 18 53 14.3 +4.5
DMN Daman 150.13 352 *e*P PKPdf 18 53 14.0 +4.2
comp=Z,26nm,1.0s
KOLN Koldanda 150.13 355 *e*P PKPdf 18 53 13.9 +4.1
comp=Z,45nm,1.2s

IDC ***01*** *18:56:46.0±5.1,* **287N×9485W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.6/3, MS3.9/1, Ms1 3.9/1, ms1mx3.0/23, Error ellipse: s-maj=382.8km s-min=51.7km az=88.0, Galapagos Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**25.85**	**326**	LR	LR			19 09 40.2	
	comp=Z,292nm,20.6s,baz=46,slow=30								
PDAR	**Pinedale Array**	**41.83**	**344**	P		P		19 04 36.9	-0.6
	1.9nm,0.7s,baz=148,slow=7.5,SNR=17								
YKA	**Yellowknife Ar**	**61.28**	**350**	P		P		19 07 02.7	-0.3
	0.1nm,0.5s,baz=156,slow=6.9,SNR=4.0								
ILAR	**Eielson Array**	**72.04**	**339**	P		P		19 08 12.9	+1.1
	0.6nm,0.8s,baz=160,slow=4.7,SNR=4.5								
WRA	**Warramunga Arr**	**129.12**	**247**	PKP		PKPdf		19 15 56.3	+0.3
	0.4nm,0.6s,baz=94,slow=3.5,SNR=6.0								

IDC ***01*** *18:59:46.1±4.8,* **195N×9960W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.6/16, mbtmp3.5/4, Error ellipse: s-maj=226.2km s-min=28.6km az=52.0, West of Galapagos Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**35.98**	**121**	P		P		19 06 49.7	+1.1
	1.0nm,0.5s,baz=292,slow=5.9,SNR=5.1								
PDAR	**Pinedale Array**	**41.60**	**349**	P		P		19 07 36.5	+0.7
	0.9nm,0.6s,baz=147,slow=7.1,SNR=9.7								
YKA	**Yellowknife Ar**	**61.44**	**352**	P		P		19 10 03.4	-0.8
	0.1nm,0.4s,baz=141,slow=4.5,SNR=4.3								
ILAR	**Eielson Array**	**71.27**	**341**	P		P		19 11 07.2	0.0
	0.2nm,0.7s,baz=148,slow=7.4,SNR=3.4								

IDC ***01*** *19:07:09.9±2.9,* **816S×11906E, h0km, mb3.0/2, mb1 3.2/3, mb1mx3.1/16, mbtmp3.1/3, ML3.2/1, Error ellipse: s-maj=271.9km s-min=26.8km az=52.0, Flores region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.87**	**130**	P		Pn		19 11 31.5	-0.7
	0.1nm,0.3s,baz=303,slow=12,SNR=6.9								
ASAR	**Alice Springs**	**20.98**	**139**	P		P		19 11 55.4	+0.7
	0.2nm,0.3s,baz=316,slow=9.2,SNR=13								
MKAR	**Makanchi Array**	**63.74**	**333**	P		P		19 17 43.5	+0.1
	0.2nm,0.4s,baz=154,slow=7.9,SNR=5.9								

IDC ***01*** *19:09:38.5±3.0, 208N×9977W, h0km, mb4.1/6, mb1 4.4/6, mb1mx4.1/16, mbtmp4.1/6, MS3.8/9, Ms1 3.8/9, ms1mx3.6/24, Error ellipse: s-maj=128.6km s-min=25.3km az=52.0*

ISCJB ***01*** *19:09:39.5±1.9, 22N±0.3×996W±0.4, h10km, mb4.1/14, MS3.8/8, Error ellipse: s-maj=74.0km s-min=18.4km az=108.7*

NEIC ***01*** *19:09:40.8±1.6, 208N×9964W, h10km, mb4.2/8, Error ellipse: s-maj=65.0km s-min=16.2km az=54.0*

ISC 01 19:09:41.2±1.9, 21N±03×997W±04, h10km, n23, σ0$96/19, mb4.1/14, MS3.8/8, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**16.78**	**60**	LR		LR		19 17 45.5	
	comp=Z,348nm,21.3s,baz=28,slow=29								
LPIG	**La Paz**	**24.17**	**336**	LR		LR		19 22 25.6	
	comp=Z,471nm,18.8s,MS4.0,baz=48,slow=32								
LTX	**Lajitas**	**27.36**	**352**	*e*P		**P**		**19 15 26.9**	**+0.5**
	5.8nm,1.0s,mb4.1								
MNTX	**Cornudas Mount**	**29.94**	**350**	*e*P		**P**		**19 15 48.5**	**-0.9**
	2.4nm,0.9s,mb3.9								
CPRX	**Cap Rock**	**31.03**	**353**	*e*P		**P**		**19 16 00.0**	**+1.0**
BNM	**Barren Site**	**32.55**	**349**	*e*P		**P**		**19 16 13.5**	**+1.1**
LPAZ	**La Paz**	**36.15**	**121**	P		**P**		**19 16 44.0**	**+0.5**
	1.9nm,0.9s,mb4.0,baz=314,slow=9.2,SNR=7.7								
LPAZ				LR		LR		19 28 59.5	
	comp=Z,76nm,18.1s,MS3.5,baz=117,slow=32								
TPNV	**Topopah Spring**	**37.90**	**338**	*e*P		**P**		**19 17 00.5**	**+2.0**
DUG	**Dugway**	**39.76**	**344**	P		**P**		**19 17 13.3**	**-0.7**
NVAR	**Mina Array Bea**	**39.98**	**337**	P		**P**		**19 17 15.7**	**-0.2**
	0.7nm,0.8s,mb3.5,baz=157,slow=8.6,SNR=5.6								
PDAR	**Pinedale Array**	**41.45**	**349**	P		**P**		**19 17 27.9**	**-0.2**
	3.2nm,0.8s,mb4.0,baz=153,slow=7.2,SNR=23								
PDAR				LR		LR		19 35 04.0	
	comp=Z,62nm,19.2s,MS3.5,baz=325,slow=37								
RSSD	**Black Hills**	**42.04**	**355**	*e*P		**P**		**19 17 33.0**	**+0.2**
	6.2nm,1.0s,mb4.2								
RSSD				*e*				19 17 44.5	
LOHW	**Long Hollow**	**42.47**	**348**	*e*P		**P**		**19 17 35.9**	**-0.5**
	5.5nm,0.9s,mb4.2								
MOOW	**Moose Ponds**	**42.63**	**348**	*e*P		**P**		**19 17 37.6**	**0.0**
	3.2nm,0.9s,mb4.0								
FLWY	**Flagg Ranch**	**42.94**	**348**	*e*P		**P**		**19 17 41.2**	**+1.0**
	5.5nm,0.8s,mb4.3								
WVOR	**Wild Horse Val**	**43.61**	**340**	*e*P		**P**		**19 17 46.0**	**+0.5**
	1.7nm,0.9s,mb3.8								
ULM	**Lac du Bonnet**	**48.10**	**3**	P		**P**		**19 18 20.0**	**-1.0**
	4.5nm,0.8s,mb4.5,baz=208,slow=6.9,SNR=4.2								
ULM				LR		LR		19 38 29.6	
	comp=Z,50nm,18.5s,MS3.5,baz=27,slow=36								
ULM	**Lac du Bonnet**	**48.10**	**3**	P		**P**		**19 18 20.0**	**-1.1**
ULM				LR		LR		19 38 29.6	
PPT	**Papeete**	**52.86**	**246**	LR		LR		19 35 56.4	
	comp=Z,159nm,20.4s,MS4.0,baz=73,slow=30								
SCHQ	**Schefferville**	**59.00**	**21**	LR		LR		19 44 19.3	
	comp=Z,184nm,19.7s,MS4.2,baz=241,slow=35								
YKA	**Yellowknife Ar**	**61.29**	**352**	P		**P**		**19 19 54.3**	**-2.4**
	1.7nm,0.9s,mb4.2,baz=157,slow=6.9,SNR=17								
YKA				LR		LR		19 46 08.9	
	comp=Z,81nm,20.6s,MS3.9,baz=140,slow=36								
INK	**Inuvik**	**69.99**	**347**	*e*P		**P**		**19 20 53.1**	**+0.2**
	5.6nm,1.0s,mb4.5								
ILAR	**Eielson Array**	**71.11**	**341**	P		**P**		**19 20 58.2**	**-1.5**
	2.0nm,0.8s,mb4.1,baz=150,slow=4.7,SNR=18								
ILAR				LR		LR		19 55 37.8	
	comp=Z,73nm,18.3s,MS4.0,baz=6.3,slow=39								

ISCJB ***01*** *19:24:42.5±0.8, 796N±006×8303W±005, h10km, mb3.5/6, Error ellipse: s-maj=9.8km s-min=5.3km az=63.4*

CASC ***01*** *19:24:44.1±2.4, 806N×8299W, h10km, MD4.6*

IDC ***01*** *19:24:48.0±2.3, 909N×8257W, h0km, mb3.5/6, mb1 3.8/8, mb1mx3.7/20, mbtmp3.6/8, ML2.4/1, MS3.7/1, Ms1 3.7/1, ms1mx2.9/19, Error ellipse: s-maj=79.4km s-min=21.4km az=27.0*

NEIC ***01*** *19:24:48.5±1.5, 876N×8281W, h10km, Error ellipse: s-maj=51.4km s-min=10.5km az=207.0*

ISC 01 19:24:44.1±0.8, 803N±007×8302W±005, h10km, n32, σ1$28/38, mb3.5/6, 6C-5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTCR	**Cotoan**	**0.90**	**16**	⇓ *i* P		**Pg**		**19 24 58.7**	**-2.8**
CTCR				*e*S		**Sg**		**19 25 15.3**	**+2.1**
BUS	**Buena Vista**	**1.69**	**334**	⇓ *e*P		**Pn**		**19 25 12.3**	**-1.2**
BUS				*e*S		**Sn**		**19 25 35.6**	**+0.4**
URSC	**Urasca**	**1.95**	**337**	⇑ *e*P		**Pn**		**19 25 15.8**	**-1.4**
LCR2	**La Lucha 2**	**1.96**	**330**	⇑ *e*P		**Pn**		**19 25 16.8**	**-0.6**
OCM	**Ochomogo**	**2.08**	**333**	*e*P		**Pn**		**19 25 17.6**	**-1.4**
OCM				*e*S		**Sn**		**19 25 45.4**	**+0.5**
VTU	**Volcan Turrial**	**2.11**	**340**	*e*P		**Pn**		**19 25 19.0**	**-0.4**
VTU				*e*S		**Sn**		**19 25 46.4**	**+0.6**
SJS	**Escuela Geolog**	**2.16**	**332**	*e*P		**Pn**		**19 25 19.3**	**-0.8**
PRS1	**Puriscal**	**2.33**	**327**	*e*P		**Pn**		**19 25 21.1**	**-1.3**
PRS1				*e*S		**Sn**		**19 25 51.6**	**+0.6**
POA2	**Poas 2**	**2.46**	**330**	⇓ *e*P		**Pn**		**19 25 25.0**	**+0.8**
EPA	**Esparza**	**2.50**	**321**	⇑ *e*P		**Pn**		**19 25 25.1**	**+0.4**
EPA				*e*S		**Sn**		**19 25 57.2**	**+2.0**
CAO	**Cobano**	**2.65**	**309**	⇓ *e*P		**Pn**		**19 25 26.2**	**-0.6**
VACR	**Volcan Arenal**	**2.93**	**326**	⇓ *e*P		**Pn**		**19 25 32.1**	**+1.4**
JTS	**JuntasAbangare**	**2.95**	**320**	Pn		**Pn**		**19 25 30.1**	**-0.9**
	114nm,0.3s,baz=99,slow=9.1,SNR=258								
JTS				Sn		**Sn**		**19 26 05.7**	**-0.7**
	20nm,0.3s,baz=304,slow=18,SNR=6.6								
JTS	**JuntasAbangare**	**2.95**	**320**	⇓ *e*P		**Pn**		**19 25 31.6**	**+0.7**
PINA	**Piqa, Costa Ab**	**3.17**	**67**	*e*P		**Pn**		**19 25 33.1**	**-0.8**
ZANG	**Zanguenga, Cho**	**3.25**	**73**	*e*P		**Pn**		**19 25 36.0**	**+0.9**
VCR	**Vista de Mar**	**3.32**	**309**	⇑ *e*P		**Pn**		**19 25 35.5**	**-0.5**
LIM1	**Limonal**	**3.45**	**320**	*i* P		**Pn**		**19 25 38.7**	**+0.8**
ACLA	**Agua Clara, Si**	**3.53**	**68**	*e*P		**Pn**		**19 25 38.0**	**-1.0**
RIN3	**Volcan Rincon**	**3.60**	**320**	⇑ *i* P		**Pn**		**19 25 40.8**	**+0.9**
ROSC	**El Rosal**	**9.19**	**110**	Pn		**Pn**		**19 27 02.3**	**+5.7**
	0.7nm,0.3s,baz=272,slow=23,SNR=3.9								
SDV	**Santo Domingo**	**12.28**	**85**	Pn		**Pn**		**19 27 41.2**	**+2.2**
	0.1nm,0.3s,baz=267,slow=13,SNR=3.6								
SDV				Lg				19 31 03.6	
	0.3nm,0.3s,baz=239,slow=22,SNR=2.3								
SDV	**Santo Domingo**	**12.28**	**85**	*e*P		**Pn**		**19 27 40.9**	**+1.9**
	7.0nm,1.1s								
SDV				Lg				19 31 03.6	
SJG	**San Juan**	**19.23**	**57**	LR		LR		19 35 57.9	
	comp=Z,240nm,18.3s,baz=334,slow=37								
PDAR	**Pinedale Array**	**41.73**	**330**	P		**P**		**19 32 33.6**	**+0.4**
	0.2nm,0.6s,mb2.9,baz=278,slow=24,SNR=2.5								
ULM	**Lac du Bonnet**	**43.43**	**348**	P		**P**		**19 32 45.2**	**-1.8**
	2.0nm,0.7s,mb4.0,baz=198,slow=8.5,SNR=4.3								
NVAR	**Mina Array Bea**	**43.88**	**319**	P		**P**		**19 32 54.0**	**+3.3**
	0.4nm,0.7s,mb3.3,baz=136,slow=9.5,SNR=2.9								
NVAR	**Mina Array Bea**	**43.88**	**319**	P		**P**		**19 32 54.0**	**+3.3**
YKA	**Yellowknife Ar**	**59.03**	**344**	P		**P**		**19 34 41.5**	**-2.6**
	0.5nm,1.1s,mb3.5,baz=129,slow=8.1,SNR=5.7								
YKA	**Yellowknife Ar**	**59.03**	**344**	P		**P**		**19 34 41.5**	**-2.6**
ILAR	**Eielson Array**	**71.81**	**336**	P		**P**		**19 36 07.5**	**+0.7**
	0.7nm,1.1s,mb3.5,baz=80,slow=5.0,SNR=3.5								
TORD	**Torodi Ar. Bea**	**83.09**	**78**	P		**P**		**19 37 13.1**	**+3.1**
	1.2nm,1.1s,mb3.8,baz=307,slow=4.1,SNR=3.6								

ISCJB ***01*** *19:50:05.6±0.3, 4244N±002×216E±002, h9km±3km, Error ellipse: s-maj=3.7km s-min=2.6km az=101.7*

STR ***01*** *19:50:06.8±0.5, 4233N×213E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD ***01*** *19:50:07.5±0.2, 4234N×215E, h3km±4km, mbLg1.5/25, Error ellipse: s-maj=1.6km s-min=1.4km az=166.0, PRXIMO*

LDG ***01*** *19:50:07.0±0.1, 4234N×215E, h5km, Md2.6/1, Ml2.3/12, Error ellipse: s-maj=0.9km s-min=0.8km az=129.0*

CSEM ***01*** *19:50:07.2±0.1, 4235N×215E, h5km, ML2.4/11, Error ellipse: s-maj=1.3km s-min=0.9km az=125.0*

ISC 01 19:50:06.3±0.3, 4237N±002×217E±002, h10km±3km, n79, σ0$96/119, 5C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBRU	**Bruguera**	**0.09**	**175**	Pg		**Pg**		**19 50 08.5**	**-0.3**
CBRU				Lg				19 50 09.6	
	232nm,0.2s								
VALF	**Valcebollere**	**0.12**	**285**	Pg		**Pg**		**19 50 09.6**	**+0.4**
VALF				Sg		**Sg**		**19 50 11.3**	**+0.1**
VALF	**Valcebollere**	**0.12**	**285**	Pg		**Pg**		**19 50 09.6**	**+0.4**
VALF				Lg				19 50 11.3	
CLLI	**Llivia**	**0.18**	**307**	Pg		**Pg**		**19 50 10.9**	**+0.7**
CLLI				Lg				19 50 13.6	
	47nm,0.2s								
FILF	**Fillols**	**0.34**	**57**	Pg		**Pg**		**19 50 12.9**	**-0.3**
FILF				Sg		**Sg**		**19 50 17.0**	**-0.8**
FILF	**Fillols**	**0.34**	**57**	Pg		**Pg**		**19 50 12.9**	**-0.3**
FILF				Lg				19 50 17.0	
CARF	**Carcanieres**	**0.35**	**352**	Pg		**Pg**		**19 50 14.5**	**+1.3**
CARF				Sg		**Sg**		**19 50 19.7**	**+1.8**
CARF	**Carcanieres**	**0.35**	**352**	Pg		**Pg**		**19 50 14.6**	**+1.3**
CARF				Lg				19 50 19.8	
PAND	**Andorre**	**0.49**	**288**	Pg		**Pg**		**19 50 16.3**	**+0.5**
PAND				Lg				19 50 22.6	
EJON	**La Jonquera**	**0.54**	**82**	Pg		**Pg**		**19 50 17.8**	**+1.0**
	0.8nm,0.1s,SNR=18								
EJON				Lg				19 50 25.5	
	8.9nm,0.2s,SNR=7.9								
EJON	**La Jonquera**	**0.54**	**82**	Pg		**Pg**		**19 50 17.8**	**+1.0**
	0.8nm,0.1s,SNR=18								
SJAF	**Saint Jean de**	**0.54**	**78**	Pg		**Pg**		**19 50 17.3**	**+0.5**
SJAF				Lg				19 50 25.3	
LRDF	**Laroque-de-Fa**	**0.63**	**26**	Pg		**Pg**		**19 50 20.0**	**+1.5**
LRDF				Sg		**Sg**		**19 50 29.9**	**+3.2**
LRDF	**Laroque-de-Fa**	**0.63**	**26**	Pg		**Pg**		**19 50 19.9**	**+1.4**
LRDF				Lg				19 50 29.6	
CFON	**Fontmartina**	**0.64**	**162**	Pg		**Pg**		**19 50 18.5**	**-0.2**
CFON				Lg				19 50 26.9	
	29nm,0.2s								
CORG	**Organya**	**0.65**	**258**	Pg		**Pg**		**19 50 18.9**	**0.0**
EMIR	**Miracle**	**0.66**	**227**	⇑Pg		**Pg**		**19 50 19.0**	**-0.2**
	6.9nm,0.1s,SNR=18								
EMIR				Lg				19 50 27.6	
	15nm,0.1s,SNR=20								
EMIR	**Miracle**	**0.66**	**227**	Pg		**Pg**		**19 50 19.0**	**-0.1**
	6.9nm,0.1s,SNR=18								
CSOR	**Sort**	**0.77**	**271**	Pg		**Pg**		**19 50 21.4**	**+0.2**
CSOR				Lg				19 50 32.6	
	7.2nm,0.2s								
SALF	**Salau**	**0.82**	**298**	Pg		**Pg**		**19 50 22.6**	**+0.4**
SALF				Sg		**Sg**		**19 50 33.6**	**+0.7**
SALF	**Salau**	**0.82**	**298**	Pg		**Pg**		**19 50 22.6**	**+0.4**
SALF				Lg				19 50 33.5	
MTLF	**Montolieu**	**0.97**	**2**	*e*Pg		**Pg**		**19 50 26.0**	**+1.0**
MTLF	**Montolieu**	**0.97**	**2**	*e*Pn		**Pn**		**19 50 26.2**	**+0.3**
	SNR=1.0								
MTLF				*e*Sg		**Sg**		**19 50 38.9**	**+1.3**
	7.6nm,0.2s,SNR=1.0								
MTLF	**Montolieu**	**0.97**	**2**	Pg		**Pg**		**19 50 26.0**	**+1.0**
MTLF				Lg				19 50 38.9	
	3.8nm,0.2s								
MTLF	**Montolieu**	**0.97**	**2**	*e*Pn		**Pn**		**19 50 26.2**	**+0.3**
	SNR=1.0								
MTLF				*e*Sg		**Sg**		**19 50 38.9**	**+1.3**
	3.8nm,0.2s,SNR=1.0								
MELF	**Melles**	**1.16**	**296**	Pg		**Pg**		**19 50 28.8**	**+0.3**
MELF				Lg				19 50 43.8	
CAVN	**Les Avellanes**	**1.16**	**246**	Pg		**Pg**		**19 50 28.2**	**-0.5**
CAVN				Lg				19 50 43.7	
	21nm,0.1s								
EPOB	**Poblet**	**1.30**	**219**	⇑Pg		**Pg**		**19 50 30.6**	**-0.8**
	0.6nm,0.1s,SNR=18								
EPOB				Lg				19 50 47.6	
	14nm,0.2s,SNR=20								
EPOB	**Poblet**	**1.30**	**219**	Pg		**Pg**		**19 50 30.6**	**-0.8**
	0.6nm,0.1s,SNR=18								
CGAR	**Garraf**	**1.33**	**216**	Pg		**Pg**		**19 50 27.3**	**-4.5**
CGAR				Lg				19 50 41.6	
	8.9nm,0.3s								
EGRA	**Graus**	**1.39**	**263**	⇑Pg		**Pg**		**19 50 33.7**	**+0.7**
	0.3nm,0.1s,SNR=18								
EGRA				Lg				19 50 52.3	
	3.3nm,0.2s,SNR=9.3								
RESF	**Ens**	**1.42**	**288**	Lg				19 50 54.6	
EPF	**Esparros**	**1.50**	**297**	*e*Pn		**Pn**		**19 50 32.9**	**-0.3**
	SNR=1.0								
EPF	**Esparros**	**1.50**	**297**	*e*Pg		**Pg**		**19 50 34.9**	**-0.2**
EPF				*e*Sg		**Sg**		**19 50 54.5**	**-0.1**
	2.8nm,0.2s,SNR=1.0								
EPF	**Esparros**	**1.50**	**297**	*e*Pg		**Pg**		**19 50 34.9**	**-0.2**
EPF				*e*Sg		**Sg**		**19 50 54.5**	**-0.1**
	1.4nm,0.2s,SNR=1.0								
EBIE	**Bielsa**	**1.53**	**283**	Pg		**Pg**		**19 50 36.8**	**+1.1**
	0.1nm,0.1s,SNR=10								
EBIE				Lg				19 50 58.5	
	4.4nm,0.2s,SNR=17								
EBIE	**Bielsa**	**1.53**	**283**	Pg		**Pg**		**19 50 36.8**	**+1.1**
	0.1nm,0.1s,SNR=10								
ERTA	**Horta de San J**	**1.97**	**225**	Pn		**Pn**		**19 50 40.8**	**+1.0**
	0.7nm,0.2s,SNR=7.9								
ERTA				⇑Pg		**Pg**		**19 50 42.9**	**-1.3**
	0.5nm,0.1s,SNR=18								
ERTA				Lg				19 51 08.0	
	1.5nm,0.1s,SNR=7.8								
ERTA	**Horta de San J**	**1.97**	**225**	Pn		**Pn**		**19 50 40.8**	**+1.1**
	0.7nm,0.2s,SNR=7.9								
ERTA	**Horta de San J**	**1.97**	**225**	Pg		**Pg**		**19 50 42.9**	**-1.3**
	0.5nm,0.1s,SNR=18								
EBR	**Ebro Roquetas**	**2.00**	**220**	*e*SN		**Sn**		**19 51 08.5**	**+3.5**
ESAC	**San Caprasio**	**2.07**	**253**	⇑Pn		**Pn**		**19 50 42.6**	**+1.6**
	SNR=18								
ESAC				Pg		**Pg**		**19 50 45.3**	**-0.7**
	1.6nm,0.1s,SNR=7.9								
ESAC				Lg				19 51 11.8	
	17nm,0.2s,SNR=6.6								
ESAC	**San Caprasio**	**2.07**	**253**	Pn		**Pn**		**19 50 42.6**	**+1.5**
	SNR=18								
ESAC	**San Caprasio**	**2.07**	**253**	Pg		**Pg**		**19 50 45.3**	**-0.7**
	1.6nm,0.1s,SNR=7.9								
ETSF	**Etsaut**	**2.08**	**286**	*e*Pg		**Pg**		**19 50 45.5**	**-0.7**
	SNR=1.0								
ETSF				*e*Sg		**Sg**		**19 51 13.0**	**-0.2**
	5.9nm,0.3s,SNR=1.0								
ETSF	**Etsaut**	**2.08**	**286**	*e*Pg		**Pg**		**19 50 45.5**	**-0.7**
	SNR=1.0								
ETSF				*e*Sg		**Sg**		**19 51 13.0**	**-0.2**
	3.0nm,0.3s,SNR=1.0								
LASF	**Ste Croix**	**2.10**	**35**	*e*Pg		**Pg**		**19 50 46.4**	**-0.2**
	SNR=1.0								
LASF				*e*Sg

LFF				Lg			19 51 35.6			
	2.9nm,0.4s									
LFF	**La Frestale**	**2.77**	**338**	*e*Pg		**Pg**	**19 50 58.7**	**-0.7**		
	SNR=1.0									
LFF				*e*Sg		**Sg**	**19 51 35.6**	**+0.3**		
	2.9nm,0.4s,SNR=1.0									
EMOS	**Mosqueruela**	**2.83**	**226**	Pn		**Pn**	**19 50 53.1**	**+1.7**		
	SNR=7.9									
EMOS				Pg		**Pg**	**19 50 58.5**	**-2.0**		
	3.6nm,0.9s,SNR=6.2									
EMOS				Sn		**Sn**	**19 51 26.8**	**+1.3**		
	SNR=7.9									
EMOS				Lg			19 51 36.3			
	0.4nm,0.1s,SNR=7.9									
EMOS	**Mosqueruela**	**2.83**	**226**	Pn		**Pn**	**19 50 53.1**	**+1.7**		
	SNR=7.9									
EMOS	**Mosqueruela**	**2.83**	**226**	Pg		**Pg**	**19 50 58.5**	**-2.0**		
	3.6nm,0.9s,SNR=6.2									
EMOS				Sn		**Sn**	**19 51 26.8**	**+1.3**		
	SNR=7.9									
EALK	**Alkurruntz**	**2.84**	**289**	Pg		**Pg**	**19 50 59.3**	**-1.3**		
	SNR=4.0									
EALK				Sn		**Sn**	**19 51 26.8**	**+1.0**		
	SNR=7.9									
EALK				Lg			19 51 39.2			
	4.2nm,0.4s,SNR=7.9									
EALK	**Alkurruntz**	**2.84**	**289**	Pg		**Pg**	**19 50 59.3**	**-1.4**		
	SNR=4.0									
EALK				Sn		**Sn**	**19 51 26.8**	**+1.0**		
	SNR=7.9									
ELIZ	**Elizondo**	**2.84**	**287**	Pg		**Pg**	**19 50 59.9**	**-0.8**		
	SNR=7.9									
ELIZ				Lg			19 51 38.9			
	0.7nm,0.2s,SNR=7.9									
SMRF	**Simiane la Rot**	**2.96**	**56**	*e*Pn		**Pn**	**19 50 53.3**	**0.0**		
SMRF	**Simiane la Rot**	**2.96**	**56**	*e*P		**Pn**	**19 50 56.2**	**+2.9**		
SMRF	**Simiane la Rot**	**2.96**	**56**	*e*P		**Pn**	**19 50 56.2**	**+2.9**		
RJF	**Les Rejaudoux**	**2.97**	**351**	*e*Sg		**Sg**	**19 51 41.1**	**-0.6**		
	2.8nm,0.2s,SNR=1.0									
RJF	**Les Rejaudoux**	**2.97**	**351**	*e*Sg		**Sg**	**19 51 41.1**	**-0.6**		
	1.4nm,0.2s,SNR=1.0									
VIVF	**Saint-Julien-l**	**3.08**	**35**	*e*Pg		**Pg**	**19 51 04.5**	**-0.8**		
	SNR=1.0									
VIVF				*e*Sn		**Sn**	**19 51 30.3**	**-1.4**		
	SNR=1.0									
VIVF				*e*Sg		**Sg**	**19 51 44.8**	**-0.4**		
	1.0nm,0.2s,SNR=1.0									
VIVF	**Saint-Julien-l**	**3.08**	**35**	*e*Pg		**Pg**	**19 51 04.5**	**-0.8**		
	SNR=1.0									
VIVF				*e*Sn		**Sn**	**19 51 30.3**	**-1.4**		
	SNR=1.0									
VIVF				*e*Sg		**Sg**	**19 51 44.8**	**-0.4**		
	0.5nm,0.2s,SNR=1.0									
FRF	**La Foret Royal**	**3.49**	**69**	*e*Pn		**Pn**	**19 51 01.7**	**+1.1**		
	SNR=1.0									
FRF				*e*Sn		**Sn**	**19 51 40.0**	**-2.0**		
	1.1nm,0.2s,SNR=1.0									
FRF	**La Foret Royal**	**3.49**	**69**	*e*Pn		**Pn**	**19 51 01.7**	**+1.1**		
	SNR=1.0									
FRF				*e*Sn		**Sn**	**19 51 40.0**	**-2.0**		
	0.6nm,0.2s,SNR=1.0									
TCF	**Toulx Ste Croi**	**3.92**	**0**	*e*Pg		**Pg**	**19 51 20.2**	**-1.1**		
TCF				*e*Sg		**Sg**	**19 52 11.8**	**-0.3**		
	0.8nm,0.2s,SNR=1.0									
TCF	**Toulx Ste Croi**	**3.92**	**0**	*e*Pg		**Pg**	**19 51 20.2**	**-1.1**		
TCF				*e*Sg		**Sg**	**19 52 11.8**	**-0.3**		
	0.4nm,0.2s,SNR=1.0									
BGF	**Bois d'Agland**	**4.21**	**6**	*e*Pg		**Pg**	**19 51 26.3**	**-0.7**		
BGF				*e*Sg		**Sg**	**19 52 20.7**	**-0.9**		
	5.6nm,0.4s									
BGF	**Bois d'Agland**	**4.21**	**6**	*e*Pg		**Pg**	**19 51 26.3**	**-0.7**		
BGF				*e*Sg		**Sg**	**19 52 20.7**	**-0.9**		
	2.8nm,0.4s									

IDC ***01*** *20:01:36.9±1.4,3759N×2100E,h0km,mb3.6/5,mb1 3.6/5, mb1mx3.4/21,mbtmp3.6/5,Error ellipse: s-maj=45.7km s-min=25.8km az=122.0*

ISCJB ***01*** *20:01:39.6±0.9,3755N±003×2087E±005,h12km±7km, mb3.5/5,Error ellipse: s-maj=6.9km s-min=4.4km az=104.9*

NEIC ***01*** *20:01:40.5,3760N×2099E,h2km,ML3.3(THE),After THE.*

ATH ***01*** *20:01:40.5,3760N×2098E,h17km±1km,MD3.7/17,ML3.6 THE* ***01*** *20:01:40.5,3760N×2099E,h2km,ML3.4*

CSEM ***01*** *20:01:41.2±0.2,3750N×2094E,h45km±7km,ML3.4,Error ellipse: s-maj=7.0km s-min=3.0km az=161.0*

ISC 01 20:01:39.9±0.8,3755N±003×2088E±004,h7km±4km,n43, σ1§18/55,mb3.5/5,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.66**	**340**	*e*PB	**Pg**	**20 01 53.0**	**+0.3**
VLS				*e*SN	**Sg**	**20 02 03.4**	**+2.1**
RLS	**Riolos of Patr**	**0.68**	**42**	*e*PN	**Pg**	**20 01 51.8**	**-1.3**
RLS				*e*SN	**Sg**	**20 02 01.3**	**-0.7**
ITM	**Ithomi**	**0.91**	**114**	*e*PB	**Pg**	**20 01 56.3**	**-1.1**
ITM				*e*SN	**Sg**	**20 02 09.7**	**+0.4**
LKD	**Levkas**	**1.17**	**351**	*e*Pg	**Pg**	**20 02 01.1**	**-1.1**
LKD				*e*Sg	**Sg**	**20 02 18.0**	**+0.6**
EVR	**Evrytania**	**1.54**	**28**	*e*PN	**Pn**	**20 02 07.5**	**-0.3**
EVR				*e*SN	**Sn**	**20 02 28.3**	**+0.2**
VLI	**Veliai**	**1.84**	**116**	*e*PN	**Pn**	**20 02 13.6**	**+1.7**
VLI				*e*SN	**Sn**	**20 02 36.5**	**+1.1**
AGG	**Agios Georgios**	**1.86**	**37**	*e*Pb	**Pb**	**20 02 12.4**	**-1.8**
MGER	**Gerania Oros**	**1.93**	**76**	*e*PN	**Pn**	**20 02 13.2**	**+0.1**
LKR	**Lokris**	**2.00**	**56**	*e*PN	**Pn**	**20 02 14.6**	**+0.6**
LKR				*e*SN	**Sn**	**20 02 38.6**	**-0.7**
IGT	**Igoumenitsa**	**2.02**	**348**	*e*Pn	**Pn**	**20 02 14.8**	**+0.4**
IGT				*e*Sn	**Sn**	**20 02 41.1**	**+1.3**
JAN	**Janina**	**2.10**	**359**	*e*PN	**Pn**	**20 02 17.0**	**+1.6**
KYTH	**Kithira**	**2.14**	**126**	*e*PN	**Pn**	**20 02 18.0**	**+2.0**
ATH	**Athens Observa**	**2.29**	**79**	*e*PN	**Pn**	**20 02 19.1**	**+1.1**
KVR	**Kavouri**	**2.31**	**82**	*e*PN	**Pn**	**20 02 19.8**	**+1.5**
KEK	**Kerkira**	**2.32**	**339**	*e*PN	**Pn**	**20 02 20.0**	**+1.6**
PTL	**Penteli**	**2.41**	**77**	*e*PN	**Pn**	**20 02 20.0**	**+0.2**
NEO	**Neokhori**	**2.54**	**46**	*e*PN	**Pn**	**20 02 21.7**	**+0.2**
NEO				*e*SN	**Sn**	**20 02 52.8**	**+0.2**
XOR	**Xorichti**	**2.56**	**44**	*e*Pn	**Pn**	**20 02 20.9**	**-0.9**
KZN	**Kozani**	**2.83**	**14**	*e*PN	**Pn**	**20 02 26.7**	**+1.2**
LIT	**Litokhoron**	**2.84**	**26**	*e*Pn	**Pn**	**20 02 24.8**	**-0.8**
AOS	**Alonnisos**	**2.86**	**55**	*e*Pn	**Pn**	**20 02 25.2**	**-0.6**
AOS	**Alonnisos**	**2.86**	**55**	*e*Pn	**Pn**	**20 02 25.2**	**-0.6**
PAIG	**Paliouri**	**3.23**	**42**	*e*Pn	**Pn**	**20 02 30.2**	**-0.7**
FNA	**Florina**	**3.25**	**7**	*e*Pn	**Pn**	**20 02 31.6**	**+0.4**
FNA				*e*Sn	**Sn**	**20 03 11.2**	**+1.0**
VAM	**Vamos**	**3.43**	**128**	*e*PN	**Pn**	**20 02 34.1**	**+0.4**
PLG	**Polygyros**	**3.45**	**35**	*e*PN	**Pn**	**20 02 33.8**	**-0.2**
BIA	**Bitola**	**3.48**	**6**	*e*Pn	**Pn**	**20 02 35.2**	**+0.8**
LCI	**Lecce**	**3.52**	**323**	Pn	**Pn**	**20 02 36.0**	**+1.1**
OHR	**Ohrid**	**3.55**	**359**	*e*Pn	**Pn**	**20 02 35.2**	**-0.2**
GRG	**Griva**	**3.60**	**19**	*e*Pn	**Pn**	**20 02 35.6**	**-0.4**
OUR	**Ouranopolis**	**3.68**	**40**	*e*Pn	**Pn**	**20 02 36.7**	**-0.5**
VAY	**Valandovo**	**3.98**	**19**	*e*Pn	**Pn**	**20 02 38.9**	**-2.4**
SRS	**Serrai**	**4.13**	**30**	*e*Pn	**Pn**	**20 02 43.5**	**+0.1**
STIP	**Stip**	**4.26**	**13**	*e*Pn	**Pn**	**20 02 45.5**	**+0.4**
STIP	**Stip**	**4.26**	**13**	*e*Pn	**Pn**	**20 02 45.4**	**+0.3**
BRT	**Bari-Castellan**	**4.38**	**320**	Pn	**Pn**	**20 02 47.9**	**+1.1**
BRT				Sn	**Sn**	**20 03 35.4**	**-2.6**
HAVL	**Avola**	**4.63**	**264**	Pn	**Pn**	**20 02 49.6**	**-0.6**
HAVL				Sn	**Sn**	**20 03 40.8**	**-3.4**
SGO	**Sicignano**	**5.28**	**306**	Pn	**Pn**	**20 03 03.8**	**+4.7**
HFS	**Hagfors**	**23.06**	**351**	P	**P**	**20 06 43.6**	**-2.3**
	1.0nm,0.6s,mb3.4,baz=161,slow=9.4,SNR=5.4						
FINES	**FINESS Array B**	**24.14**	**6**	P	**P**	**20 06 53.5**	**-2.8**
	0.6nm,0.5s,mb3.3,baz=183,slow=8.4,SNR=5.3						
TORD	**Torodi Ar. Bea**	**29.73**	**220**	P	**P**	**20 07 45.8**	**-0.9**
	0.2nm,0.5s,mb3.1,baz=31,slow=9.2,SNR=5.6						
MKAR	**Makanchi Array**	**45.39**	**58**	P	**P**	**20 09 56.1**	**-2.9**
	0.5nm,0.4s,mb3.7,baz=276,slow=7.2,SNR=6.8						
ZAL	**Zalesovo**	**45.89**	**48**	P	**P**	**20 10 00.1**	**-2.8**
	0.6nm,0.4s,mb3.9,baz=183,slow=13,SNR=3.1						

ISCJB ***01*** *20:07:35.3±0.6,1813N±009×1455E±02,h300km, mb3.5/13,Error ellipse: s-maj=27.2km s-min=11.7km az=11.4*

NEIC ***01*** *20:07:36.5±0.5,1814N×14553E,h300km,mb4.0/2,Error ellipse: s-maj=24.3km s-min=10.4km az=96.0*

IDC ***01*** *20:07:38.5±11.0,1812N×14553E,h318km±120km, mb3.2/12,mb1 3.4/12,mb1mx3.3/20,mbtmp3.9/12,MS3.2/1, Ms1 3.2/1,ms1mx2.4/28,Error ellipse: s-maj=30.2km s-min=15.6km az=73.0*

ISC 01 20:07:36.7±0.6,1816N±009×1455E±02,h300km,n18, σ0§88/17,mb3.5/13,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**9.41**	**341**	LR	LR	20 13 11.0	
	comp=Z,156nm,21.2s,baz=140,slow=35						
WRAB	**Tennant Creek**	**39.41**	**197**	*e*P	**P**	**20 14 37.9**	**-0.1**
	7.6nm,0.7s,mb4.2						
WB2	**Warramunga Arr**	**39.42**	**197**	*e*P	**P**	**20 14 38.1**	**0.0**
WRA	**Warramunga Arr**	**39.42**	**197**	P	**P**	**20 14 38.1**	**0.0**
	2.9nm,0.6s,mb3.9,baz=14,slow=8.3,SNR=56						
FITZ	**Fitzroy Crossi**	**41.00**	**210**	*e*P	**P**	**20 14 52.0**	**+1.1**
	6.4nm,0.9s,mb3.9						
FITZ	**Fitzroy Crossi**	**41.00**	**210**	P	**P**	**20 14 51.9**	**+1.0**
	1.5nm,0.3s,mb3.7,baz=42,slow=8.1,SNR=53						
ASAR	**Alice Springs**	**43.09**	**196**	P	**P**	**20 15 08.3**	**+0.6**
	0.8nm,0.6s,mb3.1,baz=23,slow=9.7,SNR=19						
SONM	**Songino Array**	**43.46**	**322**	P	**P**	**20 15 10.9**	**+0.2**
	0.2nm,0.5s,mb2.6,baz=124,slow=5.6,SNR=3.9						
STKA	**Stephens Creek**	**49.89**	**184**	P	**P**	**20 15 58.4**	**-1.8**
	0.8nm,0.6s,mb3.2,baz=207,slow=23,SNR=6.4						
STKA	**Stephens Creek**	**49.89**	**184**	P	**P**	**20 15 58.4**	**-1.8**
MKAR	**Makanchi Array**	**58.72**	**314**	P	**P**	**20 17 03.5**	**+0.1**
	0.3nm,0.4s,mb3.1,baz=83,slow=9.3,SNR=6.8						
ILAR	**Eielson Array**	**64.20**	**26**	P	**P**	**20 17 39.0**	**-0.8**
	0.3nm,0.5s,mb3.2,baz=248,slow=5.5,SNR=6.8						
BVAR	**Borovoye Array**	**66.78**	**321**	P	**P**	**20 17 56.8**	**+0.5**
	1.1nm,0.5s,mb3.8,baz=99,slow=7.3,SNR=10						
YKA	**Yellowknife Ar**	**78.54**	**28**	P	**P**	**20 19 06.0**	**+0.9**
	0.9nm,0.7s,mb3.6,baz=290,slow=5.5,SNR=13						
YKA	**Yellowknife Ar**	**78.54**	**28**	P	**P**	**20 19 06.0**	**+0.9**
ARCES	**ARCESS Array B**	**82.95**	**342**	P	**P**	**20 19 28.1**	**-0.2**
	1.3nm,0.9s,mb3.8,baz=80,slow=8.2,SNR=6.2						
NVAR	**Mina Array Bea**	**83.60**	**52**	P	**P**	**20 19 32.7**	**+1.1**
	0.5nm,0.5s,mb3.6,baz=269,slow=7.3,SNR=5.5						
FINES	**FINESS Array B**	**87.31**	**335**	P	**P**	**20 19 47.8**	**-1.9**
	0.6nm,0.6s,mb3.6,baz=41,slow=2.6,SNR=4.1						

IDC ***01*** *20:13:26.9±0.7,228N×99.11W,h0km,mb4.7/15, mb1 4.8/16,mb1mx4.6/23,mbtmp4.7/16,ML4.2/1,MS5.2/30, Ms1 5.2/30,ms1mx5.1/35,Error ellipse: s-maj=24.5km s-min=12.3km az=50.0*

MOS ***01*** *20:13:27.7±0.9,240N×98.89W,h10km,mb5.2/27,MS5.3/4, Error ellipse: s-maj=14.4km s-min=6.5km az=102.1*

ISCJB ***01*** *20:13:27.5±0.3,228N±004×99.00W±005,h10km,mb4.9/59, MS5.2/45,Error ellipse: s-maj=7.5km s-min=5.6km az=118.5*

HRVD ***01*** *20:13:28.8±0.1,233N×98.85W,h14km,MW5.7/95, Centroid moment Tensor Solution. LP body waves: s93,c176;Mantle waves: s95,c263; Half duration: 1§7 Moment tensor: Scale 10¹⁷Nm; Mrr=0.04±.05; Mθθ=3.98±.05; Mϕϕ=3.93±.06; Mrθ=0.76±.10; Mθϕ=1.76±.04; Mϕr=0.12±.10; Best double couple: Mo=4.39300×10¹⁷ NP1:θs=33.00000°,δ83.00000°,λ174.00000°. NP2: ϕs=123.00000°,δ84.00000°,λ7.00000°. Principal axes: T 4.4820, Plg10.0000°, Azm348.0000°; N -0.1730, Plg80.0000°, Azm164.0000°; P -4.3040, Plg1.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***01*** *20:13:28.8±0.3,221N×99.04W,h10km,mb5.0/52,MW5.7 Error ellipse: s-maj=8.9km s-min=5.0km az=61.0, Moment Tensor Solution. s20 Moment tensor: Scale 10¹⁷Nm; Mrr0.16; Mθθ3.32; Mϕϕ-3.48; Mrθ0.67; Mθϕ2.43; Mϕr0.73; Best double couple: Mo4.30000×10¹⁷ NP1: ϕs27.00000°,δ86.00000°,λ167.00000°. NP2: ϕs118.00000°,δ77.00000°,λ4.00000°. Principal axes: T 4.2800, Plg12.0000°, Azm342.0000°; N 0.0300, Plg76.0000°, Azm191.0000°; P -4.3200, Plg6.0000°, Azm73.0000°;*

BJI ***01*** *20:13:28.7,220N×99.00W,h10km,mB5.5,Ms5.5,Msz5.3*

CSEM ***01*** *20:13:34.3,237N×98.92W,h60km,ML5.7*

ISC 01 20:13:29.2±0.3,224N±004×9904W±005,h10km, (h8km±3.8km:pP-P),n216,σ1§03/152,mb4.9/59,MS5.2/45, 1C-1D,West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**9.21**	**108**	*e*P	**Pn**	**20 15 46.9**	**+4.8**
	86nm,1.2s						
PAYG				*e*		20 16 01.6	
ACX	**Acapulco**	**14.56**	**357**	*e*P	**Pn**	**20 16 58.0**	**+2.7**
OXX	**Oaxaca**	**14.93**	**9**	*e*P	**Pn**	**20 17 05.0**	**+4.8**
CCIG	**Comitan**	**15.52**	**26**	*e*P	**Pn**	**20 17 08.4**	**+0.2**
PLIG	**Platanillo**	**16.06**	**358**	*e*P	**Pn**	**20 17 16.9**	**+1.7**
JTS	**JuntasAbangare**	**16.11**	**60**	Pn	**Pn**	**20 17 16.5**	**+0.7**
	516nm,1.1s,SNR=13						
JTS	**JuntasAbangare**	**16.11**	**60**	Pn	**Pn**	**20 17 15.4**	**-0.4**
	0.9nm,0.3s,baz=241,slow=6.7,SNR=14						
JTS				LR	LR	20 21 35.0	
	comp=Z,22µm,20.3s,baz=235,slow=30						
JTS	**JuntasAbangare**	**16.11**	**60**	*e*P	**Pn**	**20 17 14.1**	**-1.7**
JTS				pmax	pmax		
	comp=Z,132nm,1.2s						
JTS	**JuntasAbangare**	**16.11**	**60**	*e*P	**Pn**	**20 17 14.1**	**-1.7**
	comp=Z,132nm,1.2s						
YAIG	**Yautepec**	**16.52**	**360**	*i* P	**Pn**	**20 17 23.0**	**+2.0**
PPM	**Popocatepetl**	**16.73**	**1**	*i* P	**Pn**	**20 17 26.7**	**+3.0**
UNM	**Universidad Na**	**16.99**	**360**	*i* P	**Pn**	**20 17 29.6**	**+2.7**
MOIG	**Morelia**	**17.46**	**353**	*i* P	**Pn**	**20 17 35.0**	**+2.2**
SFJM	**Santa Fe**	**18.55**	**348**	*i* P	**Pn**	**20 17 49.0**	**+2.7**
TEIG	**Tepich**	**20.74**	**30**	*e*P	**P**	**20 18 09.4**	**-0.5**
	comp=Z,10nm,1.3s						
MAIG	**Mazatlaan**	**22.02**	**342**	*e*P	**P**	**20 18 23.9**	**+0.2**
LPIG	**La Paz**	**24.32**	**334**	P	**P**	**20 18 45.8**	**-1.2**
	comp=Z,7.9nm,0.3s,mb4.6,baz=18,slow=2.3,SNR=3.0						
ROSC	**El Rosal**	**24.79**	**83**	P	**P**	**20 18 52.9**	**+1.6**
	comp=Z,36nm,0.9s,mb4.9,baz=95,slow=19,SNR=17						
ROSC				LR	LR	20 25 43.7	
	comp=Z,1µm,18.7s,MS4.5,baz=191,slow=30						
LTX	**Lajitas**	**27.30**	**351**	*e*P	**P**	**20 19 13.7**	**-0.3**
LTX				pmax	pmax		
	comp=Z,44nm,1.1s,mb4.9						
LTX	**Lajitas**	**27.30**	**351**	*e*P	**P**	**20 19 13.7**	**-0.3**
	comp=Z,44nm,1.1s,mb4.9						
HKT	**Hockley**	**27.73**	**6**	*e*P	**P**	**20 19 17.4**	**-0.4**
HKT				pmax	pmax		
	comp=Z,42nm,1.4s,mb4.9						
HKT	**Hockley**	**27.73**	**6**	*e*P	**P**	**20 19 17.4**	**-0.4**
	comp=Z,42nm,1.4s,mb4.9						
SDV	**Santo Domingo**	**29.01**	**76**	P	**P**	**20 19 30.1**	**+0.8**
	comp=Z,6.0nm,0.9s,mb4.3,baz=258,slow=6.7,SNR=8.3						
SDV				LR	LR	20 29 09.2	
	comp=Z,7µm,21.8s,MS5.2,baz=272,slow=32						
SDV	**Santo Domingo**	**29.01**	**76**	*e*P	**P**	**20 19 29.9**	**+0.7**
	comp=Z,38nm,1.4s,mb4.9						
HLGC	**Holguin**	**29.07**	**49**	*e*P	**P**	**20 19 30.2**	**+0.4**
MNTX	**Cornudas Mount**	**29.91**	**349**	*e*P	**P**	**20 19 36.4**	**-0.8**
	comp=Z,30nm,1.2s,mb4.9						
GDL2	**Guadalupe Moun**	**30.22**	**351**	*e*P	**P**	**20 19 40.4**	**+0.4**
RPN	**Rapa Nui**	**30.84**	**198**	LR	LR	20 28 56.4	
	comp=Z,5µm,21.2s,MS5.1,baz=197,slow=30						
CPRX	**Cap Rock**	**30.97**	**352**	P	**P**	**20 19 47.4**	**+0.8**
TUC	**Tucson**	**31.89**	**341**	*e*P	**P**	**20 19 54.8**	**+0.1**
TUC				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.8						
TUC	**Tucson**	**31.89**	**341**	*e*P	**P**	**20 19 54.8**	**+0.1**
	comp=Z,15nm,1.0s,mb4.8						
WMOK	**Wichita Mounta**	**32.34**	**0**	*e*P	**P**	**20 19 57.4**	**-1.2**
WMOK				pmax	pmax		
	comp=Z,17nm,1.4s,mb4.7						
WMOK	**Wichita Mounta**	**32.34**	**0**	*e*P	**P**	**20 19 57.4**	**-1.2**
	comp=Z,17nm,1.4s,mb4.7						
BNM	**Barren Site**	**32.53**	**348**	*e*P	**P**	**20 20 00.7**	**+0.4**
MIAR	**Mount Ida**	**32.54**	**8**	*e*P	**P**	**20 19 59.9**	**-0.5**
MIAR				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
MIAR	**Mount Ida**	**32.54**	**8**	*e*P	**P**	**20 19 59.9**	**-0.5**
	comp=Z,20nm,1.2s,mb4.9						
AMTX	**Amarillo**	**32.57**	**356**	*e*P	**P**	**20 20 00.4**	**-0.2**
	comp=Z,38nm,1.1s,mb5.2						
LENM	**Lemitar**	**32.62**	**348**	*e*P	**P**	**20 20 01.5**	**+0.4**
LPM	**Los Pinos Moun**	**32.69**	**348**	*e*P	**P**	**20 20 01.5**	**-0.2**
LAZ	**Ladron**	**32.88**	**348**	*e*P	**P**	**20 20 04.2**	**+0.8**
ANMO	**Albuquerque**	**33.27**	**349**	P	**P**	**20 20 06.5**	**-0.3**
	comp=Z,6.5nm,0.9s,mb4.5,baz=165,slow=8.1,SNR=15						
ANMO				LR	LR	20 32 43.4	
	comp=Z,19µm,18.2s,MS5.8,baz=86,slow=35						
ANMO	**Albuquerque**	**33.27**	**349**	*e*P	**P**	**20 20 06.7**	**-0.1**
ANMO	**Albuquerque**	**33.27**	**349**	*e*P	**P**	**20 20 06.9**	**+0.1**
	comp=Z,11nm,1.1s,mb4.7						
PFO	**Pinyon Flat Ob**	**35.21**	**334**	P	**P**	**20 20 24.6**	**+1.0**
	comp=Z,195nm,1.1s,mb6.0,SNR=14						
PFO	**Pinyon Flat Ob**	**35.21**	**334**	*e*P	**P**	**20 20 24.1**	**+0.5**
PFO				pmax	pmax		
	comp=Z,44nm,1.1s,mb5.3						
PFO	**Pinyon Flat Ob**	**35.21**	**334**	*e*P	**P**	**20 20 24.1**	**+0.5**
	comp=Z,44nm,1.1s,mb5.3						
WVT	**Waverly**	**35.28**	**16**	*e*P	**P**	**20 20 23.4**	**-0.8**
WVT				pmax	pmax		
	comp=Z,56nm,1.2s,mb5.4						
WVT	**Waverly**	**35.28**	**16**	*e*P	**P**	**20 20 23.4**	**-0.8**
	comp=Z,56nm,1.2s,mb5.4						
COW	**Cow Castle Cre**	**35.42**	**27**	*e*P	**P**	**20 20 27.4**	**+2.0**
LPAZ	**La Paz**	**35.65**	**122**	P	**P**	**20 20 28.8**	**+1.5**
LPAZ	**La Paz**	**35.65**	**122**	P	**P**	**20 20 28.8**	**+1.4**
	comp=Z,14nm,1.0s,mb4.8,baz=303,slow=8.6,SNR=36						
LPAZ				LR	LR	20 33 36.5	
	comp=Z,3µm,18.8s,MS5.0,baz=309,slow=34						
LPAZ	**La Paz**	**35.65**	**122**	*e*P	**P**	**20 20 29.1**	**+1.7**
LPAZ				pmax	pmax		
	comp=Z,28nm,1.1s						
LPAZ	**La Paz**	**35.65**	**122**	*e*P	**P**	**20 20 29.1**	**+1.8**
	comp=Z,28nm,1.1s,mb5.1						
MVCO	**Mesa Verde**	**35.88**	**347**	*e*P	**P**	**20 20 29.4**	**+0.1**
SJG	**San Juan**	**35.90**	**62**	P	**P**	**20 20 28.4**	**-1.1**
	comp=Z,12nm,0.7s,mb5.0,baz=270,slow=8.6,SNR=6.6						
SJG				LR	LR	20 33 21.6	
	comp=Z,2µm,18.9s,MS5.0,baz=248,slow=33						
SJG	**San Juan**	**35.90**	**62**	*e*P	**P**	**20 20 27.6**	**-1.9**
SJG				pmax	pmax		
	comp=Z,12nm,0.3s						
SJG	**San Juan**	**35.90**	**62**	*e*P	**P**	**20 20 27.6**	**-1.9**
	comp=Z,12nm,0.3s,mb5.3						
JSC	**Jenkinsville**	**35.94**	**26**	*e*P	**P**	**20 20 30.0**	**+0.2**
NEN	**Nelson**	**36.34**	**338**	*e*P	**P**	**20 20 33.4**	**+0.2**
SNCC	**San Nicolas Is**	**36.34**	**330**	*e*P	**P**	**20 20 34.0**	**+0.7**
	comp=Z,20nm,0.6s,mb5.2						
CBKS	**Cedar Bluff**	**36.41**	**359**	*e*P	**P**	**20 20 34.3**	**+0.4**
CBKS				pmax	pmax		
	comp=Z,54nm,1.2s,mb5.3						
CBKS	**Cedar Bluff**	**36.41**	**359**	*e*P	**P**	**20 20 34.3**	**+0.5**
	comp=Z,54nm,1.2s,mb5.3						
MTP	**Monte Pirata**	**36.41**	**62**	*e*P	**P**	**20 20 33.5**	**-0.4**
MWC	**Mount Wilson**	**36.44**	**333**	*e*P	**P**	**20 20 34.8**	**+0.7**
PV01	**Paradox Valley**	**36.78**	**347**	*e*P	**P**	**20 20 37.8**	**+0.7**
TZTN	**Tazewell**	**37.01**	**21**	*e*P	**P**	**20 20 40.5**	**+1.4**
SAML	**Samuel**	**37.42**	**108**	*e*P	**P**	**20 20 40.6**	**-1.9**
	comp=Z,45nm,1.4s,mb5.1						
SMCO	**Snowmass**	**37.47**	**350**	*e*P	**P**	**20 20 43.3**	**+0.4**
	comp=Z,29nm,1.2s,mb5.0						
ISCO	**Idaho Springs**	**37.86**	**352**	*e*P	**P**	**20 20 46.4**	**+0.2**
ISCO				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.7						
ISCO	**Idaho Springs**	**37.86**	**352**	*e*P	**P**	**20 20 46.4**	**+0.2**
	comp=Z,18nm,1.1s,mb4.7						
DAC	**Darwin (Calif)**	**37.97**	**335**	*e*P	**P**	**20 20 48.1**	**+1.0**
DAC				pmax	pmax		
	comp=Z,21nm,1.1s,mb4.8						
DAC	**Darwin (Calif)**	**37.97**	**335**	*e*P	**P**	**20 20 48.1**	**+1.0**
	comp=Z,21nm,1.1s,mb4.8						
TPNV	**Topopah Spring**	**38.01**	**337**	*e*P	**P**	**20 20 48.3**	**+0.8**
TPNV				pmax	pmax		
	comp=Z,104nm,1.0s,mb5.5						
TPNV	**Topopah Spring**	**38.01**	**337

comp=Z,8.7nm,0.8s,mb4.8
CPUP Villa Florida 49.28 128 P **P** **20 22 18.9 +0.7**
comp=Z,5.7nm,0.8s,mb4.7,baz=284,slow=7.9,SNR=12
CPUP LR LR 20 41 45.2
comp=Z,2µm,20.0s,MS5.0,baz=293,slow=34
CPUP Villa Florida 49.28 128 *e*P **P** **20 22 18.5 +0.3**
CPUP pmax pmax
comp=Z,138nm,1.6s
CPUP Villa Florida 49.28 128 *e*P **P** **20 22 18.5 +0.4**
comp=Z,138nm,1.6s,mb5.7
PLCA Paso Flores 50.04 152 *e*P **P** **20 22 25.6 +1.6**
PLCA pmax pmax
comp=Z,36nm,1.4s
PLCA Paso Flores 50.04 152 *e*P **P** **20 22 25.6 +1.6**
comp=Z,36nm,1.4s,mb5.2
PNT Penticton 50.10 343 P **P** **20 22 23.7 -0.7**
EDM Edmonton 52.18 349 *e*P **P** **20 22 38.8 -1.2**
FFC Flin Flon 52.38 358 P **P** **20 22 40.5 -1.0**
FFC pmax pmax
comp=Z,17nm,1.4s,mb4.8
FFC Flin Flon 52.38 358 P **P** **20 22 40.5 -1.0**
comp=Z,17nm,1.4s,mb4.8
BDFB Brasilia 53.47 111 P **P** **20 22 49.6 0.0**
comp=Z,7.5nm,1.0s,mb4.6,baz=281,slow=9.4,SNR=7.9
BDFB LR LR 20 45 21.0
comp=Z,5µm,20.1s,MS5.6,baz=82,slow=36
PPT Papeete 53.55 246 *e*S **S** **20 30 22.3 -0.9**
comp=Z,1µm,26.8s
PPT *e*SS SS 20 33 58.4 -5.1
comp=Z,501nm,26.5s
PPT *e*LR LR 20 38 15.4
comp=Z,10µm,25.0s,baz=60
TBI Tubuai 55.26 240 *e*S **S** **20 30 46.3 0.0**
comp=Z,2µm,28.2s
TBI *e*SS SS 20 34 31.1 +0.6
comp=Z,372nm,28.5s
TBI *e*LR LR 20 39 04.2
comp=Z,5µm,27.5s,baz=69
FCC Fort Churchill 56.50 3 *e*P **P** **20 23 09.6 -1.9**
FCC pmax pmax
comp=Z,22nm,1.4s,mb5.0
FCC Fort Churchill 56.50 3 *e*P **P** **20 23 09.6 -1.9**
comp=Z,22nm,1.4s,mb5.0
SCHQ Schefferville 58.61 21 P **P** **20 23 24.6 -1.8**
comp=Z,6.0nm,0.9s,mb4.6,baz=218,slow=6.2,SNR=6.6
SCHQ LR LR 20 48 23.5
comp=Z,2µm,20.6s,MS5.2,baz=218,slow=36
SCHQ Schefferville 58.61 21 *e*P **P** **20 23 24.7 -1.7**
comp=Z,13nm,1.0s,mb4.9
DLBC Dease Lake 61.08 342 LR LR 20 49 48.3
comp=Z,4µm,21.2s,MS5.6,baz=145,slow=36
DLBC Dease Lake 61.08 342 *e*P **P** **20 23 42.9 -0.5**
YKA Yellowknife Ar 61.23 352 P **P** **20 23 42.3 -2.1**
comp=Z,6.5nm,1.1s,mb4.7,baz=158,slow=6.6,SNR=37
YKA LR LR 20 50 06.3
comp=Z,8µm,18.7s,MS5.9,baz=165,slow=36
YKA Yellowknife Ar 61.23 352 P **P** **20 23 42.3 -2.1**
YKA LR LR 20 50 06.3
YKW3 Yellowknife Ar 61.30 352 *e*P **P** **20 23 42.5 -2.3**
USHA Ushuaia 62.23 161 LR LR 20 45 16.9
comp=Z,5µm,19.5s,MS5.7,baz=296,slow=31
SKAG Skagway 63.60 340 *e*P **P** **20 23 59.8 -0.4**
comp=Z,14nm,0.9s,mb5.0
FRB Frobisher Bay 65.31 14 LR LR 20 53 22.8
comp=Z,1µm,19.4s,MS5.2,baz=202,slow=37
DAWY Dawson 68.31 342 *e*P **P** **20 24 29.1 -1.5**
INK Inuvik 69.99 347 LR LR 20 55 52.7
comp=Z,3µm,18.1s,MS5.6,baz=156,slow=36
INK Inuvik 69.99 347 *e*P **P** **20 24 39.6 -1.3**
INK pmax pmax
comp=Z,32nm,1.2s
INK Inuvik 69.99 347 *e*P **P** **20 24 39.6 -1.3**
comp=Z,32nm,1.2s,mb5.1
ILAR Eielson Array 71.19 340 P **P** **20 24 46.8 -1.5**
comp=Z,6.4nm,0.9s,mb4.5,baz=152,slow=4.6,SNR=40
ILAR LR LR 20 56 57.5
comp=Z,3µm,18.3s,MS5.6,baz=144,slow=37
RES Resolute Bay 72.41 1 *e*P **P** **20 24 53.6 -2.0**
RES pmax pmax
comp=Z,12nm,0.8s,mb4.9
RES Resolute Bay 72.41 1 *e*P **P** **20 24 53.6 -2.0**
comp=Z,12nm,0.8s,mb4.9
SVW2 Sparrevohn 72.45 335 *e*P **P** **20 24 54.4 -1.5**
TTA Tatalina 73.52 336 *e*P **P** **20 25 00.2 -2.0**
AFI Afiamalu 73.82 255 LR LR 20 51 21.1
comp=Z,3µm,18.1s,MS5.6,baz=86,slow=31
URZ Urewera 86.54 232 LR LR 20 59 50.4
comp=Z,749nm,18.4s,MS5.1,baz=286,slow=32
JMIC Jan Mayen 88.07 19 *e* 20 37 05.3
JMIC *e*SS SS 20 42 53.2 +1.3
JMIC AMS AMS 21 05 04.3
comp=Z,936nm,20.8s,MS5.2
BILL Bilibino 89.70 338‖ *e*P **P** **20 26 26.4 -1.2**
BILL *e* 20 29 53.9
BILL *e*S 20 37 13.7
BILL *e*PS PS 20 38 30.2 +4.7
BILL pmax pmax
comp=Z,14nm,1.5s,mb5.1
BILL MLR MLR
comp=Z,3µm,20.0s,MS5.7
RPZ Rata Peaks 91.47 226 LR LR 20 59 29.3
comp=Z,954nm,18.1s,MS5.3,baz=53,slow=30
KBS Kingsbay 91.78 10 *e*SS SS 20 43 46.2 +0.6
KBS AMS AMS 21 09 24.8
comp=Z,565nm,21.0s,MS5.0
VNA3 Neumayer Olymp 91.90 161 *e*P **P** **20 26 38.6 +0.8**
VNA3 *e* pP 20 26 39.8 -1.3
VNA3 *e* 20 26 50.6
VNA3 *e* 20 26 57.7
VNA3 Neumayer Olymp 91.90 161 *e*P **P** **20 26 38.6 +0.8**
VNA3 *e* pP 20 26 39.8 -1.3
VNA3 *e* 20 26 50.6
VNA3 *e* 20 26 57.7
VNA3 *e* 20 56 50.5
VNA3 *e* 20 56 52.6
VNA3 *e* 20 56 55.1
QSPA South Pole Qui 92.25 180 *e*P **P** **20 26 40.5 +1.1**
comp=Z,14nm,1.0s,mb5.3
VNA2 Neumayer--Watz 92.64 161 *e*P **P** **20 26 42.1 +0.9**
VNA2 *e* 20 26 42.8
VNA2 *e* pP 20 26 44.2 -0.4
VNA2 *e* 20 26 58.0
VNA2 Neumayer--Watz 92.64 161 *e*P **P** **20 26 42.1 +0.9**
VNA2 *e* 20 26 42.8
VNA2 *e* pP 20 26 44.2 -0.4
VNA2 *e* 20 26 58.0
VNA2 *e* 20 56 54.1
VNA2 *e* 20 56 56.0
VNA2 *e* 20 56 59.0
DBIC Dimbokro 93.89 83 LR LR 21 07 37.9
comp=Z,891nm,19.4s,MS5.2,baz=242,slow=35
SNAA Sanae 94.07 162 *e*P **P** **20 26 47.8 0.0**
SNAA *e* pP 20 26 52.2 +1.1
SNAA *e* 20 26 57.5
SNAA Sanae 94.07 162 *e*P **P** **20 26 47.8 0.0**
SNAA *e* pP 20 26 52.2 +1.1
VNDA Vanda 94.14 192 LR LR 20 59 53.5
comp=Z,1µm,20.5s,MS5.4,baz=102,slow=30
DZM Mont Dzumac 95.02 248 LR LR 21 03 50.7
comp=Z,725nm,18.4s,MS5.2,baz=47,slow=32
BER Bergen 95.14 29 AMS AMS 21 12 40.9
comp=Z,452nm,17.2s,MS5.0
BJO Bjornoya 95.15 14 AMS AMS 21 10 37.2
comp=Z,1µm,20.7s,MS5.4
TRO Tromso 97.34 18 *e*SS SS 20 45 01.4 -3.3
TRO AMS AMS 21 10 09.1
comp=Z,739nm,19.0s,MS5.2
KONO Kongsberg 97.40 29 *e*S 20 38 26.6
KONO *e*SS SS 20 45 07.1 +1.5
NOA NORSAR Array B 97.73 27 LR LR 21 09 18.5
comp=Z,248nm,20.3s,MS4.7,baz=275,slow=34
ARCES ARCESS Array B 99.38 17 LR LR 21 11 03.3
comp=Z,820nm,20.6s,MS5.2,baz=304,slow=35
TIXI Tiksi 100.10 346 *e*P Pdif 20 27 13.0 -2.1
TIXI pmax pmax
comp=Z,8.0nm,1.5s
TIXI MLR MLR
comp=Z,1µm,22.0s,MS5.3
CLL Collm 101.84 36 *e*SKSac SKSac 20 38 06.0 +3.6
CLL LmV 20 13 00.0
comp=Z,600nm,19.4s
CLL *e*SP SP 20 40 30.0 -6.8
CLL *e*SS SS 20 46 00.0 -7.7
NKC Novy Kostel 101.85 38 AMS AMS 21 16 20.0
comp=Z,800nm,19.7s

KHC Kasperske Hory 102.89 38 AMS AMS 21 07 20.0
comp=Z,700nm,19.8s
PRU Pruhonice 103.20 37 AMS AMS 21 08 00.0
comp=Z,600nm,19.5s
DPC Dobruska-Polom 104.14 37 AMS AMS 21 11 00.0
comp=Z,600nm,20.1s
OKC Ostrava-Krasne 105.43 37 AMS AMS 21 08 40.0
comp=Z,500nm,22.5s
MDJ Mudanjiang 116.39 323 PKP PKPdf 20 32 12.8 -0.3
MDJ PKS 20 35 48.7
MDJ SKS SKSdf 20 39 24.6 -0.7
MDJ SS SS 20 49 23.4 -0.2
MDJ PP PP
comp=Z,223nm,4.2s
MDJ LR LR
comp=N,182nm,28.7s,MS4.9
MDJ LR LR
comp=E,384nm,27.1s,MS4.9
MDJ LR LR
comp=Z,514nm,28.7s,MS5.0
CN2 Changchun 119.31 324 *e*PKP PKPdf 20 32 15.6 -3.1
SNY Shenyang 121.59 324 *e*PKP PKPdf 20 32 18.8 -4.3
SNY PP PP 20 33 55.6 +0.4
SNY PP PP
comp=Z,184nm,4.7s
SNY LR LR
comp=N,612nm,19.2s
SNY LR LR
comp=Z,783nm,16.1s,MS5.5
ZAL Zalesovo 123.93 357 PKP PKPdf 20 32 27.4 -0.2
comp=Z,0.8nm,0.6s,baz=244,slow=5.8,SNR=4.4
BRVK Borovoye 124.18 8 PKIKP PKPdf 20 32 26.5 -1.6
ZAK Zakamensk 124.20 343 *e*PKIKP PKPdf 20 32 37.7 +10
ZAK pmax pmax
comp=Z,5.0nm,1.6s
ZAK pmax pmax
comp=Z,8.0nm,2.0s
BVAR Borovoye Array 124.22 8 PKP PKPdf 20 32 27.5 -0.7
comp=Z,1.2nm,0.7s,baz=333,slow=1.7,SNR=9.1
ASAR Alice Springs 124.59 243 PKP PKPdf 20 32 28.8 -0.1
comp=Z,1.2nm,0.7s,baz=106,slow=1.9,SNR=18
WB2 Warramunga Arr 125.02 247 *e*P PKPdf 20 32 29.1 -0.6
WRA Warramunga Arr 125.03 247 PKP PKPdf 20 32 28.9 -0.8
comp=Z,1.7nm,0.7s,baz=95,slow=2.0,SNR=26
ULN Ulaanbaatar 125.14 339 *i* PKIKP PKPdf 20 32 28.3 -1.6
SONM Songino Array 125.41 339 PKP PKPdf 20 32 30.1 -0.4
comp=Z,0.6nm,0.8s,baz=288,slow=0.6,SNR=5.8
KURK Kurchatov 127.21 2 *i* PKIKP PKPdf 20 32 31.8 -2.1
KURK Kurchatov 127.21 2 *e*PKPdf PKPdf 20 32 36.1 +2.2
HHC Hu-ho-hao-te 128.84 330 *e*PKP PKPdf 20 32 38.1 +1.1
HHC PP PP 20 34 49.7 +6.1
HHC PKS 20 36 13.9
HHC SKS SKSdf 20 39 49.1 +0.4
HHC SKKS SKKSac 20 41 41.8 +0.7
HHC PP PP
comp=Z,200nm,5.9s
HHC LR LR
comp=N,250nm,19.4s,MS5.1
HHC LR LR
comp=E,259nm,19.0s,MS5.1
HHC LR LR
comp=Z,281nm,20.6s,MS4.9
SSE Sheshan 129.39 314 PKP PKPdf 20 32 40.6 +2.6
SSE PP PP 20 34 53.3 +6.1
SSE SS SS 20 52 11.5 +2.8
SSE PP PP
comp=Z,58nm,4.3s
SSE LR LR
comp=N,480nm,23.6s,MS5.1
SSE LR LR
comp=E,160nm,23.6s,MS5.1
SSE LR LR
comp=Z,308nm,20.1s,MS5.0
NJ2 Nanjing 130.48 317 *e*PKP PKPdf 20 32 42.0 +1.9
NJ2 PP PP 20 35 01.0 +6.7
NJ2 PKS 20 36 18.0
NJ2 PPP 20 37 48.0
NJ2 SKS SKSdf 20 39 50.0 -1.7
NJ2 PP PP
comp=Z,70nm,10.0s
NJ2 LR LR
comp=N,1µm,23.6s,MS5.6
NJ2 LR LR
comp=E,620nm,23.7s,MS5.6
NJ2 LR LR
comp=Z,180nm,21.0s,MS4.7
MKAR Makanchi Array 131.16 359 PKP PKPdf 20 32 41.4 -0.1
comp=Z,1.2nm,1.0s,baz=357,slow=2.4,SNR=6.2
MKAR PP PP 20 34 58.0 -0.7
comp=Z,1.5nm,0.9s,baz=25,slow=5.0,SNR=5.6
WMQ Urumqi 133.75 353‖ PKP PKPdf 20 32 45.7 -0.6
WMQ XPKP 20 32 54.3
WMQ PP PP 20 35 19.2 +3.9
WMQ PKS 20 36 20.5
WMQ SKS SKSdf 20 39 51.3 -6.3
WMQ SKKS SKKSac 20 42 06.2 -5.1
WMQ PP PP
comp=Z,46nm,6.4s
WMQ LR LR
comp=N,428nm,25.0s,MS5.2
WMQ LR LR
comp=E,385nm,21.6s,MS5.2
WMQ LR LR
comp=Z,707nm,22.8s,MS5.3
AAK Ala-Archa 134.96 7 *i* PKIKP PKPdf 20 32 48.9 +0.4
AAK MLR MLR
comp=Z,1µm,27.0s,MS5.5
GTA Gaotai 135.08 339 PKP PKPdf 20 32 52.0 +3.2
GTA PP PP 20 35 26.9 +3.1
GTA PKS 20 36 27.7
GTA SKS SKSdf 20 40 01.4 +1.5
GTA SKKS SKKSac 20 42 19.4 +0.1
GTA SS SS 20 53 16.5 -1.4
GTA PP PP
comp=Z,132nm,5.3s
GTA LR LR
comp=N,214nm,20.2s,MS5.1
GTA LR LR
comp=E,299nm,20.2s,MS5.1
GTA LR LR
comp=Z,548nm,20.5s,MS5.3
CD2 Chengdu 140.53 328 *e*PKP PKPdf 20 32 56.3 -2.5
GYA Guiyang 142.18 321 *e*PKP PKPdf 20 33 05.9 +4.1
GYA PP PP
comp=Z,110nm,7.8s
GYA LR LR
comp=N,120nm,20.8s,MS4.8
GYA LR LR
comp=E,160nm,21.0s,MS4.8
GYA LR LR
comp=Z,140nm,20.6s,MS4.7
KMI Kunming 145.57 324 PKP PKPdf 20 33 08.0 +0.3
SDNR Sundarnagar 146.24 6 *e*P PKPdf 20 33 13.8 +5.0
LSA Lhasa 146.78 344 PKP PKPdf 20 33 13.0 +3.2
LSA Lhasa 146.78 344 *e*PKPdf PKPdf 20 33 11.2 +1.5
GUN Gumba 149.66 351 *e*P PKPdf 20 33 19.5 +5.0
comp=Z,326nm,1.3s
GKN Gorkha 149.73 354 *e*P PKPdf 20 33 18.9 +4.3
comp=Z,69nm,1.3s
JIRN Jiri 149.85 351 *e*P PKPdf 20 33 19.5 +4.7
KKN Kakani 149.86 352 *e*P PKPdf 20 33 18.7 +3.9
comp=Z,126nm,1.3s
PKI Pulchoki 150.06 352 *e*P PKPdf 20 33 19.1 +4.0
comp=Z,32nm,0.9s
KOLN Koldanda 150.06 355 *e*P PKPdf 20 33 19.5 +4.4
comp=Z,87nm,1.4s
DMN Daman 150.06 353 *e*P PKPdf 20 33 19.3 +4.2
comp=Z,62nm,1.1s
SHL Shillong 150.41 340 *e*P PKPdf 20 33 23.5 +7.9

IDC ***01*** *20:19:25.7±1.2, 1059N×126.18E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/20, mbtmp3.8/8, Error ellipse: s-maj=117.4km s-min=16.3km az=72.0*
NEIC ***01*** *20:19:27.2±0.8, 1058N×126.15E, h10km, mb4.2/1, Error ellipse: s-maj=75.4km s-min=10.3km az=71.0*
ISCJB ***01*** *20:19:30.5±0.9, 1058N±004×12628E±006, h50km±8km, mb3.8/9, Error ellipse: s-maj=10.4km s-min=5.6km az=152.2*
MAN ***01*** *20:19:31.7, 1054N×126.10E, h16km, mb4.0, ML5.0, MS2.4*
ISC 01 20:19:31.6±0.9, 1059N±004×12630E±007, h42km±10km, n30, σ1§05/39, mb3.8/9, 2C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.13**	**225**	*e*P		**Pn**		**20 19 49.0**	**-2.0**
SCPH				*e*S		**Sn**		**20 20 02.0**	**-3.3**
BESP	**Borongan**	**1.31**	**320**	*e*P		**Pn**		**20 19 53.5**	**+0.2**
BESP				*e*S		**Sn**		**20 20 11.6**	**+2.0**
PLP	**Palo**	**1.41**	**294**	*e*P		**Pn**		**20 19 52.2**	**-2.6**
PLP				*i* S		**Sn**		**20 20 11.9**	**-0.2**
MSLP	**Maasin**	**1.49**	**252**	*e*P		**Pn**		**20 19 53.9**	**-1.9**
OCLP	**Ormoc**	**1.72**	**285**	*e*P		**Pn**		**20 19 59.2**	**+0.2**
BUTP	**Butuan**	**1.75**	**202**	*e*P		**Pn**		**20 19 59.4**	**0.0**
LLP	**Lapu-Lapu**	**2.31**	**263**‖	*e*P		**Pn**		**20 20 06.8**	**-0.3**
LLP				*e*S		**Sn**		**20 20 33.7**	**-0.5**
BIPH	**Bislig**	**2.40**	**178**↑	*i*P		**Pn**		**20 20 09.2**	**+0.9**
BIPH				*i* S		**Sn**		**20 20 35.1**	**-1.3**
TBP	**Tagbilaran**	**2.56**	**250**	*e*P		**Pn**		**20 20 41.6**	**+1.2**
TBP				*e*S		**Sn**		**20 20 41.6**	**+1.2**
CGP	**Cagayan de Oro**	**2.65**	**217**‖	*e*P		**Pn**		**20 20 11.8**	**0.0**
CGP				*e*S		**Sn**		**20 20 42.9**	**+0.3**
BUKP	**Musuan**	**2.96**	**204**	*e*P		**Pn**		**20 20 17.5**	**+1.5**
BUKP				*e*S		**Sn**		**20 20 56.1**	**+5.8**
DCPH	**Dipolog City**	**3.52**	**236**↑	*e*P		**Pn**		**20 20 23.1**	**-0.7**
DCPH				*e*S		**Sn**		**20 21 04.2**	**0.0**
RCP	**Roxas**	**3.62**	**286**‖	*e*P		**Pn**		**20 20 25.0**	**0.0**
GUIM	**Jordan**	**3.65**	**271**	*e*P		**Pn**		**20 20 25.1**	**-0.4**
PVCP	**Virac**	**3.65**	**325**	*e*P		**Pn**		**20 20 23.9**	**-1.6**
PAGZ	**Pagadian**	**3.96**	**227**	*e*P		**Pn**		**20 20 31.4**	**+1.6**
OTRP	**Odiongan**	**4.54**	**293**	*e*P		**Pn**		**20 20 39.1**	**+1.3**
IPIL	**Ipil**	**4.62**	**233**	*e*P		**Pn**		**20 20 40.9**	**+2.1**
CUYO	**Cuyo Island**	**5.19**	**273**	*e*P		**Pn**		**20 20 47.0**	**+0.3**
ENPP	**El Nido**	**6.78**	**276**	*e*P		**Pn**		**20 21 08.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**28.52**	**181**	P		**P**		**20 25 23.4**	**+0.4**
	0.8nm,0.4s,mb3.8,baz=122,slow=17,SNR=7.6								
WRA	**Warramunga Arr**	**31.36**	**165**	P		**P**		**20 25 48.3**	**+0.1**
	0.5nm,0.7s,mb3.4,baz=337,slow=9.2,SNR=5.3								
ASAR	**Alice Springs**	**34.85**	**168**	P		**P**		**20 26 18.9**	**+0.3**
	0.2nm,0.3s,mb3.5,baz=350,slow=7.1,SNR=9.9								
SONM	**Songino Array**	**40.73**	**339**	P		**P**		**20 27 09.3**	**+1.1**
	0.4nm,0.5s,mb3.3,baz=158,slow=9.0,SNR=7.2								
STKA	**Stephens Creek**	**44.70**	**161**	P		**P**		**20 27 41.0**	**+0.6**
	2.6nm,1.0s,mb4.0,baz=345,slow=12,SNR=3.5								
MKAR	**Makanchi Array**	**51.79**	**323**	P		**P**		**20 28 34.6**	**-0.5**
	1.0nm,0.6s,mb3.9,baz=123,slow=8.1,SNR=13								
KURK	**Kurchatov**	**55.82**	**325**	*e*P		**P**		**20 29 03.8**	**-0.7**
	1.7nm,0.7s,mb4.2								
ARCES	**ARCESS Array B**	**83.90**	**340**	P		**P**		**20 31 56.2**	**-0.7**
	1.3nm,0.9s,mb4.0,baz=64,slow=5.5,SNR=5.2								
ARCES	**ARCESS Array B**	**83.90**	**340**	P		**P**		**20 31 56.2**	**-0.7**
FINES	**FINESS Array B**	**85.62**	**332**	P		**P**		**20 32 04.9**	**-0.7**
	1.1nm,0.9s,mb4.1,baz=93,slow=8.2,SNR=5.2								

ISCJB ***01*** *20:21:50.5±1.0, 23N±0.1×990W±0.1, h10km, mb4.3/25, MS4.2/1, Error ellipse: s-maj=25.8km s-min=9.5km az=77.3*
IDC ***01*** *20:21:50.6±1.0, 235N×9899W, h0km, mb4.2/13, mb1 4.3/14, mb1mx4.2/23, mbtmp4.2/14, ML3.8/1, MS4.3/1, Ms1 4.3/1, ms1mx3.9/24, Error ellipse: s-maj=30.9km s-min=16.3km az=44.0*
NEIC ***01*** *20:21:52.0±0.5, 231N×9895W, h10km, mb4.4/14, Error ellipse: s-maj=14.7km s-min=7.1km az=222.0*
HRVD ***01*** *20:21:52.0±0.9, 241N×9878W, h20km±2km, MW5.1/47, Centroid moment Tensor Solution. LP body waves: s6,c6;Mantle waves: s47,c61; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 0.21±.35; Mθθ 3.48±.33; Mφφ -3.69±.34; Mrθ 3.80±.86; Mθφ 2.06±.23; Mφr -0.97±.53; Best double couple: M0 5.63700×10^16 NP1: φ26.00000°, δ48.00000°, λ175.00000°. NP2: φ 120.00000°, δ86.00000°, λ42.00000°. Principal axes: T 6.1330, Plg31.0000°, Azm352.0000°; N -0.9900, Plg48.0000°, Azm124.0000°; P -5.1400, Plg25.0000°, Azm245.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 01 20:21:52.6±1.0, 24N±01×990W±01, h10km, n47, σ0§82/34, mb4.3/25, MS4.2/1, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**15.99**	**60**	Pn		**Pn**		**20 25 37.7**	**+0.1**
	0.3nm,0.3s,baz=255,slow=5.9,SNR=4.5								
ROSC	**El Roal**	**24.70**	**84**	P		**P**		**20 27 14.5**	**+0.7**
	4.5nm,0.5s,mb4.2,baz=112,slow=22,SNR=5.6								
ROSC				LR		LR		20 34 16.6	
	comp=Z,737nm,19.4s,MS4.2,baz=197,slow=30								
LTX	**Lajitas**	**27.21**	**351**	*e*P		**P**		**20 27 36.2**	**-0.3**
	11nm,1.1s,mb4.3								
SDV	**Santo Domingo**	**28.91**	**76**	P		**P**		**20 27 51.0**	**-0.7**
	1.3nm,0.3s,mb4.2,baz=333,slow=9.0,SNR=2.8								
MNTX	**Cornudas Mount**	**29.81**	**349**	*e*P		**P**		**20 27 60.0**	**+0.2**
	8.0nm,1.2s,mb4.3								
CPRX	**Cap Rock**	**30.87**	**352**	*e*P		**P**		**20 28 10.8**	**+1.7**
BNM	**Barren Site**	**32.44**	**348**	*e*P		**P**		**20 28 22.7**	**-0.1**
ANMO	**Albuquerque**	**33.18**	**349**	P		**P**		**20 28 28.8**	**-0.5**
	1.1nm,0.2s,mb4.3,baz=36,slow=2.1,SNR=3.2								
LPAZ	**La Paz**	**35.64**	**122**	P		**P**		**20 28 52.2**	**+1.5**
	3.6nm,1.0s,mb4.3,baz=330,slow=9.9,SNR=7.7								
LPAZ	**La Paz**	**35.64**	**122**	*e*P		**P**		**20 28 51.8**	**+1.1**
	7.2nm,1.2s,mb4.5								
NEN	**Nelson**	**36.26**	**338**	*e*P		**P**		**20 28 57.0**	**+1.0**
SAML	**Samuel**	**37.38**	**108**	*e*P		**P**		**20 29 04.5**	**-0.9**
	8.0nm,1.2s,mb4.4								
HWUT	**Hardware Ranch**	**40.70**	**345**	*e*P		**P**		**20 29 33.7**	**+0.5**
	25nm,1.4s,mb4.7								
ELK	**Elko**	**40.96**	**341**	*e*P		**P**		**20 29 36.4**	**+1.0**
	5.0nm,1.3s,mb4.0								
PDAR	**Pinedale Array**	**41.34**	**348**	P		**P**		**20 29 39.3**	**+0.7**
	4.9nm,1.0s,mb4.1,baz=152,slow=6.7,SNR=24								
SIV	**San Ignacio**	**41.64**	**117**	P		**P**		**20 29 41.3**	**+0.3**
	1.1nm,0.8s,mb3.5,baz=284,slow=15,SNR=3.7								
RSSD	**Black Hills**	**41.84**	**355**	*e*P		**P**		**20 29 42.8**	**+0.1**
	7.3nm,1.0s,mb4.3								
LOHW	**Long Hollow**	**42.37**	**347**	*e*P		**P**		**20 29 47.3**	**+0.3**
	7.0nm,0.8s,mb4.3								
TAOE	**Nuku Hiva Isla**	**42.54**	**254**	*e*LR		LR		20 41 42.1	
	3µm,24.8s								
IMW	**Indian Meadow**	**42.72**	**347**	*e*P		**P**		**20 29 49.7**	**-0.1**
	7.9nm,0.8s,mb4.5								
RKT	**Rikitea**	**43.27**	**232**	*e*LR		LR		20 41 58.7	
	599nm,28.2s								
HLID	**Hailey**	**43.28**	**344**	*e*P		**P**		**20 29 53.7**	**-0.6**
	8.2nm,1.1s,mb4.4								
WVOR	**Wild Horse Val**	**43.62**	**339**	*e*P		**P**		**20 29 57.9**	**+0.7**
	9.7nm,1.1s,mb4.5								
MOD	**Modoc**	**43.80**	**337**	*e*P		**P**		**20 29 59.7**	**+1.2**
	20nm,1.3s,mb4.7								
YBH	**Yreka Blue Hor**	**44.64**	**335**	P		**P**		**20 30 04.5**	**-0.8**
	3.0nm,0.8s,mb4.2,baz=197,slow=9.9,SNR=2.9								
ULM	**Lac du Bonnet**	**47.80**	**3**	P		**P**		**20 30 29.7**	**-0.4**
	4.0nm,1.0s,mb4.4,baz=178,slow=11,SNR=3.0								
PPT	**Papeete**	**53.67**	**246**	*e*LR		LR		20 46 49.2	
	859nm,24.8s,baz=58								
TBI	**Tubuai**	**55.39**	**240**	*e*LR		LR		20 47 36.3	
	482nm,28.0s								
SCHQ	**Schefferville**	**58.48**	**21**	P		**P**		**20 31 48.9**	**+0.1**
	3.5nm,1.0s,mb4.3,baz=236,slow=12,SNR=2.7								
DLBC	**Dease Lake**	**61.00**	**342**	P		**P**		**20 32 06.3**	**+0.1**
	1.8nm,1.0s,mb4.2,baz=136,slow=14,SNR=2.6								
DLBC	**Dease Lake**	**61.00**	**342**	P		**P**		**20 32 06.3**	**+0.1**
YKA	**Yellowknife Ar**	**61.13**	**352**	P		**P**		**20 32 05.9**	**-1.2**
	0.9nm,0.9s,mb3.9,baz=158,slow=6.7,SNR=12								
YKA	**Yellowknife Ar**	**61.13**	**352**	P		**P**		**20 32 05.9**	**-1.2**
DAWY	**Dawson**	**68.22**	**342**	*e*P		**P**		**20 32 52.8**	**-0.6**
INK	**Inuvik**	**69.90**	**347**	P		**P**		**20 33 03.1**	**-0.7**
	5.6nm,1.1s,mb4.4,baz=143,slow=5.9,SNR=7.9								
INK	**Inuvik**	**69.90**	**347**	*e*P		**P**		**20 33 01.3**	**-2.4**
	13nm,1.1s,mb4.8								
ILAR	**Eielson Array**	**71.11**	**340**	P		**P**		**20 33 10.2**	**-1.0**
	1.9nm,1.0s,mb4.0,baz=154,slow=4.5,SNR=12								
RES	**Resolute Bay**	**72.29**	**1**	*e*P		**P**		**20 33 16.7**	**-1.6**
	3.3nm,0.9s,mb4.3								
ASAR	**Alice Springs**	**124.71**	**243**	PKP		PKPdf		20 40 53.1	+0.7
	0.5nm,0.7s,baz=106,slow=1.6,SNR=6.4								
WRA	**Warramunga Arr**	**125.15**	**247**	PKP		PKPdf		20 40 52.8	-0.6
	0.8nm,0.7s,baz=93,slow=1.7,SNR=7.2								
MKAR	**Makanchi Array**	**131.05**	**359**	PKP		PKPdf		20 41 06.0	+1.4
	0.9nm,0.8s,baz=324,slow=1.6,SNR=3.7								
GUN	**Gumba**	**149.56**	**352**	*e*P		PKPdf		20 41 43.0	+5.3
	38nm,0.8s								
JIRN	**Jiri**	**149.75**	**351**	*e*P		PKPdf		20 41 43.1	+5.1
KKN	**Kakani**	**149.76**	**353**	*e*P		PKPdf		20 41 43.5	+5.5
	9.0nm,0.9s								
KOLN	**Koldanda**	**149.95**	**355**	*e*P		PKPdf		20 41 44.3	+6.0
	14nm,1.2s								

PKI	**Pulchoki**	**149.96**	**352**	*e*P	PKPdf	20 41 43.5	+5.2
DMN	**Daman**	**149.96**	**353**	*e*P	PKPdf	20 41 42.9	+4.6

*NEIC **01** 20:25:02.4, 2729S×7130W, h22km, ML3.6(GUC), After GUC.*

GUC 01 20:25:02.4±0.8, 2729S×7130W, h22km±11km, ML3.6, 3C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.47**	**63**	⇓*i*P	Pb	20 25 11.2	-0.8
CDCH				AML	AML	20 25 21.5	
	comp=E,2μm,0.5s						
CPCH	**Copiapo**	**0.85**	**95**	⇓*i*P	Pb	20 25 18.1	-0.3
CPCH				*i* S	Sb	20 25 29.3	0.0
CPCH				AML	AML	20 25 31.0	
	comp=E,23μm,0.1s						
CPCH	**Copiapo**	**0.85**	**95**	⇓*i*P	Pb	20 25 18.1	-0.3
CPCH				*i* S	Sb	20 25 29.3	0.0
CRCH	**Chaqaral**	**1.12**	**33**	⇑*i*P	Pn	20 25 22.0	-0.7
CRCH				*i* S	Sb	20 25 36.8	-0.4
LCO	**Las Campanas**	**1.80**	**163**	⇑*i*P	Pn	20 25 33.4	+1.3
LCO				*i* S	Sn	20 25 55.2	+1.0
TLL	**Tololo Astrono**	**2.90**	**171**	*e*P	Pn	20 25 49.2	+1.9
TLL				*e*S	Sn	20 26 24.5	+3.0
TLL				AML	AML	20 26 39.4	
	comp=E,542nm,0.7s						
TLL	**Tololo Astrono**	**2.90**	**171**	*e*P	Pn	20 25 49.2	+1.9
TLL				*e*S	Sn	20 26 24.5	+3.0

IDC 01 20:30:37.8±3.7, 954S×11029E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/16, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=187.2km s-min=27.3km az=46.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**17.16**	**121**	Pn	Pn	20 34 39.9	+1.0
	0.1nm,0.3s,baz=312,slow=18,SNR=3.1						
WRA	**Warramunga Arr**	**25.42**	**117**	P	P	20 36 07.1	0.0
	0.2nm,0.6s,baz=287,slow=11,SNR=2.6						
ASAR	**Alice Springs**	**26.58**	**125**	P	P	20 36 18.2	+0.6
	0.6nm,0.8s,baz=299,slow=9.4,SNR=4.8						
MKAR	**Makanchi Array**	**61.39**	**338**	P	P	20 40 55.8	+0.1
	0.4nm,0.7s,baz=146,slow=7.3,SNR=4.4						

*SOF **01** 20:34:37.3, 41.14N×2176E, h10km, MD2.5*
*SKO **01** 20:34:39.9, 4108N×2188E, h19km, M2.5, ML2.3*
*THE **01** 20:34:41.0, 4105N×2188E, h10km, ML2.4*
*ISCJB **01** 20:34:40.2±0.3, 4110N±002×2189E±003, h8km, Error ellipse: s-maj=3.2km s-min=2.3km az=89.9*
*CSEM **01** 20:34:40.5±0.1, 41.14N×2185E, h8km, ML2.4, Error ellipse: s-maj=2.4km s-min=1.5km az=6.0*
*NEIC **01** 20:34:41.0, 4105N×2188E, h0km, MD2.5(SOF), ML2.7(THE), After THE.*
*ATH **01** 20:34:40.8, 4106N×2193E, h6km±3km, MD3.3/4*

ISC 01 20:34:40.6±0.4, 4109N±002×2189E±003, h1km±5km, n35, σ0 s79/51, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GRG	**Griva**	**0.41**	**108**	*e*Pg	**Pg**	**20 34 48.8**	**+0.4**
GRG				*e*Sg	**Sg**	**20 34 55.2**	**+1.5**
BIA	**Bitola**	**0.43**	**261**	*e*Pg	**Pg**	**20 34 48.7**	**-0.3**
BIA	**Bitola**	**0.43**	**261**	*e*Pg	**Pg**	**20 34 48.6**	**-0.4**
FNA	**Florina**	**0.49**	**232**	*e*Pg	**Pg**	**20 34 50.1**	**0.0**
FNA				*e*Sg	**Sg**	**20 34 56.6**	**+0.1**
VAY	**Valandovo**	**0.56**	**65**	*e*Pg	**Pg**	**20 34 51.0**	**-0.5**
VAY	**Valandovo**	**0.56**	**65**	*e*Pg	**Pg**	**20 34 50.9**	**-0.5**
STIP	**Stip**	**0.65**	**20**	*e*Pg	**Pg**	**20 34 53.6**	**+0.6**
STIP				*e*Sg	**Sg**	**20 35 03.7**	**+2.3**
STIP				*e*Lg		20 35 03.9	
	comp=E,38nm,0.5s						
STIP				*e*Lg		20 35 04.0	
	comp=N,49nm,0.3s						
STIP	**Stip**	**0.65**	**20**	*e*Pg	**Pg**	**20 34 53.6**	**+0.6**
STIP				*e*Sg	**Sg**	**20 35 03.7**	**+2.3**
BELI	**Belica**	**0.76**	**322**	*i* Pg	**Pg**	**20 34 54.7**	**-0.4**
BELI				*i*		20 35 04.0	
BELI				*i* Sg	**Sg**	**20 35 04.6**	**-0.3**
KZN	**Kozani**	**0.78**	**187**	*e*PB	**Pg**	**20 34 55.4**	**-0.3**
KZN				*e*SB	**Sg**	**20 35 05.9**	**+0.1**
OHR	**Ohrid**	**0.83**	**272**	*e*Pg	**Pg**	**20 34 55.5**	**-0.9**
SAMO	**Samokov**	**0.83**	**317**	*i* Pg	**Pg**	**20 34 56.0**	**-0.5**
SAMO				*i* Sg	**Sg**	**20 35 07.7**	**+0.4**
THE	**Thessaloniki**	**0.93**	**119**	*e*Pg	**Pg**	**20 34 58.8**	**+0.2**
THE				*e*Sg	**Sg**	**20 35 11.8**	**+1.2**
KOZJ	**Kozjak Brana**	**0.95**	**327**	*e*Pg	**Pg**	**20 34 58.6**	**-0.2**
KOZJ				*i* Sg	**Sg**	**20 35 10.8**	**-0.4**
SKO	**Skopje**	**0.95**	**339**	*e*Pg	**Pg**	**20 34 59.4**	**+0.6**
SKO	**Skopje**	**0.95**	**339**	*e*Pg	**Pg**	**20 34 58.9**	**+0.1**
SKO				*e*Lg		20 35 11.1	
	comp=E,140nm,0.2s						
SKO				*e*Sg	**Sg**	**20 35 11.3**	**+0.2**
SKO				*e*Lg		20 35 11.5	
SKO	**Skopje**	**0.95**	**339**	*e*Pg	**Pg**	**20 34 58.8**	**0.0**
SKO				*e*Sg	**Sg**	**20 35 11.2**	**+0.1**
LIT	**Litokhoron**	**1.08**	**155**	*e*Pg	**Pg**	**20 35 00.9**	**-0.5**
LIT				*e*Sg	**Sg**	**20 35 16.6**	**+1.1**
SOH	**Sokhos**	**1.14**	**103**	*e*Pg	**Pg**	**20 35 02.0**	**-0.5**
KKB	**Krupnik**	**1.19**	**49**	*i* Pg	**Pg**	**20 35 04.0**	**+0.6**
SRS	**Serrai**	**1.29**	**88**	*e*Pg	**Pg**	**20 35 04.9**	**-0.4**
PLG	**Polygyros**	**1.38**	**121**	*e*PG	**Pg**	**20 35 06.0**	**-1.1**
PLG				*e*SB	**Sb**	**20 35 23.9**	**-1.4**
MMB	**Musomiste**	**1.47**	**69**	*i* Pg	**Pg**	**20 35 07.7**	**-1.2**
NVR	**Nevrokopi**	**1.51**	**79**	*e*PG	**Pg**	**20 35 08.4**	**-1.2**
NVR				*e*SB	**Sb**	**20 35 28.9**	**-0.2**
TIR	**Tirane**	**1.55**	**280**	*e*Pg	**Pn**	**20 35 08.9**	**-0.5**
QSH	**Qafa e Shtames**	**1.56**	**287**	*i* Pn	**Pn**	**20 35 10.2**	**+0.7**
JAN	**Janina**	**1.63**	**209**	*e*PB	**Pb**	**20 35 11.9**	**+0.3**
PAIG	**Paliouri**	**1.79**	**130**	*e*Pb	**Pn**	**20 35 12.2**	**-0.5**
PAIG				*e*Sb	**Sb**	**20 35 36.8**	**-0.3**
PAIG	**Paliouri**	**1.79**	**130**	*e*Pb	**Pn**	**20 35 12.1**	**-0.5**
PAIG				*e*Sb	**Sb**	**20 35 36.8**	**-0.3**
VTS	**Vitosha**	**1.80**	**33**	*i* Pg	**Pn**	**20 35 13.0**	**+0.2**
SRN	**Sarande**	**1.88**	**231**	*i* Pn	**Pn**	**20 35 13.9**	**0.0**
XOR	**Xorichti**	**1.99**	**149**	*e*Pb	**Pn**	**20 35 14.6**	**-0.7**
AGG	**Agios Georgios**	**2.09**	**171**	*e*Pn	**Pn**	**20 35 16.3**	**-0.5**
KEK	**Kerkira**	**2.11**	**230**	*e*PN	**Pn**	**20 35 19.0**	**+2.0**
EVR	**Evrytania**	**2.17**	**182**	*e*PN	**Pn**	**20 35 19.3**	**+1.5**

*NEIC **01** 20:46:25.6±1.8, 2381S×17988W, h549km±17km, mb4.8/5, Error ellipse: s-maj=21.6km s-min=15.1km az=222.0*
*ISCJB **01** 20:46:27.2±1.9, 237S±01×1800E±02, h579km±23km, mb4.6/11, Error ellipse: s-maj=32.7km s-min=15.8km az=149.3*
*IDC **01** 20:46:27.9±1.9, 2387S×17988E, h565km±18km, mb3.7/5, mb1 3.7/7, mb1mx3.4/14, mbtmp4.6/7, Error ellipse: s-maj=30.4km s-min=17.1km az=160.0*

ISC 01 20:46:27.1±1.8, 239S±01×1800W±02, h560km±20km, n30, σ0 s58/19, mb4.5/11, 1C-2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.63**	**276**	P	**P**	**20 49 12.0**	**0.0**
	0.2nm,0.3s,baz=100,slow=18,SNR=3.9						
URZ	**Urewera**	**14.53**	**189**	P	**P**	**20 49 30.9**	**-0.8**
	0.8nm,0.3s,baz=59,slow=21,SNR=4.6						
URZ				S	**S**	**20 52 03.5**	**0.0**
	0.8nm,0.3s,baz=78,slow=21,SNR=4.6						
CTAO	**Charters Tower**	**31.48**	**270**	*e*P	**P**	**20 52 04.2**	**+0.6**
	33nm,0.4s,mb5.2						
PMG	**Port Moresby**	**34.50**	**289**	P	**P**	**20 52 28.5**	**-0.6**
	20nm,0.9s,mb4.6,baz=139,slow=9.6,SNR=4.5						
STKA	**Stephens Creek**	**34.73**	**248**	⇓*i*P	**P**	**20 52 30.5**	**-0.5**
	2.5nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**34.73**	**248**	P	**P**	**20 52 30.5**	**-0.5**
	3.1nm,0.5s,mb4.1,baz=102,slow=11,SNR=19						
ASAR	**Alice Springs**	**42.04**	**261**	P	**P**	**20 53 30.9**	**+0.8**
	7.1nm,0.5s,mb4.4,baz=101,slow=7.1,SNR=86						
ASAR				ScP	ScP	20 58 15.2	+6.0
	1.7nm,0.7s,baz=110,slow=4.4,SNR=13						
ASAR				S	**S**	**20 59 08.9**	**-0.3**
	0.3nm,0.7s,baz=97,slow=15,SNR=3.9						

WB2	**Warramunga Arr**	**42.41**	**266**	⇓*i*P	**P**	**20 53 32.9**	**-0.1**
WRAB	**Tennant Creek**	**42.41**	**266**	*e*P	**P**	**20 53 32.8**	**-0.2**
	15nm,0.7s,mb4.6						
WRA	**Warramunga Arr**	**42.42**	**266**	P	**P**	**20 53 33.1**	**+0.1**
	7.4nm,0.3s,mb4.7,baz=90,slow=6.0,SNR=715						
WRA				S	**S**	**20 59 13.0**	**-1.6**
	0.6nm,0.8s,baz=96,slow=13,SNR=3.1						
KAKA	**Kakadu**	**46.32**	**275**	*e*P	**P**	**20 54 02.7**	**-0.4**
	8.3nm,0.4s,mb4.6						
FORT	**Forrest**	**46.32**	**250**	*e*P	**P**	**20 54 03.6**	**+0.5**
	18nm,0.5s,mb4.9						
FITZ	**Fitzroy Crossi**	**50.84**	**266**	⇑*i*P	**P**	**20 54 37.5**	**+0.9**
	9.8nm,0.6s,mb4.3						
KLBR	**Kellerberrin**	**55.00**	**247**	*e*P	**P**	**20 55 06.9**	**+0.8**
	96nm,2.0s,mb4.7						
MBWA	**Marble Bar**	**55.38**	**260**	*e*P	**P**	**20 55 09.2**	**+0.4**
MJAR	**Matsushiro Arr**	**71.90**	**326**	P	**P**	**20 56 53.4**	**-0.7**
	1.5nm,0.7s,mb3.5,baz=164,slow=6.2,SNR=5.1						
MKAR	**Makanchi Array**	**112.16**	**313**	PKiKP	PKiKP	21 03 58.4	-1.0
	0.2nm,0.5s,baz=134,slow=0.3,SNR=5.2						
BVAR	**Borovoye Array**	**120.44**	**319**	PKP	PKPdf	21 04 13.4	-1.9
	0.8nm,0.4s,baz=124,slow=2.0,SNR=7.1						
ARCES	**ARCESS Array B**	**131.88**	**348**	PKP	PKPdf	21 04 36.4	-0.7
	1.0nm,0.8s,baz=17,slow=1.3,SNR=7.7						
ARCES	**ARCESS Array B**	**131.88**	**348**	PKP	PKPdf	21 04 36.4	-0.7
FINES	**FINESS Array B**	**138.44**	**341**	PKhKP		21 04 42.8	
	1.0nm,0.9s,baz=48,slow=2.8,SNR=4.9						
FINES				PKP	PKPdf	21 04 49.8	+0.5
	0.4nm,0.3s,baz=111,slow=2.9,SNR=7.0						
FINES				SKPbc	SKPbc	21 07 30.3	-1.1
	0.9nm,0.8s,baz=315,slow=0.8,SNR=3.8						
FINES	**FINESS Array B**	**138.44**	**341**	PKP		21 04 42.8	
FINES				PKP	PKPdf	21 04 49.8	+0.5
FINES				SKPbc	SKPbc	21 07 30.3	-1.1
NOA	**NORSAR Array B**	**142.08**	**351**	PKhKP		21 04 51.1	
	0.9nm,0.6s,baz=18,slow=4.8,SNR=3.4						
AKASG	**Malin Array Be**	**144.97**	**327**	PKP	PKPdf	21 05 01.0	+0.1
	2.5nm,0.4s,baz=46,slow=4.3,SNR=20						
AKASG	**Malin Array Be**	**144.97**	**327**	PKP	PKPdf	21 05 01.0	+0.1
BR131	**Keskin Array S**	**147.58**	**307**	PKPbc	PKPbc	21 05 09.3	+0.5
BRTR	**Keskin Array B**	**147.58**	**307**	PKPbc	PKPbc	21 05 09.3	+0.5
	0.8nm,0.6s,baz=164,slow=4.9,SNR=5.2						
KWP	**Kalwaria**	**148.77**	**331**	*e*P	PKPbc	21 05 12.4	+0.6
CLL	**Collm**	**150.85**	**343**	*i* PKPbc	PKPbc	21 05 17.0	+0.3
	comp=Z,7.0nm,0.9s						
BRG	**Berggiesshubel**	**150.98**	**342**	*i* P	PKPbc	21 05 17.3	+0.3
	comp=Z,2.6nm,0.5s						

ECX 01 20:51:36.4±0.3, 3021N×11429W, h11km, MD3.6, ML3.8, 2C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPX	**San Pedro Mart**	**1.31**	**310**	*e*P	Pn	20 51 59.5	-1.1
SPX				*e*S	Sb	20 52 17.2	-0.7
RDX	**Rancho Dowling**	**2.23**	**321**	*e*P	Pn	20 52 13.1	-0.1
RDX				*e*S	Sn	20 52 42.4	+1.6
RDX				⇑*e*		20 53 04.0	
	comp=N,491nm,1.0s						
ECNX	**Esteban Cantu**	**2.45**	**307**	*e*P	Pn	20 52 16.4	+0.1
ECNX				*e*P		20 52 19.0	
ECNX				*e*S	Sn	20 52 47.2	+1.0
PBX	**Punta Banda**	**2.59**	**307**	*e*P	Pn	20 52 18.1	-0.2
PBX				*e*S	Sn	20 52 50.8	+1.1
ENX	**Ensenada**	**2.63**	**310**	*e*P	Pn	20 52 18.8	0.0
ENX				*e*S	Sn	20 52 51.7	+0.9
RMX	**La Rumorosa**	**2.83**	**328**	*e*P	Pn	20 52 21.9	+0.3
RMX				⇑*e*		20 53 17.1	
	comp=N,270nm,0.8s						
CBX	**Cerro Bola**	**2.92**	**316**	*e*P	Pn	20 52 23.1	+0.3

*BJI **01** 20:53:17.6, 3001N×11378W, h14km, mB5.6, mb4.8, Ms5.2, Msz4.8*
*ISCJB **01** 20:53:19.3±0.5, 2990N±004×11457W±004, h10km, mb4.5/20, MS4.6/6, Error ellipse: s-maj=7.7km s-min=3.7km az=77.3*
*ECX **01** 20:53:19.4±0.3, 3041N×11407W, h6km, MD4.6, ML4.6*
*NEIC **01** 20:53:21.0±0.9, 2981N×11459W, h10km, mb4.5/15, Error ellipse: s-maj=14.3km s-min=7.5km az=46.0*
*MOS **01** 20:53:20.2±1.4, 3003N×11446W, h13km, mb4.9/8, Error ellipse: s-maj=11.0km s-min=5.8km az=97.4*
*IDC **01** 20:53:20.0±1.1, 3000N×11429W, h0km, mb4.3/9, mb1 4.4/15, mb1mx4.2/24, mbtmp4.2/15, ML3.8/6, MS4.3/7, Ms1 4.3/7, ms1mx3.7/44, Error ellipse: s-maj=27.4km s-min=15.2km az=57.0*
*HRVD **01** 20:53:21.0±0.5, 3041N×11446W, h14km±1km, MW4.9/58, Centroid moment Tensor Solution. LP body waves: s12,c14;Mantle waves: s58,c81; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.15±.21; Mθθ 0.16±.13; Mϕϕ 1.95±.15; Mrθ 1.61±.47; Mrϕ 0.55±.08; Mθϕ -0.47±.29; Best double couple: M0 2.60200×10^16 NP1: ϕs 221.00000°, δ51.00000°, λ-52.00000°. NP2: ϕs 350.00000°, δ52.00000°, λ-127.00000°. Principal axes: T 2.1400, Plg0.0000°, Azm105.0000°; N 0.9220, Plg29.0000°, Azm15.0000°; P -3.0640, Plg61.0000°, Azm196.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 01 20:53:20.9±2.2, 2987N±005×11465W±005, h11km±13km, n104, σ1 s47/108, mb4.5/21, MS4.6/6, 4C-2D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPX	**San Pedro Mart**	**1.36**	**329**	⇓*e*P	**Pn**	**20 53 43.0**	**-2.9**
SPX				*e*S	**Sb**	**20 54 01.6**	**-2.3**
RDX	**Rancho Dowling**	**2.33**	**332**	⇑*e*P	**Pn**	**20 53 56.4**	**-2.9**
RDX				*e*S	**Sn**	**20 54 25.6**	**-2.4**
ECNX	**Esteban Cantu**	**2.44**	**317**	*e*P	**Pn**	**20 54 00.7**	**-0.1**
ECNX				⇑*e*P		20 54 02.7	
ECNX				*e*S	**Sn**	**20 54 32.5**	**+1.9**
PBX	**Punta Banda**	**2.58**	**317**	*e*P	**Pn**	**20 54 02.2**	**-0.4**
ENX	**Ensenada**	**2.65**	**320**	*e*P	**Pn**	**20 54 02.8**	**-0.8**
ENX				*e*S	**Sn**	**20 54 36.5**	**+0.8**
CBX	**Cerro Bola**	**2.98**	**325**	⇑*e*P	**Pn**	**20 54 06.3**	**-1.9**
RMX	**La Rumorosa**	**2.98**	**336**	*e*P	**Pn**	**20 54 04.8**	**-3.4**
RMX				⇓*e*		20 54 56.2	
	comp=N,2μm,0.6s						
PFO	**Pinyon Flat Ob**	**4.03**	**338**	*e*Pn	**Pn**	**20 54 21.5**	**-1.1**
PFO				*e*Sg	**Sb**	**20 55 20.9**	**+0.2**
PFO				*e*S	**Sg**	**20 55 24.3**	**-6.0**
MWC	**Mount Wilson**	**5.21**	**327**	*e*Pn	**Pn**	**20 54 39.3**	**+0.5**
MWC				*e*S	**Sb**	**20 55 52.5**	**-2.2**
DAC	**Darwin (Calif)**	**6.85**	**340**	*e*P	**Pn**	**20 55 00.0**	**-1.3**
DAC				pmax	pmax		
	comp=Z,74nm,1.0s						
DAC	**Darwin (Calif)**	**6.85**	**340**	*e*P	**Pn**	**20 54 60.0**	**-1.3**
	comp=Z,74nm,1.0s						
LPIG	**La Paz**	**6.93**	**145**	Pn	**Pn**	**20 55 02.2**	**-0.3**
	comp=Z,3.0nm,0.3s,baz=23,slow=8.8,SNR=3.5						
LPIG				Lg		20 57 07.3	
	comp=Z,7.2nm,0.3s,baz=156,slow=7.6,SNR=5.7						
LPIG				LR	LR	20 57 41.5	
	comp=Z,2μm,20.2s,baz=329,slow=38						
TPNV	**Topopah Spring**	**7.18**	**350**	*e*P	**Pn**	**20 55 06.7**	**+0.8**
TPNV				pmax	pmax		
	comp=Z,69nm,1.0s						
TPNV	**Topopah Spring**	**7.18**	**350**	*e*P	**Pn**	**20 55 06.7**	**+0.8**
	comp=Z,68nm,1.0s						
LAZ	**Ladron**	**7.81**	**53**	*e*P	**Pn**	**20 55 11.1**	**-3.4**
BNM	**Barren Site**	**8.04**	**56**	*e*P	**Pn**	**20 55 14.4**	**-3.2**
LPM	**Los Pinos Moun**	**8.12**	**55**	P	**Pn**	**20 55 20.1**	**+1.4**
MNTX	**Cornudas Mount**	**8.18**	**75**	*e*P	**Pn**	**20 55 17.4**	**-2.2**
	comp=Z,32nm,1.4s						
TPH	**Tonopah**	**8.45**	**346**	*e*P	**Pn**	**20 55 25.2**	**+1.8**
TPH				pmax	pmax		
	comp=Z,57nm,1.2s						
TPH	**Tonopah**	**8.45**	**346**	*e*P	**Pn**	**20 55 25.2**	**+1.8**
	comp=Z,57nm,1.2s						
ANMO	**Albuquerque**	**8.58**	**52**	Pn	**Pn**	**20 55 21.7**	**-3.3**
	comp=Z,0.4nm,0.3s,baz=240,slow=14,SNR=3.9						
ANMO				Lg		20 57 48.5	
	comp=Z,0.1nm,0.3s,baz=33,slow=22,SNR=3.3						
ANMO				LR	LR	20 58 47.5	
	comp=Z,2μm,18.2s,baz=207,slow=40						
MVCO	**Mesa Verde**	**8.94**	**33**	*e*P	**Pn**	**20 55 28.1**	**-1.9**
NVAR	**Mina Array Bea**	**9.05**	**341**	Pn	**Pn**	**20 55 34.2**	**+2.7**
	comp=Z,0.4nm,0.3s,baz=162,slow=11,SNR=10						
NVAR				Pg	Pn	20 56 02.1	+31
	comp=Z,0.2nm,0.3s,baz=175,slow=14,SNR=4.1						

LTX	**Lajitas**	**9.58**	**90**	P	**Pn**	**20 55 37.5**	**-1.3**
LTX				pmax	pmax		
	comp=Z,16nm,1.1s						
LTX	**Lajitas**	**9.58**	**90**	P	**Pn**	**20 55 37.5**	**-1.3**
	comp=Z,16nm,1.1s						
PV01	**Paradox Valley**	**9.66**	**30**	P	**Pn**	**20 55 42.2**	**+2.3**
CPRX	**Cap Rock**	**9.73**	**68**	*e*P	**Pn**	**20 55 42.2**	**+1.2**
DUG	**Dugway**	**10.41**	**8**	*e*P	**Pn**	**20 55 52.1**	**+2.0**
DUG				pmax	pmax		
	comp=Z,18nm,1.1s						
DUG	**Dugway**	**10.41**	**8**	*e*P	**Pn**	**20 55 52.1**	**+2.0**
	comp=Z,18nm,1.1s						
PAHR	**Pah Rah Range**	**10.55**	**340**	*e*P	**Pn**	**20 55 55.4**	**+3.3**
	comp=Z,50nm,1.4s						
BMN	**Battle Mountai**	**10.74**	**349**	*e*P	**Pn**	**20 55 56.9**	**+2.2**
BMN				pmax	pmax		
	comp=Z,16nm,1.1s						
BMN	**Battle Mountai**	**10.74**	**349**	*e*P	**Pn**	**20 55 56.9**	**+2.2**
	comp=Z,16nm,1.1s						
ELK	**Elko**	**10.86**	**358**	*e*P	**Pn**	**20 55 55.0**	**-1.3**
ELK				pmax	pmax		
	comp=Z,18nm,1.2s						
ELK	**Elko**	**10.86**	**358**	*e*P	**Pn**	**20 55 55.0**	**-1.3**
	comp=Z,18nm,1.2s						
SMCO	**Snowmass**	**11.23**	**32**	*e*P	**Pn**	**20 56 01.1**	**-0.3**
	comp=Z,7.8nm,1.0s						
HWUT	**Hardware Ranch**	**11.97**	**11**	*e*P	**Pn**	**20 56 13.1**	**+1.6**
	comp=Z,23nm,1.2s						
ZAIG	**Zacatecas**	**12.94**	**120**	*e*P	**Pn**	**20 56 31.8**	**+7.1**
WVOR	**Wild Horse Val**	**12.94**	**347**	*e*P	**Pn**	**20 56 23.6**	**-1.2**
WVOR				pmax	pmax		
	comp=Z,72nm,1.4s						
WVOR	**Wild Horse Val**	**12.94**	**347**	*e*P	**Pn**	**20 56 23.6**	**-1.2**
	comp=Z,72nm,1.4s						
PDAR	**Pinedale Array**	**13.50**	**16**	Pn	**Pn**	**20 56 33.3**	**+0.9**
	comp=Z,0.0nm,0.3s,baz=187,slow=10,SNR=10						
YBH	**Yreka Blue Hor**	**13.51**	**333**	Pn	**Pn**	**20 56 35.6**	**+3.0**
	comp=Z,0.2nm,0.3s,baz=197,slow=3.9,SNR=8.2						
YBH				LR	LR	21 01 42.4	
	comp=Z,703nm,18.4s,baz=154,slow=37						
YBH	**Yreka Blue Hor**	**13.51**	**333**	*e*P	**Pn**	**20 56 35.3**	**+2.7**
YBH				pmax	pmax		
	comp=Z,43nm,1.4s						
YBH	**Yreka Blue Hor**	**13.51**	**333**	*e*P	**Pn**	**20 56 35.3**	**+2.7**
	comp=Z,43nm,1.4s						
HLID	**Hailey**	**13.66**	**1**	*e*P	**Pn**	**20 56 36.8**	**+2.1**
	comp=Z,15nm,1.2s						
REDW	**Red Top Meadow**	**13.80**	**12**	*e*P	**Pn**	**20 56 39.4**	**+2.9**
	comp=Z,37nm,1.3s						
TPAW	**Teton Pass**	**13.91**	**11**	*e*P	**Pn**	**20 56 40.8**	**+2.8**
	comp=Z,33nm,1.3s						
LOHW	**Long Hollow**	**14.09**	**12**	*e*P	**Pn**	**20 56 40.9**	**+0.5**
	comp=Z,44nm,1.5s						
MOOW	**Moose Ponds**	**14.20**	**12**	*e*P	**Pn**	**20 56 42.6**	**+0.7**
	comp=Z,42nm,1.5s						
BMO	**Blue Mountains**	**15.10**	**353**	*e*P	**Pn**	**20 56 54.5**	**+0.3**
	comp=Z,15nm,1.0s						
KEBM	**Edson Butte**	**15.12**	**332**	*e*P	**Pn**	**20 57 01.9**	**+7.4**
DLMT	**Dillon**	**15.55**	**5**	*e*P	**Pn**	**20 57 02.0**	**+1.9**
	comp=Z,59nm,1.4s						
HKT	**Hockley**	**16.32**	**85**	*e*P	**Pn**	**20 57 08.7**	**-1.4**
HKT				pmax	pmax		
	comp=Z,60nm,1.8s						
HKT	**Hockley**	**16.32**	**85**	*e*P	**Pn**	**20 57 08.7**	**-1.4**
	comp=Z,60nm,1.8s						
RSSD	**Black Hills**	**16.54**	**28**	*e*P	**Pn**	**20 57 10.9**	**-1.9**
RSSD				pmax	pmax		
	comp=Z,17nm,1.1s						
RSSD	**Black Hills**	**16.54**	**28**	*e*P	**Pn**	**20 57 10.8**	**-2.0**
	comp=Z,17nm,1.1s						
HAWA	**Hanford**	**16.93**	**348**	*e*P	**Pn**	**20 57 19.4**	**+1.7**
	comp=Z,7.5nm,1.5s						
MSO	**Missoula**	**16.94**	**2**	*e*P	**Pn**	**20 57 18.4**	**+0.5**
	comp=Z,24nm,1.3s						
MIAR	**Mount Ida**	**18.43**	**70**	*e*P	**Pn**	**20 57 35.9**	**-0.5**
MIAR				pmax	pmax		
	comp=Z,37nm,1.5s						
MIAR	**Mount Ida**	**18.43**	**70**	*e*P	**Pn**	**20 57 35.9**	**-0.5**
	comp=Z,37nm,1.5s						
NEW	**Newport**	**18.46**	**355**	P	**Pn**	**20 57 36.6**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=208,slow=16,SNR=6.9						
NEW				LR	LR	21 05 26.5	
	comp=Z,544nm,18.1s,baz=317,slow=40						
NEW	**Newport**	**18.46**	**355**	P	**Pn**	**20 57 34.3**	**-2.5**
NEW				pmax	pmax		
	comp=Z,12nm,1.1s						
NEW	**Newport**	**18.46**	**355**	P	**Pn**	**20 57 34.3**	**-2.5**
	comp=Z,12nm,1.1s						
WALA	**Waterton Lakes**	**19.17**	**1**	*e*P	**Pn**	**20 57 46.3**	**+1.0**
	comp=Z,50nm,1.6s						
CCM	**Cathedral C

comp=E,500nm,19.0s,MS5.1
CN2 LR LR
comp=Z,800nm,16.0s,MS5.2
OBN Obninsk 91.82 16 P **P** **21 06 29.0 0.0**
ZAK Zakamensk 93.32 337 *e*P **P** **21 06 35.3 -0.6**
ZAK pmax pmax
comp=Z,10.0nm,1.9s,mb4.9
ULN Ulaanbaatar 94.03 333 *e*P **P** **21 06 39.1 -0.1**
NVS Novosibirsk 94.24 350 *e*P **P** **21 06 36.5 -3.7**
SONM Songino Array 94.31 334 P **P** **21 06 42.4 +1.9**
comp=Z,1.7nm,1.1s,mb4.4,baz=85,slow=3.1,SNR=11
ZAL Zalesovo 94.85 349 P **P** **21 06 42.7 -0.3**
comp=Z,0.5nm,0.7s,mb4.0,baz=170,slow=5.8,SNR=3.6
ZAL Zalesovo 94.85 349 *i* P **P** **21 06 45.4 +2.4**
ZAL pmax pmax
comp=Z,1.0nm,0.7s
HHC Hu-ho-hao-te 97.64 326 *e*P **P** **21 06 56.9 +1.2**
HHC AP pP 21 07 01.6 +2.4
HHC XP sP 21 07 04.1 +3.6
HHC PP PP 21 10 56.1 +2.8
HHC SKS 21 17 32.2
HHC S 21 18 20.2
HHC AMB AMB
comp=Z,10.0nm,1.0s,mb5.3
HHC AMB AMB
comp=Z,135nm,5.8s
HHC LR LR
comp=N,187nm,16.9s,MS4.8
HHC LR LR
comp=E,182nm,17.8s,MS4.8
HHC LR LR
comp=Z,264nm,17.2s,MS4.8
NJ2 Nanjing 100.19 316 *e*P Pdif 21 07 08.2 +1.2
NJ2 AP 21 07 12.2
NJ2 PP PP 21 11 17.2 +4.5
NJ2 PPP 21 13 25.6
NJ2 S Sdif 21 18 39.0 -3.4
NJ2 XS 21 18 50.0
NJ2 AMB AMB
comp=Z,10.0nm,0.8s
NJ2 AMB AMB
comp=Z,40nm,8.0s
NJ2 LR LR
comp=N,1μm,27.6s,MS5.3
NJ2 LR LR
comp=E,830nm,23.0s,MS5.3
NJ2 LR LR
comp=Z,370nm,20.7s,MS4.9

*ISCJB **01** 20:54:03.9±0.7, 44.58N±004×1002E±005, h17km±10km, Error ellipse: s-maj=6.2km s-min=6.0km az=45.8*
*ROM **01** 20:54:03.7±0.3, 44.58N×1004E, h10km, Md2.4/7, Ml1.6/5, Error ellipse: s-maj=8.3km s-min=2.7km az=31.0*
*LDG **01** 20:54:04.6±0.6, 44.58N×1017E, h10km, Ml2.2/5, Error ellipse: s-maj=13.5km s-min=8.5km az=59.0*

ISC 01 20:54:04.3±0.6, 4457N±004×1005E±005, h15km±6km, n24, σ0.84/33, 2C-2D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERBM	**Eremo**	**0.30**	**120**	Pg	**Pg**	**20 54 10.1**	**-0.4**
ERBM				Sg	**Sg**	**20 54 15.9**	**+1.1**
	127nm,0.8s						
GSCL	**Gusciola**	**0.44**	**119**	Pg	**Pg**	**20 54 12.8**	**-0.3**
GSCL				Sg	**Sg**	**20 54 19.8**	**+0.8**
	72nm,0.6s						
BOB	**Bobbio (Coli)**	**0.47**	**295**	Pg	**Pg**	**20 54 13.1**	**-0.6**
BDI	**Bagni Di Lucca**	**0.64**	**142**	Pg	**Pg**	**20 54 16.0**	**-0.8**
BDI				Sg	**Sg**	**20 54 25.5**	**+0.3**
	40nm,0.6s						
ZCCA	**Zocca**	**0.70**	**108**	Pg	**Pg**	**20 54 17.8**	**-0.1**
	4.0nm,0.5s						
PZZT	**Monte Pizzetto**	**0.73**	**127**	Pg	**Pg**	**20 54 17.6**	**-0.8**
PZZT				Sg	**Sg**	**20 54 29.0**	**+1.0**
	49nm,0.7s						
FNVD	**Fontana Vidola**	**0.87**	**117**	Pg	**Pg**	**20 54 20.2**	**-0.9**
	34nm,0.5s						
PII	**Pisa**	**0.91**	**158**	Pg	**Pg**	**20 54 22.0**	**+0.1**
TEOL	**Teolo**	**1.40**	**55**⇑	*i*Pg	**Pn**	**20 54 27.5**	**-1.7**
SFI	**Santa Sofia**	**1.45**	**117**	Pg	**Pg**	**20 54 31.5**	**-0.7**
	5.0nm,0.4s						
SBF	**Sospel**	**2.01**	**250**	*e*Pn	**Pn**	**20 54 38.2**	**+0.6**
SBF				*e*Sn	**Sn**	**20 55 03.9**	**+1.5**
	4.3nm,0.3s						
PGF	**Pioggiola**	**2.16**	**201**	*e*Pn	**Pn**	**20 54 39.4**	**-0.2**
PGF				*e*Sn	**Sn**	**20 55 06.2**	**+0.1**
	1.4nm,0.3s						
MBDF	**Montbardon**	**2.35**	**275**	*e*Pn	**Pn**	**20 54 43.3**	**+1.1**
MBDF				*e*Sn	**Sn**	**20 55 10.6**	**-0.2**
	4.3nm,0.6s						
LPG	**La Plagne**	**2.52**	**293**	*e*Pn	**Pn**	**20 54 44.0**	**-0.6**
FRF	**La Foret Royal**	**2.65**	**249**	*e*Pn	**Pn**	**20 54 46.7**	**+0.3**
FRF				*e*Sn	**Sn**	**20 55 17.9**	**-0.4**
	2.1nm,0.4s						
DAVA	**Damuels**	**2.72**	**358**⇓	*i*Pn	**Pn**	**20 54 48.5**	**+1.0**
DAVA	**Damuels**	**2.72**	**358**⇑	*i*	**Sn**	**20 55 20.1**	**0.0**
DAVA	**Damuels**	**2.72**	**358**		**Sn**	**20 55 20.1**	**0.0**
LMR	**La Mourre**	**2.84**	**246**	*e*Pn	**Pn**	**20 54 48.2**	**-0.8**
LMR				*e*Sn	**Sn**	**20 55 20.7**	**-2.2**
	2.9nm,0.3s						
MOTA	**Moosalm**	**2.87**	**14**⇓	*i*Pn	**Pn**	**20 54 49.9**	**+0.4**
MOTA	**Moosalm**	**2.87**	**14**	Pn	**Pn**	**20 54 49.9**	**+0.4**
MOTA						20 55 24.3	
ORIF	**Oris-en-Rattie**	**2.99**	**278**	*e*Pn	**Pn**	**20 54 52.9**	**+1.8**
SMRF	**Simiane la Rot**	**3.27**	**261**	*e*Pn	**Pn**	**20 54 55.4**	**+0.5**
VIVF	**Saint-Julien-l**	**3.84**	**276**	*e*Pn	**Pn**	**20 55 02.7**	**-0.1**

*ECX **01** 21:04:37.1±0.3, 3013N×11423W, h10km, MD4.7, ML4.8*
*IDC **01** 21:04:38.8±0.9, 2990N×114.13W, h0km, mb4.2/11, mb1 4.3/17, mb1mx4.2/26, mbtmp4.1/17, ML3.9/5, MS4.5/26, Ms1 4.5/26, ms1mx4.4/41, Error ellipse: s-maj=22.7km s-min=13.9km az=63.0*
*MOS **01** 21:04:41.8±1.5, 3036N×11438W, h10km, mb5.0/11, Error ellipse: s-maj=9.9km s-min=6.0km az=89.9*
*ISCJB **01** 21:04:41.4±0.5, 3028N±006×11435W±004, h10km, mb4.5/24, MS4.5/25, Error ellipse: s-maj=9.2km s-min=3.9km az=44.0*
*NEIC **01** 21:04:42.6±0.6, 3020N×11433W, h10km, mb4.8/13, Error ellipse: s-maj=9.9km s-min=6.7km az=208.0*
*HRVD **01** 21:04:42.6±0.2, 3013N×11449W, h12km, MW5.1/90, Centroid moment Tensor Solution. LP body waves: s37,c47;Mantle waves: s90,c156; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=5.67±.11; $M_{\theta\theta}$0.43±.11; $M_{\phi\phi}$5.24±.11; $M_{r\theta}$0.57±.51; $M_{\theta\phi}$0.96±.09; $M_{\phi r}$-2.15±.39; Best double couple: M≈5.97100×10^{16} NP1:ϕ_s199.00000°, δ36.00000°, λ-76.00000°. NP2: ϕ_s2.00000°, δ56.00000°, λ-100.00000°. Principal axes: T 5.7800, Plg10.0000°, Azm99.0000°; N 0.3850, Plg8.0000°, Azm8.0000°; P -6.1620, Plg77.0000°, Azm240.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 01 21:04:42.1±0.5, 3017N±005×11446W±004, h10km, n137, σ1.9/34/127, mb4.5/24, MS4.5/25, 1C-6D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPX	**San Pedro Mart**	**1.23**	**315**⇓	*e*P	**Pn**	**21 05 01.5**	**-3.8**
SPX				*e*S	**Sb**	**21 05 20.3**	**-1.0**
RDX	**Rancho Dowling**	**2.17**	**324**	*e*P	**Pn**	**21 05 15.1**	**-3.2**
RDX				*e*S	**Sn**	**21 05 45.7**	**+0.5**
ECNX	**Esteban Cantu**	**2.36**	**309**⇓	*e*P	**Pn**	**21 05 18.3**	**-2.6**
ECNX				*e*P		21 05 20.9	
ECNX				*e*S	**Sn**	**21 05 50.8**	**+0.9**
PBX	**Punta Banda**	**2.50**	**309**⇓	*e*P	**Pn**	**21 05 20.1**	**-2.8**
PBX				*e*S	**Sn**	**21 05 53.7**	**+0.4**
ENX	**Ensenada**	**2.55**	**312**⇓	*e*P	**Pn**	**21 05 20.9**	**-2.6**
RMX	**La Rumorosa**	**2.79**	**331**	*e*P	**Pn**	**21 05 23.8**	**-3.0**
RMX				⇑*e*		21 06 17.6	
	comp=N,3μm,0.5s						
CBX	**Cerro Bola**	**2.85**	**319**⇓	*e*P	**Pn**	**21 05 25.2**	**-2.4**
TUC	**Tucson**	**3.80**	**55**	*e*P	**Pn**	**21 05 37.3**	**-3.4**
PFO	**Pinyon Flat Ob**	**3.82**	**334**	*e*Pn	**Pn**	**21 05 37.8**	**-3.2**
PFO				Sn	**Sn**	**21 06 32.6**	**+6.5**
MWC	**Mount Wilson**	**5.06**	**324**	Pn	**Pn**	**21 05 55.5**	**-2.6**
MWC				*e*Sg	**Sg**	**21 07 14.2**	**-10**
NEN	**Nelson**	**5.47**	**357**	*e*P	**Pn**	**21 06 02.4**	**-1.2**
DAC	**Darwin (Calif)**	**6.63**	**337**	*e*P	**Pn**	**21 06 19.7**	**+0.1**
DAC				pmax	pmax		
	comp=Z,92nm,1.1s						
DAC	**Darwin (Calif)**	**6.63**	**337**	*e*P	**Pn**	**21 06 19.7**	**+0.1**
	comp=Z,92nm,1.1s						
DAC				*e*Pg	**Pg**	**21 06 43.4**	**-5.7**
DAC				*e*Sg	**Sg**	**21 08 14.3**	**-0.6**
TPNV	**Topopah Spring**	**6.92**	**348**	*e*P	**Pn**	**21 06 24.4**	**+0.8**
TPNV				pmax	pmax		
	comp=E,85nm,1.0s						
TPNV	**Topopah Spring**	**6.92**	**348**	*e*Pn	**Pn**	**21 06 24.4**	**+0.8**
	comp=Z,85nm,1.0s						
LPIG	**La Paz**	**7.09**	**148**	Pn	**Pn**	**21 06 17.8**	**-8.0**
	comp=Z,4.9nm,0.3s,baz=82,slow=3.7,SNR=1.9						
LPIG				Lg		21 08 15.6	
	comp=Z,4.8nm,0.3s,baz=136,slow=12,SNR=1.9						
LPIG				LR	LR	21 09 11.1	
	comp=Z,7μm,18.3s,baz=335,slow=41						
LENM	**Lemitar**	**7.49**	**56**	*e*Pn	**Pn**	**21 06 29.7**	**-1.7**
LAZ	**Ladron**	**7.49**	**54**	*e*Pn	**Pn**	**21 06 30.4**	**-1.0**
BNM	**Barren Site**	**7.73**	**57**	*e*Pn	**Pn**	**21 06 33.1**	**-1.6**
LPM	**Los Pinos Moun**	**7.80**	**56**	Pn	**Pn**	**21 06 34.1**	**-1.6**
MNTX	**Cornudas Mount**	**7.94**	**77**	*e*P	**Pn**	**21 06 36.7**	**-0.9**
	comp=Z,11nm,0.9s						
TPH	**Tonopah**	**8.21**	**345**	P	**Pn**	**21 06 42.9**	**+1.7**
TPH				pmax	pmax		
	comp=Z,39nm,1.0s						
TPH	**Tonopah**	**8.21**	**345**	Pn	**Pn**	**21 06 42.9**	**+1.6**
	comp=Z,39nm,1.0s						
ANMO	**Albuquerque**	**8.26**	**53**	Pn	**Pn**	**21 06 40.6**	**-1.4**
	comp=Z,0.8nm,0.3s,baz=231,slow=17,SNR=8.2						
ANMO				Lg		21 08 58.8	
	baz=225,slow=12,SNR=3.7						
ANMO				LR	LR	21 09 58.2	
	comp=Z,5μm,18.3s,baz=204,slow=39						
ANMO	**Albuquerque**	**8.26**	**53**	*e*P	**Pn**	**21 06 41.4**	**-0.5**
ANMO				pmax	pmax		
	comp=Z,19nm,1.3s						
ANMO	**Albuquerque**	**8.26**	**53**	*e*Pn	**Pn**	**21 06 41.4**	**-0.5**
	comp=Z,19nm,1.3s						
MVCO	**Mesa Verde**	**8.59**	**34**	*e*Pn	**Pn**	**21 06 47.5**	**+0.9**
NVAR	**Mina Array Bea**	**8.83**	**340**	Pn	**Pn**	**21 06 55.3**	**+5.5**
	comp=Z,0.4nm,0.3s,baz=162,slow=12,SNR=10						
NVAR				Pg	Pn	21 07 27.8	+38
	comp=Z,0.7nm,0.3s,baz=161,slow=14,SNR=22						
NVAR				Lg		21 09 29.7	
	comp=Z,0.1nm,0.3s,baz=167,slow=28,SNR=3.5						
NVAR	**Mina Array Bea**	**8.83**	**340**	Pn	**Pn**	**21 06 55.3**	**+5.5**
NVAR				Pg	Pn	21 07 27.8	+38
NVAR				Lg		21 09 29.7	
PV01	**Paradox Valley**	**9.32**	**30**	*e*Pn	**Pn**	**21 07 00.4**	**+4.0**
PV10	**Paradox Valley**	**9.33**	**27**	*e*Pn	**Pn**	**21 06 56.1**	**-0.5**
LTX	**Lajitas**	**9.42**	**92**	*e*P	**Pn**	**21 06 57.3**	**-0.5**
LTX				pmax	pmax		
	comp=Z,14nm,0.9s						
LTX	**Lajitas**	**9.42**	**92**	*e*Pn	**Pn**	**21 06 57.3**	**-0.5**
	comp=Z,14nm,0.9s						
CPRX	**Cap Rock**	**9.47**	**70**	Pn	**Pn**	**21 06 57.7**	**-0.9**
DUG	**Dugway**	**10.09**	**7**	*e*P	**Pn**	**21 07 03.5**	**-3.5**
DUG				pmax	pmax		
	comp=Z,23nm,1.1s						
DUG	**Dugway**	**10.09**	**7**	*e*Pn	**Pn**	**21 07 03.5**	**-3.5**
	comp=Z,23nm,1.1s						
ELK	**Elko**	**10.57**	**357**	*e*P	**Pn**	**21 07 14.7**	**+1.1**
ELK				pmax	pmax		
	comp=Z,14nm,1.1s						
ELK	**Elko**	**10.57**	**357**	*e*Pn	**Pn**	**21 07 14.7**	**+1.1**
	comp=Z,14nm,1.1s						
SMCO	**Snowmass**	**10.89**	**32**	*e*Pn	**Pn**	**21 07 16.9**	**-1.0**
	comp=Z,13nm,1.1s						
HWUT	**Hardware Ranch**	**11.65**	**11**	*e*Pn	**Pn**	**21 07 30.1**	**+1.7**
	comp=Z,22nm,1.1s						
WVOR	**Wild Horse Val**	**12.69**	**346**	*e*P	**Pn**	**21 07 42.7**	**+0.1**
WVOR				pmax	pmax		
	comp=Z,59nm,1.5s						
WVOR	**Wild Horse Val**	**12.69**	**346**	*e*Pn	**Pn**	**21 07 42.7**	**+0.1**
	comp=Z,60nm,1.5s						
PDAR	**Pinedale Array**	**13.17**	**16**	Pn	**Pn**	**21 07 52.9**	**+3.7**
	baz=181,slow=13,SNR=7.4						
PDAR				Lg		21 11 46.6	
	comp=Z,0.0nm,0.3s,baz=195,slow=11,SNR=2.4						
YBH	**Yreka Blue Hor**	**13.32**	**332**	Pn	**Pn**	**21 07 55.8**	**+4.6**
	comp=Z,0.1nm,0.3s,baz=165,slow=7.0,SNR=6.9						
YBH				LR	LR	21 13 02.2	
	comp=Z,2μm,18.1s,baz=153,slow=37						
YBH	**Yreka Blue Hor**	**13.32**	**332**	*e*P	**Pn**	**21 07 48.8**	**-2.5**
YBH				pmax	pmax		
	comp=Z,40nm,1.3s						
YBH	**Yreka Blue Hor**	**13.32**	**332**	*e*Pn	**Pn**	**21 07 48.8**	**-2.5**
	comp=Z,40nm,1.3s						
YBH				Pn	**Pn**	**21 07 55.8**	**+4.6**
YBH				LR	LR	21 13 02.2	
HLID	**Hailey**	**13.36**	**0**	*e*Pn	**Pn**	**21 07 55.8**	**+4.0**
	comp=Z,14nm,1.2s						
IMW	**Indian Meadow**	**13.98**	**11**	*e*Pn	**Pn**	**21 08 01.4**	**+1.1**
	comp=Z,22nm,1.1s						
WMOK	**Wichita Mounta**	**13.99**	**67**	P	**Pn**	**21 07 59.9**	**-0.5**
WMOK				pmax	pmax		
	comp=Z,19nm,1.4s						
WMOK	**Wichita Mounta**	**13.99**	**67**	Pn	**Pn**	**21 07 59.9**	**-0.6**
	comp=Z,19nm,1.4s						
BMO	**Blue Mountains**	**14.82**	**352**	*e*Pn	**Pn**	**21 08 12.7**	**+1.0**
	comp=Z,36nm,1.3s						
KEBM	**Edson Butte**	**14.94**	**331**	*e*Pn	**Pn**	**21 08 17.9**	**+4.5**
DLMT	**Dillon**	**15.23**	**5**	*e*P	**Pn**	**21 08 16.9**	**-0.4**
	comp=Z,61nm,1.4s						
HKT	**Hockley**	**16.13**	**86**	P	**Pn**	**21 08 26.5**	**-2.4**
HKT				pmax	pmax		
	comp=Z,54nm,1.9s						
HKT	**Hockley**	**16.13**	**86**	Pn	**Pn**	**21 08 26.5**	**-2.4**
	comp=Z,54nm,1.9s						
RSSD	**Black Hills**	**16.19**	**28**	*e*P	**Pn**	**21 08 30.1**	**+0.4**
MSO	**Missoula**	**16.64**	**1**	*e*Pn	**Pn**	**21 08 36.3**	**+1.0**
	comp=Z,23nm,1.2s						
HAWA	**Hanford**	**16.67**	**348**	*e*Pn	**Pn**	**21 08 37.3**	**+1.5**
	comp=Z,2.4nm,1.1s						
LAO	**LASA Array**	**17.69**	**19**	*e*Pn	**Pn**	**21 08 50.8**	**+2.3**
	comp=Z,70nm,1.3s						
NEW	**Newport**	**18.18**	**354**	P	**Pn**	**21 08 56.5**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=149,slow=13,SNR=6.7						
NEW				LR	LR	21 16 16.6	
	comp=Z,1μm,18.8s,baz=185,slow=38						
NEW	**Newport**	**18.18**	**354**	P	**Pn**	**21 08 56.5**	**+1.9**
NEW				LR	LR	21 16 16.6	
BBB	**Bella Bella**	**24.19**	**339**	LR	LR	21 18 59.8	
	comp=Z,2μm,21.5s,MS4.5,baz=168,slow=35						
ULM	**Lac du Bonnet**	**24.44**	**30**	P	**P**	**21 09 60.0**	**-1.0**
	comp=Z,30nm,1.2s,mb4.6,baz=223,slow=10,SNR=12						
ULM				LR	LR	21 19 24.6	
	comp=Z,449nm,18.6s,MS4.0,baz=30,slow=36						
FFC	**Flin Flon**	**26.12**	**17**	*e*P	**P**	**21 10 15.1**	**-1.2**
FFC				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.4						
FFC	**Flin Flon**	**26.12**	**17**	*e*Pn	**P**	**21 10 15.1**	**-1.2**
	comp=Z,13nm,1.0s,mb4.4						
DLBC	**Dease Lake**	**30.22**	**344**	P	**P**	**21 10 54.0**	**+1.2**
	comp=Z,2.9nm,0.7s,mb4.1,baz=162,slow=8.2,SNR=6.9						
DLBC				LR	LR	21 22 50.2	
	comp=Z,2μm,18.5s,MS4.7,baz=161,slow=36						
DLBC	**Dease Lake**	**30.22**	**344**	P	**P**	**21 10 54.0**	**+1.1**
DLBC				LR	LR	21 22 50.2	
SADO	**Sadowa**	**31.31**	**52**	LR	LR	21 24 34.6	
	comp=Z,978nm,20.2s,MS4.5,baz=266,slow=38						
YKA	**Yellowknife Ar**	**32.33**	**360**	P	**P**	**21 11 13.0**	**+1.6**
	comp=Z,0.2nm,0.6s,mb3.1,baz=179,slow=8.8,SNR=7.5						
YKA				PcP	PcP	21 13 58.0	-1.2
	comp=Z,0.6nm,0.8s,baz=171,slow=2.9,SNR=6.6						
YKA				LR	LR	21 25 00.8	
	comp=Z,1μm,18.4s,MS4.6,baz=200,slow=38						
YKA	**Yellowknife Ar**	**32.33**	**360**	P	**P**	**21 11 13.1**	**+1.7**
YKA						21 13 58.0	
YKA	**Yellowknife Ar**	**32.33**	**360**	P	**P**	**21 11 13.1**	**+1.6**
YKA				PcP	PcP	21 13 58.0	-1.2
YKA				LR	LR	21 25 00.8	
JTS	**JuntasAbangare**	**33.85**	**120**	LR	LR	21 25 58.8	
	comp=Z,520nm,20.2s,MS4.2,baz=325,slow=38						
INK	**Inuvik**	**39.78**	**349**	P	**P**	**21 12 15.2**	**+0.1**
	comp=Z,13nm,1.2s,mb4.5,baz=152,slow=9.5,SNR=6.6						
ILAR	**Eielson Array**	**40.08**	**339**	P	**P**	**21 12 18.2**	**+0.5**
	comp=Z,2.6nm,0.8s,mb4.0,baz=150,slow=7.1,SNR=11						
ILAR				LR	LR	21 28 32.2	
	comp=Z,640nm,18.0s,MS4.5,baz=154,slow=35						
SCHQ	**Schefferville**	**41.79**	**40**	LR	LR	21 29 35.0	
	comp=Z,477nm,19.1s,MS4.4,baz=84,slow=36						
ROSC	**El Rosal**	**45.42**	**116**	LR	LR	21 31 28.9	
	comp=Z,384nm,19.5s,MS4.3,baz=99,slow=36						
LPAZ	**La Paz**	**64.22**	**130**	LR	LR	21 42 02.2	
	comp=Z,312nm,20.3s,MS4.5,baz=324,slow=35						
BORG	**Borgarnes**	**64.44**	**28**	LR	LR	21 43 28.2	
	comp=Z,412nm,18.6s,MS4.7,baz=345,slow=36						
JMIC	**Jan Mayen**	**66.76**	**20**	LR	LR	21 47 22.9	
	comp=Z,321nm,18.5s,MS4.6,baz=269,slow=38						
CFAA	**Coronel Fontan**	**75.50**	**140**	LR	LR	21 42 27.7	
	comp=Z,22nm,21.8s,MS3.4,baz=344,slow=30						
ARCES	**ARCESS Array B**	**76.41**	**13**	P	**P**	**21 16 31.3**	**-0.5**
	comp=Z,3.5nm,1.0s,mb4.2,baz=335,slow=4.7,SNR=5.1						
ARCES				LR	LR	21 54 52.3	
	comp=Z,240nm,18.1s,MS4.5,baz=330,slow=39						
ASAJ	**Asahikawa**	**78.04**	**314**	LR	LR	21 48 48.9	
	comp=Z,328nm,18.6s,MS4.7,baz=69,slow=34						
CPUP	**Villa Florida**	**78.39**	**130**	LR	LR	21 51 19.8	
	comp=Z,180nm,20.6s,MS4.4,baz=300,slow=36						
BDFB	**Brasilia**	**78.50**	**116**	LR	LR	21 51 05.7	
	comp=Z,315nm,20.7s,MS4.6,baz=52,slow=36						
NOA	**NORSAR Array B**	**78.98**	**24**	LR	LR	21 52 39.1	
	comp=Z,105nm,18.6s,MS4.2,baz=170,slow=36						
FINES	**FINESS Array B**	**83.26**	**18**	P	**P**	**21 17 06.5**	**-2.4**
	comp=Z,1.5nm,0.9s,mb4.0,baz=276,slow=5.6,SNR=3.2						
BOD	**Bodaibo**	**83.39**	**336**	*e*P	**P**	**21 17 05.8**	**-3.8**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.4						
GIVF	**Givet**	**83.69**	**34**	*e*P	**P**	**21 17 12.8**	**+1.7**
TCF	**Toulx Ste Croi**	**84.79**	**38**	*e*P	**P**	**21 17 17.5**	**+0.8**
	comp=Z,39nm,1.6s,mb5.0						
TCF	**Toulx Ste Croi**	**84.79**	**38**	*e*P	**P**	**21 17 17.5**	**+0.8**
TCF				pmax	pmax		
	comp=Z,19nm,1.6s,mb5.0						
TCF	**Toulx Ste Croi**	**84.79**	**38**	*e*P	**P**	**21 17 17.5**	**+0.8**
	comp=Z,20nm,1.6s,mb5.0						
LFF	**La Frestale**	**84.82**	**40**	*e*P	**P**	**21 17 18.2**	**+1.3**
MEZF	**Maizieres J'vi**	**84.85**	**36**	*e*P	**P**	**21 17 18.2**	**+1.2**
MJAR	**Matsushiro Arr**	**84.91**	**309**	P	**P**	**21 17 16.0**	**-1.3**
	comp=Z,2.9nm,0.8s,mb4.5,baz=44,slow=4.4,SNR=5.0						
MJAR				LR	LR	21 47 40.2	
	comp=Z,404nm,21.0s,MS4.8,baz=80,slow=30						
BGF	**Bois d'Agland**	**84.96**	**38**	*e*P	**P**	**21 17 18.4**	**+0.8**
SSF	**Saint Saulge**	**84.99**	**37**	*e*P	**P**	**21 17 18.6**	**+0.9**
	comp=Z,19nm,1.3s,mb4.8						
SSF	**Saint Saulge**	**84.99**	**37**	*e*P	**P**	**21 17 18.6**	**+0.9**
SSF				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.8						
SSF	**Saint Saulge**	**84.99**	**37**	*e*P	**P**	**21 17 18.6**	**+0.9**
	comp=Z,9.6nm,1.3s,mb4.8						
RJF	**Les Rejaudoux**	**85.03**	**40**	*e*P	**P**	**21 17 19.0**	**+1.1**
RJF				*e*R		21 17 19.0	
	comp=Z,491nm,20.8s						
RJF	**Les Rejaudoux**	**85.03**	**40**	*e*P	**P**	**21 17 19.0**	**+1.1**
RJF				LR	LR		
	comp=Z,490nm,20.8s,MS4.9						
LOR	**Lormes**	**85.04**	**37**	*e*P	**P**	**21 17 19.0**	**+1.0**
LOR				*e*R			
	comp=Z,452nm,19.2s						
LOR	**Lormes**	**85.04**	**37**	*e*P	**P**	**21 17 19.0**	**+1.0**
LOR				LR	LR		
	comp=Z,450nm,19.3s,MS4.9						
AVF	**Avril sur Loir**	**85.08**	**38**	*e*P	**P**	**21 17 19.2**	**+1.0**
	comp=Z,33nm,1.5s,mb4.9						
AVF	**Avril sur Loir**	**85.08**	**38**	*e*P	**P**	**21 17 19.2**	**+1.0**
AVF				pmax	pmax		
	comp=Z,16nm,1.5s,mb4.9						
AVF	**Avril sur Loir**	**85.08**	**38**	*e*P	**P**	**21 17 19.2**	**+1.0**
	comp=Z,16nm,1.5s,mb4.9						
ESDC	**Sonseca Array**	**85.18**	**47**	P	**P**	**21 17 18.1**	**-0.5**
	comp=Z,0.9nm,0.7s,mb4.0,baz=310,slow=5.6,SNR=6.7						
ETSF	**Etsaut**	**85.33**	**42**	*e*P	**P**	**21 17 20.7**	**+1.3**
	comp=Z,22nm,1.4s,mb4.8						
ETSF	**Etsaut**	**85.33**	**42**	*e*P	**P**	**21 17 20.7**	**+1.3**
ETSF				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.8						
ETSF	**Etsaut**	**85.33**	**42**	*e*P	**P**	**21 17 20.7**	**+1.3**
	comp=Z,11nm,1.4s,mb4.8						
CAF	**Calviac**	**85.57**	**40**	*e*P	**P**	**21 17 21.3**	**+0.7**
	comp=Z,8.7nm,1.0s,mb4.6						
CAF	**Calviac**	**85.57**	**40**	*e*P	**P**	**21 17 21.3**	**+0.7**
CAF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.6						
CAF	**Calviac**	**85.57**	**40**	*e*P	**P**	**21 17 21.3**	**+0.7**
	comp=Z,4.3nm,1.0s,mb4.6						
EPF	**Esparros**	**85.77**	**42**	*e*P	**P**	**21 17 22.7**	**+1.1**
VIVF	**Saint-Julien-l**	**87.04**	**38**	*e*P	**P**	**21 17 28.3**	**+0.5**
LASF	**Ste Croix**	**87.10**	**39**	*e*P	**P**	**21 17 28.6**	**+0.5**
	comp=Z,24nm,1.4s,mb4.9						
ORIF	**Oris-en-Rattie**	**87.64**	**38**	*e*P	**P**	**21 17 31.3**	**+0.6**
ORIF				*e*R			
	comp=Z,501nm,22.0s						
LPL	**La Plagne**	**87.69**	**37**	*e*P	**P**	**21 17 32.3**	**+1.3**
LPG	**La Plagne**	**87.71**	**37**	*e*P	**P**	**21 17 32.3**	**+1.2**
	comp=Z,30nm,1.5s,mb5.0						
LPG	**La Plagne**	**87.71**	**37**	*e*P	**P**	**21 17 32.3**	**+1.2**
LPG				pmax	pmax		
	comp=Z,15nm,1.5s,mb5.0						
LPG	**La Plagne**	**87.71**	**37**	*e*P	**P**	**21 17 32.3**	**+1.2**
	comp=Z,15nm,1.5s,mb5.0						
SMRF	**Simiane la Rot**	**88.10**	**39**	*e*P	**P**	**21 17 33.6**	**+0.7**
	comp=Z,34nm,1.5s,mb5.1						
SMRF	**Simiane la

comp=Z,6.2nm,0.3s,baz=216,slow=8.1,SNR=22
SDV Santo Domingo 16.33 23 *e*P **Pn** **21 14 26.6 +2.0**
comp=Z,41nm,0.4s
JTS JuntasAbangare 18.14 335 P **P** **21 14 44.5 -0.5**
comp=Z,0.4nm,0.3s,baz=100,slow=4.0,SNR=7.5
JTS JuntasAbangare 18.14 335 *e*P **P** **21 14 45.1 +0.1**
JTS pmax pmax
comp=Z,8.0nm,0.8s
JTS JuntasAbangare 18.14 335 *e*P **P** **21 14 45.1 +0.2**
comp=Z,7.8nm,0.8s
SIV San Ignacio 18.51 123 P **P** **21 14 49.9 +0.9**
comp=Z,0.5nm,0.3s,baz=298,slow=11,SNR=20
SJG San Juan 26.48 24 P **P** **21 16 08.3 +0.4**
comp=Z,22nm,0.6s,mb4.9,baz=180,slow=4.9,SNR=7.1
CFAA Coronel Fontan 26.61 163 P **P** **21 16 09.8 +0.8**
comp=Z,0.4nm,0.7s,mb3.2,baz=342,slow=6.8,SNR=9.4
CPUP Villa Florida 27.53 139 P **P** **21 16 20.4 +3.1**
CPUP PcP PcP 21 19 31.9 -0.2
comp=Z,3.4nm,0.5s,mb4.3,baz=307,slow=9.1,SNR=16
CPUP Villa Florida 27.53 139 P **P** **21 16 20.4 +3.1**
CPUP *e*P 21 16 23.6
CPUP PcP PcP 21 19 31.9 -0.2
comp=Z,1.1nm,0.4s,baz=256,slow=1.6,SNR=4.0
BDFB Brasilia 30.06 111 P **P** **21 16 41.2 +1.5**
comp=Z,2.0nm,0.7s,mb4.0,baz=286,slow=10,SNR=4.1
WMOK Wichita Mounta 45.55 335 *e*P **P** **21 18 49.6 0.0**
WMOK *e* 21 20 26.4
WMOK pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
WMOK Wichita Mounta 45.55 335 *e*P **P** **21 18 49.5 -0.1**
comp=Z,6.2nm,0.6s,mb4.4
WMOK *e*PcP PcP 21 20 26.4 +0.3
GDL2 Guadalupe Moun 46.16 327 *e*P **P** **21 18 55.6 +1.2**
MNTX Cornudas Mount 46.33 326 *e*P **P** **21 18 55.9 +0.2**
comp=Z,12nm,1.2s,mb4.4
CPRX Cap Rock 46.55 329 *e*P **P** **21 18 58.7 +1.3**
AMTX Amarillo 46.96 332 *e*P **P** **21 19 01.1 +0.5**
comp=Z,16nm,0.8s,mb4.7
AMTX *e*PcP PcP 21 20 31.7 +0.7
USHA Ushuaia 48.99 173 P **P** **21 19 16.6 +0.4**
comp=Z,5.0nm,0.7s,mb4.3,baz=306,slow=8.8,SNR=4.1
ANMO Albuquerque 49.39 328 *e*P **P** **21 19 20.1 +0.8**
ANMO pmax pmax
comp=Z,16nm,0.9s
ANMO Albuquerque 49.39 328 *e*P **P** **21 19 20.1 +0.8**
comp=Z,16nm,0.9s,mb4.7
TUC Tucson 49.92 322 *e*P **P** **21 19 23.5 +0.2**
LONY Lake Ozonia 50.64 2 *e*P **P** **21 19 29.0 +0.3**
SADO Sadowa 50.77 358 P **P** **21 19 28.1 -1.6**
comp=Z,2.5nm,0.4s,mb4.2,baz=176,slow=7.9,SNR=4.1
PV01 Paradox Valley 52.91 329 *e*P **P** **21 19 46.0 +0.4**
TPNV Topopah Spring 56.37 323 *e*P **P** **21 20 11.9 +1.4**
TPNV pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
TPNV Topopah Spring 56.37 323 *e*P **P** **21 20 11.9 +1.4**
comp=Z,2.3nm,0.8s,mb4.1
DUG Dugway 56.65 328 *e*P **P** **21 20 13.2 +0.7**
DUG pmax pmax
comp=Z,13nm,1.1s,mb4.7
DUG Dugway 56.65 328 *e*P **P** **21 20 13.2 +0.7**
comp=Z,13nm,1.1s,mb4.7
PDAR Pinedale Array 56.94 332 P **P** **21 20 14.2 -0.4**
comp=Z,2.3nm,0.7s,mb4.1,baz=131,slow=8.7,SNR=17
PDAR PcP PcP 21 21 08.0 -0.4
comp=Z,3.3nm,0.6s,baz=129,slow=6.2,SNR=14
HWUT Hardware Ranch 57.04 330 *e*P **P** **21 20 15.1 -0.1**
comp=Z,13nm,0.6s,mb4.9
ELK Elko 58.35 327 *e*P **P** **21 20 24.6 +0.2**
ELK *e* 21 21 13.5
ULM Lac du Bonnet 58.52 346 P **P** **21 20 24.4 -1.1**
comp=Z,12nm,0.7s,mb4.8,baz=149,slow=7.0,SNR=18
NVAR Mina Arroyo Bea 58.57 323 P **P** **21 20 27.1 +1.1**
comp=Z,2.2nm,0.7s,mb4.1,baz=134,slow=7.4,SNR=13
NVAR pP pP 21 20 58.4 +1.9
comp=Z,0.7nm,0.7s,baz=133,slow=6.9,SNR=2.7
NVAR PcP PcP 21 21 14.9 0.0
comp=Z,2.6nm,0.9s,baz=130,slow=5.7,SNR=7.3
HLID Hailey 59.90 329 *e*P **P** **21 20 35.2 +0.1**
comp=Z,5.5nm,0.9s,mb4.4
SCHQ Schefferville 61.42 7 P **P** **21 20 44.2 -1.1**
comp=Z,4.7nm,0.5s,mb4.8,baz=206,slow=5.9,SNR=17
SCHQ Schefferville 61.42 7 *e*P **P** **21 20 44.3 -1.1**
comp=Z,27nm,1.5s,mb4.9
NEW Newport 64.58 332 P **P** **21 21 06.1 -0.1**
comp=Z,5.7nm,0.7s,mb4.5,baz=166,slow=5.2,SNR=4.9
LIC Lamto 73.02 82 *e*P **P** **21 21 58.9 +0.4**
comp=Z,17nm,1.1s,mb4.4
LIC Lamto 73.02 82 *e*P **P** **21 21 58.9 +0.4**
comp=Z,8.4nm,1.1s,mb4.4
DBIC Dimbokro 73.25 81 P **P** **21 22 01.2 +1.4**
comp=Z,5.6nm,0.6s,mb4.5,baz=236,slow=5.9,SNR=15
YKA Yellowknife Ar 74.25 343 P **P** **21 22 04.7 -1.0**
comp=Z,3.8nm,0.6s,mb4.3,baz=139,slow=5.8,SNR=87
YKA pP pP 21 22 37.8 +0.2
comp=Z,0.9nm,0.7s,baz=141,slow=6.2,SNR=2.6
YKA Yellowknife Ar 74.25 343 P **P** **21 22 04.7 -1.0**
YKA pP pP 21 22 37.8 +0.2
VNA3 Neumayer Olymp 77.01 162 *e*P **P** **21 22 21.4 0.0**
VNA3 *e* 21 22 32.4
VNA3 *e* 21 22 44.6
VNA3 *e* pP 21 22 52.7 -0.8
VNA3 *e* 21 28 02.2
DLBC Dease Lake 77.04 335 P **P** **21 22 22.1 +0.5**
comp=Z,2.7nm,0.3s,mb4.3,baz=0.5,slow=16,SNR=17
VNA2 Neumayer--Watz 77.61 162 *e*P **P** **21 22 23.6 -1.2**
baz=295,slow=5.4
VNA2 *e* 21 22 33.1
VNA2 *e* 21 22 45.2
VNA2 *e* pP 21 22 54.5 -2.4
VNA2 *e* 21 28 04.9
VNA2 *e* 21 28 27.3
SNAA Sanae 79.23 162 *e*P **P** **21 22 32.9 -0.7**
SNAA *e* 21 22 40.8
SNAA *e* 21 22 54.3
SNAA *e* pP 21 23 05.0 -0.9
SNAA *e* 21 28 06.3
SNAA Sanae 79.23 162 *e*P **P** **21 22 32.9 -0.7**
SNAA *e* 21 22 40.8
SNAA *e* pP 21 23 05.0 -0.9
TORD Torodi Ar. Bea 80.60 76 P **P** **21 22 41.8 +0.8**
comp=Z,2.8nm,0.6s,mb4.1,baz=287,slow=6.2,SNR=29
TORD pP pP 21 23 14.7 +1.3
comp=Z,2.2nm,0.8s,baz=291,slow=5.6,SNR=3.3
ESDC Sonseca Array 81.15 48 P **P** **21 22 45.0 +1.0**
comp=Z,1.5nm,0.8s,mb3.7,baz=260,slow=5.7,SNR=11
INK Inuvik 83.97 342 P **P** **21 22 57.9 -0.7**
comp=Z,9.6nm,1.0s,mb4.5,baz=1,slow=4.3,SNR=31
ROSF Rostrenen 84.01 40 *e*P **P** **21 22 58.6 -0.1**
comp=Z,11nm,0.7s,mb4.4
ROSF Rostrenen 84.01 40 *e*P **P** **21 22 58.6 -0.1**
ROSF pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
ROSF Rostrenen 84.01 40 *e*P **P** **21 22 58.6 -0.1**
comp=Z,5.7nm,0.7s,mb4.4
SJPF Ste Jean 84.03 46 *e*P **P** **21 22 59.5 +0.7**
comp=Z,41nm,1.1s,mb4.8
SJPF Ste Jean 84.03 46 *e*P **P** **21 22 59.5 +0.7**
SJPF pmax pmax
comp=Z,21nm,1.1s,mb4.8
SJPF Ste Jean 84.03 46 *e*P **P** **21 22 59.5 +0.7**
comp=Z,20nm,1.1s,mb4.8
SGMF Saint Gilles 84.44 40 *e*P **P** **21 23 00.8 -0.2**
ETSF Etsaut 84.45 46 *e*P **P** **21 23 01.6 +0.6**
comp=Z,17nm,1.0s,mb4.4
ETSF Etsaut 84.45 46 *e*P **P** **21 23 01.6 +0.6**
ETSF pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
ETSF Etsaut 84.45 46 *e*P **P** **21 23 01.6 +0.6**
comp=Z,8.6nm,1.0s,mb4.4
EPF Esparros 85.12 46 *e*P **P** **21 23 04.9 +0.6**
comp=Z,32nm,1.3s,mb4.6
EPF Esparros 85.12 46 *e*P **P** **21 23 04.9 +0.6**
EPF pmax pmax
comp=Z,16nm,1.3s,mb4.6
EPF Esparros 85.12 46 *e*P **P** **21 23 04.9 +0.6**
comp=Z,16nm,1.3s,mb4.6
GRR Gorron 85.58 41 *e*P **P** **21 23 06.4 -0.2**
comp=Z,5.3nm,0.6s,mb4.2
GRR Gorron 85.58 41 *e*P **P** **21 23 06.4 -0.2**
GRR pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
GRR Gorron 85.58 41 *e*P **P** **21 23 06.4 -0.2**
comp=Z,2.7nm,0.6s,mb4.2
MFF Saint Martin d 85.61 42 *e*P **P** **21 23 06.2 -0.6**
comp=Z,5.3nm,0.7s,mb4.1
MFF Saint Martin d 85.61 42 *e*P **P** **21 23 06.2 -0.6**
MFF pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
MFF Saint Martin d 85.61 42 *e*P **P** **21 23 06.2 -0.6**
comp=Z,2.7nm,0.6s,mb4.2
LFF La Frestale 85.83 44 *e*P **P** **21 23 07.9 0.0**
comp=Z,5.9nm,0.5s,mb4.2
LFF La Frestale 85.83 44 *e*P **P** **21 23 07.9 0.0**
LFF pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
LFF La Frestale 85.83 44 *e*P **P** **21 23 07.9 0.0**
comp=Z,3.0nm,0.5s,mb4.3
FLN La Foliniere 85.91 40 *e*P **P** **21 23 08.2 0.0**
comp=Z,36nm,1.1s,mb4.7
FLN La Foliniere 85.91 40 *e*P **P** **21 23 08.2 0.0**
FLN pmax pmax
comp=Z,18nm,1.1s,mb4.7
FLN La Foliniere 85.91 40 *e*P **P** **21 23 08.2 0.0**
comp=Z,18nm,1.1s,mb4.7
LDF La Druitiere 86.10 40 *e*P **P** **21 23 09.2 0.0**
comp=Z,29nm,1.2s,mb4.6
LDF La Druitiere 86.10 40 *e*P **P** **21 23 09.2 0.0**
LDF pmax pmax
comp=Z,15nm,1.2s,mb4.6
LDF La Druitiere 86.10 40 *e*P **P** **21 23 09.2 0.0**
comp=Z,15nm,1.2s,mb4.6
RJF Les Rejaudoux 86.45 44 *e*P **P** **21 23 10.2 -0.7**
comp=Z,7.7nm,0.9s,mb4.1
RJF Les Rejaudoux 86.45 44 *e*P **P** **21 23 10.2 -0.7**
RJF pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
RJF Les Rejaudoux 86.45 44 *e*P **P** **21 23 10.2 -0.7**
comp=Z,3.8nm,0.9s,mb4.1
MTLF Montolieu 86.53 46 *e*P **P** **21 23 10.7 -0.6**
comp=Z,2.9nm,0.6s,mb4.0
MTLF Montolieu 86.53 46 *e*P **P** **21 23 10.7 -0.6**
MTLF pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
MTLF Montolieu 86.53 46 *e*P **P** **21 23 10.7 -0.6**
comp=Z,1.5nm,0.6s,mb4.0
CAF Calviac 86.75 44 *e*P **P** **21 23 11.8 -0.5**
comp=Z,2.6nm,0.7s,mb3.9
CAF Calviac 86.75 44 *e*P **P** **21 23 11.8 -0.5**
CAF pmax pmax
comp=Z,1.0nm,0.7s,mb3.8
CAF Calviac 86.75 44 *e*P **P** **21 23 11.8 -0.5**
comp=Z,1.3nm,0.7s,mb3.9
ILAR Eielson Array 87.10 336 P **P** **21 23 13.1 -1.0**
comp=Z,4.0nm,0.9s,mb4.3,baz=134,slow=3.3,SNR=31
ILAR PP PP 21 26 37.7 -1.5
comp=Z,0.7nm,0.7s,baz=105,slow=6.7,SNR=6.2
TCF Toulx Ste Croi 87.13 43 *e*P **P** **21 23 13.3 -0.9**
comp=Z,6.4nm,0.8s,mb4.2
TCF Toulx Ste Croi 87.13 43 *e*P **P** **21 23 13.3 -0.9**
TCF pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
TCF Toulx Ste Croi 87.13 43 *e*P **P** **21 23 13.3 -0.9**
comp=Z,3.2nm,0.8s,mb4.2
BGF Bois d'Agland 87.61 43 *e*P **P** **21 23 15.8 -0.7**
comp=Z,17nm,1.0s,mb4.6
BGF Bois d'Agland 87.61 43 *e*P **P** **21 23 15.8 -0.7**
BGF pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
BGF Bois d'Agland 87.61 43 *e*P **P** **21 23 15.8 -0.7**
comp=Z,8.7nm,1.0s,mb4.5
AVF Avril sur Loir 88.00 43 *e*P **P** **21 23 17.3 -1.0**
comp=Z,8.1nm,0.9s,mb4.2
AVF Avril sur Loir 88.00 43 *e*P **P** **21 23 17.3 -1.0**
AVF pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
AVF Avril sur Loir 88.00 43 *e*P **P** **21 23 17.3 -1.0**
comp=Z,4.1nm,0.9s,mb4.3
SSF Saint Saulge 88.16 42 *e*P **P** **21 23 17.9 -1.2**
SMF Signal de Mont 88.31 43 *e*P **P** **21 23 19.0 -0.8**
comp=Z,17nm,1.0s,mb4.5
SMF Signal de Mont 88.31 43 *e*P **P** **21 23 19.0 -0.8**
SMF pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
SMF Signal de Mont 88.31 43 *e*P **P** **21 23 19.0 -0.8**
comp=Z,8.6nm,1.0s,mb4.5
LOR Lormes 88.43 42 *e*P **P** **21 23 19.3 -1.1**
comp=Z,5.9nm,0.8s,mb4.1
LOR Lormes 88.43 42 *e*P **P** **21 23 19.3 -1.1**
LOR pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
LOR Lormes 88.43 42 *e*P **P** **21 23 19.3 -1.1**
comp=Z,3.0nm,0.8s,mb4.2
VIVF Saint-Julien-l 88.55 45 *e*P **P** **21 23 20.6 -0.3**
ORIF Oris-en-Rattie 89.41 45 *e*P **P** **21 23 25.3 +0.3**
comp=Z,14nm,1.1s,mb4.5
ORIF Oris-en-Rattie 89.41 45 *e*P **P** **21 23 25.3 +0.3**
ORIF pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
ORIF Oris-en-Rattie 89.41 45 *e*P **P** **21 23 25.3 +0.3**
comp=Z,6.8nm,1.1s,mb4.5
GIVF Givet 89.58 40 *e*P **P** **21 23 25.5 -0.2**
LMR La Mourre 89.61 46 *e*P **P** **21 23 25.4 -0.5**
comp=Z,18nm,1.1s,mb4.6
LMR La Mourre 89.61 46 *e*P **P** **21 23 25.4 -0.5**
LMR pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
LMR La Mourre 89.61 46 *e*P **P** **21 23 25.4 -0.5**
comp=Z,8.9nm,1.1s,mb4.6
FRF La Foret Royal 89.74 46 *e*P **P** **21 23 26.1 -0.4**
comp=Z,16nm,0.9s,mb4.6
FRF La Foret Royal 89.74 46 *e*P **P** **21 23 26.1 -0.4**
FRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
FRF La Foret Royal 89.74 46 *e*P **P** **21 23 26.1 -0.4**
comp=Z,8.1nm,0.9s,mb4.7
CABF La Chapelle 89.82 43 *e*P **P** **21 23 26.5 -0.4**
comp=Z,40nm,1.3s,mb4.9
CABF La Chapelle 89.82 43 *e*P **P** **21 23 26.5 -0.4**
CABF pmax pmax
comp=Z,20nm,1.3s,mb4.9
CABF La Chapelle 89.82 43 *e*P **P** **21 23 26.5 -0.4**
comp=Z,20nm,1.3s,mb4.9
LPL La Plagne 90.10 44 *e*P **P** **21 23 28.6 +0.4**
comp=Z,5.2nm,0.8s,mb4.2
LPL La Plagne 90.10 44 *e*P **P** **21 23 28.6 +0.4**
LPL pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
LPL La Plagne 90.10 44 *e*P **P** **21 23 28.6 +0.4**
comp=Z,2.6nm,0.8s,mb4.2
LPG La Plagne 90.11 44 *e*P **P** **21 23 28.8 +0.6**
comp=Z,12nm,1.1s,mb4.4
LPG La Plagne 90.11 44 *e*P **P** **21 23 28.8 +0.6**
LPG pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
LPG La Plagne 90.11 44 *e*P **P** **21 23 28.8 +0.6**
comp=Z,6.3nm,1.1s,mb4.5
VNDA Vanda 90.38 191 P **P** **21 23 29.4 -0.1**
comp=Z,0.9nm,0.8s,mb3.8,baz=111,slow=2.4,SNR=5.1
VNDA Vanda 90.38 191 *e*P **P** **21 23 29.1 -0.4**
CDF Champ du Feu 90.89 42 *e*P **P** **21 23 31.2 -0.7**
comp=Z,14nm,1.1s,mb4.6
CDF Champ du Feu 90.89 42 *e*P **P** **21 23 31.2 -0.7**
CDF pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
CDF Champ du Feu 90.89 42 *e*P **P** **21 23 31.2 -0.7**
comp=Z,6.9nm,1.1s,mb4.6
GERES GERESS Array B 95.18 42 P **P** **21 23 52.7 +1.1**
comp=Z,0.4nm,0.7s,mb3.7,baz=252,slow=0.8,SNR=3.8
ARCES ARCESS Array B 100.20 20 P Pdif 21 24 13.0 -1.1
comp=Z,0.6nm,0.6s,baz=278,slow=3.6,SNR=8.7
ZAL Zalesovo 130.20 14 PKP PKPdf 21 29 37.4 -0.2
comp=Z,3.9nm,0.5s,baz=8.6,slow=0.5,SNR=24
ZAL pPKP pPKPdf 21 30 12.7 +0.7
comp=Z,1.5nm,0.8s,baz=189,slow=2.0,SNR=3.0
ZAL Zalesovo 130.20 14 PKP PKPdf 21 29 37.4 -0.2
ZAL pPKP pPKPdf 21 30 12.7 +0.7
KURK Kurchatov 131.24 20 *e*PKIKP PKPdf 21 29 40.1 +0.5
MDJ Mudanjiang 135.18 333 PKP PKPdf 21 29 49.0 +2.0
MDJ PP PP 21 32 23.9 +0.1
MDJ SS SS 21 50 11.6 +3.3
MDJ PP PP
comp=Z,562nm,4.5s
MDJ LR LR
comp=N,168nm,20.0s
MDJ LR LR
comp=E,318nm,22.5s
MDJ LR LR
comp=Z,335nm,18.1s
MKAR Makanchi Array 135.85 20 PKP PKPdf 21 29 48.2 -0.1
comp=Z,1.8nm,0.6s,baz=301,slow=2.4,SNR=26
MKAR Makanchi Array 135.85 20 PKP PKPdf 21 29 48.2 -0.1
AAK Ala-Archa 135.89 30 *e*PKIKP PKPdf 21 29 48.2 -0.1
ASAR Alice Springs 137.58 225 PKhKP 21 29 43.8
comp=Z,0.6nm,0.7s,baz=142,slow=2.6,SNR=7.4
ASAR PKP PKPdf 21 29 51.6 +0.2
comp=Z,1.7nm,0.5s,baz=117,slow=2.1,SNR=15
ASAR Alice Springs 137.58 225 PKP PKPdf 21 29 51.6 +0.2
CN2 Changchun 137.62 336 *e*PKP PKPdf 21 29 52.0 +0.5
SONM Songino Array 138.41 356 PKhKP 21 29 49.4
comp=Z,0.8nm,0.6s,baz=332,slow=5.0,SNR=3.5
SONM PKP PKPdf 21 29 53.5 +0.5
comp=Z,0.8nm,0.5s,baz=17,slow=1.5,SNR=8.1
SONM pPKP pPKPdf 21 30 28.4 +1.0
comp=Z,0.4nm,0.6s,baz=339,slow=3.7,SNR=2.5
WB2 Warramunga Arr 139.57 229 *e*P PKPdf 21 29 47.9 -7.2
WRA Warramunga Arr 139.58 229 PKhKP 21 29 47.8
comp=Z,0.6nm,0.6s,baz=131,slow=2.7,SNR=8.2
WRA PKP PKPdf 21 29 57.1 +2.0
comp=Z,2.5nm,0.6s,baz=120,slow=2.1,SNR=26
WRA pPKP pPKPdf 21 30 30.8 +1.3
comp=Z,0.7nm,0.6s,baz=126,slow=1.8,SNR=2.3
WRA Warramunga Arr 139.58 229 PKIKP PKPdf 21 29 57.1 +2.0
WRA 21 30 30.8
WMQ Urumqi 140.23 17 ⇑PKP PKPdf 21 29 58.5 +2.2
WMQ XPKP 21 30 35.0
WMQ PP PP 21 33 01.3 +6.1
WMQ PKS 21 33 33.0
WMQ PP PP
comp=Z,546nm,9.3s
WMQ LR LR
comp=N,118nm,21.6s
WMQ LR LR
comp=E,94nm,23.4s
WMQ LR LR
comp=Z,48nm,19.8s
HHC Hu-ho-hao-te 144.63 349 *e*PKP PKPdf 21 30 04.1 0.0
HHC APKP 21 30 28.7
HHC XPKP 21 30 43.4
HHC PP PP 21 33 23.4 +1.6
HHC PKS 21 33 36.8
HHC SKS SKSdf 21 37 01.8 +0.3
HHC SKKS SKKSac 21 40 02.1 +0.2
HHC SS SS 21 52 00.1 +1.2
HHC LR LR
comp=N,236nm,22.6s
HHC LR LR
comp=E,205nm,21.4s
HHC LR LR
comp=Z,293nm,22.6s
KAKA Kakadu 145.11 237 *e*P PKPbc 21 30 04.7 0.0
comp=Z,22nm,0.8s
GTA Gaotai 146.82 4 *e*PKP PKPdf 21 30 08.5 +0.7
GTA APKP 21 30 34.8
GTA XPKP 21 30 45.9
GTA PP PP 21 33 36.7 +1.9
GTA PKS 21 33 43.2
GTA SKS SKSdf 21 37 05.8 +1.1
GTA SKKS SKKSac 21 40 16.0 +1.7
GTA SS SS 21 52 24.5 +0.7
GTA PP PP
comp=Z,249nm,11.8s
GTA LR LR
comp=N,106nm,12.9s
GTA LR LR
comp=E,173nm,11.4s
GTA LR LR
comp=Z,107nm,12.2s
FITZ Fitzroy Crossi 147.00 223 *e*P PKPdf 21 30 11.0 +2.9
comp=Z,20nm,0.6s
MBWA Marble Bar 148.16 211 *e*PKPdf PKPdf 21 30 13.3 +3.3
NJ2 Nanjing 150.26 332 *e*PKP PKPdf 21 30 14.1 +0.7
NJ2 PKP2 PKPab 21 30 26.5 +1.2
NJ2 APKP 21 30 41.2
NJ2 XPKP 21 30 51.2
NJ2 PP PP 21 33 58.0 +3.3
NJ2 PP PP
comp=Z,800nm,10.0s
NJ2 LR LR
comp=N,1μm,32.2s
NJ2 LR LR
comp=E,980nm,29.2s
NJ2 LR LR
comp=Z,410nm,19.0s
KOLN Koldanda 151.82 38 *e*P PKPbc 21 30 22.5 +0.2
GKN Gorkha 152.27 36 *e*P PKPbc 21 30 24.1 +0.8
comp=Z,26nm,0.7s
KKN Kakani 152.81 36 *e*P PKPbc 21 30 24.9 +0.4
comp=Z,19nm,0.8s
DMN Daman 152.84 36 *e*P PKPbc 21 30 25.3 +0.7
comp=Z,21nm,0.6s
PKI Pulchoki 153.05 36 *e*P PKPbc 21 30 25.2 +0.2
comp=Z,27nm,0.9s
GUN Gumba 153.06 35 *e*P PKPbc 21 30 25.6 +0.5
JIRN Jiri 153.43 35 *e*P PKPbc 21 30 26.3 +0.4
comp=Z,2.8nm,0.4s
LSA Lhasa 154.15 24 *e*PKIKP PKPdf 21 30 21.2 +2.0
CD2 Chengdu 155.41 358 *e*PKP PKPdf 21 30 19.2 -1.7
KMI Kunming 161.19 0 PKP PKPdf 21 30 30.3 +2.4

IDC 01 21:17:57.9±1.9, 2820S×17789W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/11, mbtmp3.9/3, MS4.2/1, Ms1 4.2/1, ms1mx3.3/18, Error ellipse: s-maj=46.4km s-min=20.8km az=75.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.05**	**181**	Pn	Pn	21 18 18.8	-1.0
	217nm,0.3s,baz=116,slow=20,SNR=11						
RAO				Sn	Sn	21 18 37.5	+2.4
	526nm,0.3s,baz=97,slow=22,SNR=10						
PPT	**Papeete**	**28.09**	**74**	LR		21 32 29.2	
	comp=Z,405nm,18.7s,baz=10,slow=31						
STKA	**Stephens Creek**	**35.12**	**254**	P	P	21 24 52.5	-0.5
	2.1nm,0.9s,baz=111,slow=13,SNR=3.1						
ASAR	**Alice Springs**	**43.36**	**265**	P	P	21 26 02.0	+0.2
	1.1nm,0.9s,baz=111,slow=8.6,SNR=6.6						
WRA	**Warramunga Arr**	**44.15**	**270**	P	P	21 26 08.6	+0.5
	0.5nm,0.4s,baz=106,slow=8.0,SNR=12						
AKASG	**Malin Array Be**	**149.58**	**325**	PKPbc	PKPbc	21 37 47.3	-2.0
	1.6nm,0.7s,baz=48,slow=2.2,SNR=5.0						
BRTR	**Keskin Array B**	**151.57**	**302**	PKPbc	PKPbc	21 37 56.0	+2.1
	0.9nm,1.0s,baz=100,slow=3.0,SNR=4.5						

GUC 01 21:25:21.9±0.9, 3253S×7173W, h15km±999km, MD3.6, ML2.4,7C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.67**	**17**	⇓*i*P	Pg	21 25 34.2	-0.8
CHNG				*i* S	Sg	21 25 43.4	-0.5
CHNG				AML	AML	21 25 43.8	
	comp=E,150nm,0.3s						
ROCH	**El Roble**	**0.75**	**127**	⇑*i*P	Pg	21 25 35.9	-0.6
LCCH	**Las Cruces**	**0.96**	**172**	*e*P	Pb	21 25 39.0	-1.1
LCCH				*i* S	Sb	21 25 51.7	-0.9
JACH	**Jahuel**	**0.97**	**100**	⇑*i*P	Pb	21 25 39.2	-1.2
JACH				*i* S	Sb	21 25 52.5	-0.4
PEL	**Peldehue**	**1.07**	**125**	⇑*i*P	Pb	21 25 41.0	-1.1
PEL				*i* S	Sb	21 25 55.5	-0.4
PEL				AML	AML	21 25 57.2	
	comp=E,333nm,0.4s						
RCDM	**Rinconada Maip**	**1.23**	**141**	⇓*i*P	Pn	21 25 43.5	-1.0
RCDM				*i* S	Sb	21 25 59.2	-1.3
RCDM				AML	AML	21 26 00.7	
	comp=N,154nm,0.1s						
TACH	**Talagante**	**1.30**	**150**	*e*P	Pn	21 25 44.6	-1.0
TACH				*i* S	Sb	21 26 00.3	-2.4
CLCH	**Cerro Calan**	**1.32**	**131**	⇑*i*P	Pn	21 25 45.3	-0.5
CLCH				*i* S	Sn	21 26 02.3	-0.8
CLCH				AML	AML	21 26 05.6	
	comp=E,106nm,0.2s						
FCH	**Farellones**	**1.45**	**124**	⇑*i*P	Pn	21 25 46.8	-0.7
FCH				*i* S	Sn	21 26 06.1	-0.1
FCH				AML	AML	21 26 07.4	
	comp=E,75nm,0.1s						
LNV	**Longovilo**	**1.45**	**170**	⇑*i*P	Pn	21 25 45.8	-1.7
PCH	**Pirque**	**1.49**	**137**	⇓*i*P	Pn	21 25 47.9	-0.3
CHCH	**Chadas Angostu**	**1.67**	**148**	*e*P	Pn	21 25 50.7	+0.2
CHCH				*i* S	Sn	21 26 11.8	+0.1
LMEL	**Las Melosas**	**1.83**	**136**	⇓*i*P	Pn	21 25 53.2	+0.3
LMEL				AML	AML	21 26 22.4	
	comp=N,77nm,0.0s						
CICH	**Cipreses**	**2.10**	**149**	⇑*i*P	Pn	21 25 57.5	+1.1

*NEIC **01** 21:34:14.8±0.9, 24.12S×67.12W, h180km±13km, mb3.8/2,*

Error ellipse: s-maj=16.8km s-min=11.1km az=106.0

*ISCJB **01** 21:34:23.8±0.8, 2346S±010×6675W±009, h249km±11km, mb3.4/2, Error ellipse: s-maj=17.3km s-min=11.1km az=112.4*

*IDC **01** 21:34:24.7±3.5, 2342S×6673W, h242km±25km, mb3.3/2, mb1 3.5/6, mb1mx3.3/16, mbtmp3.9/6, Error ellipse: s-maj=38.8km s-min=19.3km az=38.0*

*GUC **11** 21:34:34.4±0.8, 2437S×6724W, h149km±34km, MD3.3, ML3.4*

ISC 01 21:34:24.5±0.8,**2352S**±008×**6676W**±010,**h245**km±12km, **n14**,σ1§**43**/19,**mb3.4**/2,**1C-1D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.18**	**294**	⇑*i*	P **Pn**	**21 35 14.7**	**+6.4**
LVC				*i*	S **S**	**21 35 45.9**	**+3.2**
LVC				AML	AML	21 35 47.4	
	comp=E,92nm,0.2s						
CEN1	**Los Morros**	**3.17**	**272**	⇓*i*	P **Pn**	**21 35 22.5**	**+4.0**
CEN1				*i*	S **S**	**21 35 59.0**	**-2.2**
CEN1				AML	AML	21 36 02.2	
	comp=E,127nm,0.5s						
ANCH	**Antofagasta**	**3.36**	**267**	*i*	P **Pn**	**21 35 22.9**	**+2.3**
ANCH				*i*	S **S**	**21 35 59.0**	**-6.0**
CPN1	**Cerro Paranal**	**3.51**	**251**	*i*	P **Pn**	**21 35 22.3**	**-0.1**
CPN1				*i*	S **S**	**21 35 58.9**	**-9.3**
CPN1				AML	AML	21 36 03.7	
	comp=E,100nm,0.3s						
LPAZ	**La Paz**	**7.31**	**350**	P	**Pn**	**21 36 08.2**	**-0.9**
	comp=E,1.3nm,0.3s,baz=165,slow=11,SNR=33						
LPAZ				S	**S**	**21 37 34.7**	**+1.7**
	comp=E,0.0nm,0.3s,baz=185,slow=20,SNR=2.9						
LPAZ	**La Paz**	**7.31**	**350**	P	**Pn**	**21 36 08.2**	**-0.9**
LPAZ				S	**S**	**21 37 34.7**	**+1.7**
CPUP	**Villa Florida**	**9.00**	**110**	P	**Pn**	**21 36 30.6**	**+0.1**
	comp=E,0.7nm,0.3s,baz=263,slow=10,SNR=6.7						
CPUP	**Villa Florida**	**9.00**	**110**	P	**Pn**	**21 36 30.6**	**+0.1**
SIV	**San Ignacio**	**9.20**	**37**	P	**Pn**	**21 36 31.8**	**-1.2**
	comp=E,0.5nm,0.3s,baz=249,slow=7.4,SNR=9.8						
SIV				S	**S**	**21 38 13.1**	**-3.9**
	comp=E,0.2nm,0.3s,baz=230,slow=15,SNR=2.9						
BDFB	**Brasilia**	**19.31**	**69**	P	**P**	**21 38 32.1**	**+0.7**
	comp=E,1.3nm,0.3s,baz=251,slow=9.0,SNR=14						
TORD	**Torodi Ar. Bea**	**76.19**	**69**	P	**P**	**21 45 46.7**	**+0.9**
	comp=E,0.4nm,0.4s,mb3.4,baz=257,slow=5.3,SNR=11						
YKA	**Yellowknife Ar**	**93.75**	**340**	P	**P**	**21 47 12.5**	**-1.1**
	comp=E,0.3nm,0.6s,mb3.5,baz=130,slow=4.6,SNR=7.4						
MKAR	**Makanchi Array**	**146.01**	**39**	PKPbc	PKPbc	21 53 34.9	-0.6
	comp=E,0.8nm,0.6s,baz=303,slow=3.1,SNR=15						
MKAR	**Makanchi Array**	**146.01**	**39**	PKPbc	PKPbc	21 53 34.9	-0.6

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*BJI **01** 21:40:44.0, 2820S×17605W, h10km, mB5.8, mb5.3, Ms5.2, Msz4.9*

*IDC **01** 21:40:45.7±0.5, 2824S×17680W, h0km, mb4.8/16, ML4.6/4, Error ellipse: s-maj=18.9km s-min=13.9km az=133.0*

*HRVD **01** 21:40:46.9±0.2, 2838S×176.18W, h19km, MW5.2/78, Centroid moment Tensor Solution. LP body waves: s47,c74;Mantle waves: s78,c132; Half duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr0.66±.03; Mθθ-0.06±.02; Mϕϕ-0.60±.02; Mrθ0.13±.04; Mrϕ-0.11±.01; Mθϕ0.66±.04; Best double couple: M0.92900×10^17 NP1:ϕs192.00000°, δ22.00000°, λ91.00000°. NP2: ϕs11.00000°, δ68.00000°, λ90.00000°. Principal axes: T 0.9460, Plg67.0000°, Azm281.0000°; N -0.0330, Plg0.0000°, Azm11.0000°; P -0.9120, Plg23.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **01** 21:40:46.1±1.5, 2824S×17682W, h13km, mb5.3/16, MS4.9/6 Error ellipse: s-maj=12.2km s-min=11.5km az=77.5*

*NEIC **01** 21:40:46.9±0.3, 2836S×17682W, h10km, mb5.2/20, Error ellipse: s-maj=9.5km s-min=8.1km az=136.0*

*ISCJB **01** 21:40:47.1±5.0, 2849S±007×17701W±008, h16km±34km, mb5.1/43, MS4.8/12, Error ellipse: s-maj=11.9km s-min=10.7km az=98.8*

ISC 01 21:40:49.6±8.5,**2848S**±007×**17690W**±009,**h20**km±51km, **h19**km±1.5km:**pP-P, n221**,σ1§**16**/105,**mb5.1**/43,**MS4.8**/12, **5C-14D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.18**	**229**	Pn	**Pn**	**21 41 14.3**	**+3.4**
	1μm,0.3s,baz=42,slow=2.9,SNR=30						
RAO				Sn	**Sn**	**21 41 34.4**	**+8.1**
RAO	**Raoul Island**	**1.18**	**229**	P	**Pn**	**21 41 14.3**	**+3.4**
RAO						22 41 34.4	
RAO	**Raoul Island**	**1.18**	**229**	*e*P	**Pn**	**21 41 14.0**	**+3.1**
PUZ	**Puketiti**	**10.38**	**202**	*e*PN	**Pn**	**21 43 11.1**	**-6.3**
PUZ				*e*SN	**Sn**	**21 45 05.8**	**-7.4**
URZ	**Urewera**	**10.96**	**206**	Pn	**Pn**	**21 43 19.5**	**-5.7**
	1.9nm,0.3s,baz=112,slow=14,SNR=8.1						
URZ				Sn	**Sn**	**21 45 22.5**	**-4.7**
	6.8nm,0.3s,baz=15,slow=19,SNR=8.0						
URZ	**Urewera**	**10.96**	**206**	*e*SN	**Sn**	**21 45 21.3**	**-5.9**
AFI	**Afiamalu**	**15.26**	**19**	Pn	**Pn**	**21 44 12.5**	**-11**
AFI				Sn	**Sn**	**21 46 50.1**	**-22**
AFI	**Afiamalu**	**15.26**	**19**	P	**Pn**	**21 44 12.5**	**-11**
AFI	**Afiamalu**	**15.26**	**19**	*e*P	**Pn**	**21 44 13.3**	**-11**
	39nm,0.6s						
THZ	**Tophouse**	**15.64**	**209**	PN	**Pn**	**21 44 23.2**	**-5.6**
DZM	**Mont Dzumac**	**16.35**	**289**	Pn	**Pn**	**21 44 44.4**	**+6.4**
	0.7nm,0.3s,baz=113,slow=11,SNR=21						
RAR	**Rarotonga**	**17.14**	**69**	Pn	**Pn**	**21 44 35.6**	**-12**
	3.2nm,0.3s,baz=216,slow=6.9,SNR=7.3						
BKM	**Butte a Klehm**	**17.38**	**305**	⇓*i*	P **Pn**	**21 44 56.4**	**+5.6**
RPZ	**Rata Peaks**	**18.02**	**209**	P	**Pn**	**21 44 57.4**	**-1.4**
	6.0nm,0.3s,baz=61,slow=1.8,SNR=13						
JCZ	**Jackson Bay**	**19.34**	**213**	*e*P*	**Pn**	**21 45 11.0**	**-3.8**
TBI	**Tubuai**	**25.18**	**85**	*e*LQ		21 50 50.2	
	1μm,27.2s						
TBI				*e*LR	LR	21 52 10.3	
	2μm,29.5s,baz=251						
PPT	**Papeete**	**27.33**	**73**	*e*LQ		21 51 40.9	
	2μm,23.5s						
PPT				*e*LR	LR	21 53 06.3	
	3μm,28.2s,baz=240						
ARMA	**Armidale**	**27.43**	**258**	*e*P	**P**	**21 46 36.9**	**+2.9**
HNR	**Honiara**	**28.85**	**307**	P	**P**	**21 46 45.5**	**-1.2**
	40nm,0.4s,mb5.5,baz=170,slow=1.9,SNR=4.8						
HNR	**Honiara**	**28.85**	**307**	*e*P	**P**	**21 46 46.1**	**-0.6**
HNR				pmax	pmax		
	comp=Z,60nm,0.6s,mb5.5						
HNR	**Honiara**	**28.85**	**307**	*e*P	**P**	**21 46 46.1**	**-0.6**
	comp=Z,60nm,0.6s,mb5.5						
CTA	**Charters Tower**	**34.50**	**276**	*e*P	**P**	**21 47 38.0**	**+1.7**
	comp=Z,9.4nm,0.5s,mb5.0						
CTA	**Charters Tower**	**34.50**	**276**	*e*P	**P**	**21 47 38.0**	**+1.7**
CTA				pmax	pmax		
	comp=Z,9.0nm,0.5s						
CTAO	**Charters Tower**	**34.50**	**276**	*e*P	**P**	**21 47 37.7**	**+1.4**
CTAO				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.0						
CTAO	**Charters Tower**	**34.50**	**276**	*e*P	**P**	**21 47 37.7**	**+1.4**
	comp=Z,12nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**35.88**	**254**	*e*P	**P**	**21 47 47.8**	**-0.4**
	comp=Z,15nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**35.88**	**254**	P	**P**	**21 47 48.1**	**-0.1**
	comp=Z,24nm,0.8s,mb5.2,baz=89,slow=9.0,SNR=23						
RKT	**Rikitea**	**37.99**	**92**	*e*LR	LR	21 58 07.2	
	comp=Z,1μm,29.2s						
PMG	**Port Moresby**	**38.71**	**292**	P	**P**	**21 48 11.9**	**-0.3**
	comp=Z,28nm,1.0s,mb5.0,baz=121,slow=6.6,SNR=4.8						
TAOE	**Nuku Hiva Isla**	**39.69**	**68**	*e*LR	LR	21 58 45.4	
	comp=Z,3μm,23.1s,baz=230						
ASAR	**Alice Springs**	**44.21**	**264**	P	**P**	**21 48 57.4**	**+0.1**
	comp=Z,19nm,1.1s,mb4.8,baz=116,slow=7.9,SNR=62						
ASAR				ScP	ScP	21 54 37.7	+5.1
	comp=Z,1.7nm,0.9s,baz=119,slow=4.2,SNR=4.7						
WB2	**Warramunga Arr**	**45.01**	**270**	*e*P	**P**	**21 49 03.2**	**-0.5**
WB2				*e*PP	PP	21 50 54.2	+5.2
WB2				*e*S	**S**	**21 55 37.1**	**-4.2**
WRAB	**Tennant Creek**	**45.02**	**270**	P	**P**	**21 49 03.0**	**-0.7**
	comp=Z,255nm,1.2s,mb5.9,SNR=15						
WRAB	**Tennant Creek**	**45.02**	**270**	*e*P	**P**	**21 49 03.2**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,59nm,1.0s,mb5.4						
WRAB	**Tennant Creek**	**45.02**	**270**	*e*P	**P**	**21 49 03.2**	**-0.6**
	comp=Z,59nm,1.0s,mb5.4						
WRA	**Warramunga Arr**	**45.02**	**270**	P	**P**	**21 49 03.3**	**-0.5**
	comp=Z,24nm,0.9s,mb5.0,baz=106,slow=7.9,SNR=53						
FORT	**Forrest**	**47.49**	**253**	*e*P	**P**	**21 49 22.1**	**-1.1**
	comp=Z,56nm,0.7s,mb5.6						
KAKA	**Kakadu**	**49.59**	**278**	*e*P	**P**	**21 49 37.3**	**-2.0**
	comp=Z,4.8nm,0.3s,mb5.0						
SBA	**Scott Base**	**50.02**	**184**	*e*P	**P**	**21 49 44.0**	**+1.4**
SBA				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.4						
SBA	**Scott Base**	**50.02**	**184**	*e*P	**P**	**21 49 44.0**	**+1.4**
	comp=Z,29nm,0.8s,mb5.4						
VNDA	**Vanda**	**50.09**	**186**	P	**P**	**21 49 44.8**	**+1.6**
	comp=Z,2.8nm,1.1s,mb4.2,baz=28,slow=9.0,SNR=6.5						
VNDA	**Vanda**	**50.09**	**186**	*e*P	**P**	**21 49 44.2**	**+1.0**
VNDA				pmax	pmax		
	comp=Z,20nm,1.3s						
VNDA	**Vanda**	**50.09**	**186**	*e*P	**P**	**21 49 44.2**	**+1.0**
	comp=Z,20nm,1.3s,mb5.0						
FITZ	**Fitzroy Crossi**	**53.35**	**268**	*e*P	**P**	**21 50 06.8**	**-0.7**
	comp=Z,34nm,1.1s,mb5.2						
KLBR	**Kellerberrin**	**55.90**	**249**	*e*P	**P**	**21 50 24.6**	**-1.4**
	comp=Z,45nm,1.1s,mb5.4						
CASY	**Casey**	**57.28**	**207**	*e*P	**P**	**21 50 35.1**	**-0.7**
MBWA	**Marble Bar**	**57.41**	**262**	*e*P	**P**	**21 50 35.7**	**-1.1**
	comp=Z,59nm,1.5s,mb5.4						
QSPA	**South Pole Qui**	**61.62**	**180**	*e*P	**P**	**21 51 05.7**	**-0.1**
	comp=Z,23nm,0.9s,mb5.3						
MIR	**Mirnyy**	**64.26**	**206**	*d i*P	**P**	**21 51 24.0**	**+0.6**
MIR				pmax	pmax		
	comp=Z,440nm,1.2s						
KKM	**Kota Kinabalu**	**72.89**	**287**	*e*P	**P**	**21 52 15.3**	**-2.0**
MAW	**Mawson**	**74.43**	**200**	P	**P**	**21 52 26.6**	**+0.3**
	comp=Z,12nm,0.9s,mb4.8,baz=106,slow=8.3,SNR=15						
KSM	**Kuching**	**75.62**	**280**	*e*P	**P**	**21 52 32.7**	**-0.5**
MJAR	**Matsushiro Arr**	**77.23**	**324**	P	**P**	**21 52 41.3**	**-1.0**
	comp=Z,17nm,0.9s,mb5.0,baz=159,slow=5.3,SNR=31						
MAJO	**Matsushiro**	**77.23**	**324**	*e*P	**P**	**21 52 41.5**	**-0.8**
MAJO				*e*		21 52 50.9	
MAJO				pmax	pmax		
	comp=Z,42nm,0.8s,mb5.4						
MAJO	**Matsushiro**	**77.23**	**324**	*e*P	**P**	**21 52 41.5**	**-0.8**
	comp=Z,42nm,0.8s,mb5.4						
MAJO				*e*		21 52 50.9	
MAT	**Matsushiro**	**77.23**	**324**	P	**P**	**21 52 40.8**	**-1.5**
MAT				S	S	22 02 36.0	+5.2
MAT	**Matsushiro**	**77.23**	**324**	*e*P	**P**	**21 52 41.0**	**-1.3**
MAT				*e*S	S	22 02 36.0	+5.2
SYO	**Syowa Base**	**79.19**	**193**	⇑*e*P	**P**	**21 52 51.0**	**-2.1**
SNAA	**Sanae**	**80.04**	**178**	P	**P**	**21 52 58.0**	**+0.3**
	comp=Z,1.6nm,1.0s,baz=109,slow=2.7,SNR=4.8						
SNAA	**Sanae**	**80.04**	**178**	*e*P	**P**	**21 52 56.7**	**-1.0**
SNAA				*e*	pP	21 53 00.9	-3.4
SNAA				*e*	pP	21 53 01.8	-2.5
SNAA				*e*		21 53 06.4	
VNA3	**Neumayer Olymp**	**80.15**	**176**	*e*P	**P**	**21 52 56.2**	**-2.1**
VNA3				*e*		21 52 59.8	
VNA3				*e*	pP	21 53 03.0	-1.9
VNA3				*e*		21 53 05.7	
VNA3				*e*		21 53 21.5	
VNA3				*e*		21 53 25.8	
VNA3				*e*		21 53 43.8	
VNA2	**Neumayer--Watz**	**80.59**	**177**	*e*P	**P**	**21 52 58.9**	**-1.8**
VNA2				*e*		21 53 02.3	
VNA2				*e*	pP	21 53 03.1	-4.2
VNA2				*e*	pP	21 53 05.3	-2.0
VNA2				*e*		21 53 09.3	
VNA2				*e*		21 53 18.4	
VNA2				*e*		21 53 25.8	
VNA2				*e*		21 53 30.1	
VNA2				*e*		21 53 39.2	
VNA2				*e*		21 53 46.4	
VNA2				*e*		21 53 53.6	
VNA1	**Neumayer--Stat**	**80.82**	**176**	*e*P	**P**	**21 53 00.4**	**-1.5**
VNA1				*e*		21 53 04.0	
VNA1				*e*	pP	21 53 05.3	-3.2
VNA1				*e*	pP	21 53 07.4	-1.1
VNA1				*e*		21 53 12.6	
VNA1				*e*		21 53 22.4	
ASAJ	**Asahikawa**	**81.20**	**332**	P	**P**	**21 53 04.0**	**+0.1**
	comp=Z,17nm,0.8s,mb5.0,baz=285,slow=27,SNR=6.6						
ASAJ	**Asahikawa**	**81.20**	**332**	P	**P**	**21 53 04.0**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,17nm,0.8s						
PLCA	**Paso Flores**	**83.11**	**133**	*e*P	**P**	**21 53 13.0**	**-1.0**
PLCA				pmax	pmax		
	comp=Z,12nm,0.9s						
PLCA	**Paso Flores**	**83.11**	**133**	*e*P	**P**	**21 53 13.0**	**-1.0**
	comp=Z,12nm,0.9s,mb4.9						
YSS	**Yuzh-Sakhalins**	**83.45**	**333**	*e*P	**P**	**21 53 15.8**	**+0.1**
YSS				*e*		21 53 26.2	
YSS				pmax	pmax		
	comp=Z,33nm,0.8s,mb5.4						
YSS	**Yuzh-Sakhalins**	**83.45**	**333**	*e*P	**P**	**21 53 15.8**	**+0.1**
	comp=Z,33nm,0.8s,mb5.4						
YSS				*e*		21 53 26.2	
SSE	**Sheshan**	**83.58**	**310**	P	**P**	**21 53 17.6**	**+1.2**
SSE				AMB	AMB		
	comp=Z,21nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,101nm,6.2s						
NJ2	**Nanjing**	**85.74**	**310**	*e*P	**P**	**21 53 27.3**	**0.0**
NJ2				AP	pP	21 53 31.5	-2.4
NJ2				XP	sP	21 53 34.1	-2.2
NJ2				PP	PP	21 56 46.6	+0.1
NJ2				S		22 03 57.0	
NJ2				AMB	AMB		
	comp=Z,120nm,5.7s						
				LR	LR		
NJ2							
	comp=N,750nm,24.0s,MS5.1						
NJ2				LR	LR		
	comp=E,510nm,23.0s,MS5.1						
NJ2				LR	LR		
	comp=Z,210nm,16.3s						
YBH	**Yreka Blue Hor**	**85.93**	**37**	P	**P**	**21 53 25.9**	**-2.4**
	baz=218,slow=10						
NVAR	**Mina Array Bea**	**86.18**	**42**	P	**P**	**21 53 28.3**	**-1.1**
	comp=Z,2.4nm,0.9s,mb4.4,baz=209,slow=6.2,SNR=12						
PSI	**Prapat**	**86.20**	**275**	P	**P**	**21 53 28.8**	**-0.8**
	comp=Z,8.1nm,0.8s,mb5.0,baz=203,slow=4.4,SNR=8.2						
PSI	**Prapat**	**86.20**	**275**	P	**P**	**21 53 28.8**	**-0.8**
TPNV	**Topopah Spring**	**86.46**	**44**	*e*P	**P**	**21 53 30.2**	**-0.7**
TPNV				pmax	pmax		
	comp=Z,11nm,1.1s,mb5.0						
TPNV	**Topopah Spring**	**86.46**	**44**	*e*P	**P**	**21 53 30.2**	**-0.6**
	comp=Z,11nm,1.1s,mb5.0						
NEN	**Nelson**	**86.52**	**46**	*e*P	**P**	**21 53 32.8**	**+1.7**
TUC	**Tucson**	**87.17**	**51**	*e*P	**P**	**21 53 35.9**	**+1.6**
TUC				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.9						
TUC	**Tucson**	**87.17**	**51**	*e*P	**P**	**21 53 35.9**	**+1.6**
	comp=Z,8.8nm,1.2s,mb4.9						
MDJ	**Mudanjiang**	**87.60**	**325**	P	**P**	**21 53 36.6**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,16nm,1.1s,mb5.2						
				AMB	AMB		
MDJ							
	comp=Z,276nm,4.3s						
				LR	LR		
MDJ							
	comp=N,159nm,17.8s,MS4.5						
				LR	LR		
MDJ							
	comp=E,86nm,20.4s,MS4.5						
				LR	LR		
MDJ							
	comp=Z,293nm,18.4s,MS4.7						
WHN	**Wuhan**	**87.97**	**306**	P	**P**	**21 53 38.2**	**+0.1**
WHN				AP	pP	21 53 45.5	+0.7
SNY	**Shenyang**	**88.94**	**320**	⇓P	**P**	**21 53 41.1**	**-1.6**
SNY				AP	pP	21 53 49.2	-0.2
SNY				XP	sP	21 53 50.8	-1.0
SNY				PP	PP	21 57 17.7	+5.5
SNY				AMB	AMB		
	comp=Z,12nm,1.6s,mb5.0						
CN2	**Changchun**	**89.20**	**322**	*e*P	**P**	**21 53 43.2**	**-0.8**
CN2				*e*XP	sP	21 53 50.7	-2.3
CN2				*e*S		22 04 30.2	
CN2				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.6						
CN2				LR	LR		
	comp=N,200nm,17.0s,MS4.9						
CN2				LR	LR		
	comp=E,300nm,17.0s,MS4.9						
CN2				LR	LR		
	comp=Z,400nm,18.0s,MS4.9						
KLR	**Kul'dur**	**89.87**	**329**	*e*P	**P**	**21 53 43.1**	**-4.0**
KLR				pmax	pmax		
	comp=Z,90nm,2.0s,mb5.8						
MSU	**Marysvale**	**89.96**	**45**	*e*P	**P**	**21 53 47.7**	**+0.2**
MNTX	**Cornudas Mount**	**90.59**	**54**	*e*P	**P**	**21 53 51.6**	**+1.2**
	comp=Z,8.8nm,1.4s,mb4.9						
LAZ	**Ladron**	**90.86**	**51**	*e*P	**P**	**21 53 52.7**	**+1.0**
GYA	**Guiyang**	**91.44**	**299**	⇓*i*P	**P**	**21 53 55.1**	**+0.7**
GYA				AP	pP	21 53 59.8	-1.3
GYA				XP	sP	21 54 02.6	-0.8
GYA				SKS		22 04 27.7	
GYA				S		22 05 01.2	
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.6						
GYA				AMB	AMB		
	comp=Z,130nm,3.8s						
GYA				LR	LR		
	comp=N,370nm,20.0s,MS4.9						
GYA				LR	LR		
	comp=E,320nm,20.4s,MS4.9						
GYA				LR	LR		
	comp=Z,390nm,19.5s,MS4.9						
ANMO	**Albuquerque**	**91.63**	**51**	P	**P**	**21 53 55.3**	**0.0**
	comp=Z,2.3nm,0.8s,mb4.5,baz=226,slow=4.4,SNR=6.8						
ANMO	**Albuquerque**	**91.63**	**51**	*e*P	**P**	**21 53 48.1**	**-7.2**
BJI	**Beijing**	**92.24**	**315**	P	**P**	**21 53 57.4**	**-0.7**
BJI				S		22 05 00.6	
BJI				AMB	AMB		
	comp=Z,10.0nm,1.7s,mb4.9						
BJI				LR	LR		
	comp=N,250nm,17.2s,MS4.9						
BJI				LR	LR		
	comp=E,312nm,17.2s,MS4.9						
BJI				LR	LR		
	comp=Z,182nm,18.8s,MS4.5						
KMI	**Kunming**	**93.82**	**296**	P	**P**	**21 54 06.2**	**+0.8**
KMI				AP	pP	21 54 10.9	-1.2
KMI				XP	sP	21 54 14.0	-0.4
KMI				S		22 05 14.6	
KMI				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb5.1						
KMI				AMB	AMB		
	comp=Z,133nm,3.5s						
KMI				LR	LR		
	comp=N,105nm,20.2s,MS4.6						
KMI				LR	LR		
	comp=E,177nm,15.2s,MS4.6						
KMI				LR	LR		
	comp=Z,243nm,19.2s,MS4.7						
PDAR	**Pinedale Array**	**94.09**	**43**	P	**P**	**21 54 04.6**	**-2.0**
	comp=Z,1.1nm,0.9s,mb4.3,baz=224,slow=4.1,SNR=5.5						
HHC	**Hu-ho-hao-te**	**95.60**	**314**	*e*P	**P**	**21 54 14.1**	**+0.6**
HHC				AP	pP	21 54 19.0	-1.2
HHC				XP	sP	21 54 21.9	-0.7
HHC				PP	PP	21 58 07.9	+3.2
HHC				SKS		22 04 48.1	
HHC				S		22 05 28.0	
HHC				AMB	AMB		
	comp=Z,16nm,1.1s,mb5.4						
HHC				AMB	AMB		
	comp=Z,227nm,9.3s						
HHC				LR	LR		
	comp=N,236nm,17.6s,MS4.8						
HHC				LR	LR		
	comp=E,226nm,18.6s,MS4.8						
HHC				LR	LR		
	comp=Z,352nm,18.0s,MS4.9						
COLA	**College**	**95.76**	**12**	*e*P	**P**	**21 54 12.0**	**-2.3**
ILAR	**Eielson Array**	**95.85**	**12**	P	**P**	**21 54 11.9**	**-2.8**
	comp=Z,2.4nm,1.0s,mb4.6,baz=216,slow=5.8,SNR=12						
CD2	**Chengdu**	**95.88**	**302**	*e*P	**P**	**21 54 15.8**	**+1.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.5						
BILL	**Bilibino**	**97.04**	**354**	⇑*e*P	**P**	**21 54 18.8**	**-1.3**
BILL				*e*		21 58 19.5	
BILL				*e*S		22 04 59.9	
BILL				*e*PS	PS	22 07 42.5	+37
BILL				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.7						
BILL				MLR	MLR		
	comp=Z,300nm,19.0s,MS4.8						
LPAZ	**La Paz**	**98.04**	**113**	P	**P**	**21 54 25.8**	**+1.2**
	comp=Z,1.8nm,1.1s,mb4.5,baz=225,slow=5.4,SNR=4.8						
LPAZ	**La Paz**	**98.04**	**113**	P	**P**	**21 54 25.8**	**+1.2**
RSSD	**Black Hills**	**98.18**	**44**	*e*P	**P**	**21 54 23.7**	**-1.5**
RSSD				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb5.1						
RSSD	**Black Hills**	**98.18**	**44**	P	**P**	**21 54 23.7**	**-1.5**
	comp=Z,7.5nm,1.1s,mb5.1						
LZH	**Lanzhou**	**98.35**	**306**	*e*P	**P**	**21 54 25.5**	**-0.5**
LZH				AP	pP	21 54 32.0	-0.7
LZH				XP	sP	21 54 37.5	+2.5
LZH				AMB	AMB		
	comp=Z,20nm,1.5s,mb5.4						
SONM	**Songino Array**	**102.36**	**318**	P	Pdif	21 54 42.5	-1.3
	baz=108,slow=4.7						
GTA	**Gaotai**	**102.72**	**308**	*e*P	Pdif	21 54 48.4	+3.0
GTA				AP		21 54 55.5	
GTA				PP	PP	21 59 00.9	+1.9
GTA				SKS		22 05 25.7	
GTA				LR	LR		
	comp=N,162nm,16.7s,MS4.8						
GTA				LR	LR		
	comp=E,201nm,20.5s,MS4.8						
GTA				LR	LR		
	comp=Z,226nm,16.3s,MS4.8						
YKA	**Yellowknife Ar**	**103.31**	**25**	PKKPbc	PKKPbc	22 10 44.7	+2.4
	comp=Z,0.3nm,0.7s,baz=41,slow=2.9,SNR=4.1						
ZAK	**Zakamensk**	**105.35**	**319**	*e*P	Pdif	21 55 04.0	+6.9
ZAK				pmax	pmax		
	comp=Z,5.0nm,2.0s						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.6s						
WMQ	**Urumqi**	**112.79**	**309**	*e*PKP	PKiKP	21 59 23.3	-1.6
WMQ				PP	PP	22 00 15.3	+2.7
WMQ				PPP		22 02 38.3	
WMQ				PKS		22 02 58.8	
WMQ				SKKS	SKKSac	22 07 04.8	-9.1
WMQ				PP	PP		
	comp=Z,220nm,4.8s						
WMQ				LR	LR		
	comp=N,66nm,20.6s,MS4.6						
WMQ				LR	LR		
	comp=E,131nm,18.7s,MS4.6						
WMQ				LR	LR		
	comp=

EZM	**Erzurum**	**146.59**	**300**		P		PKPdf	22 00 29.7	+1.6
NB2	**NORSAR Subarra1**	**146.99**	**353**		PKPa		PKPdf	22 00 27.8	-1.0
	comp=Z,14nm,0.9s,baz=12,slow=2.9								
NOA	**NORSAR Array B**	**146.99**	**353**		PKPbc		PKPbc	22 00 28.1	-2.7
	comp=Z,7.4nm,0.8s,baz=15,slow=4.5,SNR=19								
NOA	**NORSAR Array B**	**146.99**	**353**		PKP2		PKPab	22 00 28.1	-4.2
NOA					pmax		pmax		
	comp=Z,7.0nm,0.8s								
SOC	**Sochi**	**147.07**	**307**	*i*	PKIKP		PKPdf	22 00 26.7	-2.2
SOC				*e*				22 04 01.7	
ANN	**Anapa**	**148.28**	**310**	*i*	PKP2		PKPab	22 00 33.3	-4.1
ANN					pmax		pmax		
	comp=Z,123nm,1.7s								
MNK	**Minsk**	**148.40**	**332**	*e*	PKIKP		PKPdf	22 00 30.0	-1.1
KONO	**Kongsberg**	**148.52**	**354**	*e*	PKP2		PKPab	22 00 32.1	-6.3
URFA	**Urfa**	**148.87**	**296**	*e*	P		PKPdf	22 00 29.7	-2.2
MALT	**Malatya**	**149.08**	**298**	*e*	P		PKPdf	22 00 34.7	+2.5
MALT	**Malatya**	**149.08**	**298**	⇑	*i* P		PKPbc	22 00 36.1	-0.2
MALT	**Malatya**	**149.08**	**298**	*e*	PKPbc		PKPbc	22 00 36.1	-0.3
MALT				*e*				22 00 47.3	
GAZ	**Gaziantep**	**150.18**	**296**	*e*	P		PKPbc	22 00 38.7	-0.3
AKASG	**Malin Array Be**	**150.31**	**326**		PKPbc		PKPbc	22 00 37.8	-1.6
	comp=Z,14nm,0.9s,baz=46,slow=2.3,SNR=11								
AKASG	**Malin Array Be**	**150.31**	**326**		PKIKP		PKPbc	22 00 37.8	-1.6
AKASG					pmax		pmax		
	comp=Z,14nm,0.9s								
SIM	**Simferopol'**	**150.43**	**312**	⇓	*i* PKIKP		PKPbc	22 00 37.7	-1.9
SIM					pmax		pmax		
	comp=Z,18nm,0.9s								
SUW	**Suwalki**	**150.57**	**336**	*e*	PKP		PKPbc	22 00 37.9	-2.1
BSD	**Bornholm Skovb**	**152.05**	**345**	*i*	P		PKPab	22 00 52.2	-0.7
	comp=Z,29nm,1.0s								
BSD	**Bornholm Skovb**	**152.05**	**345**	*e*	PKIKP		PKPab	22 00 52.2	-0.7
BSD					pmax		pmax		
	comp=Z,29nm,1.0s								
BRTR	**Keskin Array B**	**152.46**	**302**		PKPbc		PKPbc	22 00 43.2	-1.1
	comp=Z,3.1nm,0.8s,baz=113,slow=2.8,SNR=21								
BRTR	**Keskin Array B**	**152.46**	**302**		PKIKP		PKPbc	22 00 43.2	-1.1
BRTR					pmax		pmax		
	comp=Z,3.0nm,0.8s								
ANTO	**Ankara**	**153.05**	**303**	*e*	PKIKP		PKPbc	22 00 44.5	-1.2
ANTO				*e*				22 00 55.6	
KWP	**Kalwaria**	**154.11**	**330**	*e*	PKP		PKPab	22 00 59.2	-2.4
BURAR	**Bucovina Array**	**154.30**	**324**	⇑	*i* P		PKiKP	22 00 51.1	+2.7
VRI	**Vrincioaia**	**154.54**	**319**	⇓	*i* P		PKPab	22 01 00.3	-3.1
KOLS	**Kolonicke sedl**	**154.81**	**329**	*e*	PKP		PKPab	22 01 00.3	-4.3
OJC	**Ojcow**	**154.85**	**334**	*e*	PKP		PKPbc	22 00 48.0	-1.5
STHS	**Stebnicka Huta**	**154.90**	**331**	*e*			PKPab	22 01 00.4	-4.5
STHS					PKSDF			22 01 13.5	
CRVS	**Cervenica-Dubn**	**155.20**	**330**	*e*	PKP		PKPab	22 01 05.9	-0.3
CRVS				*e*				22 18 27.8	
MLR	**Muntele Rosu**	**155.21**	**319**	⇓	*i* P		PKPab	22 01 06.7	+0.5
KSP	**Ksiaz**	**155.54**	**340**	*e*	PKP			22 00 57.3	
KSP	**Ksiaz**	**155.54**	**340**	*e*	PKIKP		PKPdf	22 00 48.9	+7.1
OKC	**Ostrava-Krasne**	**155.78**	**336**	*e*	PKPAB		PKPab	22 01 01.9	-6.8
OKC				*ex*			x	22 01 17.8	
OKC					AMS		AMS	23 22 00.0	
	comp=Z,300nm,16.9s								
UPC	**Upice**	**155.92**	**340**	*e*	PKPAB		PKPab	22 01 08.0	-1.3
UPC				*ex*			x	22 01 18.6	
KECS	**Kecovo**	**155.94**	**331**	*e*				22 00 56.1	
KECS				*e*				22 01 16.4	
DPC	**Dobruska-Polom**	**155.96**	**339**	*e*	PKPAB		PKPab	22 01 06.3	-3.2
DPC				*ex*			x	22 01 18.9	
DPC					AMS		AMS	23 21 10.0	
	comp=Z,200nm,15.8s								
CLL	**Collm**	**156.01**	**345**	*e*	PKPdf		PKPdf	22 00 44.2	+1.8
CLL				*e*	PKPab		PKPab	22 01 07.5	-2.2
	comp=Z,12nm,1.0s								
CLL				*e*				22 01 19.3	
CLL				*e*	L			23 19 46.0	
	comp=Z,270nm,20.0s								
CLL	**Collm**	**156.01**	**345**	*e*	(PKPdf)		PKPdf	22 00 44.0	+1.6
CLL				⇓	*i* PKPab		PKPab	22 01 07.4	-2.3
	comp=Z,11nm,1.0s								
CLL				*i*	pPKPab		pPKPab	22 01 18.2	+1.8
CLL	**Collm**	**156.01**	**345**	⇓	*e* PKIKP		PKPdf	22 00 44.0	+1.6
CLL				*i*				22 01 07.4	
CLL					pmax		pmax		
	comp=Z,11nm,1.0s								
CLL					MLR		MLR		
	comp=Z,300nm,16.4s,MS5.2								
MORC	**Moravsky Berou**	**156.04**	**337**	⇓	*i* P		PKPab	22 01 07.5	-2.3
BRG	**Berggiesshubel**	**156.18**	**343**	*e*	PKP		pPKPdf	22 00 52.9	+3.4
	comp=Z,2.0nm,1.1s								
BRG				*e*				22 00 59.8	
	comp=Z,4.8nm,1.3s								
BRG				*i*				22 01 19.8	
	comp=Z,11nm,1.3s								
BRG	**Berggiesshubel**	**156.18**	**343**	*e*	PKIKP		pPKPdf	22 00 52.9	+3.4
BRG				*e*				22 00 59.8	
BRG					pmax		pmax		
	comp=Z,2.0nm,1.1s								
BRG					pmax		pmax		
	comp=Z,5.0nm,1.3s								
BRG					pmax		pmax		
	comp=Z,11nm,1.3s								
VYHS	**Vyhne**	**156.61**	**333**	*e*	PKP		PKPab	22 01 11.3	-1.0
VYHS				*e*				22 01 21.0	
VYHS	**Vyhne**	**156.61**	**333**	*e*	PKP2		PKPab	22 01 11.4	-0.9
PSZ	**Piszkesteto**	**156.62**	**331**	⇓	*e* PKP/p		PKPab	22 01 11.3	-1.0
PSZ	**Piszkesteto**	**156.62**	**331**	*e*	PKPab		PKPab	22 01 11.2	-1.1
VRAC	**Vranov**	**156.77**	**337**	⇓	*i* P		PKPab	22 01 11.9	-1.1
PRU	**Pruhonice**	**156.82**	**341**	*e*	PKPAB		PKPab	22 01 11.8	-1.4
PRU				*ex*			x	22 01 22.6	
PRU					AMS		AMS	23 23 00.0	
	comp=Z,300nm,20.0s								
MOX	**Moxa**	**156.94**	**346**	*e*	PKP		PKPab	22 01 12.5	-1.2
	comp=Z,20nm,1.5s								
SMOL	**Smolenice**	**157.14**	**335**	*e*	PKP		PKPab	22 01 14.5	0.0
SMOL				*e*				22 01 24.0	
NKC	**Novy Kostel**	**157.14**	**344**	*e*	PKPAB		PKPab	22 01 11.3	-3.3
TREC	**Trest**	**157.15**	**339**	*e*	PKPAB		PKPab	22 01 13.0	-1.6
TREC				*ex*			x	22 01 24.1	
SRO	**Srobarova**	**157.37**	**333**	*e*	PKP		PKPab	22 01 14.3	-1.2
BZS	**Buzias**	**157.49**	**324**	⇓	*i* P		PKPab	22 01 14.5	-1.5
ZST	**Bratislava**	**157.53**	**335**	*e*	PKP		PKPab	22 01 15.5	-0.7
KHC	**Kasperske Hory**	**157.86**	**342**	*e*	PKPAB		PKPab	22 01 16.4	-1.3
KHC				*ex*			x	22 01 27.1	
KHC					AMS		AMS	23 22 40.0	
	comp=Z,300nm,17.3s								
KHC	**Kasperske Hory**	**157.86**	**342**	*e*	PKIKP		pPKPdf	22 00 55.6	+3.9
GRF	**Grafenberg Arr**	**157.93**	**346**	*e*	PKPab		PKPab	22 01 16.0	-1.3
GERES	**GERESS Array B**	**158.09**	**341**	*e*	PKP		PKPdf	22 01 12.1	-1.1
GERES					PKPab		PKPab	22 01 12.2	-6.4
	comp=Z,0.4nm,0.6s,baz=5.7,slow=2.7,SNR=4.3								
SOP	**Sopron**	**158.16**	**335**	⇓	*e* PKP		PKPab	22 01 17.9	-1.0
BAIF	**Baives**	**158.44**	**358**	*e*	PKP2		PKPab	22 01 18.1	-2.0
	comp=Z,24nm,1.4s								
FLN	**La Foliniere**	**159.56**	**7**	*e*	PKP2		PKPab	22 01 23.7	-1.3
PERS	**Pernice**	**159.57**	**336**	*e*	PKPab		PKPab	22 01 23.5	-1.5
MEZF	**Maizieres J'vi**	**159.95**	**356**	*e*	PKP2		PKPab	22 01 25.6	-1.1
CRES	**Cresnjev**	**160.12**	**334**	*e*	PKPab		PKPab	22 01 25.9	-1.6
LJU	**Ljubljana**	**160.29**	**336**	*e*	PKPab		PKPab	22 01 26.5	-1.7
LJU				*ep*	PKPab		pPKPab	22 01 38.8	+3.9
HAU	**Haudompre**	**160.34**	**353**	*e*	PKP2		PKPab	22 01 27.3	-1.1
CEY	**Cerknica**	**160.58**	**336**	*e*	PKPab		PKPab	22 01 27.8	-1.7
CEY				*ep*	PKPab		pPKPab	22 01 40.6	+4.4
LOR	**Lormes**	**161.24**	**358**	*e*	PKP2		PKPab	22 01 30.0	-2.3
SSF	**Saint Saulge**	**161.45**	**359**	*e*	PKP2		PKPab	22 01 31.2	-2.1
	comp=Z,12nm,1.0s								
AVF	**Avril sur Loir**	**161.72**	**359**	*e*	PKP2		PKPab	22 01 32.0	-2.5
	comp=Z,10nm,1.2s								
MFF	**Saint Martin d**	**161.73**	**7**	*e*	PKP2		PKPab	22 01 32.3	-2.2
	comp=Z,24nm,1.1s								
SMF	**Signal de Mont**	**161.86**	**358**	*e*	PKP2		PKPab	22 01 32.9	-2.2
	comp=Z,16nm,1.1s								
BGF	**Bois d'Agland**	**161.95**	**1**	*e*	PKP2		PKPab	22 01 34.1	-1.4
	comp=Z,16nm,1.1s								
TCF	**Toulx Ste Croi**	**162.21**	**2**	*e*	PKP2		PKPab	22 01 34.3	-2.3
	comp=Z,12nm,1.2s								
LPL	**La Plagne**	**162.75**	**351**	*e*	PKP2		PKPab	22 01 37.9	-1.1
LPG	**La Plagne**	**162.77**	**351**	*e*	PKP2		PKPab	22 01 38.0	-1.1
RJF	**Les Rejaudoux**	**163.16**	**4**	*e*	PKP2		PKPab	22 01 39.5	-1.3
ORIF	**Oris-en-Rattie**	**163.45**	**353**	*e*	PKP2		PKPab	22 01 40.6	-1.4
	comp=Z,11nm,1.1s								
LFF	**La Frestale**	**163.47**	**6**	*e*	PKP2		PKPab	22 01 40.0	-2.1
	comp=Z,22nm,1.1s								
CAF	**Calviac**	**163.57**	**3**	*e*	PKP2		PKPab	22 01 40.6	-2.0
VIVF	**Saint-Julien-l**	**163.61**	**356**	*e*	PKP2		PKPab	22 01 41.1	-1.6
TORD	**Torodi Ar. Bea**	**164.69**	**175**		PKP		PKPdf	22 00 51.0	-1.0
	comp=Z,1.6nm,1.0s,baz=327,slow=1.0,SNR=6.7								
TORD					PKPab		PKPab	22 01 46.6	-0.9
	comp=Z,3.3nm,0.9s,baz=186,slow=3.5,SNR=8.4								
MTLF	**Montolieu**	**165.16**	**3**	*e*	PKP2		PKPab	22 01 47.7	-1.8
	comp=Z,16nm,1.2s								
EPF	**Esparros**	**165.31**	**8**	*e*	PKP2		PKPab	22 01 48.6	-1.6
ESDC	**Sonseca Array**	**167.40**	**26**		PKP		PKPdf	22 00 54.0	-0.2
	baz=298,slow=2.8								
ESDC					PKPab		PKPab	22 01 57.5	-1.9
	comp=Z,0.7nm,0.6s,baz=312,slow=4.0,SNR=5.9								

MOS ***01*** *21:57:43.9±1.4, 2825S×17666W, h10km, mb5.0/9, Error ellipse: s-maj=15.0km s-min=13.3km az=137.6*

IDC ***01*** *21:57:44.1±0.6, 2815S×17670W, h0km, mb4.6/10, mb1 4.8/10, mb1mx4.7/12, mbtmp4.6/10, MS4.6/9, Ms1 4.6/9, ms1mx4.2/29, Error ellipse: s-maj=23.9km s-min=16.0km az=131.0*

HRVD ***01*** *21:57:45.4±0.3, 2844S×17624W, h19km±1km, MW5.1/66, Centroid moment Tensor Solution. LP body waves: s30,c40;Mantle waves: s66,c93; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr4.31±.29; Mθθ-0.54±.18; Mϕϕ-3.77±.20; Mrθ1.26±.40; Mθϕ-1.21±.11; Mϕr3.14±.38; Best double couple: M☾5.42600×1016 NP1:ϑs196.00000°, δ26.00000°, λ86.00000°. NP2: ϕs21.00000°, δ64.00000°, λ92.00000°. Principal axes: T 5.4970, Plg71.0000°, Azm294.0000°; N -0.1460, Plg2.0000°, Azm200.0000°; P -5.3550, Plg19.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***01*** *21:57:45.4±0.4, 2832S×17674W, h10km, mb5.0/14 Error ellipse: s-maj=13.5km s-min=10.8km az=118.0*

BJI ***01*** *21:57:45.3, 2830S×17670W, h10km, mB5.8, mb5.2, Ms5.3, Msz4.9*

ISCJB ***01*** *21:57:53.3±1.6, 2859S±008×1770W±0.1, h80km±13km, mb4.8/26, Error ellipse: s-maj=16.1km s-min=12.7km az=149.2*

ISC 01 21:57:52.6±1.6, 2855S±008×17682W±010, h62km±13km, h45km±4.7km:pP-P, n125, σ1°16/59, mb4.9/26, 6C-5D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	h	m	s	Res ISC
RAO	**Raoul Island**	**1.19**	**234**	Pn		**Pn**	**21**	**58**	**13.3**	**+0.2**
	516nm,0.3s,baz=79,slow=1.5,SNR=20									
RAO				Sn		**Sn**	**21**	**58**	**35.6**	**+7.7**
RAO	**Raoul Island**	**1.19**	**234**	P		**Pn**	**21**	**58**	**13.3**	**+0.2**
RAO							21	58	35.6	
	comp=Z,516nm,0.3s				pmax	pmax				
RAO	**Raoul Island**	**1.19**	**234**	*e*P		**Pn**	**21**	**58**	**12.7**	**-0.4**
URZ	**Urewera**	**10.92**	**206**	Pn		**Pn**	**22**	**00**	**21.4**	**-4.6**
URZ				Sn		**Sn**	**22**	**02**	**19.2**	**-7.5**
	comp=Z,4.2nm,0.3s,baz=14,slow=22,SNR=8.9									
DZM	**Mont Dzumac**	**16.44**	**289**	Pn		**Pn**	**22**	**01**	**44.7**	**+5.5**
	comp=Z,0.4nm,0.3s,baz=123,slow=10,SNR=25									
DZM				LR		LR	22	06	35.1	
	comp=Z,3μm,20.5s,baz=191,slow=32									
RAR	**Rarotonga**	**17.10**	**69**	Pn		**Pn**	**22**	**01**	**33.1**	**-14**
	comp=Z,1.8nm,0.3s,baz=60,slow=12,SNR=4.0									
RAR				LR		LR	22	05	34.2	
	comp=Z,336nm,20.3s,baz=174,slow=28									
BKM	**Butte a Klehm**	**17.48**	**305**	⇓	*i* P	**Pn**	**22**	**01**	**55.2**	**+3.2**
RPZ	**Rata Peaks**	**17.99**	**210**	Pn		**Pn**	**22**	**01**	**57.4**	**-0.9**
	comp=Z,2.2nm,0.3s,baz=331,slow=3.8,SNR=4.4									
TBI	**Tubuai**	**25.11**	**84**	*e*LQ			22	07	47.0	
	comp=Z,952nm,26.8s									
TBI				*e*LR		LR	22	09	10.1	
	comp=Z,1μm,29.2s									
PPT	**Papeete**	**27.28**	**72**	*e*LQ			22	08	37.3	
	comp=Z,1μm,23.8s									
PPT				*e*LR		LR	22	10	05.4	
	comp=Z,1μm,27.2s									
PPT	**Papeete**	**27.28**	**72**	LR		LR	22	12	49.6	
	comp=Z,615nm,18.3s,baz=248,slow=34									
HNR	**Honiara**	**28.95**	**306**	LR		LR	22	13	45.8	
	comp=Z,486nm,18.4s,baz=178,slow=33									
CTA	**Charters Tower**	**34.58**	**276**	*e*P		**P**	**22**	**04**	**36.8**	**+1.5**
	comp=Z,14nm,1.1s,mb4.8									
CTA	**Charters Tower**	**34.58**	**276**	P		**P**	**22**	**04**	**36.5**	**+1.1**
	comp=Z,7.4nm,0.7s,mb4.7,baz=95,slow=10,SNR=10.0									
CTA				LR		LR	22	17	46.2	
	comp=Z,3μm,18.1s,baz=126,slow=35									
CTA	**Charters Tower**	**34.58**	**276**	*e*P		**P**	**22**	**04**	**36.8**	**+1.5**
CTA					pmax	pmax				
	comp=Z,14nm,1.1s									
CTAO	**Charters Tower**	**34.58**	**276**	*e*P		**P**	**22**	**04**	**36.9**	**+1.6**
CTAO					pmax	pmax				
	comp=Z,18nm,1.0s,mb5.0									
CTAO	**Charters Tower**	**34.58**	**276**	*e*P		**P**	**22**	**04**	**36.9**	**+1.5**
	comp=Z,18nm,1.0s,mb5.0									
STKA	**Stephens Creek**	**35.93**	**254**	*e*P		**P**	**22**	**04**	**46.5**	**-0.5**
	comp=Z,11nm,0.9s,mb4.8									
STKA	**Stephens Creek**	**35.93**	**254**	P		**P**	**22**	**04**	**45.8**	**-1.2**
	comp=Z,18nm,1.0s,mb5.0,baz=92,slow=9.9,SNR=16									
STKA				LR		LR	22	18	55.6	
	comp=Z,1μm,18.6s,baz=37,slow=35									
RKT	**Rikitea**	**37.91**	**92**	*e*LR		LR	22	14	48.4	
	comp=Z,632nm,23.8s									
PMG	**Port Moresby**	**38.80**	**292**	P		**P**	**22**	**05**	**11.4**	**+0.1**
	comp=Z,12nm,0.9s,mb4.6,baz=66,slow=10,SNR=3.6									
PMG				LR		LR	22	16	58.7	
	comp=Z,648nm,18.1s,baz=148,slow=30									
TAOE	**Nuku Hiva Isla**	**39.65**	**68**	*e*LR		LR	22	15	43.9	
	comp=Z,2μm,26.5s									
ASAR	**Alice Springs**	**44.27**	**265**	P		**P**	**22**	**05**	**56.0**	**0.0**
	comp=Z,8.7nm,1.0s,mb4.5,baz=120,slow=8.3,SNR=46									
ASAR				S		**S**	**22**	**12**	**26.5**	**+1.2**
	comp=Z,1.1nm,1.1s,baz=124,slow=11,SNR=4.1									
WB2	**Warramunga Arr**	**45.09**	**270**	*e*P		**P**	**22**	**06**	**01.5**	**-1.0**
WRAB	**Tennant Creek**	**45.09**	**270**	P		**P**	**22**	**06**	**01.3**	**-1.2**
	comp=Z,140nm,1.1s,mb5.7,SNR=5.8									
WRAB	**Tennant Creek**	**45.09**	**270**	*e*P		**P**	**22**	**06**	**02.2**	**-0.3**
WRAB					pmax	pmax				
	comp=Z,36nm,1.0s,mb5.2									
WRAB	**Tennant Creek**	**45.09**	**270**	*e*P		**P**	**22**	**06**	**02.2**	**-0.3**
	comp=Z,36nm,1.0s,mb5.2									
WRAB				*e*		pP	22	06	12.9	-5.4
WRA	**Warramunga Arr**	**45.10**	**270**	P		**P**	**22**	**06**	**02.2**	**-0.4**
	comp=Z,16nm,0.9s,mb4.8,baz=106,slow=8.0,SNR=40									
WRA				PcP		PcP	22	07	43.8	+1.5
	comp=Z,2.3nm,0.9s,baz=112,slow=3.9,SNR=4.7									
FORT	**Forrest**	**47.54**	**253**	*e*P		**P**	**22**	**06**	**20.4**	**-1.3**
	comp=Z,45nm,0.9s,mb5.5									
SBA	**Scott Base**	**49.95**	**184**	*e*P		**P**	**22**	**06**	**42.6**	**+2.4**
SBA				*e*			22	06	50.3	
SBA					pmax	pmax				
	comp=Z,26nm,1.0s,mb5.2									
SBA	**Scott Base**	**49.95**	**184**	*e*P		**P**	**22**	**06**	**42.6**	**+2.4**
	comp=Z,26nm,1.0s,mb5.2									
SBA				*e*			22	06	50.3	
VNDA	**Vanda**	**50.03**	**186**	P		**P**	**22**	**06**	**44.6**	**+3.9**
	comp=Z,3.7nm,1.3s,mb4.3,baz=31,slow=14,SNR=3.9									
VNDA	**Vanda**	**50.03**	**186**	*e*P		**P**	**22**	**06**	**42.4**	**+1.6**
VNDA				*e*			22	06	51.3	
VNDA					pmax	pmax				
	comp=Z,11nm,1.4s									
VNDA	**Vanda**	**50.03**	**186**	*e*P		**P**	**22**	**06**	**42.4**	**+1.6**
	comp=Z,11nm,1.4s,mb4.7									
VNDA				*e*			22	06	51.3	
FITZ	**Fitzroy Crossi**	**53.42**	**268**	*e*P		**P**	**22**	**07**	**06.2**	**+0.1**
	comp=Z,14nm,1.0s,mb4.9									
FITZ	**Fitzroy Crossi**	**53.42**	**268**	LR		LR	22	29	57.8	
	comp=Z,1μm,18.5s,baz=114,slow=36									
NWAO	**Narrogin (SRO)**	**56.03**	**248**	LR		LR	22	32	18.6	
	comp=Z,767nm,18.7s,baz=7.8,slow=37									
CASY	**Casey**	**57.25**	**207**	*e*P		**P**	**22**	**07**	**32.9**	**-0.7**
	comp=Z,42nm,1.2s,mb5.3									
CASY				*e*			22	07	41.0	
CASY				*e*		pP	22	07	44.4	-5.6
QSPA	**South Pole Qui**	**61.55**	**180**	*e*P		**P**	**22**	**08**	**05.6**	**+2.4**
	comp=Z,18nm,1.2s,mb5.1									
MIR	**Mirnyy**	**64.23**	**206**	*d*	*i* P	**P**	**22**	**08**	**22.0**	**+1.0**
MIR					pmax	pmax				
	comp=Z,300nm,1.3s									
MAW	**Mawson**	**74.39**	**200**	P		**P**	**22**	**09**	**25.9**	**+2.2**
	comp=Z,15nm,1.1s,mb4.8,baz=115,slow=5.4,SNR=14									
MJAR	**Matsushiro Arr**	**77.33**	**324**	P		**P**	**22**	**09**	**40.1**	**-0.4**
	comp=Z,6.8nm,0.7s,mb4.7,baz=160,slow=5.6,SNR=13									
MAJO	**Matsushiro**	**77.33**	**324**	*e*P		**P**	**22**	**09**	**40.0**	**-0.5**
MAJO				*e*			22	09	49.9	
MAJO					pmax	pmax				
	comp=Z,18nm,0.9s,mb5.0									
MAJO	**Matsushiro**	**77.33**	**324**	*e*P		**P**	**22**	**09**	**40.0**	**-0.6**
	comp=Z,18nm,0.9s,mb5.0									
MAJO				*e*			22	09	49.9	
MAT	**Matsushiro**	**77.33**	**324**	P		**P**	**22**	**09**	**40.1**	**-0.4**
MAT	**Matsushiro**	**77.33**	**324**	*e*P		**P**	**22**	**09**	**40.0**	**-0.5**
MAT					pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.4									
MAT	**Matsushiro**	**77.33**	**324**	*e*P		**P**	**22**	**09**	**40.0**	**-0.5**
	comp=Z,4.5nm,0.8s,mb4.5									
SNAA	**Sanae**	**79.96**	**178**	⇑	*e*P	**P**	**22**	**09**	**53.7**	**-1.3**
VNA3	**Neumayer Olymp**	**80.07**	**176**	*e*P		**P**	**22**	**09**	**54.2**	**-1.4**
VNA3				*e*			22	09	56.1	
VNA3				*e*			22	09	59.9	
VNA3				*e*			22	10	02.4	
VNA3				*e*			22	10	05.1	
VNA3				*e*		pP	22	10	10.3	-2.4
VNA3				*e*			22	10	16.4	
VNA3				*e*			22	10	22.1	
VNA2	**Neumayer--Watz**	**80.52**	**176**	*e*P		**P**	**22**	**09**	**57.1**	**-0.9**
	baz=152,slow=3.6									
VNA2				*e*			22	09	58.8	
VNA2				*e*			22	10	02.8	
VNA2				*e*			22	10	04.7	
VNA2				*e*			22	10	08.1	
VNA2				*e*		pP	22	10	11.9	-3.3
VNA2				*e*			22	10	19.1	
VNA2				*e*			22	10	24.8	
NJ2	**Nanjing**	**85.84**	**310**	*e*P		**P**	**22**	**10**	**24.9**	**-0.5**
NJ2					AP	pP	22	10	35.0	-7.7
NJ2					XP	sP	22	10	38.1	-11
NJ2					PP	PP	22	13	45.6	+0.1
NJ2					S		22	20	54.0	
NJ2					XS	sS	22	21	13.0	-10
NJ2					AMB	AMB				
	comp=Z,20nm,1.0s,mb5.3									
NJ2					AMB	AMB				
	comp=Z,150nm,6.0s									
NJ2					LR	LR				
	comp=N,460nm,17.0s									
NJ2					LR	LR				
	comp=E,460nm,17.5s									
NJ2					LR	LR				
	comp=Z,250nm,19.2s									
NVAR	**Mina Array Bea**	**86.19**	**42**		P	**P**	**22**	**10**	**27.4**	**+0.3**
	comp=Z,3.3nm,1.0s,mb4.5,baz=207,slow=6.6,SNR=11									
MDJ	**Mudanjiang**	**87.70**	**325**		P	**P**	**22**	**10**	**34.9**	**+0.4**
MDJ					AMB	AMB				
	comp=Z,11nm,1.3s,mb4.9									
MDJ					AMB	AMB				
	comp=Z,256nm,4.4s									
MDJ	**Mudanjiang**	**87.70**	**325**		P	**P**	**22**	**10**	**30.9**	**-3.5**
	comp=Z,36nm,1.4s,mb5.4									
CN2	**Changchun**	**89.31**	**322**	*e*P		**P**	**22**	**10**	**41.8**	**-0.2**
CN2					AMB	AMB				
	comp=Z,20nm,1.2s,mb5.3									
CN2					LR	LR				
	comp=N,500nm,19.0s									
CN2					LR	LR				
	comp=E,600nm,19.0s									
CN2					LR	LR				
	comp=Z,700nm,21.0s									
TIA	**Tai'an**	**89.48**	**312**		P	**P**	**22**	**10**	**44.0**	**+1.2**
KLR	**Kul'dur**	**89.97**	**329**	*e*P		**P**	**22**	**10**	**42.2**	**-2.9**
KLR					pmax	pmax				
	comp=Z,63nm,2.0s,mb5.6									
MNTX	**Cornudas Mount**	**90.57**	**54**	*e*P		**P**	**22**	**10**	**47.8**	**-0.1**
	comp=Z,5.7nm,1.3s,mb4.7									
ANMO	**Albuquerque**	**91.62**	**51**	*i* P		**P**	**22**	**10**	**53

CLL				*e*pPKPab	pPKPab	22 18 18.0	-7.2
BRG	**Berggiesshubel**	**156.27**	**343**	*e*PKP	PKPab	22 18 06.9	-1.5
	comp=Z,3.7nm,1.3s						
BRG	**Berggiesshubel**	**156.27**	**343**	*e*PKP2	PKPab	22 18 06.9	-1.4
BRG				pmax	pmax		
	comp=Z,4.0nm,1.3s						
VYHS	**Vyhne**	**156.71**	**333**	*e*PKP	PKPab	22 18 09.8	-0.4
VRAC	**Vranov**	**156.87**	**337**⇑	*i*P	PKPab	22 18 10.9	0.0
NKC	**Novy Kostel**	**157.23**	**344**	*e*PKPAB	PKPab	22 18 11.1	-1.4
NKC				*ex*	x	22 18 22.1	
TREC	**Trest**	**157.24**	**339**	*e*PKPAB	PKPab	22 18 11.6	-0.9
KHC	**Kasperske Hory**	**157.96**	**342**	*e*PKPAB	PKPab	22 18 15.3	-0.3
KHC				x	x	22 18 27.5	
GERES	**GERESS Array B**	**158.18**	**341**	PKPab	PKPab	22 18 12.8	-3.8
	baz=60,slow=2.4						
CRES	**Cresnjev**	**160.22**	**334**	*e*PKPab	PKPab	22 18 25.1	-0.4
LJU	**Ljubljana**	**160.38**	**336**	*e*PKPab	PKPab	22 18 26.2	0.0
CADS	**Cadrg**	**160.50**	**338**	*e*PKPab	PKPab	22 18 26.7	0.0
SSF	**Saint Saulge**	**161.52**	**359**	*e*PKP2	PKPab	22 18 34.6	+3.5
	comp=Z,20nm,1.6s						
TCF	**Toulx Ste Croi**	**162.28**	**2**	*e*PKP2	PKPab	22 18 36.8	+2.3
	comp=Z,30nm,1.6s						
TORD	**Torodi Ar. Bea**	**164.61**	**175**	PKP	PKPdf	22 17 49.4	+0.2
	comp=Z,1.0nm,1.1s,baz=25,slow=1.0,SNR=4.3						
TORD				PKPab	PKPab	22 18 44.7	0.0
	comp=Z,1.8nm,0.9s,baz=188,slow=3.1,SNR=6.4						
ESDC	**Sonseca Array**	**167.44**	**26**	PKPab	PKPab	22 18 54.1	-3.0
	baz=224,slow=46						

*ISCJB **01** 22:23:06.7±1.1, 4170N±006×2545E±008, h3km±13km, Error ellipse: s-maj=10.5km s-min=9.0km az=75.0*
*ATH **01** 22:23:10.1, 4157N×2535E, h23km±2km, MD3.2/3*
*THE **01** 22:23:10.7, 4165N×2557E, h19km*

ISC 01 22:23:07.5±1.1, 4172N±006×254E±01, h4km±15km, n7, σ0§51/10, 1C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RDO	**Rodhopi**	**0.58**	**171**	⇑*i*	PB	**Pg**		**22 23 19.0**	**+0.3**
RDO					*e*SB	**Sg**		**22 23 26.3**	**0.0**
ALN	**Alexandroupoli**	**0.95**	**150**		*e*Pg	**Pg**		**22 23 25.9**	**+0.2**
JMB	**Yambol**	**1.14**	**49**		*e*Pg	**Pg**		**22 23 29.4**	**0.0**
JMB					*e*Sg	**Sg**		**22 23 44.2**	**-0.1**
NVR	**Nevrokopi**	**1.22**	**253**		*e*PN	**Pn**		**22 23 31.5**	**+0.2**
NVR					*e*SN	**Sn**		**22 23 48.5**	**+0.2**
SRS	**Serrai**	**1.50**	**247**		*e*Pg	**Pg**		**22 23 36.4**	**+0.2**
OUR	**Ouranopolis**	**1.76**	**218**		*e*Pb	**Pb**		**22 23 38.8**	**-1.5**
PLG	**Polygyros**	**2.01**	**229**		*e*PN	**Pn**		**22 23 42.5**	**+0.4**

*IDC **01** 22:37:45.9±0.5, 2027N×14682E, h0km, mb4.4/18, mb1 4.5/21, mb1mx4.5/26, mbtmp4.5/21, ML4.7/3, MS4.2/9, Ms1 4.2/9, ms1mx3.8/24, Error ellipse: s-maj=24.1km s-min=11.3km az=84.0*
*MOS **01** 22:37:49.3±1.4, 2029N×14687E, h33km, mb5.0/22, MS4.5/4, Error ellipse: s-maj=14.5km s-min=6.1km az=107.2*
*ISCJB **01** 22:37:49.6±1.2, 2024N±004×14688E±006, h35km±11km, mb4.7/58, MS4.3/17, Error ellipse: s-maj=9.9km s-min=6.9km az=156.6*
*BJI **01** 22:37:51.8, 2009N×14700E, h68km, mB5.2, mb4.8, Ms4.6, Msz4.3*
*NEIC **01** 22:37:53.5±1.6, 2026N×14687E, h53km±14km, mb4.7/22, MS4.8/1, Error ellipse: s-maj=11.7km s-min=6.1km az=81.0*
*HRVD **01** 22:37:53.5±0.5, 2043N×14679E, h93km±5km, MW5.0/44, Centroid moment Tensor Solution. LP body waves: s9,c10;Mantle waves: s44,c64; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr 3.58±.14; Mθθ -0.59±.14; Mφφ -2.99±.16; Mrθ -0.01±.12; Mθφ 1.87±.12; Mφr 0.35±.18; Best double couple: M0 3.81300×10^16^ NP1:φs 148.00000°, δ43.00000°, λ86.00000°. NP2:φs 334.00000°, δ47.00000°, λ94.00000°. Principal axes: T 3.6010, Plg86.0000°, Azm292.0000°; N 0.4270, Plg3.0000°, Azm152.0000°; P -4.0240, Plg2.0000°, Azm61.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 01 22:37:51.9±1.1, 2028N±004×14692E±006, h38km±9km, h62km±.4km: pP-P, n127, σ1§15/125, mb4.7/58, MS4.3/17, 4C-2D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.94**	**197**	Pn		**Pn**		**22 39 29.6**	**-1.3**
	29nm,0.3s,baz=148,slow=7.4,SNR=8.5								
GUMO				LR		LR		22 41 57.2	
	comp=Z,2μm,19.1s,baz=225,slow=36								
GUMO	**Guam**	**6.94**	**197**	*e*P		**Pn**		**22 39 32.9**	**+1.9**
GUMO				*e*				22 40 43.1	
GUMO				pmax		pmax			
	comp=Z,183nm,0.8s								
GUMO	**Guam**	**6.94**	**197**	*e*Pn		**Pn**		**22 39 32.9**	**+1.9**
	comp=Z,183nm,0.8s								
GUMO				*e*Sn		**Sn**		**22 40 43.1**	**-5.6**
CBIJ	**Chichi jima**	**8.05**	**328**	Pn		**Pn**		**22 39 44.0**	**-2.2**
	comp=Z,31nm,0.3s,baz=182,slow=9.9,SNR=17								
JHJ	**Hachijo jima 2**	**14.28**	**335**	LR		LR		22 46 28.5	
	comp=Z,821nm,19.3s,baz=75,slow=37								
MJAR	**Matsushiro Arr**	**17.91**	**337**	P		**Pn**		**22 41 56.2**	**-1.7**
	comp=Z,1.1nm,0.3s,baz=156,slow=10,SNR=20								
MJAR	**Matsushiro Arr**	**17.91**	**337**	P		**Pn**		**22 41 56.2**	**-1.7**
MAJO	**Matsushiro**	**17.91**	**337**	*e*P		**Pn**		**22 41 54.7**	**-3.2**
MAJO				pmax		pmax			
	comp=Z,20nm,0.8s								
MAJO	**Matsushiro**	**17.91**	**337**	*e*P		**Pn**		**22 41 54.7**	**-3.2**
	comp=Z,20nm,0.8s								
MAT	**Matsushiro**	**17.91**	**337**	P		**Pn**		**22 41 58.8**	**+0.9**
MAT				*e*S		**S**		**22 45 23.0**	**+1.1**
MAT	**Matsushiro**	**17.91**	**337**	*e*P		**Pn**		**22 41 59.0**	**+1.1**
MAT				pmax		pmax			
	comp=Z,11nm,1.0s								
MAT	**Matsushiro**	**17.91**	**337**	*e*P		**Pn**		**22 41 59.0**	**+1.1**
	comp=Z,11nm,1.0s								
JOW	**Kunigami**	**18.29**	**294**	LR		LR		22 48 25.7	
	comp=Z,1μm,18.4s,baz=239,slow=35								
NACB	**Ninganchiao**	**23.75**	**284**	*e*P		**P**		**22 43 02.6**	**+1.9**
KS15	**Wonju Array Si**	**23.81**	**320**	*e*P		**P**		**22 43 01.2**	**0.0**
TATO	**Taipei**	**23.92**	**286**	P		**P**		**22 43 03.4**	**+1.1**
ASAJ	**Asahikawa**	**24.04**	**352**	P		**P**		**22 43 02.8**	**-0.5**
	comp=Z,8.9nm,0.6s,mb4.3,baz=214,slow=3.6,SNR=4.9								
ASAJ				LR		LR		22 51 24.2	
	comp=Z,388nm,21.3s,MS3.9,baz=188,slow=34								
ASAJ	**Asahikawa**	**24.04**	**352**	P		**P**		**22 43 02.8**	**-0.5**
ASAJ				pmax		pmax			
	comp=Z,9.0nm,0.6s								
ASAJ				MLR		MLR			
	comp=Z,388nm,21.3s								
NJ2	**Nanjing**	**27.70**	**301**	*e*P		**P**		**22 43 40.0**	**+3.6**
NJ2				AP		pP		22 43 54.3	+7.3
NJ2				XP		sP		22 44 01.6	+10
NJ2				PP				22 44 30.0	
NJ2				S		**S**		**22 48 15.0**	**-1.1**
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.6s,mb4.6								
NJ2				AMB		AMB			
	comp=Z,70nm,10.6s								
NJ2				LR		LR			
	comp=N,1μm,21.2s,MS4.7								
NJ2				LR		LR			
	comp=E,1μm,17.7s,MS4.7								
NJ2				LR		LR			
	comp=Z,510nm,17.1s,MS4.2								
MDJ	**Mudanjiang**	**28.21**	**333**	P		**P**		**22 43 43.4**	**+2.4**
MDJ				AMB		AMB			
	comp=Z,6.0nm,0.8s,mb4.3								
MDJ				AMB		AMB			
	comp=Z,214nm,4.4s								
MDJ				LR		LR			
	comp=N,168nm,18.5s,MS4.0								
MDJ				LR		LR			
	comp=E,318nm,22.2s,MS4.0								
MDJ				LR		LR			
	comp=Z,335nm,18.5s,MS4.0								
MDJ	**Mudanjiang**	**28.21**	**333**	*e*P		**P**		**22 43 40.5**	**-0.5**
PMG	**Port Moresby**	**29.50**	**180**	P		**P**		**22 43 53.0**	**+0.6**
	comp=Z,20nm,1.0s,mb4.8,baz=286,slow=4.6,SNR=3.3								
PMG				LR		LR		22 55 04.6	
	comp=Z,250nm,18.8s,MS3.9,baz=154,slow=35								
PMG	**Port Moresby**	**29.50**	**180**	*e*P		**P**		**22 43 53.5**	**+1.1**
HABR	**Khabarovsk**	**29.71**	**344**	*e*P		**P**		**22 43 52.6**	**-1.7**
HABR				*e*S		**S**		**22 48 49.6**	**+1.9**
TIA	**Tai'an**	**30.52**	**308**	*e*P		**P**		**22 44 01.3**	**-0.1**
KLR	**Kul'dur**	**31.33**	**341**	*e*P		**P**		**22 44 05.7**	**-2.9**
KLR				MLR		MLR			
	comp=E,500nm,13.0s								
KLR				MLR		MLR			
	comp=Z,700nm,13.0s,MS4.5								
BJT	**Baijiatuau**	**32.84**	**314**	P		**P**		**22 44 23.0**	**+1.2**
QIZ	**Qiongzhong**	**34.90**	**274**	*e*P		**P**		**22 44 40.3**	**+0.6**
QIZ				S		**S**		**22 50 07.7**	**-0.7**
QIZ				LR		LR			
	comp=N,322nm,21.3s,MS4.2								
QIZ				LR		LR			
	comp=E,195nm,16.3s,MS4.2								
QIZ				LR		LR			
	comp=Z,289nm,19.9s,MS4.0								
HIA	**Hailar**	**36.16**	**330**	*e*P		**P**		**22 44 51.7**	**+1.1**
HIA				pmax		pmax			
	comp=Z,21nm,1.1s								
HIA	**Hailar**	**36.16**	**330**	*e*P		**P**		**22 44 51.7**	**+1.1**
	comp=Z,21nm,1.1s,mb5.0								
HHC	**Hu-ho-hao-te**	**36.36**	**312**	*e*P		**P**		**22 44 54.5**	**+2.2**
HHC				AP		pP		22 45 09.8	+6.8
HHC				XP		sP		22 45 17.8	+10
HHC				PP		PP		22 46 17.6	+2.2
HHC				PCP		PcP		22 47 19.5	+3.3
HHC				S		**S**		**22 50 30.3**	**-0.6**
HHC				PCS		PcS		22 51 06.2	+2.2
HHC				SS		SS		22 52 55.9	-15
HHC				AMB		AMB			
	comp=Z,13nm,1.1s,mb4.8								
HHC				AMB		AMB			
	comp=Z,218nm,4.6s								
HHC				LR		LR			
	comp=N,473nm,15.2s,MS4.5								
HHC				LR		LR			
	comp=E,401nm,17.6s,MS4.5								
HHC				LR		LR			
	comp=Z,409nm,19.0s,MS4.2								
BTO	**Baotou**	**37.35**	**311**	*e*P		**P**		**22 44 59.3**	**-1.4**
GYA	**Guiyang**	**37.35**	**287**	P		**P**		**22 45 00.7**	**0.0**
GYA				AP		pP		22 45 15.9	+4.5
GYA				PP		PP		22 46 28.5	+2.2
GYA				S		**S**		**22 50 41.3**	**-4.7**
GYA				SCP		ScP		22 51 01.4	-2.0
GYA				SCS		ScS		22 55 07.2	-4.3
GYA				AMB		AMB			
	comp=Z,10.0nm,0.6s,mb4.8								
GYA				AMB		AMB			
	comp=Z,90nm,3.2s								
GYA				LR		LR			
	comp=N,280nm,16.4s,MS4.3								
GYA				LR		LR			
	comp=E,340nm,16.0s,MS4.3								
GYA				LR		LR			
	comp=Z,370nm,16.2s,MS4.3								
CTA	**Charters Tower**	**40.12**	**181**	*e*P		**P**		**22 45 24.0**	**+0.1**
	comp=Z,9.6nm,1.2s,mb4.4								
CTA	**Charters Tower**	**40.12**	**181**	P		**P**		**22 45 24.4**	**+0.4**
	comp=Z,13nm,1.1s,mb4.6,baz=0.5,slow=8.2,SNR=4.9								
CTA	**Charters Tower**	**40.12**	**181**	*e*P		**P**		**22 45 24.0**	**+0.1**
CTA				pmax		pmax			
	comp=Z,10.0nm,1.2s								
CTAO	**Charters Tower**	**40.12**	**181**	*e*P		**P**		**22 45 24.4**	**+0.5**
CTAO				pmax		pmax			
	comp=Z,15nm,1.2s,mb4.6								
CTAO	**Charters Tower**	**40.12**	**181**	*e*P		**P**		**22 45 24.4**	**+0.4**
	comp=Z,15nm,1.2s,mb4.6								
CD2	**Chengdu**	**40.13**	**294**	*e*P		**P**		**22 45 22.9**	**-1.0**
CD2				AP		pP		22 45 38.2	+3.5
CD2				PP		PP		22 46 59.9	+3.3
CD2				S		**S**		**22 51 23.9**	**-3.9**
CD2				AMB		AMB			
	comp=Z,10.0nm,0.8s,mb4.6								
CD2				LR		LR			
	comp=N,380nm,14.4s								
CD2				LR		LR			
	comp=Z,360nm,18.0s,MS4.3								
LZH	**Lanzhou**	**40.76**	**302**	*e*P		**P**		**22 45 29.0**	**-0.2**
LZH				AMB		AMB			
	comp=Z,30nm,1.5s,mb4.7								
KMI	**Kunming**	**40.91**	**285**	P		**P**		**22 45 30.9**	**+0.5**
KMI				AMB		AMB			
	comp=Z,4.0nm,0.8s,mb4.1								
CIT	**Chita**	**40.94**	**329**	*e*P		**P**		**22 45 32.0**	**+1.3**
CIT				pmax		pmax			
	comp=Z,51nm,1.5s,mb4.9								
WRAB	**Tennant Creek**	**41.82**	**198**	*i*P		**P**		**22 45 35.1**	**-2.8**
WRAB	**Tennant Creek**	**41.82**	**198**	*e*P		**P**		**22 45 38.2**	**+0.3**
	comp=Z,7.7nm,0.5s,mb4.6								
WB2	**Warramunga Arr**	**41.83**	**198**	*e*P		**P**		**22 45 38.4**	**+0.4**
WRA	**Warramunga Arr**	**41.83**	**198**	P		**P**		**22 45 36.9**	**-1.1**
	comp=Z,3.6nm,0.8s,mb4.0,baz=20,slow=8.3,SNR=15								
WRA				PcP		PcP		22 47 34.2	+0.7
	comp=Z,1.9nm,0.8s,baz=14,slow=3.2,SNR=5.1								
ULN	**Ulaanbaatar**	**42.28**	**320**⇑	*e*P		**P**		**22 45 41.5**	**-0.1**
ULN	**Ulaanbaatar**	**42.28**	**320**	*e*P		**P**		**22 45 41.5**	**-0.1**
	comp=Z,8.9nm,1.0s,mb4.3								
SONM	**Songino Array**	**42.66**	**320**	P		**P**		**22 45 44.3**	**-0.4**
	comp=Z,4.8nm,0.8s,mb4.3,baz=125,slow=6.6,SNR=18								
SONM				LR		LR		23 02 50.1	
	comp=Z,572nm,21.6s,MS4.4,baz=114,slow=35								
YAK	**Yakutsk**	**43.40**	**348**	*i*P		**P**		**22 45 51.0**	**+0.3**
YAK				pmax		pmax			
	comp=Z,12nm,0.7s,mb4.7								
FITZ	**Fitzroy Crossi**	**43.48**	**210**	*e*P		**P**		**22 45 51.7**	**+0.3**
	comp=Z,18nm,0.9s,mb4.8								
GTA	**Gaotai**	**44.53**	**306**	*e*P		**P**		**22 45 59.9**	**+0.1**
GTA				AMB		AMB			
	comp=Z,8.0nm,2.0s,mb4.2								
GTA				AMB		AMB			
	comp=Z,156nm,4.2s								
GTA				LR		LR			
	comp=N,536nm,19.8s,MS4.5								
GTA				LR		LR			
	comp=E,196nm,23.6s,MS4.5								
GTA				LR		LR			
	comp=Z,210nm,17.5s								
BOD	**Bodaibo**	**44.54**	**336**	*e*P		**P**		**22 45 55.7**	**-4.1**
BOD				pmax		pmax			
	comp=Z,6.0nm,1.8s,mb4.1								
ASAR	**Alice Springs**	**45.49**	**197**	P		**P**		**22 46 05.8**	**-1.6**
	comp=Z,1.2nm,0.8s,mb3.8,baz=13,slow=7.3,SNR=8.6								
ASAR				PcP		PcP		22 47 47.0	+1.2
	comp=Z,0.8nm,0.9s,baz=0.0,slow=3.7,SNR=2.5								
ZAK	**Zakamensk**	**45.60**	**322**	*e*P		**P**		**22 46 08.6**	**+0.3**
ZAK				pmax		pmax			
	comp=Z,13nm,1.2s,mb4.7								
TLY	**Talaya**	**45.96**	**324**	*i*P		**P**		**22 46 11.4**	**+0.3**
TLY	**Talaya**	**45.96**	**324**	*e*P		**P**		**22 46 11.7**	**+0.5**
	comp=Z,20nm,1.4s,mb4.9								
DZM	**Mont Dzumac**	**46.21**	**155**	P		**P**		**22 46 12.2**	**-0.9**
	comp=Z,5.9nm,1.0s,mb4.5,baz=65,slow=16,SNR=2.8								
MOY	**Mondy**	**47.45**	**323**	*e*P		**P**		**22 46 25.1**	**+2.3**
MBWA	**Marble Bar**	**49.02**	**214**	*e*P		**P**		**22 46 35.4**	**+0.5**
BILL	**Bilibino**	**49.27**	**9**	*i*P		**P**		**22 46 37.4**	**+0.6**
BILL				*e*S		**S**		**22 53 56.0**	**+16**
BILL				pmax		pmax			
	comp=Z,23nm,1.9s,mb4.9								
BILL				MLR		MLR			
	comp=Z,200nm,15.0s,MS4.2								
BILL	**Bilibino**	**49.27**	**9**	*e*P		**P**		**22 46 37.7**	**+0.8**
	comp=Z,5.0nm,0.8s,mb4.6								
SHL	**Shillong**	**50.67**	**287**	*e*P		**P**		**22 46 47.0**	**-0.5**
LSA	**Lhasa**	**51.00**	**292**	*e*P		**P**		**22 46 51.4**	**+1.5**
LSA				pmax		pmax			
	comp=Z,18nm,0.6s,mb5.2								
LSA	**Lhasa**	**51.00**	**292**	*e*P		**P**		**22 46 51.4**	**+1.5**
	comp=Z,18nm,0.6s,mb5.2								
STKA	**Stephens Creek**	**52.11**	**186**	*e*P		**P**		**22 46 55.3**	**-2.9**
	comp=Z,5.5nm,1.1s,mb4.4								
STKA	**Stephens Creek**	**52.11**	**186**	P		**P**		**22 46 56.0**	**-2.2**
	comp=Z,8.5nm,1.1s,mb4.6,baz=12,slow=5.6,SNR=4.6								
STKA				LR		LR		23 09 59.6	
	comp=Z,293nm,20.0s,MS4.3,baz=127,slow=37								
WMQ	**Urumqi**	**54.17**	**310**⇑	*i*P		**P**		**22 47 14.9**	**+1.5**
WMQ				AP		pP		22 47 30.9	+6.4
WMQ				XP		sP		22 47 37.9	+9.0
WMQ				PCP		PcP		22 48 18.9	+1.3
WMQ				PP		PP		22 49 18.5	+3.3
WMQ				PPP				22 50 29.4	
WMQ				SCP		ScP		22 52 10.2	-2.5
WMQ				S		**S**		**22 54 45.3**	**-2.4**
WMQ				PS				22 55 04.9	
WMQ				AMB		AMB			
	comp=Z,36nm,1.3s,mb5.1								
WMQ				AMB		AMB			
	comp=Z,134nm,4.3s								
WMQ				LR		LR			
	comp=N,223nm,15.0s,MS4.5								
WMQ				LR		LR			
	comp=E,260nm,15.5s,MS4.5								
WMQ				LR		LR			
	comp=Z,256nm,20.2s,MS4.3								
JIRN	**Jiri**	**55.52**	**290**	*e*P		**P**		**22 47 23.6**	**+0.5**
	comp=Z,67nm,0.8s,mb5.7								
GUN	**Gumba**	**55.76**	**290**	*e*P		**P**		**22 47 25.4**	**+0.5**
	comp=Z,174nm,1.3s								
PKI	**Pulchoki**	**56.21**	**290**	*e*P		**P**		**22 47 28.7**	**+0.6**
	comp=Z,28nm,0.9s,mb5.3								
KKN	**Kakani**	**56.30**	**290**	*e*P		**P**		**22 47 29.0**	**+0.3**
	comp=Z,47nm,0.9s,mb5.5								
DMN	**Daman**	**56.48**	**290**	*e*P		**P**		**22 47 30.3**	**+0.3**
	comp=Z,57nm,1.1s,mb5.5								
GKN	**Gorkha**	**56.84**	**291**	*e*P		**P**		**22 47 32.3**	**-0.3**
	comp=Z,79nm,1.1s,mb5.7								
KOLN	**Koldanda**	**57.78**	**291**	*e*P		**P**		**22 47 39.3**	**+0.1**
	comp=Z,47nm,0.9s,mb5.5								
MKAR	**Makanchi Array**	**58.22**	**313**	P		**P**		**22 47 41.7**	**-0.5**
	comp=Z,3.8nm,0.8s,mb4.5,baz=91,slow=8.3,SNR=32								
MKAR	**Makanchi Array**	**58.22**	**313**	P		**P**		**22 47 41.7**	**-0.5**
NVS	**Novosibirsk**	**58.55**	**323**	*e*P		**P**		**22 47 43.7**	**-0.9**
NVS				pmax		pmax			
	comp=E,21nm,1.4s								
NVS				pmax		pmax			
	comp=Z,23nm,1.4s,mb5.0								
NWAO	**Narrogin (SRO)**	**60.03**	**209**	P		**P**		**22 47 56.1**	**+1.3**
KURK	**Kurchatov**	**60.88**	**317**	*e*P		**P**		**22 48 00.1**	**-0.5**
KURK				pmax		pmax			
	comp=Z,19nm,1.1s,mb5.1								
KURK	**Kurchatov**	**60.88**	**317**	*e*P		**P**		**22 48 00.1**	**-0.5**
	comp=Z,19nm,1.1s,mb5.2								
ILAR	**Eielson Array**	**61.72**	**26**	P		**P**		**22 48 05.7**	**-0.7**
	comp=Z,3.8nm,0.9s,mb4.5,baz=259,slow=5.7,SNR=21								
AAK	**Ala-Archa**	**63.79**	**308**⇑	*e*P		**P**		**22 48 20.1**	**0.0**
AAK				pmax		pmax			
	comp=Z,8.0nm,2.0s,mb4.4								
AAK	**Ala-Archa**	**63.79**	**308**	P		**P**		**22 48 20.7**	**+0.6**
	comp=Z,2.8nm,1.0s,mb4.2								
HYB	**Hyderabad**	**64.35**	**280**	*i*P		**P**		**22 48 24.5**	**+0.8**
DAWY	**Dawson**	**64.82**	**28**	*e*P		**P**		**22 48 26.9**	**+0.1**
BRVK	**Borovoye**	**66.07**	**320**	*e*P		**P**		**22 48 34.3**	**-0.6**
BRVK				pmax		pmax			
	comp=Z,6.0nm,0.8s,mb4.7								
BRVK	**Borovoye**	**66.07**	**320**	*e*P		**P**		**22 48 34.3**	**-0.5**
	comp=Z,5.5nm,0.8s,mb4.6								
KK31	**Karatay Array**	**66.66**	**309**	*i*P		**P**		**22 48 38.2**	**-0.5**
KK31				pmax		pmax			
	comp=Z,10.0nm,0.9s,mb4.8								
ZRNK	**Zerenda**	**66.85**	**320**	*i*P		**P**		**22 48 39.4**	**-0.4**
ZRNK				pmax		pmax			
	comp=Z,12nm,1.4s,mb4.7								
ZRNK	**Zerenda**	**66.85**	**320**	*e*P		**P**		**22 48 38.7**	**-1.1**
	comp=Z,12nm,1.2s,mb4.8								
RPZ	**Rata Peaks**	**67.42**	**161**	P		**P**		**22 48 42.9**	**-0.6**
	comp=Z,5.2nm,0.8s,mb4.6,baz=143,slow=7.8,SNR=4.6								
INK	**Inuvik**	**67.47**	**23**	*e*P		**P**		**22 48 43.6**	**-0.2**
INK				pmax		pmax			
	comp=Z,7.0nm,0.9s								
INK	**Inuvik**	**67.47**	**23**	*e*P		**P**		**22 48 43.6**	**-0.2**
	comp=Z,7.3nm,0.9s,mb4.7								
DLBC	**Dease Lake**	**69.34**	**34**	*e*P		**P**		**22 48 57.6**	**+2.1**
ARU	**Arti**	**72.46**	**324**⇓	*i*P		**P**		**22 49 13.2**	**-1.2**
ARU				*e*				22 49 30.1	
ARU				*e*				22 51 53.8	
ARU				*e*S		S		22 58 36.2	+0.5
ARU				*e*SS		SS		23 03 17.3	+2.6
ARU				pmax		pmax			
	comp=Z,7.0nm,0.7s,mb4.7								
ARU	**Arti**	**72.46**	**324**	*e*P		**P**		**22 49 12.9**	**-1.5**
	comp=Z,7.5nm,0.7s,mb4.7								
AKTO	**Aktyubinsk**	**73.96**	**318**	*i*P		**P**		**22 49 21.0**	**-2.3**
ORR	**Orenburg**	**75.69**	**320**	*e*P		**P**		**22 49 34.1**	**+0.8**
ORR				pmax		pmax			
	comp=Z,10.0nm,0.8s,mb4.8								
YKW3	**Yellowknife Ar**	**76.03**	**28**	*e*P		**P**		**22 49 34.9**	**-0.4**
YKA	**Yellowknife Ar**	**76.06**	**28**	P		**P**		**22 49 34.9**	**-0.4**
	comp=Z,2.1nm,0.7s,mb4.2,baz=288,slow=5.6,SNR=25								
YKA	**Yellowknife Ar**	**76.06**	**28**	P		**P**		**22 49 34.9**	**-0.4**
ARCES	**ARCESS Array B**	**81.35**	**342**	P		**P**		**22 50 04.8**	**+0.3**
	comp=Z,2.5nm,0.8s,mb4.2,baz=59,slow=7.3,SNR=8.0								
ELK	**Elko**	**82.72**	**49**	*e*P		**P**		**22 50 11.5**	**-0.2**
ELK				*e*				22 50 18.3	
JOF	**Joensuu**	**83.07**	**335**	*e*p		**P**		**22 50 12.8**	**-0.7**
	comp=Z,0.5nm,0.3s,mb4.0								
OBN	**Obninsk**	**84.58**	**327**	⇓P		**P**		**22 50 22.0**	**+0.8**
OBN				*e*				22 50 36.5	
OBN								23 00 48.0	
OBN				pmax		pmax			
	comp=Z,9.0nm,0.7s,mb5.0				

LNIG				*i* S	Sn	22 44 13.0	-3.8
WMOK	**Wichita Mounta**	**16.89**	**17**	Pn	Pn	22 44 48.0	-0.5

*SZGRF **01** 22:41:35.6, 14.32S×129.0W, h33km, mb4.9, Southern Mid-Atlantic Ridge*
*ISCJB **01** 22:41:49.2±0.3, 11.39S±0.006×13.15W±0.008, h10km, mb4.4/34, MS4.3/10, Error ellipse: s-maj=12.1km s-min=7.2km az=63.8*
*IDC **01** 22:41:49.4±0.5, 11.45S×13.13W, h0km, mb4.2/18, mb1 4.3/19, mb1mx4.2/24, mbtmp4.2/19, ML3.6/1, MS4.2/9, Ms1 4.2/9, ms1mx4.1/15, Error ellipse: s-maj=19.0km s-min=12.9km az=142.0*
*HRVD **01** 22:41:51.3±0.4, 11.30S×13.19W, h14km±1km, MW4.9/59, Centroid moment Tensor Solution. LP body waves: s16,c18;Mantle waves: s59,c80; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.26±.21; $M_{\theta\theta}$0.35±.11; $M_{\phi\phi}$1.91±.16; $M_{r\theta}$1.09±.31; $M_{\theta\phi}$-0.34±.07; $M_{\phi r}$1.53±.37; Best double couple: M_o2.77300×10^{16} NP1:χ_{0s}335.00000°, δ31.00000°, λ-125.00000°. NP2: ϕ_s194.00000°, δ65.00000°, λ-71.00000°. Principal axes: T 2.4110, Plg18.0000°, Azm271.0000°; N 0.7220, Plg17.0000°, Azm6.0000°; P -3.1350, Plg65.0000°, Azm137.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **01** 22:41:51.3±0.3, 11.43S×13.14W, h10km, mb4.8/14 Error ellipse: s-maj=9.8km s-min=6.3km az=123.0*
*MOS **01** 22:41:52.9±0.9, 11.38S×13.16W, h34km, mb4.9/14, Error ellipse: s-maj=18.3km s-min=6.7km az=68.7*

ISC 01 22:41:51.5±0.3, 1142S±0.006×1311W±0.008, h10km, n111, σ0≥80/104, mb4.4/34, MS4.3/10, 5C-4D, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIC	**Lamto**	**19.28**	**25**	*e*P	**Pn**	**22 46 17.6**	**+0.3**
LIC	44nm,1.3s			*e*R			
	391nm,18.0s						
LIC	**Lamto**	**19.28**	**25**	*e*P	**Pn**	**22 46 17.6**	**+0.3**
	22nm,1.3s						
DBIC	**Dimbokro**	**19.76**	**25**	P	**Pn**	**22 46 21.5**	**-1.5**
	0.2nm,0.3s,baz=185,slow=11,SNR=3.9						
DBIC				LR	LR	22 52 09.3	
	comp=Z,258nm,19.2s,baz=188,slow=31						
DBIC	**Dimbokro**	**19.76**	**25**	*e*P	**Pn**	**22 46 21.8**	**-1.2**
DBIC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
DBIC	**Dimbokro**	**19.76**	**25**	*e*P	**Pn**	**22 46 21.8**	**-1.2**
	comp=Z,4.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**28.49**	**31**	P	**P**	**22 47 45.9**	**-0.9**
	comp=Z,5.7nm,0.9s,mb4.2,baz=212,slow=8.4,SNR=35						
TSUM	**Tsumeb**	**30.57**	**108**	LR	LR	22 57 49.0	
	comp=Z,1μm,18.3s,MS4.5,baz=66,slow=31						
BDFB	**Brasilia**	**34.17**	**259**	P	**P**	**22 48 37.5**	**+0.7**
	comp=Z,12nm,1.0s,mb4.7,baz=73,slow=7.2,SNR=12						
BDFB				LR	LR	22 59 45.4	
	comp=Z,498nm,18.5s,MS4.3,baz=42,slow=32						
LSZ	**Lusaka**	**40.33**	**100**	P	**P**	**22 49 28.2**	**-0.8**
	comp=Z,2.7nm,0.9s,mb4.0,baz=238,slow=6.4,SNR=4.1						
MATP	**Matopo**	**40.91**	**108**	P	**P**	**22 49 33.9**	**+0.1**
	comp=Z,1.5nm,0.6s,mb3.8,baz=276,slow=8.1,SNR=4.3						
MATP	**Matopo**	**40.91**	**108**	P	**P**	**22 49 33.9**	**+0.1**
CPUP	**Villa Florida**	**44.16**	**244**	P	**P**	**22 49 59.1**	**-1.1**
	comp=Z,3.7nm,0.9s,mb4.1,baz=77,slow=9.2,SNR=6.1						
CPUP				LR	LR	23 05 50.3	
	comp=Z,420nm,20.3s,MS4.3,baz=71,slow=33						
CPUP	**Villa Florida**	**44.16**	**244**	*e*P	**P**	**22 50 00.2**	**-0.1**
CPUP				pmax	pmax		
	comp=Z,12nm,0.8s						
CPUP	**Villa Florida**	**44.16**	**244**	*e*P	**P**	**22 50 00.2**	**-0.1**
	comp=Z,12nm,0.8s,mb4.7						
SIV	**San Ignacio**	**46.74**	**259**	P	**P**	**22 50 20.7**	**0.0**
	comp=Z,2.0nm,0.9s,mb4.0,baz=91,slow=9.3,SNR=8.9						
SAML	**Samuel**	**49.30**	**268**	*e*P	**P**	**22 50 40.6**	**+0.1**
	comp=Z,19nm,1.7s,mb4.8						
KMBO	**Kilima Mbogo**	**51.01**	**82**	P	**P**	**22 50 54.8**	**+1.3**
	comp=Z,1.3nm,0.9s,mb3.9,baz=46,slow=20,SNR=3.1						
KMBO				LR	LR	23 10 08.4	
	comp=Z,393nm,18.1s,MS4.5,baz=268,slow=33						
LPAZ	**La Paz**	**53.51**	**258**	P	**P**	**22 51 11.5**	**-0.6**
	comp=Z,1.7nm,0.7s,mb4.1,baz=83,slow=11,SNR=7.2						
LPAZ				LR	LR	23 13 51.2	
	comp=Z,173nm,19.1s,MS4.1,baz=238,slow=36						
CFAA	**Coronel Fontan**	**54.48**	**239**	P	**P**	**22 51 18.1**	**-1.1**
	comp=Z,0.7nm,0.8s,mb3.6,baz=95,slow=9.2,SNR=8.6						
SJPF	**Ste Jean**	**55.34**	**11**	*e*P	**P**	**22 51 25.4**	**0.0**
	comp=Z,45nm,1.8s,mb4.9						
SJPF	**Ste Jean**	**55.34**	**11**	*e*P	**P**	**22 51 25.4**	**0.0**
SJPF				pmax	pmax		
	comp=Z,22nm,1.8s,mb4.9						
SJPF	**Ste Jean**	**55.34**	**11**	*e*P	**P**	**22 51 25.4**	**0.0**
	comp=Z,22nm,1.8s,mb4.9						
LASF	**Ste Croix**	**57.34**	**14**	*e*P	**P**	**22 51 39.6**	**-0.1**
LFF	**La Frestale**	**57.48**	**12**	*e*P	**P**	**22 51 40.3**	**-0.3**
FRF	**La Foret Royal**	**57.60**	**17**	*e*P	**P**	**22 51 41.1**	**-0.4**
VIVF	**Saint-Julien-l**	**58.28**	**15**	*e*P	**P**	**22 51 46.2**	**-0.1**
ORIF	**Oris-en-Rattie**	**58.65**	**16**	*e*P	**P**	**22 51 49.3**	**+0.5**
	comp=Z,13nm,1.2s,mb4.6						
ORIF				*e*R			
	comp=Z,341nm,19.8s						
ORIF	**Oris-en-Rattie**	**58.65**	**16**	*e*P	**P**	**22 51 49.3**	**+0.5**
ORIF				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.6						
ORIF	**Oris-en-Rattie**	**58.65**	**16**	*e*P	**P**	**22 51 49.3**	**+0.5**
ORIF				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.6						
ORIF	**Oris-en-Rattie**	**58.65**	**16**	*e*P	**P**	**22 51 49.3**	**+0.5**
	comp=Z,6.7nm,1.2s,mb4.5						
MBDF	**Montbardon**	**58.71**	**16**	*e*P	**P**	**22 51 49.9**	**+0.6**
TCF	**Toulx Ste Croi**	**59.06**	**12**	*e*P	**P**	**22 51 51.6**	**-0.1**
LPG	**La Plagne**	**59.42**	**16**	*e*P	**P**	**22 51 54.7**	**+0.5**
	comp=Z,18nm,1.1s,mb4.7						
LPG	**La Plagne**	**59.42**	**16**	*e*P	**P**	**22 51 54.7**	**+0.5**
LPG				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
LPG	**La Plagne**	**59.42**	**16**	*e*P	**P**	**22 51 54.7**	**+0.5**
LPG				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
LPG	**La Plagne**	**59.42**	**16**	*e*P	**P**	**22 51 54.7**	**+0.5**
	comp=Z,9.0nm,1.1s,mb4.7						
LPL	**La Plagne**	**59.43**	**16**	*e*P	**P**	**22 51 54.7**	**+0.4**
	comp=Z,26nm,1.4s,mb4.8						
LPL	**La Plagne**	**59.43**	**16**	*e*P	**P**	**22 51 54.7**	**+0.4**
LPL				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.8						
LPL	**La Plagne**	**59.43**	**16**	*e*P	**P**	**22 51 54.7**	**+0.4**
LPL				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.8						
LPL	**La Plagne**	**59.43**	**16**	*e*P	**P**	**22 51 54.7**	**+0.4**
	comp=Z,13nm,1.4s,mb4.8						
VNA2	**Neumayer--Watz**	**59.57**	**178**	*e*Pdiff	**P**	**22 51 55.0**	**-0.2**
	baz=358,slow=8.0						
VNA2				*e*	pP	22 51 57.0	-1.5
VNA2				*e*		22 52 02.1	
VNA3	**Neumayer Olymp**	**59.82**	**179**	*e*Pdiff	**P**	**22 51 58.2**	**+1.2**
VNA3				*e*		22 52 04.3	
SSF	**Saint Saulge**	**60.08**	**13**	*e*P	**P**	**22 51 58.4**	**-0.3**
CABF	**La Chapelle**	**60.27**	**15**	*e*P	**P**	**22 51 59.4**	**-0.7**
	comp=Z,35nm,1.3s,mb4.9						
CABF	**La Chapelle**	**60.27**	**15**	*e*P	**P**	**22 51 59.4**	**-0.7**
CABF				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.9						
CABF	**La Chapelle**	**60.27**	**15**	*e*P	**P**	**22 51 59.4**	**-0.7**
CABF				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.9						
CABF	**La Chapelle**	**60.27**	**15**	*e*P	**P**	**22 51 59.4**	**-0.7**
	comp=Z,18nm,1.3s,mb4.9						
LOR	**Lormes**	**60.35**	**13**	*e*P	**P**	**22 52 00.0**	**-0.6**
LOR				*e*R			
	comp=Z,289nm,22.0s						
LOR	**Lormes**	**60.35**	**13**	*e*P	**P**	**22 52 00.0**	**-0.6**
LOR				LR	LR		
	comp=Z,290nm,22.0s,MS4.4						
SNAA	**Sanae**	**60.54**	**176**	P	**P**	**22 52 01.4**	**-0.5**
	comp=Z,2.1nm,0.9s,mb4.3,baz=348,slow=7.9,SNR=9.7						
SNAA	**Sanae**	**60.54**	**176**	*e*Pdiff	**P**	**22 52 01.3**	**-0.6**
SNAA				*e*	pP	22 52 03.4	-1.7
SNAA				*e*		22 52 08.9	
SNAA	**Sanae**	**60.54**	**176**	*e*P	**P**	**22 52 01.5**	**-0.4**
SNAA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SNAA	**Sanae**	**60.54**	**176**	*e*P	**P**	**22 52 01.5**	**-0.4**
	comp=Z,5.6nm,0.8s,mb4.8						
SDV	**Santo Domingo**	**60.65**	**287**	P	**P**	**22 52 04.1**	**+1.4**
	comp=Z,5.7nm,1.0s,mb4.6,baz=86,slow=3.5,SNR=4.7						
SDV	**Santo Domingo**	**60.65**	**287**	*e*P	**P**	**22 52 04.1**	**+1.4**
	comp=Z,5.8nm,0.9s,mb4.7						
HAU	**Haudompre**	**61.63**	**15**	*e*P	**P**	**22 52 09.5**	**+0.2**
	comp=Z,44nm,1.5s,mb5.1						
HAU				*e*R			
	comp=Z,296nm,19.2s						
HAU	**Haudompre**	**61.63**	**15**	*e*P	**P**	**22 52 09.5**	**+0.2**
HAU				pmax	pmax		
	comp=Z,22nm,1.5s,mb5.1						
HAU	**Haudompre**	**61.63**	**15**	*e*P	**P**	**22 52 09.5**	**+0.2**
	comp=Z,22nm,1.5s,mb5.1						
MEZF	**Maizieres J'vi**	**61.79**	**14**	*e*P	**P**	**22 52 10.0**	**-0.3**
BOJS	**Bojanci**	**62.16**	**22**	*e*P	**P**	**22 52 13.8**	**+0.9**
LJU	**Ljubljana**	**62.36**	**21**	*e*P	**P**	**22 52 15.3**	**+1.1**
GCIS	**Gornji Cirnik**	**62.61**	**22**	*e*P	**P**	**22 52 17.2**	**+1.3**
ROSC	**El Rosal**	**63.01**	**281**	LR	LR	23 16 49.1	
	comp=Z,212nm,20.2s,MS4.3,baz=36,slow=33						
GIVF	**Givet**	**63.24**	**13**	*e*P	**P**	**22 52 21.2**	**+1.1**
PKSM	**Moragy**	**64.06**	**24**	*i*P	**P**	**22 52 25.4**	**-0.1**
PKSM	**Moragy**	**64.06**	**24**	*e*P	**P**	**22 52 26.0**	**+0.5**
SOP	**Sopron**	**64.49**	**22**	*e*P	**P**	**22 52 29.4**	**+1.1**
GRA1	**Grafenberg Arr**	**64.49**	**17**	*e*P	**P**	**22 52 28.5**	**+0.2**
	comp=Z,14nm,1.9s,mb4.7						
GRF	**Grafenberg Arr**	**64.49**	**17**	*e*P	**P**	**22 52 28.5**	**+0.2**
	comp=Z,14nm,1.9s,mb4.7						
GRF	**Grafenberg Arr**	**64.49**	**17**	*e*P	**P**	**22 52 28.5**	**+0.2**
GRF				pmax	pmax		
	comp=Z,14nm,1.9s,mb4.7						
GRF	**Grafenberg Arr**	**64.49**	**17**	*e*P	**P**	**22 52 28.5**	**+0.2**
GRF				pmax	pmax		
	comp=Z,14nm,1.9s,mb4.7						
GERES	**GERESS Array B**	**64.50**	**19**	P	**P**	**22 52 28.5**	**+0.1**
	comp=Z,1.9nm,1.0s,mb4.1,baz=197,slow=4.2,SNR=12						
KHC	**Kasperske Hory**	**64.72**	**19**	*e*P	**P**	**22 52 29.9**	**+0.1**
KHC				*ex*	x	22 52 37.1	
BZS	**Buzias**	**64.82**	**26**	*i*P	**P**	**22 52 31.0**	**+0.6**
ZST	**Bratislava**	**65.12**	**22**	*e*P	**P**	**22 52 32.3**	**-0.1**
ZST				MLR	MLR		
	comp=Z,108nm,16.6s,MS4.1						
SRO	**Srobarova**	**65.25**	**23**	*e*P	**P**	**22 52 34.3**	**+1.1**
BUD	**Budapest**	**65.25**	**23**	*e*pP	pP	22 52 36.8	+0.3
NKC	**Novy Kostel**	**65.34**	**18**	*e*P	**P**	**22 52 33.6**	**-0.2**
MOX	**Moxa**	**65.46**	**17**	*e*P	**P**	**22 52 33.6**	**-1.0**
	comp=Z,15nm,1.6s,mb4.8						
MOX	**Moxa**	**65.46**	**17**	*e*P	**P**	**22 52 33.6**	**-1.0**
MOX				pmax	pmax		
	comp=Z,15nm,1.6s,mb4.8						
TREC	**Trest**	**65.48**	**20**	*e*P	**P**	**22 52 34.1**	**-0.7**
SMOL	**Smolenice**	**65.50**	**22**	*e*P	**P**	**22 52 33.2**	**-1.7**
SMOL				*e*		22 52 41.1	
PRU	**Pruhonice**	**65.77**	**19**	*e*P	**P**	**22 52 35.7**	**-0.9**
PSZ	**Piszkesteto**	**65.95**	**24**	P	**P**	**22 52 38.5**	**+0.8**
VYHS	**Vyhne**	**66.01**	**23**	*i*P	**P**	**22 52 38.6**	**+0.5**
VYHS				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
BRG	**Berggiesshubel**	**66.35**	**18**	*e*P	**P**	**22 52 39.3**	**-1.1**
	comp=Z,2.2nm,1.1s,mb4.1						
BRG							
	comp=N,132nm,23.1s						
BRG							
	comp=E,115nm,17.0s						
BRG							
	comp=Z,142nm,13.6s						
BRG	**Berggiesshubel**	**66.35**	**18**	*e*P	**P**	**22 52 39.3**	**-1.0**
BRG				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb4.0						
BRG				MLR	MLR		
	comp=N,132nm,23.1s						
BRG				MLR	MLR		
	comp=E,115nm,17.0s						
BRG				MLR	MLR		
	comp=Z,142nm,13.6s						
MORC	**Moravsky Berou**	**66.60**	**21**	*i*P	**P**	**22 52 41.9**	**-0.1**
KECS	**Kecovo**	**66.64**	**24**	*e*P	**P**	**22 52 42.5**	**+0.3**
KECS				*e*		22 52 50.2	
KECS	**Kecovo**	**66.64**	**24**	*e*P	**P**	**22 52 42.6**	**+0.4**
KECS				*e*		22 52 50.2	
KECS				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
MLR	**Muntele Rosu**	**66.69**	**29**	*i*P	**P**	**22 52 42.6**	**+0.1**
UPC	**Upice**	**66.70**	**20**	*e*P	**P**	**22 52 41.1**	**-1.5**
BRTR	**Keskin Array B**	**66.86**	**38**	P	**P**	**22 52 44.5**	**+0.9**
	comp=Z,1.0nm,0.9s,mb3.9,baz=224,slow=6.9,SNR=6.0						
CRVS	**Cervenica-Dubn**	**67.36**	**24**	*e*P	sP	22 52 55.9	+4.7
CRVS	**Cervenica-Dubn**	**67.36**	**24**	*e*	sP	22 52 55.9	+4.7
STHS	**Stebnicka Huta**	**67.69**	**23**	*e*P	**P**	**22 52 49.3**	**+0.5**
STHS				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
KOLS	**Kolonicke sedl**	**67.71**	**24**	*e*P	pP	22 52 52.1	-0.1
KOLS	**Kolonicke sedl**	**67.71**	**24**	*e*pP	pP	22 52 52.1	-0.1
AKASG	**Malin Array Be**	**71.99**	**27**	P	**P**	**22 53 14.8**	**-0.5**
	comp=Z,7.5nm,0.8s,mb4.7,baz=225,slow=6.8,SNR=28						
MAW	**Mawson**	**74.18**	**157**	P	**P**	**22 53 27.0**	**-1.3**
	comp=Z,4.0nm,0.9s,mb4.4,baz=280,slow=12,SNR=5.9						
MAW				LR	LR	23 19 15.0	
	comp=Z,154nm,20.1s,MS4.3,baz=67,slow=30						
NOA	**NORSAR Array B**	**74.75**	**12**	P	**P**	**22 53 31.4**	**-0.1**
	comp=Z,1.1nm,0.8s,mb3.8,baz=203,slow=6.4,SNR=3.7						
NOA				LR	LR	23 24 09.1	
	comp=Z,77nm,19.8s,MS4.0,baz=15,slow=34						
KIV	**Kislovodsk**	**74.81**	**38**	*e*P	**P**	**22 53 33.0**	**+1.1**
KIV				pmax	pmax		
	comp=Z,28nm,1.4s,mb5.0						
KIV	**Kislovodsk**	**74.81**	**38**	*e*P	**P**	**22 53 33.0**	**+1.0**
	comp=Z,28nm,1.4s,mb5.0						
OBN	**Obninsk**	**78.26**	**27**	*i*eP	**P**	**22 53 51.0**	**-0.4**
OBN				*e*		22 53 58.3	
OBN				pmax	pmax		
	comp=Z,17nm,1.8s,mb4.7						
QSPA	**South Pole Qui**	**78.73**	**180**	*e*P	**P**	**22 54 02.2**	**+8.2**
	comp=Z,23nm,1.2s,mb5.0						
FINES	**FINESS Array B**	**78.89**	**18**	P	**P**	**22 53 54.7**	**-0.3**
	comp=Z,4.2nm,0.8s,mb4.4,baz=132,slow=2.8,SNR=10						
FINES	**FINESS Array B**	**78.89**	**18**	P	**P**	**22 53 54.7**	**-0.3**
KAF	**Kangasniemi**	**79.48**	**18**	*e*pkp	**P**	**22 53 55.3**	**-2.9**
JOF	**Joensuu**	**81.63**	**19**	*e*pkp	**P**	**22 54 00.2**	**-9.5**
KEV	**Kevo**	**85.61**	**13**	*e*pkp	**P**	**22 54 26.5**	**-3.6**
VNDA	**Vanda**	**91.18**	**179**	P	**P**	**22 54 57.5**	**+0.8**
	comp=Z,1.1nm,0.9s,mb4.2,baz=186,slow=1.9,SNR=5.8						

MAN 01 22:43:26.6, 918N×125.48E, h5km, mb3.3, ML4.5, MS2.4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.25**	**146**	*e*P	Pg	22 43 32.5	+1.1
BUTP				*e*S	Sg	22 43 43.0	+8.4
SCPH	**Surigao**	**0.60**	**1**	*e*P	Pg	22 43 38.1	0.0
SCPH				*e*S	Sg	22 43 51.9	+6.0
CGP	**Cagayan de Oro**	**1.06**	**227**	*i*P	Pg	22 43 46.3	-0.5
CGP				*i*S	Sg	22 44 05.0	+4.4
BUKP	**Musuan**	**1.35**	**198**	*e*P	Pn	22 43 46.8	-5.3
BUKP				*e*S	Sb	22 44 09.7	-0.4
TBP	**Tagbilaran**	**1.68**	**288**	*e*P	Pn	22 43 58.4	+1.9
TBP						22 43 58.4	
PAGZ	**Pagadian**	**2.46**	**238**	*e*P	Pn	22 44 07.2	-0.1

IDC 01 22:46:24.6±4.8, 227N×9405W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.6/17, mbtmp3.6/3, MS4.1/1, Ms1 4.1/1, ms1mx3.4/13, Error ellipse: s-maj=352.4km s-min=54.9km az=88.0, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDAR	**Pinedale Array**	**42.64**	**343**	P	P	22 54 23.8	+1.1
	1.3nm,0.7s,baz=145,slow=8.2,SNR=10						
PDAR				LR	LR	23 10 08.3	
	comp=Z,244nm,18.6s,baz=37,slow=33						
YKA	**Yellowknife Ar**	**62.02**	**349**	P	P	22 56 46.3	-0.4
	0.2nm,0.7s,baz=157,slow=6.4,SNR=3.5						
ILAR	**Eielson Array**	**72.89**	**339**	P	P	22 57 54.8	-0.7
	0.5nm,0.9s,baz=140,slow=7.1,SNR=3.8						
WRA	**Warramunga Arr**	**129.61**	**246**	PKP	PKPdf	23 05 36.6	+1.1
	0.3nm,0.5s,baz=90,slow=2.5,SNR=4.8						

*ISCJB **01** 23:04:11.2±0.6, 44.50N±0.002×6.78E±0.005, h13km±6km, Error ellipse: s-maj=5.8km s-min=3.3km az=144.9*
*LDG **01** 23:04:12.4±0.1, 44.51N×6.79E, h2km, Md2.4/1, Ml1.7/5, Error ellipse: s-maj=1.6km s-min=0.8km az=76.0*
*STR **01** 23:04:12.7±0.4, 44.54N×6.90E, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 01 23:04:12.1±0.6, 4450N±002×679E±005, h9km±7km, n11, σ0≥37/22, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SURF	**Saint Ours**	**0.03**	**141**	Pg	**Pg**	**23 04 13.8**	**0.0**
SURF				Sg	**Sg**	**23 04 14.8**	**-0.2**
MBDF	**Montbardon**	**0.23**	**357**	*e*Pg	**Pg**	**23 04 17.0**	**+0.3**
MBDF				*e*Sg	**Sg**	**23 04 20.3**	**+0.5**
	10nm,0.2s						
AUTN	**L'Aution**	**0.68**	**138**	Pg	**Pg**	**23 04 25.9**	**+0.6**
AUTN				Sg	**Sg**	**23 04 34.5**	**+0.2**
SAOF	**Saorge**	**0.76**	**133**	Pg	**Pg**	**23 04 26.5**	**-0.2**
SAOF				Sg	**Sg**	**23 04 36.3**	**-0.2**
ORIF	**Oris-en-Rattie**	**0.77**	**303**	*e*Pg	**Pg**	**23 04 26.4**	**-0.6**
ORIF				*e*Sg	**Sg**	**23 04 36.8**	**-0.2**
	3.6nm,0.4s						
SBF	**Sospel**	**0.79**	**144**	*e*Pg	**Pg**	**23 04 27.2**	**-0.2**
SBF				*e*Sg	**Sg**	**23 04 37.9**	**+0.2**
	5.2nm,0.3s						
FRF	**La Foret Royal**	**0.95**	**186**	*e*Pg	**Pg**	**23 04 30.0**	**-0.3**
FRF				*e*Sg	**Sg**	**23 04 42.7**	**0.0**
	3.4nm,0.2s						
LPG	**La Plagne**	**0.99**	**359**	*e*Pg	**Pg**	**23 04 31.5**	**+0.2**
LPG				*e*Sg	**Sg**	**23 04 44.3**	**+0.1**
	1.2nm,0.3s						
LPL	**La Plagne**	**1.01**	**358**	*e*Pg	**Pg**	**23 04 30.8**	**-0.8**
LPL				*e*Sg	**Sg**	**23 04 44.9**	**+0.1**
	1.0nm,0.3s						
SMRF	**Simiane la Rot**	**1.02**	**239**	*e*Pg	**Pg**	**23 04 32.5**	**+0.8**
SMRF				*e*Sg	**Sg**	**23 04 45.2**	**+0.2**
	1.6nm,0.2s						
LMR	**La Mourre**	**1.19**	**190**	*e*Pg	**Pg**	**23 04 34.5**	**-0.4**
LMR				*e*Sg	**Sg**	**23 04 50.3**	**0.0**
	1.4nm,0.2s						

IDC 01 23:37:44.7±8.2, 609S×12800E, h437km±108km, mb3.0/2, mb1 3.4/4, mb1mx3.1/12, mbtmp4.2/4, 1D, Error ellipse: s-maj=120.4km s-min=38.5km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.09**	**156**	P	P	23 40 57.1	+0.1
	2.0nm,0.3s,baz=335,slow=11,SNR=37						
WB2	**Warramunga Arr**	**15.09**	**156**	*i*P	P	23 40 57.1	+0.1
ASAR	**Alice Springs**	**18.38**	**163**	P	P	23 41 32.0	+0.3
	1.3nm,0.3s,baz=343,slow=12,SNR=37						
STKA	**Stephens Creek**	**28.64**	**155**	P	P	23 43 03.6	-0.3
	1.1nm,0.5s,baz=333,slow=12,SNR=6.0						
MKAR	**Makanchi Array**	**66.39**	**328**	P	P	23 47 49.0	+0.1
	0.3nm,0.4s,baz=118,slow=8.8,SNR=9.8						

*ISCJB **01** 23:37:50.1±4.4, 5.77S±0.01×259W±0.03, h62km±40km, mb4.2/10, Error ellipse: s-maj=31.8km s-min=14.1km az=126.7*
*IDC **01** 23:37:53.4±5.5, 5.777S×258.3W, h80km±49km, mb3.9/9, mb1 3.9/10, mb1mx3.8/15, mbtmp4.2/10, ML3.8/1, Error ellipse: s-maj=28.3km s-min=15.6km az=65.0*
*NEIC **01** 23:37:53.3±3.2, 5.771S×258.4W, h78km±28km, mb4.1/3, Error ellipse: s-maj=26.0km s-min=10.9km az=60.0*
*BJI **01** 23:37:53.2, 5.770S×258.0W, h78km, mB5.2, Ms5.0, Msz4.8*

ISC 01 23:37:52.4±4.1, 578S±01×258W±03, h70km±38km, n26, σ0≥89/16, mb4.1/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**16.88**	**155**	P	**Pn**	**23 41 43.4**	**-0.6**
	0.4nm,0.3s,baz=318,slow=14,SNR=30						
SNAA	**Sanae**	**16.88**	**155**	*e*P	**Pn**	**23 41 44.1**	**+0.1**
	2.8nm,0.5s						
MAW	**Mawson**	**38.34**	**142**	P	**P**	**23 45 05.3**	**-1.0**
	2.5nm,0.8s,mb4.1,baz=98,slow=13,SNR=2.9						
SBA	**Scott Base**	**44.43**	**184**	*e*P	**P**	**23 45 56.9**	**+0.7**
VNDA	**Vanda**	**44.90**	**182**	P	**P**	**23 46 00.1**	**+0.2**
	2.0nm,0.6s,mb4.0,baz=187,slow=6.4,SNR=27						
VNDA	**Vanda**	**44.90**	**182**	*e*P	**P**	**23 46 00.2**	**+0.3**
	1.9nm,0.6s,mb4.0						
BDFB	**Brasilia**	**45.21**	**329**	P	**P**	**23 46 03.1**	**+0.7**
	1.4nm,0.5s,mb3.9,baz=157,slow=6.6,SNR=5.1						
SIV	**San Ignacio**	**49.29**	**313**	P	**P**	**23 46 33.5**	**-0.5**
	0.7nm,0.5s,mb3.9,baz=182,slow=9.1,SNR=8.3						
LPAZ	**La Paz**	**51.97**	**305**	P	**P**	**23 46 54.6**	**+0.4**
	1.2nm,0.6s,mb4.1,baz=159,slow=5.2,SNR=8.7						
CASY	**Casey**	**52.05**	**159**	P	**P**	**23 46 56.4**	**+1.5**
SAML	**Samu

EBIE	**Bielsa**	**0.53**	**134**	Pg	Pg	23 39 48.6	-0.5
	0.2nm,0.1s,SNR=7.9						
EBIE				Lg		23 39 55.6	
	0.9nm,0.1s,SNR=7.5						
SJPF	**Ste Jean**	**0.63**	**276**	*e*Pg	Pg	23 39 51.3	+0.2
SJPF				*e*Sg	Sg	23 40 00.1	+0.8
	1.1nm,0.2s						
SJPF	**Ste Jean**	**0.63**	**276**	*e*Pg	Pg	23 39 51.3	+0.2
SJPF				*e*Sg	Sg	23 40 00.1	+0.8
	0.6nm,0.2s						

*ISCJB **01** 23:40:50.0±1.1,24**N**±0.2×989**W**±0.1,h10^{km},mb4.2/17, MS4.1/12,Error ellipse: s-maj=28.6km s-min=11.4km az=86.5*

*IDC **01** 23:40:49.1±2.6,229**N**×9905**W**,h0^{km},mb4.1/6,mb1 4.3/6, mb1mx4.0/16,mbtmp4.1/6,MS4.2/13,Ms1 4.2/13, ms1mx3.9/19,Error ellipse: s-maj=113.1km s-min=21.5km az=53.0*

*NEIC **01** 23:40:51.4±0.8,232**N**×9892**W**,h10^{km},mb4.3/11,Error ellipse: s-maj=23.3km s-min=9.5km az=224.0*

*HRVD **01** 23:40:51.4±0.4,243**N**×9869**W**,h22^{km}±1^{km},MW5.0/68, Centroid moment Tensor Solution. LP body waves: s26,c29;Mantle waves: s68,c100; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.10±.20; $M_{\theta\theta}$2.49±.16; $M_{\phi\phi}$-2.58±.18; $M_{r\theta}$1.82±.30; $M_{\theta\phi}$2.89±.12; $M_{\phi r}$1.04±.29; Best double couple: $M_0$4.31900×10^{16} NP1:$_{\theta s}$113.00000°, δ71.00000°,λ15.00000°. NP2:$_{\theta s}$18.00000°,δ76.00000°, λ160.00000°. Principal axes: T 4.7380, Plg24.0000°, Azm335.0000°; N -0.8320, Plg66.0000°, Azm164.0000°; P -3.9000, Plg3.0000°, Azm67.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 01 23:40:52.2±1.1,24N±0.2×989W±0.1,h10^{km},n34,σ$_{\theta}$95/22, mb4.2/17,MS4.1/12,West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**15.91**	**60**	LR	LR	23 48 55.9	
	comp=Z,2μm,19.9s,baz=209,slow=30						
JTS	**JuntasAbangare**	**15.91**	**60**	*e*Pn	**Pn**	**23 44 36.2**	**+0.1**
LPIG	**La Paz**	**24.23**	**334**	LR	LR	23 53 40.3	
	comp=Z,2μm,18.6s,MS4.6,baz=205,slow=32						
ROSC	**El Rosal**	**24.63**	**84**	LR	LR	23 52 57.6	
	comp=Z,161nm,18.9s,MS3.5,baz=215,slow=29						
LTX	**Lajitas**	**27.16**	**351**	*e*P	**P**	**23 46 35.4**	**-0.2**
	7.8nm,1.0s,mb4.2						
MNTX	**Cornudas Mount**	**29.77**	**349**	*e*P	**P**	**23 46 59.5**	**+0.5**
	5.5nm,1.2s,mb4.2						
CPRX	**Cap Rock**	**30.82**	**352**	*e*P	**P**	**23 47 09.4**	**+1.2**
WMOK	**Wichita Mounta**	**32.16**	**0**	*e*P	**P**	**23 47 20.7**	**+0.7**
	1.8nm,0.8s,mb4.0						
PFO	**Pinyon Flat Ob**	**35.12**	**334**	*e*P	**P**	**23 47 47.0**	**+1.3**
	10nm,1.1s,mb4.7						
LPAZ	**La Paz**	**35.62**	**122**	P	**P**	**23 47 51.1**	**+1.0**
	0.8nm,0.7s,mb3.8,baz=296,slow=14,SNR=2.7						
LPAZ				LR	LR	00 00 31.0	
	comp=Z,365nm,19.5s,MS4.2,baz=288,slow=33						
NEN	**Nelson**	**36.23**	**338**	*e*P	**P**	**23 47 55.2**	**-0.1**
SAML	**Samuel**	**37.34**	**108**	*e*P	**P**	**23 48 05.4**	**+0.7**
	5.5nm,1.2s,mb4.3						
TPNV	**Topopah Spring**	**37.91**	**337**	*e*P	**P**	**23 48 11.1**	**+1.5**
	5.5nm,1.0s,mb4.2						
SRU	**San Rafael**	**38.04**	**345**	*e*P	**P**	**23 48 09.5**	**-1.1**
DUG	**Dugway**	**39.67**	**343**	*e*P	**P**	**23 48 25.1**	**+0.7**
	9.6nm,1.2s,mb4.4						
HWUT	**Hardware Ranch**	**40.66**	**345**	*e*P	**P**	**23 48 33.6**	**+1.1**
	15nm,1.1s,mb4.5						
PDAR	**Pinedale Array**	**41.30**	**348**	P	**P**	**23 48 38.2**	**+0.4**
	5.2nm,0.9s,mb4.2,baz=153,slow=7.3,SNR=30						
PDAR				LR	LR	00 04 20.2	
	comp=Z,179nm,20.5s,MS3.9,baz=321,slow=34						
MOOW	**Moose Ponds**	**42.49**	**347**	*e*P	**P**	**23 48 47.0**	**-0.5**
	5.0nm,1.1s,mb4.1						
TAOE	**Nuku Hiva Isla**	**42.62**	**254**	*e*LR	LR	00 00 28.3	
	2μm,25.5s						
RKT	**Rikitea**	**43.35**	**232**	*e*LR	LR	00 00 44.1	
	646nm,31.2s						
GCMT	**Greycliff**	**44.23**	**349**	*e*P	**P**	**23 49 01.5**	**-0.1**
ULM	**Lac du Bonnet**	**47.74**	**3**	P	**P**	**23 49 27.9**	**-1.3**
	5.8nm,1.1s,mb4.5,baz=192,slow=7.7,SNR=5.3						
ULM				LR	LR	00 11 06.9	
	comp=Z,87nm,18.6s,MS3.8,baz=76,slow=38						
CPUP	**Villa Florida**	**49.27**	**128**	LR	LR	00 09 36.9	
	comp=Z,123nm,20.3s,MS3.9,baz=296,slow=35						
BDFB	**Brasilia**	**53.40**	**111**	P	**P**	**23 50 11.1**	**-0.9**
	0.7nm,0.4s,mb3.9,baz=239,slow=5.9,SNR=4.1						
BDFB				LR	LR	00 11 08.9	
	comp=Z,271nm,21.0s,MS4.3,baz=282,slow=34						
PPT	**Papeete**	**53.74**	**246**	*e*LR	LR	00 05 35.7	
	754nm,25.2s						
PPT	**Papeete**	**53.74**	**246**	LR	LR	00 06 57.9	
	comp=Z,340nm,19.1s,MS4.4,baz=170,slow=29						
TBI	**Tubuai**	**55.47**	**240**	*e*LR	LR	00 06 23.0	
	463nm,28.2s						
SCHQ	**Scheefferville**	**58.40**	**21**	LR	LR	00 15 21.5	
	comp=Z,191nm,19.8s,MS4.2,baz=41,slow=35						
YKA	**Yellowknife Ar**	**61.08**	**352**	P	**P**	**23 51 05.1**	**-1.3**
	1.7nm,1.0s,mb4.1,baz=156,slow=6.6,SNR=19						
YKA				LR	LR	00 17 29.6	
	comp=Z,413nm,18.9s,MS4.6,baz=165,slow=36						
INK	**Inuvik**	**69.85**	**347**	*e*P	**P**	**23 52 02.1**	**-1.0**
	11nm,1.2s,mb4.7						
ILAR	**Eielson Array**	**71.08**	**340**	P	**P**	**23 52 09.2**	**-1.4**
	2.2nm,1.0s,mb4.0,baz=144,slow=4.8,SNR=13						
ILAR				LR	LR	00 24 20.6	
	comp=Z,190nm,18.3s,MS4.4,baz=180,slow=37						
RES	**Resolute Bay**	**72.23**	**1**	*e*P	**P**	**23 52 16.2**	**-1.3**
	5.4nm,1.3s,mb4.3						
NOA	**NORSAR Array B**	**97.51**	**27**	LR	LR	00 34 11.2	
	comp=Z,30nm,21.4s,MS3.8,baz=205,slow=33						
MKAR	**Makanchi Array**	**131.00**	**359**	PKP	PKPdf	00 00 02.3	-1.8
	0.7nm,0.9s,baz=12,slow=1.7,SNR=4.6						

*ISCJB **01** 23:51:51.8±0.6,3939**N**±003×2568**E**±004,h6^{km}±5^{km}, Error ellipse: s-maj=5.6km s-min=3.7km az=105.0*

*ATH **01** 23:51:51.2,3932**N**×2568**E**,h23^{km}±4^{km},MD3.2/6*

*ISK **01** 23:51:51.2,3946**N**×2560**E**,h13^{km},MD3.0*

*THE **01** 23:51:52.9,3935**N**×2566**E**,h2^{km}*

*CSEM **01** 23:51:52.6±0.1,3941**N**×2583**E**,h10^{km},MD3.0,Error ellipse: s-maj=3.2km s-min=2.5km az=49.0*

ISC 01 23:51:52.5±0.5,3938N±003×2568E±004,h12^{km}±4^{km},n21,σ1§11/31,1D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.48**	**106**	⇓*i*PB	**Pg**	**23 52 01.1**	**-0.8**
PRK				*e*SB	**Sg**	**23 52 07.4**	**-0.9**
LIA	**Limnos Island**	**0.64**	**323**	*e*PN	**Pg**	**23 52 05.5**	**+0.6**
LIA				*e*SN	**Sg**	**23 52 14.7**	**+1.3**
EZN	**Ezine**	**0.67**	**48**	PG	**Pg**	**23 52 04.6**	**-0.8**
EZN				SG	**Sg**	**23 52 14.5**	**+0.3**
LOS	**Limnos**	**0.72**	**320**	*e*Pg	**Pg**	**23 52 07.5**	**+1.1**
LOS				*e*Sg	**Sg**	**23 52 18.6**	**+2.8**
AYVA	**Ayvalik**	**0.79**	**95**	*i*P	**Pg**	**23 52 06.6**	**-1.1**
AYVA				*i*S	**Sg**	**23 52 20.2**	**+2.1**
CHOS	**Chios island**	**1.04**	**163**	*e*Pg	**Pg**	**23 52 11.6**	**-0.9**
CHOS				*e*Sg	**Sg**	**23 52 26.7**	**+0.7**
URLA	**Izmir**	**1.25**	**145**	*i*P	**Pn**	**23 52 14.5**	**-1.2**
URLA				*i*S	**Sb**	**23 52 32.4**	**+0.5**
ALN	**Alexandroupoli**	**1.54**	**10**	*e*Pg	**Pg**	**23 52 20.6**	**-1.4**
ALN				*e*Sg	**Sg**	**23 52 42.2**	**+0.2**
IZM	**Izmir**	**1.58**	**128**	*e*PN	**Pn**	**23 52 20.9**	**+0.6**
IZM				*e*SN	**Sn**	**23 52 43.1**	**+2.5**
KDAG	**Bornova**	**1.58**	**128**	*i*P	**Pn**	**23 52 21.2**	**+0.9**
KDAG				*i*S	**Sn**	**23 52 43.0**	**+2.4**
OUR	**Ouranopolis**	**1.61**	**307**	*e*Pb	**Pb**	**23 52 21.3**	**-0.9**
PAIG	**Paliouri**	**1.64**	**290**	*e*Pb	**Pb**	**23 52 21.7**	**-0.8**
BALB	**Balikesir**	**1.72**	**81**	*e*PN	**Pn**	**23 52 21.8**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.74**	**41**	*e*PN	**Pn**	**23 52 21.6**	**-0.8**
RDO	**Rodhopi**	**1.76**	**357**	*e*PN	**Pn**	**23 52 23.1**	**+0.3**
MFT	**Murefte**	**1.86**	**41**	*e*PN	**Pn**	**23 52 23.8**	**-0.4**
SMG	**Samos**	**1.90**	**151**	*e*PN	**Pn**	**23 52 24.0**	**-0.7**
NEO	**Neokhori**	**1.91**	**268**	*e*PB	**Pb**	**23 52 23.9**	**-3.2**
MRMT	**Marmara Adasi**	**1.91**	**50**	*e*PN	**Pn**	**23 52 24.3**	**-0.5**
EDC	**Edincik**	**1.94**	**60**	*e*PN	**Pn**	**23 52 24.7**	**-0.5**
APE	**Apeiranthos**	**2.31**	**183**	*e*PB	**Pn**	**23 52 30.0**	**-0.4**

IDC 01 23:54:51.1±30.0,051S×12872E,h652^{km}±269^{km},mb2.5/3, mb1 2.7/4,mb1mx2.5/16,mbtmp3.6/4,Error ellipse: s-maj=319.5km s-min=73.2km az=2.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.75**	**190**	P	P	23 58 22.9	+0.6
	0.1nm,0.3s,baz=3.6,slow=16,SNR=3.1						
WRA	**Warramunga Arr**	**20.09**	**164**	P	P	23 58 43.2	-0.1
	0.7nm,0.4s,baz=344,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**23.57**	**168**	P	P	23 59 15.3	+1.1
	0.4nm,0.5s,baz=354,slow=7.6,SNR=8.4						
ASAR				PcP	PcP	00 02 34.9	+0.2
	0.2nm,0.3s,baz=2.8,slow=1.7,SNR=5.6						
STKA	**Stephens Creek**	**33.49**	**160**	P	P	00 00 39.5	-0.1
	1.8nm,0.6s,baz=336,slow=9.5,SNR=4.3						

IGQ 02 00:02:35.6,284S×7957W,h14^{km}±8^{km},Mb4.1,Ms3.9, 2C-10D,Error ellipse: s-maj=9.1km s-min=4.1km az=71.8,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARRY	**Arrayan**	**1.73**	**40**	⇓P	Pn	00 03 07.2	+2.0
ARRY				S	Sn	00 03 30.8	+3.7
PATA	**Patacocha**	**1.75**	**41**	⇓P	Pn	00 03 08.0	+2.6
CUSU	**Cusua**	**1.76**	**38**	⇑P	Pn	00 03 08.8	+3.1
RETU	**Refugio**	**1.78**	**39**	⇓P	Pn	00 03 08.5	+2.6
JUIV	**Juive**	**1.79**	**38**	P	Pn	00 03 09.0	+3.0
ULBA	**Ulba**	**1.81**	**40**	⇓P	Pn	00 03 09.2	+2.9
RUN5	**Runtun**	**1.82**	**39**	P	Pn	00 03 08.9	+2.4
CAMI	**Rancho Maria**	**2.40**	**26**	P	Pn	00 03 18.8	+4.4
VC1	**Cotopaxi 1**	**2.48**	**28**	P	Pn	00 03 19.1	+3.6
MAG1	**Magdalena**	**2.76**	**356**	⇓P	Pn	00 03 20.4	+1.1
ANTI	**Antisana**	**2.76**	**31**	⇓P	Pn	00 03 22.3	+2.9
ANTI				S	Sn	00 03 58.5	+6.0
GGP	**Refugio Guagua**	**2.82**	**20**	⇓P	Pn	00 03 24.1	+3.9
PINO	**Pino**	**2.83**	**20**	⇓P	Pn	00 03 24.1	+3.8
YANA	**Yana**	**2.88**	**20**	⇓P	Pn	00 03 24.2	+3.2
ANGU	**Angureal**	**3.27**	**29**	⇑P	Pn	00 03 29.2	+2.9
CAYA	**Cayambe**	**3.29**	**29**	P	Pn	00 03 30.2	+3.5
COTA	**Cotacachi**	**3.39**	**21**	⇓P	Pn	00 03 32.4	+4.4

*NEIC **02** 00:07:38.6,2742S×7132W,h2^{km},ML3.8(GUC),After GUC.*

GUC 02 00:07:38.6±0.7,2742S×7132W,h2^{km}±3^{km},ML3.8,2C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.56**	**52**	*e*P	Pg	00 07 49.6	+0.4
CDCH				*i*S	Sg	00 07 58.4	+2.0
CPCH	**Copiapo**	**0.86**	**86**	⇓*i*P	Pg	00 07 55.9	+0.8
CPCH				*i*S	Sg	00 08 08.3	+2.0
CRCH	**Chaqaral**	**1.24**	**30**	⇑*i*P	Pg	00 08 01.0	-1.3
CRCH				*i*S	Sg	00 08 18.9	+0.6
CRCH				AML	AML	00 08 21.2	
	comp=E,944nm,0.3s						
CRCH	**Chaqaral**	**1.24**	**30**	⇑*i*P	Pg	00 08 01.0	-1.3
CRCH				*i*S	Sg	00 08 18.9	+0.6
LCO	**Las Campanas**	**1.68**	**161**	*e*P	Pn	00 08 09.4	+0.5
LCO				*i*S	Sn	00 08 32.0	+1.1
TLL	**Tololo Astrono**	**2.78**	**171**	*i*P	Pn	00 08 25.9	+1.9
TLL				*i*S	Sn	00 09 01.4	+3.3
TLL				AML	AML	00 09 16.4	
	comp=E,1μm,0.6s						
TLL	**Tololo Astrono**	**2.78**	**171**	*i*P	Pn	00 08 25.9	+1.9
TLL				*i*S	Sn	00 09 01.4	+3.3

IDC 02 00:10:48.4±4.6,861N×8265W,h0^{km},mb3.6/4,mb1 3.9/5, mb1mx3.6/19,mbtmp3.6/5,Error ellipse: s-maj=155.9km s-min=27.6km az=23.0,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**2.82**	**307**	Pn	Pn	00 11 34.4	-0.3
	27nm,0.3s,baz=153,slow=9.0,SNR=81						
JTS				Sn	Sn	00 12 14.4	+5.0
	baz=292,slow=19,SNR=2.7						
NVAR	**Mina Array Bea**	**43.69**	**318**	P	P	00 18 55.6	+0.6
	0.3nm,0.2s,baz=135,slow=6.7,SNR=5.3						
YKA	**Yellowknife Ar**	**58.59**	**343**	P	P	00 20 46.6	-0.3
	0.2nm,0.8s,baz=135,slow=6.7,SNR=5.3						
ESDC	**Sonseca Array**	**75.86**	**51**	P	P	00 22 37.2	+0.6
	0.1nm,0.4s,baz=279,slow=5.1,SNR=4.6						
TORD	**Torodi Ar. Bea**	**82.62**	**78**	P	P	00 23 14.2	+0.8
	0.5nm,0.7s,baz=289,slow=5.5,SNR=3.6						

*CRAAG **02** 00:15:27.4,3642**N**×246**E**,Ml2.5*

*CSEM **02** 00:15:29.7±0.3,3654**N**×243**E**,h20^{km},ML2.5,Error ellipse: s-maj=7.2km s-min=5.3km az=160.0*

*ISCJB **02** 00:15:30.2±0.8,3656**N**±007×245**E**±009,h27^{km}±16^{km}, Error ellipse: s-maj=15.0km s-min=7.6km az=95.2*

*MDD **02** 00:15:30.5±0.6,3640**N**×249**E**,h17^{km}±12^{km},mb3.4/6, Error ellipse: s-maj=11.2km s-min=6.6km az=153.0, PRIMO.*

*NEIC **02** 00:15:32.2,3672**N**×247**E**,h0^{km},MG3.3(MDD),After MDD.*

ISC 02 00:15:30.0±0.8,3652N±009×246E±007,h17^{km}±12^{km},n23,σ1§20/40,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	**Djebel Mahouad**	**0.51**	**129**	P	**Pg**	**00 15 38.4**	**-1.8**
ABA	**Alger-Bouzarea**	**0.54**	**58**	P	**Pg**	**00 15 42.0**	**+1.2**
EBNR	**Beni Rached**	**0.79**	**253**	P	**Pg**	**00 15 44.4**	**-1.0**
ABMS	**Boumerdes**	**0.85**	**74**	P	**Pg**	**00 15 46.0**	**-0.6**
ECHA	**Ech Chlef**	**0.96**	**248**	P	**Pg**	**00 15 48.0**	**-0.6**
EANR	**`Ain N'Sour**	**1.24**	**243**	P	**Pn**	**00 15 52.0**	**-0.5**
EIBI	**Ibiza**	**2.66**	**341**	P	**Pn**	**00 16 12.8**	**+0.8**
	1.4nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**00 16 42.3**	**-1.5**
	1.3nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**2.66**	**341**	P	**Pn**	**00 16 12.8**	**+0.8**
EIBI				S	**Sn**	**00 16 42.1**	**-1.6**
EIBI	**Ibiza**	**2.66**	**341**	P	**Pn**	**00 16 12.8**	**+0.8**
	1.4nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**00 16 42.2**	**-1.6**
EBEN	**Beniarda**	**3.05**	**316**	P	**Pn**	**00 16 18.3**	**+0.9**
	1.6nm,0.4s,SNR=4.0						
EBEN				S	**Sn**	**00 16 53.2**	**-0.3**
	5.6nm,0.6s,SNR=4.0						
EBEN	**Beniarda**	**3.05**	**316**	P	**Pn**	**00 16 18.3**	**+0.9**
EBEN				S	**Sn**	**00 16 52.2**	**-1.3**
EBEN	**Beniarda**	**3.05**	**316**	P	**Pn**	**00 16 18.3**	**+0.9**
	1.6nm,0.4s,SNR=4.0						
EBEN				S	**Sn**	**00 16 52.2**	**-1.3**
	5.6nm,0.6s,SNR=4.0						
ETOS	**Mallorca**	**3.25**	**5**	P	**Pn**	**00 16 20.8**	**+0.6**
	1.6nm,0.3s,SNR=6.4						
ETOS				S	**Sn**	**00 16 58.4**	**-0.1**
	1.8nm,0.4s,SNR=7.9						
ETOS	**Mallorca**	**3.25**	**5**	P	**Pn**	**00 16 20.8**	**+0.6**
ETOS				S	**Sn**	**00 16 55.7**	**-2.9**
ETOS	**Mallorca**	**3.25**	**5**	P	**Pn**	**00 16 20.8**	**+0.6**
	1.6nm,0.3s,SNR=6.4						
ETOS				S	**Sn**	**00 16 55.7**	**-2.9**
	1.8nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**3.83**	**305**	P	**Pn**	**00 16 29.9**	**+1.8**
	0.9nm,0.3s,SNR=6.5						
ETOB				S	**Sn**	**00 17 12.1**	**-0.5**
	0.6nm,0.2s						
ETOB	**Tobarra**	**3.83**	**305**	P	**Pn**	**00 16 29.9**	**+1.8**
ETOB				S	**Sn**	**00 17 12.7**	**0.0**
ETOB	**Tobarra**	**3.83**	**305**	P	**Pn**	**00 16 29.9**	**+1.8**
	0.9nm,0.3s,SNR=6.5						
ETOB				S	**Sn**	**00 17 12.7**	**0.0**
	0.6nm,0.2s						
EMOS	**Mosqueruela**	**4.48**	**330**	P	**Pn**	**00 16 38.2**	**+1.2**
	0.7nm,0.1s,SNR=10						
EMOS				S	**Sn**	**00 17 27.4**	**-1.3**
	2.2nm,0.6s						
EMOS	**Mosqueruela**	**4.48**	**330**	P	**Pn**	**00 16 38.2**	**+1.2**
	0.7nm,0.1s,SNR=10						
EMOS				S	**Sn**	**00 17 27.4**	**-1.3**
	2.2nm,0.6s						
EQES	**Quesada**	**4.60**	**288**	P	**Pn**	**00 16 40.4**	**+1.7**
	0.5nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**00 17 30.8**	**-0.9**
	1.5nm,0.5s,SNR=7.9						
EQES	**Quesada**	**4.60**	**288**	P	**Pn**	**00 16 40.4**	**+1.7**
EQES				S	**Sn**	**00 17 33.1**	**+1.3**
EQES	**Quesada**	**4.60**	**288**	P	**Pn**	**00 16 40.4**	**+1.6**
	0.5nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**00 17 33.1**	**+1.3**
	1.5nm,0.5s,SNR=7.9						

*ISCJB **02** 00:19:56.0±0.9,3724**N**±005×719**E**±0.1,h138^{km}±12^{km}, mb3.6/12,Error ellipse: s-maj=14.3km s-min=5.3km az=131.9*

*IDC **02** 00:19:57.1±5.3,3731**N**×7170**E**,h114^{km}±43^{km},mb3.4/9, mb1 3.6/12,mb1mx3.4/23,mbtmp3.9/12,Error ellipse: s-maj=41.0km s-min=18.8km az=166.0*

*NEIC **02** 00:19:59.5±2.6,3757**N**×7168**E**,h121^{km}±18^{km},mb3.9/6, Error ellipse: s-maj=25.6km s-min=12.5km az=174.0*

*MOS **02** 00:20:00.2±0.9,3767**N**×7166**E**,h139^{km},mb3.9/2,Error ellipse: s-maj=18.7km s-min=8.7km az=96.7*

*NNC **02** 00:20:04.6±4.4,3784**N**×7124**E**,h165^{km}±40^{km},mb3.0, mpv4.4,Error ellipse: s-maj=48.5km s-min=33.6km az=41.0*

ISC 02 00:19:57.0±0.9,3724N±005×7190E±010,h133^{km}±11^{km}, n55,σ1§23/70,mb3.6/12,10C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.08**	**15**	P	**Pn**	**00 21 11.7**	**+0.5**
	SNR=63						
UCH	**Uchtor**	**5.38**	**21**	P	**Pn**	**00 21 15.9**	**+0.9**
	SNR=21						
KZA	**Kyzart**	**5.48**	**27**	P	**Pn**	**00 21 19.3**	**+2.8**
	SNR=6.9						
EKS2	**Erkin-Say**	**5.61**	**14**	P	**Pn**	**00 21 18.5**	**+0.3**
	SNR=19						
AAK	**Ala-Archa**	**5.75**	**19**	P	**Pn**	**00 21 21.1**	**+1.0**
	SNR=35						
AAK	**Ala-Archa**	**5.75**	**19**	*e*PN	**Pn**	**00 21 20.1**	**0.0**
AAK				*e*		00 22 24.1	
AAK				pmax	pmax		
	comp=Z,17nm,0.4s						
AAK	**Ala-Archa**	**5.75**	**19**	*e*Pn	**Pn**	**00 21 20.1**	**0.0**
	comp=Z,17nm,0.4s						
AAK				*e*Sn	**Sn**	**00 22 24.1**	**-0.8**
DLH	**Dalhousie**	**5.75**	**143**	*e*P	**Pn**	**00 21 23.0**	**+2.8**
DLH				*e*S	**Sn**	**00 22 25.0**	**-0.1**
KK31	**Karatay Array**	**5.96**	**350**	⇑P	**Pn**	**00 21 21.8**	**-1.1**
	comp=Z,19nm,0.3s,baz=176,slow=12,SNR=536						
KK31				⇑S	**Sn**	**00 22 23.9**	**-6.0**
	comp=Z,51nm,0.7s,baz=168,slow=20,SNR=13						
ULHL	**Ulahol**	**6.02**	**32**	P	**Pn**	**00 21 25.5**	**+1.8**
	SNR=10						
CHMS	**Chumysh**	**6.16**	**20**	P	**Pn**	**00 21 26.2**	**+0.6**
	SNR=12						
USP	**Ospenovka**	**6.34**	**17**	P	**Pn**	**00 21 29.2**	**+1.1**
	SNR=7.2						
TKM2	**Tokmak 2**	**6.34**	**25**	P	**Pn**	**00 21 29.2**	**+1.1**
	SNR=19						
MKAR	**Makanchi Array**	**12.27**	**36**	P	**Pn**	**00 22 47.3**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=226,slow=15,SNR=8.7						
MK05	**Makanchi Array**	**12.27**	**36**	⇑P	**Pn**	**00 22 47.6**	**+0.4**
	comp=Z,0.8nm,0.7s						
KOLN	**Koldanda**	**13.65**	**130**	*e*Pn	**Pn**	**00 23 04.5**	**-0.5**
KOLN				*e*Sn	**Sn**	**00 25 28.2**	**-7.5**
	comp=Z,28nm,0.7s						
GKN	**Gorkha**	**14.13**	**127**	*e*Pn	**Pn**	**00 23 10.0**	**-1.1**
GKN				*e*Sn	**Sn**	**00 25 39.1**	**-8.2**
	comp=Z,72nm,0.6s						
KURK	**Kurchatov**	**14.31**	**18**	⇓P	**Pn**	**00 23 16.8**	**+3.5**
	comp=Z,1.7nm,0.9s						
KURK	**Kurchatov**	**14.31**	**18**	*e*P	**Pn**	**00 23 16.3**	**+3.0**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**14.31**	**18**	*e*P	**Pn**	**00 23 16.3**	**+3.0**
	comp=Z,2.3nm,0.8s						
KKN	**Kakani**	**14.69**	**126**	*e*Pn	**Pn**	**00 23 16.0**	**-2.1**
DMN	**Daman**	**14.70**	**127**	*e*Pn	**Pn**	**00 23 18.4**	**+0.1**
DMN				*e*Sn	**Sn**	**00 25 52.2**	**-8.8**
	comp=Z,50nm,0.8s						
AB31	**Akbulak array**	**14.81**	**328**	⇑P	**Pn**	**00 23 16.3**	**-3.5**
	comp=Z,2.3nm,0.5s,baz=140,slow=12,SNR=72						
AB31				⇑S	**Sn**	**00 25 46.8**	**-17**
	comp=Z,8.2nm,0.6s,baz=153,slow=22,SNR=14						
PKI	**Pulchoki**	**14.92**	**126**	*e*Pn	**Pn**	**00 23 21.4**	**+0.3**
PKI				*e*Sn	**Sn**	**00 25 57.3**	**-9.0**
	comp=Z,46nm,0.9s						
GUN	**Gumba**	**15.00**	**124**	*e*Pn	**Pn**	**00 23 21.1**	**-0.9**
JIRN	**Jiri**	**15.37**	**124**	*e*Pn	**Pn**	**00 23 26.2**	**-0.4**
JIRN				*e*Sn	**Sn**	**00 26 07.6**	**-10**
	comp=Z,26nm,0.5s						
VOSK	**Vostochnaya**	**15.50**	**358**	⇑P	**Pn**	**00 23 25.8**	**-2.5**
	comp=Z,3.3nm,1.1s						
BVA0	**Borovoye Array**	**15.82**	**357**	⇓P	**Pn**	**00 23 31.5**	**-0.8**
	comp=Z,1.2nm,1.4s,baz=155,slow=14,SNR=34						
BVAR	**

*ISCJB **02** 00:20:26.8±0.4, 56.18N±.003×164.38E±.004, h10km, mb3.6/7, MS3.1/1, Error ellipse: s-maj=5.0km s-min=3.3km az=22.0*

*MOS **02** 00:20:27.1±0.6, 56.16N×164.37E, h18km, mb4.2/2, Error ellipse: s-maj=18.5km s-min=12.6km az=58.4*

*KRSC **02** 00:20:28.2±1.1, 5620N×164.32E, h19km±2km, ML4.2*

*IDC **02** 00:20:31.7±6.1, 56.19N×164.30E, h38km±66km, mb3.4/5, mb1 3.8/6, mb1mx3.4/22, mbtmp3.7/6, ML3.6/1, MS3.2/1, Ms1 3.2/1, ms1mx2.3/21, Error ellipse: s-maj=56.5km s-min=22.4km az=155.0*

*NEIC **02** 00:20:31.5±0.8, 5621N×164.30E, mb4.0/2, Error ellipse: s-maj=25.8km s-min=12.6km az=162.0*

ISC 02 00:20:27.9±0.4, 5622N±.003×16434E±.004, h10km, n52, σ1§10/79, mb3.6/7, MS3.1/1, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.85**	**270**	P	**Pg**	**00 20 43.7**	**-0.6**
KBTR				S	**Sg**	**00 20 54.2**	**-1.2**
KBTR	**Krutoberegovo**	**0.85**	**270**	*e*P	**Pg**	**00 20 43.6**	**-0.7**
KBTR				*e*S	**Sg**	**00 20 54.8**	**-0.6**
KBG	**Krutoberegovo**	**0.91**	**273**	*i* P	**Pg**	**00 20 44.6**	**-0.9**
KBG				*i* S	**Sg**	**00 20 57.0**	**-0.4**
KBG				Smax			
	7μm,1.1s						
BKI	**Bering**	**1.38**	**137**	*i* P	**Pn**	**00 20 51.3**	**-1.9**
BKI				*i* S	**Sb**	**00 21 07.8**	**-3.5**
BKI				Smax			
	2μm,0.4s						
SMKR	**Semkarok**	**1.64**	**284**	*e*P	**Pn**	**00 20 56.7**	**-0.1**
SMKR				*e*S	**Sn**	**00 21 16.2**	**-1.7**
BDR	**Baidarnaya**	**1.78**	**283**	*e*P	**Pn**	**00 20 59.3**	**+0.6**
BDR				*e*S	**Sn**	**00 21 22.1**	**+0.8**
SRKR	**Sorokina**	**1.81**	**285**	*i* P	**Pn**	**00 20 59.7**	**+0.5**
SRKR				*e*S	**Sn**	**00 21 21.3**	**-0.9**
ZLN	**Zelenaya**	**1.99**	**266**	*e*P	**Pn**	**00 21 02.4**	**+0.8**
ZLN				*e*S	**Sn**	**00 21 26.0**	**-0.6**
CIRR	**Tsirk**	**2.01**	**268**	*i* P	**Pn**	**00 21 02.7**	**+0.8**
CIRR				*i* S	**Sn**	**00 21 28.2**	**+1.1**
LGNR	**Loginova**	**2.05**	**268**	*e*P	**Pn**	**00 21 03.4**	**+1.0**
KLY	**Klyuchi**	**2.06**	**274**	P	**Pn**	**00 21 01.1**	**-1.5**
KLY				S	**Sn**	**00 21 24.3**	**-4.0**
KLY	**Klyuchi**	**2.06**	**274**	*e*P	**Pn**	**00 21 01.4**	**-1.2**
KLY				*i* S	**Sn**	**00 21 25.8**	**-2.5**
KRSR	**Krestovskiy**	**2.11**	**271**	*e*P	**Pn**	**00 21 03.3**	**+0.1**
KRSR				*e*S	**Sn**	**00 21 28.3**	**-1.2**
MKZ	**Mys Kozlova**	**2.24**	**223**	P	**Pn**	**00 21 04.0**	**-1.0**
MKZ				S	**Sn**	**00 21 29.1**	**-3.5**
MKZ	**Mys Kozlova**	**2.24**	**223**	*i* P	**Pn**	**00 21 04.0**	**-1.0**
MKZ				*e*S	**Sn**	**00 21 29.4**	**-3.2**
KPT	**Kopyto**	**2.32**	**265**	*i* P	**Pn**	**00 21 07.7**	**+1.5**
KPT				*e*S	**Sn**	**00 21 34.6**	**-0.2**
KMNR	**Kamenistaya**	**2.35**	**260**	*i* P	**Pn**	**00 21 07.8**	**+1.2**
KMNR				*e*S	**Sn**	**00 21 35.2**	**-0.3**
KOZR	**Kozyr**	**2.49**	**268**	PN	**Pn**	**00 21 09.0**	**+0.5**
KOZR				S	**Sn**	**00 21 37.9**	**-1.1**
KOZ	**Kozyrevsk**	**2.50**	**268**	P	**Pn**	**00 21 09.0**	**+0.3**
KOZ				S	**Sn**	**00 21 37.9**	**-1.4**
KOZ	**Kozyrevsk**	**2.50**	**268**	*e*P	**Pn**	**00 21 08.9**	**+0.2**
KOZ				*e*S	**Sn**	**00 21 39.8**	**+0.5**
TUMR	**Tumrok**	**2.55**	**250**	*e*P	**Pn**	**00 21 10.6**	**+1.3**
TUMR				*e*S	**Sn**	**00 21 41.0**	**+0.6**
SRDR	**Sredinnyy**	**2.58**	**274**	*e*P	**Pn**	**00 21 11.1**	**+1.4**
SRDR				*e*S	**Sn**	**00 21 42.1**	**+0.9**
OSSR	**Ossora**	**3.12**	**348**	*i* P	**Pn**	**00 21 17.8**	**+0.7**
OSSR				Smax			
	90nm,0.8s						
ESO	**Esso**	**3.17**	**267**	*e*P	**Pn**	**00 21 18.9**	**+1.0**
ESO				Smax			
	100nm,0.8s						
SPN	**Mys Shipunski**	**4.01**	**220**	P	**Pn**	**00 21 27.9**	**-1.5**
SPN				S	**Sn**	**00 22 10.6**	**-5.8**
SPN	**Mys Shipunski**	**4.01**	**220**	*e*P	**Pn**	**00 21 31.5**	**+2.1**
NLC	**Nalytchevo**	**4.21**	**226**	P	**Pn**	**00 21 31.9**	**-0.2**
NLC				S	**Sn**	**00 22 17.8**	**-3.6**
NLC	**Nalytchevo**	**4.21**	**226**	*e*P	**Pn**	**00 21 32.0**	**-0.1**
NLC				*e*S	**Sn**	**00 22 18.6**	**-2.8**
SDLR	**Sedlovina**	**4.32**	**229**	*i* P	**Pn**	**00 21 34.4**	**+0.7**
SDLR				*e*S	**Sn**	**00 22 22.3**	**-1.8**
SMAR	**Somma**	**4.37**	**230**	*e*P	**Pn**	**00 21 34.8**	**+0.5**
AVH	**Avacha**	**4.39**	**230**	*e*P	**Pn**	**00 21 35.8**	**+1.1**
AVH				*e*S	**Sn**	**00 22 24.6**	**-1.3**
UGLR	**Uglovaya**	**4.40**	**229**	*e*P	**Pn**	**00 21 35.7**	**+1.0**
KOK	**Koryaka**	**4.42**	**231**	*e*P	**Pn**	**00 21 35.9**	**+0.9**
GNL	**Ganaly**	**4.47**	**238**	*e*P	**Pn**	**00 21 37.0**	**+1.3**
KRMR	**Karymshinskiy**	**4.96**	**229**	*e*P	**Pn**	**00 21 43.1**	**+0.6**
RUS	**Russkaya**	**5.10**	**224**	P	**Pn**	**00 21 44.6**	**+0.2**
GRL	**Gorelyy**	**5.19**	**227**	*i* P	**Pn**	**00 21 45.9**	**+0.3**
APC	**Apacha**	**5.32**	**235**	*e*P	**Pn**	**00 21 50.0**	**+2.6**
MIPR	**Malaya Ipel'ka**	**5.95**	**232**	*e*P	**Pn**	**00 21 58.1**	**+2.1**
FX1	**Attu Island--F**	**6.13**	**119**	Pn	**Pn**	**00 21 58.5**	**0.0**
	5.0nm,0.3s,baz=327,slow=17,SNR=18						
FX1				Sn	**Sn**	**00 23 03.1**	**-5.5**
	2.1nm,0.3s,baz=49,slow=20,SNR=4.3						
KAMR	**Kamenskoye**	**6.33**	**8**	*i* P	**Pn**	**00 22 02.0**	**+0.8**
KAMR				*i* S	**Sn**	**00 23 11.8**	**-1.8**
KAMR				Smax			
	30nm,0.9s						
ILAR	**Eielson Array**	**24.88**	**50**	P	**P**	**00 25 50.3**	**-0.5**
	0.6nm,0.8s,mb3.1,baz=261,slow=9.4,SNR=5.4						
ILAR				pP		00 26 00.9	
	2.8nm,1.0s,baz=256,slow=9.3,SNR=13						
MJAR	**Matsushiro Arr**	**26.42**	**233**	P	**P**	**00 26 04.2**	**-0.4**
	0.9nm,0.4s,mb3.6,baz=30,slow=8.4,SNR=4.2						
DLBC	**Dease Lake**	**34.24**	**58**	LR	LR	00 41 18.5	
	comp=Z,37nm,18.3s,MS3.1,baz=246,slow=36						
YKA	**Yellowknife Ar**	**39.20**	**47**	P	**P**	**00 27 56.0**	**-0.1**
	0.3nm,0.5s,mb3.2,baz=302,slow=7.8,SNR=6.7						
YKA				pP	pP	00 28 05.8	+6.6
	0.3nm,0.5s,baz=299,slow=8.1,SNR=7.4						
YKA	**Yellowknife Ar**	**39.20**	**47**	P	**P**	**00 27 56.0**	**-0.1**
YKA				pP	pP	00 28 05.8	+6.6
BVAR	**Borovoye Array**	**50.38**	**309**	P	**P**	**00 29 24.4**	**-0.8**
	1.0nm,0.7s,mb4.0,baz=58,slow=8.9,SNR=6.2						
BRVK	**Borovoye**	**50.40**	**309**	*e*P	**P**	**00 29 24.3**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
BRVK	**Borovoye**	**50.40**	**309**	*e*P	**P**	**00 29 24.3**	**-1.0**
	comp=Z,1.1nm,0.7s,mb4.0						
ZRNK	**Zerenda**	**51.03**	**309**	*e*P	**P**	**00 29 29.6**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ZRNK	**Zerenda**	**51.03**	**309**	*e*P	**P**	**00 29 29.6**	**-0.5**
	comp=Z,0.9nm,0.4s,mb4.0						
PDAR	**Pinedale Array**	**53.91**	**65**	P	**P**	**00 29 51.4**	**-0.1**
	comp=Z,0.2nm,0.4s,mb3.4,baz=338,slow=3.5,SNR=3.7						

IDC 02 00:33:40.1±6.9, 3052S×17832W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.8/11, mbtmp3.8/2, Error ellipse: s-maj=280.7km s-min=57.4km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.83**	**267**	P	P	00 41 40.4	+0.6
	0.8nm,0.6s,baz=106,slow=7.3,SNR=11						
WRA	**Warramunga Arr**	**43.82**	**272**	P	P	00 41 47.6	-0.2
	1.0nm,0.5s,baz=114,slow=7.9,SNR=3.9						
FINES	**FINESS Array B**	**145.16**	**340**	PKPbc	PKPbc	00 53 17.5	-1.6
	1.9nm,1.0s,baz=43,slow=2.5,SNR=6.0						

*IDC **02** 01:09:35.9±1.5, 27.16S×70.93W, h0km, mb4.2/4, mb1 4.1/7, mb1mx3.9/18, mbtmp4.0/7, ML3.5/4, MS3.6/1, Ms1 3.5/1, ms1mx2.7/14, Error ellipse: s-maj=42.6km s-min=24.7km az=95.0*

*NEIC **02** 01:09:37.4, 27.27S×71.25W, h9km, ML4.0(GUC), After GUC.*

*GUC **02** 01:09:37.4±1.0, 27.27S×71.25W, h9km±4km, ML4.0*

*ISCJB **02** 01:09:38.1±2.3, 27.19S±.005×71.3W±.02, h31km±13km, mb4.2/4, MS3.4/1, Error ellipse: s-maj=23.6km s-min=7.8km az=3.3*

ISC 02 01:09:37.3±1.8, 2716S±.004×7130W±.009, h19km±9km, n20, σ1§08/27, mb4.2/4, MS3.4/1, 3C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.43**	**79**	⇓*i* P	**Pb**	**01 09 46.4**	**+0.2**
CDCH				*i* S	**Sg**	**01 09 52.6**	**+0.5**
CDCH				AML	AML	01 09 54.0	
	comp=N,8μm,0.8s						
CDCH	**Caldera**	**0.43**	**79**	⇓*i* P	**Pb**	**01 09 46.4**	**+0.2**
CDCH				*i* S	**Sg**	**01 09 52.6**	**+0.5**
CPCH	**Copiapo**	**0.87**	**103**	⇓*i* P	**Pb**	**01 09 53.3**	**-0.5**
CPCH				*i* S	**Sb**	**01 10 04.3**	**-0.7**
CRCH	**Chaqaral**	**1.01**	**37**	⇑*i* P	**Pb**	**01 09 57.1**	**+0.9**
CRCH				*i* S	**Sb**	**01 10 11.4**	**+2.3**
CRCH				AML	AML	01 10 16.9	
	comp=N,4μm,0.4s						
CRCH	**Chaqaral**	**1.01**	**37**	⇑*i* P	**Pb**	**01 09 57.1**	**+0.9**
CRCH				*i* S	**Sb**	**01 10 11.4**	**+2.3**
LCO	**Las Campanas**	**1.92**	**164**	⇑*i* P	**Pn**	**01 10 08.6**	**-0.4**
LCO				*i* S	**Sn**	**01 10 33.3**	**+0.7**
TLL	**Tololo Astrono**	**3.03**	**172**	*i* P	**Pn**	**01 10 24.5**	**+0.3**
TLL				*i* S	**Sn**	**01 11 00.9**	**+1.0**
TLL				AML	AML	01 11 16.8	
	comp=N,2μm,0.5s						
TLL	**Tololo Astrono**	**3.03**	**172**	*i* P	**Pn**	**01 10 24.5**	**+0.3**
TLL				*i* S	**Sn**	**01 11 00.9**	**+1.0**
CFAA	**Coronel Fontan**	**5.17**	**150**	Pn	**Pn**	**01 10 53.5**	**-0.2**
	comp=N,0.5nm,0.3s,baz=333,slow=8.1,SNR=23						
CFAA				Sn	**Sn**	**01 12 03.8**	**+11**
	comp=N,1.0nm,0.3s,baz=104,slow=19,SNR=7.9						
CFAA	**Coronel Fontan**	**5.17**	**150**	Pn	**Pn**	**01 10 53.5**	**-0.2**
CFAA				Sn	**Sn**	**01 12 03.8**	**+11**
LPAZ	**La Paz**	**11.21**	**16**	Pn	**Pn**	**01 12 14.9**	**-1.5**
	comp=N,0.1nm,0.3s,baz=207,slow=8.2,SNR=9.2						
CPUP	**Villa Florida**	**12.52**	**89**	Pn	**Pn**	**01 12 32.6**	**-1.7**
	comp=N,0.1nm,0.3s,baz=207,slow=11,SNR=2.2						
SIV	**San Ignacio**	**14.62**	**43**	Pn	**Pn**	**01 12 59.1**	**-3.9**
	comp=N,0.2nm,0.3s,baz=241,slow=9.5,SNR=5.9						
BDFB	**Brasilia**	**24.48**	**67**	P	**P**	**01 14 53.3**	**-1.8**
	comp=N,4.9nm,0.7s,mb4.0,baz=257,slow=8.7,SNR=9.2						
BDFB				LR	LR	01 25 35.4	
	comp=N,139nm,20.7s,MS3.4,baz=285,slow=40						
SNAA	**Sanae**	**57.71**	**160**	P	**P**	**01 19 25.9**	**-0.8**
	comp=N,0.7nm,0.8s,mb3.7,baz=328,slow=10,SNR=5.7						
TORD	**Torodi Ar. Bea**	**81.30**	**70**	P	**P**	**01 21 53.7**	**+1.4**
	comp=N,4.6nm,0.8s,mb4.5,baz=265,slow=5.3,SNR=24						
LBTB	**Lobatse**	**84.62**	**115**	P	**P**	**01 22 10.3**	**+0.9**
	comp=N,3.1nm,0.8s,mb4.5,baz=214,slow=7.3,SNR=3.8						
ZAL	**Zalesovo**	**147.97**	**27**	PKPbc	PKPbc	01 29 22.7	+1.4
	comp=N,3.6nm,0.7s,baz=171,slow=3.0,SNR=18						
MKAR	**Makanchi Array**	**151.42**	**40**	PKPbc	PKPbc	01 29 31.0	+1.2
	comp=N,4.3nm,0.8s,baz=327,slow=2.3,SNR=42						
MKAR	**Makanchi Array**	**151.42**	**40**	PKPbc	PKPbc	01 29 31.0	+1.2

*ISCJB **02** 01:13:56.5±0.8, 115S±0.1×130W±0.2, h10km, mb4.0/7, MS3.5/3, Error ellipse: s-maj=22.8km s-min=17.2km az=47.1*

*IDC **02** 01:13:56.7±1.0, 1141S×1300W, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.8/18, mbtmp4.0/7, MS3.5/3, Ms1 3.5/3, ms1mx3.1/14, Error ellipse: s-maj=35.2km s-min=22.6km az=128.0*

*NEIC **02** 01:13:58.4±0.6, 1139S×1300W, h10km, mb4.5/1, Error ellipse: s-maj=18.2km s-min=16.7km az=127.0*

ISC 02 01:13:58.6±0.8, 115S±01×130W±02, h10km, n14, σ0§82/12, mb4.0/7, MS3.5/3, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBIC	**Dimbokro**	**19.76**	**25**	P	**Pn**	**01 18 32.2**	**+2.0**
	0.1nm,0.3s,baz=201,slow=12,SNR=6.2						
DBIC	**Dimbokro**	**19.76**	**25**	P	**Pn**	**01 18 32.2**	**+2.0**
TORD	**Torodi Ar. Bea**	**28.48**	**31**	P	**P**	**01 19 53.1**	**-0.8**
	4.1nm,0.9s,mb4.1,baz=212,slow=9.7,SNR=34						
BDFB	**Brasilia**	**34.24**	**259**	P	**P**	**01 20 45.0**	**+0.4**
	1.8nm,0.8s,mb4.1,baz=101,slow=5.2,SNR=2.7						
SUR	**Sutherland**	**37.42**	**129**	*e*P	**P**	**01 21 12.0**	**+0.1**
CPUP	**Villa Florida**	**44.22**	**244**	LR	LR	01 37 47.5	
	comp=Z,99nm,20.0s,MS3.7,baz=136,slow=32						
KMBO	**Kilima Mbogo**	**50.94**	**82**	P	**P**	**01 23 00.5**	**+0.3**
	0.6nm,0.5s,mb3.8,baz=273,slow=4.5,SNR=2.7						
KMBO				LR	LR	01 43 02.8	
	comp=Z,25nm,20.2s,MS3.2,baz=254,slow=34						
KMBO	**Kilima Mbogo**	**50.94**	**82**	P	**P**	**01 23 00.5**	**+0.3**
KMBO				LR	LR	01 43 02.8	
SNAA	**Sanae**	**60.49**	**176**	P	**P**	**01 24 08.4**	**-0.4**
	1.1nm,0.9s,mb3.9,baz=318,slow=7.1,SNR=5.7						
SNAA	**Sanae**	**60.49**	**176**	*e*P	**P**	**01 24 09.3**	**+0.6**
	3.6nm,0.9s,mb4.4						
ROSC	**El Rosal**	**63.10**	**281**	LR	LR	01 49 37.0	
	comp=Z,51nm,20.4s,MS3.7,baz=216,slow=34						
GERES	**GERESS Array B**	**64.52**	**19**	P	**P**	**01 24 35.1**	**-0.6**
	0.4nm,0.7s,mb3.5,baz=194,slow=5.0,SNR=4.8						
AKASG	**Malin Array Be**	**71.99**	**27**	P	**P**	**01 25 21.6**	**-0.9**
	1.6nm,0.7s,mb4.1,baz=226,slow=7.1,SNR=11						
FINES	**FINESS Array B**	**78.90**	**18**	P	**P**	**01 26 01.7**	**-0.5**
	1.5nm,0.8s,mb4.0,baz=207,slow=5.6,SNR=6.3						

*CSEM **02** 01:17:45.9±1.1, 38.18N×2674W, h0km±4km, ML2.2, Error ellipse: s-maj=5.3km s-min=1.2km az=44.0, After PDA*

*PDA **02** 01:17:45.9±1.1, 38.18N×2674W, h0km±4km, MD2.8, ML2.2, Error ellipse: s-maj=5.3km s-min=1.2km az=44.0*

SVSA 02 01:17:45.9±1.1, 3818N×2674W, h0km±4km, MD2.8, ML2.2, Error ellipse: s-maj=5.3km s-min=1.2km az=44.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFAV	**Pico das Favas**	**0.59**	**333**	*e*P	Pg	01 17 56.2	-1.1
PFAV				*e*S	Sg	01 18 04.7	-0.3
PFAV							
	28nm,0.1s						
PFAV	**Pico das Favas**	**0.59**	**333**	*e*P	Pg	01 17 56.2	-1.1
PFAV				*e*S	Sg	01 18 04.7	-0.3
RIB2	**Ribeirinha**	**0.60**	**325**	*e*P	Pg	01 17 56.3	-1.0
RIB2				*e*S	Sg	01 18 04.4	-0.7
RIB2							
	21nm,0.2s						
RIB2	**Ribeirinha**	**0.60**	**325**	*e*P	Pg	01 17 56.3	-1.0
RIB2				*e*S	Sg	01 18 04.4	-0.7
ADH	**Angra Heroismo**	**0.61**	**321**	*i* P	Pg	01 17 56.1	-1.5
ADH				*e*S	Sg	01 18 04.7	-0.9
ADH	**Angra Heroismo**	**0.61**	**321**	*e*S	Sg	01 18 04.7	-0.9
PVNV	**Vila Nova**	**0.67**	**331**	*e*P	Pg	01 17 57.3	-1.4
PVNV				*e*S	Sg	01 18 06.7	-0.6
PVNV							
	22nm,0.1s						
PVNV	**Vila Nova**	**0.67**	**331**	*e*P	Pg	01 17 57.3	-1.4
PVNV				*e*S	Sg	01 18 06.7	-0.6
PPAD	**Pico dos Padre**	**0.67**	**320**	*e*P	Pg	01 17 57.7	-1.1
PPAD				*e*S	Sg	01 18 06.7	-0.8
PPAD							
	51nm,0.2s						
PPAD	**Pico dos Padre**	**0.67**	**320**	*e*P	Pg	01 17 57.7	-1.1
PPAD				*e*S	Sg	01 18 06.7	-0.8
PBIS	**Biscoitos**	**0.70**	**325**	*e*P	Pg	01 17 58.2	-1.2
PBIS				*e*S	Sg	01 18 07.7	-0.9
PBIS							
	16nm,0.1s						
PBIS	**Biscoitos**	**0.70**	**325**	*e*P	Pg	01 17 58.2	-1.2
PBIS				*e*S	Sg	01 18 07.7	-0.9
ASBA	**Santa Barbara**	**0.71**	**320**	*e*P	Pg	01 17 58.4	-1.1
ASBA				*e*S	Sg	01 18 07.7	-0.9
ASBA							
	78nm,0.2s						
ASBA	**Santa Barbara**	**0.71**	**320**	*e*P	Pg	01 17 58.4	-1.1
ASBA				*e*S	Sg	01 18 07.7	-0.9
PSBA	**Serra de Santa**	**0.74**	**322**	*e*P	Pg	01 17 58.0	-2.2
PSBA				*e*S	Sg	01 18 07.9	-1.9
PSBA							
	81nm,0.2s						
PSBA	**Serra de Santa**	**0.74**	**322**	*e*P	Pg	01 17 58.0	-2.2
PSBA				*e*S	Sg	01 18 07.9	-1.9
SET4	**Mosteiros**	**0.80**	**112**	*e*P	Pg	01 17 59.4	-1.9
SET2	**Ginetes**	**0.81**	**114**	*e*P	Pg	01 17 59.8	-1.6
PFET	**Feteiras**	**0.83**	**116**	*e*P	Pg	01 18 00.0	-1.9
PFET				*e*S	Sg	01 18 10.7	-2.0
PSAN	**Santo Antonio**	**0.87**	**112**	*e*S	Sg	01 18 11.7	-2.0
FAC	**Faja de Cima**	**0.95**	**115**	*e*P	Pg	01 18 01.1	-3.1
FAC				*e*S	Sg	01 18 13.5	-3.0
PDA	**Ponta Delgada**	**0.95**	**117**	*e*S	Sg	01 18 13.3	-3.3
CML	**Cha da Macela**	**1.03**	**113**	*e*S	Sg	01 18 15.4	-3.5
PVER	**Pico Vermelho**	**1.04**	**111**	*e*S	Sg	01 18 15.5	-3.9
PVER							
	22nm,0.2s						
PMAT	**Coroa da Mata**	**1.07**	**110**	*e*S	Sg	01 18 16.1	-4.1
PMAT							
	20nm,0.2s						
MESC	**Monte Escuro**	**1.09**	**110**	*e*S	Sg	01 18 16.8	-4.2
PRCH	**Ribeira Ch**	**1.09**	**114**	*e*S	Sg	01 18 16.8	-4.2
PRCH							
	20nm,0.2s						
PID	**Ribeirinha**	**1.12**	**284**	*erx*		01 18 06.2	
VIF	**Vila Franca**	**1.12**	**113**	*erx*		01 18 17.7	
PMAN	**Manadas**	**1.15**	**293**	*e*P	Pg	01 18 04.6	-3.4
PMAN				*e*S	Sg	01 18 18.0	-4.9
PMAN							
	23nm,0.4s						
PMAN	**Manadas**	**1.15**	**293**	*e*P	Pg	01 18 04.6	-3.4
PMAN				*e*S	Sg	01 18 18.0	-4.9
PFAD	**Fenais da Ajud**	**1.17**	**107**	*erx*		01 18 18.8	
FRA1	**Furnas**	**1.18**	**111**	*erx*		01 18 19.2	
PGRA	**Graciosa**	**1.29**	**311**	*erx*		01 18 20.5	
ROSA	**Rosais**	**1.30**	**295**	*erx*		01 18 06.8	
PICO	**Pico**	**1.36**	**284**	*e*P	Pg	01 18 07.5	-4.5
PICO				*e*S	Sg	01 18 23.7	-6.0
CALA	**Caldeira**	**1.59**	**285**	*erx*		01 18 22.8	
PCED	**Cedros**	**1.60**	**287**	*erx*		01 18 28.9	

*NEIC **02** 01:21:55.1, 2744S×7135W, h20km±9km, ML4.0(GUC), After GUC.*

GUC 02 01:21:55.1±1.0, 2744S×7135W, h20km±9km, ML4.0, 2C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.59**	**52**	⇓*i* P	Pb	01 22 05.7	-1.0
CDCH				*i* S	Sb	01 22 15.2	+0.5
CDCH				AML	AML	01 22 17.1	
	comp=E,2μm,0.2s						
CDCH	**Caldera**	**0.59**	**52**	⇓*i* P	Pb	01 22 05.7	-1.0
CDCH				*i* S	Sb	01 22 15.2	+0.5
CPCH	**Copiapo**	**0.89**	**85**	*e*P	Pb	01 22 11.4	-0.5
CPCH				*i* S	Sb	01 22 23.1	-0.2
CPCH				AML	AML	01 22 23.6	
	comp=E,36μm,0.1s						
CRCH	**Chaqaral**	**1.27**	**31**	⇑*i* P	Pn	01 22 17.2	-0.5
CRCH				*i* S	Sn	01 22 33.2	-0.9
LCO	**Las Campanas**	**1.67**	**160**	⇑*i* P	Pn	01 22 24.3	+1.2
LCO				*i* S	Sn	01 22 45.6	+1.7
TLL	**Tololo Astrono**	**2.76**	**170**	*e*P	Pn	01 22 40.0	+1.8
TLL				*i* S	Sn	01 23 14.1	+3.2
TLL				AML	AML	01 23 31.0	
	comp=E,1μm,0.8s						
TLL	**Tololo Astrono**	**2.76**	**170**	*e*P	Pn	01 22 40.0	+1.8
TLL				*i* S	Sn	01 23 14.1	+3.2

*NDI **02** 01:28:29.7±2.4, 3449N×7331E, h10km, ML3.8, mb3.8(NEIC)*

*IDC **02** 01:28:30.8±0.8, 3427N×7369E, h0km, mb4.0/11, mb1 4.2/14, mb1mx4.0/23, mbtmp4.0/14, ML4.1/3, MS3.4/2, Ms1 3.4/2, ms1mx2.6/21, Error ellipse: s-maj=22.5km s-min=17.6km az=34.0*

*ISCJB **02** 01:28:31.9±1.0, 3434N±.003×7399E±.004, h17km±8km, mb4.0/15, MS3.3/2, Error ellipse: s-maj=6.5km s-min=4.0km az=119.1*

*NEIC **02** 01:28:32.5±0.6, 3427N×7378E, h10km, mb3.8/6, Error ellipse: s-maj=12.4km s-min=9.4km az=61.0*

*MOS **02** 01:28:32.0±1.3, 3434N×7359E, h18km, mb4.9/1, Error ellipse: s-maj=15.6km s-min=7.3km az=97.4*

*BJI **02** 01:28:34.8, 3460N×7365E, h23km, mb3.6, ML3.8*

ISC 02 01:28:33.8±1.0, 3437N±.003×7391E±.004, h18km±7km, n67, σ1§12/81, mb4.0/15, MS3.3/2, 4C-4D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHCP	**Chirah Chowk**	**0.89**	**217**	⇓P	**Pb**	**01 28 48.3**	**-2.4**
CEP	**Cherat**	**1.74**	**252**	⇓P	**Pn**	**01 29 03.8**	**+0.6**
CEP				S	**Sn**	**01 29 26.0**	**+1.0**
THW	**Thamme Wali**	**2.39**	**230**	⇑P	**Pn**	**01 29 12.9**	**+0.8**
DLH	**Dalhousie**	**2.51**	**136**	*e*P	**Pn**	**01 29 18.0**	**+4.3**
DLH				*ex*	**Sg**	**01 29 55.0**	**+0.6**
PONG	**Pong**	**2.96**	**144**	*e*P	**Pn**	**01 29 24.0**	**+4.1**
PONG				*ex*	**Sg**	**01 30 09.0**	**+0.2**
SDNR	**Sundarnagar**	**3.85**	**137**	*e*P	**Pn**	**01 29 34.8**	**+2.7**
SDNR				*ex*	**Sg**	**01 30 34.2**	**-3.2**
DRP	**Derazinda**	**4.06**	**231**	⇓P	**Pn**	**01 29 37.4**	**+2.3**
SMLA	**Simla**	**4.24**	**139**	*e*P	**Pn**	**01 29 38.4**	**+0.9**
SMLA				*ex*	**Sn**	**01 30 27.2**	**+0.7**
SMLA				AML	AML	01 30 47.6	
	comp=E,409nm,0.3s						
SMLA				AML	AML	01 30 47.6	
	comp=N,411nm,0.4s						
KLP	**Kalpa**	**4.62**	**127**	*e*P	**Pn**	**01 29 46.2**	**+3.5**
KLP				*e*S	**Sn**	**01 30 42.3**	**+6.5**

CHKZ	**Chkalovo**	**19.44**	**354**	*e*P		**Pn**	**01 32 59.4**	**-1.2**
CHKZ				pmax		pmax			
	comp=Z,2.0nm,0.6s								
CHKZ	**Chkalovo**	**19.44**	**354**	*e*P		**Pn**	**01 32 59.4**	**-1.2**
	comp=Z,1.9nm,0.6s								
AKTK	**Aktyubinsk**	**19.82**	**329**	P		**Pn**	**01 33 04.2**	**-0.8**
AKTO	**Aktyubinsk**	**19.82**	**329**	P		**Pn**	**01 33 04.2**	**-0.8**
	comp=Z,2.1nm,0.3s,baz=132,slow=11,SNR=53								
AKTO	**Aktyubinsk**	**19.82**	**329**	P		**Pn**	**01 33 04.2**	**-0.8**
AKTO				pmax		pmax			
	comp=Z,2.0nm,0.3s								
ZAL	**Zalesovo**	**21.02**	**18**	P		**P**	**01 33 17.2**	**+0.8**
	comp=Z,6.0nm,0.4s,mb4.2,baz=253,slow=6.5,SNR=18								
ZAL				LR		LR	01 42 42.9		
	comp=Z,59nm,19.0s,MS3.0,baz=146,slow=40								
GTA	**Gaotai**	**21.29**	**69**	*e*P		**P**	**01 33 22.0**	**+2.6**
GTA				AP			01 33 26.8		
GTA				AMB		AMB			
	comp=Z,3.0nm,1.2s,mb3.5								
ORR	**Orenburg**	**22.10**	**327**	⇑*i*P		**P**	**01 33 25.3**	**-2.8**
ORR				pmax		pmax			
	comp=Z,40nm,1.3s,mb4.7								
ARU	**Arti**	**24.44**	**339**	*e*P		**P**	**01 33 51.7**	**+0.2**
ARU	**Arti**	**24.44**	**339**	*e*P		**P**	**01 33 52.4**	**+0.9**
	comp=Z,3.4nm,0.6s,mb4.0								
SONM	**Songino Array**	**27.71**	**51**	P		**P**	**01 34 23.1**	**+2.1**
	comp=Z,1.5nm,0.7s,mb3.7,baz=255,slow=9.6,SNR=13								
ULN	**Ulaanbaatar**	**28.14**	**51**	*e*P		**P**	**01 34 25.7**	**+0.8**
BRTR	**Keskin Array B**	**32.38**	**291**	P		**P**	**01 35 02.4**	**0.0**
	comp=Z,0.6nm,1.0s,mb3.4,baz=62,slow=10.0,SNR=3.8								
AKASG	**Malin Array Be**	**36.13**	**311**	P		**P**	**01 35 32.0**	**-2.8**
	comp=Z,0.6nm,0.4s,mb3.9,baz=83,slow=7.8,SNR=4.7								
MLR	**Muntele Rosu**	**37.91**	**302**	⇑*i*P		**P**	**01 35 51.6**	**+1.7**
BURAR	**Bucovina Array**	**38.44**	**305**	⇓*i*P		**P**	**01 35 54.0**	**-0.5**
JOF	**Joensuu**	**38.89**	**330**	*ep*		**P**	**01 35 57.7**	**-0.6**
	comp=Z,1.6nm,0.5s,mb4.0								
FINES	**FINESS Array B**	**40.57**	**327**	P		**P**	**01 36 11.9**	**-0.3**
	comp=Z,1.4nm,0.6s,mb3.8,baz=112,slow=12,SNR=8.2								
MORC	**Moravsky Berou**	**43.54**	**308**	⇑*i*P		**P**	**01 36 36.8**	**+0.3**
ARCES	**ARCESS Array B**	**44.01**	**338**	P		**P**	**01 36 40.1**	**-0.1**
	comp=Z,1.2nm,0.7s,mb3.8,baz=109,slow=8.2,SNR=12								
ARCES				LR		LR	01 56 17.8		
	comp=Z,65nm,20.3s,MS3.5,baz=171,slow=38								
NB2	**NORSAR Subarra**	**47.50**	**324**	P		**P**	**01 37 06.6**	**-1.2**
	comp=Z,2.1nm,0.7s,mb4.3,baz=94,slow=7.4								
NOA	**NORSAR Array B**	**47.50**	**324**	P		**P**	**01 37 06.2**	**-1.6**
	comp=Z,3.4nm,0.7s,mb4.5,baz=96,slow=7.7,SNR=12								
TORD	**Torodi Ar. Bea**	**68.09**	**271**	P		**P**	**01 39 31.5**	**-1.0**
	comp=Z,2.1nm,0.7s,mb4.3,baz=47,slow=5.9,SNR=34								
INK	**Inuvik**	**75.60**	**10**	*e*P		**P**	**01 40 17.9**	**+0.3**
WRA	**Warramunga Arr**	**78.84**	**123**	P		**P**	**01 40 36.4**	**+0.6**
	comp=Z,1.5nm,0.7s,mb4.1,baz=323,slow=5.5,SNR=6.2								
WRAB	**Tennant Creek**	**78.84**	**123**	*e*P		**P**	**01 40 35.6**	**-0.2**
ASAR	**Alice Springs**	**81.08**	**127**	P		**P**	**01 40 48.6**	**+0.7**
	comp=Z,1.1nm,0.6s,mb4.0,baz=310,slow=5.1,SNR=15								
YKA	**Yellowknife Ar**	**83.23**	**4**	P		**P**	**01 40 59.0**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.9,baz=348,slow=5.3,SNR=24								
YKA	**Yellowknife Ar**	**83.23**	**4**	P		**P**	**01 40 59.0**	**-0.2**

*ISCJB **02** 01:44:37.3±0.2, 4080N±001×1954E±002, h10km, Error ellipse: s-maj=2.2km s-min=1.9km az=132.5*
*CSEM **02** 01:44:37.4±0.1, 4081N×1957E, h5km, MD3.1/16, Error ellipse: s-maj=1.4km s-min=1.3km az=43.0*
*TIR **02** 01:44:37.6, 4083N×1974E, h10km, Ml2.7*
*THE **02** 01:44:37.9, 4079N×1964E, h10km, ML3.4*
*NEIC **02** 01:44:38.1, 4085N×1948E, h11km, MD3.0(PDG), ML2.9(ROM), ML3.1(THE), After PDG.*
*PDG **02** 01:44:38.1±0.5, 4085N×1948E, h11km±1km*
*ROM **02** 01:44:38.2, 4087N×1948E, h10km, Md3.1/16, Ml2.9/12, Error ellipse: s-maj=3.2km s-min=2.3km az=56.0*

ISC 02 01:44:37.4±0.4,**4079N**±001×**1953E**±002,**h3**km±3km,**n79,** σ1§**05**/115,**5C, Albania**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLO	**Vlora**	**0.32**	**185**	*i* Pg	**Pg**	**01 44 45.9**	**+2.4**
VLO				*i* Sg	**Sg**	**01 44 51.0**	**+3.3**
TPE	**Tepelena**	**0.61**	**143**	*i* Pg	**Pg**	**01 44 48.5**	**-0.6**
TPE				*i* Sg	**Sg**	**01 44 58.3**	**+1.2**
TIR	**Tirane**	**0.61**	**24**	Pn	**Pg**	**01 44 49.1**	**0.0**
TIR				Sn	**Sg**	**01 44 58.6**	**+1.5**
	667nm,0.6s						
TIR	**Tirane**	**0.61**	**24**	*e*Pg	**Pg**	**01 44 49.1**	**-0.1**
TIR				*e*Sg	**Sg**	**01 44 58.0**	**+0.9**
QSH	**Qafa e Shtames**	**0.79**	**21**	*i* Pg	**Pg**	**01 44 52.0**	**-0.4**
QSH				*i* Sg	**Sg**	**01 45 04.2**	**+1.6**
LACI	**Lac**	**0.86**	**9**	*i* Pg	**Pg**	**01 44 53.4**	**-0.4**
LACI				*i* Sg	**Sg**	**01 45 06.9**	**+1.9**
KBN	**Korca**	**0.97**	**99**	*i* Pg	**Pg**	**01 44 54.9**	**-1.0**
KBN				*i* Sg	**Sg**	**01 45 09.4**	**+0.9**
SRN	**Sarande**	**0.97**	**158**	*i* Pn	**Pn**	**01 44 57.8**	**-0.2**
SRN				*i* Sn	**Sn**	**01 45 13.7**	**+1.4**
OHR	**Ohrid**	**1.01**	**71**	*i* Pg	**Pg**	**01 44 54.1**	**-2.7**
LSK	**Leskovik**	**1.03**	**128**	*i* Pn	**Pn**	**01 44 55.8**	**-3.0**
LSK				*i* Sn	**Sn**	**01 45 15.7**	**+1.9**
SCTE	**Santa Cesarea**	**1.08**	**229**	Pn	**Pn**	**01 44 59.1**	**-0.4**
SCTE				Sn	**Sn**	**01 45 15.8**	**+0.8**
	391nm,0.5s						
KEK	**Kerkira**	**1.09**	**169**	Pn	**Pn**	**01 44 59.3**	**-0.3**
KEK				Sn	**Sn**	**01 45 16.7**	**+1.5**
	182nm,0.4s						
KEK	**Kerkira**	**1.09**	**169**	*e*P	**Pg**	**01 45 00.0**	**+1.7**
LCI	**Lecce**	**1.17**	**248**	Pn	**Pn**	**01 44 59.9**	**-0.8**
LCI				Sn	**Sn**	**01 45 14.7**	**-2.5**
	130nm,0.3s						
ULC	**Ulcinj**	**1.19**	**350**	⇑*i*Pg	**Pg**	**01 44 59.6**	**-0.6**
ULC				*e*Sg	**Sg**	**01 45 16.8**	**+1.0**
BIA	**Bitola**	**1.38**	**80**	*i* Pn	**Pn**	**01 45 01.0**	**-2.5**
IGT	**Igoumenitsa**	**1.40**	**154**	*e*Pg	**Pg**	**01 45 03.5**	**-0.6**
IGT				*e*Sg	**Sg**	**01 45 23.5**	**+1.3**
FNA	**Florina**	**1.40**	**90**	*e*Pg	**Pg**	**01 45 01.9**	**-2.3**
FNA				*e*Sg	**Sg**	**01 45 22.5**	**+0.2**
JAN	**Janina**	**1.52**	**138**	*e*P	**Pn**	**01 45 07.0**	**+1.6**
BUM	**Brajici-Budva**	**1.58**	**343**	⇑*i*Pg	**Pg**	**01 45 06.0**	**-1.8**
BUM				*e*Sg	**Sg**	**01 45 28.8**	**+0.5**
BUM	**Brajici-Budva**	**1.58**	**343**	⇑*i*Pg	**Pg**	**01 45 05.9**	**-1.9**
BUM				*e*Sg	**Sg**	**01 45 28.8**	**+0.5**
BCI	**Bajram Curri**	**1.63**	**14**	*i* Pn	**Pn**	**01 45 07.5**	**+0.5**
BCI				*i* Sn	**Sn**	**01 45 32.3**	**+3.9**
TTG	**Podgorica**	**1.65**	**353**	*e*Pn	**Pn**	**01 45 06.5**	**-0.8**
TTG				*e*Sn	**Sn**	**01 45 30.1**	**+1.0**
BRT	**Bari-Castellan**	**1.77**	**274**	Pn	**Pn**	**01 45 08.7**	**-0.2**
	30nm,0.2s						
KZN	**Kozani**	**1.77**	**105**	*e*P	**Pn**	**01 45 10.0**	**+1.1**
HCY	**Herceg Novi**	**1.83**	**335**	*e*Pn	**Pn**	**01 45 08.8**	**-1.0**
HCY				*e*Sn	**Sn**	**01 45 34.8**	**+1.3**
PVY	**Plav**	**1.84**	**10**	*e*Pn	**Pn**	**01 45 09.3**	**-0.5**
PVY				*e*Sn	**Sn**	**01 45 35.4**	**+1.9**
SKO	**Skopje**	**1.86**	**50**	*e*Pb	**Pb**	**01 45 10.4**	**-1.7**
SKO				*e*Sb	**Sb**	**01 45 35.5**	**-0.2**
SKO	**Skopje**	**1.86**	**50**	*i* Pn	**Pn**	**01 45 10.4**	**+0.2**
SKO				*i* Sn	**Sn**	**01 45 34.3**	**+0.1**
SKO	**Skopje**	**1.86**	**50**	*i* Pn	**Pn**	**01 45 10.3**	**+0.2**
SKO				*i* Sn	**Sn**	**01 45 34.3**	**+0.1**
NOCI	**Noci**	**1.87**	**271**	Pn	**Pn**	**01 45 09.9**	**-0.4**
	110nm,0.2s						
BAI	**Bari**	**2.04**	**280**	*e*Pn	**Pn**	**01 45 11.7**	**-0.9**
NKY	**Niksic**	**2.06**	**349**	*e*Pn	**Pn**	**01 45 13.3**	**+0.4**
NKY				*e*Sn	**Sn**	**01 45 40.2**	**+1.1**
IVA	**Berane**	**2.10**	**7**	*e*Pn	**Pn**	**01 45 13.4**	**-0.1**
IVA				*e*Sn	**Sn**	**01 45 41.2**	**+1.1**
TREB	**Trebinje**	**2.12**	**336**	P	**Pn**	**01 45 12.3**	**-1.4**
TREB				S	**Sn**	**01 45 40.2**	**-0.4**
SG1	**Sgolgore (BA)**	**2.17**	**272**	*e*Pn	**Pn**	**01 45 14.2**	**-0.2**
GRG	**Griva**	**2.18**	**85**	*e*Pn	**Pn**	**01 45 14.0**	**-0.6**
GRG				*e*Sn	**Sn**	**01 45 41.1**	**-1.0**
STIP	**Stip**	**2.20**	**65**	*i* Pn	**Pn**	**01 45 14.1**	**-0.7**
STIP				*e*Sn	**Sn**	**01 45 42.2**	**-0.2**
STIP	**Stip**	**2.20**	**65**	*i* Pn	**Pn**	**01 45 14.1**	**-0.7**
STIP				*e*Sn	**Sn**	**01 45 42.2**	**-0.3**
AMUR	**Altamura**	**2.23**	**274**	Pn	**Pn**	**01 45 14.4**	**-0.8**
BRY	**Bratogost**	**2.24**	**341**	*e*Pn	**Pn**	**01 45 15.5**	**+0.2**
BRY				*e*Sn	**Sn**	**01 45 44.1**	**+0.6**
LKD	**Levkas**	**2.25**	**157**	*e*Pn	**Pn**	**01 45 14.8**	**-0.7**
VAY	**Valandovo**	**2.36**	**76**	*i* Pn	**Pn**	**01 45 15.7**	**-1.3**
LIT	**Litokhoron**	**2.36**	**106**	*e*Pn	**Pn**	**01 45 16.8**	**-0.2**
UPM	**Unac-Piva**	**2.46**	**349**	*e*Pn	**Pn**	**01 45 17.9**	**-0.4**
UPM				*e*Sn	**Sn**	**01 45 49.7**	**+0.8**
CDT	**Castel del Mon**	**2.49**	**278**	*e*Pn	**Pn**	**01 45 18.1**	**-0.7**
STON	**Ston**	**2.49**	**327**	*i* Pn	**Pn**	**01 45 17.1**	**-1.7**
STON				*i* Sn	**Sn**	**01 45 47.0**	**-2.7**
PLE	**Pljevlja**	**2.54**	**358**	*e*Pn	**Pn**	**01 45 19.7**	**+0.2**
PLE				*e*Sn	**Sn**	**01 45 51.9**	**+0.9**
EVR	**Evrytania**	**2.56**	**136**	*e*P	**Pn**	**01 45 20.9**	**+1.1**
VLS	**Valsamata**	**2.73**	**162**	*e*P	**Pn**	**01 45 20.7**	**-1.5**
AGG	**Agios Georgios**	**2.78**	**128**	*e*Pn	**Pn**	**01 45 22.5**	**-0.4**
FGMS	**Monte Sant'Ang**	**2.85**	**290**	Pn	**Pn**	**01 45 23.1**	**-0.7**
	12nm,0.2s						
MS1	**Monte Sant'Ang**	**2.86**	**290**	*e*Pn	**Pn**	**01 45 23.5**	**-0.4**
CUC	**Castrocucco**	**2.95**	**256**	Pn	**Pn**	**01 45 25.7**	**+0.6**
	26nm,0.6s						
SLCN	**Sala Consilina**	**3.00**	**264**	Pn	**Pn**	**01 45 26.0**	**+0.2**
	34nm,0.4s						
PLG	**Polygyros**	**3.01**	**97**	*e*P	**Pn**	**01 45 25.5**	**-0.4**
SRS	**Serrai**	**3.09**	**83**	*e*Pn	**Pn**	**01 45 26.3**	**-0.8**
MGR	**Morigerati**	**3.10**	**259**	Pn	**Pn**	**01 45 27.1**	**-0.2**
	129nm,2.0s						
RLS	**Riolos of Patr**	**3.11**	**151**	*e*P	**Pn**	**01 45 27.2**	**-0.2**
XOR	**Xorichti**	**3.15**	**116**	*e*Pn	**Pn**	**01 45 27.2**	**-0.7**
NEO	**Neokhori**	**3.20**	**116**	*e*P	**Pn**	**01 45 29.5**	**+1.0**
CMPR	**Campora**	**3.26**	**263**	Pn	**Pn**	**01 45 29.8**	**+0.4**
	10.0nm,0.5s						
FG5	**Orsara di Pugl**	**3.26**	**280**	Pn	**Pn**	**01 45 30.6**	**+1.1**
	12nm,0.2s						
PAIG	**Paliouri**	**3.28**	**104**	*e*Pn	**Pn**	**01 45 28.9**	**-0.8**
VTS	**Vitosha**	**3.29**	**56**	⇑*i*P	**Pn**	**01 45 30.4**	**+0.6**
MCRV	**Calabrutti - M**	**3.31**	**271**	Pn	**Pn**	**01 45 31.5**	**+1.4**
	15nm,0.4s						
NVR	**Nevrokopi**	**3.32**	**79**	*e*P	**Pn**	**01 45 29.9**	**-0.3**
OUR	**Ouranopolis**	**3.42**	**96**	*e*Pn	**Pn**	**01 45 31.0**	**-0.6**
CII	**Carovilli**	**4.05**	**285**	Pn	**Pn**	**01 45 40.9**	**+0.6**
	11nm,0.3s						
MIDA	**Miranda**	**4.07**	**284**	Pn	**Pn**	**01 45 41.1**	**+0.5**
	15nm,0.3s						
SDI	**San Donato**	**4.41**	**284**	Pn	**Pn**	**01 45 45.6**	**+0.4**
	7.0nm,0.2s						
VVLD	**Villa Vallelon**	**4.58**	**286**	Pn	**Pn**	**01 45 48.0**	**+0.4**
	18nm,0.7s						
FAGN	**Fagnano**	**4.70**	**290**	Pn	**Pn**	**01 45 49.3**	**+0.1**
	19nm,0.4s						
PTQR	**Pietraquaria**	**4.77**	**287**	Pn	**Pn**	**01 45 51.0**	**+0.8**
	22nm,1.0s						
BZS	**Buzias**	**5.06**	**17**	⇑*i*P	**Pg**	**01 46 17.9**	**+3.5**
NVLJ	**Novalja**	**5.10**	**319**	*i* Pn	**Pn**	**01 45 53.5**	**-1.2**
NVLJ				*i* Sn	**Sn**	**01 46 49.6**	**-4.6**
NVLJ	**Novalja**	**5.10**	**319**	*i* Pn	**Pn**	**01 45 53.5**	**-1.2**
NVLJ				*i* Sn	**Sn**	**01 46 49.5**	**-4.7**
NRCA	**Norcia**	**5.21**	**295**	Pn	**Pn**	**01 45 56.1**	**-0.2**
	1.0nm,0.2s						
SNTG	**Esanatoglia**	**5.49**	**299**	Pn	**Pn**	**01 45 59.6**	**-0.5**
	1.0nm,0.3s						

IDC 02 01:45:06.9±4.1,**975S**×**11027E, h0**km,**mb3.5**/3,**mb1 3.6**/3, **mb1mx3.4**/15,**mbtmp3.5**/3,**Error ellipse: s-maj=220.4km s-min=27.1km az=47.0,South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.34**	**116**	P	P	01 50 36.4	+1.1
	0.3nm,0.3s,baz=288,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**26.47**	**124**	P	P	01 50 45.3	-0.3
	0.7nm,0.7s,baz=296,slow=9.2,SNR=5.9						
MKAR	**Makanchi Array**	**61.58**	**338**	P	P	01 55 26.0	0.0
	0.3nm,0.4s,baz=146,slow=8.1,SNR=6.7						

*ISCJB **02** 01:59:37.7±0.7, 3970N±006×2561E±007, h9km±8km, Error ellipse: s-maj=12.5km s-min=4.8km az=92.9*
*ATH **02** 01:59:38.2, 3978N×2563E, h3km±2km, MD3.0/4*
*THE **02** 01:59:38.4, 3968N×2555E, h7km*

ISC 02 01:59:38.3±0.7,**3971N**±006×**2560E**±007,**h13**km±8km,**n8,** σ0§**82**/12,**1D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.37**	**301**	⇓*i*Pg	**Pg**	**01 59 45.5**	**-0.3**
LIA				*e*SG	**Sg**	**01 59 50.3**	**-0.5**
LOS	**Limnos**	**0.46**	**300**	*e*Pg	**Pg**	**01 59 47.4**	**+0.1**
LOS				*e*Sg	**Sg**	**01 59 54.2**	**+0.8**
PRK	**Paraskevi**	**0.70**	**131**	*e*PG	**Pg**	**01 59 52.1**	**+0.2**
PRK				*e*SG	**Sg**	**02 00 02.1**	**+1.1**
ALN	**Alexandroupoli**	**1.24**	**16**	*e*Pg	**Pg**	**02 00 01.4**	**-0.7**
CHOS	**Chios island**	**1.37**	**165**	*e*Pg	**Pn**	**02 00 02.5**	**-0.6**
CHOS				*e*Sg	**Sg**	**02 00 21.6**	**-0.8**
OUR	**Ouranopolis**	**1.39**	**297**	*e*Pg	**Pn**	**02 00 02.9**	**-0.5**
RDO	**Rodhopi**	**1.44**	**358**	*e*PB	**Pn**	**02 00 03.9**	**-0.1**
PLG	**Polygyros**	**1.78**	**293**	*e*PG	**Pn**	**02 00 11.6**	**+2.9**

*ISCJB **02** 02:00:15.9±1.0, 3502N±009×394W±006, h14km±6km, Error ellipse: s-maj=16.4km s-min=5.5km az=39.9*
*CSEM **02** 02:00:15.9±0.1, 3506N×381W, h8km, MD2.5, Error ellipse: s-maj=5.8km s-min=2.4km az=37.0*
*CNRM **02** 02:00:16.2, 3493N×395W, h4km, MD2.5*
*MDD **02** 02:00:17.7±0.5, 3500N×385W, h0km, mbLg1.6/2, Error ellipse: s-maj=6.9km s-min=1.8km az=33.0, PRXIMO*
*NEIC **02** 02:00:18.2, 35.16N×388W, h0km, MG2.7(MDD), After MDD.*

ISC 02 02:00:16.3±0.9,**3504N**±007×**390W**±005,**h13**km±5km,**n17,** σ1§**22**/31,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOU	**Touzarine**	**0.14**	**122**	P	**Pg**	**02 00 19.5**	**-0.4**
TOU				S	**Sg**	**02 00 21.5**	**-0.9**
TOU	**Touzarine**	**0.14**	**122**	*i* P	**Pg**	**02 00 19.5**	**-0.4**
MPAL	**Palemas**	**0.19**	**350**	*e*P	**Pg**	**02 00 22.0**	**+1.4**
EMEL	**Melilla**	**0.82**	**71**	P	**Pg**	**02 00 31.6**	**-0.6**
	34nm,0.1s,SNR=7.9						
EMEL				S	**Sg**	**02 00 43.0**	**+0.2**
	14nm,0.1s,SNR=7.9						
EMLI	**Melilla**	**0.82**	**71**	P	**Pg**	**02 00 31.6**	**-0.7**
	34nm,0.1s,SNR=7.9						
EMLI				S	**Sg**	**02 00 43.0**	**0.0**
	14nm,0.1s,SNR=7.9						
ZAI	**Zaio**	**0.95**	**94**	*e*P	**Pb**	**02 00 34.0**	**-0.7**
ZAI				*i* S	**Sb**	**02 00 48.0**	**+0.9**
EMIJ	**Mijas**	**1.68**	**335**	P	**Pn**	**02 00 45.7**	**+0.4**
	0.2nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**02 01 05.7**	**-1.1**
	0.5nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**1.68**	**335**	P	**Pn**	**02 00 46.3**	**+0.9**
EMIJ				S	**Sn**	**02 01 05.7**	**-1.1**
EMIJ	**Mijas**	**1.68**	**335**	P	**Pn**	**02 00 46.3**	**+0.9**
EMIJ				S	**Sn**	**02 01 05.7**	**-1.1**
	0.5nm,0.1s,SNR=7.9						
EQES	**Quesada**	**2.84**	**13**	P	**Pn**	**02 01 03.2**	**+1.9**
	0.2nm,0.2s,SNR=4.0						
EQES				S	**Sn**	**02 01 39.0**	**+3.6**
	0.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.84**	**13**	P	**Pn**	**02 01 03.2**	**+1.9**
EQES				S	**Sn**	**02 01 34.5**	**-0.9**
EQES	**Quesada**	**2.84**	**13**	P	**Pn**	**02 01 03.2**	**+1.9**
	0.2nm,0.2s,SNR=4.0						
EQES				S	**Sn**	**02 01 34.5**	**-0.9**
EMIN	**Mina Concepcio**	**3.52**	**321**	P	**Pn**	**02 01 12.9**	**+2.2**
	0.0nm,0.1s,SNR=4.0						
EMIN				S	**Sn**	**02 01 50.5**	**-1.7**
	0.1nm,0.1s,SNR=4.0						
EMIN	**Mina Concepcio**	**3.52**	**321**	P	**Pn**	**02 01 12.8**	**+2.1**
EMIN				S	**Sn**	**02 01 49.2**	**-3.0**
EMIN	**Mina Concepcio**	**3.52**	**321**	P	**Pn**	**02 01 12.8**	**+2.1**
EMIN				S	**Sn**	**02 01 50.5**	**-1.8**
	0.1nm,0.1s,SNR=4.0						
EGRO	**El Granado**	**3.82**	**312**	P	**Pn**	**02 01 16.5**	**+1.7**
	0.2nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**02 01 57.6**	**-2.0**
	0.2nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.82**	**312**	P	**Pn**	**02 01 16.5**	**+1.7**
	0.2nm,0.1s,SNR=7.9						

*CSEM **02** 02:39:11.5±0.5, 3855N×2858W, h14km±6km, ML1.2, Error ellipse: s-maj=7.8km s-min=2.2km az=36.0, After PDA*
*PDA **02** 02:39:11.5±0.5, 3855N×2858W, h14km±6km, MD2.6, ML1.2, Error ellipse: s-maj=7.8km s-min=2.2km az=36.0*

SVSA 02 02:39:11.5±0.5,**3855N×2858W, h14**km±6km,**MD2.6, ML1.2, Error ellipse: s-maj=7.8km s-min=2.2km az=36.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOR	**Horta**	**0.05**	**240**	*e*P	Pg	02 39 13.7	-0.4
HOR				*e*S	Sg	02 39 15.6	-0.4
CALA	**Caldeira**	**0.10**	**287**	*e*P	Pg	02 39 14.5	-0.2
CALA				*e*S	Sg	02 39 16.5	-0.4
PCED	**Cedros**	**0.12**	**308**	*e*P	Pg	02 39 14.3	-0.7
PCED				*e*S	Sg	02 39 16.9	-0.5
PCED							
	11nm,0.1s						
PCED	**Cedros**	**0.12**	**308**	*e*P	Pg	02 39 14.3	-0.7
PCED				*e*S	Sg	02 39 16.9	-0.5
PICO	**Pico**	**0.13**	**113**	*e*P	Pg	02 39 14.8	-0.2
PICO				*e*S	Sg	02 39 16.9	-0.6
ROSA	**Rosais**	**0.31**	**57**	*erx*		02 39 17.8	
PID	**Ribeirinha**	**0.38**	**107**	*erx*		02 39 17.7	

IDC 02 02:40:37.3±11.0,**158N**×**9795W, h0**km,**mb3.5**/3, **mb1 3.9**/3,**mb1mx3.6**/17,**mbtmp3.5**/3,**Error ellipse: s-maj=410.1km s-min=207.4km az=97.0,West of Galapagos Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDAR	**Pinedale Array**	**42.31**	**347**	P	P	02 48 32.9	+0.2
	0.8nm,0.9s,baz=156,slow=6.9,SNR=6.0						
YKA	**Yellowknife Ar**	**62.04**	**351**	P	P	02 50 59.7	+0.3
	0.5nm,1.0s,baz=152,slow=6.6,SNR=5.9						
ILAR	**Eielson Array**	**72.17**	**340**	P	P	02 52 03.3	-0.6
	0.3nm,0.8s,baz=162,slow=5.8,SNR=4.3						

*ISCJB **02** 02:47:12.2±0.9, 2586S±005×13730E±009, h10km, mb3.6/1, Error ellipse: s-maj=11.6km s-min=6.7km az=174.0*
*IDC **02** 02:47:13.7±1.8, 2579S×13758E, h0km, mb3.7/1, mb1 3.9/6, mb1mx3.7/13, mbtmp3.8/6, ML3.8/5, Error ellipse: s-maj=30.5km s-min=17.7km az=35.0*
*NEIC **02** 02:47:16.0, 2604S×13722E, h0km, mb4.4/2, ML3.6(AUST), After AUST.*
*AUST **02** 02:47:16, 2604S×13722E, h0km, ML3.6*

ISC 02 02:47:14.1±0.8,**2588S**±005×**13734E**±007,**h10**km,**n23,** σ1§**15**/44,**mb3.6/1,Northern Territory**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**3.82**	**304**	Pn	**Pn**	**02 48 16.9**	**+3.9**
	3.2nm,0.3s,baz=125,slow=14,SNR=39						
ASAR				Pg	**Pg**	**02 48 26.4**	**-0.9**
	11nm,0.3s,baz=121,slow=16,SNR=44						
ASAR				Sn	**Sn**	**02 49 02.1**	**+4.2**
	13nm,0.3s,baz=119,slow=19,SNR=9.1						
ASAR				Lg		02 49 20.7	
	22nm,0.3s,baz=122,slow=26,SNR=9.4						
ASAR	**Alice Springs**	**3.82**	**304**	Pn	**Pn**	**02 48 16.9**	**+3.9**
ASAR				Pg	**Pg**	**02 48 26.4**	**-0.9**
ASAR				Sn	**Sn**	**02 49 02.1**	**+4.2**
ASAR				Lg		02 49 20.7	
WB2	**Warramunga Arr**	**6.52**	**334**	*e*P	**Pn**	**02 48 51.1**	**+1.1**
WB2				*e*S	**Sn**	**02 50 03.3**	**-1.1**
WRA	**Warramunga Arr**	**6.52**	**334**	Pn	**Pn**	**02 48 51.0**	**+0.9**
	1.0nm,0.3s,baz=149,slow=12,SNR=15						
WRA				Sn	**Sn**	**02 50 04.1**	**-0.4**
	3.6nm,0.3s,baz=141,slow=25,SNR=6.7						
WRA				Lg		02 50 38.9	
	5.2nm,0.3s,baz=156,slow=30,SNR=7.5						
STKA	**Stephens Creek**	**7.04**	**149**	*e*P	**Pn**	**02 48 57.5**	**+0.2**
STKA				*e*S	**Sn**	**02 50 10.7**	**-6.7**
	9.3nm,0.3s						
STKA	**Stephens Creek**	**7.04**	**149**	Pn	**Pn**	**02 48 56.8**	**-0.5**
	1.5nm,0.3s,baz=327,slow=12,SNR=37						
STKA				Sn	**Sn**	**02 50 11.3**	**-6.0**

IDC ***02*** *02:50:54.7±0.5, 8.15N×82.98W, h0km, mb4.6/22, mb1 4.8/26, mb1mx4.8/28, mbtmp4.6/26, ML4.1/1, MS4.5/18, Ms1 4.5/18, ms1mx4.3/30, Error ellipse: s-maj=20.5km s-min=10.2km az=54.0*

ISCJB ***02*** *02:50:57.3±0.2, 8.10N±003×8286W±003, h21km, mb4.7/170, MS4.8/37, Error ellipse: s-maj=5.4km s-min=2.6km az=64.6*

SZGRF ***02*** *02:50:57.7, 7.81N×83.38W, h33km, mb4.9, MS5.1, Off coast of Costa Rica*

NEIC ***02*** *02:50:59.0±0.2, 8.12N×82.88W, mb4.8/127, MS5.0/10, Error ellipse: s-maj=5.8km s-min=2.9km az=214.0*

MOS ***02*** *02:50:58.7±0.9, 8.15N×82.85W, h30km, mb5.0/73, MS4.9/14, Error ellipse: s-maj=7.0km s-min=5.3km az=90.1*

BJI ***02*** *02:50:58.9, 8.10N×82.90W, h22km, mB5.4, Ms5.3, Msz4.9*

HRVD ***02*** *02:50:59.0±0.2, 8.07N×82.85W, h12km, MW5.2/77, Centroid moment Tensor Solution. LP body waves: s56,c86; Mantle waves: s77,c133; Half duration: 1s Moment tensor: Scale 10^{16}Nm; M_{rr}5.50±.12; $M_{\theta\theta}$-1.35±.10; $M_{\phi\phi}$-4.15±.12; $M_{r\theta}$1.91±.31; $M_{\theta\phi}$3.92±.09; $M_{\phi r}$-3.76±.32; Best double couple: M_o7.51200×10^{16} NP1:ϕ_s317.00000°, δ28.00000°, λ78.00000°. NP2: ϕ_s151.00000°, δ62.00000°, λ96.00000°. Principal axes: T 6.8350, Plg72.0000°, Azm75.0000°; N 1.3540, Plg6.0000°, Azm328.0000°; P -8.1890, Plg17.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

CASC ***02*** *02:51:04.4±2.7, 8.65N×82.97W, h6km±10km, MD4.8, ML3.6, mb4.8(NEIC)*

ISC 02 02:50:59.2±0.2, 806N±003×8288W±003, h23km, h23km±.9km:pP-P, n478, σ0s99/426, mb4.7/170, MS4.8/37, 24C-18D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.65**	**334**	*e*P	**Pb**	**02 51 08.7**	**-3.1**
ACR	**Cerro Adams**	**0.65**	**334**	*e*P	**Pb**	**02 51 10.0**	**-1.9**
ACR				*e*S	**Sb**	**02 51 20.8**	**+0.3**
BUS	**Buena Vista**	**1.72**	**330**	‖*e*P	**Pn**	**02 51 26.0**	**-1.7**
BUS	**Buena Vista**	**1.72**	**330**	*e*P	**Pn**	**02 51 25.9**	**-1.7**
URSC	**Urasca**	**1.97**	**333**	‖*e*P	**Pn**	**02 51 30.1**	**-1.1**
URSC	**Urasca**	**1.97**	**333**	*e*P	**Pn**	**02 51 29.8**	**-1.4**
LCR2	**La Lucha 2**	**2.00**	**326**	‖*i*P	**Pn**	**02 51 30.5**	**-1.1**
LCR2	**La Lucha 2**	**2.00**	**326**	*e*P	**Pn**	**02 51 30.2**	**-1.4**
ICR	**Volcan Irazu**	**2.12**	**334**	*e*P	**Pn**	**02 51 33.0**	**-0.3**
ICR	**Volcan Irazu**	**2.12**	**334**	*e*P	**Pn**	**02 51 33.0**	**-0.2**
SJS	**Escuela Geolog**	**2.20**	**328**	‖*e*P	**Pn**	**02 51 34.3**	**+0.1**
SJS	**Escuela Geolog**	**2.20**	**328**	*e*P	**Pn**	**02 51 33.8**	**-0.4**
PRS1	**Puriscal**	**2.38**	**324**	‖*i*P	**Pn**	**02 51 34.5**	**-2.2**
PRS1	**Puriscal**	**2.38**	**324**	*e*P	**Pn**	**02 51 34.4**	**-2.3**
JTS	**JuntasAbangare**	**3.02**	**317**	Pn	**Pn**	**02 51 43.3**	**-2.2**
	186nm,0.3s,baz=129,slow=5.7,SNR=272						
JTS				Sn	**Sn**	**02 52 21.6**	**+0.7**
	145nm,0.3s,baz=9.9,slow=21,SNR=3.7						
PINA	**Piqa, Costa Ab**	**3.02**	**67**	‖*e*P	**Pn**	**02 51 51.2**	**+5.5**
PINA				*e*S	**Sn**	**02 52 26.8**	**+5.7**
ZANG	**Zanguenga, Cho**	**3.11**	**73**	*e*S	**Sn**	**02 52 32.4**	**+9.1**
VCR	**Vista de Mar**	**3.40**	**307**	‖*e*P	**Pn**	**02 51 49.1**	**-1.8**
VCR	**Vista de Mar**	**3.40**	**307**	*e*P	**Pn**	**02 51 48.7**	**-2.2**
LIM1	**Limonal**	**3.52**	**318**	*i* P	**Pn**	**02 51 51.9**	**-0.5**
MADN	**Villa Maderas**	**4.23**	**322**	‖*e*P	**Pn**	**02 52 02.1**	**-0.1**
SSNN	**San Juan del S**	**4.34**	**318**	‖*e*P	**Pn**	**02 52 04.2**	**+0.5**
CONN	**Concepcion**	**4.41**	**322**	‖*e*P	**Pn**	**02 52 04.5**	**-0.2**
APON	**Apoyo**	**4.95**	**321**	*e*P	**Pn**	**02 52 13.2**	**+1.0**
TICN	**Ticuantepe**	**5.14**	**320**	*e*P	**Pn**	**02 52 17.7**	**+2.9**
MGAN	**Managua**	**5.24**	**321**	‖*e*P	**Pn**	**02 52 16.4**	**+0.3**
MGAN				*e*SG	Sn	02 53 40.6	+25
MGAN				*i*		02 54 31.6	
	comp=N,128nm,0.5s						
TISN	**Laguna Tiscapa**	**5.25**	**321**	*e*P	**Pn**	**02 52 17.2**	**+1.0**
XAVN	**Gruta Xavier**	**5.29**	**320**	‖*e*P	**Pn**	**02 52 17.4**	**+0.6**
APYN	**Apoyeque**	**5.37**	**321**	*e*P	**Pn**	**02 52 18.7**	**+0.8**
COPN	**Copaltepe**	**5.49**	**319**	‖*e*P	**Pn**	**02 52 19.8**	**+0.3**
MIRN	**Miramar**	**5.76**	**319**	‖*e*P	**Pn**	**02 52 24.3**	**+1.1**
CNGN	**Cerro Negro**	**5.79**	**320**	*e*P	**Pn**	**02 52 24.4**	**+0.7**
LEON	**Leon**	**5.86**	**318**	‖*e*P	**Pn**	**02 52 25.5**	**+0.9**
TEL3	**Telica 3**	**5.94**	**319**	‖*e*P	**Pn**	**02 52 27.1**	**+1.4**
CRIN	**San Cristobal**	**6.17**	**319**	‖*e*P	**Pn**	**02 52 30.0**	**+1.1**
LCBS	**La Ceiba**	**8.17**	**313**	*e*P	Px	02 53 01.9	
LCBS				*e*S	Sx	02 54 31.5	
ROSC	**El Rosal**	**9.07**	**110**	Pn	**Pn**	**02 53 10.7**	**+2.0**
	comp=N,1.1nm,0.3s,baz=261,slow=2.8,SNR=22						
ROSC				LR	LR	02 57 20.0	
	comp=N,1μm,18.4s,baz=334,slow=42						
IXG	**Ixpaco**	**9.60**	**310**	*e*P	**Pn**	**02 53 17.1**	**+1.2**
IXG				*e*S	**Sn**	**02 55 03.5**	**+0.5**
MRL	**Marmol**	**9.64**	**317**	*e*P	**Pn**	**02 53 18.2**	**+1.7**
MCJ	**Malvern**	**11.03**	**27**	‖*e*P	**Pn**	**02 53 35.4**	**-0.1**
CVJ	**Coleyville**	**11.36**	**27**	‖*e*P	**Pn**	**02 53 40.1**	**0.0**
PAYG	**Puerto Ayora**	**11.39**	**221**	*e*Pn	**Pn**	**02 53 44.8**	**+4.2**
	comp=N,84nm,1.4s						
STH	**Stony Hill**	**11.57**	**30**	‖*e*P	**Pn**	**02 53 43.8**	**+0.9**
BBJ	**Bamboo Saint A**	**11.62**	**27**	‖*e*P	**Pn**	**02 53 44.1**	**+0.5**
CMJ	**Castle Mountai**	**11.85**	**32**	‖*e*P	**Pn**	**02 53 47.3**	**+0.6**
SDV	**Santo Domingo**	**12.14**	**85**	Pn	**Pn**	**02 53 51.4**	**+0.7**
	comp=N,1.1nm,0.3s,baz=285,slow=7.9,SNR=17						
LMGC	**Las Mercedes**	**13.22**	**25**	*e*PG	**Pn**	**02 54 07.7**	**+2.3**
LMGC				*e*SG	Sn	02 57 13.2	+42
	comp=N,1μm,18.9s						
LMGC				*e*			
	comp=E,2μm,18.0s						
RCC	**Rio Carpintero**	**13.75**	**30**	*e*P	**Pn**	**02 54 16.1**	**+3.4**
RCC				*e*S	**Sn**	**02 57 00.9**	**+16**
	comp=N,1μm,23.4s						
RCC				*e*			
	comp=E,911nm,20.3s						
MGV	**Manicaragua**	**14.24**	**11**	*e*P	**Pn**	**02 54 22.1**	**+2.7**
HLGC	**Holguin**	**14.35**	**27**	*e*P	**Pn**	**02 54 20.9**	**0.0**
SOR	**Soroa**	**14.64**	**360**	*e*P	**Pn**	**02 54 27.4**	**+2.5**
MASC	**Masc**	**14.66**	**34**	*e*P	**Pn**	**02 54 29.6**	**+4.4**
MOAC	**Moa**	**14.68**	**31**	*e*P	**Pn**	**02 54 29.3**	**+4.0**
MOAC				*e*S	**Sn**	**02 57 00.3**	**-7.0**
	comp=N,2.2nm,7.5s						
MOAC				*e*			
	comp=E,2.2nm,6.1s						
OXX	**Oaxaca**	**16.20**	**305**	*e*P	**Pn**	**02 54 47.5**	**+2.2**
VHO	**Vista Hermosa**	**16.21**	**305**	*e*P	**Pn**	**02 54 46.6**	**+1.2**
PPM	**Popocatepetl**	**18.79**	**307**	*e*P	**Pn**	**02 55 19.1**	**+1.6**
SJG	**San Juan**	**19.09**	**57**	P	**Pn**	**02 55 20.8**	**-0.3**
	comp=E,3.1nm,0.3s,baz=259,slow=6.0,SNR=22						
SJG				LR	LR	03 02 20.7	
	comp=E,2μm,18.7s,baz=248,slow=36						
SJG	**San Juan**	**19.09**	**57**	*e*P	**Pn**	**02 55 21.6**	**+0.5**
SJG				pmax	pmax		
	comp=Z,126nm,0.8s						
SJG	**San Juan**	**19.09**	**57**	*e*Pn	**Pn**	**02 55 21.6**	**+0.4**
	comp=Z,126nm,0.8s						
CPD	**Cerro la Pandu**	**19.25**	**57**	*e*P	**Pn**	**02 55 23.2**	**+0.2**
MTP	**Monte Pirata**	**19.58**	**58**	*e*Pn	**Pn**	**02 55 26.5**	**-0.4**
NNA	**Nana**	**20.80**	**163**	*e*P	**P**	**02 55 40.0**	**+1.2**
	comp=Z,165nm,1.3s						
BUAY	**Buenos Aires**	**21.02**	**83**	*e*P	**P**	**02 55 48.1**	**+6.9**
ALNG	**Atlantic LNG**	**21.03**	**83**	*e*P	**P**	**02 55 47.2**	**+5.9**
SIPA	**Siparia**	**21.20**	**83**	*e*P	**P**	**02 55 46.5**	**+3.4**
GRHS	**Sauteurs**	**21.31**	**77**	*e*P	**P**	**02 55 46.3**	**+2.0**
SSV	**Crater Summit**	**21.93**	**74**	*e*P	**P**	**02 55 51.5**	**+0.5**
LZG	**Guadaloupe-1**	**22.12**	**67**	*e*P	**P**	**02 55 53.9**	**+0.9**
TBG	**Guadaloupe-3**	**22.15**	**68**	*e*P	**P**	**02 55 53.2**	**-0.1**
BBL	**Barber's Block**	**22.22**	**69**	*e*P	**P**	**02 55 55.5**	**+1.5**
SEG	**Port Louis**	**22.45**	**66**	*e*P	**P**	**02 55 56.3**	**-0.2**
CPB	**Codrington**	**22.60**	**63**	*e*P	**P**	**02 55 49.8**	**-8.3**
CPB	**Codrington**	**22.60**	**63**	*e*	**P**	**02 55 58.5**	**+0.4**
CPB	**Codrington**	**22.60**	**63**	*e*P	**P**	**02 55 58.5**	**+0.4**
DEG	**La Desirade**	**22.83**	**67**	*e*P	**P**	**02 56 01.6**	**+1.0**
HKT	**Hockley**	**24.93**	**333**	*e*P	**P**	**02 56 24.8**	**+4.2**
HKT				pmax	pmax		
	comp=Z,27nm,1.0s,mb4.7						
HKT	**Hockley**	**24.93**	**333**	*e*P	**P**	**02 56 24.8**	**+4.2**
	comp=Z,27nm,1.0s,mb4.7						
COW	**Cow Castle Cre**	**25.27**	**4**	*e*P	**P**	**02 56 24.1**	**+0.4**
SAML	**Samuel**	**25.90**	**130**	*e*P	**P**	**02 56 29.4**	**0.0**
	comp=Z,37nm,0.7s,mb5.0						
NATX	**Nacogdoches**	**26.01**	**337**	*e*P	**P**	**02 56 31.8**	**+1.4**
	comp=Z,109nm,0.9s,mb5.4						
JSC	**Jenkinsville**	**26.14**	**3**	*e*P	**P**	**02 56 31.8**	**+0.3**
OXF	**Oxford**	**27.00**	**348**	*e*P	**P**	**02 56 39.7**	**+0.4**
OXF				pmax	pmax		
	comp=Z,42nm,0.9s,mb5.0						
OXF	**Oxford**	**27.00**	**348**	*e*P	**P**	**02 56 39.7**	**+0.4**
	comp=Z,42nm,0.9s,mb5.0						
SWET	**Sewanee**	**27.17**	**355**	*e*P	**P**	**02 56 40.3**	**-0.5**
SWET				*e*PcP	PcP	03 00 02.2	+1.3
PLAL	**Pickwick Lake**	**27.21**	**351**	*e*P	**P**	**02 56 39.5**	**-1.7**
	comp=Z,12nm,0.9s,mb4.4						
CPCT	**Cooper Cave**	**27.30**	**357**	*e*P	**P**	**02 56 42.2**	**+0.2**
UALR	**University of**	**27.97**	**343**	*e*P	**P**	**02 56 46.6**	**-1.4**
	comp=Z,38nm,0.8s,mb5.1						
MIAR	**Mount Ida**	**28.13**	**341**	*e*P	**P**	**02 56 48.4**	**-1.1**
MIAR				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.8						
MIAR	**Mount Ida**	**28.13**	**341**	*e*P	**P**	**02 56 48.4**	**-1.1**
	comp=Z,18nm,0.8s,mb4.8						
LPAZ	**La Paz**	**28.26**	**149**	P	**P**	**02 56 52.2**	**+1.7**
	comp=Z,5.3nm,0.7s,mb4.3,baz=336,slow=10,SNR=24						
WVT	**Waverly**	**28.30**	**352**	*e*P	**P**	**02 56 49.6**	**-1.4**
WVT				*e*		03 00 03.0	
WVT				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.5						
WVT	**Waverly**	**28.30**	**352**	*e*P	**P**	**02 56 49.6**	**-1.3**
	comp=Z,8.1nm,0.7s,mb4.5						
WVT				*e*PcP	PcP	03 00 03.0	-0.6
ELN	**Prospectdale**	**29.10**	**3**	*e*P	**P**	**02 56 58.7**	**+0.7**
BLA	**Blacksburg**	**29.10**	**4**	*e*P	**P**	**02 56 58.5**	**+0.4**
BLA				*e**PP	pP	02 57 05.2	+0.3
BLA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BLA	**Blacksburg**	**29.10**	**4**	*e*P	**P**	**02 56 58.5**	**+0.4**
	comp=Z,1.1nm,0.7s,mb3.7						
BLA				*e*pP	pP	02 57 05.2	+0.3
FWV	**Forest Hill**	**29.45**	**3**	*e*P	**P**	**02 57 01.3**	**+0.1**
USIN	**University of**	**30.08**	**352**	*e*P	**P**	**02 57 04.6**	**-2.2**
	comp=Z,29nm,0.8s,mb5.1						
WCI	**Wyandotte Cave**	**30.19**	**355**	*e*P	**P**	**02 57 06.6**	**-1.1**
WCI				*e**PP	pP	02 57 14.4	-0.1
WCI				*e**SP	sP	02 57 18.4	+1.0
WCI				pmax	pmax		
	comp=Z,37nm,0.8s,mb5.2						
WCI	**Wyandotte Cave**	**30.19**	**355**	*e*P	**P**	**02 57 06.6**	**-1.1**
	comp=Z,37nm,0.8s,mb5.2						
WCI				*e*pP	pP	02 57 14.4	-0.2
WCI				*e*sP	sP	02 57 18.4	+1.0
WMOK	**Wichita Mounta**	**30.30**	**333**	*e*P	**P**	**02 57 06.9**	**-1.8**
WMOK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
WMOK	**Wichita Mounta**	**30.30**	**333**	*e*P	**P**	**02 57 06.9**	**-1.8**
	comp=Z,7.1nm,0.9s,mb4.4						
FVM	**French Village**	**30.56**	**348**	*e*P	**P**	**02 57 10.4**	**-0.6**
FVM				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.8						
FVM	**French Village**	**30.56**	**348**	*e*P	**P**	**02 57 10.4**	**-0.6**
	comp=Z,13nm,0.9s,mb4.8						
CCM	**Cathedral Cave**	**30.80**	**347**	*e*P	**P**	**02 57 11.7**	**-1.4**
CCM				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.9						
CCM	**Cathedral Cave**	**30.80**	**347**	*e*P	**P**	**02 57 11.7**	**-1.4**
	comp=Z,16nm,0.8s,mb4.9						
MNTX	**Cornudas Mount**	**31.50**	**321**	*e*P	**P**	**02 57 19.4**	**+0.2**
	comp=Z,8.1nm,1.0s,mb4.5						
MNTX				*e*PcP	PcP	03 00 12.0	+0.2
ACSO	**Alum Creek Sta**	**32.03**	**360**	*e*P	**P**	**02 57 23.7**	**-0.3**
	comp=Z,29nm,0.8s,mb5.2						
ACSO				*e*PcP	PcP	03 00 13.8	+0.5
SIV	**San Ignacio**	**32.21**	**138**	P	**P**	**02 57 25.2**	**-0.3**
	comp=Z,13nm,1.1s,mb4.7,baz=310,slow=10.0,SNR=24						
SIV				PcP	PcP	03 00 14.7	+0.9
	comp=Z,3.4nm,0.8s,baz=255,slow=13,SNR=3.6						
KSU1	**Kansas State U**	**33.28**	**340**	*e*P	**P**	**02 57 33.2**	**-1.7**
KSU1				*e*PcP	PcP	03 00 14.5	-2.2
ANMO	**Albuquerque**	**34.41**	**324**	*e*P	**P**	**02 57 45.0**	**+0.3**
ANMO				*e*		03 00 21.3	
ANMO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ANMO	**Albuquerque**	**34.41**	**324**	*e*P	**P**	**02 57 45.0**	**+0.2**
	comp=Z,5.2nm,0.9s,mb4.5						
ANMO				*e*PcP	PcP	03 00 21.3	+1.3
TUC	**Tucson**	**35.40**	**317**	*e*P	**P**	**02 57 54.6**	**+1.4**
TUC				*e**PP	pP	02 58 02.0	+1.9
TUC				*e*		03 00 24.1	
TUC				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
TUC	**Tucson**	**35.40**	**317**	*e*P	**P**	**02 57 54.6**	**+1.3**
	comp=Z,8.1nm,0.8s,mb4.7						
TUC				*e*pP	pP	02 58 02.0	+1.9
TUC				*e*PcP	PcP	03 00 24.1	+1.2
ACCN	**Adirondack Com**	**36.10**	**11**	*e*P	**P**	**02 57 59.9**	**+0.7**
SADO	**Sadowa**	**36.71**	**4**	LR	LR	03 12 51.5	
	comp=Z,324nm,20.1s,MS4.6,baz=208,slow=36						
MVCO	**Mesa Verde**	**37.18**	**325**	*e*P	**P**	**02 58 09.1**	**+0.7**
MVCO				*e*PcP	PcP	03 00 29.6	+1.5
ISCO	**Idaho Springs**	**37.58**	**331**	*e*P	**P**	**02 58 11.8**	**-0.1**
ISCO				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
ISCO	**Idaho Springs**	**37.58**	**331**	*e*P	**P**	**02 58 11.8**	**-0.1**
	comp=Z,6.3nm,0.9s,mb4.3						
WUAZ	**Wupatki**	**37.76**	**321**	*e*P	**P**	**02 58 15.5**	**+2.1**
	comp=Z,16nm,1.0s,mb4.7						
WUAZ				*e*PcP	PcP	03 00 31.1	+1.2
SMCO	**Snowmass**	**37.79**	**329**	*e*P	**P**	**02 58 13.6**	**+0.1**
	comp=Z,6.9nm,0.8s,mb4.4						
SMCO				*e*PcP	PcP	03 00 30.4	+0.3
PV01	**Paradox Valley**	**37.87**	**326**	*e*P	**P**	**02 58 16.8**	**+2.5**
PV10	**Paradox Valley**	**38.30**	**326**	*e*P	**P**	**02 58 17.8**	**-0.1**
PV10				*e*pP	pP	02 58 23.8	-1.1
RWWY	**Rawlins**	**39.81**	**331**	*e*P	**P**	**02 58 30.9**	**+0.3**
	comp=Z,12nm,0.8s,mb4.7						
PFO	**Pinyon Flat Ob**	**40.07**	**314**	*e*P	**P**	**02 58 34.4**	**+1.7**
PFO				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
PFO	**Pinyon Flat Ob**	**40.07**	**314**	*e*P	**P**	**02 58 34.4**	**+1.7**
	comp=Z,7.5nm,0.8s,mb4.5						
NEN	**Nelson**	**40.09**	**318**	*e*P	**P**	**02 58 34.2**	**+1.4**
TMUT	**Trail Mountain**	**40.16**	**325**	*e*P	**P**	**02 58 33.3**	**-0.2**
TMUT				*e*pP	pP	02 58 39.7	-0.7
TMUT				*e*PcP	PcP	03 00 39.0	+1.5
MSU	**Marysvale**	**40.19**	**323**	*e*P	**P**	**02 58 34.6**	**+0.9**
MVU	**Marysvale**	**40.21**	**323**	*e*P	pP	02 58 44.6	+3.8
ARUT	**Antelope Range**	**40.48**	**322**	*e*P	**P**	**02 58 37.5**	**+1.4**
DAU	**Daniels Canyon**	**40.95**	**326**	*e*P	**P**	**02 58 40.3**	**+0.3**
DAU				*e**PP	pP	02 58 46.3	-0.7
CTU	**Camp Tracy**	**41.42**	**326**	*e*P	**P**	**02 58 44.2**	**+0.3**
	comp=Z,15nm,1.0s,mb4.6						
CTU				*e*pP	pP	02 58 50.3	-0.5
CTU				*e*PcP	PcP	03 00 42.1	+0.6
TCUT	**Toone Canyon**	**41.53**	**327**	*e*P	**P**	**02 58 47.2**	**+2.5**
TCUT				*e*PcP	PcP	03 00 43.6	+1.7
DUG	**Dugway**	**41.68**	**325**	*e*P	**P**	**02 58 46.9**	**+0.9**
DUG				*e*		03 00 43.2	
DUG				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
DUG	**Dugway**	**41.68**	**325**	*e*P	**P**	**02 58 46.9**	**+0.9**
	comp=Z,4.0nm,0.8s,mb4.1						
DUG				*e*PcP	PcP	03 00 43.2	+0.7
TPNV	**Topopah Spring**	**41.76**	**319**	*e*P	**P**	**02 58 48.4**	**+1.7**
TPNV				*e*		03 00 43.9	
TPNV				pmax	pmax		
	comp=Z,201nm,2.3s,mb5.3						
TPNV	**Topopah Spring**	**41.76**	**319**	*e*P	**P**	**02 58 48.4**	**+1.7**
	comp=Z,201nm,2.3s,mb5.3						
TPNV				*e*PcP	PcP	03 00 43.9	+1.2
PDAR	**Pinedale Array**	**41.77**	**330**	P	**P**	**02 58 45.6**	**-1.1**
	comp=Z,1.4nm,0.8s,mb3.7,baz=136,slow=9.3,SNR=11						
PDAR				PcP	PcP	03 00 42.6	-0.1
	comp=Z,3.5nm,0.8s,baz=124,slow=4.3,SNR=7.6						
PDAR				LR	LR	03 20 16.6	
	comp=Z,437nm,18.3s,MS4.4,baz=141,slow=42						
BDFB	**Brasilia**	**41.80**	**124**	P	**P**	**02 58 46.6**	**-0.3**
	comp=Z,4.7nm,0.6s,mb4.3,baz=302,slow=11,SNR=11						
BDFB				PcP	PcP	03 00 43.2	+0.4
	comp=Z,2.8nm,0.7s,baz=292,slow=7.2,SNR=3.3						
BDFB				LR	LR	03 16 43.3	
	comp=Z,1μm,20.2s,MS4.7,baz=302,slow=37						
BDFB	**Brasilia**	**41.80**	**124**	P	**P**	**02 58 46.6**	**-0.4**
BDFB						03 00 43.2	
CFAA	**Coronel Fontan**	**41.86**	**161**	P	**P**	**02 58 48.1**	**+0.7**
	comp=Z,1.3nm,0.7s,mb3.7,baz=338,slow=6.8,SNR=42						
HWUT	**Hardware Ranch**	**41.96**	**327**	*e*P	**P**	**02 58 47.8**	**-0.5**
	comp=Z,12nm,0.8s,mb4.6						
CPUP	**Villa Florida**	**42.24**	**145**	P	**P**	**02 58 49.5**	**-1.1**
	comp=Z,4.8nm,0.8s,mb4.2,baz=310,slow=8.5,SNR=7.5						
CPUP				PcP	PcP	03 00 45.1	+0.9
	comp=Z,1.8nm,0.6s,baz=328,slow=10,SNR=4.2						
CPUP	**Villa Florida**	**42.24**	**145**	P	**P**	**02 58 49.5**	**-1.1**
CPUP				PcP	PcP	03 00 45.1	+0.9
DAC	**Darwin (Calif)**	**42.28**	**317**	*e*P	**P**	**02 58 52.2**	**+1.3**
DAC				*e*		03 00 44.2	
DAC				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3						
DAC	**Darwin (Calif)**	**42.28**	**317**	*e*P	**P**	**02 58 52.2**	**+1.3**
	comp=Z,8.4nm,0.9s,mb4.4						
DAC				*e*PcP	PcP	03 00 44.2	-0.2
BGU	**Big Grassy Mou**	**42.29**	**326**	*e*P	**P**	**02 58 57.8**	**+6.8**
REDW	**Red Top Meadow**	**42.85**	**330**	*e*P	**P**	**02 58 55.0**	**-0.5**
	comp=Z,14nm,0.8s,mb4.7						
LOHW	**Long Hollow**	**42.91**	**330**	*e*P	**P**	**02 58 55.3**	**-0.6**
	comp=Z,5.5nm,0.7s,mb4.4						
LOHW				*e*PcP	PcP	03 00 46.9	+0.4
TPAW	**Teton Pass**	**42.99**	**330**	*e*P	**P**	**02 58 56.4**	**-0.3**
	comp=Z,15nm,0.9s,mb4.7						
TPH	**Tonopah**	**43.04**	**319**	*e*P	**P**	**02 58 57.9**	**+0.8**
TPH				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.7						
TPH	**Tonopah**	**43.04**	**319**	*e*P	**P**	**02 58 57.9**	**+0.8**
	comp=Z,14nm,0.9s,mb4.7						
MOOW	**Moose Ponds**	**43.08**	**330**	*e*P	**P**	**02 58 56.8**	**-0.6**
	comp=Z,4.8nm,0.8s,mb4.3						
MOOW				*e*PcP	PcP	03 00 47.5	+0.4
IMW	**Indian Meadow**	**43.28**	**330**	*e*P	**P**	**02 58 58.7**	**-0.3**
	comp=Z,9.3nm,0.8s,mb4.6						
FLWY	**Flagg Ranch**	**43.30**	**331**	*e*P	**P**	**02 58 59.1**	**-0.1**
	comp=Z,13nm,0.8s,mb4.7						
LAO	**LASA Array**	**43.37**	**337**	*e*P	**P**	**02 58 58.5**	**-1.2**
	comp=Z,16nm,0.9s,mb4.8						
RPN	**Rapa Nui**	**43.37**	**215**	LR	LR	03 12 20.0	
	comp=Z,1μm,21.3s,MS4.8,baz=220,slow=30						
ULM	**Lac du Bonnet**	**43.42**	**348**	P	**P**	**02 58 57.0**	**-3.1**
	comp=Z,7.8nm,0.8s,mb4.5,baz=162,slow=8.9,SNR=15						
ELK	**Elko**	**43.44**	**324**	*e*P	**P**	**02 59 00.8**	**+0.5**
ELK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ELK	**Elko**	**43.44**	**324**	*e*P	**P**	**02 59 00.8**	**+0.5**
	comp=Z,7.9nm,0.9s,mb4.4						
NVAR	**Mina Array Bea**	**43.94**	**319**	P	**P**	**02 59 02.1**	**-2.2**
	comp=Z,8.9nm,0.8s,mb4.6,baz=122,slow=7.9,SNR=45						
GCMT	**Greyclift**	**44.11**	**333**	*e*P	**P**	**02 59 04.9**	**-0.8**
QLMT	**Earthquake Lak**	**44.21**	**331**	*e*P	**P**	**02 59 07.2**	**+0.8**
QLMT				*e*PcP	PcP	03 00 52.5	+1.6
BMN	**Battle Mountai**	**44.43**	**322**	*e*P	**P**	**02 59 09.0**	**+0.8**
BMN				*e**PP	pP	02 59 14.6	-0.6
BMN				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.9						
BMN	**Battle Mountai**	**44.43**	**322**	*e*P	**P**	**02 59 09.0**	**+0.8**
	comp=Z,21nm,0.9s,mb4.9						
BMN				*e*pP	pP	02 59 14.6	-0.6
HLID	**Hailey**	**44.83**	**327**	*e*P	**P**	**02 59 11.4**	**0.0**
	comp=Z,6.2nm,0.8s,mb4.5						
HLID				pP	pP	02 59 18.8	+0.4
MCMT	**McKenzie Canyo**	**44.90**	**330**	*e*P	**P**	**02 59 12.4**	**+0.4**
MCMT				*e*PcP	PcP	03 00 50.5	-2.8
PAHR	**Pah Rah Range**	**45.36**	**320**	*e*P	**P**	**02 59 16.6**	**+1.0**
	comp=Z,31nm,1.5s,mb4.9

EZAM pmax pmax
comp=Z,19nm,0.7s,mb5.1
EZAM Zamans 72.91 48 P **P 03 02 26.8 +0.3**
comp=Z,19nm,0.7s,mb5.1
MOE Montemor 72.92 52 *eP* **P 03 02 27.6 +1.0**
PTOM Tomar 72.94 51 *eP* **P 03 02 26.4 -0.3**
comp=Z,8.7nm,0.8s,mb4.7
PBEJ Beja 73.28 53 *eP* **P 03 02 29.2 +0.5**
comp=Z,17nm,1.0s,mb4.9
PCAB Cabril 73.38 49 *eP* **P 03 02 27.8 -1.4**
comp=Z,15nm,1.4s,mb4.7
PVIS Viseu 73.41 50 *eP* **P 03 02 29.8 +0.4**
comp=Z,12nm,1.8s,mb4.5
EGRO El Granado 73.56 53 P **P 03 02 31.4 +1.1**
comp=Z,8.3nm,0.6s,mb4.8
PVRL Vila Real 73.58 49 *eP* **P 03 02 29.9 -0.5**
comp=Z,16nm,1.6s,mb4.7
MTE Manteigas 73.66 50 *eP* **P 03 02 31.5 +0.6**
comp=Z,18nm,1.6s,mb4.8
MTE *e*S S 03 12 09.4 +9.3
MTE *e*LQ 03 22 00.3
MTE *e*LR LR 03 25 20.1
comp=Z,368nm,16.4s
PCBR Castelo Branco 73.67 51 *eP* **P 03 02 31.4 +0.4**
comp=Z,13nm,0.8s,mb4.9
EPON Pontenova 74.13 47 P **P 03 02 32.4 -1.3**
comp=Z,11nm,0.7s,mb4.9
EMIN Mina Conpecio 74.21 53 P **P 03 02 34.4 +0.2**
comp=Z,7.8nm,0.9s,mb4.6
PBRG Braganca 74.34 49 *eP* **P 03 02 35.2 +0.3**
comp=Z,12nm,1.7s,mb4.6
ECAL Calabor 74.35 49 P **P 03 02 34.6 -0.3**
comp=Z,6.6nm,0.8s,mb4.6
ESPR Espera 74.84 54 P **P 03 02 38.9 +1.1**
comp=Z,1.8nm,0.7s,mb4.1
EJIF Jimena Fronter 75.14 54 P **P 03 02 40.9 +1.4**
EJIF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
EJIF Jimena Fronter 75.14 54 P **P 03 02 40.9 +1.4**
comp=Z,2.7nm,0.5s,mb4.4
EARI Arriondas 75.55 47 P **P 03 02 42.0 +0.1**
comp=Z,44nm,1.8s,mb5.1
EMIJ Mijas 75.70 54 P **P 03 02 42.0 -0.7**
comp=Z,10nm,0.9s,mb4.8
EADA Adamuz 75.88 53 P **P 03 02 43.8 0.0**
comp=Z,13nm,0.8s,mb4.9
ELOJ Sierra Loja 76.20 54 P **P 03 02 45.9 +0.3**
ELOJ pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ELOJ Sierra Loja 76.20 54 P **P 03 02 45.9 +0.2**
comp=Z,5.4nm,0.7s,mb4.6
GUD Guadarrama 76.25 50 P **P 03 02 47.0 +1.1**
GUD pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
GUD Guadarrama 76.25 50 P **P 03 02 47.0 +1.1**
comp=Z,4.8nm,0.6s,mb4.6
ESDC Sonseca Array 76.38 51 P **P 03 02 46.8 +0.2**
comp=Z,10nm,0.7s,mb4.9,baz=275,slow=5.5,SNR=94
ESDC Sonseca Array 76.38 51 P **P 03 02 47.0 +0.4**
comp=Z,11nm,0.8s,mb4.8
ESLA Sonseca Array 76.38 51 *eP* **P 03 02 47.2 +0.6**
comp=Z,2.3nm,0.7s,mb4.2
DAG Danmarks Havn 76.42 12⇑ *iP* **P 03 02 44.6 -2.3**
comp=Z,4.1nm,0.7s,mb4.5
DAG Danmarks Havn 76.42 12⇑ *iP* **P 03 02 44.6 -2.3**
DAG pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
EBAN Banos Encina 76.50 53 P **P 03 02 47.0 -0.3**
EBAN pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
EBAN Banos Encina 76.50 53 P **P 03 02 47.0 -0.3**
comp=Z,4.4nm,0.6s,mb4.6
ECOG Cogollos-Vega 76.67 54 P **P 03 02 49.8 +1.5**
ECOG pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
ECOG Cogollos-Vega 76.67 54 P **P 03 02 49.8 +1.5**
comp=Z,5.9nm,0.6s,mb4.7
EQES Quesada 77.06 53 P **P 03 02 51.8 +1.3**
comp=Z,30nm,0.9s,mb5.2
ROSF Rostrenen 77.11 42 *eP* **P 03 02 51.0 +0.2**
comp=Z,18nm,0.8s,mb4.7
ROSF Rostrenen 77.11 42 *eP* **P 03 02 51.0 +0.2**
ROSF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ROSF Rostrenen 77.11 42 *eP* **P 03 02 51.0 +0.2**
comp=Z,8.9nm,0.8s,mb4.8
LIC Lamto 77.16 85⇑ *iP* **P 03 02 51.9 +0.9**
comp=Z,118nm,0.7s,mb5.6
LIC *e*R
comp=Z,261nm,21.5s
LIC Lamto 77.16 85⇑ *iP* **P 03 02 51.9 +0.9**
comp=Z,59nm,0.7s,mb5.6
LIC LR LR
comp=Z,130nm,21.5s,MS4.2
QUIF Quistinic 77.17 43 *eP* **P 03 02 51.3 +0.2**
comp=Z,31nm,0.9s,mb5.0
QUIF Quistinic 77.17 43 *eP* **P 03 02 51.3 +0.2**
QUIF pmax pmax
comp=Z,15nm,0.9s,mb4.9
QUIF Quistinic 77.17 43 *eP* **P 03 02 51.3 +0.2**
comp=Z,15nm,0.9s,mb4.9
DBIC Dimbokro 77.28 85 P **P 03 02 52.8 +1.1**
comp=Z,30nm,0.8s,mb5.3,baz=273,slow=4.7,SNR=47
DBIC LR LR 03 34 34.3
comp=Z,161nm,21.6s,MS4.3,baz=248,slow=34
EHUE Huescar 77.44 53 P **P 03 02 52.5 -0.1**
SGMF Saint Gilles 77.59 42 *eP* **P 03 02 52.7 -0.7**
comp=Z,14nm,0.8s,mb4.6
SGMF Saint Gilles 77.59 42 *eP* **P 03 02 52.7 -0.7**
SGMF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
SGMF Saint Gilles 77.59 42 *eP* **P 03 02 52.7 -0.7**
comp=Z,6.8nm,0.8s,mb4.6
ETOB Tobarra 78.26 52 P **P 03 02 58.9 +1.7**
comp=Z,18nm,0.8s,mb5.1
SJPF Ste Jean 78.45 48 *eP* **P 03 02 58.7 +0.5**
comp=Z,16nm,0.7s,mb4.7
SJPF Ste Jean 78.45 48 *eP* **P 03 02 58.7 +0.5**
SJPF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
SJPF Ste Jean 78.45 48 *eP* **P 03 02 58.7 +0.5**
comp=Z,7.8nm,0.7s,mb4.8
GRR Gorron 78.73 42 *eP* **P 03 02 59.1 -0.6**
comp=Z,32nm,0.9s,mb5.0
GRR Gorron 78.73 42 *eP* **P 03 02 59.1 -0.6**
GRR pmax pmax
comp=Z,16nm,0.9s,mb5.0
GRR Gorron 78.73 42 *eP* **P 03 02 59.1 -0.6**
comp=Z,16nm,0.9s,mb5.0
ETSF Etsaut 78.94 48 *eP* **P 03 03 01.3 +0.4**
comp=Z,18nm,1.1s,mb4.6
ETSF Etsaut 78.94 48 *eP* **P 03 03 01.3 +0.4**
ETSF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
ETSF Etsaut 78.94 48 *eP* **P 03 03 01.3 +0.4**
comp=Z,8.9nm,1.1s,mb4.6
FLN La Foliniere 78.98 42 *eP* **P 03 03 00.6 -0.5**
comp=Z,13nm,0.8s,mb4.6
FLN *e*R
comp=Z,768nm,20.0s
FLN La Foliniere 78.98 42 *eP* **P 03 03 00.6 -0.5**
FLN pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
FLN MLR MLR
comp=Z,770nm,20.0s,MS5.0
FLN La Foliniere 78.98 42 *eP* **P 03 03 00.6 -0.5**
comp=Z,6.5nm,0.8s,mb4.6
FLN LR LR
comp=Z,770nm,20.0s,MS5.0
ESAC San Caprasio 79.03 49 P **P 03 03 01.1 -0.3**
comp=Z,14nm,0.5s,mb5.2
EMOS Mosqueruela 79.06 50 P **P 03 03 01.7 +0.2**
comp=Z,14nm,0.8s,mb5.0
MFF Saint Martin d 79.21 44 *eP* **P 03 03 01.9 -0.4**
comp=Z,26nm,1.0s,mb4.8
MFF Saint Martin d 79.21 44 *eP* **P 03 03 01.9 -0.4**
MFF pmax pmax
comp=Z,13nm,1.0s,mb4.8
MFF Saint Martin d 79.21 44 *eP* **P 03 03 01.9 -0.4**
comp=Z,13nm,1.0s,mb4.8
LDF La Druitiere 79.22 42 *eP* **P 03 03 01.8 -0.6**
comp=Z,15nm,0.7s,mb4.7
LDF La Druitiere 79.22 42 *eP* **P 03 03 01.8 -0.6**
LDF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
LDF La Druitiere 79.22 42 *eP* **P 03 03 01.8 -0.6**
comp=Z,7.7nm,0.7s,mb4.7

EBIE Bielsa 79.47 48 P **P 03 03 04.7 +0.9**
comp=Z,5.5nm,0.8s,mb4.5
EPF Esparros 79.60 48 *eP* **P 03 03 04.7 +0.2**
comp=Z,19nm,1.0s,mb4.7
EPF Esparros 79.60 48 *eP* **P 03 03 04.7 +0.2**
EPF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
EPF Esparros 79.60 48 *eP* **P 03 03 04.7 +0.2**
comp=Z,9.4nm,1.0s,mb4.7
EGRA Graus 79.61 49 P **P 03 03 05.4 +0.8**
comp=Z,6.0nm,0.6s,mb4.7
ERTA Horta de San J 79.65 50 P **P 03 03 05.4 +0.6**
comp=Z,8.9nm,0.6s,mb4.9
EBR Ebro Roquetas 79.78 50 *eP* **P 03 03 05.5 0.0**
LFF La Frestale 79.85 46 *eP* **P 03 03 05.4 -0.4**
comp=Z,17nm,0.9s,mb4.7
LFF La Frestale 79.85 46 *eP* **P 03 03 05.4 -0.4**
LFF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
LFF La Frestale 79.85 46 *eP* **P 03 03 05.4 -0.4**
comp=Z,8.6nm,0.9s,mb4.7
RJF Les Rejaudoux 80.39 45 *eP* **P 03 03 08.3 -0.5**
comp=Z,11nm,0.9s,mb4.5
RJF *e*R
comp=Z,524nm,20.8s
RJF Les Rejaudoux 80.39 45 *eP* **P 03 03 08.3 -0.5**
RJF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
RJF MLR MLR
comp=Z,520nm,20.8s,MS4.9
RJF Les Rejaudoux 80.39 45 *eP* **P 03 03 08.3 -0.5**
comp=Z,5.6nm,0.9s,mb4.5
RJF LR LR
comp=Z,520nm,20.8s,MS4.9
EIBI Ibiza 80.50 52 P **P 03 03 09.4 0.0**
comp=Z,40nm,0.9s,mb5.3
EMIR Miracle 80.52 49 P **P 03 03 09.1 -0.3**
comp=Z,11nm,0.6s,mb5.0
CAF Calviac 80.79 46 *eP* **P 03 03 10.5 -0.4**
comp=Z,13nm,1.0s,mb4.5
CAF Calviac 80.79 46 *eP* **P 03 03 10.5 -0.4**
CAF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
CAF Calviac 80.79 46 *eP* **P 03 03 10.5 -0.4**
comp=Z,6.7nm,1.0s,mb4.5
RAR Rarotonga 80.83 247 LR LR 03 29 07.2
comp=Z,968nm,18.7s,MS4.8,baz=43,slow=28
TCF Toulx Ste Croi 80.84 44 *eP* **P 03 03 10.4 -0.8**
comp=Z,14nm,0.9s,mb4.6
TCF Toulx Ste Croi 80.84 44 *eP* **P 03 03 10.4 -0.8**
TCF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
TCF Toulx Ste Croi 80.84 44 *eP* **P 03 03 10.4 -0.8**
comp=Z,7.2nm,0.9s,mb4.6
MTLF Montolieu 80.97 47 *eP* **P 03 03 11.6 -0.2**
comp=Z,34nm,1.3s,mb4.8
MTLF Montolieu 80.97 47 *eP* **P 03 03 11.6 -0.2**
MTLF pmax pmax
comp=Z,17nm,1.3s,mb4.8
MTLF Montolieu 80.97 47 *eP* **P 03 03 11.6 -0.2**
comp=Z,17nm,1.3s,mb4.8
HYF Humbligny 81.10 43 *eP* **P 03 03 12.0 -0.6**
BGF Bois d'Agland 81.27 44 *eP* **P 03 03 12.7 -0.8**
comp=Z,20nm,0.9s,mb4.7
BGF Bois d'Agland 81.27 44 *eP* **P 03 03 12.7 -0.8**
BGF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BGF Bois d'Agland 81.27 44 *eP* **P 03 03 12.7 -0.8**
comp=Z,9.8nm,0.9s,mb4.7
AVF Avril sur Loir 81.61 44 *eP* **P 03 03 14.0 -1.3**
comp=Z,11nm,0.9s,mb4.5
AVF Avril sur Loir 81.61 44 *eP* **P 03 03 14.0 -1.3**
AVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
AVF Avril sur Loir 81.61 44 *eP* **P 03 03 14.0 -1.3**
comp=Z,5.5nm,0.9s,mb4.5
SSF Saint Saulge 81.70 44 *eP* **P 03 03 14.5 -1.2**
comp=Z,6.7nm,0.8s,mb4.3
SSF Saint Saulge 81.70 44 *eP* **P 03 03 14.5 -1.2**
SSF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
SSF Saint Saulge 81.70 44 *eP* **P 03 03 14.5 -1.2**
comp=Z,3.3nm,0.8s,mb4.3
LOR Lormes 81.93 43 *eP* **P 03 03 15.7 -1.2**
comp=Z,5.8nm,0.7s,mb4.3
LOR *e*R
comp=Z,574nm,19.0s
LOR Lormes 81.93 43 *eP* **P 03 03 15.7 -1.2**
LOR pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
LOR MLR MLR
comp=Z,570nm,19.0s,MS5.0
LOR Lormes 81.93 43 *eP* **P 03 03 15.7 -1.2**
comp=Z,2.9nm,0.7s,mb4.3
LOR LR LR
comp=Z,570nm,19.0s,MS5.0
SMF Signal de Mont 81.95 44 *eP* **P 03 03 16.8 -0.3**
comp=Z,12nm,0.8s,mb4.5
SMF Signal de Mont 81.95 44 *eP* **P 03 03 16.8 -0.3**
SMF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
SMF Signal de Mont 81.95 44 *eP* **P 03 03 16.8 -0.3**
comp=Z,5.8nm,0.8s,mb4.6
LASF Ste Croix 82.11 47 *eP* **P 03 03 18.0 +0.1**
comp=Z,11nm,0.9s,mb4.5
DOU Dourbes 82.26 40 P **P 03 03 18.4 -0.3**
GIVF Givet 82.41 40 *eP* **P 03 03 18.5 -0.9**
VIVF Saint-Julien-l 82.64 46 *eP* **P 03 03 21.0 +0.3**
comp=Z,17nm,0.8s,mb4.8
VIVF Saint-Julien-l 82.64 46 *eP* **P 03 03 21.0 +0.3**
VIVF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
VIVF Saint-Julien-l 82.64 46 *eP* **P 03 03 21.0 +0.3**
comp=Z,8.6nm,0.8s,mb4.8
MEZF Maizieres J'vi 82.66 42 *eP* **P 03 03 20.0 -0.8**
comp=Z,20nm,0.9s,mb4.8
MEZF Maizieres J'vi 82.66 42 *eP* **P 03 03 20.0 -0.8**
comp=Z,20nm,0.9s,mb5.1
TORD Torodi Ar. Bea 82.95 78 P **P 03 03 23.0 +0.7**
comp=Z,8.1nm,0.8s,mb4.8,baz=273,slow=4.7,SNR=63
TORD PP PP 03 06 32.4 -0.5
comp=Z,0.8nm,0.9s,baz=243,slow=6.3,SNR=3.1
TORD PKKPbc PKKPbc 03 21 45.6 +1.1
comp=Z,0.7nm,0.8s,baz=90,slow=1.9,SNR=6.0
WLF Walferdange 83.29 41 *eP* **P 03 03 23.7 -0.4**
comp=Z,7.0nm,0.9s,mb4.7
WLF Walferdange 83.29 41 P **P 03 03 23.5 -0.5**
SMRF Simiane la Rot 83.36 47 *eP* **P 03 03 23.9 -0.5**
comp=Z,8.3nm,0.8s,mb4.5
SMRF Simiane la Rot 83.36 47 *eP* **P 03 03 23.9 -0.5**
comp=Z,8.3nm,0.8s,mb4.8
ORIF Oris-en-Rattie 83.50 46 *eP* **P 03 03 25.6 +0.5**
comp=Z,16nm,0.8s,mb4.8
ORIF *e*R
comp=Z,464nm,22.5s
ORIF Oris-en-Rattie 83.50 46 *eP* **P 03 03 25.6 +0.5**
ORIF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
ORIF Oris-en-Rattie 83.50 46 *eP* **P 03 03 25.6 +0.5**
comp=Z,8.1nm,0.8s,mb4.8
CABF La Chapelle 83.50 44 *eP* **P 03 03 24.6 -0.5**
comp=Z,20nm,1.0s,mb4.8
CABF La Chapelle 83.50 44 *eP* **P 03 03 24.6 -0.5**
CABF pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
CABF La Chapelle 83.50 44 *eP* **P 03 03 24.6 -0.5**
comp=Z,10nm,1.0s,mb4.8
HAU Haudompre 83.56 43 *eP* **P 03 03 26.2 +0.8**
comp=Z,9.8nm,0.8s,mb4.7
HAU *e*R
comp=Z,407nm,21.2s
HAU Haudompre 83.56 43 *eP* **P 03 03 26.2 +0.8**
HAU pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
HAU MLR MLR
comp=Z,410nm,21.3s,MS4.8
HAU Haudompre 83.56 43 *eP* **P 03 03 26.2 +0.8**
comp=Z,4.9nm,0.8s,mb4.7
HAU LR LR
comp=Z,410nm,21.3s,MS4.8
BUG Bochum--Univer 83.85 39 *eP* **P 03 03 26.3 -0.6**
comp=Z,7.0nm,0.8s,mb4.8
HINF Hinteralfeld 83.91 43 *eP* **P 03 03 26.1 -1.1**
comp=Z,4.4nm,0.7s,mb4.4
HINF Hinteralfeld 83.91 43 *eP* **P 03 03 26.1 -1.1**
HINF pmax pmax
comp=Z,2.0nm,0.7s,mb4.4

HINF Hinteralfeld 83.91 43 *eP* **P 03 03 26.1 -1.1**
comp=Z,2.2nm,0.7s,mb4.4
LPL La Plagne 84.04 45 *eP* **P 03 03 27.4 -0.5**
comp=Z,19nm,1.3s,mb4.8
LPL La Plagne 84.04 45 *eP* **P 03 03 27.4 -0.5**
LPL pmax pmax
comp=Z,10.0nm,1.3s,mb4.8
LPL La Plagne 84.04 45 *eP* **P 03 03 27.4 -0.5**
comp=Z,9.6nm,1.3s,mb4.8
LPG La Plagne 84.06 45 *eP* **P 03 03 28.4 +0.4**
comp=Z,9.1nm,1.0s,mb4.5
LPG La Plagne 84.06 45 *eP* **P 03 03 28.4 +0.4**
LPG pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
LPG La Plagne 84.06 45 *eP* **P 03 03 28.4 +0.4**
comp=Z,4.6nm,1.0s,mb4.6
LMR La Mourre 84.09 47 *eP* **P 03 03 28.5 +0.4**
comp=Z,14nm,1.0s,mb4.8
LMR La Mourre 84.09 47 *eP* **P 03 03 28.5 +0.4**
LMR pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
LMR La Mourre 84.09 47 *eP* **P 03 03 28.5 +0.4**
comp=Z,7.2nm,1.0s,mb4.8
CDF Champ du Feu 84.14 42 *eP* **P 03 03 27.5 -0.9**
comp=Z,12nm,0.9s,mb4.7
CDF Champ du Feu 84.14 42 *eP* **P 03 03 27.5 -0.9**
CDF pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
CDF Champ du Feu 84.14 42 *eP* **P 03 03 27.5 -0.9**
comp=Z,5.9nm,0.9s,mb4.7
MBDF Montbardon 84.14 46 *eP* **P 03 03 28.5 +0.1**
comp=Z,9.6nm,0.7s,mb4.7
MBDF Montbardon 84.14 46 *eP* **P 03 03 28.5 +0.1**
MBDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
MBDF Montbardon 84.14 46 *eP* **P 03 03 28.5 +0.1**
comp=Z,4.8nm,0.7s,mb4.7
FRF La Foret Royal 84.17 47 *eP* **P 03 03 27.3 -1.2**
comp=Z,17nm,0.9s,mb4.8
FRF La Foret Royal 84.17 47 *eP* **P 03 03 27.3 -1.2**
FRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
FRF La Foret Royal 84.17 47 *eP* **P 03 03 27.3 -1.2**
comp=Z,8.4nm,0.9s,mb4.9
SBF Sospel 84.70 47 *eP* **P 03 03 29.6 -1.7**
BFO Black Forest 84.85 42 *eP* **P 03 03 30.5 -1.5**
comp=Z,4.0nm,0.9s,mb4.5
BFO Black Forest 84.85 42 *eP* **P 03 03 30.5 -1.5**
BFO pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
NB2 NORSAR Subarra 84.99 29 P **P 03 03 31.5 -1.2**
comp=Z,7.3nm,0.9s,mb4.8,baz=278,slow=5.1
NOA NORSAR Array B 84.99 29 P **P 03 03 32.1 -0.6**
comp=Z,4.2nm,0.8s,mb4.6,baz=277,slow=4.7,SNR=14
NOA LR LR 03 39 09.8
comp=Z,253nm,19.8s,MS4.6,baz=275,slow=34
STU Stuttgart 85.37 42 *eP* **P 03 03 34.8 +0.2**
comp=Z,10.0nm,0.9s,mb5.0
GTTG Gvttingen 85.52 39 *eP* **P 03 03 34.3 -1.0**
comp=Z,10.0nm,1.0s,mb5.0
CLZ Clausthal 85.73 38 *eP* **P 03 03 35.8 -0.6**
comp=Z,13nm,1.3s,mb5.0
CLZ Clausthal 85.73 38 *eP* **P 03 03 35.8 -0.6**
CLZ pmax pmax
comp=Z,13nm,1.3s,mb5.0
PGF Pioggiola 85.99 48 *eP* **P 03 03 37.3 -0.4**
comp=Z,31nm,0.8s,mb5.3
PGF Pioggiola 85.99 48 *eP* **P 03 03 37.3 -0.4**
PGF pmax pmax
comp=Z,16nm,0.8s,mb5.3
PGF Pioggiola 85.99 48 *eP* **P 03 03 37.3 -0.4**
comp=Z,16nm,0.8s,mb5.3
DAVA Damuels 86.01 43⇓ *iP* **P 03 03 38.1 +0.4**
comp=Z,19nm,0.8s,mb5.4
GRA1 Grafenberg Arr 86.56 40 *eP* **P 03 03 40.0 -0.5**
comp=Z,12nm,0.8s,mb5.2
GRA1 LR LR
comp=Z,800nm,20.1s,MS5.1
GRF Grafenberg Arr 86.56 40 *eP* **P 03 03 40.0 -0.5**
comp=Z,12nm,0.8s,mb5.2
GRF *e*L 03 37 17.1
comp=Z,754nm,20.1s
GRF Grafenberg Arr 86.56 40 *eP* **P 03 03 40.0 -0.5**
GRF pmax pmax
comp=Z,12nm,0.8s,mb5.2
GRF MLR MLR
comp=Z,800nm,20.1s,MS5.1
GRF Grafenberg Arr 86.56 40 *eP* **P 03 03 40.0 -0.5**
GRF pmax pmax
comp=Z,12nm,0.8s,mb5.2
GRF MLR MLR
comp=Z,800nm,20.1s,MS5.1
MOX Moxa 86.67 39 *eP* **P 03 03 40.2 -0.8**
comp=Z,4.0nm,0.9s,mb4.7
MOTA Moosalm 86.83 43⇑ *iP* **P 03 03 41.3 -0.5**
comp=Z,3.0nm,0.8s,mb4.6
MOTA Moosalm 86.83 43⇑ *iP* **P 03 03 41.3 -0.5**
MOTA pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
SQTA Sankt Quirin 86.91 43⇑ *iP* **P 03 03 41.9 -0.3**
comp=Z,5.7nm,1.0s,mb4.8
SQTA Sankt Quirin 86.91 43⇑ *iP* **P 03 03 41.9 -0.3**
SQTA pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
MANZ Manzenberg 87.08 40 *eP* **P 03 03 42.5 -0.5**
comp=Z,6.0nm,0.8s,mb4.9
WERD Werda 87.14 40 *eP* **P 03 03 42.6 -0.7**
comp=Z,7.0nm,0.9s,mb4.9
ROTZ Rotzenmuhle 87.18 40 *eP* **P 03 03 42.5 -1.0**
comp=Z,7.0nm,1.2s,mb4.8
NKC Novy Kostel 87.26 40 *eP* **P 03 03 44.1 +0.2**
NKC *e*S 03 14 17.9
NKC *e*SS SS 03 20 36.9 +30
NKC AMS AMS 03 38 00.0
comp=Z,600nm,19.6s
NKC Novy Kostel 87.26 40 *eP* **P 03 03 44.1 +0.2**
NKC *e*S 03 14 17.9
NKC Novy Kostel 87.26 40 *eP* **P 03 03 44.1 +0.2**
NKC *e*S 03 14 17.9
NKC *e*SS SS 03 20 36.9 +30
CLL Collm 87.43 39 *eP* **P 03 03 44.1 -0.6**
comp=Z,11nm,1.2s,mb5.0
CLL *epP* pP 03 04 00.2 +8.0
CLL *esP* sP 03 04 08.3 +13
CLL *e*S 03 14 16.0
CLL *e*PS 03 15 25.9
CLL *e*SS SS 03 20 05.5 -3.8
CLL *es*SS 03 20 33.1
CLL *e*LR LR 03 31 35.4
CLL *e*L 03 40 44.0
comp=Z,403nm,18.0s
CLL Collm 87.43 39 *i* P **P 03 03 44.1 -0.6**
comp=Z,10.0nm,0.8s,mb5.1
CLL *i* x x 03 03 48.4
CLL *i* pP pP 03 03 51.1 -1.1
CLL *i* sP sP 03 03 54.0 -0.9
CLL *e*SKSac SKSac 03 14 13.0 +1.9
CLL *e*S 03 14 25.0
CLL *e*PS 03 15 26.0
CLL *e*SS SS 03 20 06.0 -3.3
CLL *e*SSSS 03 26 36.0
CLL Lm 03 40 00.0
comp=Z,400nm,20.9s
CLL Collm 87.43 39 *i* P **P 03 03 44.1 -0.6**
CLL *e**PP pP 03 04 00.0 +7.8
CLL *e*S 03 14 14.0
CLL pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
CLL MLR MLR
comp=Z,400nm,20.9s,MS4.8
CLL Collm 87.43 39 *i* P **P 03 03 44.1 -0.6**
comp=Z,10.0nm,0.8s,mb5.1
CLL *epP* pP 03 04 00.0 +7.8
CLL *e*S 03 14 14.0
CLL LR LR
comp=Z,400nm,20.9s,MS4.8
RUE Ruedersdorf 87.71 37 *eP* **P 03 03 45.5 -0.5**
comp=Z,8.0nm,0.6s,mb5.1
BRG Berggiesshubel 88.09 39 *eP* **P 03 03 46.4 -1.5**
comp=Z,8.0nm,1.0s,mb4.9
BRG Berggiesshubel 88.09 39 *eP* **P 03 03 47.4 -0.4**
comp=Z,4.9nm,1.0s,mb4.7
BRG *e* 03 14 22.0
BRG
BRG
comp=E,113nm,19.1s

BRG									
	comp=Z,238nm,17.9s								
BRG	**Berggiesshubel**	**88.09**	**39**	*e*P		**P**	**03 03 47.4**	**-0.5**	
BRG				*e*			03 14 22.0		
BRG					pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.7								
BRG					MLR	MLR			
	comp=N,92nm,13.4s								
BRG					MLR	MLR			
	comp=E,113nm,19.1s								
BRG					MLR	MLR			
	comp=Z,238nm,17.9s,MS4.7								
KHC	**Kasperske Hory**	**88.17**	**41**	*e*P		**P**	**03 03 48.0**	**-0.2**	
KHC				*e*S			03 14 22.5		
KHC				*e*SS		SS	03 20 47.0	+27	
KHC					AMS	AMS	03 37 30.0		
	comp=Z,700nm,19.3s								
KHC	**Kasperske Hory**	**88.17**	**41**	*e*P		**P**	**03 03 48.0**	**-0.2**	
KHC				*e*S			03 14 22.5		
KHC					MLR	MLR			
	comp=Z,700nm,19.3s,MS5.1								
GEC2	**GERESS Array S**	**88.30**	**41**	*e*P		**P**	**03 03 48.5**	**-0.4**	
	comp=Z,6.0nm,1.3s,mb4.7								
GEC2	**GERESS Array S**	**88.30**	**41**	*e*P		**P**	**03 03 48.5**	**-0.4**	
GEC2					pmax	pmax			
	comp=Z,6.0nm,1.3s,mb4.7								
GERES	**GERESS Array B**	**88.30**	**41**	P		**P**	**03 03 48.6**	**-0.2**	
	comp=Z,2.8nm,0.8s,mb4.5,baz=316,slow=3.7,SNR=19								
GERES					LR	LR	03 38 17.4		
	comp=Z,478nm,20.7s,MS4.9,baz=271,slow=32								
KBA	**Koelnbreinsper**	**88.38**	**43**	⇑*i*P		**P**	**03 03 49.2**	**0.0**	
	comp=Z,12nm,1.1s,mb5.0								
KBA	**Koelnbreinsper**	**88.38**	**43**	⇑*i*P		**P**	**03 03 49.2**	**0.0**	
KBA					pmax	pmax			
	comp=Z,12nm,1.1s,mb5.0								
PRU	**Pruhonice**	**88.63**	**40**	*e*P		**P**	**03 03 51.4**	**+1.0**	
PRU				*e*S			03 14 24.9		
PRU				*ex*		x	03 20 53.5		
PRU					AMS	AMS	03 38 30.0		
	comp=Z,700nm,21.5s								
PRU	**Pruhonice**	**88.63**	**40**	*e*P		**P**	**03 03 51.4**	**+1.0**	
PRU				*e*S			03 14 24.9		
PRU					MLR	MLR			
	comp=Z,700nm,21.5s,MS5.0								
ARCES	**ARCESS Array B**	**88.82**	**20**	P		**P**	**03 03 50.1**	**-1.2**	
	comp=Z,3.1nm,0.8s,mb4.7,baz=287,slow=3.0,SNR=12								
MOA	**Molln**	**88.85**	**42**	⇑*i*P		**P**	**03 03 50.9**	**-0.6**	
	comp=Z,4.8nm,0.7s,mb4.9								
TREC	**Trest**	**89.37**	**40**	*e*P		**P**	**03 03 53.9**	**0.0**	
TREC				*ex*		x	03 14 25.4		
TREC				*ex*		x	03 21 04.5		
TREC					AMS	AMS	03 38 20.0		
	comp=Z,700nm,20.4s								
TREC	**Trest**	**89.37**	**40**	*e*P		**P**	**03 03 53.9**	**0.0**	
TREC				*e*S			03 14 25.4		
TREC					MLR	MLR			
	comp=Z,700nm,20.4s,MS5.1								
UPC	**Upice**	**89.45**	**39**	*e*P		**P**	**03 03 54.5**	**+0.2**	
DPC	**Dobruska-Polom**	**89.68**	**39**	*e*P		**P**	**03 03 55.7**	**+0.4**	
DPC				*e*S			03 14 32.8		
DPC				*e*SS		SS	03 21 05.9	+24	
DPC					AMS	AMS	03 39 10.0		
	comp=Z,500nm,15.6s								
DPC	**Dobruska-Polom**	**89.68**	**39**	*e*P		**P**	**03 03 55.7**	**+0.4**	
DPC				*e*S			03 14 32.8		
DPC					MLR	MLR			
	comp=Z,500nm,15.6s,MS5.0								
BILL	**Bilibino**	**90.20**	**339**	*e*P		**P**	**03 03 57.8**	**0.0**	
BILL					pmax	pmax			
	comp=Z,11nm,1.0s,mb5.1								
BILL	**Bilibino**	**90.20**	**339**	*e*P		**P**	**03 03 57.8**	**0.0**	
	comp=Z,10nm,1.0s,mb5.1								
ZST	**Bratislava**	**90.65**	**41**	*e*P		**P**	**03 03 55.7**	**-4.1**	
ZST					pmax	pmax			
	comp=Z,7.0nm,0.7s,mb5.1								
SMOL	**Smolenice**	**90.79**	**41**	*e*P		**P**	**03 03 59.7**	**-0.8**	
AFI	**Afiamalu**	**90.85**	**256**	LR		LR	03 32 36.4		
	comp=Z,19nm,21.0s,baz=85,slow=28								
OKC	**Ostrava-Krasne**	**90.94**	**39**	*e*S			03 15 05.2		
OKC				*ex*		x	03 21 32.8		
OKC					AMS	AMS	03 39 50.0		
	comp=Z,600nm,18.9s								
VYHS	**Vyhne**	**91.70**	**41**	*e*		**P**	**03 04 09.0**	**+4.3**	
LIKS	**Líkavka**	**91.74**	**40**	*e*pP		pP	03 04 13.5	+1.1	
FINES	**FINESS Array B**	**91.86**	**27**	P		**P**	**03 04 04.5**	**-0.9**	
	comp=Z,2.7nm,1.0s,mb4.5,baz=357,slow=3.8,SNR=4.5								
FINES					LR	LR	03 39 06.8		
	comp=Z,230nm,21.3s,MS4.6,baz=333,slow=32								
VNA3	**Neumayer Olymp**	**92.25**	**162**	*e*P		**P**	**03 04 07.0**	**-0.3**	
VNA3				*e*			03 04 07.8		
VNA3				*e*		pP	03 04 13.4	-1.4	
VNA3				*e*			03 04 18.3		
VNA3				*e*			03 04 23.5		
VNA3				*e*			03 04 30.4		
VNA1	**Neumayer--Stat**	**92.51**	**161**	*e*P		**P**	**03 04 08.0**	**-0.5**	
VNA1				*e*			03 04 09.0		
VNA1				*e*		pP	03 04 14.2	-1.8	
VNA1				*e*			03 04 19.6		
VNA1				*e*			03 04 25.0		
VNA1				*e*			03 04 31.4		
VNA2	**Neumayer--Watz**	**92.87**	**161**	*e*P		**P**	**03 04 09.8**	**-0.3**	
	baz=322,slow=6.1								
VNA2				*e*			03 04 10.5		
VNA2				*e*		pP	03 04 15.8	-1.8	
VNA2				*e*			03 04 21.0		
VNA2				*e*			03 04 25.4		
VNA2				*e*			03 04 34.2		
VNA2				*e*			03 05 04.8		
STHS	**Stebnicka Huta**	**93.00**	**39**	*e*P		**P**	**03 04 11.3**	**+0.6**	
STHS					pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.6								
CRVS	**Cervenica-Dubn**	**93.28**	**40**	*e*P		**P**	**03 04 13.7**	**+1.7**	
KOLS	**Kolonicke sedl**	**93.78**	**40**	*e*		**P**	**03 04 19.3**	**+5.0**	
SNAA	**Sanae**	**94.47**	**162**	*e*P		**P**	**03 04 17.0**	**-0.5**	
SNAA				*e*			03 04 17.6		
SNAA				*e*		pP	03 04 23.5	-1.5	
SNAA				*e*			03 04 33.2		
SNAA				*e*			03 05 08.4		
SNAA	**Sanae**	**94.47**	**162**	⇑*e*P		**P**	**03 04 16.3**	**-1.2**	
TIXI	**Tiksi**	**97.73**	**350**	⇑*e*P		**P**	**03 04 30.4**	**-1.9**	
TIXI					pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.9								
TIXI					MLR	MLR			
	comp=Z,300nm,17.0s,MS4.8								
OBN	**Obninsk**	**99.54**	**30**	⇓*e*P		**P**	**03 04 39.0**	**-1.4**	
OBN				*e*			03 08 50.8		
OBN				*e*S			03 15 14.6		
OBN				*e*PS		PS	03 17 46.6	+4.9	
OBN					pmax	pmax			
	comp=Z,6.0nm,0.5s,mb5.3								
OBN					MLR	MLR			
	comp=Z,200nm,17.0s,MS4.7								
ZAL	**Zalesovo**	**117.36**	**8**	PKP		PKPdf	03 09 40.6	-2.2	
	comp=Z,1.4nm,0.3s,baz=122,slow=2.9,SNR=5.4								
KURK	**Kurchatov**	**119.30**	**13**	⇑*i*PKIKP		PKPdf	03 09 46.0	-0.5	
MDJ	**Mudanjiang**	**119.94**	**334**	PKP		PKPdf	03 09 47.3	-0.5	
MDJ				PP		PP	03 11 11.0	-0.9	
MDJ				PKS			03 13 24.0		
MDJ				SKS		SKSdf	03 16 54.9	-3.5	
MDJ				SS		SS	03 27 33.5	-2.8	
MDJ				PP		PP			
	comp=Z,222nm,4.0s								
MDJ				LR		LR			
	comp=N,51nm,25.5s,MS4.6								
MDJ				LR		LR			
	comp=E,191nm,26.5s,MS4.6								
MDJ				LR		LR			
	comp=Z,68nm,23.4s,MS4.2								
MJAR	**Matsushiro Arr**	**121.23**	**322**	PKP		PKPdf	03 09 49.7	-0.5	
	comp=Z,2.8nm,0.8s,baz=82,slow=1.6,SNR=6.3								
MJAR	**Matsushiro Arr**	**121.23**	**322**	PKP		PKPdf	03 09 49.7	-0.5	
CN2	**Changchun**	**122.35**	**336**	*e*PKP		PKPdf	03 09 47.4	-5.0	
CN2				LR		LR			
	comp=N,200nm,21.0s,MS5.0								
CN2				LR		LR			
	comp=E,300nm,21.0s,MS5.0								
CN2				LR		LR			
	comp=Z,200nm,23.0s,MS4.7								
ULN	**Ulaanbaatar**	**123.63**	**352**	⇑*i*PKIKP		PKPdf	03 09 54.6	-0.2	
SONM	**Songino Array**	**123.75**	**352**	PKP		PKPdf	03 09 54.8	-0.2	
	comp=Z,4.8nm,0.7s,baz=345,slow=1.5,SNR=39								
MKAR	**Makanchi Array**	**123.81**	**12**	PKP		PKPdf	03 09 53.9	-1.3	
	comp=Z,1.9nm,0.7s,baz=356,slow=2.5,SNR=20								
AAK	**Ala-Archa**	**125.49**	**20**	⇑*i*PKIKP		PKPdf	03 09 58.3	-0.1	
WMQ	**Urumqi**	**127.66**	**9**	⇑PKP		PKPdf	03 10 02.6	+0.1	
WMQ				PP		PP	03 12 07.8	+4.0	
WMQ				SKKS		SKKSac	03 18 53.6	-6.5	
WMQ				PP		PP			
	comp=Z,72nm,5.0s								
WMQ				LR		LR			
	comp=N,248nm,21.6s,MS4.9								
WMQ				LR		LR			
	comp=E,177nm,22.6s,MS4.9								
WMQ				LR		LR			
	comp=Z,322nm,21.6s,MS5.0								
BJI	**Beijing**	**129.00**	**341**	PKP		PKPdf	03 10 07.3	+2.2	
HHC	**Hu-ho-hao-te**	**129.54**	**346**	*e*PKP		PKPdf	03 10 03.0	-3.1	
HHC				XPKP			03 10 17.7		
HHC				PP		PP	03 12 15.0	-1.1	
HHC				PKS			03 13 38.8		
HHC				SKS		SKSdf	03 17 10.6	-5.7	
HHC				SKKS		SKKSac	03 19 03.9	-7.9	
HHC				PP		PP			
	comp=Z,87nm,6.1s								
HHC				LR		LR			
	comp=N,176nm,22.6s,MS4.8								
HHC				LR		LR			
	comp=E,154nm,20.2s,MS4.8								
HHC				LR		LR			
	comp=Z,163nm,21.4s,MS4.7								
CTA	**Charters Tower**	**131.04**	**250**	PKP		PKPdf	03 10 09.6	+0.6	
	comp=Z,4.5nm,0.8s,baz=189,slow=3.9,SNR=5.5								
STKA	**Stephens Creek**	**132.41**	**234**	PKP		PKPdf	03 10 10.4	-1.1	
	comp=Z,3.8nm,0.6s,baz=62,slow=5.0,SNR=8.9								
GTA	**Gaotai**	**132.70**	**357**	*e*PKP		PKPdf	03 10 12.5	+0.4	
GTA				PP		PP	03 12 39.0	+2.4	
GTA				PKS			03 13 47.8		
GTA				SKS		SKSdf	03 17 19.2	-2.9	
GTA				SKKS		SKKSac	03 19 26.6	-4.7	
GTA				SS		SS	03 30 12.6	-3.2	
GTA				PP		PP			
	comp=Z,94nm,5.3s								
GTA				LR		LR			
	comp=N,231nm,17.5s,MS5.0								
GTA				LR		LR			
	comp=E,126nm,17.1s,MS5.0								
GTA				LR		LR			
	comp=Z,289nm,20.2s,MS5.0								
NJ2	**Nanjing**	**135.03**	**334**	*e*PKP		PKPdf	03 10 18.2	+1.7	
NJ2				PP		PP	03 12 59.0	+7.6	
NJ2				PKS			03 13 53.0		
NJ2				PPP			03 15 54.0		
NJ2				PP		PP			
	comp=Z,110nm,6.4s								
NJ2				LR		LR			
	comp=N,490nm,38.5s								
NJ2				LR		LR			
	comp=E,280nm,21.1s								
NJ2				LR		LR			
	comp=Z,430nm,32.9s								
LZH	**Lanzhou**	**135.63**	**352**	*e*PKP		PKPdf	03 10 23.5	+5.9	
LZH				LR		LR			
	comp=N,790nm,18.8s								
LZH				LR		LR			
	comp=Z,580nm,20.4s,MS5.3								
CD2	**Chengdu**	**140.73**	**351**	*e*PKP		PKPdf	03 10 23.0	-4.0	
ASAR	**Alice Springs**	**141.52**	**242**	PKhKP			03 10 22.9		
	comp=Z,5.7nm,0.6s,baz=122,slow=3.8,SNR=59								
ASAR				PKP		PKPdf	03 10 28.5	+0.1	
	comp=Z,12nm,0.8s,baz=108,slow=3.0,SNR=31								
KOLN	**Koldanda**	**142.05**	**20**	*e*P		PKPdf	03 10 24.9	-4.4	
	comp=Z,13nm,0.7s								
WB2	**Warramunga Arr**	**142.09**	**248**	*e*P		PKPdf	03 10 25.5	-3.9	
WRAB	**Tennant Creek**	**142.09**	**248**	*i* PKIKP		PKPdf	03 10 25.6	-3.8	
WRA	**Warramunga Arr**	**142.10**	**248**	PKhKP			03 10 24.9		
	comp=Z,18nm,0.8s,baz=104,slow=2.9,SNR=79								
GKN	**Gorkha**	**142.17**	**18**	*e*P		PKPdf	03 10 26.1	-3.5	
KKN	**Kakani**	**142.56**	**17**	*e*P		PKPdf	03 10 26.8	-3.5	
	comp=Z,23nm,0.6s								
GUN	**Gumba**	**142.62**	**17**	*e*P		PKPdf	03 10 26.9	-3.5	
	comp=Z,25nm,0.7s								
DMN	**Daman**	**142.68**	**18**	*e*P		PKPdf	03 10 27.4	-3.1	
	comp=Z,22nm,0.6s								
PKI	**Pulchoki**	**142.81**	**17**	*e*P		PKPdf	03 10 27.2	-3.5	
	comp=Z,16nm,0.6s								
JIRN	**Jiri**	**142.95**	**16**	*e*P		PKPdf	03 10 27.3	-3.6	
	comp=Z,29nm,1.0s								
FORT	**Forrest**	**143.32**	**228**	*e*P		PKPdf	03 10 29.7	-1.9	
	comp=Z,16nm,0.7s								
GYA	**Guiyang**	**144.46**	**345**	⇑*i*PKP		PKPdf	03 10 32.3	-1.3	
GYA				APKP			03 10 42.9		
GYA				PP		PP	03 13 49.6	+0.3	
GYA				PP		PP			
	comp=Z,110nm,7.6s								
GYA				LR		LR			
	comp=N,130nm,20.8s,MS4.8								
GYA				LR		LR			
	comp=E,140nm,21.0s,MS4.8								
GYA				LR		LR			
	comp=Z,160nm,20.8s,MS4.8								
KAKA	**Kakadu**	**144.97**	**259**	*e*P		PKPdf	03 10 34.9	+0.4	
	comp=Z,64nm,0.8s								
POO	**Poona**	**144.99**	**41**	*e*P		PKPbc	03 10 32.0	-1.8	
KAD	**Karad**	**146.10**	**42**	*e*P		PKPdf	03 10 37.1	+0.7	
SHL	**Shillong**	**146.19**	**9**	*e*P		PKPdf	03 10 37.0	+0.5	
KMI	**Kunming**	**146.56**	**351**	PKP		PKPdf	03 10 38.1	+0.9	
HYB	**Hyderabad**	**148.73**	**36**	*i* PKP		PKPdf	03 10 41.5	+0.7	
HYB				*e*			03 10 44.5		
NWAO	**Narrogin (SRO)**	**149.03**	**214**	PKPbc		PKPbc	03 10 45.0	-0.4	
	comp=Z,12nm,0.8s,baz=180,slow=4.0,SNR=5.9								
KLBR	**Kellerberrin**	**149.71**	**217**	*e*P		PKPdf	03 10 46.9	+4.6	
	comp=Z,45nm,1.4s								
QIZ	**Qiongzhong**	**150.30**	**335**	PKP		PKPdf	03 10 45.1	+1.8	
MUN	**Mundaring**	**150.31**	**214**	*e*P		PKPdf	03 10 43.5	+0.2	
FITZ	**Fitzroy Crossi**	**150.53**	**247**	*e*P		PKPdf	03 10 44.4	+0.8	
	comp=Z,57nm,0.7s								

*IDC **02** 02:54:56.7±6.6, 828S×13035E, h0km, mb3.9/1, mb1 4.1/4, mb1mx3.7/13, mbtmp4.0/4, ML4.0/3, Error ellipse: s-maj=82.1km s-min=52.0km az=151.0*

NEIC 02 02:55:06.9±5.5, 881S×13045E, h35km, Error ellipse: s-maj=67.3km s-min=29.9km az=178.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.35**	**206**	Pn	Pn	02 57 33.0	+0.2
	0.7nm,0.3s,baz=27,slow=13,SNR=19						
FITZ				Sn	Sn	02 59 35.9	+8.3
	0.9nm,0.3s,baz=172,slow=15,SNR=7.1						
WRAB	**Tennant Creek**	**11.68**	**162**	*e*Pn	Pn	02 57 52.2	+1.2
	3.4nm,0.6s						
WRA	**Warramunga Arr**	**11.69**	**162**	Pn	Pn	02 57 50.4	-0.7
	1.1nm,0.3s,baz=344,slow=12,SNR=9.5						
WRA				Sn	Sn	03 00 12.9	+13
	0.7nm,0.3s,baz=340,slow=20,SNR=5.1						
ASAR	**Alice Springs**	**15.14**	**168**	Pn	Pn	02 58 38.1	+0.1
	0.6nm,0.3s,baz=348,slow=8.9,SNR=18						
STKA	**Stephens Creek**	**25.18**	**157**	P	P	03 00 29.1	+0.2
	1.8nm,0.9s,baz=331,slow=10,SNR=2.9						

*ISCJB **02** 02:56:00.5±1.0, 4169N±004×2548E±008, h7km±11km, Error ellipse: s-maj=10.0km s-min=7.1km az=171.8*
*ATH **02** 02:56:03.1, 4155N×2537E, h22km±3km, MD3.1/3*
*THE **02** 02:56:03.7, 4165N×2562E, h20km*

ISC 02 02:56:01.4±0.9, 4168N±004×2549E±008, h13km±11km, n7, σ0§99/11, 1C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RDO	**Rodhopi**	**0.53**	**176**	⇑*i*PB	**Pb**	**02 56 12.1**	**-0.5**
RDO				*e*SB	**Sb**	**02 56 18.5**	**-1.7**
ALN	**Alexandroupoli**	**0.89**	**152**	*e*Pg	**Pg**	**02 56 19.0**	**+0.5**
ALN				*e*Sg	**Sg**	**02 56 31.3**	**+1.2**
JMB	**Yambol**	**1.13**	**46**	*e*Pg	**Pg**	**02 56 22.7**	**-0.5**
JMB				*e*Sg	**Sg**	**02 56 37.5**	**-0.5**
NVR	**Nevrokopi**	**1.27**	**256**	*e*PN	**Pn**	**02 56 24.7**	**-0.1**
NVR				*e*SN	**Sn**	**02 56 41.5**	**-0.2**
SRS	**Serrai**	**1.54**	**249**	*e*Pg	**Pg**	**02 56 30.0**	**-0.9**
LIA	**Limnos Island**	**1.79**	**188**	*e*PN	**Pn**	**02 56 33.0**	**+0.9**
VTS	**Vitosha**	**1.93**	**299**	*e*Pn	**Pn**	**02 56 36.0**	**+2.1**

IDC 02 02:56:10.7±3.7, 827N×8281W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/19, mbtmp3.9/4, Error ellipse: s-maj=131.5km s-min=32.8km az=27.0, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**2.91**	**314**	Pn	Pn	02 56 58.3	+0.1
	baz=276,slow=18						
JTS				Sn	Sn	02 57 42.0	+8.2
	14nm,0.3s,baz=319,slow=19,SNR=4.3						
ILAR	**Eielson Array**	**71.66**	**336**	P	P	03 07 34.3	+0.1
	0.4nm,0.8s,baz=112,slow=4.5,SNR=5.3						
ESDC	**Sonseca Array**	**76.20**	**51**	P	P	03 08 00.7	0.0
	0.1nm,0.3s,baz=275,slow=5.8,SNR=4.7						
DBIC	**Dimbokro**	**77.20**	**85**	P	P	03 08 07.8	+1.5
	4.1nm,1.0s,baz=232,slow=16,SNR=3.2						
ASAR	**Alice Springs**	**141.67**	**242**	PKP	PKPdf	03 15 42.9	-1.1
	0.5nm,0.9s,baz=105,slow=1.6,SNR=4.3						

*ISCJB **02** 03:04:49.2±0.2, 4935N±001×684E±003, h0km, Error ellipse: s-maj=2.5km s-min=1.7km az=15.8*
*BGR **02** 03:04:51.0±0.4, 4935N×685E, h1km, ML2.0/2, Error ellipse: s-maj=7.8km s-min=4.4km az=34.0*
*CSEM **02** 03:04:51.0±0.1, 4938N×691E, h1km, ML2.7/12, Error ellipse: s-maj=1.3km s-min=0.9km az=106.0*
*LDG **02** 03:04:51.2±0.1, 4939N×689E, h1km, Md3.0/1, Ml2.8/12, Error ellipse: s-maj=1.6km s-min=1.4km az=127.0, Suspected Mining induced.*
*NEIC **02** 03:04:51.2, 4939N×689E, h1km, ML2.4(STR), ML2.8(LDG), After LDG.*
*BNS **02** 03:04:52.4±1.2, 4943N×700E, h1km, ML1.6*

ISC 02 03:04:50.3±0.2, 4937N±001×684E±003, h0km, n54, σ0§97/103, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUP	**Ruppelstein**	**0.36**	**23**	Pg	**Pg**	**03 04 57.6**	**+0.3**
RUP				Sg	**Sg**	**03 05 02.9**	**+0.9**
WLF	**Walferdange**	**0.54**	**304**	*e*Pg	**Pg**	**03 05 02.1**	**+1.5**
	SNR=4.9						
WLF				*e*Sg	**Sg**	**03 05 07.8**	**+0.3**
WLF	**Walferdange**	**0.54**	**304**	P	**Pg**	**03 05 02.0**	**+1.4**
WLF				S	**Sg**	**03 05 07.8**	**+0.3**
WLF	**Walferdange**	**0.54**	**304**	*e*P	**Pg**	**03 05 01.9**	**+1.3**
ABH	**Alteburg**	**0.69**	**42**	Pg	**Pg**	**03 05 02.6**	**-1.0**
LANF	**Langenberg**	**0.74**	**121**	Pg	**Pg**	**03 05 04.4**	**-0.2**
BGG	**Burgeitz**	**0.90**	**21**	*e*Pg	**Pg**	**03 05 08.4**	**+0.8**
BGG				*e*Sg	**Sg**	**03 05 18.7**	**-0.5**
	16nm,0.4s						
HILG	**Hillesheim**	**0.93**	**354**	*e*Sg	**Sg**	**03 05 21.7**	**+1.5**
CDF	**Champ du Feu**	**1.00**	**163**	*e*Pn	**Pn**	**03 05 10.5**	**-1.1**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**03 05 22.8**	**+0.4**
	17nm,0.2s,SNR=1.0						
CDF	**Champ du Feu**	**1.00**	**163**	*e*Pg	**Pg**	**03 05 09.3**	**-0.1**
CDF				*e*Pn	**Pn**	**03 05 10.5**	**-1.1**
CDF				*e*Sg	**Sg**	**03 05 22.8**	**+0.4**
CDF	**Champ du Feu**	**1.00**	**163**	*e*Pn	**Pn**	**03 05 10.5**	**-1.1**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**03 05 22.8**	**+0.4**
	8.4nm,0.2s,SNR=1.0						
WLS	**Welschbruch**	**1.01**	**160**	Pg	**Pg**	**03 05 10.0**	**+0.3**
WLS				Sg	**Sg**	**03 05 23.9**	**+1.0**
RFYF	**Reffroy**	**1.16**	**231**	*e*Pg	**Pg**	**03 05 14.3**	**+1.7**
RFYF				*e*Sg	**Sg**	**03 05 29.5**	**+1.8**
	29nm,0.3s						
RFYF	**Reffroy**	**1.16**	**231**	*e*Pg	**Pg**	**03 05 14.3**	**+1.7**
RFYF				*e*Sg	**Sg**	**03 05 29.5**	**+1.8**
	15nm,0.3s						
ECH	**Echery**	**1.17**	**169**	Pg	**Pg**	**03 05 12.7**	**-0.1**
ECH				Sg	**Sg**	**03 05 28.5**	**+0.6**
STB	**Steinbach**	**1.23**	**0**	*e*Pg	**Pg**	**03 05 13.7**	**-0.2**
STB				*e*Sg	**Sg**	**03 05 30.8**	**+1.1**
	10nm,0.5s						
THEF	**They Montfort**	**1.27**	**207**	Pg	**Pg**	**03 05 15.0**	**+0.3**
THEF				Sg	**Sg**	**03 05 31.9**	**+0.7**
TOD	**Tromm**	**1.30**	**79**	Pg	**Pg**	**03 05 14.5**	**-0.8**
KLL	**Kalltalsperre**	**1.33**	**345**	*e*Pg	**Pg**	**03 05 15.5**	**-0.3**
TNS	**Taunus Mts**	**1.35**	**50**	*e*Pg	**Pg**	**03 05 15.9**	**-0.2**
	SNR=4.7						
TNS				*e*Sg	**Sg**	**03 05 34.0**	**+0.3**
TNS	**Taunus Mts**	**1.35**	**50**	*e*Pg	**Pg**	**03 05 15.9**	**-0.3**
TNS				*e*Sg	**Sg**	**03 05 33.5**	**-0.2**
MEM	**Membach**	**1.35**	**337**	P	**Pg**	**03 05 16.4**	**+0.1**
MEM				S	**Sg**	**03 05 34.2**	**+0.4**
HAU	**Haudompre**	**1.40**	**194**	*e*Pg	**Pg**	**03 05 17.9**	**+0.7**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**03 05 36.5**	**+1.2**
	35nm,0.4s						
HAU	**Haudompre**	**1.40**	**194**	*e*Pg	**Pg**	**03 05 17.9**	**+0.7**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**03 05 36.5**	**+1.2**
	17nm,0.4s						
BFO	**Black Forest**	**1.43**	**136**	*e*Pg	**Pg**	**03 05 17.8**	**+0.1**
	SNR=9.3						
BFO				*e*Sg	**Sg**	**03 05 35.3**	**-1.0**
BFO	**Black Forest**	**1.43**	**136**	*e*Pg	**Pg**	**03 05 16.3**	**-1.4**
BFO				*e*Sg	**Sg**	**03 05 35.2**	**-1.1**
MEZF	**Maizieres J'vi**	**1.46**	**234**	*e*Pg	**Pg**	**03 05 18.9**	**+0.6**
MEZF				*e*Sg	**Sg**	**03 05 38.5**	**+1.2**
	15nm,0.4s						
MEZF	**Maizieres J'vi**	**1.46**	**234**	*e*Pg	**Pg**	**03 05 18.9**	**+0.6**
MEZF				*e*Sg	**Sg**	**03 05 38.5**	**+1.2**
	7.3nm,0.4s						
GIVF	**Givet**	**1.50**	**300

SNR=1.0
SSF eSg Sg 03 06 32.9 -0.5
6.8nm,0.6s,SNR=1.0
SSF Saint Saulge 3.21 225 ePn Pn 03 05 40.0 -1.9
SNR=1.0
SSF eSn Sn 03 06 18.6 -2.3
SNR=1.0
SSF eSg Sg 03 06 32.9 -0.5
3.4nm,0.6s,SNR=1.0
SMF Signal de Mont 3.39 218 ePn Pn 03 05 43.0 -1.4
SNR=1.0
SMF eSn Sn 03 06 23.2 -2.1
SNR=1.0
SMF eSg Sg 03 06 39.8 +0.7
4.4nm,0.4s,SNR=1.0
SMF Signal de Mont 3.39 218 ePn Pn 03 05 43.0 -1.4
SNR=1.0
SMF eSn Sn 03 06 23.2 -2.1
SNR=1.0
SMF eSg Sg 03 06 39.8 +0.7
2.2nm,0.4s,SNR=1.0
BGF Bois d'Agland 3.88 225 ePg Pg 03 06 04.6 -0.2
SNR=1.0
BGF eSn Sn 03 06 34.8 -2.8
SNR=1.0
GEC2 GERESS Array S 4.54 94 ePn Pn 03 06 00.1 -0.2
SNR=6.8

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*ISCJB **02** 03:32:22.3±1.8,593N±0.1×1668E±0.4,h10km,mb3.6/5, Error ellipse: s-maj=31.2km s-min=16.1km az=138.7*
*NEIC **02** 03:32:24.7±12.0,5984N×16610E,h10km,Error ellipse: s-maj=200.0km s-min=31.2km az=46.0*
*IDC **02** 03:32:26.8±12.0,5985N×16700E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.6/22,mbtmp3.7/5, Error ellipse: s-maj=272.4km s-min=35.1km az=8.0*
*MOS **02** 03:32:33.3±1.1,6049N×16707E,h33km,mb4.4/2,Error ellipse: s-maj=79.0km s-min=24.2km az=83.1*
ISC 02 03:32:22.6±1.8,591N±01×1668E±04,h10km,n10, σ0§89/11,mb3.6/5,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BILL	**Bilibino**	**8.96**	**359**	*e*PN	**Pn**	**03 34 23.9**	**-8.1**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BILL	**Bilibino**	**8.96**	**359**	*e*Pn	**Pn**	**03 34 23.9**	**-8.2**
	comp=Z,3.8nm,0.6s						
BILL				eSn	Sn	03 36 13.0	0.0
ILAR	**Eielson Array**	**22.08**	**56**	P	**P**	**03 37 18.0**	**+0.3**
	comp=Z,0.6nm,0.5s,mb3.3,baz=276,slow=8.1,SNR=16						
INK	**Inuvik**	**26.87**	**45**	P	**P**	**03 38 04.0**	**+0.5**
	comp=Z,2.1nm,0.6s,mb3.8,baz=293,slow=12,SNR=18						
YKA	**Yellowknife Ar**	**36.29**	**50**	P	**P**	**03 39 25.2**	**-1.0**
	comp=Z,0.1nm,0.7s,mb2.8,baz=305,slow=8.3,SNR=4.0						
ARCES	**ARCESS Array B**	**48.67**	**343**	P	**P**	**03 41 05.6**	**-1.2**
	comp=Z,1.3nm,0.7s,mb4.1,baz=42,slow=9.8,SNR=5.2						
ARCES	**ARCESS Array B**	**48.67**	**343**	P	**P**	**03 41 05.6**	**-1.2**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NB2	**NORSAR Subarra**	**58.68**	**346**	P	**P**	**03 42 21.5**	**+1.3**
	comp=Z,1.2nm,0.6s,mb4.1,baz=14,slow=7.4						
NOA	**NORSAR Array B**	**58.68**	**346**	P	**P**	**03 42 21.7**	**+1.5**
	comp=Z,1.7nm,0.6s,mb4.3,baz=14,slow=7.2,SNR=4.5						
NOA	**NORSAR Array B**	**58.68**	**346**	P	**P**	**03 42 21.7**	**+1.5**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						

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*ISCJB **02** 04:08:52.7±0.9,14N±0.1×1239E±0.3,h33km,mb4.1/8, Error ellipse: s-maj=44.0km s-min=14.3km az=141.9*
*NEIC **02** 04:08:54.5±0.9,140N×124.12E,h35km,mb4.3/3,Error ellipse: s-maj=50.5km s-min=14.5km az=70.0*
*IDC **02** 04:09:23.4±5.4,1.17N×12422E,h338km±60km,mb3.4/6, mb1 3.5/7,mb1mx3.4/17,mbtmp4.1/7,Error ellipse: s-maj=56.5km s-min=15.9km az=67.0*
ISC 02 04:08:54.7±0.9,14N±01×1241E±03,h35km,n12,σ1§04/12, mb4.1/8,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.43**	**175**	*e*P	**Pn**	**04 13 21.2**	**+1.8**
	3.5nm,0.2s						
FITZ	**Fitzroy Crossi**	**19.43**	**175**	P	**Pn**	**04 13 24.3**	**+4.9**
	0.8nm,0.3s,baz=354,slow=9.1,SNR=45						
MBWA	**Marble Bar**	**22.81**	**190**	P	**P**	**04 13 55.0**	**+0.6**
	2.5nm,0.4s,mb4.0						
WRAB	**Tennant Creek**	**23.48**	**155**	*e*P	**P**	**04 14 01.6**	**+0.3**
	9.4nm,0.4s,mb4.6						
WRA	**Warramunga Arr**	**23.48**	**155**	P	**P**	**04 14 01.5**	**+0.2**
	4.1nm,0.3s,mb4.3,baz=336,slow=9.8,SNR=21						
WB2	**Warramunga Arr**	**23.49**	**155**	*e*P	**P**	**04 14 01.8**	**+0.4**
ASAR	**Alice Springs**	**26.69**	**160**	P	**P**	**04 14 30.6**	**+0.1**
	1.0nm,0.5s,mb3.6,baz=333,slow=7.1,SNR=16						
ASAR				PcP	PcP	04 17 46.9	-6.6
	0.3nm,0.4s,baz=357,slow=3.5,SNR=4.4						
NWAO	**Narrogin (SRO)**	**34.74**	**190**	P	**P**	**04 15 40.5**	**-1.0**
	11nm,1.1s,mb4.7,baz=16,slow=6.5,SNR=3.1						
STKA	**Stephens Creek**	**37.03**	**155**	P	**P**	**04 15 58.9**	**-2.2**
	1.6nm,0.3s,mb4.4,baz=340,slow=11,SNR=13						
STKA	**Stephens Creek**	**37.03**	**155**	*e*P	**P**	**04 15 59.0**	**-2.1**
SONM	**Songino Array**	**48.73**	**344**	P	**P**	**04 17 37.2**	**+1.4**
	0.3nm,0.3s,mb3.8,baz=134,slow=4.2,SNR=3.6						
MKAR	**Makanchi Array**	**58.00**	**327**	P	**P**	**04 18 42.8**	**-1.1**
	0.4nm,0.4s,mb3.8,baz=124,slow=8.3,SNR=5.6						

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*IDC **02** 04:11:15.9±0.7,2742S×7131W,h0km,mb4.3/9, mb1 4.3/10,mb1mx4.2/16,mbtmp4.2/10,ML3.9/1,MS4.3/12, Ms1 4.3/12,ms1mx4.1/20,Error ellipse: s-maj=27.8km s-min=22.4km az=56.0*
*GUC **02** 04:11:17.8±0.9,2744S×7146W,h40km±5km,ML4.9*
*ISCJB **02** 04:11:18.8±1.2,2747S±003×7136W±007,h25km±8km, mb4.5/24,MS4.4/11,Error ellipse: s-maj=11.2km s-min=5.0km az=168.7*
*HRVD **02** 04:11:19.9±0.2,2758S×7184W,h16km,MW5.2/77, Centroid moment Tensor Solution. LP body waves: s47,c58;Mantle waves: s77,c125; Half duration: 1§0 Moment tensor: Scale 10^16^Nm; Mrr5.19±.20; Mθθ0.05±.10; Mφφ-5.24±.15; Mrθ-0.30±.32; Mθφ0.29±.08; Mφr-6.50±.51; Best double couple: M0 8.34400×10^16^ NP1:φs352.00000°, δ20.00000°, λ81.00000°. NP2:φs181.00000°, δ71.00000°, λ93.00000°. Principal axes: T 8.3280, Plg64.0000°, Azm96.0000°; N 0.0370, Plg3.0000°, Azm0.0000°; P -8.3610, Plg26.0000°, Azm269.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **02** 04:11:19.9±1.8,2745S×7121W,h21km±12km,mb4.7/18, ML4.9(GUC) Error ellipse: s-maj=14.4km s-min=6.5km az=82.0*
*MOS **02** 04:11:20.7±1.2,2755S×71.12W,h33km,mb5.0/7,Error ellipse: s-maj=19.0km s-min=12.3km az=96.6*
*BJI **02** 04:11:20.1,2694S×7127W,h21km,mB5.4,Ms4.8,Msz4.6*
ISC 02 04:11:19.0±1.4,2746S±003×7133W±007,h14km±8km, h23km±5.3km:pP-P,n91,σ1§26/75,mb4.5/24,MS4.4/11, 1C-1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.59**	**49**	↓*i*P	**Pg**	**04 11 30.4**	**-0.2**
CDCH				*i* S	**Sg**	**04 11 41.4**	**+3.3**
CPCH	**Copiapo**	**0.88**	**84**	*e*P	**Pg**	**04 11 35.2**	**-0.8**
CPCH				*i* S	**Sg**	**04 11 49.4**	**+2.2**
CPCH				AML	AML	04 11 53.4	
	comp=E,50μm,0.1s						
CPCH	**Copiapo**	**0.88**	**84**	*e*P	**Pg**	**04 11 35.2**	**-0.8**
CPCH				*i* S	**Sg**	**04 11 49.4**	**+2.2**
CRCH	**Chaqaral**	**1.28**	**30**	*e*P	**Pn**	**04 11 40.0**	**-1.9**
CRCH				*i* S	**Sb**	**04 11 58.2**	**-0.9**
CRCH				AML	AML	04 12 13.4	
	comp=E,11μm,0.4s						
CRCH	**Chaqaral**	**1.28**	**30**	*e*P	**Pn**	**04 11 40.5**	**-1.9**
CRCH				*i* S	**Sb**	**04 11 58.2**	**-0.9**
LCO	**Las Campanas**	**1.64**	**160**	↑*i*P	**Pn**	**04 11 46.9**	**-0.5**
LCO				*i* S	**Sn**	**04 12 08.5**	**+0.3**
TLL	**Tololo Astrono**	**2.74**	**170**	*e*P	**Pn**	**04 12 01.6**	**-0.9**
TLL				AML	AML	04 12 54.4	
	comp=N,16μm,0.7s						
CFAA	**Coronel Fontan**	**4.93**	**148**	Pn	**Pn**	**04 12 34.9**	**+2.2**
	comp=N,0.6nm,0.3s,baz=320,slow=12,SNR=65						
CFAA				Sn	**Sn**	**04 13 30.3**	**+0.9**
	comp=N,1.4nm,0.3s,baz=293,slow=16,SNR=3.8						
CFAA				Lg		04 13 48.7	
	comp=N,9.4nm,0.3s,baz=85,slow=20,SNR=9.0						
CFAA				LR	LR	04 14 30.7	
	comp=N,550nm,21.2s,baz=317,slow=39						
PEL	**Peldehue**	**5.69**	**175**	*e*P	**Pn**	**04 12 41.7**	**-1.4**
FCH	**Farellones**	**5.92**	**172**	*e*P	**Pn**	**04 12 45.2**	**-0.9**
CLCH	**Cerro Calan**	**5.96**	**174**	*e*P	**Pn**	**04 12 45.5**	**-1.3**
LPAZ	**La Paz**	**11.51**	**16**	Pn	**Pn**	**04 14 00.5**	**-2.4**
	comp=N,0.4nm,0.3s,baz=216,slow=4.8,SNR=13						
LPAZ	**La Paz**	**11.51**	**16**	*e*P	**Pn**	**04 14 01.1**	**-1.7**
LPAZ				pmax	pmax		
	comp=Z,11nm,0.8s						
LPAZ	**La Paz**	**11.51**	**16**	*e*Pn	**Pn**	**04 14 01.1**	**-1.8**
	comp=Z,11nm,0.8s						
CPUP	**Villa Florida**	**12.55**	**88**	Pn	**Pn**	**04 14 21.1**	**+4.1**
	comp=Z,0.4nm,0.3s,baz=245,slow=12,SNR=4.7						
CPUP				LR	LR	04 19 32.8	
	comp=Z,2μm,20.4s,baz=244,slow=40						
CPUP	**Villa Florida**	**12.55**	**88**	*e*P	**Pn**	**04 14 16.2**	**-0.9**
CPUP				pmax	pmax		
	comp=Z,41nm,0.8s						
CPUP	**Villa Florida**	**12.55**	**88**	*e*Pn	**Pn**	**04 14 16.2**	**-0.8**
	comp=Z,41nm,0.8s						
CPUP				LR	LR	04 19 32.8	
TRQA	**Tornquist**	**13.16**	**146**	*e*Pn	**Pn**	**04 14 28.7**	**+3.2**
	comp=Z,43nm,0.9s						
TRQA				eSn	**Sn**	**04 17 00.8**	**+9.2**
PLCA	**Paso Flores**	**13.25**	**177**	*e*P	**Pn**	**04 14 36.6**	**+10**
PLCA				pmax	pmax		
	comp=Z,23nm,1.3s						
PLCA	**Paso Flores**	**13.25**	**177**	*e*Pn	**Pn**	**04 14 36.6**	**+10**
	comp=Z,23nm,1.3s						
SIV	**San Ignacio**	**14.86**	**42**	Pn	**Pn**	**04 14 42.7**	**-5.9**
	comp=Z,0.6nm,0.3s,baz=247,slow=8.8,SNR=10						
NNA	**Nana**	**16.24**	**340**	*e*Pn	**Pn**	**04 15 08.0**	**+1.4**
SAML	**Samuel**	**19.96**	**24**	*e*P	**Pn**	**04 15 50.2**	**-2.1**
	comp=Z,14nm,1.0s						
BDFB	**Brasilia**	**24.62**	**66**	P	**P**	**04 16 37.3**	**-1.5**
	comp=Z,3.5nm,0.5s,mb4.1,baz=246,slow=9.1,SNR=9.3						
BDFB				LR	LR	04 27 27.1	
	comp=Z,2μm,19.9s,MS4.5,baz=245,slow=40						
ROSC	**El Rosal**	**32.26**	**354**	LR	LR	04 30 27.6	
	comp=Z,383nm,18.5s,MS4.1,baz=23,slow=36						
RPN	**Rapa Nui**	**33.69**	**262**	LR	LR	04 28 05.8	
	comp=Z,881nm,18.5s,MS4.5,baz=278,slow=30						
SDV	**Santo Domingo**	**36.14**	**1**	*e*Pn	**P**	**04 18 20.9**	**+0.2**
	comp=Z,10.0nm,1.3s,mb4.6						
PMSA	**Palmer Station**	**37.61**	**175**	*e*P	**P**	**04 18 34.9**	**+1.7**
	comp=Z,60nm,0.9s,mb5.3						
PMSA				*e*pP	pP	04 18 46.5	+8.9
JTS	**JuntasAbangare**	**39.78**	**339**	LR	LR	04 32 47.5	
	comp=Z,417nm,19.9s,MS4.3,baz=168,slow=32						
SJG	**San Juan**	**45.58**	**7**	P	**P**	**04 19 38.8**	**+0.3**
SJG				pmax	pmax		
	comp=Z,15nm,1.1s						
SJG	**San Juan**	**45.58**	**7**	P	**P**	**04 19 38.8**	**+0.3**
	comp=Z,15nm,1.1s,mb4.8						
VNA3	**Neumayer Olymp**	**55.22**	**160**	*e*	**P**	**04 20 50.9**	**-0.5**
VNA3				*e*	pP	04 20 53.7	-2.3
VNA3				*e*	pP	04 20 56.1	+0.1
VNA3				*e*		04 20 59.6	
VNA3				*e*		04 21 01.6	
VNA3				*e*		04 21 07.1	
VNA3				*e*		04 21 17.8	
VNA3				*e*		04 21 27.0	
VNA3				*e*		04 21 29.7	
VNA3				*e*		04 21 56.5	
VNA1	**Neumayer--Stat**	**55.48**	**159**	*e*	**P**	**04 20 51.0**	**-2.3**
VNA1				*e*	pP	04 20 54.2	-3.7
VNA1				*e*	pP	04 20 56.5	-1.4
VNA1				*e*		04 20 59.3	
VNA1				*e*		04 21 08.5	
VNA1				*e*		04 21 20.2	
VNA1				*e*		04 21 27.7	
VNA2	**Neumayer--Watz**	**55.84**	**159**	*e*	**P**	**04 20 55.0**	**-0.8**
	baz=285,slow=8.9						
VNA2				*e*	pP	04 20 58.2	-2.3
VNA2				*e*	pP	04 21 01.1	+0.6
VNA2				*e*		04 21 04.1	
VNA2				*e*		04 21 06.6	
VNA2				*e*		04 21 11.7	
VNA2				*e*		04 21 20.7	
VNA2				*e*		04 21 29.4	
VNA2				*e*		04 21 35.8	
VNA2				*e*		04 22 05.1	
SNAA	**Sanae**	**57.44**	**160**	P	**P**	**04 21 06.2**	**-1.0**
	comp=Z,3.4nm,0.9s,mb4.4,baz=282,slow=7.3,SNR=24						
SNAA	**Sanae**	**57.44**	**160**	*e*	**P**	**04 21 06.0**	**-1.2**
SNAA				*e*	pP	04 21 09.7	-2.2
SNAA				*e*		04 21 12.4	
SNAA				*e*		04 21 15.7	
SNAA				*e*		04 21 17.7	
SNAA				*e*		04 21 25.8	
SNAA				*e*		04 21 33.2	
SNAA				*e*		04 21 44.9	
SNAA	**Sanae**	**57.44**	**160**	*e*P	**P**	**04 21 06.0**	**-1.2**
QSPA	**South Pole Qui**	**62.76**	**180**	*e*P	**P**	**04 21 43.1**	**-0.6**
	comp=Z,25nm,1.3s,mb5.2						
SWET	**Sewanee**	**63.85**	**347**	*e*P	**P**	**04 21 50.4**	**-0.5**
MNTX	**Cornudas Mount**	**67.19**	**329**	*e*P	**P**	**04 22 11.3**	**-1.2**
	comp=Z,10nm,1.5s,mb4.6						
TAOE	**Nuku Hiva Isla**	**67.20**	**272**	*e*LR	LR	04 42 30.6	
	comp=Z,2μm,25.6s						
CCM	**Cathedral Cave**	**67.79**	**343**	*e*P	**P**	**04 22 16.5**	**+0.1**
CCM				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.9						
CCM	**Cathedral Cave**	**67.79**	**343**	*e*P	**P**	**04 22 16.5**	**+0.2**
	comp=Z,15nm,1.3s,mb4.9						
TBI	**Tubuai**	**69.59**	**254**	*e*S	S	04 31 40.7	+5.5
	comp=Z,389nm,26.5s						
TBI				*e*LR	LR	04 43 37.9	
	comp=Z,335nm,31.0s						
VNDA	**Vanda**	**70.62**	**191**	LR	LR	04 51 47.4	
	comp=Z,124nm,21.8s,MS4.1,baz=307,slow=34						
PPT	**Papeete**	**71.92**	**259**	*e*S	S	04 32 06.3	+3.9
	comp=Z,626nm,24.0s						
PPT				*e*LR	LR	04 45 07.1	
	comp=Z,184nm,21.0s,baz=97						
PPT	**Papeete**	**71.92**	**259**	LR	LR	04 46 25.5	
	comp=Z,316nm,18.5s,MS4.6,baz=15,slow=29						
DBIC	**Dimbokro**	**72.58**	**73**	P	**P**	**04 22 45.8**	**+0.1**
	comp=Z,1.9nm,0.4s,mb4.3,baz=247,slow=8.5,SNR=13						
DBIC				LR	LR	04 53 39.3	
	comp=Z,254nm,18.3s,MS4.5,baz=201,slow=35						
DBIC	**Dimbokro**	**72.58**	**73**	*e*P	**P**	**04 22 45.8**	**+0.1**
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.8s						
DBIC	**Dimbokro**	**72.58**	**73**	*e*P	**P**	**04 22 45.8**	**+0.2**
	comp=Z,4.4nm,0.8s,mb4.4						
WUAZ	**Wupatki**	**73.16**	**327**	*e*P	**P**	**04 22 51.4**	**+2.2**
	comp=Z,7.1nm,1.1s,mb4.5						
SMCO	**Snowmass**	**74.17**	**332**	*e*P	**P**	**04 22 56.1**	**+1.0**
	comp=Z,5.5nm,0.8s,mb4.5						
SRU	**San Rafael**	**75.66**	**330**	*e*P	**P**	**04 23 04.6**	**+0.9**
SRU				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
SRU	**San Rafael**	**75.66**	**330**	*e*P	**P**	**04 23 04.6**	**+0.9**
	comp=Z,3.5nm,1.0s,mb4.2						
CCUT	**Cedar City**	**75.75**	**327**	*e*P	**P**	**04 23 05.5**	**+1.3**
MSU	**Marysvale**	**75.94**	**328**	*e*P	**P**	**04 23 07.2**	**+1.9**
TMUT	**Trail Mountain**	**76.12**	**329**	*e*P	**P**	**04 23 10.9**	**+4.6**
HWUT	**Hardware Ranch**	**78.15**	**330**	*e*P	**P**	**04 23 18.4**	**+0.7**
	comp=Z,3.0nm,0.7s,mb4.3						
HWUT				*e*		04 23 32.0	
PDAR	**Pinedale Array**	**78.25**	**332**	P	**P**	**04 23 17.7**	**-0.5**
	comp=Z,0.4nm,0.6s,mb3.5,baz=128,slow=6.9,SNR=5.0						
PDAR				LR	LR	04 56 38.8	
	comp=Z,110nm,18.2s,MS4.2,baz=8.2,slow=35						
NVAR	**Mina Array Bea**	**78.91**	**324**	P	**P**	**04 23 22.7**	**+0.8**
	comp=Z,0.3nm,0.5s,mb3.5,baz=129,slow=7.3,SNR=3.7						
MAW	**Mawson**	**79.26**	**164**	LR	LR	04 59 11.6	
	comp=Z,410nm,19.0s,MS4.8,baz=235,slow=36						
MAW	**Mawson**	**79.26**	**164**	P	**P**	**04 23 24.2**	**+0.4**
MAW				pmax	pmax		
	comp=Z,13nm,1.2s						
MAW	**Mawson**	**79.26**	**164**	P	**P**	**04 23 24.2**	**+0.3**
	comp=Z,13nm,1.2s,mb4.7						
ULM	**Lac du Bonnet**	**80.37**	**344**	P	**P**	**04 23 27.9**	**-1.9**
	comp=Z,5.5nm,1.2s,mb4.4,baz=190,slow=6.7,SNR=3.8						
ULM	**Lac du Bonnet**	**80.37**	**344**	P	**P**	**04 23 27.9**	**-1.9**
TSUM	**Tsumeb**	**80.45**	**107**	P	**P**	**04 23 31.0**	**+0.7**
	comp=Z,7.3nm,1.0s,mb4.6,baz=269,slow=7.5,SNR=8.3						
TSUM	**Tsumeb**	**80.45**	**107**	*e*P	**P**	**04 23 31.5**	**+1.2**
	comp=Z,4.4nm,0.8s,mb4.4						
TSUM				*e*PcP	PcP	04 23 38.3	+1.1
GCMT	**Greycliff**	**80.80**	**334**	*e*P	**P**	**04 23 35.0**	**+2.9**
GCMT				*e*PcP	PcP	04 23 41.5	+2.8
GCMT				*e*pP	pP	04 23 46.4	+10
HLID	**Hailey**	**80.98**	**330**	*e*P	**P**	**04 23 34.1**	**+1.0**
	comp=Z,7.8nm,1.3s,mb4.5						
HLID				*e*PcP	PcP	04 23 41.8	+2.3
TORD	**Torodi Ar. Bea**	**81.43**	**70**	P	**P**	**04 23 35.5**	**+0.1**
	comp=Z,7.1nm,0.7s,mb4.7,baz=265,slow=4.5,SNR=107						
LBTB	**Lobatse**	**84.51**	**115**	*e*P	**P**	**04 23 51.5**	**0.0**
LBTB				pmax	pmax		
	comp=Z,24nm,1.5s,mb5.1						
LBTB	**Lobatse**	**84.51**	**115**	*e*P	**P**	**04 23 51.5**	**+0.1**
	comp=Z,24nm,1.5s,mb5.1						
CASY	**Casey**	**86.55**	**181**	*e*P	**P**	**04 24 01.5**	**-0.1**
	comp=Z,24nm,1.3s,mb5.3						
CASY				*e*pP	pP	04 24 11.4	+5.0
CASY				*e*SP	sP	04 24 17.4	+9.3
LSZ	**Lusaka**	**91.24**	**108**	*e*P	**P**	**04 24 25.5**	**+1.7**
LSZ				*e*PP	pP	04 24 35.1	+6.5
LSZ				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.8						
LSZ	**Lusaka**	**91.24**	**108**	*e*P	**P**	**04 24 25.5**	**+1.7**
	comp=Z,5.3nm,1.1s,mb4.8						
LSZ				*e*pP	pP	04 24 35.1	+6.4
YKA	**Yellowknife Ar**	**96.08**	**341**	P	**P**	**04 24 44.9**	**-1.1**
	comp=Z,0.2nm,0.6s,mb3.8,baz=145,slow=5.2,SNR=7.3						
YKA				LR	LR	05 10 28.4	
	comp=Z,101nm,18.9s,MS4.3,baz=150,slow=37						
SLKM	**Skilak Lake**	**108.29**	**329**	PKPdf	PKiKP	04 29 47.4	+0.6
ASAR	**Alice Springs**	**123.64**	**208**	PKP	PKPdf	04 30 15.3	-0.8
	comp=Z,0.8nm,0.8s,baz=153,slow=2.7,SNR=6.3						
WRA	**Warramunga Arr**	**126.72**	**211**	PKP	PKPdf	04 30 21.2	-0.8
	comp=Z,1.7nm,0.9s,baz=172,slow=1.6,SNR=5.6						
NVS	**Novosibirsk**	**146.97**	**27**	*e*PKP2	PKPab	04 30 59.8	-2.7
NVS				pmax	pmax		
	comp=Z,15nm,1.3s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.5s						
KURK	**Kurchatov**	**147.46**	**36**	*e*PKIKP	PKPdf	04 30 59.9	0.0
ZAL	**Zalesovo**	**148.25**	**27**	PKPbc	PKPbc	04 31 01.0	-3.6
	comp=E,4.8nm,0.9s,baz=165,slow=4.2,SNR=18						
AAK	**Ala-Archa**	**148.44**	**52**	*e*PKIKP	PKPdf	04 31 01.6	+0.1
AAK				*e*		04 31 16.1	
BOD	**Bodaibo**	**149.43**	**354**	*e*PKHKP		04 31 05.4	
BOD				pmax	pmax		
	comp=Z,5.0nm,1.2s						
MKAR	**Makanchi Array**	**151.67**	**40**	PKPbc	PKPbc	04 31 12.3	-0.6
	comp=Z,2.3nm,0.6s,baz=315,slow=2.3,SNR=19						
MKAR	**Makanchi Array**	**151.67**	**40**	PKPbc	PKPbc	04 31 12.3	-0.6
KLR	**Kul'dur**	**151.92**	**327**	*e*PKIKP	PKPdf	04 31 09.9	+2.9
MDJ	**Mudanjiang**	**156.04**	**321**	PKP	PKPdf	04 31 13.5	+0.7
MDJ				PKKS		04 34 47.7	
MDJ				PP	PP	04 35 19.1	+1.8
MDJ				SKS	SKSdf	04 38 17.7	-0.9
MDJ				SS	SS	04 55 07.1	+1.6
MDJ				PP	PP		
	comp=Z,144nm,4.5s						
MDJ				LR	LR		
	comp=N,19nm,22.2s						
MDJ				LR	LR		
	comp=E,39nm,28.2s						
MDJ				LR	LR		
	comp=Z,64nm,20.2s,MS4.4						
ZAK	**Zakamensk**	**156.74**	**9**	*e*PKP2	PKPab	04 31 37.0	-6.2
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.6s						
CN2	**Changchun**	**158.81**	**325**	*e*PKP	PKPdf	04 31 17.1	+0.8
SONM	**Songino Array**	**159.58**	**4**	PKP	PKPdf	04 31 16.8	-0.3
	comp=Z,0.4nm,0.5s,baz=117,slow=1.7,SNR=4.6						

IDC 02 04:18:17.4±9.4,155N×9796W,h0km,mb3.6/3,mb1 4.0/4, mb1mx3.7/18,mbtmp3.7/4,ML3.6/1,MS3.7/1,Ms1 3.7/1, ms1mx3.0/15,Error ellipse: s-maj=200.3km s-min=67.1km az=175.0,West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**15.57**	**56**	Pn	Pn	04 21 58.4	+0.3
	0.2nm,0.3s,baz=277,slow=17,SNR=2.2						
LPIG	**La Paz**	**25.41**	**333**	LR	LR	04 31 07.7	
	comp=Z,142nm,18.4s,baz=186,slow=30						
PDAR	**Pinedale Array**	**42.33**	**347**	P	P	04 26 13.2	+0.3
	1.2nm,0.8s,baz=152,slow=7.9,SNR=6.3						
YKA	**Yellowknife Ar**	**62.06**	**351**	P	P	04 28 39.7	0.0
	0.5nm,0.9s,baz=160,slow=6.5,SNR=6.3						
ILAR	**Eielson Array**	**72.20**	**340**	P	P	04 29 43.8	-0.3
	0.7nm,0.8s,baz=153,slow=5.6,SNR=6.6						

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*ISCJB **02** 04:18:45.2±0.5,37N±0.1×3202W±009,h10km,mb3.9/21, MS3.9/2,Error ellipse: s-maj=16.4km s-min=10.5km az=116.3*
*IDC **02** 04:18:45.2±0.6,371N×3204W,h0km,mb4.0/15, mb1 4.1/15,mb1mx4.0/21,mbtmp4.0/15,MS3.9/2, Ms1 3.9/2,ms1mx3.4/18,Error ellipse: s-maj=23.1km s-min=14.5km az=146.0*
*NEIC **02** 04:18:47.4±0.5,361N×32.13W,h10km,mb4.1/7,Error ellipse: s-maj=16.6km s-min=11.2km az=140.0*
ISC 02 04:18:47.2±0.5,37N±01×3202W±009,h10km,n28, σ0§88/28,mb3.9/21,MS3.9/2,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDFB	**Brasilia**	**24.89**	**219**	P	**P**	**04 24 10.1**	**0.0**
	4.2nm,0.7s,mb4.1,baz=51,slow=9.3,SNR=8.6						
DBIC	**Dimbokro**	**27.21**	**83**	P	**P**	**04 24 30.7**	**-0.5**
	2.4nm,1.0s,mb3.7,baz=256,slow=7.3,SNR=2.6						
DBIC	**Dimbokro**	**27.21**	**83**	P	**P**	**04 24 32.5**	**+1.4**
	3.1nm,0

comp=Z,68nm,19.9s,MS4.1,baz=2.4,slow=35

ISCJB ***02*** *04:22:29.3±1.1,3.1N±0.1×1283E±05,h33km,mb4.0/7, Error ellipse: s-maj=72.3km s-min=16.1km az=175.0*
NEIC ***02*** *04:22:33.1±1.5,294N×12926E,h35km,mb4.0/1,Error ellipse: s-maj=84.0km s-min=17.9km az=93.0*
IDC ***02*** *04:22:49.8±6.3,284N×12868E,h227km±63km,mb3.4/6, mb1 3.6/6,mb1mx3.4/17,mbtmp4.0/6,Error ellipse: s-maj=59.5km s-min=18.8km az=90.0*

ISC 02 04:22:32.5±1.4,30N±01×1289E±06,h35km,n9,σ1§36/8, mb4.0/7,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.21**	**189**	P	**P**	**04 27 15.7**	**+0.7**
	4.1nm,1.1s,mb3.7,baz=19,slow=11,SNR=6.3						
WRAB	**Tennant Creek**	**23.39**	**167**	*e*P	**P**	**04 27 39.5**	**+1.1**
	3.2nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**23.40**	**167**	P	**P**	**04 27 38.3**	**-0.1**
	1.6nm,0.5s,mb3.7,baz=345,slow=10,SNR=10						
ASAR	**Alice Springs**	**26.93**	**170**	P	**P**	**04 28 10.4**	**-0.1**
	1.5nm,0.6s,mb3.7,baz=355,slow=8.3,SNR=23						
MJAR	**Matsushiro Arr**	**34.47**	**13**	P	**P**	**04 29 17.8**	**+0.8**
	1.6nm,0.6s,mb4.1,baz=191,slow=9.4,SNR=4.7						
STKA	**Stephens Creek**	**36.70**	**162**	P	**P**	**04 29 33.5**	**-2.6**
	0.9nm,0.3s,mb4.1,baz=346,slow=9.6,SNR=9.1						
STKA	**Stephens Creek**	**36.70**	**162**	*e*P	**P**	**04 29 33.9**	**-2.3**
ARCES	**ARCESS Array B**	**91.89**	**340**	P	**P**	**04 35 32.8**	**-4.3**
	3.8nm,1.2s,mb4.6,baz=72,slow=7.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**125.23**	**288**	PKP	PKPdf	04 41 23.4	-5.9
	0.5nm,1.2s,baz=22,slow=2.6,SNR=3.5						

MEX 02 04:53:44.5±0.5,1572N×9319W,h178km±56km,MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCX	**San Cristobal**	**1.14**	**28**	*e*P	Pn	04 54 13.0	-0.1
SCX				*i* S	Sn	04 54 33.0	-2.1
CCIG	**Comitan**	**1.16**	**61**	*i* P	Pn	04 54 11.2	-2.0
CCIG				*i* S	Sn	04 54 34.2	-1.1
VHO	**Vista Hermosa**	**3.65**	**292**	*i* S	Sn	04 55 23.8	-1.5

IDC 02 04:53:46.0±5.6,2016S×6904W,h111km±36km,mb3.2/3, mb1 3.3/6,mb1mx3.2/15,mbtmp3.6/6,Error ellipse: s-maj=69.5km s-min=29.0km az=41.0,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.94**	**13**	P	Pn	04 54 45.9	+1.3
	0.7nm,0.3s,baz=193,slow=8.3,SNR=36						
LPAZ				S	Sn	04 55 24.9	-5.0
	0.4nm,0.3s,baz=199,slow=4.4,SNR=4.0						
SIV	**San Ignacio**	**8.63**	**63**	P	Pn	04 55 46.5	-1.6
	0.8nm,0.3s,baz=257,slow=11,SNR=37						
CPUP	**Villa Florida**	**12.39**	**122**	P	Pn	04 56 38.6	+0.2
	0.4nm,0.3s,baz=273,slow=8.6,SNR=4.2						
BDFB	**Brasilia**	**20.50**	**81**	P	P	04 58 17.3	+2.2
	0.7nm,0.3s,baz=242,slow=6.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**77.02**	**71**	P	P	05 05 26.8	+0.1
	0.3nm,0.5s,baz=252,slow=5.4,SNR=7.0						
YKA	**Yellowknife Ar**	**89.89**	**341**	P	P	05 06 32.0	-0.4
	0.3nm,0.6s,baz=132,slow=4.6,SNR=16						

ISCJB ***02*** *04:58:51.3±0.3,4482N±001×763E±003,h28km±2km, Error ellipse: s-maj=3.4km s-min=2.2km az=151.7*
CSEM ***02*** *04:58:51.2±0.1,4477N×763E,h8km,ML2.6/17,Error ellipse: s-maj=2.0km s-min=1.1km az=76.0*
LDG ***02*** *04:58:51.2±0.1,4479N×765E,h3km,Ml2.6/20,Error ellipse: s-maj=2.9km s-min=1.2km az=85.0*
GEN ***02*** *04:58:51.9,4481N×756E,h40km,ML2.0*
NEIC ***02*** *04:58:51.2,4479N×765E,h3km,MD2.6(ROM), ML2.4(STR),ML2.6(LDG),After LDG.*
ROM ***02*** *04:58:51.2±0.2,4484N×766E,h10km,Md2.6/6,Ml2.3/2, Error ellipse: s-maj=4.1km s-min=2.2km az=89.0*
STR ***02*** *04:58:53.8±1.1,4469N×750E,h5km±1km,Ml2.4,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 02 04:58:51.0±0.3,4481N±001×761E±002,h19km±2km,n81, σ0§98/166,1D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DOI	**San Damiano**	**0.40**	**221**	*i* Pg	**Pg**	**04 59 00.6**	**+1.3**
DOI				Sg	**Sg**	**04 59 06.3**	**+1.4**
	420nm,0.2s						
RSP	**Reno Superiore**	**0.43**	**324**	P	**Pg**	**04 59 01.0**	**+1.2**
RSP				S	**Sg**	**04 59 07.2**	**+1.4**
FENE	**Fenestrelle**	**0.45**	**300**	P	**Pg**	**04 59 01.7**	**+1.5**
FENE				S	**Sg**	**04 59 07.6**	**+1.2**
PZZ	**Prazzo**	**0.47**	**231**	P	**Pg**	**04 59 01.5**	**+0.9**
PZZ				S	**Sg**	**04 59 08.0**	**+0.9**
ROB	**Roburent**	**0.54**	**160**	P	**Pg**	**04 59 03.2**	**+1.3**
ROB				S	**Sg**	**04 59 10.6**	**+1.4**
ENR	**Entracque**	**0.59**	**194**	P	**Pb**	**04 59 03.3**	**+0.5**
ENR				S	**Sg**	**04 59 10.8**	**0.0**
STV	**Sta Anna Valdi**	**0.60**	**200**	P	**Pb**	**04 59 03.3**	**+0.5**
STV				S	**Sg**	**04 59 10.8**	**-0.1**
RRL	**Cesana Torines**	**0.60**	**281**	P	**Pb**	**04 59 04.0**	**+1.1**
RRL				S	**Sg**	**04 59 12.2**	**+1.2**
MBDF	**Montbardon**	**0.60**	**263**	*e*Pg	**Pg**	**04 59 04.4**	**+1.4**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**04 59 11.0**	**-0.2**
	48nm,0.2s,SNR=1.0						
MBDF	**Montbardon**	**0.60**	**263**	*e*Pg	**Pg**	**04 59 04.4**	**+1.4**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**04 59 11.0**	**-0.2**
	24nm,0.2s,SNR=1.0						
SURF	**Saint Ours**	**0.66**	**241**	Pg	**Pg**	**04 59 04.9**	**+0.9**
TRAV		**0.71**	**8**	P	**Pb**	**04 59 04.8**	**0.0**
TRAV				S	**Sb**	**04 59 13.7**	**-0.5**
PCP	**Pian Castagno**	**0.71**	**111**	P	**Pb**	**04 59 05.9**	**+1.1**
PCP				S	**Sb**	**04 59 15.0**	**+0.7**
FIN	**Finale Ligure**	**0.73**	**144**	P	**Pb**	**04 59 05.7**	**+0.6**
FIN	**Finale Ligure**	**0.73**	**144**	Pg	**Pg**	**04 59 06.2**	**+0.8**
FIN				S	**Sb**	**04 59 14.6**	**-0.2**
FIN				Sg	**Sg**	**04 59 15.6**	**+0.4**
	21nm,0.1s						
MONE	**Monesi**	**0.73**	**172**	P	**Pb**	**04 59 05.5**	**+0.4**
MONE				S	**Sb**	**04 59 14.5**	**-0.3**
RORO		**0.77**	**155**	P	**Pb**	**04 59 06.1**	**+0.4**
SAOF	**Saorge**	**0.82**	**183**	Pg	**Pg**	**04 59 07.1**	**+0.1**
SAOF				Sg	**Sg**	**04 59 17.3**	**-0.6**
AUTN	**L'Aution**	**0.82**	**189**	Pg	**Pg**	**04 59 06.8**	**-0.2**
AUTN				Sg	**Sg**	**04 59 17.9**	**0.0**
ORO	**Oropa**	**0.86**	**17**	Pg	**Pg**	**04 59 06.8**	**-1.1**
	22nm,0.3s						
ORX	**Oropa**	**0.87**	**17**	P	**Pb**	**04 59 07.1**	**-0.3**
IMI	**Imperia**	**0.92**	**167**	Pg	**Pg**	**04 59 09.0**	**+0.1**
	16nm,0.1s						
IMI	**Imperia**	**0.92**	**167**	P	**Pb**	**04 59 08.3**	**0.0**
IMI	**Imperia**	**0.92**	**167**	Pg	**Pg**	**04 59 09.0**	**+0.1**
	16nm,0.1s						
LPG	**La Plagne**	**0.92**	**319**	*e*Pg	**Pg**	**04 59 09.4**	**+0.4**
LPG				*e*Sg	**Sg**	**04 59 21.1**	**-0.1**
	31nm,0.2s,SNR=1.0						
LPG	**La Plagne**	**0.92**	**319**	*e*Pg	**Pg**	**04 59 09.4**	**+0.4**
LPG				*e*Sg	**Sg**	**04 59 21.1**	**-0.1**
	16nm,0.2s,SNR=1.0						
LPL	**La Plagne**	**0.95**	**319**	*e*Pg	**Pg**	**04 59 09.8**	**+0.4**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**04 59 21.2**	**-0.7**
	45nm,0.4s,SNR=1.0						
LPL	**La Plagne**	**0.95**	**319**	*e*Pg	**Pg**	**04 59 09.8**	**+0.4**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**04 59 21.2**	**-0.7**
	23nm,0.4s,SNR=1.0						
SBF	**Sospel**	**0.95**	**188**	*e*Pn	**Pn**	**04 59 09.5**	**+0.2**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**04 59 20.6**	**-1.4**
	33nm,0.2s,SNR=1.0						
SBF				*e*Sn	**Sn**	**04 59 22.8**	**+0.5**
	SNR=1.0						
SBF	**Sospel**	**0.95**	**188**	*e*Pg	**Pg**	**04 59 09.0**	**-0.5**
SBF				*e*Pn	**Pn**	**04 59 09.5**	**+0.2**
SBF				*e*Sg	**Sg**	**04 59 20.6**	**-1.4**
SBF				*e*Sn	**Sn**	**04 59 22.8**	**+0.5**
SBF	**Sospel**	**0.95**	**188**	*e*Pn	**Pn**	**04 59 09.5**	**+0.2**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**04 59 20.6**	**-1.4**
	17nm,0.2s,SNR=1.0						
SBF				*e*Sn	**Sn**	**04 59 22.8**	**+0.5**
	SNR=1.0						
NEGI	**Negi**	**0.96**	**176**	P	**Pb**	**04 59 08.7**	**-0.3**
MVIF	**Mont Vial**	**0.97**	**200**	Pg	**Pg**	**04 59 09.2**	**-0.6**
MVIF				Sg	**Sg**	**04 59 21.2**	**-1.4**
MRGE	**Morge**	**1.04**	**338**	Pg	**Pg**	**04 59 10.8**	**-0.4**
REVF	**Revere**	**1.08**	**190**	Pg	**Pg**	**04 59 11.3**	**-0.6**
REVF				Sg	**Sg**	**04 59 25.4**	**-0.7**
MCGN	**Macugnaga**	**1.18**	**13**	Pg	**Pg**	**04 59 11.7**	**-2.2**
	5.0nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.24**	**276**	*e*Pg	**Pg**	**04 59 15.2**	**+0.3**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**04 59 30.4**	**+1.0**
	39nm,0.4s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.24**	**276**	*e*Pg	**Pg**	**04 59 15.2**	**+0.3**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**04 59 30.4**	**+1.0**
	20nm,0.4s,SNR=1.0						
DIX	**Grande Dixence**	**1.28**	**354**	Pg	**Pg**	**04 59 14.1**	**-1.7**
FRF	**La Foret Royal**	**1.43**	**210**	*e*Pg	**Pg**	**04 59 17.1**	**-1.4**
FRF				*e*Sn	**Sn**	**04 59 33.7**	**-0.4**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**04 59 35.6**	**-1.5**
	15nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**1.43**	**210**	*e*Pn	**Pn**	**04 59 16.5**	**+0.7**
FRF				*e*Pg	**Pg**	**04 59 17.1**	**-1.4**
FRF				*e*Sn	**Sn**	**04 59 33.7**	**-0.4**
FRF				*e*Sg	**Sg**	**04 59 35.6**	**-1.5**
FRF	**La Foret Royal**	**1.43**	**210**	*e*Pg	**Pg**	**04 59 17.1**	**-1.4**
FRF				*e*Sn	**Sn**	**04 59 33.7**	**-0.4**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**04 59 35.6**	**-1.5**
	7.6nm,0.2s,SNR=1.0						
STOF	**St-Etienne Org**	**1.46**	**237**	Pg	**Pg**	**04 59 20.7**	**+1.5**
TAVF	**Tavernes**	**1.63**	**224**	Pg	**Pg**	**04 59 19.9**	**-2.5**
TAVF				Sg	**Sg**	**04 59 40.4**	**-3.3**
VILF	**Villemus**	**1.66**	**236**	Pg	**Pg**	**04 59 23.2**	**+0.2**
VILF				Sg	**Sg**	**04 59 45.2**	**+0.6**
LMR	**La Mourre**	**1.67**	**209**	*e*Pg	**Pg**	**04 59 21.7**	**-1.5**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**04 59 39.8**	**-0.4**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**04 59 43.3**	**-1.7**
	10.0nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**1.67**	**209**	*e*Pn	**Pn**	**04 59 19.5**	**+0.3**
LMR				*e*Pg	**Pg**	**04 59 21.7**	**-1.5**
LMR				*e*Sn	**Sn**	**04 59 39.8**	**-0.4**
LMR				*e*Sg	**Sg**	**04 59 43.3**	**-1.7**
LMR	**La Mourre**	**1.67**	**209**	*e*Pg	**Pg**	**04 59 21.7**	**-1.5**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**04 59 39.8**	**-0.4**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**04 59 43.3**	**-1.7**
	5.0nm,0.2s,SNR=1.0						
SMRF	**Simiane la Rot**	**1.68**	**241**	*e*Pg	**Pg**	**04 59 20.9**	**-2.4**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**04 59 44.0**	**-1.2**
	10nm,0.2s,SNR=1.0						
SMRF	**Simiane la Rot**	**1.68**	**241**	*e*Pg	**Pg**	**04 59 20.9**	**-2.4**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**04 59 44.0**	**-1.2**
	5.1nm,0.2s,SNR=1.0						
GRAM		**1.78**	**99**	P	**Pn**	**04 59 20.7**	**0.0**
BACM		**1.83**	**106**	P	**Pn**	**04 59 20.9**	**-0.6**
TUE	**Stuetta**	**2.06**	**35**	Pg	**Pg**	**04 59 25.2**	**-5.5**
	9.0nm,0.3s						
VIVF	**Saint-Julien-l**	**2.09**	**272**	*e*Pg	**Pg**	**04 59 30.3**	**-0.9**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**04 59 50.8**	**+0.2**
	2.6nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-l**	**2.09**	**272**	*e*Pn	**Pn**	**04 59 25.5**	**+0.5**
VIVF				*e*Pg	**Pg**	**04 59 30.3**	**-0.9**
VIVF				*e*Sn	**Sn**	**04 59 50.8**	**+0.2**
VIVF	**Saint-Julien-l**	**2.09**	**272**	*e*Pg	**Pg**	**04 59 30.3**	**-0.9**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**04 59 50.8**	**+0.2**
	1.3nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**2.10**	**330**	*e*Pg	**Pg**	**04 59 30.6**	**-0.7**
CABF				*e*Sn	**Sn**	**04 59 51.3**	**+0.6**
CABF				*e*Sg	**Sg**	**04 59 57.7**	**-0.9**
	3.0nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**2.10**	**330**	*e*Pn	**Pn**	**04 59 26.1**	**+1.0**
CABF				*e*Pg	**Pg**	**04 59 30.6**	**-0.7**
CABF				*e*Sn	**Sn**	**04 59 51.3**	**+0.6**
CABF				*e*Sg	**Sg**	**04 59 57.7**	**-0.9**
CABF	**La Chapelle**	**2.10**	**330**	*e*Pg	**Pg**	**04 59 30.6**	**-0.7**
CABF				*e*Sn	**Sn**	**04 59 51.3**	**+0.6**
CABF				*e*Sg	**Sg**	**04 59 57.7**	**-0.9**
	1.5nm,0.2s,SNR=1.0						
PGF	**Pioggiola**	**2.47**	**155**	*e*Pn	**Pn**	**04 59 29.3**	**-0.9**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**04 59 56.3**	**-3.5**
	2.9nm,0.2s,SNR=1.0						
PGF	**Pioggiola**	**2.47**	**155**	*e*Pn	**Pn**	**04 59 29.3**	**-0.9**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**04 59 56.3**	**-3.5**
	1.5nm,0.2s,SNR=1.0						
LASF	**Ste Croix**	**2.79**	**256**	*e*Pn	**Pn**	**04 59 35.3**	**+0.7**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**05 00 06.8**	**-0.9**
	2.0nm,0.3s,SNR=1.0						
LASF	**Ste Croix**	**2.79**	**256**	*e*Pn	**Pn**	**04 59 35.3**	**+0.7**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**05 00 06.8**	**-0.9**
	1.0nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**3.06**	**350**	*e*Pn	**Pn**	**04 59 39.5**	**+1.2**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**05 00 14.2**	**-0.2**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**05 00 26.4**	**-2.9**
	2.3nm,0.4s,SNR=1.0						
HINF	**Hinteralfeld**	**3.06**	**350**	*e*Pn	**Pn**	**04 59 39.5**	**+1.2**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**05 00 14.2**	**-0.2**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**05 00 26.4**	**-2.9**
	1.1nm,0.4s,SNR=1.0						
SMF	**Signal de Mont**	**3.22**	**306**	*e*Pn	**Pn**	**04 59 41.7**	**+1.2**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**05 00 17.3**	**-1.1**
	4.1nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**3.22**	**306**	*e*Pn	**Pn**	**04 59 41.7**	**+1.2**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**05 00 17.3**	**-1.1**
	2.0nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**3.32**	**345**	*e*Pn	**Pn**	**04 59 43.1**	**+1.2**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**05 00 20.3**	**-0.5**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**05 00 35.9**	**-1.7**
	2.9nm,0.3s						
HAU	**Haudompre**	**3.32**	**345**	*e*Pn	**Pn**	**04 59 43.1**	**+1.2**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**05 00 20.3**	**-0.5**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**05 00 35.9**	**-1.7**
	1.5nm,0.3s						
AVF	**Avril sur Loir**	**3.58**	**305**	*e*Pn	**Pn**	**04 59 45.6**	**+0.1**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**05 00 26.3**	**-1.0**
	1.3nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**3.58**	**305**	*e*Pn	**Pn**	**04 59 45.6**	**+0.1**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**05 00 26.3**	**-1.0**
	0.6nm,0.2s,SNR=1.0						
LOR	**Lormes**	**3.59**	**315**	*e*Pn	**Pn**	**04 59 47.0**	**+1.3**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**05 00 26.3**	**-1.3**
	2.4nm,0.2s,SNR=1.0						
LOR	**Lormes**	**3.59**	**315**	*e*Pn	**Pn**	**04 59 47.0**	**+1.3**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**05 00 26.3**	**-1.3**
	1.2nm,0.2s,SNR=1.0						
CDF	**Champ du Feu**	**3.62**	**356**	*e*Pn	**Pn**	**04 59 46.2**	**+0.2**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**05 00 27.3**	**-0.8**
	1.5nm,0.2s,SNR=1.0						
CDF	**Champ du Feu**	**3.62**	**356**	*e*Pn	**Pn**	**04 59 46.2**	**+0.2**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**05 00 27.3**	**-0.8**
	0.8nm,0.2s,SNR=1.0						
SSF	**Saint Saulge**	**3.65**	**310**	*e*Pn	**Pn**	**04 59 47.2**	**+0.8**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**05 00 28.8**	**-0.1**
	2.0nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**3.65**	**310**	*e*Pn	**Pn**	**04 59 47.2**	**+0.8**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**05 00 28.8**	**-0.1**
	1.0nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**3.77**	**299**	*e*Pn	**Pn**	**04 59 49.6**	**+1.5**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**05 00 31.1**	**-0.9**
	6.2nm,0.4s						
BGF	**Bois d'Agland**	**3.77**	**299**	*e*Pn	**Pn**	**04 59 49.6**	**+1.5**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**05 00 31.1**	**-0.9**
	3.1nm,0.4s						
CAF	**Calviac**	**3.95**	**274**	*e*Pn	**Pn**	**04 59 52.1**	**+1.6**
	SNR=1.0						
MEZF	**Maizieres J'vi**	**4.10**	**335**	*e*Pn	**Pn**	**04 59 52.9**	**+0.3**

SZGRF ***02*** *05:01:06.2,1358S×1288W,h24km,mb4.7,Southern Mid-Atlantic Ridge*
IDC ***02*** *05:01:13.5±2.1,1200S×1261W,h0km,mb4.0/12, mb1 4.1/12,mb1mx4.0/20,mbtmp4.0/12,MS3.7/4, Ms1 3.6/4,ms1mx3.3/16,Error ellipse: s-maj=84.9km s-min=16.0km az=142.0*
ISCJB ***02*** *05:01:15.6±0.4,1146S±008×1302W±009,h10km, mb4.1/17,MS3.8/3,Error ellipse: s-maj=13.8km s-min=9.9km az=74.9*
NEIC ***02*** *05:01:17.6±0.3,1145S×1305W,h10km,mb4.3/9,Error ellipse: s-maj=11.1km s-min=8.3km az=127.0*

ISC 02 05:01:17.8±0.4,1144S±008×1300W±009,h10km,n33, σ0§81/31,mb4.1/17,MS3.8/3,Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBIC	**Dimbokro**	**19.73**	**25**	P	**Pn**	**05 05 49.5**	**+0.6**
	4.8nm,0.7s,baz=169,slow=12,SNR=13						
DBIC				LR	LR	05 11 46.0	
	comp=Z,70nm,18.8s,baz=303,slow=32						
DBIC	**Dimbokro**	**19.73**	**25**	*e*P	**Pn**	**05 05 48.6**	**-0.3**
	6.5nm,0.8s						
DBIC				LR	LR	05 11 46.0	
TORD	**Torodi Ar. Bea**	**28.44**	**31**	P	**P**	**05 07 12.4**	**-0.3**
	5.2nm,0.7s,mb4.3,baz=217,slow=9.4,SNR=32						
TSUM	**Tsumeb**	**30.45**	**108**	*e*P	**P**	**05 07 30.5**	**0.0**
	4.9nm,0.9s,mb4.2						
BDFB	**Brasilia**	**34.27**	**259**	P	**P**	**05 08 03.7**	**-0.3**
	2.3nm,0.9s,mb4.1,baz=71,slow=6.4,SNR=3.7						
BDFB				LR	LR	05 19 40.7	
	comp=Z,170nm,19.8s,MS3.8,baz=99,slow=32						
LSZ	**Lusaka**	**40.21**	**100**	*e*P	**P**	**05 08 55.6**	**+1.1**
	3.2nm,0.8s,mb4.1						
CPUP	**Villa Florida**	**44.25**	**244**	LR	LR	05 24 51.7	
	comp=Z,80nm,19.1s,MS3.6,baz=151,slow=32						
SIV	**San Ignacio**	**46.84**	**259**	P	**P**	**05 09 48.1**	**+0.2**
	0.4nm,0.4s,mb3.7,baz=234,slow=7.5,SNR=4.8						
KMBO	**Kilima Mbogo**	**50.90**	**82**	LR	LR	05 29 26.4	
	comp=Z,116nm,20.8s,MS3.9,baz=268,slow=34						
LPAZ	**La Paz**	**53.62**	**258**	P	**P**	**05 10 38.8**	**-0.4**
	0.7nm,0.8s,mb3.6,baz=50,slow=7.9,SNR=3.1						
LPAZ	**La Paz**	**53.62**	**258**	*e*P	**P**	**05 10 38.6**	**-0.6**
	0.9nm,0.8s,mb3.8						
CFAA	**Coronel Fontan**	**54.57**	**239**	P	**P**	**05 10 44.9**	**-1.2**
	0.2nm,0.7s,mb3.2,baz=78,slow=6.8,SNR=5.1						
CFAA	**Coronel Fontan**	**54.57**	**239**	P	**P**	**05 10 44.9**	**-1.3**
VNA1	**Neumayer--Stat**	**59.24**	**178**	*e*	**P**	**05 11 19.6**	**+0.3**
VNA1				*e*		05 11 26.7	
VNA1				*e*		05 11 33.2	
VNA1	**Neumayer--Stat**	**59.24**	**178**	*e*P	**P**	**05 11 19.6**	**+0.3**
VNA1				*e*		05 11 26.7	
VNA1				*e*		05 11 33.2	
VNA1				*e*		05 11 29.3	
VNA1				*e*		05 11 33.1	
VNA2	**Neumayer--Watz**	**59.55**	**178**	*e*	**P**	**05 11 21.1**	**-0.3**
	baz=351,slow=11						
VNA2				*e*		05 11 27.8	
VNA2				*e*		05 11 34.5	
VNA2				*e*		05 11 43.0	
VNA3	**Neumayer Olymp**	**59.80**	**179**	*e*	**P**	**05 11 22.6**	**-0.5**
VNA3				*e*		05 11 29.3	
VNA3				*e*		05 11 36.2	
VNA3				*e*		05 11 45.3	
VNA3	**Neumayer Olymp**	**59.80**	**179**	*e*P	**P**	**05 11 22.6**	**-0.5**
VNA3				*e*		05 11 29.3	
VNA3				*e*		05 11 36.2	
VNA3				*e*		05 11 45.3	
VNA3				*e*		05 11 16.3	
VNA3				*e*		05 11 20.3	
SNAA	**Sanae**	**60.52**	**176**	*e*	**P**	**05 11 28.2**	**+0.1**
SNAA				*e*		05 11 35.2	
SNAA				*e*		05 11 40.6	
SNAA	**Sanae**	**60.52**	**176**	*e*P	**P**	**05 11 28.2**	**+0.1**
SNAA				*e*		05 11 35.2	
SNAA				*e*		05 11 40.6	
SDV	**Santo Domingo**	**60.77**	**287**	P	**P**	**05 11 32.2**	**+2.4**
	1.9nm,0.6s,mb4.4,baz=56,slow=3.6,SNR=4.2						
SDV	**Santo Domingo**	**60.77**	**287**	*e*P	**P**	**05 11 32.4**	**+2.6**
	2.1nm,0.6s,mb4.4						
BFO	**Black Forest**	**62.44**	**16**	*e*P	**P**	**05 11 40.2**	**-0.8**
ROSC	**El Rosal**	**63.12**	**281**	P	**P**	**05 11 47.1**	**+1.5**
	1.3nm,0.5s,mb4.3,baz=119,slow=21,SNR=3.7						
GRA1	**Grafenberg Arr**	**64.48**	**17**	*

PBIS	**Biscoitos**	**0.73**	**328**	*e*S	Sg	05 04 15.9	-1.6
PBIS							
	25nm,0.2s						
PSBA	**Serra de Santa**	**0.76**	**325**	*e*P	Pg	05 04 06.3	-2.5
PSBA				*e*S	Sg	05 04 16.9	-1.8
PSBA							
	151nm,0.3s						
PSBA	**Serra de Santa**	**0.76**	**325**	*e*P	Pg	05 04 06.3	-2.5
PSBA				*e*S	Sg	05 04 16.9	-1.8
SET4	**Mosteiros**	**0.81**	**109**	*e*P	Pg	05 04 07.7	-1.9
SET4				*i* S	Sg	05 04 17.8	-2.3
SET2	**Ginetes**	**0.81**	**112**	*e*P	Pg	05 04 07.9	-1.8
SET2				*i* S	Sg	05 04 18.0	-2.3
PFET	**Feteiras**	**0.83**	**113**	*e*P	Pg	05 04 08.2	-2.0
PSAN	**Santo Antonio**	**0.87**	**110**	*e*P	Pg	05 04 08.6	-2.2
PSAN				*e*S	Sg	05 04 19.0	-3.1
FAC	**Faja de Cima**	**0.95**	**113**	*e*P	Pg	05 04 10.0	-2.5
FAC				*i* S	Sg	05 04 21.6	-3.2
PDA	**Ponta Delgada**	**0.95**	**114**	*e*P	Pg	05 04 09.0	-3.5
PDA				*e*S	Sg	05 04 21.3	-3.5
CML	**Cha da Macela**	**1.03**	**111**	*e*P	Pg	05 04 11.0	-2.9
CML				*e*S	Sg	05 04 23.1	-4.2
PVER	**Pico Vermelho**	**1.04**	**109**	*e*S	Sg	05 04 23.5	-4.2
PVER							
	30nm,0.2s						
PMAT	**Coroa da Mata**	**1.07**	**108**	*e*S	Sg	05 04 23.9	-4.7
PMAT							
	51nm,0.1s						
LFA	**Lagoa do Fogo**	**1.07**	**110**	*e*P	Pg	05 04 11.4	-3.4
PRCH	**Ribeira Ch**	**1.09**	**112**	*erx*		05 04 25.9	
MESC	**Monte Escuro**	**1.10**	**108**	*e*S	Sg	05 04 24.9	-4.5
PID	**Ribeirinha**	**1.11**	**286**	*e*S	Sg	05 04 25.3	-4.6
VIF	**Vila Franca**	**1.12**	**111**	*e*S	Sg	05 04 25.3	-4.8
VIF							
	20nm,0.2s						
PCNG	**Congro**	**1.14**	**109**	*erx*		05 04 27.6	
PMAN	**Manadas**	**1.15**	**295**	*e*S	Sg	05 04 26.1	-5.1
PMAN							
	17nm,0.3s						
PFAD	**Fenais da Ajud**	**1.18**	**105**	*e*S	Sg	05 04 26.3	-5.7
FRA1	**Furnas**	**1.18**	**110**	*e*S	Sg	05 04 27.0	-5.1
MIRA	**Miradouro**	**1.22**	**107**	*e*P	Pg	05 04 13.6	-4.1
ROSA	**Rosais**	**1.30**	**297**	*e*S	Sg	05 04 30.1	-5.8
PGRA	**Graciosa**	**1.30**	**313**	*e*S	Sg	05 04 29.5	-6.5
PGRA							
	19nm,0.4s						
PICO	**Pico**	**1.36**	**286**	*e*S	Sg	05 04 31.3	-6.5
CALA	**Caldeira**	**1.59**	**286**	*e*S	Sn	05 04 36.7	-7.7
PCED	**Cedros**	**1.60**	**288**	*e*S	Sn	05 04 36.5	-8.2
PCED							
	21nm,0.4s						

IDC 02 05:09:15.1±11.0, 213N×9681W, h0km, mb3.3/3, mb1 3.7/3, mb1mx3.5/16, mbtmp3.3/3, Error ellipse: s-maj=363.6km s-min=215.0km az=96.0, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDAR	**Pinedale Array**	**42.03**	**346**	P	P	05 17 08.8	+0.5
	0.5nm,0.8s,baz=162,slow=9.0,SNR=3.9						
YKA	**Yellowknife Ar**	**61.67**	**351**	P	P	05 19 35.7	+0.8
	0.2nm,0.8s,baz=155,slow=7.8,SNR=4.7						
YKA	**Yellowknife Ar**	**61.67**	**351**	P	P	05 19 35.7	+0.8
ILAR	**Eielson Array**	**72.05**	**340**	P	P	05 20 39.7	-1.3
	0.4nm,0.9s,baz=149,slow=5.1,SNR=4.7						

ISC 02 05:28:07.8±0.7, 3752N±004×3885E±005, h0km, n7, σ0§84/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URFA	**Urfa**	**0.08**	**196**	PG	**Pg**	**05 28 07.8**	**-1.5**
URFA				SG	**Sg**	**05 28 10.4**	**+0.1**
ATAB	**Bozova**	**0.44**	**264**	*i* P	**Pg**	**05 28 15.8**	**-0.5**
ATAB				*i* S	**Sg**	**05 28 22.1**	**+0.1**
MALT	**Malatya**	**0.86**	**337**	*e*PG	**Pg**	**05 28 23.3**	**-1.0**
MYA	**Malataya**	**0.87**	**338**	*e*PG	**Pg**	**05 28 23.6**	**-1.0**
ELZG	**Elazig**	**0.98**	**6**	*i* P	**Pg**	**05 28 27.6**	**+1.0**
ELZG				*i* S	**Sg**	**05 28 44.2**	**+4.8**
GZT	**Gaziantep**	**1.03**	**261**	*i* P	**Pg**	**05 28 28.2**	**+0.5**
GZT				*i* S	**Sg**	**05 28 42.3**	**+1.3**
MARD	**Mardin**	**1.55**	**97**	*i* P	**Pn**	**05 28 37.1**	**+0.5**
MARD				*i* S	**Sn**	**05 28 58.0**	**+0.5**

*ISCJB **02** 05:31:53.0±2.3, 64S±0.1×1463E±0.1, h130km±21km, mb3.6/6, Error ellipse: s-maj=24.9km s-min=17.7km az=144.1*
*IDC **02** 05:31:52.4±2.6, 629S×14624E, h108km±23km, mb3.6/7, mb1 3.8/9, mb1mx3.6/15, mbtmp3.9/9, Error ellipse: s-maj=27.0km s-min=14.7km az=118.0*
*NEIC **02** 05:31:53.2±2.5, 6.15S×146.13E, h116km±21km, mb4.2/3, Error ellipse: s-maj=22.7km s-min=17.7km az=158.0*

ISC 02 05:31:52.7±1.9, 63S±01×1463E±01, h116km±17km, n19, σ0§63/16, mb3.7/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.22**	**165**	P	**Pn**	**05 32 42.6**	**+0.9**
	32nm,0.3s,baz=18,slow=4.4,SNR=96						
PMG				S	**Sn**	**05 33 19.4**	**-0.2**
	32nm,0.3s,baz=117,slow=22,SNR=16						
CTA	**Charters Tower**	**13.72**	**180**	P	**Pn**	**05 35 07.3**	**+5.0**
	5.1nm,0.3s,baz=0.1,slow=14,SNR=54						
CTAO	**Charters Tower**	**13.72**	**180**	*e*Pn	**Pn**	**05 35 07.6**	**+5.2**
	20nm,0.5s						
KAKA	**Kakadu**	**15.07**	**244**	*e*P	**Pn**	**05 35 20.0**	**+0.5**
	7.5nm,0.5s						
WRAB	**Tennant Creek**	**17.85**	**219**	*e*P	**Pn**	**05 35 52.5**	**-1.1**
	3.1nm,0.5s						
WB2	**Warramunga Arr**	**17.86**	**219**	*e*P	**Pn**	**05 35 53.2**	**-0.5**
WRA	**Warramunga Arr**	**17.86**	**219**	P	**Pn**	**05 35 53.2**	**-0.5**
	0.2nm,0.3s,baz=42,slow=12,SNR=6.3						
ASAR	**Alice Springs**	**20.99**	**213**	P	**P**	**05 36 27.1**	**+0.4**
	1.2nm,0.6s,baz=50,slow=8.6,SNR=11						
ASAR				S	**S**	**05 40 15.1**	**+1.1**
	1.1nm,0.8s,baz=31,slow=22,SNR=4.8						
FITZ	**Fitzroy Crossi**	**23.32**	**238**	P	**P**	**05 36 50.4**	**0.0**
	1.9nm,0.6s,mb3.6,baz=58,slow=13,SNR=5.5						
STKA	**Stephens Creek**	**25.84**	**189**	P	**P**	**05 37 13.0**	**-0.2**
	2.1nm,0.6s,mb3.8,baz=27,slow=15,SNR=7.5						
STKA	**Stephens Creek**	**25.84**	**189**	*e*P	**P**	**05 37 13.4**	**+0.2**
VNDA	**Vanda**	**71.67**	**176**	P	**P**	**05 43 01.9**	**0.0**
	0.7nm,0.7s,mb3.6,baz=308,slow=8.8,SNR=3.6						
MKAR	**Makanchi Array**	**77.27**	**321**	P	**P**	**05 43 35.1**	**+0.9**
	0.2nm,0.5s,mb3.1,baz=98,slow=8.7,SNR=4.9						
ILAR	**Eielson Array**	**86.02**	**23**	P	**P**	**05 44 19.4**	**-0.7**
	2.4nm,0.6s,mb4.3,baz=252,slow=5.0,SNR=44						
ILAR				pP	pP	05 44 36.0	-14
	0.4nm,0.6s,baz=248,slow=4.6,SNR=2.9						
YKA	**Yellowknife Ar**	**99.75**	**28**	P	Pdif	05 45 23.7	+0.2
	0.2nm,0.7s,baz=274,slow=4.9,SNR=6.0						
TORD	**Torodi Ar. Bea**	**144.47**	**284**	PKP	PKPdf	05 51 16.4	+1.0
	1.9nm,0.6s,baz=70,slow=2.9,SNR=16						
SIV	**San Ignacio**	**145.02**	**130**	PKPbc	PKPbc	05 51 18.2	+2.3
	1.7nm,0.6s,baz=230,slow=2.7,SNR=15						
DBIC	**Dimbokro**	**151.33**	**272**	PKPbc	PKPbc	05 51 34.7	+2.0
	1.8nm,0.5s,baz=82,slow=9.2,SNR=8.4						
BDFB	**Brasilia**	**154.02**	**147**	PKPbc	PKPbc	05 51 40.4	+1.8
	2.3nm,0.8s,baz=147,slow=8.0,SNR=4.5						

*ISCJB **02** 05:33:59.7±0.5, 2720S±003×7134W±005, h10km, mb4.1/10, MS3.5/2, Error ellipse: s-maj=6.2km s-min=4.3km az=10.6*
*IDC **02** 05:33:59.9±0.9, 2720S×71.17W, h0km, mb4.1/7, mb1 4.1/8, mb1mx4.0/15, mbtmp4.1/8, ML3.9/1, MS3.5/2, Ms1 3.5/2, ms1mx3.0/14, Error ellipse: s-maj=33.2km s-min=23.5km az=86.0*
*GUC **02** 05:33:59.9±0.8, 2730S×7126W, h2km±3km, ML4.7*
*NEIC **02** 05:34:01.3±2.5, 27.17S×7122W, h9km±14km, mb4.4/4, ML4.7(GUC), Error ellipse: s-maj=23.3km s-min=7.2km az=84.0*
NEIC Felt [II] at Caldera and Copiapo.

ISC 02 05:34:01.4±0.5, 2720S±003×7128W±005, h10km, n32, σ1§03/38, mb4.1/10, MS3.5/2, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.42**	**72**	*e*P	**Pg**	**05 34 08.9**	**-0.7**
CDCH				*i* S	**Sg**	**05 34 15.8**	**+0.6**
CPCH	**Copiapo**	**0.84**	**101**	*e*P	**Pg**	**05 34 16.3**	**-1.3**
CPCH				*i* S	**Sg**	**05 34 28.5**	**0.0**
CPCH				AML	AML	05 34 32.3	
	comp=E,60μm,0.1s						
CPCH	**Copiapo**	**0.84**	**101**	*e*P	**Pg**	**05 34 16.3**	**-1.3**
CPCH				*i* S	**Sg**	**05 34 28.5**	**0.0**
CRCH	**Chaqaral**	**1.04**	**35**	*e*P	**Pg**	**05 34 20.7**	**-0.7**
CRCH				*i* S	**Sg**	**05 34 36.3**	**+1.5**
LCO	**Las Campanas**	**1.87**	**164**	*e*P	**Pn**	**05 34 31.8**	**-1.6**
LCO				*i* S	**Sn**	**05 34 55.8**	**-1.3**
TLL	**Tololo Astrono**	**2.98**	**172**	*e*P	**Pn**	**05 34 49.0**	**+0.3**
TLL				*i* S	**Sn**	**05 35 25.4**	**+0.9**
TLL				AML	AML	05 35 38.0	
	comp=N,2μm,0.5s						
TLL	**Tololo Astrono**	**2.98**	**172**	*e*P	**Pn**	**05 34 49.0**	**+0.3**
TLL				*i* S	**Sn**	**05 35 25.4**	**+0.9**
OVCH	**Ovalle**	**3.39**	**179**	*i* S	**Sn**	**05 35 35.1**	**+0.5**
OVCH				AML	AML	05 35 53.4	
	comp=N,2μm,0.5s						
ANCH	**Antofagasta**	**3.59**	**13**	*e*P	**Pn**	**05 34 53.6**	**-3.5**
CFAA	**Coronel Fontan**	**5.12**	**150**	Pn	**Pn**	**05 35 21.0**	**+2.8**
	comp=N,0.5nm,0.3s,baz=333,slow=13,SNR=47						
CFAA				Sn	**Sn**	**05 36 18.7**	**+1.4**
	comp=N,1.3nm,0.3s,baz=257,slow=5.3,SNR=3.9						
CFAA				Lg		05 36 34.3	
	comp=N,3.3nm,0.3s,baz=212,slow=20,SNR=7.1						
CFAA	**Coronel Fontan**	**5.12**	**150**	Pn	**Pn**	**05 35 21.0**	**+2.8**
CFAA				Sn	**Sn**	**05 36 18.7**	**+1.4**
CFAA				Lg		05 36 34.3	
LPAZ	**La Paz**	**11.25**	**16**	Pn	**Pn**	**05 36 42.3**	**+0.1**
	comp=N,0.4nm,0.3s,baz=198,slow=7.9,SNR=17						
LPAZ	**La Paz**	**11.25**	**16**	*e*Pn	**Pn**	**05 36 42.0**	**-0.2**
	comp=N,5.3nm,0.9s						
LPAZ				*e*Sn	**Sn**	**05 38 39.7**	**-8.2**
CPUP	**Villa Florida**	**12.49**	**89**	Pn	**Pn**	**05 37 03.6**	**+4.4**
	comp=N,0.2nm,0.3s,baz=247,slow=10,SNR=3.9						
CPUP	**Villa Florida**	**12.49**	**89**	*e*Pn	**Pn**	**05 37 02.7**	**+3.5**
	comp=N,9.7nm,0.5s						
CPUP				*e*Sn	Sn	05 39 44.5	+26
TRQA	**Tornquist**	**13.35**	**146**	*e*Pn	**Pn**	**05 37 10.6**	**-0.3**
	comp=N,13nm,1.0s						
SIV	**San Ignacio**	**14.64**	**42**	Pn	**Pn**	**05 37 24.2**	**-4.3**
	comp=N,0.5nm,0.3s,baz=244,slow=11,SNR=9.0						
SAML	**Samuel**	**19.71**	**24**	*e*P	**Pn**	**05 38 31.6**	**-0.7**
	comp=N,3.0nm,0.6s						
BDFB	**Brasilia**	**24.48**	**67**	P	**P**	**05 39 19.3**	**-1.2**
	comp=N,5.7nm,0.7s,mb4.1,baz=249,slow=9.5,SNR=14						
BDFB				LR	LR	05 49 09.2	
	comp=N,84nm,19.1s,MS3.2,baz=277,slow=37						
JTS	**JuntasAbangare**	**39.56**	**339**	*e*P	**P**	**05 41 33.5**	**+0.9**
	comp=N,4.4nm,0.8s,mb4.2						
SJG	**San Juan**	**45.32**	**7**	*e*P	**P**	**05 42 20.0**	**+0.5**
	comp=N,4.6nm,0.3s,mb4.8						
SNAA	**Sanae**	**57.66**	**160**	P	**P**	**05 43 50.8**	**-1.0**
	comp=N,0.6nm,0.5s,mb3.9,baz=268,slow=10,SNR=19						
DBIC	**Dimbokro**	**72.46**	**73**	P	**P**	**05 45 28.4**	**+0.3**
	comp=N,2.0nm,0.6s,mb4.2,baz=224,slow=12,SNR=8.4						
DBIC				LR	LR	06 15 42.2	
	comp=N,44nm,20.1s,MS3.7,baz=15,slow=35						
SRU	**San Rafael**	**75.47**	**329**	*e*P	**P**	**05 45 46.8**	**+1.1**
	comp=N,3.8nm,0.7s,mb4.4						
SRU				*e*PP	PP	05 48 24.4	-10
PDAR	**Pinedale Array**	**78.04**	**332**	P	**P**	**05 46 00.4**	**+0.2**
	comp=N,0.3nm,0.9s,mb3.2,baz=117,slow=7.6,SNR=2.3						
MAW	**Mawson**	**79.50**	**164**	P	**P**	**05 46 08.2**	**0.0**
	comp=N,2.2nm,0.6s,mb4.3,baz=224,slow=8.1,SNR=6.6						
TORD	**Torodi Ar. Bea**	**81.30**	**70**	P	**P**	**05 46 18.4**	**+0.6**
	comp=N,7.0nm,0.8s,mb4.7,baz=257,slow=5.1,SNR=36						
YKA	**Yellowknife Ar**	**95.85**	**341**	P	**P**	**05 47 27.0**	**-1.1**
	comp=N,0.1nm,0.7s,mb3.3,baz=136,slow=4.8,SNR=4.1						
KURK	**Kurchatov**	**147.23**	**36**	*e*PKPdf	PKPdf	05 53 42.2	-0.5
KURK				*e*PKPbc	PKPbc	05 53 44.2	-0.7
ZAL	**Zalesovo**	**148.00**	**27**	PKPbc	PKPbc	05 53 47.1	+0.1
	comp=N,4.8nm,0.6s,baz=182,slow=4.1,SNR=20						
AAK	**Ala-Archa**	**148.24**	**52**	*e*PKPdf	PKPdf	05 53 44.8	+0.4
AAK				*e*PKPbc	PKPbc	05 53 48.4	+0.8
MKAR	**Makanchi Array**	**151.44**	**40**	PKPbc	PKPbc	05 53 55.5	0.0
	comp=N,5.9nm,0.8s,baz=311,slow=2.1,SNR=40						

*IDC **02** 05:39:14.4±2.5, 920S×11881E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.5/14, mbtmp3.4/4, ML3.1/2, Error ellipse: s-maj=209.5km s-min=26.3km az=52.0*

NEIC 02 05:39:19.9±1.5, 908S×11910E, h36km±23km, Error ellipse: s-maj=39.5km s-min=9.7km az=54.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.99**	**145**	Pn	Pn	05 41 54.7	+0.1
	0.2nm,0.3s,baz=126,slow=9.4,SNR=18						
FITZ				Sn	Sn	05 43 47.7	-8.6
	0.1nm,0.3s,baz=139,slow=23,SNR=4.6						
MBWA	**Marble Bar**	**12.03**	**177**	*e*Pn	Pn	05 42 08.8	+0.1
	3.4nm,1.0s						
MBWA				*e*Sn	Sn	05 44 09.8	-12
KSM	**Kuching**	**13.66**	**320**	*e*Pn	Pn	05 42 31.3	+0.3
WRA	**Warramunga Arr**	**18.27**	**128**	P	Pn	05 43 30.3	-0.2
	0.0nm,0.3s,baz=300,slow=14,SNR=3.5						
WRA				S	S	05 46 45.6	-12
	0.1nm,0.3s,baz=330,slow=21,SNR=3.7						
ASAR	**Alice Springs**	**20.28**	**137**	P	P	05 43 53.2	+0.9
	0.9nm,0.4s,baz=309,slow=9.5,SNR=8.4						
MKAR	**Makanchi Array**	**64.57**	**333**	P	P	05 49 53.4	0.0
	0.3nm,0.6s,baz=157,slow=6.6,SNR=3.7						

IDC 02 06:15:39.9±0.9, 1724N×14927E, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.9/18, mbtmp3.9/8, ML4.9/1, Error ellipse: s-maj=38.7km s-min=17.6km az=107.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.58**	**230**	Pn	Pn	06 17 02.9	-1.2
	39nm,0.3s,baz=344,slow=2.8,SNR=9.9						
GUMO				Sn	Sn	06 18 00.3	-8.7
	44nm,0.3s,baz=339,slow=20,SNR=5.9						
WB2	**Warramunga Arr**	**39.74**	**202**	*e*P	P	06 23 14.0	-0.2
WRA	**Warramunga Arr**	**39.75**	**202**	P	P	06 23 13.9	-0.3
	2.7nm,0.6s,baz=31,slow=8.8,SNR=29						
ASAR	**Alice Springs**	**43.33**	**201**	P	P	06 23 43.9	+0.3
	0.5nm,0.4s,baz=20,slow=7.4,SNR=14						
SONM	**Songino Array**	**46.41**	**321**	P	P	06 24 07.2	-1.0
	0.3nm,0.5s,baz=138,slow=7.3,SNR=4.1						
STKA	**Stephens Creek**	**49.38**	**189**	P	P	06 24 31.9	+0.8
	1.5nm,0.4s,baz=346,slow=11,SNR=5.7						
MKAR	**Makanchi Array**	**61.92**	**314**	P	P	06 26 03.0	+1.8
	0.4nm,0.7s,baz=76,slow=10,SNR=4.1						
ILAR	**Eielson Array**	**63.47**	**25**	P	P	06 26 10.8	-0.8
	0.5nm,0.7s,baz=254,slow=5.1,SNR=8.0						
YKA	**Yellowknife Ar**	**77.67**	**28**	P	P	06 27 38.3	0.0
	0.4nm,0.6s,baz=288,slow=5.4,SNR=18						
NVAR	**Mina Array Bea**	**81.34**	**53**	P	P	06 28 06.4	+8.2
	0.8nm,0.6s,baz=274,slow=3.3,SNR=6.4						

*NEIC **02** 06:32:40.2, 2731S×7127W, h25km, ML3.9(GUC), After GUC.*
NEIC Felt [III] at Copiapo and [II] at Caldera.

GUC 02 06:32:40.2±0.8, 2731S×7127W, h25km±7km, MD4.0, ML3.9, 3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.46**	**60**	↓*i* P	Pb	06 32 49.6	-0.1
CDCH				*i* S	Sb	06 32 56.0	-0.2
CPCH	**Copiapo**	**0.82**	**94**	↓*i* P	Pb	06 32 55.4	-0.4
CPCH				*i* S	Sb	06 33 06.7	+0.3
CPCH				AML	AML	06 33 08.2	
	comp=E,12μm,0.1s						
CPCH	**Copiapo**	**0.82**	**94**	↓*i* P	Pb	06 32 55.4	-0.4
CPCH				*i* S	Sb	06 33 06.7	+0.3
CRCH	**Chaqaral**	**1.12**	**32**	*e*P	Pn	06 32 59.9	-0.4
CRCH				*i* S	Sn	06 33 14.2	-0.7
LCO	**Las Campanas**	**1.77**	**164**	*e*P	Pn	06 33 10.6	+1.3
LCO				*i* S	Sn	06 33 33.9	+2.8
CPN1	**Cerro Paranal**	**2.78**	**17**	*e*P	Pn	06 33 22.4	-0.7
TLL	**Tololo Astrono**	**2.88**	**172**	*e*P	Pn	06 33 26.7	+2.1
TLL				*i* S	Sn	06 34 01.3	+2.9
TLL				AML	AML	06 34 20.1	
	comp=N,238nm,0.3s						
TLL	**Tololo Astrono**	**2.88**	**172**	*e*P	Pn	06 33 26.7	+2.1
TLL				*i* S	Sn	06 34 01.3	+2.9

*IDC **02** 06:40:47.3±0.6, 809N×8300W, h0km, mb4.7/15, mb1 4.9/18, mb1mx4.8/21, mbtmp4.8/18, ML4.5/2, MS4.6/12, Ms1 4.6/12, ms1mx4.3/20, Error ellipse: s-maj=22.4km s-min=12.6km az=58.0*
*ISCJB **02** 06:40:50.4±0.2, 8.13N±003×82.86W±002, h24km, mb5.0/162, MS4.8/35, Error ellipse: s-maj=4.4km s-min=2.3km az=60.7*
*MOS **02** 06:40:51.8±1.0, 8.16N×82.85W, h32km, mb5.3/80, MS4.9/17, Error ellipse: s-maj=6.3km s-min=4.8km az=97.9*
*BJI **02** 06:40:52.0, 8.10N×82.90W, h23km, mB5.5, Ms5.4, Msz5.0*
*NEIC **02** 06:40:52.0±0.2, 8.13N×82.89W, mb5.1/130, MS5.1/10, Error ellipse: s-maj=5.7km s-min=3.2km az=213.0*
*HRVD **02** 06:40:52.0±0.1, 8.09N×82.87W, h12km, MW5.3/85, Centroid moment Tensor Solution. LP body waves: s69,c114;Mantle waves: s85,c167; Half duration: 1§1 Moment tensor: Scale 10^17^Nm; Mrr0.85±.01; Mθθ-0.24±.01; Mφφ-0.61±.01; Mrθ 0.10±.03; Mθφ 0.50±.01; Mφr-0.44±.03; Best double couple: M0 1.01400×10^17^ NP1:φs314.00000°, δ34.00000°, λ71.00000°. NP2: φs156.00000°, δ58.00000°, λ102.00000°. Principal axes: T 0.9780, Plg74.0000°, Azm97.0000°; N 0.0710, Plg10.0000°, Azm329.0000°; P -1.0490, Plg13.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **02** 06:40:57.9, 908N×8237W, h33km, mb5.2, MS5.2, Panama-Costa Rica border region*
*CASC **02** 06:40:59.5±1.9, 887N×8293W, h17km±6km, MD4.8, ML3.7, mb5.1(NEIC)*

ISC 02 06:40:52.5±0.2, 811N±003×8289W±002, h25km, h25km±1.7km; pP-P, n515, σ1§04/454, mb5.0/162, MS4.8/35, 70C-15D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.61**	**333**	*e*P	**Pb**	**06 41 01.4**	**-3.1**
ACR				*e*S	**Sb**	**06 41 12.6**	**0.0**
ACR	**Cerro Adams**	**0.61**	**333**	*e*P	**Pb**	**06 41 02.5**	**-1.9**
CTCR	**Cotoan**	**0.79**	**9**	↓*i* P	**Pb**	**06 41 04.7**	**-2.9**
BUS	**Buena Vista**	**1.67**	**329**	*e*P	**Pn**	**06 41 19.5**	**-0.6**
BUS	**Buena Vista**	**1.67**	**329**	*e*P	**Pn**	**06 41 18.5**	**-1.7**
URSC	**Urasca**	**1.93**	**333**	↑*i* P	**Pn**	**06 41 22.9**	**-0.7**
URSC	**Urasca**	**1.93**	**333**	*e*P	**Pn**	**06 41 23.3**	**-0.3**
LCR2	**La Lucha 2**	**1.96**	**326**	*e*P	**Pn**	**06 41 22.8**	**-1.2**
LCR2	**La Lucha 2**	**1.96**	**326**	*e*P	**Pn**	**06 41 23.3**	**-0.8**
OCM	**Ochomogo**	**2.06**	**329**	*e*P	**Pn**	**06 41 25.3**	**-0.2**
ICR	**Volcan Irazu**	**2.08**	**334**	↑*e*P	**Pn**	**06 41 26.1**	**+0.5**
ICR	**Volcan Irazu**	**2.08**	**334**	*e*P	**Pn**	**06 41 25.1**	**-0.6**
VTU	**Volcan Turrial**	**2.08**	**336**	↑*e*P	**Pn**	**06 41 25.8**	**0.0**
SJS	**Escuela Geolog**	**2.15**	**328**	*e*P	**Pn**	**06 41 26.7**	**0.0**
SJS				*e*S	**Sn**	**06 41 56.9**	**+4.4**
PRS1	**Puriscal**	**2.33**	**323**	↑*i* P	**Pn**	**06 41 27.6**	**-1.5**
PRS1	**Puriscal**	**2.33**	**323**	*e*P	**Pn**	**06 41 27.5**	**-1.7**
POA2	**Poas 2**	**2.46**	**327**	*e*P	**Pn**	**06 41 31.1**	**+0.3**
VACR	**Volcan Arenal**	**2.94**	**323**	↑*e*P	**Pn**	**06 41 37.3**	**-0.2**
JTS	**JuntasAbangare**	**2.97**	**317**	Pn	**Pn**	**06 41 36.0**	**-2.0**
	29μm,0.7s						
JTS	**JuntasAbangare**	**2.97**	**317**	Pn	**Pn**	**06 41 36.2**	**-1.8**
	568nm,0.3s,baz=172,slow=4.1,SNR=284						
JTS				Sn	**Sn**	**06 42 14.3**	**+1.5**
	78nm,0.3s,baz=277,slow=20,SNR=5.0						
JTS	**JuntasAbangare**	**2.97**	**317**	*e*P	**Pn**	**06 41 37.9**	**-0.1**
JTS	**JuntasAbangare**	**2.97**	**317**	P	**Pn**	**06 41 36.2**	**-1.8**
JTS						06 42 14.3	
JTS				pmax	pmax		
	comp=Z,568nm,0.3s						
JTS				smax			
	comp=N,78nm,0.3s						
JTS	**JuntasAbangare**	**2.97**	**317**	*e*Pn	**Pn**	**06 41 36.4**	**-1.6**
PINA	**Piqa, Costa Ab**	**3.02**	**68**	*e*S	**Sn**	**06 42 19.5**	**+5.6**
VCR	**Vista de Mar**	**3.37**	**307**	*e*P	**Pn**	**06 41 41.1**	**-2.3**
LIM1	**Limonal**	**3.47**	**318**	*i* P	**Pn**	**06 41 45.2**	**+0.3**
RIN3	**Volcan Rincon**	**3.62**	**318**	↑*e*P	**Pn**	**06 41 47.2**	**+0.3**
MADN	**Villa Maderas**	**4.19**	**322**	*e*P	**Pn**	**06 41 55.0**	**+0.3**
SSNN	**San Juan del S**	**4.30**	**318**	*e*P	**Pn**	**06 41 55.9**	**-0.3**
CONN	**Concepcion**	**4.37**	**322**	*e*P	**Pn**	**06 41 56.8**	**-0.4**
APON	**Apoyo**	**4.91**	**321**	*e*P	**Pn**	**06 42 04.7**	**+0.1**
TICN	**Ticuantepe**	**5.10**	**320**	*e*P	**Pn**	**06 42 08.0**	**+0.7**
MGAN	**Managua**	**5.20**	**321**	*e*P	**Pn**	**06 42 08.3**	**-0.3**
MGAN				*i*		06 43 55.0	
	comp=N,179nm,0.6s						
TISN	**Laguna Tiscapa**	**5.21**	**321**	*e*P	**Pn**	**06 42 08.9**	**+0.1**
XAVN	**Gruta Xavier**	**5.25**	**320**	*e*

MTP Monte Pirata 19.57 58 *eP* **Pn 06 45 19.2 -0.5**
DWPF Disney 19.94 4 *eP* **Pn 06 45 25.4 +1.2**
comp=Z,129nm,1.2s
NNA Nana 20.85 163 *eP* **P 06 46 32.5 +0.1**
comp=Z,195nm,1.0s
BUAY Buenos Aires 21.03 83 *eP* **P 06 45 37.0 +2.7**
MOIG Morelia 21.13 305 *eP* **P 06 45 37.8 +2.4**
SIPA Siparia 21.21 83 *eP* **P 06 45 38.1 +1.9**
TPP Pointe-a-Pierr 21.28 82 *eP* **P 06 45 39.6 +2.7**
GRS Sisters 21.35 77 *eP* **P 06 45 39.5 +1.8**
TRN Trinidad (W) 21.35 82 *eP* **P 06 45 37.9 +0.2**
GRCU Cariacou 21.53 77 *eP* **P 06 45 42.3 +2.6**
TBH Brigand Hill 21.66 82 *eP* **P 06 45 43.0 +2.0**
TPR Prospect 22.01 80 *eP* **P 06 45 43.2 -1.6**
LZG Guadaloupe-1 22.12 67 *eP* **P 06 45 48.7 +2.8**
TBG Guadaloupe-3 22.14 68 *eP* **P 06 45 48.0 +1.8**
BBL Barber's Block 22.21 69 *eP* **P 06 45 47.6 +0.7**
BPA Boggy Peak 22.35 65 *eP* **P 06 45 49.1 +0.7**
MGG Marie-Galante 22.47 68 *eP* **P 06 45 47.9 -1.8**
CPB Codrington 22.59 63 *eP* **P 06 45 49.8 -1.2**
SFJM Santa Fe 23.04 304 *eP* **P 06 45 58.0 +2.3**
HKT Hockley 24.89 332 *eP* **P 06 46 15.4 +2.2**
HKT pmax pmax
comp=Z,135nm,1.5s,mb5.2
HKT Hockley 24.89 332 *eP* **P 06 46 15.4 +2.2**
comp=Z,136nm,1.5s,mb5.3
NHSC New Hope 25.00 5 *eP* **P 06 46 15.0 +0.8**
comp=Z,322nm,1.5s,mb5.6
COW Cow Castle Cre 25.23 4 *eP* **P 06 46 16.9 +0.6**
NATX Nacogdoches 25.96 337 *eP* **P 06 46 22.2 -0.7**
comp=Z,95nm,1.0s,mb5.3
JSC Jenkinsville 26.09 3 *eP* **P 06 46 24.3 +0.2**
OXF Oxford 26.95 348 *eP* **P 06 46 32.6 +0.8**
OXF pmax pmax
comp=Z,96nm,1.3s,mb5.2
OXF Oxford 26.95 348 *eP* **P 06 46 32.6 +0.7**
comp=Z,96nm,1.3s,mb5.2
SWET Sewanee 27.12 355 *eP* **P 06 46 32.9 -0.4**
PLAL Pickwick Lake 27.17 351 *eP* **P 06 46 33.0 -0.8**
comp=Z,43nm,1.1s,mb4.9
CPCT Cooper Cave 27.25 357 *eP* **P 06 46 34.9 +0.4**
CPCT *ePcP* PcP 06 49 53.9 -0.1
UALR University of 27.93 343 *eP* **P 06 46 39.2 -1.3**
comp=Z,105nm,1.5s,mb5.2
HBAR Harrisburg 28.23 347 *eP* **P 06 46 43.3 0.0**
WVT Waverly 28.25 352 *eP* **P 06 46 42.6 -0.9**
WVT pmax pmax
comp=Z,24nm,1.0s,mb4.8
WVT Waverly 28.25 352 *eP* **P 06 46 42.6 -0.9**
comp=Z,24nm,1.0s,mb4.8
LPAZ La Paz 28.30 149 P **P 06 46 44.3 +0.4**
comp=Z,14nm,1.0s,mb4.5,baz=337,slow=9.0,SNR=31
LPAZ LR LR 06 59 05.0
comp=Z,644nm,19.1s,MS4.2,baz=248,slow=39
LPAZ La Paz 28.30 149 *eP* **P 06 46 44.1 +0.2**
LPAZ pmax pmax
comp=Z,25nm,1.2s
LPAZ La Paz 28.30 149 *eP* **P 06 46 44.1 +0.2**
comp=Z,25nm,1.2s,mb4.7
TZTN Tazewell 28.31 359 *eP* **P 06 46 44.2 +0.2**
TZTN *ePcP* PcP 06 49 59.0 +2.4
GLAT Glass 28.63 349 *eP* **P 06 46 44.6 -2.2**
LTX Lajitas 28.76 320 *eP* **P 06 46 49.2 +1.2**
LTX *e* 06 49 58.8
LTX pmax pmax
comp=Z,16nm,1.4s,mb4.6
LTX Lajitas 28.76 320 *eP* **P 06 46 49.2 +1.2**
comp=Z,16nm,1.4s,mb4.5
LTX *ePcP* PcP 06 49 58.8 +1.2
PVMO Portageville 28.85 349 *eP* **P 06 46 48.9 +0.1**
PVMO *epP* pP 06 46 54.7 -1.6
ELN Prospectdale 29.05 4 *eP* **P 06 46 48.4 -2.2**
BLA Blacksburg 29.06 4 *eP* **P 06 46 50.5 -0.1**
BLA pmax pmax
comp=Z,2.0nm,1.0s
BLA Blacksburg 29.06 4 *eP* **P 06 46 50.5 -0.1**
comp=Z,2.1nm,1.0s
FWV Forest Hill 29.40 3 *eP* **P 06 46 54.3 +0.6**
SIUC Southern Illin 30.02 350 *eP* **P 06 46 58.1 -1.1**
USIN University of 30.04 352 *eP* **P 06 46 58.7 -0.6**
comp=Z,70nm,1.1s,mb5.3
WCI Wyandotte Cave 30.14 355 *eP* **P 06 46 59.5 -0.8**
WCI pmax pmax
comp=Z,35nm,0.9s,mb5.1
WCI Wyandotte Cave 30.14 355 *eP* **P 06 46 59.5 -0.8**
comp=Z,35nm,0.9s,mb5.1
WMOK Wichita Mounta 30.26 333 *eP* **P 06 47 02.2 +0.9**
WMOK pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
WMOK Wichita Mounta 30.26 333 *eP* **P 06 47 02.2 +0.9**
comp=Z,9.1nm,1.0s,mb4.5
FVM French Village 30.51 348 *eP* **P 06 47 03.0 -0.5**
FVM *e*PP pP 06 47 08.7 -2.3
FVM pmax pmax
comp=Z,56nm,1.4s,mb5.2
FVM French Village 30.51 348 *eP* **P 06 47 03.0 -0.5**
comp=Z,56nm,1.4s,mb5.2
FVM *epP* pP 06 47 08.7 -2.3
CCM Cathedral Cave 30.75 347 *eP* **P 06 47 04.2 -1.5**
CCM *e*PP pP 06 47 12.5 -0.6
CCM pmax pmax
comp=Z,71nm,1.3s,mb5.3
CCM Cathedral Cave 30.75 347 *eP* **P 06 47 04.2 -1.4**
comp=Z,71nm,1.3s,mb5.3
CCM *epP* pP 06 47 12.5 -0.7
BLO Bloomington 31.10 355 *eP* **P 06 47 07.8 -0.9**
BLO pmax pmax
comp=Z,29nm,0.7s,mb5.2
BLO Bloomington 31.10 355 *eP* **P 06 47 07.8 -0.9**
comp=Z,29nm,0.7s,mb5.2
SLM Saint Louis 31.11 349 *eP* **P 06 47 08.0 -0.7**
SLM *e*PP pP 06 47 13.7 -2.5
SLM pmax pmax
comp=Z,61nm,1.0s,mb5.4
SLM Saint Louis 31.11 349 *eP* **P 06 47 08.0 -0.8**
comp=Z,61nm,1.0s,mb5.4
SLM *epP* pP 06 47 13.7 -2.6
GDL2 Guadalupe Moun 31.19 323 *eP* **P 06 47 10.2 +0.7**
GDL2 *epP* pP 06 47 17.4 +0.5
MNTX Cornudas Mount 31.45 321 *eP* **P 06 47 11.7 -0.1**
comp=Z,12nm,0.9s,mb4.7
MNTX *ePcP* PcP 06 50 04.0 -0.7
ACSO Alum Creek Sta 31.99 360 *eP* **P 06 47 16.1 -0.4**
comp=Z,91nm,1.5s,mb5.4
KSU1 Kansas State U 33.23 340 *eP* **P 06 47 25.4 -2.0**
BNM Barren Site 33.90 323 *eP* **P 06 47 33.4 +0.1**
BNM *epP* pP 06 47 41.3 +0.5
LPM Los Pinos Moun 34.02 323 *eP* **P 06 47 36.1 +1.9**
CBKS Cedar Bluff 34.13 336 *eP* **P 06 47 37.5 +2.3**
CBKS pmax pmax
comp=Z,31nm,0.9s,mb5.2
CBKS Cedar Bluff 34.13 336 *eP* **P 06 47 37.5 +2.3**
comp=Z,31nm,0.9s,mb5.2
ANMO Albuquerque 34.37 324‖ *eP* **P 06 47 38.0 +0.7**
ANMO Albuquerque 34.37 324 *eP* **P 06 47 37.9 +0.6**
comp=Z,7.8nm,1.0s,mb4.6
LAZ Ladron 34.38 323 *eP* **P 06 47 39.6 +2.2**
LAZ *ePcP* PcP 06 50 13.9 +1.1
BINY Binghamton 34.49 9 *eP* **P 06 47 38.8 +0.4**
comp=Z,48nm,1.2s,mb5.3
TUC Tucson 35.36 317 *eP* **P 06 47 47.2 +1.4**
TUC pmax pmax
comp=Z,33nm,1.4s,mb5.1
TUC Tucson 35.36 317 *eP* **P 06 47 47.2 +1.4**
comp=Z,33nm,1.4s,mb5.1
SADO Sadowa 36.67 4 P **P 06 47 55.8 -1.2**
comp=Z,5.1nm,0.8s,mb4.4,baz=194,slow=9.8,SNR=6.9
MIV Mineville/With 36.74 11 *eP* **P 06 47 57.0 -0.7**
MIV *epP* pP 06 48 00.2 -5.0
MVCO Mesa Verde 37.13 325 *eP* **P 06 48 01.1 +0.1**
MVCO *ePcP* PcP 06 50 22.3 +1.4
MSNY Massena 37.40 9 *eP* **P 06 48 03.0 -0.3**
ISCO Idaho Springs 37.54 331 *eP* **P 06 48 04.2 -0.2**
ISCO *e*PP pP 06 48 11.3 -0.7
ISCO *e* 06 50 22.9
ISCO pmax pmax
comp=Z,14nm,1.2s,mb4.6
ISCO Idaho Springs 37.54 331 *eP* **P 06 48 04.2 -0.3**
comp=Z,14nm,1.2s,mb4.6
ISCO *epP* pP 06 48 11.3 -0.7
ISCO *ePcP* PcP 06 50 22.9 +0.8
WUAZ Wupatki 37.72 321 *eP* **P 06 48 08.1 +2.1**
comp=Z,30nm,1.2s,mb4.9
WUAZ *epP* pP 06 48 17.3 +3.7
WUAZ *ePcP* PcP 06 50 22.9 +0.2
SMCO Snowmass 37.74 329 *eP* **P 06 48 06.2 +0.1**
comp=Z,12nm,1.2s,mb4.5
SMCO *epP* pP 06 48 12.3 -1.4
SMCO *ePcP* PcP 06 50 23.9 +1.1
PV01 Paradox Valley 37.83 326 *eP* **P 06 48 08.0 +1.1**
PV10 Paradox Valley 38.26 326 *eP* **P 06 48 11.1 +0.6**
SRU San Rafael 39.60 326 *eP* **P 06 48 21.7 -0.1**
SRU pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
SRU San Rafael 39.60 326 *eP* **P 06 48 21.7 -0.1**
comp=Z,10nm,0.8s,mb4.6
TLL Tololo Astrono 39.79 164 *eP* **P 06 48 24.8 +1.4**
PFO Pinyon Flat Ob 40.03 314 *eP* **P 06 48 26.9 +1.6**
PFO pmax pmax
comp=Z,101nm,1.8s,mb5.2
PFO Pinyon Flat Ob 40.03 314 *eP* **P 06 48 26.9 +1.6**
comp=Z,101nm,1.8s,mb5.2
NEN Nelson 40.05 318 *eP* **P 06 48 27.1 +1.6**
MSU Marysvale 40.15 323 *eP* **P 06 48 27.3 +1.0**
MSU *e* 06 50 31.9
MVU Marysvale 40.16 323 *eP* **P 06 48 37.2 +3.2**
MVU *ePcP* PcP 06 50 42.1 +12
ARUT Antelope Range 40.44 322 *eP* **P 06 48 30.1 +1.4**
ARUT *e*PP pP 06 48 37.0 +0.7
MPU Maple Canyon 40.84 326 *eP* **P 06 48 32.6 +0.5**
comp=Z,20nm,1.2s,mb4.6
DAU Daniels Canyon 40.91 326 *eP* **P 06 48 33.2 +0.6**
DAU *e* 06 50 33.5
CTU Camp Tracy 41.38 326 *eP* **P 06 48 36.2 -0.2**
comp=Z,24nm,1.1s,mb4.7
CTU *ePcP* PcP 06 50 35.8 +1.4
MWC Mount Wilson 41.48 314 *eP* **P 06 48 39.3 +2.0**
TCUT Toone Canyon 41.48 327 *eP* **P 06 48 37.8 +0.5**
TCUT *ePcP* PcP 06 50 36.4 +1.7
NOQ North Oquirrh 41.55 326 *eP* **P 06 48 38.9 +1.0**
comp=Z,28nm,1.0s,mb4.8
DUG Dugway 41.63 325 *eP* **P 06 48 42.5 +4.0**
DUG *e* 06 50 35.5
DUG pmax pmax
comp=Z,26nm,1.5s,mb4.6
DUG Dugway 41.63 325 *eP* **P 06 48 42.5 +4.0**
comp=Z,26nm,1.5s,mb4.6
DUG *ePcP* PcP 06 50 35.5 +0.3
TPNV Topopah Spring 41.72 319 *eP* **P 06 48 41.1 +1.8**
TPNV *e* 06 50 37.4
TPNV pmax pmax
comp=Z,73nm,1.5s,mb5.1
TPNV Topopah Spring 41.72 319 *eP* **P 06 48 41.1 +1.9**
comp=Z,73nm,1.5s,mb5.1
TPNV *ePcP* PcP 06 50 37.4 +2.0
PDAR Pinedale Array 41.72 330 P **P 06 48 38.6 -0.6**
comp=Z,1.6nm,0.5s,mb3.9,baz=130,slow=10,SNR=21
PDAR PcP PcP 06 50 35.7 +0.2
comp=Z,3.1nm,0.9s,baz=143,slow=3.7,SNR=4.7
PDAR LR LR 07 10 42.2
comp=Z,544nm,19.0s,MS4.5,baz=137,slow=43
BDFB Brasilia 41.84 124 P **P 06 48 39.3 -0.9**
comp=Z,8.7nm,0.8s,mb4.5,baz=292,slow=10,SNR=16
BDFB LR LR 07 06 34.8
comp=Z,1μm,19.9s,MS4.8,baz=311,slow=37
CFAA Coronel Fontan 41.90 161 P **P 06 48 41.1 +0.4**
comp=Z,2.0nm,0.8s,baz=336,slow=6.9,SNR=44
HWUT Hardware Ranch 41.91 327 *eP* **P 06 48 40.5 -0.3**
comp=Z,32nm,1.0s,mb4.9
HWUT *epP* pP 06 48 50.7 +2.3
HWUT *ePcP* PcP 06 50 37.1 +1.0
DAC Darwin (Calif) 42.24 317 *eP* **P 06 48 44.8 +1.3**
DAC *e*PP pP 06 48 55.2 +4.0
DAC *e* 06 50 37.0
DAC pmax pmax
comp=Z,15nm,1.2s,mb4.5
DAC Darwin (Calif) 42.24 317 *eP* **P 06 48 44.8 +1.3**
comp=Z,15nm,1.2s,mb4.5
DAC *epP* pP 06 48 55.2 +4.0
DAC *ePcP* PcP 06 50 37.0 -0.2
DAC *eScP* ScP 06 54 26.0 -0.1
BGU Big Grassy Mou 42.24 326 *eP* **P 06 48 50.8 +7.2**
CPUP Villa Florida 42.29 145 P **P 06 48 42.1 -1.7**
comp=Z,8.5nm,0.8s,mb4.4,baz=308,slow=10,SNR=11
CPUP Villa Florida 42.29 145 *eP* **P 06 48 42.1 -1.8**
CPUP *e*PP pP 06 48 53.9 +2.4
CPUP pmax pmax
comp=Z,49nm,0.9s
CPUP Villa Florida 42.29 145 *eP* **P 06 48 42.1 -1.8**
comp=Z,49nm,0.9s,mb5.1
CPUP *epP* pP 06 48 53.9 +2.4
HVU Hansel Valley 42.68 327 *eP* **P 06 48 47.1 0.0**
REDW Red Top Meadow 42.80 330 *eP* **P 06 48 47.6 -0.4**
comp=Z,53nm,1.1s,mb5.2
LOHW Long Hollow 42.86 330 *eP* **P 06 48 48.5 -0.1**
comp=Z,23nm,1.2s,mb4.8
FCH Farellones 42.91 164 *eP* **P 06 48 49.1 +0.2**
TPAW Teton Pass 42.94 330 *eP* **P 06 48 49.1 -0.1**
comp=Z,16nm,0.8s,mb4.8
TPH Tonopah 43.00 319 *eP* **P 06 48 51.2 +1.5**
TPH pmax pmax
comp=Z,40nm,1.1s,mb5.1
TPH Tonopah 43.00 319 *eP* **P 06 48 51.2 +1.5**
comp=Z,40nm,1.1s,mb5.1
MOOW Moose Ponds 43.03 330 *eP* **P 06 48 49.4 -0.5**
comp=Z,14nm,1.0s,mb4.7
FLWY Flagg Ranch 43.26 331 *eP* **P 06 48 51.7 0.0**
comp=Z,29nm,0.9s,mb5.0
LAO LASA Array 43.32 337 *eP* **P 06 48 51.1 -1.2**
comp=Z,43nm,1.1s,mb5.1
ULM Lac du Bonnet 43.38 348 P **P 06 48 49.8 -2.9**
comp=Z,20nm,1.0s,mb4.8,baz=162,slow=8.0,SNR=19
ELK Elko 43.39 324 *eP* **P 06 48 53.3 +0.5**
ELK *e* 06 50 42.3
ELK pmax pmax
comp=Z,51nm,1.7s
ELK Elko 43.39 324 *eP* **P 06 48 53.3 +0.5**
comp=Z,51nm,1.7s,mb5.0
ELK *ePcP* PcP 06 50 42.3 +1.3
YFT Old Faithful 43.59 331 *eP* **P 06 48 55.1 +0.7**
YMR Madison River 43.82 331 *eP* **P 06 48 57.1 +0.9**
comp=Z,23nm,1.0s,mb4.9
YMR *epP* pP 06 49 07.0 +3.0
YMR *ePcP* PcP 06 50 39.6 -2.9
NVAR Mina Array Bea 43.90 319 P **P 06 48 58.0 +1.0**
comp=Z,7.4nm,0.6s,mb4.6,baz=121,slow=7.7,SNR=54
QLMT Earthquake Lak 44.16 331 *eP* **P 06 48 59.5 +0.5**
QLMT *ePcP* PcP 06 50 45.4 +1.8
BMN Battle Mountai 44.38 322 *eP* **P 06 49 01.9 +1.1**
BMN *e*PP pP 06 49 07.6 -0.9
BMN pmax pmax
comp=Z,41nm,0.9s,mb5.2
BMN Battle Mountai 44.38 322 *eP* **P 06 49 01.9 +1.1**
comp=Z,41nm,0.9s,mb5.2
BMN *epP* pP 06 49 07.6 -0.9
HLID Hailey 44.78 327 *eP* **P 06 49 03.8 -0.2**
comp=Z,12nm,0.8s,mb4.8
HLID *epP* pP 06 49 08.8 -2.9
MCMT McKenzie Canyo 44.85 330 *eP* **P 06 49 05.0 +0.5**
DLMT Dillon 45.11 330 *eP* **P 06 49 06.8 +0.2**
comp=Z,43nm,1.3s,mb5.1
DLMT *ePcP* PcP 06 50 48.3 +1.4
PAHR Pah Rah Range 45.31 320 *eP* **P 06 49 09.2 +1.0**
comp=Z,48nm,1.3s,mb5.2
PAHR *epP* pP 06 49 15.8 -0.1
HRY Holter Researc 45.74 332 *eP* **P 06 49 11.2 -0.4**
HRY *epP* pP 06 49 16.9 -2.4
WVOR Wild Horse Val 46.44 323 *eP* **P 06 49 17.3 +0.2**
WVOR pmax pmax
comp=Z,87nm,1.4s,mb5.5
WVOR Wild Horse Val 46.44 323 *eP* **P 06 49 17.3 +0.2**
comp=Z,86nm,1.4s,mb5.5
OHCM Honcut 46.48 318 *eP* **P 06 49 18.4 +1.0**
OHCM *ePcP* PcP 06 50 53.0 +1.3
CHMT Chamberlain Mo 46.55 331 *eP* **P 06 49 18.6 +0.6**
MSO Missoula 46.82 331 *eP* **P 06 49 19.6 -0.4**
comp=Z,21nm,1.2s,mb4.9
MSO *epP* pP 06 49 25.4 -2.3
MSO *ePcP* PcP 06 50 53.7 +0.9
MOD Modoc 47.13 322 *eP* **P 06 49 23.1 +0.7**
comp=Z,7.7nm,0.7s,mb4.7
BMO Blue Mountains 47.20 327 *eP* **P 06 49 21.5 -1.5**
comp=Z,8.8nm,0.9s,mb4.7
SCHQ Schefferville 48.33 12 P **P 06 49 26.7 -5.1**
comp=Z,14nm,1.0s,mb5.0,baz=202,slow=7.4,SNR=14
SCHQ PcP PcP 06 50 54.1 -4.1
comp=Z,6.5nm,0.8s,baz=209,slow=3.8,SNR=8.8
SCHQ LR LR 07 08 41.0
comp=Z,842nm,20.9s,MS4.7,baz=202,slow=35
SCHQ Schefferville 48.33 12 *eP* **P 06 49 27.0 -4.8**
comp=Z,46nm,1.3s,mb5.3
WALA Waterton Lakes 48.42 333 *eP* **P 06 49 31.7 -0.8**
comp=Z,10nm,0.9s,mb4.9
WALA *epP* pP 06 49 36.7 -3.5
WALA *es*P sP 06 49 44.5 +1.2
FFC Flin Flon 48.93 345 P **P 06 49 35.3 -1.1**
comp=Z,133nm,1.2s,mb5.8,SNR=6.4
FFC Flin Flon 48.93 345 *eP* **P 06 49 35.0 -1.4**
FFC pmax pmax
comp=Z,45nm,1.3s,mb5.3
FFC Flin Flon 48.93 345 *eP* **P 06 49 35.0 -1.4**
comp=Z,45nm,1.3s,mb5.3
NEW Newport 49.37 330 *eP* **P 06 49 39.0 -0.7**
NEW *e*PP pP 06 49 47.8 +0.3
NEW pmax pmax
comp=Z,15nm,1.0s
NEW Newport 49.37 330 *eP* **P 06 49 39.0 -0.7**
comp=Z,15nm,1.0s,mb5.0
NEW *epP* pP 06 49 47.8 +0.3
TRQA Tornquist 49.90 158 *eP* **P 06 49 41.7 -2.1**
comp=Z,118nm,1.6s,mb5.7
PLCA Paso Flores 49.91 168 *eP* **P 06 49 43.5 -0.4**
PLCA pmax pmax
comp=Z,33nm,1.0s
PLCA Paso Flores 49.91 168 *eP* **P 06 49 43.5 -0.4**
comp=Z,33nm,1.0s,mb5.3
FCC Fort Churchill 51.26 353 *eP* **P 06 49 52.1 -2.0**
FCC pmax pmax
comp=Z,26nm,0.9s,mb5.2
FCC Fort Churchill 51.26 353 *eP* **P 06 49 52.1 -2.0**
comp=Z,26nm,0.9s,mb5.2
EDM Edmonton 51.30 337 *eP* **P 06 49 52.9 -1.5**
EDM *e*PP pP 06 50 01.7 -0.5
YKA Yellowknife Ar 58.99 343 P **P 06 50 48.1 -1.7**
comp=Z,2.3nm,0.6s,mb4.4,baz=138,slow=6.9,SNR=126
YKA LR LR 07 19 43.6
comp=Z,587nm,18.9s,MS4.7,baz=135,slow=40
YKA Yellowknife Ar 58.99 343 P **P 06 50 48.1 -1.8**
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKA MLR MLR
comp=Z,587nm,19.0s
YKW3 Yellowknife Ar 59.05 343 *eP* **P 06 50 49.0 -1.2**
TAOE Nuku Hiva Isla 59.48 255 *eS* **S 06 58 59.4 -1.8**
comp=Z,702nm,26.3s
TAOE *e*LR LR 07 08 10.2
comp=Z,2μm,28.1s
RKT Rikitea 59.64 237 *eS* **S 06 59 01.7 -1.5**
comp=Z,1μm,29.0s
RKT *e*LR LR 07 08 30.9
comp=Z,3μm,27.2s,baz=55
DLBC Dease Lake 61.74 334 *eP* **P 06 51 08.5 -0.2**
CHIE El Hierro 64.10 63 P **P 06 51 24.6 +0.2**
comp=Z,16nm,0.8s,mb5.1
EGOM La Gomera 64.80 63 P **P 06 51 29.2 +0.3**
comp=Z,17nm,0.8s,mb5.1
CCAN Las Canadas 65.33 63 P **P 06 51 35.8 +3.4**
comp=Z,20nm,1.0s,mb5.1
RES Resolute Bay 66.89 357 *eP* **P 06 51 40.1 -2.3**
RES pmax pmax
comp=Z,22nm,1.1s,mb5.1
RES Resolute Bay 66.89 357 *eP* **P 06 51 40.0 -2.4**
comp=Z,22nm,1.1s,mb5.1
EFAM Famara 68.09 62 P **P 06 51 51.1 +1.1**
comp=Z,117nm,2.1s,mb5.5
DAWY Dawson 68.52 337 *eP* **P 06 51 51.6 -1.1**
DAWY *epP* pP 06 51 57.8 -2.9
INK Inuvik 68.68 342 *eP* **P 06 51 52.9 -0.8**
INK pmax pmax
comp=Z,72nm,1.5s
INK Inuvik 68.68 342 *eP* **P 06 51 52.9 -0.8**
comp=Z,72nm,1.5s,mb5.4
SUMG Summit 69.72 13 *eP* **P 06 51 58.6 -1.5**
comp=Z,26nm,0.9s,mb5.2
MENT Mentasta 69.80 335 *eP* **P 06 52 01.1 +0.5**
PPT Papeete 70.62 248 *eS* S 07 01 17.1 -0.9
comp=Z,699nm,25.5s
PPT *eSS* SS 07 05 47.7 -2.1
comp=Z,186nm,29.8s
PPT *e*LR LR 07 13 32.9
comp=Z,729nm,27.0s,baz=66
PPT Papeete 70.62 248 LR LR 07 15 31.4
comp=Z,516nm,19.0s,MS4.8,baz=74,slow=30
ILAR Eielson Array 71.78 336 P **P 06 52 12.2 -0.5**
comp=Z,5.0nm,0.6s,mb4.6,baz=106,slow=4.6,SNR=98
ILAR PP PP 06 54 51.7 -0.4
comp=Z,1.7nm,0.9s,baz=121,slow=5.5,SNR=4.2
ILAR LR LR 07 28 08.9
comp=Z,306nm,19.3s,MS4.6,baz=264,slow=40
ILAR Eielson Array 71.78 336 P **P 06 52 12.2 -0.5**
ILAR 06 54 51.7
TBI Tubuai 72.14 242 *eS* S 07 01 33.3 -2.3
comp=Z,569nm,28.5s
TBI *e*LR LR 07 14 19.5
comp=Z,641nm,25.2s,baz=61
COLA College 72.20 336 *eP* **P 06 52 15.2 0.0**
COLA *e*PP pP 06 52 25.5 +2.3
COLA pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
COLA College 72.20 336 *eP* **P 06 52 15.2 0.0**
comp=Z,10.0nm,0.9s,mb4.8
COLA *epP* pP 06 52 25.5 +2.3
PTEO Sao Teotonio 72.56 53 *eP* **P 06 52 17.4 +0.1**
comp=Z,109nm,2.4s,mb5.4
PTOM Tomar 72.92 51 *eP* **P 06 52 19.4 -0.1**
comp=Z,42nm,1.8s,mb5.1
EVO Evora 73.17 52⇑*iP* **P 06 52 20.5 -0.4**
comp=Z,24nm,0.8s,mb4.9
PBEJ Beja 73.26 53 *eP* **P 06 52 21.4 -0.1**
comp=Z,22nm,1.5s,mb4.9
ELOB Lobios 73.34 49 P **P 06 52 20.8 -1.2**
comp=Z,36nm,1.7s,mb5.0
PVIS Viseu 73.39 50 *eP* **P 06 52 22.4 +0.2**
comp=Z,19nm,1.5s,mb4.8
EGRO El Granado 73.54 53 P **P 06 52 24.3 +1.1**
comp=Z,12nm,1.1s,mb4.8
PVRL Vila Real 73.56 49 *eP* **P 06 52 23.7 +0.5**
comp=Z,33nm,1.8s,mb5.0
MTE Manteigas 73.64 50 *eP* **P 06 52 23.5 -0.2**
comp=Z,38nm,1.7s,mb5.0
MTE *eS* S 07 01 53.0 +0.4
MTE *eLQ* 07 10 58.7
MTE *e*LR LR 07 15 06.1
comp=Z,452nm,20.5s
PCBR Castelo Branco 73.66 51 *eP* **P 06 52 23.8 0.0**
comp=Z,26nm,1.8s,mb4.8
EBAD Badajoz 73.96 52 P **P 06 52 26.4 +0.8**
comp=Z,1.8nm,0.5s,mb4.3
EPON Pontenova 74.11 47 P **P 06 52 24.8 -1.6**
comp=Z,46nm,1.9s,mb5.1
EMIN Mina Concepcio 74.19 53 P **P 06 52 28.7 +1.7**
comp=Z,18nm,1.6s,mb4.7
PBRG Braganca 74.32 49 *eP* **P 06 52 27.4 -0.3**
comp=Z,16nm,1.6s,mb4.7
ECAL Calabor 74.33 49 P **P 06 52 28.3 +0.5**
comp=Z,49nm,1.7s,mb5.2
SVW2 Sparrevohn 74.60 331 *eP* **P 06 52 28.8 -0.5**
ESPR Espera 74.82 54 P **P 06 52 31.6 +1.1**
comp=Z,21nm,1.1s,mb5.0
ALE Alert 74.89 3 P **P 06 52 28.5 -2.5**
comp=Z,70nm,1.3s,mb5.4,SNR=7.5
EJIF Jimena Fronter 75.12 55 P **P 06 52 33.4 +1.1**
EJIF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
EJIF Jimena Fronter 75.12 55 P **P 06 52 33.4 +1.0**
comp=Z,8.9nm,0.9s,mb4.7
TTA Tatalina 75.16 333 *eP* **P 06 52 32.1 -0.4**
ELOJ Sierra Loja 76.19 54 P **P 06 52 40.3 +1.9**
ELOJ pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
ELOJ Sierra Loja 76.19 54 P **P 06 52 40.3 +1.9**
comp=Z,10nm,0.8s,mb4.8
GUD Guadarrama 76.23 50 P **P 06 52 39.7 +1.0**
GUD pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GUD Guadarrama 76.23 50 P **P 06 52 39.7 +1.0**
comp=Z,7.7nm,0.9s,mb4.6
ESDC Sonseca Array 76.36 51 P **P 06 52 39.8 +0.4**
comp=Z,7.6nm,0.7s,mb4.7,baz=277,slow=5.6,SNR=26
ESDC Sonseca Array 76.36 51 P **P 06 52 39.5 +0.1**
comp=Z,13nm,0.7s,mb5.0
ESLA Sonseca Array 76.36 51 *eP* **P 06 52 38.4 -1.0**
comp=Z,5.0nm,1.0s,mb4.4
DAG Danmarks Havn 76.38 12⇑*iP* **P 06 52 37.0 -2.5**
comp=Z,12nm,1.2s,mb4.7
DAG Danmarks Havn 76.38 12⇑*iP* **P 06 52 37.0 -2.5**

DAG pmax pmax
comp=Z,13nm,1.2s,mb4.7
EBAN Banos Encina 76.48 53 P **P 06 52 40.2 +0.1**
EBAN pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
EBAN Banos Encina 76.48 53 P **P 06 52 40.2 +0.1**
comp=Z,8.0nm,0.8s,mb4.7
ECOG Cogollos-Vega 76.65 54 P **P 06 52 41.7 +0.6**
ECOG pmax pmax
comp=Z,14nm,0.9s,mb4.9
ECOG Cogollos-Vega 76.65 54 P **P 06 52 41.7 +0.7**
comp=Z,14nm,0.9s,mb4.9
EQES Quesada 77.05 53 P **P 06 52 43.2 -0.1**
comp=Z,0.5nm,0.6s
QUIF Quistinic 77.14 43 *e*P **P 06 52 43.2 -0.6**
comp=Z,73nm,1.2s,mb5.2
QUIF Quistinic 77.14 43 *e*P **P 06 52 43.2 -0.6**
QUIF pmax pmax
comp=Z,36nm,1.3s,mb5.1
QUIF Quistinic 77.14 43 *e*P **P 06 52 43.2 -0.6**
comp=Z,36nm,1.3s,mb5.2
LIC Lamto 77.17 85⇑*i*P **P 06 52 44.5 +0.5**
comp=Z,162nm,0.9s,mb5.6
LIC *e*R
comp=Z,356nm,22.5s
LIC Lamto 77.17 85⇑*i*P **P 06 52 44.5 +0.5**
comp=Z,81nm,0.9s,mb5.7
LIC LR LR
comp=Z,180nm,22.5s,MS4.3
DBIC Dimbokro 77.29 85 P **P 06 52 45.4 +0.7**
comp=Z,36nm,0.9s,mb5.3,baz=266,slow=5.5,SNR=38
DBIC LR LR 07 24 14.0
comp=Z,196nm,21.9s,MS4.4,baz=240,slow=34
DBIC Dimbokro 77.29 85 *e*P **P 06 52 45.3 +0.7**
DBIC *e**PP pP 06 52 52.4 -0.3
DBIC pmax pmax
comp=Z,50nm,1.0s
DBIC Dimbokro 77.29 85 *e*P **P 06 52 45.3 +0.6**
comp=Z,50nm,1.0s,mb5.4
DBIC *e*pP pP 06 52 52.4 -0.4
EHUE Huescar 77.43 53 P **P 06 52 46.8 +1.4**
EHUE pmax pmax
comp=Z,25nm,1.1s,mb5.1
EHUE Huescar 77.43 53 P **P 06 52 46.8 +1.3**
comp=Z,25nm,1.1s,mb5.0
EVIA Vianos 77.49 52 P **P 06 52 46.6 +0.8**
EVIA pmax pmax
comp=Z,15nm,0.9s,mb4.9
EVIA Vianos 77.49 52 P **P 06 52 46.6 +0.8**
comp=Z,14nm,0.9s,mb4.9
SGMF Saint Gilles 77.56 42 *e*P **P 06 52 45.3 -0.9**
comp=Z,55nm,1.3s,mb5.0
SGMF Saint Gilles 77.56 42 *e*P **P 06 52 45.3 -0.9**
SGMF pmax pmax
comp=Z,27nm,1.3s,mb5.0
SGMF Saint Gilles 77.56 42 *e*P **P 06 52 45.3 -0.9**
comp=Z,27nm,1.3s,mb5.0
EALK Alkurruntz 78.23 48 P **P 06 52 48.8 -1.1**
comp=Z,6.6nm,0.6s,mb4.7
ETOB Tobarra 78.24 52 P **P 06 52 49.4 -0.5**
comp=Z,18nm,0.9s,mb5.0
SJPF Ste Jean 78.43 48⇑*i*P **P 06 52 51.4 +0.4**
comp=Z,48nm,1.1s,mb5.0
SJPF Ste Jean 78.43 48⇑*i*P **P 06 52 51.4 +0.4**
SJPF pmax pmax
comp=Z,24nm,1.1s,mb5.0
SJPF Ste Jean 78.43 48⇑*i*P **P 06 52 51.4 +0.4**
comp=Z,24nm,1.1s,mb5.0
GRR Gorron 78.70 42⇑*i*P **P 06 52 51.7 -0.8**
comp=Z,61nm,1.2s,mb5.1
GRR Gorron 78.70 42⇑*i*P **P 06 52 51.7 -0.8**
GRR pmax pmax
comp=Z,31nm,1.2s,mb5.1
GRR Gorron 78.70 42⇑*i*P **P 06 52 51.7 -0.8**
comp=Z,30nm,1.2s,mb5.1
ETSF Etsaut 78.92 48⇑*i*P **P 06 52 54.0 +0.3**
comp=Z,23nm,1.1s,mb4.7
ETSF Etsaut 78.92 48⇑*i*P **P 06 52 54.0 +0.3**
ETSF pmax pmax
comp=Z,12nm,1.1s,mb4.7
ETSF Etsaut 78.92 48⇑*i*P **P 06 52 54.0 +0.3**
comp=Z,12nm,1.1s,mb4.7
FLN La Foliniere 78.95 42⇑*i*P **P 06 52 53.4 -0.5**
comp=Z,66nm,1.4s,mb5.1
FLN *e*R
comp=Z,1μm,21.5s
FLN La Foliniere 78.95 42⇑*i*P **P 06 52 53.4 -0.5**
FLN pmax pmax
comp=Z,33nm,1.4s,mb5.1
FLN MLR MLR
comp=Z,1μm,21.5s,MS5.1
FLN La Foliniere 78.95 42⇑*i*P **P 06 52 53.4 -0.5**
comp=Z,33nm,1.4s,mb5.1
FLN LR LR
comp=Z,1μm,21.5s,MS5.1
ESAC San Caprasio 79.01 49 P **P 06 52 54.5 +0.3**
comp=Z,67nm,1.2s,mb5.5
MFF Saint Martin d 79.18 44⇑*i*P **P 06 52 54.6 -0.5**
comp=Z,30nm,1.0s,mb4.9
MFF Saint Martin d 79.18 44⇑*i*P **P 06 52 54.6 -0.5**
MFF pmax pmax
comp=Z,15nm,1.0s,mb4.9
MFF Saint Martin d 79.18 44⇑*i*P **P 06 52 54.6 -0.5**
comp=Z,15nm,1.0s,mb4.9
LDF La Druitiere 79.19 42⇑*i*P **P 06 52 54.5 -0.7**
comp=Z,25nm,1.0s,mb4.8
LDF La Druitiere 79.19 42⇑*i*P **P 06 52 54.5 -0.7**
LDF pmax pmax
comp=Z,12nm,1.0s,mb4.8
LDF La Druitiere 79.19 42⇑*i*P **P 06 52 54.5 -0.7**
comp=Z,12nm,1.0s,mb4.8
EBEN Beniarda 79.27 52 P **P 06 52 58.7 +3.1**
EBIE Bielsa 79.44 48 P **P 06 52 58.8 +2.3**
comp=Z,6.1nm,0.7s,mb4.6
EPF Esparros 79.58 48⇑*i*P **P 06 52 57.5 +0.2**
comp=Z,31nm,1.0s,mb4.9
EPF Esparros 79.58 48⇑*i*P **P 06 52 57.5 +0.2**
EPF pmax pmax
comp=Z,16nm,1.0s,mb4.9
EPF Esparros 79.58 48⇑*i*P **P 06 52 57.5 +0.2**
comp=Z,16nm,1.0s,mb4.9
EGRA Graus 79.58 49 P **P 06 52 58.3 +1.0**
comp=Z,8.1nm,0.6s,mb4.8
LFF La Frestale 79.83 46 *e*P **P 06 52 58.2 -0.4**
RJF Les Rejaudoux 80.36 45 *e*P **P 06 53 01.1 -0.4**
RJF *e*R
comp=Z,710nm,21.0s
RJF Les Rejaudoux 80.36 45 *e*P **P 06 53 01.1 -0.4**
RJF LR LR
comp=Z,710nm,21.0s,MS5.0
EMIR Miracle 80.49 49 P **P 06 53 03.2 +0.9**
comp=Z,8.7nm,0.7s,mb4.8
CAF Calviac 80.77 46⇑*i*P **P 06 53 03.2 -0.5**
comp=Z,31nm,1.3s,mb4.8
CAF Calviac 80.77 46⇑*i*P **P 06 53 03.2 -0.5**
CAF pmax pmax
comp=Z,16nm,1.3s,mb4.8
CAF Calviac 80.77 46⇑*i*P **P 06 53 03.2 -0.5**
comp=Z,16nm,1.3s,mb4.8
TCF Toulx Ste Croi 80.82 44 *e*P **P 06 53 03.0 -1.0**
comp=Z,24nm,1.1s,mb4.7
TCF Toulx Ste Croi 80.82 44 *e*P **P 06 53 03.0 -1.0**
TCF pmax pmax
comp=Z,12nm,1.1s,mb4.7
TCF Toulx Ste Croi 80.82 44 *e*P **P 06 53 03.0 -1.0**
comp=Z,12nm,1.1s,mb4.7
MTLF Montolieu 80.94 47⇑*i*P **P 06 53 04.3 -0.3**
comp=Z,67nm,1.3s,mb5.1
MTLF Montolieu 80.94 47⇑*i*P **P 06 53 04.3 -0.3**
MTLF pmax pmax
comp=Z,33nm,1.3s,mb5.1
MTLF Montolieu 80.94 47⇑*i*P **P 06 53 04.3 -0.3**
comp=Z,34nm,1.3s,mb5.1
BGF Bois d'Agland 81.25 44 *e*P **P 06 53 05.4 -0.8**
AVF Avril sur Loir 81.58 44⇑*i*P **P 06 53 06.8 -1.2**
comp=Z,27nm,1.3s,mb4.7
AVF Avril sur Loir 81.58 44⇑*i*P **P 06 53 06.8 -1.2**
AVF pmax pmax
comp=Z,13nm,1.3s,mb4.7
AVF Avril sur Loir 81.58 44⇑*i*P **P 06 53 06.8 -1.2**
comp=Z,13nm,1.3s,mb4.7
SSF Saint Saulge 81.67 44 *e*P **P 06 53 07.2 -1.3**
comp=Z,13nm,1.0s,mb4.5
SSF Saint Saulge 81.67 44 *e*P **P 06 53 07.2 -1.3**
SSF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
SSF Saint Saulge 81.67 44 *e*P **P 06 53 07.2 -1.3**
comp=Z,6.3nm,1.0s,mb4.5
LOR Lormes 81.90 43⇑*i*P **P 06 53 08.5 -1.2**
comp=Z,43nm,1.4s,mb4.9
LOR *e*R
comp=Z,690nm,20.8s
LOR Lormes 81.90 43⇑*i*P **P 06 53 08.5 -1.2**
LOR pmax pmax
comp=Z,21nm,1.4s,mb4.9
LOR MLR MLR
comp=Z,690nm,20.8s,MS5.0
LOR Lormes 81.90 43⇑*i*P **P 06 53 08.5 -1.2**
comp=Z,21nm,1.4s,mb4.9
LOR LR LR
comp=Z,690nm,20.8s,MS5.0
SMF Signal de Mont 81.93 44 *e*P **P 06 53 08.5 -1.3**
comp=Z,19nm,1.1s,mb4.6
SMF Signal de Mont 81.93 44 *e*P **P 06 53 08.5 -1.3**
SMF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
SMF Signal de Mont 81.93 44 *e*P **P 06 53 08.5 -1.3**
comp=Z,9.3nm,1.1s,mb4.6
LASF Ste Croix 82.09 47⇑*i*P **P 06 53 10.9 +0.2**
comp=Z,26nm,1.2s,mb4.7
GIVF Givet 82.38 40 *e*P **P 06 53 11.2 -1.0**
VIVF Saint-Julien-l 82.62 46⇑*i*P **P 06 53 13.6 +0.1**
comp=Z,27nm,1.0s,mb4.9
VIVF Saint-Julien-l 82.62 46⇑*i*P **P 06 53 13.6 +0.1**
VIVF pmax pmax
comp=Z,13nm,1.0s,mb4.9
VIVF Saint-Julien-l 82.62 46⇑*i*P **P 06 53 13.6 +0.1**
comp=Z,13nm,1.0s,mb4.9
TORD Torodi Ar. Bea 82.95 78 P **P 06 53 15.3 +0.1**
comp=Z,19nm,1.1s,mb5.0,baz=257,slow=4.1,SNR=66
WLF Walferdange 83.27 41 *e*P **P 06 53 16.4 -0.4**
comp=Z,19nm,1.2s,mb5.0
SMRF Simiane la Rot 83.33 47 *e*P **P 06 53 17.4 +0.2**
ORIF Oris-en-Rattie 83.47 46⇑*i*P **P 06 53 18.3 +0.4**
comp=Z,35nm,1.1s,mb5.0
ORIF *e*R
comp=Z,629nm,23.0s
ORIF Oris-en-Rattie 83.47 46⇑*i*P **P 06 53 18.3 +0.4**
ORIF pmax pmax
comp=Z,17nm,1.1s,mb5.0
ORIF Oris-en-Rattie 83.47 46⇑*i*P **P 06 53 18.3 +0.4**
comp=Z,17nm,1.1s,mb5.0
CABF La Chapelle 83.47 44 *e*P **P 06 53 17.2 -0.7**
comp=Z,45nm,1.2s,mb5.1
CABF La Chapelle 83.47 44 *e*P **P 06 53 17.2 -0.7**
CABF pmax pmax
comp=Z,22nm,1.2s,mb5.1
CABF La Chapelle 83.47 44 *e*P **P 06 53 17.2 -0.7**
comp=Z,22nm,1.2s,mb5.1
BUG Bochum--Univer 83.83 39 *e*P **P 06 53 18.8 -0.9**
comp=Z,9.0nm,0.7s,mb5.0
HINF Hinteralfeld 83.89 43 *e*P **P 06 53 18.8 -1.2**
LPL La Plagne 84.02 45 *e*P **P 06 53 20.8 +0.1**
comp=Z,25nm,1.2s,mb4.9
LPL La Plagne 84.02 45 *e*P **P 06 53 20.8 +0.1**
LPL pmax pmax
comp=Z,12nm,1.2s,mb4.9
LPL La Plagne 84.02 45 *e*P **P 06 53 20.8 +0.1**
comp=Z,12nm,1.2s,mb4.9
LPG La Plagne 84.03 45 *e*P **P 06 53 21.2 +0.5**
MBDF Montbardon 84.12 46 *e*P **P 06 53 21.3 +0.1**
FRF La Foret Royal 84.14 47 *e*P **P 06 53 20.8 -0.5**
SBF Sospel 84.68 47 *e*P **P 06 53 23.6 -0.4**
comp=Z,60nm,1.2s,mb5.3
SBF Sospel 84.68 47 *e*P **P 06 53 23.6 -0.4**
SBF pmax pmax
comp=Z,30nm,1.2s,mb5.3
SBF Sospel 84.68 47 *e*P **P 06 53 23.6 -0.4**
comp=Z,30nm,1.2s,mb5.3
TNS Taunus Mts 84.69 40 *e*P **P 06 53 23.4 -0.7**
comp=Z,18nm,1.3s,mb5.0
TNS Taunus Mts 84.69 40 *e*P **P 06 53 23.4 -0.7**
TNS pmax pmax
comp=Z,18nm,1.3s,mb5.0
NB2 NORSAR Subarra 84.96 29 P **P 06 53 25.2 -0.2**
comp=Z,38nm,1.4s,mb5.3,baz=277,slow=5.1
NOA NORSAR Array B 84.96 29 P **P 06 53 25.0 -0.4**
comp=Z,16nm,1.2s,mb5.0,baz=277,slow=4.7,SNR=9.4
NOA LR LR 07 29 01.9
comp=Z,314nm,20.2s,MS4.7,baz=280,slow=34
STU Stuttgart 85.34 42 *e*P **P 06 53 26.4 -0.9**
comp=Z,15nm,0.7s,mb5.2
BSEG Bad Segeberg 85.40 36 *e*P **P 06 53 26.7 -0.9**
comp=Z,89nm,2.2s,mb5.5
CLZ Clausthal 85.70 38 *e*P **P 06 53 28.8 -0.3**
comp=Z,31nm,1.4s,mb5.3
CLZ Clausthal 85.70 38 *e*P **P 06 53 28.8 -0.3**
CLZ pmax pmax
comp=Z,31nm,1.4s,mb5.3
PGF Pioggiola 85.97 48 *e*P **P 06 53 30.0 -0.5**
comp=Z,46nm,1.0s,mb5.4
PGF Pioggiola 85.97 48 *e*P **P 06 53 30.0 -0.5**
PGF pmax pmax
comp=Z,23nm,1.0s,mb5.4
PGF Pioggiola 85.97 48 *e*P **P 06 53 30.0 -0.5**
comp=Z,23nm,1.0s,mb5.4
DAVA Damuels 85.98 43⇑*i*P **P 06 53 30.7 +0.2**
comp=Z,22nm,0.8s,mb5.4
GRA1 Grafenberg Arr 86.53 40 *e*P **P 06 53 32.4 -0.9**
comp=Z,22nm,0.8s,mb5.4
GRA1 LR LR
comp=Z,1μm,20.7s,MS5.2
GRF Grafenberg Arr 86.53 40 *e*P **P 06 53 32.4 -0.9**
comp=Z,22nm,0.8s,mb5.4
GRF *e*L 07 26 58.8
comp=Z,960nm,20.7s
GRF Grafenberg Arr 86.53 40 *e*P **P 06 53 32.4 -0.9**
GRF pmax pmax
comp=Z,22nm,0.8s,mb5.4
GRF MLR MLR
comp=Z,1μm,20.7s,MS5.2
MOX Moxa 86.64 39 *e*P **P 06 53 33.0 -0.8**
comp=Z,52nm,2.0s,mb5.4
MOX
comp=Z,500nm,22.0s
MOX Moxa 86.64 39 *e*P **P 06 53 33.0 -0.8**
MOX pmax pmax
comp=Z,52nm,2.0s,mb5.4
MOX MLR MLR
comp=Z,500nm,22.0s,MS4.9
VSL Villasalto 86.65 51 *e*P **P 06 53 34.1 +0.3**
comp=Z,62nm,1.4s,mb5.7
MANZ Manzenberg 87.06 40 *e*P **P 06 53 35.5 -0.3**
comp=Z,8.0nm,1.1s,mb4.9
WERD Werda 87.11 40 *e*P **P 06 53 35.5 -0.6**
comp=Z,22nm,1.4s,mb5.2
ROTZ Rotzenmuhle 87.16 40 *e*P **P 06 53 35.9 -0.4**
comp=Z,39nm,1.8s,mb5.3
NKC Novy Kostel 87.23 40⇓*e*P **P 06 53 36.8 +0.1**
NKC *ex* x 07 10 23.7
NKC AMS AMS 07 27 30.0
comp=Z,800nm,22.4s
NKC Novy Kostel 87.23 40 *e*P **P 06 53 36.8 +0.1**
NKC *e*SS SS 07 10 23.7 +25
CLL Collm 87.41 39 *e*P **P 06 53 36.8 -0.7**
comp=Z,24nm,1.2s,mb5.3
CLL Collm 87.41 39⇑*i*P **P 06 53 36.9 -0.6**
comp=Z,14nm,1.0s,mb5.2
CLL *i* (PcP) PcP 06 53 39.3 -0.2
comp=Z,53nm,1.7s
CLL *i* x x 06 53 43.1
CLL *e*SKSac SKSac 07 04 05.0 +1.5
CLL *e*S 07 04 16.0
CLL *e*PS 07 05 20.0
CLL *e*SS SS 07 10 13.0 +11
CLL Collm 87.41 39⇑*i*P **P 06 53 36.9 -0.6**
CLL *e*S 07 04 23.0
CLL pmax pmax
comp=Z,14nm,1.0s,mb5.2
CLL MLR MLR
comp=Z,500nm,20.8s,MS4.9
CLL Collm 87.41 39⇑*i*P **P 06 53 36.9 -0.6**
comp=Z,14nm,1.0s,mb5.2
CLL *i* pP pP 06 53 39.3 -6.4
CLL *e*S 07 04 23.0
CLL LR LR
comp=Z,500nm,20.8s,MS4.9
BRG Berggiesshubel 88.06 39 *e*P **P 06 53 40.3 -0.3**
comp=Z,24nm,1.3s,mb5.3
BRG Berggiesshubel 88.06 39 *e*P **P 06 53 39.7 -1.0**
comp=Z,8.8nm,1.2s,mb4.9
BRG *e* 06 53 43.7
comp=Z,14nm,1.3s
BRG
comp=N,85nm,19.5s
BRG
comp=E,221nm,17.6s
BRG
comp=Z,320nm,17.7s
BRG Berggiesshubel 88.06 39 *e*P **P 06 53 39.7 -0.9**
BRG pmax pmax
comp=Z,9.0nm,1.2s,mb4.9
BRG pmax pmax
comp=Z,14nm,1.3s,mb5.0
BRG MLR MLR
comp=N,85nm,19.5s,MS4.6
BRG MLR MLR
comp=E,221nm,17.6s,MS4.6
BRG MLR MLR
comp=Z,320nm,17.7s,MS4.8
KHC Kasperske Hory 88.14 41⇓*i*P **P 06 53 41.0 0.0**
KHC *ex* x 07 04 47.4
KHC *ex* x 07 10 35.1
KHC AMS AMS 07 27 20.0
comp=Z,800nm,20.2s
GERES GERESS Array B 88.28 41 P **P 06 53 41.3 -0.3**
comp=Z,2.0nm,0.8s,mb4.4,baz=255,slow=2.6,SNR=15
GERES LR LR 07 27 48.6
comp=Z,595nm,20.3s,MS5.0,baz=267,slow=32
KBA Koelnbreinsper 88.35 43⇑*i*P **P 06 53 41.9 0.0**
comp=Z,29nm,1.2s,mb5.4
KBA Koelnbreinsper 88.35 43⇑*i*P **P 06 53 41.9 -0.1**
KBA pmax pmax
comp=Z,29nm,1.3s,mb5.3
KBA Koelnbreinsper 88.35 43⇑*i*P **P 06 53 41.9 -0.1**
comp=Z,29nm,1.3s,mb5.3
PRU Pruhonice 88.60 40⇓*i*P **P 06 53 43.0 -0.2**
PRU *e*S 07 04 32.6
PRU *ex* x 07 10 41.1
PRU AMS AMS 07 28 10.0
comp=Z,800nm,20.9s
PRU Pruhonice 88.60 40 *i* P **P 06 53 43.0 -0.2**
PRU *e*S 07 04 32.6
PRU MLR MLR
comp=Z,800nm,20.9s,MS5.1
ARCES ARCESS Array B 88.78 20 P **P 06 53 42.2 -1.8**
comp=Z,3.6nm,0.9s,mb4.7,baz=288,slow=4.8,SNR=11
MOA Molln 88.83 42⇑*i*P **P 06 53 43.6 -0.6**
comp=Z,9.9nm,1.2s,mb5.0
TREC Trest 89.34 40⇓*i*P **P 06 53 46.2 -0.5**
TREC AMS AMS 07 28 10.0
comp=Z,900nm,19.7s
UPC Upice 89.43 39⇓*i*P **P 06 53 47.4 +0.3**
KSP Ksiaz 89.53 39 *e*P **P 06 53 47.4 -0.1**
DPC Dobruska-Polom 89.65 39 *e*P **P 06 53 48.1 0.0**
DPC *e*S 07 04 46.1
DPC *ex* x 07 10 51.7
DPC AMS AMS 07 28 50.0
comp=Z,600nm,18.0s
BILL Bilibino 90.15 339⇑*e*P **P 06 53 50.5 +0.1**
BILL pmax pmax
comp=Z,52nm,2.6s,mb5.4
BILL MLR MLR
comp=Z,200nm,19.0s,MS4.6
BILL Bilibino 90.15 339 *e*P **P 06 53 50.4 -0.1**
comp=Z,10nm,0.8s,mb5.2
MORC Moravsky Berou 90.55 40 *e*P **P 06 53 51.8 -0.5**
MORC pmax pmax
comp=Z,17nm,1.5s,mb5.2
MORC Moravsky Berou 90.55 40 *e*P **P 06 53 51.8 -0.5**
comp=Z,17nm,1.5s,mb5.2
ZST Bratislava 90.62 41 *e*P **P 06 53 52.4 -0.2**
ZST pmax pmax
comp=Z,111nm,2.7s,mb5.7
ZST MLR MLR
comp=Z,98nm,19.4s,MS4.2
OKC Ostrava-Krasne 90.91 39⇓*ex* x 07 11 23.9
OKC AMS AMS 07 29 50.0
comp=Z,700nm,18.1s
VYHS Vyhne 91.67 41 *e*P **P 06 53 55.3 -2.2**
VYHS pmax pmax
comp=Z,9μm,1.6s
FINES FINESS Array B 91.82 27 LR LR 07 28 58.8
comp=Z,320nm,20.8s,MS4.8,baz=176,slow=32
OJC Ojcow 91.85 39 *e*P **P 06 53 58.3 0.0**
VNA3 Neumayer Olymp 92.30 162 *e*P **P 06 53 59.8 -0.6**
PSZ Piszkesteto 92.50 41 *e*P **P 06 54 02.2 +0.8**
PSZ pmax pmax
comp=Z,48nm,1.8s,mb5.6
PSZ Piszkesteto 92.50 41 *e*P **P 06 54 02.2 +0.8**
comp=Z,48nm,1.8s,mb5.6
VNA1 Neumayer--Stat 92.56 161 *e*P **P 06 54 01.6 0.0**
KECS Kecovo 92.74 40 *e*P **P 06 53 58.4 -4.0**
KECS pmax pmax
comp=Z,4.0nm,0.7s,mb5.0
VNA2 Neumayer--Watz 92.91 161 *e*P **P 06 54 03.0 -0.2**
STHS Stebnicka Huta 92.97 39 *e*P **P 06 54 04.0 +0.5**
STHS pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
KOLS Kolonicke sedl 93.75 40 *e*P **P 06 54 05.6 -1.5**
KOLS pmax pmax
comp=Z,16nm,1.7s,mb5.2
SNAA Sanae 94.52 162 *e*P **P 06 54 10.1 -0.5**
SNAA *e* 06 54 14.5
SNAA *e* 06 54 19.8
SNAA *e* 06 54 24.0
SNAA *e* 06 54 14.5
SNAA *e* 06 54 19.8
SNAA *e* 06 54 24.0
SNAA Sanae 94.52 162 *e* **P 06 54 10.1 -0.5**
TIXI Tiksi 97.69 350⇑*e*P **P 06 54 23.4 -1.6**
KLMR Klimovskoe 97.91 25 *e*P **P 06 54 24.7 -1.3**
KLMR pmax pmax
comp=Z,20nm,1.3s,mb5.5
KLMR MLR MLR
comp=Z,330nm,18.0s,MS4.9
OBN Obninsk 99.50 30⇓*e*P **P 06 54 31.4 -1.8**
OBN *e* 06 58 34.7
OBN *e*S 07 05 09.1
OBN *e*PS PS 07 07 38.4 +4.1
OBN pmax pmax
comp=Z,14nm,1.6s,mb5.1
OBN MLR MLR
comp=Z,300nm,17.0s,MS4.9
BOD Bodaibo 112.87 350 *e*PKIKP PKiKP 06 59 25.8 -1.3
ZAL Zalesovo 117.32 8 PKP PKPdf 06 59 34.1 -1.5
comp=Z,1.4nm,0.4s,baz=208,slow=0.9,SNR=8.0
KURK Kurchatov 119.26 13 *e*PKIKP PKPdf 06 59 38.2 -1.1
MDJ Mudanjiang 119.90 334 PKP PKPdf 06 59 40.7 +0.1
MDJ PP PP 07 01 03.6 -0.9
MDJ PKS 07 03 17.1
MDJ SKS SKSdf 07 06 51.2 +0.3
MDJ SS SS 07 17 28.6 +0.2
MDJ PP PP
comp=Z,149nm,4.4s
MDJ LR LR
comp=N,152nm,18.8s
MDJ LR LR
comp=E,218nm,25.6s
MDJ LR LR
comp=Z,171nm,18.8s,MS4.7
TLY Talaya 120.19 355⇑*i*PKIKP PKPdf 06 59 38.4 -2.7
TLY Talaya 120.19 355⇑*e*PKP PKPdf 06 59 38.5 -2.6
MJAR Matsushiro Arr 121.19 322 PKP PKPdf 06 59 40.7 -2.4
comp=Z,1.5nm,0.4s,baz=60,slow=1.3,SNR=3.8
ZAK Zakamensk 121.50 355 *e*PKIKP PKPdf 06 59 42.7 -1.0
ZAK pmax pmax
comp=Z,8.0nm,1.7s
CN2 Changchun 122.30 336 *e*PKP PKPdf 06 59 41.6 -3.6
CN2 LR LR
comp=N,200nm,21.0s,MS5.0
CN2 LR LR
comp=E,300nm,21.0s,MS5.0
CN2 LR LR
comp=Z,200nm,23.0s,MS4.7
ULN Ulaanbaatar 123.58 352 *e*PKIKP PKPdf 06 59 47.4 -0.2
SONM Songino Array 123.70 352 PKP PKPdf 06 59 47.3 -0.6
comp=Z,3.6nm,0.7s,baz=346,slow=1.4,SNR=24
SONM PP PP 07 01 27.6 -2.7
comp=Z,2.2nm,1.2s,baz=4.7,slow=2.7,SNR=3.6
MKAR Makanchi Array 123.77 12 PKP PKPdf 06 59 45.8 -2.2
comp=Z,1.5nm,0.7s,baz=299,slow=2.4,SNR=21
MKAR Makanchi Array 123.77 12 PKP PKPdf 06 59 45.8 -2.2
AAK Ala-Archa 125.45 20 *e*PKIKP PKPdf 06 59 50.4 -0.8

KS15	**Wonju Array Si**	**126.32**	**330**	*e*PKPdf	PKPdf	06 59 52.4	-0.5
WMQ	**Urumqi**	**127.61**	**9**	⇑PKP	PKPdf	06 59 55.2	-0.2
WMQ				XPKP		07 00 04.7	
WMQ				PP	PP	07 02 00.7	+4.3
WMQ				PP	PP		
	comp=Z,49nm,4.6s						
WMQ				LR	LR		
	comp=N,361nm,22.3s,MS5.1						
WMQ				LR	LR		
	comp=E,221nm,21.5s,MS5.1						
WMQ				LR	LR		
	comp=Z,390nm,21.5s,MS5.0						
KSH	**Kashi**	**128.72**	**21**	*e*PKP	PKPdf	06 59 54.4	-3.1
KSH				*e*XPKP		07 00 06.3	
KSH				PP	PP		
	comp=Z,103nm,4.4s						
KSH				LR	LR		
	comp=N,148nm,5.5s						
KSH				LR	LR		
	comp=E,170nm,7.6s						
KSH				LR	LR		
	comp=Z,236nm,6.6s						
BJI	**Beijing**	**128.95**	**341**	PKP	PKPdf	06 59 57.5	-0.4
BJI				LR	LR		
	comp=N,388nm,18.2s,MS5.3						
BJI				LR	LR		
	comp=E,388nm,18.2s,MS5.3						
HHC	**Hu-ho-hao-te**	**129.50**	**346**	*e*PKP	PKPdf	06 59 58.1	-0.8
HHC				PP	PP	07 02 12.1	+3.4
HHC				PKS		07 03 34.0	
HHC				SKS	SKSdf	07 07 04.1	-4.8
HHC				SKKS	SKKSac	07 08 58.5	-5.7
HHC				SS	SS	07 19 27.6	-1.7
HHC				PP	PP		
	comp=Z,83nm,7.1s						
HHC				LR	LR		
	comp=N,241nm,19.6s,MS5.4						
HHC				LR	LR		
	comp=E,710nm,20.8s,MS5.4						
HHC				LR	LR		
	comp=Z,333nm,19.0s,MS5.0						
STKA	**Stephens Creek**	**132.43**	**234**	PKP	PKPdf	07 00 02.5	-1.9
	comp=Z,2.5nm,0.6s,baz=41,slow=3.6,SNR=9.9						
GTA	**Gaotai**	**132.66**	**357**	*e*PKP	PKPdf	07 00 05.3	+0.4
GTA				PP	PP	07 02 32.5	+3.3
GTA				SKS	SKSdf	07 07 11.9	-2.7
GTA				SKKS	SKKSac	07 09 19.3	-4.3
GTA				SS	SS	07 20 07.2	-0.8
GTA				PP	PP		
	comp=Z,84nm,6.8s						
GTA				LR	LR		
	comp=N,132nm,20.9s,MS5.0						
GTA				LR	LR		
	comp=E,260nm,22.8s,MS5.0						
GTA				LR	LR		
	comp=Z,156nm,25.1s,MS4.6						
SSE	**Sheshan**	**134.71**	**331**	PKP	PKPdf	07 00 06.4	-2.4
SSE				PP	PP	07 02 43.7	+1.5
SSE				SS	SS	07 20 29.8	-2.9
SSE				LR	LR		
	comp=N,54nm,28.5s,MS4.5						
SSE				LR	LR		
	comp=E,133nm,28.4s,MS4.5						
SSE				LR	LR		
	comp=Z,203nm,20.9s						
NJ2	**Nanjing**	**134.99**	**334**	*e*PKP	PKPdf	07 00 08.5	-0.8
NJ2				XPKP		07 00 22.0	
NJ2				PP	PP	07 02 48.0	+4.0
NJ2				PKS		07 03 44.0	
NJ2				PPP		07 05 44.0	
NJ2				PP	PP		
	comp=Z,470nm,7.1s						
NJ2				LR	LR		
	comp=N,430nm,19.5s,MS5.4						
NJ2				LR	LR		
	comp=E,630nm,20.5s,MS5.4						
NJ2				LR	LR		
	comp=Z,190nm,18.1s,MS4.9						
LZH	**Lanzhou**	**135.59**	**352**	*e*PKP	PKPdf	07 00 12.0	+1.6
LZH				XPKP		07 00 22.0	
LZH				PP	PP	07 02 55.0	+7.2
LZH				SKS	SKSdf	07 07 18.0	-1.8
LZH				SKKS	SKKSac	07 09 42.0	+0.6
LZH				PP	PP		
	comp=Z,250nm,5.0s						
LZH				LR	LR		
	comp=E,660nm,16.0s						
LZH				LR	LR		
	comp=Z,960nm,20.0s,MS5.5						
SMLA	**Simla**	**136.56**	**25**	*e*P	PKPdf	07 00 10.3	-2.0
SMLA				AMb	AMB	07 00 15.4	
	comp=Z,47nm,1.9s						
XAN	**Xi'an**	**136.61**	**346**	PKP	PKPdf	07 00 12.6	+0.3
DDI	**Dehra Dun**	**137.63**	**25**	*e*P	PKPdf	07 00 13.5	-0.7
NDI	**New Delhi**	**138.69**	**27**	*e*P	PKPdf	07 00 15.7	-0.4
NDI				AMb	AMB	07 00 34.4	
	comp=Z,75nm,0.8s						
AJM	**Ajmer**	**139.28**	**32**	*e*P	PKPdf	07 00 14.1	-3.1
AJM				AMb	AMB	07 00 15.4	
	comp=Z,11nm,0.5s						
CD2	**Chengdu**	**140.68**	**351**	*e*PKP	PKPdf	07 00 20.4	+0.6
ASAR	**Alice Springs**	**141.53**	**242**	PKhKP		07 00 15.7	
	comp=Z,4.7nm,0.6s,baz=122,slow=3.7,SNR=76						
ASAR	**Alice Springs**	**141.53**	**242**	PKHKP		07 00 15.7	
ASAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
LSA	**Lhasa**	**141.98**	**8**	*e*PKP	PKPdf	07 00 23.0	+0.9
KOLN	**Koldanda**	**142.01**	**20**	*e*P	PKPdf	07 00 16.7	-5.5
	comp=Z,76nm,1.4s						
WB2	**Warramunga Arr**	**142.10**	**248**	*e*PKP	PKPdf	07 00 17.4	-4.9
WRAB	**Tennant Creek**	**142.10**	**248**	*e*PKHKP		07 00 17.3	
WRA	**Warramunga Arr**	**142.11**	**248**	PKhKP		07 00 17.6	
	comp=Z,17nm,0.8s,baz=103,slow=2.9,SNR=66						
WRA	**Warramunga Arr**	**142.11**	**248**	PKHKP		07 00 17.6	
WRA				pmax	pmax		
	comp=Z,17nm,0.8s						
GKN	**Gorkha**	**142.13**	**18**	*e*P	PKPdf	07 00 17.2	-5.2
	comp=Z,69nm,1.1s						
KKN	**Kakani**	**142.52**	**17**	*e*P	PKPdf	07 00 18.1	-5.0
	comp=Z,24nm,0.6s						
GUN	**Gumba**	**142.58**	**16**	*e*P	PKPdf	07 00 19.3	-3.9
	comp=Z,87nm,1.2s						
DMN	**Daman**	**142.64**	**18**	*e*P	PKPdf	07 00 19.2	-4.1
	comp=Z,73nm,1.2s						
PKI	**Pulchoki**	**142.77**	**17**	*e*P	PKPdf	07 00 19.5	-4.0
	comp=Z,32nm,0.9s						
JIRN	**Jiri**	**142.91**	**16**	*e*P	PKPdf	07 00 20.3	-3.4
BHPL	**Bhopal**	**143.37**	**31**	*e*P	PKPdf	07 00 21.9	-2.7
BHPL				AMb	AMB	07 00 26.9	
	comp=Z,35nm,1.1s						
GYA	**Guiyang**	**144.41**	**345**	⇑*i*PKP	PKPdf	07 00 24.7	-1.7
GYA				APKP		07 00 35.2	
GYA				XPKP		07 00 39.1	
GYA				SKS	SKSdf	07 07 28.6	-5.5
GYA				PP	PP		
	comp=Z,180nm,6.8s						
GYA				LR	LR		
	comp=N,160nm,19.8s,MS4.9						
GYA				LR	LR		
	comp=E,140nm,20.0s,MS4.9						
GYA				LR	LR		
	comp=Z,180nm,20.2s,MS4.8						
POO	**Poona**	**144.97**	**41**	⇑*i*P	PKPdf	07 00 25.0	-2.4
	comp=Z,60nm,1.0s						
POO	**Poona**	**144.97**	**41**	⇑*i*P	PKPdf	07 00 25.0	-2.4
	comp=Z,60nm,1.0s						
KAKA	**Kakadu**	**144.97**	**259**	*e*PKP	PKPdf	07 00 27.4	0.0
	comp=Z,80nm,0.9s						
AKL	**Akola**	**145.22**	**34**	*i* x	x	06 59 53.1	
AKL				*i* x	x	07 06 02.3	
NGP	**Nagpur**	**145.94**	**31**	*e*P	PKPdf	07 00 29.6	+0.6
NGP				AMb	AMB	07 00 34.2	
	comp=Z,192nm,1.2s						
KAD	**Karad**	**146.07**	**42**	⇑*i*P	PKPdf	07 00 29.3	+0.1
SHL	**Shillong**	**146.14**	**8**	*e*P	PKPdf	07 00 29.0	-0.4
SHL				*ex*	x	07 04 05.0	
BOK	**Bokaro**	**146.45**	**19**	*e*P	PKPdf	07 00 30.5	+0.6
BOK				AMb	AMB	07 00 37.4	
	comp=Z,144nm,1.7s						
KMI	**Kunming**	**146.52**	**351**	PKP	PKPdf	07 00 31.1	+1.1
HYB	**Hyderabad**	**148.70**	**36**	*i* PKP	PKPdf	07 00 34.0	+0.4
HYB				*e*		07 00 37.0	
HYB	**Hyderabad**	**148.70**	**36**	*e*P	PKPdf	07 00 37.0	+3.4
KLBR	**Kellerberrin**	**149.74**	**217**	*e*PKP	PKPdf	07 00 36.6	+1.3
	comp=Z,122nm,1.6s						
QIZ	**Qiongzhong**	**150.25**	**335**	PKP	PKPdf	07 00 39.0	+2.9
QIZ				PP	PP	07 04 19.9	+3.6
QIZ				LR	LR		
	comp=N,177nm,19.9s,MS5.1						
QIZ				LR	LR		
	comp=E,191nm,17.7s,MS5.1						
QIZ				LR	LR		
	comp=Z,321nm,20.3s,MS5.1						
QIZ	**Qiongzhong**	**150.25**	**335**	*e*PKPbc	PKPbc	07 00 41.4	+0.1
MUN	**Mundaring**	**150.34**	**214**	*e*PKP	PKPdf	07 00 39.5	+3.3
FITZ	**Fitzroy Crossi**	**150.53**	**247**	*e*PKP	PKPdf	07 00 36.8	+0.3
	comp=Z,45nm,0.8s						
FITZ	**Fitzroy Crossi**	**150.53**	**247**	PKP	PKPdf	07 00 36.3	-0.2
	comp=Z,6.1nm,1.0s,baz=74,slow=4.8,SNR=4.1						
FITZ				PKPbc	PKPbc	07 00 42.2	+0.3
	comp=Z,23nm,0.7s,baz=162,slow=3.1,SNR=22						
VIS	**Vishakhapatnam**	**150.95**	**28**	*e*P	PKPdf	07 00 37.6	+0.4

IDC ***02*** *06:47:06.2±1.5, 19.10N×6687W, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/18, mbtmp3.5/3, Error ellipse: s-maj=42.4km s-min=20.2km az=64.0*

ISCJB ***02*** *06:47:10.3±1.1, 19.17N±007×6676W±005, h44km±13km, mb3.6/3, Error ellipse: s-maj=12.2km s-min=7.8km az=158.8*

RSPR ***02*** *06:47:11.4, 1921N×6676W, h33km±11km, MD3.6/15, MD3.6/15*

NEIC ***02*** *06:47:11.4, 1921N×6676W, h33km, MD3.6(RSPR), After RSPR.*

ISC 02 06:47:10.3±1.1, 1915N±005×6676W±006, h28km±8km, n21, σ0§56/31, mb3.6/3, 12C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.76**	**206**	⇑*e*P		**Pb**	**06 47 24.7**	**-0.3**
AGPR				*e*S		**Sb**	**06 47 35.4**	**+0.4**
AOPR	**Arecibo Observ**	**0.80**	**179**	⇑*e*P		**Pb**	**06 47 25.4**	**-0.3**
AOPR				*e*S		**Sb**	**06 47 36.6**	**+0.5**
LSP	**Las Mesas**	**1.02**	**198**	⇓*e*P		**Pn**	**06 47 28.3**	**-0.5**
CELP	**Cerrillos**	**1.09**	**171**	⇑*i*P		**Pn**	**06 47 29.8**	**+0.1**
OBIP	**Obispado Ponce**	**1.11**	**173**	⇑*e*P		**Pn**	**06 47 30.2**	**+0.1**
OBIP				*e*S		**Sn**	**06 47 44.8**	**+0.3**
MGP	**Maguayo**	**1.18**	**195**	⇓*i*P		**Pn**	**06 47 30.7**	**-0.3**
SJG	**San Juan**	**1.19**	**151**	⇑*e*P		**Pn**	**06 47 31.4**	**+0.4**
SJG	**San Juan**	**1.19**	**151**	Pn		**Pn**	**06 47 30.9**	**-0.2**
	32nm,0.3s,baz=321,slow=11,SNR=33						
SJG				Sn		**Sn**	**06 47 48.3**	**+2.0**
	72nm,0.3s,baz=328,slow=19,SNR=15						
SJG	**San Juan**	**1.19**	**151**	⇑*e*P		**Pn**	**06 47 31.4**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.19**	**196**	⇑*e*P		**Pn**	**06 47 30.8**	**-0.3**
CRPR				*e*S		**Sn**	**06 47 46.1**	**-0.3**
CBYP	**Canovanas**	**1.23**	**136**	⇑*e*P		**Pn**	**06 47 31.2**	**-0.4**
CBYP				*e*S		**Sn**	**06 47 46.6**	**-0.6**
ICM	**Isla Caja Muer**	**1.27**	**170**	⇑*e*P		**Pn**	**06 47 32.8**	**+0.5**
ICM				*e*S		**Sn**	**06 47 48.3**	**-0.2**
HUMP	**Col San Antoni**	**1.32**	**139**	⇓*e*P		**Pn**	**06 47 32.7**	**-0.2**
HUMP				*e*S		**Sn**	**06 47 49.0**	**-0.7**
CPD	**Cerro la Pandu**	**1.37**	**144**	⇓*e*P		**Pn**	**06 47 33.7**	**+0.1**
CPD				*e*S		**Sn**	**06 47 50.3**	**-0.4**
MTP	**Monte Pirata**	**1.55**	**133**	⇑*e*P		**Pn**	**06 47 35.7**	**-0.4**
MTP				*e*S		**Sn**	**06 47 55.6**	**+0.3**
CULB	**Culebra**	**1.59**	**122**	⇑*e*P		**Pn**	**06 47 36.3**	**-0.4**
STVI	**Saint Thomas**	**1.88**	**115**	⇑*e*P		**Pn**	**06 47 40.3**	**-0.3**
TBVI	**Tortola**	**2.17**	**110**	⇑*e*P		**Pn**	**06 47 45.1**	**+0.6**
CPUP	**Villa Florida**	**46.13**	**168**	P		**P**	**06 55 31.6**	**-0.6**
	0.3nm,0.3s,mb3.6,baz=3.8,slow=12,SNR=3.5						
YKA	**Yellowknife Ar**	**54.31**	**335**	P		**P**	**06 56 34.4**	**+0.3**
	0.3nm,0.7s,mb3.3,baz=112,slow=7.5,SNR=4.7						
TORD	**Torodi Ar. Bea**	**65.67**	**84**	P		**P**	**06 57 53.3**	**+1.2**
	0.7nm,0.8s,mb3.7,baz=282,slow=7.2,SNR=2.9						

IDC 02 07:02:02.6±2.2, 774S×13039E, h0km, mb3.6/1, mb1 3.6/4, mb1mx3.5/12, mbtmp3.4/4, ML3.4/3, Error ellipse: s-maj=81.2km s-min=28.7km az=78.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.29**	**204**	Pn	Pn	07 04 46.5	+1.2
	0.2nm,0.3s,baz=295,slow=22,SNR=21						
FITZ				Sn	Sn	07 06 41.7	-10
	0.2nm,0.3s,baz=180,slow=20,SNR=3.4						
WRA	**Warramunga Arr**	**12.72**	**163**	Pn	Pn	07 05 04.6	-0.1
	0.3nm,0.3s,baz=344,slow=13,SNR=9.7						
WRA				Sn	Sn	07 07 20.3	-6.8
	0.2nm,0.3s,baz=332,slow=22,SNR=4.5						
ASAR	**Alice Springs**	**16.20**	**168**	Pn	Pn	07 05 50.9	-0.6
	0.1nm,0.3s,baz=348,slow=9.7,SNR=3.9						
MKAR	**Makanchi Array**	**69.05**	**327**	P	P	07 13 10.3	+0.1
	0.3nm,0.5s,baz=117,slow=7.4,SNR=5.9						

ISCJB ***02*** *07:02:39.6±0.7, 3671N±007×528E±009, h10km, Error ellipse: s-maj=13.5km s-min=5.8km az=86.8*

MDD ***02*** *07:02:41.4±0.9, 3667N×532E, h0km, mb4.0/1, Error ellipse: s-maj=9.4km s-min=8.2km az=84.0, PRXIMO*

CSEM ***02*** *07:02:42.9, 3652N×563E, h0km, ML3.1, After ALG*

CRAAG ***02*** *07:02:42.9, 3652N×563E, Ml3.1*

ISC 02 07:02:40.4±0.7, 3670N±007×535E±009, h10km, n8, σ1§12/9, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DFRA	**Djebel Bou Aff**	**0.45**	**110**	P		**Pg**	**07 02 48.7**	**-0.5**
SET	**Setif**	**0.51**	**175**	P		**Pg**	**07 02 49.0**	**-1.2**
CKHR	**Kef el Ahmar**	**0.70**	**169**	P		**Pg**	**07 02 55.3**	**+1.4**
CASM	**Ain Smara**	**1.02**	**115**	P		**Pg**	**07 02 59.0**	**-1.0**
CKFL	**Kef-Lekhel**	**1.14**	**105**	P		**Pb**	**07 03 02.0**	**-0.2**
CAEH	**`Ain El Ouahch**	**1.21**	**86**	P		**Pn**	**07 03 05.0**	**+1.7**
ETOS	**Mallorca**	**3.65**	**328**	P		**Pn**	**07 03 38.3**	**+1.3**
	3.1nm,0.2s,SNR=7.9						
ETOS				S		**Sn**	**07 04 18.7**	**-1.4**
	0.7nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**3.93**	**307**	S		**Sn**	**07 04 27.0**	**+0.1**
	2.5nm,0.4s,SNR=7.9						

IDC ***02*** *07:25:29.7±0.9, 2685S×7098W, h0km, mb4.1/6, mb1 4.2/7, mb1mx4.0/15, mbtmp4.1/7, ML4.3/1, MS3.5/2, Ms1 3.6/2, ms1mx3.2/14, Error ellipse: s-maj=31.9km s-min=27.9km az=115.0*

ISCJB ***02*** *07:25:33.4±0.6, 2682S±004×7105W±008, h33km, mb4.0/6, MS3.7/1, Error ellipse: s-maj=10.3km s-min=5.1km az=3.2*

GUC ***02*** *07:25:33.7±0.9, 2689S×7101W, h31km±5km, ML4.6*

NEIC ***02*** *07:25:33.7, 2689S×7101W, h31km, ML4.6(GUC), After GUC.*

ISC 02 07:25:35.2±0.6, 2683S±004×709W±01, h35km, (h43km±2.9km:pP-P), n25, σ1§17/27, mb4.0/6, MS3.7/1, 1C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.25**	**165**	⇑*i*P		**Pn**	**07 25 40.5**	**-2.1**
CDCH				*i* S		**Sn**	**07 25 45.2**	**-2.4**
CDCH				AML	AML	07 25 45.5	
	comp=N,101μm,0.2s						
CRCH	**Chaqaral**	**0.54**	**28**	*e*P		**Pn**	**07 25 46.4**	**0.0**
CRCH				*i* S		**Sn**	**07 25 54.9**	**+0.7**
CRCH				AML	AML	07 25 55.3	
	comp=N,22μm,0.4s						
CRCH	**Chaqaral**	**0.54**	**28**	*e*P		**Pn**	**07 25 46.4**	**0.0**
CRCH				*i* S		**Sn**	**07 25 54.9**	**+0.7**
CPCH	**Copiapo**	**0.72**	**137**	⇓*i*P		**Pn**	**07 25 47.9**	**-0.9**
CPCH				*i* S		**Sn**	**07 25 58.6**	**-0.1**
LCO	**Las Campanas**	**2.18**	**175**	*e*P		**Pn**	**07 26 09.0**	**0.0**
LCO				*i* S		**Sn**	**07 26 35.9**	**+1.1**
TLL	**Tololo Astrono**	**3.33**	**179**	*e*P		**Pn**	**07 26 25.5**	**+0.7**
TLL				AML	AML	07 27 24.6	
	comp=E,3μm,0.5s						
CMCH	**Combarbala**	**4.33**	**181**	*e*P		**Pn**	**07 26 36.9**	**-1.6**
CFAA	**Coronel Fontan**	**5.30**	**155**	Pn		**Pn**	**07 26 54.8**	**+3.0**
	comp=E,0.5nm,0.3s,baz=27,slow=9.6,SNR=24						
CFAA				Sn		**Sn**	**07 27 56.1**	**+4.5**
	comp=E,1.6nm,0.3s,baz=234,slow=20,SNR=5.0						
CFAA				Lg			07 28 05.8	
	comp=E,3.3nm,0.3s,baz=112,slow=16,SNR=12						
FCH	**Farellones**	**6.50**	**175**	*e*P		**Pn**	**07 27 08.7**	**+0.4**
LPAZ	**La Paz**	**10.80**	**14**	LR	LR	07 31 09.7	
	comp=E,111nm,18.0s,baz=80,slow=31						
CPUP	**Villa Florida**	**12.16**	**91**	Pn		**Pn**	**07 28 30.8**	**+5.0**
	comp=E,0.2nm,0.3s,baz=244,slow=12,SNR=3.4						
SIV	**San Ignacio**	**14.13**	**42**	Pn		**Pn**	**07 28 50.0**	**-2.8**
	comp=E,0.7nm,0.3s,baz=233,slow=10,SNR=12						
SAML	**Samuel**	**19.23**	**24**	*e*P		**Pn**	**07 29 56.8**	**-0.6**
BDFB	**Brasilia**	**24.02**	**67**	P		**P**	**07 30 46.8**	**0.0**
	comp=E,2.6nm,0.4s,mb4.0,baz=251,slow=7.8,SNR=9.6						
BDFB				LR	LR	07 41 36.8	
	comp=E,257nm,18.6s,MS3.7,baz=279,slow=40						
VNA3	**Neumayer Olymp**	**55.68**	**160**	*e*		**P**	**07 35 08.8**	**+0.9**
VNA3				*e*			07 35 13.4	
VNA3				*e*			07 35 15.8	
VNA3				*e*		pP	07 35 20.2	+1.8
VNA3				*e*		pP	07 35 21.8	+3.4
VNA3				*e*			07 35 33.0	
VNA3				*e*			07 35 37.8	
VNA2	**Neumayer--Watz**	**56.29**	**159**	*e*		**P**	**07 35 13.3**	**+1.0**
	baz=291,slow=8.4						
VNA2				*e*			07 35 17.8	
VNA2				*e*			07 35 20.2	
VNA2				*e*		pP	07 35 24.5	+1.6
VNA2				*e*		pP	07 35 26.2	+3.3
VNA2				*e*			07 35 38.5	
VNA2				*e*			07 35 44.9	
SNAA	**Sanae**	**57.90**	**160**	P		**P**	**07 35 22.9**	**-0.7**
	comp=E,1.3nm,0.8s,mb4.0,baz=285,slow=8.8,SNR=17						
SNAA	**Sanae**	**57.90**	**160**	*e*		**P**	**07 35 24.1**	**+0.5**
SNAA				*e*			07 35 29.0	
SNAA				*e*			07 35 31.1	
SNAA				*e*		pP	07 35 35.4	+1.2
SNAA				*e*			07 35 49.6	
SNAA				*e*			07 35 54.4	
DBIC	**Dimbokro**	**72.03**	**73**	P		**P**	**07 36 56.5**	**+1.1**
	comp=E,1.3nm,0.5s,mb4.1,baz=201,slow=7.7,SNR=3.6						
PDAR	**Pinedale Array**	**77.87**	**332**	P		**P**	**07 37 28.6**	**-0.6**
	comp=E,0.2nm,0.4s,mb3.4,baz=160,slow=6.0,SNR=3.8						
TORD	**Torodi Ar. Bea**	**80.86**	**70**	P		**P**	**07 37 46.9**	**+1.4**
	comp=E,6.2nm,0.6s,mb4.7,baz=266,slow=5.1,SNR=64						
YKA	**Yellowknife Ar**	**95.60**	**341**	P		**P**	**07 38 56.7**	**-0.1**
	comp=E,0.3nm,0.8s,mb3.8,baz=135,slow=5.1,SNR=10						
ASAR	**Alice Springs**	**124.37**	**208**	PKP	PKPdf	07 44 30.2	-0.1
	comp=E,0.3nm,0.8s,baz=103,slow=1.7,SNR=4.2						
WRA	**Warramunga Arr**	**127.46**	**210**	PKP	PKPdf	07 44 37.0	+0.7
	comp=E,0.3nm,0.8s,baz=161,slow=1.7,SNR=7.7						
MKAR	**Makanchi Array**	**150.94**	**40**	PKPbc	PKPbc	07 45 25.3	+1.2
	comp=E,5.6nm,0.7s,baz=321,slow=2.3,SNR=73						

ISCJB ***02*** *07:26:57.6±1.6, 3591N±009×2.1E±0.1, h0km, Error ellipse: s-maj=16.7km s-min=9.5km az=79.1*

MDD ***02*** *07:26:59.4±1.3, 3585N×2.10E, h0km, Error ellipse: s-maj=14.5km s-min=7.7km az=135.0, PRXIMO*

CRAAG ***02*** *07:27:03.4, 3610N×294E, Ml3.2*

CSEM ***02*** *07:27:03.4, 3610N×294E, h0km, ML3.2, After ALG*

ISC 02 07:26:58.0±1.7, 3589N±009×22E±01, h0km, n7, σ0§92/8, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EBNR	**Beni Rached**	**0.65**	**309**	P		**Pg**	**07 27 11.2**	**+0.7**
ECHA	**Ech Chlef**	**0.70**	**292**	P		**Pg**	**07 27 12.0**	**+0.7**
EMHD	**Djebel Mahouad**	**0.71**	**64**	P		**Pg**	**07 27 06.0**	**-5.7**
ETRT	**Tiaret**	**0.86**	**235**	P		**Pg**	**07 27 15.0**	**+0.5**
EANR	**`Ain N'Sour**	**0.86**	**275**	P		**Pg**	**07 27 12.5**	**-2.1**
ABA	**Alger-Bouzarea**	**1.16**	**37**	P		**Pg**	**07 27 20.0**	**-0.1**
EIBI	**Ibiza**	**3.20**	**349**	P		**Pn**	**07 27 54.1**	**+4.6**
	6.6nm,1.2s,SNR=7.9						
EIBI				S		**Sn**	**07 28 28.3**	**-0.1**
	5.0nm,0.7s,SNR=7.9						

IDC 02 07:30:28.8±2.9, 880S×11994E, h0km, mb3.6/1, mb1 3.4/3, mb1mx3.3/14, mbtmp3.2/3, ML3.0/2, Error ellipse: s-maj=284.7km s-min=28.7km az=51.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.79**	**130**	P	Pn	07 34 36.7	-1.1
	0.0nm,0.3s,baz=299,slow=13,SNR=3.1						
ASAR	**Alice Springs**	**19.93**	**140**	P	Pn	07 35 03.5	-0.1
	0.1nm,0.3s,baz=322,slow=9.5,SNR=5.1						
MKAR	**Makanchi Array**	**64.71**	**332**	P	P	07 41 08.7	0.0
	0.3nm,0.4s,baz=146,slow=5.5,SNR=5.4						

GUC 02 08:01:24.3±1.1, 2740S×7158W, h46km±7km, ML3.8, 3C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.74**	**64**	⇑*i*P		**Pn**	**08 01 38.7**	**+0.3**
CDCH				*i* S		Sn	08 01 49.7	+1.1
CPCH	**Copiapo**	**1.09**	**88**	*i* P		Pn	08 01 43.4	+0.3
CPCH				*i* S		Sn	08 01 58.8	+1.8
CPCH				AML	AML	08 01 59.9	
	comp=E,8μm,0.2s						
CRCH	**Chaqaral**	**1.35**	**39**	⇑*i*P		Pn	08 01 49.5	+2.9
CRCH				*i* S		Sn	08 02 06.4	+3.0
CRCH				AML	AML	08 02 19.4	
	comp=E,584nm,0.5s						
LCO	**Las Campanas**	**1.79**	**155**	⇑*i*P		Pn	08 01 54.5	+1.8
LCO				*i* S		Sn	08 02 16.2	+2.1
TLL	**Tololo Astrono**	**2.84**	**166**	*i* S		Sn	08 02 41.9	+1.7
TLL				AML	AML	08 03 01.3	
	comp=E,979nm,0.5s						

IDC 02 08:04:18.1±7.5, 2025S×6831W, h138km±50km, mb3.8/2, mb1 4.0/4, mb1mx3.5/15, mbtmp4.3/4, Error ellipse: s-maj=77.5km s-min=30.2km az=36.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.94**	**2**	P		Pn	08 05 19.1	+1.7
	8.7nm,0.3s,baz=198,slow=5.4,SNR=235						
LPAZ				S		Sn	08 06 04.8	+1.6
	baz=136,slow

	4.6nm,0.2s,SNR=7.3							
ERON				S		Sn	08 21 46.2	+1.2
	6.2nm,0.2s,SNR=6.8							
EJIF	**Jimena Fronter**	**1.62**	**310**	P		Pn	08 21 24.7	-0.3
	2.2nm,0.2s,SNR=7.9							
EJIF				S		Sn	08 21 46.0	+0.4
	13nm,0.6s,SNR=7.9							
ELOJ	**Sierra Loja**	**1.73**	**354**	P		Pn	08 21 27.0	+0.5
	1.6nm,0.1s,SNR=7.9							
ELOJ				S		Sn	08 21 49.2	+0.9
	7.1nm,0.4s,SNR=7.9							
EQUE	**Quentar**	**1.82**	**12**	P		Pn	08 21 28.7	+1.0
	3.8nm,0.3s,SNR=5.8							
EQUE				S		Sn	08 21 50.4	-0.1
	5.3nm,0.5s,SNR=4.7							
ECOG	**Cogollos-Vega**	**1.87**	**9**	P		Pn	08 21 28.8	+0.3
ECOG				S		Sn	08 21 53.3	+1.5
ECOG	**Cogollos-Vega**	**1.87**	**9**	P		Pn	08 21 28.8	+0.4
ECOG				S		Sn	08 21 53.3	+1.5
ENIJ	**Nijar**	**2.07**	**41**	P		Pn	08 21 31.0	-0.3
ENIJ				S		Sn	08 21 55.2	-1.5
ENIJ	**Nijar**	**2.07**	**41**	P		Pn	08 21 31.0	-0.2
ENIJ				S		Sn	08 21 55.2	-1.6
ESPR	**Espera**	**2.13**	**313**	P		Pn	08 21 31.0	-1.0
ESPR				S		Sn	08 21 58.1	-0.1
ESPR	**Espera**	**2.13**	**313**	P		Pn	08 21 31.0	-1.0
ESPR				S		Sn	08 21 58.1	-0.1
	6.0nm,0.2s,SNR=7.9							
EQES	**Quesada**	**2.47**	**16**	P		Pn	08 21 37.5	+0.9
	5.1nm,0.3s,SNR=6.0							
EQES				S		Sn	08 22 08.2	+1.6
	9.3nm,0.3s,SNR=5.0							
EQES	**Quesada**	**2.47**	**16**	P		Pn	08 21 37.5	+0.8
	5.1nm,0.3s,SNR=6.0							
EQES				S		Sn	08 22 08.2	+1.6
	9.3nm,0.3s,SNR=5.0							
CZD	**Col de Zad**	**2.56**	**202**	*e*P		Pn	08 21 38.0	+0.1
CZD				*i* S		Sn	08 22 10.0	+1.2
EHUE	**Huescar**	**2.61**	**24**	P		Pn	08 21 38.1	-0.6
EHUE				S		Sn	08 22 09.8	-0.3
EHUE	**Huescar**	**2.61**	**24**	P		Pn	08 21 38.1	-0.5
EHUE				S		Sn	08 22 09.8	-0.3
	3.0nm,0.2s,SNR=4.0							
EADA	**Adamuz**	**2.79**	**349**	P		Pn	08 21 41.8	+0.8
	1.8nm,0.2s,SNR=7.9							
EADA				S		Sn	08 22 14.2	-0.2
	3.5nm,0.3s,SNR=7.9							
EADA	**Adamuz**	**2.79**	**349**	P		Pn	08 21 41.8	+0.8
	1.8nm,0.2s,SNR=7.9							
EADA				S		Sn	08 22 14.2	-0.2
	3.5nm,0.3s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.22**	**317**	P		Pn	08 21 46.4	-0.6
	1.2nm,0.3s,SNR=14							
EMIN				S		Sn	08 22 21.8	-3.3
	2.6nm,0.2s,SNR=5.6							
EMIN	**Mina Concepcio**	**3.22**	**317**	P		Pn	08 21 46.4	-0.6
	1.2nm,0.3s,SNR=14							
EGRO	**El Granado**	**3.56**	**307**	P		Pn	08 21 51.1	-0.6
	2.7nm,0.3s,SNR=20							
EGRO				S		Sn	08 22 30.0	-3.5
	9.9nm,0.2s,SNR=5.5							
EGRO	**El Granado**	**3.56**	**307**	P		Pn	08 21 51.1	-0.6
EGRO				S		Sn	08 22 29.4	-4.1
EGRO	**El Granado**	**3.56**	**307**	P		Pn	08 21 51.1	-0.6
	2.7nm,0.3s,SNR=20							
ETOB	**Tobarra**	**3.73**	**30**	P		Pn	08 21 54.3	+0.2
	0.8nm,0.2s,SNR=7.9							
ETOB	**Tobarra**	**3.73**	**30**	P		Pn	08 21 54.3	+0.3
	0.8nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**4.14**	**324**	P		Pn	08 21 59.2	-0.4
	1.2nm,0.3s,SNR=4.9							
EBAD				S		Sn	08 22 44.4	-3.5
	6.5nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**4.14**	**324**	P		Pn	08 21 59.2	-0.5
	1.2nm,0.3s,SNR=4.9							
ESDC	**Sonseca Array**	**4.24**	**360**	P		Pn	08 22 01.8	+0.8
ESDC				S		Sn	08 22 49.0	-1.3
ESDC	**Sonseca Array**	**4.24**	**360**	P		Pn	08 22 01.8	+0.8
ESDC				S		Sn	08 22 49.0	-1.3

NNC 02 08:28:09.6±0.6, 3835N×6674E, h33km, mb3.4, mpv3.5, 3C-1D, Error ellipse: s-maj=6.8km s-min=2.7km az=170.0, Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.54**	**30**	⇑P*n*	Pn	08 29 32.5	+2.7
	1.4nm,0.2s,baz=214,slow=13,SNR=114						
KK31				⇑Lg		08 31 06.2	
	4.6nm,0.5s,baz=216,slow=30,SNR=4.9						
AB31	**Akbulak array**	**11.95**	**338**	⇓P	Pn	08 30 57.4	-0.1
	0.2nm,0.3s,baz=162,slow=14,SNR=14						
BVA0	**Borovoye Array**	**14.89**	**9**	⇑P	Pn	08 31 37.5	-0.2
	0.2nm,0.6s,baz=182,slow=12,SNR=8.4						

*IDC **02** 08:32:59.7±1.1, 955S×115.12E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.9/16, mbtmp4.0/6, ML4.0/1, MS3.6/1, Ms1 3.6/1, ms1mx2.2/22, Error ellipse: s-maj=54.5km s-min=16.9km az=44.0*
*NEIC **02** 08:33:02.6±1.0, 1006S×11465E, h25km, mb4.2/3, Error ellipse: s-maj=28.7km s-min=15.5km az=224.0*
NEIC Felt [III] at Denpasar, Bali and [II] at Bima, Sumbawa.
*ISCJB **02** 08:33:05.8±3.0, 104S±0.3×1149E±0.3, h33km, mb4.0/6, Error ellipse: s-maj=43.4km s-min=28.8km az=101.6*

ISC 02 08:33:03.8±1.2, 101S±02×1146E±02, h35km, n15, σ1§00/16, mb4.0/6, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**12.09**	**156**	*e*P*n*	**Pn**	**08 35 52.5**	**-1.0**
FITZ	**Fitzroy Crossi**	**13.36**	**128**	*e*P	**Pn**	**08 36 07.5**	**-3.3**
	6.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**13.36**	**128**	P*n*	**Pn**	**08 36 07.6**	**-3.2**
	0.6nm,0.3s,baz=277,slow=8.0,SNR=16						
FITZ				S*n*	**Sn**	**08 38 28.6**	**-9.4**
	0.4nm,0.3s,baz=180,slow=20,SNR=3.2						
KAKA	**Kakadu**	**17.69**	**100**	*e*P	**Pn**	**08 37 07.2**	**-0.1**
	7.2nm,0.8s						
WRA	**Warramunga Arr**	**21.43**	**120**	P	**P**	**08 37 48.8**	**+0.1**
	1.4nm,0.4s,mb3.7,baz=294,slow=12,SNR=18						
WRAB	**Tennant Creek**	**21.43**	**120**	*e*P	**P**	**08 37 48.5**	**-0.3**
	6.0nm,0.6s,mb4.1						
WB2	**Warramunga Arr**	**21.44**	**120**	*e*P	**P**	**08 37 49.7**	**+0.9**
ASAR	**Alice Springs**	**22.86**	**129**	P	**P**	**08 38 04.8**	**+0.9**
	3.2nm,0.5s,mb4.0,baz=304,slow=8.9,SNR=50						
ASAR				S	**S**	**08 42 15.1**	**+4.0**
	0.6nm,0.8s,baz=305,slow=22,SNR=3.5						
ASAR	**Alice Springs**	**22.86**	**129**	P	**P**	**08 38 04.8**	**+0.9**
ASAR				S	**S**	**08 42 15.1**	**+4.0**
STKA	**Stephens Creek**	**33.09**	**135**	P	**P**	**08 39 36.7**	**+0.5**
	1.4nm,0.5s,mb4.2,baz=314,slow=13,SNR=6.3						
MKAR	**Makanchi Array**	**63.53**	**336**	P	**P**	**08 43 29.8**	**-0.8**
	0.3nm,0.4s,mb3.7,baz=155,slow=7.9,SNR=4.9						
SNAA	**Sanae**	**88.78**	**196**	P	**P**	**08 45 58.8**	**+4.9**
	0.5nm,0.5s,mb4.1,baz=154,slow=5.8,SNR=14						
SNAA	**Sanae**	**88.78**	**196**	*e*P	**P**	**08 45 55.7**	**+1.8**
	1.2nm,0.5s,mb4.5						
YKA	**Yellowknife Ar**	**116.91**	**23**	PKP	PKPdf	08 51 44.4	-0.2
	0.1nm,0.5s,baz=310,slow=1.9,SNR=6.1						
YKA	**Yellowknife Ar**	**116.91**	**23**	PKP	PKPdf	08 51 44.4	-0.2

*IDC **02** 08:49:31.7±1.5, 5162N×17703E, h0km, mb3.4/4, mb1 3.9/6, mb1mx3.6/25, mbtmp3.7/6, ML3.8/2, Error ellipse: s-maj=31.1km s-min=13.2km az=7.0*
*ISCJB **02** 08:49:32.3±1.1, 518N±02×17694E±009, h14km, mb3.4/4, Error ellipse: s-maj=23.9km s-min=6.8km az=20.4*
*NEIC **02** 08:49:35.4, 5186N×17696E, h14km, mb3.8/1, ML3.6(AEIC), After AEIC.*

ISC 02 08:49:33.5±4.6, 518N±02×17689E±010, h14km±30km, n12, σ0§60/15, mb3.4/4, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.96**	**300**	*e*P*n*	**Pn**	**08 50 06.1**	**-0.3**
SMY				*e*S*n*	**Sn**	**08 50 29.6**	**-1.2**
FX1	**Attu Island--F**	**2.54**	**297**	P*n*	**Pn**	**08 50 14.9**	**+0.6**
	66nm,0.3s,baz=166,slow=5.4,SNR=159						
FX1				S*n*	**Sn**	**08 50 45.8**	**+0.7**
	77nm,0.3s,baz=303,slow=23,SNR=21						
FX1	**Attu Island--F**	**2.54**	**297**	*e*P*n*	**Pn**	**08 50 14.2**	**-0.1**
FX1				*e*S*n*	**Sn**	**08 50 46.6**	**+1.5**
ATKA	**Atka Island**	**5.52**	**82**	P	**Pn**	**08 50 55.1**	**-0.2**
KDAK	**Kodiak Island**	**18.49**	**59**	P	**Pn**	**08 53 49.2**	**0.0**
	0.3nm,0.3s,baz=231,slow=6.5,SNR=2.7						
ILAR	**Eielson Array**	**22.66**	**41**	P	**P**	**08 54 35.2**	**+0.9**
	0.5nm,0.5s,mb3.2,baz=250,slow=8.0,SNR=12						
DAWY	**Dawson**	**25.68**	**45**	*e*P	**P**	**08 55 02.8**	**-0.3**
INK	**Inuvik**	**28.70**	**36**	P	**P**	**08 55 30.1**	**-0.1**
	0.5nm,0.8s,mb3.3,baz=294,slow=14,SNR=5.6						
INK	**Inuvik**	**28.70**	**36**	*e*P	**P**	**08 55 29.9**	**-0.2**
	2.2nm,1.1s,mb3.8						
YKA	**Yellowknife Ar**	**36.90**	**46**	P	**P**	**08 56 41.5**	**-0.2**
	0.6nm,0.7s,mb3.6,baz=280,slow=9.1,SNR=16						
YKA	**Yellowknife Ar**	**36.90**	**46**	P	**P**	**08 56 41.5**	**-0.2**
ASAR	**Alice Springs**	**84.04**	**219**	P	**P**	**09 02 03.7**	**+0.1**
	0.1nm,0.5s,mb3.2,baz=27,slow=5.6,SNR=5.2						

*NEIC **02** 09:05:06.4, 2963S×7207W, h32km±6km, MD4.1, ML3.6, 1C-6D, Off coast of central Chile*

GUC 02 09:05:06.4±1.0, 2963S×7207W, h32km±6km, MD4.1, ML3.6, 1C-6D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**1.22**	**116**	⇓*i*P	Pn	09 05 28.3	+1.0
TLL				*i* S	Sn	09 05 45.4	+2.8
TLL				AML	AML	09 05 50.0	
	comp=E,1μm,0.4s						
TLL	**Tololo Astrono**	**1.22**	**116**	⇓*i*P	Pn	09 05 28.3	+1.0
TLL				*i* S	Sn	09 05 45.4	+2.8
OVCH	**Ovalle**	**1.23**	**142**	*e*P	Pn	09 05 27.6	+0.3
OVCH				*i* S	Sn	09 05 43.9	+1.0
OVCH				AML	AML	09 05 46.7	
	comp=N,1μm,0.2s						
OVCH	**Ovalle**	**1.23**	**142**	*e*P	Pn	09 05 27.6	+0.3
OVCH				*i* S	Sn	09 05 43.9	+1.0
LCO	**Las Campanas**	**1.35**	**63**	⇓*i*P	Pn	09 05 30.0	+1.0
LCO				*i* S	Sn	09 05 48.6	+2.8
CMCH	**Combarbala**	**1.79**	**149**	⇓*i*P	Pn	09 05 36.5	+1.4
CMCH				*i* S	Sn	09 05 59.4	+2.6
CMCH				AML	AML	09 06 07.8	
	comp=E,2μm,0.8s						
CMCH	**Combarbala**	**1.79**	**149**	⇓*i*P	Pn	09 05 36.5	+1.4
CMCH				*i* S	Sn	09 05 59.4	+2.6
CLCH	**Cerro Calan**	**3.97**	**161**	⇓*i*P	Pn	09 06 07.1	+2.0
CLCH				*i* S	Sn	09 06 52.0	+1.4
CLCH				AML	AML	09 07 19.9	
	comp=E,101nm,0.7s						
FCH	**Farellones**	**3.98**	**158**	⇑*i*P	Pn	09 06 07.7	+2.5
FCH				*i* S	Sn	09 06 54.0	+3.2
FCH				AML	AML	09 06 58.5	
	comp=N,40nm,0.3s						

*MOS **02** 09:19:50.5±1.2, 3731N×2082E, h12km, mb4.3/3, Error ellipse: s-maj=16.1km s-min=5.3km az=84.8*
*IDC **02** 09:19:52.8±1.0, 3767N×2101E, h0km, mb3.7/11, mb1 3.7/14, mb1mx3.7/26, mbtmp3.6/14, ML3.5/3, Error ellipse: s-maj=20.8km s-min=18.4km az=113.0*
*ISCJB **02** 09:19:54.3±0.3, 3763N±002×2076E±003, h10km, mb3.7/15, Error ellipse: s-maj=3.6km s-min=2.7km az=57.6*
*CSEM **02** 09:19:55.0±0.2, 3736N×2106E, h53km±1km, mb4.0/2, Error ellipse: s-maj=4.4km s-min=2.4km az=146.0*
*ATH **02** 09:19:55.4, 3761N×2095E, h14km±1km, MD3.7/14, ML3.7*
*NEIC **02** 09:19:55.4, 3760N×2092E, h17km, mb3.9/1, MD3.7(PDG), ML3.7(ATH), ML4.0(THE), After ATH.*
*PDG **02** 09:19:57.1±0.5, 3765N×2018E, h10km±1km*

ISC 02 09:19:56.7±0.7, 3759N±002×2084E±003, h19km±4km, n85, σ1§28/118, mb3.7/15, 3C-2D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.61**	**342**	*e*P*G*	**Pg**	**09 20 07.6**	**-1.3**
VLS				*e*S*B*	**Sg**	**09 20 17.9**	**+0.7**
RLS	**Riolos of Patr**	**0.68**	**47**	*e*P*G*	**Pg**	**09 20 07.7**	**-3.2**
RLS				*e*S*B*	**Sg**	**09 20 15.8**	**-3.5**
ITM	**Ithomi**	**0.96**	**115**	*e*P*G*	**Pg**	**09 20 12.0**	**-3.4**
ITM				*e*S*B*	**Sb**	**09 20 25.0**	**-2.0**
LKD	**Levkas**	**1.12**	**353**	*e*P	**Pn**	**09 20 16.0**	**-1.3**
LKD				*e*S	**Sb**	**09 20 36.5**	**+4.9**
EVR	**Evrytania**	**1.53**	**30**	*e*P*B*	**Pb**	**09 20 23.0**	**-1.4**
EVR				*e*S*B*	**Sb**	**09 20 43.5**	**+0.2**
AGG	**Agios Georgios**	**1.85**	**39**	*e*P	**Pn**	**09 20 27.9**	**+0.6**
AGG				*e*S	**Sg**	**09 20 56.5**	**+0.2**
VLI	**Veliai**	**1.89**	**117**	*e*P*N*	**Pn**	**09 20 28.1**	**+0.2**
VLI				*e*S*N*	**Sn**	**09 20 52.9**	**+1.7**
MGER	**Gerania Oros**	**1.96**	**78**	*e*P*N*	**Pn**	**09 20 29.5**	**+0.6**
MGER				*e*S*N*	**Sn**	**09 20 54.0**	**+1.1**
LKR	**Lokris**	**2.01**	**58**	*e*P*N*	**Pn**	**09 20 29.9**	**+0.4**
LKR				*e*S*N*	**Sn**	**09 20 55.3**	**+1.3**
JAN	**Janina**	**2.06**	**0**	*e*P*N*	**Pn**	**09 20 32.0**	**+1.8**
JAN				*e*S*N*	**Sn**	**09 20 57.8**	**+2.4**
KYTH	**Kithira**	**2.20**	**126**	*e*P*N*	**Pn**	**09 20 33.5**	**+1.4**
KEK	**Kerkira**	**2.27**	**339**	*e*P*N*	**Pn**	**09 20 34.9**	**+1.8**
ATH	**Athens Observa**	**2.31**	**80**	*e*P*N*	**Pn**	**09 20 34.3**	**+0.6**
KVR	**Kavouri**	**2.34**	**83**	*e*P*B*	**Pn**	**09 20 33.7**	**-0.4**
PTL	**Penteli**	**2.44**	**78**	*e*P*B*	**Pn**	**09 20 35.0**	**-0.5**
NEO	**Neokhori**	**2.54**	**47**	*e*P*B*	**Pn**	**09 20 37.3**	**+0.5**
XOR	**Xorichti**	**2.56**	**46**	*e*P	**Pn**	**09 20 37.3**	**+0.2**
KZN	**Kozani**	**2.81**	**15**	*e*P*B*	**Pn**	**09 20 42.5**	**+2.0**
LIT	**Litokhoron**	**2.82**	**27**	*e*P	**Pn**	**09 20 40.6**	**0.0**
FNA	**Florina**	**3.21**	**7**	*e*P	**Pn**	**09 20 46.9**	**+0.8**
PAIG	**Paliouri**	**3.22**	**43**	*e*P	**Pn**	**09 20 46.2**	**0.0**
PLG	**Polygyros**	**3.44**	**35**	*e*P*N*	**Pn**	**09 20 49.5**	**+0.3**
BIA	**Bitola**	**3.44**	**6**	*e*P*n*	**Pn**	**09 20 50.5**	**+1.3**
OHR	**Ohrid**	**3.51**	**360**	*e*P*n*	**Pn**	**09 20 50.6**	**+0.4**
OHR	**Ohrid**	**3.51**	**360**	*e*P*n*	**Pn**	**09 20 50.5**	**+0.3**
GRG	**Griva**	**3.57**	**19**	*e*P	**Pn**	**09 20 51.4**	**+0.4**
TIP	**Timpagrande**	**3.57**	**298**	*e*P*n*	**Pn**	**09 20 52.4**	**+1.3**
TIP	**Timpagrande**	**3.57**	**298**	*e*P*n*	**Pn**	**09 20 52.3**	**+1.3**
OUR	**Ouranopolis**	**3.67**	**41**	*e*P	**Pn**	**09 20 52.4**	**0.0**
SOH	**Sokhos**	**3.77**	**30**	*e*P	**Pn**	**09 20 54.1**	**+0.4**
APE	**Apeiranthos**	**3.78**	**97**	*e*P*N*	**Pn**	**09 20 55.0**	**+1.1**
VAY	**Valandovo**	**3.96**	**19**	*e*P*n*	**Pn**	**09 20 56.5**	**+0.2**
CEL	**Celeste**	**3.96**	**281**	P*n*	**Pn**	**09 20 57.0**	**+0.6**
CEL				S*n*	**Sn**	**09 21 44.3**	**+2.0**
QSH	**Qafa e Shtames**	**3.99**	**350**	*i* P*n*	**Pn**	**09 20 57.0**	**+0.3**
IDI	**Anoyia**	**4.00**	**124**	P*n*	**Pn**	**09 20 54.8**	**-2.0**
	1.1nm,0.3s,baz=327,slow=12,SNR=8.8						
IDI				S*n*	**Sn**	**09 21 39.0**	**-4.1**
	3.3nm,0.3s,baz=247,slow=22,SNR=4.3						
SRS	**Serrai**	**4.12**	**30**	*e*P	**Pn**	**09 20 58.9**	**+0.4**
STIP	**Stip**	**4.23**	**14**	*e*P*n*	**Pn**	**09 21 01.3**	**+1.2**
STIP	**Stip**	**4.23**	**14**	*e*P*n*	**Pn**	**09 21 01.2**	**+1.2**
SKO	**Skopje**	**4.40**	**6**	*e*P*n*	**Pn**	**09 21 08.0**	**+5.7**
ULC	**Ulcinj**	**4.53**	**345**	⇓*i*P*n*	**Pn**	**09 21 04.2**	**-0.1**
ULC				*e*S*n*	**Sn**	**09 21 56.8**	**+0.5**
HAVL	**Avola**	**4.60**	**264**	P*n*	**Pn**	**09 21 04.8**	**-0.3**
MGR	**Morigerati**	**4.84**	**303**	P*n*	**Pn**	**09 21 11.1**	**+2.6**
HVZN	**Vizzini**	**4.89**	**267**	P*n*	**Pn**	**09 21 08.7**	**-0.5**
HVZN				S*n*	**Sn**	**09 22 03.4**	**-1.8**
BUM	**Brajici-Budva**	**4.93**	**343**	*e*P*n*	**Pn**	**09 21 10.6**	**+0.9**
BUM				*e*S*n*	**Sn**	**09 22 05.5**	**-0.7**
BUM	**Brajici-Budva**	**4.93**	**343**	*e*P*n*	**Pn**	**09 21 10.6**	**+0.9**
BUM				*e*S*n*	**Sn**	**09 22 05.4**	**-0.8**
TTG	**Podgorica**	**4.98**	**346**	*e*P*n*	**Pn**	**09 21 11.4**	**+1.0**
TTG				*e*S*n*	**Sn**	**09 22 07.2**	**-0.2**
PVY	**Plav**	**5.04**	**353**	*e*P*n*	**Pn**	**09 21 13.4**	**+2.2**
PVY				*e*S*n*	**Sn**	**09 22 10.0**	**+1.2**
VAE	**Valguarnera**	**5.11**	**271**	P*n*	**Pn**	**09 21 16.5**	**+4.4**
	2.9nm,0.3s,baz=61,slow=16,SNR=3.1						
VAE				S*n*	**Sn**	**09 22 15.3**	**+4.8**
	4.2nm,0.3s,baz=308,slow=18,SNR=2.0						
HCY	**Herceg Novi**	**5.17**	**340**	*e*P*n*	**Pn**	**09 21 12.5**	**-0.5**
HCY				*e*S*n*	**Sn**	**09 22 10.3**	**-1.7**
IVA	**Berane**	**5.32**	**353**	*e*P*n*	**Pn**	**09 21 16.3**	**+1.2**
IVA				*e*S*n*	**Sn**	**09 22 16.4**	**+0.6**
NKY	**Niksic**	**5.40**	**345**	*e*P*n*	**Pn**	**09 21 17.8**	**+1.6**
NKY				*e*S*n*	**Sn**	**09 22 17.1**	**-0.7**
NKY	**Niksic**	**5.40**	**345**	*e*P*n*	**Pn**	**09 21 17.8**	**+1.7**
NKY				*e*S*n*	**Sn**	**09 22 17.0**	**-0.7**
TREB	**Trebinje**	**5.46**	**340**	P	**Pn**	**09 21 16.0**	**-1.0**
TREB				S	**Sn**	**09 22 17.8**	**-1.4**
BRY	**Bratogost**	**5.58**	**342**	*e*P*n*	**Pn**	**09 21 19.6**	**+1.0**
BRY				*e*S*n*	**Sn**	**09 22 21.2**	**-1.0**
UPM	**Unac-Piva**	**5.79**	**346**	*e*P*n*	**Pn**	**09 21 22.1**	**+0.5**
UPM				*e*S*n*	**Sn**	**09 22 27.4**	**0.0**
PLE	**Pljevlja**	**5.83**	**350**	*e*P*n*	**Pn**	**09 21 24.1**	**+2.0**
PLE				*e*S*n*	**Sn**	**09 22 29.2**	**+0.7**
BBLS	**Bajina Basta -**	**6.36**	**351**	⇑*i*P*n*	**Sn**	**09 22 40.0**	**-1.4**
DIVS	**Divcibare**	**6.53**	**355**	⇑*i*P*n*	**Sn**	**09 22 44.9**	**-0.6**
BOJS	**Bojanci**	**8.94**	**334**	*i* P*n*	**Pn**	**09 22 05.7**	**+0.9**
BOJS				*e*S*n*	**Sn**	**09 23 40.8**	**-4.1**
VOY	**Vojsko**	**9.89**	**331**	*e*P*n*	**Pn**	**09 22 18.7**	**+0.9**
VOY				*e*S*n*	**Sn**	**09 24 06.7**	**-1.5**
PERS	**Pernice**	**9.98**	**337**	*e*P*n*	**Pn**	**09 22 19.0**	**0.0**
PERS				*e*S*n*	**Sn**	**09 24 03.6**	**-6.9**
OBKA	**Obir**	**10.06**	**334**	⇑*i*P*n*	**Pn**	**09 22 19.6**	**-0.4**
OBKA				⇓*i*S*n*	**Sn**	**09 24 09.2**	**-3.0**
OBKA	**Obir**	**10.06**	**334**	*i* P*n*	**Pn**	**09 22 19.6**	**-0.4**
OBKA				S*n*	**Sn**	**09 24 09.2**	**-3.1**
ROBS	**Robic**	**10.22**	**330**	*i* P*n*	**Pn**	**09 22 28.4**	**+6.1**
ROBS				*e*S*n*	**Sn**	**09 24 12.5**	**-3.7**
GERES	**GERESS Array B**	**12.38**	**338**	P*n*	**Pn**	**09 22 50.2**	**-1.7**
	0.2nm,0.3s,baz=166,slow=14,SNR=2.6						
AKASG	**Malin Array Be**	**14.41**	**22**	P*n*	**Pn**	**09 23 16.9**	**-2.6**
	0.3nm,0.3s,baz=210,slow=16,SNR=2.2						
MDT	**Midelt**	**21.31**	**265**	P	**P**	**09 24 43.6**	**+1.4**
	2.9nm,0.8s,mb3.6,baz=59,slow=7.0,SNR=7.8						
HFS	**Hagfors**	**23.02**	**351**	P	**P**	**09 24 58.8**	**-1.6**
	1.7nm,0.3s,mb3.9,baz=161,slow=10,SNR=20						
EKA	**Eskdalemuir Ar**	**24.05**	**325**	P	**P**	**09 25 10.4**	**-0.1**
	1.0nm,0.6s,mb3.4,baz=116,slow=9.7,SNR=3.6						
FINES	**FINESS Array B**	**24.10**	**6**	P	**P**	**09 25 09.2**	**-1.8**
	2.0nm,0.9s,mb3.5,baz=179,slow=13,SNR=6.4						
NB2	**NORSAR Subarra**	**24.24**	**349**	P	**P**	**09 25 11.2**	**-1.1**
	comp=Z,0.4nm,0.4s,mb3.2,baz=162,slow=11						
NOA	**NORSAR Array B**	**24.24**	**349**	P	**P**	**09 25 10.8**	**-1.5**
	comp=Z,0.6nm,0.5s,mb3.3,baz=155,slow=9.0,SNR=2.9						
KAF	**Kangasniemi**	**24.78**	**6**	*e*p	**P**	**09 25 14.0**	**-3.2**
	comp=Z,2.4nm,0.7s,mb3.8						
KAF	**Kangasniemi**	**24.78**	**6**	*e*P	**P**	**09 25 14.0**	**-3.2**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.8						
JOF	**Joensuu**	**26.15**	**11**	*e*p	**P**	**09 25 28.7**	**-1.0**
	comp=Z,1.7nm,0.6s,mb3.8						
TORD	**Torodi Ar. Bea**	**29.74**	**220**	P	**P**	**09 26 01.9**	**+0.2**
	comp=Z,0.4nm,0.5s,mb3.4,baz=27,slow=9.5,SNR=8.8						
ARCES	**ARCESS Array B**	**32.10**	**3**	P	**P**	**09 26 20.7**	**-1.9**
	comp=Z,0.4nm,0.4s,mb3.6,baz=186,slow=11,SNR=5.4						
MKAR	**Makanchi Array**	**45.40**	**58**	P	**P**	**09 28 11.4**	**-2.6**
	comp=Z,1.0nm,0.4s,mb4.0,baz=274,slow=7.3,SNR=22						
ZAL	**Zalesovo**	**45.89**	**48**	P	**P**	**09 28 15.2**	**-2.6**
	comp=Z,1.3nm,0.5s,mb4.1,baz=190,slow=8.7,SNR=6.1						
ZAL	**Zalesovo**	**45.89**	**48**	P	**P**	**09 28 15.1**	**-2.7**
SCHQ	**Schefferville**	**59.06**	**318**	P	**P**	**09 29 50.1**	**-5.4**
	comp=Z,0.5nm,0.5s,mb3.9,baz=51,slow=6.5,SNR=2.7						
BOD	**Bodaibo**	**60.68**	**38**	*e*P	**P**	**09 30 03.5**	**-3.1**
BOD				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.3						
BOD	**Bodaibo**	**60.68**	**38**	*e*P	**P**	**09 30 03.5**	**-3.1**
	comp=Z,2.0nm,0.8s,mb4.3						
INK	**Inuvik**	**72.68**	**350**	P	**P**	**09 31 20.2**	**-2.9**
	comp=Z,0.3nm,0.8s,mb3.3,baz=90,slow=1.0,SNR=3.2						
YKA	**Yellowknife Ar**	**74.03**	**340**	P	**P**	**09 31 30.7**	**-0.3**
	comp=Z,0.2nm,0.6s,mb3.2,baz=35,slow=5.1,SNR=4.4						

*NIED **02** 09:24:00, 3490N×13930E, h20km, Mw4.8 Best double couple: M0 1.68000×10^16 NP1:φs286.00000°, δ87.00000°, λ158.00000°. NP2:φs17.00

JHO Hitachi 1.98 29 P **Pn** **09 25 01.9 -1.2**
JSB Shiboa 2.12 12 P **Pn** **09 25 05.0 -0.1**
JGN Niukaw 2.14 309 ⇓P **Pn** **09 25 06.7 +1.3**
JIE Ise 2.25 258 ⇑P **Pn** **09 25 06.3 -0.6**
JGM Miyama 2.32 291 P **Pn** **09 25 08.7 +0.9**
JHK Hiroka 2.37 353 P **Pn** **09 25 08.5 -0.1**
TSUJ Tsu 2 2.44 267 P **Pn** **09 25 09.5 0.0**
ONAJ Iwakimizuishiy 2.49 27 P **Pn** **09 25 09.4 -0.8**
JKN2 Miekihoku 2.64 257 P **Pn** **09 25 12.3 +0.1**
JFT Otama 2.74 16 P **Pn** **09 25 13.3 -0.3**
JFK Kawauchi 2.76 26 P **Pn** **09 25 13.3 -0.5**
JWM Minabe 3.48 254 ⇑P **Pn** **09 25 23.7 -0.1**
JJS Sakaide 4.52 265 P **Pn** **09 25 37.7 -0.4**
JJG Jouge 5.13 269 P **Pn** **09 25 47.7 +1.3**
JKU Kubokawa 5.47 255 P **Pn** **09 25 52.2 +1.1**
JTO Tosashimizu 5.83 252 P **Pn** **09 25 56.7 +0.6**
UWA2 Uwa jima 2 5.85 255 P **Pn** **09 25 57.3 +1.0**
CBIJ Chichi jima 8.13 162 Pn **Pn** **09 26 26.1 -1.7**
29nm,0.3s,baz=287,slow=18,SNR=9.3
CBIJ Sn **Sn** **09 27 57.9 -1.4**
3.5nm,0.3s,baz=294,slow=20,SNR=2.2
CBIJ LR LR 09 29 39.4
comp=Z,297nm,18.3s,baz=83,slow=39
ASAJ Asahikawa 9.55 14 Pn **Pn** **09 26 47.2 +0.1**
2.8nm,0.3s,baz=242,slow=13,SNR=14
ASAJ Sn **Sn** **09 28 32.0 -1.9**
1.6nm,0.3s,baz=15,slow=20,SNR=3.4
ASAJ LR LR 09 30 26.7
comp=Z,862nm,18.1s,baz=217,slow=37
ASAJ Asahikawa 9.55 14 P **Pn** **09 26 47.2 +0.1**
ASAJ 09 28 32.1
ASAJ pmax pmax
comp=Z,3.0nm,0.3s
ASAJ smax
comp=N,2.0nm,0.3s
ASAJ MLR MLR
comp=Z,863nm,18.1s
VLA Vladivostok 10.07 327 *e*P **Pn** **09 26 59.3 +5.1**
VLA pmax pmax
comp=Z,59nm,0.8s
VLA MLR MLR
comp=Z,1μm,17.7s
MDJ Mudanjiang 12.28 325 P **Pn** **09 27 27.9 +3.4**
MDJ AMB AMB
comp=Z,22nm,1.0s
MDJ AMB AMB
comp=Z,134nm,4.4s
MDJ LR LR
comp=N,611nm,16.6s
MDJ LR LR
comp=E,296nm,13.0s
MDJ LR LR
comp=Z,446nm,26.1s
MDJ Mudanjiang 12.28 325 *e*Pn **Pn** **09 27 28.0 +3.5**
comp=Z,15nm,0.8s
YSS Yuzh-Sakhalins 12.32 11 *e*P **Pn** **09 27 24.1 -1.0**
YSS pmax pmax
comp=Z,18nm,0.6s
YSS Yuzh-Sakhalins 12.32 11 *e*P **Pn** **09 27 24.1 -1.0**
comp=Z,18nm,0.6s
JOW Kunigami 12.46 233 Pn **Pn** **09 27 29.4 +2.5**
comp=Z,16nm,0.3s,baz=76,slow=13,SNR=25
JOW Sn **Sn** **09 29 34.6 -11**
comp=Z,1.7nm,0.3s,baz=106,slow=18,SNR=4.0
HABR Khabarovsk 13.95 348 *e*P **Pn** **09 27 47.9 +0.6**
CN2 Changchun 13.96 314 *e*P **Pn** **09 27 50.3 +2.8**
CN2 *e*XP 09 28 00.2
CN2 *e*S **Sn** **09 30 25.7 +3.7**
CN2 AMB AMB
comp=Z,10.0nm,0.8s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,1μm,16.0s
CN2 LR LR
comp=E,1μm,16.0s
CN2 LR LR
comp=Z,500nm,14.0s
SNY Shenyang 14.19 304 ⇑P **Pn** **09 27 56.1 +5.5**
SNY S **Sn** **09 30 34.9 +7.3**
SNY AMB AMB
comp=Z,73nm,5.4s
SNY LR LR
comp=N,1μm,15.0s
SNY LR LR
comp=E,733nm,17.4s
SNY LR LR
comp=Z,659nm,15.7s
DL2 Dalian 14.75 291 P **Pn** **09 28 02.3 +4.0**
DL2 *e*S **Sn** **09 30 51.2 +10**
DL2 AMB AMB
comp=Z,30nm,0.7s
DL2 LR LR
comp=N,1μm,12.9s
DL2 LR LR
comp=E,460nm,13.1s
DL2 LR LR
comp=Z,860nm,12.6s
KLR Kulʹdur 15.40 341 *e*P **Pn** **09 28 02.0 -4.8**
KLR MLR MLR
comp=N,500nm,13.0s
KLR MLR MLR
comp=E,900nm,13.0s
KLR MLR MLR
comp=Z,1μm,13.0s
SSE Sheshan 15.72 261 P **Pn** **09 28 08.7 -2.4**
SSE XP sP 09 28 20.7 -1.2
SSE AMB AMB
comp=Z,10.0nm,1.0s
SSE AMB AMB
comp=Z,75nm,3.9s
SSE LR LR
comp=N,2μm,18.3s
SSE LR LR
comp=E,606nm,18.3s
SSE LR LR
comp=Z,491nm,15.3s
NJ2 Nanjing 17.35 266 *e*P **Pn** **09 28 31.1 -0.7**
NJ2 AP pP 09 28 37.2 -0.6
NJ2 XP sP 09 28 41.1 +1.1
NJ2 PP 09 28 45.0
NJ2 AMB AMB
comp=Z,10.0nm,0.8s
NJ2 AMB AMB
comp=Z,120nm,6.2s
NJ2 LR LR
comp=N,2μm,17.6s
NJ2 LR LR
comp=E,1μm,15.2s
NJ2 LR LR
comp=Z,330nm,11.2s
YHNB Yeheng 18.62 242 P **Pn** **09 28 42.7 -4.7**
BJI Beijing 19.10 292 P **Pn** **09 28 55.1 +1.9**
BJI S **Sn** **09 32 24.4 -2.4**
BJI AMB AMB
comp=Z,14nm,1.4s
BJI LR LR
comp=N,1μm,19.0s
BJI LR LR
comp=E,608nm,12.3s
BJI LR LR
comp=Z,312nm,26.4s
BJT Baijiatuau 19.10 292 *e*P **Pn** **09 28 53.4 +0.2**
BJT pmax pmax
comp=Z,70nm,1.3s
BJT Baijiatuau 19.10 292 *e*P **Pn** **09 28 53.4 +0.2**
comp=Z,70nm,1.3s
QZH Quanzhou 20.52 247 P **P** **09 29 05.7 -2.2**
QZH S **S** **09 32 53.0 -3.9**
QZH LR LR
comp=N,610nm,13.0s,MS4.4
QZH LR LR
comp=E,1μm,14.0s,MS4.4
QZH LR LR
comp=Z,720nm,13.8s,MS4.2
WHN Wuhan 21.48 265 ⇓P **P** **09 29 20.0 +1.9**
GUMO Guam 21.78 165 LR LR 09 35 14.6
comp=Z,108nm,21.1s,MS3.2,baz=13,slow=30
HHC Hu-ho-hao-te 22.69 293 *e*P **P** **09 29 28.5 -2.6**
HHC AP 09 29 39.4
HHC XP sP 09 29 45.1 +7.0
HHC PP 09 29 57.7
HHC SCP ScP 09 36 55.6 -4.5
HHC PCS PcS 09 37 00.2 -1.9
HHC AMB AMB
comp=Z,18nm,1.1s,mb4.4
HHC AMB AMB
comp=Z,81nm,4.5s
HHC LR LR
comp=N,795nm,13.7s,MS4.4
HHC LR LR
comp=E,452nm,13.1s,MS4.4
HHC LR LR
comp=Z,490nm,13.5s,MS4.1
PET Petropavlovsk 22.71 31 *e*P **P** **09 29 37.5 +6.2**
PET *e* 09 30 05.5
PET *e*S **S** **09 33 36.7 -2.6**
PET pmax pmax
comp=Z,87nm,1.1s,mb5.1
PET pmax pmax
comp=Z,42nm,0.9s,mb4.9
PET MLR MLR
comp=Z,500nm,19.0s,MS4.0
PET Petropavlovsk 22.71 31 *e*P **P** **09 29 34.9 +3.6**
comp=Z,83nm,1.0s,mb5.1
XAN Xiʹan 25.08 277 P **P** **09 29 53.8 -0.2**
XAN S **S** **09 34 21.4 +3.6**
XAN AMB AMB
comp=Z,9.0nm,1.0s,mb4.2
XAN LR LR
comp=N,1μm,18.1s,MS4.4
XAN LR LR
comp=E,602nm,19.4s,MS4.4
XAN LR LR
comp=Z,654nm,17.1s,MS4.2
GZH Guangzhou 25.55 250 P **P** **09 29 53.0 -5.3**
GZH S **S** **09 34 23.9 -1.3**
GZH LR LR
comp=N,505nm,11.8s,MS4.4
GZH LR LR
comp=E,477nm,13.7s,MS4.4
GZH LR LR
comp=Z,535nm,12.4s,MS4.3
MA2 Magadan 25.81 13*c i*P **P** **09 30 01.0 +0.4**
MA2 *e* 09 30 52.5
MA2 pmax pmax
comp=Z,60nm,0.7s,mb5.2
ULN Ulaanbaatar 27.29 308 *e*P **P** **09 30 13.9 -0.1**
ULN pmax pmax
comp=Z,2.0nm,0.8s,mb3.7
ULN Ulaanbaatar 27.29 308 *e*P **P** **09 30 13.9 0.0**
comp=Z,2.5nm,0.8s,mb3.8
SONM Songino Array 27.70 308 P **P** **09 30 16.9 -0.8**
comp=Z,1.5nm,0.8s,mb3.7,baz=110,slow=7.7,SNR=8.4
SONM PcP PcP 09 33 34.7 +0.3
comp=Z,2.7nm,0.5s,baz=144,slow=2.5,SNR=16
SONM ScP ScP 09 37 12.7 -1.6
comp=Z,1.4nm,1.0s,baz=119,slow=2.2,SNR=5.8
SONM LR LR 09 41 43.2
comp=Z,465nm,18.2s,MS4.1,baz=268,slow=37
SONM Songino Array 27.70 308 P **P** **09 30 16.9 -0.8**
SONM 09 33 34.7
YAK Yakutsk 27.85 350 *e*P **P** **09 30 17.2 -1.8**
YAK pmax pmax
comp=Z,36nm,0.8s,mb5.0
YAK Yakutsk 27.85 350 *e*P **P** **09 30 17.2 -1.9**
comp=Z,36nm,0.8s,mb5.0
FX1 Attu Island--F 29.89 43 LR LR 09 39 42.1
comp=Z,13nm,21.6s,MS2.5,baz=255,slow=30
CD2 Chengdu 30.07 273 P **P** **09 30 40.1 +1.4**
CD2 XP sP 09 30 52.7 +6.7
CD2 PP PP 09 31 38.5 -8.1
CD2 S **S** **09 35 35.6 -0.8**
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.8
CD2 AMB AMB
comp=Z,50nm,5.0s
CD2 LR LR
comp=N,1μm,20.2s
CD2 LR LR
comp=Z,440nm,14.1s
QIZ Qiongzhong 30.55 247 *e*P **P** **09 30 42.4 -0.6**
QIZ S **S** **09 35 36.6 -7.3**
QIZ LR LR
comp=N,301nm,15.5s,MS4.2
QIZ LR LR
comp=E,278nm,16.7s,MS4.2
QIZ LR LR
comp=Z,241nm,15.2s,MS4.0
KMI Kunming 33.03 263 P **P** **09 31 05.2 +0.4**
KMI AP pP 09 31 12.4 +2.5
KMI XP sP 09 31 15.8 +3.8
KMI PP PP 09 32 15.1 -4.4
KMI S **S** **09 36 18.9 -3.7**
KMI AMB AMB
comp=Z,13nm,1.0s,mb4.8
KMI AMB AMB
comp=Z,93nm,3.6s
KMI LR LR
comp=N,853nm,15.7s,MS4.5
KMI LR LR
comp=E,283nm,18.9s,MS4.5
KMI LR LR
comp=Z,247nm,20.0s,MS3.9
BILL Bilibino 36.55 17 *i* P **P** **09 31 35.3 +0.1**
BILL pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
BILL MLR MLR
comp=Z,200nm,13.0s,MS4.1
TIXI Tiksi 37.24 355⇑*e*P **P** **09 31 40.0 -1.1**
TIXI pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
TIXI MLR MLR
comp=Z,600nm,28.0s,MS4.2
WMQ Urumqi 40.38 299 ⇑P **P** **09 32 07.8 +0.4**
WMQ AP pP 09 32 15.3 +2.7
WMQ XP sP 09 32 18.8 +4.1
WMQ PP PP 09 33 44.9 +4.6
WMQ PCP PcP 09 34 11.3 +0.9
WMQ S **S** **09 38 13.8 -0.9**
WMQ AMB AMB
comp=Z,19nm,0.9s,mb4.8
WMQ AMB AMB
comp=Z,40nm,3.5s
WMQ LR LR
comp=N,562nm,25.0s,MS4.4
WMQ LR LR
comp=E,265nm,25.0s,MS4.4
WMQ LR LR
comp=Z,143nm,19.8s
ZAL Zalesovo 42.19 314 P **P** **09 32 21.7 -0.5**
comp=Z,1.6nm,0.7s,mb3.8,baz=12,slow=7.9,SNR=4.8
ZAL PcP PcP 09 34 15.3 -1.0
comp=Z,6.1nm,0.5s,baz=342,slow=3.6,SNR=9.0
ZAL LR LR 09 52 09.5
comp=Z,180nm,18.7s,MS4.0,baz=36,slow=39
ZAL Zalesovo 42.19 314 P **P** **09 32 21.7 -0.6**
ZAL 09 34 15.4
NVS Novosibirsk 43.16 315 *e*P **P** **09 32 28.6 -1.6**
MKAR Makanchi Array 43.89 304 P **P** **09 32 35.9 -0.2**
comp=Z,1.9nm,0.6s,mb4.0,baz=88,slow=9.7,SNR=23
MKAR PcP PcP 09 34 21.7 -0.3
comp=Z,1.7nm,0.6s,baz=64,slow=5.5,SNR=3.8
MKAR ScP ScP 09 38 11.9 -1.1
comp=Z,1.0nm,0.8s,baz=108,slow=4.0,SNR=5.1
MKAR Makanchi Array 43.89 304 P **P** **09 32 35.9 -0.2**
MKAR 09 34 21.7
SDPT Sand Point 45.49 44 P **P** **09 32 47.7 -1.0**
JIRN Jiri 45.58 276 *e*P **P** **09 32 49.7 +0.2**
comp=Z,28nm,0.7s,mb5.3
GUN Gumba 45.74 277 *e*P **P** **09 32 50.6 -0.2**
KURK Kurchatov 45.99 310 *e*P **P** **09 32 51.9 -0.8**
KURK *e* 09 34 27.8
KURK pmax pmax
comp=Z,29nm,0.8s,mb5.3
KURK Kurchatov 45.99 310 *e*P **P** **09 32 51.9 -0.8**
comp=Z,29nm,0.8s,mb5.2
KURK *e*PcP PcP 09 34 27.8 -1.5
PKI Pulchoki 46.26 276 *e*P **P** **09 32 54.8 0.0**
comp=Z,11nm,0.6s,mb5.0
KKN Kakani 46.28 277 *e*P **P** **09 32 54.2 -0.8**
comp=Z,21nm,0.8s,mb5.1
DMN Daman 46.49 277 *e*P **P** **09 32 56.7 0.0**
GKN Gorkha 46.72 277 *e*P **P** **09 32 57.7 -0.8**
KOLN Koldanda 47.65 278 *e*P **P** **09 33 05.6 -0.2**
comp=Z,15nm,0.8s,mb5.0
TTA Tatalina 48.12 34 P **P** **09 33 11.8 +2.4**
TTA pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
TTA Tatalina 48.12 34 P **P** **09 33 11.8 +2.4**
comp=Z,7.1nm,0.8s,mb4.8
SVW2 Sparrevohn 48.23 36 *e*P **P** **09 33 11.0 +0.8**
SVW2 *e*pP pP 09 33 19.3 +3.8
SVW2 *e*sP sP 09 33 25.4 +7.9
KDAK Kodiak Island 49.80 41 P **P** **09 33 22.5 +0.2**
comp=Z,14nm,0.6s,mb5.2,baz=184,slow=19,SNR=12
AAK Ala-Archa 50.08 299 *e*P **P** **09 33 23.6 -0.8**
AAK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
AAK Ala-Archa 50.08 299 *e*P **P** **09 33 23.6 -0.7**
comp=Z,5.2nm,0.8s,mb4.6
BRVK Borovoye 50.87 313 *e*P **P** **09 33 29.6 -0.8**
BRVK *e**PP pP 09 33 38.1 +2.4
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BRVK Borovoye 50.87 313 *e*P **P** **09 33 29.6 -0.7**
comp=Z,3.7nm,0.8s,mb4.4
BRVK *e*pP pP 09 33 38.1 +2.4
COLA College 51.77 31 *e*P **P** **09 33 37.7 +0.6**
COLA pmax pmax
comp=Z,17nm,0.7s,mb5.1
COLA College 51.77 31 *e*P **P** **09 33 37.7 +0.6**
comp=Z,17nm,0.7s,mb5.1
ILAR Eielson Array 52.19 31 P **P** **09 33 40.0 -0.2**
comp=Z,4.8nm,0.7s,mb4.5,baz=272,slow=6.5,SNR=29
ILAR LR LR 09 56 36.0
comp=Z,93nm,20.0s,MS3.8,baz=183,slow=37
KK31 Karatay Array 52.79 301 *i* P **P** **09 33 44.0 -0.7**
KK31 pmax pmax
comp=Z,28nm,1.2s,mb5.1
FITZ Fitzroy Crossi 54.29 196 P **P** **09 33 55.0 -0.6**
comp=Z,3.9nm,0.9s,mb4.3,baz=142,slow=9.0,SNR=7.4
WRAB Tennant Creek 54.73 186 *e*P **P** **09 33 57.3 -1.5**
WRAB pmax pmax
comp=Z,21nm,0.9s,mb5.2
WRAB Tennant Creek 54.73 186 *e*P **P** **09 33 57.3 -1.5**
comp=Z,21nm,0.9s,mb5.2
WB2 Warramunga Arr 54.73 186 *e*P **P** **09 33 57.5 -1.4**
WRA Warramunga Arr 54.73 186 P **P** **09 33 57.4 -1.5**
comp=Z,5.1nm,0.5s,mb4.8,baz=1.3,slow=7.6,SNR=74
CTA Charters Tower 55.06 172 *e*P **P** **09 34 01.6 +0.3**
comp=Z,3.8nm,0.9s,mb4.4
CTA Charters Tower 55.06 172 *e*P **P** **09 34 01.6 +0.3**
CTA pmax pmax
comp=Z,4.0nm,0.9s
CTAO Charters Tower 55.06 172 *e*P **P** **09 34 01.1 -0.2**
CTAO pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
CTAO Charters Tower 55.06 172 *e*P **P** **09 34 01.1 -0.2**
comp=Z,3.3nm,0.7s,mb4.5
ARU Arti 56.88 319 *e*P **P** **09 34 16.4 +2.1**
ARU *e* 09 36 22.9
ARU *e*PPP 09 37 37.1
ARU *e*S **S** **09 42 08.6 +1.3**
ARU MLR MLR
comp=Z,200nm,18.0s,MS4.3
INK Inuvik 57.04 26 P **P** **09 34 15.4 -0.1**
comp=Z,5.3nm,0.8s,mb4.6,baz=281,slow=6.6,SNR=34
INK LR LR 10 02 07.7
comp=Z,134nm,18.4s,MS4.1,baz=249,slow=40
INK Inuvik 57.04 26 P **P** **09 34 15.4 -0.1**
INK pmax pmax
comp=Z,5.0nm,0.8s
INK MLR MLR
comp=Z,134nm,18.4s
INK Inuvik 57.04 26 *e*P **P** **09 34 15.2 -0.3**
comp=Z,13nm,0.9s,mb5.0
ASAR Alice Springs 58.46 186 P **P** **09 34 24.4 -1.0**
comp=Z,2.4nm,0.7s,mb4.4,baz=12,slow=9.9,SNR=44
MBWA Marble Bar 58.78 202 *e*P **P** **09 34 25.0 -2.6**
comp=Z,6.8nm,0.8s,mb4.7
MBWA *e*pP pP 09 34 35.4 +2.3
AKTK Aktyubinsk 58.89 312 P **P** **09 34 27.7 -0.7**
AKTO Aktyubinsk 58.89 312 P **P** **09 34 27.7 -0.7**
comp=Z,2.9nm,0.7s,mb4.4,baz=81,slow=14,SNR=11
AKTO Aktyubinsk 58.89 312 P **P** **09 34 27.7 -0.7**
AKTO pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
DLBC Dease Lake 61.33 37 LR LR 09 57 52.8
comp=Z,45nm,20.4s,MS3.6,baz=108,slow=33
DLBC Dease Lake 61.33 37 *e*P **P** **09 34 46.4 +1.3**
DZM Mont Dzumac 62.20 151 P **P** **09 34 50.2 -0.8**
comp=Z,0.6nm,0.4s,mb4.1,baz=82,slow=19,SNR=9.1
DZM LR LR 09 56 30.7
comp=Z,107nm,19.3s,MS4.0,baz=5.7,slow=31
KLMR Klimovskoe 64.69 328 *e*P **P** **09 35 06.4 -1.0**
KLMR *e*S **S** **09 43 57.1 +10**
KLMR pmax pmax
comp=Z,20nm,1.5s,mb4.9
BBB Bella Bella 64.76 43 LR LR 09 59 20.2
comp=Z,59nm,20.4s,MS3.8,baz=298,slow=32
KEV Kevo 64.86 339 *e*p **P** **09 35 07.0 -1.6**
comp=Z,6.0nm,0.8s,mb4.7
KEV Kevo 64.86 339 *e*P **P** **09 35 07.0 -1.6**
KEV pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
RES Resolute Bay 65.08 14 *e*P **P** **09 35 09.7 -0.3**
RES *e**PP pP 09 35 18.0 +2.5
RES pmax pmax
comp=Z,30nm,1.0s,mb5.3
RES Resolute Bay 65.08 14 *e*P **P** **09 35 09.7 -0.3**
comp=Z,30nm,1.0s,mb5.3
RES *e*pP pP 09 35 18.0 +2.6
ARCES ARCESS Array B 65.42 339 P **P** **09 35 11.5 -0.7**
comp=Z,2.2nm,0.7s,mb4.3,baz=57,slow=7.4,SNR=7.3
ARCES ARCESS Array B 65.42 339 P **P** **09 35 11.5 -0.7**
FORT Forrest 66.18 191 *e*P **P** **09 35 16.9 -0.2**
comp=Z,22nm,0.6s,mb5.4
STKA Stephens Creek 66.44 178 *e*P **P** **09 35 16.6 -2.2**
comp=Z,4.9nm,0.6s,mb4.7
STKA Stephens Creek 66.44 178 P **P** **09 35 16.5 -2.3**
comp=Z,5.4nm,0.8s,mb4.6,baz=351,slow=7.3,SNR=13
STKA LR LR 10 02 54.8
comp=Z,126nm,21.8s,MS4.1,baz=204,slow=35
YKW3 Yellowknife Ar 66.45 29 *e*P **P** **09 35 17.8 -1.0**
YKA Yellowknife Ar 66.49 29 P **P** **09 35 18.4 -0.6**
comp=Z,3.8nm,0.8s,mb4.5,baz=299,slow=6.4,SNR=38
YKA LR LR 10 10 19.5
comp=Z,84nm,18.0s,MS4.0,baz=295,slow=41
YKA Yellowknife Ar 66.49 29 P **P** **09 35 18.4 -0.6**
YKA LR LR 10 10 19.5
JOF Joensuu 67.07 332 *e*p **P** **09 35 22.3 -0.5**
comp=Z,6.3nm,0.7s,mb4.8
JOF Joensuu 67.07 332 *e*P **P** **09 35 22.3 -0.5**
JOF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
OBN Obninsk 68.82 323 *i* P **P** **09 35 34.9 +1.1**
OBN *e* 09 38 04.3
OBN *e*S S 09 45 00.8 +24
OBN pmax pmax
comp=Z,3.0nm,0.3s,mb4.7
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.4
KAF Kangasniemi 69.45 332 *e*p **P** **09 35 36.3 -1.4**
comp=Z,4.2nm,0.6s,mb4.5,baz=51,slow=5.8
KAF Kangasniemi 69.45 332 *e*P **P** **09 35 36.3 -1.4**
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
FINES FINESS Array B 69.93 332 P **P** **09 35 39.8 -0.9**
comp=Z,3.8nm,0.6s,mb4.5,baz=59,slow=7.4,SNR=12
FINES LR LR 10 10 03.2
comp=Z,123nm,18.9s,MS4.2,baz=357,slow=39
KIV Kislovodsk 71.05 311 *e*P **P** **09 35 49.3 +1.8**
KIV pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
KIV MLR MLR
comp=Z,147nm,19.0s,MS4.3
GNI Garni 71.65 306 LR LR 10 10 03.5
comp=Z,133nm,18.2s,MS4.2,baz=221,slow=38
GNI Garni 71.65 306 *i* P **P** **09 35 53.1 +2.0**
GNI MLR MLR
comp=Z,100nm,16.0s
SUMG Summit 72.82 359 *e*P **P** **09 35 58.5 +0.4**
comp=Z,21nm,1.0s,mb5.0
NEW Newport 72.82 43 *e*P **P** **09 35 58.2 +0.1**
NEW pmax pmax
comp=Z,13nm,1.1s
NEW Newport 72.82 43 *e*P **P** **09 35 58.2 +0.1**
comp=Z,13nm,1.1s,mb4.8
YBH Yreka Blue Hor 72.97 51 LR LR 10 05 36.1
comp=Z,52nm,18.1s,MS3.9,baz=305,slow=34
ANN Anapa 73.81 314 *e*P **P** **09 35 53.3 -11**
ANN *e* 09 36 15.9
ANN pmax pmax
comp=Z,44nm,0.9s,mb5.4
ANN MLR MLR
comp=Z,125nm,20.0s,MS4.2
WALA Waterton Lakes 74.14 41 *e*P **P** **09 36 05.8 -0.1**

comp=Z,7.2nm,1.0s,mb4.6
WALA ep P pP 09 36 15.5 +4.1
AKASG Malin Array Be 74.97 322 P P 09 36 09.8 -1.0
comp=Z,6.2nm,0.6s,mb4.8,baz=49,slow=5.9,SNR=34
HFS Hagfors 75.35 335 P 09 36 12.0 -0.9
comp=Z,1.1nm,0.4s,mb4.1,baz=99,slow=8.9,SNR=3.9
HFS LR LR 10 12 06.9
comp=Z,130nm,18.5s,MS4.3,baz=31,slow=38
NB2 NORSAR Subarra 75.51 337 P P 09 36 13.0 -0.8
comp=Z,3.2nm,0.7s,mb4.4,baz=42,slow=5.9
NOA NORSAR Array B 75.51 337 P P 09 36 13.4 -0.4
comp=Z,3.1nm,0.7s,mb4.3,baz=41,slow=5.8,SNR=11
NOA LR LR 10 14 58.7
comp=Z,123nm,18.1s,MS4.2,baz=25,slow=40
FFC Flin Flon 76.40 32 eP P 09 36 18.4 -0.5
FFC pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
FFC Flin Flon 76.40 32 eP P 09 36 18.4 -0.5
comp=Z,3.7nm,0.5s,mb4.6
FCC Fort Churchill 76.65 25 eP P 09 36 19.7 -0.6
FCC pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
FCC Fort Churchill 76.65 25 eP P 09 36 19.7 -0.6
comp=Z,9.6nm,0.6s,mb4.9
HLID Hailey 77.05 46 eP P 09 36 23.4 +0.8
comp=Z,7.5nm,1.3s,mb4.5
BMN Battle Mountai 77.15 50 eP P 09 36 24.9 +1.7
BMN pmax pmax
comp=Z,13nm,1.1s,mb4.8
BMN Battle Mountai 77.15 50 eP P 09 36 24.9 +1.7
comp=Z,13nm,1.1s,mb4.8
NVAR Mina Array Bea 77.61 52 P P 09 36 26.8 +1.1
comp=Z,3.6nm,0.6s,mb4.5,baz=301,slow=3.7,SNR=31
ELK Elko 78.20 48 eP P 09 36 30.5 +1.5
ELK pmax pmax
comp=Z,3.0nm,0.9s
ELK Elko 78.20 48 eP P 09 36 30.4 +1.4
comp=Z,3.4nm,0.9s,mb4.3
TPH Tonopah 78.51 52 eP P 09 36 32.3 +1.6
TPH e*PP pP 09 36 39.0 +2.8
TPH pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
TPH Tonopah 78.51 52 eP P 09 36 32.3 +1.6
comp=Z,9.1nm,0.9s,mb4.7
TPH epP pP 09 36 39.0 +2.7
DAC Darwin (Calif) 79.30 53 eP P 09 36 35.9 +0.8
DAC e*PP pP 09 36 42.8 +2.2
DAC pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
DAC Darwin (Calif) 79.30 53 eP P 09 36 35.9 +0.9
comp=Z,3.7nm,0.8s,mb4.4
DAC epP pP 09 36 42.8 +2.2
TPNV Topopah Spring 79.79 52 eP P 09 36 38.6 +0.9
TPNV e*PP pP 09 36 45.9 +2.6
TPNV pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
TPNV Topopah Spring 79.79 52 eP P 09 36 38.6 +0.9
comp=Z,9.2nm,0.7s,mb4.8
TPNV epP pP 09 36 45.9 +2.6
OJC Ojcow 79.88 325 eP P 09 36 38.0 -0.2
HWUT Hardware Ranch 79.90 46 eP P 09 36 39.4 +1.1
comp=Z,18nm,1.2s,mb4.9
MLR Muntele Rosu 79.94 319 LR LR 10 11 31.7
comp=Z,113nm,21.4s,MS4.2,baz=27,slow=35
DUG Dugway 80.02 48 eP P 09 36 39.6 +0.7
DUG pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
DUG Dugway 80.02 48 eP P 09 36 39.6 +0.7
comp=Z,7.4nm,0.9s,mb4.6
URZ Urewera 80.75 151 LR LR 10 09 36.7
comp=Z,111nm,19.2s,MS4.2,baz=261,slow=34
OKC Ostrava-Kraske 80.91 326 epP pP 09 36 52.2 +2.9
DPC Dobruska-Polom 81.38 327 eP P 09 36 48.7 +2.5
DPC epP pP 09 36 55.6 +3.8
MSU Marysvale 81.43 49 eP P 09 36 47.9 +1.4
NEN Nelson 81.47 52 eP P 09 36 47.6 +0.9
VRAC Vranov 82.00 326 LR LR 10 15 13.7
comp=Z,116nm,18.7s,MS4.3,baz=16,slow=37
SRU San Rafael 82.07 48 eP P 09 36 51.1 +1.2
SRU pmax pmax
comp=Z,11nm,0.8s,mb4.8
SRU San Rafael 82.07 48 eP P 09 36 51.1 +1.2
comp=Z,11nm,0.8s,mb4.8
CLL Collm 82.11 329 eP P 09 36 50.0 -0.1
CLL *i* P pP 09 36 58.1 +2.4
comp=Z,15nm,1.2s
CLL *es* P sP 09 37 02.0 +4.3
CLL Collm 82.11 329 eP P 09 36 50.0 -0.1
CLL *i* P pP 09 36 58.1 +2.4
CLL LR LR
comp=Z,200nm,17.8s,MS4.5
ULM Lac du Bonnet 82.20 32 P P 09 36 49.2 -1.3
comp=Z,1.2nm,0.4s,mb4.1,baz=335,slow=7.6,SNR=3.7
ULM LR LR 10 16 10.1
comp=Z,49nm,18.9s,MS3.9,baz=326,slow=38
PRU Pruhonice 82.43 328 epP pP 09 36 59.7 +2.4
PRU AMS AMS 10 17 20.0
comp=Z,200nm,14.8s
TREC Trest 82.51 327 AMS AMS 10 17 10.0
comp=Z,300nm,15.1s
NKC Novy Kostel 83.15 329 eP P 09 37 04.4 +8.9
NKC MLR MLR
comp=Z,300nm,6.8s
PV10 Paradox Valley 83.44 47 eP P 09 36 58.3 +1.3
KHC Kasperske Hory 83.48 328 eP P 09 36 58.1 +0.9
KHC epP pP 09 37 06.3 +3.5
KHC AMS AMS 10 22 20.0
comp=Z,200nm,17.2s
GERES GERESS Array B 83.64 327 P P 09 36 57.8 -0.2
comp=Z,0.5nm,0.4s,mb4.0,baz=57,slow=5.4,SNR=4.1
GERES LR LR 10 18 28.7
comp=Z,141nm,18.7s,MS4.4,baz=69,slow=39
WUAZ Wupatki 83.79 51 eP P 09 36 60.0 +1.2
comp=Z,14nm,1.1s,mb5.0
PV01 Paradox Valley 83.88 47 eP P 09 37 00.2 +1.0
GRF Grafenberg Arr 84.08 329 eP P 09 37 07.4 +7.1
comp=Z,8.0nm,0.8s,mb4.9
PMOR Pomariorio Ree 84.87 112 eT 11 10 34.0
PPT Papeete 85.19 115 eLR LR 10 02 50.0
comp=Z,55nm,22.5s
PPT Papeete 85.19 115 eT 11 10 57.2
comp=Z,16nm,0.2s
PPT Papeete 85.19 115 LR LR 10 13 14.8
comp=Z,30nm,19.2s,MS3.7,baz=296,slow=34
PAE Paea 85.25 115 eT 11 11 04.9
comp=Z,38nm,0.4s
DAVOX Davos 86.89 328 LR LR 10 18 07.5
comp=Z,154nm,18.7s,MS4.4,baz=351,slow=37
ANMO Albuquerque 87.23 49 eP P 09 37 17.4 +1.4
ANMO e*PP pP 09 37 25.2 +3.6
ANMO pmax pmax
comp=Z,3.0nm,1.4s
ANMO Albuquerque 87.23 49 eP P 09 37 17.4 +1.4
comp=Z,3.2nm,1.4s,mb4.4
ANMO epP pP 09 37 25.2 +3.7
SCHQ Schefferville 87.84 15 P P 09 37 17.4 -1.5
comp=Z,8.3nm,0.8s,mb5.0,baz=13,slow=3.8,SNR=7.4
SCHQ LR LR 10 18 00.8
comp=Z,61nm,18.7s,MS4.0,baz=34,slow=36
SCHQ Schefferville 87.84 15 eP P 09 37 19.1 +0.2
comp=Z,14nm,0.9s,mb5.2
TBI Tubuai 88.88 120 eT 11 15 29.8
comp=Z,16nm,0.3s
LPIG La Paz 91.70 59 LR LR 10 09 42.9
comp=Z,80nm,20.5s,MS4.2,baz=359,slow=30
LTX Lajitas 92.75 51 eP P 09 37 42.6 +0.8
LTX e*PP pP 09 37 51.5 +4.1
LTX pmax pmax
comp=Z,6.0nm,1.1s,mb4.9
LTX Lajitas 92.75 51 eP P 09 37 42.6 +0.8
comp=Z,6.0nm,1.1s,mb4.9
LTX epP pP 09 37 51.5 +4.2
SADO Sadowa 93.36 26 LR LR 10 18 43.8
comp=Z,22nm,21.9s,MS3.6,baz=32,slow=35
MAW Mawson 116.90 205 PKP PKPdf 09 43 13.0 -1.1
comp=Z,2.3nm,0.6s,baz=52,slow=6.1,SNR=8.7
TORD Torodi Ar. Bea 117.61 312 PKP PKPdf 09 43 15.2 -0.3
comp=Z,2.1nm,0.6s,baz=27,slow=1.2,SNR=20
QSPA South Pole Qui 124.63 180 eP PKPdf 09 43 27.2 -1.8
DBIC Dimbokro 126.65 314 PKP PKPdf 09 43 32.4 -0.5
comp=Z,3.6nm,0.5s,baz=32,slow=2.4,SNR=6.5
LPAZ La Paz 149.20 60 PKPbc PKPbc 09 44 19.6 +1.6
comp=Z,2.9nm,0.7s,baz=306,slow=2.9,SNR=14
LPAZ La Paz 149.20 60 ePKPbc PKPbc 09 44 19.3 +1.3

*NIED **02** 09:26:00, 3490N×13930E, h8km, Mw4.0 Best double couple: M0 1.02000×10^15 NP1:φ202.00000°, δ86.00000°, λ8.00000°. NP2:φ112.00000°, δ82.00000°, λ176.00000°.*
JMA 02 09:26:35.2±0.1, 3492N×13933E, h17km±1km, M4.3, 2C-3D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIM2	**Oshima 3**	**0.22**	**158**	P	Pg	09 26 40.2	-0.1
JIM2				S	Sg	09 26 43.9	+0.1
KTJJ	**Kamata 2**	**0.22**	**271**	⇑P	Pg	09 26 40.2	-0.1
AJI	**Ajiro2**	**0.23**	**303**	⇓P	Pg	09 26 40.7	+0.2
JOD2	**Odawara 2**	**0.40**	**330**	⇓P	Pg	09 26 43.4	+0.1
JOD2				S	Sg	09 26 49.5	+0.7
JIZS	**Izushimoda**	**0.42**	**242**	⇑P	Pg	09 26 43.7	-0.1
JIZS				S	Sg	09 26 49.7	+0.1
TATJ	**Tateyama 2**	**0.47**	**76**	P	Pg	09 26 45.8	+1.1
TATJ				S	Sg	09 26 53.9	+2.8
JMY	**Miyakejima3**	**0.86**	**170**	P	Pb	09 26 51.0	-0.7
JMY				S	Sb	09 27 03.5	+0.6
JYN	**Shimob**	**0.86**	**312**	⇓P	Pb	09 26 51.0	-0.7
JYN				S	Sb	09 27 03.0	0.0
SHZ3	**Shizuoka 3**	**0.93**	**279**	P	Pb	09 26 52.9	0.0
SHZ3				S	Sb	09 27 06.5	+1.6
JRY	**Ryogami san**	**1.15**	**342**	P	Pn	09 27 56.0	-0.5
JRY				S	Sb	09 27 11.1	-0.1
JAG	**Ashikaga**	**1.50**	**4**	P	Pn	09 27 02.4	+1.0

*NEIC **02** 09:33:07.5, 2727S×7153W, h15km, ML3.3(GUC), After GUC.*
GUC 02 09:33:07.5±1.0, 2727S×7153W, h15km±8km, MD3.7, ML3.3, 4C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.66**	**73**	⇓*i*P	Pg	09 33 19.4	-0.9
CDCH				*i* S	Sg	09 33 28.7	-0.3
CDCH				AML	AML	09 33 29.4	
	comp=N,634nm,0.3s						
CDCH	**Caldera**	**0.66**	**73**	⇓*i*P	Pg	09 33 19.4	-0.9
CDCH				*i* S	Sg	09 33 28.7	-0.3
CPCH	**Copiapo**	**1.05**	**95**	⇑*i*P	Pb	09 33 25.9	-1.4
CPCH				*i* S	Sb	09 33 40.6	-0.4
CPCH				AML	AML	09 33 42.5	
	comp=E,3μm,0.1s						
CPCH	**Copiapo**	**1.05**	**95**	⇑*i*P	Pb	09 33 25.9	-1.4
CPCH				*i* S	Sb	09 33 40.6	-0.4
CRCH	**Chaqaral**	**1.23**	**42**	⇑*i*P	Pn	09 33 29.0	-1.2
CRCH				*i* S	Sb	09 33 44.5	-1.6
CRCH				AML	AML	09 33 51.8	
	comp=E,505nm,0.5s						
CRCH	**Chaqaral**	**1.23**	**42**	⇑*i*P	Pn	09 33 29.0	-1.2
CRCH				*i* S	Sb	09 33 44.5	-1.6
LCO	**Las Campanas**	**1.88**	**157**	⇓*i*P	Pn	09 33 40.1	+1.0
LCO				*i* S	Sn	09 34 03.7	+1.1
TLL	**Tololo Astrono**	**2.96**	**168**	eP	Pn	09 33 55.6	+1.7
TLL				*i* S	Sn	09 34 31.9	+2.8
TLL				AML	AML	09 34 48.0	
	comp=N,342nm,0.5s						
TLL	**Tololo Astrono**	**2.96**	**168**	eP	Pn	09 33 55.6	+1.7
TLL				*i* S	Sn	09 34 31.9	+2.8

*IDC **02** 09:41:23.8±1.1, 6.15N×9264E, h0km, mb4.1/9, mb1 4.3/10, mb1mx4.1/21, mbtmp4.0/10, ML3.4/1, Error ellipse: s-maj=51.4km s-min=17.1km az=49.0*
*MOS **02** 09:41:27.0±1.0, 628N×9285E, h32km, mb4.5/2, Error ellipse: s-maj=28.3km s-min=13.5km az=125.3*
*ISCJB **02** 09:41:28.1±2.1, 6.1N±0.1×928E±0.1, h42km±20km, mb4.1/13, Error ellipse: s-maj=30.8km s-min=8.1km az=84.5*
*NEIC **02** 09:41:28.9±6.5, 6.19N×9273E, h33km±45km, mb4.3/2, Error ellipse: s-maj=37.9km s-min=9.9km az=54.0*
ISC 02 09:41:30.7±1.9, 62N±01×928E±02, h47km±17km, n26, σ0 99/29, mb4.1/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.97**	**119**	Pn	**Pn**	**09 43 10.3**	**+0.1**
	0.7nm,0.3s,baz=295,slow=16,SNR=3.4						
PSI				Sn	**Sn**	**09 44 27.4**	**-0.8**
	1.3nm,0.3s,baz=122,slow=22,SNR=4.0						
PSI	**Prapat**	**6.97**	**119**	Pn	**Pn**	**09 43 10.3**	**+0.1**
PSI				Sn	**Sn**	**09 44 27.4**	**-0.8**
HYB	**Hyderabad**	**17.84**	**310**	*i* P	**Pn**	**09 45 34.5**	**-1.0**
HYB				*e*S	**S**	**09 48 50.5**	**-7.8**
JIRI	**Jiri**	**22.26**	**344**	*e*P	**P**	**09 46 25.4**	**+1.8**
PKI	**Pulchoki**	**22.39**	**343**	*e*P	**P**	**09 46 26.7**	**+1.7**
GUN	**Gumba**	**22.58**	**344**	*e*P	**P**	**09 46 27.8**	**+0.8**
KKN	**Kakani**	**22.64**	**342**	*e*P	**P**	**09 46 28.8**	**+1.2**
GKN	**Gorkha**	**23.04**	**341**	*e*P	**P**	**09 46 31.3**	**-0.5**
	21nm,0.7s,mb4.7						
KOLN	**Koldanda**	**23.17**	**339**	*e*P	**P**	**09 46 32.2**	**-1.1**
	15nm,0.9s,mb4.4						
AAK	**Ala-Archa**	**39.75**	**339**	*e*P	**P**	**09 48 58.6**	**-0.2**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.9						
AAK	**Ala-Archa**	**39.75**	**339**	*e*P	**P**	**09 48 58.6**	**-0.1**
	comp=Z,3.1nm,1.1s,mb4.0						
MKAR	**Makanchi Array**	**41.45**	**349**	P	**P**	**09 49 12.2**	**-0.7**
	comp=Z,1.5nm,0.6s,mb3.8,baz=168,slow=8.7,SNR=16						
SONM	**Songino Array**	**43.09**	**13**	P	**P**	**09 49 26.3**	**+0.1**
	comp=Z,0.9nm,0.8s,mb3.6,baz=193,slow=6.1,SNR=3.5						
ZAL	**Zalesovo**	**48.05**	**354**	P	**P**	**09 50 05.1**	**-0.2**
	comp=Z,2.3nm,0.4s,mb4.5,baz=324,slow=6.0,SNR=6.9						
ZAL	**Zalesovo**	**48.05**	**354**	P	**P**	**09 50 05.1**	**-0.3**
WRA	**Warramunga Arr**	**48.41**	**123**	P	**P**	**09 50 08.6**	**+0.5**
	comp=Z,1.0nm,0.6s,mb4.0,baz=304,slow=8.6,SNR=21						
WRAB	**Tennant Creek**	**48.41**	**123**	*e*P	**P**	**09 50 08.5**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**48.41**	**123**	*e*P	**P**	**09 50 08.5**	**+0.3**
	comp=Z,3.0nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**48.42**	**123**	*e*P	**P**	**09 50 08.8**	**+0.6**
ASAR	**Alice Springs**	**49.90**	**128**	P	**P**	**09 50 20.1**	**+0.7**
	comp=Z,0.9nm,0.5s,mb4.1,baz=300,slow=7.9,SNR=17						
BOD	**Bodaibo**	**54.09**	**14**	*e*P	**P**	**09 50 48.6**	**-2.1**
AKASG	**Malin Array Be**	**68.65**	**322**	P	**P**	**09 52 27.0**	**-2.1**
	comp=Z,1.2nm,0.6s,mb4.0,baz=93,slow=5.1,SNR=6.2						
AKASG	**Malin Array Be**	**68.65**	**322**	P	**P**	**09 52 27.0**	**-2.1**
MLR	**Muntele Rosu**	**69.45**	**316**	P	**P**	**09 52 34.9**	**+0.8**
	comp=Z,1.3nm,0.4s,mb4.2,baz=357,slow=13,SNR=3.4						
ARCES	**ARCESS Array B**	**76.39**	**340**	P	**P**	**09 53 14.2**	**-0.9**
	comp=Z,0.9nm,0.9s,mb3.7,baz=122,slow=1.6,SNR=3.5						
GERES	**GERESS Array B**	**78.19**	**318**	P	**P**	**09 53 25.6**	**+0.4**
	comp=Z,1.8nm,0.5s,mb4.2,baz=97,slow=4.6,SNR=10						

*GCG **02** 09:43:49.0, 1362N×9090W, h25km, MD3.7*
*SSS **02** 09:43:49.4, 1384N×9096W, h50km, MD2.8*
CASC 02 09:43:47.9±2.4, 1359N×9092W, h7km±13km, MD3.3, 4C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.74**	**38**	*e*P	Pg	09 44 03.0	+0.8
IXG				*e*S	Sg	09 44 13.3	+1.6
FUG	**Fuego 3**	**0.86**	**5**	*e*P	Pg	09 44 02.3	-2.1
JAT	**Jato**	**1.00**	**316**	*e*P	Pg	09 44 07.0	-0.2
NBG	**Las Nubes**	**1.14**	**29**	*e*P	Pg	09 44 10.2	+0.4
NBG				*e*S	Sg	09 44 26.1	+1.5
RTR	**El Retiro**	**1.28**	**76**	*e*P	Pn	09 44 11.7	-0.5
RTR				⇑*e*P		09 44 11.7	
RTR				*e*S	Sb	09 44 29.3	+0.4
RTR				*e*S	Sb	09 44 30.4	+1.4
SBLS	**San Blas**	**1.29**	**79**	⇑*e*P	Pn	09 44 11.6	-0.7
SBLS				*e*P		09 44 11.7	
SBLS				*e*S	Sb	09 44 28.9	-0.3
SBLS				*e*S	Sb	09 44 29.9	+0.7
MTO2	**Montecristo 2**	**1.72**	**62**	⇑*e*P	Pn	09 44 17.1	-1.1
MTO2				*e*S	Sn	09 44 41.0	+0.7
LFU	**La Fuente**	**1.77**	**85**	*e*P	Pn	09 44 19.3	+0.4
LFU				*e*S	Sn	09 44 43.8	+2.2
LFRS	**El Faro**	**1.81**	**89**	*e*P	Pn	09 44 19.1	-0.3
LFRS				*e*S	Sn	09 44 42.8	+0.1
LBRS	**Las Brisas**	**1.83**	**85**	*e*P	Pn	09 44 18.8	-1.0
LBRS				*e*S	Sn	09 44 45.3	+2.0
LCBS	**La Ceiba**	**1.89**	**88**	⇓*e*P	Pn	09 44 20.8	+0.2
LCBS				*e*S	Sn	09 44 44.5	-0.2
MRL	**Marmol**	**1.89**	**39**	⇑*e*P	Pn	09 44 19.8	-0.8
MRL				*e*S	Sn	09 44 47.3	+2.6

*ISCJB **02** 09:46:38.8±1.2, 226S±02×695E±0.2, h10km, mb4.3/12, Error ellipse: s-maj=32.1km s-min=22.2km az=101.7*
*IDC **02** 09:46:39.9±1.4, 2238S×6960E, h0km, mb4.2/8, mb1 4.3/8, mb1mx4.0/20, mbtmp4.2/8, Error ellipse: s-maj=47.6km s-min=23.7km az=39.0*
ISC 02 09:46:41.1±1.3, 226S±02×694E±02, h10km, n17, σ0 98/15, mb4.3/12, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOLN	**Koldanda**	**51.93**	**16**	*e*P	**P**	**09 55 50.7**	**+0.7**
	15nm,0.8s,mb5.0						
DMN	**Daman**	**52.18**	**18**	*e*P	**P**	**09 55 52.4**	**+0.5**
	5.4nm,0.5s,mb4.7						
PKI	**Pulchoki**	**52.23**	**18**	*e*P	**P**	**09 55 53.6**	**+1.3**
KKN	**Kakani**	**52.40**	**18**	*e*P	**P**	**09 55 53.9**	**+0.4**
	4.4nm,0.3s,mb4.9						
GKN	**Gorkha**	**52.42**	**17**	*e*P	**P**	**09 55 53.8**	**+0.1**
	4.5nm,0.4s,mb4.8						
JIRN	**Jiri**	**52.54**	**19**	*e*P	**P**	**09 55 55.0**	**+0.4**
GUN	**Gumba**	**52.68**	**18**	*e*P	**P**	**09 55 56.5**	**+0.8**
ASAR	**Alice Springs**	**58.83**	**105**	P	**P**	**09 56 40.1**	**+0.3**
	3.1nm,0.7s,mb4.5,baz=260,slow=6.5,SNR=44						
WRA	**Warramunga Arr**	**60.12**	**101**	P	**P**	**09 56 48.4**	**-0.3**
	4.4nm,0.7s,mb4.6,baz=255,slow=6.7,SNR=32						
MKAR	**Makanchi Array**	**70.05**	**9**	P	**P**	**09 57 52.5**	**-0.8**
	2.6nm,0.8s,mb4.2,baz=192,slow=5.7,SNR=16						
AKTO	**Aktyubinsk**	**73.42**	**352**	P	**P**	**09 58 11.6**	**-1.9**
	1.2nm,0.7s,mb3.9,baz=182,slow=2.1,SNR=6.8						
TORD	**Torodi Ar. Bea**	**75.24**	**291**	P	**P**	**09 58 25.5**	**+1.5**
	1.8nm,1.2s,mb3.9,baz=205,slow=9.8,SNR=5.2						
BVAR	**Borovoye Array**	**75.32**	**1**	P	**P**	**09 58 23.7**	**-0.9**
	0.8nm,0.7s,mb3.7,baz=159,slow=9.1,SNR=4.8						
ZAL	**Zalesovo**	**77.38**	**9**	P	**P**	**09 58 34.0**	**-2.2**
	1.3nm,0.5s,mb4.1,baz=297,slow=4.3,SNR=6.5						
SONM	**Songino Array**	**77.59**	**25**	P	**P**	**09 58 36.9**	**-0.5**
	1.5nm,1.0s,mb3.9,baz=227,slow=5.2,SNR=8.3						
YKA	**Yellowknife Ar**	**140.05**	**3**	PKP	PKPdf	10 06 08.7	-1.1
	0.5nm,0.8s,baz=352,slow=2.6,SNR=8.8						
PDAR	**Pinedale Array**	**159.89**	**358**	PKP	PKPdf	10 06 41.1	+0.8
	0.7nm,1.0s,baz=36,slow=3.4,SNR=3.8						

TRN 02 09:51:35.4, 1760N×6068W, h35km, MD3.8, M3.8(FDF), 6D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPB	**Codrington**	**1.09**	**272**	⇓*i*P	Pn	09 51 55.4	+1.2
CPB				*e*S	Sn	09 52 06.4	-1.7
BPA	**Boggy Peak**	**1.25**	**244**	*e*P	Pn	09 51 58.4	+2.1
BPA				*e*S	Sn	09 52 14.6	+2.5
DEG	**La Desirade**	**1.33**	**196**	⇓*e*P	Pn	09 51 58.5	+1.0
DEG				*e*S	Sn	09 52 16.3	+2.3
SEG	**Port Louis**	**1.43**	**214**	⇓*e*P	Pn	09 51 59.9	+1.1
BCG	**Bois Riant Cap**	**1.76**	**211**	⇓*e*P	Pn	09 52 05.1	+1.8
MGG	**Marie-Galante**	**1.79**	**200**	*e*P	Pn	09 52 05.6	+2.0
LZG	**Guadaloupe-1**	**1.79**	**216**	*e*P	Pn	09 52 05.2	+1.4
DOG	**Dongo Capester**	**1.80**	**210**	*e*P	Pn	09 52 05.5	+1.6
PHG	**Guadaloupe-2**	**1.83**	**210**	*e*P	Pn	09 52 05.9	+1.7
SCG	**Saint Claude**	**1.84**	**212**	⇓*e*P	Pn	09 52 06.3	+1.9
HMG	**Houelmont**	**1.89**	**211**	⇓*e*P	Pn	09 52 07.1	+2.1
TBG	**Guadaloupe-3**	**1.97**	**208**	*e*P	Pn	09 52 08.1	+1.8
BBL	**Barber's Block**	**2.20**	**200**	*e*P	Pn	09 52 11.9	+2.5

*NEIC **02** 09:54:47.1, 2744S×7121W, h8km, ML4.0(GUC), After GUC.*
GUC 02 09:54:47.1±0.6, 2744S×7121W, h8km±2km, ML4.0, 1C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.50**	**43**	⇓*i*P	Pg	09 54 57.4	+0.7
CDCH				*i* S	Sg	09 55 04.8	+1.5
CPCH	**Copiapo**	**0.77**	**84**	⇑*i*P	Pg	09 55 02.2	+0.4
CPCH				*i* S	Sg	09 55 13.0	+1.2
CPCH				AML	AML	09 55 13.3	
	comp=E,32μm,0.1s						
CRCH	**Chaqaral**	**1.21**	**26**	⇓*i*P	Pb	09 55 08.8	-1.4
CRCH				*i* S	Sb	09 55 25.3	-0.7
CRCH				AML	AML	09 55 29.2	
	comp=N,2μm,0.3s						
CRCH	**Chaqaral**	**1.21**	**26**	⇓*i*P	Pb	09 55 08.8	-1.4
CRCH				*i* S	Sb	09 55 25.3	-0.7
LCO	**Las Campanas**	**1.63**	**164**	⇓*i*P	Pn	09 55 16.4	+0.3
LCO				*i* S	Sn	09 55 38.2	+1.0
TLL	**Tololo Astrono**	**2.74**	**173**	*e*P	Pn	09 55 32.7	+1.4
TLL				AML	AML	09 56 24.8	
	comp=N,628nm,0.7s						

JMA 02 10:03:14.1±0.3, 4382N×14784E, h2km, M4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.59**	**254**	P	Pn	10 03 43.4	+0.2
NEM2				*e*S	Sn	10 04 04.5	+0.1
JRA	**Rausu**	**1.97**	**274**	P	Pn	10 03 48.7	+0.2
JNK	**Nakash**	**2.28**	**265**	P	Pn	10 03 53.4	+0.7
JNK				*e*S	Sn	10 04 22.0	+0.7
JAK	**Akkeshi**	**2.43**	**251**	P	Pn	10 03 55.7	+0.8
JAK				*e*S	Sn	10 04 27.3	+2.1
JAR	**Ashorobuto**	**3.00**	**261**	P	Pn	10 04 04.1	+1.4
JOB	**Onbets**	**3.06**	**254**	P	Pn	10 04 05.3	+1.8
JOB				*e*S	Sn	10 04 43.1	+2.4
JMP	**Maruseppu**	**3.24**	**275**	P	Pn	10 04 06.8	+0.8
JCH	**Churui**	**3.49**	**251**	P	Pn	10 04 11.7	+2.4
JNBK	**Urakawa-nobuka**	**4.03**	**249**	P	Pn	10 04 18.2	+1.4

IDC 02 10:04:13.3±69.0, 2295S×17896E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.9/12, mbtmp4.1/3, Error ellipse: s-maj=1228.0km s-min=152.1km az=85.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**34.20**	**247**	P	P	10 10 59.1	-1.4
	0.7nm,0.4s,baz=101,slow=10,SNR=5.5						
ASAR	**Alice Springs**	**41.25**	**260**	P	P	10 12 00.8	+0.7
	1.5nm,0.5s,baz=95,slow=7.7,SNR=47						
WB2	**Warramunga Arr**	**41.51**	**265**	*e*P	P	10 12 03.1	+0.9
WRA	**Warramunga Arr**	**41.52**	**265**	P	P	10 12 03.3	+0.9
	2.6nm,0.3s,baz=96,slow=8.4,SNR=215						

HLW 02 10:49:53.5, 2947N×3674E, h20km, Mb3.8, 2D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HBST	**Basata**	**1.77**	**262**	P	Pn	10 50 21.8	-1.2
HBST				S	Sn	10 50 42.5	-2.4
HDHB	**Dhahab**	**2.00**	**249**	⇓P	Pn	10 50 25.0	-1.2
HKAT	**Jabal Katrina**	**2.58**	**249**	⇓P	Pn	10 50 33.3	-0.9
AMAG	**Maghara**	**3.28**	**292**	P	Pn	10 50 42.9	-0.8
AMAG	**Maghara**

*IDC **02** 11:23:03.7±1.1,2989S×176.11W,h0km,mb4.2/6, mb1 4.5/7,mb1mx4.2/14,mbtmp4.3/7,ML4.3/1,MS3.9/7, Ms1 3.9/7,ms1mx3.5/18,Error ellipse: s-maj=50.4km s-min=20.4km az=175.0*

*MOS **02** 11:23:10.9±1.5,2810S×17690W,h25km, mb4.8/2,Error ellipse: s-maj=30.4km s-min=19.0km az=159.4*

*NEIC **02** 11:23:12.1±0.7,2881S×17663W,mb4.7/4, Error ellipse: s-maj=22.5km s-min=15.3km az=137.0*

*ISCJB **02** 11:23:16.1±2.1,2895±02×1768W±02,h85km±14km, mb4.3/9,Error ellipse: s-maj=34.3km s-min=28.0km az=114.6*

ISC 02 11:23:16.1±2.4,2885±02×1767W±02,h69km±17km, h52km±7.1km:pP-P,n37,σ0°77/24,mb4.3/9,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.14**	**244**	Pn	**Pn**	**11 23 36.3**	**+0.1**
	483nm,0.3s,baz=78,slow=14,SNR=14						
RAO				Sn	**Sn**	**11 23 57.7**	**+6.3**
	1µm,0.3s,baz=90,slow=20,SNR=19						
RAO				LR	LR	11 24 04.3	
	comp=Z,645nm,21.7s,baz=125,slow=36						
RAO	**Raoul Island**	**1.14**	**244**	P	**Pn**	**11 23 36.3**	**0.0**
RAO						11 23 57.7	
KHZ	**Kahutara**	**15.74**	**207**	*e*P	**Pn**	**11 26 50.0**	**-3.5**
DZM	**Mont Dzumac**	**16.58**	**290**	P	**Pn**	**11 27 08.1**	**+4.1**
	1.0nm,0.3s,baz=96,slow=14,SNR=5.0						
DZM				LR	LR	11 32 15.8	
	comp=Z,564nm,19.2s,baz=197,slow=32						
RAR	**Rarotonga**	**17.11**	**68**	LR	LR	11 31 43.1	
	comp=Z,315nm,20.1s,baz=328,slow=30						
TBI	**Tubuai**	**25.07**	**84**	eLR	LR	11 34 38.4	
	271nm,29.0s,baz=255						
PPT	**Papeete**	**27.28**	**72**	*e*S	**S**	**11 33 35.2**	**+6.9**
	32nm,21.0s						
PPT				*e*LR	LR	11 35 48.8	
	219nm,24.2s,baz=242						
PPT	**Papeete**	**27.28**	**72**	LR	LR	11 37 08.3	
	comp=Z,272nm,18.4s,baz=143,slow=31						
HNR	**Honiara**	**29.13**	**307**	LR	LR	11 39 43.3	
	comp=Z,90nm,19.9s,baz=178,slow=33						
CTA	**Charters Tower**	**34.67**	**276**	P	**P**	**11 30 00.1**	**+1.2**
	4.4nm,0.8s,mb4.3,baz=113,slow=11,SNR=7.0						
CTA				LR	LR	11 42 31.0	
	comp=Z,366nm,21.1s,baz=84,slow=33						
CTAO	**Charters Tower**	**34.67**	**276**	*e*P	**P**	**11 30 00.2**	**+1.3**
CTAO				*e**PP	pP	11 30 10.9	-4.7
CTAO				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
CTAO	**Charters Tower**	**34.67**	**276**	*e*P	**P**	**11 30 00.2**	**+1.3**
	comp=Z,3.5nm,0.6s,mb4.4						
CTAO				*e*pP	pP	11 30 10.9	-4.7
STKA	**Stephens Creek**	**35.94**	**254**	P	**P**	**11 30 09.2**	**-0.7**
	comp=Z,2.5nm,0.4s,mb4.5,baz=71,slow=9.9,SNR=5.5						
STKA				LR	LR	11 43 22.1	
	comp=Z,177nm,19.9s,baz=28,slow=34						
STKA	**Stephens Creek**	**35.94**	**254**	*e*P	**P**	**11 30 08.5**	**-1.4**
RKT	**Rikitea**	**37.84**	**91**	eLR	LR	11 40 33.7	
	comp=Z,180nm,26.5s						
PMG	**Port Moresby**	**38.95**	**292**	LR	LR	11 44 27.5	
	comp=Z,146nm,19.3s,baz=293,slow=32						
ASAR	**Alice Springs**	**44.32**	**265**	P	**P**	**11 31 19.7**	**+0.5**
	comp=Z,1.9nm,0.6s,mb4.0,baz=95,slow=7.0,SNR=15						
WB2	**Warramunga Arr**	**45.15**	**270**	*e*P	**P**	**11 31 25.7**	**-0.1**
WRAB	**Tennant Creek**	**45.16**	**270**	*e*P	**P**	**11 31 25.5**	**-0.3**
WRAB				*e**PP	pP	11 31 36.9	-6.1
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.5						
WRAB	**Tennant Creek**	**45.16**	**270**	*e*P	**P**	**11 31 25.5**	**-0.3**
	comp=Z,6.9nm,0.7s,mb4.5						
WRAB				*e*pP	pP	11 31 36.9	-6.1
WRA	**Warramunga Arr**	**45.16**	**270**	P	**P**	**11 31 25.8**	**-0.1**
	comp=Z,1.9nm,0.4s,mb4.2,baz=104,slow=7.9,SNR=36						
FITZ	**Fitzroy Crossi**	**53.48**	**268**	*e*P	**P**	**11 32 29.5**	**+0.2**
	comp=Z,11nm,1.1s,mb4.8						
FITZ	**Fitzroy Crossi**	**53.48**	**268**	P	**P**	**11 32 29.3**	**0.0**
	comp=Z,5.7nm,1.1s,mb4.5,baz=57,slow=6.6,SNR=3.1						
CASY	**Casey**	**57.10**	**207**	*e*P	**P**	**11 32 55.8**	**+0.5**
	comp=Z,5.2nm,0.6s,mb4.7						
CASY				*e*pP	pP	11 33 07.5	-5.5
MJAR	**Matsushiro Arr**	**77.54**	**324**	P	**P**	**11 35 03.2**	**-1.1**
	comp=Z,3.2nm,0.8s,mb4.1,baz=165,slow=4.6,SNR=5.7						
VNA3	**Neumayer Olymp**	**79.86**	**176**	*e*	**P**	**11 35 23.7**	**+6.6**
VNA3				*e*		11 35 36.6	
VNA3				*e*	pP	11 35 41.7	+5.8
VNA3				*e*		11 35 58.9	
VNA3				*e*		11 36 10.0	
VNA3				*e*		11 36 23.5	
VNA2	**Neumayer--Watz**	**80.31**	**176**	*e*	**P**	**11 35 24.3**	**+4.7**
	baz=222,slow=3.4						
VNA2				*e*		11 35 37.5	
VNA2				*e*	pP	11 35 42.1	+3.8
VNA2				*e*		11 36 00.8	
VNA2				*e*		11 36 11.4	
VNA2				*e*		11 36 23.9	
NVAR	**Mina Array Bea**	**86.29**	**42**	P	**P**	**11 35 50.7**	**+0.4**
	comp=Z,0.5nm,0.5s,mb3.7,baz=225,slow=7.3,SNR=4.1						
NVAR	**Mina Array Bea**	**86.29**	**42**	P	**P**	**11 35 50.7**	**+0.4**
MKAR	**Makanchi Array**	**117.55**	**310**	PKP	PKPdf	11 41 52.6	-1.4
	comp=Z,0.6nm,0.8s,baz=48,slow=3.6,SNR=4.2						
ARCES	**ARCESS Array B**	**137.21**	**349**	PKP	PKPdf	11 42 31.7	+0.3
	comp=Z,1.0nm,0.8s,baz=77,slow=1.6,SNR=4.2						
FINES	**FINESS Array B**	**143.96**	**342**	PKPbc	PKPdf	11 42 40.2	-3.3
	comp=Z,1.1nm,0.8s,baz=37,slow=4.8,SNR=5.3						
FINES	**FINESS Array B**	**143.96**	**342**	PKPbc	PKPdf	11 42 40.2	-3.3
NB2	**NORSAR Subarra**	**147.28**	**353**	PKPa		11 42 50.4	
	comp=Z,2.3nm,1.0s,baz=13,slow=4.1						
NOA	**NORSAR Array B**	**147.28**	**353**	PKPbc	PKPbc	11 42 50.8	-0.8
	comp=Z,1.6nm,0.7s,baz=13,slow=4.5,SNR=4.8						
AKASG	**Malin Array Be**	**150.62**	**325**	PKPbc	PKPbc	11 42 59.5	-0.6
	comp=Z,1.3nm,0.5s,baz=52,slow=2.5,SNR=9.4						
BRTR	**Keskin Array B**	**152.73**	**302**	PKPbc	PKPbc	11 43 06.0	+1.0
	comp=Z,0.7nm,0.5s,baz=147,slow=2.9,SNR=5.4						

*NEIC **02** 11:26:01.5,3901S×17596E,h98km,ML3.8(WEL),After WEL.*

WEL 02 11:26:02.7±0.2,3903S×17605E,h94km±2km,ML3.7/18, Error ellipse: s-maj=1.5km s-min=1.4km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RITZ	**Rihia Road**	**0.16**	**290**	P*	Pn	11 26 16.1	+0.2
RITZ	**Rihia Road**	**0.16**	**290**	P	Pn	11 26 15.1	-0.9
OTVZ	**Oturere**	**0.33**	**246**	P*	Pn	11 26 16.9	+0.3
OTVZ				S*	Sn	11 26 27.1	+0.1
WTVZ	**West Tongariro**	**0.36**	**257**	P*	Pn	11 26 16.7	-0.2
WTVZ	**West Tongariro**	**0.36**	**257**	P	Pn	11 26 15.7	-1.2
BKZ	**Black Stump Fm**	**0.37**	**111**	P*	Pn	11 26 17.2	+0.3
BKZ				S*	Sn	11 26 27.6	0.0
BKZ	**Black Stump Fm**	**0.37**	**111**	P	Pn	11 26 17.3	+0.4
BKZ				S	Sn	11 26 27.6	+0.1
NGZ	**Ngauruhoe**	**0.38**	**247**	P*	Pn	11 26 17.0	+0.1
NGZ	**Ngauruhoe**	**0.38**	**247**	P	Pn	11 26 16.0	-0.9
TUVZ	**Tukino**	**0.39**	**232**	P*	Pn	11 26 17.2	+0.2
TUVZ				S*	Sn	11 26 27.6	-0.1
TUVZ	**Tukino**	**0.39**	**232**	P	Pn	11 26 16.2	-0.8
TUVZ				S	Sn	11 26 26.6	-1.1
WPVZ	**Whakapapa**	**0.43**	**246**	P*	Pn	11 26 17.0	-0.2
WPVZ	**Whakapapa**	**0.43**	**246**	P	Pn	11 26 16.1	-1.1
MOVZ	**Moawhango**	**0.44**	**211**	P*	Pn	11 26 17.2	-0.1
MOVZ				S*	Sn	11 26 27.3	-1.0
MOVZ	**Moawhango**	**0.44**	**211**	P	Pn	11 26 16.2	-1.1
FWVZ	**Far West T-bar**	**0.44**	**240**	P*	Pn	11 26 17.4	+0.1
FWVZ	**Far West T-bar**	**0.44**	**240**	P	Pn	11 26 16.5	-0.9
DRZ	**Dome Shelter**	**0.45**	**237**	P*	Pn	11 26 17.7	+0.3
WNVZ	**Wahianoa**	**0.46**	**230**	P*	Pn	11 26 17.6	+0.2
WNVZ				S*	Sn	11 26 28.1	-0.4
WNVZ	**Wahianoa**	**0.46**	**230**	P	Pn	11 26 16.6	-0.9
TRVZ	**Turoa**	**0.47**	**235**	P*	Pn	11 26 17.8	+0.3
TWVZ	**Taurewa**	**0.48**	**265**	P*	Pn	11 26 17.4	-0.2
TWVZ	**Taurewa**	**0.48**	**265**	P	Pn	11 26 16.4	-1.2
MTVZ	**Mangateitei**	**0.57**	**232**	P*	Pn	11 26 18.3	0.0
MTVZ				S*	Sn	11 26 30.2	+0.2
PKVZ	**Pokaka**	**0.60**	**244**	P*	Pn	11 26 18.5	-0.1
TSZ	**Takapari Road**	**1.03**	**184**	PN	Pn	11 26 22.8	-0.1
WAZ	**Wanganui**	**1.09**	**228**	PN	Pn	11 26 23.9	+0.2
URZ	**Urewera**	**1.14**	**48**	P*	Pn	11 26 24.0	-0.2
URZ				S*	Sn	11 26 39.3	-1.1
PXZ	**Pawanui**	**1.18**	**148**	PN	Pn	11 26 24.8	+0.1
PXZ				SN	Sn	11 26 40.9	-0.3
KNZ	**Kokohu**	**1.27**	**90**	PN	Pn	11 26 26.0	+0.3
KNZ	**Kokohu**	**1.27**	**90**	*e*P	Pn	11 26 26.0	+0.3
MWZ	**Matawai**	**1.35**	**59**	P*	Pn	11 26 26.7	0.0
MWZ	**Matawai**	**1.35**	**59**	P	Pn	11 26 25.9	-0.8
BFZ	**Birch Farm**	**1.65**	**175**	PN	Pn	11 26 29.8	-0.7
BFZ	**Birch Farm**	**1.65**	**175**	P	Pn	11 26 29.9	-0.6
MRZ	**Mangatainoka R**	**1.67**	**192**	PN	Pn	11 26 29.6	-1.1
KIW	**Kapiti Island**	**2.02**	**205**	PN	Pn	11 26 33.7	-1.6
KIW	**Kapiti Island**	**2.02**	**205**	P	Pn	11 26 32.7	-2.6
MTW	**Mount Morrison**	**2.16**	**191**	PN	Pn	11 26 35.2	-1.9
MTW	**Mount Morrison**	**2.16**	**191**	P	Pn	11 26 34.3	-2.8
CAW	**Cannon Point**	**2.21**	**200**	PN	Pn	11 26 35.8	-1.8
CAW	**Cannon Point**	**2.21**	**200**	P	Pn	11 26 34.8	-2.9
TRWZ	**Traveller**	**2.38**	**187**	PN	Pn	11 26 38.1	-1.8
PAWZ	**Paruwai Farm**	**2.39**	**191**	PN	Pn	11 26 37.9	-2.3
PAWZ	**Paruwai Farm**	**2.39**	**191**	P	Pn	11 26 37.1	-3.1
DUWZ	**D'Urville Isla**	**2.41**	**222**	PN	Pn	11 26 38.3	-2.0
MRW	**Makara Radio**	**2.42**	**205**	PN	Pn	11 26 38.4	-2.2
MRW	**Makara Radio**	**2.42**	**205**	P	Pn	11 26 37.4	-3.2
WEL	**Wellington**	**2.45**	**203**	PN	Pn	11 26 38.7	-2.2
WEL	**Wellington**	**2.45**	**203**	P	Pn	11 26 37.7	-3.3
MSWZ	**Moikau Station**	**2.46**	**194**	PN	Pn	11 26 38.6	-2.3
MSWZ	**Moikau Station**	**2.46**	**194**	P	Pn	11 26 37.8	-3.2
SNZO	**South Karori**	**2.50**	**204**	PN	Pn	11 26 39.1	-2.4
SNZO	**South Karori**	**2.50**	**204**	P	Pn	11 26 39.1	-2.4
BHW	**Baring Head**	**2.54**	**200**	PN	Pn	11 26 39.6	-2.5
BHW	**Baring Head**	**2.54**	**200**	P	Pn	11 26 38.6	-3.5
TCW	**Tory Channel**	**2.57**	**211**	PN	Pn	11 26 40.1	-2.3
TCW	**Tory Channel**	**2.57**	**211**	P	Pn	11 26 39.2	-3.2
TUWZ	**Tuamarina**	**2.89**	**213**	PN	Pn	11 26 44.2	-2.5
BSWZ	**Blackbirch Sta**	**3.15**	**211**	PN	Pn	11 26 47.4	-2.8
BSWZ	**Blackbirch Sta**	**3.15**	**211**	P	Pn	11 26 46.5	-3.8
QRZ	**Quartz Range**	**3.24**	**235**	PN	Pn	11 26 49.1	-2.5

*IDC **02** 12:09:30.6±5.5,3135S×17802W,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.9/12,mbtmp4.0/3,Error ellipse: s-maj=212.2km s-min=54.6km az=152.0*

*NEIC **02** 12:09:32.4±0.8,3114S×178.14W,h10km,mb4.2/3,Error ellipse: s-maj=22.0km s-min=14.7km az=122.0*

*ISCJB **02** 12:09:38.3±1.1,3159S±006×1788W±02,h33km,mb4.0/5, Error ellipse: s-maj=21.5km s-min=7.3km az=25.5*

ISC 02 12:09:39.5±1.1,3151S±006×1786W±02,h35km,n23, σ0°52/26,mb4.1/5,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**7.52**	**204**	PN	**Pn**	**12 11 31.1**	**+4.5**
MWZ				SN	**Sn**	**12 12 56.0**	**+5.5**
URZ	**Urewera**	**7.60**	**206**	PN	**Pn**	**12 11 32.4**	**+4.7**
URZ				SN	**Sn**	**12 12 57.1**	**+4.5**
PXZ	**Pawanui**	**9.27**	**202**	SN	**Sn**	**12 12 33.9**	**+0.3**
MRZ	**Mangatainoka R**	**10.27**	**206**	PN	**Pn**	**12 12 04.7**	**+0.4**
MRZ				SN	**Sn**	**12 13 57.6**	**-0.7**
CAW	**Cannon Point**	**10.85**	**206**	SN	**Sn**	**12 14 12.1**	**-0.4**
MRW	**Makara Radio**	**11.10**	**207**	SN	**Sn**	**12 14 18.6**	**+0.1**
SNZO	**South Karori**	**11.17**	**207**	*e*Pn	**Pn**	**12 12 17.4**	**+0.8**
	33nm,1.0s						
NNZ	**Nelson**	**11.64**	**211**	SN	**Sn**	**12 14 31.7**	**-0.1**
QRZ	**Quartz Range**	**11.74**	**215**	SN	**Sn**	**12 14 34.2**	**+0.2**
KHZ	**Kahutara**	**12.56**	**208**	SN	**Sn**	**12 14 49.9**	**-4.5**
LTZ	**Lake Taylor**	**13.39**	**210**	SN	**Sn**	**12 15 08.4**	**-6.2**
MQZ	**McQueen's Vall**	**14.00**	**207**	SN	**Sn**	**12 15 20.7**	**-8.7**
MQZ				SN	**Sn**	**12 15 21.6**	**-7.9**
AFI	**Afiamalu**	**18.60**	**21**	*e*Pn	**Pn**	**12 13 44.8**	**-9.4**
	3.0nm,0.3s						
CTAO	**Charters Tower**	**33.50**	**281**	*e*P	**P**	**12 16 14.8**	**-0.7**
	2.4nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**33.75**	**259**	P	**P**	**12 16 17.9**	**+0.3**
	1.0nm,0.6s,mb4.0,baz=106,slow=8.7,SNR=8.1						
STKA	**Stephens Creek**	**33.75**	**259**	P	**P**	**12 16 17.9**	**+0.3**
ASAR	**Alice Springs**	**42.56**	**268**	P	**P**	**12 17 32.4**	**+0.6**
	0.9nm,0.6s,mb3.7,baz=106,slow=7.6,SNR=24						
WRAB	**Tennant Creek**	**43.64**	**274**	*e*P	**P**	**12 17 40.0**	**-0.6**
	2.7nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**43.65**	**274**	P	**P**	**12 17 40.9**	**+0.3**
	1.9nm,0.4s,mb4.2,baz=112,slow=8.0,SNR=58						
VNA3	**Neumayer Olymp**	**77.23**	**176**	*e*	**P**	**12 21 29.2**	**-0.8**
VNA3				*e*		12 21 33.2	
VNA3				*e*		12 21 35.0	
VNA2	**Neumayer--Watz**	**77.66**	**177**	*e*	**P**	**12 21 32.6**	**+0.2**
	baz=199,slow=6.1						
VNA2				*e*		12 21 37.8	
TMUT	**Trail Mountain**	**94.20**	**46**	*e*P	**P**	**12 22 47.0**	**-7.8**
FINES	**FINESS Array B**	**146.00**	**339**	PKPbc	PKPbc	12 29 10.8	-4.7
	0.8nm,0.7s,baz=25,slow=4.6,SNR=4.0						

*NEIC **02** 12:10:38.0,2751S×7108W,h22km,ML4.2(GUC),After GUC.*

NEIC Felt [II] at Copiapo.

GUC 02 12:10:38.0±0.4,2751S×7108W,h22km±5km,ML4.2, 2C-1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.49**	**28**	⇓*i*P	Pb	12 10 47.8	-0.1
CDCH				*i* S	Sb	12 10 54.8	+0.2
CPCH	**Copiapo**	**0.67**	**77**	*e*P	Pb	12 10 52.1	+1.2
CPCH				*i* S	Sb	12 11 01.6	+1.9
CPCH				AML	AML	12 11 05.7	
	comp=E,21µm,0.1s						
CPCH	**Copiapo**	**0.67**	**77**	*e*P	Pb	12 10 52.1	+1.2
CPCH				*i* S	Sb	12 11 01.6	+1.9
CRCH	**Chaqaral**	**1.23**	**20**	⇑*i*P	Pn	12 10 59.2	-0.6
CRCH				*i* S	Sn	12 11 15.3	-0.5
LCO	**Las Campanas**	**1.54**	**167**	⇑*i*P	Pn	12 11 04.9	+0.8
LCO				*i* S	Sn	12 11 25.1	+1.8
TLL	**Tololo Astrono**	**2.66**	**175**	*e*P	Pn	12 11 20.3	+0.7
TLL				AML	AML	12 12 05.5	
	comp=E,1µm,0.5s						
CPN1	**Cerro Paranal**	**2.93**	**12**	*e*P	Pn	12 11 21.7	-1.6
FCH	**Farellones**	**5.84**	**173**	*e*P	Pn	12 12 05.3	+2.0

*IDC **02** 13:06:06.6±1.4,3047S×17778W,h0km,mb3.9/4, mb1 4.1/4,mb1mx3.9/12,mbtmp3.8/4,Error ellipse: s-maj=37.0km s-min=25.1km az=124.0*

*NEIC **02** 13:06:07.5±0.9,3036S×17773W,h10km,mb3.9/1,Error ellipse: s-maj=21.6km s-min=13.1km az=119.0*

*ISCJB **02** 13:06:09.9±1.3,3036S±008×1779W±02, h33km,mb3.8/5, Error ellipse: s-maj=28.1km s-min=10.2km az=29.4*

ISC 02 13:06:11.6±1.3,3030S±008×1778W±02,h35km,n11, σ0°82/11,mb3.8/5,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.05**	**353**	Pn	**Pn**	**13 06 31.5**	**+1.6**
	153nm,0.3s,baz=72,slow=16,SNR=9.6						
RAO				Sn	**Sn**	**13 06 42.7**	**-0.6**
	487nm,0.3s,baz=158,slow=22,SNR=9.7						
RAO	**Raoul Island**	**1.05**	**353**	*e*Pn	**Pn**	**13 06 28.8**	**-1.1**
RAO				Sn	**Sn**	**13 06 42.7**	**-0.6**
STKA	**Stephens Creek**	**34.69**	**257**	P	**P**	**13 12 58.0**	**0.0**
	2.7nm,0.8s,mb4.2,baz=100,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**43.31**	**267**	P	**P**	**13 14 10.3**	**+0.4**
	0.3nm,0.5s,mb3.3,baz=103,slow=7.6,SNR=7.2						
WB2	**Warramunga Arr**	**44.28**	**272**	*e*P	**P**	**13 14 18.3**	**+0.5**
WRAB	**Tennant Creek**	**44.28**	**272**	*e*P	**P**	**13 14 17.9**	**+0.1**
	0.8nm,0.4s,mb3.8						
WRA	**Warramunga Arr**	**44.29**	**272**	P	**P**	**13 14 17.9**	**+0.1**
	0.9nm,0.5s,mb3.7,baz=111,slow=8.1,SNR=28						
CASY	**Casey**	**55.32**	**208**	*e*P	**P**	**13 15 40.0**	**-1.7**
	44nm,0.7s						
CASY				*e*PcP	PcP	13 16 31.1	-11
PDAR	**Pinedale Array**	**95.93**	**43**	P	**P**	**13 19 35.6**	**+0.8**
	0.5nm,0.9s,mb3.9,baz=121,slow=0.9,SNR=4.1						
FINES	**FINESS Array B**	**145.12**	**340**	PKPbc	PKPbc	13 25 43.8	-1.1
	0.9nm,0.5s,baz=58,slow=2.8,SNR=8.1						
TORD	**Torodi Ar. Bea**	**162.92**	**178**	PKPab	PKPab	13 27 00.1	+0.7
	0.2nm,0.5s,baz=167,slow=4.7,SNR=4.1						

*ISCJB **02** 13:20:28.5±0.5,4310N±004×14322E±005,h135km±4km, mb3.4/4,Error ellipse: s-maj=7.3km s-min=5.5km az=151.9*

*JMA **02** 13:20:29.7±0.1,4310N×143.18E,h132km±1km,M3.3*

*IDC **02** 13:20:30.4±7.5,4325N×14290E,h143km±102km,mb3.1/4, mb1 3.4/5,mb1mx3.1/21,mbtmp3.5/5,Error ellipse: s-maj=90.4km s-min=43.9km az=171.0*

ISC 02 13:20:29.3±0.5,4311N±004×14321E±005,h134km±3km, n24,σ0°64/39,mb3.4/4,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAR	**Ashorobuto**	**0.45**	**65**	P	**Pn**	**13 20 48.7**	**+0.1**
JAR				*e*S	**Sn**	**13 21 03.1**	**-0.1**
JFR	**Furan**	**0.46**	**277**	P	**Pn**	**13 20 48.8**	**+0.2**
JOB	**Onbets**	**0.50**	**114**	P	**Pn**	**13 20 49.7**	**+0.8**
JOB				*e*S	**Sn**	**13 21 04.4**	**+0.7**
JCH	**Churui**	**0.51**	**167**	P	**Pn**	**13 20 49.0**	**+0.1**
JCH				*e*S	**Sn**	**13 21 03.0**	**-0.7**
JBT2	**Biratori 2**	**0.70**	**242**	P	**Pn**	**13 20 50.3**	**+0.1**
JBT2				*e*S	**Sn**	**13 21 05.6**	**-0.4**
JAB	**Ashibetsu**	**0.82**	**299**	P	**Pn**	**13 20 51.4**	**+0.3**
JAB				*e*S	**Sn**	**13 21 07.4**	**-0.2**
JKK2	**Kamakawa 2**	**0.83**	**336**	P	**Pn**	**13 20 51.6**	**+0.4**
JKK2				*e*S	**Sn**	**13 21 07.6**	**-0.1**
JNBK	**Urakawa-nobuka**	**0.90**	**202**	P	**Pn**	**13 20 52.1**	**+0.4**
JNBK				*e*S	**Sn**	**13 21 08.9**	**+0.2**
JMP	**Maruseppu**	**0.90**	**7**	P	**Pn**	**13 20 52.0**	**+0.3**
JMP				*e*S	**Sn**	**13 21 08.4**	**-0.4**
JTKR	**Abashiri--Toko**	**1.00**	**30**	P	**Pn**	**13 20 53.0**	**+0.4**
JTKR				*e*S	**Sn**	**13 21 09.9**	**-0.4**
JAK	**Akkeshi**	**1.09**	**95**	P	**Pn**	**13 20 53.7**	**+0.2**
JAK				*e*S	**Sn**	**13 21 11.8**	**-0.1**
JHR	**Hokuryu**	**1.25**	**301**	P	**Pn**	**13 20 55.4**	**+0.3**
JHR				*e*S	**Sn**	**13 21 15.0**	**+0.3**
JEW	**Eniwo**	**1.32**	**259**	P	**Pn**	**13 20 55.9**	**+0.1**
JEW				*e*S	**Sn**	**13 21 15.7**	**-0.2**
JRA	**Rausu**	**1.62**	**59**	P	**Pn**	**13 20 59.9**	**+0.9**
JYG	**Yagishiri**	**1.84**	**316**	P	**Pn**	**13 21 01.8**	**+0.1**
JYG				*e*S	**Sn**	**13 21 26.4**	**0.0**
NEM2	**Nemuro 2**	**1.87**	**81**	P	**Pn**	**13 21 01.8**	**-0.1**
NEM2				*e*S	**Sn**	**13 21 24.8**	**-2.1**
JSE	**Soyaes**	**1.90**	**346**	P	**Pn**	**13 21 02.5**	**+0.2**
JSK	**Shakotan**	**2.01**	**278**	P	**Pn**	**13 21 03.6**	**-0.1**
JKB	**Kayabe**	**2.02**	**234**	P	**Pn**	**13 21 03.8**	**0.0**
JKB				*e*S	**Sn**	**13 21 28.3**	**-1.9**
MJAR	**Matsushiro Arr**	**7.60**	**212**	P	**Pn**	**13 22 18.6**	**+1.1**
	0.4nm,0.3s,baz=24,slow=13,SNR=6.6						
ILAR	**Eielson Array**	**43.69**	**36**	P	**P**	**13 28 20.6**	**-0.2**
	0.8nm,0.5s,mb3.6,baz=254,slow=5.4,SNR=14						
YKA	**Yellowknife Ar**	**57.90**	**32**	P	**P**	**13 30 06.8**	**-0.4**
	0.1nm,0.4s,mb3.0,baz=308,slow=6.2,SNR=6.0						
FINES	**FINESS Array B**	**64.11**	**332**	P	**P**	**13 30 47.4**	**-1.7**
	0.8nm,0.6s,mb3.7,baz=46,slow=5.5,SNR=3.3						
PDAR	**Pinedale Array**	**72.49**	**48**	P	**P**	**13 31 42.1**	**+0.9**
	0.4nm,0.5s,mb3.4,baz=241,slow=1.5,SNR=3.9						

*IDC **02** 13:36:11.6±1.2,1912N×12140E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.4/20,mbtmp3.5/4,Error ellipse: s-maj=79.6km s-min=24.4km az=69.0*

*ISCJB **02** 13:36:18.3±1.6,1911N±01×1211E±01,h64km±15km, mb3.3/4,Error ellipse: s-maj=25.6km s-min=15.7km az=43.0*

*MAN **02** 13:36:20,1894N×12127E,h9km,mb3.3,ML4.6,MS5.2*

ISC 02 13:36:18.4±1.9,1911N±01×1211E±01,h51km±18km,n7, σ0°92/9,mb3.3/4,1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.91**	**210**	⇓*e*P	**Pn**	**13 36 33.4**	**-1.6**
PIP				*e*S	**Sn**	**13 36 47.8**	**+0.6**
SGCP	**Mt. Cagua**	**1.25**	**134**	*e*P	**Pn**	**13 36 39.0**	**-0.5**
CVP	**Callao Caves**	**1.56**	**154**	*e*P	**Pn**	**13 36 44.0**	**+0.2**
CVP				*e*S	**Sn**	**13 37 04.0**	**+1.1**
WRA	**Warramunga Arr**	**40.93**	**161**	P	**P**	**13 43 54.5**	**-1.3**
	0.5nm,0.7s,mb3.2,baz=341,slow=9.1,SNR=7.5						
MKAR	**Makanchi Array**	**42.03**	**320**	P	**P**	**13 44 06.2**	**+1.4**
	0.6nm,0.6s,mb3.4,baz=114,slow=10,SNR=5.8						
ASAR	**Alice Springs**	**44.32**	**163**	P	**P**	**13 44 23.4**	**+0.1**
	0.2nm,0.4s,mb

CPUP Villa Florida 12.59 88 Pn **Pn** 13 45 36.9 -0.1
CPUP Lg 13 49 07.8
CPUP LR LR 13 50 52.2
PLCA Paso Flores 13.22 177 *e*P **Pn** 13 45 44.9 -0.7
PLCA pmax pmax
comp=Z,15nm,1.0s
PLCA Paso Flores 13.22 177 *e*Pn **Pn** 13 45 44.9 -0.7
comp=Z,15nm,1.0s
PLCA *e*pP 13 45 54.6
SIV San Ignacio 14.91 42 Pn **Pn** 13 46 04.2 -4.5
comp=Z,1.4nm,0.3s,baz=250,slow=7.1,SNR=28
SIV Sn **Sn** 13 48 55.6 +1.2
comp=Z,0.1nm,0.3s,baz=311,slow=19,SNR=2.0
BDFB Brasilia 24.67 66 P **P** 13 47 56.5 -2.5
comp=Z,16nm,0.8s,mb4.6,baz=248,slow=9.2,SNR=14
BDFB LR LR 13 58 46.9
comp=Z,3µm,19.6s,MS4.8,baz=246,slow=40
EFI East Falkland 26.15 161 P **P** 13 48 11.3 -1.1
USHA Ushuaia 27.39 176 P **P** 13 48 23.2 -0.4
comp=Z,7.5nm,0.9s,mb4.2,baz=322,slow=12,SNR=3.3
USHA LR LR 14 00 04.1
comp=Z,3µm,18.8s,MS4.9,baz=340,slow=38
PAYG Puerto Ayora 32.26 323 *e*P **P** 13 49 07.8 +1.1
ROSC El Rosal 32.29 354 LR LR 14 01 56.9
comp=Z,454nm,19.6s,MS4.2,baz=191,slow=36
RPN Rapa Nui 33.64 262 LR LR 13 59 14.9
comp=Z,1µm,20.6s,MS4.6,baz=111,slow=30
SDV Santo Domingo 36.18 1 P **P** 13 49 40.8 +0.1
comp=Z,5.7nm,0.8s,mb4.6,baz=269,slow=10.0,SNR=5.2
SDV Santo Domingo 36.18 1 *e*P **P** 13 49 40.4 -0.3
comp=Z,7.9nm,0.9s,mb4.6
PMSA Palmer Station 37.58 175 *e*P **P** 13 49 52.8 +0.2
comp=Z,177nm,1.4s,mb5.6
JTS JuntasAbangare 39.81 339 LR LR 14 04 23.5
comp=Z,206nm,19.0s,MS4.0,baz=170,slow=33
JTS JuntasAbangare 39.81 339 P **P** 13 50 10.8 -0.5
RCBR Riachuelo 40.00 64 *e*P **P** 13 50 12.8 -0.2
comp=Z,9.0nm,0.9s,mb4.5
SJG San Juan 45.62 7 P **P** 13 50 56.3 -2.2
comp=Z,6.4nm,0.3s,mb5.1,baz=328,slow=22,SNR=4.8
SJG San Juan 45.62 7 *e*P **P** 13 50 58.0 -0.6
SJG pmax pmax
comp=Z,72nm,1.7s
SJG San Juan 45.62 7 *e*P **P** 13 50 58.0 -0.6
comp=Z,72nm,1.7s,mb5.3
TEIG Tepich 50.19 339 *e*P **P** 13 51 33.1 -0.9
comp=Z,10nm,1.4s,mb4.7
VNA3 Neumayer Olymp 55.19 160 ⇑*i*P **P** 13 52 10.4 -0.6
VNA3 *e* pP 13 52 12.2 -0.2
VNA3 *e* 13 52 14.1
VNA3 *e* 13 52 21.7
VNA3 *e* 13 52 27.9
VNA3 *e* 13 52 40.7
VNA3 Neumayer Olymp 55.19 160 ⇑*i*P **P** 13 52 10.4 -0.6
VNA3 *e* 13 52 14.1
VNA1 Neumayer--Stat 55.46 159 ⇑*i*P **P** 13 52 12.3 -0.6
VNA1 *e* pP 13 52 14.2 -0.1
VNA1 *e* 13 52 16.4
VNA2 Neumayer--Watz 55.81 159 ⇑*i*P **P** 13 52 14.7 -0.7
baz=293,slow=8.2
VNA2 *e* pP 13 52 16.5 -0.4
VNA2 *e* 13 52 18.4
VNA2 *e* 13 52 23.8
VNA2 *e* 13 52 26.0
VNA2 *e* 13 52 42.5
VNA2 *e* 13 52 47.5
VNA2 *e* 13 52 58.8
VNA2 Neumayer--Watz 55.81 159 ⇑*i*P **P** 13 52 14.7 -0.7
VNA2 *e* 13 52 18.4
RKT Rikitea 57.12 259 *e*S **S** 14 00 20.7 +0.3
comp=Z,471nm,27.2s
RKT *e*LR LR 14 09 14.3
comp=Z,262nm,23.8s
SNAA Sanae 57.41 160 P **P** 13 52 26.1 -0.7
comp=Z,4.6nm,0.9s,mb4.5,baz=283,slow=6.3,SNR=45
SNAA Sanae 57.41 160 ⇑*i*P **P** 13 52 25.2 -1.6
SNAA *e* pP 13 52 27.0 -1.3
SNAA *e* 13 52 29.3
SNAA *e* 13 52 35.8
SNAA Sanae 57.41 160 ⇑*i*P **P** 13 52 25.2 -1.6
NVL N'lazarevskaya 62.08 158 ⇑*i*P **P** 13 52 59.8 +0.8
NVL pmax pmax
comp=Z,28nm,1.8s,mb5.1
NVL pmax pmax
comp=N,9.0nm,0.8s
NVL pmax pmax
comp=E,17nm,1.5s
NVL MLR MLR
comp=Z,670nm,17.7s,MS4.8
NVL MLR MLR
comp=N,220nm,17.7s,MS4.7
NVL MLR MLR
comp=E,427nm,17.7s,MS4.7
QSPA South Pole Qui 62.72 180 *e*P **P** 13 53 03.0 -0.2
comp=E,14nm,1.0s,mb5.0
LPIG La Paz 63.58 320 LR LR 14 16 47.3
comp=E,208nm,18.6s,MS4.3,baz=191,slow=32
JCT Junction City 63.73 333 *e*P **P** 13 53 09.9 -0.1
JCT pmax pmax
comp=Z,11nm,0.8s,mb4.9
JCT Junction City 63.73 333 *e*P **P** 13 53 09.9 0.0
comp=Z,11nm,0.8s,mb4.9
SWET Sewanee 63.88 347 *e*P **P** 13 53 09.8 -1.1
OXF Oxford 64.00 343 *e*P **P** 13 53 11.3 -0.4
OXF pmax pmax
comp=Z,24nm,0.8s,mb5.3
OXF Oxford 64.00 343 *e*P **P** 13 53 11.3 -0.4
comp=Z,24nm,0.8s,mb5.3
LTX Lajitas 64.42 329 P **P** 13 53 15.6 +1.1
WVT Waverly 65.16 345 P **P** 13 53 18.1 -1.2
WVT pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
WVT Waverly 65.16 345 P **P** 13 53 18.1 -1.2
comp=Z,8.5nm,0.9s,mb4.8
MIAR Mount Ida 65.19 340 *e*P **P** 13 53 18.4 -1.1
MIAR pmax pmax
comp=Z,20nm,1.4s,mb5.0
MIAR Mount Ida 65.19 340 *e*P **P** 13 53 18.4 -1.1
comp=Z,20nm,1.4s,mb5.0
MNTX Cornudas Mount 67.20 329 *e*P **P** 13 53 32.4 -0.1
comp=Z,6.2nm,1.1s,mb4.5
FVM French Village 67.55 344 *e*P **P** 13 53 33.4 -1.2
FVM pmax pmax
comp=Z,28nm,1.2s,mb5.2
FVM French Village 67.55 344 *e*P **P** 13 53 33.4 -1.2
comp=Z,28nm,1.2s,mb5.2
CPRX Cap Rock 67.65 331 *e*P **P** 13 53 36.0 +0.7
CCM Cathedral Cave 67.82 343 *e*P **P** 13 53 36.1 -0.2
CCM pmax pmax
comp=Z,20nm,1.2s,mb5.0
CCM Cathedral Cave 67.82 343 *e*P **P** 13 53 36.1 -0.2
comp=Z,20nm,1.2s,mb5.0
ACSO Alum Creek Sta 68.25 350 *e*P **P** 13 53 38.0 -1.0
comp=Z,13nm,1.0s,mb4.9
SBA Scott Base 69.54 191 *e*P **P** 13 53 46.6 -0.5
SBA *e**SP sP 13 53 56.3 +7.3
SBA pmax pmax
comp=Z,13nm,1.3s,mb4.7
SBA Scott Base 69.54 191 *e*P **P** 13 53 46.6 -0.5
comp=Z,13nm,1.3s,mb4.7
SBA *e*pP pP 13 53 53.3 +4.8
SBA *e*sP sP 13 53 56.3 +7.2
TBI Tubuai 69.54 254 *e*S S 14 02 55.1 -0.4
comp=Z,676nm,27.8s
TBI *e*LR LR 14 14 42.9
comp=Z,486nm,33.0s
LAZ Ladron 70.27 329 *e*P **P** 13 53 53.0 +1.5
ANMO Albuquerque 70.42 330 *e*P **P** 13 53 53.9 +1.5
ANMO pmax pmax
comp=Z,6.0nm,1.3s
ANMO Albuquerque 70.42 330 *e*P **P** 13 53 53.9 +1.4
comp=Z,5.7nm,1.3s,mb4.3
VNDA Vanda 70.57 191 P **P** 13 53 53.9 +0.5
comp=Z,1.4nm,1.1s,mb3.8,baz=143,slow=5.5,SNR=2.8
VNDA Vanda 70.57 191 *e*P **P** 13 53 53.4 0.0
VNDA pmax pmax
comp=Z,5.0nm,1.3s
VNDA Vanda 70.57 191 *e*P **P** 13 53 53.4 0.0
comp=Z,5.4nm,1.3s,mb4.3
PPT Papeete 71.88 259 *e*S S 14 03 21.5 -1.2
comp=Z,928nm,24.2s
PPT *e*LR LR 14 16 06.5
comp=Z,242nm,20.8s
PPT Papeete 71.88 259 LR LR 14 18 16.5
comp=Z,448nm,18.9s,MS4.8,baz=141,slow=30

DBIC Dimbokro 72.63 73 P **P** 13 54 06.1 +0.3
comp=Z,8.6nm,0.6s,mb4.8,baz=221,slow=5.5,SNR=25
DBIC LR LR 14 25 07.7
comp=Z,449nm,18.1s,MS4.8,baz=219,slow=35
DBIC Dimbokro 72.63 73 *e*P **P** 13 54 05.2 -0.6
DBIC pmax pmax
comp=Z,13nm,0.7s
DBIC Dimbokro 72.63 73 *e*P **P** 13 54 05.2 -0.6
comp=Z,14nm,0.7s,mb5.0
WUAZ Wupatki 73.17 327 *e*P **P** 13 54 10.3 +1.3
comp=Z,15nm,1.2s,mb4.8
MVCO Mesa Verde 73.21 330 *e*P **P** 13 54 10.5 +1.2
PV01 Paradox Valley 74.01 330 *e*P **P** 13 54 15.4 +1.5
SMCO Snowmass 74.19 332 *e*P **P** 13 54 16.4 +1.4
comp=Z,12nm,1.0s,mb4.8
NEN Nelson 75.02 325 *e*P **P** 13 54 20.9 +1.2
SRU San Rafael 75.68 330 *e*P **P** 13 54 24.2 +0.6
SRU pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
SRU San Rafael 75.68 330 *e*P **P** 13 54 24.1 +0.6
comp=Z,8.4nm,1.1s,mb4.6
MSU Marysvale 75.96 328 *e*P **P** 13 54 25.6 +0.4
MVU Marysvale 75.97 328 *e*P **P** 13 54 25.2 0.0
comp=Z,7.5nm,1.2s,mb4.5
ARUT Antelope Range 75.98 327 *e*P **P** 13 54 27.1 +1.8
DAU Daniels Canyon 77.06 330 *e*P **P** 13 54 30.7 -0.8
TPH Tonopah 78.10 325 *e*P **P** 13 54 37.9 +0.7
TPH *e**PP pP 13 54 45.1 +6.4
TPH pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
TPH Tonopah 78.10 325 *e*P **P** 13 54 37.9 +0.7
comp=Z,9.7nm,1.2s,mb4.6
TPH *e*pP pP 13 54 45.1 +6.4
HWUT Hardware Ranch 78.17 330 *e*P **P** 13 54 36.6 -1.0
comp=Z,8.4nm,0.9s,mb4.7
PDAR Pinedale Array 78.26 332 P **P** 13 54 38.7 +0.6
comp=Z,1.1nm,0.6s,mb4.0,baz=125,slow=9.5,SNR=11
PDAR LR LR 14 27 58.8
comp=Z,162nm,18.4s,MS4.4,baz=47,slow=35
NVAR Mina Array Bea 78.92 324 P **P** 13 54 42.7 +0.9
comp=Z,7nm,0.7s,mb3.7,baz=149,slow=4.0,SNR=5.8
RAR Rarotonga 79.14 252 LR LR 14 20 10.5
comp=Z,621nm,19.3s,MS5.0,baz=165,slow=28
MAW Mawson 79.24 164 P **P** 13 54 42.7 -0.8
comp=Z,7.3nm,0.9s,mb4.6,baz=139,slow=4.9,SNR=6.4
MAW LR LR 14 30 57.2
comp=Z,693nm,18.7s,MS5.0,baz=330,slow=37
MAW Mawson 79.24 164 *e*P **P** 13 54 42.5 -1.0
MAW pmax pmax
comp=Z,14nm,1.0s
MAW Mawson 79.24 164 *e*P **P** 13 54 42.5 -1.0
comp=Z,14nm,1.0s,mb4.8
REDW Red Top Meadow 79.29 332 *e*P **P** 13 54 44.6 +0.8
comp=Z,5.3nm,0.8s,mb4.5
LOHW Long Hollow 79.39 332 *e*P **P** 13 54 45.3 +0.9
comp=Z,8.0nm,1.1s,mb4.6
IMW Indian Meadow 79.77 332 *e*P **P** 13 54 46.1 -0.3
comp=Z,14nm,1.3s,mb4.7
LAO LASA Array 80.29 336 *e*P **P** 13 54 48.5 -0.7
comp=Z,8.9nm,0.8s,mb4.8
ULM Lac du Bonnet 80.40 344 P **P** 13 54 49.5 -0.3
comp=Z,7.6nm,1.0s,mb4.6,baz=168,slow=5.9,SNR=6.7
ULM Lac du Bonnet 80.40 344 P **P** 13 54 49.5 -0.4
TSUM Tsumeb 80.48 107 *e*P **P** 13 54 50.3 +0.1
comp=Z,11nm,0.9s,mb4.8
QLMT Earthquake Lak 80.73 332 *e*P **P** 13 54 53.0 +1.4
HLID Hailey 80.99 330 *e*P **P** 13 54 54.0 +1.0
comp=Z,8.1nm,1.1s,mb4.6
MCMT McKenzie Canyo 81.32 332 *e*P **P** 13 54 55.8 +1.1
TORD Torodi Ar. Bea 81.48 70 P **P** 13 54 55.3 -0.3
comp=Z,19nm,0.7s,mb5.1,baz=260,slow=4.6,SNR=136
SCHQ Schefferville 82.09 3 *e*P **P** 13 54 56.7 -2.1
comp=Z,12nm,1.2s,mb4.7
LBTB Lobatse 84.53 115 *e*P **P** 13 55 11.2 -0.2
LBTB pmax pmax
comp=Z,26nm,1.3s,mb5.2
LBTB Lobatse 84.53 115 *e*P **P** 13 55 11.2 -0.2
comp=Z,26nm,1.3s,mb5.2
WALA Waterton Lakes 85.15 333 *e*P **P** 13 55 14.3 -0.2
comp=Z,5.3nm,0.9s,mb4.7
CASY Casey 86.51 181 *e*P **P** 13 55 21.1 -0.1
comp=Z,16nm,1.1s,mb5.2
FCC Fort Churchill 87.99 348 P **P** 13 55 28.2 -0.2
FCC pmax pmax
comp=Z,11nm,1.3s,mb4.9
FCC Fort Churchill 87.99 348 P **P** 13 55 28.2 -0.2
comp=Z,11nm,1.3s,mb4.9
URZ Urewera 88.47 227 LR LR 14 26 00.0
comp=Z,372nm,18.6s,MS4.8,baz=32,slow=29
RPZ Rata Peaks 88.96 220 LR LR 14 26 37.4
comp=Z,394nm,18.2s,MS4.9,baz=204,slow=30
LSZ Lusaka 91.27 108 *e*P **P** 13 55 43.1 -0.7
LSZ pmax pmax
comp=Z,15nm,1.2s,mb5.2
LSZ Lusaka 91.27 108 *e*P **P** 13 55 43.1 -0.7
comp=Z,15nm,1.2s,mb5.2
YKA Yellowknife Ar 96.10 341 P **P** 13 56 04.0 -1.9
comp=Z,1.3nm,1.0s,mb4.3,baz=141,slow=4.7,SNR=15
CLL Collm 107.63 41 *e*PS PS 14 10 49.0 +1.6
CLL *e*PPS 14 11 53.0
CLL *e*SS SS 14 17 06.0 +30
AKASG Malin Array Be 117.28 45 PKiKP PKiKP 14 01 21.9 -1.9
comp=Z,1.0nm,0.6s,baz=262,slow=3.1,SNR=6.7
OBN Obninsk 122.22 40 ⇑*i*PKIKP PKPdf 14 01 29.1 -4.1
OBN *e* 14 08 22.8
OBN *e*PS PS 14 12 58.3 -4.2
OBN pmax pmax
comp=Z,8.0nm,0.5s
OBN MLR MLR
comp=Z,300nm,20.0s,MS4.9
SOC Sochi 123.22 54 *i* PKIKP PKPdf 14 01 43.0 +7.8
SOC *e* 14 03 24.3
SOC *e* 14 08 30.0
SOC *e*SS SS 14 20 11.0 +10
ASAR Alice Springs 123.58 208 PKP PKPdf 14 01 35.1 -0.7
comp=Z,1.3nm,0.8s,baz=132,slow=1.8,SNR=22
ASAR PKKPbc PKKPbc 14 11 23.6 0.0
comp=Z,0.5nm,0.6s,baz=330,slow=3.6,SNR=9.2
KLMR Klimovskoe 123.75 33 *i* PKIKP PKPdf 14 01 35.3 -0.9
KLMR pmax pmax
comp=Z,10.0nm,1.4s
WB2 Warramunga Arr 126.66 211 *e*P PKPdf 14 01 41.3 -0.5
WRA Warramunga Arr 126.67 211 PKP PKPdf 14 01 41.6 -0.1
comp=Z,2.7nm,0.6s,baz=158,slow=1.7,SNR=41
BILL Bilibino 127.19 336 *i* PKIKP PKPdf 14 01 42.9 +0.1
BILL MLR MLR
comp=Z,200nm,25.0s,MS4.7
ARU Arti 134.32 37 *i* PKIKP PKPdf 14 01 57.1 +0.8
ARU *e* 14 04 30.2
ARU *e*SS SS 14 22 18.1 -0.2
ARU Arti 134.32 37 *e*PKPdf PKPdf 14 01 55.2 -1.1
ZRNK Zerenda 141.23 38 *e*PKHKP 14 02 02.3
ZRNK *e* 14 02 08.5
CHKZ Chkalovo 141.77 36 *e*PKHKP 14 02 03.5
BVAR Borovoye Array 141.95 37 PKhKP 14 02 05.6
comp=Z,1.3nm,0.7s,baz=221,slow=1.4,SNR=4.7
KK31 Karatay Array 145.55 53 *i* PKIKP PKPdf 14 02 16.1 -0.5
KK31 pmax pmax
comp=Z,15nm,0.9s
KAD Karad 146.68 100 *e*P PKPdf 14 02 20.0 +1.5
POO Poona 146.86 98 *e*P PKPdf 14 02 20.0 +1.2
NVS Novosibirsk 147.02 27 *e*PKIKP PKPdf 14 02 18.0 -1.1
NVS pmax pmax
comp=E,12nm,1.6s
NVS pmax pmax
comp=Z,40nm,1.6s
KURK Kurchatov 147.52 36 *e*PKIKP PKPdf 14 02 18.9 -1.0
ZAL Zalesovo 148.31 27 PKPbc PKPbc 14 02 21.4 -3.2
comp=Z,13nm,0.6s,baz=164,slow=2.8,SNR=18
AAK Ala-Archa 148.49 52 ⇑*i* PKIKP PKPdf 14 02 21.7 +0.2
FRU Bishkek 148.52 52 *e*PKP2 PKPab 14 02 27.0 -1.5
FRU pmax pmax
comp=Z,80nm,2.0s
BOD Bodaibo 149.46 354 *e* PKPdf 14 02 21.2 -1.9
BOD pmax pmax
comp=Z,9.0nm,1.4s
HYB Hyderabad 150.52 104 *i* PKP PKPdf 14 02 29.5 +4.8
HYB Hyderabad 150.52 104 *e*P PKPdf 14 02 29.5 +4.8
MKAR Makanchi Array 151.73 40 PKP PKPdf 14 02 25.8 -0.8
comp=Z,0.8nm,0.8s,baz=262,slow=1.3,SNR=5.3
MKAR PKPbc PKPbc 14 02 31.8 -1.1
comp=Z,12nm,0.8s,baz=311,slow=1.6,SNR=60
MKAR PKPab PKPab 14 02 40.8 -0.9
comp=Z,6.9nm,0.8s,baz=326,slow=2.7,SNR=8.9
KLR Kul'dur 151.93 327 *e*PKIKP PKPdf 14 02 26.8 -0.1
PSI Prapat 153.75 158 PKPbc PKPbc 14 02 37.2 -0.2
comp=Z,3.2nm,0.7s,baz=302,slow=17,SNR=3.3
MOY Mondy 155.19 11 *e*PKIKP PKPdf 14 02 32.8 +1.2
MDJ Mudanjiang 156.05 321 PKP PKPdf 14 02 33.7 +1.0
MDJ PKS 14 06 07.7
MDJ PP PP 14 06 39.3 +2.1
MDJ PP PP
comp=Z,83nm,4.5s
MDJ LR LR
comp=N,31nm,24.1s,MS4.4
MDJ LR LR
comp=E,62nm,25.6s,MS4.4
MDJ LR LR
comp=Z,78nm,22.6s,MS4.5
ZAK Zakamensk 156.79 9 *e*PKIKP PKPdf 14 02 27.2 -6.5
ZAK pmax pmax
comp=Z,10.0nm,1.7s
ZAK pmax pmax
comp=Z,6.0nm,1.8s
CN2 Changchun 158.82 325 *e*PKP PKPdf 14 02 32.1 -4.1
SONM Songino Array 159.63 4 PKP PKPdf 14 02 36.9 -0.2
comp=Z,2.2nm,1.1s,baz=15,slow=0.8,SNR=10
SONM PKPab PKPab 14 03 15.7 +0.2
comp=Z,1.3nm,1.0s,baz=329,slow=2.5,SNR=3.6
GTA Gaotai 166.04 29 *e*PKP PKPdf 14 02 44.4 +1.0
SSE Sheshan 168.47 291 PKP PKPdf 14 02 43.4 -1.7
SSE PP PP 14 07 44.3 +1.0
SSE SS SS 14 28 29.7 -5.9
SSE LR LR
comp=N,28nm,22.6s
SSE LR LR
comp=E,85nm,22.6s
SSE LR LR
comp=Z,113nm,22.7s
NJ2 Nanjing 170.03 299 *e*PKP PKPdf 14 02 47.8 +1.7
NJ2 PKS 14 06 19.0
NJ2 PP PP
comp=Z,250nm,5.6s
NJ2 LR LR
comp=N,430nm,26.3s
NJ2 LR LR
comp=E,500nm,27.3s
NJ2 LR LR
comp=Z,500nm,20.9s

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*ISCJB **02** 13:47:09.2±0.3, 4069N±002×1.17W±003, h0km, Error ellipse: s-maj=3.1km s-min=2.6km az=32.1*
*MDD **02** 13:47:12.2±0.3, 4068N×1.13W, h0km, mbLg2.1/15, Error ellipse: s-maj=3.1km s-min=2.5km az=53.0, POSIBLE ARTIFICIAL*
*CSEM **02** 13:47:12.0±0.1, 4068N×1.15W, h1km, ML2.6/16, Error ellipse: s-maj=1.3km s-min=1.1km az=112.0, Suspected Mining explosion.*
*NEIC **02** 13:47:12.2, 4068N×1.13W, h0km, ML2.8(LDG), MN2.1(MDD), After MDD.*
*LDG **02** 13:47:13.6±0.3, 4073N×105W, h2km, Ml2.8/3, Error ellipse: s-maj=6.4km s-min=5.4km az=31.0*

ISC 02 13:47:10.4±0.3, 4068N±002×114W±003, h0km, n58, σ0s95/105, 1C-1D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMOS	**Mosqueruela** SNR=18	**0.60**	**122**	⇑Pg	**Pg**	**13 47 23.1**	**+1.2**
EMOS				Lg		13 47 31.0	
EMOS	**Mosqueruela** 14nm,0.3s,SNR=18	**0.60**	**122**	Pg	**Pg**	**13 47 23.1**	**+1.2**
ECHE	**Chera** 7.2nm,0.2s,SNR=28	**1.10**	**173**	Pg	**Pg**	**13 47 32.3**	**+0.9**
ECHE				Lg		13 47 47.8	
ERTA	**Horta de San J** 13nm,0.3s,SNR=24	**1.15**	**76**	Pg	**Pg**	**13 47 33.4**	**+0.9**
ERTA				Lg		13 47 48.8	
ERTA	**Horta de San J** 13nm,0.3s,SNR=24	**1.15**	**76**	Pg	**Pg**	**13 47 33.4**	**+0.9**
ESAC	**San Capraso** 77nm,0.3s,SNR=33	**1.16**	**26**	Pg	**Pg**	**13 47 33.3**	**+1.2**
ESAC				Lg		13 47 49.9	
ESAC	**San Capraso** 77nm,0.3s,SNR=33	**1.16**	**26**	Pg	**Pg**	**13 47 33.7**	**+1.2**
EBR	**Ebro Roquetas**	**1.25**	**83**	*e*P*P*		13 47 39.5	
EBR				*e*S*	**Sb**	**13 47 53.0**	**+1.5**
EPOB	**Poblet** 5.2nm,0.3s,SNR=26	**1.81**	**68**	Pn	**Pn**	**13 47 43.3**	**+0.5**
EPOB				Pg	**Pg**	**13 47 44.1**	**-0.9**
EPOB				Lg		13 48 07.7	
EPOB	**Poblet** 5.2nm,0.3s,SNR=26	**1.81**	**68**	Pn	**Pn**	**13 47 43.3**	**+0.5**
EPOB	**Poblet** 4.4nm,0.1s,SNR=7.9	**1.81**	**68**	Pg	**Pg**	**13 47 44.1**	**-0.9**
EGRA	**Graus** 9.6nm,0.7s,SNR=6.8	**1.87**	**35**	Pg	**Pg**	**13 47 46.6**	**+0.4**
EGRA				Sn	**Sn**	**13 48 07.7**	**-0.1**
EGRA				Lg		13 48 11.4	
EGRA	**Graus** 9.6nm,0.7s,SNR=6.8	**1.87**	**35**	Pg	**Pg**	**13 47 46.6**	**+0.4**
ETOB	**Tobarra** 0.3nm,0.1s,SNR=7.9	**2.06**	**189**	Pg	**Pg**	**13 47 49.0**	**-0.8**
ETOB				Sn	**Sn**	**13 48 12.2**	**-0.3**
ETOB				Lg		13 48 18.6	
ETOB	**Tobarra** 0.3nm,0.1s,SNR=7.9	**2.06**	**189**	Pg	**Pg**	**13 47 49.0**	**-0.8**
EBEN	**Beniarda** 0.3nm,0.2s,SNR=7.9	**2.10**	**160**	Pn	**Pn**	**13 47 46.7**	**0.0**
EBEN				Pg	**Pg**	**13 47 50.8**	**+0.2**
EBEN				Sn	**Sn**	**13 48 13.9**	**+0.4**
EBIE	**Bielsa** 0.9nm,0.1s,SNR=7.9	**2.22**	**25**	Pg	**Pg**	**13 47 51.1**	**-1.8**
EBIE				Sn	**Sn**	**13 48 16.0**	**-0.6**
EBIE				Lg		13 48 20.4	
EBIE	**Bielsa** 6.5nm,0.3s,SNR=8.7	**2.22**	**25**	Sn	**Sn**	**13 48 16.0**	**-0.6**
IUSE	**Utxeti** 0.9nm,0.1s,SNR=4.0	**2.28**	**353**	Pg	**Pg**	**13 47 54.7**	**+0.5**
IUSE	**Utxeti** 0.9nm,0.1s,SNR=4.0	**2.28**	**353**	Pg	**Pg**	**13 47 54.7**	**+0.6**
GUD	**Guadarrama** 0.9nm,0.1s,SNR=7.1	**2.29**	**270**	Pn	**Pn**	**13 47 50.5**	**+1.1**
GUD				Pg	**Pg**	**13 47 54.2**	**-0.1**
GUD				Lg		13 48 24.1	
EMIR	**Miracle** 9.3nm,0.3s,SNR=18	**2.36**	**58**	⇓Pn	**Pn**	**13 47 51.1**	**+0.8**
EMIR				Sn	**Sn**	**13 48 19.7**	**-0.2**
EMIR				Lg		13 48 26.6	
EMIR	**Miracle** 9.3nm,0.3s,SNR=18	**2.36**	**58**	Pn	**Pn**	**13 47 51.1**	**+0.8**
EMIR				Sn	**Sn**	**13 48 19.7**	**-0.2**
ESDC	**Sonseca Array** 3.2nm,0.6s,baz=64,slow=14,SNR=15	**2.38**	**246**	Pn	**Pn**	**13 47 51.0**	**+0.3**
ESDC				Pg	**Pg**	**13 47 56.5**	**+0.4**
ESDC				Sn	**Sn**	**13 48 20.4**	**-0.2**
ESDC				Lg		13 48 27.9	
	1.6nm,0.3s,baz=59,slow=28,SNR=8.5						

ESDC	**Sonseca Array**	**2.38**	**246**	Pn		**Pn**	**13 47 51.0**	**+0.3**
	3.2nm,0.6s,SNR=15								
ESDC	**Sonseca Array**	**2.38**	**246**	Pg		**Pg**	**13 47 56.5**	**+0.4**
	0.6nm,0.2s,SNR=7.9								
ESDC				Sn		**Sn**	**13 48 20.4**	**-0.2**
	0.9nm,0.2s,SNR=7.9								
ESLA	**Sonseca Array**	**2.38**	**246**	*e*Pn		**Pn**	**13 47 55.9**	**+5.2**
ESLA				*e*Sn		**Sn**	**13 48 25.5**	**+4.9**
SJPF	**Ste Jean**	**2.43**	**359**	*e*Pg		**Pg**	**13 47 57.8**	**+0.8**
SJPF				*e*Sg		**Sg**	**13 48 29.0**	**+0.5**
	5.9nm,0.3s								
SJPF	**Ste Jean**	**2.43**	**359**	*e*Pn		**Pn**	**13 47 51.9**	**+0.6**
SJPF				*e*Pg		**Pg**	**13 47 57.8**	**+0.8**
SJPF				*e*Sg		**Sg**	**13 48 29.0**	**+0.5**
SJPF	**Ste Jean**	**2.43**	**359**	*e*Pg		**Pg**	**13 47 57.8**	**+0.8**
SJPF				*e*Sg		**Sg**	**13 48 29.0**	**+0.5**
	3.0nm,0.3s								
ELIZ	**Elizondo**	**2.50**	**353**	Pn		**Pn**	**13 47 53.6**	**+1.4**
	0.8nm,0.2s,SNR=7.9								
ELIZ				Pg		**Pg**	**13 47 58.2**	**0.0**
	2.1nm,0.2s,SNR=7.9								
ELIZ				Sn		**Sn**	**13 48 23.2**	**-0.2**
	1.1nm,0.2s,SNR=7.9								
ELIZ				Lg			13 48 31.4		
	1.2nm,0.1s,SNR=7.9								
ELIZ	**Elizondo**	**2.50**	**353**	Pg		**Pg**	**13 47 58.2**	**0.0**
	2.1nm,0.2s,SNR=7.9								
ELIZ				Sn		**Sn**	**13 48 23.2**	**-0.2**
	1.1nm,0.2s,SNR=7.9								
EIBI	**Ibiza**	**2.53**	**130**	Pn		**Pn**	**13 47 52.7**	**0.0**
	1.8nm,0.1s,SNR=7.9								
EIBI				Sn		**Sn**	**13 48 22.4**	**-1.8**
	5.3nm,0.3s,SNR=7.9								
EIBI	**Ibiza**	**2.53**	**130**	Pn		**Pn**	**13 47 52.7**	**+0.1**
	1.8nm,0.1s,SNR=7.9								
EIBI				Sn		**Sn**	**13 48 22.4**	**-1.7**
	5.3nm,0.3s,SNR=7.9								
EALK	**Alkurruntz**	**2.55**	**354**	Pn		**Pn**	**13 47 54.4**	**+1.5**
	10nm,0.3s,SNR=5.5								
EALK				Sn		**Sn**	**13 48 24.5**	**-0.2**
	3.6nm,0.3s,SNR=7.9								
EALK				Lg			13 48 34.0		
	4.6nm,0.2s,SNR=6.3								
EALK	**Alkurruntz**	**2.55**	**354**	Pn		**Pn**	**13 47 54.4**	**+1.4**
	10nm,0.3s,SNR=5.5								
EALK				Sn		**Sn**	**13 48 24.5**	**-0.2**
	3.6nm,0.3s,SNR=7.9								
EPF	**Esparros**	**2.60**	**25**	*e*Pg		**Pg**	**13 48 00.5**	**+0.4**
EPF				*e*Sg		**Sg**	**13 48 32.0**	**-1.8**
	21nm,0.3s								
EPF	**Esparros**	**2.60**	**25**	*e*Pn		**Pn**	**13 47 53.7**	**+0.1**
EPF				*e*Pg		**Pg**	**13 48 00.5**	**+0.4**
EPF				*e*Sg		**Sg**	**13 48 32.0**	**-1.8**
EPF	**Esparros**	**2.60**	**25**	*e*Pg		**Pg**	**13 48 00.5**	**+0.4**
EPF				*e*Sg		**Sg**	**13 48 32.0**	**-1.8**
	11nm,0.3s								
ELAN	**Lanestosa**	**3.07**	**327**	Pn		**Pn**	**13 48 01.5**	**+1.4**
	0.7nm,0.2s,SNR=7.9								
ELAN				Pg		**Pg**	**13 48 08.1**	**-1.0**
	0.9nm,0.2s,SNR=7.9								
ELAN				Sn		**Sn**	**13 48 36.7**	**-0.8**
	1.8nm,0.3s,SNR=7.9								
ELAN				Lg			13 48 50.9		
	2.5nm,0.2s,SNR=7.9								
ELAN	**Lanestosa**	**3.07**	**327**	Pn		**Pn**	**13 48 01.5**	**+1.4**
	0.7nm,0.2s,SNR=7.9								
ELAN	**Lanestosa**	**3.07**	**327**	Pg		**Pg**	**13 48 08.1**	**-1.1**
	0.9nm,0.2s,SNR=7.9								
ELAN				Sn		**Sn**	**13 48 36.7**	**-0.8**
	1.8nm,0.3s,SNR=7.9								
ETOS	**Mallorca**	**3.16**	**105**	Pn		**Pn**	**13 48 01.5**	**+0.1**
	0.5nm,0.2s,SNR=7.9								
ETOS				Sn		**Sn**	**13 48 38.3**	**-1.6**
	0.4nm,0.1s,SNR=7.9								
ETOS	**Mallorca**	**3.16**	**105**	Pn		**Pn**	**13 48 01.5**	**+0.1**
	0.5nm,0.2s,SNR=7.9								
ETOS				Sn		**Sn**	**13 48 38.3**	**-1.5**
	0.4nm,0.1s,SNR=7.9								
EBAN	**Banos Encina**	**3.24**	**220**	Pn		**Pn**	**13 48 02.6**	**+0.1**
	0.2nm,0.2s,SNR=7.9								
EBAN				Sn		**Sn**	**13 48 39.9**	**-1.9**
	0.6nm,0.1s,SNR=4.0								
MTLF	**Montolieu**	**3.65**	**42**	*e*Pg		**Pg**	**13 48 19.5**	**-0.8**
MTLF				*e*Sg		**Sg**	**13 49 06.2**	**-1.5**
	5.9nm,0.4s								
MTLF	**Montolieu**	**3.65**	**42**	*e*Pn		**Pn**	**13 48 07.7**	**-0.4**
MTLF				*e*Pg		**Pg**	**13 48 19.5**	**-0.8**
MTLF				*e*Sg		**Sg**	**13 49 06.2**	**-1.5**
MTLF	**Montolieu**	**3.65**	**42**	*e*Pg		**Pg**	**13 48 19.5**	**-0.8**
MTLF				*e*Sg		**Sg**	**13 49 06.2**	**-1.5**
	3.0nm,0.4s								
EADA	**Adamuz**	**3.66**	**228**	Pn		**Pn**	**13 48 08.4**	**+0.2**
	0.6nm,0.1s,SNR=7.9								
EADA				Sn		**Sn**	**13 48 51.1**	**-0.9**
	1.5nm,0.1s,SNR=7.9								
EADA				Lg			13 49 06.6		
	1.1nm,0.1s,SNR=7.9								
EADA	**Adamuz**	**3.66**	**228**	Pn		**Pn**	**13 48 08.4**	**+0.2**
	0.6nm,0.1s,SNR=7.9								
EADA				Sn		**Sn**	**13 48 51.1**	**-0.9**
	1.5nm,0.1s,SNR=7.9								
EARI	**Arriondas**	**4.00**	**312**	Pn		**Pn**	**13 48 14.2**	**+1.2**
	0.1nm,0.1s,SNR=7.9								
EARI				Sn		**Sn**	**13 48 59.5**	**-1.1**
	0.3nm,0.2s,SNR=7.9								
EARI				Lg			13 49 20.6		
	0.5nm,0.2s,SNR=7.9								
EARI	**Arriondas**	**4.00**	**312**	Pn		**Pn**	**13 48 14.2**	**+1.2**
	0.1nm,0.1s,SNR=7.9								
EARI				Sn		**Sn**	**13 48 59.5**	**-1.1**
	0.3nm,0.2s,SNR=7.9								
ECAL	**Calabor**	**4.40**	**288**	Pn		**Pn**	**13 48 19.0**	**+0.6**
	1.5nm,0.1s,SNR=7.9								
ECAL				Sn		**Sn**	**13 49 08.4**	**-1.9**
	1.0nm,0.1s,SNR=7.9								
ECAL				Lg			13 49 33.3		
	1.1nm,0.2s,SNR=7.9								
ECAL	**Calabor**	**4.40**	**288**	Pn		**Pn**	**13 48 19.0**	**+0.6**
ECAL				Sn		**Sn**	**13 49 08.4**	**-1.9**
MTE	**Manteigas**	**4.89**	**269**	*e*Pn		**Pn**	**13 48 28.4**	**+3.3**
LASF	**Ste Croix**	**5.02**	**46**	*e*Pn		**Pn**	**13 48 26.9**	**0.0**

ISCJB ***02*** *13:47:39.4±0.8, 3978N±006×2067E±004, h10km, Error ellipse: s-maj=8.0km s-min=4.8km az=179.0*
ATH ***02*** *13:47:40.2, 3957N×2071E, h17km±4km, MD3.1/3*
THE ***02*** *13:47:41.0, 3981N×2052E, h7km*

ISC 02 13:47:40.4±0.7, 3976N±007×2069E±005, h15km±7km, n8, σ1§07/12, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.16**	**128**	*e*PB	**Pg**	**13 47 43.6**	**-0.8**
JAN				*e*SB	**Sg**	**13 47 47.2**	**+0.1**
IGT	**Igoumenitsa**	**0.35**	**231**	*e*Pg	**Pg**	**13 47 47.5**	**-0.1**
IGT				*e*Sg	**Sg**	**13 47 51.6**	**-0.9**
KEK	**Kerkira**	**0.69**	**267**	*e*PB	**Pb**	**13 47 53.5**	**-0.5**
KEK				*e*SN	**Sb**	**13 48 04.8**	**+1.4**
LKD	**Levkas**	**1.05**	**182**	*e*Pg	**Pg**	**13 48 01.8**	**+1.2**
FNA	**Florina**	**1.15**	**27**	*e*Pg	**Pg**	**13 48 02.9**	**+0.3**
EVR	**Evrytania**	**1.21**	**134**	*e*PN	**Pn**	**13 48 00.7**	**-2.0**
LIT	**Litokhoron**	**1.43**	**75**	*e*Pg	**Pg**	**13 48 07.6**	**-0.2**
AGG	**Agios Georgios**	**1.47**	**119**	*e*Pg	**Pg**	**13 48 09.0**	**+0.4**
AGG				*e*Sg	**Sg**	**13 48 30.9**	**+3.2**

IDC ***02*** *13:48:52.9±0.8, 2752S×7144W, h0km, mb4.1/6, mb1 4.1/8, mb1mx4.0/16, mbtmp3.9/8, ML3.5/2, Error ellipse: s-maj=30.5km s-min=21.3km az=71.0*
ISCJB ***02*** *13:48:55.9±0.5, 2739S±006×712W±0.1, h28km, mb4.4/12, Error ellipse: s-maj=15.3km s-min=7.1km az=148.5*
MOS ***02*** *13:48:57.6±1.7, 2747S×7114W, h33km, mb5.2/3, Error ellipse: s-maj=32.9km s-min=19.2km az=76.0*
NEIC ***02*** *13:48:57.7±0.4, 2743S×7117W, mb4.8/9, Error ellipse: s-maj=13.0km s-min=7.8km az=83.0*

ISC 02 13:48:57.9±0.5, 2739S±006×713W±01, h29km, h29km±1.7km:pP-P, n37, σ1§00/29, mb4.4/12, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.95**	**149**	Pn	**Pn**	**13 50 09.9**	**-0.4**
	0.4nm,0.3s,baz=287,slow=9.6,SNR=6.2						
CFAA				Sn	**Sn**	**13 51 08.4**	**+1.8**
	1.1nm,0.3s,baz=47,slow=7.5,SNR=2.4						
CFAA				Lg		13 51 25.3	
	3.1nm,0.3s,baz=75,slow=21,SNR=9.4						
LPAZ	**La Paz**	**11.42**	**15**	Pn	**Pn**	**13 51 38.4**	**-0.6**
	0.5nm,0.3s,baz=194,slow=13,SNR=7.6						
LPAZ	**La Paz**	**11.42**	**15**	*e*Pn	**Pn**	**13 51 40.0**	**+1.0**
TRQA	**Tornquist**	**13.18**	**146**	*e*Pn	**Pn**	**13 52 02.4**	**-0.7**
SIV	**San Ignacio**	**14.76**	**42**	Pn	**Pn**	**13 52 21.9**	**-2.7**
	0.5nm,0.3s,baz=242,slow=16,SNR=5.8						
SAML	**Samuel**	**19.86**	**24**	*e*P	**Pn**	**13 53 27.0**	**-1.3**
	73nm,2.1s						
BDFB	**Brasilia**	**24.52**	**66**	P	**P**	**13 54 15.9**	**+1.1**
	4.3nm,0.6s,mb4.1,baz=230,slow=16,SNR=3.2						
VNA3	**Neumayer Olymp**	**55.26**	**160**	*e*	**P**	**13 58 28.1**	**-0.3**
VNA3				*e*		13 58 33.6	
VNA3				*e*	pP	13 58 36.4	-0.9
VNA3				*e*		13 58 42.2	
VNA2	**Neumayer--Watz**	**55.88**	**159**	*e*	**P**	**13 58 31.2**	**-1.6**
	baz=293,slow=7.9						
VNA2				*e*	pP	13 58 37.8	-4.0
VNA2				*e*	pP	13 58 40.3	-1.5
VNA2				*e*		13 58 46.5	
SNAA	**Sanae**	**57.48**	**160**	P	**P**	**13 58 42.4**	**-1.8**
	0.8nm,0.6s,mb3.9,baz=280,slow=6.9,SNR=11						
SNAA	**Sanae**	**57.48**	**160**	*e*	**P**	**13 58 48.3**	**+4.1**
SNAA				*e*	pP	13 58 57.6	+4.4
SNAA				*e*		13 59 04.8	
SNAA	**Sanae**	**57.48**	**160**	*e*P	**P**	**13 58 43.0**	**-1.2**
SNAA				*e*PP	pP	13 58 51.2	-2.0
SNAA				*e*SP	sP	13 58 57.4	+0.8
SNAA				pmax	pmax		
	comp=Z,14nm,1.2s						
SNAA	**Sanae**	**57.48**	**160**	*e*P	**P**	**13 58 43.0**	**-1.2**
	comp=Z,14nm,1.2s,mb4.9						
SNAA				*e*pP	pP	13 58 51.2	-2.0
SNAA				*e*sP	sP	13 58 57.4	+0.8
QSPA	**South Pole Qui**	**62.83**	**180**	*e*P	**P**	**13 59 20.2**	**-0.6**
	comp=Z,13nm,1.2s,mb4.9						
VNDA	**Vanda**	**70.70**	**191**	*e*P	**P**	**14 00 10.4**	**-0.6**
DBIC	**Dimbokro**	**72.49**	**73**	P	**P**	**14 00 22.7**	**+0.9**
	comp=Z,2.5nm,0.5s,mb4.4,baz=194,slow=5.9,SNR=11						
DBIC	**Dimbokro**	**72.49**	**73**	*e*P	**P**	**14 00 22.4**	**+0.6**
DBIC				*e*PP	pP	14 00 31.8	+0.8
DBIC				pmax	pmax		
	comp=Z,18nm,1.3s						
DBIC	**Dimbokro**	**72.49**	**73**	*e*P	**P**	**14 00 22.4**	**+0.6**
	comp=Z,18nm,1.3s,mb4.8						
DBIC				*e*pP	pP	14 00 31.8	+0.8
MVU	**Marysvale**	**75.93**	**328**	*e*P	**P**	**14 00 42.5**	**+0.7**
	comp=Z,4.2nm,1.2s,mb4.2						
PDAR	**Pinedale Array**	**78.22**	**332**	P	**P**	**14 00 54.9**	**+0.2**
	comp=Z,0.3nm,0.7s,mb3.4,baz=77,slow=5.2,SNR=3.0						
TSUM	**Tsumeb**	**80.40**	**107**	*e*P	**P**	**14 01 06.7**	**+0.1**
	comp=Z,9.2nm,1.1s,mb4.6						
HLID	**Hailey**	**80.95**	**330**	*e*P	**P**	**14 01 10.9**	**+1.3**
	comp=Z,5.1nm,1.0s,mb4.4						
HLID				*e*pP	pP	14 01 19.5	+0.6
TORD	**Torodi Ar. Bea**	**81.34**	**70**	P	**P**	**14 01 13.0**	**+1.4**
	comp=Z,5.9nm,0.7s,mb4.6,baz=258,slow=4.7,SNR=41						
LBTB	**Lobatse**	**84.48**	**115**	*e*P	**P**	**14 01 27.7**	**-0.2**
LBTB				pmax	pmax		
	comp=Z,23nm,1.5s,mb5.1						
LBTB	**Lobatse**	**84.48**	**115**	*e*P	**P**	**14 01 27.7**	**-0.2**
	comp=Z,23nm,1.5s,mb5.1						
WALA	**Waterton Lakes**	**85.10**	**333**	*e*P	**P**	**14 01 31.3**	**+0.3**
	comp=Z,9.9nm,1.2s,mb4.8						
NEW	**Newport**	**85.80**	**331**	*e*P	**P**	**14 01 35.0**	**+0.5**
YKA	**Yellowknife Ar**	**96.03**	**341**	P	**P**	**14 02 22.2**	**-0.2**
	comp=Z,0.1nm,0.4s,mb3.6,baz=144,slow=4.3,SNR=3.6						
ASAR	**Alice Springs**	**123.73**	**208**	PKP	PKPdf	14 07 51.8	-1.0
	comp=Z,0.3nm,0.6s,baz=144,slow=1.8,SNR=5.9						
WRA	**Warramunga Arr**	**126.82**	**211**	PKP	PKPdf	14 07 57.8	-0.9
	comp=Z,0.4nm,0.5s,baz=153,slow=1.6,SNR=9.7						
BVAR	**Borovoye Array**	**141.80**	**37**	PKHKP		14 08 32.7	
	comp=Z,0.8nm,0.9s,baz=324,slow=2.0,SNR=4.5						
KURK	**Kurchatov**	**147.36**	**36**	*e*PKP2	PKPab	14 08 38.2	-2.4
ZAL	**Zalesovo**	**148.16**	**27**	PKPbc	PKPbc	14 08 41.4	+0.6
	comp=Z,2.0nm,0.9s,baz=207,slow=3.5,SNR=6.9						
AAK	**Ala-Archa**	**148.34**	**52**	*e*PKP2	PKPab	14 08 46.0	+1.5
BOD	**Bodaibo**	**149.36**	**354**	*e*PKHKP		14 08 41.6	
MKAR	**Makanchi Array**	**151.57**	**40**	PKPbc	PKPbc	14 08 49.8	+0.7
	comp=Z,1.5nm,0.6s,baz=307,slow=2.1,SNR=18						
SONM	**Songino Array**	**159.51**	**5**	PKP	PKPdf	14 08 53.7	+0.1
	comp=Z,0.4nm,0.8s,baz=90,slow=1.9,SNR=2.9						

ISCJB ***02*** *13:58:27.6±1.6, 2748S±003×7145W±007, h11km±10km, mb4.4/23, MS4.5/13, Error ellipse: s-maj=10.1km s-min=5.3km az=162.4*
NEIC ***02*** *13:58:27.2, 2744S×7168W, h32km, mb4.6/18, ML4.8(GUC), After GUC.*
NEIC Felt [III] at Copiapo.
HRVD ***02*** *13:58:27.2±0.2, 2761S×7186W, h15km±1km, MW5.2/74, Centroid moment Tensor Solution. LP body waves: s32,c41;Mantle waves: s74,c114; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.46±.03; $M_{\theta\theta}$0.03±.01; $M_{\phi\phi}$-0.49±.02; $M_{r\theta}$-0.03±.04; $M_{\theta\phi}$0.03±.01; $M_{\phi r}$-0.77±.08; Best double couple: $M_0$0.90700×10^{17} NP1:ϕ_s352.00000°, δ16.00000°, λ80.00000°. NP2:ϕ_s182.00000°, δ74.00000°, λ93.00000°. Principal axes: T 0.8940, Plg61.0000°, Azm96.0000°; N 0.0260, Plg3.0000°, Azm1.0000°; P -0.9200, Plg29.0000°, Azm269.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
GUC ***02*** *13:58:27.2±0.8, 2744S×7168W, h32km±12km, ML4.8*
IDC ***02*** *13:58:28.0±0.7, 2739S×7128W, h0km, mb4.2/8, mb1 4.2/11, mb1mx4.1/17, mbtmp4.1/11, ML3.9/3, MS4.4/14, Ms1 4.4/14, ms1mx4.2/30, Error ellipse: s-maj=25.0km s-min=18.4km az=78.0*
MOS ***02*** *13:58:31.2±1.2, 2744S×7112W, h33km, mb5.0/6, Error ellipse: s-maj=18.3km s-min=9.8km az=93.6*
BJI ***02*** *13:58:32.2, 2740S×7170W, h31km, mB5.3, Ms4.8, Msz4.8*

ISC 02 13:58:29.8±1.5, 2745S±003×7135W±008, h13km±9km, h16km±1.2km:pP-P, n93, σ0§95/78, mb4.4/23, MS4.5/13, 10C-5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.60**	**52**	⇓*i*P	**Pg**	**13 58 42.1**	**+0.7**
CDCH				*i* S	**Sg**	**13 58 54.3**	**+5.0**
CDCH				AML	AML	13 59 00.0	
	comp=E,9μm,0.2s						
CDCH	**Caldera**	**0.60**	**52**	⇓*i*P	**Pg**	**13 58 42.1**	**+0.7**
CDCH				*i* S	**Sg**	**13 58 54.3**	**+5.0**
CPCH	**Copiapo**	**0.89**	**85**	⇓*i*P	**Pg**	**13 58 48.1**	**+1.1**
CPCH				*i* S	**Sg**	**13 59 03.8**	**+5.1**
CPCH				AML	AML	13 59 04.2	
	comp=E,41μm,0.1s						
CPCH	**Copiapo**	**0.89**	**85**	⇓*i*P	**Pg**	**13 58 48.1**	**+1.1**
CPCH				*i* S	**Sg**	**13 59 03.8**	**+5.1**
CRCH	**Chaqaral**	**1.28**	**31**	⇑*i*P	**Pn**	**13 58 26.8**	**-0.8**
CRCH				*i* S	**Sb**	**13 59 11.1**	**+1.1**
CRCH				AML	AML	13 59 27.8	
	comp=N,6μm,0.7s						
CRCH	**Chaqaral**	**1.28**	**31**	⇑*i*P	**Pn**	**13 58 52.6**	**-0.8**
CRCH				*i* S	**Sb**	**13 59 11.1**	**+1.1**
LCO	**Las Campanas**	**1.66**	**160**	⇑*i*P	**Pn**	**13 58 58.0**	**-0.7**
LCO				AML	AML	13 59 28.4	
	comp=N,219μm,0.3s						
TLL	**Tololo Astrono**	**2.75**	**170**	⇓*i*P	**Pn**	**13 59 12.2**	**-1.5**
TLL				AML	AML	14 00 11.1	
	comp=N,11μm,0.5s						
CPN1	**Cerro Paranal**	**2.94**	**17**	⇑*i*P	**Pn**	**13 59 15.0**	**-1.2**
CPN1				AML	AML	14 00 18.9	
	comp=E,2μm,0.8s						
ANCH	**Antofagasta**	**3.84**	**13**	*e*P	**Pn**	**13 59 26.2**	**-2.4**
CFAA	**Coronel Fontan**	**4.95**	**148**	Pn	**Pn**	**13 59 45.7**	**+1.8**
	comp=E,1.7nm,0.3s,baz=322,slow=12,SNR=37						
CFAA				Sn	**Sn**	**14 00 43.1**	**+2.0**
	comp=E,1.8nm,0.3s,baz=7.1,slow=20,SNR=4.0						
CFAA				LR	LR	14 01 40.3	
	comp=E,590nm,20.4s,baz=159,slow=39						
LPAZ	**La Paz**	**11.50**	**16**	Pn	**Pn**	**14 01 13.1**	**-0.6**
	comp=E,0.6nm,0.3s,baz=188,slow=7.1,SNR=23						
LPAZ	**La Paz**	**11.50**	**16**	*e*P	**Pn**	**14 01 13.0**	**-0.7**
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
LPAZ	**La Paz**	**11.50**	**16**	*e*Pn	**Pn**	**14 01 13.0**	**-0.7**
	comp=Z,1.7nm,0.6s						
CPUP	**Villa Florida**	**12.57**	**88**	Pn	**Pn**	**14 01 28.5**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=41,slow=19,SNR=2.0						
CPUP				Lg		14 04 59.3	
	comp=Z,0.3nm,0.3s,baz=293,slow=6.8,SNR=2.6						
CPUP				LR	LR	14 06 43.9	
	comp=Z,2μm,19.1s,baz=73,slow=40						
CPUP	**Villa Florida**	**12.57**	**88**	*e*Pn	**Pn**	**14 01 26.9**	**-1.4**
TRQA	**Tornquist**	**13.19**	**146**	*e*Pn	**Pn**	**14 01 36.5**	**-0.3**
	comp=Z,42nm,0.9s						
PLCA	**Paso Flores**	**13.27**	**177**	*e*P	**Pn**	**14 01 38.2**	**+0.3**
PLCA				pmax	pmax		
	comp=Z,12nm,1.1s						
PLCA	**Paso Flores**	**13.27**	**177**	*e*Pn	**Pn**	**14 01 38.2**	**+0.3**
	comp=Z,12nm,1.1s						
SIV	**San Ignacio**	**14.86**	**42**	Pn	**Pn**	**14 01 55.2**	**-4.4**
	comp=Z,0.6nm,0.3s,baz=249,slow=8.3,SNR=15						
NNA	**Nana**	**16.22**	**340**	*e*Pn	**Pn**	**14 02 17.5**	**+0.2**
	comp=Z,10.0nm,0.8s						
SAML	**Samuel**	**19.95**	**24**	*e*P	**Pn**	**14 03 00.4**	**-2.9**
	comp=Z,6.4nm,0.6s						
BDFB	**Brasilia**	**24.63**	**66**	P	**P**	**14 03 49.3**	**-0.6**
	comp=Z,5.6nm,0.7s,mb4.2,baz=243,slow=12,SNR=6.2						
BDFB				LR	LR	14 14 38.9	
	comp=Z,2μm,18.8s,MS4.7,baz=248,slow=40						
EFI	**East Falkland**	**26.19**	**161**	*e*P	**P**	**14 04 04.0**	**-0.1**
USHA	**Ushuaia**	**27.44**	**176**	LR	LR	14 15 34.9	
	comp=Z,2μm,19.1s,MS4.7,baz=340,slow=37						
ROSC	**El Rosal**	**32.24**	**354**	LR	LR	14 17 30.8	
	comp=Z,497nm,19.4s,MS4.2,baz=197,slow=36						
RPN	**Rapa Nui**	**33.67**	**262**	LR	LR	14 15 06.8	
	comp=Z,1μm,19.5s,MS4.7,baz=112,slow=30						
SDV	**Santo Domingo**	**36.12**	**1**	*e*P	**P**	**14 05 31.5**	**-0.1**
	comp=Z,3.0nm,0.7s,mb4.3						
VNA3	**Neumayer Olymp**	**55.24**	**160**	⇑*i*	**P**	**14 08 02.1**	**-0.5**
VNA3				*e*		14 08 11.3	
VNA1	**Neumayer--Stat**	**55.51**	**159**	⇑*i*	**P**	**14 08 03.5**	**-1.0**
VNA1				*e*		14 08 13.4	
VNA2	**Neumayer--Watz**	**55.86**	**159**	⇑*i*	**P**	**14 08 06.0**	**-1.0**
	baz=292,slow=8.3						
VNA2				*e*	pP	14 08 09.9	-1.1
VNA2				*e*		14 08 11.9	
VNA2				*e*		14 08 15.6	
VNA2				*e*		14 08 22.0	
VNA2				*e*		14 08 27.4	
VNA2				*e*		14 08 33.6	
VNA2	**Neumayer--Watz**	**55.86**	**159**	⇑*i*P	**P**	**14 08 06.0**	**-1.0**
VNA2				*e*		14 08 11.9	
RKT	**Rikitea**	**57.15**	**259**	*e*S	**S**	**14 16 12.3**	**+1.1**
	comp=Z,386nm,26.2s						
RKT				*e*LR	LR	14 25 05.7	
	comp=Z,186nm,22.2s						
SNAA	**Sanae**	**57.46**	**160**	P	**P**	**14 08 17.2**	**-1.2**
	comp=Z,1.0nm,0.5s,mb4.1,baz=293,slow=7.3,SNR=34						
SNAA				LR	LR	14 30 17.0	
	comp=Z,213nm,20.4s,MS4.2,baz=304,slow=33						
SNAA	**Sanae**	**57.46**	**160**	⇑*i*	**P**	**14 08 17.0**	**-1.4**
SNAA				*e*	pP	14 08 22.2	-0.2
SNAA				*e*		14 08 26.4	
SNAA				*e*		14 08 37.6	
SNAA	**Sanae**	**57.46**	**160**	⇑*i*P	**P**	**14 08 17.0**	**-1.4**
SNAA				*e*	pP	14 08 22.2	-0.2
QSPA	**South Pole Qui**	**62.77**	**180**	*e*P	**P**	**14 08 53.8**	**-1.1**
	comp=Z,3.8nm,0.7s,mb4.6						
LPIG	**La Paz**	**63.55**	**320**	LR	LR	14 30 14.5	
	comp=Z,101nm,19.2s,MS4.0,baz=201,slow=30						
SWET	**Sewanee**	**63.83**	**347**	*e*P	**P**	**14 09 01.9**	**+0.1**
SWET				*e*pP	pP	14 09 06.6	+0.7
OXF	**Oxford**	**63.95**	**343**	*e*P	**P**	**14 09 03.1**	**+0.5**
OXF				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.4						
OXF	**Oxford**	**63.95**	**343**	*e*P	**P**	**14 09 03.1**	**+0.5**
	comp=Z,40nm,1.1s,mb5.4						
LTX	**Lajitas**	**64.38**	**329**	*e*P	**P**	**14 09 05.7**	**+0.2**
LTX				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
LTX	**Lajitas**	**64.38**	**329**	*e*P	**P**	**14 09 05.7**	**+0.3**
	comp=Z,5.2nm,1.1s,mb4.5						
WVT	**Waverly**	**65.12**	**345**	*e*P	**P**	**14 09 10.1**	**-0.2**
WVT				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
WVT	**Waverly**	**65.12**	**345**	*e*P	**P**	**14 09 10.1**	**-0.2**
	comp=Z,4.9nm,0.7s,mb4.7						
MNTX	**Cornudas Mount**	**67.17**	**329**	*e*P	**P**	**14 09 22.4**	**-1.0**

ZAL				PKPbc	PKPbc	14 18 15.5	-0.1		
	comp=Z,3.9nm,0.5s,baz=144,slow=0.2,SNR=12								
AAK	**Ala-Archa**	**148.44**	**52**	*e*PKP2	PKPab	14 18 15.9	-3.5		
MKAR	**Makanchi Array**	**151.67**	**40**	PKPbc	PKPbc	14 18 23.7	-0.3		
	comp=Z,3.1nm,0.5s,baz=322,slow=1.8,SNR=39								
MKAR	**Makanchi Array**	**151.67**	**40**	PKPbc	PKPbc	14 18 23.7	-0.3		
KLR	**Kul'dur**	**151.90**	**327**	*e*PKIKP	PKPdf	14 18 20.2	+2.2		
MDJ	**Mudanjiang**	**156.02**	**321**	PKP	PKPdf	14 18 24.1	+0.3		
MDJ				PP	PP	14 22 29.7	+1.5		
MDJ				PP	PP				
	comp=Z,59nm,5.1s								
MDJ				LR	LR				
	comp=N,45nm,27.5s,MS4.4								
MDJ				LR	LR				
	comp=E,61nm,22.5s,MS4.4								
MDJ				LR	LR				
	comp=Z,100nm,17.5s,MS4.7								
CN2	**Changchun**	**158.79**	**325**	*e*PKP	PKPdf	14 18 26.1	-1.2		
SONM	**Songino Array**	**159.57**	**4**	PKP	PKPdf	14 18 27.0	-1.2		
	comp=Z,0.3nm,0.7s,baz=86,slow=4.6,SNR=2.9								

IDC ***02*** *14:08:16.7±0.7, 190N×129.45E, h0km, mb3.9/11, mb1 4.1/11, mb1mx4.0/19, mbtmp4.0/11, Error ellipse: s-maj=51.6km s-min=14.6km az=80.0*
ISCJB ***02*** *14:08:19.6±0.5, 192N±007×1293E±02, h33km, mb4.0/14, Error ellipse: s-maj=27.1km s-min=8.7km az=156.7*
NEIC ***02*** *14:08:21.7±0.5, 190N×129.20E, h35km, mb4.1/4, Error ellipse: s-maj=30.8km s-min=8.5km az=80.0*

ISC 02 14:08:21.7±0.5, 193N±007×1294E±02, h35km, n22, σ1§12/22, mb4.0/14, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.23**	**190**	P		**P**		**14 12 52.6**	**-1.1**
	1.0nm,0.6s,baz=4.1,slow=14,SNR=3.0								
WRAB	**Tennant Creek**	**22.27**	**168**	*e*P		**P**		**14 13 16.4**	**+0.7**
	6.5nm,0.6s,mb4.2								
WRA	**Warramunga Arr**	**22.28**	**168**	P		**P**		**14 13 16.1**	**+0.4**
	3.4nm,0.7s,mb3.9,baz=345,slow=11,SNR=21								
WB2	**Warramunga Arr**	**22.28**	**168**	*e*P		**P**		**14 13 15.9**	**+0.1**
MBWA	**Marble Bar**	**24.80**	**202**	P		**P**		**14 13 39.6**	**-0.7**
	3.7nm,0.7s,mb4.0								
ASAR	**Alice Springs**	**25.82**	**170**	P		**P**		**14 13 50.1**	**+0.5**
	2.2nm,0.9s,mb3.7,baz=350,slow=10,SNR=14								
ASAR				PcP		PcP		14 17 18.4	-0.1
	0.3nm,0.6s,baz=9.2,slow=1.7,SNR=5.3								
MJAR	**Matsushiro Arr**	**35.41**	**12**	P		**P**		**14 15 14.1**	**-0.1**
	1.2nm,0.5s,mb4.1,baz=197,slow=8.7,SNR=3.2								
STKA	**Stephens Creek**	**35.57**	**162**	P		**P**		**14 15 14.5**	**-1.1**
	4.7nm,0.8s,mb4.5,baz=347,slow=8.9,SNR=10								
STKA	**Stephens Creek**	**35.57**	**162**	*e*P		**P**		**14 15 15.1**	**-0.5**
ULN	**Ulaanbaatar**	**49.66**	**340**	*e*P		**P**		**14 17 09.3**	**-0.6**
	1.8nm,0.8s,mb4.2								
SONM	**Songino Array**	**49.85**	**340**	P		**P**		**14 17 10.9**	**-0.5**
	0.7nm,0.6s,mb3.9,baz=148,slow=6.6,SNR=7.2								
HYB	**Hyderabad**	**52.19**	**291**	*i* P		**P**		**14 17 30.0**	**+1.1**
BOD	**Bodaibo**	**57.04**	**350**	*e*PKIKP		**P**		**14 18 02.5**	**-1.6**
KURK	**Kurchatov**	**64.66**	**327**	*e*P		**P**		**14 18 54.3**	**-1.6**
BVAR	**Borovoye Array**	**70.25**	**327**	P		**P**		**14 19 32.9**	**+1.6**
	1.7nm,0.8s,mb4.1,baz=108,slow=9.7,SNR=6.8								
BRVK	**Borovoye**	**70.32**	**327**	*e*P		**P**		**14 19 29.8**	**-1.9**
	1.3nm,0.7s,mb4.0								
AKTK	**Aktyubinsk**	**76.69**	**321**	P		**P**		**14 20 11.2**	**+2.0**
AKTO	**Aktyubinsk**	**76.69**	**321**	P		**P**		**14 20 11.2**	**+2.0**
	0.9nm,0.6s,mb3.9,baz=134,slow=5.5,SNR=3.7								
VNDA	**Vanda**	**81.33**	**173**	P		**P**		**14 20 34.5**	**0.0**
	1.0nm,0.8s,mb3.8,baz=319,slow=1.1,SNR=3.5								
VNDA	**Vanda**	**81.33**	**173**	P		P		**14 20 34.5**	**-0.1**
ILAR	**Eielson Array**	**85.60**	**25**	P		**P**		**14 20 57.6**	**+1.2**
	0.2nm,0.5s,mb3.6,baz=248,slow=4.6,SNR=5.5								
ARCES	**ARCESS Array B**	**93.03**	**340**	P		**P**		**14 21 31.3**	**-0.3**
	1.7nm,1.0s,mb4.4,baz=69,slow=10,SNR=3.4								

IDC ***02*** *14:10:07.6±1.3, 274.1S×71.10W, h0km, mb4.0/3, mb1 3.8/7, mb1mx3.7/18, mbtmp3.7/7, ML3.9/3, MS3.6/1, Ms1 3.6/1, ms1mx2.9/22, Error ellipse: s-maj=39.9km s-min=23.9km az=91.0*
ISCJB ***02*** *14:10:12.1±1.8, 2728S±007×708W±03, h33km, mb4.1/3, Error ellipse: s-maj=32.6km s-min=8.8km az=166.2*
NEIC ***02*** *14:10:12.8±5.3, 2727S×7099W, h32km±36km, mb4.3/1, Error ellipse: s-maj=36.1km s-min=12.6km az=89.0*

ISC 02 14:10:15.0±1.8, 2727S±007×708W±03, h35km, n13, σ0§85/12, mb4.1/3, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.86**	**153**	Pn		**Pn**		**14 11 24.4**	**-1.2**
	0.2nm,0.3s,baz=317,slow=17,SNR=7.3								
CFAA				Sn		**Sn**		**14 12 20.3**	**-0.2**
	0.5nm,0.3s,baz=143,slow=22,SNR=2.1								
CFAA				Lg				14 12 31.9	
	0.9nm,0.3s,baz=75,slow=24,SNR=7.0								
LPAZ	**La Paz**	**11.21**	**13**	Pn		**Pn**		**14 12 52.0**	**-0.6**
	0.3nm,0.3s,baz=188,slow=6.6,SNR=6.7								
LPAZ	**La Paz**	**11.21**	**13**	*e*P		**Pn**		**14 12 51.8**	**-0.8**
CPUP	**Villa Florida**	**12.06**	**89**	Pn		**Pn**		**14 13 04.2**	**-0.2**
	0.3nm,0.3s,baz=221,slow=11,SNR=1.8								
CPUP				LR		LR		14 17 42.6	
	comp=Z,243nm,18.2s,baz=324,slow=37								
TRQA	**Tornquist**	**13.06**	**148**	*e*P		**Pn**		**14 13 19.0**	**+1.1**
	7.1nm,0.8s								
SIV	**San Ignacio**	**14.40**	**41**	Pn		**Pn**		**14 13 36.0**	**-0.3**
	0.2nm,0.3s,baz=221,slow=16,SNR=3.4								
SNAA	**Sanae**	**57.45**	**160**	P		**P**		**14 19 55.9**	**-4.3**
	0.4nm,0.7s,mb3.6,baz=323,slow=12,SNR=5.6								
SNAA	**Sanae**	**57.45**	**160**	*e*P		**P**		**14 19 56.4**	**-3.9**
	3.5nm,1.1s,mb4.3								
DBIC	**Dimbokro**	**72.06**	**72**	P		**P**		**14 21 36.3**	**+0.8**
	1.0nm,0.5s,mb4.0,baz=223,slow=8.0,SNR=4.8								
DBIC	**Dimbokro**	**72.06**	**72**	*e*P		**P**		**14 21 36.5**	**+1.1**
TORD	**Torodi Ar. Bea**	**80.91**	**70**	P		**P**		**14 22 26.4**	**+0.8**
	2.6nm,0.6s,mb4.3,baz=262,slow=5.0,SNR=24								
WRA	**Warramunga Arr**	**127.13**	**210**	PKP		PKPdf		14 29 14.9	-0.6
	1.0nm,0.8s,baz=171,slow=1.8,SNR=9.6								
MKAR	**Makanchi Array**	**151.67**	**40**	PKPbc		PKPbc		14 30 03.0	-1.5
	0.5nm,0.5s,baz=317,slow=1.9,SNR=7.5								
MKAR				PKPab		PKPab		14 30 10.8	-1.7
	1.8nm,0.7s,baz=302,slow=1.8,SNR=13								

ISC 02 14:14:35.8±3.0, 2717S×7148W, h0km, mb3.9/1, mb1 3.6/4, mb1mx3.5/16, mbtmp3.5/4, ML3.6/3, Error ellipse: s-maj=83.3km s-min=29.4km az=80.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.25**	**148**	Pn		Pn		14 15 55.9	+0.4
	1.5nm,0.3s,baz=317,slow=12,SNR=20								
CFAA				Sn		Sn		14 16 58.8	+2.1
	0.3nm,0.3s,baz=84,slow=21,SNR=3.6								
LPAZ	**La Paz**	**11.27**	**17**	Pn		Pn		14 17 19.8	+1.7
	0.2nm,0.3s,baz=199,slow=7.4,SNR=5.1								
SIV	**San Ignacio**	**14.74**	**43**	Pn		Pn		14 18 05.5	0.0
	0.2nm,0.3s,baz=262,slow=11,SNR=3.8								
TORD	**Torodi Ar. Bea**	**81.46**	**71**	P		P		14 26 55.0	+0.2
	0.7nm,0.7s,baz=258,slow=4.6,SNR=8.8								
MKAR	**Makanchi Array**	**151.54**	**40**	PKPbc		PKPbc		14 34 31.7	-0.1
	1.1nm,0.8s,baz=298,slow=2.6,SNR=5.2								

IDC ***02*** *14:22:17.2±1.6, 197N×96.32E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/20, mbtmp3.8/7, ML3.4/1, Error ellipse: s-maj=51.2km s-min=20.2km az=51.0*
ISCJB ***02*** *14:22:20.7±1.2, 2.1N±01×964E±01, h33km, mb3.8/6, Error ellipse: s-maj=22.9km s-min=16.7km az=69.2*
NEIC ***02*** *14:22:22.1±0.9, 2.03N×96.42E, h30km, Error ellipse: s-maj=19.3km s-min=13.7km az=217.0*

ISC 02 14:22:23.1±1.2, 21N±01×964E±01, h35km, n10, σ0§48/10, mb3.8/6, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.58**	**74**	Pn		**Pn**		**14 23 02.5**	**+0.2**
	6.0nm,0.3s,baz=286,slow=8.7,SNR=38								
KULM	**Kulim**	**5.28**	**53**	⇑*i*P		**Pn**		**14 23 39.2**	**-0.2**
KULM				*e*				14 23 46.7	
WRA	**Warramunga Arr**	**43.15**	**122**	P		**P**		**14 30 20.6**	**+0.5**
	0.4nm,0.5s,mb3.4,baz=302,slow=9.1,SNR=6.3								
ASAR	**Alice Springs**	**44.53**	**127**	P		**P**		**14 30 30.6**	**-0.7**
	0.3nm,0.5s,mb3.3,baz=300,slow=7.9,SNR=10.0								
MKAR	**Makanchi Array**	**46.21**	**347**	P		**P**		**14 30 43.9**	**-0.7**
	1.1nm,0.4s,mb4.1,baz=160,slow=9.0,SNR=27								
MKAR	**Makanchi Array**	**46.21**	**347**	P		**P**		**14 30 43.9**	**-0.7**
SONM	**Songino Array**	**46.38**	**9**	P		**P**		**14 30 46.3**	**+0.3**
	0.5nm,0.4s,mb3.8,baz=189,slow=8.7,SNR=7.1								
ZAL	**Zalesovo**	**52.57**	**351**	P		**P**		**14 31 32.9**	**-0.2**
	2.8nm,0.5s,mb4.5,baz=309,slow=4.1,SNR=9.4								
ZAL	**Zalesovo**	**52.57**	**351**	P		**P**		**14 31 32.9**	**-0.2**
ARCES	**ARCESS Array B**	**81.45**	**340**	P		**P**		**14 34 37.3**	**+0.7**
	0.9nm,0.8s,mb3.7,baz=40,slow=7.1,SNR=2.8								

BJI ***02*** *14:30:24.4, 5370N×163.66W, h14km, mB4.8, mb4.6, Ms4.6, Msz4.2*
IDC ***02*** *14:30:26.2±0.8, 5388N×163.44W, h0km, mb4.0/19, mb1 4.1/23, mb1mx4.1/28, mbtmp4.0/23, ML3.7/4, MS3.6/5, Ms1 3.6/5, ms1mx3.1/28, Error ellipse: s-maj=22.4km s-min=11.7km az=169.0*
ISCJB ***02*** *14:30:28.6±0.8, 5373N±009×163.42W±006, h36km±6km, mb4.4/50, MS3.9/10, Error ellipse: s-maj=15.8km s-min=5.5km az=155.9*
NEIC ***02*** *14:30:28.4±2.6, 5375N×163.46W, h20km±16km, mb4.6/13, ML4.0(AEIC), ML4.1(PMR), Error ellipse: s-maj=15.6km s-min=5.7km az=165.0*
MOS ***02*** *14:30:31.0±1.0, 5421N×163.57W, h33km, mb4.7/13, Error ellipse: s-maj=22.4km s-min=8.8km az=96.2*

ISC 02 14:30:30.2±1.3, 5383N±009×16340W±006, h34km±9km, h35km±.8km: pP-P, n102, σ1§24/107, mb4.4/50, MS3.9/10, 5C-2D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AKUT	**Akutan**	**1.44**	**283**	*e*P		**Pn**		**14 30 53.8**	**0.0**
AKLV	**Akutan Long Va**	**1.55**	**283**	P		**Pn**		**14 30 55.4**	**+0.1**
AKLV				S		**Sn**		**14 31 15.6**	**+1.4**
UNV	**Unalaska Valle**	**1.84**	**272**	P		**Pn**		**14 30 58.3**	**-1.1**
SDPT	**Sand Point**	**2.28**	**47**	*e*P		**Pn**		**14 31 10.4**	**+5.0**
NIKO	**Nikolski**	**3.38**	**257**	P		**Pn**		**14 31 18.9**	**-1.6**
ATKA	**Atka Island**	**6.72**	**260**	P		**Pn**		**14 32 05.5**	**-0.9**
KDAK	**Kodiak Island**	**7.26**	**53**	Pn		**Pn**		**14 32 13.0**	**-0.9**
	1.4nm,0.3s,baz=273,slow=6.0,SNR=14								
KDAK				Sn		**Sn**		**14 33 33.2**	**-2.0**
	baz=90,slow=22,SNR=3.2								
KDAK	**Kodiak Island**	**7.26**	**53**	Pn		**Pn**		**14 32 13.0**	**-0.9**
KDAK				Sn		**Sn**		**14 33 33.2**	**-2.0**
SVW2	**Sparrevohn**	**8.41**	**27**	*e*P		**Pn**		**14 32 32.4**	**+2.8**
TTA	**Tatalina**	**9.91**	**20**	*e*P		**Pn**		**14 32 56.3**	**+6.2**
	0.3nm,1.3s								
ILAR	**Eielson Array**	**13.78**	**31**	Pn		**Pn**		**14 33 41.8**	**-1.3**
	0.1nm,0.3s,baz=218,slow=13,SNR=9.8								
ILAR				LR		LR		14 38 23.2	
	comp=Z,65nm,21.5s,baz=67,slow=35								
ILAR	**Eielson Array**	**13.78**	**31**	Pn		**Pn**		**14 33 41.8**	**-1.3**
ILAR				LR		LR		14 38 23.2	
FX1	**Attu Island--F**	**14.02**	**276**	Pn		**Pn**		**14 33 48.4**	**+2.1**
	1.3nm,0.3s,baz=112,slow=23,SNR=6.7								
FX1	**Attu Island--F**	**14.02**	**276**	*e*Pn		**Pn**		**14 33 43.2**	**-3.2**
DAWY	**Dawson**	**15.96**	**41**	*e*P		**Pn**		**14 34 14.3**	**+2.1**
SKAG	**Skagway**	**16.35**	**59**	P		**Pn**		**14 34 19.2**	**+2.1**
DLBC	**Dease Lake**	**19.03**	**63**	P		**Pn**		**14 34 50.4**	**+0.3**
	0.1nm,0.3s,baz=294,slow=10.0,SNR=2.5								
DLBC				S		**Sn**		**14 38 19.9**	**-2.3**
	0.2nm,0.3s,baz=64,slow=19,SNR=3.2								
INK	**Inuvik**	**20.16**	**33**	P		**P**		**14 35 01.1**	**-0.5**
	3.9nm,0.9s,baz=260,slow=12,SNR=17								
INK	**Inuvik**	**20.16**	**33**	*e*P		**P**		**14 35 00.6**	**-0.9**
INK				pmax	pmax				
	comp=Z,13nm,1.2s								
INK	**Inuvik**	**20.16**	**33**	*e*P		**P**		**14 35 00.6**	**-1.0**
	comp=Z,13nm,1.2s								
BILL	**Bilibino**	**20.17**	**327**	*e*P		**P**		**14 35 01.8**	**+0.1**
BILL				pmax	pmax				
	comp=Z,12nm,1.1s								
BILL	**Bilibino**	**20.17**	**327**	*e*P		**P**		**14 35 01.8**	**+0.1**
	comp=Z,12nm,1.1s								
BBB	**Bella Bella**	**21.16**	**80**	LR		LR		14 41 32.9	
	comp=Z,126nm,18.2s,MS3.3,baz=286,slow=32								
YKW3	**Yellowknife Ar**	**26.53**	**51**	*e*P		**P**		**14 36 03.0**	**-1.6**
YKA	**Yellowknife Ar**	**26.54**	**51**	P		**P**		**14 36 06.2**	**+1.5**
	comp=Z,1.4nm,0.6s,mb3.7,baz=274,slow=9.6,SNR=18								
YBH	**Yreka Blue Hor**	**29.48**	**97**	LR		LR		14 44 60.0	
	comp=Z,176nm,20.4s,MS3.7,baz=198,slow=30								
TIXI	**Tiksi**	**33.38**	**328**	⇓*e*P		**P**		**14 37 04.6**	**-0.7**
TIXI				pmax	pmax				
	comp=Z,3.0nm,1.0s,mb4.2								
TIXI				MLR	MLR				
	comp=Z,200nm,20.0s,MS3.8								
RES	**Resolute Bay**	**33.47**	**27**	*e*P		**P**		**14 37 04.3**	**-1.8**
RES				pmax	pmax				
	comp=Z,1.0nm,0.6s,mb3.9								
RES	**Resolute Bay**	**33.47**	**27**	*e*P		**P**		**14 37 04.3**	**-1.7**
	comp=Z,0.9nm,0.6s,mb3.9								
NVAR	**Mina Array Bea**	**34.19**	**98**	P		**P**		**14 37 13.1**	**+0.7**
	comp=Z,0.6nm,0.9s,mb3.7,baz=291,slow=7.5,SNR=3.5								
YAK	**Yakutsk**	**34.94**	**311**	⇑*e*P		**P**		**14 37 18.5**	**-0.3**
YAK				pmax	pmax				
	comp=Z,6.0nm,1.0s,mb4.5								
YAK				MLR	MLR				
	comp=Z,100nm,15.0s,MS3.7								
PDAR	**Pinedale Array**	**36.64**	**85**	P		**P**		**14 37 33.9**	**+0.5**
	comp=Z,0.2nm,0.5s,mb3.2,baz=283,slow=4.5,SNR=3.4								
KLR	**Kul'dur**	**39.35**	**291**	*e*P		**P**		**14 38 02.0**	**+5.8**
ULM	**Lac du Bonnet**	**40.27**	**67**	P		**P**		**14 38 03.0**	**-0.9**
	comp=Z,0.5nm,0.3s,mb3.7,baz=203,slow=7.7,SNR=2.0								
ULM	**Lac du Bonnet**	**40.27**	**67**	P		**P**		**14 38 03.0**	**-0.9**
MDJ	**Mudanjiang**	**43.19**	**286**	P		**P**		**14 38 24.2**	**-3.6**
MDJ				AP		pP		14 38 33.1	-4.8
MDJ				XP		sP		14 38 37.0	-5.0
MDJ				AMB		AMB			
	comp=Z,4.0nm,1.2s,mb4.0								
MDJ				AMB		AMB			
	comp=Z,40nm,4.1s								
MJAR	**Matsushiro Arr**	**43.31**	**271**	P		**P**		**14 38 29.5**	**+0.8**
	comp=Z,2.7nm,0.9s,mb4.0,baz=46,slow=7.2,SNR=3.8								
MJAR	**Matsushiro Arr**	**43.31**	**271**	P		**P**		**14 38 29.5**	**+0.8**
MAT	**Matsushiro**	**43.31**	**271**	P		**P**		**14 38 23.4**	**-5.3**
MAT	**Matsushiro**	**43.31**	**271**	P		**P**		**14 38 23.0**	**-5.7**
BOD	**Bodaibo**	**43.85**	**310**	*e*P		**P**		**14 38 31.6**	**-1.4**
CN2	**Changchun**	**46.04**	**288**	*e*P		**P**		**14 38 49.2**	**-1.3**
CN2				*e*AP		pP		14 38 59.1	-1.6
CN2				*e*S		**S**		**14 45 31.5**	**-2.0**
CN2				AMB		AMB			
	comp=Z,10.0nm,0.7s,mb4.8								
DAG	**Danmarks Havn**	**47.76**	**10**	⇑*i*P		**P**		**14 39 04.7**	**+0.8**
	comp=Z,4.1nm,0.7s,mb4.6								
DAG	**Danmarks Havn**	**47.76**	**10**	⇑*i*P		**P**		**14 39 04.7**	**+0.8**
DAG				pmax	pmax				
	comp=Z,4.0nm,0.7s,mb4.6								
SUMG	**Summit**	**48.27**	**19**	*e*P		**P**		**14 39 09.8**	**+2.0**
	comp=Z,8.6nm,0.9s,mb4.8								
SFJD	**Kangerlussuaq**	**49.43**	**28**	P		**P**		**14 39 13.6**	**-3.2**
	comp=Z,8.7nm,0.8s,mb4.8,baz=229,slow=20,SNR=2.2								
SCHQ	**Schefferville**	**51.85**	**47**	P		**P**		**14 39 31.6**	**-3.5**
	comp=Z,2.1nm,0.8s,mb4.1,baz=322,slow=10.0,SNR=3.8								
SCHQ				LR		LR		15 04 07.3	
	comp=Z,112nm,19.9s,MS3.9,baz=254,slow=39								
ULN	**Ulaanbaatar**	**53.23**	**303**	*e*P		**P**		**14 39 45.3**	**0.0**
ULN				pmax	pmax				
	comp=Z,7.0nm,1.2s,mb4.5								
ULN	**Ulaanbaatar**	**53.23**	**303**	*e*P		**P**		**14 39 45.3**	**0.0**
	comp=Z,6.9nm,1.2s,mb4.5								
ZAK	**Zakamensk**	**53.37**	**307**	*e*P		**P**		**14 39 41.0**	**-5.2**
ZAK				pmax	pmax				
	comp=Z,4.0nm,1.9s,mb4.0								
SONM	**Songino Array**	**53.58**	**303**	P		**P**		**14 39 47.5**	**-0.3**
	comp=Z,2.0nm,0.9s,mb4.0,baz=37,slow=6.5,SNR=15								
SONM				PcP		PcP		14 40 56.2	+2.1
	comp=Z,0.4nm,0.7s,baz=35,slow=5.3,SNR=1.9								
HHC	**Hu-ho-hao-te**	**55.69**	**294**	*e*P		**P**		**14 40 02.0**	**-1.1**
HHC				AP		pP		14 40 13.1	-0.4
HHC				XP		sP		14 40 16.1	-1.5
HHC				PCP		PcP		14 41 00.5	-1.7
HHC				PP		PP		14 42 08.1	+0.5
HHC				SCP		ScP		14 44 55.3	-3.2
HHC				PCS		PcS		14 44 59.3	-3.2
HHC				S		**S**		**14 47 45.8**	**-1.3**
HHC				XS		sS		14 48 01.9	-2.4
HHC				SCS		ScS		14 49 45.9	-3.7
HHC				SS		SS		14 51 31.4	-1.2
HHC				AMB		AMB			
	comp=Z,9.0nm,1.1s,mb4.7								
HHC				AMB		AMB			
	comp=Z,55nm,4.6s								
HHC				LR		LR			
	comp=N,139nm,13.7s,MS4.5								
HHC				LR		LR			
	comp=E,255nm,13.5s,MS4.5								
HHC				LR		LR			
	comp=Z,136nm,14.9s,MS4.2								
JOW	**Kunigami**	**56.14**	**270**	LR		LR		15 01 49.8	
	comp=Z,128nm,20.4s,MS4.0,baz=114,slow=34								
KEV	**Kevo**	**56.49**	**356**	*e*P		**P**		**14 40 07.5**	**-1.3**
	comp=Z,2.4nm,0.6s,mb4.4								
KEV	**Kevo**	**56.49**	**356**	*e*P		**P**		**14 40 07.5**	**-1.3**
KEV				pmax	pmax				
	comp=Z,2.0nm,0.6s,mb4.3								
ARCES	**ARCESS Array B**	**56.77**	**356**	P		**P**		**14 40 08.9**	**-1.9**
	comp=Z,0.9nm,0.7s,mb3.9,baz=19,slow=7.9,SNR=5.5								
SSE	**Sheshan**	**57.19**	**279**	P		**P**		**14 40 10.6**	**-3.1**
SSE				AMB		AMB			
	comp=Z,25nm,0.9s,mb5.2								
SSE				AMB		AMB			
	comp=Z,226nm,4.9s								
NJ2	**Nanjing**	**57.85**	**281**	*e*P		**P**		**14 40 19.1**	**+0.7**
NJ2				AP		pP		14 40 29.4	+0.5
NJ2				PP		PP		14 42 30.0	+3.2
NJ2				S		**S**		**14 48 14.0**	**-1.6**
NJ2				XS		sS		14 48 29.0	-3.8
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.6s,mb5.0								
NJ2				AMB		AMB			
	comp=Z,310nm,4.4s								
NJ2				LR		LR			
	comp=N,530nm,32.3s								
NJ2				LR		LR			
	comp=E,350nm,26.0s								
NJ2				LR		LR			
	comp=Z,230nm,26.2s								
ZAL	**Zalesovo**	**58.71**	**320**	P		**P**		**14 40 24.4**	**0.0**
	comp=Z,0.7nm,0.5s,mb3.9,baz=81,slow=8.0,SNR=3.6								
ZAL	**Zalesovo**	**58.71**	**320**	P		**P**		**14 40 24.4**	**0.0**
GTA	**Gaotai**	**62.94**	**300**	*e*P		**P**		**14 40 53.4**	**+0.2**
GTA				AP		pP		14 41 03.7	0.0
GTA				XP		sP		14 41 08.0	+0.3
GTA				PP		PP		14 43 13.5	+1.7
GTA				PPP				14 44 25.4	
GTA				SCP		ScP		14 45 29.1	-1.5
GTA				PCS		PcS		14 45 32.9	-1.6
GTA				S		**S**		**14 49 24.1**	**+3.3**
GTA				AMB		AMB			
	comp=Z,3.0nm,1.6s,mb4.2								
GTA				AMB		AMB			
	comp=Z,61nm,6.5s								
GTA				LR		LR			
	comp=N,58nm,9.5s								
GTA				LR		LR			
	comp=E,42nm,11.8s								
GTA				LR		LR			
	comp=Z,68nm,13.7s,MS4.0								
LZH	**Lanzhou**	**63.31**	**295**	*e*P		**P**		**14 40 54.9**	**-0.7**
LZH				AP		pP		14 41 05.1	-1.1
LZH				XP		sP		14 41 09.1	-1.1
LZH				PP		PP		14 43 16.2	+1.2
LZH				AMB		AMB			
	comp=Z,22nm,1.4s,mb5.1								
KURK	**Kurchatov**	**63.59**	**321**	*e*P		**P**		**14 40 57.7**	**+0.2**
KURK				pmax	pmax				
	comp=Z,6.0nm,0.9s,mb4.6								
KURK	**Kurchatov**	**63.59**	**321**	*e*P		**P**		**14 40 57.7**	**+0.2**
	comp=Z,5.7nm,0.9s,mb4.6								
CHKZ	**Chkalovo**	**63.89**	**328**	*e*P		**P**		**14 40 59.5**	**0.0**
CHKZ				pmax	pmax				
	comp=Z,4.0nm,1.0s,mb4.4								
CHKZ	**Chkalovo**	**63.89**	**328**	*e*P		**P**		**14 40 59.5**	**0.0**
	comp=Z,3.7nm,1.0s,mb4.4								
KAF	**Kangasniemi**	**64.15**	**355**	*e*p		**P**		**14 41 00.6**	**-0.6**
	comp=Z,5.2nm,0.8s,mb4.6,baz=2.0,slow=6.3								
**KAF

ESDC Sonseca Array 85.19 16 P **P** 14 43 02.1 -0.9
comp=Z,0.7nm,0.5s,mb4.0,baz=297,slow=38,SNR=3.7
CTA Charters Tower 85.38 227 P **P** 14 43 06.8 +2.8
comp=Z,2.0nm,0.9s,mb4.2,baz=18,slow=20,SNR=1.9
BRTR Keskin Array B 85.67 347 P **P** 14 43 06.9 +1.5
comp=Z,2.1nm,0.9s,mb4.4,baz=59,slow=3.2,SNR=7.8
MATP Matopo 145.43 340 PKPbc PKPbc 14 50 05.3 +0.7
comp=Z,1.6nm,0.6s,baz=0.0,slow=6.1,SNR=3.7

IDC 02 14:41:10.0±13.0, 033S×12357E, h0km, mb4.0/3, mb1 4.3/4, mb1mx3.7/17, mbtmp4.1/4, ML4.5/1, MS3.8/1, Ms1 3.8/1, ms1mx2.9/24, Error ellipse: s-maj=222.2km s-min=122.4km az=130.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**17.78**	**174**	*e*P	Pn	14 45 21.0	+2.2
	5.6nm,0.2s						
FITZ	**Fitzroy Crossi**	**17.78**	**174**	P	Pn	14 45 21.0	+2.2
	1.2nm,0.3s,baz=13,slow=10.0,SNR=105						
WRA	**Warramunga Arr**	**22.16**	**152**	P	P	14 46 06.7	-0.8
	0.6nm,0.3s,baz=326,slow=12,SNR=62						
WB2	**Warramunga Arr**	**22.17**	**152**	*e*P	P	14 46 06.5	-1.0
ASAR	**Alice Springs**	**25.27**	**157**	P	P	14 46 38.2	+0.3
	1.9nm,0.3s,baz=329,slow=9.5,SNR=113						
CTA	**Charters Tower**	**29.64**	**133**	LR	LR	14 59 21.1	
	comp=Z,208nm,21.2s,baz=232,slow=37						
STKA	**Stephens Creek**	**35.71**	**153**	P	P	14 48 10.5	+0.4
	4.1nm,1.0s,baz=350,slow=7.8,SNR=5.0						

IDC 02 14:58:56.5±2.0, 525S×14984E, h0km, mb3.5/2, mb1 3.9/4, mb1mx3.6/15, mbtmp3.9/4, ML2.0/1, Error ellipse: s-maj=46.4km s-min=31.2km az=143.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.91**	**213**	Pn	Pn	15 00 13.3	+1.8
	0.4nm,0.3s,baz=326,slow=3.6,SNR=3.1						
PMG				Sn	Sn	15 01 12.3	+3.3
	1.5nm,0.3s,baz=81,slow=19,SNR=6.2						
HNR	**Honiara**	**10.85**	**113**	Pn	Pn	15 01 34.3	+1.3
	8.8nm,0.3s,baz=322,slow=12,SNR=16						
WRA	**Warramunga Arr**	**20.99**	**225**	P	P	15 03 42.2	+0.8
	1.2nm,0.7s,baz=53,slow=11,SNR=10						
ASAR	**Alice Springs**	**23.89**	**218**	P	P	15 04 11.0	-0.9
	1.8nm,0.7s,baz=55,slow=9.5,SNR=25						
TORD	**Torodi Ar. Bea**	**147.63**	**286**	PKPbc	PKPbc	15 18 43.2	+0.4
	0.8nm,0.6s,baz=93,slow=2.7,SNR=8.7						

MAN 02 15:21:07.0, 1349N×12078E, h20km, mb1.4, ML3.3, MS4.2, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.17**	**87**	*e*P	Pb	15 21 12.7	+0.9
PGP				*e*S	Sb	15 21 15.7	+0.7

*MOS **02** 15:32:26.7±1.1, 366N×12508E, h239km, mb4.8/35, Error ellipse: s-maj=11.5km s-min=5.8km az=109.1*
*IDC **02** 15:32:26.5±1.1, 361N×12499E, h221km±9km, mb4.4/33, mb1 4.5/34, mb1mx4.4/36, mbtmp5.0/34, Error ellipse: s-maj=11.4km s-min=6.2km az=70.0*
*ISCJB **02** 15:32:27.1±0.4, 365N±003×125.15E±004, h242km±4km, mb4.8/105, Error ellipse: s-maj=6.3km s-min=3.8km az=135.3*
*BJI **02** 15:32:27.7, 373N×12522E, h248km, mB4.7, mb4.8*
*NEIC **02** 15:32:28.8±1.0, 367N×12508E, h247km±10km, mb4.9/34, Error ellipse: s-maj=7.8km s-min=4.4km az=67.0*
*MAN **02** 15:32:29.2, 444N×125.19E, h344km, mb4.1, ML5.1, MS4.2*
ISC 02 15:32:28.3±0.4, 364N±003×12516E±004, h238km±4km, h247km±3.2km: pP-P, n212, σ1°10/218, mb4.8/105, 23C-11D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**3.34**	**359**	*i*P	Pn	15 33 25.4	+1.6
KCP				*i*S	S	15 34 11.8	+4.1
PAGZ	**Pagadian**	**4.54**	**337**	*e*P	Pn	15 33 36.4	-1.5
BIPH	**Bislig**	**4.67**	**15**	*e*P	Pn	15 33 37.0	-2.5
BIPH				*e*S	S	15 34 30.9	-5.2
CGP	**Cagayan de Oro**	**4.80**	**354**	*e*P	Pn	15 33 39.4	-1.8
IPIL	**Ipil**	**4.86**	**328**	*e*P	Pn	15 33 41.1	-0.8
PCI	**Palu**	**6.98**	**230**	P	Pn	15 34 08.3	-0.2
	59nm,0.9s						
TSM	**Tawau**	**7.30**	**275**	P	Pn	15 34 11.7	-0.8
GUIM	**Jordan**	**7.39**	**340**	*e*P	Pn	15 34 08.0	-5.7
SWI	**Sorong**	**7.56**	**126**	P	Pn	15 34 14.2	-1.7
	92nm,0.9s						
AAI	**Ambon**	**7.89**	**157**	P	Pn	15 34 16.6	-3.4
	237nm,0.9s						
KKM	**Kota Kinabalu**	**9.23**	**285**	P	Pn	15 34 37.3	+0.2
KKM	**Kota Kinabalu**	**9.23**	**285**	*e*P	Pn	15 34 37.1	0.0
TGY	**Tagaytay City**	**11.20**	**338**	P	Pn	15 35 01.5	-0.5
	43nm,0.3s,baz=267,slow=4.0,SNR=3.8						
TLE	**Tual**	**11.93**	**141**	P	Pn	15 35 11.0	-0.2
	227nm,1.0s						
BALP	**Baler**	**12.53**	**344**	*e*P	Pn	15 35 20.0	+1.4
SCZP	**Santa Cruz**	**13.12**	**337**	*e*P	Pn	15 35 27.3	+1.4
BCPH	**Baguio City Da**	**13.43**	**341**	*e*P	Pn	15 35 31.8	+1.9
PALP	**Palanan**	**13.60**	**349**	*e*P	Pn	15 35 34.2	+2.3
CAUP	**Cauayan**	**13.62**	**346**	*e*P	Pn	15 35 31.3	-0.8
BOLP	**Bolinao**	**13.67**	**338**	*e*P	Pn	15 35 32.3	-0.4
KSM	**Kuching**	**14.99**	**262**	*e*P	Pn	15 35 50.0	+1.3
JAY	**Jayapura**	**16.70**	**111**	P	P	15 36 08.3	+0.9
	421nm,0.8s						
KAKA	**Kakadu**	**17.79**	**156**	⇑*i*P	P	15 36 19.2	0.0
	81nm,0.6s						
KAKA				*e*S	S	15 39 30.0	-1.2
BJII	**Banjamegara**	**18.88**	**235**	P	P	15 36 31.9	+0.8
	43nm,1.8s						
YHNB	**Yeheng**	**21.22**	**350**	*e*P	P	15 36 53.3	-2.6
QIZ	**Qiongzhong**	**21.40**	**317**	⇑P	P	15 36 57.8	+0.1
QIZ				AMB	AMB		
	comp=Z,55nm,0.8s,mb5.1						
QIZ	**Qiongzhong**	**21.40**	**317**	*e*P	P	15 36 57.6	-0.1
	comp=Z,43nm,0.7s,mb5.1						
FITZ	**Fitzroy Crossi**	**21.61**	**179**	⇑*i*P	P	15 36 57.8	-1.8
	comp=Z,59nm,0.6s,mb5.3						
FITZ				*e*S	S	15 40 39.9	-2.3
FITZ	**Fitzroy Crossi**	**21.61**	**179**	P	P	15 36 58.1	-1.5
	comp=Z,22nm,0.4s,mb5.1,baz=9.7,slow=9.4,SNR=184						
FITZ				ScP	ScP	15 44 08.1	+2.4
	comp=Z,2.6nm,0.6s,baz=356,slow=16,SNR=5.5						
GUMO	**Guam**	**21.83**	**62**	P	P	15 37 01.3	-0.3
	comp=Z,78nm,0.8s,mb5.3,baz=185,slow=23,SNR=5.6						
KGM	**Kluang**	**21.87**	**266**	P	P	15 37 03.5	+1.5
QZH	**Quanzhou**	**22.10**	**344**	P	P	15 37 04.2	+0.1
QZH				*e*S	S	15 40 45.0	-5.1
QZH				AMB	AMB		
	comp=Z,110nm,1.0s,mb5.3						
GZH	**Guangzhou**	**22.46**	**330**	P	P	15 37 05.7	-1.6
JOW	**Kunigami**	**23.25**	**7**	P	P	15 37 15.9	+1.4
	comp=Z,120nm,0.6s,mb5.6,baz=195,slow=8.3,SNR=68						
KSI	**Kapahiang**	**23.69**	**252**	P	P	15 37 21.7	+3.2
	comp=Z,58nm,0.8s,mb5.3						
IPM	**Ipoh**	**24.09**	**273**	P	P	15 37 25.1	+2.9
KULM	**Kulim**	**24.49**	**275**	*e*P	P	15 37 25.3	-0.5
PPI	**Padang Panjang**	**25.08**	**261**	P	P	15 37 35.5	+4.4
	comp=Z,45nm,0.9s,mb5.1						
WRAB	**Tennant Creek**	**25.11**	**159**	⇑*i*P	P	15 37 31.1	-0.3
WRAB				pmax	pmax		
	comp=Z,107nm,0.7s,mb5.6						
WRAB	**Tennant Creek**	**25.11**	**159**	⇑*i*P	P	15 37 31.1	-0.3
	comp=Z,108nm,0.7s,mb5.6						
WRA	**Warramunga Arr**	**25.11**	**159**	P	P	15 37 30.9	-0.6
	comp=Z,45nm,0.5s,mb5.4,baz=332,slow=11,SNR=555						
WRA				ScP	ScP	15 44 17.5	+2.5
	comp=Z,2.6nm,0.8s,baz=350,slow=3.1,SNR=6.3						
WB2	**Warramunga Arr**	**25.12**	**159**	⇑*i*P	P	15 37 31.2	-0.3
WB2				*e*S	S	15 41 35.4	-2.8
MBWA	**Marble Bar**	**25.22**	**192**	*e*P	P	15 37 32.2	-0.2
	comp=Z,22nm,0.6s,mb5.0						
PMG	**Port Moresby**	**25.47**	**121**	P	P	15 37 35.5	+0.8
	comp=Z,14nm,0.4s,mb4.9,baz=19,slow=3.7,SNR=21						
PMG				ScP	ScP	15 44 18.7	+2.6
	comp=Z,9.9nm,1.0s,baz=219,slow=1.2,SNR=3.4						
PMG	**Port Moresby**	**25.47**	**121**	*e*P	P	15 37 34.8	+0.2
PMG				pmax	pmax		
	comp=Z,45nm,1.0s						
PMG	**Port Moresby**	**25.47**	**121**	*e*P	P	15 37 34.8	+0.1
	comp=Z,45nm,1.0s,mb5.0						
PSI	**Prapat**	**26.21**	**269**	P	P	15 37 41.6	+0.4
	comp=Z,2.7nm,0.3s,mb4.3,baz=298,slow=3.0,SNR=5.7						
PSI				ScP	ScP	15 44 19.7	+1.5
	comp=Z,1.4nm,0.3s,baz=0.0,slow=0.0,SNR=3.5						
PSI	**Prapat**	**26.21**	**269**	P	P	15 37 41.6	+0.4
PSI				ScP	ScP	15 44 19.7	+1.4
SSE	**Sheshan**	**27.56**	**353**	P	P	15 37 53.8	+0.5
SSE				AMB	AMB		
	comp=Z,18nm,0.8s,mb4.8						
SSE				AMB	AMB		
	comp=Z,72nm,3.7s						
ASAR	**Alice Springs**	**28.45**	**163**	P	P	15 38 01.3	+0.1
	comp=Z,19nm,0.4s,mb5.1,baz=336,slow=6.9,SNR=1028						
ASAR				ScP	ScP	15 44 27.8	+2.7
	comp=Z,3.9nm,0.8s,baz=340,slow=2.7,SNR=11						
GYA	**Guiyang**	**28.79**	**324**	⇑*i*P	P	15 38 05.4	+1.3
GYA				AP	pP	15 38 55.5	+4.3
GYA				XP	sP	15 39 25.0	+6.2
GYA				PCP	PcP	15 41 07.2	-0.4
GYA				S	S	15 42 36.5	+0.6
GYA				SCP	ScP	15 44 23.1	-3.0
GYA				SCS	ScS	15 48 16.0	-4.1
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
GYA				AMB	AMB		
	comp=Z,90nm,3.2s						
NJ2	**Nanjing**	**28.87**	**349**	*e*P	P	15 38 03.6	-1.3
NJ2				AP	pP	15 38 53.8	+1.8
NJ2				XP	sP	15 39 24.9	+5.3
NJ2				PCP	PcP	15 41 08.1	+0.3
NJ2				S	S	15 42 34.0	-3.2
NJ2				XS	sS	15 44 05.0	+2.9
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,270nm,4.8s						
NJ2				LR	LR		
	comp=N,430nm,20.4s						
NJ2				LR	LR		
	comp=E,430nm,34.4s						
NJ2				LR	LR		
	comp=Z,300nm,24.4s						
JNU	**Nakatsue**	**29.81**	**10**	P	P	15 38 13.4	+0.3
	comp=Z,58nm,0.9s,mb5.2,baz=178,slow=2.8,SNR=9.8						
KMI	**Kunming**	**30.35**	**317**	P	P	15 38 19.6	+1.7
KMI				AP	pP	15 39 08.0	+2.8
KMI				XP	sP	15 39 36.4	+3.7
KMI				PCP	PcP	15 41 14.1	+2.5
KMI				S	S	15 42 58.6	-1.7
KMI				XS	sS	15 44 27.9	+2.6
KMI				AMB	AMB		
	comp=Z,34nm,0.8s,mb5.0						
KMI				AMB	AMB		
	comp=Z,173nm,4.3s						
CTA	**Charters Tower**	**31.39**	**140**	⇑*i*P	P	15 38 28.4	+1.4
	comp=Z,19nm,0.7s,mb4.8						
CTA	**Charters Tower**	**31.39**	**140**	P	P	15 38 28.4	+1.4
	comp=Z,27nm,0.7s,mb5.0,baz=322,slow=11,SNR=43						
CTA	**Charters Tower**	**31.39**	**140**	⇑*i*P	P	15 38 28.4	+1.4
CTA				pmax	pmax		
	comp=Z,19nm,0.7s						
CTAO	**Charters Tower**	**31.39**	**140**	⇑*e*P	P	15 38 28.2	+1.2
CTAO				pmax	pmax		
	comp=Z,34nm,0.8s,mb5.0						
CTAO	**Charters Tower**	**31.39**	**140**	⇑*e*P	P	15 38 28.2	+1.2
	comp=Z,34nm,0.8s,mb5.0						
CD2	**Chengdu**	**33.81**	**326**	P	P	15 38 48.0	0.0
CD2				AP	pP	15 39 36.0	+0.2
CD2				XP	sP	15 40 04.0	+0.8
CD2				PP	PP	15 40 11.0	+1.2
CD2				S	S	15 43 54.5	+0.6
CD2				XS	sS	15 45 20.5	+1.0
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.6						
CD2				LR	LR		
	comp=E,60nm,15.6s						
CD2				LR	LR		
	comp=Z,80nm,18.0s						
XAN	**Xi'an**	**33.81**	**335**	P	P	15 38 47.5	-0.5
XAN				AMB	AMB		
	comp=Z,32nm,1.1s,mb4.8						
FORT	**Forrest**	**34.34**	**176**	*e*P	P	15 38 52.3	-0.2
	comp=Z,34nm,0.5s,mb5.1						
MJAR	**Matsushiro Arr**	**34.88**	**19**	P	P	15 38 57.1	0.0
	comp=Z,22nm,0.8s,mb4.8,baz=194,slow=9.2,SNR=55						
MAJO	**Matsushiro**	**34.88**	**19**	*e*P	P	15 38 57.0	-0.1
MAJO				pmax	pmax		
	comp=Z,28nm,0.8s,mb4.8						
MAJO	**Matsushiro**	**34.88**	**19**	*e*P	P	15 38 57.0	-0.1
	comp=Z,28nm,0.8s,mb4.8						
MAT	**Matsushiro**	**34.88**	**19**	P	P	15 38 56.7	-0.4
MAT	**Matsushiro**	**34.88**	**19**	*e*P	P	15 38 57.0	-0.1
MAT				pmax	pmax		
	comp=Z,20nm,0.7s,mb4.8						
MAT	**Matsushiro**	**34.88**	**19**	*e*P	P	15 38 57.0	-0.1
	comp=Z,20nm,0.7s,mb4.8						
DL2	**Dalian**	**35.24**	**355**	P	P	15 39 00.2	0.0
DL2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.8						
KLBR	**Kellerberrin**	**35.74**	**191**	⇑*i*P	P	15 39 04.2	-0.3
	comp=Z,14nm,0.5s,mb4.8						
MUN	**Mundaring**	**36.43**	**193**	*e*P	P	15 39 10.4	+0.1
HNR	**Honiara**	**37.02**	**111**	P	P	15 39 15.7	+0.4
	comp=Z,56nm,0.9s,mb5.1,baz=262,slow=2.3,SNR=8.6						
HNR	**Honiara**	**37.02**	**111**	*e*P	P	15 39 15.6	+0.3
HNR				pmax	pmax		
	comp=Z,36nm,0.8s,mb5.0						
HNR	**Honiara**	**37.02**	**111**	*e*P	P	15 39 15.6	+0.3
	comp=Z,36nm,0.8s,mb5.0						
BJT	**Baijiatuan**	**37.11**	**349**	*e*P	P	15 39 15.7	-0.3
BJT				pmax	pmax		
	comp=Z,18nm,0.6s						
BJT	**Baijiatuan**	**37.11**	**349**	*e*P	P	15 39 15.7	-0.3
	comp=Z,18nm,0.6s,mb4.8						
BJI	**Beijing**	**37.13**	**349**	P	P	15 39 15.4	-0.8
BJI				AMB	AMB		
	comp=Z,28nm,1.0s,mb4.8						
NWAO	**Narrogin (SRO)**	**37.14**	**191**	P	P	15 39 16.5	+0.3
	comp=Z,11nm,0.4s,mb4.7,baz=13,slow=7.8,SNR=25						
NWAO	**Narrogin (SRO)**	**37.14**	**191**	P	P	15 39 16.5	+0.3
LZH	**Lanzhou**	**37.80**	**331**	⇓P	P	15 39 22.5	+0.7
LZH				AP	pP	15 40 15.5	+5.0
LZH				XP	sP	15 40 37.5	-0.2
LZH				PP	PP	15 40 58.5	+5.0
LZH				PCP	PcP	15 41 35.0	+1.9
LZH				*e*S	S	15 44 54.1	-0.5
LZH				XS	sS	15 46 26.1	+4.8
LZH				*e*SS	SS	15 47 46.5	-4.8
LZH				AMB	AMB		
	comp=Z,52nm,1.2s,mb4.9						
LZH				AMB	AMB		
	comp=Z,314nm,5.6s						
STKA	**Stephens Creek**	**38.63**	**157**	⇑*i*P	P	15 39 27.6	-1.1
	comp=Z,24nm,0.4s,mb5.1						
STKA	**Stephens Creek**	**38.63**	**157**	P	P	15 39 27.7	-1.0
	comp=Z,28nm,0.5s,mb5.1,baz=334,slow=7.7,SNR=150						
STKA				PP	PP	15 41 05.4	+3.0
	comp=Z,8.8nm,0.8s,baz=330,slow=11,SNR=3.3						
STKA				ScP	ScP	15 45 00.8	0.0
	comp=Z,5.5nm,0.8s,baz=318,slow=12,SNR=4.2						
SHL	**Shillong**	**38.67**	**308**	*e*P	P	15 39 30.0	+0.9
HHC	**Hu-ho-hao-te**	**39.01**	**344**	*e*P	P	15 39 31.1	-0.7
HHC				AP	pP	15 40 23.6	+2.8
HHC				XP	sP	15 40 53.0	+5.1
HHC				PP	PP	15 41 11.1	+4.5
HHC				SCP	ScP	15 44 58.7	-3.6
HHC				S	S	15 45 11.1	-1.6
HHC				PCS	PcS	15 45 24.4	-2.4
HHC				XS	sS	15 46 44.6	+4.8
HHC				SS	SS	15 48 10.7	-4.6
HHC				SCS	ScS	15 49 09.7	-4.6
HHC				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.1						
HHC				AMB	AMB		
	comp=Z,88nm,4.9s						
HHC				LR	LR		
	comp=N,111nm,14.2s						
HHC				LR	LR		
	comp=E,279nm,16.2s						
HHC				LR	LR		
	comp=Z,137nm,13.7s						
VLA	**Vladivostok**	**39.76**	**8**	*c i*P	P	15 39 39.4	+1.4
VLA				pmax	pmax		
	comp=Z,51nm,0.7s,mb5.1						
CN2	**Changchun**	**39.99**	**0**	*e*P	P	15 39 41.0	+1.1
CN2				PCP	PcP	15 41 41.6	+1.6
CN2				*e*S	S	15 45 28.3	+1.1
MDJ	**Mudanjiang**	**40.99**	**5**	P	P	15 39 48.8	+0.7
MDJ				AP	pP	15 40 38.6	+1.1
MDJ				AMB	AMB		
	comp=Z,23nm,0.8s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,91nm,4.0s						
LSA	**Lhasa**	**41.33**	**313**	*e*P	P	15 39 52.4	+1.6
LSA	**Lhasa**	**41.33**	**313**	*e*P	P	15 39 52.0	+1.2
LSA				pmax	pmax		
	comp=Z,29nm,0.6s,mb4.9						
LSA	**Lhasa**	**41.33**	**313**	*e*P	P	15 39 52.0	+1.2
	comp=Z,29nm,0.6s,mb4.9						
ARMA	**Armidale**	**42.27**	**145**	⇑*i*P	P	15 40 00.1	+1.6
GTA	**Gaotai**	**42.38**	**331**	P	P	15 39 59.8	+0.5
GTA				AP	pP	15 40 47.4	-1.6
GTA				PP	PP	15 41 43.8	+1.0
GTA				PCP	PcP	15 41 49.8	+1.9
GTA				PCS	PcS	15 45 42.2	+2.0
GTA				S	S	15 46 03.1	+0.7
GTA				SS	SS	15 49 10.2	-11
GTA				AMB	AMB		
	comp=Z,25nm,0.9s,mb4.6						
GTA				AMB	AMB		
	comp=Z,104nm,7.2s						
GTA				LR	LR		
	comp=N,79nm,13.7s						
GTA				LR	LR		
	comp=E,112nm,14.8s						
GTA				LR	LR		
	comp=Z,98nm,15.6s						
BOK	**Bokaro**	**42.86**	**302**	*e*P	P	15 40 02.9	-0.3
ASAJ	**Asahikawa**	**43.15**	**18**	P	P	15 40 07.2	+1.8
	comp=Z,14nm,0.5s,mb4.7,baz=241,slow=12,SNR=36						
JIRN	**Jiri**	**44.16**	**307**	*e*P	P	15 40 14.1	+0.6
	comp=Z,90nm,0.7s,mb5.2						
GUN	**Gumba**	**44.52**	**307**	*e*P	P	15 40 17.0	+0.7
	comp=Z,102nm,0.6s,mb5.4						
PKI	**Pulchoki**	**44.75**	**306**	*e*P	P	15 40 18.1	0.0
	comp=Z,27nm,0.6s,mb4.8						
CNB	**Canberra Magne**	**44.92**	**152**	*e*P	P	15 40 21.4	+1.9
	comp=Z,18nm,0.8s,mb4.4						
KKN	**Kakani**	**44.94**	**306**	*e*P	P	15 40 19.7	0.0
	comp=Z,39nm,0.7s,mb4.8						
DMN	**Daman**	**45.01**	**306**	*e*P	P	15 40 20.4	+0.2
	comp=Z,51nm,0.8s,mb4.9						
TOO	**Toolangi**	**45.15**	**157**	⇑*i*P	P	15 40 23.6	+2.3
	comp=Z,19nm,0.7s,mb4.5						
TOO	**Toolangi**	**45.15**	**157**	⇑*i*P	P	15 40 23.6	+2.3
TOO				pmax	pmax		
	comp=Z,19nm,0.7s,mb4.5						
MDRS	**Chennai**	**45.34**	**285**	*e*P	P	15 40 22.3	-0.5
HABR	**Khabarovsk**	**45.46**	**9**	⇓*i*P	P	15 40 25.1	+1.4
HABR				*e*S	S	15 46 54.4	+7.6
HABR				pmax	pmax		
	comp=Z,101nm,1.1s,mb5.1						
GKN	**Gorkha**	**45.55**	**306**	*e*P	P	15 40 24.4	0.0
	comp=Z,32nm,0.5s,mb4.9						
HIA	**Hailar**	**45.69**	**355**	*e*P	P	15 40 25.2	-0.3
YSS	**Yuzh-Sakhalins**	**45.76**	**17**	⇑*e*P	P	15 40 27.1	+1.0
YSS				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.3						
KLR	**Kul'dur**	**45.77**	**6**	⇑*i*P	P	15 40 23.2	-2.9
KLR				pmax	pmax		
	comp=E,20nm,0.9s						
KLR				pmax	pmax		
	comp=Z,64nm,0.9s,mb5.0						
KOLN	**Koldanda**	**46.29**	**306**	*e*P	P	15 40 30.8	+0.6
	comp=Z,43nm,0.3s,mb5.2						
ULN	**Ulaanbaatar**	**46.73**	**343**	*e*P	P	15 40 33.2	-0.4
ULN				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.3						
ULN	**Ulaanbaatar**	**46.73**	**343**	*e*P	P	15 40 33.2	-0.4
	comp=Z,13nm,0.8s,mb4.3						
SONM	**Songino Array**	**46.90**	**343**	P	P	15 40 34.5	-0.4
	comp=Z,10nm,0.7s,mb4.2,baz=156,slow=7.7,SNR=67						
SONM				PcP	PcP	15 42 04.4	+0.9
	comp=Z,13nm,0.8s,baz=168,slow=3.3,SNR=20						
HYB	**Hyderabad**	**47.67**	**290**	*i*P	P	15 40 41.5	+0.7
HYB	**Hyderabad**	**47.67**	**290**	*e*P	P	15 40 41.5	+0.7
DZM	**Mont Dzumac**	**47.77**	**124**	P	P	15 40 42.9	+1.3
	comp=Z,7.5nm,0.6s,mb4.2,baz=198,slow=21,SNR=14						
TRD	**Trivandrum**	**48.15**	**278**	*e*P	P	15 40 44.4	-0.1
TRD				AMb	AMB	15 40 46.6	
	comp=Z,62nm,1.7s,mb4.7						
CIT	**Chita**	**49.18**	**351**	*e*P	P	15 40 52.3	0.0
CIT				pmax	pmax		
	comp=Z,41nm,1.2s,mb4.6						
BHPL	**Bhopal**	**50.05**	**297**	*e*P	P	15 40 58.7	-0.1
BHPL				AMb	AMB	15 41 00.7	
	comp=Z,37nm,0.8s,mb4.8						
ZAK	**Zakamensk**	**50.10**	**342**	*e*P	P	15 40 58.7	-0.6
ZAK				*e*		15 42 16.0	
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.6s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.4						
TLY	**Talaya**	**51.14**	**343**	*e*P	P	15 41 06.9	-0.1
TLY				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.6						
TLY	**Talaya**	**51.14**	**343**	*e*P	P	15 41 06.8	-0.1
	comp=Z,15nm,0.6s,mb4.6						
WMQ	**Urumqi**	**51.91**	**326**	⇓*i*P	P	15 41 13.2	+0.6
WMQ				AP	pP	15 42 06.7	+2.3
WMQ				PCP	PcP	15 42 19.2	-2.6
WMQ				XP	sP	15 42 33.7	+3.0
WMQ				PP	PP	15 43 17.5	+4.4
WMQ				PPP		15 44 32.2	
WMQ				SCP	ScP	15 45 50.2	-5.4
WMQ				PCS	PcS	15 46 17.2	-3.1
WMQ				S	S	15 48 21.2	+4.5
WMQ				AMB	AMB		
	comp=Z,29nm,0.8s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,39nm,8.2s						
WMQ				LR	LR		
	comp=N,116nm,20.4s						
WMQ				LR	LR		
	comp

YAK	**Yakutsk**	**58.35**	**3**	*e*P		**P**	**15 41 58.6**	**+0.1**
	comp=Z,136nm,0.7s,mb5.7								
KZA	**Kyzart**	**58.62**	**318**	P		**P**	**15 42 02.3**	**+1.8**
	SNR=7.2								
TKM2	**Tokmak 2**	**58.78**	**319**	P		**P**	**15 42 02.2**	**+0.6**
	SNR=9.3								
KBK	**Karagaybulak**	**59.08**	**319**	P		**P**	**15 42 04.5**	**+0.9**
	SNR=8.1								
MA2	**Magadan**	**59.18**	**15**	*d* iP		**P**	**15 42 05.8**	**+1.5**
MA2				*e*			15 42 51.8		
MA2				pmax	pmax				
	comp=Z,100nm,0.8s,mb5.5								
UCH	**Uchtor**	**59.18**	**318**	P		**P**	**15 42 05.7**	**+1.4**
	SNR=19								
AAK	**Ala-Archa**	**59.37**	**318**	P		**P**	**15 42 06.5**	**+0.9**
	SNR=6.4								
AAK	**Ala-Archa**	**59.37**	**318**	*e*P		**P**	**15 42 05.1**	**-0.5**
USP	**Ospenovka**	**59.65**	**319**	P		**P**	**15 42 07.8**	**+0.3**
	SNR=11								
AML	**Almayashu**	**59.69**	**318**	P		**P**	**15 42 08.9**	**+1.1**
	SNR=18								
EKS2	**Erkin-Say**	**59.86**	**318**	P		**P**	**15 42 09.9**	**+0.9**
	SNR=12								
ZAL	**Zalesovo**	**59.96**	**334**	P		**P**	**15 42 08.1**	**-1.5**
	comp=Z,3.1nm,0.4s,mb4.3,baz=349,slow=6.3,SNR=17								
KURK	**Kurchatov**	**60.98**	**328**	*e*P		**P**	**15 42 15.8**	**-0.7**
KURK				pmax	pmax				
	comp=Z,49nm,0.5s,mb5.4								
KURK	**Kurchatov**	**60.98**	**328**	*e*P		**P**	**15 42 15.8**	**-0.7**
	comp=Z,49nm,0.5s,mb5.4								
NVS	**Novosibirsk**	**61.25**	**334**	*e*P		**P**	**15 42 14.8**	**-3.5**
NVS				*e*			15 42 54.5		
NVS				pmax	pmax				
	comp=Z,17nm,1.2s,mb4.5								
NVS				pmax	pmax				
	comp=N,16nm,1.4s								
NVS				pmax	pmax				
	comp=E,16nm,1.3s								
KK31	**Karatay Array**	**62.23**	**318**	*i* P		**P**	**15 42 24.4**	**-0.4**
KK31				pmax	pmax				
	comp=Z,3.0nm,0.4s,mb4.3								
RPZ	**Rata Peaks**	**62.60**	**144**	P		**P**	**15 42 28.9**	**+1.6**
	comp=Z,23nm,0.7s,mb4.9,baz=299,slow=1.2,SNR=16								
FX1	**Attu Island--F**	**62.94**	**30**	P		**P**	**15 42 31.0**	**+1.5**
	comp=Z,25nm,1.1s,mb4.8,baz=315,slow=11,SNR=3.3								
URZ	**Urewera**	**63.56**	**136**	P		**P**	**15 42 34.6**	**+1.0**
	comp=Z,5.8nm,0.4s,mb4.5,baz=313,slow=4.6,SNR=8.7								
BVAR	**Borovoye Array**	**66.54**	**327**	P		**P**	**15 42 51.9**	**-0.8**
	comp=Z,111nm,0.6s,mb4.6,baz=138,slow=8.2,SNR=56								
BRVK	**Borovoye**	**66.61**	**327**	*e*P		**P**	**15 42 52.3**	**-0.9**
BRVK				pmax	pmax				
	comp=Z,18nm,0.8s,mb4.8								
BRVK	**Borovoye**	**66.61**	**327**	*e*P		**P**	**15 42 52.3**	**-0.8**
	comp=Z,18nm,0.8s,mb4.8								
CHKZ	**Chkalovo**	**66.72**	**328**	*e*P		**P**	**15 42 52.4**	**-1.4**
CHKZ				pmax	pmax				
	comp=Z,16nm,0.8s,mb4.7								
CHKZ	**Chkalovo**	**66.72**	**328**	*e*P		**P**	**15 42 52.4**	**-1.4**
	comp=Z,16nm,0.8s,mb4.7								
ZRNK	**Zerenda**	**67.26**	**327**	*i* P		**P**	**15 42 56.2**	**-1.0**
ZRNK				pmax	pmax				
	comp=Z,24nm,0.8s,mb4.9								
ZRNK	**Zerenda**	**67.26**	**327**	*e*P		**P**	**15 42 56.1**	**-1.1**
	comp=Z,29nm,0.7s,mb5.0								
BILL	**Bilibino**	**70.04**	**15**	*e*P		**P**	**15 43 14.3**	**-0.1**
BILL				pmax	pmax				
	comp=Z,2.0nm,0.5s,mb4.0								
BILL	**Bilibino**	**70.04**	**15**	*e*P		**P**	**15 43 14.3**	**0.0**
	comp=Z,2.2nm,0.5s,mb4.0								
AKTK	**Aktyubinsk**	**72.76**	**322**	P		**P**	**15 43 29.9**	**-0.7**
AKTO	**Aktyubinsk**	**72.76**	**322**	P		**P**	**15 43 29.9**	**-0.7**
	comp=Z,18nm,0.6s,mb4.9,baz=103,slow=8.2,SNR=89								
ARU	**Arti**	**74.17**	**328**	⇓*i* P		**P**	**15 43 37.2**	**-1.6**
ARU				*e*			15 46 23.8		
ARU				*e*PPP			15 48 10.0		
ARU				*e*S	S		15 52 55.2	+3.0	
ARU				*e*SS	SS		15 57 41.0	-1.8	
ARU				pmax	pmax				
	comp=Z,25nm,0.7s,mb5.0								
ARU	**Arti**	**74.17**	**328**	*e*P		**P**	**15 43 37.0**	**-1.9**
	comp=Z,25nm,0.6s,mb5.7								
ORR	**Orenburg**	**75.05**	**323**	*e*P		**P**	**15 43 43.5**	**-0.3**
ORR				pmax	pmax				
	comp=Z,10.0nm,0.7s,mb4.5								
RDF	**Al-Radifah**	**77.40**	**299**	*e*P		**P**	**15 43 56.0**	**-1.1**
RDF				AMb	AMB		15 43 58.0		
	comp=Z,45nm,0.6s,mb5.2								
MIB	**Mutribah**	**77.63**	**300**	*e*P		**P**	**15 43 57.4**	**-0.9**
MIB				AMb	AMB		15 43 59.3		
	comp=Z,44nm,0.6s,mb5.3								
NAY	**Al-Naaiem**	**77.69**	**299**	*e*P		**P**	**15 43 57.6**	**-1.0**
NAY				AMb	AMB		15 43 59.5		
	comp=Z,20nm,0.7s,mb4.8								
GNI	**Garni**	**80.33**	**310**	*i* P		**P**	**15 44 15.3**	**+2.4**
GNI				pmax	pmax				
	comp=Z,3.0nm,0.6s								
ZEI	**Tsey**	**81.12**	**313**	*e*P		**P**	**15 44 17.3**	**+0.2**
ZEI				pmax	pmax				
	comp=Z,13nm,0.7s,mb4.7								
TTA	**Tatalina**	**81.69**	**27**	*e*P		**P**	**15 44 22.1**	**+2.0**
TTA				pmax	pmax				
	comp=Z,19nm,1.1s,mb4.6								
TTA	**Tatalina**	**81.69**	**27**	*e*P		**P**	**15 44 22.1**	**+2.0**
	comp=Z,19nm,1.1s,mb4.6								
KIV	**Kislovodsk**	**82.06**	**314**	*i* P		**P**	**15 44 23.6**	**+1.6**
KIV	**Kislovodsk**	**82.06**	**314**	P		**P**	**15 44 21.6**	**-0.4**
	comp=Z,3.6nm,0.4s,mb4.3								
KDAK	**Kodiak Island**	**82.80**	**32**	P		**P**	**15 44 27.0**	**+1.2**
	comp=Z,9.9nm,0.9s,mb4.5,baz=54,slow=19,SNR=3.5								
VRHR	**Novokhopersk**	**83.12**	**321**	*e*P		**P**	**15 44 28.0**	**+0.6**
VRHR				pmax	pmax				
	comp=Z,20nm,0.7s,mb5.0								
VRHR				pmax	pmax				
	comp=N,40nm,0.8s								
VRHR				pmax	pmax				
	comp=E,20nm,0.7s								
VNDA	**Vanda**	**83.54**	**172**	P		**P**	**15 44 28.9**	**-0.7**
	comp=E,1.6nm,0.6s,mb3.9,baz=321,slow=6.8,SNR=16								
VNDA	**Vanda**	**83.54**	**172**	*e*P		**P**	**15 44 29.9**	**+0.3**
VNDA				pmax	pmax				
	comp=Z,1.0nm,0.6s								
VNDA	**Vanda**	**83.54**	**172**	*e*P		**P**	**15 44 29.9**	**+0.3**
	comp=Z,1.0nm,0.6s,mb3.7								
KLMR	**Klimovskoe**	**84.71**	**331**	*d* iP		**P**	**15 44 34.5**	**-1.0**
KLMR				pmax	pmax				
	comp=Z,40nm,1.4s,mb5.0								
ANN	**Anapa**	**85.84**	**314**	*e*P		**P**	**15 44 34.8**	**-6.3**
ANN				*e*S			15 54 40.8		
ANN				pmax	pmax				
	comp=Z,58nm,1.1s,mb5.2								
ILAR	**Eielson Array**	**85.85**	**25**	P		**P**	**15 44 40.5**	**-0.6**
	comp=Z,0.9nm,0.6s,mb3.7,baz=241,slow=5.2,SNR=18								
OBN	**Obninsk**	**86.23**	**325**	*e*P		**P**	**15 44 42.4**	**-0.6**
OBN				*e*S			15 54 49.7		
OBN				pmax	pmax				
	comp=Z,20nm,0.6s,mb5.0								
LVZ	**Lovozero**	**86.84**	**338**	*e*P		**P**	**15 44 43.0**	**-2.9**
LVZ				pmax	pmax				
	comp=Z,7.0nm,0.8s,mb4.4								
KMBO	**Kilima Mbogo**	**87.98**	**269**	P		**P**	**15 44 51.0**	**-0.3**
	comp=Z,2.6nm,0.7s,mb4.2,baz=53,slow=9.4,SNR=8.3								
KMBO	**Kilima Mbogo**	**87.98**	**269**	⇑*e*P		**P**	**15 44 52.7**	**+1.4**
BR131	**Keskin Array S**	**88.87**	**310**	*e*P		**P**	**15 44 54.5**	**-1.0**
	comp=Z,3.2nm,0.6s,mb4.3								
BRTR	**Keskin Array B**	**88.87**	**310**	P		**P**	**15 44 54.3**	**-1.2**
	comp=Z,5.5nm,0.8s,mb4.4,baz=118,slow=4.8,SNR=24								
KEV	**Kevo**	**89.43**	**340**	*e*p		**P**	**15 44 54.2**	**-3.9**
	comp=Z,2.1nm,0.6s,mb4.1								
KEV	**Kevo**	**89.43**	**340**	*e*P		**P**	**15 44 54.2**	**-3.9**
KEV				pmax	pmax				
	comp=Z,2.0nm,0.6s,mb4.1								
ARCES	**ARCESS Array B**	**89.99**	**340**	P		**P**	**15 44 59.3**	**-1.4**
	comp=Z,3.8nm,0.5s,mb4.5,baz=81,slow=6.3,SNR=25								
ARE0	**ARCESS Array S**	**89.99**	**340**	*e*P		**P**	**15 44 59.2**	**-1.5**
INK	**Inuvik**	**90.82**	**21**	P		**P**	**15 45 04.2**	**-0.4**
	comp=Z,0.9nm,0.7s,mb3.8,baz=269,slow=5.8,SNR=5.8								
KAF	**Kangasniemi**	**90.95**	**332**	*e*p		**P**	**15 45 03.0**	**-2.2**
	comp=Z,4.6nm,0.5s,mb4.7								
KAF	**Kangasniemi**	**90.95**	**332**	*e*P		**P**	**15 45 03.0**	**-2.2**
KAF				pmax	pmax				
	comp=Z,5.0nm,0.5s,mb4.7								
AKASG	**Malin Array Be**	**90.97**	**321**	P		**P**	**15 45 03.6**	**-1.7**
	comp=Z,1.8nm,0.4s,mb4.3,baz=72,slow=4.9,SNR=8.9								
FINES	**FINESS Array B**	**91.17**	**332**	P		**P**	**15 45 04.7**	**-1.5**
	comp=Z,2.9nm,0.5s,mb4.5,baz=62,slow=5.5,SNR=30								
DAG	**Danmarks Havn**	**97.13**	**352**	⇑*i* P		**P**	**15 45 32.6**	**-0.8**
	comp=Z,11nm,0.7s,mb5.2								
DAG	**Danmarks Havn**	**97.13**	**352**	⇑*i* P		**P**	**15 45 32.6**	**-0.8**
DAG				pmax	pmax				
	comp=Z,11nm,0.7s,mb5.2								
NB2	**NORSAR Subarra**	**98.16**	**333**	P		**P**	**15 45 36.2**	**-1.9**
	comp=Z,1.1nm,0.5s,mb4.4,baz=67,slow=4.4								
NOA	**NORSAR Array B**	**98.16**	**333**	P		**P**	**15 45 36.2**	**-1.8**
	comp=Z,1.1nm,0.5s,mb4.4,baz=68,slow=4.5,SNR=6.0								
RES	**Resolute Bay**	**98.17**	**10**	*e*P		**P**	**15 45 37.3**	**-0.8**
RES				pmax	pmax				
	comp=Z,2.0nm,0.8s,mb4.5								
RES	**Resolute Bay**	**98.17**	**10**	*e*P		**P**	**15 45 37.2**	**-0.9**
	comp=Z,2.5nm,0.8s,mb4.6								
YKA	**Yellowknife Ar**	**100.22**	**24**	P		Pdif	15 45 47.6	+0.4	
	comp=Z,0.2nm,0.7s,baz=289,slow=9.7,SNR=4.3								
YKA	**Yellowknife Ar**	**100.22**	**24**	*i* P		Pdif	15 45 49.2	+2.0	
BRG	**Berggiesshubel**	**100.37**	**323**	*e*P		Pdif	15 45 49.3	+1.4	
	comp=Z,2.4nm,0.8s								
BRG	**Berggiesshubel**	**100.37**	**323**	*e*P		Pdif	15 45 49.3	+1.4	
BRG				pmax	pmax				
	comp=Z,2.0nm,0.8s								
GERES	**GERESS Array B**	**101.17**	**321**	P		Pdif	15 45 50.3	-1.2	
	comp=Z,0.7nm,0.7s,baz=66,slow=6.4,SNR=6.1								
NVAR	**Mina Array Bea**	**108.13**	**48**	PKKP		PKKPbc	16 01 55.3	+16	
	comp=Z,0.5nm,0.6s,baz=106,slow=2.8,SNR=3.6								
PDAR	**Pinedale Array**	**112.44**	**41**	PKKPab		PKKPab	16 01 35.5	+0.4	
	comp=Z,1.7nm,0.8s,baz=120,slow=6.4,SNR=13								
SCHQ	**Schefferville**	**120.89**	**8**	PKKP			15 50 47.6		
	comp=Z,2.8nm,0.5s,baz=15,slow=2.6,SNR=16								
TORD	**Torodi Ar. Bea**	**121.45**	**288**	PKP		PKPdf	15 50 54.2	+0.9	
	comp=Z,6.3nm,0.7s,baz=54,slow=1.8,SNR=45								
TORD				SKP			15 54 08.8		
	comp=Z,0.7nm,0.7s,baz=72,slow=1.8,SNR=4.0								
TORD				PKKPab		PKKPab	16 00 57.9	+2.4	
	comp=Z,0.2nm,0.4s,baz=282,slow=3.7,SNR=4.4								
DBIC	**Dimbokro**	**129.06**	**282**	PKP		PKPdf	15 51 09.8	+2.1	
	comp=Z,3.3nm,0.5s,baz=131,slow=12,SNR=8.5								
LPAZ	**La Paz**	**161.88**	**135**	PKPab		PKPab	15 52 52.0	+4.0	
	comp=Z,0.8nm,0.8s,baz=223,slow=11,SNR=4.2								

NEIC ***02*** *15:35:54.3, 3442S×7008W, h16km, ML2.8(GUC), After GUC.*

GUC 02 15:35:54.3±0.6, 3442S×7008W, h16km±2km, MD4.0, ML2.8, 12C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CICH	**Cipreses**	**0.30**	**290**	⇓*i* P	Pg	15 36 00.5	-0.1
CICH				*i* S	Sg	15 36 05.1	+0.1
CACH	**El Canelo**	**0.53**	**305**	⇑*i* P	Pg	15 36 04.2	-0.5
CACH				*i* S	Sg	15 36 11.4	-0.4
LMEL	**Las Melosas**	**0.58**	**350**	⇑*i* P	Pg	15 36 05.4	-0.5
LMEL				*i* S	Sg	15 36 13.9	+0.3
LMEL				AML	AML	15 36 15.3	
	comp=N,964nm,0.1s						
LMEL	**Las Melosas**	**0.58**	**350**	⇑*i* P	Pg	15 36 05.4	-0.5
LMEL				*i* S	Sg	15 36 13.9	+0.3
CHCH	**Chadas Angostu**	**0.68**	**316**	⇓*i* P	Pg	15 36 07.3	-0.3
CHCH				*i* S	Sg	15 36 17.2	+0.6
SFDO	**San Fernando**	**0.79**	**256**	⇑*i* P	Pb	15 36 09.3	-0.3
SFDO				*i* S	Sb	15 36 20.2	+0.1
PCH	**Pirque**	**0.88**	**336**	⇓*i* P	Pb	15 36 10.8	-0.3
PCH				*i* S	Sb	15 36 23.2	+0.6
TACH	**Talagante**	**1.05**	**317**	⇑*i* P	Pb	15 36 13.5	-0.5
TACH				*i* S	Sb	15 36 28.1	+0.7
SAN	**Santiago**	**1.08**	**333**	⇑*i* P	Pb	15 36 14.3	-0.3
SAN				*i* S	Sb	15 36 29.3	+0.8
SAN				AML	AML	15 36 29.8	
	comp=E,353nm,0.5s						
CLCH	**Cerro Calan**	**1.09**	**340**	*e*P	Pb	15 36 14.7	-0.1
CLCH				*i* S	Sb	15 36 30.1	+1.3
CLCH				AML	AML	15 36 39.3	
	comp=N,434nm,0.5s						
CLCH				AML	AML	15 36 39.9	
	comp=N,482nm,0.7s						
FCH	**Farellones**	**1.11**	**351**	⇑*i* P	Pb	15 36 14.8	-0.2
FCH				*i* S	Sb	15 36 30.2	+1.0
FCH				AML	AML	15 36 33.2	
	comp=N,223nm,0.2s						
RCDM	**Rinconada Maip**	**1.11**	**327**	⇓*i* P	Pb	15 36 14.9	-0.2
RCDM				*i* S	Sb	15 36 30.4	+1.1
RCDM				AML	AML	15 36 31.4	
	comp=N,672nm,0.1s						
RCDM	**Rinconada Maip**	**1.11**	**327**	⇓*i* P	Pb	15 36 14.9	-0.2
RCDM				*i* S	Sb	15 36 30.4	+1.1
LNV	**Longovilo**	**1.20**	**293**	⇑*i* P	Pn	15 36 16.0	-0.3
LNV				*i* S	Sb	15 36 32.3	+0.6
PEL	**Peldehue**	**1.37**	**338**	⇑*i* P	Pn	15 36 19.4	+0.6
PEL				*i* S	Sn	15 36 38.2	+1.6
PEL				AML	AML	15 36 39.2	
	comp=N,534nm,0.4s						
PEL	**Peldehue**	**1.37**	**338**	⇑*i* P	Pn	15 36 19.4	+0.6
PEL				*i* S	Sn	15 36 38.2	+1.6
LCCH	**Las Cruces**	**1.56**	**307**	*e*P	Pn	15 36 22.2	+0.9
LCCH				*i* S	Sn	15 36 43.4	+2.3
ROCH	**El Roble**	**1.64**	**332**	⇑*i* P	Pn	15 36 24.0	+1.6
ROCH				*i* S	Sn	15 36 47.2	+4.0
JACH	**Jahuel**	**1.79**	**346**	⇑*i* P	Pn	15 36 26.6	+2.1
JACH				*i* S	Sn	15 36 50.9	+4.0

NNC ***02*** *15:37:48.7±4.5, 4086N×7795E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=32.0km s-min=26.8km az=137.0*
ISCJB ***02*** *15:38:11.9±2.3, 420N±02×768E±01, h10km, Error ellipse: s-maj=30.4km s-min=11.1km az=134.7*

ISC 02 15:38:13.4±2.2, 420N±02×767E±01, h10km, n13, σ1s31/12, 6C, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**0.42**	**310**	P	**Pg**	**15 38 21.6**	**0.0**
	SNR=38						
KZA	**Kyzart**	**1.06**	**276**	P	**Pg**	**15 38 31.7**	**-2.1**
	SNR=20						
TKM2	**Tokmak 2**	**1.23**	**320**	P	**Pn**	**15 38 34.6**	**-2.1**
	SNR=11						
KNDC	**Almaty**	**1.26**	**10**	⇑Pn	**Pn**	**15 38 31.7**	**-5.4**
	26nm,0.7s						
KNDC				⇑Lg		15 39 07.5	
	76nm,0.6s						
KBK	**Karagaybulak**	**1.45**	**299**	P	**Pn**	**15 38 39.8**	**+0.1**
	SNR=12						
UCH	**Uchtor**	**1.62**	**280**	P	**Pn**	**15 38 41.4**	**-0.7**
	SNR=18						
AAK	**Ala-Archa**	**1.74**	**293**	P	**Pn**	**15 38 44.5**	**+0.8**
	SNR=8.0						
CHMS	**Chumysh**	**1.75**	**306**	P	**Pn**	**15 38 46.2**	**+2.4**
	SNR=7.5						
USP	**Ospenovka**	**2.06**	**310**	P		15 39 40.5	
	SNR=9.9						
AML	**Almayashu**	**2.22**	**275**	P	**Pn**	**15 38 50.5**	**+0.2**
	SNR=16						
EKS2	**Erkin-Say**	**2.25**	**289**	P	**Pn**	**15 38 53.8**	**+3.0**
	SNR=7.2						
KK31	**Karatay Array**	**4.69**	**286**	⇑Pg	**Pb**	**15 39 36.1**	**+0.4**
	0.9nm,0.6s,baz=108,slow=16,SNR=9.8						
KK31				⇑Lg		15 40 55.4	
	0.9nm,0.4s,baz=108,slow=27,SNR=4.4						
MK05	**Makanchi Array**	**6.28**	**38**	⇑Pg	**Pn**	**15 39 45.8**	**-0.3**
	0.4nm,0.5s,baz=207,slow=14						
MK05				⇑Lg		15 41 14.8	
	2.1nm,0.8s,baz=213,slow=31						

IDC ***02*** *15:50:47.5±2.8, 553S×14875E, h0km, mb3.9/4, mb1 4.2/6, mb1mx3.8/16, mbtmp4.1/6, ML2.8/1, Error ellipse: s-maj=70.0km s-min=27.2km az=96.0*
NEIC ***02*** *15:50:50.0±1.6, 550S×14848E, h10km, mb4.4/2, Error ellipse: s-maj=45.1km s-min=13.2km az=98.0*
ISCJB ***02*** *15:50:50.7±1.9, 555S±0.1×1485E±04, h33km, mb3.9/3, Error ellipse: s-maj=53.2km s-min=14.9km az=14.8*

ISC 02 15:50:53.7±1.8, 54S±01×1481E±03, h35km, n10, σ0s69/12, mb3.9/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.06**	**194**	Pn	**Pn**	**15 51 53.3**	**0.0**
	4.0nm,0.3s,baz=33,slow=11,SNR=13						
PMG				Sn	**Sn**	**15 52 29.5**	**-10**
	7.5nm,0.3s,baz=162,slow=19,SNR=6.0						
PMG	**Port Moresby**	**4.06**	**194**	*e*Pn	**Pn**	**15 51 53.0**	**-0.4**
PMG				Sn	**Sn**	**15 52 29.5**	**-10**
GUMO	**Guam**	**19.17**	**350**	P	**Pn**	**15 55 15.2**	**-0.1**
	3.7nm,0.3s,baz=68,slow=19,SNR=2.3						
WRAB	**Tennant Creek**	**19.68**	**222**	*e*P	**Pn**	**15 55 21.3**	**-0.1**
	10.0nm,1.1s						
WRA	**Warramunga Arr**	**19.70**	**222**	P	**Pn**	**15 55 20.7**	**-0.8**
	0.8nm,0.3s,baz=49,slow=11,SNR=54						
ASAR	**Alice Springs**	**22.72**	**216**	P	**P**	**15 55 53.5**	**+1.0**
	0.9nm,0.4s,mb3.6,baz=55,slow=8.8,SNR=57						
FITZ	**Fitzroy Crossi**	**25.32**	**238**	*e*P	**P**	**15 56 20.8**	**+3.7**
	7.7nm,0.4s,mb4.6						
FITZ	**Fitzroy Crossi**	**25.32**	**238**	P	**P**	**15 56 21.1**	**+4.0**
	5.2nm,0.5s,mb4.3,baz=66,slow=8.3,SNR=31						
STKA	**Stephens Creek**	**27.01**	**192**	P	**P**	**15 56 32.2**	**-0.1**
	2.9nm,1.0s,mb3.8,baz=16,slow=9.2,SNR=5.0						
STKA	**Stephens Creek**	**27.01**	**192**	*e*P	**P**	**15 56 32.5**	**+0.1**

MOS ***02*** *15:56:30.3±1.2, 5681S×2581W, h33km, mb5.3/5, Error ellipse: s-maj=26.3km s-min=13.9km az=104.8*
ISCJB ***02*** *15:56:32.9±1.7, 5687S±0.07×257W±0.1, h61km±16km, mb4.8/24, Error ellipse: s-maj=13.3km s-min=8.2km az=80.8*
IDC ***02*** *15:56:34.9±0.6, 5689S×2587W, h62km±4km, mb4.6/17, mb1 4.6/18, mb1mx4.6/21, mbtmp5.0/18, MS3.9/3, Ms1 3.9/3, ms1mx3.7/12, Error ellipse: s-maj=14.6km s-min=11.5km az=45.0*
NEIC ***02*** *15:56:35.2±1.2, 5692S×2574W, h69km±11km, mb4.9/7, Error ellipse: s-maj=10.3km s-min=6.5km az=218.0*
BJI ***02*** *15:56:35.2, 5690S×2570W, h68km, mB5.6, Ms5.9, Mszs5.4*

ISC 02 15:56:35.1±1.5, 5696S±007×258W±01, h69km±14km, n94, σ1s04/50, mb4.8/24, 2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**6.61**	**289**	*e*Pn	**Pn**	**15 58 11.1**	**+1.4**
	141nm,0.8s						
VNA1	**Neumayer--Stat**	**15.66**	**158**	*e*	**Pn**	**16 00 10.7**	**-0.9**
VNA1				*e*		16 00 11.8	
VNA1				*e*		16 00 13.3	
VNA1				*e*		16 00 18.9	
VNA1				*e*		16 00 22.7	
VNA3	**Neumayer Olymp**	**15.88**	**161**	*e*	**Pn**	**16 00 13.5**	**-0.8**
VNA3				*e*		16 00 14.3	
VNA3				*e*		16 00 16.5	
VNA3				*e*		16 00 21.9	
VNA3				*e*		16 00 25.2	
VNA3				*e*		16 02 56.8	
VNA3				*e*		16 03 00.7	
VNA3				*e*		16 03 06.3	
VNA3	**Neumayer Olymp**	**15.88**	**161**	*e*P	**Pn**	**16 00 13.5**	**-0.8**
VNA3				*e*		16 00 14.3	
VNA3				*e*		16 00 16.5	
VNA3				*e*		16 00 21.9	
VNA3				*e*		16 00 25.2	
VNA3				*e*		16 02 56.8	
VNA3				*e*		16 03 00.7	
VNA3				*e*		16 03 06.3	
VNA3				*e*		16 04 58.5	
VNA3				*e*		16 05 07.4	
VNA2	**Neumayer--Watz**	**16.06**	**158**	*e*	**Pn**	**16 00 15.8**	**-0.8**
VNA2				*e*		16 00 16.6	
VNA2				*e*		16 00 17.8	
VNA2				*e*		16 00 18.8	
VNA2				*e*		16 00 20.7	
VNA2				*e*		16 00 25.8	
VNA2				*e*		16 00 29.0	
VNA2				*e*		16 02 57.8	
VNA2				*e*		16 03 02.3	
VNA2				*e*		16 03 07.6	
VNA2	**Neumayer--Watz**	**16.06**	**158**	*e*P	**Pn**	**16 00 15.8**	**-0.8**
VNA2				*e*		16 00 16.6	
VNA2				*e*		16 00 17.8	
VNA2				*e*		16 00 18.8	
VNA2				*e*		16 00 20.7	
VNA2				*e*		16 00 25.8	
VNA2				*e*		16 00 29.0	
VNA2				*e*		16 02 57.8	
VNA2				*e*		16 03 02.3	
VNA2				*e*		16 03 07.6	
VNA2				*e*		16 05 01.2	
VNA2				*e*		16 05 09.3	
SNAA	**Sanae**	**17.60**	**156**	P	**Pn**	**16 00 37.2**	**+1.6**
	14nm,0.3s,baz=320,slow=10.0,SNR=583						
SNAA				LR	LR	16 05 59.3	
	comp=Z,220nm,21.4s,baz=349,slow=32						
SNAA	**Sanae**	**17.60**	**156**	*e*	**Pn**	**16 00 35.7**	**+0.1**
SNAA				*e*		16 00 37.0	
SNAA				*e*		16 00 39.6	
SNAA				*e*		16 00 41.6	
SNAA	**Sanae**	**17.60**	**156**	P	**Pn**	**16 00 37.2**	**+1.6**
SNAA				pmax	pmax		
	comp=Z,14nm,0.3s						
SNAA				MLR	MLR		
	comp=Z

SDV	Santo Domingo	75.19	314	P		P		16 08 10.9	+0.8
MGG	Marie-Galante	78.40	325	*e*P		P		16 08 29.1	+0.9
PHG	Guadaloupe-2	78.59	325	*e*P		P		16 08 31.0	+1.8
DOG	Dongo Capester	78.60	325	*e*P		P		16 08 29.4	+0.1
DEG	La Desirade	78.69	326	*e*P		P		16 08 29.0	-0.8
LZG	Guadaloupe-1	78.76	325	*e*P		P		16 08 30.2	0.0
SEG	Port Louis	78.92	325	*e*P		P		16 08 28.8	-2.3
MTP	Monte Pirata	81.81	322	*e*P		P		16 08 46.4	-0.2
SJG	San Juan	82.03	322	P		P		16 08 46.4	-1.3
	comp=Z,7.0nm,0.2s,mb5.1,baz=4.3,slow=22,SNR=4.0								
JTS	JuntasAbangare	82.64	302	P		P		16 08 51.6	+0.7
	comp=Z,9.2nm,0.8s,mb4.6,baz=280,slow=5.1,SNR=6.7								
URZ	Urewera	83.18	198	P		P		16 08 54.3	+0.6
	comp=Z,24nm,0.8s,mb5.1,baz=238,slow=2.2,SNR=9.7								
STKA	Stephens Creek	90.87	169	P		P		16 09 29.8	-1.3
	comp=Z,3.4nm,0.7s,mb4.6,baz=143,slow=15,SNR=3.4								
TEIG	Tepich	92.85	304	*e*P		P		16 09 40.5	+0.3
	comp=Z,2.8nm,0.7s,mb4.7								
ASAR	Alice Springs	97.89	161	P		P		16 10 02.9	-0.3
	comp=Z,1.2nm,0.7s,mb4.5,baz=188,slow=3.8,SNR=29								
WRA	Warramunga Arr	101.60	161	P		Pdif		16 10 19.1	-0.6
	comp=Z,0.6nm,0.7s,baz=196,slow=4.4,SNR=4.7								
AKASG	Malin Array Be	116.49	36	PKP		PKPdf		16 15 09.2	-1.7
	comp=Z,1.5nm,0.6s,baz=238,slow=1.5,SNR=8.1								
DUG	Dugway	121.05	297	*e*PKPdf		PKPdf		16 15 19.6	-0.1
DUG				*ep*PKPdf		pPKPdf		16 15 37.6	-2.0
NB2	NORSAR Subarra	121.20	20	PKPd		PKPdf		16 15 18.6	-1.4
	comp=Z,1.9nm,0.6s,baz=203,slow=2.0								
NOA	NORSAR Array B	121.20	20	PKP		PKPdf		16 15 18.7	-1.3
	comp=Z,1.6nm,0.6s,baz=201,slow=1.9,SNR=8.8								
ULM	Lac du Bonnet	121.43	315	PKP		PKPdf		16 15 18.9	-1.6
	comp=Z,4.3nm,0.6s,baz=91,slow=1.2,SNR=7.1								
PDAR	Pinedale Array	121.47	301	PKP		PKPdf		16 15 19.7	-0.9
	comp=Z,1.3nm,0.5s,baz=137,slow=5.1,SNR=13								
PDAR				pPKP		pPKPdf		16 15 37.2	-3.1
	comp=Z,0.8nm,0.6s,baz=136,slow=5.7,SNR=3.5								
NVAR	Mina Array Bea	122.45	292	PKP		PKPdf		16 15 23.6	+1.2
	comp=Z,1.3nm,0.6s,baz=123,slow=3.3,SNR=10.0								
NVAR				pPKP		pPKPdf		16 15 40.8	-1.4
	comp=Z,1.6nm,0.6s,baz=122,slow=3.3,SNR=5.4								
LOHW	Long Hollow	122.61	301	*e*PKPdf		PKPdf		16 15 22.6	-0.2
MOOW	Moose Ponds	122.78	301	*e*PKPdf		PKPdf		16 15 22.7	-0.4
MOOW				*ep*PKPdf		pPKPdf		16 15 40.2	-2.6
FINES	FINESS Array B	124.84	27	PKP		PKPdf		16 15 25.7	-1.3
	comp=Z,8.8nm,0.5s,baz=140,slow=2.2,SNR=70								
FINES				pPKP		pPKPdf		16 15 42.2	-4.6
	comp=Z,4.2nm,0.7s,baz=116,slow=4.4,SNR=4.7								
FINES	FINESS Array B	124.84	27	PKP		PKPdf		16 15 25.7	-1.3
FINES				pPKP		pPKPdf		16 15 42.2	-4.6
KAF	Kangasniemi	125.47	27	*ep*		PKPdf		16 15 26.1	-2.1
	comp=Z,14nm,0.6s								
WVOR	Wild Horse Val	125.62	295	*e*PKPdf		PKPdf		16 15 29.3	+0.8
WVOR				*ep*PKPdf		pPKPdf		16 15 46.9	-1.4
CHMT	Chamberlain Mo	126.32	302	*e*PKPdf		PKPdf		16 15 29.5	-0.3
CHMT				*ep*PKPdf		pPKPdf		16 15 47.8	-1.8
ORR	Orenburg	126.74	50	*e*PKIKP		PKPdf		16 15 29.6	-1.1
ORR				pmax		pmax			
	comp=Z,10.0nm,1.4s								
KLMR	Klimovskoe	128.14	34*d*	*i*PKIKP		PKPdf		16 15 32.2	-1.1
KLMR				pmax		pmax			
	comp=Z,20nm,1.3s								
LSA	Lhasa	128.94	94	*e*PKIKP		PKPdf		16 15 36.2	+1.3
ARCES	ARCESS Array B	131.51	22	PKhKP				16 15 20.0	
	comp=Z,1.0nm,0.9s,baz=207,slow=4.9,SNR=6.6								
ARCES				PKP		PKPdf		16 15 38.2	-1.5
	comp=Z,5.2nm,0.5s,baz=196,slow=1.5,SNR=90								
KEV	Kevo	132.00	22	*ep*		PKPdf		16 15 38.7	-2.0
	comp=Z,3.7nm,0.7s								
MKAR	Makanchi Array	136.46	71	PKP		PKPdf		16 15 48.5	-0.5
	comp=Z,2.8nm,0.9s,baz=178,slow=5.8,SNR=5.6								
MKAR	Makanchi Array	136.46	71	PKP		PKPdf		16 15 48.5	-0.5
KURK	Kurchatov	137.11	65	*e*PKIKP		PKPdf		16 15 48.6	-1.6
YKA	Yellowknife Ar	137.36	317	PKhKP				16 15 36.1	
	comp=Z,0.4nm,0.5s,baz=124,slow=3.3,SNR=12								
YKA				PKP		PKPdf		16 15 49.6	-1.1
	comp=Z,6.3nm,0.5s,baz=126,slow=2.1,SNR=55								
YKW3	Yellowknife Ar	137.40	317	*e*PKPdf		PKPdf		16 15 49.4	-1.4
RES	Resolute Bay	138.99	338	*e*PKIKP		PKPdf		16 15 52.6	-1.1
NVS	Novosibirsk	141.80	62	*e*PKHKP				16 15 51.2	
ZAL	Zalesovo	142.07	64	PKhKP				16 15 52.8	
	comp=Z,1.8nm,0.4s,baz=184,slow=2.8,SNR=7.1								
ZAL				PKP		PKPdf		16 16 00.2	+0.9
	comp=Z,1.8nm,0.5s,baz=204,slow=1.5,SNR=7.1								
ZAL	Zalesovo	142.07	64	PKP				16 15 52.8	
ZAL				PKP		PKPdf		16 16 00.2	+0.9
JOW	Kunigami	144.67	138	PKP		PKPdf		16 16 03.5	-0.3
	comp=Z,44nm,0.8s,baz=228,slow=6.0,SNR=10								
INK	Inuvik	146.99	319	*e*PKIKP		PKPdf		16 16 04.5	-3.3
INK				*e*				16 16 08.4	
BTO	Baotou	147.31	101	*e*PKP		PKPdf		16 16 09.7	+1.4
DAWY	Dawson	147.97	311	*e*PKPbc		PKPbc		16 16 11.1	-1.5
MOY	Mondy	149.20	77	*e*PKHKP				16 16 10.6	
MOY				pmax		pmax			
	comp=Z,31nm,2.4s								
ZAK	Zakamensk	149.75	81	*e*PKHKP				16 16 11.5	
ZAK				pmax		pmax			
	comp=Z,28nm,1.5s								
ZAK				pmax		pmax			
	comp=Z,36nm,1.8s								
SONM	Songino Array	150.02	87	PKPbc		PKPbc		16 16 17.1	-0.6
	comp=Z,20nm,0.6s,baz=225,slow=3.3,SNR=74								
BJI	Beijing	150.16	108	PKP		PKPbc		16 16 17.6	-0.4
ULN	Ulaanbaatar	150.40	87	*e*PKIKP		PKPbc		16 16 17.5	-1.1
TLY	Talaya	150.63	79	*e*PKIKP		PKPbc		16 16 18.4	-0.7
ILAR	Eielson Array	151.29	310	PKP		PKPdf		16 16 10.6	-4.1
	comp=Z,1.2nm,0.9s,baz=243,slow=0.9,SNR=8.7								
ILAR				PKPbc		PKPbc		16 16 19.5	-1.2
	comp=Z,26nm,0.8s,baz=142,slow=5.0,SNR=200								
ILAR				pPKPbc		pPKPbc		16 16 37.5	-3.0
	comp=Z,18nm,0.8s,baz=139,slow=1.5,SNR=9.3								
ILAR	Eielson Array	151.29	310	PKIKP		PKPdf		16 16 10.6	-4.1
ILAR								16 16 19.5	
COLA	College	151.71	310	*e*PKIKP		PKPdf		16 16 19.9	+4.6
COLA				*e*				16 16 30.0	
MJAR	Matsushiro Arr	156.94	146	PKPab		PKPab		16 16 51.4	-1.5
	comp=Z,1.6nm,0.8s,baz=185,slow=4.0,SNR=4.7								
BOD	Bodaibo	158.55	71	*e*PKIKP		PKPdf		16 16 20.6	-4.0
BOD				*e*				16 16 58.1	
BOD				pmax		pmax			
	comp=Z,4.0nm,0.9s								
BOD				pmax		pmax			
	comp=Z,4.0nm,0.8s								

IDC ***02*** *15:58:10.8±7.6, 154N×9791W, h0km, mb4.2/5, mb1 4.6/5, mb1mx4.1/17, mbtmp4.2/5, MS4.2/16, Ms1 4.2/16, ms1mx4.0/23, Error ellipse: s-maj=153.4km s-min=119.5km az=168.0*

ISCJB ***02*** *15:58:18.7±1.3, 24N±02×990W±0.1, h10km, mb4.5/14, MS4.2/21, Error ellipse: s-maj=30.1km s-min=14.8km az=68.2*

MOS ***02*** *15:58:18.2±0.8, 187N×9901W, h35km, mb4.8/4, Error ellipse: s-maj=31.0km s-min=16.0km az=100.2*

NEIC ***02*** *15:58:20.2±1.1, 240N×9894W, h10km, mb4.6/10, Error ellipse: s-maj=26.7km s-min=13.4km az=213.0*

HRVD ***02*** *15:58:20.2±0.4, 239N×9887W, h26km±1km, MW5.0/64, Centroid moment Tensor Solution. LP body waves: s21,c27;Mantle waves: s64,c90; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 0.21±.16; Mθθ 1.69±.13; Mϕϕ -1.90±.16; Mre 2.56±.33; Mθϕ 2.86±.12; Mϕr 0.07±.28; Best double couple: M0 4.20700×10^16 NP1:ϕs 13.00000°, δ 55.00000°, λ 172.00000°. NP2:ϕs 107.00000°, δ 84.00000°, λ 35.00000°. Principal axes: T 4.5210, Plg29.0000°, Azm336.0000°; N -0.6230, Plg54.0000°, Azm116.0000°; P -3.8940, Plg19.0000°, Azm235.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***02*** *15:58:20.2, 240N×9890W, h10km, mB5.6, Ms4.7, Msz4.3*

ISC 02 15:58:20.8±1.3, 24N±02×990W±01, h10km, n55, σ1ϕ00/32, mb4.5/14, MS4.2/21, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JTS	JuntasAbangare	15.96	60	LR		LR	16 06 24.1	
	comp=Z,2μm,20.0s,baz=235,slow=32							
JTS	JuntasAbangare	15.96	60	*e*P		Pn	16 02 05.9	+0.5
JTS				pmax		pmax		
	comp=Z,17nm,1.1s							
JTS	JuntasAbangare	15.96	60	*e*P		Pn	16 02 05.9	+0.5
	comp=Z,17nm,1.1s							
LPIG	La Paz	24.18	334	LR		LR	16 11 08.8	
	comp=Z,2μm,18.3s,MS4.6,baz=299,slow=31							

SDV	Santo Domingo	28.90	76	LR		LR		16 13 57.9	
	comp=Z,413nm,21.6s,MS4.0,baz=101,slow=34								
MNTX	Cornudas Mount	29.74	349	*e*P		P		16 04 27.4	+0.1
	comp=Z,32nm,1.9s,mb4.7								
CPRX	Cap Rock	30.79	352	*e*P		P		16 04 37.0	+0.4
BNM	Barren Site	32.37	348	*e*P		P		16 04 51.5	+1.1
ANMO	Albuquerque	33.11	349	P		P		16 04 57.6	+0.7
ANMO				pmax		pmax			
	comp=Z,5.0nm,1.3s								
ANMO	Albuquerque	33.11	349	P		P		16 04 57.6	+0.7
	comp=Z,4.9nm,1.3s,mb4.3								
LPAZ	La Paz	35.69	122	LR		LR		16 17 59.3	
	comp=Z,411nm,18.5s,MS4.2,baz=92,slow=35								
LPAZ	La Paz	35.69	122	P		P		16 05 19.8	+0.6
	comp=Z,7.7nm,1.4s,mb4.4								
SJG	San Juan	35.75	62	LR		LR		16 16 58.2	
	comp=Z,242nm,18.2s,MS4.0,baz=269,slow=32								
NEN	Nelson	36.19	338	*e*P		P		16 05 23.3	-0.3
SIUC	Southern Illin	36.24	13	P		P		16 05 21.4	-2.7
	comp=Z,28nm,1.2s,mb5.1								
ARUT	Antelope Range	37.62	341	*e*P		P		16 05 36.0	+0.3
TPNV	Topopah Spring	37.87	337	*e*P		P		16 05 37.6	-0.3
TPNV				pmax		pmax			
	comp=Z,43nm,2.3s,mb4.8								
TPNV	Topopah Spring	37.87	337	*e*P		P		16 05 37.6	-0.2
	comp=Z,43nm,2.3s,mb4.8								
MSU	Marysvale	37.90	343	*e*P		P		16 05 37.2	-0.9
DAU	Daniels Canyon	39.42	345	*e*P		P		16 05 52.3	+1.4
NVAR	Mina Array Bea	39.97	336	P		P		16 05 57.0	+1.6
	comp=Z,17nm,0.9s,mb3.8,baz=149,slow=7.2,SNR=10								
HWUT	Hardware Ranch	40.62	345	*e*P		P		16 06 00.8	0.0
	comp=Z,30nm,1.5s,mb4.7								
ELK	Elko	40.89	341	*e*P		P		16 06 03.1	+0.1
ELK				pmax		pmax			
	comp=Z,8.0nm,1.4s								
ELK	Elko	40.89	341	*e*P		P		16 06 03.1	+0.1
	comp=Z,8.0nm,1.4s,mb4.2								
PDAR	Pinedale Array	41.27	348	P		P		16 06 07.0	+0.8
	comp=Z,6.8nm,1.0s,mb4.2,baz=146,slow=9.8,SNR=32								
PDAR				LR		LR		16 21 59.2	
	comp=Z,178nm,21.5s,MS3.9,baz=321,slow=34								
LOHW	Long Hollow	42.30	347	*e*P		P		16 06 15.0	+0.4
	comp=Z,17nm,1.4s,mb4.5								
TAOE	Nuku Hiva Isla	42.55	254	*e*LR		LR		16 17 50.5	
	comp=Z,2μm,25.7s								
RKT	Rikitea	43.31	232	*e*LR		LR		16 18 07.5	
	comp=Z,530nm,28.5s								
QLMT	Earthquake Lak	43.64	347	P		P		16 06 25.5	+0.1
MCMT	McKenzie Canyo	43.97	346	*e*P		P		16 06 28.8	+0.6
CFAA	Coronel Fontan	44.69	142	LR		LR		16 20 55.3	
	comp=Z,67nm,20.8s,MS3.5,baz=239,slow=32								
ULM	Lac du Bonnet	47.73	3	P		P		16 06 55.7	-2.0
	comp=Z,7.4nm,1.1s,mb4.6,baz=202,slow=8.5,SNR=5.7								
ULM				LR		LR		16 26 36.5	
	comp=Z,68nm,18.4s,MS3.7,baz=238,slow=35								
ULM	Lac du Bonnet	47.73	3	P		P		16 06 55.7	-2.1
ULM				LR		LR		16 26 36.5	
CPUP	Villa Florida	49.33	128	LR		LR		16 26 33.0	
	comp=Z,195nm,20.6s,MS4.1,baz=294,slow=36								
PPT	Papeete	53.69	246	*e*S		S		16 14 58.9	-18
	comp=Z,216nm,23.0s								
PPT				*e*LR		LR		16 22 57.6	
	comp=Z,632nm,25.0s,baz=65								
PPT	Papeete	53.69	246	LR		LR		16 24 38.8	
	comp=Z,323nm,20.5s,MS4.4,baz=95,slow=29								
TBI	Tubuai	55.42	239	*e*S		S		16 15 21.5	-19
	comp=Z,119nm,25.8s								
TBI				*e*LR		LR		16 23 44.4	
	comp=Z,386nm,28.8s,baz=76								
SCHQ	Schefferville	58.41	21	LR		LR		16 32 56.0	
	comp=Z,231nm,18.7s,MS4.3,baz=250,slow=35								
YKA	Yellowknife Ar	61.06	352	P		P		16 08 33.5	-1.2
	comp=Z,2.9nm,1.1s,mb4.3,baz=157,slow=6.7,SNR=22								
YKA				LR		LR		16 34 58.1	
	comp=Z,361nm,19.6s,MS4.5,baz=170,slow=36								
YKA	Yellowknife Ar	61.06	352	P		P		16 08 33.5	-1.2
YKA				LR		LR		16 34 58.1	
INK	Inuvik	69.83	347	LR		LR		16 40 05.3	
	comp=Z,186nm,18.1s,MS4.4,baz=237,slow=36								
INK	Inuvik	69.83	347	*e*P		P		16 09 30.6	-0.9
INK				pmax		pmax			
	comp=Z,14nm,1.2s								
INK	Inuvik	69.83	347	*e*P		P		16 09 30.6	-0.9
	comp=Z,14nm,1.2s,mb4.8								
ILAR	Eielson Array	71.04	340	P		P		16 09 37.1	-1.8
	comp=Z,2.9nm,1.1s,mb4.1,baz=153,slow=4.1,SNR=13								
ILAR				LR		LR		16 41 58.3	
	comp=Z,138nm,19.1s,MS4.2,baz=179,slow=36								
FX1	Attu Island--F	86.80	323	LR		LR		16 41 15.9	
	comp=Z,5.5nm,20.9s,MS2.9,baz=284,slow=29								
VNDA	Vanda	94.34	192	LR		LR		16 48 56.5	
	comp=Z,136nm,18.2s,MS4.5,baz=31,slow=32								
NOA	NORSAR Array B	97.53	27	LR		LR		16 58 07.5	
	comp=Z,42nm,20.4s,MS3.9,baz=175,slow=37								
MDJ	Mudanjiang	116.29	323	PKP		PKPdf		16 17 03.2	-1.3
MDJ				PKS				16 20 40.1	
MDJ				SKS		SKSdf		16 24 15.5	-1.2
MDJ				PS		PS		16 27 50.6	-1.4
MDJ				SS		SS		16 34 13.3	-0.6
MDJ				PP		PP			
	comp=Z,101nm,4.3s								
MDJ				LR		LR			
	comp=N,22nm,29.1s,MS3.9								
MDJ				LR		LR			
	comp=E,37nm,32.0s,MS3.9								
MDJ				LR		LR			
	comp=Z,30nm,26.1s								
CN2	Changchun	119.20	325	*e*PKP		PKPdf		16 17 05.2	-4.9
HHC	Hu-ho-hao-te	128.72	330	*e*PKP		PKPdf		16 17 28.1	-0.2
HHC				PP		PP		16 19 37.6	+3.2
HHC				PKS				16 21 03.4	
HHC				SKS		SKSdf		16 24 39.0	-1.1
HHC				SKKS		SKKSac		16 26 29.3	-2.6
HHC				SS		SS		16 36 55.7	+3.7
HHC				PP		PP			
	comp=Z,124nm,5.5s								
HHC				LR		LR			
	comp=N,81nm,16.7s,MS4.7								
HHC				LR		LR			
	comp=E,104nm,18.2s,MS4.7								
HHC				LR		LR			
	comp=Z,90nm,17.1s,MS4.5								
SSE	Sheshan	129.31	314	PKP		PKPdf		16 17 30.7	+1.2
SSE				PP		PP		16 19 43.3	+5.0
SSE				SS		SS		16 37 01.4	+2.1
SSE				PP		PP			
	comp=Z,78nm,5.2s								
SSE				LR		LR			
	comp=N,15nm,21.3s,MS4.0								
SSE				LR		LR			
	comp=E,34nm,21.3s,MS4.0								
SSE				LR		LR			
	comp=Z,44nm,16.6s,MS4.2								
NJ2	Nanjing	130.40	317	*e*PKP		PKPdf		16 17 32.8	+1.3
NJ2				PP		PP		16 19 51.0	+5.7
NJ2				PKS				16 21 08.0	
NJ2				PPP				16 22 39.0	
NJ2				SKS		SKSdf		16 24 43.0	-0.1
NJ2				PP		PP			
	comp=Z,190nm,5.7s								
NJ2				LR		LR			
	comp=N,1μm,34.9s,MS5.4								
NJ2				LR		LR			
	comp=E,480nm,31.9s,MS5.4								
NJ2				LR		LR			
	comp=Z,220nm,35.9s,MS4.6								
WMQ	Urumqi	133.58	353	*i* PKP		PKPdf		16 17 36.2	-1.3
WMQ				XPKP				16 17 46.2	
WMQ				PP		PP		16 20 09.4	+3.6
WMQ				PKS				16 21 11.2	
WMQ				PP		PP			
	comp=Z,73nm,4.5s								
WMQ				LR		LR			
	comp=N,17nm,20.0s,MS4.3								
WMQ				LR		LR			
	comp=E,68nm,22.0s,MS4.3								
WMQ				LR		LR			
	comp=Z,61nm,22.0s,MS4.3								
LZH	Lanzhou	136.17	333	*e*PKP		PKPdf		16 17 37.8	-4.6
LZH				XPKP				16 17 46.5	
KMI	Kunming	145.47	324	PKP		PKPdf		16 17 56.4	-2.7

IDC 02 16:06:32.4±2.3, 611S×13040E, h0km, mb3.8/1, mb1 3.8/4, mb1mx3.6/14, mbtmp3.6/4, ML3.5/3, Error ellipse:

s-maj=89.6km s-min=29.3km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
FITZ	Fitzroy Crossi	12.79	201	Pn		Pn	16 09 34.2	-1.3
	0.3nm,0.3s,baz=25,slow=15,SNR=27							
FITZ				Sn		Sn	16 11 41.9	-17
	0.2nm,0.3s,baz=109,slow=18,SNR=3.3							
WRA	Warramunga Arr	14.27	165	Pn		Pn	16 09 56.2	+0.5
	0.2nm,0.3s,baz=350,slow=13,SNR=14							
WRA				Sn		Sn	16 12 23.9	-11
	0.4nm,0.3s,baz=339,slow=25,SNR=6.5							
ASAR	Alice Springs	17.78	169	P		Pn	16 10 42.5	+1.2
	0.2nm,0.3s,baz=346,slow=8.7,SNR=13							
ASAR				S		Sn	16 13 50.1	-10
	0.1nm,0.3s,baz=7.5,slow=25,SNR=4.1							
MKAR	Makanchi Array	67.70	326	P		P	16 17 31.8	+0.2
	0.6nm,0.6s,baz=119,slow=5.1,SNR=4.1							

BJI ***02*** *16:07:14.4, 4.15N×95.18E, h50km, mB5.2, mb4.8, Ms4.3, Msz4.2*

MOS ***02*** *16:07:16.1±0.9, 467N×9505E, h33km, mb4.9/11, Error ellipse: s-maj=20.2km s-min=8.8km az=112.3*

NEIC ***02*** *16:07:17.6±0.6, 464N×9489E, h30km, mb4.7/8, Error ellipse: s-maj=18.7km s-min=7.4km az=217.0*

NEIC Felt [III] at Banda Aceh.

IDC ***02*** *16:07:21.8±3.8, 474N×95.11E, h67km±35km, mb4.1/12, mb1 4.2/13, mb1mx4.0/22, mbtmp4.4/13, ML3.7/1, MS3.5/3, Ms1 3.5/3, ms1mx2.8/23, Error ellipse: s-maj=34.8km s-min=16.7km az=51.0*

ISCJB ***02*** *16:07:22.6±1.5, 479N±008×9529E±008, h86km±14km, mb4.5/34, Error ellipse: s-maj=16.7km s-min=9.0km az=94.6*

ISC 02 16:07:23.9±1.4, 481N±008×9526E±008, h79km±13km, n77, σ0ϕ99/83, mb4.5/34, 2C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PSI	Prapat	4.17	119	P		Pn	16 08 24.6	-0.4
	4.5nm,0.3s,baz=313,slow=13,SNR=26							
PSI				S		Sn	16 09 15.1	+2.6
	5.9nm,0.3s,baz=354,slow=19,SNR=3.7							
PSI				LR		LR	16 10 27.5	
	comp=Z,384nm,21.1s,baz=103,slow=43							
PSI	Prapat	4.17	119	P		Pn	16 08 24.7	-0.4
PSI				S		Sn	16 09 15.1	+2.6
PKT	Phuket	4.36	42	P		Pn	16 08 32.0	+4.3
KULM	Kulim	5.39	85	*e*P		Pn	16 08 41.4	-0.3
KULM				*e*S		Sn	16 09 40.6	-1.8
IPM	Ipoh	5.75	93	P		Pn	16 08 46.0	-0.7
SNG	Songkhla	5.82	66	P		Pn	16 08 46.0	-1.6
	326nm,0.8s							
KGM	Kluang	8.51	109	P		Pn	16 09 24.5	+0.2
KSM	Kuching	15.38	102	*e*P		Pn	16 10 59.5	+3.1
HYB	Hyderabad	20.61	309	*i* P		P	16 12 01.5	+4.9
HYB				*e*S		S	16 15 35.5	-7.0
GYA	Guiyang	24.13	26	*i*P		P	16 12 33.9	+1.6
GYA				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.3							
JIRN	Jiri	24.31	340	*e*P		P	16 12 33.8	-0.2
	comp=Z,14nm,0.5s,mb4.5							
PKI	Pulchoki	24.50	339	*e*P		P	16 12 35.9	+0.2
GUN	Gumba	24.64	340	*e*P		P	16 12 37.2	+0.2
	comp=Z,23nm,0.6s,mb4.8							
DMN	Daman	24.65	338	*e*P		P	16 12 37.1	0.0
KKN	Kakani	24.75	338	*e*P		P	16 12 38.7	+0.7
LSA	Lhasa	25.06	352	*e*P		P	16 12 41.4	+0.6
LSA	Lhasa	25.06	352	*e*P		P	16 12 41.8	+1.0
LSA				pmax		pmax		
	comp=Z,8.0nm,0.6s,mb4.3							
LSA	Lhasa	25.06	352	*e*P		P	16 12 41.8	+1.0
	comp=Z,8.2nm,0.6s,mb4.3							
GKN	Gorkha	25.18	337	*e*P		P	16 12 42.1	+0.2
	comp=Z,7.8nm,0.4s,mb4.5							
KOLN	Koldanda	25.39	335	*e*P		P	16 12 44.1	+0.3
	comp=Z,36nm,0.7s,mb4.9							
CD2	Chengdu	27.16	16	*e*P		P	16 12 59.5	-0.3
CD2				AMB		AMB		
	comp=Z,20nm,0.5s,mb4.9							
XAN	Xi'an	31.73	22	P		P	16 13 40.2	0.0
XAN				AMB		AMB		
	comp=Z,33nm,0.7s,mb5.2							
GTA	Gaotai	34.69	6	*e*P		P	16 14 05.8	-0.2
GTA				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.7							
JOW	Kunigami	38.36	52	P		P	16 14 37.9	+0.6
	comp=Z

ARU pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
KIV Kislovodsk 60.33 319 *e*P **P 16 17 23.9 -0.5**
KIV pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
ANN Anapa 64.13 318 *e*P **P 16 17 42.6 -7.3**
ANN *e*S **S 16 26 13.9 -6.8**
ANN pmax pmax
comp=Z,43nm,1.2s,mb5.2
BRTR Keskin Array B 65.27 312 P **P 16 17 56.5 -0.8**
comp=Z,2.3nm,0.6s,mb4.2,baz=130,slow=7.2,SNR=15
OBN Obninsk 68.55 328|| *e*P **P 16 18 16.8 -1.3**
OBN *e*S S 16 27 13.8 -0.3
OBN *e*SS SS 16 31 37.0 -2.5
OBN pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
TIXI Tiksi 70.00 11*d i*P **P 16 18 25.8 -1.2**
TIXI pmax pmax
comp=Z,12nm,1.2s,mb4.6
AKASG Malin Array Be 71.23 322 P **P 16 18 33.0 -1.5**
comp=Z,3.5nm,0.5s,mb4.4,baz=93,slow=5.4,SNR=19
KWP Kalwaria 75.07 320 *e*P **P 16 18 57.0 -0.1**
KWP pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
KWP Kalwaria 75.07 320 *e*P **P 16 18 57.0 -0.2**
comp=Z,7.8nm,1.0s,mb4.4
FINES FINESS Array B 75.92 332 P **P 16 19 01.4 -0.6**
comp=Z,3.3nm,0.7s,mb4.2,baz=102,slow=5.2,SNR=13
KAF Kangasniemi 76.01 333 *e*p **P 16 19 01.5 -1.0**
comp=Z,4.4nm,0.6s,mb4.4,baz=106,slow=5.4
KAF Kangasniemi 76.01 333 *e*P **P 16 19 01.5 -1.0**
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
OJC Ojcow 77.02 320 *e*P **P 16 19 08.4 +0.2**
KEV Kevo 78.07 341 *e*p **P 16 19 13.1 -1.0**
ARCES ARCESS Array B 78.50 340 P **P 16 19 16.1 -0.3**
comp=Z,2.9nm,0.5s,mb4.3,baz=90,slow=5.5,SNR=31
GERES GERESS Array B 80.84 319 P **P 16 19 29.2 +0.1**
comp=Z,1.5nm,0.5s,mb4.0,baz=94,slow=5.9,SNR=15
NOA NORSAR Array B 82.93 331 P **P 16 19 37.6 -2.4**
comp=Z,1.5nm,0.9s,mb3.8,baz=98,slow=5.3,SNR=2.5

ISCJB ***02*** *17:35:08.8±0.4, 3265N±003×4876E±005, h10km, Error ellipse: s-maj=7.1km s-min=3.4km az=52.5*
THR ***02*** *17:35:09.4±0.4, 3275N×4872E, h14km±5km, ML3.4*
CSEM ***02*** *17:35:09.0±0.1, 3267N×4873E, h16km, ML3.5, Error ellipse: s-maj=2.6km s-min=2.2km az=134.0*
TEH ***02*** *17:35:10.7, 3264N×4863E, h10km, Mn3.6*
KISR ***02*** *17:35:11.3±0.7, 3262N×4831E, h33km, ML3.3*
ISC 02 17:35:10.1±1.4, 3265N±003×4879E±005, h9km±9km, n27, σ0§91/39, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIR	**Pirpir**	**1.77**	**88**	*e*Pn	**Pn**	**17 35 41.2**	**+0.2**
ASAO	**Ashtian**	**2.16**	**28**	*e*PG	**Pg**	**17 35 47.6**	**-3.8**
ASAO				*e*Sg	**Sg**	**17 36 15.8**	**-3.6**
ASAO				AML	AML	17 36 23.3	
	comp=N,307nm,0.6s						
ASAO				AML	AML	17 36 25.0	
	comp=E,421nm,0.6s						
ASAO	**Ashtian** SNR=90	**2.16**	**28**	*e*Pg	**Pg**	**17 35 47.6**	**-3.8**
ASAO	SNR=90			*e*Sg	**Sg**	**17 36 15.8**	**-3.6**
IKLH	**Kalahroud**	**2.44**	**73**	*e*Pn	**Pn**	**17 35 50.4**	**+0.3**
IGHG	**Ghaleghazi**	**2.50**	**313**	*e*Pn	**Pn**	**17 35 50.6**	**-0.4**
SNGE	**Sanandaj**	**2.72**	**334**	*e*PN	**Pn**	**17 35 53.3**	**-0.7**
IDHR	**Dehrash**	**2.86**	**316**	*e*Pn	**Pn**	**17 35 55.3**	**-0.6**
IZEF	**Zefreh**	**2.99**	**84**	*e*Pn	**Pn**	**17 35 58.0**	**+0.3**
ISFB	**Sefidab**	**3.34**	**59**	*e*Pn	**Pn**	**17 36 03.5**	**+0.9**
ISFB				*e*Sn	**Sn**	**17 36 42.2**	**-0.2**
IVRN	**Varamin**	**3.39**	**45**	*e*Pn	**Pn**	**17 36 04.4**	**+1.3**
IVRN				*e*Sn	**Sn**	**17 36 43.3**	**-0.2**
NASN	**Na'in**	**3.39**	**86**	*e*PN	**Pn**	**17 36 05.2**	**+1.9**
NASN				*e*SG	**Sg**	**17 36 56.7**	**-2.3**
IMHD	**Mahdasht**	**3.41**	**27**	*e*Pn	**Pn**	**17 36 04.3**	**+0.9**
IMHD				*e*Sn	**Sn**	**17 36 43.6**	**-0.3**
KBD	**Kabd**	**3.59**	**195**	*e*P	**Pn**	**17 36 06.6**	**+0.7**
KBD				*e*S	**Sn**	**17 36 47.3**	**-1.1**
KBD				AML	AML	17 36 51.5	
	comp=Z,157nm,0.3s						
KBD	**Kabd**	**3.59**	**195**	*e*P	**Pn**	**17 36 06.6**	**+0.7**
KBD				*e*S	**Sn**	**17 36 47.3**	**-1.1**
NAY	**Al-Naaiem**	**3.64**	**202**	*e*P	**Pn**	**17 36 06.6**	**0.0**
NAY				*e*S	**Sn**	**17 36 48.3**	**-1.4**
NAY				AML	AML	17 36 53.8	
	comp=Z,28nm,0.6s						
NAY	**Al-Naaiem**	**3.64**	**202**	*e*P	**Pn**	**17 36 06.6**	**0.0**
NAY				*e*S	**Sn**	**17 36 48.3**	**-1.4**
THKV	**Tehran--Karaj**	**3.69**	**27**	*e*PN	**Pn**	**17 36 07.2**	**-0.1**
THKV				AML	AML	17 37 16.6	
	comp=N,44nm,0.6s						
BHD	**Baghdad**	**3.76**	**281**	*ex*	x	17 36 22.5	
BHD				*ex*	x	17 37 10.0	
CHTH	**Charan**	**3.78**	**30**	*e*PN	**Pn**	**17 36 08.7**	**+0.1**
RDF	**Al-Radifah**	**3.86**	**196**	*e*P	**Pn**	**17 36 10.1**	**+0.5**
IGZV	**Gazvin**	**3.91**	**17**	*e*Pn	**Pn**	**17 36 10.8**	**+0.5**
IGZV				*e*Sn	**Sn**	**17 36 55.5**	**-0.9**
QRN	**Al-Qurain**	**3.96**	**191**	*e*S	**Sn**	**17 36 58.2**	**+0.5**
IDMV	**Damavand**	**3.97**	**42**	*e*Pn	**Pn**	**17 36 12.0**	**+0.8**
IDMV				*e*Sn	**Sn**	**17 36 57.1**	**-0.8**
DAMV	**Damavand**	**3.98**	**41**	*e*Pn	**Pn**	**17 36 11.6**	**+0.4**
DAMV				AML	AML	17 37 26.4	
	comp=N,39nm,0.5s						
DAMV				AML	AML	17 37 28.5	
	comp=E,42nm,0.6s						
IAFJ	**Afjeh**	**4.01**	**36**	*e*Pn	**Pn**	**17 36 12.7**	**+1.0**
IAFJ				*e*Sn	**Sn**	**17 36 58.1**	**-0.8**
IFIR	**Firoozkooh**	**4.44**	**47**	*e*Pn	**Pn**	**17 36 18.7**	**+1.1**
IMOK	**Mook**	**4.93**	**136**	*e*Pn	**Pn**	**17 36 23.5**	**-0.9**

NEIC ***02*** *17:46:12.3±5.5, 6.09S×154.56E, h26km±40km, mb4.1/4, Error ellipse: s-maj=22.5km s-min=11.8km az=178.0*
ISCJB ***02*** *17:46:14.6±2.6, 6.1S±0.1×154.46E±008, h53km±24km, mb4.3/11, MS3.4/1, Error ellipse: s-maj=22.3km s-min=12.8km az=173.9*
IDC ***02*** *17:46:15.7±2.6, 6.08S×154.45E, h51km±22km, mb3.5/5, mb1 3.9/8, mb1mx3.8/16, mbtmp4.0/8, ML4.2/3, MS3.1/4, Ms1 3.1/4, ms1mx2.8/14, Error ellipse: s-maj=26.6km s-min=19.0km az=171.0*
ISC 02 17:46:17.8±2.1, 62S±01×15451E±008, h67km±20km, n25, σ0§80/27, mb4.2/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.25**	**121**	P	**Pn**	**17 47 48.5**	**+1.1**
	14nm,0.3s,baz=281,slow=5.2,SNR=10						
HNR				S	**Sn**	**17 49 07.0**	**+10**
	13nm,0.3s,baz=94,slow=7.1,SNR=12						
HNR	**Honiara**	**6.25**	**121**	*e*Pn	**Pn**	**17 47 42.1**	**-5.3**
	62nm,0.8s						
HNR				*e*Sn	**Sn**	**17 49 06.6**	**+9.2**
PMG	**Port Moresby**	**7.93**	**246**	P	**Pn**	**17 48 10.1**	**-0.2**
	9.9nm,0.3s,baz=52,slow=8.5,SNR=64						
PMG				S	**Sn**	**17 49 39.6**	**+1.1**
	4.1nm,0.3s,baz=343,slow=22,SNR=7.3						
PMG				LR	LR	17 50 22.6	
	comp=Z,41nm,19.9s,baz=25,slow=31						
PMG	**Port Moresby**	**7.93**	**246**	*e*Pn	**Pn**	**17 48 08.5**	**-1.9**
PMG				*e*Sn	**Sn**	**17 49 38.2**	**-0.4**
PMG				LR	LR	17 50 22.6	
CTA	**Charters Tower** 5.1nm,0.8s	**15.93**	**209**	*e*P	**Pn**	**17 50 01.0**	**+3.3**
CTA	**Charters Tower**	**15.93**	**209**	P	**Pn**	**17 50 01.1**	**+3.3**
	0.3nm,0.3s,baz=25,slow=11,SNR=9.7						
CTA				LR	LR	17 54 37.8	
	comp=Z,64nm,20.1s,baz=46,slow=31						
CTAO	**Charters Tower** 6.8nm,0.8s	**15.93**	**209**	*e*P	**Pn**	**17 50 00.7**	**+3.0**
DZM	**Mont Dzumac**	**19.51**	**145**	P	**Pn**	**17 50 40.4**	**-1.0**
	0.5nm,0.3s,baz=325,slow=18,SNR=10						
DZM				LR	LR	17 57 05.4	
	comp=Z,87nm,19.8s,baz=298,slow=33						
WRAB	**Tennant Creek** 8.6nm,0.8s,mb4.1	**23.85**	**233**	*e*P	**P**	**17 51 24.4**	**-0.3**
WB2	**Warramunga Arr**	**23.85**	**233**	*e*P	**P**	**17 51 25.0**	**+0.2**
WRA	**Warramunga Arr**	**23.86**	**233**	P	**P**	**17 51 24.7**	**-0.3**
	1.1nm,0.7s,mb3.3,baz=54,slow=9.7,SNR=15						
WRA				PcP	PcP	17 55 07.0	+0.7
	2.0nm,0.7s,baz=29,slow=2.2,SNR=19						
ASAR	**Alice Springs**	**26.32**	**227**	P	**P**	**17 51 46.6**	**-0.6**
	0.5nm,0.4s,mb3.3,baz=57,slow=9.1,SNR=13						
ASAR				PcP	PcP	17 55 12.2	+0.5
	1.6nm,0.7s,baz=63,slow=2.3,SNR=15						
ASAR				ScP	ScP	17 58 50.0	+4.3
	0.2nm,0.5s,baz=60,slow=2.6,SNR=4.2						
STKA	**Stephens Creek**	**28.22**	**204**	LR	LR	18 01 30.4	
	comp=Z,103nm,20.2s,baz=72,slow=32						
SONM	**Songino Array**	**68.44**	**327**	P	**P**	**17 57 11.7**	**-0.9**
	0.6nm,0.5s,mb3.7,baz=145,slow=7.8,SNR=3.7						
LSA	**Lhasa**	**70.45**	**304**	P	**P**	**17 57 24.6**	**-0.4**
	3.3nm,0.6s,mb4.3						
JIRN	**Jiri**	**73.98**	**301**	*e*P	**P**	**17 57 46.7**	**+0.6**
	11nm,0.7s,mb4.7						
GUN	**Gumba**	**74.31**	**301**	*e*P	**P**	**17 57 48.6**	**+0.6**
PKI	**Pulchoki**	**74.62**	**301**	*e*P	**P**	**17 57 50.5**	**+0.7**
KKN	**Kakani**	**74.79**	**301**	*e*P	**P**	**17 57 51.1**	**+0.3**
DMN	**Daman**	**74.89**	**301**	*e*P	**P**	**17 57 51.9**	**+0.5**
	23nm,0.7s,mb5.0						
GKN	**Gorkha**	**75.40**	**301**	*e*P	**P**	**17 57 54.1**	**-0.2**
	22nm,0.8s,mb4.9						
KOLN	**Koldanda**	**76.22**	**300**	*e*P	**P**	**17 57 58.8**	**-0.2**
	20nm,0.8s,mb4.9						
MKAR	**Makanchi Array**	**82.52**	**319**	P	**P**	**17 58 32.3**	**-0.9**
	0.4nm,0.7s,mb3.3,baz=104,slow=6.1,SNR=2.8						
NVAR	**Mina Array Bea**	**91.64**	**52**	P	**P**	**17 59 18.1**	**+0.5**
	0.3nm,0.3s,mb4.0,baz=254,slow=6.3,SNR=4.6						
TORD	**Torodi Ar. Bea**	**152.35**	**286**	PKPbc	PKPbc	18 06 05.7	-0.4
	1.6nm,0.6s,baz=60,slow=2.7,SNR=11						
TORD				PKPab	PKPab	18 06 16.5	+0.2
	1.7nm,0.6s,baz=71,slow=3.9,SNR=8.9						

NEIC ***02*** *17:56:58.3, 2727S×7144W, h18km, ML3.8(GUC), After GUC.*
GUC 02 17:56:58.3±0.9, 2727S×7144W, h18km±8km, ML3.8, 1C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.58**	**70**	*i*P	Pg	17 57 09.2	-0.7
CDCH				*i* S	Sg	17 57 17.5	-0.3
CPCH	**Copiapo**	**0.97**	**95**	||*i*P	Pb	17 57 15.6	-1.0
CPCH				*i* S	Sb	17 57 29.2	+0.1
CPCH				AML	AML	17 57 31.7	
	comp=E,10μm,0.1s						
CPCH	**Copiapo**	**0.97**	**95**	||*i*P	Pb	17 57 15.6	-1.0
CPCH				*i* S	Sb	17 57 29.2	+0.1
CRCH	**Chaqaral**	**1.18**	**39**	*e*P	Pn	17 57 19.0	-0.9
CRCH				*i* S	Sb	17 57 34.0	-1.0
CRCH				AML	AML	17 57 41.5	
	comp=N,1μm,0.3s						
CRCH	**Chaqaral**	**1.18**	**39**	*e*P	Pn	17 57 19.0	-0.9
CRCH				*i* S	Sb	17 57 34.0	-1.0
LCO	**Las Campanas**	**1.85**	**159**	*e*P	Pn	17 57 30.5	+1.4
LCO				*i* S	Sn	17 57 53.8	+1.8
TLL	**Tololo Astrono**	**2.94**	**169**	*e*P	Pn	17 57 46.1	+2.1
TLL				*i* S	Sn	17 58 21.6	+2.8
TLL				AML	AML	17 58 45.1	
	comp=N,486nm,0.7s						
TLL	**Tololo Astrono**	**2.94**	**169**	*e*P	Pn	17 57 46.1	+2.1
TLL				*i* S	Sn	17 58 21.6	+2.8

ISCJB ***02*** *18:01:15.5±3.7, 36S±0.1×1305E±0.2, h50km±41km, mb3.7/1, Error ellipse: s-maj=34.0km s-min=17.2km az=179.5*
IDC ***02*** *18:01:16.1±6.5, 357S×12984E, h26km±41km, mb3.8/2, mb1 4.1/4, mb1mx3.7/16, mbtmp4.0/4, ML3.4/2, Error ellipse: s-maj=93.0km s-min=18.4km az=75.0*
ISC 02 18:01:14.2±3.9, 354S±010×1303E±02, h17km±27km, n6, σ1§08/10, mb3.7/1, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.35**	**167**	*e*P	**Pn**	**18 03 28.0**	**-0.1**
	32nm,1.5s						
KAKA				*e*S	**Sn**	**18 05 11.1**	**-1.7**
FITZ	**Fitzroy Crossi**	**15.18**	**197**	Pn	**Pn**	**18 04 47.6**	**-0.1**
	0.1nm,0.3s,baz=18,slow=19,SNR=3.9						
FITZ				Sn	**Sn**	**18 07 35.5**	**0.0**
	0.1nm,0.3s,baz=14,slow=19,SNR=2.6						
WRA	**Warramunga Arr**	**16.77**	**167**	Pn	**Pn**	**18 05 08.3**	**+0.2**
	0.2nm,0.3s,baz=345,slow=13,SNR=13						
WRA				Sn	**Sn**	**18 08 06.7**	**-7.3**
	0.2nm,0.3s,baz=333,slow=22,SNR=4.6						
WB2	**Warramunga Arr**	**16.77**	**167**	*e*P	**Pn**	**18 05 07.9**	**-0.3**
ASAR	**Alice Springs**	**20.30**	**170**	P	**P**	**18 05 51.3**	**+2.1**
	8.3nm,0.5s,baz=351,slow=10,SNR=126						
ASAR				S	**S**	**18 09 38.7**	**+2.5**
	0.5nm,1.0s,baz=358,slow=20,SNR=4.4						
MKAR	**Makanchi Array**	**65.54**	**326**	P	**P**	**18 11 55.9**	**-0.8**
	0.4nm,0.5s,mb3.7,baz=126,slow=8.0,SNR=12						

IDC 02 18:11:51.1±2.3, 639N×12557E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.7/4, Error ellipse: s-maj=229.2km s-min=22.9km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**2.56**	**1**	*e*P		18 10 13.3	
WRA	**Warramunga Arr**	**27.55**	**162**	P	P	18 17 40.8	+1.1
	0.8nm,1.1s,baz=342,slow=9.0,SNR=4.6						
ASAR	**Alice Springs**	**30.96**	**165**	P	P	18 18 09.8	-0.1
	0.2nm,0.3s,baz=339,slow=7.8,SNR=11						
STKA	**Stephens Creek**	**41.01**	**159**	P	P	18 19 35.7	-0.2
	0.9nm,0.4s,baz=342,slow=13,SNR=4.0						
MKAR	**Makanchi Array**	**54.73**	**325**	P	P	18 21 22.3	+0.1
	0.5nm,0.4s,baz=122,slow=7.9,SNR=15						

MOS ***02*** *18:16:40.9±1.8, 1068N×7483W, h33km, mb4.6/5, Error ellipse: s-maj=17.6km s-min=15.0km az=123.3*
ISCJB ***02*** *18:16:41.3±0.4, 1085N±005×7473W±005, h28km, mb4.3/26, MS4.0/10, Error ellipse: s-maj=8.6km s-min=5.6km az=64.5*
IDC ***02*** *18:16:42.2±0.7, 1071N×7464W, h26km±4km, mb3.8/10, mb1 4.0/11, mb1mx3.9/18, mbtmp4.0/11, ML3.8/1, MS3.6/9, Ms1 3.6/9, ms1mx3.3/24, Error ellipse: s-maj=20.6km s-min=15.6km az=44.0*
NEIC ***02*** *18:16:42.6±0.4, 1069N×7471W, mb4.7/16, Error ellipse: s-maj=12.7km s-min=6.8km az=45.0*
BJI ***02*** *18:16:42.6, 1070N×7470W, h27km, mB5.4, Ms4.7, Msz4.3*
ISC 02 18:16:44.2±0.4, 1089N±005×7472W±005, h29km, h29km±.7km: pP-P, n77, σ1§12/69, mb4.3/26, MS4.0/10, 5D, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**4.49**	**116**	Pn	**Pn**	**18 17 50.4**	**+0.2**
	98nm,0.3s,baz=321,slow=5.2,SNR=723						
SDV				Sn	**Sn**	**18 18 41.6**	**+0.1**
	104nm,0.3s,baz=4.0,slow=14,SNR=3.8						
SDV				Lg		18 18 59.6	
	67nm,0.3s,baz=48,slow=18,SNR=3.5						
ROSC	**El Rosal**	**6.00**	**176**	Pn	**Pn**	**18 18 14.1**	**+3.1**
	21nm,0.3s,baz=309,slow=4.3,SNR=22						
ROSC				Sn	**Sn**	**18 19 28.7**	**+10**
	9.3nm,0.3s,baz=58,slow=18,SNR=2.0						
ROSC				Lg		18 19 42.9	
	26nm,0.3s,baz=263,slow=23,SNR=4.6						
ROSC				LR	LR	18 20 46.7	
	comp=Z,338nm,21.9s,baz=29,slow=42						
PCJ	**Portland Cotta**	**7.21**	**341**	||*e*P	**Pn**	**18 18 26.4**	**-1.2**
CMJ	**Castle Mountai**	**7.38**	**348**	||*e*P	**Pn**	**18 18 29.6**	**-0.3**
GWJ	**Greenwich**	**7.41**	**345**	||*e*P	**Pn**	**18 18 29.4**	**-0.8**
STH	**Stony Hill**	**7.43**	**344**	||*e*P	**Pn**	**18 18 29.3**	**-1.3**
URSC	**Urasca**	**8.98**	**264**	*e*P	**Pn**	**18 18 49.6**	**-2.2**
BUS	**Buena Vista**	**9.00**	**262**	*e*P	**Pn**	**18 18 50.0**	**-2.0**
LCR2	**La Lucha 2**	**9.21**	**264**	*e*P	**Pn**	**18 18 55.6**	**+0.6**
PRS1	**Puriscal**	**9.48**	**265**	*e*P	**Pn**	**18 18 58.2**	**-0.5**
JTS	**JuntasAbangare**	**10.08**	**268**	Pn	**Pn**	**18 19 06.5**	**-0.4**
	0.7nm,0.3s,baz=90,slow=19,SNR=3.8						
JTS				LR	LR	18 23 03.3	
	comp=Z,69nm,21.5s,baz=18,slow=38						
JTS	**JuntasAbangare**	**10.08**	**268**	*e*P	**Pn**	**18 19 01.8**	**-5.1**
JTS				*e*		18 20 51.8	
JTS	**JuntasAbangare**	**10.08**	**268**	*e*P	**Pn**	**18 19 01.8**	**-5.1**
JTS				Pn	**Pn**	**18 19 06.5**	**-0.4**
JTS				*e*Sn	**Sn**	**18 20 51.8**	**-7.2**
JTS				LR	LR	18 23 03.3	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCC	**Cccc**	**10.66**	**344**	*e*P	**Pn**	**18 19 16.0**	**+1.1**
CPD	**Cerro la Pandu**	**11.10**	**49**	P	**Pn**	**18 19 20.9**	**+0.1**
CPD				*e*S	**Sn**	**18 21 08.6**	**-15**
MTP	**Monte Pirata**	**11.40**	**50**	*e*P	**Pn**	**18 19 16.2**	**-8.8**
MTP				*e*S	**Sn**	**18 21 14.5**	**-17**
TEIG	**Tepich**	**16.02**	**307**	*e*P	**Pn**	**18 20 23.3**	**-4.0**
SAML	**Samuel**	**22.80**	**149**	*e*P	**P**	**18 21 40.6**	**-3.9**
	11nm,0.8s,mb4.3						
LPAZ	**La Paz**	**27.77**	**166**	P	**P**	**18 22 28.4**	**-2.0**
	3.0nm,0.6s,mb4.1,baz=353,slow=7.9,SNR=13						
LPAZ				LR	LR	18 34 34.1	
	comp=Z,252nm,20.7s,MS3.8,baz=312,slow=39						
LPAZ	**La Paz**	**27.77**	**166**	*e*P	**P**	**18 22 28.0**	**-2.4**
LPAZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LPAZ	**La Paz**	**27.77**	**166**	*e*P	**P**	**18 22 27.9**	**-2.5**
	comp=Z,4.7nm,0.8s,mb4.2						
FVM	**French Village**	**30.44**	**335**	P	**P**	**18 22 54.6**	**+0.5**
FVM				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
FVM	**French Village**	**30.44**	**335**	P	**P**	**18 22 54.6**	**+0.5**
	comp=Z,5.7nm,0.8s,mb4.3						
CCM	**Cathedral Cave**	**30.84**	**334**	*e*P	**P**	**18 22 57.0**	**-0.7**
CCM				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
CCM	**Cathedral Cave**	**30.84**	**334**	*e*P	**P**	**18 22 57.0**	**-0.6**
	comp=Z,6.4nm,0.9s,mb4.5						
WMOK	**Wichita Mounta**	**32.32**	**321**	*e*P	**P**	**18 23 10.0**	**-0.6**
WMOK				*e**PP	pP	18 23 18.4	-0.9
WMOK				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.4						
WMOK	**Wichita Mounta**	**32.32**	**321**	*e*P	**P**	**18 23 10.0**	**-0.6**
	comp=Z,6.5nm,1.2s,mb4.3						
WMOK				*e*pP	pP	18 23 18.4	-0.9
AMTX	**Amarillo**	**34.25**	**319**	*e*P	**P**	**18 23 28.0**	**+0.5**
	comp=Z,26nm,1.0s,mb5.1						
AMTX				*e*pP	pP	18 23 35.3	-0.8
MNTX	**Cornudas Mount**	**35.09**	**311**	*e*P	**P**	**18 23 34.8**	**+0.1**
	comp=Z,6.0nm,1.0s,mb4.5						
MNTX				*e*pP	pP	18 23 42.8	-0.5
BNM	**Barren Site**	**37.22**	**314**	*e*P	**P**	**18 24 02.2**	**+9.3**
LPM	**Los Pinos Moun**	**37.30**	**314**	*e*P	**P**	**18 23 55.1**	**+1.5**
LPM				*e*pP	pP	18 24 03.3	+0.9
BDFB	**Brasilia**	**37.33**	**134**	LR	LR	18 40 31.7	
	comp=Z,255nm,18.2s,MS4.1,baz=299,slow=38						
LAZ	**Ladron**	**37.71**	**314**	*e*P	**P**	**18 23 58.4**	**+1.3**
LAZ				*e*pP	pP	18 24 06.6	+0.8
EYMN	**Ely**	**39.54**	**342**	P	**P**	**18 24 11.8**	**-0.6**
	comp=Z,6.1nm,0.8s,mb4.4						
SMCO	**Snowmass**	**40.21**	**320**	*e*P	**P**	**18 24 20.0**	**+2.1**
	comp=Z,18nm,1.1s,mb4.7						
SMCO				*e*pP	pP	18 24 27.9	+1.2
CPUP	**Villa Florida**	**40.67**	**156**	P	**P**	**18 24 17.9**	**-4.0**
	comp=Z,0.6nm,0.4s,mb3.5,baz=336,slow=10.0,SNR=3.9						
CPUP				LR	LR	18 42 53.0	
	comp=Z,263nm,18.1s,MS4.1,baz=305,slow=39						
CFAA	**Coronel Fontan**	**42.70**	**172**	LR	LR	18 44 24.1	
	comp=Z,8.3nm,20.7s,baz=111,slow=39						
ULM	**Lac du Bonnet**	**42.95**	**340**	P	**P**	**18 24 43.5**	**+3.0**
	comp=Z,2.7nm,0.7s,mb4.1,baz=147,slow=3.5,SNR=3.5						
ULM				LR	LR	18 42 53.5	
	comp=Z,93nm,19.2s,MS3.7,baz=240,slow=36						
ULM	**Lac du Bonnet**	**42.95**	**340**	P	**P**	**18 24 43.5**	**+3.0**
ULM				LR	LR	18 42 53.5	
MSU	**Marysvale**	**43.28**	**316**	*e*P	**P**	**18 24 44.7**	**+1.6**
MSU				*e**PP	pP	18 24 53.1	+1.2
DAU	**Daniels Canyon**	**43.63**	**319**	*e*P	**P**	**18 24 55.9**	**+10**
ARUT	**Antelope Range**	**43.81**	**314**	*e*P	**P**	**18 24 56.6**	**+9.2**
ARUT				*e**PP	pP	18 25 07.9	+12
PDAR	**Pinedale Array**	**43.90**	**323**	P	**P**	**18 24 48.4**	**+0.3**
	comp=Z,1.5nm,0.9s,mb3.7,baz=119,slow=7.7,SNR=8.7						
PDAR				pP	pP	18 24 56.8	-0.1
	comp=Z,5.6nm,0.9s,baz=118,slow=9.6,SNR=25						
NEN	**Nelson**	**43.90**	**311**	P	**P**	**18 24 48.8**	**+0.7**
NEN				*e*pP	pP	18 24 57.3	+0.4
SCHQ	**Schefferville**	**44.28**	**7**	P	**P**	**18 24 50.8**	**-0.3**
	comp=Z,1.3nm,0.6s,mb3.9,baz=213,slow=11,SNR=3.4						
SCHQ				LR	LR	18 43 46.6	
	comp=Z,40nm,19.5s,MS3.3,baz=288,slow=37						
HWUT	**Hardware Ranch**	**44.47**	**320**	*e*P	**P**	**18 25 01.5**	**+8.9**
LOHW	**Long Hollow**	**45.01**	**323**	*e*P	**P**	**18 24 56.2**	**-0.7**
	comp=Z,23nm,1.1s,mb4.9						
LOHW				*e*pP	pP	18 25 06.2	+0.4
REDW	**Red Top Meadow**	**45.01**	**323**	*e*P	**P**	**18 24 57.8**	**+0.8**
	comp=Z,50nm,1.0s,mb5.3						
REDW				*e*pP	pP	18 25 06.2	+0.3
TPAW	**Teton Pass**	**45.15**	**323**	P	**P**	**18 24 59.1**	**+1.1**
	comp=Z,18nm,1.0s,mb4.9						
TPAW				*e*pP	pP	18 25 07.3	+0.4
MOOW	**Moose Ponds**	**45.17**	**323**	*e*P	**P**	**18 24 58.5**	**+0.3**
	comp=Z,14nm,0.9s,mb4.8						
MOOW				*e*pP	pP	18 25 07.1	0.0
IMW	**Indian Meadow**	**45.37**	**323**	*e*P	**P**	**18 25 00.1**	**+0.3**
	comp=Z,13nm,0.8s,mb4.8						
IMW				*e*pP	pP	18 25 08.8	+0.2
DLMT	**Dillon**	**47.18**	**324**	*e*P	**P**	**18 25 15.1**	**+1.0**
	comp=Z,18nm,1.1s,mb4.9						
DLMT				*e*pP	pP	18 25 23.6	+0.6
**NV

HHC			PP	PP	18 37 51.6	+0.2	
HHC			PKS		18 39 19.5		
HHC			SKS	SKSdf	18 42 49.5	-7.7	
HHC			SS	SS	18 55 03.4	-0.6	
HHC			PP	PP			
	comp=Z,55nm,6.4s						
HHC			LR	LR			
	comp=N,74nm,16.5s,MS4.5						
HHC			LR	LR			
	comp=E,53nm,17.1s,MS4.5						
HHC			LR	LR			
	comp=Z,70nm,16.2s,MS4.4						
BJI	**Beijing**	**128.34 349**	PKP	PKPdf	18 35 45.2	-2.6	
LZH	**Lanzhou**	**133.26 2**	*e*PKP	PKPdf	18 35 53.1	-4.1	
LZH			XPKP		18 36 07.5		
NJ2	**Nanjing**	**135.37 344**	*e*PKP	PKPdf	18 35 59.0	-2.1	
NJ2			XPKP		18 36 12.6		
NJ2			PP	PP	18 38 41.0	+3.4	
NJ2			PKS		18 39 34.0		
NJ2			PPP		18 41 50.0		
NJ2			SKS	SKSdf	18 43 04.0	-6.0	
NJ2			PP	PP			
	comp=Z,170nm,6.8s						
NJ2			LR	LR			
	comp=N,760nm,36.0s						
NJ2			LR	LR			
	comp=E,690nm,33.8s						
NJ2			LR	LR			
	comp=Z,430nm,30.3s,MS5.0						
SSE	**Sheshan**	**135.55 340**	PKP	PKPdf	18 35 57.9	-3.6	
SSE			PP	PP			
	comp=Z,210nm,4.9s						
CD2	**Chengdu**	**138.42 2**	*e*PKP	PKPdf	18 36 00.7	-6.1	
KMI	**Kunming**	**144.12 4**	PKP	PKPdf	18 36 13.5	-3.5	
ASAR	**Alice Springs**	**149.93 241**	PKP	PKPdf	18 36 26.5	-0.2	
	comp=Z,1.8nm,0.7s,baz=106,slow=1.3,SNR=5.5						
ASAR			PKPbc	PKPbc	18 36 30.9	-0.7	
	comp=Z,2.1nm,0.7s,baz=99,slow=3.0,SNR=34						
ASAR			PKPab	PKPab	18 36 35.8	-1.5	
	comp=Z,1.9nm,0.7s,baz=114,slow=3.2,SNR=11						
ASAR	**Alice Springs**	**149.93 241**	PKHKP		18 36 26.5		
ASAR					18 36 30.9		
WRA	**Warramunga Arr**	**150.62 249**	PKPbc	PKPbc	18 36 32.5	-0.7	
	comp=Z,1.6nm,0.8s,baz=94,slow=2.8,SNR=17						
WRA			PKPab	PKPab	18 36 39.6	-0.5	
	comp=Z,1.8nm,0.9s,baz=98,slow=2.8,SNR=8.6						

*ISCJB **02** 18:26:07.5±1.4, 370N±0.1×718E±03, h177km±22km, Error ellipse: s-maj=40.6km s-min=6.6km az=116.2*
*NNC **02** 18:26:13.1±3.9, 3718N×7065E, h101km±85km, mb3.0, mpv3.6, Error ellipse: s-maj=76.3km s-min=28.0km az=64.0*

ISC 02 18:26:08.1±1.4, **370N**±01×**718E**±03, **h174**km±19km, **n10, σ1↯03/14, 3C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**5.58**	**141**	*e*P	**Pn**	**18 27 30.0**	**+0.5**
DLH				*e*S	**Sn**	**18 28 33.0**	**-0.4**
KK31	**Karatay Array**	**6.23**	**351**	Pn	**Pn**	**18 27 39.3**	**+1.3**
	2.1nm,0.3s,baz=175,slow=12,SNR=52						
KK31				⇑Sn	**Sn**	**18 28 47.9**	**-0.8**
	7.1nm,0.5s,baz=188,slow=24,SNR=4.6						
KOLN	**Koldanda**	**13.54**	**129**	*e*P	**Pn**	**18 29 12.1**	**-1.1**
	3.2nm,0.3s						
GKN	**Gorkha**	**14.03**	**126**	*e*P	**Pn**	**18 29 19.3**	**-0.1**
KKN	**Kakani**	**14.60**	**125**	*e*P	**Pn**	**18 29 25.4**	**-1.0**
	9.4nm,0.5s						
DMN	**Daman**	**14.61**	**126**	*e*P	**Pn**	**18 29 20.9**	**-5.6**
	7.8nm,0.4s						
GUN	**Gumba**	**14.91**	**123**	*e*P	**Pn**	**18 29 32.8**	**+2.5**
	7.1nm,0.4s						
AB31	**Akbulak array**	**15.01**	**329**	⇑Pn	**Pn**	**18 29 32.3**	**+0.8**
	0.3nm,0.5s,baz=155,slow=10,SNR=14						
AB31				⇓Sn	**Sn**	**18 32 09.1**	**-10**
	1.6nm,0.7s,baz=151,slow=22,SNR=5.0						
JIRN	**Jiri**	**15.29**	**123**	*e*P	**Pn**	**18 29 35.2**	**+0.3**
AKTO	**Aktyubinsk**	**16.72**	**328**	⇓Pn	**Pn**	**18 29 51.0**	**-1.2**
AKTO				⇑Sn	**Sn**	**18 32 52.6**	**-7.1**
	0.2nm,2.0s						

IDC 02 18:39:38.0±4.4, **1501S×7165W, h172**km±31km, **mb3.2/3, mb1 3.3/5, mb1mx3.2/16, mbtmp3.7/5, Error ellipse: s-maj=84.1km s-min=38.0km az=32.0, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.62**	**111**	P	Pn	18 40 32.8	-1.2
	4.7nm,0.3s,baz=300,slow=13,SNR=67						
LPAZ				S	Sn	18 41 20.0	+2.4
	baz=48,slow=19,SNR=2.5						
CPUP	**Villa Florida**	**17.49**	**132**	P	Pn	18 43 30.4	-0.9
	0.4nm,0.3s,baz=284,slow=12,SNR=4.2						
BDFB	**Brasilia**	**22.80**	**95**	P	P	18 44 25.8	0.0
	2.7nm,0.5s,baz=263,slow=10,SNR=4.3						
TORD	**Torodi Ar. Bea**	**77.78**	**73**	P	P	18 51 16.4	+0.4
	0.4nm,0.7s,baz=264,slow=4.5,SNR=4.4						
YKA	**Yellowknife Ar**	**84.23**	**341**	P	P	18 51 50.4	+0.4
	0.1nm,0.5s,baz=143,slow=5.7,SNR=4.2						

*NIED **02** 19:02:00, 3740N×14180E, h47km, Mw3.8 Best double couple: M₀5.30000×10¹⁴ NP1:φ₀352.00000°, δ61.00000°, λ75.00000°. NP2:φ₀200.00000°, δ32.00000°, λ114.00000°.*

JMA 02 19:02:38.3±0.2, **3740N×14180E, h40**km±3km, **M3.7, 2C-4D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.74**	**268**	⇑P	Pn	19 02 52.4	+0.2
JFK				S	Sn	19 03 01.7	-0.6
ONAJ	**Iwakimizuishiy**	**0.85**	**250**	⇑P	Pn	19 02 53.8	0.0
ONAJ				S	Sn	19 03 04.6	-0.5
JMM	**Marumori**	**0.93**	**300**	⇓P	Pn	19 02 55.1	+0.3
JMM				S	Sn	19 03 06.8	-0.1
JIO	**Ouri**	**1.11**	**341**	⇓P	Pn	19 02 57.6	+0.2
JIO				S	Sn	19 03 10.7	-0.8
JFT	**Otama**	**1.17**	**276**	⇓P	Pn	19 02 59.4	+1.2
JFT				S	Sn	19 03 14.1	+1.2
JHO	**Hitachi**	**1.26**	**232**	P	Pn	19 02 59.2	-0.2
JHO				S	Sn	19 03 13.7	-1.5
JOU	**Okura**	**1.32**	**317**	⇓P	Pn	19 03 01.3	+1.1
JOU				S	Sn	19 03 18.0	+1.5
JYS	**Shirataka**	**1.60**	**301**	S	Sn	19 03 26.2	+2.7
JMK	**Ichinoseki**	**1.61**	**344**	P	Pn	19 03 05.2	+0.9
JMK				S	Sn	19 03 24.5	+0.6
JFY	**Yanaizu**	**1.67**	**271**	S	Sn	19 03 27.1	+1.9
MAT	**Matsushiro**	**3.00**	**255**	P	Pn	19 03 26.6	+3.3
MAT				S	Sn	19 04 02.8	+4.7

IDC 02 19:02:49.8±2.1, **2130S×6836W, h116**km±19km, **mb4.1/1, mb1 3.4/4, mb1mx3.2/15, mbtmp3.7/4, Error ellipse: s-maj=51.6km s-min=15.0km az=86.0, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.99**	**3**	P	Pn	19 04 04.3	+1.8
	3.3nm,0.3s,baz=185,slow=8.6,SNR=72						
LPAZ				S	Sn	19 04 59.9	+0.8
	0.4nm,0.3s,baz=270,slow=20,SNR=2.1						
CFAA	**Coronel Fontan**	**10.27**	**179**	P	Pn	19 05 14.1	+0.3
	0.1nm,0.3s,baz=321,slow=13,SNR=3.8						
CFAA				S	Sn	19 07 05.4	-1.6
	0.1nm,0.3s,baz=187,slow=17,SNR=6.5						
CPUP	**Villa Florida**	**11.27**	**119**	P	Pn	19 05 28.9	+1.6
	0.4nm,0.3s,baz=291,slow=14,SNR=2.9						
TORD	**Torodi Ar. Bea**	**76.81**	**70**	P	P	19 14 28.7	0.0
	1.9nm,0.5s,baz=257,slow=5.0,SNR=18						
MKAR	**Makanchi Array**	**145.17**	**36**	PKPbc	PKPbc	19 22 13.7	+0.2
	1.9nm,0.7s,baz=312,slow=3.4,SNR=25						

IDC 02 19:06:19.1±62.0, **1655S×17423W, h0**km, **mb4.0/3, mb1 4.2/3, mb1mx3.9/12, mbtmp4.0/3, Error ellipse: s-maj=1188.0km s-min=177.9km az=79.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**42.77**	**241**	P	P	19 14 18.6	+0.3
	3.8nm,1.0s,baz=102,slow=11,SNR=5.2						
WRA	**Warramunga Arr**	**48.81**	**258**	P	P	19 15 06.0	0.0
	0.6nm,0.8s,baz=96,slow=7.1,SNR=16						
ASAR	**Alice Springs**	**49.00**	**253**	P	P	19 15 08.2	+0.7
	2.8nm,0.6s,baz=88,slow=8.4,SNR=51						

*CSEM **02** 19:13:25.8, 2247S×17626W, h33km, mb5.5*
*SZGRF **02** 19:14:23.5, 2185S×17868W, h33km, Fiji Islands region*
*NEIC **02** 19:14:32.9±0.9, 2080S×17835W, h573km±10km, mb4.4/17, Error ellipse: s-maj=12.5km s-min=8.1km az=138.0*
*ISCJB **02** 19:14:32.9±1.0, 2075S±007×17854W±008, h573km±13km, mb4.3/31, Error ellipse: s-maj=12.9km s-min=9.9km az=69.2*
*BJI **02** 19:14:32.9, 2080S×17840W, h573km, mB4.6, mb4.6*
*IDC **02** 19:14:35.2±1.4, 2094S×17848W, h596km±14km, mb3.8/11, mb1 4.0/13, mb1mx3.9/15, mbtmp4.7/13, Error ellipse: s-maj=16.3km s-min=10.9km az=149.0*
*MOS **02** 19:14:35.5±2.8, 1975S×17930W, h535km, mb4.3/8, Error ellipse: s-maj=15.6km s-min=13.4km az=168.4*

ISC 02 19:14:33.6±0.9, **2079S**±007×**17841W**±008, **h571**km±11km, **n165, σ1↯02/67, mb4.4/31, 19C-18D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**8.44**	**177**	S	**S**	**19 18 17.5**	**+0.8**
	21nm,0.3s,baz=103,slow=23,SNR=2.3						
AFI	**Afiamalu**	**9.32**	**44**	P	**P**	**19 16 43.8**	**-1.1**
	5.6nm,0.3s,baz=75,slow=16,SNR=6.4						
AFI				S	**S**	**19 18 26.4**	**-6.3**
	28nm,0.3s,baz=117,slow=21,SNR=14						
AFI	**Afiamalu**	**9.32**	**44**	*e*P	**P**	**19 16 43.7**	**-1.2**
AFI				*e*S	**S**	**19 18 26.7**	**-6.1**
AFI				pmax	pmax		
	comp=Z,18nm,0.4s						
AFI	**Afiamalu**	**9.32**	**44**	*e*P	**P**	**19 16 43.7**	**-1.3**
	comp=Z,18nm,0.4s						
AFI				*e*S	**S**	**19 18 26.7**	**-6.0**
DZM	**Mont Dzumac**	**14.16**	**262**	P	**P**	**19 17 35.2**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=78,slow=17,SNR=17						
URZ	**Urewera**	**17.84**	**192**	P	**P**	**19 18 06.8**	**-2.1**
	comp=Z,1.9nm,0.3s,baz=358,slow=5.9,SNR=11						
RPZ	**Rata Peaks**	**24.50**	**199**	P	**P**	**19 19 05.6**	**-3.1**
	comp=Z,3.5nm,0.6s,mb4.2,baz=14,slow=4.2,SNR=2.4						
CTA	**Charters Tower**	**33.08**	**265**	⇓*i*P	**P**	**19 20 23.9**	**+0.9**
	comp=Z,10.0nm,0.4s,mb4.7						
CTA	**Charters Tower**	**33.08**	**265**	P	**P**	**19 20 23.9**	**+0.9**
	comp=Z,2.6nm,0.5s,mb4.1,baz=91,slow=15,SNR=3.2						
CTA	**Charters Tower**	**33.08**	**265**	⇓*i*P	**P**	**19 20 23.9**	**+0.9**
CTA				pmax	pmax		
	comp=Z,10.0nm,0.4s						
CTAO	**Charters Tower**	**33.08**	**265**	*e*P	**P**	**19 20 23.5**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.3						
CTAO	**Charters Tower**	**33.08**	**265**	*e*P	**P**	**19 20 23.5**	**+0.6**
	comp=Z,9.0nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**37.32**	**244**	⇓*i*P	**P**	**19 20 57.2**	**-0.9**
	comp=Z,5.1nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**37.32**	**244**	P	**P**	**19 20 57.2**	**-0.8**
	comp=Z,8.6nm,0.7s,mb4.4,baz=95,slow=11,SNR=19						
STKA				PcP	PcP	19 23 00.3	-1.5
	comp=Z,3.4nm,1.0s,baz=265,slow=17,SNR=2.8						
ASAR	**Alice Springs**	**44.08**	**257**	P	**P**	**19 21 52.4**	**+0.7**
	comp=Z,29nm,0.6s,mb5.0,baz=97,slow=7.6,SNR=288						
ASAR				PcP	PcP	19 23 24.4	+0.2
	comp=Z,4.4nm,0.8s,baz=88,slow=3.7,SNR=9.8						
ASAR				ScP	ScP	19 26 21.2	-0.8
	comp=Z,0.7nm,0.6s,baz=108,slow=4.8,SNR=5.6						
ASAR				S	**S**	**19 27 41.5**	**-1.7**
	comp=Z,2.8nm,0.9s,baz=94,slow=16,SNR=15						
ASAR	**Alice Springs**	**44.08**	**257**	P	**P**	**19 21 52.4**	**+0.7**
ASAR						19 23 24.4	
ASAR				S	**S**	**19 27 41.6**	**-1.7**
WB2	**Warramunga Arr**	**44.17**	**262**	⇓*i*P	**P**	**19 21 52.4**	**0.0**
WRAB	**Tennant Creek**	**44.17**	**262**	*d*iP	**P**	**19 21 52.3**	**-0.1**
WRAB	**Tennant Creek**	**44.17**	**262**	*e*P	**P**	**19 21 52.1**	**-0.3**
	comp=Z,56nm,1.0s,mb5.0						
WRA	**Warramunga Arr**	**44.18**	**262**	P	**P**	**19 21 52.5**	**0.0**
	comp=Z,14nm,0.3s,mb5.0,baz=97,slow=7.3,SNR=1330						
WRA				S	**S**	**19 27 41.0**	**-3.7**
	comp=Z,1.9nm,1.0s,baz=97,slow=14,SNR=4.7						
KAKA	**Kakadu**	**47.59**	**272**	*e*P	**P**	**19 22 17.8**	**-0.6**
	comp=Z,22nm,0.6s,mb4.9						
FORT	**Forrest**	**48.83**	**247**	*e*P	**P**	**19 22 27.4**	**-0.1**
	comp=Z,25nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**52.61**	**263**	⇓*i*P	**P**	**19 22 55.4**	**+0.5**
	comp=Z,10.0nm,0.5s,mb4.4						
MBWA	**Marble Bar**	**57.41**	**258**	*e*P	**P**	**19 23 28.3**	**-0.1**
	comp=Z,14nm,0.5s,mb4.5						
SBA	**Scott Base**	**57.56**	**184**	*e*P	**P**	**19 23 31.4**	**+2.0**
SBA				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb3.9						
SBA	**Scott Base**	**57.56**	**184**	*e*P	**P**	**19 23 31.4**	**+2.0**
	comp=Z,7.8nm,1.0s,mb3.9						
KLBR	**Kellerberrin**	**57.59**	**245**	*e*P	**P**	**19 23 29.4**	**-0.1**
	comp=Z,32nm,1.0s,mb4.5						
VNDA	**Vanda**	**57.59**	**185**	P	**P**	**19 23 28.8**	**-0.8**
	comp=Z,1.6nm,0.7s,mb3.4,baz=343,slow=7.1,SNR=10						
VNDA	**Vanda**	**57.59**	**185**	*e*P	**P**	**19 23 30.0**	**+0.4**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
VNDA	**Vanda**	**57.59**	**185**	*e*P	**P**	**19 23 30.0**	**+0.4**
	comp=Z,2.2nm,0.9s,mb3.4						
NWAO	**Narrogin (SRO)**	**57.90**	**244**	*e*P	**P**	**19 23 31.5**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,10.0nm,0.9s						
NWAO	**Narrogin (SRO)**	**57.90**	**244**	*e*P	**P**	**19 23 31.5**	**-0.1**
	comp=Z,9.9nm,0.9s,mb4.0						
MUN	**Mundaring**	**58.85**	**245**	*e*P	**P**	**19 23 38.7**	**+0.6**
CASY	**Casey**	**63.54**	**205**	*e*P	**P**	**19 24 07.8**	**-0.9**
	comp=Z,4.8nm,0.9s,mb3.9						
QSPA	**South Pole Qui**	**69.28**	**180**	*e*P	**P**	**19 24 45.0**	**+0.8**
	comp=Z,11nm,1.2s,mb4.3						
KKM	**Kota Kinabalu**	**69.46**	**285**	*e*P	**P**	**19 24 45.0**	**-0.3**
MJAR	**Matsushiro Arr**	**70.21**	**324**	P	**P**	**19 24 49.2**	**-0.5**
	comp=Z,5.2nm,0.6s,mb4.2,baz=161,slow=6.3,SNR=23						
MAJO	**Matsushiro**	**70.21**	**324**	*e*P	**P**	**19 24 49.2**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.4						
MAJO	**Matsushiro**	**70.21**	**324**	*e*P	**P**	**19 24 49.2**	**-0.5**
	comp=Z,8.2nm,0.6s,mb4.4						
KSM	**Kuching**	**73.07**	**278**	*e*P	**P**	**19 25 06.7**	**+0.4**
YSS	**Yuzh-Sakhalins**	**75.98**	**334**	*e*P	**P**	**19 25 22.3**	**-0.3**
YSS				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.3						
YSS	**Yuzh-Sakhalins**	**75.98**	**334**	*e*P	**P**	**19 25 22.3**	**-0.3**
	comp=Z,9.0nm,0.7s,mb4.3						
NJ2	**Nanjing**	**79.77**	**310**	*e*P	**P**	**19 25 44.9**	**+2.0**
NJ2				PP	PP	19 28 55.2	+0.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.3						
NJ2				AMB	AMB		
	comp=Z,50nm,8.1s						
HABR	**Khabarovsk**	**80.50**	**331**	⇑*i*P	**P**	**19 25 48.0**	**+1.2**
HABR				*e*S	S	19 35 05.5	-1.4
HABR				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.4						
MDJ	**Mudanjiang**	**80.53**	**325**	P	**P**	**19 25 47.6**	**+0.7**
MDJ				AP	pP	19 27 44.8	-3.0
MDJ				XP	sP	19 28 42.0	-3.9
MDJ				PP	PP	19 29 00.3	-0.6
MDJ				S	S	19 35 10.8	+3.6
MDJ				SS	SS	19 40 35.2	-1.0
MDJ				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,51nm,3.1s						
NVAR	**Mina Array Bea**	**81.50**	**44**	P	**P**	**19 25 53.2**	**+1.3**
	comp=Z,2.1nm,0.6s,mb3.8,baz=224,slow=8.5,SNR=11						
NVAR	**Mina Array Bea**	**81.50**	**44**	P	**P**	**19 25 53.2**	**+1.3**
CN2	**Changchun**	**82.29**	**323**	*e*P	**P**	**19 25 56.0**	**+0.1**
CN2				*e*S	S	19 35 27.4	+2.5
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.2						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
KLR	**Kul'dur**	**82.58**	**330**	*e*P	**P**	**19 25 54.2**	**-3.2**
VNA3	**Neumayer Olymp**	**87.88**	**176**	*e*P	**P**	**19 26 21.9**	**-1.0**
VNA3				*e*		19 26 28.4	
VNA3				*e*		19 26 33.2	
ANMO	**Albuquerque**	**87.88**	**51**	*i*P	**P**	**19 26 24.5**	**+1.6**
XAN	**Xi'an**	**88.00**	**308**	P	**P**	**19 26 24.2**	**+0.7**
XAN				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.7						
VNA2	**Neumayer--Watz**	**88.32**	**177**	*e*P	**P**	**19 26 24.7**	**-0.3**
VNA2				*e*		19 26 31.5	
VNA2				*e*		19 26 35.9	
KMI	**Kunming**	**89.14**	**297**	P	**P**	**19 26 30.5**	**+1.7**
KMI				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.6						
HHC	**Hu-ho-hao-te**	**89.28**	**315**	*e*P	**P**	**19 26 30.1**	**+0.7**
HHC				PP	PP	19 30 12.2	+1.6
HHC				SKS		19 36 05.7	
HHC				S		19 36 29.1	
HHC				SS	SS	19 42 46.7	+3.6
HHC				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.6						
HHC				AMB	AMB		
	comp=Z,50nm,6.8s						
BILL	**Bilibino**	**89.28**	**354**	*c*iP	**P**	**19 26 28.7**	**-0.7**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.1						
PDAR	**Pinedale Array**	**89.43**	**43**	P	**P**	**19 26 30.6**	**+0.4**
	comp=Z,2.8nm,0.6s,mb4.2,baz=219,slow=3.0,SNR=26						
CD2	**Chengdu**	**90.62**	**303**	*e*P	**P**	**19 26 35.5**	**-0.1**
YAK	**Yakutsk**	**92.23**	**338**	⇑*e*P	**P**	**19 26 41.6**	**-1.5**
SONM	**Songino Array**	**95.72**	**319**	P	**P**	**19 26 57.1**	**-1.8**
	comp=Z,1.7nm,0.5s,mb4.5,baz=247,slow=2.6,SNR=2.9						
YKA	**Yellowknife Ar**	**96.93**	**25**	P	**P**	**19 27 03.3**	**-1.1**
	comp=Z,0.3nm,0.7s,mb3.6,baz=242,slow=4.3,SNR=7.8						
ZAL	**Zalesovo**	**110.48**	**321**	PKiKP	PKiKP	19 31 59.4	-2.1
	comp=Z,0.8nm,0.6s,baz=303,slow=2.8,SNR=4.3						
ZAL	**Zalesovo**	**110.48**	**321**	PKPdf	PKiKP	19 31 59.4	-2.1
MKAR	**Makanchi Array**	**111.11**	**313**	PKiKP	PKiKP	19 32 01.0	-1.8
	comp=Z,0.8nm,0.4s,baz=152,slow=0.7,SNR=27						
KURK	**Kurchatov**	**113.94**	**317**	⇑*i*PKiKP	PKiKP	19 32 07.5	-0.7
BVAR	**Borovoye Array**	**119.05**	**320**	PKP	PKPdf	19 32 16.4	-1.6
	comp=Z,4.0nm,0.4s,baz=122,slow=2.4,SNR=43						
SFJD	**Kangerlussuaq**	**123.35**	**22**	*i* P	PKPdf	19 32 27.7	+1.5
	comp=Z,13nm,1.3s						
SFJD	**Kangerlussuaq**	**123.35**	**22**	*e*P	PKPdf	19 32 27.7	+1.5
ARU	**Arti**	**125.22**	**325**	*i* PKiKP	PKPdf	19 32 28.8	-1.0
ARU				*e*		19 34 27.0	
ARU	**Arti**	**125.22**	**325**	*e*PKPdf	PKPdf	19 32 28.5	-1.3
AKTK	**Aktyubinsk**	**127.02**	**318**	PKP	PKPdf	19 32 32.8	-0.5
AKTO	**Aktyubinsk**	**127.02**	**318**	PKP	PKPdf	19 32 32.8	-0.5
	comp=Z,2.5nm,0.6s,baz=109,slow=3.1,SNR=15						
ARCES	**ARCESS Array B**	**129.13**	**349**	PKP	PKPdf	19 32 35.2	-2.1
	comp=Z,2.5nm,0.5s,baz=17,slow=1.0,SNR=44						
ARCES				PP	PP	19 35 04.4	+10
	comp=Z,1.6nm,1.0s,baz=18,slow=4.3,SNR=4.1						
KAF	**Kangasniemi**	**135.32**	**344**	*e*p	PKPdf	19 32 46.5	-2.4
	comp=Z,3.2nm,0.6s						
KAF	**Kangasniemi**	**135.32**	**344**	*e*PKIKP	PKPdf	19 32 46.5	-2.4
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FINES	**FINESS Array B**	**135.94**	**343**	PKhKP		19 32 36.7	
	comp=Z,1.5nm,0.8s,baz=90,slow=3.8,SNR=4.4						
FINES				PKP	PKPdf	19 32 47.8	-2.2
	comp=Z,1.2nm,0.6s,baz=97,slow=4.5,SNR=6.6						
FINES				SKPbc	SKPbc	19 35 25.2	-3.4
	comp=Z,1.6nm,0.8s,baz=46,slow=5.5,SNR=5.9						
FINES	**FINESS Array B**	**135.94**	**343**	PKHKP		19 32 36.7	
FINES						19 32 47.8	
FINES	**FINESS Array B**	**135.94**	**343**	PKP		19 32 36.7	
FINES				PKP	PKPdf	19 32 47.8	-2.2
FINES				SKPbc	SKPbc	19 35 25.2	-3.4
OBN	**Obninsk**	**136.82**	**331**	⇓*i*PKIKP	PKPdf	19 32 50.2	-1.5
OBN				*e*		19 38 50.3	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NB2	**NORSAR Subarra**	**139.22**	**353**	PKPa		19 32 46.3	
	comp=Z,1.1nm,0.6s,baz=13,slow=3.3						
NOA	**NORSAR Array B**	**139.22**	**353**	PKhKP		19 32 46.9	
	comp=Z,1.3nm,0.6s,baz=12,slow=2.3,SNR=6.4						
NOA				PKP	PKPdf	19 32 54.7	-1.4
	comp=Z,0.9nm,0.5s,baz=13,slow=4.1,SNR=4.2						
NOA	**NORSAR Array B**	**139.22**	**353**	PKP		19 32 46.9	
NOA				PKP	PKPdf	19 32 54.7	-1.4
HFS	**Hagfors**	**139.76**	**351**	PKhKP		19 32 48.0	
	comp=Z,1.8nm,0.3s,baz=30,slow=2.5,SNR=19						
HFS				PKP	PKPdf	19 32 55.9	-1.2
	comp=Z,2.4nm,0.8s,baz=8.1,slow=2.9,SNR=3.9						
AKASG	**Malin Array Be**	**143.08**	**331**	PKP	PKPdf	19 32 59.4	-3.6
	comp=Z,18nm,0.4s,baz=43,slow=4.2,SNR=190						
AKASG				SKPbc	SKPbc	19 35 43.5	-4.2
	comp=Z,0.2nm,0.2s,baz=46,slow=2.5,SNR=4.5						
MALT	**Malatya**	**143.80**	**307**	⇑*i*P	PKPdf	19 33 03.9	-0.3
MALT	**Malatya**	**143.80**	**307**	*e*PKPdf	PKPdf	19 33 03.5	-0.7
MUD	**Monsted U'grnd**	**143.94**	**353**	*i* P	PKPdf	19 33 03.1	-1.4
	comp=Z,15nm,0.5s						
SIM	**Simferopol'**	**143.96**	**320**	*d*iPKHKP		19 33 04.0	
SIM				pmax	pmax		
	comp=Z,32nm,0.7s						
COP	**Copenhagen**	**144.22**	**350**	*i* P	PKPdf	19 33 04.0	-0.9
	comp=Z,20nm,1.1s						
BSD	**Bornholm Skovb**	**144.28**	**347**	⇑*i*P	PKPdf

TNS					*e*PKPab	PKPab	19 33 28.6	-0.4	
KHC	**Kasperske Hory**	**150.14**	**344**⇓		*e*PKPB	PKPbc	19 33 19.9	-0.5	
KHC					*e*PKPAB	PKPab	19 33 29.3	+0.3	
KHC	**Kasperske Hory**	**150.14**	**344**		*e*PKP	PKPbc	19 33 19.9	-0.5	
KHC					*e*		19 33 29.3		
GRA1	**Grafenberg Arr**	**150.16**	**347**		*e*PKPbc	PKPbc	19 33 19.9	-0.6	
GRA1					*e*PKPab	PKPab	19 33 29.3	+0.2	
GRF	**Grafenberg Arr**	**150.16**	**347**		*e*PKPbc	PKPbc	19 33 19.9	-0.6	
GRF					*e*PKPab	PKPab	19 33 29.3	+0.2	
BZS	**Buzias**	**150.26**	**331**⇓		*i* P	PKPbc	19 33 20.0	-0.7	
GERES	**GERESS Array B**	**150.37**	**344**		PKPbc	PKPbc	19 33 20.4	-0.6	
	comp=Z,3.6nm,0.6s,baz=28,slow=2.2,SNR=42								
GERES					PKPab	PKPab	19 33 29.6	-0.4	
	comp=Z,1.7nm,0.8s,baz=45,slow=4.0,SNR=7.9								
GIVF	**Givet**	**150.64**	**356**		*e*PKIKP	PKPbc	19 33 20.9	-0.7	
	comp=Z,17nm,0.7s								
DOU	**Dourbes**	**150.66**	**356**		PKPbc	PKPbc	19 33 21.1	-0.5	
BAIF	**Baives**	**150.72**	**357**		*e*PKIKP	PKPbc	19 33 21.0	-0.8	
	comp=Z,9.4nm,0.7s								
DIM	**Dimitrovgrad**	**150.73**	**322**		*i* P	PKPbc	19 33 21.4	-0.4	
WLF	**Walferdange**	**150.96**	**354**		*e*PKPbc	PKPbc	19 33 22.5	+0.2	
WLF					*e*PKPab	PKPab	19 33 32.5	0.0	
WLF	**Walferdange**	**150.96**	**354**		PKP	PKPdf	19 33 15.6	-0.4	
WLF					PKPbc	PKPbc	19 33 21.6	-0.7	
KDZ	**Kurdzhali**	**151.05**	**321**		*i* P	PKPbc	19 33 21.7	-0.8	
PKSM	**Moragy**	**151.05**	**335**⇑		*i*P	PKPbc	19 33 21.5	-1.0	
MOA	**Molln**	**151.12**	**342**⇓		*i*P	PKPbc	19 33 21.8	-0.9	
	comp=Z,2.5nm,0.5s								
MOA	**Molln**	**151.12**	**342**⇓		*i*P	PKPbc	19 33 21.8	-0.9	
PGB	**Panagyurishte**	**151.18**	**324**		*i* P	PKPbc	19 33 21.7	-1.1	
STU	**Stuttgart**	**151.42**	**349**		*e*PKPbc	PKPbc	19 33 22.7	-0.7	
VTS	**Vitosha**	**151.68**	**325**		*i* P	PKPbc	19 33 23.4	-0.5	
BFO	**Black Forest**	**151.99**	**350**		*e*PKPbc	PKPbc	19 33 23.8	-0.8	
BFO					*e*PKPab	PKPab	19 33 36.3	-0.5	
FLN	**La Foliniere**	**152.04**	**3**		*e*PKIKP	PKPbc	19 33 23.5	-1.2	
	comp=Z,6.4nm,0.4s								
CDF	**Champ du Feu**	**152.06**	**352**		*e*PKIKP	PKPbc	19 33 23.9	-0.9	
	comp=Z,8.0nm,0.7s								
KBA	**Koelnbreinsper**	**152.09**	**343**⇑		*i*P	PKPbc	19 33 24.0	-0.8	
	comp=Z,4.8nm,0.9s								
LDF	**La Druitiere**	**152.22**	**2**		*e*PKIKP	PKPbc	19 33 23.8	-1.3	
	comp=Z,4.7nm,0.5s								
KKB	**Krupnik**	**152.24**	**324**		*i* P	PKPbc	19 33 25.4	+0.2	
WTTA	**Wattenberg**	**152.36**	**345**⇓		*i*P	PKPbc	19 33 24.8	-0.6	
	comp=Z,5.8nm,0.5s								
GRR	**Gorron**	**152.39**	**4**		*e*PKIKP	PKPbc	19 33 24.4	-1.1	
SGMF	**Saint Gilles**	**152.40**	**6**		*e*PKIKP	PKPbc	19 33 24.1	-1.4	
	comp=Z,12nm,0.7s								
MOTA	**Moosalm**	**152.41**	**346**⇓		*i*P	PKPbc	19 33 24.5	-1.0	
	comp=Z,3.0nm,0.9s								
SQTA	**Sankt Quirin**	**152.50**	**346**⇑		*i*P	PKPbc	19 33 25.0	-0.8	
	comp=Z,2.1nm,0.8s								
SQTA	**Sankt Quirin**	**152.50**	**346**⇑		*i*P	PKPbc	19 33 25.0	-0.8	
VISS	**Visnje**	**152.78**	**339**		*e*PKPbc	PKPbc	19 33 25.6	-0.7	
VISS					*i*		19 33 39.3		
BOJS	**Bojanci**	**152.90**	**339**		*e*PKPbc	PKPbc	19 33 26.1	-0.6	
BOJS					*i*		19 33 40.1		
ESDC	**Sonseca Array**	**160.58**	**13**		PKPab	PKPab	19 34 14.1	+0.1	
	comp=Z,0.6nm,0.5s,baz=329,slow=5.6,SNR=4.3								
TORD	**Torodi Ar. Bea**	**172.40**	**181**		PKP	PKPdf	19 33 36.0	-1.3	
	comp=Z,0.9nm,0.8s,baz=101,slow=1.0,SNR=5.5								

GUC 02 19:20:28.5±1.0, 2738S×7141W, h48km±22km, ML3.6, 2C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.60**	**60**⇑	*i*P	Pn	19 20 40.4	-0.4
CDCH				*i* S	Sn	19 20 51.0	+1.3
CPCH	**Copiapo**	**0.94**	**89**⇑	*i* P	Pn	19 20 45.7	+0.4
CPCH				*i* S	Sn	19 20 59.0	+1.3
CPCH				AML	AML	19 21 01.4	
	comp=E,4μm,0.2s						
CRCH	**Chaqaral**	**1.25**	**35**⇓	*i*P	Pn	19 20 50.4	+0.9
CRCH				*i* S	Sn	19 21 06.0	+0.9
CRCH				AML	AML	19 21 19.3	
	comp=E,448nm,0.4s						
LCO	**Las Campanas**	**1.75**	**159**	*e*P	Pn	19 20 57.5	+1.2
LCO				*i* S	Sn	19 21 19.6	+2.3
TLL	**Tololo Astrono**	**2.83**	**169**	*i* P	Pn	19 21 13.6	+2.4
TLL				*i* S	Sn	19 21 46.9	+2.8
TLL				AML	AML	19 22 06.3	
	comp=N,516nm,0.5s						

*IDC **02** 19:44:38.7±1.2, 3454N×7344E, h0km, mb3.6/7, mb1 3.7/10, mb1mx3.6/23, mbtmp3.6/10, ML3.5/3, Error ellipse: s-maj=29.5km s-min=25.2km az=62.0*
*ISCJB **02** 19:44:39.0±0.6, 3458N±006×734E±0.1, h10km, mb3.6/7, Error ellipse: s-maj=15.7km s-min=6.0km az=124.0*
*NEIC **02** 19:44:40.2±0.9, 3450N×7340E, h10km, mb4.1/1, Error ellipse: s-maj=16.5km s-min=14.6km az=78.0*
*MOS **02** 19:44:43.4±1.2, 3473N×7328E, h33km, mb4.2/1, Error ellipse: s-maj=36.8km s-min=11.8km az=92.8*
*NDI **02** 19:44:47.3±1.7, 3426N×7380E, h10km, ML3.4, mb4.1(NEIC)*
*NNC **02** 19:44:49.0±3.0, 3478N×7316E, h54km±15km, mb2.9, mpv4.4, Error ellipse: s-maj=49.7km s-min=31.0km az=74.0*

ISC 02 19:44:40.7±0.6, 3455N±006×734E±01, h10km, n27, σ0995/30, mb3.6/7, 5C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**2.96**	**132**	*ex*	x	19 45 35.0	
DLH				*ex*	x	19 46 12.0	
SDNR	**Sundarnagar**	**4.30**	**134**	*e*P	**Pn**	**19 45 47.4**	**+1.2**
SDNR				*ex*	x	19 46 51.4	
KLP	**Kalpa**	**5.10**	**125**	*e*P	**Pn**	**19 45 57.5**	**+0.3**
KLP				*e*S	**Sn**	**19 46 49.3**	**-6.8**
KLP				AML	AML	19 47 26.2	
	comp=E,80nm,0.7s						
DDI	**Dehra Dun**	**5.79**	**135**	*ex*	x	19 47 21.5	
JOSI	**Joshimath**	**6.58**	**126**	*e*P	**Pn**	**19 46 16.7**	**-0.9**
JOSI				*e*S	**Sn**	**19 47 23.1**	**-9.5**
JOSI				AML	AML	19 48 05.1	
	comp=E,43nm,0.6s						
JOSI				AML	AML	19 48 05.9	
	comp=N,64nm,0.8s						
KUDL	**Kundal**	**6.93**	**156**	*e*P	**Pn**	**19 46 22.9**	**+0.6**
KUDL				*e*S	**Sn**	**19 47 32.5**	**-8.6**
KUDL				*e*S	**Sn**	**19 47 35.3**	**-5.8**
AAK	**Ala-Archa**	**8.12**	**6**	P	**Pn**	**19 46 38.8**	**+0.2**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
AAK	**Ala-Archa**	**8.12**	**6**	P	**Pn**	**19 46 38.8**	**+0.1**
	comp=Z,4.3nm,1.3s						
KK31	**Karatay Array**	**8.82**	**346**	⇑Pn	**Pn**	**19 46 51.5**	**+3.2**
	comp=Z,6.3nm,0.4s,baz=159,slow=12,SNR=46						
KK31				⇑Sn	**Sn**	**19 48 28.6**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=169,slow=22,SNR=4.9						
MKAR	**Makanchi Array**	**13.97**	**26**	Pn	**Pn**	**19 47 58.8**	**+0.1**
	comp=Z,0.0nm,0.3s,baz=220,slow=13,SNR=2.8						
AB31	**Akbulak array**	**17.72**	**330**	⇑P	**Pn**	**19 48 48.7**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=127,slow=11,SNR=7.2						
BVA0	**Borovoye Array**	**18.59**	**354**	⇑P	**Pn**	**19 48 58.9**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=176,slow=6.7,SNR=7.4						
BVAR	**Borovoye Array**	**18.59**	**354**	P	**Pn**	**19 48 57.6**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=162,slow=9.1,SNR=9.3						
AKTK	**Aktyubinsk**	**19.43**	**329**	P	**Pn**	**19 49 07.4**	**-0.9**
AKTO	**Aktyubinsk**	**19.43**	**329**	⇑P	**Pn**	**19 49 06.0**	**-2.3**
	comp=Z,0.1nm,0.8s						
AKTO	**Aktyubinsk**	**19.43**	**329**	P	**Pn**	**19 49 07.4**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=124,slow=15,SNR=5.2						
ZAL	**Zalesovo**	**20.99**	**19**	P	**P**	**19 49 23.4**	**-0.8**
	comp=Z,1.5nm,0.5s,baz=265,slow=5.3,SNR=5.1						
ARU	**Arti**	**24.11**	**340**	*e*P	**P**	**19 49 57.6**	**+1.1**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
ARU	**Arti**	**24.11**	**340**	*e*P	**P**	**19 49 57.6**	**+1.1**
	comp=Z,4.4nm,0.8s,mb3.9						
ARCES	**ARCESS Array B**	**43.67**	**338**	P	**P**	**19 52 44.6**	**-1.0**
	comp=Z,0.3nm,0.4s,mb3.4,baz=112,slow=7.7,SNR=6.8						
HFS	**Hagfors**	**45.78**	**323**	P	**P**	**19 53 01.9**	**-0.5**
	comp=Z,0.8nm,0.5s,mb3.9,baz=92,slow=12,SNR=6.9						
NOA	**NORSAR Array B**	**47.08**	**324**	P	**P**	**19 53 11.7**	**-1.0**
	comp=Z,0.5nm,0.6s,mb3.6,baz=96,slow=7.6,SNR=3.2						
TORD	**Torodi Ar. Bea**	**67.63**	**271**	P	**P**	**19 55 38.6**	**+0.9**
	comp=Z,0.3nm,0.4s,mb3.6,baz=48,slow=5.7,SNR=6.4						
INK	**Inuvik**	**75.50**	**10**	P	**P**	**19 56 24.4**	**-0.8**
WRA	**Warramunga Arr**	**79.33**	**123**	P	**P**	**19 56 45.9**	**-0.7**
	comp=Z,0.3nm,0.7s,mb3.3,baz=322,slow=4.8,SNR=7.0						
YKA	**Yellowknife Ar**	**83.08**	**4**	P	**P**	**19 57 06.6**	**+0.1**
	comp=Z,0.3nm,0.7s,mb3.4,baz=349,slow=4.6,SNR=7.1						
YKA	**Yellowknife Ar**	**83.08**	**4**	P	**P**	**19 57 06.6**	**+0.1**

WEL 02 20:06:38.1±0.6, 3790S×17915E, h12km, ML3.5/7, Error ellipse: s-maj=5.0km s-min=2.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**0.73**	**256**	P*	Pb	20 06 52.8	+0.2
PUZ				S*	Sb	20 07 02.4	-0.2
MXZ	**Matakaoa Point**	**0.75**	**296**	P*	Pb	20 06 52.0	-1.0
MXZ				S*	Sb	20 07 02.1	-1.1
MWZ	**Matawai**	**1.35**	**251**	PN	Pn	20 07 01.2	-1.5
URZ	**Urewera**	**1.65**	**257**	PN	Pn	20 07 06.4	-0.4
URZ				SN	Sn	20 07 26.2	-1.8
BKZ	**Black Stump Fm**	**2.44**	**238**	PN	Pn	20 07 16.8	-0.9
BKZ				SN	Sn	20 07 46.0	-1.4
BFZ	**Birch Farm**	**3.58**	**218**	PN	Pn	20 07 30.7	-2.6
BFZ				SN	Sn	20 08 11.4	-4.1
MRZ	**Mangatainoka R**	**3.91**	**224**	PN	Pn	20 07 35.2	-2.7
MRZ				SN	Sn	20 08 19.1	-4.6
MQZ	**McQueen's Vall**	**7.61**	**218**	SN	Sn	20 09 44.6	-10

IDC 02 20:34:52.1±5.0, 048S×10048E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/17, mbtmp3.6/3, Error ellipse: s-maj=261.5km s-min=28.3km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**38.37**	**122**	P	P	20 42 15.8	+0.9
	0.9nm,0.5s,baz=300,slow=8.3,SNR=14						
ASAR	**Alice Springs**	**39.78**	**128**	P	P	20 42 26.3	-0.4
	0.3nm,0.6s,baz=295,slow=7.7,SNR=5.6						
MKAR	**Makanchi Array**	**49.71**	**344**	P	P	20 43 46.0	+0.1
	0.5nm,0.6s,baz=160,slow=8.0,SNR=5.5						

*KRSC **02** 20:36:34.8±1.5, 5126N×157.15E, h122km±4km, ML4.5*
*BJI **02** 20:36:35.5, 5158N×15679E, h143km, mB4.7, mb4.6*
*MOS **02** 20:36:35.9±1.1, 5153N×15670E, h143km, mb4.5/19, Error ellipse: s-maj=11.0km s-min=6.5km az=73.5*
*ISCJB **02** 20:36:35.2±0.3, 5143N±004×15676E±0.05, h137km±2km, mb4.4/55, Error ellipse: s-maj=7.2km s-min=3.6km az=98.7*
*NEIC **02** 20:36:37.3±0.2, 5158N×15667E, mb4.6/30, Error ellipse: s-maj=7.5km s-min=4.2km az=161.0*
*IDC **02** 20:36:38.5±3.6, 5158N×15663E, h147km±34km, mb3.8/17, mb1 4.0/19, mb1mx3.9/23, mbtmp4.2/19, Error ellipse: s-maj=15.1km s-min=11.1km az=144.0*

ISC 02 20:36:36.5±0.3, 5145N±003×15674E±005, h132km±2km, h138km±2.1km; pP-P, n162, σ1914/195, mb4.4/55, 5C-2D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIPR	**Malaya Ipel'ka**	**0.83**	**1**	*i* P	**Pn**	**20 36 57.7**	**-0.3**
MIPR				*i* S	**Sn**	**20 37 14.4**	**0.0**
SKR	**Severo-Kuril's**	**0.86**	**207**	*i* P	**Pn**	**20 36 58.4**	**+0.1**
SKR				*i* S	**Sn**	**20 37 14.2**	**-0.8**
ALID	**Alaid**	**0.95**	**233**	*e*P	**Pn**	**20 36 58.4**	**-0.7**
ALID				*e*S	**Sn**	**20 37 15.2**	**-1.1**
GRL	**Gorelyy**	**1.38**	**36**	*i* P	**Pn**	**20 37 03.3**	**-0.1**
GRL				*e*S	**Sn**	**20 37 23.9**	**0.0**
RUS	**Russkaya**	**1.48**	**47**	P	**Pn**	**20 37 03.1**	**-1.3**
RUS				S	**Sn**	**20 37 23.3**	**-2.4**
RUS	**Russkaya**	**1.48**	**47**	*e*P	**Pn**	**20 37 03.0**	**-1.4**
RUS				*i* S	**Sn**	**20 37 23.2**	**-2.5**
APC	**Apacha**	**1.50**	**10**	*i* P	**Pn**	**20 37 04.7**	**0.0**
APC				*i* S	**Sn**	**20 37 27.4**	**+1.2**
APC				Smax			
	720nm,0.8s						
KRMR	**Karymshinskiy**	**1.63**	**31**	*i* P	**Pn**	**20 37 04.8**	**-1.3**
KRMR				*e*S	**Sn**	**20 37 28.3**	**-0.5**
PET	**Petropavlovsk**	**1.97**	**36**	P	**Pn**	**20 37 09.4**	**-0.7**
PET				S	**Sn**	**20 37 34.2**	**-1.7**
PET	**Petropavlovsk**	**1.97**	**36**⇑	*i*PN	**Pn**	**20 37 09.5**	**-0.6**
PET				*e*S	**Sn**	**20 37 35.8**	**-0.1**
PET				pmax	pmax		
	comp=Z,60nm,0.4s						
PET				smax			
	comp=N,1μm,0.4s						
PET				smax			
	comp=E,636nm,0.5s						
PET	**Petropavlovsk**	**1.97**	**36**	*e*Pn	**Pn**	**20 37 09.3**	**-0.8**
PET				*e*Sn	**Sn**	**20 37 30.9**	**-5.0**
PET	**Petropavlovsk**	**1.97**	**36**	*e*P	**Pn**	**20 37 09.4**	**-0.7**
PET				*e*S	**Sn**	**20 37 34.8**	**-1.1**
UGLR	**Uglovaya**	**2.18**	**35**	*e*P	**Pn**	**20 37 13.1**	**+0.4**
UGLR				*i* S	**Sn**	**20 37 41.2**	**+0.7**
KOK	**Koryaka**	**2.18**	**32**	*i* P	**Pn**	**20 37 13.6**	**+0.9**
KOK				*e*S	**Sn**	**20 37 40.2**	**-0.4**
AVH	**Avacha**	**2.19**	**33**	*i* P	**Pn**	**20 37 13.7**	**+0.8**
AVH				*e*S	**Sn**	**20 37 41.5**	**+0.7**
SMAR	**Somma**	**2.21**	**34**	*e*P	**Pn**	**20 37 13.8**	**+0.7**
SMAR				*e*S	**Sn**	**20 37 40.6**	**-0.7**
SDLR	**Sedlovina**	**2.25**	**35**	*i* P	**Pn**	**20 37 13.9**	**+0.3**
SDLR				*e*S	**Sn**	**20 37 41.8**	**-0.4**
NLC	**Nalytchevo**	**2.35**	**42**	*i* P	**Pn**	**20 37 13.2**	**-1.7**
NLC				*e*S	**Sn**	**20 37 41.1**	**-3.3**
GNL	**Ganaly**	**2.37**	**18**	*e*P	**Pn**	**20 37 15.7**	**+0.7**
GNL				*e*S	**Sn**	**20 37 46.4**	**+1.7**
SPN	**Mys Shipunski**	**2.61**	**49**	P	**Pn**	**20 37 16.8**	**-1.3**
SPN				S	**Sn**	**20 37 46.7**	**-3.4**
SPN	**Mys Shipunski**	**2.61**	**49**	*e*P	**Pn**	**20 37 16.6**	**-1.5**
SPN				*e*S	**Sn**	**20 37 46.5**	**-3.6**
KII	**Karymskiy**	**3.07**	**31**	P	**Pn**	**20 37 25.3**	**+1.3**
KII				S	**Sn**	**20 38 01.4**	**+0.7**
KII	**Karymskiy**	**3.07**	**31**	*e*P	**Pn**	**20 37 25.2**	**+1.2**
KII				*e*S	**Sn**	**20 38 02.0**	**+1.3**
MKZ	**Mys Kozlova**	**4.33**	**42**	P	**Pn**	**20 37 39.8**	**-0.8**
MKZ	**Mys Kozlova**	**4.33**	**42**	*i* P	**Pn**	**20 37 38.8**	**-1.8**
MKZ				*e*S	**Sn**	**20 38 26.3**	**-4.2**
TUMR	**Tumrok**	**4.35**	**27**	*e*P	**Pn**	**20 37 42.1**	**+1.3**
TUMR				*e*S	**Sn**	**20 38 33.0**	**+2.1**
ESO	**Esso**	**4.63**	**14**	*e*P	**Pn**	**20 37 45.8**	**+1.2**
ESO				*e*S	**Sn**	**20 38 37.7**	**+0.1**
ESO				Smax			
	comp=E,70nm,1.2s						
KMNR	**Kamenistaya**	**4.79**	**24**	*i* P	**Pn**	**20 37 48.4**	**+1.7**
KPT	**Kopyto**	**4.97**	**23**	*e*P	**Pn**	**20 37 49.7**	**+0.5**
ZLN	**Zelenaya**	**5.17**	**26**	*e*P	**Pn**	**20 37 53.9**	**+2.1**
SRDR	**Sredinnyy**	**5.18**	**19**	*e*P	**Pn**	**20 37 53.6**	**+1.6**
LGNR	**Loginova**	**5.20**	**25**	*e*P	**Pn**	**20 37 53.3**	**+1.1**
CIRR	**Tsirk**	**5.24**	**25**	*e*P	**Pn**	**20 37 53.9**	**+1.1**
KRSR	**Krestovskiy**	**5.29**	**24**	*e*P	**Pn**	**20 37 53.6**	**+0.2**
KLY	**Klyuchi**	**5.39**	**24**	P	**Pn**	**20 37 56.6**	**+1.8**
KLY	**Klyuchi**	**5.39**	**24**	*e*P	**Pn**	**20 37 56.5**	**+1.7**
BDR	**Baidarnaya**	**5.76**	**25**	*e*P	**Pn**	**20 38 00.6**	**+0.8**
BDR				*e*S	**Sn**	**20 39 01.1**	**-3.7**
SRKR	**Sorokina**	**5.83**	**25**	*e*P	**Pn**	**20 38 01.4**	**+0.7**
SMKR	**Semkarok**	**5.85**	**27**	*e*P	**Pn**	**20 38 01.7**	**+0.8**
KBG	**Krutoberegovo**	**5.97**	**34**	*i* P	**Pn**	**20 38 01.4**	**-1.1**
KBG				*e*S	**Sn**	**20 39 06.7**	**-3.0**
KBG				Smax			
	comp=E,290nm,1.0s						
KBTR	**Krutoberegovo**	**5.97**	**35**	P	**Pn**	**20 38 02.3**	**-0.3**
KBTR	**Krutoberegovo**	**5.97**	**35**	*e*P	**Pn**	**20 38 01.1**	**-1.5**
KBTR				*e*S	**Sn**	**20 39 07.1**	**-2.7**
BKI	**Bering**	**6.69**	**52**	*e*P	**Pn**	**20 38 08.8**	**-3.4**
BKI				*e*S	**Sn**	**20 39 16.2**	**-11**
BKI				Smax			
	comp=E,420nm,0.3s						
MA2	**Magadan**	**8.81**	**340**	*de*PN	**Pn**	**20 38 41.9**	**+1.1**
MA2				pmax	pmax		
	comp=Z,30nm,0.9s						
MA2				pmax	pmax		
	comp=N,20nm,0.8s						
YSS	**Yuzh-Sakhalins**	**10.19**	**249**	*e*PN	**Pn**	**20 39 03.5**	**+4.2**
ASAJ	**Asahikawa**	**12.00**	**238**	P	**Pn**	**20 39 24.6**	**+1.4**
	comp=N,1.3nm,0.3s,baz=80,slow=15,SNR=17						
ASAJ	**Asahikawa**	**12.00**	**238**	PN	**Pn**	**20 39 24.6**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KLR	**Kul'dur**	**16.09**	**272**	*e*P	**Pn**	**20 40 13.8**	**-1.2**
BILL	**Bilibino**	**17.28**	**12**	*i* P	**Pn**	**20 40 30.7**	**+1.2**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BILL	**Bilibino**	**17.28**	**12**	*e*Pn	**Pn**	**20 40 28.4**	**-1.1**
	comp=Z,2.8nm,0.4s						
YAK	**Yakutsk**	**18.08**	**316**	*e*P	**P**	**20 40 37.7**	**0.0**
YAK				pmax	pmax		
	comp=Z,66nm,0.6s						
YAK	**Yakutsk**	**18.08**	**316**	*e*Pn	**Pn**	**20 40 37.7**	**-1.4**
	comp=Z,66nm,0.6s						
YAK				*e*pP	pP	20 41 05.2	+4.1
MDJ	**Mudanjiang**	**19.32**	**260**	P	**P**	**20 40 52.0**	**+0.7**
MDJ				XP	sP	20 41 32.0	+0.4
MDJ				S	**S**	**20 44 24.4**	**+1.5**
MDJ				SCP	ScP	20 48 32.8	+1.3
MDJ				PCS	PcS	20 48 46.3	+1.2
MDJ				SCS	ScS	20 52 14.8	+1.4
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,101nm,4.9s						
MDJ				LR	LR		
	comp=N,36nm,19.0s						
MDJ				LR	LR		
	comp=E,29nm,24.1s						
MDJ				LR	LR		
	comp=Z,33nm,35.5s						
MDJ	**Mudanjiang**	**19.32**	**260**	*e*P	**P**	**20 40 51.8**	**+0.5**
MAJO	**Matsushiro**	**19.91**	**229**	*e*P	**P**	**20 40 58.2**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,11nm,0.6s						
MAJO	**Matsushiro**	**19.91**	**229**	*e*P	**P**	**20 40 58.2**	**+0.6**
	comp=Z,11nm,0.6s						
MAT	**Matsushiro**	**19.91**	**229**	P	**P**	**20 40 58.4**	**+0.8**
MAT	**Matsushiro**	**19.91**	**229**	*e*P	**P**	**20 40 58.0**	**+0.4**
MAT				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MAT	**Matsushiro**	**19.91**	**229**	*e*P	**P**	**20 40 58.0**	**+0.4**
	comp=Z,6.8nm,0.7s						
MJAR	**Matsushiro Arr**	**19.91**	**229**	P	**P**	**20 40 58.7**	**+1.1**
	comp=Z,1.1nm,0.3s,baz=33,slow=7.4,SNR=22						
MJAR	**Matsushiro Arr**	**19.91**	**229**	P	**P**	**20 40 58.7**	**+1.1**
CN2	**Changchun**	**22.30**	**262**	*e*P	**P**	**20 41 23.4**	**+0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
HIA	**Hailar**	**23.54**	**279**	*e*P	**P**	**20 41 34.4**	**-0.2**
HIA				*e**PP		20 42 02.5	
HIA				pmax	pmax		
	comp=Z,17nm,0.6s						
HIA	**Hailar**	**23.54**	**279**	*e*P	**P**	**20 41 34.4**	**-0.2**
	comp=Z,17nm,0.6s,mb4.8						
HIA				*e*pP		20 42 02.5	
BOD	**Bodaibo**	**25.19**	**301**	*e*P	**P**	**20 41 48.3**	**-1.3**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.3						
COLA	**College**	**31.02**	**43**⇑	*i*P	**P**	**20 42 39.6**	**-1.8**
COLA	**College**	**31.02**	**43**	*e*P	**P**	**20 42 39.2**	**-2.2**
	comp=Z,15nm,0.9s,mb4.7						
ULN	**Ulaanbaatar**	**31.86**	**283**	*e*P	**P**	**20 42 49.2**	**+0.3**
ULN				*e**PP	pP	20 43 19.1	+1.6
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
ULN	**Ulaanbaatar**	**31.86**	**283**	*e*P	**P**	**20 42 49.2**	**+0.3**
	comp=Z,1.8nm,0.6s,mb4.0						
ULN				*e*pP	pP	20 43 19.1	+1.6
SONM	**Songino Array**	**32.28**	**284**	P	**P**	**20 42 53.6**	**+1.1**
	comp=Z,1.8nm,0.5s,mb4.1,baz=70,slow=8.1,SNR=12						
TLY	**Talaya**	**32.40**	**292**	*e*P	**P**	**20 42 53.4**	**-0.1**
TLY				*e**PP	pP	20 43 20.8	-1.4
TLY				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
TLY	**Talaya**	**32.40**	**292**	*e*P	**P**	**20 42 53.4**	**-0.1**
	comp=Z,1.6nm,0.8s,mb3.8						
TLY				*e*pP	pP	20 43 20.8	-1.4
HHC	**Hu-ho-hao-te**	**32.56**	**269**	*e*P	**P**	**20 42 55.5**	**+0.6**
HHC				AP	pP	20 43 26.5	+3.0
HHC				XP	sP	20 43 42.3	+3.5
HHC				PP	PP	20 44 05.7	-5.3
HHC				PCP	PcP	20 45 39.7	+1.4
HHC				S	**S**	**20 47 59.1**	**-1.4**
HHC				XS	sS	20 48 51.5	+0.9
HHC				SCP	ScP	20 49 08.4	-1.4
HHC				PCS	PcS	20 49 24.6

KURK	**Kurchatov**	**46.84**	**301**	*e*P		**P**	**20 44 52.0**	**-1.0**
KURK				*e**PP		pP	20 45 23.3	+0.1
KURK					pmax	pmax		
	comp=Z,15nm,0.6s,mb4.8							
KURK	**Kurchatov**	**46.84**	**301**	*e*P		**P**	**20 44 52.0**	**-1.0**
	comp=Z,15nm,0.6s,mb4.8							
KURK				*e*pP		pP	20 45 23.2	+0.1
MKAR	**Makanchi Array**	**47.00**	**295**	P		**P**	**20 44 53.8**	**-0.4**
	comp=Z,2.3nm,0.4s,mb4.1,baz=59,slow=6.8,SNR=66							
KMI	**Kunming**	**48.49**	**258**	P		**P**	**20 45 09.5**	**+3.8**
KMI					AMB	AMB		
	comp=Z,2.0nm,0.7s,mb3.9							
POHA	**Pohakuloa**	**48.81**	**112**	P		**P**	**20 45 07.2**	**-0.9**
	comp=Z,391nm,0.8s							
CHKZ	**Chkalovo**	**49.30**	**308**	*e*P		**P**	**20 45 09.9**	**-1.9**
CHKZ				*e**PP		pP	20 45 41.9	-0.4
CHKZ					pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.6							
CHKZ	**Chkalovo**	**49.30**	**308**	*e*P		**P**	**20 45 09.9**	**-1.9**
	comp=Z,8.3nm,0.5s,mb4.6							
CHKZ				*e*pP		pP	20 45 41.9	-0.5
CHKZ				*e*sP		sP	20 46 08.1	+11
BVAR	**Borovoye Array**	**49.78**	**308**	P		**P**	**20 45 14.2**	**-1.3**
	comp=Z,5.3nm,0.5s,mb4.5,baz=58,slow=7.4,SNR=30							
BVAR					PcP	PcP	20 46 34.2	-0.2
	comp=Z,1.5nm,0.4s,baz=86,slow=1.6,SNR=5.1							
LSA	**Lhasa**	**52.45**	**272**	*e*P		**P**	**20 45 36.8**	**+1.4**
LSA					pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.5							
LSA	**Lhasa**	**52.45**	**272**	*e*P		**P**	**20 45 36.8**	**+1.5**
	comp=Z,7.9nm,0.6s,mb4.5							
NEW	**Newport**	**52.52**	**57**	P		**P**	**20 45 35.3**	**-0.6**
NEW					pmax	pmax		
	comp=Z,4.0nm,0.8s							
NEW	**Newport**	**52.52**	**57**	P		**P**	**20 45 35.3**	**-0.6**
	comp=Z,4.3nm,0.8s,mb4.2							
ARU	**Arti**	**53.19**	**317**	⇑*i*P		**P**	**20 45 39.4**	**-1.5**
ARU				*e*		pP	20 46 11.2	-0.6
ARU				*e*			20 46 42.2	
ARU				*e*PPP			20 48 48.3	
ARU				*e*S		**S**	**20 53 01.4**	**-0.1**
ARU				*e*SS		SS	20 56 42.6	-0.1
ARU					pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3							
ARU	**Arti**	**53.19**	**317**	*e*P		**P**	**20 45 39.2**	**-1.7**
	comp=Z,6.6nm,0.4s,mb4.7							
ARU				*e*pP		pP	20 46 11.2	-0.6
ARU				*e*PcP		PcP	20 46 45.5	-1.6
WALA	**Waterton Lakes**	**53.69**	**55**	*e*P		**P**	**20 45 44.3**	**-0.2**
AAK	**Ala-Archa**	**53.93**	**295**	*e*P		**P**	**20 45 45.1**	**-1.2**
AAK				*e**PP		pP	20 46 16.3	-1.0
AAK					pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0							
AAK	**Ala-Archa**	**53.93**	**295**	*e*P		**P**	**20 45 45.1**	**-1.2**
	comp=Z,2.3nm,0.6s,mb4.1							
AAK				*e*pP		pP	20 46 16.3	-1.0
ARCES	**ARCESS Array B**	**54.19**	**341**	P		**P**	**20 45 46.4**	**-1.7**
	comp=Z,0.8nm,0.8s,mb3.5,baz=36,slow=8.0,SNR=7.8							
MOD	**Modoc**	**54.81**	**65**	*e*P		**P**	**20 45 53.7**	**+1.1**
	comp=Z,6.3nm,0.5s,mb4.6							
SHL	**Shillong**	**54.90**	**268**	*e*P		**P**	**20 45 56.0**	**+2.7**
CHMT	**Chamberlain Mo**	**55.40**	**56**	*e*P		**P**	**20 45 56.7**	**-0.2**
WVOR	**Wild Horse Val**	**55.41**	**64**	*e*P		**P**	**20 45 57.8**	**+0.9**
WVOR					pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5							
WVOR	**Wild Horse Val**	**55.41**	**64**	*e*P		**P**	**20 45 57.8**	**+0.9**
	comp=Z,11nm,1.0s,mb4.5							
FFC	**Flin Flon**	**55.64**	**44**	*e*P		**P**	**20 45 58.6**	**0.0**
FFC				*e*			20 46 56.1	
FFC					pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6							
FFC	**Flin Flon**	**55.64**	**44**	*e*P		**P**	**20 45 58.6**	**0.0**
	comp=Z,9.8nm,1.0s,mb4.6							
FFC				*e*PcP		PcP	20 46 56.1	-0.5
SUMG	**Summit**	**55.82**	**5**	*e*P		**P**	**20 45 59.9**	**+0.1**
	comp=Z,6.8nm,0.7s,mb4.6							
FCC	**Fort Churchill**	**56.04**	**36**	*e*P		**P**	**20 46 00.7**	**-0.7**
FCC					pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3							
FCC	**Fort Churchill**	**56.04**	**36**	*e*P		**P**	**20 46 00.7**	**-0.7**
	comp=Z,3.4nm,0.6s,mb4.3							
KKM	**Kota Kinabalu**	**56.31**	**231**	*e*P		**P**	**20 46 01.0**	**-2.4**
JIRN	**Jiri**	**56.97**	**274**	*e*P		**P**	**20 46 08.9**	**+0.9**
	comp=Z,14nm,0.9s,mb4.8							
GUN	**Gumba**	**56.99**	**274**	*e*P		**P**	**20 46 08.9**	**+0.8**
HLID	**Hailey**	**56.99**	**60**	P		**P**	**20 46 08.9**	**+0.8**
	comp=Z,2.0nm,0.9s,mb4.0							
KKN	**Kakani**	**57.45**	**275**	*e*P		**P**	**20 46 11.8**	**+0.5**
	comp=Z,16nm,0.6s,mb5.0							
PKI	**Pulchoki**	**57.52**	**275**	*e*P		**P**	**20 46 11.2**	**-0.7**
DMN	**Daman**	**57.69**	**275**	*e*P		**P**	**20 46 13.1**	**+0.1**
	comp=Z,23nm,0.8s,mb5.1							
GKN	**Gorkha**	**57.70**	**275**	*e*P		**P**	**20 46 13.1**	**0.0**
	comp=Z,19nm,0.7s,mb5.0							
QLMT	**Earthquake Lak**	**57.74**	**57**	*e*P		**P**	**20 46 13.7**	**+0.4**
NVAR	**Mina Array Bea**	**58.27**	**67**	P		**P**	**20 46 18.3**	**+1.3**
	comp=Z,5.5nm,0.5s,mb4.6,baz=295,slow=7.7,SNR=40							
KOLN	**Koldanda**	**58.51**	**276**	*e*P		**P**	**20 46 18.4**	**-0.3**
	comp=Z,13nm,0.7s,mb4.9							
TPH	**Tonopah**	**59.13**	**67**	*e*P		**P**	**20 46 23.7**	**+0.7**
TPH					pmax	pmax		
	comp=Z,17nm,1.1s,mb4.8							
TPH	**Tonopah**	**59.13**	**67**	*e*P		**P**	**20 46 23.7**	**+0.6**
	comp=Z,17nm,1.1s,mb4.8							
HWUT	**Hardware Ranch**	**59.86**	**60**	*e*P		**P**	**20 46 28.3**	**+0.3**
	comp=Z,10nm,1.0s,mb4.6							
PDAR	**Pinedale Array**	**60.14**	**58**	P		**P**	**20 46 30.5**	**+0.6**
	comp=Z,7.8nm,0.7s,mb4.6,baz=317,slow=3.8,SNR=19							
DUG	**Dugway**	**60.15**	**62**	*e*P		**P**	**20 46 30.9**	**+0.9**
DUG					pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.3							
DUG	**Dugway**	**60.15**	**62**	*e*P		**P**	**20 46 30.9**	**+0.9**
	comp=Z,4.9nm,1.1s,mb4.2							
TPNV	**Topopah Spring**	**60.46**	**67**	*e*P		**P**	**20 46 32.2**	**+0.1**
TPNV					pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7							
TPNV	**Topopah Spring**	**60.46**	**67**	*e*P		**P**	**20 46 32.2**	**0.0**
	comp=Z,10nm,0.8s,mb4.7							
FINES	**FINESS Array B**	**60.78**	**335**	P		**P**	**20 46 32.4**	**-1.9**
	comp=Z,0.4nm,0.5s,mb3.5,baz=36,slow=10.0,SNR=4.4							
FINES	**FINESS Array B**	**60.78**	**335**	*i* P		**P**	**20 46 35.0**	**+0.7**
ULM	**Lac du Bonnet**	**61.45**	**44**	P		**P**	**20 46 37.2**	**-1.5**
	comp=Z,1.5nm,0.3s,mb4.2,baz=342,slow=8.2,SNR=3.1							
RSSD	**Black Hills**	**62.04**	**54**	*e*P		**P**	**20 46 41.4**	**-1.3**
RSSD					pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8							
RSSD	**Black Hills**	**62.04**	**54**	*e*P		**P**	**20 46 41.4**	**-1.4**
	comp=Z,10nm,0.7s,mb4.8							
SRU	**San Rafael**	**62.17**	**61**	*e*P		**P**	**20 46 44.5**	**+0.9**
SRU					pmax	pmax		
	comp=Z,21nm,0.9s,mb5.0							
SRU	**San Rafael**	**62.17**	**61**	*e*P		**P**	**20 46 44.5**	**+0.8**
	comp=Z,21nm,0.9s,mb5.0							
OBN	**Obninsk**	**62.76**	**326**	⇓*e*P		**P**	**20 46 45.0**	**-2.5**
OBN					pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4							
KSM	**Kuching**	**63.19**	**234**	P		**P**	**20 46 53.5**	**+3.1**
PV10	**Paradox Valley**	**63.51**	**61**	*e*P		**P**	**20 46 53.8**	**+1.3**
PV01	**Paradox Valley**	**63.94**	**61**	*e*P		**P**	**20 46 55.6**	**+0.3**
ISCO	**Idaho Springs**	**64.33**	**58**	*e*P		**P**	**20 46 58.8**	**+0.9**
ISCO					pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4							
ISCO	**Idaho Springs**	**64.33**	**58**	*e*P		**P**	**20 46 58.8**	**+0.9**
	comp=Z,4.3nm,0.7s,mb4.4							
NB2	**NORSAR Subarra**	**64.51**	**342**	P		**P**	**20 46 57.7**	**-1.3**
	comp=Z,0.3nm,0.4s,mb3.5,baz=23,slow=6.5							
NOA	**NORSAR Array B**	**64.51**	**342**	P		**P**	**20 46 57.6**	**-1.5**
	comp=Z,0.3nm,0.4s,mb3.5,baz=22,slow=5.4,SNR=2.8							
MVCO	**Mesa Verde**	**64.65**	**62**	*e*P		**P**	**20 47 00.1**	**+0.2**
KULM	**Kulim**	**65.22**	**246**	*e*P		**P**	**20 47 05.4**	**+1.8**
ANMO	**Albuquerque**	**67.42**	**62**⇑	*e*P		**P**	**20 47 18.9**	**+1.3**
ANMO	**Albuquerque**	**67.42**	**62**	*e*P		**P**	**20 47 18.5**	**+0.8**
	comp=Z,5.2nm,0.7s,mb4.5							
SCHQ	**Schefferville**	**68.04**	**25**	P		**P**	**20 47 20.2**	**-1.3**
	comp=Z,0.7nm,0.4s,mb3.8,baz=324,slow=7.6,SNR=7.5							
WRA	**Warramunga Arr**	**73.75**	**202**	P		**P**	**20 47 55.9**	**-0.1**
	comp=Z,2.4nm,0.6s,mb4.1,baz=18,slow=6.2,SNR=26							
GERES	**GERESS Array B**	**75.21**	**336**	P		**P**	**20 48 03.3**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=15,slow=4.1,SNR=3.5							
ASAR	**Alice Springs**	**77.44**	**201**	P		**P**	**20 48 17.9**	**+0.9**
	comp=Z,1.9nm,0.7s,mb3.8,baz=14,slow=5.2,SNR=30							
ESDC	**Sonseca Array**	**87.70**	**345**	P		**P**	**20 49 09.3**	**-0.8**
	comp=Z,1.0nm,0.7s,mb3.7,baz=11,slow=5.5,SNR=4.3							
LSZ	**Lusaka**	**125.49**	**292**	PKP		PKPdf	20 55 23.4	+1.6
	comp=Z,0.4nm,0.3s,baz=56,slow=19,SNR=7.2							
CPUP	**Villa Florida**	**144.03**	**59**	PKP		PKPdf	20 55 54.6	-1.6

2006 MAY

comp=Z,1.5nm,0.5s,baz=257,slow=2.6,SNR=6.0

*NEIC **02** 20:39:31.0, 2745S×7143W, h13km, ML3.8(GUC), After GUC.*

GUC 02 20:39:31.0±1.0, 2745S×7143W, h13km±10km, ML3.8, 5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.65**	**55**	⇓*i* P	Pg	20 39 42.8	-0.9
CDCH				*i* S	Sg	20 39 52.8	+0.5
CPCH	**Copiapo**	**0.96**	**85**	⇓*i* P	Pb	20 39 48.0	-1.4
CPCH				*i* S	Sb	20 40 01.7	-0.4
CPCH				AML	AML	20 40 04.9	
	comp=E,12μm,0.2s						
CPCH	**Copiapo**	**0.96**	**85**	⇓*i* P	Pb	20 39 48.0	-1.4
CPCH				*i* S	Sb	20 40 01.7	-0.4
CRCH	**Chaqaral**	**1.32**	**33**	⇓*i* P	Pn	20 39 54.0	-1.1
CRCH				*i* S	Sb	20 40 11.2	-1.2
CRCH				AML	AML	20 40 18.9	
	comp=N,917nm,0.3s						
CRCH	**Chaqaral**	**1.32**	**33**	⇓*i* P	Pn	20 39 54.0	-1.1
CRCH				*i* S	Sb	20 40 11.2	-1.2
LCO	**Las Campanas**	**1.68**	**158**	*e*P	Pn	20 40 00.8	+0.8
LCO				*i* S	Sn	20 40 22.1	+0.7
TLL	**Tololo Astrono**	**2.76**	**169**	*e*P	Pn	20 40 17.1	+2.2
TLL				AML	AML	20 41 13.8	
	comp=E,596nm,0.5s						

*IDC **02** 21:06:05.0±1.0, 2692S×7125W, h0km, mb4.4/5, mb1 4.2/7, mb1mx4.0/16, mbtmp4.2/7, ML3.7/2, MS3.9/3, Ms1 3.9/3, ms1mx3.3/13, Error ellipse: s-maj=44.1km s-min=22.0km az=83.0*

*GUC **02** 21:06:06.8±0.9, 2707S×7126W, h10km±4km, ML4.7*

*ISCJB **02** 21:06:07.2±1.6, 2698S±004×712W±0.1, h28km±10km, mb4.5/8, MS4.1/3, Error ellipse: s-maj=18.4km s-min=7.0km az=179.3*

*NEIC **02** 21:06:09.0±1.4, 2697S×7107W, h25km±8km, mb4.7/7, ML4.7(GUC), Error ellipse: s-maj=19.6km s-min=6.0km az=90.0*

*BJI **02** 21:06:09.0, 2700S×71.10W, h24km, mB5.2, Ms4.8, Msz4.6*

*MOS **02** 21:06:09.3±2.4, 2697S×7131W, h33km, mb4.9/5, Error ellipse: s-maj=22.8km s-min=12.7km az=92.5*

ISC 02 21:06:08.4±1.8, 2698S±004×712W±01, h21km±12km, n56, σ1§03/50, mb4.5/8, MS4.1/3, 4C-5D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.34**	**107**	*e*P	**Pb**	**21 06 15.2**	**-0.6**
CDCH				*i* S	**Sb**	**21 06 20.4**	**-0.3**
CRCH	**Chaqaral**	**0.81**	**39**	*e*P	**Pb**	**21 06 24.0**	**+0.2**
CRCH				*i* S	**Sb**	**21 06 36.2**	**+1.9**
CRCH				AML	AML	21 06 37.3	
	comp=E,18μm,0.4s						
CRCH	**Chaqaral**	**0.81**	**39**	*e*P	**Pb**	**21 06 24.0**	**+0.2**
CRCH				*i* S	**Sb**	**21 06 36.2**	**+1.9**
CPCH	**Copiapo**	**0.84**	**117**	⇓*i* P	**Pb**	**21 06 22.6**	**-1.6**
CPCH				*i* S	**Sb**	**21 06 35.4**	**+0.3**
CPCH				AML	AML	21 06 36.4	
	comp=E,54μm,0.4s						
CPCH	**Copiapo**	**0.84**	**117**	⇓*i* P	**Pb**	**21 06 22.6**	**-1.6**
CPCH				*i* S	**Sb**	**21 06 35.4**	**+0.3**
LCO	**Las Campanas**	**2.07**	**168**	⇑*i* P	**Pn**	**21 06 41.4**	**-0.6**
LCO				*i* S	**Sn**	**21 07 10.6**	**+3.5**
TLL	**Tololo Astrono**	**3.20**	**174**	⇑*i* P	**Pn**	**21 06 57.4**	**-0.1**
TLL				AML	AML	21 07 58.6	
	comp=N,5μm,0.7s						
CFAA	**Coronel Fontan**	**5.28**	**151**	Pn	**Pn**	**21 07 27.7**	**+1.6**
	comp=N,1.1nm,0.3s,baz=326,slow=11,SNR=31						
CFAA				Sn	**Sn**	**21 08 31.4**	**+5.1**
	comp=N,1.8nm,0.3s,baz=236,slow=19,SNR=3.3						
CFAA	**Coronel Fontan**	**5.28**	**151**	Pn	**Pn**	**21 07 27.7**	**+1.6**
CFAA				Sn	**Sn**	**21 08 31.4**	**+5.1**
FCH	**Farellones**	**6.38**	**173**	*e*P	**Pn**	**21 07 42.0**	**+0.9**
LPAZ	**La Paz**	**11.01**	**16**	Pn	**Pn**	**21 08 44.7**	**+0.1**
	comp=N,0.3nm,0.3s,baz=202,slow=8.6,SNR=12						
LPAZ	**La Paz**	**11.01**	**16**	*e*P	**Pn**	**21 08 43.8**	**-0.8**
LPAZ					pmax	pmax	
	comp=Z,3.0nm,0.4s						
LPAZ	**La Paz**	**11.01**	**16**	*e*Pn	**Pn**	**21 08 43.8**	**-0.9**
	comp=Z,3.2nm,0.4s						
CPUP	**Villa Florida**	**12.42**	**90**	Pn	**Pn**	**21 09 09.6**	**+5.7**
	comp=Z,0.3nm,0.3s,baz=240,slow=14,SNR=3.0						
CPUP				LR	LR	21 14 14.6	
	comp=Z,281nm,21.3s,baz=280,slow=39						
CPUP	**Villa Florida**	**12.42**	**90**	*e*P	**Pn**	**21 09 10.9**	**+7.0**
CPUP					pmax	pmax	
	comp=Z,21nm,0.6s						
CPUP	**Villa Florida**	**12.42**	**90**	*e*Pn	**Pn**	**21 09 10.9**	**+7.1**
	comp=Z,21nm,0.6s						
TRQA	**Tornquist**	**13.50**	**147**	*e*Pn	**Pn**	**21 09 17.6**	**-1.0**
TRQA				*e*Sn	**Sn**	**21 11 41.6**	**-6.3**
PLCA	**Paso Flores**	**13.73**	**178**	P	**Pn**	**21 09 23.2**	**+1.4**
SAML	**Samuel**	**19.47**	**24**	*e*P	**Pn**	**21 10 34.3**	**-0.8**
	comp=Z,12nm,0.9s						
BDFB	**Brasilia**	**24.32**	**67**	LR	LR	21 22 11.3	
	comp=Z,573nm,18.0s,MS4.1,baz=258,slow=40						
VNA3	**Neumayer Olymp**	**55.63**	**160**	⇓*i*	**P**	**21 15 42.8**	**+0.1**
VNA3				*e*	pP	21 15 49.1	-0.3
VNA3				*e*		21 16 00.7	
VNA3	**Neumayer Olymp**	**55.63**	**160**	⇑*i* P	**P**	**21 15 42.8**	**+0.1**
VNA3				*e*	pP	21 15 49.1	-0.3
VNA3				*e*		21 16 00.7	
VNA2	**Neumayer--Watz**	**56.24**	**159**	⇓*i*	**P**	**21 15 46.9**	**-0.2**
	baz=294,slow=8.9						
VNA2				*e*	pP	21 15 54.0	+0.2
VNA2				*e*		21 16 05.5	
VNA2				*e*		21 16 09.9	
SNAA	**Sanae**	**57.85**	**160**	P	**P**	**21 15 58.3**	**-0.2**
	comp=Z,0.6nm,0.7s,mb3.8,baz=284,slow=4.7,SNR=8.9						
SNAA	**Sanae**	**57.85**	**160**	*e*P	**P**	**21 15 57.6**	**-0.9**
SNAA					pmax	pmax	
	comp=Z,6.0nm,1.0s						
SNAA	**Sanae**	**57.85**	**160**	*e*P	**P**	**21 15 57.6**	**-0.8**
	comp=Z,5.5nm,1.0s,mb4.5						
QSPA	**South Pole Qui**	**63.24**	**180**	P	**P**	**21 16 35.6**	**+0.4**
MIAR	**Mount Ida**	**64.76**	**340**	P	**P**	**21 16 46.1**	**+0.9**
MIAR					pmax	pmax	
	comp=Z,13nm,1.3s,mb4.8						
MIAR	**Mount Ida**	**64.76**	**340**	P	**P**	**21 16 46.0**	**+0.8**
	comp=Z,13nm,1.3s,mb4.8						
SYO	**Syowa Base**	**72.14**	**159**⇑	*e*P	**P**	**21 17 28.5**	**-2.9**
SYO	**Syowa Base**	**72.14**	**159**	⇓*e*pP	pP	21 17 35.6	-2.6
DBIC	**Dimbokro**	**72.32**	**73**	P	**P**	**21 17 32.9**	**+0.4**
	comp=Z,1.1nm,0.5s,mb4.1,baz=188,slow=7.0,SNR=4.6						
DBIC				LR	LR	21 48 11.7	
	comp=Z,87nm,18.1s,MS4.1,baz=232,slow=35						
DBIC	**Dimbokro**	**72.32**	**73**	P	**P**	**21 17 31.3**	**-1.1**
DBIC					pmax	pmax	
	comp=Z,6.0nm,1.0s						
DBIC	**Dimbokro**	**72.32**	**73**	P	**P**	**21 17 31.3**	**-1.1**
	comp=Z,6.1nm,1.0s,mb4.5						
MAW	**Mawson**	**79.69**	**164**	P	**P**	**21 18 13.7**	**-0.7**
	comp=Z,3.8nm,0.7s,mb4.4,baz=214,slow=8.0,SNR=4.3						
MAW	**Mawson**	**79.69**	**164**	P	**P**	**21 18 13.5**	**-1.0**
MAW					pmax	pmax	
	comp=Z,5.0nm,0.7s						
MAW	**Mawson**	**79.69**	**164**	P	**P**	**21 18 13.5**	**-1.0**
	comp=Z,4.7nm,0.7s,mb4.5						
TSUM	**Tsumeb**	**80.47**	**107**	*e*P	**P**	**21 18 20.0**	**+1.3**
	comp=Z,18nm,1.5s,mb4.8						
TORD	**Torodi Ar. Bea**	**81.15**	**70**	P	**P**	**21 18 22.9**	**+0.5**
	comp=Z,15nm,0.7s,mb5.1,baz=263,slow=5.0,SNR=85						
LBTB	**Lobatse**	**84.61**	**115**	*e*P	**P**	**21 18 40.5**	**+0.3**
LBTB					pmax	pmax	
	comp=Z,11nm,1.1s,mb4.9						
LBTB	**Lobatse**	**84.61**	**115**	*e*P	**P**	**21 18 40.5**	**+0.3**
	comp=Z,11nm,1.1s,mb4.9						
YKA	**Yellowknife Ar**	**95.66**	**341**	P	**P**	**21 19 31.3**	**-1.1**
	comp=Z,0.3nm,0.9s,mb3.7,baz=135,slow=4.9,SNR=5.7						
YKA	**Yellowknife Ar**	**95.66**	**341**	P	**P**	**21 19 31.3**	**-1.1**
WRA	**Warramunga Arr**	**127.20**	**211**	PKP	PKPdf	21 25 12.1	+1.0
	comp=Z,0.2nm,0.5s,baz=153,slow=1.7,SNR=8.7						
NVS	**Novosibirsk**	**146.48**	**27**	*e*PKIKP	PKPdf	21 25 46.1	-0.4
ZAL	**Zalesovo**	**147.77**	**27**	PKPbc	PKPbc	21 25 49.7	-1.9
	comp=Z,4.4nm,0.8s,baz=170,slow=2.8,SNR=27						
ZAL	**Zalesovo**	**147.77**	**27**	PKPbc	PKPbc	21 25 49.7	-1.9
AAK	**Ala-Archa**	**148.04**	**52**	*e*PKIKP	PKPdf	21 25 49.8	+0.7
AAK				*e*		21 25 52.8	
AAK				*e*		21 25 55.9	
BOD	**Bodaibo**	**148.96**	**355**	*e*PKP2	PKPab	21 25 53.4	-5.3
MKAR	**Makanchi Array**	**151.22**	**40**	PKP	PKPdf	21 25 55.2	+1.0
	comp=Z,0.3nm,0.7s,baz=66,slow=4.1,SNR=2.6						
MKAR				PKPbc	PKPbc	21 26 00.6	+0.4
	comp=Z,5.0nm,0.7s,baz=323,slow=2.2,SNR=46						
MKAR	**Makanchi Array**	**151.22**	**40**	PKP	PKPdf	21 25 55.2	+1.0
MKAR				PKPbc	PKPbc	21 26 00.6	+0.4
MDJ	**Mudanjiang**	**155.74**	**322**	PKP	PKPdf	21 26 00.7	0.0
MDJ				PKS		21 29 35.0	
MDJ				PP	PP	21 30 05.4	+1.4
MDJ				SKS	SKSdf	21 33 06.2	+0.4
MDJ				SS	SS	21 49 53.3	+3.5
MDJ				PP	PP		
	comp=Z,68nm,4.1s						
MDJ				LR	LR		
	comp=N,28nm,20.1s,MS4.1						
MDJ				LR	LR		
	comp=E,17nm,23.6s,MS4.1						
MDJ				LR	LR		
	comp=Z,31nm,16.5s						
WMQ	**Urumqi**	**156.05**	**40**	PKP	PKPdf	21 25 59.5	-1.6
WMQ				APKP		21 26 06.0	
WMQ				XPKP		21 26 09.5	
WMQ				PKP2	PKPab	21 26 29.0	+0.5
WMQ				PKS		21 29 32.3	
WMQ				PP	PP	21 30 07.8	+2.1
WMQ				PP	PP		
	comp=Z,124nm,5.2s						
CN2	**Changchun**	**158.49**	**326**	*e*PKP	PKPdf	21 26 02.8	-1.4
HHC	**Hu-ho-hao-te**	**165.98**	**351**	*e*PKP	PKPdf	21 26 10.5	-1.2
HHC				APKP		21 26 21.4	
HHC				XPKP		21 26 25.0	
HHC				PKP2	PKPab	21 27 14.1	+2.3
HHC				PKS		21 29 42.1	
HHC				PP	PP	21 31 02.7	+3.7
HHC				SKS	SKSdf	21 33 08.9	-5.6
HHC				SKKS	SKKSac	21 37 42.5	-2.9
HHC				PP	PP		
	comp=Z,131nm,6.4s						
HHC				LR	LR		
	comp=N,101nm,20.4s						
HHC				LR	LR		
	comp=E,50nm,17.6s						
HHC				LR	LR		
	comp=Z,86nm,19.0s						
CD2	**Chengdu**	**174.09**	**47**	*e*PKP	PKPdf	21 26 13.7	-2.6

*NEIC **02** 21:20:45.5, 2708S×7127W, h10km, ML3.3(GUC), After GUC.*

GUC 02 21:20:45.5±0.7, 2708S×7127W, h10km±3km, ML3.3, 2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.39**	**89**	⇓*i* P	Pg	21 20 53.9	+0.7
CDCH				*i* S	Sg	21 20 59.6	+1.2
CPCH	**Copiapo**	**0.86**	**109**	*e*PN2		21 16 07.8	
CPCH				⇓*i* P		21 21 01.5	
CPCH				*i* S	Sg	21 21 14.1	+0.8
CPCH				AML	AML	21 21 14.9	
	comp=E,6μm,0.1s						
CRCH	**Chaqaral**	**0.94**	**38**	*e*P	Pg	21 21 02.5	-1.0
CRCH				AML	AML	21 21 17.3	
	comp=E,533nm,0.2s						
LCO	**Las Campanas**	**1.99**	**165**	*e*	Pn	21 21 20.2	+1.0
LCO				*e*P		21 21 20.2	
LCO				*i* S	Sn	21 21 46.0	+1.9
TLL	**Tololo Astrono**	**3.10**	**173**	*e*P	Pn	21 21 36.4	+1.9
TLL				AML	AML	21 22 31.8	
	comp=E,70nm,0.4s						
LPAZ	**La Paz**	**11.13**	**16**	*e*Pn	Pn	21 23 30.1	+5.4
	comp=E,12nm,0.5s						

IDC 02 21:28:10.3±4.5, 570S×15048E, h0km, mb3.0/2, mb1 3.4/2, mb1mx3.2/12, mbtmp3.1/2, Error ellipse: s-maj=192.7km s-min=51.9km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.14**	**226**	P	P	21 32 57.1	+0.4
	0.4nm

COTA	**Cotacachi**	**2.18**	**100**	P		Pn	22 28 17.4	+2.8
COTA				S		Sn	22 28 43.6	+3.3
QIL1	**Quilotoa**	**2.19**	**135**	P		Pn	22 28 16.5	+1.7
CAMI	**Rancho Maria**	**2.41**	**125**	P		Pn	22 28 20.5	+2.6
VC1	**Cotopaxi 1**	**2.48**	**123**	⇑P		Pn	22 28 22.7	+3.9
ANGU	**Angureal**	**2.56**	**105**	⇑P		Pn	22 28 24.6	+4.7
ANGU				S		Sn	22 28 55.5	+5.7
CAYR	**Refugio Cayamb**	**2.57**	**106**	P		Pn	22 28 24.7	+4.7
CAYR				S		Sn	22 28 54.6	+4.5
CAYA	**Cayambe**	**2.57**	**104**	P		Pn	22 28 24.5	+4.5
CAYA				S		Sn	22 28 55.1	+5.1
ANTI	**Antisana**	**2.59**	**117**	P		Pn	22 28 24.9	+4.6
CONE	**Cono NE Rev Vo**	**2.94**	**105**	P		Pn	22 28 32.3	+7.1

NEIC ***02*** *22:30:15.9, 3526N×1165W, h0km, MG3.5(MDD), After MDD.*

CSEM ***02*** *22:30:17.9±1.3, 3464N×1053W, h2km, mb3.5/3, Error ellipse: s-maj=40.4km s-min=20.9km az=113.0*

MDD 02 22:30:14.3±4.8, 3515N×1166W, h0km, mb3.1/3, Error ellipse: s-maj=75.2km s-min=34.0km az=129.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	**3.36**	**44**	*e*Sn	Sn	22 31 45.7	-3.0
PTEO							
	1.0nm,0.1s						
PTEO	**Sao Teotonio**	**3.36**	**44**	S	Sn	22 31 45.7	-3.0
	0.5nm,0.1s						
EGRO	**El Granado**	**4.12**	**54**	P	Pn	22 31 16.6	-1.9
EGRO	0.0nm,0.1s,SNR=7.9			S	Sn	22 32 03.5	-4.0
	1.6nm,0.3s,SNR=7.7						
EGRO	**El Granado**	**4.12**	**54**	P	Pn	22 31 18.6	+0.1
EGRO				S	Sn	22 32 03.5	-4.0
EGRO	**El Granado**	**4.12**	**54**	P	Pn	22 31 18.6	0.0
EGRO				S	Sn	22 32 03.5	-4.0
	1.6nm,0.3s,SNR=7.7						
PBEJ	**Beja**	**4.19**	**46**	*e*Sn	Sn	22 32 05.2	-3.9
MOE	**Montemor**	**4.28**	**37**	*e*Sn	Sn	22 32 08.2	-3.2
EMIN	**Mina Concepcio**	**4.79**	**56**	P	Pn	22 31 26.8	-1.0
EMIN				S	Sn	22 32 19.4	-4.5
EMIN	**Mina Concepcio**	**4.79**	**56**	P	Pn	22 31 26.8	-1.0
EMIN				S	Sn	22 32 19.4	-4.6
	0.7nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**5.17**	**45**	P	Pn	22 31 32.0	-1.0
	1.1nm,0.5s,SNR=4.0						
EBAD				S	Sn	22 32 28.8	-4.6
	1.0nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**5.17**	**45**	P	Pn	22 31 32.0	-1.0
	1.1nm,0.5s,SNR=4.0						
EBAD				S	Sn	22 32 28.8	-4.6
	1.0nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**6.44**	**60**	P	Pn	22 31 50.0	-0.4
	1.8nm,0.5s,SNR=7.9						
EADA				S	Sn	22 32 59.4	-5.1
	0.7nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**6.44**	**60**	P	Pn	22 31 50.0	-0.4
	1.8nm,0.5s,SNR=7.9						
EADA				S	Sn	22 32 59.4	-5.1

IDC 02 22:35:04.8±2.0, 212N×12675E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/17, mbtmp3.8/3, Error ellipse: s-maj=186.6km s-min=27.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.15**	**162**	P	P	22 40 13.9	+1.1
	0.4nm,0.3s,baz=341,slow=10,SNR=5.6						
MKAR	**Makanchi Array**	**58.89**	**326**	P	P	22 45 07.0	+1.5
	1.0nm,0.4s,baz=115,slow=8.2,SNR=39						
BVAR	**Borovoye Array**	**68.68**	**327**	P	P	22 46 09.7	-0.4
	0.3nm,0.3s,baz=134,slow=8.2,SNR=5.0						
TORD	**Torodi Ar. Bea**	**123.42**	**287**	PKP	PKPdf	22 54 02.7	-1.2
	0.6nm,1.1s,baz=68,slow=2.0,SNR=5.6						

ECX 02 22:36:58.5±0.2, 2971N×11406W, h5km, MD4.0, ML4.1, 1C, Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPX	**San Pedro Mart**	**1.80**	**318**	*e*P	Pn	22 37 29.5	-0.7
SPX				*e*S	Sn	22 37 53.6	+0.1
RDX	**Rancho Dowling**	**2.75**	**324**	*e*P	Pn	22 37 43.2	0.0
RDX				*e*S	Sn	22 38 18.4	+1.6
RDX				⇑*e*		22 38 29.5	
	comp=N,524nm,0.6s						
ECNX	**Esteban Cantu**	**2.92**	**312**	*e*P	Pn	22 37 45.6	-0.1
ENX	**Ensenada**	**3.12**	**315**	*e*P	Pn	22 37 48.1	-0.2
ENX				*e*S	Sn	22 38 27.0	+1.0
CBX	**Cerro Bola**	**3.43**	**320**	*e*P	Pn	22 37 52.5	0.0

ISCJB ***02*** *22:38:45.5±2.3, 240N×009×9322E×008, h8km±15km, mb4.2/16, MS3.6/4, Error ellipse: s-maj=16.8km s-min=10.5km az=82.9*

IDC ***02*** *22:38:48.3±1.5, 276N×9368E, h0km, mb4.1/9, mb1 4.2/9, mb1mx3.9/22, mbtmp4.1/9, MS3.6/1, Ms1 3.6/1, ms1mx2.5/24, Error ellipse: s-maj=70.2km s-min=16.6km az=55.0*

MOS ***02*** *22:38:48.1±1.1, 245N×93.10E, h31km, mb4.7/4, Error ellipse: s-maj=20.0km s-min=13.1km az=120.2*

BJI ***02*** *22:38:50.4, 250N×9320E, h30km, mB4.8, mb4.5, Ms4.1, Msz4.0*

NEIC ***02*** *22:38:50.5±0.6, 247N×93.19E, h30km, mb4.5/4, Error ellipse: s-maj=17.6km s-min=8.0km az=48.0*

ISC 02 22:38:50.5±2.2, 249N±008×9327E±007, h24km±16km, n30, σ1§10/35, mb4.2/16, MS3.6/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.66**	**87**	Pn	**Pn**	**22 40 14.1**	**+1.1**
	4.6nm,0.3s,baz=273,slow=7.1,SNR=24						
PSI				Sn	**Sn**	**22 41 15.3**	**-1.8**
	4.1nm,0.3s,baz=337,slow=20,SNR=3.0						
KULM	**Kulim**	**7.87**	**69**	*e*Pn	**Pn**	**22 40 43.4**	**0.0**
KULM				*e*Sn	**Sn**	**22 42 06.0**	**-5.6**
HYB	**Hyderabad**	**20.71**	**317**	*i* P	**P**	**22 43 39.0**	**+10**
HYB				*e*S	**S**	**22 47 20.0**	**+0.9**
SHL	**Shillong**	**22.98**	**357**	*e*P	**P**	**22 43 54.0**	**+0.7**
QIZ	**Qiongzhong**	**23.09**	**43**	*e*P	**P**	**22 43 54.4**	**0.0**
QIZ				*e*S	**S**	**22 48 03.2**	**-0.8**
QIZ				XS	sS	22 48 17.6	+1.8
QIZ				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.0						
QIZ				AMB	AMB		
	comp=Z,59nm,2.8s,mb4.5						
QIZ				LR	LR		
	comp=N,179nm,17.8s,MS3.8						
QIZ				LR	LR		
	comp=E,259nm,22.2s,MS3.8						
KMI	**Kunming**	**24.29**	**21**	P	**P**	**22 44 07.2**	**+1.4**
KMI				AP		22 44 13.9	
KMI				S	**S**	**22 48 24.6**	**+1.3**
KMI				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.0						
KMI				LR	LR		
	comp=N,133nm,10.6s						
KMI				LR	LR		
	comp=E,101nm,8.7s						
KMI				LR	LR		
	comp=Z,112nm,11.9s,MS3.6						
LSA	**Lhasa**	**27.14**	**356**	*e*P	**P**	**22 44 33.3**	**+1.6**
LSA	**Lhasa**	**27.14**	**356**	*e*P	**P**	**22 44 32.8**	**+1.1**
LSA				*e*		22 44 42.7	
LSA				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.6						
LSA	**Lhasa**	**27.14**	**356**	*e*P	**P**	**22 44 32.8**	**+1.2**
	comp=Z,11nm,0.6s,mb4.5						
LSA				*e*		22 44 42.7	
FITZ	**Fitzroy Crossi**	**37.88**	**124**	P	**P**	**22 46 05.9**	**+0.5**
	comp=Z,3.1nm,0.7s,mb4.1,baz=303,slow=5.7,SNR=4.0						
MKAR	**Makanchi Array**	**45.16**	**349**	P	**P**	**22 47 04.9**	**-0.2**
	comp=Z,2.3nm,0.6s,mb4.2,baz=165,slow=8.7,SNR=26						
WRA	**Warramunga Arr**	**46.05**	**121**	P	**P**	**22 47 13.0**	**+0.8**
	comp=Z,4.8nm,0.8s,mb4.5,baz=299,slow=8.8,SNR=13						
WRAB	**Tennant Creek**	**46.06**	**121**	*e*P	**P**	**22 47 13.0**	**+0.8**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
WRAB	**Tennant Creek**	**46.06**	**121**	*e*P	**P**	**22 47 13.0**	**+0.8**
	comp=Z,5.8nm,0.6s,mb4.7						
SONM	**Songino Array**	**46.58**	**12**	P	**P**	**22 47 16.4**	**+0.1**
	comp=Z,1.2nm,0.6s,mb4.0,baz=196,slow=8.2,SNR=5.3						
ASAR	**Alice Springs**	**47.31**	**126**	P	**P**	**22 47 23.0**	**+0.9**
	comp=Z,0.9nm,0.7s,mb3.8,baz=296,slow=7.7,SNR=9.5						
KURK	**Kurchatov**	**49.63**	**348**	*e*P	**P**	**22 47 39.1**	**-0.8**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
KURK	**Kurchatov**	**49.63**	**348**	*e*P	**P**	**22 47 39.1**	**-0.8**
	comp=Z,3.1nm,0.9s,mb4.3						
CN2	**Changchun**	**50.06**	**30**	*e*P	**P**	**22 47 44.6**	**+1.4**
ZAL	**Zalesovo**	**51.75**	**354**	P	**P**	**22 47 55.5**	**-0.4**
	comp=Z,1.8nm,0.4s,mb4.4,baz=300,slow=2.6,SNR=6.5						
MDJ	**Mudanjiang**	**52.77**	**32**	P	**P**	**22 48 03.3**	**-0.1**
MDJ				AP	pP	22 48 12.3	+1.3
MDJ				XP	sP	22 48 16.3	+2.4
MDJ				PP	PP	22 50 03.2	+0.4
MDJ				SCP	ScP	22 53 06.2	-2.3
MDJ				PCS	PcS	22 53 10.6	-0.8
MDJ				S	**S**	**22 55 31.3**	**+1.1**
MDJ				SS	SS	22 59 10.7	+1.8
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,68nm,4.5s						
MDJ				LR	LR		
	comp=N,21nm,18.1s,MS3.4						
MDJ				LR	LR		
	comp=E,26nm,17.3s,MS3.4						
MDJ				LR	LR		
	comp=Z,31nm,16.4s,MS3.4						
NVS	**Novosibirsk**	**52.83**	**353**	*e*P	**P**	**22 48 01.3**	**-2.6**
BVAR	**Borovoye Array**	**53.82**	**343**	P	**P**	**22 48 09.8**	**-1.3**
	comp=Z,0.7nm,0.7s,mb3.7,baz=151,slow=9.5,SNR=5.3						
BRVK	**Borovoye**	**53.88**	**343**	P	**P**	**22 48 09.2**	**-2.4**
CHKZ	**Chkalovo**	**54.33**	**344**	*e*P	**P**	**22 48 13.8**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
CHKZ	**Chkalovo**	**54.33**	**344**	*e*P	**P**	**22 48 13.8**	**-1.1**
	comp=Z,2.9nm,0.9s,mb4.2						
KMBO	**Kilima Mbogo**	**56.12**	**267**	LR	LR	23 09 04.2	
	comp=Z,57nm,19.8s,MS3.7,baz=100,slow=32						
CTAO	**Charters Tower**	**56.59**	**116**	*e*P	**P**	**22 48 30.3**	**-0.9**
STKA	**Stephens Creek**	**57.14**	**131**	P	**P**	**22 48 34.3**	**-0.8**
	comp=Z,2.7nm,0.9s,mb4.3,baz=293,slow=3.8,SNR=3.2						
GERES	**GERESS Array B**	**81.27**	**319**	P	**P**	**22 51 08.4**	**+3.9**
	comp=Z,0.7nm,0.7s,mb3.7,baz=98,slow=4.0,SNR=7.2						

IDC ***02*** *22:51:33.2±3.3, 3443N×7335E, h0km, mb3.8/3, mb1 3.9/5, mb1mx3.4/22, mbtmp3.7/5, ML3.8/2, Error ellipse: s-maj=80.6km s-min=37.1km az=117.0*

ISCJB ***02*** *22:51:35.1±2.1, 346N±02×730E±04, h10km, mb3.5/3, Error ellipse: s-maj=46.1km s-min=24.2km az=11.8*

NNC ***02*** *22:51:45.3±5.3, 3528N×7272E, h12km±119km, mb3.2, mpv3.7, Error ellipse: s-maj=199.0km s-min=54.4km az=125.0*

ISC 02 22:51:37.2±1.8, 347N±01×730E±04, h10km, n8, σ0§96/9, mb3.5/3, 2C-2D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**8.60**	**348**	⇓Pn	**Pn**	**22 53 44.0**	**+2.3**
	1.3nm,0.3s,baz=154,slow=11,SNR=77						
KK31				⇑Sn	**Sn**	**22 55 17.7**	**-1.1**
	0.4nm,0.3s,baz=163,slow=20,SNR=4.9						
AB31	**Akbulak array**	**17.45**	**330**	⇑P	**Pn**	**22 55 40.3**	**-0.3**
	0.6nm,0.7s,baz=147,slow=12,SNR=8.7						
BVAR	**Borovoye Array**	**18.40**	**355**	P	**Pn**	**22 55 52.7**	**+0.4**
	0.3nm,0.3s,baz=162,slow=9.7,SNR=12						
AKTO	**Aktyubinsk**	**19.15**	**330**	⇓P	**Pn**	**22 56 01.6**	**+0.1**
	0.5nm,2.4s						
AKTO	**Aktyubinsk**	**19.15**	**330**	P	**Pn**	**22 56 02.1**	**+0.7**
	0.3nm,0.3s,baz=146,slow=9.1,SNR=7.2						
ARCES	**ARCESS Array B**	**43.42**	**338**	P	**P**	**22 59 40.2**	**+0.2**
	2.7nm,1.1s,mb3.9,baz=119,slow=8.2,SNR=8.0						
TORD	**Torodi Ar. Bea**	**67.37**	**271**	P	**P**	**23 02 32.2**	**-0.3**
	0.3nm,0.4s,mb3.7,baz=48,slow=5.8,SNR=21						
YKA	**Yellowknife Ar**	**82.93**	**4**	P	**P**	**23 04 01.0**	**-1.2**
	0.1nm,0.6s,mb3.0,baz=350,slow=5.5,SNR=4.2						

ISCJB ***02*** *22:59:56.4±0.7, 3359N±004×14005E±006, h112km±5km, mb3.5/3, Error ellipse: s-maj=8.4km s-min=6.5km az=167.4*

IDC ***02*** *22:59:57.8±1.8, 3347N×13987E, h106km±5km, mb3.2/3, mb1 3.3/4, mb1mx3.0/22, mbtmp3.5/4, Error ellipse: s-maj=67.7km s-min=10.9km az=75.0*

JMA ***02*** *22:59:58.0±0.1, 3365N×14000E, h98km±2km, M3.3*

JMA Felt I J1.

ISC 02 22:59:57.5±0.7, 3359N±004×14003E±006, h106km±5km, n19, σ0§80/31, mb3.5/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.51**	**201**	P	**Pn**	**23 00 14.0**	**0.0**
JHJ2				S	**Sn**	**23 00 26.7**	**+0.3**
JHJ	**Hachijo jima 2**	**0.51**	**204**	P	**Pn**	**23 00 14.2**	**+0.1**
	300nm,0.3s,baz=68,slow=20,SNR=26						
JHJ				S	**Sn**	**23 00 26.8**	**+0.3**
	618nm,0.3s,baz=281,slow=23,SNR=37						
JKO	**Kozu shima**	**0.95**	**309**	P	**Pn**	**23 00 17.3**	**-0.6**
NJJJ	**Nii jima 2**	**1.02**	**323**	P	**Pn**	**23 00 18.2**	**-0.4**
JIM2	**Oshima 3**	**1.23**	**336**	P	**Pn**	**23 00 20.4**	**-0.5**
JIM2				S	**Sn**	**23 00 36.8**	**-1.8**
BSO3	**Boso 3**	**1.27**	**18**	P	**Pn**	**23 00 21.4**	**0.0**
BSO3				S	**Sn**	**23 00 40.0**	**+0.5**
BSO2	**Boso 2**	**1.30**	**27**	S	**Sn**	**23 00 41.1**	**+1.0**
BSO1	**Boso 1**	**1.32**	**36**	P	**Pn**	**23 00 21.3**	**-0.7**
BSO1				*e*S	**Sn**	**23 00 40.5**	**0.0**
BSO4	**Boso 4**	**1.42**	**10**	P	**Pn**	**23 00 23.3**	**+0.2**
JIZS	**Izushimoda**	**1.48**	**320**	P	**Pn**	**23 00 23.3**	**-0.5**
JIZS				S	**Sn**	**23 00 42.4**	**-1.4**
KTJJ	**Kamata 2**	**1.56**	**329**	P	**Pn**	**23 00 24.7**	**-0.1**
KTJJ				S	**Sn**	**23 00 44.9**	**-0.6**
JOD2	**Odawara 2**	**1.84**	**335**	P	**Pn**	**23 00 28.0**	**-0.3**
JOD2				S	**Sn**	**23 00 50.5**	**-1.3**
TK04	**Tokai 4**	**1.96**	**294**	P	**Pn**	**23 00 30.2**	**+0.4**
TK04				*e*S	**Sn**	**23 00 55.6**	**+1.1**
SHZ3	**Shizuoka 3**	**2.11**	**315**	P	**Pn**	**23 00 32.2**	**+0.5**
SHZ3				S	**Sn**	**23 00 58.4**	**+0.6**
MJAR	**Matsushiro Arr**	**3.30**	**334**	P	**Pn**	**23 00 47.3**	**-0.1**
	5.3nm,0.3s,baz=153,slow=11,SNR=43						
MJAR				S	**Sn**	**23 01 28.1**	**+2.1**
	1.5nm,0.3s,baz=161,slow=21,SNR=6.8						
MAT	**Matsushiro**	**3.30**	**334**	P	**Pn**	**23 00 48.3**	**+0.9**
MAT				S	**Sn**	**23 01 27.5**	**+1.5**
MKAR	**Makanchi Array**	**45.07**	**305**	P	**P**	**23 08 01.9**	**-0.9**
	0.2nm,0.5s,mb3.1,baz=86,slow=9.9,SNR=6.7						
BVAR	**Borovoye Array**	**52.10**	**314**	P	**P**	**23 08 56.4**	**-0.3**
	0.3nm,0.3s,mb3.7,baz=96,slow=8.8,SNR=8.2						
WRA	**Warramunga Arr**	**53.51**	**187**	P	**P**	**23 09 07.3**	**+0.3**
	0.3nm,0.3s,mb3.8,baz=17,slow=7.2,SNR=5.3						

NEIC ***02*** *23:03:25.0, 2758S×7156W, h19km, ML3.7(GUC), After GUC.*

NEIC Felt [II] at Copiapo.

GUC 02 23:03:25.8±0.6, 2758S×7156W, h19km±11km, ML3.7, 1C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.82**	**53**	⇑*i* P	Pb	23 03 40.4	-1.1
CDCH				*i* S	Sb	23 03 51.9	-0.3
CPCH	**Copiapo**	**1.10**	**79**	⇓*i* P	Pn	23 03 44.7	-1.4
CPCH				*i* S	Sb	23 03 59.7	-0.3
CPCH				AML	AML	23 04 01.3	
	comp=E,4μm,0.1s						
CPCH	**Copiapo**	**1.10**	**79**	⇓*i* P	Pn	23 03 44.7	-1.4
CPCH				*i* S	Sb	23 03 59.7	-0.3
CRCH	**Chaqaral**	**1.49**	**35**	*e*P	Pn	23 03 51.6	+0.1
CRCH				*i* S	Sn	23 04 10.4	0.0
CRCH				AML	AML	23 04 24.6	
	comp=N,508nm,0.6s						
CRCH	**Chaqaral**	**1.49**	**35**	*e*P	Pn	23 03 51.6	+0.1
CRCH				*i* S	Sn	23 04 10.4	0.0
LCO	**Las Campanas**	**1.62**	**152**	*e*P	Pn	23 03 54.2	+0.9
LCO				*i* S	Sn	23 04 15.2	+1.6
TLL	**Tololo Astrono**	**2.67**	**166**	*e*P	Pn	23 04 09.5	+1.8
TLL				*i* S	Sn	23 04 44.6	+5.1
TLL				AML	AML	23 05 00.1	
	comp=N,1μm,0.4s						
TLL	**Tololo Astrono**	**2.67**	**166**	*e*P	Pn	23 04 09.5	+1.8
TLL				S	Sn	23 04 44.6	+5.1
CPUP	**Villa Florida**	**12.76**	**88**	Pn	Pn	23 06 26.1	0.0
SAML	**Samuel**	**20.15**	**25**	*e*P	P	23 07 53.9	-5.0
SDV	**Santo Domingo**	**36.26**	**2**	P	P	23 10 28.1	+0.3
VNDA	**Vanda**	**70.47**	**191**	P	P	23 14 37.0	-1.9
PV01	**Paradox Valley**	**73.99**	**330**	*e*P	P	23 14 59.1	-1.0

ISCJB ***02*** *23:09:04.0±0.9, 2747S±004×7172W±007, h15km, mb4.1/4, MS3.4/1, Error ellipse: s-maj=9.3km s-min=6.2km az=11.2*

NEIC ***02*** *23:09:05.1, 2753S×7166W, h15km, mb3.9/2, ML4.4(GUC), After GUC.*

GUC ***02*** *23:09:05.1±0.7, 2753S×7166W, h15km±15km, ML4.4*

IDC ***02*** *23:09:07.0±1.6, 2681S×7135W, h0km, mb4.2/4, mb1 4.1/5, mb1mx3.8/15, mbtmp4.1/5, ML3.4/1, MS3.3/2, Ms1 3.3/2, ms1mx2.9/18, Error ellipse: s-maj=51.6km s-min=27.0km az=85.0*

ISC 02 23:09:06.3±0.9, 2749S±004×7157W±007, h15km, n19, σ0§90/22, mb4.1/4, MS3.4/1, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.78**	**58**	*e*P	**Pg**	**23 09 20.6**	**-0.9**
CDCH				*i* S	**Sg**	**23 09 32.4**	**+0.6**
CPCH	**Copiapo**	**1.09**	**83**	*e*P	**Pb**	**23 09 25.3**	**-1.5**
CPCH				*i* S	**Sb**	**23 09 41.4**	**+0.6**
CPCH				AML	AML	23 09 42.0	
	comp=E,22μm,0.1s						
CPCH	**Copiapo**	**1.09**	**83**	*e*P	**Pb**	**23 09 25.3**	**-1.5**
CPCH				*i* S	**Sb**	**23 09 41.4**	**+0.6**
CRCH	**Chaqaral**	**1.42**	**37**	*e*P	**Pn**	**23 09 30.5**	**-1.1**
CRCH				AML	AML	23 10 00.2	
	comp=E,3μm,0.5s						
LCO	**Las Campanas**	**1.69**	**153**	*i* P	**Pn**	**23 09 34.9**	**-0.4**
LCO				*i* S	**Sn**	**23 09 56.6**	**-0.1**
TLL	**Tololo Astrono**	**2.75**	**166**	*e*P	**Pn**	**23 09 50.0**	**+0.2**
TLL				AML	AML	23 10 46.1	
	comp=N,3μm,0.7s						
CFAA	**Coronel Fontan**	**5.02**	**145**	Pn	**Pn**	**23 10 28.2**	**+7.1**
	comp=N,1.2nm,0.3s,baz=329,slow=8.8,SNR=7.3						
CFAA				Sn	**Sb**	**23 11 33.9**	**-0.1**
	comp=N,0.7nm,0.3s,baz=272,slow=20,SNR=4.2						
CFAA	**Coronel Fontan**	**5.02**	**145**	Pn	**Pn**	**23 10 28.2**	**+7.1**
CFAA				Sn	**Sb**	**23 11 33.9**	**-0.1**
LPAZ	**La Paz**	**11.60**	**17**	Pn	**Pn**	**23 11 50.0**	**-1.2**
	comp=N,0.2nm,0.3s,baz=176,slow=6.9,SNR=10						
CPUP	**Villa Florida**	**12.76**	**88**	Pn	**Pn**	**23 12 14.6**	**+7.5**
	comp=N,0.3nm,0.3s,baz=245,slow=13,SNR=3.6						
CPUP				LR	LR	23 17 15.5	
	comp=N,84nm,20.6s,baz=48,slow=39						
SAML	**Samuel**	**20.08**	**25**	*e*P	**P**	**23 13 40.1**	**+1.1**
	comp=N,1.5nm,0.4s						
BDFB	**Brasilia**	**24.83**	**66**	P	**P**	**23 14 28.5**	**+0.7**
	comp=N,2.0nm,0.6s,mb3.8,baz=217,slow=9.9,SNR=3.9						
BDFB				LR	LR	23 23 57.6	
	comp=N,121nm,20.6s,MS3.4,baz=279,slow=36						
SNAA	**Sanae**	**57.48**	**160**	P	**P**	**23 19 02.8**	**+8.1**
	comp=N,1.2nm,0.8s,mb4.0,baz=260,slow=11,SNR=6.5						
SNAA	**Sanae**	**57.48**	**160**	*e*P	**P**	**23 18 53.8**	**-0.9**
	comp=N,1.4nm,0.7s,mb4.1						
DBIC	**Dimbokro**	**72.79**	**73**	P	**P**	**23 20 35.3**	**+1.2**
	comp=N,3.6nm,1.0s,mb4.2,baz=222,slow=7.3,SNR=7.0						
TORD	**Torodi Ar. Bea**	**81.64**	**71**	P	**P**	**23 21 25.1**	**+1.4**
	comp=N,2.8nm,0.7s,mb4.3,baz=260,slow=5.1,SNR=43						
ZAL	**Zalesovo**	**148.38**	**27**	PKPbc	PKPbc	23 28 52.4	+0.4
	comp=N,0.8nm,0.6s,baz=177,slow=8.0,SNR=4.0						
MKAR	**Makanchi Array**	**151.83**	**40**	PKPbc	PKPbc	23 29 01.4	+1.0
	comp=N,0.9nm,0.7s,baz=313,slow=2.4,SNR=9.4						
MKAR				PKPab	PKPab	23 29 09.2	-0.2
	comp=N,2.5nm,0.8s,baz=309,slow=2.2,SNR=17						
MKAR	**Makanchi Array**	**151.83**	**40**	PKPbc	PKPbc	23 29 01.4	+1.0
MKAR				PKPab	PKPab	23 29 09.2	-0.2

IDC 02 23:13:39.2±3.0, 2691S×7162W, h0km, mb3.7/1, mb1 3.6/3, mb1mx3.4/15, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=103.6km s-min=30.2km az=76.0, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**5.54**	**149**	Pn	Pn	23 15 03.8	+0.9
	0.6nm,0.3s,baz=325,slow=11,SNR=6.8						
CFAA				Sn	Sn	23 16 10.3	+3.2
	0.6nm,0.3s,baz=230,slow=23,SNR=5.8						
LPAZ	**La Paz**	**11.05**	**18**	Pn	Pn	23 16 21.0	+2.5
	0.1nm,0.3s,baz=190,slow=10,SNR=4.1						
TORD	**Torodi Ar. Bea**	**81.48**	**71**	P	P	23 25 57.4	-0.9
	0.6nm,0.8s,baz=261,slow=5.1,SNR=4.6						
MKAR	**Makanchi Array**	**151.41**	**39**	PKPbc	PKPbc	23 33 34.5	-0.4
	0.9nm,0.7s,baz=322,slow=2.7,SNR=9.4						
MKAR				PKPab	PKPab	23 33 43.9	+0.7
	0.4nm,0.6s,baz=324,slow=2.2,SNR=3.9						

ISCJB ***02*** *23:36:47.5±1.7, 1697S±0.10×1746W±0.1, h56km±18km, mb4.3/7, Error ellipse: s-maj=21.9km s-min=11.5km az=77.9*

NEIC ***02*** *23:36:49.4±1.2, 1693S×17454W, h60km±11km, mb4.1/3, Error ellipse: s-maj=15.5km s-min=9.2km az=129.0*

IDC ***02*** *23:36:50.1±5.1, 1686S×17461W, h60km±32km, mb4.1/4, mb1 4.4/5, mb1mx3.9/14, mbtmp4.3/5, ML1.9/1, Error ellipse: s-maj=133.1km s-min=19.4km az=145.0*

**ISC 02 23:36:50.0

ASAR	**Alice Springs**	**21.41**	**134**	P	P	23 41 54.6	+1.2	
	2.7nm,0.7s,baz=316,slow=8.7,SNR=21							
STKA	**Stephens Creek**	**31.86**	**138**	P	P	23 43 30.8	+0.9	
	2.9nm,1.0s,baz=328,slow=12,SNR=4.7							
STKA				LR	LR	23 57 25.3		
	comp=Z,80nm,20.6s,baz=33,slow=38							
MKAR	**Makanchi Array**	**63.96**	**334**	P	P	23 47 37.4	-0.1	
	0.5nm,0.8s,baz=137,slow=7.8,SNR=4.9							

LDG ***02*** *23:40:55.7±0.4, 4286N×104W, h5km, Md2.0/2, Ml1.8/1, Error ellipse: s-maj=8.5km s-min=2.5km az=23.0*
STR ***02*** *23:40:56.4±0.4, 4292N×104W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 02 23:40:57.2±0.3, 4292N×103W, h6km±6km, mbLg1.3/13, Error ellipse: s-maj=1.6km s-min=1.1km az=149.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LARF	**Larrau**	**0.12**	**14**	Pg	Pg	23 40 59.3	-0.4
LARF				Sg	Sg	23 41 01.7	+0.4
LARF	**Larrau**	**0.12**	**14**	Pg	Pg	23 40 59.4	-0.3
LARF				Lg		23 41 01.7	
SJPF	**Ste Jean**	**0.24**	**323**	*e*Pg	Pg	23 41 01.3	-0.6
SJPF				*e*Sg	Sg	23 41 05.0	-0.1
	13nm,0.2s						
SJPF	**Ste Jean**	**0.24**	**323**	Pg	Pg	23 41 01.3	-0.6
SJPF				Lg		23 41 05.0	
	6.7nm,0.2s						
IPRE	**Itoiz**	**0.27**	**244**	Pg	Pg	23 41 02.2	-0.2
	1.5nm,0.1s,SNR=7.9						
IPRE				Lg		23 41 05.9	
	21nm,0.3s,SNR=21						
ATE	**Arette**	**0.29**	**56**	Pg	Pg	23 41 02.4	-0.4
ATE				Sg	Sg	23 41 06.8	+0.2
ATE	**Arette**	**0.29**	**56**	Pg	Pg	23 41 02.3	-0.5
ATE				Lg		23 41 07.0	
ORDF	**Ordiarp**	**0.30**	**13**	Pg	Pg	23 41 02.8	-0.2
ORDF				Sg	Sg	23 41 07.5	+0.6
ORDF	**Ordiarp**	**0.30**	**13**	Pg	Pg	23 41 02.7	-0.3
ORDF				Lg		23 41 07.5	
FDAF	**Les Forges d'A**	**0.35**	**107**	Pg	Pg	23 41 03.1	-0.9
FDAF				Lg		23 41 08.7	
OSSF	**Osses**	**0.38**	**333**	Pg	Pg	23 41 04.2	-0.2
OSSF				Sg	Sg	23 41 08.9	-0.5
OSSF	**Osses**	**0.38**	**333**	Pg	Pg	23 41 04.1	-0.3
OSSF				Lg		23 41 09.2	
IUSE	**Utxeti**	**0.38**	**274**	Pg	Pg	23 41 04.4	-0.2
	0.9nm,0.1s,SNR=7.9						
IUSE				Lg		23 41 09.9	
	3.5nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.39**	**245**	Pg	Pg	23 41 05.1	+0.5
	1.0nm,0.1s,SNR=7.9						
IUNC				Lg		23 41 10.6	
	8.2nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**0.43**	**250**	Pg	Pg	23 41 04.7	-0.8
	1.1nm,0.1s,SNR=7.9						
EARA				Lg		23 41 11.9	
	15nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.44**	**303**	Pg	Pg	23 41 05.1	-0.6
	3.1nm,0.3s,SNR=31						
ELIZ				Lg		23 41 11.3	
	3.6nm,0.2s,SNR=12						
EALK	**Alkurruntz**	**0.46**	**310**	Pg	Pg	23 41 05.8	-0.3
	0.2nm,0.1s,SNR=7.9						
EALK				Lg		23 41 12.2	
	5.1nm,0.2s,SNR=9.8						
EBIE	**Bielsa**	**0.89**	**105**	Pg	Pg	23 41 12.7	-1.6
	0.1nm,0.1s,SNR=4.0						
EBIE				Lg		23 41 25.2	
	1.5nm,0.1s,SNR=7.0						
EPF	**Esparros**	**1.01**	**83**	*e*Pg	Pg	23 41 14.8	-1.7
EPF				*e*Sg	Sg	23 41 28.8	-0.8
	2.6nm,0.2s						
EPF	**Esparros**	**1.01**	**83**	Pg	Pg	23 41 14.8	-1.7
EPF				Lg		23 41 28.8	
	1.3nm,0.2s						
EGRA	**Graus**	**1.23**	**126**	Pg	Pg	23 41 21.1	+0.3
	0.2nm,0.6s,SNR=7.9						
EGRA				Lg		23 41 37.5	
	1.1nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.27**	**161**	Pg	Pg	23 41 21.6	+0.1
	1.5nm,0.1s,SNR=7.9						
ESAC				Lg		23 41 37.7	
	27nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**2.14**	**117**	Pg	Pg	23 41 36.8	-1.4
	SNR=7.9						
EMIR				Lg		23 42 05.5	
	6.4nm,0.6s,SNR=7.9						
ERTA	**Horta de San J**	**2.21**	**152**	Pg	Pg	23 41 37.6	-2.0
	9.5nm,0.6s,SNR=4.0						
ERTA				Sn	Sn	23 42 00.9	-1.2
	1.5nm,0.2s,SNR=7.9						
ERTA				Lg		23 42 07.1	
	1.3nm,0.2s,SNR=7.9						

TIF ***03*** *00:23:02.5, 4334N×4347E, h18km±2km*
ISCJB ***03*** *00:23:04.2±0.8, 4331N±004×4360E±007, h10km, Error ellipse: s-maj=7.9km s-min=4.9km az=62.7*
MOS ***03*** *00:23:05.1±1.4, 4311N×4370E, h29km, mb3.6/1, Error ellipse: s-maj=14.4km s-min=12.0km az=57.3*

ISC 03 00:23:04.9±0.8, 4330N±004×4360E±006, h10km, n14, σ0°64/18, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DIGR	**Digorskoe uzhe**	**0.40**	**182**	*i* PG	**Pg**	**00 23 11.6**	**-1.1**
KORR	**Kora**	**0.40**	**121**	*i* PG	**Pg**	**00 23 12.8**	**0.0**
ARNR	**Ardon**	**0.51**	**102**	*i* PG	**Pg**	**00 23 15.0**	**+0.2**
ARNR				*i* S	**Sg**	**00 23 27.0**	**+5.5**
KMSR	**Komsomolskaya**	**0.51**	**82**	*i* PG	**Pg**	**00 23 15.2**	**+0.4**
ZEI	**Tsey**	**0.57**	**157**	*i* PG	**Pg**	**00 23 14.9**	**-1.1**
PRTR	**Priterechnaya**	**0.67**	**47**	*i* PG	**Pg**	**00 23 18.1**	**+0.2**
BTKR	**Batakoyurt**	**0.69**	**84**	*i* PG	**Pg**	**00 23 18.5**	**+0.2**
LACR	**Lac**	**0.70**	**132**	*i* PG	**Pg**	**00 23 17.9**	**-0.4**
LACR				*i* S	**Sg**	**00 23 28.3**	**+0.9**
ONI	**Oni**	**0.73**	**189**	P	**Pg**	**00 23 18.1**	**-0.8**
ONI				S	**Sg**	**00 23 28.9**	**+0.5**
VLKR	**Vladikavkaz**	**0.83**	**107**	*e*PG	**Pg**	**00 23 20.6**	**-0.2**
AMRG		**0.85**	**204**	P	**Pg**	**00 23 20.9**	**-0.4**
AMRG				S	**Sg**	**00 23 33.9**	**+1.5**
SNJR	**Sundja**	**0.92**	**104**	*i* PG	**Pg**	**00 23 22.3**	**-0.2**
TRKR	**Terskaya**	**0.93**	**62**	*i* PG	**Pg**	**00 23 22.7**	**0.0**
GOF	**Gofitskoye**	**1.81**	**347**	*e*PN	**Pg**	**00 23 39.8**	**+0.3**

ISCJB ***03*** *00:26:30.5±0.4, 4914N±004×12139E±004, h10km, mb3.8/8, MS3.2/3, Error ellipse: s-maj=5.5km s-min=3.9km az=32.6*
IDC ***03*** *00:26:32.5±1.8, 4882N×12102E, h0km, mb3.6/4, mb1 3.9/6, mb1mx3.6/22, mbtmp3.7/6, ML3.7/2, MS3.2/2, Ms1 3.2/2, ms1mx2.8/16, Error ellipse: s-maj=46.6km s-min=21.4km az=177.0*
BJI ***03*** *00:26:33.3, 4911N×12135E, h30km, mB4.4, mb4.4, ML4.7, Ms4.1, Msz3.7*
BYKL ***03*** *00:26:34.9±1.5, 4891N×12136E*
MOS ***03*** *00:26:34.2±1.6, 4899N×12125E, h33km, mb4.0/4, Error ellipse: s-maj=17.3km s-min=10.5km az=43.8*
NEIC ***03*** *00:26:37.5±1.4, 4878N×12105E, h35km±15km, mb3.7/3, Error ellipse: s-maj=19.3km s-min=11.7km az=198.0*

ISC 03 00:26:31.9±0.4, 4884N±003×12133E±004, h10km, n71, σ1°30/75, mb3.8/8, MS3.2/3, 4C-1D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HIA	**Hailar**	**1.13**	**293**	*e*Pg	**Pg**	**00 26 54.0**	**+0.4**
HIA				*e*Sg	**Sg**	**00 27 08.7**	**+0.5**
HIA	**Hailar**	**1.13**	**293**	*e*Pn	**Pn**	**00 26 54.4**	**+0.7**
HIA				*e*Sn	**Sn**	**00 27 08.8**	**-0.5**
TUP	**Tupik**	**5.66**	**352**	*e*Pn	**Pn**	**00 27 55.7**	**-0.3**
TUP				*e*		00 28 03.8	
TUP				*e*Pg	**Pg**	**00 28 15.9**	**-4.4**
TUP				Pmax		00 28 18.2	
	147nm,1.4s						
TUP				*e*Sn	**Sn**	**00 29 00.8**	**-0.3**
TUP				*e*Sg	**Sg**	**00 29 26.8**	**-6.9**
TUP				Smax		00 29 37.6	
	2μm,1.4s						
TUP	**Tupik**	**5.66**	**352**	*e*P	**Pg**	**00 28 14.5**	**-5.8**
TUP				pmax	pmax		

	comp=Z,147nm,1.0s							
CN2	**Changchun**	**5.79**	**149**	*e*PG	**Pg**	**00 28 21.4**	**-1.3**	
CN2				*e*SG	**Sg**	**00 29 36.4**	**-1.2**	
CN2				Smax				
	comp=N,100nm,0.6s							
CN2				Smax				
	comp=E,100nm,0.6s							
CIT	**Chita**	**5.90**	**306**	*e*Pn	**Pn**	**00 28 01.6**	**+2.2**	
CIT				*e*Pg	**Pg**	**00 28 19.7**	**-5.2**	
CIT				Pmax		00 28 28.1		
	comp=E,56nm,0.5s							
CIT				*e*Sn	**Sn**	**00 29 06.9**	**-0.1**	
CIT				*e*Sg	**Sg**	**00 29 35.7**	**-5.7**	
CIT				Smax		00 29 46.2		
	comp=E,843nm,1.1s							
KPC	**Khapcheranga**	**5.92**	**282**	*e*P	**Pn**	**00 28 01.5**	**+1.9**	
KPC				pmax	pmax			
	comp=Z,47nm,0.8s							
KROS	**Kirovskiy**	**6.61**	**30**	*e*Sg	**Sg**	**00 29 57.0**	**-7.1**	
KROS				Smax		00 30 03.4		
	comp=Z,500nm,0.5s							
TNDR	**Tynda**	**6.66**	**17**	*e*Pg	**Pg**	**00 28 35.1**	**-4.3**	
TNDR				Pmax		00 28 46.4		
	comp=Z,200nm,0.4s							
TNDR				*e*Sg	**Sg**	**00 30 00.5**	**-5.1**	
TNDR				Smax		00 30 05.2		
	comp=Z,6μm,0.6s							
KLR	**Kul'dur**	**6.87**	**83**	*e*P	**Pn**	**00 28 10.0**	**-2.6**	
KLR				MLR	MLR			
	comp=N,2μm,9.0s							
KLR				MLR	MLR			
	comp=E,700nm,6.0s							
KLR				MLR	MLR			
	comp=Z,700nm,6.0s							
MDJ	**Mudanjiang**	**7.07**	**124**	P	**Pn**	**00 28 16.5**	**+1.1**	
MDJ				Smax				
	comp=N,225nm,0.9s							
MDJ				Smax				
	comp=E,218nm,0.9s							
MDJ	**Mudanjiang**	**7.07**	**124**	*e*Pn	**Pn**	**00 28 16.5**	**+1.1**	
	comp=E,15nm,0.4s							
MDJ				*e*Sg	**Sg**	**00 30 14.1**	**-4.8**	
SNY	**Shenyang**	**7.18**	**166**	⇑PG	**Pg**	**00 28 46.3**	**-3.1**	
SNY				Smax				
	comp=N,131nm,1.0s							
SNY				Smax				
	comp=E,189nm,1.2s							
KHNR	**Khani**	**8.14**	**355**	*e*Pn	**Pn**	**00 28 32.7**	**+2.6**	
KHNR				*e*Sg	Sn	00 30 44.1	+42	
UKT	**Uakit**	**8.17**	**328**	⇑*i*Pn	**Pn**	**00 28 29.5**	**-1.0**	
UKT				max		00 29 03.9		
	comp=E,43nm,1.8s							
UKT				*e*Sg	Sn	00 30 46.9	+44	
UKT				Smax		00 31 15.0		
	comp=E,342nm,1.8s							
CRS	**Chara**	**8.29**	**348**	*e*Pn	**Pn**	**00 28 34.2**	**+2.1**	
CRS				*e*Pg	Pn	00 29 03.1	+31	
CRS				Pmax		00 29 07.5		
	comp=E,49nm,2.0s							
CRS				*e*Sg	Sn	00 30 49.2	+43	
CRS				Smax		00 31 10.4		
	comp=E,698nm,2.0s							
CLNS	**Chul'man**	**8.30**	**14**	*e*Sg	Sx	00 30 48.9		
NLYR	**Nelyaty**	**8.39**	**338**	⇓*i*Pn	**Pn**	**00 28 32.6**	**-0.9**	
NLYR				*e*Pg	Pn	00 29 05.8	+32	
NLYR				Pmax		00 29 14.9		
	comp=E,37nm,0.8s							
NLYR				*e*Sg	Sn	00 30 54.4	+46	
NLYR				Smax		00 31 22.3		
	comp=E,1μm,1.0s							
NLYR	**Nelyaty**	**8.39**	**338**	*e*P	**Pn**	**00 28 32.2**	**-1.3**	
NLYR				pmax	pmax			
	comp=Z,33nm,0.9s							
SYVR	**Suvo**	**8.59**	**308**	⇑*i*Pn	**Pn**	**00 28 36.1**	**-0.1**	
SYVR				max		00 28 37.1		
	comp=Z,31nm,1.1s							
SYVR				*e*Sn	**Sn**	**00 30 10.9**	**-2.2**	
SYVR				*e*Sg	Sn	00 30 58.4	+45	
SYVR				Smax		00 31 11.4		
	comp=Z,425nm,1.6s							
SYVR	**Suvo**	**8.59**	**308**	*e*P	**Pn**	**00 28 36.3**	**+0.1**	
SVKR	**Severomuysk**	**8.69**	**330**	*e*Sg	Sx	00 31 05.2		
SVKR				Smax		00 31 21.4		
	comp=Z,1μm,0.8s							
YLYR	**Ulyunkhan**	**8.72**	**318**	⇑*i*Pn	**Pn**	**00 28 37.4**	**-0.6**	
YLYR				max		00 29 13.0		
	comp=Z,16nm,2.0s							
YLYR				*e*Sn	**Sn**	**00 30 13.5**	**-2.9**	
YLYR				*e*Sg	Sn	00 31 02.1	+46	
YLYR				Smax		00 31 07.9		
	comp=Z,419nm,1.8s							
YLYR	**Ulyunkhan**	**8.72**	**318**	*e*P	**Pn**	**00 28 37.5**	**-0.5**	
MXMB	**Maximikha**	**9.08**	**304**	*e*Pn	**Pn**	**00 28 43.3**	**+0.4**	
MXMB				max		00 29 04.8		
	comp=Z,16nm,0.8s							
MXMB				*e*Sn	**Sn**	**00 30 24.9**	**-0.3**	
MXMB				*e*Sg	Sn	00 31 14.6	+49	
MXMB				Smax		00 31 26.0		
	comp=Z,1μm,1.9s							
HABR	**Khabarovsk**	**9.10**	**87**	P	**Pn**	**00 28 44.2**	**+1.1**	
HABR				S	**Sn**	**00 30 28.4**	**+2.8**	
KELR	**Kotokel**	**9.26**	**300**	*e*Sg	Sx	00 31 21.1		
KELR				Smax		00 31 31.0		
	comp=Z,854nm,1.0s							
YOA	**Uoyan**	**9.36**	**325**	*e*Sg	Sx	00 31 23.6		
YOA				Smax		00 31 54.4		
	comp=Z,2μm,1.6s							
TRTB	**Turuntaevo**	**9.36**	**296**	*e*Pn	**Pn**	**00 28 47.1**	**+0.3**	
TRTB				max		00 29 19.9		
	comp=Z,10.0nm,0.6s							
TRTB				*e*Sn	**Sn**	**00 30 30.9**	**-1.2**	
TRTB				*e*Sg	Sn	00 31 23.6	+51	
TRTB				Smax		00 31 34.8		
	comp=Z,381nm,1.4s							
KMO	**Kumora**	**9.39**	**323**	*i* Pn	**Pn**	**00 28 46.7**	**-0.4**	
KMO				max		00 29 01.7		
	comp=Z,19nm,0.8s							
KMO				*e*Sg	Sn	00 31 24.0	+51	
KMO				Smax		00 31 41.2		
	comp=Z,491nm,1.6s							
ULN	**Ulaanbaatar**	**9.56**	**270**	*e*P	**Pn**	**00 28 50.5**	**+1.0**	
ULN				*e*		00 30 35.0		
ULN				pmax	pmax			
	comp=Z,7.0nm,0.6s							
ULN	**Ulaanbaatar**	**9.56**	**270**	*e*P	**Pn**	**00 28 50.5**	**+1.1**	
	comp=Z,7.0nm,0.6s							
ULN				*e*Sn	**Sn**	**00 30 35.0**	**-2.0**	
HRMR	**Khuramsha**	**9.63**	**292**	*e*Pn	**Pn**	**00 28 50.4**	**0.0**	
HRMR				max		00 29 22.3		
	comp=Z,18nm,0.8s							
HRMR				*e*Sg	Sn	00 31 31.0	+52	
HRMR				Smax		00 31 55.4		
	comp=Z,1μm,1.4s							
ZRHB	**Zarechye**	**9.73**	**298**	*e*Pn	**Pn**	**00 28 55.5**	**+3.6**	
ZRHB				max		00 29 11.2		
	comp=Z,42nm,0.7s							
ZRHB				*e*Sg	Sn	00 31 36.2	+55	
ZRHB				Smax		00 32 37.5		
	comp=Z,2μm,1.5s							
FFNB	**Fofonovo**	**9.83**	**295**	*e*Sg	Sx	00 31 38.4		
FFNB				Smax		00 32 07.9		
	comp=Z,661nm,1.5s							
OGRR	**Ongureny**	**9.86**	**304**	*e*	**Pn**	**00 28 50.7**	**-3.0**	
OGRR				*e*Sn	**Sn**	**00 30 40.1**	**-4.3**	
OGRR				*e*Sg	Sn	00 31 39.8	+55	
OGRR				Smax		00 31 42.9		
	comp=Z,316nm,2.0s							
KAB	**Kabansk**	**9.90**	**294**	*e*Sg	Sx	00 31 40.9		
KAB				Smax		00 32 06.7		
	comp=Z,2μm,1.7s							
SONM	**Songino Array**	**10.00**	**270**	Pn	**Pn**	**00 28 56.2**	**+0.7**	
	comp=Z,0.8nm,0.3s,baz=84,slow=13,SNR=20							
SONM				Sn	**Sn**	**00 30 44.7**	**-3.0**	
	comp=Z,2.7nm,0.3s,baz=246,slow=31,SNR=7.1							
SONM				Lg		00 31 40.0		
	comp=Z,2.9nm,0.3s,baz=77,slow=31,SNR=4.5							
SONM	**Songino Array**	**10.00**	**270**	P	**Pn**	**00 28 56.2**	**+0.7**	
SONM						00 30 44.7		
BOD	**Bodaibo**	**10.00**	**337**	*e*Pn	**Pn**	**00 28 54.8**	**-0.8**	
BOD				max		00 29 37.9		
	comp=Z,14nm,0.8s							
BOD				*e*Sg	Sn	00 31 41.9	+54	
BOD				Smax		00 31 47.8		
	comp=Z,277nm,1.4s							
NIZ	**Nizh Angarsk**	**10.01**	**318**	*e*Pn	**Pn**	**00 28 55.9**	**+0.2**	

NIZ				max		00 29 18.0		
	comp=Z,7.0nm,1.0s							
NIZ				*e*Sg	Sn	00 31 45.1	+57	
NIZ				Smax		00 32 04.5		
	comp=Z,219nm,1.8s							
ALDR	**Aldan**	**10.09**	**12**	*e*Sg	Sx	00 31 46.5		
ALDR				Smax		00 32 00.2		
	comp=Z,2μm,0.8s							
TRG	**Tyrgan**	**10.26**	**298**	*e*Pn	**Pn**	**00 29 00.0**	**+0.9**	
TRG				max		00 29 04.5		
	comp=Z,12nm,1.6s							
TRG				*e*Sg	Sn	00 31 52.1	+58	
TRG				Smax		00 32 08.8		
	comp=Z,228nm,1.7s							
LSTR	**Listvyanka**	**10.97**	**292**	*e*Pn	Px	00 28 30.3		
LSTR				max		00 29 22.9		
	comp=Z,4.0nm,1.0s							
LSTR				*e*Sg	Sx	00 32 12.5		
LSTR				Smax		00 32 42.1		
	comp=Z,338nm,2.3s							
CGD	**Chagda**	**11.34**	**25**	*e*Sg	Sx	00 32 22.9		
ZAK	**Zakamensk**	**11.81**	**284**	*e*Sg	Sx	00 32 41.4		
ZAK				Smax		00 32 57.6		
	comp=Z,180nm,2.1s							
ARS	**Arshan**	**12.45**	**291**	*e*Sg	Sx	00 33 00.0		
ARS				Smax		00 33 12.8		
	comp=Z,179nm,1.6s							
MOY	**Mondy**	**13.31**	**290**	*e*Sg	Sx	00 33 24.6		
MOY				Smax		00 33 33.4		
	comp=Z,166nm,2.3s							
TBGR	**Tabaga**	**13.83**	**17**	*e*Sg	Sx	00 33 41.8		
YAK	**Yakutsk**	**14.03**	**16**	*e*Sg	Sx	00 33 45.7		
YAK				Smax		00 33 55.0		
	comp=Z,1μm,0.9s							
TDJR	**Todzha**	**16.37**	**292**	*e*Sg	Sx	00 35 02.4		
MJAR	**Matsushiro Arr**	**17.41**	**129**	P	**Pn**	**00 30 38.9**	**+4.0**	
	comp=Z,0.2nm,0.3s,baz=312,slow=12,SNR=5.1							
GTA	**Gaotai**	**18.04**	**247**	*e*P	**Pn**	**00 30 42.8**	**+0.2**	
GTA				S	**Sn**	**00 34 05.6**	**+1.8**	
GTA				SS		00 34 29.6		
GTA				PCP	PcP	00 35 13.9	-3.2	
GTA				SCP	ScP	00 38 47.9	-4.5	
GTA				AMB	AMB			
	comp=Z,2.0nm,0.8s							
GTA				AMB	AMB			
	comp=Z,57nm,5.7s							
GTA				LR	LR			
	comp=N,172nm,10.3s							
GTA				LR	LR			
	comp=E,188nm,11.4s							
GTA				LR	LR			
	comp=Z,176nm,12.9s							
LZH	**Lanzhou**	**18.07**	**232**	*e*P	**Pn**	**00 30 42.1**	**-0.9**	
LZH				AP	pP	00 30 50.2	+4.0	
LZH				XP	sP	00 30 54.6	+7.0	
LZH				PP		00 30 57.5		
LZH				AMB	AMB			
	comp=Z,25nm,1.3s							
LZH				AMB	AMB			
	comp=Z,79nm,4.2s							
LZH				LR	LR			
	comp=N,237nm,10.5s							
LZH				LR	LR			
	comp=Z,405nm,13.3s							
TIXI	**Tiksi**	**23.16**	**6**	*e*P	**P**	**00 31 38.3**	**-0.1**	
TIXI				*e*		00 32 03.6		
TIXI				*e*S	**S**	**00 35 47.7**	**-2.1**	
TIXI				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb3.8							
TIXI				MLR	MLR			
	comp=Z,61nm,12.0s,MS3.3							
ZAL	**Zalesovo**	**23.18**	**297**	LR	LR	00 42 15.5		
	comp=Z,40nm,18.6s,MS2.9,baz=74,slow=41							
YHNB	**Yeheng**	**24.12**	**180**	*e*P	**P**	**00 31 51.8**	**+4.0**	
LSA	**Lhasa**	**29.89**	**241**	P	**P**	**00 32 40.7**	**+1.1**	
CHKZ	**Chkalovo**	**31.54**	**298**	*e*P	**P**	**00 32 56.0**	**+1.8**	
CHKZ				pmax	pmax			
	comp=Z,1.0nm,0.7s,mb3.8							
CHKZ	**Chkalovo**	**31.54**	**298**	*e*P	**P**	**00 32 56.0**	**+1.8**	
	comp=Z,0.8nm,0.7s,mb3.7							
ZRNK	**Zerenda**	**32.65**	**297**	*e*P	**P**	**00 33 04.2**	**+0.3**	
	comp=Z,0.4nm,0.4s,mb3.7							
AAK	**Ala-Archa**	**32.85**	**277**	*e*P	**P**	**00 33 04.9**	**-0.8**	
ILAR	**Eielson Array**	**47.98**	**35**	P	**P**	**00 35 14.8**	**+4.0**	
	comp=Z,0.4nm,0.8s,mb3.5,baz=280,slow=8.2,SNR=5.4							
INK	**Inuvik**	**50.76**	**28**	*e*P	**P**	**00 35 36.8**	**+4.8**	
INK				pmax	pmax			
	comp=Z,1.0nm,0.5s							
INK	**Inuvik**	**50.76**	**28**	*e*P	**P**	**00 35 36.8**	**+4.8**	
	comp=Z,1.0nm,0.5s,mb4.0							
FINES	**FINESS Array B**	**51.01**	**322**	P	**P**	**00 35 35.0**	**+1.1**	
	comp=Z,2.2nm,0.9s,mb4.1,baz=59,slow=4.9,SNR=6.4							
FINES	**FINESS Array B**	**51.01**	**322**	P	**P**	**00 35 35.0**	**+1.1**	
AKASG	**Malin Array Be**	**55.68**	**310**	P	**P**	**00 36 09.4**	**+1.2**	
	comp=Z,0.8nm,0.5s,mb4.0,baz=44,slow=8.1,SNR=2.5							
YKA	**Yellowknife Ar**	**60.47**	**26**	P	**P**	**00 36 42.3**	**+0.5**	
	comp=Z,0.4nm,0.7s,mb3.6,baz=323,slow=6.6,SNR=7.6							
YKA	**Yellowknife Ar**	**60.47**	**26**	P	**P**	**00 36 42.3**	**+0.5**	
GERES	**GERESS Array B**	**64.45**	**316**	LR	LR	01 06 21.8		
	comp=Z,24nm,20.2s,MS3.4,baz=259,slow=37							

NEIC ***03*** *00:27:56.9, 2728S×7142W, h20km, ML3.9(GUC), After GUC.*

GUC 03 00:27:56.9±0.7, 2728S×7142W, h20km±6km, MD4.0, ML3.9, 2C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.56**	**69**	⇓*i*P	Pb	00 28 07.5	-0.7
CDCH				*i* S	Sb	00 28 15.8	+0.1
CPCH	**Copiapo**	**0.95**	**95**	⇓*i*P	Pb	00 28 13.7	-1.1
CPCH				*i* S	Sb	00 28 27.0	+0.1
CPCH				AML	AML	00 28 30.1	
	comp=E,8μm,0.1s						
CPCH	**Copiapo**	**0.95**	**95**	⇓*i*P	Pb	00 28 13.7	-1.1
CPCH				*i* S	Sb	00 28 27.0	+0.1
CRCH	**Chaqaral**	**1.17**	**38**	⇑*i*P	Pn	00 28 17.4	-0.7
CRCH				*i* S	Sb	00 28 32.3	-0.8
LCO	**Las Campanas**	**1.84**	**160**	⇑*i*P	Pn	00 28 28.8	+1.5
LCO				*i* S	Sn	00 28 52.2	+2.2
TLL	**Tololo Astrono**	**2.93**	**170**	*e*P	Pn	00 28 44.1	+1.8
TLL				*i* S	Sn	00 29 19.9	+3.0
TLL				AML	AML	00 29 42.7	
	comp=N,270nm,0.8s						
TLL	**Tololo Astrono**	**2.93**	**170**	*e*P	Pn	00 28 44.1	+1.8
T

JOD2	**Odawara 2**	**4.74**	**338**	P		**Pn**	**00 55 43.0**	**-0.2**
JOD2				*e*S		**Sn**	**00 56 35.2**	**-1.7**
JHMK	**Hamakita**	**4.90**	**324**	P		**Pn**	**00 55 47.1**	**+1.6**
JHU	**Hanno**	**5.23**	**342**	P		**Pn**	**00 55 50.3**	**+0.3**
JHU				*e*S		**Sn**	**00 56 46.2**	**-2.8**
JNY	**Yasuok**	**5.29**	**329**	P		**Pn**	**00 55 52.0**	**+1.2**
JYT	**Yasato**	**5.42**	**351**	P		**Pn**	**00 55 54.1**	**+1.6**
JYT				*e*S		**Sn**	**00 56 51.4**	**-2.1**
JRY	**Ryogami san**	**5.49**	**340**	P		**Pn**	**00 55 54.8**	**+1.2**
JRY				*e*S		**Sn**	**00 56 52.5**	**-2.9**
JAG	**Ashikaga**	**5.74**	**346**	P		**Pn**	**00 55 56.4**	**-0.5**
JAG				*e*S		**Sn**	**00 56 59.0**	**-2.4**
JHO	**Hitachi**	**5.76**	**355**	P		**Pn**	**00 55 56.0**	**-1.2**
MJAR	**Matsushiro Arr**	**6.20**	**337**	P		**Pn**	**00 56 03.8**	**+0.7**
	1.4nm,0.3s,baz=171,slow=14,SNR=12							
MJAR				S		**Sn**	**00 57 14.3**	**+1.7**
	1.1nm,0.3s,baz=115,slow=33,SNR=4.1							
MAJO	**Matsushiro**	**6.20**	**337**	*e*P		**Pn**	**00 56 04.4**	**+1.2**
MAJO				*e*			00 57 14.7	
MAJO				pmax	pmax			
	comp=Z,15nm,0.8s							
MAJO	**Matsushiro**	**6.20**	**337**	*e*Pn		**Pn**	**00 56 04.4**	**+1.2**
	comp=Z,15nm,0.8s							
MAJO				*e*Sn		**Sn**	**00 57 14.7**	**+2.1**
MAT	**Matsushiro**	**6.20**	**337**	P		**Pn**	**00 56 04.0**	**+0.8**
MAT				*e*S		**Sn**	**00 57 13.3**	**+0.7**
MAT	**Matsushiro**	**6.20**	**337**	P		**Pn**	**00 56 04.0**	**+0.8**
MAT				*e*S		**Sn**	**00 57 14.0**	**+1.4**
MAT				pmax	pmax			
	comp=Z,5.0nm,0.7s							
MAT	**Matsushiro**	**6.20**	**337**	P		**Pn**	**00 56 04.0**	**+0.8**
	comp=Z,5.5nm,0.7s							
MAT				*e*S		**Sn**	**00 57 14.0**	**+1.4**
JFK	**Kawauchi**	**6.49**	**358**	P		**Pn**	**00 56 06.3**	**-1.0**
JFK				*e*S		**Sn**	**00 57 13.8**	**-6.1**
JOW	**Kunigami**	**12.04**	**254**	LR		LR	01 01 22.5	
	comp=Z,76nm,21.6s,baz=91,slow=35							
ASAJ	**Asahikawa**	**12.18**		LR		LR	01 04 22.2	
	comp=Z,62nm,18.3s,baz=154,slow=44							
YHNB	**Yeheng**	**18.60**	**255**	P		**Pn**	**00 58 54.4**	**+7.1**
NACB	**Ninganchiao**	**18.63**	**254**	P		**Pn**	**00 58 55.7**	**+8.2**
ULN	**Ulaanbaatar**	**31.08**	**313**	*e*P		**P**	**01 00 51.8**	**+5.6**
	comp=Z,0.2nm,0.3s,mb3.3							
SONM	**Songino Array**	**31.48**	**313**	P		**P**	**01 00 50.3**	**+0.5**
	comp=Z,0.4nm,0.7s,mb3.2,baz=119,slow=8.0,SNR=4.1							
LSA	**Lhasa**	**42.96**	**282**	P		**P**	**01 02 35.5**	**+8.6**
MKAR	**Makanchi Array**	**47.48**	**307**	P		**P**	**01 03 01.0**	**-1.7**
	comp=Z,0.4nm,0.5s,mb3.4,baz=78,slow=9.6,SNR=7.9							
MKAR				PcP		PcP	01 04 32.1	0.0
	comp=Z,0.4nm,0.6s,baz=76,slow=10,SNR=6.4							
KURK	**Kurchatov**	**49.79**	**312**	*e*P		**P**	**01 03 27.0**	**+6.6**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.9							
KURK	**Kurchatov**	**49.79**	**312**	*e*P		**P**	**01 03 27.0**	**+6.5**
	comp=Z,1.0nm,0.6s,mb3.9							
WRA	**Warramunga Arr**	**50.94**	**188**	P		**P**	**01 03 27.6**	**-1.6**
	comp=Z,1.2nm,0.4s,mb4.3,baz=2.1,slow=7.5,SNR=9.5							
WRA				PcP		PcP	01 04 46.0	+1.4
	comp=Z,1.7nm,0.7s,baz=1.3,slow=3.9,SNR=6.7							
CHKZ	**Chkalovo**	**54.54**	**316**	P		**P**	**01 04 02.0**	**+6.3**
ASAR	**Alice Springs**	**54.67**	**188**	P		**P**	**01 03 55.1**	**-1.5**
	comp=Z,0.6nm,0.5s,mb3.9,baz=353,slow=5.3,SNR=12							
ILAR	**Eielson Array**	**54.85**	**30**	P		**P**	**01 03 59.3**	**+1.4**
	comp=Z,0.3nm,0.7s,mb3.5,baz=262,slow=6.9,SNR=5.3							
YKA	**Yellowknife Ar**	**69.25**	**29**	P		**P**	**01 05 35.8**	**+1.4**
	comp=Z,0.4nm,0.6s,mb3.4,baz=297,slow=6.5,SNR=14							
YKA	**Yellowknife Ar**	**69.25**	**29**	P		**P**	**01 05 35.8**	**+1.4**
ARCES	**ARCESS Array B**	**69.72**	**340**	P		**P**	**01 05 37.5**	**+0.2**
	comp=Z,0.7nm,0.7s,mb3.6,baz=52,slow=7.9,SNR=5.5							
JOF	**Joensuu**	**71.35**	**333**	*e*p		**P**	**01 05 47.5**	**+0.3**
	comp=Z,1.6nm,0.6s,mb4.0							
KAF	**Kangasniemi**	**73.73**	**334**	*e*p		**P**	**01 06 00.9**	**-0.5**
	comp=Z,1.1nm,0.4s,mb3.9							
KAF	**Kangasniemi**	**73.73**	**334**	*e*P		**P**	**01 06 00.9**	**-0.5**
KAF				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb3.9							
FINES	**FINESS Array B**	**74.21**	**333**	P		**P**	**01 06 04.4**	**+0.2**
	comp=Z,1.1nm,0.4s,mb3.9,baz=64,slow=5.8,SNR=27							
AKASG	**Malin Array Be**	**79.10**	**323**	P		**P**	**01 06 31.2**	**-0.5**
	comp=Z,0.5nm,0.4s,mb3.7,baz=49,slow=5.4,SNR=6.4							
NB2	**NORSAR Subarra**	**79.81**	**338**	P		**P**	**01 06 35.9**	**+0.3**
	comp=Z,0.1nm,0.6s,mb2.8,baz=48,slow=6.2							
NOA	**NORSAR Array B**	**79.81**	**338**	P		**P**	**01 06 35.5**	**-0.1**
	comp=Z,0.5nm,0.7s,mb3.5,baz=43,slow=5.5,SNR=3.7							
BRTR	**Keskin Array B**	**82.84**	**312**	P		**P**	**01 06 52.5**	**+0.8**
	comp=Z,1.2nm,0.6s,mb3.9,baz=86,slow=4.2,SNR=8.8							
TORD	**Torodi Ar. Bea**	**121.46**	**312**	PKP		PKPdf	01 13 20.8	+0.5
	comp=Z,0.4nm,0.9s,baz=31,slow=0.8,SNR=4.6							
LPAZ	**La Paz**	**149.55**	**68**	PKPbc		PKPbc	01 14 18.3	+2.0
	comp=Z,1.1nm,0.9s,baz=225,slow=4.3,SNR=3.4							
LPAZ	**La Paz**	**149.55**	**68**	PKPbc		PKPbc	01 14 18.3	+2.0

*ISCJB **03** 00:56:35.0±1.4, 3768N±006×2081E±009, h4km±12km, Error ellipse: s-maj=14.3km s-min=6.8km az=102.5*
*THE **03** 00:56:35.9, 3764N×2085E, h1km*
*ATH **03** 00:56:36.4, 3773N×2086E, h10km, MD3.5/3*
ISC 03 00:56:35.8±1.3, 3769N±005×2085E±008, h3km±11km, n7, σ0§87/13, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.53**	**338**	*e*PB	**Pg**	**00 56 46.1**	**+0.2**
VLS				*e*SB	**Sg**	**00 56 53.5**	**+0.7**
RLS	**Riolos of Patr**	**0.61**	**53**	*e*PB	**Pg**	**00 56 46.9**	**-0.7**
RLS				*e*SB	**Sg**	**00 56 55.6**	**+0.1**
ITM	**Ithomi**	**1.00**	**120**	*e*PG	**Pg**	**00 56 55.1**	**+0.2**
ITM				*e*SB	**Sb**	**00 57 10.2**	**+1.0**
LKD	**Levkas**	**1.03**	**351**	*e*Pg	**Pg**	**00 56 54.8**	**-0.7**
LKD				*e*Sg	**Sg**	**00 57 12.0**	**+3.1**
EVR	**Evrytania**	**1.44**	**31**	*e*PB	**Pb**	**00 57 03.2**	**-0.1**
EVR				*e*SB	**Sb**	**00 57 21.9**	**-0.1**
AGG	**Agios Georgios**	**1.77**	**41**	*e*Pb	**Pb**	**00 57 07.1**	**-1.8**
AGG				*e*Sb	**Sb**	**00 57 32.1**	**+0.6**
IGT	**Igoumenitsa**	**1.89**	**348**	*e*Pb	**Pb**	**00 57 10.2**	**-0.6**

*MOS **03** 01:10:19.4±1.1, 3685N×7108E, h33km, mb4.2/1, Error ellipse: s-maj=19.9km s-min=12.0km az=89.0*
*ISCJB **03** 01:10:24.0±1.0, 3705N±004×7125E±009, h72km±11km, mb3.5/9, Error ellipse: s-maj=13.0km s-min=4.8km az=126.3*
*IDC **03** 01:10:24.9±5.8, 3699N×7129E, h63km±46km, mb3.3/8, mb1 3.6/12, mb1mx3.4/23, mbtmp3.7/12, ML4.8/4, Error ellipse: s-maj=45.5km s-min=23.0km az=166.0*
*NEIC **03** 01:10:25.1±2.5, 3703N×7122E, h65km±19km, mb3.3/4, Error ellipse: s-maj=22.4km s-min=10.1km az=210.0*
*NNC **03** 01:10:36.0±6.7, 3772N×7069E, h143km±35km, mb3.3, mpv4.2, Error ellipse: s-maj=71.0km s-min=45.8km az=169.0*
ISC 03 01:10:25.1±0.9, 3704N±005×7123E±009, h68km±10km, n49, σ1§18/57, mb3.5/9, 4C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**5.94**	**138**	*ex*	x	01 11 25.0	
DLH				*e*S	**Sn**	**01 13 00.0**	**+3.0**
KK31	**Karatay Array**	**6.08**	**355**	⇓P	**Pn**	**01 11 54.3**	**+2.0**
	9.0nm,0.2s,baz=179,slow=13,SNR=839						
KK31				⇑S	**Sn**	**01 12 57.7**	**-2.8**
	9.3nm,0.4s,baz=191,slow=23,SNR=4.9						
KKAR	**Karatay Array**	**6.08**	**355**	PN	**Pn**	**01 11 54.2**	**+1.9**
KKAR				pmax	pmax		
	comp=Z,6.0nm,0.2s						
AAK	**Ala-Archa**	**6.12**	**23**	*e*PN	**Pn**	**01 11 55.0**	**+2.1**
AAK				pmax	pmax		
	comp=Z,14nm,0.6s						
AAK	**Ala-Archa**	**6.12**	**23**	*e*Pn	**Pn**	**01 11 55.0**	**+2.1**
	comp=Z,14nm,0.6s						
AAK				*e*Sn	**Sn**	**01 13 02.2**	**+0.7**
PONG	**Pong**	**6.39**	**141**	*e*S	**Sn**	**01 13 12.0**	**+3.8**
SDNR	**Sundarnagar**	**7.28**	**138**	*e*P	**Pn**	**01 12 14.4**	**+5.6**
SDNR				*e*S	**Sn**	**01 13 28.6**	**-1.4**
SMLA	**Simla**	**7.68**	**138**	*i*P	**Pn**	**01 12 15.5**	**+1.4**
SMLA				*i*S	**Sn**	**01 13 35.0**	**-4.6**
MK31	**Makanchi Array**	**12.75**	**37**	P	**Pn**	**01 13 24.1**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=223,slow=15,SNR=5.4						
MKAR	**Makanchi Array**	**12.75**	**37**	P	**Pn**	**01 13 23.9**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=222,slow=16,SNR=7.7						
KOLN	**Koldanda**	**13.94**	**128**	*e*P	**Pn**	**01 13 38.2**	**-1.0**
	comp=Z,5.0nm,0.3s						
GKN	**Gorkha**	**14.45**	**125**	*e*P	**Pn**	**01 13 45.7**	**-0.2**
	comp=Z,13nm,0.4s						
KURK	**Kurchatov**	**14.66**	**19**	*e*P	**Pn**	**01 13 48.9**	**+0.2**
AB31	**Akbulak array**	**14.71**	**330**	⇓P	**Pn**	**01 13 47.2**	**-2.2**
	comp=Z,0.9nm,0.3s,baz=135,slow=12,SNR=77						
AB31				⇑S	**Sn**	**01 16 15.7**	**-15**
	comp=Z,2.8nm,0.6s,baz=144,slow=24,SNR=13						
AB31	**Akbulak array**	**14.71**	**330**	P	**Pn**	**01 13 47.6**	**-1.7**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KKN	**Kakani**	**15.01**	**124**	*e*P	**Pn**	**01 13 52.4**	**-0.8**
DMN	**Daman**	**15.02**	**125**	*e*P	**Pn**	**01 13 52.4**	**-0.9**
PKI	**Pulchoki**	**15.24**	**124**	*e*P	**Pn**	**01 13 55.2**	**-1.0**
	comp=Z,5.7nm,0.3s						
GUN	**Gumba**	**15.34**	**122**	*e*P	**Pn**	**01 13 57.5**	**+0.1**
	comp=Z,23nm,0.7s						
VOSK	**Vostochnaya**	**15.68**	**359**	⇑P	**Pn**	**01 14 00.0**	**-1.8**
	comp=Z,2.5nm,0.8s						
VOSK	**Vostochnaya**	**15.68**	**359**	P	**Pn**	**01 14 00.0**	**-1.8**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
JIRN	**Jiri**	**15.71**	**122**	*e*P	**Pn**	**01 14 01.5**	**-0.6**
	comp=Z,21nm,0.5s						
ZRNK	**Zerenda**	**15.99**	**355**	⇑P	**Pn**	**01 14 04.5**	**-1.1**
	comp=Z,1.1nm,0.6s						
ZRNK	**Zerenda**	**15.99**	**355**	*e*P	**Pn**	**01 14 04.8**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZRNK	**Zerenda**	**15.99**	**355**	*e*Pn	**Pn**	**01 14 04.8**	**-0.9**
	comp=Z,1.7nm,0.7s						
BVAR	**Borovoye Array**	**16.00**	**358**	P	**Pn**	**01 14 04.6**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=167,slow=15,SNR=20						
BRVK	**Borovoye**	**16.03**	**358**	*e*P	**Pn**	**01 14 05.4**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRVK	**Borovoye**	**16.03**	**358**	*e*Pn	**Pn**	**01 14 05.4**	**-0.8**
	comp=Z,0.8nm,0.4s						
AKTK	**Aktyubinsk**	**16.41**	**329**	P	**Pn**	**01 14 10.6**	**-0.4**
AKTK				S	**S**	**01 17 02.5**	**-18**
AKTO	**Aktyubinsk**	**16.41**	**329**	P	**Pn**	**01 14 10.6**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=138,slow=12,SNR=14						
AKTO				S	**S**	**01 17 02.5**	**-18**
	comp=Z,0.1nm,0.3s,baz=252,slow=20,SNR=3.9						
AKTO	**Aktyubinsk**	**16.41**	**329**	P	**Pn**	**01 14 10.6**	**-0.4**
AKTO				S	**S**	**01 17 02.5**	**-18**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CHKZ	**Chkalovo**	**16.64**	**359**	P	**Pn**	**01 14 12.0**	**-1.9**
CHKZ	**Chkalovo**	**16.64**	**359**	*e*P	**Pn**	**01 14 14.5**	**+0.6**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CHKZ	**Chkalovo**	**16.64**	**359**	*e*Pn	**Pn**	**01 14 14.5**	**+0.6**
	comp=Z,0.8nm,0.4s						
LSA	**Lhasa**	**18.16**	**108**	*e*P	**Pn**	**01 14 32.4**	**0.0**
ZAL	**Zalesovo**	**19.33**	**25**	P	**Pn**	**01 14 45.0**	**-1.5**
	comp=Z,0.7nm,0.3s,baz=264,slow=5.5,SNR=4.5						
SONM	**Songino Array**	**27.88**	**56**	P	**P**	**01 16 09.6**	**+1.2**
	comp=Z,0.2nm,0.4s,mb3.0,baz=262,slow=10.0,SNR=4.0						
ULN	**Ulaanbaatar**	**28.32**	**56**	*e*P	**P**	**01 16 13.6**	**+1.3**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.7						
ULN	**Ulaanbaatar**	**28.32**	**56**	*e*P	**P**	**01 16 13.6**	**+1.3**
	comp=Z,0.9nm,0.4s,mb3.6						
FINES	**FINESS Array B**	**37.14**	**326**	P	**P**	**01 17 30.3**	**+1.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=110,slow=10,SNR=6.8						
ARCES	**ARCESS Array B**	**40.72**	**337**	P	**P**	**01 17 59.9**	**+0.8**
	comp=Z,0.2nm,0.3s,mb3.4,baz=111,slow=9.2,SNR=8.1						
NB2	**NORSAR Subarra**	**44.06**	**323**	P	**P**	**01 18 26.7**	**+0.5**
	comp=Z,0.8nm,0.5s,mb3.7,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**44.06**	**323**	P	**P**	**01 18 27.0**	**+0.8**
	comp=Z,1.2nm,0.6s,mb3.8,baz=95,slow=7.9,SNR=5.8						
ESDC	**Sonseca Array**	**57.37**	**298**	P	**P**	**01 20 07.5**	**+1.2**
	comp=Z,1.0nm,0.8s,mb3.9,baz=64,slow=7.2,SNR=4.2						
TORD	**Torodi Ar. Bea**	**65.92**	**269**	P	**P**	**01 21 04.6**	**+0.8**
	comp=Z,0.4nm,0.4s,mb3.6,baz=49,slow=6.2,SNR=14						
ILAR	**Eielson Array**	**74.21**	**16**	P	**P**	**01 21 53.8**	**-0.8**
	comp=Z,0.3nm,0.8s,mb3.1,baz=309,slow=8.1,SNR=4.9						
YKA	**Yellowknife Ar**	**80.70**	**3**	P	**P**	**01 22 30.8**	**+0.1**
	comp=Z,0.3nm,0.3s,mb3.6,baz=350,slow=5.5,SNR=19						
YKA	**Yellowknife Ar**	**80.70**	**3**	P	**P**	**01 22 30.8**	**+0.1**
WRAB	**Tennant Creek**	**82.12**	**122**	P	**P**	**01 22 37.9**	**-0.3**

*BJI **03** 01:24:59.7, 3487N×7313E, h5km, mB5.0, mb4.6, ML4.7, Ms4.3, Ms2.4.1*
*NDI **03** 01:24:59.8±3.2, 3486N×7304E, h10km, ML4.3, mb4.3(NEIC)*
*IDC **03** 01:25:00.3±0.7, 3466N×7322E, h0km, mb4.3/16, mb1 4.5/19, mb1mx4.4/23, mbtmp4.4/19, ML4.4/3, MS3.6/6, Ms1 3.6/6, ms1mx3.0/30, Error ellipse: s-maj=17.4km s-min=15.2km az=7.0*
*ISCJB **03** 01:25:01.6±0.9, 3464N±002×7332E±003, h21km±7km, mb4.5/49, MS3.7/11, Error ellipse: s-maj=5.1km s-min=3.0km az=121.3*
*NEIC **03** 01:25:02.3±0.3, 3468N×7322E, h10km, mb4.3/20, Error ellipse: s-maj=7.1km s-min=5.9km az=188.0*
NEIC Felt at Abbottabad, Balakot, Islamabad and Manshera.
*MOS **03** 01:25:04.7±1.1, 3477N×7322E, h39km, mb4.6/21, Error ellipse: s-maj=10.0km s-min=5.2km az=102.2*
*NNC **03** 01:25:09.1±11.0, 3486N×7248E, h82km±94km, mb4.1, mpv5.0, Error ellipse: s-maj=112.7km s-min=76.1km az=44.0*
ISC 03 01:25:04.5±1.0, 3466N±002×7327E±003, h27km±7km, h21km±5.2km; pP-P, n170, σ1§29/210, mb4.5/49, MS3.7/11, 6C-17D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.00**	**181**	⇑P	**Pn**	**01 25 21.4**	**-1.3**
CEP	**Cherat**	**1.41**	**234**	⇓P	**Pn**	**01 25 28.2**	**-0.1**
CEP				S	**Sn**	**01 25 49.0**	**+3.1**
SRNI	**Srinagar**	**1.42**	**113**	*e*P	**Pn**	**01 25 31.0**	**+2.5**
SRNI				*e*S	**Sn**	**01 25 49.5**	**+3.3**
THW	**Thamme Wali**	**2.26**	**215**	⇓P	**Pn**	**01 25 42.3**	**+2.3**
JMU	**Jammu**	**2.37**	**145**	*e*P	**Pn**	**01 25 43.5**	**+2.0**
JMU				*ex*	x	01 26 17.5	
SARP	**Sargodha**	**2.78**	**191**	⇓P	**Pn**	**01 25 49.0**	**+1.8**
DLH	**Dalhousie**	**3.08**	**133**	*e*P	**Pn**	**01 25 54.0**	**+2.6**
DLH				*ex*	x	01 26 34.0	
PONG	**Pong**	**3.51**	**140**	*e*P	**Pn**	**01 26 00.0**	**+2.8**
PONG				*ex*	x	01 26 45.0	
DRP	**Derazinda**	**3.89**	**222**	⇓P	**Pn**	**01 26 04.5**	**+2.1**
SDNR	**Sundarnagar**	**4.42**	**134**	*e*P	**Pn**	**01 26 11.2**	**+1.4**
SDNR				*e*S	**Sn**	**01 27 02.6**	**+2.2**
SMLA	**Simla**	**4.81**	**136**	⇓*i*P	**Pn**	**01 26 15.4**	**+0.3**
SMLA				*ex*	x	01 27 31.5	
KLP	**Kalpa**	**5.21**	**125**	*e*P	**Pn**	**01 26 22.6**	**+2.0**
KLP				*e*S	**Sn**	**01 27 21.8**	**+1.9**
KLP				AML	AML	01 27 49.5	
	comp=N,2μm,0.7s						
KLP				AML	AML	01 27 51.3	
	comp=E,3μm,0.7s						
KSH	**Kashi**	**5.30**	**23**	*e*PG	**Pn**	**01 26 27.2**	**+5.3**
KSH				*e*S	**Sn**	**01 27 28.7**	**+6.6**
KSH				Smax			
	comp=N,1μm,1.4s						
KSH				Smax			
	comp=E,296nm,1.0s						
KKR	**Kurukshetra**	**5.56**	**146**	*e*P	**Pn**	**01 26 26.7**	**+1.3**
DDI	**Dehra Dun**	**5.92**	**136**	*e*P	**Pn**	**01 26 30.8**	**+0.5**
DDI				*ex*	x	01 27 42.5	
JOSI	**Joshimath**	**6.70**	**126**	*ex*	x	01 26 31.7	
JOSI				*ex*	x	01 27 51.0	
JOSI				AML	AML	01 28 28.3	
	comp=N,965nm,0.9s						
NDI	**New Delhi**	**6.84**	**150**	*e*P	**Pn**	**01 26 42.5**	**-0.5**
NDI				*e*S	**Sn**	**01 27 59.0**	**-0.9**
KHET	**Khetri**	**6.92**	**161**	*e*P	**Pn**	**01 26 44.7**	**+0.7**
KHET				*e*S	**Sn**	**01 28 00.3**	**-1.4**
KHET				AML	AML	01 28 52.5	
	comp=N,124nm,0.6s						
KHET				AML	AML	01 28 52.6	
	comp=E,202nm,0.4s						
AYAN	**Aya Nagar**	**6.98**	**151**	*e*P	**Pn**	**01 26 45.1**	**+0.2**
AYAN				*e*S	**Sn**	**01 28 02.9**	**-0.5**
AYAN				AML	AML	01 29 00.3	
	comp=Z,97nm,0.2s						
KUDL	**Kundal**	**7.05**	**156**	*e*P	**Pn**	**01 26 45.4**	**-0.6**
KUDL				*e*S	**Sn**	**01 28 03.5**	**-1.6**
KUDL				AML	AML	01 28 49.0	
	comp=N,84nm,0.4s						
KUDL				AML	AML	01 28 52.5	
	comp=E,170nm,0.4s						
SONA	**Sohna**	**7.17**	**152**	*e*P	**Pn**	**01 26 47.5**	**0.0**
SONA				*e*S	**Sn**	**01 28 06.1**	**-2.0**
SONA				AML	AML	01 29 00.7	
	comp=E,259nm,0.5s						
SONA				AML	AML	01 29 01.1	
	comp=N,160nm,0.4s						
LGTI	**Lohaghat**	**7.87**	**129**	*e*P	**Pn**	**01 26 59.5**	**+2.3**
LGTI				*e*S	**Sn**	**01 28 24.5**	**-0.8**
AAK	**Ala-Archa**	**8.02**	**6**	*e*P	**Pn**	**01 27 00.7**	**+1.6**
AAK				*e*S	**Sn**	**01 28 29.1**	**+0.3**
AAK				pmax	pmax		
	comp=Z,18nm,0.6s						
AAK	**Ala-Archa**	**8.02**	**6**	*e*Pn	**Pn**	**01 27 00.7**	**+1.6**
	comp=Z,18nm,0.6s						
AAK				*e*S	**Sn**	**01 28 29.1**	**+0.3**
FRU	**Bishkek**	**8.23**	**7**	*e*P	**Pn**	**01 27 05.0**	**+3.0**
FRU				*e*S	**Sn**	**01 28 41.0**	**+7.0**
FRU				pmax	pmax		
	comp=Z,50nm,1.6s						
FRU				pmax	pmax		
	comp=E,150nm,1.8s						
AJM	**Ajmer**	**8.24**	**171**	*i*P	**Pn**	**01 27 01.0**	**-1.2**
AJM				*e*P		01 27 01.8	
AJM				*i*S	**Sn**	**01 28 30.0**	**-4.4**
AJM				*e*S	**Sn**	**01 28 30.8**	**-3.6**
KK31	**Karatay Array**	**8.70**	**347**	⇓P	**Pn**	**01 27 09.6**	**+1.1**
	comp=E,32nm,0.5s,baz=157,slow=12,SNR=707						
KK31				⇓S	**Sn**	**01 28 43.5**	**-2.1**
	comp=E,60nm,0.8s,baz=173,slow=23,SNR=9.0						
KKAR	**Karatay Array**	**8.70**	**347**	*e*P	**Pn**	**01 27 09.4**	**+0.9**
KKAR				S	**Sn**	**01 28 44.2**	**-1.4**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.2s						
KKAR				smax			
	comp=Z,4.0nm,0.3s						
KOLN	**Koldanda**	**11.19**	**125**	*e*Pn	**Pn**	**01 27 42.2**	**-0.4**
KOLN				*e*Sn	**Sn**	**01 29 41.5**	**-5.2**
	comp=Z,209nm,0.7s						
GKN	**Gorkha**	**11.76**	**121**	*e*Pn	**Pn**	**01 27 49.1**	**-1.3**
GKN				*e*Sn	**Sn**	**01 29 54.1**	**-6.6**
	comp=Z,230nm,0.4s						
BHJ	**Bhuj**	**11.80**	**197**	*e*P	**Pn**	**01 27 49.0**	**-1.9**
BHJ				*e*S	**Sn**	**01 29 54.1**	**-7.6**
BHPL	**Bhopal**	**11.94**	**161**	*e*P	**Pn**	**01 27 51.5**	**-1.5**
BHPL				*e*S	**Sn**	**01 30 00.5**	**-4.7**
DMN	**Daman**	**12.33**	**122**	*e*Pn	**Pn**	**01 27 56.2**	**-2.0**
DMN				*e*Sn	**Sn**	**01 30 07.1**	**-7.5**
	comp=Z,269nm,0.7s						
KKN	**Kakani**	**12.34**	**120**	*e*Pn	**Pn**	**01 27 56.2**	**-2.2**
KKN				*e*Sn	**Sn**	**01 30 07.5**	**-7.5**
	comp=Z,204nm,0.7s						
PKI	**Pulchoki**	**12.56**	**121**	*e*Pn	**Pn**	**01 27 59.5**	**-1.9**
PKI				*e*Sn	**Sn**	**01 30 13.3**	**-7.1**
	comp=Z,208nm,0.7s						
GUN	**Gumba**	**12.70**	**119**	*e*Pn	**Pn**	**01 28 01.6**	**-1.7**
GUN				*e*Sn	**Sn**	**01 30 16.5**	**-7.3**
	comp=Z,111nm,0.4s						
JBP	**Jabalpur**	**12.87**	**151**	⇓*i*P	**Pn**	**01 28 06.5**	**+0.9**
JBP				*ex*	x	01 28 09.5	
	comp=Z,17nm,0.5s						
JBP				*i*S	**Sn**	**01 30 20.2**	**-7.5**
JIRN	**Jiri**	**13.07**	**119**	*e*Pn	**Pn**	**01 28 06.6**	**-1.7**
JIRN				*e*Sn	**Sn**	**01 30 24.8**	**-8.0**
	comp=Z,162nm,0.4s						
MK08	**Makanchi Array**	**13.87**	**27**	⇑P	**Pn**	**01 28 18.9**	**-0.3**
	comp=Z,5.1nm,0.6s						
MKAR	**Makanchi Array**	**13.90**	**27**	Pn	**Pn**	**01 28 19.3**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=212,slow=13,SNR=18						
AKL	**Akola**	**14.29**	**166**	*i*x	x	01 27 48.7	
AKL				*i*x	x	01 29 12.8	
NGP	**Nagpur**	**14.39**	**158**	*ex*	x	01 28 23.1	
NGP				*ex*	x	01 30 56.9	
WMQ	**Urumqi**	**14.42**	**46**	*e*P	**Pn**	**01 28 27.0**	**+0.2**
BOK	**Bokaro**	**15.43**	**131**	*ex*	x	01 28 37.0	
LSA	**Lhasa**	**15.92**	**103**	*e*P	**Pn**	**01 28 47.1**	**+0.6**
**

AKTO MLR MLR
comp=Z,38nm,18.5s
ZAL Zalesovo 20.91 19 P **P** **01 29 44.1 -0.7**
comp=Z,48nm,0.5s,baz=253,slow=9.7,SNR=182
ZAL S **S** **01 33 33.2 -3.2**
comp=Z,1.2nm,0.4s,baz=197,slow=19,SNR=4.0
ZAL LR LR 01 39 05.5
comp=Z,210nm,19.9s,MS3.5,baz=262,slow=40
ZAL Zalesovo 20.91 19 P **P** **01 29 44.1 -0.7**
ZAL S **S** **01 33 33.3 -3.1**
NVS Novosibirsk 21.34 16 *i* P **P** **01 29 47.2 -2.2**
NVS pmax pmax
comp=N,14nm,0.6s
NVS pmax pmax
comp=E,6.0nm,0.6s
NVS pmax pmax
comp=Z,32nm,0.6s,mb4.8
ORR Orenburg 21.57 327 ⇓ *i* P **P** **01 29 52.5 +0.6**
ORR pmax pmax
comp=Z,50nm,1.6s,mb4.7
GTA Gaotai 21.68 70 *e*P **P** **01 29 54.2 +1.2**
GTA AP 01 30 02.1
GTA XP sP 01 30 05.6 +1.6
GTA AMB AMB
comp=Z,16nm,0.9s,mb4.5
UMR Umm Al-Rimmam 22.22 264 *e*P **P** **01 29 58.7 -0.1**
UMR AMb AMB 01 30 01.8
comp=Z,65nm,0.6s,mb5.2
KBD Kabd 22.36 263 *e*P **P** **01 30 00.7 +0.4**
MIB Mutribah 22.44 265 *e*P **P** **01 30 01.0 -0.2**
MIB AMb AMB 01 30 05.1
comp=Z,100nm,0.9s,mb5.2
RDF Al-Radifah 22.57 262 *e*P **P** **01 30 02.5 -0.1**
RDF AMb AMB 01 30 06.0
comp=Z,93nm,0.8s,mb5.3
NAY Al-Naaiem 22.71 263 *e*P **P** **01 30 03.8 -0.2**
NAY AMb AMB 01 30 07.4
comp=Z,53nm,1.1s,mb4.9
GNI Garni 23.26 292 P **P** **01 30 13.4 +3.6**
comp=Z,17nm,0.7s,mb4.6,baz=26,slow=6.5,SNR=11
GNI Garni 23.26 292 *e*P **P** **01 30 13.4 +3.6**
GNI pmax pmax
comp=Z,23nm,0.8s
GNI Garni 23.26 292 *e*P **P** **01 30 13.4 +3.5**
comp=Z,23nm,0.8s,mb4.7
ARU Arti 23.98 340 ⇓ *i* P **P** **01 30 16.6 -0.1**
ARU *e*PPP 01 30 54.3
ARU *e*S **S** **01 34 32.1 +0.3**
ARU *e*SS 01 35 10.8
ARU pmax pmax
comp=Z,12nm,1.3s,mb4.2
ARU MLR MLR
comp=N,100nm,15.0s,MS3.5
ARU MLR MLR
comp=Z,100nm,15.0s,MS3.4
ARU MLR MLR
comp=E,100nm,17.0s,MS3.5
ARU Arti 23.98 340 *e*P **P** **01 30 16.9 +0.2**
comp=E,7.1nm,0.6s,mb4.3
ZEI Tsey 24.22 298 *e*P **P** **01 30 21.7 +2.9**
ZEI *e**PP 01 30 30.3
ZEI pmax pmax
comp=Z,4.0nm,0.8s,mb3.9
LZH Lanzhou 24.92 78 *e*P **P** **01 30 26.7 +1.5**
LZH AP 01 30 36.2
LZH PP 01 31 03.5
LZH AMB AMB
comp=Z,27nm,1.2s,mb4.7
LZH AMB AMB
comp=Z,65nm,4.9s
LZH LR LR
comp=N,229nm,11.5s
LZH LR LR
comp=Z,416nm,14.7s,MS4.1
KIV Kislovodsk 25.30 301 *e*P **P** **01 30 28.5 -0.2**
KIV pmax pmax
comp=Z,9.0nm,1.2s,mb4.2
KIV MLR MLR
comp=Z,72nm,15.0s,MS3.3
KIV Kislovodsk 25.30 301 *e*P **P** **01 30 29.8 +1.1**
MOY Mondy 26.18 41 *e*P **P** **01 30 38.5 +1.9**
ZAK Zakamensk 26.89 45 *e*P **P** **01 30 46.4 +3.4**
ZAK pmax pmax
comp=Z,6.0nm,1.9s,mb3.8
ZAK pmax pmax
comp=Z,174nm,1.6s,mb5.3
KMI Kunming 27.18 102 P **P** **01 30 49.0 +3.4**
KMI AP pP 01 30 54.5 +0.9
KMI AMB AMB
comp=Z,13nm,0.5s,mb4.7
SONM Songino Array 27.93 52 P **P** **01 30 53.6 +1.3**
comp=Z,2.0nm,0.7s,mb3.8,baz=247,slow=9.1,SNR=14
SONM LR LR 01 43 32.8
comp=Z,485nm,18.1s,MS4.1,baz=65,slow=40
ULN Ulaanbaatar 28.37 52 *e*P **P** **01 30 57.7 +1.4**
ULN pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
ULN Ulaanbaatar 28.37 52 *e*P **P** **01 30 57.7 +1.4**
comp=Z,1.9nm,0.8s,mb3.8
BR131 Keskin Array S 31.79 291 *e*P **P** **01 31 27.6 +1.0**
comp=Z,1.6nm,0.9s,mb3.9
BRTR Keskin Array B 31.79 291 P **P** **01 31 27.1 +0.6**
comp=Z,0.6nm,0.6s,mb3.6,baz=93,slow=8.7,SNR=5.0
BRTR Keskin Array B 31.79 291 *i* P **P** **01 31 27.6 +1.1**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
OBN Obninsk 32.53 320 *e*P **P** **01 31 40.2 +7.1**
OBN *e* 01 32 48.1
OBN pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
KLMR Klimovskoe 33.99 331 *e*P **P** **01 31 45.4 -0.3**
KLMR pmax pmax
comp=Z,30nm,1.7s,mb5.0
AKASG Malin Array Be 35.54 310 P **P** **01 31 58.0 -1.1**
comp=Z,0.7nm,0.4s,mb3.9,baz=79,slow=7.3,SNR=7.1
AKASG PP PP 01 33 23.0 +2.9
comp=Z,1.9nm,0.8s,baz=86,slow=11,SNR=4.8
MLR Muntele Rosu 37.31 301 ⇓ *i* P **P** **01 32 16.3 +2.1**
NJ2 Nanjing 37.92 81 *e*P **P** **01 32 20.6 +1.2**
NJ2 AP pP 01 32 29.6 +2.1
NJ2 XP sP 01 32 32.4 +1.5
NJ2 PP PP 01 33 50.4 +4.2
NJ2 S **S** **01 38 10.0 +0.7**
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
NJ2 AMB AMB
comp=Z,180nm,4.7s
NJ2 LR LR
comp=N,770nm,24.4s
NJ2 LR LR
comp=E,560nm,19.3s
NJ2 LR LR
comp=Z,230nm,24.3s,MS3.9
JOF Joensuu 38.38 330 *e*p **P** **01 32 23.4 +0.1**
comp=Z,12nm,0.4s,mb5.0
KWP Kalwaria 39.59 308 *e*P **P** **01 32 34.0 +0.5**
KWP pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
KWP Kalwaria 39.59 308 *e*P **P** **01 32 34.0 +0.5**
comp=Z,2.9nm,0.7s,mb4.1
PSI Prapat 39.67 137 LR LR 01 50 01.8
comp=Z,41nm,19.3s,MS3.3,baz=220,slow=38
FINES FINESS Array B 40.04 327 P **P** **01 32 36.8 -0.3**
comp=Z,2.1nm,0.6s,mb4.0,baz=121,slow=11,SNR=13
SSE Sheshan 40.10 81 P **P** **01 32 35.7 -2.0**
SSE AMB AMB
comp=Z,20nm,0.6s,mb5.0
SSE AMB AMB
comp=Z,138nm,4.6s
KAF Kangasniemi 40.17 328 *e*p **P** **01 32 37.3 -0.9**
comp=Z,2.6nm,1.0s,mb3.9
KAF Kangasniemi 40.17 328 *e*P **P** **01 32 37.3 -0.9**
KAF pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
KEV Kevo 43.19 338 *e*p **P** **01 33 02.6 -0.4**
comp=Z,5.4nm,0.7s,mb4.4
KEV Kevo 43.19 338 *e*P **P** **01 33 02.6 -0.4**
KEV pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
ARCES ARCESS Array B 43.55 338 P **P** **01 33 05.9 +0.1**
comp=Z,6.8nm,0.6s,mb4.5,baz=114,slow=8.3,SNR=77
ARE0 ARCESS Array S 43.55 338 *e*P **P** **01 33 05.7 -0.1**
MDJ Mudanjiang 43.72 59 P **P** **01 33 08.4 +1.2**
MDJ PP PP 01 34 50.8 +1.7
MDJ SCP ScP 01 38 42.0 -1.5
MDJ PCS PcS 01 38 47.2 +0.5
MDJ S **S** **01 39 33.6 -2.0**
MDJ AMB AMB
comp=Z,6.0nm,0.8s,mb4.4
MDJ AMB AMB
comp=Z,72nm,5.0s
MDJ LR LR
comp=N,17nm,19.1s,MS3.7
MDJ LR LR
comp=E,82nm,18.0s,MS3.7
MDJ LR LR
comp=Z,91nm,18.0s,MS3.7
KTK1 Kautokeino 44.04 337 *e*P **P** **01 33 09.6 -0.1**
KTK1 *e*pP pP 01 33 12.9 -5.1
KTK1 AMb AMB 01 33 13.7
comp=Z,11nm,1.1s,mb4.5
KTK1 Kautokeino 44.04 337 *e*P **P** **01 33 09.6 -0.1**
comp=Z,11nm,1.1s,mb4.5
GERES GERESS Array B 45.51 307 PP PP 01 35 14.4 +6.2
comp=Z,0.2nm,0.3s,baz=74,slow=9.8,SNR=4.2
TRO Tromso 45.69 337 *e*P **P** **01 33 22.0 -0.9**
MOR8 Moi Rana 46.32 331 *e*P **P** **01 33 27.6 -0.3**
TIXI Tiksi 46.80 21 *e*P **P** **01 33 29.8 -1.9**
TIXI *e* 01 33 48.7
TIXI *e*SS SS 01 43 31.4 -15
TIXI pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
TIXI MLR MLR
comp=Z,222nm,17.0s,MS4.2
NB2 NORSAR Subarra 46.96 324 P **P** **01 33 31.7 -1.2**
comp=Z,1.7nm,0.6s,mb4.2,baz=96,slow=7.9
NOA NORSAR Array B 46.96 324 P **P** **01 33 32.3 -0.6**
comp=Z,1.2nm,0.5s,mb4.1,baz=96,slow=7.6,SNR=7.7
KMBO Kilima Mbogo 49.04 231 P **P** **01 33 50.1 +1.1**
comp=Z,3.4nm,0.9s,mb4.4,baz=38,slow=13,SNR=6.9
KMBO LR LR 01 57 07.3
comp=Z,74nm,18.6s,MS3.7,baz=278,slow=39
CDF Champ du Feu 49.79 307 *e*P **P** **01 33 55.9 +1.2**
HINF Hinteralfeld 50.17 306 *e*P **P** **01 33 58.7 +1.1**
HAU Haudompre 50.47 307 *e*P **P** **01 33 59.9 0.0**
LPG La Plagne 50.70 304 *e*P **P** **01 34 01.2 -0.4**
comp=Z,3.4nm,0.6s,mb4.1
LPG La Plagne 50.70 304 *e*P **P** **01 34 01.2 -0.4**
LPG pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
LPG La Plagne 50.70 304 *e*P **P** **01 34 01.2 -0.4**
comp=Z,1.7nm,0.6s,mb4.2
LPL La Plagne 50.71 304 *e*P **P** **01 34 01.3 -0.4**
MBDF Montbardon 50.85 303 *e*P **P** **01 34 02.5 -0.3**
MAJO Matsushiro 51.91 68 *e*P **P** **01 34 11.0 +0.3**
MJAR Matsushiro Arr 51.91 68 P **P** **01 34 11.6 +0.9**
comp=Z,3.9nm,0.9s,mb4.3,baz=292,slow=10,SNR=8.4
SMF Signal de Mont 52.42 306 *e*P **P** **01 34 14.5 0.0**
comp=Z,12nm,0.9s,mb4.5
SMF Signal de Mont 52.42 306 *e*P **P** **01 34 14.5 0.0**
SMF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
SMF Signal de Mont 52.42 306 *e*P **P** **01 34 14.5 0.0**
comp=Z,5.8nm,0.9s,mb4.5
AVF Avril sur Loir 52.72 306 *e*P **P** **01 34 16.5 -0.2**
TCF Toulx Ste Croi 53.60 305 *e*P **P** **01 34 23.5 +0.3**
comp=Z,13nm,1.1s,mb4.5
TCF Toulx Ste Croi 53.60 305 *e*P **P** **01 34 23.5 +0.3**
TCF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
TCF Toulx Ste Croi 53.60 305 *e*P **P** **01 34 23.5 +0.3**
comp=Z,6.7nm,1.0s,mb4.5
BILL Bilibino 59.45 26 *e*P **P** **01 35 06.3 +1.5**
BILL pmax pmax
comp=Z,6.0nm,1.5s,mb4.4
ESDC Sonseca Array 59.97 300 P **P** **01 35 08.2 -0.1**
comp=Z,1.1nm,0.7s,mb4.0,baz=52,slow=5.8,SNR=3.5
SUMG Summit 63.39 342 *e*P **P** **01 35 31.0 -0.5**
comp=Z,6.2nm,0.8s,mb4.8
TORD Torodi Ar. Bea 67.56 271 P **P** **01 35 57.8 -0.6**
comp=Z,6.1nm,0.5s,mb4.9,baz=46,slow=5.6,SNR=256
LBTB Lobatse 74.60 224 *e*P **P** **01 36 41.9 +0.8**
LBTB pmax pmax
comp=Z,26nm,1.1s,mb5.1
LBTB Lobatse 74.60 224 *e*P **P** **01 36 41.9 +0.8**
comp=Z,26nm,1.1s,mb5.1
INK Inuvik 75.40 10 *e*P **P** **01 36 46.1 +0.4**
INK pmax pmax
comp=Z,4.0nm,0.8s
INK Inuvik 75.40 10 *e*P **P** **01 36 46.1 +0.4**
comp=Z,3.6nm,0.8s,mb4.3
COLA College 75.71 17 ⇓ *e*P **P** **01 36 48.3 +0.9**
ILAR Eielson Array 76.02 17 P **P** **01 36 48.8 -0.5**
comp=Z,1.1nm,0.8s,mb3.8,baz=302,slow=4.7,SNR=15
ILAR Eielson Array 76.02 17 P **P** **01 36 48.8 -0.4**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
DBIC Dimbokro 76.48 269 P **P** **01 36 52.1 +0.3**
comp=Z,3.3nm,0.9s,mb4.5,baz=8.7,slow=4.4,SNR=7.8
DBIC Dimbokro 76.48 269 P **P** **01 36 52.1 +0.3**
DBIC pmax pmax
comp=Z,6.0nm,0.9s
NWAO Narrogin (SRO) 78.89 143 *e*P **P** **01 37 04.1 -1.1**
WRA Warramunga Arr 79.44 123 P **P** **01 37 09.0 +0.7**
comp=Z,5.0nm,0.7s,mb4.5,baz=325,slow=5.6,SNR=26
WRA Warramunga Arr 79.44 123 P **P** **01 37 09.0 +0.7**
WRA pmax pmax
comp=Z,5.0nm,0.7s
WRAB Tennant Creek 79.44 123 *e*P **P** **01 37 09.0 +0.7**
WRAB pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
WRAB Tennant Creek 79.44 123 *e*P **P** **01 37 09.0 +0.7**
comp=Z,9.9nm,0.6s,mb4.9
WB2 Warramunga Arr 79.45 123 *e*P **P** **01 37 09.0 +0.7**
ASAR Alice Springs 81.68 126 P **P** **01 37 20.6 +0.3**
comp=Z,4.0nm,0.8s,mb4.4,baz=320,slow=5.5,SNR=28
ASAR Alice Springs 81.68 126 P **P** **01 37 20.6 +0.3**
ASAR pmax pmax
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 82.97 4 P **P** **01 37 26.7 -0.3**
comp=Z,1.0nm,0.5s,mb4.1,baz=347,slow=5.3,SNR=40
YKA LR LR 02 17 22.8
comp=Z,22nm,18.6s,MS3.6,baz=270,slow=38
YKA Yellowknife Ar 82.97 4 P **P** **01 37 26.7 -0.3**
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA MLR MLR
comp=Z,22nm,18.6s

NEIC 03 01:28:34.7, 2753S×7149W, h40km, mb3.2/1, 1C, After GUC., Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.74**	**52**	*e*P	Pn	01 28 48.7	+0.1
CDCH				*i* S	Sn	01 28 59.5	+0.8
CPCH	**Copiapo**	**1.02**	**81**	*e*P	Pn	01 28 52.7	+0.2
CPCH				*i* S	Sn	01 29 07.5	+1.9
CRCH	**Chaqaral**	**1.41**	**33**	*e*P	Pn	01 28 58.6	+0.8
CRCH				*i* S	Sn	01 29 17.3	+2.2
LCO	**Las Campanas**	**1.63**	**155**	⇑ *i* P	Pn	01 29 03.0	+2.0
LCO				*i* S	Sn	01 29 23.7	+3.0
TLL	**Tololo Astrono**	**2.70**	**167**	*e*P	Pn	01 29 17.7	+2.1
TLL				S	Sn	01 29 55.4	+8.4
CMCH	**Combarbala**	**3.66**	**173**	P	Pn	01 29 28.5	-0.3
LPAZ	**La Paz**	**11.61**	**16**	*e*Pn	Pn	01 31 18.5	+0.7
CPUP	**Villa Florida**	**12.69**	**88**	*e*Pn	Pn	01 31 32.8	+0.3
TRQA	**Tornquist**	**13.19**	**145**	*e*Pn	Pn	01 31 39.5	+0.2
SAML	**Samuel**	**20.07**	**25**	*e*P	P	01 33 04.6	-0.1
	0.6nm,0.4s						

*NEIC **03** 01:41:42.7, 2731S×7125W, h21km, ML3.7(GUC), After GUC.*

GUC 03 01:41:42.7±0.8, 2731S×7125W, h21km±7km, MD4.0, ML3.7, 1C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.44**	**58**	⇓ *i* P	Pb	01 41 51.1	-0.6
CDCH				*i* S	Sb	01 41 58.1	+0.2
CPCH	**Copiapo**	**0.80**	**94**	⇓ *i* P	Pb	01 41 57.3	-0.5
CPCH				*i* S	Sb	01 42 08.3	+0.1
CPCH				AML	AML	01 42 09.4	
	comp=E,9μm,0.1s						
CPCH	**Copiapo**	**0.80**	**94**	⇓ *i* P	Pb	01 41 57.3	-0.5
CPCH				*i* S	Sb	01 42 08.3	+0.1
CRCH	**Chaqaral**	**1.11**	**30**	⇑ *i* P	Pn	01 42 01.9	-1.0
CRCH				*i* S	Sb	01 42 16.6	-0.5
LCO	**Las Campanas**	**1.77**	**164**	*e*P	Pn	01 42 13.5	+1.5
LCO				*i* S	Sn	01 42 35.9	+2.1
CPN1	**Cerro Paranal**	**2.78**	**16**	*e*P	Pn	01 42 24.1	-1.8
TLL	**Tololo Astrono**	**2.88**	**172**	*e*P	Pn	01 42 29.4	+2.1
TLL				*i* S	Sn	01 43 04.1	+2.9
TLL				AML	AML	01 43 21.8	
	comp=N,164nm,0.6s						
TLL	**Tololo Astrono**	**2.88**	**172**	*e*P	Pn	01 42 29.4	+2.1
TLL				*i* S	Sn	01 43 04.1	+2.9

*MOS **03** 01:44:07.5±1.4, 3548N×7061E, h33km, mb4.3/1, Error ellipse: s-maj=23.8km s-min=7.0km az=90.0*
*IDC **03** 01:44:14.5±8.1, 3562N×7090E, h74km±67km, mb3.4/7, mb1 3.6/10, mb1mx3.3/24, mbtmp3.8/10, ML3.7/3, MS2.6/1, Ms1 2.5/1, ms1mx2.2/11, Error ellipse: s-maj=55.0km s-min=33.1km az=150.0*
*NEIC **03** 01:44:14.4±3.7, 3569N×7083E, h71km±29km, mb3.6/4, Error ellipse: s-maj=30.1km s-min=17.6km az=196.0*
*ISCJB **03** 01:44:16.4±1.6, 3602N±007×707E±0.1, h81km±17km, mb3.5/7, Error ellipse: s-maj=16.0km s-min=9.3km az=113.3*
*NNC **03** 01:44:24.8±14.0, 3655N×6995E, h115km±146km, mb3.5, mpv4.0, Error ellipse: s-maj=115.0km s-min=78.1km az=19.0*

ISC 03 01:44:19.5±1.3, 3611N±007×707E±01, h93km±14km, n36, σ1°09/41, mb3.5/7, 4C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDNR	**Sundarnagar**	**6.95**	**130**	*e*P	Pn	**01 46 02.0**	**+3.3**
SDNR				*e*S	Sn	**01 47 14.0**	**-2.2**
KK31	**Karatay Array**	**6.98**	**359**	⇓ P	Pn	**01 45 59.1**	**0.0**
	4.8nm,0.3s,baz=175,slow=13,SNR=146						
KK31				⇓ S	Sn	**01 47 13.2**	**-3.8**
	47nm,0.6s,baz=188,slow=25						
KKAR	**Karatay Array**	**6.98**	**359**	*e*P	Pn	**01 45 59.1**	**0.0**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AAK	**Ala-Archa**	**7.14**	**23**	*e*P	Pn	**01 46 01.3**	**+0.1**
AAK				*e*		01 47 20.0	
AAK				pmax	pmax		
	comp=Z,12nm,0.4s						
AAK	**Ala-Archa**	**7.14**	**23**	*e*Pn	Pn	**01 46 01.3**	**+0.1**
	comp=Z,12nm,0.4s						
AAK				*e*Sn	Sn	**01 47 20.0**	**-0.8**
MK09	**Makanchi Array**	**13.72**	**36**	⇑ P	Pn	**01 47 30.6**	**+0.5**
	comp=Z,2.4nm,0.7s						
MKAR	**Makanchi Array**	**13.74**	**36**	P	Pn	**01 47 30.6**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=221,slow=15,SNR=27						
AB31	**Akbulak array**	**15.31**	**332**	⇓ P	Pn	**01 47 48.8**	**-1.6**
	comp=Z,2.3nm,0.4s,baz=155,slow=13,SNR=110						
AB31				S	S	01 50 25.2	-25
	comp=Z,1.7nm,0.5s,baz=159,slow=22,SNR=8.4						
AB31	**Akbulak array**	**15.31**	**332**	*e*P	Pn	**01 47 49.1**	**-1.3**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KURK	**Kurchatov**	**15.67**	**19**	*e*P	Pn	**01 47 56.7**	**+1.7**
VOSK	**Vostochnaya**	**16.61**	**1**	⇑ P	Pn	**01 48 05.5**	**-1.1**
	comp=Z,5.6nm,1.6s						
VOSK	**Vostochnaya**	**16.61**	**1**	P	Pn	**01 48 05.4**	**-1.2**
VOSK				pmax	pmax		
	comp=Z,9.0nm,1.6s						
ZRNK	**Zerenda**	**16.88**	**356**	⇑ P	Pn	**01 48 10.0**	**+0.1**
	comp=Z,4.3nm,1.1s						
ZRNK	**Zerenda**	**16.88**	**356**	P	Pn	**01 48 10.2**	**+0.3**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ZRNK	**Zerenda**	**16.88**	**356**	*e*Pn	Pn	**01 48 10.0**	**+0.1**
	comp=Z,2.9nm,0.8s						
BVAR	**Borovoye Array**	**16.91**	**359**	P	Pn	**01 48 11.6**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=162,slow=11,SNR=9.0						
BRVK	**Borovoye**	**16.95**	**359**	*e*P	Pn	**01 48 10.1**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRVK	**Borovoye**	**16.95**	**359**	*e*Pn	Pn	**01 48 10.1**	**-0.6**
	comp=Z,2.8nm,0.6s						
AKTK	**Aktyubinsk**	**17.00**	**331**	P	Pn	**01 48 11.8**	**+0.4**
AKTK				S	**S**	**01 51 10.1**	**-14**
AKTO	**Aktyubinsk**	**17.00**	**331**	P	Pn	**01 48 11.8**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=138,slow=13,SNR=8.9						
AKTO				S	**S**	**01 51 10.1**	**-14**
	comp=Z,0.3nm,0.3s,baz=162,slow=23,SNR=7.6						
CHKZ	**Chkalovo**	**17.56**	**360**	⇑ P	Pn	**01 48 17.3**	**-1.0**
	comp=Z,2.2nm,0.9s						
CHKZ	**Chkalovo**	**17.56**	**360**	*e*P	Pn	**01 48 17.0**	**-1.2**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CHKZ	**Chkalovo**	**17.56**	**360**	*e*P	Pn	**01 48 17.0**	**-1.2**
	comp=Z,2.1nm,0.7s						
ZAL	**Zalesovo**	**20.35**	**24**	P	P	**01 48 49.1**	**+0.8**
	comp=Z,11nm,0.5s,baz=251,slow=10,SNR=35						
ZAL				LR	LR	01 57 39.6	
	comp=Z,14nm,18.7s,baz=78,slow=39						
NVS	**Novosibirsk**	**20.63**	**21**	*e*P	P	**01 48 50.4**	**-1.0**
ARU	**Arti**	**21.92**	**342**	*e*P	P	**01 49 06.1**	**+0.9**
BR131	**Keskin Array S**	**29.33**	**288**	P	P	**01 50 13.0**	**-0.4**
FINES	**FINESS Array B**	**37.67**	**326**	P	P	**01 51 26.8**	**+1.2**
	comp=Z,0.3nm,0.5s,mb3.4,baz=116,slow=9.4,SNR=3.0						
ARCES	**ARCESS Array B**	**41.41**	**338**	P	P	**01 51 57.8**	**+1.1**
	comp=Z,0.5nm,0.5s,mb3.6,baz=115,slow=8.2,SNR=10						
HFS	**Hagfors**	**43.23**	**322**	P	P	**01 52 12.4**	**+1.0**
	comp=Z,0.9nm,0.5s,mb3.8,baz=108,slow=9.5,SNR=5.6						
NOA	**NORSAR Array B**	**44.55**	**323**	P	P	**01 52 21.7**	**-0.3**
	comp=Z,0.5nm,0.5s,mb3.5,baz=98,slow=7.8,SNR=2.5						
TORD	**Torodi Ar. Bea**	**65.47**	**269**	P	P	**01 54 51.0**	**-1.6**
	comp=Z,0.3nm,0.4s,mb3.5,baz=48,slow=5.8,SNR=15						
YKA	**Yellowknife Ar**	**81.64**	**2**	P	P	**01 56 26.1**	**-1.3**
	comp=Z,0.1nm,0.5s,mb2.9,baz=350,slow=5.4,SNR=8.9						
YKA	**Yellowknife Ar**	**81.64**	**2**	P	P	**01 56 26.1**	**-1.3**
WRAB	**Tennant Creek**	**81.99**	**122**	*e*P	P	**01 56 24.0**	**-5.2**
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
WRAB	**Tennant Creek**	**81.99**	**122**	*e*P	P	**01 56 24.0**	**-5.2**
	comp=Z,0.9nm,0.6s,mb3.8						

GUC 03 01:50:24.7±0.9, 3221S×6645W, h20km, ML3.8, San Luis Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**3.42**	**250**	*e*P	Pn	01 51 18.9	+2.0
FCH				*i* S	Sn	01 51 59.9	+3.0
FCH				AML	AML	01 52 03.4	
	comp=N,80nm,0.4s						
LMEL	**Las Melosas**	**3.55**	**242**	*e*P	Pn	01 51 20.7	+2.1
LMEL				*i* S	Sn	01 52 02.3	+2.2
LMEL				AML	AML	01 52 10.1	
	comp=N,93nm,0.3s						
CLCH	**Cerro Calan**	**3.64**	**250**	*e*P	Pn	01 51 21.4	+1.5
CLCH				*i* S	Sn	01 52 04.5	+2.2
CLCH				AML	AML	01 52 11.4	
	comp=N,101nm,0.4s						
PEL	**Peldehue**	**3.69**	**254**	*e*P	Pn	01 51 21.6	+0.9
PEL				*i* S	Sn	01 52 04.9	+1.4
PEL				AML	AML	01 52 09.2	
	comp=N,248nm,0.6s						
CMCH	**Combarbala**	**4.02**	**284**	*e*P	Pn	01 51 26.0	+0.9
CMCH				*i* S	Sn	01 52 13.7	+2.1

*LDG **03** 01:50:44.5±0.1, 4427N×623E, h2km, Md2.4/1, Ml2.2/10, Error ellipse: s-maj=1.3km s-min=1.2km az=143.0*

STR 03 01:50:45.3±0.4, 4421N×626E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STOF	**St-Etienne Org**	**0.33**	**230**	Pg	Pg	01 50 51.7	0.0
VILF	**Villemus**	**0.53**	**228**	Pg	Pg	01 50 55.3	-0.2
SMRF	**Simiane la Rot**	**0.55**	**245**	*e*Pg	Pg	01 50 54.8	-1.0
	SNR=1.0						
SMRF				*e*Sg	Sg	01 51 01.9	-1.0
	8.5nm,0.2s						
TAVF	**Tavernes**	**0.61**	**194**	Pg	Pg	01 50 56.3	-0.7
MBDF	**Montbardon**	**0.63**	**35**	*e*Pg	Pg	01 50 56.0	-1.5
	SNR=1.0						
MBDF				*e*Sg	Sg	01 51 04.2	-1.5
	3.1nm,0.3s,SNR=1.0						
FRF	**La Foret Royal**	**0.71**	**157**	*e*Pg	Pg	01 50 58.8	-0.1
	SNR=1.0						
FRF				*e*Sg	Sg	01 51 08.9	+0.8
	11nm,0.2s,SNR=1.0						
MVIF	**Mont Vial**	**0.72**	**116**	Pg	Pg	01 51 00.3	+1.3

ORIF	**Oris-en-Rattie**	**0.76**	**339**	*e*Pg		Pg	01 50 57.7	-2.2
	SNR=1.0							
ORIF					*e*Sg	Sg	01 51 06.7	-3.0
	5.7nm,0.2s,SNR=1.0							
PUYF	**Puyloubier**	**0.79**	**211**	Pg	Pg	Pg	01 51 00.4	0.0
PUYF				Sg	Sg	Sg	01 51 11.5	+0.8
TREF	**Trevaresse**	**0.86**	**228**	Pg	Pg	Pg	01 51 02.7	+0.8
AUTN	**L'Aution**	**0.87**	**104**	Pg	Pg	Pg	01 51 02.1	+0.1
AUTN				Sg	Sg	Sg	01 51 15.1	+1.9
PRAF	**Pradon**	**0.89**	**243**	Pg	Pg	Pg	01 51 03.0	+0.7
LMR	**La Mourre**	**0.89**	**168**	*e*Pg	Pg	Pg	01 51 01.6	-0.9
	SNR=1.0							
LMR					*e*Sg	Sg	01 51 14.7	+0.6
	12nm,0.2s,SNR=1.0							
LMR					*e*Sn	Sn	01 51 16.5	-1.3
	12nm,0.2s,SNR=1.0							
SBF	**Sospel**	**0.92**	**112**	*e*Pg	Pg	Pg	01 51 02.4	-0.5
	SNR=1.0							
SBF					*e*Sg	Sg	01 51 14.9	+0.1
	11nm,0.3s,SNR=1.0							
SBF					*e*Sn	Sn	01 51 16.8	-1.6
	SNR=1.0							
REVF	**Revere**	**0.93**	**120**	Pg	Pg	Pg	01 51 03.1	0.0
SAOF	**Saorge**	**0.96**	**103**	Pg	Pg	Pg	01 51 03.3	-0.4
SAOF				Sg	Sg	Sg	01 51 16.5	+0.3
GELF	**Grande-Etoile**	**1.02**	**216**	Pg	Pg	Pg	01 51 04.5	-0.4
GELF				Sg	Sg	Sg	01 51 18.9	+0.7
VIVF	**Saint-Julien-l**	**1.31**	**300**	*e*Pn	Pn	Pn	01 51 07.2	-3.0
	SNR=1.0							
VIVF					*e*Sg	Sg	01 51 24.2	-3.1
	2.4nm,0.2s,SNR=1.0							
LPG	**La Plagne**	**1.33**	**15**	*e*Pg	Pg	Pg	01 51 08.9	-2.0
	SNR=1.0							
LPG					*e*Sg	Sg	01 51 25.9	-2.3
	5.3nm,0.5s,SNR=1.0							
LPL	**La Plagne**	**1.35**	**14**	*e*Pg	Pg	Pg	01 51 08.5	-2.7
	SNR=1.0							
LPL					*e*Sg	Sg	01 51 25.8	-2.9
	2.0nm,0.2s							
LASF	**Ste Croix**	**1.73**	**266**	*e*Pn	Pn	Pn	01 51 12.9	-3.2
	SNR=1.0							
LASF	**Ste Croix**	**1.73**	**266**	*e*Pg	Pg	Pg	01 51 16.1	-2.5
LASF					*e*Sg	Sg	01 51 37.6	-3.5
	1.0nm,0.2s							
PGF	**Pioggiola**	**2.60**	**129**	*e*Pn	Pn	Pn	01 51 26.4	-1.5
	SNR=1.0							
PGF					*e*Sn	Sn	01 51 56.2	-3.7
	5.1nm,0.8s,SNR=1.0							
MTLF	**Montolieu**	**3.05**	**255**	*e*Pn	Pn	Pn	01 51 32.1	-2.1
MTLF					*e*Sn	Sn	01 52 06.7	-4.4
	3.9nm,0.9s,SNR=1.0							
CAF	**Calviac**	**3.08**	**285**	*e*Pn	Pn	Pn	01 51 32.7	-1.9
CAF					*e*Sn	Sn	01 52 06.4	-5.4
	0.7nm,0.2s							
CDF	**Champ du Feu**	**4.26**	**9**	*e*Pg	Pg	Pg	01 52 02.2	-4.8
	SNR=1.0							

*IDC **03** 01:54:06.2±0.9, 2253S×17505W, h0km, mb4.3/11, mb1 4.5/11, mb1mx4.4/16, mbtmp4.3/11, MS3.4/2, Ms1 3.4/2, ms1mx2.9/23, Error ellipse: s-maj=38.4km s-min=19.7km az=152.0*

*ISCJB **03** 01:54:10.5±0.5, 224S±0.1×1752W±0.1, h33km, mb4.4/15, MS3.4/3, Error ellipse: s-maj=16.5km s-min=13.3km az=94.1*

*MOS **03** 01:54:11.5±1.1, 2231S×17529W, h38km, mb4.7/4, Error ellipse: s-maj=19.8km s-min=18.3km az=170.8*

*NEIC **03** 01:54:12.2±0.4, 2223S×17523W, h35km, mb4.5/4, Error ellipse: s-maj=15.2km s-min=11.9km az=148.0*

*BJI **03** 01:54:12.1, 2220S×17520W, h35km, mB5.1, mb4.9, Ms4.3, Msz4.1*

ISC 03 01:54:12.2±0.5, 224S±01×1751W±01, h35km, n45, σ1§07/34, mb4.4/15, MS3.4/3, 3C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**9.02**	**21**	*e*P		**Pn**	**01 56 14.6**	**-5.3**
RAR	**Rarotonga**	**14.31**	**88**	Pn		**Pn**	**01 57 19.0**	**-13**
	2.4nm,0.3s,baz=240,slow=9.5,SNR=7.9							
DZM	**Mont Dzumac**	**17.07**	**268**	P		**Pn**	**01 58 12.1**	**+4.0**
	0.3nm,0.3s,baz=78,slow=17,SNR=4.4							
URZ	**Urewera**	**17.16**	**201**	Pn		**Pn**	**01 58 01.8**	**-7.4**
	0.4nm,0.3s,baz=106,slow=7.4,SNR=1.8							
URZ				Sn		**Sn**	**02 01 01.7**	**-17**
	1.2nm,0.3s,baz=78,slow=23,SNR=7.0							
TBI	**Tubuai**	**23.66**	**97**	*e*LR		LR	02 04 35.7	
	108nm,23.8s							
PPT	**Papeete**	**24.47**	**83**	*e*LR		LR	02 04 54.4	
	99nm,21.8s							
PPT	**Papeete**	**24.47**	**83**	LR		LR	02 07 25.0	
	comp=Z,112nm,18.5s,MS3.4,baz=305,slow=33							
HNR	**Honiara**	**27.16**	**294**	LR		LR	02 08 27.2	
	comp=Z,66nm,20.6s,MS3.2,baz=358,slow=32							
CTA	**Charters Tower**	**36.01**	**266**	P		**P**	**02 01 09.9**	**+0.1**
	3.7nm,0.6s,mb4.5,baz=82,slow=8.8,SNR=7.4							
CTAO	**Charters Tower**	**36.01**	**266**	*e*P		**P**	**02 01 10.0**	**+0.2**
CTAO				pmax		pmax		
	comp=Z,4.0nm,0.5s,mb4.6							
CTAO	**Charters Tower**	**36.01**	**266**	*e*P		**P**	**02 01 10.0**	**+0.1**
	comp=Z,3.6nm,0.5s,mb4.6							
PMG	**Port Moresby**	**38.38**	**284**	P		**P**	**02 01 30.4**	**+0.4**
	comp=Z,9.3nm,0.7s,mb4.6,baz=114,slow=2.0,SNR=5.9							
PMG	**Port Moresby**	**38.38**	**284**	*e*P		**P**	**02 01 30.3**	**+0.3**
PMG				pmax		pmax		
	comp=Z,16nm,0.9s							
PMG	**Port Moresby**	**38.38**	**284**	*e*P		**P**	**02 01 30.3**	**+0.3**
	comp=Z,16nm,0.9s,mb4.7							
STKA	**Stephens Creek**	**39.44**	**247**	*e*P		**P**	**02 01 38.2**	**-0.6**
ASAR	**Alice Springs**	**46.72**	**258**	P		**P**	**02 02 36.9**	**-0.8**
	comp=Z,6.2nm,0.7s,mb4.7,baz=96,slow=7.9,SNR=50							
ASAR				PcP		PcP	02 04 11.6	+0.7
	comp=Z,1.2nm,0.8s,baz=101,slow=4.8,SNR=5.5							
WB2	**Warramunga Arr**	**47.00**	**263**	*e*P		**P**	**02 02 38.8**	**-1.1**
WRA	**Warramunga Arr**	**47.01**	**263**	P		**P**	**02 02 39.0**	**-1.0**
	comp=Z,2.7nm,0.5s,mb4.5,baz=95,slow=8.4,SNR=16							
FITZ	**Fitzroy Crossi**	**55.44**	**263**	P		**P**	**02 03 43.5**	**+0.3**
	comp=Z,3.1nm,0.9s,mb4.3,baz=109,slow=16,SNR=6.1							
SBA	**Scott Base**	**56.18**	**185**	P		**P**	**02 03 49.8**	**+1.3**
VNDA	**Vanda**	**56.29**	**186**	*e*P		**P**	**02 03 51.7**	**+2.5**
VNDA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
VNDA	**Vanda**	**56.29**	**186**	*e*P		**P**	**02 03 51.7**	**+2.5**
	comp=Z,1.8nm,0.8s,mb4.2							
QSPA	**South Pole Qui**	**67.68**	**180**	*e*P		**P**	**02 05 05.5**	**-0.3**
MJAR	**Matsushiro Arr**	**73.33**	**322**	P		**P**	**02 05 41.0**	**+0.8**
	comp=Z,3.0nm,0.7s,mb4.3,baz=159,slow=5.4,SNR=9.2							
MAJO	**Matsushiro**	**73.33**	**322**	*e*P		**P**	**02 05 41.6**	**+1.4**
MAJO				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.4							
MAJO	**Matsushiro**	**73.33**	**322**	*e*P		**P**	**02 05 41.6**	**+1.4**
	comp=Z,2.8nm,0.6s,mb4.4							
YSS	**Yuzh-Sakhalins**	**78.80**	**332**	P		**P**	**02 06 12.0**	**+0.7**
NVAR	**Mina Array Bea**	**80.60**	**42**	P		**P**	**02 06 21.4**	**+0.2**
	comp=Z,0.7nm,0.4s,mb3.9,baz=220,slow=6.5,SNR=4.0							
MAW	**Mawson**	**80.68**	**199**	P		**P**	**02 06 20.4**	**-1.2**
	comp=Z,2.2nm,0.6s,mb4.3,baz=144,slow=8.6,SNR=5.7							
MDJ	**Mudanjiang**	**83.61**	**324**	P		**P**	**02 06 37.1**	**+0.2**
MDJ				AP		pP	02 06 46.7	-1.3
MDJ				XP		sP	02 06 50.1	-1.9
MDJ				PP		PP	02 09 49.3	-0.4
MDJ				S		S	02 16 57.5	+0.9
MDJ				XS		sS	02 17 13.6	-1.3
MDJ				SS		SS	02 22 24.8	+1.4
MDJ				AMB		AMB		
	comp=Z,8.0nm,0.8s,mb4.9							
MDJ				AMB		AMB		
	comp=Z,108nm,3.7s							
MDJ				LR		LR		
	comp=N,18nm,17.7s,MS3.7							
MDJ				LR		LR		
	comp=E,22nm,19.4s,MS3.7							
MDJ				LR		LR		
	comp=Z,24nm,19.4s,MS3.6							
MSU	**Marysvale**	**84.53**	**45**	*e*P		**P**	**02 06 42.1**	**+0.5**
SNAA	**Sanae**	**86.03**	**178**	P		**P**	**02 06 51.2**	**+2.1**
PDAR	**Pinedale Array**	**88.53**	**42**	P		**P**	**02 07 00.3**	**-0.8**
	comp=Z,0.5nm,0.7s,mb3.9,baz=174,slow=1.5,SNR=4.8							
ILAR	**Eielson Array**	**89.59**	**12**	P		**P**	**02 07 04.9**	**-1.2**
	comp=Z,1.3nm,1.1s,mb4.2,baz=218,slow=5.2,SNR=5.9							
KMI	**Kunming**	**92.59**	**296**	P		**P**	**02 07 21.0**	**+1.0**
KMI				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb5.2							
YKA	**Yellowknife Ar**	**97.13**	**24**	P		**P**	**02 07 39.0**	**-1.8**
	comp=Z,0.3nm,0.9s,mb3.7,baz=229,slow=4.4,SNR=5.7							
YKA	**Yellowknife Ar**	**97.13**	**24**	P		**P**	**02 07 39.0**	**-1.8**
ARCES	**ARCESS Array B**	**131.24**	**351**	PKP		PKPdf	02 13 19.0	-1.5
	comp=Z,0.6nm,0.7s,baz=29,slow=2.8,SNR=7.6							
AKASG	**Malin Array Be**	**145.95**	**332**	PKPbc		PKPbc	02 13 47.1	-0.9
	comp=Z,4.1nm,0.7s,baz=41,slow=4.0,SNR=17							
MALT	**Malatya**	**147.21**	**307**	⇑*i*P		PKPdf	02 13 53.1	+3.7
BURAR	**Bucovina Array**	**150.00**	**332**	⇑*i*P		PKPbc	02 14 00.2	+1.3
BRTR	**Keskin Array B**	**150.09**	**312**	PKPbc		PKPbc	02 13 59.2	+0.1
	comp=Z,1.7nm,0.9s,baz=112,slow=4.4,SNR=8.6							
CLL	**Collm**	**150.46**	**350**	*e*PKPab		PKPab	02 14 06.0	-0.6
MLR	**Muntele Rosu**	**151.25**	**328**	⇑*i*P		PKPab	02 14 09.6	-0.3
GERES	**GERESS Array B**	**152.69**	**347**	PKPbc		PKPbc	02 14 07.5	+2.4
	comp=Z,0.2nm,0.6s,baz=264,slow=3.9,SNR=3.2							

*IDC **03** 01:58:23.8±2.1, 3596N×7599E, h0km, mb3.3/3, mb1 3.4/6, mb1mx3.3/22, mbtmp3.4/6, ML3.4/3, Error ellipse: s-maj=50.9km s-min=30.4km az=151.0*

*BJI **03** 01:58:23.5, 3606N×7578E, h19km, ML4.0*

*NEIC **03** 01:58:28.3±1.4, 3589N×7600E, h35km, mb3.2/2, Error ellipse: s-maj=25.3km s-min=10.4km az=45.0*

*ISCJB **03** 01:58:31.2±0.8, 3621N±006×753E±02, h33km, mb3.2/3, Error ellipse: s-maj=17.9km s-min=7.8km az=168.1*

ISC 03 01:58:31.8±1.0, 3616N±007×756E±01, h35km, n19, σ1§47/19, mb3.2/3, 1C-1D, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KSH	**Kashi**	**3.37**	**5**	*e*PG		**Pn**	**01 59 25.0**	**+3.2**
KSH				S		**Sn**	**02 00 00.9**	**+0.3**
KSH				Smax				
	comp=N,406nm,1.2s							
KSH				Smax				
	comp=E,205nm,0.6s							
SDNR	**Sundarnagar**	**4.79**	**166**	*e*P		**Pn**	**01 59 45.2**	**+3.8**
SDNR				*e*S		Sn	02 01 02.6	+27
AAK	**Ala-Archa**	**6.52**	**353**	*e*Pn		**Pn**	**02 00 07.1**	**+1.9**
	comp=E,7.9nm,0.9s							
AAK				*e*Sn		**Sn**	**02 01 20.1**	**+1.8**
KK31	**Karatay Array**	**7.96**	**332**	⇓Pn		**Pn**	**02 00 24.5**	**-0.4**
	comp=E,1.2nm,0.6s,baz=146,slow=12,SNR=14							
KK31				⇑Sn		**Sn**	**02 01 52.6**	**-1.1**
	comp=E,2.6nm,0.6s,baz=149,slow=20,SNR=6.3							
SONA	**Sohna**	**7.99**	**170**	*ex*		x	02 01 57.1	
KUDL	**Kundal**	**8.03**	**174**	*ex*		x	02 01 56.3	
KHET	**Khetri**	**8.06**	**179**	*ex*		x	02 01 58.5	
MKAR	**Makanchi Array**	**11.75**	**23**	Pn		**Pn**	**02 01 14.0**	**-2.9**
	comp=E,0.1nm,0.3s,baz=185,slow=14,SNR=3.3							
LSA	**Lhasa**	**14.57**	**112**	Pn		**Pn**	**02 01 46.3**	**-9.0**
KURK	**Kurchatov**	**14.72**	**8**	Pn		**Pn**	**02 01 57.0**	**-0.4**
BVAR	**Borovoye Array**	**17.26**	**349**	P		**Pn**	**02 02 31.3**	**+1.4**
	comp=E,0.3nm,0.3s,baz=154,slow=9.5,SNR=8.0							
BRVK	**Borovoye**	**17.30**	**349**	*e*P		**Pn**	**02 02 30.2**	**-0.4**
	comp=E,1.4nm,0.5s							
ZRNK	**Zerenda**	**17.42**	**347**	*e*P		**Pn**	**02 02 32.6**	**+0.6**
	comp=E,0.5nm,0.4s							
AKTK	**Aktyubinsk**	**19.09**	**324**	P		**Pn**	**02 02 51.9**	**-0.4**
AKTO	**Aktyubinsk**	**19.09**	**324**	P		**Pn**	**02 02 51.9**	**-0.4**
	comp=E,0.1nm,0.3s,baz=114,slow=12,SNR=4.3							
SONM	**Songino Array**	**25.53**	**53**	P		**P**	**02 03 53.6**	**-3.4**
	comp=E,0.6nm,0.7s,mb3.2,baz=266,slow=8.7,SNR=3.9							
TORD	**Torodi Ar. Bea**	**69.41**	**271**	P		**P**	**02 09 36.0**	**-0.1**
	comp=E,0.2nm,0.5s,mb3.3,baz=36,slow=5.7,SNR=5.2							
YKA	**Yellowknife Ar**	**81.35**	**5**	P		**P**	**02 10 42.3**	**-2.4**
	comp=E,0.1nm,0.4s,mb3.1,baz=345,slow=5.7,SNR=7.8							
YKA	**Yellowknife Ar**	**81.35**	**5**	P		**P**	**02 10 42.3**	**-2.4**

*ISCJB **03** 02:12:32.1±0.8, 1081N±005×6238W±003, h97km±7km, Error ellipse: s-maj=8.3km s-min=5.2km az=151.0*

*FUNV **03** 02:12:32.0, 1093N×6224W, h92km, MW3.0*

*NEIC **03** 02:12:33.2, 1080N×6237W, h90km, MD3.1(TRN), After TRN.*

*TRN **03** 02:12:33.2, 1080N×6237W, h91km, MD3.1*

ISC 03 02:12:33.0±0.8, 1081N±005×6237W±003, h93km±8km, n13, σ0§90/24, 2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
GUIV	**Guiria**	**0.22**	**138**	*e*P		**Pn**	**02 12 46.2**	**-0.1**
GUIV				*e*S		**Sn**	**02 12 55.5**	**-0.7**
GUNV	**Guanoco**	**0.85**	**221**	*e*P		**Pn**	**02 12 52.4**	**+1.2**
GUNV				*e*S		**Sn**	**02 13 07.0**	**+2.0**
CRUV	**Carupano**	**0.86**	**261**	⇓*i*P		**Pn**	**02 12 51.6**	**+0.3**
CRUV				*e*S		**Sn**	**02 13 05.3**	**+0.3**
ITEV	**Isla Los Testi**	**0.92**	**306**	*e*P		**Pn**	**02 12 50.6**	**-1.3**
ITEV				*e*S		**Sn**	**02 13 04.4**	**-1.8**
TRN	**Trinidad (W)**	**0.97**	**100**	*e*P		**Pn**	**02 12 53.0**	**+0.6**
TRN				*e*S		**Sn**	**02 13 06.4**	**-0.7**
TPP	**Pointe-a-Pierr**	**1.03**	**118**	*e*P		**Pn**	**02 12 53.8**	**+0.6**
TBH	**Brigand Hill**	**1.32**	**104**	*e*P		**Pn**	**02 12 57.5**	**+0.8**
GRW	**Mount Saint Ca**	**1.51**	**27**	*e*P		**Pn**	**02 12 58.6**	**-0.4**
GRW				*e*S		**Sn**	**02 13 19.5**	**+0.9**
TPR	**Prospect**	**1.61**	**76**	*e*P		**Pn**	**02 13 00.3**	**+0.1**
TPR				*e*S		**Sn**	**02 13 20.8**	**0.0**
PCRV	**Puerto La Cruz**	**2.31**	**254**	*e*P		**Pn**	**02 13 10.2**	**+0.9**
PCRV				*e*S		**Sn**	**02 13 27.1**	**-0.1**
GURV	**El Guri**	**3.11**	**193**	*e*P		**Pn**	**02 13 20.0**	**0.0**
GURV				*e*S		**Sn**	**02 13 55.2**	**-1.1**
CUPV	**Cœpira**	**3.44**	**258**	⇓*i*P		**Pn**	**02 13 24.9**	**+0.5**
CUPV				*e*S		**Sn**	**02 14 04.2**	**-0.1**
LUEV	**Luepa**	**5.02**	**170**	*e*P		**Pn**	**02 13 44.6**	**-1.2**
LUEV				*e*S		**Sn**	**02 14 38.7**	**-3.8**

CASC 03 02:16:56.3±2.3, 1256N×9038W, h0km±8km, MD3.8, 5C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**1.47**	**30**	⇑*e*P	Pn	02 17 39.1	+15
SBLS				*e*S	Sg	02 18 00.7	+17
SNJE	**San Jose**	**1.51**	**30**	⇑*e*P	Pn	02 17 39.4	+15
SNJE				*e*S	Sg	02 18 01.1	+16
RTR	**El Retiro**	**1.51**	**28**	⇑*e*P	Pn	02 17 39.8	+15
RTR				*e*S	Sg	02 18 01.9	+17
BOQS	**Boqueron**	**1.59**	**42**	⇓*e*P	Pn	02 17 40.1	+14
BOQS				*e*S	Sn	02 18 03.5	+17
IXG	**Ixpaco**	**1.61**	**357**	*e*P	Pn	02 17 25.2	-0.7
IXG				*e*S	Sn	02 17 47.9	+0.4
LFRS	**El Faro**	**1.67**	**50**	*e*P	Pn	02 17 40.6	+14
LFRS				*e*S	Sn	02 18 03.5	+15
LFU	**La Fuente**	**1.71**	**46**	⇑*e*P	Pn	02 17 42.0	+15
LFU				*e*S	Sn	02 18 06.5	+17
LCBS	**La Ceiba**	**1.75**	**51**	⇑*e*P	Pn	02 17 41.6	+14
LCBS				*e*S	Sn	02 18 05.9	+15
LBRS	**Las Brisas**	**1.75**	**48**	⇓*e*P	Pn	02 17 42.4	+14
LBRS				*e*S	Sn	02 18 07.4	+16
SNVI	**San Vicente**	**1.83**	**55**	*e*P	Pn	02 17 42.7	+14
SNVI				*e*S	Sn	02 18 07.3	+14
FUG	**Fuego 3**	**1.93**	**347**	*e*P	Pn	02 17 31.1	+0.7
FUG				*e*S	Sn	02 17 57.4	+2.0
MTO2	**Montecristo 2**	**2.08**	**28**	*e*P	Pn	02 17 47.7	+15
MTO2				*e*S	Sn	02 18 17.2	+18
VSM	**San Miguel**	**2.23**	**67**	*e*P	Pn	02 17 47.7	+13
VSM				*e*S	Sn	02 18 19.0	+16
BLLM	**Bellamira**	**2.27**	**67**	*e*P	Pn	02 17 48.1	+13
BLLM				*e*S	Sn	02 18 19.0	+15
CNCH	**Conchagua**	**2.58**	**74**	*e*P	Pn	02 17 52.0	+13
CNCH				*e*S	Sn	02 18 24.7	+13

*ISCJB **03** 02:26:13.5±1.0, 608N±0.1×1665E±03, h10km, mb3.6/6, Error ellipse: s-maj=21.8km s-min=13.5km az=131.2*

*MOS **03** 02:26:13.1±1.0, 6082N×16648E, h10km, mb3.9/1, Error ellipse: s-maj=52.4km s-min=17.2km az=90.8*

*IDC **03** 02:26:14.8±1.1, 6096N×16652E, h0km, mb3.5/6, mb1 3.8/7, mb1mx3.5/25, mbtmp3.6/7, ML3.1/1, Error ellipse: s-maj=27.7km s-min=16.4km az=69.0*

*NEIC **03** 02:26:14.8±1.7, 6071N×16652E, h10km, mb3.8/1, Error ellipse: s-maj=31.7km s-min=16.4km az=7.0*

ISC 03 02:26:15.5±0.9, 6089N±006×1665E±03, h10km, n13, σ0§73/14, mb3.6/6, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
BILL	**Bilibino**	**7.18**	**359**	PN		**Pn**	**02 28 02.5**	**+1.9**
BILL				pmax		pmax		
	comp=Z,3.0nm,0.6s							
BILL	**Bilibino**	**7.18**	**359**	Pn		**Pn**	**02 28 02.5**	**+1.9**
	comp=Z,3.3nm,0.6s							
BILL				*e*Sg		**Sg**	**02 30 05.6**	**-0.4**
FX1	**Attu Island--F**	**8.81**	**153**	Pn		**Pn**	**02 28 22.9**	**0.0**
	comp=Z,0.8nm,0.3s,baz=337,slow=7.7,SNR=3.4							
FX1	**Attu Island--F**	**8.81**	**153**	PN		**Pn**	**02 28 22.9**	**0.0**
FX1				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ILAR	**Eielson Array**	**21.23**	**59**	P		**P**	**02 31 01.9**	**+0.4**
	comp=Z,1.0nm,0.6s,mb3.3,baz=276,slow=11,SNR=17							
INK	**Inuvik**	**25.74**	**48**	P		**P**	**02 31 46.0**	**-0.2**
	comp=Z,1.0nm,0.7s,mb3.5,baz=294,slow=6.6,SNR=8.9							
INK	**Inuvik**	**25.74**	**48**	*e*P		**P**	**02 31 45.8**	**-0.4**
INK				pmax		pmax		
	comp=Z,1.0nm,0.5s							
INK	**Inuvik**	**25.74**	**48**	*e*P		**P**	**02 31 45.8**	**-0.3**
	comp=Z,1.1nm,0.5s,mb3.6							
YKA	**Yellowknife Ar**	**35.27**	**52**	P		**P**	**02 33 10.0**	**-0.4**
	comp=Z,0.5nm,0.6s,mb3.7,baz=306,slow=8.1,SNR=18							
ARCES	**ARCESS Array B**	**46.93**	**342**	P		**P**	**02 34 45.4**	**-0.9**
	comp=Z,0.3nm,0.7s,mb3.3,baz=34,slow=8.8,SNR=5.1							
ARCES	**ARCESS Array B**	**46.93**	**342**	P		**P**	**02 34 45.4**	**-0.9**
BVAR	**Borovoye Array**	**48.43**	**307**	P		**P**	**02 34 58.1**	**+0.2**
	comp=Z,0.6nm,0.6s,mb3.8,baz=46,slow=8.6,SNR=5.3							
NOA	**NORSAR Array B**	**56.92**	**346**	P		**P**	**02 36 00.5**	**-0.3**
	comp=Z,0.4nm,0.4s,mb3.8,baz=14,slow=7.4,SNR=2.8							

IDC 03 02:29:49.8±9.1, 1779S×17736W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.8/13, mbtmp3.9/3, Error ellipse: s-maj=406.5km s-min=38.8km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.63**	**259**	P	P	02 38 11.9	0.0
	0.4nm,0.3s,baz=95,slow=7.0,SNR=3.9						
ASAR	**Alice Springs**	**45.78**	**254**	P	P	02 38 13.6	+0.6
	3.9nm,0.5s,baz=89,slow=8.3,SNR=56						
ILAR	**Eielson Array**	**85.55**	**13**	P	P	02 42 29.4	-0.4
	0.3nm,0.5s,baz=223,slow=4.5,SNR=4.6						

*ISCJB **03** 02:54:07.6±0.8, 70N±06×732W±07, h153km±55km, mb3.4/4, Error ellipse: s-maj=147.0km s-min=9.7km az=87.2*

*IDC **03** 02:54:07.8±0.8, 675N×7297W, h156km±14km, mb3.2/4, mb1 3.5/6, mb1mx3.2/21, mbtmp3.8/6, Error ellipse: s-maj=46.7km s-min=7.9km az=131.0*

*NEIC **03** 02:54:08.7±0.9, 673N×7295W, h168km±13km, Error ellipse: s-maj=40.9km s-min=13.3km az=129.0*

ISC 03 02:54:08.8±0.9, 70N±06×732W±07, h148km±53km, n9, σ0§57/11, mb3.4/4, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ROSC	**El Rosal**	**2.38**	**209**	P		**Pn**	**02 54 49.1**	**+0.8**
	32nm,0.3s,baz=295,slow=4.2,SNR=163							
ROSC				S		**Sn**	**02 55 18.1**	**-0.7**
	20nm,0.3s,baz=85,slow=20,SNR=6.8							
SDV	**Santo Domingo**	**3.16**	**52**	P		**Pn**	**02 54 59.0**	**+0.9**
	21nm,0.3s,baz=244,slow=2.9,SNR=121							
SDV				S		**Sn**	**02 55 35.5**	**-0.8**
	16nm,0.3s,baz=67,slow=24,SNR=26							
SDV	**Santo Domingo**	**3.16**	**52**	*e*Pn		**Pn**	**02 54 58.5**	**+0.5**
SDV				*e*Sn		**Sn**	**02 55 35.9**	**-0.3**
ULM	**Lac du Bonnet**	**47.15**	**340**	P		**P**	**03 02 26.0**	**-0.2**
	0.6nm,0.4s,mb3.6,baz=121,slow=5.9,SNR=2.2							
PDAR	**Pinedale Array**	**47.95**	**324**	P		**P**	**03 02 32.8**	**+0.4**
	0.2nm,0.4s,mb3.1,baz=119,slow=10,SNR=3.2							
PDAR	**Pinedale Array**	**47.95**	**324**	P		**P**	**03 02 32.8**	**+0.4**
SCHQ	**Schefferville**	**48.02**	**5**	P		**P**	**03 02 33.0**	**+0.2**
	1.5nm,1.0s,mb3.6,baz=174,slow=10,SNR=2.6							
YKA	**Yellowknife Ar**	**63.13**	**340**	P		**P**	**03 04 20.0**	**-0.7**
	0.5nm,0.5s,mb3.6,baz=133,slow=6.6,SNR=30							
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc		PKPbc	03 13 41.1	-1.5
	0.3nm,0.3s,baz=116,slow=2.6,SNR=3.5							

**IDC 03 03:08:52.6±9.3, 117N×9811E, h0km, mb3.6/3, mb1 3.8/3, mb1mx

KSP	**Ksiaz**	**0.57**	**171**	*e*Pg	**Pg**	**03 46 26.6**	**+0.7**
KSP				*i* Sg	**Sg**	**03 46 35.2**	**+1.9**
UPC	**Upice**	**0.90**	**186**	*e*PG	**Pg**	**03 46 32.9**	**+0.6**
DPC	**Dobruska-Polom**	**1.06**	**174**	*e*PG	**Pg**	**03 46 35.7**	**+0.4**
DPC				*e*SG	**Sg**	**03 46 49.9**	**+0.8**
	21nm,0.6s						
PRU	**Pruhonice**	**1.75**	**216**	*e*PG	**Pg**	**03 46 47.9**	**-0.6**
PRU				*e*SG	**Sg**	**03 47 11.4**	**+0.2**
	14nm,0.3s						
MORC	**Moravsky Berou**	**1.85**	**151**	*e*Pn	**Pn**	**03 46 47.0**	**-1.0**
MORC				*e*Sg	**Sg**	**03 47 14.0**	**-0.6**
MORC	**Moravsky Berou**	**1.85**	**151**	*e*Pn	**Pn**	**03 46 47.0**	**-1.0**
MORC				*e*Sg	**Sg**	**03 47 14.0**	**-0.6**
CLL	**Collm**	**1.98**	**268**	*e*Pg	**Pg**	**03 46 53.0**	**+0.1**
CLL				*e*Sg	**Sg**	**03 47 19.0**	**+0.5**
	comp=Z,10.0nm,0.6s						
OKC	**Ostrava-Krasne**	**2.02**	**140**	*e*SG	**Sg**	**03 47 18.4**	**-1.5**
	comp=Z,16nm,0.6s						
VRAC	**Vranov**	**2.12**	**172**	*e*Pn	**Pn**	**03 46 52.9**	**+1.3**
VRAC				*e*Sg	**Sg**	**03 47 22.4**	**-0.6**
OJC	**Ojcow**	**2.60**	**116**	*e*Pg	**Pg**	**03 47 04.7**	**-0.1**
OJC				*e*Sg	**Sg**	**03 47 38.4**	**-0.1**
NKC	**Novy Kostel**	**2.62**	**245**	*e*PN	**Pn**	**03 46 58.8**	**+0.2**
NKC				*e*PG	**Pg**	**03 47 05.5**	**+0.2**
NKC				*e*SG	**Sg**	**03 47 39.3**	**0.0**
	comp=Z,18nm,0.3s						
KHC	**Kasperske Hory**	**2.81**	**217**	*e*PN	**Pn**	**03 47 00.7**	**-0.5**
KHC				*e*PG	**Pg**	**03 47 07.3**	**-1.6**
KHC				*e*SN	**Sn**	**03 47 34.0**	**-1.8**
KHC				*e*SG	**Sg**	**03 47 44.3**	**-1.0**
	comp=Z,4.2nm,0.2s						
MOX	**Moxa**	**2.96**	**257**	*e*PG	**Pg**	**03 47 11.9**	**+0.1**
MOX				*e*SG	**Sg**	**03 47 51.2**	**+1.0**
MOX	**Moxa**	**2.96**	**257**	*e*Pg	**Pg**	**03 47 11.9**	**+0.1**
MOX				*e*Sg	**Sg**	**03 47 51.2**	**+1.0**
GEC2	**GERESS Array S**	**3.01**	**213**	*e*Pg	**Pg**	**03 47 10.7**	**-1.9**
MOA	**Molln**	**3.76**	**200**	⇑*i*Pn	**Pn**	**03 47 15.0**	**+0.8**
MOA				⇓*i*Sg	**Sg**	**03 48 17.1**	**+1.3**
	comp=Z,3.2nm,0.4s						
MOA	**Molln**	**3.76**	**200**	⇑*i*Pn	**Pn**	**03 47 15.0**	**+0.8**
MOA				Sg	**Sg**	**03 48 17.1**	**+1.2**
MOA	**Molln**	**3.76**	**200**	Pn	**Pn**	**03 47 15.0**	**+0.7**
MOA				Sg	**Sg**	**03 48 17.1**	**+1.2**
	comp=Z,3.2nm,0.4s						
STHS	**Stebnicka Huta**	**3.82**	**119**	*e*SG	**Sg**	**03 48 20.8**	**+3.2**

PDG ***03*** *03:50:11.9±0.2, 4258N×1898E, h15km*

NEIC ***03*** *03:50:11.9, 4258N×1898E, h15km, MD3.0(PDG), After PDG.*

CSEM ***03*** *03:50:11.5±0.1, 4258N×1896E, h20km, MD3.0, Error ellipse: s-maj=2.1km s-min=1.9km az=71.0*

ISCJB ***03*** *03:50:12.2±0.3, 4258N±002×1892E±003, h19km±3km, Error ellipse: s-maj=3.4km s-min=3.0km az=95.9*

THE ***03*** *03:50:13.1, 4262N×1896E, h11km*

ISC 03 03:50:12.5±0.3, 4258N±002×1896E±002, h11km±2km**, n42,** σ1§**14**/73**, 8C-15D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKY	**Niksic**	**0.23**	**7**	⇓*i*Pg	**Pg**	**03 50 17.2**	**-0.1**
NKY				*e*Sg	**Sg**	**03 50 21.5**	**+1.0**
TTG	**Podgorica**	**0.27**	**125**	⇑*i*Pg	**Pg**	**03 50 17.2**	**-0.8**
TTG				*e*Sg	**Sg**	**03 50 22.0**	**+0.3**
BUM	**Brajici-Budva**	**0.29**	**189**	⇑*i*Pg	**Pg**	**03 50 17.9**	**-0.3**
BUM				*e*Sg	**Sg**	**03 50 23.4**	**+1.2**
HCY	**Herceg Novi**	**0.37**	**248**	⇓*i*Pg	**Pg**	**03 50 19.2**	**-0.6**
HCY				*e*Sg	**Sg**	**03 50 25.8**	**+1.1**
BRY	**Bratogost**	**0.44**	**316**	⇓*i*Pg	**Pg**	**03 50 20.5**	**-0.7**
BRY				*e*Sg	**Sg**	**03 50 28.3**	**+1.2**
TREB	**Trebinje**	**0.47**	**287**	P	**Pg**	**03 50 21.2**	**-0.5**
TREB				S	**Sg**	**03 50 29.5**	**+1.6**
UPM	**Unac-Piva**	**0.62**	**356**	⇓*i*Pg	**Pg**	**03 50 23.3**	**-1.2**
UPM				*e*Sg	**Sg**	**03 50 33.6**	**+0.9**
ULC	**Ulcinj**	**0.66**	**161**	⇓*i*Pg	**Pg**	**03 50 23.9**	**-1.2**
ULC				*e*Sg	**Sg**	**03 50 34.5**	**+0.8**
ULC	**Ulcinj**	**0.66**	**161**	⇓*i*Pg	**Pg**	**03 50 24.0**	**-1.2**
ULC				*e*Sg	**Sg**	**03 50 34.5**	**+0.7**
IVA	**Berane**	**0.75**	**67**	⇓*i*Pg	**Pg**	**03 50 25.8**	**-1.1**
IVA				*e*Sg	**Sg**	**03 50 37.4**	**+0.7**
PVY	**Plav**	**0.75**	**89**	⇓*i*Pg	**Pg**	**03 50 25.5**	**-1.5**
PVY				*e*Sg	**Sg**	**03 50 37.5**	**+0.8**
PLE	**Pljevlja**	**0.81**	**23**	⇓*i*Pg	**Pg**	**03 50 26.8**	**-1.3**
PLE				*e*Sg	**Sg**	**03 50 39.7**	**+1.0**
BCI	**Bajram Curri**	**0.85**	**104**	*i* Pg	**Pg**	**03 50 27.6**	**-1.2**
BCI				*i* Sg	**Sg**	**03 50 41.6**	**+1.7**
STON	**Ston**	**0.97**	**288**	*i* Pg	**Pg**	**03 50 29.4**	**-1.8**
STON				*i* Sg	**Sg**	**03 50 45.4**	**+1.5**
STON	**Ston**	**0.97**	**288**	*i* Pg	**Pg**	**03 50 29.4**	**-1.8**
STON				*i* Sg	**Sg**	**03 50 45.3**	**+1.4**
SJES	**Sjenica**	**0.99**	**46**	Pg	**Pg**	**03 50 31.0**	**-0.6**
SJES				Sg	**Sg**	**03 50 45.5**	**+1.0**
QSH	**Qafa e Shtames**	**1.27**	**146**	*i* Pn	**Pn**	**03 50 36.0**	**-0.2**
QSH				*i* Sn	**Sn**	**03 50 56.0**	**+2.8**
BBLS	**Bajina Basta -**	**1.32**	**14**	⇑*i*Pn	**Pn**	**03 50 37.3**	**+0.4**
BBLS				Sg	**Sg**	**03 50 55.5**	**+0.4**
TIR	**Tirane**	**1.41**	**151**	*e*Pg	**Pg**	**03 50 38.2**	**-1.3**
DIVS	**Divcibare**	**1.69**	**26**	⇓*i*Pn	**Pn**	**03 50 41.1**	**-0.8**
DIVS				Sn	**Sn**	**03 51 04.0**	**+0.5**
DIVS	**Divcibare**	**1.69**	**26**	*e*Pb	**Pb**	**03 50 41.0**	**-2.5**
DIVS				*e*Sb	**Sb**	**03 51 03.5**	**-1.3**
GRUS	**Gruza**	**1.83**	**44**	⇑*i*Pn	**Pn**	**03 50 42.4**	**-1.4**
GRUS				Sn	**Sn**	**03 51 07.6**	**+0.7**
SKO	**Skopje**	**1.94**	**108**	*e*Sn	**Sn**	**03 51 12.6**	**+3.0**
SKO				*e*Sn	**Sn**	**03 51 26.4**	**+17**
SKO	**Skopje**	**1.94**	**108**	*e*Pn	**Pn**	**03 50 46.7**	**+1.4**
OHR	**Ohrid**	**2.01**	**136**	*i* Pn	**Pn**	**03 50 50.5**	**+4.2**
PE1	**Pezze di Greco**	**2.12**	**213**	*e*Pn	**Pn**	**03 50 45.7**	**-2.1**
BIA	**Bitola**	**2.36**	**131**	*e*Pn	**Pn**	**03 50 54.6**	**+3.5**
SG1	**Sgolgore (BA)**	**2.44**	**225**	*e*Pn	**Pn**	**03 50 50.2**	**-2.0**
GRG	**Griva**	**3.04**	**121**	*e*Pn	**Pn**	**03 51 00.9**	**+0.4**
GRG				*e*Sn	**Sn**	**03 51 38.2**	**+1.3**
NVLJ	**Novalja**	**3.57**	**305**	*i* Pn	**Pn**	**03 51 07.4**	**-0.4**
NVLJ				*i* Sn	**Sn**	**03 51 50.1**	**+0.2**
NVLJ	**Novalja**	**3.57**	**305**	*i* Pn	**Pn**	**03 51 07.3**	**-0.5**
NVLJ				*i* Sn	**Sn**	**03 51 50.0**	**+0.1**
BZS	**Buzias**	**3.58**	**31**	⇑*i*P	**Pn**	**03 51 06.6**	**-1.3**
PKSM	**Moragy**	**3.63**	**356**	⇓*i*P	**Pn**	**03 51 07.5**	**-1.1**
VOY	**Vojsko**	**5.01**	**315**	*e*Pn	**Pn**	**03 51 27.5**	**0.0**
VOY				*e*Sn	**Sn**	**03 52 26.2**	**+0.8**
OBKA	**Obir**	**5.03**	**323**	⇑*i*Pn	**Pn**	**03 51 28.2**	**+0.3**
OBKA				⇑*i*Sn	**Sn**	**03 52 29.1**	**+3.1**
OBKA	**Obir**	**5.03**	**323**	⇑*i*Pn	**Pn**	**03 51 28.2**	**+0.3**
OBKA				Sn	**Sn**	**03 52 29.1**	**+3.1**
ARSA	**Arzberg**	**5.27**	**334**	⇓*i*Pn	**Pn**	**03 51 31.3**	**+0.3**
ARSA				⇓*i*Sn	**Sn**	**03 52 31.9**	**+0.2**
ARSA	**Arzberg**	**5.27**	**334**	⇓*i*Pn	**Pn**	**03 51 31.3**	**+0.3**
ARSA				Sn	**Sn**	**03 52 31.9**	**+0.2**
ARSA	**Arzberg**	**5.27**	**334**	⇓*i*Pn	**Pn**	**03 51 31.3**	**+0.2**
KECS	**Kecovo**	**6.00**	**10**	*e*PN	**Pn**	**03 51 40.4**	**-0.7**
KECS				*e*SN	**Sn**	**03 52 45.5**	**-4.2**
CRVS	**Cervenica-Dubn**	**6.56**	**15**	*e*PN	**Pn**	**03 51 48.5**	**-0.3**
STHS	**Stebnicka Huta**	**7.02**	**12**	*e*PN	**Pn**	**03 51 55.9**	**+0.8**

NEIC ***03*** *04:01:17.9, 4198N×5571W, h18km, ML3.0(OTT), After OTT.*

OTT 03 04:01:17.9±0.3, 4198N×5571W, h18km**, ML3.0**/9**, Atlantic Offshore 555km southeast from Louisbourg, Ns, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GBN	**Guysborough**	**5.42**	**311**	PN	Pn	04 02 38.0	+0.2
GBN				SN	Sn	04 03 36.1	-3.6
GBN				Trac		04 03 43.2	
	comp=Z,1.1nm,0.1s						
GBN	**Guysborough**	**5.42**	**311**	Pn	Pn	04 02 38.0	+0.2
GBN				Sn	Sn	04 03 36.1	-3.6
CHEG	**Cheticamp, Nov**	**5.99**	**325**	PN	Pn	04 02 45.7	+0.1
CHEG				SN	Sn	04 03 49.5	-4.3
CHEG				Trac		04 03 57.3	
	comp=Z,1.5nm,0.1s						
CHEG	**Cheticamp, Nov**	**5.99**	**325**	Pn	Pn	04 02 45.7	+0.1
CHEG				Sn	Sn	04 03 49.5	-4.3
SJNN	**Saint John's**	**6.01**	**20**	PN	Pn	04 02 45.3	-0.6
SJNN				SN	Sn	04 03 49.8	-4.4
SJNN				Trac		04 03 57.9	
	comp=Z,2.3nm,0.2s						
SJNN	**Saint John's**	**6.01**	**20**	Pn	Pn	04 02 45.3	-0.6
SJNN				Sn	Sn	04 03 49.8	-4.4
HAL	**Halifax**	**6.33**	**297**	PN	Pn	04 02 49.3	-1.0
HAL				SN	Sn	04 03 57.6	-4.5
HAL				Trac		04 04 10.4	
	comp=Z,1.8nm,0.1s						
HAL	**Halifax**	**6.33**	**297**	Pn	Pn	04 02 49.3	-1.0
HAL				Sn	Sn	04 03 57.6	-4.5
CODG	**Codroy Newfoun**	**6.37**	**338**	PN	Pn	04 02 50.9	+0.1
CODG				SN	Sn	04 03 58.0	-5.2
CODG				Trac		04 04 06.8	
	comp=Z,0.9nm,0.1s						
CODG	**Codroy Newfoun**	**6.37**	**338**	Pn	Pn	04 02 50.9	+0.1
CODG				Sn	Sn	04 03 58.0	-5.2
MALG	**Malagash, Nova**	**6.69**	**307**	PN	Pn	04 02 53.5	-1.7
MALG				SN	Sn	04 04 05.9	-5.0
MALG				Trac		04 04 10.8	
	comp=Z,2.5nm,0.1s						
MALG	**Malagash, Nova**	**6.69**	**307**	Pn	Pn	04 02 53.5	-1.7
MALG				Sn	Sn	04 04 05.9	-5.0
MADG	**Magdalen Islan**	**6.79**	**323**	PN	Pn	04 02 56.1	-0.5
TIGG	**Tignish, PEI**	**7.24**	**316**	PN	Pn	04 03 08.8	+6.1
TIGG				SN	Sn	04 04 31.4	+7.0
DRLN	**Deer Lake**	**7.38**	**351**	PN	Pn	04 03 03.0	-1.7
DRLN				SN	Sn	04 04 22.4	-5.6
DRLN				Trac		04 04 27.6	
	comp=Z,1.8nm,0.1s						
DRLN	**Deer Lake**	**7.38**	**351**	Pn	Pn	04 03 03.0	-1.7
DRLN				Sn	Sn	04 04 22.4	-5.6
LMN	**Caledonia Moun**	**7.62**	**304**	PN	Pn	04 03 06.5	-1.4
LMN				SN	Sn	04 04 27.6	-6.3
LMN				Trac		04 04 33.5	
	comp=Z,1.6nm,0.1s						
LMN	**Caledonia Moun**	**7.62**	**304**	Pn	Pn	04 03 06.5	-1.4
LMN				Sn	Sn	04 04 27.6	-6.3
GGN	**Saint George**	**8.67**	**295**	PN	Pn	04 03 20.4	-1.9
GGN				SN	Sn	04 04 49.7	-10
GGN				Trac		04 04 55.3	
	comp=Z,0.8nm,0.1s						
GGN	**Saint George**	**8.67**	**295**	Pn	Pn	04 03 20.4	-1.9
GGN				Sn	Sn	04 04 49.7	-10
BATG	**Bathurst New B**	**9.08**	**309**	PN	Pn	04 03 26.7	-1.3
BATG				SN	Sn	04 05 02.6	-7.1
BATG				Trac		04 05 07.7	
	comp=Z,0.9nm,0.2s						
BATG	**Bathurst New B**	**9.08**	**309**	Pn	Pn	04 03 26.7	-1.3
BATG				Sn	Sn	04 05 02.6	-7.1
NATG	**Natashquan Que**	**9.65**	**332**	PN	Pn	04 03 34.9	-1.0
NATG				SN	Sn	04 05 16.2	-7.5
NATG				Trac		04 05 25.5	
	comp=Z,0.5nm,0.2s						
NATG	**Natashquan Que**	**9.65**	**332**	Pn	Pn	04 03 34.9	-1.0
NATG				Sn	Sn	04 05 16.2	-7.5
GSQ	**Grosses Roches**	**10.58**	**315**	SN	Sn	04 05 38.2	-8.4
GSQ				Trac		04 05 42.3	
	comp=Z,0.4nm,0.2s						
A64	**Saint Simeon**	**11.62**	**305**	PN	Pn	04 04 01.2	-1.6
BBSR	**BB Station**	**11.97**	**220**	Pn	Pn	04 04 06.2	-1.3
SCHQ	**Schefferville**	**14.80**	**334**	PN	Pn	04 04 47.3	+1.1
SCHQ	**Schefferville**	**14.80**	**334**	Pn	Pn	04 04 47.3	+1.1

IDC ***03*** *04:05:20.6±0.6, 4.92S×147.49E, h0km, mb4.6/12, mb1 4.7/16, mb1mx4.7/19, mbtmp4.6/16, ML4.1/4, MS4.2/11, Ms1 4.2/11, ms1mx4.0/14, Error ellipse: s-maj=22.4km s-min=13.0km az=93.0*

ISCJB ***03*** *04:05:24.2±0.3, 4.97S±003×147.48E±006, h33km, mb4.8/48, MS4.2/14, Error ellipse: s-maj=8.8km s-min=4.8km az=1.0*

MOS ***03*** *04:05:24.1±0.8, 4.92S×147.43E, h33km, mb4.9/16, Error ellipse: s-maj=14.2km s-min=8.0km az=89.8*

NEIC ***03*** *04:05:25.8±2.5, 4.95S×147.45E, h33km±18km, mb4.8/24, Error ellipse: s-maj=7.4km s-min=6.2km az=136.0*

HRVD ***03*** *04:05:25.8±0.2, 4.94S×147.52E, h13km±1km, MW5.0/76, Centroid moment Tensor Solution. LP body waves: s27,c34;Mantle waves: s76,c121; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.58±.11; Mθθ=3.17±.10; Mφφ=3.76±.12; Mrθ=-1.93±.39; Mθφ=1.14±.10; Mφr=0.09±.26; Best double couple: M=4.14800×10^16 NP1:φs=147.00000°, δ67.00000°, λ=-164.00000°. NP2: φs=51.00000°, δ75.00000°, λ=-24.00000°. Principal axes: T 3.9820, Plg6.0000°, Azm101.0000°; N 0.3420, Plg62.0000°, Azm201.0000°; P -4.3150, Plg27.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***03*** *04:05:25.0, 4.25S×14.773E, h14km, mB5.1, mb4.8, Ms4.7, Msz4.2*

ISC 03 04:05:26.3±0.3, 4.97S±004×14.752E±006, h35km**, (h29**km±4.1km**: pP-P), n99,** σ1§**17**/103**, mb4.8**/48**, MS4.2**/14**, 2C-3D, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.42**	**185**	Pn	**Pn**	**04 06 30.3**	**-0.4**
	13nm,0.3s,baz=1.7,slow=7.5,SNR=16						
PMG				Sn	**Sn**	**04 07 23.3**	**+2.3**
	26nm,0.3s,baz=241,slow=22,SNR=2.5						
PMG				LR	LR	04 08 29.8	
	comp=Z,4μm,18.6s,baz=36,slow=42						
PMG	**Port Moresby**	**4.42**	**185**	P	**Pn**	**04 06 30.4**	**-0.4**
PMG						04 07 23.3	
HNR	**Honiara**	**13.10**	**110**	Pn	**Pn**	**04 08 30.9**	**+1.1**
	4.0nm,0.3s,baz=260,slow=9.8,SNR=2.5						
HNR				LR	LR	04 12 58.2	
	comp=Z,414nm,18.3s,baz=355,slow=35						
HNR	**Honiara**	**13.10**	**110**	P	**Pn**	**04 08 31.1**	**+1.4**
HNR				pmax	pmax		
	comp=Z,131nm,0.9s						
HNR	**Honiara**	**13.10**	**110**	Pn	**Pn**	**04 08 31.1**	**+1.3**
	comp=Z,131nm,0.9s						
CTA	**Charters Tower**	**15.07**	**185**	*e*P	**Pn**	**04 09 01.7**	**+5.1**
	comp=Z,23nm,1.5s						
CTA	**Charters Tower**	**15.07**	**185**	Pn	**Pn**	**04 08 57.4**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=4.2,slow=16,SNR=2.9						
CTA	**Charters Tower**	**15.07**	**185**	Pn	**Pn**	**04 08 57.4**	**+0.9**
CTA				*e*P		04 09 01.7	
CTAO	**Charters Tower**	**15.07**	**185**	*e*P	**Pn**	**04 08 57.4**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,58nm,1.4s						
CTAO	**Charters Tower**	**15.07**	**185**	*e*Pn	**Pn**	**04 08 57.4**	**+0.8**
	comp=Z,58nm,1.4s						
CTAO				*e*P		04 09 01.6	
KAKA	**Kakadu**	**16.76**	**242**	⇓*i*P	**Pn**	**04 09 17.3**	**-0.9**
	comp=Z,58nm,0.6s						
WRAB	**Tennant Creek**	**19.63**	**220**	*e*P	**Pn**	**04 09 51.5**	**-1.8**
WRAB				*e*S	**S**	**04 13 35.6**	**+4.2**
WRAB				pmax	pmax		
	comp=Z,103nm,0.9s						
WRAB	**Tennant Creek**	**19.63**	**220**	*e*P	**Pn**	**04 09 51.5**	**-1.8**
	comp=Z,103nm,0.9s						
WRAB				*e*S	**S**	**04 13 35.6**	**+4.2**
WB2	**Warramunga Arr**	**19.64**	**220**	*e*P	**Pn**	**04 09 51.4**	**-2.0**
WB2				*e*		04 09 59.3	
WB2				*e*S	**S**	**04 13 43.7**	**+12**
WRA	**Warramunga Arr**	**19.65**	**220**	P	**Pn**	**04 09 51.9**	**-1.6**
	comp=Z,1.5nm,0.3s,baz=41,slow=12,SNR=52						
ASAR	**Alice Springs**	**22.75**	**214**	P	**P**	**04 10 25.1**	**-0.2**
	comp=Z,6.0nm,0.8s,mb4.1,baz=49,slow=8.5,SNR=32						
DZM	**Mont Dzumac**	**24.99**	**135**	P	**P**	**04 10 46.4**	**-0.2**
	comp=Z,30nm,0.9s,mb4.8,baz=348,slow=9.7,SNR=17						
DZM				LR	LR	04 19 51.2	
	comp=Z,721nm,18.8s,MS4.2,baz=201,slow=35						
FITZ	**Fitzroy Crossi**	**25.05**	**237**	*e*P	**P**	**04 10 46.5**	**-0.7**
	comp=Z,32nm,0.4s,mb5.2						
FITZ				*e*	pP	04 10 54.7	-2.5
FITZ	**Fitzroy Crossi**	**25.05**	**237**	P	**P**	**04 10 46.7**	**-0.5**
	comp=Z,30nm,0.8s,mb4.9,baz=73,slow=10,SNR=26						
FITZ				LR	LR	04 21 39.9	
	comp=Z,511nm,19.8s,MS4.0,baz=62,slow=39						
ARMA	**Armidale**	**25.61**	**172**	*e*P	**P**	**04 10 57.8**	**+5.6**
STKA	**Stephens Creek**	**27.34**	**191**	*e*P	**P**	**04 11 07.7**	**-0.1**
	comp=Z,13nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**27.34**	**191**	P	**P**	**04 11 07.0**	**-0.7**
	comp=Z,14nm,0.8s,mb4.5,baz=0.5,slow=7.2,SNR=12						
STKA				LR	LR	04 23 40.5	
	comp=Z,958nm,18.4s,MS4.4,baz=13,slow=40						
CNB	**Canberra Magne**	**30.24**	**177**	*e*P	**P**	**04 11 38.7**	**+5.1**
	comp=Z,35nm,1.3s,mb4.9						
MBWA	**Marble Bar**	**31.40**	**237**	*e*P	**P**	**04 11 43.6**	**-0.2**
	comp=Z,20nm,1.1s,mb4.9						
FORT	**Forrest**	**31.54**	**213**	*e*P	**P**	**04 11 44.2**	**-0.8**
	comp=Z,17nm,0.6s,mb5.0						

CBIJ	**Chichi jima**	**32.29**	**351**	LR	LR	04 23 15.7	
	comp=Z,234nm,19.8s,MS3.9,baz=109,slow=33						
KKM	**Kota Kinabalu**	**33.12**	**289**	*e*P	**P**	**04 11 58.7**	**-0.2**
KLBR	**Kellerberrin**	**38.47**	**223**	*e*P	**P**	**04 12 44.2**	**-0.6**
	comp=Z,104nm,1.6s,mb5.3						
MUN	**Mundaring**	**39.76**	**224**	*e*P	**P**	**04 12 56.1**	**+0.6**
MJAR	**Matsushiro Arr**	**42.21**	**349**	P	**P**	**04 13 13.6**	**-2.1**
	comp=Z,11nm,1.1s,mb4.4,baz=170,slow=7.7,SNR=16						
MJAR				LR	LR	04 29 06.4	
	comp=Z,76nm,20.9s,MS3.6,baz=230,slow=34						
MAJO	**Matsushiro**	**42.21**	**349**	*e*P	**P**	**04 13 14.8**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,24nm,1.3s,mb4.7						
MAJO	**Matsushiro**	**42.21**	**349**	*e*P	**P**	**04 13 14.8**	**-0.9**
	comp=Z,24nm,1.3s,mb4.7						
MAT	**Matsushiro**	**42.21**	**349**	P	**P**	**04 13 14.5**	**-1.2**
MAT				S	**S**	**04 19 23.8**	**-10**
MAT	**Matsushiro**	**42.21**	**349**	*e*P	**P**	**04 13 15.0**	**-0.7**
MAT				*e*S	**S**	**04 19 24.0**	**-10**
MAT				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.7						
MAT	**Matsushiro**	**42.21**	**349**	*e*P	**P**	**04 13 15.0**	**-0.7**
	comp=Z,25nm,1.2s,mb4.7						
MAT				*e*S	**S**	**04 19 24.0**	**-10**
SSE	**Sheshan**	**43.80**	**327**	P	**P**	**04 13 28.2**	**-0.4**
SSE				XP	sP	04 13 40.8	-2.3
SSE				PP	PP	04 15 10.5	-0.4
SSE				SCP	ScP	04 19 03.0	-0.7
SSE				S	**S**	**04 19 58.1**	**+1.2**
SSE				AMB	AMB		
	comp=Z,75nm,0.5s,mb5.7						
SSE				AMB	AMB		
	comp=Z,51nm,3.7s						
SSE				LR	LR		
	comp=N,153nm,22.3s,MS4.1						
SSE				LR	LR		
	comp=E,244nm,22.1s,MS4.1						
SSE				LR	LR		
	comp=Z,208nm,20.5s,MS4.0						
NJ2	**Nanjing**	**45.83**	**325**	*e*P	**P**	**04 13 44.4**	**-0.3**
NJ2				AP	pP	04 13 55.5	+0.4
NJ2				PP	PP	04 15 32.8	+0.4
NJ2				S	**S**	**04 20 24.0**	**-2.2**
NJ2				XS	sS	04 20 41.0	-2.3
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,80nm,5.8s						
NJ2				LR	LR		
	comp=N,1μm,36.6s,MS4.8						
NJ2				LR	LR		
	comp=E,2μm,36.0s,MS4.8						
NJ2				LR	LR		
	comp=Z,520nm,32.4s,MS4.3						
KULM	**Kulim**	**47.90**	**282**	P	**P**	**04 14 01.2**	**+0.2**
YSS	**Yuzh-Sakhalins**	**51.87**	**356**	*e*P	**P**	**04 14 32.2**	**+1.1**
KMI	**Kunming**	**52.79**	**307**	P	**P**	**04 14 40.6**	**+2.7**
KMI				AP	pP	04 14 45.3	-3.2
KMI				XP	sP	04 14 48.4	-4.2
KMI				AMB	AMB		
	comp=Z,6.0nm,1.5s,mb4.3						
KMI				AMB	AMB		
	comp=Z,50nm,3.4s						
KMI				LR	LR		
	comp=N,154nm,19.7s,MS4.1						
KMI				LR	LR		
	comp=E,95nm,19.7s,MS4.1						
KMI				LR	LR		
	comp=Z,187nm,27.8s						
XAN	**Xi'an**	**53.23**	**320**	P	**P**	**04 14 41.9**	**+0.7**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.9s,mb4.3						
CD2	**Chengdu**	**54.94**	**313**	*e*P	**P**	**04 14 55.8**	**+2.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
KLR	**Kul'dur**	**55.70**	**348**	*e*P	**P**	**04 14 56.2**	**-2.9**
KLR				pmax	pmax		
	comp=Z,40nm,1.6s,mb5.2						
LZH	**Lanzhou**	**57.78**	**319**	*e*P	**P**	**04 15 12.9**	**-1.0**
LZH				AP	pP	04 15 22.6	-1.9
LZH				XP	sP	04 15 26.3	-2.3
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,73nm,6.1s						
LZH				LR	LR		
	comp=N,319nm,13.2s						
LZH				LR	LR		
	comp=Z,425nm,17.5s,MS4.6						
FX1	**Attu Island--F**	**61.59**	**17**	P	**P**	**04 15 40.6**	**+0.5**
	comp=Z,15nm,0.7s,mb5.2,baz=73,slow=12,SNR=5.8						
SHL	**Shillong**	**61.90**	**302**	*e*P	**P**

TIXI					pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3							
TIXI					smax			
	comp=N,38nm,15.7s							
TIXI					smax			
	comp=E,27nm,11.8s							
TIXI					MLR	MLR		
	comp=E,66nm,18.0s,MS4.0							
ZAL	**Zalesovo**	**78.43**	**328**	P	**P**		**04 17 22.5**	**-0.9**
	comp=Z,1.8nm,0.6s,mb4.2,baz=14,slow=6.0,SNR=6.6							
ZAL	**Zalesovo**	**78.43**	**328**	P	**P**		**04 17 22.5**	**-0.9**
NVS	**Novosibirsk**	**79.64**	**328**	*i* P	**P**		**04 17 28.0**	**-2.0**
TTA	**Tatalina**	**79.91**	**23**	*e*P	**P**		**04 17 32.2**	**+0.8**
TTA					pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6							
TTA	**Tatalina**	**79.91**	**23**	*e*P	**P**		**04 17 32.2**	**+0.7**
	comp=Z,9.1nm,1.1s,mb4.6							
KURK	**Kurchatov**	**80.70**	**323**	*e*P	**P**		**04 17 35.4**	**-0.3**
KURK					pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7							
KURK	**Kurchatov**	**80.70**	**323**	*e*P	**P**		**04 17 35.4**	**-0.3**
	comp=Z,12nm,1.1s,mb4.7							
AAK	**Ala-Archa**	**80.99**	**314**⇑	*e*P	**P**		**04 17 37.6**	**+0.3**
AAK					pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2							
AAK	**Ala-Archa**	**80.99**	**314**	*e*P	**P**		**04 17 37.4**	**+0.1**
	comp=Z,5.7nm,0.9s,mb4.5							
MAW	**Mawson**	**83.39**	**203**	LR	LR		04 55 17.9	
	comp=Z,246nm,19.2s,MS4.6,baz=249,slow=36							
COLA	**College**	**84.01**	**23**⇑	*e*P	**P**		**04 17 52.4**	**-0.6**
COLA	**College**	**84.01**	**23**	*e*P	**P**		**04 17 51.6**	**-1.4**
	comp=Z,5.7nm,0.9s,mb4.7							
ILAR	**Eielson Array**	**84.34**	**23**	P	**P**		**04 17 53.6**	**-1.1**
	comp=Z,5.7nm,0.9s,mb4.7,baz=258,slow=5.1,SNR=36							
QSPA	**South Pole Qui**	**84.99**	**180**	*e*P	**P**		**04 17 57.4**	**-0.5**
	comp=Z,9.5nm,0.8s,mb5.0							
CHKZ	**Chkalovo**	**86.27**	**324**	*e*P	**P**		**04 18 03.0**	**-1.3**
CHKZ					pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.6							
CHKZ	**Chkalovo**	**86.27**	**324**	*e*P	**P**		**04 18 03.0**	**-1.3**
	comp=Z,2.8nm,0.8s,mb4.5							
BRVK	**Borovoye**	**86.32**	**324**	*e*P	**P**		**04 18 04.0**	**-0.6**
BRVK					pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.4							
BRVK	**Borovoye**	**86.32**	**324**	*e*P	**P**		**04 18 04.0**	**-0.6**
	comp=Z,2.5nm,0.8s,mb4.5							
ZRNK	**Zerenda**	**87.05**	**324**	*e*P	**P**		**04 18 06.7**	**-1.4**
ZRNK					pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.5							
ZRNK	**Zerenda**	**87.05**	**324**	*e*P	**P**		**04 18 06.7**	**-1.5**
	comp=Z,2.0nm,0.7s,mb4.5							
DAWY	**Dawson**	**87.13**	**25**	*e*P	**P**		**04 18 09.3**	**+0.8**
INK	**Inuvik**	**90.52**	**21**	*e*P	**P**		**04 18 24.0**	**-0.5**
INK					pmax	pmax		
	comp=Z,7.0nm,1.1s							
INK	**Inuvik**	**90.52**	**21**	*e*P	**P**		**04 18 24.0**	**-0.5**
	comp=Z,7.0nm,1.1s,mb4.9							
YKW3	**Yellowknife Ar**	**98.02**	**28**	*e*P	**P**		**04 18 58.9**	**+0.1**
YKA	**Yellowknife Ar**	**98.03**	**28**	P	**P**		**04 18 58.1**	**-0.8**
	comp=Z,1.4nm,0.9s,mb4.5,baz=275,slow=4.9,SNR=20							
TORD	**Torodi Ar. Bea**	**145.32**	**286**	PKPbc	PKPbc		04 25 00.9	+0.8
	comp=Z,3.6nm,0.7s,baz=66,slow=3.9,SNR=36							
SAML	**Samuel**	**146.41**	**114**	*e*PKPbc	PKPbc		04 25 03.9	+0.4

*ISCJB **03** 04:24:44.4±0.4, 4603N×002×681E±005, h4km±7km, Error ellipse: s-maj=5.8km s-min=3.1km az=38.0*
*STR **03** 04:24:45.3±0.1, 4603N×682E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ZUR **03** 04:24:45.1, 4604N×690E, h5km±2km, ML1.2/5*
*LDG **03** 04:24:45.2±0.2, 4603N×689E, h2km, Md1.9/2, Ml1.9/4, Error ellipse: s-maj=4.5km s-min=1.7km az=74.0*

ISC 03 04:24:45.0±0.5, 4603N±002×687E±005, h7km±7km, n16, σ0$61/27, 4C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMV	**Vieux Emosson**	**0.04**	**38**	*i* Sg	**Sg**	**04 24 46.5**	**-0.9**
	745nm,0.1s						
EMV	**Vieux Emosson**	**0.04**	**38**⇓	*i*Pg	**Pg**	**04 24 47.4**	**+1.0**
	745nm,0.1s						
SALAN	**Lac Salanfe**	**0.13**	**34**⇑	*i*Pg	**Pg**	**04 24 47.7**	**-0.1**
SALAN	120nm,0.2s			*i* Sg	**Sg**	**04 24 49.4**	**-0.3**
	120nm,0.2s						
AIGLE	**Aigle**	**0.31**	**11**⇑	*i*Pg	**Pg**	**04 24 50.9**	**-0.2**
	49nm,0.2s						
OG01	**Vacheresse**	**0.32**	**337**	Pg	**Pg**	**04 24 51.7**	**+0.4**
OG01				Sg	**Sg**	**04 24 56.4**	**+0.9**
DIX	**Grande Dixence**	**0.38**	**83**⇑	*i*Pg	**Pg**	**04 24 52.2**	**-0.2**
	138nm,0.2s						
RSL	**Roselend**	**0.39**	**206**	Pg	**Pg**	**04 24 52.4**	**0.0**
RSL				Sg	**Sg**	**04 24 57.8**	**+0.3**
SENIN	**Lac Senin**	**0.45**	**42**⇑	*i*Pg	**Pg**	**04 24 53.3**	**-0.3**
	18nm,0.2s						
SENIN				*e*Sg	**Sg**	**04 24 59.4**	**0.0**
	18nm,0.2s						
LPL	**La Plagne**	**0.53**	**190**	*e*Pg	**Pg**	**04 24 55.2**	**+0.1**
LPL				*e*Sg	**Sg**	**04 25 02.8**	**+0.8**
	2.0nm,0.2s						
LPG	**La Plagne**	**0.54**	**189**	*e*Pg	**Pg**	**04 24 55.4**	**0.0**
LPG				*e*Sg	**Sg**	**04 25 03.3**	**+0.8**
	2.8nm,0.2s						
CABF	**La Chapelle**	**0.79**	**317**	*e*Pg	**Pg**	**04 25 00.5**	**+0.3**
CABF	**La Chapelle**	**0.79**	**317**	*e*Pn	**Pn**	**04 25 02.5**	**0.0**
CABF				*e*Sn	**Sg**	**04 25 13.7**	**+3.3**
	2.3nm,0.2s						
MBDF	**Montbardon**	**1.31**	**183**	*e*Pg	**Pg**	**04 25 10.0**	**-0.1**
MBDF				*e*Sg	**Sg**	**04 25 27.0**	**-0.1**
	1.9nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.31**	**212**	*e*Pg	**Pg**	**04 25 09.5**	**-0.7**
ORIF				*e*Sg	**Sg**	**04 25 27.4**	**+0.2**
	2.0nm,0.3s						
VIVF	**Saint-Julien-l**	**1.94**	**233**	*e*Pg	**Pg**	**04 25 21.6**	**-0.6**
VIVF				*e*Sg	**Sg**	**04 25 46.5**	**-0.9**
	3.6nm,0.4s						
SMF	**Signal de Mont**	**2.18**	**287**	*e*Pg	**Pg**	**04 25 26.2**	**-0.6**
SMF				*e*Sg	**Sg**	**04 25 54.4**	**-0.7**
	1.0nm,0.2s						

GUC 03 04:59:42.9±0.8, 3348S×7062W, h89km±3km, MD3.8, ML2.6,1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STL	**Santa Lucia**	**0.05**	**341**	*e*P	Pn	04 59 55.1	-0.3
STL				*i* S	Sn	05 00 04.9	+0.1
FSR	**Penalolen**	**0.08**	**88**	*e*P	Pn	04 59 56.0	+0.5
FSR				*i* S	Sn	05 00 05.8	+1.0
FSR				AML	AML	05 00 06.5	
	comp=E,347nm,0.1s						
DSCH	**Colegio Aleman**	**0.09**	**29**	*e*P	Pn	04 59 55.1	-0.4
DSCH				*i* S	Sn	05 00 04.7	-0.1
CLCH	**Cerro Calan**	**0.11**	**40**	*e*P	Pn	04 59 55.9	+0.4
CLCH				*i* S	Sn	05 00 05.9	+1.0
CLCH				AML	AML	05 00 06.9	
	comp=N,370nm,0.6s						
RCDM	**Rinconada Maip**	**0.15**	**267**	*e*P	Pn	04 59 55.9	+0.2
RCDM				*i* S	Sn	05 00 05.9	+0.8
RCDM				AML	AML	05 00 06.3	
	comp=E,1μm,0.1s						
PCH	**Pirque**	**0.17**	**147**	*e*P	Pn	04 59 56.0	+0.3
PCH				*i* S	Sn	05 00 06.0	+0.8
TACH	**Talagante**	**0.31**	**237**	*e*P	Pn	04 59 56.8	+0.5
FCH	**Farellones**	**0.32**	**61**	*e*P	Pn	04 59 56.9	+0.6
FCH				*i* S	Sn	05 00 07.6	+1.3
FCH				AML	AML	05 00 08.3	
	comp=E,761nm,0.2s						
PEL	**Peldehue**	**0.34**	**351**	*e*P	Pn	04 59 57.0	+0.6
PEL				*i* S	Sn	05 00 07.6	+1.0
PEL				AML	AML	05 00 08.9	
	comp=N,557nm,0.4s						
CHCH	**Chadas Angostu**	**0.45**	**183**	*i* P	Pn	04 59 57.7	+0.5
CHCH				*i* S	Sn	05 00 08.6	+0.8
LMEL	**Las Melosas**	**0.51**	**136**	*i* P	Pn	04 59 58.2	+0.6
LMEL				*i* S	Sn	05 00 09.9	+1.3
LMEL				AML	AML	05 00 10.8	
	comp=N,207nm,0.2s						
ROCH	**El Roble**	**0.60**	**327**	*e*P	Pn	04 59 58.9	+0.5
CACH	**El Canelo**	**0.64**	**178**⇓	*i*P	Pn	04 59 59.7	+1.0
CACH				*i* S	Sn	05 00 12.3	+1.8
LCCH	**Las Cruces**	**0.79**	**270**	*e*P	Pn	05 00 00.9	+0.7
JACH	**Jahuel**	**0.80**	**2**⇑	*i*P	Pn	05 00 01.1	+0.8
JACH				*i* S	Sn	05 00 14.3	+1.0

LNV	**Longovilo**	**0.81**	**234**	*i* P	Pn		05 00 00.5	0.0
CICH	**Cipreses**	**0.85**	**169**	*e*P	Pn		05 00 01.5	+0.6
CICH				*i* S	Sn		05 00 15.7	+1.3

WEL 03 05:13:33.7±0.5, 4772S×16529E, h33km, ML3.5/7, Error ellipse: s-maj=6.3km s-min=4.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**2.58**	**46**	PN	Pn	05 14 11.8	-1.4
WHZ				SN	Sn	05 14 40.1	-3.4
DCZ	**Deep Cove**	**2.59**	**31**	*e*PN	Pn	05 14 12.6	-0.7
DCZ				SN	Sn	05 14 42.7	-0.8
MLZ	**Mavora Lakes**	**3.10**	**41**	PN	Pn	05 14 19.1	-1.2
MLZ				SN	Sn	05 14 52.9	-3.2
TUZ	**Tuapeka**	**3.47**	**61**	PN	Pn	05 14 24.7	-0.6
TUZ				SN	Sn	05 15 02.1	-3.1
MSZ	**Milford Sound**	**3.56**	**32**	*e*PN	Pn	05 14 28.2	+1.6
EAZ	**Earnscleugh**	**3.73**	**50**	*e*PN	Pn	05 14 28.7	-0.2
EAZ				SN	Sn	05 15 10.0	-1.7
WKZ	**Wanaka**	**3.88**	**43**	*e*PN	Pn	05 14 30.7	-0.3
JCZ	**Jackson Bay**	**4.38**	**35**	*e*PN	Pn	05 14 39.1	+1.2
ODZ	**Otahua Downs**	**4.57**	**56**	*e*PN	Pn	05 14 37.8	-2.8

IDC 03 05:20:06.6±3.1, 1298S×6607E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.5/19, mbtmp3.8/3, Error ellipse: s-maj=219.9km s-min=70.9km az=117.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**61.26**	**13**	P	P	05 30 23.6	+0.1
	0.7nm,0.6s,baz=206,slow=8.1,SNR=8.5						
ZAL	**Zalesovo**	**68.54**	**12**	P	P	05 31 10.7	-0.3
	0.9nm,0.6s,baz=278,slow=6.8,SNR=4.1						
SONM	**Songino Array**	**70.38**	**28**	P	P	05 31 22.6	+0.3
	0.7nm,0.7s,baz=215,slow=5.8,SNR=5.0						
YKA	**Yellowknife Ar**	**130.56**	**0**	PKP	PKPdf	05 39 18.3	-1.0
	0.2nm,0.7s,baz=352,slow=2.4,SNR=5.0						
PDAR	**Pinedale Array**	**150.08**	**354**	PKPbc	PKPbc	05 39 59.8	+0.5
	1.5nm,0.8s,baz=79,slow=3.2,SNR=12						

*SZGRF **03** 05:36:36.6, 2053S×17489W, h33km, Tonga Islands*
*MOS **03** 05:36:37.2±0.9, 1994S×17547W, h33km, mb4.6/7, Error ellipse: s-maj=20.0km s-min=12.4km az=152.6*
*ISCJB **03** 05:36:38.8±1.8, 2001S±008×17547W±008, h50km±16km, mb4.3/21, Error ellipse: s-maj=16.1km s-min=9.9km az=97.6*
*NEIC **03** 05:36:38.8±0.3, 1987S×17546W, h35km, mb4.4/11, Error ellipse: s-maj=11.7km s-min=6.9km az=151.0*
*IDC **03** 05:36:42.6±3.1, 1994S×17535W, h75km±29km, mb4.1/11, mb1 4.2/14, mb1mx4.1/21, mbtmp4.4/14, MS3.1/2, Ms1 3.1/2, ms1mx2.6/28, Error ellipse: s-maj=27.4km s-min=14.2km az=139.0*

ISC 03 05:36:41.4±1.5, 2006S±008×17540W±008, h59km±14km, n73, σ0$98/45, mb4.3/21, 3D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.03**	**30**	P	**Pn**	**05 38 21.5**	**-0.2**
	2.9nm,0.3s,baz=234,slow=19,SNR=2.6						
AFI				S	**Sn**	**05 39 30.9**	**-9.3**
	5.9nm,0.3s,baz=58,slow=23,SNR=4.2						
RAO	**Raoul Island**	**9.43**	**194**	LR	LR	05 41 02.3	
	comp=Z,108nm,21.6s,baz=24,slow=27						
RAR	**Rarotonga**	**14.68**	**97**	P	**Pn**	**05 40 05.4**	**-0.2**
	1.4nm,0.3s,baz=149,slow=4.3,SNR=4.6						
RAR				S	**Sn**	**05 42 31.4**	**-15**
	1.9nm,0.3s,baz=95,slow=17,SNR=4.9						
RAR				LR	LR	05 44 14.8	
	comp=Z,103nm,21.2s,baz=259,slow=31						
DZM	**Mont Dzumac**	**17.06**	**260**	P	**Pn**	**05 40 43.7**	**+7.8**
	2.8nm,0.3s,baz=76,slow=18,SNR=42						
URZ	**Urewera**	**19.26**	**198**	P	**Pn**	**05 41 02.0**	**-0.6**
	2.4nm,0.3s,baz=2.6,slow=4.5,SNR=14						
TBI	**Tubuai**	**24.31**	**102**	*e*T		06 06 18.4	
	8.9nm,0.3s						
PAE	**Paea**	**24.54**	**89**	*e*T		06 06 17.4	
	13nm,0.2s						
PPT	**Papeete**	**24.56**	**89**	*e*LR	LR	05 47 29.3	
	71nm,28.2s						
RPZ	**Rata Peaks**	**26.17**	**203**	P	**P**	**05 42 12.0**	**+1.8**
	8.8nm,0.6s,mb4.4,baz=26,slow=6.0,SNR=7.2						
CTA	**Charters Tower**	**35.96**	**263**	P	**P**	**05 43 37.8**	**+1.5**
	1.0s,mb5.2,baz=33,slow=10.1,SNR=32						
CTAO	**Charters Tower**	**35.96**	**263**	*e*P	**P**	**05 43 37.6**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.2						
CTAO	**Charters Tower**	**35.96**	**263**	*e*P	**P**	**05 43 37.6**	**+1.2**
	comp=Z,20nm,0.6s,mb5.2						
RKT	**Rikitea**	**37.63**	**102**	*e*T		06 23 04.4	
	comp=Z,4.1nm,0.4s						
STKA	**Stephens Creek**	**40.17**	**244**	P	**P**	**05 44 11.0**	**-0.8**
	comp=Z,2.2nm,0.7s,mb4.0,baz=51,slow=10,SNR=4.2						
ASAR	**Alice Springs**	**46.99**	**256**	P	**P**	**05 45 06.7**	**+0.1**
	comp=Z,5.0nm,0.7s,mb4.6,baz=96,slow=8.1,SNR=41						
ASAR				PcP	PcP	05 46 38.0	0.0
	comp=Z,1.8nm,0.7s,baz=100,slow=3.8,SNR=8.2						
WRAB	**Tennant Creek**	**47.07**	**261**	*e*P	**P**	**05 45 07.2**	**0.0**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**47.07**	**261**	*e*P	**P**	**05 45 07.2**	**+0.1**
	comp=Z,8.9nm,0.8s,mb4.8						
WRA	**Warramunga Ar**	**47.08**	**261**	P	**P**	**05 45 07.3**	**+0.1**
	comp=Z,4.9nm,0.6s,mb4.6,baz=97,slow=8.8,SNR=21						
FITZ	**Fitzroy Crossi**	**55.51**	**261**	P	**P**	**05 46 11.3**	**+1.0**
	comp=Z,2.1nm,0.6s,mb4.3,baz=155,slow=9.3,SNR=13						
QSPA	**South Pole Qui**	**70.01**	**180**	*e*P	**P**	**05 47 46.7**	**0.0**
	comp=Z,2.1nm,0.6s,mb4.2						
MJAR	**Matsushiro Arr**	**71.33**	**322**	P	**P**	**05 47 54.1**	**-0.7**
	comp=Z,2.2nm,0.5s,mb4.3,baz=154,slow=5.9,SNR=9.2						
MAJO	**Matsushiro**	**71.34**	**322**	*e*P	**P**	**05 47 54.6**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
MAJO	**Matsushiro**	**71.34**	**322**	*e*P	**P**	**05 47 54.6**	**-0.2**
	comp=Z,3.8nm,0.5s,mb4.6						
NVAR	**Mina Array Bea**	**79.05**	**42**	P	**P**	**05 48 39.3**	**+0.1**
	comp=Z,1.1nm,0.7s,mb3.9,baz=213,slow=7.3,SNR=7.0						
TPNV	**Topopah Spring**	**79.51**	**44**	*e*P	**P**	**05 48 42.2**	**+0.5**
TPNV				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
TPNV	**Topopah Spring**	**79.51**	**44**	*e*P	**P**	**05 48 42.2**	**+0.5**
	comp=Z,2.0nm,0.9s,mb4.0						
TUC	**Tucson**	**80.80**	**51**	*e*P	**P**	**05 48 49.3**	**+0.7**
TUC				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
TUC	**Tucson**	**80.80**	**51**	*e*P	**P**	**05 48 49.3**	**+0.6**
	comp=Z,1.4nm,0.8s,mb3.9						
WVOR	**Wild Horse Val**	**81.24**	**39**	*e*P	**P**	**05 48 50.7**	**-0.3**
WVOR				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
WVOR	**Wild Horse Val**	**81.24**	**39**	*e*P	**P**	**05 48 50.7**	**-0.3**
	comp=Z,2.5nm,0.9s,mb4.1						
MSU	**Marysvale**	**83.06**	**45**	*e*P	**P**	**05 49 01.7**	**+1.2**
HLID	**Hailey**	**84.42**	**40**	*e*P	**P**	**05 49 07.6**	**+0.2**
	comp=Z,2.4nm,0.9s,mb4.3						
SRU	**San Rafael**	**84.47**	**45**	*e*P	**P**	**05 49 07.9**	**+0.2**
SRU				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.4						
SRU	**San Rafael**	**84.47**	**45**	*e*P	**P**	**05 49 07.9**	**+0.2**
	comp=Z,2.7nm,0.9s,mb4.4						
MNTX	**Cornudas Mount**	**84.52**	**54**	*e*P	**P**	**05 49 08.4**	**+0.5**
	comp=Z,1.9nm,0.9s,mb4.2						
BNM	**Barren Site**	**84.74**	**51**	*e*P	**P**	**05 49 09.8**	**+0.8**
LPM	**Los Pinos Moun**	**84.81**	**51**	*e*P	**P**	**05 49 10.6**	**+1.2**
TCUT	**Toone Canyon**	**84.95**	**43**	*e*P	**P**	**05 49 10.9**	**+0.8**
ANMO	**Albuquerque**	**85.24**	**50**	*e*P	**P**	**05 49 12.4**	**+0.9**
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ANMO	**Albuquerque**	**85.24**	**50**	*e*P	**P**	**05 49 12.4**	**+0.8**
	comp=Z,3.5nm,1.0s,mb4.4						
ILAR	**Eielson Array**	**87.37**	**12**	P	**P**	**05 49 19.6**	**-2.4**
	comp=Z,0.4nm,0.6s,mb3.9,baz=216,slow=4.8,SNR=12						
VNA3	**Neumayer Olymp**	**88.40**	**175**⇓	*i*	**P**	**05 49 26.1**	**-0.8**
VNA3				*e*		05 49 28.6	
VNA2	**Neumayer--Watz**	**88.87**	**176**⇓	*i*	**P**	**05 49 28.8**	**-0.3**
	baz=212,slow=4.0						
VNA2				*e*		05 49 31.2	
VNA1	**Neumayer--Stat**	**89.08**	**176**⇓	*i*	**P**	**05 49 28.0**	**-2.1**
VNA1				*e*		05 49 30.5	

INK	**Inuvik**	**93.23**	**14**	P	**P**		**05 49 47.5**	**-1.9**
	comp=Z,1.4nm,1.0s,mb4.4,baz=212,slow=6.8,SNR=5.4							
INK	**Inuvik**	**93.23**	**14**	P	**P**		**05 49 47.5**	**-1.9**
YKA	**Yellowknife Ar**	**95.11**	**24**	P	**P**		**05 49 55.9**	**-2.0**
	comp=Z,0.4nm,0.7s,mb4.0,baz=240,slow=4.6,SNR=12							
YKA	**Yellowknife Ar**	**95.11**	**24**	P	**P**		**05 49 55.9**	**-2.0**
ARCES	**ARCESS Array B**	**128.91**	**351**	PKP	PKPdf		05 55 39.9	-2.4
	comp=Z,0.9nm,0.5s,baz=359,slow=1.2,SNR=16							
FINES	**FINESS Array B**	**136.00**	**345**	PKP	PKPdf		05 55 55.2	-0.5
	comp=Z,1.1nm,0.7s,baz=108,slow=4.5,SNR=3.0							
FINES	**FINESS Array B**	**136.00**	**345**	PKP	PKPdf		05 55 55.2	-0.5
AKASG	**Malin Array Be**	**143.76**	**333**	PKP	PKPdf		05 56 05.8	-3.9
	comp=Z,0.2nm,0.3s,baz=40,slow=4.1,SNR=8.7							
BSEG	**Bad Segeberg**	**145.90**	**354**	*e*PKPbc	PKPbc		05 56 13.5	-0.7
CLL	**Collm**	**148.12**	**350**	*e*PKPbc	PKPbc		05 56 19.5	-0.9
CLL	**Collm**	**148.12**	**350**	*i* PKPbc	PKPbc		05 56 19.7	-0.7
	comp=Z,8.0nm,0.7s							
CLL				*i* PKPab	PKPab		05 56 22.3	-1.1
	comp=Z,6.0nm,0.8s							
BRTR	**Keskin Array B**	**148.31**	**315**	PKPbc	PKPbc		05 56 19.9	-1.1
	comp=Z,1.5nm,0.8s,baz=154,slow=4.4,SNR=7.2							
BRG	**Berggiesshubel**	**148.38**	**349**	*e*PKPbc	PKPbc		05 56 20.6	-0.5
BRG	**Berggiesshubel**	**148.38**	**349**	*e*(P)	PKPdf		05 56 20.8	+3.2
	comp=Z,3.5nm,1.1s							
BRG	**Berggiesshubel**	**148.38**	**349**	*e*PKP2	PKPab		05 56 20.8	-3.6
BRG				pmax	pmax			
	comp=Z,4.0nm,1.1s							
FBE	**Freiberg**	**148.44**	**349**	*e*PKPbc	PKPbc		05 56 21.1	-0.1
MOX	**Moxa**	**148.98**	**351**	*e*PKPbc	PKPbc		05 56 22.7	+0.1
WERD	**Werda**	**149.07**	**350**	*e*PKPbc	PKPbc		05 56 22.5	-0.3
TANN	**Tannenbergstha**	**149.38**	**350**	*e*PKPbc	PKPbc		05 56 22.3	-0.6
MANZ	**Manzenberg**	**149.55**	**350**	*e*PKPbc	PKPbc		05 56 23.9	-0.1
ROTZ	**Rotzenmuhle**	**149.75**	**350**	*e*PKPbc	PKPbc		05 56 24.4	-0.1
GRA1	**Grafenberg Arr**	**149.97**	**351**	*e*PKPbc	PKPbc		05 56 25.0	-0.1
GRF	**Grafenberg Arr**	**149.97**	**351**	*e*PKPbc	PKPbc		05 56 25.0	-0.1
GEC2	**GERESS Array S**	**150.36**	**348**	*e*PKPbc	PKPbc		05 56 25.6	-0.4
GERES	**GERESS Array B**	**150.36**	**348**	PKPbc	PKPbc		05 56 24.9	-1.1
	comp=Z,1.9nm,0.6s,baz=21,slow=1.9,SNR=16							
BFO	**Black Forest**	**151.64**	**355**	*e*PKPbc	PKPbc		05 56 28.4	-0.6
PDKS	**Podkum**	**152.69**	**344**	*i* PKPbc	PKPbc		05 56 30.6	-0.8
VISS	**Visnje**	**152.97**	**344**	*i* PKPbc	PKPbc		05 56 31.4	-0.6
BOJS	**Bojanci**	**153.14**	**343**	*i* PKPbc	PKPbc		05 56 32.1	-0.3

IDC 03 05:39:43.9±2.0, 167N×12675E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, ML3.3/1, Error ellipse: s-maj=115.9km s-min=25.9km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.68**	**183**	P	Pn	05 44 14.4	-1.4
	0.1nm,0.3s,baz=284,slow=20,SNR=2.0						
WRA	**Warramunga Arr**	**22.73**	**161**	P	P	05 44 46.6	-0.8
	1.9nm,0.6s,baz=340,slow=11,SNR=9.3						
ASAR	**Alice Springs**	**26.13**	**165**	P	P	05 45 20.9	+1.3
	1.2nm,0.4s,baz=350,slow=14,SNR=11						
MKAR	**Makanchi Array**	**59.25**	**326**	P	P	05 49 47.1	0.0
	0.3nm,0.4s,baz=120,slow=9.0,SNR=3.7						

*IDC **03** 05:56:54.6±1.0, 4022S×7839E, h0km, mb4.1/8, mb1 4.2/8, mb1mx4.0/14, mbtmp4.1/8, MS4.4/14, Ms1 4.4/14, ms1mx4.2/20, Error ellipse: s-maj=32.4km s-min=24.9km az=97.0*
*ISCJB **03** 05:56:55.5±0.7, 4035S±01×7866E±02, h10km, mb4.1/9, MS4.4/14, Error ellipse: s-maj=25.3km s-min=13.1km az=70.1*
*NEIC **03** 05:56:55.8±0.7, 4017S×7835E, h10km, mb4.2/1, Error ellipse: s-maj=22.3km s-min=17.1km az=103.0*
*HRVD **03** 05:56:55.8±0.2, 4024S×7818E, h22km±1km, MW5.2/79, Centroid moment Tensor Solution. LP body waves: s44,c60;Mantle waves: s79,c116; Half duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr0.03±.03; Mθθ-0.78±.03; Mφφ0.75±.02; Mrθ-0.06±.04; Mθφ0.02±.02; Mφr0.15±.04; Best double couple: M0 0.78600×10^17 NP1:φs46.00000°, δ79.00000°, λ5.00000°. NP2: φs315.00000°, δ85.00000°, λ169.00000°. Principal axes: T 0.7830, Plg11.0000°, Azm270.0

*ISCJB **03** 06:10:13.4±1.0, 402S±0.1×782E±0.3, h10km, mb4.1/8, MS4.1/6, Error ellipse: s-maj=32.6km s-min=15.2km az=17.6*

*IDC **03** 06:10:13.5±1.0, 4019S×7813E, h0km, mb4.1/7, mb1 4.2/7, mb1mx4.0/14, mbtmp4.1/7, MS4.1/6, Ms1 4.1/6, ms1mx3.6/18, Error ellipse: s-maj=37.6km s-min=23.2km az=98.0*

*NEIC **03** 06:10:15.3±0.6, 4022S×7820E, h10km, mb4.4/1, Error ellipse: s-maj=24.2km s-min=12.4km az=94.0*

*HRVD **03** 06:10:15.4±0.4, 4028S×7829E, h25km±1km, MW5.0/57, Centroid moment Tensor Solution. LP body waves: s13,c17;Mantle waves: s57,c76; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.59±.21; $M_{\theta\theta}$-3.26±.24; $M_{\phi\phi}$2.67±.19; $M_{r\theta}$-0.01±.39; $M_{\theta\phi}$2.25±.14; $M_{\phi r}$~0.75±.37; Best double couple: M_o3.81300×10^{16} NP1:ϕ244.00000°, δ78.00000°, λ8.00000°. NP2: ϕ153.00000°, δ83.00000°, λ168.00000°. Principal axes: T 3.5980, Plg13.0000°, Azm108.0000°; N 0.4330, Plg76.0000°, Azm301.0000°; P -4.0290, Plg3.0000°, Azm199.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 03 06:10:14.7±1.0, 402S±01×781E±03, h10km, n21, σ0§58/11, mb4.1/8, MS4.1/6, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**28.68**	**192**	P	**P**	**06 16 11.6**	**-0.2**
	3.4nm,0.8s,mb4.1,baz=356,slow=15,SNR=2.7						
MAW				LR	LR	06 24 46.4	
	comp=Z,662nm,19.6s,MS4.2,baz=50,slow=30						
CASY	**Casey**	**31.84**	**156**	P	**P**	**06 16 40.0**	**+0.3**
	6.1nm,1.1s,mb4.3						
NWAO	**Narrogin (SRO)**	**32.09**	**89**	LR	LR	06 26 54.9	
	comp=Z,215nm,21.7s,MS3.8,baz=118,slow=31						
PSI	**Prapat**	**46.89**	**29**	P	**P**	**06 18 45.5**	**+0.4**
	1.5nm,0.4s,mb4.3,baz=172,slow=22,SNR=4.4						
ASAR	**Alice Springs**	**49.39**	**88**	P	**P**	**06 19 03.6**	**-0.9**
	0.9nm,0.8s,mb3.8,baz=234,slow=7.2,SNR=7.2						
ASAR				PcP	PcP	06 20 28.2	+1.4
	0.6nm,0.8s,baz=243,slow=3.1,SNR=3.1						
VNDA	**Vanda**	**49.77**	**164**	P	**P**	**06 19 07.8**	**+0.4**
	1.4nm,0.9s,mb4.0,baz=270,slow=8.8,SNR=4.0						
VNDA				LR	LR	06 38 42.6	
	comp=Z,103nm,19.4s,MS3.8,baz=80,slow=34						
VNDA	**Vanda**	**49.77**	**164**	P	**P**	**06 19 07.8**	**+0.4**
VNDA				LR	LR	06 38 42.6	
KULM	**Kulim**	**49.83**	**30**	*e*P	**P**	**06 19 08.8**	**+1.0**
STKA	**Stephens Creek**	**51.08**	**102**	LR	LR	06 36 20.2	
	comp=Z,344nm,18.2s,MS4.4,baz=209,slow=31						
WRA	**Warramunga Arr**	**51.83**	**84**	P	**P**	**06 19 22.9**	**0.0**
	1.3nm,0.9s,mb3.9,baz=236,slow=7.3,SNR=3.7						
KMBO	**Kilima Mbogo**	**53.70**	**306**	LR	LR	06 36 58.1	
	comp=Z,174nm,21.0s,MS4.1,baz=96,slow=30						
MKAR	**Makanchi Array**	**86.71**	**3**	P	**P**	**06 22 58.4**	**-0.4**
	1.7nm,0.8s,mb4.3,baz=167,slow=6.1,SNR=19						
MKAR	**Makanchi Array**	**86.71**	**3**	P	**P**	**06 22 58.4**	**-0.4**
SONM	**Songino Array**	**91.22**	**19**	P	**P**	**06 23 19.3**	**-0.8**
	1.0nm,0.9s,mb4.2,baz=187,slow=5.2,SNR=6.6						
MJAR	**Matsushiro Arr**	**94.27**	**44**	LR	LR	07 02 54.9	
	comp=Z,53nm,18.3s,MS4.0,baz=245,slow=34						
ILAR	**Eielson Array**	**144.43**	**31**	PKP	PKPdf	06 29 52.0	+0.8
	0.4nm,0.9s,baz=282,slow=4.5,SNR=3.4						
RES	**Resolute Bay**	**145.29**	**357**	*e*PKPbc	PKPbc	06 29 52.4	0.0
INK	**Inuvik**	**147.10**	**21**	PKPbc	PKPbc	06 29 55.8	-2.1
	3.1nm,1.0s,baz=289,slow=4.7,SNR=9.8						
INK	**Inuvik**	**147.10**	**21**	*e*PKPbc	PKPbc	06 29 57.0	-0.8
YKA	**Yellowknife Ar**	**156.43**	**15**	PKPab	PKPab	06 30 36.7	-1.5
	0.4nm,0.8s,baz=327,slow=3.6,SNR=5.6						
YKA	**Yellowknife Ar**	**156.43**	**15**	PKPab	PKPab	06 30 36.7	-1.5

*CRAAG **03** 06:12:52.2, 3479N×369E, Ml3.7*

*NEIC **03** 06:12:59.2, 3507N×386E, h0km, MG4.1(MDD), After MDD.*

*ISCJB **03** 06:13:02.1±0.7, 3532N±006×358E±004, h10km, Error ellipse: s-maj=8.1km s-min=4.3km az=6.1*

*MDD **03** 06:13:02.3±1.1, 3517N×367E, h0km, mb4.0/7, Error ellipse: s-maj=15.0km s-min=7.1km az=7.0, PRXIMO*

*CSEM **03** 06:13:02.7±0.1, 3538N×359E, h10km, ML3.7, Error ellipse: s-maj=4.1km s-min=2.3km az=8.0*

ISC 03 06:13:03.1±0.8, 3525N±006×363E±004, h16km±6km, n33, σ0§93/47, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	**Djebel Mahouad**	**1.10**	**330**	P	**Pb**	**06 13 23.9**	**+0.2**
ABA	**Alger-Bouzarea**	**1.63**	**343**	P	**Pg**	**06 13 35.0**	**+0.6**
CKHR	**Kef el Ahmar**	**1.71**	**63**	P	**Pn**	**06 13 33.0**	**+0.8**
SET	**Setif**	**1.73**	**56**	P	**Pn**	**06 13 32.0**	**-0.4**
CMER	**Merouana**	**1.89**	**78**	P	**Pn**	**06 13 33.0**	**-1.6**
ETRT	**Tiaret**	**1.91**	**275**	P	**Pn**	**06 13 36.0**	**+1.0**
EBNR	**Beni Rached**	**2.00**	**302**	P	**Pg**	**06 13 41.0**	**-0.5**
ECHA	**Ech Chlef**	**2.05**	**297**	P	**Pg**	**06 13 42.0**	**-0.5**
EANR	**'Ain N'Sour**	**2.18**	**290**	P	**Pn**	**06 13 38.5**	**-0.1**
DFRA	**Djebel Bou Aff**	**2.24**	**54**	P	**Pg**	**06 13 46.0**	**0.0**
OJGS	**Djebel Guires**	**2.37**	**277**	P	**Pn**	**06 13 42.0**	**+0.8**
CASM	**Ain Smara**	**2.54**	**66**	P	**Pb**	**06 13 48.0**	**-0.2**
OKGL	**Djebel Kef Gue**	**2.56**	**289**	P	**Sn**	**06 14 12.0**	**-2.6**
OJBR	**Djebel Berber**	**2.71**	**278**	P	**Pb**	**06 13 51.0**	**-0.1**
CKFL	**Kef-Lekhel**	**2.76**	**64**	P	**Pn**	**06 13 48.0**	**+1.4**
CAEH	**'Ain El Ouahch**	**3.02**	**59**	P	**Pn**	**06 13 47.0**	**-3.3**
ODJA	**Bouhanifia**	**3.10**	**273**	P	**Pg**	**06 14 02.0**	**-0.4**
EIBI	**Ibiza**	**4.19**	**335**	P	**Pn**	**06 14 06.6**	**+0.3**
	6.3nm,0.3s,SNR=8.5						
EIBI				S	**Sn**	**06 14 55.3**	**+0.4**
	121nm,1.3s						
EIBI	**Ibiza**	**4.19**	**335**	P	**Pn**	**06 14 06.6**	**+0.3**
	6.3nm,0.3s,SNR=8.5						
EIBI				S	**Sn**	**06 14 55.3**	**+0.3**
	121nm,1.3s						
ETOS	**Mallorca**	**4.56**	**352**	P	**Pn**	**06 14 13.7**	**+2.3**
	3.4nm,0.3s,SNR=7.9						
ETOS				S	**Sn**	**06 15 04.1**	**+0.1**
	56nm,1.3s,SNR=7.9						
ETOS	**Mallorca**	**4.56**	**352**	P	**Pn**	**06 14 10.6**	**-0.8**
ETOS				S	**Sn**	**06 15 04.1**	**+0.1**
ETOS	**Mallorca**	**4.56**	**352**	P	**Pn**	**06 14 10.6**	**-0.8**
	3.4nm,0.3s,SNR=7.9						
ETOS				S	**Sn**	**06 15 04.1**	**+0.1**
	56nm,1.3s,SNR=7.9						
EBEN	**Beniarda**	**4.63**	**319**	P	**Pn**	**06 14 12.8**	**+0.5**
	3.9nm,0.5s,SNR=4.0						
EBEN				S	**Sn**	**06 15 06.1**	**+0.4**
	0.5nm,0.6s,SNR=7.9						
EBEN	**Beniarda**	**4.63**	**319**	P	**Pn**	**06 14 12.8**	**+0.5**
	3.9nm,0.5s,SNR=4.0						
EBEN				S	**Sn**	**06 15 06.1**	**+0.4**
	SNR=7.9						
EMUR	**La Murta**	**4.70**	**305**	S	**Sn**	**06 15 07.0**	**-0.5**
	7.3nm,1.0s,SNR=7.9						
ETOB	**Tobarra**	**5.36**	**311**	P	**Pn**	**06 14 21.9**	**-0.4**
	1.5nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**06 15 24.6**	**+0.9**
	165nm,2.0s,SNR=7.9						
ETOB	**Tobarra**	**5.36**	**311**	P	**Pn**	**06 14 21.9**	**-0.4**
ETOB				S	**Sn**	**06 15 25.7**	**+2.0**
ETOB	**Tobarra**	**5.36**	**311**	P	**Pn**	**06 14 21.9**	**-0.4**
	1.5nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**06 15 25.7**	**+2.0**
	165nm,2.0s,SNR=7.9						
EQES	**Quesada**	**5.97**	**297**	P	**Pn**	**06 14 30.8**	**+0.1**
	6.2nm,0.4s,SNR=7.0						
EQES				S	**Sn**	**06 15 38.6**	**-0.1**
	99nm,1.7s,SNR=7.9						
EQES	**Quesada**	**5.97**	**297**	P	**Pn**	**06 14 30.8**	**+0.1**
	6.2nm,0.4s,SNR=7.0						
EQES				S	**Sn**	**06 15 38.6**	**-0.2**
	99nm,1.7s,SNR=7.9						
EQUE	**Quentar**	**6.04**	**291**	P	**Pn**	**06 14 32.2**	**+0.4**
	1.1nm,0.3s,SNR=4.0						
EMIR	**Miracle**	**6.86**	**347**	P	**Pn**	**06 14 43.9**	**+1.0**
	1.2nm,0.3s,SNR=5.1						
EMIR				S	**Sn**	**06 15 58.3**	**-2.3**
	119nm,1.9s,SNR=7.9						
EMIR	**Miracle**	**6.86**	**347**	P	**Pn**	**06 14 43.9**	**+0.9**
	1.2nm,0.3s,SNR=5.1						
EMIR				S	**Sn**	**06 15 58.3**	**-2.4**
	119nm,1.9s,SNR=7.9						

*ISCJB **03** 06:16:37.9±0.5, 4592N±003×223E±005, h9km±8km, Error ellipse: s-maj=6.8km s-min=3.7km az=65.9*

*LDG **03** 06:16:39.0±0.1, 4592N×221E, h3km, Md2.1/2, Ml2.1/5, Error ellipse: s-maj=1.3km s-min=0.7km az=124.0*

*STR **03** 06:16:40.1±0.5, 4591N×229E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 03 06:16:38.5±0.5, 4592N±003×221E±005, h13km±7km, n14, σ0§39/23, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCF	**Toulx Ste Croi**	**0.37**	**360**	*e*Pg	**Pg**	**06 16 46.3**	**+0.3**
TCF				*e*Sg	**Sg**	**06 16 51.4**	**+0.4**
	14nm,0.2s						
PYM	**Petit Puy Mans**	**0.58**	**107**	Pg	**Pg**	**06 16 49.8**	**-0.1**
AGO	**Saint Agoulin**	**0.65**	**78**	Pg	**Pg**	**06 16 52.0**	**+0.7**
AGO				Sg	**Sg**	**06 17 00.2**	**+0.3**
BGF	**Bois d'Agland**	**0.78**	**34**	*e*Pg	**Pg**	**06 16 53.7**	**+0.1**
BGF				*e*Sg	**Sg**	**06 17 04.4**	**+0.6**
	5.2nm,0.2s						
RJF	**Les Rejaudoux**	**0.79**	**219**	*e*Pg	**Pg**	**06 16 53.6**	**-0.2**
RJF	**Les Rejaudoux**	**0.79**	**219**	*e*Pn	**Pn**	**06 16 55.3**	**0.0**
RJF				*e*Sg	**Sg**	**06 17 03.9**	**-0.2**
RJF				*e*Sn	**Sn**	**06 17 07.0**	**+0.1**
	8.2nm,0.3s						
PLDF	**La Plantade**	**0.98**	**87**	Pg	**Pg**	**06 16 57.9**	**+0.4**
PLDF				Sg	**Sg**	**06 17 10.5**	**+0.1**
CAF	**Calviac**	**1.00**	**186**	*e*Pg	**Pg**	**06 16 57.7**	**-0.1**
CAF	**Calviac**	**1.00**	**186**	*e*Pn	**Pn**	**06 16 58.4**	**+0.2**
CAF				*e*Sg	**Sg**	**06 17 10.6**	**-0.3**
	5.1nm,0.2s						
LBL	**Lubilhac**	**1.00**	**133**	Pg	**Pg**	**06 16 58.1**	**+0.3**
AVF	**Avril sur Loir**	**1.18**	**42**	*e*Pg	**Pg**	**06 17 00.9**	**-0.3**
AVF				*e*Sg	**Sg**	**06 17 16.3**	**-0.2**
	2.0nm,0.2s						
SMF	**Signal de Mont**	**1.34**	**57**	*e*Pg	**Pg**	**06 17 03.4**	**-1.0**
SMF				*e*Sg	**Sg**	**06 17 21.7**	**-0.1**
	3.5nm,0.2s						
SSF	**Saint Saulge**	**1.45**	**38**	*e*Sg	**Sg**	**06 17 24.7**	**-0.6**
	1.8nm,0.3s						
LOR	**Lormes**	**1.76**	**39**	*e*Sg	**Sg**	**06 17 34.6**	**-0.7**
	2.1nm,0.3s						

*NEIC **03** 06:40:43.4, 2720S×7123W, h17km, ML4.0(GUC), After GUC.*

GUC 03 06:40:43.4±0.6, 2720S×7123W, h17km±5km, MD4.0, ML4.0, 3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.38**	**71**	⇓*i*P	Pg	06 40 51.3	+0.1
CDCH				*i* S	Sg	06 40 56.9	+0.4
CPCH	**Copiapo**	**0.80**	**102**	⇓*i*P	Pb	06 40 58.1	-0.7
CPCH				*i* S	Sb	06 41 09.0	-0.4
CPCH				AML	AML	06 41 11.1	
	comp=E,16μm,0.1s						
CPCH	**Copiapo**	**0.80**	**102**	⇓*i*P	Pb	06 40 58.1	-0.7
CPCH				*i* S	Sb	06 41 09.0	-0.4
CRCH	**Chaqaral**	**1.01**	**33**	*e*P	Pb	06 41 01.3	-1.1
CRCH				*i* S	Sb	06 41 14.4	-1.1
LCO	**Las Campanas**	**1.86**	**166**	*e*P	Pn	06 41 15.4	+0.9
LCO				*i* S	Sn	06 41 39.5	+1.8
CPN1	**Cerro Paranal**	**2.67**	**16**	*e*P	Pn	06 41 23.9	-1.7
CPN1				*i* S	Sn	06 41 53.5	-4.1
CPN1				AML	AML	06 42 08.9	
	comp=E,396nm,0.5s						
TLL	**Tololo Astrono**	**2.98**	**173**	*e*P	Pn	06 41 31.5	+1.5
TLL				*i* S	Sn	06 42 08.2	+3.0
TLL				AML	AML	06 42 25.8	
	comp=N,693nm,0.6s						
TLL	**Tololo Astrono**	**2.98**	**173**	*e*P	Pn	06 41 31.5	+1.5
TLL				*i* S	Sn	06 42 08.2	+3.0
CMCH	**Combarbala**	**3.97**	**177**	*e*P	Pn	06 41 43.9	+0.5
FCH	**Farellones**	**6.16**	**173**	*e*P	Pn	06 42 12.3	-1.3

*NEIC **03** 06:45:38.1, 4504S×16740E, h125km, MG4.0(WEL), After WEL.*

WEL 03 06:45:40.2±0.3, 4511S×16749E, h116km±2km, ML3.7/10, 5C-1D, Error ellipse: s-maj=2.4km s-min=1.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.44**	**213**	⇓PN	Pn	06 45 56.8	-0.6
DCZ				SN	Sn	06 46 09.9	-0.5
DCZ	**Deep Cove**	**0.44**	**213**	P	Pn	06 45 55.8	-1.6
DCZ				S	Sn	06 46 08.9	-1.4
MSZ	**Milford Sound**	**0.53**	**35**	PN	Pn	06 45 58.0	+0.1
MSZ				SN	Sn	06 46 11.0	-0.3
MSZ	**Milford Sound**	**0.53**	**35**	P	Pn	06 45 57.0	-1.0
MSZ				S	Sn	06 46 10.0	-1.3
MLZ	**Mavora Lakes**	**0.54**	**117**	⇑PN	Pn	06 45 57.8	-0.1
MLZ				SN	Sn	06 46 11.0	-0.4
MLZ	**Mavora Lakes**	**0.54**	**117**	P	Pn	06 45 57.8	-0.2
WHZ	**Wether Hill Ro**	**0.85**	**158**	PN	Pn	06 46 00.4	0.0
WHZ				SN	Sn	06 46 15.3	-0.4
WHZ	**Wether Hill Ro**	**0.85**	**158**	P	Pn	06 46 00.4	-0.1
WKZ	**Wanaka**	**1.12**	**76**	⇑PN	Pn	06 46 03.2	+0.1
WKZ				SN	Sn	06 46 20.0	-0.5
WKZ	**Wanaka**	**1.12**	**76**	P	Pn	06 46 02.2	-0.9
EAZ	**Earnscleugh**	**1.29**	**96**	⇑PN	Pn	06 46 04.8	-0.2
EAZ				SN	Sn	06 46 22.3	-1.5
EAZ	**Earnscleugh**	**1.29**	**96**	P	Pn	06 46 03.8	-1.2
JCZ	**Jackson Bay**	**1.37**	**42**	⇑PN	Pn	06 46 05.8	-0.1
JCZ				SN	Sn	06 46 24.4	-1.0
JCZ	**Jackson Bay**	**1.37**	**42**	P	Pn	06 46 04.8	-1.1
TUZ	**Tuapeka**	**1.73**	**120**	⇑PN	Pn	06 46 09.9	-0.2
TUZ				SN	Sn	06 46 30.2	-2.6
TUZ	**Tuapeka**	**1.73**	**120**	P	Pn	06 46 09.9	-0.2
LBZ	**Lake Benmore**	**2.05**	**70**	PN	Pn	06 46 12.5	-1.5
LBZ				SN	Sn	06 46 36.7	-3.3
LBZ	**Lake Benmore**	**2.05**	**70**	P	Pn	06 46 11.5	-2.6
FOZ	**Fox Glacier**	**2.20**	**46**	PN	Pn	06 46 15.2	-0.8
FOZ				SN	Sn	06 46 42.4	-1.1
FOZ	**Fox Glacier**	**2.20**	**46**	*e*P	Pn	06 46 14.2	-1.8
ODZ	**Otahua Downs**	**2.23**	**89**	PN	Pn	06 46 15.2	-1.2
ODZ	**Otahua Downs**	**2.23**	**89**	P	Pn	06 46 15.2	-1.2
ODZ				S	Sn	06 46 41.3	-2.8
HHSZ	**Highcliff Hill**	**2.32**	**111**	PN	Pn	06 46 17.0	-0.5
RPZ	**Rata Peaks**	**2.91**	**63**	PN	Pn	06 46 23.0	-2.1
RPZ	**Rata Peaks**	**2.91**	**63**	P	Pn	06 46 23.0	-2.1
WVZ	**Waitaha Valley**	**3.10**	**50**	PN	Pn	06 46 25.1	-2.5
WVZ	**Waitaha Valley**	**3.10**	**50**	*e*P	Pn	06 46 25.1	-2.5
MQZ	**McQueen's Vall**	**3.95**	**71**	PN	Pn	06 46 37.0	-1.9
MQZ	**McQueen's Vall**	**3.95**	**71**	*e*P	Pn	06 46 37.0	-2.0
LTZ	**Lake Taylor**	**4.16**	**58**	P	Pn	06 46 40.8	-1.0
DSZ	**Dennistoun Nort**	**4.60**	**45**	*e*P	Pn	06 46 45.0	-2.6
THZ	**Tophouse**	**5.17**	**52**	*e*P	Pn	06 46 52.4	-2.9
QRZ	**Quartz Range**	**5.65**	**43**	*e*P	Pn	06 47 00.1	-1.8
CAW	**Cannon Point**	**6.83**	**57**	P	Pn	06 47 14.2	-3.6

*ISCJB **03** 06:48:48.7±0.3, 3672N±003×13949E±005, h126km±2km, mb3.7/11, Error ellipse: s-maj=7.2km s-min=4.5km az=23.6*

*IDC **03** 06:48:49.9±0.8, 3673N×13949E, h120km±7km, mb3.4/11, mb1 3.6/14, mb1mx3.6/23, mbtmp4.0/14, Error ellipse: s-maj=16.5km s-min=9.6km az=76.0*

*MOS **03** 06:48:49.4±0.9, 3684N×13940E, h130km, mb3.8/3, Error ellipse: s-maj=21.5km s-min=13.7km az=89.3*

*NEIC **03** 06:48:50.1, 3668N×13951E, h116km±1km, MG3.6(JMA), After JMA.*

*JMA **03** 06:48:50.1±0.1, 3668N×13951E, h115km±1km, M3.5 JMA Felt I J1.*

*NIED **03** 06:49:00, 3670N×13960E, h135km, Mw3.9 Best double couple: M_o8.29000×10^{14} NP1:ϕ50.00000°, δ82.00000°, λ117.00000°. NP2:ϕ156.00000°, δ28.00000°, λ18.00000°.*

ISC 03 06:48:49.8±0.3, 3672N±003×13948E±005, h121km±2km, n39, σ0§55/57, mb3.7/11, 1D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKT	**Katashina**	**0.20**	**285**	P	**Pn**	**06 49 06.4**	**-0.1**
JKT				S	**Sn**	**06 49 18.4**	**-0.7**
JAG	**Ashikaga**	**0.29**	**185**	P	**Pn**	**06 49 06.5**	**-0.3**
JHK	**Hiroka**	**0.65**	**325**	P	**Pn**	**06 49 08.7**	**-0.1**
JHK				S	**Sn**	**06 49 22.9**	**-0.3**
JFY	**Yanaizu**	**0.71**	**14**	P	**Pn**	**06 49 09.5**	**+0.2**
JFY				S	**Sn**	**06 49 23.8**	**-0.3**
JRY	**Ryogami san**	**0.84**	**214**	P	**Pn**	**06 49 10.7**	**+0.3**
JRY				S	**Sn**	**06 49 26.0**	**0.0**
MJAR	**Matsushiro Arr**	**1.04**	**261**	P	**Pn**	**06 49 12.3**	**0.0**
	43nm,0.3s,baz=69,slow=8.3,SNR=669						
MJAR				S	**Sn**	**06 49 29.4**	**+0.1**
	17nm,0.3s,baz=80,slow=14,SNR=18						
MAJO	**Matsushiro**	**1.04**	**261**	⇓*i*P	**Pn**	**06 49 12.7**	**+0.4**
MAT	**Matsushiro**	**1.04**	**261**	P	**Pn**	**06 49 12.6**	**+0.3**
MAT				S	**Sn**	**06 49 29.6**	**+0.3**
MAT	**Matsushiro**	**1.04**	**261**	*e*P	**Pn**	**06 49 13.0**	**+0.7**
MAT				*e*S	**Sn**	**06 49 30.0**	**+0.7**
JFT	**Otama**	**1.05**	**40**	P	**Pn**	**06 49 13.0**	**+0.6**
JFT				S	**Sn**	**06 49 30.3**	**+0.8**
JNS	**Sasagawa**	**1.11**	**353**	P	**Pn**	**06 49 13.2**	**+0.2**
JNS				S	**Sn**	**06 49 30.6**	**+0.1**
JYN	**Shimob**	**1.44**	**212**	P	**Pn**	**06 49 17.1**	**+0.6**
JOD2	**Odawara 2**	**1.49**	**193**	P	**Pn**	**06 49 16.5**	**-0.6**
JOD2				S	**Sn**	**06 49 36.7**	**-1.2**
JMM	**Marumori**	**1.55**	**42**	P	**Pn**	**06 49 18.4**	**+0.6**
JMM				S	**Sn**	**06 49 39.6**	**+0.4**
JSD	**Sado**	**1.64**	**324**	P	**Pn**	**06 49 18.8**	**-0.1**
JSD				S	**Sn**	**06 49 40.6**	**-0.5**
JAW	**Awa shima**	**1.75**	**354**	P	**Pn**	**06 49 20.6**	**+0.4**
JAW				S	**Sn**	**06 49 43.8**	**+0.5**
JSZ	**Suzu**	**1.85**	**294**	P	**Pn**	**06 49 21.6**	**+0.2**
JSZ				S	**Sn**	**06 49 45.9**	**+0.4**
JIM2	**Oshima 3**	**2.00**	**181**	P	**Pn**	**06 49 22.5**	**-0.7**
JHJ	**Hachijo jima 2**	**3.60**	**176**	P	**Pn**	**06 49 44.1**	**+0.2**
	142nm,0.3s,baz=246,slow=23,SNR=14						
JHJ				S	**Sn**	**06 50 26.2**	**+0.4**
	75nm,0.3s,baz=82,slow=23,SNR=3.1						
ASAJ	**Asahikawa**	**7.76**	**17**	P	**Pn**	**06 50 38.8**	**-1.3**
	1.3nm,0.3s,baz=206,slow=13,SNR=4.4						
ASAJ				S	**Sn**	**06 52 04.7**	**-1.5**
	0.7nm,0.3s,baz=100,slow=26,SNR=3.1						
ASAJ	**Asahikawa**	**7.76**	**17**	P	**Pn**	**06 50 38.8**	**-1.2**
ASAJ				S	**Sn**	**06 52 04.7**	**-1.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
CBIJ	**Chichi jima**	**9.86**	**166**	P	**Pn**	**06 51 08.0**	**-0.4**
	comp=N,5.9nm,0.3s,baz=285,slow=20,SNR=3.5						
CBIJ				S	**Sn**	**06 52 47.0**	**-10**
	comp=N,5.6nm,0.3s,baz=259,slow=22,SNR=2.9						
SONM	**Songino Array**	**26.69**	**305**	P	**P**	**06 54 16.1**	**-1.3**
	comp=N,1.0nm,0.6s,mb3.5,baz=106,slow=8.5,SNR=5.7						
ZAL	**Zalesovo**	**41.00**	**313**	P	**P**	**06 56 20.9**	**+0.1**
	comp=N,1.8nm,0.3s,mb4.3,baz=66,slow=3.5,SNR=3.5						
ZAL	**Zalesovo**	**41.00**	**313**	P	**P**	**06 56 20.9**	**+0.1**
MKAR	**Makanchi Array**	**42.98**	**302**	P	**P**	**06 56 37.4**	**+0.6**
	comp=N,1.1nm,0.6s,mb3.8,baz=86,slow=9.7,SNR=15						
ILAR	**Eielson Array**	**50.59**	**32**	P	**P**	**06 57 36.8**	**+0.7**
	comp=N,1.1nm,1.0s,mb3.9,baz=161,slow=6.0,SNR=9.2						
WRA	**Warramunga Arr**	**56.56**	**186**	P	**P**	**06 58 20.0**	**+0.4**
	comp=N,1.2nm,0.5s,mb4.2,baz=1.0,slow=7.5,SNR=28						
WRA	**Warramunga Arr**	**56.56**	**186**	P	**P**	**06 58 20.0**	**+0.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**60.29**	**186**	P	**P**	**06 58 45.9**	**+0.4**
	comp=Z,0.6nm,0.7s,mb3.7,baz=13,slow=5.4,SNR=7.4						
ASAR	**Alice Springs**	**60.29**	**186**	P	**P**	**06 58 45.9**	**+0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**63.74**	**339**	P	**P**	**06 59 08.4**	**-0.2**
	comp=Z,0.4nm,0.4s,mb3.6,baz=56,slow=7.9,SNR=11						
YKA	**Yellowknife Ar**	**64.85**	**30**	P	**P**	**06 59 16.0**	**+0.2**
	comp=Z,0.1nm,0.4s,mb3.0,baz=306,slow=4.5,SNR=12						
YKA	**Yellowknife Ar**	**64.85**	**30**	P	**P**	**06 59 16.0**	**+0.2**
FINES	**FINESS Array B**	**68.37**	**332**	P	**P**	**06 59 37.6**	**-0.5**
	comp=Z,0.3nm,0.4s,mb3.5,baz=48,slow=2.8,SNR=4.3						
AKASG	**Malin Array Be**	**73.59**	**322**	P	**P**	**07 00 09.7**	**0.0**
	comp=Z,0.4nm,0.4s,mb3.5,baz=50,slow=5.4,SNR=4.6						
NB2	**NORSAR Subarra**	**73.87**	**337**	P	**P**	**07 00 11.7**	**+0.4**
	comp=Z,0.9nm,0.6s,mb3.7,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**73.87**	**337**	P	**P**	**07 00 11.2**	**-0.1**
	comp=Z,0.8nm,0.6s,mb3.6,baz=39,slow=6.0,SNR=5.3						
NOA	**NORSAR Array B**	**73.87**	**337**	P	**P**	**07 00 11.2**	**-0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						

ISC 03 06:52:57.4±0.7, 3952N±004×3442E±006, h10km, n6, σ1§45/11, Turkey

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

Error ellipse: s-maj=38.8km s-min=16.6km az=2.0
*BJI **03** 07:40:24.8, 1763S×16875E, h111km, mB5.3, mb5.2*
*ISCJB **03** 07:40:25.7±0.2, 1793S±003×16840E±004, h118km, mb5.1/87, Error ellipse: s-maj=5.4km s-min=4.5km az=46.8*
*NEIC **03** 07:40:27.4±0.2, 1796S×16850E, mb5.1/52, Error ellipse: s-maj=9.2km s-min=6.3km az=147.0*
NEIC Felt at Port-Vila.
*HRVD **03** 07:40:27.4±0.1, 1798S×16838E, h128km, MW5.4/94, Centroid moment Tensor Solution. LP body waves: s84,c152;Mantle waves: s94,c179; Half duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.98±.02; $M_{\theta\theta}$0.93±.03; $M_{\phi\phi}$0.05±.03; $M_{r\theta}$-0.75±.02; $M_{\theta\phi}$0.63±.02; $M_{\phi r}$-0.79±.02; Best double couple: M0 1.57000×10^{17} NP1:ϕ_s261.00000°, δ26.00000°, λ-59.00000°. NP2: ϕ_s48.00000°, δ68.00000°, λ-104.00000°. Principal axes: T 1.6670, Plg22.0000°, Azm148.0000°; N -0.1940, Plg13.0000°, Azm53.0000°; P -1.4730, Plg64.0000°, Azm294.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **03** 07:40:27.3±0.8, 1796S×16842E, h122km, 6km, mb4.7/17, mb1 4.7/19, mb1mx4.7/20, mbtmp5.0/19, MS4.1/15, Ms1 4.1/15, ms1mx3.9/29 Error ellipse: s-maj=11.3km s-min=8.7km az=95.0*
*MOS **03** 07:40:28.3±1.1, 1784S×16839E, h138km, mb5.3/32, MS4.5/6, Error ellipse: s-maj=9.6km s-min=9.0km az=87.6*

ISC 03 07:40:27.4±0.2, 1797S±003×16849E±004, h120km, h120km±1.5km; pP-P, n375, σ0≈91/197, mb5.1/86, 5C-24D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**0.38**	**322**	⇑*i*P	**Pn**	**07 40 44.8**	**+0.1**
DZM	**Mont Dzumac**	**4.51**	**205**	P	**Pn**	**07 41 33.6**	**-0.2**
	78nm,0.3s,baz=58,slow=18,SNR=272						
DZM				S	**Sn**	**07 42 23.9**	**-1.4**
	184nm,0.3s,baz=151,slow=24,SNR=19						
DZM				LR	LR	07 42 36.7	
	comp=Z,2μm,18.6s,baz=54,slow=29						
HNR	**Honiara**	**11.86**	**315**	P	**Pn**	**07 43 15.5**	**+2.8**
	46nm,0.3s,baz=208,slow=0.5,SNR=26						
HNR				S	**Sn**	**07 45 25.3**	**+2.0**
	13nm,0.3s,baz=94,slow=10,SNR=1.9						
HNR	**Honiara**	**11.86**	**315**	P	**Pn**	**07 43 15.5**	**+2.8**
HNR				S	**Sn**	**07 45 25.3**	**+2.0**
HNR				pmax	pmax		
	comp=Z,46nm,0.3s						
HNR				smax			
	comp=N,13nm,0.3s						
HNR	**Honiara**	**11.86**	**315**	*e*Pn	**Pn**	**07 43 14.6**	**+2.0**
	comp=N,1μm,1.3s						
HNR				*e*Sn	**Sn**	**07 45 21.0**	**-2.3**
AFI	**Afiamalu**	**19.40**	**81**	P	**P**	**07 44 44.6**	**+0.6**
	comp=N,1.2nm,0.3s,baz=222,slow=11,SNR=5.7						
AFI	**Afiamalu**	**19.40**	**81**	P	**P**	**07 44 44.6**	**+0.6**
AFI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AFI	**Afiamalu**	**19.40**	**81**	*e*P	**P**	**07 44 44.0**	**+0.1**
	comp=Z,76nm,1.3s						
ARMA	**Armidale**	**19.72**	**228**	*e*P	**P**	**07 44 49.8**	**+2.3**
ARMA				*e*S	**S**	**07 48 37.0**	**+14**
CTA	**Charters Tower**	**21.13**	**261**	⇓*i*P	**P**	**07 45 03.5**	**+0.9**
	comp=Z,59nm,1.3s,mb4.8						
CTA				*e*S	**S**	**07 49 03.5**	**+13**
CTA	**Charters Tower**	**21.13**	**261**	P	**P**	**07 45 03.6**	**+1.0**
	comp=Z,38nm,0.7s,mb4.8,baz=85,slow=11,SNR=32						
CTA				LR	LR	07 52 14.7	
	comp=Z,763nm,18.9s,baz=80,slow=34						
CTA	**Charters Tower**	**21.13**	**261**	⇓*i*P	**P**	**07 45 03.5**	**+0.9**
CTA				*e*S	**S**	**07 49 03.5**	**+13**
CTA				pmax	pmax		
	comp=Z,59nm,1.3s						
CTAO	**Charters Tower**	**21.13**	**261**	*e*P	**P**	**07 45 03.7**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,182nm,1.3s,mb5.2						
CTAO	**Charters Tower**	**21.13**	**261**	*e*P	**P**	**07 45 03.7**	**+1.2**
	comp=Z,182nm,1.3s,mb5.2						
URZ	**Urewera**	**21.58**	**161**	P	**P**	**07 45 08.2**	**+0.8**
	comp=Z,66nm,0.9s,mb4.9,baz=50,slow=4.3,SNR=32						
URZ				S	**S**	**07 49 01.9**	**+2.4**
	comp=Z,6.7nm,0.9s,baz=278,slow=11,SNR=6.7						
URZ	**Urewera**	**21.58**	**161**	PN	**P**	**07 45 08.4**	**+1.1**
MWZ	**Matawai**	**21.78**	**161**	PN	**P**	**07 45 10.6**	**+1.2**
VRZ	**Vera Road**	**21.78**	**167**	PN	**P**	**07 45 11.4**	**+1.9**
BKZ	**Black Stump Fm**	**22.24**	**163**	PN	**P**	**07 45 15.0**	**+0.6**
PMG	**Port Moresby**	**22.38**	**290**	P	**P**	**07 45 17.0**	**+1.2**
	comp=Z,113nm,0.9s,mb5.2,baz=103,slow=7.6,SNR=42						
PMG	**Port Moresby**	**22.38**	**290**	*e*P	**P**	**07 45 16.9**	**+1.0**
PMG				pmax	pmax		
	comp=Z,343nm,1.3s						
PMG	**Port Moresby**	**22.38**	**290**	*e*P	**P**	**07 45 16.9**	**+1.0**
	comp=Z,343nm,1.3s,mb5.5						
QRZ	**Quartz Range**	**23.05**	**172**	PN	**P**	**07 45 23.3**	**+1.1**
NNZ	**Nelson**	**23.55**	**171**	PN	**P**	**07 45 27.0**	**+0.2**
CNB	**Canberra Magne**	**24.23**	**221**	*e*P	**P**	**07 45 34.3**	**+1.3**
	comp=Z,83nm,1.0s,mb5.0						
CNB				*e*		07 46 13.8	
KHZ	**Kahutara**	**24.75**	**171**	PN	**P**	**07 45 36.8**	**-0.9**
WVZ	**Waitaha Valley**	**25.10**	**176**	*e*PN	**P**	**07 45 40.8**	**-0.1**
RPZ	**Rata Peaks**	**25.76**	**176**	P	**P**	**07 45 46.3**	**-0.5**
	comp=Z,39nm,0.8s,mb4.9,baz=279,slow=0.6,SNR=21						
RPZ				LR	LR	07 53 54.0	
	comp=Z,666nm,21.9s,baz=97,slow=31						
STKA	**Stephens Creek**	**27.95**	**235**	⇓*i*P	**P**	**07 46 05.5**	**-1.0**
	comp=Z,41nm,0.9s,mb5.0						
STKA	**Stephens Creek**	**27.95**	**235**	P	**P**	**07 46 05.7**	**-0.8**
	comp=Z,42nm,0.8s,mb5.0,baz=60,slow=7.4,SNR=47						
STKA				ScP	ScP	07 52 46.6	-1.9
	comp=Z,3.1nm,0.9s,baz=218,slow=19,SNR=3.4						
STKA				LR	LR	07 56 13.6	
	comp=Z,58nm,19.6s,baz=224,slow=34						
RAR	**Rarotonga**	**30.05**	**101**	LR	LR	07 55 20.0	
	comp=Z,700nm,18.6s,baz=221,slow=30						
WB2	**Warramunga Arr**	**32.32**	**261**	⇓*i*P	**P**	**07 46 44.5**	**-0.5**
WB2				*e*		07 47 27.2	
WB2				*i* S	**S**	**07 51 47.3**	**-2.6**
WRAB	**Tennant Creek**	**32.32**	**261**	P	**P**	**07 46 44.0**	**-1.0**
	comp=Z,534nm,1.1s,SNR=27						
WRAB	**Tennant Creek**	**32.32**	**261**	*e*P	**P**	**07 46 44.4**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,131nm,1.0s,mb5.6						
WRAB	**Tennant Creek**	**32.32**	**261**	*e*P	**P**	**07 46 44.4**	**-0.6**
	comp=Z,131nm,1.0s,mb5.6						
WRA	**Warramunga Arr**	**32.33**	**261**	P	**P**	**07 46 44.3**	**-0.8**
	comp=Z,26nm,0.7s,mb5.1,baz=79,slow=6.2,SNR=171						
WRA				S	**S**	**07 51 47.4**	**-2.6**
	comp=Z,3.9nm,1.2s,baz=94,slow=13,SNR=3.9						
WRA				ScP	ScP	07 53 03.1	+0.3
	comp=Z,2.7nm,1.0s,baz=76,slow=3.1,SNR=6.1						
WRA	**Warramunga Arr**	**32.33**	**261**	P	**P**	**07 46 44.3**	**-0.8**
WRA				S	**S**	**07 51 47.4**	**-2.7**
ASAR	**Alice Springs**	**32.77**	**254**	P	**P**	**07 46 49.0**	**0.0**
	comp=Z,81nm,0.7s,mb5.7,baz=82,slow=8.8,SNR=483						
ASAR				ScP	ScP	07 53 04.9	+0.6
	comp=Z,1.1nm,0.7s,baz=79,slow=3.9,SNR=4.6						
KAKA	**Kakadu**	**35.12**	**273**	*e*P	**P**	**07 47 09.2**	**0.0**
	comp=Z,45nm,1.4s,mb5.1						
FORT	**Forrest**	**38.77**	**243**	⇓*i*P	**P**	**07 47 40.3**	**+0.2**
	comp=Z,39nm,0.7s,mb5.3						
TBI	**Tubuai**	**39.61**	**105**	*e*LR	LR	07 58 48.9	
	comp=Z,693nm,33.0s						
PPT	**Papeete**	**39.88**	**96**	*e*LR	LR	07 58 53.6	
	comp=Z,1μm,33.0s						
FITZ	**Fitzroy Crossi**	**40.68**	**263**	⇓*i*P	**P**	**07 47 56.1**	**+0.2**
	comp=Z,304nm,0.9s,mb6.1						
MBWA	**Marble Bar**	**45.92**	**258**	*e*P	**P**	**07 48 38.4**	**+0.4**
	comp=Z,174nm,1.0s,mb5.7						
KLBR	**Kellerberrin**	**47.63**	**243**	*e*P	**P**	**07 48 50.5**	**-0.8**
	comp=Z,62nm,0.9s,mb5.4						
NWAO	**Narrogin (SRO)**	**48.17**	**242**	LR	LR	08 09 22.9	
	comp=Z,244nm,20.8s,baz=88,slow=36						
NWAO	**Narrogin (SRO)**	**48.17**	**242**	*e*P	**P**	**07 48 54.7**	**-0.8**
NWAO				pmax	pmax		
	comp=Z,22nm,0.6s						
NWAO	**Narrogin (SRO)**	**48.17**	**242**	*e*P	**P**	**07 48 54.7**	**-0.8**
	comp=Z,22nm,0.6s,mb5.2						
MUN	**Mundaring**	**48.97**	**243**	*e*P	**P**	**07 49 01.2**	**-0.4**
TAOE	**Nuku Hiva Isla**	**50.64**	**87**	*e*LR	LR	08 03 57.2	
	comp=Z,2μm,29.1s						
RKT	**Rikitea**	**52.92**	**106**	*e*LR	LR	08 04 55.4	
	comp=Z,771nm,32.2s						
TSM	**Tawau**	**54.59**	**289**	P	**P**	**07 49 44.5**	**+1.2**
KKM	**Kota Kinabalu**	**56.83**	**290**	P	**P**	**07 49 59.9**	**+0.6**
KKM	**Kota Kinabalu**	**56.83**	**290**	*e*P	**P**	**07 49 59.6**	**+0.3**
JOW	**Kunigami**	**59.21**	**318**	P	**P**	**07 50 15.9**	**0.0**
	comp=Z,22nm,0.9s,mb5.2,baz=112,slow=8.9,SNR=4.7						
VNDA	**Vanda**	**59.67**	**182**	P	**P**	**07 50 17.9**	**-1.2**
	comp=Z,4.2nm,0.9s,mb4.5,baz=356,slow=7.9,SNR=8.3						
VNDA				LR	LR	08 10 27.7	
	comp=Z,256nm,21.6s,baz=11,slow=30						
VNDA	**Vanda**	**59.67**	**182**	*e*P	**P**	**07 50 18.1**	**-1.0**
VNDA				pmax	pmax		
	comp=Z,13nm,1.3s						
VNDA	**Vanda**	**59.67**	**182**	*e*P	**P**	**07 50 18.1**	**-1.0**
	comp=Z,13nm,1.3s,mb4.8						
SBA	**Scott Base**	**59.92**	**180**	*e*P	**P**	**07 50 20.8**	**0.0**
SBA				*e**PP	pP	07 50 50.8	+1.1
SBA				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.3						
SBA	**Scott Base**	**59.92**	**180**	*e*P	**P**	**07 50 20.8**	**+0.1**
	comp=Z,35nm,1.0s,mb5.3						
SBA				*e*pP	pP	07 50 50.8	+1.1
KSM	**Kuching**	**60.41**	**282**	*e*P	**P**	**07 50 24.8**	**+0.7**
CASY	**Casey**	**61.01**	**203**	*e*P	**P**	**07 50 27.1**	**-1.1**
	comp=Z,48nm,1.7s,mb5.2						
MJAR	**Matsushiro Arr**	**61.30**	**332**	P	**P**	**07 50 29.1**	**-1.0**
	comp=Z,22nm,1.0s,mb5.2,baz=165,slow=6.9,SNR=38						
MJAR				LR	LR	08 14 08.9	
	comp=Z,74nm,18.1s,baz=200,slow=33						
MJAR	**Matsushiro Arr**	**61.30**	**332**	P	**P**	**07 50 29.1**	**-1.0**
MJAR				LR	LR	08 14 08.9	
MAJO	**Matsushiro**	**61.30**	**332**	*e*P	**P**	**07 50 29.7**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,38nm,1.0s,mb5.4						
MAJO	**Matsushiro**	**61.30**	**332**	*e*P	**P**	**07 50 29.7**	**-0.4**
	comp=Z,38nm,1.0s,mb5.4						
MAT	**Matsushiro**	**61.30**	**332**	P	**P**	**07 50 29.3**	**-0.8**
MAT				S	**S**	**07 58 29.6**	**-11**
MAT	**Matsushiro**	**61.30**	**332**	*e*P	**P**	**07 50 29.0**	**-1.1**
MAT				*e*S	**S**	**07 58 30.0**	**-11**
MAT				pmax	pmax		
	comp=Z,38nm,1.1s,mb5.3						
MAT	**Matsushiro**	**61.30**	**332**	*e*P	**P**	**07 50 29.0**	**-1.1**
	comp=Z,38nm,1.1s,mb5.3						
MAT				*e*S	**S**	**07 58 30.0**	**-11**
YHNB	**Yeheng**	**62.48**	**311**	*e*P	**P**	**07 50 38.2**	**+0.2**
QZH	**Quanzhou**	**64.66**	**310**	*i* PR	**P**	**07 50 53.2**	**+0.9**
QZH				XP	sP	07 51 34.1	-0.6
QZH				*e*S	**S**	**07 59 27.1**	**+4.3**
QZH				AMB	AMB		
	comp=Z,410nm,13.0s						
ASAJ	**Asahikawa**	**66.17**	**340**	P	**P**	**07 51 02.8**	**+0.7**
	comp=Z,37nm,0.9s,mb5.2,baz=235,slow=11,SNR=18						
ASAJ	**Asahikawa**	**66.17**	**340**	P	**P**	**07 51 02.8**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,37nm,0.9s						
SSE	**Sheshan**	**66.66**	**317**	P	**P**	**07 51 04.3**	**-0.9**
SSE				AP	pP	07 51 33.9	-0.7
SSE				XP	sP	07 51 47.1	-0.5
SSE				PP	PP	07 53 34.2	+0.8
SSE				S	S	07 59 51.3	+4.1
SSE				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,103nm,4.0s						
SSE				LR	LR		
	comp=N,87nm,32.0s						
SSE				LR	LR		
	comp=E,152nm,32.4s						
SSE				LR	LR		
	comp=Z,197nm,34.7s						
KGM	**Kluang**	**67.12**	**280**	P	**P**	**07 51 09.5**	**+1.4**
MIR	**Mirnyy**	**67.88**	**205**	*e*P	**P**	**07 51 14.0**	**+1.1**
MIR				pmax	pmax		
	comp=Z,291nm,0.9s,mb6.1						
YSS	**Yuzh-Sakhalins**	**68.65**	**341**	⇓*e*P	**P**	**07 51 17.7**	**0.0**
YSS				*e*		08 00 48.0	
YSS				pmax	pmax		
	comp=Z,130nm,1.2s,mb5.6						
YSS	**Yuzh-Sakhalins**	**68.65**	**341**	*e*P	**P**	**07 51 18.7**	**+1.0**
	comp=Z,101nm,1.2s,mb5.5						
NJ2	**Nanjing**	**68.80**	**316**	*e*P	**P**	**07 51 18.9**	**+0.3**
NJ2				AP	pP	07 51 51.1	+2.9
NJ2				XP	sP	07 52 02.1	+0.9
NJ2				PP	PP	07 53 54.4	+2.4
NJ2				S	S	08 00 11.0	-1.7
NJ2				XS	sS	08 01 04.0	+0.4
NJ2				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,130nm,10.0s						
NJ2				LR	LR		
	comp=N,580nm,29.2s						
NJ2				LR	LR		
	comp=E,470nm,35.5s						
NJ2				LR	LR		
	comp=Z,80nm,20.0s						
VLA	**Vladivostok**	**69.47**	**332**	*e*P	**P**	**07 51 22.3**	**-0.4**
VLA				pmax	pmax		
	comp=Z,139nm,1.8s,mb5.5						
IPM	**Ipoh**	**70.13**	**282**	P	**P**	**07 51 27.7**	**+1.0**
KULM	**Kulim**	**70.77**	**282**	*e*P	**P**	**07 51 30.8**	**+0.2**
WHN	**Wuhan**	**70.97**	**312**	P	**P**	**07 51 31.5**	**-0.4**
PET	**Petropavlovsk**	**71.20**	**354**	*e*P	**P**	**07 51 38.1**	**+4.8**
PET				pmax	pmax		
	comp=Z,100nm,18.5s						
DL2	**Dalian**	**71.58**	**323**	P	**P**	**07 51 35.8**	**+0.3**
DL2				AMB	AMB		
	comp=Z,50nm,1.2s,mb5.2						
MDJ	**Mudanjiang**	**71.67**	**332**	P	**P**	**07 51 36.5**	**+0.4**
MDJ				AP	pP	07 52 04.1	-1.8
MDJ				XP	sP	07 52 16.1	-2.7
MDJ				PP	PP	07 54 18.5	+1.9
MDJ				S	S	08 00 50.4	+4.3
MDJ				AMB	AMB		
	comp=Z,71nm,1.1s,mb5.4						
MDJ				AMB	AMB		
	comp=Z,170nm,5.6s						
MDJ				LR	LR		
	comp=N,164nm,38.0s						
MDJ				LR	LR		
	comp=E,113nm,32.1s						
MDJ				LR	LR		
	comp=Z,173nm,30.8s						
MDJ	**Mudanjiang**	**71.67**	**332**	*e*P	**P**	**07 51 36.3**	**+0.2**
	comp=Z,83nm,1.1s,mb5.5						
QSPA	**South Pole Qui**	**72.08**	**180**	⇑*i*P	**P**	**07 51 38.0**	**-0.5**
	comp=Z,39nm,1.0s,mb5.2						
SNY	**Shenyang**	**72.53**	**326**	⇓P	**P**	**07 51 41.1**	**-0.1**
SNY				AP	pP	07 52 12.2	+1.1
SNY				XP	sP	07 52 26.3	+2.3
SNY				PP	PP	07 54 28.8	+4.8
SNY				S	S	08 00 51.4	-4.6
SNY				PS		08 01 10.9	
SNY				AMB	AMB		
	comp=Z,19nm,2.0s,mb4.6						
SNY				AMB	AMB		
	comp=Z,268nm,4.2s						
SNY				LR	LR		
	comp=N,172nm,26.4s						
SNY				LR	LR		
	comp=E,384nm,22.8s						
SNY				LR	LR		
	comp=Z,262nm,44.3s						
HABR	**Khabarovsk**	**72.56**	**337**	*e*P	**P**	**07 51 42.4**	**+1.0**
HABR				S	S	08 00 59.8	+3.6
HABR				pmax	pmax		
	comp=Z,74nm,1.2s,mb5.4						
CN2	**Changchun**	**73.01**	**329**	*e*P	**P**	**07 51 44.2**	**+0.2**
CN2				*e*AP	pP	07 52 14.3	+0.4
CN2				*e*XP	sP	07 52 27.6	+0.8
CN2				*e*S	S	08 01 04.4	+3.1
CN2				AMB	AMB		
	comp=Z,50nm,1.3s,mb5.2						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
KLR	**Kul'dur**	**74.42**	**336**	*e*P	**P**	**07 51 50.0**	**-2.3**
KLR				pmax	pmax		
	comp=E,64nm,1.8s						
KLR				pmax	pmax		
	comp=Z,200nm,1.8s,mb5.5						
GYA	**Guiyang**	**74.51**	**305**	⇓*i*P	**P**	**07 51 53.2**	**+0.4**
GYA				AP	pP	07 52 21.3	-1.5
GYA				XP	sP	07 52 33.5	-2.2
GYA				PP	PP	07 54 43.8	+3.0
GYA				S	S	08 01 17.2	-1.0
GYA				SKS		08 01 46.2	
GYA				XS	sS	08 02 10.1	+0.2
GYA				SS	SS	08 06 09.7	+2.5
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,180nm,4.5s						
GYA				LR	LR		
	comp=N,460nm,17.9s						
GYA				LR	LR		
	comp=E,540nm,18.2s						
GYA				LR	LR		
	comp=Z,580nm,17.8s						
BJT	**Baijiatuau**	**75.50**	**321**	*e*P	**P**	**07 51 58.8**	**+0.3**
BJT				pmax	pmax		
	comp=Z,11nm,0.9s						
BJT	**Baijiatuau**	**75.50**	**321**	*e*P	**P**	**07 51 58.8**	**+0.3**
	comp=Z,11nm,0.9s,mb4.6						
BJI	**Beijing**	**75.51**	**321**	P	**P**	**07 51 58.8**	**+0.3**
BJI				S	S	08 01 29.8	+0.6
BJI				AMB	AMB		
	comp=Z,30nm,1.7s,mb4.8						
BJI				LR	LR		
	comp=N,228nm,15.7s						
BJI				LR	LR		
	comp=E,231nm,16.8s						
XAN	**Xi'an**	**76.73**	**313**	P	**P**	**07 52 05.9**	**+0.5**
XAN				AMB	AMB		
	comp=Z,43nm,1.6s,mb4.9						
KMI	**Kunming**	**77.00**	**302**	P	**P**	**07 52 08.9**	**+1.9**
KMI				AMB	AMB		
	comp=Z,87nm,1.2s,mb5.4						
HHC	**Hu-ho-hao-te**	**78.80**	**320**	⇓P	**P**	**07 52 17.5**	**+0.6**
HHC				PCP	PcP	07 52 27.4	+2.2
HHC				AP	pP	07 52 47.0	-0.2
HHC				XP	sP	07 52 58.2	-1.8
HHC				PP	PP	07 55 17.5	+0.7
HHC				S	S	08 02 03.7	-1.1
HHC				SKS		08 02 20.4	
HHC				SCS	ScS	08 02 25.3	-2.4
HHC				XS	sS	08 02 55.3	-1.7
HHC				AMB	AMB		
	comp=Z,33nm,1.3s,mb5.0						
HHC				AMB	AMB		
	comp=Z,122nm,5.5s						
HHC				LR	LR		
	comp=N,139nm,14.3s						
HHC				LR	LR		
	comp=E,222nm,16.6s						
HHC				LR	LR		
	comp=Z,136nm,17.8s						
CD2	**Chengdu**	**78.90**	**308**	⇓*i*P	**P**	**07 52 17.9**	**+0.4**
CD2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.1						
MAW	**Mawson**	**79.34**	**202**	P	**P**	**07 52 20.2**	**+0.4**
	comp=Z,11nm,1.0s,mb4.7,baz=139,slow=7.8,SNR=8.6						
MAW				pP	pP	07 52 50.0	-0.2
	comp=Z,7.9nm,0.9s,baz=97,slow=9.8,SNR=3.4						
MAW				LR	LR	08 23 46.9	
	comp=Z,306nm,18.4s,baz=333,slow=33						
MAW	**Mawson**	**79.34**	**202**	P	**P**	**07 52 20.2**	**+0.3**
MAW				*PP	pP	07 52 50.0	-0.2
BTO	**Baotou**	**79.62**	**319**	*e*P	**P**	**07 52 21.3**	**0.0**
LZH	**Lanzhou**	**81.35**	**312**	*e*P	**P**	**07 52 31.9**	**+1.3**
LZH				AP	pP	07 52 57.5	-3.6
LZH				PP	PP	07 55 42.1	+4.2
LZH				*e*S	S	08 02 34.5	+2.9
LZH				SKS		08 02 37.2	
LZH				XS	sS	08 03 18.5	-5.6
LZH				PS		08 03 36.4	
LZH				AMB	AMB		
	comp=Z,54nm,1.4s,mb5.2						
LZH				AMB	AMB		
	comp=Z,178nm,9.5s						
LZH				LR	LR		
	comp=E,218nm,16.3s						
LZH				LR	LR		
	comp=Z,389nm,18.4s						
CLNS	**Chul'man**	**82.95**	**338**	*e*P	**P**	**07 52 37.0**	**-1.9**
CLNS				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.2						
CLNS				pmax	pmax		
	comp=N,29nm,1.2s						
CLNS				pmax	pmax		
	comp=E,11nm,1.0s						
SVW2	**Sparrevohn**	**83.89**	**17**	*e*P	**P**	**07 52 43.1**	**-0.6**
CIT	**Chita**	**84.44**	**329**	*e*P	**P**	**07 52 46.2**	**-0.4**
CIT				*e*	pP	07 53 17.8	+0.6
CIT				pmax	pmax		
	comp=Z,66nm,1.6s,mb5.2						
TTA	**Tatalina**	**85.30**	**15**	*e*P	**P**	**07 52 50.0**	**-0.8**
ULN	**Ulaanbaatar**	**85.42**	**324**	*e*P	**P**	**07 52 51.6**	**+0.1**
ULN				pmax	pmax		
	comp=Z,44nm,1.1s,mb5.3						
ULN	**Ulaanbaatar**	**85.42**	**324**	*e*P	**P**	**07 52 51.6**	**+0.2**
	comp=Z,44nm,1.1s,mb5.3						
YAK	**Yakutsk**	**85.45**	**343**	*e*P	**P**	**07 52 50.6**	**-1.0**
YAK				pmax	pmax		
	comp=Z,149nm,1.4s,mb5.7						
YAK	**Yakutsk**	**85.45**	**343**	*e*P	**P**	**07 52 50.6**	**-1.0**
	comp=Z,149nm,1.4s,mb5.7						
SAO	**San Andreas Ge**	**85.53**	**49**	*e*P	**P**	**07 52 52.0**	**0.0**
SAO				*e*		07 56 10.9	
SAO				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.0						
SAO	**San Andreas Ge**	**85.53**	**49**	*e*P	**P**	**07 52 52.0**	**0.0**
	comp=Z,24nm,1.1s,mb5.0						
SAO				*e*PP	PP	07 56 10.9	-1.1
GTA	**Gaotai**	**85.74**	**314**	P	**P**	**07 52 53.8**	**+0.8**
GTA				AP	pP	07 53 22.0	-1.8
GTA				XP	sP	07 53 34.7	-1.8
GTA				PP	PP	07 56 17.5	+3.8
GTA				PPP		07 58 13.8	
GTA				SKS		08 03 07.7	
GTA				S		08 03 17.9	
GTA				XS	sS	08 04 10.4	+1.7
GTA				AMB	AMB		
	comp=Z,32nm,1.3s,mb5.1						
GTA				AMB	AMB		
	comp=Z,160nm,7.2s						
GTA				LR	LR		
	comp=N,82nm,10.7s						
GTA				LR	LR		
	comp=E,96nm,12.5s						
GTA				LR	LR		
	comp=Z,183nm,19.8s						
BILL	**Bilibino**	**85.77**	**359**	*e*P	**P**	**07 52 51.9**	**-1.3**
BILL				pmax	pmax		
	comp=Z,64nm,1.4s,mb5.4						
BILL	**Bilibino**	**85.77**	**359**	*e*P	**P**	**07 52 51.9**	**-1.3**
	comp=Z,64nm,1.4s,mb5.4						
SONM	**Songino Array**	**85.78**	**323**	P	**P**	**07 52 53.1**	**-0.1**
	comp=Z,17nm,1.0s,mb5.0,baz=135,slow=4.6,SNR=92						
SONM				pP	pP	07 53 23.9	-0.1
	comp=Z,2.8nm,0.9s,baz=155,slow=4.9,SNR=1.6						
SONM				LR	LR	08 26 38.2	
	comp=Z,88nm,21.8s,baz=

COLA College 89.04 17 *e*P **P** 07 53 07.2 -1.6
comp=Z,6.2nm,1.2s,mb4.5

TPH Tonopah 89.13 49 *e*P **P** 07 53 09.8 +0.5
TPH pmax pmax
comp=Z,5.0nm,0.3s,mb5.0

TPH Tonopah 89.13 49 *e*P **P** 07 53 09.8 +0.6
comp=Z,4.6nm,0.3s,mb5.0

ILAR Eielson Array 89.23 18 P **P** 07 53 07.0 -2.8
comp=Z,1.0nm,0.6s,mb4.1,baz=234,slow=4.8,SNR=19

TLY Talaya 89.31 326 P **P** 07 53 09.5 -0.6
comp=Z,53nm,1.4s,mb5.4,SNR=6.6

TLY Talaya 89.31 326 *e*P **P** 07 53 09.3 -0.8
TLY pmax pmax
comp=Z,21nm,1.4s,mb5.0

TLY Talaya 89.31 326 *e*P **P** 07 53 09.3 -0.8
comp=Z,21nm,1.4s,mb5.0

TPNV Topopah Spring 89.40 51 *e*P **P** 07 53 10.9 +0.4
TPNV pmax pmax
comp=Z,42nm,1.4s,mb5.3

TPNV Topopah Spring 89.40 51 *e*P **P** 07 53 10.9 +0.4
comp=Z,42nm,1.4s,mb5.3

HDW Hoodsport 89.40 39 P **P** 07 53 11.2 +0.7
LPIG La Paz 89.51 65 LR LR 08 25 20.2
comp=Z,130nm,20.1s,baz=210,slow=30

VTHM Trough 89.83 42 P **P** 07 53 12.8 +0.3
WVOR Wild Horse Val 89.92 45 *e*P **P** 07 53 13.1 +0.1
WVOR *e**PP pP 07 53 45.7 +1.8
WVOR pmax pmax
comp=Z,65nm,1.4s,mb5.6

WVOR Wild Horse Val 89.92 45 *e*P **P** 07 53 13.1 +0.2
comp=Z,65nm,1.4s,mb5.6
WVOR *e*pP pP 07 53 45.7 +1.8

NEN Nelson 89.95 52 *e*P **P** 07 53 12.7 -0.4
NVL N'lazarevskaya 90.02 188 ⇓*i*P **P** 07 53 11.2 -2.2
NVL pmax pmax
comp=Z,34nm,1.4s,mb5.3

BMN Battle Mountai 90.07 47 *e*P **P** 07 53 14.1 +0.4
BMN *e**PP pP 07 53 46.0 +1.3
BMN pmax pmax
comp=Z,48nm,1.4s,mb5.4

BMN Battle Mountai 90.07 47 *e*P **P** 07 53 14.1 +0.4
comp=Z,48nm,1.4s,mb5.4
BMN *e*pP pP 07 53 46.0 +1.4

PALK Pallekele 90.12 278 *e*P **P** 07 53 13.2 -0.7
comp=Z,14nm,1.0s,mb5.0

CMW Cultus Mountai 90.31 39 P **P** 07 53 15.3 +0.5
SNAA Sanae 90.39 183 *e*P **P** 07 53 14.3 -0.9
SNAA *e* 07 53 15.4
SNAA *e* pP 07 53 45.0 -1.2
SNAA *e* 07 53 56.9
SNAA *e* 07 54 14.9

SNAA Sanae 90.39 183 *e*P **P** 07 53 13.6 -1.6
SNAA pmax pmax
comp=Z,26nm,1.3s

SNAA Sanae 90.39 183 *e*P **P** 07 53 13.6 -1.6
comp=Z,26nm,1.3s,mb5.2
SNAA *e*pP pP 07 53 44.3 -1.9

EBG Ellensburg 90.58 40 P **P** 07 53 16.4 +0.4
TBM Table Mountain 90.67 40 P **P** 07 53 16.7 +0.3
MOY Mondy 90.74 325 *e*P **P** 07 53 16.6 -0.2
PRW Prosser 90.83 41 P **P** 07 53 17.8 +0.6
HAWA Hanford 91.00 41 *e*P **P** 07 53 17.5 -0.5
comp=Z,3.2nm,1.2s,mb4.3

VNA3 Neumayer Olymp 91.01 181 ⇑*i*P **P** 07 53 17.3 -0.7
VNA3 *e* 07 53 18.3
VNA3 *e* 07 53 26.5
VNA3 *e* pP 07 53 48.5 -0.5
VNA3 *e* 07 53 59.7
VNA3 *e* 07 54 02.8
VNA3 *e* 07 54 09.9

DLBC Dease Lake 91.24 28 LR LR 08 24 18.2
comp=Z,127nm,21.7s,baz=243,slow=29

VNA2 Neumayer--Watz 91.30 181 ⇑*i*P **P** 07 53 19.0 -0.4
VNA2 *e* 07 53 20.0
VNA2 *e* 07 53 27.7
VNA2 *e* 07 53 41.5
VNA2 *e* pP 07 53 49.6 -0.7
VNA2 *e* 07 54 01.0
VNA2 *e* 07 54 04.8
VNA2 *e* 07 54 11.6
VNA2 *e* 07 54 22.7
VNA2 *e* 07 54 40.4

ELK Elko 91.59 48 *e*P **P** 07 53 20.8 +0.1
ELK pmax pmax
comp=Z,13nm,1.3s

ELK Elko 91.59 48 *e*P **P** 07 53 20.8 +0.1
comp=Z,13nm,1.3s,mb5.0

VNA1 Neumayer--Stat 91.59 181 *e*P **P** 07 53 20.6 -0.1
VNA1 *e* 07 53 21.4
VNA1 *e* 07 53 28.7
VNA1 *e* 07 53 41.4
VNA1 *e* pP 07 53 51.5 -0.2
VNA1 *e* 07 54 02.6
VNA1 *e* 07 54 05.4
VNA1 *e* 07 54 11.2
VNA1 *e* 07 54 23.6

CCUT Cedar City 91.76 51 *e*P **P** 07 53 22.1 +0.6
BMO Blue Mountains 91.79 43 *e*P **P** 07 53 21.6 0.0
BMO pmax pmax
comp=Z,5.0nm,1.3s,mb4.6

BMO Blue Mountains 91.79 43 *e*P **P** 07 53 21.6 -0.1
comp=Z,5.4nm,1.3s,mb4.6

TUC Tucson 91.90 57 *e*P **P** 07 53 23.1 +0.9
TUC pmax pmax
comp=Z,17nm,1.4s,mb5.1

TUC Tucson 91.90 57 *e*P **P** 07 53 23.1 +0.9
comp=Z,17nm,1.4s,mb5.1

WUAZ Wupatki 92.54 54 *e*P **P** 07 53 25.7 +0.6
comp=Z,31nm,1.5s,mb5.4

MSU Marysvale 92.97 51 *e*P **P** 07 53 27.7 +0.6
DUG Dugway 93.11 49 *e*P **P** 07 53 27.4 -0.3
DUG pmax pmax
comp=Z,2.0nm,0.9s,mb4.5

DUG Dugway 93.11 49 *e*P **P** 07 53 27.4 -0.3
comp=Z,2.5nm,0.9s,mb4.5

HLID Hailey 93.21 45 *e*P **P** 07 53 28.7 +0.5
comp=Z,4.0nm,1.1s,mb4.7

NEW Newport 93.26 40 *e*P **P** 07 53 28.4 0.0
NEW pmax pmax
comp=Z,6.0nm,1.1s

NEW Newport 93.26 40 *e*P **P** 07 53 28.4 -0.1
comp=Z,6.0nm,1.1s,mb4.8

TIXI Tiksi 93.36 348 *e*P **P** 07 53 26.1 -2.8
TIXI *e*S 08 03 42.0
TIXI *e* 08 04 27.6
TIXI *e*PS PS 08 05 44.3 -11
TIXI pmax pmax
comp=Z,5.0nm,1.0s,mb4.8

HWUT Hardware Ranch 94.48 48 *e*P **P** 07 53 32.9 -1.1
comp=Z,2.3nm,0.9s,mb4.5

HYB Hyderabad 95.17 287 *i* P **P** 07 53 37.5 +0.3
PV10 Paradox Valley 95.25 51 *e*P **P** 07 53 38.0 +0.4
PV10 *e*pP pP 07 54 08.3 -0.3
INK Inuvik 95.57 18 *e*P **P** 07 53 34.4 -4.6
INK pmax pmax
comp=Z,10.0nm,1.6s

INK Inuvik 95.57 18 *e*P **P** 07 53 34.4 -4.6
comp=Z,10nm,1.6s,mb5.0
INK *e*pP pP 07 54 04.4 -5.7

MOOW Moose Ponds 95.77 46 *e*P **P** 07 53 39.9 0.0
comp=Z,1.9nm,1.1s,mb4.4

WMQ Urumqi 95.81 314 ⇓P **P** 07 53 36.5 -3.6
WMQ AP pP 07 54 09.0 -2.2
WMQ XP sP 07 54 21.5 -2.3
WMQ PP PP 07 57 32.5 -0.9
WMQ PPP 07 58 38.5
WMQ SKS 08 03 59.5
WMQ S 08 04 40.5
WMQ XS sS 08 05 38.0 -3.6
WMQ AMB AMB
comp=Z,16nm,1.3s,mb5.3

WMQ AMB AMB
comp=Z,168nm,5.0s

WMQ LR LR
comp=N,123nm,27.2s

WMQ LR LR
comp=E,36nm,24.5s

WMQ LR LR
comp=Z,108nm,24.3s

LOHW Long Hollow 95.82 46 *e*P **P** 07 53 40.2 +0.1
comp=Z,2.4nm,1.0s,mb4.6

MNTX Cornudas Mount 96.06 59 *e*P **P** 07 53 41.2 0.0
comp=Z,2.8nm,1.3s,mb4.5

ANMO Albuquerque 96.16 55 *e*P **P** 07 53 41.7 0.0

ANMO Albuquerque 96.16 55 *e*P **P** 07 53 41.2 -0.5
comp=Z,1.9nm,1.0s,mb4.5

BW06 Boulder Array 96.27 47 *e*P **P** 07 53 42.0 -0.2
comp=Z,6.9nm,1.4s,mb4.9

PDAR Pinedale Array 96.27 47 P **P** 07 53 41.9 -0.3
comp=Z,1.6nm,1.2s,mb4.3,baz=242,slow=3.2,SNR=8.2
PDAR LR LR 08 31 39.9
comp=Z,62nm,19.6s,baz=263,slow=32

YKA Yellowknife Ar 99.87 27 P Pdif 07 53 57.2 -1.1
comp=Z,0.6nm,0.6s,baz=255,slow=4.6,SNR=30
YKA pP pP 07 54 28.3 -1.1
comp=Z,0.3nm,0.6s,baz=251,slow=4.6,SNR=2.8
YKA PP PP 07 58 07.3 +2.9
comp=Z,0.3nm,0.9s,baz=250,slow=7.5,SNR=4.2
YKA LR LR 08 35 36.5
comp=Z,80nm,18.1s,baz=265,slow=33

YKA Yellowknife Ar 99.87 27 P Pdif 07 53 57.2 -1.1
YKA *PP pP 07 54 28.3 -1.2
YKA 07 58 07.3
YKA Yellowknife Ar 99.87 27 P Pdif 07 53 57.2 -1.1
YKA pP pP 07 54 28.3 -1.1
YKA PP PP 07 58 07.3 +2.9
YKA LR LR 08 35 36.5

MKAR Makanchi Array 100.33 316 P Pdif 07 53 59.4 -1.0
comp=Z,0.8nm,0.5s,baz=94,slow=6.2,SNR=12

ZAL Zalesovo 100.69 323 P Pdif 07 54 01.1 -0.9
comp=Z,1.1nm,0.4s,baz=7.4,slow=5.8,SNR=4.9

BVAR Borovoye Array 108.99 321 PKiKP PKiKP 07 58 41.2 -1.6
comp=Z,0.3nm,0.4s,baz=111,slow=3.3,SNR=4.3

BRVK Borovoye 109.05 321 *e*PKPdf PKiKP 07 58 41.5 -1.3
ZRNK Zerenda 109.82 321 *e*PKPdf PKiKP 07 58 43.0 -1.3
WCI Wyandotte Cave 112.69 55 *e*PKPdf PKiKP 07 58 40.0 -10
LPAZ La Paz 114.68 118 *e*PKIKP PKiKP 07 58 51.1 -2.4
ARU Arti 115.79 325 *i* PKIKP PKPdf 07 58 54.2 -1.5
ARU *e* 07 59 59.5
ARU *e* 08 05 32.3
ARU *e*PS PS 08 09 40.6 -2.2
ARU *e*SS SS 08 15 50.7 -1.2

AKTK Aktyubinsk 116.65 318 PKP PKPdf 07 58 56.1 -1.2
AKTO Aktyubinsk 116.65 318 PKP PKPdf 07 58 56.1 -1.2
comp=Z,0.9nm,0.5s,baz=71,slow=6.5,SNR=5.5

AKTO Aktyubinsk 116.65 318 PKIKP PKPdf 07 58 56.1 -1.2
AKTO pmax pmax
comp=Z,1.0nm,0.5s

SDV Santo Domingo 121.99 91 *e*PKPdf PKPdf 07 58 60.0 -7.6
KEV Kevo 123.14 345 *e*p PKPdf 07 59 08.2 -1.6
comp=Z,4.7nm,1.1s

SUMG Summit 123.23 9 *e*PKPdf PKPdf 07 59 09.0 -1.0
ARCES ARCESS Array B 123.66 345 PKP PKPdf 07 59 08.9 -1.9
comp=Z,1.6nm,0.3s,baz=71,slow=1.9,SNR=40

ARE0 ARCESS Array S 123.66 345 *e*PKPdf PKPdf 07 59 05.8 -5.0
KLMR Klimovskoe 124.08 333 *i* PKIKP PKPdf 07 59 09.4 -2.2
KLMR pmax pmax
comp=Z,20nm,1.4s

SCHQ Schefferville 124.29 35 PKP PKPdf 07 59 10.1 -1.9
comp=Z,1.6nm,1.0s,baz=254,slow=7.3,SNR=3.8

SCHQ Schefferville 124.29 35 PKP PKPdf 07 59 10.1 -1.9
JOF Joensuu 126.31 337 *e*p PKPdf 07 59 14.3 -1.6
comp=Z,1.9nm,0.6s

ZEI Tsey 127.25 310 *e*PKIKP PKPdf 07 59 17.3 -0.4
VOR Voronezh 127.95 322 *e*PKIKP PKPdf 07 59 17.0 -2.0
VOR pmax pmax
comp=Z,80nm,1.6s

OBN Obninsk 128.05 327 *i* PKIKP PKPdf 07 59 17.0 -2.2
OBN *e* 08 01 27.4
OBN pmax pmax
comp=Z,29nm,1.7s

KAF Kangasniemi 128.62 338 *e*p PKPdf 07 59 18.3 -2.0
comp=Z,1.2nm,0.4s

KAF Kangasniemi 128.62 338 *e*PKIKP PKPdf 07 59 18.3 -2.0
KAF pmax pmax
comp=Z,1.0nm,0.4s

FINES FINESS Array B 129.15 338 PKP PKPdf 07 59 20.0 -1.3
comp=Z,1.5nm,0.7s,baz=74,slow=8.1,SNR=10.0
FINES SKPbc 08 02 30.1
comp=Z,2.4nm,0.7s,baz=92,slow=5.7,SNR=8.5

FINES FINESS Array B 129.15 338 PKP PKPdf 07 59 20.0 -1.3
FINES SKPbc 08 02 30.1

NOA NORSAR Array B 134.04 345 PKP PKPdf 07 59 27.6 -2.9
comp=Z,1.4nm,0.9s,baz=122,slow=13,SNR=2.7

AKASG Malin Array Be 134.05 325 PKP PKPdf 07 59 28.9 -1.6
comp=Z,0.8nm,0.5s,baz=62,slow=2.0,SNR=9.3
AKASG SKPbc SKPbc 08 02 46.4 -2.4
comp=Z,0.7nm,0.5s,baz=46,slow=4.1,SNR=8.4

AKASG Malin Array Be 134.05 325 PKP PKPdf 07 59 28.9 -1.6
AKASG SKPbc SKPbc 08 02 46.4 -2.4

BRTR Keskin Array B 135.47 309 PKP PKPdf 07 59 32.5 -0.8
comp=Z,1.1nm,0.7s,baz=48,slow=3.7,SNR=6.7

KOLS Kolonicke sedl 138.78 326 *e*PKP PKPdf 07 59 41.6 +2.3
OKC Ostrava-Krasne 140.28 330 AMS AMS 08 59 30.0
MORC Moravsky Berou 140.61 330 *e*PKIKP PKPdf 07 59 42.1 -0.6
PSZ Piszkesteto 140.65 326 *e*PKIKP PKPdf 07 59 42.0 -0.7
DPC Dobruska-Polom 140.77 332 *e*PKPDF PKPdf 07 59 39.4 -3.5
DPC AMS AMS 08 53 20.0
UPC Upice 140.80 332 *e*PKPDF PKPdf 07 59 43.9 +0.9
VYHS Vyhne 140.84 328 *e* PKPdf 07 59 38.6 -4.5
BRG Berggiesshubel 141.42 334 *e*P PKPdf 07 59 44.2 +0.1
comp=Z,3.6nm,1.0s

BRG Berggiesshubel 141.42 334 *e*PKIKP PKPdf 07 59 44.2 +0.1
BRG pmax pmax
comp=Z,4.0nm,1.0s

CLL Collm 141.47 335 *e*PKPdf PKPdf 07 59 42.0 -2.2
comp=Z,15nm,1.5s

CLL Collm 141.47 335 *e*PKIKP PKPdf 07 59 42.0 -2.2
CLL pmax pmax
comp=Z,15nm,1.5s

PRU Pruhonice 141.83 333 *e*PKPpre 07 59 39.9
PRU AMS AMS 08 51 20.0
comp=Z,300nm,37.5s

TREC Trest 141.91 331 AMS AMS 08 53 50.0
comp=Z,300nm,33.5s

MOX Mox 142.54 336 *e*PKPbc PKPdf 07 59 41.4 -4.7
MANZ Manzenberg 142.85 335 *e*PKPbc PKPdf 07 59 42.8 -3.9
KHC Kasperske Hory 142.88 333 *e*PKPDF PKPdf 07 59 43.3 -3.4
KHC AMS AMS 08 51 30.0
ROTZ Rotzenmuhle 142.98 334 *e*PKPbc PKPdf 07 59 43.0 -3.9
UBBA Unterbreizbach 143.01 337 *e*PKPbc PKPdf 07 59 43.3 -3.6
GEC2 GERESS Array S 143.04 332 *e*PKPbc PKPdf 07 59 43.7 -3.3
GERES GERESS Array B 143.04 332 PKhKP 07 59 42.8
comp=Z,1.6nm,0.5s,baz=45,slow=2.1,SNR=14
GERES SKPbc SKPbc 08 03 12.8 -1.3
comp=Z,0.5nm,0.4s,baz=58,slow=3.3,SNR=3.9

ARSA Arzberg 143.32 329 ⇓*i*P PKPdf 07 59 44.0 -3.5
comp=Z,106nm,2.4s

ARSA Arzberg 143.32 329 ⇓*i*P PKPdf 07 59 44.0 -3.5
GRF Grafenberg Arr 143.44 335 *e*PKIKP PKPdf 07 59 44.8 -2.9
GRF MLR MLR
comp=Z,200nm,21.7s

KOGS Kog 143.50 327 *e*PKPbc PKPdf 07 59 44.8 -3.1
MOA Molln 143.51 330 ⇓*i*P PKPdf 07 59 44.9 -3.0
comp=Z,124nm,2.5s,SNR=9.5

MOA Molln 143.51 330 ⇓*i*P PKPdf 07 59 44.9 -3.0
PERS Pernice 143.95 328 *e*PKPbc PKPdf 07 59 46.1 -2.5
TNS Taunus Mts 144.06 338 *e*PKPbc PKPdf 07 59 46.6 -2.2
OBKA Obir 144.32 329 ⇓*i*P PKPdf 07 59 47.2 -2.0
comp=Z,38nm,1.4s

OBKA Obir 144.32 329 ⇓*i*P PKPdf 07 59 47.2 -2.0
HGN Heimansgroeve 144.44 341 *e*PKP PKPdf 07 59 47.3 -2.1
TOD Tromm 144.44 337 PKIKP PKPdf 07 59 47.9 -1.6
KBA Koelnbreinsper 144.50 330 *i* P PKPdf 07 59 47.7 -1.9
comp=Z,141nm,1.7s,SNR=12

KBA Koelnbreinsper 144.50 330 *i* P PKPdf 07 59 47.7 -1.9
MEM Membach 144.55 341 PKP PKPdf 07 59 48.3 -1.3
FUR Furstenfeldbru 144.61 333 *e*PKPbc PKPdf 07 59 48.9 -0.8
BOJS Bojanci 144.65 327 *e*PKPbc PKPdf 07 59 49.0 -0.8
LJU Ljubljana 144.65 328 *e*PKPbc PKPdf 07 59 48.7 -1.1
ABH Alteburg 144.67 339 PKP PKPdf 07 59 48.5 -1.3
UCC Uccle 144.88 342 PKP PKPdf 07 59 49.1 -1.1
CEY Cerknica 144.92 328 *e*PKPbc PKPdf 07 59 49.6 -0.7
CADS Cadrg 144.92 329 *e*PKPbc PKPdf 07 59 48.7 -1.5
KTD Kalmit 144.95 338 PKIKP PKPdf 07 59 49.2 -1.1
PTCC Patocco-Chiusa 144.98 330 PKP PKPdf 07 59 49.2 -1.2
STU Stuttgart 144.98 336 *e*PKIKP PKPdf 07 59 50.1 -0.3
VOY Vojsko 144.98 329 *e*PKPbc PKPdf 07 59 49.0 -1.4
VOY *e* 08 00 23.0
WATA Walderalm 145.12 332 ⇑*i*P PKPbc 07 59 50.0 -0.4
comp=Z,52nm,1.3s

GMNA Gemona 145.13 329 PKP PKPdf 07 59 49.9 -0.7
WTTA Wattenberg 145.14 332 ⇓*i*P PKPbc 07 59 50.3 -0.1
comp=Z,193nm,1.6s,SNR=18

SNF Seneffe 145.16 342 PKP PKPdf 07 59 50.2 -0.5
MOTA Moosalm 145.32 333 ⇓*i*P PKPdf 07 59 50.6 -0.3
comp=Z,85nm,1.2s

WLF Walferdange 145.32 340 *e*PKPbc PKPbc 07 59 51.5 +0.5

WLF Walferdange 145.32 340 PKP PKPdf 07 59 51.4 +0.5
WLF Walferdange 145.32 340 *e*PKPbc PKPbc 07 59 51.5 +0.5
GIVF Givet 145.36 341 *e*PKP1 PKPbc 07 59 50.3 -0.9
comp=Z,104nm,1.2s

SQTA Sankt Quirin 145.37 332 ⇓*i*P PKPdf 07 59 51.1 +0.1
comp=Z,96nm,1.3s,SNR=15

SQTA Sankt Quirin 145.37 332 ⇓*i*P PKPdf 07 59 51.1 +0.1
DOU Dourbes 145.44 342 PKP PKPdf 07 59 50.9 -0.2
BRES Bressanone 145.52 331 PKP PKPdf 07 59 51.2 -0.1
BAIF Baives 145.59 342 *e*PKP1 PKPbc 07 59 51.3 -0.5
comp=Z,88nm,1.1s

BFO Black Forest 145.67 336 *e*PKPbc PKPbc 07 59 51.8 -0.3
MENF Mencas 145.70 344 PKP PKPdf 07 59 52.0 +0.4
DAVA Damuels 145.89 334 ⇓*i*P PKPdf 07 59 52.6 +0.7
comp=Z,228nm,2.0s

WLS Welschbruch 145.97 337 PKP PKPdf 07 59 51.6 -0.5
CDF Champ du Feu 146.00 337 *e*PKP1 PKPbc 07 59 52.5 -0.6
comp=Z,58nm,0.9s

FELD Feldberg im Sc 146.17 336 *e*P PKPdf 07 59 53.4 +1.0
BRMO Bormio 146.31 332 PKP PKPdf 07 59 54.2 +1.6
MOF Molkenrain 146.52 337 PKP PKPdf 07 59 54.0 +1.0
HINF Hinteralfeld 146.65 337 *e*PKP1 PKPbc 07 59 54.1 -0.9
comp=Z,44nm,1.3s

HAU Haudompre 146.68 338 *e*PKP1 PKPbc 07 59 55.4 +0.3
comp=Z,123nm,1.4s
HAU *e*R
comp=Z,110nm,21.2s

HAU Haudompre 146.68 338 *e*PKP PKPbc 07 59 55.4 +0.3
HAU LR LR
comp=Z,110nm,21.3s

FGMS Monte Sant'Ang 146.68 321 PKP PKPdf 07 59 55.0 +1.7
MEZF Maizieres J'vi 146.69 340 *e*PKP1 PKPbc 07 59 54.8 -0.3
BBS Basel-Blauen 146.70 336 PKP2 PKPab 07 59 54.7 -1.8
TUE Stuetta 146.75 333 PKP PKPdf 07 59 55.3 +1.9
AOI Ancona 146.84 326 PKP PKPbc 07 59 55.7 +0.2
RGNG Rignano Grg 146.92 321 PKP PKPdf 07 59 55.4 +1.7
LOMF Lomont 147.05 337 PKP PKPbc 07 59 56.0 -0.1
RSM Repubblica di 147.18 327 PKP2 PKPab 07 59 57.3 -1.2
ARV Arcevia 147.23 326 PKIKP PKPbc 07 59 56.9 +0.3
PTRP Pietrapertosa 147.31 319 PKP PKPbc 07 59 56.9 0.0
SNTG Esanatoglia 147.39 326 PKP PKPbc 07 59 57.4 +0.3
TERO Teramo 147.46 324 PKP PKPbc 07 59 56.7 -0.6
VAI Varese 147.48 333 PKP2 PKPbc 07 59 56.6 -0.7
SFI Santa Sofia 147.51 328 PKP2 PKPbc 07 59 57.9 +0.5
BADI Badiali 147.59 327 PKP PKPbc 07 59 57.6 0.0
NRCA Norcia 147.59 325 PKP PKPbc 07 59 57.5 -0.1
TIP Timpagrande 147.62 317 *e*PKPbc PKPbc 07 59 58.1 +0.4
TIP *e*PKPab PKPab 08 00 01.6 +1.4
ZCCA Zocca 147.62 329 PKP PKPbc 07 59 58.5 +0.8
AQU L'Aquila 147.75 324 *e*PKIKP PKPdf 07 59 55.5 +0.5
AQU *e* 07 59 58.3
AQU L'Aquila 147.75 324 *e*PKPdf PKPdf 07 59 55.5 +0.5
AQU *e*PKPbc PKPbc 07 59 58.3 +0.3
AQU *e*PKPab PKPab 08 00 01.6 +0.9
VVLD Villa Vallelon 147.94 323 PKP PKPdf 07 59 57.9 +2.5
CABF La Chapelle 147.95 337 *e*PKP1 PKPbc 07 59 58.4 -0.2
comp=Z,124nm,1.1s

OG01 Vacheresse 147.96 336 PKP PKPdf 07 59 56.5 +1.1
FLN La Foliniere 148.00 346 *e*PKP1 PKPbc 07 59 57.7 -1.0
comp=Z,110nm,1.2s
FLN *e*R
comp=Z,67nm,22.5s

FLN La Foliniere 148.00 346 *e*PKP PKPdf 07 59 57.7 +2.2
FLN LR LR
comp=Z,70nm,22.5s

LDF La Druitiere 148.08 346 *e*PKP1 PKPbc 07 59 57.8 -1.1
comp=Z,94nm,1.4s

MNS Montasola 148.12 325 PKP2 PKPbc 07 59 58.1 -0.9
LOR Lormes 148.16 340 *e*PKP1 PKPbc 07 59 58.5 -0.6
comp=Z,66nm,1.0s
LOR *e*R
comp=Z,168nm,22.5s

LOR Lormes 148.16 340 *e*PKP PKPbc 07 59 58.5 -0.6
LOR LR LR
comp=Z,170nm,22.5s

GRR Gorron 148.44 346 *e*PKP1 PKPbc 07 59 59.0 -0.8
comp=Z,132nm,1.2s

SSF Saint Saulge 148.46 340 *e*PKP1 PKPbc 07 59 59.3 -0.6
comp=Z,126nm,1.2s

HYF Humbligny 148.55 341 *e*PKP1 PKPbc 08 00 00.0 -0.1
LPL La Plagne 148.61 335 *e*PKP1 PKPbc 08 00 00.2 -0.1
comp=Z,50nm,1.0s

LPG La Plagne 148.62 335 *e*PKP1 PKPbc 08 00 00.3 0.0
comp=Z,79nm,1.1s

OG05 Jujurieux 148.66 337 PKP PKPbc 08 00 00.2 -0.2
SOI Samo 148.67 315 PKP2 PKPbc 08 00 00.6 +0.1
SMF Signal de Mont 148.72 339 *e*PKP1 PKPbc 07 59 59.7 -0.9
comp=Z,124nm,1.3s

AVF Avril sur Loir 148.75 340 *e*PKP1 PKPbc 07 59 59.7 -0.9
comp=Z,80nm,1.2s

SGMF Saint Gilles 148.92 348 *e*PKP1 PKPbc 08 00 00.0 -1.1
comp=Z,127nm,1.3s

ROSF Rostrenen 148.97 349 *e*PKP1 PKPbc 08 00 00.1 -1.1
comp=Z,135nm,1.4s

BGF Bois d'Agland 149.12 341 *e*PKP1 PKPbc 08 00 00.9 -0.7
comp=Z,49nm,0.8s

MBDF Montbardon 149.24 334 *e*PKP1 PKPbc 08 00 01.2 -0.7
QUIF Quistinic 149.36 349 *e*PKP1 PKPbc 08 00 00.8 -1.4
comp=Z,238nm,1.7s

PLDF La Plantade 149.38 339 PKP PKPbc 08 00 02.3 +0.1
ORIF Oris-en-Rattie 149.44 335 *e*PKP1 PKPbc 08 00 01.9 -0.5
comp=Z,58nm,0.9s
ORIF *e*R
comp=Z,79nm,20.8s

AGO Saint Agoulin 149.47 340 PKP PKPbc 08 00 02.3 -0.1
TCF Toulx Ste Croi 149.56 341 *e*PKP1 PKPbc 08 00 01.9 -0.8
comp=Z,133nm,1.3s

SBF Sospel 149.64 332 *e*PKP1 PKPbc 08 00 01.8 -1.1
comp=Z,256nm,1.3s

PYM Petit Puy Mans 149.78 340 PKP PKPbc 08 00 03.0 -0.2
OG25 Le Caire 149.81 334 PKP PKPbc 08 00 02.7 -0.6
PGF Pioggiola 149.92 329 *e*PKP1 PKPbc 08 00 02.9 -0.6
comp=Z,211nm,1.2s

MFF Saint Martin d 149.94 344 *e*PKP1 PKPbc 08 00 02.7 -0.9
comp=Z,133nm,1.2s

OCF Saint Nazaire 149.95 336 PKP PKPbc 08 00 03.6 0.0
OG26 St.-Nazaire-De 149.95 336 PKP PKPbc 08 00 03.6 0.0
VIVF Saint-Julien-l 149.96 337 *e*PKP1 PKPbc 08 00 03.1 -0.5
comp=Z,118nm,1.4s

LBL Lubilhac 150.15 339 PKP PKPbc 08 00 04.8 +0.7
FRF La Foret Royal 150.23 333 *e*PKP1 PKPbc 08 00 03.4 -0.9
comp=Z,36nm,0.7s

SMRF Simiane la Rot 150.34 335 *e*PKP1 PKPbc 08 00 04.3 -0.2
comp=Z,64nm,1.0s

VILF Villemus 150.39 334 PKP PKPbc 08 00 04.6 -0.1
TAVF Tavernes 150.44 334 PKP PKPbc 08 00 04.0 -0.8
LMR La Mourre 150.47 333 *e*PKP1 PKPbc 08 00 04.1 -0.8
comp=Z,43nm,0.8s

PRAF Pradon 150.65 335 PKP PKPbc 08 00 05.7 +0.4
RJF Les Rejaudoux 150.65 341 *e*PKP1 PKPbc 08 00 04.6 -0.7
comp=Z,74nm,1.3s
RJF *e*R
comp=Z,88nm,20.5s

RJF Les Rejaudoux 150.65 341 *e*PKP PKPbc 08 00 04.6 -0.7
RJF LR LR
comp=Z,90nm,20.5s

TREF Trevaresse 150.71 334 PKP PKPbc 08 00 05.0 -0.4
CAF Calviac 150.82 340 *e*PKP1 PKPbc 08 00 05.2 -0.5
comp=Z,40nm,1.3s

BERF Bertagne 150.84 334 PKP PKPbc 08 00 05.9 +0.2
GELF Grande-Etoile 150.89 334 PKP PKPbc 08 00 06.2 +0.4
LASF Ste Croix 150.93 337 *e*PKP1 PKPbc 08 00 05.6 -0.3
comp=Z,80nm,1.1s

LFF La Frestale 151.22 342 *e*PKP1 PKPbc 08 00 06.0 -0.6
comp=Z,59nm,0.9s

MTLF Montolieu 152.16 338 *e*PKP1 PKPbc 08 00 08.0 -0.8
comp=Z,16nm,0.8s

PBRG Braganca 155.89 351 *e*PKPab PKPab 08 00 34.6 -0.1
PVRL Vila Real 156.54 353 *e*PKPab PKPab 08 00 37.8 +0.3
PVIS Viseu 157.12 353 *e*PKPab PKPab 08 00 39.9 -0.1
MTE Manteigas 157.38 352 *e*PKPab PKPab 08 00 41.3 +0.2
PCBR Castelo Branco 157.92 352 *e*PKPab PKPab 08 00 44.2 +0.7
PBEJ Beja 159.76 352 *e*PKPab PKPab 08 00 52.0 +0.6
TORD Torodi Ar. Bea 166.41 251 PKP PKPdf 08 00 17.3 -1.0
comp=Z,3.3nm,1.0s,baz=328,slow=0.4,SNR=13
TORD PKPab PKPab 08 01 20.4 -0.2
comp=Z,6.5nm,1.1s,baz=102,slow=3.5,SNR=13
TORD PP PP 08 05 06.5 -1.9
comp=Z,0.4nm,0.8s,baz=168,slow=4.1,SNR=4.3

DBIC Dimbokro 167.03 211 *e*PKIKP PKPdf 08 00 18.7 -0.1

MAN 03 07:41:38.2, 979N×12469E, h21km, mb2.6, ML4.1, MS2.2, Mindanao

*ISCJB **03** 08:07:16.8±3.1, 1804S×008×1686E±04, h134km±6km, mb4.3/5, Error ellipse: s-maj=65.7km s-min=12.9km az=6.0*
*IDC **03** 08:07:20.2±7.3, 1811S×16850E, h138km±26km, mb4.1/5, mb1 4.2/7, mb1mx3.8/16, mbtmp4.6/7, Error ellipse: s-maj=107.3km s-min=26.1km az=89.0*
*NEIC **03** 08:07:22.4±8.9, 1815S×16820E, h138km±19km, mb4.3/2, Error ellipse: s-maj=180.5km s-min=15.5km az=80.0*

ISC 03 08:07:17.8±3.2, 1803S±008×1687E±04, h127km±6km, n12, σ0§64/14, mb4.4/5, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**0.56**	**310**	⇑*i* P	**Pn**	**08 07 36.6**	**-0.3**
BKM				S	**Sn**	**08 07 50.8**	**-0.4**
DZM	**Mont Dzumac**	**4.54**	**207**	P	**Pn**	**08 08 25.6**	**+0.9**
	7.7nm,0.3s,baz=49,slow=18,SNR=105						
DZM				S	**Sn**	**08 09 16.6**	**0.0**
	14nm,0.3s,baz=117,slow=22,SNR=13						
HNR	**Honiara**	**12.04**	**314**	P	**Pn**	**08 10 06.3**	**+1.1**
	7.4nm,0.3s,baz=104,slow=2.1,SNR=7.0						
HNR	**Honiara**	**12.04**	**314**	*e*Pn	**Pn**	**08 10 06.3**	**+1.1**
STKA	**Stephens Creek**	**28.07**	**235**	*e*P	**P**	**08 12 56.9**	**-0.4**
	3.7nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**28.07**	**235**	P	**P**	**08 12 57.0**	**-0.3**
	4.1nm,0.7s,mb4.1,baz=87,slow=10,SNR=8.7						
WB2	**Warramunga Arr**	**32.49**	**261**	*e*P	**P**	**08 13 35.1**	**-1.2**
WRA	**Warramunga Arr**	**32.51**	**261**	P	**P**	**08 13 36.0**	**-0.4**
	1.4nm,0.4s,mb4.1,baz=91,slow=8.9,SNR=33						
ASAR	**Alice Springs**	**32.93**	**254**	P	**P**	**08 13 40.2**	**+0.1**
	6.4nm,0.5s,mb4.7,baz=81,slow=9.0,SNR=106						
FITZ	**Fitzroy Crossi**	**40.86**	**263**	*e*P	**P**	**08 14 48.1**	**+1.0**
	11nm,1.2s,mb4.6						
FITZ	**Fitzroy Crossi**	**40.86**	**263**	P	**P**	**08 14 47.7**	**+0.6**
	5.7nm,0.8s,mb4.4,baz=104,slow=9.0,SNR=13						
NWAO	**Narrogin (SRO)**	**48.31**	**242**	P	**P**	**08 15 46.0**	**-0.2**
	9.6nm,1.0s,mb4.6,baz=90,slow=7.1,SNR=2.9						

*IDC **03** 08:11:23.6±4.7, 1.10N×98.08E, h98km±37km, mb3.6/7, mb1 3.8/7, mb1mx3.5/19, mbtmp3.9/7, Error ellipse: s-maj=64.1km s-min=17.7km az=58.0*
*ISCJB **03** 08:11:24.7±4.2, 13N±03×984E±05, h116km±28km, mb3.8/7, Error ellipse: s-maj=92.5km s-min=19.4km az=115.0*

ISC 03 08:11:24.8±4.8, 12N±03×983E±05, h102km±34km, n9, σ0§95/8, mb3.8/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.68**	**23**	P	**Pn**	**08 11 53.4**	**0.0**
	0.8nm,0.3s,baz=225,slow=2.9,SNR=6.6						
WRA	**Warramunga Arr**	**41.16**	**123**	P	**P**	**08 18 59.3**	**+0.3**
	1.0nm,0.9s,mb3.7,baz=301,slow=8.9,SNR=4.5						
ASAR	**Alice Springs**	**42.58**	**128**	P	**P**	**08 19 11.2**	**+0.6**
	0.4nm,0.6s,mb3.3,baz=295,slow=8.0,SNR=5.4						
SONM	**Songino Array**	**46.94**	**7**	P	**P**	**08 19 44.7**	**-0.5**
	0.4nm,0.6s,mb3.3,baz=187,slow=10,SNR=4.5						
MKAR	**Makanchi Array**	**47.47**	**345**	P	**P**	**08 19 48.5**	**-0.7**
	1.8nm,0.7s,mb3.9,baz=156,slow=8.0,SNR=11						
STKA	**Stephens Creek**	**52.60**	**133**	P	**P**	**08 20 27.1**	**-1.0**
	1.8nm,0.7s,mb4.2,baz=297,slow=6.8,SNR=2.9						
ZAL	**Zalesovo**	**53.68**	**350**	P	**P**	**08 20 37.2**	**+1.2**
	2.0nm,0.4s,mb4.5,baz=48,slow=8.8,SNR=3.6						
GERES	**GERESS Array B**	**85.48**	**319**	P	**P**	**08 23 51.3**	**+0.1**
	0.4nm,0.2s,mb3.9,baz=87,slow=6.0,SNR=3.4						
CPUP	**Villa Florida**	**145.75**	**221**	PKPbc	PKPbc	08 30 49.7	-2.2
	0.8nm,0.6s,baz=110,slow=6.8,SNR=3.9						

PGC 03 08:13:45.6, 4928N×12920W, h10km, MLSn2.9/1, Mw3.5, 202km southwest of Pt. Hardy, Bc West of Vancouver Island, British Columbia Another small, unlocated event 44 seconds earlier., Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.28**	**46**	Pn	Pn	08 14 07.1	-2.3
BPBC				Sn	Sn	08 14 22.9	-3.7
	comp=Z,167nm,0.3s						
BPBC				Trac		08 14 25.2	
	comp=Z,167nm,0.3s						
EDB	**Eliza Dome**	**1.48**	**66**	Pn	Pn	08 14 09.6	-2.6
EDB				Sn	Sn	08 14 28.3	-3.3
EDB				Trac		08 14 34.4	
	comp=Z,27nm,0.5s						
HOLB	**Holberg**	**1.52**	**27**	Pn	Pn	08 14 10.6	-2.3
HOLB				Sn	Sn	08 14 28.2	-4.5
	comp=Z,16nm,0.1s						
HOLB				Trac		08 14 33.8	
	comp=Z,16nm,0.1s						
MAYB	**Maynard**	**1.73**	**49**	Pn	Pn	08 14 13.5	-2.1
MAYB				Sn	Sn	08 14 34.1	-3.7
	comp=Z,21nm,0.3s						
MAYB				Trac		08 14 36.4	
	comp=Z,21nm,0.3s						
ETB	**Estevan Point**	**1.75**	**86**	Pn	Pn	08 14 14.4	-1.5
PHC	**Port Hardy**	**1.83**	**38**	Pn	Pn	08 14 15.4	-1.6
PHC				Sn	Sn	08 14 35.9	-4.3
PHC				Trac		08 14 40.9	
	comp=Z,14nm,0.2s						
WOSB	**Woss**	**1.92**	**62**	Pn	Pn	08 14 17.3	-1.0
WOSB				Sn	Sn	08 14 37.9	-4.7
	comp=Z,19nm,0.3s						
WOSB				Trac		08 14 46.8	
	comp=Z,19nm,0.3s						
GDR	**Gold River**	**2.12**	**75**	Pn	Pn	08 14 19.1	-2.0
GDR				Trac		08 14 52.0	
	comp=Z,7.0nm,0.3s						
NCRB	**Newcastle Ridg**	**2.33**	**60**	Pn	Sn	08 14 23.2	-0.7
NCRB				Sn	Sn	08 14 47.6	-4.9
	comp=Z,11nm,0.3s						
NCRB				Trac		08 14 55.8	
	comp=Z,11nm,0.3s						
BTB	**Buttle Lake**	**2.41**	**84**	Pn	Pn	08 14 23.3	-1.7
BTB				Sn	Sn	08 14 51.2	-3.5
	comp=Z,10.0nm,0.3s						
BTB				Trac		08 14 58.5	
	comp=Z,10.0nm,0.3s						
OZB	**Mount Ozzard**	**2.46**	**96**	Pn	Pn	08 14 23.3	-2.4
OZB				Sn	Sn	08 14 51.8	-4.0
OZB				Trac		08 14 59.2	
	comp=Z,10.0nm,0.6s						
CBB	**Campbell River**	**2.60**	**72**	Pn	Pn	08 14 27.1	-0.6
CBB				Sn	Sn	08 14 57.8	-1.6
CBB				Trac		08 15 08.4	
	comp=Z,5.0nm,0.3s						
MGB	**Mount Grey**	**2.97**	**94**	Pn	Pn	08 14 31.7	-1.1
MGB				Sn	Sn	08 15 05.8	-2.8
MGB				Trac		08 15 14.8	
	comp=Z,3.0nm,0.2s						
BBB	**Bella Bella**	**2.99**	**13**	Pn	Pn	08 14 32.1	-0.8
BBB				Sn	Sn	08 15 05.2	-3.6
BBB				Trac		08 15 15.2	
	comp=Z,12nm,0.3s						
TXB	**Texada**	**3.13**	**81**	Pn	Pn	08 14 35.1	+0.1
PFB	**Port Renfrew**	**3.22**	**101**	Pn	Pn	08 14 34.5	-1.6
PFB				Sn	Sn	08 15 10.3	-4.3
PFB				Trac		08 15 20.6	
	comp=Z,2.0nm,0.3s						
NLLB	**Nanaimo Lost L**	**3.42**	**89**	Pn	Pn	08 14 38.5	-0.3
NLLB				Trac		08 15 18.9	
	comp=Z,11nm,0.8s						
SHB	**Sechelt**	**3.49**	**83**	Pn	Pn	08 14 40.6	+0.7
SHB				Trac		08 15 27.5	
	comp=Z,9.0nm,0.4s						
PGC	**Sidney**	**3.84**	**97**	Pn	Pn	08 14 43.1	-1.6
BIB	**Bowen Island**	**3.86**	**86**	Pn	Pn	08 14 44.9	0.0
BIB				Trac		08 15 33.6	
	comp=Z,8.1nm,0.8s						
WPB	**Watts Point**	**3.92**	**82**	Pn	Pn	08 14 46.8	+0.9
WSLR	**Whistler**	**4.16**	**76**	Pn	Pn	08 14 49.3	+0.2
HNB	**Haney**	**4.33**	**88**	Pn	Pn	08 14 51.8	+0.3
HNB				Trac		08 15 44.8	
	comp=Z,3.0nm,0.5s						
VDB	**Vedder Mountai**	**4.67**	**90**	Pn	Pn	08 14 56.3	+0.3
LLLB	**Lillooet**	**4.91**	**72**	Pn	Pn	08 15 00.7	+1.3
HOPB	**Hope**	**5.09**	**86**	Pn	Pn	08 15 02.8	+0.9
FSB	**Fort Saint Jam**	**6.01**	**28**	Pn	Pn	08 15 15.5	+1.0
FSB				Sn	Sn	08 16 20.8	-2.6
	comp=Z,1.0nm,0.5s						
FSB				Trac		08 16 23.7	
	comp=Z,1.0nm,0.5s						
PNT	**Penticton**	**6.27**	**86**	Pn	Pn	08 15 18.7	+0.6

*IDC **03** 08:16:42.7±3.8, 4.75S×153.11E, h18km±22km, mb4.3/10, mb1 4.4/11, mb1mx4.2/17, mbtmp4.3/11, ML3.7/1, MS3.7/6, Ms1 3.7/6, ms1mx3.2/24, Error ellipse: s-maj=25.2km s-min=18.8km az=100.0*
*MOS **03** 08:16:44.0±1.5, 4.54S×152.93E, h33km, mb4.7/4, Error ellipse: s-maj=22.6km s-min=12.5km az=58.6*
*ISCJB **03** 08:16:47.0±3.4, 4.9S±0.1×153.1E±0.1, h64km±30km, mb4.3/16, Error ellipse: s-maj=20.7km s-min=18.0km az=154.2*
*BJI **03** 08:16:48.7, 4.35S×153.67E, h75km, mB5.2, mb4.9, Ms4.6, Msz4.2*
*NEIC **03** 08:16:50.1±2.5, 4.91S×153.04E, h82km±22km, mb4.7/2, Error ellipse: s-maj=16.3km s-min=15.8km az=60.0*

ISC 03 08:16:49.7±2.7, 50S±01×1532E±01, h77km±24km, n44, σ1§22/34, mb4.2/16, 3C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.41**	**233**	Pn	**Pn**	**08 18 35.1**	**-0.1**
	3.6nm,0.3s,baz=48,slow=11,SNR=9.2						
PMG				Sn	**Sn**	**08 19 57.7**	**0.0**
	11nm,0.3s,baz=149,slow=17,SNR=7.1						
CTA	**Charters Tower**	**16.46**	**204**	Pn	**Pn**	**08 20 36.9**	**+1.1**
	0.2nm,0.3s,baz=59,slow=12,SNR=3.7						
CTA				LR	LR	08 24 57.8	
	comp=Z,143nm,19.0s,baz=250,slow=30						
CTA	**Charters Tower**	**16.46**	**204**	Pn	**Pn**	**08 20 36.9**	**+1.1**
CTA				LR	LR	08 24 57.8	
DZM	**Mont Dzumac**	**21.31**	**144**	P	**P**	**08 21 31.6**	**+1.4**
	11nm,0.8s,mb4.2,baz=349,slow=13,SNR=13						
KAKA	**Kakadu**	**21.86**	**248**	⇑*i* P	**P**	**08 21 34.2**	**-1.8**
	27nm,0.6s,mb4.8						
WRAB	**Tennant Creek**	**23.59**	**229**	*e*P	**P**	**08 21 53.6**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.4						
WRAB	**Tennant Creek**	**23.59**	**229**	*e*P	**P**	**08 21 53.6**	**+0.1**
	comp=Z,12nm,0.6s,mb4.4						
WB2	**Warramunga Arr**	**23.60**	**229**	⇑*i* P	**P**	**08 21 53.3**	**-0.2**
WRA	**Warramunga Arr**	**23.61**	**229**	P	**P**	**08 21 53.4**	**-0.2**
	comp=Z,12nm,0.8s,mb4.2,baz=52,slow=9.7,SNR=75						
WRA				PcP	PcP	08 25 40.1	+3.7
	comp=Z,1.5nm,0.9s,baz=55,slow=2.9,SNR=4.2						
ASAR	**Alice Springs**	**26.27**	**223**	P	**P**	**08 22 17.9**	**+0.1**
	comp=Z,0.8nm,0.5s,mb3.4,baz=56,slow=8.6,SNR=10						
STKA	**Stephens Creek**	**28.88**	**201**	P	**P**	**08 22 39.1**	**-2.0**
	comp=Z,2.7nm,0.9s,mb3.9,baz=8.7,slow=13,SNR=2.6						
STKA				LR	LR	08 33 41.5	
	comp=Z,322nm,19.3s,baz=24,slow=35						
FITZ	**Fitzroy Crossi**	**29.90**	**242**	⇑*i* P	**P**	**08 22 49.4**	**-0.7**
	comp=Z,23nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**29.90**	**242**	P	**P**	**08 22 49.5**	**-0.6**
	comp=Z,13nm,0.6s,mb4.7,baz=73,slow=9.3,SNR=38						
JOW	**Kunigami**	**39.74**	**324**	LR	LR	08 37 26.5	
	comp=Z,75nm,19.7s,baz=340,slow=32						
MJAR	**Matsushiro Arr**	**43.60**	**342**	PcP	PcP	08 26 33.5	+1.0
	comp=Z,2.4nm,1.0s,baz=180,slow=4.4,SNR=4.7						
RAR	**Rarotonga**	**48.38**	**114**	LR	LR	08 41 46.2	
	comp=Z,2μm,18.1s,baz=261,slow=31						
KLR	**Kul'dur**	**57.11**	**343**	*e*P	**P**	**08 26 23.8**	**-4.3**
FX1	**Attu Island--F**	**60.07**	**14**	LR	LR	08 50 09.4	
	comp=Z,3.4nm,18.1s,baz=44,slow=34						
SONM	**Songino Array**	**66.66**	**328**	P	**P**	**08 27 32.4**	**+0.2**
	comp=Z,1.0nm,0.5s,mb3.9,baz=143,slow=4.9,SNR=9.5						
SONM				LR	LR	08 54 07.6	
	comp=Z,48nm,19.5s,baz=245,slow=34						
ZAK	**Zakamensk**	**69.83**	**329**	*e*P	**P**	**08 27 47.6**	**-4.4**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb4.0						
BILL	**Bilibino**	**73.43**	**5**	*e*P	**P**	**08 28 12.3**	**-1.3**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
WMQ	**Urumqi**	**76.11**	**317**	*e*P	**P**	**08 28 29.6**	**+0.5**
HYB	**Hyderabad**	**76.89**	**289**	*i* P	**P**	**08 28 34.0**	**+0.5**
MKAR	**Makanchi Array**	**80.69**	**319**	P	**P**	**08 28 54.7**	**+0.4**
	comp=Z,3.4nm,0.8s,mb4.2,baz=102,slow=7.3,SNR=30						
ILAR	**Eielson Array**	**82.18**	**22**	P	**P**	**08 29 00.1**	**-2.0**
	comp=Z,1.2nm,0.8s,mb3.8,baz=247,slow=5.1,SNR=9.3						
TKM2	**Tokmak 2**	**84.31**	**314**	P	**P**	**08 29 14.0**	**+0.8**
	SNR=5.6						
KZA	**Kyzart**	**84.39**	**313**	P	**P**	**08 29 16.2**	**+2.6**
	SNR=7.5						
UCH	**Uchtor**	**84.95**	**313**	P	**P**	**08 29 18.5**	**+2.1**
	SNR=9.6						
AAK	**Ala-Archa**	**85.05**	**313**	P	**P**	**08 29 18.1**	**+1.2**
	SNR=7.9						
AAK	**Ala-Archa**	**85.05**	**313**	*e*P	**P**	**08 29 17.0**	**+0.1**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
USP	**Ospenovka**	**85.17**	**314**	P	**P**	**08 29 18.2**	**+0.8**
	SNR=11						
AML	**Almayashu**	**85.53**	**313**	P	**P**	**08 29 21.2**	**+1.9**
	SNR=14						
EKS2	**Erkin-Say**	**85.57**	**313**	P	**P**	**08 29 21.2**	**+1.7**
	SNR=7.5						
INK	**Inuvik**	**88.48**	**21**	LR	LR	09 11 52.2	
	comp=Z,65nm,18.0s,baz=313,slow=38						
BVAR	**Borovoye Array**	**89.59**	**323**	P	**P**	**08 29 37.9**	**-0.9**
	comp=Z,11nm,0.7s,mb5.1,baz=101,slow=6.2,SNR=49						
YKA	**Yellowknife Ar**	**95.41**	**28**	P	**P**	**08 30 04.5**	**-1.1**
	comp=Z,0.1nm,0.6s,mb3.4,baz=271,slow=4.7,SNR=4.2						
YKA				LR	LR	09 08 46.7	
	comp=Z,37nm,18.5s,baz=105,slow=33						
AKTK	**Aktyubinsk**	**97.08**	**320**	P	**P**	**08 30 11.6**	**-1.7**
AKTO	**Aktyubinsk**	**97.08**	**320**	P	**P**	**08 30 11.6**	**-1.7**
	comp=Z,0.7nm,0.6s,mb4.3,baz=126,slow=6.1,SNR=5.1						
GERES	**GERESS Array B**	**124.39**	**329**	PKP	PKPdf	08 35 40.2	+0.4
	comp=Z,1.4nm,0.5s,baz=96,slow=1.3,SNR=8.1						
LPAZ	**La Paz**	**134.02**	**118**	PKP	PKPdf	08 36 01.0	+2.9
	comp=Z,0.6nm,0.6s,baz=224,slow=5.5,SNR=4.7						
LPAZ				SKPbc	SKPbc	08 39 28.9	+8.4
	comp=Z,1.3nm,0.9s,baz=287,slow=4.7,SNR=5.8						
LPAZ	**La Paz**	**134.02**	**118**	PKP	PKPdf	08 36 01.0	+2.9
LPAZ				SKPbc	SKPbc	08 39 28.9	+8.4
BDFB	**Brasilia**	**150.69**	**135**	PKP	PKPdf	08 36 30.1	+2.7
	comp=Z,4.7nm,0.6s,baz=54,slow=6.9,SNR=3.4						
BDFB				PKPbc	PKPbc	08 36 34.9	+1.9
	comp=Z,2.8nm,0.5s,baz=31,slow=1.8,SNR=8.7						
TORD	**Torodi Ar. Bea**	**150.71**	**288**	PKPbc	PKPbc	08 36 34.4	+1.4
	comp=Z,9.4nm,0.7s,baz=65,slow=2.2,SNR=60						
DBIC	**Dimbokro**	**158.07**	**275**	PKPab	PKPab	08 37 12.3	+0.8
	comp=Z,3.2nm,0.9s,baz=69,slow=6.3,SNR=3.1						

*ISCJB **03** 08:48:15.8±0.4, 6087N±003×1659E±0.1, h10km, mb3.9/13, MS3.1/2, Error ellipse: s-maj=9.2km s-min=4.3km az=32.0*
*MOS **03** 08:48:15.4±0.9, 6082N×16575E, h13km, mb4.3/4, Error ellipse: s-maj=29.5km s-min=14.1km az=97.2*
*KRSC **03** 08:48:15.9±0.5, 6084N×16598E, h5km±2km, ML3.9*
*IDC **03** 08:48:16.2±0.7, 6090N×16569E, h0km, mb3.8/9, mb1 4.1/10, mb1mx3.8/25, mbtmp3.8/10, ML3.0/1, MS3.2/2, Ms1 3.2/2, ms1mx2.4/24, Error ellipse: s-maj=18.2km s-min=14.8km az=46.0*
*NEIC **03** 08:48:20.8±1.0, 6084N×16577E, h35km±10km, mb4.1/3, Error ellipse: s-maj=8.8km s-min=8.1km az=215.0*

ISC 03 08:48:17.5±0.4, 6090N±003×1659E±01, h10km, n38, σ0§96/39, mb3.9/13, MS3.1/2, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMR	**Kamenskoye**	**1.57**	**5**	*i* P	**Pn**	**08 48 45.4**	**0.0**
KAMR				*i* S	**Sn**	**08 49 06.6**	**+0.9**
KAMR				Smax			
	3μm,0.9s						
SMKR	**Semkarok**	**4.91**	**210**	*e*P	**Pn**	**08 49 32.5**	**+1.2**
SRKR	**Sorokina**	**4.92**	**212**	*e*P	**Pn**	**08 49 31.7**	**+0.2**
KBG	**Krutoberegovo**	**4.95**	**201**	*e*P	**Pn**	**08 49 31.0**	**-0.9**
KBTR	**Krutoberegovo**	**4.98**	**200**	*e*P	**Pn**	**08 49 32.9**	**+0.6**
KBTR				*e*S	**Sn**	**08 50 29.4**	**-0.5**
BDR	**Baidarnaya**	**4.99**	**211**	*e*P	**Pn**	**08 49 33.3**	**+0.9**
ZLN	**Zelenaya**	**5.58**	**211**	*e*P	**Pn**	**08 49 40.8**	**+0.2**
SRDR	**Sredinnyy**	**5.62**	**218**	*e*P	**Pn**	**08 49 41.4**	**+0.3**
KMNR	**Kamenistaya**	**5.96**	**213**	*e*P	**Pn**	**08 49 45.5**	**-0.3**
ESO	**Esso**	**6.26**	**220**	*e*P	**Pn**	**08 49 51.8**	**+1.9**
ESO				Smax			
	10.0nm,0.8s						
SEY	**Seymchan**	**6.70**	**294**	*e*P	**Pn**	**08 49 57.4**	**+1.5**
BILL	**Bilibino**	**7.17**	**1**	*e*PN	**Pn**	**08 50 03.8**	**+1.4**
BILL				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BILL	**Bilibino**	**7.17**	**1**	*e*Pn	**Pn**	**08 50 03.8**	**+1.5**
	comp=Z,8.5nm,0.6s						
BILL				*e*Sn	**Sn**	**08 51 22.5**	**-1.4**
BILL	**Bilibino**	**7.17**	**1**	*e*P	**Pn**	**08 50 05.2**	**+2.8**
BILL				*e*S	**Sn**	**08 51 24.8**	**+1.0**
BILL				Smax			
	comp=Z,80nm,1.0s						
MA2	**Magadan**	**7.65**	**267**	*i* P	**Pn**	**08 50 10.3**	**+1.3**
MA2				Smax			
	comp=Z,10.0nm,0.9s						
FX1	**Attu Island--F**	**8.96**	**151**	Pn	**Pn**	**08 50 26.2**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=74,slow=24,SNR=11						
FX1	**Attu Island--F**	**8.96**	**151**	PN	**Pn**	**08 50 26.2**	**-0.8**
FX1				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FX1	**Attu Island--F**	**8.96**	**151**	*e*Pn	**Pn**	**08 50 27.1**	**+0.1**
ILAR	**Eielson Array**	**21.48**	**59**	P	**P**	**08 53 06.8**	**+0.5**
	comp=Z,3.1nm,0.9s,mb3.6,baz=274,slow=8.6,SNR=31						
ASAJ	**Asahikawa**	**21.80**	**230**	LR	LR	09 01 48.0	
	comp=Z,26nm,18.1s,MS2.7,baz=178,slow=37						
INK	**Inuvik**	**25.95**	**48**	P	**P**	**08 53 50.6**	**+0.5**
	comp=Z,0.7nm,0.5s,mb3.5,baz=284,slow=7.5,SNR=14						
INK				PcP	PcP	08 57 19.2	+0.7
	comp=Z,0.6nm,0.6s,baz=252,slow=1.8,SNR=5.7						
BOD	**Bodaibo**	**26.06**	**287**	*e*P	**P**	**08 53 49.7**	**-1.3**
BOD				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1						
YKA	**Yellowknife Ar**	**35.51**	**52**	P	**P**	**08 55 14.7**	**+0.3**
	comp=Z,0.6nm,0.6s,mb3.7,baz=305,slow=8.2,SNR=18						
YKA				PcP	PcP	08 57 44.7	+1.1
	comp=Z,0.2nm,0.6s,baz=314,slow=3.6,SNR=5.1						
YKA	**Yellowknife Ar**	**35.51**	**52**	P	**P**	**08 55 14.7**	**+0.3**
YKA				PcP	PcP	08 57 44.7	+1.1
SONM	**Songino Array**	**35.73**	**276**	P	**P**	**08 55 16.2**	**-0.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=54,slow=5.3,SNR=4.2						
KURK	**Kurchatov**	**46.52**	**299**	*e*P	**P**	**08 56 43.8**	**-1.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
KURK	**Kurchatov**	**46.52**	**299**	*e*P	**P**	**08 56 43.8**	**-1.2**
	comp=Z,3.8nm,0.7s,mb4.4						
MKAR	**Makanchi Array**	**47.84**	**293**	P	**P**	**08 56 53.6**	**-1.7**
	comp=Z,0.9nm,0.6s,mb4.0,baz=47,slow=7.5,SNR=14						
BVAR	**Borovoye Array**	**48.17**	**306**	P	**P**	**08 56 57.0**	**-0.9**
	comp=Z,2.2nm,0.5s,mb4.5,baz=38,slow=7.3,SNR=11						
BRVK	**Borovoye**	**48.19**	**306**	*e*P	**P**	**08 56 56.8**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
BRVK	**Borovoye**	**48.19**	**306**	*e*P	**P**	**08 56 56.8**	**-1.3**
	comp=Z,1.1nm,0.6s,mb4.1						
PDAR	**Pinedale Array**	**51.36**	**70**	P	**P**	**08 57 21.9**	**-0.3**
	comp=Z,0.5nm,0.7s,mb3.5,baz=357,slow=4.1,SNR=4.9						
AAK	**Ala-Archa**	**54.56**	**295**	*e*P	**P**	**08 57 45.0**	**-0.8**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
AAK	**Ala-Archa**	**54.56**	**295**	*e*P	**P**	**08 57 45.0**	**-0.8**
	comp=Z,0.7nm,0.5s,mb4.0						
NOA	**NORSAR Array B**	**56.84**	**346**	P	**P**	**08 58 01.5**	**-0.7**
	comp=Z,0.8nm,0.5s,mb4.0,baz=14,slow=7.3,SNR=2.8						
GERES	**GERESS Array B**	**68.33**	**341**	LR	LR	09 30 36.5	
	comp=Z,38nm,20.4s,MS3.6,baz=91,slow=37						
WRA	**Warramunga Arr**	**84.49**	**210**	P	**P**	**09 00 49.4**	**-1.1**
	comp=Z,1.0nm,0.8s,mb4.0,baz=18,slow=4.9,SNR=5.2						
QSPA	**South Pole Qui**	**150.67**	**180**	*e*PKPbc	PKPbc	09 08 07.0	-2.8

*NEIC **03** 09:06:55.4, 36.78S×177.11E, h178km, MG3.9(WEL), After WEL.*

WEL 03 09:06:55.7±0.3, 3692S×17732E, h200km±2km, ML3.8/17, Error ellipse: s-maj=2.7km s-min=2.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.02**	**129**	PN	Pn	09 07 25.9	+0.4
MXZ				SN	Sn	09 07 48.3	-0.3
MXZ	**Matakaoa Point**	**1.02**	**129**	P	Pn	09 07 24.9	-0.6
TGRZ	**Tauranga**	**1.16**	**226**	PN	Pn	09 07 26.8	+0.2
TGRZ	**Tauranga**	**1.16**	**226**	P	Pn	09 07 25.8	-0.8
URZ	**Urewera**	**1.34**	**187**	PN	Pn	09 07 27.9	-0.1
URZ				SN	Sn	09 07 53.5	+0.4
URZ	**Urewera**	**1.34**	**187**	*e*P	Pn	09 07 27.9	-0.1
PUZ	**Puketiti**	**1.37**	**147**	PN	Pn	09 07 27.9	-0.3
PUZ				SN	Sn	09 07 53.4	-0.1
PUZ	**Puketiti**	**1.37**	**147**	P	Pn	09 07 27.9	-0.3
PUZ				S	Sn	09 07 53.4	-0.1
MWZ	**Matawai**	**1.42**	**173**	PN	Pn	09 07 28.7	0.0
MWZ				SN	Sn	09 07 53.9	-0.3
MWZ	**Matawai**	**1.42**	**173**	*e*P	Pn	09 07 27.7	-0.9
MWZ				S	Sn	09 07 52.9	-1.4
KNZ	**Kokohu**	**2.11**	**172**	PN	Pn	09 07 35.6	+0.2
**KNZ

KBS				Sn	**Sn**	09 50 25.6	**-4.0**
HOPEN	**Hopen**	**3.97**	**74**	*e*P	**Pn**	09 50 06.9	**+2.0**
HOPEN				*e*S	**Sn**	09 50 51.1	**-0.3**
HOPEN				AML	AML	09 50 53.8	
	comp=N,89nm,0.2s						
ARA0	**ARCESS Array S**	**8.14**	**134**	Pn	**Pn**	09 51 01.8	**-0.4**
	baz=335,slow=12						
ARA0				Sn	**Sn**	09 52 28.8	**-5.4**
	baz=323,slow=22						
APA0	**Apatity Array**	**11.21**	**125**	Pn	**Pn**	09 51 43.2	**-1.1**
	baz=338,slow=11						
APA0	**Apatity Array**	**11.21**	**125**	Pn	**Pn**	09 51 43.2	**-1.1**
	SNR=55						
FIA0	**FINESS Array S**	**15.77**	**148**	P	**Pn**	09 52 46.3	**+0.2**
	baz=311,slow=16						

*ISK **03** 09:52:11.9, 3640N×2766E, h14km, MD3.0*
*ATH **03** 09:52:12.4, 3653N×2768E, h21km±7km, MD3.2/3*
*CSEM **03** 09:52:12.0±0.3, 3641N×2764E, h15km, MD3.0, Error ellipse: s-maj=6.8km s-min=3.3km az=41.0*
*ISCJB **03** 09:52:13.2±0.6, 3642N±003×2759E±005, h10km, Error ellipse: s-maj=6.1km s-min=3.7km az=141.9*

ISC 03 09:52:13.6±0.6, 3642N±003×2759E±005, h10km, n13, σ1§15/23, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAT	**Datca**	**0.31**	**358**	PG	**Pg**	**09 52 19.0**	**-0.8**
DAT				SG	**Sg**	**09 52 24.7**	**+0.7**
ARG	**Arkhangelos**	**0.48**	**115**	*e*PB	**Pg**	**09 52 22.2**	**-0.7**
ARG				*e*SB	**Sg**	**09 52 29.4**	**+0.2**
BDRM	**Kayabasi**	**0.66**	**350**	*i* P	**Pg**	**09 52 26.1**	**-0.2**
BDRM				*i* S	**Sg**	**09 52 36.0**	**+1.0**
BODT	**Bodrum**	**0.68**	**341**	PG	**Pg**	**09 52 26.1**	**-0.7**
BODT				SG	**Sg**	**09 52 37.2**	**+1.5**
MLSB	**Milas**	**0.89**	**10**	*e*PG	**Pg**	**09 52 30.1**	**-0.6**
MLSB				*e*SG	**Sg**	**09 52 42.2**	**-0.1**
YER	**Yerkesik**	**0.91**	**38**	PG	**Pg**	**09 52 29.7**	**-1.4**
KARP	**Karpathos**	**0.94**	**202**	*e*PN	**Pn**	**09 52 32.6**	**-0.2**
KARP				*e*SN	**Sn**	**09 52 47.8**	**+1.6**
FETY	**Fethiye**	**1.22**	**79**	*e*PN	**Pn**	**09 52 34.7**	**-2.0**
SMG	**Samos**	**1.42**	**335**	*e*PN	**Pn**	**09 52 38.1**	**-1.4**
DNZL	**Cakiroluk**	**1.72**	**42**	*i* P	**Pn**	**09 52 44.3**	**+0.7**
DNZL				*i* S	**Sn**	**09 53 05.7**	**0.0**
GOLH	**Golhisar**	**1.78**	**62**	*i* P	**Pn**	**09 52 46.4**	**+2.0**
GOLH				*i* S	**Sn**	**09 53 09.5**	**+2.4**
KDAG	**Bornova**	**2.00**	**353**	*i* P	**Pg**	**09 52 50.5**	**-1.4**
KDAG				*i* S	**Sg**	**09 53 21.6**	**+3.7**
MANT	**Manisa**	**2.21**	**20**	*i* P	**Pg**	**09 52 55.8**	**-0.2**
MANT				*i* S	**Sg**	**09 53 29.6**	**+5.1**

IDC 03 10:09:03.2±11.0, 2202S×17850E, h651km±90km, mb2.7/3, mb1 2.9/4, mb1mx2.8/14, mbtmp3.9/4, Error ellipse: s-maj=213.6km s-min=83.2km az=149.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.18**	**267**	P	P	10 11 33.1	-1.1
	0.4nm,0.3s,baz=102,slow=16,SNR=5.0						
CTA	**Charters Tower**	**30.13**	**268**	P	P	10 14 25.6	+2.2
	3.0nm,0.5s,baz=88,slow=10,SNR=6.4						
ASAR	**Alice Springs**	**41.01**	**259**	P	P	10 15 52.4	-0.1
	0.4nm,0.5s,baz=87,slow=6.7,SNR=11						
WRA	**Warramunga Arr**	**41.18**	**265**	P	P	10 15 53.7	-0.1
	0.7nm,0.3s,baz=96,slow=8.4,SNR=34						
AKASG	**Malin Array Be**	**142.65**	**328**	PKP	PKPdf	10 27 23.4	-0.5
	1.0nm,0.5s,baz=46,slow=4.0,SNR=5.2						

CASC 03 10:22:41.1±1.6, 1061N×8701W, h126km±40km, MD3.8, ML2.9, 1C-3D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SSNN	**San Juan del S**	**1.32**	**59**	*e*P	Pn	10 23 06.3	-0.5
SSNN				*e*S	Sn	10 23 28.0	+1.5
COPN	**Copaltepe**	**1.61**	**15**	*e*P	Pn	10 23 10.2	0.0
COPN				*i*		10 23 10.6	
	comp=Z,113nm,0.2s						
COPN				*e*S	Sn	10 23 33.3	+0.9
MADN	**Villa Maderas**	**1.65**	**61**	*e*P	Pn	10 23 11.4	+0.8
CONN	**Concepcion**	**1.65**	**55**	*e*P	Pn	10 23 11.1	+0.4
APYN	**Apoyeque**	**1.74**	**22**	*e*P	Pn	10 23 11.8	+0.1
APYN				*e*S	Sn	10 23 36.3	+1.3
LEON	**Leon**	**1.80**	**4**	*e*P	Pn	10 23 12.4	+0.1
MIRN	**Miramar**	**1.84**	**9**	*e*P	Pn	10 23 13.1	+0.2
TEL3	**Telica 3**	**1.96**	**5**	*e*P	Pn	10 23 14.3	0.0
PRS1	**Puriscal**	**2.72**	**103**	*e*P	Pn	10 23 25.6	+1.6
PRS1				*e*S	Sn	10 23 58.0	+1.0
LCR2	**La Lucha 2**	**3.08**	**106**	*e*P	Pn	10 23 30.3	+1.7
LCR2				*e*S	Sn	10 24 07.4	+2.2
BUS	**Buena Vista**	**3.37**	**108**	*e*P	Pn	10 23 34.3	+1.9
BUS				*e*S	Sn	10 24 13.3	+1.4

*NEIC **03** 10:57:01.7, 3443S×7009W, h16km, ML2.6(GUC), After GUC.*

GUC 03 10:57:01.5±1.8, 3442S×7012W, h2km±5km, MD3.9, ML2.6, 6C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CICH	**Cipreses**	**0.27**	**292**	*i* P	Pg	10 57 07.8	+1.1
CICH				*i* S	Sg	10 57 12.4	+2.2
CACH	**El Canelo**	**0.50**	**307**	↑*i* P	Pg	10 57 11.7	+0.5
CACH				*i* S	Sg	10 57 19.0	+1.4
LMEL	**Las Melosas**	**0.57**	**353**	*i* P	Pg	10 57 12.8	+0.3
LMEL				*i* S	Sg	10 57 21.3	+1.3
LMEL				AML	AML	10 57 23.0	
	comp=N,685nm,0.1s						
LMEL	**Las Melosas**	**0.57**	**353**	↑*i* P	Pg	10 57 12.8	+0.3
LMEL				*i* S	Sg	10 57 21.3	+1.3
CHCH	**Chadas Angostu**	**0.66**	**317**	↓*i* P	Pg	10 57 14.7	+0.6
CHCH				*i* S	Sg	10 57 24.4	+1.8
SFDO	**San Fernando**	**0.77**	**255**	*e*P	Pg	10 57 16.4	+0.3
SFDO				*i* S	Sg	10 57 27.2	+1.1
PCH	**Pirque**	**0.86**	**337**	↓*i* P	Pg	10 57 18.2	+0.2
PCH				*i* S	Sg	10 57 30.7	+1.5
TACH	**Talagante**	**1.02**	**318**	↑*i* P	Pg	10 57 20.9	-0.3
CLCH	**Cerro Calan**	**1.08**	**341**	↑*i* P	Pg	10 57 22.1	-0.1
CLCH				*i* S	Sg	10 57 37.6	+1.4
CLCH				AML	AML	10 57 46.6	
	comp=N,224nm,0.6s						
RCDM	**Rinconada Maip**	**1.09**	**328**	*e*P	Pg	10 57 22.2	-0.2
FCH	**Farellones**	**1.10**	**352**	↑*i* P	Pg	10 57 22.2	-0.4
FCH				*i* S	Sg	10 57 37.8	+1.0
LNV	**Longovilo**	**1.17**	**293**	↓*i* P	Pg	10 57 23.1	-0.8
LNV				*i* S	Sg	10 57 38.9	-0.1
PEL	**Peldehue**	**1.36**	**339**	↓*i* P	Pn	10 57 26.7	-0.7
PEL				*i* S	Sg	10 57 45.6	+0.5
PEL				AML	AML	10 57 46.3	
	comp=N,302nm,0.3s						
PEL	**Peldehue**	**1.36**	**339**	↓*i* P	Pn	10 57 26.7	-0.7
PEL				*i* S	Sg	10 57 45.6	+0.5
LCCH	**Las Cruces**	**1.53**	**308**	*i* P	Pn	10 57 29.5	-0.3
ROCH	**El Roble**	**1.62**	**332**	*i* P	Pn	10 57 31.3	+0.2
ROCH				*i* S	Sn	10 57 53.7	+1.2
JACH	**Jahuel**	**1.78**	**347**	*i* P	Pn	10 57 34.2	+1.0
JACH				*i* S	Sn	10 57 58.5	+2.1
CMCH	**Combarbala**	**3.32**	**347**	*e*P	Pn	10 57 59.0	+4.6

*IDC **03** 10:59:36.3±0.7, 1178N×14333E, h0km, mb4.3/14, mb1 4.5/15, mb1mx4.3/23, mbtmp4.3/15, ML4.3/1, MS3.6/12, Ms1 3.6/12, ms1mx3.3/33, Error ellipse: s-maj=22.3km s-min=15.1km az=89.0*
*MOS **03** 10:59:39.4±0.9, 1178N×14321E, h33km, mb4.7/19, Error ellipse: s-maj=15.8km s-min=8.5km az=96.5*
*ISCJB **03** 10:59:40.2±0.4, 1173N±005×14323E±006, h39km, mb4.5/44, MS3.7/16, Error ellipse: s-maj=8.6km s-min=7.2km az=67.2*
*NEIC **03** 10:59:41.9±0.3, 1178N×14327E, mb4.6/12, Error ellipse: s-maj=12.3km s-min=8.1km az=94.0*
*BJI **03** 10:59:41.8, 1180N×14330E, h38km, mB4.9, mb4.7, Ms4.1, Msz4.0*

ISC 03 10:59:42.3±0.4, 1176N±005×14329E±006, h41km, h41km±2.0km: pP-P, n77, σ1§05/74, mb4.5/43, MS3.7/16,

3C-1D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.38**	**40**	Pn	**Pn**	**11 00 17.6**	**-1.3**
	82nm,0.3s,baz=194,slow=9.5,SNR=53						
GUMO				Sn	**Sn**	**11 00 47.5**	**+0.7**
	64nm,0.3s,baz=27,slow=22,SNR=5.7						
GUMO	**Guam**	**2.38**	**40**	Pn	**Pn**	**11 00 17.6**	**-1.3**
GUMO				Sn	**Sn**	**11 00 47.5**	**+0.7**
CBIJ	**Chichi jima**	**15.29**	**356**	LR	LR	11 08 27.9	
	comp=Z,76nm,21.7s,baz=119,slow=35						
JOW	**Kunigami**	**20.60**	**319**	P	**P**	**11 04 19.0**	**+1.2**
	11nm,0.6s,baz=196,slow=9.3,SNR=5.6						
JOW				LR	LR	11 10 57.2	
	comp=Z,118nm,18.4s,MS3.3,baz=101,slow=33						
PMG	**Port Moresby**	**21.37**	**169**	LR	LR	11 11 40.2	
	comp=Z,152nm,20.8s,MS3.4,baz=200,slow=34						
JHJ	**Hachijo jima 2**	**21.50**	**352**	LR	LR	11 11 08.1	
	comp=Z,136nm,20.1s,MS3.3,baz=309,slow=32						
MJAR	**Matsushiro Arr**	**25.10**	**350**	P	**P**	**11 05 01.4**	**-1.7**
	4.3nm,0.7s,mb4.1,baz=170,slow=9.8,SNR=21						
MJAR				LR	LR	11 14 06.2	
	comp=Z,198nm,19.3s,MS3.6,baz=210,slow=35						
MAJO	**Matsushiro**	**25.10**	**350**	*e*P	**P**	**11 05 01.2**	**-1.9**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.4						
MAJO	**Matsushiro**	**25.10**	**350**	*e*P	**P**	**11 05 01.2**	**-1.9**
	comp=Z,7.5nm,0.7s,mb4.3						
MAT	**Matsushiro**	**25.10**	**350**	P	**P**	**11 05 01.4**	**-1.7**
MAT				S	**S**	**11 09 33.6**	**+8.7**
MAT	**Matsushiro**	**25.10**	**350**	*e*P	**P**	**11 05 01.0**	**-2.1**
MAT				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.3						
SSE	**Sheshan**	**28.07**	**317**	P	**P**	**11 05 29.9**	**+0.1**
SSE				AMB	AMB		
	comp=Z,17nm,0.6s,mb4.8						
SSE				AMB	AMB		
	comp=Z,57nm,4.9s						
NJ2	**Nanjing**	**30.23**	**316**	*e*P	**P**	**11 05 53.4**	**+4.4**
NJ2				S	**S**	**11 10 55.0**	**+9.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,50nm,5.2s						
NJ2				LR	LR		
	comp=N,890nm,25.2s,MS4.4						
NJ2				LR	LR		
	comp=E,480nm,23.6s,MS4.4						
NJ2				LR	LR		
	comp=Z,640nm,22.0s,MS4.2						
CTA	**Charters Tower**	**31.78**	**175**	LR	LR	11 17 22.5	
	comp=Z,127nm,21.9s,MS3.6,baz=355,slow=34						
ASAJ	**Asahikawa**	**32.25**	**359**	LR	LR	11 17 40.0	
	comp=Z,59nm,18.3s,MS3.3,baz=171,slow=34						
WRAB	**Tennant Creek**	**32.70**	**196**	*e*P	**P**	**11 06 10.1**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**32.70**	**196**	*e*P	**P**	**11 06 10.1**	**-0.7**
	comp=Z,11nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**32.71**	**196**	*e*P	**P**	**11 06 10.3**	**-0.5**
WB2				*e*	pP	11 06 21.9	-0.1
WRA	**Warramunga Arr**	**32.71**	**196**	P	**P**	**11 06 09.9**	**-1.0**
	comp=Z,4.0nm,0.9s,mb4.4,baz=19,slow=9.7,SNR=22						
FITZ	**Fitzroy Crossi**	**34.41**	**211**	LR	LR	11 19 42.9	
	comp=Z,77nm,21.8s,MS3.4,baz=94,slow=35						
MDJ	**Mudanjiang**	**34.79**	**343**	P	**P**	**11 06 29.3**	**+0.4**
MDJ				PP	PP	11 07 49.1	+0.8
MDJ				PCP	PcP	11 09 01.5	-0.1
MDJ				S	**S**	**11 11 59.4**	**+2.7**
MDJ				PCS	PcS	11 12 48.1	-0.2
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,84nm,4.9s						
MDJ				LR	LR		
	comp=N,36nm,17.8s,MS3.3						
MDJ				LR	LR		
	comp=E,23nm,15.1s,MS3.3						
MDJ				LR	LR		
	comp=Z,44nm,16.4s,MS3.3						
CN2	**Changchun**	**35.45**	**338**	*e*P	**P**	**11 06 36.7**	**+2.1**
ASAR	**Alice Springs**	**36.38**	**195**	P	**P**	**11 06 43.3**	**+0.7**
	comp=Z,0.6nm,0.6s,mb3.7,baz=17,slow=10,SNR=12						
KLR	**Kul'dur**	**38.57**	**348**	*e*P	**P**	**11 06 56.8**	**-4.3**
HHC	**Hu-ho-hao-te**	**40.20**	**322**	*e*P	**P**	**11 07 15.5**	**+0.8**
HHC				PP	PP	11 08 52.9	+5.3
HHC				PCP	PcP	11 09 19.7	+1.5
HHC				PCS	PcS	11 13 09.4	+0.8
HHC				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.4						
HHC				AMB	AMB		
	comp=Z,88nm,5.3s						
HHC				LR	LR		
	comp=N,92nm,13.3s,MS4.0						
HHC				LR	LR		
	comp=E,129nm,13.9s,MS4.0						
HHC				LR	LR		
	comp=Z,95nm,14.7s,MS3.8						
KMI	**Kunming**	**40.53**	**295**	P	**P**	**11 07 18.3**	**+0.9**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb4.5						
DZM	**Mont Dzumac**	**40.57**	**146**	P	**P**	**11 07 17.9**	**+0.1**
	comp=Z,6.6nm,0.7s,mb4.4,baz=17,slow=6.8,SNR=5.8						
CD2	**Chengdu**	**41.18**	**304**	*e*P	**P**	**11 07 21.5**	**-1.2**
CD2				PP	PP	11 08 59.8	+1.6
CD2				S	**S**	**11 13 31.3**	**-2.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
CD2				LR	LR		
	comp=E,80nm,8.4s						
CD2				LR	LR		
	comp=Z,40nm,9.6s						
LZH	**Lanzhou**	**43.01**	**311**	*e*P	**P**	**11 07 38.5**	**+0.9**
LZH				PP	PP	11 09 20.5	+2.6
LZH				AMB	AMB		
	comp=Z,23nm,1.4s,mb4.7						
LZH				AMB	AMB		
	comp=Z,68nm,6.7s						
LZH				LR	LR		
	comp=N,472nm,14.2s						
LZH				LR	LR		
	comp=Z,598nm,18.5s,MS4.5						
GTA	**Gaotai**	**47.27**	**313**	*e*P	**P**	**11 08 13.0**	**+1.5**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.3						
SONM	**Songino Array**	**47.37**	**327**	P	**P**	**11 08 13.0**	**+0.7**
	comp=Z,0.8nm,0.6s,mb3.9,baz=151,slow=6.5,SNR=9.6						
SONM				LR	LR	11 30 03.7	
	comp=Z,86nm,18.3s,MS3.8,baz=61,slow=39						
ZAK	**Zakamensk**	**50.52**	**328**	↑*i* P	**P**	**11 08 36.6**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
BOD	**Bodaibo**	**51.09**	**340**	*e*P	**P**	**11 08 39.6**	**-1.1**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
YAK	**Yakutsk**	**51.15**	**352**	*e*P	**P**	**11 08 40.6**	**-0.5**
YAK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
YAK				pmax	pmax		
	comp=N,4.0nm,1.4s						
WMQ	**Urumqi**	**57.30**	**315**	↓*i* P	**P**	**11 09 27.5**	**+1.6**
WMQ				PCP	PcP	11 10 21.5	+1.7
WMQ				PP	PP	11 11 35.9	+2.6
WMQ				S	**S**	**11 17 18.5**	**-0.7**
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,77nm,4.0s						
WMQ				LR	LR		
	comp=N,43nm,20.9s,MS3.6						
WMQ				LR	LR		
	comp=E,36nm,22.7s,MS3.6						
WMQ				LR	LR		
	comp=Z,57nm,19.3s,MS3.7						
BILL	**Bilibino**	**58.22**	**10**	*e*P	**P**	**11 09 31.5**	**-0.8**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
BILL	**Bilibino**	**58.22**	**10**	*e*P	**P**	**11 09 31.5**	**-0.8**
	comp=Z,3.6nm,0.6s,mb4.6						
TIXI	**Tiksi**	**60.50**	**355**	*e*P	**P**	**11 09 40.8**	**-7.3**
TIXI				*e*SS	SS	11 21 53.3	-5.8
TIXI				*e*SSS		11 24 35.3	
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
MK31	**Makanchi Array**	**61.75**	**317**	P	**P**	**11 09 57.8**	**+1.2**
MK31				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.4						
MKAR	**Makanchi Array**	**61.75**	**317**	P	**P**	**11 09 57.6**	**+1.0**
	comp=Z,2.1nm,0.8s,mb4.3,baz=93,slow=8.9,SNR=19						
ZAL	**Zalesovo**	**62.23**	**325**	P	**P**	**11 09 59.1**	**-0.7**
	comp=Z,1.2nm,0.5s,mb4.3,baz=23,slow=9.2,SNR=5.7						
KURK	**Kurchatov**	**65.00**	**321**	*e*P	**P**	**11 10 18.1**	**0.0**
KURK				*e*PP	pP	11 10 29.3	-0.7
KURK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
KURK	**Kurchatov**	**65.00**	**321**	*e*P	**P**	**11 10 18.1**	**0.0**
	comp=Z,7.3nm,0.6s,mb4.9						
KURK				*e*pP	pP	11 10 29.3	-0.8
AAK	**Ala-Archa**	**66.54**	**311**	*e*P	**P**	**11 10 27.7**	**-0.3**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb4.0						
SLKM	**Skilak Lake**	**68.33**	**29**	*e*P	**P**	**11 10 39.0**	**-0.3**
VOSK	**Vostochnaya**	**70.02**	**322**	P	**P**	**11 10 49.5**	**-0.3**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
BRVK	**Borovoye**	**70.48**	**322**	*e*P	**P**	**11 10 52.6**	**0.0**
BRVK				*e*PP	pP	11 11 03.8	-0.8
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
BRVK	**Borovoye**	**70.48**	**322**	*e*P	**P**	**11 10 52.6**	**0.0**
	comp=Z,5.1nm,0.8s,mb4.5						
BRVK				*e*pP	pP	11 11 03.8	-0.9
COLA	**College**	**70.50**	**25**	*e*P	**P**	**11 10 52.0**	**-0.7**
COLA				*e*PP	pP	11 11 05.5	+0.7
COLA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
COLA	**College**	**70.50**	**25**	*e*P	**P**	**11 10 52.0**	**-0.7**
	comp=Z,4.4nm,0.8s,mb4.4						
COLA				*e*pP	pP	11 11 05.5	+0.7
ILAR	**Eielson Array**	**70.87**	**25**	P	**P**	**11 10 53.2**	**-1.7**
	comp=Z,5.2nm,0.7s,mb4.6,baz=252,slow=5.7,SNR=58						
ZRNK	**Zerenda**	**71.23**	**322**	*e*P	**P**	**11 10 57.1**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
ZRNK	**Zerenda**	**71.23**	**322**	*e*P	**P**	**11 10 57.1**	**-0.1**
	comp=Z,12nm,1.1s,mb4.8						
PPT	**Papeete**	**72.41**	**113**	LR	LR	11 38 57.6	
	comp=Z,114nm,18.5s,MS4.2,baz=284,slow=33						
INK	**Inuvik**	**76.64**	**22**	*e*P	**P**	**11 11 28.1**	**-0.7**
INK				*e*PP	pP	11 11 38.1	-2.9
INK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
INK	**Inuvik**	**76.64**	**22**	*e*P	**P**	**11 11 28.1**	**-0.7**
	comp=Z,6.4nm,1.2s,mb4.4						
INK				*e*pP	pP	11 11 38.1	-2.8
AB31	**Akbulak array**	**76.86**	**318**	*i* P	**P**	**11 11 30.2**	**+0.2**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
ARU	**Arti**	**77.39**	**325**	↑*i* P	**P**	**11 11 32.6**	**-0.4**
ARU				*e*		11 14 31.5	
ARU				*e*S	S	11 21 25.3	+4.9
ARU				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
AKTO	**Aktyubinsk**	**78.04**	**319**	P	**P**	**11 11 36.5**	**-0.1**
ORR	**Orenburg**	**79.98**	**321**	*i* P	**P**	**11 11 46.6**	**-0.7**
YKW3	**Yellowknife Ar**	**85.16**	**27**	*e*P	**P**	**11 12 13.8**	**-0.4**
YKW3				*e*pP	pP	11 12 26.7	+0.2
YKA	**Yellowknife Ar**	**85.18**	**27**	P	**P**	**11 12 14.1**	**-0.2**
	comp=Z,1.6nm,0.7s,mb4.3,baz=288,slow=5.2,SNR=30						
YKA				LR	LR	11 52 31.7	
	comp=Z,41nm,18.4s,MS3.9,baz=260,slow=37						
RES	**Resolute Bay**	**86.67**	**13**	*e*P	**P**	**11 12 22.0**	**+0.3**
RES				*e*PP	pP	11 12 33.8	-0.3
RES				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.7						
RES	**Resolute Bay**	**86.67**	**13**	*e*P	**P**	**11 12 22.0**	**+0.3**
	comp=Z,2.0nm,0.4s,mb4.7						
RES				*e*pP	pP	11 12 33.8	-0.3
NEW	**Newport**	**87.61**	**41**	*e*P	**P**	**11 12 27.0**	**+0.8**
NEW				*e*PP	pP	11 12 38.6	0.0
NEW				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NEW	**Newport**	**87.61**	**41**	*e*P	**P**	**11 12 27.0**	**+0.8**
	comp=Z,2.3nm,0.8s,mb4.5						
NEW				*e*pP	pP	11 12 38.6	0.0
ARCES	**ARCESS Array B**	**88.34**	**342**	P	**P**	**11 12 29.5**	**-0.2**
	comp=Z,1.0nm,0.7s,mb4.1,baz=72,slow=7.9,SNR=6.7						
NVAR	**Mina Array Bea**	**89.26**	**51**	P	**P**	**11 12 35.4**	**+1.4**
	comp=Z,2.2nm,0.8s,mb4.6,baz=264,slow=5.1,SNR=17						
OBN	**Obninsk**	**89.78**	**327**	*e*P	**P**	**11 12 35.2**	**-1.2**
OBN				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.3						
HLID	**Hailey**	**90.72**	**45**	*e*P	**P**	**11 12 42.8**	**+1.9**
	comp=Z,2.9nm,1.0s,mb4.6						
HLID				*e*pP	pP	11 12 53.9	+0.7
TPNV	**Topopah Spring**	**91.22**	**52**	*e*P	**P**	**11 12 44.9**	**+1.8**
FINES	**FINESS Array B**	**92.16**	**335**	P	**P**	**11 12 46.4**	**-1.1**
	comp=Z,1.6nm,0.9s,mb4.3,baz=328,slow=6.8,SNR=4.4						
FINES				LR	LR	11 56 21.4	
	comp=Z,33nm,18.1s,MS3.8,baz=192,slow=37						
NEN	**Nelson**	**92.67**	**53**	*e*P	**P**	**11 12 52.3**	**+2.4**
ANMO	**Albuquerque**	**99.38**	**51**	↑*e*P	**P**	**11 13 10.3**	**-10**
ULM	**Lac du Bonnet**	**99.61**	**34**	P	Pdif	11 13 21.4	+0.1
	comp=Z,0.5nm,0.3s,baz=291,slow=8.6,SNR=3.3						
LPAZ	**La Paz**	**149.21**	**102**	PKPbc	PKPbc	11 19 29.1	+2.8
	comp=Z,2.5nm,0.9s,baz=304,slow=2.2,SNR=7.5						
LPAZ	**La Paz**	**149.21**	**102**	*e*PKPdf	PKPdf	11 19 24.6	+2.5
LPAZ				*e*PKPbc	PKPbc	11 19 28.7	+2.3

ISC 03 11:00:36.4±0.7, 4887N±004×2052E±006, h14km±6km, n6, σ0§57/12, 1D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRVS	**Cervenica-Dubn**	**0.62**	**87**	*e*PG	**Pg**	**11 00 48.0**	**-0.6**
CRVS				*e*SG	**Sg**	**11 00 56.3**	**-0.5**
STHS	**Stebnicka Huta**	**0.72**	**41**	*e*PG	**Pg**	**11 00 50.1**	**-0.4**
STHS				*e*SG	**Sg**	**11 01 00.0**	**0.0**
**PSZ

TLL	**Tololo Astrono**	**2.68**	**174**	*e*P	Pn	11 14 03.8	+1.7
TLL				*i* S	Sn	11 14 35.7	+2.4
CPN1	**Cerro Paranal**	**2.94**	**13**	*e*P	Pn	11 14 06.3	+0.5
CPN1				AML	AML	11 14 58.7	
	comp=E,543nm,0.4s						
PEL	**Peldehue**	**5.64**	**176**	*e*P	Pn	11 14 53.8	+11
FCH	**Farellones**	**5.86**	**173**	*e*P	Pn	11 14 49.9	+4.0

MEX 03 11:13:25.2±0.4, 1731N×9880W, h16km±7km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.99**	**308**	*i* P	Pb	11 13 40.7	-3.3
MEIG				*i* S	Sb	11 13 52.9	-4.0
UTMO	**Huajuapan**	**1.08**	**61**	*i* P	Pb	11 13 42.1	-3.3
UTMO				*i* S	Sb	11 13 54.7	-4.6
ACX	**Acapulco**	**1.16**	**248**	*i* P	Pn	11 13 43.0	-3.7
ACX				*i* S	Sb	11 13 56.0	-5.6
CAIG	**El Cayaco**	**1.43**	**260**	*i* P	Pn	11 13 47.0	-3.5
CAIG				*i* S	Sn	11 14 04.3	-4.6

*ISCJB **03** 11:14:44.3±0.7, 1147S±009×12022E±009, h33km, mb4.1/5, Error ellipse: s-maj=16.5km s-min=7.0km az=87.4*
*NEIC **03** 11:14:45.8±0.5, 1142S×120.11E, h30km, mb4.1/2, Error ellipse: s-maj=14.6km s-min=8.1km az=56.0*
*IDC **03** 11:14:48.8±7.7, 1147S×12034E, h60km±82km, mb3.8/4, mb1 3.9/7, mb1mx3.7/15, mbtmp4.0/7, ML3.6/3, Error ellipse: s-maj=42.9km s-min=35.0km az=79.0*

ISC 03 11:14:46.6±0.7, 1145S±009×1202E±01, h35km, n14, σ0§94/19, mb4.1/5, 1C, South of Sumba

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.48**	**142**	⇑*i* P	**Pn**	**11 16 47.7**	**+0.8**
	14nm,0.6s						
FITZ				*e*S	**Sn**	**11 18 19.0**	**-2.3**
FITZ	**Fitzroy Crossi**	**8.48**	**142**	P	**Pn**	**11 16 47.7**	**+0.8**
	0.5nm,0.3s,baz=315,slow=5.0,SNR=3.2						
FITZ				S	**Sn**	**11 18 19.2**	**-2.1**
	0.5nm,0.3s,baz=187,slow=20,SNR=3.9						
WRA	**Warramunga Arr**	**16.05**	**123**	P	**Pn**	**11 18 29.6**	**0.0**
	0.2nm,0.3s,baz=307,slow=14,SNR=12						
WRA				S	**S**	**11 21 22.6**	**-17**
	0.1nm,0.3s,baz=289,slow=21,SNR=3.4						
WRAB	**Tennant Creek**	**16.05**	**123**	Pn	**Pn**	**11 18 30.4**	**+0.7**
WB2	**Warramunga Arr**	**16.06**	**123**	*e*P	**Pn**	**11 18 29.9**	**+0.2**
WB2				*e*S	**S**	**11 21 23.1**	**-16**
ASAR	**Alice Springs**	**17.86**	**135**	P	**Pn**	**11 18 53.0**	**+0.8**
	0.2nm,0.3s,baz=315,slow=12,SNR=9.4						
ASAR				S	**S**	**11 22 08.1**	**-7.8**
	0.1nm,0.3s,baz=307,slow=22,SNR=4.3						
KLBR	**Kellerberrin**	**20.17**	**186**	*e*P	**P**	**11 19 16.8**	**-1.1**
	12µm,10.6s						
KLBR				*e*S	S	11 22 39.0	-23
MUN	**Mundaring**	**20.75**	**189**	*e*P	**P**	**11 19 24.9**	**+0.6**
MUN				*e*S	S	11 22 52.4	-22
NWAO	**Narrogin (SRO)**	**21.54**	**187**	P	**P**	**11 19 33.9**	**+1.1**
	4.0nm,0.4s,mb4.2,baz=17,slow=14,SNR=9.4						
NWAO	**Narrogin (SRO)**	**21.54**	**187**	*e*P	**P**	**11 19 33.9**	**+1.1**
	3.8nm,0.4s,mb4.2						
SONM	**Songino Array**	**60.28**	**349**	P	**P**	**11 24 52.5**	**+1.0**
	1.5nm,0.7s,mb4.1,baz=166,slow=8.5,SNR=8.4						
MKAR	**Makanchi Array**	**67.14**	**333**	P	**P**	**11 25 35.9**	**-0.9**
	1.5nm,0.8s,mb4.1,baz=144,slow=8.4,SNR=6.0						
ZAL	**Zalesovo**	**71.72**	**339**	P	**P**	**11 26 04.3**	**-0.7**
	1.2nm,0.5s,mb4.1,baz=344,slow=7.6,SNR=4.2						
ZRNK	**Zerenda**	**77.58**	**331**	*e*P	**P**	**11 26 38.3**	**-0.7**
	0.7nm,0.5s,mb3.9						

*ISCJB **03** 11:16:50.6±1.4, 4280N±008×759E±0.1, h12km±9km, Error ellipse: s-maj=17.4km s-min=8.7km az=87.4*
*KNET **03** 11:16:51.3±0.3, 4274N×7578E, h7km±5km, ml1.1, Error ellipse: s-maj=2.5km s-min=1.6km az=59.0*

ISC 03 11:16:50.8±1.4, 4278N±005×7586E±009, h3km±15km, n9, σ0§81/13, 9C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.24**	**306**	P	**Pg**	**11 16 56.1**	**+0.6**
	39nm,0.1s,SNR=18						
TKM2				⇑S	**Sg**	**11 16 60.0**	**+1.3**
	47nm,0.2s						
ULHL	**Ulahol**	**0.60**	**152**	⇑P	**Pg**	**11 17 02.5**	**+0.1**
	5.8nm,0.2s,SNR=37						
KBK	**Karagaybulak**	**0.69**	**260**	⇑P	**Pg**	**11 17 04.0**	**0.0**
	11nm,0.2s,SNR=5.5						
KZA	**Kyzart**	**0.83**	**213**	⇑P	**Pg**	**11 17 06.7**	**-0.2**
	4.6nm,0.2s,SNR=9.1						
KZA				⇓S	**Sg**	**11 17 18.5**	**+0.8**
	5.4nm,0.4s						
CHMS	**Chumysh**	**0.85**	**285**	⇑P	**Pg**	**11 17 06.6**	**-0.5**
	2.5nm,0.1s						
CHMS				⇑S	**Sg**	**11 17 18.2**	**+0.1**
	3.6nm,0.2s						
AAK	**Ala-Archa**	**1.02**	**262**	⇑P	**Pg**	**11 17 09.7**	**-0.6**
	2.4nm,0.2s,SNR=7.8						
AAK				⇑S	**Sg**	**11 17 23.4**	**-0.2**
	2.2nm,0.2s						
USP	**Ospenovka**	**1.11**	**296**	⇑P	**Pg**	**11 17 11.7**	**-0.5**
	3.0nm,0.2s,SNR=7.5						
EKS2	**Erkin-Say**	**1.54**	**266**	⇓P	**Pn**	**11 17 19.7**	**+0.6**
	3.1nm,0.1s,SNR=13						
KK31	**Karatay Array**	**3.94**	**277**	Pn	**Pg**	**11 18 03.7**	**-2.7**
	0.3nm,0.4s,baz=96,slow=16,SNR=11						
KK31				⇓Lg		11 18 53.3	
	0.5nm,0.5s,baz=93,slow=30,SNR=6.7						

*CSEM **03** 11:31:28.9±0.2, 3443N×3671E, h3km±2km, Mc1.5, Error ellipse: s-maj=4.4km s-min=3.7km az=174.0*
*ISCJB **03** 11:31:29.5±0.8, 3438N±004×3673E±006, h7km±8km, Error ellipse: s-maj=7.7km s-min=5.9km az=171.9*
*GRAL **03** 11:31:29.8±2.7, 3445N×3676E, h0km±609km, MD3.2*
*NSSC **03** 11:31:29.6, 3436N×3667E, h6km±3km*

ISC 03 11:31:29.8±0.8, 3438N±004×3673E±006, h10km±8km, n17, σ0§76/30, 2D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAWK	**Haweek**	**0.30**	**298**	⇑P	**Pg**	**11 31 35.0**	**-0.9**
HAWK				⇑S	**Sg**	**11 31 40.0**	**+0.1**
HAWK	**Haweek**	**0.30**	**298**	⇑*i* P	**Pg**	**11 31 35.0**	**-0.9**
FKH	**Fakeheh**	**0.31**	**242**	*e*Pg	**Pg**	**11 31 35.0**	**-0.9**
FKH				*e*Sg	**Sg**	**11 31 40.3**	**+0.2**
MARH	**Ras Al Marh**	**0.41**	**211**	⇑P	**Pg**	**11 31 36.8**	**-1.0**
MARH				⇑S	**Sg**	**11 31 43.0**	**-0.3**
MARH	**Ras Al Marh**	**0.41**	**211**	⇑*i* P	**Pg**	**11 31 36.8**	**-1.0**
ROOS	**tl_alroos**	**0.51**	**114**	⇓P	**Pg**	**11 31 40.6**	**+0.9**
ROOS	**tl_alroos**	**0.51**	**114**	⇓*i* P	**Pg**	**11 31 40.6**	**+0.9**
HWQ	**Hawqa**	**0.66**	**261**	*e*Pg	**Pg**	**11 31 42.7**	**+0.1**
HWQ				*e*Sg	**Sg**	**11 31 50.6**	**-0.6**
BIDA	**Albida**	**0.72**	**332**	⇑P	**Pg**	**11 31 43.4**	**-0.3**
BIDA				⇑S	**Sg**	**11 31 53.9**	**+0.8**
BIDA	**Albida**	**0.72**	**332**	⇑*i* P	**Pg**	**11 31 43.4**	**-0.3**
BIDA				⇑*i* S	**Sg**	**11 31 53.9**	**+0.8**
BHL	**Bhannes**	**1.01**	**242**	*e*Pg	**Pg**	**11 31 49.7**	**+0.5**
BHL				*e*Sg	**Sg**	**11 32 04.7**	**+2.2**
WRDH	**Warideh**	**1.16**	**347**	⇑P	**Pb**	**11 31 51.0**	**-0.9**
WRDH				⇑S	**Sb**	**11 32 06.9**	**-0.1**
WRDH	**Warideh**	**1.16**	**347**	⇑*i* P	**Pb**	**11 31 51.0**	**-0.9**
WRDH				⇑*i* S	**Sb**	**11 32 06.9**	**-0.1**
SLNF	**Slenfeh**	**1.28**	**341**	⇑P	**Pn**	**11 31 53.6**	**-0.2**
SLNF				⇑S	**Sb**	**11 32 11.3**	**+0.6**
SLNF	**Slenfeh**	**1.28**	**341**	⇑*i* P	**Pn**	**11 31 53.7**	**-0.1**
SLNF				⇑*i* S	**Sb**	**11 32 11.3**	**+0.7**
BTCH	**Batrach**	**1.67**	**352**	⇑P	**Pn**	**11 31 59.8**	**+0.7**
BTCH				⇑S	**Sn**	**11 32 20.1**	**-0.6**
BTCH	**Batrach**	**1.67**	**352**	⇑*i* P	**Pn**	**11 31 59.8**	**+0.7**
BTCH				⇑*i* S	**Sn**	**11 32 20.1**	**-0.5**

*NEIC **03** 12:04:35.7, 2692S×7081W, h34km, ML3.7(GUC), After GUC.*

GUC 03 12:04:35.7±0.5, 2692S×7081W, h34km±2km, MD3.8, ML3.7, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.15**	**187**	⇓*i* P	Pb	12 04 41.7	-0.3
CDCH				*i* S	Sb	12 04 46.5	+0.2
CPCH	**Copiapo**	**0.59**	**137**	*i* P	Pn	12 04 49.9	+2.2
CPCH				*i* S	Sb	12 04 58.8	+2.7
CPCH				AML	AML	12 05 03.4	
	comp=E,8µm,0.1s						
CPCH	**Copiapo**	**0.59**	**137**	*i* P	Pn	12 04 49.9	+2.2
CPCH				*i* S	Sb	12 04 58.8	+2.7
CRCH	**Chaqaral**	**0.60**	**16**	*i* P	Pn	12 04 47.6	-0.2
CRCH				*i* S	Sb	12 04 56.2	-0.1
LCO	**Las Campanas**	**2.08**	**177**	*e*P	Pn	12 05 10.5	+2.3
LCO				*i* S	Sn	12 05 36.3	+3.4

IDC 03 12:09:06.7±1.2, 5055S×670W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.8/16, mbtmp3.9/4, Error ellipse: s-maj=39.1km s-min=28.9km az=123.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**21.27**	**177**	P	P	12 13 54.2	-0.3
	1.3nm,1.0s,baz=0.2,slow=12,SNR=4.2						
LBTB	**Lobatse**	**35.60**	**56**	P	P	12 16 06.2	+0.2
	1.6nm,0.6s,baz=247,slow=12,SNR=4.1						
CFAA	**Coronel Fontan**	**48.62**	**269**	P	P	12 17 52.2	+0.1
	0.2nm,0.3s,baz=129,slow=5.5,SNR=5.3						
DBIC	**Dimbokro**	**57.01**	**2**	P	P	12 18 54.0	-0.2
	8.1nm,1.2s,baz=135,slow=8.6,SNR=2.9						
YKA	**Yellowknife Ar**	**140.63**	**316**	PKP	PKPdf	12 28 37.0	-1.1
	0.2nm,0.7s,baz=108,slow=2.0,SNR=6.2						
ILAR	**Eielson Array**	**154.93**	**320**	PKPbc	PKPbc	12 29 08.2	-2.0
	0.4nm,0.8s,baz=68,slow=1.2,SNR=4.2						

*ISCJB **03** 12:12:20.7±0.8, 5049S±009×66W±0.4, h10km, mb4.0/5, MS4.0/1, Error ellipse: s-maj=36.8km s-min=13.5km az=175.1*
*IDC **03** 12:12:20.7±0.9, 5057S×657W, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.8/15, mbtmp4.0/5, MS4.1/1, Ms1 4.1/1, ms1mx3.3/14, Error ellipse: s-maj=44.6km s-min=23.8km az=91.0*

ISC 03 12:12:22.8±0.8, 5051S±009×67W±04, h10km, n14, σ1§03/9, mb4.0/5, MS4.0/1, 3C, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**20.22**	**182**	⇑*i*	**P**	**12 16 58.5**	**+0.6**
VNA1				*e*		12 17 03.5	
VNA1				*e*		12 17 06.9	
VNA1				*e*		12 17 11.0	
VNA1				*e*		12 17 22.4	
VNA1				*e*		12 17 28.0	
VNA2	**Neumayer--Watz**	**20.49**	**181**	⇑*i*	**P**	**12 17 03.5**	**+2.7**
	baz=358,slow=11						
VNA2				*e*		12 17 07.1	
VNA2				*e*		12 17 09.0	
VNA2				*e*		12 17 12.1	
VNA2				*e*		12 17 16.7	
VNA2				*e*		12 17 26.4	
VNA2				*e*		12 17 34.4	
VNA2				*e*		12 17 41.2	
VNA3	**Neumayer Olymp**	**20.85**	**183**	⇑*i*	**P**	**12 17 04.4**	**-0.3**
VNA3				*e*		12 17 07.9	
VNA3				*e*		12 17 10.0	
VNA3				*e*		12 17 13.1	
VNA3				*e*		12 17 17.5	
VNA3				*e*		12 17 26.8	
VNA3				*e*		12 17 34.9	
VNA3				*e*		12 17 37.9	
SNAA	**Sanae**	**21.31**	**177**	P	**P**	**12 17 07.3**	**-2.4**
	3.6nm,1.1s,mb3.6,baz=4.2,slow=13,SNR=7.4						
SNAA	**Sanae**	**21.31**	**177**	*e*	**P**	**12 17 09.4**	**-0.3**
SNAA				*e*		12 17 12.1	
SNAA				*e*		12 17 15.8	
SNAA				*e*		12 17 18.2	
SNAA				*e*		12 17 21.5	
SNAA				*e*		12 17 37.7	
SNAA				*e*		12 17 42.5	
SUR	**Sutherland**	**27.20**	**59**	LR	LR	12 25 53.8	
	comp=Z,433nm,21.8s,MS4.0,baz=192,slow=30						
CFAA	**Coronel Fontan**	**48.64**	**268**	P	**P**	**12 21 06.7**	**-0.2**
	0.3nm,0.4s,mb3.6,baz=125,slow=7.9,SNR=5.5						
VNDA	**Vanda**	**52.04**	**177**	P	**P**	**12 21 31.7**	**-0.9**
	3.5nm,1.1s,mb4.2,baz=218,slow=8.9,SNR=3.6						
DBIC	**Dimbokro**	**56.97**	**2**	P	**P**	**12 22 08.9**	**+0.5**
	5.4nm,1.1s,mb4.5,baz=164,slow=13,SNR=3.6						
TORD	**Torodi Ar. Bea**	**63.81**	**9**	P	**P**	**12 22 55.0**	**-0.2**
	1.8nm,1.2s,mb4.0,baz=193,slow=5.9,SNR=5.2						
MKAR	**Makanchi Array**	**123.45**	**55**	PKP	PKPdf	12 31 17.2	-3.1
	0.6nm,1.0s,baz=254,slow=5.2,SNR=4.5						
PDAR	**Pinedale Array**	**128.72**	**293**	PKP	PKPdf	12 31 28.9	-1.5
	0.5nm,0.8s,baz=150,slow=3.3,SNR=4.1						
YKA	**Yellowknife Ar**	**140.62**	**316**	PKhKP		12 31 47.2	
	0.8nm,0.9s,baz=101,slow=2.0,SNR=7.9						
YKA				PKP	PKPdf	12 31 51.3	-1.2
	0.8nm,0.9s,baz=101,slow=2.0,SNR=8.1						
ILAR	**Eielson Array**	**154.91**	**320**	PKPbc	PKPbc	12 32 21.6	-2.9
	0.4nm,0.9s,baz=355,slow=1.7,SNR=4.0						
ILAR				PKPab	PKPab	12 32 39.3	-0.5
	1.5nm,1.1s,baz=65,slow=1.9,SNR=8.7						

*STR **03** 12:29:22.9±0.3, 4349N×064W, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **03** 12:29:22.4±0.1, 4349N×068W, h20km, Md2.4/2, Ml2.4/4, Error ellipse: s-maj=2.7km s-min=1.5km az=153.0*

MDD 03 12:29:23.4±0.5, 4350N×064W, h0km, mbLg1.6/14, Error ellipse: s-maj=4.0km s-min=2.1km az=4.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORDF	**Ordiarp**	**0.36**	**217**	Pg	Pg	12 29 29.5	-0.7
ORDF				Sg	Sg	12 29 35.2	+0.3
ORDF	**Ordiarp**	**0.36**	**217**	Pg	Pg	12 29 29.5	-0.7
ORDF				Lg		12 29 35.3	
ATE	**Arette**	**0.42**	**186**	Pg	Pg	12 29 30.5	-0.9
ATE				Sg	Sg	12 29 36.7	-0.1
ATE	**Arette**	**0.42**	**186**	Pg	Pg	12 29 30.8	-0.6
ATE				Lg		12 29 36.7	
REYF	**Montagne du Re**	**0.47**	**157**	Pg	Pg	12 29 31.7	-0.7
REYF				Sg	Sg	12 29 38.2	-0.2
REYF	**Montagne du Re**	**0.47**	**157**	Pg	Pg	12 29 31.9	-0.5
REYF				Lg		12 29 38.3	
OSSF	**Osses**	**0.51**	**242**	Pg	Pg	12 29 33.0	-0.2
OSSF				Sg	Sg	12 29 40.0	+0.1
OSSF	**Osses**	**0.51**	**242**	Pg	Pg	12 29 33.2	0.0
OSSF				Lg		12 29 40.0	
LARF	**Larrau**	**0.53**	**209**	Pg	Pg	12 29 32.5	-1.0
LARF				Sg	Sg	12 29 40.1	-0.2
LARF	**Larrau**	**0.53**	**209**	Pg	Pg	12 29 32.7	-0.8
LARF				Lg		12 29 40.4	
SJPF	**Ste Jean**	**0.57**	**228**	*e*Pg	Pg	12 29 33.3	-1.1
SJPF				*e*Sg	Sg	12 29 41.2	-0.6
	29nm,0.4s						
SJPF	**Ste Jean**	**0.57**	**228**	Pg	Pg	12 29 33.3	-1.1
SJPF				Lg		12 29 41.2	
	15nm,0.4s						
EALK	**Alkurruntz**	**0.69**	**246**	Pg	Pg	12 29 36.0	-0.6
	6.9nm,0.2s,SNR=13						
EALK				Lg		12 29 45.8	
	16nm,0.2s,SNR=9.9						
LABF	**Labassere**	**0.69**	**131**	Pg	Pg	12 29 36.0	-0.7
LABF				Sg	Sg	12 29 46.0	+0.3
LABF	**Labassere**	**0.69**	**131**	Pg	Pg	12 29 36.5	-0.2
LABF				Lg		12 29 46.1	
ELIZ	**Elizondo**	**0.73**	**243**	Pg	Pg	12 29 36.9	-0.5
	7.3nm,0.2s,SNR=22						
ELIZ				Lg		12 29 46.5	
	8.2nm,0.2s,SNR=10						
VIEF	**Viey**	**0.79**	**141**	Pg	Pg	12 29 38.1	-0.3
VIEF				Lg		12 29 48.2	
EPF	**Esparros**	**0.86**	**123**	*e*Pg	Pg	12 29 39.5	-0.3
EPF				*e*Sg	Sg	12 29 50.6	-0.4
	17nm,0.3s						
EPF	**Esparros**	**0.86**	**123**	Pg	Pg	12 29 39.5	-0.3
EPF				Lg		12 29 50.6	
	8.6nm,0.3s						
IUSE	**Utxeti**	**0.86**	**230**	Pg	Pg	12 29 39.3	-0.6
	1.7nm,0.1s,SNR=7.9						
IUSE				Lg		12 29 51.0	
	6.0nm,0.2s,SNR=7.9						
IPRE	**Itoiz**	**0.87**	**217**	Pg	Pg	12 29 39.4	-0.7
	0.5nm,0.1s,SNR=7.9						
IPRE				Lg		12 29 50.5	
	6.4nm,0.3s,SNR=7.9						
IUNC	**Unciti**	**0.97**	**220**	Lg		12 29 54.8	
	13nm,0.3s,SNR=7.9						
EBIE	**Bielsa**	**1.00**	**144**	Pg	Pg	12 29 41.0	-1.5
	1.0nm,0.1s,SNR=7.5						
EBIE				Lg		12 29 54.6	
	6.1nm,0.2s,SNR=8.7						
EGRA	**Graus**	**1.48**	**151**	Pg	Pg	12 29 51.5	-0.3
	1.6nm,0.2s,SNR=7.9						
EGRA				Lg		12 30 10.6	
	0.9nm,0.5s,SNR=7.9						
LFF	**La Frestale**	**1.75**	**34**	*e*Sg	Sg	12 30 18.2	-1.4
	13nm,0.4s						
LFF	**La Frestale**	**1.75**	**34**	Lg		12 30 18.2	
	6.6nm,0.4s						
ESAC	**San Caprasio**	**1.78**	**176**	Pg	Pg	12 29 56.1	-1.4
	15nm,0.3s,SNR=7.9						
ESAC				Lg		12 30 19.4	
	24nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**2.05**	**263**	Lg		12 30 27.5	
	1.5nm,0.3s,SNR=7.9						
MTLF	**Montolieu**	**2.09**	**93**	*e*Sg	Sg	12 30 29.2	-1.4
	4.0nm,0.3s						
MTLF	**Montolieu**	**2.09**	**93**	Lg		12 30 29.2	
	2.0nm,0.3s						
RJF	**Les Rejaudoux**	**2.38**	**40**	*e*Sg	Sg	12 30 38.3	-1.4
	5.6nm,0.3s						
RJF	**Les Rejaudoux**	**2.38**	**40**	Lg		12 30 38.3	
	2.8nm,0.3s						

*IDC **03** 12:42:32.6±6.8, 4545×14352E, h75km±69km, mb3.4/4, mb1 3.7/6, mb1mx3.6/15, mbtmp3.8/6, ML3.5/2, Error ellipse: s-maj=47.8km s-min=24.7km az=153.0*
*NEIC **03** 12:42:32.2±2.5, 4465×14342E, h68km±24km, mb4.1/2, Error ellipse: s-maj=24.3km s-min=13.9km az=150.0*
*ISCJB **03** 12:42:34.2±2.7, 4735±0.1×14355E±0.1, h106km±29km, mb3.7/4, Error ellipse: s-maj=22.1km s-min=14.5km az=117.4*

ISC 03 12:42:33.5±3.4, 4653±02×14356E±01, h84km±35km, n11, σ0§70/12, mb3.7/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.03**	**143**	P	**Pn**	**12 44 00.9**	**+0.8**
	1.3nm,0.3s,baz=38,slow=12,SNR=5.9						
PMG				S	**Sn**	**12 45 07.0**	**-0.6**
	0.9nm,0.3s,baz=126,slow=24,SNR=3.9						
KAKA	**Kakadu**	**13.62**	**233**	*e*P	**Pn**	**12 45 42.2**	**-0.8**
	39nm,0.6s						
WRAB	**Tennant Creek**	**17.71**	**210**	*e*P	**Pn**	**12 46 34.2**	**-0.2**
	5.9nm,0.4s						
WB2	**Warramunga Arr**	**17.72**	**210**	*e*P	**Pn**	**12 46 35.6**	**+1.0**
WRA	**Warramunga Arr**	**17.72**	**210**	P	**Pn**	**12 46 34.0**	**-0.7**
	0.5nm,0.3s,baz=32,slow=13,SNR=33						
WRA				S	**S**	**12 49 43.5**	**-9.1**
	0.1nm,0.3s,baz=29,slow=24,SNR=2.8						
ASAR	**Alice Springs**	**21.15**	**205**	P	**P**	**12 47 12.3**	**+0.7**
	3.8nm,0.8s,mb3.8,baz=32,slow=11,SNR=14						
FITZ	**Fitzroy Crossi**	**22.07**	**231**	*e*P	**P**	**12 47 21.9**	**+0.4**
	5.3nm,0.6s,mb4.0						
FITZ	**Fitzroy Crossi**	**22.07**	**231**	P	**P**	**12 47 20.8**	**-0.7**
	2.4nm,0.5s,mb3.8,baz=75,slow=14,SNR=26						
MKAR	**Makanchi Array**	**74.19**	**321**	P	**P**	**12 54 01.6**	**+0.6**
	0.2nm,0.4s,mb3.2,baz=95,slow=7.9,SNR=4.3						
ILAR	**Eielson Array**	**85.54**	**24**	P	**P**	**12 55 01.4**	**-0.8**
	0.7nm,0.6s,mb3.8,baz=252,slow=5.0,SNR=12						
ILAR				pP	pP	12 55 28.4	+3.6
	0.8nm,0.7s,baz=260,slow=4.8,SNR=6.3						
DBIC	**Dimbokro**	**148.46**	**275**	PKPbc	PKPbc	13 02 12.7	+2.4
	1.5nm,0.6s,baz=107,slow=1.3,SNR=4.2						

IDC 03 12:47:50.6±3.8, 4667N×9472E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/20, mbtmp3.6/4, 1D, Error ellipse: s-maj=219.3km s-min=24.3km az=54.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POO	**Poona**	**24.61**	**306**	⇓*i* P	P	12 53 05.0	-7.5
	343nm,0.5s						
MKAR	**Makanchi Array**	**43.33**	**348**	P	P	12 55 54.3	0.0
	0.5nm,0.4s,baz=172,slow=8.7,SNR=7.3						
WRA	**Warramunga Arr**	**45.98**	**123**	P	P	12 56 15.4	0.0
	0.6nm,0.7s,baz=300,slow=9.9,SNR=9.5						
ASAR	**Alice Springs**	**47.46**	**128**	P	P	12 56 28.1	+1.1
	0.2nm,0.5s,baz=300,slow=7.4,SNR=4.7						
ARCES	**ARCESS Array B**	**78.47**	**340**	P	P	12 59 53.1	-0.2
	0.7nm,0.6s,baz=104,slow=5.1,SNR=6.1						

*NIED **03** 13:07:00, 4280N×145.10E, h41km, Mw4.9 Best double couple: M0 2.27000×10^16 NP1:φs48.00000°, δ64.00000°, λ88.00000°. NP2:φs233.00000°, δ26.00000°, λ95.00000°.*
*MOS **03** 13:07:27.9±0.9, 4282N×14499E, h36km, mb5.3/92, Error ellipse: s-maj=6.9km s-min=4.0km az=104.0*
MOS Felt (I-II) at Yuzhno-Kuril'sk.
*SZGRF **03** 13:07:28.4, 43.13N×145.45E, h33km, mb5.2, MS4.4, Hokkaido, Japan, region*
*ISCJB **03** 13:07:29.4±0.4, 4282N±003×14498E±003, h49km±2km, mb5.0/205, MS4.2/34, Error ellipse: s-maj=4.7km s-min=2.9km az=126.1*
*SKHL **03** 13:07:30.2±1.1, 4290N×14520E, h62km±8km, mb5.0/13, mbh5.3/1, mbv5.5/1, ms4.3/5, msh5.1/1*
*BJI **03** 13:07:30.1, 4294N×14496E, h57km, mB5.0, mb5.0, Ms4.2, Msz4.0*
*JMA **03** 13:07:30.3, 4284N×14507E, h48km±1km, M4.8 Broadband fault plane solution: P waves. NP1: φs239.00000°, δ26.00000°, λ103.00000°. NP2: φs44.00000°, δ64.00000°, λ84.00000°. Principal axes: T Plg70.0000°, Azm301.0000°; N Plg6.0000°, Azm47.0000°; P Plg19.0000°, Azm139.0000°;*
JMA Felt III J1.
*HRVD **03** 13:07:32.6±0.4, 4275N×145.15E, h50km±1km, MW4.9/55, Centroid moment Tensor Solution. LP body waves: s39,c56;Mantle waves: s55,c93; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.77±.15; Mθθ-1.93

JCH eS Sn 13 08 07.0 -0.1
YUK Yuzh-Kuril'sk 1.31 29⇓ *i*P Pn 13 07 51.5 -1.1
YUK AMB AMB 13 07 51.7
9μm,1.0s
YUK AMB AMB 13 07 51.7
6μm,1.0s
YUK AMB AMB 13 07 51.7
14μm,1.0s
YUK AMB AMB 13 07 51.7
860nm,0.4s
YUK AMB AMB 13 07 51.7
720nm,0.4s
YUK AMB AMB 13 07 51.7
6μm,0.4s
YUK *i* S Sn 13 08 07.5 -1.4
YUK A 13 08 08.2
46μm,1.0s
YUK A 13 08 08.2
136μm,1.0s
YUK A 13 08 08.4
21μm,0.5s
YUK A 13 08 08.4
30μm,0.5s
YUK Yuzh-Kuril'sk 1.31 29⇓ *i*PN Pn 13 07 51.5 -1.1
YUK *i* S Sn 13 08 07.5 -1.4
YUK pmax pmax
comp=Z,6μm,0.4s
YUK pmax pmax
comp=N,860nm,0.3s
YUK pmax pmax
comp=E,720nm,0.3s
YUK pmax pmax
comp=Z,14μm,1.0s
YUK pmax pmax
comp=N,9μm,0.6s
YUK pmax pmax
comp=E,6μm,0.8s
YUK smax
comp=N,46μm,0.8s
YUK smax
comp=E,137nm,1.2s
YUK smax
comp=N,21μm,0.5s
YUK smax
comp=E,30μm,0.5s
JTKR Abashiri--Toko 1.34 324 ⇓P Pn 13 07 54.4 +1.3
ERM Erimo 1.61 238 Pn Pn 13 07 58.7 +1.9
comp=E,21μm,0.4s,SNR=38
ASAJ Asahikawa 2.13 306 P Pn 13 08 06.0 +2.1
comp=E,361nm,0.3s,baz=148,slow=12,SNR=1278
ASAJ S Sn 13 08 35.0 +5.8
comp=E,408nm,0.3s,baz=30,slow=33,SNR=14
ASAJ LR LR 13 08 50.3
comp=E,2μm,21.4s,baz=125,slow=35
ASAJ Asahikawa 2.13 306 PN Pn 13 08 06.0 +2.1
ASAJ S Sn 13 08 35.0 +5.8
ASAJ pmax pmax
comp=Z,361nm,0.3s
ASAJ smax
comp=N,408nm,0.3s
ASAJ MLR MLR
comp=Z,2μm,21.4s
KUR Kuril'sk 3.13 40 *i* P Pn 13 08 15.5 -2.1
KUR AMB AMB 13 08 16.4
comp=Z,2μm,0.8s
KUR AMB AMB 13 08 16.5
comp=Z,150nm,0.5s
KUR AMB AMB 13 08 16.5
comp=Z,190nm,0.5s
KUR AMB AMB 13 08 16.5
comp=Z,680nm,0.5s
KUR *i* S Sn 13 08 51.0 -2.7
KUR A 13 08 59.0
comp=Z,10μm,1.6s
KUR A 13 08 59.0
comp=Z,5μm,1.6s
KUR A 13 08 59.5
comp=Z,2μm,0.6s
KUR A 13 08 59.5
comp=Z,990nm,0.6s
YSS Yuzh-Sakhalins 4.36 339⇓ *i*P Pn 13 08 35.0 +0.5
YSS *e*S Sn 13 09 24.0 -0.1
YSS AMS AMS 13 10 35.0
comp=Z,1μm,20.0s
YSS AMS AMS 13 10 35.0
comp=Z,2μm,16.0s
YSS Yuzh-Sakhalins 4.36 339⇓ *i*PN Pn 13 08 35.0 +0.5
YSS *e* 13 09 36.0
YSS MLR MLR
comp=Z,2μm,20.0s
YSS MLR MLR
comp=N,2μm,16.0s
YSS Yuzh-Sakhalins 4.36 339 *e*Pn Pn 13 08 35.5 +1.0
TEY Ternei 6.42 292 *e*P Pn 13 09 04.0 +1.2
TEY AMB AMB 13 09 05.0
comp=N,50nm,0.7s
TEY AMB AMB 13 09 05.0
comp=N,60nm,0.8s
UGL Uglegorsk 6.52 343 *e*P Pn 13 09 06.2 +2.1
UGL AMB AMB 13 09 12.0
comp=N,100nm,0.7s
UGL A 13 10 32.0
comp=N,1μm,4.0s
UGL A 13 10 32.0
comp=N,700nm,4.0s
UGL A 13 10 32.0
comp=N,500nm,4.0s
UGL AMS AMS 13 12 00.0
comp=N,1μm,17.0s
UGL AMS AMS 13 12 00.0
comp=N,500nm,17.0s
UGL AMS AMS 13 12 00.0
comp=N,2μm,17.0s
UGL Uglegorsk 6.52 343 *e*PN Pn 13 09 06.2 +2.1
UGL S Sn 13 10 27.5 +10
UGL pmax pmax
comp=Z,100nm,0.7s
UGL smax
comp=N,1μm,4.0s
UGL smax
comp=E,700nm,4.0s
UGL MLR MLR
comp=N,1μm,17.0s
UGL MLR MLR
comp=E,500nm,17.0s
UGL MLR MLR
comp=Z,2μm,17.0s
TYV Tymovskoe 8.14 349 *e*P Pn 13 09 26.5 +0.2
TYV AMB AMB 13 09 29.0
comp=Z,72nm,0.8s
TYV AMB AMB 13 09 29.0
comp=Z,400nm,4.0s
TYV AMB AMB 13 09 29.0
comp=Z,300nm,4.0s
TYV AMB AMB 13 09 29.0
comp=Z,400nm,3.0s
TYV AMS AMS 13 12 26.0
comp=Z,900nm,21.0s
TYV AMS AMS 13 12 26.0
comp=Z,1μm,21.0s
MAJO Matsushiro 8.21 222 *e*PN Pn 13 09 26.3 -1.0
MAJO pmax pmax
comp=Z,58nm,0.7s
MAJO Matsushiro 8.21 222 *e*Pn Pn 13 09 26.3 -1.0
comp=Z,58nm,0.7s
MAT Matsushiro 8.21 222 P Pn 13 09 26.3 -1.0
MAT S Sn 13 10 58.3 -0.5
MAT Matsushiro 8.21 222 *e*PN Pn 13 09 26.0 -1.3
MAT pmax pmax
comp=Z,15nm,0.6s
MAT Matsushiro 8.21 222 *e*P Pn 13 09 26.0 -1.3
comp=Z,15nm,0.6s
MAT *e*S Sn 13 10 58.0 -0.8
MJAR Matsushiro Arr 8.21 222 P Pn 13 09 26.5 -0.9
comp=Z,3.4nm,0.3s,baz=30,slow=14,SNR=71
MJAR S Sn 13 10 56.4 -2.4
comp=Z,1.3nm,0.3s,baz=216,slow=41,SNR=2.1
MJAR LR LR 13 13 18.1
comp=Z,566nm,20.6s,baz=50,slow=42
MJAR Matsushiro Arr 8.21 222 P Pn 13 09 26.5 -0.9
MJAR S Sn 13 10 56.4 -2.4
HABR Khabarovsk 8.92 312⇑ *i*PN Pn 13 09 42.3 +5.3
HABR pmax pmax
comp=Z,87nm,0.9s
VLA Vladivostok 9.60 276 *d i*PN Pn 13 09 49.8 +3.4
VLA *e* 13 11 39.3
VLA pmax pmax
comp=Z,78nm,1.1s
VLA MLR MLR
comp=Z,600nm,15.4s
GRNR Gornyy 9.82 326 *e*P Pn 13 09 47.8 -1.6
GRNR AMB AMB 13 09 49.0
comp=Z,110nm,0.8s
GRNR AMB AMB 13 09 49.0
comp=Z,130nm,0.8s
GRNR AMB AMB 13 09 49.0
comp=Z,48nm,0.8s
JHJ Hachijo jima 2 10.58 205 P Pn 13 09 58.4 -1.3
comp=Z,18nm,0.3s,baz=68,slow=19,SNR=2.8
JHJ S Sn 13 11 44.6 -12
comp=Z,44nm,0.3s,baz=72,slow=23,SNR=8.9
NKL Nikolayevsk 10.66 346 *e*P Pn 13 10 00.5 -0.4
NKL AMB AMB 13 10 02.3
comp=Z,40nm,1.3s
NKL AMB AMB 13 10 02.3
comp=Z,40nm,1.0s
OKH Okha 10.76 353 AMS AMS 13 15 10.0
comp=Z,1μm,17.0s
OKH AMS AMS 13 15 10.0
comp=Z,800nm,17.0s
SKR Severo-Kuril's 10.90 40 *e*PN Pn 13 10 09.4 +5.3
SKR pmax pmax
comp=N,80nm,0.7s
SKR pmax pmax
comp=Z,100nm,0.7s
SKR MLR MLR
comp=E,2μm,16.0s
SKR MLR MLR
comp=Z,2μm,16.0s
KLR Kul'dur 11.17 309 *e*P Pn 13 10 08.0 +0.2
KLR *e*P 13 10 08.2
KLR AMB AMB 13 10 10.7
comp=Z,80nm,1.0s
KLR AMB AMB 13 10 10.7
comp=Z,90nm,1.0s
KLR AMS AMS 13 15 05.0
comp=Z,1μm,13.0s
KLR AMS AMS 13 15 05.0
comp=Z,1μm,13.0s
KLR AMS AMS 13 15 05.0
comp=Z,2μm,13.0s
KLR Kul'dur 11.17 309 *e*PN Pn 13 10 08.0 +0.2
KLR *e* 13 12 18.5
KLR pmax pmax
comp=E,84nm,1.0s
KLR pmax pmax
comp=Z,96nm,1.0s
KLR MLR MLR
comp=N,1μm,13.0s
KLR MLR MLR
comp=E,1μm,13.0s
KLR MLR MLR
comp=Z,2μm,13.0s
MDJ Mudanjiang 11.28 284 P Pn 13 10 09.9 +0.7
MDJ S Sn 13 12 14.2 +0.4
MDJ SCP ScP 13 19 28.5 -1.6
MDJ PCS PcS 13 19 35.0 -0.2
MDJ SCS ScS 13 23 03.7 -1.8
MDJ AMB AMB
comp=Z,29nm,0.8s
MDJ AMB AMB
comp=Z,75nm,4.6s
MDJ LR LR
comp=E,365nm,21.0s
MDJ LR LR
comp=Z,545nm,20.5s
MDJ Mudanjiang 11.28 284 *e*P Pn 13 10 12.0 +2.7
comp=Z,30nm,0.9s
EKMR Ekimchan 12.97 326 *e*P Pn 13 10 32.5 +0.1
EKMR AMB AMB 13 10 36.0
comp=Z,54nm,0.9s
PET Petropavlovsk 13.63 37 *e*P Pn 13 10 42.8 +1.4
PET *e* 13 13 15.7
PET pmax pmax
comp=Z,41nm,1.1s
PET MLR MLR
comp=Z,200nm,16.0s
KS15 Wonju Array Si 14.16 253 *e*Pn Pn 13 10 48.7 0.0
CN2 Changchun 14.26 280 *e*P Pn 13 10 49.2 -0.7
CN2 *e*XP 13 11 09.7
CN2 *e*S Sn 13 13 25.5 -1.0
CN2 *e*SS 13 13 43.8
CN2 AMB AMB
comp=Z,20nm,1.1s
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,300nm,18.0s
CN2 LR LR
comp=E,500nm,18.0s
CN2 LR LR
comp=Z,600nm,19.0s
YASR Yasnyy 15.37 318 *e*P Pn 13 11 02.3 -2.2
YASR AMB AMB 13 11 07.2
comp=Z,7.0nm,0.8s
YASR AMB AMB 13 11 07.2
comp=Z,12nm,0.8s
YASR AMB AMB 13 11 07.2
comp=Z,17nm,0.8s
BMKR Bomnak 15.86 324 *e*P Pn 13 11 08.7 -2.1
BMKR AMB AMB 13 11 12.0
comp=Z,6.0nm,0.6s
CBIJ Chichi jima 15.92 189 S Sx 13 13 50.6
comp=Z,9.1nm,0.3s,baz=87,slow=19,SNR=5.3
CBIJ LR LR 13 17 56.4
comp=Z,320nm,18.6s,baz=120,slow=39
ZEA Zeya 15.99 319 *e*P Pn 13 11 10.9 -1.5
ZEA AMB AMB 13 11 13.7
comp=Z,20nm,0.9s
ZEA AMB AMB 13 11 13.7
comp=Z,30nm,0.9s
KROS Kirovskiy 16.53 321 *e*P Pn 13 11 18.0 -1.3
KROS AMB AMB 13 11 25.0
comp=Z,7.0nm,0.6s
DL2 Dalian 18.09 265 P Pn 13 11 39.3 +0.7
DL2 AMB AMB
comp=Z,40nm,0.7s
HIA Hailar 18.59 299 *e*P Pn 13 11 44.5 -0.2
HIA pmax pmax
comp=Z,36nm,0.8s
HIA Hailar 18.59 299 *e*P Pn 13 11 44.5 -0.2
comp=Z,36nm,0.8s
CLNS Chul'man 18.94 324 *e*P Pn 13 11 47.1 -1.8
CLNS *e*S S 13 15 18.7 -1.9
CLNS pmax pmax
comp=N,19nm,0.8s
CLNS pmax pmax
comp=E,4.0nm,0.8s
CLNS pmax pmax
comp=Z,16nm,0.8s
CLNS pmax pmax
comp=Z,62nm,1.2s
CLNS pmax pmax
comp=N,54nm,1.0s
CLNS pmax pmax
comp=E,29nm,1.2s
CLNS smax
comp=N,17nm,1.0s
CLNS smax
comp=E,11nm,0.8s
CLNS smax
comp=Z,7.0nm,0.8s
CLNS MLR MLR
comp=Z,200nm,13.0s
CLNS MLR MLR
comp=N,100nm,12.0s
CLNS MLR MLR
comp=E,200nm,15.0s
JOW Kunigami 21.03 226 P P 13 12 10.7 +0.1
comp=E,18nm,0.8s,mb4.4,baz=37,slow=10.0,SNR=4.4
YAK Yakutsk 21.22 340 *e*P pP 13 12 23.4 -0.2
YAK *e* 13 12 53.5
YAK *e*S S 13 16 00.0 -5.8
YAK pmax pmax
comp=Z,10.0nm,0.6s,mb4.3
YAK pmax pmax
comp=N,69nm,2.1s
YAK pmax pmax
comp=E,16nm,1.9s
YAK pmax pmax
comp=N,12nm,0.9s
YAK pmax pmax
comp=Z,23nm,0.9s,mb4.5
YAK pmax pmax
comp=E,14nm,1.3s
YAK smax
comp=N,28nm,1.3s
YAK smax
comp=Z,11nm,1.1s
YAK smax
comp=E,12nm,1.0s
YAK MLR MLR
comp=N,217nm,22.0s,MS3.8
YAK MLR MLR
comp=E,337nm,22.0s,MS3.8
YAK MLR MLR
comp=Z,336nm,22.0s,MS3.7
YAK Yakutsk 21.22 340 *e*P P 13 12 09.6 -2.9
comp=Z,91nm,0.9s,mb5.1
FX1 Attu Island--F 21.24 52 P P 13 12 13.1 +0.3
comp=Z,82nm,0.8s,mb5.1,baz=44,slow=3.1,SNR=12
FX1 Attu Island--F 21.24 52 P P 13 12 13.1 +0.2
FX1 pmax pmax
comp=Z,82nm,0.8s
FX1 Attu Island--F 21.24 52 *e*P P 13 12 14.3 +1.4
BJI Beijing 21.74 272 P P 13 12 17.6 -0.5
BJI S S 13 16 10.7 -5.3
BJI AMB AMB
comp=Z,82nm,0.9s,mb5.2
BJI LR LR
comp=N,187nm,14.6s
BJI LR LR
comp=E,300nm,22.5s
BJI LR LR
comp=Z,504nm,28.7s
BJT Baijiatuau 21.75 272 *e*P P 13 12 17.8 -0.5
BJT *e**PP 13 12 32.2
BJT pmax pmax
comp=Z,82nm,0.9s
BJT Baijiatuau 21.75 272 *e*P P 13 12 17.8 -0.5
comp=Z,82nm,0.9s,mb5.2
BJT *e*pP 13 12 32.2
SSE Sheshan 22.28 246 P P 13 12 23.4 -0.5
SSE AP 13 12 36.5
SSE XP sP 13 12 44.4 +3.5
SSE S S 13 16 24.9 -1.6
SSE XS sS 13 16 45.8 +1.1
SSE AMB AMB
comp=Z,19nm,0.7s,mb4.6
SSE AMB AMB
comp=Z,178nm,5.4s
SSE LR LR
comp=N,162nm,21.6s,MS3.5
SSE LR LR
comp=E,126nm,21.6s,MS3.5
SSE LR LR
comp=Z,241nm,20.0s,MS3.6
TIA Tai'an 22.44 262 *e*P P 13 12 24.2 -1.4
CIT Chita 22.98 304 *e*P P 13 12 31.6 +0.3
CIT *e* 13 12 42.4
CIT *e* 13 13 04.0
CIT *e* 13 13 17.7
CIT pmax pmax
comp=Z,46nm,1.3s,mb4.8
NJ2 Nanjing 23.31 251 *e*P P 13 12 37.2 +2.5
NJ2 AP 13 12 50.1
NJ2 S S 13 16 40.0 -3.5
NJ2 XS sS 13 17 06.0 +2.2
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb4.8
NJ2 AMB AMB
comp=Z,100nm,5.2s
NJ2 LR LR
comp=N,1μm,17.2s,MS4.5
NJ2 LR LR
comp=E,810nm,21.0s,MS4.5
NJ2 LR LR
comp=Z,490nm,17.9s,MS4.0
BOD Bodaibo 24.49 318 *e*P P 13 12 43.2 -2.3
BOD pmax pmax
comp=Z,6.0nm,1.1s
HHC Hu-ho-hao-te 24.89 277 *e*P P 13 12 49.2 +0.1
HHC AP 13 13 05.1
HHC XP sP 13 13 11.9 +5.0
HHC PP 13 13 28.2
HHC PCP PcP 13 16 25.4 +1.4
HHC S S 13 17 04.6 -4.5
HHC XS sS 13 17 31.3 +1.8
HHC SS 13 18 05.6
HHC SCP ScP 13 19 56.5 -2.5
HHC AMB AMB
comp=Z,34nm,1.0s,mb4.8
HHC AMB AMB
comp=Z,161nm,4.6s
HHC LR LR
comp=N,153nm,11.8s,MS3.9
HHC LR LR
comp=E,144nm,12.3s,MS3.9
HHC LR LR
comp=Z,217nm,14.9s,MS3.8
BTO Baotou 26.08 277 *e*P P 13 13 00.4 +0.4
ULN Ulaanbaatar 26.92 294 *e*P P 13 13 07.6 +0.1
ULN *e* 13 16 27.9
ULN pmax pmax
comp=Z,18nm,0.8s,mb4.7
ULN Ulaanbaatar 26.92 294 *e*P P 13 13 07.6 +0.1
comp=Z,18nm,0.8s,mb4.7
ULN *e*PcP PcP 13 16 27.9 -0.7
WHN Wuhan 27.32 253 P P 13 13 11.3 +0.1
SONM Songino Array 27.36 294 P P 13 13 12.0 +0.5
comp=Z,36nm,0.8s,mb5.0,baz=78,slow=8.4,SNR=181
SONM ScP ScP 13 20 04.0 -2.2
comp=Z,0.3nm,0.5s,baz=44,slow=4.5,SNR=3.7
SONM LR LR 13 25 03.6
comp=Z,726nm,18.9s,MS4.3,baz=71,slow=38
SONM Songino Array 27.36 294 P P 13 13 12.0 +0.5
SONM ScP ScP 13 20 04.0 -2.2
BILL Bilibino 27.64 17 *e*P P 13 13 13.5 -0.4
BILL *e* 13 13 57.2
BILL *e* 13 16 29.2
BILL pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
BILL MLR MLR
comp=Z,300nm,18.0s,MS3.9
BILL Bilibino 27.64 17 *e*P P 13 13 11.3 -2.7
comp=Z,4.8nm,0.8s,mb4.2
IRK Irkutsk 28.68 303 *e*P P 13 13 21.8 -1.5
IRK *e* 13 14 21.6
IRK pmax pmax
comp=Z,29nm,0.6s,mb5.2
TLY Talaya 29.05 302 *e*P P 13 13 27.4 +0.8
TLY pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
TLY Talaya 29.05 302 *e*P P 13 13 27.4 +0.8
comp=Z,6.9nm,0.9s,mb4.4
GUMO Guam 29.20 180 LR LR 13 23 11.6
comp=Z,195nm,20.0s,MS3.7,baz=57,slow=32
ZAK Zakamensk 29.29 299 *e*P P 13 13 29.1 +0.5
ZAK pmax pmax
comp=Z,34nm,1.4s,mb4.9
ZAK pmax pmax
comp=Z,22nm,1.4s,mb4.7
TIXI Tiksi 29.91 350 *e*P P 13 13 32.6 -1.5
TIXI *e*S S 13 18 26.5 -1.7
TIXI pmax pmax
comp=Z,2.0nm,0.8s
TIXI MLR MLR
comp=Z,219nm,17.0s,MS3.9
MOY Mondy 30.70 302 *e*P P 13 13 42.0 +0.8
LZH Lanzhou 32.23 272 ⇑P P 13 13 55.2 +0.6
LZH AP pP 13 14 10.3 +3.4
LZH XP sP 13 14 18.5 +6.1
LZH PP PP 13 15 03.4 -4.5
LZH S S 13 19 01.2 -3.3
LZH XS sS 13 19 27.3 +2.2
LZH SS SS 13 20 57.5 -27
LZH AMB AMB
comp=Z,32nm,1.4s,mb5.0
LZH AMB AMB
comp=Z,166nm,5.3s
LZH LR LR
comp=E,957nm,13.3s
LZH LR LR
comp=Z,1μm,17.2s,MS4.7
GTA Gaotai 33.89 280 P P 13 14 09.9 +0.8
GTA PCP PcP 13 16 47.6 +0.8
GTA AMB AMB
comp=Z,14nm,0.9s,mb4.9
GTA AMB AMB

comp=Z,112nm,4.2s
GTA LR LR
comp=N,199nm,19.4s,MS4.0
GTA LR LR
comp=E,221nm,20.1s,MS4.0
GTA LR LR
comp=Z,215nm,13.7s
CD2 Chengdu 34.75 264 P **P** **13 14 17.3 +0.8**
CD2 PP PP 13 15 29.7 -6.2
CD2 S **S** **13 19 39.7 -3.8**
CD2 AMB AMB
comp=Z,40nm,0.7s,mb5.5
CD2 LR LR
comp=N,140nm,14.9s
CD2 LR LR
comp=Z,140nm,18.8s,MS3.7
GYA Guiyang 35.18 255⇧ *i*P **P** **13 14 20.6 +0.4**
GYA AP pP 13 14 35.7 +3.1
GYA XP sP 13 14 42.9 +4.8
GYA PP PP 13 15 40.3 -0.3
GYA PCP PcP 13 16 51.9 +1.3
GYA S **S** **13 19 47.4 -2.7**
GYA XS sS 13 20 13.1 +2.2
GYA SCP ScP 13 20 31.0 -1.4
GYA SCS ScS 13 24 33.3 -3.1
GYA AMB AMB
comp=Z,20nm,0.7s,mb5.2
GYA AMB AMB
comp=Z,120nm,3.8s
GYA LR LR
comp=N,670nm,15.8s,MS4.6
GYA LR LR
comp=E,580nm,16.0s,MS4.6
GYA LR LR
comp=Z,690nm,15.4s,MS4.5
QIZ Qiongzhong 37.98 242 P **P** **13 14 45.0 +1.0**
QIZ S **S** **13 20 37.2 +4.4**
QIZ XS sS 13 21 00.9 +7.2
QIZ AMB AMB
comp=Z,11nm,1.1s,mb4.5
QIZ AMB AMB
comp=Z,110nm,4.6s
QIZ LR LR
comp=E,242nm,19.1s
QIZ LR LR
comp=Z,271nm,19.5s,MS4.1
KMI Kunming 38.79 257 P **P** **13 14 51.7 +0.8**
KMI AP pP 13 15 09.5 +6.1
KMI XP sP 13 15 16.8 +7.9
KMI PP PP 13 16 23.9 +3.6
KMI PPP 13 16 46.9
KMI S **S** **13 20 43.4 -1.7**
KMI XS sS 13 21 14.3 +8.3
KMI SS SS 13 23 26.2 -11
KMI SSS 13 23 57.1
KMI AMB AMB
comp=Z,37nm,0.9s,mb5.1
KMI AMB AMB
comp=Z,134nm,5.0s
KMI LR LR
comp=N,146nm,19.5s
KMI LR LR
comp=E,124nm,14.4s
KMI LR LR
comp=Z,155nm,17.8s,MS3.9
TTA Tatalina 39.09 38 *e*P **P** **13 14 53.5 +0.1**
SVW2 Sparrevohn 39.26 41 *e*P **P** **13 14 54.4 -0.4**
ZAL Zalesovo 40.28 307 P **P** **13 15 02.6 -0.7**
comp=Z,5.6nm,0.6s,mb4.5,baz=19,slow=7.5,SNR=11
ZAL PcP PcP 13 17 05.3 -0.9
comp=Z,10nm,0.7s,baz=37,slow=3.6,SNR=12
ZAL LR LR 13 33 37.9
comp=Z,610nm,18.8s,MS4.5,baz=23,slow=39
ZAL Zalesovo 40.28 307 P **P** **13 15 02.6 -0.7**
ZAL PcP PcP 13 17 05.3 -0.9
WMO Urumqi 40.95 292 *e*P **P** **13 15 09.5 +0.7**
KDAK Kodiak Island 40.99 46 P **P** **13 15 08.9 -0.2**
comp=Z,323nm,1.0s,mb5.9,SNR=9.4
KDAK Kodiak Island 40.99 46 P **P** **13 15 08.2 -0.9**
comp=Z,32nm,0.7s,mb5.1,baz=288,slow=5.2,SNR=22
SLKM Skilak Lake 41.91 42 *e*P **P** **13 15 16.0 -0.7**
PMR Palmer 42.34 40 *e*P **P** **13 15 19.9 -0.2**
PMR pmax pmax
comp=Z,26nm,1.0s,mb4.8
PMR Palmer 42.34 40 *e*P **P** **13 15 19.9 -0.2**
comp=Z,26nm,1.0s,mb4.8
COLA College 42.69 35*c i*P **P** **13 15 23.3 +0.3**
COLA College 42.69 35 *e*P **P** **13 15 23.2 +0.1**
comp=Z,51nm,0.8s,mb5.3
ILAR Eielson Array 43.11 36 P **P** **13 15 25.7 -0.7**
comp=Z,26nm,0.8s,mb5.0,baz=255,slow=4.9,SNR=134
MK31 Makanchi Array 43.59 298 P **P** **13 15 30.3 0.0**
MK31 pmax pmax
comp=Z,51nm,0.8s,mb5.3
MKAR Makanchi Array 43.59 298 P **P** **13 15 30.0 -0.3**
comp=Z,46nm,0.8s,mb5.2,baz=78,slow=9.0,SNR=149
MKAR PcP PcP 13 17 16.4 -0.8
comp=Z,5.7nm,0.7s,baz=57,slow=4.5,SNR=3.8
LSA Lhasa 44.64 271 *e*P **P** **13 15 40.2 +1.5**
LSA pmax pmax
comp=Z,30nm,1.0s,mb5.1
LSA Lhasa 44.64 271 *e*P **P** **13 15 40.2 +1.5**
comp=Z,30nm,1.0s,mb5.1
MENT Mentasta 44.70 38 *e*P **P** **13 15 39.5 +0.4**
KURK Kurchatov 44.71 304 P **P** **13 15 38.6 -0.6**
comp=Z,334nm,0.6s,SNR=24
KURK Kurchatov 44.71 304 *e*P **P** **13 15 38.9 -0.3**
KURK *e**PP pP 13 15 55.1 +3.2
KURK *e* 13 17 20.4
KURK pmax pmax
comp=Z,36nm,0.7s,mb5.3
KURK Kurchatov 44.71 304 *e*P **P** **13 15 38.9 -0.4**
comp=Z,36nm,0.7s,mb5.3
KURK *e*pP pP 13 15 55.0 +3.1
KURK *e*PcP PcP 13 17 20.4 -0.6
CHTO Chiang Mai 45.53 253 *e*P **P** **13 15 46.5 +0.8**
CHTO pmax pmax
comp=Z,19nm,0.8s,mb5.1
CHTO Chiang Mai 45.53 253 *e*P **P** **13 15 46.5 +0.8**
comp=Z,20nm,0.8s,mb5.1
SHL Shillong 46.41 266 *e*P **P** **13 15 52.5 -0.2**
DAWY Dawson 46.42 36 *e*P **P** **13 15 52.5 -0.3**
DAWY *e*PcP PcP 13 17 44.9 +18
INK Inuvik 47.94 30 *e*P **P** **13 16 04.1 -0.5**
INK *e* 13 17 32.0
INK pmax pmax
comp=Z,14nm,0.5s
INK Inuvik 47.94 30 *e*P **P** **13 16 04.1 -0.4**
comp=Z,14nm,0.5s,mb5.2
INK *e*PcP PcP 13 17 32.0 -0.4
VOSK Vostochnaya 48.60 309 P **P** **13 16 09.3 -0.4**
VOSK pmax pmax
comp=Z,17nm,0.9s,mb5.1
BRVK Borovoye 48.88 309 P **P** **13 16 11.2 -0.6**
comp=Z,152nm,0.9s,mb6.0,SNR=10
BRVK Borovoye 48.88 309 *e*P **P** **13 16 11.6 -0.2**
BRVK *e**PP pP 13 16 28.6 +3.9
BRVK *e* 13 17 35.4
BRVK pmax pmax
comp=Z,17nm,1.0s,mb5.0
BRVK Borovoye 48.88 309 *e*P **P** **13 16 11.6 -0.2**
comp=Z,17nm,1.0s,mb5.0
BRVK *e*pP pP 13 16 28.6 +3.9
BRVK *e*PcP PcP 13 17 35.4 -0.3
JIRN Jiri 49.40 272 *e*P **P** **13 16 15.9 +0.1**
comp=Z,28nm,0.6s,mb5.5
TKM2 Tokmak 2 49.45 295 P **P** **13 16 17.2 +1.0**
SNR=56
GUN Gumba 49.49 273 *e*P **P** **13 16 17.0 +0.5**
comp=Z,72nm,0.5s,mb5.9
ZRNK Zerenda 49.64 310 *e*P **P** **13 16 17.4 -0.3**
ZRNK *e**PP pP 13 16 34.4 +3.9
ZRNK *e* 13 17 38.0
ZRNK pmax pmax
comp=Z,28nm,0.8s,mb5.3
ZRNK Zerenda 49.64 310 *e*P **P** **13 16 17.4 -0.2**
comp=Z,28nm,0.8s,mb5.3
ZRNK *e*pP pP 13 16 34.4 +3.8
ZRNK *e*PcP PcP 13 17 38.0 -0.5
KKN Kakani 49.99 273 *e*P **P** **13 16 20.8 +0.5**
comp=Z,44nm,0.8s,mb5.5
KBK Karagaybulak 50.00 295 P **P** **13 16 21.1 +0.7**
SNR=52
PKI Pulchoki 50.02 273 *e*P **P** **13 16 20.8 +0.3**
comp=Z,46nm,0.7s,mb5.6
USP Ospenovka 50.03 296 P **P** **13 16 20.9 +0.3**
SNR=28
KZA Kyzart 50.05 294 P **P** **13 16 22.5 +1.8**
SNR=11
DMN Daman 50.22 273 *e*P **P** **13 16 22.5 +0.4**
comp=Z,80nm,1.0s,mb5.7
AAK Ala-Archa 50.31 295 P **P** **13 16 23.1 +0.4**
SNR=15
AAK Ala-Archa 50.31 295 P **P** **13 16 22.7 0.0**
comp=Z,93nm,0.6s,mb6.0,SNR=13
AAK Ala-Archa 50.31 295*c i*P **P** **13 16 21.8 -0.9**
AAK pmax pmax
comp=Z,20nm,1.3s,mb5.0
AAK Ala-Archa 50.31 295 *e*P **P** **13 16 21.9 -0.8**
comp=Z,18nm,0.9s,mb5.1
GKN Gorkha 50.35 273 *e*P **P** **13 16 23.3 +0.3**
comp=Z,33nm,0.5s,mb5.6
UCH Uchtor 50.47 295 P **P** **13 16 24.8 +0.8**
SNR=8.3
KSH Kashi 50.71 291 *e*P **P** **13 16 26.0 +0.3**
KSH *e*AP pP 13 16 41.2 +2.6
KSH *e*XP sP 13 16 48.1 +4.1
KSH *e*PCP PcP 13 17 43.3 +0.9
KSH *e*PP PP 13 18 23.2 +1.2
KSH *e*PPP 13 19 22.2
KSH *e*SCP ScP 13 21 32.3 -2.4
KSH *e*PCS PcS 13 21 39.0 -0.8
KSH *e*S **S** **13 23 33.7 -3.9**
KSH *e*PS 13 23 52.6
KSH *e*XS sS 13 24 01.3 +2.2
KSH *e*SS SS 13 27 06.0 -6.3
KSH AMB AMB
comp=Z,74nm,3.2s
KSH LR LR
comp=N,202nm,4.5s
KSH LR LR
comp=E,208nm,4.9s
KSH LR LR
comp=Z,116nm,6.8s
EKS2 Erkin-Say 50.77 296 P **P** **13 16 26.6 +0.5**
SNR=22
AML Almayashu 51.06 295 P **P** **13 16 29.6 +1.2**
SNR=25
KOLN Koldanda 51.24 274 *e*P **P** **13 16 30.4 +0.7**
comp=Z,83nm,0.9s,mb5.7
BOK Bokaro 51.85 268 *e*P **P** **13 16 33.7 -0.6**
DLBC Dease Lake 52.37 41 *e*P **P** **13 16 39.2 +1.0**
DLBC *e*pP pP 13 16 56.9 +5.8
KKAR Karatay Array 52.72 298 *i* P **P** **13 16 40.5 -0.2**
KKAR pmax pmax
comp=Z,13nm,0.6s,mb5.0
HNR Honiara 53.83 162 LR LR 13 36 01.3
comp=Z,231nm,21.5s,MS4.2,baz=359,slow=32
DDI Dehra Dun 53.87 280 *e*P **P** **13 16 48.0 -1.2**
ARU Arti 53.90 317⇩ *i*P **P** **13 16 48.4 -1.0**
ARU *e* 13 17 53.4
ARU *e* 13 18 47.3
ARU *e*S **S** **13 24 12.8 -8.4**
ARU pmax pmax
comp=Z,42nm,1.4s,mb5.2
ARU Arti 53.90 317 *e*P **P** **13 16 47.9 -1.5**
comp=Z,43nm,1.1s,mb5.3
SMLA Simla 54.08 281 *e*P **P** **13 16 48.6 -2.1**
ALE Alert 54.09 4 P **P** **13 16 49.5 -1.3**
comp=Z,77nm,0.7s,mb5.7,SNR=6.2
NDI New Delhi 55.39 279 *e*P **P** **13 17 00.4 +0.2**
NDI AMb AMB 13 17 01.4
comp=Z,51nm,1.1s,mb5.5
RES Resolute Bay 56.24 16 *e*P **P** **13 17 05.1 -1.2**
RES pmax pmax
comp=Z,69nm,0.7s,mb5.8
RES Resolute Bay 56.24 16 *e*P **P** **13 17 05.1 -1.2**
comp=Z,69nm,0.7s,mb5.8
AB31 Akbulak array 56.37 308 *i* P **P** **13 17 07.2 0.0**
AB31 pmax pmax
comp=Z,11nm,0.6s,mb5.1
KAKA Kakadu 56.51 195 *e*P **P** **13 17 07.4 -0.8**
comp=Z,15nm,0.7s,mb5.1
AKTO Aktyubinsk 56.90 310 P **P** **13 17 10.6 -0.4**
AKTO pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
YKW3 Yellowknife Ar 57.35 33 *e*P **P** **13 17 13.4 -0.7**
YKW3 *e*pP pP 13 17 30.0 +2.8
YKA Yellowknife Ar 57.39 33 P **P** **13 17 13.1 -1.3**
comp=Z,7.8nm,0.8s,mb4.8,baz=300,slow=6.8,SNR=97
YKA PcP PcP 13 18 07.3 -0.6
comp=Z,1.9nm,0.8s,baz=301,slow=3.9,SNR=4.4
YKA LR LR 13 42 58.9
comp=Z,88nm,20.6s,MS3.9,baz=290,slow=37
YKA PKPPKP 13 47 05.6
comp=Z,0.3nm,0.8s,baz=104,slow=2.1,SNR=4.6
YKA Yellowknife Ar 57.39 33 P **P** **13 17 13.1 -1.3**
YKA 13 18 07.3
YKA Yellowknife Ar 57.39 33 P **P** **13 17 13.1 -1.3**
YKA PcP PcP 13 18 07.3 -0.6
YKA P'P' 13 47 05.6
VIS Vishakhapatnam 57.48 264 *e*P **P** **13 17 15.2 +0.2**
VIS AMb AMB 13 17 23.3
comp=Z,24nm,1.4s,mb5.0
LVZ Lovozero 57.93 335 P **P** **13 17 17.6 -0.6**
comp=Z,160nm,0.7s,SNR=5.2
LVZ Lovozero 57.93 335 *e*P **P** **13 17 16.9 -1.3**
LVZ pmax pmax
comp=Z,22nm,0.9s,mb5.2
LVZ pmax pmax
comp=N,6.0nm,0.8s
LVZ pmax pmax
comp=E,4.0nm,0.6s
ORR Orenburg 58.11 313 *i* P **P** **13 17 18.8 -0.7**
ORR pmax pmax
comp=Z,70nm,1.0s,mb5.7
ORR MLR MLR
comp=Z,370nm,28.0s,MS4.3
BHPL Bhopal 58.40 273 *e*P **P** **13 17 21.2 -0.3**
BHPL AMb AMB 13 17 22.3
comp=Z,35nm,1.6s,mb5.2
NGP Nagpur 58.47 270 *e*P **P** **13 17 21.3 -0.7**
NGP AMb AMB 13 17 22.8
comp=Z,23nm,0.7s,mb5.3
APA Apatity 58.51 335⇧ *i*P **P** **13 17 20.8 -1.4**
APA *i* pP 13 17 30.3 -5.1
APA pmax pmax
comp=Z,18nm,0.7s,mb5.2
AJM Ajmer 58.52 278 *e*P **P** **13 17 21.2 -1.1**
AJM AMb AMB 13 17 23.7
comp=Z,41nm,1.0s,mb5.4
KEV Kevo 58.96 339 *e*p **P** **13 17 24.4 -1.0**
comp=Z,18nm,0.7s,mb5.2
KEV Kevo 58.96 339 *e*P **P** **13 17 24.4 -1.0**
KEV pmax pmax
comp=Z,18nm,0.7s,mb5.2
ARCES ARCESS Array B 59.50 339 P **P** **13 17 28.2 -0.9**
comp=Z,8.8nm,0.8s,mb4.9,baz=35,slow=7.1,SNR=40
ARE0 ARCESS Array S 59.50 339 *e*P **P** **13 17 27.8 -1.3**
DAG Danmarks Havn 60.17 356⇧ *i*P **P** **13 17 32.7 -1.0**
comp=Z,15nm,0.8s,mb5.1
DAG Danmarks Havn 60.17 356⇧ *i*P **P** **13 17 32.7 -1.0**
DAG pmax pmax
comp=Z,15nm,0.8s,mb5.1
AKL Akola 60.24 271 *ex* x 13 16 57.5
KLMR Klimovskoe 60.31 327*c i*P **P** **13 17 33.6 -1.1**
KLMR pmax pmax
comp=Z,20nm,1.6s,mb4.9
KLMR MLR MLR
comp=Z,340nm,20.0s,MS4.5
HYB Hyderabad 61.17 267 *i* P **P** **13 17 40.5 0.0**
HYB *e* pP 13 17 52.5 -1.2
JOF Joensuu 62.11 332 *ep* **P** **13 17 46.5 -0.4**
comp=Z,20nm,0.5s,mb5.5
MDRS Chennai 62.75 262 *ex* x 13 16 22.4
FITZ Fitzroy Crossi 63.25 201 *e*P **P** **13 17 53.8 -0.7**
comp=Z,14nm,1.2s,mb5.0
FITZ Fitzroy Crossi 63.25 201 LR LR 13 40 50.4
comp=Z,83nm,22.0s,MS3.9,baz=92,slow=32
WRAB Tennant Creek 63.27 191 *e*P **P** **13 17 53.6 -1.0**
WB2 Warramunga Arr 63.28 191 *e*P **P** **13 17 52.4 -2.3**
WRA Warramunga Arr 63.28 191 P **P** **13 17 52.8 -1.9**
comp=Z,3.8nm,0.8s,mb4.6,baz=12,slow=6.9,SNR=22
WRA PcP PcP 13 18 31.5 -0.1
comp=Z,1.7nm,0.6s,baz=7.1,slow=4.1,SNR=6.7
WRA PKPPKP 13 46 59.9
comp=Z,1.8nm,0.8s,baz=200,slow=2.2,SNR=8.2
WRA Warramunga Arr 63.28 191 P **P** **13 17 52.8 -1.9**
WRA 13 18 31.5
WRA pmax pmax
comp=Z,4.0nm,0.8s
WRA pmax pmax
comp=Z,2.0nm,0.6s
ABKT Ailbek 63.46 298 P **P** **13 17 56.1 +0.2**
comp=Z,275nm,0.5s,SNR=11
NEW Newport 64.08 47 *e*P **P** **13 17 59.9 0.0**
KAF Kangasniemi 64.37 333 *ep* **P** **13 18 00.5 -1.3**
comp=Z,15nm,0.6s,mb5.2,baz=44,slow=6.2
KAF Kangasniemi 64.37 333 *e*P **P** **13 18 00.5 -1.3**
KAF pmax pmax
comp=Z,15nm,0.6s,mb5.2
KAD Karad 64.45 270 *e*P **P** **13 18 01.7 -0.6**
KAD AMb AMB 13 18 14.8
comp=Z,30nm,1.7s,mb5.0
BOM Bombay 64.45 273 *ex* x 13 16 51.4
BOM AMb AMB 13 17 02.0
comp=Z,72nm,0.7s,mb5.8
YBH Yreka Blue Hor 64.68 56 P **P** **13 18 04.1 +0.2**
comp=Z,5.5nm,0.9s,mb4.6,baz=336,slow=3.6,SNR=5.7
SUMG Summit 64.81 1 *e*P **P** **13 18 04.8 +0.1**
comp=Z,68nm,0.6s,mb5.9
FINES FINESS Array B 64.92 332 P **P** **13 18 03.9 -1.5**
comp=Z,24nm,0.5s,mb5.5,baz=48,slow=7.8,SNR=184
FINES LR LR 13 49 39.6
comp=Z,224nm,18.2s,MS4.4,baz=164,slow=39
OBN Obninsk 65.07 323*c i*P **P** **13 18 05.5 -0.9**
OBN *e* 13 18 39.3
OBN pmax pmax
comp=Z,40nm,1.0s,mb5.4
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.4
OBN Obninsk 65.07 323 *e*P **P** **13 18 05.4 -1.0**
WALA Waterton Lakes 65.31 45 *e*P **P** **13 18 07.8 -0.1**
comp=Z,8.9nm,1.0s,mb4.8
WALA *e*pP pP 13 18 25.8 +4.6
PALK Pallekele 66.32 257 *e*P **P** **13 18 15.1 +0.6**
PALK *e*pP pP 13 18 32.5 +4.7
VORD Divnogorie 66.45 318 *e*P **P** **13 18 14.6 -0.7**
VORD pmax pmax
comp=Z,40nm,1.0s,mb5.4
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,30nm,1.1s
WVOR Wild Horse Val 66.70 53 *e*P **P** **13 18 17.4 +0.5**
WVOR pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
WVOR Wild Horse Val 66.70 53 *e*P **P** **13 18 17.4 +0.5**
comp=Z,3.8nm,1.0s,mb4.4
OHCM Honcut 66.86 57 *e*P **P** **13 18 17.2 -0.6**
ASAR Alice Springs 67.01 191 P **P** **13 18 18.0 -0.8**
comp=Z,3.3nm,0.7s,mb4.5,baz=6.0,slow=5.6,SNR=40
ASAR PKPPKP 13 46 50.0
comp=Z,0.7nm,0.9s,baz=169,slow=3.7,SNR=4.1
FFC Flin Flon 67.32 35 P **P** **13 18 20.5 -0.3**
comp=Z,168nm,0.9s,mb6.1,SNR=6.7
FFC Flin Flon 67.32 35 *e*P **P** **13 18 20.2 -0.6**
FFC *e**PP pP 13 18 37.6 +3.4
FFC pmax pmax
comp=Z,24nm,0.9s,mb5.2
FFC Flin Flon 67.32 35 *e*P **P** **13 18 20.2 -0.6**
comp=Z,24nm,0.9s,mb5.2
FFC *e*pP pP 13 18 37.6 +3.4
FCC Fort Churchill 67.55 29 *e*P **P** **13 18 21.3 -0.9**
FCC pmax pmax
comp=Z,30nm,1.1s,mb5.2
FCC Fort Churchill 67.55 29 *e*P **P** **13 18 21.3 -1.0**
comp=Z,30nm,1.1s,mb5.2
MBWA Marble Bar 67.85 205 *e*P **P** **13 18 23.8 -0.3**
comp=Z,6.9nm,0.8s,mb4.7
HRY Holter Researc 67.87 46 *e*P **P** **13 18 24.6 +0.3**
GOF Gofitskoye 68.26 312 *e*P **P** **13 18 26.2 -0.5**
GOF pmax pmax
comp=Z,60nm,0.6s,mb5.8
DLMT Dillon 68.31 48 *e*P **P** **13 18 27.6 +0.6**
comp=Z,22nm,1.1s,mb5.1
DLMT *e*pP pP 13 18 45.9 +5.5
CMB Columbia Colle 68.33 58 *e*P **P** **13 18 27.7 +0.6**
CMB pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
CMB Columbia Colle 68.33 58 *e*P **P** **13 18 27.7 +0.6**
comp=Z,9.8nm,1.1s,mb4.8
HLID Hailey 68.44 50 *e*P **P** **13 18 28.2 +0.3**
comp=Z,4.0nm,0.9s,mb4.5
HLID *e*pP pP 13 18 46.1 +4.9
HLID *es*P sP 13 18 54.1 +7.6
MCMT McKenzie Canyo 68.51 48 *e*P **P** **13 18 28.3 0.0**
KIV Kislovodsk 69.15 311 P **P** **13 18 33.6 +1.3**
comp=Z,380nm,0.7s,SNR=7.7
KIV Kislovodsk 69.15 311*c i*P **P** **13 18 32.7 +0.4**
KIV pmax pmax
comp=Z,65nm,0.9s,mb5.6
KIV MLR MLR
comp=Z,252nm,19.0s,MS4.5
KIV Kislovodsk 69.15 311 *e*P **P** **13 18 33.5 +1.2**
comp=Z,63nm,0.9s,mb5.5
ZEI Tsey 69.23 309 *e*P **P** **13 18 33.1 +0.4**
ZEI *e**PP pP 13 18 44.3 -1.9
ZEI pmax pmax
comp=Z,18nm,0.9s,mb5.0
QLMT Earthquake Lak 69.29 48 *e*P **P** **13 18 33.4 +0.3**
NVAR Mina Array Bea 69.37 56 P **P** **13 18 34.5 +0.9**
comp=Z,7.3nm,0.8s,mb4.6,baz=294,slow=5.6,SNR=43
NVAR Mina Array Bea 69.37 56 P **P** **13 18 34.5 +0.9**
GCMT Greycliff 69.61 46 *e*P **P** **13 18 35.6 +0.5**
GCMT *e*pP pP 13 18 53.5 +5.0
YMR Madison River 69.64 48 *e*P **P** **13 18 36.0 +0.6**
comp=Z,12nm,1.1s,mb4.7
YMR *e*pP pP 13 18 54.0 +5.3
ELK Elko 69.75 53 *e*P **P** **13 18 36.3 +0.3**
ELK pmax pmax
comp=Z,2.0nm,0.8s
ELK Elko 69.75 53 *e*P **P** **13 18 36.3 +0.4**
comp=Z,1.7nm,0.8s,mb4.0
SFJD Kangerlussuaq 69.80 6⇧ *i*P **P** **13 18 35.2 -1.1**
comp=Z,19nm,0.8s,mb5.1
SFJD Kangerlussuaq 69.80 6⇧ *i*P **P** **13 18 35.2 -1.1**
SFJD pmax pmax
comp=Z,19nm,0.8s,mb5.1
NB2 NORSAR Subarra 69.83 338 P **P** **13 18 35.7 -0.7**
comp=Z,26nm,0.6s,mb5.3,baz=33,slow=6.5
NOA NORSAR Array B 69.83 338 P **P** **13 18 35.4 -1.1**
comp=Z,31nm,0.7s,mb5.3,baz=35,slow=6.1,SNR=102
NOA LR LR 13 53 50.9
comp=Z,183nm,19.3s,MS4.3,baz=20,slow=40
PTRM Twissleman Ran 69.91 60 *e*P **P** **13 18 37.5 +0.5**
NAO01 NORSAR Array S 70.08 338 *e*P **P** **13 18 36.9 -1.1**
comp=Z,13nm,0.7s,mb5.0
IMW Indian Meadow 70.16 48 *e*P **P** **13 18 39.7 +1.2**
comp=Z,11nm,0.8s,mb4.8
FLWY Flagg Ranch 70.17 48 *e*P **P** **13 18 40.4 +1.8**
comp=Z,4.6nm,0.7s,mb4.5
FLWY *e*pP pP 13 18 55.2 +3.2
TPH Tonopah 70.25 56 *e*P **P** **13 18 39.9 +0.8**
TPH pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
TPH Tonopah 70.25 56 *e*P **P** **13 18 39.9 +0.8**
comp=Z,3.5nm,0.8s,mb4.3
MOOW Moose Ponds 70.36 48 *e*P **P** **13 18 40.4 +0.7**
comp=Z,12nm,0.9s,mb4.8
GNI Garni 70.41 307 *e*P **P** **13 18 41.9 +1.9**
GNI *e**PP pP 13 18 58.8 +5.3
GNI pmax pmax
comp=Z,53nm,1.4s
GNI Garni 70.41 307 *e*P **P** **13 18 41.9 +1.8**
comp=Z,53nm,1.4s,mb5.3
GNI *e*pP pP 13 18 58.8 +5.3
TPAW Teton Pass 70.42 49 *e*P **P** **13 18 41.2 +1.2**
comp=Z,14nm,0.9s,mb4.9
TPAW *e*pP pP 13 18 59.6 +6.1
LOHW Long Hollow 70.53 48 *e*P **P** **13 18 41.5 +0.7**
comp=Z,2.1nm,0.6s,mb4.2
LOHW *e*pP pP 13 18 57.3 +3.1
REDW Red Top Meadow 70.56 49 *e*P **P** **13 18 41.8 +0.9**
comp=Z,22nm,1.4s,mb4.9
SOC Sochi 71.03 312 *e*P **P** **13 18 42.3 -1.5**
SOC pmax pmax
comp=Z,25nm,1.0s,mb5.1
SOC MLR MLR
comp=Z,396nm,21.0s,MS4.7
DAC Darwin (Calif) 71.17 58 *e*P **P** **13 18 44.7 +0.1**
DAC pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
DAC Darwin (Calif) 71.17 58 *e*P **P** **13 18 44.7 +0.1**
comp=Z,6.4nm,1.0s,mb4.5
HWUT Hardware Ranch 71.31 50 *e*P **P** **13 18 45.9 +0.4**

comp=Z,6.7nm,0.9s,mb4.6
AKASG Malin Array Be 71.33 323 P **P** **13 18 44.8 -0.8**
comp=Z,23nm,0.6s,mb5.3,baz=41,slow=5.9,SNR=56
AKASG Malin Array Be 71.33 323 *i* P **P** **13 18 45.0 -0.6**
AKASG pmax pmax
comp=Z,23nm,0.6s
SUW Suwalki 71.41 328 *e*Pc 13 18 45.3
DUG Dugway 71.52 52 *e*P **P** **13 18 47.5 +0.8**
DUG pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
DUG Dugway 71.52 52 *e*P **P** **13 18 47.5 +0.8**
comp=Z,5.6nm,0.8s,mb4.5
TPNV Topopah Spring 71.57 57 *e*P **P** **13 18 47.7 +0.7**
TPNV *e* pP 13 19 00.3 -0.2
TPNV pmax pmax
comp=Z,14nm,0.9s,mb4.9
TPNV Topopah Spring 71.57 57 *e*P **P** **13 18 47.7 +0.7**
TPNV *e*PcP PcP 13 19 00.3 -5.8
BW06 Boulder Array 71.66 48 *e*P **P** **13 18 47.6 0.0**
comp=Z,10nm,0.9s,mb4.8
PDAR Pinedale Array 71.66 48 P **P** **13 18 47.8 +0.1**
comp=Z,6.9nm,0.7s,mb4.7,baz=266,slow=1.8,SNR=57
TCUT Toone Canyon 71.72 51 *e*P **P** **13 18 48.8 +0.9**
BANOM Banah 71.94 289 P **P** **13 18 49.6 +0.3**
SNR=9.7
WBK Wadi Bani Khal 72.16 284 P **P** **13 18 52.2 +1.6**
SNR=8.2
BIDO Bidbid 72.18 286 P **P** **13 18 52.4 +1.6**
SNR=6.7
DAU Daniels Canyon 72.27 51 *e*P **P** **13 18 52.7 +1.4**
SMDO Samad 72.53 285 P **P** **13 18 54.9 +2.1**
SNR=7.2
HOQ Hoqain 72.72 286 P **P** **13 18 54.9 +1.0**
SNR=7.3
ARUT Antelope Range 72.72 54 *e*P **P** **13 18 54.4 +0.5**
ASHO Ashiyiah 72.90 288 P **P** **13 18 55.7 +0.7**
SNR=6.7
JMDO Jabal Madar 72.93 285 P **P** **13 18 56.3 +1.1**
SNR=5.4
MSU Marysvale 72.99 53 *e*P **P** **13 18 56.8 +1.3**
ULM Lac du Bonnet 73.13 36 P **P** **13 18 55.4 -1.0**
comp=Z,5.4nm,0.7s,mb4.6,baz=311,slow=6.6,SNR=13
ULM LR LR 13 53 14.1
comp=Z,54nm,19.9s,MS3.8,baz=27,slow=38
NEN Nelson 73.27 57 *e*P **P** **13 18 57.8 +0.6**
NEN *e*PcP PcP 13 19 10.9 -2.5
ARQ Araqi 73.43 287 P **P** **13 18 58.9 +0.8**
SNR=7.1
SRU San Rafael 73.56 52 *e*P **P** **13 18 59.1 +0.2**
SRU pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
SRU San Rafael 73.56 52 *e*P **P** **13 18 59.1 +0.2**
comp=Z,4.8nm,0.7s,mb4.5
RSSD Black Hills 73.68 44 *e*P **P** **13 18 59.3 -0.3**
RSSD *e* pP 13 19 11.9 -1.2
RSSD *e**PP pP 13 19 17.3 +4.2
RSSD pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
RSSD Black Hills 73.68 44 *e*P **P** **13 18 59.3 -0.3**
comp=Z,4.7nm,0.7s,mb4.5
RSSD *e*PcP PcP 13 19 11.9 -3.2
RSSD *e*pP pP 13 19 17.3 +4.2
GKP Gorka Klasztor 74.22 330 *e*P **P** **13 19 02.7 -0.1**
LVV L'vov 74.23 325 *e*P **P** **13 19 09.7 +6.9**
STKA Stephens Creek 74.47 183 *e*P **P** **13 19 01.9 -2.3**
comp=Z,3.9nm,0.8s,mb4.4
STKA Stephens Creek 74.47 183 P **P** **13 19 01.9 -2.2**
comp=Z,4.8nm,0.9s,mb4.5,baz=333,slow=8.3,SNR=6.7
PV10 Paradox Valley 74.91 52 *e*P **P** **13 19 08.1 +1.3**
PV10 *e*pP pP 13 19 26.5 +6.2
KWP Kalwaria 74.94 325 *e*Pc **P** **13 19 07.2 +0.3**
MALT Malatya 75.30 309⇓ *i*P **P** **13 19 10.3 +1.3**
MALT Malatya 75.30 309 *e*P **P** **13 19 10.2 +1.2**
comp=Z,17nm,1.1s,mb4.9
PV01 Paradox Valley 75.34 51 *e*P **P** **13 19 09.2 -0.1**
PV01 *e*PcP PcP 13 19 23.7 +1.4
BURAR Bucovina Array 75.38 323⇑ *i*P **P** **13 19 09.8 +0.4**
BURAR Bucovina Array 75.38 323⇑ P **P** **13 19 09.8 +0.4**
UMR Umm Al-Rimmam 75.43 297 *e*P **P** **13 19 09.3 -0.4**
UMR AMb AMB 13 19 10.3
comp=Z,44nm,0.5s,mb5.6
WUAZ Wupatki 75.47 55 *e*P **P** **13 19 11.3 +1.3**
comp=Z,16nm,1.1s,mb4.9
MIB Mutribah 75.51 297 *e*P **P** **13 19 09.9 -0.3**
MIB AMb AMB 13 19 10.9
comp=Z,47nm,0.8s,mb5.5
SMCO Snowmass 75.53 50 *e*P **P** **13 19 10.7 +0.3**
comp=Z,7.8nm,1.1s,mb4.5
KOLS Kolonicke sedl 75.65 325 *e*P **P** **13 19 11.7 +0.7**
KOLS *e* 13 19 19.4
KOLS Kolonicke sedl 75.65 325 *e*P **P** **13 19 11.7 +0.7**
KOLS *e* 13 19 19.4
KOLS pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
OJC Ojcow 75.67 327 *i* Pc **P** **13 19 11.3 +0.2**
OJC *e*pP pP 13 19 22.7 -1.9
KBD Kabd 75.69 296 *e*P **P** **13 19 11.1 -0.2**
STHS Stebnicka Huta 75.71 326 *e*P **P** **13 19 11.8 +0.5**
STHS pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
CFR Carcaliu 75.85 319⇓ *i*P **P** **13 19 11.1 -1.0**
CFR Carcaliu 75.85 319⇓ P **P** **13 19 11.1 -1.0**
ISCO Idaho Springs 75.86 49 *e*P **P** **13 19 13.2 +1.0**
ISCO *e**PP pP 13 19 31.2 +5.5
ISCO pmax pmax
comp=Z,11nm,1.3s,mb4.6
ISCO Idaho Springs 75.86 49 *e*P **P** **13 19 13.2 +1.0**
comp=Z,10nm,1.3s,mb4.6
ISCO *e*pP pP 13 19 31.2 +5.5
RST Umm Al-Ruwaisa 75.93 297 *e*P **P** **13 19 11.8 -0.8**
RST AMb AMB 13 19 13.1
comp=Z,49nm,0.8s,mb5.5
NAY Al-Naaiem 75.94 297 *e*P **P** **13 19 12.2 -0.4**
NAY AMb AMB 13 19 13.2
comp=Z,27nm,0.7s,mb5.3
RDF Al-Radifah 75.95 296 *e*P **P** **13 19 12.4 -0.2**
RDF AMb AMB 13 19 13.6
comp=Z,66nm,0.6s,mb5.8
VRI Vrincioaia 76.00 321⇑ *i*P **P** **13 19 14.6 +1.6**
CRVS Cervenica-Dubn 76.02 325 *e*P **P** **13 19 13.7 +0.6**
BSEG Bad Segeberg 76.04 334 *e*P **P** **13 19 13.2 0.0**
comp=Z,30nm,0.8s,mb5.3
NIE Niedzica 76.09 326 *e*P **P** **13 19 14.3 +0.8**
RUE Ruedersdorf 76.09 332 *e*P **P** **13 19 13.6 +0.1**
comp=Z,27nm,0.4s,mb5.5
KSP Ksiaz 76.52 329 *e*Pc **P** **13 19 16.0 +0.1**
KSP Ksiaz 76.52 329⇑ *e*P **P** **13 19 16.1 +0.2**
KSP *e*PcP PcP 13 19 27.9 +0.5
OKC Ostrava-Krasne 76.62 328⇓ *i*P **P** **13 19 17.2 +0.7**
OKC *e*pP pP 13 19 29.3 -0.8
OKC AMS AMS 13 55 10.0
comp=Z,200nm,20.8s
OKC Ostrava-Krasne 76.62 328⇓ *i*P **P** **13 19 17.2 +0.7**
OKC *e*pP pP 13 19 29.3 -0.8
MLR Muntele Rosu 76.65 321⇑ *i*P **P** **13 19 18.5 +1.9**
MLR Muntele Rosu 76.65 321⇑ P **P** **13 19 18.5 +1.9**
KECS Kecovo 76.75 326 *e*P **P** **13 19 17.2 0.0**
KECS Kecovo 76.75 326 *e*P **P** **13 19 17.3 +0.1**
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
EYMN Ely 76.75 35 *e*P **P** **13 19 16.5 -0.8**
comp=Z,16nm,0.8s,mb5.0
EYMN *e*pP pP 13 19 34.0 +3.1
LIKS Likavka 76.87 327 *e*P **P** **13 19 19.0 +1.1**
LIKS *e* pP 13 19 31.5 0.0
UPC Upice 76.90 329⇓ *i*P **P** **13 19 18.7 +0.6**
UPC *e*pP pP 13 19 30.8 -0.9
MORC Moravsky Berou 76.91 328⇓ *i*P **P** **13 19 18.6 +0.5**
MORC Moravsky Berou 76.91 328 *e*P **P** **13 19 17.9 -0.2**
comp=Z,25nm,0.8s,mb5.2
DPC Dobruska-Polom 76.91 329 *e*P **P** **13 19 18.9 +0.8**
DPC *e*pP pP 13 19 31.3 -0.4
DPC AMS AMS 13 55 00.0
comp=Z,300nm,20.9s
DPC Dobruska-Polom 76.91 329 *e*P **P** **13 19 18.9 +0.8**
DPC *e**PP pP 13 19 31.3 -0.4
DPC Dobruska-Polom 76.91 329 *e*P **P** **13 19 18.9 +0.8**
DPC *e*pP pP 13 19 31.3 -0.4
BR131 Keskin Array S 76.98 313 *e*P **P** **13 19 18.8 +0.2**
comp=Z,3.4nm,0.6s,mb4.5
BRTR Keskin Array B 76.98 313 P **P** **13 19 18.5 0.0**
comp=Z,4.4nm,0.7s,mb4.5,baz=73,slow=3.6,SNR=18
BRTR Keskin Array B 76.98 313 *i* P **P** **13 19 18.8 +0.3**
BRTR pmax pmax
comp=Z,4.0nm,0.7s
VOIR 77.10 321⇑ *i*P **P** **13 19 20.4 +1.2**
ANTO Ankara 77.34 313 *e*P **P** **13 19 21.1 +0.6**
ANTO pmax pmax
comp=Z,12nm,0.7s,mb4.9
ANTO Ankara 77.34 313 *e*P **P** **13 19 21.1 +0.6**
comp=Z,12nm,0.7s,mb4.9
CLL Collm 77.34 331 *e*P **P** **13 19 20.0 -0.5**
comp=Z,40nm,0.9s,mb5.3
CLL Collm 77.34 331⇑ *i*P **P** **13 19 20.0 -0.5**
comp=Z,40nm,0.9s,mb5.3
CLL *i* x x 13 19 32.1
CLL *e*sP sP 13 19 46.0 +6.6
CLL Collm 77.34 331⇑ *i*P **P** **13 19 20.0 -0.5**
CLL pmax pmax
comp=Z,40nm,0.9s,mb5.3
CLL MLR MLR
comp=Z,300nm,16.5s,MS4.7
BRG Berggiesshubel 77.36 331 *e*P **P** **13 19 20.3 -0.4**
comp=Z,10.0nm,0.8s,mb4.8
BRG Berggiesshubel 77.36 331 *e*P **P** **13 19 20.4 -0.3**
comp=Z,6.2nm,0.8s,mb4.6
BRG *e* pP 13 19 29.3 -5.0
comp=Z,2.8nm,0.6s
BRG Berggiesshubel 77.36 331 *e*P **P** **13 19 20.4 -0.3**
BRG *e* pP 13 19 29.3 -5.0
BRG pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
VYHS Vyhne 77.42 327 *i* P **P** **13 19 21.5 +0.5**
VYHS *e* pP 13 19 33.0 -1.6
VYHS Vyhne 77.42 327 *i* P **P** **13 19 21.5 +0.5**
VYHS *e* pP 13 19 33.0 -1.6
VYHS pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
PSZ Piszkesteto 77.44 326 *e*P **P** **13 19 21.7 +0.6**
PSZ *e* pP 13 19 34.5 -0.2
PSZ pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
PSZ Piszkesteto 77.44 326 *e*P **P** **13 19 21.7 +0.6**
comp=Z,8.9nm,0.9s,mb4.7
PSZ *e* pP 13 19 34.5 -0.2
VRAC Vranov 77.65 328⇑ *i*P **P** **13 19 22.6 +0.3**
VRAC Vranov 77.65 328⇑ P **P** **13 19 22.6 +0.4**
CLZ Clausthal 77.79 333 *e*P **P** **13 19 23.3 +0.3**
comp=Z,28nm,0.7s,mb5.3
CLZ Clausthal 77.79 333 *e*P **P** **13 19 23.3 +0.3**
CLZ pmax pmax
comp=Z,28nm,0.7s,mb5.3
PRU Pruhonice 77.87 330⇓ *i*P **P** **13 19 24.0 +0.5**
PRU *e*pP pP 13 19 36.6 -0.5
PRU AMS AMS 13 56 40.0
comp=Z,300nm,15.6s
PRU Pruhonice 77.87 330⇓ *i*P **P** **13 19 24.0 +0.5**
PRU *e*pP pP 13 19 36.6 -0.5
SMOL Smolenice 77.96 327 *e*P **P** **13 19 24.7 +0.7**
TREC Trest 78.08 329⇓ *e*P **P** **13 19 25.1 +0.4**
TREC AMS AMS 13 55 50.0
comp=Z,400nm,23.4s
GTTG Gyttingen 78.17 333 *e*P **P** **13 19 25.3 +0.1**
comp=Z,28nm,1.0s,mb5.2
KLBR Kellerberrin 78.22 204 *e*P **P** **13 19 25.6 +0.2**
comp=Z,9µm,9.4s
IBBN Ibbenburen 78.23 335 *e*P **P** **13 19 25.3 -0.2**
comp=Z,37nm,0.7s,mb5.4
WERD Werda 78.30 331 *e*P **P** **13 19 25.7 -0.2**
comp=Z,11nm,0.9s,mb4.8
ZST Bratislava 78.35 327 *e*P **P** **13 19 25.7 -0.5**
ZST MLR MLR
comp=Z,48nm,22.6s,MS3.8
MOX Moxa 78.37 332 *e*P **P** **13 19 26.0 -0.3**
comp=Z,12nm,0.9s,mb4.8
MOX Moxa 78.37 332 *e*P **P** **13 19 25.9 -0.4**
comp=Z,24nm,1.2s,mb5.0
MOX Moxa 78.37 332 *e*P **P** **13 19 25.9 -0.4**
MOX pmax pmax
comp=Z,24nm,1.2s,mb5.0
NKC Novy Kostel 78.43 331⇓ *i*P **P** **13 19 26.6 0.0**
NKC AMS AMS 13 55 40.0
BZS Buzias 78.51 323⇑ *i*P **P** **13 19 26.4 -0.6**
BZS Buzias 78.51 323⇑ P **P** **13 19 26.4 -0.7**
MANZ Manzenberg 78.75 331 *e*P **P** **13 19 28.5 +0.1**
comp=Z,7.0nm,0.7s,mb4.7
LAZ Ladron 78.76 53 *e*P **P** **13 19 29.4 +1.0**
ANMO Albuquerque 78.78 53 *c* P **P** **13 19 29.1 +0.6**
ANMO Albuquerque 78.78 53 *e*P **P** **13 19 29.7 +1.2**
comp=Z,6.8nm,1.0s,mb4.5
ROTZ Rotzenmuhle 78.90 331 *e*P **P** **13 19 29.5 +0.3**
comp=Z,12nm,0.9s,mb4.8
KHC Kasperske Hory 78.93 330⇓ *i*P **P** **13 19 30.0 +0.6**
KHC *e*pP pP 13 19 42.5 -0.5
KHC AMS AMS 13 57 20.0
comp=Z,400nm,13.4s
KHC Kasperske Hory 78.93 330⇓ *i*P **P** **13 19 30.0 +0.6**
KHC *e*pP pP 13 19 42.5 -0.5
SCHQ Schefferville 78.94 18 P **P** **13 19 28.9 -0.6**
comp=Z,9.0nm,0.9s,mb4.7,baz=350,slow=6.0,SNR=16
SCHQ LR LR 13 54 48.5
comp=Z,92nm,18.8s,MS4.1,baz=347,slow=36
SCHQ Schefferville 78.94 18 *e*P **P** **13 19 28.8 -0.6**
comp=Z,12nm,0.9s,mb4.8
LPM Los Pinos Moun 79.12 53 *e*P **P** **13 19 31.5 +1.1**
GERES GERESS Array B 79.12 330 P **P** **13 19 29.8 -0.6**
comp=Z,5.6nm,0.7s,mb4.6,baz=32,slow=5.2,SNR=37
GERES LR LR 13 57 34.8
comp=Z,329nm,20.8s,MS4.7,baz=80,slow=38
BUG Bochum--Univer 79.14 335 *e*P **P** **13 19 30.1 -0.4**
comp=Z,19nm,0.8s,mb5.1
WET Wettzell 79.18 330 *e*P **P** **13 19 31.1 +0.4**
comp=Z,21nm,0.9s,mb5.1
WET Wettzell 79.18 330 *e*P **P** **13 19 31.1 +0.4**
WET pmax pmax
comp=Z,21nm,0.9s,mb5.1
BNM Barren Site 79.24 53 *e*P **P** **13 19 31.8 +0.8**
GRF Grafenberg Arr 79.31 331 *e*L 13 57 25.7
comp=Z,201nm,21.7s
GRB3 Grafenberg Arr 79.40 331 *e*P **P** **13 19 31.9 0.0**
comp=Z,28nm,0.9s,mb5.2
NWAO Nanrogin (SRO) 79.62 203 LR LR 13 52 24.0
comp=Z,192nm,19.9s,MS4.4,baz=155,slow=34
ARSA Arzberg 79.74 328⇑ *i*P **P** **13 19 34.0 +0.3**
comp=Z,10nm,1.1s,mb4.7
TNS Taunus Mts 79.81 333 *e*P **P** **13 19 34.0 -0.1**
comp=Z,9.0nm,0.9s,mb4.7
TNS Taunus Mts 79.81 333 *e*P **P** **13 19 34.0 -0.1**
TNS pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
GRC3 Grafenberg Arr 79.86 331 *e*P **P** **13 19 34.5 +0.1**
comp=Z,31nm,0.9s,mb5.2
VTS Vitosha 80.13 320⇓ *i*P **P** **13 19 36.2 +0.3**
VTS Vitosha 80.13 320⇓ P **P** **13 19 36.2 +0.3**
GROS Grobnik 80.39 327 *e*P **P** **13 19 37.2 -0.1**
GROS *e*pP pP 13 19 49.9 -1.0
GROS *e* pP 13 19 53.8 +2.8
GROS *e* 13 20 02.9
CSS Prodhromos 80.56 309 *e*P **P** **13 19 38.3 +0.1**
comp=Z,20nm,0.9s,mb5.0
GOLS Golise 80.71 327 *i* P **P** **13 19 38.8 -0.2**
KBA Koelnbreinsper 80.72 329⇑ *i*P **P** **13 19 39.2 +0.2**
comp=Z,13nm,0.9s,mb4.9
KBA Koelnbreinsper 80.72 329⇑ *i*P **P** **13 19 39.2 +0.1**
KBA pmax pmax
comp=Z,13nm,0.9s,mb4.9
OBKA Obir 80.73 328⇑ *i*P **P** **13 19 39.0 -0.1**
comp=Z,10nm,1.1s,mb4.7
OBKA Obir 80.73 328⇑ *i*P **P** **13 19 39.0 -0.1**
comp=Z,10nm,1.1s,mb4.7
STU Stuttgart 80.80 332 *e*P **P** **13 19 39.6 +0.2**
comp=Z,21nm,0.7s,mb5.2
LEGS Legarje 80.89 327 *i* P **P** **13 19 39.6 -0.3**
LEGS *e*pP pP 13 19 51.9 -1.7
DLF Lyons Farm 81.11 343 *e*P **P** **13 19 40.0 -1.1**
LJU Ljubljana 81.12 328 *e*P **P** **13 19 40.8 -0.4**
WATA Walderalm 81.17 330⇑ *i*P **P** **13 19 41.7 +0.3**
comp=Z,12nm,0.9s,mb4.8
WATA Walderalm 81.17 330⇑ *i*P **P** **13 19 41.7 +0.3**
WATA pmax pmax
comp=Z,12nm,0.9s,mb4.8
WTTA Wattenberg 81.21 330⇑ *i*P **P** **13 19 42.0 +0.3**
comp=Z,21nm,1.1s,mb5.0
WTTA Wattenberg 81.21 330⇑ *i*P **P** **13 19 42.0 +0.4**
WTTA pmax pmax
comp=Z,21nm,1.1s,mb5.0
DCN Croghan 81.22 344 *e*P **P** **13 19 41.0 -0.7**
BOJS Bojanci 81.28 327 *i* P **P** **13 19 41.8 -0.2**
PTCC Patocco-Chiusa 81.28 328 P **P** **13 19 41.1 -0.9**
comp=Z,8.5nm,0.5s,mb4.9
STIP Stip 81.31 320⇑ *i*P **P** **13 19 41.8 -0.4**
MOTA Moosalm 81.33 330⇑ *i*P **P** **13 19 42.5 +0.2**
comp=Z,19nm,0.9s,mb5.0
MOTA Moosalm 81.33 330⇑ *i*P **P** **13 19 42.5 +0.2**
MOTA pmax pmax
comp=Z,19nm,0.9s,mb5.0
MOTA Moosalm 81.33 330⇑ *i*P **P** **13 19 42.5 +0.2**
comp=Z,19nm,0.9s,mb5.0
SQTA Sankt Quirin 81.40 330⇑ *i*P **P** **13 19 42.9 +0.3**
comp=Z,12nm,0.9s,mb4.8
SQTA Sankt Quirin 81.40 330⇑ *i*P **P** **13 19 42.9 +0.2**
SQTA pmax pmax
comp=Z,12nm,0.9s,mb4.8
SQTA Sankt Quirin 81.40 330⇑ *i*P **P** **13 19 42.9 +0.3**
comp=Z,12nm,0.9s,mb4.8
CEY Cerknica 81.41 327 *i* P **P** **13 19 42.1 -0.6**
CEY *e*pP pP 13 19 54.5 -1.9
CEY *e* pP 13 19 58.8 +2.4
VAY Valandovo 81.42 320⇑ *i*P **P** **13 19 42.6 -0.1**
SKO Skopje 81.44 321⇑ *i*P **P** **13 19 44.3 +1.4**
BFO Black Forest 81.47 332 *e*P **P** **13 19 42.8 -0.2**
comp=Z,10.0nm,0.8s,mb4.8
BFO Black Forest 81.47 332 *e*P **P** **13 19 42.8 -0.2**
BFO pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MNTX Cornudas Mount 81.71 54 *e*P **P** **13 19 44.4 +0.1**
comp=Z,9.8nm,1.0s,mb4.7
MNTX *e*pP pP 13 19 57.6 -0.4
CDF Champ du Feu 81.76 333⇑ *i*P **P** **13 19 44.2 -0.3**
comp=Z,33nm,0.8s,mb5.0
CDF Champ du Feu 81.76 333⇑ *i*P **P** **13 19 44.2 -0.3**
CDF pmax pmax
comp=Z,16nm,0.8s,mb5.0
CDF Champ du Feu 81.76 333⇑ *i*P **P** **13 19 44.2 -0.3**
comp=Z,16nm,0.8s,mb5.0
DAVA Damuels 81.83 331⇑ *i*P **P** **13 19 44.9 0.0**
comp=Z,15nm,1.0s,mb4.9
GDL2 Guadalupe Moun 81.96 53 *e*P **P** **13 19 46.1 +0.5**
DAVOX Davos 82.26 331 LR LR 14 00 13.3
comp=Z,225nm,18.9s,MS4.5,baz=82,slow=38
BRMO Bormio 82.34 330 P **P** **13 19 48.3 +0.7**
comp=Z,16nm,0.9s,mb4.9
OHR Ohrid 82.41 321⇑ *i*P **P** **13 19 47.4 -0.6**
HINF Hinteralfeld 82.41 333⇑ *i*P **P** **13 19 47.2 -0.8**
comp=Z,14nm,0.9s,mb4.6
HINF Hinteralfeld 82.41 333⇑ *i*P **P** **13 19 47.2 -0.8**
HINF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
HINF Hinteralfeld 82.41 333⇑ *i*P **P** **13 19 47.2 -0.8**
comp=Z,6.8nm,0.9s,mb4.6
HAU Haudompre 82.42 333 *e*P **P** **13 19 48.4 +0.4**
comp=Z,26nm,0.9s,mb4.9
HAU *e*R
comp=Z,261nm,21.2s
HAU Haudompre 82.42 333 *e*P **P** **13 19 48.4 +0.4**
HAU pmax pmax
comp=Z,13nm,0.9s,mb4.9
HAU Haudompre 82.42 333 *e*P **P** **13 19 48.4 +0.4**
comp=Z,13nm,0.9s,mb4.9
WMOK Wichita Mounta 83.27 48 *e*P **P** **13 19 51.6 -0.8**
WMOK pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
WMOK Wichita Mounta 83.27 48 *e*P **P** **13 19 51.6 -0.8**
comp=Z,6.5nm,1.0s,mb4.6
VAI Varese 83.44 331 P **P** **13 19 52.8 -0.5**
VAI pmax pmax
comp=Z,33nm,0.8s,mb5.4
VAI Varese 83.44 331 P **P** **13 19 52.8 -0.5**
comp=Z,33nm,0.8s,mb5.4
MCGN Macugnaga 83.64 331 P **P** **13 19 54.6 +0.3**
comp=Z,7.4nm,0.7s,mb4.9
CABF La Chapelle 83.72 333 *e*P **P** **13 19 54.4 -0.3**
comp=Z,15nm,0.9s,mb4.8
CABF La Chapelle 83.72 333 *e*P **P** **13 19 54.4 -0.3**
CABF pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
CABF La Chapelle 83.72 333 *e*P **P** **13 19 54.4 -0.3**
comp=Z,7.3nm,0.9s,mb4.8
FLN La Foliniere 83.81 338⇑ *i*P **P** **13 19 54.6 -0.6**
comp=Z,16nm,0.6s,mb5.0
FLN *e*R
comp=Z,186nm,22.2s
FLN La Foliniere 83.81 338⇑ *i*P **P** **13 19 54.6 -0.6**
FLN pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
FLN La Foliniere 83.81 338⇑ *i*P **P** **13 19 54.6 -0.6**
comp=Z,7.8nm,0.6s,mb5.0
LDF La Druitiere 83.87 338⇑ *i*P **P** **13 19 55.3 -0.2**
comp=Z,18nm,0.8s,mb5.1
LDF La Druitiere 83.87 338⇑ *i*P **P** **13 19 55.3 -0.2**
LDF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
LDF La Druitiere 83.87 338⇑ *i*P **P** **13 19 55.3 -0.2**
comp=Z,9.1nm,0.8s,mb5.0
LOR Lormes 83.87 335⇑ *i*P **P** **13 19 54.9 -0.6**
comp=Z,35nm,0.9s,mb5.2
LOR *e*R
comp=Z,179nm,23.0s
LOR Lormes 83.87 335⇑ *i*P **P** **13 19 54.9 -0.6**
LOR pmax pmax
comp=Z,17nm,0.9s,mb5.2
LOR Lormes 83.87 335⇑ *i*P **P** **13 19 54.9 -0.6**
comp=Z,17nm,0.9s,mb5.2
SFI Santa Sofia 83.96 328 P **P** **13 19 56.9 +1.0**
SFI pmax pmax
comp=Z,30nm,1.0s,mb5.4
SFI Santa Sofia 83.96 328 P **P** **13 19 56.9 +1.0**
comp=Z,30nm,1.0s,mb5.4
VMG Vicchio 84.03 328 P **P** **13 19 57.7 +1.4**
comp=Z,49nm,0.8s,mb5.7
GSCL Gusciola 84.06 329 P **P** **13 19 57.5 +1.0**
comp=Z,17nm,0.9s,mb5.2
SSF Saint Saulge 84.16 335⇑ *i*P **P** **13 19 56.5 -0.5**
comp=Z,17nm,0.8s,mb4.9
SSF Saint Saulge 84.16 335⇑ *i*P **P** **13 19 56.5 -0.5**
SSF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
SSF Saint Saulge 84.16 335⇑ *i*P **P** **13 19 56.5 -0.5**
comp=Z,8.4nm,0.8s,mb4.9
GRR Gorron 84.26 338⇑ *i*P **P** **13 19 57.1 -0.4**
comp=Z,23nm,0.8s,mb5.1
GRR Gorron 84.26 338⇑ *i*P **P** **13 19 57.1 -0.4**
GRR pmax pmax
comp=Z,12nm,0.8s,mb5.1
GRR Gorron 84.26 338⇑ *i*P **P** **13 19 57.1 -0.4**
comp=Z,12nm,0.8s,mb5.1
NRCA Norcia 84.35 327 P **P** **13 19 58.3 +0.4**
comp=Z,26nm,1.0s,mb5.3
SMF Signal de Mont 84.43 334⇑ *i*P **P** **13 19 57.9 -0.4**
comp=Z,53nm,0.9s,mb5.4
SMF Signal de Mont 84.43 334⇑ *i*P **P** **13 19 57.9 -0.4**
SMF pmax pmax
comp=Z,26nm,0.9s,mb5.4
SMF Signal de Mont 84.43 334⇑ *i*P **P** **13 19 57.9 -0.4**
comp=Z,26nm,0.9s,mb5.4
LTX Lajitas 84.44 55 *e*P **P** **13 19 58.8 +0.4**
LTX *e**PP pP 13 20 10.8 -1.3
LTX pmax pmax
comp=Z,13nm,1.0s,mb5.0
LTX Lajitas 84.44 55 *e*P **P** **13 19 58.8 +0.4**
comp=Z,13nm,1.0s,mb5.0
LTX *e*pP pP 13 20 10.8 -1.4
AVF Avril sur Loir 84.45 335⇑ *i*P **P** **13 19 58.1 -0.3**
comp=Z,44nm,0.8s,mb5.3
AVF Avril sur Loir 84.45 335⇑ *i*P **P** **13 19 58.1 -0.3**
AVF pmax pmax
comp=Z,22nm,0.8s,mb5.3
AVF Avril sur Loir 84.45 335⇑ *i*P **P** **13 19 58.1 -0.3**
comp=Z,22nm,0.8s,mb5.3
LPL La Plagne 84.46 332⇑ *i*P **P** **13 19 58.8 +0.3**
comp=Z,28nm,0.9s,mb5.1
LPL La Plagne 84.46 332⇑ *i*P **P** **13 19 58.8 +0.3**
LPL pmax pmax
comp=Z,14nm,0.9s,mb5.1
LPL La Plagne 84.46 332⇑ *i*P **P** **13 19 58.8 +0.3**
comp=Z,14nm,0.9s,mb5.1
LPG La Plagne 84.47 332⇑ *i*P **P** **13 19 58.9 +0.4**
comp=Z,36nm,1.0s,mb5.2
LPG La Plagne 84.47 332⇑ *i*P **P** **13 19 58.9 +0.4**
LPG pmax pmax
comp=Z,18nm,1.0s,mb5.2
LPG La Plagne 84.47 332⇑ *i*P **P** **13 19 58.9 +0.4**
comp=Z,18nm,1.0s,mb5.2
CCM Cathedral Cave 84.62 41 *e*P **P** **13 19 58.7 -0.6**
CCM *e**PP pP 13 20 15.9 +2.9

CCM					pmax	pmax				
	comp=Z,16nm,1.0s,mb5.1									
CCM	**Cathedral Cave**	**84.62**	**41**	*e*P	**P**		**13 19 58.7**	**-0.6**		
	comp=Z,16nm,1.0s,mb5.1									
CCM				*e*pP	pP		13 20 15.9	+2.8		
BGF	**Bois d'Agland**	**84.82**	**335**	*e*P	**P**		**13 20 00.7**	**+0.4**		
	comp=Z,14nm,0.5s,mb5.0									
BGF	**Bois d'Agland**	**84.82**	**335**	*e*P	**P**		**13 20 00.7**	**+0.4**		
BGF					pmax	pmax				
	comp=Z,7.0nm,0.5s,mb5.0									
BGF	**Bois d'Agland**	**84.82**	**335**	*e*P	**P**		**13 20 00.7**	**+0.4**		
	comp=Z,7.2nm,0.5s,mb5.1									
SGMF	**Saint Gilles**	**84.84**	**339**⇑	*i*P	**P**		**13 20 00.3**	**-0.1**		
	comp=Z,25nm,0.7s,mb5.1									
SGMF	**Saint Gilles**	**84.84**	**339**⇑	*i*P	**P**		**13 20 00.3**	**-0.1**		
SGMF					pmax	pmax				
	comp=Z,12nm,0.7s,mb5.1									
SGMF	**Saint Gilles**	**84.84**	**339**⇑	*i*P	**P**		**13 20 00.3**	**-0.1**		
	comp=Z,12nm,0.7s,mb5.2									
GRFL	**Gerfalco**	**84.93**	**328**	P	**P**		**13 20 00.1**	**-0.8**		
PPT	**Papeete**	**84.95**	**119**	LR	LR		13 50 01.2			
	comp=Z,188nm,21.6s,MS4.4,baz=320,slow=30									
ROSF	**Rostrenen**	**84.95**	**339**⇑	*i*P	**P**		**13 20 01.1**	**+0.1**		
	comp=Z,71nm,1.0s,mb5.4									
ROSF	**Rostrenen**	**84.95**	**339**⇑	*i*P	**P**		**13 20 01.1**	**+0.1**		
ROSF					pmax	pmax				
	comp=Z,35nm,1.0s,mb5.4									
ROSF	**Rostrenen**	**84.95**	**339**⇑	*i*P	**P**		**13 20 01.1**	**+0.1**		
	comp=Z,35nm,1.0s,mb5.5									
PTRP	**Pietrapertosa**	**85.02**	**323**	P	**P**		**13 20 02.2**	**+0.9**		
	comp=Z,31nm,1.6s,mb5.2									
MBDF	**Montbardon**	**85.13**	**332**⇑	*i*P	**P**		**13 20 02.2**	**+0.3**		
	comp=Z,22nm,0.8s,mb5.0									
MBDF	**Montbardon**	**85.13**	**332**⇑	*i*P	**P**		**13 20 02.2**	**+0.3**		
MBDF					pmax	pmax				
	comp=Z,11nm,0.8s,mb5.0									
MBDF	**Montbardon**	**85.13**	**332**⇑	*i*P	**P**		**13 20 02.2**	**+0.3**		
	comp=Z,11nm,0.8s,mb5.0									
TCF	**Toulx Ste Croi**	**85.26**	**335**⇑	*i*P	**P**		**13 20 02.5**	**0.0**		
	comp=Z,11nm,0.7s,mb4.8									
TCF	**Toulx Ste Croi**	**85.26**	**335**⇑	*i*P	**P**		**13 20 02.5**	**0.0**		
TCF					pmax	pmax				
	comp=Z,6.0nm,0.7s,mb4.8									
TCF	**Toulx Ste Croi**	**85.26**	**335**⇑	*i*P	**P**		**13 20 02.5**	**0.0**		
	comp=Z,5.7nm,0.7s,mb4.8									
ORIF	**Oris-en-Rattie**	**85.27**	**332**⇑	*i*P	**P**		**13 20 02.7**	**+0.1**		
	comp=Z,23nm,0.8s,mb5.1									
ORIF				*e*R						
	comp=Z,214nm,22.0s									
ORIF	**Oris-en-Rattie**	**85.27**	**332**⇑	*i*P	**P**		**13 20 02.7**	**+0.1**		
ORIF					pmax	pmax				
	comp=Z,12nm,0.8s,mb5.1									
ORIF	**Oris-en-Rattie**	**85.27**	**332**⇑	*i*P	**P**		**13 20 02.7**	**+0.1**		
	comp=Z,12nm,0.8s,mb5.1									
QUIF	**Quistinic**	**85.31**	**339**	*e*P	**P**		**13 20 02.5**	**-0.3**		
	comp=Z,27nm,0.9s,mb5.1									
QUIF	**Quistinic**	**85.31**	**339**	*e*P	**P**		**13 20 02.5**	**-0.3**		
QUIF					pmax	pmax				
	comp=Z,14nm,0.9s,mb5.1									
QUIF	**Quistinic**	**85.31**	**339**	*e*P	**P**		**13 20 02.5**	**-0.3**		
	comp=Z,14nm,0.9s,mb5.1									
SBF	**Sospel**	**85.65**	**331**⇑	*i*P	**P**		**13 20 03.7**	**-0.7**		
	comp=Z,75nm,0.9s,mb5.6									
SBF	**Sospel**	**85.65**	**331**⇑	*i*P	**P**		**13 20 03.7**	**-0.7**		
SBF					pmax	pmax				
	comp=Z,38nm,0.9s,mb5.6									
SBF	**Sospel**	**85.65**	**331**⇑	*i*P	**P**		**13 20 03.7**	**-0.7**		
	comp=Z,38nm,0.9s,mb5.6									
MFF	**Saint Martin d**	**85.68**	**337**⇑	*i*P	**P**		**13 20 04.7**	**+0.1**		
	comp=Z,40nm,0.8s,mb5.4									
MFF	**Saint Martin d**	**85.68**	**337**⇑	*i*P	**P**		**13 20 04.7**	**+0.1**		
MFF					pmax	pmax				
	comp=Z,20nm,0.8s,mb5.4									
MFF	**Saint Martin d**	**85.68**	**337**⇑	*i*P	**P**		**13 20 04.7**	**+0.1**		
	comp=Z,20nm,0.8s,mb5.4									
VIVF	**Saint-Julien-l**	**85.74**	**333**⇑	*i*P	**P**		**13 20 05.0**	**+0.1**		
TIP	**Timpagrande**	**85.81**	**322**	*e*P	**P**		**13 20 04.7**	**-0.6**		
TIP				*e*pP	pP		13 20 22.0	+3.0		
FRF	**La Foret Royal**	**86.19**	**331**	*e*P	**P**		**13 20 06.4**	**-0.7**		
	comp=Z,64nm,1.2s,mb5.4									
FRF	**La Foret Royal**	**86.19**	**331**	*e*P	**P**		**13 20 06.4**	**-0.7**		
FRF					pmax	pmax				
	comp=Z,32nm,1.2s,mb5.4									
FRF	**La Foret Royal**	**86.19**	**331**	*e*P	**P**		**13 20 06.4**	**-0.7**		
	comp=Z,32nm,1.2s,mb5.4									
MIAR	**Mount Ida**	**86.19**	**45**	*e*P	**P**		**13 20 06.8**	**-0.3**		
MIAR				*e**PP	pP		13 20 20.0	-0.9		
MIAR					pmax	pmax				
	comp=Z,14nm,1.0s,mb5.2									
MIAR	**Mount Ida**	**86.19**	**45**	*e*P	**P**		**13 20 06.8**	**-0.3**		
	comp=Z,14nm,1.0s,mb5.2									
MIAR				*e*pP	pP		13 20 20.0	-0.9		
RJF	**Les Rejaudoux**	**86.35**	**335**⇑	*i*P	**P**		**13 20 08.2**	**+0.3**		
	comp=Z,20nm,0.7s,mb5.2									
RJF				*e*R						
	comp=Z,234nm,22.2s									
RJF	**Les Rejaudoux**	**86.35**	**335**⇑	*i*P	**P**		**13 20 08.2**	**+0.3**		
RJF					pmax	pmax				
	comp=Z,10.0nm,0.7s,mb5.2									
RJF	**Les Rejaudoux**	**86.35**	**335**⇑	*i*P	**P**		**13 20 08.2**	**+0.3**		
	comp=Z,10nm,0.7s,mb5.2									
LMR	**La Mourre**	**86.44**	**331**⇑	*i*P	**P**		**13 20 07.9**	**-0.4**		
	comp=Z,84nm,1.0s,mb5.6									
LMR	**La Mourre**	**86.44**	**331**⇑	*i*P	**P**		**13 20 07.9**	**-0.4**		
LMR					pmax	pmax				
	comp=Z,42nm,1.0s,mb5.6									
LMR	**La Mourre**	**86.44**	**331**⇑	*i*P	**P**		**13 20 07.9**	**-0.4**		
	comp=Z,42nm,1.0s,mb5.6									
PARMO	**Parma**	**86.44**	**41**	*e*P	**P**		**13 20 08.6**	**+0.3**		
CAF	**Calviac**	**86.52**	**335**⇑	*i*P	**P**		**13 20 09.5**	**+0.7**		
	comp=Z,61nm,0.9s,mb5.5									
CAF	**Calviac**	**86.52**	**335**⇑	*i*P	**P**		**13 20 09.5**	**+0.7**		
CAF					pmax	pmax				
	comp=Z,31nm,0.9s,mb5.5									
CAF	**Calviac**	**86.52**	**335**⇑	*i*P	**P**		**13 20 09.5**	**+0.7**		
	comp=Z,30nm,0.9s,mb5.5									
LASF	**Ste Croix**	**86.70**	**333**⇑	*i*P	**P**		**13 20 10.0**	**+0.4**		
	comp=Z,23nm,1.0s,mb5.1									
LFF	**La Frestale**	**86.92**	**335**⇑	*i*P	**P**		**13 20 11.1**	**+0.4**		
	comp=Z,63nm,0.9s,mb5.5									
LFF	**La Frestale**	**86.92**	**335**⇑	*i*P	**P**		**13 20 11.1**	**+0.4**		
LFF					pmax	pmax				
	comp=Z,32nm,0.9s,mb5.5									
LFF	**La Frestale**	**86.92**	**335**⇑	*i*P	**P**		**13 20 11.1**	**+0.4**		
	comp=Z,32nm,0.9s,mb5.5									
WVT	**Waverly**	**87.79**	**40**	*e*P	**P**		**13 20 14.9**	**0.0**		
WVT					pmax	pmax				
	comp=Z,8.0nm,0.8s,mb5.0									
WVT	**Waverly**	**87.79**	**40**	*e*P	**P**		**13 20 14.9**	**0.0**		
	comp=Z,8.1nm,0.8s,mb5.0									
MTLF	**Montolieu**	**87.89**	**334**⇑	*i*P	**P**		**13 20 15.9**	**+0.5**		
	comp=Z,20nm,0.8s,mb5.1									
MTLF	**Montolieu**	**87.89**	**334**⇑	*i*P	**P**		**13 20 15.9**	**+0.5**		
MTLF					pmax	pmax				
	comp=Z,10.0nm,0.8s,mb5.1									
MTLF	**Montolieu**	**87.89**	**334**⇑	*i*P	**P**		**13 20 15.9**	**+0.5**		
	comp=Z,9.8nm,0.8s,mb5.1									
EPF	**Esparros**	**88.77**	**335**⇑	*i*P	**P**		**13 20 19.3**	**-0.2**		
	comp=Z,10.0nm,0.7s,mb5.0									
EPF	**Esparros**	**88.77**	**335**⇑	*i*P	**P**		**13 20 19.3**	**-0.2**		
EPF					pmax	pmax				
	comp=Z,5.0nm,0.7s,mb5.0									
EPF	**Esparros**	**88.77**	**335**⇑	*i*P	**P**		**13 20 19.3**	**-0.2**		
	comp=Z,5.0nm,0.7s,mb5.0									
TBI	**Tubuai**	**89.29**	**123**	*e*LR	LR		13 19 34.8			
	comp=Z,122nm,24.2s									
RPZ	**Rata Peaks**	**89.33**	**161**	LR	LR		13 53 03.0			
	comp=Z,142nm,20.8s,MS4.4,baz=360,slow=31									
ESDC	**Sonseca Array**	**93.14**	**337**	P	**P**		**13 20 39.3**	**-0.6**		
	comp=Z,4.0nm,0.6s,mb5.0,baz=14,slow=4.0,SNR=11									
TORD	**Torodi Ar. Bea**	**114.88**	**320**	PKP	PKiKP		13 26 05.0	-1.3		
	comp=Z,0.6nm,0.6s,baz=31,slow=1.5,SNR=9.3									
TORD				PP	PP		13 26 57.5	-7.8		
	comp=Z,1.1nm,0.8s,baz=30,slow=6.0,SNR=4.2									
TORD				PKKPbc	PKKPbc		13 36 42.2	-0.7		
	comp=Z,0.3nm,0.5s,baz=237,slow=3.2,SNR=4.9									
VNDA	**Vanda**	**120.59**	**176**	PKP	PKPdf		13 26 15.8	-1.5		
	comp=Z,1.2nm,0.6s,baz=328,slow=1.8,SNR=4.5									
DBIC	**Dimbokro**	**123.58**	**323**	PKP	PKPdf		13 26 23.1	+0.1		
	comp=Z,2.0nm,0.5s,baz=37,slow=0.8,SNR=6.8									
TSUM	**Tsumeb**	**130.06**	**281**	PKP	PKPdf		13 26 36.8	+1.4		
	comp=Z,2.3nm,0.8s,baz=41,slow=9.3,SNR=2.5									
QSPA	**South Pole Qui**	**132.62**	**180**	*e*PKPdf	PKPdf		13 26 39.8	-0.5		
LPAZ	**La Paz**	**141.27**	**57**	PKhKP			13 26 51.0			
LPAZ				PKP	PKPdf		13 26 56.5	+0.2		
	comp=Z,1.7nm,0.9s,baz=290,slow=3.7,SNR=3.8									
	comp=Z,1.9nm,0.8s,baz=333,slow=4.5,SNR=7.2									
LPAZ	**La Paz**	**141.27**	**57**	*e*PKPdf	PKPdf		13 26 57.2	+1.0		
SNAA	**Sanae**	**147.15**	**198**	*e*PKPdf	PKPdf		13 27 05.6	-0.9		
SNAA				*e*			13 27 07.3			
SNAA				*e*			13 27 09.3			
SNAA				*e*			13 27 09.7			
SNAA	**Sanae**	**147.15**	**198**	*e*PKPbc	PKPbc		13 27 07.0	-1.7		
VNA2	**Neumayer--Watz**	**148.71**	**197**	*e*PKPdf	PKPdf		13 27 07.6	-1.4		
VNA2				*e*			13 27 11.9			
VNA2				*e*			13 27 12.9			
VNA2				*e*			13 27 15.5			
VNA2				*e*			13 27 23.9			
VNA2				*e*			13 27 26.5			
VNA2				*e*			13 27 29.5			
VNA2				*e*			13 27 33.3			
VNA2				*e*			13 27 38.1			
VNA2				*e*			13 30 55.3			
VNA3	**Neumayer Olymp**	**148.93**	**196**	*e*PKPdf	PKPdf		13 27 08.6	-0.8		
VNA3				*e*			13 27 12.1			
VNA3				*e*			13 27 13.6			
VNA3				*e*			13 27 16.4			
VNA3				*e*			13 27 26.2			
VNA3				*e*			13 27 29.4			
VNA3				*e*			13 27 36.3			
VNA3				*e*			13 27 38.4			
VNA3				*e*			13 30 55.6			
VNA1	**Neumayer--Stat**	**149.10**	**197**	*e*PKPdf	PKPdf		13 27 08.6	-1.1		
VNA1				*e*			13 27 12.7			
VNA1				*e*			13 27 13.7			
VNA1				*e*			13 27 17.1			
BDFB	**Brasilia**	**150.65**	**26**	PKPbc	PKPbc		13 27 17.6	0.0		
	comp=Z,17nm,0.8s,baz=297,slow=2.0,SNR=20									
BDFB	**Brasilia**	**150.65**	**26**	PKIKP	PKPdf		13 27 17.6	+5.5		
BDFB				pmax	pmax					
	comp=Z,17nm,0.8s									
CPUP	**Villa Florida**	**155.41**	**55**	PKPab	PKPab		13 27 44.0	-0.6		
	comp=Z,0.6nm,0.4s,baz=294,slow=5.6,SNR=5.6									
CPUP	**Villa Florida**	**155.41**	**55**	PKP2	PKPab		13 27 44.0	-0.7		
CPUP				pmax	pmax					
	comp=Z,1.0nm,0.4s									

*IDC **03** 13:08:51.8±8.5, 1552S×17295W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.8/14, mbtmp3.8/3, MS3.5/3, Ms1 3.5/3, ms1mx3.0/27, Error ellipse: s-maj=385.2km s-min=23.6km az=139.0*

ISC 03 13:08:54.6±3.7, 156S±06×1726W±08, h35km, n9, σ1§56/6, mb3.9/4, MS3.3/2, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.91**	**26**	Pn	**Pn**	**13 09 24.3**	**-0.3**
	4.3nm,0.3s,baz=270,slow=5.1,SNR=18						
AFI				Sn	**Sn**	**13 09 47.1**	**-0.3**
	19nm,0.3s,baz=57,slow=23,SNR=12						
RAR	**Rarotonga**	**13.40**	**116**	LR	LR	13 15 41.4	
	comp=Z,218nm,18.5s,baz=224,slow=30						
DZM	**Mont Dzumac**	**20.79**	**249**	LR	LR	13 18 32.5	
	comp=Z,71nm,18.8s,MS3.1,baz=183,slow=28						
PPT	**Papeete**	**22.18**	**98**	LR	LR	13 19 30.0	
	comp=Z,206nm,19.6s,MS3.6,baz=276,slow=28						
STKA	**Stephens Creek**	**44.55**	**240**	P	**P**	**13 17 01.5**	**-1.5**
	6.6nm,1.1s,mb4.4,baz=105,slow=4.9,SNR=3.0						
WRA	**Warramunga Arr**	**50.50**	**257**	P	**P**	**13 17 49.4**	**+0.2**
	0.5nm,0.7s,mb3.6,baz=97,slow=6.0,SNR=14						
ASAR	**Alice Springs**	**50.73**	**252**	P	**P**	**13 17 51.5**	**+0.5**
	1.3nm,0.6s,mb4.1,baz=86,slow=7.8,SNR=22						
ILAR	**Eielson Array**	**82.54**	**11**	P	**P**	**13 21 16.9**	**+3.1**
	0.4nm,0.7s,mb3.6,baz=223,slow=6.9,SNR=5.7						
BRTR	**Keskin Array B**	**146.80**	**321**	PKPbc	PKPbc	13 28 36.4	+3.5
	1.3nm,0.8s,baz=69,slow=2.8,SNR=4.1						

*CRAAG **03** 13:31:01.8, 3652N×152E, Ml3.6*

*CSEM **03** 13:31:02.7±0.1, 3644N×157E, h12km, ML3.6, Error ellipse: s-maj=2.6km s-min=2.1km az=66.0*

*ISCJB **03** 13:31:03.7±0.7, 3648N±006×162E±006, h22km±14km, Error ellipse: s-maj=12.0km s-min=5.4km az=110.7*

*MDD **03** 13:31:04.7±0.7, 3641N×164E, h8km±9km, mb3.9/10, Error ellipse: s-maj=8.8km s-min=5.6km az=160.0, PRXIMO*

*NEIC **03** 13:31:04.7, 3648N×159E, h0km, MG4.1(MDD), After MDD.*

ISC 03 13:31:04.2±0.7, 3643N±005×164E±004, h17km±7km, n45, σ1§17/70, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.17**	**213**	P	**Pg**	**13 31 07.6**	**-0.9**
ECHA	**Ech Chlef**	**0.36**	**218**	P	**Pg**	**13 31 10.0**	**-1.7**
EANR	**'Ain N'Sour**	**0.65**	**222**	P	**Pg**	**13 31 11.2**	**-5.8**
OKGL	**Djebel Kef Gue**	**0.90**	**244**	P	**Pb**	**13 31 22.0**	**+0.7**
ETRT	**Tiaret**	**1.08**	**195**	P	**Pb**	**13 31 23.6**	**-0.8**
EMHD	**Djebel Mahouad**	**1.08**	**102**	P	**Pb**	**13 31 24.7**	**+0.2**
OJGS	**Djebel Guires**	**1.18**	**218**	P	**Pn**	**13 31 25.0**	**-0.9**
ABA	**Alger-Bouzarea**	**1.18**	**71**	P	**Pn**	**13 31 25.9**	**0.0**
OJBR	**Djebel Berber**	**1.35**	**232**	P	**Pn**	**13 31 24.0**	**-4.3**
ODJA	**Bouhanifia**	**1.83**	**233**	P	**Pg**	**13 31 39.0**	**-0.3**
AKF	**Akfadou**	**2.36**	**84**	P	**Pg**	**13 31 48.6**	**-0.9**
EIBI	**Ibiza**	**2.60**	**355**	P	**Pn**	**13 31 46.3**	**+0.9**
	3.7nm,0.1s,SNR=361						
EIBI				S	**Sn**	**13 32 15.5**	**-1.1**
	12nm,0.1s						
EIBI	**Ibiza**	**2.60**	**355**	P	**Pn**	**13 31 46.3**	**+0.9**
	3.7nm,0.1s,SNR=361						
EIBI				S	**Sn**	**13 32 15.5**	**-1.1**
	12nm,0.1s						
EMUR	**La Murta**	**2.70**	**302**	P	**Pn**	**13 31 46.5**	**-0.3**
	9.2nm,0.4s,SNR=7.9						
EMUR				S	**Sn**	**13 32 17.7**	**-1.3**
	3.6nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**2.70**	**302**	P	**Pn**	**13 31 46.5**	**-0.3**
	9.2nm,0.4s,SNR=7.9						
EMUR				S	**Sn**	**13 32 17.7**	**-1.4**
	3.6nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**2.71**	**327**	P	**Pn**	**13 31 47.4**	**+0.5**
	10nm,0.3s,SNR=8.6						
EBEN				S	**Sn**	**13 32 18.9**	**-0.4**
	2.1nm,0.1s						
EBEN	**Beniarda**	**2.71**	**327**	P	**Pn**	**13 31 47.4**	**+0.5**
	10nm,0.3s,SNR=8.6						
EBEN				S	**Sn**	**13 32 18.9**	**-0.4**
	2.1nm,0.1s						
ETOB	**Tobarra**	**3.36**	**312**	P	**Pn**	**13 31 56.9**	**+1.0**
	0.9nm,0.1s,SNR=7.9						
ETOB				S	**Sn**	**13 32 34.8**	**-0.6**
	0.4nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**3.36**	**312**	P	**Pn**	**13 31 56.9**	**+1.0**
	0.9nm,0.1s,SNR=7.9						
ETOB				S	**Sn**	**13 32 34.8**	**-0.6**
	0.4nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**3.45**	**15**	P	**Pn**	**13 31 57.2**	**+0.1**
	0.3nm,0.1s,SNR=7.9						
ETOS				S	**Sn**	**13 32 36.0**	**-1.7**
	1.9nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**3.45**	**15**	P	**Pn**	**13 31 57.2**	**+0.1**
ETOS				S	**Sn**	**13 32 36.0**	**-1.7**
ETOS	**Mallorca**	**3.45**	**15**	P	**Pn**	**13 31 57.2**	**0.0**
	0.3nm,0.1s,SNR=7.9						
ETOS				S	**Sn**	**13 32 36.0**	**-1.7**
	1.9nm,0.1s,SNR=7.9						
ECHE	**Chera**	**3.77**	**328**	P	**Pn**	**13 32 03.3**	**+1.9**
	5.7nm,0.3s,SNR=8.9						
EQES	**Quesada**	**4.01**	**291**	P	**Pn**	**13 32 06.5**	**+1.8**
	9.1nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**13 32 52.0**	**+0.7**
	3.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**4.01**	**291**	P	**Pn**	**13 32 06.5**	**+1.7**
	9.1nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**13 32 52.0**	**+0.7**
	3.2nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**4.15**	**282**	P	**Pn**	**13 32 07.8**	**+1.1**
	0.0nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**13 32 56.9**	**+2.1**
	1.5nm,0.1s,SNR=7.9						
EGUA	**Guajares**	**4.21**	**277**	P	**Pn**	**13 32 07.8**	**+0.3**
	0.6nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.26**	**338**	P	**Pn**	**13 32 10.2**	**+2.0**
	6.3nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**13 32 56.8**	**-0.8**
	6.1nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**4.26**	**338**	P	**Pn**	**13 32 10.2**	**+1.9**
	6.3nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**13 32 56.8**	**-0.8**
	6.1nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**4.63**	**348**	P	**Pn**	**13 32 14.3**	**+0.9**
	1.7nm,0.2s,SNR=7.9						
ERTA				S	**Sn**	**13 33 05.1**	**-1.6**
	1.3nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**4.63**	**348**	P	**Pn**	**13 32 14.3**	**+1.0**
	1.7nm,0.2s,SNR=7.9						
ERTA				S	**Sn**	**13 33 05.1**	**-1.6**
	1.3nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**4.93**	**355**	P	**Pn**	**13 32 18.9**	**+1.4**
	1.5nm,0.3s,SNR=7.9						
EPOB				S	**Sn**	**13 33 13.0**	**-1.1**
	0.8nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**4.93**	**355**	P	**Pn**	**13 32 18.9**	**+1.4**
	1.5nm,0.3s,SNR=7.9						
EPOB				S	**Sn**	**13 33 13.0**	**-1.1**
	0.8nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**5.25**	**291**	P	**Pn**	**13 32 20.8**	**-1.0**
	1.4nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**13 33 19.8**	**-2.2**
	0.6nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**5.25**	**291**	P	**Pn**	**13 32 20.8**	**-1.1**
	1.4nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**13 33 19.8**	**-2.2**
	0.6nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**5.47**	**359**	P	**Pn**	**13 32 26.3**	**+1.4**
	0.5nm,0.1s,SNR=7.9						
EMIR				S	**Sn**	**13 33 26.7**	**-0.8**
	4.7nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**5.47**	**359**	P	**Pn**	**13 32 26.3**	**+1.4**
EMIR				S	**Sn**	**13 33 26.7**	**-0.8**
EMIR	**Miracle**	**5.47**	**359**	P	**Pn**	**13 32 26.3**	**+1.4**
	0.5nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**5.48**	**308**	P	**Pn**	**13 32 25.3**	**+0.3**
	1.1nm,0.1s,baz=124,slow=13,SNR=7.9						
ESDC	**Sonseca Array**	**5.48**	**308**	P	**Pn**	**13 32 25.3**	**+0.3**
	1.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**6.78**	**284**	P	**Pn**	**13 32 43.0**	**+0.2**
	0.5nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**13 33 57.1**	**-2.5**
	2.2nm,0.8s,SNR=7.9						
EMIN	**Mina Concepcio**	**6.78**	**284**	P	**Pn**	**13 32 43.0**	**+0.2**
ECAL	**Calabor**	**8.52**	**313**	P	**Pn**	**13 33 07.7**	**+1.0**
	1.0nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**8.65**	**325**	P	**Pn**	**13 33 11.1**	**+2.6**
	1.4nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**9.64**	**318**	P	**Pn**	**13 33 22.8**	**+0.7**
	0.4nm,0.1s,SNR=7.9						

GUC 03 13:42:44.4±0.3, 3440S×7006W, h3km±3km, MD3.6, ML1.6, 3C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.31**	**284**⇑	*i*P	Pg	13 42 50.7	+0.4
CICH				*i* S	Sg	13 42 55.2	+0.9
CACH	**El Canelo**	**0.53**	**302**⇑	*i*P	Pg	13 42 54.3	-0.2
CACH				*i* S	Sg	13 43 01.9	+0.5
LMEL	**Las Melosas**	**0.56**	**348**⇑	*i*P	Pg	13 42 55.5	+0.3
LMEL				*i* S	Sg	13 43 04.0	+1.6
LMEL				AML	AML	13 43 05.3	
	comp=E,72nm,0.2s						
CHCH	**Chadas Angostu**	**0.68**	**313**⇓	*i*P	Pg	13 42 57.3	0.0
CHCH				*i* S	Sg	13 43 07.1	+1.0

IDC 03 13:44:10.3±1.9, 5647S×2785W, h0km, mb4.0/1, mb1 4.0/1, mb1mx3.5/13, mbtmp4.0/1, Error ellipse: s-maj=100.2km s-min=61.7km az=152.0, South Sandwich Islands region

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

comp=N,690nm,0.6s
DL2 Smax
comp=E,520nm,0.5s
TIA Tai'an 3.66 197 P **Pn** 13 54 36.2 +1.0
TIA PG **Pg** 13 54 45.9 -2.8
TIA S **Sn** 13 55 17.4 -1.1
TIA SG **Sg** 13 55 35.0 -1.2
TIA Smax
comp=N,232nm,0.5s
TIA Smax
comp=E,317nm,0.5s
SNY Shenyang 4.43 60 ⇓P **Pn** 13 54 46.8 +1.0
SNY ⇑PG **Pg** 13 55 00.6 -2.8
SNY SG **Sg** 13 55 58.5 -2.3
SNY Smax
comp=N,738nm,0.6s
SNY Smax
comp=E,299nm,0.4s
HHC Hu-ho-hao-te 5.37 284 *e*PG **Pg** 13 55 17.4 -4.1
HHC SG **Sg** 13 56 29.9 -1.2
HHC Smax
comp=N,140nm,0.8s
HHC Smax
comp=E,312nm,0.9s
BTO Baotou 6.51 280 *e*PG **Pg** 13 55 36.6 -6.5
BTO SG **Sg** 13 57 03.7 -3.7
BTO Smax
comp=N,83nm,0.7s
BTO Smax
comp=E,51nm,0.9s
CN2 Changchun 6.63 50 *e*PG **Pg** 13 55 39.8 -5.8
CN2 *e*SG **Sg** 13 57 06.5 -5.0
CN2 Smax
comp=N,100nm,0.9s
CN2 Smax
comp=E,100nm,0.9s
KS15 Wonju Array Si 7.74 104 *e*Pn **Pn** 13 55 32.6 +1.4
KS15 *e*Sn **Sn** 13 56 51.7 -7.3
SONM Songino Array 11.88 317 Pn **Pn** 13 56 27.5 -0.5
comp=E,0.2nm,0.3s,baz=129,slow=13,SNR=3.6
SONM Lg 13 59 51.0
comp=E,0.1nm,0.3s,baz=125,slow=30,SNR=3.8
LZH Lanzhou 12.09 257 *e*P **Pn** 13 56 33.0 +2.2
LZH PP 13 56 43.1
LZH *e*S **Sn** 13 58 48.3 +2.7
LZH *e*SS 13 59 02.4
LZH LR LR
comp=N,421nm,8.3s
LZH LR LR
comp=E,653nm,12.2s
CD2 Chengdu 14.85 238 *e*P **Pn** 13 57 08.0 -0.5
CD2 PP 13 57 20.1
CD2 S **Sn** 13 59 52.5 -0.6
CD2 SS 14 00 10.5
CD2 LR LR
comp=E,180nm,17.9s
CD2 LR LR
comp=Z,100nm,14.2s
MAT Matsushiro 15.88 95 P **Pn** 13 57 29.7 +7.7
MAT Matsushiro 15.88 95 *e*P **Pn** 13 57 30.0 +8.0
comp=Z,7.5nm,0.8s
MJAR Matsushiro Arr 15.88 95 Pn **Pn** 13 57 28.6 +6.5
comp=Z,0.4nm,0.3s,baz=286,slow=12,SNR=19
KMI Kunming 19.65 227 P **Pn** 13 58 08.7 0.0
KMI XP sP 13 58 20.3 +8.8
KMI AMB AMB
comp=Z,5.0nm,1.0s
ZAL Zalesovo 26.74 313 P **P** 13 59 22.2 +3.9
comp=Z,0.6nm,0.3s,mb3.5,baz=260,slow=4.6,SNR=3.1
ZAL Zalesovo 26.74 313 P **P** 13 59 22.2 +3.9
BVAR Borovoye Array 35.04 309 P **P** 14 00 36.6 +5.2
comp=Z,0.5nm,0.6s,mb3.6,baz=96,slow=9.1,SNR=3.9
YKA Yellowknife Ar 69.60 23 P **P** 14 04 48.4 +0.5
comp=Z,0.5nm,0.8s,mb3.5,baz=323,slow=5.8,SNR=5.4

*MOS **03** 13:54:48.1±0.9, 6.04N×126.91E, h33km, mb4.6/6, Error ellipse: s-maj=34.6km s-min=11.2km az=109.6*
*ISCJB **03** 13:55:00.6±0.9, 5.97N±0.06×12.706E±0.010, h157km±7km, mb4.3/32, Error ellipse: s-maj=16.4km s-min=8.0km az=144.9*
*BJI **03** 13:55:02.6, 5.90N×12.720E, h210km, mB4.5, mb4.7*
*IDC **03** 13:55:05.0±4.2, 5.89N×127.12E, h182km±41km, mb3.7/16, mb1 3.8/16, mb1mx3.7/24, mbtmp4.2/16, Error ellipse: s-maj=27.8km s-min=9.4km az=82.0*
*NEIC **03** 13:55:07.7±4.5, 5.91N×12.720E, h211km±49km, mb4.2/6, Error ellipse: s-maj=34.1km s-min=7.6km az=82.0*

ISC 03 13:55:01.8±0.9, 598N±006×12709E±010, h149km±7km, n51, σ0°82/50, mb4.3/32, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**2.23**	**297**	⇓*e*P	**Sn**	**13 56 09.8**	**+1.2**
BIPH	**Bislig**	**2.30**	**342**	⇑*e*P	**Pn**	**13 55 40.3**	**-0.1**
BIPH				*e*S	**Sn**	**13 56 06.4**	**-3.8**
BUKP	**Musuan**	**2.75**	**313**	*e*P	**Pn**	**13 55 46.0**	**0.0**
SCPH	**Surigao**	**4.09**	**337**	*e*P		13 56 38.1	
SCPH				*e*S	**Sn**	**13 56 50.0**	**-0.9**
MSLP	**Maasin**	**4.68**	**332**	*e*P	Px	13 56 54.2	
PVCP	**Virac**	**8.10**	**339**	*e*P	Px	13 57 57.0	
KAKA	**Kakadu**	**19.32**	**164**	*e*P	**P**	**13 59 15.2**	**-0.1**
	4.7nm,0.6s						
JOW	**Kunigami**	**20.77**	**3**	P	**P**	**13 59 33.6**	**+2.8**
	16nm,0.6s,baz=186,slow=11,SNR=9.4						
FITZ	**Fitzroy Crossi**	**23.97**	**183**	P	**P**	**14 00 02.2**	**-0.2**
	2.7nm,0.7s,mb3.9,baz=323,slow=16,SNR=8.5						
SSE	**Sheshan**	**25.59**	**348**	P	**P**	**14 00 16.3**	**-0.7**
SSE				AMB	AMB		
	comp=Z,18nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,152nm,5.0s						
WRAB	**Tennant Creek**	**26.73**	**165**	*e*P	**P**	**14 00 29.6**	**+2.4**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
WRAB	**Tennant Creek**	**26.73**	**165**	*e*P	**P**	**14 00 29.6**	**+2.4**
	comp=Z,4.6nm,0.9s,mb4.1						
WRA	**Warramunga Arr**	**26.73**	**165**	P	**P**	**14 00 26.7**	**-0.6**
	comp=Z,0.7nm,0.4s,mb3.6,baz=343,slow=11,SNR=16						
NJ2	**Nanjing**	**27.05**	**344**	*e*P	**P**	**14 00 29.3**	**-0.8**
NJ2				AP	pP	14 01 09.4	+8.0
NJ2				PP	PP	14 01 25.9	-8.2
NJ2				XP	sP	14 01 36.3	+18
NJ2				S	**S**	**14 04 50.0**	**-6.9**
NJ2				XS	sS	14 06 03.0	+11
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,40nm,8.6s						
NJ2				LR	LR		
	comp=N,660nm,13.2s						
NJ2				LR	LR		
	comp=E,680nm,12.5s						
NJ2				LR	LR		
	comp=Z,250nm,14.1s						
KMI	**Kunming**	**30.10**	**312**	P	**P**	**14 00 55.3**	**-1.8**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.3						
ASAR	**Alice Springs**	**30.21**	**168**	P	**P**	**14 00 58.0**	**-0.1**
	comp=Z,0.3nm,0.3s,mb3.5,baz=343,slow=6.9,SNR=18						
ASAR				PcP	PcP	14 03 56.1	+0.8
	comp=Z,0.3nm,0.5s,baz=353,slow=2.5,SNR=7.8						
MJAR	**Matsushiro Arr**	**32.08**	**17**	P	**P**	**14 01 14.9**	**+0.4**
	comp=Z,1.1nm,0.6s,mb3.8,baz=187,slow=8.5,SNR=7.7						
NWAO	**Narrogin (SRO)**	**39.81**	**193**	P	**P**	**14 02 20.2**	**0.0**
	comp=Z,5.9nm,0.8s,mb4.3,baz=21,slow=13,SNR=4.7						
STKA	**Stephens Creek**	**40.11**	**161**	P	**P**	**14 02 21.2**	**-1.5**
	comp=Z,3.8nm,0.8s,mb4.1,baz=347,slow=13,SNR=5.1						
ASAJ	**Asahikawa**	**40.35**	**17**	P	**P**	**14 02 26.2**	**+1.5**
	comp=Z,3.7nm,0.6s,mb4.2,baz=222,slow=9.8,SNR=5.4						
JIRN	**Jiri**	**44.38**	**304**	*e*P	**P**	**14 02 57.5**	**+0.2**
	comp=Z,20nm,0.7s,mb4.9						
GUN	**Gumba**	**44.73**	**304**	*e*P	**P**	**14 03 00.2**	**+0.2**
	comp=Z,21nm,0.6s,mb4.9						
PKI	**Pulchoki**	**45.00**	**303**	*e*P	**P**	**14 03 01.5**	**-0.7**
KKN	**Kakani**	**45.18**	**304**	*e*P	**P**	**14 03 03.3**	**-0.3**
	comp=Z,16nm,0.9s,mb4.7						
DMN	**Daman**	**45.26**	**303**	*e*P	**P**	**14 03 04.1**	**-0.1**
	comp=Z,15nm,0.9s,mb4.6						
SONM	**Songino Array**	**45.30**	**340**	P	**P**	**14 03 05.3**	**+0.8**
	comp=Z,3.6nm,0.7s,mb4.1,baz=151,slow=10,SNR=6.2						
GKN	**Gorkha**	**45.79**	**304**	*e*P	**P**	**14 03 07.9**	**-0.5**
	comp=Z,6.5nm,0.5s,mb4.5						
KOLN	**Koldanda**	**46.57**	**303**	*e*P	**P**	**14 03 14.6**	**+0.1**
	comp=Z,25nm,0.7s,mb4.9						
MKAR	**Makanchi Array**	**55.93**	**324**	P	**P**	**14 04 24.9**	**+0.7**
	comp=Z,4.4nm,0.5s,mb4.6,baz=121,slow=8.1,SNR=70						
MKAR	**Makanchi Array**	**55.93**	**324**	P	**P**	**14 04 24.9**	**+0.7**
ZAL	**Zalesovo**	**58.77**	**332**	P	**P**	**14 04 44.2**	**+0.1**
	comp=Z,1.7nm,0.4s,mb4.2,baz=347,slow=6.5,SNR=7.4						
ZAL	**Zalesovo**	**58.77**	**332**	P	**P**	**14 04 44.2**	**+0.1**
AAK	**Ala-Archa**	**58.95**	**317**	*e*P	**P**	**14 04 46.2**	**+0.9**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
AAK	**Ala-Archa**	**58.95**	**317**	*e*P	**P**	**14 04 46.2**	**+0.9**
	comp=Z,1.1nm,0.4s,mb4.0						
NVS	**Novosibirsk**	**60.04**	**332**	*e*P	**P**	**14 04 52.2**	**-0.6**
NVS				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
NVS				pmax	pmax		
	comp=E,3.0nm,0.6s						
KURK	**Kurchatov**	**60.05**	**327**	*e*P	**P**	**14 04 53.1**	**+0.2**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
KURK	**Kurchatov**	**60.05**	**327**	*e*P	**P**	**14 04 53.1**	**+0.2**
	comp=Z,5.1nm,0.6s,mb4.5						
BVAR	**Borovoye Array**	**65.64**	**326**	P	**P**	**14 05 30.2**	**+0.3**
	comp=Z,2.5nm,0.4s,mb4.3,baz=120,slow=7.2,SNR=27						
BRVK	**Borovoye**	**65.72**	**326**	*e*P	**P**	**14 05 30.3**	**0.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
BRVK	**Borovoye**	**65.72**	**326**	*e*P	**P**	**14 05 30.2**	**-0.1**
	comp=Z,2.5nm,0.5s,mb4.3						
ZRNK	**Zerenda**	**66.38**	**326**	*e*P	**P**	**14 05 34.6**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.9						
ZRNK	**Zerenda**	**66.38**	**326**	*e*P	**P**	**14 05 34.6**	**+0.1**
	comp=Z,9.3nm,0.5s,mb4.9						
BILL	**Bilibino**	**67.30**	**15**	*e*P	**P**	**14 05 40.1**	**-0.3**
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.6						
AKTK	**Aktyubinsk**	**72.13**	**321**	P	**P**	**14 06 10.2**	**+0.3**
AKTO	**Aktyubinsk**	**72.13**	**321**	P	**P**	**14 06 10.2**	**+0.3**
	comp=Z,1.9nm,0.4s,mb4.2,baz=98,slow=11,SNR=6.6						
ARU	**Arti**	**73.24**	**327**	*e*P	**P**	**14 06 17.2**	**+0.7**
ILAR	**Eielson Array**	**82.93**	**26**	P	**P**	**14 07 09.4**	**-0.5**
	comp=Z,1.1nm,0.9s,mb3.6,baz=239,slow=6.2,SNR=7.0						
OBN	**Obninsk**	**85.44**	**325**	*e*P	**P**	**14 07 23.3**	**+0.8**
OBN				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.1						
ARCES	**ARCESS Array B**	**88.47**	**340**	P	**P**	**14 07 36.2**	**-0.9**
	comp=Z,1.3nm,0.5s,mb4.0,baz=83,slow=6.2,SNR=23						
FINES	**FINESS Array B**	**90.03**	**332**	P	**P**	**14 07 43.7**	**-0.7**
	comp=Z,0.4nm,0.4s,mb3.8,baz=49,slow=5.8,SNR=8.4						
TORD	**Torodi Ar. Bea**	**122.53**	**290**	PKP	PKPdf	14 13 39.9	+0.5
	comp=Z,0.4nm,0.3s,baz=57,slow=1.7,SNR=9.3						

*ISCJB **03** 14:02:06.4±0.8, 5.35N±0.07×127.87W±0.1, h10km, mb3.7/6, MS3.7/1, Error ellipse: s-maj=17.3km s-min=6.6km az=125.5*
*NEIC **03** 14:02:08.0±1.3, 5.24N×126.62W, h10km, mb4.2/1, Error ellipse: s-maj=33.8km s-min=14.7km az=213.0*
*CASC **03** 14:02:07.4±1.2, 5.34N×126.64W, h10km, MD4.5, mb4.2(NEIC)*
*IDC **03** 14:02:08.6±3.0, 5.56N×126.57W, h0km, mb3.7/5, mb1 4.1/7, mb1mx3.9/21, mbtmp3.9/7, ML4.1/2, MS3.4/2, Ms1 3.4/2, ms1mx2.9/15, Error ellipse: s-maj=77.0km s-min=37.3km az=26.0*

ISC 03 14:02:08.0±0.9, 532N±007×827W±01, h10km, n19, σ1°92/25, mb3.7/6, MS3.7/1, 1C-5D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTCR	**Cotoan**	**3.55**	**359**	⇓*e*P	**Pn**	**14 03 02.1**	**-1.1**
CTCR				*e*S	**Sn**	**14 03 45.5**	**+0.3**
BUS	**Buena Vista**	**4.34**	**346**	⇓*e*P	**Pn**	**14 03 14.5**	**+0.5**
BUS				*e*S	**Sn**	**14 04 05.0**	**+0.4**
LCR2	**La Lucha 2**	**4.58**	**344**	⇓*i*P	**Pn**	**14 03 17.3**	**0.0**
LCR2				*e*S	**Sn**	**14 04 10.2**	**-0.4**
URSC	**Urasca**	**4.61**	**347**	⇓*e*P	**Pn**	**14 03 17.7**	**0.0**
URSC				*e*S	**Sn**	**14 04 13.3**	**+1.9**
OCM	**Ochomogo**	**4.72**	**345**	*e*P	**Pn**	**14 03 18.6**	**-0.5**
PRS1	**Puriscal**	**4.91**	**341**	⇓*i*P	**Pn**	**14 03 20.4**	**-1.3**
PRS1				*e*S	**Sn**	**14 04 17.3**	**-1.2**
CAO	**Cobano**	**4.97**	**331**	⇑*e*P	**Pn**	**14 03 21.8**	**-0.8**
EPA	**Esparza**	**5.01**	**338**	*e*P	**Pn**	**14 03 22.6**	**-0.5**
EPA				*e*S	**Sn**	**14 04 21.6**	**+0.5**
JTS	**JuntasAbangare**	**5.42**	**336**	Pn	**Pn**	**14 03 28.4**	**-0.5**
	18nm,0.3s,baz=106,slow=14,SNR=45						
JTS				Sn	**Sn**	**14 04 30.6**	**-0.8**
	5.9nm,0.3s,baz=332,slow=22,SNR=11						
JTS				LR	LR	14 05 27.3	
	comp=Z,216nm,21.8s,baz=232,slow=38						
SDV	**Santo Domingo**	**12.48**	**73**	Pn	**Pn**	**14 05 06.4**	**+0.8**
	0.4nm,0.3s,baz=258,slow=8.6,SNR=5.5						
SDV	**Santo Domingo**	**12.48**	**73**	*e*P	**Pn**	**14 05 06.0**	**+0.4**
SAML	**Samuel**	**24.06**	**126**	*e*P	**P**	**14 07 21.7**	**-1.7**
	7.5nm,1.2s,mb4.0						
BDFB	**Brasilia**	**40.16**	**122**	LR	LR	14 26 21.3	
	comp=Z,109nm,19.3s,MS3.7,baz=43,slow=36						
PDAR	**Pinedale Array**	**44.24**	**332**	P	**P**	**14 10 19.9**	**+2.5**
	0.3nm,0.5s,mb3.3,baz=141,slow=12,SNR=3.8						
NVAR	**Mina Array Bea**	**46.15**	**321**	P	**P**	**14 10 35.2**	**+2.6**
	1.1nm,0.8s,mb3.8,baz=139,slow=7.4,SNR=6.4						
YKA	**Yellowknife Ar**	**61.70**	**344**	P	**P**	**14 12 26.4**	**+0.1**
	0.5nm,0.8s,mb3.7,baz=141,slow=6.6,SNR=9.3						
YKA	**Yellowknife Ar**	**61.70**	**344**	P	**P**	**14 12 26.4**	**+0.1**
INK	**Inuvik**	**71.38**	**342**	P	**P**	**14 13 28.8**	**+0.6**
	0.8nm,1.0s,mb3.6,baz=76,slow=4.2,SNR=3.3						
ILAR	**Eielson Array**	**74.40**	**336**	P	**P**	**14 13 46.5**	**+0.5**
	0.6nm,0.8s,mb3.6,baz=115,slow=3.0,SNR=6.2						

*ISCJB **03** 14:02:24.2±0.3, 39.73N±004×118.60E±004, h10km, mb3.9/13, MS3.4/3, Error ellipse: s-maj=6.0km s-min=4.1km az=21.3*
*IDC **03** 14:02:24.5±0.8, 39.69N×118.54E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.8/22, mbtmp3.7/9, ML4.0/1, MS3.3/3, Ms1 3.3/3, ms1mx2.7/17, Error ellipse: s-maj=27.0km s-min=18.2km az=62.0*
*BJI **03** 14:02:24.7, 39.66N×118.60E, h12km, mB4.7, mb4.4, ML4.4, Ms3.9, Msz3.5*
*NEIC **03** 14:02:25.9±0.6, 39.69N×118.47E, h10km, mb4.1/3, Error ellipse: s-maj=14.9km s-min=9.9km az=201.0*
NEIC Felt at Tangshan and Tianjin.
*MOS **03** 14:02:29.4±1.5, 39.93N×118.26E, h33km, mb4.4/5, Error ellipse: s-maj=15.7km s-min=11.2km az=120.9*

ISC 03 14:02:25.9±0.3, 3969N±003×11857E±003, h10km, n42, σ1°13/57, mb3.9/13, MS3.4/3, 2C-2D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJI	**Beijing**	**1.87**	**281**	PG	**Pn**	**14 02 57.4**	**-0.6**
BJI				SG	**Sn**	**14 03 21.9**	**+0.1**
BJI				Smax			
	comp=N,3μm,0.6s						
BJI				Smax			
	comp=E,5μm,0.7s						
BJT	**Baijiatuan**	**1.88**	**281**	*e*Pn	**Pn**	**14 02 55.3**	**-2.8**
BJT				*e*Pg	**Pg**	**14 02 57.4**	**-4.5**
BJT				*e*Sn	**Sn**	**14 03 20.5**	**-1.3**
DL2	**Dalian**	**2.50**	**107**	⇓*i*P	**Pn**	**14 03 07.7**	**+1.0**
DL2				PG	**Pg**	**14 03 13.8**	**-0.1**
DL2				S	**Sn**	**14 03 41.7**	**+4.5**
DL2				Smax			
	comp=N,790nm,0.7s						
DL2				Smax			
	comp=E,530nm,0.5s						
TIA	**Tai'an**	**3.66**	**199**	P	**Pn**	**14 03 21.6**	**-1.0**
TIA				PG	**Pg**	**14 03 30.4**	**-5.6**
TIA				S	**Sn**	**14 04 08.0**	**+2.2**
TIA				SG	**Sg**	**14 04 21.2**	**-2.2**
TIA				Smax			
	comp=N,324nm,0.5s						
TIA				Smax			
	comp=E,512nm,0.5s						
SNY	**Shenyang**	**4.36**	**59**	⇓P	**Pn**	**14 03 31.6**	**-0.6**
SNY				⇑PG	**Pg**	**14 03 45.4**	**-4.1**
SNY				SG	**Sg**	**14 04 44.0**	**-2.0**
SNY				Smax			
	comp=N,827nm,1.1s						
SNY				LR	LR		
	comp=E,456nm,1.2s						
HHC	**Hu-ho-hao-te**	**5.48**	**284**	*e*PG	**Pb**	**14 04 02.9**	**+1.2**
HHC				SG	**Sg**	**14 05 15.5**	**-6.4**
HHC				Smax			
	comp=N,227nm,0.6s						
HHC				Smax			
	comp=E,486nm,0.9s						
CN2	**Changchun**	**6.58**	**49**	*e*PG	**Pb**	**14 04 24.4**	**+3.9**
CN2				*e*SG	**Sg**	**14 05 52.3**	**-4.9**
CN2				Smax			
	comp=N,100nm,1.0s						
CN2				Smax			
	comp=E,100nm,1.0s						
BTO	**Baotou**	**6.61**	**281**	*e*PG	**Pb**	**14 04 21.5**	**+0.5**
BTO				SG	**Sg**	**14 05 49.1**	**-9.1**
BTO				Smax			
	comp=N,105nm,0.9s						
BTO				Smax			
	comp=E,86nm,0.8s						
KS15	**Wonju Array Si**	**7.64**	**104**	*e*Pn	**Pn**	**14 04 17.8**	**+0.6**
KS15				*e*Sn	**Sn**	**14 05 43.5**	**-0.3**
HIA	**Hailar**	**9.61**	**5**	P	**Pn**	**14 04 44.3**	**0.0**
SONM	**Songino Array**	**11.97**	**317**	Pn	**Pn**	**14 05 14.3**	**-2.4**
	comp=E,0.8nm,0.3s,baz=132,slow=14,SNR=11						
SONM				Sn	**Sn**	**14 07 30.8**	**+0.5**
	comp=E,0.2nm,0.3s,baz=133,slow=32,SNR=3.1						
SONM				Lg		14 08 37.4	
	comp=E,0.6nm,0.3s,baz=126,slow=27,SNR=5.8						
SONM	**Songino Array**	**11.97**	**317**	P	**Pn**	**14 05 14.3**	**-2.4**
SONM						14 07 30.8	
LZH	**Lanzhou**	**12.18**	**257**	*e*P	**Pn**	**14 05 19.7**	**+0.3**
LZH				AP		14 05 23.1	
LZH				PP		14 05 29.8	
LZH				*e*S	**Sn**	**14 07 34.5**	**-0.7**
LZH				*e*SS		14 07 48.6	
LZH				AMB	AMB		
	comp=Z,33nm,1.1s						
LZH				AMB	AMB		
	comp=Z,81nm,4.2s						
LZH				LR	LR		
	comp=N,457nm,8.5s						
LZH				LR	LR		
	comp=Z,761nm,12.3s						
CD2	**Chengdu**	**14.92**	**239**	*e*P	**Pn**	**14 05 57.0**	**+0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
MAJO	**Matsushiro**	**15.77**	**95**	*e*P	**Pn**	**14 06 07.8**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,11nm,1.2s						
MAJO	**Matsushiro**	**15.77**	**95**	*e*Pn	**Pn**	**14 06 07.8**	**-0.3**
	comp=Z,11nm,1.2s						
MAT	**Matsushiro**	**15.77**	**95**	P	**Pn**	**14 06 14.9**	**+6.8**
MAT	**Matsushiro**	**15.77**	**95**	*e*P	**Pn**	**14 06 15.0**	**+6.9**
MAT				pmax	pmax		
	comp=Z,15nm,1.0s						
MAT	**Matsushiro**	**15.77**	**95**	*e*P	**Pn**	**14 06 15.0**	**+6.9**
	comp=Z,15nm,1.0s						
MJAR	**Matsushiro Arr**	**15.77**	**95**	Pn	**Pn**	**14 06 15.3**	**+7.2**
	comp=Z,0.2nm,0.3s,baz=286,slow=11,SNR=19						
MJAR				LR	LR	14 12 19.0	
	comp=Z,83nm,18.8s,baz=340,slow=38						
KMI	**Kunming**	**19.69**	**227**	P	**Pn**	**14 06 56.8**	**+0.1**
KMI				XP	sP	14 07 05.5	+6.1
KMI				AMB	AMB		
	comp=Z,5.0nm,1.1s						
LSA	**Lhasa**	**24.57**	**255**	P	**P**	**14 07 47.0**	**+1.1**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.2						
LSA	**Lhasa**	**24.57**	**255**	P	**P**	**14 07 47.0**	**+1.1**
	comp=Z,6.0nm,0.7s,mb4.2						
ZAL	**Zalesovo**	**26.84**	**313**	LR	LR	14 20 11.4	
	comp=Z,54nm,18.6s,MS3.1,baz=176,slow=40						
MKAR	**Makanchi Array**	**27.18**	**297**	P	**P**	**14 08 09.9**	**+0.4**
	comp=Z,0.5nm,0.7s,mb3.1,baz=87,slow=5.9,SNR=2.6						
NVS	**Novosibirsk**	**27.99**	**315**	*e*P	**P**	**14 08 18.5**	**+1.6**
TIXI	**Tiksi**	**32.45**	**6**	*e*P	**P**	**14 08 56.6**	**+0.3**
TIXI				*e*S	**S**	**14 14 06.2**	**-4.7**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
TIXI				MLR	MLR		
	comp=Z,81nm,11.0s,MS3.7						
BVAR	**Borovoye Array**	**35.14**	**309**	P	**P**	**14 09 19.2**	**-0.5**
	comp=Z,0.2nm,0.4s,mb3.4,baz=302,slow=38,SNR=3.0						
PBA	**Port Blair**	**36.09**	**226**	⇑*e*P	x	14 09 50.3	
PBA				*e*S	x	14 09 57.4	
PBA				*ex*	x	14 09 59.3	
	comp=N,413nm,0.3s						
PBA				*ex*	x	14 09 59.4	
	comp=E,464nm,0.5s						
KEV	**Kevo**	**53.91**	**334**	*ep*	**P**	**14 11 49.6**	**+0.1**
	comp=E,3.9nm,0.9s,mb4.3						
KEV	**Kevo**	**53.91**	**334**	*e*P	**P**	**14 11 49.6**	**+0.1**
KEV				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
JOF	**Joensuu**	**54.37**	**326**	*ep*	**P**	**14 11 51.9**	**-1.0**
	comp=Z,1.4nm,0.5s,mb4.2						
JOF	**Joensuu**	**54.37**	**326**	*e*P	**P**	**14 11 51.9**	**-1.0**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ILAR	**Eielson Array**	**56.73**	**31**	P	**P**	**14 12 10.1**	**+0.2**
	comp=Z,0.9nm,0.8s,mb3.8,baz=284,slow=5.1,SNR=10						
KAF	**Kangasniemi**	**56.83**	**326**	*ep*	**P**	**14 12 12.8**	**+2.2**
	comp=Z,1.9nm,0.6s,mb4.3						
KAF	**Kangasniemi**	**56.83**	**326**	*e*P	**P**	**14 12 12.8**	**+2.2**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
FINES	**FINESS Array B**	**57.20**	**325**	P	**P**	**14 12 13.4**	**+0.2**
	comp=Z,1.6nm,0.5s,mb4.3,baz=76,slow=8.0,SNR=11						
FINES				LR	LR	14 37 08.2	
	comp=Z,38nm,20.1s,MS3.5,baz=185,slow=36						
INK	**Inuvik**	**59.85**	**24**	P	**P**	**14 12 32.4**	**+0.7**
	comp=Z,0.4nm,0.5s,mb3.7,baz=270,slow=6.1,SNR=6.4						
WRA	**Warramunga Arr**	**61.13**	**163**	P	**P**	**14 12 39.3**	**-1.1**
	comp=Z,0.4nm,0.7s,mb3.6,baz=345,slow=6.4,SNR=4.3						
ASAR	**Alice Springs**	**64.64**	**164**	P	**P**	**14 13 05.0**	**+1.3**
	comp=Z,0.3nm,0.5s,mb3.6,baz=351,slow=11,SNR=8.2						
YKW3	**Yellowknife Ar**	**69.54**	**23**	*e*P	**P**	**14 13 36.5**	**+1.6**
YKA	**Yellowknife Ar**	**69.59**	**23**	P	**P**	**14 13 33.9**	**-1.3**
	comp=Z,2.3nm,0.7s,mb4.2,baz=322,slow=6.0,SNR=29						

*NEIC **03** 14:46:08.2, 26.51S×70.89W, h35km±3km, MD3.8, ML3.9, 1D, Near coast of northern Chile*

GUC 03 14:46:08.2±0.6, 2651S×7089W, h35km±3km, MD3.8, ML3.9, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRCH	**Chaqaral**	**0.29**	**55**	⇓*i*P	Pn	14 46 16.2	+0.2
CRCH				*i* S	Sn	14 46 21.3	0.0
CDCH	**Caldera**	**0.56**	**175**	*e*P	Pn	14 46 19.6	-0.1
CDCH				*i* S	Sn	14 46 27.9	+0.2
CPCH	**Copiapo**	**0.97**	**151**	*i* P	Pn	14 46 25.9	+0.6
CPCH				*i* S	Sn	14 46 39.1	+1.2
CPCH				AML	AML	14 46 39.9	
	comp=N,7μm,0.1s						
LCO	**Las Campanas**	**2.50**	**176**	*e*P	Pn

s-min=13.0km az=37.3
NEIC ***03*** *15:13:20.9±5.9, 6.23S×148.68E, h26km±42km, mb4.4/3, Error ellipse: s-maj=20.4km s-min=16.7km az=180.0*
ISC 03 15:13:19.1±4.7, 6.22S±.009×147.87E±.02, h14km±30km, n19, σ0.95/20, mb3.9/5, MS2.7/1, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.52**	**206**	Pn		**Pn**	**15 14 14.4**	**+1.2**
	114nm,0.3s,baz=350,slow=5.6,SNR=347							
PMG				Sn		**Sn**	**15 14 55.5**	**+0.9**
	144nm,0.3s,baz=322,slow=23,SNR=12							
PMG				LR		LR	15 15 58.4	
	comp=Z,496nm,18.5s,baz=15,slow=46							
PMG	**Port Moresby**	**3.52**	**206**	*e*Pn		**Pn**	**15 14 13.6**	**+0.4**
PMG				*e*Sn		**Sn**	**15 14 53.9**	**-0.7**
PMG				LR		LR	15 15 58.4	
CTA	**Charters Tower**	**13.99**	**190**	Pn		**Pn**	**15 16 37.4**	**+0.6**
	0.2nm,0.3s,baz=33,slow=12,SNR=3.5							
CTAO	**Charters Tower**	**13.99**	**190**	*e*P		**Pn**	**15 16 38.2**	**+1.4**
KAKA	**Kakadu**	**17.29**	**247**	*e*P		**Pn**	**15 17 20.5**	**+0.6**
	5.0nm,0.6s							
WRAB	**Tennant Creek**	**19.50**	**224**	*e*P		**Pn**	**15 17 45.6**	**-1.3**
	7.6nm,0.4s							
WB2	**Warramunga Arr**	**19.51**	**224**	*e*P		**Pn**	**15 17 45.7**	**-1.3**
WRA	**Warramunga Arr**	**19.52**	**224**	P		**Pn**	**15 17 45.9**	**-1.3**
	1.5nm,0.3s,baz=52,slow=11,SNR=110							
WRA				ScP		ScP	15 25 44.5	+2.8
	0.0nm,0.3s,baz=40,slow=2.2,SNR=5.5							
GUMO	**Guam**	**20.05**	**349**	LR		LR	15 24 52.5	
	comp=Z,34nm,18.6s,MS2.7,baz=98,slow=34							
ASAR	**Alice Springs**	**22.44**	**218**	P		**P**	**15 18 17.4**	**0.0**
	2.8nm,0.3s,mb4.1,baz=55,slow=9.1,SNR=124							
ASAR				S		**S**	**15 22 18.1**	**-5.5**
	1.0nm,0.8s,baz=33,slow=21,SNR=4.5							
ASAR				ScP		ScP	15 25 52.5	+3.8
	0.3nm,1.0s,baz=28,slow=1.5,SNR=4.5							
FITZ	**Fitzroy Crossi**	**25.41**	**240**	*e*P		**P**	**15 18 47.2**	**+1.1**
	14nm,0.3s,mb5.0							
FITZ	**Fitzroy Crossi**	**25.41**	**240**	P		**P**	**15 18 47.4**	**+1.3**
	6.5nm,0.3s,mb4.6,baz=59,slow=11,SNR=72							
STKA	**Stephens Creek**	**26.38**	**194**	*e*P		**P**	**15 18 54.8**	**0.0**
STKA	**Stephens Creek**	**26.38**	**194**	P		**P**	**15 18 53.2**	**-1.6**
	2.2nm,0.7s,mb3.8,baz=71,slow=23,SNR=9.6							
MBWA	**Marble Bar**	**31.74**	**239**	P		**P**	**15 19 43.5**	**+1.0**
MKAR	**Makanchi Array**	**78.75**	**320**	P		**P**	**15 25 21.2**	**+0.1**
	0.1nm,0.3s,mb3.2,baz=93,slow=8.5,SNR=5.7							
MKAR	**Makanchi Array**	**78.75**	**320**	P		**P**	**15 25 21.2**	**+0.1**
ILAR	**Eielson Array**	**85.02**	**23**	P		**P**	**15 25 53.8**	**-0.3**
	0.3nm,0.7s,mb3.5,baz=254,slow=6.5,SNR=3.8							
TORD	**Torodi Ar. Bea**	**146.79**	**284**	PKPbc		PKPbc	15 33 02.9	+2.3
	4.7nm,0.5s,baz=57,slow=3.2,SNR=64							

GUC ***03*** *15:25:50.9±2.4, 142.0S×176.30E, h55km, MW7.9(NEIC)*
IDC ***03*** *15:26:32.3±0.3, 2.000S×174.33W, h0km, mb6.3/27, mb1 6.3/29, mb1mx6.3/29, mbtmp6.3/29, ML4.9/2, MS7.7/22, Ms1 7.7/22, ms1mx7.4/32, Error ellipse: s-maj=11.7km s-min=8.5km az=138.0*
SZGRF ***03*** *15:26:33.8, 1996S×173.94W, h33km, mb8.0, Tonga Islands*
CRAAG ***03*** *15:26:34.6, 1999S×174.21W, Mw7.8*
ISCJB ***03*** *15:26:37.9±0.1, 20.14S±0.02×174.20W±0.02, h51km, mb7.0/162, MS7.7/217, Error ellipse: s-maj=3.5km s-min=2.1km az=66.1*
MOS ***03*** *15:26:37.0±1.5, 1998S×174.22W, h33km, mb7.2/59, MS7.7/78, Error ellipse: s-maj=7.4km s-min=5.4km az=62.5 Broadband fault plane solution: P waves. NP1: φs358.00000°, δ84.00000°, λ75.00000°. NP2: φs247.00000°, δ17.00000°, λ158.00000°. Principal axes: T Plg49.0000°, Azm252.0000°; N Plg15.0000°, Azm0.0000°; P Plg37.0000°, Azm102.0000°;*
BJI ***03*** *15:26:38.3, 1976S×173.72W, h54km, mB7.9, mb6.7, Ms7.9, Msz7.7*
HRVD ***03*** *15:26:40.3±0.1, 2039S×173.47W, h68km, MW8.0/115, Centroid moment Tensor Solution. LP body waves: s114,c285;Mantle waves: s115,c541; Half duration: 23s5 Moment tensor: Scale 10^21Nm; Mrr0.66±.00; Mθθ-0.12±.00; Mφφ-0.53±.00; Mrθ0.09±.00; Mrφ-0.33±.00; Mθφ0.88±.01; Best double couple: Mo1.11800×10^21 NP1:φs226.00000°, δ22.00000°, λ123.00000°. NP2: φs11.00000°, δ72.00000°, λ78.00000°. Principal axes: T 1.1270, Plg61.0000°, Azm263.0000°; N -0.0180, Plg12.0000°, Azm15.0000°; P -1.1090, Plg26.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=150s.*
NEIC ***03*** *15:26:40.3±0.1, 20.19S×174.12W, h55km, mb7.2/116, ME8.1, MS7.8/137, MW7.9 Error ellipse: s-maj=5.3km s-min=2.5km az=121.0, Moment Tensor Solution. s13 Moment tensor: Scale 10^20Nm; Mrr3.97; Mθθ-0.01; Mφφ-3.96; Mrθ0.22; Mrφ1.29; Mθφ7.34; Best double couple: Mo8.50000×10^20 NP1:φs359.00000°, δ76.00000°, λ99.00000°. NP2:φs147.00000°, δ17.00000°, λ59.00000°. Principal axes: T 8.4400, Plg58.0000°, Azm281.0000°; N 0.0200, Plg8.0000°, Azm177.0000°; P -8.4600, Plg30.0000°, Azm82.0000°; Broadband fault plane solution: P waves. NP1:φs180.00000°, δ10.00000°, λ90.00000°. NP2:φs0.00000°, δ80.00000°, λ90.00000°. Principal axes: T Plg55.0000°, Azm270.0000°; N Plg0.0000°, Azm0.0000°; P Plg35.0000°, Azm90.0000°; Complex earthquake, with at least two events occurring about 7 seconds apart observed on broadband displacement seismograms. Depth from synthetics of broadband displacement seismograms based on first event. Energy computed from BB mechanism.*
NEIC *One person injured, a church damaged, windows broken and items knocked from shelves [VII] at Nuku'alofa. Felt [VII] at Neiafu. Felt at Hihifo, Pangai and Vaini. Felt [III] at Apia, Samoa. Felt in American Samoa. Felt at Atiu and Avarua, Cook Islands; at Suva, Fiji; at Alofi, Niue; at Mulifanua, Samoa. Also felt at Auckland, Minginui, Napier, Wanganui, Wellington and Whakatane, New Zealand. A tsunami was generated with recorded wave heights in meters [peak-to-trough] at the following selected tide stations: 0.54 at Pago Pago, American Samoa; 0.10 at Tofino, British Columbia, Canada; 0.13 at Raratonga, Cook Islands; 0.07 at Suva, Fiji; 0.15 at Hanasaki, Japan; 0.48 at Noumea, New Caledonia; 0.15 at Jackson Bay, New Zealand; 0.42 on Niue; 0.42 at Apia, Samoa; 0.42 at Nuku'alofa, Tonga; 0.13 at King Cove, Alaska, 0.54 at Crescent City, California, 0.35 at Santa Barbara, California, 0.10 at San Francisco, California, 0.49 at Kahului, Hawaii, 0.12 at Portland, Oregon, 0.11 at La Push, Washington, U.S.A; 0.45 at Port-Vila, Vanuatu.*
IGIL ***03*** *15:26:41.2, 2009S×174.22W, h55km, MS7.7*
ISC 03 15:26:40.0±0.1, 2016S±.002×174.15W±.002, h53km, h53km±2.5km; pP-P, n1685, σ1.06/694, mb7.0/161, MS7.7/217, 254C-96D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.62**	**20**	Pn		**Pn**	**15 28 08.6**	**-5.9**
	200nm,0.3s,baz=202,slow=3.5,SNR=234							
AFI				Sn		**Sn**	**15 29 19.6**	**-9.1**
	11μm,0.3s,baz=43,slow=19,SNR=5.1							
AFI	**Afiamalu**	**6.62**	**20**	*e*Pn		**Pn**	**15 28 09.4**	**-5.2**
	32μm,0.6s							
AFI				*e*Sn		**Sn**	**15 29 20.6**	**-8.0**
RAO	**Raoul Island**	**9.68**	**200**	Pn		**Pn**	**15 28 56.5**	**+0.1**
	584nm,0.3s,baz=97,slow=12,SNR=16							
RAO				Sn		**Sn**	**15 30 46.7**	**+3.1**
	14μm,0.3s,baz=84,slow=22,SNR=5.4							
RAO	**Raoul Island**	**9.68**	**200**	*e*P		**Pn**	**15 28 56.6**	**+0.1**
RAO				*e*			15 30 45.7	
RAO				pmax		pmax		
	comp=Z,7μm,1.5s							
RAO	**Raoul Island**	**9.68**	**200**	*e*Pn		**Pn**	**15 28 56.6**	**+0.2**
	comp=Z,7μm,1.5s							
RAO				*e*Sn		**Sn**	**15 30 45.7**	**+2.1**
RAR	**Rarotonga**	**13.49**	**97**	Pn		**Pn**	**15 29 42.8**	**-5.8**
	comp=Z,70nm,0.3s,baz=254,slow=7.5,SNR=126							
RAR				Sn		**Sn**	**15 32 03.4**	**-13**
	comp=Z,2μm,0.3s,baz=89,slow=20,SNR=4.3							
BKM	**Butte a Klehm**	**16.85**	**276**	⇑P		**Pn**	**15 30 36.0**	**+4.0**
OUZ	**Omahuta**	**18.49**	**213**	PN		**Pn**	**15 30 53.2**	**+1.0**
OUZ	**Omahuta**	**18.49**	**213**	*e*P		**Pn**	**15 30 53.2**	**+1.0**
MXZ	**Matakaoa Point**	**18.54**	**199**	PN		**Pn**	**15 30 51.2**	**-1.6**
MXZ				SN		**Sn**	**15 34 10.3**	**-8.9**
MXZ	**Matakaoa Point**	**18.54**	**199**	*e*P		**Pn**	**15 30 50.2**	**-2.6**
MXZ				S		**S**	**15 34 09.3**	**-11**
WCZ	**Waipu Caves**	**18.69**	**210**	PN		**Pn**	**15 30 55.2**	**+0.6**
WCZ	**Waipu Caves**	**18.69**	**210**	*e*P		**Pn**	**15 30 55.2**	**+0.6**
KUZ	**Kuaotunu**	**18.75**	**206**	PN		**Pn**	**15 30 55.8**	**+0.4**
KUZ	**Kuaotunu**	**18.75**	**206**	*e*P		**Pn**	**15 30 54.8**	**-0.5**
WIZ	**White Island**	**18.88**	**202**	PN		**Pn**	**15 30 59.3**	**+2.5**
MYRZ	**Mayor Island**	**19.01**	**204**	PN		**Pn**	**15 31 01.0**	**+2.6**
PUZ	**Puketiti**	**19.03**	**199**	PN		**Pn**	**15 30 52.0**	**-6.6**
PUZ				SN		**Sn**	**15 34 16.4**	**-15**
PUZ	**Puketiti**	**19.03**	**199**	*e*P		**Pn**	**15 30 51.0**	**-6.6**
PUZ				S		**S**	**15 34 16.4**	**-14**
MTAZ	**Motutapu**	**19.13**	**208**	PN		**Pn**	**15 31 00.6**	**+0.8**
MTAZ	**Motutapu**	**19.13**	**208**	P		**Pn**	**15 31 02.1**	**+2.2**
KAAZ	**Kauri Point**	**19.25**	**208**	PN		**Pn**	**15 31 01.8**	**+0.4**
KAAZ	**Kauri Point**	**19.25**	**208**	P		**Pn**	**15 31 02.7**	**+1.4**
MKAZ	**Moumakai**	**19.29**	**207**	PN		**Pn**	**15 31 03.1**	**+1.3**
MKAZ	**Moumakai**	**19.29**	**207**	P		**Pn**	**15 31 03.1**	**+1.3**
TGRZ	**Tauranga**	**19.39**	**203**	PN		**Pn**	**15 31 04.2**	**+1.2**
WTAZ	**Waiatarua**	**19.40**	**208**	PN		**Pn**	**15 31 04.1**	**+1.0**
WTAZ	**Waiatarua**	**19.40**	**208**	*e*P		**Pn**	**15 31 04.1**	**+1.0**
MARZ	**Manawahe**	**19.47**	**202**	PN		**Pn**	**15 31 04.3**	**+0.4**
MARZ	**Manawahe**	**19.47**	**202**	P		**Pn**	**15 31 03.3**	**-0.6**
MWZ	**Matawai**	**19.49**	**200**	PN		**Pn**	**15 30 58.4**	**-5.8**
MWZ				SN		**Sn**	**15 34 31.7**	**-10**
MWZ	**Matawai**	**19.49**	**200**	*e*P		**Pn**	**15 30 57.4**	**-6.8**
EDRZ	**Edgecumbe**	**19.55**	**202**	PN		**Pn**	**15 31 04.8**	**-0.1**
EDRZ	**Edgecumbe**	**19.55**	**202**	P		**Pn**	**15 31 03.8**	**-1.1**
URZ	**Urewera**	**19.56**	**201**	P		**Pn**	**15 31 01.9**	**-3.1**
	comp=Z,30nm,0.3s,baz=354,slow=3.1,SNR=198							
URZ				S		**S**	**15 34 37.6**	**-3.7**
	comp=Z,306nm,0.3s,baz=315,slow=20,SNR=6.1							
URZ	**Urewera**	**19.56**	**201**	PN		**Pn**	**15 30 58.6**	**-6.4**
URZ				SN		**Sn**	**15 34 37.4**	**-6.5**
URZ	**Urewera**	**19.56**	**201**	*e*P		**Pn**	**15 31 00.5**	**-4.5**
LIRZ	**Lichensteins R**	**19.59**	**203**	PN		**Pn**	**15 31 05.9**	**+0.6**
LIRZ	**Lichensteins R**	**19.59**	**203**	P		**Pn**	**15 31 04.9**	**-0.4**
MKRZ	**Makatiti**	**19.68**	**202**	*e*PN		**Pn**	**15 31 09.1**	**+2.7**
MKRZ	**Makatiti**	**19.68**	**202**	*e*P		**Pn**	**15 31 10.6**	**+4.2**
TOZ	**Tahuroa Road**	**19.68**	**205**	PN		**Pn**	**15 31 06.4**	**0.0**
TOZ	**Tahuroa Road**	**19.68**	**205**	*e*P		**Pn**	**15 31 06.4**	**-0.1**
TAZ	**Tarawera**	**19.75**	**202**	PN		**Pn**	**15 31 07.5**	**+0.3**
TAZ	**Tarawera**	**19.75**	**202**	P		**Pn**	**15 31 07.5**	**+0.3**
UTU	**Utuhina**	**19.81**	**203**	PN		**Pn**	**15 31 08.0**	**+0.1**
UTU	**Utuhina**	**19.81**	**203**	*e*P		**Pn**	**15 31 07.0**	**-1.0**
PATZ	**Paeroa**	**19.97**	**203**	PN		**Pn**	**15 31 09.0**	**-0.8**
PATZ	**Paeroa**	**19.97**	**203**	*e*P		**Pn**	**15 31 09.3**	**-0.5**
KNZ	**Kokohu**	**20.08**	**199**	PN		**P**	**15 31 10.0**	**+1.1**
KNZ	**Kokohu**	**20.08**	**199**	*e*P		**P**	**15 31 10.0**	**+1.1**
WHTZ	**Whakaora**	**20.33**	**203**	*e*PN		**P**	**15 31 13.9**	**+2.3**
WHTZ	**Whakaora**	**20.33**	**203**	P		**P**	**15 31 18.5**	**+6.9**
WATZ	**Wairara**	**20.45**	**203**	PN		**P**	**15 31 14.1**	**+1.2**
WATZ	**Wairara**	**20.45**	**203**	*e*P		**P**	**15 31 13.1**	**+0.2**
HATZ	**Hinemaiaia**	**20.48**	**202**	*e*PN		**P**	**15 31 14.2**	**+1.0**
HATZ	**Hinemaiaia**	**20.48**	**202**	P		**P**	**15 31 14.2**	**+0.9**
RATZ	**Rangitukua**	**20.58**	**203**	PN		**P**	**15 31 15.2**	**+0.9**
RATZ	**Rangitukua**	**20.58**	**203**	*e*P		**P**	**15 31 14.2**	**-0.1**
BKZ	**Black Stump Fm**	**20.59**	**201**	PN		**P**	**15 31 13.0**	**-1.4**
BKZ				SN		**S**	**15 35 01.6**	**0.0**
BKZ	**Black Stump Fm**	**20.59**	**201**	*e*P		**P**	**15 31 13.0**	**-1.4**
HIZ	**Hauiti**	**20.62**	**205**	PN		**P**	**15 31 15.8**	**+1.0**
HIZ	**Hauiti**	**20.62**	**205**	*e*P		**P**	**15 31 15.8**	**+1.1**
RITZ	**Rihia Road**	**20.64**	**203**	PN		**P**	**15 31 16.5**	**+1.5**
RITZ	**Rihia Road**	**20.64**	**203**	P		**P**	**15 31 15.5**	**+0.5**
KATZ	**Kakaramea**	**20.70**	**203**	PN		**P**	**15 31 16.2**	**+0.6**
KATZ	**Kakaramea**	**20.70**	**203**	P		**P**	**15 31 15.2**	**-0.4**
KRVZ	**Karewarewa**	**20.82**	**203**	PN		**P**	**15 31 17.1**	**+0.1**
WTVZ	**West Tongariro**	**20.86**	**203**	PN		**P**	**15 31 16.3**	**-1.0**
WTVZ	**West Tongariro**	**20.86**	**203**	*e*P		**P**	**15 31 15.3**	**-2.1**
OTVZ	**Oturere**	**20.88**	**203**	PN		**P**	**15 31 15.9**	**-1.6**
TWVZ	**Taurewa**	**20.88**	**203**	PN		**P**	**15 31 16.9**	**-0.7**
TWVZ	**Taurewa**	**20.88**	**203**	*e*P		**P**	**15 31 15.9**	**-1.6**
NGZ	**Ngauruhoe**	**20.91**	**203**	PN		**P**	**15 31 18.3**	**+0.4**
NGZ	**Ngauruhoe**	**20.91**	**203**	*e*P		**P**	**15 31 17.3**	**-0.6**
WPVZ	**Whakapapa**	**20.96**	**203**	PN		**P**	**15 31 20.4**	**+2.1**
WPVZ	**Whakapapa**	**20.96**	**203**	*e*P		**P**	**15 31 19.4**	**+1.0**
TUVZ	**Tukino**	**20.97**	**203**	PN		**P**	**15 31 17.8**	**-0.7**
TUVZ	**Tukino**	**20.97**	**203**	*e*P		**P**	**15 31 16.8**	**-1.8**
FWVZ	**Far West T-bar**	**21.00**	**203**	PN		**P**	**15 31 18.4**	**-0.4**
FWVZ	**Far West T-bar**	**21.00**	**203**	*e*P		**P**	**15 31 17.4**	**-1.4**
DRZ	**Dome Shelter**	**21.01**	**203**	PN		**P**	**15 31 20.1**	**+1.1**
DRZ	**Dome Shelter**	**21.01**	**203**	P		**P**	**15 31 20.8**	**+1.8**
TRVZ	**Turoa**	**21.04**	**203**	PN		**P**	**15 31 18.8**	**-0.5**
WNVZ	**Wahianoa**	**21.05**	**203**	PN		**P**	**15 31 18.4**	**-1.0**
WNVZ	**Wahianoa**	**21.05**	**203**	*e*P		**P**	**15 31 17.4**	**-1.9**
MOVZ	**Moawhango**	**21.06**	**202**	PN		**P**	**15 31 18.1**	**-1.4**
MOVZ	**Moawhango**	**21.06**	**202**	P		**P**	**15 31 17.1**	**-2.4**
PKVZ	**Pokaka**	**21.10**	**203**	PN		**P**	**15 31 19.2**	**-0.8**
MTVZ	**Mangateitei**	**21.14**	**203**	PN		**P**	**15 31 20.2**	**-0.2**
VRZ	**Vera Road**	**21.18**	**204**	PN		**P**	**15 31 21.0**	**+0.2**
VRZ	**Vera Road**	**21.18**	**204**	*e*P		**P**	**15 31 22.3**	**+1.5**
PXZ	**Pawanui**	**21.25**	**199**	PN		**P**	**15 31 20.7**	**-0.8**
RAEZ	**Rainy Point**	**21.47**	**205**	PN		**P**	**15 31 26.3**	**+2.5**
RAEZ	**Rainy Point**	**21.47**	**205**	P		**P**	**15 31 26.3**	**+2.4**
PKE	**Pukeiti**	**21.55**	**206**	PN		**P**	**15 31 27.0**	**+2.3**
PKE	**Pukeiti**	**21.55**	**206**	P		**P**	**15 31 27.0**	**+2.2**
TSZ	**Takapari Road**	**21.57**	**201**	PN		**P**	**15 31 23.5**	**-1.5**
TSZ				SN		**S**	**15 35 16.4**	**-4.5**
TSZ	**Takapari Road**	**21.57**	**201**	*e*P		**P**	**15 31 23.5**	**-1.5**
NEZ	**North Egmont**	**21.57**	**205**	PN		**P**	**15 31 26.8**	**+1.8**
NEZ	**North Egmont**	**21.57**	**205**	P		**P**	**15 31 26.8**	**+1.8**
WAZ	**Wanganui**	**21.65**	**203**	PN		**P**	**15 31 25.7**	**-0.1**
WAZ	**Wanganui**	**21.65**	**203**	*e*P		**P**	**15 31 25.7**	**-0.1**
NWEZ	**Newall Road**	**21.67**	**206**	PN		**P**	**15 31 29.2**	**+3.2**
NWEZ	**Newall Road**	**21.67**	**206**	P		**P**	**15 31 29.2**	**+3.2**
NRZ	**Ngariki Road**	**21.69**	**206**	*e*P		**P**	**15 31 33.4**	**+7.1**
BFZ	**Birch Farm**	**22.04**	**200**	PN		**P**	**15 31 30.2**	**+0.2**
BFZ				SN		**S**	**15 35 28.9**	**-1.1**
BFZ	**Birch Farm**	**22.04**	**200**	*e*P		**P**	**15 31 30.2**	**+0.2**
MRZ	**Mangatainoka R**	**22.24**	**201**	PN		**P**	**15 31 31.0**	**-1.1**
MRZ				SN		**S**	**15 35 28.1**	**-5.8**
MRZ	**Mangatainoka R**	**22.24**	**201**	*e*P		**P**	**15 31 31.0**	**-1.1**
KIW	**Kapiti Island**	**22.65**	**202**	PN		**P**	**15 31 35.4**	**-1.0**
KIW	**Kapiti Island**	**22.65**	**202**	P		**P**	**15 31 34.4**	**-2.0**
MTW	**Mount Morrison**	**22.71**	**201**	PN		**P**	**15 31 36.4**	**-0.7**
MTW	**Mount Morrison**	**22.71**	**201**	P		**P**	**15 31 35.4**	**-1.7**
CAW	**Cannon Point**	**22.81**	**201**	PN		**P**	**15 31 36.8**	**-1.3**
CAW	**Cannon Point**	**22.81**	**201**	P		**P**	**15 31 35.8**	**-2.4**
TRWZ	**Traveller**	**22.87**	**200**	PN		**P**	**15 31 39.5**	**+0.8**
PAWZ	**Paruwai Farm**	**22.93**	**200**	PN		**P**	**15 31 38.9**	**-0.5**
PAWZ	**Paruwai Farm**	**22.93**	**200**	P		**P**	**15 31 37.9**	**-1.6**
DUWZ	**D'Urville Isla**	**22.96**	**204**	PN		**P**	**15 31 37.1**	**-2.5**
MSWZ	**Moikau Station**	**23.02**	**201**	PN		**P**	**15 31 39.8**	**-0.6**
MSWZ	**Moikau Station**	**23.02**	**201**	P		**P**	**15 31 38.8**	**-1.6**
MRW	**Makara Radio**	**23.05**	**202**	PN		**P**	**15 31 39.5**	**-1.2**
MRW				SN		**S**	**15 35 51.3**	**+4.0**
MRW	**Makara Radio**	**23.05**	**202**	P		**P**	**15 31 38.5**	**-2.1**
WEL	**Wellington**	**23.07**	**202**	PN		**P**	**15 31 41.2**	**+0.3**
WEL	**Wellington**	**23.07**	**202**	P		**P**	**15 31 40.2**	**-0.7**
SNZO	**South Karori**	**23.11**	**202**	PN		**P**	**15 31 40.3**	**-1.1**
SNZO	**South Karori**	**23.11**	**202**	*e*P		**P**	**15 31 40.3**	**-1.1**
TBI	**Tubuai**	**23.14**	**102**	*e*P		**P**	**15 31 39.8**	**-1.8**
	comp=Z,27μm,1.2s,mb7.5							
TBI				*e*	LR	LR	15 37 01.1	
	comp=Z,21μm,34.2s							
BHW	**Baring Head**	**23.15**	**201**	PN		**P**	**15 31 40.7**	**-1.0**
BHW				SN		**S**	**15 35 51.3**	**+2.4**
BHW	**Baring Head**	**23.15**	**201**	P		**P**	**15 31 39.7**	**-2.0**
TCW	**Tory Channel**	**23.18**	**203**	PN		**P**	**15 31 39.4**	**-2.6**
TCW	**Tory Channel**	**23.18**	**203**	P		**P**	**15 31 38.4**	**-3.7**
PAE	**Paea**	**23.37**	**88**	*e*P		**P**	**15 31 41.6**	**-2.2**
PAE	**Paea**	**23.37**	**88**	*e*P		**P**	**15 31 41.7**	**-2.1**
	comp=Z,7μm,1.3s,mb6.9							
PAE	**Paea**	**23.37**	**88**	*e*P		**P**	**15 31 41.7**	**-2.1**
PPT	**Papeete**	**23.39**	**88**	*e*P		**P**	**15 31 42.1**	**-1.9**
PPT	**Papeete**	**23.39**	**88**	*e*P		**P**	**15 31 42.2**	**-1.8**
	comp=Z,10μm,1.4s,mb7.1							
PPT	**Papeete**	**23.39**	**88**	*e*LR		LR	15 37 08.2	
	baz=266							
PPT	**Papeete**	**23.39**	**88**	P		**P**	**15 31 42.0**	**-2.0**
	comp=Z,979nm,1.2s,mb6.1,baz=236,slow=4.5,SNR=33							
PPT				S		**S**	**15 36 00.7**	**+7.8**
	comp=Z,176nm,0.5s,baz=106,slow=22,SNR=2.3							
PPT				LR		LR	15 39 19.5	
	comp=Z,1399μm,18.6s,MS7.5,baz=262,slow=33							
PPT	**Papeete**	**23.39**	**88**	P		**P**	**15 31 42.0**	**-2.0**
PPT				S		**S**	**15 36 00.7**	**+7.8**
TUWZ	**Tuamarina**	**23.49**	**203**	PN		**P**	**15 31 43.1**	**-1.9**
NNZ	**Nelson**	**23.52**	**204**	PN		**P**	**15 31 42.5**	**-2.7**
NNZ	**Nelson**	**23.52**	**204**	*e*P		**P**	**15 31 43.1**	**-2.1**
QRZ	**Quartz Range**	**23.53**	**206**	PN		**P**	**15 31 43.9**	**-1.3**
QRZ				SN		**S**	**15 36 02.2**	**+7.0**
QRZ	**Quartz Range**	**23.53**	**206**	*e*P		**P**	**15 31 44.6**	**-0.7**
TVO	**Taravao**	**23.65**	**88**	*e*P		**P**	**15 31 44.8**	**-1.6**
TVO	**Taravao**	**23.65**	**88**	*e*P		**P**	**15 31 44.8**	**-1.6**
TVO	**Taravao**	**23.65**	**88**	*e*P		**P**	**15 31 44.7**	**-1.7**
	comp=Z,18μm,1.2s,mb7.4							
TVO	**Taravao**	**23.65**	**88**	*e*P		**P**	**15 31 44.7**	**-1.7**
CMWZ	**Cape Campbell**	**23.68**	**202**	*e*PN		**P**	**15 31 47.3**	**+0.7**
CMWZ				SN		**S**	**15 36 04.9**	**+7.3**
CMWZ	**Cape Campbell**	**23.68**	**202**	*e*P		**P**	**15 31 46.3**	**-0.3**
BSWZ	**Blackbirch Sta**	**23.77**	**203**	*e*P		**P**	**15 31 46.7**	**-0.7**
THZ	**Tophouse**	**24.17**	**204**	*e*PN		**P**	**15 31 49.1**	**-2.0**
THZ	**Tophouse**	**24.17**	**204**	*e*P		**P**	**15 31 50.5**	**-0.6**
KHZ	**Kahutara**	**24.50**	**202**	PN		**P**	**15 31 53.6**	**-0.5**
KHZ	**Kahutara**	**24.50**	**202**	*e*P		**P**	**15 31 53.9**	**-0.3**
DSZ	**Denniston Nort**	**24.59**	**206**	PN		**P**	**15 31 53.9**	**-1.1**
DSZ	**Denniston Nort**	**24.59**	**206**	*e*P		**P**	**15 31 54.5**	**-0.5**
LTZ	**Lake Taylor**	**25.29**	**204**	PN		**P**	**15 31 59.0**	**-2.2**
LTZ	**Lake Taylor**	**25.29**	**204**	*e*P		**P**	**15 31 59.0**	**-2.3**
PMOR	**Pomariorio Ree**	**25.53**	**83**	*e*P		**P**	**15 32 01.3**	**-2.2**
	comp=Z,12μm,1.4s,mb7.2							
VAH	**Vaihoa**	**25.72**	**83**	*e*P		**P**	**15 32 03.4**	**-1.8**
	comp=Z,7μm,1.4s,mb7.0							
CRLZ	**Canterbury Las**	**25.84**	**202**	PN		**P**	**15 32 05.7**	**-0.7**
CRLZ				SN		**S**	**15 36 47.8**	**+16**
CRLZ	**Canterbury Las**	**25.84**	**202**	*e*P		**P**	**15 32 05.7**	**-0.6**
MQZ	**McQueen's Vall**	**25.95**	**202**	PN		**P**	**15 32 07.6**	**+0.3**
MQZ	**McQueen's Vall**	**25.95**	**202**	*e*P		**P**	**15 32 07.6**	**+0.3**
WVZ	**Waitaha Valley**	**26.14**	**206**	PN		**P**	**15 32 08.0**	**-1.0**
WVZ				SN		**S**	**15 36 48.0**	**+11**
WVZ	**Waitaha Valley**	**26.14**	**206**	*e*P		**P**	**15 32 08.0**	**-1.0**
RPZ	**Rata Peaks**	**26.55**	**204**	P		**P**	**15 32 11.9**	**-0.8**
	comp=Z,308nm,0.7s,mb5.9,baz=306,slow=1.3,SNR=28							
RPZ				S		**S**	**15 36 51.4**	**+8.1**
	comp=Z,383nm,0.8s,baz=272,slow=5.4,SNR=2.2							
RPZ	**Rata Peaks**	**26.55**	**204**	PN		**P**	**15 32 11.8**	**-0.9**
RPZ	**Rata Peaks**	**26.55**	**204**	*e*P		**P**	**15 32 11.8**	**-0.9**
FOZ	**Fox Glacier**	**26.97**	**206**	PN		**P**	**15 32 14.0**	**-2.5**
FOZ	**Fox Glacier**	**26.97**	**206**	*e*P		**P**	**15 32 13.0**	**-3.5**
HNR	**Honiara**	**27.18**	**289**	P		**P**	**15 32 16.7**	**-1.7**
	comp=Z,641nm,0.7s,mb6.2,baz=251,slow=2.2,SNR=62							
HNR				S		**S**	**15 37 06.8**	**+13**
	comp=

comp=Z,22nm,0.8s,baz=214,slow=49,SNR=2.0
ASAR PKPPKP 16 06 18.9
comp=Z,24nm,1.2s,baz=296,slow=2.1,SNR=5.2
ASAR P4KPbc 16 13 00.9
comp=Z,8.0nm,0.9s,baz=100,slow=4.4,SNR=12
ASAR Alice Springs 48.11 256 P **P 15 35 13.1 -1.3**
ASAR S S **15 42 05.8 -3.4**
ASAR Alice Springs 48.11 256 P **P 15 35 13.1 -1.3**
ASAR S S **15 42 05.8 -3.4**
ASAR P'P' 16 06 18.9
MIDW Midway 48.19 356 *e*P **P 15 35 14.7 -0.3**
comp=Z,6µm,1.3s,mb7.4
MIDW LR LR
comp=Z,504µm,20.0s,MS7.5
WB2 Warramunga Arr 48.22 261⇑ *i*P **P 15 35 13.5 -1.7**
WB2 *e*S **S 15 42 04.5 -6.2**
WRAB Tennant Creek 48.22 261 P **P 15 35 13.0 -2.2**
comp=Z,30µm,1.4s
WRAB Tennant Creek 48.22 261⇑ *e*P **P 15 35 13.7 -1.5**
comp=Z,9µm,0.9s,mb7.8
WRAB LR LR
comp=Z,1000µm,19.0s,MS7.8
WRA Warramunga Arr 48.23 261 P **P 15 35 12.9 -2.4**
comp=Z,69nm,0.3s,mb6.2,baz=98,slow=7.6,SNR=208
WRA S **S 15 42 04.5 -6.3**
comp=Z,50nm,0.9s,baz=80,slow=5.2,SNR=2.5
WRA P4KPbc 16 13 03.1
comp=Z,3.6nm,0.4s,baz=90,slow=4.1,SNR=4.1
WRA Warramunga Arr 48.23 261 P **P 15 35 12.9 -2.4**
WRA S **S 15 42 04.5 -6.3**
KAKA Kakadu 51.59 270⇑ *i*P **P 15 35 39.3 -1.5**
KAKA *e*S **S 15 43 01.3 +3.6**
GUMO Guam 52.44 306 P **P 15 35 46.6 -0.5**
comp=Z,419nm,0.6s,mb6.6,baz=158,slow=5.6,SNR=20
GUMO S **S 15 43 02.0 -7.4**
comp=Z,75nm,1.0s,baz=308,slow=21,SNR=1.5
GUMO LR LR 15 54 35.8
comp=Z,307µm,20.8s,MS7.3,baz=111,slow=32
GUMO P4KPbc 16 13 18.2
comp=Z,127nm,0.9s,baz=180,slow=4.6,SNR=4.9
GUMO Guam 52.44 306 P **P 15 35 46.6 -0.5**
GUMO S **S 15 43 02.0 -7.4**
GUMO Guam 52.44 306 P **P 15 35 46.6 -0.5**
GUMO S **S 15 43 02.0 -7.4**
GUMO LR LR 15 54 35.9
FORT Forrest 52.74 246 *e*P **P 15 35 47.9 -1.4**
comp=Z,4µm,0.6s,mb7.5
FORT *e*S **S 15 43 15.1 +1.6**
TLE Tual 53.52 278 P **P 15 35 54.2 -0.8**
KNA Kununurra 54.27 265 P **P 15 35 58.4 -2.1**
DRV Dumont d'Urvil 54.90 200 P **P 15 36 08.0 +2.9**
DRV S **S 15 43 49.0 +6.3**
FITZ Fitzroy Crossi 56.66 261⇑ *i*P **P 15 36 16.9 -0.8**
comp=Z,4µm,0.9s,mb7.5
FITZ *e*S **S 15 44 07.4 +1.4**
FITZ Fitzroy Crossi 56.66 261 P **P 15 36 17.1 -0.6**
comp=Z,248nm,0.5s,mb6.5,baz=92,slow=6.9,SNR=95
FITZ S **S 15 44 05.4 -0.6**
comp=Z,75nm,0.9s,baz=152,slow=20,SNR=1.9
FITZ LR LR 16 00 34.6
comp=Z,1056µm,20.1s,MS7.9,baz=98,slow=36
SWI Sorong 56.68 283 P **P 15 36 16.5 -1.3**
AAI Ambon 58.44 278 P **P 15 36 26.9 -3.3**
SBA Scott Base 58.47 185 *e*P **P 15 36 33.1 +2.7**
SBA pmax pmax
comp=Z,7µm,1.5s,mb7.5
SBA MLR MLR
comp=Z,905µm,21.0s,MS7.9
SBA Scott Base 58.47 185 *e*P **P 15 36 33.1 +2.7**
comp=Z,7µm,1.5s,mb7.5
SBA LR LR
comp=Z,905µm,21.0s,MS7.9
VNDA Vanda 58.59 186 P **P 15 36 32.8 +1.5**
comp=Z,134nm,0.7s,mb6.1,baz=7.6,slow=6.8,SNR=61
VNDA S **S 15 44 35.4 +4.0**
comp=Z,23nm,1.0s,baz=294,slow=15,SNR=1.8
VNDA LR LR 15 55 06.8
comp=Z,704µm,21.5s,MS7.8,baz=358,slow=29
VNDA PKPPKP 16 06 04.0
comp=Z,11nm,0.8s,baz=274,slow=6.0,SNR=4.8
VNDA P4KPbc 16 13 44.6
comp=Z,6.6nm,1.0s,baz=18,slow=7.2,SNR=3.6
VNDA Vanda 58.59 186 *e*P **P 15 36 32.9 +1.7**
comp=Z,3µm,1.4s,mb7.1
VNDA LR LR
comp=Z,619µm,21.0s,MS7.7
MBWA Marble Bar 61.45 256 *e*P **P 15 36 49.8 -1.0**
comp=Z,3µm,0.7s,mb7.6
MBWA LR LR
comp=Z,2726µm,19.0s,MS8.4
KLBR Kellerberrin 61.47 244⇑ *i*P **P 15 36 50.4 -0.6**
comp=Z,10µm,1.0s,mb7.9
NWAO Narrogin (SRO) 61.74 243 P **P 15 36 53.2 +0.4**
comp=Z,679nm,0.7s,mb6.9,baz=97,slow=6.4,SNR=44
NWAO S **S 15 45 16.8 +5.0**
comp=Z,56nm,0.9s,baz=96,slow=21,SNR=1.7
NWAO LR LR 16 03 11.7
comp=Z,1309µm,19.7s,MS8.1,baz=97,slow=36
NWAO PKPPKP 16 06 11.1
comp=Z,40nm,1.1s,baz=169,slow=4.8,SNR=3.6
NWAO Narrogin (SRO) 61.74 243 P **P 15 36 53.2 +0.4**
NWAO S **S 15 45 16.8 +5.0**
NWAO pmax pmax
comp=Z,679nm,0.7s
NWAO smax
comp=N,56nm,0.9s
NWAO MLR MLR
comp=Z,309µm,19.7s
NWAO Narrogin (SRO) 61.74 243⇑ *e*P **P 15 36 52.3 -0.5**
comp=Z,11µm,1.5s,mb7.8
NWAO LR LR
comp=Z,1075µm,20.0s,MS8.0
MUN Mundaring 62.72 244⇑ *i*P **P 15 36 59.2 -0.2**
CBIJ Chichi jima 63.22 316 P **P 15 37 02.9 +0.2**
comp=Z,1µm,0.7s,mb7.2,baz=61,slow=3.9,SNR=32
CBIJ S **S 15 45 30.1 -0.2**
comp=Z,63nm,0.8s,baz=267,slow=23,SNR=2.3
CBIJ LR LR 16 01 52.0
comp=Z,1118µm,20.2s,MS8.0,baz=131,slow=34
WSI Waingapu 63.87 269 P **P 15 37 06.5 -0.4**
BIPH Bislig 64.94 290⇑ *e*P **P 15 37 12.1 -1.8**
KCP Kidapawan 65.55 288⇓ *e*P **P 15 37 24.9 +7.0**
CASY Casey 65.81 205 *e*P **P 15 37 20.0 +0.4**
CASY *e*S S 15 46 07.2 +4.9
BUTP Butuan 65.94 290 *e*P **P 15 37 20.6 +0.2**
BUKP Musuan 65.95 289 *e*P **P 15 37 21.6 +1.1**
CTBH Cotabato--PC H 66.40 288 *e*P **P 15 37 23.9 +0.6**
CTBH *e*S pP 15 37 44.9 +6.7
CGP Cagayan de Oro 66.53 289⇓ *e*P **P 15 37 29.4 +5.2**
MSLP Maasin 67.13 291 *e*P **P 15 37 27.8 -0.3**
PCI Palu 67.22 278 P **P 15 37 29.4 +0.8**
PAGZ Pagadian 67.44 288 *e*P **P 15 37 30.4 +0.5**
PLP Palo 67.49 292 *e*P **P 15 37 29.4 -1.0**
OCLP Ormoc 67.77 292 *e*P **P 15 37 32.0 0.0**
DCPH Dipolog City 67.78 289⇑ *e*P **P 15 37 32.8 +0.7**
TBP Tagbilaran 67.81 290 *e*P **P 15 37 32.1 -0.2**
LLP Lapu-Lapu 68.00 291⇓ *e*P **P 15 37 33.5 +0.1**
IPIL Ipil 68.14 288 *e*P **P 15 37 34.6 +0.2**
SNPH Sibulan 68.21 289⇑ *e*P **P 15 37 34.5 -0.3**
JHJ Hachijo jima 2 68.86 320 P **P 15 37 39.5 +0.6**
comp=Z,3µm,0.7s,mb7.3,baz=192,slow=8.2,SNR=21
JHJ S S 15 46 38.4 -0.5
comp=Z,112nm,0.7s,baz=214,slow=21,SNR=1.9
MMPH Masbate 69.22 292⇑ *e*P **P 15 37 43.5 +2.4**
comp=Z,5079µm,0.7s
PVCP Virac 69.33 294 *e*P **P 15 37 42.0 +0.2**
GUIM Jordan 69.35 290 *e*P **P 15 37 40.0 -1.9**
RCP Roxas 69.62 291⇑ *e*P **P 15 37 43.0 -0.6**
QSPA South Pole Qui 69.91 180 *e*P **P 15 37 49.2 +3.9**
comp=Z,5µm,1.1s,mb7.3
KALP Kalibo 70.03 291⇑ *e*P **P 15 37 48.2 +2.1**
AUQP San Andres 70.48 293 *e*P **P 15 37 51.3 +2.5**
OTRP Odiongan 70.61 292 *e*P **P 15 37 49.0 -0.6**
CUYO Cuyo Island 70.83 290 *e*P **P 15 37 50.5 -0.5**
GQP Guinayangan 70.94 293⇓ *e*P **P 15 37 52.6 +0.9**
TSM Tawau 70.99 282 P **P 15 37 52.8 +0.9**
BOAC Boac 71.26 293 *e*P **P 15 37 53.2 -0.4**
POLP Polilio Island 71.75 294 *e*P **P 15 37 56.9 +0.4**
LQP Lukban 71.82 293⇓ *e*P **P 15 38 01.1 +4.2**
PGP Puerto Galera 72.05 292⇑ *i*P **P 15 38 02.1 +3.7**
BUSP Coron 72.06 290 *e*P **P 15 37 58.3 -0.1**
MJAR Matsushiro Arr 72.15 321 P **P 15 37 58.3 -0.5**
comp=Z,680nm,0.9s,mb6.6,baz=154,slow=5.9,SNR=376
MJAR S S 15 47 18.7 +1.6
comp=Z,13nm,1.0s,baz=182,slow=4.2,SNR=2.4
MJAR PKPPKP 16 05 45.4
comp=Z,8.2nm,1.1s,baz=285,slow=1.4,SNR=6.6
MJAR LR LR 16 06 56.0
comp=Z,322µm,19.9s,MS7.6,baz=125,slow=34
MJAR Matsushiro Arr 72.15 321 P **P 15 37 58.3 -0.6**
MJAR S S 15 47 18.7 +1.6
MAJO Matsushiro 72.15 321⇑⇑ *e*P **P 15 37 58.8 -0.1**
MAJO pmax pmax
comp=Z,3µm,2.4s,mb6.8
MAJO MLR MLR
comp=Z,349µm,20.0s,MS7.6
MAJO Matsushiro 72.15 321⇑ *e*P **P 15 37 58.8 -0.1**
comp=Z,3µm,2.4s,mb6.8
MAJO LR LR
comp=Z,349µm,20.0s,MS7.6
MAT Matsushiro 72.15 321 P **P 15 37 58.4 -0.5**
MAT S S 15 47 16.4 -0.8
MAT Matsushiro 72.15 321 *e*P **P 15 37 58.0 -0.9**
MAT *e*S S 15 47 16.0 -1.2
MAT pmax pmax
comp=Z,384nm,0.7s,mb6.4
MAT MLR MLR
comp=Z,35µm,18.0s,MS6.7
MAT Matsushiro 72.15 321 *e*P **P 15 37 58.0 -0.9**
comp=Z,384nm,0.7s,mb6.4
MAT *e*S S 15 47 16.0 -1.2
MAT LR LR
comp=Z,35µm,18.0s,MS6.7
TGY Tagaytay City 72.34 293 P **P 15 38 01.4 +1.4**
comp=Z,1µm,0.7s,baz=157,slow=1.7,SNR=20
TGY S S 15 47 24.0 +4.7
comp=Z,75nm,0.3s,baz=226,slow=16,SNR=2.2
TGY Tagaytay City 72.34 293⇑ *e*P **P 15 37 58.6 -1.4**
ENPP El Nido 72.40 289 *e*P **P 15 38 00.5 +0.1**
PPR Puerto Princes 72.41 288 *e*P **P 15 38 00.1 -0.3**
PALP Palanan 72.42 296 *e*P **P 15 38 01.3 +0.7**
BALP Baler 72.53 295 *e*P **P 15 38 01.4 +0.2**
JOW Kunigami 72.77 308 P **P 15 38 03.7 +1.1**
comp=Z,1µm,0.9s,mb6.7,baz=136,slow=6.1,SNR=86
JOW S S 15 47 27.6 +3.3
comp=Z,21nm,0.9s,baz=30,slow=28,SNR=3.5
LUBP Lubang 72.77 292 *e*P **P 15 38 00.9 -1.7**
MIR Mirnyy 72.82 205*c i*P **P 15 38 04.0 +1.1**
BATP Bataraza 72.84 286 *e*P **P 15 38 03.4 +0.4**
PCPH Palayan 72.86 294⇓ *e*P **P 15 38 03.6 +0.5**
CAUP Cauayan 72.87 296 *e*P **P 15 38 03.9 +0.7**
KKM Kota Kinabalu 73.19 283 P **P 15 38 06.0 +0.9**
KKM Kota Kinabalu 73.19 283⇑ *e*P **P 15 38 05.2 +0.2**
CVP Callao Caves 73.23 296⇓ *e*P **P 15 38 05.5 +0.2**
SGCP Mt. Cagua 73.29 297 *e*P **P 15 38 06.3 +0.6**
SMY Shemya 73.30 353 *e*P **P 15 38 05.2 -0.5**
SMY pmax pmax
comp=Z,6µm,1.2s,mb7.4
SMY Shemya 73.30 353 *e*P **P 15 38 05.2 -0.5**
comp=Z,6µm,1.2s,mb7.4
ERM Erimo 73.38 328 P **P 15 38 07.5 +1.3**
comp=Z,10µm,1.1s,mb7.6,SNR=26
FX1 Attu Island--F 73.57 352 P **P 15 38 06.6 -0.7**
comp=Z,378nm,0.8s,mb6.4,baz=256,slow=1.1,SNR=35
FX1 S S 15 47 29.7 -3.5
comp=Z,46nm,0.9s,baz=301,slow=8.5,SNR=2.8
FX1 LR LR 16 05 21.5
comp=Z,26µm,21.7s,baz=182,slow=32
FX1 PKPPKP 16 05 44.0
comp=Z,23nm,1.1s,baz=336,slow=23,SNR=3.3
FX1 Attu Island--F 73.57 352 P **P 15 38 06.6 -0.7**
FX1 S S 15 47 29.7 -3.6
FX1 pmax pmax
comp=Z,379nm,0.8s
FX1 smax
comp=N,46nm,0.9s
FX1 MLR MLR
comp=Z,26µm,21.7s
FX1 Attu Island--F 73.57 352⇓ *e*P **P 15 38 06.4 -0.9**
YUK Yuzh-Kuril'sk 73.63 331⇑ *i*P **P 15 38 06.5 -1.2**
YUK *i*S S 15 47 36.0 +2.0
YUK pmax pmax
comp=N,400nm,0.5s
YUK pmax pmax
comp=E,340nm,0.5s
YUK pmax pmax
comp=Z,440nm,0.5s,mb6.6
YUK pmax pmax
comp=N,110µm,14.5s
YUK pmax pmax
comp=Z,367µm,14.5s
YUK smax
comp=E,385µm,17.0s
YUK smax
comp=N,262µm,21.0s
YUK MLR MLR
comp=E,444µm,22.5s,MS7.9
YUK MLR MLR
comp=Z,698µm,22.5s,MS7.9
YUK MLR MLR
comp=N,616µm,23.0s,MS7.9
BCPH Baguio City Da 73.67 295⇓ *e*P **P 15 38 08.8 +0.8**
APYP Conner 73.79 296 *e*P **P 15 38 08.7 +0.1**
SCZP Santa Cruz 73.97 294 *e*P **P 15 38 09.4 -0.2**
ABRA Dolores 74.14 296 *e*P **P 15 38 10.4 -0.2**
BOLP Bolinao 74.24 294 *e*P **P 15 38 09.3 -1.9**
AKUT Akutan 74.34 5 *e*P **P 15 38 10.8 -1.0**
comp=N,6µm,1.8s,mb7.2
SNCC San Nicolas Is 74.41 45 PFAKE 15 38 20.0 +7.8
SNCC LR LR
comp=Z,397µm,21.0s,MS7.7
JNU Nakatsue 74.57 315 P **P 15 38 14.2 +1.1**
comp=Z,376nm,0.7s,mb6.5,baz=77,slow=3.5,SNR=29
JNU S S 15 47 43.2 -1.3
comp=Z,20nm,0.7s,baz=121,slow=11,SNR=2.5
ASAJ Asahikawa 75.22 329 P **P 15 38 18.0 +1.1**
comp=Z,592nm,0.8s,mb6.5,baz=220,slow=9.5,SNR=42
ASAJ S S 15 47 56.7 +4.9
comp=Z,39nm,1.2s,baz=249,slow=29,SNR=2.2
ASAJ PKPPKP 16 05 43.0
comp=Z,8.0nm,1.0s,baz=296,slow=21,SNR=2.3
ASAJ LR LR 16 06 03.1
comp=Z,683µm,22.0s,MS7.9,baz=149,slow=32
ASAJ Asahikawa 75.22 329 P **P 15 38 18.0 +1.1**
ASAJ S S 15 47 56.7 +4.9
ASAJ pmax pmax
comp=Z,592nm,0.9s
ASAJ smax
comp=N,39nm,1.2s
ASAJ MLR MLR
comp=Z,683µm,22.0s
SKR Severo-Kuril's 75.25 341⇑ *i*P **P 15 38 19.0 +1.9**
SKR *i*S S 15 47 54.0 +1.9
SKR pmax pmax
comp=N,28µm,8.0s
SKR pmax pmax
comp=E,33µm,8.0s
SKR pmax pmax
comp=Z,70µm,8.0s
SKR pmax pmax
comp=Z,12µm,1.6s,mb7.6
SKR pmax pmax
comp=N,8µm,2.0s
SKR pmax pmax
comp=E,14µm,2.0s
SKR smax
comp=N,458µm,16.0s
SKR smax
comp=E,613µm,16.0s
SKR smax
comp=Z,353µm,16.0s
SKR smax
comp=E,357µm,10.0s
SKR smax
comp=Z,204µm,10.0s
SKR smax
comp=N,182µm,8.0s
SKR MLR MLR
comp=E,141µm,20.0s,MS7.4
SKR MLR MLR
comp=Z,288µm,20.0s,MS7.6
SKR MLR MLR
comp=N,154µm,22.0s,MS7.4
SAC San Andreas 75.27 40 *e*P **P 15 38 17.5 +0.3**
SAO San Andreas Ge 75.34 41 *e*P **P 15 38 17.1 -0.5**
SAO pmax pmax
comp=Z,2µm,1.3s,mb6.9
SAO MLR MLR
comp=Z,267µm,20.0s,MS7.5
SAO San Andreas Ge 75.34 41 *e*P **P 15 38 17.1 -0.5**
comp=Z,2µm,1.3s,mb6.9
SAO LR LR
comp=Z,267µm,20.0s,MS7.5
MCCM Marconi Confer 75.36 39 *e*P **P 15 38 18.1 +0.4**
LRV Little Rabbit 75.40 42 *e*P **P 15 38 17.8 -0.1**
LRV *e*P'P' 16 05 40.2
PTRM Twissleman Ran 75.43 43 *e*P **P 15 38 18.8 +0.7**
HOPS Hopland 75.80 39 *e*P **P 15 38 20.1 -0.1**
comp=Z,3µm,1.3s,mb7.0
HOPS LR LR
comp=Z,464µm,22.0s,MS7.7
MWC Mount Wilson 75.97 45 *e*P **P 15 38 20.5 -0.7**
KIPM Iron Peak 76.10 38 *e*P **P 15 38 22.6 +0.7**
SDPT Sand Point 76.11 8 *e*P **P 15 38 21.1 -0.9**
comp=Z,4µm,1.1s,mb7.2
LPIG La Paz 76.15 58 P **P 15 38 23.5 +1.3**
comp=Z,123nm,0.8s,mb5.9,baz=131,slow=3.2,SNR=12
LPIG S S 15 48 03.6 +1.6
comp=Z,16nm,0.3s,baz=120,slow=7.8,SNR=1.6
LPIG LR LR 16 02 45.9
comp=Z,607µm,21.8s,MS7.9,baz=244,slow=28
LPIG PKPPKP 16 05 48.4
comp=Z,17nm,0.3s,baz=169,slow=1.8,SNR=3.1
LPIG La Paz 76.15 58 *e*P **P 15 38 22.1 -0.1**
NACB Ninganchiao 76.52 302⇑ *e*P **P 15 38 23.6 -0.8**
ISA Isabella 76.55 44 PFAKE 15 38 40.0 +16
ISA LR LR
comp=Z,82µm,21.0s,MS7.0
PET Petropavlovsk 76.61 344α *i*P **P 15 38 22.9 -1.9**
PET *e* 15 41 22.3
PET *i*S S 15 48 00.0 -7.0
PET *e* 15 48 34.0
PET *e*SSS 15 56 22.6
PET pmax pmax
comp=N,52µm,19.6s
PET pmax pmax
comp=E,39µm,20.2s
PET pmax pmax
comp=Z,141µm,19.8s
PET pmax pmax
comp=Z,2µm,1.1s,mb7.1
PET pmax pmax
comp=Z,197µm,16.2s
PET pmax pmax
comp=E,57µm,15.0s
PET pmax pmax
comp=N,76µm,14.1s
PET pmax pmax
comp=Z,63µm,14.2s
PET pmax pmax
comp=Z,87µm,21.7s
PET smax
comp=E,167µm,13.5s
PET MLR MLR
comp=Z,229µm,21.0s,MS7.5
PET MLR MLR
comp=Z,178µm,20.0s
PET Petropavlovsk 76.61 344 *e*P **P 15 38 23.9 -0.9**
comp=Z,8µm,1.6s,mb7.4
PET LR LR
comp=Z,239µm,20.0s,MS7.5
KHMM Horse Mountain 76.67 37 *e*P **P 15 38 25.3 +0.1**
KHMM P'P' 16 05 33.9
PFO Pinyon Flat Ob 76.69 46 P **P 15 38 25.6 +0.3**
comp=Z,2µm,1.2s,mb6.9,SNR=87
CMB Columbia Colle 76.80 41 *e*P **P 15 38 25.5 -0.4**
CMB pmax pmax
comp=Z,2µm,1.4s,mb6.8
CMB MLR MLR
comp=Z,233µm,21.0s,MS7.5
CMB Columbia Colle 76.80 41 *e*P **P 15 38 25.5 -0.4**
comp=Z,2µm,1.4s,mb6.8
CMB LR LR
comp=Z,233µm,21.0s,MS7.5
YHNB Yeheng 76.94 303 *e*P **P 15 38 26.6 -0.1**
KSM Kuching 76.96 276⇑ *e*P **P 15 38 27.4 +0.6**
OHCM Honcut 76.96 39 *e*P **P 15 38 26.1 -0.7**
TATO Taipei 77.00 303⇑ *e*P **P 15 38 26.9 -0.1**
comp=Z,21µm,1.4s,mb7.9
TATO LR LR
comp=Z,626µm,20.0s,MS7.9
WDC Whiskeytown Da 77.15 38⇓ *e*P **P 15 38 27.5 -0.3**
comp=Z,16µm,0.8s,mb8.0
WDC LR LR
comp=Z,716µm,22.0s,MS8.0
YSS Yuzh-Sakhalins 77.27 331α *i*P **P 15 38 28.6 0.0**
YSS *i*S S 15 48 14.0 -0.3
YSS pmax pmax
comp=Z,7µm,1.4s,mb7.4
YSS pmax pmax
comp=N,52µm,10.0s
YSS pmax pmax
comp=E,37µm,10.0s
YSS pmax pmax
comp=Z,184µm,10.0s
YSS smax
comp=E,154µm,18.0s
YSS smax
comp=N,104µm,14.0s
YSS MLR MLR
comp=Z,608µm,19.0s,MS7.9
YSS MLR MLR
comp=N,410µm,20.0s,MS7.8
YSS MLR MLR
comp=E,240µm,20.0s,MS7.8
YSS Yuzh-Sakhalins 77.27 331⇑⇑ *e*P **P 15 38 28.6 +0.1**
comp=E,3µm,0.8s,mb7.2
YSS LR LR
comp=Z,597µm,21.0s,MS7.9
KBO Bosley Butte 77.29 36 *e*P **P 15 38 29.0 +0.3**
CHGN Chignik 77.32 9 *e*P **P 15 38 27.5 -1.3**
XMIS Christmas Isla 77.34 263 P **P 15 38 29.2 +0.3**
DAC Darwin (Calif) 77.49 44⇓ *e*P **P 15 38 29.9 +0.1**
comp=Z,43nm,0.9s
KEBM Edson Butte 77.68 35 *e*P **P 15 38 31.4 +0.6**
KEBM ⇑ *e* 16 05 41.3
YBH Yreka Blue Hor 77.81 37 S S 15 48 25.3 +5.2
comp=Z,5.6nm,0.8s,baz=314,slow=13,SNR=2.4
YBH PKKPbc PKKPbc 15 57 39.8 +7.2
comp=Z,5.2nm,0.8s,baz=176,slow=1.1,SNR=3.5
YBH LR LR 16 05 02.4
comp=Z,269µm,20.8s,MS7.5,baz=230,slow=30
YBH PKPPKP 16 05 37.5
comp=Z,1.8nm,0.6s,baz=142,slow=3.8,SNR=4.1
YBH Yreka Blue Hor 77.81 37 *e*P **P 15 38 31.4 -0.1**
YBH pmax pmax
comp=Z,7µm,1.2s
YBH MLR MLR
comp=Z,394µm,22.0s
YBH Yreka Blue Hor 77.81 37 *e*P **P 15 38 31.4 -0.1**
comp=Z,7µm,1.2s,mb7.5
YBH LR LR
comp=Z,394µm,22.0s,MS7.7
HUMO Hull Mountain 78.25 36⇓ *e*P **P 15 38 34.2 +0.2**
comp=Z,251nm,0.6s,mb6.3
HUMO LR LR
comp=Z,539µm,22.0s,MS7.8
CJM Chamela 78.32 64 *e*P **P 15 38 34.4 0.0**
NVAR Mina Array Bea 78.33 42 P **P 15 38 34.5 0.0**
comp=Z,116nm,0.7s,mb5.9,baz=223,slow=8.1,SNR=305
NVAR S S 15 48 32.5 +6.8
comp=Z,4.4nm,0.8s,baz=58,slow=32,SNR=2.6
NVAR PKKPbc PKKPbc 15 57 35.1 +3.6
comp=Z,2.1nm,0.7s,baz=288,slow=25,SNR=3.1
NVAR PKPPKP 16 05 30.9
comp=Z,12nm,1.0s,baz=66,slow=4.6,SNR=4.7
NVAR Mina Array Bea 78.33 42 P **P 15 38 34.5 0.0**
NVAR S S 15 48 32.5 +6.8
NVAR PKKPbc PKKPbc 15 57 35.1 +3.6
NVAR P'P' 16 05 30.9
PAHR Pah Rah Range 78.45 40⇓ *e*P **P 15 38 35.1 0.0**
comp=Z,1µm,0.4s,mb7.3
PAHR *e*P'P' 16 05 33.0
TPNV Topopah Spring 78.76 44⇓ *e*P **P 15 38 36.9 +0.1**
TPNV pmax pmax
comp=Z,2µm,0.8s,mb7.0
TPNV MLR MLR
comp=Z,714µm,22.0s,MS8.0
TPNV Topopah Spring 78.76 44⇓⇓ *e*P **P 15 38 36.9 +0.1**
comp=Z,2µm,0.8s,mb7.0
TPNV ⇑ 16 05 43.7
TPNV LR LR
comp=Z,714µm,22.0s,MS8.0
TPH Tonopah 78.80 42⇓ *e*P **P 15 38 37.1 +0.1**
TPH pmax pmax
comp=Z,2µm,1.3s,mb7.0
TPH MLR MLR

comp=Z,269µm,20.0s,MS7.6
TPH Tonopah 78.80 42⇓ *e*P P 15 38 37.1 +0.1
comp=Z,2µm,1.3s,mb7.0
TPH P'P' 16 05 29.1
TPH LR LR
comp=Z,269µm,20.0s,MS7.6
MAIG Mazatlaan 78.84 60 *e*P P 15 38 36.9 -0.3
NEN Nelson 78.94 46 *e*P P 15 38 37.8 0.0
NEN eP'P' 16 05 30.4
KS15 Wonju Array Si 79.10 317⇑ eP P 15 38 39.7 +1.1
QZH Quanzhou 79.28 302⇑ *i*P P 15 38 40.6 +0.9
QZH S S 15 48 39.0 +3.1
QZH comp=N,355µm,18.5s,MS7.9 LR LR
QZH comp=E,404µm,21.3s,MS7.9 LR LR
QZH comp=E,678µm,20.4s,MS8.0 LR LR
MOD Modoc 79.29 38⇓ *e*P P 15 38 39.5 -0.2
comp=Z,3µm,0.6s,mb7.4
MOD eP'P' 16 05 30.8
MOD LR LR
comp=Z,414µm,22.0s,MS7.7
COR Corvallis 79.39 34 *e*P P 15 38 39.4 -0.8
COR pmax pmax
comp=Z,5µm,1.8s,mb7.1
COR MLR MLR
comp=Z,940µm,22.0s,MS8.1
COR Corvallis 79.39 34 *e*P P 15 38 39.4 -0.8
comp=Z,5µm,1.8s,mb7.1
COR LR LR
comp=Z,940µm,22.0s,MS8.1
KDAK Kodiak Island 79.70 12 P P 15 38 42.5 +0.6
comp=Z,6µm,1.4s,mb7.3,SNR=16
KDAK Kodiak Island 79.70 12 P P 15 38 41.5 -0.4
comp=Z,598nm,1.0s,mb6.5,baz=201,slow=3.5,SNR=20
KDAK S S 15 48 34.4 -5.9
comp=Z,33nm,1.1s,baz=175,slow=2.5,SNR=2.6
KDAK PKKPbc PKKPbc 15 57 32.6 +4.1
comp=Z,26nm,0.9s,baz=173,slow=3.5,SNR=2.6
KDAK LR LR 16 07 16.9
comp=Z,562µm,21.8s,MS7.9,baz=211,slow=31
TUC Tucson 79.95 50⇓ *e*P P 15 38 43.9 +0.6
TUC pmax pmax
comp=Z,2µm,1.2s,mb6.9
TUC MLR MLR
comp=Z,219µm,20.0s,MS7.5
TUC Tucson 79.95 50⇓ *e*P P 15 38 43.9 +0.6
comp=Z,2µm,1.2s,mb6.9
TUC ⇑*e* 16 05 37.5
TUC LR LR
comp=Z,219µm,20.0s,MS7.5
SSOR Sweet Springs 80.01 35 P P 15 38 43.8 +0.2
VLA Vladivostok 80.13 323 *d*iP P 15 38 44.8 +0.5
VLA *i* *PP pP 15 38 58.0 -1.5
VLA *e* 15 41 54.0
VLA *i* S S 15 48 43.4 -1.4
VLA *e**SS sS 15 49 06.3 -4.2
VLA *e*SS SS 15 53 52.9 -3.2
VLA *e*SSS 15 57 12.0
VLA comp=Z,3µm,2.4s,mb6.8 pmax pmax
VLA MLR MLR
comp=Z,349µm,22.0s,MS7.7
VLA Vladivostok 80.13 323 *i*Pr P 15 38 44.3 0.0
PMSA Palmer Station 80.14 156 *e*P P 15 38 42.8 -1.5
comp=Z,2µm,3.3s
PMSA LR LR
comp=Z,580µm,20.0s,MS7.9
BMN Battle Mountai 80.21 40 *e*P P 15 38 44.1 -0.6
BMN pmax pmax
comp=Z,2µm,1.3s,mb6.8
BMN MLR MLR
comp=Z,384µm,22.0s,MS7.7
BMN Battle Mountai 80.21 40 *e*P P 15 38 44.1 -0.6
comp=Z,2µm,1.3s,mb6.8
BMN LR LR
comp=Z,384µm,22.0s,MS7.7
SSE Sheshan 80.29 308 P P 15 38 45.0 -0.1
SSE AP pP 15 38 59.4 -0.9
SSE XP sP 15 39 05.3 -1.0
SSE PP PP 15 41 49.0 +0.8
SSE S S 15 48 48.8 +2.4
SSE AMB AMB
comp=Z,653nm,1.1s,mb6.5
SSE AMB AMB
comp=Z,143µm,12.0s
SSE LR LR
comp=N,1464µm,30.8s,MS8.5
SSE LR LR
comp=E,2854µm,31.2s,MS8.5
SSE LR LR
comp=Z,3943µm,36.9s
SFJM Santa Fe 80.44 64 *e*P P 15 38 45.0 -0.9
ZIIG Zihuatanejo 80.58 67 *i*P P 15 38 45.8 -0.8
WVOR Wild Horse Val 80.59 38⇓ *e*P P 15 38 46.1 -0.6
WVOR pmax pmax
comp=Z,196nm,0.5s,mb6.3
WVOR MLR MLR
comp=Z,482µm,20.0s,MS7.8
WVOR Wild Horse Val 80.59 38⇓ *e*P P 15 38 46.1 -0.6
comp=Z,196nm,0.5s,mb6.3
WVOR ⇑*e* 16 05 31.5
WVOR LR LR
comp=Z,482µm,20.0s,MS7.8
CCUT Cedar City 80.99 45⇓ *e*P P 15 38 50.0 +1.1
CCUT P'P' 16 05 29.5
ARUT Antelope Range 81.08 44 P P 15 38 49.8 +0.5
OCWA Octopus Mounta 81.09 32⇓ *e*P P 15 38 49.5 +0.1
comp=Z,3µm,1.2s,mb7.0
OCWA LR LR
comp=Z,483µm,21.0s,MS7.8
WUAZ Wupatki 81.23 47⇓ *e*P P 15 38 50.6 +0.5
comp=Z,286nm,0.6s,mb6.4
WUAZ ⇑*e* 16 05 37.0
WUAZ LR LR
comp=Z,173µm,19.0s,MS7.4
OTR Olympics--Tyee 81.23 31 P P 15 38 51.5 +1.3
OBC Olympics--Boni 81.33 31 P P 15 38 51.7 +1.1
CAIG El Cayaco 81.39 68 *e*P P 15 38 50.8 -0.2
ELK Elko 81.61 41⇓ *e*P P 15 38 51.9 -0.2
ELK pmax pmax
comp=Z,2µm,1.7s
ELK MLR MLR
comp=Z,396µm,22.0s
ELK Elko 81.61 41⇓ *e*P P 15 38 51.9 -0.2
comp=Z,2µm,1.7s,mb6.8
ELK eP'P' 16 05 24.3
ELK LR LR
comp=Z,396µm,22.0s,MS7.7
ACX Acapulco 81.62 69 *e*P P 15 38 53.5 +1.3
GNW Green Mountain 81.63 32 P P 15 38 52.0 -0.2
MOIG Morelia 81.67 66 *i*P P 15 38 53.4 +0.9
MRX Morelia 81.68 66 *e*P P 15 38 52.0 -0.5
HKC Hong Kong 81.71 297⇑ *i*P P 15 38 54.0 +1.3
HABR Khabarovsk 81.99 329⇑ *i*P P 15 38 56.3 +2.2
HABR *e*S S 15 49 07.5 +3.4
HABR *e*SS SS 15 54 24.0 +0.2
HABR pmax pmax
comp=Z,6µm,1.1s,mb7.4
HABR pmax pmax
comp=Z,269µm,15.2s
HABR MLR MLR
comp=Z,290µm,22.5s,MS7.6
PGC Sidney 82.06 31⇓ *e*P P 15 38 54.1 -0.4
comp=Z,3µm,1.0s,mb7.1
MVU Marysvale 82.28 44 PFAKE 15 39 10.0 +14
MVU LR LR
comp=Z,352µm,20.0s,MS7.7
MSU Marysvale 82.31 44 *e*P P 15 38 56.5 +0.8
MSU P'P' 16 05 20.2
SVW2 Sparrevohn 82.35 9 *e*P P 15 38 54.8 -1.2
TWW Teanaway 82.35 34 P P 15 38 56.1 +0.1
MDJ Mudanjiang 82.37 323 P P 15 38 57.0 +0.9
MDJ AP pP 15 39 10.4 -1.0
MDJ XP sP 15 39 17.2 -0.1
MDJ PP PP 15 42 06.2 +0.8
MDJ S S 15 49 11.0 +3.0
MDJ SS SS 15 54 31.8 +2.4
MDJ AMB AMB
comp=Z,361nm,0.7s,mb6.4
MDJ AMB AMB
comp=Z,93µm,7.9s
MDJ LR LR
comp=N,237µm,22.8s,MS7.7
MDJ LR LR
comp=E,322µm,21.6s,MS7.7
MDJ LR LR
comp=Z,574µm,25.2s,MS7.8
MDJ Mudanjiang 82.37 323⇑ *e*P P 15 38 56.7 +0.6
comp=Z,4µm,1.1s,mb7.2
MDJ LR LR
comp=Z,480µm,22.0s,MS7.8
USHA Ushuaia 82.40 146 P P 15 38 56.7 +0.4
comp=Z,220nm,1.2s,mb6.0,baz=257,slow=7.4,SNR=7.5
KSI Kapahiang 82.43 269 P P 15 38 54.9 -1.6
BBB Bella Bella 82.44 27 S S 15 49 09.8 +1.1
comp=Z,21nm,1.0s,baz=5.0,slow=6.0,SNR=2.0
BBB PKKPbc PKKPbc 15 57 32.8 +10
comp=Z,9.5nm,0.7s,baz=229,slow=3.9,SNR=4.8
BBB PKPPKP 16 05 30.0
comp=Z,7.4nm,1.0s,baz=106,slow=9.3,SNR=2.2
BBB LR LR 16 07 33.5
comp=Z,290µm,20.8s,MS7.6,baz=224,slow=30
NJ2 Nanjing 82.49 308 *e*P P 15 38 57.8 +1.1
NJ2 AP pP 15 39 14.6 +2.6
NJ2 PP PP 15 42 09.3 +2.9
NJ2 S S 15 49 00.0 -9.2
NJ2 XS sS 15 49 34.0 -1.0
NJ2 AMB AMB
comp=Z,3µm,1.0s,mb7.2
NJ2 AMB AMB
comp=Z,79µm,11.3s
NJ2 LR LR
comp=N,1006µm,34.9s,MS8.1
NJ2 LR LR
comp=E,1054µm,35.1s,MS8.1
NJ2 LR LR
comp=Z,293µm,30.7s,MS7.5
MID Middleton Isla 82.52 14 *e*P P 15 38 56.6 -0.3
HAWA Hanford 82.57 35⇓ *e*P P 15 38 56.9 -0.3
comp=Z,1µm,0.6s,mb7.2
HAWA LR LR
comp=Z,60µm,22.0s,MS6.9
PLIG Platanillo 82.60 67 *e*P P 15 38 57.8 +0.5
GZH Guangzhou 82.74 298 P P 15 38 59.2 +1.2
GZH PP PP 15 42 10.6 +2.1
GZH S S 15 49 18.8 +7.0
GZH AMB AMB
comp=Z,738nm,1.8s,mb6.4
GZH LR LR
comp=N,265µm,21.6s,MS7.7
GZH LR LR
comp=E,164µm,21.0s,MS7.7
GZH LR LR
comp=Z,505µm,22.2s,MS7.8
DUG Dugway 82.82 43⇓ *e*P P 15 38 58.4 -0.1
DUG pmax pmax
comp=Z,253nm,0.6s,mb6.4
DUG MLR MLR
comp=Z,254µm,22.0s,MS7.5
DUG Dugway 82.82 43⇓ *e*P P 15 38 58.4 0.0
comp=Z,253nm,0.6s,mb6.4
DUG LR LR
comp=Z,254µm,22.0s,MS7.5
BMO Blue Mountains 82.84 37⇓ *e*P P 15 38 57.9 -0.7
BMO *e* 15 57 25.7
BMO pmax pmax
comp=Z,2µm,1.2s,mb7.0
BMO MLR MLR
comp=Z,287µm,21.0s,MS7.6
BMO Blue Mountains 82.84 37⇓ *e*P P 15 38 57.9 -0.7
comp=Z,2µm,1.2s,mb7.0
BMO *e*PKKPbc PKKPbc 15 57 25.7 +4.3
BMO LR LR
comp=Z,287µm,21.0s,MS7.6
CRAG Craig 83.00 22 *e*P P 15 38 59.5 +0.1
comp=Z,255nm,1.3s,mb6.1
PNIG Pinotepa 83.00 70 *e*P P 15 38 59.6 +0.2
MAW Mawson 83.08 199 *e*P P 15 39 00.1 +0.3
comp=Z,2µm,1.6s,mb7.0
MAW Mawson 83.08 199 P P 15 39 00.4 +0.6
comp=Z,750nm,1.3s,mb6.6,baz=112,slow=6.1,SNR=33
MAW PKKPbc PKKPbc 15 57 26.8 +5.9
comp=Z,20nm,1.0s,baz=304,slow=2.8,SNR=3.8
MAW LR LR 16 13 48.9
comp=Z,921µm,21.8s,MS8.1,baz=123,slow=34
NLU North Lily Min 83.16 43⇓ *e*P P 15 39 00.5 +0.2
YAIG Yautepec 83.17 67 *e*P P 15 39 00.7 +0.4
UNM Universidad Na 83.26 67 *e*P P 15 39 01.5 +0.8
TMUT Trail Mountain 83.36 44⇓ *e*P P 15 39 02.2 +1.0
MPU Maple Canyon 83.48 43 *e*P P 15 39 02.4 +0.5
comp=Z,746nm,1.0s,mb6.7
MPU LR LR
comp=Z,497µm,21.0s,MS7.9
SIT Sitka 83.51 20 *e*P P 15 39 04.7 +2.7
SIT pmax pmax
comp=Z,1µm,1.9s,mb6.7
SIT Sitka 83.51 20 *e*P P 15 39 04.7 +2.7
comp=Z,1µm,1.9s,mb6.7
NOQ North Oquirrh 83.52 43 *e*P P 15 39 01.8 -0.3
comp=Z,3µm,0.6s,mb7.6
PPM Popocatepetl 83.63 67 *e*P P 15 39 04.0 +1.4
MNTX Cornudas Mount 83.63 53⇓ *e*P P 15 39 02.7 +0.1
comp=Z,4µm,0.8s,mb7.6
MNTX P'P' 16 05 22.0
MNTX LR LR
comp=Z,314µm,22.0s,MS7.7
LAZ Ladron 83.64 50 *e*P P 15 39 03.5 +0.8
LAZ P'P' 16 05 22.3
LENM Lemitar 83.64 50 *e*P P 15 39 03.2 +0.5
EYAK Cordova Ski Ar 83.65 14 *e*P P 15 39 01.8 -1.0
SPUT South Promonto 83.67 42⇓ *e*P P 15 39 02.7 -0.1
KGM Kluang 83.69 274 P P 15 39 04.2 +1.2
SRU San Rafael 83.72 45 P P 15 39 03.1 0.0
SRU San Rafael 83.72 45 *e*P P 15 39 03.3 +0.3
comp=Z,7µm,1.6s,mb7.6
HVU Hansel Valley 83.73 41 *e*P P 15 39 02.8 -0.3
HVU pmax pmax
comp=Z,163nm,0.3s,mb6.6
HVU Hansel Valley 83.73 41 *e*P P 15 39 02.8 -0.3
comp=Z,163nm,0.3s,mb6.6
HVU eP'P' 16 05 21.7
HLID Hailey 83.75 39 *e*P P 15 39 03.4 +0.2
comp=Z,179nm,0.5s,mb6.5
HLID LR LR
comp=Z,542µm,22.0s,MS7.9
CTU Camp Tracy 83.77 43 *e*P P 15 39 03.6 +0.2
comp=Z,964nm,0.5s,mb7.2
CTU eP'P' 16 05 18.5
LTX Lajitas 83.85 56⇓ *e*P P 15 39 04.1 +0.3
LTX pmax pmax
comp=Z,788nm,0.8s,mb6.9
LTX MLR MLR
comp=Z,435µm,22.0s,MS7.8
LTX Lajitas 83.85 56⇓ *e*P P 15 39 04.1 +0.3
comp=Z,788nm,0.8s,mb6.9
LTX eP'P' 16 05 23.8
LTX LR LR
comp=Z,435µm,22.0s,MS7.8
BNM Barren Site 83.89 50 *e*P P 15 39 04.5 +0.6
PMR Palmer 83.90 12 *e*P P 15 39 03.2 -0.8
PMR pmax pmax
comp=Z,3µm,1.9s,mb7.1
PMR Palmer 83.90 12 *e*P P 15 39 03.2 -0.8
comp=Z,3µm,1.9s,mb7.1
DAU Daniels Canyon 83.94 43 *e*P P 15 39 04.2 0.0
DAU eP'P' 16 05 10.8
LPM Los Pinos Moun 83.96 50 *e*P P 15 39 04.5 +0.2
PAYG Puerto Ayora 84.00 89⇓ *e*P P 15 39 05.2 +0.6
comp=Z,5µm,1.9s,mb7.3
PAYG LR LR
comp=Z,596µm,20.0s,MS8.0
DL2 Dalian 84.01 315⇑ *i*P P 15 39 05.7 +1.1
DL2 S 15 49 29.1
DL2 XS sS 15 49 44.6 -5.8
DL2 AMB AMB
comp=Z,1µm,0.9s,mb7.0
DL2 AMB AMB
comp=Z,88µm,9.4s
DL2 LR LR
comp=N,105µm,19.5s,MS7.5
DL2 LR LR
comp=E,144µm,19.7s,MS7.5
DL2 LR LR
comp=Z,220µm,19.5s,MS7.5
QIZ Qiongzhong 84.04 293 P P 15 39 05.8 +1.1
QIZ AP pP 15 39 22.4 +2.3
QIZ PP PP 15 42 20.8 +1.7
QIZ S 15 49 23.6
QIZ PS 15 50 26.1
QIZ SS SS 15 54 54.8 +0.6
QIZ AMB AMB
comp=Z,2µm,2.0s,mb7.0
QIZ AMB AMB
comp=Z,219µm,13.4s
QIZ LR LR
comp=N,137µm,19.8s,MS7.5
QIZ LR LR
comp=E,148µm,20.6s,MS7.5
QIZ LR LR
comp=Z,298µm,21.2s,MS7.6
QIZ Qiongzhong 84.04 293⇑ *e*P P 15 39 05.6 +0.8
comp=Z,5µm,1.5s,mb7.4
QIZ LR LR
comp=Z,303µm,20.0s,MS7.7
TTA Tatalina 84.04 8 *e*P P 15 39 04.1 -0.6
MVCO Mesa Verde 84.09 47⇓ *e*P P 15 39 05.1 +0.1
MVCO eP'P' 16 05 23.1
KLR Kul'dur 84.13 328⇓ *i*P P 15 39 01.4 -3.8
KLR eS 15 49 25.2
KLR *e* 15 50 50.5
KLR pmax pmax
comp=E,4µm,3.6s
KLR pmax pmax
comp=Z,17µm,3.6s
KLR smax
comp=E,2µm,4.4s
TCUT Toone Canyon 84.22 42⇓ *e*P P 15 39 05.9 +0.2
TCUT eP'P' 16 05 23.3
CN2 Changchun 84.28 321⇑ P P 15 39 06.1 +0.1
CN2 PP PP 15 42 23.0 +1.9
CN2 eS 15 49 30.2
CN2 LR LR
comp=N,135µm,20.0s,MS7.6
CN2 LR LR
comp=E,201µm,20.0s,MS7.6
CN2 LR LR
comp=Z,208µm,21.0s,MS7.5
PV10 Paradox Valley 84.32 46 *e*P P 15 39 05.9 -0.2
SNY Shenyang 84.32 318⇑ *i*P P 15 39 06.7 +0.6
SNY AP pP 15 39 20.9 -0.6
SNY XP sP 15 39 28.1 +0.7
SNY PP PP 15 42 26.0 +4.6
SNY S S 15 49 30.3
SNY XS sS 15 49 48.7 -4.9
SNY AMB AMB
comp=Z,3µm,3.1s
SNY AMB AMB
comp=Z,298µm,14.2s
SNY LR LR
comp=E,169µm,19.2s
SNY LR LR
comp=Z,186µm,19.6s,MS7.5
HWUT Hardware Ranch 84.39 42⇓ *e*P P 15 39 05.6 -0.9
comp=Z,845nm,0.8s,mb6.9
HWUT ePKKPbc PKKPbc 15 57 19.9 +2.1
HWUT LR LR
comp=Z,356µm,22.0s,MS7.7
ANMO Albuquerque 84.40 50 S 15 49 30.8
comp=Z,2.4nm,0.8s,baz=338,slow=6.2,SNR=1.8
ANMO PKKPbc PKKPbc 15 57 26.0 +8.2
comp=Z,20nm,1.0s,baz=160,slow=0.6,SNR=5.1
ANMO PKPPKP 16 05 23.0
comp=Z,5.7nm,1.1s,baz=149,slow=4.0,SNR=3.4
ANMO LR LR 16 07 47.0
comp=Z,324µm,21.8s,MS7.7,baz=221,slow=29
ANMO Albuquerque 84.40 50⇓ *e*P P 15 39 07.0 +0.5
ANMO pmax pmax
comp=Z,5µm,1.5s
ANMO MLR MLR
comp=Z,381µm,22.0s
ANMO Albuquerque 84.40 50⇓ *e*P P 15 39 07.0 +0.5
comp=Z,5µm,1.5s,mb7.4
ANMO P'P' 16 05 21.0
ANMO LR LR
comp=Z,381µm,22.0s,MS7.7
MA2 Magadan 84.47 343 PFAKE 15 39 20.0 +13
MA2 LR LR
comp=Z,290µm,22.0s,MS7.6
VHO Vista Hermosa 84.50 70 *e*P P 15 39 08.0 +1.0
PV01 Paradox Valley 84.51 46 *e*P P 15 39 07.1 0.0
PV01 eP'P' 16 05 20.8
HUIG Huatulco 84.55 71 *e*P P 15 39 07.0 -0.3
GDL2 Guadalupe Moun 84.63 53 *e*P P 15 39 08.2 +0.5
COCO West Island 84.97 259 P P 15 39 12.0 +2.6
comp=Z,24µm,1.8s,mb8.0,SNR=42
COCO West Island 84.97 259⇑ *e*P P 15 39 10.2 +0.8
comp=Z,360nm,1.2s,mb6.4
COCO LR LR
comp=Z,974µm,20.0s,MS8.2
NEW Newport 85.02 34 PKKPbc PKKPbc 15 57 19.4 +3.0
comp=Z,9.3nm,0.8s,baz=23,slow=1.6,SNR=3.9
NEW LR LR 16 09 26.3
comp=Z,723µm,21.8s,MS8.0,baz=240,slow=30
NEW Newport 85.02 34 *e*P P 15 39 08.5 -1.2
NEW pmax pmax
comp=Z,186nm,0.5s
NEW MLR MLR
comp=Z,1025µm,22.0s
NEW Newport 85.02 34 *e*P P 15 39 08.5 -1.2
comp=Z,186nm,0.5s,mb6.5
NEW P'P' 16 05 19.6
NEW LR LR
comp=Z,1025µm,22.0s,MS8.2
CLNB Carlsbad 85.03 53 *e*P P 15 39 09.0 -0.7
AHID Auburn Hatcher 85.31 41⇓ *e*P P 15 39 10.8 -0.3
comp=Z,2µm,1.1s,mb7.1
AHID LR LR
comp=Z,211µm,21.0s,MS7.5
CPRX Cap Rock 85.39 52 *e*P P 15 39 11.6 +0.1
MCMT McKenzie Canyo 85.39 39 *e*P P 15 39 11.4 -0.1
MCMT eP'P' 16 05 22.0
SKAG Skagway 85.46 19 *e*P P 15 39 12.1 +0.2
comp=Z,6µm,2.2s,mb7.3
DCID1 Drake Creek 85.71 40⇓ *e*P P 15 39 13.2 +0.1
TIA Tai'an 85.75 311⇑ P P 15 39 13.9 +0.6
TIA AP pP 15 39 28.8 +0.1
TIA XP sP 15 39 34.0 -0.6
TIA LR LR
comp=N,236µm,18.0s,MS7.7
TIA LR LR
comp=E,175µm,18.0s,MS7.7
REDW Red Top Meadow 85.78 41⇓ *e*P P 15 39 13.2 -0.3
comp=E,5µm,1.7s,mb7.5
REDW ⇑*e* 16 05 32.1
TPAW Teton Pass 85.79 41⇓ *e*P P 15 39 13.6 0.0
comp=E,1µm,1.2s,mb7.0
TPAW eP'P' 16 05 18.7
LVIG Laguna Verde 85.80 67 *e*P P 15 39 12.4 -1.2
DLMT Dillon 85.84 38 *e*P P 15 39 12.9 -0.9
comp=E,5µm,1.7s,mb7.5
DLMT eP'P' 16 05 19.7
MSO Missoula 85.90 37⇓ *e*P P 15 39 12.8 -1.3
comp=E,1µm,1.6s,mb6.9
MSO LR LR
comp=Z,502µm,22.0s,MS7.9
MOOW Moose Ponds 86.06 41⇓ *e*P P 15 39 14.4 -0.5
comp=Z,2µm,1.6s,mb7.2
MOOW eP'P' 16 05 16.2
LOHW Long Hollow 86.07 41⇓ *e*P P 15 39 14.5 -0.4
comp=Z,3µm,1.6s,mb7.2
SMCO Snowmass 86.12 46⇓ *e*P P 15 39 15.3 +0.2
comp=Z,5µm,1.7s,mb7.5
SMCO eP'P' 16 05 13.9
MENT Mentasta 86.23 13 *e*P P 15 39 15.4 -0.3
QLMT Earthquake Lak 86.23 39 *e*P P 15 39 16.1 +0.4
EVV El Vigia 86.25 69 *e*P P 15 39 17.0 +1.2
FLWY Flagg Ranch 86.27 40⇓ *e*P P 15 39 16.0 +0.1
comp=Z,5µm,1.7s,mb7.5
FLWY P'P' 16 05 20.6
BW06 Boulder Array 86.27 42⇓ *e*P P 15 39 15.1 -0.8
comp=Z,2µm,0.8s,mb7.4
BW06 P'P' 16 05 28.9
BW06 LR LR
comp=Z,214µm,20.0s,MS7.5
PDAR Pinedale Array 86.27 42 P P 15 39 14.9 -0.9
comp=Z,30nm,0.8s,baz=207,slow=2.6,SNR=175
PDAR S 15 49 45.8
comp=Z,6.2nm,1.0s,baz=242,slow=3.2,SNR=3.0
PDAR PKKPbc PKKPbc 15 57 09.6 -3.9
comp=Z,17nm,1.1s,baz=254,slow=1.6,SNR=3.6
PDAR PKPPKP 16 05 21.4
comp=Z,4.2nm,0.9s,baz=80,slow=3.5,SNR=3.5
PDAR LR LR 16 12 42.8
comp=Z,174µm,19.8s,MS7.5,baz=244,slow=32
CHMT Chamberlain Mo 86.34 37 *e*P P 15 39 15.2 -1.1

DLBC Dease Lake 86.37 22 S 15 49 45.2
comp=Z,14nm,1.1s,baz=235,slow=21,SNR=1.9
DLBC PKKPbc PKKPbc 15 57 17.0 +3.8
comp=Z,18nm,0.8s,baz=341,slow=1.5,SNR=8.1
DLBC PKPPKP 16 05 21.5
comp=Z,11nm,1.1s,baz=173,slow=2.7,SNR=3.8
DLBC LR LR 16 09 09.7
comp=Z,220µm,21.4s,MS7.5,baz=233,slow=30
DLBC Dease Lake 86.37 22 *e*P **P** **15 39 16.3 0.0**
DLBC P'P' 16 05 22.4
YFT Old Faithful 86.38 40⇓*e*P **P** **15 39 17.6 +1.2**
YMR Madison River 86.42 40⇓*e*P **P** **15 39 17.0 +0.4**
comp=Z,1µm,0.5s,mb7.3
YMR LR LR
comp=Z,183µm,20.0s,MS7.5
SDCO Great Sand Dun 86.43 48 P **P** **15 39 19.0 +2.3**
comp=Z,940nm,1.5s,mb6.8
SDCO LR LR
comp=Z,298µm,22.0s,MS7.7
IPM Ipoh 86.69 276 P **P** **15 39 19.5 +1.6**
LKWY Lake 86.71 40 P **P** **15 39 19.7 +1.7**
LKWY pmax pmax
comp=Z,830nm,0.8s,mb7.0
LKWY Lake 86.71 40 PFAKE 15 39 30.0 +12
LKWY LR LR
comp=Z,343µm,21.0s,MS7.7
PLCA Paso Flores 86.85 132 *e*P **P** **15 39 19.0 +0.3**
comp=Z,57nm,1.3s
PLCA LR LR
comp=Z,549µm,20.0s
TUIG Tuzandepetl 86.90 70 *e*P **P** **15 39 19.0 0.0**
HRY Holter Researc 87.03 38 *e*P **P** **15 39 18.9 -0.7**
HRY *e*P'P' 16 05 19.8
COLA College 87.15 11 *e*P **P** **15 39 19.0 -1.1**
comp=Z,19µm,1.8s,mb8.0
COLA P'P' 16 05 16.8
COLA LR LR
comp=Z,780µm,22.0s,MS8.1
WALA Waterton Lakes 87.21 35⇓*e*P **P** **15 39 19.8 -0.7**
comp=Z,4.8nm,0.6s
WALA *e*P'P' 16 05 15.3
RWWY Rawlins 87.21 44⇓*e*P **P** **15 39 19.9 -0.6**
comp=Z,5µm,1.7s,mb7.5
RWWY ⇑*e* 16 05 28.8
ILAR Eielson Array 87.23 11 P **P** **15 39 19.1 -1.5**
comp=Z,352nm,1.0s,mb6.5,baz=213,slow=5.4,SNR=208
ILAR PKKPbc PKKPbc 15 57 11.1 -0.1
comp=Z,18nm,0.9s,baz=290,slow=1.4,SNR=6.7
ILAR PKPPKP 16 05 18.7
comp=Z,9.7nm,1.0s,baz=347,slow=2.5,SNR=6.6
KULM Kulim 87.32 277⇑*e*P **P** **15 39 22.2 +1.2**
ISCO Idaho Springs 87.34 46⇓*e*P **P** **15 39 20.7 -0.4**
ISCO pmax pmax
comp=Z,272nm,0.6s,mb6.7
ISCO MLR MLR
comp=Z,255µm,20.0s,MS7.6
ISCO Idaho Springs 87.34 46⇓*e*P **P** **15 39 20.7 -0.4**
comp=Z,272nm,0.6s,mb6.7
ISCO LR LR
comp=Z,255µm,20.0s,MS7.6
JCT Junction City 87.37 56⇓*e*P **P** **15 39 20.1 -1.1**
JCT pmax pmax
comp=Z,738nm,1.2s,mb6.8
JCT MLR MLR
comp=Z,345µm,20.0s,MS7.8
JCT Junction City 87.37 56⇓*e*P **P** **15 39 20.1 -1.1**
comp=Z,738nm,1.2s,mb6.8
JCT LR LR
comp=Z,345µm,20.0s,MS7.8
CCHI Chillan 87.40 128 *e*P **P** **15 39 22.4 +1.0**
GCMT Greycliff 87.80 39 *e*P **P** **15 39 23.0 -0.3**
SYO Syowa Base 87.82 192⇓*i*P **P** **15 39 22.5 -0.9**
AMTX Amarillo 87.84 52⇓*e*P **P** **15 39 23.1 -0.4**
comp=Z,237nm,0.8s,mb6.5
AMTX LR LR
comp=Z,268µm,19.0s,MS7.7
PSI Prapat 88.07 274 P **P** **15 39 24.6 0.0**
comp=Z,744nm,1.0s,mb6.9,baz=155,slow=4.3,SNR=139
PSI PP PP 15 42 54.0 +2.3
comp=Z,163nm,0.8s,baz=138,slow=8.4,SNR=4.6
PSI PKKPbc PKKPbc 15 57 13.6 +4.5
comp=Z,26nm,1.0s,baz=297,slow=4.5,SNR=5.9
PSI Prapat 88.07 274 P **P** **15 39 24.6 0.0**
PSI 15 42 54.0
PHWY Pilot Hill 88.17 45⇓*e*P **P** **15 39 24.6 -0.4**
PHWY *e*P'P' 16 05 17.3
DAWY Dawson 88.19 15 *e*P **P** **15 39 25.0 -0.1**
DAWY P'P' 16 05 11.1
VNA3 Neumayer Olymp 88.20 175 *e*P **P** **15 39 25.0 -0.2**
VNA3 *e* 15 39 26.6
VNA3 *e* 15 39 31.6
VNA3 *e* pP 15 39 35.1 -5.5
VNA3 *e* pP 15 39 41.0 +0.4
VNA3 *e* 15 39 47.0
VNA3 *e* 15 39 54.7
VNA3 *e* 15 40 00.3
VNA3 *e* 15 40 08.7
VNA3 *e* 15 40 18.3
VNA3 *e* 15 40 30.0
VNA3 *e* 15 42 52.6
VNA3 *e* 15 50 03.5
VNA3 *e* 15 50 15.4
VNA3 *e* 15 50 47.5
VNA3 *e* 15 51 13.8
VNA3 *e* 15 52 42.8
VNA3 *e* 15 56 00.5
VNA3 *e* 15 56 20.5
VNA3 *e* 15 57 05.9
VNA3 *e* 15 57 17.0
VNA3 *e* 15 57 28.1
VNA3 *e* 15 57 46.5
VNA3 *e* 15 58 04.8
VNA3 *e* 15 58 23.3
VNA3 *e* 16 05 12.1
VNA3 *e* 16 05 29.7
VNA3 *e* 16 05 39.1
SNAA Sanae 88.21 177 *e*P **P** **15 39 24.9 -0.3**
SNAA *e* 15 39 26.7
SNAA *e* 15 39 31.4
SNAA *e* pP 15 39 35.1 -5.6
SNAA *e* pP 15 39 41.1 +0.4
SNAA *e* 15 39 46.7
SNAA *e* 15 39 54.3
SNAA *e* 15 40 04.7
SNAA *e* 15 40 17.6
SNAA *e* 15 42 52.8
SNAA *e* 15 50 22.6
SNAA *e* 15 50 48.8
SNAA *e* 15 51 16.4
SNAA *e* 15 51 40.8
SNAA *e* 15 52 10.3
SNAA *e* 15 57 02.4
SNAA *e* 15 57 12.7
SNAA *e* 15 57 37.9
SNAA *e* 16 05 10.2
SNAA *e* 16 05 25.7
SNAA *e* 16 05 46.4
SNAA *e* 16 06 11.9
SNAA Sanae 88.21 177 *e*P **P** **15 39 24.5 -0.7**
SNAA pmax pmax
comp=Z,3µm,1.1s
SNAA Sanae 88.21 177 *e*P **P** **15 39 24.5 -0.7**
comp=Z,3µm,1.1s,mb7.4
SNAA *e*PKKPbc PKKPbc 15 57 11.0 +2.3
BJT Baijiatuau 88.22 314⇑*e*P **P** **15 39 25.8 +0.5**
comp=Z,26µm,2.2s
BJT LR LR
comp=Z,335µm,20.0s,MS7.8
BJI Beijing 88.23 314 P **P** **15 39 26.1 +0.8**
BJI S 15 50 05.1
BJI LR LR
comp=N,188µm,18.8s,MS7.7
BJI LR LR
comp=E,216µm,20.1s,MS7.7
BJI LR LR
comp=Z,390µm,24.2s,MS7.7
CCIG Comitan 88.28 72 *e*P **P** **15 39 26.2 +0.6**
VNA2 Neumayer--Watz 88.69 176 *e*P **P** **15 39 27.7 +0.2**
VNA2 *e* 15 39 28.8
VNA2 *e* 15 39 34.3
VNA2 *e* pP 15 39 37.8 -5.1
VNA2 *e* pP 15 39 43.5 +0.6
VNA2 *e* 15 39 49.8
VNA2 *e* 15 39 57.0
VNA2 *e* 15 39 59.2
VNA2 *e* 15 40 01.7
VNA2 *e* 15 40 20.7
VNA2 *e* 15 40 32.7
VNA2 *e* 15 40 49.7
VNA2 *e* 15 40 58.8
VNA2 *e* 15 42 56.4
VNA2 *e* 15 50 16.2
VNA2 *e* 15 51 00.3
VNA2 *e* 15 51 25.1
VNA2 *e* 15 56 05.9
VNA2 *e* 15 56 22.6
VNA2 *e* 15 56 36.8
VNA2 *e* 15 57 07.9
VNA2 *e* 15 57 15.7
VNA2 *e* 15 57 36.7
VNA2 *e* 15 57 47.3
VNA2 *e* 15 58 18.6
VNA2 *e* 15 58 41.6
VNA2 *e* 16 05 13.0
VNA2 *e* 16 05 31.3
VNA2 *e* 16 05 37.0
VNA2 *e* 16 05 49.5
VNA2 *e* 16 06 12.6
VNA1 Neumayer--Stat 88.89 175 *e*P **P** **15 39 28.8 +0.4**
VNA1 *e* 15 39 30.4
VNA1 *e* 15 39 35.7
VNA1 *e* pP 15 39 39.6 -4.3
VNA1 *e* pP 15 39 44.7 +0.8
VNA1 *e* 15 39 50.6
VNA1 *e* 15 39 58.5
VNA1 *e* 15 40 17.6
VNA1 *e* 15 40 30.1
VNA1 *e* 15 50 14.8
VNA1 *e* 15 50 20.1
VNA1 *e* 15 50 31.5
VNA1 *e* 15 51 08.6
VNA1 *e* 15 52 18.4
VNA1 *e* 15 52 50.3
VNA1 *e* 15 53 08.6
VNA1 *e* 15 56 38.9
VNA1 *e* 15 57 08.5
VNA1 *e* 15 57 35.1
VNA1 *e* 15 57 55.8
VNA1 *e* 15 58 04.0
VNA1 *e* 15 59 03.2
VNA1 *e* 16 05 13.0
VNA1 *e* 16 05 28.4
VNA1 *e* 16 06 17.1
EGMT Eagleton 88.93 37⇓*e*P **P** **15 39 28.3 -0.4**
comp=Z,626nm,1.1s,mb6.8
EGMT *e*PKKPdf PKKPdf 15 57 03.4 +1.6
EGMT LR LR
comp=Z,373µm,22.0s,MS7.8
IXG Ixpaco 89.04 75 *e*P **P** **15 39 30.6 +1.4**
BILL Bilibino 89.11 353*c i*P **P** **15 39 27.5 -2.0**
BILL *i* S 15 49 52.0
BILL pmax pmax
comp=Z,235nm,1.2s,mb6.4
BILL pmax pmax
comp=Z,50µm,6.2s
BILL MLR MLR
comp=Z,207µm,20.0s,MS7.5
BILL Bilibino 89.11 353 *e*P **P** **15 39 28.6 -0.8**
comp=Z,2µm,1.3s,mb7.3
BILL LR LR
comp=Z,391µm,21.0s,MS7.8
MAIT Maitri 89.21 182⇑*i*P **P** **15 39 31.2 +1.2**
MAIT *e*PP PP 15 43 07.0 +6.2
MAIT *e*SKSac SKSac 15 50 08.2 +13
MAIT *e*SS SS 15 55 49.9 -20
KKTK Khon Kaen 89.22 288 ⇑P **P** **15 39 31.6 +1.6**
comp=Z,741nm,0.6s,mb7.2
NVL N'lazarevskaya 89.22 182*c i*P **P** **15 39 30.0 0.0**
NVL *i* 15 43 07.1
NVL *i* S 15 50 03.8
NVL *i* SP SP 15 51 53.9 +34
NVL *e*SSS 15 59 51.6
NVL pmax pmax
comp=Z,3µm,2.6s,mb7.1
NVL MLR MLR
comp=N,5µm,22.8s
NVL MLR MLR
comp=Z,10µm,22.8s
NVL MLR MLR
comp=E,4µm,22.8s
EFI East Falkland 89.37 146 P **P** **15 39 31.8 +1.1**
comp=E,13µm,1.2s,mb8.1,SNR=18
EFI East Falkland 89.37 146 *e*P **P** **15 39 30.2 -0.5**
EFI pmax pmax
comp=Z,436nm,2.5s,mb6.3
EFI MLR MLR
comp=Z,792µm,22.0s,MS8.1
EFI East Falkland 89.37 146 *e*P **P** **15 39 30.2 -0.5**
comp=Z,436nm,2.5s,mb6.3
EFI LR LR
comp=Z,792µm,22.0s,MS8.1
GYA Guiyang 89.65 298⇑*i*P **P** **15 39 33.4 +1.4**
GYA AP pP 15 39 50.5 +3.0
GYA PP PP 15 43 05.4 +1.1
GYA SKS 15 49 55.6
GYA S 15 50 13.3
GYA XS sS 15 50 43.0 -2.2
GYA AMB AMB
comp=Z,5µm,1.4s,mb7.6
GYA AMB AMB
comp=Z,136µm,13.5s
GYA LR LR
comp=N,175µm,23.4s,MS7.6
GYA LR LR
comp=E,207µm,23.3s,MS7.6
GYA LR LR
comp=Z,221µm,21.9s,MS7.5
PEL Peldehue 89.83 125 *i*P **P** **15 39 33.0 +0.2**
CLCH Cerro Calan 89.84 126⇓*i*P **P** **15 39 32.9 0.0**
EDM Edmonton 89.89 32⇓*e*P **P** **15 39 32.1 -1.1**
EDM *e*P'P' 16 05 15.5
LMEL Las Melosas 89.91 126⇓*i*P **P** **15 39 33.7 +0.4**
WMOK Wichita Mounta 89.94 53⇓*e*P **P** **15 39 32.4 -0.9**
WMOK pmax pmax
comp=Z,1µm,1.1s,mb7.2
WMOK MLR MLR
comp=Z,197µm,21.0s,MS7.5
WMOK Wichita Mounta 89.94 53⇓*e*P **P** **15 39 32.4 -0.9**
comp=Z,1µm,1.1s,mb7.2
WMOK *e*P'P' 16 05 06.4
WMOK LR LR
comp=Z,197µm,21.0s,MS7.5
FCH Farellones 90.06 126 *e*P **P** **15 39 34.9 +1.0**
HKT Hockley 90.29 58⇓*e*P **P** **15 39 34.7 -0.3**
HKT pmax pmax
comp=Z,3µm,1.6s,mb7.3
HKT MLR MLR
comp=Z,329µm,22.0s,MS7.7
HKT Hockley 90.29 58⇓*e*P **P** **15 39 34.7 -0.3**
comp=Z,3µm,1.6s,mb7.3
HKT *e*S 15 50 11.4
HKT LR LR
comp=Z,329µm,22.0s,MS7.7
LAO LASA Array 90.31 40⇓*e*P **P** **15 39 34.8 -0.3**
comp=Z,5µm,1.6s,mb7.6
LAO LR LR
comp=Z,342µm,22.0s,MS7.7
RSSD Black Hills 90.43 43⇓*e*P **P** **15 39 34.6 -1.0**
RSSD pmax pmax
comp=Z,551nm,1.6s,mb6.6
RSSD MLR MLR
comp=Z,287µm,22.0s,MS7.7
RSSD Black Hills 90.43 43⇓*e*P **P** **15 39 34.6 -1.1**
comp=Z,551nm,1.6s,mb6.6
RSSD LR LR
comp=Z,287µm,22.0s,MS7.7
HIA Hailar 90.56 323⇑*e*P **P** **15 39 36.2 0.0**
HIA *e* 15 43 12.5
HIA pmax pmax
comp=Z,3µm,1.6s
HIA MLR MLR
comp=Z,814µm,22.0s
HIA Hailar 90.56 323⇑*e*P **P** **15 39 36.2 0.0**
comp=Z,3µm,1.6s,mb7.3
HIA *e*PP PP 15 43 12.5 +1.0
HIA LR LR
comp=Z,814µm,22.0s,MS8.1
NNT Nongplab 90.70 283 P **P** **15 39 39.8 +2.9**
XAN Xi'an 90.83 306 P **P** **15 39 38.7 +1.2**
XAN S 15 50 36.8
XAN AMB AMB
comp=Z,417nm,1.5s,mb6.5
XAN LR LR
comp=N,59µm,17.5s,MS7.5
XAN LR LR
comp=E,156µm,21.1s,MS7.5
XAN LR LR
comp=Z,248µm,20.6s,MS7.6
TLL Tololo Astrono 90.94 123 *e*P **P** **15 39 38.8 +0.7**
CBKS Cedar Bluff 90.95 49⇓*e*P **P** **15 39 37.3 -0.8**
CBKS pmax pmax
comp=Z,2µm,1.4s,mb7.3
CBKS MLR MLR
comp=Z,273µm,21.0s,MS7.7
CBKS Cedar Bluff 90.95 49⇓*e*P **P** **15 39 37.2 -0.8**
comp=Z,2µm,1.4s,mb7.3
CBKS LR LR
comp=Z,273µm,21.0s,MS7.7
CRIN San Cristobal 91.63 77 *e*P **P** **15 39 43.0 +1.9**
LEON Leon 91.67 77 *e*P **P** **15 39 42.4 +1.0**
HHC Hu-ho-hao-te 91.74 313⇑*i*P **P** **15 39 42.5 +0.8**
HHC AP pP 15 39 58.2 +1.0
HHC XP sP 15 40 03.7 +0.6
HHC PP PP 15 43 24.2 +3.3
HHC SKS 15 50 08.5
HHC S 15 50 35.7
HHC XS sS 15 51 03.4 -1.0
HHC PS PS 15 51 57.7 +3.4
HHC SS SS 15 56 48.6 +2.2
HHC AMB AMB
comp=Z,178nm,1.6s,mb6.2
HHC AMB AMB
comp=Z,73µm,6.3s
HHC LR LR
comp=N,178µm,21.6s,MS7.7
HHC LR LR
comp=E,218µm,22.5s,MS7.7
HHC LR LR
comp=Z,428µm,23.7s,MS7.8
TEL3 Telica 3 91.77 77⇑*e*P **P** **15 39 43.6 +1.7**
MIRN Miramar 91.85 78 *e*P **P** **15 39 44.0 +1.7**
COPN Copaltepe 91.87 78 *e*P **P** **15 39 43.4 +1.0**
CNGN Cerro Negro 91.88 77 *e*P **P** **15 39 43.9 +1.5**
NATX Nacogdoches 91.92 57 *e*P **P** **15 39 42.1 -0.4**
comp=Z,3µm,1.7s,mb7.4
NATX LR LR
comp=Z,329µm,19.0s,MS7.8
MOMJ Momotombo 91.99 78 *e*P **P** **15 39 43.6 +0.7**
CLNS Chul'man 92.04 331 *e*P **P** **15 39 42.4 -0.7**
CLNS *e**PP pP 15 39 51.0 -7.6
CLNS *e*S 15 50 35.9
CLNS *e*PS PS 15 51 51.6 -6.1
CLNS *e*SSS 16 00 32.6
CLNS pmax pmax
comp=Z,1µm,1.2s,mb7.1
CLNS pmax pmax
comp=N,567nm,1.3s
CLNS pmax pmax
comp=E,212nm,0.9s
CLNS smax
comp=N,146µm,14.0s
CLNS smax
comp=Z,28µm,12.5s
CLNS smax
comp=E,136µm,13.9s
CLNS MLR MLR
comp=E,68µm,17.0s,MS7.2
CLNS MLR MLR
comp=Z,113µm,17.0s,MS7.4
CLNS MLR MLR
comp=N,11µm,13.0s,MS7.2
VCR Vista de Mar 92.06 80 *e*P **P** **15 39 43.9 +0.8**
XAVN Gruta Xavier 92.10 78 *e*P **P** **15 39 45.9 +2.5**
APYN Apoyeque 92.11 78 *e*P **P** **15 39 43.9 +0.5**
TISN Laguna Tiscapa 92.15 78 *e*P **P** **15 39 45.4 +1.8**
SSNN San Juan del S 92.25 79 *e*P **P** **15 39 45.0 +1.0**
APON Apoyo 92.26 78 *e*P **P** **15 39 45.2 +1.1**
CAO Cobano 92.40 81 *e*P **P** **15 39 46.1 +1.3**
KMI Kunming 92.44 296 P **P** **15 39 46.9 +1.9**
KMI AP pP 15 40 01.8 +1.4
KMI XP sP 15 40 07.1 +0.8
KMI PP PP 15 43 30.0 +3.6
KMI PPP 15 45 29.7
KMI SKS 15 50 10.2
KMI S 15 50 42.7
KMI SS SS 15 56 57.8 +1.3
KMI SSS 16 00 37.4
KMI AMB AMB
comp=Z,3µm,2.0s,mb7.2
KMI AMB AMB
comp=Z,61µm,9.2s
KMI LR LR
comp=N,303µm,19.7s,MS8.1
KMI LR LR
comp=E,611µm,21.1s,MS8.1
KMI LR LR
comp=Z,926µm,20.4s,MS8.2
RIN3 Volcan Rincon 92.51 80 *e*P **P** **15 39 44.1 -1.2**
CONN Concepcion 92.55 79 *e*P **P** **15 39 45.9 +0.4**
CONN ⇑*i* 15 40 25.9
comp=Z,427nm,0.7s
MADN Villa Maderas 92.58 79 *e*P **P** **15 39 49.7 +4.1**
NNA Nana 92.64 104 *e*P **P** **15 39 46.3 +0.4**
comp=Z,571nm,2.6s,mb6.5
NNA LR LR
comp=Z,332µm,20.0s,MS7.8
BTO Baotou 92.70 312 *e*P **P** **15 39 46.9 +0.7**
BTO S 15 50 39.3
JTS JuntasAbangare 92.74 80 P **P** **15 39 48.6 +2.3**
comp=Z,3µm,0.9s,mb7.7,SNR=23
JTS JuntasAbangare 92.74 80 S 15 50 20.4
comp=Z,2.5nm,0.2s,baz=314,slow=23,SNR=2.4
JTS JuntasAbangare 92.74 80 PFAKE 15 40 00.0 +14
JTS LR LR
comp=Z,386µm,20.0s,MS7.8
EPA Esparza 92.97 81 *e*P **P** **15 39 47.7 +0.3**
INK Inuvik 93.04 14 P **P** **15 39 46.5 -1.2**
comp=Z,282nm,1.0s,mb6.7,baz=218,slow=4.5,SNR=128
INK S 15 50 20.9
comp=Z,27nm,1.1s,baz=60,slow=25,SNR=4.6
INK PKKPbc PKKPbc 15 56 56.4 -0.2
comp=Z,24nm,1.0s,baz=287,slow=4.6,SNR=3.2
INK PKPPKP 16 05 08.7
comp=Z,25nm,1.3s,baz=328,slow=6.1,SNR=3.7
INK LR LR 16 14 43.7
comp=Z,342µm,21.9s,MS7.8,baz=228,slow=31
INK Inuvik 93.04 14 *e*P **P** **15 39 46.6 -1.1**
INK pmax pmax
comp=Z,3µm,1.3s
INK Inuvik 93.04 14 *e*P **P** **15 39 46.6 -1.2**
comp=Z,3µm,1.3s,mb7.6
INK *e*P'P' 16 05 07.9
VACR Volcan Arenal 93.06 80 *e*P **P** **15 39 51.7 +3.9**
CHRT Chiangrai 93.17 290⇑P **P** **15 39 50.0 +1.7**
comp=Z,3µm,0.6s,mb7.9
YAK Yakutsk 93.19 337 *e*P **P** **15 39 48.6 +0.2**
YAK *e**PP pP 15 39 56.0 -7.9
YAK *e* 15 43 35.1
YAK *e*S 15 50 20.6
YAK *e**SS sS 15 50 54.2 -23
YAK pmax pmax
comp=Z,254nm,0.8s,mb6.7
YAK pmax pmax
comp=N,47nm,1.0s
YAK pmax pmax
comp=E,90nm,1.5s
YAK pmax pmax
comp=Z,395nm,1.3s,mb6.7
YAK pmax pmax
comp=N,356nm,1.4s
YAK pmax pmax
comp=E,336nm,1.4s
YAK MLR MLR
comp=Z,71µm,20.0s,MS7.1
YAK MLR MLR
comp=N,61µm,19.0s,MS7.2
YAK MLR MLR
comp=E,55µm,19.0s,MS7.2
YAK Yakutsk 93.19 337 *e*P **P** **15 39 46.5 -1.9**
comp=E,1µm,0.7s,mb7.4
YAK LR LR
comp=Z,281µm,22.0s,MS7.7

PRS1 **Puriscal** 93.23 81 *e*P P 15 39 48.8 +0.2
KSU1 **Kansas State U** 93.29 50 *e*P P 15 39 48.4 -0.5
LCR2 **La Lucha 2** 93.43 81 *e*P P 15 39 51.4 +1.9
OCM **Ochomogo** 93.52 81 *e*P P 15 39 50.9 +0.9
CHTO **Chiang Mai** 93.55 289 *e*P P 15 39 51.1 +1.1
comp=Z,9μm,1.8s,mb7.9
CHTO LR LR
comp=Z,366μm,20.0s,MS7.8
BUS **Buena Vista** 93.60 81 *e*P P 15 39 54.0 +3.7
URSC **Urasca** 93.67 81 *e*P P 15 39 52.9 +2.3
CD2 **Chengdu** 93.68 301 P P 15 39 51.4 +0.7
CD2 PP PP 15 43 39.1 +3.0
CD2 PPP 15 45 41.3
CD2 SKS 15 50 22.4
CD2 S 15 50 55.7
CD2 SS SS 15 57 14.1 -0.1
CD2 AMB AMB
comp=Z,550nm,1.0s,mb6.9
CD2 AMB AMB
comp=Z,43μm,9.4s
CD2 LR LR
comp=E,133μm,21.0s
CD2 LR LR
comp=Z,182μm,20.4s,MS7.5
MIAR **Mount Ida** 93.81 55⇓ *e*P P 15 39 50.5 -0.7
comp=Z,3μm,0.3s
MIAR *e*P'P' 16 05 11.8
MIAR LR LR
comp=Z,239μm,21.0s,MS7.6
TRQA **Tornquist** 93.98 133 *e*P P 15 39 52.7 +0.6
comp=Z,410nm,1.5s,mb6.6
TRQA LR LR
comp=Z,600μm,22.0s,MS8.0
CTCR **Cotoan** 94.31 82 *e*P P 15 39 53.1 -0.4
YKA **Yellowknife Ar** 94.72 24 P P 15 39 54.5 -1.0
comp=Z,19nm,0.8s,baz=237,slow=4.2,SNR=187
YKA PP PP 15 43 47.3 +3.0
comp=Z,12nm,0.8s,baz=220,slow=5.5,SNR=3.0
YKA S 15 50 25.9
comp=Z,3.2nm,0.8s,baz=232,slow=3.2,SNR=2.8
YKA PKKPbc PKKPbc 15 56 53.9 +1.7
comp=Z,4.6nm,0.6s,baz=38,slow=2.5,SNR=4.7
YKA PKPPKP 16 05 03.7
comp=Z,2.2nm,0.9s,baz=356,slow=2.5,SNR=4.5
YKA LR LR 16 15 28.0
comp=Z,295μm,21.8s,MS7.7,baz=230,slow=31
YKA **Yellowknife Ar** 94.72 24 P P 15 39 54.5 -1.0
YKA 15 43 47.3
YKA S 15 50 25.9
YKA **Yellowknife Ar** 94.72 24 P P 15 39 54.5 -1.0
YKA PP PP 15 43 47.3 +3.0
YKA S 15 50 25.9
YKA PKKPbc PKKPbc 15 56 53.9 +1.7
YKA P'P' 16 05 03.7
YKA LR LR 16 15 27.9
UALR **University of** 94.83 55⇓ *e*P P 15 39 55.4 -0.5
comp=Z,363nm,1.8s,mb6.5
CIT **Chita** 95.33 324 *e*P P 15 39 58.4 +0.2
CIT pmax pmax
comp=Z,4μm,3.2s
LZH **Lanzhou** 95.46 306⇑ *i*P P 15 40 00.3 +1.5
LZH AP pP 15 40 16.2 +1.9
LZH PP PP 15 43 53.7 +3.7
LZH SKS 15 50 31.5
LZH S 15 51 09.3
LZH SS SS 15 57 42.6 +3.0
LZH AMB AMB
comp=Z,61μm,9.9s
LZH LR LR
comp=E,204μm,18.2s
LZH LR LR
comp=Z,243μm,19.5s,MS7.7
FFC **Flin Flon** 96.44 34 P P 15 40 02.6 -0.7
comp=Z,660nm,1.8s,mb6.8,SNR=27
FFC **Flin Flon** 96.44 34 *e*P P 15 40 01.7 -1.6
FFC pmax pmax
comp=Z,385nm,2.5s,mb6.4
FFC MLR MLR
comp=Z,146μm,20.0s,MS7.5
FFC **Flin Flon** 96.44 34 *e*P P 15 40 01.7 -1.6
comp=Z,385nm,2.5s,mb6.4
FFC LR LR
comp=Z,146μm,20.0s,MS7.5
CCM **Cathedral Cave** 96.81 52 *e*P P 15 40 03.9 -1.1
CCM pmax pmax
comp=Z,622nm,1.4s,mb6.8
CCM MLR MLR
comp=Z,240μm,20.0s,MS7.7
CCM **Cathedral Cave** 96.81 52 *e*P P 15 40 03.9 -1.1
comp=Z,622nm,1.4s,mb6.8
CCM LR LR
comp=Z,240μm,20.0s,MS7.7
PBA **Port Blair** 96.82 280 *ex* x 15 39 36.6
PBA *ex* x 15 42 40.8
OXF **Oxford** 97.01 56 *e*P P 15 40 03.5 -2.4
OXF pmax pmax
comp=Z,419nm,1.2s,mb6.7
OXF MLR MLR
comp=Z,380μm,20.0s,MS7.9
OXF **Oxford** 97.01 56 *e*P P 15 40 03.5 -2.4
comp=Z,419nm,1.2s,mb6.7
OXF LR LR
comp=Z,380μm,20.0s,MS7.9
FVM **French Village** 97.40 52 *e*P P 15 40 06.2 -1.4
FVM pmax pmax
comp=Z,201nm,0.8s,mb6.6
FVM **French Village** 97.40 52 *e*P P 15 40 06.2 -1.4
comp=Z,201nm,0.8s,mb6.6
HOPE **Hope Point** 97.45 157 *e*P P 15 40 09.8 +1.9
comp=Z,1μm,1.4s,mb7.1
HOPE LR LR
comp=Z,739μm,22.0s,MS8.1
PARMO **Parma** 97.46 54 P P 15 40 09.6 +1.7
ULN **Ulaanbaatar** 97.50 318 PFAKE 15 40 20.0 +12
ULN LR LR
comp=Z,212μm,21.0s,MS7.6
BOD **Bodaibo** 97.63 329 *e*P P 15 40 06.9 -1.8
BOD *e* 15 44 05.8
BOD pmax pmax
comp=Z,302nm,1.6s,mb6.6
SLM **Saint Louis** 97.76 52 *e*P P 15 40 08.4 -0.8
SLM pmax pmax
comp=Z,484nm,1.8s,mb6.7
SLM **Saint Louis** 97.76 52 *e*P P 15 40 08.4 -0.8
comp=Z,484nm,1.8s,mb6.7
SONM **Songino Array** 97.90 318 P P 15 40 09.3 -0.6
comp=Z,43nm,1.0s,mb5.9,baz=125,slow=2.7,SNR=38
SONM PP PP 15 44 13.3 +4.5
comp=Z,205nm,1.1s,baz=115,slow=4.4,SNR=3.9
SONM S 15 50 47.9
comp=Z,8.6nm,0.8s,baz=241,slow=3.1,SNR=2.0
SONM PKPPKP 16 05 03.7
comp=Z,4.2nm,1.1s,baz=291,slow=1.2,SNR=3.3
SONM LR LR 16 23 16.1
comp=Z,168μm,19.7s,MS7.5,baz=210,slow=35
SONM **Songino Array** 97.90 318 P P 15 40 09.3 -0.6
SONM 15 44 13.3
SONM S 15 50 47.9
ULM **Lac du Bonnet** 98.05 39 P P 15 40 08.3 -2.3
comp=Z,28nm,0.6s,mb5.9,baz=255,slow=5.0,SNR=30
ULM PKKPbc PKKPbc 15 56 50.2 +7.0
comp=Z,14nm,0.8s,baz=34,slow=3.7,SNR=3.2
ULM PKPPKP 16 04 59.0
comp=Z,16nm,1.2s,baz=107,slow=6.0,SNR=4.5
ULM LR LR 16 17 51.8
comp=Z,250μm,21.4s,MS7.7,baz=248,slow=31
ULM **Lac du Bonnet** 98.05 39 P P 15 40 08.3 -2.3
ULM PKKPbc PKKPbc 15 56 50.2 +7.0
ULM P'P' 16 04 59.0
ULM LR LR 16 17 51.8
PLAL **Pickwick Lake** 98.20 56 *e*P P 15 40 10.1 -1.1
comp=Z,85nm,0.9s,mb6.3
PLAL LR LR
comp=Z,249μm,21.0s,MS7.7
LPA **La Plata** 98.39 132 *ce*P P 15 40 15.0 +2.9
LPA *es*P sP 15 40 35.0 +1.6
LPA *e*PP PP 15 44 16.0 +3.5
LPA PKIKP PKiKP 15 44 42.0 -2.1
LRAL **Lakeview Retre** 98.43 58 *e*P P 15 40 10.2 -2.0
comp=Z,14μm,1.4s
LRAL LR LR
comp=Z,276μm,21.0s,MS7.7
SOR **Soroa** 98.58 69 *e*P P 15 40 23.0 +10
WVT **Waverly** 98.76 55 *e*P P 15 40 12.6 -1.1
WVT pmax pmax
comp=Z,300nm,1.9s,mb6.5
WVT MLR MLR
comp=Z,433μm,22.0s,MS7.9
WVT **Waverly** 98.76 55 *e*P P 15 40 12.6 -1.1
comp=Z,300nm,1.9s,mb6.5
WVT LR LR
comp=Z,433μm,22.0s,MS7.9
LPAZ **La Paz** 98.82 111 P P 15 40 16.7 +2.7
comp=Z,10nm,1.2s,baz=282,slow=2.8,SNR=19
LPAZ S 15 50 49.1
comp=Z,8.4nm,0.8s,baz=351,slow=4.9,SNR=2.3
LPAZ PKKPbc PKKPbc 15 56 47.7 +6.6
comp=Z,25nm,0.8s,baz=5.0,slow=4.3,SNR=7.1
LPAZ PKPPKP 16 05 02.6
comp=Z,31nm,1.4s,baz=58,slow=6.1,SNR=5.5
LPAZ LR LR 16 17 47.1
comp=Z,354μm,19.0s,MS7.9,baz=317,slow=31
LPAZ **La Paz** 98.82 111 P P 15 40 16.7 +2.7
LPAZ S 15 50 49.1
LPAZ MLR MLR
comp=Z,354μm,19.0s
LPAZ **La Paz** 98.82 111 *e*P P 15 40 16.4 +2.4
comp=Z,182nm,0.8s,mb6.7
LPAZ LR LR
comp=Z,901μm,22.0s,MS8.2
TIXI **Tiksi** 99.37 344 *e*P P 15 40 13.6 -2.9
TIXI *e*S 15 50 45.0
TIXI *e* 15 51 37.2
TIXI *e*SP SP 15 53 09.8 -1.3
TIXI *e*PS PS 15 53 13.3 -4.5
TIXI *e*SSS 16 02 16.9
TIXI pmax pmax
comp=Z,344nm,1.1s,mb6.8
TIXI pmax pmax
comp=N,65nm,0.9s
TIXI pmax pmax
comp=E,184nm,1.2s
TIXI pmax pmax
comp=Z,43μm,12.9s
TIXI MLR MLR
comp=Z,171μm,21.0s,MS7.5
TIXI MLR MLR
comp=N,31nm,17.0s,MS7.4
TIXI MLR MLR
comp=E,114μm,20.0s,MS7.4
TIXI **Tiksi** 99.37 344⇑ *e*P P 15 40 15.1 -1.4
TIXI LR LR
comp=Z,220μm,22.0s,MS7.6
GTA **Gaotai** 99.58 308 P Pdif 15 40 17.9 +0.5
GTA AP pP 15 40 31.6 -1.3
GTA XP sP 15 40 36.1 -2.7
GTA PP PP 15 44 23.5 +1.9
GTA PPP 15 46 32.8
GTA SKS 15 50 54.7
GTA S 15 51 43.0
GTA XS sS 15 52 05.9 -6.6
GTA SS SS 15 58 35.6 -1.9
GTA AMB AMB
comp=Z,52nm,2.4s
GTA AMB AMB
comp=Z,22μm,8.7s
GTA LR LR
comp=N,109μm,23.6s,MS7.5
GTA LR LR
comp=E,186μm,26.2s,MS7.5
GTA LR LR
comp=Z,286μm,27.0s,MS7.6
SWET **Sewanee** 99.95 56 *e*Pdif Pdif 15 40 16.4 -2.6
EYMN **Ely** 99.95 43 *e*Pdif Pdif 15 40 17.6 -1.5
comp=Z,41nm,1.8s
EYMN LR LR
comp=Z,184μm,20.0s,MS7.6
WCI **Wyandotte Cave** 100.57 53 *e*P Pdif 15 40 21.8 0.0
WCI pmax pmax
comp=Z,396nm,1.8s
WCI MLR MLR
comp=Z,243μm,20.0s,MS7.7
WCI **Wyandotte Cave** 100.57 53 *e*Pdif Pdif 15 40 21.8 0.0
comp=Z,396nm,1.8s
WCI LR LR
comp=Z,243μm,20.0s,MS7.7
ZAK **Zakamensk** 100.69 320 *e*P Pdif 15 40 22.4 +0.1
ZAK pmax pmax
comp=Z,456nm,1.5s
IRK **Irkutsk** 100.70 322⇓ *i*P Pdif 15 40 21.7 -0.7
IRK pmax pmax
comp=Z,898nm,3.8s
ROSC **El Rosal** 100.86 89 P Pdif 15 40 26.4 +3.3
comp=Z,3.9nm,0.3s,baz=76,slow=22,SNR=4.0
ROSC S SKSac 15 50 58.6 +1.0
comp=Z,8.1nm,0.6s,baz=251,slow=23,SNR=2.2
TLY **Talaya** 100.89 321 *e*P Pdif 15 40 22.6 -0.6
TLY pmax pmax
comp=Z,196nm,3.3s
TLY MLR MLR
comp=Z,74μm,20.0s,MS7.2
TLY **Talaya** 100.89 321 *e*Pdif Pdif 15 40 22.6 -0.6
comp=Z,196nm,3.3s
TLY LR LR
comp=Z,74μm,20.0s,MS7.2
MGV **Manicaragua** 101.04 70 *e*P Pdif 15 40 31.7 +7.9
DWPF **Disney** 101.53 64 PFAKE 15 40 40.0 +14
DWPF LR LR
comp=Z,131μm,20.0s,MS7.5
SHL **Shillong** 101.88 293 *i*P Pdif 15 40 28.3 +0.7
SHL *e*P 15 40 28.5
FCC **Fort Churchill** 102.00 32 P Pdif 15 40 27.7 -0.4
FCC pmax pmax
comp=Z,5.0nm,0.6s
FCC **Fort Churchill** 102.00 32 *e*Pdif Pdif 15 40 27.2 -0.9
comp=Z,4.8nm,0.6s
TZTN **Tazewell** 102.18 55 *e*Pdif Pdif 15 40 28.0 -0.9
MOY **Mondy** 102.46 321 *e*P Pdif 15 40 30.1 -0.1
MOY pmax pmax
comp=Z,711nm,2.9s
CCCC **Cccc** 102.74 72 *e*P Pdif 15 40 39.8 +8.3
LMGC **Las Mercedes** 103.10 73 *e*P Pdif 15 40 34.0 +1.0
CPUP **Villa Florida** 103.25 125 Pdiff Pdif 15 40 39.1 +5.4
comp=Z,10nm,0.8s,baz=224,slow=5.0,SNR=16
CPUP PKKPbc PKKPbc 15 56 34.0 +5.6
comp=Z,12nm,0.7s,baz=42,slow=3.2,SNR=4.5
CPUP **Villa Florida** 103.25 125 P Pdif 15 40 39.0 +5.3
CPUP pmax pmax
comp=Z,43nm,1.2s
CPUP MLR MLR
comp=Z,12μm,20.0s
CPUP **Villa Florida** 103.25 125 Pdif Pdif 15 40 39.0 +5.3
comp=Z,44nm,1.2s
CPUP LR LR
comp=Z,12μm,20.0s
JSC **Jenkinsville** 103.37 58 *e*P Pdif 15 40 34.2 0.0
ACSO **Alum Creek Sta** 103.59 52 PFAKE 15 40 50.0 +15
ACSO LR LR
comp=Z,100μm,20.0s,MS7.3
LSA **Lhasa** 103.65 297 *e*P Pdif 15 40 36.5 +1.0
LSA pmax pmax
comp=Z,4μm,3.9s
LSA MLR MLR
comp=Z,261μm,21.0s,MS7.7
LSA **Lhasa** 103.65 297 *e*Pdif Pdif 15 40 36.5 +1.1
comp=Z,4μm,3.9s
LSA LR LR
comp=Z,261μm,21.0s,MS7.7
NHSC **New Hope** 103.94 60 PFAKE 15 40 50.0 +13
NHSC LR LR
comp=Z,221μm,20.0s,MS7.7
CAL **Calcutta** 104.14 289 *e*P Pdif 15 40 37.4 -0.3
CAL *ex* x 15 40 44.4
comp=Z,9μm,0.2s
CAL *e*S SKSac 15 51 09.8 -3.3
RCC **Rio Carpintero** 104.26 74 *e*P Pdif 15 40 45.7 +7.5
ELN **Prospectdale** 104.53 55 Pdif Pdif 15 40 41.3 +1.9
FWV **Forest Hill** 104.57 55 *e*Pdif Pdif 15 40 41.2 +1.7
BLA **Blacksburg** 104.78 55 PFAKE 15 40 50.0 +10
BLA LR LR
comp=Z,24μm,21.0s,MS6.7
MOAC **Moa** 105.11 73 *e*P Pdif 15 40 46.8 +4.8
GTK **Gangtok** 105.18 294 *ex* x 15 40 35.0
SHBG **Sahibganj** 105.45 292 *e*P Pdif 15 40 45.0 +1.5
SDV **Santo Domingo** 105.63 86 *e*Pdif Pdif 15 40 45.2 +0.9
comp=Z,54nm,1.0s
SDV *e*PP PP 15 45 08.6 +1.6
SDV LR LR
comp=Z,133μm,21.0s,MS7.5
MCWV **Mont Chateau** 105.79 53 PFAKE 15 45 10.0 +12
MCWV LR LR
comp=Z,261μm,20.0s,MS7.8
SAML **Samuel** 106.21 106 *e*Pdif Pdif 15 40 46.5 -0.4
comp=Z,458nm,1.6s
SAML LR LR
comp=Z,186μm,19.0s,MS7.7
ERPA **Erie** 106.24 51 PFAKE 15 45 10.0 +12
ERPA LR LR
comp=Z,250μm,22.0s,MS7.7
BOK **Bokaro** 106.64 290 *e*P Pdif 15 40 49.7 +0.9
BOK AMb AMB 15 41 00.7
comp=Z,191nm,2.0s
PALK **Pallekele** 106.66 272 *e*Pdif Pdif 15 40 51.2 +2.3
comp=Z,524nm,2.6s
PALK LR LR
comp=Z,502μm,20.0s,MS8.1
VIS **Vishakhapatnam** 107.33 283 *i*P Pdif 15 40 49.2 -2.6
VIS *e*P 15 40 52.8
VIS AMb AMB 15 41 06.6
comp=Z,388nm,1.4s
VIS *e*S SKSac 15 51 26.8 -0.5
VIS AMS AMS 16 28 08.8
comp=Z,141μm,22.0s,MS7.5
JIRN **Jiri** 107.34 294 *e*P Pdif 15 40 51.4 -0.5
comp=Z,207nm,0.8s
CBN **Corbin** 107.36 55 PFAKE 15 45 10.0 +10
CBN LR LR
comp=Z,364μm,21.0s,MS7.9
SADO **Sadowa** 107.39 48 Pdiff Pdif 15 40 52.3 +0.2
baz=288,slow=4.7
SADO PKKPbc PKKPbc 15 56 14.8 -0.9
comp=Z,16nm,0.9s,baz=36,slow=1.9,SNR=2.0
GUN **Gumba** 107.67 294 *e*P Pdif 15 40 53.2 -0.2
comp=Z,603nm,1.0s
PKI **Pulchoki** 108.00 293 *e*P Pdif 15 40 54.2 -0.6
comp=Z,697nm,1.3s
KKN **Kakani** 108.16 294 *e*P Pdif 15 40 55.3 -0.2
comp=Z,220nm,0.7s
DMN **Daman** 108.27 293 *e*P Pdif 15 40 55.7 -0.3
comp=Z,906nm,1.2s
MVL **Millersville** 108.50 53 Pdif Pdif 15 41 00.1 +3.0
GKN **Gorkha** 108.76 294 *e*P Pdif 15 40 57.7 -0.5
comp=Z,417nm,1.0s
MDRS **Chennai** 108.86 277 *e*P Pdif 15 40 58.9 +0.2
DGAR **Diego Garcia** 109.04 254 PFAKE 15 45 20.0 +16
DGAR LR LR
comp=Z,207μm,19.0s,MS7.7
BINY **Binghamton** 109.17 51 PFAKE 15 45 20.0 +16
BINY LR LR
comp=Z,280μm,21.0s,MS7.8
WMQ **Urumqi** 109.45 311 PDIF Pdif 15 41 01.3 0.0
WMQ S Sdif 15 53 06.0 -2.4
WMQ PS PS 15 54 59.0 -3.9
WMQ SS SS 16 00 52.5 -0.2
WMQ PP PP
comp=Z,34μm,8.4s
WMQ LR LR
comp=N,157μm,18.4s,MS7.9
WMQ LR LR
comp=E,293μm,20.4s,MS7.9
WMQ LR LR
comp=Z,298μm,21.0s,MS7.8
KOLN **Koldanda** 109.60 293 *e*P Pdif 15 41 01.0 -0.9
comp=Z,155nm,0.7s
MSNY **Massena** 110.42 48 *e*PKKPbc PKKPbc 15 56 08.2 +2.1
TRD **Trivandrum** 110.57 272 *e*P PKiKP 15 45 06.5 0.0
TRD *e*S SKSac 15 51 40.9 -0.1
TRD AMS AMS 16 33 12.7
comp=Z,211μm,13.9s,MS7.9
NCB **Newcomb** 110.73 50 PFAKE 15 45 20.0 +13
NCB LR LR
comp=Z,241μm,22.0s,MS7.7
FRNY **Flat Rock** 111.30 49 *e*PKKPbc PKKPbc 15 56 05.5 +2.3
HYB **Hyderabad** 111.64 281 *i* Pdif Pdif 15 41 13.5 +2.5
HYB *ep*Pdif 15 41 26.7
HYB *e*PKP PKiKP 15 45 12.5 +4.0
HYB *ep*PKP 15 45 27.0
HYB *es*PKP 15 45 42.5
HYB *e*PP PP 15 45 45.0 -5.7
HYB *e*PPP 15 48 02.5
HYB *e*SKSac SKSac 15 51 43.5 -1.9
HYB *e*SKSdf SKSdf 15 52 13.5 -2.5
HYB *es*SKSdf 15 52 55.0
HYB *e*PS PS 15 55 25.0 +1.6
HYB *e*PKKP PKKPbc 15 56 03.0 +0.9
HYB *e* 15 56 08.0
HYB *e* 15 56 18.0
HYB *e*SS SS 16 01 25.0 +3.0
HYB *e* 16 04 05.0
HYB LR LR 16 35 50.0
comp=Z,252nm,20.0s
HYB **Hyderabad** 111.64 281⇑ *e*Pdif Pdif 15 41 13.5 +2.5
HYB *e*PKP PKiKP 15 45 08.0 -0.5
HYB *e*SKS SKSac 15 51 44.0 -1.4
JBP **Jabalpur** 111.75 288 *e*S SKSac 15 51 47.0 +1.2
LBNH **Lisbon** 112.41 49 *e*PKIKP PKiKP 15 45 10.8 +0.9
LBNH MLR MLR
comp=Z,324μm,21.0s,MS7.9
SJG **San Juan** 112.45 78 *e*PKIKP PKiKP 15 45 11.6 +1.6
SJG MLR MLR
comp=Z,208μm,20.0s
HRV **Harvard–Oak R** 112.46 51 PFAKE 15 45 20.0 +10
HRV LR LR
comp=Z,171μm,20.0s,MS7.6
ZAL **Zalesovo** 112.51 321 Pdiff Pdif 15 41 15.2 +0.3
comp=Z,4.6nm,0.8s,baz=4.0,slow=5.3,SNR=12
ZAL PKiKP PKiKP 15 45 10.8 +0.7
comp=Z,46nm,0.6s,baz=358,slow=3.0,SNR=16
WES **Weston** 112.62 52 PFAKE 15 45 20.0 +10
WES LR LR
comp=Z,121μm,21.0s,MS7.5
LGTI **Lohaghat** 112.83 294 *ex* x 15 45 26.0
NVS **Novosibirsk** 113.47 322 *i*P Pdif 15 41 18.7 -0.4
NVS *e* 15 45 14.0
NVS *e* 15 45 59.6
NVS pmax pmax
comp=N,96nm,1.9s
NVS pmax pmax
comp=E,227nm,2.0s
NVS pmax pmax
comp=Z,4μm,2.6s
NVS pmax pmax
comp=E,2μm,1.9s
MK31 **Makanchi Array** 113.60 313 PKiKP PKiKP 15 45 13.9 +1.7
MK31 pmax pmax
comp=Z,515nm,1.1s
MKAR **Makanchi Array** 113.60 313 Pdiff Pdif 15 41 20.4 +0.6
comp=Z,12nm,1.0s,baz=90,slow=5.0,SNR=24
MKAR PKiKP PKiKP 15 45 11.8 -0.3
comp=Z,97nm,0.7s,baz=130,slow=1.7,SNR=20
MKAR PKKPbc PKKPbc 15 55 57.5 +2.0
comp=Z,18nm,1.1s,baz=236,slow=3.8,SNR=4.7
MKAR tx tx 16 20 20.7
comp=Z,2.5nm,0.9s,baz=64,slow=1.0,SNR=8.0
MKAR **Makanchi Array** 113.60 313 P Pdif 15 41 20.4 +0.7
MKAR 15 45 11.9
MKAR **Makanchi Array** 113.60 313 Pdif Pdif 15 41 20.4 +0.6
MKAR PKPdf PKiKP 15 45 11.8 -0.3
MKAR ⇑ *e*PKP PKiKP 15 45 13.7 +1.5
MKAR PKKPbc PKKPbc 15 55 57.5 +2.0
LATR **Latur** 113.72 282 *e*P PKiKP 15 45 14.5 +2.1
AKL **Akola** 113.86 284 *ex* x 15 44 38.4
AKL *i*x x 15 45 26.1
MNGI **Mangalore** 113.89 276 *e*P PKiKP 15 45 13.2 +0.4
BHPL **Bhopal** 114.06 287 *e*P PKiKP 15 45 13.8 +0.7
BHPL AMb AMB 15 45 38.0
comp=Z,567nm,1.5s
BHPL *e*S SKSac 15 51 53.0 -2.0
BHPL AMS AMS 16 22 32.7
comp=Z,25μm,17.0s,MS6.9
MNCY **Minicoy** 114.18 270 *i*x x 15 46 33.0
FRB **Frobisher Bay** 114.79 28 PKP PKiKP 15 45 14.4 -0.1
comp=Z,14nm,0.7s,baz=275,slow=8.7,SNR=5.3
FRB PKKPbc PKKPbc 15 55 53.6 +2.1
comp=Z,16nm,0.8s,baz=114,slow=4.3,SNR=3.9
TRN **Trinidad (W)** 114.83 87 *e*P 15 41 45.2
TRN **Trinidad (W)** 114.83 87 *e* PP 15 46 13.4 0.0
DDI **Dehra Dun** 114.86 295 *e*P PKiKP 15 45 16.0 +1.4
NDI **New Delhi** 115.30 293 *e*P PKPdf 15 45 16.4 +0.9
NDI AMb AMB 15 45 51.3
comp=Z,164nm,0.6s
NDI *ex* x 15 52 08.0
GOA **Goa** 115.51 278 *ex* x 15 45 23.0
KAD **Karad** 115.64 280 *e*P PKPdf 15 45 18.0 +1.9
SMLA **Simla** 115.75 296 *e*P PKPdf 15 45 16.2 -0.2

SMLA *i* x x 15 45 44.4
PAG Le Parnasse 116.06 82 *e*P Pdif 15 41 38.3 +7.7
DSHT Scott's Head 116.13 83 *e*P Pdif 15 41 43.6 +13
BPA Boggy Peak 116.15 80 *e*P Pdif 15 41 44.9 +14
DBCT Belle View Cho 116.17 82 *e*P Pdif 15 41 44.5 +13
SCHQ Schefferville 116.18 38 Pdiff Pdif 15 41 42.4 +11
comp=Z,3.1nm,0.9s,baz=325,slow=2.1,SNR=5.0
SCHQ PKP PKPdf 15 45 18.6 +1.4
comp=Z,29nm,0.9s,baz=270,slow=4.4,SNR=8.1
SCHQ PKKPbc PKKPbc 15 55 48.6 +1.9
comp=Z,26nm,0.7s,baz=65,slow=7.5,SNR=6.3
SCHQ Schefferville 116.18 38 Pdif Pdif 15 41 42.4 +11
SCHQ PKPdf PKPdf 15 45 18.0 +0.8
SCHQ *e*PKKPbc PKKPbc 15 55 49.6 +2.9
SCHQ LR LR
comp=Z,219μm,20.0s,MS7.8
KURK Kurchatov 116.20 317 *e*PKIKP PKPdf 15 45 17.8 +0.6
KURK MLR MLR
comp=Z,272μm,21.0s,MS7.8
FDF Fort de France 116.21 83 *e*P PKPdf 15 45 20.3 +3.1
BDFB Brasilia 116.22 120 Pdiff Pdif 15 41 48.0 +17
comp=Z,5.6nm,0.8s,baz=297,slow=2.3,SNR=4.7
BDFB PKP PKPdf 15 45 20.1 +2.9
comp=Z,32nm,1.0s,baz=147,slow=2.2,SNR=6.8
BDFB PKKPbc PKKPbc 15 55 47.4 +0.9
comp=Z,34nm,0.7s,baz=18,slow=3.2,SNR=10
BDFB Brasilia 116.22 120 P Pdif 15 41 48.0 +17
BDFB 15 45 20.1
BIM Bigot 116.23 83 *e*P PKPdf 15 45 22.7 +5.4
CPB Codrington 116.32 80 *e*P Pdif 15 41 38.3 +6.5
MVM Montagne Vaucl 116.40 83 *e*P PKPdf 15 45 22.6 +5.1
CRM Caravelle 116.44 83 *e*P PKPdf 15 45 22.4 +4.8
BBSR BB Station 116.57 63 *e*PKPdf PKPdf 15 45 17.9 +0.1
BBSR LR LR
comp=Z,132μm,20.0s,MS7.5
CAM4 Nova Friburgo 116.59 129⇑ *i*P PKPdf 15 45 21.4 +3.4
CAM4 *i* 15 45 23.2
CAM4 *i* 15 45 38.9
DLH Dalhousie 116.96 297 *e*P PKPdf 15 45 20.0 +1.3
AAA Alma-Ata 117.16 309 *e*P Pdif 15 41 37.1 +1.6
AAA pmax pmax
comp=Z,17μm,6.9s
AAA MLR MLR
comp=Z,115μm,10.4s,MS7.8
AJM Ajmer 117.17 290 *e*P PKPdf 15 45 18.5 -0.6
AJM *e*S SKSac 15 52 05.7 -1.0
AJM AMS AMS 16 33 20.1
comp=Z,94μm,19.8s,MS7.4
BOM Bombay 117.29 281 *e*P PKPdf 15 45 18.2 -1.1
ULHL Ulahol 117.62 308 P PKPdf 15 45 22.7 +2.8
SNR=11
KSH Kashi 117.67 305 PKP PKPdf 15 45 20.1 +0.1
KSH PKS 15 48 55.1
KSH PPP 15 49 05.5
KSH SKS SKSdf 15 52 27.0 -0.6
KSH SKKS SKKSac 15 53 25.1 -4.1
KSH SS SS 16 02 40.3 -1.0
KSH LR LR
comp=N,47μm,14.5s,MS7.4
KSH LR LR
comp=E,40μm,12.4s,MS7.4
TKM2 Tokmak 2 118.13 309 P PKPdf 15 45 20.2 -0.7
SNR=18
KBK Karagaybulak 118.60 308 P PKPdf 15 45 21.8 0.0
SNR=16
CHMS Chumysh 118.75 309 P PKPdf 15 45 20.2 -1.9
SNR=19
FRU Bishkek 118.85 308*c* *e*P Pdif 15 41 44.5 +1.5
FRU *e* 15 45 22.0
FRU *i* 15 45 32.0
FRU *i* 15 46 42.0
FRU *e* 15 52 30.0
FRU *i* 16 03 08.0
FRU pmax pmax
comp=Z,870nm,3.6s
FRU pmax pmax
comp=Z,14μm,17.0s
FRU MLR MLR
comp=Z,202μm,20.0s,MS7.8
UCH Uchtor 118.91 308 P PKPdf 15 45 25.7 +3.3
SNR=11
AAK Ala-Archa 118.93 308 P PKPdf 15 45 24.1 +1.7
SNR=14
AAK Ala-Archa 118.93 308 *e*P Pdif 15 41 44.3 +0.9
AAK *e* 15 45 22.7
AAK MLR MLR
comp=Z,189μm,21.0s,MS7.7
USP Ospenovka 118.94 309 P PKPdf 15 45 27.3 +4.8
SNR=5.5
CAM3 Guarapari 119.09 129 *e*P PKPdf 15 45 25.3 +2.5
CAM3 *i* 15 45 28.5
CAM3 *i* 15 45 35.7
EKS2 Erkin-Say 119.46 308 P PKPdf 15 45 25.9 +2.5
SNR=16
AML Almayashu 119.51 308 P PKPdf 15 45 26.0 +2.5
SNR=19
TRIS Tristan da Cun 120.55 163 PFAKE 15 45 40.0 +14
TRIS LR LR
comp=Z,494μm,22.0s,MS8.1
VOSK Vostochnaya 120.82 320 PKIKP PKPdf 15 45 27.0 +0.9
VOSK pmax pmax
comp=Z,1μm,1.4s
BHJ Bhuj 121.06 286 *e*P PKPdf 15 45 26.8 +0.2
KBS Kingsbay 121.12 359 *e* Pdif 15 41 53.4 +0.3
KBS *e*P 15 45 26.3
KBS *e*SS SS 16 03 26.3 +0.5
KBS AMS AMS 16 35 34.2
comp=Z,88μm,22.0s,MS7.4
BVAR Borovoye Array 121.14 320 Pdiff Pdif 15 41 55.0 +1.8
comp=Z,0.5nm,0.5s,baz=113,slow=3.4,SNR=7.6
BVAR PKP PKPdf 15 45 26.0 -0.6
comp=Z,161nm,0.6s,baz=109,slow=3.1,SNR=36
BVAR PKKPbc PKKPbc 15 55 30.5 +1.7
comp=Z,8.2nm,0.9s,baz=234,slow=5.0,SNR=2.2
BVAR Borovoye Array 121.14 320 P Pdif 15 41 55.0 +1.8
BVAR 15 45 26.0
BRVK Borovoye 121.20 320⇑ *e*PKIKP PKPdf 15 45 26.3 -0.5
BRVK MLR MLR
comp=Z,157μm,22.0s,MS7.6
SFJD Kangerlussuaq 121.27 23 PKP PKPdf 15 45 26.5 -0.4
comp=Z,23nm,0.5s,baz=206,slow=1.5,SNR=12
SFJD PKKPbc PKKPbc 15 55 29.3 +1.0
comp=Z,13nm,0.7s,baz=310,slow=1.1,SNR=3.6
SFJD Kangerlussuaq 121.27 23 *i*P Pdif 15 42 06.4 +13
SFJD *i* 15 46 58.8
SFJD *i*S Sdif 15 54 52.3 +5.3
SFJD *i* 15 56 49.2
SFJD *i* 16 02 58.9
SFJD *i* 16 03 28.6
SFJD
comp=Z,292μm,23.0s
SFJD Kangerlussuaq 121.27 23 *e*P Pdif 15 42 06.4 +13
SFJD *i* 15 46 58.8
SFJD *i* 15 56 49.2
SFJD *i* 16 03 28.6
SFJD MLR MLR
comp=Z,290μm,23.0s,MS7.9
SFJD Kangerlussuaq 121.27 23 *e*P Pdif 15 42 06.4 +13
SFJD *e*PKPdf PKPdf 15 45 25.1 -1.9
SFJD *i* 15 46 58.8
SFJD *i*S Sdif 15 54 52.3 +5.3
SFJD *i* 15 56 49.2
SFJD *i* 16 02 58.9
SFJD *i* 16 03 28.6
SFJD LR LR
comp=Z,292μm,23.0s,MS7.9
KKAR Karatay Array 121.86 309 *i* PKIKP PKPdf 15 45 29.5 +1.4
KKAR pmax pmax
comp=Z,2μm,1.4s
ZRNK Zerenda 121.98 320 PKIKP PKPdf 15 45 28.8 +0.5
DAG Danmarks Havn 122.03 6α *i*P Pdif 15 42 07.3 +10
comp=Z,13nm,1.3s
DAG *i* 15 45 30.9
DAG Danmarks Havn 122.03 6α*e*P Pdif 15 42 07.3 +10
DAG pmax pmax
comp=Z,13nm,1.3s
DAG Danmarks Havn 122.03 6 *e*Pcu Pdif 15 42 07.3 +10
DAG *i* 15 45 30.9
HSP Hornsund 122.91 357 *e*P PKPdf 15 45 29.4 -0.7
BJO Bjornoya 125.15 356 *e* Pdif 15 42 15.1 +4.0
BJO *e*P 15 45 32.0
BJO *e*SS SS 16 04 17.2 +0.3
BJO AMS AMS 16 37 29.9
comp=Z,134μm,24.6s,MS7.5
BJO1 Bjornoya 125.17 356 *e*P Pdif 15 42 15.1 +4.0
BJO1 *e*P 15 45 32.0
SUR Sutherland 125.83 196 *e*PKPdf PKPdf 15 45 36.2 +0.6
SUR LR LR
comp=Z,549μm,20.0s,MS8.2
ARU Arti 126.95 326 *e*P Pdif 15 42 20.3 +1.2
ARU *i* 15 45 39.8
ARU *e* 15 47 33.5
ARU *e*PPP 15 50 19.8
ARU *e* 15 52 42.0
ARU MLR MLR
comp=N,138μm,22.0s,MS8.1
ARU MLR MLR
comp=Z,480μm,22.0s,MS8.1
ARU MLR MLR
comp=E,427μm,23.0s,MS8.1
ARU Arti 126.95 326 *e*PKPdf PKPdf 15 45 37.3 -0.5
ARU LR LR
comp=Z,476μm,22.0s,MS8.1
SCO Scoresbysund 127.01 11 *i* P PKPdf 15 45 38.4 +0.5
comp=Z,211nm,1.0s
SCO Scoresbysund 127.01 11 *i* PKIKP PKPdf 15 45 38.4 +0.5
SCO pmax pmax
comp=Z,210nm,1.0s
SCO Scoresbysund 127.01 11 *i* P PKPdf 15 45 38.4 +0.5
SCO *i* S SS 16 04 30.8 -9.4
AB31 Akbulak array 128.31 317 *i* PKIKP PKPdf 15 45 43.5 +3.1
AB31 pmax pmax
comp=Z,641nm,1.2s
JNW Jan Mayen West 128.43 6 *e* PKPdf 15 45 46.0 +5.4
JMIC Jan Mayen 128.46 6 *e*P PKPdf 15 45 42.0 +1.2
JMIC *e*PP PP 15 47 48.1 +2.0
JMIC *e*SS SS 16 04 57.6 -0.6
JMIC AMS AMS 16 34 35.2
comp=Z,136μm,25.6s,MS7.5
KEV Kevo 128.77 351 *e*pkp PKPdf 15 45 39.8 -1.5
comp=Z,699nm,1.2s
LVZ Lovozero 128.96 346*c* *i*PKIKP PKPdf 15 45 42.1 +0.5
LVZ *e* 15 47 45.5
LVZ pmax pmax
comp=Z,867nm,1.4s
LVZ pmax pmax
comp=N,126nm,1.3s
LVZ pmax pmax
comp=E,112nm,1.1s
LVZ Lovozero 128.96 346⇑ *e*PKP PKPdf 15 45 42.5 +0.9
LVZ LR LR
comp=Z,278μm,22.0s,MS7.9
ARCES ARCESS Array B 129.19 351 Pdiff Pdif 15 42 39.6 +11
comp=Z,1.8nm,0.9s,baz=16,slow=6.8,SNR=3.7
ARCES PKP PKPdf 15 45 40.9 -1.2
comp=Z,98nm,0.5s,baz=22,slow=1.0,SNR=46
ARCES tx tx 16 21 27.6
comp=Z,5.9nm,1.0s,baz=25,slow=4.0,SNR=6.2
ARCES ARCESS Array B 129.19 351 Pdif Pdif 15 42 39.6 +11
ARCES PKP PKPdf 15 45 40.9 -1.2
ARE0 ARCESS Array S 129.19 351 *e*PKPdf PKPdf 15 45 41.0 -1.1
AKTK Aktyubinsk 129.20 319 Pdif Pdif 15 42 38.0 +9.0
AKTK PKP PKPdf 15 45 34.6 -7.5
AKTK PKP PKPdf 15 45 43.1 +1.0
AKTO Aktyubinsk 129.20 319 Pdiff Pdif 15 42 38.0 +9.0
comp=Z,2μm,1.7s,baz=7.9,slow=1.9
AKTO PKhKP 15 45 34.6
comp=Z,10nm,0.6s,baz=107,slow=6.3,SNR=2.7
AKTO PKP PKPdf 15 45 43.1 +1.0
comp=Z,12nm,0.8s,baz=82,slow=5.9,SNR=4.6
AKTO tx tx 16 21 22.5
comp=Z,5.4nm,0.8s,baz=78,slow=2.3,SNR=12
APA Apatity 129.50 347⇑ *e*P Pdif 15 42 32.0 +1.6
APA *i* 15 45 42.5
APA *i* 15 45 49.0
APA *i* 15 48 03.0
APA *i* PPS 15 59 30.0
APA pmax pmax
comp=Z,4μm,13.0s
APA pmax pmax
comp=Z,140nm,1.0s
APA MLR MLR
comp=Z,305μm,22.0s,MS8.0
TRO Tromso 129.89 354 *e*P PKPdf 15 45 43.8 +0.3
TRO *e*PP PP 15 47 55.5 +0.1
TRO *e*SS SS 16 05 11.5 -4.3
TRO AMS AMS 16 39 39.7
comp=Z,119μm,24.3s,MS7.5
KTK1 Kautokeino 129.99 352 *e*PP PP 15 48 00.3 +4.3
WBK Wadi Bani Khal 130.69 283 P PKPdf 15 45 51.0 +6.1
SNR=20
ORR Orenburg 130.76 322*c* *i*P Pdif 15 42 36.7 +0.7
ORR *i* 15 45 42.9
ORR *e* 15 45 53.7
ORR *i* 15 47 57.0
ORR *i* 15 52 51.7
ORR pmax pmax
comp=Z,11μm,4.2s
ORR MLR MLR
comp=Z,134μm,17.0s,MS7.7
LBTB Lobatse 131.16 204 PFAKE 15 46 00.0 +14
LBTB LR LR
comp=Z,293μm,21.0s,MS8.0
JMDO Jabal Madar 131.46 282 P PKPdf 15 45 50.9 +4.5
SNR=26
RCBR Riachuelo 131.50 118 PFAKE 15 46 00.0 +14
RCBR LR LR
comp=Z,476μm,21.0s,MS8.2
BIDO Bidbid 131.58 284 P PKPdf 15 45 50.7 +4.1
SNR=31
SMDO Samad 131.59 283 P PKPdf 15 45 51.0 +4.3
SNR=34
LOF Lofoten 131.80 356 *e* PKPdf 15 45 42.0 -5.1
LOF *e*PP PP 15 48 08.7 +0.9
BORG Borgarnes 131.91 15 PKP PKPdf 15 45 47.0 -0.2
comp=Z,16nm,0.9s,baz=307,slow=5.1,SNR=2.3
BORG Borgarnes 131.91 15 PKP PKPdf 15 45 47.0 -0.2
BORG LR LR
comp=Z,228μm,21.0s,MS7.9
HOQ Hoqain 132.33 284 P PKPdf 15 45 51.7 +3.6
SNR=17
BSY Bisya 132.33 283 P PKPdf 15 45 50.5 +2.5
SNR=26
KLMR Klimovskoe 132.97 338*c* *i*P Pdif 15 42 46.3 +0.5
KLMR *e* 15 48 10.3
KLMR *e*SP SP 15 58 31.0 +4.4
KLMR *e*SS SS 16 05 50.4 -2.9
KLMR pmax pmax
comp=Z,2μm,1.9s
KLMR MLR MLR
comp=Z,350μm,25.0s,MS8.0
ARQ Araqi 133.02 283 ⇓P PKPdf 15 45 50.8 +1.5
SNR=13
SHAO Shalim 133.06 276 ⇓P PKPdf 15 45 49.8 +0.4
SNR=7.3
BANOM Banah 133.45 287 P PKPdf 15 45 50.6 +0.4
SNR=16
ASHO Ashiyiah 133.58 285 P PKPdf 15 45 54.1 +3.7
SNR=38
STOK Stokkvaagen 133.61 356 *e* PKPdf 15 45 42.9 -7.6
STOK *e*PP PP 15 48 19.4 0.0
MOR8 Moi Rana 133.67 355 *e* PKPdf 15 45 43.1 -7.4
MOR8 *e*PP PP 15 48 18.7 -1.0
JOF Joensuu 133.86 344 *e*pkp PKPdf 15 45 52.9 +2.0
comp=Z,524nm,0.7s
PECR Pechory 134.09 331 *e*P Pdif 15 42 52.0 +1.2
PECR *e* 15 45 52.0
PECR *e* 15 46 06.0
PECR *i* 15 48 21.4
PECR *e* 16 00 13.0
PECR pmax pmax
comp=Z,16μm,4.8s
RBK Rabkut 134.29 275 ⇑P PKPdf 15 45 47.9 -3.9
SNR=18
WHFO Wadi Hawf 134.77 276 P PKPdf 15 45 47.9 -4.7
SNR=16
NSS Namsos 135.47 356 *e*P PKPdf 15 45 52.5 -1.4
NSS *e*PP PP 15 48 30.5 -0.7
NSS *e*PP PP 15 48 30.8 -0.3
NSS *e*SS SS 16 06 23.2 -0.3
NSS AMS AMS 16 51 21.6
comp=Z,112μm,18.5s,MS7.6
KAF Kangasniemi 135.75 346 *e*pkp PKPdf 15 45 55.5 +1.0
comp=Z,559nm,0.8s
FINES FINESS Array B 136.39 346 Pdiff Pdif 15 43 17.0 +16
comp=Z,1.3nm,0.8s,baz=357,slow=3.8,SNR=4.5
FINES PKhKP 15 45 44.2
comp=Z,11nm,0.8s,baz=37,slow=3.8,SNR=11
FINES tx tx 16 21 53.4
comp=Z,6.0nm,0.8s,baz=42,slow=6.4,SNR=15
FINES FINESS Array B 136.39 346 PKHKP 15 45 44.2
PUL Pulkovo 136.74 342 *i* PKIKP PKPdf 15 45 57.1 +0.8
PUL *e* 15 48 37.3
PUL pmax pmax
comp=Z,2μm,1.3s
PUL pmax pmax
comp=N,1μm,1.4s
PUL pmax pmax
comp=E,775nm,1.4s
PUL MLR MLR
comp=N,275μm,25.0s
PUL Pulkovo 136.74 342⇑ *e*PKP PKPdf 15 45 55.8 -0.5
MOS Moscow 137.25 334 *i* PKHKP 15 45 45.2
MOS *i* 15 48 39.2
MOS pmax pmax
comp=Z,20μm,5.3s
MOS MLR MLR
comp=N,211μm,22.0s
MOS MLR MLR
comp=Z,234μm,22.0s,MS7.9
MOL Molde 137.61 359 *e* PKPdf 15 45 52.6 -5.3
DOMB Dombas 138.10 358 *e* PKPdf 15 45 49.7 -9.1
OBN Obninsk 138.12 334⇑ *i*P Pdif 15 43 04.8 -3.9
OBN *i* 15 48 45.3
OBN *i* SS SS 16 06 51.3 -3.7
OBN pmax pmax
comp=Z,2μm,16.0s
OBN Obninsk 138.12 334 *e*PKPpre 15 45 51.5
OBN ⇑*i*PKP PKPdf 15 45 55.6 -3.2
OBN LR LR
comp=Z,182μm,22.0s,MS7.8
VRHR Novokhopersk 138.30 326 *e*PKHKP 15 45 52.3
VRHR *e* 15 48 46.9
VRHR pmax pmax
comp=Z,10μm,7.4s
VRHR pmax pmax
comp=N,2μm,14.9s
VRHR pmax pmax
comp=E,4μm,16.3s
VRHR pmax pmax
comp=Z,35μm,10.5s
VRHR pmax pmax
comp=N,8μm,13.8s
VRHR pmax pmax
comp=E,12μm,12.6s
MAK Makhachkala 138.42 313*d* *i*P Pdif 15 43 07.2 -2.8
MAK *i* 15 45 50.7
MAK *i* SS SS 16 07 00.0 +1.4
MAK pmax pmax
comp=Z,3μm,1.6s
MAK MLR MLR
comp=Z,267μm,24.0s,MS7.9
MUKL Al Mukalla 138.48 269⇑ *e*P PKPdf 15 45 55.9 -3.6
LSZ Lusaka 138.50 214 *e*PKHKP 15 45 53.7
LSZ MLR MLR
comp=Z,409μm,21.0s,MS8.1
FOO Floro 138.60 1 *e* 15 45 50.8
VSU Vasula 138.84 343 *e*PKP PKPdf 15 45 55.3 -4.9
VSU *i* P 15 45 59.1
NB2 NORSAR Subarra1 38.99 356 PKPd 15 45 53.0
comp=Z,2μm,1.7s,baz=7.9,slow=1.9
NB2 NORSAR Subarra1 38.99 356 PKPd 15 45 53.0
baz=7.9,slow=1.9
NOA NORSAR Array B 138.99 356 PKhKP 15 45 52.5
comp=Z,25nm,0.7s,baz=4.0,slow=2.3,SNR=41
NOA tx tx 16 22 00.9
comp=Z,1.1nm,1.1s,baz=5.4,slow=5.0,SNR=2.3
HYA Hoyanger 139.03 360 *e* PKPdf 15 45 56.1 -4.4
SUE Sulen 139.14 1 *e* 15 45 51.5
VOR Voronezh 139.15 328 PKHKP 15 45 54.0
VOR *e* 15 48 51.0
VOR pmax pmax
comp=N,800nm,2.0s
VOR pmax pmax
comp=E,550nm,2.0s
VOR pmax pmax
comp=Z,3μm,2.0s
VOR pmax pmax
comp=N,1μm,2.0s
VOR pmax pmax
comp=E,1μm,2.0s
VOR pmax pmax
comp=Z,2μm,2.0s
NAO01 NORSAR Array S 139.20 356 *e*PKPpre 15 45 51.2
NAO01 LR LR
comp=Z,164μm,20.0s,MS7.8
TSUM Tsumeb 139.22 197 PFAKE 15 46 10.0 +9.1
TSUM LR LR
comp=Z,217μm,21.0s,MS7.9
VORD Divnogorie 139.57 328 *e*P Pdif 15 43 09.3 -5.9
VORD *e* 15 48 52.8
VORD pmax pmax
comp=N,50nm,3.7s
VORD pmax pmax
comp=E,110nm,5.6s
VORD pmax pmax
comp=Z,420nm,1.6s
VORD pmax pmax
comp=N,210nm,0.8s
VORD pmax pmax
comp=E,600nm,0.9s
HFS Hagfors 139.68 354 PKhKP 15 45 50.6
comp=E,27nm,0.5s,baz=80,slow=2.0,SNR=29
ASK Askoy 139.72 1 *e*P PKPdf 15 45 56.1 -5.7
RUND Rundenannen 139.79 0 *e* PKPdf 15 45 56.6 -5.3
BER Bergen 139.82 0 *e*P PKPdf 15 45 56.8 -5.1
BER *e*P 15 45 57.4
BER *e*PP PP 15 48 57.2 -0.9
BER *e*SS SS 16 07 15.0 0.0
BER AMS AMS 16 48 30.3
comp=Z,140μm,23.7s,MS7.6
BER Bergen 139.82 0 *e*P PKPdf 15 45 56.8 -5.1
BER *e*P 15 45 57.4
EGD Espegrend 139.93 0 *e*P PKPdf 15 46 00.5 -1.6
EGD Espegrend 139.93 0 *e*P PKPdf 15 45 56.3 -5.9
OSL Oslo 140.12 356 *e* PKPdf 15 45 56.5 -6.0
ODD1 Odda 140.29 359 *e* PKPdf 15 45 54.6 -8.2
DGRG David-gareji 140.42 311 P PKPdf 15 45 55.7 -7.4
DGRG S SKPdf 15 49 19.2 -14
KONO Kongsberg 140.47 357 *e* 15 45 52.3
KONO *e*PP PP 15 49 02.5 +0.4
KONO *e*SS SS 16 07 24.4 +1.8
GOF Gofitskoye 140.56 318 *e*PKHKP 15 45 57.7
GOF *i* 15 49 02.3
GOF pmax pmax
comp=Z,240nm,0.8s
GOF pmax pmax
comp=Z,8μm,4.5s
MTA Mtatsminda 140.75 312 P PKPdf 15 45 55.5 -8.1
TBLG Delisi 140.77 312 P PKPdf 15 45 59.4 -4.3
TBLG S 15 49 43.7
BLS5 Blasjo 140.78 360 *e* PKPdf 15 45 58.0 -5.7
RTO Tolsta 140.83 10 *e*P PKPdf 15 46 01.5 -2.3
ZEI Tsey 140.95 314 *e*PKIKP PKPdf 15 46 02.4 -1.6
ZEI *e* 15 49 11.9
KMY Karmoy 140.99 0 *e* PKPdf 15 45 57.0 -7.1
RSC Scourie 141.02 9 *e*P PKPdf 15 46 01.0 -3.1
UMR Umm Al-Rimmam 141.06 292 AMb AMB 15 46 20.1
comp=Z,1μm,0.9s
KBD Kabd 141.10 292 *e*P PKPdf 15 46 01.0 -3.2
KZR Kazreti 141.12 312 P PKPdf 15 46 06.5 +2.2
RRH Rhenigidale 141.19 11 *e*P PKPdf 15 46 01.6 -2.8
RDF Al-Radifah 141.24 291 *e*P PKPdf 15 46 00.7 -3.8
RDF AMb AMB 15 46 26.5
comp=Z,3μm,1.1s
KIV Kislovodsk 141.27 316 *e*PKHKP 15 46 00.1
KIV *e* 15 46 04.2
KIV Kislovodsk 141.27 316 *e*PKPpre 15 46 00.1
KIV *e*PKPdf PKPdf 15 46 04.2 -0.4
KIV LR LR
comp=Z,260μm,20.0s,MS8.0
STAV Stavanger 141.27 0 *e* PKPdf 15 45 59.0 -5.6
IZAR Zarasai 141.31 342 *e*P PKPdf 15 46 01.2 -3.4
IZAR AMb AMB 15 46 26.5
comp=Z,463nm,2.1s
GNI Garni 141.31 310 PKP PKPdf 15 46 04.3 -0.3
comp=Z,51nm,0.9s,baz=323,slow=6.7,SNR=12
GNI Garni 141.31 310 *e*PKPpre 15 46 01.7
GNI LR LR
comp=Z,175μm,22.0s,MS7.8
ONI Oni 141.33 314 P PKPdf 15 45 58.4 -6.3
ONI S PP 15 49 16.2 +8.8
MIB Mutribah 141.37 293 *e*P PKPdf 15 46 00.7 -4.0

MIB AMb AMB 15 46 18.4
comp=Z,1µm,0.8s
RRR Rubha Reidh 141.39 10 *e*P PKPdf 15 46 02.0 -2.8
NAY Al-Naaiem 141.49 292 *e*P PKPdf 15 46 00.4 -4.5
NAY AMb AMB 15 46 23.0
comp=Z,1µm,1.1s
ISAL Salakas 141.50 342 *e*P PKPdf 15 46 01.8 -3.2
ISAL AMb AMB 15 46 26.7
comp=Z,386nm,1.7s
IDID Didziasalis 141.53 341 *e*P PKPdf 15 46 01.8 -3.3
IDID AMb AMB 15 46 26.8
comp=Z,320nm,1.8s
AMRG 141.57 314 P PKPdf 15 46 08.1 +3.0
BDHA Al Bayda' 141.61 267⇑ *e*P PKPdf 15 46 02.1 -3.0
IIGN Ignalina 141.66 341 *e*P PKPdf 15 46 02.4 -2.8
IIGN AMb AMB 15 46 30.1
comp=Z,504nm,1.8s
RST Umm Al-Ruwaisa 141.69 292 AMb AMB 15 46 23.4
comp=Z,3µm,1.1s
AKH Akhalkalaki 141.76 312 P PKPdf 15 46 00.8 -4.7
AKH S PP 15 49 12.0 +2.0
KAC Achnashellach 141.82 10 *e*P PKPdf 15 46 01.6 -3.9
MNK Minsk 141.86 339 *e*P Pdif 15 43 24.0 -1.3
MNK *e* 15 45 59.0
MNK *e*PPP 15 52 14.0
MNK pmax pmax
comp=Z,4µm,1.5s
MNK pmax pmax
comp=N,2µm,1.5s
MNK pmax pmax
comp=E,1µm,1.5s
SNART Snartemo 141.86 359 *e* PKPdf 15 46 00.7 -5.0
LBOS 141.88 267⇑ *e*P PKPdf 15 46 02.0 -3.6
KPL Plockton 141.91 10 *e*P PKPdf 15 46 04.2 -1.5
KPL AMS AMS 16 40 55.3
comp=E,85µm,21.2s,MS7.7
KPL AMS AMS 16 45 38.4
comp=N,109µm,20.3s,MS7.7
KSB Sheil Bridge 142.07 10 *e*P PKPdf 15 46 04.0 -2.0
DIGO Kars 142.21 311 *i* P PKPdf 15 45 59.7 -6.5
KARS Kars 142.33 311 PKIKP PKPdf 15 46 07.4 +0.9
RADA Ahram - Rada'a 142.40 268 *e*P PKPdf 15 46 07.0 +0.4
KMBO Kilima Mbogo 142.66 239 PKhKP 15 46 05.2
comp=N,104nm,1.0s,baz=108,slow=3.1,SNR=31
KMBO tx tx 16 22 28.6
comp=N,3.0nm,0.8s,baz=87,slow=5.9,SNR=7.2
TRBA At Turbah 142.78 265 *e*P PKPdf 15 46 03.9 -3.4
TVAN Van 142.82 308 *i* P PKPdf 15 46 08.2 +0.8
DHBB Dhamar BB 142.86 268⇑ *e*P PKPdf 15 46 04.1 -3.3
ARTV Artvin 142.93 312 *i* P PKPdf 15 46 05.7 -1.8
EAB Aberfoyle 143.23 10 *e*P PKPdf 15 46 04.3 -3.8
SOC Sochi 143.35 317 *c i*P Pdif 15 43 32.5 +0.5
SOC *i* 15 46 06.1
SOC *i* 15 46 16.2
SOC *i* *PP 15 46 21.7
SOC *i* 15 49 26.8
SOC *e*PPP 15 52 31.8
SOC *i* 16 01 46.2
SOC pmax pmax
comp=Z,272nm,0.7s
SOC MLR MLR
comp=Z,178µm,21.0s,MS7.8
BHD Baghdad 143.40 299 *i* x x 15 46 01.0
BHD *i* x x 15 46 21.0
BHD *i* x x 15 48 44.0
BHD *i* x x 15 49 35.0
BHD *i* x x 15 49 45.0
BHD *i* x x 15 51 50.0
BHD *i* x x 15 53 08.0
BHD *i* x x 15 55 23.0
BHD *i* x x 15 56 47.0
BHD *i* x x 15 59 25.0
ATD Arta Tunnel 143.46 262 PKP PKPdf 15 46 10.0 +1.5
comp=Z,98nm,0.7s,baz=167,slow=2.1,SNR=25
PGBU Glenifferbraes 143.57 10 *e*P PKPdf 15 46 05.3 -3.4
PGBU AMS AMS 16 43 41.4
comp=N,97µm,22.0s,MS7.6
PGBU AMS AMS 16 47 55.7
comp=E,65µm,20.5s,MS7.6
EDI Edinburgh 143.66 9⇑ *e*P PKPdf 15 46 05.1 -3.7
EDI AMS AMS 16 41 17.9
comp=E,117µm,23.0s,MS7.8
EDI AMS AMS 16 45 32.2
comp=N,160µm,20.9s,MS7.8
MUD Monsted U'grnd 143.68 357⇑ *i*P PKPdf 15 46 07.0 -1.8
comp=N,2µm,1.1s
MUD *i* 15 49 44.6
MUD Monsted U'grnd 143.68 357⇑ *i*PKIKP PKPdf 15 46 07.0 -1.8
MUD pmax pmax
comp=Z,2µm,1.1s
MUD Monsted U'grnd 143.68 357⇑ *i*P PKPdf 15 46 07.0 -1.8
MUD *i* 15 49 44.6
MUD *i* 16 01 03.3
EAU Auchinoon 143.69 9 *e*P PKPdf 15 46 06.0 -2.8
SUW Suwalki 143.70 343 *e*Pdiff Pdif 15 43 37.5 +4.0
SUW *e*PKPc 15 46 06.9
SUW *e*PKIKP PKiKP 15 46 09.9 -2.4
SUW *ep*PKP pPKPdf 15 46 15.4 -10
SUW *e*PP PP 15 49 19.2 -2.6
SUW *e*SS SS 16 07 58.7 -1.4
SUW L 16 40 42.4
comp=Z,589nm,29.8s
SUW Suwalki 143.70 343⇑ *e*PKP PKPdf 15 46 06.9 -2.0
SUW *e*PKPdf PKPdf 15 46 09.9 +1.0
SUW *ep*PKP pPKPdf 15 46 15.4 -10
SUW *e*PP PP 15 49 19.2 -2.6
SUW *e*SS SS 16 07 58.7 -1.4
MSL Mosul 143.73 304 *ex* x 15 46 06.0
MSL *i* x x 15 48 48.0
MSL *i* x x 15 49 36.0
MSL *i* x x 15 49 50.0
MSL *i* x x 15 53 22.0
MSL *i* x x 15 56 50.0
MSL *i* x x 15 59 30.0
ESY Stoneypath 143.74 8 *e*P PKPdf 15 46 05.8 -3.2
EBL Broad Law 143.82 9 *e*P PKPdf 15 46 06.3 -2.8
ERZM Erzurum 143.82 311 *i* P PKPdf 15 46 07.8 -1.3
GMK Mull of Kintyr 143.82 11⇑ *e*P PKPdf 15 46 05.7 -3.4
GCL Cushendall 143.98 12 *e*P PKPdf 15 46 07.1 -2.2
ANN Anapa 144.14 320 *c i*PKIKP PKPdf 15 46 07.0 -2.6
ANN *e* 15 53 17.0
ANN pmax pmax
comp=Z,79µm,12.9s
ANN MLR MLR
comp=N,263µm,23.0s,MS8.0
ANN MLR MLR
comp=E,104µm,23.0s,MS8.0
ANN MLR MLR
comp=Z,15µm,23.0s,MS6.7
COP Copenhagen 144.19 354⇑ *i*P PKPdf 15 46 08.5 -1.2
comp=Z,1µm,1.0s
COP *e* 15 49 49.8
COP Copenhagen 144.19 354⇑ *i*PKIKP PKPdf 15 46 08.5 -1.2
COP *i* 16 08 05.1
COP pmax pmax
comp=Z,1µm,1.0s
COP MLR MLR
comp=Z,81µm,22.0s,MS7.5
COP Copenhagen 144.19 354⇑ *i*P PKPdf 15 46 08.5 -1.2
COP *e* 15 49 49.8
COP *i* 16 08 05.1
EKA Eskdalemuir Ar 144.23 9 PKP PKPdf 15 46 06.8 -3.0
comp=Z,77nm,0.7s,baz=326,slow=3.2,SNR=32
ESK Eskdalemuir 144.24 9 *e*P PKPdf 15 46 07.2 -2.7
ESK AMS AMS 16 43 06.2
comp=N,141µm,22.0s
ESK Eskdalemuir 144.24 9 AMS AMS 16 48 30.4
comp=E,122µm,20.7s
ESK Eskdalemuir 144.24 9 *e*PKP PKPdf 15 46 07.2 -2.6
ESK LR LR
comp=Z,232µm,21.0s,MS7.9
BNGL BINGOL 144.33 309 *i* P PKPdf 15 46 09.2 -0.8
AKASG Malin Array Be 144.38 334 PKP PKPdf 15 46 07.5 -2.6
comp=Z,169nm,0.5s,baz=39,slow=4.1,SNR=73
AKASG tx tx 16 22 31.3
comp=Z,2.9nm,0.8s,baz=37,slow=4.5,SNR=10.0
BSD Bornholm Skovb 144.44 351⇑ *i*P PKPdf 15 46 08.9 -1.3
comp=Z,7µm,1.6s
BSD Bornholm Skovb 144.44 351⇑ *i*PKIKP PKPdf 15 46 08.9 -1.3
BSD *i* 16 08 12.4
BSD pmax pmax
comp=Z,7µm,1.6s
BSD Bornholm Skovb 144.44 351⇑ *i*P PKPdf 15 46 08.9 -1.3
GAL1 Galloway 144.44 11⇑ *e*P PKPdf 15 46 07.6 -2.5
MACK Trabzon 144.52 313 *i* P PKPdf 15 46 09.3 -1.0
GCD Castle Douglas 144.57 10⇑ *e*P PKPdf 15 46 07.9 -2.5
BEST Besiri 144.62 308 *i* P PKPdf 15 46 10.4 -0.1
PLUZ Luz 144.65 50 *e*PKP PKPdf 15 46 13.0 +2.5
GMM Mts of Mourne 144.81 12⇑ *e*P PKPdf 15 46 08.9 -1.9
GUMT Gumushane 144.92 313 P PKPdf 15 46 11.6 +0.6
PTCA Ponta do Capel 144.94 51 *e*PKP PKPdf 15 46 12.4 +1.4
CKE Keswick 144.96 9⇑ *e*P PKPdf 15 46 09.7 -1.4
XDE Dent Fell 144.98 9 *e*P PKPdf 15 46 09.6 -1.5
PCED Cedros 144.99 51 *e*PKP PKPdf 15 46 15.4 +4.3
CALA Caldeira 145.01 51 *e*PKP PKPdf 15 46 11.7 +0.5
GIM North Isle of 145.03 11⇑ *e*P PKPbc 15 46 09.6 -1.0
HOR Horta 145.08 51 *e*PKP PKPdf 15 46 13.6 +2.3
WIM Isle of Man 145.13 11⇑ *e*P PKPbc 15 46 10.2 -0.8
MARD Mardin 145.18 307 *i* P PKPbc 15 46 11.2 0.0
CDU1 Dunnerdale 145.19 9⇑ *e*P PKPbc 15 46 10.3 -0.9
RGN Rugen 145.21 352 *e*SS SS 16 08 15.1 -2.3
RGN Rugen 145.21 352 *e*PKP PKPdf 15 46 10.7 -0.8
PCND Candelaria 145.22 51 *e*PKP PKPdf 15 46 12.7 +1.2
PICO Pico 145.24 51 *e*PKP PKPdf 15 46 11.6 +0.1
ROSA Rosais 145.29 50 *e*PKP PKPdf 15 46 11.9 +0.3
PTEI Pico do Teixo 145.29 51 *e*PKP PKPdf 15 46 12.8 +1.2
PVIA Vitoria 145.29 50 *e*PKP PKPdf 15 46 13.5 +1.9
PBOI Pico dos Bois 145.30 51 *e*PKP PKPdf 15 46 12.3 +0.6
LRN Richmond 145.31 8 *e*P PKPbc 15 46 10.5 -1.0
STGR Santa Cruz 145.32 50 *e*PKP PKPdf 15 46 12.4 +0.7
PAMA Santo Amaro 145.35 50 *e*PKP PKPdf 15 46 12.7 +1.0
PGRA Graciosa 145.36 50 *e*PKP PKPdf 15 46 12.2 +0.4
DCN Croghan 145.37 14 *e*P PKPbc 15 46 06.3 -5.4
DCN Croghan 145.37 14⇑ *i*P PKPbc 15 46 11.2 -0.5
DCN Croghan 145.37 14⇑ *i*P PKPbc 15 46 16.2 +4.5
DCN Croghan 145.37 14⇑ *i*P PKPbc 15 46 11.2 -0.5
DCN ⇑ *i*P 15 46 16.2
DIY Diyarbakir 145.39 308 P PKPdf 15 46 13.3 +1.5
PMAN Manadas 145.43 50 *e*PKP PKPdf 15 46 12.6 +0.7
KBSD Kabsdagh 145.46 307⇑ P PKPdf 15 46 18.6 +6.6
PID Ribeirinha 145.48 51 *e*PKP PKPdf 15 46 13.1 +1.1
LWH Whinny Nab 145.53 7 *e*P PKPdf 15 46 11.6 -0.4
GRSN GIRESUNGRSN 145.54 314 *i* P PKPdf 15 46 11.7 -0.4
DLF Lyons Farm 145.57 13 *e*P PKPdf 15 46 07.0 -5.1
DLF Lyons Farm 145.57 13⇑ *i*P PKPdf 15 46 11.7 -0.4
DLF Lyons Farm 145.57 13⇑ *i*P PKPdf 15 46 17.0 +4.9
DLF Lyons Farm 145.57 13⇑ *i*P PKPdf 15 46 11.7 -0.4
DLF ⇑ *i*P 15 46 17.0
DSB Dublin 145.66 13 *e*PKP PKPdf 15 46 11.9 -0.3
ASCN Ascension 145.72 143 *e*PKP PKPdf 15 46 12.9 +0.5
ASCN LR LR
comp=Z,264µm,22.0s,MS8.0
MZRK Al-Mazaregh 145.75 305⇑ P PKPdf 15 46 18.4 +6.0
GKP Gorka Klasztor 145.81 348⇑ *e*PKP2 PKPab 15 46 12.7 -0.9
GKP *e* 15 49 35.4
GKP *e*SS SS 16 08 26.1 +1.9
GKP Gorka Klasztor 145.81 348⇑ *e*PKP PKPdf 15 46 12.7 +0.2
GKP *e*PKPdf PKPdf 15 46 16.2 +3.7
GKP *ep*PKP pPKPdf 15 46 22.5 -6.0
GKP *e*PP PP 15 49 35.4 +1.1
GKP *e*SS SS 16 08 26.1 +1.9
GKP LR LR
comp=Z,443µm,25.3s,MS8.1
WAR Warsaw 145.87 343 *e*PKPc 15 46 13.5
WAR *e*PKIKP PKiKP 15 46 16.4 -0.4
WAR *ep*PKP pPKPdf 15 46 23.4 -5.3
WAR *e*PP PP 15 49 32.6 -2.1
WAR *e*SS SS 16 08 24.4 -0.6
WAR L 16 41 40.8
comp=Z,534nm,30.7s
WAR Warsaw 145.87 343⇑ *e*PKP2 PKPab 15 46 13.5 -0.3
WAR *e* 15 49 32.6
WAR *e*SS SS 16 08 24.4 -0.6
WCB1 Church Bay 145.89 11⇑ *e*P PKPdf 15 46 12.4 -0.3
WME Myndd Eilian 145.91 11 *e*P PKPdf 15 46 12.4 -0.3
PSBA Serra de Santa 145.93 50 *e*PKP PKPdf 15 46 18.3 +5.6
ASBA Santa Barbara 145.95 50 *e*PKP PKPdf 15 46 13.8 +1.0
SIM Simferopol' 145.98 323 *i* PKPdf 15 46 13.9 +1.1
SIM *e* 15 49 35.0
SIM *e*SS SS 16 08 25.0 -1.2
SIM MLR MLR
comp=Z,363µm,23.3s,MS8.1
PBIS Biscoitos 145.98 50 *e*PKP PKPdf 15 46 14.9 +2.1
PPAD Pico dos Padre 145.98 50 *e*PKP PKPdf 15 46 15.1 +2.3
WLF1 Llynfaes 146.00 11 *e*P PKPdf 15 46 12.3 -0.6
HLG Helgoland 146.00 358 *e*PKPbc PKPbc 15 46 09.6 -4.1
HLG *e*SS SS 16 08 28.2 +1.8
YRC Rhoscolyn 146.00 11 *e*P PKPdf 15 46 12.4 -0.5
ADH Angra Heroismo 146.04 50 *e*PKP PKPdf 15 46 15.1 +2.2
PVNV Vila Nova 146.05 50 *e*PKP PKPdf 15 46 15.5 +2.6
DRBT Darb Altahta 146.06 307⇑ P PKPdf 15 46 17.3 +4.3
ELZG Elazig 146.07 310 *i* P PKPdf 15 46 15.0 +2.0
RIB2 Ribeirinha 146.08 50 *e*PKP PKPdf 15 46 15.7 +2.7
PSCM Serra do Cume 146.11 50 *e*PKP PKPdf 15 46 18.9 +5.9
PSCM Serra do Cume 146.11 50 *e*PP PP 15 49 35.0 -1.1
BSEG Bad Segeberg 146.11 355 *e*PKPbc PKPbc 15 46 09.7 -4.3
BSEG *e*SS SS 16 08 27.3 -0.4
BSEG Bad Segeberg 146.11 355 *e*PKPbc PKPbc 15 46 09.7 -4.3
BSEG *e*SS SS 16 08 27.3 -0.4
WPM1 Penmaenmawr 146.12 11 *e*P PKPdf 15 46 12.7 -0.4
PFAV Pico das Favas 146.12 50 *e*PKP PKPdf 15 46 15.2 +2.1
LHO Holmfirth 146.15 8 *e*P PKPdf 15 46 12.9 -0.2
YLL Llanberis 146.18 11 *e*P PKPdf 15 46 12.4 -0.7
YRE Yr Eifl 146.29 11 *e*P PKPdf 15 46 12.7 -0.6
DESE Dese 146.31 260 *e*P PKPdf 15 46 16.1 +2.7
BSHR Al Beshri 146.45 305⇑ P PKPdf 15 46 17.1 +3.5
KBI1 Birley Grange 146.48 8 *e*P PKPdf 15 46 13.2 -0.5
MYA Malataya 146.54 310 *e*P PKPdf 15 46 15.4 +1.6
MALT Malatya 146.55 310 P PKPdf 15 46 14.6 +0.8
MALT Malatya 146.55 310⇑ *i*P PKPdf 15 46 16.9 +3.1
SBD1 Bryn Du 146.56 10 *e*P PKPdf 15 46 14.3 +0.5
URFA Urfa 146.59 308 P PKPdf 15 46 16.4 +2.6
URFA Urfa 146.59 308 P PKPdf 15 46 14.7 +0.8
KWE Weaver Farm 146.67 8 *e*P PKPdf 15 46 14.5 +0.6
MNKR ALMNKUR 146.78 309⇑ P PKPdf 15 46 17.2 +3.0
SVSK Karacayir 146.87 313 *e*P PKPdf 15 46 16.3 +2.0
SVSK Karacayir 146.87 313 P PKPdf 15 46 17.2 +2.9
SVST Sivas 146.96 313 *i* P PKPdf 15 46 18.4 +3.9
ATAB Bozova 146.97 308 *i* P PKPdf 15 46 17.3 +2.8
TOKT Tokat 146.99 314 *e*P PKPdf 15 46 16.8 +2.3
TOKT Tokat 146.99 314 P PKPdf 15 46 16.8 +2.3
HLM1 Long Mynd 147.00 10 *e*P PKPdf 15 46 14.8 +0.3
LVV L'vov 147.06 338 *i* PKP2 PKPab 15 46 16.4 -2.0
LVV *e* 15 49 50.7
LVV *e*PPP 15 53 01.8
LVV *e* 15 53 18.4
LVV MLR MLR
comp=N,176µm,25.0s
LVV MLR MLR
comp=Z,214µm,25.0s,MS7.8
SSP1 Stoney Pound 147.06 10 *e*P PKPdf 15 46 15.7 +1.0
RUE Ruedersdorf 147.16 351 *e*PKPbc PKPbc 15 46 12.6 -4.5
RUE *e*SS SS 16 08 33.8 -5.8
RUE Ruedersdorf 147.16 351 *e*PKPbc PKPbc 15 46 16.7 -0.4
KIS Kishinev 147.34 330 *i* PKPdf 15 46 15.0 -0.1
KIS *e*SS SS 16 08 46.0 +4.4
KIS MLR MLR
comp=N,392µm,22.0s,MS8.2
KIS MLR MLR
comp=E,143µm,22.0s,MS8.2
KIS MLR MLR
comp=Z,443µm,22.0s,MS8.2
HTR Trewern Hill 147.36 10 *e*P PKPdf 15 46 14.7 -0.5
SET4 Mosteiros 147.39 50 *e* pPKPab 15 46 29.4 -5.9
SET2 Ginetes 147.39 50 *e* pPKPab 15 46 29.3 -6.1
WIT Witteveen 147.41 359 *e*PKP PKPdf 15 46 18.7 +3.5
PSET Sete Cidades 147.46 50 *e*PKP PKPab 15 46 21.3 +1.3
PSET Sete Cidades 147.46 50 *e*PP PP 15 49 48.6 +4.5
MCH1 Michaelchurch 147.48 10 *e*P PKPdf 15 46 14.5 -0.8
MCH1 AMS AMS 16 43 09.9
comp=N,58µm,23.2s,MS7.5
MCH1 AMS AMS 16 45 53.7
comp=E,69µm,23.3s,MS7.5
JHLN Al Jahlan 147.51 305⇑ P PKPdf 15 46 17.6 +2.2
BOYT Boyabat 147.51 317 *i* P PKPdf 15 46 17.2 +1.8
HAE Alders End 147.52 10 *e*P PKPdf 15 46 16.2 +0.8
FAC Faja de Cima 147.53 50 *e*PKP PKPab 15 46 23.4 +3.1
PDA Ponta Delgada 147.54 51 *i* PKP PKPdf 15 46 19.0 +3.6
PDA Ponta Delgada 147.54 51 *e*PKP PKPab 15 46 20.2 -0.1
GZT Gaziantep 147.55 309 *i* P PKPdf 15 46 17.2 +1.7
BYBT Boyabat 147.57 317 *e*P PKPdf 15 46 19.6 +4.1
CML Cha da Macela 147.61 50 *e*PKP PKPab 15 46 23.3 +2.7
PVER Pico Vermelho 147.62 50 *e*PKP PKPab 15 46 22.2 +1.6
PMAT Coroa da Mata 147.65 50 *e*PKP PKPab 15 46 23.5 +2.8
LFA Lagoa do Fogo 147.66 50 *e*PKP PKPab 15 46 22.4 +1.6
KWP Kalwaria 147.67 339 *e*PKPc PKPbc 15 46 17.3 -1.2
KWP *e*PKiKP PKiKP 15 46 20.0 -0.5
KWP *ep*PKP pPKPdf 15 46 26.0 -5.7
KWP L 15 46 26.1
comp=Z,422nm,26.4s
KWP *e*SS SS 16 08 48.1 +2.8
KWP Kalwaria 147.67 339⇑ *e*PKP PKPdf 15 46 17.3 +1.6
KWP *e*PKPdf PKPdf 15 46 20.0 +4.3
KWP *ep*PKP pPKPdf 15 46 26.0 -5.7
KWP *e*SS SS 16 08 48.1 +2.8
MESC Monte Escuro 147.68 50 *e*PKP PKPab 15 46 23.2 +2.4
PRCH Ribeira Ch 147.68 50 *e*PKP PKPab 15 46 22.9 +2.0
SSW Stow on the Wo 147.69 9 *e*P PKPdf 15 46 15.4 -0.3
VIF Vila Franca 147.70 50 *e*PKP PKPab 15 46 23.1 +2.2
PCNG Congro 147.72 50 *e*PKP PKPab 15 46 23.0 +2.0
PFAD Fenais da Ajud 147.75 50 *e*PKP PKPab 15 46 24.6 +3.5
FRA1 Furnas 147.76 50 *e*PKP PKPab 15 46 23.3 +2.1
IAS Iasi 147.77 332⇑ *i*P PKPdf 15 46 16.7 +0.9
IAS Iasi 147.77 332⇑ P PKPdf 15 46 16.7 +0.9
MIRA Miradouro 147.80 50 *e*PKP PKPab 15 46 24.5 +3.2
HGH Gray Hill 147.86 10 *e*P PKPdf 15 46 16.6 +0.6
GAZ Gaziantep 147.88 309 *e*P PKPdf 15 46 20.6 +4.5
IBBN Ibbenburen 147.88 358 *e*PKPbc PKPbc 15 46 14.6 -4.4
IBBN *e*SS SS 16 08 46.3 -1.4
CTKT Corum 148.00 316 *i* P PKPdf 15 46 18.1 +1.9
OJC Ojcow 148.03 343 *e*PKIKP PKPdf 15 46 15.6 -0.7
OJC *e* 15 46 21.2
OJC *e* 15 49 57.1
OJC *e*SS SS 16 08 48.5 -0.9
OJC Ojcow 148.03 343 *e*PKPdf PKPdf 15 46 15.6 -0.7
OJC *e*PKPbc PKPbc 15 46 17.7 -1.7
OJC *ep*PKPdf pPKPdf 15 46 21.2 -11
OJC *e*PP PP 15 49 57.1 +10
OJC *e*SS SS 16 08 48.5 -0.9
OJC LR LR
comp=Z,2316µm,23.0s
SKP1 Kophill 148.07 8 *e*P PKPdf 15 46 15.8 -0.5
YOZ Yozgat 148.14 314 *e*P PKPdf 15 46 22.4 +6.0
SWN1 Swindon 148.14 9 *e*P PKPdf 15 46 16.4 -0.1
SWN1 AMS AMS 16 43 20.3
comp=N,115µm,24.4s,MS7.7
SWN1 AMS AMS 16 56 42.6
comp=E,93µm,19.6s,MS7.7
BNN Bunyan 148.15 312 *e*P PKPdf 15 46 18.1 +1.6
HTL Hartland 148.17 12 *e*P PKPdf 15 46 16.1 -0.4
HTL AMS AMS 16 45 01.0
comp=N,75µm,23.6s,MS7.5
HTL AMS AMS 16 51 30.4
comp=E,58µm,20.7s,MS7.5
CLZ Clausthal 148.19 355 *e*PKPbc PKPbc 15 46 15.8 -4.0
CLZ *e*SS SS 16 08 49.4 -1.7
CLZ *e*SSS 16 14 40.5
CLZ Clausthal 148.19 355 *e*PKIKP PKPdf 15 46 15.8 -0.7
CLZ *e*SS SS 16 08 49.4 -1.7
CLZ Clausthal 148.19 355 *e*PKPbc PKPbc 15 46 15.8 -4.0
CLZ *e*SS SS 16 08 49.4 -1.7
CLZ *e*SSS 16 14 40.5
SMD Mendips 148.19 10 *e*P PKPdf 15 46 17.5 +1.0
HEX Exmoor 148.23 12⇑ *e*P PKPdf 15 46 17.4 +0.8
WTSB Winterswijk 148.25 359 *e*PKIKP PKiKP 15 46 16.5 -5.2
WTSB *e*PKP PKPdf 15 46 20.0 +3.4
comp=E,1µm,2.0s
PSMN Pico do Norte, 148.27 51 *e*PKP PKPab 15 46 24.9 +1.7
TOS Tosya 148.28 317 *e*P PKPdf 15 46 21.6 +4.9
KSP Ksiaz 148.29 347⇑ *e*PKIKP PKPdf 15 46 15.8 -0.9
KSP *i* 15 46 20.4
KSP *e* 15 46 30.0
KSP *e*SS SS 16 08 50.0 -2.3
KSP MLR MLR
comp=Z,555µm,25.4s,MS8.2
STHS Stebnicka Huta 148.32 341 *e*PKP PKPdf 15 46 18.4 +1.7
STHS *e* 15 46 23.3
STHS *e* 15 47 00.1
STHS Stebnicka Huta 148.32 341 *e*PKIKP PKPdf 15 46 18.4 +1.7
STHS *e* 15 46 23.3
BALT Daday 148.41 319 *i* P PKPbc 15 46 19.8 -0.6
CLL Collm 148.41 351 *e*PKPdf PKPdf 15 46 17.7 +0.8
CLL *e*PKPbc PKPbc 15 46 19.8 -0.6
CLL *e*PKPab PKPab 15 46 23.6 -0.2
CLL *ep*PKPdf pPKPdf 15 46 31.8 -1.1
CLL *ep*PKPbc pPKPbc 15 46 35.2 -1.1
CLL *e*PP PP 15 49 49.2 -0.5
CLL *e*PPP 15 53 17.9
CLL *e*SKKSac SKKSac 15 56 28.6 -8.0
CLL *e*SKKPdf 15 58 42.6
CLL *e*PSKS 16 00 04.1
CLL *e*PPS 16 03 09.0
CLL *e*SS SS 16 08 42.0 -12
CLL *e*PSPS 16 10 23.2
CLL *e*SSS 16 14 43.3
CLL *e*SSSS 16 18 29.5
CLL *e*L 16 55 55.0
comp=Z,298µm,22.0s
CLL *e*R2 17 04 22.4
CLL Collm 148.41 351 *i* PKPdf PKPdf 15 46 18.2 +1.3
comp=Z,105nm,1.4s
CLL *i* PKPdf(2) 15 46 20.4
comp=Z,265nm,0.9s
CLL ⇓ *i*PKPbc PKPbc 15 46 23.0 +2.6
comp=Z,779nm,0.8s
CLL *e*PKPbc PKPbc 15 46 24.0 +3.6
comp=Z,226µm,11.9s
CLL *i* PKPbc(2) 15 46 25.1
comp=Z,2µm,1.0s
CLL *i* PKPab(2) 15 46 29.6
CLL e(pPKPbc) 15 46 40.0
comp=Z,6µm,1.1s
CLL *i* x x 15 46 52.7
comp=Z,8µm,1.2s
CLL *ex* x 15 46 54.0
comp=Z,333µm,14.2s
CLL *e*PP PP 15 50 19.0 +29
CLL *e*PPP 15 53 43.0
CLL *e*SKKSac SKKSac 15 56 28.0 -8.6
CLL *e*PKKSdf 15 58 38.0
CLL *e*PSKS 16 00 35.0
CLL *e*PPS 16 03 08.0
CLL *e*SS SS 16 08 56.0 +2.3
CLL *e*PSPS 16 10 29.0
CLL *e*SSS 16 14 46.0
CLL *e*SSSS 16 18 30.0
CLL Collm 148.41 351 *i* PKIKP PKPdf 15 46 18.2 +1.3
CLL *i* 15 46 23.0
CLL *i* 15 46 25.1
CLL pmax pmax
comp=Z,105nm,1.4s
CLL MLR MLR
comp=Z,321µm,23.1s,MS8.1
KOLS Kolonicke sedl 148.41 339 *e*PKP PKPbc 15 46 21.2 +0.8
KOLS *e* 15 46 51.6
KOLS Kolonicke sedl 148.41 339 *e*PKP2 PKPbc 15 46 21.3 +0.9
KOLS *e*SS SS 16 08 49.6 -4.1
WOL Wolverton 148.42 8⇑ *e*P PKPdf 15 46 16.5 -0.4
WOL AMS AMS 16 45 55.9
comp=N,134µm,19.2s
WOL AMS AMS 16 49 30.9
comp=E,68µm,25.7s
SWK Warminster 148.43 10 *e*P PKPdf 15 46 16.6 -0.3
BURAR Bucovina Array 148.43 335⇑ *i*P PKPdf 15 46 18.8 +1.9
BURAR Bucovina Array 148.43 335⇑ P PKPdf 15 46 18.8 +1.9
DRWC Darouich 148.50 308⇑ P PKPdf 15 46 19.2 +2.1
GTTG Gvttingen 148.52 355 *e*PKPbc PKPbc 15 46 16.4 -4.3
RAC Raciborz 148.57 345 *e*PKIKP PKPdf 15 46 19.3 +2.2
RAC *e* 15 49 55.7
RAC *e*SS SS 16 08 56.0 +0.5
RAC MLR MLR
comp=Z,430µm,22.4s,MS8.2
NIE Niedzica 148.60 342 *e*PKPdf PKPdf 15 46 17.3 +0.1
NIE *e*PKPbc PKPbc 15 46 19.3 -1.6
NIE *ep*PKPdf pPKPdf 15 46 21.7 -12
UZH Uzhgorod 148.67 339 *e*PKP2 PKPab 15 46 21.0 -3.8
UZH *e* 15 49 58.0
UPC Upice 148.67 347 *e*PKPDF PKPdf 15 46 19.8 +2.5
UPC *e*PKPAB PKPab 15 46 24.7 -0.1
UPC *ex* x 15 50 13.6
UPC *ex* x 16 00 21.2
UPC *e*SS SS 16 08 50.2 -6.3
CSA1 St Austell 148.69 13 *e*P PKPdf 15 46 18.5 +1.1
BRG Berggiesshubel 148.69 350 *e*PKPbc PKPbc 15 46 17.1 -4.1

BRG eSS SS 16 08 56.8 0.0
BRG Berggiesshubel 148.69 350 *i* PKP PKPdf 15 46 17.1 -0.2
comp=Z,13nm,1.2s
BRG *i* 15 46 19.0
comp=Z,82nm,1.3s
BRG *i* 15 46 21.9
comp=Z,194nm,1.2s
BRG *i* 15 46 26.4
comp=Z,1μm,1.1s
BRG *i* 15 46 53.5
comp=Z,3μm,1.2s
BRG *e* 15 50 18.0
BRG PKKS 15 57 30.0
BRG *e* 16 00 35.0
BRG SS SS 16 08 58.0 +1.2
BRG *e* 16 14 32.0
BRG *e*PKKKKKP 16 22 52.9
comp=Z,173nm,1.8s
BRG *e*PKKPPKKP 16 27 38.0
comp=Z,26nm,1.7s
BRG
comp=N,229μm,25.1s
BRG
comp=E,106μm,27.2s
BRG
comp=Z,201μm,23.5s
BRG Berggiesshubel 148.69 350 *i* PKIKP PKPdf 15 46 17.1 -0.2
BRG *i* 15 46 19.0
BRG *i* 15 46 21.9
BRG *i* 15 46 26.4
BRG SS SS 16 08 58.0 +1.2
BRG *e* 16 14 32.0
BRG pmax pmax
comp=Z,13nm,1.2s
BRG MLR MLR
comp=N,229μm,25.1s
BRG MLR MLR
comp=Z,201μm,23.5s,MS7.8
CRVS Cervenica-Dubn 148.71 340 *e*PKP2 PKPdf 15 46 20.7 +3.3
CRVS eSS SS 16 08 50.3 -6.7
CPZ Penzance 148.72 14 *e*P PKPdf 15 46 17.6 +0.2
DPC Dobruska-Polom 148.75 347 *e*PKPDF PKPdf 15 46 20.2 +2.8
DPC ⇑*e*PKPB PKPbc 15 46 24.2 +2.9
DPC *e*PKPAB PKPab 15 46 27.0 +1.8
DPC *e*PKS 15 50 03.0
DPC *ex* x 16 00 14.9
DPC eSS SS 16 08 58.9 +1.4
DPC AMS AMS 16 50 30.0
comp=Z,236μm,24.4s
DPC Dobruska-Polom 148.75 347 *e*PKP PKPdf 15 46 20.2 +2.8
DPC *e* 15 46 24.2
DPC *e* 15 46 27.0
DPC *e*PP PP 15 50 03.0 +11
DPC *e* 16 00 14.9
DPC eSS SS 16 08 58.9 +1.4
KOZT Kozan 148.76 310 *e*P PKPdf 15 46 19.6 +2.2
BUG Bochum--Univer 148.77 358 *e*PKPbc PKPdf 15 46 16.8 -0.7
BUG eSS SS 16 08 55.4 -2.2
CANT Cankiri 148.77 317 *e*P PKPdf 15 46 21.2 +3.7
CCA1 Carnmenellis 148.77 14 *e*P PKPdf 15 46 18.7 +1.2
CDAG Cicekdag 148.78 315 *i* P PKPdf 15 46 19.7 +2.2
OKC Ostrava-Krasne 148.81 345 *e*PKPDF PKPdf 15 46 20.3 +2.8
OKC ⇑*e*PKPB PKPbc 15 46 24.8 +3.3
OKC *e*PKS 15 50 02.4
OKC *ex* x 16 00 19.8
OKC eSS SS 16 08 59.9 +1.8
OKC AMS AMS 16 51 20.0
comp=Z,243μm,21.5s
OKC Ostrava-Krasne 148.81 345 *e*PKP2 PKPdf 15 46 20.3 +2.8
OKC eSS SS 16 08 59.9 +1.8
OKC Ostrava-Krasne 148.81 345 *e*PKP PKPdf 15 46 20.3 +2.8
OKC *e* 15 46 24.8
OKC *e*PP PP 15 50 02.4 +10
OKC *e* 16 00 19.8
OKC eSS SS 16 08 59.9 +1.8
COBT Iskenderun 148.84 308 *i* P PKPdf 15 46 20.4 +2.9
CGW Gweek 148.86 14 *e*P PKPdf 15 46 16.6 -1.0
AVNT Avonos 148.87 313 *i* P PKPdf 15 46 16.9 -0.7
RABH Abou Rabah 148.87 304 ⇑P PKPbc 15 46 23.6 +2.0
BTCH Batrach 148.88 307 ⇑P PKPdf 15 46 20.1 +2.4
ROOS tl_alroos 148.89 303 ⇑P PKPbc 15 46 22.1 +0.5
CMA1 Manaccan 148.89 14 *e*P PKPdf 15 46 17.7 0.0
CGH1 Goonhilly 148.92 14 *e*P PKPdf 15 46 17.4 -0.3
KFRA Kufra 148.92 305 ⇑P PKPdf 15 46 20.9 +3.2
ELDT Eldivan 148.95 317 *i* P PKPbc 15 46 23.4 +1.6
CFR Carcaliu 148.99 329 ⇑*i*P PKPdf 15 46 18.7 +0.9
CFR Carcaliu 148.99 329 ⇑P PKPdf 15 46 18.7 +0.9
SAFT Safranbolu 149.01 319 *e*P PKPdf 15 46 20.4 +2.5
MORC Moravsky Berou 149.02 345 ⇑*i*P PKPdf 15 46 20.0 +2.1
MORC Moravsky Berou 149.02 345 *e*PKPdf PKPdf 15 46 17.7 -0.1
CEYT Ceyhan 149.02 309 *e*P PKPdf 15 46 20.3 +2.4
SIW Isle of Wight 149.02 9 *e*P PKPdf 15 46 19.1 +0.2
WRDH Warideh 149.11 306 ⇑P PKPdf 15 46 19.5 +1.4
VRI Vrincioaia 149.15 331 ⇑*i*P PKPbc 15 46 21.3 -1.0
VRI Vrincioaia 149.15 331 ⇑P PKPbc 15 46 21.3 -1.0
PLOR Plostina 149.19 331 ⇑*i*P PKPbc 15 46 22.0 -0.4
BR131 Keskin Array S 149.22 315 *e*PKPdf PKPdf 15 46 18.0 -0.2
BRTR Keskin Array B 149.22 315 PKP PKPdf 15 46 18.1 0.0
comp=Z,5.3nm,1.2s,baz=90,slow=3.6,SNR=3.6
BRTR PKPbc PKPbc 15 46 23.4 +0.9
comp=Z,203nm,0.7s,baz=116,slow=3.0,SNR=60
BRTR tx tx 16 22 49.1
comp=Z,1.8nm,1.0s,baz=85,slow=3.2,SNR=2.9
BRTR Keskin Array B 149.22 315 PKP PKPdf 15 46 18.1 0.0
BRTR PKPbc PKPbc 15 46 23.4 +0.9
SLNF Slenfeh 149.22 306 ⇑P PKPbc 15 46 23.0 +0.5
ZALF Zalf 149.23 301 ⇑P PKPdf 15 46 21.1 +2.9
MOX Moxa 149.24 353 *e*PKPbc PKPdf 15 46 18.3 +0.1
MOX eSS SS 16 08 59.4 -3.6
MOX Moxa 149.24 353 *e*PKP PKPdf 15 46 17.9 -0.3
MOX *e* 15 46 27.4
LIKS Likavka 149.28 343 *e*PKP PKPbc 15 46 24.1 +1.5
LIKS *e* 15 46 40.0
ARNB Al Arnab 149.31 307 ⇑P PKPbc 15 46 21.9 -0.9
WERD Werda 149.35 352 *e*PKPbc PKPdf 15 46 18.7 +0.3
KAMT Kaman 149.35 315 *e*P PKPdf 15 46 19.9 +1.6
BIDA Albida 149.36 305 ⇑P PKPdf 15 46 20.4 +2.0
TIRR Tirgusor 149.37 327 ⇑*i*P PKPbc 15 46 23.0 +0.1
TIRR Tirgusor 149.37 327 ⇑P PKPbc 15 46 23.0 +0.1
KECS Kecovo 149.38 341 *i* PKP PKPdf 15 46 19.8 +1.4
KECS *e* 15 46 24.8
PRA Prague 149.39 349 PKPDF PKPdf 15 46 20.0 +1.5
PRA PKPAB PKPab 15 46 29.0 +1.2
UCC Uccle 149.41 2 ⇑PKP PKPdf 15 46 19.9 +1.4
UCC PKPbc PKPbc 15 46 26.9 +3.9
KARA Karaisali 149.41 310 *e*P PKPdf 15 46 20.7 +2.2
BEBN Eben Emael 149.43 0 PKP PKPdf 15 46 19.9 +1.3
BEBN PKPab PKPab 15 46 26.8 -1.1
HARR Harsova 149.44 328 ⇓*i*P PKPdf 15 46 21.9 +3.4
HARR Harsova 149.44 328 ⇓P PKPdf 15 46 21.9 +3.4
PRU Pruhonice 149.45 349 *e*PKPDF PKPdf 15 46 20.7 +2.2
PRU ⇑*e*PKPB PKPbc 15 46 26.3 +3.3
PRU *e*PKPAB PKPab 15 46 30.1 +2.1
PRU *e*PKS 15 50 05.9
PRU *ex* x 16 00 18.8
PRU eSS SS 16 09 03.7 -1.5
PRU AMS AMS 16 46 50.0
comp=Z,313μm,24.9s
PRU Pruhonice 149.45 349 *e*PKHKP PKPdf 15 46 20.7 +2.2
PRU *e* PKPbc 15 46 26.3 +3.3
PRU eSS SS 16 09 03.7 -1.5
PRU Pruhonice 149.45 349 *e*PKP PKPdf 15 46 20.7 +2.2
PRU *e* 15 46 26.3
PRU *e* 15 46 30.1
PRU *e*PP PP 15 50 05.9 +10
PRU *e* 16 00 18.8
PRU eSS SS 16 09 03.7 -1.5
HGN Heimansgroeve 149.46 360 *i* PKiKP PKiKP 15 46 19.9 -4.3
comp=Z,250nm,2.9s
HGN *i* PKP PKPbc 15 46 27.1 +4.0
comp=Z,5μm,2.5s
HGN *e*PP PP 15 50 02.0 +6.2
HGN *e*PPP 15 53 48.7
HGN *ex* x 15 57 04.2
HGN SKSP 16 00 21.3
HGN eSS SS 16 08 59.8 -5.6
HGN eSSS 16 14 47.9
HAWK Haweek 149.47 304 ⇑P PKPbc 15 46 24.1 +1.0
KRTS Karatas 149.47 309 *e*P PKPdf 15 46 25.6 +7.0
MENF Mencas 149.53 5 PKP PKPbc 15 46 27.6 +4.4
NKC Novy Kostel 149.54 352 *e*PKPDF PKPdf 15 46 21.0 +2.3
NKC ⇑*e*PKPB PKPbc 15 46 26.1 +2.8
NKC *e*PKPAB PKPab 15 46 29.6 +1.2
NKC *e*PKS 15 50 05.9
NKC *ex* x 16 00 19.3
NKC eSS SS 16 09 06.7 +0.4
NKC AMS AMS 16 48 50.0
comp=Z,300μm,24.1s
NKC Novy Kostel 149.54 352 *e*PKHKP PKPdf 15 46 21.0 +2.3
NKC *e* PKPbc 15 46 26.1 +2.8
NKC eSS SS 16 09 06.7 +0.4
NKC Novy Kostel 149.54 352 *e*PKP PKPdf 15 46 21.0 +2.3
NKC *e* 15 46 26.1
NKC *e* 15 46 29.6
NKC *e*PP PP 15 50 05.9 +10
NKC *e* 16 00 19.3
NKC eSS SS 16 09 06.7 +0.4
FKH Fakeheh 149.56 304 *e*P PKPbc 15 46 24.4 +1.0
MARH Ras Al Marh 149.57 303 ⇑P PKPdf 15 46 21.7 +3.0
VRAC Vranov 149.68 346 ⇑*i*P PKPbc 15 46 23.8 +0.2
SNF Seneffe 149.69 2 PKP PKPdf 15 46 20.1 +1.2
SNF PKPab PKPab 15 46 28.7 -0.3
ANTO Ankara 149.70 316 *e*P PKPdf 15 46 22.5 +3.5
ANTO Ankara 149.70 316 ⇑*i*P PKPdf 15 46 21.2 +2.3
ANTO Ankara 149.70 316 *e*PKPdf PKPdf 15 46 19.2 +0.2
ANTO LR LR
comp=Z,136μm,22.0s,MS7.7
LOD Lodumlu 149.71 316 *e*P PKPdf 15 46 24.9 +6.0
BSTP Nigde 149.77 312 *i* P PKPdf 15 46 20.8 +1.7
SALA Sala 149.77 301 ⇑P PKPdf 15 46 21.4 +2.3
SGKT Sivrigoynuk 149.78 318 *i* P PKPdf 15 46 18.7 -0.3
MLR Muntele Rosu 149.79 331 ⇑*i*P PKPdf 15 46 20.5 +1.4
MLR Muntele Rosu 149.79 331 ⇑P PKPdf 15 46 20.5 +1.4
TOTH TOTAH 149.82 302 ⇑P PKPdf 15 46 21.7 +2.5
MANZ Manzenberg 149.83 352 *e*PKPbc PKPdf 15 46 20.1 +0.9
MANZ eSS SS 16 09 07.8 -1.7
VYHS Vyhne 149.86 343 *e*PKP PKPdf 15 46 18.8 -0.4
VYHS *e* 15 46 24.0
VYHS *e* 15 46 56.7
VYHS Vyhne 149.86 343 *e*PKIKP PKPdf 15 46 18.8 -0.4
VYHS *e* 15 46 24.0
QASN Qassioun 149.89 303 ⇑P PKPdf 15 46 20.6 +1.3
TREC Trest 149.93 347 *e*PKPDF PKPdf 15 46 21.6 +2.3
TREC ⇑*e*PKPB PKPbc 15 46 27.0 +2.8
TREC *e*PKPAB PKPab 15 46 30.5 +0.5
TREC *e*PP PP 15 50 08.8 +10
TREC *ex* x 16 00 25.2
TREC eSS SS 16 09 09.1 -1.5
TREC AMS AMS 16 51 20.0
comp=Z,286μm,23.3s
TREC Trest 149.93 347 *e*PKHKP PKPdf 15 46 21.6 +2.3
TREC *e* 15 46 27.0
TREC eSS SS 16 09 09.1 -1.5
TREC MLR MLR
comp=Z,286μm,23.3s,MS8.0
TNS Taunus Mts 149.94 357 *e*PKPbc PKPdf 15 46 20.0 +0.7
TNS eSS SS 16 09 06.2 -4.5
TNS Taunus Mts 149.94 357 *e*PKHKP PKPdf 15 46 20.0 +0.7
TNS eSS SS 16 09 06.2 -4.5
TNS Taunus Mts 149.94 357 *e*PKPbc PKPdf 15 46 20.0 +0.7
TNS eSS SS 16 09 06.2 -4.5
MERS Mersin 149.97 310 *e*P PKPdf 15 46 21.4 +2.0
ROTZ Rotzenmuhle 150.03 352 *e*PKPbc PKPdf 15 46 20.5 +1.0
ROTZ eSS SS 16 09 07.4 -4.3
PSZ Piszkesteto 150.07 341 ⇑*e*PKP/F PKPdf 15 46 21.3 +1.8
DRGR 150.08 336 ⇓*i*P PKPdf 15 46 21.2 +1.6
SNX Sinaia 150.09 332 ⇑*i*P PKPbc 15 46 26.2 +1.6
GIVF Givet 150.12 1 *e*PKIKP PKPdf 15 46 19.2 -0.4
comp=Z,43μm,1.8s
DOU Dourbes 150.12 2 PKP PKPdf 15 46 21.2 +1.6
DOU APKP 15 46 34.1
DOU APKPbc 15 46 44.8
BAIF Baives 150.14 2 *e*PKIKP PKPdf 15 46 19.2 -0.4
comp=Z,21μm,1.5s
BRBR Barbar 150.19 302 ⇑P PKPbc 15 46 25.6 +0.7
SMOL Smolenice 150.22 344 *e*PKP PKPdf 15 46 22.2 +2.4
SMOL *i* 15 46 26.0
GRA1 Grafenberg Arr 150.23 353 *e*PKPbc PKPdf 15 46 21.0 +1.2
GRA1 *e*SS SS 16 09 12.8 -1.1
GRA1 *e*SSS 16 15 01.4
GRA1 LR LR
comp=Z,251μm,21.9s,MS8.0
GRF Grafenberg Arr 150.23 353 *e*PKPbc PKPdf 15 46 21.0 +1.2
GRF *e*SS SS 16 09 12.8 -1.1
GRF *e*SSS 16 15 01.4
GRF *e*L 16 50 36.8
comp=Z,251μm,21.9s
GRF Grafenberg Arr 150.23 353 *e*PKIKP PKPdf 15 46 21.0 +1.2
GRF *e*SS SS 16 09 12.8 -1.1
GRF MLR MLR
comp=Z,251μm,21.9s,MS8.0
GRFO Grafenberg 150.23 353 *e*PKPbc PKPdf 15 46 21.1 +1.3
GRFO *e*SS SS 16 09 05.4 -8.5
VOIR 150.23 332 ⇑*i*P PKPdf 15 46 24.8 +5.0
VOIR 150.23 332 ⇑P PKPdf 15 46 24.8 +5.0
BHL Bhannes 150.26 304 *e*P PKPdf 15 46 21.9 +2.1
ABH Alteburg 150.32 358 PKP PKPbc 15 46 23.4 -1.8
HENT Hendek 150.35 320 *i* P PKPbc 15 46 24.0 -1.3
MEST Erdemli 150.36 310 *i* P PKPdf 15 46 21.3 +1.3
MDU Mudurnu 150.37 319 *e*P PKPbc 15 46 25.8 +0.5
PENC Penc 150.37 342 *e*P PKPbc 15 46 24.9 -0.4
MTUR Matau 150.39 332 ⇑*i*P PKPbc 15 46 23.9 -1.4
MTUR Matau 150.39 332 ⇑P PKPbc 15 46 23.9 -1.4
TCHB Talchebab 150.40 301 ⇑P PKPbc 15 46 24.2 -1.2
KHC Kasperske Hory 150.44 350 *e*PKPDF PKPdf 15 46 20.2 +0.1
KHC ⇑*e*PKPB PKPbc 15 46 26.0 +0.5
KHC *e*PKPAB PKPab 15 46 30.0 -2.1
KHC *e*PP PP 15 50 11.1 +10
KHC *ex* x 16 00 22.3
KHC *ex* x 16 09 07.7
KHC AMS AMS 16 48 30.0
comp=Z,417μm,25.0s
KHC Kasperske Hory 150.44 350 *e*PKIKP PKPdf 15 46 20.2 +0.1
KHC *e* 15 46 26.0
KHC *e* 15 46 30.0
KHC Kasperske Hory 150.44 350 *e*PKP PKPdf 15 46 20.2 +0.1
KHC *e* 15 46 26.0
KHC *e* 15 46 30.0
KHC *e*PP PP 15 50 11.1 +10
KHC *e* 16 00 22.3
KHC eSS SS 16 09 07.7 -8.6
KSDI Kefar Szold 150.49 302 ⇑P PKPdf 15 46 22.8 +2.6
RUP Ruppelstein 150.51 358 PKIKP PKPbc 15 46 26.2 +0.6
TOD Tromm 150.53 356 PKIKP PKPbc 15 46 25.0 -0.7
WET Wettzell 150.54 351 *e*PKPbc PKPdf 15 46 21.6 +1.3
WET eSS SS 16 09 13.1 -4.3
WET Wettzell 150.54 351 *e*PKIKP PKPdf 15 46 21.6 +1.3
WET eSS SS 16 09 13.1 -4.3
WET Wettzell 150.54 351 *e*PKPbc PKPdf 15 46 21.6 +1.3
WET eSS SS 16 09 13.1 -4.3
WLF Walferdange 150.56 360 *e*PKPbc PKPdf 15 46 21.9 +1.6
WLF eSS SS 16 09 13.9 -3.8
WLF Walferdange 150.56 360 PKP PKPdf 15 46 21.3 +1.0
ZST Bratislava 150.59 345 *e* PKPdf 15 46 22.2 +1.8
ZST 15 46 30.7
ZST Bratislava 150.59 345 *e*PKIKP PKPdf 15 46 22.2 +1.8
ZST *e* 15 46 30.7
ZST MLR MLR
comp=Z,98μm,22.9s,MS7.5
SRO Srobarova 150.63 343 *e*PKP PKPbc 15 46 26.7 +0.8
SRO Srobarova 150.63 343 *e*PKIKP PKPbc 15 46 26.5 +0.6
SRO *e* 15 46 35.7
SRO2 Moca 150.65 343 *e*PKP PKPbc 15 46 27.1 +1.2
SRO1 Iza 150.69 343 *e*PKP PKPbc 15 46 26.5 +0.4
SRO1 *e* 15 46 35.7
GERES GERESS Array B 150.70 349 PKP PKPdf 15 46 20.5 -0.1
comp=Z,103nm,0.9s,baz=68,slow=0.7,SNR=27
GERES PKPbc PKPbc 15 46 25.9 -0.1
comp=Z,681nm,1.0s,baz=42,slow=1.6,SNR=71
GERES tx tx 16 22 51.0
comp=Z,0.1nm,0.3s,baz=0.0,slow=0.1,SNR=2.1
GERES GERESS Array B 150.70 349 PKP PKPdf 15 46 20.5 -0.1
GERES PKPbc PKPbc 15 46 25.9 -0.2
VKA Vienna 150.72 346 *i* PKPdf PKPdf 15 46 21.3 +0.8
BUD Budapest 150.72 342 ⇑*e*P PKPdf 15 46 22.0 +1.4
KIZT Kizilcal 150.82 315 *e*P PKPdf 15 46 23.3 +2.6
IKL Isikli 150.85 309 *e*P PKPdf 15 46 19.8 -0.9
KTD Kalmit 150.85 357 PKIKP PKPdf 15 46 24.8 +4.0
MMLI Mount Malkishu 150.91 301 ⇑P PKPdf 15 46 22.9 +2.1
ROSF Rostrenen 150.94 13 *e*PKIKP PKPdf 15 46 19.8 -1.1
KONT Konya--Tatoy 150.99 313 *e*P PKPdf 15 46 25.6 +4.6
PKSG 150.99 342 *e*P PKPbc 15 46 25.4 -1.3
FLN La Foliniere 151.01 9 *e*PKIKP PKPdf 15 46 20.3 -0.7
comp=Z,11μm,1.1s
FLN *e*R
comp=Z,92μm,21.6s
FLN La Foliniere 151.01 9 *e*PKPdf PKPdf 15 46 20.3 -0.7
FLN LR LR
comp=Z,92μm,21.6s,MS7.5
GPA Golpazari 151.03 319 *e*P PKPdf 15 46 24.7 +3.6
HRT Hereke 151.09 321 *e*P PKPdf 15 46 25.2 +4.1
PHNC Paralimni 151.10 307 P PKPbc 15 46 25.8 -1.2
SGMF Saint Gilles 151.16 12 *e*PKIKP PKPdf 15 46 20.3 -0.9
comp=Z,11μm,1.5s
BORA Eskisehir 151.18 318 *i* P PKPdf 15 46 22.9 +1.7
SOP Sopron 151.21 345 ⇑*e*PKP/F PKPdf 15 46 23.0 +1.7
LANF Langenberg 151.21 357 PKP PKPbc 15 46 24.9 -2.4
OFRI 'Ofer 151.21 301 P PKPdf 15 46 23.0 +1.7
ERMK Ermenek 151.22 311 *i* P PKPdf 15 46 24.2 +2.9
LDF La Druitiere 151.23 8 *e*PKIKP PKPdf 15 46 20.6 -0.7
comp=Z,15μm,1.5s
GBZT Gebze 151.25 321 P PKPdf 15 46 23.0 +1.6
SLTI Sal'it 151.28 301 P PKPdf 15 46 23.4 +2.0
ISK Istanbul-Kandi 151.30 322 *e*P PKPdf 15 46 22.9 +1.5
ISK Istanbul-Kandi 151.30 322 P PKPdf 15 46 22.9 +1.5
GRR Gorron 151.32 9 *e*PKIKP PKPdf 15 46 21.0 -0.5
comp=Z,11μm,1.1s
STU Stuttgart 151.33 355 *e*PKPbc PKPdf 15 46 23.2 +1.7
STU eSS SS 16 09 24.4 -1.8
QUIF Quistinic 151.37 13 *e*PKIKP PKPdf 15 46 20.9 -0.6
comp=Z,13μm,1.7s
LBG Lerchenberg 151.47 356 P PKPdf 15 46 22.0 +0.3
SZH Strazhica 151.47 328 *i* P PKPbc 15 46 31.0 +3.1
BZS Buzias 151.48 336 ⇑*i*P PKPdf 15 46 22.9 +1.2
BZS Buzias 151.48 336 ⇑P PKPdf 15 46 22.9 +1.2
IZI Iznik 151.51 320 *e*P PKPbc 15 46 29.9 +2.0
MOA Molln 151.55 348 ⇑*i*P PKPdf 15 46 22.9 +1.1
comp=Z,56μm,5.8s,SNR=34
MOA Molln 151.55 348 ⇑*i*P PKPdf 15 46 22.9 +1.1
STR Strasbourg 151.60 357 PKP PKPdf 15 46 24.1 +2.2
ELBA Catalca 151.61 322 *i* P PKPdf 15 46 23.7 +1.8
ZFRI Zfri 151.63 297 ⇑P PKPdf 15 46 23.7 +1.8
MAMC Mammari 151.65 308 P PKPbc 15 46 26.6 -1.7
CSS Prodhromos 151.65 307 P PKPbc 15 46 26.2 -2.1
comp=Z,40nm,0.8s
CSS Prodhromos 151.65 307 ⇑P PKPdf 15 46 23.6 +1.6
CRAR CRAIOVA 151.65 332 ⇓*i*P PKPdf 15 46 24.1 +2.1
JMB Yambol 151.72 326 *i* P PKPdf 15 46 25.0 +2.9
JMB Yambol 151.72 326 *e*P PKPdf 15 46 23.2 +1.2
MEZF Maizieres J'vi 151.72 1 *e*PKIKP PKPdf 15 46 21.9 -0.2
comp=Z,17μm,1.5s
FUR Furstenfeldbru 151.72 352 *e*PKPbc PKPdf 15 46 23.3 +1.2
FUR eSS SS 16 09 29.1 -1.4
FUR Furstenfeldbru 151.72 352 *e*PKPbc PKPdf 15 46 23.3 +1.2
FUR eSS SS 16 09 29.1 -1.4
PKS9 Tamasi 151.75 342 ⇑*e*P PKPbc 15 46 26.4 -2.1
WLS Welschbruch 151.79 358 PKP PKPbc 15 46 25.4 -3.2
CDF Champ du Feu 151.79 358 *e*PKIKP PKPdf 15 46 21.1 -1.1
comp=Z,7μm,1.2s
PVL Pavlikeni 151.80 329 *i* P PKPdf 15 46 24.0 +1.8
BFO Black Forest 151.83 357 *e*PKPbc PKPdf 15 46 24.1 +1.9
BFO eSS SS 16 09 22.3 -9.4
BFO Black Forest 151.83 357 *e*PKPbc PKPdf 15 46 24.1 +1.9
BFO eSS SS 16 09 22.3 -9.4
ULDT Uludag 151.83 320 *i* P PKPdf 15 46 23.7 +1.4
ARSA Arzberg 151.86 346 ⇑*i*P PKPdf 15 46 23.5 +1.2
comp=Z,47μm,4.3s,SNR=19
HRFI Mount Harif 151.87 296 P PKPdf 15 46 24.4 +2.1
PKSM Moragy 151.98 341 ⇑*i*P PKPdf 15 46 24.2 +1.7
PKSM Moragy 151.98 341 ⇑P PKPdf 15 46 24.2 +1.7
ECH Echery 152.00 358 PKP PKPbc 15 46 27.1 -2.0
SVTA Shivta 152.00 298 P PKPdf 15 46 24.6 +2.1
THEF They Montfort 152.00 360 PKP PKPdf 15 46 24.1 +1.6
SPAK Spaichingen-Ko 152.03 356 PKP PKPdf 15 46 25.7 +3.2
GUT Gutenstein 152.03 355 P PKPdf 15 46 24.9 +2.4
ORLT Orhaneli 152.04 320 P PKPbc 15 46 30.6 +1.4
LIBD Limburg 152.04 358 PKIKP PKPdf 15 46 24.2 +1.6
SZAC Souni-Zanaja 152.07 307 P PKPbc 15 46 27.1 -2.1
ALFC Alevga 152.11 308 P PKPbc 15 46 26.8 -2.5
comp=Z,67nm,0.8s
KZIT Kziot 152.19 298 P PKPdf 15 46 24.9 +2.1
HAU Haudompre 152.22 359 *e*PKIKP PKPdf 15 46 23.0 +0.2
comp=Z,6μm,1.2s
HAU *e*R
comp=Z,194μm,22.0s
HAU Haudompre 152.22 359 *e*PKPdf PKPdf 15 46 23.0 +0.2
HAU LR LR
comp=Z,194μm,22.0s,MS7.9
GDZ Gediz 152.25 318 *i* P PKPdf 15 46 24.4 +1.6
ISP Isparta 152.29 315 *e*P PKPdf 15 46 23.3 +0.4
ISP Isparta 152.29 315 *e*PKIKP PKPbc 15 46 30.2 +0.5
FELD Feldberg im Sc 152.30 357 *e*P PKPdf 15 46 24.3 +1.4
TKTP Tekketepe 152.31 315 *i* P PKPdf 15 46 25.3 +2.4
MOF Molkenrain 152.36 358 PKP PKPdf 15 46 24.5 +1.5
RHK3 Tenkes 152.39 341 *e*P PKPbc 15 46 27.2 -2.7
HINF Hinteralfeld 152.40 359 *e*PKIKP PKPdf 15 46 22.1 -1.0
comp=Z,4μm,1.3s
PPCY Paphos 152.42 308 P PKPbc 15 46 26.9 -3.1
BNT Bandirma 152.42 322 *e*P PKPdf 15 46 28.4 +5.3
KOGS Kog 152.43 344 PKPdf PKPdf 15 46 24.1 +0.9
BCK Bucak 152.44 314 *e*P PKPdf 15 46 23.8 +0.7
MRMT Marmara Adasi 152.44 322 *e*P PKPdf 15 46 24.0 +0.8
STEIN Stein am Rhein 152.45 356 ⇑*i*PKPdf PKPdf 15 46 24.2 +1.0
comp=Z,4μm,2.3s
KBA Koelnbreinsper 152.47 349 *i* P PKPdf 15 46 24.2 +1.0
comp=Z,61μm,6.4s,SNR=43
TRULL Truellikon 152.49 356 ⇑*i*PKPdf PKPdf 15 46 24.2 +1.0
comp=Z,4μm,2.4s
WATA Walderalm 152.50 352 ⇑*i*P PKPdf 15 46 24.4 +1.2
comp=Z,5μm,1.5s,SNR=42
MFT Murefte 152.50 323 *e*P PKPdf 15 46 24.3 +1.0
PERS Pernice 152.53 346 *e*PKPdf PKPdf 15 46 24.2 +0.9
PERS eSS SS 16 09 28.1 -11
MOTA Moosalm 152.55 352 ⇓*i*P PKPdf 15 46 22.8 -0.5
comp=Z,5μm,1.3s,SNR=40
MOTA Moosalm 152.55 352 ⇓*i*P PKPdf 15 46 22.8 -0.5
WTTA Wattenberg 152.56 351 ⇑*i*P PKPdf 15 46 25.0 +1.7
comp=Z,57μm,5.1s,SNR=57
WTTA Wattenberg 152.56 351 ⇑*i*P PKPdf 15 46 25.0 +1.7
FLACH Flaach 152.57 356 ⇑P PKPdf 15 46 24.3 +1.0
WEIN Weingarten 152.58 355 ⇑*i*PKPdf PKPdf 15 46 24.3 +0.9
comp=Z,3μm,2.3s
SART Tekirdag 152.62 323 *i* P PKPdf 15 46 24.6 +1.2
RKY Sarkoy-Tekirda 152.63 323 *e*P PKPdf 15 46 24.9 +1.5
SULZ Sulz-Cheisache 152.64 357 ⇑*i*PKPdf PKPdf 15 46 24.8 +1.4
comp=Z,5μm,2.6s
SULZ Sulz-Cheisache 152.64 357 ⇑*i*P PKPdf 15 46 24.6 +1.2
SQTA Sankt Quirin 152.66 352 ⇓*i*P PKPdf 15 46 24.8 +1.3
comp=Z,3μm,1.2s,SNR=24
ANTB Antalya 152.69 313 *e*P PKPdf 15 46 24.9 +1.4
WILA Wila 152.70 355 ⇑*i*PKPdf PKPdf 15 46 24.7 +1.2
comp=Z,4μm,3.3s
WILA Wila 152.70 355 ⇑*i*P PKPdf 15 46 24.8 +1.3
BBS Basel-Blauen 152.73 358 PKIKP PKPdf 15 46 24.9 +1.3
BTOK Tokmak 152.73 321 *i* P 15 46 36.7
SVIS Svilajnac 152.74 335 ⇓*i*P PKPbc 15 46 26.5 -4.2
DAVA Damuels 152.75 354 *i* P PKPdf 15 46 25.3 +1.7
comp=Z,54μm,5.0s,SNR=20
ZUR Zurich 152.77 356 ⇑*i*PKPdf PKPdf 15 46 24.9 +1.3
comp=Z,3μm,2.4s
LIENZ Alp Oberkamor 152.77 355 ⇑*i*PKPdf PKPdf 15 46 24.6 +1.0
comp=Z,3μm,2.1s
LIENZ Alp Oberkamor 152.77 355 ⇑*i*P PKPdf 15 46 25.1 +1.5
OBKA Obir 152.77 347 *i* P PKPdf 15 46 24.5 +0.9
comp=Z,67μm,7.1s,SNR=30
BOURR Bourrignon 152.81 358 ⇑*i*PKPdf PKPdf 15 46 25.2 +1.5
comp=Z,5μm,2.2s
BOURR Bourrignon 152.81 358 ⇑*i*P PKPdf 15 46 25.3 +1.6
BOLS Boljevac 152.83 334 ⇓*i*P PKPdf 15 46 23.4 -0.4
HYF Humbligny 152.84 5 *e*PKIKP PKPdf 15 46 23.6 -0.1
comp=Z,14μm,1.2s
BALST Balsthal 152.85 357 ⇑*i*PKPdf PKPdf 15 46 25.2 +1.4
comp=Z,4μm,2.1s
LOMF Lomont 152.87 359 PKP PKPbc 15 46 27.3 -3.7
BALB Balikesir 152.90 321 *e*P PKPdf 15 46 25.4 +1.6
BALB Balikesir 152.90 321 P PKPdf 15 46 25.4 +1.6
KDZ Kurdzhali 152.91 327 *i* P PKPdf 15 46 25.0 +1.2
LOR Lormes 152.91 3 *e*PKIKP PKPdf 15 46 23.6 -0.2
comp=Z,7μm,1.3s
LOR *e*R
comp=Z,190μm,22.8s
LOR Lormes 152.91 3 *e*PKPdf PKPdf 15 46 23.6 -0.2
LOR LR LR
comp=Z,190μm,22.8s,MS7.8
PLD Plovdiv 152.94 328 *i* P PKPdf 15 46 25.0 +1.1

LRYF	La Roche-sur-Y	152.96	11	PKP	PKPdf	15 46 25.5	+1.6
SEST	Monte Rota	152.98	350	P	PKPdf	15 46 25.1	+1.2
LSR	Lussari	153.01	348	⇑eP	PKPdf	15 46 24.0	0.0
PLRO	Paularo	153.01	349	⇑eP	PKPdf	15 46 24.0	0.0
PLONS	Plons	153.03	355	⇑iPKPdf	PKPdf	15 46 25.1	+1.1
	comp=Z,3μm,2.0s						
PLONS	Plons	153.03	355	⇑iP	PKPdf	15 46 25.3	+1.3
FVI	Forni Avoltri	153.03	349	P	PKPdf	15 46 23.4	-0.6
BRES	Bressanone	153.10	351	P	PKPdf	15 46 25.1	+1.0
SSF	Saint Saulge	153.10	4	ePKIKP	PKPdf	15 46 24.0	-0.1
	comp=Z,3μm,1.0s						
ALN	Alexandroupoli	153.11	325	eP	PKPdf	15 46 24.6	+0.4
PTCC	Patocco-Chiusa	153.11	348	P	PKPdf	15 46 23.0	-1.1
MUO	Muotathal	153.17	356	⇑iPKPdf	PKPdf	15 46 25.8	+1.6
	comp=Z,4μm,2.0s						
MFF	Saint Martin d	153.18	9	ePKIKP	PKPdf	15 46 23.5	-0.7
	comp=Z,9μm,1.6s						
MANT	Manisa	153.19	318	*i* P	PKPdf	15 46 26.1	+1.9
CADS	Cadrg	153.21	348	ePKPdf	PKPdf	15 46 25.1	+0.8
CADS				ePP	PP	15 50 17.4	+0.2
LJU	Ljubljana	153.22	347	e	PKPdf	15 46 25.7	+1.4
LJU				ePKPdf	PKPdf	15 46 25.7	+1.4
LJU				e		15 46 27.8	
LJU				e		15 46 35.0	
LJU				ePP	PP	15 50 08.1	-9.2
LJU				e		15 53 53.3	
LJU				eSS	SS	16 09 38.6	-8.3
LJU				e		16 16 05.6	
LJU				e		16 19 56.5	
LJU				e		16 23 01.6	
LJU				e		16 28 21.8	
LJU	Ljubljana	153.22	347	ePKIKP	PKPdf	15 46 25.7	+1.4
LJU				e		15 53 53.3	
LJU	Ljubljana	153.22	347	ePKPdf	PKPdf	15 46 25.7	+1.4
LJU				ePP	PP	15 50 08.1	-9.2
LJU				e		15 53 53.3	
LJU				eSS	SS	16 09 38.6	-8.3
LJU				e		16 16 05.6	
RZN	Rozhen	153.24	327	*i* P	PKPdf	15 46 25.0	+0.7
DAVOX	Davos	153.25	354	⇑iPKPdf	PKPdf	15 46 25.3	+1.0
	comp=Z,3μm,2.5s						
DAVOX	Davos	153.25	354	⇑iP	PKPdf	15 46 26.1	+1.8
GOLH	Golhisar	153.25	315	*i* P	PKPdf	15 46 25.2	+0.8
LLS	Linth-Limmern	153.26	355	⇑iPKPdf	PKPdf	15 46 26.0	+1.7
	comp=Z,3μm,3.6s						
GMNA	Gemona	153.26	349	PKP	PKPdf	15 46 24.4	+0.1
ELL	Elmali	153.28	313	eP	PKPdf	15 46 28.3	+4.0
BNALP	Bannalp	153.28	356	⇑iPKPdf	PKPdf	15 46 26.7	+2.3
	comp=Z,4μm,3.5s						
BNALP	Bannalp	153.28	356	⇑iP	PKPdf	15 46 26.2	+1.8
VTS	Vitosha	153.28	331	eP	pPKPab	15 46 51.0	-8.5
VTS	Vitosha	153.28	331	eP	PKPdf	15 46 25.8	+1.5
VTS	Vitosha	153.28	331	⇑iP	PKPbc	15 46 27.2	-4.7
BRANT	Les Verrieres	153.29	359	⇑iPKPdf	PKPdf	15 46 26.3	+1.9
	comp=Z,4μm,3.3s						
SISC	Sisak	153.31	343	⇑iP	PKPdf	15 46 26.5	+2.1
DENT	Denizli	153.31	316	eP	PKPdf	15 46 29.3	+4.9
DNZL	Cakiroluk	153.34	316	*i* P	PKPdf	15 46 26.1	+1.7
AVF	Avril sur Loir	153.36	4	ePKIKP	PKPdf	15 46 24.2	-0.3
	comp=Z,5μm,1.3s						
FUORN	Ofenpass	153.37	353	⇑iPKPdf	PKPdf	15 46 25.3	+0.8
	comp=Z,5μm,2.3s						
FUORN	Ofenpass	153.37	353	⇑iP	PKPdf	15 46 26.2	+1.7
VOY	Vojsko	153.37	347	ePKPdf	PKPdf	15 46 23.5	-1.0
VOY				e		15 46 25.3	
VOY				e		15 46 28.8	
DIVS	Divcibare	153.38	337	⇑iP	PKPdf	15 46 23.1	-1.5
DIVS	Divcibare	153.38	337	eP	PKPdf	15 46 26.0	+1.5
HASLI	Hasliberg	153.41	356	⇑iPKPdf	PKPdf	15 46 26.2	+1.6
	comp=Z,2μm,2.5s						
HASLI	Hasliberg	153.41	356	⇑iP	PKPdf	15 46 26.1	+1.5
AKS	Akhisar	153.42	319	eP	PKPdf	15 46 24.9	+0.4
TORNY	Torny	153.44	358	⇑iPKPdf	PKPdf	15 46 26.5	+1.9
	comp=Z,6μm,3.5s						
BRMO	Bormio	153.50	353	PKP	PKPdf	15 46 26.0	+1.3
WIMIS	Wimmis	153.53	357	⇑iPKPdf	PKPdf	15 46 26.4	+1.7
	comp=Z,3μm,3.4s						
WIMIS	Wimmis	153.53	357	⇑iP	PKPdf	15 46 26.5	+1.8
SMF	Signal de Mont	153.53	3	ePKIKP	PKPdf	15 46 24.4	-0.3
	comp=Z,7μm,1.3s						
BGF	Bois d'Agland	153.56	5	ePKIKP	PKPdf	15 46 24.6	-0.2
	comp=Z,4μm,1.1s						
BOJS	Bojanci	153.56	345	ePKPdf	PKPdf	15 46 26.4	+1.6
BOJS				eSS	SS	16 09 42.5	-8.2
VDL	Val di Lei	153.58	354	⇑iPKPdf	PKPdf	15 46 26.2	+1.4
	comp=Z,3μm,2.6s						
VDL	Val di Lei	153.58	354	⇑iP	PKPdf	15 46 26.4	+1.6
BERNI	Berninapass	153.60	354	⇑iPKPdf	PKPdf	15 46 26.1	+1.3
	comp=Z,3μm,2.2s						
BERNI	Berninapass	153.60	354	⇑iP	PKPdf	15 46 26.5	+1.7
OLEF	Ile d'Oleron	153.61	11	PKP	PKPdf	15 46 26.5	+1.6
CABF	La Chapelle	153.62	360	ePKIKP	PKPdf	15 46 25.0	+0.1
	comp=Z,11μm,1.4s						
FUSIO	Fusio	153.68	356	⇑iPKPdf	PKPdf	15 46 26.4	+1.5
	comp=Z,3μm,4.0s						
FUSIO	Fusio	153.68	356	⇑iP	PKPdf	15 46 26.7	+1.8
EZN	Ezine	153.69	323	eP	PKPdf	15 46 28.7	+3.7
GIMEL	Gimel	153.70	359	⇑iPKPdf	PKPdf	15 46 26.7	+1.7
	comp=Z,7μm,3.8s						
GIMEL	Gimel	153.70	359	⇑iP	PKPdf	15 46 27.3	+2.3
CTI	Castel Tesino	153.75	351	PKIKP	PKPdf	15 46 25.5	+0.5
TCF	Toulx Ste Croi	153.77	6	ePKIKP	PKPdf	15 46 25.1	0.0
	comp=Z,5μm,1.5s						
LKBD	Leukerbad	153.80	357	⇑iPKPdf	PKPdf	15 46 26.5	+1.4
	comp=Z,2μm,2.8s						
LKBD	Leukerbad	153.80	357	⇑iP	PKPdf	15 46 26.9	+1.8
MMB	Musomiste	153.81	329	*i* P	PKPdf	15 46 25.0	-0.1
AYVA	Ayvalik	153.82	321	*i* P	PKPdf	15 46 27.2	+2.1
SENIN	Lac Senin	153.84	358	⇑iPKPdf	PKPdf	15 46 26.5	+1.3
	comp=Z,4μm,3.6s						
SENIN	Lac Senin	153.84	358	⇑iP	PKPdf	15 46 27.3	+2.1
AIGLE	Aigle	153.87	358	⇑iPKPdf	PKPdf	15 46 27.4	+2.2
	comp=Z,5μm,4.2s						
AIGLE	Aigle	153.87	358	⇑iP	PKPdf	15 46 27.0	+1.8
OG01	Vacheresse	153.89	359	PKP	PKPdf	15 46 27.3	+2.0
FETY	Fethiye	153.90	314	eP	PKPdf	15 46 27.3	+2.0
KKB	Krupnik	153.90	330	*i* P	PKPdf	15 46 25.0	-0.3
KDAG	Bornova	154.05	319	*i* P	PKPdf	15 46 28.5	+3.1
IZM	Izmir	154.05	319	eP	PKPdf	15 46 26.8	+1.3
SALAN	Lac Salanfe	154.07	358	⇑iPKPdf	PKPdf	15 46 27.5	+2.0
	comp=Z,3μm,3.8s						
SALAN	Lac Salanfe	154.07	358	⇑iP	PKPdf	15 46 27.6	+2.1
AGO	Saint Agoulin	154.08	4	PKP	PKPdf	15 46 29.6	+4.1
EMAZ	Mazaricos	154.08	25	PKP	PKPdf	15 46 25.4	-0.2
DIX	Grande Dixence	154.12	358	⇑iPKPdf	PKPdf	15 46 27.3	+1.7
	comp=Z,3μm,3.4s						
DIX	Grande Dixence	154.12	358	⇑iP	PKPdf	15 46 28.0	+2.4
MMK	Mattmark	154.12	357	⇑iPKPdf	PKPdf	15 46 27.3	+1.7
	comp=Z,4μm,3.6s						
MMK	Mattmark	154.12	357	⇑iP	PKPdf	15 46 27.9	+2.3
EMV	Vieux Emosson	154.15	358	⇑iPKPdf	PKPdf	15 46 27.6	+2.0
	comp=Z,3μm,4.7s						
EMV	Vieux Emosson	154.15	358	⇑iP	PKPdf	15 46 27.8	+2.2
MUGIO	Muggio	154.18	355	⇑iPKPdf	PKPdf	15 46 26.9	+1.2
	comp=Z,3μm,3.5s						
MUGIO	Muggio	154.18	355	⇑iP	PKPdf	15 46 26.4	+0.7
JAWL	J.Aulia	154.18	263	eP	PKPdf	15 46 27.8	+2.1
	baz=126,slow=2.1						
JAWL				eS		15 50 22.5	
JAWL				AMS	AMS	15 51 20.0	
	comp=Z,79μm,16.7s,MS7.6						
JAWL				⇑AMP		15 51 29.2	
OG05	Jujurieux	154.19	1	PKP	PKPdf	15 46 25.5	-0.2
PLDF	La Plantade	154.20	4	PKP	PKPdf	15 46 27.4	+1.7
SRS	Serrai	154.23	328	eP	PKPdf	15 46 26.8	+1.1
VAI	Varese	154.25	355	PKIKP	PKPdf	15 46 26.2	+0.4
PLE	Pljevlja	154.26	337	⇑iPKP	PKPdf	15 46 27.1	+1.4
STS	Santiago	154.31	25	PKIKP	PKPdf	15 46 26.4	+0.6
SAL	Salo	154.33	352	PKIKP	PKPbc	15 46 30.1	-4.1
PYM	Petit Puy Mans	154.37	5	PKP	PKPbc	15 46 30.3	-4.0
MLSB	Milas	154.39	316	eP	PKPdf	15 46 27.8	+1.9
STIP	Stip	154.46	331	ePKP	PKPdf	15 46 25.8	-0.3
EPON	Pontenova	154.46	22	PKP	PKPdf	15 46 27.6	+1.5
IVA	Berane	154.46	336	⇑iPKP	PKPdf	15 46 26.1	0.0
URLA	Izmir	154.48	320	*i* P	PKPdf	15 46 26.3	+0.2
RSL	Roselend	154.53	359	PKP	PKPdf	15 46 29.4	+3.2
NVLJ	Novalja	154.54	345	*i* P	PKPdf	15 46 27.1	+1.0
UPM	Unac-Piva	154.55	337	⇑iPKP	PKPdf	15 46 25.1	-1.1
SKO	Skopje	154.57	332	eP	PKPdf	15 46 27.7	+1.5
SKO	Skopje	154.57	332	⇑iPKP	PKPdf	15 46 28.1	+1.9
SKO				ePP	PP	15 50 24.9	+0.1
SKO				eSS	SS	16 10 06.3	+4.6
SOH	Sokhos	154.57	328	eP	PKPdf	15 46 26.5	+0.3
VAY	Valandovo	154.57	330	⇑iPKP	PKPdf	15 46 26.5	+0.3
VAY				ePP	PP	15 50 24.4	-0.4
VAY				eSS	SS	16 10 05.4	+3.8
OUR	Ouranopolis	154.61	326	eP	PKPdf	15 46 27.5	+1.3
COLF	Collangettes	154.65	4	PKP	PKPdf	15 46 28.0	+1.7
PVY	Plav	154.67	335	⇑iPKP	PKPdf	15 46 25.8	-0.5
RJF	Les Rejaudoux	154.67	7	ePKIKP	PKPdf	15 46 25.8	-0.5
RJF				eR			
	comp=Z,230μm,22.8s						
RJF	Les Rejaudoux	154.67	7	ePKPdf	PKPdf	15 46 25.8	-0.5
RJF				LR	LR		
	comp=Z,230μm,22.8s,MS7.9						
FRNF	Fournols	154.70	5	PKP	PKPdf	15 46 29.0	+2.6
LPL	La Plagne	154.71	359	ePKIKP	PKPdf	15 46 26.5	+0.1
LPG	La Plagne	154.72	359	ePKIKP	PKPdf	15 46 26.7	+0.3
BDRM	Kayabasi	154.74	316	*i* P	PKPdf	15 46 20.1	-6.4
CHOS	Chios island	154.79	320	eP	PKPdf	15 46 27.7	+1.2
BODT	Bodrum	154.83	317	eP	PKPdf	15 46 28.1	+1.5
DAT	Datca	154.85	316	eP	PKPdf	15 46 27.8	+1.2
NKY	Niksic	154.85	337	⇑iPKP	PKPdf	15 46 25.4	-1.2
EZAM	Zamans	154.87	26	PKIKP	PKPdf	15 46 27.2	+0.6
LBL	Lubilhac	154.91	4	PKP	PKPdf	15 46 27.4	+0.7
THE	Thessaloniki	154.91	328	eP	PKPdf	15 46 26.9	+0.3
LFF	La Frestale	154.93	9	ePKIKP	PKPdf	15 46 26.1	-0.6
GRG	Griva	154.93	329	eP	PKPdf	15 46 26.9	+0.2
BRY	Bratogost	154.94	338	⇑iPKP	PKPdf	15 46 25.0	-1.7
PAIG	Paliouri	155.07	326	eP	PKPdf	15 46 27.0	+0.1
TTG	Codgorica	155.08	336	⇑iPKP	PKPdf	15 46 26.3	-0.6
CAF	Calviac	155.11	6	ePKIKP	PKPdf	15 46 26.6	-0.3
EARI	Arriondas	155.13	19	PKP	PKPdf	15 46 27.1	+0.1
STON	Ston	155.26	339	⇑iP	PKPdf	15 46 27.8	+0.6
ERUA	La Rua	155.27	23	PKIKP	PKPdf	15 46 28.9	+1.7
ORIF	Oris-en-Rattie	155.31	360	ePKIKP	PKPdf	15 46 27.0	-0.2
ORIF				eR			
	comp=Z,290μm,20.5s						
BUM	Brajici-Budva	155.33	336	⇑iPKP	PKPdf	15 46 26.4	-0.8
HCY	Herceg Novi	155.35	337	⇑iPKP	PKPdf	15 46 26.2	-1.0
VIVF	Saint-Julien-l	155.36	2	ePKIKP	PKPdf	15 46 26.9	-0.4
	comp=Z,10μm,1.8s						
ELOB	Lobios	155.36	26	PKP	PKPdf	15 46 27.4	+0.1
BIA	Bitola	155.39	331	ePKP	PKPdf	15 46 27.3	0.0
ULC	Ulcinj	155.49	335	⇑iPKP	PKPdf	15 46 26.9	-0.5
MBDF	Montbardon	155.49	358	ePKIKP	PKPdf	15 46 27.1	-0.4
	comp=Z,1μm,0.9s						
PCAB	Cabril	155.50	26	ePKPdf	PKPdf	15 46 29.8	+2.3
PCAB	Cabril	155.50	26	ePP	PP	15 50 39.6	+10
LIT	Litokhoron	155.55	328	eP	PKPdf	15 46 28.2	+0.7
OHR	Ohrid	155.55	332	⇑iPKP	PKPdf	15 46 27.7	+0.1
OHR				ePP	PP	15 50 31.0	+0.7
OHR				eSS	SS	16 10 09.5	-2.7
FNA	Florina	155.55	331	eP	PKPdf	15 46 28.9	+1.4
OCF	Saint Nazaire	155.65	1	PKP	PKPdf	15 46 30.4	+2.7
OG26	St.-Nazaire-De	155.65	1	PKP	PKPdf	15 46 30.4	+2.7
RSM	Repubblica di	155.67	348	PKIKP	PKPdf	15 46 29.8	+2.1
DOI	San Damiano	155.70	358	PKIKP	PKPdf	15 46 30.0	+2.3
ELAN	Lanestosa	155.71	17	PKP	PKPdf	15 46 29.6	+1.9
PTO	Porto	155.74	27	ePKPdf	PKPdf	15 46 31.2	+3.4
TIR	Tirana	155.75	334	eP	PKPdf	15 46 29.2	+1.4
VLC	Villacollemand	155.78	352	PKPdf	PKPdf	15 46 29.2	+1.3
ECAL	Calabor	155.81	23	PKP	PKPdf	15 46 29.2	+1.3
FSSB	Fossombrone	155.83	348	PKP	PKPdf	15 46 31.6	+3.7
OG25	Le Caire	155.86	360	PKP	PKPdf	15 46 29.9	+1.9
PBRG	Braganca	155.93	24	ePKPdf	PKPdf	15 46 29.8	+1.8
PBRG	Braganca	155.93	24	ePP	PP	15 50 36.5	+4.1
APE	Apeiranthos	155.95	319	eP	PKPdf	15 46 28.8	+0.8
APE	Apeiranthos	155.95	319	⇑iP	PKPdf	15 46 28.2	+0.1
PVRL	Vila Real	156.00	26	ePKPdf	PKPdf	15 46 29.8	+1.7
PVRL	Vila Real	156.00	26	ePP	PP	15 50 40.7	+7.9
LASF	Ste Croix	156.10	4	ePKIKP	PKPdf	15 46 28.1	-0.2
	comp=Z,4μm,1.5s						
PII	Pisa	156.19	352	PKIKP	PKPdf	15 46 30.1	+1.7
EALK	Alkurruntz	156.19	13	PKP	PKPdf	15 46 30.2	+1.8
AUTN	L'Aution	156.20	357	PKP	PKPdf	15 46 30.5	+2.1
SAOF	Saorge	156.20	357	PKP	PKPdf	15 46 30.5	+2.1
OSSF	Osses	156.21	13	PKP	PKPdf	15 46 30.0	+1.6
SNTG	Esanatoglia	156.22	347	PKP	PKPdf	15 46 29.9	+1.5
STOF	St-Etienne Org	156.23	360	PKP	PKPdf	15 46 31.1	+2.7
ELIZ	Elizondo	156.24	13	PKIKP	PKPdf	15 46 29.2	+0.7
SMRF	Simiane la Rot	156.25	1	ePKIKP	PKPdf	15 46 28.6	+0.1
	comp=Z,9μm,1.5s						
MVIF	Mont Vial	156.31	358	PKP	PKPdf	15 46 33.6	+5.1
ORDF	Ordiarp	156.32	12	PKP	PKPdf	15 46 30.5	+1.9
SBF	Sospel	156.33	357	ePKIKP	PKPdf	15 46 27.5	-1.1
	comp=Z,10μm,1.6s						
SJPF	Ste Jean	156.36	13	ePKIKP	PKPdf	15 46 28.5	-0.1
	comp=Z,5μm,1.8s						
VILF	Villemus	156.38	0	PKP	PKPdf	15 46 31.3	+2.7
PVIS	Viseu	156.39	27	ePKPdf	PKPdf	15 46 29.2	+0.5
PVIS	Viseu	156.39	27	ePP	PP	15 50 38.0	+3.0
PRAF	Pradon	156.42	1	PKP	PKPdf	15 46 31.3	+2.6
SANT	Santorini	156.43	317	eP	PKPdf	15 46 28.8	+0.1
AGG	Agios Georgios	156.44	326	eP	PKPdf	15 46 27.7	-1.0
REVF	Revere	156.46	357	PKP	PKPdf	15 46 31.6	+2.9
LARF	Larrau	156.48	13	PKP	PKPdf	15 46 31.1	+2.3
ATE	Arette	156.49	12		PKPdf	15 46 31.1	+2.3
NRCA	Norcia	156.59	346	PKP	PKPdf	15 46 30.0	+1.1
TREF	Trevaresse	156.60	1	PKP	PKPdf	15 46 34.4	+5.5
TAVF	Tavernes	156.61	360	PKP	PKPdf	15 46 31.5	+2.6
FRF	La Foret Royal	156.66	359	ePKIKP	PKPdf	15 46 28.2	-0.8
	comp=Z,4μm,1.5s						
LABF	Labassere	156.67	11	PKP	PKPdf	15 46 31.1	+2.1
GRFL	Cherfalco	156.68	350	PKP	PKPdf	15 46 28.5	-0.5
MTLF	Montolieu	156.69	7	ePKIKP	PKPdf	15 46 28.7	-0.3
PUYF	Puyloubier	156.70	0	PKP	PKPdf	15 46 31.1	+2.0
EPF	Esparros	156.73	10	ePKIKP	PKPdf	15 46 28.8	-0.3
	comp=Z,2μm,1.4s						
MTE	Manteigas	156.80	27	ePKPdf	PKPdf	15 46 31.2	+2.0
MTE	Manteigas	156.80	27	ePP	PP	15 50 41.3	+4.1
MTE	Manteigas	156.80	27	eSS	SS	16 10 10.3	-15
MTE	Manteigas	156.80	27	eLR	LR	16 39 42.4	
	comp=Z,277μm,22.1s						
VIEF	Viey	156.82	11	PKP	PKPdf	15 46 32.2	+3.0
GELF	Grande-Etoile	156.84	1	PKP	PKPdf	15 46 31.8	+2.6
LMR	La Mourre	156.89	359	ePKIKP	PKPdf	15 46 28.6	-0.7
	comp=Z,10μm,1.7s						
SRN	Sarande	156.90	331	*i* Pn	PKPab	15 47 03.4	+4.0
BERF	Bertagne	156.92	0	PKP	PKPdf	15 46 31.7	+2.4
MLS	Moulis	156.92	9	PKP	PKPdf	15 46 31.7	+2.4
RESF	Ens	156.95	10	PKP	PKPdf	15 46 31.9	+2.5
AQU	L'Aquila	156.98	346	⇑iP	PKPdf	15 46 30.9	+1.5
AQU	L'Aquila	156.98	346	ePKPdf	PKPdf	15 46 28.9	-0.5
CHIE	El Hierro	156.99	66	PKP	PKPdf	15 46 32.9	+3.5
IGT	Igoumenitsa	157.03	330	eP	PKPdf	15 46 31.6	+2.2
EBIE	Bielsa	157.03	11	PKP	PKPdf	15 46 31.8	+2.4
PTOM	Tomar	157.06	29	ePKPdf	PKPdf	15 46 30.6	+1.1
PTOM	Tomar	157.06	29	ePP	PP	15 50 52.6	+14
LRDF	Laroque-de-Fa	157.12	6	PKP	PKPdf	15 46 32.2	+2.6
SALF	Salau	157.13	9	PKP	PKPdf	15 46 32.1	+2.5
PLOU	Loures	157.28	32	ePKPdf	PKPdf	15 46 31.8	+2.0
PLOU	Loures	157.28	32	ePP	PP	15 51 04.7	+25
PLOU	Loures	157.28	32	ePKPdf	PKPdf	15 46 32.5	+2.7
PCBR	Castelo Branco	157.29	27	ePKPdf	PKPdf	15 46 30.5	+0.7
PCBR	Castelo Branco	157.29	27	ePP	PP	15 50 50.0	+10
PCBR	Castelo Branco	157.29	27	ePKPdf	PKPdf	15 46 30.9	+1.1
CARF	Carcanieres	157.29	7	PKP	PKPdf	15 46 32.4	+2.6
ALMR	Almeirim	157.35	30	eP	PKPdf	15 46 30.3	+0.4
INMG	Instituto de M	157.38	32	ePKPdf	PKPdf	15 46 31.6	+1.7
RNI2	Rionero Sannit	157.40	344	PKP	PKPdf	15 46 31.7	+1.8
LIS	Lisbon	157.42	32	eP	PKPdf	15 46 30.3	+0.3
LIS				eSS	SS	16 10 34.4	+2.1
LIS				eSS	SS	16 10 34.4	+2.1
LIS				AMS	AMS	16 57 00.9	
	comp=Z,143μm,19.1s,MS7.8						
IDI	Anoyia	157.46	316	PKP	PKPdf	15 46 31.2	+1.2
	comp=Z,65nm,0.7s,baz=133,slow=4.3,SNR=20						
IDI				PKPab	PKPab	15 47 03.8	+1.9
	comp=Z,140nm,0.4s,baz=126,slow=3.8,SNR=13						
FILF	Fillols	157.50	6	PKP	PKPdf	15 46 32.9	+2.8
PGF	Pioggiola	157.53	354	ePKIKP	PKPdf	15 46 29.2	-0.9
	comp=Z,4μm,1.5s						
EGOM	La Gomera	157.53	65	PKP	PKPdf	15 46 32.6	+2.5
EGRA	Graus	157.54	11	PKP	PKPdf	15 46 32.5	+2.4
VALF	Valcebollere	157.59	7	PKP	PKPdf	15 46 31.6	+1.4
EJON	La Jonquera	157.64	6	PKP	PKPdf	15 46 31.4	+1.1
PLML	Palmela	157.66	32	ePKPdf	PKPdf	15 46 31.3	+1.0
CORF	Corte	157.76	354	PKP	PKPdf	15 46 31.6	+1.2
ESAC	San Caprasio	157.85	13	PKP	PKPdf	15 46 32.9	+2.4
GUD	Guadarrama	157.87	21	PKIKP	PKPdf	15 46 31.9	+1.4
MOE	Montemor	157.96	31	ePKPdf	PKPdf	15 46 31.5	+0.9
EMIR	Miracle	158.01	9	PKP	PKPdf	15 46 31.8	+1.1
CCAN	Las Canadas	158.02	64	PKP	PKPdf	15 46 32.0	+1.2
EBAJ	Bajamar	158.15	63	PKP	PKPdf	15 46 33.9	+3.0
GVD	Gavdhos	158.25	316	ePKPdf	PKPdf	15 46 30.5	-0.5
OSPF	L'Ospedale	158.38	353	PKP	PKPdf	15 46 32.5	+1.4
EBAD	Badajoz	158.39	28	PKP	PKPdf	15 46 33.4	+2.3
EPOB	Poblet	158.49	10	PKP	PKPdf	15 46 31.6	+0.3
PTEO	Sao Teotonio	158.53	33	ePKPdf	PKPdf	15 46 32.0	+0.7
PTEO	Sao Teotonio	158.53	33	ePP	PP	15 51 00.7	+14
PTEO	Sao Teotonio	158.53	33	ePKPdf	PKPdf	15 46 32.4	+1.1
PBEJ	Beja	158.58	31	ePKPdf	PKPdf	15 46 32.5	+1.1
PBEJ	Beja	158.58	31	ePP	PP	15 51 03.5	+16
PBEJ	Beja	158.58	31	ePKPdf	PKPdf	15 46 32.9	+1.5
ERTA	Horta de San J	158.75	12	PKP	PKPdf	15 46 32.8	+1.2
MORF	Marmelete	158.75	33	eP	PKPdf	15 46 32.5	+0.9
MORF				eSS	SS	16 10 48.0	+1.5
MORF				eSS	SS	16 10 48.0	+1.5
MORF				AMS	AMS	17 07 31.7	
	comp=Z,133μm,35.2s,MS7.5						
MORF	Marmelete	158.75	33	eSS	SS	16 10 48.0	+1.5
ESDC	Sonseca Array	158.80	21	PKP	PKPdf	15 46 32.2	+0.6
	comp=Z,10nm,0.9s,baz=345,slow=2.6,SNR=18						
ESDC				PP	PP	15 51 00.3	+12
	comp=Z,67nm,1.1s,baz=351,slow=3.6,SNR=4.3						
ESDC	Sonseca Array	158.80	21	PKP	PKPdf	15 46 33.4	+1.7
ESLA	Sonseca Array	158.80	21	ePKPdf	PKPdf	15 46 31.4	-0.2
ESLA				LR	LR		
	comp=Z,1278μm,21.0s,MS8.7						
EBR	Ebro Roquetas	158.91	11	ePKPDF	PKPdf	15 46 36.0	+4.2
EOSO	Osorio	158.96	64	PKP	PKPdf	15 46 35.7	+3.9
EMOS	Mosqueruela	159.15	14	PKP	PKPdf	15 46 34.8	+2.7
EGRO	El Granado	159.16	31	PKP	PKPdf	15 46 32.6	+0.5
EMIN	Mina Concepcio	159.35	29	PKP	PKPdf	15 46 34.6	+2.3
ECHE	Chera	159.77	15	PKP	PKPdf	15 46 35.8	+3.0
EADA	Adamuz	159.91	25	PKP	PKPdf	15 46 34.6	+1.6
CFTV	Fuerteventura	160.07	62	PKP	PKPdf	15 46 35.7	+2.5
EBAN	Banos Encina	160.21	23	PKP	PKPdf	15 46 34.4	+1.1
EFAM	Famara	160.27	59	PK

0.3nm,0.3s,baz=46,slow=11,SNR=3.1
ASAR Alice Springs 22.15 217 P P 15 55 41.6 -0.6
1.0nm,0.3s,baz=56,slow=8.9,SNR=11
TORD Torodi Ar. Bea 146.24 284 PKPbc PKPbc 16 10 27.9 +0.6
1.2nm,0.5s,baz=55,slow=3.1,SNR=7.9

IDC 03 15:54:41.2±4.1, 2016S×17422W, h0km, mb4.4/3, mb1 4.5/3, mb1mx4.3/15, mbtmp4.4/3, Error ellipse: s-maj=262.4km s-min=37.9km az=155.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.05 263**		P	P	16 01 53.5	+0.7
	6.0nm,0.4s,baz=87,slow=10,SNR=29						
ASAR	**Alice Springs**	**48.04 256**		P	P	16 03 22.4	+0.2
	1.2nm,0.4s,baz=88,slow=8.3,SNR=23						
WRA	**Warramunga Arr**	**48.16 261**		P	P	16 03 23.2	+0.1
	1.0nm,0.3s,baz=99,slow=8.4,SNR=2.8						
ARCES	**ARCESS Array B**	**129.18 351**		PKP	PKPdf	16 13 50.1	-1.2
	1.1nm,0.8s,baz=40,slow=2.1,SNR=6.1						
ARCES	**ARCESS Array B**	**129.18 351**		PKP	PKPdf	16 13 50.1	-1.2
GERES	**GERESS Array B**	**150.68 349**		PKPbc	PKPbc	16 14 35.3	+0.1
	0.3nm,0.5s,baz=38,slow=1.7,SNR=3.9						

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*IDC **03** 15:54:54.4±0.5, 2082S×17421W, h0km, mb5.2/21, mb1 5.3/21, mb1mx5.2/25, mbtmp5.2/21, Error ellipse: s-maj=18.9km s-min=11.5km az=151.0*
*BJI **03** 15:54:57.8, 2109S×17441W, h33km, mb5.3*
*CSEM **03** 15:54:58.2, 2103S×17439W, h33km, mb5.8*
*NEIC **03** 15:54:58.8±2.7, 2060S×17407W, h30km±17km, mb5.2/14, Error ellipse: s-maj=10.8km s-min=5.8km az=133.0*
*MOS **03** 15:54:58.9±0.8, 2062S×17426W, h33km, mb5.5/18, Error ellipse: s-maj=13.4km s-min=12.3km az=162.1*
*ISCJB **03** 15:54:59.2±2.1, 2059S±006×17420W±008, h42km±18km, mb5.2/35, Error ellipse: s-maj=13.2km s-min=9.4km az=66.9*
*SZGRF **03** 15:54:59.3, 2094S×17501W, h33km, Tonga Islands*
ISC 03 15:55:00.3±1.6, 2058S±006×17409W±008, h38km±14km, h37km±2.3km: pP-P, n290, σ1§17/73, mb5.2/35, 30C-13D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.99**	**19**	Pn	**Pn**	**15 56 38.2**	**-1.9**
	11nm,0.3s,baz=20,slow=19,SNR=5.0						
AFI				Sn	**Sn**	**15 57 52.7**	**-5.6**
	21nm,0.3s,baz=292,slow=24,SNR=4.3						
RAO	**Raoul Island**	**9.31**	**201**	Sn	**Sn**	**15 58 49.9**	**-5.4**
	212nm,0.3s,baz=90,slow=22,SNR=8.6						
URZ	**Urewera**	**19.20**	**201**	S	**S**	**16 02 41.4**	**-15**
	2.1nm,0.3s,baz=141,slow=20,SNR=4.7						
HIZ	**Hauiti**	**20.27**	**206**	PN	**P**	**15 59 33.8**	**+1.3**
NNZ	**Nelson**	**23.17**	**205**	PN	**P**	**16 00 08.2**	**+4.8**
QRZ	**Quartz Range**	**23.18**	**207**	PN	**P**	**16 00 07.6**	**+4.0**
THZ	**Tophouse**	**23.82**	**205**	PN	**P**	**16 00 14.6**	**+4.9**
DSZ	**Denniston Nort**	**24.25**	**206**	PN	**P**	**16 00 13.4**	**-0.1**
WVZ	**Waitaha Valley**	**25.79**	**206**	PN	**P**	**16 00 29.5**	**+1.9**
RPZ	**Rata Peaks**	**26.20**	**205**	P	**P**	**16 00 30.1**	**-1.2**
	31nm,0.8s,mb4.9,baz=31,slow=5.9						
RPZ	**Rata Peaks**	**26.20**	**205**	P	**P**	**16 00 30.1**	**-1.2**
FOZ	**Fox Glacier**	**26.63**	**207**	PN	**P**	**16 00 35.1**	**-0.1**
HNR	**Honiara**	**27.38**	**290**	P	**P**	**16 00 42.8**	**+0.9**
	19nm,0.4s,mb5.0,baz=81,slow=4.4,SNR=3.7						
JCZ	**Jackson Bay**	**27.44**	**207**	PN	**P**	**16 00 44.9**	**+2.4**
ARMA	**Armidale**	**32.35**	**245**	*eP*	**P**	**16 01 26.0**	**0.0**
CNB	**Canberra Magne**	**35.25**	**238**	*eP*	**P**	**16 01 50.9**	**-0.2**
	50nm,0.8s,mb5.5						
CTA	**Charters Tower**	**37.13**	**264**	*eP*	**P**	**16 02 06.6**	**-0.6**
	5.0nm,0.5s,mb4.6						
CTA	**Charters Tower**	**37.13**	**264**	P	**P**	**16 02 07.4**	**+0.2**
	23nm,0.6s,mb5.2,baz=101,slow=9.7,SNR=14						
CTA	**Charters Tower**	**37.13**	**264**	*eP*	**P**	**16 02 06.6**	**-0.6**
CTA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
CTAO	**Charters Tower**	**37.13**	**264**	*eP*	**P**	**16 02 06.7**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,21nm,0.7s,mb5.1						
CTAO	**Charters Tower**	**37.13**	**264**	*eP*	**P**	**16 02 06.7**	**-0.5**
	comp=Z,21nm,0.7s,mb5.1						
TOO	**Toolangi**	**38.84**	**235**	*eP*	**P**	**16 02 21.8**	**+0.2**
	comp=Z,19nm,0.8s,mb4.9						
TOO	**Toolangi**	**38.84**	**235**	*eP*	**P**	**16 02 21.8**	**+0.2**
TOO				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.9						
PMG	**Port Moresby**	**38.95**	**281**	P	**P**	**16 02 23.1**	**+0.5**
	comp=Z,38nm,0.9s,mb5.1,baz=101,slow=6.0,SNR=10						
PMG	**Port Moresby**	**38.95**	**281**	*eP*	**P**	**16 02 22.8**	**+0.3**
PMG				pmax	pmax		
	comp=Z,43nm,1.0s						
PMG	**Port Moresby**	**38.95**	**281**	*eP*	**P**	**16 02 22.8**	**+0.3**
	comp=Z,43nm,1.0s,mb5.1						
STKA	**Stephens Creek**	**41.07**	**245**	*eP*	**P**	**16 02 38.0**	**-2.1**
	comp=Z,27nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**41.07**	**245**	P	**P**	**16 02 38.1**	**-2.0**
	comp=Z,32nm,0.7s,mb5.0,baz=87,slow=9.2,SNR=30						
ASAR	**Alice Springs**	**48.07**	**256**	P	**P**	**16 03 35.7**	**-0.2**
	comp=Z,46nm,0.9s,mb5.5,baz=90,slow=8.4,SNR=122						
ASAR				PcP	PcP	16 05 04.2	+0.9
	comp=Z,12nm,0.9s,baz=104,slow=3.4,SNR=5.5						
ASAR				S	**S**	**16 10 28.4**	**-3.3**
	comp=Z,8.2nm,0.9s,baz=94,slow=15,SNR=9.0						
WB2	**Warramunga Arr**	**48.21**	**261**	*eP*	**P**	**16 03 36.1**	**-0.9**
WRAB	**Tennant Creek**	**48.21**	**261**	*eP*	**P**	**16 03 36.5**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.4						
WRAB	**Tennant Creek**	**48.21**	**261**	*eP*	**P**	**16 03 36.5**	**-0.5**
	comp=Z,38nm,0.9s,mb5.4						
WRA	**Warramunga Arr**	**48.22**	**261**	P	**P**	**16 03 36.7**	**-0.4**
	comp=Z,18nm,0.6s,mb5.3,baz=97,slow=6.9,SNR=20						
WRA				PcP	PcP	16 05 05.4	+1.6
	comp=Z,17nm,0.9s,baz=93,slow=3.9,SNR=5.8						
WRA				S	**S**	**16 10 32.4**	**-1.5**
	comp=Z,2.3nm,0.4s,baz=96,slow=17,SNR=3.0						
KAKA	**Kakadu**	**51.64**	**270**	*eP*	**P**	**16 04 03.0**	**-0.1**
	comp=Z,64nm,0.8s,mb5.6						
FORT	**Forrest**	**52.63**	**246**	*eP*	**P**	**16 04 09.9**	**-0.5**
	comp=Z,73nm,0.7s,mb5.7						
FORT				*e*		16 13 20.3	
GUMO	**Guam**	**52.73**	**307**	P	**P**	**16 04 12.3**	**+1.1**
	comp=Z,59nm,0.7s,mb5.6,baz=163,slow=7.9,SNR=3.6						
FITZ	**Fitzroy Crossi**	**56.65**	**261**	*eP*	**P**	**16 04 40.0**	**+0.4**
	comp=Z,26nm,1.0s,mb5.2						
FITZ	**Fitzroy Crossi**	**56.65**	**261**	P	**P**	**16 04 39.8**	**+0.2**
	comp=Z,4.8nm,0.3s,mb5.0,baz=93,slow=10.0,SNR=13						
SBA	**Scott Base**	**58.06**	**185**	*eP*	**P**	**16 04 50.9**	**+1.4**
SBA				pmax	pmax		
	comp=Z,43nm,1.1s,mb5.4						
SBA	**Scott Base**	**58.06**	**185**	*eP*	**P**	**16 04 50.9**	**+1.3**
	comp=Z,43nm,1.1s,mb5.4						
VNDA	**Vanda**	**58.19**	**186**	P	**P**	**16 04 49.8**	**-0.6**
	comp=Z,13nm,0.9s,mb5.0,baz=9.5,slow=6.2,SNR=12						
VNDA	**Vanda**	**58.19**	**186**	P	**P**	**16 04 49.8**	**-0.6**
VNDA				pmax	pmax		
	comp=Z,13nm,0.9s						
VNDA	**Vanda**	**58.19**	**186**	P	**P**	**16 04 50.3**	**-0.1**
	comp=Z,18nm,0.9s,mb5.1						
KLBR	**Kellerberrin**	**61.34**	**245**	⇓*iP*	**P**	**16 05 12.8**	**+0.7**
	comp=Z,170nm,0.9s,mb6.2						
NWAO	**Narrogin (SRO)**	**61.61**	**243**	P	**P**	**16 05 14.2**	**+0.3**
	comp=Z,52nm,0.9s,mb5.7,baz=103,slow=6.4,SNR=12						
CASY	**Casey**	**65.47**	**205**	*eP*	**P**	**16 05 39.1**	**-0.3**
	comp=Z,13nm,0.8s,mb5.0						
PVCP	**Virac**	**69.55**	**294**	*eP*	**P**	**16 05 57.6**	**-7.5**
RCP	**Roxas**	**69.83**	**291⇑**	*eP*	**P**	**16 05 57.1**	**-10**
MJAR	**Matsushiro Arr**	**72.50**	**321**	P	**P**	**16 06 24.3**	**+1.2**
	comp=Z,22nm,0.8s,mb5.1,baz=159,slow=6.1,SNR=30						
JOW	**Kunigami**	**73.07**	**308**	P	**P**	**16 06 28.5**	**+2.1**
	comp=Z,33nm,0.8s,mb5.3						
YBH	**Yreka Blue Hor**	**78.11**	**37**	P	**P**	**16 06 56.1**	**+0.8**
	comp=Z,13nm,1.0s,mb4.8,baz=139,slow=11,SNR=2.7						
NVAR	**Mina Array Bea**	**78.61**	**41**	P	**P**	**16 06 59.3**	**+1.3**
	comp=Z,15nm,0.8s,mb5.0,baz=296,slow=4.7,SNR=9.0						
SSE	**Sheshan**	**80.59**	**308**	P	**P**	**16 07 06.4**	**-2.4**
SSE				AMB	AMB		
	comp=Z,34nm,1.3s,mb5.1						
HABR	**Khabarovsk**	**82.37**	**329**	*eP*	**P**	**16 07 18.6**	**+0.4**
HABR				*eS*	S	16 17 33.5	+2.0
MAW	**Mawson**	**82.71**	**199**	P	**P**	**16 07 19.4**	**-0.5**
	comp=Z,28nm,0.9s,mb5.3,baz=127,slow=6.8,SNR=9.5						
NJ2	**Nanjing**	**82.79**	**308**	*eP*	**P**	**16 07 20.0**	**-0.4**
NJ2				AP	pP	16 07 29.3	-2.9
NJ2				XP	sP	16 07 33.0	-3.5
NJ2				PP	PP	16 10 31.9	+1.2
NJ2				S	S	16 17 33.0	-2.7
NJ2				XS	sS	16 17 49.0	-6.3
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
ANMO	**Albuquerque**	**84.62**	**50**	P	**P**	**16 07 31.0**	**+1.3**
	comp=Z,12nm,1.0s,mb5.0,baz=231,slow=8.5,SNR=3.7						
ANMO	**Albuquerque**	**84.62**	**50⇓**	*eP*	**P**	**16 07 32.2**	**+2.4**
ANMO	**Albuquerque**	**84.62**	**50**	P	**P**	**16 07 31.0**	**+1.2**
CN2	**Changchun**	**84.64**	**321**	*eP*	**P**	**16 07 32.8**	**+2.9**
CN2				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.3						
PDAR	**Pinedale Array**	**86.54**	**42**	P	**P**	**16 07 39.0**	**-0.3**
	comp=Z,8.9nm,0.9s,mb5.0,baz=206,slow=4.0,SNR=3.8						
COLA	**College**	**87.54**	**11**	*i* P	**P**	**16 07 42.9**	**-1.3**
ILAR	**Eielson Array**	**87.62**	**11**	P	**P**	**16 07 43.8**	**-0.8**
	comp=Z,13nm,1.1s,mb5.1,baz=215,slow=4.5,SNR=6.1						
VNA3	**Neumayer Olymp**	**87.78**	**175**	*eP*	**P**	**16 07 43.1**	**-2.2**
VNA3				*e*		16 07 44.8	
VNA3				*e*	pP	16 07 55.2	-2.0
VNA3				*e*		16 07 58.5	
SNAA	**Sanae**	**87.80**	**177**	*eP*	**P**	**16 07 43.1**	**-2.3**
SNAA				*e*	pP	16 07 54.0	-3.2
SNAA				*e*		16 07 57.8	
VNA2	**Neumayer--Watz**	**88.27**	**176**	*eP*	**P**	**16 07 47.2**	**-0.4**
	baz=200,slow=2.5						
VNA2				*e*		16 07 49.1	
VNA2				*e*	pP	16 07 59.1	-0.4
VNA2				*e*		16 08 01.6	
BILL	**Bilibino**	**89.53**	**353**	*eP*	**P**	**16 07 54.5**	**+0.9**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0						
KMI	**Kunming**	**92.67**	**296**	P	**P**	**16 08 11.3**	**+3.2**
KMI				AMB	AMB		
	comp=Z,17nm,1.5s,mb5.2						
INK	**Inuvik**	**93.42**	**14**	P	**P**	**16 08 10.9**	**-0.7**
	comp=Z,9.6nm,0.9s,mb5.2,baz=155,slow=4.9,SNR=4.5						
YKA	**Yellowknife Ar**	**95.08**	**24**	P	**P**	**16 08 19.0**	**-0.2**
	comp=Z,3.9nm,0.8s,mb4.9,baz=237,slow=4.8,SNR=13						
TIXI	**Tiksi**	**99.79**	**344**	*eP*	Pdif	16 08 36.9	-3.5
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb5.0						
ZAL	**Zalesovo**	**112.87**	**321**	PKiKP	PKiKP	16 13 31.7	-1.3
	comp=Z,1.9nm,0.6s,baz=320,slow=2.3,SNR=8.5						
MK31	**Makanchi Array**	**113.92**	**313**	PKiKP	PKiKP	16 13 34.4	-0.6
MK31				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MKAR	**Makanchi Array**	**113.92**	**313**	PKP	PKiKP	16 13 34.3	-0.7
	comp=Z,6.3nm,0.8s,baz=66,slow=2.6,SNR=27						
KURK	**Kurchatov**	**116.54**	**317**	*e*PKiKP	PKPdf	16 13 39.4	-0.7
TKM2	**Tokmak 2**	**118.43**	**308**	P	PKPdf	16 13 44.1	+0.4
	SNR=6.0						
KBK	**Karagaybulak**	**118.90**	**308**	P	PKPdf	16 13 44.9	+0.3
	SNR=8.1						
CHMS	**Chumysh**	**119.05**	**308**	P	PKPdf	16 13 45.1	+0.2
	SNR=7.0						
UCH	**Uchtor**	**119.20**	**308**	P	PKPdf	16 13 46.7	+1.5
	SNR=8.9						
AAK	**Ala-Archa**	**119.23**	**308**	P	PKPdf	16 13 45.5	+0.3
	SNR=5.4						
AAK	**Ala-Archa**	**119.23**	**308⇑**	*i* PKiKP	PKPdf	16 13 45.1	-0.1
USP	**Ospenovka**	**119.25**	**309**	P	PKPdf	16 13 45.2	0.0
	SNR=8.3						
EKS2	**Erkin-Say**	**119.76**	**308**	P	PKPdf	16 13 44.1	-2.2
	SNR=7.5						
AML	**Almayashu**	**119.81**	**307**	P	PKPdf	16 13 47.1	+0.8
	SNR=9.4						
VOSK	**Vostochnaya**	**121.17**	**320**	PKiKP	PKPdf	16 13 48.0	-1.0
VOSK				pmax	pmax		
	comp=Z,32nm,1.1s						
BRVK	**Borovoye**	**121.55**	**320**	*e*PKiKP	PKPdf	16 13 49.1	-0.6
KKAR	**Karatay Array**	**122.16**	**309**	*i* PKiKP	PKPdf	16 13 50.6	-0.3
KKAR				pmax	pmax		
	comp=Z,14nm,0.9s						
ZRNK	**Zerenda**	**122.33**	**320**	*e*PKiKP	PKPdf	16 13 50.3	-0.9
ARU	**Arti**	**127.33**	**326**	*i* PKiKP	PKPdf	16 13 58.6	-2.2
ARU				*e*		16 21 0.4	
ARU				*e*SS	SS	16 33 05.2	-2.2
ARU	**Arti**	**127.33**	**326**	*e*PKPdf	PKPdf	16 14 00.3	-0.5
AB31	**Akbulak array**	**128.65**	**317**	*i* PKiKP	PKPdf	16 14 01.9	-1.4
AB31				pmax	pmax		
	comp=Z,14nm,1.2s						
KEV	**Kevo**	**129.19**	**351**	*e*pkp	PKPdf	16 14 01.7	-2.6
	comp=Z,11nm,1.1s						
AKTK	**Aktyubinsk**	**129.55**	**319**	PKP	PKPdf	16 14 04.8	-0.2
AKTO	**Aktyubinsk**	**129.55**	**319**	PKP	PKPdf	16 14 04.8	-0.2
	comp=Z,3.4nm,0.7s,baz=51,slow=3.5,SNR=9.0						
AKTO	**Aktyubinsk**	**129.55**	**319**	PKiKP	PKPdf	16 14 04.8	-0.2
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARCES	**ARCESS Array B**	**129.61**	**351**	PKP	PKPdf	16 14 03.8	-1.3
	comp=Z,9.5nm,0.8s,baz=5.7,slow=1.2,SNR=24						
ARCES	**ARCESS Array B**	**129.61**	**351**	PKP	PKPdf	16 14 03.8	-1.3
JOF	**Joensuu**	**134.27**	**344**	*e*pkp	PKPdf	16 14 12.9	-1.0
	comp=Z,19nm,1.0s						
KAF	**Kangasniemi**	**136.17**	**346**	*e*pkp	PKPdf	16 14 13.6	-3.8
	comp=Z,8.8nm,0.8s						
FINES	**FINESS Array B**	**136.81**	**346**	PKP	PKPdf	16 14 18.0	-0.6
	comp=Z,5.5nm,0.8s,baz=90,slow=6.1,SNR=16						
FINES	**FINESS Array B**	**136.81**	**346**	PKP	PKPdf	16 14 18.0	-0.6
OBN	**Obninsk**	**138.51**	**334**	*i* PKiKP	PKPdf	16 14 21.8	0.0
OBN				pmax	pmax		
	comp=Z,52nm,2.0s						
NB2	**NORSAR Subarra**	**139.41**	**356**	PKPd	PKPdf	16 14 22.4	-1.0
	comp=Z,8.7nm,1.2s,baz=8.3,slow=1.9						
NB2	**NORSAR Subarra**	**139.41**	**356**	PKPd	PKPdf	16 14 22.4	-1.0
	baz=8.3,slow=1.9						
NOA	**NORSAR Array B**	**139.41**	**356**	PKP	PKPdf	16 14 22.4	-1.0
	comp=Z,3.6nm,0.9s,baz=14,slow=3.9,SNR=5.3						
NOA	**NORSAR Array B**	**139.41**	**356**	PKP	PKPdf	16 14 22.4	-1.0
HFS	**Hagfors**	**140.10**	**354**	PKhKP		16 14 13.1	
	comp=Z,1.1nm,0.7s,baz=180,slow=39,SNR=4.6						
HFS	**Hagfors**	**140.10**	**354**	PKHKP		16 14 13.1	
HFS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZEI	**Tsey**	**141.28**	**314**	*e*PKiKP	PKPdf	16 14 24.6	-2.2
ZEI				*e*		16 17 27.7	
KIV	**Kislovodsk**	**141.60**	**316**	*e*PKiKP	PKPdf	16 14 28.9	+1.5
KIV				pmax	pmax		
	comp=Z,14nm,1.0s						
GNI	**Garni**	**141.62**	**309**	PKhKP		16 14 23.0	
	comp=Z,2.2nm,0.4s,baz=151,slow=19,SNR=1.8						
GNI	**Garni**	**141.62**	**309**	PKHKP		16 14 23.0	
GNI				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KMBO	**Kilima Mbogo**	**142.50**	**239**	PKhKP		16 14 25.9	
	comp=Z,4.7nm,0.9s,baz=235,slow=1.8,SNR=8.2						
MUD	**Monsted U'grnd**	**144.09**	**357**	*i* P	PKPdf	16 14 30.6	-1.2
	comp=Z,89nm,1.2s						
MUD							
	comp=Z,202µm,22.0s						
ERZM	**Erzurum**	**144.13**	**310**	*i* P	PKPdf	16 14 32.0	+0.2
ANN	**Anapa**	**144.49**	**320**	*i* PKiKP	PKPdf	16 14 31.2	-1.3
ANN				*e*		16 21 42.2	
ANN				pmax	pmax		
	comp=Z,157nm,1.3s						
EKA	**Eskdalemuir Ar**	**144.63**	**9**	PKP	PKPdf	16 14 30.7	-2.0
	comp=Z,11nm,0.8s,baz=325,slow=3.4,SNR=13						
AKASG	**Malin Array Be**	**144.77**	**334**	PKP	PKPdf	16 14 31.4	-1.5
	comp=Z,45nm,0.7s,baz=41,slow=4.2,SNR=122						
AKASG	**Malin Array Be**	**144.77**	**334**	PKP	PKPdf	16 14 31.4	-1.5
BSD	**Bornholm Skovb**	**144.85**	**351**	*i* P	PKPdf	16 14 31.8	-1.3
	comp=Z,75nm,0.9s						
BSD				*i*		16 27 10.2	
BSD							
	comp=Z,99µm,21.0s						
BSD	**Bornholm Skovb**	**144.85**	**351**	*i* P	PKPdf	16 14 31.8	-1.3
BSD				*i*		16 27 10.2	
GRSN	**GIRESUNGRSN**	**145.87**	**314**	*i* P	PKPdf	16 14 36.1	+1.3
SIM	**Simferopol'**	**146.35**	**323**	⇓*i*PKP2	PKPab	16 14 38.7	+0.9
SIM				pmax	pmax		
	comp=Z,64nm,0.8s						
ELZG	**Elazig**	**146.38**	**309**	*i* P	PKPbc	16 14 39.6	+2.6
BSEG	**Bad Segeberg**	**146.53**	**355**	*e*PKPbc	PKPbc	16 14 37.8	+0.3
BSEG	**Bad Segeberg**	**146.53**	**355**	*e*PKPbc	PKPbc	16 14 37.8	+0.3
MALT	**Malatya**	**146.85**	**309⇑**	*i* P	PKPbc	16 14 40.8	+2.4
MALT	**Malatya**	**146.85**	**309**	*e*PKPbc	PKPbc	16 14 40.2	+1.8
LVV	**L'vov**	**147.46**	**338⇓**	*e*PKP2	PKPab	16 14 40.1	-2.0
RUE	**Ruedersdorf**	**147.58**	**351**	*e*PKPbc	PKPbc	16 14 40.8	+0.4
RUE	**Ruedersdorf**	**147.58**	**351**	*e*PKPbc	PKPbc	16 14 40.5	+0.1
BOYT	**Boyabat**	**147.85**	**317**	*i* P	PKPbc	16 14 43.0	+1.8
GZT	**Gaziantep**	**147.85**	**308**	*i* P	PKPbc	16 14 42.9	+1.7
KWP	**Kalwaria**	**148.07**	**339**	*e*PKP2	PKPbc	16 14 42.3	+0.6
IBBN	**Ibbenburen**	**148.30**	**358**	*e*PKPbc	PKPbc	16 14 42.6	+0.3
CTKT	**Corum**	**148.34**	**316**	*i* P	PKPbc	16 14 43.9	+1.5
OJC	**Ojcow**	**148.44**	**343**	*e*PKPdf	PKPdf	16 14 40.1	+1.0
OJC				*e*PKPbc	PKPbc	16 14 43.2	+0.5
OJC				*ep*PKPdf	pPKPdf	16 14 50.4	-1.0
CLZ	**Clausthal**	**148.60**	**355**	*e*PKPbc	PKPbc	16 14 43.6	+0.5
CLZ				*e*PKPab	PKPab	16 14 47.3	+0.6
CLZ				*e*PKPab	PKPab	16 14 47.3	+0.6
CLZ	**Clausthal**	**148.60**	**355**	*e*PKPbc	PKPbc	16 14 43.6	+0.5
KSP	**Ksiaz**	**148.71**	**347**	*e*PKIKP	PKPdf	16 14 39.4	-0.2
KSP				*e*		16 14 44.3	
KSP	**Ksiaz**	**148.71**	**347**	*e*PKP	PKPdf	16 14 39.4	-0.2
KSP				*e*PKPdf	PKPbc	16 14 44.3	+0.9
KSP				*ep*PKP	pPKPdf	16 14 56.7	+4.9
STHS	**Stebnicka Huta**	**148.73**	**341**	*i* PKP	PKPbc	16 14 44.3	+0.8
STHS				*e*		16 22 48.5	
BALT	**Daday**	**148.75**	**318**	*i* P	PKPbc	16 14 45.2	+1.7
KOLS	**Kolonicke sedl**	**148.82**	**339**	*e*PKP	PKPbc	16 14 46.4	+2.7
KOLS				*e*		16 14 53.0	
KOLS				*e*		16 22 55.8	
BURAR	**Bucovina Array**	**148.83**	**334⇑**	*i* P	PKPbc	16 14 45.1	+1.4
CLL	**Collm**	**148.83**	**351**	*e*PKPbc	PKPbc	16 14 43.9	+0.2
CLL				*e*PKPab	PKPab	16 14 48.1	+0.5
CLL	**Collm**	**148.83**	**351**	*e*PKPdf	PKPdf	16 14 40.0	+0.2
CLL				⇑*i*PKPbc	PKPbc	16 14 44.1	+0.4
	comp=Z,91nm,1.1s						
CLL				⇓*i*PKPab	PKPab	16 14 48.0	+0.4
	comp=Z,35nm,1.0s						
CLL				*i* sPKPbc		16 14 57.2	
CLL				*i* sPKPab		16 15 03.3	
CLL	**Collm**	**148.83**	**351⇑**	*e*PKIKP	PKPdf	16 14 40.0	+0.2
CLL				*i*		16 14 48.0	
CLL				pmax	pmax		
	comp=Z,91nm,1.1s						
CLL				pmax	pmax		
	comp=Z,35nm,1.0s						
CLL	**Collm**	**148.83**	**351**	*e*PKP	PKPdf	16 14 40.0	+0.2
CLL				⇑*i*PKP	PKPdf	16 14 44.1	+4.3
GTTG	**Gvttingen**	**148.93**	**355**	*e*PKPbc	PKPbc	16 14 44.3	+0.3
GTTG				*e*PKPab	PKPab	16 14 48.7	+0.7
UPC	**Upice**	**149.09**	**347⇑**	*e*PKPB	PKPbc	16 14 45.6	+1.3
BRG	**Berggiesshubel**	**149.11**	**350**	*e*PKPbc	PKPbc	16 14 44.7	+0.3
BRG	**Berggiesshubel**	**149.11**	**350**	*i* PKP	PKPdf	16 14 41.4	+1.2
	comp=Z,16nm,1.5s						
BRG				*i*		16 14 45.0	
	comp=Z,46nm,1.3s						
BRG	**Berggiesshubel**	**149.11**	**350**	*i* PKIKP	PKPdf	16 14 41.4	+1.2
BRG				*i*		16 14 45.0	
BRG				pmax	pmax		
	comp=Z,17nm,1.5s						
BRG				pmax	pmax		
	comp=Z,46nm,1.3s						
CRVS	**Cervenica-Dubn**	**149.12**	**340**	*e*PKP	PKPbc	16 14 47.8	+3.4
CRVS				*e*		16 22 58.2	
COBT	**Iskenderun**	**149.14**	**307**	*i* P	PKPbc	16 14 46.0	+1.6
DPC	**Dobruska-Polom**	**149.17**	**347**	*e*PKPDF	PKPdf	16 14 41.2	+0.9
DPC				⇑*e*PKPB	PKPbc	16 14 45.9	+1.3
DPC				*ex*	x	16 28 06.4	
DPC	**Dobruska-Polom**	**149.17**	**347**	*ex*	PKPdf	16 14 39.6	-0.7
DPC	**Dobruska-Polom**	**149.17**	**347**	*e*	PKPdf	16 14 39.6	-0.7
BUG	**Bochum--Univer**	**149.18**	**358**	*e*PKPbc	PKPbc	16 14 44.7	+0.1
AVNT	**Avonos**	**149.19**	**312**	*i* P	PKPdf	16 14 43.3	+3.0
OKC	**Ostrava-Krasne**	**149.23**	**344⇑**	*e*PKPB	PKPbc	16 14 45.7	+1.0
OKC	**Ostrava-Krasne**	**149.23**	**344**	*e*

LANF	**Langenberg**	**151.62**	**357**	PKP		PKPbc	16 14 51.3	+0.9
LDF	**La Druitiere**	**151.63**	**8**	*e*PKIKP		PKPdf	16 14 43.1	-1.1
	comp=Z,27nm,1.1s							
GRR	**Gorron**	**151.72**	**10**	*e*PKIKP		PKPdf	16 14 43.4	-0.9
	comp=Z,44nm,1.2s							
STU	**Stuttgart**	**151.75**	**355**	*e*PKPbc		PKPbc	16 14 51.0	+0.3
STU	**Stuttgart**	**151.75**	**355**	*e*PKPbc		PKPbc	16 14 51.0	+0.3
QUIF	**Quistinic**	**151.76**	**13**	*e*PKIKP		PKPdf	16 14 43.2	-1.2
	comp=Z,185nm,1.8s							
BZS	**Buzias**	**151.88**	**336**	⇓*i*P		PKPbc	16 14 51.4	+0.4
CSS	**Prodhromos**	**151.94**	**306**	*e*PKPbc		PKPbc	16 14 51.5	+0.4
MOA	**Molln**	**151.97**	**348**	⇑*i*P		PKPbc	16 14 51.4	+0.2
	comp=Z,21nm,1.2s							
MEZF	**Maizieres J'vi**	**152.13**	**1**	*e*PKIKP		PKPdf	16 14 44.3	-0.6
FUR	**Furstenfeldbru**	**152.14**	**352**	*e*PKPbc		PKPbc	16 14 52.5	+0.9
FUR	**Furstenfeldbru**	**152.14**	**352**	*e*PKPbc		PKPbc	16 14 52.5	+0.9
ULDT	**Uludag**	**152.19**	**320**	*i* P		PKPbc	16 14 53.0	+1.3
WLS	**Welschbruch**	**152.21**	**358**	PKP		PKPbc	16 14 52.4	+0.7
CDF	**Champ du Feu**	**152.21**	**358**	*e*PKIKP		PKPdf	16 14 43.9	-1.1
BFO	**Black Forest**	**152.25**	**357**	*e*PKPbc		PKPbc	16 14 51.9	+0.1
BFO	**Black Forest**	**152.25**	**357**	*e*PKPbc		PKPbc	16 14 51.6	-0.2
BFO	**Black Forest**	**152.25**	**357**	*e*PKPbc		PKPbc	16 14 51.9	+0.1
EIL	**Elat**	**152.26**	**295**	*e*PKPbc		PKPbc	16 14 52.8	+0.9
THEF	**They Montfort**	**152.42**	**360**	PKP		PKPbc	16 14 53.1	+0.9
HAU	**Haudompre**	**152.64**	**359**	*e*PKIKP		PKPdf	16 14 45.8	+0.1
TKTP	**Tekketepe**	**152.64**	**315**	*i* P		PKPbc	16 14 53.1	+0.4
FELD	**Feldberg im Sc**	**152.72**	**357**	PKP		PKPbc	16 14 53.5	+0.6
HINF	**Hinteralfeld**	**152.82**	**359**	*e*PKIKP		PKPdf	16 14 44.9	-1.0
KOGS	**Kog**	**152.85**	**344**	*e*PKPbc		PKPbc	16 14 53.6	+0.4
KOGS				*e*PKPab		PKPab	16 15 05.2	+0.9
KBA	**Koelnbreinsper**	**152.88**	**349**	⇑*i*P		PKPbc	16 14 52.9	-0.4
	comp=Z,18nm,0.8s							
KBA	**Koelnbreinsper**	**152.88**	**349**	⇑*i*P		PKPbc	16 14 52.9	-0.4
MOTA	**Moosalm**	**152.97**	**352**	⇓*i*P		PKPbc	16 14 53.5	+0.1
	comp=Z,30nm,1.1s							
MOTA	**Moosalm**	**152.97**	**352**	⇓*i*P		PKPbc	16 14 53.5	+0.1
WTTA	**Wattenberg**	**152.98**	**351**	⇑*i*P		PKPbc	16 14 53.9	+0.5
	comp=Z,52nm,1.3s							
WTTA	**Wattenberg**	**152.98**	**351**	⇑*i*P		PKPbc	16 14 53.9	+0.5
SQTA	**Sankt Quirin**	**153.08**	**352**	⇑*i*P		PKPbc	16 14 54.0	+0.4
	comp=Z,17nm,1.0s							
DAVA	**Damuels**	**153.16**	**354**	⇓*i*P		PKPbc	16 14 53.5	-0.4
	comp=Z,36nm,1.3s							
LOMF	**Lomont**	**153.28**	**359**	PKP		PKPbc	16 14 55.0	+0.9
LOR	**Lormes**	**153.32**	**3**	*e*PKIKP		PKPdf	16 14 46.0	-0.7
	comp=Z,32nm,1.2s							
SSF	**Saint Saulge**	**153.51**	**4**	*e*PKIKP		PKPdf	16 14 46.2	-0.7
GCIS	**Gornji Cirnik**	**153.54**	**345**	*e*PKPbc		PKPbc	16 14 55.3	+0.6
MFF	**Saint Martin d**	**153.57**	**9**	*e*PKIKP		PKPdf	16 14 46.1	-0.9
	comp=Z,119nm,1.8s							
CADS	**Cadrg**	**153.63**	**348**	*e*PKPdf		PKPdf	16 14 46.8	-0.3
LJU	**Ljubljana**	**153.64**	**346**	*e*PKPdf		PKPdf	16 14 47.5	+0.4
LJU				*e*PKPbc		PKPbc	16 14 55.0	+0.1
AVF	**Avril sur Loir**	**153.77**	**4**	*e*PKIKP		PKPdf	16 14 46.2	-1.1
SMF	**Signal de Mont**	**153.94**	**3**	*e*PKIKP		PKPdf	16 14 46.6	-0.9
CEY	**Cerknica**	**153.95**	**346**	*e*PKPdf		PKPdf	16 14 47.8	+0.3
BOJS	**Bojanci**	**153.98**	**345**	*e*PKPdf		PKPdf	16 14 47.4	-0.2
BOJS				*e*PKPbc		PKPbc	16 14 56.2	+0.6
BOJS				*e*PKPab		PKPab	16 15 09.7	+0.6
CABF	**La Chapelle**	**154.03**	**360**	*e*PKIKP		PKPdf	16 14 47.4	-0.3
	comp=Z,39nm,1.2s							
TCF	**Toulx Ste Croi**	**154.18**	**6**	*e*PKIKP		PKPdf	16 14 46.8	-1.1
RJF	**Les Rejaudoux**	**155.07**	**7**	*e*PKIKP		PKPdf	16 14 48.5	-0.6
CAF	**Calviac**	**155.51**	**7**	*e*PKIKP		PKPdf	16 14 49.2	-0.5
ORIF	**Oris-en-Rattie**	**155.73**	**0**	*e*PKIKP		PKPdf	16 14 49.6	-0.4
VIVF	**Saint-Julien-l**	**155.77**	**2**	*e*PKIKP		PKPdf	16 14 49.4	-0.7
MBDF	**Montbardon**	**155.91**	**359**	*e*PKIKP		PKPdf	16 14 49.7	-0.5
	comp=Z,141nm,1.9s							
LASF	**Ste Croix**	**156.51**	**4**	*e*PKIKP		PKPdf	16 14 50.9	-0.1
	comp=Z,36nm,1.3s							
SJPF	**Ste Jean**	**156.75**	**13**	*e*PKIKP		PKPdf	16 14 51.2	-0.1
	comp=Z,17nm,1.0s							
FRF	**La Foret Royal**	**157.08**	**359**	*e*PKIKP		PKPdf	16 14 50.7	-1.1
	comp=Z,51nm,1.4s							
MTLF	**Montolieu**	**157.09**	**7**	*e*PKIKP		PKPdf	16 14 51.3	-0.5
	comp=Z,16nm,1.1s							
EPF	**Esparros**	**157.13**	**11**	*e*PKIKP		PKPdf	16 14 51.5	-0.3
	comp=Z,32nm,1.1s							
ESDC	**Sonseca Array**	**159.17**	**22**	PKP		PKPdf	16 14 55.2	+0.9
	comp=Z,0.2nm,0.3s,baz=333,slow=2.4,SNR=6.2							
ESDC				PKPab		PKPab	16 15 32.0	+0.7
	comp=Z,0.2nm,0.3s,baz=311,slow=4.6,SNR=5.6							
DBIC	**Lembokro**	**162.67**	**141**	PKP		PKPdf	16 14 58.0	-0.1
	comp=Z,6.7nm,1.0s,baz=93,slow=3.8,SNR=4.5							
TORD	**Torodi Ar. Bea**	**171.58**	**151**	PKPab		PKPab	16 16 25.0	-1.0
	comp=Z,2.1nm,0.9s,baz=227,slow=2.6,SNR=3.3							

IDC 03 16:00:39.1±4.7, 2080S×17401W, h0km, mb4.4/4, mb1 4.6/4, mb1mx4.3/15, mbtmp4.4/4, Error ellipse: s-maj=134.4km s-min=39.1km az=133.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.17**	**264**	P	P	16 07 52.7	+0.9
	11nm,1.0s,baz=86,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**48.08**	**256**	P	P	16 09 20.8	+0.3
	4.5nm,0.7s,baz=96,slow=7.7,SNR=11						
WRA	**Warramunga Arr**	**48.26**	**261**	P	P	16 09 21.5	-0.2
	5.7nm,0.7s,baz=95,slow=8.1,SNR=3.0						
MJAR	**Matsushiro Arr**	**72.72**	**321**	P	P	16 12 08.8	-0.2
	2.6nm,0.7s,baz=153,slow=6.0,SNR=15						
AKASG	**Malin Array Be**	**145.00**	**334**	PKPbc	PKPbc	16 20 17.1	-0.5
	1.4nm,0.5s,baz=41,slow=4.3,SNR=9.5						

MAN 03 16:04:10.0, 1830N×12123E, h27km, mb3.5, ML4.7, MS1.5, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APYP	**Conner**	**0.43**	**179**	*e*P	Pb	16 04 20.3	+1.1
APYP				*e*S	Sb	16 04 47.1	+22
ABRA	**Dolores**	**0.81**	**218**	*e*P	Pb	16 04 23.4	-2.1
CAUP	**Cauayan**	**1.46**	**157**	*e*P	Pn	16 04 35.5	+0.9
PALP	**Palanan**	**1.67**	**137**	*e*P	Pn	16 04 30.0	-7.5
BALP	**Baler**	**2.56**	**173**	*e*P	Pn	16 04 50.3	+0.6
OCLP	**Ormoc**	**7.91**	**155**	*e*P	Pn	16 06 08.1	+4.9

*IDC **03** 16:07:46.5±0.7, 2063S×174.16W, h0km, mb4.6/14, mb1 4.7/15, mb1mx4.6/20, mbtmp4.6/15, ML4.2/1, Error ellipse: s-maj=28.1km s-min=16.5km az=139.0*
*ISCJB **03** 16:07:50.3±0.5, 2064S±0.10×174.3W±0.1, h33km, mb4.8/22, Error ellipse: s-maj=16.7km s-min=9.9km az=93.9*
*NEIC **03** 16:07:52.0±0.4, 2059S×174.20W, h35km, mb5.0/11, Error ellipse: s-maj=14.1km s-min=7.8km az=136.0*
*MOS **03** 16:07:58.9±1.0, 1983S×175.53W, h33km, mb5.1/5, Error ellipse: s-maj=26.9km s-min=15.6km az=8.4*

ISC 03 16:07:52.1±0.5, 2062S±009×1742W±0.1, h35km, n73, σ0s88/45, mb4.8/22, 6C-4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.06**	**19**	Pn	**Pn**	**16 09 27.5**	**-5.4**
	12nm,0.3s,baz=330,slow=20,SNR=5.1						
AFI				Sn	**Sn**	**16 10 39.4**	**-12**
	18nm,0.3s,baz=58,slow=20,SNR=4.2						
AFI	**Afiamalu**	**7.06**	**19**	*e*Pn	**Pn**	**16 09 30.7**	**-2.2**
AFI				Sn	**Sn**	**16 10 40.4**	**-11**
URZ	**Urewera**	**19.13**	**201**	P	**Pn**	**16 12 13.0**	**-0.2**
	0.7nm,0.3s,baz=261,slow=1.8,SNR=4.1						
RPZ	**Rata Peaks**	**26.12**	**205**	P	**P**	**16 13 22.2**	**-0.6**
	14nm,1.2s,mb4.4,baz=13,slow=18,SNR=2.8						
HNR	**Honiara**	**27.30**	**290**	P	**P**	**16 13 33.9**	**+0.5**
CTA	**Charters Tower**	**37.03**	**264**	*e*P	**P**	**16 14 58.8**	**+0.3**
	11nm,1.2s,mb4.6						
CTA	**Charters Tower**	**37.03**	**264**	P	**P**	**16 14 59.2**	**+0.6**
	8.3nm,0.8s,mb4.6,baz=85,slow=10,SNR=19						
CTA	**Charters Tower**	**37.03**	**264**	*e*P	**P**	**16 14 58.8**	**+0.3**
CTA				pmax	pmax		
	comp=Z,11nm,1.2s						
CTAO	**Charters Tower**	**37.03**	**264**	*e*P	**P**	**16 14 58.8**	**+0.3**
PMG	**Port Moresby**	**38.87**	**281**	P	**P**	**16 15 12.4**	**-1.6**
	comp=Z,8.8nm,0.9s,mb4.5,baz=100,slow=6.1,SNR=3.0						
STKA	**Stephens Creek**	**40.97**	**245**	*e*P	**P**	**16 15 29.9**	**-1.5**
	comp=Z,12nm,1.1s,mb4.5						
STKA	**Stephens Creek**	**40.97**	**245**	P	**P**	**16 15 30.1**	**-1.3**
	comp=Z,8.3nm,0.7s,mb4.5,baz=80,slow=11,SNR=14						
ASAR	**Alice Springs**	**47.97**	**256**	P	**P**	**16 16 27.1**	**-0.2**
	comp=Z,14nm,1.0s,mb4.9,baz=95,slow=8.2,SNR=18						
WRAB	**Tennant Creek**	**48.11**	**261**	*e*P	**P**	**16 16 28.6**	**+0.1**
WRA	**Warramunga Arr**	**48.12**	**261**	P	**P**	**16 16 28.2**	**-0.4**
	comp=Z,7.8nm,0.8s,mb4.8,baz=96,slow=7.6,SNR=4.1						
KAKA	**Kakadu**	**51.55**	**270**	*e*P	**P**	**16 16 54.6**	**0.0**
	comp=Z,47nm,1.1s,mb5.3						
KLBR	**Kellerberrin**	**61.24**	**245**	*e*P	**P**	**16 18 03.7**	**+0.1**
	comp=Z,60nm,1.2s,mb5.6						
MJAR	**Matsushiro Arr**	**72.48**	**321**	P	**P**	**16 19 16.4**	**+1.3**
	comp=Z,4.3nm,0.8s,mb4.4,baz=151,slow=6.2,SNR=15						
MAJO	**Matsushiro**	**72.48**	**321**	*e*P	**P**	**16 19 15.8**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
MAJO	**Matsushiro**	**72.48**	**321**	*e*P	**P**	**16 19 15.8**	**+0.6**
	comp=Z,7.3nm,0.9s,mb4.6						
MAT	**Matsushiro**	**72.48**	**321**	P	**P**	**16 19 15.9**	**+0.8**
MAT	**Matsushiro**	**72.48**	**321**	*e*P	**P**	**16 19 16.0**	**+0.9**
MAT				pmax	pmax		
	comp=Z,36nm,1.5s,mb5.1						
MAT	**Matsushiro**	**72.48**	**321**	*e*P	**P**	**16 19 16.0**	**+0.9**
	comp=Z,36nm,1.5s,mb5.1						
JOW	**Kunigami**	**73.02**	**308**	P	**P**	**16 19 19.6**	**+1.3**
	comp=Z,22nm,1.0s,mb5.0,baz=79,slow=12,SNR=3.6						
YSS	**Yuzh-Sakhalins**	**77.66**	**331**	*e*P	**P**	**16 19 45.0**	**+0.1**
NVAR	**Mina Array Bea**	**78.70**	**42**	P	**P**	**16 19 51.4**	**+0.7**
	comp=Z,3.5nm,0.8s,mb4.3,baz=219,slow=7.3,SNR=9.6						
NVAR	**Mina Array Bea**	**78.70**	**42**	P	**P**	**16 19 51.4**	**+0.7**
TPNV	**Topopah Spring**	**79.11**	**44**	*e*P	**P**	**16 19 52.8**	**-0.2**
MAW	**Mawson**	**82.64**	**199**	P	**P**	**16 20 13.4**	**+1.6**
	comp=Z,8.5nm,1.1s,mb4.7,baz=137,slow=12,SNR=3.6						
HLID	**Hailey**	**84.12**	**39**	*e*P	**P**	**16 20 20.1**	**+0.7**
	comp=Z,8.6nm,1.1s,mb4.8						
TTA	**Tatalina**	**84.50**	**8**	*e*P	**P**	**16 20 21.7**	**+0.4**
TTA				pmax	pmax		
	comp=Z,77nm,1.8s,mb5.5						
TTA	**Tatalina**	**84.50**	**8**	*e*P	**P**	**16 20 21.7**	**+0.3**
	comp=Z,77nm,1.8s,mb5.5						
ANMO	**Albuquerque**	**84.72**	**50**	*e*P	**P**	**16 20 23.7**	**+1.2**
ANMO				pmax	pmax		
	comp=Z,18nm,1.5s						
ANMO	**Albuquerque**	**84.72**	**50**	*e*P	**P**	**16 20 23.7**	**+1.2**
	comp=Z,18nm,1.5s,mb5.0						
PDAR	**Pinedale Array**	**86.63**	**42**	P	**P**	**16 20 31.4**	**-0.5**
	comp=Z,14nm,0.9s,mb4.2,baz=202,slow=3.2,SNR=4.4						
COLA	**College**	**87.60**	**11**	*e*P	**P**	**16 20 33.8**	**-2.9**
COLA	**College**	**87.60**	**11**	*e*P	**P**	**16 20 35.7**	**-0.9**
	comp=Z,24nm,1.2s,mb5.3						
ILAR	**Eielson Array**	**87.68**	**11**	P	**P**	**16 20 36.6**	**-0.4**
	comp=Z,2.7nm,0.8s,mb4.5,baz=222,slow=5.1,SNR=10						
DAWY	**Dawson**	**88.63**	**15**	*e*P	**P**	**16 20 40.8**	**-0.7**
INK	**Inuvik**	**93.49**	**14**	P	**P**	**16 21 03.5**	**-0.7**
	comp=Z,3.3nm,1.2s,mb4.6,baz=126,slow=7.7,SNR=3.7						
INK	**Inuvik**	**93.49**	**14**	*e*P	**P**	**16 21 03.4**	**-0.7**
INK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
INK	**Inuvik**	**93.49**	**14**	*e*P	**P**	**16 21 03.4**	**-0.8**
	comp=Z,6.9nm,1.3s,mb4.9						
YKA	**Yellowknife Ar**	**95.15**	**24**	P	**P**	**16 21 10.9**	**-0.9**
	comp=Z,2.4nm,1.2s,mb4.5,baz=242,slow=4.3,SNR=6.4						
BDFB	**Brasilia**	**116.03**	**120**	PKP	PKPdf	16 26 30.1	-1.2
	comp=Z,3.9nm,0.5s,baz=63,slow=4.5,SNR=5.4						
ARCES	**ARCESS Array B**	**129.63**	**351**	PKP	PKPdf	16 26 55.9	-1.5
	comp=Z,3.9nm,1.1s,baz=28,slow=3.1,SNR=4.7						
AKASG	**Malin Array Be**	**144.77**	**334**	PKP	PKPdf	16 27 24.4	-0.8
	comp=Z,10nm,0.8s,baz=39,slow=4.2,SNR=25						
MALT	**Malatya**	**146.81**	**309**	⇑*i*P	PKPdf	16 27 32.8	+4.1
LVV	**L'vov**	**147.47**	**338**	*e*PKHKP		16 27 32.5	
KSP	**Ksiaz**	**148.73**	**347**	*e*PKIKP	PKPbc	16 27 37.0	+1.3
STHS	**Stebnicka Huta**	**148.74**	**340**	*e*PKP	PKPbc	16 27 37.8	+2.1
STHS				*e*		16 27 48.7	
BURAR	**Bucovina Array**	**148.82**	**334**	⇑*i*P	PKPbc	16 27 37.0	+1.1
BURAR	**Bucovina Array**	**148.82**	**334**	⇑P	PKPbc	16 27 37.0	+1.1
KOLS	**Kolonicke sedl**	**148.82**	**339**	*e*PKP	PKPbc	16 27 38.3	+2.4
KOLS				*e*		16 27 50.5	
CLL	**Collm**	**148.86**	**351**	⇑*i* (PKP)		16 27 36.6	
	comp=Z,24nm,1.3s						
CLL				*i* x	x	16 27 47.6	
UPC	**Upice**	**149.10**	**347**	*e*PKP	PKPbc	16 27 37.9	+1.3
DPC	**Dobruska-Polom**	**149.19**	**347**	*e*PKP	PKPbc	16 27 38.5	+1.7
BRTR	**Keskin Array B**	**149.51**	**315**	PKPbc	PKPbc	16 27 37.6	0.0
	comp=Z,2.8nm,0.8s,baz=146,slow=3.4,SNR=6.8						
KECS	**Kecovo**	**149.80**	**340**	*e*PKP	PKPbc	16 27 39.7	+1.4
KECS				*e*		16 27 49.7	
KECS	**Kecovo**	**149.80**	**340**	*e*PKIKP	PKPbc	16 27 39.7	+1.4
KECS				pmax	pmax		
	comp=Z,8.0nm,1.3s						
PRU	**Pruhonice**	**149.88**	**349**	*e*PKP	PKPbc	16 27 40.0	+1.5
HGN	**Heimansgroeve**	**149.92**	**360**	*ex*	x	16 27 37.0	
NKC	**Novy Kostel**	**149.99**	**351**	*e*PKP	PKPbc	16 27 39.6	+0.8
MLR	**Muntele Rosu**	**150.17**	**331**	⇓*i*P	PKPbc	16 27 37.9	-1.3
MLR	**Muntele Rosu**	**150.17**	**331**	⇓P	PKPbc	16 27 37.9	-1.3
VYHS	**Vyhne**	**150.28**	**342**	*e*PKP	PKPbc	16 27 40.6	+1.1
VYHS				*e*		16 27 52.5	
VOIR		**150.61**	**332**	⇓*i*P	PKPbc	16 27 39.8	-0.5
VOIR		**150.61**	**332**	⇓P	PKPbc	16 27 39.8	-0.5
KHC	**Kasperske Hory**	**150.88**	**349**	*e*PKP	PKPbc	16 27 42.0	+1.1
ZST	**Bratislava**	**151.02**	**344**	*e*PKP	PKPab	16 27 49.9	+1.1
GERES	**GERESS Array B**	**151.14**	**349**	PKPbc	PKPbc	16 27 42.1	+0.6
	comp=Z,3.3nm,1.0s,baz=90,slow=1.3,SNR=8.6						
BZS	**Buzias**	**151.88**	**336**	⇑*i*P	PKPbc	16 27 44.2	+1.0
CSS	**Prodhromos**	**151.89**	**306**	*e*PKPbc	PKPbc	16 27 44.1	+0.8
PKSM	**Moragy**	**152.39**	**341**	⇑*i*P	PKPbc	16 27 45.0	+0.6

IDC 03 16:10:33.3±4.3, 2079S×17394W, h0km, mb4.1/5, mb1 4.3/5, mb1mx4.1/15, mbtmp4.1/5, MS5.5/1, Ms1 5.5/1, ms1mx4.2/31, Error ellipse: s-maj=125.9km s-min=39.6km az=130.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.15**	**17**	LR	LR	16 14 13.5	
	comp=Z,37μm,21.7s,baz=342,slow=31						
CTA	**Charters Tower**	**37.24**	**264**	P	P	16 17 47.9	+1.3
	6.6nm,0.9s,baz=83,slow=8.1,SNR=2.4						
STKA	**Stephens Creek**	**41.10**	**245**	P	P	16 18 18.9	+0.1
	2.9nm,0.8s,baz=79,slow=10,SNR=3.3						
ASAR	**Alice Springs**	**48.15**	**256**	P	P	16 19 14.4	-0.7
	1.8nm,0.8s,baz=92,slow=8.4,SNR=4.2						
WRA	**Warramunga Arr**	**48.32**	**261**	P	P	16 19 16.7	+0.2
	5.6nm,0.8s,baz=96,slow=7.8,SNR=3.5						
MJAR	**Matsushiro Arr**	**72.76**	**321**	P	P	16 22 03.3	0.0
	0.9nm,0.7s,baz=125,slow=5.8,SNR=4.0						
AKASG	**Malin Array Be**	**145.03**	**334**	PKPbc	PKPbc	16 30 11.2	-0.7
	1.6nm,0.7s,baz=43,slow=3.9,SNR=5.4						

*IDC **03** 16:14:43.5±2.6, 2042S×17377W, h0km, mb4.1/5, mb1 4.3/6, mb1mx4.1/16, mbtmp4.2/6, ML3.1/1, Error ellipse: s-maj=79.0km s-min=26.5km az=132.0*
*ISCJB **03** 16:14:46.0±6.0, 2045S±0.7×1737W±1.0, h33km, mb4.0/5, Error ellipse: s-maj=162.2km s-min=16.1km az=72.3*
*NEIC **03** 16:14:49.1±3.9, 2034S×17380W, h37km±27km, mb4.3/1, Error ellipse: s-maj=62.2km s-min=16.2km az=141.0*

ISC 03 16:14:48.3±5.9, 2055S±07×1737W±1.0, h35km, n11, σ0s70/9, mb4.0/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.74**	**16**	Pn	**Pn**	**16 16 24.8**	**+0.1**
	20nm,0.3s,baz=203,slow=8.2,SNR=4.5						
CTA	**Charters Tower**	**37.55**	**263**	P	**P**	**16 21 58.5**	**-0.6**
	2.9nm,0.6s,mb4.2,baz=96,slow=13,SNR=10						
CTAO	**Charters Tower**	**37.55**	**263**	*e*P	**P**	**16 21 59.4**	**+0.3**
	1.6nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**41.49**	**245**	P	**P**	**16 22 30.7**	**-1.2**
	1.3nm,0.5s,mb3.8,baz=71,slow=14,SNR=7.8						
STKA	**Stephens Creek**	**41.49**	**245**	*e*P	**P**	**16 22 31.7**	**-0.2**
ASAR	**Alice Springs**	**48.50**	**256**	P	**P**	**16 23 29.1**	**+1.5**
	1.0nm,0.6s,mb4.0,baz=98,slow=8.0,SNR=13						
WRAB	**Tennant Creek**	**48.63**	**261**	*e*P	**P**	**16 23 28.2**	**-0.5**
WRA	**Warramunga Arr**	**48.64**	**261**	P	**P**	**16 23 28.7**	**0.0**
	0.8nm,0.5s,mb4.0,baz=96,slow=7.6,SNR=10						
MJAR	**Matsushiro Arr**	**72.66**	**321**	P	**P**	**16 26 12.0**	**-0.3**
	1.8nm,0.6s,mb4.2,baz=152,slow=6.1,SNR=14						
ARCES	**ARCESS Array B**	**129.54**	**351**	PKP	PKPdf	16 33 53.6	+0.3
	2.1nm,1.0s,baz=347,slow=3.7,SNR=5.0						
AKASG	**Malin Array Be**	**144.83**	**335**	PKP	PKPdf	16 34 21.0	-0.5
	1.3nm,0.5s,baz=37,slow=4.3,SNR=11						

*IDC **03** 16:16:33.4±0.8, 2084S×174.04W, h0km, mb4.3/9, mb1 4.5/10, mb1mx4.3/17, mbtmp4.3/10, ML4.0/1, Error ellipse: s-maj=33.2km s-min=18.7km az=149.0*
*ISCJB **03** 16:16:36.2±0.8, 209S±02×174.1W±0.2, h33km, mb4.3/10, Error ellipse: s-maj=26.4km s-min=15.1km az=95.1*
*NEIC **03** 16:16:38.8±0.6, 2088S×174.06W, h35km, mb4.6/2, Error ellipse: s-maj=24.1km s-min=12.5km az=144.0*
*MOS **03** 16:16:42.8±2.7, 1997S×174.94W, h33km, mb4.8/2, Error ellipse: s-maj=43.6km s-min=18.0km az=175.6*

ISC 03 16:16:38.1±0.8, 209S±02×1740W±02, h35km, n28, σ0s70/18, mb4.3/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**18.92**	**202**	P	**Pn**	**16 20 56.8**	**+0.1**
	0.4nm,0.3s,baz=349,slow=10,SNR=2.4						
CTA	**Charters Tower**	**37.20**	**264**	P	**P**	**16 23 47.5**	**+1.6**
	5.6nm,0.9s,mb4.4,baz=99,slow=16,SNR=5.8						
CTA	**Charters Tower**	**37.20**	**264**	P	**P**	**16 23 47.5**	**+1.6**
CTAO	**Charters Tower**	**37.20**	**264**	*e*P	**P**	**16 23 47.2**	**+1.3**
PMG	**Port Moresby**	**39.12**	**281**	P	**P**	**16 24 00.7**	**-1.3**
	6.4nm,0.8s,mb4.4,baz=163,slow=6.9,SNR=2.4						
PMG	**Port Moresby**	**39.12**	**281**	*e*P	**P**	**16 24 01.7**	**-0.3**
PMG				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PMG	**Port Moresby**	**39.12**	**281**	*e*P	**P**	**16 24 01.7**	**-0.3**
	comp=Z,6.2nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**41.02**	**245**	P	**P**	**16 24 17.0**	**-0.8**
	comp=Z,3.2nm,0.7s,mb4.1,baz=111,slow=9.0,SNR=8.6						
STKA	**Stephens Creek**	**41.02**	**245**	*e*P	**P**	**16 24 16.8**	**-1.0**
ASAR	**Alice Springs**	**48.09**	**257**	P	**P**	**16 25 15.0**	**+0.8**
	comp=Z,4.5nm,0.9s,mb4.5,baz=91,slow=8.2,SNR=12						
WRAB	**Tennant Creek**	**48.26**	**262**	*e*P	**P**	**16 25 15.1**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
WRAB	**Tennant Creek**	**48.26**	**262**	*e*P	**P**	**16 25 15.1**	**-0.5**
	comp=Z,4.9nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**48.27**	**262**	P	**P**	**16 25 15.3**	**-0.3**
	comp=Z,1.5nm,0.5s,mb4.3,baz=97,slow=7.6,SNR=18						
MJAR	**Matsushiro Arr**	**72.83**	**321**	P	**P**	**16 28 03.3**	**+0.1**
	comp=Z,2.9nm,0.8s,mb4.3,baz=156,slow=6.0,SNR=13						
NVAR	**Mina Array Bea**	**78.79**	**41**	P	**P**	**16 28 37.8**	**+0.6**
	comp=Z,1.6nm,0.6s,mb4.1,baz=224,slow=8.1,SNR=8.0						
PDAR	**Pinedale Array**	**86.72**	**42**	P	**P**	**16 29 17.8**	**-0.6**
	comp=Z,0.6nm,0.7s,mb4.0,baz=242,slow=3.2,SNR=4.0						
YKA	**Yellowknife Ar**	**95.35**	**24**	P	**P**	**16 29 58.5**

Error ellipse: s-maj=25.2km s-min=10.9km az=100.6
*MOS **03** 16:33:52.3±1.3, 20515×17412W, h33km, mb5.0/2, Error ellipse: s-maj=24.7km s-min=15.2km az=51.2*

ISC 03 16:33:54.0±0.6, 206S±01×1741W±01, h35km, n34, σ0§83/25, mb4.2/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.00**	**19**	Pn	**Pn**	**16 35 31.6**	**-2.4**
	7.9nm,0.3s,baz=192,slow=14,SNR=5.0						
AFI				Sn	**Sn**	**16 36 47.5**	**-4.8**
	7.1nm,0.3s,baz=139,slow=20,SNR=2.4						
AFI				LR	LR	16 37 33.3	
	comp=Z,72μm,20.6s,baz=272,slow=32						
AFI	**Afiamalu**	**7.00**	**19**	P	**Pn**	**16 35 31.6**	**-2.4**
AFI						16 36 47.6	
URZ	**Urewera**	**19.19**	**202**	P	**Pn**	**16 38 11.6**	**-4.2**
	0.9nm,0.3s,baz=358,slow=7.7,SNR=4.1						
CTA	**Charters Tower**	**37.13**	**264**	P	**P**	**16 41 01.6**	**+0.3**
	3.3nm,0.9s,mb4.2,baz=117,slow=6.8,SNR=2.7						
STKA	**Stephens Creek**	**41.06**	**245**	P	**P**	**16 41 33.4**	**-0.8**
	3.4nm,0.8s,mb4.0,baz=64,slow=6.6,SNR=6.6						
ASAR	**Alice Springs**	**48.07**	**256**	P	**P**	**16 42 29.9**	**-0.1**
	2.4nm,0.8s,mb4.3,baz=83,slow=8.2,SNR=15						
WRAB	**Tennant Creek**	**48.21**	**261**	*e*P	**P**	**16 42 30.7**	**-0.4**
WRA	**Warramunga Arr**	**48.22**	**261**	P	**P**	**16 42 31.6**	**+0.4**
	0.8nm,0.3s,mb4.3,baz=96,slow=7.6,SNR=24						
VNDA	**Vanda**	**58.18**	**186**	P	**P**	**16 43 43.5**	**-0.9**
	1.7nm,0.9s,mb4.1,baz=2,slow=7.7,SNR=4.3						
MJAR	**Matsushiro Arr**	**72.51**	**321**	P	**P**	**16 45 18.7**	**+1.5**
	1.3nm,0.7s,mb4.0,baz=155,slow=6.3,SNR=9.5						
MJAR	**Matsushiro Arr**	**72.51**	**321**	P	**P**	**16 45 18.7**	**+1.5**
CMB	**Columbia Colle**	**77.08**	**41**	*e*P	**P**	**16 45 43.3**	**-0.4**
NVAR	**Mina Array Bea**	**78.61**	**41**	P	**P**	**16 45 52.5**	**+0.4**
	3.2nm,0.9s,mb4.3,baz=222,slow=8.4,SNR=14						
TPNV	**Topopah Spring**	**79.03**	**44**	*e*P	**P**	**16 45 54.5**	**+0.1**
TPNV				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
TPNV	**Topopah Spring**	**79.03**	**44**	*e*P	**P**	**16 45 54.5**	**0.0**
	comp=Z,7.5nm,1.1s,mb4.5						
TPH	**Tonopah**	**79.07**	**42**	P	**P**	**16 45 55.5**	**+0.8**
TPH				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
TPH	**Tonopah**	**79.07**	**42**	P	**P**	**16 45 55.5**	**+0.8**
	comp=Z,8.6nm,1.1s,mb4.6						
HLID	**Hailey**	**84.04**	**39**	P	**P**	**16 46 21.5**	**+0.6**
	comp=Z,6.6nm,1.3s,mb4.6						
ANMO	**Albuquerque**	**84.63**	**50**	P	**P**	**16 46 24.8**	**+0.9**
	comp=Z,1.9nm,0.7s,mb4.3,baz=226,slow=7.2,SNR=3.1						
ANMO	**Albuquerque**	**84.63**	**50**	P	**P**	**16 46 24.8**	**+0.9**
PDAR	**Pinedale Array**	**86.55**	**42**	P	**P**	**16 46 33.8**	**+0.3**
	comp=Z,0.5nm,0.7s,mb3.9,baz=215,slow=4.7,SNR=4.4						
ILAR	**Eielson Array**	**87.63**	**11**	P	**P**	**16 46 39.0**	**+0.3**
	comp=Z,1.1nm,1.0s,mb4.0,baz=219,slow=5.5,SNR=4.3						
YKA	**Yellowknife Ar**	**95.09**	**24**	P	**P**	**16 47 12.4**	**-0.9**
	comp=Z,0.5nm,0.7s,mb4.0,baz=239,slow=4.5,SNR=8.1						
YKA	**Yellowknife Ar**	**95.09**	**24**	P	**P**	**16 47 12.4**	**-0.9**
MKAR	**Makanchi Array**	**113.93**	**313**	PKP	PKiKP	16 52 28.6	-0.6
	comp=Z,0.4nm,0.7s,baz=225,slow=0.3,SNR=5.7						
ARCES	**ARCESS Array B**	**129.62**	**351**	PKP	PKPdf	16 52 59.0	-0.3
	comp=Z,0.9nm,0.6s,baz=18,slow=1.5,SNR=7.2						
AKASG	**Malin Array Be**	**144.78**	**334**	PKP	PKPdf	16 53 27.4	+0.3
	comp=Z,0.8nm,0.4s,baz=38,slow=4.8,SNR=7.8						
CLL	**Collm**	**148.84**	**351**	*e*PKPbc	PKPbc	16 53 41.0	+3.1
BRG	**Berggiesshubel**	**149.12**	**350**	*e*(P)	PKPbc	16 53 39.6	+1.0
	comp=Z,6.8nm,1.6s						
BRG	**Berggiesshubel**	**149.12**	**350**	*e*PKP2	PKPbc	16 53 39.6	+1.0
BRG				pmax	pmax		
	comp=Z,7.0nm,1.6s						
BRTR	**Keskin Array B**	**149.56**	**315**	PKPbc	PKPbc	16 53 41.5	+1.8
	comp=Z,2.8nm,0.9s,baz=111,slow=2.8,SNR=10						
KHC	**Kasperske Hory**	**150.87**	**350**	*e*PKP	PKPbc	16 53 44.5	+1.7
KHC				x	x	16 53 57.5	
KHC	**Kasperske Hory**	**150.87**	**350**	*e*P	PKPbc	16 53 44.5	+1.7
KHC				*e*		16 53 57.5	
GERES	**GERESS Array B**	**151.12**	**349**	PKPbc	PKPbc	16 53 44.1	+0.7
	comp=Z,1.3nm,0.8s,baz=338,slow=1.4,SNR=9.8						

*IDC **03** 16:41:26.7±2.1, 20505×17409W, h0km, mb4.1/5, mb1 4.4/6, mb1mx4.0/16, mbtmp4.2/6, ML2.7/1, Error ellipse: s-maj=88.8km s-min=23.4km az=144.0*
*NEIC **03** 16:41:28.6±1.3, 20555×17403W, h15km, mb4.4/1, Error ellipse: s-maj=46.8km s-min=12.5km az=137.0*
*ISCJB **03** 16:41:38.4±5.7, 195S±04×174.7W±04, h85km±45km, mb4.0/5, Error ellipse: s-maj=88.2km s-min=21.7km az=103.5*

ISC 03 16:41:39.4±5.2, 196S±04×1746W±04, h79km±41km, n12, σ0§49/11, mb4.0/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.28**	**26**	Pn	**Pn**	**16 43 09.4**	**+0.1**
	7.9nm,0.3s,baz=69,slow=20,SNR=7.0						
AFI				Sn	**Sn**	**16 44 19.5**	**-0.1**
	20nm,0.3s,baz=205,slow=19,SNR=4.7						
CTA	**Charters Tower**	**36.77**	**262**	P	**P**	**16 48 40.5**	**+1.2**
	3.7nm,0.5s,mb4.5,baz=87,slow=14,SNR=4.9						
CTA	**Charters Tower**	**36.77**	**262**	P	**P**	**16 48 40.5**	**+1.2**
CTAO	**Charters Tower**	**36.77**	**262**	P	**P**	**16 48 39.8**	**+0.6**
	2.8nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**41.05**	**244**	P	**P**	**16 49 10.7**	**-4.4**
	2.5nm,0.9s,mb4.0,baz=90,slow=15,SNR=3.1						
ASAR	**Alice Springs**	**47.84**	**255**	P	**P**	**16 50 08.8**	**-0.3**
	2.2nm,0.6s,mb4.2,baz=95,slow=7.7,SNR=54						
WRAB	**Tennant Creek**	**47.89**	**261**	*e*P	**P**	**16 50 09.2**	**-0.3**
WRA	**Warramunga Arr**	**47.90**	**261**	P	**P**	**16 50 09.2**	**-0.4**
	0.8nm,0.3s,mb4.0,baz=96,slow=7.5,SNR=78						
NVAR	**Mina Array Bea**	**78.21**	**42**	P	**P**	**16 53 30.4**	**+0.2**
	0.2nm,0.5s,mb3.1,baz=221,slow=8.3,SNR=4.9						
NVAR	**Mina Array Bea**	**78.21**	**42**	P	**P**	**16 53 30.4**	**+0.1**
AKASG	**Malin Array Be**	**143.70**	**334**	PKP	PKPdf	17 01 04.7	-0.5
	1.8nm,0.5s,baz=43,slow=4.0,SNR=14						
AKASG	**Malin Array Be**	**143.70**	**334**	PKP	PKPdf	17 01 04.7	-0.5

IDC 03 16:45:49.0±33.0, 1817S×17880W, h577km±274km, mb3.6/4, mb1 3.7/4, mb1mx3.2/14, mbtmp4.6/4, Error ellipse: s-maj=281.4km s-min=61.5km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**34.14**	**280**	P	P	16 51 47.3	+0.4
	9.5nm,0.8s,baz=87,slow=8.9,SNR=4.3						
STKA	**Stephens Creek**	**38.18**	**241**	P	P	16 52 20.1	-0.1
	2.3nm,0.4s,baz=88,slow=10,SNR=12						
WRA	**Warramunga Arr**	**44.22**	**260**	P	P	16 53 07.7	-0.2
	1.8nm,0.5s,baz=93,slow=8.8,SNR=25						
ASAR	**Alice Springs**	**44.37**	**255**	P	P	16 53 09.8	+0.8
	20nm,0.6s,baz=89,slow=7.9,SNR=198						
ASAR				PcP	PcP	16 54 40.3	+0.2
	0.8nm,0.7s,baz=111,slow=3.4,SNR=4.4						

*ISCJB **03** 16:51:04.5±2.2, 306N±0.1×1410E±03, h40km±21km, mb3.5/6, Error ellipse: s-maj=45.2km s-min=16.7km az=155.8*
*IDC **03** 16:51:06.9±3.4, 3066N×14095E, h42km±31km, mb3.4/6, mb1 3.5/8, mb1mx3.4/20, mbtmp3.6/8, ML3.2/2, Error ellipse: s-maj=45.3km s-min=19.5km az=83.0*
*NEIC **03** 16:51:08.6±1.6, 3067N×14090E, h59km±14km, Error ellipse: s-maj=28.6km s-min=12.5km az=81.0*

ISC 03 16:51:08.2±2.1, 307N±01×1409E±03, h55km±19km, n13, σ0§89/16, mb3.5/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**2.60**	**339**	P	**Pn**	**16 51 45.6**	**-2.1**
	11nm,0.3s,baz=38,slow=21,SNR=3.9						
JHJ				S	**Sn**	**16 52 14.8**	**-3.2**
	22nm,0.3s,baz=64,slow=19,SNR=5.6						
MJAR	**Matsushiro Arr**	**6.25**	**340**	P	**Pn**	**16 52 38.4**	**+0.6**
	0.4nm,0.3s,baz=161,slow=12,SNR=7.6						
MAJO	**Matsushiro**	**6.25**	**340**	*e*Pn	**Pn**	**16 52 38.3**	**+0.6**
MAT	**Matsushiro**	**6.25**	**340**	P	**Pn**	**16 52 39.1**	**+1.4**
MAT				S	**Sn**	**16 53 52.9**	**+5.1**
MAT	**Matsushiro**	**6.25**	**340**	*e*P	**Pn**	**16 52 39.0**	**+1.3**
MAT				*e*S	**Sn**	**16 53 53.0**	**+5.2**
SONM	**Songino Array**	**31.40**	**313**	P	P	**16 57 23.4**	**-0.5**
	0.3nm,0.7s,mb3.2,baz=108,slow=6.8,SNR=2.4						
MKAR	**Makanchi Array**	**47.37**	**307**	P	**P**	**16 59 37.2**	**+0.5**
	0.2nm,0.5s,mb3.3,baz=90,slow=9.6,SNR=5.3						
WRAB	**Tennant Creek**	**50.73**	**188**	*e*P	**P**	**17 00 02.5**	**+0.1**
WRA	**Warramunga Arr**	**50.74**	**188**	P	**P**	**17 00 02.2**	**-0.4**
	0.8nm,0.4s,mb4.0,baz=2.5,slow=7.6,SNR=29						
ASAR	**Alice Springs**	**54.47**	**188**	P	**P**	**17 00 30.1**	**0.0**
	0.4nm,0.5s,mb3.6,baz=357,slow=5.0,SNR=15						
YKA	**Yellowknife Ar**	**69.52**	**29**	P	**P**	**17 02 10.7**	**-0.3**
	0.3nm,0.6s,mb3.4,baz=296,slow=6.4,SNR=4.7						
YKA	**Yellowknife Ar**	**69.52**	**29**	P	**P**	**17 02 10.7**	**-0.3**
FINES	**FINESS Array B**	**74.24**	**333**	P	**P**	**17 02 39.5**	**+0.3**
	0.5nm,0.4s,mb3.8,baz=57,slow=5.9,SNR=13						

IDC 03 16:58:16.3±2.7, 1990S×17374W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/15, mbtmp3.9/3, ML2.1/1, Error ellipse: s-maj=128.8km s-min=33.4km az=135.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.24**	**18**	Pn	Pn	16 59 49.6	-0.1
	2.5nm,0.3s,baz=128,slow=19,SNR=2.4						
ASAR	**Alice Springs**	**48.54**	**256**	P	P	17 07 01.6	+0.4
	0.7nm,0.6s,baz=95,slow=7.5,SNR=11						
ILAR	**Eielson Array**	**86.90**	**11**	P	P	17 11 02.7	-0.3
	0.4nm,0.6s,baz=223,slow=6.1,SNR=5.4						
ARCES	**ARCESS Array B**	**128.99**	**351**	PKP	PKPdf	17 17 25.2	-0.9
	1.0nm,0.9s,baz=38,slow=3.4,SNR=6.0						
AKASG	**Malin Array Be**	**144.30**	**335**	PKP	PKPdf	17 17 52.9	-1.4
	1.1nm,0.5s,baz=35,slow=3.6,SNR=8.2						
GERES	**GERESS Array B**	**150.50**	**350**	PKPbc	PKPbc	17 18 10.0	+0.1
	0.1nm,0.3s,baz=5.0,slow=2.3,SNR=3.5						

*IDC **03** 17:00:08.4±1.0, 2043S×17399W, h0km, mb4.5/7, mb1 4.6/10, mb1mx4.3/20, mbtmp4.6/10, ML4.9/2, Error ellipse: s-maj=28.5km s-min=19.7km az=130.0*
*NEIC **03** 17:00:09.7±6.9, 2045S×17398W, h10km±44km, mb4.7/1, Error ellipse: s-maj=20.7km s-min=11.6km az=152.0*
*ISCJB **03** 17:00:10.1±0.6, 2035S±009×1738W±0.1, h33km, mb4.4/8, Error ellipse: s-maj=15.5km s-min=10.2km az=75.1*
*MOS **03** 17:00:11.7±1.7, 2029S×17388W, h33km, mb5.0/3, Error ellipse: s-maj=21.9km s-min=17.4km az=175.0*

ISC 03 17:00:13.0±0.7, 205S±01×1739W±01, h35km, n25, σ0§76/18, mb4.4/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.82**	**17**	Pn	**Pn**	**17 01 47.9**	**-2.5**
	38nm,0.3s,baz=189,slow=2.2,SNR=13						
AFI	**Afiamalu**	**6.82**	**17**	*e*P	**Pn**	**17 01 47.4**	**-3.0**
AFI				pmax	pmax		
	comp=Z,300nm,0.5s						
AFI	**Afiamalu**	**6.82**	**17**	*e*P	**Pn**	**17 01 47.4**	**-3.0**
	comp=Z,300nm,0.5s						
RAR	**Rarotonga**	**13.21**	**96**	Pn	**Pn**	**17 03 18.6**	**+0.6**
	comp=Z,4.4nm,0.3s,baz=266,slow=3.7,SNR=11						
BKM	**Butte a Klehm**	**17.13**	**276**	*i* P	**Pn**	**17 04 15.7**	**+6.2**
URZ	**Urewera**	**19.38**	**202**	P	**Pn**	**17 04 36.4**	**-0.6**
	comp=Z,4.5nm,0.3s,baz=318,slow=3.0,SNR=23						
RPZ	**Rata Peaks**	**26.38**	**205**	P	**P**	**17 05 45.8**	**-0.2**
	comp=Z,6.0nm,0.9s,mb4.1,baz=16,slow=7.4,SNR=2.3						
CTA	**Charters Tower**	**37.34**	**263**	P	**P**	**17 07 22.8**	**+0.8**
	comp=Z,4.0nm,0.3s,mb4.7,baz=105,slow=11,SNR=21						
CTA	**Charters Tower**	**37.34**	**263**	P	**P**	**17 07 22.8**	**+0.9**
CTA				pmax	pmax		
	comp=Z,4.0nm,0.3s						
PMG	**Port Moresby**	**39.12**	**280**	P	**P**	**17 07 37.2**	**+0.3**
	comp=Z,14nm,0.8s,mb4.7,baz=135,slow=4.9,SNR=7.3						
PMG	**Port Moresby**	**39.12**	**280**	*e*P	**P**	**17 07 37.3**	**+0.4**
PMG				pmax	pmax		
	comp=Z,17nm,0.9s						
PMG	**Port Moresby**	**39.12**	**280**	*e*P	**P**	**17 07 37.3**	**+0.3**
	comp=Z,17nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**41.29**	**245**	P	**P**	**17 07 54.3**	**-0.7**
	comp=Z,1.9nm,0.5s,mb4.0,baz=82,slow=9.4,SNR=8.9						
ASAR	**Alice Springs**	**48.28**	**256**	P	**P**	**17 08 50.8**	**+0.2**
	comp=Z,2.5nm,0.6s,mb4.4,baz=92,slow=8.2,SNR=17						
WRA	**Warramunga Arr**	**48.43**	**261**	P	**P**	**17 08 51.2**	**-0.5**
	comp=Z,2.1nm,0.5s,mb4.4,baz=94,slow=6.3,SNR=13						
MJAR	**Matsushiro Arr**	**72.53**	**321**	P	**P**	**17 11 36.7**	**+0.5**
	comp=Z,3.3nm,0.6s,mb4.5,baz=151,slow=6.0,SNR=35						
MAT	**Matsushiro**	**72.53**	**321**	P	**P**	**17 11 36.8**	**+0.5**
MAT	**Matsushiro**	**72.53**	**321**	*e*P	**P**	**17 11 37.0**	**+0.7**
TIXI	**Tiksi**	**99.73**	**344**	*e*P	Pdif	17 13 55.7	+2.5
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.7s,mb4.3						
BVAR	**Borovoye Array**	**121.52**	**320**	PKP	PKPdf	17 19 03.2	+0.5
	comp=Z,0.7nm,0.4s,baz=106,slow=3.6,SNR=6.3						
ARCES	**ARCESS Array B**	**129.52**	**351**	PKP	PKPdf	17 19 18.9	+0.9
	comp=Z,0.7nm,0.5s,baz=18,slow=1.4,SNR=8.7						
ARCES	**ARCESS Array B**	**129.52**	**351**	PKP	PKPdf	17 19 18.9	+0.9
AKASG	**Malin Array Be**	**144.75**	**334**	PKP	PKPdf	17 19 45.1	-0.9
	comp=Z,3.4nm,0.5s,baz=40,slow=4.3,SNR=25						
BRTR	**Keskin Array B**	**149.60**	**315**	PKPbc	PKPbc	17 20 00.1	+1.3
	comp=Z,1.3nm,0.7s,baz=116,slow=3.6,SNR=5.6						
GERES	**GERESS Array B**	**151.03**	**350**	PKPbc	PKPbc	17 20 03.8	+1.7
	comp=Z,0.7nm,0.6s,baz=48,slow=2.0,SNR=7.9						

*IDC **03** 17:00:27.0±0.5, 2050S×17390W, h0km, mb5.1/19, mb1 5.1/19, mb1mx5.0/23, mbtmp5.1/19, Error ellipse: s-maj=21.6km s-min=14.4km az=165.0*
*BJI **03** 17:00:29.1, 2037S×173.15W, h36km, mb5.5*
*ISCJB **03** 17:00:32.1±0.2, 2017S±005×174.04W±005, h33km, mb5.2/64, Error ellipse: s-maj=8.0km s-min=5.6km az=87.3*
*NEIC **03** 17:00:33.9±2.8, 2007S×174.14W, h36km±24km, mb5.2/28, Error ellipse: s-maj=10.5km s-min=7.0km az=153.0*
*CSEM **03** 17:00:33.3, 1987S×174.17W, h33km, mb5.5*
*SZGRF **03** 17:00:34.5, 1998S×173.22W, h38km, Tonga Islands*
*MOS **03** 17:00:42.2±1.6, 1767S×174.06W, h33km, mb5.4/19, Error ellipse: s-maj=17.2km s-min=11.3km az=101.8*

ISC 03 17:00:33.7±0.2, 2025S±005×17396W±005, h35km, n322, σ1§25/144, mb5.2/64, 33C-16D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.64**	**19**	Pn	**Pn**	**17 02 02.3**	**-6.4**
	99nm,0.3s,baz=204,slow=19,SNR=14						
AFI				Sn	**Sn**	**17 03 10.5**	**-13**
	89nm,0.3s,baz=101,slow=20,SNR=4.7						
AFI	**Afiamalu**	**6.64**	**19**	P	**Pn**	**17 02 02.3**	**-6.4**
AFI				pmax	pmax		
	comp=Z,99nm,0.3s						
AFI	**Afiamalu**	**6.64**	**19**	Pn	**Pn**	**17 02 01.9**	**-6.9**
RAO	**Raoul Island**	**9.66**	**201**	Sn	**Sn**	**17 04 35.8**	**-1.6**
	comp=Z,107nm,0.3s,baz=77,slow=22,SNR=6.5						
RAR	**Rarotonga**	**13.31**	**97**	Pn	**Pn**	**17 03 30.7**	**-9.4**
	comp=Z,18nm,0.3s,baz=261,slow=7.6,SNR=44						
RAR				Sn	Sn	17 05 31.7	-35
	comp=Z,5.8nm,0.3s,baz=108,slow=19,SNR=5.5						
URZ	**Urewera**	**19.55**	**201**	P	**Pn**	**17 05 00.2**	**+0.4**
	comp=Z,5.4nm,0.3s,baz=49,slow=2.2,SNR=12						
URZ				S	**S**	**17 08 33.1**	**-4.1**
	comp=Z,1.8nm,0.3s,baz=201,slow=19,SNR=6.3						
PAE	**Paea**	**23.20**	**88**	*e*P	**P**	**17 05 35.5**	**-1.9**
	comp=Z,173nm,1.3s,mb5.3						
PPT	**Papeete**	**23.22**	**88**	*e*P	**P**	**17 05 36.5**	**-1.2**
	comp=Z,62nm,1.1s,mb5.0						
PPT	**Papeete**	**23.22**	**88**	P	**P**	**17 05 34.6**	**-3.0**
	comp=Z,75nm,1.0s,mb5.1,baz=328,slow=1.0,SNR=5.3						
QRZ	**Quartz Range**	**23.53**	**206**	PN	**P**	**17 05 44.7**	**+4.0**
THZ	**Tophouse**	**24.17**	**205**	PN	**P**	**17 05 51.5**	**+4.9**
WVZ	**Waitaha Valley**	**26.14**	**206**	PN	**P**	**17 06 08.2**	**+3.8**
RPZ	**Rata Peaks**	**26.55**	**205**	P	**P**	**17 06 12.2**	**+4.1**
	comp=Z,52nm,0.7s,mb5.2,baz=33,slow=3.2,SNR=14						
FOZ	**Fox Glacier**	**26.98**	**207**	PN	**P**	**17 06 15.3**	**+3.3**
HNR	**Honiara**	**27.37**	**289**	P	**P**	**17 06 16.3**	**+0.7**
	comp=Z,64nm,1.0s,mb5.1,baz=256,slow=3.4,SNR=5.3						
ODZ	**Otahua Downs**	**27.82**	**204**	PN	**P**	**17 06 26.1**	**+6.5**
ARMA	**Armidale**	**32.60**	**245**	*e*P	**P**	**17 07 02.1**	**+0.3**
CNB	**Canberra Magne**	**35.52**	**237**	*e*P	**P**	**17 07 27.0**	**-0.2**
	comp=Z,30nm,0.8s,mb5.3						
CTA	**Charters Tower**	**37.28**	**263**	*e*P	**P**	**17 07 41.3**	**-0.9**
	comp=Z,17nm,0.4s,mb5.2						
CTA	**Charters Tower**	**37.28**	**263**	P	**P**	**17 07 41.0**	**-1.1**
	comp=Z,23nm,0.5s,mb5.3,baz=97,slow=11,SNR=16						
CTA	**Charters Tower**	**37.28**	**263**	*e*P	**P**	**17 07 41.3**	**-0.9**
CTA				pmax	pmax		
	comp=Z,17nm,0.4s						
CTAO	**Charters Tower**	**37.28**	**263**	*e*P	**P**	**17 07 40.8**	**-1.4**
CTAO				pmax	pmax		
	comp=Z,21nm,0.5s,mb5.2						
CTAO	**Charters Tower**	**37.28**	**263**	*e*P	**P**	**17 07 40.8**	**-1.4**
	comp=Z,21nm,0.5s,mb5.2						
PMG	**Port Moresby**	**39.00**	**280**	P	**P**	**17 07 55.5**	**-1.2**
	comp=Z,49nm,0.8s,mb5.3,baz=75,slow=3.8,SNR=14						
PMG	**Port Moresby**	**39.00**	**280**	*e*P	**P**	**17 07 55.4**	**-1.3**
PMG				pmax	pmax		
	comp=Z,48nm,0.8s						
PMG	**Port Moresby**	**39.00**	**280**	*e*P	**P**	**17 07 55.4**	**-1.3**
	comp=Z,48nm,0.8s,mb5.3						
TOO	**Toolangi**	**39.12**	**235**	*e*P	**P**	**17 07 57.7**	**0.0**
	comp=Z,18nm,0.7s,mb4.9						
STKA	**Stephens Creek**	**41.34**	**244**	*e*P	**P**	**17 08 13.4**	**-2.4**
	comp=Z,13nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**41.31**	**244**	P	**P**	**17 08 13.6**	**-2.2**
	comp=Z,19nm,0.8s,mb4.8,baz=91,slow=9.7,SNR=23						
STKA				PcP	PcP	17 10 13.0	-0.9
	comp=Z,12nm,0.9s,baz=40,slow=4.4,SNR=3.3						
ASAR	**Alice Springs**	**48.26**	**256**	P	**P**	**17 09 09.3**	**-1.8**
	comp=Z,15nm,0.8s,mb5.1,baz=86,slow=8.4,SNR=34						
ASAR				PcP	PcP	17 10 39.0	+1.2
	comp=Z,13nm,0.7s,baz=100,slow=4.3,SNR=10						
WB2	**Warramunga Arr**	**48.37**	**261**	*e*P	**P**	**17 09 09.9**	**-2.1**
WRAB	**Tennant Creek**	**48.38**	**261**	P	**P**	**17 09 10.0**	**-2.0**
	comp=Z,264nm,0.9s,SNR=9.3						
WRA	**Warramunga Arr**	**48.38**	**261**	P	**P**	**17 09 10.1**	**-2.0**
	comp=Z,39nm,0.9s,mb5.4,baz=96,slow=7.1,SNR=49						
KAKA	**Kakadu**	**51.76**	**270**	*e*P	**P**	**17 09 37.6**	**-0.1**
	comp=Z,32nm,0.6s,mb5.4						
FORT	**Forrest**	**52.87**	**246**	*e*P	**P**	**17 09 44.7**	**-1.2**
	comp=Z,39nm,0.6s,mb5.5						
FITZ	**Fitzroy Crossi**	**56.81**	**261**	P	**P**	**17 10 13.6**	**-0.9**
	comp=Z,7.3nm,0.8s,mb4.8,baz=91,slow=10,SNR=4.6						
VNDA	**Vanda**	**58.53**	**186**	P	**P**	**17 10 28.9**	**+2.4**
	comp=Z,4.5nm,0.8s,mb4.6,baz=1.9,slow=9.3,SNR=14						
KLBR	**Kellerberrin**	**61.59**	**244**	*e*P	**P**	**17 10 47.2**	**-0.3**
	comp=Z,36nm,0.8s,mb5.5						
MBWA	**Marble Bar**	**61.60**	**256**	*e*P	**P**	**17 10 46.2**	**-1.4**
	comp=Z,18nm,0.8s,mb5.3						
MUN	**Mundaring**	**62.84**	**244**	*e*P	**P**	**17 10 54.3**	**-1.6**
CASY	**Casey**	**65.81**	**205**	*e*P	**P**	**17 11 16.7**	**+1.3**
QSPA	**South Pole Qui**	**69.83**	**180**	*e*P	**P**	**17 11 42.9**	**+2.3**
	comp=Z,30nm,1.0s,mb5.2						
TSM	**Tawau**	**71.17**	**282**	P	**P**	**17 11 49.8**	**+0.9**
MJAR	**Matsushiro Arr**	**72.32**	**321**	P	**P**	**17 11 55.2**	**-0.5**
	comp=Z,49nm,0.8s,mb5.5,baz=158,slow=5.9,SNR=105						
MAT	**Matsushiro**	**72.32**	**321**	P	**P**	**17 11 55.2**	**-0.5**
MAT	**Matsushiro**	**72.32**	**321**	*e*P	**P**	**17 11 55.0**	**-0.7**
MAT				pmax	pmax		
	comp=Z,42nm,0.8s,mb5.4						
MAT	**Matsushiro**	**72.32**	**321**	*e*P	**P**	**17 11 55.0**	**-0.7**
	comp=Z,42nm,0.8s,mb5.4						
JOW	**Kunigami**	**72.95**	**308**	P	**P**	**17 12 00.3**	**+0.8**
	comp=Z,41nm,1.0s,mb5.3,baz=107,slow=8.8,SNR=9.5						
KKM	**Kota Kinabalu**	**73.37**	**283**	P	**P**	**17 12 02.6**	**+0.6**
KKM	**Kota Kinabalu**	**73.37**	**283**	P	**P**	**17 12 02.2**	**+0.2**
KKM	**Kota Kinabalu**	**73.37**	**283**	*e*P	**P**	**17 12 02.0**	**0.0**
JNU	**Nakatsue**	**74.75**	**314**	P	**P**	**17 12 10.2**	**+0.2**
	comp=Z,219nm,0.7s,mb6.2,baz=46,slow=0.7,SNR=11						
ASAJ	**Asahikawa**	**75.38**	**329**	P	**P**	**17 12 14.6**	**+0.9**
	comp=Z,53nm,0.7s,mb5.6,baz=200,slow=6.1,SNR=35						
ASAJ	**Asahikawa**	**75.38**	**329**	P	**P**	**17 12 14.6**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,53n

MCMT	**McKenzie Canyo**	**85.35**	**39**	*e*P		**P**	**17 13 07.0**	**-0.2**
WHN	**Wuhan**	**85.38**	**305**	⇑P		**P**	**17 13 08.7**	**+1.4**
QLMT	**Earthquake Lak**	**86.19**	**39**	*e*P		**P**	**17 13 12.5**	**+1.1**
MENT	**Mentasta**	**86.27**	**13**	*e*P		**P**	**17 13 11.3**	**-0.4**
CHMT	**Chamberlain Mo**	**86.30**	**37**	*e*P		**P**	**17 13 10.8**	**-1.1**
IPM	**Ipoh**	**86.86**	**276**	P		**P**	**17 13 16.3**	**+1.6**
WALA	**Waterton Lakes**	**87.18**	**35**	*e*P		**P**	**17 13 15.2**	**-0.9**
	comp=Z,2.8nm,0.9s,mb4.5							
COLA	**College**	**87.20**	**11**	*e*P		**P**	**17 13 13.2**	**-3.1**
COLA	**College**	**87.20**	**11**	*e*P		**P**	**17 13 15.1**	**-1.2**
	comp=Z,52nm,0.8s,mb5.8							
ILAR	**Eielson Array**	**87.28**	**11**	P		**P**	**17 13 15.4**	**-1.2**
	comp=Z,6.2nm,0.8s,mb4.9,baz=213,slow=5.5,SNR=27							
KULM	**Kulim**	**87.50**	**277**	*e*P		**P**	**17 13 19.3**	**+1.6**
SYO	**Syowa Base**	**87.77**	**191**	⇓*e*P		pP	17 13 32.1	+2.0
VNA3	**Neumayer Olymp**	**88.11**	**175**	*e*P		**P**	**17 13 20.5**	**-0.1**
VNA3				*e*			17 13 22.3	
VNA3				*e*			17 13 24.4	
VNA3				*e*			17 13 26.5	
VNA3				*e*			17 13 37.1	
VNA3				*e*			17 13 48.0	
SNAA	**Sanae**	**88.12**	**177**	*e*P		**P**	**17 13 21.7**	**+1.0**
SNAA				*e*			17 13 23.4	
SNAA				*e*			17 13 29.0	
SNAA				*e*			17 13 50.2	
SNG	**Songkhla**	**88.18**	**278**	P		**P**	**17 13 22.0**	**+1.0**
	comp=Z,376nm,1.0s							
DAWY	**Dawson**	**88.22**	**14**	*e*P		**P**	**17 13 20.4**	**-0.8**
PSI	**Prapat**	**88.25**	**274**	P		**P**	**17 13 21.7**	**+0.4**
	comp=Z,34nm,0.9s,mb5.6,baz=172,slow=2.8,SNR=31							
BJT	**Baijiatuan**	**88.40**	**314**	*e*P		**P**	**17 13 21.8**	**-0.2**
BJT				pmax	pmax			
	comp=Z,28nm,0.9s							
BJT	**Baijiatuan**	**88.40**	**314**	*e*P		**P**	**17 13 21.8**	**-0.2**
	comp=Z,28nm,0.9s,mb5.5							
BJI	**Beijing**	**88.41**	**314**	P		**P**	**17 13 22.9**	**+0.8**
BJI				S			17 24 03.5	
BJI				AMB	AMB			
	comp=Z,35nm,0.8s,mb5.6							
VNA2	**Neumayer--Watz**	**88.59**	**176**	*e*P		**P**	**17 13 21.3**	**-1.6**
VNA2				*e*			17 13 22.8	
VNA2				*e*			17 13 26.4	
VNA2				*e*			17 13 38.6	
VNA2				*e*			17 13 41.3	
VNA2				*e*			17 13 48.4	
VNA2				*e*			17 13 58.8	
VNA2				*e*			17 14 09.6	
VNA1	**Neumayer--Stat**	**88.80**	**175**	*e*P		**P**	**17 13 23.6**	**-0.3**
VNA1				*e*			17 13 24.6	
VNA1				*e*			17 13 27.9	
VNA1				*e*			17 13 29.1	
VNA1				*e*			17 13 37.2	
BILL	**Bilibino**	**89.22**	**353**	*e*P		**P**	**17 13 24.9**	**-1.0**
BILL				pmax	pmax			
	comp=Z,40nm,1.6s,mb5.5							
BILL	**Bilibino**	**89.22**	**353**	⇑*i*P		**P**	**17 13 24.0**	**-1.9**
KKTK	**Khon Kaen**	**89.41**	**288**	P		**P**	**17 13 28.9**	**+2.1**
	comp=Z,309nm,0.9s							
GYA	**Guiyang**	**89.84**	**298**	⇑*i*P		**P**	**17 13 30.1**	**+1.3**
GYA				PP	PP		17 17 01.2	-0.3
GYA				S			17 24 20.3	
GYA				AMB	AMB			
	comp=Z,20nm,1.1s,mb5.4							
HIA	**Hailar**	**90.72**	**323**	⇑*e*P		**P**	**17 13 33.0**	**+0.1**
XAN	**Xi'an**	**91.02**	**306**	P		**P**	**17 13 35.5**	**+1.2**
XAN				S			17 24 31.8	
XAN				AMB	AMB			
	comp=Z,33nm,1.0s,mb5.6							
HHC	**Hu-ho-hao-te**	**91.92**	**313**	*e*P		**P**	**17 13 39.8**	**+1.4**
HHC				PP	PP		17 17 22.6	+4.7
HHC				S			17 24 38.4	
HHC				SS	SS		17 30 50.2	+4.2
HHC				AMB	AMB			
	comp=Z,51nm,0.8s,mb5.9							
JTS	**JuntasAbangare**	**92.58**	**80**	*e*P		**P**	**17 13 43.5**	**+2.0**
JTS				pmax	pmax			
	comp=Z,34nm,1.1s							
JTS	**JuntasAbangare**	**92.58**	**80**	*e*P		**P**	**17 13 43.5**	**+2.0**
	comp=Z,34nm,1.1s,mb5.7							
KMI	**Kunming**	**92.63**	**296**	P		**P**	**17 13 44.3**	**+2.6**
KMI				PP	PP		17 17 24.0	+0.5
KMI				AMB	AMB			
	comp=Z,27nm,1.0s,mb5.6							
INK	**Inuvik**	**93.08**	**14**	P		**P**	**17 13 42.9**	**-0.9**
	comp=Z,6.7nm,1.1s,mb5.0,baz=196,slow=6.2,SNR=10							
YAK	**Yakutsk**	**93.33**	**337**	*e*P		**P**	**17 13 42.5**	**-2.5**
YAK				*e*			17 17 18.1	
YAK				pmax	pmax			
	comp=N,2.0nm,0.9s							
YAK				pmax	pmax			
	comp=Z,17nm,0.9s,mb5.5							
YAK				pmax	pmax			
	comp=E,3.0nm,1.2s							
YAK				pmax	pmax			
	comp=Z,21µm,19.1s							
YAK				pmax	pmax			
	comp=E,16µm,20.3s							
YAK				MLR	MLR			
	comp=Z,32µm,21.0s							
YAK	**Yakutsk**	**93.33**	**337**	*e*P		**P**	**17 13 43.0**	**-2.0**
	comp=Z,31nm,0.7s,mb5.8							
CHRT	**Chiangrai**	**93.35**	**290**	⇑P		**P**	**17 13 47.0**	**+1.9**
	comp=Z,184nm,0.8s							
CD2	**Chengdu**	**93.86**	**301**	*e*P		**P**	**17 13 46.3**	**-1.1**
CD2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb5.3							
YKA	**Yellowknife Ar**	**94.73**	**24**	P		**P**	**17 13 49.2**	**-2.2**
	comp=Z,1.6nm,0.8s,mb4.5,baz=239,slow=4.3,SNR=18							
YKA				PKKPbc	PKKPbc		17 30 49.3	+1.2
	comp=Z,0.1nm,0.4s,baz=34,slow=2.4,SNR=2.8							
YKA	**Yellowknife Ar**	**94.73**	**24**	P		**P**	**17 13 49.2**	**-2.2**
YKA				PKKPbc	PKKPbc		17 30 49.4	+1.2
LZH	**Lanzhou**	**95.65**	**306**	*e*P		**P**	**17 13 56.7**	**+1.1**
LZH				PP	PP		17 17 50.6	+3.5
LZH				*e*S			17 25 10.2	
LZH				*e*SS	SS		17 31 42.7	+3.4
LZH				AMB	AMB			
	comp=Z,23nm,1.3s,mb5.5							
ULN	**Ulaanbaatar**	**97.67**	**318**	*e*P		**P**	**17 14 02.8**	**-2.0**
SONM	**Songino Array**	**98.07**	**318**	P		**P**	**17 14 06.7**	**+0.1**
	comp=Z,3.3nm,0.9s,mb4.8,baz=120,slow=2.9,SNR=20							
SONM				PP	PP		17 18 10.3	+4.5
	comp=Z,1.2nm,0.9s,baz=132,slow=8.6,SNR=4.2							
TIXI	**Tiksi**	**99.50**	**344**	*e*P		**P**	**17 14 09.7**	**-3.2**
GTA	**Gaotai**	**99.76**	**308**	*e*P		Pdif	17 14 14.4	+0.3
GTA				AMB	AMB			
	comp=Z,3.0nm,1.4s,mb4.5							
ZAK	**Zakamensk**	**100.86**	**320**	*e*P		Pdif	17 14 17.1	-1.9
ZAK				pmax	pmax			
	comp=Z,5.0nm,1.8s							
ZAL	**Zalesovo**	**112.68**	**321**	PKiKP	PKiKP		17 19 05.4	-1.1
	comp=Z,1.6nm,0.5s,baz=340,slow=2.9,SNR=7.4							
NVS	**Novosibirsk**	**113.64**	**322**	*e*PKIKP	PKiKP		17 19 04.9	-3.4
NVS				*e*			17 19 55.5	
MKAR	**Makanchi Array**	**113.78**	**313**	PKP	PKiKP		17 19 07.8	-0.8
	comp=Z,2.2nm,0.7s,baz=71,slow=2.2,SNR=19							
BDFB	**Brasilia**	**116.03**	**120**	PKKPbc	PKKPbc		17 29 44.0	+0.8
	comp=Z,2.9nm,0.6s,baz=70,slow=3.4,SNR=4.6							
KURK	**Kurchatov**	**116.37**	**317**	*e*PKIKP	PKPdf		17 19 12.0	-1.5
AAK	**Ala-Archa**	**119.12**	**308**	*i* PKIKP	PKPdf		17 19 16.8	-2.0
BVAR	**Borovoye Array**	**121.31**	**320**	PKP	PKPdf		17 19 22.5	-0.5
	comp=Z,7.1nm,0.7s,baz=95,slow=1.8,SNR=35							
BRVK	**Borovoye**	**121.37**	**320**	*e*PKIKP	PKPdf		17 19 21.3	-1.8
ZRNK	**Zerenda**	**122.15**	**320**	*e*PKIKP	PKPdf		17 19 23.5	-1.1
ZRNK				*e*			17 19 35.6	
ARU	**Arti**	**127.11**	**326**	*i* PKIKP	PKPdf		17 19 32.4	-1.7
ARU				*e*			17 21 30.0	
ARU				*e*			17 26 34.3	
ARU				*e*SS	SS		17 38 28.5	-10
ARU	**Arti**	**127.11**	**326**	*e*PKPdf	PKPdf		17 19 33.3	-0.8
ARU				*e*			17 19 45.4	
ARCES	**ARCESS Array B**	**129.30**	**351**	PKP	PKPdf		17 19 37.6	-0.7
	comp=Z,5.9nm,0.9s,baz=12,slow=1.7,SNR=14							
AKTK	**Aktyubinsk**	**129.37**	**319**	PKP	PKPdf		17 19 38.0	-0.5
AKTO	**Aktyubinsk**	**129.37**	**319**	PKP	PKPdf		17 19 38.0	-0.5
	comp=Z,2.2nm,0.7s,baz=33,slow=3.6,SNR=9.6							
AKTO	**Aktyubinsk**	**129.37**	**319**	PKIKP	PKPdf		17 19 38.0	-0.4
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.7s							
APA	**Apatity**	**129.62**	**347**	⇑*i*PKHKP			17 19 26.0	
APA				pmax	pmax			
	comp=Z,11nm,1.2s							
JOF	**Joensuu**	**133.99**	**344**	*e*pkp		PKPdf	17 19 42.6	-4.6
	comp=Z,8.5nm,0.7s							
KAF	**Kangasniemi**	**135.87**	**346**	*e*pkp		PKPdf	17 19 45.8	-4.9
	comp=Z,8.2nm,0.9s							
FINES	**FINESS Array B**	**136.51**	**346**	PKP		PKPdf	17 19 49.9	-2.0
	comp=Z,5.0nm,0.9s,baz=97,slow=4.4,SNR=11							
OBN	**Obninsk**	**138.26**	**334**	*i* PKIKP		PKPdf	17 19 55.4	+0.3
OBN				pmax	pmax			
	comp=Z,14nm,1.0s							
OBN	**Obninsk**	**138.26**	**334**	*e*PKP		PKPdf	17 19 55.4	+0.3
NB2	**NORSAR Subarra**	**139.08**	**356**	PKPd			17 19 49.3	
	comp=Z,4.3nm,1.1s,baz=7.6,slow=1.9							
NOA	**NORSAR Array B**	**139.08**	**356**	PKP		PKPdf	17 19 54.0	-2.6
	comp=Z,0.6nm,0.8s,baz=23,slow=5.8,SNR=4.5							
ZEI	**Tsey**	**141.13**	**314**	*e*PKHKP		PKPdf	17 19 57.8	-2.5
KIV	**Kislovodsk**	**141.44**	**316**	*e*PKIKP		PKPdf	17 20 15.0	+14
KIV				pmax	pmax			
	comp=Z,10.0nm,0.9s							
KMBO	**Kilima Mbogo**	**142.76**	**239**	PKP		PKPdf	17 20 01.3	-1.9
	comp=Z,5.4nm,0.9s,baz=23,slow=1.6,SNR=11							
SOC	**Sochi**	**143.53**	**317**	*i* PKHKP		PKPdf	17 20 04.9	+0.3
SOC				pmax	pmax			
	comp=Z,10.0nm,0.8s							
SUW	**Suwalki**	**143.83**	**343**	*e*PKP		PKPdf	17 20 03.6	-1.5
MSL	**Mosul**	**143.92**	**304**	*ex*		x	17 20 04.5	
ERZM	**Erzurum**	**144.01**	**311**	*i* P		PKPdf	17 20 04.8	-0.6
ANN	**Anapa**	**144.31**	**321**	*i* PKIKP		PKPdf	17 20 12.8	+6.8
ANN				pmax	pmax			
	comp=Z,97nm,1.2s							
AKASG	**Malin Array Be**	**144.52**	**334**	PKP		PKPdf	17 20 03.9	-2.4
	comp=Z,34nm,0.7s,baz=40,slow=4.3,SNR=20							
DCN	**Croghan**	**145.40**	**14**	⇑*i*P		PKPbc	17 20 06.2	-1.6
DLF	**Lyons Farm**	**145.62**	**13**	⇑*i*P		PKPdf	17 20 07.0	-1.2
GRSN	**GIRESUNGRSN**	**145.72**	**314**	*i* P		PKPdf	17 20 08.7	+0.3
GKP	**Gorka Klasztor**	**145.92**	**348**	*e*PKP		PKPdf	17 20 09.8	+1.1
HLG	**Helgoland**	**146.09**	**358**	*e*PKPbc		PKPbc	17 20 10.1	+0.2
SIM	**Simferopol'**	**146.15**	**323**	⇓*i* PKHKP		PKPdf	17 20 11.5	+2.4
SIM				pmax	pmax			
	comp=Z,106nm,1.0s							
BSEG	**Bad Segeberg**	**146.21**	**355**	*e*PKPbc		PKPbc	17 20 10.5	+0.2
ELZG	**Elazig**	**146.26**	**310**	*i* P		PKPbc	17 20 12.6	+2.1
MALT	**Malatya**	**146.73**	**310**	⇓*i*P		PKPbc	17 20 14.0	+2.2
MALT	**Malatya**	**146.73**	**310**	*e*PKPbc		PKPbc	17 20 12.9	+1.0
LVV	**L'vov**	**147.20**	**338**	*i* PKHKP			17 20 12.7	
RUE	**Ruedersdorf**	**147.27**	**351**	*e*PKPbc		PKPbc	17 20 13.4	+0.1
RUE	**Ruedersdorf**	**147.27**	**351**	*e*PKPbc		PKPbc	17 20 12.9	-0.5
BOYT	**Boyabat**	**147.69**	**317**	*i* P		PKPbc	17 20 15.9	+1.4
GZT	**Gaziantep**	**147.74**	**309**	*i* P		PKPbc	17 20 15.9	+1.2
KWT	**Kalwaria**	**147.81**	**340**	*e*PKP		PKPbc	17 20 15.2	+0.4
IBBN	**Ibbenburen**	**147.97**	**358**	*e*PKPbc		PKPbc	17 20 15.4	+0.1
OJC	**Ojcow**	**148.16**	**343**	*e*PKPdf		PKPdf	17 20 12.2	-0.3
OJC				*e*PKPbc		PKPbc	17 20 14.4	-1.4
OJC				*e*PKPab		PKPab	17 20 16.4	-2.3
CTKT	**Corum**	**148.18**	**316**	*i* P		PKPbc	17 20 16.9	+1.1
CLZ	**Clausthal**	**148.28**	**355**	*e*PKPbc		PKPbc	17 20 16.5	+0.4
CLZ				*e*PKPab		PKPab	17 20 19.4	+0.2
KSP	**Ksiaz**	**148.41**	**348**	*e*PKP		PKPbc	17 20 17.3	+0.9
KSP	**Ksiaz**	**148.41**	**348**	*e*PKP		PKPbc	17 20 16.9	+0.5
STHS	**Stebnicka Huta**	**148.46**	**341**	*e*PKP		PKPbc	17 20 17.1	+0.6
CLL	**Collm**	**148.52**	**352**	*e*PKPbc		PKPbc	17 20 16.8	+0.1
CLL	**Collm**	**148.52**	**352**	⇑*i*PKPbc		PKPbc	17 20 16.9	+0.2
	comp=Z,58nm,1.0s							
CLL				*i* PKPab		PKPab	17 20 19.9	-0.3
	comp=Z,44nm,1.0s							
CLL				*j* pPKPbc		pPKPbc	17 20 28.7	+0.6
CLL	**Collm**	**148.52**	**352**	⇑*i*PKIKP		PKPbc	17 20 16.9	+0.2
CLL				*i*			17 20 19.9	
CLL				pmax	pmax			
	comp=Z,58nm,1.0s							
CLL				pmax	pmax			
	comp=Z,44nm,1.0s							
KOLS	**Kolonicke sedl**	**148.55**	**339**	*e*PKP		PKPbc	17 20 17.7	+0.9
KOLS				*e*			17 20 28.2	
BURAR	**Bucovina Array**	**148.58**	**335**	⇓*i*P		PKPbc	17 20 18.2	+1.4
BALT	**Daday**	**148.58**	**319**	*i* P		PKPbc	17 20 17.9	+1.0
GTTG	**Gyttingen**	**148.61**	**355**	*e*PKPbc		PKPbc	17 20 17.2	+0.3
GTTG				*e*PKPab		PKPab	17 20 20.6	+0.1
NIE	**Niedzica**	**148.74**	**342**	*e*PKP		PKPbc	17 20 18.3	+1.1
UPC	**Upice**	**148.79**	**348**	⇑*e*PKPB		PKPbc	17 20 18.1	+0.7
UPC				*e*PKPAB		PKPab	17 20 22.1	+0.9
UPC				*ep*PKP		pPKPdf	17 20 29.8	+4.8
BRG	**Berggiesshubel**	**148.81**	**350**	*e*PKPbc		PKPbc	17 20 17.8	+0.4
BRG	**Berggiesshubel**	**148.81**	**350**	*e*PKP		PKPdf	17 20 13.7	+0.1
	comp=Z,6.2nm,1.2s							
BRG				*i*			17 20 17.9	
	comp=Z,25nm,1.1s							
BRG				*i*			17 20 32.4	
	comp=Z,17nm,0.8s							
BRG	**Berggiesshubel**	**148.81**	**350**	*e*PKHKP		PKPdf	17 20 13.6	+0.1
BRG				*i*			17 20 17.9	
BRG				*i*			17 20 32.4	
BRG				pmax	pmax			
	comp=Z,6.0nm,1.2s							
BRG				pmax	pmax			
	comp=Z,25nm,1.2s							
BRG				pmax	pmax			
	comp=Z,17nm,0.8s							
CRVS	**Cervenica-Dubn**	**148.84**	**340**	*e*PKP		PKPbc	17 20 18.0	+0.5
BUG	**Bochum--Univer**	**148.85**	**359**	*e*PKPbc		PKPbc	17 20 17.6	+0.1
DPC	**Dobruska-Polom**	**148.87**	**347**	⇑*e*PKPB		PKPbc	17 20 18.3	+0.7
DPC				*e*PKPAB		PKPab	17 20 22.4	+0.8
DPC				*ep*PKP		pPKPdf	17 20 30.0	+4.9
OKC	**Ostrava-Krasne**	**148.94**	**345**	⇑*e*PKPB		PKPbc	17 20 18.4	+0.6
OKC				*e*PKPAB		PKPab	17 20 23.2	+1.4
OKC				*ep*PKP		pPKPdf	17 20 30.5	+5.3
COBT	**Iskenderun**	**149.03**	**308**	*i* P		PKPbc	17 20 18.5	+0.5
AVNT	**Avonos**	**149.05**	**313**	*i* P		PKPdf	17 20 16.5	+2.6
ELDT	**Eldivan**	**149.13**	**317**	*i* P		PKPbc	17 20 19.4	+1.2
MORC	**Moravsky Berou**	**149.14**	**345**	⇑*i*P		PKPbc	17 20 19.2	+0.9
CFR	**Carcaliu**	**149.15**	**329**	⇓*i*P		PKPbc	17 20 19.3	+1.0
CFR	**Carcaliu**	**149.15**	**329**	⇓P		PKPbc	17 20 19.3	+1.0
VRI	**Vrincioaia**	**149.30**	**331**	⇑*i*P		PKPbc	17 20 19.1	+0.4
VRI	**Vrincioaia**	**149.30**	**331**	⇑P		PKPbc	17 20 19.1	+0.4
MOX	**Moxa**	**149.35**	**353**	*e*PKPbc		PKPbc	17 20 18.9	+0.1
MOX	**Moxa**	**149.35**	**353**	*e*PKP		PKPbc	17 20 18.7	-0.1
	comp=Z,61nm,1.6s							
PLOR	**Plostina**	**149.35**	**331**	⇓*i*P		PKPbc	17 20 19.1	+0.3
BR131	**Keskin Array S**	**149.40**	**315**	*e*PKPbc		PKPbc	17 20 19.4	+0.5
BR131				*e*			17 20 24.6	
BRTR	**Keskin Array B**	**149.40**	**315**	PKPbc		PKPbc	17 20 19.5	+0.6
	comp=Z,11nm,0.8s,baz=130,slow=3.2,SNR=39							
WERD	**Werda**	**149.46**	**352**	*e*PKPbc		PKPbc	17 20 19.4	+0.3
WERD				*e*PKPab		PKPab	17 20 24.1	+0.1
KECS	**Kecovo**	**149.52**	**341**	*i* PKP		PKPbc	17 20 19.3	+0.1
KECS				*e*			17 20 31.3	
TIRR	**Tirgusor**	**149.53**	**327**	⇓*i*P		PKPbc	17 20 19.5	+0.3
TIRR	**Tirgusor**	**149.53**	**327**	⇓P		PKPbc	17 20 19.5	+0.3
PRU	**Pruhonice**	**149.56**	**349**	⇑*e*PKPB		PKPbc	17 20 19.8	+0.5
PRU				*e*PKPAB		PKPab	17 20 25.1	+0.7
PRU				*ep*PKP		pPKPdf	17 20 31.5	+5.3
MENF	**Mencas**	**149.60**	**5**	PKP		PKPbc	17 20 19.1	-0.3
HARR	**Harsova**	**149.60**	**328**	⇓*i*P		PKPbc	17 20 20.2	+0.8
HARR	**Harsova**	**149.60**	**328**	⇓P		PKPbc	17 20 20.2	+0.8
NKC	**Novy Kostel**	**149.65**	**352**	⇑*e*PKPB		PKPbc	17 20 20.2	+0.7
NKC				*e*PKPAB		PKPab	17 20 24.9	+0.2
NKC				*ep*PKP		pPKPdf	17 20 31.9	+5.5
MEM	**Membach**	**149.70**	**0**	PKPbc		PKPbc	17 20 19.7	0.0
SNF	**Seneffe**	**149.77**	**2**	PKPbc		PKPbc	17 20 20.8	+0.9
VRAC	**Vranov**	**149.80**	**346**	⇑*i*P		PKPbc	17 20 20.8	+0.9
ANTO	**Ankara**	**149.87**	**316**	⇑*i*P		PKPbc	17 20 21.4	+1.3
MANZ	**Manzenberg**	**149.93**	**352**	*e*PKPbc		PKPbc	17 20 21.0	+0.8
MLR	**Muntele Rosu**	**149.94**	**331**	⇓*i*P		PKPbc	17 20 20.9	+0.6
MLR	**Muntele Rosu**	**149.94**	**331**	⇓P		PKPbc	17 20 20.9	+0.6
SGKT	**Sivrigoynuk**	**149.95**	**318**	*i* P		PKPbc	17 20 21.1	+0.8
VYHS	**Vyhne**	**149.99**	**343**	*i* PKP		PKPbc	17 20 20.9	+0.5
VYHS				*e*			17 20 32.4	
TNS	**Taunus Mts**	**150.03**	**357**	*e*PKPbc		PKPbc	17 20 20.9	+0.4
TNS				*e*PKPab		PKPab	17 20 26.3	0.0
TREC	**Trest**	**150.04**	**348**	⇑*e*PKPB		PKPbc	17 20 20.8	+0.3
TREC				*e*PKPAB		PKPab	17 20 26.5	+0.1
TREC				*ep*PKP		pPKPdf	17 20 32.7	+5.7
ROTZ	**Rotzenmuhle**	**150.14**	**352**	*e*PKPbc		PKPbc	17 20 21.2	+0.5
DOU	**Dourbes**	**150.19**	**2**	PKPbc		PKPbc	17 20 20.9	+0.1
GIVF	**Givet**	**150.19**	**2**	*e*PKP1		PKPbc	17 20 21.2	+0.3
	comp=Z,108nm,1.1s							
PSZ	**Piszkesteto**	**150.20**	**341**	*e*PKIKP		PKPbc	17 20 21.1	+0.2
BAIF	**Baives**	**150.22**	**2**	*e*PKP1		PKPbc	17 20 21.3	+0.4
	comp=Z,108nm,1.1s							
DRGR		**150.22**	**337**	⇓*i*P		PKPbc	17 20 21.7	+0.8
SNX	**Sinaia**	**150.24**	**332**	⇑*i*P		PKPbc	17 20 22.5	+1.5
SNX	**Sinaia**	**150.24**	**332**	⇑P		PKPbc	17 20 22.6	+1.6
GRA1	**Grafenberg Arr**	**150.33**	**353**	*e*PKPbc		PKPbc	17 20 21.7	+0.5
GRA1				*e*PKPab		PKPab	17 20 27.9	+0.4
GRA1				*ep*PKPbc		pPKPbc	17 20 33.0	+0.4
GRF	**Grafenberg Arr**	**150.33**	**353**	*e*PKPbc		PKPbc	17 20 21.7	+0.5
GRF				*e*PKPab		PKPab	17 20 27.9	+0.4
GRF				*ep*PKPbc		pPKPbc	17 20 33.0	+0.4
GRF	**Grafenberg Arr**	**150.33**	**353**	*e*PKP		PKPbc	17 20 21.7	+0.5
GRF				*e*PKP		PKPab	17 20 27.9	+0.4
GRF				pPKPbc		pPKPbc	17 20 33.1	+0.5
SMOL	**Smolenice**	**150.34**	**345**	*e*PKP		PKPbc	17 20 22.3	+1.1
VOIR		**150.38**	**332**	⇑*i*P		PKPbc	17 20 22.2	+0.9
VOIR		**150.38**	**332**	⇑P		PKPbc	17 20 22.2	+0.9
ABH	**Alteburg**	**150.41**	**358**	PKP		PKPbc	17 20 22.4	+1.0
HENT	**Hendek**	**150.52**	**320**	*i* P		PKPdf	17 20 17.1	+0.8
MEST	**Erdemli**	**150.55**	**310**	*i* P		PKPbc	17 20 22.0	+0.3
KHC	**Kasperske Hory**	**150.55**	**350**	⇑*e*PKPB		PKPbc	17 20 22.3	+0.6
KHC				*e*PKPAB		PKPab	17 20 28.6	+0.1
KHC				*ep*PKP		pPKPdf	17 20 34.0	+6.2
RUP	**Ruppelstein**	**150.60**	**359**	PKIKP		PKPbc	17 20 23.0	+1.2
TOD	**Tromm**	**150.62**	**356**	PKIKP		PKPbc	17 20 22.6	+0.7
WLF	**Walferdange**	**150.65**	**360**	*e*PKPbc		PKPbc	17 20 22.8	+0.9
WLF				*e*PKPab		PKPab	17 20 28.9	+0.1
WLF	**Walferdange**	**150.65**	**360**	PKPbc		PKPbc	17 20 22.8	+0.8
WLF	**Walferdange**	**150.65**	**360**	*e*PKPbc		PKPbc	17 20 22.0	+0.1
WET	**Wettzell**	**150.65**	**351**	*e*PKPbc		PKPbc	17 20 22.3	+0.4
ZST	**Bratislava**	**150.72**	**345**	*e*PKP		PKPbc	17 20 22.2	+0.1
ZST				*e*			17 20 34.1	
GERES	**GERESS Array B**	**150.81**	**350**	PKPbc		PKPbc	17 20 23.0	+0.7
	comp=Z,9.7nm,0.9s,baz=48,slow=2.0,SNR=39							
ROSF	**Rostrenen**	**150.99**	**13**	*e*PKP1		PKPbc	17 20 22.1	-0.6
	comp=Z,49nm,1.0s							
FLN	**La Foliniere**	**151.07**	**9**	*e*PKP1		PKPbc	17 20 22.7	-0.2
	comp=Z,140nm,1.0s							
SGMF	**Saint Gilles**	**151.21**	**12**	*e*PKP1		PKPbc	17 20 22.7	-0.6
	comp=Z,67nm,1.0s							
LDF	**La Druitiere**	**151.29**	**9**	*e*PKP1		PKPbc	17 20 23.1	-0.3
	comp=Z,67nm,1.0s							
PHNC	**Paralimni**	**151.29**	**307**	P		PKPbc	17 20 23.0	-0.4
	comp=Z,1.7nm,0.9s							
LANF	**Langenberg**	**151.30**	**358**	PKP		PKPbc	17 20 24.1	+0.6
GRR	**Gorron**	**151.38**	**10**	*e*PKP1		PKPbc	17 20 23.5	-0.1
	comp=Z,108nm,1.0s							

PPT	**Papeete**	**23.22**	**86**	*e*P		**P**	**17 12 09.7**	**-1.1**
	56nm,1.0s,mb4.9								
PPT	**Papeete**	**23.22**	**86**	P		**P**	**17 12 10.5**	**-0.3**
	64nm,0.9s,mb5.0,baz=47,slow=23,SNR=5.8								
THZ	**Tophouse**	**23.79**	**205**	PN		**P**	**17 12 20.9**	**+4.8**
LTZ	**Lake Taylor**	**24.90**	**205**	PN		**P**	**17 12 30.8**	**+4.5**
WVZ	**Waitaha Valley**	**25.76**	**206**	PN		**P**	**17 12 36.4**	**+2.2**
RPZ	**Rata Peaks**	**26.16**	**205**	P		**P**	**17 12 37.6**	**-0.2**
	11nm,0.7s,mb4.5,baz=0.0,slow=2.0,SNR=4.4								
HNR	**Honiara**	**27.53**	**290**	P		**P**	**17 12 48.8**	**-1.4**
	34nm,0.6s,mb5.1,baz=94,slow=2.2,SNR=6.0								
HNR	**Honiara**	**27.53**	**290**	*e*P		**P**	**17 12 48.8**	**-1.3**
HNR				pmax	pmax				
	comp=Z,71nm,1.1s,mb5.2								
HNR	**Honiara**	**27.53**	**290**	*e*P		**P**	**17 12 48.8**	**-1.3**
	comp=Z,71nm,1.1s,mb5.2								
ARMA	**Armidale**	**32.44**	**246**	*e*P		**P**	**17 13 34.1**	**+0.6**
CNB	**Canberra Magne**	**35.31**	**238**	*e*P		**P**	**17 13 58.7**	**+0.2**
	comp=Z,44nm,0.8s,mb5.4								
CTA	**Charters Tower**	**37.25**	**264**	*e*P		**P**	**17 14 14.5**	**-0.5**
	comp=Z,25nm,0.6s,mb5.2								
CTA	**Charters Tower**	**37.25**	**264**	P		**P**	**17 14 14.5**	**-0.5**
	comp=Z,30nm,0.7s,mb5.2,baz=97,slow=11,SNR=23								
CTA	**Charters Tower**	**37.25**	**264**	*e*P		**P**	**17 14 14.5**	**-0.5**
CTA				pmax	pmax				
	comp=Z,25nm,0.6s								
CTAO	**Charters Tower**	**37.25**	**264**	*e*P		**P**	**17 14 14.4**	**-0.6**
CTAO				pmax	pmax				
	comp=Z,29nm,0.7s,mb5.2								
CTAO	**Charters Tower**	**37.25**	**264**	*e*P		**P**	**17 14 14.4**	**-0.6**
	comp=Z,29nm,0.7s,mb5.2								
TOO	**Toolangi**	**38.89**	**235**	*e*P		**P**	**17 14 29.2**	**+0.3**
	comp=Z,17nm,0.7s,mb4.9								
TOO	**Toolangi**	**38.89**	**235**	*e*P		**P**	**17 14 29.2**	**+0.3**
TOO				pmax	pmax				
	comp=Z,17nm,0.7s,mb4.9								
PMG	**Port Moresby**	**39.10**	**281**	P		**P**	**17 14 30.1**	**-0.5**
	comp=Z,46nm,1.0s,mb5.2,baz=88,slow=6.3,SNR=13								
STKA	**Stephens Creek**	**41.15**	**245**	*e*P		**P**	**17 14 45.1**	**-2.5**
	comp=Z,22nm,0.8s,mb4.6								
STKA	**Stephens Creek**	**41.15**	**245**	P		**P**	**17 14 45.2**	**-2.4**
	comp=Z,23nm,0.8s,mb4.9,baz=92,slow=9.4,SNR=28								
ASAR	**Alice Springs**	**48.17**	**256**	P		**P**	**17 15 42.6**	**-1.0**
	comp=Z,42nm,0.9s,mb5.5,baz=100,slow=7.8,SNR=112								
ASAR				PcP	PcP		17 17 11.4	+0.9	
	comp=Z,4.7nm,0.7s,baz=107,slow=3.4,SNR=7.4								
WB2	**Warramunga Arr**	**48.33**	**261**	*e*P		**P**	**17 15 43.2**	**-1.6**
WRAB	**Tennant Creek**	**48.33**	**261**	P		**P**	**17 15 43.4**	**-1.4**
	comp=Z,230nm,1.0s,SNR=6.8								
WRAB	**Tennant Creek**	**48.33**	**261**	*e*P		**P**	**17 15 43.1**	**-1.7**
WRAB				pmax	pmax				
	comp=Z,81nm,1.2s,mb5.6								
WRAB	**Tennant Creek**	**48.33**	**261**	*e*P		**P**	**17 15 43.1**	**-1.7**
	comp=Z,81nm,1.2s,mb5.6								
WRA	**Warramunga Arr**	**48.34**	**261**	P		**P**	**17 15 43.4**	**-1.5**
	comp=Z,23nm,0.9s,mb5.2,baz=96,slow=8.0,SNR=58								
WRA				PcP	PcP		17 17 12.3	+1.2	
	comp=Z,8.1nm,0.8s,baz=93,slow=3.8,SNR=7.8								
KAKA	**Kakadu**	**51.78**	**270**	*e*P		**P**	**17 16 09.9**	**-1.0**
	comp=Z,59nm,0.8s,mb5.6								
FORT	**Forrest**	**52.71**	**247**	*e*P		**P**	**17 16 16.9**	**-1.0**
	comp=Z,51nm,0.7s,mb5.6								
GUMO	**Guam**	**52.90**	**307**	P		**P**	**17 16 20.0**	**+0.7**
	comp=Z,100nm,0.8s,mb5.8,baz=138,slow=9.8,SNR=6.2								
FITZ	**Fitzroy Crossi**	**56.77**	**261**	*e*P		**P**	**17 16 46.9**	**-0.3**
	comp=Z,16nm,1.5s,mb4.8								
FITZ	**Fitzroy Crossi**	**56.77**	**261**	P		**P**	**17 16 46.4**	**-0.8**
	comp=Z,3.9nm,0.4s,mb4.8,baz=102,slow=6.8,SNR=17								
SBA	**Scott Base**	**57.98**	**185**	P		**P**	**17 16 56.9**	**+1.1**
KLBR	**Kellerberrin**	**61.42**	**245**	⇑*i*P		**P**	**17 17 19.5**	**0.0**
	comp=Z,73nm,0.9s,mb5.8								
MBWA	**Marble Bar**	**61.52**	**257**	*e*P		**P**	**17 17 19.2**	**-0.9**
	comp=Z,41nm,0.8s,mb5.6								
NWAO	**Narrogin (SRO)**	**61.68**	**243**	P		**P**	**17 17 20.9**	**-0.4**
	comp=Z,39nm,1.0s,mb5.5,baz=101,slow=4.5,SNR=9.3								
MUN	**Mundaring**	**62.67**	**244**	*e*P		**P**	**17 17 28.5**	**+0.6**
QSPA	**South Pole Qui**	**69.40**	**180**	*e*P		**P**	**17 18 12.3**	**+1.2**
	comp=Z,19nm,1.2s,mb4.9								
MJAR	**Matsushiro Arr**	**72.66**	**321**	P		**P**	**17 18 31.2**	**+0.4**
	comp=Z,24nm,0.7s,mb5.2,baz=152,slow=5.8,SNR=113								
MAT	**Matsushiro**	**72.67**	**321**	P		**P**	**17 18 31.4**	**+0.5**
MAT	**Matsushiro**	**72.67**	**321**	*e*P		**P**	**17 18 31.0**	**+0.1**
MAT				pmax	pmax				
	comp=Z,21nm,0.8s,mb5.1								
MAT	**Matsushiro**	**72.67**	**321**	*e*P		**P**	**17 18 31.0**	**+0.1**
	comp=Z,21nm,0.8s,mb5.1								
JOW	**Kunigami**	**73.23**	**308**	P		**P**	**17 18 36.0**	**+1.8**
	comp=Z,35nm,0.8s,mb5.3,baz=142,slow=9.4,SNR=9.8								
KKM	**Kota Kinabalu**	**73.49**	**283**	*e*P		**P**	**17 18 36.8**	**+1.1**
ASAJ	**Asahikawa**	**75.76**	**329**	P		**P**	**17 18 50.8**	**+1.9**
	comp=Z,11nm,0.8s,mb4.8,baz=290,slow=32,SNR=9.1								
ASAJ	**Asahikawa**	**75.76**	**329**	P		**P**	**17 18 50.8**	**+1.9**
ASAJ				pmax	pmax				
	comp=Z,11nm,0.8s								
KSM	**Kuching**	**77.20**	**276**	*e*P		**P**	**17 18 58.1**	**+1.0**
YHNB	**Yeheng**	**77.37**	**303**	*e*P		**P**	**17 18 58.6**	**+0.6**
YSS	**Yuzh-Sakhalins**	**77.81**	**331**	*e*P		**P**	**17 18 59.8**	**-0.7**
YSS				*e*			17 19 14.7		
YSS				pmax	pmax				
	comp=Z,30nm,1.0s,mb5.2								
NVAR	**Mina Array Bea**	**78.59**	**41**	P		**P**	**17 19 06.0**	**+1.2**
	comp=Z,1.7nm,0.7s,mb4.1,baz=224,slow=8.0,SNR=3.5								
NVAR	**Mina Array Bea**	**78.59**	**41**	P		**P**	**17 19 06.0**	**+1.2**
ARUT	**Antelope Range**	**81.31**	**44**	*e*P		**P**	**17 19 20.7**	**+1.2**
HABR	**Khabarovsk**	**82.53**	**329**	*e*P		**P**	**17 19 27.5**	**+1.6**
HABR				*e*S		S	17 29 42.8	+2.6	
MDJ	**Mudanjiang**	**82.89**	**323**	P		**P**	**17 19 29.5**	**+1.7**
MDJ				AMB	AMB				
	comp=Z,17nm,1.1s,mb5.0								
MDJ				AMB	AMB				
	comp=Z,8μm,12.7s								
NJ2	**Nanjing**	**82.95**	**308**	*e*P		**P**	**17 19 27.2**	**-0.9**
NJ2				AP	pP		17 19 36.3	-2.8	
NJ2				XP	sP		17 19 40.1	-3.1	
NJ2				PP	PP		17 22 39.6	+0.7	
NJ2				S	S		17 29 41.0	-3.5	
NJ2				XS	sS		17 29 55.0	-7.8	
NJ2				AMB	AMB				
	comp=Z,20nm,0.6s,mb5.3								
HLID	**Hailey**	**84.02**	**39**	P		**P**	**17 19 34.9**	**+1.3**
	comp=Z,8.0nm,1.0s,mb4.8								
PDAR	**Pinedale Array**	**86.52**	**42**	P		**P**	**17 19 45.0**	**-1.1**
	comp=Z,0.6nm,0.4s,mb4.2,baz=251,slow=2.8,SNR=4.1								
COLA	**College**	**87.61**	**11**	*e*P		**P**	**17 19 50.0**	**-1.4**
ILAR	**Eielson Array**	**87.69**	**11**	P		**P**	**17 19 50.9**	**-0.9**
	comp=Z,2.0nm,0.7s,mb4.4,baz=216,slow=5.2,SNR=12								
VNA2	**Neumayer--Watz**	**88.16**	**176**	*e*P		**P**	**17 19 53.9**	**-0.1**
VNA2				*e*			17 19 55.7		
VNA2				*e*		pP	17 20 04.3	-0.8	
VNA2				*e*		pP	17 20 07.0	+1.9	
VNA2				*e*			17 20 13.0		
VNA2				*e*			17 20 16.5		
PSI	**Prapat**	**88.30**	**274**	P		**P**	**17 19 54.7**	**0.0**
	comp=Z,16nm,1.0s,mb5.2,baz=176,slow=7.2,SNR=13								
PSI	**Prapat**	**88.30**	**274**	P		**P**	**17 19 54.7**	**0.0**
BILL	**Bilibino**	**89.64**	**353**	*e*P		**P**	**17 19 59.8**	**-1.2**
BILL				pmax	pmax				
	comp=Z,9.0nm,1.6s,mb4.8								
KMI	**Kunming**	**92.83**	**296**	P		**P**	**17 20 18.5**	**+2.7**
KMI				AMB	AMB				
	comp=Z,10.0nm,0.7s,mb5.3								
INK	**Inuvik**	**93.49**	**14**	P		**P**	**17 20 18.8**	**0.0**
	comp=Z,1.9nm,0.7s,mb4.6,baz=236,slow=4.7,SNR=6.7								
INK	**Inuvik**	**93.49**	**14**	*e*P		**P**	**17 20 18.1**	**-0.6**
YKA	**Yellowknife Ar**	**95.11**	**24**	P		**P**	**17 20 26.2**	**-0.1**
	comp=Z,0.9nm,0.6s,mb4.4,baz=237,slow=4.3,SNR=14								
YKA	**Yellowknife Ar**	**95.11**	**24**	P		**P**	**17 20 26.2**	**-0.1**
SONM	**Songino Array**	**98.41**	**318**	P		**P**	**17 20 41.3**	**+0.1**
	comp=Z,1.7nm,1.2s,mb4.5,baz=132,slow=3.9,SNR=4.8								
SONM				PP	PP		17 24 34.8	-6.6	
	comp=Z,0.3nm,0.8s,baz=131,slow=4.4,SNR=2.7								
ZAL	**Zalesovo**	**113.03**	**321**	PKiKP	PKiKP		17 25 39.3	-0.9	
	comp=Z,1.3nm,0.6s,baz=312,slow=2.0,SNR=6.3								
MKAR	**Makanchi Array**	**114.09**	**313**	PKP	PKiKP		17 25 41.8	-0.4	
	comp=Z,2.1nm,0.6s,baz=84,slow=0.6,SNR=22								
AAK	**Ala-Archa**	**119.40**	**308**	*i* PKIKP	PKPdf		17 25 50.9	-1.5	
BVAR	**Borovoye Array**	**121.65**	**320**	PKP	PKPdf		17 25 56.4	-0.4	
	comp=Z,4.3nm,0.6s,baz=104,slow=0.9,SNR=30								
ZRNK	**Zerenda**	**122.49**	**320**	*e*PKIKP	PKPdf		17 25 57.5	-0.9	
ARU	**Arti**	**127.48**	**326**	*i* PKIKP	PKPdf		17 26 06.3	-1.6	
ARU				*e*			17 28 04.9		
ARU				*e*			17 33 08.7		
ARU				*e*SS		SS	17 45 11.3	-5.1	
ARCES	**ARCESS Array B**	**129.73**	**351**	PKP	PKPdf		17 26 11.4	-0.8	
	comp=Z,2.1nm,0.5s,baz=7.8,slow=0.8,SNR=26								
JOF	**Joensuu**	**134.40**	**344**	*e*p		PKPdf	17 26 19.3	-1.7	
	comp=Z,3.9nm,0.7s								
KAF	**Kangasniemi**	**136.29**	**346**	*e*p		PKPdf	17 26 22.8	-1.8	
FINES	**FINESS Array B**	**136.94**	**346**	PKP	PKPdf		17 26 25.3	-0.5	
	comp=Z,2.3nm,0.8s,baz=131,slow=7.8,SNR=8.5								
AKASG	**Malin Array Be**	**144.92**	**334**	PKPbc	PKPdf		17 26 39.0	-1.1	
	comp=Z,16nm,0.6s,baz=41,slow=4.2,SNR=79								
AKASG	**Malin Array Be**	**144.92**	**334**	PKPbc	PKPdf		17 26 39.0	-1.1	
SIM	**Simferopol'**	**146.50**	**323**	*i* PKP2	PKPab		17 26 45.3	0.0	
SIM				pmax	pmax				
	comp=Z,22nm,0.8s								
BSEG	**Bad Segeberg**	**146.64**	**355**	*e*PKPbc	PKPbc		17 26 44.9	+0.2	
MALT	**Malatya**	**147.02**	**309**	⇓*i*P	PKPbc		17 26 47.8	+2.0	
MALT	**Malatya**	**147.02**	**309**	⇓P	PKPbc		17 26 47.8	+2.1	
RUE	**Ruedersdorf**	**147.69**	**351**	*e*PKPbc	PKPbc		17 26 48.7	+1.1	
IBBN	**Ibbenburen**	**148.40**	**358**	*e*PKPbc	PKPbc		17 26 50.7	+1.2	
OJC	**Ojcow**	**148.57**	**343**	*e*PKPdf	PKPdf		17 26 46.5	+0.2	
OJC				*e*PKPbc	PKPbc		17 26 48.5	-1.4	
OJC				*e*PKPab	PKPab		17 26 50.3	-3.2	
CLZ	**Clausthal**	**148.71**	**355**	*e*PKPbc	PKPbc		17 26 51.2	+0.9	
KSP	**Ksiaz**	**148.83**	**347**	*e*PKIKP	PKPbc		17 26 51.4	+0.8	
STHS	**Stebnicka Huta**	**148.87**	**341**	*e*PKP	PKPbc		17 26 51.3	+0.6	
CLL	**Collm**	**148.95**	**352**	*e*PKPbc	PKPbc		17 26 51.2	+0.3	
CLL	**Collm**	**148.95**	**352**	⇑*i*PKPbc	PKPbc		17 26 51.3	+0.4	
	comp=Z,19nm,0.9s								
CLL				*i* PKPab	PKPab		17 26 54.8	-0.2	
	comp=Z,16nm,1.0s								
CLL				*i* (sPKPab)			17 27 10.9		
CLL	**Collm**	**148.95**	**352**	⇑*i*PKIKP	PKPbc		17 26 51.3	+0.4	
CLL				*i*			17 26 54.8		
CLL				pmax	pmax				
	comp=Z,19nm,0.9s								
CLL				pmax	pmax				
	comp=Z,16nm,1.0s								
KOLS	**Kolonicke sedl**	**148.96**	**339**	*e*PKP	PKPbc		17 26 53.4	+2.5	
KOLS				*e*			17 26 59.7		
BURAR	**Bucovina Array**	**148.97**	**334**	⇓*i*P	PKPbc		17 26 52.4	+1.4	
BURAR	**Bucovina Array**	**148.97**	**334**	⇓P	PKPbc		17 26 52.4	+1.4	
GTTG	**Gyttingen**	**149.04**	**355**	*e*PKPbc	PKPbc		17 26 52.4	+1.3	
UPC	**Upice**	**149.21**	**348**	⇑*e*PKPB	PKPbc		17 26 52.6	+1.1	
BRG	**Berggiesshubel**	**149.23**	**350**	*e*PKPbc	PKPbc		17 26 52.4	+0.8	
BRG	**Berggiesshubel**	**149.23**	**350**	*i* PKP	PKPbc		17 26 52.3	+0.7	
	comp=Z,7.0nm,0.8s								
BRG				*i*			17 26 56.1		
	comp=Z,3.3nm,0.7s								
BRG	**Berggiesshubel**	**149.23**	**350**	*i* PKIKP	PKPbc		17 26 52.3	+0.7	
BRG				*i*			17 26 56.1		
BRG				pmax	pmax				
	comp=Z,7.0nm,0.8s								
BRG				pmax	pmax				
	comp=Z,3.0nm,0.7s								
CRVS	**Cervenica-Dubn**	**149.25**	**340**	*e*PKP	PKPbc		17 26 54.7	+3.0	
DPC	**Dobruska-Polom**	**149.29**	**347**	⇑*e*PKPB	PKPbc		17 26 52.8	+1.0	
DPC				*e*PKPAB	PKPab		17 26 57.4	+1.0	
OKC	**Ostrava-Krasne**	**149.35**	**345**	⇑*e*PKPB	PKPbc		17 26 53.0	+1.1	
CFR	**Carcaliu**	**149.53**	**328**	⇓*i*P	PKPbc		17 26 53.0	+0.7	
CFR	**Carcaliu**	**149.53**	**328**	⇓P	PKPbc		17 26 53.0	+0.6	
MORC	**Moravsky Berou**	**149.56**	**345**	⇓*i*P	PKPdf		17 26 49.1	+1.3	
VRI	**Vrincioaia**	**149.69**	**331**	⇓*i*P	PKPdf		17 26 51.1	+3.1	
VRI	**Vrincioaia**	**149.69**	**331**	⇓P	PKPdf		17 26 51.1	+3.0	
BR131	**Keskin Array S**	**149.72**	**315**	*e*PKPbc	PKPbc		17 26 53.2	+0.5	
BRTR	**Keskin Array B**	**149.72**	**315**	PKPbc	PKPbc		17 26 53.5	+0.7	
	comp=Z,6.5nm,0.8s,baz=128,slow=3.5,SNR=23								
BRTR				PP	PP		17 30 27.5	+1.4	
	comp=Z,0.7nm,0.8s,baz=93,slow=6.2,SNR=3.7								
PLOR	**Plostina**	**149.73**	**331**	⇓*i*P	PKPbc		17 26 54.8	+2.0	
MOX	**Moxa**	**149.77**	**353**	*e*PKP	PKPbc		17 26 53.4	+0.5	
	comp=Z,17nm,1.4s								
KECS	**Kecovo**	**149.93**	**341**	*i* PKP	PKPbc		17 26 53.8	+0.5	
KECS				*e*			17 27 01.4		
HARR	**Harsova**	**149.98**	**328**	⇓*i*P	PKPbc		17 26 53.4	0.0	
PRU	**Pruhonice**	**149.99**	**349**	⇑*e*PKPB	PKPbc		17 26 54.3	+0.8	
PRU				*e*PKPAB	PKPab		17 27 02.4	+3.2	
NKC	**Novy Kostel**	**150.07**	**352**	⇑*e*PKPB	PKPbc		17 26 54.6	+0.9	
MLR	**Muntele Rosu**	**150.33**	**331**	⇓*i*P	PKPbc		17 26 52.7	-1.6	
MLR	**Muntele Rosu**	**150.33**	**331**	⇓P	PKPbc		17 26 52.7	-1.6	
MANZ	**Manzenberg**	**150.36**	**352**	*e*PKPbc	PKPbc		17 26 55.2	+0.8	
VYHS	**Vyhne**	**150.41**	**343**	*i* PKP	PKPbc		17 26 55.4	+0.9	
VYHS				*e*			17 27 03.8		
VYHS				*e*			17 27 14.2		
VYHS	**Vyhne**	**150.41**	**343**	*i* PKHKP	PKPbc		17 26 55.4	+0.9	
VYHS				*e*			17 27 03.8		
TNS	**Taunus Mts**	**150.46**	**357**	*e*PKPbc	PKPbc		17 26 55.8	+1.2	
TREC	**Trest**	**150.47**	**347**	⇑*e*PKPB	PKPbc		17 26 55.6	+1.0	
ROTZ	**Rotzenmuhle**	**150.56**	**352**	*e*PKPbc	PKPbc		17 26 55.8	+1.0	
GIVF	**Givet**	**150.62**	**2**	*e*PKP1	PKPbc		17 26 55.4	+0.4	
	comp=Z,22nm,0.8s								
BAIF	**Baives**	**150.64**	**2**	*e*PKP1	PKPbc		17 26 55.6	+0.6	
	comp=Z,22nm,0.9s								
GRA1	**Grafenberg Arr**	**150.76**	**353**	*e*PKPbc	PKPbc		17 26 56.2	+0.9	
GRF	**Grafenberg Arr**	**150.76**	**353**	*e*PKPbc	PKPbc		17 26 56.2	+0.9	
SMOL	**Smolenice**	**150.76**	**344**	*e*PKP	PKPbc		17 26 57.0	+1.7	
SMOL				*e*			17 27 03.3		
VOIR		**150.77**	**332**	⇑*i*P	PKPbc		17 26 54.5	-0.8	
VOIR		**150.77**	**332**	⇑P	PKPbc		17 26 54.5	-0.9	
KHC	**Kasperske Hory**	**150.98**	**350**	⇑*e*PKPB	PKPbc		17 26 56.6	+0.8	
KHC				*e*PKPAB	PKPab		17 27 04.6	+1.3	
WLF	**Walferdange**	**151.07**	**360**	*e*PKPbc	PKPbc		17 26 57.4	+1.4	
GERES	**GERESS Array B**	**151.23**	**349**	PKPbc	PKPbc		17 26 57.2	+0.8	
	comp=Z,4.7nm,0.8s,baz=40,slow=2.3,SNR=24								
FLN	**La Foliniere**	**151.49**	**9**	*e*PKP1	PKPbc		17 26 57.0	0.0	
	comp=Z,12nm,0.7s								
LDF	**La Druitiere**	**151.71**	**9**	*e*PKP1	PKPbc		17 26 57.3	-0.2	
	comp=Z,11nm,0.8s								
GRR	**Gorron**	**151.80**	**10**	*e*PKP1	PKPbc		17 26 57.7	0.0	
	comp=Z,16nm,0.7s								
BZS	**Buzias**	**152.03**	**336**	⇑*i*P	PKPbc		17 26 58.7	+0.5	
MEZF	**Maizieres J'vi**	**152.23**	**1**	*e*PKP1	PKPbc		17 26 59.2	+0.5	
FUR	**Furstenfeldbru**	**152.25**	**352**	*e*PKPbc	PKPbc		17 26 59.4	+0.7	
CDF	**Champ du Feu**	**152.31**	**358**	*e*PKP1	PKPbc		17 26 59.3	+0.4	
	comp=Z,19nm,1.0s								
BFO	**Black Forest**	**152.35**	**357**	*e*PKPbc	PKPbc		17 26 59.5	+0.5	
PKSM	**Moragy**	**152.52**	**341**	⇓*i*P	PKPdf		17 26 54.9	+2.5	
PKSM	**Moragy**	**152.52**	**341**	⇓P	PKPdf		17 26 54.9	+2.5	
HAU	**Haudompre**	**152.74**	**360**	*e*PKP1	PKPbc		17 27 01.1	+1.3	
HINF	**Hinteralfeld**	**152.92**	**359**	*e*PKP1	PKPbc		17 27 00.2	0.0	
KBA	**Kochbreinsper**	**153.00**	**349**	⇑*i*P	PKPbc		17 27 00.4	0.0	
	comp=Z,5.8nm,1.0s								
WTTA	**Wattenberg**	**153.09**	**352**	⇑*i*P	PKPbc		17 27 01.0	+0.4	
	comp=Z,9.4nm,0.6s								
WTTA	**Wattenberg**	**153.09**	**352**	⇑*i*P	PKPbc		17 27 01.0	+0.4	
LOR	**Lormes**	**153.41**	**3**	*e*PKP1	PKPbc		17 27 01.7	+0.4	
	comp=Z,9.8nm,0.8s								
SSF	**Saint Saulge**	**153.60**	**4**	*e*PKP1	PKPbc		17 27 02.2	+0.5	
	comp=Z,14nm,0.9s								
AVF	**Avril sur Loir**	**153.86**	**4**	*e*PKP1	PKPbc		17 27 02.2	-0.1	
	comp=Z,9.9nm,1.0s								
SMF	**Signal de Mont**	**154.03**	**3**	*e*PKP1	PKPbc		17 27 03.7	+1.1	
BGF	**Bois d'Agland**	**154.05**	**5**	*e*PKP1	PKPbc		17 27 02.9	+0.2	
CABF	**La Chapelle**	**154.13**	**360**	*e*PKP1	PKPbc		17 27 03.9	+1.0	
TORD	**Torodi Ar. Bea**	**171.43**	**150**	PKPab	PKPab		17 28 33.1	+0.8	
	comp=Z,1.2nm,1.1s,baz=222,slow=1.9,SNR=3.2								

*IDC **03** 17:13:22.1±2.1,2071S×17361W,h0km,mb4.0/5, mb1 4.3/5,mb1mx4.0/15,mbtmp4.0/5, Error ellipse: s-maj=95.1km s-min=25.9km az=152.0*
*ISCJB **03** 17:13:25.7±2.2,2075S×1737W±0.4,h33km,mb4.1/6, Error ellipse: s-maj=86.3km s-min=24.4km az=119.4*
*NEIC **03** 17:13:27.6±1.4,2066S×17365W,h35km,mb4.6/1, Error ellipse: s-maj=62.6km s-min=16.0km az=151.0*

ISC 03 17:13:28.0±2.2,2075S×1737W±0.4,h35km,n11,σ0°33/7, mb4.1/6,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.53**	**264**	P	**P**	**17 20 38.3**	**-0.3**
	4.6nm,0.8s,mb4.2,baz=160,slow=7.2,SNR=3.2						
ASAR	**Alice Springs**	**48.45**	**256**	P	**P**	**17 22 07.0**	**0.0**
	1.8nm,0.7s,mb4.2,baz=89,slow=8.4,SNR=11						
WRAB	**Tennant Creek**	**48.60**	**261**	*e*P	**P**	**17 22 08.8**	**+0.7**
	5.5nm,0.9s,mb4.6						
WRA	**Warramunga Arr**	**48.61**	**261**	P	**P**	**17 22 07.9**	**-0.4**
	2.5nm,0.8s,mb4.3,baz=96,slow=7.5,SNR=9.7						
MJAR	**Matsushiro Arr**	**72.82**	**321**	P	**P**	**17 24 53.1**	**0.0**
	0.9nm,0.7s,mb3.8,baz=158,slow=5.9,SNR=5.3						
NVAR	**Mina Array Bea**	**78.39**	**41**	P	**P**	**17 25 24.9**	**0.0**
	0.4nm,0.6s,mb3.5,baz=236,slow=9.6,SNR=3.0						
NVAR	**Mina Array Bea**	**78.39**	**41**	P	**P**	**17 25 24.9**	**0.0**
AKASG	**Malin Array Be**	**145.02**	**334**	PKPbc	PKPbc	17 32 59.7	-1.2
	0.7nm,0.4s,baz=41,slow=4.3,SNR=9.6						
CLL	**Collm**	**148.97**	**352**	*e*PKPbc	PKPbc	17 33 13.0	+0.8
	comp=Z,7.0nm,1.0s						
CLL				*i* pPKPbc	pPKPbc	17 33 24.4	+0.8
BRTR	**Keskin Array B**	**149.90**	**315**	PKPbc	PKPbc	17 33 15.1	+0.6
	comp=Z,0.7nm,0.8s,baz=151,slow=2.8,SNR=4.6						
GERES	**GERESS Array B**	**151.27**	**350**	PKPbc	PKPbc	17 33 17.7	0.0
	comp=Z,0.8nm,0.8s,baz=248,slow=1.4,SNR=5.9						

*IDC **03** 17:39:10.4±0.7,2714Sx7103W,h0km,mb4.4/7, mb1 4.3/11,mb1mx4.2/18,mbtmp4.2/11,ML4.0/4, Error ellipse: s-maj=25.8km s-min=19.4km az=73.0*
*ISCJB **03** 17:39:12.1±1.1,2714S±003x7124W±008,h25km±7km, mb4.4/7, Error ellipse: s-maj=12.0km s-min=5.0km az=7.5*
*NEIC **03** 17:39:13.2,2723Sx71.17W,h19km,mb4.8/3,ML4.8(GUC), After GUC.*
*GUC **03** 17:39:13.2±0.8,2723Sx71.17W,h19km±6km,MD4.3, ML4.8*
*MOS **03** 17:39:15.2±1.7,2717Sx7070W,h33km,mb5.3/2, Error ellipse: s-maj=21.7km s-min=15.3km az=72.4*

ISC 03 17:39:13.2±1.1,2713S±003x7119W±007,h19km±6km,n51, σ1°20/46,mb4.4/7,5D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.33**	**80**	⇓*i*P	**Pg**	**17 39 20.7**	**+0.4**
CDCH				*i* S	**Sg**	**17 39 25.5**	**+0.4**
CPCH	**Copiapo**	**0.78**	**107**	⇓*i*P	**Pb**	**17 39 27.0**	**-1.1**
CPCH				*i* S	**Sb**	**17 39 37.1**	**-1.1**
CPCH				AML	AML	17 39 38.2	
	comp=E,85μm,0.3s						
CPCH	**Copiapo**	**0.78**	**107**	⇓*i*P	**Pb**	**17 39 27.0**	**-1.1**
CPCH				*i* S	**Sb**	**17 39 37.1**	**-1.1**
CRCH	**Chaqaral**	**0.94**	**33**	*e*P	**Pb**	**17 39 31.2**	**+0.5**
CRCH				*i* S	**Sb**	**17 39 43.9**	**+1.2**
CRCH				AML	AML	17 39 47.7	
	comp=N,18μm,0.5s						
CRCH

VRZ				SN	Sn	17 49 29.2	+0.4		
MWZ	**Matawai**	**1.27**	**80**	PN	Pn	17 49 11.2	+0.3		
MWZ				SN	Sn	17 49 31.3	-0.6		
WAZ	**Wanganui**	**1.40**	**212**	PN	Pn	17 49 11.9	-0.3		
WAZ				SN	Sn	17 49 34.2	0.0		
TSZ	**Takapari Road**	**1.49**	**179**	⇑PN	Pn	17 49 12.9	-0.2		
MRZ	**Mangatainoka R**	**2.11**	**187**	⇑PN	Pn	17 49 18.7	-1.3		
MRZ				SN	Sn	17 49 45.0	-3.1		
BFZ	**Birch Farm**	**2.12**	**174**	PN	Pn	17 49 19.3	-0.9		
KIW	**Kapiti Island**	**2.43**	**199**	PN	Pn	17 49 21.9	-1.9		
MTW	**Mount Morrison**	**2.61**	**187**	PN	Pn	17 49 24.0	-2.0		
CAW	**Cannon Point**	**2.62**	**195**	PN	Pn	17 49 24.2	-2.0		
MRW	**Makara Radio**	**2.83**	**199**	PN	Pn	17 49 26.4	-2.3		
MSWZ	**Moikau Station**	**2.89**	**190**	PN	Pn	17 49 27.2	-2.4		
SNZO	**South Karori**	**2.90**	**199**	PN	Pn	17 49 27.0	-2.6		
TCW	**Tory Channel**	**2.94**	**205**	PN	Pn	17 49 27.6	-2.5		
TUWZ	**Tuamarina**	**3.25**	**208**	PN	Pn	17 49 31.1	-2.9		
NNZ	**Nelson**	**3.30**	**216**	PN	Pn	17 49 30.2	-4.5		
QRZ	**Quartz Range**	**3.47**	**228**	PN	Pn	17 49 33.2	-3.7		
THZ	**Tophouse**	**3.95**	**215**	PN	Pn	17 49 39.8	-3.4		
KHZ	**Kahutara**	**4.26**	**205**	PN	Pn	17 49 43.9	-3.2		
MQZ	**McQueen's Vall**	**5.70**	**205**	*e*SN	Sn	17 51 00.1	-11		

IDC ***03*** *17:56:21.9±0.4, 2050S×17447W, h0km, mb5.1/25, mb1 5.1/27, mb1mx5.1/27, mbtmp5.1/27, ML5.6/2, MS5.5/1, Ms1 5.5/1, ms1mx4.3/21, Error ellipse: s-maj=15.4km s-min=10.2km az=144.0*

ISCJB ***03*** *17:56:23.4±0.2, 2060S×0004×174.18W±004, h20km, mb5.3/76, MS6.0/10, Error ellipse: s-maj=6.7km s-min=4.1km az=70.7*

CSEM ***03*** *17:56:25.9, 2047S×17428W, h33km, mb5.6*

SZGRF ***03*** *17:56:26.3, 2056S×17409W, h43km, Tonga Islands*

BJI ***03*** *17:56:27.0, 2050S×17420W, h35km, mB6.4, mb5.5, Ms6.2, Msz6.0*

NEIC ***03*** *17:56:27.0±0.2, 2054S×17423W, h35km, mb5.4/31, Error ellipse: s-maj=8.6km s-min=4.7km az=139.0*

MOS ***03*** *17:56:44.7±2.9, 1943S×17578W, h130km, mb5.2/22, Error ellipse: s-maj=12.3km s-min=10.1km az=119.4*

ISC 03 17:56:25.7±0.2, 2059S±003×17412W±004, h24km, h24km±2.0km:pP-P, n379, σ1§16/183, mb5.3/76, MS6.0/10, 35C-25D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.01**	**19**	Pn			**Pn**	**17 58 00.3**	**-6.5**
	151nm,0.3s,baz=329,slow=0.5,SNR=77								
AFI				Sn			**Sn**	**17 59 10.8**	**-15**
	34nm,0.3s,baz=41,slow=19,SNR=2.0								
AFI				LR			LR	18 00 33.4	
	comp=Z,36µm,20.8s,baz=359,slow=36								
AFI	**Afiamalu**	**7.01**	**19**	*e*P			**Pn**	**17 57 59.5**	**-7.3**
	500nm,0.5s								
AFI				*e*S			Sn	17 59 05.6	-20
RAO	**Raoul Island**	**9.29**	**201**	Pn			**Pn**	**17 58 36.9**	**-1.1**
	100nm,0.3s,baz=287,slow=19,SNR=3.0								
RAO				Sn			**Sn**	**18 00 20.7**	**-1.0**
	120nm,0.3s,baz=89,slow=23,SNR=7.7								
RAR	**Rarotonga**	**13.43**	**95**	Pn			**Pn**	**17 59 26.3**	**-8.3**
	7.9nm,0.3s,baz=263,slow=7.6,SNR=34								
RAR				Sn			Sn	18 01 40.0	-23
	4.6nm,0.3s,baz=41,slow=18,SNR=3.1								
BKM	**Butte a Klehm**	**16.92**	**277**	⇑*i*P			**Pn**	**18 00 26.0**	**+5.3**
WCZ	**Waipu Caves**	**18.34**	**211**	PN			**Pn**	**18 00 41.1**	**+2.8**
URZ	**Urewera**	**19.18**	**201**	P			**Pn**	**18 00 47.0**	**-1.5**
	8.9nm,0.3s,baz=328,slow=3.6,SNR=32								
URZ				S			**Sn**	**18 04 14.4**	**-8.3**
	2.6nm,0.3s,baz=208,slow=20,SNR=5.9								
BKZ	**Black Stump Fm**	**20.20**	**202**	PN			**P**	**18 00 58.9**	**+0.2**
HIZ	**Hauiti**	**20.24**	**206**	PN			**P**	**18 01 00.8**	**+1.7**
MRZ	**Mangatainoka R**	**21.85**	**201**	PN			**P**	**18 01 13.7**	**-2.7**
MRZ				*e*SN			**S**	**18 05 07.1**	**-10**
SNZO	**South Karori**	**22.73**	**202**	PN			**P**	**18 01 25.3**	**-0.5**
SNZO	**South Karori**	**22.73**	**202**	*e*P			**P**	**18 01 25.1**	**-0.7**
	222nm,1.3s,mb5.4								
NNZ	**Nelson**	**23.14**	**205**	PN			**P**	**18 01 28.0**	**-2.2**
QRZ	**Quartz Range**	**23.16**	**206**	PN			**P**	**18 01 29.8**	**-0.6**
PAE	**Paea**	**23.36**	**87**	*e*P			**P**	**18 01 31.9**	**-0.6**
	186nm,1.1s,mb5.4								
PPT	**Papeete**	**23.39**	**87**	*e*P			**P**	**18 01 32.1**	**-0.6**
	126nm,1.3s,mb5.2								
PPT	**Papeete**	**23.39**	**87**	P			**P**	**18 01 31.4**	**-1.3**
	44nm,0.3s,mb5.3,baz=162,slow=12,SNR=8.6								
TVO	**Taravao**	**23.65**	**87**	*e*P			**P**	**18 01 34.8**	**-0.4**
	70nm,0.8s,mb5.1								
THZ	**Tophouse**	**23.79**	**205**	PN			**P**	**18 01 35.8**	**-0.8**
THZ				*e*SN			**S**	**18 05 52.5**	**+1.8**
DSZ	**Denniston Nort**	**24.22**	**206**	PN			**P**	**18 01 39.4**	**-1.0**
LTZ	**Lake Taylor**	**24.91**	**204**	PN			**P**	**18 01 46.8**	**0.0**
VAH	**Vaihoa**	**25.75**	**82**	*e*P			**P**	**18 01 53.9**	**-0.5**
	128nm,1.3s,mb5.3								
WVZ	**Waitaha Valley**	**25.77**	**206**	PN			**P**	**18 01 54.2**	**-0.3**
RPZ	**Rata Peaks**	**26.17**	**205**	P			**P**	**18 01 57.8**	**-0.4**
	53nm,0.5s,mb5.4,baz=19,slow=4.3,SNR=36								
FOZ	**Fox Glacier**	**26.61**	**207**	PN			**P**	**18 02 00.7**	**-1.4**
JCZ	**Jackson Bay**	**27.41**	**207**	PN			**P**	**18 02 09.3**	**-0.1**
ODZ	**Otahua Downs**	**27.45**	**204**	PN			**P**	**18 02 12.8**	**+3.1**
WKZ	**Wanaka**	**27.91**	**206**	PN			**P**	**18 02 14.3**	**+0.4**
ARMA	**Armidale**	**32.32**	**245**	*e*P			**P**	**18 02 52.7**	**-0.1**
CNB	**Canberra Magne**	**35.22**	**238**	*e*P			**P**	**18 03 18.4**	**+0.4**
	42nm,0.9s,mb5.4								
CTA	**Charters Tower**	**37.09**	**264**	⇓*i*P			**P**	**18 03 33.9**	**-0.2**
	26nm,0.5s,mb5.3								
CTA	**Charters Tower**	**37.09**	**264**	P			**P**	**18 03 33.3**	**-0.8**
	27nm,0.5s,mb5.3,baz=97,slow=10,SNR=40								
CTA	**Charters Tower**	**37.09**	**264**	⇓*i*P			**P**	**18 03 33.9**	**-0.2**
CTA				pmax	pmax				
	comp=Z,26nm,0.5s								
CTAO	**Charters Tower**	**37.09**	**264**	*e*P			**P**	**18 03 33.9**	**-0.2**
CTAO				pmax	pmax				
	comp=Z,33nm,0.6s,mb5.3								
CTAO	**Charters Tower**	**37.09**	**264**	*e*P			**P**	**18 03 33.9**	**-0.2**
	comp=Z,33nm,0.6s,mb5.3								
TOO	**Toolangi**	**38.80**	**235**	*e*P			**P**	**18 03 49.0**	**+0.5**
	comp=Z,18nm,0.5s,mb5.0								
TOO	**Toolangi**	**38.80**	**235**	*e*P			**P**	**18 03 49.0**	**+0.5**
TOO				pmax	pmax				
	comp=Z,18nm,0.5s,mb5.1								
PMG	**Port Moresby**	**38.92**	**281**	P			**P**	**18 03 48.6**	**-0.8**
	comp=Z,51nm,1.0s,mb5.2,baz=78,slow=6.5,SNR=16								
STKA	**Stephens Creek**	**41.03**	**245**	*e*P			**P**	**18 04 04.0**	**-3.0**
	comp=Z,18nm,1.0s,mb4.7								
STKA	**Stephens Creek**	**41.03**	**245**	P			**P**	**18 04 04.3**	**-2.7**
	comp=Z,14nm,0.7s,mb4.7,baz=90,slow=9.5,SNR=42								
ASAR	**Alice Springs**	**48.03**	**256**	P			**P**	**18 05 01.4**	**-1.5**
	comp=Z,13nm,0.5s,mb5.2,baz=101,slow=8.0,SNR=342								
ASAR				PcP			PcP	18 06 31.8	+1.2
	comp=Z,10nm,0.6s,baz=107,slow=3.9,SNR=7.9								
ASAR				S			**S**	**18 11 54.7**	**-4.9**
	comp=Z,6.7nm,1.0s,baz=96,slow=16,SNR=16								
WB2	**Warramunga Arr**	**48.17**	**261**	*e*P			**P**	**18 05 01.2**	**-2.8**
WB2				*e*S			**S**	**18 11 56.6**	**-5.1**
WRAB	**Tennant Creek**	**48.17**	**261**	P			**P**	**18 05 02.8**	**-1.2**
	comp=Z,241nm,0.8s,mb6.3,SNR=9.4								
WRA	**Warramunga Arr**	**48.18**	**261**	P			**P**	**18 05 01.9**	**-2.2**
	comp=Z,8.8nm,0.6s,mb5.0,baz=96,slow=7.4,SNR=128								
WRA				PcP			PcP	18 06 32.6	+1.4
	comp=Z,4.9nm,0.6s,baz=97,slow=3.1,SNR=3.3								
WRA				S			**S**	**18 11 56.6**	**-5.2**
	comp=Z,0.9nm,0.7s,baz=91,slow=14,SNR=7.7								
KAKA	**Kakadu**	**51.61**	**270**	*e*P			**P**	**18 05 29.6**	**-0.5**
	comp=Z,26nm,0.5s,mb5.4								
FORT	**Forrest**	**52.59**	**246**	*e*P			**P**	**18 05 36.4**	**-1.0**
	comp=Z,72nm,1.0s,mb5.6								
GUMO	**Guam**	**52.71**	**307**	P			**P**	**18 05 36.9**	**-1.4**
	comp=Z,119nm,1.0s,mb5.8,baz=224,slow=4.9,SNR=3.7								
FITZ	**Fitzroy Crossi**	**56.61**	**261**	*e*P			**P**	**18 06 06.3**	**-0.3**
	comp=Z,15nm,0.7s,mb5.1								
FITZ	**Fitzroy Crossi**	**56.61**	**261**	P			**P**	**18 06 06.5**	**-0.1**
	comp=Z,8.2nm,0.6s,mb4.9,baz=110,slow=14,SNR=28								
SBA	**Scott Base**	**58.05**	**185**	*e*P			**P**	**18 06 19.8**	**+3.1**
SBA				pmax	pmax				
	comp=Z,159nm,1.4s,mb5.9								
SBA	**Scott Base**	**58.05**	**185**	*e*P			**P**	**18 06 19.8**	**+3.1**
	comp=Z,159nm,1.4s,mb5.8								
VNDA	**Vanda**	**58.17**	**186**	P			**P**	**18 06 19.1**	**+1.5**
	comp=Z,14nm,1.0s,mb5.0,baz=11,slow=7.0,SNR=34								
VNDA	**Vanda**	**58.17**	**186**	*e*P			**P**	**18 06 20.0**	**+2.4**
VNDA				pmax	pmax				
	comp=Z,80nm,1.4s								
VNDA	**Vanda**	**58.17**	**186**	*e*P			**P**	**18 06 20.0**	**+2.4**
	comp=Z,80nm,1.4s,mb5.6								
KLBR	**Kellerberrin**	**61.30**	**245**	*e*P			**P**	**18 06 38.1**	**-1.1**
	comp=Z,36nm,0.7s,mb5.6								
MBWA	**Marble Bar**	**61.37**	**257**	*e*P			**P**	**18 06 38.7**	**-0.9**
	comp=Z,25nm,0.7s,mb5.5								
NWAO	**Narrogin (SRO)**	**61.57**	**243**	P			**P**	**18 06 41.4**	**+0.4**
	comp=Z,20nm,1.0s,mb5.2,baz=112,slow=4.8,SNR=5.6								
MUN	**Mundaring**	**62.56**	**244**	*e*P			**P**	**18 06 48.6**	**+1.0**
CASY	**Casey**	**65.44**	**205**	*e*P			**P**	**18 07 07.8**	**+1.3**
QSPA	**South Pole Qui**	**69.48**	**180**	*e*P			**P**	**18 07 34.0**	**+1.9**
	comp=Z,167nm,1.1s,mb5.9								
TSM	**Tawau**	**71.10**	**282**	P			**P**	**18 07 44.4**	**+2.5**
MIR	**Mirnyy**	**72.44**	**205**	*d*iP			**P**	**18 07 53.0**	**+3.0**
MIR				pmax	pmax				
	comp=Z,670nm,2.0s,mb6.2								
MIR				MLR	MLR				
	comp=Z,10µm,20.0s,MS6.1								
MIR				MLR	MLR				
	comp=N,2µm,18.0s,MS5.8								
MIR				MLR	MLR				
	comp=E,2µm,7.0s								
MIR				MLR	MLR				
	comp=Z,8µm,16.0s								
MIR				MLR	MLR				
	comp=N,3µm,12.0s								
MIR				MLR	MLR				
	comp=E,4µm,10.0s,MS5.8								
MJAR	**Matsushiro Arr**	**72.49**	**321**	P			**P**	**18 07 50.1**	**-0.2**
	comp=E,15nm,0.7s,mb5.1,baz=153,slow=5.9,SNR=73								
MAT	**Matsushiro**	**72.49**	**321**	P			**P**	**18 07 50.2**	**-0.1**
MAT	**Matsushiro**	**72.49**	**321**	*e*P			**P**	**18 07 50.0**	**-0.3**
MAT				pmax	pmax				
	comp=Z,24nm,1.0s,mb5.1								
MAT	**Matsushiro**	**72.49**	**321**	*e*P			**P**	**18 07 50.0**	**-0.3**
	comp=Z,24nm,1.0s,mb5.1								
JOW	**Kunigami**	**73.05**	**308**	P			**P**	**18 07 53.3**	**-0.3**
	comp=Z,34nm,1.0s,mb5.2,baz=149,slow=8.2,SNR=5.3								
KKM	**Kota Kinabalu**	**73.31**	**283**	P			**P**	**18 07 56.1**	**+1.0**
FX1	**Attu Island--F**	**73.99**	**352**	P			**P**	**18 07 58.1**	**-1.0**
	comp=Z,40nm,0.8s,mb5.4,baz=221,slow=8.8,SNR=5.7								
FX1	**Attu Island--F**	**73.99**	**352**	P			**P**	**18 07 58.2**	**-1.0**
FX1				pmax	pmax				
	comp=Z,40nm,0.8s								
ASAJ	**Asahikawa**	**75.60**	**329**	P			**P**	**18 08 08.9**	**+0.4**
	comp=Z,26nm,0.8s,mb5.2,baz=196,slow=6.2,SNR=19								
ASAJ	**Asahikawa**	**75.60**	**329**	P			**P**	**18 08 08.9**	**+0.4**
ASAJ				pmax	pmax				
	comp=Z,26nm,0.8s								
LPIG	**La Paz**	**76.36**	**58**	P			**P**	**18 08 13.8**	**+1.0**
	comp=Z,22nm,0.3s,mb5.6,baz=111,slow=0.8,SNR=3.8								
PET	**Petropavlovsk**	**77.02**	**344**	*e*P			**P**	**18 08 16.3**	**-0.2**
KSM	**Kuching**	**77.03**	**277**	*e*P			**P**	**18 08 17.2**	**+0.6**
YHNB	**Yeheng**	**77.18**	**303**	*e*P			**P**	**18 08 17.3**	**-0.2**
OHCM	**Honcut**	**77.28**	**39**	*e*P			**P**	**18 08 17.3**	**-0.7**
YSS	**Yuzh-Sakhalins**	**77.66**	**331**	*e*P			**P**	**18 08 19.6**	**-0.5**
YSS				*e*				18 08 34.2	
YSS				pmax	pmax				
	comp=Z,90nm,1.0s,mb5.7								
YSS	**Yuzh-Sakhalins**	**77.66**	**331**	*e*P			**P**	**18 08 20.4**	**+0.3**
DAC	**Darwin (Calif)**	**77.78**	**44**	*e*P			**P**	**18 08 21.1**	**+0.3**
DAC				pmax	pmax				
	comp=Z,109nm,2.0s,mb5.4								
DAC	**Darwin (Calif)**	**77.78**	**44**	*e*P			**P**	**18 08 21.1**	**+0.2**
	comp=Z,109nm,2.0s,mb5.4								
YBH	**Yreka Blue Hor**	**78.14**	**37**	P			**P**	**18 08 22.8**	**0.0**
	comp=Z,15nm,1.0s,mb4.9,baz=278,slow=1.8,SNR=7.9								
NVAR	**Mina Array Bea**	**78.64**	**42**	P			**P**	**18 08 26.0**	**+0.4**
	comp=Z,11nm,0.6s,mb5.0,baz=222,slow=9.0,SNR=49								
NEN	**Nelson**	**79.22**	**45**	*e*P			**P**	**18 08 28.8**	**+0.1**
KS15	**Wonju Array Si**	**79.42**	**317**	*e*P			**P**	**18 08 31.2**	**+1.4**
KDAK	**Kodiak Island**	**80.12**	**12**	P			**P**	**18 08 33.3**	**-0.3**
	comp=Z,13nm,0.8s,mb5.0,baz=354,slow=10,SNR=5.2								
VLA	**Vladivostok**	**80.49**	**323**	*e*P			**P**	**18 08 37.3**	**+1.7**
VLA				pmax	pmax				
	comp=Z,53nm,1.6s,mb5.2								
SSE	**Sheshan**	**80.57**	**308**	P			**P**	**18 08 38.3**	**+2.3**
SSE				AMB	AMB				
	comp=Z,36nm,0.8s,mb5.3								
SSE				AMB	AMB				
	comp=Z,4µm,6.9s								
SFJM	**Santa Fe**	**80.61**	**64**	*i*P			**P**	**18 08 37.5**	**+1.2**
WVOR	**Wild Horse Val**	**80.91**	**38**	*e*P			**P**	**18 08 37.1**	**-0.8**
WVOR				pmax	pmax				
	comp=Z,33nm,1.1s,mb5.2								
WVOR	**Wild Horse Val**	**80.91**	**38**	*e*P			**P**	**18 08 37.1**	**-0.7**
	comp=Z,33nm,1.1s,mb5.2								
ARUT	**Antelope Range**	**81.36**	**44**	*e*P			**P**	**18 08 41.1**	**+0.8**
WUAZ	**Wupatki**	**81.50**	**47**	*e*P			**P**	**18 08 41.8**	**+0.7**
	comp=Z,52nm,1.3s,mb5.3								
ELK	**Elko**	**81.92**	**41**	*e*P			**P**	**18 08 43.1**	**-0.1**
ELK				pmax	pmax				
	comp=Z,177nm,2.3s								
ELK	**Elko**	**81.92**	**41**	*e*P			**P**	**18 08 43.1**	**-0.2**
	comp=Z,177nm,2.3s,mb5.6								
HABR	**Khabarovsk**	**82.36**	**329**	*e*P			**P**	**18 08 47.2**	**+1.6**
MSU	**Marysvale**	**82.59**	**44**	*e*P			**P**	**18 08 47.1**	**+1.0**
MAW	**Mawson**	**82.69**	**199**	P			**P**	**18 08 48.1**	**+0.9**
	comp=Z,12nm,0.5s,mb5.2,baz=254,slow=20,SNR=3.8								
MDJ	**Mudanjiang**	**82.72**	**323**	P			**P**	**18 08 48.1**	**+0.7**
MDJ				S			S	18 19 06.6	+2.8
MDJ				SS			SS	18 24 29.5	+3.4
MDJ				AMB	AMB				
	comp=Z,44nm,0.8s,mb5.5								
MDJ				AMB	AMB				
	comp=Z,31µm,13.8s								
SVW2	**Sparrevohn**	**82.76**	**9**	*e*P			**P**	**18 08 46.6**	**-1.0**
NJ2	**Nanjing**	**82.77**	**308**	*e*P			**P**	**18 08 48.3**	**+0.6**
NJ2				PP			PP	18 11 58.3	+0.6
NJ2				S			S	18 19 03.0	-1.2
NJ2				AMB	AMB				
	comp=Z,320nm,0.6s								
NJ2				AMB	AMB				
	comp=Z,3µm,6.0s								
NJ2				LR	LR				
	comp=N,9µm,18.9s,MS6.2								
NJ2				LR	LR				
	comp=E,6µm,18.3s,MS6.2								
NJ2				LR	LR				
	comp=Z,9µm,18.6s,MS6.2								
HAWA	**Hanford**	**82.91**	**35**	*e*P			**P**	**18 08 47.4**	**-1.0**
	comp=Z,4.3nm,1.3s,mb4.3								
SLKM	**Skilak Lake**	**83.11**	**12**	*e*P			**P**	**18 08 48.4**	**-1.0**
DUG	**Dugway**	**83.12**	**43**	*e*P			**P**	**18 08 49.3**	**-0.2**
DUG				pmax	pmax				
	comp=Z,20nm,1.3s,mb5.0								
DUG	**Dugway**	**83.12**	**43**	*e*P			**P**	**18 08 49.3**	**-0.2**
	comp=Z,20nm,1.3s,mb5.0								
KGM	**Kluang**	**83.74**	**274**	P			**P**	**18 08 55.1**	**+2.4**
LAZ	**Ladron**	**83.90**	**50**	*e*P			**P**	**18 08 54.9**	**+1.4**
LENM	**Lemitar**	**83.90**	**50**	*e*P			**P**	**18 08 54.1**	**+0.6**
HLID	**Hailey**	**84.06**	**39**	*e*P			**P**	**18 08 54.1**	**-0.2**
	comp=Z,43nm,1.2s,mb5.5								
BNM	**Barren Site**	**84.14**	**50**	*e*P			**P**	**18 08 55.5**	**+0.8**
LPM	**Los Pinos Moun**	**84.22**	**50**	*e*P			**P**	**18 08 55.6**	**+0.5**
QIZ	**Qiongzhong**	**84.23**	**293**	P			**P**	**18 08 58.7**	**+3.5**
QIZ				S				18 19 19.6	
QIZ				AMB	AMB				
	comp=Z,21nm,1.1s,mb5.2								
QIZ				LR	LR				
	comp=N,6µm,21.1s,MS6.1								
QIZ				LR	LR				
	comp=E,7µm,22.1s,MS6.1								
QIZ				LR	LR				
	comp=Z,11µm,19.8s,MS6.2								
DAU	**Daniels Canyon**	**84.23**	**43**	*e*P			**P**	**18 08 55.4**	**+0.2**
PMR	**Palmer**	**84.31**	**12**	*e*P			**P**	**18 08 54.7**	**-0.9**
PMR				pmax	pmax				
	comp=Z,81nm,1.5s,mb5.6								
PMR	**Palmer**	**84.31**	**12**	*e*P			**P**	**18 08 54.7**	**-0.9**
	comp=Z,81nm,1.5s,mb5.6								
MVCO	**Mesa Verde**	**84.36**	**47**	*e*P			**P**	**18 08 55.9**	**0.0**
TTA	**Tatalina**	**84.46**	**8**	*e*P			**P**	**18 08 56.2**	**-0.1**
KLR	**Kul'dur**	**84.50**	**328**	*e*P			**P**	**18 08 55.1**	**-1.4**
KLR				pmax	pmax				
	comp=Z,56nm,1.8s,mb5.4								
PV10	**Paradox Valley**	**84.60**	**46**	*e*P			**P**	**18 08 56.7**	**-0.3**
CN2	**Changchun**	**84.63**	**321**	*e*P			**P**	**18 08 58.2**	**+1.0**
CN2				*e*S				18 19 23.7	
CN2				AMB	AMB				
	comp=Z,40nm,0.7s,mb5.7								
CN2				AMB	AMB				
	comp=Z,20µm,8.0s								
CN2				LR	LR				
	comp=Z,75µm,22.0s,MS7.0								
SNY	**Shenyang**	**84.65**	**318**	⇑P			**P**	**18 08 58.9**	**+1.6**
SNY				AMB	AMB				
	comp=Z,51nm,2.0s,mb5.3								
ANMO	**Albuquerque**	**84.66**	**50**	⇓*i*P			**P**	**18 08 57.9**	**+0.6**
GDL2	**Guadalupe Moun**	**84.87**	**53**	*e*P			**P**	**18 08 59.0**	**+0.6**
MA2	**Magadan**	**84.89**	**343**	*e*P			**P**	**18 08 57.0**	**-1.5**
MA2				*e*				18 28 06.2	
MA2				pmax	pmax				
	comp=Z,40nm,0.8s,mb5.6								
NEW	**Newport**	**85.36**	**34**	*e*P			**P**	**18 08 59.6**	**-1.3**
NEW				pmax	pmax				
	comp=Z,11nm,1.1s								
NEW	**Newport**	**85.36**	**34**	*e*P			**P**	**18 08 59.6**	**-1.3**
	comp=Z,11nm,1.1s,mb4.9								
WHN	**Wuhan**	**85.45**	**305**	P			**P**	**18 09 02.5**	**+1.2**
AHID	**Auburn Hatcher**	**85.61**	**41**	*e*P			**P**	**18 09 02.2**	**+0.1**
	comp=Z,22nm,1.0s,mb5.3								
MCMT	**McKenzie Canyo**	**85.71**	**39**	*e*P			**P**	**18 09 02.2**	**-0.4**
SKAG	**Skagway**	**85.85**	**19**	*e*P			**P**	**18 09 04.9**	**+1.6**
	comp=Z,201nm,2.1s,mb6.0								
TIA	**Tai'an**	**86.05**	**311**	*e*P			**P**	**18 09 04.8**	**+0.5**
TIA				AMB	AMB				
	comp=Z,38nm,1.1s,mb5.5								
REDW	**Red Top Meadow**	**86.09**	**41**	*e*P			**P**	**18 09 04.8**	**+0.3**
	comp=Z,40nm,0.4s,mb6.0								
QLMT	**Earthquake Lak**	**86.55**	**39**	*e*P			**P**	**18 09 07.2**	**+0.5**
PDAR	**Pinedale Array**	**86.57**	**42**	P			**P**	**18 09 06.5**	**-0.4**
	comp=Z,3.2nm,0.9s,mb4.6,baz=209,slow=3.5,SNR=17								
MENT	**Mentasta**	**86.63**	**13**	*e*P			**P**	**18 09 06.4**	**-0.8**
CHMT	**Chamberlain Mo**	**86.67**	**37**	*e*P			**P**	**18 09 06.1**	**-1.2**
YMR	**Madison River**	**86.73**	**40**	*e*P			**P**	**18 09 08.2**	**+0.6**
	comp=Z,22nm,0.4s,mb5.7								
IPM	**Ipoh**	**86.75**	**276**	P			**P**	**18 09 09.8**	**+2.0**
HRY	**Holter Researc**	**87.36**	**38**	*e*P			**P**	**18 09 10.5**	**-0.2**
KULM	**Kulim**	**87.39**	**277**	*e*P			**P**	**18 09 12.3**	**+1.5**
SYO	**Syowa Base**	**87.40**	**192**	⇓*e*P			**P**	**18 09 10.5**	**-0.4**
SYO	**Syowa Base**	**87.40**	**192**	⇓*e*pP			pP	18 09 16.6	-2.1
COLA	**College**	**87.56**	**11**	*e*P			**P**	**18 09 09.7**	**-2.0**
JCT	**Junction City**	**87.58**	**56**	*e*P			**P**	**18 09 10.8**	**-1.0**
JCT				pmax	pmax				
	comp=Z,19nm,1.0s,mb5.3								
JCT	**Junction City**	**87.58**	**56**	*e*P			**P**	**18 09 10.8**	**-1.0**
	comp=Z,19nm,1.0s,mb5.3								
ISCO	**Idaho Springs**	**87.62**	**46**	*e*P			**P**	**18 09 11.9**	**0.0**
ISCO				pmax	pmax				
	comp=Z,5.0nm,0.9s,mb4.7								
ISCO	**Idaho Springs**	**87.62**	**46**	*e*P			**P**	**18 09 11.9**	**-0.1**
	comp=Z,4.9nm,0.9s,mb4.7								
ILAR	**Eielson Array**	**87.64**	**11**	P			**P**	**18 09 10.8**	**-1.3**
	comp=Z,4.4nm,0.8s,mb4.7,baz=224,slow=5.1,SNR=32								
ILAR				PP			PP	18 12 39.4	+2.0
	comp=Z,3.9nm,1.0s,baz=218,slow=8.2,SNR=3.8								
ILAR				PKKPbc			PKKPbc	18 27 12.7	+13
	comp=Z,0.4nm,0.7s,baz=360,slow=1.3,SNR=4.1		

ULN	Ulaanbaatar	97.83 318	⇑	eP		P	18 09 57.1	-2.0
BOD	Bodaibo	98.01 329		eP		P	18 09 57.5	-2.4
SONM	Songino Array	98.23 318		P		P	18 10 00.2	-0.7
	comp=Z,2.7nm,0.9s,mb4.8,baz=128,slow=4.1,SNR=10							
SONM				PP		PP	18 13 57.4	-3.0
	comp=Z,1.0nm,0.9s,baz=109,slow=7.8,SNR=3.1							
ULM	Lac du Bonnet	98.37 39		P		P	18 10 00.0	-1.5
	comp=Z,1.0nm,0.4s,mb4.7,baz=195,slow=5.6,SNR=3.9							
LPAZ	La Paz	98.65 111		P		P	18 10 05.3	+2.5
	comp=Z,0.5nm,0.4s,mb4.4,baz=127,slow=3.2,SNR=3.8							
LPAZ				PP		PP	18 14 05.6	+1.9
	comp=Z,1.1nm,0.9s,baz=241,slow=9.0,SNR=5.0							
LPAZ	La Paz	98.65 111		P		P	18 10 05.3	+2.5
LPAZ				PP		PP	18 14 05.6	+1.9
TIXI	Tiksi	99.79 344		eP		Pdif	18 10 07.7	-0.2
TIXI				pmax		pmax		
	comp=Z,5.0nm,1.1s,mb4.9							
TIXI	Tiksi	99.79 344		eP		Pdif	18 10 07.9	0.0
GTA	Gaotai	99.86 308		eP		Pdif	18 10 11.2	+3.0
GTA				AP			18 10 15.5	
GTA				AMB		AMB		
	comp=Z,3.0nm,1.0s,mb4.7							
ZAK	Zakamensk	101.03 320		eP		Pdif	18 10 12.9	-0.5
ZAK				e			18 14 17.3	
ZAK				pmax		pmax		
	comp=Z,5.0nm,2.2s							
ZAK				pmax		pmax		
	comp=Z,7.0nm,1.8s							
WMQ	Urumqi	109.74 310		PDIF		Pdif	18 10 53.6	+1.5
WMQ				PP		PP	18 15 30.9	+4.7
WMQ				LR		LR		
	comp=N,4μm,30.8s							
WMQ				LR		LR		
	comp=E,8μm,36.0s							
WMQ				LR		LR		
	comp=Z,7μm,31.6s,MS6.0							
ZAL	Zalesovo	112.86 321		PKiKP		PKiKP	18 14 59.3	-1.1
	comp=Z,0.7nm,0.6s,baz=11,slow=0.9,SNR=5.1							
ZAL				PP		PP	18 15 48.2	-0.4
	comp=Z,0.9nm,0.7s,baz=21,slow=6.2,SNR=5.7							
MKAR	Makanchi Array	113.91 313		Pdif		Pdif	18 11 10.6	0.0
	comp=Z,0.2nm,0.7s,baz=82,slow=3.0,SNR=2.2							
MKAR				PKiKP		PKiKP	18 15 01.6	-0.9
	comp=Z,2.2nm,0.7s,baz=82,slow=1.3,SNR=20							
MKAR				PKKPbc		PKKPbc	18 25 45.0	+0.9
	comp=Z,0.3nm,0.6s,baz=280,slow=3.6,SNR=4.3							
MKAR	Makanchi Array	113.91 313		P		Pdif	18 11 10.6	0.0
MKAR							18 15 01.6	
MKAR	Makanchi Array	113.91 313		Pdif		Pdif	18 11 10.6	0.0
MKAR				PKPdf		PKiKP	18 15 01.6	-0.9
MKAR				PKKPbc		PKKPbc	18 25 45.0	+0.9
KURK	Kurchatov	116.52 317		PKiKP		PKPdf	18 15 07.5	0.0
KSH	Kashi	117.92 305		ePKP		PKPdf	18 15 04.0	-6.2
KSH				LR		LR		
	comp=N,2μm,15.9s,MS6.1							
KSH				LR		LR		
	comp=E,3μm,17.1s,MS6.1							
KSH				LR		LR		
	comp=Z,3μm,23.1s							
AAK	Ala-Archa	119.21 308		ePKIKP		PKPdf	18 15 12.7	0.0
BRVK	Borovoye	121.54 320		ePKIKP		PKPdf	18 15 16.4	-0.7
ZRNK	Zerenda	122.32 320		ePKIKP		PKPdf	18 15 17.2	-1.4
ARU	Arti	127.32 326		i PKIKP		PKPdf	18 15 26.4	-1.8
ARU				e			18 17 22.1	
ARU				e			18 22 29.0	
ARU				eSS		SS	18 34 50.8	+15
ARU	Arti	127.32 326	⇑	ePKP		PKPdf	18 15 26.3	-1.9
KEV	Kevo	129.19 351		ep		PKPdf	18 15 29.2	-2.6
	comp=Z,7.1nm,1.0s							
ARCES	ARCESS Array B	129.62 351		PKP		PKPdf	18 15 31.2	-1.4
	comp=Z,5.2nm,0.7s,baz=24,slow=0.9,SNR=20							
APA	Apatity	129.92 347	⇑	i PKIKP		PKPdf	18 15 30.0	-3.2
APA				pmax		pmax		
	comp=Z,19nm,1.5s							
APA				MLR		MLR		
	comp=Z,4μm,19.0s,MS6.1							
ORR	Orenburg	131.11 321		ePKIKP		PKPdf	18 15 34.7	-0.7
ORR				pmax		pmax		
	comp=Z,5.0nm,0.8s							
JOF	Joensuu	134.27 344		ep		PKPdf	18 15 39.6	-1.8
	comp=Z,7.9nm,0.8s							
KAF	Kangasniemi	136.17 346		ep		PKPdf	18 15 44.7	-0.2
	comp=Z,6.4nm,0.8s							
FINES	FINESS Array B	136.81 346		PKP		PKPdf	18 15 45.9	-0.2
	comp=Z,1.4nm,0.6s,baz=51,slow=2.7,SNR=5.2							
OBN	Obninsk	138.51 334		i PKIKP		PKPdf	18 15 47.1	-2.1
OBN				e			18 18 39.0	
OBN				pmax		pmax		
	comp=Z,8.0nm,1.6s							
OBN	Obninsk	138.51 334		ePKP		PKPdf	18 15 47.1	-2.1
NB2	NORSAR Subarra	139.41 356		PKPd			18 15 43.6	
	comp=Z,14nm,1.7s,baz=7.9,slow=1.9							
NB2	NORSAR Subarra	139.41 356		PKPd			18 15 43.6	
	baz=7.9,slow=1.9							
NOA	NORSAR Array B	139.41 356		PKhKP			18 15 39.6	
	comp=Z,1.0nm,0.8s,baz=16,slow=4.5,SNR=3.9							
NOA				PKP		PKPdf	18 15 50.5	-0.4
	comp=Z,0.6nm,0.8s,baz=7.5,slow=3.4,SNR=4.0							
ZEI	Tsey	141.26 314		ePKIKP		PKPdf	18 15 52.5	-1.8
KIV	Kislovodsk	141.59 316		ePKHKP			18 15 52.6	
KIV				pmax		pmax		
	comp=Z,5.0nm,0.7s							
KIV	Kislovodsk	141.59 316		ePKP		PKPdf	18 15 52.7	-2.1
KMBO	Kilima Mbogo	142.46 239		PKP		PKPdf	18 15 56.5	+0.1
	comp=Z,6.1nm,1.0s,baz=61,slow=2.7,SNR=7.3							
KMBO	Kilima Mbogo	142.46 239		PKP		PKPdf	18 15 56.5	+0.1
SOC	Sochi	143.68 317		ePKHKP		PKPdf	18 15 57.2	-1.3
SOC				i			18 16 00.3	
SOC				pmax		pmax		
	comp=Z,14nm,0.9s							
SOC				pmax		pmax		
	comp=Z,14nm,1.0s							
MSL	Mosul	143.98 304		ex		x	18 15 58.0	
SUW	Suwalki	144.11 343		ePKP		PKPdf	18 15 57.8	-1.5
SUW				e			18 16 07.5	
ANN	Anapa	144.48 320		i PKIKP		PKPdf	18 16 01.1	+1.2
ANN				pmax		pmax		
	comp=Z,86nm,1.5s							
BTMT	Batman	144.63 308		eP		PKPdf	18 16 00.9	+0.7
AKASG	Malin Array Be	144.77 334		PKP		PKPdf	18 15 58.5	-1.9
	comp=Z,16nm,0.6s,baz=37,slow=4.1,SNR=55							
BSD	Bornholm Skovb	144.86 351		i P		PKPdf	18 16 02.3	+1.7
	comp=Z,27nm,0.9s							
BSD	Bornholm Skovb	144.86 351		i PKIKP		PKPdf	18 16 02.3	+1.7
BSD				pmax		pmax		
	comp=Z,27nm,0.9s							
RGN	Rugen	145.63 352		ePKPbc		PKPbc	18 16 00.8	-1.4
DCN	Croghan	145.77 14		eP		PKPdf	18 16 01.8	-0.4
DCN	Croghan	145.77 14	⇑	i P		pPKPab	18 16 14.7	+3.8
DLF	Lyons Farm	145.98 13		eP		PKPdf	18 16 02.2	-0.3
DLF	Lyons Farm	145.98 13	⇑	i P		pPKPab	18 16 15.4	+3.7
GKP	Gorka Klasztor	146.22 348		ePKP		PKPdf	18 16 04.7	+1.8
GKP				e			18 16 15.3	
WAR	Warsaw	146.28 343		ePKP		PKPdf	18 16 05.8	+2.8
WAR				e			18 16 16.2	
SIM	Simferopol'	146.33 323	⇓	i PKIKP		PKPdf	18 16 06.4	+3.3
SIM				pmax		pmax		
	comp=Z,51nm,0.9s							
HLG	Helgoland	146.43 358		ePKPbc		PKPbc	18 16 03.7	-0.9
BSEG	Bad Segeberg	146.54 355		ePKPbc		PKPbc	18 16 03.8	-1.1
MALT	Malatya	146.84 309	⇓	i P		PKPdf	18 16 07.5	+3.5
MALT	Malatya	146.84 309		ePKPbc		PKPbc	18 16 06.2	+0.4
LVV	L'vov	147.46 338		i PKIKP		PKPdf	18 16 07.0	+2.0
RUE	Ruedersdorf	147.58 351		ePKPbc		PKPbc	18 16 06.6	-1.3
RUE	Ruedersdorf	147.58 351		ePKPbc		PKPbc	18 16 07.3	-0.6
BYBT	Boyabat	147.90 317		eP		PKPbc	18 16 10.3	+1.5
KWP	Kalwaria	148.07 339		ePKP		PKPdf	18 16 08.8	+2.8
KWP				e			18 16 09.2	
IBBN	Ibbenburen	148.31 358		ePKPbc		PKPbc	18 16 08.7	-1.1
OJC	Ojcow	148.44 343		ePKPdf		PKPdf	18 16 07.2	+0.6
OJC				ePKPbc		PKPbc	18 16 09.5	-0.7
OJC				ePKPab		PKPab	18 16 11.1	-2.4
CLZ	Clausthal	148.61 355		ePKPbc		PKPbc	18 16 09.8	-0.8
WTSB	Winterswijk	148.68 359		ePKiKP		PKiKP	18 16 11.5	-0.7
	comp=Z,64nm,2.3s							
KSP	Ksiaz	148.71 347		ePKP		PKPbc	18 16 11.7	+0.8
KSP				e			18 16 22.1	
KSP	Ksiaz	148.71 347		ePKP		PKPdf	18 16 08.1	+1.0
KSP				ePKPdf		PKPbc	18 16 11.3	+0.4
KSP				epPKP		pPKPdf	18 16 16.8	+1.7
STHS	Stebnicka Huta	148.73 341		ePKP		PKPbc	18 16 12.0	+1.1
STHS				e			18 16 31.1	
KOLS	Kolonicke sedl	148.82 339		ePKP		PKPbc	18 16 15.4	+4.3
KOLS				e			18 16 25.0	
BURAR	Bucovina Array	148.82 334	⇓	i P		PKPbc	18 16 13.1	+2.0
CLL	Collm	148.84 351		ePKPbc		PKPbc	18 16 10.1	-1.1
CLL	Collm	148.84 351		ePKPdf		PKPdf	18 16 08.0	+0.7
CLL			⇓	i PKPbc		PKPbc	18 16 11.4	+0.2
	comp=Z,42nm,1.0s							
CLL			⇓	i PKiKP		PKiKP	18 16 13.5	+0.9
	comp=Z,56nm,1.0s							
CLL				i (pPKPdf)			18 16 16.3	
	comp=Z,66nm,1.0s							
CLL				i pPKiKP			18 16 23.0	
CLL	Collm	148.84 351	⇓	ePKHKP		PKPdf	18 16 08.0	+0.7
CLL				i			18 16 11.4	
CLL				i			18 16 13.5	
CLL				pmax		pmax		
	comp=Z,42nm,1.0s							
CLL				pmax		pmax		
	comp=Z,56nm,1.0s							
CLL	Collm	148.84 351		ePKP		PKPdf	18 16 08.0	+0.7
CLL			⇓	i PKP		PKPbc	18 16 11.4	+0.2
GTTG	Gvttingen	148.94 355		ePKPbc		PKPbc	18 16 10.3	-1.1
NIE	Niedzica	149.01 342		ePKP		PKPbc	18 16 12.9	+1.3
UPC	Upice	149.09 347		ePKPbc		PKPbc	18 16 12.4	+0.6
CANT	Cankiri	149.09 316		eP		PKPbc	18 16 13.4	+1.6
CRVS	Cervenica-Dubn	149.11 340		ePKP		PKPbc	18 16 13.7	+1.8
CRVS				e			18 16 34.3	
BRG	Berggiesshubel	149.12 350		ePKPbc		PKPbc	18 16 11.1	-0.8
BRG	Berggiesshubel	149.12 350		i PKP		PKPdf	18 16 08.6	+0.9
	comp=Z,6.5nm,0.7s							
BRG				i			18 16 13.1	
	comp=Z,20nm,1.1s							
BRG				i			18 16 24.5	
	comp=Z,47nm,1.2s							
BRG	Berggiesshubel	149.12 350		i PKHKP		PKPdf	18 16 08.6	+0.9
BRG				i			18 16 13.1	
BRG				pmax		pmax		
	comp=Z,7.0nm,0.7s							
BRG				pmax		pmax		
	comp=Z,20nm,1.2s							
BRG				pmax		pmax		
	comp=Z,47nm,1.2s							
DPC	Dobruska-Polom	149.17 347	⇑	ePKPB		PKPbc	18 16 12.7	+0.7
BUG	Bochum--Univer	149.19 358		ePKPbc		PKPbc	18 16 10.8	-1.3
CFR	Carcaliu	149.36 328	⇑	i P		PKPbc	18 16 12.8	+0.3
MORC	Moravsky Berou	149.43 345	⇑	i P		PKPbc	18 16 12.9	+0.2
MORC	Moravsky Berou	149.43 345		ePKPdf		PKPdf	18 16 07.7	-0.5
MORC				ePKPbc		PKPbc	18 16 13.0	+0.4
VRI	Vrincioaia	149.53 331	⇑	i P		PKPab	18 16 19.1	+1.2
BR131	Keskin Array S	149.53 315		ePKPdf		PKPdf	18 16 08.8	+0.4
BR131				ePKPbc		PKPbc	18 16 13.3	+0.4
BRTR	Keskin Array B	149.53 315		PKP		PKPdf	18 16 07.3	-1.0
	comp=Z,1.3nm,1.0s,baz=85,slow=3.2,SNR=4.8							
BRTR				PKPbc		PKPbc	18 16 13.3	+0.4
	comp=Z,9.0nm,0.7s,baz=131,slow=3.6,SNR=33							
PLOR	Plostina	149.58 331	⇑	i P		PKPbc	18 16 14.3	+1.3
KAMT	Kaman	149.66 314		eP		PKPbc	18 16 13.5	+0.3
MOX	Moxa	149.67 353		ePKPbc		PKPbc	18 16 12.3	-1.0
MOX	Moxa	149.67 353		ePKP		PKPdf	18 16 10.5	+1.9
	comp=Z,106nm,1.7s							
MOX				e			18 16 25.4	
WERD	Werda	149.77 352		ePKPbc		PKPbc	18 16 12.7	-0.8
KECS	Kecovo	149.79 341		i PKP		PKPbc	18 16 13.5	-0.1
HARR	Harsova	149.82 328	⇓	i P		PKPbc	18 16 15.5	+1.9
UCC	Uccle	149.83 2		APKP		PKPbc	18 16 14.3	+0.6
UCC				APKPab			18 16 26.2	
PRU	Pruhonice	149.87 349	⇑	ePKPB		PKPbc	18 16 13.9	+0.2
HGN	Heimansgroeve	149.89 360		ePKiKP		PKiKP	18 16 14.6	-0.1
	comp=Z,68nm,2.5s							
MENF	Mencas	149.95 5		PKP		PKPbc	18 16 14.0	+0.1
NKC	Novy Kostel	149.96 352	⇑	ePKPB		PKPbc	18 16 14.5	+0.5
ANTO	Ankara	150.02 316	⇑	i P		PKPbc	18 16 15.0	+0.9
ANTO	Ankara	150.02 316		ePKPbc		PKPbc	18 16 14.3	+0.2
LOD	Lodumlu	150.03 316		eP		PKPbc	18 16 13.9	-0.2
MEM	Membach	150.04 360		PKPbc		PKPbc	18 16 15.1	+1.0
VRAC	Vranov	150.09 346	⇑	i P		PKPbc	18 16 15.4	+1.1
VRAC	Vranov	150.09 346	⇑	P		PKPbc	18 16 15.4	+1.1
SNF	Seneffe	150.12 2		PKPbc		PKPbc	18 16 15.2	+0.9
MLR	Muntele Rosu	150.17 331	⇓	i P		PKPbc	18 16 15.4	+0.9
MLR	Muntele Rosu	150.17 331	⇓	P		PKPbc	18 16 15.3	+0.9
MANZ	Manzenberg	150.25 352		ePKPbc		PKPbc	18 16 14.1	-0.6
VYHS	Vyhne	150.27 342		i PKP		PKPbc	18 16 15.0	+0.3
VYHS				e			18 16 26.2	
VYHS	Vyhne	150.27 342		i PKIKP		PKPbc	18 16 15.1	+0.4
TREC	Trest	150.35 347		ePKPB		PKPbc	18 16 15.4	+0.5
TNS	Taunus Mts	150.36 357		ePKPbc		PKPbc	18 16 14.0	-0.9
ROTZ	Rotzenmuhle	150.45 352		ePKPbc		PKPbc	18 16 14.6	-0.6
SNX	Sinaia	150.47 331	⇑	i P		PKPbc	18 16 16.3	+1.1
PSZ	Piszkesteto	150.48 341	⇓	epPKP/F		PKPbc	18 16 15.7	+0.5
PSZ	Piszkesteto	150.48 341	⇓	i P		PKPbc	18 16 16.0	+0.8
PSZ	Piszkesteto	150.48 341		ePKPbc		PKPbc	18 16 15.3	0.0
DRGR		150.48 336	⇓	i P		PKPbc	18 16 15.5	+0.3
DRGR		150.48 336	⇓	P		PKPbc	18 16 15.5	+0.3
DOU	Dourbes	150.54 2		PKPbc		PKPbc	18 16 15.6	+0.2
GIVF	Givet	150.54 1		ePKP1		PKPbc	18 16 15.2	-0.2
	comp=Z,125nm,1.2s							
BAIF	Baives	150.56 2		ePKP1		PKPbc	18 16 15.5	+0.1
	comp=Z,80nm,1.1s							
VOIR		150.61 332	⇑	i P		PKPbc	18 16 16.9	+1.4
SMOL	Smolenice	150.63 344		ePKP		PKPbc	18 16 16.6	+1.0
SMOL				e			18 16 23.4	
SMOL				e			18 16 32.6	
SMOL	Smolenice	150.63 344		ePKIKP		PKPbc	18 16 16.6	+1.0
SMOL				e			18 16 23.4	
GRA1	Grafenberg Arr	150.65 353		ePKPbc		PKPbc	18 16 15.0	-0.6
GRA1				epPKPbc		pPKPbc	18 16 28.1	+4.5
GRF	Grafenberg Arr	150.65 353		ePKPbc		PKPbc	18 16 15.0	-0.6
GRF				epPKPbc		pPKPbc	18 16 28.1	+4.5
GRFO	Grafenberg	150.65 353		ePKPbc		PKPbc	18 16 15.2	-0.4
MDU	Mudurnu	150.70 318		eP		PKPbc	18 16 16.1	+0.4
ABH	Alteburg	150.74 358		PKP		PKPbc	18 16 16.3	+0.5
KHC	Kasperske Hory	150.86 350	⇑	ePKPB		PKPbc	18 16 16.3	+0.2
KHC				PKPab		PKPab	18 16 23.0	-0.4
KHC	Kasperske Hory	150.86 350		ePKP		PKPbc	18 16 16.3	+0.2
KHC				e			18 16 23.0	
RUP	Ruppelstein	150.94 358		PKHKP		PKPbc	18 16 16.7	+0.4
TOD	Tromm	150.95 356		PKHKP		PKPbc	18 16 16.5	+0.2
WET	Wettzell	150.96 351		ePKPbc		PKPbc	18 16 15.6	-0.8
WLF	Walferdange	150.99 360		ePKPbc		PKPbc	18 16 16.0	-0.4
WLF	Walferdange	150.99 360		PKP		PKPbc	18 16 17.2	+0.8
WLF				E			18 16 42.2	
WLF	Walferdange	150.99 360		ePKPbc		PKPbc	18 16 17.1	+0.6
ZST	Bratislava	151.01 344		ePKP		PKPbc	18 16 17.3	+0.8
SRO	Srobarova	151.04 343		ePKP		PKPbc	18 16 17.0	+0.5
SRO1	Iza	151.11 343		ePKP		PKPbc	18 16 18.6	+1.9
GERES	GERESS Array B	151.12 349		PKPbc		PKPbc	18 16 16.2	-0.5
	comp=Z,9.1nm,0.8s,baz=334,slow=0.6,SNR=17							
BUD	Budapest	151.13 341		epPKP/F		PKPbc	18 16 17.1	+0.3
IKL	Isikli	151.13 309		P		PKPbc	18 16 16.9	+0.1
KIZT	Kizilcal	151.14 315		P		PKPbc	18 16 17.3	+0.5
ROSF	Rostrenen	151.35 13		ePKP1		PKPbc	18 16 16.4	-0.9
FLN	La Foliniere	151.43 9		ePKP1		PKPbc	18 16 16.9	-0.6
	comp=Z,91nm,1.1s							
SGMF	Saint Gilles	151.57 12		ePKP1		PKPbc	18 16 16.9	-0.9
	comp=Z,43nm,1.0s							
SOP	Sopron	151.62 345		epPKP/F		PKPbc	18 16 18.0	+0.1
LANF	Langenberg	151.63 357		PKP		PKPbc	18 16 18.5	+0.6
LDF	La Druitiere	151.65 8		ePKP1		PKPbc	18 16 17.3	-0.6
	comp=Z,76nm,1.2s							
GRR	Gorron	151.74 10		ePKP1		PKPbc	18 16 17.7	-0.5
	comp=Z,25nm,0.7s							
STU	Stuttgart	151.76 355		ePKPbc		PKPbc	18 16 17.4	-0.8
QUIF	Quistinic	151.77 13		ePKP1		PKPbc	18 16 17.5	-0.7
BZS	Buzias	151.88 336	⇑	i P		PKPbc	18 16 19.5	+1.0
BZS	Buzias	151.88 336		PKIKP		PKPbc	18 16 18.8	+0.3
BZS	Buzias	151.88 336	⇑	P		PKPbc	18 16 19.5	+1.1
CSS	Prodhromos	151.92 306		ePKPdf		PKPdf	18 16 12.5	+0.4
MEZF	Maizieres J'vi	152.15 1		ePKP1		PKPbc	18 16 19.2	+0.1
	comp=Z,75nm,1.1s							
FUR	Furstenfeldbru	152.15 352		ePKPbc		PKPbc	18 16 18.1	-1.0
WLS	Welschbruch	152.22 358		PKP		PKPbc	18 16 19.8	+0.6
CDF	Champ du Feu	152.22 358		ePKP1		PKPbc	18 16 19.1	-0.1
	comp=Z,36nm,0.9s							
BFO	Black Forest	152.25 356		ePKPbc		PKPbc	18 16 18.2	-1.1
ARSA	Arzberg	152.27 346	⇑	i P		PKPbc	18 16 18.9	-0.4
	comp=Z,35nm,1.3s							
ARSA	Arzberg	152.27 346	⇑	i P		PKPbc	18 16 18.9	-0.4
PKSM	Moragy	152.39 341	⇓	i P		PKPbc	18 16 19.6	0.0
PKSM	Moragy	152.39 341	⇓	eP		PKPdf	18 16 13.8	+1.0
PKSM			⇓	P			18 16 19.6	
ECH	Echery	152.42 358		PKP		PKPbc	18 16 19.8	+0.1
THEF	They Montfort	152.43 360		PKP		PKPbc	18 16 19.8	+0.1
HAU	Haudompre	152.65 359		ePKP1		PKPbc	18 16 21.0	+0.8
	comp=Z,38nm,0.9s							
FELD	Feldberg im Sc	152.72 357		PKP		PKPbc	18 16 21.9	+1.5
HINF	Hinteralfeld	152.83 359		ePKP1		PKPbc	18 16 20.1	-0.5
	comp=Z,38nm,1.2s							
KBA	Koelnbreinsper	152.89 349		i P		PKPbc	18 16 20.1	-0.6
	comp=Z,18nm,0.8s,SNR=9.4							
WATA	Walderalm	152.92 351	⇓	i P		PKPbc	18 16 20.7	-0.1
	comp=Z,9.8nm,0.9s							
MOTA	Moosalm	152.97 352	⇑	i P		PKPbc	18 16 21.3	+0.4
	comp=Z,25nm,1.3s,SNR=5.9							
MOTA	Moosalm	152.97 352	⇑	i P		PKPbc	18 16 21.3	+0.4
WTTA	Wattenberg	152.98 351		i P		PKPbc	18 16 21.3	+0.3
	comp=Z,36nm,0.8s,SNR=6.1							
WTTA	Wattenberg	152.98 351		i P		PKPbc	18 16 21.3	+0.3
SQTA	Sankt Quirin	153.08 352	⇑	i P		PKPbc	18 16 21.6	+0.4
	comp=Z,37nm,1.5s							
SQTA	Sankt Quirin	153.08 352	⇑	i P		PKPbc	18 16 21.6	+0.4
DAVA	Damuels	153.17 354	⇑	i P		PKPbc	18 16 22.1	+0.7
	comp=Z,19nm,0.9s							
LOR	Lormes	153.34 3		ePKP1		PKPbc	18 16 21.6	-0.1
	comp=Z,32nm,1.0s							
SSF	Saint Saulge	153.52 4		ePKP1		PKPbc	18 16 22.0	-0.1
	comp=Z,41nm,1.1s							
MFF	Saint Martin d	153.59 9		ePKP1		PKPbc	18 16 21.7	-0.6
CADS	Cadrg	153.63 348		ePKPdf		PKPdf	18 16 14.2	-0.4
LJU	Ljubljana	153.64 346		ePKPdf		PKPdf	18 16 15.4	+0.8
LJU				ePKPbc		PKPbc	18 16 22.6	+0.3
DIVS	Divcibare	153.78 337	⇑	i P		PKPbc	18 16 22.6	0.0
AVF	Avril sur Loir	153.78 4		ePKP1		PKPbc	18 16 22.1	-0.6
	comp=Z,14nm,0.9s							
VOY	Vojsko	153.78 347		ePKPbc		PKPbc	18 16 23.1	+0.4
VOY				e			18 16 56.5	
SMF	Signal de Mont	153.96 3		ePKP1		PKPbc	18 16 22.6	-0.5
BOJS	Bojanci	153.98 345		ePKPdf		PKPdf	18 16 14.8	-0.3
BOJS				ePKPbc		PKPbc	18 16 23.0	-0.1
BGF	Bois d'Agland	153.98 5		ePKP1		PKPbc	18 16 22.8	-0.3
	comp=Z,30nm,0.9s							
CABF	La Chapelle	154.04 360		ePKP1		PKPbc	18 16 24.1	+0.8
TCF	Toulx Ste Croi	154.19 6		ePKP1		PKPbc	18 16 23.1	-0.5
	comp=Z,40nm,1.3s							
VAY	Valandovo	154.95 329		ePKP		PKPdf	18 16 17.7	+1.2
SKO	Skopje	154.95 332		ePKP		PKPdf	18 16 16.9	+0.4
RJF	Les Rejaudoux	155.09 7		ePKP1		PKPdf	18 16 25.1	+8.5
LBL	Lubilhac	155.33 4		PKP		PKPdf	18 16 27.5	+11
OHR	Ohrid	155.93 332	⇑	i PKP		pPKPdf	18 16 29.3	+3.5
ESDC	Sonseca Array	159.19 22		PKPab		PKPab	18 16 58.7	-0.2
	comp=Z,0.2nm,0.3s,baz=319,slow=4.3,SNR=4.1							
DBIC	Dimbokro	162.69 142		PKP		PKPdf	18 16 25.5	-0.1
	comp=Z,4.6nm,0.9s,baz=103,slow=5.7,SNR=5.2							
DBIC				PKPab		PKPab	18 17 14.9	+0.8
	comp=Z,3.8nm,0.8s,baz=156,slow=6.9,SNR=3.6							
TORD	Torodi Ar. Bea	171.59 151		PKP		PKPdf	18 16 32.0	-0.1
	comp=Z,2.5nm,0.8s,baz=333,slow=0.4,SNR=11							
TORD				PKPab		PKPab	18 17 54.0	+0.5
	comp=Z,5.5nm,1.2s,baz=214,slow=4.2,SNR=8.1							
TORD				PP		PP	18 21 49.9	+5.6
	comp=Z,1.6nm,1.1s,baz=192,slow=4.0,SNR=5.7							

*IDC **03** 18:05:39.9±1.5, 21.19S×174.51W, h0

ellipse: s-maj=29.7km s-min=17.2km az=126.0
*NEIC **03** 18:24:58.9±0.6, 2004S×174.41W, h15km, mb4.5/3, Error ellipse: s-maj=21.1km s-min=10.9km az=127.0*
*ISCJB **03** 18:24:59.2±0.8, 2005S±0.1×174.4W±0.2, h33km, mb4.1/11, Error ellipse: s-maj=23.3km s-min=12.0km az=63.7*
*MOS **03** 18:25:08.8±2.9, 1870S×175.45W, h49km, mb4.9/2, Error ellipse: s-maj=28.6km s-min=15.8km az=149.8*

ISC 03 18:25:01.7±0.7, 201S±01×1744W±01, h35km, n33, σ1§31/24, mb4.1/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.59**	**22**	Pn	**Pn**	**Pn**	**18 26 33.8**	**-2.3**
	11nm,0.3s,baz=73,slow=3.4,SNR=14							
AFI				Sn	**Sn**	**Sn**	**18 27 40.0**	**-10**
	2.8nm,0.3s,baz=72,slow=19,SNR=2.3							
AFI				T			18 33 27.7	
	4.2nm,0.3s,baz=3.5,slow=19,SNR=4.5							
AFI	**Afiamalu**	**6.59**	**22**	Pn	**Pn**	**Pn**	**18 26 33.8**	**-2.3**
AFI				Sn	**Sn**	**Sn**	**18 27 40.0**	**-10**
RAR	**Rarotonga**	**13.70**	**97**	Pn	**Pn**	**Pn**	**18 27 59.9**	**-14**
	3.1nm,0.3s,baz=256,slow=5.8,SNR=8.3							
URZ	**Urewera**	**19.60**	**200**	P		**Pn**	**18 29 25.1**	**-3.3**
	1.4nm,0.3s,baz=181,slow=3.2,SNR=6.9							
RPZ	**Rata Peaks**	**26.57**	**204**	P		**P**	**18 30 37.9**	**+1.6**
	6.7nm,0.6s,mb4.3,baz=176,slow=3.8,SNR=7.4							
CTA	**Charters Tower**	**36.94**	**263**	*e*P		**P**	**18 32 08.3**	**+1.0**
	5.8nm,0.6s,mb4.6							
CTA	**Charters Tower**	**36.94**	**263**	P		**P**	**18 32 08.4**	**+1.1**
	7.8nm,0.7s,mb4.7,baz=96,slow=10,SNR=14							
CTA	**Charters Tower**	**36.94**	**263**	*e*P		**P**	**18 32 08.3**	**+1.0**
CTA				pmax	pmax			
	comp=Z,6.0nm,0.6s							
CTAO	**Charters Tower**	**36.94**	**263**	*e*P		**P**	**18 32 08.3**	**+1.0**
CTAO				pmax	pmax			
	comp=Z,8.0nm,0.6s,mb4.7							
CTAO	**Charters Tower**	**36.94**	**263**	*e*P		**P**	**18 32 08.3**	**+1.0**
	comp=Z,7.8nm,0.6s,mb4.7							
STKA	**Stephens Creek**	**41.06**	**244**	*e*P		**P**	**18 32 39.4**	**-2.4**
	comp=Z,5.8nm,1.0s,mb4.2							
STKA	**Stephens Creek**	**41.06**	**244**	P		**P**	**18 32 38.3**	**-3.5**
	comp=Z,4.0nm,0.9s,mb4.0,baz=67,slow=4.3,SNR=4.9							
ASAR	**Alice Springs**	**47.95**	**256**	P		**P**	**18 33 36.1**	**-0.7**
	comp=Z,1.6nm,0.5s,mb4.3,baz=95,slow=7.9,SNR=59							
ASAR				PcP		PcP	18 35 05.9	+1.2
	comp=Z,0.9nm,0.6s,baz=105,slow=3.9,SNR=3.3							
WB2	**Warramunga Arr**	**48.04**	**261**	*e*P		**P**	**18 33 37.2**	**-0.3**
WRAB	**Tennant Creek**	**48.04**	**261**	*e*P		**P**	**18 33 38.2**	**+0.7**
WRA	**Warramunga Arr**	**48.05**	**261**	P		**P**	**18 33 37.6**	**0.0**
	comp=Z,2.7nm,0.8s,mb4.3,baz=95,slow=7.5,SNR=35							
FITZ	**Fitzroy Crossi**	**56.48**	**261**	P		**P**	**18 34 39.0**	**-1.1**
	comp=Z,2.6nm,0.8s,mb4.3,baz=180,slow=20,SNR=2.1							
VNDA	**Vanda**	**59.68**	**186**	P		**P**	**18 34 55.6**	**0.0**
	comp=Z,1.3nm,1.0s,mb3.9,baz=334,slow=7.1,SNR=3.8							
MJAR	**Matsushiro Arr**	**71.94**	**321**	P		**P**	**18 36 23.2**	**+1.7**
	comp=Z,0.9nm,0.6s,mb3.9,baz=152,slow=5.2,SNR=8.9							
NVAR	**Mina Array Bea**	**78.38**	**42**	P		**P**	**18 36 59.8**	**+1.2**
	comp=Z,1.0nm,0.7s,mb3.9,baz=222,slow=8.6,SNR=5.6							
ILAR	**Eielson Array**	**87.16**	**11**	P		**P**	**18 37 44.5**	**+0.4**
	comp=Z,0.6nm,0.8s,mb3.9,baz=238,slow=4.9,SNR=7.0							
YKA	**Yellowknife Ar**	**94.70**	**24**	P		**P**	**18 38 19.8**	**+0.5**
	comp=Z,0.1nm,0.4s,mb3.6,baz=237,slow=4.7,SNR=3.7							
ARCES	**ARCESS Array B**	**129.05**	**351**	PKP		PKPdf	18 44 05.5	-0.4
	comp=Z,0.8nm,0.9s,baz=34,slow=0.4,SNR=4.3							
ARCES	**ARCESS Array B**	**129.05**	**351**	PKP		PKPdf	18 44 05.5	-0.4
AKASG	**Malin Array Be**	**144.19**	**334**	PKP		PKPdf	18 44 31.8	-2.0
	comp=Z,1.0nm,0.4s,baz=39,slow=4.3,SNR=11							
AKASG	**Malin Array Be**	**144.19**	**334**	PKP		PKPdf	18 44 31.8	-2.0
UPC	**Upice**	**148.52**	**347**	*e*PKP		PKPab	18 44 57.1	+8.9
BRG	**Berggiesshubel**	**148.55**	**350**	*i* P		PKPbc	18 44 47.6	+2.8
	comp=Z,2.8nm,0.8s							
BRG				*e*			18 44 56.8	
	comp=Z,5.6nm,1.2s							
DPC	**Dobruska-Polom**	**148.60**	**347**	*e*PKP		PKPbc	18 44 46.6	+1.7
BRTR	**Keskin Array B**	**149.00**	**315**	PKPbc		PKPbc	18 44 46.3	+0.3
	comp=Z,0.8nm,0.7s,baz=103,slow=3.9,SNR=3.9							
PRU	**Pruhonice**	**149.30**	**349**	*e*PKP		PKPab	18 44 58.9	+7.5
KHC	**Kasperske Hory**	**150.30**	**349**	*e*PKP		PKPbc	18 44 50.1	+1.0
GERES	**GERESS Array B**	**150.55**	**349**	PKPbc		PKPbc	18 44 50.5	+0.7
	comp=Z,0.6nm,0.7s,baz=264,slow=1.3,SNR=5.9							

IDC 03 18:27:06.2±8.8, 1974S×17617W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/14, mbtmp3.9/4, Error ellipse: s-maj=376.8km s-min=39.5km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.28**	**263**	P	P	P	18 34 03.0	+0.3
	3.4nm,0.8s,baz=86,slow=16,SNR=2.9							
ASAR	**Alice Springs**	**46.37**	**256**	P	P	P	18 35 34.2	+0.1
	0.7nm,0.6s,baz=95,slow=7.8,SNR=4.0							
WRA	**Warramunga Arr**	**46.41**	**261**	P	P	P	18 35 35.1	+0.6
	0.7nm,0.6s,baz=97,slow=7.0,SNR=5.4							
ILAR	**Eielson Array**	**87.20**	**12**	P	P	P	18 39 53.9	-0.4
	0.5nm,0.9s,baz=211,slow=6.2,SNR=4.1							

*ATH **03** 18:28:27.0, 40.19N×196.7E, h20km±1km, MD3.7/4*
*TIR **03** 18:28:29.6, 4009N×1995E, h10km, Ml3.0*
*ISCJB **03** 18:28:29.3±0.7, 4006N±002×1980E±004, h4km±5km, Error ellipse: s-maj=5.7km s-min=3.9km az=166.4*
*CSEM **03** 18:28:29.9±0.1, 4010N×1985E, h10km, ML3.4, Error ellipse: s-maj=1.9km s-min=1.4km az=74.0*
*NEIC **03** 18:28:30.6, 4007N×1983E, h3km, ML3.3(THE), After THE.*
*THE **03** 18:28:30.1, 4006N×1978E, h10km, ML3.4*

ISC 03 18:28:30.4±0.5, 4007N±002×1984E±004, h8km±4km, n29, σ1§28/39, Albania

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.23**	**146**	*i* Pg	**Pg**	**Pg**	**18 28 34.1**	**-0.9**
SRN				*i* Sg	**Sg**	**Sg**	**18 28 39.7**	**+1.6**
TPE	**Tepelena**	**0.26**	**31**	*i* Pg	**Pg**	**Pg**	**18 28 34.1**	**-1.5**
TPE				*i* Sg	**Sg**	**Sg**	**18 28 39.0**	**-0.1**
KEK	**Kerkira**	**0.36**	**185**	*e*PB	**Pg**	**Pg**	**18 28 36.8**	**-0.6**
KEK				*e*SB	**Sg**	**Sg**	**18 28 43.9**	**+1.8**
LSK	**Leskovik**	**0.59**	**82**	*i* Pg	**Pg**	**Pg**	**18 28 39.8**	**-2.0**
LSK				*i* Sg	**Sg**	**Sg**	**18 28 50.6**	**+1.0**
IGT	**Igoumenitsa**	**0.66**	**144**	*e*Pg	**Pg**	**Pg**	**18 28 42.7**	**-0.4**
IGT				*e*Sg	**Sg**	**Sg**	**18 28 53.3**	**+1.6**
JAN	**Janina**	**0.88**	**118**	*e*PN	**Pn**	**Pn**	**18 28 47.0**	**-2.1**
JAN				*e*SN	**Sn**	**Sn**	**18 29 01.4**	**-0.7**
OHR	**Ohrid**	**1.27**	**35**	*e*Pn	**Pn**	**Pn**	**18 28 53.4**	**-1.1**
OHR	**Ohrid**	**1.27**	**35**	*e*Pn	**Pn**	**Pn**	**18 28 53.3**	**-1.2**
TIR	**Tirane**	**1.28**	**1**	*e*Pg	**Pg**	**Pg**	**18 28 54.4**	**-0.5**
TIR				*e*Sg	**Sg**	**Sg**	**18 29 13.6**	**+2.1**
FNA	**Florina**	**1.38**	**58**	*e*Pg	**Pg**	**Pg**	**18 28 55.3**	**-1.5**
QSH	**Qafa e Shtames**	**1.45**	**2**	*i* pn?	**Pn**	**Pn**	**18 28 55.8**	**-1.1**
QSH				*i* Sn	**Sn**	**Sn**	**18 29 18.8**	**+2.7**
BIA	**Bitola**	**1.48**	**50**	*i* Pn	**Pn**	**Pn**	**18 28 56.3**	**-1.0**
BIA				*i* Sn	**Sn**	**Sn**	**18 29 18.2**	**+1.4**
BIA	**Bitola**	**1.48**	**50**	*i* Pn	**Pn**	**Pn**	**18 28 56.2**	**-1.1**
BIA				*i* Sn	**Sn**	**Sn**	**18 29 18.2**	**+1.4**
KZN	**Kozani**	**1.50**	**80**	*e*PN	**Pn**	**Pn**	**18 28 56.5**	**-1.1**
EVR	**Evrytania**	**1.91**	**126**	*e*PN	**Pn**	**Pn**	**18 29 03.5**	**+0.2**
VLS	**Valsamata**	**1.98**	**163**	*e*PN	**Pn**	**Pn**	**18 29 03.9**	**-0.3**
PE1	**Pezze di Greco**	**1.98**	**293**	*e*Pn	**Pn**	**Pn**	**18 29 05.9**	**+1.7**
KKS	**Kukesi**	**2.05**	**12**	*i* Pn	**Pn**	**Pn**	**18 29 05.9**	**+0.7**
GRG	**Griva**	**2.15**	**65**	*e*Pn	**Pn**	**Pn**	**18 29 07.7**	**+1.2**
SKO	**Skopje**	**2.25**	**32**	*e*Pn	**Pn**	**Pn**	**18 29 07.5**	**-0.5**
RLS	**Riolos of Patr**	**2.38**	**147**	*e*PB	**Pb**	**Pb**	**18 29 10.2**	**-3.2**
STIP	**Stip**	**2.41**	**47**	*e*Pn	**Pn**	**Pn**	**18 29 10.6**	**+0.5**
VAY	**Valandovo**	**2.43**	**58**	*e*Pn	**Pn**	**Pn**	**18 29 12.7**	**+2.3**
VAY	**Valandovo**	**2.43**	**58**	*e*Pn	**Pn**	**Pn**	**18 29 12.6**	**+2.3**
SG1	**Sgolgore (BA)**	**2.53**	**289**	*e*Pn	**Pn**	**Pn**	**18 29 10.4**	**-1.3**
TIP	**Timpagrande**	**2.54**	**250**	*e*P	**Pn**	**Pn**	**18 29 11.2**	**-0.6**
TIP	**Timpagrande**	**2.54**	**250**	*e*P	**Pn**	**Pn**	**18 29 11.2**	**-0.7**
CDT	**Castel del Mon**	**2.90**	**292**	*e*Pn	**Pn**	**Pn**	**18 29 17.1**	**+0.3**
SRS	**Serrai**	**3.05**	**69**	*e*Pn	**Pn**	**Pn**	**18 29 19.8**	**+0.9**

*ATH **03** 18:33:15.7, 40.11N×196.9E, h20km±3km, MD3.6/4*
*CSEM **03** 18:33:15.3±0.2, 3967N×197E, h40km, MD3.2/6, Error ellipse: s-maj=3.3km s-min=2.0km az=150.0*
*ISCJB **03** 18:33:16.8±0.5, 4006N±002×1981E±003, h6km±4km, Error ellipse: s-maj=4.5km s-min=3.1km az=104.0*
*NEIC **03** 18:33:17.4, 4006N×1980E, h16km, MD3.1(PDG), After PDG.*

*PDG **03** 18:33:17.4±0.5, 4006N×1980E, h16km±1km*
*ROM **03** 18:33:17.2±0.4, 3999N×1988E, h10km, Md3.2/6, Ml3.2/3, Error ellipse: s-maj=5.6km s-min=4.1km az=81.0*
*THE **03** 18:33:18.1, 4006N×1984E, h2km, ML3.4*

ISC 03 18:33:17.8±0.5, 4005N±002×1984E±003, h8km±4km, n40, σ1§18/62, 11D, Albania

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.21**	**144**	*i* Pg	**Pg**	**Pg**	**18 33 21.6**	**-0.5**
SRN				*i* Sg	**Sg**	**Sg**	**18 33 27.5**	**+2.5**
KEK	**Kerkira**	**0.34**	**185**	Pg	**Pg**	**Pg**	**18 33 24.1**	**-0.3**
	2µm,0.8s							
KEK	**Kerkira**	**0.34**	**185**	*e*PB	**Pg**	**Pg**	**18 33 24.0**	**-0.4**
KEK				*e*SB	**Sg**	**Sg**	**18 33 30.7**	**+1.8**
LSK	**Leskovik**	**0.59**	**80**	*i* Pg	**Pg**	**Pg**	**18 33 37.5**	**+8.3**
LSK				*i* Sg	**Sg**	**Sg**	**18 33 46.9**	**+10**
IGT	**Igoumenitsa**	**0.64**	**144**	*e*Pg	**Pg**	**Pg**	**18 33 29.7**	**-0.5**
IGT				*e*Sg	**Sg**	**Sg**	**18 33 39.8**	**+1.2**
JAN	**Janina**	**0.88**	**117**	*e*PN	**Pn**	**Pn**	**18 33 34.2**	**-2.2**
JAN				*e*SN	**Sn**	**Sn**	**18 33 48.5**	**-0.8**
SCTE	**Santa Cesarea**	**1.05**	**272**	Pg	**Pg**	**Pg**	**18 33 36.8**	**-1.2**
SCTE				Sg	**Sg**	**Sg**	**18 33 52.7**	**+1.1**
	762nm,0.4s							
OHR	**Ohrid**	**1.29**	**34**	*e*Pn	**Pn**	**Pn**	**18 33 40.2**	**-1.9**
OHR	**Ohrid**	**1.29**	**34**	*e*Pn	**Pn**	**Pn**	**18 33 40.1**	**-2.0**
TIR	**Tirane**	**1.29**	**1**	Pg	**Pg**	**Pg**	**18 33 41.9**	**-0.7**
TIR				Sg	**Sg**	**Sg**	**18 34 01.1**	**+1.7**
	442nm,0.5s							
TIR	**Tirane**	**1.29**	**1**	*e*Pg	**Pg**	**Pg**	**18 33 41.8**	**-0.8**
TIR				*e*Sg	**Sg**	**Sg**	**18 34 00.6**	**+1.2**
LCI	**Lecce**	**1.35**	**283**	Pg	**Pn**	**Pn**	**18 33 41.4**	**-1.5**
LCI				Sg	**Sg**	**Sg**	**18 34 02.1**	**+0.9**
	137nm,0.3s							
FNA	**Florina**	**1.38**	**58**	*e*Pg	**Pg**	**Pg**	**18 33 42.5**	**-1.8**
QSH	**Qafa e Shtames**	**1.47**	**2**	*i* Pn	**Pn**	**Pn**	**18 33 43.6**	**-1.0**
QSH				*i* Sn	**Sn**	**Sn**	**18 34 04.6**	**+0.6**
BIA	**Bitola**	**1.49**	**49**	⇓*i* Pn	**Pn**	**Pn**	**18 33 43.7**	**-1.2**
BIA				*i* Sn	**Sn**	**Sn**	**18 34 05.8**	**+1.3**
BIA	**Bitola**	**1.49**	**49**	⇓*i* Pn	**Pn**	**Pn**	**18 33 43.6**	**-1.2**
BIA				*i* Sn	**Sn**	**Sn**	**18 34 05.7**	**+1.2**
KZN	**Kozani**	**1.50**	**80**	*e*PN	**Pn**	**Pn**	**18 33 45.5**	**+0.5**
EVR	**Evrytania**	**1.90**	**126**	*e*PN	**Pn**	**Pn**	**18 33 51.3**	**+0.8**
ULC	**Ulcinj**	**1.96**	**347**	⇓*i* Pn	**Pn**	**Pn**	**18 33 49.2**	**-2.1**
ULC				*e*Sn	**Sn**	**Sn**	**18 34 17.7**	**+1.6**
VLS	**Valsamata**	**1.96**	**162**	*e*PN	**Pn**	**Pn**	**18 33 51.4**	**+0.1**
PE1	**Pezze di Greco**	**1.99**	**293**	*e*Pn	**Pn**	**Pn**	**18 33 53.0**	**+1.3**
LIT	**Litokhoron**	**2.04**	**88**	*e*Pn	**Pn**	**Pn**	**18 33 53.2**	**+0.8**
LIT				*e*Sn	**Sn**	**Sn**	**18 34 19.2**	**+1.2**
GRG	**Griva**	**2.15**	**64**	*e*Pn	**Pn**	**Pn**	**18 33 55.1**	**+1.1**
BRT	**Bari-Castellan**	**2.17**	**293**	Pg	**Pn**	**Pn**	**18 33 56.5**	**+2.3**
	219nm,0.6s							
NOCI	**Noci**	**2.24**	**290**	Pg	**Pn**	**Pn**	**18 33 53.5**	**-1.7**
SKO	**Skopje**	**2.27**	**32**	*e*Pn	**Pn**	**Pn**	**18 33 55.1**	**-0.4**
BUM	**Brajici-Budva**	**2.36**	**343**	⇓*i* Pn	**Pn**	**Pn**	**18 33 54.7**	**-2.1**
BUM				*e*Sn	**Sn**	**Sn**	**18 34 26.9**	**+1.1**
RLS	**Riolos of Patr**	**2.36**	**147**	*e*PN	**Pn**	**Pn**	**18 33 56.8**	**0.0**
TTG	**Podgorica**	**2.42**	**350**	⇓*i* Pn	**Pn**	**Pn**	**18 33 55.7**	**-1.8**
TTG				*e*Sn	**Sn**	**Sn**	**18 34 28.5**	**+1.2**
STIP	**Stip**	**2.42**	**47**	*e*Pn	**Pn**	**Pn**	**18 33 57.5**	**-0.1**
VAY	**Valandovo**	**2.43**	**58**	*e*Pn	**Pn**	**Pn**	**18 33 54.3**	**-3.6**
VAY	**Valandovo**	**2.43**	**58**	*e*Pn	**Pn**	**Pn**	**18 33 54.2**	**-3.6**
PVY	**Plav**	**2.54**	**2**	⇓*i* Pn	**Pn**	**Pn**	**18 33 59.1**	**-0.3**
PVY				*e*Sn	**Sn**	**Sn**	**18 34 31.9**	**+1.4**
HCY	**Herceg Novi**	**2.60**	**338**	⇓*i* Pn	**Pn**	**Pn**	**18 33 58.5**	**-1.6**
HCY				*e*Sn	**Sn**	**Sn**	**18 34 32.6**	**+0.7**
IVA	**Berane**	**2.82**	**1**	⇓*i* Pn	**Pn**	**Pn**	**18 34 03.1**	**0.0**
IVA				*e*Sn	**Sn**	**Sn**	**18 34 37.6**	**+0.3**
NKY	**Niksic**	**2.83**	**347**	⇓*i* Pn	**Pn**	**Pn**	**18 34 03.0**	**-0.3**
NKY				*e*Sn	**Sn**	**Sn**	**18 34 38.4**	**+0.5**
UPM	**Unac-Piva**	**3.22**	**348**	⇓*i* Pn	**Pn**	**Pn**	**18 34 08.5**	**-0.2**
UPM				*e*Sn	**Sn**	**Sn**	**18 34 47.2**	**-0.1**
PLE	**Pljevlja**	**3.29**	**354**	⇓*i* Pn	**Pn**	**Pn**	**18 34 09.0**	**-0.7**
PLE				*e*Sn	**Sn**	**Sn**	**18 34 49.5**	**+0.5**
MTTG	**Motta San Giov**	**3.82**	**239**	Pg	**Pn**	**Pn**	**18 34 15.7**	**-1.2**
	22nm,0.4s							
CII	**Carovilli**	**4.51**	**293**	Pg	**Pn**	**Pn**	**18 34 27.0**	**+0.6**
	21nm,0.5s							

*IDC **03** 18:59:05.5±1.4, 902N×12650E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/20, mbtmp3.9/6, Error ellipse: s-maj=119.7km s-min=18.6km az=70.0*
*ISCJB **03** 18:59:13.0±0.7, 893N±005×12627E±006, h71km±6km, mb3.7/6, Error ellipse: s-maj=11.2km s-min=6.3km az=110.0*
*MAN **03** 18:59:14.9, 895N×12618E, h31km, mb3.0, ML4.4, MS1.9*

ISC 03 18:59:14.1±0.7, 895N±005×12628E±006, h61km±7km, n22, σ1§20/31, mb3.8/6, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.65**	**272**	*e*P	**Pn**	**Pn**	**18 59 27.0**	**-0.7**
BUTP				*e*S	**Sn**	**Sn**	**18 59 38.0**	**+0.2**
BIPH	**Bislig**	**0.76**	**174**	⇑*e*P	**Pn**	**Pn**	**18 59 28.8**	**-0.4**
BIPH				*e*S	**Sn**	**Sn**	**18 59 39.8**	**-0.4**
SCPH	**Surigao**	**1.14**	**317**	*e*P	**Pn**	**Pn**	**18 59 32.9**	**-1.1**
SCPH				*e*S	**Sn**	**Sn**	**18 59 46.9**	**-1.8**
BUKP	**Musuan**	**1.60**	**229**	*e*P	**Pn**	**Pn**	**18 59 41.1**	**+0.9**
CGP	**Cagayan de Oro**	**1.64**	**253**	⇑*e*P	**Pn**	**Pn**	**18 59 39.8**	**-0.9**
CGP				*e*S	**Sn**	**Sn**	**18 59 59.8**	**-0.9**
MSLP	**Maasin**	**1.83**	**310**	*e*P	**Pn**	**Pn**	**18 59 44.2**	**+1.0**
KCP	**Kidapawan**	**2.26**	**211**	⇓*e*P	**Pn**	**Pn**	**18 59 52.1**	**+3.0**
KCP				*i* S	**Sn**	**Sn**	**19 00 20.4**	**+4.7**
TBP	**Tagbilaran**	**2.50**	**287**	*e*P	**Pn**	**Pn**	**18 59 53.0**	**+0.7**
TBP				*e*S	**Sn**	**Sn**	**19 00 21.8**	**+0.2**
PLP	**Palo**	**2.55**	**330**	*e*P	**Pn**	**Pn**	**18 59 54.2**	**+1.2**
PLP				*i* S	**Sn**	**Sn**	**19 00 27.1**	**+4.2**
LLP	**Lapu-Lapu**	**2.65**	**301**	*e*P	**Pn**	**Pn**	**18 59 55.3**	**+0.9**
LLP				*i* S	**Sn**	**Sn**	**19 00 24.1**	**-1.3**
OCLP	**Ormoc**	**2.66**	**322**	*e*P	**Pn**	**Pn**	**18 59 56.8**	**+2.3**
DCPH	**Dipolog City**	**2.91**	**263**	⇑*i* P	**Pn**	**Pn**	**18 59 58.4**	**+0.4**
DCPH				*i* S	**Sn**	**Sn**	**19 00 31.6**	**-0.2**
SNPH	**Sibulan**	**3.03**	**278**	*e*P	**Pn**	**Pn**	**19 00 01.0**	**+1.4**
PAGZ	**Pagadian**	**3.06**	**249**	*e*P	**Pn**	**Pn**	**19 00 01.6**	**+1.5**
GUIM	**Jordan**	**4.00**	**295**	*e*P	**Pn**	**Pn**	**19 00 11.0**	**-1.8**
PVCP	**Virac**	**5.07**	**336**	*e*P	**Pn**	**Pn**	**19 00 23.6**	**-3.9**
FITZ	**Fitzroy Crossi**	**26.88**	**181**	P	**P**	**P**	**19 04 50.1**	**+1.0**
	3.3nm,0.8s,mb3.9,baz=356,slow=14,SNR=7.8							
WRA	**Warramunga Arr**	**29.79**	**165**	P	**P**	**P**	**19 05 14.4**	**-0.5**
	0.2nm,0.3s,mb3.4,baz=344,slow=7.7,SNR=20							
ASAR	**Alice Springs**	**33.26**	**167**	P	**P**	**P**	**19 05 44.5**	**-0.9**
	0.5nm,0.3s,mb4.0,baz=348,slow=7.3,SNR=28							
STKA	**Stephens Creek**	**43.16**	**161**	P	**P**	**P**	**19 07 06.4**	**-2.2**
	1.0nm,0.5s,mb3.8,baz=330,slow=11,SNR=4.7							
MKAR	**Makanchi Array**	**53.08**	**323**	P	**P**	**P**	**19 08 24.0**	**-1.1**
	0.7nm,0.6s,mb3.8,baz=121,slow=7.8,SNR=14							
MKAR				PcP		PcP	19 09 33.6	+0.8
	0.4nm,0.6s,baz=109,slow=2.4,SNR=4.1							
ARCES	**ARCESS Array B**	**85.43**	**340**	P	**P**	**P**	**19 11 46.3**	**+1.4**
	0.5nm,0.5s,mb3.9,baz=80,slow=7.5,SNR=5.4							

*NEIC **03** 19:13:57.7, 3270S×7178W, h10km, ML2.7(GUC), After GUC.*

GUC 03 19:13:57.7±0.8, 3270S×7178W, h10km±5km, MD3.5, ML2.7, 6C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.70**	**113**	⇑*i* P	Pg	Pg	19 14 11.6	+0.3
ROCH				*i* S	Sg	Sg	19 14 21.1	+0.7
LCCH	**Las Cruces**	**0.80**	**167**	⇓*i* P	Pg	Pg	19 14 12.7	-0.4
LCCH				*i* S	Sg	Sg	19 14 23.7	+0.3
CHNG	**Los Chungos**	**0.85**	**16**	⇑*i* P	Pg	Pg	19 14 13.8	-0.2
CHNG				*i* S	Sg	Sg	19 14 25.2	+0.2
JACH	**Jahuel**	**1.00**	**89**	⇓*i* P	Pg	Pg	19 14 16.0	-0.9
JACH				*i* S	Sg	Sg	19 14 30.2	+0.3
PEL	**Peldehue**	**1.02**	**116**	⇑*i* P	Pg	Pg	19 14 16.6	-0.7
PEL				*i* S	Sg	Sg	19 14 30.5	-0.1
PEL				AML	AML	AML	19 14 32.5	
	comp=N,547nm,0.2s							
PEL	**Peldehue**	**1.02**	**116**	⇑*i* P	Pg	Pg	19 14 16.6	-0.7
PEL				*i* S	Sg	Sg	19 14 30.5	-0.1
TACH	**Talagante**	**1.19**	**144**	⇓*i* P	Pb	Pg	19 14 18.4	-1.9
TACH				*i* S	Sb	Sg	19 14 35.2	-0.5
FCH	**Farellones**	**1.40**	**117**	⇓*i* P	Pn	Pg	19 14 22.5	-0.8
FCH				*i* S	Sn	Sg	19 14 40.7	-1.1
FCH				AML	AML	AML	19 14 41.3	
	comp=N,170nm,0.3s							
PCH	**Pirque**	**1.40**	**131**	*e*P	Pn	Pn	19 14 22.9	-0.4
PCH				*i* S	Sn	Sn	19 14 41.6	-0.4
CHCH	**Chadas Angostu**	**1.55**	**143**	*e*P	Pn	Pn	19 14 25.1	-0.3
CHCH				*i* S	Sn	Sn	19 14 45.7	+0.1
LMEL	**Las Melosas**	**1.75**	**131**	⇑*i* P	Pn	Pn	19 14 28.5	+0.4
LMEL				*i* S	Sn	Sn	19 14 51.6	+1.2
LMEL				AML	AML		19 14 54.4	
	comp=N,110nm,0.4s							
LMEL	**Las Melosas**	**1.75**	**131**	⇑*i* P	Pn	Pn	19 14 28.5	+0.4
LMEL				*i* S	Sn	Sn	19 14 51.6	+1.2

*IDC **03** 19:15:05.7±2.0, 2107S×17360W, h0km, mb4.0/7, mb1 4.2/7, mb1mx4.1/14, mbtmp4.0/7, MS4.8/1, Ms1 4.8/1, ms1mx3.9/17, Error ellipse: s-maj=80.4km s-min=25.4km az=144.0*
*ISCJB **03** 19:15:06.3±0.8, 205S±0.1×1734W±0.1, h33km, mb4.1/8, MS4.8/1, Error ellipse: s-maj=18.8km s-min=12.9km az=111.7*
*NEIC **03** 19:15:09.3±0.8, 2030S×17401W, h15km, mb4.7/1, Error ellipse: s-maj=29.9km s-min=11.4km az=127.0*

ISC 03 19:15:09.1±0.7, 206S±01×1734W±01, h35km, n16, σ0§98/17, mb4.1/8, MS4.8/1, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.79**	**13**	Pn	**Pn**	**Pn**	**19 16 46.3**	**+0.1**
	26nm,0.3s,baz=86,slow=7.5,SNR=14							
AFI				Sn	**Sn**	**Sn**	**19 17 55.8**	**-6.4**
	7.2nm,0.3s,baz=68,slow=19,SNR=1.7							
AFI	**Afiamalu**	**6.79**	**13**	Pn	**Pn**	**Pn**	**19 16 46.4**	**+0.1**
AFI				*e*P			19 16 46.4	
AFI				Sn	**Sn**	**Sn**	**19 17 55.9**	**-6.4**
RAR	**Rarotonga**	**12.72**	**95**	Pn	**Pn**	**Pn**	**19 18 07.1**	**-0.4**
	5.6nm,0.3s,baz=267,slow=10,SNR=17							
RAR				Sn		**Sn**	**19 20 15.6**	**-12**
	1.8nm,0.3s,baz=282,slow=20,SNR=3.2							
URZ	**Urewera**	**19.47**	**203**	P		**Pn**	**19 19 35.3**	**+1.0**
	1.2nm,0.3s,baz=18,slow=7.4,SNR=3.6							
STKA

EGRO	**El Granado**	**3.83**	**122**	P		**Pn**	**19 19 37.6**	**-0.4**
	comp=N,5.0nm,0.2s,SNR=18								
EGRO				S		**Sn**	**19 20 21.7**	**-1.3**
	comp=N,1.6nm,0.3s,SNR=5.7								
EGRO	**El Granado**	**3.83**	**122**	P		**Pn**	**19 19 37.6**	**-0.4**
	comp=N,5.0nm,0.2s,SNR=18								
EGRO				S		**Sn**	**19 20 21.7**	**-1.3**
	comp=N,1.6nm,0.3s,SNR=5.7								
EMAZ	**Mazaricos**	**3.86**	**30**	P		**Pn**	**19 19 37.0**	**-1.4**
	comp=N,1.0nm,0.1s,SNR=13								
EMAZ				S		**Sn**	**19 20 18.5**	**-5.4**
	comp=N,12nm,0.6s,SNR=6.5								
EMAZ	**Mazaricos**	**3.86**	**30**	P		**Pn**	**19 19 37.0**	**-1.5**
EMAZ				S		**Sn**	**19 20 18.5**	**-5.4**
EMAZ	**Mazaricos**	**3.86**	**30**	P		**Pn**	**19 19 37.0**	**-1.5**
	comp=N,1.0nm,0.1s,SNR=13								
STS	**Santiago**	**3.98**	**34**	P		**Pn**	**19 19 40.1**	**-0.1**
	comp=N,14nm,0.1s,SNR=7.9								
EMIN	**Mina Concepcio**	**4.26**	**114**	P		**Pn**	**19 19 44.2**	**+0.2**
	comp=N,1.1nm,0.1s,SNR=18								
EMIN				S		**Sn**	**19 20 33.5**	**-0.3**
	comp=N,1.5nm,0.3s,SNR=6.8								
EMIN	**Mina Concepcio**	**4.26**	**114**	P		**Pn**	**19 19 44.2**	**+0.2**
	comp=N,1.1nm,0.1s,SNR=18								
EMIN				S		**Sn**	**19 20 33.5**	**-0.3**
	comp=N,1.5nm,0.3s,SNR=6.8								
PBRG	**Braganca**	**4.28**	**58**	*e*Pn		**Pn**	**19 19 45.1**	**+0.9**
PBRG				*e*Sn		**Sn**	**19 20 33.5**	**-0.6**
PBRG									
	comp=N,5.1nm,0.1s								
ECAL	**Calabor**	**4.35**	**56**	P		**Pn**	**19 19 46.0**	**+0.8**
	comp=N,4.1nm,0.2s,SNR=12								
ECAL				S		**Sn**	**19 20 35.1**	**-0.7**
	comp=N,6.9nm,0.3s,SNR=6.4								
ECAL	**Calabor**	**4.35**	**56**	P		**Pn**	**19 19 46.0**	**+0.8**
	comp=N,4.1nm,0.2s,SNR=12								
ECAL				S		**Sn**	**19 20 35.2**	**-0.7**
ERUA	**La Rua**	**4.35**	**49**	P		**Pn**	**19 19 45.9**	**+0.7**
	comp=N,4.5nm,0.2s,SNR=7.6								
ERUA				S		**Sn**	**19 20 34.4**	**-1.6**
	comp=N,2.9nm,0.2s,SNR=7.9								
EPON	**Pontenova**	**4.98**	**41**	P		**Pn**	**19 19 52.4**	**-1.4**
	comp=N,0.5nm,0.1s,SNR=16								
EPON				S		**Sn**	**19 20 47.2**	**-4.2**
	comp=N,2.3nm,0.2s,SNR=6.7								
EPON	**Pontenova**	**4.98**	**41**	P		**Pn**	**19 19 52.4**	**-1.4**
	comp=N,0.5nm,0.1s,SNR=16								
EPON				S		**Sn**	**19 20 47.2**	**-4.2**
	comp=N,2.3nm,0.2s,SNR=6.7								
ESPR	**Espera**	**5.28**	**120**	P		**Pn**	**19 19 58.6**	**+0.6**
	comp=N,1.0nm,0.2s,SNR=7.9								
ESPR				S		**Sn**	**19 20 58.3**	**-0.4**
	comp=N,3.1nm,0.3s,SNR=7.9								
ESPR	**Espera**	**5.28**	**120**	P		**Pn**	**19 19 58.6**	**+0.7**
	comp=N,1.0nm,0.2s,SNR=7.9								
ESPR				S		**Sn**	**19 20 58.3**	**-0.5**
	comp=N,3.1nm,0.3s,SNR=7.9								
EADA	**Adamuz**	**5.65**	**103**	P		**Pn**	**19 20 03.5**	**+0.4**
	comp=N,0.6nm,0.2s,SNR=7.9								
EADA				S		**Sn**	**19 21 06.9**	**-1.2**
	comp=N,0.2nm,0.4s,SNR=7.9								
EADA	**Adamuz**	**5.65**	**103**	P		**Pn**	**19 20 03.5**	**+0.4**
	comp=N,0.6nm,0.2s,SNR=7.9								
EADA				S		**Sn**	**19 21 06.9**	**-1.1**
	comp=N,0.2nm,0.4s,SNR=7.9								
ESDC	**Sonseca Array**	**5.88**	**87**	P		**Pn**	**19 20 07.5**	**+1.3**
	comp=N,2.2nm,0.2s,baz=267,slow=13,SNR=6.8								
ESDC	**Sonseca Array**	**5.88**	**87**	P		**Pn**	**19 20 07.5**	**+1.3**
	comp=N,2.2nm,0.2s,SNR=6.8								
EARI	**Arriondas**	**6.03**	**50**	P		**Pn**	**19 20 08.7**	**+0.3**
	comp=N,1.3nm,0.1s,SNR=40								
EARI				S		**Sn**	**19 21 15.5**	**-1.9**
	comp=N,0.2nm,0.1s,SNR=7.9								
EARI	**Arriondas**	**6.03**	**50**	P		**Pn**	**19 20 08.7**	**+0.4**
	comp=N,1.3nm,0.1s,SNR=40								
EARI				S		**Sn**	**19 21 15.5**	**-2.0**
	comp=N,0.2nm,0.1s,SNR=7.9								
EBAN	**Banos Encina**	**6.25**	**101**	P		**Pn**	**19 20 11.1**	**-0.2**
	comp=N,0.6nm,0.1s,SNR=4.0								
EBAN				S		**Sn**	**19 21 20.2**	**-2.6**
	comp=N,1.1nm,0.1s,SNR=7.9								
EQES	**Quesada**	**6.90**	**103**	P		**Pn**	**19 20 20.4**	**+0.2**
	comp=N,0.3nm,0.3s,SNR=4.0								
EQES				S		**Sn**	**19 21 37.4**	**-1.3**
	comp=N,0.6nm,0.2s,SNR=7.9								
EQES	**Quesada**	**6.90**	**103**	P		**Pn**	**19 20 20.4**	**+0.2**
	comp=N,0.3nm,0.3s,SNR=4.0								
EQES				S		**Sn**	**19 21 37.4**	**-1.3**
	comp=N,0.6nm,0.2s,SNR=7.9								
ELAN	**Lanestosa**	**7.10**	**57**	P		**Pn**	**19 20 24.8**	**+1.7**
	comp=N,0.4nm,0.2s,SNR=5.9								
ELAN	**Lanestosa**	**7.10**	**57**	P		**Pn**	**19 20 24.8**	**+1.8**

*ISCJB **03** 19:18:56.6±0.8, 1978S×009×1736W±0.1, h33km, mb4.2/7, Error ellipse: s-maj=16.6km s-min=9.7km az=70.8*
*IDC **03** 19:18:58.6±1.6, 2023S×17422W, h0km, mb4.1/5, mb1 4.3/5, mb1mx4.0/15, mbtmp4.1/5, Error ellipse: s-maj=68.8km s-min=28.9km az=144.0*
*MOS **03** 19:18:59.6±2.5, 2111S×17362W, h34km, mb4.7/1, Error ellipse: s-maj=58.3km s-min=18.6km az=179.0*
*NEIC **03** 19:19:04.4±0.8, 1996S×17435W, h35km, mb4.6/1, Error ellipse: s-maj=33.9km s-min=19.3km az=137.0*
ISC 03 19:18:59.4±0.8, 1981S×009×1736W±01, h35km, n21, σ1§13/12, mb4.2/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.12**	**17**	Sn	**Sn**	**19 21 36.2**	**+0.3**
	3.4nm,0.3s,baz=282,slow=20,SNR=2.8						
RAR	**Rarotonga**	**13.02**	**99**	Pn	**Pn**	**19 22 01.3**	**-0.5**
	2.7nm,0.3s,baz=253,slow=8.1,SNR=9.0						
RPZ	**Rata Peaks**	**27.09**	**205**	P	**P**	**19 24 41.0**	**+2.3**
	7.0nm,0.7s,mb4.3,baz=18,slow=5.4,SNR=4.1						
CTA	**Charters Tower**	**37.69**	**263**	P	**P**	**19 26 11.4**	**+0.1**
	2.3nm,0.4s,mb4.2,baz=90,slow=12,SNR=3.1						
STKA	**Stephens Creek**	**41.82**	**244**	P	**P**	**19 26 43.0**	**-2.7**
	1.5nm,0.5s,mb3.9,baz=96,slow=7.5,SNR=5.9						
STKA	**Stephens Creek**	**41.82**	**244**	*e*P	**P**	**19 26 43.5**	**-2.3**
ASAR	**Alice Springs**	**48.71**	**256**	P	**P**	**19 27 40.3**	**0.0**
	1.4nm,0.8s,mb4.0,baz=86,slow=8.5,SNR=9.7						
ASAR				PcP	PcP	19 29 08.7	+3.5
	0.9nm,0.6s,baz=104,slow=3.7,SNR=6.5						
WRAB	**Tennant Creek**	**48.79**	**260**	P	**P**	**19 27 40.8**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
WRAB	**Tennant Creek**	**48.79**	**260**	P	**P**	**19 27 40.8**	**-0.2**
	comp=Z,4.9nm,0.8s,mb4.6						
WRA	**Warramunga Array**	**48.80**	**260**	P	**P**	**19 27 41.1**	**0.0**
	comp=Z,1.9nm,0.7s,mb4.2,baz=97,slow=9.3,SNR=11						
MJAR	**Matsushiro Arr**	**72.20**	**321**	P	**P**	**19 30 24.8**	**+4.1**
	comp=Z,2.7nm,0.8s,mb4.2,baz=158,slow=6.2,SNR=13						
YSS	**Yuzh-Sakhalins**	**77.22**	**331**	P	**P**	**19 30 54.0**	**+4.2**
MKAR	**Makanchi Array**	**113.74**	**313**	PKiKP	PKiKP	19 37 38.0	+3.8
	comp=Z,0.3nm,0.6s,baz=65,slow=3.8,SNR=3.8						
MKAR	**Makanchi Array**	**113.74**	**313**	PKPdf	PKiKP	19 37 38.0	+3.8
BVAR	**Borovoye Array**	**121.20**	**321**	PKP	PKPdf	19 37 52.2	+3.7
	comp=Z,0.9nm,0.6s,baz=102,slow=2.1,SNR=6.7						
ARCES	**ARCESS Array B**	**128.92**	**351**	PKP	PKPdf	19 38 09.7	+6.3
	comp=Z,0.5nm,0.6s,baz=38,slow=2.2,SNR=6.1						
AKASG	**Malin Array Be**	**144.28**	**335**	PKP	PKPdf	19 38 34.3	+2.6
	comp=Z,1.2nm,0.4s,baz=43,slow=4.3,SNR=14						
CLL	**Collm**	**148.14**	**352**	*e*PKPbc	PKPbc	19 38 47.0	+5.6
BRTR	**Keskin Array B**	**149.33**	**316**	PKPbc	PKPbc	19 38 48.9	+4.4
	comp=Z,1.1nm,0.7s,baz=137,slow=4.3,SNR=5.6						
KHC	**Kasperske Hory**	**150.18**	**351**	*e*P	PKPdf	19 38 46.0	+4.5
GERES	**GERESS Array B**	**150.44**	**350**	PKPbc	PKPbc	19 38 53.0	+5.9
	comp=Z,1.3nm,0.9s,baz=64,slow=3.1,SNR=7.0						

JMA 03 19:22:18.2±0.9, 4526N×15129E, h30km, M3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**4.41**	**247**	P	Pn	19 23 22.4	-0.6
NEM2				*e*S	Sn	19 24 09.6	-3.7
JRA	**Rausu**	**4.60**	**255**	P	Pn	19 23 27.6	+1.9
JNK	**Nakash**	**5.00**	**253**	P	Pn	19 23 32.1	+1.0
JAK	**Akkeshi**	**5.26**	**247**	P	Pn	19 23 33.9	-0.8
JAK				*e*S	Sn	19 24 30.3	-4.0
JTKR	**Abashiri--Toko**	**5.42**	**259**	P	Pn	19 23 38.8	+1.8
JAR	**Ashorobuto**	**5.75**	**253**	P	Pn	19 23 42.7	+1.3
JAR				*e*S	Sn	19 24 45.0	-1.3
JOB	**Onbets**	**5.86**	**249**	P	Pn	19 23 43.1	+0.1
JCH	**Churui**	**6.30**	**248**	P	Pn	19 23 48.6	-0.5
JCH				*e*S	Sn	19 24 55.2	-4.9

*ISCJB **03** 19:25:21.7±0.8, 2031S×009×1734W±0.1, h33km, mb4.2/7, Error ellipse: s-maj=17.2km s-min=9.6km az=67.8*
*IDC **03** 19:25:23.3±1.9, 2091S×17392W, h0km, mb4.1/5, mb1 4.3/5, mb1mx4.0/14, mbtmp4.1/5, Error ellipse: s-maj=77.9km s-min=25.2km az=146.0*
*NEIC **03** 19:25:26.2±0.7, 2146S×17345W, h35km, mb4.7/2, Error ellipse: s-maj=40.0km s-min=14.2km az=171.0*
ISC 03 19:25:24.5±0.8, 2035S±009×1734W±01, h35km, n12, σ1§13/12, mb4.2/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.59**	**14**	Pn	**Pn**	**19 26 56.7**	**-2.1**
	3.2nm,0.3s,baz=18,slow=20,SNR=4.1						
AFI				Sn	**Sn**	**19 28 13.5**	**+0.7**
	2.6nm,0.3s,baz=192,slow=20,SNR=2.2						
RAR	**Rarotonga**	**12.80**	**96**	Pn	**Pn**	**19 28 24.2**	**+0.2**
	4.5nm,0.3s,baz=254,slow=4.8,SNR=7.3						
STKA	**Stephens Creek**	**41.72**	**245**	P	**P**	**19 33 08.2**	**-1.7**
	3.6nm,0.9s,mb4.0,baz=71,slow=9.9,SNR=6.1						
STKA	**Stephens Creek**	**41.72**	**245**	*e*P	**P**	**19 33 07.9**	**-2.1**
STKA				P		19 33 08.2	
ASAR	**Alice Springs**	**48.72**	**256**	P	**P**	**19 34 06.0**	**+0.5**
	1.8nm,0.7s,mb4.2,baz=101,slow=7.4,SNR=23						
WRAB	**Tennant Creek**	**48.85**	**261**	P	**P**	**19 34 07.4**	**+0.9**
	9.1nm,1.1s,mb4.7						
WRA	**Warramunga Arr**	**48.86**	**261**	P	**P**	**19 34 06.3**	**-0.3**
	1.0nm,0.6s,mb4.0,baz=96,slow=7.6,SNR=16						
MBWA	**Marble Bar**	**62.06**	**256**	*e*P	**P**	**19 35 42.6**	**+1.1**
	4.5nm,0.7s,mb4.7						
MJAR	**Matsushiro Arr**	**72.71**	**321**	P	**P**	**19 36 53.7**	**+4.9**
	1.9nm,0.8s,mb4.1,baz=160,slow=6.2,SNR=9.9						
MJAR	**Matsushiro Arr**	**72.71**	**321**	P	**P**	**19 36 53.7**	**+4.9**
NVAR	**Mina Array Bea**	**78.03**	**41**	P	**P**	**19 37 27.8**	**+8.4**
	1.4nm,0.7s,mb4.0,baz=221,slow=9.0,SNR=9.3						
AKASG	**Malin Array Be**	**144.83**	**335**	PKPbc	PKPdf	19 45 02.4	+4.7
	0.8nm,0.4s,baz=41,slow=4.2,SNR=9.8						

*ISCJB **03** 19:26:28.7±0.5, 6098N±008×1673E±0.1, h10km, mb4.0/14, Error ellipse: s-maj=12.0km s-min=10.1km az=152.1*
*MOS **03** 19:26:28.2±1.3, 6097N×16732E, h9km, mb4.0/1, Error ellipse: s-maj=26.8km s-min=11.6km az=94.5*
*IDC **03** 19:26:29.3±0.7, 6103N×167.11E, h0km, mb3.9/14, mb1 4.2/15, mb1mx4.1/24, mbtmp4.0/15, ML3.6/1, Error ellipse: s-maj=16.7km s-min=13.6km az=175.0*
*NEIC **03** 19:26:31.1±0.5, 6111N×16709E, h10km, mb3.9/1, Error ellipse: s-maj=12.0km s-min=8.4km az=158.0*
ISC 03 19:26:30.5±0.5, 6101N±008×1673E±01, h10km, n28, σ0§90/27, mb4.0/14, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BILL	**Bilibino**	**7.07**	**357**	*e*Pn	**Pn**	**19 28 13.6**	**-0.3**
BILL				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BILL	**Bilibino**	**7.07**	**357**	*e*P	**Pn**	**19 28 12.0**	**-2.0**
	comp=Z,8.8nm,0.6s						
MA2	**Magadan**	**8.32**	**267**	*e*PN	**Pn**	**19 28 32.5**	**+1.3**
MA2				pmax	pmax		
	comp=E,4.0nm,0.5s						
MA2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
FX1	**Attu Island--F**	**8.76**	**156**	Pn	**Pn**	**19 28 36.3**	**-0.8**
	comp=Z,2.3nm,0.3s,baz=68,slow=5.9,SNR=10						
FX1	**Attu Island--F**	**8.76**	**156**	PN	**Pn**	**19 28 36.3**	**-0.9**
FX1				pmax	pmax		
	comp=Z,2.0nm,0.3s						
TIXI	**Tiksi**	**18.33**	**321**	*e*P	**Pn**	**19 30 47.3**	**+2.6**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ILAR	**Eielson Array**	**20.85**	**60**	P	**P**	**19 31 13.7**	**+1.3**
	comp=Z,2.3nm,0.6s,baz=276,slow=11,SNR=31						
INK	**Inuvik**	**25.38**	**48**	P	**P**	**19 31 58.1**	**+0.2**
	comp=Z,2.1nm,0.5s,mb3.9,baz=289,slow=8.2,SNR=11						
MJAR	**Matsushiro Arr**	**30.61**	**230**	P	**P**	**19 32 44.9**	**+0.3**
	comp=Z,2.2nm,0.6s,mb4.1,baz=24,slow=7.9,SNR=6.0						
YKA	**Yellowknife Ar**	**34.91**	**53**	P	**P**	**19 33 22.2**	**0.0**
	comp=Z,0.3nm,0.3s,mb3.7,baz=304,slow=8.4,SNR=7.1						
SONM	**Songino Array**	**36.38**	**277**	PcP	PcP	19 35 58.0	-1.1
	comp=Z,0.3nm,0.5s,baz=29,slow=3.3,SNR=3.5						
ARCES	**ARCESS Array B**	**46.92**	**343**	P	**P**	**19 35 00.2**	**-0.9**
	comp=Z,1.7nm,0.8s,mb4.0,baz=32,slow=8.3,SNR=8.7						
ARCES	**ARCESS Array B**	**46.92**	**343**	P	**P**	**19 35 00.2**	**-0.9**
KURK	**Kurchatov**	**47.04**	**300**	*e*P	**P**	**19 35 02.1**	**0.0**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
KURK	**Kurchatov**	**47.04**	**300**	*e*P	**P**	**19 35 02.1**	**0.0**
	comp=Z,0.7nm,0.6s,mb3.8						
MKAR	**Makanchi Array**	**48.41**	**294**	P	**P**	**19 35 11.6**	**-1.1**
	comp=Z,0.2nm,0.5s,mb3.4,baz=23,slow=5.0,SNR=5.8						
MKAR	**Makanchi Array**	**48.41**	**294**	P	**P**	**19 35 11.6**	**-1.1**
BVAR	**Borovoye Array**	**48.64**	**307**	P	**P**	**19 35 14.7**	**+0.2**
	comp=Z,0.7nm,0.5s,mb4.0,baz=47,slow=6.1,SNR=7.0						
PDAR	**Predalel Array**	**50.69**	**71**	P	**P**	**19 35 30.8**	**+0.7**
	comp=Z,1.0nm,0.3s,mb4.2,baz=330,slow=5.1,SNR=5.2						
ULM	**Lac du Bonnet**	**50.78**	**55**	P	**P**	**19 35 31.6**	**+0.8**
	comp=Z,3.5nm,0.7s,mb4.4,baz=310,slow=7.2,SNR=6.2						
FINES	**FINESS Array B**	**54.30**	**338**	P	**P**	**19 35 55.9**	**-1.0**
	comp=Z,0.5nm,0.7s,mb3.5,baz=38,slow=3.4,SNR=3.7						
FINES	**FINESS Array B**	**54.30**	**338**	P	**P**	**19 35 55.9**	**-1.0**
SCHQ	**Schefferville**	**56.83**	**34**	P	**P**	**19 36 14.8**	**-0.3**
	comp=Z,0.8nm,0.5s,mb4.0,baz=320,slow=9.4,SNR=6.9						
SCHQ	**Schefferville**	**56.83**	**34**	P	**P**	**19 36 14.8**	**-0.3**
NOA	**NORSAR Array B**	**56.89**	**346**	P	**P**	**19 36 15.1**	**-0.4**
	comp=Z,1.6nm,0.8s,mb4.1,baz=13,slow=7.3,SNR=3.2						
NOA	**NORSAR Array B**	**56.89**	**346**	P	**P**	**19 36 15.1**	**-0.4**
GERES	**GERESS Array B**	**68.44**	**342**	P	**P**	**19 37 32.0**	**-0.6**
	comp=Z,0.7nm,0.7s,mb3.8,baz=10,slow=6.2,SNR=3.3						
WRA	**Warramunga Arr**	**84.92**	**211**	P	**P**	**19 39 05.4**	**-0.3**
	comp=Z,1.9nm,0.7s,mb4.3,baz=20,slow=5.5,SNR=5.2						

*IDC **03** 19:28:05.3±0.5, 2084S×17424W, h0km, mb4.5/16, mb1 4.6/16, mb1mx4.6/19, mbtmp4.5/16, Error ellipse: s-maj=22.9km s-min=15.2km az=141.0*
*NEIC **03** 19:28:07.5±0.3, 2090S×17426W, h15km, mb5.1/15, Error ellipse: s-maj=12.6km s-min=7.1km az=139.0*
*ISCJB **03** 19:28:08.6±0.3, 2094S±007×17429W±007, h32km, mb4.8/42, MS5.3/3, Error ellipse: s-maj=11.0km s-min=7.1km az=96.1*
*SZGRF **03** 19:28:08.8, 2189S×17376W, h33km, Tonga Islands*
*BJI **03** 19:28:08.0, 2037S×17395W, h13km, mB5.9, mb5.1, Ms5.5, Msz5.2*
*MOS **03** 19:28:14.8±3.0, 2052S×17525W, h33km, mb5.1/11, Error ellipse: s-maj=16.1km s-min=13.1km az=13.7*
*ORF **03** 19:28:31.6, 1243S×171.11W, h30km, mb5.6*
ISC 03 19:28:10.9±0.3, 2096S±007×17420W±007, h37km, h37km±1.8km:pP-P, n194, σ1§08/89, mb4.8/42, MS5.3/3, 12C-7D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.39**	**19**	Pn	**Pn**	**19 29 49.7**	**-6.5**
	22nm,0.3s,baz=262,slow=1.4,SNR=11						
AFI				Sn	**Sn**	**19 31 05.1**	**-14**
	17nm,0.3s,baz=78,slow=20,SNR=3.0						
AFI	**Afiamalu**	**7.39**	**19**	*e*P	**Pn**	**19 29 48.5**	**-7.7**
	89nm,0.4s						
AFI				*e*S	**Sn**	**19 30 58.5**	**-20**
RAR	**Rarotonga**	**13.47**	**94**	Pn	**Pn**	**19 31 08.2**	**-11**
	7.5nm,0.3s,baz=212,slow=5.8,SNR=18						
RAR				Sn	Sn	19 33 21.7	-26
	1.4nm,0.3s,baz=78,slow=19,SNR=2.6						
THZ	**Tophouse**	**23.43**	**205**	*e*PN	**P**	**19 33 15.6**	**-1.2**
THZ	**Tophouse**	**23.43**	**205**	*e*P	**P**	**19 33 15.6**	**-1.2**
RPZ	**Rata Peaks**	**25.80**	**205**	P	**P**	**19 33 38.2**	**-0.3**
	9.9nm,0.7s,mb4.4,baz=48,slow=16,SNR=3.7						
FOZ	**Fox Glacier**	**26.24**	**207**	*e*PN	**P**	**19 33 43.3**	**+0.9**
FOZ	**Fox Glacier**	**26.24**	**207**	*e*P	**P**	**19 33 42.3**	**-0.1**
CTA	**Charters Tower**	**36.98**	**264**	*e*P	**P**	**19 35 16.0**	**-0.7**
	9.1nm,0.8s,mb4.7						
CTA	**Charters Tower**	**36.98**	**264**	P	**P**	**19 35 16.8**	**+0.2**
	3.0nm,0.4s,mb4.5,baz=88,slow=12,SNR=7.7						
CTA	**Charters Tower**	**36.98**	**264**	*e*P	**P**	**19 35 16.0**	**-0.7**
CTA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CTAO	**Charters Tower**	**36.98**	**264**	*e*P	**P**	**19 35 16.1**	**-0.6**
PMG	**Port Moresby**	**38.91**	**281**	P	**P**	**19 35 32.3**	**-0.6**
	comp=Z,14nm,0.9s,mb4.7,baz=157,slow=6.2,SNR=6.4						
PMG	**Port Moresby**	**38.91**	**281**	P	**P**	**19 35 32.3**	**-0.7**
PMG				pmax	pmax		
	comp=Z,14nm,0.9s						
STKA	**Stephens Creek**	**40.80**	**245**	*e*P	**P**	**19 35 46.0**	**-2.7**
	comp=Z,4.1nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**40.80**	**245**	P	**P**	**19 35 46.2**	**-2.4**
	comp=Z,4.9nm,0.8s,mb4.2,baz=104,slow=9.2,SNR=7.9						
ASAR	**Alice Springs**	**47.87**	**257**	P	**P**	**19 36 43.9**	**-1.3**
	comp=Z,14nm,0.9s,mb5.0,baz=89,slow=8.2,SNR=37						
ASAR				S	**S**	**19 43 40.1**	**+0.4**
	comp=Z,0.8nm,0.9s,baz=109,slow=15,SNR=4.2						
WB2	**Warramunga Arr**	**48.04**	**262**	*e*P	**P**	**19 36 45.1**	**-1.4**
WRAB	**Tennant Creek**	**48.04**	**262**	*e*P	**P**	**19 36 45.1**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.1						
WRAB	**Tennant Creek**	**48.04**	**262**	*e*P	**P**	**19 36 45.1**	**-1.4**
	comp=Z,21nm,1.0s,mb5.1						
WRA	**Warramunga Arr**	**48.05**	**262**	P	**P**	**19 36 45.4**	**-1.2**
	comp=Z,2.2nm,0.3s,mb4.6,baz=95,slow=7.7,SNR=81						
KAKA	**Kakadu**	**51.53**	**270**	*e*P	**P**	**19 37 12.4**	**-0.6**
	comp=Z,8.3nm,0.4s,mb5.0						
FORT	**Forrest**	**52.38**	**247**	*e*P	**P**	**19 37 18.3**	**-1.0**
	comp=Z,16nm,0.6s,mb5.1						
SBA	**Scott Base**	**57.67**	**185**	*e*P	**P**	**19 37 59.3**	**+1.7**
	comp=Z,116nm,2.1s,mb5.5						
VNDA	**Vanda**	**57.80**	**186**	P	**P**	**19 38 00.1**	**+1.7**
	comp=Z,4.8nm,1.2s,mb4.4,baz=14,slow=7.5,SNR=6.1						
VNDA	**Vanda**	**57.80**	**186**	*e*P	**P**	**19 37 59.4**	**+1.0**
	comp=Z,59nm,2.3s,mb5.2						
KLBR	**Kellerberrin**	**61.08**	**245**	*e*P	**P**	**19 38 21.0**	**-0.1**
	comp=Z,35nm,0.9s,mb5.5						
MBWA	**Marble Bar**	**61.21**	**257**	*e*P	**P**	**19 38 21.3**	**-0.7**
NWAO	**Narrogin (SRO)**	**61.33**	**243**	P	**P**	**19 38 23.4**	**+0.6**
	comp=Z,12nm,0.9s,mb5.0,baz=82,slow=7.1,SNR=3.9						
MUN	**Mundaring**	**62.33**	**244**	*e*P	**P**	**19 38 30.7**	**+1.2**
QSPA	**South Pole Qui**	**69.11**	**180**	*e*P	**P**	**19 39 14.1**	**+0.9**
	comp=Z,56nm,1.3s,mb5.3						
MJAR	**Matsushiro Arr**	**72.73**	**321**	P	**P**	**19 39 35.9**	**+0.7**
	comp=Z,3.0nm,0.6s,mb4.4,baz=156,slow=5.9,SNR=21						
MAJO	**Matsushiro**	**72.73**	**321**	*e*P	**P**	**19 39 35.3**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
MAJO	**Matsushiro**	**72.73**	**321**	*e*P	**P**	**19 39 35.3**	**+0.1**
	comp=Z,9.8nm,0.9s,mb4.7						
MAT	**Matsushiro**	**72.73**	**321**	P	**P**	**19 39 35.6**	**+0.4**
MAT	**Matsushiro**	**72.73**	**321**	*e*P	**P**	**19 39 36.0**	**+0.8**
MAT				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
MAT	**Matsushiro**	**72.73**	**321**	*e*P	**P**	**19 39 36.0**	**+0.8**
	comp=Z,8.0nm,1.0s,mb4.6						
KSM	**Kuching**	**76.99**	**277**	*e*P	**P**	**19 40 00.8**	**+0.9**
CMB	**Columbia Colle**	**77.44**	**41**	*e*P	**P**	**19 40 01.2**	**-1.1**
CMB				pmax	pmax		
	comp=Z,17nm,1.4s,mb4.8						
CMB	**Columbia Colle**	**77.44**	**41**	*e*P	**P**	**19 40 01.2**	**-1.1**
	comp=Z,17nm,1.4s,mb4.8						
YSS	**Yuzh-Sakhalins**	**77.94**	**331**	*e*P	**P**	**19 40 06.0**	**+0.9**
YSS				*e*	pP	19 40 18.3	+1.7
YSS	**Yuzh-Sakhalins**	**77.94**	**331**	*e*P	**P**	**19 40 05.5**	**+0.3**
	comp=Z,10.0nm,0.6s,mb4.9						
YBH	**Yreka Blue Hor**	**78.48**	**37**	P	**P**	**19 40 07.7**	**-0.4**
	comp=Z,1.1nm,0.4s,mb4.1,baz=184,slow=14						
NVAR	**Mina Array Bea**	**78.97**	**42**

XAN				AMB	AMB			
	comp=Z,10.0nm,2.0s,mb4.8							
HHC	**Hu-ho-hao-te**	**92.24**	**313**	*eP*	**P**	**19 41 17.6 +0.7**		
HHC				AP	pP	19 41 28.1 -0.5		
HHC				XP	sP	19 41 32.0 -0.8		
HHC				PP	PP	19 45 00.9 +3.4		
HHC				SKS		19 51 46.6		
HHC				S		19 52 15.6		
HHC				XS	sS	19 52 32.4 -4.1		
HHC				SS	SS	19 58 31.9 +4.4		
HHC				AMB	AMB			
	comp=Z,11nm,0.3s,mb5.7							
HHC				AMB	AMB			
	comp=Z,1μm,11.4s							
HHC				LR	LR			
	comp=N,325nm,10.6s							
HHC				LR	LR			
	comp=E,874nm,18.6s							
HHC				LR	LR			
	comp=Z,3μm,35.3s							
KMI	**Kunming**	**92.74**	**296**	P	**P**	**19 41 22.9 +3.7**		
KMI				AP	pP	19 41 31.5 +0.6		
KMI				XP	sP	19 41 34.7 -0.4		
KMI				S		19 52 20.1		
KMI				SS	SS	19 58 38.0 +3.3		
KMI				AMB	AMB			
	comp=Z,5.0nm,1.1s,mb4.9							
CHTO	**Chiang Mai**	**93.75**	**289**	*eP*	**P**	**19 41 25.7 +1.8**		
CHTO				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb5.2							
CHTO	**Chiang Mai**	**93.75**	**289**	*eP*	**P**	**19 41 25.7 +1.8**		
	comp=Z,7.9nm,0.8s,mb5.2							
INK	**Inuvik**	**93.82**	**14**	P	**P**	**19 41 23.1 -1.1**		
	comp=Z,2.1nm,1.0s,mb4.5,baz=229,slow=5.5,SNR=4.4							
CD2	**Chengdu**	**94.04**	**301**	*eP*	**P**	**19 41 24.2 -1.0**		
CD2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb5.3							
YKA	**Yellowknife Ar**	**95.47**	**24**	P	**P**	**19 41 30.1 -1.6**		
	comp=Z,0.6nm,0.8s,mb4.1,baz=239,slow=4.4,SNR=7.8							
YKA	**Yellowknife Ar**	**95.47**	**24**	P	**P**	**19 41 30.1 -1.7**		
YKA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
LZH	**Lanzhou**	**95.89**	**306**	*eP*	**P**	**19 41 35.1 +1.4**		
LZH				AP	pP	19 41 45.8 +0.5		
LZH				XP	sP	19 41 50.1 +0.6		
LZH				PP	PP	19 45 30.2 +4.2		
LZH				SKS		19 52 08.3		
LZH				*e*S		19 52 47.5		
LZH				XS	sS	19 53 05.6 -2.9		
LZH				PS	PS	19 54 16.2 +4.0		
LZH				*e*SS	SS	19 59 22.3 +2.7		
LZH				AMB	AMB			
	comp=Z,21nm,1.3s,mb5.4							
LZH				AMB	AMB			
	comp=Z,83nm,8.7s							
LZH				LR	LR			
	comp=E,297nm,15.9s							
LZH				LR	LR			
	comp=Z,598nm,19.4s,MS5.1							
SONM	**Songino Array**	**98.45**	**318**	P	**P**	**19 41 50.1 +4.9**		
	comp=Z,0.3nm,0.7s,mb3.9,baz=116,slow=3.4,SNR=2.0							
WMQ	**Urumqi**	**109.92**	**310**	PDIF	Pdif	19 42 35.3 -1.0		
WMQ				PP	PP	19 47 13.6 +2.6		
WMQ				PP	PP			
	comp=Z,1μm,9.3s							
WMQ				LR	LR			
	comp=N,3μm,47.0s							
WMQ				LR	LR			
	comp=E,2μm,56.5s							
WMQ				LR	LR			
	comp=Z,2μm,58.0s							
ZAL	**Zalesovo**	**113.09**	**321**	PKiKP	PKiKP	19 46 43.3 -0.9		
	comp=Z,0.7nm,0.5s,baz=76,slow=5.4,SNR=4.5							
MKAR	**Makanchi Array**	**114.10**	**313**	PKP	PKiKP	19 46 45.4 -0.8		
	comp=Z,1.3nm,0.8s,baz=66,slow=2.9,SNR=14							
KURK	**Kurchatov**	**116.74**	**317**	*e*PKiKP	PKPdf	19 46 48.6 -2.6		
KSH	**Kashi**	**118.07**	**304**	*e*PKP	PKPdf	19 46 56.1 +2.3		
KSH				*e*PKS		19 50 31.2		
KSH				*e*SKS	SKSdf	19 54 02.1 -0.8		
KSH				PP	PP			
	comp=Z,445nm,14.0s							
KSH				LR	LR			
	comp=N,649nm,18.2s							
KSH				LR	LR			
	comp=E,326nm,12.3s							
KSH				LR	LR			
	comp=Z,1μm,25.6s							
AAK	**Ala-Archa**	**119.38**	**308**	*i* PKiKP	PKPdf	19 46 56.9 +0.6		
BRVK	**Borovoye**	**121.77**	**320**	*e*PKiKP	PKPdf	19 46 59.2 -1.7		
ZRNK	**Zerenda**	**122.55**	**320**	*e*PKiKP	PKPdf	19 47 01.4 -1.0		
ARU	**Arti**	**127.58**	**326**	*i* PKiKP	PKPdf	19 47 11.5 -0.5		
ARU				*e*		19 54 14.6		
AKTK	**Aktyubinsk**	**129.76**	**319**	PKP	PKPdf	19 47 17.9 +1.7		
AKTO	**Aktyubinsk**	**129.76**	**319**	PKP	PKPdf	19 47 17.9 +1.7		
	comp=Z,0.5nm,0.2s,baz=54,slow=6.7,SNR=6.4							
AKTO	**Aktyubinsk**	**129.76**	**319**	PKIKP	PKPdf	19 47 17.9 +1.7		
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ARCES	**ARCESS Array B**	**129.97**	**351**	PKP	PKPdf	19 47 16.5 -0.1		
	comp=Z,1.3nm,0.6s,baz=24,slow=0.9,SNR=18							
FINES	**FINESS Array B**	**137.15**	**346**	PKP	PKPdf	19 47 31.0 +1.0		
	comp=Z,1.1nm,0.8s,baz=29,slow=4.4,SNR=5.5							
OBN	**Obninsk**	**138.80**	**333**	*i* PKIKP	PKPdf	19 47 33.2 +0.1		
OBN				pmax	pmax			
	comp=Z,15nm,1.4s							
NOA	**NORSAR Array B**	**139.78**	**356**	PKP	PKPdf	19 47 36.2 +1.4		
	comp=Z,0.4nm,0.7s,baz=34,slow=2.1,SNR=3.1							
NOA	**NORSAR Array B**	**139.78**	**356**	PKP	PKPdf	19 47 36.2 +1.4		
BHD	**Baghdad**	**143.73**	**298**	*ex*	x	19 47 39.0		
MSL	**Mosul**	**144.12**	**303**	*ex*	x	19 47 42.0		
SUW	**Suwalki**	**144.44**	**342**	*e*PKP	PKPdf	19 47 41.1 -2.1		
EKA	**Eskdalemuir Ar**	**145.03**	**9**	PKP	PKPdf	19 47 43.0 -1.2		
	comp=Z,3.9nm,0.8s,baz=328,slow=3.0,SNR=5.3							
AKASG	**Malin Array Be**	**145.07**	**334**	PKP	PKPdf	19 47 43.0 -1.2		
	comp=Z,11nm,0.6s,baz=41,slow=4.2,SNR=45							
SIM	**Simferopol'**	**146.58**	**322**	*i* PKP2	PKPab	19 47 51.4 +1.9		
SIM				pmax	pmax			
	comp=Z,23nm,0.6s							
HLG	**Helgoland**	**146.79**	**358**	*e*PKPbc	PKPbc	19 47 50.0 +1.0		
BSEG	**Bad Segeberg**	**146.90**	**355**	*e*PKPbc	PKPbc	19 47 49.9 +0.6		
MALT	**Malatya**	**147.01**	**309**	*i* P	PKPdf	19 47 53.4 +5.8		
MALT	**Malatya**	**147.01**	**309**	*e*PKPbc	PKPbc	19 47 51.5 +1.9		
LVIV	**L'vov**	**147.77**	**338**	*i* PKIKP	PKPdf	19 47 55.9 +4.1		
RUE	**Ruedersdorf**	**147.94**	**351**	*e*PKPbc	PKPbc	19 47 52.7 +0.5		
KWP	**Kalwaria**	**148.39**	**339**	*e*PKP	PKPdf	19 47 53.0 +3.2		
KWP				*e*		19 47 55.7		
IBBN	**Ibbenburen**	**148.68**	**358**	*e*PKPbc	PKPbc	19 47 54.7 +0.6		
OJC	**Ojcow**	**148.77**	**343**	*e*PKPdf	PKPdf	19 47 51.3 +0.8		
OJC				*e*PKPbc	PKPbc	19 47 54.4 +0.1		
OJC				*e*PKPab	PKPab	19 47 56.0 -2.2		
OJC				*ep*PKPdf	pPKPdf	19 47 59.7 -2.8		
OJC	**Ojcow**	**148.77**	**343**	*e*PKHKP		19 47 51.3		
OJC				*e*		19 47 54.4		
OJC				*e*		19 47 59.7		
CLZ	**Clausthal**	**148.97**	**354**	*e*PKPbc	PKPbc	19 47 55.9 +1.1		
STHS	**Stebnicka Huta**	**149.06**	**340**	*e*PKP	PKPbc	19 47 55.8 +0.8		
STHS	**Stebnicka Huta**	**149.06**	**340**	*e*PKIKP	PKPbc	19 47 55.9 +0.9		
KSP	**Ksiaz**	**149.06**	**347**	*e*PKP	PKPbc	19 47 55.3 +0.3		
KSP				*e*		19 47 57.2		
KSP	**Ksiaz**	**149.06**	**347**	*i* PKIKP	PKPbc	19 47 57.0 +2.0		
BURAR	**Bucovina Array**	**149.12**	**334**	*i* P	PKPdf	19 47 57.7 +6.7		
KOLS	**Kolonicke sedl**	**149.14**	**339**	*e*PKP	PKPbc	19 47 57.5 +2.3		
CLL	**Collm**	**149.19**	**351**	*e*PKPbc	PKPbc	19 47 56.0 +0.6		
	comp=Z,22nm,1.0s							
CLL				*i* PKPab	PKPab	19 47 58.9 -1.0		
	comp=Z,24nm,1.2s							
CLL				*i* sPKPbc		19 48 01.8		
CLL				*e*(sPKPab)		19 48 09.0		
CLL				*i* x	x	19 48 20.7		
CLL	**Collm**	**149.19**	**351**	*e*PKIKP	PKPbc	19 47 56.0 +0.6		
CLL				*i*		19 47 58.9		
CLL				pmax	pmax			
	comp=Z,22nm,1.0s							
CLL				pmax	pmax			
	comp=Z,24nm,1.2s							
GTTG	**Gvttingen**	**149.30**	**355**	*e*PKPbc	PKPbc	19 47 56.4 +0.7		
UPC	**Upice**	**149.43**	**347**	*e*PKPB	PKPbc	19 47 57.9 +1.9		
UPC				*ep*PKP	pPKPdf	19 48 11.4 +7.9		
CRVS	**Cervenica-Dubn**	**149.43**	**339**	*e*PKP	PKPbc	19 47 59.0 +3.0		
BRG	**Berggiesshubel**	**149.47**	**350**	*e*PKPbc	PKPbc	19 47 57.1 +1.0		
BRG	**Berggiesshubel**	**149.47**	**350**	*i* P	PKPbc	19 47 56.4 +0.3		
	comp=Z,7.0nm,0.8s							
BRG				*e*		19 48 00.8		
	comp=Z,18nm,1.4s							
BRG				*e*		19 48 18.0		
	comp=Z,13nm,1.1s							
BRG	**Berggiesshubel**	**149.47**	**350**	*i* PKIKP	PKPbc	19 47 56.4 +0.3		
BRG				*e*		19 48 00.8		
BRG				pmax	pmax			
	comp=Z,7.0nm,0.8s							
BRG				pmax	pmax			
	comp=Z,18nm,1.4s							
BRG				pmax	pmax			
	comp=Z,13nm,1.2s							
DPC	**Dobruska-Polom**	**149.51**	**347**	*e*PKPB	PKPbc	19 47 56.8 +0.6		
DPC				*ep*PKP	pPKPdf	19 48 11.3 +7.6		
BUG	**Bochum--Univer**	**149.56**	**358**	*e*PKPbc	PKPbc	19 47 56.8 +0.5		
OKC	**Ostrava-Krasne**	**149.56**	**344**	*e*PKPB	PKPbc	19 47 58.7 +2.4		
OKC				*ep*PKP	pPKPdf	19 48 11.4 +7.7		
BR131	**Keskin Array S**	**149.74**	**314**	*e*PKPbc	PKPbc	19 47 57.4 +0.6		
BRTR	**Keskin Array B**	**149.74**	**314**	PKPbc	PKPbc	19 47 57.2 +0.5		
	comp=Z,5.7nm,0.8s,baz=141,slow=3.6,SNR=27							
BRTR	**Keskin Array B**	**149.74**	**314**	*i* PKIKP	PKPbc	19 47 57.2 +0.5		
MORC	**Moravsky Berou**	**149.77**	**345**	*i* P	PKPbc	19 47 57.2 +0.4		
MORC	**Moravsky Berou**	**149.77**	**345**	*e*PKPbc	PKPbc	19 47 56.8 0.0		
MOX	**Moxa**	**150.03**	**353**	*e*PKPbc	PKPbc	19 47 58.2 +0.8		
MOX	**Moxa**	**150.03**	**353**	*e*PKP	PKPdf	19 47 55.1 +2.6		
	comp=Z,42nm,1.8s							
KECS	**Kecovo**	**150.12**	**340**	*e*PKP	PKPbc	19 47 58.0 +0.3		
WERD	**Werda**	**150.13**	**352**	*e*PKPbc	PKPbc	19 47 58.6 +0.9		
PRU	**Pruhonice**	**150.22**	**349**	*e*PKPB	PKPbc	19 47 57.9 0.0		
PRU				*ep*PKP	pPKPdf	19 48 12.7 +7.9		
ANTO	**Ankara**	**150.23**	**315**	*i* P	PKPbc	19 47 59.9 +2.0		
ANTO	**Ankara**	**150.23**	**315**	*e*PKPbc	PKPbc	19 47 59.4 +1.5		
NKC	**Novy Kostel**	**150.32**	**351**	*e*PKPB	PKPbc	19 47 59.7 +1.6		
MLR	**Muntele Rosu**	**150.46**	**331**	*i* P	PKPdf	19 47 59.5 +6.4		
VYHS	**Vyhne**	**150.60**	**342**	*e*PKP	PKPbc	19 47 59.5 +0.7		
MANZ	**Manzenberg**	**150.61**	**352**	*e*PKPbc	PKPbc	19 48 00.0 +1.2		
TREC	**Trest**	**150.69**	**347**	*e*PKPB	PKPbc	19 48 01.0 +2.0		
TREC				*ep*PKP	pPKPdf	19 48 14.0 +8.5		
TNS	**Taunus Mts**	**150.72**	**357**	*e*PKPbc	PKPbc	19 48 00.0 +0.9		
PSZ	**Piszkesteto**	**150.80**	**340**	*e*PKIKP	PKPdf	19 47 57.8 +4.1		
ROTZ	**Rotzenmuhle**	**150.81**	**351**	*e*PKPbc	PKPbc	19 48 00.4 +1.1		
VOIR		**150.90**	**331**	*i* P	PKPdf	19 48 01.3 +7.5		
GIVF	**Givet**	**150.91**	**1**	*e*PKP1	PKPbc	19 47 59.6 +0.1		
	comp=Z,29nm,0.8s							
BAIF	**Baives**	**150.94**	**2**	*e*PKP1	PKPbc	19 47 59.7 +0.1		
	comp=Z,36nm,1.1s							
SMOL	**Smolenice**	**150.97**	**344**	*e*PKP	PKPbc	19 48 01.2 +1.5		
GRF	**Grafenberg Arr**	**151.01**	**353**	*e*PKPbc	PKPbc	19 48 01.0 +1.2		
GRFO	**Grafenberg**	**151.01**	**353**	*e*PKPbc	PKPbc	19 48 01.0 +1.2		
KHC	**Kasperske Hory**	**151.21**	**349**	*e*PKPB	PKPbc	19 48 00.6 +0.3		
KHC				*ep*PKP	pPKPdf	19 48 15.3 +9.0		
WET	**Wettzell**	**151.32**	**350**	*e*PKPbc	PKPbc	19 48 01.5 +1.0		
ZST	**Bratislava**	**151.34**	**344**	*e*PKP	PKPbc	19 48 02.7 +2.1		
WLF	**Walferdange**	**151.36**	**360**	*e*PKPbc	PKPbc	19 48 01.8 +1.2		
WLF	**Walferdange**	**151.36**	**360**	*e*PKPbc	PKPbc	19 48 02.3 +1.7		
GERES	**GERESS Array B**	**151.47**	**349**	PKPbc	PKPbc	19 48 00.9 0.0		
	comp=Z,4.1nm,0.9s,baz=346,slow=1.7,SNR=20							
GERES	**GERESS Array B**	**151.47**	**349**	PKIKP	PKPbc	19 48 00.9 +0.1		
GERES				pmax	pmax			
	comp=Z,4.0nm,0.9s							
ROSF	**Rostrenen**	**151.73**	**13**	*e*PKP1	PKPbc	19 48 00.7 -0.7		
FLN	**La Foliniere**	**151.81**	**9**	*e*PKP1	PKPbc	19 48 01.1 -0.5		
	comp=Z,9.2nm,0.5s							
LDF	**La Druitiere**	**152.03**	**8**	*e*PKP1	PKPbc	19 48 01.6 -0.5		
CSS	**Prodhromos**	**152.08**	**306**	PKPbc	PKPbc	19 48 01.9 -0.4		
CSS				*e*PKPab	PKPab	19 48 13.2 +1.4		
GRR	**Gorron**	**152.12**	**10**	*e*PKP1	PKPbc	19 48 01.9 -0.4		
	comp=Z,11nm,0.4s							
STU	**Stuttgart**	**152.12**	**355**	*e*PKPbc	PKPbc	19 48 03.2 +0.9		
BZS	**Buzias**	**152.19**	**336**	*i* P	PKPbc	19 48 03.2 +0.7		
FUR	**Furstenfeldbru**	**152.50**	**352**	*e*PKPbc	PKPbc	19 48 03.8 +0.6		
CDF	**Champ du Feu**	**152.59**	**358**	*e*PKP1	PKPbc	19 48 03.4 0.0		
	comp=Z,8.4nm,0.8s							
BFO	**Black Forest**	**152.62**	**356**	*e*PKPbc	PKPbc	19 48 04.0 +0.6		
PKSM	**Moragy**	**152.71**	**340**	*i* P	PKPbc	19 48 04.3 +0.7		
HAU	**Haudompre**	**153.02**	**359**	*e*PKP1	PKPbc	19 48 05.3 +1.0		
	comp=Z,8.9nm,0.7s							
HINF	**Hinteralfeld**	**153.19**	**358**	*e*PKP1	PKPbc	19 48 04.5 -0.2		
KBA	**Koelnbreinsper**	**153.23**	**348**	*i* P	PKPbc	19 48 07.0 +2.2		
	comp=Z,9.0nm,0.9s							
LOR	**Lormes**	**153.71**	**3**	*e*PKP1	PKPbc	19 48 06.2 +0.4		
	comp=Z,3.6nm,0.6s							
SSF	**Saint Saulge**	**153.90**	**4**	*e*PKP1	PKPbc	19 48 06.2 0.0		
MFF	**Saint Martin d**	**153.97**	**9**	*e*PKP1	PKPbc	19 48 06.1 -0.3		
AVF	**Avril sur Loir**	**154.16**	**4**	*e*PKP1	PKPbc	19 48 06.5 -0.3		
SMF	**Signal de Mont**	**154.33**	**3**	*e*PKP1	PKPbc	19 48 07.1 -0.1		
BGF	**Bois d'Agland**	**154.35**	**5**	*e*PKP1	PKPbc	19 48 07.2 0.0		
	comp=Z,6.9nm,0.6s							
TCF	**Toulx Ste Croi**	**154.57**	**6**	*e*PKP1	PKPbc	19 48 07.4 -0.3		
DBIC	**Dimbokro**	**162.44**	**143**	PKPab	PKPab	19 48 57.7 +1.2		
	comp=Z,2.9nm,0.9s,baz=188,slow=7.1,SNR=3.5							
DBIC	**Dimbokro**	**162.44**	**143**	PKP2	PKPab	19 48 57.7 +1.3		
DBIC				pmax	pmax			
	comp=Z,3.0nm,0.9s							
TORD	**Torodi Ar. Bea**	**171.30**	**153**	PKPab	PKPab	19 49 35.5 -0.1		
	comp=Z,1.0nm,0.6s,baz=212,slow=2.5,SNR=5.5							

*IDC **03** 19:37:31.9±0.9, 1979S×17446W, h0km, mb4.3/7, mb1 4.6/9, mb1mx4.3/18, mbtmp4.4/9, Error ellipse: s-maj=39.7km s-min=18.1km az=134.0*
*ISCJB **03** 19:37:34.0±0.6, 1997S×0.10×1742W±0.1, h33km, mb4.3/7, Error ellipse: s-maj=17.7km s-min=10.8km az=78.6*
*NEIC **03** 19:37:35.0±0.6, 1993S×17423W, h25km, Error ellipse: s-maj=18.0km s-min=11.7km az=137.0*

ISC 03 19:37:35.9±0.6, 2003S×010×1742W±0.1, h35km, n16, σ0.8 9/16, mb4.3/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.51**	**21**	Pn		**Pn**		**19 39 08.0**	**-1.2**
	9.3nm,0.3s,baz=248,slow=19,SNR=6.1								
AFI				Sn		**Sn**		**19 40 15.4**	**-6.7**
	25nm,0.3s,baz=7.6,slow=20,SNR=6.2								
RAR	**Rarotonga**	**13.54**	**97**	Pn		**Pn**		**19 40 45.0**	**-0.4**
	2.8nm,0.3s,baz=244,slow=8.0,SNR=8.7								
RAR				Sn		**Sn**		**19 43 00.3**	**-14**
	2.6nm,0.3s,baz=112,slow=19,SNR=3.7								
URZ	**Urewera**	**19.67**	**201**	P		**Pn**		**19 42 02.6**	**-0.8**
	3.0nm,0.3s,baz=358,slow=4.8,SNR=7.4								
URZ				S		**S**		**19 45 26.2**	**-16**
	0.8nm,0.3s,baz=162,slow=20,SNR=3.9								
QRZ	**Quartz Range**	**23.63**	**206**	PN		**P**		**19 42 43.7**	**-0.2**
THZ	**Tophouse**	**24.28**	**204**	PN		**P**		**19 42 50.1**	**+0.3**
RPZ	**Rata Peaks**	**26.65**	**204**	P		**P**		**19 43 14.8**	**+3.4**
	5.6nm,0.4s,mb4.4,baz=77,slow=19,SNR=5.3								
CTA	**Charters Tower**	**37.10**	**263**	P		**P**		**19 44 43.2**	**+0.3**
	10nm,0.4s,mb5.0,baz=89,slow=10,SNR=43								
ASAR	**Alice Springs**	**48.11**	**256**	P		**P**		**19 46 11.9**	**-0.3**
	3.4nm,0.6s,mb4.6,baz=90,slow=8.1,SNR=79								
WRA	**Warramunga Arr**	**48.22**	**261**	P		**P**		**19 46 12.5**	**-0.5**
	2.2nm,0.3s,mb4.7,baz=96,slow=7.0,SNR=268								
NVAR	**Mina Array Bea**	**78.26**	**42**	P		**P**		**19 49 34.2**	**+2.2**
	1.2nm,0.7s,mb3.9,baz=222,slow=9.5,SNR=7.3								
ILAR	**Eielson Array**	**87.11**	**11**	P		**P**		**19 50 18.4**	**+0.4**
	0.6nm,0.7s,mb3.9,baz=233,slow=5.3,SNR=7.4								
YKA	**Yellowknife Ar**	**94.62**	**24**	P		**P**		**19 50 53.3**	**+0.2**
	0.1nm,0.6s,mb3.4,baz=268,slow=4.1,SNR=3.7								
YKA	**Yellowknife Ar**	**94.62**	**24**	P		**P**		**19 50 53.3**	**+0.2**
ARCES	**ARCESS Array B**	**129.06**	**351**	PKP	PKPdf			19 56 39.7	-0.4
	0.7nm,0.7s,baz=29,slow=2.8,SNR=7.6								
ARCES	**ARCESS Array B**	**129.06**	**351**	PKP	PKPdf			19 56 39.7	-0.4
GERES	**GERESS Array B**	**150.56**	**349**	PKPbc	PKPbc			19 57 24.6	+0.7
	0.3nm,0.5s,baz=305,slow=3.5,SNR=3.1								

*CSEM **03** 19:40:34.5±0.1, 4197N×23.12E, h5km, MD3.3, Error ellipse: s-maj=1.9km s-min=1.3km az=125.0*
*SOF **03** 19:40:34.5, 4197N×2330E, h0km, MD2.8*
*NEIC **03** 19:40:34.6, 4193N×2310E, h4km, MD2.8(SOF), ML2.9(THE), After THE.*
NEIC Felt at Blagoevgrad, Bulgaria.
*ISCJB **03** 19:40:34.2±0.4, 4192N±002×23.12E±004, h6km±4km, Error ellipse: s-maj=5.0km s-min=3.6km az=35.6*
*THE **03** 19:40:34.7, 4193N×2310E, h1km, ML3.5*
*ATH **03** 19:40:36.6, 4177N×2313E, h18km, MD3.4/3*

ISC 03 19:40:35.1±0.4, 4191N±002×2312E±004, h5km±4km, n39, σ1.9 15/53, 2C-5D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.05**	**210**	*i* P		**Sg**		**19 40 38.2**	**+0.8**
MMB	**Musomiste**	**0.56**	**125**	*i* Pg		**Pg**		**19 40 45.0**	**-0.8**
MMB	**Musomiste**	**0.56**	**125**	*i* Pg		**Pg**		**19 40 45.0**	**-0.8**
MMB	**Musomiste**	**0.56**	**125**	*i* Pg		**Pg**		**19 40 46.0**	**+0.2**
MMB	**Musomiste**	**0.56**	**125**	*i* Pg		**Pg**		**19 40 46.0**	**+0.2**
MMB	**Musomiste**	**0.56**	**125**	*i* Pg		**Pg**		**19 40 46.0**	**+0.2**
VTS	**Vitosha**	**0.68**	**6**	*e*Pg		**Pg**		**19 40 47.2**	**-0.9**
VTS				*e*Sg		**Sg**		**19 40 56.5**	**-0.6**
VTS	**Vitosha**	**0.68**	**6**	*i* Pg		**Pg**		**19 40 47.5**	**-0.7**
VTS				*e*Sg		**Sg**		**19 40 56.5**	**-0.6**
VAY	**Valandovo**	**0.72**	**215**	*i* Pg		**Pg**		**19 40 49.0**	**+0.2**
STIP	**Stip**	**0.73**	**253**	*i* Pg		**Pg**		**19 40 48.9**	**-0.1**
STIP				*i* Sg		**Sg**		**19 40 59.3**	**+0.7**
STIP	**Stip**	**0.73**	**253**	*i* Pg		**Pg**		**19 40 48.9**	**-0.2**
STIP				*i* Sg		**Sg**		**19 40 59.2**	**+0.7**
KNT	**Kendrikon**	**0.77**	**192**	*e*Pg		**Pg**		**19 40 49.8**	**+0.1**
KNT				*e*Sg		**Sg**		**19 41 00.6**	**+0.9**
NVR	**Nevrokopi**	**0.79**	**135**	*i* P		*i*PN		**19 40 49.9**	**-2.9**
NVR				*e*SN		**Sg**		**19 40 59.8**	**-0.7**
SRS	**Serrai**	**0.87**	**156**	*e*Pg		**Pg**		**19 40 51.8**	**0.0**
SRS				*e*Sg		**Sg**		**19 41 04.3**	**+1.2**
PGB	**Panagyurishte**	**1.01**	**50**	*i* Pg		**Pg**		**19 40 52.9**	**-1.5**
GRG	**Griva**	**1.09**	**210**	*e*Pg		**Pg**		**19 40 55.6**	**-0.5**
GRG				*e*Sg		**Sg**		**19 41 11.0**	**+0.8**
SOH	**Sokhos**	**1.10**	**171**	*e*Pg		**Pg**		**19 40 56.0**	**-0.3**
SOH				*e*Sg		**Sg**		**19 41 11.4**	**+0.8**
PLD	**Plovdiv**	**1.20**	**80**	*i* Pg		**Pg**		**19 40 57.8**	**-0.2**
RZN	**Rozhen**	**1.22**	**100**	*i* Pg		**Pg**		**19 40 58.3**	**-0.1**
SKO	**Skopje**	**1.25**	**273**	*e*Pn		**Pn**		**19 41 00.0**	**+0.8**
THE	**Thessaloniki**	**1.28**	**185**	*e*Pg		**Pg**		**19 40 59.0**	**-0.7**
THE				*e*Sg		**Sg**		**19 41 17.2**	**+0.9**
THE	**Thessaloniki**	**1.28**	**185**	*e*Pg		**Pg**		**19 40 59.0**	**-0.7**
THE				*e*Sg		**Sg**		**19 41 17.2**	**+0.9**
PLG	**Polygyros**	**1.56**	**171**	*e*PN		**Pn**		**19 41 02.8**	**-0.5**
PLG				*e*SN		**Sn**		**19 41 21.9**	**-2.0**
OUR	**Ouranopolis**	**1.71**	**157**	*e*Pb		**Pb**		**19 41 04.4**	**-2.4**
FNA	**Florina**	**1.73**	**230**	*e*Pb		**Pb**		**19 41 05.3**	**-2.0**
KDZ	**Kurdzhali**	**1.74**	**98**	*i* P		**Pn**		**19 41 05.5**	**-0.4**
KDZ	**Kurdzhali**	**1.74**	**98**	*i* P		**Pn**		**19 41 05.5**	**-0.4**
KDZ	**Kurdzhali**	**1.74**	**98**	*i* P		**Pn**		**19 41 04.0**	**-1.9**
DIM	**Dimitrovgrad**	**1.81**	**85**	*i* P		**Pn**		**19 41 08.0**	**+1.2**
LIT	**Litokhoron**	**1.87**	**195**	*e*Pb		**Pb**		**19 41 07.7**	**-2.0**
RDO	**Rodhopi**	**1.97**	**112**	*e*PN		**Pn**		**19 41 10.7**	**+1.6**
RDO				*e*SN		**Sn**		**19 41 35.2**	**+1.1**
PAIG	**Paliouri**	**2.03**	**168**	*e*Pn		**Pn**		**19 41 08.8**	**-1.0**
ALN	**Alexandroupoli**	**2.42**	**114**	*e*Pn		**Pn**		**19 41 14.8**	**-0.5**
ALN				*e*Sn		**Sn**		**19 41 47.4**	**+2.1**
BZS	**Buzias**	**3.86**	**344**	*i* P		**Pb**		**19 41 45.8**	**+2.2**
**MLR

0.9nm,0.1s,SNR=7.9
EGUA S Sn 20 20 37.7 -1.1
15nm,0.5s,SNR=7.9
EJIF Jimena Fronter 1.74 318 P Pn 20 20 17.8 +0.2
1.9nm,0.2s,SNR=13
EJIF S Sn 20 20 39.9 +0.1
10nm,0.5s,SNR=7.9
ERON Agron 1.85 5 P Pn 20 20 19.4 +0.3
2.1nm,0.1s,SNR=7.9
ERON S Sn 20 20 42.7 +0.1
8.5nm,0.2s,SNR=7.9
ELOJ Sierra Loja 1.98 357 P Pn 20 20 21.3 +0.5
1.0nm,0.2s,SNR=7.9
ELOJ S Sn 20 20 46.4 +0.8
7.7nm,0.4s,SNR=7.9
MIF Mishlifen 2.02 210 *i* P Pn 20 20 23.0 +1.6
MIF *i* S Sn 20 20 45.0 -1.7
EQUE Quentar 2.08 13 P Pn 20 20 23.6 +1.4
3.0nm,0.2s,SNR=14
EQUE S Sn 20 20 46.6 -1.7
7.2nm,0.3s,SNR=7.9
ECOG Cogollos-Vega 2.13 10 P Pn 20 20 23.5 +0.5
14nm,0.4s,SNR=7.9
ECOG S Sn 20 20 49.0 -0.5
6.7nm,0.2s,SNR=7.9
ESPR Espera 2.26 319 P Pn 20 20 26.0 +1.4
1.6nm,0.2s,SNR=7.9
ESPR S Sn 20 20 53.0 +0.5
1.6nm,0.5s,SNR=7.9
ESPR Espera 2.26 319 P Pn 20 20 26.0 +1.4
1.6nm,0.2s,SNR=7.9
ESPR S Sn 20 20 53.0 +0.5
1.6nm,0.5s,SNR=7.9
CZD Col de Zad 2.29 202 *i* P Pn 20 20 26.0 +0.9
CZD *i* S Sn 20 20 53.0 -0.4
ENIJ Nijar 2.32 39 S Sn 20 20 53.2 -0.8
6.1nm,0.2s,SNR=7.9
EQES Quesada 2.74 16 P Pn 20 20 33.0 +1.8
4.7nm,0.1s,SNR=7.9
EQES S Sn 20 21 06.3 +2.0
14nm,0.2s,SNR=7.9
EQES Quesada 2.74 16 P Pn 20 20 33.0 +1.8
4.7nm,0.1s,SNR=7.9
EQES S Sn 20 21 06.3 +2.0
14nm,0.2s,SNR=7.9
EHUE Huescar 2.88 23 P Pn 20 20 35.2 +2.1
1.3nm,0.1s,SNR=7.9
EHUE S Sn 20 21 08.7 +0.9
4.1nm,0.2s,SNR=7.9
EHUE Huescar 2.88 23 P Pn 20 20 35.2 +2.1
1.3nm,0.1s,SNR=7.9
EHUE S Sn 20 21 08.7 +0.9
4.1nm,0.2s,SNR=7.9
EADA Adamuz 3.03 352 P Pn 20 20 36.4 +1.2
2.5nm,0.1s,SNR=7.9
EADA S Sn 20 21 11.5 +0.1
2.4nm,0.2s,SNR=7.9
EADA Adamuz 3.03 352 P Pn 20 20 36.4 +1.2
2.5nm,0.1s,SNR=7.9
EADA S Sn 20 21 11.5 0.0
2.4nm,0.2s,SNR=7.9
KIB El Ksiba 3.09 214 *i* P Pn 20 20 36.0 0.0
KIB *i* S Sn 20 21 11.5 -1.5
ZFT Errachidia 3.14 185 *i* P Pn 20 20 36.5 -0.2
ZFT *i* S Sn 20 21 13.0 -1.3
EMIN Mina Concepcio 3.36 321 P Pn 20 20 39.9 +0.1
1.1nm,0.1s,SNR=7.9
EMIN S Sn 20 21 18.2 -1.5
1.3nm,0.2s,SNR=7.9
EMIN Mina Concepcio 3.36 321 P Pn 20 20 39.9 +0.1
1.1nm,0.1s,SNR=7.9
EMIN S Sn 20 21 18.2 -1.6
1.3nm,0.2s,SNR=7.9
AVE Averroes 3.38 237 P Pn 20 20 40.0 0.0
EMUR La Murta 3.48 39 S Sn 20 21 19.9 -2.8
5.7nm,0.4s,SNR=7.9
EMUR La Murta 3.48 39 S Sn 20 21 19.9 -2.8
5.7nm,0.4s,SNR=7.9
TZC Tazercounte 3.65 215 P Pn 20 20 45.0 +1.2
TZC S Sn 20 21 25.0 -1.9
TZC Tazercounte 3.65 215 *e*P Pn 20 20 45.0 +1.2
EGRO El Granado 3.66 311 P Pn 20 20 44.0 +0.1
0.8nm,0.1s,SNR=7.9
EGRO S Sn 20 21 24.9 -2.2
6.5nm,0.2s,SNR=7.9
EGRO El Granado 3.66 311 P Pn 20 20 44.0 +0.1
0.8nm,0.1s,SNR=7.9
EGRO S Sn 20 21 24.9 -2.2
6.5nm,0.2s,SNR=7.9
ETOB Tobarra 3.99 29 P Pn 20 20 50.2 +1.7
0.9nm,0.2s,SNR=7.9
ETOB S Sn 20 21 35.1 -0.2
4.4nm,0.4s,SNR=7.9
ETOB Tobarra 3.99 29 P Pn 20 20 50.2 +1.7
0.9nm,0.2s,SNR=7.9
PBEJ Beja 4.21 314 *e*Pn Pn 20 20 52.2 +0.7
PBEJ *e*Sn Sn 20 21 38.9 -1.8
PBEJ
5.0nm,0.3s
PBEJ Beja 4.21 314 *e*Pn Pn 20 20 52.2 +0.7
PBEJ *e*Sn Sn 20 21 38.9 -1.8
5.0nm,0.3s
EBAD Badajoz 4.31 327 P Pn 20 20 53.0 +0.2
0.3nm,0.1s,SNR=7.9
EBAD S Sn 20 21 40.8 -2.4
8.6nm,0.4s,SNR=7.9
EBAD Badajoz 4.31 327 P Pn 20 20 53.0 +0.2
0.3nm,0.1s,SNR=7.9
MORF Marmelete 4.31 301 *e*P Pn 20 20 51.8 -1.1
MORF *e*S Sn 20 21 38.0 -5.2
MORF *e*S Sn 20 21 38.0 -5.2
MORF AML AML 20 21 46.3
comp=E,15nm,0.2s
MORF Marmelete 4.31 301 *e*P Pn 20 20 51.8 -1.1
MORF *e*S Sn 20 21 38.0 -5.2
PTEO Sao Teotonio 4.48 303 *e*Pn Pn 20 20 56.0 +0.8
PTEO *e*Sn Sn 20 21 45.6 -1.7
PTEO
comp=E,8.0nm,0.6s
PTEO Sao Teotonio 4.48 303 *e*Pn Pn 20 20 56.0 +0.8
PTEO *e*Sn Sn 20 21 45.6 -1.7
comp=E,8.0nm,0.6s
ESDC Sonseca Array 4.50 1 P Pn 20 20 56.6 +1.2
comp=E,2.2nm,0.1s,baz=177,slow=12,SNR=7.9
ESDC S Sn 20 21 47.5 -0.2
comp=E,0.6nm,0.3s,baz=182,slow=23,SNR=4.0
ESDC Sonseca Array 4.50 1 P Pn 20 20 56.6 +1.2
comp=E,2.2nm,0.1s,SNR=7.9
MOE Montemor 4.83 315 *e*Pn Pn 20 21 02.1 +2.2
MOE *e*Sn Sn 20 21 54.2 -1.7
PCBR Castelo Branco 5.41 330 *e*Pn Pn 20 21 08.5 +0.5
PCBR *e*Sn Sn 20 22 08.1 -2.3
PCBR
comp=E,2.7nm,0.4s
PTOM Tomar 5.65 323 *e*Pn Pn 20 21 11.8 +0.5
PTOM *e*Sn Sn 20 22 12.5 -3.8
MTE Manteigas 5.92 333 *e*Pn Pn 20 21 15.7 +0.7
MTE *e*Sn Sn 20 22 21.7 -1.2
MTE
comp=E,4.1nm,0.8s
PVIS Viseu 6.33 332 *e*Pn Pn 20 21 21.6 +1.0
PVIS *e*Sn Sn 20 22 30.6 -2.3
PVIS
comp=E,1.9nm,0.1s
PVRL Vila Real 6.76 336 *e*Pn Pn 20 21 27.2 +0.8
PVRL *e*Sn Sn 20 22 40.4 -3.0
PVRL
comp=E,3.8nm,0.2s
PBRG Braganca 6.96 343 *e*Pn Pn 20 21 30.2 +0.9
PBRG *e*Sn Sn 20 22 45.2 -3.3
PBRG
comp=E,1.1nm,0.2s
ECAL Calabor 7.09 343 P Pn 20 21 32.3 +1.3
comp=E,2.1nm,0.2s,SNR=7.9
ECAL S Sn 20 22 48.5 -3.1
comp=E,1.8nm,0.2s,SNR=7.9
ECAL Calabor 7.09 343 P Pn 20 21 32.3 +1.3
comp=E,2.1nm,0.2s,SNR=7.9
PCAB Cabril 7.25 335 *e*Pn Pn 20 21 33.9 +0.7
ELOB Lobios 7.40 336 P Pn 20 21 35.3 0.0
comp=E,0.5nm,0.2s,SNR=7.9
ELOB S Sn 20 22 55.1 -4.2
comp=E,1.5nm,0.5s,SNR=7.9

*IDC **03** 20:22:44.6±43.0, 35.04N×71.76E, h0km, mb3.5/4,*

mb1 3.7/4, mb1mx3.3/20, mbtmp3.6/4, Error ellipse: s-maj=795.7km s-min=60.3km az=159.0
*ISCJB **03** 20:23:02.8±1.7, 365N±0.1×704E±0.2, h33km, mb3.5/3, Error ellipse: s-maj=23.8km s-min=16.2km az=76.9*
*NNC **03** 20:23:12.4±5.1, 37.08N×70.12E, h0km, mb4.0, mpv3.9, Error ellipse: s-maj=57.3km s-min=33.1km az=140.0*

ISC 03 20:23:04.8±1.6, 365N±01×702E±01, h35km, n11, σ0=98/13, mb3.5/3, 3C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.24**	**25**	P	**Pn**	**20 24 34.1**	**-0.1**
SNR=21							
KK31	**Karatay Array**	**6.58**	**2**	⇓P	**Pn**	**20 24 42.5**	**+3.6**
3.4nm,0.3s,baz=175,slow=12,SNR=285							
KK31				⇑S	**Sn**	**20 25 54.2**	**+1.6**
2.7nm,0.3s,baz=193,slow=22,SNR=11							
UCH	**Uchtor**	**6.62**	**29**	P	**Pn**	**20 24 39.2**	**-0.3**
SNR=7.7							
EKS2	**Erkin-Say**	**6.74**	**23**	P	**Pn**	**20 24 40.8**	**-0.4**
SNR=6.9							
AAK	**Ala-Archa**	**6.96**	**27**	P	**Pn**	**20 24 44.0**	**-0.2**
SNR=6.9							
USP	**Ospenovka**	**7.52**	**25**	P	**Pn**	**20 24 50.9**	**-0.9**
SNR=8.5							
AB31	**Akbulak array**	**14.74**	**333**	⇑P	**Pn**	**20 26 35.3**	**+4.6**
0.5nm,0.3s,baz=144,slow=16,SNR=19							
AB31				⇑S	**Sn**	**20 29 11.0**	**-1.7**
1.2nm,0.6s,baz=154,slow=24,SNR=4.6							
ZAL	**Zalesovo**	**20.17**	**26**	P	**P**	**20 27 29.4**	**-6.7**
0.8nm,0.6s,baz=264,slow=11,SNR=4.2							
FINES	**FINESS Array B**	**37.09**	**326**	P	**P**	**20 30 12.4**	**+0.8**
0.2nm,0.3s,mb3.4,baz=120,slow=8.7,SNR=5.4							
ARCES	**ARCESS Array B**	**40.87**	**338**	P	**P**	**20 30 43.0**	**-0.2**
1.2nm,0.7s,mb3.6,baz=114,slow=8.1,SNR=12							
NOA	**NORSAR Array B**	**43.95**	**323**	P	**P**	**20 31 08.8**	**+0.5**
0.3nm,0.4s,mb3.4,baz=98,slow=7.8,SNR=2.3							

*ATH **03** 20:29:59.4, 40.19N×19.69E, h18km±3km, MD3.4/4*
*THE **03** 20:30:01.3, 39.95N×1.953E, h10km, ML3.2*
*CSEM **03** 20:30:01.9±0.1, 39.95N×2.007E, h35km, MD3.1/5, Error ellipse: s-maj=3.9km s-min=2.9km az=140.0*
*ISCJB **03** 20:30:02.4±0.5, 40.09N±0.03×1.981E±0.03, h4km±4km, Error ellipse: s-maj=4.6km s-min=3.6km az=63.2*
*ROM **03** 20:30:02.6±0.2, 40.01N×1.990E, h10km, Md3.1/5, Ml2.7/2, Error ellipse: s-maj=2.5km s-min=2.1km az=110.0*

ISC 03 20:30:03.1±0.4, 4011N±0.03×1983E±0.03, h5km±5km, n26, σ1=14/39, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPE	**Tepelena**	**0.23**	**36**	*i* Pg	**Pg**	**20 30 06.4**	**-1.3**
TPE				*i* Sg	**Sg**	**20 30 10.9**	**+0.2**
SRN	**Sarande**	**0.26**	**150**	*i* Pg	**Pg**	**20 30 07.3**	**-0.9**
SRN				*i* Sg	**Sg**	**20 30 12.9**	**+1.3**
KEK	**Kerkira**	**0.39**	**184**	Pg	**Pg**	**20 30 09.6**	**-1.1**
552nm,0.5s							
KEK	**Kerkira**	**0.39**	**184**	*e*PB	**Pg**	**20 30 09.6**	**-1.1**
KEK				*e*SB	**Sg**	**20 30 16.1**	**+0.3**
VLO	**Vlora**	**0.45**	**325**	*i* Pg	**Pg**	**20 30 17.8**	**+6.1**
VLO				*i* Sg	**Sg**	**20 30 22.4**	**+4.9**
LSK	**Leskovik**	**0.59**	**85**	*i* Pg	**Pg**	**20 30 12.4**	**-2.0**
LSK				*i* Sg	**Sg**	**20 30 23.6**	**+1.5**
IGT	**Igoumenitsa**	**0.69**	**146**	*e*Pg	**Pg**	**20 30 15.2**	**-1.1**
IGT				*e*Sg	**Sg**	**20 30 26.7**	**+1.4**
JAN	**Janina**	**0.90**	**119**	*e*PN	**Pg**	**20 30 18.7**	**-1.7**
JAN				*e*SN	**Sg**	**20 30 33.7**	**+1.6**
SCTE	**Santa Cesarea**	**1.05**	**269**	Pg	**Pg**	**20 30 23.2**	**0.0**
SCTE				Sg	**Sg**	**20 30 38.2**	**+1.4**
TIR	**Tirane**	**1.24**	**1**	*e*Pg	**Pg**	**20 30 27.2**	**+0.3**
TIR				*e*Sg	**Sg**	**20 30 48.5**	**+5.5**
TIR	**Tirane**	**1.24**	**1**	Pg	**Pg**	**20 30 27.2**	**+0.3**
148nm,0.5s							
TIR				*e*Sg	**Sg**	**20 30 48.5**	**+5.5**
OHR	**Ohrid**	**1.25**	**36**	*e*Pn	**Pn**	**20 30 28.6**	**+1.4**
LCI	**Lecce**	**1.34**	**280**	Pg	**Pg**	**20 30 28.0**	**-0.8**
LCI				Sg	**Sg**	**20 30 46.9**	**+0.8**
FNA	**Florina**	**1.36**	**60**	*e*Sb	**Sb**	**20 30 53.0**	**+6.3**
QSH	**Qafa e Shtames**	**1.42**	**2**	*i* Pn	**Pn**	**20 30 28.6**	**-0.9**
QSH				*i* Sn	**Sn**	**20 30 49.0**	**+0.5**
BIA	**Bitola**	**1.46**	**51**	*i* Pn	**Pn**	**20 30 29.1**	**-1.0**
BIA	**Bitola**	**1.46**	**51**	*i* Pn	**Pn**	**20 30 29.0**	**-1.1**
EVR	**Evrytania**	**1.94**	**127**	*e*PN	**Pn**	**20 30 35.8**	**-0.9**
PE1	**Pezze di Greco**	**1.97**	**292**	*e*Pn	**Pn**	**20 30 38.4**	**+1.3**
VLS	**Valsamata**	**2.01**	**163**	*e*PN	**Pn**	**20 30 36.5**	**-1.2**
GRG	**Griva**	**2.13**	**66**	*e*Pn	**Pn**	**20 30 41.1**	**+1.7**
BRT	**Bari-Castellan**	**2.15**	**292**	Pg	**Pn**	**20 30 40.2**	**+0.6**
70nm,0.5s							
AGG	**Agios Georgios**	**2.21**	**118**	*e*Pn	**Pn**	**20 30 40.5**	**+0.1**
AGG				*e*Sn	**Sn**	**20 31 11.5**	**+3.3**
RLS	**Riolos of Patr**	**2.41**	**148**	*e*PN	**Pn**	**20 30 42.4**	**-0.8**
SG1	**Sgolgore (BA)**	**2.52**	**288**	*e*Pn	**Pn**	**20 30 43.2**	**-1.5**
NRCA	**Norcia**	**5.74**	**301**	Pg	**Pn**	**20 31 29.1**	**+0.2**

*IDC **03** 20:30:30.7±1.3, 20.38S×174.16W, h0km, mb4.1/6, mb1 4.3/8, mb1mx4.1/17, mbtmp4.2/8, ML3.4/2, Error ellipse: s-maj=48.3km s-min=21.4km az=148.0*
*ISCJB **03** 20:30:33.2±0.7, 20.4S±0.1×174.1W±0.1, h33km, mb4.1/7, Error ellipse: s-maj=22.5km s-min=12.4km az=131.2*
*NEIC **03** 20:30:34.7±4.3, 20.41S×174.11W, h30km±32km, mb4.4/1, Error ellipse: s-maj=19.9km s-min=13.8km az=154.0*

ISC 03 20:30:35.9±0.7, 204S±01×1741W±01, h35km, n12, σ0=78/12, mb4.1/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.82**	**19**	Pn	**Pn**	**20 32 12.8**	**-0.6**
9.3nm,0.3s,baz=114,slow=7.3,SNR=4.7							
AFI				Sn	**Sn**	**20 33 14.5**	**-15**
2.4nm,0.3s,baz=285,slow=20,SNR=2.8							
RAR	**Rarotonga**	**13.41**	**96**	Pn	**Pn**	**20 33 43.2**	**-0.4**
1.0nm,0.3s,baz=270,slow=20,SNR=2.1							
RAR				Sn	**Sn**	**20 35 59.3**	**-12**
2.3nm,0.3s,baz=11,slow=16,SNR=3.4							
STKA	**Stephens Creek**	**41.14**	**245**	P	**P**	**20 38 15.6**	**-1.0**
3.8nm,1.0s,mb4.0,baz=95,slow=15,SNR=2.5							
ASAR	**Alice Springs**	**48.11**	**256**	P	**P**	**20 39 12.6**	**+0.4**
2.7nm,0.6s,mb4.5,baz=96,slow=8.0,SNR=54							
WB2	**Warramunga Arr**	**48.23**	**261**	*e*P	**P**	**20 39 12.3**	**-0.8**
WRAB	**Tennant Creek**	**48.24**	**261**	*e*P	**P**	**20 39 13.6**	**+0.5**
2.5nm,0.6s,mb4.4							
WRA	**Warramunga Arr**	**48.24**	**261**	P	**P**	**20 39 13.1**	**-0.1**
1.2nm,0.4s,mb4.3,baz=97,slow=6.6,SNR=54							
FITZ	**Fitzroy Crossi**	**56.67**	**261**	P	**P**	**20 40 16.5**	**+0.9**
0.8nm,0.5s,mb4.0,baz=149,slow=19,SNR=6.1							
MJAR	**Matsushiro Arr**	**72.36**	**321**	P	**P**	**20 41 57.8**	**-0.4**
2.0nm,0.8s,mb4.1,baz=159,slow=6.4,SNR=8.9							
NVAR	**Mina Array Bea**	**78.47**	**42**	P	**P**	**20 42 34.9**	**+1.7**
0.1nm,0.3s,mb3.3,baz=218,slow=8.7,SNR=5.2							
AKASG	**Malin Array Be**	**144.61**	**334**	PKP	PKPdf	20 50 06.8	-1.8
0.7nm,0.3s,baz=37,slow=3.7,SNR=5.0							
BRTR	**Keskin Array B**	**149.42**	**315**	PKPbc	PKPbc	20 50 20.6	-0.5
0.4nm,0.4s,baz=72,slow=5.3,SNR=4.1							

*ISCJB **03** 20:44:35.5±0.8, 209S±0.1×173.7W±0.1, h33km, mb4.0/8, Error ellipse: s-maj=22.4km s-min=13.7km az=134.8*
*IDC **03** 20:44:35.8±1.7, 21.14S×174.11W, h0km, mb3.9/7, mb1 4.2/7, mb1mx4.0/14, mbtmp3.9/7, Error ellipse: s-maj=82.5km s-min=22.5km az=149.0*
*NEIC **03** 20:44:39.4±0.8, 21.67S×173.70W, h35km, mb4.6/1, Error ellipse: s-maj=42.0km s-min=15.9km az=168.0*

ISC 03 20:44:38.2±0.8, 2075S±009×1737W±01, h35km, n17, σ1=37/12, mb4.0/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.04**	**15**	Pn	**Pn**	**20 46 19.3**	**+0.6**
5.8nm,0.3s,baz=227,slow=3.8,SNR=4.8							
AFI				Sn	**Sn**	**20 47 36.4**	**-1.0**
7.3nm,0.3s,baz=180,slow=20,SNR=2.9							
RAR	**Rarotonga**	**13.00**	**95**	Pn	**Pn**	**20 47 40.3**	**0.0**
3.2nm,0.3s,baz=242,slow=7.9,SNR=5.0							
STKA	**Stephens Creek**	**41.34**	**245**	P	**P**	**20 52 18.5**	**-2.1**
3.1nm,1.0s,mb3.9,baz=90,slow=13,SNR=3.8							
ASAR	**Alice Springs**	**48.40**	**256**	P	**P**	**20 53 16.1**	**-0.6**
1.5nm,0.9s,mb4.0,baz=100,slow=7.9,SNR=11							
WRAB	**Tennant Creek**	**48.56**	**261**	P	**P**	**20 53 19.7**	**+1.7**
5.9nm,1.0s,mb4.6							
WRA	**Warramunga Arr**	**48.57**	**261**	P	**P**	**20 53 17.2**	**-0.9**
1.0nm,0.9s,mb3.9,baz=96,slow=7.6,SNR=12							
MJAR	**Matsushiro Arr**	**72.87**	**321**	P	**P**	**20 56 06.1**	**+2.6**
0.4nm,0.5s,mb3.6,baz=158,slow=5.2,SNR=4.2							
MJAR	**Matsushiro Arr**	**72.87**	**321**	P	**P**	**20 56 06.1**	**+2.6**
NVAR	**Mina Array Bea**	**78.48**	**41**	P	**P**	**20 56 40.8**	**+5.2**
0.6nm,0.6s,mb3.7,baz=223,slow=9.0,SNR=5.5							
PDAR	**Pinedale Array**	**86.41**	**42**	P	**P**	**20 57 23.3**	**+6.3**
0.5nm,0.3s,mb4.2,baz=197,slow=2.8,SNR=2.1							
ILAR	**Eielson Array**	**87.71**	**11**	P	**P**	**20 57 28.5**	**+5.2**
0.5nm,0.8s,mb3.8,baz=217,slow=5.1,SNR=4.4							
AKASG	**Malin Array Be**	**145.09**	**334**	PKPbc	PKPbc	21 04 15.4	+4.1
0.2nm,0.3s,baz=36,slow=3.6,SNR=5.5							
BRG	**Berggiesshubel**	**149.34**	**351**	*e*(P)	pPKPbc	21 04 38.3	+3.6
3.6nm,1.2s							
DPC	**Dobruska-Polom**	**149.41**	**347**	*e*PKP	pPKPbc	21 04 38.6	+3.7
BRTR	**Keskin Array B**	**149.94**	**315**	PKPbc	PKPbc	21 04 40.4	+5.6
1.0nm,0.8s,baz=60,slow=5.7,SNR=3.8							
KHC	**Kasperske Hory**	**151.09**	**350**	*e*PKP	PKPab	21 04 38.7	+3.5
GERES	**GERESS Array B**	**151.35**	**350**	PKPbc	PKPbc	21 04 32.1	+4.0
0.8nm,0.9s,baz=101,slow=5.1,SNR=3.2							

*IDC **03** 20:47:26.1±2.3, 8.10N×126.13E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.6/20, mbtmp3.9/4, Error ellipse: s-maj=151.5km s-min=24.0km az=68.0*
*ISCJB **03** 20:47:30.7±0.6, 8.18N±0.05×125.99E±0.04, h53km±6km, mb3.9/4, Error ellipse: s-maj=8.2km s-min=6.3km az=57.7*
*MAN **03** 20:47:31.1, 8.21N×125.96E, h51km, mb3.4, ML4.6, MS3.6*

ISC 03 20:47:31.8±0.5, 816N±005×12598E±004, h42km±8km, n20, σ0=77/27, mb3.9/4, 4C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.38**	**87⇑**	*e*P	**Pn**	**20 47 40.6**	**-0.4**
BIPH				*e*S	**Sn**	**20 47 47.9**	**+0.4**
BUTP	**Butuan**	**0.88**	**336**	*e*P	**Pn**	**20 47 48.0**	**+0.3**
BUKP	**Musuan**	**0.95**	**253**	*e*P	**Pn**	**20 47 47.1**	**-1.6**
BUKP				*e*S	**Sn**	**20 48 00.6**	**-0.4**
DAV	**Davao City (W)**	**1.16**	**200⇑**	*i*P	**Pn**	**20 47 52.0**	**+0.5**
CGP	**Cagayan de Oro**	**1.31**	**283⇑**	*e*P	**Pn**	**20 47 52.9**	**-0.6**
CGP				*e*S	**Sn**	**20 48 08.5**	**-1.3**
KCP	**Kidapawan**	**1.45**	**218⇓**	*e*P	**Pn**	**20 47 56.7**	**+1.2**
CTBH	**Cotabato--PC H**	**1.96**	**242⇓**	*e*P	**Pn**	**20 48 01.5**	**-1.0**
CTBH				*i* S	**Sn**	**20 48 27.1**	**+1.3**
MSLP	**Maasin**	**2.25**	**331**	*e*P	**Pn**	**20 48 06.2**	**-0.3**
TBP	**Tagbilaran**	**2.59**	**306**	*e*P	**Pn**	**20 48 11.2**	**+0.1**
TBP				*e*S	**Sn**	**20 48 41.8**	**+0.4**
PAGZ	**Pagadian**	**2.59**	**263**	*e*P	**Pn**	**20 48 11.4**	**+0.2**
DCPH	**Dipolog City**	**2.63**	**279⇑**	*e*P	**Pn**	**20 48 11.8**	**+0.1**
DCPH				*e*S	**Sn**	**20 48 43.2**	**+0.7**
LLP	**Lapu-Lapu**	**2.92**	**317⇓**	*e*P	**Pn**	**20 48 15.4**	**-0.4**
LLP				*e*S	**Sn**	**20 48 49.2**	**-0.4**
SNPH	**Sibulan**	**2.96**	**294**	*e*P	**Pn**	**20 48 17.0**	**+0.8**
GUIM	**Jordan**	**4.15**	**306**	*e*P	**Pn**	**20 48 33.2**	**+0.7**
PVCP	**Virac**	**5.69**	**342**	*e*P	**Pn**	**20 48 45.2**	**-8.5**
FITZ	**Fitzroy Crossi**	**26.10**	**181**	*e*P	**P**	**20 53 01.1**	**-0.5**
10nm,1.1s,mb4.3							
FITZ	**Fitzroy Crossi**	**26.10**	**181**	P	**P**	**20 53 01.2**	**-0.4**
3.7nm,0.8s,mb3.9,baz=55,slow=5.7,SNR=12							
ASAR	**Alice Springs**	**32.57**	**166**	P	**P**	**20 53 59.0**	**0.0**
0.5nm,0.4s,mb3.8,baz=338,slow=7.1,SNR=11							
STKA	**Stephens Creek**	**42.52**	**160**	P	**P**	**20 55 22.0**	**-1.1**
1.7nm,0.7s,mb3.9,baz=342,slow=13,SNR=3.7							
MKAR	**Makanchi Array**	**53.54**	**324**	P	**P**	**20 56 49.6**	**+1.4**
0.7nm,0.7s,mb3.7,baz=127,slow=8.0,SNR=11							

IDC 03 20:56:53.0±9.8, 299S×2819E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.5/19, mbtmp3.8/4, ML3.6/1, Error ellipse: s-maj=290.5km s-min=26.5km az=0.0, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**9.24**	**79**	Pn	Pn	20 59 07.8	+0.2
0.6nm,0.3s,baz=232,slow=19,SNR=4.9							
KMBO				Sn	Sn	21 00 46.9	-5.3
1.2nm,0.3s,baz=346,slow=23,SNR=7.6							
KMBO				Lg		21 01 44.5	
4.0nm,0.3s,baz=176,slow=19,SNR=9.9							
TORD	**Torodi Ar. Bea**	**30.80**	**302**	P	P	21 03 10.2	-0.2
0.5nm,0.7s,baz=106,slow=8.2,SNR=4.1							
MKAR	**Makanchi Array**	**68.61**	**37**	P	P	21 07 58.2	+0.4
0.8nm,0.8s,baz=243,slow=5.3,SNR=9.0							
ZAL	**Zalesovo**	**73.55**	**31**	P	P	21 08 28.2	+0.5
0.6nm,0.4s,baz=194,slow=19,SNR=3.2							

IDC 03 21:09:57.8±7.5, 2016S×17452W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.7/15, mbtmp3.9/4, ML2.5/1, Error ellipse: s-maj=241.6km s-min=35.5km az=130.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.75**	**23**	Pn	Pn	21 11 38.0	-0.1
5.0nm,0.3s,baz=298,slow=15,SNR=3.7							
STKA	**Stephens Creek**	**40.88**	**244**	P	P	21 17 40.2	-1.2
1.7nm,0.9s,baz=72,slow=9.6,SNR=4.7							
ASAR	**Alice Springs**	**47.77**	**256**	P	P	21 18 37.3	+0.6
0.5nm,0.8s,baz=104,slow=7.7,SNR=9.1							
WRA	**Warramunga Arr**	**47.88**	**261**	P	P	21 18 39.0	+1.4
0.2nm,0.3s,baz=96,slow=7.8,SNR=6.5							

IDC 03 21:16:33.9±6.7, 2019S×17440W, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.9/15, mbtmp4.0/5, ML2.6/1, Error ellipse: s-maj=191.2km s-min=30.4km az=126.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.73**	**22**	Pn	Pn	21 18 13.6	-0.3
6.7nm,0.3s,baz=148,slow=1.9,SNR=5.8							
AFI				Sn	Sn	21 19 24.0	-7.3
4.6nm,0.3s,baz=142,slow=22,SNR=4.1							
RAR	**Rarotonga**	**13.73**	**97**	Pn	Pn	21 19 38.7	-11
1.6nm,0.3s,baz=258,slow=19,SNR=4.2							
STKA	**Stephens Creek**	**40.96**	**244**	P	P	21 24 17.1	-1.2
3.2nm,1.0s,baz=103,slow=8.9,SNR=4.4							
ASAR	**Alice Springs**	**47.87**	**256**	P	P	21 25 14.4	+0.9
1.0nm,0.6s,baz=96,slow=8.2,SNR=13							
WRA	**Warramunga Arr**	**47.98**	**261**	P	P	21 25 14.8	+0.3
0.9nm,0.8s,baz=92,slow=6.1,SNR=20							
MJAR	**Matsushiro Arr**	**72.02**	**321**	P	P	21 28 00.2	+0.7
0.7nm,0.7s,baz=153,slow=6.5,SNR=4.2							

*NEIC **03** 21:23:16.5±0.6, 45.43N×151.11E, h10km, mb4.5/2, Error ellipse: s-maj=18.4km s-min=10.7km az=126.0*
*JMA **03** 21:23:16.9±0.6, 45.42N×151.25E, h30km, M4.3*
*ISCJB **03** 21:23:18.6±1.3, 44.7N±0.1×151.3E±0.1, h66km±12km, mb4.0/17, Error ellipse: s-maj=25.8km s-min=11.1km az=134.0*
*MOS **03** 21:23:18.6±1.7, 45.57N×150.95E, h30km, mb4.3/

ASAJ				pmax	pmax			
	comp=Z,2.0nm,0.3s							
JFR	**Furan**	**6.45**	**256**	P	**Pn**	**21 24 54.1**	**+1.7**	
JEM	**Erimo**	**6.55**	**246**	P	**Pn**	**21 24 53.0**	**-0.8**	
JNBK	**Urakawa-nobuka**	**6.69**	**249**	P	**Pn**	**21 24 55.2**	**-0.5**	
JBT2	**Biratori 2**	**6.75**	**254**	P	**Pn**	**21 24 56.5**	**0.0**	
JNB	**Noboribetsu**	**7.77**	**254**	P	**Pn**	**21 25 11.7**	**+1.2**	
JKB	**Kayabe**	**8.01**	**251**	P	**Pn**	**21 25 13.5**	**-0.3**	
JKB				*e*S	**Sn**	**21 26 37.9**	**-5.2**	
JANG	**Nango**	**8.49**	**240**	P	**Pn**	**21 25 18.5**	**-1.9**	
JANG				*e*S	**Sn**	**21 26 47.6**	**-7.2**	
JTH	**Tanohata**	**8.54**	**237**	P	**Pn**	**21 25 18.6**	**-2.5**	
JTH				*e*S	**Sn**	**21 26 48.7**	**-7.4**	
JOSM	**Okushiri--Mats**	**8.99**	**255**	P	**Pn**	**21 25 27.5**	**+0.3**	
OFUJ	**Ofunato**	**9.22**	**233**	P	**Pn**	**21 25 29.6**	**-0.8**	
JIO	**Ouri**	**9.84**	**232**	P	**Pn**	**21 25 37.4**	**-1.4**	
MJAR	**Matsushiro Arr**	**12.96**	**234**	P	**Pn**	**21 26 24.7**	**+3.3**	
	comp=Z,0.2nm,0.3s,baz=26,slow=13,SNR=5.8							
SONM	**Songino Array**	**30.67**	**292**	P	**P**	**21 29 29.5**	**-0.5**	
	comp=Z,0.3nm,0.6s,mb3.3,baz=67,slow=11,SNR=3.2							
ILAR	**Eielson Array**	**38.75**	**37**	P	**P**	**21 30 39.0**	**-0.5**	
	comp=Z,0.7nm,0.9s,mb3.4,baz=265,slow=7.9,SNR=4.6							
MKAR	**Makanchi Array**	**46.55**	**298**	P	**P**	**21 31 42.3**	**-0.5**	
	comp=Z,0.8nm,0.7s,mb3.8,baz=80,slow=7.8,SNR=11							
MKAR				PcP	PcP	21 33 15.8	-0.6	
	comp=Z,0.3nm,0.5s,baz=70,slow=4.0,SNR=5.2							
MKAR	**Makanchi Array**	**46.55**	**298**	P	**P**	**21 31 42.3**	**-0.5**	
MKAR				PcP	PcP	21 33 15.8	-0.6	
LSA	**Lhasa**	**49.02**	**273**	*e*P	**P**	**21 32 03.9**	**+2.0**	
LSA				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.2							
LSA	**Lhasa**	**49.02**	**273**	*e*P	**P**	**21 32 03.9**	**+1.9**	
	comp=Z,2.1nm,0.9s,mb4.2							
YKA	**Yellowknife Ar**	**53.12**	**35**	P	**P**	**21 32 32.7**	**-0.1**	
	comp=Z,0.1nm,0.4s,mb3.1,baz=299,slow=6.6,SNR=4.1							
YKA	**Yellowknife Ar**	**53.12**	**35**	P	**P**	**21 32 32.7**	**-0.1**	
JIRN	**Jiri**	**53.73**	**274**	*e*P	**P**	**21 32 38.6**	**+1.4**	
	comp=Z,6.4nm,0.6s,mb4.7							
GUN	**Gumba**	**53.80**	**275**	*e*P	**P**	**21 32 39.3**	**+1.6**	
	comp=Z,1.1nm,0.6s,mb5.0							
KKN	**Kakani**	**54.30**	**275**	*e*P	**P**	**21 32 42.3**	**+1.0**	
	comp=Z,7.4nm,0.7s,mb4.7							
DMN	**Daman**	**54.53**	**275**	*e*P	**P**	**21 32 44.0**	**+1.0**	
	comp=Z,8.1nm,0.6s,mb4.9							
GKN	**Gorkha**	**54.62**	**276**	*e*P	**P**	**21 32 44.4**	**+0.7**	
	comp=Z,2.9nm,0.4s,mb4.7							
KOLN	**Koldanda**	**55.50**	**276**	*e*P	**P**	**21 32 49.9**	**-0.1**	
SUMG	**Summit**	**62.52**	**3**	*e*P	**P**	**21 33 36.5**	**-2.2**	
	comp=Z,7.6nm,1.0s,mb4.8							
FINES	**FINESS Array B**	**65.03**	**334**	P	**P**	**21 33 53.0**	**-2.1**	
	comp=Z,0.6nm,0.5s,mb3.9,baz=41,slow=10,SNR=7.6							
WRA	**Warramunga Arr**	**66.44**	**197**	P	**P**	**21 34 07.3**	**+3.1**	
	comp=Z,0.7nm,0.8s,mb3.8,baz=14,slow=6.8,SNR=4.6							
NB2	**NORSAR Subarra**	**69.42**	**340**	P	**P**	**21 34 21.4**	**-1.6**	
	comp=Z,0.9nm,0.5s,mb4.0,baz=28,slow=6.2							
NOA	**NORSAR Array B**	**69.42**	**340**	P	**P**	**21 34 21.9**	**-1.1**	
	comp=Z,1.2nm,0.6s,mb4.0,baz=28,slow=6.4,SNR=6.5							
ASAR	**Alice Springs**	**70.14**	**197**	P	**P**	**21 34 30.8**	**+3.4**	
	comp=Z,0.6nm,0.7s,mb3.6,baz=14,slow=6.3,SNR=7.6							
AKASG	**Malin Array Be**	**72.22**	**325**	P	**P**	**21 34 38.5**	**-1.5**	
	comp=Z,0.7nm,0.4s,mb3.9,baz=37,slow=6.3,SNR=4.5							
KHC	**Kasperske Hory**	**79.20**	**333**	*e*P	**P**	**21 35 19.5**	**-0.3**	
GERES	**GERESS Array B**	**79.41**	**333**	P	**P**	**21 35 20.2**	**-0.8**	
	comp=Z,0.6nm,0.5s,mb3.8,baz=28,slow=6.0,SNR=6.1							

*IDC **03** 21:25:57.5±1.0, 2017S×17441W, h0km, mb4.0/7, mb1 4.3/8, mb1mx4.1/15, mbtmp4.0/8, ML2.9/1, Error ellipse: s-maj=42.6km s-min=19.3km az=137.0*
*ISCJB **03** 21:25:59.3±0.9, 20.1S±0.1×1743W±0.2, h33km, mb4.0/9, Error ellipse: s-maj=27.3km s-min=8.7km az=59.6*
*NEIC **03** 21:26:00.1±0.8, 2007S×17445W, h15km, mb4.7/1, Error ellipse: s-maj=30.9km s-min=12.4km az=133.0*

ISC 03 21:26:02.1±0.8, 202S±01×1743W±02, h35km, n23, σ1s20/17, mb4.0/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.65**	**21**	Op Pn		**Pn**	**21 27 35.6**	**-1.7**
	14nm,0.3s,baz=153,slow=14,SNR=8.2							
AFI				Sn		**Sn**	**21 28 51.2**	**-0.6**
	9.3nm,0.3s,baz=126,slow=19,SNR=2.8							
RAR	**Rarotonga**	**13.61**	**97**	Pn		**Pn**	**21 29 02.9**	**-10**
	4.4nm,0.3s,baz=278,slow=7.1,SNR=5.8							
RPZ	**Rata Peaks**	**26.51**	**204**	P		**P**	**21 31 36.3**	**+0.2**
	4.4nm,0.4s,mb4.3,baz=176,slow=17,SNR=4.6							
CTA	**Charters Tower**	**37.00**	**263**	P		**P**	**21 33 08.4**	**+0.3**
	baz=95,slow=12							
STKA	**Stephens Creek**	**41.09**	**244**	P		**P**	**21 33 38.5**	**-3.9**
	1.5nm,0.5s,mb3.9,baz=108,slow=10,SNR=10							
ASAR	**Alice Springs**	**48.00**	**256**	P		**P**	**21 34 36.6**	**-0.9**
	1.5nm,0.5s,mb4.3,baz=100,slow=8.1,SNR=42							
ASAR				PcP		PcP	21 36 06.5	+1.3
	0.7nm,0.5s,baz=106,slow=3.9,SNR=7.4							
ASAR	**Alice Springs**	**48.00**	**256**	P		**P**	**21 34 36.6**	**-0.9**
ASAR				PcP		PcP	21 36 06.5	+1.3
	baz=240,slow=5.9							
WRAB	**Tennant Creek**	**48.10**	**261**	*e*P		**P**	**21 34 38.3**	**0.0**
	6.2nm,0.9s,mb4.6							
WRA	**Warramunga Arr**	**48.11**	**261**	P		**P**	**21 34 37.9**	**-0.5**
	0.8nm,0.3s,mb4.2,baz=96,slow=7.5,SNR=31							
WRA				PcP		PcP	21 36 06.4	+0.8
	0.3nm,0.5s,baz=102,slow=2.9,SNR=4.7							
MJAR	**Matsushiro Arr**	**72.06**	**321**	P		**P**	**21 37 23.9**	**+1.3**
	0.4nm,0.4s,mb3.7,baz=55,slow=0.5,SNR=5.8							
NVAR	**Mina Array Bea**	**78.41**	**42**	P		**P**	**21 38 00.8**	**+1.7**
	0.7nm,0.6s,mb3.8,baz=228,slow=9.2,SNR=5.4							
NVAR	**Mina Array Bea**	**78.41**	**42**	P		**P**	**21 38 00.8**	**+1.7**
ILAR	**Eielson Array**	**87.24**	**11**	P		**P**	**21 38 46.0**	**+1.1**
	0.5nm,0.7s,mb3.8,baz=216,slow=6.1,SNR=5.5							
VNA3	**Neumayer Olymp**	**88.22**	**175**	*e*		**P**	**21 38 43.5**	**-6.0**
VNA2	**Neumayer--Watz**	**88.70**	**176**	*e*		**P**	**21 38 49.6**	**-2.2**
	baz=240,slow=5.9							
YKA	**Yellowknife Ar**	**94.76**	**24**	P		**P**	**21 39 21.2**	**+1.4**
	0.1nm,0.5s,mb3.5,baz=230,slow=4.8,SNR=3.0							
ARCES	**ARCESS Array B**	**129.16**	**351**	PKP		PKPdf	21 45 07.0	+0.6
	0.6nm,0.7s,baz=306,slow=2.9,SNR=4.9							
FINES	**FINESS Array B**	**136.35**	**346**	PKP		PKPdf	21 45 21.9	+2.0
	0.9nm,0.9s,baz=183,slow=30,SNR=2.8							
AKASG	**Malin Array Be**	**144.31**	**334**	PKP		PKPdf	21 45 32.7	-1.6
	0.6nm,0.3s,baz=38,slow=4.1,SNR=5.9							
AKASG	**Malin Array Be**	**144.31**	**334**	PKP		PKPdf	21 45 32.7	-1.6
CLL	**Collm**	**148.38**	**351**	*e*PKPbc		PKPbc	21 45 46.0	+1.3
BRTR	**Keskin Array B**	**149.13**	**315**	PKPbc		PKPbc	21 45 49.1	+2.6
	0.4nm,0.6s,baz=316,slow=5.2,SNR=3.6							
GERES	**GERESS Array B**	**150.66**	**349**	PKPbc		PKPbc	21 45 50.0	-0.4
	0.3nm,0.5s,baz=22,slow=1.4,SNR=4.3							

*IDC **03** 21:31:58.6±8.4, 4280N×14598E, h38km±57km, mb3.3/3, mb1 3.4/5, mb1mx3.2/22, mbtmp3.5/5, ML3.4/2, Error ellipse: s-maj=80.4km s-min=45.0km az=75.0*
*ISCJB **03** 21:31:59.3±1.2, 4291N±007×14567E±009, h46km±8km, mb3.5/3, Error ellipse: s-maj=13.8km s-min=9.2km az=106.9*
*JMA **03** 21:32:00.7±0.1, 4298N×14562E, h45km±1km, M3.6*
JMA Felt I J1.

ISC 03 21:32:00.3±1.2, 4294N±007×14566E±009, h38km±11km, n12, σ0s71/20, mb3.5/3, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.43**	**8**	Op P		**Pn**	**21 32 10.2**	**+0.1**
NEM2				*e*S		**Sn**	**21 32 16.9**	**0.0**
JAK	**Akkeshi**	**0.71**	**275**	P		**Pn**	**21 32 14.0**	**+0.1**
JAK				*e*S		**Sn**	**21 32 23.0**	**-0.5**
JNK	**Nakash**	**0.94**	**314**	P		**Pn**	**21 32 16.7**	**-0.4**
JNK				*e*S		**Sn**	**21 32 28.1**	**-1.2**
JRA	**Rausu**	**1.07**	**339**	P		**Pn**	**21 32 18.8**	**-0.1**
JRA				*e*S		**Sn**	**21 32 31.8**	**-0.7**
JOB	**Onbets**	**1.34**	**269**	P		**Pn**	**21 32 22.6**	**+0.1**
JOB				*e*S		**Sn**	**21 32 39.1**	**0.0**
JAR	**Ashorobuto**	**1.43**	**285**	P		**Pn**	**21 32 24.0**	**+0.3**
JAR				*e*S		**Sn**	**21 32 41.0**	**-0.3**
JTKR	**Abashiri--Toko**	**1.64**	**310**	P		**Pn**	**21 32 27.3**	**+0.6**
JTKR				*e*S		**Sn**	**21 32 47.8**	**+1.3**
ASAJ	**Asahikawa**	**2.52**	**299**	Pn		**Pn**	**21 32 40.5**	**+1.8**
	5.4nm,0.3s,baz=106,slow=8.2,SNR=45							
ASAJ				Sn		**Sn**	**21 33 13.6**	**+5.4**
	2.6nm,0.3s,baz=303,slow=33,SNR=4.1							
MJAR	**Matsushiro Arr**	**8.58**	**224**	Pn		**Pn**	**21 34 01.2**	**-0.8**
	0.2nm,0.3s,baz=30,slow=13,SNR=5.6							
SONM	**Songino Array**	**27.79**	**294**	P		**P**	**21 37 46.3**	**+0.6**
	0.7nm,0.5s,mb3.5,baz=89,slow=8.3,SNR=9.0							
MKAR	**Makanchi Array**	**44.00**	**298**	P		**P**	**21 40 04.1**	**+0.1**
	0.3nm,0.5s,mb3.2,baz=80,slow=11,SNR=7.7							
FINES	**FINESS Array B**	**65.10**	**333**	P		**P**	**21 42 36.2**	**-0.8**
	0.9nm,1.1s,mb3.7,baz=24,slow=11,SNR=4.0							

*IDC **03** 21:34:29.2±0.6, 2079S×17430W, h0km, mb4.5/11, mb1 4.6/13, mb1mx4.5/19, mbtmp4.5/13, ML3.3/2, Error ellipse: s-maj=24.2km s-min=16.2km az=133.0*
*NEIC **03** 21:34:31.6±0.3, 2083S×17441W, h15km, mb4.7/14, Error ellipse: s-maj=12.5km s-min=7.6km az=140.0*
*BJI **03** 21:34:31.6, 2080S×17440W, h15km, mB5.5, mb5.0, Ms5.8, Msz5.1*
*ISCJB **03** 21:34:32.2±0.4, 2103S±007×17435W±009, h33km, mb4.6/28, Error ellipse: s-maj=12.9km s-min=8.9km az=74.2*
*SZGRF **03** 21:34:32.5, 21.70S×173.78W, h33km, Tonga Islands*
*MOS **03** 21:34:42.2±1.0, 2002S×17584W, h33km, mb4.8/11, Error ellipse: s-maj=25.4km s-min=16.8km az=4.5*

ISC 03 21:34:34.1±0.4, 2102S±008×17425W±009, h35km, n156, σ1s19/56, mb4.6/28, 17C-9D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.46**	**19**	Op Pn		**Pn**	**21 36 14.4**	**-6.0**
	15nm,0.3s,baz=334,slow=12,SNR=5.3							
AFI				Sn		**Sn**	**21 37 27.8**	**-16**
	7.0nm,0.3s,baz=172,slow=21,SNR=3.8							
RAR	**Rarotonga**	**13.52**	**93**	Pn		**Pn**	**21 37 34.8**	**-8.5**
	6.1nm,0.3s,baz=274,slow=4.8,SNR=7.3							
RAR				Sn		**Sn**	**21 39 52.7**	**-19**
	1.1nm,0.3s,baz=88,slow=15,SNR=3.0							
URZ	**Urewera**	**18.73**	**202**	P		**Pn**	**21 38 51.1**	**+0.9**
	0.2nm,0.3s,baz=4.2,slow=6.6,SNR=5.6							
URZ				S		**S**	**21 42 11.1**	**-10**
	0.3nm,0.3s,baz=163,slow=23,SNR=2.9							
RPZ	**Rata Peaks**	**25.73**	**205**	P		**P**	**21 40 02.0**	**+0.9**
	12nm,0.7s,mb4.5,baz=308,slow=3.9,SNR=5.1							
CTA	**Charters Tower**	**36.93**	**264**	*e*P		**P**	**21 41 40.1**	**+0.5**
	7.4nm,0.9s,mb4.5							
CTA	**Charters Tower**	**36.93**	**264**	P		**P**	**21 41 40.3**	**+0.7**
	6.9nm,0.7s,mb4.6,baz=104,slow=7.0,SNR=6.5							
CTA	**Charters Tower**	**36.93**	**264**	*e*P		**P**	**21 41 40.1**	**+0.5**
CTA				pmax	pmax			
	comp=Z,7.0nm,0.9s							
CTAO	**Charters Tower**	**36.93**	**264**	*e*P		**P**	**21 41 40.1**	**+0.5**
CTAO				pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.6							
CTAO	**Charters Tower**	**36.93**	**264**	*e*P		**P**	**21 41 40.1**	**+0.5**
	comp=Z,6.0nm,0.6s,mb4.6							
PMG	**Port Moresby**	**38.88**	**281**	P		**P**	**21 41 56.2**	**+0.2**
	comp=Z,12nm,0.8s,mb4.7,baz=121,slow=7.3,SNR=5.3							
STKA	**Stephens Creek**	**40.74**	**245**	*e*P		**P**	**21 42 10.2**	**-1.3**
	comp=Z,4.3nm,0.9s,mb4.1							
STKA	**Stephens Creek**	**40.74**	**245**	P		**P**	**21 42 09.1**	**-2.4**
	comp=Z,4.0nm,0.8s,mb4.1,baz=86,slow=11,SNR=10							
ASAR	**Alice Springs**	**47.81**	**257**	P		**P**	**21 43 08.1**	**0.0**
	comp=Z,6.6nm,0.7s,mb4.8,baz=100,slow=8.0,SNR=68							
WB2	**Warramunga Arr**	**47.99**	**262**	*e*P		**P**	**21 43 08.0**	**-1.4**
WRAB	**Tennant Creek**	**47.99**	**262**	*e*P		**P**	**21 43 09.0**	**-0.4**
WRAB				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.7							
WRAB	**Tennant Creek**	**47.99**	**262**	*e*P		**P**	**21 43 09.0**	**-0.5**
	comp=Z,7.3nm,0.8s,mb4.8							
WRA	**Warramunga Arr**	**48.00**	**262**	P		**P**	**21 43 08.6**	**-0.9**
	comp=Z,1.9nm,0.4s,mb4.5,baz=96,slow=5.1,SNR=43							
KAKA	**Kakadu**	**51.49**	**270**	*e*P		**P**	**21 43 35.0**	**-1.0**
	comp=Z,14nm,1.2s,mb4.8							
FORT	**Forrest**	**52.31**	**247**	*e*P		**P**	**21 43 41.3**	**-0.9**
	comp=Z,15nm,0.7s,mb5.0							
SBA	**Scott Base**	**57.61**	**185**	*e*P		**P**	**21 44 24.1**	**+3.6**
SBA				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.5							
SBA	**Scott Base**	**57.61**	**185**	*e*P		**P**	**21 44 24.1**	**+3.7**
	comp=Z,4.8nm,1.0s,mb4.5							
VNDA	**Vanda**	**57.73**	**186**	P		**P**	**21 44 24.6**	**+3.3**
	comp=Z,1.4nm,0.8s,mb4.0,baz=1.3,slow=6.2,SNR=6.6							
VNDA	**Vanda**	**57.73**	**186**	*e*P		**P**	**21 44 23.9**	**+2.6**
VNDA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
VNDA	**Vanda**	**57.73**	**186**	*e*P		**P**	**21 44 23.9**	**+2.6**
	comp=Z,2.5nm,1.0s,mb4.2							
KLBR	**Kellerberrin**	**61.01**	**245**	*e*P		**P**	**21 44 44.1**	**+0.1**
	comp=Z,30nm,1.1s,mb5.3							
MBWA	**Marble Bar**	**61.15**	**257**	*e*P		**P**	**21 44 44.9**	**-0.1**
	comp=Z,8.2nm,0.9s,mb4.9							
QSPA	**South Pole Qui**	**69.05**	**180**	*e*P		**P**	**21 45 37.4**	**+1.2**
	comp=Z,8.4nm,0.8s,mb4.7							
MJAR	**Matsushiro Arr**	**72.75**	**322**	P		**P**	**21 45 59.0**	**+0.3**
	comp=Z,8.5nm,0.8s,mb4.7,baz=159,slow=5.8,SNR=32							
MAT	**Matsushiro**	**72.75**	**322**	P		**P**	**21 45 58.6**	**-0.1**
MAT	**Matsushiro**	**72.75**	**322**	*e*P		**P**	**21 45 59.0**	**+0.3**
MAT				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5							
MAT	**Matsushiro**	**72.75**	**322**	*e*P		**P**	**21 45 59.0**	**+0.3**
	comp=Z,4.8nm,0.7s,mb4.5							
KSM	**Kuching**	**76.95**	**277**	*e*P		**P**	**21 46 24.1**	**+1.1**
NVAR	**Mina Array Bea**	**79.04**	**42**	P		**P**	**21 46 34.1**	**-0.5**
	comp=Z,3.5nm,0.8s,mb4.3,baz=225,slow=8.4,SNR=12							
SSE	**Sheshan**	**80.74**	**308**	P		**P**	**21 46 42.6**	**-1.1**
SSE				AMB	AMB			
	comp=Z,14nm,0.6s,mb5.1							
SSE				AMB	AMB			
	comp=Z,566nm,10.0s							
WVOR	**Wild Horse Val**	**81.33**	**38**	*e*P		**P**	**21 46 46.3**	**-0.6**
WVOR				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.2							
WVOR	**Wild Horse Val**	**81.33**	**38**	*e*P		**P**	**21 46 46.2**	**-0.6**
	comp=Z,3.5nm,0.9s,mb4.3							
NJ2	**Nanjing**	**82.94**	**308**	*e*P		**P**	**21 46 56.0**	**+0.7**
NJ2				AP	pP		21 47 06.8	+0.5
NJ2				XP	sP		21 47 10.1	-0.2
NJ2				PP	PP		21 50 07.3	+1.3
NJ2				S	S		21 57 10.0	-1.7
NJ2				XS	sS		21 57 27.0	-2.9
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.9							
NJ2				AMB	AMB			
	comp=Z,320nm,12.0s							
NJ2				LR	LR			
	comp=N,770nm,15.7s							
NJ2				LR	LR			
	comp=E,940nm,30.0s							
NJ2				LR	LR			
	comp=Z,630nm,29.0s							
MSU	**Marysvale**	**82.99**	**44**	*e*P		**P**	**21 46 57.7**	**+2.1**
MDJ	**Mudanjiang**	**82.99**	**323**	P		**P**	**21 46 57.3**	**+1.7**
SRU	**San Rafael**	**84.40**	**45**	*e*P		**P**	**21 47 01.8**	**-1.0**
SRU				pmax	pmax			
	comp=Z,5.0nm,1.1s,mb4.6							
SRU	**San Rafael**	**84.40**	**45**	*e*P		**P**	**21 47 01.8**	**-1.0**
	comp=Z,5.3nm,1.1s,mb4.6							
LPM	**Los Pinos Moun**	**84.59**	**50**	*e*P		**P**	**21 47 03.7**	**-0.1**
CN2	**Changchun**	**84.88**	**321**	*e*P		**P**	**21 47 06.4**	**+1.2**
CN2				AMB	AMB			
	comp=Z,10.0nm,1.1s,mb4.9							
ANMO	**Albuquerque**	**85.03**	**50**	P		**P**	**21 47 05.7**	**-0.2**
	comp=Z,2.2nm,0.8s,mb4.3,baz=200,slow=6.1,SNR=4.0							
ANMO	**Albuquerque**	**85.03**	**50**	P		**P**	**21 47 05.7**	**-0.2**
PDAR	**Pinedale Array**	**86.98**	**42**	P		**P**	**21 47 15.9**	**+0.3**
	comp=Z,1.4nm,0.9s,mb4.2,baz=242,slow=3.2,SNR=7.6							
VNA3	**Neumayer Olymp**	**87.36**	**175**	*e*P		**P**	**21 47 14.7**	**-2.7**
VNA3				*e*			21 47 20.5	
VNA3				*e*			21 47 35.7	
VNA3				*e*			21 47 44.5	
VNA2	**Neumayer--Watz**	**87.84**	**176**	*e*P		**P**	**21 47 17.3**	**-2.4**
VNA2				*e*			21 47 18.6	
VNA2				*e*			21 47 21.4	
VNA2				*e*	pP		21 47 25.4	-5.5
VNA2				*e*	pP		21 47 27.2	-3.7
VNA2				*e*			21 47 34.6	
BILL	**Bilibino**	**89.95**	**353**	*e*P		**P**	**21 47 27.7**	**-2.0**
BILL				pmax	pmax			
	comp=Z,4.0nm,1.2s,mb4.6							
XAN	**Xi'an**	**91.25**	**306**	P		**P**	**21 47 37.1**	**+1.4**
XAN				AMB	AMB			
	comp=Z,12nm,1.2s,mb5.1							
KMI	**Kunming**	**92.72**	**296**	P		**P**	**21 47 44.9**	**+2.4**
KMI				AMB	AMB			
	comp=Z,11nm,0.9s,mb5.3							
YKA	**Yellowknife Ar**	**95.55**	**24**	P		**P**	**21 47 55.0**	**-0.5**
	comp=Z,0.7nm,0.9s,mb4.1,baz=241,slow=4.5,SNR=9.5							
YKA	**Yellowknife Ar**	**95.55**	**24**	P		**P**	**21 47 55.0**	**-0.5**
ZAL	**Zalesovo**	**113.11**	**321**	PKiKP	PKiKP		21 53 07.1	-0.6
	comp=Z,1.0nm,0.6s,baz=338,slow=6.6,SNR=6.6							
MKAR	**Makanchi Array**	**114.11**	**313**	PKiKP		PKiKP	21 53 09.6	0.0
	comp=Z,1.2nm,0.7s,baz=64,slow=2.4,SNR=17							
KURK	**Kurchatov**	**116.76**	**317**	*e*PKIKP		PKPdf	21 53 14.1	-0.5
AAK	**Ala-Archa**	**119.38**	**308**	⇑i PKIKP		PKPdf	21 53 20.8	+1.1
ZRNK	**Zerenda**	**122.57**	**320**	*e*PKIKP		PKPdf	21 53 25.5	-0.3
ARU	**Arti**	**127.61**	**326**	*i* PKIKP		PKPdf	21 53 34.6	-0.9
ARU				*e*			22 00 37.4	
ARU				*e*SS		SS	22 12 37.4	-7.8
ARU	**Arti**	**127.61**	**326**	*e*PKPdf		PKPdf	21 53 35.9	+0.5
ARCES	**ARCESS Array B**	**130.02**	**351**	PKP		PKPdf	21 53 40.0	0.0
	comp=Z,2.1nm,0.8s,baz=0.0,slow=0.6,SNR=10.0							
OBN	**Obninsk**	**138.84**	**333**	*i* PKIKP		PKPdf	21 53 58.2	+1.7
OBN				pmax	pmax			
	comp=Z,17nm,1.5s							
KIV	**Kislovodsk**	**141.81**	**315**	*e*PKIKP		PKPdf	21 54 13.4	+11
KIV				pmax	pmax			
	comp=Z,5.0nm,1.2s							
SUW	**Suwalki**	**144.49**	**342**	*e*PKP		PKPdf	21 54 06.4	-0.2
AKASG	**Malin Array Be**	**145.10**	**334**	PKP		PKPdf	21 54 07.0	-0.8
	comp=Z,9.4nm,0.7s,baz=42,slow=4.1,SNR=34							
SIM	**Simferopol'**	**146.60**	**322**	*i* PKHKP			21 54 13.3	
SIM				pmax	pmax			
	comp=Z,16nm,0.8s							
GKP	**Gorka Klasztor**	**146.62**	**347**	*e*PKP		PKPdf	21 54 12.7	+2.4
HLG	**Helgoland**	**146.85**	**358**	*e*PKPbc		PKPbc	21 54 13.4	+0.8
BSEG	**Bad Segeberg**	**146.96**	**355**	*e*PKPbc		PKPbc	21 54 13.4	+0.5
MALT	**Malatya**	**147.01**	**309**	⇓*i*P		PKPab	21 54 15.7	+1.2
MALT	**Malatya**	**147.01**	**309**	*e*PKPdf		PKPbc	21 54 15.1	+2.1
LVV	**L'vov**	**147.81**	**338**	*i* PKHKP			21 54 15.9	
RUE	**Ruedersdorf**	**147.99**	**351**	*e*PKPbc		PKPbc	21 54 16.3	+0.6
KWP	**Kalwaria**	**148.43**	**339**	*e*PKP		PKPbc	21 54 17.8	+1.0
IBBN	**Ibbenburen**	**148.74**	**358**	*e*PKPbc		PKPbc	21 54 18.2	+0.6
OJC	**Ojcow**	**148.82**	**342**	*e*PKPbc		PKPbc	21 54 15.7	-2.1
OJC				*e*PKPab		PKPab	21 54 18.5	-3.2
CLZ	**Clausthal**	**149.03**	**354**	*e*PKPbc		PKPbc	21 54 19.4	+1.0
STHS	**Stebnicka Huta**	**149.10**	**340**	*e*PKP		PKPbc	21 54 19.3	+0.8
KSP	**Ksiaz**	**149.11**	**347**	*e*PKP		PKPbc	21 54 19.5	+0.9
KSP	**Ksiaz**	**149.11**	**347**	*e*PKHKP			21 54 19.7	
BUKAR	**Bucovina Array**	**149.16**	**334**	⇓*i*P		PKPbc	21 54 20.3	+1.6
KOLS	**Kolonicke sedl**	**149.18**	**339**	*e*PKP		PKPab	21 54 26.0	+2.8
CLL	**Collm**	**149.25**	**351**	*e*PKPbc		PKPbc	21 54 19.6	+0.7
CLL	**Collm**	**149.25**	**351**	⇑*i*PKPbc		PKPbc	21 54 19.6	+0.7
	comp=Z,19nm,1.0s							
CLL				*e*pPKPbc		pPKPbc	21 54 23.0	-7.3
CLL	**Collm**	**149.25**	**351**	⇑*i*PKHKP			21 54 19.6	
CLL				pmax	pmax			

HAVL				Sg	**Sb**	**21 38 17.9**	**+0.3**
	5µm,0.4s								
SSY	**Sortino**	**0.88**	**277**	Pg	**Pn**	**21 38 06.5**	**-0.9**
SSY				Sg	**Sb**	**21 38 18.6**	**-0.2**
	1µm,0.2s								
PZI	**Palazzolo**	**0.98**	**271**	Pg	**Pn**	**21 38 08.4**	**-0.3**
	404nm,0.2s								
MTTG	**Motta San Giov**	**1.03**	**339**	Pg	**Pn**	**21 38 10.0**	**+0.7**
	72nm,0.6s								
SOI	**Samo**	**1.03**	**355**	Pg	**Pn**	**21 38 09.9**	**+0.5**
SOI				Sg	**Sn**	**21 38 23.5**	**+0.6**
	119nm,0.5s								
HMDC	**Modica**	**1.11**	**266**	Pg	**Pn**	**21 38 10.1**	**-0.4**
HMDC				Sg	**Sn**	**21 38 24.1**	**-0.9**
	732nm,0.3s								
MMME	**Mongiuffi-Meli**	**1.15**	**321**	Pg	**Pn**	**21 38 11.1**	**+0.1**
	99nm,0.3s								
HVZN	**Vizzini**	**1.17**	**277**	Pg	**Pn**	**21 38 11.1**	**-0.2**
HVZN				Sg	**Sn**	**21 38 25.9**	**-0.4**
	944nm,0.6s								
CEL	**Celeste**	**1.23**	**350**	Pg	**Pn**	**21 38 13.2**	**+1.0**
	193nm,0.4s								
SCLL	**Scilla**	**1.26**	**344**	Pg	**Pn**	**21 38 13.2**	**+0.6**
	10.0nm,0.2s								
LLI	**Lipari**	**1.70**	**326**	Pg	**Pn**	**21 38 20.2**	**+1.6**
	479nm,0.6s								
WDD	**Wield Dalam**	**1.77**	**229**	Pg	**Pn**	**21 38 22.0**	**+2.4**
LKD	**Levkas**	**3.92**	**64**	*e*Pn	**Pn**	**21 38 49.3**	**+0.2**
LKD				*e*Sn	**Sn**	**21 39 33.7**	**-0.4**
IGT	**Igoumenitsa**	**4.11**	**52**	*e*Pn	**Pn**	**21 38 50.9**	**-0.9**
IGT				*e*Sn	**Sn**	**21 39 36.8**	**-2.2**
SRN	**Sarande**	**4.13**	**46**	*i* Sg	**Sn**	**21 39 40.1**	**+0.7**
LSK	**Leskovik**	**4.65**	**47**	*i* Sg	**Sn**	**21 39 52.3**	**0.0**
AGG	**Agios Georgios**	**5.25**	**66**	*e*Pn	**Pn**	**21 39 09.3**	**+1.9**
AGG				*e*Sn	**Sn**	**21 40 07.2**	**+0.2**
FNA	**Florina**	**5.52**	**46**	*e*Pn	**Pn**	**21 39 11.6**	**+0.5**
FNA				*e*Sn	**Sn**	**21 40 11.7**	**-1.9**
STON	**Ston**	**5.94**	**11**	*i* Pn	**Pn**	**21 39 16.1**	**-0.7**

IDC 03 21:39:10.6±2.1, 2108S×17431W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.9/14, mbtmp4.0/4, Error ellipse: s-maj=90.2km s-min=31.1km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.52**	**19**	Pn	**Pn**	**21 40 55.8**	**-5.8**
	2.3nm,0.3s,baz=166,slow=21,SNR=2.8						
STKA	**Stephens Creek**	**40.67**	**245**	P	P	**21 46 52.0**	**-0.5**
	1.3nm,0.5s,baz=90,slow=13,SNR=3.0						
ASAR	**Alice Springs**	**47.75**	**257**	P	P	21 47 50.2	+0.9
	1.4nm,0.7s,baz=98,slow=7.8,SNR=16						
WRA	**Warramunga Arr**	**47.94**	**262**	P	P	21 47 51.2	+0.4
	1.0nm,0.6s,baz=96,slow=7.5,SNR=25						
MJAR	**Matsushiro Arr**	**72.76**	**322**	P	P	21 50 40.4	-0.3
	0.9nm,0.8s,baz=164,slow=5.2,SNR=4.2						
MKAR	**Makanchi Array**	**114.11**	**313**	PKP	PKiKP	21 57 51.2	-0.5
	0.2nm,0.5s,baz=85,slow=0.4,SNR=5.3						
ARCES	**ARCESS Array B**	**130.06**	**351**	PKP	PKPdf	21 58 21.7	-0.7
	1.6nm,1.0s,baz=349,slow=1.2,SNR=5.1						
AKASG	**Malin Array Be**	**145.12**	**334**	PKPbc	PKPbc	21 58 48.6	-0.9
	0.7nm,0.3s,baz=43,slow=4.3,SNR=6.2						
DPC	**Dobruska-Polom**	**149.60**	**346**	*e*P	PKPdf	21 59 03.3	+5.9
BRTR	**Keskin Array B**	**149.75**	**314**	PKPbc	PKPbc	21 59 03.0	+0.7
	0.8nm,0.6s,baz=120,slow=3.3,SNR=4.6						
PRU	**Pruhonice**	**150.31**	**348**	*e*P	PKPdf	21 59 01.2	+2.6
KHC	**Kasperske Hory**	**151.31**	**349**	*e*P	PKPdf	21 59 06.2	+6.1
GERES	**GERESS Array B**	**151.56**	**349**	PKPbc	PKPbc	21 59 06.5	-0.2
	0.3nm,0.6s,baz=29,slow=3.0,SNR=4.0						

IDC 03 22:11:52.7±3.3, 186N×9941E, h158km±13km, mb3.4/3, mb1 3.6/3, mb1mx3.1/19, mbtmp3.8/3, Error ellipse: s-maj=219.0km s-min=19.9km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.05**	**333**	P	Pn	22 12 18.2	-0.4
	8.0nm,0.3s,baz=129,slow=22,SNR=32						
PSI				S	Sn	22 12 37.8	-0.6
	0.5nm,0.3s,baz=281,slow=21,SNR=5.7						
WRA	**Warramunga Arr**	**40.54**	**124**	P	P	22 19 16.6	+0.3
	1.1nm,0.4s,baz=302,slow=8.8,SNR=16						
MKAR	**Makanchi Array**	**47.18**	**344**	P	P	22 20 09.4	+0.1
	0.4nm,0.4s,baz=157,slow=8.6,SNR=13						
ZAL	**Zalesovo**	**53.28**	**349**	P	P	22 20 54.7	-0.4
	0.8nm,0.5s,baz=330,slow=11,SNR=3.7						

OTT 03 22:14:03.8±0.1, 6128N×7555W, h18km, MN3.2/11, Boothia Ungava Seismic Zone. 104km southwest from Purtuniq, Qc, Northern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRB	**Frobisher Bay**	**4.08**	**50**	PN	Pn	22 15 05.6	+0.3
FRB				SN	Sn	22 15 50.6	-2.0
FRB				Trac		22 16 06.8	
	comp=Z,12nm,0.1s						
KUQ	**Kuujjuaa**	**4.81**	**128**	PN	Pn	22 15 14.7	-0.6
KUQ				SN	Sn	22 16 07.8	-2.8
KUQ				Trac		22 16 31.0	
	comp=Z,15nm,0.2s						
QILN	**Qililugaq Expl**	**7.19**	**323**	PN	Pn	22 15 46.6	-1.3
QILN				SN	Sn	22 17 03.8	-5.3
QILN				Trac		22 17 53.2	
	comp=Z,4.9nm,0.3s						
LG4Q	**La Grande 4**	**7.71**	**174**	PN	Pn	22 15 53.8	-1.3
LG4Q				SN	Sn	22 17 15.2	-6.8
LG4Q				LG		22 18 00.5	
LG4Q				Trac		22 18 09.2	
	comp=Z,6.5nm,0.3s						
YRTN	**Rankin Inlet**	**7.93**	**288**	PN	Pn	22 15 56.6	-1.5
YRTN				SN	Sn	22 17 20.8	-6.6
YRTN				Trac		22 18 20.4	
	comp=Z,9.6nm,0.3s						
SCHQ	**Schefferville**	**7.94**	**141**	PN	Pn	22 15 56.0	-2.2
SCHQ				SN	Sn	22 17 21.7	-5.9
SCHQ				Trac		22 18 07.0	
	comp=Z,14nm,0.4s						
WEMQ	**Wemindji, Queb**	**8.35**	**190**	PN	Pn	22 16 02.5	-1.4
WEMQ				SN	Sn	22 17 31.0	-6.7
WEMQ				LG		22 18 19.6	
WEMQ				Trac		22 18 27.8	
	comp=Z,5.0nm,0.3s						
SILO	**Sutton Inlier**	**8.44**	**220**	PN	Pn	22 16 04.3	-0.8
SILO				SN	Sn	22 17 37.3	-2.6
SILO				LG		22 18 25.3	
SILO				Trac		22 18 35.2	
	comp=Z,6.8nm,0.3s						
ILON	**Igloolik, Nuna**	**8.54**	**345**	PN	Pn	22 16 05.7	-0.7
ILON				SN	Sn	22 17 35.1	-7.2
ILON				Trac		22 18 32.1	
	comp=Z,4.7nm,0.3s						
YOSQ	**Ashton Mining**	**8.63**	**166**	PN	Pn	22 16 06.3	-1.4
YOSQ				SN	Sn	22 17 36.8	-7.7
YOSQ				Trac		22 18 33.4	
	comp=Z,10nm,0.4s						
GIFN	**Gifford Fjord,**	**9.10**	**347**	PN	Pn	22 16 12.9	-1.3
GIFN				SN	Sn	22 17 49.0	-7.2
GIFN				LG		22 18 42.3	
GIFN				Trac		22 18 55.0	
	comp=Z,3.0nm,0.3s						
VIMO	**Victor Mine**	**9.57**	**211**	PN	Pn	22 16 20.7	0.0
VIMO				SN	Sn	22 18 03.0	-4.8
FCC	**Fort Churchill**	**9.61**	**263**	PN	Pn	22 16 21.3	+0.1
FCC				SN	Sn	22 18 05.8	-2.9
FCC				LG		22 19 01.4	
MNQ	**Manicouagan**	**11.41**	**158**	PN	Pn	22 16 43.7	-2.1
MNQ				SN	Sn	22 18 41.6	-11
PINU	**Pond Inlet**	**11.51**	**356**	PN	Pn	22 16 44.0	-3.2
PINU				SN	Sn	22 18 43.8	-11
PINU				Trac		22 20 06.9	
	comp=Z,7.6nm,0.3s						
SMQ	**Clarke City**	**12.13**	**152**	PN	Pn	22 16 53.0	-2.7
SMQ				SN	Sn	22 18 59.7	-11
SFJD	**Kangerlussuaq**	**12.23**	**51**	PN	Pn	22 16 56.5	-0.6
ICQ	**Pointe Anglais**	**12.67**	**155**	PN	Pn	22 17 01.1	-2.0
ICQ				SN	Sn	22 19 11.7	-12
NATG	**Natashquan Que**	**13.11**	**141**	PN	Pn	22 17 05.5	-3.5
NATG				SN	Sn	22 19 22.9	-11
RES	**Resolute Bay**	**15.15**	**340**	PN	Pn	22 17 32.1	-4.8
RES				SN	Sn	22 20 13.3	-11
RES				LG		22 21 52.6	

IDC 03 22:18:25.6±6.8, 2070S×17832E, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.7/12, mbtmp3.7/2, Error ellipse: s-maj=348.5km s-min=51.4km az=151.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.12**	**257**	P	P	22 26 10.5	-0.8
	0.9nm,0.8s,baz=85,slow=8.5,SNR=7.8						
WRA	**Warramunga Arr**	**41.16**	**263**	P	P	22 26 13.1	+1.5
	1.3nm,0.9s,baz=96,slow=8.5,SNR=5.7						
DPC	**Dobruska-Polom**	**147.16**	**339**	*e*P	PKPdf	22 38 12.6	+4.1
PRU	**Pruhonice**	**148.06**	**340**	*e*P	PKPdf	22 38 20.8	+11
MOX	**Moxa**	**148.32**	**344**	*e*PKP	PKPdf	22 38 15.6	+5.2
	9.0nm,2.1s						
NKC	**Novy Kostel**	**148.47**	**343**	*e*P	PKPdf	22 38 16.5	+5.9
KHC	**Kasperske Hory**	**149.12**	**340**	*e*P	PKPdf	22 38 18.3	+6.6
GERES	**GERESS Array B**	**149.33**	**340**	PKPbc	PKPbc	22 38 16.0	-0.4
	0.7nm,0.7s,baz=36,slow=2.5,SNR=6.5						

IDC 03 22:20:41.8±1.8, 2009S×17452W, h0km, mb4.2/6, mb1 4.3/7, mb1mx4.1/16, mbtmp4.2/7, ML2.8/1, Error ellipse: s-maj=50.3km s-min=25.4km az=117.0
MOS 03 22:20:41.8±2.0, 2027S×17389W, h33km, mb4.8/2, Error ellipse: s-maj=24.1km s-min=17.1km az=161.9
ISCJB 03 22:20:43.5±4.0, 2015±01×1744W±02, h33km±44km, mb4.2/7, Error ellipse: s-maj=34.8km s-min=20.7km az=23.6
NEIC 03 22:20:46.0±0.8, 2006S×17439W, h35km, mb4.5/1, Error ellipse: s-maj=23.6km s-min=13.2km az=120.0

ISC 03 22:20:45.7±6.5, 201S±01×1744W±02, h31km±49km, n18, σ0°88/18, mb4.2/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.64**	**22**	Pn	**Pn**	**22 22 21.7**	**+0.5**
	11nm,0.3s,baz=100,slow=6.1,SNR=8.1						
AFI	**Afiamalu**	**6.64**	**22**	*e*Pn	**Pn**	**22 22 20.6**	**-0.6**
AFI				*e*Sn	**Sn**	**22 23 35.8**	**-0.1**
RAR	**Rarotonga**	**13.71**	**97**	Pn	**Pn**	**22 23 47.3**	**-11**
	2.4nm,0.3s,baz=288,slow=7.2,SNR=3.8						
RPZ	**Rata Peaks**	**26.51**	**204**	P	**P**	**22 26 21.2**	**+0.8**
	4.2nm,0.5s,mb4.2,baz=188,slow=21,SNR=6.8						
CTA	**Charters Tower**	**36.91**	**263**	P	**P**	**22 27 52.1**	**+0.4**
	5.2nm,0.8s,mb4.4,baz=99,slow=8.3,SNR=5.8						
CTAO	**Charters Tower**	**36.91**	**263**	*e*P	**P**	**22 27 52.0**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
CTAO	**Charters Tower**	**36.91**	**263**	*e*P	**P**	**22 27 52.0**	**+0.3**
	comp=Z,4.4nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**41.02**	**244**	P	**P**	**22 28 24.0**	**-2.1**
	comp=Z,1.9nm,0.6s,mb3.9,baz=99,slow=11,SNR=6.1						
STKA	**Stephens Creek**	**41.02**	**244**	P	**P**	**22 28 24.0**	**-2.1**
ASAR	**Alice Springs**	**47.92**	**256**	P	**P**	**22 29 21.5**	**+0.3**
	comp=Z,1.1nm,0.5s,mb4.1,baz=100,slow=8.0,SNR=18						
ASAR				PcP	PcP	22 30 50.5	+1.2
	comp=Z,0.6nm,0.5s,baz=102,slow=3.9,SNR=5.5						
WRAB	**Tennant Creek**	**48.02**	**261**	*e*P	**P**	**22 29 22.2**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
WRAB	**Tennant Creek**	**48.02**	**261**	*e*P	**P**	**22 29 22.2**	**+0.2**
	comp=Z,10nm,1.1s,mb4.8						
WRA	**Warramunga Arr**	**48.02**	**261**	P	**P**	**22 29 22.4**	**+0.4**
	comp=Z,1.3nm,0.7s,mb4.1,baz=97,slow=7.5,SNR=13						
SBA	**Scott Base**	**58.51**	**185**	*e*P	**P**	**22 30 39.9**	**+0.8**
CASY	**Casey**	**65.77**	**205**	*e*P	**P**	**22 31 26.2**	**-1.6**
MJAR	**Matsushiro Arr**	**71.97**	**321**	P	**P**	**22 32 06.8**	**+0.5**
	comp=Z,0.9nm,0.8s,mb3.8,baz=160,slow=6.8,SNR=3.7						
MJAR	**Matsushiro Arr**	**71.97**	**321**	P	**P**	**22 32 06.8**	**+0.5**
AKASG	**Malin Array Be**	**144.23**	**334**	PKP	PKPdf	22 40 16.9	-1.7
	comp=Z,0.3nm,0.3s,baz=34,slow=3.2,SNR=3.6						

CSEM 03 22:27:39.7±0.1, 3815N×2676E, h2km, MD3.4, Error ellipse: s-maj=2.8km s-min=1.7km az=115.0
ISCJB 03 22:27:40.6±0.8, 3815N±003×2671E±004, h6km±5km, Error ellipse: s-maj=5.5km s-min=4.4km az=142.1
ATH 03 22:27:40.1, 3819N×2682E, h22km±1km, MD3.5/3
ISK 03 22:27:40.4, 3815N×2673E, h5km, MD3.4

ISC 03 22:27:41.1±0.6, 3817N±002×2671E±004, h8km±4km, n21, σ0°82/32, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.21**	**335**	*i* P	**Pg**	**22 27 44.4**	**-1.0**
URLA				*i* S	**Sg**	**22 27 48.8**	**+0.6**
SMG	**Samos**	**0.47**	**168**	*e*PB	**Pg**	**22 27 49.8**	**-0.4**
SMG				*e*SB	**Sg**	**22 27 57.1**	**+0.8**
IZM	**Izmir**	**0.49**	**62**	PG	**Pg**	**22 27 49.9**	**-0.7**
IZM				SG	**Sg**	**22 27 57.6**	**+0.6**
KDAG	**Bornova**	**0.50**	**62**	*i* P	**Pg**	**22 27 50.0**	**-0.7**
KDAG				*i* S	**Sg**	**22 27 57.5**	**+0.3**
AKS	**Akhisar**	**1.12**	**50**	*e*PN	**Pn**	**22 28 02.2**	**-0.8**
PRK	**Paraskevi**	**1.13**	**342**	*e*PN	**Pn**	**22 28 01.7**	**-1.5**
PRK				*e*SN	**Sn**	**22 28 17.9**	**-1.0**
AYVA	**Ayvalik**	**1.14**	**359**	*i* P	**Pg**	**22 28 02.9**	**-0.1**
AYVA				*i* S	**Sg**	**22 28 17.6**	**-0.2**
AYVA	**Ayvalik**	**1.14**	**359**	*i* P	**Pg**	**22 28 02.8**	**-0.1**
AYVA				*i* S	**Sg**	**22 28 17.6**	**-0.1**
BODT	**Bodrum**	**1.20**	**157**	*e*PN	**Pn**	**22 28 03.4**	**-0.8**
BODT				*e*SN	**Sn**	**22 28 21.0**	**+0.3**
MLSB	**Milas**	**1.21**	**136**	*e*PN	**Pn**	**22 28 03.7**	**-0.6**
APE	**Apeiranthos**	**1.44**	**221**	*e*PN	**Pn**	**22 28 07.1**	**-0.4**
APE				*e*SN	**Sn**	**22 28 27.0**	**+0.4**
APE	**Apeiranthos**	**1.44**	**221**	*e*PN	**Pn**	**22 28 08.2**	**+0.7**
MANT	**Manisa**	**1.49**	**77**	*i* P	**Pn**	**22 28 09.1**	**+1.0**
MANT				*i* S	**Sn**	**22 28 28.1**	**+0.4**
DAT	**Datca**	**1.59**	**154**	*e*PN	**Pn**	**22 28 09.3**	**-0.3**
YER	**Yerkesik**	**1.62**	**129**	*e*PN	**Pn**	**22 28 09.9**	**0.0**
EZN	**Ezine**	**1.68**	**350**	*e*PN	**Pn**	**22 28 12.4**	**+1.6**
BALB	**Balikesir**	**1.73**	**31**	*e*PN	**Pn**	**22 28 12.8**	**+1.4**
DNZL	**Cakiroluk**	**1.91**	**104**	*i* P	**Pn**	**22 28 13.7**	**-0.1**
DNZL				*i* S	**Sn**	**22 28 36.4**	**-1.6**
DST	**Dursunbey**	**2.07**	**46**	*e*PN	**Pn**	**22 28 16.6**	**+0.4**
BNT	**Bandirma**	**2.38**	**23**	*e*PN	**Pn**	**22 28 21.9**	**+1.5**
FETY	**Fethiye**	**2.43**	**128**	*e*PN	**Pn**	**22 28 21.5**	**+0.4**

IDC 03 22:35:01.9±10.0, 1841S×17668E, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.7/12, mbtmp3.8/2, Error ellipse: s-maj=493.5km s-min=52.9km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.95**	**261**	P	P	22 42 38.5	+0.5
	0.4nm,0.7s,baz=97,slow=11,SNR=3.4						
ASAR	**Alice Springs**	**40.16**	**255**	P	P	22 42 39.8	+0.1
	1.3nm,0.8s,baz=82,slow=9.4,SNR=7.6						
GERES	**GERESS Array B**	**146.66**	**339**	PKPbc	PKPbc	22 54 44.9	-0.7
	0.4nm,0.5s,baz=30,slow=3.2,SNR=5.0						

ISCJB 03 22:57:05.5±1.3, 3754N±007×2102E±009, h10km, Error ellipse: s-maj=13.2km s-min=5.8km az=99.3
ATH 03 22:57:06.2, 3754N×2100E, h10km±3km, MD3.5/4

ISC 03 22:57:05.7±1.5, 3756N±007×2101E±010, h8km±12km, n7, σ0°41/10, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.62**	**36**	*e*PB	**Pb**	**22 57 18.4**	**-0.3**
RLS				*e*SB	**Sb**	**22 57 27.2**	**-0.3**
VLS	**Valsamata**	**0.70**	**332**	*e*PB	**Pb**	**22 57 19.8**	**-0.3**
VLS				*e*SB	**Sb**	**22 57 30.4**	**+0.4**
ITM	**Ithomi**	**0.82**	**117**	*e*PG	**Pg**	**22 57 21.5**	**0.0**
ITM				*e*SB	**Sb**	**22 57 33.7**	**+0.3**
LKD	**Levkas**	**1.18**	**346**	*e*P	**Pb**	**22 57 28.2**	**-0.1**
EVR	**Evrytania**	**1.50**	**25**	*e*PG	**Pg**	**22 57 34.1**	**-0.3**
VLI	**Velíai**	**1.75**	**118**	*e*PG	**Pg**	**22 57 38.9**	**-0.4**
AGG	**Agios Georgios**	**1.80**	**35**	*e*P	**Pg**	**22 57 41.0**	**+0.9**

NEIC 03 22:58:00.2, 3342S×6848W, h5km, ML2.9(GUC), After GUC.

GUC 03 22:58:01.1±2.8, 3353S×6846W, h0km±29km, MD3.6, ML3.0, 11C-2D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**1.48**	**257**	⇑*i* P	Pn	22 58 28.0	-1.0
LMEL				*i* S	Sg	22 58 49.0	+0.2
LMEL				AML	AML	22 58 51.7	
	comp=N,216nm,0.2s						
LMEL	**Las Melosas**	**1.48**	**257**	⇑*i* P	Pn	22 58 28.0	-1.0
LMEL				*i* S	Sg	22 58 49.0	+0.2
FCH	**Farellones**	**1.54**	**277**	⇓*i* P	Pn	22 58 28.2	-1.6
FCH				*i* S	Sn	22 58 49.9	-0.7
FCH				AML	AML	22 58 51.8	
	comp=N,144nm,0.2s						
PCH	**Pirque**	**1.71**	**266**	⇑*i* P	Pn	22 58 31.6	-0.6
PCH				*i* S	Sn	22 58 55.6	+0.8
CLCH	**Cerro Calan**	**1.74**	**274**	⇓*i* P	Pn	22 58 32.0	-0.5
CLCH				*i* S	Sn	22 58 56.1	+0.7
CLCH				AML	AML	22 59 00.4	
	comp=E,220nm,0.8s						
CICH	**Cipreses**	**1.81**	**244**	⇑*i* P	Pn	22 58 33.9	+0.4
CICH				*i* S	Sn	22 58 59.9	+2.7
CHCH	**Chadas Angostu**	**1.87**	**257**	⇑*i* P	Pn	22 58 34.7	+0.4
CHCH				*i* S	Sn	22 59 01.1	+2.5
CACH	**El Canelo**	**1.87**	**251**	⇑*i* P	Pn	22 58 35.0	+0.7
CACH				*i* S	Sn	22 59 01.1	+2.4
PEL	**Peldehue**	**1.90**	**281**	⇑*i* P	Pn	22 58 34.3	-0.5
PEL				*i* S	Sn	22 59 00.2	+0.9
PEL				AML	AML	22 59 01.6	
	comp=E,130nm,0.3s						
PEL	**Peldehue**	**1.90**	**281**	⇑*i* P	Pn	22 58 34.3	-0.5
PEL				*i* S	Sn	22 59 00.2	+0.9
RCDM	**Rinconada Maip**	**1.96**	**270**	⇑*i* P	Pn	22 58 35.8	+0.2
RCDM				*i* S	Sn	22 59 02.7	+1.9
RCDM				AML	AML	22 59 03.9	
	comp=E,75nm,0.2s						
RCDM	**Rinconada Maip**	**1.96**	**270**	⇑*i* P	Pn	22 58 35.8	+0.2
RCDM				*i* S	Sn	22 59 02.7	+1.9
JACH	**Jahuel**	**1.98**	**295**	⇑*i* P	Pn	22 58 35.0	-0.8
JACH				*i* S	Sn	22 59 01.8	+0.6
TACH	**Talagante**	**2.07**	**266**	*i* P	Pn	22 58 37.3	+0.2
TACH				*i* S	Sn	22 59 05.5	+1.9
ROCH	**El Roble**	**2.21**	**284**	*i* P	Pn	22 58 39.4	+0.4
ROCH				*i* S	Sn	22 59 09.4	+2.5
LNV	**Longovilo**	**2.49**	**259**	*e*P	Pn	22 58 44.4	+1.5
LCCH	**Las Cruces**	**2.59**	**270**	*i* P	Pn	22 58 46.2	+1.9
CMCH	**Combarbala**	**3.18**	**317**	*i* S	Sn	22 59 36.8	+5.8
CMCH				AML	AML	22 59 38.2	
	comp=E,395nm,0.5s						

ISCJB 03 22:59:38.9±2.1, 153S±01×1676E±02, h134km±16km, mb3.8/6, Error ellipse: s-maj=31.2km s-min=19.6km az=123.5
IDC 03 22:59:42.2±9.3, 1533S×16747E, h140km±106km, mb3.7/4, mb1 3.8/5, mb1mx3.5/16, mbtmp4.1/5, ML4.1/1, Error ellipse: s-maj=211.4km s-min=66.0km az=90.0
NEIC 03 22:59:45.1±4.2, 1553S×16724E, h149km±21km, mb4.0/2, Error ellipse: s-maj=56.2km s-min=13.7km az=223.0

ISC 03 22:59:40.0±2.2, 152S±01×1676E±02, h128km±16km, n11, σ0°66/13, mb3.9/6, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**2.48**	**166**	⇑*i* P	**Pn**	**23 00 20.0**	**+0.1**
BKM				S	**Sn**	**23 00 49.7**	**-0.9**
DZM	**Mont Dzumac**	**6.88**	**189**	P	**Pn**	**23 01 19.4**	**+1.0**
	3.4nm,0.3s,baz=66,slow=22,SNR=30						
DZM				S	**Sn**	**23 02 35.7**	**+0.4**
	1.9nm,0.3s,baz=138,slow=23,SNR=5.0						
PMG	**Port Moresby**	**20.81**	**284**	P	**P**	**23 04 11.5**	**+0.3**
STKA	**Stephens Creek**	**28.93**	**231**	P	**P**	**23 05 25.8**	**-1.2**
	1.3nm,0.6s,mb3.8,baz=41,slow=8.1,SNR=4.2						
WRAB	**Tennant Creek**	**32.03**	**257**	*e*P	**P**	**23 05 54.1**	**-0.3**
	1.1nm,0.6s,mb3.8						
WRA	**Warramunga Arr**	**32.04**	**257**	P	**P**	**23 05 54.0**	**-0.4**
	0.5nm,0.6s,mb3.4,baz=84,slow=8.7,SNR=5.3						
ASAR	**Alice Springs**	**32.82**	**250**	P	**P**	**23 06 00.9**	**-0.2**
	1.3nm,0.4s,mb4.1,baz=79,slow=8.8,SNR=19						
FITZ	**Fitzroy Crossi**	**40.26**	**260**	P	**P**	**23 07 05.1**	**+0.8**
	2.2nm,0.8s,mb4.0,baz=59,slow=12,SNR=7.2						
VNDA	**Vanda**	**62.36**	**181**	P	**P**	**23 09 50.0**	**+1.0**
SBA	**Scott Base**	**62.63**	**180**	*e*P	**P**	**23 09 50.8**	**0.0**
	0.7nm,0.3s,mb4.1						
CASY	**Casey**	**63.19**	**202**	P	**P**	**23 09 53.8**	**-0.6**

MOS 03 23:04:07.1±0.8, 3061N×131.18E, h33km, mb4.3/8, Error ellipse: s-maj=21.2km s-min=12.0km az=110.3
ISCJB 03 23:04:08.5±0.7, 3053N±004×131.19E±008, h44km±5km, mb3.9/16, Error ellipse: s-maj=11.5km s-min=6.0km az=44.7
JMA 03 23:04:09.1±0.1, 3056N×13121E, h29km±1km, M4.0
JMA Felt I J1.
NEIC 03 23:04:09.9±0.8, 3058N×131.10E, h36km±7km, mb4.1/6, Error ellipse: s-maj=9.3km s-min=6.2km az=98.0
IDC 03 23:04:10.3±2.7, 3060N×13104E, h39km±24km, mb3.6/9, mb1 3.7/12, mb1mx3.6/24, mbtmp3.7/12, ML3.2/2, Error ellipse: s-maj=26.7km s-min=14.4km az=87.0

ISC 03 23:04:09.8±0.6, 3058N±004×13116E±007, h36km±5km, n40, σ0°78/44, mb3.9/16, 1C-8D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.17**	**295**	⇓P	**Pn**	**23 04 15.3**	**-1.2**
JTN				S	**Sn**	**23 04 20.2**	**-0.9**

NWAO Narrogin (SRO) 64.53 193 *e*P **P 23 14 42.9 -0.1**
comp=Z,0.4nm,0.3s,mb3.9
FINES FINESS Array B 70.36 330 P **P 23 15 18.2 -1.6**
comp=Z,0.7nm,0.4s,mb4.0,baz=66,slow=5.8,SNR=10
FINES FINESS Array B 70.36 330 P **P 23 15 18.2 -1.7**
FINES pmax pmax
comp=Z,1.0nm,0.4s
YKA Yellowknife Ar 73.50 26 P **P 23 15 39.4 +0.7**
comp=Z,0.5nm,0.8s,mb3.5,baz=306,slow=5.8,SNR=11
NOA NORSAR Array B 76.54 334 P **P 23 15 55.7 -0.5**
comp=Z,0.6nm,0.6s,mb3.7,baz=53,slow=5.2,SNR=2.8
NOA NORSAR Array B 76.54 334 P **P 23 15 55.7 -0.5**
NOA pmax pmax
comp=Z,1.0nm,0.6s
NVAR Mina Array Bea 85.66 48 P **P 23 16 46.0 +1.3**
comp=Z,0.3nm,0.4s,mb3.9,baz=304,slow=4.0,SNR=3.9
NVAR Mina Array Bea 85.66 48 P **P 23 16 46.0 +1.3**

IDC 03 23:15:53.6±1.0, 8585N×8015E, h0km, mb3.5/7, mb1 3.7/8, mb1mx3.5/22, mbtmp3.5/8, ML3.2/1, Error ellipse: s-maj=40.3km s-min=17.3km az=127.0, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ARCES	**ARCESS Array B**	**18.48**	**245**	P		Pn	23 20 10.5	-0.5
	0.1nm,0.3s,baz=20,slow=11,SNR=4.9							
INK	**Inuvik**	**25.41**	**29**	P		P	23 21 21.6	-1.2
	1.5nm,0.8s,baz=346,slow=10,SNR=5.5							
FINES	**FINESS Array B**	**26.46**	**241**	P		P	23 21 32.1	-0.2
	0.8nm,0.8s,baz=1.3,slow=17,SNR=3.9							
ILAR	**Eielson Array**	**28.38**	**41**	P		P	23 21 49.8	+0.2
	0.8nm,1.1s,baz=360,slow=11,SNR=4.1							
YKA	**Yellowknife Ar**	**31.73**	**13**	P		P	23 22 18.3	-0.8
	0.6nm,0.7s,baz=357,slow=8.4,SNR=15							
AKASG	**Malin Array Be**	**36.97**	**235**	P		P	23 23 04.0	-0.6
	0.7nm,0.4s,baz=2.6,slow=8.7,SNR=5.0							
MKAR	**Makanchi Array**	**39.22**	**178**	P		P	23 23 22.7	-0.8
	0.2nm,0.6s,baz=355,slow=9.3,SNR=3.4							
TORD	**Torodi Ar. Bea**	**76.14**	**259**	P		P	23 27 42.7	-0.6
	0.2nm,0.5s,baz=11,slow=5.9,SNR=6.2							

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*IDC **03** 23:42:46.6±1.9, 653S×124.15E, h0km, mb3.2/1, mb1 4.0/4, mb1mx3.7/17, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=121.4km s-min=27.7km az=65.0*
*ISCJB **03** 23:42:49.6±1.4, 67S±0.1×124.1E±0.2, h33km, mb3.3/1, Error ellipse: s-maj=29.2km s-min=14.0km az=107.8*
*NEIC **03** 23:42:51.8±1.1, 664S×124.03E, h35km, mb3.5/1, Error ellipse: s-maj=24.3km s-min=13.9km az=65.0*
ISC 03 23:42:52.1±1.4, 67S±0.1×124.2E±0.2, h35km, n6, σ1s20/8, mb3.3/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.44**	**173**	Pn		**Pn**	**23 45 33.6**	**+0.6**
	0.3nm,0.3s,baz=11,slow=14,SNR=18							
FITZ				Sn		**Sn**	**23 47 22.7**	**-17**
	0.2nm,0.3s,baz=43,slow=19,SNR=3.6							
MBWA	**Marble Bar**	**15.04**	**196**	P		**Pn**	**23 46 21.6**	**-0.3**
WRAB	**Tennant Creek**	**16.46**	**144**	*e*Pn		**Pn**	**23 46 42.2**	**+2.0**
	2.9nm,0.8s							
WRA	**Warramunga Arr**	**16.46**	**144**	Pn		**Pn**	**23 46 41.7**	**+1.4**
	0.3nm,0.3s,baz=318,slow=12,SNR=7.9							
WRA				Sn		**Sn**	**23 49 40.0**	**-1.8**
	0.1nm,0.3s,baz=302,slow=25,SNR=4.0							
ASAR	**Alice Springs**	**19.30**	**152**	P		**Pn**	**23 47 14.6**	**-0.6**
	0.3nm,0.3s,baz=330,slow=14,SNR=22							
MKAR	**Makanchi Array**	**64.91**	**330**	P		**P**	**23 53 27.0**	**-0.9**
	0.2nm,0.7s,mb3.3,baz=120,slow=5.5,SNR=2.4							

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*IDC **03** 23:44:07.7±0.6, 2088S×174.26W, h0km, mb5.0/21, mb1 5.0/21, mb1mx4.9/25, mbtmp4.9/21, MS4.6/5, Ms1 4.6/5, ms1mx4.2/19, Error ellipse: s-maj=25.7km s-min=13.0km az=155.0*
*ISCJB **03** 23:44:12.1±0.3, 2065S±0.006×174.36W±0.006, h32km, mb5.0/56, MS4.8/7, Error ellipse: s-maj=9.6km s-min=6.0km az=106.9*
*CSEM **03** 23:44:12.6, 2048S×174.46W, h33km, mb5.5*
*NEIC **03** 23:44:13.9±0.2, 2061S×174.32W, h35km, mb5.0/35, Error ellipse: s-maj=9.9km s-min=5.8km az=143.0*
*BJI **03** 23:44:13.9, 2060S×174.30W, h35km, mB5.5, mb5.2, Ms5.4, Msz5.0*
*SZGRF **03** 23:44:15.3, 20.18S×175.88W, h33km, Tonga Islands*
*MOS **03** 23:44:23.2±1.3, 1804S×174.15W, h33km, mb5.2/17, Error ellipse: s-maj=18.3km s-min=11.8km az=92.0*
ISC 03 23:44:14.0±0.3, 2066S±0.006×174.26W±0.006, h34km, h34km±4km: pP-P, n278, σ0s98/124, mb5.0/56, MS4.8/7, 32C-12D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**7.12**	**20**	Pn		**Pn**	**23 45 48.5**	**-7.3**
	37nm,0.3s,baz=245,slow=2.1,SNR=24							
AFI				Sn		**Sn**	**23 47 02.0**	**-13**
	13nm,0.3s,baz=51,slow=22,SNR=3.6							
AFI				LR		LR	23 48 18.9	
	comp=Z,2μm,18.6s,baz=325,slow=34							
AFI				T			23 52 59.7	
	12nm,0.3s,baz=241,slow=23,SNR=4.3							
AFI	**Afiamalu**	**7.12**	**20**	Pn		**Pn**	**23 45 48.5**	**-7.3**
AFI				Sn		**Sn**	**23 47 02.0**	**-13**
AFI				LR		LR	23 48 18.9	
RAR	**Rarotonga**	**13.55**	**95**	Pn		**Pn**	**23 47 13.0**	**-11**
	4.8nm,0.3s,baz=268,slow=8.2,SNR=15							
RAR				T			00 01 34.1	
	24nm,0.3s,baz=99,slow=19,SNR=3.7							
DZM	**Mont Dzumac**	**18.03**	**262**	P		**Pn**	**23 48 24.8**	**+2.9**
	3.3nm,0.3s,baz=75,slow=20,SNR=28							
URZ	**Urewera**	**19.06**	**201**	P		**Pn**	**23 48 34.2**	**-0.2**
	4.3nm,0.3s,baz=85,slow=2.0,SNR=11							
SNZO	**South Karori**	**22.62**	**202**	*e*P		**P**	**23 49 11.6**	**-0.2**
	27nm,0.5s,mb4.9							
TBI	**Tubuai**	**23.14**	**101**	*e*LQ			23 53 23.9	
	1μm,29.8s							
TBI				*e*LR		LR	23 54 32.4	
	3μm,27.5s							
PPT	**Papeete**	**23.52**	**87**	*e*LQ			23 53 41.8	
	3μm,29.5s							
PPT				*e*LR		LR	23 54 36.9	
	3μm,26.8s							
RPZ	**Rata Peaks**	**26.05**	**205**	P		**P**	**23 49 44.7**	**+0.4**
	17nm,0.5s,mb4.9,baz=310,slow=3.2,SNR=27							
HNR	**Honiara**	**27.25**	**290**	P		**P**	**23 49 55.6**	**+0.6**
	58nm,0.6s,mb5.3,baz=352,slow=0.7,SNR=4.6							
HNR	**Honiara**	**27.25**	**290**	*e*P		**P**	**23 49 55.2**	**+0.2**
HNR				pmax		pmax		
	comp=Z,60nm,0.9s,mb5.1							
HNR	**Honiara**	**27.25**	**290**	*e*P		**P**	**23 49 55.2**	**+0.3**
	comp=Z,70nm,0.9s,mb5.2							
TAOE	**Nuku Hiva Isla**	**34.93**	**75**	*e*LR		LR	00 00 02.5	
	comp=Z,4μm,27.3s							
RKT	**Rikitea**	**36.47**	**101**	*e*LQ			23 59 09.1	
	comp=Z,3μm,34.8s							
RKT				*e*LR		LR	00 00 53.6	
	comp=Z,2μm,26.0s							
CTA	**Charters Tower**	**36.96**	**264**	*e*P		**P**	**23 51 19.3**	**-0.7**
	comp=Z,15nm,0.6s,mb5.0							
CTA	**Charters Tower**	**36.96**	**264**	P		**P**	**23 51 19.9**	**0.0**
	comp=Z,18nm,0.6s,mb5.1,baz=99,slow=9.3,SNR=22							
CTA	**Charters Tower**	**36.96**	**264**	*e*P		**P**	**23 51 19.3**	**-0.7**
CTA				pmax		pmax		
	comp=Z,15nm,0.6s							
CTAO	**Charters Tower**	**36.96**	**264**	*e*P		**P**	**23 51 20.2**	**+0.2**
CTAO				pmax		pmax		
	comp=Z,16nm,0.6s,mb5.0							
CTAO	**Charters Tower**	**36.96**	**264**	*e*P		**P**	**23 51 20.2**	**+0.3**
	comp=Z,16nm,0.6s,mb5.0							
PMG	**Port Moresby**	**38.80**	**281**	P		**P**	**23 51 35.3**	**-0.2**
	comp=Z,24nm,0.9s,mb4.9,baz=76,slow=2.4,SNR=10							
PMG	**Port Moresby**	**38.80**	**281**	*e*P		**P**	**23 51 35.0**	**-0.5**
PMG				pmax		pmax		
	comp=Z,17nm,0.5s							
PMG	**Port Moresby**	**38.80**	**281**	*e*P		**P**	**23 51 35.0**	**-0.5**
	comp=Z,17nm,0.5s,mb5.0							
TAU	**Tasmania Unive**	**39.01**	**226**	P		**P**	**23 51 34.6**	**-2.7**
STKA	**Stephens Creek**	**40.88**	**245**	P		**P**	**23 51 50.7**	**-2.1**
	comp=Z,9.9nm,0.5s,mb4.7,baz=92,slow=10.0,SNR=38							
STKA	**Stephens Creek**	**40.88**	**245**	||*i*P		**P**	**23 51 50.6**	**-2.2**
	comp=Z,9.9nm,0.6s,mb4.6							
STKA				*e*PKKPdf		PKKPdf	00 15 45.0	+1.6
ASAR	**Alice Springs**	**47.89**	**256**	P		**P**	**23 52 48.0**	**-0.8**
	comp=Z,12nm,0.5s,mb5.2,baz=100,slow=7.8,SNR=105							
ASAR				PcP		PcP	23 54 17.1	+0.2
	comp=Z,3.6nm,0.5s,baz=106,slow=3.6,SNR=6.5							
ASAR				S		**S**	**23 59 40.8**	**-3.0**
	comp=Z,0.6nm,0.7s,baz=94,slow=16,SNR=4.4							
WB2	**Warramunga Arr**	**48.03**	**261**	*e*P		**P**	**23 52 49.3**	**-0.6**
WRAB	**Tennant Creek**	**48.04**	**261**	*e*P		**P**	**23 52 49.2**	**-0.7**
WRAB				pmax		pmax		
	comp=Z,27nm,1.0s,mb5.2							
WRAB	**Tennant Creek**	**48.04**	**261**	*e*P		**P**	**23 52 49.2**	**-0.7**
	comp=Z,18nm,1.0s,mb5.1							
WRA	**Warramunga Arr**	**48.05**	**261**	P		**P**	**23 52 48.9**	**-1.1**
	comp=Z,6.9nm,0.5s,mb4.9,baz=98,slow=7.6,SNR=59							
WRA				PcP		PcP	23 54 18.8	+1.2
	comp=Z,4.1nm,0.5s,baz=100,slow=2.9,SNR=5.6							
KAKA	**Kakadu**	**51.48**	**270**	*e*P		**P**	**23 53 15.5**	**-0.6**
	comp=Z,26nm,0.7s,mb5.3							
FORT	**Forrest**	**52.45**	**247**	*e*P		**P**	**23 53 22.8**	**-0.5**
	comp=Z,37nm,0.6s,mb5.5							
GUMO	**Guam**	**52.65**	**307**	P		**P**	**23 53 24.6**	**-0.2**
	comp=Z,56nm,0.7s,mb5.6,baz=188,slow=14,SNR=3.7							
FITZ	**Fitzroy Crossi**	**56.47**	**262**	*e*P		**P**	**23 53 52.4**	**-0.2**
	comp=Z,7.2nm,0.5s,mb5.0							
FITZ	**Fitzroy Crossi**	**56.47**	**262**	P		**P**	**23 53 51.6**	**-1.0**
	comp=Z,3.3nm,0.4s,mb4.7,baz=83,slow=6.2,SNR=27							
SBA	**Scott Base**	**57.97**	**185**	*e*P		**P**	**23 54 06.4**	**+3.3**
	comp=Z,15nm,1.1s,mb4.9							
VNDA	**Vanda**	**58.09**	**186**	P		**P**	**23 54 04.4**	**+0.4**
	comp=Z,3.6nm,0.9s,mb4.4,baz=351,slow=6.0,SNR=12							
VNDA	**Vanda**	**58.09**	**186**	*e*P		**P**	**23 54 06.0**	**+2.1**
	comp=Z,5.3nm,1.0s,mb4.5							
KLBR	**Kellerberrin**	**61.16**	**245**	*e*P		**P**	**23 54 24.6**	**-0.5**
	comp=Z,22nm,0.7s,mb5.4							
MBWA	**Marble Bar**	**61.23**	**257**	*e*P		**P**	**23 54 25.0**	**-0.6**
	comp=Z,7.5nm,0.5s,mb5.1							
NWAO	**Narrogin (SRO)**	**61.42**	**243**	P		**P**	**23 54 26.8**	**-0.2**
	comp=Z,21nm,1.1s,mb5.2,baz=93,slow=8.0,SNR=5.6							
MUN	**Mundaring**	**62.41**	**244**	*e*P		**P**	**23 54 34.5**	**+0.9**
JHJ	**Hachijo jima 2**	**69.17**	**320**	P		**P**	**23 55 17.1**	**+0.1**
	comp=Z,209nm,0.9s,baz=149,slow=6.9,SNR=4.9							
QSPA	**South Pole Qui**	**69.41**	**180**	*e*P		**P**	**23 55 20.3**	**+1.7**
MJAR	**Matsushiro Arr**	**72.46**	**321**	P		**P**	**23 55 36.8**	**-0.3**
	comp=Z,13nm,0.7s,mb5.0,baz=159,slow=6.0,SNR=42							
MAJO	**Matsushiro**	**72.47**	**321**	*e*P		**P**	**23 55 37.1**	**0.0**
MAJO				*e*		pP	23 55 46.8	-0.8
MAJO				pmax		pmax		
	comp=Z,29nm,0.8s,mb5.3							
MAJO	**Matsushiro**	**72.47**	**321**	*e*P		**P**	**23 55 37.1**	**0.0**
	comp=Z,30nm,0.8s,mb5.3							
MAJO				*e*		pP	23 55 46.8	-0.8
MAT	**Matsushiro**	**72.47**	**321**	P		**P**	**23 55 36.7**	**-0.4**
MAT	**Matsushiro**	**72.47**	**321**	*e*P		**P**	**23 55 37.0**	**-0.1**
MAT				pmax		pmax		
	comp=Z,15nm,0.8s,mb5.0							
MAT	**Matsushiro**	**72.47**	**321**	*e*P		**P**	**23 55 37.0**	**-0.1**
	comp=Z,15nm,0.8s,mb5.0							
JOW	**Kunigami**	**72.99**	**308**	P		**P**	**23 55 41.3**	**+1.1**
	comp=Z,29nm,0.8s,mb5.2,baz=128,slow=8.3,SNR=5.0							
KKM	**Kota Kinabalu**	**73.20**	**283**	*e*P		**P**	**23 55 41.6**	**+0.1**
JNU	**Nakatsue**	**74.84**	**315**	P		**P**	**23 55 52.2**	**+1.2**
	comp=Z,43nm,0.5s,mb5.7,baz=321,slow=0.8,SNR=3.1							
ASAJ	**Asahikawa**	**75.59**	**329**	P		**P**	**23 55 56.2**	**+0.8**
	comp=Z,12nm,0.8s,mb4.9,baz=210,slow=2.4,SNR=6.2							
ASAJ	**Asahikawa**	**75.59**	**329**	P		**P**	**23 55 56.2**	**+0.8**
ASAJ				pmax		pmax		
	comp=Z,13nm,0.8s							
LPIG	**La Paz**	**76.50**	**58**	LR		LR	00 25 59.9	
	comp=Z,696nm,18.0s,MS5.0,baz=276,slow=33							
NACB	**Ninganchiao**	**76.69**	**302**	*e*P		**P**	**23 56 01.5**	**-0.2**
KSM	**Kuching**	**76.91**	**277**	*e*P		**P**	**23 56 03.8**	**+0.9**
YHNB	**Yeheng**	**77.11**	**303**	*e*P		**P**	**23 56 04.0**	**0.0**
CMB	**Columbia Colle**	**77.25**	**41**	*e*P		**P**	**23 56 03.5**	**-1.3**
CMB				pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.3							
CMB	**Columbia Colle**	**77.25**	**41**	*e*P		**P**	**23 56 03.5**	**-1.2**
	comp=Z,4.3nm,1.0s,mb4.3							
YSS	**Yuzh-Sakhalins**	**77.66**	**331**	*e*P		**P**	**23 56 07.0**	**0.0**
YSS				*e*		pP	23 56 17.3	-0.3
YSS				pmax		pmax		
	comp=Z,17nm,0.8s,mb5.0							
YSS	**Yuzh-Sakhalins**	**77.66**	**331**	*e*P		**P**	**23 56 07.0**	**0.0**
	comp=Z,17nm,0.8s,mb5.0							
YSS				*e*		pP	23 56 17.3	-0.3
YBH	**Yreka Blue Hor**	**78.27**	**37**	P		**P**	**23 56 10.2**	**-0.2**
	comp=Z,4.2nm,0.9s,mb4.4,baz=185,slow=0.9,SNR=3.9							
TPNV	**Topopah Spring**	**79.19**	**44**	*e*P		**P**	**23 56 15.3**	**-0.2**
TPNV				pmax		pmax		
	comp=Z,8.0nm,0.9s,mb4.7							
TPNV	**Topopah Spring**	**79.19**	**44**	*e*P		**P**	**23 56 15.3**	**-0.3**
	comp=Z,8.2nm,0.9s,mb4.7							
TPH	**Tonopah**	**79.24**	**42**	*e*P		**P**	**23 56 15.8**	**0.0**
TPH				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.7							
TPH	**Tonopah**	**79.24**	**42**	*e*P		**P**	**23 56 15.8**	**+0.1**
	comp=Z,10.0nm,1.0s,mb4.7							
NEN	**Nelson**	**79.36**	**46**	*e*P		**P**	**23 56 16.6**	**+0.2**
KS15	**Wonju Array Si**	**79.38**	**317**	*e*P		**P**	**23 56 17.4**	**+0.8**
KDAK	**Kodiak Island**	**80.21**	**12**	LR		LR	00 25 08.3	
	comp=Z,301nm,21.9s,MS4.6,baz=276,slow=31							
WVOR	**Wild Horse Val**	**81.04**	**38**	*e*P		**P**	**23 56 25.5**	**0.0**
CCUT	**Cedar City**	**81.42**	**45**	*e*P		**P**	**23 56 28.5**	**+1.0**
HABR	**Khabarovsk**	**82.36**	**329**	*e*P		**P**	**23 56 33.3**	**+0.9**
HABR				*e*S		S	00 06 46.9	+0.9
MAW	**Mawson**	**82.58**	**199**	*e*P		**P**	**23 56 34.4**	**+0.8**
	comp=Z,9.8nm,0.8s,mb4.9							
MDJ	**Mudanjiang**	**82.70**	**323**	P		**P**	**23 56 35.5**	**+1.3**
MDJ				AMB		AMB		
	comp=Z,23nm,1.2s,mb5.1							
MDJ				AMB		AMB		
	comp=Z,231nm,6.8s							
MDJ	**Mudanjiang**	**82.70**	**323**	*e*P		**P**	**23 56 34.4**	**+0.2**
	comp=Z,20nm,0.8s,mb5.2							
MDJ				*e*		pP	23 56 45.1	+0.2
NJ2	**Nanjing**	**82.71**	**308**	*e*P		**P**	**23 56 34.3**	**0.0**
NJ2				AP		pP	23 56 44.1	-0.8
NJ2				XP		sP	23 56 48.1	-0.7
NJ2				PP		PP	23 59 45.3	+1.0
NJ2				AMB		AMB		
	comp=Z,340nm,10.0s							
NJ2				LR		LR		
	comp=N,530nm,25.7s							
NJ2				LR		LR		
	comp=E,340nm,20.0s							
NJ2				LR		LR		
	comp=Z,230nm,21.0s,MS4.5							
MSU	**Marysvale**	**82.73**	**44**	*e*P		**P**	**23 56 35.6**	**+1.2**
TMUT	**Trail Mountain**	**83.80**	**44**	*e*P		**P**	**23 56 40.5**	**+0.6**
MNTX	**Cornudas Mount**	**84.02**	**53**	*e*P		**P**	**23 56 41.2**	**+0.2**
	comp=Z,6.0nm,1.1s,mb4.6							
LAZ	**Ladron**	**84.04**	**50**	P		**P**	**23 56 42.0**	**+0.9**
SRU	**San Rafael**	**84.14**	**45**	*e*P		**P**	**23 56 41.8**	**+0.1**
SRU				pmax		pmax		
	comp=Z,9.0nm,0.8s,mb5.0							
SRU	**San Rafael**	**84.14**	**45**	*e*P		**P**	**23 56 41.8**	**+0.1**
	comp=Z,8.8nm,0.8s,mb4.9							
HLID	**Hailey**	**84.20**	**39**	*e*P		**P**	**23 56 41.4**	**-0.6**
	comp=Z,12nm,1.1s,mb5.0							
CTU	**Camp Tracy**	**84.21**	**43**	*e*P		**P**	**23 56 41.7**	**-0.3**
	comp=Z,12nm,1.0s,mb5.0							
BNM	**Barren Site**	**84.28**	**50**	*e*P		**P**	**23 56 43.2**	**+0.9**
LPM	**Los Pinos Moun**	**84.36**	**50**	*e*P		**P**	**23 56 41.3**	**-1.4**
DAU	**Daniels Canyon**	**84.37**	**43**	*e*P		**P**	**23 56 44.7**	**+1.9**
KLR	**Kul'dur**	**84.49**	**328**	*e*P		**P**	**23 56 40.2**	**-3.2**
CN2	**Changchun**	**84.60**	**321**	*e*P		**P**	**23 56 44.0**	**0.0**
CN2				AMB		AMB		
	comp=Z,30nm,1.6s,mb5.2							
CN2				AMB		AMB		
	comp=Z,200nm,5.0s							
CN2				LR		LR		
	comp=N,1μm,17.0s,MS5.4							
CN2				LR		LR		
	comp=E,600nm,17.0s,MS5.4							
CN2				LR		LR		
	comp=Z,300nm,19.0s,MS4.7							
TCUT	**Toone Canyon**	**84.66**	**42**	*e*P		**P**	**23 56 44.6**	**+0.3**
PV10	**Paradox Valley**	**84.74**	**46**	*e*P		**P**	**23 56 49.9**	**+5.2**
ANMO	**Albuquerque**	**84.80**	**50**	P		**P**	**23 56 44.8**	**-0.1**
	comp=Z,3.8nm,0.8s,mb4.6,baz=194,slow=6.9,SNR=9.1							
ANMO	**Albuquerque**	**84.80**	**50**	*e*P		**P**	**23 56 45.5**	**+0.5**
MA2	**Magadan**	**84.91**	**343**	*e*P		**P**	**23 56 43.9**	**-1.6**
MA2				*e*		pP	23 56 54.2	-2.0
MA2				pmax		pmax		
	comp=Z,20nm,1.3s,mb5.1							
MA2	**Magadan**	**84.91**	**343**	*e*P		**P**	**23 56 43.9**	**-1.6**
MA2				*e*		pP	23 56 54.2	-2.0
GDL2	**Guadalupe Moun**	**85.01**	**53**	*e*P		**P**	**23 56 46.9**	**+0.8**
WHN	**Wuhan**	**85.38**	**305**	P		**P**	**23 56 49.0**	**+1.1**
NEW	**Newport**	**85.49**	**34**	*e*P		**P**	**23 56 47.4**	**-1.0**
NEW				pmax		pmax		
	comp=Z,1.0nm,0.4s							
NEW	**Newport**	**85.49**	**34**	*e*P		**P**	**23 56 47.4**	**-1.1**
	comp=Z,1.1nm,0.4s,mb4.3							
SMCO	**Snowmass**	**86.54**	**46**	*e*P		**P**	**23 56 53.6**	**0.0**
	comp=Z,6.7nm,0.9s,mb4.9							
PDAR	**Pinedale Array**	**86.71**	**42**	P		**P**	**23 56 53.8**	**-0.7**
	comp=Z,4.2nm,0.9s,mb4.7,baz=224,slow=6.1,SNR=10							
PDAR				LR		LR	00 32 30.1	
	comp=Z,374nm,18.9s,MS4.8,baz=243,slow=33							
FLWY	**Flagg Ranch**	**86.71**	**40**	*e*P		**P**	**23 56 54.5**	**0.0**
	comp=Z,18nm,1.5s,mb5.1							
CHMT	**Chamberlain Mo**	**86.80**	**37**	*e*P		**P**	**23 56 54.1**	**-0.8**
COLA	**College**	**87.65**	**11**	*e*P		**P**	**23 56 58.0**	**-1.0**
COLA				pmax		pmax		
	comp=Z,36nm,1.0s,mb5.6							
COLA	**College**	**87.65**	**11**	*e*P		**P**	**23 56 58.0**	**-1.0**
	comp=Z,36nm,1.0s,mb5.5							
SNAA	**Sanae**	**87.72**	**177**	*e*P		**P**	**23 56 57.7**	**-1.6**
	comp=Z,8.7nm,1.0s,mb4.9							
ILAR	**Eielson Array**	**87.73**	**11**	P		**P**	**23 56 57.8**	**-1.6**
	comp=Z,3.5nm,0.7s,mb4.7,baz=217,slow=5.3,SNR=28							
ILAR				PP		PP	00 00 30.1	+5.0
	comp=Z,1.0nm,0.9s,baz=220,slow=7.8,SNR=4.3							
PSI	**Prapat**	**88.00**	**274**	P		**P**	**23 57 01.1**	**+0.4**
	comp=Z,6.8nm,0.6s,mb5.1,baz=201,slow=5.4,SNR=12							
BJT	**Baijiatuan**	**88.49**	**314**	*e*P		**P**	**23 57 04.4**	**+1.4**
DAWY	**Dawson**	**88.69**	**15**	*e*P		**P**	**23 57 03.6**	**-0.3**
BILL	**Bilibino**	**89.59**	**353**	*e*P		**P**	**23 57 07.2**	**-1.0**
BILL				*i*		pP	23 57 17.4	-1.5
BILL				pmax		pmax		
	comp=Z,27nm,2.5s,mb5.1							
BILL				MLR		MLR		
	comp=Z,500nm,19.0s,MS5.0							
BILL	**Bilibino**	**89.59**	**353**	*e*P		**P**	**23 57 07.2**	**-1.0**
	comp=Z,27nm,2.5s,mb5.1							
BILL				*i*		pP	23 57 17.4	-1.5
BILL				LR		LR		
	comp=Z,500nm,19.0s,MS5.0							
RSSD	**Black Hills**	**90.87**	**43**	*e*P		**P**	**23 57 13.3**	**-0.8**
RSSD				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.8							
RSSD	**Black Hills**	**90.87**	**43**	*e*P		**P**	**23 57 13.3**	**-0.8**
	comp=Z,3.8nm,0.9s,mb4.7							
XAN	**Xi'an**	**91.04**	**306**	P		**P**	**23 57 16.2**	**+1.3**
XAN				AMB		AMB		
	comp=Z,22nm,1.6s,mb5.2							
HHC	**Hu-ho-hao-te**	**91.99**	**313**	⇑P		**P**	**23 57 20.9**	**+1.6**
HHC				AP		pP	23 57 30.8	+0.7
HHC				XP		sP	23 57 35.0	+1.1
HHC				AMB		AMB		
	comp=Z,11nm,1.1s,mb5.1							
INK	**Inuvik**	**93.54**	**14**	P		**P**	**23 57 25.1**	**-1.4**
	comp=Z,3.3nm,0.7s,mb4.9,baz=221,slow=4.5,SNR=20							
INK	**Inuvik**	**93.54**	**14**	*e*P		**P**	**23 57 25.1**	**-1.4**
CHTO	**Chiang Mai**	**93.60**	**289**	*e*P		**P**	**23 57 28.4**	**+1.6**
CHTO				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb5.2							
CHTO	**Chiang Mai**	**93.60**	**289**	*e*P		**P**	**23 57 28.4**	**+1.7**
	comp=Z,7.8nm,0.8s,mb5.2							
YKA	**Yellowknife Ar**	**95.22**	**24**	P		**P**	**23 57 32.9**	**-1.2**
	comp=Z,1.6nm,0.7s,mb4.5,baz=237,slow=4.4,SNR=36							
YKA				PP		PP	00 01 28.0	+3.7
	comp=Z,0.3nm,1.0s,baz=241,slow=7.6,SNR=3.6							
YKA	**Yellowknife Ar**	**95.22**	**24**	P		**P**	**23 57 32.9**	**-1.2**
YKA				PP		PP	00 01 28.0	+3.7
YKW3	**Yellowknife Ar**	**95.25**	**24**	*e*P		**P**	**23 57 33.1**	**-1.2**
LZH	**Lanzhou**	**95.67**	**306**	*e*P		**P**	**23 57 37.1**	**+0.9**
LZH				AMB		AMB		
	comp=Z,25nm,1.4s,mb5.5							
SONM	**Songino Array**	**98.19**	**318

BURAR Bucovina Array 148.83 334 ⇑P PKPbc PKPbc 00 03 58.7 +0.7
CLL Collm 148.88 351 *e*PKPbc PKPbc 00 03 57.2 -1.0
CLL Collm 148.88 351 ⇑*i*PKPbc PKPbc 00 03 57.9 -0.3
comp=Z,23nm,0.7s
CLL *i* PKPab PKPab 00 04 01.4 -0.8
comp=Z,15nm,0.7s
CLL *i* pPKPbc pPKPbc 00 04 09.5 +0.3
CLL Collm 148.88 351 ⇑*i*PKIKP PKPbc 00 03 57.9 -0.3
CLL *i* 00 04 01.4
CLL pmax pmax
comp=Z,23nm,0.7s
CLL pmax pmax
comp=Z,15nm,0.7s
CLL Collm 148.88 351 ⇑*i*PKP PKPbc 00 03 57.9 -0.3
CLL *i* PKP PKPab 00 04 01.4 -0.8
GTTG Gvttingen 149.00 355 *e*PKPbc PKPbc 00 03 58.3 -0.2
NIE Niedzica 149.04 341 *e*PKP PKPbc 00 03 59.0 +0.4
CANT Cankiri 149.05 316 *e*P PKPbc 00 03 59.6 +1.0
AVNT Avonos 149.12 312 *i* P PKPdf 00 03 56.8 +2.2
UPC Upice 149.13 347⇑*e*PKPB PKPbc 00 03 59.1 +0.3
UPC *e*pPKP pPKPdf 00 04 10.8 +5.2
BRG Berggiesshubel 149.16 350 *e*PKPbc PKPbc 00 03 57.7 -1.2
BRG Berggiesshubel 149.16 350 *i* PKP PKPbc 00 03 58.9 0.0
comp=Z,11nm,0.8s
BRG *i* 00 04 08.8
comp=Z,9.3nm,0.9s
BRG Berggiesshubel 149.16 350 *i* PKIKP PKPbc 00 03 58.9 0.0
BRG *i* 00 04 08.8
BRG pmax pmax
comp=Z,11nm,0.8s
DPC Dobruska-Polom 149.21 347⇑*e*PKPB PKPbc 00 03 59.5 +0.5
DPC *e*PKPAB PKPab 00 04 03.9 +0.4
DPC *e*pPKP pPKPdf 00 04 11.2 +5.4
BUG Bochum--Univer 149.26 358 *e*PKPbc PKPbc 00 03 58.7 -0.4
BUG *e*PKPab PKPab 00 04 02.6 -1.1
OKC Ostrava-Krasne 149.26 344⇑*e*PKPB PKPbc 00 03 59.4 +0.3
CFR Carcaliu 149.35 328 ⇓*i*P PKPbc 00 03 59.3 -0.1
CFR Carcaliu 149.35 328 ⇓P PKPbc 00 03 59.3 -0.1
MORC Moravsky Berou 149.47 345⇑*i*P PKPbc 00 04 00.1 +0.5
MORC Moravsky Berou 149.47 345 ⇑P PKPbc 00 04 00.1 +0.5
BR131 Keskin Array S 149.49 315 *e*PKPbc PKPbc 00 04 00.2 +0.5
BRTR Keskin Array B 149.49 315 PKP PKPdf 00 03 54.9 -0.3
comp=Z,0.9nm,0.7s,baz=49,slow=4.4,SNR=4.8
BRTR PKPbc PKPbc 00 03 59.5 -0.2
comp=Z,4.8nm,0.6s,baz=136,slow=3.6,SNR=30
BRTR PP PP 00 07 34.2 +2.0
comp=Z,2.7nm,1.1s,baz=77,slow=2.8,SNR=3.9
VRI Vrincioaia 149.52 330 ⇑*i*P PKPbc 00 03 59.0 -0.8
VRI Vrincioaia 149.52 330 ⇑P PKPbc 00 03 59.0 -0.8
PLOR Plostina 149.57 330 ⇑*i*P PKPbc 00 03 59.2 -0.7
KAMT Kaman 149.62 314 *e*P PKPbc 00 03 59.7 -0.3
MOX Moxa 149.72 353 *e*PKPbc PKPbc 00 03 58.8 -1.4
MOX Moxa 149.72 353 *e*PKP PKPbc 00 04 00.0 -0.2
comp=Z,50nm,2.0s
MOX *e* 00 04 10.0
MOX Moxa 149.72 353 *e*PKIKP PKPbc 00 04 00.0 -0.2
MOX *e* 00 04 10.0
MOX pmax pmax
comp=Z,50nm,2.0s
HARR Harsova 149.80 328 ⇑*i*P PKPbc 00 04 00.9 +0.4
HARR Harsova 149.80 328 ⇑P PKPbc 00 04 00.9 +0.5
WERD Werda 149.82 352 *e*PKPbc PKPbc 00 03 59.0 -1.5
PRU Prushonice 149.91 349⇑*e*PKPB PKPbc 00 04 00.9 +0.2
PRU *e*PKPAB PKPab 00 04 04.5 -1.9
PRU *e*pPKP pPKPdf 00 04 12.4 +5.5
HGN Heimansgroeve 149.96 360 *e*PKiKP PKPab 00 04 05.4 -1.2
ANTO Ankara 149.98 316 ⇑*i*P PKPbc 00 04 01.6 +0.7
NKC Novy Kostel 150.01 351⇑*e*PKPB PKPbc 00 04 01.4 +0.4
SGKT Sivrigoynuk 150.07 317 *i* P PKPbc 00 04 01.6 +0.5
VRAC Vranov 150.13 346 ⇓*i*P PKPbc 00 04 01.6 +0.4
VRAC Vranov 150.13 346 ⇓P PKPbc 00 04 01.6 +0.3
MLR Muntele Rosu 150.17 331 ⇑*i*P PKPbc 00 04 00.8 -0.5
MLR Muntele Rosu 150.17 331 ⇑P PKPbc 00 04 00.8 -0.6
MANZ Manzenberg 150.30 352 *e*PKPbc PKPbc 00 04 00.7 -1.0
TREC Trest 150.38 347⇑*e*PKPB PKPbc 00 04 01.9 0.0
TREC *e*PKPAB PKPab 00 04 05.4 -2.9
TREC *e*pPKP pPKPdf 00 04 13.3 +5.7
TNS Taunus Mts 150.42 356 *e*PKPbc PKPbc 00 04 01.2 -0.7
TNS *e*PKPab PKPab 00 04 07.6 -0.9
TNS Taunus Mts 150.42 356 *e*PKIKP PKPbc 00 04 01.2 -0.7
TNS *e* 00 04 07.6
PSZ Piszkesteto 150.50 340⇓*e*pPKP/F PKPbc 00 04 02.7 +0.6
PSZ Piszkesteto 150.50 340⇓*i*P PKPbc 00 04 02.6 +0.5
ROTZ Rotzenmuhle 150.50 351 *e*PKPbc PKPbc 00 04 01.7 -0.4
MEST Erdemli 150.59 309 *i* P PKPbc 00 04 02.7 +0.4
GIVF Givet 150.61 1 *e*PKP1 PKPbc 00 04 02.2 -0.2
comp=Z,29nm,0.8s
VOIR 150.61 332 ⇑*i*P PKPbc 00 04 03.2 +0.8
VOIR 150.61 332 ⇑P PKPbc 00 04 03.2 +0.8
BAIF Baives 150.64 2 *e*PKP1 PKPbc 00 04 02.4 -0.1
comp=Z,21nm,0.7s
SMOL Smolenice 150.66 344 *e*PKIKP PKPbc 00 04 03.0 +0.5
GRA1 Grafenberg Arr 150.70 353 *e*PKPbc PKPbc 00 04 02.2 -0.4
GRA1 *e*PKPab PKPab 00 04 07.8 -1.8
GRF Grafenberg Arr 150.70 353 *e*PKPbc PKPbc 00 04 02.2 -0.4
GRF *e*PKPab PKPab 00 04 07.8 -1.8
GRF Grafenberg Arr 150.70 353 *e*PKIKP PKPbc 00 04 02.2 -0.4
GRF *e* 00 04 07.8
KHC Kasperske Hory 150.91 349⇑*e*PKPB PKPbc 00 04 03.6 +0.5
KHC *e*PKPAB PKPab 00 04 08.3 -2.2
KHC *e*pPKP pPKPdf 00 04 14.0 +5.5
WET Wettzell 151.01 350 *e*PKPbc PKPbc 00 04 02.2 -1.1
WET Wettzell 151.01 350 *e*PKHKP PKPbc 00 04 02.2 -1.1
WLF Walferdange 151.06 359 *e*PKPbc PKPbc 00 04 03.2 -0.2
WLF *e*PKPab PKPab 00 04 09.7 -1.4
IKL Isikli 151.07 308 P PKPbc 00 04 02.4 -1.1
KIZT Kizilcal 151.10 315 P PKPbc 00 04 03.2 -0.3
GEC2 GERESS Array S 151.16 349 *e*PKPbc PKPbc 00 04 02.7 -1.0
GEC2 GERESS Array S 151.16 349 *e*PKHKP PKPbc 00 04 02.7 -1.0
GERES GERESS Array B 151.16 349 PKP PKPdf 00 03 57.5 -0.3
comp=Z,0.5nm,0.8s,baz=48,slow=4.0,SNR=4.4
GERES PKPbc PKPbc 00 04 03.6 -0.1
comp=Z,4.7nm,0.6s,baz=28,slow=2.2,SNR=45
ERMK Ermenek 151.46 310 *i* P PKPbc 00 04 05.6 +1.2
FLN La Foliniere 151.52 9 *e*PKP1 PKPbc 00 04 03.8 -0.7
comp=Z,33nm,0.8s
SOP Sopron 151.65 345⇓*e*pPKP/F PKPbc 00 04 05.4 +0.6
SGMF Saint Gilles 151.67 12 *e*PKP1 PKPbc 00 04 03.9 -1.0
comp=Z,16nm,0.8s
LDF La Druitiere 151.73 8 *e*PKP1 PKPbc 00 04 04.2 -0.8
comp=Z,33nm,0.9s
STU Stuttgart 151.81 355 *e*PKPbc PKPbc 00 04 05.3 +0.1
GRR Gorron 151.83 9 *e*PKP1 PKPbc 00 04 04.6 -0.6
comp=Z,31nm,0.7s
BZS Buzias 151.89 336⇑*i*P PKPbc 00 04 05.2 -0.2
MOA Molln 152.01 348⇑*i*P PKPbc 00 04 05.4 -0.3
comp=Z,6.1nm,0.6s
FUR Furstenfeldbru 152.20 352 *e*PKPbc PKPbc 00 04 05.3 -0.8
MEZF Maizieres J'vi 152.22 1 *e*PKP1 PKPbc 00 04 06.1 0.0
comp=Z,14nm,0.8s
CDF Champ du Feu 152.28 358 *e*PKP1 PKPbc 00 04 06.1 -0.2
comp=Z,26nm,1.0s
PKSM Moragy 152.41 340⇓*i*P PKPbc 00 04 05.2 -1.3
PKSM Moragy 152.41 340⇓*e*P PKPbc 00 04 06.6 +0.1
HAU Haudompre 152.71 359 *e*PKP1 PKPbc 00 04 07.9 +0.7
comp=Z,16nm,0.7s
HINF Hinteralfeld 152.89 358 *e*PKP1 PKPbc 00 04 07.0 -0.6
comp=Z,6.5nm,0.6s
KBA Koelnbreinsper 152.93 349⇑*i*P PKPbc 00 04 07.6 0.0
comp=Z,7.4nm,0.7s
WTTA Wattenberg 153.03 351⇑*i*P PKPbc 00 04 07.4 -0.6
comp=Z,16nm,0.5s,SNR=8.3
DAVA Damuels 153.22 354⇑*i*P PKPbc 00 04 08.8 +0.5
comp=Z,11nm,1.0s
HYF Humbligny 153.34 5 *e*PKP1 PKPbc 00 04 08.5 -0.1
LOR Lormes 153.41 3 *e*PKP1 PKPbc 00 04 08.5 -0.2
comp=Z,20nm,1.1s
SSF Saint Saulge 153.60 3 *e*PKP1 PKPbc 00 04 09.0 -0.2
comp=Z,20nm,1.0s
MFF Saint Martin d 153.68 9 *e*PKP1 PKPbc 00 04 09.1 -0.2
comp=Z,7.3nm,0.9s
AVF Avril sur Loir 153.86 4 *e*PKP1 PKPbc 00 04 09.1 -0.6
comp=Z,10nm,1.0s
SMF Signal de Mont 154.03 3 *e*PKP1 PKPbc 00 04 09.8 -0.3
comp=Z,5.9nm,0.9s
BGF Bois d'Agland 154.06 5 *e*PKP1 PKPbc 00 04 09.8 -0.3
comp=Z,12nm,0.7s
CABF La Chapelle 154.11 359 *e*PKP1 PKPbc 00 04 10.7 +0.4
comp=Z,28nm,1.2s
TCF Toulx Ste Croi 154.27 6 *e*PKP1 PKPbc 00 04 10.1 -0.5
comp=Z,6.5nm,0.8s
LPG La Plagne 155.21 358 *e*PKP1 PKPdf 00 04 13.3 +10
comp=Z,9.8nm,1.0s
ORIF Oris-en-Rattie 155.81 360 *e*PKP1 PKPdf 00 04 14.0 +10
LASF Ste Croix 156.60 3 *e*PKP1 PKPdf 00 04 13.7 +8.2
ESDC Sonseca Array 159.30 22 PKPab PKPab 00 04 44.8 -1.4
comp=Z,0.7nm,0.6s,baz=330,slow=2.8,SNR=4.9
MDT Midelt 164.78 35 PKP PKPdf 00 04 13.2 -1.2
comp=Z,2.9nm,0.8s,baz=258,slow=9.6,SNR=5.4
TORD Torodi Ar. Bea 171.59 152 PKP PKPdf 00 04 18.9 -0.1
comp=Z,1.7nm,0.9s,baz=320,slow=1.0,SNR=7.0
TORD PKPab PKPab 00 05 38.8 -1.5
comp=Z,0.3nm,0.8s,baz=200,slow=3.8,SNR=2.3

*ISCJB **03** 23:50:30.8±1.7, 2386N×007°×1419E±0.1, h45km±14km, mb3.8/11, Error ellipse: s-maj=19.2km s-min=11.7km az=19.3*
*NEIC **03** 23:50:31.5±2.7, 2387N×14201E, h34km±18km, mb3.8/4, Error ellipse: s-maj=13.7km s-min=8.6km az=102.0*
*IDC **03** 23:50:33.7±2.8, 2392N×14222E, h62km±30km, mb3.5/7, mb1 3.7/9, mb1mx3.6/21, mbtmp3.9/9, ML4.4/2, Error ellipse: s-maj=69.7km s-min=16.8km az=84.0*
ISC 03 23:50:32.4±1.4, 2383N±007×1420E±01, h43km±11km, n34, σ0s98/39, mb3.8/11, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**2.80**	**4**	P			**Pn**	**23 51 16.6**	**+1.9**
JHHJ				S			**Sn**	**23 51 48.4**	**+1.2**
CBIJ	**Chichi jima**	**3.26**	**4**	P			**Pn**	**23 51 22.4**	**+1.4**
	60nm,0.3s,baz=303,slow=14,SNR=34								
CBIJ				S			**Sn**	**23 51 58.1**	**-0.4**
	41nm,0.3s,baz=125,slow=23,SNR=14								
CBIJ	**Chichi jima**	**3.26**	**4**	P			**Pn**	**23 51 22.4**	**+1.4**
CBIJ				S			**Sn**	**23 51 59.7**	**+1.1**
BSO1	**Boso 1**	**10.82**	**356**	P			**Pn**	**23 53 04.1**	**-0.6**
JOD2	**Odawara 2**	**11.67**	**348**	P			**Pn**	**23 53 16.7**	**+0.5**
JNY	**Yasuok**	**12.03**	**344**	P			**Pn**	**23 53 22.0**	**+0.8**
JNY				S			**Sn**	**23 55 34.8**	**+0.9**
JAO	**Obara**	**12.11**	**341**	P			**Pn**	**23 53 24.7**	**+2.4**
JHU	**Hanno**	**12.21**	**350**	P			**Pn**	**23 53 23.2**	**-0.4**
JHU				S			**Sn**	**23 55 33.1**	**-5.2**
JRY	**Ryogami san**	**12.43**	**348**	P			**Pn**	**23 53 25.9**	**-0.8**
JAG	**Ashikaga**	**12.74**	**351**	P			**Pn**	**23 53 28.6**	**-2.3**
JHO	**Hitachi**	**12.80**	**355**	P			**Pn**	**23 53 30.2**	**-1.5**
MJAR	**Matsushiro Arr**	**13.08**	**347**	P			**Pn**	**23 53 34.4**	**-1.1**
	1.6nm,0.3s,baz=153,slow=11,SNR=17								
MAJO	**Matsushiro**	**13.08**	**347**	*e*Pn			**Pn**	**23 53 34.7**	**-0.9**
	4.9nm,0.4s								
MAT	**Matsushiro**	**13.08**	**347**	P			**Pn**	**23 53 33.8**	**-1.7**
MAT	**Matsushiro**	**13.08**	**347**	P			**Pn**	**23 53 34.8**	**-0.7**
MAT				S			Sn	23 55 37.2	-22
MAT	**Matsushiro**	**13.08**	**347**	P			**Pn**	**23 53 34.0**	**-1.5**
	8.0nm,1.0s								
JMK	**Ichinoseki**	**15.09**	**358**	P			**Pn**	**23 54 01.3**	**-1.3**
NACB	**Ninganchiao**	**18.61**	**275**	*e*P			**Pn**	**23 54 46.9**	**+0.2**
YHNB	**Yeheng**	**18.79**	**277**	P			**Pn**	**23 54 48.5**	**-0.3**
ULN	**Ulaanbaatar**	**36.61**	**320**	P			**P**	**23 57 34.3**	**-0.1**
SONM	**Songino Array**	**36.99**	**319**	P			**P**	**23 57 37.9**	**+0.3**
	0.3nm,0.6s,mb3.3,baz=119,slow=7.9,SNR=3.5								
WRA	**Warramunga Arr**	**44.13**	**190**	P			**P**	**23 58 36.9**	**+0.4**
	1.4nm,0.4s,mb4.1,baz=7.4,slow=7.8,SNR=13								
LSA	**Lhasa**	**45.45**	**289**	*e*P			**P**	**23 58 48.3**	**+1.2**
	2.1nm,0.3s,mb4.5								
ASAR	**Alice Springs**	**47.85**	**190**	P			**P**	**23 59 06.6**	**+0.7**
	0.3nm,0.4s,mb3.6,baz=19,slow=12,SNR=5.3								
MKAR	**Makanchi Array**	**52.44**	**312**	P			**P**	**23 59 41.2**	**+0.7**
	0.4nm,0.4s,mb3.7,baz=88,slow=9.2,SNR=7.5								
KURK	**Kurchatov**	**55.16**	**316**	*e*P			**P**	**00 00 00.4**	**-0.1**
	0.5nm,0.5s,mb3.8								
BVAR	**Borovoye Array**	**60.33**	**319**	P			**P**	**00 00 36.5**	**-0.3**
	0.7nm,0.5s,mb4.0,baz=94,slow=6.1,SNR=5.8								
BRVK	**Borovoye**	**60.39**	**319**	*e*P			**P**	**00 00 38.0**	**+0.8**
	0.4nm,0.4s,mb3.8								
ZRNK	**Zerenda**	**61.17**	**319**	*e*P			**P**	**00 00 42.3**	**-0.2**
	0.3nm,0.4s,mb3.8								
INK	**Inuvik**	**66.08**	**24**	P			**P**	**00 01 15.2**	**+0.3**
ARCES	**ARCESS Array B**	**76.55**	**341**	P			**P**	**00 02 17.2**	**-0.9**
	0.8nm,0.5s,mb3.9,baz=74,slow=9.0,SNR=9.5								
JOF	**Joensuu**	**77.92**	**334**	*e*p			**P**	**00 02 25.7**	**0.0**
KAF	**Kangasniemi**	**80.32**	**335**	*e*p			**P**	**00 02 38.6**	**-0.3**
FINES	**FINESS Array B**	**80.78**	**334**	P			**P**	**00 02 40.1**	**-1.2**
	0.7nm,0.5s,mb3.8,baz=73,slow=4.8,SNR=8.0								

*CSEM **03** 23:55:50.9, 1462S×16758E, h33km, mb5.6*
*LDG **03** 23:55:51.2±0.9, 1490S×16740E, h33km, Mb5.5/4, Error ellipse: s-maj=81.7km s-min=41.2km az=177.0*
*SZGRF **03** 23:55:56.6, 2068S×17420E, h250km, Vanuatu Islands region*
*BJI **03** 23:56:07.0, 1432S×16743E, h159km, mB5.1, mb4.9*
*ISCJB **03** 23:56:07.5±0.2, 1471S±004×16725E±004, h170km, mb5.1/61, Error ellipse: s-maj=5.8km s-min=5.3km az=1.2*
*NEIC **03** 23:56:08.7±0.2, 1466S×16729E, mb5.2/32, Error ellipse: s-maj=7.0km s-min=6.0km az=128.0*
*IDC **03** 23:56:08.6±0.5, 1472S×16725E, h167km±4km, mb4.6/21, mb1 4.7/23, mb1mx4.7/24, mbtmp5.1/23, Error ellipse: s-maj=10.1km s-min=8.5km az=109.0*
*MOS **03** 23:56:11.8±1.5, 1468S×167.10E, h196km, mb5.2/22, Error ellipse: s-maj=9.1km s-min=8.3km az=100.6*
ISC 03 23:56:09.4±0.2, 1471S±004×16730E±004, h172km, h172km±3.1km:pP-P,n403,σ1s05/147, mb5.1/61,28C-26D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**3.08**	**163**	⇑*i*P			**Pn**	**23 56 56.3**	**-2.2**
DZM	**Mont Dzumac**	**7.37**	**186**	P			**Pn**	**23 57 53.8**	**-0.4**
	40nm,0.3s,baz=36,slow=20,SNR=198								
DZM				S			**Sn**	**23 59 19.2**	**+2.2**
	38nm,0.3s,baz=317,slow=24,SNR=6.0								
HNR	**Honiara**	**8.90**	**305**	P			**Pn**	**23 58 14.7**	**+0.2**
	18nm,0.3s,baz=59,slow=1.7,SNR=26								
AFI	**Afiamalu**	**20.29**	**90**	P			**P**	**00 00 33.5**	**+1.8**
	86nm,0.8s,baz=70,slow=14,SNR=8.4								
PMG	**Port Moresby**	**20.38**	**283**	P			**P**	**00 00 34.0**	**+1.2**
	31nm,0.7s,baz=86,slow=8.1,SNR=15								
PMG	**Port Moresby**	**20.38**	**283**	P			**P**	**00 00 33.6**	**+0.8**
PMG				pmax			pmax		
	comp=Z,114nm,1.2s								
PMG	**Port Moresby**	**20.38**	**283**	P			**P**	**00 00 33.6**	**+0.8**
	comp=Z,114nm,1.2s								
CTA	**Charters Tower**	**20.78**	**252**	*e*P			**P**	**00 00 37.7**	**+0.8**
	comp=Z,29nm,0.7s								
CTA	**Charters Tower**	**20.78**	**252**	P			**P**	**00 00 38.0**	**+1.1**
	comp=Z,36nm,0.7s,baz=79,slow=12,SNR=25								
CTA	**Charters Tower**	**20.78**	**252**	*e*P			**P**	**00 00 37.7**	**+0.8**
CTA				pmax			pmax		
	comp=Z,29nm,0.7s								
CTAO	**Charters Tower**	**20.78**	**252**	P			**P**	**00 00 38.0**	**+1.1**
CTAO				pmax			pmax		
	comp=Z,117nm,1.2s								
CTAO	**Charters Tower**	**20.78**	**252**	P			**P**	**00 00 38.0**	**+1.0**
	comp=Z,117nm,1.2s								
ARMA	**Armidale**	**21.27**	**220**	*e*P			**P**	**00 00 44.1**	**+2.0**
ARMA				*e*S			**S**	**00 04 31.9**	**+3.7**
RIV	**Riverview**	**24.00**	**215**	*e*P			**P**	**00 01 09.6**	**+1.4**
URZ	**Urewera**	**25.01**	**162**	P			**P**	**00 01 16.8**	**-0.5**
	comp=Z,11nm,0.4s,mb4.7,baz=189,slow=4.5,SNR=14								
CNB	**Canberra Magne**	**26.09**	**215**	⇑*i*P			**P**	**00 01 27.9**	**+0.8**
	comp=Z,45nm,0.7s,mb5.2								
SNZO	**South Karori**	**27.27**	**168**	*e*P			**P**	**00 01 38.1**	**+0.4**
STKA	**Stephens Creek**	**29.03**	**230**	⇑*i*P			**P**	**00 01 52.4**	**-0.8**
	comp=Z,74nm,0.8s,mb5.5								
STKA				*e*				00 04 55.4	
STKA	**Stephens Creek**	**29.03**	**230**	P			**P**	**00 01 52.5**	**-0.7**
	comp=Z,104nm,0.8s,mb5.6,baz=44,slow=7.8,SNR=113								
STKA				PcP			PcP	00 04 55.7	-1.4
	comp=Z,29nm,0.9s,baz=25,slow=5.4,SNR=5.4								
STKA	**Stephens Creek**	**29.03**	**230**	*e*P			**P**	**00 01 52.9**	**-0.3**
STKA				*e*				00 04 55.4	
RPZ	**Rata Peaks**	**29.09**	**174**	P			**P**	**00 01 52.7**	**-1.1**
	comp=Z,49nm,0.8s,mb5.3,baz=287,slow=0.7,SNR=17								
TOO	**Toolangi**	**29.88**	**216**	*e*P			**P**	**00 02 01.7**	**+0.9**
	comp=Z,32nm,1.0s,mb5.0								
TOO	**Toolangi**	**29.88**	**216**	*e*P			**P**	**00 02 01.7**	**+0.9**
TOO				pmax			pmax		
	comp=Z,32nm,1.0s,mb5.0								
WB2	**Warramunga Arr**	**31.85**	**256**	⇑*i*P			**P**	**00 02 16.9**	**-1.1**
WB2				*e*S			**S**	**00 07 12.3**	**-3.5**
WB2				*e*				00 08 48.1	
WRAB	**Tennant Creek**	**31.85**	**256**	P			**P**	**00 02 17.9**	**-0.1**
	comp=Z,171nm,0.6s,mb6.0,SNR=21								
WRAB	**Tennant Creek**	**31.85**	**256**	P			**P**	**00 02 17.4**	**-0.6**
WRAB				pmax			pmax		
	comp=Z,48nm,1.0s,mb5.2								
WRAB	**Tennant Creek**	**31.85**	**256**	*e*P			**P**	**00 02 17.2**	**-0.8**
	comp=Z,33nm,1.0s,mb5.0								
WRAB				*e*pP			pP	00 02 56.9	+3.1
WRA	**Warramunga Arr**	**31.86**	**256**	P			**P**	**00 02 17.6**	**-0.5**
	comp=Z,15nm,0.5s,mb5.0,baz=82,slow=7.2,SNR=65								
WRA				S			**S**	**00 07 13.4**	**-2.6**
	comp=Z,15nm,1.3s,baz=82,slow=14,SNR=9.2								
ASAR	**Alice Springs**	**32.71**	**249**	P			**P**	**00 02 25.1**	**-0.4**
	comp=Z,42nm,0.6s,mb5.4,baz=78,slow=8.8,SNR=171								
ASAR				PcP			PcP	00 05 07.3	+0.4
	comp=Z,5.4nm,0.6s,baz=70,slow=2.2,SNR=5.6								
ASAR				S			**S**	**00 07 27.2**	**-1.9**
	comp=Z,1.7nm,0.8s,baz=78,slow=17,SNR=3.9								
ASAR				ScP			ScP	00 08 37.8	+3.1
	comp=Z,5.6nm,1.0s,baz=96,slow=3.3,SNR=9.1								
TAU	**Tasmania Unive**	**32.93**	**208**	*e*P			**P**	**00 02 28.4**	**+0.9**
TAU				pmax			pmax		
	comp=Z,27nm,0.9s,mb5.0								
TAU	**Tasmania Unive**	**32.93**	**208**	*e*P			**P**	**00 02 28.4**	**+1.0**
	comp=Z,27nm,0.9s,mb5.0								
KAKA	**Kakadu**	**33.91**	**269**	⇑*i*P			**P**	**00 02 35.9**	**0.0**
	comp=Z,12nm,0.5s,mb4.9								
FORT	**Forrest**	**39.33**	**239**	⇓*i*P			**P**	**00 03 22.1**	**+0.3**
	comp=Z,120nm,0.6s,mb5.7								
FITZ	**Fitzroy Crossi**	**40.05**	**259**	*e*P			**P**	**00 03 27.2**	**-0.5**
	comp=Z,66nm,0.6s,mb5.4								
FITZ				*e*S			**S**	**00 09 18.2**	**-2.4**
PAE	**Paea**	**41.45**	**100**	*e*P			**P**	**00 03 40.0**	**+0.9**
	comp=Z,116nm,1.1s,mb5.4								
TVO	**Taravao**	**41.76**	**100**	*e*P			**P**	**00 03 42.8**	**+1.2**
	comp=Z,195nm,1.1s,mb5.6								
PMOR	**Pomariorio Ree**	**43.25**	**96**	*e*P			**P**	**00 03 55.2**	**+1.5**
	comp=Z,109nm,1.0s,mb5.4								
VAH	**Vaihoa**	**43.48**	**97**	*e*P			**P**	**00 03 56.8**	**+1.3**
	comp=Z,76nm,0.9s,mb5.3								
MBWA	**Marble Bar**	**45.58**	**255**	*e*P			**P**	**00 04 12.6**	**+0.5**
	comp=Z,36nm,0.6s,mb5.2								
MBWA				*e*sP			sP	00 05 07.6	-1.5
KLBR	**Kellerberrin**	**48.14**	**241**	⇓*i*P			**P**	**00 04 31.4**	**-0.6**
	comp=Z,64nm,1.1s,mb5.2								
NWAO	**Narrogin (SRO)**	**48.78**	**239**	P			**P**	**00 04 36.9**	**-0.1**
	comp=Z,112nm,0.9s,mb5.5,baz=82,slow=7.3,SNR=25								
NWAO	**Narrogin (SRO)**	**48.78**	**239**	P			**P**	**00 04 36.9**	**0.0**
NWAO				pmax			pmax		
	comp=Z,110nm,1.0s								
NWAO	**Narrogin (SRO)**	**48.78**	**239**	P			**P**	**00 04 36.9**	**0.0**
	comp=Z,99nm,0.9s,mb5.4								
MUN	**Mundaring**	**49.50**	**240**	*e*P			**P**	**00 04 41.6**	**-0.7**
KKM	**Kota Kinabalu**	**54.68**	**288**	P			**P**	**00 05 21.6**	**+1.0**
JOW	**Kunigami**	**56.05**	**317**	P			**P**	**00 05 31.0**	**+0.7**
	comp=Z,24nm,0.8s,mb5.1,baz=157,slow=12,SNR=6.3								
MJAR	**Matsushiro Arr**	**57.90**	**332**	P			**P**	**00 05 42.5**	**-0.8**
	comp=Z,4.4nm,0.6s,mb4.5,baz=170,slow=8.3,SNR=22								
MJAR				pP			pP	00 06 21.8	-1.0
	comp=Z,7.0nm,0.9s,baz=161,slow=7.0,SNR=5.5								
MAJO	**Matsushiro**	**57.90**	**332**	*e*P			**P**	**00 05 43.0**	**-0.3**
MAJO				pmax			pmax		
	comp=Z,15nm,0.8s,mb4.9								
MAJO	**Matsushiro**	**57.90**	**332**	*e*P			**P**	**00 05 43.0**	**-0.4**
	comp=Z,28nm,0.8s,mb5.2								
MAJO				*e*pP			pP	00 06 21.2	-1.7
MAT	**Matsushiro**	**57.90**	**332**	P			**P**	**00 05 42.7**	**-0.6**
MAT				S			**S**	**00 13 25.0**	**-4.6**
MAT	**Matsushiro**	**57.90**	**332**	*e*P			**P**	**00 05 43.0**	**-0.3**
MAT				*e*S			**S**	**00 13 25.0**	**-4.6**
MAT				pmax			pmax		
	comp=Z,82nm,1.8s,mb5.3								
MAT	**Matsushiro**	**57.90**	**332**	*e*P			**P**	**00 05 43.0**	**-0.3**
	comp=Z,82nm,1.8s,mb5.3								
MAT				*e*S			**S**	**00 13 25.0**	**-4.6**
YHNB	**Yeheng**	**59.49**	**311**	*e*P			**P**	**00 05 54.4**	**+0.1**
ASAJ	**Asahikawa**	**62.73**	**340**	P			**P**	**00 06 16.0**	**-0.1**
	comp=Z,22nm,0.8s,mb5.0,baz=215,slow=13,SNR=11								
VNDA	**Vanda**	**62.88**	**181**	P			**P**	**00 06 16.8**	**-0.3**
	comp=Z,21nm,0.7s,mb5.1,baz=356,slow=7.6,SNR=82								
VNDA	**Vanda**	**62.88**	**181**	P			**P**	**00 06 16.2**	**-0.9**
VNDA				pmax			pmax		
	comp=Z,55nm,1.1s								
VNDA	**Vanda**	**62.88**	**181**	P			**P**	**00 06 16.2**	**-0.9**
	comp=Z,55nm,1.1s,mb5.3								
VNDA				pP			pP	00 07 11.6	+14
SBA	**Scott Base**	**63.16**	**180**	P			**P**	**00 06 18.9**	**0.0**
SSE	**Sheshan**	**63.53**	**316**	P			**P**	**00 06 20.2**	**-1.1**
SSE				AMB			AMB		
	comp=Z,35nm,0.8s,mb5.2								

GYA AMB AMB
comp=Z,120nm,4.0s
GYA LR LR
comp=N,420nm,18.9s
GYA LR LR
comp=E,430nm,19.0s
GYA LR LR
comp=Z,480nm,18.6s
BJI Beijing 72.27 321 P **P** **00 07 16.2 +0.3**
BJI S S 00 16 25.2 +0.4
BJI AMB AMB
comp=Z,17nm,0.9s,mb4.8
BJI LR LR
comp=N,212nm,19.8s
BJI LR LR
comp=E,327nm,19.8s
XAN Xi'an 73.70 313 P **P** **00 07 24.9 +0.6**
XAN AMB AMB
comp=Z,17nm,1.0s,mb4.7
KMI Kunming 74.32 302 P **P** **00 07 29.8 +1.9**
KMI PCP PcP 00 07 46.6 +4.8
KMI AP pP 00 08 08.7 -0.6
KMI XP sP 00 08 27.6 0.0
KMI PP PP 00 10 15.3 -0.9
KMI PPP 00 11 59.9
KMI S S 00 16 39.8 -8.1
KMI AMB AMB
comp=Z,33nm,1.2s,mb4.9
KMI AMB AMB
comp=Z,211nm,6.1s
KMI LR LR
comp=N,281nm,21.5s
KMI LR LR
comp=E,263nm,21.5s
KMI LR LR
comp=Z,1µm,44.7s
MA2 Magadan 75.23 351 *e*P **P** **00 07 32.1 -1.0**
MA2 *e* pP 00 08 15.4 +0.7
MA2 pmax pmax
comp=Z,30nm,1.1s,mb4.8
MA2 Magadan 75.23 351 *e*P **P** **00 07 32.1 -1.0**
MA2 *e* pP 00 08 15.4 +0.7
QSPA South Pole Qui 75.32 180 *e*P **P** **00 07 33.2 -0.4**
HHC Hu-ho-hao-te 75.59 320 *e*P **P** **00 07 35.9 +0.7**
HHC PCP PcP 00 07 48.2 +0.9
HHC PP PP 00 10 30.9 +4.0
HHC S S 00 16 54.4 -7.5
HHC AMB AMB
comp=Z,15nm,0.4s,mb5.0
HHC AMB AMB
comp=Z,210nm,3.9s
HHC LR LR
comp=N,179nm,8.4s
HHC LR LR
comp=E,301nm,7.1s
HHC LR LR
comp=Z,1µm,21.6s
CD2 Chengdu 76.02 308 P **P** **00 07 38.5 +0.9**
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.7
HIA Hailar 76.28 330 *e*P **P** **00 07 39.2 +0.1**
HIA pmax pmax
comp=Z,31nm,1.2s
HIA Hailar 76.28 330 *e*P **P** **00 07 39.2 +0.1**
comp=Z,31nm,1.2s,mb4.8
BTO Baotou 76.43 319 *e*P **P** **00 07 39.2 -0.7**
LZH Lanzhou 78.33 312 ⇑P **P** **00 07 52.0 +1.5**
LZH PP PP 00 10 54.5 +4.7
LZH S S 00 17 24.2 -7.3
LZH AMB AMB
comp=Z,67nm,1.4s,mb5.1
LZH AMB AMB
comp=Z,458nm,8.3s
CIT Chita 81.07 330 *e*P **P** **00 08 04.9 -0.3**
CIT pmax pmax
comp=Z,99nm,1.8s,mb5.1
CIT Chita 81.07 330 *e*P **P** **00 08 04.9 -0.3**
comp=Z,99nm,1.8s,mb5.1
MAW Mawson 81.91 202 ⇓*i*P **P** **00 08 09.4 -0.3**
comp=Z,23nm,0.9s,mb4.8
MAW Mawson 81.91 202 P **P** **00 08 09.7 +0.1**
comp=Z,29nm,0.8s,mb5.0,baz=109,slow=6.4,SNR=16
MAW Mawson 81.91 202 ⇓*i*P **P** **00 08 09.4 -0.3**
MAW pmax pmax
comp=Z,23nm,0.9s
YAK Yakutsk 82.02 343 *e*P **P** **00 08 08.8 -1.4**
YAK pmax pmax
comp=Z,45nm,0.6s,mb5.3
YAK Yakutsk 82.02 343 *e*P **P** **00 08 08.8 -1.4**
comp=Z,45nm,0.6s,mb5.3
ULN Ulaanbaatar 82.14 324 *e*P **P** **00 08 11.2 +0.4**
ULN pmax pmax
comp=Z,65nm,1.4s,mb5.1
ULN Ulaanbaatar 82.14 324 *e*P **P** **00 08 11.2 +0.3**
comp=Z,65nm,1.4s,mb5.1
SLKM Skilak Lake 82.31 20 *e*P **P** **00 08 11.1 -0.6**
SONM Songino Array 82.50 324 P **P** **00 08 13.0 +0.3**
comp=Z,6.5nm,0.6s,mb4.4,baz=147,slow=6.1,SNR=62
SONM pP pP 00 08 53.0 -1.9
comp=Z,4.1nm,0.9s,baz=138,slow=5.7,SNR=2.6
BILL Bilibino 82.52 360 *e*P **P** **00 08 11.8 -1.0**
BILL pmax pmax
comp=Z,98nm,1.7s,mb5.3
GTA Gaotai 82.68 314 *e*P **P** **00 08 14.1 +0.5**
GTA PP PP 00 11 26.2 +0.5
GTA S S 00 18 07.7 -9.0
GTA XS sS 00 19 28.7 -1.4
GTA AMB AMB
comp=Z,23nm,1.0s,mb4.9
GTA AMB AMB
comp=Z,240nm,6.8s
GTA LR LR
comp=N,192nm,18.2s
GTA LR LR
comp=E,137nm,19.8s
GTA LR LR
comp=Z,425nm,17.5s
SHL Shillong 83.58 298 *i* P **P** **00 08 19.0 +0.7**
SHL *ex* x 00 19 39.0
BOD Bodaibo 84.47 334 ⇑*i*P **P** **00 08 21.8 -0.9**
BOD pmax pmax
comp=Z,26nm,1.5s,mb4.7
BOD Bodaibo 84.47 334 ⇑*i*P **P** **00 08 21.8 -0.9**
comp=Z,26nm,1.5s,mb4.7
YBH Yreka Blue Hor 85.38 45 P **P** **00 08 26.9 -0.4**
comp=Z,3.5nm,0.9s,mb4.1,baz=225,slow=3.0,SNR=4.3
ZAK Zakamensk 85.55 325 ⇑*i*P **P** **00 08 27.6 -0.5**
ZAK pmax pmax
comp=Z,65nm,1.7s,mb5.1
ZAK pmax pmax
comp=Z,18nm,1.2s,mb4.7
ZAK pmax pmax
comp=Z,23nm,1.8s,mb4.6
ZAK Zakamensk 85.55 325 ⇑*i*P **P** **00 08 27.6 -0.5**
comp=Z,65nm,1.7s,mb5.1
LSA Lhasa 85.58 302 *e*P **P** **00 08 28.3 +0.1**
LSA pmax pmax
comp=Z,20nm,0.9s,mb4.8
LSA Lhasa 85.58 302 *e*P **P** **00 08 28.3 +0.1**
comp=Z,20nm,0.9s,mb4.8
TLY Talaya 85.99 326 P **P** **00 08 30.3 0.0**
comp=Z,99nm,0.7s,mb5.7,SNR=5.5
TLY Talaya 85.99 326 *e*P **P** **00 08 29.9 -0.4**
TLY pmax pmax
comp=Z,25nm,1.2s,mb4.8
ILAR Eielson Array 86.50 18 P **P** **00 08 30.4 -2.4**
comp=Z,8.2nm,0.7s,mb4.6,baz=238,slow=5.7,SNR=58
ILAR pP pP 00 09 14.7 -0.7
comp=Z,6.3nm,0.7s,baz=239,slow=5.4,SNR=4.9
NVAR Mina Array Bea 87.23 49 P **P** **00 08 36.1 -0.2**
comp=Z,1.4nm,0.7s,baz=232,slow=8.1,SNR=8.7
NVAR pP pP 00 09 17.2 -1.8
comp=Z,1.4nm,0.8s,baz=238,slow=7.3,SNR=2.8
GLA Glamis 88.06 55 P **P** **00 08 40.9 +0.6**
SYO Syowa Base 88.73 197 ⇓*e*P **P** **00 08 41.8 -1.6**
SYO Syowa Base 88.73 197 ⇓*i*PcP PcP 00 08 43.0 -1.8
NEN Nelson 88.89 53 P **P** **00 08 44.3 +0.2**
SHPR Sheep Range 88.92 52 P **P** **00 08 44.8 +0.5**
TIXI Tiksi 89.96 349 ⇑*i*P **P** **00 08 45.8 -3.3**
TIXI *e*S 00 19 00.6
TIXI *e* 00 19 19.9
TIXI pmax pmax
comp=Z,14nm,1.2s,mb4.8
TIXI Tiksi 89.96 349 ⇑*i*P **P** **00 08 45.8 -3.3**
comp=Z,14nm,1.2s,mb4.8
TIXI *e*S 00 19 00.6
TIXI *e* 00 19 19.9
CCUT Cedar City 90.62 51 *e*P **P** **00 08 52.1 -0.1**
WMQ Urumqi 92.74 315 P **P** **00 09 00.7 -1.3**
WMQ PP PP 00 12 48.2 +2.0
WMQ S 00 19 39.4
WMQ AMB AMB
comp=Z,29nm,1.3s,mb5.2
WMQ LR LR
comp=E,349nm,54.3s
WMQ LR LR
comp=Z,483nm,54.5s
INK Inuvik 92.86 19 *e*P **P** **00 09 02.5 -0.1**
SNAA Sanae 93.57 183 P **P** **00 09 04.3 -1.5**
comp=Z,4.4nm,0.7s,mb4.7,baz=181,slow=5.7,SNR=54
SNAA Sanae 93.57 183 ⇓*i* **P** **00 09 04.3 -1.5**
SNAA Sanae 93.57 183 ⇓*i*P **P** **00 09 04.3 -1.5**
SNAA *e* 00 09 04.7
SNAA *e* 00 09 06.9
SNAA Sanae 93.57 183 P **P** **00 09 04.3 -1.5**
SNAA pmax pmax
comp=Z,34nm,1.1s
SNAA Sanae 93.57 183 P **P** **00 09 04.3 -1.5**
comp=Z,34nm,1.1s,mb5.4
VNA3 Neumayer Olymp 94.23 181 ⇓*i* **P** **00 09 07.3 -1.6**
VNA3 Neumayer Olymp 94.23 181 ⇓*i*P **P** **00 09 07.3 -1.6**
VNA3 *e* 00 09 07.9
VNA3 *e* 00 09 09.3
VNA3 *e* 00 09 11.1
VNA2 Neumayer--Watz 94.50 182 ⇓*i* **P** **00 09 08.7 -1.4**
baz=184,slow=5.1
VNA2 Neumayer--Watz 94.50 182 ⇓*i*P **P** **00 09 08.7 -1.4**
baz=306,slow=14
VNA2 *e* 00 09 09.4
VNA2 *e* 00 09 10.9
VNA2 *e* 00 09 13.0
VNA1 Neumayer--Stat 94.80 181 ⇓*i* **P** **00 09 10.2 -1.3**
VNA1 Neumayer--Stat 94.80 181 ⇓*i*P **P** **00 09 10.2 -1.3**
VNA1 *e* 00 09 10.9
VNA1 *e* 00 09 12.5
VNA1 *e* 00 09 14.5
PDAR Pinedale Array 94.91 47 PKKPbc PKKPbc 00 26 06.2 -0.6
comp=Z,1.2nm,0.8s,baz=89,slow=4.2,SNR=8.1
MKAR Makanchi Array 97.21 316 P **P** **00 09 22.4 0.0**
comp=Z,7.6nm,0.6s,mb5.2,baz=92,slow=6.3,SNR=57
MKAR pP pP 00 10 03.0 -2.5
comp=Z,1.9nm,0.8s,baz=97,slow=5.0,SNR=1.7
MKAR Makanchi Array 97.21 316 P **P** **00 09 22.4 0.0**
YKA Yellowknife Ar 97.52 27 P **P** **00 09 21.5 -2.2**
comp=Z,0.9nm,0.7s,mb4.3,baz=257,slow=4.6,SNR=19
YKA pP pP 00 10 05.3 -1.5
comp=Z,1.2nm,0.8s,baz=256,slow=4.5,SNR=2.8
YKA Yellowknife Ar 97.52 27 P **P** **00 09 21.6 -2.2**
YKA pP pP 00 10 05.3 -1.5
YKW3 Yellowknife Ar 97.53 27 P **P** **00 09 22.1 -1.7**
NVS Novosibirsk 98.51 324 *e*P **P** **00 09 17.9 -10**
NVS *i* S 00 19 48.0
NVS pmax pmax
comp=Z,37nm,2.3s,mb5.4
NVS pmax pmax
comp=N,11nm,1.9s
NVS smax
comp=E,18nm,1.8s
NVS Novosibirsk 98.51 324 *e*P **P** **00 09 17.9 -10**
comp=E,37nm,2.3s,mb5.4
NVS *i* S 00 19 48.0
ARU Arti 112.49 325 *i* PKIKP PKiKP 00 14 22.9 -2.1
ARU *e* 00 15 13.0
ARU *e* 00 20 41.8
ARU *e*SS SS 00 30 32.5 -8.3
KEV Kevo 119.72 345 *e*pkp PKPdf 00 14 37.3 -1.6
ARCES ARCESS Array B 120.24 345 PKP PKPdf 00 14 38.2 -1.7
comp=E,11nm,0.7s,baz=54,slow=1.7,SNR=115
ARCES pPKP pPKPdf 00 15 21.9 -3.0
comp=E,3.7nm,0.7s,baz=48,slow=1.8,SNR=1.8
ARCES PKKPbc PKKPbc 00 24 45.1 -2.3
comp=E,1.0nm,0.6s,baz=222,slow=4.1,SNR=9.5
ARCES ARCESS Array B 120.24 345 PKP PKPdf 00 14 38.2 -1.7
ARCES pPKP pPKPdf 00 15 21.9 -2.9
ARCES PKKPbc PKKPbc 00 24 45.1 -2.3
ARE0 ARCESS Array S 120.24 345 *e*PKPdf PKPdf 00 14 38.3 -1.6
KLMR Klimovskoe 120.68 333 *d* iPKIKP PKPdf 00 14 39.6 -1.1
KLMR pmax pmax
comp=Z,30nm,1.5s
JOF Joensuu 122.88 338 *e*pkp PKPdf 00 14 44.6 -0.4
SUR Sutherland 123.24 214 PKP PKPdf 00 14 46.0 +0.3
comp=Z,8.9nm,0.9s,baz=204,slow=3.9,SNR=8.4
SIV San Ignacio 123.31 121 PKP PKPdf 00 14 46.7 +0.9
comp=Z,0.7nm,0.6s,baz=288,slow=6.0,SNR=5.1
VRHR Novokhopersk 123.48 322 *e*PKIKP PKPdf 00 14 45.5 -0.6
VRHR pmax pmax
comp=Z,7.0nm,0.5s
VRHR pmax pmax
comp=N,6.0nm,0.6s
VRHR pmax pmax
comp=E,7.0nm,0.6s
MOS Moscow 123.88 328 *e*PKIKP PKPdf 00 14 44.4 -2.5
MOS pmax pmax
comp=Z,46nm,1.3s
GNI Garni 124.14 309 *e*PKIKP PKPdf 00 14 47.8 +0.4
VOR Voronezh 124.68 323 PKIKP PKPdf 00 14 46.0 -2.4
VOR pmax pmax
comp=Z,50nm,1.6s
OBN Obninsk 124.70 328 *e*PKPdf PKPdf 00 14 48.1 -0.3
KIV Kislovodsk 124.86 314 *e*PKIKP PKPdf 00 14 48.2 -0.6
KIV pmax pmax
comp=Z,8.0nm,1.1s
KAF Kangasniemi 125.19 339 *e*pkp PKPdf 00 14 47.9 -1.5
BHD Baghdad 125.33 300 *ex* x 00 14 49.0
LBTB Lobatse 125.66 224 PKP PKPdf 00 14 51.1 +0.8
comp=Z,7.0nm,0.7s,baz=132,slow=3.1,SNR=17
FINES FINESS Array B 125.72 338 PKP PKPdf 00 14 49.8 -0.6
comp=Z,3.5nm,0.9s,baz=168,slow=30,SNR=3.4
KMBO Kilima Mbogo 128.14 257 PKP PKPdf 00 14 55.8 +0.8
comp=Z,0.8nm,0.3s,baz=60,slow=23,SNR=4.6
MALT Malatya 129.31 308 ⇓*i*P PKPdf 00 14 59.0 +1.7
MALT Malatya 129.31 308 ⇓P PKPdf 00 14 59.0 +1.7
LSZ Lusaka 129.79 235 PKP PKPdf 00 14 59.8 +1.6
comp=Z,5.1nm,0.6s,baz=166,slow=1.3
LSZ SKPbc 00 18 06.7
comp=Z,5.9nm,1.1s,baz=103,slow=9.8,SNR=2.5
NB2 NORSAR Subarra 130.61 345 PKPd PKPdf 00 14 59.2 -0.5
comp=Z,5.6nm,0.9s,baz=31,slow=1.9
NOA NORSAR Array B 130.61 345 PKP PKPdf 00 14 59.5 -0.2
comp=Z,3.1nm,0.8s,baz=34,slow=2.0,SNR=12
NOA SKPbc SKPbc 00 18 08.9 +1.5
comp=Z,6.3nm,0.8s,baz=31,slow=3.1,SNR=19
AKASG Malin Array Be 130.74 326 PKP PKPdf 00 14 59.8 -0.2
comp=Z,0.4nm,0.3s,baz=52,slow=1.6,SNR=21
AKASG SKPbc SKPbc 00 18 10.0 +2.1
comp=Z,2.8nm,0.6s,baz=49,slow=4.3,SNR=11
BR131 Keskin Array S 132.52 311 *e*PKPdf PKPdf 00 15 02.9 -0.4
BRTR Keskin Array B 132.52 311 PKHKP 00 14 53.7
comp=Z,0.4nm,0.7s,baz=130,slow=1.9,SNR=3.7
BRTR PKP PKPdf 00 15 03.1 -0.2
comp=Z,1.8nm,0.5s,baz=131,slow=4.3,SNR=12
BRTR SKPbc SKPbc 00 18 13.9 -0.3
comp=Z,0.7nm,0.9s,baz=99,slow=4.5,SNR=2.7
BRTR Keskin Array B 132.52 311 PKHKP 00 14 53.7
BRTR 00 15 03.1
ANTO Ankara 133.09 311 ⇓*i*P PKPdf 00 15 05.8 +1.4
ANTO Ankara 133.09 311 ⇓P PKPdf 00 15 05.8 +1.4
BURAR Bucovina Array 134.61 324 ⇑*i*P PKPdf 00 15 09.4 +2.1
BURAR Bucovina Array 134.61 324 ⇑P PKPdf 00 15 09.4 +2.1
KWP Kalwaria 134.79 328 *e*PKP PKPdf 00 15 09.0 +1.4
STHS Stebnicka Huta 135.67 329 *e*PKIKP PKPdf 00 15 10.7 +1.5
OJC Ojcow 135.86 330 *e*PKPdf PKPdf 00 15 08.9 -0.7
NIE Niedzica 136.14 329 *e*PKP PKPdf 00 15 10.7 +0.6
OKC Ostrava-Krasne 136.90 331 *e*PKP PKPdf 00 15 13.1 +1.6
KSP Ksiaz 137.03 333 *e*PKP PKPdf 00 15 13.8 +2.0
KSP Ksiaz 137.03 333 *e*PKP PKPdf 00 15 11.2 -0.6
MORC Moravsky Berou 137.23 331 ⇓*i*P PKPdf 00 15 11.9 -0.2
MORC Moravsky Berou 137.23 331 ⇓P PKPdf 00 15 11.9 -0.3
PSZ Piszkesteto 137.32 328 ⇓*e*PKP/D PKPdf 00 15 12.5 +0.2
DPC Dobruska-Polom 137.38 333 *e*PKP PKPdf 00 15 14.1 +1.7
UPC Upice 137.40 333 *e*PKP PKPdf 00 15 12.1 -0.3
BZS Buzias 137.79 324 ⇑*i*P PKPdf 00 15 12.1 -1.1
BRG Berggiesshubel 138.01 335 *e*PKPbc PKPdf 00 15 05.6 -8.0
BRG Berggiesshubel 138.01 335 *e*PKP 00 15 03.7
comp=Z,1.1nm,0.7s
BRG *i* PKPdf 00 15 13.5 -0.1
comp=Z,11nm,1.2s
BRG *e* 00 15 56.2
comp=Z,1.7nm,1.0s
CLL Collm 138.05 336 *e*PKPbc PKPdf 00 15 06.1 -7.5
CLL Collm 138.05 336 *i* PKPdf PKPdf 00 15 13.0 -0.6
comp=Z,19nm,1.4s
CLL *es*PKPdf 00 16 13.0
CLL Collm 138.05 336 *i* PKIKP PKPdf 00 15 13.0 -0.6
CLL pmax pmax
comp=Z,19nm,1.4s
SMOL Smolenice 138.16 330 *e*PKIKP PKPdf 00 15 16.2 +2.4
PRU Pruhonice 138.42 334 *e*PKP PKPdf 00 15 16.1 +1.8
VTS Vitosha 138.50 319 ⇑*i*P PKPdf 00 15 16.0 +1.5
TREC Trest 138.51 332 *e*PKP PKPdf 00 15 14.7 +0.2
CLZ Clausthal 138.61 338 *e*PKPbc PKPdf 00 15 06.2 -8.5
WERD Werda 139.00 336 *e*PKPbc PKPdf 00 15 09.5 -5.9
PKSM Moragy 139.07 327 ⇑*i*P PKPdf 00 15 14.8 -0.7
PKSM Moragy 139.07 327 ⇓*e*P PKPdf 00 15 15.4 -0.1
PKSM *e* 00 18 51.8
NKC Novy Kostel 139.11 335 *e*PKP PKPdf 00 15 12.8 -2.8
MOX Moxa 139.11 336 *e*PKPbc PKPdf 00 15 10.5 -5.1
MOX Moxa 139.11 336 *e*PKP PKPdf 00 15 17.2 +1.6
comp=Z,23nm,1.7s
MOX Moxa 139.11 336 *e*PKIKP PKPdf 00 15 17.2 +1.6
MOX pmax pmax
comp=Z,23nm,1.7s
SOP Sopron 139.15 330 ⇑*e*PKP/D PKPdf 00 15 16.4 +0.8
KHC Kasperske Hory 139.48 333 *e*PKP PKPdf 00 15 12.0 -4.2
KHC *ex* x 00 15 16.8
VAY Valandovo 139.56 318 *i* PKP PKPdf 00 15 16.4 0.0
STIP Stip 139.61 319 *i* PKP PKPdf 00 15 16.1 -0.4
DIVS Divcibare 139.62 323 ⇑*i*P PKPdf 00 15 08.7 -7.8
GEC2 GERESS Array S 139.64 333 *e*PKPbc PKPdf 00 15 12.3 -4.2
GERES GERESS Array B 139.64 333 PKhKP 00 15 08.9
comp=Z,1.2nm,0.8s,baz=46,slow=3.9,SNR=6.5
SKO Skopje 139.94 319 *i* PKP PKPdf 00 15 18.1 +1.0
GRF Grafenberg Arr 140.02 336 *e*PKPbc PKPdf 00 15 10.8 -6.4
IDI Anoyia 140.57 308 PKhKP 00 15 12.0
comp=Z,3.1nm,0.3s,baz=91,slow=15,SNR=17
TNS Taunus Mts 140.63 339 *e*PKPbc PKPdf 00 15 14.0 -4.3
OHR Ohrid 140.81 319 *i* PKP PKPdf 00 15 20.7 +2.0
KBA Koelnbreinsper 141.11 331 ⇑*i*P PKPdf 00 15 15.1 -4.1
comp=Z,4.0nm,0.6s
MEM Membach 141.12 341 PKP PKPdf 00 15 13.6 -5.6
MEM PKiKP PKiKP 00 15 16.3 -5.7
FUR Furstenfeldbru 141.20 334 *e*PKPbc PKPdf 00 15 14.6 -4.8
RUP Ruppelstein 141.56 339 PKIKP PKPdf 00 15 16.9 -3.1
STU Stuttgart 141.56 337 *e*PKPbc PKPdf 00 15 16.5 -3.5
VOY Vojsko 141.61 330 *e*(P) PKPdf 00 15 14.7 -5.4
FVI Forni Avoltri 141.73 331 PKHKP 00 15 15.7
WTTA Wattenberg 141.74 333 ⇓*i*P PKPdf 00 15 15.2 -5.1
comp=Z,22nm,0.9s,SNR=7.2
WTTA Wattenberg 141.74 333 ⇓*i*P PKPdf 00 15 15.2 -5.1
WLF Walferdange 141.89 340 *e*PKPbc PKPdf 00 15 16.2 -4.4
WLF Walferdange 141.89 340 PKP PKPdf 00 15 16.4 -4.2
WLF PKiKP PKiKP 00 15 18.6 -4.9
WLF Walferdange 141.89 340 *e*PKPdf PKPdf 00 15 16.5 -4.1
MOTA Moosalm 141.91 334 ⇑*i*P PKPdf 00 15 15.9 -4.7
comp=Z,18nm,1.3s,SNR=11
MOTA Moosalm 141.91 334 ⇑*i*P PKPdf 00 15 15.9 -4.7
GIVF Givet 141.93 342 *e*PKP1 PKPdf 00 15 16.4 -4.3
SQTA Sankt Quirin 141.96 333 ⇑*i*P PKPdf 00 15 16.3 -4.4
comp=Z,22nm,1.3s,SNR=7.2
DOU Dourbes 142.00 342 PKP PKPdf 00 15 16.6 -4.2
DOU PKiKP PKiKP 00 15 17.7 -6.1
DOU E 00 15 23.5
DOU APKP 00 16 12.3
BAIF Baives 142.15 342 *e*PKP1 PKPdf 00 15 16.1 -5.0
BFO Black Forest 142.25 337 *e*PKPbc PKPdf 00 15 16.4 -4.8
BFO Black Forest 142.25 337 *e*PKHKP 00 15 16.4
DAVA Damuels 142.48 335 *i* P PKPdf 00 15 18.6 -3.0
comp=Z,33nm,1.1s,SNR=11
APPI Appiano 142.53 333 PKP PKPdf 00 15 18.0 -3.7
CDF Champ du Feu 142.57 338 *e*PKP1 PKPdf 00 15 17.1 -4.7
comp=Z,12nm,0.6s
ECH Echery 142.78 338 PKP PKPdf 00 15 18.2 -4.0
ECH Echery 142.78 338 PKHKP 00 15 18.2
DAVOX Davos 142.88 334 PKP PKPdf 00 15 20.0 -2.3
comp=Z,12nm,0.5s,baz=10,slow=2.2,SNR=21
BRMO Bormio 142.90 333 PKP PKPdf 00 15 20.1 -2.3
HINF Hinteralfeld 143.22 338 *e*PKP1 PKPdf 00 15 18.9 -4.1
comp=Z,12nm,0.6s
HAU Haudompre 143.25 339 *e*PKP1 PKPdf 00 15 20.3 -2.7
comp=Z,53nm,1.0s
MEZF Maizieres J'vi 143.26 340 *e*PKP1 PKPdf 00 15 19.8 -3.2
comp=Z,33nm,0.7s
BBS Basel-Blauen 143.27 337 PKIKP PKPdf 00 15 20.8 -2.2
TUE Stuetta 143.34 334 PKP PKPdf 00 15 21.4 -1.8
SAL Salo 143.51 332 PKIKP PKPdf 00 15 21.3 -2.2
LOMF Lomont 143.62 337 PKP PKPdf 00 15 21.7 -2.0
LOMF Lomont 143.62 337 PKIKP PKPdf 00 15 21.7 -2.0
RGNG Rignano Grg 143.66 323 PKP PKPdf 00 15 21.8 -1.9
FG2 Serracapriola 143.82 324 PKP PKPdf 00 15 22.4 -1.6
CING Cingoli 143.84 327 PKP PKPdf 00 15 22.5 -1.5
ARV Arcevia 143.89 328 PKIKP PKPdf 00 15 23.1 -0.9
FG4 Candela 144.04 323 PKIKP PKPdf 00 15 22.9 -1.5
VAI Varese 144.07 334 PKIKP PKPdf 00 15 22.3 -2.1
AQU L'Aquila 144.44 326 ⇑*i*P PKPdf 00 15 25.5 +0.4
AQU L'Aquila 144.44 326 ⇑P PKPdf 00 15 25.5 +0.4
TIP Timpagrande 144.45 319 *e*PKPdf PKPdf 00 15 25.3 +0.2
CABF La Chapelle 144.52 338 *e*PKP1 PKPdf 00 15 24.6 -0.6
comp=Z,383nm,1.4s
OG01 Vacheresse 144.53 337 PKP PKPdf 00 15 24.4 -0.8
OG01 Vacheresse 144.53 337 PKP PKPdf 00 15 24.4 -0.8
FLN La Foliniere 144.59 346 *e*PKP1 PKPdf 00 15 23.6 -1.7
comp=Z,96nm,0.7s
LDF La Druitiere 144.66 346 *e*PKP1 PKPdf 00 15 23.8 -1.7
comp=Z,89nm,0.9s
VLC Villacollemand 144.67 331 *e*PKPab PKPdf 00 15 24.6 -0.9
LOR Lormes 144.73 340 *e*PKP1 PKPdf 00 15 24.7 -0.9
comp=Z,186nm,1.1s
GRR Gorron 145.02 346 *e*PKP1 PKPbc 00 15 25.4 -0.4
comp=Z,229nm,0.8s
SSF Saint Saulge 145.03 341 *e*PKP1 PKPbc 00 15 25.9 0.0
comp=Z,385nm,0.9s
RSL Roselend 145.09 336 PKP PKPdf 00 15 26.3 +0.1
RSL Roselend 145.09 336 PKIKP PKPdf 00 15 26.3 +0.1
HYF Humbligny 145.11 342 *e*PKP1 PKPbc 00 15 26.4 +0.3
LPL La Plagne 145.19 336 *e*PKP1 PKPbc 00 15 26.9 +0.5
comp=Z,282nm,1.1s
LPG La Plagne 145.20 336 *e*PKP1 PKPbc 00 15 27.0 +0.6
comp=Z,295nm,1.1s
OG05 Jujurieux 145.24 338 PKP PKPdf 00 15 27.0 +0.5
OG05 Jujurieux 145.24 338 PKP PKPdf 00 15 27.0 +0.5
SMF Signal de Mont 145.28 340 *e*PKP1 PKPbc 00 15 26.5 -0.2
comp=Z,357nm,1.1s
AVF Avril sur Loir 145.31 340 *e*PKP1 PKPbc 00 15 26.5 -0.3
comp=Z,196nm,1.1s
SGMF Saint-Gilles 145.52 348 *e*PKP1 PKPbc 00 15 26.9 -0.5
comp=Z,399nm,1.2s
ROSF Rostrenen 145.58 349 *e*PKP1 PKPbc 00 15 27.2 -0.4
comp=Z,291nm,1.2s
OG22 Abries 145.67 335 PKP PKPdf 00 15 27.6 +0.4
OG22 Abries 145.67 335 PKP PKPdf 00 15 27.6 +0.4
BGF Bois d'Agland 145.68 341 *e*PKP1 PKPbc 00 15 27.8 -0.1
comp=Z,100nm,0.7s
MBDF Montbardon 145.82 335 *e*PKP1 PKPbc 00 15 28.2 -0.1
comp=Z,101nm,0.7s
PLDF La Plantade 145.95 340 PKP PKPdf 00 15 28.7 +1.0
PLDF La Plantade 145.95 340 PKP2 PKPab 00 15 28.7 -0.8
QUIF Quistinic 145.96 349 *e*PKP1 PKPbc 00 15 28.1 -0.6
ORIF Oris-en-Rattie 146.02 336 *e*PKP1 PKPbc 00 15 29.1 +0.2
comp=Z,169nm,0.8s
AGO Saint Agoulin 146.04 340 PKP PKPdf 00 15 29.6 +1.8
AGO Saint Agoulin 146.04 340 PKP PKPdf 00 15 29.6 +1.8
SAOF Saorge 146.09 333 PKP PKPdf 00 15 29.6 +1.7
SAOF Saorge 146.09 333 PKP2 PKPab 00 15 29.6 -0.4
TCF Toulx Ste Croi 146.12 341 *e*PKP1 PKPbc 00 15 29.1 -0.1
comp=Z,129nm,0.9s
AUTN L'Aution 146.14 334 PKP PKPdf 00 15 30.0 +2.0
AUTN L'Aution 146.14 334 PKP2 PKPab 00 15 30.0 -0.2
SBF Sospel 146.24 333 *e*PKP1 PKPbc 00 15 29.1 -0.5
comp=Z,199nm,0.7s
COLF Collangettes 146.32 339 PKP PKPdf 00 15 30.1 +1.8
COLF Collangettes 146.32 339 PKP PKPdf 00 15 30.1 +1.8
MVIF Mont Vial 146.34 334 PKP PKPdf 00 15 30.4 +2.1
MVIF Mont Vial 146.34 334 PKP2 PKPab 00 15 30.4 -0.6
PYM Petit Puy Mans 146.34 340 PKP PKPdf 00 15 30.4 +2.1
PYM Petit Puy Mans 146.34 340 PKP2 PKPab 00 15 30.4 -0.6
OG25 Le Caire 146.40 335 PKP PKPdf 00 15 30.3 +1.9
OG25 Le Caire 146.40 335 PKP PKPdf 00 15 30.3 +1.9
MFF Saint Martin d 146.51 344 *e*PKP1 PKPbc 00 15 30.1 -0.2
comp=Z,214nm,0.9s
OCF Saint Nazaire 146.53 336 PKP PKPdf 00 15 30.5 +1.8
OG26 St.-Nazaire-De 146.53 336 PKP PKPdf 00 15 30.5 +1.8
VIVF Saint-Julien-l 146.53 337 *e*PKP1 PKPbc 00 15 30.5 +0.1
comp=Z,104nm,1.0s

LBL	**Lubilhac**	**146.72**	**339**	PKP	PKPdf	00 15 31.5	+2.5	
LBL	**Lubilhac**	**146.72**	**339**	PKP2	PKPab	00 15 31.5	-1.0	
STOF	**St-Etienne Org**	**146.77**	**335**	PKP	PKPbc	00 15 32.1	+1.0	
STOF	**St-Etienne Org**	**146.77**	**335**	PKP	PKPbc	00 15 32.1	+1.0	
FRNF	**Fournols**	**146.81**	**340**	PKP	PKPbc	00 15 32.0	+0.8	
FRNF	**Fournols**	**146.81**	**340**	PKP	PKPbc	00 15 32.0	+0.8	
FRF	**La Foret Royal**	**146.82**	**334**	*e*PKP1	PKPbc	00 15 30.8	-0.4	
	comp=Z,266nm,1.1s							
SMRF	**Simiane la Rot**	**146.93**	**335**	*e*PKP1	PKPbc	00 15 31.8	+0.3	
	comp=Z,388nm,1.4s							
VAE	**Valguarnera**	**146.94**	**318**	PKPbc	PKPbc	00 15 35.1	+3.6	
	comp=Z,17nm,1.1s,baz=178,slow=3.7,SNR=4.1							
VILF	**Villemus**	**146.97**	**335**	PKP	PKPbc	00 15 33.0	+1.4	
VILF	**Villemus**	**146.97**	**335**	PKP	PKPbc	00 15 33.0	+1.4	
TAVF	**Tavernes**	**147.03**	**335**	PKP	PKPbc	00 15 32.3	+0.5	
TAVF	**Tavernes**	**147.03**	**335**	PKP	PKPbc	00 15 32.3	+0.5	
LMR	**La Mourre**	**147.07**	**334**	*e*PKP1	PKPbc	00 15 31.6	-0.3	
	comp=Z,428nm,1.3s							
OSPF	**L'Ospedale**	**147.13**	**329**	PKP	PKPdf	00 15 31.0	+1.3	
OSPF	**L'Ospedale**	**147.13**	**329**	PKP	PKPdf	00 15 31.0	+1.3	
RJF	**Les Rejaudoux**	**147.22**	**341**	*e*PKP1	PKPbc	00 15 32.3	0.0	
	comp=Z,149nm,1.0s							
PRAF	**Pradon**	**147.23**	**336**	PKP	PKPbc	00 15 33.6	+1.2	
PRAF	**Pradon**	**147.23**	**336**	PKP	PKPbc	00 15 33.6	+1.2	
PUYF	**Puyloubier**	**147.24**	**335**	PKP	PKPbc	00 15 33.2	+0.8	
PUYF	**Puyloubier**	**147.24**	**335**	PKP	PKPbc	00 15 33.2	+0.8	
MATF	**Mathat**	**147.26**	**344**	PKP	PKPbc	00 15 32.6	+0.2	
MATF	**Mathat**	**147.26**	**344**	PKP	PKPbc	00 15 32.6	+0.2	
TREF	**Trevaresse**	**147.29**	**335**	PKP	PKPbc	00 15 33.6	+1.1	
TREF	**Trevaresse**	**147.29**	**335**	PKP	PKPbc	00 15 33.6	+1.1	
CAF	**Calviac**	**147.38**	**340**	*e*PKP1	PKPbc	00 15 32.9	+0.1	
	comp=Z,105nm,1.1s							
BERF	**Bertagne**	**147.43**	**335**	PKP	PKPbc	00 15 33.8	+0.9	
BERF	**Bertagne**	**147.43**	**335**	PKP	PKPbc	00 15 33.8	+0.9	
GELF	**Grande-Etoile**	**147.48**	**335**	PKP	PKPbc	00 15 33.6	+0.6	
GELF	**Grande-Etoile**	**147.48**	**335**	PKP	PKPbc	00 15 33.6	+0.6	
LASF	**Ste Croix**	**147.50**	**338**	*e*PKP1	PKPbc	00 15 33.2	+0.1	
	comp=Z,210nm,1.2s							
LFF	**La Frestale**	**147.79**	**342**	*e*PKP1	PKPbc	00 15 33.8	-0.1	
	comp=Z,162nm,0.8s							
VSL	**Villasalto**	**148.61**	**326**	*e*PKPbc	PKPbc	00 15 36.2	+0.2	
MTLF	**Montolieu**	**148.73**	**339**	*e*PKP1	PKPbc	00 15 36.3	0.0	
	comp=Z,177nm,1.1s							
LRDF	**Laroque-de-Fa**	**148.97**	**338**	PKP	PKPbc	00 15 37.3	+0.4	
LRDF	**Laroque-de-Fa**	**148.97**	**338**	PKP	PKPbc	00 15 37.3	+0.4	
EJON	**La Jonquera**	**149.26**	**337**	PKP	PKPbc	00 15 38.4	+0.8	
FILF	**Fillols**	**149.29**	**338**	PKP	PKPbc	00 15 38.0	+0.3	
FILF	**Fillols**	**149.29**	**338**	PKP	PKPbc	00 15 38.0	+0.3	
MLS	**Moulis**	**149.46**	**340**	PKP	PKPbc	00 15 37.7	-0.4	
MLS	**Moulis**	**149.46**	**340**	PKP	PKPbc	00 15 37.7	-0.4	
EPF	**Esparros**	**149.63**	**341**	*e*PKP1	PKPbc	00 15 38.4	-0.1	
	comp=Z,79nm,1.0s							
LABF	**Labassere**	**149.70**	**341**	PKP	PKPbc	00 15 39.7	+1.0	
LABF	**Labassere**	**149.70**	**341**	PKP	PKPbc	00 15 39.7	+1.0	
RESF	**Ens**	**149.84**	**341**	PKP	PKPbc	00 15 40.2	+1.2	
RESF	**Ens**	**149.84**	**341**	PKP	PKPbc	00 15 40.2	+1.2	
VIEF	**Viey**	**149.87**	**341**	PKP	PKPbc	00 15 39.9	+0.8	
VIEF	**Viey**	**149.87**	**341**	PKP	PKPbc	00 15 39.9	+0.8	
ATE	**Arette**	**149.90**	**342**	PKP	PKPbc	00 15 39.0	-0.2	
ATE	**Arette**	**149.90**	**342**	PKP	PKPbc	00 15 39.0	-0.2	
OSSF	**Osses**	**149.91**	**343**	PKP	PKPbc	00 15 38.8	-0.4	
OSSF	**Osses**	**149.91**	**343**	PKP	PKPbc	00 15 38.8	-0.4	
EBIE	**Bielsa**	**150.01**	**341**	PKP	PKPbc	00 15 41.5	+2.1	
EALK	**Alkurruntz**	**150.01**	**344**	PKP	PKPbc	00 15 40.1	+0.6	
SJPF	**Ste Jean**	**150.03**	**343**	*e*PKP1	PKPbc	00 15 39.6	+0.1	
	comp=Z,66nm,1.0s							
LARF	**Larrau**	**150.03**	**343**	PKP	PKPbc	00 15 40.2	+0.7	
LARF	**Larrau**	**150.03**	**343**	PKP	PKPbc	00 15 40.2	+0.7	
ELIZ	**Elizondo**	**150.07**	**343**	PKP2	PKPbc	00 15 40.6	+1.0	
EMIR	**Miracle**	**150.23**	**338**	PKP	PKPbc	00 15 40.1	+0.1	
EGRA	**Graus**	**150.39**	**340**	PKP	PKPbc	00 15 41.4	+1.1	
ELAN	**Lanestosa**	**150.49**	**346**	PKP	PKPbc	00 15 41.4	+0.8	
EARI	**Arriondas**	**150.79**	**349**	PKP	PKPbc	00 15 42.1	+0.9	
EPOB	**Poblet**	**150.88**	**338**	PKP	PKPbc	00 15 40.5	-1.0	
ESAC	**San Caprasio**	**151.07**	**341**	PKP	PKPbc	00 15 42.8	+0.9	
EPON	**Pontenova**	**151.09**	**352**	PKP	PKPbc	00 15 42.4	+0.4	
ERTA	**Horta de San J**	**151.49**	**339**	PKP	PKPbc	00 15 43.0	0.0	
EBR	**Ebro Roquetas**	**151.56**	**339**	*e*PKPDF	PKPbc	00 15 43.5	+0.4	
ETOS	**Mallorca**	**151.57**	**334**	PKP	PKPbc	00 15 43.5	+0.4	
EMAZ	**Mazaricos**	**151.68**	**354**	PKP	PKPbc	00 15 43.6	+0.3	
STS	**Santiago**	**151.70**	**354**	PKIKP	PKPbc	00 15 43.9	+0.5	
EMOS	**Mosqueruela**	**152.30**	**340**	PKP	PKPbc	00 15 45.3	+0.5	
ECAL	**Calabor**	**152.38**	**350**	PKP	PKPbc	00 15 46.0	+1.1	
PBRG	**Braganca**	**152.51**	**350**	*e*PKPbc	PKPbc	00 15 45.3	+0.1	
PBRG	**Braganca**	**152.51**	**350**	*e*PKPab	PKPab	00 15 56.8	+0.6	
ELOB	**Lobios**	**152.64**	**352**	PKP	PKPbc	00 15 45.7	+0.2	
GUD	**Guadarrama**	**153.11**	**346**	PKIKP	PKPbc	00 15 46.2	-0.3	
ECHE	**Chera**	**153.16**	**340**	PKIKP	PKPbc	00 15 47.5	+0.9	
PVRL	**Vila Real**	**153.18**	**352**	*e*PKPbc	PKPbc	00 15 46.3	-0.4	
PVRL	**Vila Real**	**153.18**	**352**	*e*PKPab	PKPab	00 15 59.9	+0.9	
PVIS	**Viseu**	**153.75**	**352**	*e*PKPbc	PKPbc	00 15 48.3	+0.4	
PVIS	**Viseu**	**153.75**	**352**	*e*PKPab	PKPab	00 16 02.0	+0.5	
ESDC	**Sonseca Array**	**153.98**	**345**	PKPbc	PKPbc	00 15 48.7	+0.3	
	comp=Z,2.0nm,0.7s,baz=24,slow=1.8,SNR=9.0							
ESDC				PKPab	PKPab	00 16 03.2	+0.7	
	comp=Z,7.0nm,0.9s,baz=13,slow=3.8,SNR=10							
ESDC	**Sonseca Array**	**153.98**	**345**	PKP	PKPbc	00 15 48.1	-0.3	
MTE	**Manteigas**	**154.01**	**351**	*e*PKPdf	PKPdf	00 15 40.7	+0.4	
MTE	**Manteigas**	**154.01**	**351**	*e*PKPbc	PKPbc	00 15 49.3	+0.8	
MTE	**Manteigas**	**154.01**	**351**	*e*PKPab	PKPab	00 16 03.4	+0.8	
PCBR	**Castelo Branco**	**154.55**	**351**	*e*PKPbc	PKPbc	00 15 49.4	-0.2	
PCBR	**Castelo Branco**	**154.55**	**351**	*e*PKPab	PKPab	00 16 05.4	+0.5	
PTOM	**Tomar**	**154.90**	**352**	*e*PKPbc	PKPbc	00 15 51.1	+0.7	
PTOM	**Tomar**	**154.90**	**352**	*e*PKPab	PKPab	00 16 07.6	+1.2	
PBEJ	**Beja**	**156.38**	**350**	*e*PKPdf	PKPdf	00 15 48.3	+4.8	
PBEJ	**Beja**	**156.38**	**350**	*e*PKPab	PKPab	00 16 13.8	+1.1	
PTEO	**Sao Teotonio**	**156.98**	**352**	*e*PKPab	PKPab	00 16 16.9	+1.6	
MDT	**Midelt**	**160.53**	**339**	PKPab	PKPab	00 16 31.0	+0.3	
	comp=Z,2.7nm,0.9s,baz=118,slow=2.9,SNR=4.4							
TORD	**Torodi Ar. Bea**	**165.94**	**265**	PKP	PKPdf	00 15 53.8	+0.2	
	comp=Z,3.4nm,0.9s,baz=349,slow=0.8,SNR=17							
TORD				PKPab	PKPab	00 16 54.9	+0.4	
	comp=Z,21nm,1.0s,baz=93,slow=3.6,SNR=28							
DBIC	**Dimbokro**	**168.90**	**225**	PKP	PKPdf	00 15 54.2	-1.4	
	comp=Z,7.9nm,0.9s,baz=123,slow=1.9,SNR=6.6							
DBIC				PKPab	PKPab	00 17 08.6	+1.0	
	comp=Z,4.2nm,0.8s,baz=110,slow=7.1,SNR=6.2							

IDC 04 00:02:34.0±0.9,5822S×2984W,h0km,mb3.9/4, mb1 4.0/5,mb1mx3.9/15,mbtmp3.8/5,ML2.5/1,MS3.5/2, Ms1 3.5/2,ms1mx3.4/6,Error ellipse: s-maj=36.4km s-min=25.2km az=63.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
SNAA	**Sanae**	**17.43**	**151**	P	Pn	00 06 38.3	-0.2	
	0.0nm,0.3s,baz=331,slow=12,SNR=3.7							
USHA	**Ushuaia**	**21.35**	**262**	LR	LR	00 13 58.1		
	comp=Z,516nm,19.5s,baz=354,slow=32							
CFAA	**Coronel Fontan**	**37.22**	**299**	P	P	00 09 46.2	-0.8	
	0.5nm,0.9s,baz=152,slow=7.2,SNR=4.3							
CFAA				LR	LR	00 22 59.3		
	comp=Z,17nm,21.1s,baz=345,slow=33							
VNDA	**Vanda**	**44.32**	**184**	P	P	00 10 45.3	-0.4	
	2.4nm,0.8s,baz=174,slow=9.2,SNR=4.3							
LPAZ	**La Paz**	**50.55**	**310**	P	P	00 11 35.0	+0.9	
	1.4nm,0.8s,baz=168,slow=5.0,SNR=5.8							
TORD	**Torodi Ar. Bea**	**75.66**	**32**	P	P	00 14 21.4	+0.3	
	2.6nm,0.8s,baz=193,slow=5.1,SNR=13							
YKA	**Yellowknife Ar**	**136.81**	**318**	PKP	PKPdf	00 21 56.3	-2.1	
	1.2nm,0.7s,baz=130,slow=2.2,SNR=6.9							
ILAR	**Eielson Array**	**150.43**	**309**	PKPbc	PKPbc	00 22 25.6	-1.8	
	7.2nm,0.9s,baz=143,slow=1.5,SNR=32							
SONM	**Songino Array**	**152.19**	**93**	PKPbc	PKPbc	00 22 29.1	-2.4	
	1.5nm,0.9s,baz=192,slow=1.9,SNR=6.6							

*ISCJB **04** 00:06:23.6±0.6,597S±0.1×264W±0.3,h10km,mb4.0/7, Error ellipse: s-maj=25.0km s-min=9.2km az=115.6*
*IDC **04** 00:06:24.1±0.8,5960S×2642W,h0km,mb4.0/7,mb1 4.2/8, mb1mx4.1/17,mbtmp4.1/8,ML4.2/1,Error ellipse: s-maj=28.9km s-min=20.8km az=35.0*
*NEIC **04** 00:06:28.9±0.5,5965S×2634W,h35km,mb4.3/1,Error ellipse: s-maj=25.0km s-min=12.3km az=51.0*

ISC 04 00:06:25.4±0.6,597S±01×264W±03,h10km,n22,σ0§62/19, mb4.0/7,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
VNA1	**Neumayer--Stat**	**13.28**	**153**	*e*	**Pn**	**00 09 33.9**		**-0.1**
VNA1	**Neumayer--Stat**	**13.28**	**153**	*e*P	**Pn**	**00 09 33.9**		**-0.1**
VNA1				*e*		00 09 38.7		
VNA1				*e*		00 09 46.4		
VNA1				*e*		00 09 50.8		
VNA1				*e*		00 10 00.0		
VNA1				*e*		00 10 04.7		
VNA3	**Neumayer Olymp**	**13.42**	**156**	*e*	**Pn**	**00 09 35.9**		**-0.1**
VNA3	**Neumayer Olymp**	**13.42**	**156**	*e*P	**Pn**	**00 09 35.9**		**-0.1**
VNA3				*e*		00 09 40.7		
VNA3				*e*		00 09 47.2		
VNA3				*e*		00 09 53.7		
VNA3				*e*		00 10 12.4		
VNA3				*e*		00 11 53.8		
VNA3				*e*		00 12 00.5		
VNA2	**Neumayer--Watz**	**13.68**	**153**	*e*	**Pn**	**00 09 39.1**		**-0.3**
	baz=184,slow=5.1							
VNA2	**Neumayer--Watz**	**13.68**	**153**	*e*P	**Pn**	**00 09 39.1**		**-0.3**
	baz=306,slow=14							
VNA2				*e*		00 09 43.5		
VNA2				*e*		00 09 51.5		
VNA2				*e*		00 09 58.6		
VNA2				*e*		00 10 15.5		
VNA2				*e*		00 11 59.5		
VNA2				*e*		00 12 05.0		
SNAA	**Sanae**	**15.27**	**151**	Pn	**Pn**	**00 09 59.9**		**-1.1**
	1.0nm,0.3s,baz=321,slow=16,SNR=56							
SNAA				Sn	**Sn**	**00 12 33.8**		**-16**
	0.1nm,0.3s,baz=324,slow=21,SNR=2.4							
SNAA	**Sanae**	**15.27**	**151**	*e*	**Pn**	**00 10 00.5**		**-0.5**
SNAA	**Sanae**	**15.27**	**151**	*e*P	**Pn**	**00 10 00.5**		**-0.5**
SNAA				*e*		00 10 04.9		
SNAA				*e*		00 10 11.4		
SNAA				*e*		00 10 27.1		
SNAA				*e*		00 12 37.4		
SNAA				*e*		00 12 42.5		
SNAA	**Sanae**	**15.27**	**151**	*e*Pn	**Pn**	**00 10 00.7**		**-0.2**
	7.6nm,0.4s							
SNAA				Sn	**Sn**	**00 12 33.8**		**-16**
CFAA	**Coronel Fontan**	**39.49**	**296**	P	**P**	**00 13 55.6**		**-0.4**
	0.2nm,0.3s,mb3.3,baz=140,slow=8.8,SNR=5.3							
CPUP	**Villa Florida**	**39.60**	**314**	P	**P**	**00 13 57.8**		**+0.8**
	0.4nm,0.3s,mb3.6,baz=134,slow=7.8,SNR=3.5							
VNDA	**Vanda**	**42.93**	**183**	P	**P**	**00 14 25.8**		**+1.5**
	1.9nm,0.8s,mb3.9,baz=174,slow=5.1,SNR=6.3							
SIV	**San Ignacio**	**50.43**	**315**	P	**P**	**00 15 22.6**		**-0.5**
	1.2nm,0.5s,mb4.2,baz=153,slow=8.8,SNR=6.9							
LPAZ	**La Paz**	**52.87**	**307**	P	**P**	**00 15 40.6**		**-0.7**
	0.9nm,0.3s,mb4.2,baz=146,slow=1.2,SNR=10							
LSZ	**Lusaka**	**59.39**	**66**	P	**P**	**00 16 28.0**		**+0.1**
	6.1nm,0.6s,mb4.8,baz=61,slow=18,SNR=9.2							
TORD	**Torodi Ar. Bea**	**76.06**	**28**	P	**P**	**00 18 13.5**		**+0.4**
	0.8nm,0.3s,mb4.1,baz=198,slow=6.1,SNR=13							
FINES	**FINESS Array B**	**127.41**	**29**	PKP	PKPdf	00 25 28.1		-2.3
	0.7nm,0.8s,baz=115,slow=2.7,SNR=5.3							
ARCES	**ARCESS Array B**	**134.18**	**23**	PKP	PKPdf	00 25 40.9		-2.4
	0.7nm,0.6s,baz=193,slow=2.0,SNR=7.2							
YKA	**Yellowknife Ar**	**139.12**	**315**	PKP	PKPdf	00 25 49.1		-3.3
	0.2nm,0.3s,baz=135,slow=2.0,SNR=11							
SONM	**Songino Array**	**150.34**	**92**	PKPbc	PKPbc	00 26 15.8		-1.1
	2.0nm,0.6s,baz=218,slow=3.6,SNR=16							
ILAR	**Eielson Array**	**152.75**	**306**	PKPbc	PKPbc	00 26 20.1		-2.4
	0.4nm,0.4s,baz=151,slow=2.2,SNR=10							

*ISCJB **04** 00:07:02.8±0.7,2033S±008×1738W±0.1,h33km,mb4.1/8, Error ellipse: s-maj=15.5km s-min=8.9km az=59.6*
*NEIC **04** 00:07:04.9±0.7,2034S×17386W,h35km,mb4.2/4,Error ellipse: s-maj=17.2km s-min=12.6km az=156.0*
*IDC **04** 00:07:07.9±4.4,2020S×17399W,h60km±48km,mb3.7/4, mb1 3.9/5,mb1mx3.6/16,mbtmp4.1/5,ML2.5/1,Error ellipse: s-maj=44.8km s-min=26.8km az=109.0*

ISC 04 00:07:05.5±0.7,2036S±008×1739W±01,h35km,n11, σ1§09/11,mb4.1/8,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
AFI	**Afiamalu**	**6.72**	**17**	P	**Pn**	**00 08 42.2**		**+0.6**
	5.6nm,0.3s,baz=28,slow=7.1,SNR=6.0							
AFI				S	**Sn**	**00 09 57.2**		**+0.4**
	3.0nm,0.3s,baz=17,slow=24,SNR=2.7							
RAR	**Rarotonga**	**13.20**	**96**	P	**Pn**	**00 10 09.0**		**-1.3**
	1.5nm,0.3s,baz=273,slow=21,SNR=7.2							
RPZ	**Rata Peaks**	**26.48**	**205**	P	**P**	**00 12 41.2**		**+1.8**
	13nm,0.9s,mb4.4,baz=353,slow=16,SNR=4.5							
CTAO	**Charters Tower**	**37.37**	**263**	P	**P**	**00 14 14.3**		**-0.4**
	2.8nm,0.7s,mb4.2							
PMG	**Port Moresby**	**39.12**	**280**	*e*P	**P**	**00 14 28.6**		**-0.9**
	1.2nm,0.3s,mb4.1							
ASAR	**Alice Springs**	**48.33**	**256**	P	**P**	**00 15 42.1**		**-1.4**
	0.7nm,0.6s,mb3.9,baz=97,slow=7.7,SNR=8.0							
WRAB	**Tennant Creek**	**48.46**	**261**	*e*P	**P**	**00 15 44.5**		**0.0**
	1.7nm,0.8s,mb4.1							
WRA	**Warramunga Arr**	**48.47**	**261**	P	**P**	**00 15 44.8**		**+0.3**
	0.7nm,0.6s,mb3.8,baz=96,slow=7.8,SNR=5.5							
SBA	**Scott Base**	**58.30**	**185**	*e*P	**P**	**00 16 59.2**		**+2.5**
	2.6nm,0.8s,mb4.3							
VNDA	**Vanda**	**58.42**	**186**	P	**P**	**00 16 56.8**		**-0.7**
	0.9nm,0.8s,mb3.8,baz=5.1,slow=7.0,SNR=2.9							
GERES	**GERESS Array B**	**150.94**	**350**	PKPbc	PKPbc	00 26 53.5		-0.9
	0.2nm,0.5s,baz=292,slow=5.2,SNR=2.5							

*CSEM **04** 00:08:23.1,2004S×17739W,h33km,mb5.7*
*MOS **04** 00:09:10.9±1.3,2036S×17791W,h495km,mb4.4/11, Error ellipse: s-maj=12.7km s-min=10.2km az=147.0*
*BJI **04** 00:09:10.8,2081S×17709W,h536km,mB4.7,mb4.8*
*ISCJB **04** 00:09:14.6±1.5,2048S±006×17798W±007,h537km±17km, mb4.5/45,Error ellipse: s-maj=10.2km s-min=8.8km az=95.4*
*IDC **04** 00:09:16.0±1.9,2047S×17792W,h548km±20km,mb4.1/14, mb1 4.3/16,mb1mx4.3/17,mbtmp5.0/16,Error ellipse: s-maj=14.0km s-min=10.7km az=155.0*
*NEIC **04** 00:09:15.5±1.8,2044S×17798W,h537km±20km,mb4.6/23, Error ellipse: s-maj=10.0km s-min=9.3km az=122.0*

ISC 04 00:09:15.1±1.3,2050S±006×17789W±007,h533km±15km, n145,σ0§93/100,mb4.5/45,17C-14D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
AFI	**Afiamalu**	**8.78**	**43**	P	P	**00 11 14.7**		**-5.4**
	16nm,0.3s,baz=41,slow=3.6,SNR=7.2							
AFI				S	**S**	**00 12 49.3**		**-14**
	35nm,0.3s,baz=15,slow=22,SNR=1.5							
BKM	**Butte a Klehm**	**13.40**	**280**	i/P	**P**	**00 12 08.6**		**+0.4**
DZM	**Mont Dzumac**	**14.69**	**261**	P	**P**	**00 12 21.3**		**-0.2**
	4.1nm,0.3s,baz=75,slow=18,SNR=21							
URZ	**Urewera**	**18.22**	**193**	P	**P**	**00 12 54.7**		**-1.0**
	4.0nm,0.3s,baz=355,slow=2.8,SNR=16							
URZ				S	**S**	**00 15 49.4**		**-6.0**
	0.2nm,0.3s,baz=196,slow=18,SNR=3.5							
SNZO	**South Karori**	**21.68**	**195**	*e*P	**P**	**00 13 27.2**		**+0.1**
HNR	**Honiara**	**24.04**	**294**	*e*P	**P**	**00 13 47.1**		**-1.0**
ARMA	**Armidale**	**29.16**	**244**	i/P	**P**	**00 14 34.2**		**+1.1**
CNB	**Canberra Magne**	**32.31**	**236**	i/P	**P**	**00 15 00.7**		**+0.5**
	34nm,0.6s,mb5.0							
CTA	**Charters Tower**	**33.59**	**264**	i/P	**P**	**00 15 11.5**		**+0.5**
	73nm,0.5s,mb5.5							
CTA	**Charters Tower**	**33.59**	**264**	P	**P**	**00 15 11.6**		**+0.6**
	99nm,0.5s,baz=95,slow=10,SNR=141							
CTA	**Charters Tower**	**33.59**	**264**	i/P				
CTA				pmax	pmax			
	comp=Z,73nm,0.5s							
CTAO	**Charters Tower**	**33.59**	**264**	P	**P**	**00 15 11.6**		**+0.6**
PMG	**Port Moresby**	**35.44**	**283**	P	**P**	**00 15 26.7**		**+0.2**
	comp=Z,74nm,0.8s,mb5.2,baz=86,slow=5.4,SNR=32							
PMG	**Port Moresby**	**35.44**	**283**	*d*/P	**P**	**00 15 26.7**		**+0.2**
PMG	**Port Moresby**	**35.44**	**283**	P	**P**	**00 15 26.4**		**-0.1**
TOO	**Toolangi**	**35.98**	**234**	*e*P	**P**	**00 15 30.4**		**-0.6**
	comp=Z,17nm,0.6s,mb4.8							
TOO	**Toolangi**	**35.98**	**234**	*e*P	**P**	**00 15 30.4**		**-0.6**
TOO				pmax	pmax			
	comp=Z,17nm,0.6s,mb4.8							
TAU	**Tasmania Unive**	**36.70**	**225**	*e*P	**P**	**00 15 37.0**		**+0.1**
TAU				pmax	pmax			
	comp=Z,9.0nm,0.8s,mb4.3							
TAU	**Tasmania Unive**	**36.70**	**225**	*e*P	**P**	**00 15 37.0**		**+0.1**
	comp=Z,9.2nm,0.8s,mb4.4							
STKA	**Stephens Creek**	**37.88**	**244**	i/P	**P**	**00 15 44.6**		**-2.0**
	comp=Z,18nm,0.6s,mb4.8							
STKA	**Stephens Creek**	**37.88**	**244**	P	**P**	**00 15 45.2**		**-1.3**
	comp=Z,29nm,0.7s,mb4.9,baz=90,slow=9.8,SNR=51							
ASAR	**Alice Springs**	**44.62**	**257**	P	**P**	**00 16 40.2**		**+0.3**
	comp=Z,112nm,0.6s,baz=98,slow=7.6,SNR=564							
ASAR				PcP	PcP	00 18 11.2		-0.1
	comp=Z,4.8nm,0.8s,baz=115,slow=2.9,SNR=4.7							
ASAR				S	**S**	**00 22 37.0**		**0.0**
	comp=Z,4.6nm,0.8s,baz=94,slow=16,SNR=17							
WB2	**Warramunga Arr**	**44.69**	**262**	i/P	**P**	**00 16 39.9**		**-0.6**
WRAB	**Tennant Creek**	**44.69**	**262**	P	**P**	**00 16 40.1**		**-0.4**
WRA	**Warramunga Arr**	**44.70**	**262**	P	**P**	**00 16 40.2**		**-0.4**
	comp=Z,48nm,0.5s,mb5.2,baz=97,slow=7.7,SNR=180							
WRA				S	**S**	**00 22 37.5**		**-0.8**
	comp=Z,1.7nm,0.8s,baz=97,slow=14,SNR=4.9							
KAKA	**Kakadu**	**48.07**	**271**	*e*P	**P**	**00 17 05.5**		**-0.6**
	comp=Z,47nm,0.4s,mb5.4							
FORT	**Forrest**	**49.39**	**247**	i/P	**P**	**00 17 15.5**		**-0.4**
	comp=Z,78nm,0.5s,mb5.5							
GUMO	**Guam**	**49.88**	**310**	P	**P**	**00 17 19.7**		**+0.2**
	comp=Z,20nm,0.3s,mb5.0,baz=182,slow=20,SNR=3.7							
FITZ	**Fitzroy Crossi**	**53.13**	**262**	i/P	**P**	**00 17 43.1**		**+0.1**
	comp=Z,39nm,0.5s,mb5.0							
SBA	**Scott Base**	**57.88**	**184**	P	**P**	**00 18 18.3**		**+2.3**
SBA				pmax	pmax			
	comp=Z,11nm,1.0s,mb4.0							
SBA	**Scott Base**	**57.88**	**184**	P	**P**	**00 18 18.3**		**+2.3**
	comp=Z,11nm,1.0s,mb4.0							
VNDA	**Vanda**	**57.92**	**185**	P	**P**	**00 18 17.1**		**+0.8**
	comp=Z,2.0nm,0.7s,mb3.5,baz=342,slow=7.4,SNR=10							
VNDA	**Vanda**	**57.92**	**185**	*e*P	**P**	**00 18 17.4**		**+1.1**
VNDA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
VNDA	**Vanda**	**57.92**	**185**	*e*P	**P**	**00 18 17.4**		**+1.1**
	comp=Z,1.5nm,0.6s,mb3.4							
MBWA	**Marble Bar**	**57.95**	**257**	P	**P**	**00 18 16.5**		**0.0**
KLBR	**Kellerberrin**	**58.15**	**245**	i/P	**P**	**00 18 17.6**		**-0.2**
	comp=Z,75nm,1.0s,mb4.9							
NWAO	**Narrogin (SRO)**	**58.46**	**243**	*e*P	**P**	**00 18 20.3**		**+0.4**
NWAO				pmax	pmax			
	comp=Z,10.0nm,0.5s							
NWAO	**Narrogin (SRO)**	**58.46**	**243**	*e*P	**P**	**00 18 20.3**		**+0.4**
	comp=Z,10nm,0.5s,mb4.3							
MUN	**Mundaring**	**59.42**	**244**	*e*P	**P**	**00 18 26.5**		**+0.2**
CASY	**Casey**	**64.01**	**205**	*e*P	**P**	**00 18 56.0**		**-0.3**
QSPA	**South Pole Qui**	**69.57**	**180**	*e*P	**P**	**00 19 31.2**		**+0.6**
	comp=Z,42nm,1.4s,mb4.8							

CHTO	**Chiang Mai**	**90.34**	**290**	*e*P		**P**		**00 21 20.7**	**+1.4**
	comp=Z,16nm,0.8s,mb4.9								
CD2	**Chengdu**	**90.87**	**303**	*e*P		**P**		**00 21 21.7**	**-0.1**
CD2				AMB		AMB			
	comp=Z,10.0nm,0.9s,mb4.8								
LZH	**Lanzhou**	**92.85**	**307**	P		**P**		**00 21 31.5**	**+0.6**
LZH				PP		PP		00 25 24.6	+2.2
LZH				AMB		AMB			
	comp=Z,21nm,1.3s,mb5.0								
LZH				AMB		AMB			
	comp=Z,52nm,9.7s								
ULN	**Ulaanbaatar**	**95.42**	**319**	*e*P		**P**		**00 21 41.2**	**-1.4**
SONM	**Songino Array**	**95.82**	**319**	P		**P**		**00 21 42.9**	**-1.4**
	comp=Z,0.4nm,0.7s,mb3.7,baz=140,slow=5.0,SNR=3.7								
YKA	**Yellowknife Ar**	**96.47**	**25**	P		**P**		**00 21 45.5**	**-1.7**
	comp=Z,0.4nm,0.7s,mb3.7,baz=243,slow=4.5,SNR=7.7								
GLAT	**Glass**	**100.75**	**55**	PKKPbc		PKKPbc		00 38 29.8	+13
MKAR	**Makanchi Array**	**111.27**	**313**	PKiKP		PKiKP		00 26 46.5	-1.8
	comp=Z,1.0nm,0.6s,baz=96,slow=0.4,SNR=7.4								
MKAR	**Makanchi Array**	**111.27**	**313**	⇑*i*PKiKP		PKiKP		00 26 47.2	-1.2
TBG	**Guadaloupe-3**	**119.57**	**83**	⇑*e*P		PKPdf		00 26 56.8	-7.5
TBG				*e*S		PKPdf		00 26 60.0	-4.4
ARU	**Arti**	**125.25**	**325**	*i* PKiKP		PKPdf		00 27 12.2	-3.0
ARU				*e*				00 29 13.5	
ARCES	**ARCESS Array B**	**128.94**	**350**	PKP		PKPdf		00 27 20.5	-1.7
	comp=Z,0.4nm,0.6s,baz=60,slow=2.9,SNR=3.9								
FINES	**FINESS Array B**	**135.80**	**344**	PP		PP		00 30 18.0	-3.0
	comp=Z,0.5nm,0.5s,baz=40,slow=3.2,SNR=6.6								
NB2	**NORSAR Subarra**	**138.99**	**353**	SKPb		SKPdf		00 30 26.9	+1.7
	comp=Z,1.0nm,0.5s,baz=13,slow=2.9								
SUW	**Suwalki**	**142.87**	**339**	*e*PKP		PKPdf		00 27 45.2	-2.7
AKASG	**Malin Array Be**	**143.06**	**331**	PKP		PKPdf		00 27 44.5	-3.7
	comp=Z,8.4nm,0.6s,baz=44,slow=4.2,SNR=41								
MALT	**Malatya**	**144.01**	**308**	⇑*i*P		PKPdf		00 27 50.4	+0.5
MALT	**Malatya**	**144.01**	**308**	*e*PKPdf		PKPdf		00 27 49.6	-0.4
SIM	**Simferopol'**	**144.06**	**320**	*d i*PKIKP		PKPdf		00 27 49.0	-1.0
SIM				pmax		pmax			
	comp=Z,21μm,0.7s								
GKP	**Gorka Klasztor**	**145.27**	**344**	*e*PKP		PKPdf		00 27 53.2	+1.1
KWP	**Kalwaria**	**146.62**	**335**	*e*PKP		PKPdf		00 27 56.5	+2.1
BR131	**Keskin Array S**	**146.91**	**312**	*e*PKPdf		PKPdf		00 27 56.8	+1.9
BRTR	**Keskin Array B**	**146.91**	**312**	PKPbc		PKPbc		00 27 57.4	-0.3
	comp=Z,3.8nm,0.7s,baz=137,slow=5.4,SNR=21								
BRTR	**Keskin Array B**	**146.91**	**312**	⇑*i*PKP2		PKPbc		00 27 57.4	-0.3
BURAR	**Bucovina Array**	**147.11**	**331**	⇑*i*P		PKPbc		00 27 58.7	+0.5
OJC	**Ojcow**	**147.19**	**339**	*e*PKPdf		PKPbc		00 27 58.7	+0.2
KOLS	**Kolonicke sedl**	**147.35**	**335**	*e*PKP		PKPab		00 28 02.1	-0.5
STHS	**Stebnicka Huta**	**147.35**	**337**	*e*PKP		PKPab		00 28 02.6	0.0
ANTO	**Ankara**	**147.43**	**313**	⇓*i*P		PKPbc		00 27 59.5	+0.4
ANTO	**Ankara**	**147.43**	**313**	*e*PKPbc		PKPbc		00 27 58.9	-0.1
NIE	**Niedzica**	**147.69**	**338**	*e*PKP		PKPbc		00 27 59.9	+0.1
KSP	**Ksiaz**	**147.72**	**343**	*e*PKP		PKPbc		00 27 59.9	+0.1
KSP	**Ksiaz**	**147.72**	**343**	*e*PKP		PKPbc		00 27 59.7	-0.1
CLL	**Collm**	**148.08**	**347**	⇑*i*PKPdf		PKPdf		00 27 58.4	+1.6
	comp=Z,4.0nm,0.6s								
CLL				⇑*i*PKPbc		PKPbc		00 28 00.5	-0.3
	comp=Z,11nm,0.9s								
CLL				⇓*i*PKPab		PKPab		00 28 07.7	+2.1
	comp=Z,5.0nm,0.8s								
UPC	**Upice**	**148.10**	**343**	⇑*e*PKPbc		PKPbc		00 28 00.9	+0.1
DPC	**Dobruska-Polom**	**148.15**	**343**	⇑*e*PKPB		PKPbc		00 28 01.1	+0.2
DPC				*e*PKPAB		PKPab		00 28 06.0	+0.1
BRG	**Berggiesshubel**	**148.28**	**346**	*e*PKP		PKPbc		00 28 01.1	-0.1
	comp=Z,2.9nm,0.8s								
BRG	**Berggiesshubel**	**148.28**	**346**	*e*PKP2		PKPbc		00 28 01.1	-0.2
BRG				pmax		pmax			
	comp=Z,3.0nm,0.8s								
KECS	**Kecovo**	**148.41**	**336**	*e*PKP		PKPab		00 28 06.2	-0.7
PRU	**Pruhonice**	**148.96**	**344**	⇑*e*PKPB		PKPbc		00 28 02.7	-0.2
PRU				*e*PKPAB		PKPab		00 28 10.8	+1.6
VYHS	**Vyhne**	**148.99**	**338**	*e*PKP		PKPbc		00 28 02.9	-0.1
BUC1	**Bucharest**	**149.01**	**326**	⇑*i*P		PKPbc		00 28 07.6	+4.5
NKC	**Novy Kostel**	**149.22**	**347**	⇑*e*PKPB		PKPbc		00 28 03.2	-0.3
NKC				*e*PKPAB		PKPab		00 28 10.1	-0.1
TREC	**Trest**	**149.34**	**343**	⇑*e*PKPB		PKPbc		00 28 03.8	0.0
SMOL	**Smolenice**	**149.45**	**340**	*e*PKP		PKPbc		00 28 04.3	+0.2
KHC	**Kasperske Hory**	**149.99**	**345**	⇑*e*PKPB		PKPbc		00 28 05.2	-0.2
KHC				*e*PKPAB		PKPab		00 28 13.7	+0.2
GERES	**GERESS Array B**	**150.22**	**344**	PKPbc		PKPbc		00 28 05.6	-0.3
	comp=Z,1.5nm,0.8s,baz=46,slow=3.9,SNR=9.3								
BZS	**Buzias**	**150.24**	**332**	⇑*i*P		PKPbc		00 28 05.6	-0.4
PKSM	**Moragy**	**150.99**	**336**	⇑*i*P		PKPbc		00 28 07.3	-0.4
ROBS	**Robic**	**152.67**	**343**	*i* PKPbc		PKPbc		00 28 14.7	+3.3
VOY	**Vojsko**	**152.75**	**342**	*e*		PKPab		00 28 29.4	+4.3
BOJS	**Bojanci**	**152.81**	**340**	*e*PKPbc		PKPbc		00 28 11.6	-0.1
TORD	**Torodi Ar. Bea**	**173.68**	**177**	PKP		PKPdf		00 28 22.1	-0.8
	comp=Z,1.2nm,0.8s,baz=15,slow=0.6,SNR=5.9								
TORD				PKPab		PKPab		00 29 52.8	+0.3
	comp=Z,0.6nm,0.7s,baz=171,slow=3.4,SNR=5.2								

*IDC **04** 00:29:58.3±1.3,20.16S×174.24W,h0km,mb4.2/5, mb1 4.4/7,mb1mx4.1/17,mbtmp4.3/7,ML4.5/1,Error ellipse: s-maj=49.9km s-min=22.4km az=153.0*
*ISCJB **04** 00:30:01.0±0.7,20.1S±0.1×174.16W±0.10,h33km,mb4.5/8, Error ellipse: s-maj=18.8km s-min=12.4km az=138.8*
*NEIC **04** 00:30:03.1±0.5,20.13S×174.18W,h35km,mb4.6/1,Error ellipse: s-maj=15.7km s-min=10.0km az=161.0*

ISC 04 00:30:03.5±0.7,**201S**±01×**17417W**±010,**h35**km,**n14,** σ0⅟**68**/**13**,**mb4.5**/**8**,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.61**	**21**	Pn		**Pn**		**00 31 37.4**	**-0.7**
	5.0nm,0.3s,baz=138,slow=3.7,SNR=4.2								
AFI				Sn		**Sn**		**00 32 42.0**	**-10**
	9.5nm,0.3s,baz=28,slow=23,SNR=4.8								
RAR	**Rarotonga**	**13.51**	**97**	Pn		**Pn**		**00 33 12.4**	**-0.3**
	2.2nm,0.3s,baz=303,slow=11,SNR=9.7								
RAR				Sn		**Sn**		**00 35 26.7**	**-15**
	1.3nm,0.3s,baz=122,slow=18,SNR=3.0								
CTAO	**Charters Tower**	**37.11**	**263**	*e*P		**P**		**00 37 11.1**	**+0.6**
	9.2nm,0.4s,mb5.0								
PMG	**Port Moresby**	**38.80**	**280**	*e*P		**P**		**00 37 24.1**	**-0.7**
	4.3nm,0.4s,mb4.5								
ASAR	**Alice Springs**	**48.10**	**256**	P		**P**		**00 38 40.0**	**+0.2**
	2.2nm,0.5s,mb4.5,baz=93,slow=7.9,SNR=37								
WRAB	**Tennant Creek**	**48.20**	**261**	*e*P		**P**		**00 38 40.4**	**-0.2**
	4.0nm,0.2s,mb5.1								
WRA	**Warramunga Arr**	**48.21**	**261**	P		**P**		**00 38 40.3**	**-0.3**
	1.5nm,0.3s,mb4.6,baz=96,slow=6.9,SNR=12								
FITZ	**Fitzroy Crossi**	**50.52**		P		**P**		**00 39 43.4**	**+0.3**
	2.3nm,0.8s,mb4.3,baz=91,slow=8.1,SNR=7.7								
VNDA	**Vanda**	**58.61**	**186**	P		**P**		**00 39 56.4**	**-0.5**
MJAR	**Matsushiro Arr**	**72.12**	**321**	P		**P**		**00 41 24.4**	**0.0**
	1.3nm,0.7s,mb4.0,baz=159,slow=6.0,SNR=6.7								
NVAR	**Mina Array Bea**	**78.33**	**42**	P		**P**		**00 42 02.0**	**+1.9**
	0.7nm,0.6s,mb3.7,baz=224,slow=8.6,SNR=4.8								
ARCES	**ARCESS Array B**	**129.17**	**351**	PKP		PKPdf		00 49 06.6	-1.3
	0.7nm,0.6s,baz=2.7,slow=3.9,SNR=5.3								
ARCES	**ARCESS Array B**	**129.17**	**351**	PKP		PKPdf		00 49 06.6	-1.3
AKASG	**Malin Array Be**	**144.35**	**334**	PKP		PKPdf		00 49 33.8	-2.1
	0.6nm,0.3s,baz=42,slow=4.6,SNR=4.5								

*IDC **04** 00:48:31.2±2.2,1989S×174.54W,h0km,mb3.8/4, mb1 4.1/5,mb1mx3.9/15,mbtmp3.9/5,ML2.3/1,Error ellipse: s-maj=114.7km s-min=25.6km az=144.0*
*ISCJB **04** 00:48:34.7±6.6,192S±03×1750W±04,h19km±45km, mb3.8/4,Error ellipse: s-maj=84.8km s-min=14.2km az=85.9*

ISC 04 00:48:37.0±7.0,**194S**±03×**1749W**±04,**h26**km±48**km**,**n10,** σ0⅟**69**/**6**,**mb3.8**/**4**,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.19**	**29**	Pn		**Pn**		**00 50 06.8**	**+0.1**
	3.7nm,0.3s,baz=187,slow=23,SNR=3.6								
AFI				Sn		**Sn**		**00 51 16.5**	**-0.2**
	2.6nm,0.3s,baz=70,slow=19,SNR=2.3								
ASAR	**Alice Springs**	**47.65**	**255**	P		**P**		**00 57 10.3**	**-0.6**
	0.6nm,0.5s,mb3.9,baz=99,slow=7.5,SNR=8.1								
WRA	**Warramunga Arr**	**47.68**	**260**	P		**P**		**00 57 11.6**	**+0.4**
	0.5nm,0.5s,mb3.8,baz=95,slow=5.2,SNR=5.2								
NVAR	**Mina Array Bea**	**78.21**	**42**	P		**P**		**01 00 33.9**	**-0.3**
	0.5nm,0.7s,mb3.6,baz=222,slow=7.8,SNR=3.7								
ILAR	**Eielson Array**	**85.60**	**12**	P		**P**		**01 01 18.6**	**+0.6**
	0.8nm,0.7s,mb4.1,baz=223,slow=5.7,SNR=8.7								
ARCES	**ARCESS Array B**	**128.32**	**351**	PKP		PKPdf		01 07 38.6	-2.6
	1.0nm,0.8s,baz=48,slow=1.8,SNR=4.7								
AKASG	**Malin Array Be**	**143.38**	**334**	PKP		PKPdf		01 08 06.3	-2.7
	1.7nm,0.5s,baz=36,slow=4.4,SNR=8.8								
BRTR	**Keskin Array B**	**148.19**	**316**	PKPbc		PKPbc		01 08 20.4	-0.1
	0.5nm,0.5s,baz=128,slow=5.2,SNR=3.9								
MLR	**Muntele Rosu**	**148.78**	**331**	PKPbc		PKPbc		01 08 23.4	+1.3
	2.0nm,0.7s,baz=272,slow=8.3,SNR=3.5								
GERES	**GERESS Array B**	**149.80**	**349**	PKPbc		PKPbc		01 08 25.0	+0.4
	0.8nm,0.8s,baz=22,slow=1.4,SNR=7.3								

*IDC **04** 00:50:04.3±0.8,3173N×5021E,h0km,mb4.1/18, mb1 4.3/19,mb1mx4.2/26,mbtmp4.1/19,ML3.8/2,Error ellipse: s-maj=18.8km s-min=14.9km az=122.0*
*MOS **04** 00:50:04.3±0.9,3164N×5011E,h13km,mb4.6/35,Error ellipse: s-maj=9.3km s-min=4.6km az=121.4*
*ISCJB **04** 00:50:06.9±0.5,3152N±003×5013E±003,h38km±5km, mb4.3/57,Error ellipse: s-maj=5.1km s-min=4.2km az=80.4*
*THR **04** 00:50:06.4±0.5,3161N×5030E,h16km±4km,ML4.1*
*TEH **04** 00:50:07.7,3160N×5015E,h13km,Mn4.1*
*CSEM **04** 00:50:07.2±0.1,3157N×5010E,h40km,mb4.5/32,Error ellipse: s-maj=2.0km s-min=1.5km az=27.0*
*NEIC **04** 00:50:07.7,3160N×5015E,h13km,mb4.4/31, ML4.1(THR),MN4.1(TEH),After TEH.*
*BJI **04** 00:50:08.6,3251N×5011E,h13km,mB4.8,mb4.5,Ms4.4, Msz4.2*

ISC 04 00:50:08.9±0.3,**3156N**±003×**5014E**±003,**h37**km±4km, **h29**km±2.5km:**pP-P**,**n221**,σ1⅟**01**/234,**mb4.3**/57,**42C-8D**, **Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.26**	**296**	*e*PG		**Pn**		**00 50 31.7**	**+1.6**
SHGR				AML		AML		00 50 54.9	
	comp=N,3μm,0.8s								
SHGR				AML		AML		00 50 55.5	
	comp=E,4μm,0.7s								
SHGR	**Shooshtar-Gavs**	**1.26**	**296**	*e*Pg		**Pn**		**00 50 31.0**	**+1.0**
SHGR				*e*Sg		**Sn**		**00 50 49.0**	**+3.3**
IKLH	**Kalahroud**	**2.14**	**34**	*e*Pn		**Pn**		**00 50 42.3**	**+0.3**
IKLH				*e*Sn		**Sn**		**00 51 07.8**	**+0.5**
IKLH				*e*Sn		**Sn**		**00 51 08.0**	**+0.7**
IKLH	**Kalahroud**	**2.14**	**34**	Pn		**Pn**		**00 50 42.3**	**+0.3**
IKLH				*e*Sn		**Sn**		**00 51 07.8**	**+0.5**
IZEF	**Zefreh**	**2.29**	**54**	*e*Pn		**Pn**		**00 50 44.3**	**+0.2**
IZEF				*e*Sn		**Sn**		**00 51 11.7**	**+0.7**
IZEF				*e*Sn		**Sn**		**00 51 11.8**	**+0.8**
IZEF	**Zefreh**	**2.29**	**54**	*e*Pn		**Pn**		**00 50 44.1**	**0.0**
IZEF				*e*Sn		**Sn**		**00 51 11.7**	**+0.7**
NASN	**Na'in**	**2.58**	**61**	*e*PN		**Pn**		**00 50 48.1**	**-0.1**
NASN				*e*SG		**Sn**		**00 51 23.2**	**+4.9**
NASN	**Na'in**	**2.58**	**61**	*e*Pn		**Pn**		**00 50 48.0**	**-0.2**
NASN				*e*Sg		**Sn**		**00 51 23.0**	**+4.7**
SHI	**Shiraz**	**2.80**	**132**	*e*Pn		**Pn**		**00 50 52.2**	**+1.0**
ASAO	**Ashtian**	**2.98**	**358**	*e*Pn		**Pn**		**00 50 55.0**	**+1.3**
ASAO				*e*SG		**Sn**		**00 51 38.2**	**+10**
ASAO				AML		AML		00 51 52.6	
	comp=E,458nm,0.6s								
ASAO	**Ashtian**	**2.98**	**358**	*e*Pn		**Pn**		**00 50 54.0**	**+0.3**
ASAO				*e*Sg		**Sn**		**00 51 38.0**	**+10**
ISFB	**Sefidab**	**3.30**	**32**	*e*Pn		**Pn**		**00 50 58.0**	**0.0**
ISFB	**Sefidab**	**3.30**	**32**	Pn		**Pn**		**00 50 57.9**	**-0.1**
IMOK	**Mook**	**3.35**	**138**	*e*Pn		**Pn**		**00 50 59.5**	**+0.7**
IVRN	**Varamin**	**3.68**	**21**	*e*Pn		**Pn**		**00 51 03.2**	**0.0**
IVRN	**Varamin**	**3.68**	**21**	Pn		**Pn**		**00 51 03.1**	**-0.1**
ICHK	**Chekchek**	**3.70**	**78**	*e*Pn		**Pn**		**00 51 03.7**	**+0.2**
IMEH	**Mehriz**	**3.83**	**91**	*e*Pn		**Pn**		**00 51 06.0**	**+0.7**
IGHG	**Ghegheghazi**	**4.08**	**314**	*e*Pn		**Pn**		**00 51 09.1**	**+0.4**
GHIR	**Ghir-Karzin**	**4.09**	**142**	*e*PN		**Pn**		**00 51 09.8**	**+0.8**
GHIR				AML		AML		00 52 38.8	
	comp=E,181nm,0.8s								
GHIR	**Ghir-Karzin**	**4.09**	**142**	*e*Pn		**Pn**		**00 51 09.0**	**0.0**
IMHD	**Mahdasht**	**4.14**	**6**	*e*Pn		**Pn**		**00 51 09.4**	**-0.2**
IDMV	**Damavand**	**4.31**	**21**	*e*Pn		**Pn**		**00 51 12.0**	**+0.1**
DAMV	**Damavand**	**4.34**	**20**	*e*PN		**Pn**		**00 51 12.7**	**+0.4**
DAMV	**Damavand**	**4.34**	**20**	*e*Pn		**Pn**		**00 51 12.0**	**-0.3**
THKV	**Tehran--Karaj**	**4.39**	**8**	*e*PN		**Pn**		**00 51 13.6**	**+0.6**
THKV	**Tehran--Karaj**	**4.39**	**8**	*e*Pn		**Pn**		**00 51 13.0**	**0.0**
IDHR	**Dehrash**	**4.44**	**316**	*e*Pn		**Pn**		**00 51 13.8**	**+0.1**
IAFJ	**Afjeh**	**4.48**	**17**	*e*Pn		**Pn**		**00 51 14.4**	**+0.1**
IFIR	**Firoozkooh**	**4.62**	**28**	*e*Pn		**Pn**		**00 51 16.6**	**+0.4**
IBAF	**Bafgh**	**4.63**	**88**	*e*Pn		**Pn**		**00 51 17.0**	**+0.6**
IBAF				*e*Sn		**Sn**		**00 52 07.8**	**-1.2**
BHD	**Baghdad**	**5.16**	**291**	*ex*		x		00 51 43.0	
BHD				*ex*		x		00 52 57.5	
KRBR	**Kerman**	**5.91**	**104**	*e*PN		**Pn**		**00 51 34.2**	**+0.3**
KRBR	**Kerman**	**5.91**	**104**	*e*Pn		**Pn**		**00 51 34.0**	**0.0**
MSL	**Mosul**	**7.52**	**311**	*ex*		x		00 52 33.0	
MSL				*ex*		x		00 54 25.0	
BANOM	**Banah**	**7.80**	**135**	⇑P		**Pn**		**00 51 58.1**	**-1.7**
	SNR=25								
ASHO	**Ashiyiah**	**8.62**	**141**	⇑P		**Pn**		**00 52 09.7**	**-1.3**
ARQ	**Araqi**	**9.96**	**144**	⇑P		**Pn**		**00 52 29.7**	**+0.2**
BSY	**Bisya**	**10.80**	**143**	P		**Pn**		**00 52 42.1**	**+1.2**
	SNR=21								
BSYO	**Bisya**	**10.83**	**143**	P		**Pn**		**00 52 42.1**	**+0.8**
	SNR=21								
SMDO	**Samad**	**11.01**	**138**	P		**Pn**		**00 52 42.3**	**-1.5**
	SNR=16								
WSAR	**Wadi Sarin**	**11.21**	**136**	Pn		**Pn**		**00 52 44.0**	**-2.5**
	comp=E,1.4nm,0.3s,baz=352,slow=7.7,SNR=18								
WSAR				Sn		**Sn**		**00 54 42.0**	**-8.4**
	comp=E,0.7nm,0.3s,baz=74,slow=17,SNR=6.3								
JMDO	**Jabal Madar**	**11.58**	**140**	⇓P		**Pn**		**00 52 50.4**	**-1.2**
	SNR=12								
MALT	**Malatya**	**11.73**	**308**	*e*P		**Pn**		**00 52 51.9**	**-1.8**
MALT				*e*				00 55 00.7	
MALT				pmax		pmax			
	comp=Z,4.0nm,0.7s								
MALT	**Malatya**	**11.73**	**308**	*e*Pn		**Pn**		**00 52 51.9**	**-1.7**
	comp=Z,3.9nm,0.7s								
MALT				*e*Sn		**Sn**		**00 55 00.7**	**-2.6**
ZEI	**Tsey**	**12.24**	**338**	*e*P		**Pn**		**00 53 02.1**	**+1.5**
MMAI	**Mount Meron Ar**	**12.55**	**281**	Pn		**Pn**		**00 53 05.4**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=216,slow=39,SNR=3.5								
MMAI				Sn		**Sn**		**00 55 18.3**	**-5.1**
	comp=Z,0.2nm,0.3s,baz=92,slow=21,SNR=2.8								
MMAI				Lg				00 56 36.3	
	baz=87,slow=35,SNR=2.9								
EIL	**Elat**	**13.21**	**266**	*e*Pn		**Pn**		**00 53 13.0**	**-0.9**
KIV	**Kislovodsk**	**13.70**	**337**	*e*P		**Pn**		**00 53 22.7**	**+2.2**
WHFO	**Wadi Hawf**	**13.97**	**166**	P		**Pn**		**00 53 22.8**	**-1.6**
	SNR=13								
CSS	**Prodhromos**	**14.46**	**288**	*e*Pn		**Pn**		**00 53 31.5**	**+0.5**
CSS	**Prodhromos**	**14.46**	**288**	*e*Pn		**Pn**		**00 53 31.5**	**+0.5**
SOC	**Sochi**	**14.55**	**328**	*e*P		**Pn**		**00 53 30.0**	**-2.2**
SOC				*e*				00 56 06.1	
SOC				pmax		pmax			
	comp=Z,9.0nm,0.6s								
SOC	**Sochi**	**14.55**	**328**	*e*P		**Pn**		**00 53 30.0**	**-2.2**
	comp=Z,9.0nm,0.6s								
BR131	**Keskin Array S**	**15.68**	**306**	*e*Pn		**Pn**		**00 53 47.5**	**+0.5**
	comp=Z,5.2nm,0.6s								
BRTR	**Keskin Array B**	**15.68**	**306**	Pn		**Pn**		**00 53 46.9**	**0.0**
	comp=Z,0.7nm,0.3s,baz=115,slow=12,SNR=16								
AKTK	**Aktyubinsk**	**19.75**	**15**	P		**Pn**		**00 54 36.0**	**-1.2**
AKTO	**Aktyubinsk**	**19.75**	**15**	P		**Pn**		**00 54 36.0**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=190,slow=13,SNR=11								
ORR	**Orenburg**	**20.33**	**8**	⇓*i*P		**P**		**00 54 41.7**	**-0.1**
ORR				pmax		pmax			
	comp=Z,20nm,1.0s								
ORR	**Orenburg**	**20.33**	**8**	*i* P		**P**		**00 54 41.7**	**-0.1**
	comp=Z,20nm,1.0s								
VRHR	**Novokhopersk**	**20.51**	**345**	*e*P		**P**		**00 54 43.0**	**-0.8**
VRHR				pmax		pmax			
	comp=Z,30nm,0.6s								
VRHR				pmax		pmax			
	comp=N,20nm,0.5s								
VRHR				pmax		pmax			
	comp=E,40nm,1.0s								
VRHR	**Novokhopersk**	**20.51**	**345**	*e*P		**P**		**00 54 43.0**	**-0.8**
	comp=E,20nm,0.5s								
IDI	**Anoyia**	**21.38**	**287**	P		**P**		**00 54 55.0**	**+1.9**
	comp=E,8.3nm,0.5s,mb4.3,baz=88,slow=22,SNR=10								
HARR	**Harsova**	**21.75**	**313**	⇑*i*P		**P**		**00 54 58.0**	**+0.9**
HARR	**Harsova**	**21.75**	**313**	⇑P		**P**		**00 54 58.0**	**+0.8**
CFR	**Carcaliu**	**21.87**	**315**	⇓*i*P		**P**		**00 54 57.6**	**-0.8**
CFR	**Carcaliu**	**21.87**	**315**	⇓P		**P**		**00 54 57.6**	**-0.8**
AAK	**Ala-Archa**	**22.27**	**53**	*e*P		**P**		**00 55 03.8**	**+1.1**
AAK				pmax		pmax			
	comp=Z,11nm,1.1s,mb4.2								
AAK	**Ala-Archa**	**22.27**	**53**	*e*P		**P**		**00 55 03.8**	**+1.1**
	comp=Z,10nm,1.1s,mb4.2								
AAK	**Ala-Archa**	**22.27**	**53**	*e*P		**P**		**00 55 03.8**	**+1.1**
	comp=Z,11nm,1.1s,mb4.2								
VRI	**Vrincioaia**	**23.08**	**315**	⇑*i*P		**P**		**00 55 10.6**	**-0.6**
VRI	**Vrincioaia**	**23.08**	**315**	⇑P		**P**		**00 55 10.7**	**-0.5**
PLOR	**Plostina**	**23.11**	**315**	⇑*i*P		**P**		**00 55 12.1**	**+0.5**
MLR	**Muntele Rosu**	**23.37**	**313**	P		**P**		**00 55 15.4**	**+1.1**
	comp=Z,4.8nm,0.6s,mb4.1,baz=180,slow=2.8,SNR=7.5								
MLR	**Muntele Rosu**	**23.37**	**313**	⇓*i*P		**P**		**00 55 16.8**	**+2.5**
MLR	**Muntele Rosu**	**23.37**	**313**	P		**P**		**00 55 15.4**	**+1.1**
MLR				pmax		pmax			
	comp=Z,5.0nm,0.6s								
MLR	**Muntele Rosu**	**23.37**	**313**	⇓P		**P**		**00 55 16.8**	**+2.5**
AKASG	**Malin Array Be**	**24.62**	**327**	P		**P**		**00 55 24.8**	**-0.9**
	comp=Z,1.5nm,0.4s,mb3.8,baz=136,slow=9.2,SNR=16								
AKASG	**Malin Array Be**	**24.62**	**327**	*i* P		**P**		**00 55 24.7**	**-1.0**
AKASG				pmax		pmax			
	comp=Z,2.0nm,0.4s								
BURAR	**Bucovina Array**	**24.86**	**317**	⇑*i*P		**P**		**00 55 29.0**	**+1.1**
BURAR	**Bucovina Array**	**24.86**	**317**	⇑P		**P**		**00 55 29.0**	**+1.1**
ZRNK	**Zerenda**	**25.39**	**27**	*e*P		**P**		**00 55 31.5**	**-1.1**
ZRNK				pmax		pmax			
	comp=Z,9.0nm,1.1s,mb4.2								
ZRNK	**Zerenda**	**25.39**	**27**	*e*P		**P**		**00 55 31.4**	**-1.2**
	comp=Z,8.6nm,1.1s,mb4.2								
ZRNK	**Zerenda**	**25.39**	**27**	*e*P		**P**		**00 55 31.5**	**-1.1**
	comp=Z,9.0nm,1.1s,mb4.2								
OBN	**Obninsk**	**25.44**	**342**	*c i*P		**P**		**00 55 33.6**	**+0.5**
OBN				*i*				00 55 37.2	
OBN				*i*		pP		00 55 43.1	-0.4
OBN				pmax		pmax			
	comp=Z,24nm,0.6s,mb4.9								
OBN	**Obninsk**	**25.44**	**342**	*i* P		**P**		**00 55 33.6**	**+0.5**
	comp=Z,24nm,0.6s,mb4.9								
ARU	**Arti**	**25.55**	**11**	⇓*i*P		**P**		**00 55 34.9**	**+0.8**
ARU	

LOR Lormes 38.45 308 *eP* **P 00 57 26.1 -0.9**
comp=Z,2.5nm,0.5s,mb3.9

LOR Lormes 38.45 308 *eP* **P 00 57 26.1 -0.9**
LOR pmax pmax
comp=Z,1.0nm,0.5s,mb3.8

LOR Lormes 38.45 308 *eP* **P 00 57 26.1 -0.9**
comp=Z,1.2nm,0.5s,mb3.9

SSF Saint Saulge 38.66 307⇑ *iP* **P 00 57 28.2 -0.6**
comp=Z,10nm,0.8s,mb4.3

SSF Saint Saulge 38.66 307⇑ *iP* **P 00 57 28.2 -0.6**
SSF pmax pmax
comp=Z,5.0nm,0.8s,mb4.3

SSF Saint Saulge 38.66 307⇑ *iP* **P 00 57 28.2 -0.6**
comp=Z,5.2nm,0.8s,mb4.3

AVF Avril sur Loir 38.73 307 *eP* **P 00 57 28.6 -0.8**
NB2 NORSAR Subarra 38.90 331 P **P 00 57 29.1 -1.7**
comp=Z,3.1nm,0.6s,mb4.2,baz=123,slow=8.6

NOA NORSAR Array B 38.90 331 P **P 00 57 29.7 -1.1**
comp=Z,3.4nm,0.7s,mb4.2,baz=122,slow=8.4,SNR=24

NAO01 NORSAR Array S 38.94 330 *eP* **P 00 57 30.3 -0.8**
NAO01 NORSAR Array S 38.94 330 *eP* **P 00 57 30.3 -0.8**
BGF Bois d'Agland 39.06 306 *eP* **P 00 57 32.1 0.0**
comp=Z,5.6nm,0.6s,mb4.2

BGF Bois d'Agland 39.06 306 *eP* **P 00 57 32.1 0.0**
BGF pmax pmax
comp=Z,3.0nm,0.6s,mb4.2

BGF Bois d'Agland 39.06 306 *eP* **P 00 57 32.1 0.0**
comp=Z,2.8nm,0.6s,mb4.2

TCF Toulx Ste Croi 39.47 306 *eP* **P 00 57 35.2 -0.4**
comp=Z,6.3nm,0.8s,mb4.1

TCF Toulx Ste Croi 39.47 306 *eP* **P 00 57 35.2 -0.4**
TCF pmax pmax
comp=Z,3.0nm,0.8s,mb4.1

TCF Toulx Ste Croi 39.47 306 *eP* **P 00 57 35.2 -0.4**
comp=Z,3.2nm,0.8s,mb4.1

RJF Les Rejaudoux 39.89 304 *eP* **P 00 57 39.1 0.0**
KEV Kevo 40.40 348 *ep* **P 00 57 42.9 -0.4**
comp=Z,1.3nm,0.5s,mb3.9

KEV Kevo 40.40 348 *eP* **P 00 57 42.9 -0.4**
KEV pmax pmax
comp=Z,1.0nm,0.5s,mb3.8

LFF La Frestale 40.43 304 *eP* **P 00 57 43.4 -0.1**
comp=Z,7.8nm,0.7s,mb4.2

LFF La Frestale 40.43 304 *eP* **P 00 57 43.4 -0.1**
LFF pmax pmax
comp=Z,4.0nm,0.7s,mb4.3

LFF La Frestale 40.43 304 *eP* **P 00 57 43.4 -0.1**
comp=Z,3.9nm,0.7s,mb4.2

ARCES ARCESS Array B 40.49 347 P **P 00 57 43.9 -0.2**
comp=Z,2.0nm,0.6s,mb4.0,baz=152,slow=8.2,SNR=36

GTA Gaotai 40.78 65 *eP* **P 00 57 47.6 +1.2**
GTA AP pP 00 57 55.8 -1.3
GTA XP sP 00 57 59.6 -2.0
GTA AMB AMB
comp=Z,10.0nm,0.8s,mb4.5

MFF Saint Martin d 41.12 306 *eP* **P 00 57 48.4 -0.8**
comp=Z,16nm,0.8s,mb4.4

MFF Saint Martin d 41.12 306 *eP* **P 00 57 48.4 -0.8**
MFF pmax pmax
comp=Z,8.0nm,0.8s,mb4.4

MFF Saint Martin d 41.12 306 *eP* **P 00 57 48.4 -0.8**
comp=Z,8.0nm,0.8s,mb4.4

LDF La Druitiere 41.25 309 *eP* **P 00 57 49.1 -1.2**
comp=Z,7.5nm,0.7s,mb4.2

LDF La Druitiere 41.25 309 *eP* **P 00 57 49.1 -1.2**
LDF pmax pmax
comp=Z,4.0nm,0.7s,mb4.2

LDF La Druitiere 41.25 309 *eP* **P 00 57 49.1 -1.2**
comp=Z,3.8nm,0.7s,mb4.2

FLN La Foliniere 41.50 309 *eP* **P 00 57 51.3 -1.1**
comp=Z,10nm,0.7s,mb4.3

FLN La Foliniere 41.50 309 *eP* **P 00 57 51.3 -1.1**
FLN pmax pmax
comp=Z,5.0nm,0.7s,mb4.2

FLN La Foliniere 41.50 309 *eP* **P 00 57 51.3 -1.1**
comp=Z,5.1nm,0.7s,mb4.3

GRR Gorron 41.72 309 *eP* **P 00 57 53.3 -0.9**
comp=Z,11nm,0.7s,mb4.3

GRR Gorron 41.72 309 *eP* **P 00 57 53.3 -0.9**
GRR pmax pmax
comp=Z,5.0nm,0.7s,mb4.2

GRR Gorron 41.72 309 *eP* **P 00 57 53.3 -0.9**
comp=Z,5.3nm,0.7s,mb4.3

SGMF Saint Gilles 42.84 309 *eP* **P 00 58 02.5 -0.8**
comp=Z,19nm,0.8s,mb4.6

SGMF Saint Gilles 42.84 309 *eP* **P 00 58 02.5 -0.8**
SGMF pmax pmax
comp=Z,10.0nm,0.8s,mb4.6

SGMF Saint Gilles 42.84 309 *eP* **P 00 58 02.5 -0.8**
comp=Z,9.5nm,0.8s,mb4.6

QUIF Quistinic 43.23 308 *eP* **P 00 58 05.6 -0.9**
comp=Z,6.0nm,0.4s,mb4.3

QUIF Quistinic 43.23 308 *eP* **P 00 58 05.6 -0.9**
QUIF pmax pmax
comp=Z,3.0nm,0.4s,mb4.4

QUIF Quistinic 43.23 308 *eP* **P 00 58 05.6 -0.9**
comp=Z,3.0nm,0.4s,mb4.3

ROSF Rostrenen 43.33 309 *eP* **P 00 58 06.3 -0.9**
comp=Z,6.3nm,0.7s,mb4.2

ROSF Rostrenen 43.33 309 *eP* **P 00 58 06.3 -0.9**
ROSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.1

ROSF Rostrenen 43.33 309 *eP* **P 00 58 06.3 -0.9**
comp=Z,3.2nm,0.7s,mb4.2

ESDC Sonseca Array 44.15 296 P **P 00 58 15.2 +1.4**
comp=Z,1.5nm,0.8s,mb3.8,baz=79,slow=8.0,SNR=4.4

LZH Lanzhou 44.38 69 *eP* **P 00 58 19.1 +3.4**
LZH AP pP 00 58 27.2 +0.7
LZH AMB AMB
comp=Z,20nm,1.4s,mb4.7

SONM Songino Array 45.22 52 P **P 00 58 22.4 0.0**
comp=Z,0.7nm,0.6s,mb3.7,baz=272,slow=8.2,SNR=6.4

ULN Ulaanbaatar 45.67 52⇑ *eP* **P 00 58 27.0 +1.1**
TORD Torodi Ar. Bea 47.98 259 P **P 00 58 45.5 +1.5**
comp=Z,1.2nm,0.4s,mb4.3,baz=57,slow=8.0,SNR=36

BOD Bodaibo 50.12 39 *eP* **P 00 58 59.7 -0.6**
BOD pmax pmax
comp=Z,4.0nm,1.2s,mb4.3

MATP Matopo 55.70 205 P **P 00 59 43.8 +2.3**
comp=Z,3.8nm,0.8s,mb4.5,baz=37,slow=12,SNR=5.9

TIXI Tiksi 56.85 22 *eP* **P 00 59 49.8 +0.1**
TIXI pmax pmax
comp=Z,5.0nm,2.5s,mb4.1

NJ2 Nanjing 57.44 70 *eP* **P 00 59 58.0 +4.1**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.1

TSUM Tsumeb 59.35 216 P **P 01 00 09.7 +2.4**
comp=Z,3.0nm,1.1s,mb4.2,baz=61,slow=10,SNR=2.3

LBTB Lobatse 60.95 206 P **P 01 00 21.2 +3.1**
comp=Z,5.9nm,0.6s,mb4.9,baz=38,slow=5.5,SNR=15

LBTB Lobatse 60.95 206 *eP* **P 01 00 21.2 +3.0**
LBTB pmax pmax
comp=Z,35nm,1.6s,mb5.2

LBTB Lobatse 60.95 206 *eP* **P 01 00 21.2 +3.0**
comp=Z,35nm,1.6s,mb5.2

MDJ Mudanjiang 61.57 53 P **P 01 00 24.0 +1.7**
MDJ PCP PcP 01 01 06.0 +2.2
MDJ PP PP 01 02 39.0 +0.9
MDJ SCP ScP 01 05 07.6 +5.1
MDJ PCS PcS 01 05 08.9 +2.2
MDJ S **S 01 08 45.5 +3.9**
MDJ SCS ScS 01 10 15.4 +4.5
MDJ AMB AMB
comp=Z,5.0nm,1.0s,mb4.6
MDJ AMB AMB
comp=Z,156nm,6.0s

BILL Bilibino 70.05 21 *eP* **P 01 01 18.0 +1.0**
BILL pmax pmax
comp=Z,2.0nm,1.3s,mb3.9

SCHQ Schefferville 78.42 328 P **P 01 02 05.5 -0.2**
comp=Z,2.3nm,0.8s,mb4.2,baz=237,slow=9.0,SNR=6.6

INK Inuvik 80.40 1 *eP* **P 01 02 15.5 -1.0**
ILAR Eielson Array 83.06 7 P **P 01 02 29.9 -0.6**
comp=Z,0.8nm,0.7s,mb3.9,baz=317,slow=4.4,SNR=12

YKA Yellowknife Ar 85.47 353 P **P 01 02 41.6 -1.1**
comp=Z,0.8nm,0.6s,mb4.0,baz=14,slow=5.5,SNR=29

YKA Yellowknife Ar 85.47 353⇑ *eP* **P 01 02 42.2 -0.6**
DLBC Dease Lake 90.35 0 P **P 01 03 08.7 +2.6**

ISCJB ***04*** *00:50:30.2±1.0, 40.3S±0.1×792E±0.2, h10km, mb4.1/5, MS4.3/7, Error ellipse: s-maj=29.0km s-min=15.6km az=51.4*

IDC ***04*** *00:50:31.5±1.8, 40.30S×7931E, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.8/12, mbtmp4.0/3, MS4.3/7, Ms1 4.2/7, ms1mx3.9/14, Error ellipse: s-maj=62.0km s-min=36.3km az=80.0*

NEIC ***04*** *00:50:32.3±0.7, 40.34S×79.18E, h10km, mb4.1/3, Error ellipse: s-maj=21.5km s-min=12.2km az=111.0*

ISC 04 00:50:31.6±1.0, 403S±01×790E±02, h10km, n17, σ0.9 22/10, mb4.1/5, MS4.3/7, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MAW	**Mawson**	**28.77**	**193**	LR		LR	01 04 59.4	
	comp=Z,725nm,21.3s,MS4.2,baz=357,slow=30							
MAW	**Mawson**	**28.77**	**193**	*eP*		**P**	**00 56 29.1**	**-0.3**
	6.3nm,0.9s,mb4.3							
CASY	**Casey**	**31.46**	**156**	P		**P**	**00 56 53.6**	**+0.4**
COCO	**West Island**	**32.10**	**34**	P		**P**	**00 56 59.0**	**+0.1**
LBTB	**Lobatse**	**46.82**	**272**	LR		LR	01 15 40.8	
	comp=Z,551nm,18.1s,MS4.6,baz=194,slow=32							
MATP	**Matopo**	**47.20**	**279**	LR		LR	01 14 19.0	
	comp=Z,380nm,18.4s,MS4.4,baz=75,slow=30							
ASAR	**Alice Springs**	**48.65**	**87**	P		**P**	**00 59 15.6**	**-0.2**
	1.4nm,0.9s,mb4.0,baz=231,slow=6.8,SNR=6.6							
VNDA	**Vanda**	**49.48**	**164**	P		**P**	**00 59 22.5**	**+0.4**
	1.5nm,0.8s,mb4.0,baz=286,slow=7.8,SNR=6.9							
VNDA				LR		LR	01 18 34.9	
	comp=Z,146nm,19.0s,MS4.0,baz=282,slow=34							
VNDA	**Vanda**	**49.48**	**164**	*eP*		**P**	**00 59 22.2**	**+0.1**
	1.6nm,0.7s,mb4.2							
VNDA				LR		LR	01 18 34.9	
SNAA	**Sanae**	**49.80**	**204**	*eP*		**P**	**00 59 24.4**	**-0.1**
	0.9nm,0.7s,mb3.9							
STKA	**Stephens Creek**	**50.33**	**101**	LR		LR	01 17 57.1	
	comp=Z,110nm,18.1s,MS3.9,baz=184,slow=33							
STKA	**Stephens Creek**	**50.33**	**101**	*eP*		**P**	**00 59 28.3**	**-0.2**
WRAB	**Tennant Creek**	**51.11**	**84**	*eP*		**P**	**00 59 34.4**	**0.0**
RPZ	**Rata Peaks**	**64.90**	**127**	LR		LR	01 23 31.7	
	comp=Z,300nm,22.0s,MS4.4,baz=195,slow=31							
MKAR	**Makanchi Array**	**86.76**	**2**	P		**P**	**01 03 16.1**	**+0.1**
	0.8nm,0.7s,mb4.1,baz=177,slow=7.2,SNR=4.5							
ZAL	**Zalesovo**	**94.00**	**3**	LR		LR	01 43 41.8	
	comp=Z,140nm,19.4s,MS4.4,baz=284,slow=34							
YKA	**Yellowknife Ar**	**156.31**	**16**	PKPab		PKPab	01 10 55.8	+1.2
	0.3nm,0.9s,baz=330,slow=4.4,SNR=3.7							

IDC 04 00:51:37.9±2.3, 313S×3617E, h0km, mb3.9/2, mb1 4.0/4, mb1mx3.6/19, mbtmp4.0/4, ML3.9/2, Error ellipse: s-maj=58.3km s-min=18.7km az=126.0, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**2.27**	**29**	Pn		Pn	00 52 16.8	+0.2
	117nm,0.3s,baz=209,slow=18,SNR=299							
KMBO				Pg		Pg	00 52 20.0	-1.3
	117nm,0.3s,baz=210,slow=18,SNR=393							
KMBO				Sn		Sn	00 52 46.1	+0.9
	87nm,0.3s,baz=63,slow=23,SNR=5.0							
KMBO				Lg			00 52 49.2	
	304nm,0.3s,baz=298,slow=18,SNR=27							
LSZ	**Lusaka**	**14.40**	**213**	Pn		Pn	00 55 01.6	-1.3
	0.2nm,0.3s,baz=35,slow=6.0,SNR=3.4							
LSZ				Sn		Sn	00 57 31.9	-12
	0.5nm,0.3s,baz=238,slow=20,SNR=3.8							
LSZ				Lg			00 59 04.0	
	0.5nm,0.3s,baz=131,slow=18,SNR=5.7							
AKASG	**Malin Array Be**	**53.95**	**355**	P		P	01 01 03.5	+0.1
	1.0nm,0.7s,baz=181,slow=7.0,SNR=4.0							
ARCES	**ARCESS Array B**	**72.88**	**356**	P		P	01 03 08.6	-0.1
	0.8nm,0.7s,baz=186,slow=6.8,SNR=3.7							

IDC 04 01:08:45.1±26.0, 6070S×2636W, h0km, mb3.8/1, mb1 3.8/1, mb1mx3.5/13, mbtmp3.8/1, Error ellipse: s-maj=1834.0km s-min=76.8km az=140.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**76.94**	**28**	P		P	01 20 38.9	-0.4
	0.6nm,1.1s,baz=187,slow=7.3,SNR=4.5							
YKA	**Yellowknife Ar**	**139.83**	**314**	PKP		PKPdf	01 28 13.9	-1.1
	0.2nm,0.6s,baz=127,slow=2.1,SNR=7.3							
ILAR	**Eielson Array**	**153.35**	**305**	PKPbc		PKPbc	01 28 43.4	-1.8
	0.8nm,0.6s,baz=132,slow=0.7,SNR=12							
ILAR	**Eielson Array**	**153.35**	**305**	PKPbc		PKPbc	01 28 43.4	-1.8

IDC ***04*** *01:08:51.1±1.4, 1975S×174.34W, h0km, mb4.0/4, mb1 4.2/6, mb1mx3.9/17, mbtmp4.1/6, ML3.3/2, Error ellipse: s-maj=56.4km s-min=24.4km az=132.0*

MOS ***04*** *01:08:51.1±2.8, 1985S×173.75W, h33km, mb4.5/4, Error ellipse: s-maj=20.9km s-min=15.3km az=159.3*

ISCJB ***04*** *01:08:52.5±0.7, 1950S±0.09×174.2W±0.1, h33km, mb4.2/7, Error ellipse: s-maj=21.3km s-min=8.7km az=55.2*

NEIC ***04*** *01:08:56.0±0.7, 1965S×174.33W, h35km, mb4.5/4, Error ellipse: s-maj=20.3km s-min=13.2km az=118.0*

ISC 04 01:08:55.1±0.7, 1956S±008×1742W±01, h35km, n22, σ1.8 15/19, mb4.2/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**6.07**	**23**	Pn		**Pn**	**01 10 23.5**	**+1.2**
	4.3nm,0.3s,baz=88,slow=22,SNR=3.1							
AFI				Sn		**Sn**	**01 11 28.8**	**-1.7**
	2.3nm,0.3s,baz=32,slow=22,SNR=2.6							
RAR	**Rarotonga**	**13.60**	**99**	Pn		**Pn**	**01 11 53.2**	**-12**
	1.6nm,0.3s,baz=255,slow=10.0,SNR=8.7							
DZM	**Mont Dzumac**	**18.29**	**259**	P		**Pn**	**01 13 10.1**	**+4.1**
	0.1nm,0.3s,baz=67,slow=16,SNR=2.7							
URZ	**Urewera**	**20.12**	**200**	P		**P**	**01 13 23.5**	**-2.4**
	0.8nm,0.3s,baz=339,slow=12,SNR=3.5							
CTA	**Charters Tower**	**37.17**	**262**	P		**P**	**01 16 03.0**	**+0.3**
	2.2nm,0.5s,mb4.2,baz=65,slow=13,SNR=3.2							
CTA	**Charters Tower**	**37.17**	**262**	P		**P**	**01 16 03.0**	**+0.3**
CTAO	**Charters Tower**	**37.17**	**262**	*eP*		**P**	**01 16 03.0**	**+0.3**
CTAO				pmax		pmax		
	comp=Z,9.0nm,1.0s,mb4.5							
CTAO	**Charters Tower**	**37.17**	**262**	*eP*		**P**	**01 16 03.0**	**+0.3**
	comp=Z,9.1nm,1.0s,mb4.6							
PMG	**Port Moresby**	**38.69**	**280**	P		**P**	**01 16 14.9**	**-0.6**
ASAR	**Alice Springs**	**48.24**	**255**	P		**P**	**01 17 32.0**	**-0.4**
	comp=Z,1.4nm,0.8s,mb4.1,baz=92,slow=7.7,SNR=11							
WRAB	**Tennant Creek**	**48.29**	**260**	*eP*		**P**	**01 17 33.2**	**+0.4**
WRAB				pmax		pmax		
	comp=Z,5.0nm,0.7s,mb4.7							
WRAB	**Tennant Creek**	**48.29**	**260**	*eP*		**P**	**01 17 33.2**	**+0.3**
	comp=Z,5.2nm,0.7s,mb4.7							
WRA	**Warramunga Arr**	**48.30**	**260**	P		**P**	**01 17 32.7**	**-0.2**
	comp=Z,1.6nm,0.6s,mb4.2,baz=97,slow=9.0,SNR=3.5							
SBA	**Scott Base**	**59.07**	**185**	*eP*		**P**	**01 18 51.7**	**0.0**
SBA				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.4							
SBA	**Scott Base**	**59.07**	**185**	*eP*		**P**	**01 18 51.7**	**0.0**
	comp=Z,2.6nm,0.8s,mb4.3							
VNDA	**Vanda**	**59.19**	**186**	*eP*		**P**	**01 18 52.1**	**-0.4**
	comp=Z,0.4nm,0.7s,mb3.6							
QSPA	**South Pole Qui**	**70.51**	**180**	*eP*		**P**	**01 20 07.4**	**+1.2**
ILAR	**Eielson Array**	**86.64**	**11**	P		**P**	**01 21 36.9**	**+1.9**
	comp=Z,0.5nm,0.9s,mb3.8,baz=223,slow=6.3,SNR=4.9							
ARCES	**ARCESS Array B**	**128.59**	**351**	PKP		PKPdf	01 27 60.0	+1.6
	comp=Z,1.2nm,0.9s,baz=29,slow=2.1,SNR=4.6							
AKASG	**Malin Array Be**	**143.82**	**335**	PKP		PKPdf	01 28 25.8	-0.8
	comp=Z,1.0nm,0.6s,baz=42,slow=4.5,SNR=7.9							
BRTR	**Keskin Array B**	**148.77**	**316**	PKPbc		PKPbc	01 28 42.0	+3.2
	comp=Z,0.5nm,0.8s,baz=154,slow=4.0,SNR=2.9							
GERES	**GERESS Array B**	**150.10**	**350**	PKPbc		PKPbc	01 28 45.0	+2.9
	comp=Z,0.1nm,0.3s,baz=346,slow=3.3,SNR=2.9							

IDC ***04*** *01:15:46.3±1.2, 20.19S×174.16W, h0km, mb4.1/6, mb1 4.3/7, mb1mx4.1/15, mbtmp4.2/7, ML4.3/1, Error ellipse: s-maj=53.3km s-min=21.0km az=154.0*

ISCJB ***04*** *01:15:48.6±2.4, 202S±0.1×1742W±0.1, h33km±24km, mb4.3/9, Error ellipse: s-maj=19.0km s-min=16.7km az=161.9*

MOS ***04*** *01:15:49.5±0.7, 20.17S×174.11W, h33km, mb5.1/2, Error ellipse: s-maj=20.1km s-min=14.8km az=163.9*

NEIC ***04*** *01:15:52.5±1.4, 20.17S×174.06W, h45km±14km, mb4.8/2, Error ellipse: s-maj=15.2km s-min=11.0km az=160.0*

ISC 04 01:15:53.5±1.5, 2012S±010×17402W±010, h55km±16km, n26, σ1.9 05/22, mb4.3/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**6.54**	**20**	Sn		**Sn**	**01 18 31.2**	**-9.1**
	8.2nm,0.3s,baz=54,slow=21,SNR=3.2							
AFI	**Afiamalu**	**6.54**	**20**	*eP*		**Pn**	**01 17 26.3**	**-0.8**
RAR	**Rarotonga**	**13.38**	**97**	Pn		**Pn**	**01 19 00.4**	**-0.2**
	1.7nm,0.3s,baz=262,slow=13,SNR=3.3							
DZM	**Mont Dzumac**	**18.33**	**260**	P		**Pn**	**01 20 05.6**	**+1.9**
	1.0nm,0.3s,baz=67,slow=18,SNR=9.0							
URZ	**Urewera**	**19.64**	**201**	P		**Pn**	**01 20 21.0**	**+1.6**
	1.1nm,0.3s,baz=226,slow=0.3,SNR=4.2							
CTA	**Charters Tower**	**37.24**	**263**	P		**P**	**01 22 59.6**	**-0.2**
	5.0nm,0.4s,mb4.7,baz=101,slow=12,SNR=12							
CTAO	**Charters Tower**	**37.24**	**263**	*eP*		**P**	**01 22 59.7**	**0.0**
CTAO				pmax		pmax		
	comp=Z,5.0nm,0.3s,mb4.8							
CTAO	**Charters Tower**	**37.24**	**263**	*eP*		**P**	**01 22 59.7**	**0.0**
	comp=Z,5.0nm,0.3s,mb4.8							
PMG	**Port Moresby**	**38.92**	**280**	P		**P**	**01 23 13.2**	**-0.7**
STKA	**Stephens Creek**	**41.31**	**244**	P		**P**	**01 23 31.7**	**-2.0**
	comp=Z,2.8nm,0.9s,mb3.9,baz=58,slow=14,SNR=3.9							
ASAR	**Alice Springs**	**48.23**	**256**	P		**P**	**01 24 28.4**	**-0.3**
	comp=Z,3.5nm,0.6s,mb4.5,baz=95,slow=8.2,SNR=24							
WRAB	**Tennant Creek**	**48.34**	**261**	*eP*		**P**	**01 24 29.4**	**-0.1**
WRAB				pmax		pmax		
	comp=Z,3.0nm,0.3s,mb4.8							
WRAB	**Tennant Creek**	**48.34**	**261**	*eP*		**P**	**01 24 29.4**	**-0.2**
	comp=Z,3.4nm,0.3s,mb4.8							
WRA	**Warramunga Arr**	**48.35**	**261**	P		**P**	**01 24 28.9**	**-0.7**
	comp=Z,1.6nm,0.4s,mb4.4,baz=97,slow=7.9,SNR=21							
SBA	**Scott Base**	**58.52**	**185**	P		**P**	**01 25 43.0**	**-1.2**
MBWA	**Marble Bar**	**61.57**	**256**	*eP*		**P**	**01 26 05.8**	**+0.7**
	comp=Z,15nm,1.0s,mb5.1							
CASY	**Casey**	**65.90**	**205**	P		**P**	**01 26 32.7**	**-0.9**
MJAR	**Matsushiro Arr**	**72.19**	**321**	P		**P**	**01 27 12.8**	**+0.3**
	comp=Z,2.4nm,0.8s,mb4.2,baz=158,slow=6.1,SNR=8.2							
NVAR	**Mina Array Bea**	**78.23**	**42**	P		**P**	**01 27 49.5**	**+2.2**
	comp=Z,0.7nm,0.8s,mb3.6,baz=241,slow=9.2,SNR=4.2							
ILAR	**Eielson Array**	**87.17**	**11**	P		**P**	**01 28 34.4**	**+0.7**
	comp=Z,0.2nm,0.5s,mb3.6,baz=228,slow=5.7,SNR=5.3							
ILAR	**Eielson Array**	**87.17**	**11**	P		**P**	**01 28 34.4**	**+0.7**
SNAA	**Sanae**	**88.25**	**177**	*eP*		**P**	**01 28 39.0**	**+0.2**
ARCES	**ARCESS Array B**	**129.17**	**351**	PKP		PKPdf	01 34 55.3	-0.2
	comp=Z,1.3nm,0.9s,baz=20,slow=3.9,SNR=4.8							
AKASG	**Malin Array Be**	**144.39**	**334**	PKP		PKPdf	01 35 21.8	-1.7
	comp=Z,0.3nm,0.4s,baz=44,slow=4.7,SNR=4.2							
BRTR	**Keskin Array B**	**149.27**	**316**	PKPbc		PKPbc	01 35 36.5	+0.5
	comp=Z,0.2nm,0.4s,baz=32,slow=31,SNR=2.9							
GERES	**GERESS Array B**	**150.68**	**350**	PKPbc		PKPbc	01 35 40.3	+0.8
	comp=Z,0.6nm,0.8s,baz=331,slow=4.7,SNR=4.3							

ISCJB ***04*** *01:17:29.0±0.4, 37.12N±0.03×137.41E±0.06, h25km±4km, mb3.9/12, Error ellipse: s-maj=7.8km s-min=4.3km az=141.4*

JMA ***04*** *01:17:29.2, 37.13N×137.44E, h16km±1km, M3.9 Broadband fault plane solution: P waves. NP1: ϕs348.00000°, δ61.00000°, λ-23.00000°. NP2: ϕs89.00000°, δ70.00000°, λ-149.00000°. Principal axes: T Plg6.0000°, Azm217.0000°; N Plg53.0000°, Azm119.0000°; P Plg36.0000°, Azm311.0000°;*

JMA Felt II J1.

IDC ***04*** *01:17:29.0±3.9, 3704N×13742E, h14km±25km, mb3.7/8, mb1 3.9/8, mb1mx3.7/20, mbtmp3.8/8 Error ellipse: s-maj=23.9km s-min=15.3km az=48.0*

MOS ***04*** *01:17:29.2±0.9, 3702N×13738E, h28km, mb4.4/3, Error ellipse: s-maj=32.0km s-min=12.9km az=130.2*

NEIC ***04*** *01:17:30.3±1.5, 3707N×13749E, h24km±12km, mb4.3/3, Error ellipse: s-maj=21.3km s-min=9.8km az=55.0*

NEIC Recorded [2 JMA] in Ishikawa and [1 JMA] in Niigata and Toyama Prefectures.

ISC 04 01:17:29.0±0.5, 3713N±003×13744E±005, h14km±4km, n31, σ0.9 72/38, mb3.9/12, 3C-4D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JSZ	**Suzu**	**0.33**	**349**	⇓P		**Pg**	**01 17 35.8**	**0.0**
JSZ				S		**Sg**	**01 17 40.5**	**+0.2**
JTT	**Ttatey**	**0.53**	**190**	⇑P		**Pg**	**01 17 39.6**	**+0.2**
JHG	**Hegura jima**	**0.83**	**330**	⇓P		**Pg**	**01 17 44.7**	**-0.5**
JHG				S		**Sg**	**01 17 56.3**	**+0.2**
MAJO	**Matsushiro**	**0.84**	**133**	⇓ *iP*		**Pg**	**01 17 45.3**	**-0.1**
MAJO				*eS*		**Sg**	**01 17 57.2**	**+0.7**
MAT	**Matsushiro**	**0.84**	**133**	P		**Pg**	**01 17 45.3**	**-0.1**
MAT				S		**Sg**	**01 17 56.9**	**+0.4**
MAT	**Matsushiro**	**0.84**	**133**	P		**Pg**	**01 17 45.2**	**-0.2**
MAT	**Matsushiro**	**0.84**	**133**	*eP*		**Pg**	**01 17 45.0**	**-0.4**
MAT				*eS*		**Sg**	**01 17 57.0**	**+0.5**
MJAR	**Matsushiro Arr**	**0.85**	**133**	Pg		**Pg**	**01 17 45.5**	**+0.1**
	99nm,0.3s,baz=312,slow=17,SNR=977							
MJAR				Lg			01 17 56.5	
	215nm,0.3s,baz=46,slow=22,SNR=30							
MJAR	**Matsushiro Arr**	**0.85**	**133**	Pg		**Pg**	**01 17 45.5**	**0.0**
MJAR				Lg			01 17 56.5	
JNG	**Nsakai**	**0.89**	**143**	⇓P		**Pb**	**01 17 46.2**	**0.0**
JGN	**Niukaw**	**0.91**	**186**	⇑P		**Pb**	**01 17 45.7**	**-0.7**
JGN				S		**Sb**	**01 17 57.7**	**-0.6**
JIZZ	**Izumozaki**	**1.09**	**68**	P		**Pb**	**01 17 49.1**	**-0.5**
JSD	**Sado**	**1.12**	**35**	⇑P		**Pb**	**01 17 48.6**	**-1.5**
JSD				S		**Sb**	**01 18 04.2**	**-0.3**
ULN	**Ulaanbaatar**	**24.69**	**305**	P		**P**	**01 22 50.2**	**+0.7**
SONM	**Songino Array**	**25.11**	**305**	P		**P**	**01 22 54.9**	**+1.6**
	0.8nm,0.9s,mb3.2,baz=105,slow=8.2,SNR=5.9							
KURK	**Kurchatov**	**43.37**	**308**	*eP*		**P**	**01 25 29.8**	**-1.0**
KURK				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb3.7							
KURK	**Kurchatov**	**43.37**	**308**	*eP*		**P**	**01 25 29.8**	**-0.9**
	comp=Z,1.0nm,0.6s,mb3.7							
AAK	**Ala-Archa**	**47.64**	**297**	*eP*		**P**	**01 26 05.1**	**+0.5**
AAK				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.4							
AAK	**Ala-Archa**	**47.64**	**297**	*eP*		**P**	**01 26 05.1**	**+0.6**
	comp=Z,2.8nm,0.7s,mb4.4							
ZRNK	**Zerenda**	**48.99**	**312**	*eP*		**P**	**01 26 14.5**	**-0.5**
INK	**Inuvik**	**55.75**	**27**	P		**P**	**01 27 05.1

1.5nm,0.7s,baz=197,slow=6.7,SNR=10.0
YKA Yellowknife Ar 136.85 317 PKP PKPdf 01 41 52.4 -2.5
0.6nm,0.7s,baz=127,slow=2.1,SNR=10
ILAR Eielson Array 150.48 309 PKPbc PKPbc 01 42 21.4 -2.6
5.3nm,0.8s,baz=134,slow=2.5,SNR=48

*IDC **04** 01:25:10.7±0.9, 2063S×17404W, h0km, mb3.9/8, mb1 4.2/9, mb1mx4.1/16, mbtmp3.9/9, Error ellipse: s-maj=38.1km s-min=21.9km az=135.0*
*ISCJB **04** 01:25:13.6±0.6, 206S±0.1×174.1W±0.1, h33km, mb4.0/12, Error ellipse: s-maj=19.5km s-min=12.5km az=59.7*
*NEIC **04** 01:25:15.7±0.4, 2057S×17407W, h35km, mb4.3/5, Error ellipse: s-maj=17.5km s-min=10.7km az=120.0*
ISC 04 01:25:15.4±0.6, 2055S±009×1740W±01, h35km, n25, σ1§05/20, mb4.0/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.94**	**18**	Pn	**Pn**	**01 26 52.9**	**-1.6**
	4.4nm,0.3s,baz=312,slow=6.3,SNR=5.3						
AFI				Sn	**Sn**	**01 28 08.5**	**-3.7**
	2.1nm,0.3s,baz=220,slow=23,SNR=1.9						
RAR	**Rarotonga**	**13.32**	**95**	Pn	**Pn**	**01 28 12.1**	**-10**
	1.3nm,0.3s,baz=332,slow=11,SNR=6.7						
PMG	**Port Moresby**	**39.02**	**281**	*e*P	**P**	**01 32 37.7**	**-0.9**
TAU	**Tasmania Unive**	**39.26**	**227**	*e*P	**P**	**01 32 40.3**	**-0.3**
ASAR	**Alice Springs**	**48.15**	**256**	P	**P**	**01 33 52.2**	**+0.2**
	0.8nm,0.5s,mb4.0,baz=99,slow=8.5,SNR=9.6						
WRAB	**Tennant Creek**	**48.29**	**261**	*e*P	**P**	**01 33 53.2**	**+0.1**
	4.6nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**48.30**	**261**	P	**P**	**01 33 53.4**	**+0.2**
	0.5nm,0.4s,mb3.9,baz=98,slow=7.4,SNR=6.8						
SBA	**Scott Base**	**58.10**	**185**	*e*P	**P**	**01 35 05.0**	**-0.3**
	1.5nm,0.6s,mb4.2						
VNDA	**Vanda**	**58.22**	**186**	P	**P**	**01 35 05.4**	**-0.7**
	0.7nm,0.6s,mb3.9,baz=34,slow=5.6,SNR=4.9						
VNDA	**Vanda**	**58.22**	**186**	*e*P	**P**	**01 35 04.7**	**-1.5**
	0.7nm,0.6s,mb3.9						
QSPA	**South Pole Qui**	**69.52**	**180**	*e*P	**P**	**01 36 20.3**	**-0.2**
	2.6nm,0.6s,mb4.3						
MJAR	**Matsushiro Arr**	**72.53**	**321**	P	**P**	**01 36 40.0**	**+1.3**
	1.0nm,0.7s,mb3.9,baz=146,slow=5.9,SNR=4.9						
MJAR	**Matsushiro Arr**	**72.53**	**321**	P	**P**	**01 36 40.0**	**+1.3**
NVAR	**Mina Array Bea**	**78.53**	**41**	P	**P**	**01 37 15.1**	**+2.0**
	0.9nm,0.6s,mb3.9,baz=216,slow=6.7,SNR=5.9						
PDAR	**Pinedale Array**	**86.47**	**42**	P	**P**	**01 37 55.5**	**+1.0**
	0.6nm,0.8s,mb3.9,baz=202,slow=1.6,SNR=4.9						
SNAA	**Sanae**	**87.82**	**177**	*e*P	**P**	**01 37 59.9**	**-1.1**
	0.7nm,0.7s,mb4.0						
INK	**Inuvik**	**93.38**	**14**	P	**P**	**01 38 27.6**	**+0.6**
	0.9nm,1.0s,mb4.2,baz=225,slow=2.9,SNR=4.6						
YKA	**Yellowknife Ar**	**95.02**	**24**	P	**P**	**01 38 35.5**	**+1.1**
	0.3nm,0.6s,mb3.9,baz=237,slow=4.5,SNR=8.7						
YKA	**Yellowknife Ar**	**95.02**	**24**	P	**P**	**01 38 35.5**	**+1.1**
ARCES	**ARCESS Array B**	**129.59**	**351**	PKP	PKPdf	01 44 20.7	+0.1
	0.7nm,0.6s,baz=320,slow=3.2,SNR=7.2						
ARCES	**ARCESS Array B**	**129.59**	**351**	PKP	PKPdf	01 44 20.7	+0.1
AKASG	**Malin Array Be**	**144.78**	**334**	PKP	PKPdf	01 44 48.4	-0.1
	1.7nm,0.6s,baz=40,slow=4.3,SNR=13						
BRTR	**Keskin Array B**	**149.58**	**315**	PKPbc	PKPbc	01 45 03.0	+1.9
	1.0nm,0.8s,baz=132,slow=4.6,SNR=4.7						
KHC	**Kasperske Hory**	**150.84**	**350**	*e*PKP	PKPbc	01 45 05.5	+1.4
GERES	**GERESS Array B**	**151.10**	**349**	PKPbc	PKPbc	01 45 05.9	+1.2
	0.7nm,0.7s,baz=349,slow=2.7,SNR=6.9						

*ISCJB **04** 01:31:41.7±0.8, 2714S±004×7135W±006, h19km, mb4.0/2, Error ellipse: s-maj=8.1km s-min=6.2km az=12.7*
*IDC **04** 01:31:41.9±2.2, 2705S×7106W, h0km, mb4.2/2, mb1 4.1/3, mb1mx3.7/14, mbtmp4.1/3, ML4.0/1, Error ellipse: s-maj=66.1km s-min=59.0km az=132.0*
*NEIC **04** 01:31:43.4, 2723S×7120W, h19km, mb3.4/2, ML4.1(GUC), After GUC.*
*GUC **04** 01:31:43.4±0.8, 2723S×7120W, h19km±14km, MD4.0, ML4.1*
ISC 04 01:31:43.5±1.9, 2714S±004×713W±01, h18km±10km, n16, σ0§62/19, mb4.0/2, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.38**	**81**	⇓*i*P	**Pg**	**01 31 50.9**	**-0.5**
CDCH				*i* S	**Sg**	**01 31 56.5**	**-0.2**
CPCH	**Copiapo**	**0.83**	**106**	*e*P	**Pg**	**01 32 00.1**	**+0.4**
CPCH				*i* S	**Sg**	**01 32 11.2**	**+0.5**
CPCH				AML	AML	01 32 15.9	
	comp=E,8μm,0.1s						
CPCH	**Copiapo**	**0.83**	**106**	*e*P	**Pg**	**01 32 00.1**	**+0.4**
CPCH				*i* S	**Sg**	**01 32 11.2**	**+0.5**
CRCH	**Chaqaral**	**0.97**	**36**	*e*P	**Pb**	**01 32 01.6**	**-0.2**
CRCH				*i* S	**Sb**	**01 32 14.8**	**+0.6**
TLL	**Tololo Astrono**	**3.05**	**173**	*e*P	**Pn**	**01 32 31.2**	**+0.4**
TLL				*i* S	**Sn**	**01 33 06.9**	**+0.1**
TLL				AML	AML	01 33 26.0	
	comp=N,1μm,0.7s						
TLL	**Tololo Astrono**	**3.05**	**173**	*e*P	**Pn**	**01 32 31.2**	**+0.4**
TLL				*i* S	**Sn**	**01 33 06.9**	**+0.1**
LPAZ	**La Paz**	**11.18**	**16**	Pn	**Pn**	**01 34 21.9**	**-0.5**
	comp=N,0.5nm,0.3s,baz=201,slow=6.8,SNR=14						
CPUP	**Villa Florida**	**12.47**	**89**	*e*Pn	**Pn**	**01 34 39.8**	**-0.3**
TRQA	**Tornquist**	**13.39**	**147**	*e*Pn	**Pn**	**01 34 51.8**	**-0.9**
NNA	**Nana**	**15.96**	**340**	*e*Pn	**Pn**	**01 35 28.0**	**+0.8**
	comp=N,1.1nm,0.3s						
SAML	**Samuel**	**19.63**	**24**	*e*P	**Pn**	**01 36 11.9**	**-0.6**
	comp=N,0.8nm,0.5s						
BDFB	**Brasilia**	**24.43**	**67**	P	**P**	**01 37 00.3**	**-0.8**
	comp=N,2.4nm,0.7s,mb3.8,baz=238,slow=8.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**81.25**	**70**	P	**P**	**01 43 59.6**	**+1.1**
	comp=N,2.3nm,0.7s,mb4.2,baz=244,slow=4.5,SNR=42						
ZAL	**Zalesovo**	**147.93**	**27**	PKPbc	PKPbc	01 51 27.4	-0.3
	comp=N,1.0nm,0.6s,baz=140,slow=4.8,SNR=7.4						
MKAR	**Makanchi Array**	**151.38**	**40**	PKPbc	PKPbc	01 51 36.7	+0.5
	comp=N,0.9nm,0.6s,baz=323,slow=1.9,SNR=11						
MKAR	**Makanchi Array**	**151.38**	**40**	PKPbc	PKPbc	01 51 36.7	+0.5

*IDC **04** 01:32:16.7±0.6, 478S×10307E, h0km, mb4.5/14, mb1 4.6/14, mb1mx4.4/19, mbtmp4.5/14, Error ellipse: s-maj=29.0km s-min=13.6km az=49.0*
*ISCJB **04** 01:32:20.1±0.5, 47S±01×1032E±01, h33km, mb4.6/28, Error ellipse: s-maj=21.8km s-min=7.5km az=100.8*
*MOS **04** 01:32:20.5±1.2, 463S×10316E, h33km, mb4.7/10, Error ellipse: s-maj=21.2km s-min=9.9km az=117.8*
*NEIC **04** 01:32:21.9±0.3, 486S×10297E, h35km, mb4.7/10, Error ellipse: s-maj=13.6km s-min=6.9km az=47.0*
ISC 04 01:32:22.4±0.5, 47S±01×1031E±01, h35km, n53, σ0§91/49, mb4.6/28, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**16.90**	**51**	*e*Pn	**Pn**	**01 36 20.1**	**+3.9**
FITZ	**Fitzroy Crossi**	**25.71**	**123**	*e*P	**P**	**01 37 49.6**	**+0.3**
	6.7nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**25.71**	**123**	P	**P**	**01 37 49.6**	**+0.3**
	4.4nm,0.5s,mb4.3,baz=315,slow=5.5,SNR=28						
NWAO	**Narrogin (SRO)**	**30.98**	**157**	*e*P	**P**	**01 38 36.1**	**-0.3**
WRA	**Warramunga Arr**	**33.94**	**119**	P	**P**	**01 39 02.2**	**0.0**
	3.9nm,0.4s,mb4.7,baz=300,slow=9.1,SNR=17						
WRA				PcP	PcP	01 41 40.0	-0.1
	1.0nm,0.5s,baz=296,slow=2.0,SNR=5.2						
WRA	**Warramunga Arr**	**33.94**	**119**	P	**P**	**01 39 02.2**	**0.0**
WRA				PcP	PcP	01 41 40.0	-0.1
WRAB	**Tennant Creek**	**33.94**	**119**	*e*P	**P**	**01 39 02.7**	**+0.4**
WRAB				pmax	pmax		
	comp=E,6.0nm,0.4s,mb4.9						
WRAB	**Tennant Creek**	**33.94**	**119**	*e*P	**P**	**01 39 02.7**	**+0.5**
	comp=E,6.0nm,0.4s,mb4.9						
WB2	**Warramunga Arr**	**33.95**	**119**	*e*P	**P**	**01 39 02.4**	**+0.1**
ASAR	**Alice Springs**	**35.13**	**125**	P	**P**	**01 39 13.2**	**+0.7**
	comp=Z,3.3nm,0.4s,mb4.7,baz=295,slow=7.5,SNR=37						
ASAR				PcP	PcP	01 41 44.0	+0.5
	comp=Z,1.2nm,0.5s,baz=306,slow=2.5,SNR=7.6						
JIRN	**Jiri**	**36.12**	**334**	*e*P	**P**	**01 39 22.0**	**+1.0**
GUN	**Gumba**	**36.47**	**334**	*e*P	**P**	**01 39 25.5**	**+1.4**
	comp=Z,15nm,0.4s,mb5.2						
DMN	**Daman**	**36.56**	**333**	*e*P	**P**	**01 39 26.5**	**+1.7**
KKN	**Kakani**	**36.64**	**333**	*e*P	**P**	**01 39 26.4**	**+0.9**
GKN	**Gorkha**	**37.11**	**332**	*e*P	**P**	**01 39 30.5**	**+1.0**
KOLN	**Koldanda**	**37.41**	**331**	*e*P	**P**	**01 39 33.3**	**+1.3**
	comp=Z,25nm,0.7s,mb5.1						
CTA	**Charters Tower**	**44.63**	**114**	*e*P	**P**	**01 40 32.5**	**+1.1**
	comp=Z,10nm,0.9s,mb4.7						
CTA	**Charters Tower**	**44.63**	**114**	*e*P	**P**	**01 40 32.5**	**+1.1**
CTA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CTAO	**Charters Tower**	**44.63**	**114**	*e*P	**P**	**01 40 32.5**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.9						
CTAO	**Charters Tower**	**44.63**	**114**	*e*P	**P**	**01 40 32.5**	**+1.1**
	comp=Z,15nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**45.01**	**132**	*e*P	**P**	**01 40 33.2**	**-1.2**
	comp=Z,4.3nm,0.4s,mb4.6						
STKA	**Stephens Creek**	**45.01**	**132**	P	**P**	**01 40 33.2**	**-1.3**
	comp=Z,4.7nm,0.4s,mb4.6,baz=315,slow=6.1,SNR=24						
SONM	**Songino Array**	**52.43**	**3**	P	**P**	**01 41 32.8**	**+1.3**
	comp=Z,4.2nm,0.6s,mb4.5,baz=182,slow=9.3,SNR=50						
SONM				PcP	PcP	01 42 41.7	-0.2
	comp=Z,2.1nm,0.7s,baz=195,slow=4.3,SNR=7.7						
MJAR	**Matsushiro Arr**	**52.55**	**36**	P	**P**	**01 41 31.8**	**-0.5**
	comp=Z,2.3nm,0.7s,mb4.2,baz=218,slow=7.5,SNR=4.6						
MK31	**Makanchi Array**	**54.52**	**343**	P	**P**	**01 41 46.7**	**-0.1**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
MKAR	**Makanchi Array**	**54.52**	**343**	P	**P**	**01 41 46.8**	**0.0**
	comp=Z,4.2nm,0.7s,mb4.6,baz=145,slow=8.2,SNR=39						
ZAK	**Zakamensk**	**54.90**	**0**	*e*P	**P**	**01 41 48.8**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.8s,mb4.5						
KURK	**Kurchatov**	**59.13**	**342**	*e*P	**P**	**01 42 19.2**	**-0.2**
KURK				*e*		01 42 36.7	
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
KURK	**Kurchatov**	**59.13**	**342**	*e*P	**P**	**01 42 19.2**	**-0.2**
	comp=Z,5.6nm,1.0s,mb4.5						
KURK				*e*		01 42 36.7	
ZAL	**Zalesovo**	**60.45**	**348**	P	**P**	**01 42 28.4**	**-0.1**
	comp=Z,4.2nm,0.4s,mb4.8,baz=357,slow=3.3,SNR=14						
BOD	**Bodaibo**	**62.97**	**7**	*e*P	**P**	**01 42 44.7**	**-0.8**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.3						
VOSK	**Vostochnaya**	**63.38**	**339**	P	**P**	**01 42 47.0**	**-1.2**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
BVAR	**Borovoye Array**	**63.83**	**339**	P	**P**	**01 42 50.3**	**-0.9**
	comp=Z,4.4nm,0.6s,mb4.7,baz=144,slow=9.1,SNR=40						
BRVK	**Borovoye**	**63.90**	**339**	*e*P	**P**	**01 42 50.5**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
BRVK	**Borovoye**	**63.90**	**339**	*e*P	**P**	**01 42 50.5**	**-1.1**
	comp=Z,1.5nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**64.28**	**338**	*e*P	**P**	**01 42 53.3**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ZRNK	**Zerenda**	**64.28**	**338**	*e*P	**P**	**01 42 53.3**	**-0.8**
	comp=Z,3.2nm,0.6s,mb4.5						
AB31	**Akbulak array**	**65.53**	**330**	*i* P	**P**	**01 43 01.8**	**-0.5**
AB31				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
ARU	**Arti**	**70.96**	**336**	*e*P	**P**	**01 43 34.6**	**-1.7**
MATP	**Matopo**	**73.96**	**250**	P	**P**	**01 43 55.1**	**+0.9**
	comp=Z,0.9nm,0.4s,mb4.1,baz=76,slow=5.6,SNR=7.4						
BR131	**Keskin Array S**	**77.46**	**312**	*e*P	**P**	**01 44 13.0**	**-1.2**
	comp=Z,1.0nm,0.7s,mb3.9						
BR131				*e*PcP	PcP	01 44 24.4	-0.1
BRTR	**Keskin Array B**	**77.46**	**312**	P	**P**	**01 44 14.2**	**0.0**
	comp=Z,1.9nm,0.7s,mb4.1,baz=143,slow=6.8,SNR=15						
JOF	**Joensuu**	**86.02**	**334**	*e*p	**P**	**01 45 00.2**	**+0.9**
	comp=Z,2.9nm,0.5s,mb4.8						
FINES	**FINESS Array B**	**87.97**	**332**	P	**P**	**01 45 08.5**	**-0.2**
	comp=Z,2.6nm,0.6s,mb4.7,baz=113,slow=6.3,SNR=24						
KAF	**Kangasniemi**	**88.03**	**333**	*e*p	**P**	**01 45 08.9**	**-0.1**
	comp=Z,6.0nm,0.5s,mb5.1,baz=98,slow=4.3						
KAF	**Kangasniemi**	**88.03**	**333**	*e*P	**P**	**01 45 08.9**	**-0.1**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb5.1						
KEV	**Kevo**	**89.64**	**340**	*e*p	**P**	**01 45 15.6**	**-1.0**
ARCES	**ARCESS Array B**	**90.10**	**340**	P	**P**	**01 45 17.4**	**-1.3**
	comp=Z,3.1nm,0.8s,mb4.7,baz=98,slow=6.2,SNR=9.4						
GERES	**GERESS Array B**	**93.15**	**319**	P	**P**	**01 45 32.8**	**-0.1**
	comp=Z,0.4nm,0.6s,mb4.0,baz=86,slow=3.0,SNR=3.6						
BDFB	**Brasilia**	**144.97**	**234**	PKP	PKPdf	01 51 55.9	+0.1
	comp=Z,2.4nm,0.5s,baz=166,slow=3.4,SNR=5.8						
WCI	**Wyandotte Cave**	**145.58**	**13**	*e*PKIKP	PKPdf	01 51 56.9	0.0
JCT	**Junction City**	**146.50**	**38**	*e*PKP2	PKPab	01 52 00.2	-0.7
MIAR	**Mount Ida**	**146.55**	**25**	*e*PKP2	PKPab	01 52 00.0	-1.1

*IDC **04** 01:37:14.9±0.6, 2081S×17432W, h0km, mb4.6/12, mb1 4.7/13, mb1mx4.6/18, mbtmp4.6/13, ML4.6/1, MS3.4/2, Ms1 3.4/2, ms1mx3.1/17, Error ellipse: s-maj=24.1km s-min=16.4km az=126.0*
*ISCJB **04** 01:37:18.6±0.3, 2089S±006×17449W±007, h31km, mb4.8/41, MS4.2/2, Error ellipse: s-maj=10.6km s-min=7.5km az=75.7*
*SZGRF **04** 01:37:19.3, 2111S×17373W, h33km, Tonga Islands*
*NEIC **04** 01:37:20.7±0.2, 2085S×17444W, mb4.9/23, Error ellipse: s-maj=11.2km s-min=7.1km az=138.0*
*MOS **04** 01:37:20.1±2.8, 2061S×17452W, h33km, mb5.0/18, Error ellipse: s-maj=12.8km s-min=11.1km az=60.9*
*BJI **04** 01:37:20.6, 2080S×17440W, h34km, mB5.3, mb5.0, Ms5.0, Msz4.8*
*ORF **04** 01:37:33.5, 17.16S×176.49W, h30km, mb5.5*
ISC 04 01:37:20.5±0.3, 2091S±006×17435W±007, h33km, h33km±1.2km:pP-P, n221, σ1§07/90, mb4.9/41, MS4.2/2, 36C-10D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.38**	**20**	Pn	**Pn**	**01 38 58.6**	**-7.2**
	11nm,0.3s,baz=225,slow=7.9,SNR=11						
AFI				Sn	**Sn**	**01 40 16.0**	**-12**
	14nm,0.3s,baz=232,slow=23,SNR=2.3						
AFI	**Afiamalu**	**7.38**	**20**	*e*P	**Pn**	**01 38 59.2**	**-6.6**
AFI				pmax	pmax		
	comp=Z,52nm,0.4s						
AFI	**Afiamalu**	**7.38**	**20**	*e*Pn	**Pn**	**01 38 59.2**	**-6.6**
	comp=Z,52nm,0.4s						
AFI				*e*Sn	**Sn**	**01 40 15.2**	**-13**
RAR	**Rarotonga**	**13.61**	**94**	Pn	**Pn**	**01 40 18.6**	**-13**
	comp=Z,10nm,0.3s,baz=235,slow=5.7,SNR=19						
RAR				Sn	Sn	01 42 34.9	-26
	comp=Z,1.7nm,0.3s,baz=84,slow=12,SNR=2.5						
DZM	**Mont Dzumac**	**17.91**	**263**	P	**Pn**	**01 41 30.2**	**+3.2**
	comp=Z,1.5nm,0.3s,baz=77,slow=18,SNR=16						
URZ	**Urewera**	**18.80**	**201**	P	**Pn**	**01 41 38.1**	**+0.3**
	comp=Z,1.8nm,0.3s,baz=313,slow=4.9,SNR=6.5						
SNZO	**South Karori**	**22.36**	**202**	*e*P	**P**	**01 42 14.2**	**-1.4**
	comp=Z,26nm,0.6s,mb4.8						
TBI	**Tubuai**	**23.18**	**101**	*e*LR	LR	01 47 39.1	
	comp=Z,688nm,28.0s						
PPT	**Papeete**	**23.62**	**86**	*e*LQ		01 46 44.7	
	comp=Z,670nm,25.5s						
PPT				*e*LR	LR	01 47 35.6	
	comp=Z,2μm,33.2s						
PPT	**Papeete**	**23.62**	**86**	LR	LR	01 50 02.6	
	comp=Z,308nm,20.3s,MS3.8,baz=187,slow=33						
RPZ	**Rata Peaks**	**25.80**	**205**	P	**P**	**01 42 47.6**	**-0.8**
	comp=Z,18nm,0.7s,mb4.7,baz=155,slow=3.6,SNR=4.7						
RKT	**Rikitea**	**36.50**	**101**	*e*LR	LR	01 53 50.7	
	comp=Z,1μm,35.0s						
CTA	**Charters Tower**	**36.85**	**264**	⇑*i*P	**P**	**01 44 26.0**	**+0.4**
	comp=Z,7.7nm,0.8s,mb4.6						
CTA	**Charters Tower**	**36.85**	**264**	⇑*i*P	**P**	**01 44 26.0**	**+0.4**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CTAO	**Charters Tower**	**36.85**	**264**	*e*P	**P**	**01 44 25.9**	**+0.3**
CTAO				*e**PP	pP	01 44 35.0	-0.2
CTAO				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.8						
CTAO	**Charters Tower**	**36.85**	**264**	*e*P	**P**	**01 44 25.9**	**+0.4**
	comp=Z,6.8nm,0.5s,mb4.7						
CTAO				*e*pP	pP	01 44 35.0	-0.2
PMG	**Port Moresby**	**38.77**	**281**	*e*P	**P**	**01 44 41.1**	**-0.7**
PMG	**Port Moresby**	**38.77**	**281**	*e*P	**P**	**01 44 42.0**	**+0.2**
	comp=Z,17nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**40.70**	**245**	⇑*i*P	**P**	**01 44 55.1**	**-2.8**
	comp=Z,3.5nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**40.70**	**245**	P	**P**	**01 44 55.1**	**-2.7**
	comp=Z,3.8nm,0.7s,mb4.1,baz=82,slow=14,SNR=6.7						
ASAR	**Alice Springs**	**47.75**	**257**	P	**P**	**01 45 53.9**	**-0.4**
	comp=Z,12nm,0.7s,mb5.0,baz=92,slow=8.2,SNR=86						
ASAR				PcP	PcP	01 47 24.4	+1.4
	comp=Z,2.4nm,0.7s,baz=116,slow=4.2,SNR=4.4						
WB2	**Warramunga Arr**	**47.91**	**262**	*e*P	**P**	**01 45 53.9**	**-1.6**
WRAB	**Tennant Creek**	**47.92**	**262**	*e*P	**P**	**01 45 54.8**	**-0.8**
WRAB				*e**PP	pP	01 46 05.5	0.0
WRAB				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
WRAB	**Tennant Creek**	**47.92**	**262**	*e*P	**P**	**01 45 54.8**	**-0.7**
	comp=Z,12nm,0.8s,mb5.0						
WRAB				*e*pP	pP	01 46 05.5	+0.1
WRA	**Warramunga Arr**	**47.93**	**262**	P	**P**	**01 45 54.6**	**-1.0**
	comp=Z,8.9nm,0.7s,mb4.9,baz=96,slow=7.7,SNR=41						
KAKA	**Kakadu**	**51.40**	**270**	*e*P	**P**	**01 46 21.8**	**-0.2**
	comp=Z,9.8nm,0.6s,mb4.9						
FORT	**Forrest**	**52.27**	**247**	*e*P	**P**	**01 46 17.9**	**-11**
	comp=Z,16nm,0.6s,mb5.1						
FITZ	**Fitzroy Crossi**	**56.36**	**262**	*e*P	**P**	**01 46 57.9**	**-0.4**
	comp=Z,7.1nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**56.36**	**262**	P	**P**	**01 46 58.7**	**+0.4**
	comp=Z,1.4nm,0.3s,mb4.4,baz=100,slow=6.5,SNR=15						
SBA	**Scott Base**	**57.72**	**185**	*e*P	**P**	**01 47 09.9**	**+2.0**
SBA				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
SBA	**Scott Base**	**57.72**	**185**	*e*P	**P**	**01 47 09.9**	**+2.0**
	comp=Z,9.9nm,0.9s,mb4.8						
VNDA	**Vanda**	**57.84**	**186**	P	**P**	**01 47 09.9**	**+1.2**
	comp=Z,1.7nm,0.8s,mb4.1,baz=5.7,slow=6.6,SNR=8.4						
VNDA	**Vanda**	**57.84**	**186**	*e*P	**P**	**01 47 10.0**	**+1.3**
VNDA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
VNDA	**Vanda**	**57.84**	**186**	*e*P	**P**	**01 47 10.0**	**+1.2**
	comp=Z,5.8nm,1.0s,mb4.6						
KLBR	**Kellerberrin**	**60.98**	**245**	*e*P	**P**	**01 47 30.2**	**-0.2**
	comp=Z,37nm,0.9s,mb5.5						
MBWA	**Marble Bar**	**61.09**	**257**	*e*P	**P**	**01 47 31.0**	**-0.2**
	comp=Z,6.1nm,0.5s,mb5.0						
MBWA				*e*pP	pP	01 47 41.5	+0.1
NWAO	**Narrogin (SRO)**	**61.24**	**243**	P	**P**	**01 47 32.5**	**+0.3**
	comp=Z,11nm,0.8s,mb5.0,baz=62,slow=5.1,SNR=4.5						
NWAO	**Narrogin (SRO)**	**61.24**	**243**	P	**P**	**01 47 32.5**	**+0.3**
NWAO				pmax	pmax		
	comp=Z,11nm,0.9s						
MUN	**Mundaring**	**62.23**	**244**	*e*P	**P**	**01 47 37.8**	**-1.0**
CASY	**Casey**	**65.06**	**206**	*e*P	**P**	**01 47 57.5**	**-0.1**
QSPA	**South Pole Qui**	**69.17**	**180**	*e*P	**P**	**01 48 24.6**	**+1.0**
QSPA				*e*P		01 48 24.7	
TGY	**Tagaytay City**	**72.45**	**293**	LR	LR	02 15 48.0	
	comp=Z,6.7nm,20.9s,baz=1.9,slow=32						
MJAR	**Matsushiro Arr**	**72.61**	**322**	P	**P**	**01 48 44.8**	**+0.3**
	comp=Z,13nm,0.8s,mb4.9,baz=159,slow=6.0,SNR=49						
MAJO	**Matsushiro**	**72.61**	**322**	*e*P	**P**	**01 48 44.7**	**+0.2**
MAT	**Matsushiro**	**72.61**	**322**	P	**P**	**01 48 44.8**	**+0.3**
MAT	**Matsushiro**	**72.61**	**322**	*e*P	**P**	**01 48 45.0**	**+0.5**
MAT				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
MAT	**Matsushiro**	**72.61**	**322**	*e*P	**P**	**01 48 45.0**	**+0.5**
	comp=Z,14nm,0.9s,mb4.9						
MAT				*e*P		01 48 50.0	
KKM	**Kota Kinabalu**	**73.17**	**283**	*e*P	**P**	**01 48 48.0**	**+0.2**
KSM	**Kuching**	**76.85**	**277**	*e*P	**P**	**01 49 10.0**	**+0.9**
YSS	**Yuzh-Sakhalins**	**77.83**	**332**	*c i*P	**P**	**01 49 15.2**	**+0.6**
YSS				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.1						
YSS	**Yuzh-Sakhalins**	**77.83**	**332**	*e*P	**P**	**01 49 15.7**	**+1.2**
	comp=Z,14nm,0.8s,mb4.9						
NVAR	**Mina Array Bea**	**79.01**	**42**	P	**P**	**01 49 20.9**	**-0.2**
	comp=Z,4.5nm,0.9s,mb4.4,baz=212,slow=7.2,SNR=13						
TPNV	**Topopah Spring**	**79.43**	**44**	*e*P	**P**	**01 49 22.5**	**-0.8**
TPNV				*e*	pP	01 49 33.5	-0.3
TPNV				pmax	pmax		
	comp=Z,20nm,1.4s,mb4.8						

comp=Z,13nm,1.6s,mb5.0
DAWY Dawson 88.95 15 *e*P **P** **01 50 11.1 -0.5**
BILL Bilibino 89.83 353 *e*P **P** **01 50 14.4 -1.4**
BILL pmax pmax
comp=Z,7.0nm,1.3s,mb4.8
BILL Bilibino 89.83 353 P **P** **01 50 15.9 +0.2**
XAN Xi'an 91.11 306 P **P** **01 50 23.4 +1.6**
XAN AMB AMB
comp=Z,16nm,1.0s,mb5.3
KMI Kunming 92.59 296 P **P** **01 50 31.8 +3.2**
KMI AP pP 01 50 38.9 -0.3
KMI XP sP 01 50 42.3 -0.7
KMI AMB AMB
comp=Z,20nm,0.9s,mb5.5
CHTO Chiang Mai 93.60 289 *e*P **P** **01 50 34.7 +1.4**
CHTO pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
CHTO Chiang Mai 93.60 289 *e*P **P** **01 50 34.7 +1.4**
comp=Z,9.7nm,0.9s,mb5.2
YAK Yakutsk 93.79 337 *e*P **P** **01 50 29.3 -4.9**
YAK pmax pmax
comp=Z,15nm,0.4s,mb5.8
YKA Yellowknife Ar 95.48 24 P **P** **01 50 40.5 -1.4**
comp=Z,0.6nm,0.7s,mb4.1,baz=236,slow=4.1,SNR=12
YKA Yellowknife Ar 95.48 24 P **P** **01 50 40.5 -1.4**
ULN Ulaanbaatar 97.92 318 *e*P **P** **01 50 53.0 +0.1**
MKAR Makanchi Array 113.97 313 PKiKP PKiKP 01 55 55.0 -0.9
comp=Z,1.5nm,0.8s,baz=65,slow=2.6,SNR=12
KURK Kurchatov 116.61 317⇑*i*PKIKP PKPdf 01 55 59.3 -1.8
AAK Ala-Archa 119.24 308⇑*i*PKIKP PKPdf 01 56 04.8 -1.3
BRVK Borovoye 121.64 320 *e*PKIKP PKPdf 01 56 10.1 -0.6
ZRNK Zerenda 122.42 320 *e*PKIKP PKPdf 01 56 11.8 -0.4
ARU Arti 127.46 326 *i*PKIKP PKPdf 01 56 21.4 -0.5
ARU *e* 01 58 17.0
ARU *e* 02 03 24.2
ARU eSP SP 02 08 16.5 -7.3
ARU eSS SS 02 15 29.8 -0.5
ARCES ARCESS Array B 129.90 351 PKP PKPdf 01 56 25.1 -1.4
comp=Z,1.4nm,0.8s,baz=355,slow=0.8,SNR=10.0
JOF Joensuu 134.52 344 *e*p PKPdf 01 56 33.5 -1.7
FINES FINESS Array B 137.06 346 PKP PKPdf 01 56 37.0 -3.0
comp=Z,1.9nm,0.9s,baz=112,slow=2.1,SNR=5.5
OBN Obninsk 138.69 333 *e*PKIKP PKPdf 01 56 43.6 +0.6
OBN pmax pmax
comp=Z,12nm,1.3s
NOA NORSAR Array B 139.71 356 PKhKP 01 56 37.0
comp=Z,1.1nm,0.9s,baz=7.8,slow=5.3,SNR=3.4
ERZM Erzurum 144.16 310 *i*P PKPdf 01 56 51.7 -1.1
SUW Suwalki 144.35 342 *e*PKP PKPdf 01 56 51.7 -1.4
MUD Monsted U'grnd 144.41 357 *i*P PKPdf 01 56 51.0 -2.2
comp=Z,13nm,0.9s
MUD Monsted U'grnd 144.41 357 *i*PKIKP PKPdf 01 56 51.0 -2.2
MUD pmax pmax
comp=Z,13nm,0.9s
ANN Anapa 144.58 320 *i*PKIKP PKPdf 01 56 56.5 +3.0
ANN pmax pmax
comp=Z,34nm,1.1s
AKASG Malin Array Be 144.96 334 PKP PKPdf 01 56 52.9 -1.3
comp=Z,20nm,0.6s,baz=41,slow=4.1,SNR=111
BSD Bornholm Skovb 145.14 351⇑*i*P PKPbc 01 56 53.3 -0.7
comp=Z,18nm,0.8s
BSD Bornholm Skovb 145.14 351⇑*i*PKIKP PKPdf 01 56 53.3 -1.2
BSD pmax pmax
comp=Z,18nm,0.8s
ELZG Elazig 146.39 309 *i*P PKPbc 01 57 00.2 +2.3
SIM Simferopol' 146.45 322 *i*PKP2 PKPab 01 56 59.0 0.0
SIM pmax pmax
comp=Z,50nm,16.1s
GKP Gorka Klasztor 146.49 347 *e*PKP PKPdf 01 56 58.4 +1.6
BSEG Bad Segeberg 146.84 355 *e*PKPbc PKPbc 01 56 59.1 -0.1
MALT Malatya 146.87 309⇑*i*P PKPbc 01 57 01.0 +1.7
MALT Malatya 146.87 309 PKP2 PKPab 01 57 01.4 +0.7
MALT Malatya 146.87 309 ⇑P PKPbc 01 57 01.0 +1.7
LVV L'vov 147.67 338 *i*PKP2 PKPab 01 57 01.9 -1.9
GZT Gaziantep 147.86 308 *i*P PKPbc 01 57 03.3 +1.3
RUE Ruedersdorf 147.86 351 *e*PKPbc PKPbc 01 57 02.0 0.0
BOYT Boyabat 147.92 316 *i*P PKPbc 01 57 03.5 +1.4
KWP Kalwaria 148.29 339 *e*PKP PKPbc 01 57 03.5 +0.3
CTKT Corum 148.40 315 *i*P PKPbc 01 57 04.6 +1.2
IBBN Ibbenburen 148.62 358 *e*PKPbc PKPbc 01 57 04.2 +0.2
OJC Ojcow 148.68 342 *e*PKPdf PKPbc 01 57 04.5 +0.3
OJC *e*PKPbc PKPbc 01 57 06.7 +2.5
CLZ Clausthal 148.91 354 *e*PKPbc PKPbc 01 57 04.8 +0.1
STHS Stebnicka Huta 148.96 340 *e*PKP PKPbc 01 57 05.5 +0.6
KSP Ksiaz 148.97 347 *e*PKP PKPbc 01 57 05.6 +0.7
KSP Ksiaz 148.97 347⇑*e*PKPdf PKPbc 01 57 05.5 +0.6
KSP *e*pPKP pPKPdf 01 57 16.5 +4.7
BURAR Bucovina Array 149.01 334⇓*i*P PKPbc 01 57 05.8 +0.8
BURAR Bucovina Array 149.01 334 ⇓P PKPbc 01 57 05.8 +0.8
KOLS Kolonicke sedl 149.03 338 *e*PKP PKPbc 01 57 05.7 +0.6
KOLS *e* 01 57 13.3
CLL Collm 149.12 351 *e*PKPbc PKPbc 01 57 05.1 -0.2
CLL Collm 149.12 351⇑*i*PKPbc PKPbc 01 57 05.3 0.0
comp=Z,19nm,1.0s
CLL ⇓*i*PKPab PKPab 01 57 08.5 -1.1
comp=Z,47nm,1.9s
CLL *i* pPKPbc pPKPbc 01 57 15.8 -0.3
CLL *i* (sPKPbc) 01 57 21.3
CLL Collm 149.12 351⇑*i*PKP2 PKPbc 01 57 05.3 0.0
CLL pmax pmax
comp=Z,19nm,1.0s
CLL pmax pmax
comp=Z,47nm,1.9s
COBT Iskenderun 149.14 307 *i*P PKPbc 01 57 06.6 +1.2
AVNT Avonos 149.22 312 *i*P PKPbc 01 57 04.0 -1.5
GTTG Gyttingen 149.24 355 *e*PKPbc PKPbc 01 57 05.6 0.0
NIE Niedzica 149.25 341 *e*PKP PKPbc 01 57 06.4 +0.8
CRVS Cervenica-Dubn 149.34 339 *e*PKP PKPbc 01 57 06.0 +0.2
CRVS Cervenica-Dubn 149.34 339 *e*PKP2 PKPbc 01 57 06.1 +0.3
UPC Upice 149.35 347⇑*e*PKPB PKPbc 01 57 06.4 +0.5
ELDT Eldivan 149.36 316 *i*P PKPbc 01 57 06.2 +0.4
BRG Berggiesshubel 149.39 350 *e*PKPbc PKPbc 01 57 06.0 0.0
BRG Berggiesshubel 149.39 350 *e*PKP PKPbc 01 57 05.3 -0.6
comp=Z,7.5nm,0.9s
BRG Berggiesshubel 149.39 350 *e*PKP2 PKPbc 01 57 05.3 -0.7
BRG pmax pmax
comp=Z,8.0nm,1.0s
DPC Dobruska-Polom 149.43 347⇑*e*PKPB PKPbc 01 57 06.9 +0.8
DPC epPKP pPKPdf 01 57 17.5 +5.0
OKC Ostrava-Krasne 149.47 344⇑*e*PKPB PKPbc 01 57 06.5 +0.3
BUG Bochum--Univer 149.50 358 *e*PKPbc PKPbc 01 57 06.0 -0.2
CFR Carcaliu 149.52 328⇑*i*P PKPbc 01 57 06.8 +0.5
CFR Carcaliu 149.52 328 ⇑P PKPbc 01 57 06.8 +0.5
BR131 Keskin Array S 149.61 314 *e*PKPdf PKPdf 01 57 04.7 +2.8
BRTR Keskin Array B 149.61 314 PKPbc PKPbc 01 57 07.0 +0.6
comp=Z,7.0nm,0.7s,baz=134,slow=3.8,SNR=45
MORC Moravsky Berou 149.68 345⇑*i*P PKPbc 01 57 06.2 -0.5
MORC Moravsky Berou 149.68 345 PKP2 PKPbc 01 57 07.4 +0.7
MORC Moravsky Berou 149.68 345 ⇑P PKPbc 01 57 06.2 -0.5
VRI Vrincioaia 149.70 330⇑*i*P PKPbc 01 57 07.7 +1.0
PLOR Plostina 149.75 330⇓*i*P PKPbc 01 57 07.2 +0.4
MOX Moxa 149.95 352 *e*PKPbc PKPbc 01 57 07.1 -0.2
MOX Moxa 149.95 352 *e*PKP PKPbc 01 57 07.7 +0.4
comp=Z,15nm,1.4s
MOX Moxa 149.95 352 *e*PKP2 PKPbc 01 57 07.7 +0.4
MOX pmax pmax
comp=Z,15nm,1.4s
HARR Harsova 149.97 327⇓*i*P PKPbc 01 57 08.2 +0.8
KECS Kecovo 150.02 340 *e*PKP PKPbc 01 57 08.1 +0.6
KECS *e* 01 57 16.8
WERD Werda 150.06 351 *e*PKPbc PKPbc 01 57 07.8 +0.2
ANTO Ankara 150.09 315⇓*i*P PKPbc 01 57 09.1 +1.4
ANTO Ankara 150.09 315 ⇓P PKPbc 01 57 09.1 +1.5
PRU Pruhonice 150.14 348⇑*e*PKPB PKPbc 01 57 08.0 +0.2
UCC Uccle 150.15 2 PKPbc PKPbc 01 57 07.9 +0.1
NKC Novy Kostel 150.25 351⇑*e*PKPB PKPbc 01 57 08.4 +0.4
MLR Muntele Rosu 150.34 330⇓*i*P PKPbc 01 57 07.9 -0.4
MEM Membach 150.36 360 PKPbc PKPbc 01 57 07.9 -0.4
VYHS Vyhne 150.51 342 *i*PKP PKPbc 01 57 09.1 +0.4
VYHS *e* 01 57 19.8
MANZ Manzenberg 150.53 352 *e*PKPbc PKPbc 01 57 09.1 +0.4
TREC Trest 150.61 347⇑*e*PKPB PKPbc 01 57 09.2 +0.3
TNS Taunus Mts 150.66 356 *e*PKPbc PKPbc 01 57 08.7 -0.3
DRGR 150.68 336⇑*i*P PKPbc 01 57 09.6 +0.5
DRGR 150.68 336 ⇑P PKPbc 01 57 09.6 +0.5
MEST Erdemli 150.68 308 *i*P PKPbc 01 57 09.1 0.0
PSZ Piszkesteto 150.70 340⇓*e*pPKP/F PKPbc 01 57 10.0 +0.9
PSZ Piszkesteto 150.70 340 *e*PKPdf PKPdf 01 57 05.7 +2.1
ROTZ Rotzenmuhle 150.73 351 *e*PKPbc PKPbc 01 57 09.4 +0.2
VOIR 150.79 331⇑*i*P PKPbc 01 57 10.6 +1.3
GIVF Givet 150.86 1⇑*i*PKP1 PKPbc 01 57 09.6 +0.1
comp=Z,40nm,1.0s
DOU Dourbes 150.86 1 PKPbc PKPbc 01 57 09.4 -0.1
SMOL Smolenice 150.88 344 *e*PKP PKPbc 01 57 10.9 +1.4
SMOL *e* 01 57 16.5
BAIF Baives 150.89 2⇑*i*PKP1 PKPbc 01 57 09.8 +0.2
comp=Z,24nm,1.0s
GRA1 Grafenberg Arr 150.94 353 *e*PKP PKPbc 01 57 10.0 +0.3
GRF Grafenberg Arr 150.94 353 *e*PKP PKPbc 01 57 10.0 +0.3
KHC Kasperske Hory 151.13 349⇑*e*PKPB PKPbc 01 57 10.6 +0.5
KHC *e*PKPAB PKPab 01 57 18.5 +0.6
WET Wettzell 151.24 350 *e*PKPbc PKPbc 01 57 10.3 -0.1
ZST Bratislava 151.25 344 *e*PKPbc PKPbc 01 57 11.2 +0.8
WLF Walferdange 151.30 359 *e*PKPbc PKPbc 01 57 10.7 +0.2
WLF Walferdange 151.30 359 PKPbc PKPbc 01 57 11.1 +0.6
GEC2 GERESS Array S 151.39 349 *e*PKPbc PKPbc 01 57 10.4 -0.3
GERES GERESS Array B 151.39 349 PKPbc PKPbc 01 57 10.7 0.0
comp=Z,5.8nm,0.9s,baz=42,slow=2.2,SNR=28
FLN La Foliniere 151.78 9⇑*i*PKP1 PKPbc 01 57 11.2 -0.4
comp=Z,15nm,0.7s
SOP Sopron 151.87 344⇓*e*pPKP/F PKPbc 01 57 12.6 +0.8
SGMF Saint Gilles 151.93 12 *e*PKP1 PKPbc 01 57 11.2 -0.8
CSS Prodhromos 151.93 306 *e*PKPdf PKPdf 01 57 07.5 +2.0
LDF La Druitiere 151.99 8⇑*i*PKP1 PKPbc 01 57 11.6 -0.5
comp=Z,17nm,0.9s
BZS Buzias 152.08 336⇑*i*P PKPbc 01 57 11.2 -1.1
GRR Gorron 152.09 9⇑*i*PKP1 PKPbc 01 57 11.9 -0.4
comp=Z,22nm,0.8s
MOA Molln 152.24 347⇑*i*P PKPbc 01 57 12.7 0.0
comp=Z,4.2nm,0.8s
ULDT Uludag 152.27 319 *i*P PKPbc 01 57 13.7 +1.0
FUR Furstenfeldbru 152.43 352 *e*PKPbc PKPbc 01 57 12.8 -0.3
CDF Champ du Feu 152.53 358 *e*PKP1 PKPbc 01 57 13.4 +0.1
comp=Z,31nm,1.3s
BFO Black Forest 152.56 356 *e*PKPbc PKPbc 01 57 13.7 +0.3
PKSM Moragy 152.61 340⇑*i*P PKPbc 01 57 13.0 -0.5
HAU Haudompre 152.96 359 *e*PKP1 PKPbc 01 57 15.2 +0.9
HINF Hinteralfeld 153.14 358 *e*PKP1 PKPbc 01 57 14.4 -0.3
LOR Lormes 153.66 3 *e*PKP1 PKPbc 01 57 15.8 0.0
SSF Saint Saulge 153.85 3 *e*PKP1 PKPbc 01 57 16.3 +0.1
VISS Visnje 154.05 345 *e*PKPdf PKPbc 01 57 16.5 -0.1
VISS *i* 01 57 29.7
AVF Avril sur Loir 154.11 4 *e*PKP1 PKPbc 01 57 16.5 -0.3
BOJS Bojanci 154.23 344 *e*PKPdf PKPbc 01 57 17.9 +0.8
BOJS *e* 01 57 20.8
SMF Signal de Mont 154.28 3 *e*PKP1 PKPbc 01 57 17.1 0.0
CABF La Chapelle 154.36 359 *e*PKP1 PKPbc 01 57 18.0 +0.7
TCF Toulx Ste Croi 154.53 6 *e*PKP1 PKPbc 01 57 17.3 -0.4
comp=Z,9.4nm,1.0s
TORD Torodi Ar. Bea 171.41 153 PKPab PKPab 01 58 46.2 +0.1
comp=Z,2.2nm,1.2s,baz=230,slow=3.7,SNR=7.4

*ISCJB **04** 01:38:11.7±0.8, 609S±02×269W±06, h10km, mb4.1/3, MS3.8/1, Error ellipse: s-maj=46.9km s-min=10.9km az=116.9*
*IDC **04** 01:38:12.7±1.3, 6075S×2687W, h0km, mb4.2/3, mb1 4.3/4, mb1mx3.9/14, mbtmp4.1/4, ML3.7/1, MS4.0/1, Ms1 4.0/1, ms1mx3.4/17, Error ellipse: s-maj=54.4km s-min=29.9km az=34.0*
ISC 04 01:38:13.6±0.8, 608S±02×268W±06, h10km, n12, σ0§63/8, mb4.1/3, MS3.8/1, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.37**	**150**	*e*P	**Pn**		**01 41 10.2**	**+0.5**
VNA1				*e*			01 41 12.8	
VNA1				*e*			01 41 18.4	
VNA1				*e*			01 41 22.5	
VNA3	**Neumayer Olymp**	**12.48**	**154**	*e*P	**Pn**		**01 41 11.0**	**-0.2**
VNA3				*e*			01 41 14.1	
VNA3				*e*			01 41 19.4	
VNA3				*e*			01 41 23.3	
VNA3				*e*			01 41 54.2	
VNA3				*e*			01 43 21.0	
VNA3				*e*			01 43 24.2	
VNA3				*e*			01 43 27.6	
VNA2	**Neumayer--Watz** baz=313,slow=15	**12.77**	**150**	*e*P	**Pn**		**01 41 14.8**	**-0.4**
VNA2				*e*			01 41 17.9	
VNA2				*e*			01 41 22.8	
VNA2				*e*			01 41 27.1	
VNA2				*e*			01 41 57.6	
VNA2				*e*			01 43 26.9	
VNA2				*e*			01 43 30.3	
VNA2				*e*			01 43 34.1	
SNAA	**Sanae**	**14.38**	**149**	Pn	**Pn**		**01 41 36.6**	**-0.6**
	0.3nm,0.3s,baz=289,slow=14,SNR=60							
SNAA	**Sanae**	**14.38**	**149**	*e*P	**Pn**		**01 41 37.8**	**+0.7**
SNAA				*e*			01 41 40.5	
SNAA				*e*			01 41 45.4	
SNAA				*e*			01 41 50.6	
SNAA				*e*			01 44 10.8	
SNAA				*e*			01 44 13.3	
SNAA				*e*			01 44 16.8	
USHA	**Ushuaia**	**22.67**	**267**	LR	LR		01 49 39.5	
	comp=Z,378nm,19.7s,MS3.8,baz=74,slow=30							
CPUP	**Villa Florida**	**40.26**	**315**	P	**P**		**01 45 49.6**	**-1.0**
	0.9nm,0.4s,mb3.8,baz=156,slow=7.3,SNR=6.7							
LPAZ	**La Paz**	**53.41**	**308**	P	**P**		**01 47 34.5**	**+1.0**
	1.2nm,0.4s,mb4.2,baz=127,slow=5.1,SNR=17							
TORD	**Torodi Ar. Bea**	**77.14**	**28**	P	**P**		**01 50 07.4**	**+0.1**
	2.7nm,0.6s,mb4.4,baz=199,slow=6.3,SNR=40							
YKA	**Yellowknife Ar**	**139.78**	**314**	PKP	PKPdf		01 57 38.9	-2.9
	0.2nm,0.6s,baz=139,slow=1.9,SNR=6.4							
SONM	**Songino Array**	**150.45**	**95**	PKPbc	PKPbc		01 58 06.0	+0.7
	0.5nm,0.8s,baz=222,slow=3.9,SNR=3.4							
ILAR	**Eielson Array**	**153.26**	**305**	PKPbc	PKPbc		01 58 10.6	-1.2
	0.5nm,0.7s,baz=161,slow=1.7,SNR=4.0							

IDC 04 01:43:30.8±2.0, 394N×9437E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.5/21, mbtmp3.8/4, ML3.3/1, Error ellipse: s-maj=125.1km s-min=26.8km az=42.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.68**	**104**	Pn	Pn		01 44 43.4	+0.7
	1.3nm,0.3s,baz=321,slow=6.5,SNR=4.1							
WRA	**Warramunga Arr**	**45.88**	**123**	P	P		01 51 55.2	+0.3
	1.6nm,0.5s,baz=301,slow=8.9,SNR=6.9							
ASAR	**Alice Springs**	**47.29**	**127**	P	P		01 52 06.3	+0.4
	0.6nm,0.5s,baz=299,slow=8.0,SNR=7.5							
FINES	**FINESS Array B**	**76.28**	**333**	P	P		01 55 21.3	-0.1
	0.2nm,0.3s,baz=101,slow=7.2,SNR=5.1							
KHC	**Kasperske Hory**	**81.01**	**319**	*e*P	P		01 55 39.5	-7.9

*IDC **04** 01:47:15.0±1.0, 2106S×174.19W, h0km, mb4.1/8, mb1 4.4/8, mb1mx4.2/15, mbtmp4.1/8, Error ellipse: s-maj=44.1km s-min=21.6km az=155.0*
*ISCJB **04** 01:47:19.1±0.6, 206S±0.1×174.4W±0.1, h33km, mb4.1/10, Error ellipse: s-maj=18.1km s-min=12.1km az=79.5*
*NEIC **04** 01:47:20.6±0.8, 2062S×174.13W, h35km, mb4.3/3, Error ellipse: s-maj=24.8km s-min=14.9km az=133.0*
ISC 04 01:47:21.0±0.6, 2053S±009×1742W±01, h35km, n31, σ1§36/24, mb4.1/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.99**	**20**	Pn	**Pn**		**01 48 59.8**	**-1.0**
	6.4nm,0.3s,baz=120,slow=16,SNR=4.6							
AFI				Sn	**Sn**		**01 50 14.7**	**-4.3**
	7.0nm,0.3s,baz=357,slow=22,SNR=4.1							
AFI	**Afiamalu**	**6.99**	**20**	*e*Pn	**Pn**		**01 49 00.3**	**-0.5**
AFI				*e*Sn	**Sn**		**01 50 16.0**	**-3.0**
RAR	**Rarotonga**	**13.53**	**95**	Pn	**Pn**		**01 50 16.6**	**-14**
	4.5nm,0.3s,baz=249,slow=4.0,SNR=8.3							
RAR				Sn	Sn		01 52 33.7	-26
	0.7nm,0.3s,baz=134,slow=21,SNR=2.3							
DZM	**Mont Dzumac**	**18.08**	**262**	P	**Pn**		**01 51 31.9**	**+2.6**
	0.7nm,0.3s,baz=77,slow=19,SNR=4.0							
CTA	**Charters Tower**	**37.00**	**264**	P	**P**		**01 54 26.2**	**-1.0**
	1.9nm,0.4s,mb4.3,baz=144,slow=10,SNR=3.4							
CTA	**Charters Tower**	**37.00**	**264**	P	**P**		**01 54 26.2**	**-1.0**
CTAO	**Charters Tower**	**37.00**	**264**	*e*P	**P**		**01 54 27.4**	**+0.2**
	1.8nm,0.4s,mb4.2							
PMG	**Port Moresby**	**38.81**	**281**	P	**P**		**01 54 42.9**	**+0.5**
STKA	**Stephens Creek**	**40.97**	**245**	*e*P	**P**		**01 54 57.3**	**-3.0**
ASAR	**Alice Springs**	**47.95**	**256**	P	**P**		**01 55 55.0**	**-1.1**
	3.5nm,0.9s,mb4.4,baz=87,slow=8.3,SNR=21							
WRAB	**Tennant Creek**	**48.09**	**261**	*e*P	**P**		**01 55 56.7**	**-0.5**
	2.7nm,0.6s,mb4.5							
WRA	**Warramunga Arr**	**48.09**	**261**	P	**P**		**01 55 55.7**	**-1.5**
	1.0nm,0.5s,mb4.1,baz=90,slow=5.0,SNR=8.9							
SBA	**Scott Base**	**58.10**	**185**	*e*P	**P**		**01 57 10.7**	**-0.2**
	1.0nm,0.6s,mb4.0							
VNDA	**Vanda**	**58.22**	**186**	P	**P**		**01 57 12.3**	**+0.5**
MBWA	**Marble Bar**	**61.29**	**257**	*e*P	**P**		**01 57 32.2**	**-0.6**
CASY	**Casey**	**65.45**	**205**	*e*P	**P**		**01 58 00.3**	**-0.1**
QSPA	**South Pole Qui**	**69.54**	**180**	*e*P	**P**		**01 58 24.8**	**-1.4**
MJAR	**Matsushiro Arr**	**72.38**	**321**	P	**P**		**01 58 45.7**	**+2.3**
	1.4nm,0.5s,mb4.2,baz=160,slow=6.3,SNR=8.2							
NVAR	**Mina Array Bea**	**78.66**	**42**	P	**P**		**01 59 21.5**	**+2.1**
	1.9nm,0.6s,mb4.2,baz=215,slow=6.2,SNR=11							
PDAR	**Pinedale Array**	**86.59**	**42**	P	**P**		**02 00 01.0**	**+0.3**
	0.4nm,0.6s,mb3.9,baz=226,slow=3.2,SNR=4.1							
ILAR	**Eielson Array**	**87.60**	**11**	P	**P**		**02 00 07.2**	**+1.6**
	0.5nm,0.7s,mb3.9,baz=223,slow=5.6,SNR=5.6							
YKA	**Yellowknife Ar**	**95.09**	**24**	P	**P**		**02 00 41.1**	**+0.8**
	0.2nm,0.6s,mb3.7,baz=237,slow=4.9,SNR=6.0							
MKAR	**Makanchi Array**	**113.79**	**313**	PKiKP	PKiKP		02 05 54.2	-1.7
	0.3nm,0.4s,baz=168,slow=8.7,SNR=5.4							
MKAR	**Makanchi Array**	**113.79**	**313**	PKPdf	PKiKP		02 05 54.2	-1.7
ARCES	**ARCESS Array B**	**129.54**	**351**	PKP	PKPdf		02 06 26.2	+0.1
	0.8nm,0.7s,baz=70,slow=1.4,SNR=5.7							
AKASG	**Malin Array Be**	**144.67**	**334**	PKPbc	PKPdf		02 06 53.9	0.0
	2.0nm,0.5s,baz=39,slow=4.1,SNR=14							
AKASG	**Malin Array Be**	**144.67**	**334**	PKPbc	PKPdf		02 06 53.9	0.0
BRTR	**Keskin Array B**	**149.42**	**315**	PKPbc	PKPbc		02 07 08.1	+1.8
	1.1nm,0.8s,baz=132,slow=3.2,SNR=6.2							
KHC	**Kasperske Hory**	**150.78**	**349**	*e*PKP	PKPbc		02 07 10.0	+0.4
GERES	**GERESS Array B**	**151.04**	**349**	PKPbc	PKPbc		02 07 10.9	+0.7
	0.6nm,0.7s,baz=22,slow=4.3,SNR=5.6							
TORD	**Torodi Ar. Bea**	**171.69**	**151**	PKPab	PKPab		02 08 45.8	-1.8
	0.5nm,0.7s,baz=232,slow=3.5,SNR=6.4							

*IDC **04** 02:06:00.5±1.7, 600S×15076E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/15, mbtmp3.8/6, Error ellipse: s-maj=101.0km s-min=22.6km az=130.0*
*ISCJB **04** 02:06:05.5±4.2, 59S±06×150.4E±07, h42km±37km, mb3.7/4, Error ellipse: s-maj=149.0km s-min=25.4km az=83.2*
*NEIC **04** 02:06:06.4±3.4, 606S×15071E, h42km±29km, mb3.9/1, Error ellipse: s-maj=115.1km s-min=21.9km az=131.0*
ISC 04 02:06:06.1±4.0, 60S±06×1506E±07, h36km±35km, n8, σ1§15/8, mb3.7/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.83**	**225**	Pn	**Pn**		**02 07 16.9**	**+0.7**
	0.7nm,0.3s,baz=44,slow=9.2,SNR=5.6							
PMG				Sn	**Sn**		**02 08 09.9**	**-1.0**
	3.9nm,0.3s,baz=32,slow=15,SNR=6.9							
WRAB	**Tennant Creek**	**21.03**	**227**	*e*P	**P**		**02 10 46.7**	**+0.1**
	2.8nm,0.5s,mb3.9							
WRA	**Warramunga Arr**	**21.04**	**227**	P	**P**		**02 10 47.1**	**+0.3**
	2.0nm,0.6s,mb3.6,baz=54,slow=11,SNR=9.2							
ASAR	**Alice Springs**	**23.83**	**221**	P	**P**		**02 11 15.8**	**+0.1**
	0.6nm,0.5s,mb3.7,baz=56,slow=8.7,SNR=16							
FITZ	**Fitzroy Crossi**	**27.20**	**242**	P	**P**		**02 11 47.1**	**+0.8**
	2.2nm,0.8s,mb3.8,baz=69,slow=14,SNR=5.2							
ILAR	**Eielson Array**	**84.08**	**22**	P	**P**		**02 18 31.4**	**-1.7**
	0.5nm,0.8s,mb3.7,baz=242,slow=5.2,SNR=4.3							
YKA	**Yellowknife Ar**	**97.49**	**28**	P	**P**		**02 19 36.8**	**+0.7**
	0.1nm,0.6s,mb3.4,baz=274,slow=5.0,SNR=4.4							
TORD	**Torodi Ar. Bea**	**148.58**	**285**	PKPbc	PKPbc		02 25 51.0	+1.9
	1.0nm,0.7s,baz=80,slow=2.4,SNR=15							

*SZGRF **04** 02:08:51.8, 5797S×16029E, h33km, Macquarie Island, Australia, region*
*CRAAG **04** 02:08:51.3, 58.14S×158.00E, Mb5.5*
*BJI **04** 02:08:51.6, 5849S×15752E, h7km, mB5.9, mb5.8, Ms5.5, Msz5.2*
*IDC **04** 02:08:52.5±0.4, 5834S×15784E, h0km, mb5.2/21, mb1 5.2/22, mb1mx5.2/23, mbtmp5.2/22, ML4.9/1, MS5.2/20, Ms1 5.2/20, ms1mx5.1/22, Error ellipse: s-maj=15.5km s-min=12.7km az=80.0*
*ISCJB **04** 02:08:52.1±1.1, 5825S±003×15788E±007, h2km±7km, mb5.4/50, MS5.2/47, Error ellipse: s-maj=6.7km s-min=5.2km az=39.5*
*HRVD **04** 02:08:54.5±0.4, 5809S×15780E, h32km±1km, MW5.9/54, Centroid moment Tensor Solution. LP body waves: s30,c36;Mantle waves: s54,c69; Half duration: 2§1 Moment tensor: Scale 10¹⁸Nm; M_{rr}0.79±.06; $M_{\theta\theta}$-0.24±.04; $M_{\phi\phi}$-0.54±.04; $M_{r\theta}$-0.00±.06; $M_{\theta\phi}$0.38±.02; $M_{\phi r}$0.13±.06; Best double couple: $M_0$0.80600×10¹⁸ NP1:φs141.00000°,δ41.00000°,λ82.00000°. NP2: φs331.00000°,δ49.00000°,λ97.00000°. Principal axes: T 0.8020, Plg84.0000°, Azm290.0000°; N 0.0070, Plg5.0000°, Azm147.0000°; P -0.8090, Plg4.0000°, Azm56.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **04** 02:08:54.5±0.1, 5826S×15793E, h10km, mb5.5/27, MS5.3/11 Error ellipse: s-maj=6.2km s-min=3.9km az=119.0*
*MOS **04** 02:08:58.5±1.9, 5809S×15802E, h40km, mb5.6/24, MS5.3/19, Error ellipse: s-maj=19.6km s-min=6.9km az=93.3*
ISC 04 02:08:53.6±1.2, 5829S±003×15788E±007, h4km±7km, h15km±1.2km; pP-P, n509, σ0§97/170, mb5.4/50, MS5.2/47, 68C-25D, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**3.85**	**9**	⇓*i*P	**Pn**		**02 09 50.0**	**-3.6**
MCQ				*e*pP			02 09 55.1	
MCQ				*e*S	**Sn**		**02 10 32.0**	**-7.3**
WHZ	**Wether Hill Ro**	**13.85**	**31**	*e*Pn	**Pn**		**02 12 09.3**	**-1.4**
WHZ				SN	**Sn**		**02 14 34.3**	**-11**
WHZ	**Wether Hill Ro**	**13.85**	**31**	*e*P	**Pn**		**02 12 09.3**	**-1.4**
WHZ				S	**Sn**		**02 14 33.6**	**-11**
DCZ	**Deep Cove**	**14.03**	**28**	*e*Pn	**Pn**		**02 12 12.5**	**-0.7**
DCZ	**Deep Cove**	**14.03**	**28**	*e*P	**Pn**		**02 12 11.5**	**-1.7**
TUZ	**Tuapeka**	**

comp=Z,23nm,1.8s
QRZ Quartz Range 19.81 34 *e*P* **Pn 02 13 27.2 +0.5**
QRZ Quartz Range 19.81 34 *e*P **Pn 02 13 27.2 +0.5**
SBA Scott Base 19.88 174 P **Pn 02 13 28.5 +1.0**
SBA pmax pmax
comp=Z,470nm,1.9s
SBA Scott Base 19.88 174 P **Pn 02 13 28.5 +1.0**
comp=Z,470nm,1.9s
SNZO South Karori 20.07 39 P **P 02 13 24.7 -3.2**
comp=Z,944nm,2.0s
TOO Toolangi 22.26 333⇑ *i*P **P 02 13 52.1 +0.5**
comp=Z,54nm,1.0s,mb4.9
TOO Toolangi 22.26 333⇑ *i*P **P 02 13 52.1 +0.5**
TOO pmax pmax
comp=Z,55nm,1.0s,mb4.9
CASY Casey 22.88 230⇑ *i*P **P 02 13 58.9 +0.7**
CASY *e*pP 02 14 05.7
CASY *i* S **S 02 18 13.3 +4.6**
TAZ Tarawera 23.44 39 *e*P **P 02 14 05.5 +1.4**
URZ Urewera 23.62 40 P **P 02 14 05.4 -0.5**
comp=Z,76nm,0.8s,mb5.2,baz=223,slow=5.3,SNR=21
URZ PcP PcP 02 17 48.6 -2.0
comp=Z,11nm,0.2s,baz=261,slow=1.3,SNR=3.7
URZ S **S 02 18 24.8 +4.1**
comp=Z,3.5nm,0.3s,baz=148,slow=21,SNR=2.4
URZ LR LR 02 22 20.1
comp=Z,5μm,20.1s,MS5.0,baz=146,slow=34
CNB Canberra Magne 23.67 342⇑ *i*P **P 02 14 06.8 +0.4**
comp=Z,80nm,0.8s,mb5.2
CNB *e*PCP PcP 02 17 53.3 +2.6
RIV Riverview 24.88 347⇑ *i*P **P 02 14 18.1 +0.7**
ARMA Armidale 28.19 349 *e*P **P 02 14 47.1 -0.2**
STKA Stephens Creek 28.65 330 *e*P **P 02 14 49.3 -2.0**
comp=Z,14nm,1.2s,mb4.6
STKA Stephens Creek 28.65 330 P **P 02 14 50.2 -1.2**
comp=Z,9.9nm,0.9s,mb4.5,baz=171,slow=10,SNR=7.7
STKA S **S 02 19 44.1 +3.5**
comp=Z,3.8nm,1.1s,baz=347,slow=8.0,SNR=1.8
STKA LR LR 02 25 12.0
comp=Z,19μm,18.6s,MS5.7,baz=193,slow=34
MIR Mirnyy 29.78 227 *c i*P **P 02 15 05.0 +3.6**
MIR *i* 02 15 21.0
MIR pmax pmax
comp=Z,220nm,1.0s,mb5.8
MIR pmax pmax
comp=Z,2μm,4.0s
MIR MLR MLR
comp=Z,7μm,16.0s,MS5.4
MIR MLR MLR
comp=N,2μm,20.0s,MS5.0
MIR MLR MLR
comp=E,3μm,16.0s,MS5.0
QSPA South Pole Qui 31.82 180 *e*P **P 02 15 20.9 +1.5**
comp=E,73nm,1.1s,mb5.4
FORT Forrest 34.23 310⇑ *i*P **P 02 15 40.6 +0.1**
comp=E,108nm,0.7s,mb5.9
FORT *e*pP pP 02 15 46.3 +4.7
DZM Mont Dzumac 36.70 13 P **P 02 16 01.2 -0.5**
comp=E,37nm,0.9s,mb5.2,baz=140,slow=6.0,SNR=9.7
DZM S **S 02 21 49.9 +4.1**
comp=E,2.5nm,0.9s,baz=33,slow=12,SNR=2.1
DZM LR LR 02 27 44.7
comp=E,3μm,19.8s,MS5.0,baz=197,slow=31
NWAO Narrogin (SRO) 37.21 295 P **P 02 16 05.8 -0.2**
comp=E,41nm,0.8s,mb5.3,baz=150,slow=8.2,SNR=18
NWAO PcP PcP 02 18 24.5 -1.4
comp=E,15nm,0.8s,baz=140,slow=8.6,SNR=4.3
NWAO S **S 02 21 54.7 +1.2**
comp=E,6.3nm,0.9s,baz=263,slow=23,SNR=2.0
NWAO SS SS 02 24 26.2 -10
comp=E,5.4nm,0.9s,baz=170,slow=8.5,SNR=1.8
NWAO LR LR 02 28 09.7
comp=E,3μm,18.4s,MS5.1,baz=138,slow=31
NWAO Narrogin (SRO) 37.21 295 P **P 02 16 05.8 -0.2**
NWAO 02 18 24.5
NWAO S **S 02 21 54.7 +1.2**
NWAO SS SS 02 24 26.3 -10
KLBR Kellerberrin 38.06 297⇑ *i*P **P 02 16 13.4 +0.1**
comp=E,179nm,1.2s,mb5.7
KLBR *e*pP pP 02 16 18.6 +4.2
KLBR *e*PCP PcP 02 18 27.1 -1.5
MUN Mundaring 38.48 295⇑ *i*P **P 02 16 17.0 +0.2**
MUN *e*PCP PcP 02 18 29.5 -0.3
ASAR Alice Springs 38.61 323 P **P 02 16 17.8 -0.1**
comp=E,35nm,0.9s,mb5.1,baz=162,slow=8.2,SNR=140
ASAR PcP PcP 02 18 28.7 -1.5
comp=E,9.4nm,0.9s,baz=145,slow=2.9,SNR=5.3
ASAR S **S 02 22 13.8 -0.9**
comp=E,0.7nm,0.8s,baz=173,slow=22,SNR=3.2
ASAR Alice Springs 38.61 323 P **P 02 16 17.8 -0.1**
ASAR PcP PcP 02 18 28.7 -1.5
ASAR S **S 02 22 13.8 -0.9**
CTA Charters Tower 39.09 343⇑ *i*P **P 02 16 22.1 +0.2**
comp=E,47nm,1.5s,mb5.0
CTA *e*pP pP 02 16 27.3 +4.3
CTA *e*PCP PP 02 18 09.8 +18
CTA Charters Tower 39.09 343 P **P 02 16 22.0 +0.2**
comp=E,20nm,0.7s,mb5.0,baz=175,slow=8.0,SNR=19
CTA PcP PcP 02 18 30.9 -0.8
comp=E,13nm,1.1s,baz=271,slow=1.4,SNR=3.2
CTA S **S 02 22 23.1 +1.1**
comp=E,5.1nm,1.0s,baz=205,slow=18,SNR=1.7
CTA SS SS 02 25 18.9 +4.8
comp=E,2.1nm,0.8s,baz=6.9,slow=6.8,SNR=2.1
CTA LR LR 02 31 37.4
comp=E,5μm,18.2s,MS5.4,baz=169,slow=35
CTA Charters Tower 39.09 343 P **P 02 16 22.0 +0.1**
CTA 02 18 30.9
CTA S **S 02 22 23.1 +1.2**
CTA pmax pmax
comp=Z,21nm,0.7s
CTA pmax pmax
comp=Z,13nm,1.1s
CTA smax
comp=N,5.0nm,1.0s
CTA pmax pmax
comp=N,2.0nm,0.8s
CTA MLR MLR
comp=Z,5μm,18.2s
CTAO Charters Tower 39.09 343 P **P 02 16 22.3 +0.4**
CTAO pmax pmax
comp=Z,230nm,1.5s,mb5.7
CTAO Charters Tower 39.09 343⇑ *i*P **P 02 16 22.1 +0.2**
comp=Z,230nm,1.5s,mb5.7
CTAO LR LR
comp=Z,5μm,19.0s,MS5.3
MAW Mawson 39.95 216⇑ *i*P **P 02 16 28.3 -0.8**
comp=Z,15nm,0.8s,mb4.8
MAW *e*PP PP 02 18 11.4 +11
MAW *e*PCP PcP 02 18 34.0 -0.5
MAW Mawson 39.95 216 P **P 02 16 27.6 -1.5**
comp=Z,24nm,0.9s,mb4.9,baz=127,slow=8.3,SNR=17
MAW PcP PcP 02 18 32.8 -1.6
comp=Z,15nm,0.9s,baz=74,slow=0.7,SNR=6.0
MAW S **S 02 22 34.6 -0.3**
comp=Z,2.5nm,1.0s,baz=45,slow=8.7,SNR=1.1
MAW LR LR 02 32 38.5
comp=Z,5μm,19.0s,MS5.4,baz=123,slow=36
MAW Mawson 39.95 216 P **P 02 16 27.6 -1.5**
MAW 02 18 32.8
MAW S **S 02 22 34.6 -0.3**
MAW pmax pmax
comp=Z,24nm,0.9s
MAW pmax pmax
comp=Z,15nm,0.9s
MAW smax
comp=N,3.0nm,1.0s
MAW MLR MLR
comp=Z,5μm,19.0s
WB2 Warramunga Arr 41.97 326⇑ *i*P **P 02 16 44.4 -1.3**
WB2 *e*pP pP 02 16 50.1 +3.3
WB2 *e*PCP PcP 02 18 39.3 -1.7
WRA Warramunga Arr 41.97 326 P **P 02 16 44.9 -0.8**
comp=Z,50nm,0.9s,mb5.1,baz=162,slow=7.1,SNR=117
WRA PP PP 02 18 20.7 -2.1
comp=Z,4.8nm,0.9s,baz=166,slow=11,SNR=7.8
WRA PcP PcP 02 18 39.5 -1.5
comp=Z,8.0nm,0.9s,baz=173,slow=3.0,SNR=6.0
WRAB Tennant Creek 41.98 326 P **P 02 16 44.0 -1.8**
comp=Z,425nm,0.9s,mb6.1,SNR=18
WRAB Tennant Creek 41.98 326 *e*P **P 02 16 42.3 -3.5**
WRAB Tennant Creek 41.98 326⇑ *i*P **P 02 16 44.9 -0.9**
comp=Z,429nm,1.6s,mb5.8
WRAB LR LR
comp=Z,4μm,21.0s,MS5.2
MBWA Marble Bar 46.18 307 *e*P **P 02 17 19.1 -0.4**
comp=Z,24nm,0.7s,mb5.2
MBWA LR LR
comp=Z,5μm,20.0s,MS5.5
FITZ Fitzroy Crossi 46.59 316⇑ *i*P **P 02 17 22.9 +0.1**
comp=Z,115nm,0.8s,mb5.9
FITZ *e*pP pP 02 17 28.3 +4.4
FITZ *e*PCP PcP 02 18 55.8 -1.0
FITZ Fitzroy Crossi 46.59 316 P **P 02 17 23.0 +0.2**
comp=Z,58nm,0.8s,mb5.6,baz=169,slow=11,SNR=65
FITZ PcP PcP 02 18 56.4 -0.5
comp=Z,15nm,1.0s,baz=190,slow=9.2,SNR=2.5
FITZ PP PP 02 19 07.6 -4.5
comp=Z,15nm,1.2s,baz=194,slow=8.5,SNR=3.1
FITZ S **S 02 24 14.4 +2.1**
comp=Z,2.6nm,0.9s,baz=146,slow=12,SNR=2.8
FITZ SS SS 02 27 40.9 +2.7
comp=Z,2.6nm,0.9s,baz=235,slow=11,SNR=1.9
FITZ LR LR 02 34 40.6
comp=Z,3μm,19.1s,MS5.3,baz=343,slow=33
RAR Rarotonga 47.96 58 P **P 02 17 34.4 +1.0**
comp=Z,18nm,0.8s,mb5.2,baz=214,slow=7.4,SNR=6.2
RAR S **S 02 24 34.6 +2.9**
comp=Z,7.1nm,0.8s,baz=311,slow=18,SNR=1.8
RAR LR LR 02 35 25.0
comp=Z,4μm,18.2s,MS5.4,baz=254,slow=33
RAR Rarotonga 47.96 58 P **P 02 17 34.4 +1.0**
RAR S **S 02 24 34.6 +2.9**
HNR Honiara 48.77 3 P **P 02 17 39.9 +0.2**
comp=Z,244nm,1.1s,mb6.2,baz=257,slow=2.8,SNR=2.4
HNR S **S 02 24 43.8 +0.6**
comp=Z,47nm,0.3s,baz=219,slow=1.0,SNR=2.0
HNR LR LR 02 35 01.5
comp=Z,4μm,18.1s,MS5.4,baz=181,slow=32
HNR Honiara 48.77 3 P **P 02 17 39.9 +0.2**
HNR S **S 02 24 43.8 +0.6**
NVL N'lazarevskaya 49.01 194⇓ *i*P **P 02 17 47.1 +5.6**
NVL *e*S **S 02 24 57.9 +11**
NVL *e*SS SS 02 28 19.6 +2.2
NVL pmax pmax
comp=Z,104nm,1.7s,mb5.6
NVL pmax pmax
comp=N,62nm,1.6s
NVL pmax pmax
comp=E,29nm,1.7s
NVL MLR MLR
comp=Z,6μm,16.6s,MS5.7
NVL MLR MLR
comp=N,4μm,16.6s,MS5.5
NVL MLR MLR
comp=E,1μm,16.6s,MS5.5
KAKA Kakadu 49.38 326 *e*P **P 02 17 43.6 -0.7**
comp=E,103nm,0.8s,mb5.9
KAKA *e*pP pP 02 17 49.2 +3.8
PMG Port Moresby 49.46 346 P **P 02 17 45.1 +0.2**
comp=E,92nm,0.8s,mb5.9,baz=161,slow=4.4,SNR=51
PMG PcP PcP 02 19 07.4 +0.3
comp=E,16nm,0.8s,baz=45,slow=1.9,SNR=1.7
PMG S **S 02 24 55.5 +2.6**
comp=E,1.3nm,0.3s,baz=326,slow=23,SNR=1.4
PMG LR LR 02 36 30.3
comp=E,4μm,18.4s,MS5.4,baz=168,slow=34
PMG Port Moresby 49.46 346 P **P 02 17 45.1 +0.1**
PMG 02 19 07.4
PMG S **S 02 24 55.5 +2.6**
PMG pmax pmax
comp=Z,93nm,0.8s
PMG pmax pmax
comp=Z,16nm,0.9s
PMG smax
comp=N,1.0nm,0.3s
PMG Port Moresby 49.46 346⇑ *i*P **P 02 17 45.2 +0.2**
comp=N,71nm,0.7s,mb5.8
SNAA Sanae 49.63 188⇑ *i*P **P 02 17 46.4 +0.2**
SNAA *e* 02 17 49.6
SNAA *e* 02 17 51.5
SNAA *e* 02 17 57.5
SNAA *e* 02 18 02.2
SNAA *e* 02 18 06.3
SNAA *e* 02 18 10.7
SNAA *e* 02 19 11.5
SNAA *e* 02 19 23.1
SNAA *e* 02 19 37.1
SNAA Sanae 49.63 188 *e*P **P 02 17 46.1 -0.1**
SNAA pmax pmax
comp=Z,90nm,1.1s
SNAA Sanae 49.63 188 *e*P **P 02 17 46.1 -0.2**
comp=Z,90nm,1.1s,mb5.7
AFI Afiamalu 49.80 40 P **P 02 17 47.5 0.0**
comp=Z,7.1nm,0.3s,mb5.2,baz=259,slow=21,SNR=4.1
AFI S **S 02 25 00.4 +2.8**
comp=Z,4.1nm,0.3s,baz=297,slow=22,SNR=1.7
AFI LR LR 02 35 00.8
comp=Z,667nm,19.1s,MS4.7,baz=140,slow=32
AFI Afiamalu 49.80 40 P **P 02 17 47.5 0.0**
AFI S **S 02 25 00.4 +2.8**
VNA3 Neumayer Olymp 50.46 185⇑ *i*P **P 02 17 52.3 -0.3**
VNA3 *e* 02 17 55.4
VNA3 *e* 02 17 57.9
VNA3 *e* 02 18 03.6
VNA3 *e* 02 18 08.3
VNA3 *e* 02 18 11.9
VNA3 *e* 02 18 16.6
VNA3 *e* 02 18 33.2
VNA3 *e* 02 18 46.5
VNA3 *e* 02 18 55.9
VNA3 *e* 02 19 09.8
VNA3 *e* 02 19 20.6
VNA3 *e* 02 19 32.3
VNA3 *e* 02 19 40.4
VNA2 Neumayer--Watz 50.66 186⇑ *i*P **P 02 17 54.0 -0.1**
VNA2 *e* pP 02 17 56.9 +1.7
VNA2 *e* 02 17 59.4
VNA2 *e* 02 18 04.8
VNA2 *e* 02 18 09.5
VNA2 *e* 02 18 12.9
VNA2 *e* 02 18 18.0
VNA2 *e* 02 18 34.8
VNA2 *e* 02 18 44.4
VNA2 *e* 02 18 48.0
VNA2 *e* 02 18 57.6
VNA2 *e* 02 19 11.1
VNA2 *e* 02 19 22.2
VNA2 *e* 02 19 34.0
VNA2 *e* 02 19 41.8
VNA1 Neumayer--Stat 50.98 186⇑ *i*P **P 02 17 57.0 +0.5**
VNA1 *e* pP 02 17 59.9 +2.3
VNA1 *e* 02 18 02.2
VNA1 *e* 02 18 08.0
VNA1 *e* 02 18 12.4
VNA1 *e* 02 18 16.1
VNA1 *e* 02 18 20.8
TBI Tubuai 51.02 70 *e*S **S 02 25 12.3 -2.3**
comp=Z,2μm,27.0s
TBI *e*SS SS 02 28 49.7 +0.2
comp=Z,698nm,24.0s
TBI *e*LQ 02 29 46.2
comp=Z,3μm,28.8s
TBI *e*LR LR 02 32 20.5
comp=Z,4μm,23.5s
PAE Paea 55.78 66 *e*P **P 02 18 33.1 +1.3**
comp=Z,102nm,1.2s,mb5.7
TVO Taravao 55.84 67 *e*P **P 02 18 32.9 +0.7**
comp=Z,196nm,1.1s,mb6.0
PPT Papeete 55.86 66 *e*S **S 02 26 17.6 -2.8**
comp=Z,5μm,27.0s
PPT *e*SS SS 02 30 14.6 +8.6
comp=Z,2μm,26.0s
PPT *e*LQ 02 31 52.7
comp=Z,2μm,25.2s
PPT *e*LR LR 02 34 34.9
comp=Z,2μm,21.2s
PPT Papeete 55.86 66 LR LR 02 37 18.0
comp=Z,2μm,19.0s,MS5.2,baz=278,slow=30
RKT Rikitea 58.64 83 *e*S **S 02 26 54.9 -2.1**
comp=Z,2μm,30.2s
RKT *e*SS SS 02 30 48.5 -1.2
comp=Z,654nm,34.8s
RKT *e*LR LR 02 35 41.7
comp=Z,4μm,25.8s
VAH Vaihoa 58.81 67 *e*P **P 02 18 54.3 +1.1**
comp=Z,52nm,1.1s,mb5.5
PMOR Pomariorio Ree 58.88 66 *e*P **P 02 18 55.0 +1.3**
comp=Z,74nm,1.3s,mb5.6
TAOE Nuku Hiva Isla 67.97 70 *e*S S 02 28 51.1 -2.4
comp=Z,6μm,27.5s
TAOE *e*SS SS 02 33 21.7 +6.4
comp=Z,2μm,28.9s
TAOE *e*LQ 02 36 59.3
comp=Z,5μm,29.8s
TAOE *e*LR LR 02 40 21.5
comp=Z,5μm,21.9s
TSM Tawau 70.10 317 P **P 02 20 07.5 +0.4**
KSM Kuching 70.45 308⇑ *i*P **P 02 20 09.1 -0.2**
KKM Kota Kinabalu 72.32 316 P **P 02 20 19.9 -0.6**
KKM Kota Kinabalu 72.32 316⇑ *i*P **P 02 20 19.7 -0.8**
GUMO Guam 72.41 347 P **P 02 20 20.8 -0.3**
comp=Z,118nm,1.0s,mb5.8,baz=222,slow=6.6,SNR=4.9
PLCA Paso Flores 73.41 144 *e*P **P 02 20 26.5 -0.5**
PLCA pmax pmax
comp=Z,35nm,1.3s
PLCA MLR MLR
comp=Z,1μm,20.0s
PLCA Paso Flores 73.41 144 *e*P **P 02 20 26.5 -0.5**
comp=Z,35nm,1.3s,mb5.1
PLCA LR LR
comp=Z,1μm,20.0s,MS5.3
KGM Kluang 73.95 302 P **P 02 20 30.8 +0.7**
PSI Prapat 76.65 298 P **P 02 20 44.5 -1.2**
comp=Z,16nm,0.8s,mb5.0,baz=176,slow=7.1,SNR=21
IPM Ipoh 77.17 301 P **P 02 20 48.4 -0.2**
KULM Kulim 78.06 301⇑ *i*P **P 02 20 53.0 -0.6**
TRQA Tornquist 78.40 149⇑ *e*P **P 02 20 54.7 -0.7**
comp=Z,34nm,0.9s,mb5.3
TRQA LR LR
comp=Z,2μm,20.0s,MS5.3
FCH Farellones 80.25 141⇑ *e*P **P 02 21 05.2 -0.4**
CFAA Coronel Fontan 82.51 142 P **P 02 21 16.7 -0.8**
comp=Z,4.7nm,1.0s,mb4.5,baz=210,slow=4.7,SNR=56
SUR Sutherland 82.80 216 *e*P **P 02 21 19.8 +0.7**
comp=Z,48nm,0.9s,mb5.5
SUR LR LR
comp=Z,2μm,19.0s,MS5.4
TLL Tololo Astrono 82.96 139 *e*P **P 02 21 18.2 -1.7**
CBIJ Chichi jima 86.06 346 LR LR 02 59 09.9
comp=Z,763nm,18.3s,MS5.1,baz=114,slow=35
QIZ Qiongzhong 86.62 315⇑ *i*P **P 02 21 39.1 +0.7**
QIZ AP pP 02 21 42.8 +3.3
QIZ XP sP 02 21 44.0 +4.0
QIZ PP PP 02 25 01.4 +1.2
QIZ S 02 32 17.6
QIZ XS sS 02 32 23.8 +5.8
QIZ PS 02 33 15.2
QIZ SS SS 02 37 58.4 +1.7
QIZ AMB AMB
comp=Z,33nm,1.9s,mb5.2
QIZ AMB AMB
comp=Z,455nm,6.7s
QIZ LR LR
comp=N,494nm,20.3s,MS5.0
QIZ LR LR
comp=E,272nm,20.8s,MS5.0
QIZ LR LR
comp=Z,661nm,21.4s,MS5.0
LBTB Lobatse 88.02 222 *e*P **P 02 21 45.0 -0.1**
LBTB pmax pmax
comp=Z,42nm,1.5s,mb5.5
LBTB MLR MLR
comp=Z,781nm,19.0s,MS5.1
LBTB Lobatse 88.02 222 *e*P **P 02 21 45.0 -0.2**
comp=Z,42nm,1.5s,mb5.5
LBTB LR LR
comp=Z,781nm,19.0s,MS5.1
JOW Kunigami 88.33 334 P **P 02 21 46.8 +0.2**
comp=Z,20nm,1.0s,mb5.3,baz=324,slow=30,SNR=3.2
JOW LR LR 03 02 07.9
comp=Z,969nm,18.5s,MS5.2,baz=200,slow=36
QZH Quanzhou 89.14 325⇑ *i*P **P 02 21 50.2 -0.2**
QZH PP PP 02 25 20.1 -0.3
QZH S 02 32 41.3
QZH PS 02 33 45.0
QZH AMB AMB
comp=Z,290nm,1.9s,mb6.3
QZH LR LR
comp=Z,920nm,10.1s,MS5.5
PALK Pallekele 89.45 285 *e*P **P 02 21 52.2 +0.3**
comp=Z,25nm,1.1s,mb5.5
CPUP Villa Florida 90.73 149 P **P 02 21 57.8 -0.1**
CPUP Villa Florida 90.73 149 P **P 02 21 57.6 -0.2**
comp=Z,15nm,0.9s,mb5.3,baz=172,slow=4.4,SNR=20
CPUP S 02 32 30.7
comp=Z,0.2nm,0.4s,baz=201,slow=18,SNR=1.7
CPUP LR LR 02 59 05.6
comp=Z,1μm,18.4s,MS5.3,baz=166,slow=33
CPUP Villa Florida 90.73 149⇑ *i*P **P 02 21 57.6 -0.3**
comp=Z,65nm,1.0s,mb5.9
CPUP LR LR
comp=Z,220nm,20.0s,MS4.6
CHTO Chiang Mai 90.80 306⇑ *i*P **P 02 21 58.1 -0.1**
CHTO pmax pmax
comp=Z,24nm,1.3s,mb5.4
CHTO Chiang Mai 90.80 306⇑ *i*P **P 02 21 58.1 -0.1**
comp=Z,24nm,1.3s,mb5.4
JHJ Hachijo jima 2 92.31 345 LR LR 03 03 15.0
comp=Z,796nm,19.2s,MS5.2,baz=212,slow=35
SSE Sheshan 94.19 329 P **P 02 22 14.1 +0.3**
SSE AMB AMB
comp=Z,20nm,0.6s,mb5.7
SSE AMB AMB
comp=Z,178nm,4.9s
GYA Guiyang 94.57 315⇑ *i*P **P 02 22 15.4 -0.2**
GYA AP pP 02 22 19.8 +3.1
GYA XP sP 02 22 23.6 +6.4
GYA PP PP 02 26 05.9 +2.6
GYA SKS 02 32 48.7
GYA S 02 33 24.7
GYA AMB AMB
comp=Z,30nm,0.8s,mb5.8
GYA AMB AMB
comp=Z,160nm,4.6s
GYA LR LR
comp=N,670nm,20.8s,MS5.3
GYA LR LR
comp=E,870nm,21.0s,MS5.3
GYA LR LR
comp=Z,940nm,21.8s,MS5.2
KMI Kunming 94.86 312 P **P 02 22 19.8 +2.9**
KMI AP pP 02 22 23.4 +5.3
KMI PP PP 02 26 09.9 +4.3
KMI PPP 02 28 16.3
KMI SKS 02 32 54.7
KMI S 02 33 32.2
KMI AMB AMB
comp=Z,11nm,0.6s,mb5.5
KMI LR LR
comp=N,753nm,16.6s,MS5.3
KMI LR LR
comp=E,581nm,19.7s,MS5.3
KMI LR LR
comp=Z,796nm,16.9s,MS5.3
NJ2 Nanjing 95.74 327 *e*P **P 02 22 21.2 +0.3**
NJ2 AP pP 02 22 25.0 +2.9
NJ2 XP sP 02 22 27.8 +5.3
NJ2 PP PP 02 26 13.8 +1.5
NJ2 S 02 33 35.0
NJ2 XS sS 02 33 43.0 +1.8
NJ2 AMB AMB
comp=Z,20nm,0.7s,mb5.7
NJ2 AMB AMB
comp=Z,90nm,5.6s
NJ2 LR LR
comp=N,1μm,29.8s,MS5.5
NJ2 LR LR
comp=E,2μm,28.0s,MS5.5
NJ2 LR LR
comp=Z,350nm,28.1s,MS4.7
MJAR Matsushiro Arr 95.90 344 P **P 02 22 19.9 -1.8**
comp=Z,0.9nm,0.8s,mb4.3,baz=162,slow=7.3,SNR=4.6
MJAR PP PP 02 26 11.8 -1.8
comp=Z,0.4nm,0.3s,baz=161,slow=7.5,SNR=4.3
MJAR SS SS 02 40 15.1 +4.6
comp=Z,0.3nm,0.4s,baz=302,slow=28,SNR=2.7
MJAR LR LR 03 03 08.9
comp=Z,573nm,21.6s,MS5.0,baz=175,slow=34
MJAR Matsushiro Arr 95.90 344 P **P 02 22 19.9 -1.7**
MJAR 02 26 11.8
MJAR SS SS 02 40 15.1 +4.6
MJAR Matsushiro Arr 95.90 344 P **P 02 22 19.9 -1.8**
MJAR PP PP 02 26 11.8 -1.8
MJAR SS SS 02 40 15.1 +4.6
MJAR LR LR 03 03 08.8

MAT	**Matsushiro**	**95.90**	**344**	P	**P**		02 22 19.6	-2.0
MAT				S			02 33 40.0	
MAT	**Matsushiro**	**95.90**	**344**	*eP*	**P**		02 22 20.0	-1.6
MAT				*eS*			02 33 41.0	
MAT				LR	LR			
	comp=Z,710nm,20.0s,MS5.1							
LSZ	**Lusaka**	**95.93**	**228**	*eP*	**P**		02 22 22.0	+0.2
LSZ				pmax	pmax			
	comp=Z,14nm,1.5s,mb5.2							
LSZ				MLR	MLR			
	comp=Z,1µm,19.0s,MS5.5							
LSZ	**Lusaka**	**95.93**	**228**	*eP*	**P**		02 22 22.0	+0.2
	comp=Z,14nm,1.5s,mb5.2							
LSZ				LR	LR			
	comp=Z,1µm,19.0s,MS5.5							
LPAZ	**La Paz**	**96.64**	**136**	P	**P**		02 22 25.6	+0.6
	comp=Z,4.2nm,0.9s,mb4.9,baz=183,slow=2.9,SNR=14							
LPAZ				S			02 33 04.9	
	comp=Z,0.3nm,0.5s,baz=187,slow=24,SNR=2.7							
LPAZ				LR	LR		02 55 44.7	
	comp=Z,843nm,21.8s,MS5.2,baz=131,slow=29							
LPAZ	**La Paz**	**96.64**	**136**	*eP*	**P**		02 22 25.5	+0.5
	comp=Z,4.9nm,1.0s,mb4.9							
LPAZ				LR	LR			
	comp=Z,1µm,20.0s,MS5.3							
HYB	**Hyderabad**	**99.16**	**288**	*i* P	**P**		02 22 36.0	-0.3
SIV	**San Ignacio**	**99.36**	**142**	P	**P**		02 22 36.7	-0.6
	comp=Z,0.4nm,0.3s,mb4.4,baz=273,slow=5.9,SNR=4.7							
CD2	**Chengdu**	**99.67**	**315**	*eP*	Pdif		02 22 37.6	-1.0
CD2				AP			02 22 42.4	
CD2				XP			02 22 44.6	
CD2				PP	PP		02 26 44.9	+2.4
CD2				SKS			02 33 14.4	
CD2				S			02 34 07.0	
CD2				XS	sS		02 34 16.1	+1.4
CD2				SS	SS		02 41 05.0	+1.5
CD2				AMB	AMB			
	comp=Z,10.0nm,1.2s,mb5.1							
CD2				LR	LR			
	comp=E,340nm,20.4s							
CD2				LR	LR			
	comp=Z,390nm,18.0s,MS5.0							
SHL	**Shillong**	**99.81**	**303**	*eP*	Pdif		02 22 40.0	+0.8
CN2	**Changchun**	**105.24**	**336**	*e*PDIF	Pdif		02 23 07.4	+4.0
CN2				PP	PP		02 27 21.8	-2.6
CN2				LR	LR			
	comp=N,500nm,19.0s,MS5.1							
CN2				LR	LR			
	comp=E,300nm,19.0s,MS5.1							
CN2				LR	LR			
	comp=Z,1µm,22.0s,MS5.4							
HHC	**Hu-ho-hao-te**	**106.05**	**325**	*e*PDIF	Pdif		02 23 09.1	+2.1
HHC				PP	PP		02 27 34.5	+4.1
HHC				S	Sdif		02 35 06.4	+0.4
HHC				SS	SS		02 42 34.6	+3.0
HHC				PP	PP			
	comp=Z,191nm,6.9s							
HHC				LR	LR			
	comp=N,389nm,18.6s,MS5.1							
HHC				LR	LR			
	comp=E,342nm,15.5s,MS5.1							
HHC				LR	LR			
	comp=Z,405nm,20.1s,MS5.0							
ULN	**Ulaanbaatar**	**113.77**	**325**	*e*PKIKP	PKiKP		02 27 31.6	-2.0
SONM	**Songino Array**	**113.94**	**325**	PKiKP	PKiKP		02 27 31.5	-2.4
	comp=Z,1.4nm,1.0s,baz=323,slow=1.3,SNR=6.4							
SONM				PP	PP		02 28 26.7	-0.8
	comp=Z,1.8nm,1.0s,baz=166,slow=7.9,SNR=5.0							
SONM				PKKPab	PKKPab		02 38 15.1	-7.1
	comp=Z,1.5nm,0.9s,baz=334,slow=4.0,SNR=7.7							
SONM	**Songino Array**	**113.94**	**325**	PKiKP	PKiKP		02 27 31.5	-2.4
SONM							02 28 26.7	
WMQ	**Urumqi**	**117.14**	**310**	⇑*i* PKP	PKPdf		02 27 38.2	-1.9
WMQ				XPKP			02 27 45.2	
WMQ				PP	PP		02 28 53.2	+3.2
WMQ				PP	PP			
	comp=Z,457nm,6.2s							
WMQ				LR	LR			
	comp=N,414nm,29.2s							
WMQ				LR	LR			
	comp=E,379nm,23.5s							
WMQ				LR	LR			
	comp=Z,490nm,27.4s,MS5.0							
ZAK	**Zakamensk**	**117.15**	**324**	*e*PKIKP	PKPdf		02 27 37.0	-3.1
ZAK				pmax	pmax			
	comp=Z,14nm,1.8s							
KSH	**Kashi**	**118.72**	**299**	*e*PKP	PKPdf		02 27 42.1	-1.0
KSH				*e*PP	PP		02 29 01.0	+0.1
KSH				*e*PKS			02 31 16.8	
KSH				*e*PPP			02 31 46.2	
KSH				*e*SKS	SKSdf		02 34 49.1	-6.9
KSH				PP	PP			
	comp=Z,142nm,4.5s							
KSH				LR	LR			
	comp=N,231nm,5.7s							
KSH				LR	LR			
	comp=E,248nm,5.9s							
KSH				LR	LR			
	comp=Z,422nm,18.6s,MS5.1							
NVAR	**Mina Array Bea**	**118.74**	**63**	PKP	PKPdf		02 27 42.5	-0.7
	comp=Z,4.3nm,1.0s,baz=180,slow=3.7,SNR=13							
MNTX	**Cornudas Mount**	**119.79**	**77**	*e*PKPdf	PKPdf		02 27 43.3	-1.8
HUMO	**Hull Mountain**	**119.96**	**57**	*e*PKPdf	PKPdf		02 27 45.4	-0.1
BOD	**Bodaibo**	**120.90**	**334**	*e*PKIKP	PKPdf		02 27 43.8	-3.5
BOD				pmax	pmax			
	comp=Z,5.0nm,1.6s							
KZA	**Kyzart**	**121.09**	**300**	P	PKPdf		02 27 47.3	-0.4
	SNR=22							
UCH	**Uchtor**	**121.55**	**300**	P	PKPdf		02 27 48.2	-0.4
	SNR=21							
TKM2	**Tokmak 2**	**121.60**	**301**	P	PKPdf		02 27 47.2	-1.5
	SNR=9.4							
KBK	**Karagaybulak**	**121.69**	**301**	P	PKPdf		02 27 47.9	-0.9
	SNR=8.6							
MSU	**Marysvale**	**121.75**	**67**	*e*PKIKP	PKPdf		02 27 48.5	-0.4
WVOR	**Wild Horse Val**	**121.77**	**60**	*e*PKIKP	PKPdf		02 27 48.2	-0.7
MK31	**Makanchi Array**	**121.78**	**308**	PKIKP	PKPdf		02 27 46.5	-2.5
MK31				pmax	pmax			
	comp=Z,8.0nm,0.9s							
MKAR	**Makanchi Array**	**121.78**	**308**	PKP	PKPdf		02 27 46.3	-2.6
	comp=Z,9.4nm,0.9s,baz=126,slow=1.6,SNR=50							
AML	**Almayashu**	**121.85**	**299**	P	PKPdf		02 27 48.4	-0.7
	SNR=30							
AAK	**Ala-Archa**	**121.88**	**300**	P	PKPdf		02 27 48.3	-0.9
	SNR=11							
AAK	**Ala-Archa**	**121.88**	**300**	*e*PKPdf	PKPdf		02 27 47.0	-2.1
YAK	**Yakutsk**	**121.96**	**345**	⇑*i* PKIKP	PKPdf		02 27 46.9	-2.4
YAK				MLR	MLR			
	comp=Z,500nm,19.0s,MS5.2							
FRU	**Bishkek**	**121.98**	**301**	PKIKP	PKPdf		02 27 47.4	-2.0
FRU				*e*			02 29 23.0	
CHMS	**Chumysh**	**122.05**	**301**	P	PKPdf		02 27 48.2	-1.3
	SNR=8.2							
EKS2	**Erkin-Say**	**122.23**	**300**	P	PKPdf		02 27 48.7	-1.1
	SNR=16							
USP	**Ospenovka**	**122.37**	**301**	P	PKPdf		02 27 48.7	-1.4
	SNR=13							
MVCO	**Mesa Verde**	**122.54**	**71**	*e*PKPdf	PKPdf		02 27 49.0	-1.4
SRU	**San Rafael**	**123.02**	**68**	*e*PKIKP	PKPdf		02 27 50.6	-0.8
SRU				*e*			02 27 59.3	
SRU	**San Rafael**	**123.02**	**68**	*e*PKPdf	PKPdf		02 27 49.9	-1.5
HVU	**Hansel Valley**	**123.99**	**64**	*e*PKIKP	PKPdf		02 27 51.7	-1.5
KKAR	**Karatay Array**	**124.08**	**298**	*i* PKIKP	PKPdf		02 27 51.8	-1.6
KKAR				pmax	pmax			
	comp=Z,16nm,0.8s							
HAWA	**Hanford**	**124.45**	**56**	*e*PKPdf	PKPdf		02 27 52.9	-1.2
SMCO	**Snowmass**	**124.82**	**71**	*e*PKPdf	PKPdf		02 27 54.5	-0.3
AHID	**Auburn Hatcher**	**125.55**	**65**	*e*PKPdf	PKPdf		02 27 55.8	-0.4
WMOK	**Wichita Mounta**	**125.59**	**80**	*e*PKIKP	PKPdf		02 27 54.5	-1.8
ISCO	**Idaho Springs**	**125.98**	**71**	*e*PKIKP	PKPdf		02 27 56.1	-0.9
REDW	**Red Top Meadow**	**126.12**	**65**	*e*PKPdf	PKPdf		02 27 56.4	-0.9
TPAW	**Teton Pass**	**126.17**	**64**	*e*PKPdf	PKPdf		02 27 56.7	-0.7
BILL	**Bilibino**	**126.17**	**4**	PKIKP	PKPdf		02 27 55.2	-2.2
BILL	**Bilibino**	**126.17**	**4**	*e*PKPdf	PKPdf		02 27 54.9	-2.5
PDAR	**Pinedale Array**	**126.29**	**66**	PKP	PKPdf		02 27 56.0	-1.7
	comp=Z,3.3nm,1.0s,baz=211,slow=2.6,SNR=22							
PDAR				PP	PP		02 29 56.1	+3.9
	comp=Z,1.3nm,1.1s,baz=222,slow=3.4,SNR=2.9							
KURK	**Kurchatov**	**126.36**	**309**	*e*PKIKP	PKPdf		02 27 54.8	-2.9
LOHW	**Long Hollow**	**126.43**	**64**	*e*PKPdf	PKPdf		02 27 57.1	-0.7
ZAL	**Zalesovo**	**126.43**	**315**	PKP	PKPdf		02 27 54.2	-3.6
	comp=Z,1.8nm,0.7s,baz=12,slow=4.8,SNR=10.0							
MOOW	**Moose Ponds**	**126.46**	**64**	*e*PKPdf	PKPdf		02 27 56.5	-1.5
IMW	**Indian Meadow**	**126.48**	**64**	*e*PKPdf	PKPdf		02 27 57.2	-0.8
FLWY	**Flagg Ranch**	**126.73**	**64**	*e*PKPdf	PKPdf		02 27 57.5	-1.0
DBIC	**Dimbokro**	**126.80**	**202**	PKP	PKPdf		02 27 57.4	-1.2
	comp=Z,14nm,0.9s,baz=145,slow=1.2,SNR=14							
DBIC	**Dimbokro**	**126.80**	**202**	*e*PKPdf	PKPdf		02 27 57.0	-1.5
DLMT	**Dillon**	**126.81**	**62**	*e*PKPdf	PKPdf		02 27 57.6	-1.0
NEW	**Newport**	**126.94**	**56**	*e*PKIKP	PKPdf		02 27 57.2	-1.7
QLMT	**Earthquake Lak**	**126.95**	**63**	*e*PKPdf	PKPdf		02 27 58.5	-0.3
YMR	**Madison River**	**127.05**	**63**	*e*PKPdf	PKPdf		02 27 58.9	-0.2
MSO	**Missoula**	**127.29**	**60**	*e*PKPdf	PKPdf		02 27 58.0	-1.5
CHMT	**Chamberlain Mo**	**127.66**	**60**	*e*PKPdf	PKPdf		02 27 58.6	-1.7
NVS	**Novosibirsk**	**127.71**	**315**	*e*PKHKP			02 27 42.0	
NVS				*e*			02 27 55.5	
GCMT	**Greyclift**	**128.50**	**63**	*e*PKPdf	PKPdf		02 28 01.1	-0.8
ILAR	**Eielson Array**	**129.65**	**27**	PKP	PKPdf		02 28 00.6	-3.4
	comp=Z,5.1nm,1.1s,baz=260,slow=2.7,SNR=20							
ILAR				PP	PP		02 30 15.2	+0.9
	comp=Z,2.1nm,1.0s,baz=228,slow=5.0,SNR=4.2							
ILAR	**Eielson Array**	**129.65**	**27**	PKIKP	PKPdf		02 28 00.6	-3.4
ILAR							02 30 15.3	
ILAR				pmax	pmax			
	comp=Z,5.0nm,1.1s							
ILAR				pmax	pmax			
	comp=Z,2.0nm,1.0s							
ILAR	**Eielson Array**	**129.65**	**27**	PKP	PKPdf		02 28 00.6	-3.4
ILAR				PP	PP		02 30 15.2	+0.9
BHD	**Baghdad**	**129.80**	**270**	*ex*	x		02 27 58.0	
BHD				*ex*	x		02 31 27.0	
RSSD	**Black Hills**	**129.98**	**69**	*e*PKIKP	PKPdf		02 28 03.1	-1.6
KSU1	**Kansas State U**	**130.04**	**78**	*e*PKPdf	PKPdf		02 28 03.4	-1.4
VOSK	**Vostochnaya**	**131.04**	**306**	PKIKP	PKPdf		02 28 04.3	-2.4
VOSK				pmax	pmax			
	comp=Z,24nm,1.2s							
TIXI	**Tiksi**	**131.23**	**348**	*e*PKIKP	PKPdf		02 28 00.1	-6.9
TIXI				*e*SS	SS		02 47 48.4	-9.0
TIXI				pmax	pmax			
	comp=Z,3.0nm,0.5s							
TIXI				pmax	pmax			
	comp=Z,16nm,1.5s							
TIXI				MLR	MLR			
	comp=Z,512nm,20.0s,MS5.2							
PLAL	**Pickwick Lake**	**131.40**	**89**	*e*PKPdf	PKPdf		02 28 05.1	-2.2
BVA2	**Borovoye Array**	**131.50**	**306**	PKIKP	PKPdf		02 28 06.3	-1.2
BVA2				pmax	pmax			
	comp=Z,3.0nm,1.0s							
TORD	**Torodi Ar. Bea**	**131.50**	**212**	PKhKP			02 27 56.2	
	comp=Z,1.1nm,0.8s,baz=172,slow=3.4,SNR=5.1							
TORD				PKP	PKPdf		02 28 06.2	-1.3
	comp=Z,11nm,1.1s,baz=170,slow=0.8,SNR=24							
BVAR	**Borovoye Array**	**131.51**	**306**	PKP	PKPdf		02 28 05.6	-2.0
	comp=Z,8.0nm,0.8s,baz=134,slow=4.3,SNR=32							
BVAR				PP	PP		02 30 24.9	-1.5
	comp=Z,0.6nm,0.7s,baz=188,slow=4.4,SNR=2.6							
BRVK	**Borovoye**	**131.58**	**306**	*e*PKIKP	PKPdf		02 28 06.1	-1.6
ZRNK	**Zerenda**	**132.05**	**305**	PKIKP	PKPdf		02 27 59.8	-8.8
ZRNK	**Zerenda**	**132.05**	**305**	*e*PKPdf	PKPdf		02 28 06.3	-2.3
MSL	**Mosul**	**132.79**	**272**	*ex*	x		02 28 10.0	
AB31	**Akbulak array**	**133.57**	**296**	*i* PKIKP	PKPdf		02 28 09.1	-2.3
AB31				pmax	pmax			
	comp=Z,9.0nm,1.1s							
WCI	**Wyandotte Cave**	**134.79**	**87**	*e*PKIKP	PKPdf		02 28 11.5	-2.2
MAK	**Makhachkala**	**135.36**	**282**	*i* PKIKP	PKPdf		02 28 10.0	-4.8
MAK				*i*			02 30 49.8	
MAK				*e*PPP			02 33 52.2	
MAK				*e*SS	SS		02 49 19.8	+32
MAK				pmax	pmax			
	comp=Z,160nm,10.9s							
INK	**Inuvik**	**135.77**	**30**	*e*PKIKP	PKPdf		02 28 11.2	-4.4
MALT	**Malatya**	**136.76**	**270**	⇓*i* P	PKPdf		02 28 16.2	-1.2
MALT	**Malatya**	**136.76**	**270**	*e*PKPdf	PKPdf		02 28 16.2	-1.2
ZEI	**Tsey**	**137.10**	**279**	*e*PKIKP	PKPdf		02 28 15.9	-2.1
ZEI				*e*			02 31 00.6	
BLA	**Blacksburg**	**137.13**	**93**	*e*PKIKP	PKPdf		02 28 16.5	-1.6
FWV	**Forest Hill**	**137.20**	**93**	*e*PKPdf	PKPdf		02 28 16.3	-1.9
ORR	**Orenburg**	**137.62**	**296**	⇓*i* PKIKP	PKPdf		02 28 17.6	-1.4
ORR				pmax	pmax			
	comp=Z,20nm,1.0s							
YKA	**Yellowknife Ar**	**137.85**	**44**	PKhKP			02 28 05.8	
	comp=Z,1.6nm,0.8s,baz=233,slow=3.1,SNR=27							
YKA				PKP	PKPdf		02 28 18.6	-0.8
	comp=Z,2.6nm,0.8s,baz=227,slow=2.0,SNR=17							
YKA				PP	PP		02 31 05.3	-1.3
	comp=Z,0.7nm,1.0s,baz=237,slow=6.1,SNR=3.7							
YKA	**Yellowknife Ar**	**137.85**	**44**	PKP			02 28 05.8	
YKA				PKP	PKPdf		02 28 18.6	-0.8
YKA				PP	PP		02 31 05.3	-1.3
YKW3	**Yellowknife Ar**	**137.89**	**44**	*e*PKPdf	PKPdf		02 28 18.7	-0.8
KIV	**Kislovodsk**	**138.56**	**279**	*e*PKIKP	PKPdf		02 28 19.4	-1.3
KIV	**Kislovodsk**	**138.56**	**279**	*e*PKPdf	PKPdf		02 28 19.4	-1.3
ARU	**Arti**	**138.90**	**304**	*i* PKIKP	PKPdf		02 28 19.5	-1.8
ARU				*e*SS	SS		02 49 20.0	-9.5
ARU				MLR	MLR			
	comp=N,500nm,21.0s,MS5.3							
ARU				MLR	MLR			
	comp=Z,600nm,21.0s,MS5.3							
ARU				MLR	MLR			
	comp=E,100nm,18.0s,MS5.3							
ARU	**Arti**	**138.90**	**304**	*e*PKPdf	PKPdf		02 28 19.8	-1.5
SOC	**Sochi**	**139.86**	**276**	*i* PKHKP			02 28 12.6	
SOC				*e*SS	SS		02 49 38.0	-2.8
SOC				*e*SSS			02 54 45.2	
SOC				pmax	pmax			
	comp=Z,28nm,1.2s							
BRTR	**Keskin Array B**	**140.33**	**267**	PKhKP			02 28 16.5	
	comp=Z,1.5nm,0.8s,baz=90,slow=1.2,SNR=8.0							
BRTR				PKP	PKPdf		02 28 22.1	-1.8
	comp=Z,2.6nm,0.8s,baz=145,slow=6.7,SNR=9.9							
BR131	**Keskin Array S**	**140.33**	**267**	*e*PKPpre			02 28 19.8	
IDI	**Anoyia**	**141.53**	**254**	PKhKP			02 28 21.2	
	baz=184,slow=4.7							
ANN	**Anapa**	**141.89**	**276**	*i* PKHKP			02 28 19.8	
ANN				*e*			02 35 37.3	
ANN				pmax	pmax			
	comp=Z,77nm,1.5s							
ANN				MLR	MLR			
	comp=N,617nm,19.0s,MS5.4							
ANN				MLR	MLR			
	comp=E,260nm,19.0s,MS5.4							
SIM	**Simferopol'**	**143.74**	**274**	*i* PKHKP			02 28 25.0	
SIM				pmax	pmax			
	comp=Z,18µm,0.9s							
SIM				pmax	pmax			
	comp=Z,120nm,13.5s							
SIM				MLR	MLR			
	comp=Z,190nm,18.3s,MS4.9							
FCC	**Fort Churchill**	**144.09**	**58**	PKIKP			02 28 25.6	
FCC	**Fort Churchill**	**144.09**	**58**	*e*PKPpre			02 28 25.8	
QUA2	**Belchertown**	**145.07**	**95**	*e*PKPdf	PKPdf		02 28 29.4	-2.9
ACCN	**Adirondack Com**	**145.15**	**92**	*e*PKPdf	PKPdf		02 28 29.4	-3.1
ALN	**Alexandroupoli**	**145.17**	**261**	*e*P	PKPbc		02 28 30.4	-1.6
NCR	**Newcomb**	**145.26**	**91**	*e*PKPdf	PKPdf		02 28 30.3	-2.3
VOR	**Voronezh**	**145.34**	**286**	*e*PKP2	PKPdf		02 28 29.5	-3.3
VOR				pmax	pmax			
	comp=Z,440nm,1.7s							
VOR				pmax	pmax			
	comp=N,150nm,1.5s							
VOR				pmax	pmax			
	comp=E,130nm,1.5s							
LONY	**Lake Ozonia**	**145.51**	**90**	*e*PKPdf	PKPdf		02 28 30.9	-2.1
MSNY	**Massena**	**145.62**	**89**	*e*PKPdf	PKPdf		02 28 31.5	-1.8
HRV	**Harvard--Oak R**	**145.65**	**95**	*e*PKP2	PKPdf		02 28 32.0	-1.3
WES	**Weston**	**145.69**	**96**	*e*PKP2	PKPdf		02 28 32.7	-0.7
MIV	**Mineville/With**	**145.69**	**92**	*e*PKPdf	PKPdf		02 28 31.7	-1.7
AGG	**Agios Georgios**	**145.71**	**256**	*e*P	PKPdf		02 28 32.3	-1.1
JMB	**Yambol**	**146.01**	**264**	*e*P	PKPdf		02 28 32.9	-1.1
KDZ	**Kurdzhali**	**146.04**	**262**	*e*P	PKPdf		02 28 32.0	-2.0
HNH	**Hanover**	**146.10**	**93**	*e*PKPdf	PKPdf		02 28 33.4	-0.7
FRNY	**Flat Rock**	**146.18**	**91**	*e*PKPbc	PKPdf		02 28 32.9	-1.3
FFD	**Franklin Falls**	**146.27**	**94**	*e*PKPbc	PKPdf		02 28 33.2	-1.2
LKD	**Levkas**	**146.32**	**253**	*e*P	PKPdf		02 28 34.6	+0.1
TIRR	**Tirgusor**	**146.42**	**268**	⇑*i* P	PKPdf		02 28 33.9	-0.7
TIRR	**Tirgusor**	**146.42**	**268**	PKP2	PKPdf		02 28 34.4	-0.2
TIRR	**Tirgusor**	**146.42**	**268**	*e*PKPbc	PKPbc		02 28 34.2	-1.7
LIT	**Litokhoron**	**146.43**	**257**	*e*P	PKPdf		02 28 34.2	-0.5
RZN	**Rozhen**	**146.43**	**261**	*e*P	PKPdf		02 28 33.0	-1.7
SRS	**Serrai**	**146.61**	**259**	*e*P	PKPdf		02 28 34.1	-0.9
LBNH	**Lisbon**	**146.66**	**93**	*e*PKP2	PKPdf		02 28 35.0	0.0
PLD	**Plovdiv**	**146.74**	**262**	*e*P	PKPdf		02 28 33.0	-2.2
HARR	**Harsova**	**146.83**	**268**	⇑*i* P	PKPdf		02 28 35.5	+0.2
HARR	**Harsova**	**146.83**	**268**	⇑P	PKPdf		02 28 35.5	+0.2
MMB	**Musomiste**	**146.88**	**260**	*i* P	PKPdf		02 28 35.0	-0.4
KNT	**Kendrikon**	**147.00**	**259**	*e*P	PKPdf		02 28 35.7	+0.1
CFR	**Carcaliu**	**147.05**	**269**	⇑*i* P	PKPdf		02 28 36.2	+0.5
CFR	**Carcaliu**	**147.05**	**269**	⇑P	PKPdf		02 28 36.1	+0.5
GRG	**Griva**	**147.11**	**258**	*e*P	PKPdf		02 28 36.0	+0.2
IGT	**Igoumenitsa**	**147.11**	**254**	*e*P	PKPdf		02 28 36.7	+0.9
VAY	**Valandovo**	**147.28**	**259**	⇑*i* PKP	PKPdf		02 28 35.8	-0.3
PGB	**Panagyurishte**	**147.33**	**262**	*e*P	PKPdf		02 28 33.0	-3.2
FNA	**Florina**	**147.51**	**257**	*e*P	PKPdf		02 28 37.1	+0.7
BUC1	**Bucharest**	**147.60**	**266**	PKP2	PKPdf		02 28 37.8	+1.2
BIA	**Bitola**	**147.71**	**257**	⇑*i* PKP	PKPdf		02 28 37.2	+0.4
STIP	**Stip**	**147.75**	**259**	⇑*i* PKP	PKPdf		02 28 37.0	+0.2
VTS	**Vitosha**	**147.86**	**261**	*i* P	PKPdf		02 28 38.0	+1.0
VTS	**Vitosha**	**147.86**	**261**	*e*P	PKPdf		02 28 38.4	+1.3
VTS	**Vitosha**	**147.86**	**261**	⇓*i* P	PKPdf		02 28 38.3	+1.3
KIS	**Kishinev**	**147.87**	**272**	*e*PKHKP			02 28 34.0	
KIS				*e*PPP			02 35 28.0	
KIS				pmax	pmax			
	comp=Z,1µm,10.0s							
KIS				MLR	MLR			
	comp=Z,400nm,21.0s,MS5.2							
KIS				MLR	MLR			
	comp=E,300nm,20.0s							
OHR	**Ohrid**	**148.04**	**256**	⇑*i* PKP	PKPdf		02 28 38.4	+1.0
VRI	**Vrincioaia**	**148.25**	**269**	⇑*i* P	PKPdf		02 28 39.2	+1.5
PLOR	**Plostina**	**148.28**	**269**	⇑*i* P	PKPdf		02 28 39.1	+1.4
MOS	**Moscow**	**148.30**	**292**	*e*PKIKP	PKPdf		02 28 35.7	-2.1
MOS				*e*			02 28 50.6	
MOS				*e*			02 32 12.7	
MOS				pmax	pmax			
	comp=Z,800nm,2.2s							
MOS				pmax	pmax			
	comp=Z,265nm,1.8s							
MOS				MLR	MLR			
	comp=N,700nm,21.0s,MS5.5							
MOS				MLR	MLR			
	comp=E,500nm,21.0s,MS5.5							
MOS				MLR	MLR			
	comp=Z,900nm,21.0s,MS5.5							
SKO	**Skopje**	**148.34**	**258**	*eP*	PKPdf		02 28 40.0	+2.2
SKO	**Skopje**	**148.34**	**258**	⇑*i* PKP	PKPdf		02 28 40.0	+2.1
MLR	**Muntele Rosu**	**148.41**	**267**	⇓*i* P	PKPdf		02 28 39.5	+1.6
MLR	**Muntele Rosu**	**148.41**	**267**	PKP2	PKPdf		02 28 39.7	+1.8
MLR	**Muntele Rosu**	**148.41**	**267**	⇓P	PKPdf		02 28 39.5	+1.6
VAE	**Valguarrena**	**148.44**	**245**	PKPbc	PKPbc		02 28 41.0	-0.5
	comp=Z,22nm,0.8s,baz=202,slow=8.8,SNR=7.6							
OBN	**Obninsk**	**148.50**	**290**	*c i* PKIKP	PKPdf		02 28 35.7	-2.4
OBN				*i*			02 28 40.1	
OBN				*i*			02 28 46.2	
OBN				*i*			02 32 14.6	
OBN				pmax	pmax			
	comp=Z,19nm,1.1s							
OBN				pmax	pmax			
	comp=Z,215nm,0.8s							
OBN				MLR	MLR			
	comp=Z,400nm,20.0s,MS5.2							
OBN	**Obninsk**	**148.50**	**290**	*e*PKPdf	PKPdf		02 28 36.1	-2.0
OBN				*e*PKPbc	PKPbc		02 28 40.1	-1.6
TIP	**Timpagrande**	**148.63**	**250**	*e*PKPdf	PKPdf		02 28 36.3	-2.0
TIP				*e*PKPbc	PKPbc		02 28 40.8	-1.3
TIP				*e*PKPab	PKPab		02 28 45.5	-0.1
IAS	**Iasi**	**148.66**	**271**	PKP2	PKPdf		02 28 40.6	+2.2
TIR	**Tirane**	**148.70**	**256**	*eP*	PKPdf		02 28 41.1	+2.7
MTUR	**Matau**	**148.70**	**266**	PKP2	PKPdf		02 28 40.4	+2.0
CRAR	**CRAIOVA**	**148.76**	**264**	PKP2	PKPdf		02 28 41.6	+3.1
QSH	**Qafa e Shtames**	**148.80**	**256**	*i* p	PKPdf		02 28 40.6	+2.0
VOIR		**148.85**	**267**	⇓*i* P	PKPdf		02 28 40.1	+1.4
VOIR		**148.85**	**267**	⇓P	PKPdf		02 28 40.1	+1.5
CHIE

comp=Z,201nm,2.5s
ARSA Arzberg 155.03 260 ⇑*i*PKPdf PKPdf 02 28 45.7 -2.2
comp=Z,201nm,2.5s
ARSA ⇑*i*PKPbc PKPdf 02 28 56.0 +8.1
ARSA ⇓*i*PKPab PKPab 02 29 11.9 -0.4
comp=Z,29nm,0.9s
OKC Ostrava-Krasne 155.24 268 *e*PKPab PKPab 02 29 12.0 -1.1
OKC *ep*PKP pPKPab 02 29 17.2 +2.9
OKC AMS AMS 03 57 20.0
comp=Z,500nm,17.8s
SCHQ Schefferville 155.47 79 PKPab PKPab 02 29 11.0 -3.1
comp=Z,12nm,1.1s,baz=264,slow=0.9,SNR=8.2
SCHQ Schefferville 155.47 79 *e*PKPdf PKPdf 02 28 45.7 -2.8
SCHQ PKPab PKPab 02 29 11.0 -3.1
MORC Moravsky Berou 155.52 267 ⇑*i*P PKPdf 02 28 45.5 -3.1
MORC Moravsky Berou 155.52 267 *e*PKPab PKPab 02 28 46.2 -2.4
MORC *e*PKPdif 02 28 56.2
MORC *e*PKPab PKPab 02 29 13.1 -1.3
VRAC Vranov 155.75 265 PKP PKPdf 02 28 46.1 -2.8
comp=Z,2.5nm,0.9s
FINES FINESS Array B 156.04 298 PKP PKPdf 02 28 44.2 -5.1
comp=Z,1.1nm,0.8s,baz=323,slow=25,SNR=5.6
FINES PKPab PKPab 02 29 14.8 -1.7
comp=Z,6.0nm,0.9s,baz=94,slow=7.8,SNR=8.5
KBA Koelnbreinsper 156.05 258 ⇓*i*PKPdf PKPdf 02 28 46.3 -3.0
comp=Z,168nm,2.9s
KBA ⇑*i*PKPab PKPab 02 29 15.9 -0.7
KBA Koelnbreinsper 156.05 258 ⇓*i*P PKPdf 02 28 46.3 -3.0
KAF Kangasniemi 156.09 300 epkp PKPdf 02 28 55.8 +6.5
baz=137,slow=0.3
TREC Trest 156.32 264 *e*PKPab PKPab 02 29 16.9 -0.9
TREC *ep*PKP pPKPab 02 29 22.7 +3.8
TREC AMS AMS 04 04 50.0
comp=Z,800nm,17.2s
DPC Dobruska-Polom 156.49 267 *e*PKPab PKPab 02 29 18.0 -0.5
DPC *ep*PKP pPKPab 02 29 23.4 +3.7
DPC AMS AMS 04 08 10.0
comp=Z,500nm,20.5s
SBF Sospel 156.73 245 *e*PKP2 PKPab 02 29 19.4 -0.1
comp=Z,88nm,1.1s
UPC Upice 156.75 267 *e*PKPab PKPab 02 29 19.3 -0.3
UPC *ep*PKP pPKPab 02 29 24.9 +4.1
LMR La Mourre 156.77 242 *e*PKP2 PKPab 02 29 19.6 -0.1
comp=Z,157nm,1.5s
KSP Ksiaz 156.79 268 *e*PKP PKPab 02 29 19.2 -0.6
KSP Ksiaz 156.79 268 *e*PKPdf PKPdf 02 28 47.4 -2.9
KSP *e*PKPab PKPab 02 29 19.0 -0.8
KSP *e*PP PP 02 32 53.0 -4.8
FRF La Foret Royal 156.88 243 *e*PKP2 PKPab 02 29 20.0 -0.2
comp=Z,39nm,1.1s
ARCES ARCESS Array B 156.94 318 PKP PKPdf 02 28 47.8 -2.7
comp=Z,2.5nm,0.9s,baz=4.3,slow=4.9,SNR=5.7
ARCES PKPab PKPab 02 29 18.2 -2.2
comp=Z,9.4nm,1.0s,baz=80,slow=3.0,SNR=9.7
ARE0 ARCESS Array S 156.94 318 *e*PKPab PKPab 02 29 18.3 -2.1
GEC2 GERESS Array S 156.98 261 *e*PKPdf PKPdf 02 28 46.3 -4.2
GEC2 *e*PKPab PKPab 02 29 18.3 -2.3
GEC2 *e*PP PP 02 32 57.4 -1.5
GERES GERESS Array B 156.98 261 PKP PKPdf 02 28 45.9 -4.6
comp=Z,1.0nm,0.8s,baz=247,slow=1.0,SNR=10.0
GERES PKPab PKPab 02 29 18.0 -2.7
comp=Z,5.3nm,0.9s,baz=132,slow=2.0,SNR=7.7
GERES PP PP 02 32 57.4 -1.5
comp=Z,0.2nm,0.4s,baz=146,slow=5.4,SNR=2.8
WTTA Wattenberg 157.05 256 ⇓*i*PKPdf PKPdf 02 28 48.0 -2.5
comp=Z,198nm,3.3s
WTTA ⇓*i*PKPab PKPab 02 29 20.6 -0.3
comp=Z,55nm,1.9s
WTTA Wattenberg 157.05 256 ⇓*i*P PKPdf 02 28 48.0 -2.5
EMIN Mina Concepcio 157.12 213 PKP PKPdf 02 28 43.2 -7.5
KHC Kasperske Hory 157.22 262 *e*PKPab PKPab 02 29 20.1 -1.5
KHC *ep*PKP pPKPab 02 29 25.9 +3.1
KHC AMS AMS 03 57 10.0
comp=Z,700nm,21.7s
PRU Pruhonice 157.22 265 *e*PKPab PKPab 02 29 20.9 -0.8
PRU *ep*PKP pPKPab 02 29 26.4 +3.6
PRU AMS AMS 04 04 30.0
comp=Z,800nm,17.1s
SQTA Sankt Quirin 157.24 255 ⇓*i*PKPdf PKPdf 02 28 48.2 -2.6
comp=Z,24nm,1.1s
SQTA *i* PKPab PKPab 02 29 21.7 0.0
comp=Z,19nm,0.9s
SQTA Sankt Quirin 157.24 255 ⇓*i*P PKPdf 02 28 48.2 -2.6
GKP Gorka Klasztor 157.55 274 *e*PKP PKPab 02 29 22.1 -0.9
WET Wettzell 157.59 261 *e*PKPdf PKPdf 02 28 48.2 -3.1
WET *e*PKPab PKPab 02 29 21.4 -1.9
WET *e*PP PP 02 33 00.9 -1.4
DAVOX Davos 157.62 253 PKPab PKPab 02 29 22.5 -0.9
comp=Z,15nm,0.8s,baz=125,slow=11,SNR=12
MBDF Montbardon 157.69 245 *e*PKP2 PKPab 02 29 23.9 +0.2
comp=Z,57nm,1.1s
PBEJ Beja 157.70 211 *e*PKPdf PKPdf 02 28 51.1 -0.3
PBEJ Beja 157.70 211 *e*PKPab PKPab 02 29 24.2 +0.5
FUR Furstenfeldbru 157.82 257 *e*PKPab PKPab 02 29 23.7 -0.5
DAVA Damuels 157.96 254 ⇑*i*P PKPdf 02 28 47.1 -4.6
comp=Z,20nm,1.4s
DAVA Damuels 157.96 254 ⇓*i*PKPdf PKPdf 02 28 49.5 -2.2
comp=Z,20nm,1.4s
DAVA ⇓*i*PKPab PKPab 02 29 25.0 +0.2
comp=Z,20nm,1.2s
ESDC Sonseca Array 158.02 220 PKP PKPdf 02 28 49.7 -2.1
comp=Z,1.4nm,0.9s,baz=52,slow=2.4,SNR=4.7
ESDC PKPab PKPab 02 29 23.6 -1.5
comp=Z,4.9nm,0.9s,baz=158,slow=4.5,SNR=10
ESDC Sonseca Array 158.02 220 PKP PKPdf 02 28 43.2 -8.6
ESDC PKP PKPdf 02 28 49.7 -2.1
ESDC PKPab PKPab 02 29 23.6 -1.5
BRG Berggiesshubel 158.04 266 *e*PKPdf PKPdf 02 28 48.2 -3.6
BRG *e*PKPab PKPab 02 29 24.5 -0.7
BRG Berggiesshubel 158.04 266 *e*PKP PKPab 02 29 24.4 -0.8
comp=Z,14nm,1.1s
BRG Berggiesshubel 158.04 266 *e*PKP2 PKPab 02 29 24.4 -0.8
BRG pmax pmax
comp=Z,14nm,1.1s
EBAD Badajoz 158.14 213 PKP PKPdf 02 28 43.2 -8.7
ORIF Oris-en-Rattie 158.26 244 *e*PKP2 PKPab 02 29 26.6 +0.5
comp=Z,30nm,1.0s
ORIF *e*R
comp=Z,866nm,21.0s
LPG La Plagne 158.27 247 *e*PKP2 PKPab 02 29 25.6 -0.6
comp=Z,23nm,1.1s
LPL La Plagne 158.29 247 *e*PKP2 PKPab 02 29 25.6 -0.7
ROTZ Rotzenmuhle 158.32 262 *e*PKPab PKPab 02 29 25.8 -0.6
ROTZ *e*PP PP 02 33 05.3 -1.0
NKC Novy Kostel 158.47 263 *e*PKPab PKPab 02 29 26.9 -0.1
NKC *ep*PKP pPKPab 02 29 32.5 +4.3
NKC AMS AMS 04 03 50.0
comp=Z,600nm,17.7s
MANZ Manzenberg 158.50 262 *e*PKPdf PKPdf 02 28 49.2 -3.2
MANZ *e*PKPab PKPab 02 29 26.3 -0.9
MANZ *e*PP PP 02 33 05.8 -1.5
LASF Ste Croix 158.57 240 *e*PKP2 PKPab 02 29 27.3 -0.2
comp=Z,35nm,1.2s
WERD Werda 158.66 263 *e*PKPdf PKPdf 02 28 49.3 -3.3
WERD *e*PKPab PKPab 02 29 27.4 -0.5
WERD *e*PP PP 02 33 06.8 -1.4
MTLF Montolieu 158.72 236 *e*PKP2 PKPab 02 29 27.7 -0.4
comp=Z,50nm,1.5s
CLL Collm 158.78 266 *e*PKPdf PKPdf 02 28 48.9 -3.8
CLL *e*PKPab PKPab 02 29 27.5 -0.9
CLL *e*PP PP 02 33 05.1 -3.7
CLL Collm 158.78 266 *e*PKPdf PKPdf 02 28 49.0 -3.7
comp=Z,22nm,1.8s
CLL ⇓*i*PKPab PKPab 02 29 27.6 -0.8
comp=Z,45nm,1.2s
CLL *i* pPKPab pPKPab 02 29 33.3 +3.7
CLL Lm 03 59 00.0
comp=Z,700nm,19.4s
CLL Collm 158.78 266 ⇓*e*PKIKP PKPdf 02 28 49.0 -3.7
CLL *i* 02 29 27.6
CLL pmax pmax
comp=Z,22nm,1.8s
CLL pmax pmax
comp=Z,45nm,1.2s
CLL MLR MLR
comp=Z,700nm,19.4s,MS5.5
VIVF Saint-Julien-l 158.78 242 *e*PKP2 PKPab 02 29 28.0 -0.4
comp=Z,66nm,1.5s
GRA1 Grafenberg Arr 158.79 261 *e*PKPdf PKPdf 02 28 50.2 -2.5
GRA1 *e*PKPab PKPab 02 29 27.8 -0.6
GRA1 *e*PP PP 02 33 07.5 -1.3
GRF Grafenberg Arr 158.79 261 *e*PKPdf PKPdf 02 28 50.2 -2.5
GRF *e*PKPab PKPab 02 29 27.8 -0.6
GRF *e*PP PP 02 33 07.5 -1.3

GUD Guadarrama 158.95 221 PKIKP PKPdf 02 28 47.2 -5.7
RUE Ruedersdorf 158.98 270 *e*PKPab PKPab 02 29 28.2 -1.1
MOX Moxa 159.14 263 *e*PKPdf PKPdf 02 28 49.2 -3.9
MOX *e*PKPab PKPab 02 29 29.3 -0.6
MOX *e*PP PP 02 33 10.5 -0.2
MOX Moxa 159.14 263 *e*PKP PKPdf 02 28 49.7 -3.4
MOX *e* 02 29 29.3
comp=Z,103nm,2.2s
MOX Moxa 159.14 263 *e*PKIKP PKPdf 02 28 49.7 -3.4
MOX *e* 02 29 29.3
MOX pmax pmax
comp=Z,103nm,2.2s
STU Stuttgart 159.27 256 *e*PKPab PKPab 02 29 29.6 -0.9
STU Stuttgart 159.27 256 *e*PKPab PKPab 02 29 29.5 -1.1
BBS Basel-Blauen 159.27 251 PKP2 PKPab 02 29 30.0 -0.5
EPF Esparros 159.27 232 *e*PKP2 PKPab 02 29 30.3 -0.2
PCBR Castelo Branco 159.28 213 *e*PKPdf PKPdf 02 28 55.3 +2.0
PCBR Castelo Branco 159.28 213 *e*PKPab PKPab 02 29 29.7 -0.9
FELD Feldberg im Sc 159.30 253 PKP PKPab 02 29 30.0 -0.6
PTOM Tomar 159.34 211 *e*PKPab PKPab 02 29 30.4 -0.4
CABF La Chapelle 159.39 248 *e*PKP2 PKPab 02 29 30.7 -0.3
comp=Z,34nm,1.0s
BFO Black Forest 159.43 254 *e*PKPab PKPab 02 29 30.4 -0.8
ETSF Etsaut 159.54 231 *e*PKP2 PKPab 02 29 31.4 -0.3
comp=Z,36nm,1.3s
LOMF Lomont 159.54 250 PKP PKPab 02 29 31.7 0.0
MOF Molkenrain 159.72 252 PKP PKPab 02 29 31.7 -0.8
MTE Manteigas 159.81 214 *e*PKPab PKPab 02 29 32.5 -0.4
MTE Manteigas 159.81 214 *e*S 02 44 09.8
MTE Manteigas 159.81 214 *e*LQ 03 31 38.2
HINF Hinteralfeld 159.84 251 *e*PKP2 PKPab 02 29 31.6 -1.4
comp=Z,23nm,0.9s
STR Strasbourg 159.88 254 PKP PKPab 02 29 33.0 -0.2
ECH Echery 159.95 253 PKP PKPab 02 29 32.8 -0.7
WLS Welschbruch 159.98 253 PKP PKPab 02 29 33.0 -0.6
SJPF Ste Jean 159.99 230 *e*PKP2 PKPab 02 29 33.5 -0.1
TOD Tromm 159.99 258 PKP2 PKPab 02 29 33.3 -0.4
CDF Champ du Feu 160.02 253 *e*PKP2 PKPab 02 29 32.5 -1.3
comp=Z,44nm,1.3s
CAF Calviac 160.04 238 *e*PKP2 PKPab 02 29 33.8 -0.1
comp=Z,35nm,1.3s
PLDF La Plantade 160.11 243 PKP PKPab 02 29 34.2 0.0
PVIS Viseu 160.21 213 *e*PKPdf PKPdf 02 28 53.8 -0.6
PVIS Viseu 160.21 213 *e*PKPab PKPab 02 29 34.1 -0.5
HAU Haudompre 160.22 251 *e*PKP2 PKPab 02 29 34.6 0.0
HAU *e*R
comp=Z,1μm,20.2s
HAU Haudompre 160.22 251 *e*PKPab PKPab 02 29 34.6 0.0
HAU LR LR
comp=Z,1μm,20.3s
PYM Petit Puy Mans 160.23 242 PKP PKPab 02 29 34.2 -0.5
CLZ Clausthal 160.45 265 *e*PKPdf PKPdf 02 28 51.7 -2.9
CLZ *e*PKPab PKPab 02 29 35.0 -0.7
SMF Signal de Mont 160.50 245 *e*PKP2 PKPab 02 29 35.0 -0.9
comp=Z,31nm,1.0s
GTTG Gvttingen 160.50 264 *e*PKPdf PKPdf 02 28 51.5 -3.2
GTTG *e*PKPab PKPab 02 29 35.6 -0.3
THEF They Montfort 160.55 251 PKP PKPab 02 29 35.6 -0.5
TNS Taunus Mts 160.55 259 *e*PKPdf PKPdf 02 28 52.7 -2.0
TNS *e*PKPab PKPab 02 29 35.6 -0.5
RJF Les Rejaudoux 160.57 238 *e*PKP2 PKPab 02 29 35.9 -0.3
RJF *e*R
comp=Z,1μm,19.5s
RJF Les Rejaudoux 160.57 238 *e*PKPab PKPab 02 29 35.9 -0.3
RJF LR LR
comp=Z,1μm,19.5s
LFF La Frestale 160.64 236 *e*PKP2 PKPab 02 29 36.3 -0.2
comp=Z,30nm,1.0s
PVRL Vila Real 160.67 215 *e*PKPab PKPab 02 29 37.0 +0.4
PTO Porto 160.80 212 *e*PKPab PKPab 02 29 37.6 +0.4
ABH Alteburg 160.81 257 PKP PKPab 02 29 36.5 -0.7
AVF Avril sur Loir 160.84 244 *e*PKP2 PKPab 02 29 36.6 -0.7
comp=Z,42nm,1.3s
PBRG Braganca 160.85 217 *e*PKPab PKPab 02 29 37.5 +0.1
BGF Bois d'Agland 160.91 243 *e*PKP2 PKPab 02 29 37.4 -0.2
comp=Z,41nm,1.2s
LOR Lormes 160.93 246 *e*PKP2 PKPab 02 29 37.2 -0.6
comp=Z,41nm,1.1s
LOR *e*R
comp=Z,1μm,21.8s
LOR Lormes 160.93 246 *e*PKPab PKPab 02 29 37.2 -0.6
LOR LR LR
comp=Z,1μm,21.8s
RUP Ruppelstein 160.95 256 PKP2 PKPab 02 29 37.1 -0.7
SSF Saint Saulge 160.96 245 *e*PKP2 PKPab 02 29 37.3 -0.6
comp=Z,33nm,1.1s
ECAL Calabor 160.97 217 PKP 02 28 43.2
TCF Toulx Ste Croi 161.00 241 *e*PKP2 PKPab 02 29 37.8 -0.3
MEZF Maizieres J'vi 161.19 250 *e*PKP2 PKPab 02 29 38.4 -0.5
WLF Walferdange 161.39 255 *e*PKPab PKPab 02 29 39.2 -0.5
WLF Walferdange 161.39 255 PKP PKPab 02 29 39.3 -0.5
BSEG Bad Segeberg 161.51 270 *e*PKPdf PKPdf 02 28 51.7 -4.1
BSEG *e*PP PP 02 33 18.2 -5.3
BUG Bochum--Univer 161.86 261 *e*PKPab PKPab 02 29 40.9 -0.9
MEM Membach 162.03 257 PKP PKPab 02 29 42.9 +0.3
MEM PKPbc pPKPab 02 29 48.6 +4.9
IBBN Ibbenburen 162.07 263 *e*PKPab PKPab 02 29 42.5 -0.2
MFF Saint Martin d 162.31 238 *e*PKP2 PKPab 02 29 43.3 -0.5
comp=Z,39nm,1.2s
GIVF Givet 162.33 254 *e*PKP2 PKPab 02 29 43.1 -0.8
DOU Dourbes 162.45 254 PKP PKPab 02 29 44.2 -0.2
DOU PKPbc pPKPab 02 29 49.7 +4.1
BAIF Baives 162.62 253 *e*PKP2 PKPab 02 29 44.5 -0.6
comp=Z,21nm,0.9s
UCC Uccle 162.99 255 PKP PKPab 02 29 46.3 -0.4
NB2 NORSAR Subarra 163.05 293 PKPa PKPab 02 29 45.0 -2.0
comp=Z,19nm,1.0s,baz=95,slow=4.4
NB2 NORSAR Subarra 163.05 293 PKPa PKPab 02 29 45.0 -2.0
baz=95,slow=4.4
NOA NORSAR Array B 163.05 293 PKP PKPdf 02 28 52.9 -4.4
comp=Z,2.0nm,1.0s,baz=103,slow=2.1,SNR=3.0
NOA PKPab PKPab 02 29 45.2 -1.8
comp=Z,7.1nm,0.8s,baz=95,slow=4.7,SNR=22
LDF La Druitiere 163.77 243 *e*PKP2 PKPab 02 29 49.3 -0.9
comp=Z,33nm,1.2s
FLN La Foliniere 164.06 243 *e*PKP2 PKPab 02 29 50.7 -0.7
comp=Z,19nm,1.1s
FLN *e*R
comp=Z,1μm,19.5s
FLN La Foliniere 164.06 243 *e*PKPab PKPab 02 29 50.7 -0.7
FLN LR LR
comp=Z,1μm,19.5s

*ISCJB **04** 02:12:39.7±1.8, 1878S×0.10×169.3E±0.2, h220km±7km, mb4.1/8, Error ellipse: s-maj=36.2km s-min=12.4km az=35.0*
*IDC **04** 02:12:41.4±2.5, 1901S×16938E, h230km±25km, mb3.9/8, mb1 4.0/9, mb1mx3.9/15, mbtmp4.4/9, Error ellipse: s-maj=39.2km s-min=21.8km az=159.0*
*NEIC **04** 02:12:42.7±1.9, 1902S×16932E, h242km±19km, mb4.2/1, Error ellipse: s-maj=34.4km s-min=19.2km az=164.0*

ISC 04 02:12:40.1±1.8, 1881S×010×1694E×02, h213km±7km, n22, σ0°79/14, mb4.1/8, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.56**	**316**	⇑*i*	*i*P	**Pn**	**02 13 15.8**	**+0.3**
BKM					S	**S**	**02 13 42.8**	**-0.4**
DZM	**Mont Dzumac**	**4.25**	**220**	P	P	**Pn**	**02 13 46.8**	**+1.3**
	1.6nm,0.3s,baz=58,slow=18,SNR=14							
DZM					S	**S**	**02 14 36.3**	**-0.7**
	4.3nm,0.3s,baz=30,slow=18,SNR=6.5							
CTA	**Charters Tower**	**21.84**	**263**	P	P	**P**	**02 17 15.9**	**+0.3**
	5.2nm,0.6s,mb4.2,baz=90,slow=12,SNR=2.7							
PMG	**Port Moresby**	**23.46**	**290**	P	P	**P**	**02 17 30.7**	**+0.3**
	10.0nm,0.7s,mb4.4,baz=108,slow=9.6,SNR=6.5							
PMG	**Port Moresby**	**23.46**	**290**	*e*P		**P**	**02 17 30.3**	**-0.1**
	3.8nm,0.5s,mb4.2							
WRA	**Warramunga Arr**	**33.04**	**262**	P	P	**P**	**02 18 54.3**	**-1.1**
	2.3nm,0.3s,mb4.1,baz=89,slow=8.3,SNR=28							
ASAR	**Alice Springs**	**33.36**	**255**	P	P	**P**	**02 18 57.8**	**-0.3**
	17nm,0.4s,mb4.9,baz=86,slow=8.2,SNR=137							
FITZ	**Fitzroy Crossi**	**41.42**	**264**	P	P	**P**	**02 20 06.1**	**+0.5**
	7.8nm,0.6s,mb4.3,baz=63,slow=5.8,SNR=28							
MJAR	**Matsushiro Arr**	**62.43**	**332**	P	P	**P**	**02 22 41.3**	**+0.8**
	1.3nm,0.7s,mb3.6,baz=166,slow=9.4,SNR=5.4							
SONM	**Songino Array**	**86.95**	**323**	P	P	**P**	**02 25 01.7**	**+0.7**
	1.5nm,0.7s,mb3.8,baz=154,slow=5.7,SNR=12							
ILAR	**Eielson Array**	**89.78**	**17**	P	P	**P**	**02 25 12.8**	**-1.6**
	0.6nm,0.6s,mb3.6,baz=238,slow=4.9,SNR=9.8							
ILAR	**Eielson Array**	**89.78**	**17**	P	P	**P**	**02 25 12.8**	**-1.6**
YKA	**Yellowknife Ar**	**100.23**	**27**	P	Pdif		02 26 02.4	+0.5
	0.3nm,0.6s,baz=256,slow=4.8,SNR=6.9							
YKA	**Yellowknife Ar**	**100.23**	**27**	P	Pdif		02 26 02.4	+0.5
MKAR	**Makanchi Array**	**101.52**	**316**	P	Pdif		02 26 07.9	+0.3
	0.2nm,0.5s,baz=108,slow=4.7,SNR=3.2							
ARCES	**ARCESS Array B**	**124.69**	**345**	PKP	PKPdf		02 31 12.8	-1.4
	0.5nm,0.4s,baz=52,slow=1.9,SNR=7.9							
ARCES	**ARCESS Array B**	**124.69**	**345**	PKP	PKPdf		02 31 12.8	-1.4
KOLS	**Kolonicke sedl**	**139.94**	**326**	*e*PKP	PKPdf		02 31 41.8	-1.0
GERES	**GERESS Array B**	**144.17**	**332**	PKP	PKPdf		02 31 49.0	-1.4
	1.1nm,0.8s,baz=38,slow=2.4,SNR=3.8							
IDI	**Anoyia**	**144.60**	**305**	PKP	PKPdf		02 31 49.2	-1.9
	5.1nm,0.6s,baz=90,slow=1.0,SNR=7.4							
DAVOX	**Davos**	**147.41**	**333**	PKPbc	PKPbc		02 31 59.5	+0.8
	2.4nm,0.4s,baz=334,slow=22,SNR=6.6							
DAVOX	**Davos**	**147.41**	**333**	PKPbc	PKPbc		02 31 59.5	+0.8

*NEIC **04** 02:18:51.7, 2002N×6442W, h13km, MD3.6(RSPR), After RSPR.*

RSPR 04 02:18:51.7, 2002N×6442W, h13km±20km, MD3.6/6, MD3.6/6, 8C-1D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**1.61**	**186**	⇑*e*P		Pn	02 19 18.2	-1.5
STVI	**Saint Thomas**	**1.73**	**197**	⇑*e*P		Pn	02 19 18.6	-2.9
STVI				*e*S		Sn	02 19 40.1	-3.2
CULB	**Culebra**	**1.90**	**207**	⇑*e*P		Pn	02 19 20.9	-2.9
CULB	**Culebra**	**1.90**	**207**	*e*S		Sn	02 19 43.8	-3.8
HUMP	**Col San Antoni**	**2.30**	**216**	⇓*e*P		Pn	02 19 26.5	-2.8
HUMP				*e*S		Sn	02 19 53.6	-3.8
SJG	**San Juan**	**2.50**	**221**	⇑*e*P		Pn	02 19 29.2	-2.8
SJG				*e*S		Sn	02 19 58.6	-3.8
AOPR	**Arecibo Observ**	**2.76**	**233**	⇑*e*P		Pn	02 19 33.4	-2.2
AOPR				*e*S		Sn	02 20 05.2	-3.6
OBIP	**Obispado Ponce**	**2.85**	**227**	⇑*e*P		Pn	02 19 34.2	-2.6
OBIP				*e*S		Sn	02 20 08.1	-2.9
ICM	**Isla Caja Muer**	**2.90**	**224**	⇑*e*P		Pn	02 19 35.7	-1.9
ICM				*e*S		Sn	02 20 09.5	-2.8
LSP	**Las Mesas**	**3.11**	**234**	*e*S		Sn	02 20 14.3	-3.2
CRPR	**Cabo Rojo, PR**	**3.23**	**232**	⇑*e*P		Pn	02 19 39.8	-2.4
CRPR				*e*S		Sn	02 20 17.1	-3.4

NNC 04 02:21:32.1±18.0, 3530N×7239E, h0km, mb3.3, mpv3.4, 2C-1D, Error ellipse: s-maj=401.8km s-min=149.2km az=82.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SDNR	**Sundarnagar**	**5.39**	**133**	*e*P		Pn	02 22 34.6	-19
SDNR				*e*S		Sn	02 23 44.2	-12
KK31	**Karatay Array**	**7.92**	**350**	⇑Pn		Pn	02 23 31.2	+2.7
	0.5nm,0.2s,baz=157,slow=12							
KK31				⇑Sn		Sn	02 25 05.4	+6.5
	0.3nm,0.3s,baz=172,slow=22,SNR=4.2							
AB31	**Akbulak array**	**16.68**	**331**	⇓P		Pn	02 25 27.2	0.0
	0.1nm,0.3s,baz=140,slow=12,SNR=6.2							

*NEIC **04** 03:22:57.0, 1771N×10092W, h55km, MD3.9(MEX), After MEX.*

MEX 04 03:22:57.0±0.9, 1771N×10092W, h55km±13km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.53**	**259**	*i* P		Pn	03 23 07.0	-1.9
ZIIG				*i* S		Sn	03 23 15.9	-1.6
CAIG	**El Cayaco**	**0.91**	**136**	*i* P		Pn	03 23 12.0	-1.6
CAIG				*i* S		Sn	03 23 24.2	-1.7
MEIG	**Mezcala**	**1.26**	**80**	*i* P		Pn	03 23 17.2	-1.1
MEIG				*i* S		Sn	03 23 32.7	-1.6
ACX	**Acapulco**	**1.27**	**131**	*i* P		Pn	03 23 18.0	-0.5
ACX				*i* S		Sn	03 23 30.0	-4.6
PLIG	**Platanillo**	**1.51**	**63**	*i* P		Pn	03 23 20.4	-1.4
PLIG				*i* S		Sn	03 23 38.4	-2.0
MOIG	**Morelia**	**1.98**	**353**	*i* P		Pn	03 23 27.7	-0.3
MOIG				*i* S		Sn	03 23 50.0	-1.7
MRX	**Morelia**	**2.00**	**353**	*e*P		Pn	03 23 30.0	+1.6
YAIG	**Yautepec**	**2.10**	**57**	*i* P		Pn	03 23 28.0	-1.8
YAIG				*i* S		Sn	03 23 53.1	-1.7
UNM	**Universidad Na**	**2.31**	**45**	*i* P		Pn	03 23 30.5	-2.2
UNM				*i* S		Sn	03 23 57.0	-2.8
PPM	**Popocatepetl**	**2.57**	**58**	*e*P		Pn	03 23 35.0	-1.1
PPM				*i* P			03 23 35.2	
PPM				*i* S		Sn	03 24 04.3	-1.8
PPM	**Popocatepetl**	**2.57**	**58**	*i* P		Pn	03 23 35.2	-0.9
PPM				*i* S		Sn	03 24 04.3	-1.8
UTMO	**Huajuapan**	**2.98**	**87**	*i* P		Pn	03 23 41.7	0.0
UTMO				*i* S		Sn	03 24 13.8	-2.3
OXX	**Oaxaca**	**4.06**	**98**	*e*P		Pn	03 24 00.0	+3.5

IDC 04 03:30:37.2±1.4, 2051S×17395W, h0km, mb3.8/3, mb1 4.2/5, mb1mx3.9/15, mbtmp4.1/5, ML4.5/1, Error ellipse: s-maj=49.7km s-min=27.7km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.89**	**18**	P		Pn	03 32 18.7	-0.7
	4.8nm,0.3s,baz=90,slow=19,SNR=4.7							
AFI				Sn		Sn	03 33 25.0	-13
	17nm,0.3s,baz=26,slow=22,SNR=5.9							
RAR	**Rarotonga**	**13.27**	**96**	Pn		Pn	03 33 46.6	-0.2
	2.4nm,0.3s,baz=234,slow=9.9,SNR=9.5							
RAR				Sn		Sn	03 36 00.8	-14
	2.4nm,0.3s,baz=78,slow=20,SNR=5.7							
RAR				T			03 48 16.6	
	3.7nm,0.3s,baz=67,slow=20,SNR=3.0							
ASAR	**Alice Springs**	**48.21**	**256**	P		P	03 39 19.6	+0.1
	0.5nm,0.6s,baz=93,slow=8.0,SNR=7.0							
WRA	**Warramunga Arr**	**48.36**	**261**	P		P	03 39 20.9	+0.2
	0.7nm,0.5s,baz=96,slow=7.6,SNR=16							
MJAR	**Matsushiro Arr**	**72.53**	**321**	P		P	03 42 06.2	+0.2
	1.1nm,0.6s,baz=152,slow=6.4,SNR=6.4							
ARCES	**ARCESS Array B**	**129.57**	**351**	PKP	PKPdf		03 49 47.4	-0.6
	0.4nm,0.5s,baz=325,slow=1.9,SNR=5.4							
AKASG	**Malin Array Be**	**144.77**	**334**	PKP	PKPdf		03 50 14.4	-1.6
	1.4nm,0.4s,baz=39,slow=4.1,SNR=10.0							
BRTR	**Keskin Array B**	**149.60**	**315**	PKPbc	PKPbc		03 50 29.1	+0.5
	0.5nm,0.5s,baz=136,slow=4.3,SNR=3.9							
GERES	**GERESS Array B**	**151.07**	**350**	PKPbc	PKPbc		03 50 32.4	+0.3
	0.4nm,0.5s,baz=70,slow=1.6,SNR=4.8							

IDC 04 03:35:46.4±3.4, 1671S×6907W, h183km±10km, mb3.6/4, mb1 3.6/5, mb1mx3.3/16, mbtmp4.0/5, Error ellipse: s-maj=119.3km s-min=22.3km az=13.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**0.99**	**65**	P		Pn	03 36 15.0	+0.7
	29nm,0.3s,baz=235,slow=7.5,SNR=1112							
SIV	**San Ignacio**	**7.71**	**86**	P		Pn	03 37 36.8	+1.0
	1.2nm,0.3s,baz=269,slow=12,SNR=29							
SIV				S		Sn	03 39 02.7	+0.2
	0.2nm,0.3s,baz=329,slow=20,SNR=4.8							
BDFB	**Brasilia**	**20.25**	**90**	P		P	03 40 08.7	+1.2
	2.2nm,0.6s,baz=242,slow=5.7,SNR=4.1							
DBIC	**Dimbokro**	**67.60**	**75**	P		P	03 46 24.3	+1.0
	4.3nm,0.5s,baz=244,slow=6.8,SNR=11							
TORD	**Torodi Ar. Bea**	**75.94**	**

ellipse: s-maj=16.9km s-min=9.7km az=96.3

ISC 04 03:40:30.0±1.1,2698S×003×7121W×007,h15km±7km, h30km±.3km:pP-P,n109,σ1§05/95,mb4.7/32,MS4.3/3, 2C-9D,Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.35**	**105**	⇓*iP*	**Pg**	**03 40 37.8**	**+0.6**
CDCH				*i* S	**Sg**	**03 40 43.5**	**+1.5**
CRCH	**Chaqaral**	**0.83**	**40**	⇓*iP*	**Pg**	**03 40 45.9**	**-0.1**
CRCH				*i* S	**Sg**	**03 40 58.0**	**+1.0**
CRCH				AML	AML	03 41 08.3	
	comp=N,24μm,0.4s						
CRCH	**Chaqaral**	**0.83**	**40**	⇓*iP*	**Pg**	**03 40 45.9**	**-0.1**
CRCH				*i* S	**Sg**	**03 40 58.0**	**+1.0**
CPCH	**Copiapo**	**0.85**	**116**	⇓*iP*	**Pg**	**03 40 45.4**	**-1.1**
CPCH				*i* S	**Sg**	**03 40 57.1**	**-0.6**
CPCH				AML	AML	03 41 01.1	
	comp=E,70μm,0.2s						
CPCH	**Copiapo**	**0.85**	**116**	⇓*iP*	**Pg**	**03 40 45.4**	**-1.1**
CPCH				*i* S	**Sg**	**03 40 57.1**	**-0.6**
LCO	**Las Campanas**	**2.07**	**168**	⇑*iP*	**Pn**	**03 41 04.1**	**-0.1**
LCO				*i* S	**Sn**	**03 41 33.8**	**+4.0**
CPN1	**Cerro Paranal**	**2.46**	**17**	*eP*	**Pn**	**03 41 07.8**	**-1.8**
CPN1				AML	AML	03 41 52.6	
	comp=E,11μm,0.8s						
LSCH	**La Serena**	**2.91**	**181**	*eP*	**Pn**	**03 41 14.6**	**-1.2**
LSCH				AML	AML	03 42 08.7	
	comp=E,4μm,0.7s						
TLL	**Tololo Astrono**	**3.19**	**174**	*eP*	**Pn**	**03 41 19.8**	**+0.1**
TLL				*i* S	**Sn**	**03 41 58.6**	**+1.1**
TLL				AML	AML	03 42 17.4	
	comp=N,7μm,0.7s						
TLL	**Tololo Astrono**	**3.19**	**174**	*eP*	**Pn**	**03 41 19.8**	**+0.1**
TLL				*i* S	**Sn**	**03 41 58.6**	**+1.1**
CHNG	**Los Chungos**	**4.89**	**183**	*eP*	**Pn**	**03 41 40.8**	**-2.2**
CFAA	**Coronel Fontan**	**5.29**	**151**	Pn	**Pn**	**03 41 49.7**	**+1.2**
	comp=N,1.2nm,0.3s,baz=333,slow=13,SNR=60						
CFAA				Lg		03 43 05.0	
	comp=N,3.9nm,0.3s,baz=234,slow=18,SNR=8.5						
CFAA				LR	LR	03 43 52.2	
	comp=N,276nm,19.1s,baz=318,slow=38						
FCH	**Farellones**	**6.37**	**173**	*eP*	**Pn**	**03 42 03.5**	**+0.1**
CLCH	**Cerro Calan**	**6.42**	**175**	*eP*	**Pn**	**03 42 03.4**	**-0.6**
LPAZ	**La Paz**	**11.02**	**16**	Pn	**Pn**	**03 43 06.1**	**-1.0**
	comp=N,0.4nm,0.3s,baz=189,slow=8.0,SNR=29						
LPAZ	**La Paz**	**11.02**	**16**	*ePn*	**Pn**	**03 43 05.9**	**-1.3**
CPUP	**Villa Florida**	**12.43**	**90**	Pn	**Pn**	**03 43 30.4**	**+4.0**
	comp=N,0.7nm,0.3s,baz=246,slow=13,SNR=10.0						
CPUP				LR	LR	03 48 37.7	
	comp=N,987nm,21.6s,baz=262,slow=40						
PLCA	**Paso Flores**	**13.72**	**178**	*eP*	**Pn**	**03 43 50.7**	**+6.6**
PLCA				pmax	pmax		
	comp=Z,14nm,1.3s						
PLCA	**Paso Flores**	**13.72**	**178**	*ePn*	**Pn**	**03 43 50.7**	**+6.6**
	comp=Z,14nm,1.3s						
SIV	**San Ignacio**	**14.44**	**43**	Pn	**Pn**	**03 43 48.7**	**-5.1**
	comp=Z,1.1nm,0.3s,baz=261,slow=7.3,SNR=24						
SIV				Sn	**Sn**	**03 46 34.9**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=238,slow=23,SNR=3.5						
SAML	**Samuel**	**19.48**	**24**	⇑*iP*	**Pn**	**03 44 56.4**	**-1.2**
	comp=Z,39nm,0.9s						
BDFB	**Brasilia**	**24.33**	**67**	P	**P**	**03 45 45.5**	**-1.6**
	comp=Z,17nm,0.6s,mb4.7,baz=243,slow=10,SNR=32						
BAO	**Brasilia Array**	**24.36**	**67**	P	**P**	**03 45 45.0**	**-2.4**
USHA	**Ushuaia**	**27.90**	**177**	LR	LR	03 58 01.2	
	comp=Z,786nm,21.8s,MS4.3,baz=240,slow=38						
SDV	**Santo Domingo**	**35.66**	**1**	LR	LR	04 03 34.8	
	comp=Z,339nm,18.4s,MS4.1,baz=316,slow=39						
SJG	**San Juan**	**45.09**	**7**	*eP*	**P**	**03 48 43.4**	**-2.2**
SJG				pmax	pmax		
	comp=Z,19nm,1.1s						
SJG	**San Juan**	**45.09**	**7**	*eP*	**P**	**03 48 43.4**	**-2.1**
	comp=Z,19nm,1.1s,mb4.8						
VNA3	**Neumayer Olymp**	**55.62**	**160**	⇓*i*	**P**	**03 50 05.4**	**+0.1**
VNA3				*e*		03 50 06.2	
VNA3				*e*		03 50 13.5	
VNA3				*e*		03 50 16.1	
VNA3				*e*		03 50 19.8	
VNA3				*e*		03 50 25.2	
VNA3				*e*		03 50 49.8	
VNA1	**Neumayer--Stat**	**55.89**	**159**	⇓*i*	**P**	**03 50 07.7**	**+0.5**
VNA1				*e*		03 50 08.8	
VNA1				*e*		03 50 15.3	
VNA1				*e*		03 50 18.4	
VNA1				*e*		03 50 22.1	
VNA1				*e*		03 50 28.4	
VNA1				*e*		03 50 52.6	
VNA2	**Neumayer--Watz**	**56.24**	**159**	⇓*i*	**P**	**03 50 09.8**	**+0.1**
	baz=290,slow=9.3						
VNA2				*e*		03 50 10.8	
VNA2				*e*		03 50 17.4	
VNA2				*e*		03 50 21.3	
VNA2				*e*		03 50 25.6	
VNA2				*e*		03 50 30.5	
VNA2				*e*		03 50 35.6	
VNA2				*e*		03 50 54.2	
SNAA	**Sanae**	**57.85**	**160**	P	**P**	**03 50 20.5**	**-0.5**
	comp=Z,3.5nm,0.9s,mb4.4,baz=286,slow=4.8,SNR=17						
SNAA	**Sanae**	**57.85**	**160**	⇓*i*	**P**	**03 50 20.9**	**-0.2**
SNAA				*e*		03 50 22.2	
SNAA				*e*		03 50 28.6	
SNAA				*e*		03 50 32.4	
SNAA				*e*		03 50 35.7	
SNAA				*e*		03 50 39.2	
SNAA				*e*		03 50 45.3	
SNAA				*e*		03 51 05.0	
QSPA	**South Pole Qui**	**63.23**	**180**	*eP*	**P**	**03 50 58.3**	**+0.5**
	comp=Z,23nm,1.0s,mb5.3						
JCT	**Junction City**	**63.34**	**332**	*eP*	**P**	**03 50 59.6**	**+1.0**
JCT				pmax	pmax		
	comp=Z,5.0nm,0.3s,mb5.1						
JCT	**Junction City**	**63.34**	**332**	*eP*	**P**	**03 50 59.6**	**+1.0**
	comp=Z,4.9nm,0.3s,mb5.1						
SWET	**Sewanee**	**63.41**	**347**	*eP*	**P**	**03 50 58.1**	**-0.9**
SWET				epP	pP	03 51 06.8	+3.0
WVT	**Waverly**	**64.70**	**345**	*eP*	**P**	**03 51 05.7**	**-1.8**
WVT				*e**PP	pP	03 51 14.9	+2.7
WVT				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
WVT	**Waverly**	**64.70**	**345**	*eP*	**P**	**03 51 05.7**	**-1.8**
	comp=Z,7.4nm,0.9s,mb4.7						
WVT				epP	pP	03 51 14.9	+2.6
MIAR	**Mount Ida**	**64.76**	**340**	*eP*	**P**	**03 51 08.2**	**+0.4**
MIAR				*e**PP	pP	03 51 16.7	+4.1
MIAR				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
MIAR	**Mount Ida**	**64.76**	**340**	*eP*	**P**	**03 51 08.2**	**+0.3**
	comp=Z,12nm,1.1s,mb4.8						
MIAR				epP	pP	03 51 16.7	+4.1
SDMD	**Soldier's Deli**	**66.26**	**355**	*eP*	**P**	**03 51 17.4**	**-0.2**
WCI	**Wyandotte Cave**	**66.39**	**347**	*eP*	**P**	**03 51 17.0**	**-1.4**
WCI				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
WCI	**Wyandotte Cave**	**66.39**	**347**	*eP*	**P**	**03 51 17.0**	**-1.4**
	comp=Z,5.5nm,0.8s,mb4.6						
MNTX	**Cornudas Mount**	**66.84**	**329**	*eP*	**P**	**03 51 21.1**	**-0.1**
	comp=Z,2.9nm,0.8s,mb4.4						
MNTX				epP	pP	03 51 29.6	+3.6
FVM	**French Village**	**67.09**	**344**	*eP*	**P**	**03 51 22.4**	**-0.5**
FVM				*e**PP	pP	03 51 31.4	+3.8
FVM				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2						
FVM	**French Village**	**67.09**	**344**	*eP*	**P**	**03 51 22.4**	**-0.4**
	comp=Z,24nm,1.0s,mb5.2						
FVM				epP	pP	03 51 31.4	+3.7
CCM	**Cathedral Cave**	**67.37**	**343**	*eP*	**P**	**03 51 23.7**	**-0.9**
CCM				*e**PP	pP	03 51 33.0	+3.6
CCM				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
CCM	**Cathedral Cave**	**67.37**	**343**	*eP*	**P**	**03 51 23.7**	**-0.9**
	comp=Z,16nm,0.9s,mb5.0						
CCM				epP	pP	03 51 33.0	+3.6
AMTX	**Amarillo**	**67.95**	**333**	*eP*	**P**	**03 51 28.6**	**+0.3**
	comp=Z,5.9nm,0.9s,mb4.6						
TUC	**Tucson**	**69.98**	**325**	*eP*	**P**	**03 51 41.4**	**+0.5**
ANMO	**Albuquerque**	**70.05**	**330**	*eP*	pP	03 51 51.7	+5.6
ANMO				pmax	pmax		
	comp=Z,7.0nm,1.4s						
ANMO	**Albuquerque**	**70.05**	**330**	*eP*	pP	03 51 51.7	+5.6
	comp=Z,6.8nm,1.4s						
VNDA	**Vanda**	**71.10**	**191**	P	**P**	**03 51 48.8**	**+1.0**
	comp=Z,0.9nm,0.9s,mb3.7,baz=84,slow=1.8,SNR=3.3						
VNDA	**Vanda**	**71.10**	**191**	*eP*	**P**	**03 51 47.6**	**-0.2**
VNDA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
VNDA	**Vanda**	**71.10**	**191**	*eP*	**P**	**03 51 47.6**	**-0.2**
	comp=Z,2.0nm,1.0s,mb4.0						
DBIC	**Dimbokro**	**72.33**	**73**	P	**P**	**03 51 55.0**	**-0.2**
	comp=Z,7.3nm,0.8s,mb4.7,baz=212,slow=6.0,SNR=9.4						
DBIC				LR	LR	04 20 42.2	
	comp=Z,356nm,19.0s,MS4.7,baz=301,slow=33						
DBIC	**Dimbokro**	**72.33**	**73**	P	**P**	**03 51 55.0**	**-0.2**
DBIC				LR	LR	04 20 42.2	
PV01	**Paradox Valley**	**73.63**	**330**	*eP*	**P**	**03 52 05.0**	**+2.1**
SMCO	**Snowmass**	**73.81**	**332**	*eP*	**P**	**03 52 05.3**	**+1.4**
	comp=Z,9.8nm,1.0s,mb4.7						
PV10	**Paradox Valley**	**74.04**	**330**	*eP*	**P**	**03 52 04.6**	**-0.7**
MSU	**Marysvale**	**75.60**	**328**	*eP*	**P**	**03 52 14.7**	**+0.4**
DAU	**Daniels Canyon**	**76.69**	**330**	*eP*	**P**	**03 52 21.7**	**+1.2**
RSSD	**Black Hills**	**76.88**	**336**	*eP*	**P**	**03 52 22.3**	**+0.7**
RSSD				*e**PP	pP	03 52 30.9	+4.5
RSSD				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
RSSD	**Black Hills**	**76.88**	**336**	*eP*	**P**	**03 52 22.2**	**+0.7**
	comp=Z,5.0nm,0.9s,mb4.4						
RSSD				epP	pP	03 52 30.9	+4.5
DUG	**Dugway**	**77.23**	**329**	*eP*	**P**	**03 52 24.7**	**+1.2**
DUG				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
DUG	**Dugway**	**77.23**	**329**	*eP*	**P**	**03 52 24.7**	**+1.1**
	comp=Z,7.6nm,1.3s,mb4.5						
BW06	**Boulder Array**	**77.88**	**332**	*eP*	**P**	**03 52 27.8**	**+0.6**
	comp=Z,3.9nm,1.1s,mb4.2						
PDAR	**Pinedale Array**	**77.88**	**332**	P	**P**	**03 52 28.2**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=147,slow=8.5,SNR=4.5						
ELK	**Elko**	**78.81**	**327**	*eP*	**P**	**03 52 33.5**	**+1.2**
ELK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ELK	**Elko**	**78.81**	**327**	*eP*	**P**	**03 52 33.5**	**+1.2**
	comp=Z,4.4nm,1.0s,mb4.3						
LOHW	**Long Hollow**	**79.01**	**332**	*eP*	**P**	**03 52 34.5**	**+1.1**
	comp=Z,14nm,1.3s,mb4.7						
LOHW				epP	pP	03 52 43.7	+5.4
TPAW	**Teton Pass**	**79.05**	**332**	*eP*	**P**	**03 52 34.3**	**+0.7**
	comp=Z,10.0nm,1.1s,mb4.7						
MOOW	**Moose Ponds**	**79.18**	**332**	*eP*	**P**	**03 52 35.0**	**+0.7**
	comp=Z,2.6nm,1.1s,mb4.1						
MOOW				epP	pP	03 52 44.2	+5.0
FLWY	**Flagg Ranch**	**79.43**	**332**	*eP*	**P**	**03 52 37.3**	**+1.6**
	comp=Z,12nm,0.9s,mb4.8						
FLWY				epP	pP	03 52 46.5	+5.9
MAW	**Mawson**	**79.69**	**164**	P	**P**	**03 52 37.1**	**0.0**
	comp=Z,11nm,0.9s,mb4.8,baz=247,slow=7.5,SNR=9.3						
GCMT	**Greycliff**	**80.42**	**334**	*eP*	**P**	**03 52 41.5**	**+0.5**
GCMT				epP	pP	03 52 50.6	+4.8
TSUM	**Tsumeb**	**80.48**	**107**	*eP*	**P**	**03 52 42.1**	**+0.7**
	comp=Z,20nm,1.0s,mb5.0						
HLID	**Hailey**	**80.62**	**330**	*eP*	**P**	**03 52 43.5**	**+1.4**
	comp=Z,8.3nm,1.2s,mb4.5						
HLID				epP	pP	03 52 52.7	+5.7
MCMT	**McKenzie Canyo**	**80.94**	**331**	*eP*	**P**	**03 52 45.0**	**+1.2**
TORD	**Torodi Ar. Bea**	**81.17**	**70**	P	**P**	**03 52 45.1**	**0.0**
	comp=Z,38nm,0.8s,mb5.3,baz=263,slow=4.8,SNR=302						
EGMT	**Eagleton**	**82.30**	**335**	*eP*	**P**	**03 52 50.6**	**-0.4**
	comp=Z,8.5nm,1.3s,mb4.5						
EGMT				epP	pP	03 53 00.2	+4.4
FFC	**Flin Flon**	**85.57**	**343**	*eP*	**P**	**03 53 07.5**	**-0.2**
FFC				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.8						
FFC	**Flin Flon**	**85.57**	**343**	*eP*	**P**	**03 53 07.5**	**-0.3**
	comp=Z,5.7nm,1.0s,mb4.8						
CASY	**Casey**	**87.03**	**181**	*eP*	**P**	**03 53 14.2**	**-0.7**
	comp=Z,7.5nm,0.9s,mb4.9						
FCC	**Fort Churchill**	**87.52**	**348**	*eP*	**P**	**03 53 16.2**	**-1.1**
FCC				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
FCC	**Fort Churchill**	**87.52**	**348**	*eP*	**P**	**03 53 16.1**	**-1.1**
	comp=Z,6.5nm,1.0s,mb4.8						
EDM	**Edmonton**	**87.86**	**336**	*eP*	**P**	**03 53 17.4**	**-1.5**
EDM				*e**PP	pP	03 53 27.0	+3.2
YKA	**Yellowknife Ar**	**95.66**	**341**	P	**P**	**03 53 53.3**	**-1.7**
	comp=Z,0.5nm,0.9s,mb4.0,baz=138,slow=4.7,SNR=9.5						
YKA				pP	pP	03 54 02.7	+2.7
	comp=Z,1.3nm,0.9s,baz=137,slow=4.7,SNR=15						
YKA	**Yellowknife Ar**	**95.66**	**341**	P	**P**	**03 53 53.4**	**-1.7**
YKA				pP	pP	03 54 02.7	+2.7
YKW3	**Yellowknife Ar**	**95.72**	**341**	*eP*	**P**	**03 53 54.4**	**-1.0**
AKASG	**Malin Array Be**	**116.81**	**44**	PKP	PKPdf	03 59 12.2	-1.7
	comp=Z,0.2nm,0.3s,baz=268,slow=2.6,SNR=6.2						
CTAO	**Charters Tower**	**120.77**	**222**	*e*PKIKP	PKPdf	03 59 22.2	+0.7
ASAR	**Alice Springs**	**124.11**	**208**	PKP	PKPdf	03 59 27.6	-0.3
	comp=Z,0.8nm,0.9s,baz=90,slow=2.5,SNR=4.8						
WRA	**Warramunga Arr**	**127.19**	**211**	PKP	PKPdf	03 59 33.6	-0.2
	comp=Z,0.9nm,0.6s,baz=157,slow=1.8,SNR=10						
WRAB	**Tennant Creek**	**127.19**	**211**	*e*PKIKP	PKPdf	03 59 35.5	+1.7
ZRNK	**Zerenda**	**140.74**	**38**	*e*PKIKP	PKPdf	03 59 58.8	-0.4
NVS	**Novosibirsk**	**146.50**	**27**	*e*PKIKP	PKPdf	04 00 08.3	-0.9
NVS				pmax	pmax		
	comp=Z,16nm,0.9s						
KURK	**Kurchatov**	**147.02**	**36**	*e*PKP2	PKPab	04 00 10.3	-3.4
ZAL	**Zalesovo**	**147.78**	**27**	PKPbc	PKPbc	04 00 11.4	-2.8
AAK	**Ala-Archa**	**148.06**	**52**	*e*PKIKP	PKPdf	04 00 11.9	0.0
AAK				*e*		04 00 15.1	
FRU	**Bishkek**	**148.08**	**51**	PKP2	PKPab	04 00 15.0	-2.9
BOD	**Bodaibo**	**148.96**	**355**	*e*PKP2	PKPab	04 00 15.3	-6.1
BOD				pmax	pmax		
	comp=Z,6.0nm,1.1s						
HYB	**Hyderabad**	**150.50**	**103**	*i* PKP	PKPbc	04 00 22.0	+0.9
MKAR	**Makanchi Array**	**151.24**	**40**	PKP	PKPdf	04 00 16.8	-0.2
	comp=Z,2.6nm,1.0s,baz=354,slow=1.2,SNR=6.1						
MKAR				PKPbc	PKPbc	04 00 22.5	-0.4
	comp=Z,19nm,0.8s,baz=318,slow=2.2,SNR=99						
MKAR				pPKPbc	pPKPbc	04 00 31.1	+3.3
	comp=Z,9.3nm,0.8s,baz=305,slow=2.5,SNR=11						
KLR	**Kul'dur**	**151.58**	**328**	*e*PKIKP	PKiKP	04 00 27.8	+3.7
MJAR	**Matsushiro Arr**	**153.32**	**298**	pPKPbc	pPKPbc	04 00 37.0	+4.4
	comp=Z,1.5nm,0.9s,baz=64,slow=3.1,SNR=3.4						
ZAK	**Zakamensk**	**156.26**	**9**	*e*	PKPdf	04 00 20.0	-4.1
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.8s						
SONM	**Songino Array**	**159.10**	**5**	PKP	PKPdf	04 00 27.8	+0.2
	comp=Z,1.3nm,0.9s,baz=349,slow=4.5,SNR=7.8						
SONM				pPKP	pPKPdf	04 00 36.6	+4.0
	comp=Z,2.0nm,0.9s,baz=34,slow=2.8,SNR=8.1						
SONM				PKPab	PKPab	04 01 04.4	+0.1
	comp=Z,0.6nm,0.8s,baz=339,slow=3.2,SNR=3.5						
ULN	**Ulaanbaatar**	**159.11**	**3**	*e*PKIKP	PKPdf	04 00 28.1	+0.5
ULN				*e*		04 01 03.8	

IDC 04 03:42:25.1±1.2,1993S×17416W,h0km,mb3.7/3, mb1 4.0/4,mb1mx3.8/14,mbtmp3.8/4,ML2.0/1,Error ellipse: s-maj=48.2km s-min=28.3km az=140.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.41**	**21**	Pn	Pn	03 43 58.8	-2.0
	1.8nm,0.3s,baz=129,slow=6.5,SNR=3.5						
RAR	**Rarotonga**	**13.53**	**98**	Pn	Pn	03 45 27.6	-11
	1.3nm,0.3s,baz=279,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**48.16**	**256**	P	P	03 51 07.3	+0.3
	0.5nm,0.5s,baz=101,slow=7.6,SNR=7.8						
WRA	**Warramunga Arr**	**48.25**	**261**	P	P	03 51 07.6	-0.1
	2.4nm,0.8s,baz=97,slow=8.6,SNR=10						
ILAR	**Eielson Array**	**87.01**	**11**	P	P	03 55 12.5	+0.2
	0.4nm,0.9s,baz=221,slow=5.4,SNR=4.6						
AKASG	**Malin Array Be**	**144.16**	**334**	PKP	PKPdf	04 02 01.2	-1.6
	0.3nm,0.3s,baz=38,slow=3.8,SNR=5.2						
BRTR	**Keskin Array B**	**149.05**	**316**	PKPbc	PKPbc	04 02 16.1	+0.9
	0.9nm,1.0s,baz=90,slow=3.7,SNR=3.8						
GERES	**GERESS Array B**	**150.47**	**349**	PKPbc	PKPbc	04 02 19.1	+0.4
	0.7nm,0.8s,baz=14,slow=1.7,SNR=6.0						
TORD	**Torodi Ar. Bea**	**172.17**	**149**	PKPab	PKPab	04 03 59.3	-0.1
	0.9nm,1.1s,baz=190,slow=4.4,SNR=1.8						

*IDC **04** 03:45:21.0±2.4,3922S×17850E,h0km,mb3.5/2, mb1 3.8/3,mb1mx3.7/10,mbtmp3.6/3,ML3.2/1,Error ellipse: s-maj=46.2km s-min=32.3km az=59.0*
*ISCJB **04** 03:45:22.7±1.2,3918S±005×1787E±0.1,h34km±13km, mb3.4/2,Error ellipse: s-maj=13.6km s-min=6.7km az=36.9*
*WEL **04** 03:45:23.6±0.4,3918S×17875E,h33km,ML3.9/27,Error ellipse: s-maj=3.7km s-min=2.0km az=90.0*
*NEIC **04** 03:45:25.1,3904S×17867E,h33km,ML4.0(WEL),After WEL.*

ISC 04 03:45:23.4±2.0,3917S±005×1787E±01,h33km±22km,n31, σ0§79/41,mb3.4/2,4C,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNZ	**Kokohu**	**0.82**	**280**	PN	**Pn**	**03 45 38.5**	**-0.1**
KNZ				SN	**Sn**	**03 45 49.9**	**+0.2**
KNZ	**Kokohu**	**0.82**	**280**	P	**Pn**	**03 45 38.5**	**-0.2**
KNZ				S	**Sn**	**03 45 49.9**	**+0.3**
PUZ	**Puketiti**	**1.15**	**342**	⇑PN	**Pn**	**03 45 42.8**	**-0.4**
PUZ				SN	**Sn**	**03 45 56.4**	**-1.4**
PUZ	**Puketiti**	**1.15**	**342**	⇑P	**Pn**	**03 45 42.8**	**-0.4**
PUZ				S	**Sn**	**03 45 55.1**	**-2.7**
MWZ	**Matawai**	**1.24**	**312**	⇑PN	**Pn**	**03 45 44.7**	**+0.2**
MWZ				SN	**Sn**	**03 45 59.5**	**-0.6**
MWZ	**Matawai**	**1.24**	**312**	⇑P	**Pn**	**03 45 43.7**	**-0.8**
MWZ				S	**Sn**	**03 45 58.5**	**-1.6**
URZ	**Urewera**	**1.55**	**305**	Pn	**Pn**	**03 45 49.1**	**+0.5**
	190nm,0.3s,baz=203,slow=3.5,SNR=251						
URZ				Sn	**Sn**	**03 46 07.9**	**+0.3**
	32nm,0.3s,baz=17,slow=22,SNR=16						
URZ	**Urewera**	**1.55**	**305**	PN	**Pn**	**03 45 49.0**	**+0.4**
URZ				SN	**Sn**	**03 46 08.2**	**+0.6**
URZ	**Urewera**	**1.55**	**305**	P	**Pn**	**03 45 49.0**	**+0.4**
MXZ	**Matakaoa Point**	**1.63**	**349**	PN	**Pn**	**03 45 50.0**	**+0.2**
MXZ				SN	**Sn**	**03 46 10.0**	**+0.2**
MXZ	**Matakaoa Point**	**1.63**	**349**	P	**Pn**	**03 45 49.0**	**-0.8**
PXZ	**Pawanui**	**1.67**	**238**	PN	**Pn**	**03 45 49.9**	**-0.4**
PXZ				SN	**Sn**	**03 46 10.4**	**-0.2**
BKZ	**Black Stump Fm**	**1.72**	**269**	PN	**Pn**	**03 45 51.6**	**+0.5**
BKZ				SN	**Sn**	**03 46 11.3**	**-0.7**
BKZ	**Black Stump Fm**	**1.72**	**269**	P	**Pn**	**03 45 51.6**	**+0.5**
EDRZ	**Edgecumbe**	**1.87**	**304**	P	**Pn**	**03 45 53.3**	**+0.2**
TAZ	**Tarawera**	**1.96**	**298**	P	**Pn**	**03 45 55.6**	**+1.3**
WIZ	**White Island**	**2.03**	**323**	PN	**Pn**	**03 45 55.5**	**+0.2**
RITZ	**Rihia Road**	**2.23**	**274**	P	**Pn**	**03 45 58.4**	**+0.4**
TSZ	**Takapari Road**	**2.30**	**246**	P	**Pn**	**03 45 58.6**	**-0.4**
MOVZ	**Moawhango**	**2.31**	**263**	P	**Pn**	**03 45 59.1**	**0.0**
RATZ	**Rangitukua**	**2.31**	**277**	P	**Pn**	**03 45 59.2**	**+0.1**
KATZ	**Kakaramea**	**2.35**	**274**	P	**Pn**	**03 45 59.9**	**+0.1**
WNVZ	**Wahianoa**	**2.42**	**265**	*e*PN	**Pn**	**03 46 01.5**	**+0.8**
BFZ	**Birch Farm**	**2.42**	**231**	PN	**Pn**	**03 45 59.3**	**-1.4**
BFZ	**Birch Farm**	**2.42**	**231**	P	**Pn**	**03 45 59.1**	**-1.6**
WTVZ	**West Tongariro**	**2.43**	**270**	PN	**Pn**	**03 46 01.2**	**+0.5**
DRZ	**Dome Shelter**	**2.45**	**267**	*e*PN	**Pn**	**03 46 01.7**	**+0.7**
RPZ	**Rata Peaks**	**7.33**	**229**	Pn	**Pn**	**03 47 06.4**	**-1.7**
	0.4nm,0.3s,baz=73,slow=19,SNR=2.8						
ASAR	**Alice Springs**	**40.82**	**279**	P	**P**	**03 53 03.2**	**+1.5**
	0.8nm,0.5s,mb3.6,baz=125,slow=8.6,SNR=8.5						
WRA	**Warramunga Arr**	**42.60**	**284**	P	**P**	**03 53 17.4**	**+1.0**
	0.3nm,0.7s,mb3.1,baz=123,slow=7.7,SNR=3.2						
ARCES	**ARCESS Array B**	**146.40**	**343**	PKPbc	PKPbc	04 05 01.8	+0.8
	0.5nm,0.5s,baz=62,slow=3.4,SNR=7.2						

IDC 04 03:45:33.4±7.5,2053S×6912W,h80km±52km,mb3.3/2, mb1 3.7/4,mb1mx3.4/14,mbtmp3.8/4,ML4.0/2,Error ellipse: s-maj=68.0km s-min=35.7km az=56.0,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.32**	**13**	P	Pn	03 46 38.0	+1.4
	3.8nm,0.3s,baz=186,slow=9.6,SNR=41						
LPAZ				S	Sn	03 47 27.5	+1.6
	baz=115,slow=17,SNR=1.3						
SIV	**San Ignacio**	**8.88**	**61**	P	Pn	03 47 38.2	-0.7
	1.7nm,0.3s,baz=252,slow=12,SNR=8.0						
TORD	**Torodi Ar. Bea**	**77.22**	**71**	P	P	03 57 19.7	+1.0
	0.3nm,0.6s,baz=261,slow=5.6,SNR=4.8						
YKA	**Yellowknife Ar**	**90.21**	**341**	P	P	03 58 24.0	-0.9
	0.3nm,0.7

0.3nm,0.9s,mb3.7,baz=238,slow=4.5,SNR=4.0

IDC ***04*** *04:26:31.4±0.5, 1984S×17396W, h0km, mb4.8/14, mb1 4.9/17, mb1mx4.8/20, mbtmp4.8/17, ML4.4/2, MS4.4/16, Ms1 4.4/16, ms1mx4.1/38, Error ellipse: s-maj=21.0km s-min=11.3km az=114.0*

BJI ***04*** *04:26:33.0, 1948S×17358W, h11km, mB5.4, mb5.2, Ms5.3, Msz4.9*

ISCJB ***04*** *04:26:34.8±0.2, 1997S±006×17390W±006, h27km, mb5.0/56, MS4.7/24, Error ellipse: s-maj=9.3km s-min=6.4km az=101.7*

NEIC ***04*** *04:26:36.5±0.2, 1993S×17393W, mb5.0/28, Error ellipse: s-maj=9.9km s-min=5.4km az=143.0*

SZGRF ***04*** *04:26:36.9, 2014S×173.10W, h33km, Tonga Islands*

MOS ***04*** *04:26:38.2±3.1, 1974S×17409W, h33km, mb5.3/23, Error ellipse: s-maj=11.1km s-min=9.3km az=58.3*

ORF ***04*** *04:26:56.3, 1273S×17707W, h30km, mb5.9*

ISC 04 04:26:36.8±0.2, 1994S±005×17386W±006, h29km, h29km±.9km:pP-P,n330,σ1s04/125,mb5.0/56,MS4.7/24, 40C-16D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
AFI	**Afiamalu**	**6.32**	**19**	Pn		**Pn**	**04 28 03.8**	**-4.2**
	13nm,0.3s,baz=32,slow=3.7,SNR=9.8							
AFI				Sn		**Sn**	**04 29 13.2**	**-5.9**
	5.8nm,0.3s,baz=102,slow=20,SNR=2.0							
AFI				LR		LR	04 29 40.5	
	comp=Z,492nm,21.8s,baz=193,slow=30							
AFI	**Afiamalu**	**6.32**	**19**	*e*P		**Pn**	**04 28 02.3**	**-5.7**
AFI				pmax		pmax		
	comp=Z,112nm,0.6s							
AFI	**Afiamalu**	**6.32**	**19**	*e*Pn		**Pn**	**04 28 02.3**	**-5.7**
	comp=Z,112nm,0.6s							
RAR	**Rarotonga**	**13.26**	**98**	Pn		**Pn**	**04 29 31.9**	**-11**
	comp=Z,4.2nm,0.3s,baz=249,slow=6.6,SNR=25							
DZM	**Mont Dzumac**	**18.51**	**260**	P		**Pn**	**04 30 47.4**	**-3.7**
	comp=Z,0.3nm,0.3s,baz=58,slow=1.9,SNR=2.6							
DZM				LR		LR	04 35 09.7	
	comp=Z,765nm,19.4s,baz=196,slow=28							
URZ	**Urewera**	**19.87**	**201**	P		**Pn**	**04 31 03.6**	**-3.7**
	comp=Z,3.9nm,0.3s,baz=356,slow=8.0,SNR=19							
URZ				S		**Sn**	**04 34 50.9**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=15,slow=21,SNR=4.8							
TBI	**Tubuai**	**22.92**	**103**	*e*LQ			04 35 42.4	
	comp=Z,2μm,27.0s							
TBI				*e*LR		LR	04 36 43.5	
	comp=Z,3μm,30.2s,baz=277							
PPT	**Papeete**	**23.11**	**88**	*e*LR		LR	04 36 58.5	
	comp=Z,4μm,26.2s,baz=259							
PPT	**Papeete**	**23.11**	**88**	LR		LR	04 39 42.3	
	comp=Z,897nm,18.8s,MS4.2,baz=222,slow=34							
RPZ	**Rata Peaks**	**26.86**	**205**	P		**P**	**04 32 13.4**	**-1.5**
	comp=Z,13nm,0.6s,mb4.6,baz=288,slow=6.6,SNR=5.4							
HNR	**Honiara**	**27.36**	**289**	LR		LR	04 41 23.0	
	comp=Z,596nm,19.3s,MS4.2,baz=178,slow=33							
ARMA	**Armidale**	**32.81**	**245**	*e*P		**P**	**04 33 08.4**	**+0.8**
TAOE	**Nuku Hiva Isla**	**34.39**	**76**	*e*LR		LR	04 42 07.2	
	comp=Z,5μm,26.6s,baz=255							
RKT	**Rikitea**	**36.24**	**102**	*e*LR		LR	04 42 52.0	
	comp=Z,2μm,29.5s,baz=271							
CTA	**Charters Tower**	**37.42**	**263**	*e*P		**P**	**04 33 46.9**	**-0.3**
	comp=Z,9.7nm,0.7s,mb4.7							
CTA	**Charters Tower**	**37.42**	**263**	*e*P		**P**	**04 33 46.9**	**-0.3**
CTA				pmax		pmax		
	comp=Z,10.0nm,0.7s							
CTAO	**Charters Tower**	**37.42**	**263**	P		**P**	**04 33 46.5**	**-0.7**
CTAO				pmax		pmax		
	comp=Z,18nm,0.9s,mb4.9							
CTAO	**Charters Tower**	**37.42**	**263**	P		**P**	**04 33 46.5**	**-0.7**
	comp=Z,18nm,0.9s,mb4.9							
PMG	**Port Moresby**	**39.04**	**280**	P		**P**	**04 33 59.8**	**-1.2**
	comp=Z,14nm,0.8s,mb4.8,baz=121,slow=7.9,SNR=8.4							
PMG				LR		LR	04 48 09.7	
	comp=Z,715nm,19.1s,MS4.5,baz=273,slow=33							
PMG	**Port Moresby**	**39.04**	**280**	*e*P		**P**	**04 34 01.3**	**+0.3**
PMG				pmax		pmax		
	comp=Z,23nm,0.9s							
PMG	**Port Moresby**	**39.04**	**280**	*e*P		**P**	**04 34 01.2**	**+0.3**
	comp=Z,23nm,0.9s,mb4.9							
STKA	**Stephens Creek**	**41.53**	**244**	*e*P		**P**	**04 34 19.0**	**-2.6**
	comp=Z,13nm,1.0s,mb4.5							
STKA	**Stephens Creek**	**41.53**	**244**	P		**P**	**04 34 17.0**	**-4.6**
	comp=Z,13nm,0.8s,mb4.6,baz=92,slow=9.1,SNR=10							
STKA				PcP		PcP	04 36 18.2	-0.4
	comp=Z,7.4nm,0.9s,baz=23,slow=3.9,SNR=4.0							
STKA				LR		LR	04 49 46.8	
	comp=Z,1μm,18.4s,MS4.8,baz=32,slow=34							
ASAR	**Alice Springs**	**48.43**	**256**	P		**P**	**04 35 14.4**	**-1.9**
	comp=Z,19nm,0.8s,mb5.2,baz=100,slow=7.8,SNR=49							
ASAR				PcP		PcP	04 36 42.9	+0.5
	comp=Z,5.4nm,0.7s,baz=104,slow=3.7,SNR=7.3							
WB2	**Warramunga Arr**	**48.52**	**261**	*e*P		**P**	**04 35 14.6**	**-2.5**
WRAB	**Tennant Creek**	**48.52**	**261**	P		**P**	**04 35 16.3**	**-0.8**
	comp=Z,131nm,0.9s,mb6.0,SNR=6.8							
WRAB	**Tennant Creek**	**48.52**	**261**	*e*P		**P**	**04 35 16.4**	**-0.7**
	comp=Z,20nm,0.7s,mb5.3							
WRAB				*e*pP		pP	04 35 26.7	+0.8
WRA	**Warramunga Arr**	**48.53**	**261**	P		**P**	**04 35 14.0**	**-3.2**
	comp=Z,5.8nm,0.6s,mb4.8,baz=99,slow=7.8,SNR=44							
WRA				PcP		PcP	04 36 41.6	-1.1
	comp=Z,4.8nm,0.7s,baz=91,slow=3.9,SNR=8.1							
FORT	**Forrest**	**53.08**	**246**	*e*P		**P**	**04 35 50.2**	**-1.2**
	comp=Z,18nm,0.5s,mb5.2							
SBA	**Scott Base**	**58.72**	**185**	P		**P**	**04 36 33.6**	**+1.8**
VNDA	**Vanda**	**58.84**	**186**	P		**P**	**04 36 33.1**	**+0.4**
	comp=Z,9.5nm,0.9s,mb4.8,baz=2.3,slow=6.6,SNR=36							
RPN	**Rapa Nui**	**59.05**	**110**	LR		LR	04 54 51.0	
	comp=Z,531nm,19.5s,MS4.7,baz=166,slow=29							
KLBR	**Kellerberrin**	**61.81**	**244**	*e*P		**P**	**04 36 52.9**	**0.0**
	comp=Z,32nm,0.8s,mb5.5							
NWAO	**Narrogin (SRO)**	**62.09**	**243**	P		**P**	**04 36 55.2**	**+0.4**
	comp=Z,21nm,1.1s,mb5.2,baz=125,slow=12,SNR=5.7							
NWAO				LR		LR	05 02 37.0	
	comp=Z,693nm,18.3s,MS4.8,baz=158,slow=35							
MUN	**Mundaring**	**63.06**	**244**	*e*P		**P**	**04 37 02.4**	**+1.1**
CASY	**Casey**	**66.13**	**205**	*e*P		**P**	**04 37 21.6**	**+0.2**
QSPA	**South Pole Qui**	**70.13**	**180**	*e*P		**P**	**04 37 47.1**	**+0.6**
	comp=Z,12nm,1.0s,mb4.8							
MJAR	**Matsushiro Arr**	**72.14**	**321**	P		**P**	**04 37 57.6**	**-1.0**
	comp=Z,12nm,0.9s,mb4.8,baz=159,slow=6.1,SNR=27							
MAJO	**Matsushiro**	**72.14**	**321**	P		**P**	**04 37 58.4**	**-0.2**
MAJO				pmax		pmax		
	comp=Z,17nm,1.0s,mb4.9							
MAJO	**Matsushiro**	**72.14**	**321**	P		**P**	**04 37 58.4**	**-0.2**
	comp=Z,16nm,1.0s,mb4.9							
MAT	**Matsushiro**	**72.14**	**321**	P		**P**	**04 37 58.9**	**+0.3**
MAT	**Matsushiro**	**72.14**	**321**	*e*P		**P**	**04 37 59.0**	**+0.4**
MAT				pmax		pmax		
	comp=Z,13nm,1.0s,mb4.8							
MAT	**Matsushiro**	**72.14**	**321**	*e*P		**P**	**04 37 59.0**	**+0.4**
	comp=Z,13nm,1.0s,mb4.8							
MIR	**Mirnyy**	**73.13**	**205**	*d* iP		**P**	**04 38 04.5**	**0.0**
MIR				*i*		pP	04 38 15.0	+1.3
MIR				pmax		pmax		
	comp=Z,190nm,1.0s,mb6.0							
KKM	**Kota Kinabalu**	**73.40**	**283**	*e*P		**P**	**04 38 06.0**	**-0.2**
ASAJ	**Asahikawa**	**75.17**	**329**	LR		LR	05 09 40.9	
	comp=Z,241nm,18.1s,MS4.5,baz=2.9,slow=34							
LPIG	**La Paz**	**75.80**	**58**	LR		LR	05 02 49.0	
	comp=Z,373nm,21.4s,MS4.7,baz=11,slow=29							
ISA	**Isabella**	**76.20**	**44**	P		**P**	**04 38 22.2**	**-0.1**
ISA				pmax		pmax		
	comp=Z,23nm,1.5s,mb4.9							
ISA	**Isabella**	**76.20**	**44**	P		**P**	**04 38 22.2**	**-0.2**
	comp=Z,23nm,1.5s,mb4.9							
CMB	**Columbia Colle**	**76.46**	**41**	*e*P		**P**	**04 38 23.7**	**-0.1**
CMB				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.4							
CMB	**Columbia Colle**	**76.46**	**41**	*e*P		**P**	**04 38 23.7**	**-0.1**
	comp=Z,4.5nm,1.0s,mb4.3							
PET	**Petropavlovsk**	**76.47**	**343**	*d* iP		**P**	**04 38 21.7**	**-2.1**
PET				pmax		pmax		
	comp=Z,53nm,1.3s,mb5.3							
PET	**Petropavlovsk**	**76.47**	**343**	*i* Pr			04 38 21.8	
NACB	**Ninganchiao**	**76.63**	**302**	*e*P		**P**	**04 38 25.0**	**+0.3**
YHNB	**Yeheng**	**77.04**	**302**	*e*P		**P**	**04 38 27.4**	**+0.4**
GSC	**Goldstone**	**77.08**	**45**	P		**P**	**04 38 27.8**	**+0.5**
GLA	**Glamis**	**77.14**	**48**	P		**P**	**04 38 28.5**	**+0.9**
KSM	**Kuching**	**77.20**	**276**	*e*P		**P**	**04 38 29.3**	**+1.3**
YSS	**Yuzh-Sakhalins**	**77.21**	**331**	⇑*e*P		**P**	**04 38 28.0**	**0.0**
YSS				*e*			04 38 33.0	
YSS				*e*		pP	04 38 37.4	+0.2
YSS				pmax		pmax		
	comp=Z,30nm,1.0s,mb5.2							
YSS	**Yuzh-Sakhalins**	**77.21**	**331**	P		**P**	**04 38 29.0**	**+1.1**
	comp=Z,22nm,0.9s,mb5.1							
NVAR	**Mina Aray Bea**	**77.99**	**41**	P		**P**	**04 38 32.4**	**0.0**
	comp=Z,5.4nm,0.8s,mb4.5,baz=215,slow=7.3,SNR=18							
PAHR	**Pah Rah Range**	**78.11**	**40**	P		**P**	**04 38 33.4**	**+0.3**
	comp=Z,21nm,1.5s,mb4.8							
TPNV	**Topopah Spring**	**78.41**	**44**	P		**P**	**04 38 35.5**	**+0.8**
TPNV				pmax		pmax		
	comp=Z,49nm,1.9s,mb5.1							
TPNV	**Topopah Spring**	**78.41**	**44**	P		**P**	**04 38 35.5**	**+0.8**
	comp=Z,49nm,1.9s,mb5.1							
TPH	**Tonopah**	**78.45**	**42**	*e*P		**P**	**04 38 35.0**	**+0.1**
TPH				pmax		pmax		
	comp=Z,9.0nm,0.8s,mb4.8							
TPH	**Tonopah**	**78.45**	**42**	*e*P		**P**	**04 38 35.0**	**+0.1**
	comp=Z,8.8nm,0.8s,mb4.7							
NEN	**Nelson**	**78.59**	**45**	P		**P**	**04 38 36.1**	**+0.4**
SHPR	**Sheep Range**	**78.87**	**45**	P		**P**	**04 38 37.8**	**+0.6**
MOD	**Modoc**	**78.95**	**38**	*e*P		**P**	**04 38 37.8**	**+0.1**
	comp=Z,4.7nm,0.9s,mb4.4							
KS15	**Wonju Array Si**	**79.12**	**316**	P		**P**	**04 38 40.0**	**+1.4**
KDAK	**Kodiak Island**	**79.43**	**11**	LR		LR	05 08 39.0	
	comp=Z,288nm,18.8s,MS4.6,baz=105,slow=32							
TUC	**Tucson**	**79.61**	**50**	P		**P**	**04 38 41.9**	**+0.7**
WVOR	**Wild Horse Val**	**80.25**	**38**	*e*P		**P**	**04 38 44.4**	**-0.3**
WVOR				pmax		pmax		
	comp=Z,8.0nm,1.0s,mb4.6							
WVOR	**Wild Horse Val**	**80.25**	**38**	*e*P		**P**	**04 38 44.4**	**-0.4**
	comp=Z,7.9nm,1.0s,mb4.6							
SSE	**Sheshan**	**80.36**	**308**	P		**P**	**04 38 46.5**	**+1.2**
SSE				AMB		AMB		
	comp=Z,32nm,0.6s,mb5.4							
SSE				AMB		AMB		
	comp=Z,73nm,4.0s							
ARUT	**Antelope Range**	**80.73**	**44**	*e*P		**P**	**04 38 47.3**	**0.0**
HABR	**Khabarovsk**	**81.94**	**328**	*e*P		**P**	**04 38 52.8**	**-0.9**
HABR				*e*S		S	04 49 07.6	+2.0
BBB	**Bella Bella**	**82.12**	**26**	LR		LR	05 08 53.5	
	comp=Z,228nm,18.7s,MS4.6,baz=171,slow=31							
MDJ	**Mudanjiang**	**82.35**	**323**	P		**P**	**04 38 57.3**	**+1.4**
MDJ				AP		pP	04 39 03.8	-1.4
MDJ				XP		sP	04 39 06.3	-2.3
MDJ				PP		PP	04 42 05.6	+0.8
MDJ				S		S	04 49 14.4	+4.5
MDJ				XS		sS	04 49 23.7	-1.6
MDJ				SS		SS	04 54 33.9	+3.3
MDJ				AMB		AMB		
	comp=Z,17nm,1.1s,mb4.9							
MDJ				AMB		AMB		
	comp=Z,92nm,5.6s							
MDJ				LR		LR		
	comp=N,69nm,23.7s							
MDJ				LR		LR		
	comp=E,124nm,28.9s							
MDJ				LR		LR		
	comp=Z,178nm,23.7s,MS4.4							
NJ2	**Nanjing**	**82.56**	**308**	*e*P		**P**	**04 38 58.5**	**+1.5**
NJ2				AP		pP	04 39 07.2	+0.9
NJ2				XP		sP	04 39 09.2	-0.5
NJ2				PP		PP	04 42 08.8	+2.3
NJ2				S		S	04 49 11.0	-1.0
NJ2				XS		sS	04 49 24.0	-3.4
NJ2				AMB		AMB		
	comp=Z,20nm,0.8s,mb5.2							
NJ2				AMB		AMB		
	comp=Z,170nm,8.2s							
NJ2				LR		LR		
	comp=N,800nm,31.0s,MS5.0							
NJ2				LR		LR		
	comp=E,690nm,28.0s,MS5.0							
NJ2				LR		LR		
	comp=Z,1μm,35.3s							
TMUT	**Trail Mountain**	**83.02**	**44**	*e*P		**P**	**04 39 00.4**	**+1.1**
LAZ	**Ladron**	**83.29**	**50**	*e*P		**P**	**04 39 01.3**	**+0.5**
LAZ				*e*pP		pP	04 39 10.9	+0.8
SRU	**San Rafael**	**83.37**	**44**	*e*P		**P**	**04 39 01.0**	**-0.1**
SRU				pmax		pmax		
	comp=Z,18nm,1.2s,mb5.0							
SRU	**San Rafael**	**83.37**	**44**	*e*P		**P**	**04 39 01.0**	**-0.1**
	comp=Z,18nm,1.2s,mb5.0							
MAW	**Mawson**	**83.38**	**199**	*e*P		**P**	**04 39 01.4**	**+0.2**
	comp=Z,13nm,0.9s,mb5.0							
MAW	**Mawson**	**83.38**	**199**	P		**P**	**04 39 00.8**	**-0.4**
	comp=Z,20nm,1.0s,mb5.1,baz=106,slow=5.1,SNR=13							
MAW	**Mawson**	**83.38**	**199**	*e*P		**P**	**04 39 01.4**	**+0.2**
MAW				pmax		pmax		
	comp=Z,13nm,0.9s							
LTX	**Lajitas**	**83.50**	**56**	*e*P		**P**	**04 39 01.9**	**+0.1**
LTX				*e**PP		pP	04 39 09.6	-1.6
LTX				pmax		pmax		
	comp=Z,20nm,1.4s,mb5.0							
LTX	**Lajitas**	**83.50**	**56**	*e*P		**P**	**04 39 01.9**	**+0.1**
	comp=Z,20nm,1.4s,mb5.0							
LTX				*e*pP		pP	04 39 09.6	-1.6
DAU	**Daniels Canyon**	**83.59**	**43**	*e*P		**P**	**04 39 02.9**	**+0.6**
DAU				*e**PP		pP	04 39 10.3	-1.3
LPM	**Los Pinos Moun**	**83.61**	**50**	*e*P		**P**	**04 39 02.3**	**-0.1**
LPM				*e*pP		pP	04 39 12.8	+1.0
TTA	**Tatalina**	**83.78**	**8**	*e*P		**P**	**04 39 03.2**	**-0.1**
TTA				pmax		pmax		
	comp=Z,49nm,1.6s,mb5.4							
TTA	**Tatalina**	**83.78**	**8**	*e*P		**P**	**04 39 03.1**	**-0.1**
	comp=Z,49nm,1.6s,mb5.4							
PV10	**Paradox Valley**	**83.97**	**46**	*e*P		**P**	**04 39 03.8**	**-0.5**
ANMO	**Albuquerque**	**84.05**	**50**	*e*P		**P**	**04 39 05.4**	**+0.8**
KLR	**Kul'dur**	**84.08**	**328**	*e*P		**P**	**04 39 00.0**	**-4.8**
PV01	**Paradox Valley**	**84.16**	**46**	*e*P		**P**	**04 39 04.9**	**-0.3**
CN2	**Changchun**	**84.28**	**321**	*e*P		**P**	**04 39 06.6**	**+0.8**
CN2				*e*XP		sP	04 39 17.8	-0.7
CN2				*e*S			04 49 32.9	
CN2				AMB		AMB		
	comp=Z,20nm,1.0s,mb5.2							
CN2				AMB		AMB		
	comp=Z,200nm,3.0s							
CN2				LR		LR		
	comp=N,300nm,21.0s,MS4.7							
CN2				LR		LR		
	comp=E,200nm,21.0s,MS4.7							
CN2				LR		LR		
	comp=Z,200nm,13.0s							
GDL2	**Guadalupe Moun**	**84.28**	**53**	*e*P		**P**	**04 39 05.8**	**-0.1**
GDL2				*e*pP		pP	04 39 15.6	+0.4
MA2	**Magadan**	**84.34**	**343**	*d* iP		**P**	**04 39 04.7**	**-1.4**
MA2				pmax		pmax		
	comp=Z,13nm,1.3s,mb4.9							
MA2	**Magadan**	**84.34**	**343**	*i* Pr			04 39 04.8	
NEW	**Newport**	**84.69**	**34**	LR		LR	05 08 44.4	
	comp=Z,267nm,19.6s,MS4.6,baz=246,slow=30							
WHN	**Wuhan**	**85.28**	**305**	*e*P		**P**	**04 39 12.0**	**+1.1**
FLWY	**Flagg Ranch**	**85.92**	**40**	*e*P		**P**	**04 39 14.2**	**+0.2**
	comp=Z,34nm,1.7s,mb5.3							
PDAR	**Pinedale Array**	**85.92**	**42**	P		**P**	**04 39 13.1**	**-0.9**
	comp=Z,1.6nm,0.9s,mb4.2,baz=219,slow=3.8,SNR=9.9							
DLBC	**Dease Lake**	**86.06**	**21**	LR		LR	05 13 15.3	
	comp=Z,117nm,20.0s,MS4.3,baz=1.4,slow=33							
COLA	**College**	**86.88**	**11**	*e*P		**P**	**04 39 17.5**	**-1.3**
	comp=Z,19nm,1.0s,mb5.3							
ILAR	**Eielson Array**	**86.96**	**11**	P		**P**	**04 39 17.9**	**-1.2**
	comp=Z,2.6nm,0.8s,mb4.5,baz=229,slow=5.3,SNR=27							
KULM	**Kulim**	**87.56**	**276**	*e*P		**P**	**04 39 23.2**	**+1.2**
SYO	**Syowa Base**	**88.09**	**191**	‖*e*P		**P**	**04 39 22.0**	**-2.5**
BJI	**Beijing**	**88.27**	**314**	P		**P**	**04 39 25.7**	**+0.3**
BJI				AMB		AMB		
	comp=Z,12nm,1.6s,mb4.9							
PSI	**Prapat**	**88.33**	**274**	P		**P**	**04 39 25.4**	**-0.2**
	comp=Z,29nm,1.0s,mb5.5,baz=190,slow=3.8,SNR=20							
VNA3	**Neumayer Olymp**	**88.40**	**175**	⇑*i* iP		**P**	**04 39 25.3**	**-0.7**
VNA3				*e*			04 39 26.9	
VNA3				*e*		pP	04 39 33.3	-2.1
VNA3				*e*			04 39 39.6	
VNA3				*e*			04 39 44.9	
VNA3				*e*			04 40 02.1	
VNA3				*e*			04 40 10.0	
SNAA	**Sanae**	**88.42**	**177**	⇑*i* iP		**P**	**04 39 25.4**	**-0.7**
SNAA				*e*			04 39 26.7	
SNAA				*e*		pP	04 39 34.2	-1.3
SNAA				*e*			04 39 38.8	
SNAA				*e*			04 39 45.8	
SNAA				*e*			04 39 59.6	
SNAA				*e*			04 40 10.6	
SNAA	**Sanae**	**88.42**	**177**	⇑*e*P		**P**	**04 39 25.4**	**-0.7**
VNA2	**Neumayer--Watz**	**88.89**	**176**	⇑*i* iP		**P**	**04 39 28.1**	**-0.2**
	baz=172,slow=3.9							
VNA2				*e*			04 39 29.6	
VNA2				*e*		pP	04 39 36.7	-1.0
VNA2				*e*			04 39 40.4	
VNA2				*e*			04 39 48.5	
VNA2				*e*			04 40 04.2	
VNA2				*e*			04 40 12.9	
BILL	**Bilibino**	**88.93**	**353**	*e*P		**P**	**04 39 28.1**	**-0.4**
BILL				*e**PP		pP	04 39 37.2	-0.7
BILL				pmax		pmax		
	comp=Z,58nm,1.6s,mb5.7							
BILL	**Bilibino**	**88.93**	**353**	*e*P		**P**	**04 39 28.1**	**-0.5**
	comp=Z,58nm,1.6s,mb5.7							
BILL				*e*pP		pP	04 39 37.2	-0.7
VNA1	**Neumayer--Stat**	**89.09**	**175**	⇑*i* iP		**P**	**04 39 29.4**	**+0.1**
VNA1				*e*			04 39 30.7	
VNA1				*e*		pP	04 39 37.7	-1.0
VNA1				*e*			04 39 42.6	
VNA1				*e*			04 39 51.9	
VNA1				*e*			04 40 07.2	
WMOK	**Wichita Mounta**	**89.59**	**53**	*e*P		**P**	**04 39 31.5**	**-0.1**
WMOK				pmax		pmax		
	comp=Z,33nm,2.2s,mb5.3							
WMOK	**Wichita Mounta**	**89.59**	**53**	*e*P		**P**	**04 39 31.4**	**-0.1**
	comp=Z,33nm,2.2s,mb5.3							
GYA	**Guiyang**	**89.78**	**298**	⇑*i* iP		**P**	**04 39 31.1**	**-1.4**
GYA				AP		pP	04 39 40.8	-1.1
GYA				XP		sP	04 39 42.6	-2.7
GYA				PP		PP	04 43 04.6	-0.3
GYA				SKS			04 49 57.8	
GYA				S			04 50 16.5	
GYA				XS		sS	04 50 31.4	-6.6
GYA				PS		PS	04 51 30.3	-1.2
GYA				AMB		AMB		
	comp=Z,20nm,0.8s,mb5.5							
GYA				AMB		AMB		
	comp=Z,110nm,3.9s							
GYA				LR		LR		
	comp=N,480nm,22.4s,MS5.0							
GYA				LR		LR		
	comp=E,450nm,23.0s,MS5.0							
GYA				LR		LR		
	comp=Z,430nm,22.6s,MS4.8							
RSSD	**Black Hills**	**90.08**	**43**	*e*P		**P**	**04 39 32.8**	**-1.1**
RSSD				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.7							
RSSD	**Black Hills**	**90.08**	**43**	*e*P		**P**	**04 39 32.8**	**-1.1**
	comp=Z,2.8nm,0.8s,mb4.6							
XAN	**Xi'an**	**90.92**	**306**	P		**P**	**04 39 39.0**	**+1.2**
XAN				AP		pP	04 39 46.6	-0.6
XAN				AMB		AMB		
	comp=Z,17nm,1.1s,mb5.3							
HHC	**Hu-ho-hao-te**	**91.78**	**313**	*e*P		**P**	**04 39 43.3**	**+1.5**
HHC				AP		pP	04 39 51.3	+0.1
HHC				XP		sP	04 39 54.5	-0.1
HHC				PP		PP	04 43 24.9	+4.1
HHC				SKS			04 50 12.4	
HHC				S			04 50 40.5	
HHC				XS		sS	04 50 53.4	-3.0
HHC				PS		PS	04 51 58.3	+4.6
HHC				SS		SS	04 56 52.2	+3.7
HHC				AMB		AMB		
	comp=Z,23nm,0.3s,mb6.0							
HHC				AMB		AMB		
	comp=Z,211nm,3.0s							
HHC				LR		LR		
	comp=N,120nm,5.2s							
HHC				LR		LR		
	comp=E,308nm,9.4s							
HHC				LR		LR		
	comp=Z,190nm,10.3s,MS4.8							
CLNS	**Chul'man**	**91.97**	**331**	*e*P		**P**	**04 39 41.5**	**-1.2**
CLNS				pmax		pmax		
	comp=N,12nm,1.1s							
CLNS				pmax		pmax		
	comp=Z,28nm,1.1s,mb5.5							
CLNS				pmax		pmax		
	comp=E,10.0nm,0.9s							
JTS	**JuntasAbangare**	**92.44**	**80**	LR		LR	05 10 31.7	
	comp=E,237nm,20.8s,MS4.6,baz=328,slow=28							
JTS	**JuntasAbangare**	**92.44**	**80**	*e*P		**P**	**04 39 43.3**	**-1.5**
KMI	**Kunming**	**92.58**	**296**	P		**P**	**04 39 48.1**	**+2.6**
KMI				AP		pP	04 39 57.2	+2.3
KMI				XP		sP	04 40 00.0	+1.7
KMI				PP		PP	04 43 31.9	+4.8
KMI				S			04 50 47.4	
KMI				XS		sS	04 51 01.8	-1.8
KMI				SS		SS	04 57 05.5	+5.4
KMI				AMB		AMB		
	comp=Z,11nm,1.0s,mb5.2							
KMI				AMB		AMB		
	comp=Z,123nm,5.9s							
KMI				LR		LR		
	comp=N,201nm,13.4s,MS5.1							
KMI				LR		LR		
	comp=E,500nm,16.5s,MS5.1							
KMI				LR		LR		
	comp=Z,360nm,27.6s							
INK	**Inuvik**	**92.75**	**14**	LR		LR	05 13 29.7	
	comp=Z,158nm,20.3s,MS4.5,baz=356,slow=30

comp=Z,190nm,20.3s,MS4.7
MKAR Makanchi Array 113.64 313 Pdiff Pdif 04 41 19.5 -0.3
comp=Z,0.4nm,0.7s,baz=60,slow=2.9,SNR=3.6
MKAR PKiKP PKiKP 04 45 10.8 -1.5
comp=Z,2.4nm,0.8s,baz=57,slow=4.5,SNR=15
MKAR Makanchi Array 113.64 313 Pdif Pdif 04 41 19.5 -0.3
MKAR PKPdf PKiKP 04 45 10.8 -1.5
KURK Kurchatov 116.21 317 *i* PKiKP PKPdf 04 45 15.5 -1.7
KURK Kurchatov 116.21 317 *e*PKPdf PKPdf 04 45 15.9 -1.3
KSH Kashi 117.76 305 *e*PKP PKPdf 04 45 18.0 -2.2
KSH *e*PKS 04 48 53.2
KSH *e*PPP 04 49 03.2
KSH *e*SKS SKSdf 04 52 25.4 -4.8
KSH *e*SKKS SKKSac 04 53 23.1 -9.0
KSH PP PP
comp=Z,184nm,4.6s
KSH LR LR
comp=N,200nm,5.4s
KSH LR LR
comp=E,203nm,5.4s
KSH LR LR
comp=Z,168nm,6.5s
AAK Ala-Archa 119.00 308 *e*PKIKP PKPdf 04 45 20.5 -2.1
AAK *e* 04 45 31.4
BVAR Borovoye Array 121.14 321 PKP PKPdf 04 45 25.5 -1.2
comp=Z,4.1nm,0.7s,baz=90,slow=3.0,SNR=21
BRVK Borovoye 121.19 321 *e*PKIKP PKPdf 04 45 25.6 -1.2
ZRNK Zerenda 121.97 321 *e*PKIKP PKPdf 04 45 27.0 -1.3
ARU Arti 126.91 327 *i* PKIKP PKPdf 04 45 37.4 -0.4
ARU *e* 04 47 36.3
ARU *e* 04 52 39.5
ARU *e*SS SS 05 04 34.5 -6.2
ARU Arti 126.91 327 *e*PKP PKPdf 04 45 37.6 -0.2
KEV Kevo 128.59 351 PKIKP PKPdf 04 45 40.4 -0.6
ARCES ARCESS Array B 129.01 351 PKP PKPdf 04 45 39.0 -2.8
comp=Z,5.5nm,0.8s,baz=298,slow=3.6,SNR=9.6
ARCES ARCESS Array B 129.01 351 PKP PKPdf 04 45 39.0 -2.8
ARE0 ARCESS Array S 129.01 351 *e*PKPdf PKPdf 04 45 41.9 +0.1
KLMR Klimovskoe 132.86 338 *i* PKIKP PKPdf 04 45 41.6 -7.5
KLMR pmax pmax
comp=Z,10.0nm,1.7s
JOF Joensuu 133.72 344 *e*pkp PKPdf 04 45 49.9 -0.8
KAF Kangasniemi 135.59 347 *e*pkp PKPdf 04 45 49.2 -5.0
FINES FINESS Array B 136.24 346 PKP PKPdf 04 45 53.2 -2.2
comp=Z,3.6nm,1.0s,baz=321,slow=2.4,SNR=6.6
OBN Obninsk 138.03 334 ⇓*i* PKIKP PKPdf 04 45 58.7 0.0
OBN pmax pmax
comp=Z,11nm,0.6s
OBN Obninsk 138.03 334 *i* PKPr PKPdf 04 45 58.4 -0.3
NB2 NORSAR Subarra138.78 356 PKPd 04 45 47.2
comp=Z,10nm,1.7s,baz=7.3,slow=1.9
NB2 NORSAR Subarra138.78 356 PKPd 04 45 47.2
baz=7.3,slow=1.9
NOA NORSAR Array B138.78 356 PKhKP 04 45 50.0
comp=Z,1.1nm,0.8s,baz=16,slow=4.4,SNR=4.1
LSZ Lusaka 138.84 213 *e*PKIKP PKPdf 04 46 00.8 +0.6
ZEI Tsey 140.99 314 *e*PKIKP PKPdf 04 46 01.6 -2.5
KMBO Kilima Mbogo 143.01 239 PKP PKPdf 04 46 06.0 -1.7
comp=Z,6.0nm,0.9s,baz=42,slow=2.7,SNR=9.9
SUW Suwalki 143.56 343 *e*PKP PKPdf 04 46 06.0 -2.7
ANN Anapa 144.13 321 *i* PKIKP PKPdf 04 46 07.5 -2.2
ANN pmax pmax
comp=Z,35nm,1.5s
AKASG Malin Array Be 144.29 335 PKP PKPdf 04 46 07.0 -2.9
comp=Z,24nm,0.8s,baz=38,slow=4.3,SNR=56
DCN Croghan 145.08 14 ⇑*i* P PKPbc 04 46 10.0 -0.8
DCN Croghan 145.08 14 *e*P pPKPbc 04 46 19.4 -1.0
LWH Whinny Nab 145.27 7 *e*P PKPbc 04 46 11.5 0.0
DLF Lyons Farm 145.29 13 ⇑P PKPbc 04 46 10.7 -0.8
DLF Lyons Farm 145.29 13 *e*P pPKPbc 04 46 20.3 -0.8
DSB Dublin 145.38 13 *e*PKPdf PKPdf 04 46 11.2 -0.6
DSB *ep*PKPdf pPKPdf 04 46 20.9 -0.6
WCB1 Church Bay 145.62 11 *e*P PKPdf 04 46 11.9 -0.3
WCB1 AMb AMB 04 46 13.6
comp=Z,93nm,1.1s
GKP Gorka Klasztor 145.64 348 *e*PKP PKPdf 04 46 13.0 +0.7
WLF1 Llynfaes 145.73 11 *e*P PKPdf 04 46 11.8 -0.7
WLF1 AMb AMB 04 46 13.9
comp=Z,95nm,1.0s
YRC Rhoscolyn 145.73 11 *e*P PKPdf 04 46 11.7 -0.8
YRC AMb AMB 04 46 14.9
comp=Z,65nm,1.0s
WPM1 Penmaenmawr 145.85 11 *e*P PKPdf 04 46 12.8 +0.2
WPM1 AMb AMB 04 46 17.8
comp=Z,127nm,1.4s
LHO Holmfirth 145.89 9 *e*P PKPdf 04 46 12.0 -0.7
BSEG Bad Segeberg 145.91 356 *e*PKPbc PKPbc 04 46 13.4 0.0
YLL Llanberis 145.91 11 *e*P PKPdf 04 46 13.0 +0.2
SIM Simferopol' 145.96 323 *e*PKP2 PKPab 04 46 14.0 -0.1
SIM pmax pmax
comp=Z,45nm,0.8s
SBD1 Bryn Du 146.30 10 *e*P PKPdf 04 46 13.7 +0.3
MALT Malatya 146.61 310 ⇑*i* P PKPbc 04 46 16.6 +1.1
MALT Malatya 146.61 310 *e*PKPbc PKPbc 04 46 16.5 +1.0
HLM1 Long Mynd 146.73 10 *e*P PKPdf 04 46 14.9 +0.8
HLM1 AMb AMB 04 46 17.7
comp=Z,60nm,1.3s
SSP1 Stoney Pound 146.79 10 *e*P PKPbc 04 46 15.7 -0.3
SSP1 AMb AMB 04 46 17.9
comp=Z,61nm,1.3s
LVV L'vov 146.95 339 *i* PKP2 PKPbc 04 46 16.6 +0.1
RUE Ruedersdorf 146.98 351 *e*PKPbc PKPbc 04 46 16.6 0.0
RUE Ruedersdorf 146.98 351 *e*PKPbc PKPbc 04 46 16.3 -0.3
HTR Trewern Hill 147.09 11 *e*P PKPbc 04 46 16.2 -0.6
WIT Witteveen 147.19 359 *e*PKiKP PKiKP 04 46 18.6 -0.9
MCH1 Michaelchurch 147.22 10 *e*P PKPdf 04 46 15.8 +0.9
HAE Alders End 147.25 10 *e*P PKPbc 04 46 17.0 -0.4
HAE AMb AMB 04 46 24.2
comp=Z,81nm,1.5s
KIS Kishinev 147.28 331 *e*PKP2 PKPbc 04 46 18.0 +0.6
KWP Kalwaria 147.55 340 *e*PKP PKPbc 04 46 18.8 +0.7
HGH Gray Hill 147.59 10 *e*P PKPbc 04 46 17.7 -0.5
HGH AMb AMB 04 46 22.5
comp=Z,80nm,1.6s
OJC Ojcow 147.89 343 *e*PKPdf PKPdf 04 46 16.6 +0.5
OJC *e*PKPab PKPab 04 46 19.2 -2.4
OJC *ep*PKPdf pPKPdf 04 46 27.9 +2.2
CLZ Clausthal 147.99 355 *e*PKPbc PKPbc 04 46 19.3 0.0
WTSB Winterswijk 148.03 359 *i* PKiKP PKiKP 04 46 19.3 -2.0
comp=Z,59nm,1.0s
KSP Ksiaz 148.13 348 *e*PKP PKPbc 04 46 20.3 +0.6
KSP Ksiaz 148.13 348 *e*PKP PKPbc 04 46 19.8 +0.1
KSP *e* 04 46 28.2
STHS Stebnicka Huta 148.20 341 *i* PKP PKPbc 04 46 20.7 +0.8
CLL Collm 148.23 352 *e*PKPbc PKPbc 04 46 20.1 +0.1
CLL Collm 148.23 352 ⇓*i* PKPbc PKPbc 04 46 20.0 0.0
comp=Z,56nm,0.9s
CLL *i* PKPab PKPab 04 46 22.9 -0.1
comp=Z,44nm,1.0s
CLL *i* pPKPbc pPKPbc 04 46 28.5 -1.1
CLL *i* sPKPbc 04 46 30.6
CLL Collm 148.23 352 ⇓*i* PKP2 PKPbc 04 46 20.0 0.0
CLL pmax pmax
comp=Z,56nm,0.9s
CLL pmax pmax
comp=Z,44nm,1.0s
CLL Collm 148.23 352 ⇓*i* PKP PKPbc 04 46 20.0 0.0
CLL *i* PKP PKPab 04 46 22.9 -0.1
CLL *i* pPKP pPKPdf 04 46 28.5 +2.2
KOLS Kolonicke sedl 148.30 340 *e*PKP pPKPbc 04 46 29.1 -0.7
KOLS *e*SKPDF 04 46 47.2
GTTG Gvttingen 148.31 355 *e*PKPbc PKPbc 04 46 20.3 +0.1
BURAR Bucovina Array 148.34 335 ⇑*i* P PKPbc 04 46 21.3 +1.0
BURAR Bucovina Array 148.34 335 ⇑P PKPbc 04 46 21.2 +1.0
CSA1 St Austell 148.41 14 *e*P PKPdf 04 46 18.8 +1.9
NIE Niedzica 148.47 342 *e*PKPdf PKPdf 04 46 18.7 +1.7
NIE *e*PKPab PKPab 04 46 21.7 -2.3
UPC Upice 148.51 348 ⇑*e*PKPB 04 46 21.6
UPC *e*PKPAB PKPab 04 46 24.6 +0.5
UPC *ep*PKP pPKPdf 04 46 30.3 +3.5
BRG Berggiesshubel 148.52 351 *e*PKPbc PKPbc 04 46 20.4 -0.3
BRG Berggiesshubel 148.52 351 *i* PKP PKPbc 04 46 21.0 +0.3
comp=Z,17nm,0.9s
BRG *i* 04 46 30.2
comp=Z,19nm,1.0s
BRG *e* 04 47 08.5
comp=Z,37nm,1.9s
BRG Berggiesshubel 148.52 351 *i* PKP2 PKPbc 04 46 21.0 +0.3
BRG pmax pmax
comp=Z,17nm,0.9s
BRG pmax pmax
comp=Z,19nm,1.0s
BRG pmax pmax
comp=Z,37nm,1.9s
BUG Bochum--Univer 148.55 359 *e*PKPbc PKPbc 04 46 20.6 -0.2
CRVS Cervenica-Dubn 148.59 340 *e*PKP PKPbc 04 46 22.8 +1.9
DPC Dobruska-Polom 148.59 347 ⇑*e*PKPB PKPbc 04 46 21.5 +0.6
DPC *e*PKPAB PKPab 04 46 25.2 +0.7
DPC *ep*PKP pPKPdf 04 46 30.7 +3.8
OKC Ostrava-Krasne 148.67 345 ⇑*e*PKPB PKPbc 04 46 22.2 +1.1
OKC *e*PKPAB PKPab 04 46 25.8 +1.0
MORC Moravsky Berou 148.87 346 ⇑*i* P PKPbc 04 46 22.6 +1.0
MORC Moravsky Berou 148.87 346 *e*PKPbc PKPbc 04 46 21.7 +0.1
CFR Carcaliu 148.94 329 ⇑*i* P PKPbc 04 46 22.0 +0.2
CFR Carcaliu 148.94 329 ⇑P PKPbc 04 46 22.1 +0.3
MOX Moxa 149.05 353 *e*PKPbc PKPbc 04 46 21.9 -0.2
MOX Moxa 149.05 353 *e*PKP PKPbc 04 46 22.5 +0.4
comp=Z,23nm,1.1s
MOX Moxa 149.05 353 *e*PKP2 PKPbc 04 46 22.5 +0.4
MOX pmax pmax
comp=Z,23nm,1.1s
VRI Vrincioaia 149.08 331 ⇑*i* P PKPbc 04 46 22.5 +0.4
VRI Vrincioaia 149.08 331 ⇑P PKPbc 04 46 22.5 +0.3
PLOR Plostina 149.13 331 ⇑*i* P PKPbc 04 46 22.5 +0.2
WERD Werda 149.16 352 *e*PKPbc PKPbc 04 46 22.1 -0.3
UCC Uccle 149.17 2 PKPbc PKPbc 04 46 22.8 +0.4
UCC PKPab PKPab 04 46 25.8 -1.0
UCC APKPbc
UCC APKPab 04 46 34.9
HGN Heimansgroeve 149.24 0 *e*PKiKP PKiKP 04 46 25.0 +1.3
comp=Z,31nm,1.8s
BR131 Keskin Array S 149.25 316 *e*PKPdf PKPdf 04 46 18.4 +0.1
BR131 *e*PKPbc PKPbc 04 46 22.8 +0.2
BRTR Keskin Array B 149.25 316 PKP PKPdf 04 46 17.7 -0.6
comp=Z,12nm,1.0s,baz=139,slow=1.6,SNR=19
BRTR PKPbc PKPbc 04 46 22.4 -0.1
comp=Z,9.6nm,0.9s,baz=138,slow=1.8,SNR=32
KECS Kecovo 149.26 341 *e*PKP PKPbc 04 46 22.4 -0.2
KECS *e* 04 46 31.5
PRU Pruhonice 149.28 349 ⇑*e*PKPB PKPbc 04 46 23.1 +0.5
PRU *ep*PKP pPKPdf 04 46 31.6 +3.6
MENF Mencas 149.28 5 PKP PKPdf 04 46 20.2 +1.9
NKC Novy Kostel 149.36 352 ⇑*e*PKPB PKPbc 04 46 23.2 +0.4
NKC *e*PKPAB PKPab 04 46 28.6 +1.0
NKC *ep*PKP pPKPdf 04 46 31.9 +3.8
HARR Harsova 149.39 329 ⇓*i* P PKPbc 04 46 23.5 +0.6
HARR Harsova 149.39 329 ⇓P PKPbc 04 46 23.5 +0.6
MEM Membach 149.40 0 PKPbc PKPbc 04 46 23.1 +0.2
MEM PKPab PKPab 04 46 30.5 +2.8
MEM APKPbc 04 46 34.8
MEM APKPab 04 46 38.4
SNF Seneffe 149.46 2 PKPbc PKPbc 04 46 21.3 -1.8
VRAC Vranov 149.52 346 ⇑*i* P PKPbc 04 46 23.0 -0.2
VRAC Vranov 149.52 346 ⇑P PKPbc 04 46 23.0 -0.3
MANZ Manzenberg 149.64 352 *e*PKPbc PKPbc 04 46 23.5 0.0
ANTO Ankara 149.72 317 ⇓*i* P PKPbc 04 46 24.5 +0.8
ANTO Ankara 149.72 317 *e*PKPbc PKPbc 04 46 24.2 +0.5
MLR Muntele Rosu 149.72 332 ⇑*i* P PKPbc 04 46 24.3 +0.6
MLR Muntele Rosu 149.72 332 ⇑P PKPbc 04 46 24.2 +0.5
VYHS Vyhne 149.72 343 *i* PKP PKPbc 04 46 23.9 +0.2
VYHS *e* 04 46 33.1
VYHS Vyhne 149.72 343 *i* PKP2 PKPbc 04 46 24.0 +0.3
TNS Taunus Mts 149.73 357 *e*PKPbc PKPbc 04 46 24.0 +0.3
TREC Trest 149.77 348 ⇑*e*PKPB PKPbc 04 46 24.5 +0.7
TREC *e*PKPAB PKPab 04 46 32.8 +3.6
ROTZ Rotzenmuhle 149.85 352 *e*PKPbc PKPbc 04 46 24.1 +0.1
DOU Dourbes 149.88 2 PKPbc PKPbc 04 46 23.7 -0.5
DOU APKPbc 04 46 32.8
GIVF Givet 149.88 2 *e*PKP1 PKPbc 04 46 23.8 -0.3
comp=Z,82nm,1.0s
BAIF Baives 149.91 2 *e*PKP1 PKPbc 04 46 24.0 -0.2
comp=Z,76nm,1.0s
PSZ Piszkesteto 149.94 341 ⇑*ep*PKP/F PKPbc 04 46 25.0 +0.7
PSZ *e*PKP/p pPKPdf 04 46 31.2 +2.1
PSZ Piszkesteto 149.94 341 *e*PKPbc PKPbc 04 46 24.6 +0.3
DRGR 149.98 337 PKP2 PKPbc 04 46 25.3 +0.9
GRA1 Grafenberg Arr 150.04 353 *e*PKPbc PKPbc 04 46 24.5 0.0
GRF Grafenberg Arr 150.04 353 *e*PKPbc PKPbc 04 46 24.5 0.0
SMOL Smolenice 150.07 345 *e*PKP PKPbc 04 46 25.5 +0.9
ABH Alteburg 150.10 358 PKP PKPbc 04 46 25.0 +0.3
VOIR 150.15 333 ⇑*i* P PKPbc 04 46 25.8 +1.0
VOIR 150.15 333 ⇑P PKPbc 04 46 25.8 +1.0
KHC Kasperske Hory 150.27 350 ⇑*e*PKPB PKPbc 04 46 25.5 +0.4
KHC *e*PKPAB PKPab 04 46 32.4 +1.1
RUP Ruppelstein 150.29 359 PKP PKPbc 04 46 25.6 +0.5
TOD Tromm 150.32 356 PKP PKPbc 04 46 25.4 +0.2
WLF Walferdange 150.34 360 *e*PKPbc PKPbc 04 46 25.1 -0.1
WLF Walferdange 150.34 360 PKPbc PKPbc 04 46 25.1 -0.1
WLF PKPab PKPab 04 46 32.8 +1.2
WLF APKPbc 04 46 37.6
WLF APKPab 04 46 42.4
WLF Walferdange 150.34 360 *e*PKPbc PKPbc 04 46 24.9 -0.3
WET Wettzell 150.36 351 *e*PKPbc PKPbc 04 46 25.9 +0.6
ZST Bratislava 150.45 345 *e*PKP PKPbc 04 46 25.7 +0.2
ZST *e* 04 46 32.7
GEC2 GERESS Array S 150.53 350 *e*PKPbc PKPbc 04 46 25.1 -0.6
GERES GERESS Array B 150.53 350 PKP PKPdf 04 46 19.1 -1.2
comp=Z,1.8nm,0.9s,baz=270,slow=0.5,SNR=5.8
GERES PKPbc PKPbc 04 46 25.0 -0.7
comp=Z,13nm,0.9s,baz=48,slow=2.0,SNR=50
BUD Budapest 150.59 342 ⇑*ep*PKP/F PKPbc 04 46 26.4 +0.6
BUD *e*PKP/p PKPab 04 46 35.6 +3.0
ROSF Rostrenen 150.66 13 *e*PKP1 PKPbc 04 46 24.8 -1.2
comp=Z,58nm,1.1s
FLN La Fioniere 150.75 9 *e*PKP1 PKPbc 04 46 25.4 -0.8
comp=Z,88nm,0.9s
SGMF Saint Gilles 150.89 12 *e*PKP1 PKPbc 04 46 25.5 -1.0
comp=Z,50nm,1.0s
LDF La Druitiere 150.97 9 *e*PKP1 PKPbc 04 46 25.9 -0.8
comp=Z,51nm,0.9s
LANF Langenberg 150.99 358 PKP PKPbc 04 46 27.1 +0.3
SOP Sopron 151.06 345 ⇓*ep*PKP/F PKPbc 04 46 28.1 +1.2
SOP *e*PKP/p PKPab 04 46 36.5 +1.9
GRR Gorron 151.06 10 *e*PKP1 PKPbc 04 46 26.2 -0.7
comp=Z,70nm,0.9s
QUIF Quistinic 151.09 13 *e*PKP1 PKPbc 04 46 26.0 -1.0
comp=Z,32nm,1.1s
STU Stuttgart 151.13 356 *e*PKPbc PKPbc 04 46 27.6 +0.5
BZS Buzias 151.38 337 ⇑*i* P PKPbc 04 46 27.1 -0.6
BZS Buzias 151.38 337 ⇑P PKPbc 04 46 27.1 -0.6
MOA Molln 151.39 349 ⇓*i* P PKPbc 04 46 27.8 +0.1
comp=Z,7.4nm,0.9s
MOA Molln 151.39 349 ⇓*i* P PKPbc 04 46 27.8 +0.1
MEZF Maizieres J'vi 151.49 2 *e*PKP1 PKPbc 04 46 27.8 -0.1
comp=Z,45nm,0.9s
FUR Furstenfeldbru 151.53 353 *e*PKPbc PKPbc 04 46 28.0 0.0
WLS Welschbruch 151.58 358 PKP PKPbc 04 46 28.2 +0.1
CDF Champ du Feu 151.58 358 *e*PKP1 PKPbc 04 46 27.8 -0.3
comp=Z,30nm,1.1s
BFO Black Forest 151.62 357 *e*PKPbc PKPbc 04 46 27.7 -0.5
CSS Prodhromos 151.72 308 *e*PKPbc PKPbc 04 46 28.3 -0.1
CSS *e*PKPab PKPab 04 46 38.3 +0.9
THEF They Montfort 151.78 0 PKP PKPbc 04 46 29.3 +0.7
PKSM Moragy 151.85 341 ⇑*i* P PKPbc 04 46 27.9 -0.9
HAU Haudompre 152.00 360 *e*PKP1 PKPbc 04 46 29.6 +0.5
comp=Z,27nm,0.9s
FELD Feldberg im Sc 152.09 357 PKP PKPbc 04 46 31.9 +2.6
HINF Hinteralfeld 152.18 359 *e*PKP1 PKPbc 04 46 28.7 -0.8
comp=Z,10nm,0.8s
PERS Pernice 152.37 347 *i* PKPdf PKPbc 04 46 29.7 -0.2
PERS *e* 04 46 38.9
WTTA Wattenberg 152.38 352 ⇑*i* P PKPbc 04 46 30.0 +0.1
comp=Z,19nm,1.0s
BBS Basel-Blauen 152.52 358 PKP PKPbc 04 46 32.3 +2.0
DAVA Damuels 152.55 354 ⇑*i* P PKPbc 04 46 31.0 +0.6
comp=Z,17nm,1.0s
DAVA Damuels 152.55 354 ⇑*i* P PKPbc 04 46 30.9 +0.6
LOMF Lomont 152.65 359 PKP PKPbc 04 46 31.0 +0.4
LOR Lormes 152.68 3 *e*PKP1 PKPbc 04 46 30.2 -0.4
comp=Z,28nm,1.0s
SSF Saint Saulge 152.86 4 *e*PKP1 PKPbc 04 46 30.6 -0.4
comp=Z,40nm,1.0s
MFF Saint Martin d 152.91 10 *e*PKP1 PKPbc 04 46 30.3 -0.8
comp=Z,36nm,1.2s
AVF Avril sur Loir 153.12 4 *e*PKP1 PKPbc 04 46 30.8 -0.8
comp=Z,18nm,1.0s
DIVS Divcibare 153.28 337 ⇓*i* P PKPdf 04 46 30.7 +6.3
SMF Signal de Mont 153.29 4 *e*PKP1 PKPbc 04 46 31.3 -0.7
comp=Z,17nm,1.1s
BGF Bois d'Agland 153.31 5 *e*PKP1 PKPbc 04 46 31.5 -0.5
comp=Z,15nm,0.6s
CABF La Chapelle 153.40 0 *e*PKP1 PKPbc 04 46 32.4 +0.2
comp=Z,41nm,1.1s
BOJS Bojanci 153.41 346 *e*PKPdf PKPbc 04 46 32.9 +0.6
TCF Toulx Ste Croi 153.52 6 *e*PKP1 PKPbc 04 46 31.7 -0.8
comp=Z,37nm,1.4s
RJF Les Rejaudoux 154.41 8 *e*PKP1 PKPbc 04 46 33.7 -0.7
comp=Z,15nm,1.0s
VIVF Saint-Julien-l 155.12 2 *e*PKP1 PKPdf 04 46 35.7 +8.7
comp=Z,20nm,1.2s
MBDF Montbardon 155.28 359 *e*PKP1 PKPdf 04 46 36.2 +9.0
DBIC Dimbokro 163.03 140 PKP PKPdf 04 46 35.7 -0.6
comp=Z,9.2nm,1.0s,baz=86,slow=2.6,SNR=6.5
DBIC Dimbokro 163.03 140 PKP PKPdf 04 46 35.7 -0.6
TORD Torodi Ar. Bea 172.02 147 PKP PKPdf 04 46 41.6 -1.1
comp=Z,4.5nm,0.9s,baz=314,slow=0.7,SNR=21
TORD PKPab PKPab 04 48 05.3 -0.5
comp=Z,3.7nm,1.1s,baz=213,slow=3.8,SNR=6.1
TORD PP PP 04 51 58.2 +1.4
comp=Z,0.6nm,0.9s,baz=176,slow=5.8,SNR=2.4

*IDC **04** 04:33:53.8±1.0, 1946S×17486W, h0km, mb4.3/6, mb1 4.4/7, mb1mx4.2/16, mbtmp4.3/7, Error ellipse: s-maj=36.8km s-min=22.3km az=111.0*
*ISCJB **04** 04:33:58.1±0.7, 196S±0.1×1750W±0.1, h33km, mb4.5/13, Error ellipse: s-maj=18.6km s-min=16.8km az=137.2*
*MOS **04** 04:33:59.4±1.8, 1968S×17505W, h33km, mb4.7/5, Error ellipse: s-maj=31.3km s-min=22.1km az=151.0*
*NEIC **04** 04:33:59.5±0.7, 1958S×17485W, h35km, mb4.7/8, Error ellipse: s-maj=20.9km s-min=14.7km az=105.0*

ISC 04 04:33:59.4±0.7, 196S±01×1748W±01, h35km, n31, ₀₀9s65/27, mb4.5/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**14.17**	**99**		**Pn**	**04 37 00.8**	**-17**
	0.9nm,0.3s,baz=300,slow=14,SNR=2.9						
DZM	**Mont Dzumac**	**17.73**	**259**	P	**Pn**	**04 38 08.9**	**+5.5**
	0.6nm,0.3s,baz=82,slow=17,SNR=9.3						
URZ	**Urewera**	**19.94**	**199**	P	**Pn**	**04 38 26.2**	**-3.8**
	2.0nm,0.3s,baz=14,slow=4.3,SNR=7.3						
RPZ	**Rata Peaks**	**26.87**	**203**	P	**P**	**04 39 37.2**	**+0.5**
	18nm,0.6s,mb4.8,baz=332,slow=1.6,SNR=15						
RPZ	**Rata Peaks**	**26.87**	**203**	P	**P**	**04 39 37.2**	**+0.5**
CTAO	**Charters Tower**	**36.61**	**262**	*e*P	**P**	**04 41 03.5**	**+1.4**
CTAO				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.7						
CTAO	**Charters Tower**	**36.61**	**262**	*e*P	**P**	**04 41 03.5**	**+1.3**
	comp=Z,7.5nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**40.93**	**244**	P	**P**	**04 41 37.5**	**-0.8**
	comp=Z,1.0nm,0.4s,mb3.8,baz=94,slow=12,SNR=3.0						
ASAR	**Alice Springs**	**47.69**	**255**	P	**P**	**04 42 32.1**	**-0.3**
	comp=Z,1.7nm,0.6s,mb4.3,baz=102,slow=8.4,SNR=21						
WRAB	**Tennant Creek**	**47.73**	**260**	*e*P	**P**	**04 42 31.9**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
WRAB	**Tennant Creek**	**47.73**	**260**	*e*P	**P**	**04 42 31.9**	**-0.9**
	comp=Z,4.4nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**47.74**	**260**	P	**P**	**04 42 32.8**	**0.0**
	comp=Z,0.8nm,0.3s,mb4.2,baz=96,slow=7.4,SNR=18						
SBA	**Scott Base**	**59.04**	**184**	*e*P	**P**	**04 43 56.7**	**+1.0**
SBA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
SBA	**Scott Base**	**59.04**	**184**	*e*P	**P**	**04 43 56.7**	**+1.0**
	comp=Z,5.4nm,0.8s,mb4.6						
VNDA	**Vanda**	**59.14**	**186**	P	**P**	**04 43 56.7**	**+0.2**
	comp=Z,2.3nm,0.9s,mb4.2,baz=1.5,slow=4.5,SNR=11						
VNDA	**Vanda**	**59.14**	**186**	*e*P	**P**	**04 43 56.6**	**+0.1**
VNDA				*e**PP	pP	04 44 03.6	-3.5
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VNDA	**Vanda**	**59.14**	**186**	*e*P	**P**	**04 43 56.6**	**+0.1**
	comp=Z,2.2nm,0.8s,mb4.2						
VNDA				*ep*P	pP	04 44 03.5	-3.6
MBWA	**Marble Bar**	**61.02**	**256**	*e*P	**P**	**04 44 09.9**	**+0.6**
	comp=Z,88nm,1.8s,mb5.6						
CASY	**Casey**	**66.11**	**205**	*e*P	**P**	**04 44 42.4**	**-0.6**
	comp=Z,4.8nm,0.9s,mb4.5						
QSPA	**South Pole Qui**	**70.52**	**180**	*e*P	**P**	**04 45 09.9**	**-0.7**
	comp=Z,9.6nm,0.7s,mb4.8						
COLA	**College**	**86.66**	**11**	*e*P	**P**	**04 46 39.5**	**+0.2**
COLA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.9						
COLA	**College**	**86.66**	**11**	*e*P	**P**	**04 46 39.5**	**+0.2**
	comp=Z,6.4nm,0.8s,mb4.9						
ILAR	**Eielson Array**	**86.75**	**12**	P	**P**	**04 46 39.5**	**-0.3**
	comp=Z,0.8nm,0.6s,mb4.1,baz=229,slow=6.4,SNR=14						
SNAA	**Sanae**	**88.85**	**177**	*e*	**P**	**04 46 49.5**	**-0.3**
VNA3	**Neumayer Olymp**	**88.86**	**175**	*e*	**P**	**04 46 49.6**	**-0.3**
VNA3				*e*		04 46 51.5	
VNA2	**Neumayer--Watz**	**89.34**	**176**	*e*	**P**	**04 46 52.4**	**+0.3**
	baz=206,slow=3.4						
VNA2				*e*		04 46 54.5	
VNA1	**Neumayer--Stat**	**89.55**	**176**	*e*	**P**	**04 46 53.6**	**+0.5**
ARCES	**ARCESS Array B**	**128.49**	**351**	PKP	PKPdf	04 53 02.4	-0.1
	comp=Z,0.8nm,0.8s,baz=333,slow=1.6,SNR=4.5						
MALT	**Malatya**	**145.69**	**310**	*e*PKP2	PKPab	04 53 37.3	+2.5
BRTR	**Keskin Array B**	**148.36**	**316**	PKPbc	PKPbc	04 53 41.0	-1.0
	comp=Z,1.9nm,0.7s,baz=90,slow=1.7,SNR=9.6						
GERES	**GERESS Array B**	**149.98**	**349**	PKPbc	PKPbc	04 53 44.6	-1.4
	comp=Z,0.9nm,0.7s,baz=20,slow=1.6,SNR=5.5						

*NEIC **04** 04:37:10.0, 2709S×7132W, h15km, MD3.6(GUC), After GUC.*

GUC 04 04:37:10.0±0.8, 2709S×7132W, h15km±7km, ML3.6, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.43**	**88**	⇓*i* P	Pg	04 37 16.6	-2.1
CDCH				*i* S	Sg	04 37 22.6	-2.0
CPCH	**Copiapo**	**0.90**	**108**	*e*P	Pb	04 37 24.9	-2.4
CPCH				*i* S	Sb	04 37 36.0	-3.0
CPCH				AML	AML	04 37 38.9	
	comp=E,6μm,0.0s						
CPCH	**Copiapo**	**0.90**	**108**	*e*P	Pb	04 37 24.9	-2.4
CPCH				*i* S	Sb	04 37 36.0	-3.0
CRCH	**Chaqaral**	**0.97**	**40**	*e*P	Pb	04 37 25.6	-2.8
CRCH				*i* S	Sb	04 37 37.8	-3.2
CRCH				AML	AML	04 37 40.0	
	comp=N,1μm,0.5s						
CRCH	**Chaqaral**	**0.97**	**40**	*e*P	Pb	04 37 25.6	-2.8
CRCH				*i* S	Sb	04 37 37.8	-3.2
LCO	**Las Campanas**	**1.99**	**164**	*e*P	Pn	04 37 42.6	-0.5
LCO				*i* S	Sn	04 38 07.4	-0.4
TLL	**Tololo Astrono**	**3.10**	**172**	*e*P	Pn	04 37 58.4	+0.1
TLL				AML	AML	04 38 53.0	
	comp=E,287nm,0.6s						

*CSEM **04** 04:39:16.1, 3424N×524W, h30km, MD2.9, After CNRM*
*CNRM **04** 04:39:16.1, 3424N×524W, h30km, MD2.9*

MDD 04 04:39:16.3±1.0, 3415N×535W, h15km±9km, mb2.4/1, Error ellipse: s-maj=12.2km s-min=6.3km az=98.0, PRXIMO, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGT	**Taghat**	**0.26**	**107**	*e*P	Pg	04 39 21.5	-0.4
TGT				*e*S	Sg	04 39 25.5	-0.2
MIF	**Mishlifen**	**0.74**	**172**	*i* P	Pg	04 39 31.0	+0.2
MIF				*i* S	Sg	04 39 40.0	-0.6
CZD	**Col de Zad**	**1.14**	**167**	*i* P	Pn	04 39 37.0	-0.7
CZD				*i* S	Sb	04 39 52.0	-0.3
KIB	**El Ksiba**	**1.67**	**200**	*i* P	Pn	04 39 44.5	-0.5
KIB				*i* S	Sn	04 40 05.0	-1.1
TZC	**Tazercoun

ISC 04 04:46:29.5±1.7, 354S±007×1289E±01, h59km±17km, n13, σ1§07/15, mb4.1/5, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	9.77	159	*e*P	**Pn**	04 48 48.6	+1.4
	16nm,0.5s						
FITZ	**Fitzroy Crossi**	14.81	192	Pn	**Pn**	04 49 55.2	-0.2
	baz=17,slow=19						
WRAB	**Tennant Creek**	17.15	162	*e*Pn	**Pn**	04 50 26.0	+1.0
	18nm,0.8s						
WRA	**Warramunga Arr**	17.15	162	P	**Pn**	04 50 24.1	-1.0
	0.5nm,0.3s,baz=340,slow=11,SNR=23						
WRA				S	**S**	04 53 40.9	-0.6
	0.3nm,0.3s,baz=334,slow=22,SNR=4.1						
WB2	**Warramunga Arr**	17.16	162	*e*P	**Pn**	04 50 24.6	-0.5
PMG	**Port Moresby**	19.09	109	*e*P	**Pn**	04 50 47.3	-1.2
	16nm,0.9s						
MBWA	**Marble Bar**	19.63	206	*e*P	**Pn**	04 50 52.7	-2.3
	8.7nm,0.8s						
ASAR	**Alice Springs**	20.59	167	P	**P**	04 51 05.2	+1.7
	3.1nm,0.4s,baz=345,slow=11,SNR=50						
ASAR				S	**S**	04 54 51.8	+1.3
	0.9nm,0.7s,baz=348,slow=16,SNR=5.2						
CTAO	**Charters Tower**	23.62	135	*e*P	**P**	04 51 35.2	0.0
	20nm,1.2s,mb4.4						
MJAR	**Matsushiro Arr**	40.82	12	P	**P**	04 54 04.9	-0.3
	1.0nm,0.6s,mb3.6,baz=181,slow=10,SNR=6.5						
MKAR	**Makanchi Array**	64.73	327	P	**P**	04 57 02.1	+0.5
	0.7nm,0.5s,mb4.0,baz=108,slow=6.9,SNR=8.3						
KURK	**Kurchatov**	69.00	328	*e*P	**P**	04 57 30.0	+1.4
	3.3nm,0.8s,mb4.3						
ZRNK	**Zerenda**	75.26	327	*e*P	**P**	04 58 05.2	-0.9
	0.8nm,0.4s,mb4.0						

*NEIC **04** 04:48:45.1, 3457S×7225W, h26km, ML2.9(GUC), After GUC.*

GUC 04 04:48:45.1±0.8, 3457S×7225W, h26km±4km, MD3.6, ML2.9, 8C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	0.93	49 ⇓	*i*P	Pn	04 49 01.6	-0.8
LNV				*i* S	Sb	04 49 13.8	-0.6
TALC	**Talca**	0.97	149 ⇑	*i*P	Pn	04 49 02.3	-0.6
TALC				*i* S	Sb	04 49 15.2	-0.3
TALC				AML	AML	04 49 18.1	
	comp=E,2μm,0.1s						
TALC	**Talca**	0.97	149 ⇑	*i*P	Pn	04 49 02.3	-0.6
TALC				*i* S	Sb	04 49 15.2	-0.3
SFDO	**San Fernando**	1.02	93 ⇑	*i*P	Pn	04 49 03.4	-0.3
SFDO				*i* S	Sb	04 49 17.1	0.0
LCCH	**Las Cruces**	1.23	27 ⇑	*i*P	Pn	04 49 06.1	-0.5
LCCH				*i* S	Sn	04 49 23.0	+0.7
TACH	**Talagante**	1.42	50 ⇑	*i*P	Pn	04 49 09.9	+0.7
TACH				*i* S	Sn	04 49 28.5	+1.4
CACH	**El Canelo**	1.44	72 ⇑	*i*P	Pn	04 49 10.4	+1.0
CACH				*i* S	Sn	04 49 30.2	+2.8
CHCH	**Chadas Angostu**	1.47	65 ⇓	*i*P	Pn	04 49 10.5	+0.6
CHCH				*i* S	Sn	04 49 29.6	+1.4
CICH	**Cipreses**	1.53	81 ⇓	*i*P	Pn	04 49 11.8	+1.1
CICH				*i* S	Sn	04 49 31.9	+2.2
RCDM	**Rinconada Maip**	1.61	48	*e*P	Pn	04 49 12.2	+0.3
RCDM				*i* S	Sn	04 49 33.1	+1.4
RCDM				AML	AML	04 49 38.5	
	comp=E,127nm,0.4s						
RCDM	**Rinconada Maip**	1.61	48	*e*P	Pn	04 49 12.2	+0.3
RCDM				*i* S	Sn	04 49 33.1	+1.4
PCH	**Pirque**	1.72	57	*e*P	Pn	04 49 14.9	+1.5
PCH				*i* S	Sn	04 49 36.3	+1.8
LMEL	**Las Melosas**	1.84	67 ⇑	*i*P	Pn	04 49 16.5	+1.5
LMEL				*i* S	Sn	04 49 40.2	+2.8
LMEL				AML	AML	04 49 41.3	
	comp=N,229nm,0.2s						
LMEL	**Las Melosas**	1.84	67 ⇑	*i*P	Pn	04 49 16.5	+1.5
LMEL				*i* S	Sn	04 49 40.2	+2.8
CLCH	**Cerro Calan**	1.84	51	*e*P	Pn	04 49 16.8	+1.8
CLCH				*i* S	Sn	04 49 39.6	+2.2
CLCH				AML	AML	04 49 49.2	
	comp=N,126nm,0.6s						
PEL	**Peldehue**	1.93	43	*e*P	Pn	04 49 18.5	+2.3
PEL				*i* S	Sn	04 49 43.0	+3.4
PEL				AML	AML	04 49 50.0	
	comp=N,147nm,0.4s						
PEL	**Peldehue**	1.93	43	*e*P	Pn	04 49 18.5	+2.3
PEL				*i* S	Sn	04 49 43.0	+3.4
FCH	**Farellones**	2.05	53 ⇓	*i*P	Pn	04 49 19.9	+2.1
FCH				*i* S	Sn	04 49 46.2	+3.8
FCH				AML	AML	04 49 53.4	
	comp=N,91nm,0.3s						

*ISCJB **04** 04:51:41.3±1.6, 2701S×004×713W±0.1, h28km±11km, mb4.2/2, MS3.5/1, Error ellipse: s-maj=17.1km s-min=6.9km az=179.8*

*IDC **04** 04:51:41.1±2.0, 2682S×7086W, h0km, mb4.4/2, mb1 3.9/5, mb1mx3.7/16, mbtmp3.9/5, ML3.6/3, MS3.1/2, Ms1 3.2/2, ms1mx2.8/22, Error ellipse: s-maj=54.3km s-min=27.9km az=86.0*

*NEIC **04** 04:51:43.1, 27.10S×71.12W, h26km, mb3.7/1, ML4.1(GUC), After GUC.*

*GUC **04** 04:51:43.1±0.7, 27.10S×71.12W, h26km±8km, MD4.0, ML4.1*

ISC 04 04:51:42.0±1.5, 2700S±004×7123W±008, h16km±7km, n17, σ1§14/22, mb4.2/2, MS3.5/1, 4D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	0.36	102 ⇓	*i*P	**Pg**	04 51 49.8	+0.3
CDCH				*i* S	**Sg**	04 51 54.2	-0.4
CRCH	**Chaqaral**	0.85	40 ⇓	*i*P	**Pb**	04 51 58.6	+0.3
CRCH				*i* S	**Sb**	04 52 10.7	+1.3
CRCH				AML	AML	04 52 13.1	
	comp=N,8μm,0.2s						
CRCH	**Chaqaral**	0.85	40 ⇓	*i*P	**Pb**	04 51 58.6	+0.3
CRCH				*i* S	**Sb**	04 52 10.7	+1.3
CPCH	**Copiapo**	0.86	115 ⇓	*i*P	**Pb**	04 51 58.1	-0.4
CPCH				*i* S	**Sb**	04 52 08.5	-1.2
LSCH	**La Serena**	2.90	180	*e*P	**Pn**	04 52 27.6	+0.1
LSCH				*i* S	**Sn**	04 52 59.2	-2.7
LSCH				AML	AML	04 53 24.8	
	comp=E,1μm,0.5s						
LSCH	**La Serena**	2.90	180	*e*P	**Pn**	04 52 27.6	+0.1
LSCH				S	**Sn**	04 52 59.2	-2.7
CFAA	**Coronel Fontan**	5.28	151	Pn	**Pn**	04 53 02.4	+2.2
	comp=E,0.8nm,0.3s,baz=339,slow=11,SNR=42						
CFAA				Sn	**Sn**	04 54 02.7	+2.0
	comp=E,0.5nm,0.3s,baz=199,slow=21,SNR=3.6						
FCH	**Farellones**	6.36	173	*e*P	**Pn**	04 53 15.4	+0.3
CLCH	**Cerro Calan**	6.41	175	*e*P	**Pn**	04 53 16.1	+0.5
LPAZ	**La Paz**	11.04	16	Pn	**Pn**	04 54 18.3	-0.9
	comp=E,0.2nm,0.3s,baz=213,slow=6.8,SNR=8.9						
LPAZ				LR	LR	04 57 35.7	
	comp=E,36nm,18.8s,baz=21,slow=33						
LPAZ	**La Paz**	11.04	16	Pn	**Pn**	04 54 18.3	-0.9
LPAZ				LR	LR	04 57 35.7	
SIV	**San Ignacio**	14.46	43	Pn	**Pn**	04 55 01.5	-4.3
	comp=E,0.2nm,0.3s,baz=235,slow=11,SNR=5.8						
SAML	**Samuel**	19.50	24	*e*P	**Pn**	04 56 08.9	-0.7
	comp=E,3.6nm,0.8s						
BDFB	**Brasilia**	24.35	67	P	**P**	04 56 57.6	-1.5
	comp=E,2.2nm,0.5s,mb3.9,baz=253,slow=6.7,SNR=6.5						
BDFB				LR	LR	05 07 45.5	
	comp=E,143nm,19.3s,MS3.5,baz=16,slow=40						
TORD	**Torodi Ar. Bea**	81.19	70	P	**P**	05 03 57.3	+0.4
	comp=E,5.1nm,0.7s,mb4.6,baz=250,slow=5.1,SNR=46						
ZAL	**Zalesovo**	147.80	27	PKPbc	PKPbc	05 11 26.4	+0.4
	comp=E,1.1nm,0.4s,baz=95,slow=5.3,SNR=4.2						
MKAR	**Makanchi Array**	151.26	40	PKPbc	PKPbc	05 11 34.9	+0.3
	comp=E,2.0nm,0.8s,baz=323,slow=2.0,SNR=12						

*CSEM **04** 04:55:36.7, 21.18S×174.34W, h2km, mb5.5*

*IDC **04** 04:55:37.2±0.4, 2123S×17432W, h0km, mb5.1/25, mb1 5.1/26, mb1mx5.1/27, mbtmp5.0/26, ML5.0/1, MS5.0/12, Ms1 5.0/12, ms1mx4.7/22, Error ellipse: s-maj=16.4km s-min=12.2km az=131.0*

*BJI **04** 04:55:37.7, 2079S×17390W, h6km, mB5.9, mb5.5, Ms5.3, Msz5.1*

*NEIC **04** 04:55:38.7±3.5, 2126S×17427W, h9km±21km, mb5.4/84, Error ellipse: s-maj=6.5km s-min=3.8km az=149.0*

*ISCJB **04** 04:55:41.2±0.2, 2126S±005×17428W±004, h33km, mb5.3/123, MS5.1/36, Error ellipse: s-maj=7.4km s-min=4.6km az=113.7*

*SZGRF **04** 04:55:41.8, 2154S×17402W, h33km, mb5.3, Tonga Islands*

*MOS **04** 04:55:41.5±1.1, 2115S×17434W, h33km, mb5.6/42, MS5.3/5, Error ellipse: s-maj=10.1km s-min=7.9km az=60.9*

ISC 04 04:55:43.0±0.2, 2128S±005×17419W±004, h35km, (h47km±3.3km-pP-P), n481, σ0§97/268, mb5.3/123, MS5.1/36, 54C-14D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	7.68	18	Pn	**Pn**	04 57 26.2	-6.1
	52nm,0.3s,baz=160,slow=1.1,SNR=32						
AFI				Sn	**Sn**	04 58 44.5	-14
	36nm,0.3s,baz=144,slow=21,SNR=6.3						
AFI	**Afiamalu**	7.68	18	P	**Pn**	04 57 26.2	-6.2
AFI				pmax	pmax		
	comp=Z,52nm,0.3s						
AFI	**Afiamalu**	7.68	18	*e*Pn	**Pn**	04 57 25.2	-7.1
	comp=Z,149nm,0.5s						
AFI				*e*Sn	**Sn**	04 58 39.7	-18
RAR	**Rarotonga**	13.45	92	Pn	**Pn**	04 58 40.7	-11
	comp=Z,25nm,0.3s,baz=258,slow=8.1,SNR=26						
RAR				Sn	Sn	05 00 57.9	-21
	comp=Z,12nm,0.3s,baz=127,slow=20,SNR=5.7						
RAR				LR	LR	05 03 10.5	
	comp=Z,8μm,19.9s,baz=253,slow=33						
RAR				T		05 13 04.1	
	comp=Z,5.4nm,0.3s,baz=204,slow=1.8,SNR=3.8						
RAR	**Rarotonga**	13.45	92	Pn	**Pn**	04 58 40.7	-11
RAR				Sn	Sn	05 00 57.9	-21
RAR				LR	LR	05 03 10.5	
DZM	**Mont Dzumac**	18.02	264	P	**Pn**	04 59 52.1	+1.6
	comp=Z,1.2nm,0.3s,baz=80,slow=16,SNR=39						
URZ	**Urewera**	18.51	202	P	**Pn**	04 59 56.2	-0.4
	comp=Z,5.2nm,0.3s,baz=20,slow=3.0,SNR=29						
URZ				S	**S**	05 03 12.1	-13
	comp=Z,1.6nm,0.3s,baz=227,slow=22,SNR=7.6						
SNZO	**South Karori**	22.07	203	*e*P	**P**	05 00 33.4	-1.4
	comp=Z,47nm,0.8s,mb5.0						
TBI	**Tubuai**	22.97	100	*e*LQ		05 04 46.2	
	comp=Z,3μm,27.5s						
TBI	**Tubuai**	22.97	100	*e*P	**P**	05 00 40.0	-4.3
	comp=Z,616nm,1.2s,mb5.9						
TBI				*e*LR	LR	05 05 43.8	
	comp=Z,4μm,21.2s,baz=273						
PAE	**Paea**	23.48	85	*e*P	**P**	05 00 45.4	-4.1
	comp=Z,214nm,1.2s,mb5.4						
PPT	**Papeete**	23.50	85	*e*P	**P**	05 00 45.7	-4.1
	comp=Z,104nm,1.3s,mb5.1						
PPT	**Papeete**	23.50	85	*e*LQ		05 05 06.7	
	comp=Z,6μm,25.0s						
PPT				*e*LR	LR	05 05 57.9	
	comp=Z,4μm,20.0s,baz=248						
PPT	**Papeete**	23.50	85	P	**P**	05 00 44.6	-5.2
	comp=Z,80nm,1.1s,mb5.1,baz=286,slow=6.8,SNR=3.8						
PPT				LR	LR	05 08 16.5	
	comp=Z,6μm,19.3s,MS5.1,baz=253,slow=32						
TVO	**Taravao**	23.75	86	*e*P	**P**	05 00 48.3	-3.8
	comp=Z,463nm,1.2s,mb5.8						
RPZ	**Rata Peaks**	25.52	205	P	**P**	05 01 07.1	-1.1
	comp=Z,17nm,0.8s,mb4.6,baz=43,slow=9.6,SNR=5.2						
RPZ				LR	LR	05 10 32.8	
	comp=Z,2μm,19.7s,MS4.7,baz=264,slow=35						
PMOR	**Pomariorio Ree**	25.74	80	*e*P	**P**	05 01 07.3	-2.9
	comp=Z,189nm,1.3s,mb5.5						
VAH	**Vaihoa**	25.91	81	*e*P	**P**	05 01 08.6	-3.1
	comp=Z,109nm,1.2s,mb5.2						
HNR	**Honiara**	27.53	291	LR	LR	05 10 34.7	
	comp=Z,1μm,19.2s,MS4.5,baz=179,slow=33						
ARMA	**Armidale**	31.98	246	*e*P	**P**	05 02 04.9	-0.8
CNB	**Canberra Magne**	34.79	238	*e*P	**P**	05 02 30.1	-0.1
	comp=Z,29nm,1.1s,mb5.1						
TAOE	**Nuku Hiva Isla**	35.03	75	*e*LR	LR	05 11 14.6	
	comp=Z,7μm,20.6s						
RKT	**Rikitea**	36.29	100	*e*P	**P**	05 02 39.7	-3.3
	comp=Z,155nm,1.1s,mb5.8						
RKT	**Rikitea**	36.29	100	*e*LR	LR	05 11 40.0	
	comp=Z,3μm,32.0s,baz=287						
CTA	**Charters Tower**	36.96	265	*e*P	**P**	05 02 47.8	-0.9
	comp=Z,12nm,0.9s,mb4.7						
CTA	**Charters Tower**	36.96	265	P	**P**	05 02 46.8	-1.9
	comp=Z,12nm,0.8s,mb4.8,baz=100,slow=8.7,SNR=9.0						
CTA	**Charters Tower**	36.96	265	P	**P**	05 02 46.8	-1.9
CTA				pmax	pmax		
	comp=Z,12nm,0.8s						
CTAO	**Charters Tower**	36.96	265	*e*P	**P**	05 02 47.2	-1.5
CTAO				pmax	pmax		
	comp=Z,80nm,1.6s,mb5.3						
CTAO	**Charters Tower**	36.96	265	*e*P	**P**	05 02 47.2	-1.6
	comp=Z,80nm,1.6s,mb5.3						
PMG	**Port Moresby**	38.98	282	P	**P**	05 03 04.7	-1.1
	comp=Z,54nm,0.9s,mb5.3,baz=95,slow=5.5,SNR=29						
PMG	**Port Moresby**	38.98	282	*e*P	**P**	05 03 04.2	-1.6
PMG				pmax	pmax		
	comp=Z,47nm,0.8s						
PMG	**Port Moresby**	38.98	282	*e*P	**P**	05 03 04.2	-1.7
	comp=Z,47nm,0.8s,mb5.3						
STKA	**Stephens Creek**	40.68	246	*e*P	**P**	05 03 16.9	-3.0
	comp=Z,20nm,0.9s,mb4.8						
STKA	**Stephens Creek**	40.68	246	P	**P**	05 03 16.9	-3.0
	comp=Z,22nm,0.8s,mb4.8,baz=90,slow=9.6,SNR=27						
STKA				LR	LR	05 18 29.5	
	comp=Z,2μm,18.1s,MS5.0,baz=79,slow=34						
WAKE	**Wake Island**	44.46	334	*e*P	**P**	05 03 49.8	-0.9
	comp=Z,196nm,0.9s,mb5.8						
KIP	**Kipapa**	45.29	21	*e*P	**P**	05 03 56.1	-1.1
KIP	**Kipapa**	45.29	21	*e*P	**P**	05 03 56.2	-1.0
ASAR	**Alice Springs**	47.81	257	P	**P**	05 04 15.5	-1.5
	comp=Z,65nm,0.9s,mb5.7,baz=90,slow=8.3,SNR=308						
ASAR				PcP	PcP	05 05 46.6	+1.2
	comp=Z,9.5nm,0.9s,baz=101,slow=3.9,SNR=4.4						
WB2	**Warramunga Arr**	48.01	262	*e*P	**P**	05 04 16.3	-2.2
WRAB	**Tennant Creek**	48.01	262	P	**P**	05 04 16.8	-1.7
	comp=Z,308nm,1.0s,mb6.3,SNR=16						
WRAB	**Tennant Creek**	48.01	262	*e*P	**P**	05 04 16.4	-2.1
WRAB				pmax	pmax		
	comp=Z,93nm,1.0s,mb5.8						
WRAB	**Tennant Creek**	48.01	262	*e*P	**P**	05 04 16.4	-2.1
	comp=Z,92nm,1.0s,mb5.8						
WRA	**Warramunga Arr**	48.02	262	P	**P**	05 04 16.4	-2.1
	comp=Z,41nm,1.0s,mb5.4,baz=98,slow=7.5,SNR=107						
WRA				PcP	PcP	05 05 47.0	+0.8
	comp=Z,13nm,0.9s,baz=94,slow=3.4,SNR=5.4						
KAKA	**Kakadu**	51.54	270	*e*P	**P**	05 04 43.7	-1.7
	comp=Z,18nm,0.8s,mb5.1						
FORT	**Forrest**	52.26	247 ⇑	*i*P	**P**	05 04 49.1	-1.6
	comp=Z,64nm,0.7s,mb5.7						
GUMO	**Guam**	53.07	307	LR	LR	05 24 00.5	
	comp=Z,553nm,21.0s,MS4.6,baz=312,slow=32						
FITZ	**Fitzroy Crossi**	56.45	262	*e*P	**P**	05 05 20.7	-0.5
	comp=Z,20nm,0.8s,mb5.2						
SBA	**Scott Base**	57.36	185	*e*P	**P**	05 05 29.9	+2.3
SBA				pmax	pmax		
	comp=Z,190nm,1.9s,mb5.8						
SBA	**Scott Base**	57.36	185	*e*P	**P**	05 05 29.9	+2.3
	comp=Z,190nm,1.9s,mb5.8						
VNDA	**Vanda**	57.48	186	P	**P**	05 05 29.4	+0.9
	comp=Z,5.7nm,1.0s,mb4.5,baz=8.6,slow=6.6,SNR=16						
VNDA	**Vanda**	57.48	186	P	**P**	05 05 29.4	+0.9
VNDA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
VNDA	**Vanda**	57.48	186	*e*P	**P**	05 05 29.7	+1.2
	comp=Z,54nm,1.8s,mb5.3						
KLBR	**Kellerberrin**	60.95	245	*e*P	**P**	05 05 52.5	0.0
	comp=Z,62nm,0.8s,mb5.8						
MBWA	**Marble Bar**	61.15	257	*e*P	**P**	05 05 52.8	-1.1
	comp=Z,48nm,0.9s,mb5.6						
MUN	**Mundaring**	62.20	244	*e*P	**P**	05 06 01.8	+0.9
CASY	**Casey**	64.79	206 ⇑	*i*P	**P**	05 06 18.3	+0.3
QSPA	**South Pole Qui**	68.80	180	*e*P	**P**	05 06 43.5	-0.1
QSPA				*epP*	pP	05 06 58.6	+4.2
JHJ	**Hachijo jima 2**	69.68	320	P	**P**	05 06 47.8	-1.3
	comp=Z,199nm,0.9s,mb6.0,baz=204,slow=11,SNR=4.7						
TSM	**Tawau**	71.18	282	P	**P**	05 06 59.1	+1.0
MIR	**Mirnyy**	71.79	205 *d*	*i*P	**P**	05 07 03.0	+1.1
MIR				*i*		05 07 22.5	
MIR				pmax	pmax		
	comp=Z,230nm,2.0s,mb5.8						
TGY	**Tagaytay City**	72.73	293	P	**P**	05 07 07.3	-0.2
	comp=Z,146nm,0.3s,baz=177,slow=11,SNR=3.3						
MJAR	**Matsushiro Arr**	72.99	322	P	**P**	05 07 08.3	-0.7
	comp=Z,30nm,1.0s,mb5.2,baz=159,slow=5.9,SNR=53						
MJAR				LR	LR	05 38 32.6	
	comp=Z,403nm,19.0s,MS4.7,baz=155,slow=35						
MAJO	**Matsushiro**	72.99	322	*e*P	**P**	05 07 08.6	-0.4
MAJO				pmax	pmax		
	comp=Z,41nm,1.0s,mb5.3						
MAJO	**Matsushiro**	72.99	322	*e*P	**P**	05 07 08.6	-0.4
	comp=Z,41nm,1.0s,mb5.3						
MAT	**Matsushiro**	72.99	322	P	**P**	05 07 08.7	-0.3
MAT				S	S	05 16 37.0	+3.6
MAT	**Matsushiro**	72.99	322	*e*P	**P**	05 07 09.0	0.0
MAT				*e*S	S	05 16 37.0	+3.6
MAT				pmax	pmax		
	comp=Z,55nm,1.2s,mb5.4						
MAT	**Matsushiro**	72.99	322	*e*P	**P**	05 07 09.0	0.0
	comp=Z,55nm,1.2s,mb5.4						
MAT				*e*S	S	05 16 37.0	+3.6
KKM	**Kota Kinabalu**	73.40	283	P	**P**	05 07 11.8	+0.4
KKM	**Kota Kinabalu**	73.40	283	*e*P	**P**	05 07 11.6	+0.1
JOW	**Kunigami**	73.42	308	P	**P**	05 07 10.7	-0.9
	comp=Z,36nm,1.0s,mb5.3,baz=166,slow=15,SNR=4.3						
ASAJ	**Asahikawa**	76.15	329	P	**P**	05 07 27.5	+0.1
	comp=Z,8.2nm,0.8s,mb4.7,baz=187,slow=8.2,SNR=2.9						
ASAJ	**Asahikawa**	76.15	329	P	**P**	05 07 27.5	+0.1
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SAO	**San Andreas Ge**	76.21	41	*e*P	**P**	05 07 27.8	+0.1
SAO				pmax	pmax		
	comp=Z,83nm,1.2s,mb5.5						
SAO	**San Andreas Ge**	76.21	41	*e*P	**P**	05 07 27.8	+0.1
	comp=Z,83nm,1.2s,mb5.5						
HOPS	**Hopland**	76.70	39	*e*P	**P**	05 07 31.1	+0.7
	comp=Z,119nm,1.3s,mb5.7						
MWC	**Mount Wilson**	76.78	45	*e*P	**P**	05 07 30.3	-0.6
KSM	**Kuching**	77.04	277	*e*P	**P**	05 07 33.3	+0.9
NACB	**Ninganchiao**	77.08	302	*e*P	**P**	05 07 31.9	-0.6
YHNB	**Yeheng**	77.50	303	*e*P	**P**	05 07 34.1	-0.8
PET	**Petropavlovsk**	77.66	344	*e*P	**P**	05 07 39.0	+3.2
PET				*e*S	S	05 17 27.8	+2.6
PET				pmax	pmax		
	comp=Z,400nm,15.1s						
PET				pmax	pmax		
	comp=Z,200nm,18.9s						
PET				smax			
	comp=N,700nm,14.1s						
PET				MLR	MLR		
	comp=Z,900nm,19.0s,MS5.1						
CMB	**Columbia Colle**	77.67	41	*e*P	**P**	05 07 35.6	-0.3
CMB				pmax	pmax		
	comp=Z,55nm,1.3s,mb5.3						
CMB	**Columbia Colle**	77.67	41	*e*P	**P**	05 07 35.6	-0.3
	comp=Z,56nm,1.3s,mb5.3						
OHCM	**Honcut**	77.85	39	*e*P	**P**	05 07 36.4	-0.5
WDC	**Whiskeytown Da**	78.06	38	*e*P	**P**	05 07 37.8	-0.3
WDC				pmax	pmax		
	comp=Z,84nm,1.4s,mb5.5						
WDC	**Whiskeytown Da**	78.06	38	*e*P	**P**	05 07 37.8	-0.2
	comp=Z,84nm,1.4s,mb5.5						
YSS	**Yuzh-Sakhalins**	78.23	331 α	*i*P	**P**	05 07 39.0	0.0
YSS				*e*		05 07 45.0	
YSS				*e*	pP	05 07 50.0	0.0
YSS				*e*S	S	05 17 34.0	+2.7
YSS				*e*PPS		05 18 32.0	
YSS				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
YSS				smax			
	comp=N,6μm,10.0s						
YSS				MLR	MLR		
	comp=E,1μm,20.0s						
YSS				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.2						
YSS	**Yuzh-Sakhalins**	78.23	331	*e*P	**P**	05 07 39.1	+0.1
	comp=Z,61nm,1.2s,mb5.4						
YBH	**Yreka Blue Hor**	78.73	37	P	**P**	05 07 42.0	+0.2
	comp=Z,31nm,1.0s,mb5.2,baz=265,slow=0.8,SNR=24						
YBH	**Yreka Blue Hor**	78.73	37	P	**P**	05 07 42.0	+0.2
YBH				pmax	pmax		
	comp=Z,31nm,1.0s						
YBH	**Yreka Blue Hor**	78.73	37	*e*P	**P**	05 07 41.9	+0.2
	comp=Z,60nm,1.2s,mb5.4						
HUMO	**Hull Mountain**	79.18	36	*e*P	**P**	05 07 44.8	+0.6
	comp=Z,63nm,1.3s,mb5.4						
NVAR	**Mina Array Bea**	79.20	41	P	**P**	05 07 44.8	+0.4
	comp=Z,42nm,1.1s,mb5.3,baz=214,slow=7.5,SNR=59						
PAHR	**Pah Rah Range**	79.34	40	*e*P	**P**	05 07 45.2	+0.1
	comp=Z,72nm,1.2s,mb5.5						
TPNV	**Topopah Spring**	79.60	44	*e*P	**P**	05 07 47.0	+0.5
TPNV				pmax	pmax		
	comp=Z,46nm,1.3s,mb5.2						
TPNV	**Topopah Spring**	79.60	44	*e*P	**P**	05 07 47.0	+0.5
	comp=Z,46nm,1.3s,mb5.2						
TPH	**Tonopah**	79.65	42	*e*P	**P**	05 07 47.0	+0.2
TPH				pmax	pmax		
	comp=Z,88nm,1.4s,mb5.5						
TPH	**Tonopah**	79.65	42	*e*P	**P**	05 07 47.0	+0.2
	comp=Z,88nm,1.4s,mb5.5						
NEN	**Nelson**	79.75	45	*e*P	**P**	05 07 47.1	-0.2
QZH	**Quanzhou**	79.83	302 ⇑	*i*P	**P**	05 07 48.8	+1.0
QZH				S	S	05 17 52.5	+4.1
QZH				AMB	A

MSU Marysvale 83.13 44 eP P 05 08 06.1 +0.9
NJ2 Nanjing 83.14 308 eP P 05 08 06.8 +1.5
NJ2 PP PP 05 11 19.0 +2.4
NJ2 AMB AMB
comp=Z,50nm,0.9s,mb5.5
NJ2 AMB AMB
comp=Z,430nm,7.8s
NJ2 LR LR
comp=N,950nm,15.8s,MS5.3
NJ2 LR LR
comp=E,630nm,18.8s,MS5.3
NJ2 LR LR
comp=Z,820nm,19.2s,MS5.1
GZH Guangzhou 83.22 298 P P 05 08 07.4 +1.7
GZH S S 05 18 28.8 +5.4
GZH LR LR
comp=N,182nm,14.5s,MS4.8
GZH LR LR
comp=E,292nm,16.9s,MS4.8
GZH LR LR
comp=Z,538nm,17.6s,MS5.0
MDJ Mudanjiang 83.23 323 P P 05 08 06.6 +0.8
MDJ PP PP 05 11 18.5 +1.1
MDJ AMB AMB
comp=Z,62nm,1.3s,mb5.5
MDJ AMB AMB
comp=Z,514nm,4.1s
MDJ LR LR
comp=N,612nm,17.8s,MS5.2
MDJ LR LR
comp=E,793nm,19.1s,MS5.2
MDJ LR LR
comp=Z,2µm,18.4s,MS5.4
MDJ Mudanjiang 83.23 323 eP P 05 08 06.9 +1.1
comp=Z,74nm,1.1s,mb5.6
TWW Teanaway 83.30 33 P P 05 08 06.9 +0.8
BBB Bella Bella 83.45 27 P P 05 08 05.8 -1.1
comp=Z,16nm,0.9s,mb5.1,baz=269,slow=6.2,SNR=5.4
BBB Bella Bella 83.45 27 P P 05 08 05.8 -1.1
TBM Table Mountain 83.46 34 P P 05 08 07.3 +0.3
HAWA Hanford 83.51 35 eP P 05 08 06.8 -0.4
comp=Z,9.0nm,1.3s,mb4.7
DUG Dugway 83.67 43 eP P 05 08 07.9 -0.1
DUG pmax pmax
comp=Z,30nm,1.5s,mb5.2
DUG Dugway 83.67 43 eP P 05 08 07.9 -0.1
comp=Z,30nm,1.5s,mb5.2
KGM Kluang 83.73 275 P P 05 08 09.9 +1.6
BMO Blue Mountains 83.75 37 eP P 05 08 08.0 -0.4
comp=Z,103nm,1.6s,mb5.7
SLKM Skilak Lake 83.79 12 eP P 05 08 07.7 -0.9
NLU North Lily Min 84.00 43 eP P 05 08 11.1 +1.4
EPH Ephrata 84.10 34 P P 05 08 10.2 0.0
WTV Waterville 84.14 33 P P 05 08 10.0 -0.4
TMUT Trail Mountain 84.20 44 eP P 05 08 11.3 +0.6
MPU Maple Canyon 84.32 43 eP P 05 08 11.8 +0.5
comp=Z,104nm,1.9s,mb5.6
NOQ North Oquirrh 84.36 42 eP P 05 08 11.8 +0.3
comp=Z,38nm,1.2s,mb5.4
LENM Lemitar 84.39 50 eP P 05 08 13.1 +1.4
LAZ Ladron 84.39 50 eP P 05 08 12.1 +0.4
QIZ Qiongzhong 84.43 293 ⇑iP P 05 08 13.3 +1.4
QIZ PP PP 05 11 26.7 -0.5
QIZ S 05 18 36.7
QIZ AMB AMB
comp=Z,21nm,1.3s,mb5.1
QIZ AMB AMB
comp=Z,398nm,8.4s
QIZ LR LR
comp=N,221nm,16.7s,MS4.8
QIZ LR LR
comp=E,307nm,21.1s,MS4.8
QIZ LR LR
comp=Z,241nm,17.8s,MS4.6
LTX Lajitas 84.51 56 eP P 05 08 13.1 +0.8
LTX pmax pmax
comp=Z,129nm,2.2s,mb5.7
LTX Lajitas 84.51 56 eP P 05 08 13.1 +0.8
comp=Z,129nm,2.2s,mb5.7
SPUT South Promonto 84.53 42 eP P 05 08 12.3 0.0
SRU San Rafael 84.54 44 eP P 05 08 12.4 0.0
SRU pmax pmax
comp=Z,96nm,1.5s,mb5.7
SRU San Rafael 84.54 44 eP P 05 08 12.4 -0.1
comp=Z,96nm,1.5s,mb5.7
HVU Hansel Valley 84.59 41 eP P 05 08 12.8 +0.1
HVU pmax pmax
comp=Z,40nm,1.4s,mb5.4
HVU Hansel Valley 84.59 41 eP P 05 08 12.8 +0.1
comp=Z,40nm,1.4s,mb5.3
CTU Camp Tracy 84.62 43 eP P 05 08 12.8 0.0
comp=Z,41nm,1.4s,mb5.4
BNM Barren Site 84.63 50 eP P 05 08 13.7 +0.8
HLID Hailey 84.64 39 eP P 05 08 13.0 +0.1
comp=Z,42nm,1.3s,mb5.4
LPM Los Pinos Moun 84.71 50 eP P 05 08 13.3 0.0
DL2 Dalian 84.76 315 ⇑iP P 05 08 14.4 +0.8
DL2 S 05 18 38.0
DL2 XS sS 05 18 49.0 -8.2
DL2 AMB AMB
comp=Z,20nm,0.9s,mb5.2
DL2 AMB AMB
comp=Z,480nm,5.7s
DL2 LR LR
comp=N,290nm,17.6s,MS4.8
DL2 LR LR
comp=E,180nm,17.6s,MS4.8
DL2 LR LR
comp=Z,290nm,14.7s,MS4.8
DAU Daniels Canyon 84.78 43 eP P 05 08 13.9 +0.3
PMR Palmer 85.00 12 eP P 05 08 13.6 -1.1
PMR pmax pmax
comp=Z,160nm,1.8s,mb5.8
PMR Palmer 85.00 12 eP P 05 08 13.6 -1.2
comp=Z,160nm,1.8s,mb5.8
KLR Kul'dur 85.04 328 eP P 05 08 12.4 -2.6
KLR eS 05 18 40.5
KLR e 05 19 45.5
KLR pmax pmax
comp=Z,80nm,1.8s,mb5.5
KLR pmax pmax
comp=Z,900nm,6.0s
KLR smax
comp=N,1µm,11.0s
KLR smax
comp=E,1µm,11.0s
TCUT Toone Canyon 85.07 42 eP P 05 08 15.5 +0.4
SNY Shenyang 85.12 318 ⇑P P 05 08 16.0 +0.7
SNY AP pP 05 08 20.7 -5.7
SNY XP sP 05 08 22.9 -7.5
SNY PP PP 05 11 27.7 -5.1
SNY AMB AMB
comp=Z,35nm,2.0s,mb5.1
SNY AMB AMB
comp=Z,452nm,12.6s
SNY LR LR
comp=N,493nm,18.6s,MS5.0
SNY LR LR
comp=E,299nm,16.8s,MS5.0
SNY LR LR
comp=Z,427nm,17.4s,MS4.9
PV10 Paradox Valley 85.13 46 eP P 05 08 16.3 +0.9
TTA Tatalina 85.15 8 eP P 05 08 14.9 -0.6
TTA pmax pmax
comp=Z,78nm,1.2s,mb5.7
TTA Tatalina 85.15 8 eP P 05 08 14.9 -0.6
comp=Z,78nm,1.2s,mb5.7
ANMO Albuquerque 85.15 50 eP P 05 08 15.4 -0.1
ANMO pmax pmax
comp=Z,47nm,1.3s
ANMO Albuquerque 85.15 50 eP P 05 08 15.4 -0.1
comp=Z,47nm,1.3s,mb5.5
HWUT Hardware Ranch 85.25 42 eP P 05 08 15.6 -0.4
comp=Z,22nm,1.4s,mb5.1
PV01 Paradox Valley 85.31 46 eP P 05 08 16.5 +0.2
GDL2 Guadalupe Moun 85.34 53 eP P 05 08 17.1 +0.6
MA2 Magadan 85.52 343 c iP P 05 08 16.2 -1.2
MA2 e 05 11 32.3
MA2 eS 05 18 43.5
MA2 ePS 05 19 32.9
MA2 eSS SS 05 24 20.3 -2.1
MA2 pmax pmax
comp=Z,60nm,1.5s,mb5.6
MA2 MLR MLR
comp=Z,25µm,19.9s

MA2 Magadan 85.52 343 eP P 05 08 16.4 -1.0
comp=Z,18nm,1.1s,mb5.2
WHN Wuhan 85.79 305 ⇑P P 05 08 20.0 +1.3
NEW Newport 85.97 34 P P 05 08 18.6 -1.0
comp=Z,6.0nm,0.9s,mb4.8,baz=245,slow=5.6,SNR=11
NEW Newport 85.97 34 eP P 05 08 18.3 -1.3
NEW pmax pmax
comp=Z,26nm,1.4s
NEW Newport 85.97 34 eP P 05 08 18.3 -1.2
comp=Z,26nm,1.4s,mb5.3
CPRX Cap Rock 86.10 52 eP P 05 08 20.0 -0.3
PLCA Paso Flores 86.14 132 eP P 05 08 20.9 +0.5
PLCA pmax pmax
comp=Z,31nm,1.3s
PLCA Paso Flores 86.14 132 eP P 05 08 20.9 +0.5
comp=Z,31nm,1.3s,mb5.4
MCMT McKenzie Canyo 86.29 39 eP P 05 08 20.8 -0.4
SKAG Skagway 86.52 19 eP P 05 08 20.8 -1.5
DCID1 Drake Creek 86.58 40 eP P 05 08 23.8 +1.3
REDW Red Top Meadow 86.66 41 eP P 05 08 22.3 -0.7
comp=Z,23nm,1.3s,mb5.2
TPAW Teton Pass 86.67 41 eP P 05 08 22.5 -0.5
comp=Z,13nm,1.1s,mb5.1
SYO Syowa Base 86.72 192 ⇑eP P 05 08 23.1 -0.2
SYO Syowa Base 86.72 192 ⇓esP sP 05 08 42.0 +3.7
DLMT Dillon 86.74 38 P P 05 08 23.2 -0.2
comp=Z,58nm,1.7s,mb5.5
IPM Ipoh 86.76 276 P P 05 08 24.7 +1.3
MSO Missoula 86.82 37 eP P 05 08 23.5 -0.3
comp=Z,8.1nm,1.3s,mb4.8
IMW Indian Meadow 86.90 40 eP P 05 08 24.3 +0.1
comp=Z,8.2nm,0.9s,mb5.0
SMCO Snowmass 86.92 46 eP P 05 08 24.1 -0.2
comp=Z,6.1nm,0.9s,mb4.8
MOOW Moose Ponds 86.93 40 eP P 05 08 23.8 -0.5
comp=Z,6.8nm,1.3s,mb4.7
LOHW Long Hollow 86.94 41 eP P 05 08 24.2 -0.2
comp=Z,39nm,1.9s,mb5.3
VNA3 Neumayer Olymp 87.10 175 ⇓iP P 05 08 25.3 +0.2
VNA3 e 05 08 27.4
VNA3 e 05 08 31.5
VNA3 e 05 08 41.8
VNA3 e 05 08 47.5
VNA3 e 05 08 57.2
VNA3 e 05 09 02.0
VNA3 e 05 09 13.5
VNA3 e 05 09 32.5
SNAA Sanae 87.10 177 P P 05 08 24.1 -1.0
comp=Z,6.6nm,1.1s,mb4.8,baz=194,slow=5.1,SNR=20
SNAA Sanae 87.10 177 ⇓iP P 05 08 25.6 +0.5
SNAA e 05 08 27.5
SNAA e 05 08 31.7
SNAA e 05 08 39.2
SNAA e 05 08 45.9
SNAA e 05 08 54.6
SNAA e 05 08 59.6
SNAA e 05 09 10.2
SNAA e 05 09 37.9
SNAA Sanae 87.10 177 P P 05 08 24.1 -1.0
SNAA pmax pmax
comp=Z,7.0nm,1.1s
SNAA Sanae 87.10 177 eP P 05 08 24.6 -0.5
comp=Z,32nm,1.3s,mb5.4
QLMT Earthquake Lak 87.12 39 eP P 05 08 25.5 +0.3
BW06 Boulder Array 87.13 42 eP P 05 08 24.2 -1.0
comp=Z,14nm,1.3s,mb5.0
PDAR Pinedale Array 87.13 42 P P 05 08 23.9 -1.3
comp=Z,4.7nm,1.0s,mb4.7,baz=220,slow=2.5,SNR=27
FLWY Flagg Ranch 87.14 40 eP P 05 08 24.9 -0.4
comp=Z,24nm,1.3s,mb5.3
CHMT Chamberlain Mo 87.26 37 eP P 05 08 24.9 -1.0
KULM Kulim 87.40 277 eP P 05 08 27.9 +1.3
KULM e 05 09 41.0
DLBC Dease Lake 87.42 22 P P 05 08 25.9 -0.8
comp=Z,16nm,0.9s,mb5.2,baz=220,slow=8.0,SNR=18
DLBC Dease Lake 87.42 22 eP P 05 08 26.6 0.0
VNA2 Neumayer--Watz 87.58 176 ⇓iP P 05 08 28.0 +0.6
baz=191,slow=2.7
VNA2 e 05 08 29.7
VNA2 e 05 08 32.8
VNA2 e 05 08 41.8
VNA2 e 05 08 47.8
VNA2 e 05 08 56.3
VNA2 e 05 09 01.9
VNA2 e 05 09 13.8
VNA2 e 05 09 33.4
VNA1 Neumayer--Stat 87.79 175 ⇓iP P 05 08 28.6 +0.2
VNA1 e 05 08 30.5
VNA1 e 05 08 35.5
VNA1 e 05 08 43.2
VNA1 e 05 08 49.3
VNA1 e 05 08 57.9
VNA1 e 05 09 02.5
HRY Holter Researc 87.94 38 eP P 05 08 28.5 -0.7
JCT Junction City 88.02 56 eP P 05 08 28.8 -0.7
JCT pmax pmax
comp=Z,9.0nm,1.2s,mb4.9
JCT Junction City 88.02 56 eP P 05 08 28.8 -0.7
comp=Z,9.1nm,1.2s,mb4.9
RWWY Rawlins 88.05 44 eP P 05 08 30.6 +0.9
comp=Z,45nm,1.3s,mb5.5
ISCO Idaho Springs 88.14 46 P P 05 08 30.2 +0.1
ISCO pmax pmax
comp=Z,7.0nm,1.3s,mb4.7
ISCO Idaho Springs 88.14 46 P P 05 08 30.2 +0.1
comp=Z,6.7nm,1.3s,mb4.7
WALA Waterton Lakes 88.14 35 eP P 05 08 29.7 -0.5
comp=Z,32nm,1.3s,mb5.4
COLA College 88.25 11 eP P 05 08 29.2 -1.4
COLA pmax pmax
comp=Z,92nm,1.4s,mb5.8
COLA College 88.25 11 eP P 05 08 29.2 -1.4
comp=Z,92nm,1.4s,mb5.8
ILAR Eielson Array 88.33 11 P P 05 08 29.9 -1.0
comp=Z,14nm,0.9s,mb5.2,baz=213,slow=5.6,SNR=59
EFI East Falkland 88.48 146 eP P 05 08 31.0 -0.7
AMTX Amarillo 88.57 52 eP P 05 08 32.4 +0.2
comp=Z,26nm,1.3s,mb5.4
GCMT Greycliff 88.69 39 eP P 05 08 33.6 +0.9
BJT Baijiatuan 88.96 314 eP P 05 08 33.8 -0.2
BJT pmax pmax
comp=Z,207nm,1.9s
BJT Baijiatuan 88.96 314 eP P 05 08 33.8 -0.2
comp=Z,207nm,1.9s,mb6.1
BJI Beijing 88.97 314 P P 05 08 34.9 +0.9
BJI PP PP 05 12 03.7 -0.1
BJI AMB AMB
comp=Z,46nm,2.0s,mb5.5
BJI AMB AMB
comp=Z,948nm,3.4s
BJI LR LR
comp=N,586nm,16.8s,MS5.2
BJI LR LR
comp=E,352nm,16.8s,MS5.2
BJI LR LR
comp=Z,475nm,21.4s,MS4.9
DAWY Dawson 89.27 15 eP P 05 08 35.4 -0.1
EGMT Eagleton 89.84 37 eP P 05 08 37.7 -0.4
comp=Z,32nm,1.7s,mb5.4
GYA Guiyang 90.14 298 ⇑iP P 05 08 41.1 +1.6
GYA PP PP 05 12 16.9 +3.8
GYA SKS 05 19 06.2
GYA S 05 19 28.3
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.6
GYA AMB AMB
comp=Z,180nm,4.8s
GYA LR LR
comp=N,870nm,22.4s,MS5.3
GYA LR LR
comp=E,810nm,22.8s,MS5.3
GYA LR LR
comp=Z,790nm,23.0s,MS5.1
BILL Bilibino 90.21 353 c iP P 05 08 38.9 -0.9
BILL pmax pmax
comp=Z,31nm,1.0s,mb5.6
BILL Bilibino 90.21 353 eP P 05 08 39.4 -0.5
comp=Z,28nm,0.9s,mb5.6
WMOK Wichita Mounta 90.64 53 eP P 05 08 41.7 -0.1
WMOK pmax pmax
comp=Z,6.0nm,1.3s,mb4.8
WMOK Wichita Mounta 90.64 53 eP P 05 08 41.6 -0.2
comp=Z,6.3nm,1.3s,mb4.8
EDM Edmonton 90.86 32 eP P 05 08 41.9 -1.0
HKT Hockley 90.91 58 eP P 05 08 44.1 +1.0

HKT pmax pmax
comp=Z,25nm,1.5s,mb5.3
HKT Hockley 90.91 58 eP P 05 08 44.1 +1.0
comp=Z,25nm,1.5s,mb5.3
LAO LASA Array 91.20 40 eP P 05 08 45.4 +1.0
comp=Z,24nm,1.2s,mb5.4
RSSD Black Hills 91.28 43 eP P 05 08 44.7 -0.1
RSSD pmax pmax
comp=Z,15nm,1.1s,mb5.2
RSSD Black Hills 91.28 43 eP P 05 08 44.7 0.0
comp=Z,15nm,1.1s,mb5.2
XAN Xi'an 91.45 306 P P 05 08 46.9 +1.3
XAN AMB AMB
comp=Z,36nm,1.6s,mb5.5
HHC Hu-ho-hao-te 92.46 313 eP P 05 08 50.3 0.0
HHC PP PP 05 12 33.6 +2.1
HHC AMB AMB
comp=Z,12nm,0.4s,mb5.6
HHC AMB AMB
comp=Z,383nm,3.8s
HHC LR LR
comp=N,251nm,18.1s,MS5.1
HHC LR LR
comp=E,587nm,22.1s,MS5.1
HHC LR LR
comp=Z,589nm,20.1s,MS5.0
KMI Kunming 92.88 296 ⇑P P 05 08 54.7 +2.5
KMI PP PP 05 12 37.9 +3.1
KMI AMB AMB
comp=Z,45nm,1.3s,mb5.7
KMI AMB AMB
comp=Z,484nm,3.9s
KMI LR LR
comp=N,302nm,16.1s
KMI LR LR
comp=E,377nm,21.5s
KMI LR LR
comp=Z,548nm,23.2s
JTS JuntasAbangare 92.97 80 P P 05 08 53.7 +1.1
comp=Z,9.0nm,0.9s,mb5.2,baz=263,slow=3.2,SNR=7.0
JTS JuntasAbangare 92.97 80 eP P 05 08 53.7 +1.1
JTS JuntasAbangare 92.97 80 eP P 05 08 53.8 +1.2
comp=Z,17nm,1.1s,mb5.4
BTO Baotou 93.41 312 eP P 05 08 56.0 +1.4
CHTO Chiang Mai 93.86 289 eP P 05 08 58.0 +1.3
CHTO pmax pmax
comp=Z,19nm,0.8s,mb5.6
CHTO Chiang Mai 93.86 289 eP P 05 08 58.0 +1.3
comp=Z,20nm,0.8s,mb5.6
KSU1 Kansas State U 94.05 50 eP P 05 08 57.3 -0.3
INK Inuvik 94.13 14 P P 05 08 56.6 -1.3
comp=Z,12nm,0.9s,mb5.3,baz=204,slow=7.3,SNR=46
INK Inuvik 94.13 14 eP P 05 08 56.6 -1.3
INK pmax pmax
comp=Z,26nm,1.2s
INK Inuvik 94.13 14 eP P 05 08 56.6 -1.3
comp=Z,26nm,1.2s,mb5.5
YAK Yakutsk 94.19 337 c iP P 05 08 57.0 -1.2
YAK pmax pmax
comp=Z,26nm,1.0s,mb5.6
YAK Yakutsk 94.19 337 ⇑iP P 05 08 57.1 -1.1
CD2 Chengdu 94.22 301 eP P 05 08 59.9 +1.6
CD2 PP PP 05 12 49.4 +4.1
CD2 SKS 05 19 29.5
CD2 S 05 20 03.8
CD2 SS SS 05 26 28.3 0.0
CD2 AMB AMB
comp=Z,10.0nm,1.2s,mb5.1
CD2 AMB AMB
comp=Z,80nm,9.2s
CD2 LR LR
comp=E,190nm,18.0s
CD2 LR LR
comp=Z,230nm,18.0s,MS4.7
MIAR Mount Ida 94.48 55 eP P 05 08 59.6 0.0
MIAR pmax pmax
comp=Z,3.0nm,1.1s,mb4.6
MIAR Mount Ida 94.48 55 eP P 05 08 59.6 +0.1
comp=Z,2.6nm,1.1s,mb4.6
YKA Yellowknife Ar 95.76 24 P P 05 09 04.2 -1.2
comp=Z,3.9nm,0.9s,mb4.8,baz=234,slow=4.2,SNR=58
YKA PKKPbc PKKPbc 05 25 54.3 -0.4
comp=Z,0.5nm,0.8s,baz=37,slow=2.6,SNR=6.6
YKA LR LR 05 49 50.2
comp=Z,725nm,19.0s,MS5.2,baz=235,slow=34
YKA Yellowknife Ar 95.76 24 P P 05 09 04.2 -1.2
YKA PKKPbc PKKPbc 05 25 54.4 -0.4
YKA LR LR 05 49 50.2
YKW3 Yellowknife Ar 95.80 24 eP P 05 09 04.1 -1.4
LZH Lanzhou 96.08 306 eP P 05 09 08.2 +1.3
LZH PP PP 05 13 03.2 +3.5
LZH AMB AMB
comp=Z,43nm,1.5s,mb5.7
LZH AMB AMB
comp=Z,211nm,9.6s
LZH LR LR
comp=E,708nm,16.4s
LZH LR LR
comp=Z,983nm,18.9s,MS5.3
CIT Chita 96.20 324 eP P 05 09 07.9 +0.5
CIT e pP 05 09 21.5 +3.0
CIT pmax pmax
comp=Z,48nm,2.6s,mb5.5
HOPE Hope Point 96.44 157 eP P 05 09 12.7 +4.2
comp=Z,182nm,1.3s,mb6.3
ULN Ulaanbaatar 98.30 318 eP P 05 09 17.1 +0.2
ULN pmax pmax
comp=Z,10.0nm,1.3s,mb5.2
ULN Ulaanbaatar 98.30 318 eP P 05 09 17.1 +0.3
comp=Z,10nm,1.3s,mb5.2
LPAZ La Paz 98.47 111 P P 05 09 19.3 +1.7
comp=Z,1.0nm,0.8s,mb4.4,baz=246,slow=6.1,SNR=5.6
LPAZ LR LR 05 47 08.1
comp=Z,1µm,18.3s,MS5.4,baz=325,slow=31
LPAZ La Paz 98.47 111 eP P 05 09 19.2 +1.6
LPAZ pmax pmax
comp=Z,6.0nm,1.4s
LPAZ La Paz 98.47 111 eP P 05 09 19.2 +1.6
comp=Z,5.9nm,1.4s,mb4.9
BOD Bodaibo 98.56 329 eP P 05 09 13.9 -4.2
SONM Songino Array 98.69 318 P P 05 09 18.1 -0.6
comp=Z,1.8nm,1.0s,mb4.6,baz=116,slow=3.4,SNR=7.3
SONM LR LR 05 55 29.9
comp=Z,372nm,18.3s,MS4.9,baz=73,slow=36
ULM Lac du Bonnet 98.94 40 LR LR 05 49 02.7
comp=Z,1µm,19.6s,MS5.3,baz=42,slow=32
GTA Gaotai 100.23 308 eP Pdif 05 09 27.8 +2.3
GTA PP PP 05 13 36.2 +4.7
GTA PPP 05 15 45.1
GTA S Sdif 05 20 50.2 -8.3
GTA AMB AMB
comp=Z,6.0nm,2.2s
GTA AMB AMB
comp=Z,141nm,6.8s
GTA LR LR
comp=N,196nm,20.2s,MS4.9
GTA LR LR
comp=E,331nm,18.2s,MS4.9
GTA LR LR
comp=Z,568nm,18.2s,MS5.1
TIXI Tiksi 100.43 344 eP Pdif 05 09 20.8 -5.6
TIXI e 05 19 56.3
TIXI e 05 20 59.7
TIXI e 05 23 20.9
TIXI eSS SS 05 27 48.3 -7.6
TIXI pmax pmax
comp=Z,6.0nm,1.6s
TIXI pmax pmax
comp=Z,56nm,8.2s
TIXI pmax pmax
comp=N,97nm,16.4s
TIXI pmax pmax
comp=E,45nm,15.1s
TIXI Tiksi 100.43 344 ⇓iP Pdif 05 09 25.4 -1.0
ZAK Zakamensk 101.51 320 eP Pdif 05 09 32.5 +1.3
ZAK pmax pmax
comp=Z,8.0nm,1.7s
SHL Shillong 102.27 293 eP Pdif 05 09 29.0 -5.5
WMQ Urumqi 110.13 310 PDIF Pdif 05 10 08.0 -1.5
WMQ PP PP 05 14 46.2 +1.4
WMQ PP PP
comp=Z,71nm,8.1s
WMQ LR LR
comp=N,214nm,21.8s,MS4.8
WMQ LR LR
comp=E,145nm,23.5s,MS4.8

WMQ LR LR
comp=Z,318nm,21.6s,MS4.9
ZAL Zalesovo 113.35 321 PKiKP PKiKP 05 14 14.0 -3.0
comp=Z,1.1nm,0.6s,baz=294,slow=2.7,SNR=5.8
NVS Novosibirsk 114.31 322 *e*PKiKP PKiKP 05 14 17.0 -1.9
MK31 Makanchi Array 114.33 313 PKiKP PKiKP 05 14 17.8 -1.1
MK31 pmax pmax
comp=Z,3.0nm,0.9s
MKAR Makanchi Array 114.33 313 PKP PKiKP 05 14 17.6 -1.2
comp=Z,2.4nm,0.8s,baz=59,slow=2.9,SNR=14
MKAR PKKPbc PKKPbc 05 24 58.9 +0.5
comp=Z,0.7nm,0.8s,baz=284,slow=1.0,SNR=4.5
KURK Kurchatov 116.98 317 *e*PKiKP PKPdf 05 14 23.3 -0.7
KSH Kashi 118.26 304 *e*PKP PKPdf 05 14 25.1 -1.4
KSH *e*PKS 05 18 00.4
KSH PP PP
comp=Z,248nm,5.7s
KSH LR LR
comp=N,190nm,6.1s
KSH LR LR
comp=E,200nm,6.4s
KSH LR LR
comp=Z,244nm,12.9s,MS5.0
FRU Bishkek 119.50 308 PKiKP PKPdf 05 14 28.0 -0.8
FRU *e* 05 15 47.0
AAK Ala-Archa 119.58 308 *i* PKiKP PKPdf 05 14 27.4 -1.6
AAK Ala-Archa 119.58 308 *e*PKPdf PKPdf 05 14 28.0 -1.0
VOSK Vostochnaya 121.64 320 PKiKP PKPdf 05 14 31.9 -1.1
VOSK pmax pmax
comp=Z,9.0nm,1.0s
BVAR Borovoye Array 121.96 320 PKP PKPdf 05 14 33.2 -0.4
comp=Z,9.8nm,0.9s,baz=90,slow=3.0,SNR=40
BRVK Borovoye 122.02 320 *e*PKiKP PKPdf 05 14 33.2 -0.5
KKAR Karatay Array 122.52 308 *i* PKiKP PKPdf 05 14 34.3 -0.3
KKAR pmax pmax
comp=Z,7.0nm,1.1s
ZRNK Zerenda 122.80 320 PKiKP PKPdf 05 14 34.3 -0.9
ZRNK pmax pmax
comp=Z,10.0nm,0.9s
ZRNK Zerenda 122.80 320 *e*PKPdf PKPdf 05 14 34.5 -0.7
SUR Sutherland 124.75 195 PKP PKPdf 05 14 40.0 +1.1
comp=Z,7.5nm,1.0s,baz=136,slow=6.2,SNR=3.7
ARU Arti 127.85 326 *i* PKiKP PKPdf 05 14 44.3 -0.5
ARU *e* 05 16 42.3
ARU *e* 05 21 47.4
ARU *e*SP SP 05 26 41.3 -8.0
ARU *e*PS PS 05 26 50.1 -3.4
ARU *e*SS SS 05 33 51.4 -5.8
ARU Arti 127.85 326 *e*P PKPdf 05 14 44.7 -0.1
ARU Arti 127.85 326 *e*PKPdf PKPdf 05 14 44.7 -0.2
AB31 Akbulak array 129.09 317 *i* PKiKP PKPdf 05 14 47.3 +0.1
AB31 pmax pmax
comp=Z,5.0nm,1.1s
AKTK Aktyubinsk 130.00 319 PKP PKPdf 05 14 49.6 +0.7
AKTO Aktyubinsk 130.00 319 PKP PKPdf 05 14 49.6 +0.7
comp=Z,3.6nm,0.9s,baz=75,slow=3.3,SNR=11
AKTO Aktyubinsk 130.00 319 PKiKP PKPdf 05 14 49.6 +0.7
AKTO pmax pmax
comp=Z,4.0nm,0.9s
ARCES ARCESS Array B 130.28 351 PKP PKPdf 05 14 48.4 -1.1
comp=Z,2.6nm,0.8s,baz=318,slow=1.6,SNR=9.3
KLMR Klimovskoe 133.98 338 *i* PKiKP 05 14 49.9
KLMR pmax pmax
comp=Z,20nm,2.3s
FINES FINESS Array B 137.46 346 PKhKP 05 14 52.6
comp=Z,1.2nm,0.8s,baz=48,slow=2.8,SNR=4.3
LSZ Lusaka 137.55 213 *e*PKiKP PKPdf 05 15 03.8 +0.7
OBN Obninsk 139.09 333 ⇓*i*PKiKP PKPdf 05 15 05.6 -0.3
OBN *e* 05 15 16.6
OBN pmax pmax
comp=Z,21nm,1.4s
OBN Obninsk 139.09 333 ⇓*i*PKP PKPdf 05 15 05.7 -0.2
MAK Makhachkala 139.13 312 *e*PKiKP PKPdf 05 15 03.5 -2.5
MAK *i* 05 17 56.9
MAK *e*PPP 05 21 00.8
MAK pmax pmax
comp=Z,90nm,6.7s
NB2 NORSAR Subarra140.09 356 PKPd 05 14 58.7
comp=Z,11nm,1.7s,baz=8.0,slow=1.9
NB2 NORSAR Subarra140.09 356 PKPd 05 14 58.7
baz=8.0,slow=1.9
NOA NORSAR Array B 140.09 356 PKhKP 05 14 58.3
comp=Z,2.3nm,1.0s,baz=16,slow=4.6,SNR=5.0
HFS Hagfors 140.78 354 PKhKP 05 15 00.1
comp=Z,3.5nm,0.9s,baz=38,slow=7.5,SNR=4.3
ZEI Tsey 141.69 313 *e*PKiKP PKPdf 05 15 08.1 -2.5
ZEI *e* 05 18 12.0
KIV Kislovodsk 142.03 315 *i* PKiKP PKPdf 05 15 11.3 +0.1
KIV *e* 05 18 12.7
KIV *e*SS SS 05 36 44.5 -3.0
KIV pmax pmax
comp=Z,10.0nm,0.8s
KIV Kislovodsk 142.03 315 *e*PKP PKPdf 05 15 11.2 0.0
KMBO Kilima Mbogo 142.04 238 PKhKP 05 15 06.3
comp=Z,4.7nm,0.9s,baz=100,slow=0.9,SNR=8.1
SOC Sochi 144.13 316*c i*PKiKP PKPdf 05 15 11.5 -3.4
SOC *e* 05 31 06.2
SOC pmax pmax
comp=Z,18nm,0.9s
SUW Suwalki 144.75 342 *e*PKP PKPdf 05 15 14.8 -1.2
MUD Monsted U'grnd 144.78 357 ⇑*i*P PKPdf 05 15 14.8 -1.3
comp=Z,88nm,1.1s
MUD Monsted U'grnd 144.78 357 ⇑*i*PKiKP PKPdf 05 15 14.8 -1.3
MUD pmax pmax
comp=Z,88nm,1.1s
ANN Anapa 144.96 319 *i* PKiKP PKPdf 05 15 15.6 -0.8
ANN pmax pmax
comp=Z,180nm,1.3s
COP Copenhagen 145.29 353 ⇑*i*P PKPbc 05 15 16.3 -0.5
comp=Z,44nm,1.2s
COP *i* 05 33 03.1
COP
comp=Z,220nm,20.0s
COP Copenhagen 145.29 353 ⇑*e*PKiKP PKPdf 05 15 16.3 -0.7
COP pmax pmax
comp=Z,44nm,1.2s
COP MLR MLR
comp=Z,220nm,20.0s,MS4.9
COP Copenhagen 145.29 353 ⇑*e*P PKPbc 05 15 16.3 -0.5
COP *i* 05 33 03.1
COP LR LR
comp=Z,220nm,20.0s,MS4.9
EKA Eskdalemuir Ar 145.34 9 PKPbc PKPbc 05 15 16.2 -0.7
comp=Z,4.8nm,0.9s,baz=338,slow=3.6,SNR=9.0
ESK Eskdalemuir 145.35 9 *e*PKiKP PKPdf 05 15 17.3 +0.2
AKASG Malin Array Be 145.35 334 PKPbc PKPbc 05 15 16.1 -0.8
comp=Z,41nm,0.9s,baz=38,slow=3.6,SNR=173
BSD Bornholm Skovb 145.53 351 ⇑*i*P PKPdf 05 15 16.7 -0.7
comp=Z,93nm,1.0s
BSD *i* 05 15 30.8
BSD Bornholm Skovb 145.53 351 ⇑*i*PKiKP PKPdf 05 15 16.7 -0.7
BSD *i* 05 15 30.8
BSD pmax pmax
comp=Z,93nm,1.0s
DESE Dese 146.05 258 *e*P PKiKP 05 15 23.3 +0.8
DCN Croghan 146.46 14 *e*P PKPdf 05 15 19.8 +0.9
DLF Lyons Farm 146.67 13 *e*P PKPdf 05 15 20.2 +0.9
SIM Simferopol' 146.84 322*c i*PKP2 PKPab 05 15 22.0 -0.8
GKP Gorka Klasztor 146.88 347 *e*PKP PKPbc 05 15 21.7 +0.1
MALT Malatya 147.21 308 ⇑*i*P PKPab 05 15 23.9 -0.3
MALT Malatya 147.21 308 *e*PKPab PKPab 05 15 24.0 -0.2
BSEG Bad Segeberg 147.22 355 *e*PKPbc PKPbc 05 15 22.4 -0.1
LVV L'vov 148.07 337 *i* PKP2 PKPbc 05 15 24.8 0.0
RUE Ruedersdorf 148.25 351 *e*PKPbc PKPbc 05 15 25.7 +0.4
KIS Kishinev 148.28 329*c i*PKiKP PKPdf 05 15 23.0 +1.0
KIS pmax pmax
comp=Z,500nm,3.0s
KIS MLR MLR
comp=Z,600nm,20.0s,MS5.4
KIS MLR MLR
comp=Z,2μm,20.0s
KWP Kalwaria 148.69 339 *e*PKP PKPbc 05 15 26.7 +0.3
IBBN Ibbenburen 148.99 358 *e*PKPbc PKPbc 05 15 27.6 +0.4
OJC Ojcow 149.08 342 *e*PKPdf PKPdf 05 15 23.7 +0.4
OJC *e*PKPbc PKPbc 05 15 27.4 0.0
OJC *e*PKPab PKPab 05 15 31.6 -0.1
CLZ Clausthal 149.29 354 *e*PKPbc PKPbc 05 15 27.8 -0.1
CLZ *e*PKPab PKPab 05 15 33.1 +0.5
CLZ Clausthal 149.29 354 *e*PKPbc PKPbc 05 15 27.8 -0.1
CLZ *e*PKPab PKPab 05 15 32.8 +0.2
STHS Stebnicka Huta 149.36 340 *i* PKP PKPbc 05 15 28.6 +0.5
STHS *e* 05 15 34.4
STHS *e* 05 15 47.4
STHS Stebnicka Huta 149.36 340 *i* PKP2 PKPbc 05 15 28.7 +0.6

WTSB Winterswijk 149.36 359 *e*PKiKP PKiKP 05 15 27.8 -1.5
comp=Z,75nm,2.4s
KSP Ksiaz 149.37 347 *e*PKP PKPbc 05 15 28.8 +0.7
KSP Ksiaz 149.37 347 *e*PKPdf PKPdf 05 15 23.9 +0.2
KSP *e*PKPdf PKPbc 05 15 28.6 +0.5
KSP *e*PKPab PKPab 05 15 32.9 0.0
KSP LR LR
comp=Z,1μm,21.5s,MS5.7
BURAR Bucovina Array 149.41 334 ⇑*i*P PKPbc 05 15 29.1 +0.9
BURAR Bucovina Array 149.41 334 ⇑P PKPbc 05 15 29.1 +0.8
KOLS Kolonicke sedl 149.43 338 *e*PKP PKPbc 05 15 30.8 +2.5
CLL Collm 149.51 351 *e*PKPdf PKPdf 05 15 24.2 +0.2
CLL ⇑*i*PKPbc PKPbc 05 15 28.5 0.0
comp=Z,480nm,3.0s
CLL *i* PKPab PKPab 05 15 32.7 -0.8
comp=Z,61nm,1.0s
CLL *e*PKPbc pPKPbc 05 15 41.8 +1.9
CLL *e*SPKPbc 05 15 46.7
CLL *e*PP PP 05 19 04.2 +3.1
CLL *e*L 06 22 04.8
comp=Z,554nm,22.0s
CLL Collm 149.51 351 *e*PKPdf PKPdf 05 15 24.0 0.0
CLL ⇑*i*PKPbc PKPbc 05 15 28.5 0.0
comp=Z,471nm,3.0s
CLL ⇑*i*PKPab PKPab 05 15 32.7 -0.8
comp=Z,64nm,1.0s
CLL *i* pPKPbc pPKPbc 05 15 42.0 +2.1
CLL *i* sPKPbc 05 15 46.8
CLL Collm 149.51 351 *e*PKP PKPdf 05 15 24.0 0.0
CLL ⇑*i*PKP PKPbc 05 15 28.5 0.0
GTTG Gvttingen 149.62 355 *e*PKPbc PKPbc 05 15 29.4 +0.6
GTTG *e*PKPab PKPab 05 15 34.3 +0.4
NIE Niedzica 149.64 341 *e*PKP PKPbc 05 15 29.7 +0.9
CRVS Cervenica-Dubn 149.73 339 *e*PKP PKPab 05 15 34.2 -0.2
CRVS Cervenica-Dubn 149.73 339 *e*PKP2 PKPab 05 15 34.3 -0.1
UPC Upice 149.74 347 ⇑*e*PKPB PKPbc 05 15 29.8 +0.7
UPC *e*PKPAB PKPab 05 15 35.1 +0.7
BRG Berggiesshubel 149.78 350 *e*PKPdf PKPdf 05 15 24.9 +0.5
BRG *e*PKPbc PKPbc 05 15 29.1 -0.1
BRG *e*PKPab PKPab 05 15 34.6 0.0
BRG Berggiesshubel 149.78 350 *e*PKP PKPdf 05 15 24.5 +0.1
comp=Z,14nm,1.8s
BRG *i* 05 15 29.5
comp=Z,39nm,1.6s
BRG *i* 05 15 34.5
comp=Z,25nm,1.2s
BRG Berggiesshubel 149.78 350 *e*PKHKP PKPdf 05 15 24.5 +0.1
BRG *i* 05 15 29.5
BRG pmax pmax
comp=Z,14nm,1.8s
BRG pmax pmax
comp=Z,39nm,1.6s
BRG pmax pmax
comp=Z,25nm,1.2s
DPC Dobruska-Polom 149.82 347 ⇑*e*PKPB PKPbc 05 15 30.0 +0.7
DPC *e*PKPAB PKPab 05 15 35.7 +0.9
OKC Ostrava-Krasne 149.87 344 ⇑*e*PKPB PKPbc 05 15 30.2 +0.8
OKC *e*PKPAB PKPab 05 15 36.1 +1.1
BUG Bochum--Univer 149.88 358 *e*PKPbc PKPbc 05 15 29.2 -0.2
CFR Carcaliu 149.91 328 ⇑*i*P PKPbc 05 15 30.3 +0.8
CFR Carcaliu 149.91 328 ⇑P PKPbc 05 15 30.3 +0.8
BR131 Keskin Array S 149.97 314 *e*PKPbc PKPbc 05 15 30.1 +0.5
BRTR Keskin Array B 149.97 314 PKPbc PKPbc 05 15 30.1 +0.5
comp=Z,17nm,0.9s,baz=129,slow=2.2,SNR=54
MORC Moravsky Berou 150.08 345 ⇑*i*P PKPdf 05 15 27.0 +2.1
MORC Moravsky Berou 150.08 345 ⇑P PKPdf 05 15 27.0 +2.1
MORC *e*PKPbc PKPbc 05 15 30.2 +0.3
MORC *e*PKPab PKPab 05 15 36.3 +0.5
KAMT Kaman 150.09 313 *e*P PKPdf 05 15 26.0 +1.1
VRI Vrincioaia 150.09 330 ⇓*i*P PKPbc 05 15 29.5 -0.4
VRI Vrincioaia 150.09 330 ⇓P PKPbc 05 15 29.5 -0.4
TIRR Tirgusor 150.27 326 ⇑*i*P PKPbc 05 15 30.8 +0.4
TIRR Tirgusor 150.27 326 *e*PKPdf PKPdf 05 15 25.6 +0.5
MOX Moxa 150.34 353 *e*PKPbc PKPbc 05 15 30.6 +0.1
MOX Moxa 150.34 353 *e*PKP PKPbc 05 15 30.9 +0.4
comp=Z,171nm,2.3s
MOX
comp=Z,900nm,22.0s
KECS Kecovo 150.42 340 *e*PKP PKPbc 05 15 30.4 -0.3
KECS *e* 05 15 38.3
WERD Werda 150.44 352 *e*PKPdf PKPdf 05 15 25.8 +0.4
WERD *e*PKPbc PKPbc 05 15 30.6 -0.2
WERD *e*PKPab PKPab 05 15 37.7 +0.4
ANTO Ankara 150.46 315 ⇑*i*P PKPbc 05 15 31.4 +0.6
ANTO Ankara 150.46 315 *e*PKPbc PKPbc 05 15 31.0 +0.2
UCC Uccle 150.52 2 PKPbc PKPbc 05 15 30.9 0.0
UCC APKPbc 05 15 44.6
PRU Pruhonice 150.53 349 ⇑*e*PKPB PKPbc 05 15 31.5 +0.5
PRU *e*PKPAB PKPab 05 15 38.1 +0.4
HGN Heimansgroeve 150.57 360 *e*PKiKP PKiKP 05 15 30.9 -0.9
comp=Z,72nm,2.8s
NKC Novy Kostel 150.63 351 ⇑*e*PKPB PKPbc 05 15 31.8 +0.6
NKC *e*PKPAB PKPab 05 15 38.5 +0.4
MENF Mencas 150.64 5 PKP PKPbc 05 15 31.7 +0.5
MEM Membach 150.73 360 PKPbc PKPbc 05 15 31.4 0.0
MEM PKPab PKPab 05 15 37.8 -0.7
MEM APKPbc 05 15 46.0
MEM APKPab 05 15 50.2
MEM XPKiKP 05 15 52.7
MEM PKS 05 18 59.1
MLR Muntele Rosu 150.74 330 PKPbc PKPbc 05 15 31.5 0.0
comp=Z,18nm,1.0s,baz=22,slow=2.1,SNR=11
MLR Muntele Rosu 150.74 330 ⇑*i*P PKPbc 05 15 31.8 +0.3
MLR Muntele Rosu 150.74 330 ⇑P PKPbc 05 15 31.8 +0.3
VRAC Vranov 150.74 345 PKPbc PKPbc 05 15 31.8 +0.3
comp=Z,5.6nm,0.6s,baz=288,slow=1.6,SNR=11
VRAC Vranov 150.74 345 ⇑*i*P PKPbc 05 15 31.7 +0.2
VRAC Vranov 150.74 345 ⇑P PKPbc 05 15 31.7 +0.2
SNF Seneffe 150.81 2 PKPbc PKPbc 05 15 29.6 -2.0
SNF PKPab PKPab 05 15 38.9 +0.1
SNF XPKPbc 05 15 51.3
VYHS Vyhne 150.91 342 *i* PKP PKPbc 05 15 32.1 +0.2
MANZ Manzenberg 150.92 352 *e*PKPdf PKPdf 05 15 26.6 +0.4
MANZ *e*PKPbc PKPbc 05 15 32.1 +0.2
TREC Trest 151.00 347 ⇑*e*PKPB PKPbc 05 15 32.6 +0.5
TREC *e*PKPAB PKPab 05 15 39.7 +0.1
TNS Taunus Mts 151.04 356 *e*PKPbc PKPbc 05 15 32.1 -0.1
TNS *e*PKPab PKPab 05 15 40.1 +0.3
DRGR 151.08 336 ⇓*i*P PKPbc 05 15 31.4 -0.9
DRGR 151.08 336 ⇓P PKPbc 05 15 31.4 -0.8
PSZ Piszkesteto 151.10 340 ⇑*e*PKP/PKPbc PKPbc 05 15 32.5 +0.2
PSZ Piszkesteto 151.10 340 *e*PKPbc PKPbc 05 15 32.4 +0.1
PSZ *e*PKPab PKPab 05 15 40.8 +0.8
ROTZ Rotzenmuhle 151.12 351 *e*PKPbc PKPbc 05 15 32.7 +0.3
ROTZ *e*PKPab PKPab 05 15 40.7 +0.6
GIVF Givet 151.23 1 *e*PKP1 PKPbc 05 15 32.7 +0.1
comp=Z,81nm,1.0s
DOU Dourbes 151.23 2 PKPbc PKPbc 05 15 32.8 +0.1
DOU APKP 05 15 41.8
DOU APKPbc 05 15 47.0
DOU XPKPbc 05 15 51.4
DOU PKS 05 19 00.0
BAIF Baives 151.25 2 *e*PKP1 PKPbc 05 15 32.9 +0.2
comp=Z,76nm,1.1s
GRA1 Grafenberg Arr 151.32 353 *e*PKPbc PKPbc 05 15 32.9 +0.1
GRA1 *e*PKPab PKPab 05 15 41.7 +0.7
GRF Grafenberg Arr 151.32 353 *e*PKPbc PKPbc 05 15 32.9 +0.1
GRF *e*PKPab PKPab 05 15 41.7 +0.7
ABH Alteburg 151.43 358 PKP PKPbc 05 15 32.8 -0.3
KHC Kasperske Hory 151.53 349 ⇑*e*PKPB PKPbc 05 15 33.8 +0.5
KHC *e*PKPAB PKPab 05 15 42.2 +0.4
KIZT Kizilcal 151.57 314 P PKPbc 05 15 34.6 +1.2
RUP Ruppelstein 151.62 358 PKP PKPbc 05 15 33.2 -0.3
WET Wettzell 151.63 350 *e*PKPdf PKPdf 05 15 27.4 +0.1
WET *e*PKPbc PKPbc 05 15 33.7 +0.2
WET *e*PKPab PKPab 05 15 42.2 0.0
TOD Tromm 151.63 356 PKP PKPbc 05 15 32.8 -0.7
ZST Bratislava 151.65 344 *e*PKP PKPbc 05 15 34.4 +0.8
ZST *e* 05 15 43.6
WLF Walferdange 151.68 360 *e*PKPbc PKPbc 05 15 34.1 +0.5
WLF *e*PKPab PKPab 05 15 42.8 +0.4
WLF Walferdange 151.68 360 PKPbc PKPbc 05 15 33.9 +0.3
WLF APKP 05 15 42.4
WLF APKPbc 05 15 47.8
WLF APKPab 05 15 55.9
WLF PKS 05 19 01.9
WLF Walferdange 151.68 360 *e*PKPbc PKPbc 05 15 33.9 +0.3
WLF *e*PKPab PKPab 05 15 42.6 +0.2
BUD Budapest 151.76 341 ⇑*e*pPKP/PKPbc PKPbc 05 15 34.1 +0.3
GEC2 GERESS Array S 151.78 349 *e*PKPdf PKPdf 05 15 27.3 -0.2
GEC2 *e*PKPbc PKPbc 05 15 33.8 -0.1
GEC2 *e*PKPab PKPab 05 15 43.0 +0.1
GERES GERESS Array B 151.78 349 PKP PKPdf 05 15 27.7 +0.2
comp=Z,0.5nm,0.6s,baz=255,slow=2.6,SNR=4.1
GERES PKPbc PKPbc 05 15 33.6 -0.3
comp=Z,5.8nm,0.9s,baz=48,slow=2.0,SNR=26
ROSF Rostrenen 152.04 13 *e*PKP1 PKPbc 05 15 33.7 -0.8
FLN La Foliniere 152.12 9 *e*PKP1 PKPbc 05 15 34.3 -0.3
comp=Z,56nm,1.0s
FLN *e*R
comp=Z,726nm,23.0s
FLN La Foliniere 152.12 9 *e*PKP PKPbc 05 15 34.3 -0.3
FLN LR LR
comp=Z,730nm,23.0s,MS5.4
SGMF Saint Gilles 152.26 12 *e*PKP1 PKPbc 05 15 34.2 -0.8
comp=Z,32nm,1.0s
CSS Prodhromos 152.27 305 *e*PKPbc PKPbc 05 15 34.7 -0.3
LDF La Druitiere 152.34 8 *e*PKP1 PKPbc 05 15 34.7 -0.4
comp=Z,44nm,1.2s
GRR Gorron 152.43 10 *e*PKP1 PKPbc 05 15 35.0 -0.3
comp=Z,29nm,0.9s
STU Stuttgart 152.44 355 *e*PKPbc PKPbc 05 15 35.7 +0.3
STU *e*PKPab PKPab 05 15 45.8 +0.2
EIL Elat 152.45 294 *e*PKPbc PKPbc 05 15 36.0 +0.6
QUIF Quistinic 152.46 13 *e*PKP1 PKPbc 05 15 35.7 +0.3
BZS Buzias 152.48 336 ⇑*i*P PKPbc 05 15 34.7 -0.7
FUR Furstenfeldbru 152.82 352 *e*PKPab PKPab 05 15 47.4 +0.2
MEZF Maizieres J'vi 152.83 1 *e*PKP1 PKPbc 05 15 36.6 +0.4
WLS Welschbruch 152.90 358 PKP PKPbc 05 15 37.1 +0.7
CDF Champ du Feu 152.90 358 *e*PKP1 PKPbc 05 15 36.5 +0.1
comp=Z,30nm,1.0s
BFO Black Forest 152.94 356 *e*PKPbc PKPbc 05 15 36.0 -0.5
BFO *e*PKPab PKPab 05 15 47.4 -0.3
BFO Black Forest 152.94 356 *e*PKPbc PKPbc 05 15 36.6 +0.1
BFO *e*PKPab PKPab 05 15 47.4 -0.3
BFO *e*PKPab PKPab 05 15 47.8 +0.1
PKSM Moragy 153.01 340 ⇑*i*P PKPdf 05 15 28.9 -0.4
PKSM Moragy 153.01 340 ⇑P PKPdf 05 15 28.9 -0.4
ECH Echery 153.10 358 PKP PKPbc 05 15 37.3 +0.5
THEF They Montfort 153.12 360 PKP PKPbc 05 15 37.1 +0.2
HAU Haudompre 153.33 359 *e*PKP1 PKPbc 05 15 38.3 +1.0
comp=Z,23nm,1.0s
HAU *e*R
comp=Z,670nm,19.5s
HAU Haudompre 153.33 359 *e*PKP PKPbc 05 15 38.3 +1.0
HAU LR LR
comp=Z,670nm,19.5s,MS5.5
FELD Feldberg im Sc 153.41 357 PKP PKPbc 05 15 39.9 +2.4
HINF Hinteralfeld 153.51 358 *e*PKP1 PKPbc 05 15 37.6 -0.1
PERS Pernice 153.59 345 *i* PKPdf PKPdf 05 15 29.0 -1.1
PERS *e*PKPbc PKPab 05 15 51.0 +0.5
BBS Basel-Blauen 153.84 357 PKiKP PKPdf 05 15 31.7 +1.2
LOMF Lomont 153.98 358 PKP PKPbc 05 15 39.5 +0.8
LOR Lormes 154.03 3 *e*PKP1 PKPbc 05 15 39.0 +0.2
LOR *e*R
comp=Z,855nm,19.8s
LOR Lormes 154.03 3 *e*PKP PKPbc 05 15 39.0 +0.2
LOR LR LR
comp=Z,860nm,19.8s,MS5.6
SSF Saint Saulge 154.21 4 *e*PKP1 PKPbc 05 15 39.5 +0.3
comp=Z,16nm,0.9s
MFF Saint Martin d 154.28 9 *e*PKP1 PKPbc 05 15 39.3 -0.1
ROBS Robic 154.31 348 *e* PKPbc 05 15 44.0 +4.6
ROBS *e*PKPbc PKPab 05 15 52.1 -1.5
ROBS Robic 154.31 348 *e*PKPbc PKPab 05 15 52.1 -1.5
DAVOX Davos 154.35 354 PKPab PKPab 05 15 53.8 +0.1
comp=Z,13nm,0.9s,baz=347,slow=3.9,SNR=11
DIVS Divcibare 154.38 336 ⇓*i*P PKPdf 05 15 30.9 -0.3
AVF Avril sur Loir 154.47 4 *e*PKP1 PKPbc 05 15 39.4 -0.4
BOJS Bojanci 154.62 344 *e*PKPdf PKPdf 05 15 31.7 +0.1
BOJS *e*PKPbc PKPab 05 15 54.9 +0.1
SMF Signal de Mont 154.65 3 *e*PKP1 PKPbc 05 15 40.0 -0.2
BGF Bois d'Agland 154.67 5 *e*PKP1 PKPbc 05 15 40.2 0.0
CALF La Chapelle 154.73 360 *e*PKP1 PKPbc 05 15 41.2 +0.9
STIP Stip 155.40 330 ⇑*i*PKP PKPbc 05 15 57.8 -0.4
RJF Les Rejaudoux 155.78 7 *e*PKP1 PKPdf 05 15 42.5 +9.3
RJF *e*R
comp=Z,917nm,20.0s
RJF Les Rejaudoux 155.78 7 *e*PKP PKPdf 05 15 42.5 +9.3
RJF LR LR
comp=Z,920nm,20.0s,MS5.6
BNI Bardonecchia 156.28 358 *e*PKP2 PKPab 05 16 02.6 +0.6
PBRG Braganca 156.96 25 *e*PKPab PKPab 05 16 05.0 +0.1
PVRL Vila Real 157.01 27 *e*PKPab PKPab 05 16 01.4 -3.7
PVIS Viseu 157.40 28 *e*PKPab PKPab 05 16 05.5 -1.3
MTE Manteigas 157.81 28 *e*PKPdf PKPdf 05 15 36.7 +0.9
MTE Manteigas 157.81 28 *e*PKPab PKPab 05 16 07.5 -1.1
MTE Manteigas 157.81 28 *eS* 05 44 37.6
PTOM Tomar 158.04 30 *e*PKPdf PKPdf 05 15 34.6 -1.5
PCBR Castelo Branco 158.30 29 *e*PKPdf PKPdf 05 15 37.3 +0.9
ESDC Sonseca Array 159.85 22 PKPab PKPab 05 16 17.0 -0.4
comp=Z,3.4nm,0.8s,baz=313,slow=3.7,SNR=7.9
DBIC Dimbokro 162.18 143 PKP PKPdf 05 15 40.5 -0.1
comp=Z,5.6nm,1.0s,baz=80,slow=1.1,SNR=5.1
DBIC PKPab PKPab 05 16 27.6 0.0
comp=Z,12nm,1.1s,baz=190,slow=6.6,SNR=5.9
TORD Torodi Ar. Bea 171.01 153 PKP PKPdf 05 15 47.1 -0.3
comp=Z,3.7nm,1.0s,baz=302,slow=0.7,SNR=14
TORD PKPab PKPab 05 17 06.5 -0.1
comp=Z,6.4nm,1.2s,baz=241,slow=3.2,SNR=6.0
TORD PP PP 05 20 47.4 -10
comp=Z,1.2nm,0.8s,baz=162,slow=4.5,SNR=3.8

IDC ***04*** *04:59:08.3±0.6, 1974S×17453W, h0km, mb4.6/17, mb1 4.8/18, mb1mx4.7/22, mbtmp4.6/18, ML3.1/1, MS5.3/1, Ms1 5.3/1, ms1mx4.1/17, Error ellipse: s-maj=25.5km s-min=14.5km az=137.0*

MOS ***04*** *04:59:10.7±2.9, 1959S×17461W, h10km, mb5.0/16, Error ellipse: s-maj=14.6km s-min=9.7km az=54.2*

ISCJB ***04*** *04:59:12.2±0.3, 1976S±0.08×17461W±0.08, h36km, mb4.6/36, Error ellipse: s-maj=12.9km s-min=7.5km az=96.0*

NEIC ***04*** *04:59:14.3±0.2, 1979S×17457W, mb4.7/22, Error ellipse: s-maj=11.6km s-min=5.7km az=147.0*

BJI ***04*** *04:59:14.2, 1980S×17460W, h40km, mB5.2, mb5.0, Ms5.1, Msz4.8*

SZGRF ***04*** *04:59:15.0, 19.17S×17468W, h33km, Tonga Islands*

ISC 04 04:59:14.2±0.3, 1978S±0.07×17454W±0.07, h38km, h38km±2.1km; pP-P, n187, σ0.86/84, mb4.6/36, 17C-6D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.41**	**25**	Pn	**Pn**	**Pn**	**05 00 43.5**	**-2.5**
	23nm,0.3s,baz=253,slow=19,SNR=6.1							
AFI				Sn	**Sn**	**Sn**	**05 01 48.5**	**-9.3**
	29nm,0.3s,baz=198,slow=23,SNR=4.2							
RAR	**Rarotonga**	**13.91**	**98**	Pn	**Pn**	**Pn**	**05 02 17.6**	**-11**
	6.4nm,0.3s,baz=287,slow=18,SNR=5.9							
RAR				T			05 16 33.1	
	14nm,0.3s,baz=98,slow=14,SNR=3.7							
DZM	**Mont Dzumac**	**17.91**	**259**	P	**P**	**Pn**	**05 03 23.8**	**+3.5**
	1.5nm,0.3s,baz=76,slow=18,SNR=11							
RPZ	**Rata Peaks**	**26.75**	**204**	P	**P**	**P**	**05 04 51.6**	**+1.4**
	9.6nm,0.5s,mb4.6,baz=54,slow=6.0,SNR=8.7							
CTA	**Charters Tower**	**36.80**	**263**	P	**P**	**P**	**05 06 18.3**	**0.0**
	12nm,0.5s,mb5.0,baz=92,slow=11,SNR=18							
CTAO	**Charters Tower**	**36.80**	**263**	*eP*	**P**	**P**	**05 06 19.1**	**+0.8**
CTAO				pmax	pmax			
	comp=Z,11nm,0.6s,mb4.9							
CTAO	**Charters Tower**	**36.80**	**263**	*eP*	**P**	**P**	**05 06 19.1**	**+0.8**
	comp=Z,11nm,0.6s,mb4.8							
PMG	**Port Moresby**	**38.39**	**280**	P	**P**	**P**	**05 06 32.0**	**+0.2**
	comp=Z,15nm,0.9s,mb4.7,baz=118,slow=6.8,SNR=4.1							
PMG				LR	LR		05 18 18.5	
	comp=Z,4μm,18.4s,baz=323,slow=30							
PMG	**Port Moresby**	**38.39**	**280**	*eP*	**P**	**P**	**05 06 31.9**	**+0.2**
PMG				pmax	pmax			
	comp=Z,14nm,0.8s							
PMG	**Port Moresby**	**38.39**	**280**	*eP*	**P**	**P**	**05 06 31.9**	**+0.1**
	comp=Z,14nm,0.8s,mb4.7							
STKA	**Stephens Creek**	**41.03**	**244**	P	**P**	**P**	**05 06 50.6**	**-3.1**
	comp=Z,4.2nm,0.5s,mb4.3,baz=77,slow=11,SNR=6.9							
STKA	**Stephens Creek**	**41.03**	**244**	*eP*	**P**	**P**	**05 06 50.9**	**-2.8**
ASAR	**Alice Springs**	**47.85**	**256**	P	**P**	**P**	**05 07 47.4**	**-0.8**
	comp=Z,6.5nm,0.8s,mb4.7,baz=94,slow=7.9,SNR=10							
ASAR				PcP	PcP		05 09 17.2	+0.7
	comp=Z,2.2nm,0.8s,baz=104,slow=4.4,SNR=3.9							
WB2	**Warramunga Ar**	**47.91**	**261**	*eP*	**P**	**P**	**05 07 48.5**	**-0.2**
WRAB	**Tennant Creek**	**47.91**	**261**	*eP*	**P**	**P**	**05 07 48.2**	**-0.5**
WRAB				pmax	pmax			
	comp=Z,7.0nm,0.7s,mb4.8							
WRAB	**Tennant Creek**	**47.91**	**261**	*eP*	**P**	**P**	**05 07 48.2**	**-0.5**

comp=Z,7.0nm,0.7s,mb4.8
WRA Warramunga Arr 47.92 261 P **P** 05 07 47.5 -1.2
comp=Z,1.9nm,0.4s,mb4.5,baz=96,slow=7.4,SNR=15
WRA PcP PcP 05 09 19.0 +2.3
comp=Z,1.7nm,0.8s,baz=99,slow=3.3,SNR=2.9
SBA Scott Base 58.83 185 *e*P **P** 05 09 09.6 +0.8
SBA pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
SBA Scott Base 58.83 185 *e*P **P** 05 09 09.6 +0.8
comp=Z,7.6nm,0.9s,mb4.7
VNDA Vanda 58.94 186 P **P** 05 09 09.5 -0.1
comp=Z,1.6nm,0.9s,mb4.0,baz=19,slow=11,SNR=2.8
MBWA Marble Bar 61.18 256 *e*P **P** 05 09 24.6 -0.3
comp=Z,19nm,1.2s,mb5.1
QSPA South Pole Qui 70.29 180 *e*P **P** 05 10 22.6 -1.0
MJAR Matsushiro Arr 71.61 321 P **P** 05 10 31.7 +0.1
comp=Z,6.5nm,0.7s,mb4.7,baz=154,slow=6.0,SNR=16
MAJO Matsushiro 71.62 321 *e*P **P** 05 10 32.7 +1.0
MAJO pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
MAJO Matsushiro 71.62 321 *e*P **P** 05 10 32.7 +1.0
comp=Z,9.1nm,0.7s,mb4.8
MAT Matsushiro 71.62 321 P **P** 05 10 32.6 +0.9
MAT Matsushiro 71.62 321 *e*P **P** 05 10 33.0 +1.3
MAT pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MAT Matsushiro 71.62 321 *e*P **P** 05 10 33.0 +1.3
comp=Z,9.7nm,0.8s,mb4.8
CMB Columbia Colle 76.75 41 *e*P **P** 05 11 01.7 +0.1
CMB pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
CMB Columbia Colle 76.75 41 *e*P **P** 05 11 01.7 +0.1
comp=Z,4.7nm,0.9s,mb4.4
WDC Whiskeytown Da 77.07 38 *e*P **P** 05 11 03.2 -0.2
WDC pmax pmax
comp=Z,20nm,1.5s,mb4.8
WDC Whiskeytown Da 77.07 38 *e*P **P** 05 11 03.1 -0.3
comp=Z,20nm,1.5s,mb4.8
YBH Yreka Blue Hor 77.73 37 P **P** 05 11 07.3 +0.2
comp=Z,3.8nm,0.6s,mb4.5,baz=62,slow=1.7,SNR=7.3
YBH Yreka Blue Hor 77.73 37 *e*P **P** 05 11 05.8 -1.3
YBH pmax pmax
comp=Z,4.0nm,0.7s
YBH Yreka Blue Hor 77.73 37 *e*P **P** 05 11 05.8 -1.3
comp=Z,4.2nm,0.7s,mb4.5
NVAR Mina Array Bea 78.29 42 P **P** 05 11 10.2 0.0
comp=Z,4.6nm,0.7s,mb4.5,baz=216,slow=7.3,SNR=12
PAHR Pah Rah Range 78.40 40 *e*P **P** 05 11 11.0 +0.2
comp=Z,3.7nm,0.8s,mb4.4
TPNV Topopah Spring 78.74 44 *e*P **P** 05 11 13.3 +0.6
TPNV pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
TPNV Topopah Spring 78.74 44 *e*P **P** 05 11 13.3 +0.6
comp=Z,3.8nm,0.6s,mb4.5
TPH Tonopah 78.77 43 *e*P **P** 05 11 13.3 +0.5
TPH pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
TPH Tonopah 78.77 43 *e*P **P** 05 11 13.3 +0.5
comp=Z,7.8nm,0.7s,mb4.8
NEN Nelson 78.94 46 *e*P **P** 05 11 13.9 +0.1
MOD Modoc 79.22 38 *e*P **P** 05 11 15.7 +0.4
comp=Z,4.2nm,0.6s,mb4.5
TUC Tucson 79.99 50 *e*P **P** 05 11 19.4 -0.1
BMN Battle Mountai 80.16 41 *e*P **P** 05 11 20.4 0.0
BMN pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
BMN Battle Mountai 80.16 41 *e*P **P** 05 11 20.4 0.0
comp=Z,3.0nm,0.5s,mb4.5
WVOR Wild Horse Val 80.52 38 *e*P **P** 05 11 22.5 +0.2
WVOR pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
WVOR Wild Horse Val 80.52 38 *e*P **P** 05 11 22.5 +0.2
comp=Z,7.1nm,0.8s,mb4.7
CCUT Cedar City 80.98 45 *e*P **P** 05 11 25.9 +1.1
CCUT *e*pP pP 05 11 37.2 +0.8
ARUT Antelope Range 81.06 45 *e*P **P** 05 11 26.3 +1.1
BBB Bella Bella 82.26 27 P **P** 05 11 31.7 +0.1
comp=Z,5.1nm,0.8s,mb4.5,baz=80,slow=3.4,SNR=3.5
MSU Marysvale 82.29 45 *e*P **P** 05 11 32.6 +0.9
HAWA Hanford 82.47 35 *e*P **P** 05 11 32.6 -0.1
comp=Z,1.6nm,1.4s,mb3.8
DUG Dugway 82.79 43 *e*P **P** 05 11 33.5 -0.8
DUG pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
DUG Dugway 82.79 43 *e*P **P** 05 11 33.5 -0.8
comp=Z,1.5nm,0.4s,mb4.4
TMUT Trail Mountain 83.35 44 *e*P **P** 05 11 38.4 +1.2
HLID Hailey 83.68 39 *e*P **P** 05 11 39.0 +0.1
comp=Z,3.7nm,0.7s,mb4.6
LENM Lemitar 83.69 50 *e*P **P** 05 11 39.3 +0.4
MNTX Cornudas Mount 84.70 53 *e*P **P** 05 11 38.2 -0.8
comp=Z,1.9nm,0.5s,mb4.5
SRU San Rafael 83.70 45 *e*P **P** 05 11 39.0 -0.1
SRU *e*pP pP 05 11 52.0 +1.4
LPM Los Pinos Moun 84.00 50 *e*P **P** 05 11 40.7 +0.1
LPM *e*pP pP 05 11 53.4 +1.2
TCUT Toone Canyon 84.19 43 *e*P **P** 05 11 42.4 +0.9
TCUT *e*pP pP 05 11 55.5 +2.3
ANMO Albuquerque 84.43 50 *e*P **P** 05 11 43.3 +0.5
ANMO *e*pP pP 05 11 54.1 -0.4
NEW Newport 84.91 34 P **P** 05 11 44.4 -0.8
comp=Z,3.5nm,0.8s,mb4.6,baz=219,slow=2.3,SNR=3.9
NEW Newport 84.91 34 P **P** 05 11 44.4 -0.8
MCMT McKenzie Canyo 85.33 39 *e*P **P** 05 11 47.7 +0.5
PDAR Pinedale Array 86.23 42 P **P** 05 11 51.7 0.0
comp=Z,0.8nm,0.6s,mb4.1,baz=197,slow=4.6,SNR=5.2
COLA College 86.84 11 *e*P **P** 05 11 53.8 -0.9
COLA pmax pmax
comp=Z,27nm,0.8s,mb5.5
COLA College 86.84 11 *e*P **P** 05 11 53.8 -0.9
comp=Z,27nm,0.8s,mb5.5
ILAR Eielson Array 86.92 11 P **P** 05 11 53.6 -1.5
comp=Z,5.6nm,0.7s,mb4.9,baz=231,slow=6.4,SNR=37
DAWY Dawson 87.91 15 *e*P **P** 05 11 59.8 -0.1
SNAA Sanae 88.61 177 P **P** 05 12 01.2 -1.9
comp=Z,1.3nm,0.9s,mb4.2,baz=161,slow=5.9,SNR=6.1
SNAA Sanae 88.61 177 *e* **P** 05 12 03.9 +0.7
SNAA *e* pP 05 12 12.7 -2.2
VNA3 Neumayer Olymp 88.62 175 *e* **P** 05 12 03.0 -0.2
VNA3 *e* pP 05 12 12.9 -2.1
VNA3 *e* 05 12 18.8
VNA3 *e* 05 12 24.9
VNA3 *e* 05 12 31.3
VNA3 *e* 05 12 52.7
VNA2 Neumayer--Watz 89.10 176 *e* **P** 05 12 04.5 -1.0
baz=204,slow=3.5
VNA2 *e* pP 05 12 15.2 -2.0
VNA2 *e* 05 12 20.0
VNA2 *e* 05 12 25.9
VNA2 *e* 05 12 32.1
VNA2 *e* 05 12 37.5
VNA2 *e* 05 12 54.4
VNA1 Neumayer--Stat 89.30 175 *e* **P** 05 12 06.3 -0.1
VNA1 *e* pP 05 12 16.5 -1.7
VNA1 *e* 05 12 29.4
XAN Xi'an 90.31 306 P **P** 05 12 13.5 +2.4
INK Inuvik 92.75 14 P **P** 05 12 21.7 -0.7
comp=Z,6.6nm,0.8s,mb5.1,baz=231,slow=4.4,SNR=16
INK Inuvik 92.75 14 *e*P **P** 05 12 21.6 -0.9
INK pmax pmax
comp=Z,9.0nm,0.9s
INK Inuvik 92.75 14 *e*P **P** 05 12 21.6 -0.9
comp=Z,9.0nm,0.9s,mb5.2
YKA Yellowknife Ar 94.52 24 P **P** 05 12 29.6 -1.0
comp=Z,1.8nm,0.7s,mb4.6,baz=238,slow=4.5,SNR=27
YKA PKKP PKKPbc 05 29 27.2 -1.7
comp=Z,0.1nm,0.6s,baz=40,slow=2.3,SNR=6.9
YKA Yellowknife Ar 94.52 24 P **P** 05 12 29.6 -1.0
YKA PKKP PKKPbc 05 29 27.2 -1.7
SONM Songino Array 97.36 318 P **P** 05 12 43.9 +0.4
comp=Z,0.9nm,1.1s,mb4.1,baz=119,slow=12,SNR=4.5
DDI Dehra Dun 114.36 295 *ex* x 05 14 10.0
BVAR Borovoye Array 120.61 321 PKP PKPdf 05 18 00.9 -0.9
comp=Z,3.6nm,0.5s,baz=118,slow=1.5,SNR=14
KEV Kevo 128.33 351 *e*pkp PKPdf 05 18 15.4 -1.2
ARCES ARCESS Array B 128.76 351 PKP PKPdf 05 18 16.2 -1.2
comp=Z,5.8nm,0.5s,baz=17,slow=1.2,SNR=71
APA Apatity 129.04 347 ⇑*i*PKIKP PKPdf 05 18 14.5 -3.5
APA pmax pmax
comp=Z,8.0nm,0.8s
APA Apatity 129.04 347 ⇑*i*P PKPdf 05 18 14.5 -3.5
APA pmax pmax
comp=Z,8.0nm,0.8s
JOF Joensuu 133.39 344 *e*pkp PKPdf 05 18 26.1 -0.1
KAF Kangasniemi 135.29 346 *e*pkp PKPdf 05 18 27.2 -2.5
FINES FINESS Array B 135.93 346 PKP PKPdf 05 18 30.2 -0.7
comp=Z,2.8nm,0.7s,baz=70,slow=2.8,SNR=8.1
NB2 NORSAR Subarra 138.58 356 PKPd PKPdf 05 18 34.0 -1.8
comp=Z,1.5nm,0.6s,baz=8.5,slow=1.9
NOA NORSAR Array B 138.58 356 PKP PKPdf 05 18 35.5 -0.3
comp=Z,1.3nm,0.6s,baz=14,slow=3.9,SNR=6.1
NOA NORSAR Array B 138.58 356 PKP PKPdf 05 18 35.5 -0.3
TSUM Tsumeb 139.48 198 PKP PKPdf 05 18 39.7 +2.2
comp=Z,1.7nm,0.6s,baz=0.0,slow=1.0,SNR=4.2
AKASG Malin Array Be 143.87 334 PKhKP 05 18 42.1
comp=Z,1.9nm,0.5s,baz=36,slow=3.8,SNR=6.7
EKA Eskdalemuir Ar 143.91 8 PKhKP 05 18 41.9
comp=Z,2.7nm,0.6s,baz=335,slow=3.0,SNR=11
DCN Croghan 145.08 13 *e*P PKPbc 05 18 46.1 -0.8
DLF Lyons Farm 145.28 13 *e*P PKPbc 05 18 46.8 -0.8
BSEG Bad Segeberg 145.70 355 *e*PKPbc PKPbc 05 18 49.1 +0.2
MALT Malatya 146.02 310 ⇓*i*P PKPbc 05 18 52.3 +2.4
RUE Ruedersdorf 146.72 351 *e*PKPbc PKPbc 05 18 51.9 -0.1
IBBN Ibbenburen 147.49 357 *e*PKPbc PKPbc 05 18 54.7 +0.6
CLZ Clausthal 147.77 354 *e*PKPbc PKPbc 05 18 54.5 -0.4
KSP Ksiaz 147.84 347 *e*PKP2 PKPbc 05 18 55.2 +0.2
STHS Stebnicka Huta 147.84 341 *e*PKP2 PKPab 05 18 56.2 -1.4
STHS pmax pmax
comp=Z,4.0nm,1.0s
BURAR Bucovina Array 147.92 334 ⇑*i*P PKPbc 05 18 57.3 +2.0
KOLS Kolonicke sedl 147.92 339 *e*PKP PKPbc 05 18 57.0 +1.7
CLL Collm 147.98 351 *e*PKPbc PKPbc 05 18 54.6 -0.8
CLL Collm 147.98 351 ⇑*i*PKPbc PKPbc 05 18 54.9 -0.5
comp=Z,32nm,1.0s
CLL ⇑*i*PKiKP PKiKP 05 18 58.5 +1.2
CLL *i* sPKPbc 05 19 11.0
CLL Collm 147.98 351 ⇑*i*PKIKP PKPbc 05 18 54.9 -0.5
CLL *i* 05 18 58.5
CLL pmax pmax
comp=Z,32nm,1.0s
GTTG Gyttingen 148.10 355 *e*PKPbc PKPbc 05 18 56.1 +0.4
UPC Upice 148.21 347 ⇑*e*PKPB 05 18 56.9
BRG Berggiesshubel 148.25 350 *e*PKPbc PKPbc 05 18 55.8 -0.3
BRG Berggiesshubel 148.25 350 *e*P PKPdf 05 18 53.5 +0.7
comp=Z,8.0nm,1.5s
BRG *i* 05 18 56.1
comp=Z,15nm,1.3s
BRG Berggiesshubel 148.25 350 *e*PKIKP PKPdf 05 18 53.5 +0.7
BRG *i* 05 18 56.1
BRG pmax pmax
comp=Z,8.0nm,1.5s
BRG pmax pmax
comp=Z,15nm,1.3s
DPC Dobruska-Polom 148.29 347 ⇑*e*PKPB PKPbc 05 18 57.4 +1.1
OKC Ostrava-Krasne 148.34 344 ⇑*e*PKPB PKPbc 05 18 57.0 +0.6
BUG Bochum--Univer 148.37 358 *e*PKPbc PKPbc 05 18 56.7 +0.2
CFR Carcaliu 148.47 329 ⇑*i*P PKPbc 05 18 57.8 +1.1
MORC Moravsky Berou 148.55 345 ⇓*i*P PKPbc 05 18 56.5 -0.4
MORC Moravsky Berou 148.55 345 *e*PKPbc PKPbc 05 18 57.2 +0.2
VRI Vrincioaia 148.63 331 ⇑*i*P PKPbc 05 18 56.9 -0.2
BR131 Keskin Array S 148.69 316 *e*PKPdf PKPdf 05 18 53.8 +0.3
BR131 *e*PKPbc PKPbc 05 18 57.6 +0.4
BRTR Keskin Array B 148.69 316 PKP PKPdf 05 18 53.9 +0.4
comp=Z,4.3nm,0.8s,baz=66,slow=4.9,SNR=3.7
BRTR PKPbc PKPbc 05 18 57.6 +0.3
comp=Z,4.4nm,0.8s,baz=144,slow=4.5,SNR=8.8
MOX Moxa 148.81 352 *e*PKPbc PKPbc 05 18 57.7 +0.1
MOX Moxa 148.81 352 *e*PKP PKPbc 05 18 58.3 +0.7
comp=Z,64nm,1.9s
KECS Kecovo 148.90 340 *e*PKIKP PKPbc 05 18 57.5 -0.3
KECS pmax pmax
comp=Z,16nm,1.9s
WERD Werda 148.92 352 *e*PKPbc PKPbc 05 18 57.8 -0.1
HARR Harsova 148.92 328 ⇑*i*P PKPbc 05 18 57.9 0.0
PRU Pruhonice 149.00 349 ⇑*e*PKPB PKPbc 05 18 58.2 +0.1
NKC Novy Kostel 149.11 351 ⇑*e*PKPB PKPbc 05 18 59.2 +0.9
CVD Cernavoda 149.14 328 ⇓*i*P PKPbc 05 18 59.1 +0.7
VRAC Vranov 149.21 346 PKPbc PKPbc 05 18 59.6 +1.0
comp=Z,3.0nm,0.4s,baz=70,slow=4.9,SNR=5.4
MLR Muntele Rosu 149.27 331 PKPbc PKPbc 05 18 58.6 -0.2
comp=Z,6.3nm,0.9s,baz=42,slow=4.3,SNR=4.2
MLR Muntele Rosu 149.27 331 ⇓*i*P PKPbc 05 18 59.2 +0.4
VYHS Vyhne 149.38 342 *e*PKP PKPbc 05 18 59.1 +0.1
VYHS *e* 05 19 11.5
MANZ Manzenberg 149.40 352 *e*PKPbc PKPbc 05 18 59.9 +0.8
TNS Taunus Mts 149.53 356 *e*PKPbc PKPbc 05 18 59.5 +0.1
PSZ Piszkesteto 149.58 341 *e*PKP2 PKPbc 05 19 00.1 +0.6
ROTZ Rotzenmuhle 149.60 351 *e*PKPbc PKPbc 05 18 59.4 -0.2
VOIR 149.72 332 ⇓*i*P PKPbc 05 19 00.6 +0.8
GIVF Givet 149.74 1 *e*PKP1 PKPbc 05 18 59.9 0.0
comp=Z,69nm,1.1s
BAIF Baives 149.77 2 *e*PKP1 PKPbc 05 19 00.1 +0.1
comp=Z,73nm,1.1s
GRA1 Grafenberg Arr 149.80 353 *e*PKPbc PKPbc 05 18 59.7 -0.3
GRF Grafenberg Arr 149.80 353 *e*PKPbc PKPbc 05 18 59.7 -0.3
KHC Kasperske Hory 150.00 349 ⇑*e*PKPB PKPbc 05 19 00.6 +0.1
WET Wettzell 150.10 350 *e*PKPbc PKPbc 05 19 00.8 0.0
WLF Walferdange 150.18 359 *e*PKPbc PKPbc 05 19 00.9 -0.1
WLF Walferdange 150.18 359 *e*PKPbc PKPbc 05 19 01.2 +0.2
MMAI Mount Meron Ar 150.23 302 PKPbc PKPbc 05 19 02.2 +1.2
comp=Z,14nm,0.7s,baz=68,slow=4.6,SNR=13
GEC2 GERESS Array S 150.25 349 *e*PKPbc PKPbc 05 19 01.4 +0.3
GERES GERESS Array B 150.25 349 PKPbc PKPbc 05 19 01.1 -0.1
comp=Z,6.5nm,0.7s,baz=45,slow=2.1,SNR=17
ROSF Rostrenen 150.65 12 *e*PKP1 PKPbc 05 19 01.4 -0.7
FLN La Foliniere 150.69 8 *e*PKP1 PKPbc 05 19 01.8 -0.4
comp=Z,74nm,0.8s
SGMF Saint Gilles 150.86 11 *e*PKP1 PKPbc 05 19 02.0 -0.6
comp=Z,26nm,0.7s
LDF La Druitiere 150.90 8 *e*PKP1 PKPbc 05 19 02.2 -0.5
comp=Z,67nm,1.0s
STU Stuttgart 150.92 355 *e*PKPbc PKPbc 05 19 03.7 +1.0
GRR Gorron 151.00 9 *e*PKP1 PKPbc 05 19 02.6 -0.3
comp=Z,56nm,0.6s
FUR Furstenfeldbru 151.29 352 *e*PKPbc PKPbc 05 19 04.5 +0.9
MEZF Maizieres J'vi 151.34 1 *e*PKP1 PKPbc 05 19 04.0 +0.3
CDF Champ du Feu 151.40 357 *e*PKP1 PKPbc 05 19 03.9 +0.1
comp=Z,21nm,0.8s
BFO Black Forest 151.42 356 *e*PKPbc PKPbc 05 19 03.9 0.0
PKSM Moragy 151.49 341 ⇓*i*P PKPbc 05 19 03.4 -0.7
EIL Elat 151.53 296 *e*PKPbc PKPbc 05 19 05.2 +1.1
HAU Haudompre 151.83 359 *e*PKP1 PKPbc 05 19 05.8 +1.0
comp=Z,31nm,0.6s
HINF Hinteralfeld 152.01 358 *e*PKP1 PKPbc 05 19 04.9 -0.3
comp=Z,15nm,0.7s
MOTA Moosalm 152.12 352 ⇑*i*P PKPbc 05 19 05.2 -0.3
comp=Z,9.5nm,1.1s
WTTA Wattenberg 152.12 351 ⇑*i*P PKPbc 05 19 05.3 -0.2
comp=Z,29nm,0.6s
HYF Humbligny 152.48 4 *e*PKP1 PKPbc 05 19 06.5 +0.2
LOR Lormes 152.55 2 *e*PKP1 PKPbc 05 19 06.4 0.0
comp=Z,29nm,0.9s
SSF Saint Saulge 152.74 3 *e*PKP1 PKPbc 05 19 06.9 0.0
comp=Z,29nm,0.9s
DAVOX Davos 152.82 353 PKPbc PKPbc 05 19 06.5 -0.6
comp=Z,9.6nm,0.6s,baz=244,slow=4.2,SNR=15
MFF Saint Martin d 152.85 8 *e*PKP1 PKPbc 05 19 06.7 -0.4
comp=Z,16nm,0.7s
AVF Avril sur Loir 153.00 3 *e*PKP1 PKPbc 05 19 07.0 -0.4
comp=Z,12nm,0.9s
SMF Signal de Mont 153.17 2 *e*PKP1 PKPbc 05 19 07.4 -0.4
BGF Bois d'Agland 153.20 4 *e*PKP1 PKPbc 05 19 07.8 -0.1
comp=Z,25nm,0.6s
CABF La Chapelle 153.23 359 *e*PKP1 PKPbc 05 19 08.5 +0.5
TCF Toulx Ste Croi 153.42 5 *e*PKP1 PKPbc 05 19 08.0 -0.4
comp=Z,17nm,0.7s
LPL La Plagne 154.31 358 *e*PKP1 PKPbc 05 19 11.6 +1.3
LPG La Plagne 154.33 358 *e*PKP1 PKPbc 05 19 11.3 +1.0
LFF La Frestale 154.60 8 *e*PKP1 PKPbc 05 19 10.5 -0.4
ORIF Oris-en-Rattie 154.93 359 *e*PKP1 PKPbc 05 19 11.8 +0.2
comp=Z,14nm,1.0s
VIVF Saint-Julien-l 154.98 1 *e*PKP1 PKPbc 05 19 12.0 +0.3
MBDF Montbardon 155.10 358 *e*PKP1 PKPdf 05 19 12.4 +9.3
comp=Z,10nm,0.8s
ESDC Sonseca Array 158.57 20 PKPab PKPab 05 19 43.3 +0.6
comp=Z,1.3nm,0.6s,baz=331,slow=4.4,SNR=5.5

*IDC **04** 05:01:38.9₀-0.5,212.7S×174.32W,h0km,mb4.7/16, mb1 4.8/17,mb1mx4.8/21,mbtmp4.7/17,ML4.6/1,Error ellipse: s-maj=22.7km s-min=15.2km az=138.0*
*ISCJB **04** 05:01:41.0₀-0.2,213.3S₀.06×174.31W₀.06,h21km, mb4.9/64,MS5.1/12,Error ellipse: s-maj=10.3km s-min=6.0km az=107.9*
*BJI **04** 05:01:40.2,208.9S×173.99W,h9km,mB5.4,mb5.2,Ms5.3, Msz5.0*
*NEIC **04** 05:01:42.0₀-4.8,212.9S×174.31W,h18km±28km,mb4.9/48, Error ellipse: s-maj=7.7km s-min=4.5km az=151.0*
*MOS **04** 05:01:42.7₀-0.9,212.9S×174.36W,h33km,mb5.1/31, MS5.2/5,Error ellipse: s-maj=13.5km s-min=9.3km az=50.0*
*SZGRF **04** 05:01:42.4,207.5S×174.25W,h5km,Tonga Islands*
ISC 04 05:01:42.9±0.2,213.5S±0.06×174.25W±0.06,h22km, h22km±2.1km;pP-P,n227,σ0.89/156,mb4.9/64,MS5.1/12, 6C-2D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.76**	**18**	Pn	**Pn**	**05 03 28.6**	**-5.7**
	16nm,0.3s,baz=80,slow=22,SNR=2.4						
AFI	**Afiamalu**	**7.76**	**18**	P	**Pn**	**05 03 28.6**	**-5.8**
AFI				pmax	pmax		
	comp=Z,16nm,0.3s						
AFI	**Afiamalu**	**7.76**	**18**	*e*Pn	**Pn**	**05 03 29.2**	**-5.1**
RAR	**Rarotonga**	**13.50**	**92**	Pn	**Pn**	**05 04 41.6**	**-11**
	comp=Z,15nm,0.3s,baz=239,slow=8.6,SNR=9.1						
RAR				T		05 19 32.0	
	comp=Z,7.3nm,0.3s,baz=216,slow=17,SNR=4.2						
DZM	**Mont Dzumac**	**17.96**	**264**	P	**Pn**	**05 05 54.3**	**+3.3**
	comp=Z,0.4nm,0.3s,baz=91,slow=20,SNR=7.5						
URZ	**Urewera**	**18.44**	**202**	P	**Pn**	**05 05 58.0**	**+1.1**
	comp=Z,1.9nm,0.3s,baz=18,slow=3.7,SNR=7.5						
ARMA	**Armidale**	**31.91**	**246**	*e*P	**P**	**05 08 07.2**	**+0.6**
CTA	**Charters Tower**	**36.90**	**265**	P	**P**	**05 08 50.1**	**+0.3**
	comp=Z,5.9nm,0.9s,mb4.4,baz=106,slow=9.1,SNR=4.6						
CTAO	**Charters Tower**	**36.90**	**265**	*e*P	**P**	**05 08 49.9**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.6						
CTAO	**Charters Tower**	**36.90**	**265**	*e*P	**P**	**05 08 49.9**	**+0.1**
	comp=Z,11nm,1.0s,mb4.6						
PMG	**Port Moresby**	**38.95**	**282**	P	**P**	**05 09 05.1**	**-1.9**
	comp=Z,23nm,0.9s,mb4.9,baz=176,slow=3.4,SNR=6.0						
PMG	**Port Moresby**	**38.95**	**282**	P	**P**	**05 09 05.1**	**-2.0**
PMG				pmax	pmax		
	comp=Z,23nm,1.0s						
PMG	**Port Moresby**	**38.95**	**282**	*e*P	**P**	**05 09 06.6**	**-0.5**
	comp=Z,25nm,1.0s,mb4.9						
STKA	**Stephens Creek**	**40.61**	**246**	*e*P	**P**	**05 09 18.7**	**-2.2**
	comp=Z,7.2nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**40.61**	**246**	P	**P**	**05 09 18.5**	**-2.4**
	comp=Z,9.8nm,0.9s,mb4.5,baz=82,slow=11,SNR=6.6						
POHA	**Pohakuloa**	**44.76**	**25**	*e*P	**P**	**05 09 56.2**	**+1.6**
	comp=Z,1μm,1.1s						
ASAR	**Alice Springs**	**47.74**	**257**	P	**P**	**05 10 17.6**	**-0.5**
	comp=Z,30nm,1.0s,mb5.3,baz=90,slow=8.3,SNR=23						
WB2	**Warramunga Arr**	**47.95**	**262**	*e*P	**P**	**05 10 18.5**	**-1.1**
WRAB	**Tennant Creek**	**47.95**	**262**	*e*P	**P**	**05 10 18.0**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.2						
WRAB	**Tennant Creek**	**47.95**	**262**	*e*P	**P**	**05 10 17.9**	**-1.7**
	comp=Z,24nm,0.9s,mb5.2						
WRA	**Warramunga Arr**	**47.96**	**262**	P	**P**	**05 10 18.1**	**-1.6**
	comp=Z,15nm,0.9s,mb5.0,baz=96,slow=8.1,SNR=20						
FORT	**Forrest**	**52.19**	**247**	*e*P	**P**	**05 10 51.6**	**-0.2**
	comp=Z,23nm,0.8s,mb5.2						
SBA	**Scott Base**	**57.30**	**185**	*e*P	**P**	**05 11 28.2**	**-0.6**
SBA				pmax	pmax		
	comp=Z,67nm,1.9s,mb5.3						
SBA	**Scott Base**	**57.30**	**185**	*e*P	**P**	**05 11 28.2**	**-0.6**
	comp=Z,67nm,1.9s,mb5.3						
VNDA	**Vanda**	**57.42**	**186**	P	**P**	**05 11 30.0**	**+0.3**
	comp=Z,3.1nm,0.8s,mb4.4,baz=1.8,slow=6.6,SNR=5.6						
VNDA	**Vanda**	**57.42**	**186**	*e*P	**P**	**05 11 29.3**	**-0.4**
VNDA				*e*PP	pP	05 11 44.3	+7.5
VNDA				pmax	pmax		
	comp=Z,12nm,1.3s						
VNDA	**Vanda**	**57.42**	**186**	*e*P	**P**	**05 11 29.3**	**-0.4**
	comp=Z,12nm,1.3s,mb4.8						
VNDA				*e*pP	pP	05 11 44.3	+7.6
MBWA	**Marble Bar**	**61.09**	**257**	*e*P	**P**	**05 11 55.0**	**-0.1**
	comp=Z,28nm,1.1s,mb5.3						
CASY	**Casey**	**64.72**	**206**	*e*P	**P**	**05 12 14.9**	**-4.3**
	comp=Z,30nm,1.3s,mb5.2						
QSPA	**South Pole Qui**	**68.73**	**180**	*e*P	**P**	**05 12 45.5**	**+0.7**
	comp=Z,17nm,1.1s,mb4.9						
MJAR	**Matsushiro Arr**	**73.00**	**322**	P	**P**	**05 13 10.3**	**-0.5**
	comp=Z,14nm,1.1s,mb4.8,baz=160,slow=5.8,SNR=20						
MAJO	**Matsushiro**	**73.00**	**322**	*e*P	**P**	**05 13 10.5**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
MAJO	**Matsushiro**	**73.00**	**322**	*e*P	**P**	**05 13 10.4**	**-0.3**
	comp=Z,11nm,0.9s,mb4.8						
MAT	**Matsushiro**	**73.00**	**322**	P	**P**	**05 13 10.4**	**-0.4**
MAT	**Matsushiro**	**73.00**	**322**	*e*P	**P**	**05 13 10.0**	**-0.8**
MAT				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.0						
MAT	**Matsushiro**	**73.00**	**322**	*e*P	**P**	**05 13 10.0**	**-0.8**
	comp=Z,25nm,1.3s,mb5.0						
SAO	**San Andreas Ge**	**76.29**	**41**	*e*P	**P**	**05 13 30.0**	**+0.2**
SAO				pmax	pmax		
	comp=Z,29nm,1.3s,mb5.0						
SAO	**San Andreas Ge**	**76.29**	**41**	*e*P	**P**	**05 13 30.0**	**+0.2**
	comp=Z,29nm,1.3s,mb5.0						
MWC	**Mount Wilson**	**76.86**	**45**	P	**P**	**05 13 34.1**	**+1.0**
KCPM	**Cahto Peak**	**76.94**	**38**	*e*P	**P**	**05 13 32.5**	**-1.0**
KSM	**Kuching**	**77.00**	**277**	*e*P	**P**	**05 13 34.4**	**+0.6**
CMB	**Columbia Colle**	**77.75**	**41**	*e*P	**P**	**05 13 37.5**	**-0.5**
CMB				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.8						
CMB	**Columbia Colle**	**77.75**	**41**	*e*P	**P**	**05 13 37.5**	**-0.5**
	comp=Z,18nm,1.3s,mb4.8						
OHCM	**Honcut**	**77.93**	**39**	*e*P	**P**	**05 13 39.0**	**-0.1**
WDC	**Whiskeytown Da**	**78.14**	**38**	*e*P	**P**	**05 13 40.1**	**-0.1**
WDC				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.9						
WDC	**Whiskeytown Da**	**78.14**	**38**	*e*P	**P**	**05 13 40.1**	**-0.1**
	comp=Z,21nm,1.4s,mb4.9						
YSS	**Yuzh-Sakhalins**	**78.26**	**332**	P	**P**	**05 13 40.0**	**-0.9**
YSS				*e*	pP	05 13 45.5	-2.7
YSS				MLR	MLR		
	comp=N,600nm,18.0s						
YSS				MLR	MLR		
	comp=Z,900nm,18.0s,MS5.1						
GSC	**Goldstone**	**78.33**	**45**	P	**P**	**05 13 41.5**	**+0.2**
GLA	**Glamis**	**78.35**	**48**	P	**P**	**05 13 42.0**	**+0.6**
YBH	**Yreka Blue Hor**	**78.81**	**37**	P	**P**	**05 13 44.0**	**+0.1**
	comp=Z,5.7nm,0.8s,mb4.5,baz=263,slow=3.0,SNR=8.1						
YBH	**Yreka Blue Hor**	**78.81**	**37**	*e*P	**P**	**05 13 44.1**	**+0.2**
YBH				pmax	pmax		
	comp=Z,25nm,1.3s						
YBH	**Yreka Blue Hor**	**78.81**	**37**	*e*P	**P**	**05 13 44.1**	**+0.3**
	comp=Z,25nm,1.3s,mb5.0						
HUMO	**Hull Mountain**	**79.26**	**36**	*e*P	**P**	**05 13 46.7**	**+0.3**
	comp=Z,7.6nm,1.0s,mb4.6						
NVAR	**Mina Array Bea**	**79.28**	**41**	P	**P**	**05 13 46.3**	**-0.1**
	comp=Z,6.4nm,0.9s,mb4.6,baz=216,slow=7.3,SNR=17						
PAHR	**Pah Rah Range**	**79.41**	**40**	*e*P	**P**	**05 13 47.2**	**0.0**
	comp=Z,23nm,1.3s,mb5.0						
TPNV	**Topopah Spring**	**79.67**	**44**	P	**P**	**05 13

comp=Z,51nm,1.9s
MAW Mawson 81.94 199 *e*P P 05 14 01.4 +0.6
comp=Z,51nm,1.9s,mb5.1
ARUT Antelope Range 81.98 44 *e*P P 05 14 01.0 +0.1
WUAZ Wupatki 82.09 47 *e*P P 05 14 01.9 +0.4
ELK Elko 82.56 41 *e*P P 05 14 04.0 0.0
ELK pmax pmax
comp=Z,5.0nm,1.1s
ELK Elko 82.56 41 *e*P P 05 14 04.0 0.0
comp=Z,5.0nm,1.1s,mb4.5
LON Longmire 82.64 33 P P 05 14 04.2 -0.2
GNW Green Mountain 82.67 32 P P 05 14 03.1 -1.4
NJ2 Nanjing 83.13 308 *e*P P 05 14 08.0 +1.0
NJ2 AP pP 05 14 20.1 +5.8
NJ2 PP PP 05 17 21.5 +3.4
NJ2 S S 05 24 24.0 -1.5
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.3
NJ2 AMB AMB
comp=Z,320nm,12.0s
NJ2 LR LR
comp=N,950nm,15.8s,MS5.3
NJ2 LR LR
comp=E,630nm,18.6s,MS5.3
NJ2 LR LR
comp=Z,770nm,16.6s,MS5.2
MSU Marysvale 83.21 44 *e*P P 05 14 08.0 +0.7
MSU *e* 05 17 15.6
MDJ Mudanjiang 83.25 323 P P 05 14 08.4 +0.8
MDJ PP PP 05 17 20.7 +1.6
MDJ S S 05 24 26.4 -0.3
MDJ SS SS 05 29 54.2 +2.7
MDJ AMB AMB
comp=Z,15nm,1.0s,mb5.0
MDJ AMB AMB
comp=Z,83nm,3.3s
MDJ LR LR
comp=N,567nm,18.1s,MS5.2
MDJ LR LR
comp=E,711nm,20.6s,MS5.2
MDJ LR LR
comp=Z,1μm,19.4s,MS5.4
MDJ Mudanjiang 83.25 323 P P 05 14 08.6 +1.1
HAWA Hanford 83.59 35 *e*P P 05 14 09.0 -0.3
comp=Z,3.3nm,1.5s,mb4.2
DUG Dugway 83.75 43 *e*P P 05 14 10.4 +0.3
DUG pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
DUG Dugway 83.75 43 *e*P P 05 14 10.4 +0.3
comp=Z,1.7nm,0.7s,mb4.3
BMO Blue Mountains 83.83 37 P P 05 14 10.4 -0.2
NLU North Lily Min 84.08 43 P P 05 14 12.2 +0.4
TMUT Trail Mountain 84.27 44 *e*P P 05 14 13.6 +0.8
MNTX Cornudas Mount 84.41 53 *e*P P 05 14 12.8 -0.7
comp=Z,10.0nm,1.3s,mb4.8
LENM Lemitar 84.47 50 *e*P P 05 14 14.3 +0.6
LTX Lajitas 84.59 56 *e*P P 05 14 14.0 -0.4
LTX pmax pmax
comp=Z,13nm,1.3s,mb4.9
LTX Lajitas 84.59 56 *e*P P 05 14 14.0 -0.4
comp=Z,13nm,1.3s,mb4.9
SRU San Rafael 84.62 44 P P 05 14 15.1 +0.6
HVU Hansel Valley 84.67 41 *e*P P 05 14 14.4 -0.4
HVU *e* 05 17 29.3
HVU pmax pmax
comp=Z,20nm,1.5s,mb5.0
HVU Hansel Valley 84.67 41 *e*P P 05 14 14.4 -0.4
comp=Z,20nm,1.5s,mb5.0
HVU *e*PP PP 05 17 29.3 -1.4
CTU Camp Tracy 84.70 43 *e*P P 05 14 14.9 0.0
comp=Z,2.7nm,0.5s,mb4.6
BNM Barren Site 84.71 50 *e*P P 05 14 15.3 +0.3
HLID Hailey 84.72 39 *e*P P 05 14 14.8 -0.2
comp=Z,12nm,1.1s,mb4.9
LPM Los Pinos Moun 84.79 50 *e*P P 05 14 16.5 +1.1
DAU Daniels Canyon 84.86 43 *e*P P 05 14 17.1 +1.4
GAMB Gambell 84.86 1 P P 05 14 15.8 +0.1
KLR Kul'dur 85.07 328 *e*P P 05 14 14.7 -2.1
CN2 Changchun 85.13 321 *e*P P 05 14 19.5 +2.4
CN2 *e*S 05 24 49.0
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.9
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,400nm,18.0s,MS5.0
CN2 LR LR
comp=E,400nm,18.0s,MS5.0
CN2 LR LR
comp=Z,400nm,18.0s,MS4.8
TCUT Toone Canyon 85.15 42 *e*P P 05 14 17.2 0.0
PV10 Paradox Valley 85.21 46 *e*P P 05 14 18.1 +0.6
TTA Tatalina 85.22 8 *e*P P 05 14 17.1 -0.4
TTA pmax pmax
comp=Z,13nm,0.8s,mb5.1
TTA Tatalina 85.22 8 *e*P P 05 14 17.1 -0.4
comp=Z,13nm,0.8s,mb5.1
ANMO Albuquerque 85.23 50 *e*P P 05 14 17.6 0.0
ANMO pmax pmax
comp=Z,13nm,1.1s
ANMO Albuquerque 85.23 50 *e*P P 05 14 17.6 0.0
comp=Z,13nm,1.1s,mb5.0
HWUT Hardware Ranch 85.32 42 *e*P P 05 14 18.6 +0.5
comp=Z,3.3nm,0.9s,mb4.5
PV01 Paradox Valley 85.39 46 *e*P P 05 14 18.2 -0.2
GDL2 Guadalupe Moun 85.41 53 *e*P P 05 14 19.3 +0.8
MA2 Magadan 85.57 343 *e*P P 05 14 18.3 -1.0
MA2 pmax pmax
comp=Z,4.0nm,0.6s,mb4.8
MA2 Magadan 85.57 343 *e*P P 05 14 18.2 -1.0
comp=Z,4.4nm,0.6s,mb4.9
WHN Wuhan 85.78 305 ⇓P P 05 14 22.0 +1.6
NEW Newport 86.05 34 *e*P P 05 14 21.7 0.0
NEW pmax pmax
comp=Z,2.0nm,0.5s
NEW Newport 86.05 34 *e*P P 05 14 21.7 0.0
comp=Z,1.7nm,0.5s,mb4.5
PLCA Paso Flores 86.13 132 *e*P P 05 14 22.1 0.0
PLCA pmax pmax
comp=Z,19nm,1.3s
PLCA Paso Flores 86.13 132 *e*P P 05 14 22.1 0.0
comp=Z,19nm,1.3s,mb5.2
CPRX Cap Rock 86.18 52 *e*P P 05 14 22.8 +0.5
MCMT McKenzie Canyo 86.36 39 *e*P P 05 14 23.4 +0.1
SYO Syowa Base 86.65 192⇑*e*PcP PcP 05 14 27.3 +0.3
SYO Syowa Base 86.65 192⇓*e*pP pP 05 14 35.0 +3.0
SMCO Snowmass 87.00 46 *e*P P 05 14 26.5 +0.1
comp=Z,2.4nm,0.9s,mb4.4
MOOW Moose Ponds 87.01 41 P P 05 14 26.3 -0.1
comp=Z,2.9nm,1.2s,mb4.4
VNA3 Neumayer Olymp 87.04 175 *e*P P 05 14 25.8 -0.8
VNA3 *e* 05 14 28.0
VNA3 *e* pP 05 14 32.5 -1.5
VNA3 *e* 05 14 40.6
VNA3 *e* 05 14 45.9
VNA3 *e* 05 14 49.7
VNA3 *e* 05 15 03.2
VNA3 *e* 05 15 23.2
VNA3 *e* 05 15 32.5
SNAA Sanae 87.05 177 P P 05 14 25.7 -0.9
comp=Z,3.1nm,1.0s,mb4.5,baz=196,slow=3.2,SNR=8.8
SNAA Sanae 87.05 177 *e*P P 05 14 32.0 +5.4
SNAA *e* 05 14 33.6
SNAA *e* pP 05 14 37.9 +3.9
SNAA *e* 05 14 46.4
SNAA *e* 05 14 52.1
SNAA *e* 05 14 55.4
SNAA *e* 05 15 10.1
SNAA *e* 05 15 26.2
SNAA Sanae 87.05 177 P P 05 14 25.7 -0.9
SNAA pmax pmax
comp=Z,3.0nm,1.0s
SNAA Sanae 87.05 177 *e*P P 05 14 26.0 -0.5
comp=Z,12nm,1.1s,mb5.0
QLMT Earthquake Lak 87.20 39 *e*P P 05 14 27.9 +0.6
BW06 Boulder Array 87.21 42 P P 05 14 27.0 -0.3
comp=Z,7.5nm,1.4s,mb4.7
PDAR Pinedale Array 87.21 42 P P 05 14 25.5 -1.9
comp=Z,2.2nm,0.9s,mb4.4,baz=240,slow=2.9,SNR=7.2
CHMT Chamberlain Mo 87.33 37 *e*P P 05 14 27.8 -0.2
VNA2 Neumayer--Watz 87.52 176 *e*P P 05 14 28.6 -0.3
baz=155,slow=3.5
VNA2 *e* 05 14 30.9
VNA2 *e* pP 05 14 35.9 -0.4
VNA2 *e* 05 14 43.2
VNA2 *e* 05 14 50.0
VNA2 *e* 05 14 54.2
VNA2 *e* 05 15 05.8
VNA2 *e* 05 15 24.1
VNA2 *e* 05 15 33.2
VNA1 Neumayer--Stat 87.73 175 *e*P P 05 14 29.8 -0.1
VNA1 *e* 05 14 32.1
VNA1 *e* pP 05 14 37.0 -0.3
VNA1 *e* 05 14 44.5
VNA1 *e* 05 14 49.4
VNA1 *e* 05 14 53.6
VNA1 *e* 05 15 06.5
VNA1 *e* 05 15 24.4
VNA1 *e* 05 15 34.1
PSI Prapat 88.05 274 P P 05 14 31.9 +0.5
comp=Z,16nm,0.9s,mb5.3,baz=164,slow=4.5,SNR=12
WALA Waterton Lakes 88.22 35 *e*P P 05 14 31.8 -0.4
comp=Z,17nm,1.4s,mb5.1
COLA College 88.32 11 *e*P P 05 14 31.3 -1.4
COLA pmax pmax
comp=Z,12nm,0.9s,mb5.1
COLA College 88.32 11 *e*P P 05 14 31.3 -1.4
comp=Z,12nm,0.9s,mb5.1
ILAR Eielson Array 88.40 11 P P 05 14 31.6 -1.5
comp=Z,5.0nm,1.0s,mb4.7,baz=218,slow=6.5,SNR=15
DAWY Dawson 89.34 15 *e*P P 05 14 36.7 -0.8
BILL Bilibino 90.27 353 *e*P P 05 14 40.6 -1.2
BILL pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
BILL Bilibino 90.27 353 *e*P P 05 14 40.8 -1.0
comp=Z,5.4nm,0.8s,mb4.9
EDM Edmonton 90.94 32 *e*P P 05 14 44.3 -0.6
RSSD Black Hills 91.36 43 *e*P P 05 14 45.9 -1.0
RSSD pmax pmax
comp=Z,5.0nm,1.1s,mb4.8
RSSD Black Hills 91.36 43 *e*P P 05 14 45.9 -1.0
comp=Z,5.4nm,1.1s,mb4.8
XAN Xi'an 91.44 306 P P 05 14 48.9 +1.6
XAN AMB AMB
comp=Z,12nm,1.2s,mb5.1
HHC Hu-ho-hao-te 92.47 313 *e*P P 05 14 54.0 +2.0
HHC PP PP 05 18 38.4 +5.3
HHC SKS 05 25 22.4
HHC S 05 25 52.4
HHC SS SS 05 32 09.3 +3.4
HHC AMB AMB
comp=Z,6.0nm,0.3s,mb5.4
HHC AMB AMB
comp=Z,162nm,8.8s
HHC LR LR
comp=N,297nm,16.2s
HHC LR LR
comp=E,587nm,22.1s
HHC LR LR
comp=Z,589nm,20.6s,MS5.0
KMI Kunming 92.86 296 ⇑P P 05 14 56.3 +2.5
KMI PP PP 05 18 40.2 +4.0
KMI S 05 25 52.2
KMI SS SS 05 32 11.0 -0.6
KMI AMB AMB
comp=Z,19nm,1.0s,mb5.5
KMI AMB AMB
comp=Z,154nm,7.6s
KMI LR LR
comp=N,302nm,17.5s,MS5.0
KMI LR LR
comp=E,377nm,22.2s,MS5.0
KMI LR LR
comp=Z,599nm,19.6s,MS5.0
CHTO Chiang Mai 93.83 289 *e*P P 05 15 00.3 +2.0
CHTO pmax pmax
comp=Z,7.0nm,0.8s,mb5.1
CHTO Chiang Mai 93.83 289 *e*P P 05 15 00.3 +2.0
comp=Z,7.1nm,0.8s,mb5.2
INK Inuvik 94.20 14 P P 05 14 58.6 -1.4
comp=Z,4.6nm,0.9s,mb4.9,baz=231,slow=5.4,SNR=6.4
INK Inuvik 94.20 14 *e*P P 05 14 58.9 -1.1
INK pmax pmax
comp=Z,4.0nm,0.9s
INK Inuvik 94.20 14 *e*P P 05 14 58.9 -1.1
comp=Z,4.4nm,0.9s,mb4.9
YKA Yellowknife Ar 95.83 24 P P 05 15 06.1 -1.4
comp=Z,0.5nm,0.7s,mb4.0,baz=238,slow=4.4,SNR=9.2
YKA Yellowknife Ar 95.83 24 P P 05 15 06.1 -1.4
LZH Lanzhou 96.08 306 *e*P P 05 15 10.2 +1.6
LZH PP PP 05 19 06.5 +5.2
LZH SKS 05 25 40.6
LZH *e*S 05 26 22.3
LZH *e*SS SS 05 32 59.4 +2.0
LZH AMB AMB
comp=Z,21nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,76nm,8.8s
LZH LR LR
comp=E,287nm,17.2s
LZH LR LR
comp=Z,476nm,19.7s,MS5.0
WMQ Urumqi 110.13 310 ⇑PKP PKiKP 05 20 11.5 -1.2
WMQ PP PP 05 20 49.5 +3.0
WMQ PP PP
comp=Z,81nm,8.1s
WMQ LR LR
comp=N,154nm,19.5s
WMQ LR LR
comp=E,155nm,25.4s
WMQ LR LR
comp=Z,162nm,20.9s,MS4.6
ZAL Zalesovo 113.36 321 PKiKP PKiKP 05 20 17.8 -1.1
comp=Z,0.7nm,0.4s,baz=158,slow=4.3,SNR=3.1
ZAL Zalesovo 113.36 321 PKPdf PKiKP 05 20 17.8 -1.1
MKAR Makanchi Array 114.33 313 PKP PKiKP 05 20 20.0 -0.7
comp=Z,0.7nm,0.7s,baz=60,slow=3.2,SNR=3.7
KSH Kashi 118.25 304 *e*PKP PKPdf 05 20 28.1 -0.1
KSH *e*PKS 05 24 03.2
KSH *e*PPP 05 24 05.2
KSH *e*SKS SKSdf 05 27 35.1 -3.8
KSH PP PP
comp=Z,146nm,4.0s
KSH LR LR
comp=N,133nm,4.5s
KSH LR LR
comp=E,206nm,4.6s
KSH LR LR
comp=Z,195nm,10.5s,MS5.0
BVAR Borovoye Array 121.97 320 PKP PKPdf 05 20 34.7 -0.7
comp=Z,3.0nm,0.9s,baz=96,slow=1.8,SNR=7.1
BRVK Borovoye 122.03 320 *e*PKIKP PKPdf 05 20 34.8 -0.7
ZRNK Zerenda 122.81 320 *e*PKIKP PKPdf 05 20 36.2 -0.8
SUW Suwalki 144.79 342 *e*PKP PKPdf 05 21 17.0 -0.9
MUD Monsted U'grnd 144.84 357 *i* P PKiKP 05 21 21.4 -0.3
comp=Z,22nm,1.0s
MUD *i* 05 43 27.9
MUD
comp=Z,470nm,20.0s
MUD Monsted U'grnd 144.84 357 *e*PKIKP PKiKP 05 21 21.4 -0.3
MUD *i* 05 43 27.9
MUD pmax pmax
comp=Z,22nm,1.0s
MUD MLR MLR
comp=Z,480nm,20.0s,MS5.3
MUD Monsted U'grnd 144.84 357 *e*P PKiKP 05 21 21.4 -0.3
MUD *i* 05 43 27.9
AKASG Malin Array Be 145.39 334 PKPbc PKPbc 05 21 18.4 -0.5
comp=Z,5.8nm,0.7s,baz=37,slow=3.5,SNR=18
EKA Eskdalemuir Ar 145.40 9 PKPbc PKPbc 05 21 19.1 +0.3
comp=Z,1.9nm,0.7s,baz=331,slow=2.8,SNR=6.8
BSD Bornholm Skovb 145.58 351 *i* P PKPdf 05 21 18.2 -1.0
comp=Z,28nm,1.1s
BSD
comp=Z,520nm,21.0s
BSD Bornholm Skovb 145.58 351 *i* PKP2 PKPab 05 21 18.2 -1.5
BSD pmax pmax
comp=Z,28nm,1.1s
BSD MLR MLR
comp=Z,530nm,21.0s,MS5.3
MALT Malatya 147.21 308 *e*PKP2 PKPab 05 21 25.7 -0.3
KWP Kalwaria 148.73 339 *e*PKP PKPab 05 21 32.6 +0.6
OJC Ojcow 149.12 342 *e*PKPdf PKPdf 05 21 26.3 +1.2
OJC *e*PKPab PKPab 05 21 31.3 -2.3
STHS Stebnicka Huta 149.40 340 *e*PKP PKPab 05 21 35.9 +1.1
KSP Ksiaz 149.41 347 *e*PKP PKPbc 05 21 30.6 +0.6
KSP *e* 05 21 34.5
KOLS Kolonicke sedl 149.47 338 *e*PKP PKPab 05 21 35.9 +0.8
KOLS *e* 05 21 45.6
CLL Collm 149.56 351 *e*PKPdf PKPdf 05 21 26.7 +0.9
CLL *e*PKPbc PKPbc 05 21 30.1 -0.3
CLL *e*PKPab PKPab 05 21 34.4 -1.0
CLL *e*pPKP pPKPdf 05 21 43.2 +10
CLL Collm 149.56 351 *e*PKPdf PKPbc 05 21 30.0 -0.4
comp=Z,26nm,1.8s
CLL ⇑*i*PKPbc PKPab 05 21 34.4 -1.0
comp=Z,19nm,1.0s
CLL *i* PKPab pPKPdf 05 21 37.0 +3.5
comp=Z,18nm,1.0s
CLL *i* (sPKPbc) 05 21 43.0
CLL Collm 149.56 351⇑*e*PKP2 PKPbc 05 21 30.0 -0.4
CLL pmax pmax
comp=Z,26nm,1.8s
CLL pmax pmax
comp=Z,19nm,1.0s
CLL pmax pmax
comp=Z,18nm,1.0s
GTTG Gyttingen 149.67 355 *e*PKPab PKPab 05 21 35.6 -0.3
NIE Niedzica 149.68 341 *e*PKP PKPbc 05 21 32.0 +1.3
UPC Upice 149.79 347 *e*PKPbc PKPbc 05 21 31.2 +0.2
UPC *e*PKPab PKPab 05 21 37.6 +1.2
BRG Berggiesshubel 149.83 350 *e*PKPab PKPab 05 21 35.4 -1.1
BRG Berggiesshubel 149.83 350 *e*PKP PKPbc 05 21 32.5 +1.4
comp=Z,5.3nm,0.9s
BRG *i* 05 21 49.6
comp=Z,24nm,1.6s
BRG
comp=N,126nm,13.6s
BRG
comp=E,141nm,20.5s
BRG
comp=Z,396nm,16.3s
BRG Berggiesshubel 149.83 350 *e*PKP2 PKPbc 05 21 32.5 +1.4
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG pmax pmax
comp=Z,24nm,1.7s
BRG MLR MLR
comp=N,126nm,13.6s
BRG MLR MLR
comp=E,141nm,20.5s
BRG MLR MLR
comp=Z,396nm,16.3s,MS5.3
DPC Dobruska-Polom 149.87 346 *e*PKPbc PKPbc 05 21 31.6 +0.4
DPC *e*PKPab PKPab 05 21 37.4 +0.7
DPC AMS AMS 06 31 40.0
OKC Ostrava-Krasne 149.91 344 *e*PKPbc PKPbc 05 21 31.6 +0.3
OKC *e*PKPab PKPab 05 21 38.5 +1.6
OKC AMS AMS 06 22 20.0
comp=Z,500nm,21.3s
BUG Bochum--Univer 149.94 358 *e*PKPab PKPab 05 21 36.5 -0.5
BR131 Keskin Array S 149.97 314 *e*PKPbc PKPbc 05 21 31.9 +0.5
BRTR Keskin Array B 149.97 314 PKPbc PKPbc 05 21 29.6 -1.8
comp=Z,4.9nm,1.0s,baz=136,slow=4.0,SNR=7.9
MORC Moravsky Berou 150.12 345 *e*PKIKP PKPdf 05 21 27.2 +0.5
MORC *e* 05 21 32.0
MOX Moxa 150.39 352 *e*PKP PKPab 05 21 40.7 +1.9
comp=Z,25nm,1.6s
KECS Kecovo 150.46 340 *e*PKP PKPbc 05 21 33.4 +0.8
KECS *e* 05 21 52.5
ANTO Ankara 150.47 315 *e*PKPbc PKPbc 05 21 33.0 +0.4
ANTO *e*PKPab PKPab 05 21 41.9 +2.7
PRU Pruhonice 150.58 348 *e*PKPbc PKPbc 05 21 33.2 +0.3
PRU *e*PKPab PKPab 05 21 39.4 -0.2
PRU AMS AMS 06 24 10.0
comp=Z,500nm,17.4s
NKC Novy Kostel 150.69 351 *e*PKPbc PKPbc 05 21 34.5 +1.4
NKC *e*PKPab PKPab 05 21 39.7 -0.4
NKC AMS AMS 06 22 30.0
comp=Z,500nm,16.3s
MLR Muntele Rosu 150.76 330 PKPbc PKPbc 05 21 33.9 +0.6
comp=Z,1.1nm,1.0s,baz=89,slow=6.4,SNR=4.8
VRAC Vranov 150.79 345 PKPbc PKPbc 05 21 33.8 +0.5
comp=Z,1.4nm,0.3s,baz=63,slow=6.8,SNR=3.0
VYHS Vyhne 150.95 342 *e*PKP PKPbc 05 21 33.7 0.0
TNS Taunus Mts 151.10 356 *e*PKPab PKPab 05 21 41.4 -0.4
PSZ Piszkesteto 151.14 340 *e*PKIKP PKPdf 05 21 30.7 +2.4
PSZ *e* 05 21 42.1
MMAI Mount Meron Ar 151.27 300 PKPbc PKPbc 05 21 35.5 +1.0
comp=Z,1.5nm,0.4s,baz=112,slow=6.4,SNR=3.8
GIVF Givet 151.29 1 *e*PKP1 PKPbc 05 21 35.6 +1.1
DOU Dourbes 151.29 2 PKPbc PKPbc 05 21 32.6 -1.9
DOU APKP 05 21 43.9
DOU APKPbc 05 21 50.0
BAIF Baives 151.31 2 *e*PKP1 PKPbc 05 21 35.9 +1.3
comp=Z,16nm,0.8s
GRA1 Grafenberg Arr 151.38 353 *e*PKPab PKPab 05 21 42.5 -0.4
GRF Grafenberg Arr 151.38 353 *e*PKPbc PKPbc 05 21 42.5 -0.4
KHC Kasperske Hory 151.58 349 *e*PKPbc PKPbc 05 21 35.5 +0.3
KHC *e*PKPab PKPab 05 21 42.5 -1.3
KHC AMS AMS 06 27 30.0
comp=Z,700nm,22.9s
WET Wettzell 151.68 350 *e*PKPab PKPab 05 21 44.2 0.0
WLF Walferdange 151.73 359 *e*PKPab PKPab 05 21 44.8 +0.4
GEC2 GERESS Array S 151.83 349 *e*PKPab PKPab 05 21 45.1 +0.3
GERES GERESS Array B 151.83 349 PKPbc PKPbc 05 21 36.0 +0.2
comp=Z,0.6nm,0.2s,baz=46,slow=4.2,SNR=3.8
LDF La Druitiere 152.40 8 *e*PKP1 PKPbc 05 21 37.7 +0.6
comp=Z,43nm,1.2s
GRR Gorron 152.50 10 *e*PKP1 PKPbc 05 21 38.2 +0.9
CDF Champ du Feu 152.96 358 *e*PKP1 PKPbc 05 21 39.4 +1.1
comp=Z,36nm,1.4s
BFO Black Forest 152.99 356 *e*PKPab PKPab 05 21 47.8 -1.9
SSF Saint Saulge 154.28 4 *e*PKP1 PKPbc 05 21 42.4 +1.2
comp=Z,12nm,1.0s
MFF Saint Martin d 154.35 9 *e*PKP1 PKPbc 05 21 41.8 +0.5
DIVS Divcibare 154.41 336⇑*i*P PKPbc 05 21 43.3 +1.9
TCF Toulx Ste Croi 154.95 6 *e*PKP1 PKPbc 05 21 43.4 +0.8
RJF Les Rejaudoux 155.85 7 *e*PKP1 PKPdf 05 21 45.7 +11
TIP Timpagrande 159.87 334 *e*PKPab PKPab 05 22 18.5 -0.7
TORD Torodi Ar. Bea 170.98 154 PKPab PKPab 05 23 07.4 -0.8
comp=Z,1.7nm,1.1s,baz=228,slow=3.2,SNR=3.6

NEIC ***04*** *05:01:58.6, 3091S×7172W, h54km, After GUC.*
GUC 04 05:01:58.6±0.8, 3091S×7172W, h54km±10km, MD3.8, ML3.3, 11C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.53**	**56**	⇓*i*P		Pn	05 02 11.2	+0.6
OVCH				*i* S		Sn	05 02 20.2	+1.0
OVCH				AML		AML	05 02 22.0	
comp=E,2μm,0.2s								
OVCH	**Ovalle**	**0.53**	**56**	⇓*i*P		Pn	05 02 11.2	+0.6
OVCH				*i* S		Sn	05 02 20.2	+1.0
CMCH	**Combarbala**	**0.67**	**114**	⇑*i*P		Pn	05 02 12.7	+0.5
CMCH				*i* S		Sn	05 02 22.8	+0.8
CMCH				AML		AML	05 02 25.1	
comp=N,2μm,0.1s								
CMCH	**Combarbala**	**0.67**	**114**	⇑*i*P		Pn	05 02 12.7	+0.5
CMCH				*i* S		Sn	05 02 22.8	+0.8
CHNG	**Los Chungos**	**0.99**	**169**	*e*P		Pn	05 02 16.9	+0.6
CHNG				*i* S		Sn	05 02 30.2	+0.8
CHNG				AML		AML	05 02 31.2	
comp=E,671nm,0.5s								
LSCH	**La Serena**	**1.07**	**22**	⇓*i*P		Pn	05 02 17.9	+0.5
LSCH				*i* S		Sn	05 02 32.1	+0.8
JACH	**Jahuel**	**2.01**	**152**	*e*P		Pn	05 02 30.8	+0.7
JACH				*i* S		Sn	05 02 55.6	+1.4
ROCH	**El Roble**	**2.15**	**164**	⇑*i*P		Pn	05 02 32.6	+0.6
PEL	**Peldehue**	**2.40**	**159**	⇑*i*P		Pn	05 02 36.0	+0.7
PEL				*i* S		Sn	05 03 05.0	+1.4
PEL				AML		AML	05 03 09.0	
comp=E,217nm,0.3s								
PEL	**Peldehue**	**2.40**	**159**	⇑*i*P		Pn	05 02 36.0	+0.7
PEL				*i* S		Sn	05 03 05.0	+1.4
LCCH	**Las Cruces**	**2.57**	**177**	⇑*i*P		Pn	05 02 38.1	+0.4
CLCH	**Cerro Calan**	**2.68**	**158**	⇓*i*P		Pn	05 02 39.9	+0.7
CLCH				*i* S		Sn	05 03 11.8	+1.3
CLCH				AML		AML	05 03 27.5	
comp=N,115nm,0.6s								
RCDM	**Rinconada Maip**	**2.69**	**164**	⇑*i*P		Pn	05 02 39.9	+0.6
RCDM				*i* S		Sn	05 03 11.5	+0.7
RCDM				AML		AML	05 03 15.6	
comp=N,167nm,0.1s								
RCDM				AML		AML	05 03 16.5	
comp=E,147nm,0.1s								
RCDM	**Rinconada Maip**	**2.69**	**164**	⇑*i*P		Pn	05 02 39.9	+0.6
RCDM				*i* S		Sn	05 03 11.5	+0.7
FCH	**Farellones**	**2.70**	**154**	*e*P		Pn	05 02 40.6	+1.1
FCH				*i* S		Sn	05 03 12.9	+1.9
FCH				AML		AML	05 03 19.1	

comp=N,78nm,0.2s
TACH Talangante 2.82 167⇑*i*P Pn 05 02 41.8 +0.6
TACH *i* S Sn 05 03 14.3 +0.4
PCH Pirque 2.89 160⇓*i*P Pn 05 02 42.9 +0.7
PCH *i* S Sn 05 03 16.9 +1.2
CHCH Chadas Angostu 3.15 164⇓*i*P Pn 05 02 46.5 +0.8
LMEL Las Melosas 3.20 157⇑*i*P Pn 05 02 47.9 +1.5
LMEL *i* S Sn 05 03 24.8 +1.5
LMEL AML AML 05 03 27.4
comp=N,111nm,0.1s
LMEL Las Melosas 3.20 157⇑*i*P Pn 05 02 47.9 +1.5
LMEL *i* S Sn 05 03 24.8 +1.5
CACH El Canelo 3.34 164 *i*P Pn 05 02 49.5 +1.2

BJI 04 05:02:09.0, 2398N×10114E, h22km, ML3.5, Yunnan

*IDC **04** 05:02:23.8±1.9, 2096S×17407W, h0km, mb4.5/7, mb1 4.8/7, mb1mx4.6/13, mbtmp4.5/7, Error ellipse: s-maj=88.8km s-min=26.6km az=153.0*
*ISCJB **04** 05:02:26.3±1.1, 2125±04×174.1W±02, h33km, mb4.6/12, Error ellipse: s-maj=58.4km s-min=14.3km az=123.3*
*MOS **04** 05:02:29.5±1.4, 2015S×17444W, h33km, mb5.3/2, Error ellipse: s-maj=34.7km s-min=18.9km az=58.3*
*NEIC **04** 05:02:30.0±0.9, 2117S×17407W, h50km, mb4.9/4, Error ellipse: s-maj=52.9km s-min=12.8km az=151.0*
ISC 04 05:02:28.9±1.2, 2105±04×1741W±02, h35km, n22, σ0§94/17, mb4.6/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.36**	**18**	Pn	**Pn**	**05 04 06.8**	**-7.0**
	54nm,0.3s,baz=162,slow=15,SNR=5.2						
STKA	**Stephens Creek**	**40.89**	**245**	P	**P**	**05 10 05.2**	**-2.4**
	6.4nm,0.7s,mb4.3,baz=88,slow=13,SNR=3.6						
ASAR	**Alice Springs**	**47.96**	**257**	P	**P**	**05 11 04.0**	**-0.1**
	8.8nm,0.9s,mb4.8,baz=96,slow=7.6,SNR=4.5						
WRA	**Warramunga Arr**	**48.15**	**262**	P	**P**	**05 11 06.5**	**+1.0**
	4.7nm,0.7s,mb4.6,baz=99,slow=8.2,SNR=4.6						
MBWA	**Marble Bar**	**61.30**	**257**	*e*P	**P**	**05 12 40.7**	**-0.1**
	21nm,1.1s,mb5.2						
MJAR	**Matsushiro Arr**	**72.79**	**321**	P	**P**	**05 13 53.9**	**+0.2**
	3.4nm,0.8s,mb4.3,baz=154,slow=5.3,SNR=4.3						
WDC	**Whiskeytown Da**	**77.76**	**38**	*e*P	**P**	**05 14 21.0**	**-1.3**
WDC				pmax	pmax		
	comp=Z,34nm,1.6s,mb5.0						
WDC	**Whiskeytown Da**	**77.76**	**38**	*e*P	**P**	**05 14 21.0**	**-1.3**
	comp=Z,34nm,1.6s,mb5.0						
NVAR	**Mina Array Bea**	**78.91**	**41**	P	**P**	**05 14 29.4**	**+0.8**
	comp=Z,5.9nm,0.8s,mb4.6,baz=216,slow=7.4,SNR=5.8						
TPH	**Tonopah**	**79.36**	**42**	*e*P	**P**	**05 14 31.7**	**+0.6**
TPH				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
TPH	**Tonopah**	**79.36**	**42**	*e*P	**P**	**05 14 31.7**	**+0.6**
	comp=Z,8.1nm,0.8s,mb4.7						
CCUT	**Cedar City**	**81.54**	**45**	*e*P	**P**	**05 14 44.2**	**+1.4**
MNTX	**Cornudas Mount**	**84.08**	**53**	*e*P	**P**	**05 14 55.7**	**-0.4**
	comp=Z,5.4nm,1.2s,mb4.5						
PDAR	**Pinedale Array**	**86.84**	**42**	P	**P**	**05 15 09.7**	**-0.1**
	comp=Z,1.8nm,0.9s,mb4.3,baz=186,slow=4.1,SNR=3.7						
ILAR	**Eielson Array**	**88.00**	**11**	P	**P**	**05 15 15.0**	**-0.4**
	comp=Z,4.1nm,1.1s,mb4.6,baz=215,slow=5.7,SNR=6.8						
YKA	**Yellowknife Ar**	**95.44**	**24**	P	**P**	**05 15 48.9**	**-0.9**
	comp=Z,0.9nm,0.8s,mb4.2,baz=236,slow=4.5,SNR=4.0						
YKA	**Yellowknife Ar**	**95.44**	**24**	P	**P**	**05 15 48.9**	**-0.9**
MKAR	**Makanchi Array**	**114.17**	**313**	PKP	PKiKP	05 21 06.2	+1.7
	comp=Z,0.5nm,0.5s,baz=60,slow=1.8,SNR=2.9						
ARCES	**ARCESS Array B**	**129.99**	**351**	PKP	PKPdf	05 21 35.1	+0.3
	comp=Z,0.9nm,0.5s,baz=90,slow=1.2,SNR=6.9						
EKA	**Eskdalemuir Ar**	**145.01**	**9**	PKPbc	PKPdf	05 22 01.5	-0.9
	comp=Z,2.0nm,0.8s,baz=318,slow=4.2,SNR=2.5						
AKASG	**Malin Array Be**	**145.11**	**334**	PKPbc	PKPdf	05 22 02.0	-0.6
	comp=Z,1.5nm,0.4s,baz=40,slow=4.3,SNR=4.8						
CLL	**Collm**	**149.21**	**351**	*i* (pPKPbc)	PKPab	05 22 23.4	+5.2

*THR **04** 05:13:02.2±0.7, 3536N×4692E, h15km, ML3.6*
*CSEM **04** 05:13:02.9±0.1, 3515N×4682E, h5km, ML3.9, Error ellipse: s-maj=2.9km s-min=2.1km az=59.0*
*ISCJB **04** 05:13:03.1±0.6, 3510N±004×4679E±005, h10km, Error ellipse: s-maj=6.4km s-min=5.2km az=55.1*
*TEH **04** 05:13:05.1, 3509N×4663E, h12km, Mn3.9*
ISC 04 05:13:04.5±0.6, 3510N±004×4678E±005, h10km, n20, σ1§28/23, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNGE	**Sanandaj**	**0.47**	**90**	*e*Pg	**Pg**	**05 13 11.2**	**-2.3**
SNGE				*e*Sg	**Sg**	**05 13 17.6**	**-2.1**
SNGE				AML	AML	05 13 19.5	
	comp=E,7μm,0.6s						
SNGE				AML	AML	05 13 19.9	
	comp=N,8μm,0.7s						
SNGE	**Sanandaj**	**0.47**	**90**	*e*Pg	**Pg**	**05 13 11.2**	**-2.4**
	SNR=94						
SNGE				*e*Sg	**Sg**	**05 13 17.6**	**-2.1**
	comp=N,8μm,0.7s,SNR=94						
IDHR	**Dehrash**	**0.51**	**219**	*e*Pg	**Pg**	**05 13 12.6**	**-1.8**
IGHG	**Ghaleghazi**	**0.79**	**193**	*e*Pg	**Pg**	**05 13 19.5**	**-0.1**
IKOM	**Komasi**	**1.10**	**146**	*e*Pg	**Pg**	**05 13 23.7**	**-1.9**
IAZR	**Azarshahr**	**2.66**	**346**	*e*Pn	**Pn**	**05 13 47.3**	**0.0**
IAZR				*e*Sn	**Sn**	**05 14 18.2**	**-1.3**
BHD	**Baghdad**	**2.70**	**228**	*ex*	x	05 13 41.5	
BHD				*ex*	x	05 13 55.0	
BHD				*ex*	x	05 14 22.5	
BHD				*ex*	x	05 14 37.0	
BHD	**Baghdad**	**2.70**	**228**	*e*Pg	x	05 13 55.0	
ASAO	**Ashtian**	**2.73**	**101**	*e*Pg	**Pn**	**05 13 50.5**	**+2.2**
ASAO				*e*Sg	**Sb**	**05 14 26.5**	**-0.3**
ASAO				AML	AML	05 14 44.1	
	comp=E,151nm,0.6s						
MSL	**Mosul**	**3.23**	**293**	*ex*	x	05 13 55.0	
MSL				*ex*	x	05 14 39.0	
SHGR	**Shooshtar-Gavs**	**3.43**	**150**	*e*Pn	**Pn**	**05 13 59.7**	**+1.8**
SHGR				AML	AML	05 15 06.9	
	comp=N,123nm,0.7s						
SHGR				AML	AML	05 15 11.0	
	comp=E,102nm,0.6s						
IMRD	**Marand**	**3.71**	**347**	*e*Pn	**Pn**	**05 14 02.1**	**+0.3**
IVRN	**Varamin**	**4.06**	**90**	*e*Pn	**Pn**	**05 14 07.4**	**+0.8**
IVRN				*e*Sn	**Sn**	**05 14 53.9**	**-0.3**
IKLH	**Kalahroud**	**4.35**	**113**	*e*Pn	**Pn**	**05 14 12.6**	**+1.9**
ISFB	**Sefidab**	**4.55**	**98**	*e*Pn	**Pn**	**05 14 14.1**	**+0.7**
IZEF	**Zefreh**	**5.11**	**114**	*e*Pn	**Pn**	**05 14 22.2**	**+1.2**
IZEF				*e*Sn	**Sn**	**05 15 19.1**	**-0.9**
IKIA	**Kiasar**	**5.73**	**77**	*e*Pn	**Pn**	**05 14 31.2**	**+1.6**
ICHK	**Chekchek**	**6.97**	**112**	*e*Pn	**Pn**	**05 14 47.2**	**+0.6**
IMEH	**Mehriz**	**7.53**	**117**	*e*Pn	**Pn**	**05 14 54.0**	**-0.3**
IMOK	**Mook**	**7.86**	**139**	*e*Pn	**Pn**	**05 14 58.8**	**0.0**

*ISCJB **04** 05:13:57.6±1.1, 2753S±007×7171W±009, h10km, mb3.9/2, Error ellipse: s-maj=13.2km s-min=8.2km az=81.6*
*IDC **04** 05:13:59.4±4.0, 2740S×7155W, h0km, mb4.0/2, mb1 3.9/3, mb1mx3.6/14, mbtmp3.9/3, ML3.6/1, Error ellipse: s-maj=119.2km s-min=63.9km az=87.0*
*NEIC **04** 05:13:59.6, 2756S×7163W, h29km, ML3.8(GUC), After GUC.*
*GUC **04** 05:13:59.6±0.4, 2756S×7163W, h29km±15km, ML3.8*
ISC 04 05:13:59.4±2.5, 2754S±008×716W±01, h9km±13km, n10, σ0§94/14, mb3.9/2, 3C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.82**	**55**⇑	*i*P	**Pg**	**05 14 15.0**	**-0.3**
CDCH				*i* S	**Sg**	**05 14 27.2**	**+1.2**
CPCH	**Copiapo**	**1.12**	**81**⇓	*i*P	**Pb**	**05 14 19.9**	**-1.0**
CPCH				*i* S	**Sg**	**05 14 35.2**	**-0.2**
CPCH				AML	AML	05 14 37.8	
	comp=E,6μm,0.1s						
CPCH	**Copiapo**	**1.12**	**81**⇓	*i*P	**Pb**	**05 14 19.9**	**-1.0**
CPCH				*i* S	**Sg**	**05 14 35.2**	**-0.2**
CRCH	**Chaqaral**	**1.48**	**36**⇑	*i*P	**Pn**	**05 14 25.4**	**-0.7**
CRCH				*i* S	**Sn**	**05 14 44.8**	**-0.8**
CRCH				AML	AML	05 14 55.4	
	comp=N,1μm,0.3s						
CRCH	**Chaqaral**	**1.48**	**36**⇑	*i*P	**Pn**	**05 14 25.4**	**-0.7**
CRCH				*i* S	**Sn**	**05 14 44.8**	**-0.8**
CMCH	**Combarbala**	**3.65**	**172**	*e*P	**Pn**	**05 14 55.5**	**-0.6**
LPAZ	**La Paz**	**11.65**	**17**	Pn	**Pn**	**05 16 45.5**	**-0.4**
	comp=N,2.0nm,0.3s,baz=210,slow=6.8,SNR=8.7						
DBIC	**Dimbokro**	**72.82**	**73**	P	**P**	**05 25 30.4**	**+2.0**
	comp=N,0.7nm,0.4s,mb3.9,baz=239,slow=12,SNR=2.6						
TORD	**Torodi Ar. Bea**	**81.67**	**71**	P	**P**	**05 26 19.2**	**+1.1**
	comp=N,0.9nm,0.6s,mb3.9,baz=260,slow=5.0,SNR=7.2						
TORD				pP	pP	05 26 27.3	+6.3
	comp=N,4nm,0.5s,baz=267,slow=4.8,SNR=2.2						
MKAR	**Makanchi Array**	**151.88**	**40**	PKPbc	PKPbc	05 33 55.8	+1.0
	comp=N,0.2nm,0.4s,baz=319,slow=4.2,SNR=2.7						

*ISCJB **04** 05:21:29.7±0.7, 2125±01×1737W±01, h33km, mb4.2/8, Error ellipse: s-maj=19.1km s-min=13.6km az=159.6*
*IDC **04** 05:21:29.5±1.2, 2108S×17423W, h0km, mb4.1/7, mb1 4.4/8, mb1mx4.2/16, mbtmp4.1/8, ML3.6/1, Error ellipse: s-maj=51.0km s-min=24.5km az=140.0*
*NEIC **04** 05:21:34.6±0.6, 2116S×17409W, h35km, mb4.6/1, Error ellipse: s-maj=21.0km s-min=12.4km az=137.0*
*MOS **04** 05:21:40.7±2.4, 1999S×17546W, h33km, mb4.8/1, Error ellipse: s-maj=28.9km s-min=23.5km az=30.0*
ISC 04 05:21:32.8±0.7, 2135±01×17373W±010, h35km, n31, σ1§33/16, mb4.2/8, 2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.54**	**15**	Pn	**Pn**	**05 23 14.8**	**-5.4**
	5.0nm,0.3s,baz=292,slow=7.3,SNR=6.0						
AFI				Sn	**Sn**	**05 24 33.9**	**-11**
	4.2nm,0.3s,baz=219,slow=22,SNR=3.0						
RAR	**Rarotonga**	**13.02**	**92**	Pn	**Pn**	**05 24 33.7**	**-1.4**
	3.4nm,0.3s,baz=250,slow=7.1,SNR=5.5						
DZM	**Mont Dzumac**	**18.45**	**264**	P	**Pn**	**05 25 45.2**	**-0.3**
	0.2nm,0.3s,baz=78,slow=19,SNR=3.6						
URZ	**Urewera**	**18.70**	**203**	P	**Pn**	**05 25 49.4**	**+0.9**
	0.2nm,0.3s,baz=267,slow=18,SNR=3.0						
ASAR	**Alice Springs**	**48.23**	**257**	P	**P**	**05 30 08.9**	**-1.1**
	4.8nm,0.9s,mb4.5,baz=89,slow=8.4,SNR=27						
WRA	**Warramunga Arr**	**48.45**	**262**	P	**P**	**05 30 10.2**	**-1.4**
	2.5nm,1.0s,mb4.2,baz=96,slow=7.8,SNR=14						
MJAR	**Matsushiro Arr**	**73.24**	**321**	P	**P**	**05 32 59.7**	**-0.5**
	3.8nm,1.0s,mb4.3,baz=161,slow=6.0,SNR=8.6						
MAJO	**Matsushiro**	**73.24**	**321**	*e*P	**P**	**05 33 00.3**	**0.0**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
MAJO	**Matsushiro**	**73.24**	**321**	*e*P	**P**	**05 33 00.3**	**+0.1**
	comp=Z,4.6nm,0.7s,mb4.5						
MAT	**Matsushiro**	**73.24**	**321**	P	**P**	**05 32 59.7**	**-0.6**
MAT	**Matsushiro**	**73.24**	**321**	*e*P	**P**	**05 33 00.0**	**-0.3**
PDAR	**Pinedale Array**	**86.83**	**42**	P	**P**	**05 34 15.6**	**+2.0**
	comp=Z,0.6nm,0.8s,mb3.9,baz=204,slow=3.3,SNR=4.9						
ILAR	**Eielson Array**	**88.22**	**11**	P	**P**	**05 34 21.8**	**+1.5**
	comp=Z,0.3nm,0.7s,mb3.6,baz=213,slow=6.8,SNR=5.0						
PSI	**Prapat**	**88.53**	**274**	P	**P**	**05 34 23.4**	**+1.8**
	comp=Z,2.0nm,0.4s,mb4.8,baz=180,slow=2.0,SNR=3.0						
YKA	**Yellowknife Ar**	**95.57**	**24**	P	**P**	**05 34 57.3**	**+3.1**
	comp=Z,0.2nm,0.7s,mb3.6,baz=239,slow=4.5,SNR=5.6						
BVAR	**Borovoye Array**	**122.22**	**320**	PKP	PKPdf	05 40 24.9	+1.1
	comp=Z,0.9nm,0.8s,baz=51,slow=0.9,SNR=5.7						
ZRNK	**Zerenda**	**123.06**	**320**	*e*PKIKP	PKPdf	05 40 26.2	+0.8
ZRNK				*e*		05 40 36.7	
AKASG	**Malin Array Be**	**145.53**	**334**	PKPbc	PKPbc	05 41 07.9	+0.6
	comp=Z,4.0nm,0.6s,baz=40,slow=4.0,SNR=22						
MALT	**Malatya**	**147.54**	**309**	*e*PKP2	PKPab	05 41 15.8	+0.5
KWP	**Kalwaria**	**148.82**	**339**	*e*PKIKP	PKPbc	05 41 18.0	+1.5
CLL	**Collm**	**149.55**	**352**⇓	*i*PKPbc	PKPbc	05 41 20.8	+2.4
	comp=Z,16nm,1.6s						
CLL				*i* pPKPbc	pPKPbc	05 41 30.8	+1.0
	comp=Z,10.0nm,0.8s						
CLL	**Collm**	**149.55**	**352**⇓	*i*PKIKP	PKPbc	05 41 20.8	+2.4
CLL				*i*		05 41 30.8	
CLL				pmax	pmax		
	comp=Z,16nm,1.6s						
UPC	**Upice**	**149.82**	**348**	*e*PKP	PKPbc	05 41 22.4	+3.4
UPC				*ex*	x	05 41 32.0	
BRG	**Berggiesshubel**	**149.84**	**350**	*e*PKP	PKPbc	05 41 21.8	+2.8
	comp=Z,2.8nm,0.9s						
BRG	**Berggiesshubel**	**149.84**	**350**	*e*PKIKP	PKPbc	05 41 21.8	+2.7
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
DPC	**Dobruska-Polom**	**149.90**	**347**	*e*PKP	PKPbc	05 41 22.0	+2.8
DPC				*ex*	x	05 41 32.8	
MORC	**Moravsky Berou**	**150.17**	**345**	*e*PKIKP	PKPbc	05 41 21.6	+1.5
BRTR	**Keskin Array B**	**150.26**	**314**	PKPbc	PKPbc	05 41 21.6	+1.5
	comp=Z,2.1nm,0.8s,baz=126,slow=1.7,SNR=10						
PRU	**Pruhonice**	**150.59**	**349**	*e*PKP	PKPbc	05 41 23.1	+2.2
PRU				*ex*	x	05 41 33.9	
KHC	**Kasperske Hory**	**151.58**	**350**	*e*PKP	PKPbc	05 41 25.8	+2.6
KHC				*ex*	x	05 41 36.2	
GERES	**GERESS Array B**	**151.84**	**350**	PKPbc	PKPbc	05 41 25.8	+2.0
	comp=Z,1.6nm,0.7s,baz=340,slow=1.6,SNR=6.5						

*NEIC **04** 05:37:37.4, 1598N×9834W, h2km, MD4.0(MEX), After MEX.*
MEX 04 05:37:37.4±0.6, 1598N×9834W, h2km±5km, MD4.0, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.46**	**26**	*i*P	Pg	05 37 45.9	-0.2
PNIG				*i* S	Sg	05 37 52.7	+0.5
ACX	**Acapulco**	**1.75**	**300**	*e*P	Pn	05 38 06.0	-2.8
VHO	**Vista Hermosa**	**1.89**	**55**	*i*P	Pn	05 38 07.3	-3.4
VHO				*i* S	Sn	05 38 30.8	-4.2
OXX	**Oaxaca**	**1.90**	**54**	*i*P	Pn	05 38 07.0	-3.8
UTMO	**Huajuapan**	**1.91**	**15**	*e*P	Pn	05 38 07.7	-3.3
UTMO				*i* S	Sn	05 38 33.3	-2.3
MEIG	**Mezcala**	**2.29**	**328**	*i*P	Pn	05 38 11.5	-4.8
MEIG				*i* S	Sn	05 38 40.7	-4.4
PLIG	**Platanillo**	**2.65**	**335**	*e*P	Pn	05 38 18.0	-3.1
PLIG				*i* S	Sn	05 38 49.2	-4.5
PPM	**Popocatepetl**	**3.08**	**355**	*e*P	Pn	05 38 24.3	-2.8
PPM				*i* S	Sn	05 39 00.7	-3.9

*IGIL **04** 05:42:39.2, 3702N×494W, h2km, ML2.3*
*INMG **04** 05:42:39.9±1.0, 3711N×496W, h10km, ML2.1, Error ellipse: s-maj=2.7km s-min=1.7km az=9.0*
*SFS **04** 05:42:40.0, 3701N×491W, h0km, ML2.0*
*CSEM **04** 05:42:40.0±0.1, 3711N×497W, h5km, ML2.8/6, Error ellipse: s-maj=2.4km s-min=1.2km az=8.0*
MDD 04 05:42:40.2±0.2, 3701N×493W, h20km±2km, mbLg2.1/12, 3C, Error ellipse: s-maj=2.7km s-min=2.1km az=179.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.40**	**255**	⇑Pg	Pb	05 42 47.6	-0.8
LIJA				Lg		05 42 53.8	
LIJA	**Lijar**	**0.40**	**255**	*i*P	Pb	05 42 47.6	-0.9
EMIJ	**Mijas**	**0.46**	**164**	Pg	Pb	05 42 47.8	-1.7
	4.5nm,0.1s,SNR=17						
EMIJ				Lg		05 42 56.2	
	52nm,0.4s,SNR=15						
EMIJ	**Mijas**	**0.46**	**164**	Pg	Pb	05 42 47.8	-1.8
	3.3nm,0.2s,SNR=17						
MAL	**Malaga**	**0.50**	**124**	*e*P	Pb	05 42 50.2	0.0
ELOJ	**Sierra Loja**	**0.64**	**77**	Pg	Pb	05 42 51.7	-0.9
	3.5nm,0.4s,SNR=7.9						
ELOJ				Lg		05 43 01.3	
	13nm,0.3s,SNR=7.9						
EJIF	**Jimena Fronter**	**0.70**	**218**	Pg	Pb	05 42 54.0	+0.2
	2.5nm,0.4s,SNR=8.6						
ESPR	**Espera**	**0.76**	**260**	Pg	Pb	05 42 54.9	+0.3
	4.4nm,0.1s,SNR=20						
ESPR				Lg		05 43 06.2	
	38nm,0.2s						
ESPR	**Espera**	**0.76**	**260**	Pg	Pb	05 42 54.7	+0.1
	4.4nm,0.1s,SNR=20						
ELUQ	**Luque**	**0.76**	**43**	Pg	Pb	05 42 54.7	-0.1
	0.1nm,0.1s,SNR=4.0						
ELUQ				Lg		05 43 04.6	
	SNR=7.9						
ERON	**Agron**	**0.90**	**89**	Pg	Pb	05 42 57.6	+0.6
	6.9nm,0.4s,SNR=34						
EGUA	**Guajares**	**1.10**	**99**	Pg	Pn	05 43 01.2	+0.7
	1.4nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**1.19**	**13**	Pg	Pn	05 43 00.5	-1.1
	20nm,0.2s,SNR=7.9						
EADA				Lg		05 43 16.4	
	18nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**1.19**	**13**	Pg	Pn	05 43 00.5	-1.2
	13nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**1.21**	**80**	Pg	Pn	05 43 02.7	+0.9
	32nm,0.3s,SNR=7.9						
EQUE				Lg		05 43 18.5	
	13nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**1.47**	**38**	Pn	Pn	05 43 04.6	-0.9
	3.5nm,0.2s,SNR=7.9						
EBAN				Sn	Sn	05 43 23.3	-0.8
	8.0nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.58**	**299**	⇑Pn	Pn	05 43 05.4	-1.7
	1.7nm,0.1s,SNR=18						
EMIN				Pg	Pn	05 43 07.5	+0.4
	3.8nm,0.3s,SNR=13						
EMIN				Sn	Sn	05 43 25.8	-1.2
	2.7nm,0.1s,SNR=12						
EMIN				Lg		05 43 27.7	
	8.9nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.58**	**299**	Pn	Pn	05 43 05.4	-1.7
	3.8nm,0.1s,SNR=18						
EMIN	**Mina Concepcio**	**1.58**	**299**	Pg	Pn	05 43 07.5	+0.4
	8.9nm,0.1s,SNR=13						
EMIN				Sn	Sn	05 43 25.8	-1.1
	12nm,0.2s,SNR=12						
EQES	**Quesada**	**1.68**	**61**	Pn	Pn	05 43 08.4	+0.1
	0.7nm,0.1s,SNR=18						
EQES				Lg		05 43 31.3	
	14nm,0.2s,SNR=7.9						
EQES	**Quesada**	**1.68**	**61**	Pn	Pn	05 43 08.4	0.0
	1.8nm,0.1s,SNR=18						
EGRO	**El Granado**	**2.11**	**285**	⇑Pn	Pn	05 43 12.8	-1.4
	0.8nm,0.1s,SNR=18						
EGRO				Pg	Pn	05 43 17.6	+3.4
	0.7nm,0.2s,SNR=7.9						
EGRO				Sn	Sn	05 43 37.5	-2.4
	2.1nm,0.2s,SNR=7.9						
EGRO				Lg		05 43 45.3	
	6.2nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**2.11**	**285**	Pn	Pn	05 43 12.8	-1.4
	3.9nm,0.3s,SNR=18						
EGRO	**El Granado**	**2.11**	**285**	Pg	Pn	05 43 17.6	+3.4
	3.8nm,0.3s,SNR=7.9						
EGRO				Sn	Sn	05 43 37.5	-2.3
	3.7nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**2.40**	**317**	Pn	Pn	05 43 16.6	-1.8
	3.6nm,0.2s,SNR=4.0						
EBAD	**Badajoz**	**2.40**	**317**	Pn	Pn	05 43 16.6	-1.7
	3.6nm,0.2s,SNR=4.0						
PBEJ	**Beja**	**2.55**	**294**	*e*Pn	Pn	05 43 18.9	-1.4
PBEJ				*e*Sg	Sn	05 43 58.7	+7.9
PBEJ							
	3.8nm,0.3s						
PBEJ	**Beja**	**2.55**	**294**	*e*Pn	Pn	05 43 18.9	-1.4
PBEJ				*e*Sg	Sn	05 43 58.7	+7.9
	3.8nm,0.3s						
ESDC	**Sonseca Array**	**2.77**	**16**	Lg		05 44 04.8	
	2.4nm,0.3s,baz=198,slow=30,SNR=7.8						
MORF	**Marmelete**	**2.99**	**277**	*e*P	Pn	05 43 25.7	-0.7
MORF				*e*S	Sn	05 43 59.6	-2.0
MORF				*e*S	Sn	05 43 59.6	-2.0
MORF				AML	AML	05 44 02.8	
	comp=N,12nm,0.2s						
MORF	**Marmelete**	**2.99**	**277**	*e*P	Pn	05 43 25.7	-0.7
MORF				*e*S	Sn	05 43 59.6	-2.0
PTEO	**Sao Teotonio**	**3.08**	**281**	*e*Sn	Sn	05 44 02.8	-1.0
PTEO				*e*Sg	Sn	05 44 16.9	+13
PTEO							
	comp=N,8.0nm,0.5s						
PTEO	**Sao Teotonio**	**3.08**	**281**	*e*Sn	Sn	05 44 02.8	-1.0
PTEO				*e*Sg	Sn	05 44 16.9	+13
	comp=N,8.0nm,0.5s						
MOE	**Montemor**	**3.11**	**300**	*e*Pg	Pn	05 43 35.0	+7.0
MOE				*e*Sn	Sn	05 44 03.5	-1.0
MOE				*e*Sg	Sn	05 44 17.1	+13
ETOB	**Tobarra**	**3.14**	**58**	Pn	Pn	05 43 27.4	-1.0
	comp=N,0.1nm,0.1s,SNR=7.9						
ETOB				Sn	Sn	05 44 03.5	-1.7
	comp=N,1μm,3.3s,SNR=7.9						
ETOB				Lg		05 44 17.9	
	comp=N,17nm,0.7s,SNR=7.9						
ETOB	**Tobarra**	**3.14**	**58**	Pn	Pn	05 43 27.4	-1.0
	comp=N,0.3nm,0.2s,SNR=7.9						
ETOB				Sn	Sn	05 44 03.5	-1.7
	comp=N,0.4nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**3.47**	**325**	*e*Pn	Pn	05 43 32.0	-1.0
PCBR				*e*Sn	Sn	05 44 10.6	-2.8
PCBR				*e*Sg	Sn	05 44 27.6	+14
PTOM	**Tomar**	**3.78**	**315**	*e*Pn	Pn	05 43 36.0	-1.3
PTOM				*e*Sn	Sn	05 44 18.2	-3.0
PTOM							
	comp=N,6.1nm,0.6s						

IGQ 04 05:49:04.8, 015S×7971W, h22km±4km, Mb4.7, Ms4.6, 1C-2D, Error ellipse: s-maj=9.2km s-min=3.6km az=71.5, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINO	**Pino**	**1.10**	**90**⇑	P	Pn	05 49 26.8	+1.9
YANA	**Yana**	**1.14**	**88**⇓	P	Pn	05 49 27.0	+1.6
YANA				S	Sb	05 49 41.8	+1.6
COTA	**Cotacachi**	**1.45**	**71**⇓	P	Pn	05 49 31.8	+2.1
COTA				S	Sn	05 49 52.

comp=Z,15nm,0.7s,baz=181,slow=20,SNR=11
RPZ Rata Peaks 28.10 175 P **P 05 59 30.8 +1.1**
comp=Z,37nm,0.6s,mb5.3,baz=356,slow=5.4,SNR=21
RPZ Rata Peaks 28.10 175 P **P 05 59 30.8 +1.1**
STKA Stephens Creek 28.84 231 *e*P **P 05 59 35.2 -1.1**
comp=Z,10nm,0.6s,mb4.7
STKA *e*PCP PcP 06 02 40.8 -1.4
STKA Stephens Creek 28.84 231 P **P 05 59 35.3 -1.0**
comp=Z,11nm,0.6s,mb4.8,baz=43,slow=7.1,SNR=41
STKA PcP PcP 06 02 40.3 -1.8
comp=Z,16nm,0.6s,baz=59,slow=3.3,SNR=18
STKA ScP ScP 06 06 11.7 +1.8
comp=Z,3.7nm,1.0s,baz=352,slow=2.0,SNR=2.9
WB2 Warramunga Arr 32.16 257 ⇓*i*P **P 06 00 04.3 -1.1**
WB2 *e*PCP PcP 06 02 51.7 +0.8
WRAB Tennant Creek 32.16 257 P **P 06 00 04.3 -1.2**
WRAB *e* 06 02 51.4
WRAB pmax pmax
comp=Z,20nm,0.7s,mb5.0
WRAB Tennant Creek 32.16 257 P **P 06 00 04.3 -1.1**
comp=Z,20nm,0.7s,mb5.0
WRAB *e*PcP PcP 06 02 51.4 +0.6
WRA Warramunga Arr 32.17 257 P **P 06 00 04.4 -1.2**
comp=Z,14nm,0.7s,mb4.8,baz=86,slow=8.9,SNR=135
WRA PcP PcP 06 02 51.3 +0.4
comp=Z,11nm,0.9s,baz=91,slow=2.9,SNR=16
WRA S **S 06 05 02.7 -4.8**
comp=Z,0.8nm,0.8s,baz=84,slow=14,SNR=3.2
WRA ScP ScP 06 06 23.0 +2.1
comp=Z,1.1nm,0.7s,baz=90,slow=3.6,SNR=6.4
WRA PKiKP PKiKP 06 10 17.1 -1.4
comp=Z,0.4nm,0.8s,baz=358,slow=0.6,SNR=4.6
WRA Warramunga Arr 32.17 257 P **P 06 00 04.4 -1.1**
WRA 06 02 51.3
WRA S **S 06 05 02.7 -4.8**
WRA Warramunga Arr 32.17 257 P **P 06 00 04.4 -1.2**
WRA PcP PcP 06 02 51.3 +0.4
WRA S **S 06 05 02.7 -4.8**
WRA ScP ScP 06 06 23.0 +2.1
ASAR Alice Springs 32.89 251 P **P 06 00 11.3 -0.5**
comp=Z,31nm,0.6s,mb5.2,baz=78,slow=8.7,SNR=362
ASAR pP pP 06 00 44.2 +1.2
comp=Z,20nm,0.8s,baz=77,slow=9.1,SNR=6.7
ASAR PcP PcP 06 02 53.0 +0.1
comp=Z,8.3nm,0.7s,baz=91,slow=2.8,SNR=18
ASAR S **S 06 05 18.0 -0.7**
comp=Z,1.0nm,0.8s,baz=75,slow=17,SNR=4.4
ASAR ScP ScP 06 06 24.6 +1.2
comp=Z,3.1nm,1.0s,baz=90,slow=3.6,SNR=9.1
ASAR Alice Springs 32.89 251 P **P 06 00 11.4 -0.5**
ASAR 06 02 53.1
ASAR S **S 06 05 18.0 -0.7**
KAKA Kakadu 34.44 270 *e*P **P 06 00 24.5 -0.8**
comp=Z,11nm,0.4s,mb4.9
FORT Forrest 39.33 240 ⇓*i*P **P 06 01 07.1 +0.6**
comp=Z,49nm,0.7s,mb5.2
FORT *e*PCP PcP 06 03 12.3 +0.1
FITZ Fitzroy Crossi 40.41 260 ⇓*i*P **P 06 01 15.4 -0.1**
comp=Z,86nm,0.6s,mb5.6
FITZ *e*PCP PcP 06 03 16.8 +1.2
MBWA Marble Bar 45.86 256 *e*P **P 06 01 58.9 -0.3**
comp=Z,19nm,0.6s,mb4.9
KLBR Kellerberrin 48.16 242 ⇓*i*P **P 06 02 16.6 -0.5**
comp=Z,14nm,0.5s,mb4.8
NWAO Narrogin (SRO) 48.77 240 *e*P **P 06 02 21.6 -0.1**
NWAO pmax pmax
comp=Z,51nm,1.2s
NWAO Narrogin (SRO) 48.77 240 *e*P **P 06 02 21.6 -0.2**
comp=Z,51nm,1.2s,mb5.0
MUN Mundaring 49.51 241 *e*P **P 06 02 27.5 +0.1**
KKM Kota Kinabalu 55.50 289 *e*P **P 06 03 12.0 +0.6**
MJAR Matsushiro Arr 58.98 332 P **P 06 03 34.6 -1.3**
comp=Z,28nm,0.8s,mb5.1,baz=168,slow=8.2,SNR=71
MAJO Matsushiro 58.99 332 *e*P **P 06 03 35.5 -0.4**
MAJO pmax pmax
comp=Z,22nm,0.8s,mb5.0
MAJO Matsushiro 58.99 332 *e*P **P 06 03 35.5 -0.5**
comp=Z,22nm,0.8s,mb5.0
MAT Matsushiro 58.99 332 P **P 06 03 35.4 -0.5**
MAT Matsushiro 58.99 332 *e*P **P 06 03 35.0 -0.9**
MAT pmax pmax
comp=Z,28nm,0.8s,mb5.1
MAT Matsushiro 58.99 332 *e*P **P 06 03 35.0 -0.9**
comp=Z,28nm,0.8s,mb5.1
KSM Kuching 59.34 281 *e*P **P 06 03 38.7 +0.3**
YHNB Yeheng 60.52 311 *e*P **P 06 03 46.5 +0.1**
VNDA Vanda 61.95 181 P **P 06 03 56.5 +0.5**
comp=Z,1.6nm,0.6s,mb4.0,baz=359,slow=5.0,SNR=11
VNDA Vanda 61.95 181 *e*P **P 06 03 55.9 -0.1**
VNDA pmax pmax
comp=Z,2.0nm,0.6s
VNDA Vanda 61.95 181 *e*P **P 06 03 55.9 -0.1**
comp=Z,1.7nm,0.6s,mb4.0
SBA Scott Base 62.22 180 *e*P **P 06 03 59.4 +1.6**
SBA *e**PP pP 06 04 32.0 -0.5
SBA pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
SBA Scott Base 62.22 180 *e*P **P 06 03 59.4 +1.6**
comp=Z,9.8nm,0.8s,mb4.7
SBA *e*pP pP 06 04 32.0 -0.4
SSE Sheshan 64.58 316 P **P 06 04 13.1 -0.2**
SSE AMB AMB
comp=Z,27nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,77nm,3.6s
KS15 Wonju Array Si 64.83 326 *e*P **P 06 04 14.7 -0.2**
YSS Yuzh-Sakhalins 66.28 341 *d*i*P **P 06 04 25.1 +0.8**
YSS pmax pmax
comp=Z,54nm,1.3s,mb5.2
YSS Yuzh-Sakhalins 66.28 341 *e*P **P 06 04 25.5 +1.2**
comp=Z,20nm,0.8s,mb5.0
QIZ Qiongzhong 66.68 299 P **P 06 04 28.0 +1.2**
QIZ S S 06 13 09.3 +2.5
QIZ AMB AMB
comp=Z,18nm,1.3s,mb4.7
NJ2 Nanjing 66.73 316 *e*P **P 06 04 27.5 +0.4**
NJ2 AP pP 06 05 01.9 -0.3
NJ2 XP sP 06 05 16.1 -1.9
NJ2 PP PP 06 06 57.4 +1.5
NJ2 S S 06 13 09.0 +1.6
NJ2 AMB AMB
comp=Z,30nm,0.9s,mb5.1
NJ2 AMB AMB
comp=Z,80nm,10.0s
NJ2 LR LR
comp=N,570nm,22.2s
NJ2 LR LR
comp=E,540nm,25.3s
NJ2 LR LR
comp=Z,580nm,24.4s
VLA Vladivostok 67.15 332 *e*P **P 06 04 28.8 -1.0**
VLA pmax pmax
comp=Z,94nm,1.4s,mb5.4
PET Petropavlovsk 68.86 354 *i* P **P 06 04 39.5 -0.9**
WHN Wuhan 68.98 312 P **P 06 04 41.5 +0.3**
MDJ Mudanjiang 69.36 332 P **P 06 04 44.4 +0.9**
MDJ AMB AMB
comp=Z,68nm,0.9s,mb5.4
MDJ AMB AMB
comp=Z,100nm,5.6s
MDJ Mudanjiang 69.36 332 *e*P **P 06 04 44.0 +0.5**
comp=Z,60nm,0.9s,mb5.3
DL2 Dalian 69.38 323 P **P 06 04 44.5 +0.9**
DL2 AMB AMB
comp=Z,40nm,0.8s,mb5.2
HABR Khabarovsk 70.20 337 *e*P **P 06 04 49.9 +1.2**
HABR *e*S S 06 13 50.7 +2.3
HABR pmax pmax
comp=Z,44nm,1.1s,mb5.1
CN2 Changchun 70.73 329 *e*P **P 06 04 52.4 +0.5**
CN2 *e*S S 06 13 55.4 +0.9
CN2 AMB AMB
comp=Z,70nm,0.7s,mb5.5
CN2 LR LR
comp=N,300nm,15.0s
CN2 LR LR
comp=E,200nm,15.0s
CN2 LR LR
comp=Z,200nm,16.0s
KLR Kul'dur 72.08 336 *e*P **P 06 04 56.3 -3.7**
KLR pmax pmax
comp=E,28nm,1.4s
KLR pmax pmax
comp=Z,90nm,1.4s,mb5.3
GYA Guiyang 72.71 305 ⇑*i*P **P 06 05 04.1 +0.4**
GYA AP pP 06 05 38.6 -0.7
GYA XP sP 06 05 54.0 -1.0
GYA PP PP 06 07 48.8 +1.5
GYA S S 06 14 14.9 -2.2
GYA SKS 06 14 50.7
GYA XS sS 06 15 16.1 -2.6
GYA AMB AMB
comp=Z,40nm,0.8s,mb5.2
GYA AMB AMB
comp=Z,120nm,4.0s
GYA LR LR
comp=N,420nm,19.4s
GYA LR LR
comp=E,430nm,18.7s
GYA LR LR
comp=Z,400nm,18.6s
BJT Baijiatuau 73.33 321 *e*P **P 06 05 08.2 +0.9**
BJT pmax pmax
comp=Z,40nm,0.8s
BJT Baijiatuau 73.33 321 *e*P **P 06 05 08.2 +0.8**
comp=Z,40nm,0.8s,mb5.2
BJI Beijing 73.34 321 P **P 06 05 07.8 +0.4**
BJI AMB AMB
comp=Z,65nm,0.8s,mb5.4
QSPA South Pole Qui 74.38 180 ⇓*i*P **P 06 05 14.0 +0.6**
comp=Z,22nm,0.8s,mb4.9
XAN Xi'an 74.73 312 P **P 06 05 16.1 +0.6**
XAN AMB AMB
comp=Z,63nm,0.8s,mb5.3
KMI Kunming 75.28 302 P **P 06 05 20.8 +2.2**
KMI PCP PcP 06 05 35.3 +4.0
KMI AP pP 06 05 57.4 +2.9
KMI PP PP 06 08 13.5 +4.4
KMI S S 06 14 47.4 +1.5
KMI AMB AMB
comp=Z,36nm,0.9s,mb5.0
KMI AMB AMB
comp=Z,96nm,4.5s
KMI LR LR
comp=N,223nm,15.6s
KMI LR LR
comp=E,172nm,15.6s
KMI LR LR
comp=Z,145nm,17.9s
CHTO Chiang Mai 75.98 294 *e*P **P 06 05 23.7 +1.1**
CHTO pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
CHTO Chiang Mai 75.98 294 *e*P **P 06 05 23.6 +1.1**
comp=Z,10nm,0.8s,mb4.5
MA2 Magadan 76.24 351 *e*P **P 06 05 23.2 -0.9**
MA2 pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
MA2 Magadan 76.24 351 *e*P **P 06 05 23.2 -0.9**
comp=Z,6.2nm,0.7s,mb4.3
HHC Hu-ho-hao-te 76.66 320 *e*P **P 06 05 27.7 +1.3**
HHC AP pP 06 06 02.4 0.0
HHC XP sP 06 06 17.7 -0.3
HHC PP PP 06 08 23.8 +3.1
HHC S S 06 15 01.9 +0.9
HHC SKS 06 15 21.7
HHC SCS ScS 06 15 28.0 -1.2
HHC XS sS 06 16 02.8 -0.4
HHC AMB AMB
comp=Z,45nm,0.8s,mb5.2
HHC AMB AMB
comp=Z,192nm,4.9s
HHC LR LR
comp=N,84nm,4.7s
HHC LR LR
comp=E,421nm,13.5s
HHC LR LR
comp=Z,117nm,7.4s
CD2 Chengdu 77.02 307 P **P 06 05 29.2 +0.7**
CD2 AMB AMB
comp=Z,20nm,0.8s,mb4.8
HIA Hailar 77.37 330 *d*i*P **P 06 05 30.4 0.0**
HIA Hailar 77.37 330 *e*P **P 06 05 30.6 +0.2**
comp=Z,37nm,1.1s,mb4.9
BTO Baotou 77.49 319 *e*P **P 06 05 31.5 +0.4**
LZH Lanzhou 79.36 312 ⇓*i*P **P 06 05 43.1 +1.8**
LZH XP sP 06 06 34.7 +1.6
LZH PP PP 06 08 47.2 +3.9
LZH S S 06 15 30.1 +0.2
LZH SKS 06 15 42.5
LZH XS sS 06 16 32.2 -0.4
LZH PS 06 16 35.7
LZH SS SS 06 20 43.5 +3.4
LZH AMB AMB
comp=Z,39nm,1.3s,mb4.9
LZH AMB AMB
comp=Z,156nm,7.5s
LZH LR LR
comp=E,175nm,15.3s
LZH LR LR
comp=Z,269nm,18.4s
MAW Mawson 81.24 202 P **P 06 05 51.7 +0.3**
comp=Z,8.7nm,0.9s,mb4.4,baz=102,slow=5.2,SNR=6.8
MAW Mawson 81.24 202 *e*P **P 06 05 51.4 0.0**
MAW *e**PP pP 06 06 29.5 +1.7
MAW pmax pmax
comp=Z,9.0nm,1.1s
MAW Mawson 81.24 202 *e*P **P 06 05 51.4 0.0**
comp=Z,9.2nm,1.1s,mb4.3
MAW *e*pP pP 06 06 29.5 +1.7
CIT Chita 82.16 330 *e*P **P 06 05 56.9 +0.7**
CIT *e* 06 06 38.5
CIT pmax pmax
comp=Z,124nm,1.2s,mb5.4
YAK Yakutsk 83.08 343 *d*i*P **P 06 06 00.4 -0.6**
YAK pmax pmax
comp=Z,39nm,0.7s,mb5.2
YAK Yakutsk 83.08 343 *e*P **P 06 06 00.8 -0.1**
comp=Z,37nm,0.8s,mb5.2
ULN Ulaanbaatar 83.22 324 *d*i*P **P 06 06 02.4 +0.7**
ULN Ulaanbaatar 83.22 324 *e*P **P 06 06 02.4 +0.8**
comp=Z,68nm,0.8s,mb5.4
TTA Tatalina 83.25 16 *e*P **P 06 06 01.7 -0.1**
BILL Bilibino 83.47 359 ⇓*i*P **P 06 06 02.0 -1.0**
BILL *e**PP pP 06 06 43.1 +3.6
BILL pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
BILL Bilibino 83.47 359 *e*P **P 06 06 02.0 -0.9**
comp=Z,3.8nm,0.7s,mb4.2
SONM Songino Array 83.58 323 P **P 06 06 04.0 +0.5**
comp=Z,16nm,0.5s,mb5.0,baz=142,slow=5.5,SNR=113
GTA Gaotai 83.72 314 P **P 06 06 05.6 +1.4**
GTA AP pP 06 06 41.1 +0.3
GTA XP sP 06 06 55.8 -0.4
GTA PP PP 06 09 23.5 +4.4
GTA PPP 06 11 18.7
GTA SKS 06 16 11.9
GTA S S 06 16 17.6 +2.9
GTA AMB AMB
comp=Z,44nm,1.2s,mb5.1
GTA AMB AMB
comp=Z,134nm,5.3s
GTA LR LR
comp=N,105nm,14.1s
GTA LR LR
comp=E,105nm,16.4s
GTA LR LR
comp=Z,244nm,13.3s
PMR Palmer 84.18 19 *e*P **P 06 06 06.1 -0.5**
PMR pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
PMR Palmer 84.18 19 *e*P **P 06 06 06.1 -0.5**
comp=Z,4.4nm,0.6s,mb4.4
BOD Bodaibo 85.55 334 ⇓*i*P **P 06 06 12.8 -0.6**
BOD pmax pmax
comp=Z,17nm,1.0s,mb4.7
LSA Lhasa 86.53 302 P **P 06 06 19.9 +1.7**
LSA pmax pmax
comp=Z,14nm,0.6s,mb5.0
LSA Lhasa 86.53 302 P **P 06 06 19.9 +1.6**
comp=Z,14nm,0.6s,mb5.0
ZAK Zakamensk 86.63 325 ⇓*i*P **P 06 06 18.5 -0.2**
ZAK pmax pmax
comp=Z,36nm,1.3s,mb5.0
COLA College 87.02 17 *e*P **P 06 06 19.6 -1.1**
comp=Z,4.0nm,0.8s,mb4.3
TLY Talaya 87.07 326 *d*i*P **P 06 06 20.2 -0.7**
TLY pmax pmax
comp=Z,12nm,1.7s,mb4.5
TLY Talaya 87.07 326 *e*P **P 06 06 20.8 0.0**
comp=Z,8.4nm,0.7s,mb4.7
ILAR Eielson Array 87.23 18 P **P 06 06 19.6 -2.1**
comp=Z,3.0nm,0.6s,mb4.3,baz=238,slow=5.0,SNR=46
NVAR Mina Array Bea 87.44 49 P **P 06 06 24.5 +1.9**
comp=Z,0.8nm,0.8s,baz=216,slow=6.3,SNR=5.8
NVAR Mina Array Bea 87.44 49 P **P 06 06 24.5 +1.9**
SYO Syowa Base 87.98 196 ⇓*e*P **P 06 06 22.0 -3.2**
SYO Syowa Base 87.98 196 ⇓*e*PcP PcP 06 06 24.5 -2.4
JIRN Jiri 90.00 299 *e*P **P 06 06 34.9 +0.2**
comp=Z,17nm,0.8s,mb5.0
GUN Gumba 90.34 299 *e*P **P 06 06 36.2 0.0**
PKI Pulchoki 90.64 298 *e*P **P 06 06 37.2 -0.4**
comp=Z,20nm,0.8s,mb5.2
KKN Kakani 90.81 299 *e*P **P 06 06 38.4 0.0**
comp=Z,18nm,0.7s,mb5.2
DMN Daman 90.91 298 *e*P **P 06 06 38.6 -0.2**
comp=Z,30nm,0.8s,mb5.4
TIXI Tiksi 90.99 349 *e*P **P 06 06 36.4 -2.8**
TIXI *e*PS PS 06 18 35.6 -16
TIXI pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
TIXI Tiksi 90.99 349 P **P 06 06 38.1 -1.1**
GKN Gorkha 91.42 299 *e*P **P 06 06 40.5 -0.7**
comp=Z,5.8nm,0.3s,mb5.1
KOLN Koldanda 92.23 298 *e*P **P 06 06 44.1 -0.9**
SNAA Sanae 92.66 183 ⇓*i*P **P 06 06 46.0 -1.0**
SNAA *e* 06 06 46.7
SNAA *e* 06 06 51.2
SNAA *e* 06 06 57.3
SNAA Sanae 92.66 183 ⇓*e*P **P 06 06 45.9 -1.1**
SNAA Sanae 92.66 183 *e*P **P 06 06 45.8 -1.1**
comp=Z,10.0nm,0.8s,mb5.0
VNA3 Neumayer Olymp 93.30 181 ⇓*i*P **P 06 06 49.0 -0.9**
VNA3 *e* 06 06 49.6
VNA3 *e* 06 06 54.4
VNA3 *e* 06 07 00.1
VNA3 *e* 06 07 14.2
VNA3 *e* 06 07 44.0
VNA2 Neumayer--Watz 93.58 182 ⇓*i*P **P 06 06 50.5 -0.7**
baz=188,slow=5.0
VNA2 *e* 06 06 51.2
VNA2 *e* 06 06 55.9
VNA2 *e* 06 07 01.5
VNA2 *e* 06 07 15.6
VNA2 *e* 06 07 45.0
WMQ Urumqi 93.78 314 P **P 06 06 52.6 +0.5**
WMQ AP pP 06 07 28.6 -0.6
WMQ XP sP 06 07 44.6 +0.1
WMQ PP PP 06 10 43.6 +4.3
WMQ SKS 06 17 12.4
WMQ S 06 17 46.8
WMQ AMB AMB
comp=Z,24nm,0.9s,mb5.3
WMQ AMB AMB
comp=Z,42nm,6.1s
WMQ LR LR
comp=N,90nm,17.7s
WMQ LR LR
comp=E,184nm,20.5s
WMQ LR LR
comp=Z,69nm,22.0s
VNA1 Neumayer--Stat 93.87 181 ⇓*i*P **P 06 06 52.1 -0.4**
VNA1 *e* 06 06 52.6
VNA1 *e* 06 06 57.4
VNA1 *e* 06 07 02.7
VNA1 *e* 06 07 16.4
VNA1 *e* 06 07 46.6
KRAR Krasnoyarsk 94.69 327 ⇓*e*P **P 06 06 55.7 -0.6**
PDAR Pinedale Array 95.15 47 PP PP 06 10 48.5 -1.5
comp=Z,0.7nm,0.9s,baz=260,slow=4.4,SNR=5.1
YKA Yellowknife Ar 98.10 27 P **P 06 07 10.0 -1.7**
comp=Z,1.4nm,0.8s,mb4.4,baz=257,slow=4.7,SNR=21
YKA PKiKP PKiKP 06 11 42.4 -1.5
comp=Z,0.1nm,0.4s,baz=243,slow=1.2,SNR=6.0
YKA Yellowknife Ar 98.10 27 P **P 06 07 10.0 -1.7**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 98.10 27 P **P 06 07 10.1 -1.6**
YKW3 Yellowknife Ar 98.12 27 P **P 06 07 11.4 -0.4**
MKAR Makanchi Array 98.26 316 P **P 06 07 12.6 +0.1**
comp=Z,2.4nm,0.5s,mb4.9,baz=93,slow=7.3,SNR=27
MKAR PP PP 06 11 16.3 +2.4
comp=Z,1.1nm,1.0s,baz=108,slow=7.8,SNR=4.8
ZAL Zalesovo 98.48 324 P **P 06 07 12.4 -1.0**
comp=Z,1.0nm,0.4s,mb4.6,baz=4.4,slow=6.5
ARU Arti 113.57 325 *e*PKIKP PKiKP 06 12 11.6 -1.0
ARU Arti 113.57 325 ⇑*i*PKIKP PKiKP 06 12 12.1 -0.5
ARU Arti 113.57 325 *i* PKIKP PKiKP 06 12 12.2 -0.4
ARU *e* 06 13 03.4
ARU *e* 06 18 43.9
ARU *e*SS SS 06 28 48.4 +6.3
NHSC New Hope 116.63 61 PKPdf PKPdf 06 12 14.9 -3.5
KEV Kevo 120.76 345 *e*pkp PKPdf 06 12 25.7 -0.7
ARCES ARCESS Array B 121.29 345 PKP PKPdf 06 12 26.5 -0.9
comp=Z,7.0nm,0.6s,baz=78,slow=1.7,SNR=88
ARE0 ARCESS Array S 121.29 345 PKPdf PKPdf 06 12 26.7 -0.7
SCHQ Schefferville 122.74 34 PKP PKPdf 06 12 28.8 -1.4
comp=Z,1.5nm,1.0s,baz=48,slow=6.4,SNR=3.9
UMR Umm Al-Rimmam 123.58 295 *e*P PKPdf 06 12 32.4 +0.6
RDF Al-Radifah 123.73 295 *e*P PKPdf 06 12 32.9 +0.8
RDF AMb AMB 06 12 33.3
comp=Z,43nm,0.5s
MIB Mutribah 123.91 296 *e*P PKPdf 06 12 32.9 +0.5
MIB AMb AMB 06 12 34.3
comp=Z,34nm,1.1s
JOF Joensuu 123.95 338 *e*pkp PKPdf 06 12 32.8 +0.3
NAY Al-Naaiem 124.00 295 *e*P PKPdf 06 12 33.0 +0.4
NAY AMb AMB 06 12 33.4
comp=Z,11nm,0.8s
RST Umm Al-Ruwaisa 124.21 295 *e*P PKPdf 06 12 33.3 +0.3
RST AMb AMB 06 12 34.5
comp=Z,47nm,0.6s
OBN Obninsk 125.78 328 ⇓*i*PKIKP PKPdf 06 12 35.4 -0.6
OBN pmax pmax
comp=Z,19nm,0.8s
KIV Kislovodsk 125.89 313 ⇑*i*PKIKP PKPdf 06 12 37.7 +1.5
KIV Kislovodsk 125.89 313 *e*PKIKP PKPdf 06 12 37.9 +1.7
KIV pmax pmax
comp=Z,10.0nm,0.8s
KAF Kangasniemi 126.26 339 *e*pkp PKPdf 06 12 36.5 -0.4
FINES FINESS Array B 126.79 338 PKP PKPdf 06 12 37.2 -0.7
comp=Z,2.3nm,0.5s,baz=32,slow=2.4,SNR=26
FINES FINESS Array B 126.79 338 ⇑*i*PKIKP PKPdf 06 12 37.5 -0.4
KMBO Kilima Mbogo 128.44 256 PKP PKPdf 06 12 41.9 +0.8
comp=Z,1.9nm,0.5s,baz=50,slow=23,SNR=5.5
KMBO Kilima Mbogo 128.44 256 ⇑*i*PKIKP PKPdf 06 12 42.4 +1.3
VSU Vasula 128.49 335 ⇑*i*PKIKP PKPdf 06 12 40.7 -0.5
LSZ Lusaka 129.69 234 PKIKP PKPdf 06 12 44.8 +1.3
MALT Malatya 130.31 307 *e*PKPdf PKPdf 06 12 45.5 +0.9
MALT PKPdf PKPdf 06 12 45.6 +1.0
NB2 NORSAR Subarra 131.66 345 PKPd PKPdf 06 12 47.0 -0.2
comp=Z,2.5nm,0.6s,baz=31,slow=1.9
NOA NORSAR Array B 131.66 345 PKP PKPdf 06 12 47.4 +0.2
comp=Z,2.3nm,0.6s,baz=34,slow=2.0,SNR=12
NOA NORSAR Array B 131.66 345 PKP PKPdf 06 12 47.4 +0.2
AKASG Malin Array Be 131.82 326 PKP PKPdf 06 12 47.3 -0.2
comp=Z,2.4nm,0.4s,baz=47,slow=2.7,SNR=13
BR131 Keskin Array S 133.54 310 *e*PKPdf PKPdf 06 12 51.7 +1.0
BR131 PKPdf PKPdf 06 12 52.4 +1.7
BRTR Keskin Array B 133.54 310 PKP PKPdf 06 12 51.1 +0.4
comp=Z,3.5nm,0.8s,baz=128,slow=3.8,SNR=11
BRTR Keskin Array B 133.54 310 ⇑*i*PKIKP PKPdf 06 12 52.0 +1.3
KWP Kalwaria 135.88 328 *e*PKP PKPdf 06 12 56.2 +1.1
BRG Berggiesshubel 139.09 335 *e*PKP PKPdf 06 13 03.6 +2.6
comp=Z,3.9nm,0.7s
BRG Berggiesshubel 139.09 335 *e*PKIKP PKPdf 06 13 03.6 +2.6
BRG pmax pmax
comp=Z,4.0nm,0.7s
CLL Collm 139.13 336 ⇓*i*PKPdf PKPdf 06 13 02.4 +1.3
comp=Z,6.0nm,0.5s
CLL Collm 139.13 336 ⇓*i*PKIKP PKPdf 06 13 02.4 +1.3
CLL pmax pmax
comp=Z,6.0nm,0.5s
KHC Kasperske Hory 140.56 333 *e*PKP PKPdf 06 13 04.0 +0.3
KHC Kasperske Hory 140.56 333 ⇓*i*PKIKP PKPdf 06 13 04.5 +0.8
GERES GERESS Array B 140.72 333 PKhKP 06 12 56.5
comp=Z,0.5nm,0.3s,baz=52,slow=2.2,SNR=3.7
GERES PKP PKPdf 06 13 04.4 +0.4
comp=Z,2.5nm,0.6s,baz=47,slow=3.2,SNR=12
BOJS Bojanci 142.39 328 *e*PKPdf PKPdf 06 13 08.2 +1.2
BOJS *i* PKPbc PKPdf 06 13 10.6 +3.6
ROBS Robic 142.73 330 *e*PKPbc PKPdf 06 13 09.8 +2.2
BFO Black Forest 143.32 337 *e*PKIKP PKPdf 06 13 06.1 -2.5
CDF Champ du Feu 143.64 338 *e*PKP1 PKPdf 06 13 06.1 -3.1
comp=Z,24nm,0.9s

FELD	**Feldberg im Sc**	**143.82 337**	PKP	PKPdf	06 13 07.4	-2.1		
ECH	**Echery**	**143.85 338**	PKP	PKPdf	06 13 07.4	-2.1		
THEF	**They Montfort**	**144.25 339**	PKP	PKPdf	06 13 09.2	-1.1		
HINF	**Hinteralfeld**	**144.30 338**	*e*PKP1	PKPdf	06 13 07.9	-2.4		
	comp=Z,21nm,0.8s							
HAU	**Haudompre**	**144.32 339**	*e*PKP1	PKPdf	06 13 09.3	-1.1		
	comp=Z,40nm,0.9s							
MEZF	**Maizieres J'vi**	**144.33 340**	*e*PKP1	PKPdf	06 13 08.7	-1.7		
	comp=Z,24nm,0.5s							
BBS	**Basel-Blauen**	**144.35 337**	PKIKP	PKPdf	06 13 09.6	-0.8		
LOMF	**Lomont**	**144.70 338**	PKP	PKPdf	06 13 10.9	-0.1		
RGNG	**Rignano Grg**	**144.74 323**	PKP	PKPdf	06 13 10.6	-0.5		
ARV	**Arcevia**	**144.97 327**	PKIKP	PKPdf	06 13 12.4	+0.9		
SNTG	**Esanatoglia**	**145.15 327**	PKP	PKPdf	06 13 12.7	+0.9		
VAI	**Varese**	**145.15 334**	PKIKP	PKPdf	06 13 11.8	0.0		
SFI	**Santa Sofia**	**145.24 329**	PKIKP	PKPdf	06 13 13.1	+1.1		
BADI	**Badiali**	**145.32 328**	PKP	PKPdf	06 13 13.1	+1.0		
MCGN	**Macugnaga**	**145.40 335**	PKP	PKPdf	06 13 13.2	+1.0		
TIP	**Timpagrande**	**145.52 318**	*e*PKPdf	PKPdf	06 13 13.7	+1.2		
SGO	**Scignano**	**145.59 322**	PKP2	PKPab	06 13 13.0	-0.5		
CABF	**La Chapelle**	**145.60 338**	*e*PKP1	PKPbc	06 13 13.2	+0.1		
	comp=Z,180nm,1.1s							
FLN	**La Foliniere**	**145.63 346**	*e*PKP1	PKPbc	06 13 12.3	-0.9		
LDF	**La Druitiere**	**145.70 346**	*e*PKP1	PKPbc	06 13 12.5	-0.9		
	comp=Z,40nm,0.8s							
VVLD	**Villa Vallelon**	**145.72 325**	PKP	PKPdf	06 13 13.5	+0.7		
LOR	**Lormes**	**145.80 340**	*e*PKP1	PKPbc	06 13 13.3	-0.4		
	comp=Z,21nm,0.5s							
CSNT	**Castellina Chi**	**145.83 329**	PKP	PKPdf	06 13 13.2	+0.2		
GRR	**Gorron**	**146.06 346**	*e*PKP1	PKPbc	06 13 13.9	-0.6		
	comp=Z,51nm,0.6s							
SSF	**Saint Saulge**	**146.09 341**	*e*PKP1	PKPbc	06 13 14.3	-0.3		
	comp=Z,86nm,0.7s							
HYF	**Humbligny**	**146.18 342**	*e*PKP1	PKPbc	06 13 14.8	0.0		
LPL	**La Plagne**	**146.27 336**	*e*PKP1	PKPbc	06 13 15.0	-0.1		
	comp=Z,27nm,0.8s							
LPG	**La Plagne**	**146.28 336**	*e*PKP1	PKPbc	06 13 15.3	+0.2		
	comp=Z,29nm,0.6s							
SMF	**Signal de Mont**	**146.35 340**	*e*PKP1	PKPbc	06 13 14.7	-0.6		
	comp=Z,56nm,0.9s							
AVF	**Avril sur Loir**	**146.38 341**	*e*PKP1	PKPbc	06 13 14.7	-0.7		
	comp=Z,36nm,0.8s							
SGMF	**Saint Gilles**	**146.55 348**	*e*PKP1	PKPbc	06 13 15.2	-0.7		
	comp=Z,53nm,0.6s							
ROSF	**Rostrenen**	**146.60 349**	*e*PKP1	PKPbc	06 13 15.3	-0.8		
	comp=Z,31nm,0.8s							
BGF	**Bois d'Agland**	**146.75 341**	*e*PKP1	PKPbc	06 13 16.1	-0.4		
	comp=Z,62nm,0.6s							
MBDF	**Montbardon**	**146.90 335**	*e*PKP1	PKPbc	06 13 16.3	-0.6		
	comp=Z,23nm,0.7s							
QUIF	**Quistinic**	**146.99 349**	*e*PKP1	PKPbc	06 13 16.1	-1.0		
	comp=Z,21nm,0.7s							
PLDF	**La Plantade**	**147.02 340**	PKP	PKPbc	06 13 17.8	+0.6		
ORIF	**Oris-en-Rattie**	**147.10 336**	*e*PKP1	PKPbc	06 13 17.2	-0.2		
AGO	**Saint Agoulin**	**147.11 340**	PKP	PKPbc	06 13 18.0	+0.5		
TCF	**Toulx Ste Croi**	**147.19 342**	*e*PKP1	PKPbc	06 13 17.3	-0.4		
	comp=Z,68nm,1.0s							
SBF	**Sospel**	**147.32 333**	*e*PKP1	PKPbc	06 13 18.6	+0.5		
	comp=Z,32nm,0.6s							
PYM	**Petit Puy Mans**	**147.41 340**	PKP	PKPbc	06 13 19.0	+0.7		
MFF	**Saint Martin d**	**147.56 345**	*e*PKP1	PKPbc	06 13 18.2	-0.5		
	comp=Z,84nm,0.8s							
VIVF	**Saint-Julien-l**	**147.61 337**	*e*PKP1	PKPbc	06 13 18.5	-0.3		
	comp=Z,42nm,0.9s							
CORF	**Corte**	**147.75 330**	PKP	PKPbc	06 13 19.6	+0.4		
LBL	**Lubilhac**	**147.79 339**	PKP	PKPbc	06 13 20.4	+1.1		
FRF	**La Foret Royal**	**147.91 334**	*e*PKP1	PKPbc	06 13 18.9	-0.7		
	comp=Z,22nm,0.6s							
SMRF	**Simiane la Rot**	**148.01 336**	*e*PKP1	PKPbc	06 13 19.8	-0.1		
	comp=Z,52nm,1.0s							
LMR	**La Mourre**	**148.15 334**	*e*PKP1	PKPbc	06 13 19.5	-0.8		
	comp=Z,52nm,0.9s							
RJF	**Les Rejaudoux**	**148.28 342**	*e*PKP1	PKPbc	06 13 20.3	-0.3		
	comp=Z,71nm,1.2s							
CAF	**Calviac**	**148.45 341**	*e*PKP1	PKPbc	06 13 20.8	-0.2		
	comp=Z,46nm,1.0s							
LASF	**Ste Croix**	**148.58 338**	*e*PKP1	PKPbc	06 13 21.2	-0.2		
	comp=Z,44nm,0.7s							
LFF	**La Frestale**	**148.85 342**	*e*PKP1	PKPbc	06 13 21.6	-0.5		
	comp=Z,68nm,0.9s							
MTLF	**Montolieu**	**149.81 339**	*e*PKP1	PKPbc	06 13 24.2	-0.2		
	comp=Z,33nm,0.7s							
EPF	**Esparros**	**150.70 341**	*e*PKP1	PKPbc	06 13 26.8	+0.3		
	comp=Z,19nm,0.6s							
SJPF	**Ste Jean**	**151.09 343**	*e*PKP1	PKPbc	06 13 28.1	+0.7		
	comp=Z,14nm,0.7s							
ETSF	**Etsaut**	**151.09 342**	*e*PKP1	PKPbc	06 13 27.7	+0.2		
	comp=Z,30nm,0.5s							
ESDC	**Sonseca Array**	**155.03 345**	PKPab	PKPab	06 13 52.4	+0.1		
	comp=Z,0.4nm,0.3s,baz=48,slow=2.5,SNR=6.9							
TORD	**Torodi Ar. Bea**	**166.37 261**	PKP	PKPdf	06 13 39.4	0.0		
	comp=Z,1.6nm,0.7s,baz=358,slow=1.1,SNR=10							
TORD			PKPab	PKPab	06 14 41.8	0.0		
	comp=Z,4.4nm,0.8s,baz=95,slow=3.9,SNR=16							
DBIC	**Dimbokro**	**168.57 219**	PKPab	PKPab	06 14 51.5	0.0		
	comp=Z,4.8nm,0.6s,baz=172,slow=4.1,SNR=7.3							
DBIC	**Dimbokro**	**168.57 219**	PKP2	PKPab	06 14 51.5	0.0		
DBIC			pmax	pmax				
	comp=Z,5.0nm,0.6s							

*ISCJB **04** 06:35:19.5±0.6, 114S±0.1×1188E±0.1, h33km, mb4.6/6, Error ellipse: s-maj=23.0km s-min=5.6km az=88.0*
*IDC **04** 06:35:19.6±1.1, 1092S×11885E, h0km, mb4.1/3, mb1 4.3/6, mb1mx4.0/15, mbtmp4.2/6, ML4.3/3, Error ellipse: s-maj=52.0km s-min=19.6km az=63.0*
*NEIC **04** 06:35:24.5±0.7, 1102S×11884E, h35km, mb4.3/2, Error ellipse: s-maj=14.8km s-min=10.1km az=54.0*

ISC 04 06:35:22.0±0.6, 1184S±008×1182E±01, h35km, n18, σ1°25/26, mb4.6/6, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**9.38**	**171**	*e*Pn		**Pn**	**06 37 40.4**	**+5.8**
MBWA				*e*Sn		**Sn**	**06 39 18.9**	**0.0**
FITZ	**Fitzroy Crossi**	**9.51**	**132**	*e*P		**Pn**	**06 37 39.9**	**+3.5**
	34nm,0.6s							
FITZ				*e*S		**Sn**	**06 39 20.2**	**-1.8**
FITZ	**Fitzroy Crossi**	**9.51**	**132**	Pn		**Pn**	**06 37 40.0**	**+3.6**
	3.3nm,0.3s,baz=320,slow=9.6,SNR=76							
FITZ				Sn		**Sn**	**06 39 18.5**	**-3.4**
	2.4nm,0.3s,baz=192,slow=19,SNR=4.8							
WRA	**Warramunga Arr**	**17.48**	**119**	P		**Pn**	**06 39 24.1**	**+1.2**
	0.9nm,0.3s,baz=295,slow=14,SNR=11							
WRA				S		**S**	**06 42 28.1**	**-16**
	0.6nm,0.3s,baz=290,slow=24,SNR=7.9							
WRAB	**Tennant Creek**	**17.48**	**119**	*e*Pn		**Pn**	**06 39 24.6**	**+1.6**
	4.9nm,0.4s							
WRAB				*e*Sn		**Sn**	**06 42 27.7**	**-8.8**
WB2	**Warramunga Arr**	**17.49**	**119**	*e*P		**Pn**	**06 39 24.4**	**+1.3**
ASAR	**Alice Springs**	**19.00**	**130**	P		**Pn**	**06 39 45.0**	**+3.5**
	1.2nm,0.3s,baz=316,slow=12,SNR=31							
ASAR				S		**S**	**06 43 07.9**	**-6.5**
	0.4nm,0.3s,baz=307,slow=24,SNR=6.4							
KLBR	**Kellerberrin**	**19.66**	**181**	*e*P		**Pn**	**06 39 58.9**	**+10**
	8.9nm,0.3s							
KLBR				*e*S		**S**	**06 43 19.2**	**-8.5**
MUN	**Mundaring**	**20.12**	**185**	*e*P		**S**	**06 40 04.8**	**+12**
MUN				*e*S		**S**	**06 43 28.7**	**-8.3**
NWAO	**Narrogin (SRO)**	**21.01**	**182**	P		**P**	**06 40 15.1**	**+13**
	13nm,0.4s,mb4.6,baz=13,slow=13,SNR=22							
JIRN	**Jiri**	**50.04**	**322**	*e*P		**P**	**06 44 13.7**	**+0.6**
	11nm,0.6s,mb5.1							
GUN	**Gumba**	**50.41**	**322**	*e*P		**P**	**06 44 16.5**	**+0.6**
	11nm,0.6s,mb5.0							
DMN	**Daman**	**50.66**	**321**	*e*P		**P**	**06 44 18.2**	**+0.4**
KKN	**Kakani**	**50.69**	**322**	*e*P		**P**	**06 44 17.8**	**-0.2**
GKN	**Gorkha**	**51.24**	**321**	*e*P		**P**	**06 44 21.7**	**-0.4**
KOLN	**Koldanda**	**51.71**	**320**	*e*P		**P**	**06 44 25.7**	**0.0**
	8.0nm,0.6s,mb4.8							
SONM	**Songino Array**	**60.33**	**351**	P		**P**	**06 45 25.0**	**-2.3**
	0.4nm,0.5s,mb3.7,baz=174,slow=14,SNR=2.2							
MKAR	**Makanchi Array**	**66.63**	**334**	P		**P**	**06 46 08.4**	**-0.5**
	1.5nm,0.7s,mb4.1,baz=148,slow=8.1,SNR=13							

*NEIC **04** 06:42:08.3, 3571S×17777E, h200km, MG3.9(WEL), After WEL.*

WEL 04 06:42:09.2±0.3, 3594S×17789E, h228km±5km, ML3.7/12, Error ellipse: s-maj=8.7km s-min=6.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.65**	**169**	PN		Pn	06 42 46.9	+0.2
MXZ				SN		S	06 43 15.5	-0.5
MXZ	**Matakaoa Point**	**1.65**	**169**	P		Pn	06 42 45.9	-0.8
MXZ				S		S	06 43 14.5	-1.6
PUZ	**Puketiti**	**2.15**	**172**	PN		Pn	06 42 51.4	+0.2
PUZ				SN		S	06 43 23.4	-0.9
PUZ	**Puketiti**	**2.15**	**172**	P		Pn	06 42 51.4	+0.1
URZ	**Urewera**	**2.40**	**195**	PN		Pn	06 42 54.2	+0.4
URZ				SN		S	06 43 28.4	-0.5
URZ	**Urewera**	**2.40**	**195**	P		Pn	06 42 54.2	+0.4
MWZ	**Matawai**	**2.41**	**187**	PN		Pn	06 42 54.3	+0.4
MWZ				SN		S	06 43 29.0	-0.1
MWZ	**Matawai**	**2.41**	**187**	P		Pn	06 42 53.3	-0.6
KNZ	**Kokohu**	**3.08**	**183**	PN		Pn	06 43 01.0	-0.2
KNZ	**Kokohu**	**3.08**	**183**	*e*P		Pn	06 43 01.5	+0.3
BKZ	**Black Stump Fm**	**3.41**	**199**	PN		Pn	06 43 04.5	-0.5
BKZ	**Black Stump Fm**	**3.41**	**199**	*e*P		Pn	06 43 04.6	-0.4
FWVZ	**Far West T-bar**	**3.80**	**209**	PN		Pn	06 43 10.1	+0.6
FWVZ	**Far West T-bar**	**3.80**	**209**	*e*P		Pn	06 43 09.1	-0.4
WNVZ	**Wahianoa**	**3.84**	**208**	PN		Pn	06 43 10.3	+0.2
WNVZ	**Wahianoa**	**3.84**	**208**	P		Pn	06 43 09.2	-0.9
PXZ	**Pawanui**	**4.17**	**191**	PN		Pn	06 43 12.9	-1.0
TSZ	**Takapari Road**	**4.39**	**200**	PN		Pn	06 43 15.2	-1.5
TSZ	**Takapari Road**	**4.39**	**200**	P		Pn	06 43 15.4	-1.3
BFZ	**Birch Farm**	**4.91**	**195**	PN		Pn	06 43 21.3	-1.8
BFZ	**Birch Farm**	**4.91**	**195**	*e*P		Pn	06 43 21.4	-1.7
MRZ	**Mangatainoka R**	**5.05**	**200**	*e*P		Pn	06 43 23.0	-1.9
KIW	**Kapiti Island**	**5.44**	**205**	PN		Pn	06 43 27.9	-1.9
KIW	**Kapiti Island**	**5.44**	**205**	P		Pn	06 43 26.4	-3.4
CAW	**Cannon Point**	**5.62**	**202**	P		Pn	06 43 28.2	-3.8
TCW	**Tory Channel**	**5.98**	**207**	PN		Pn	06 43 34.0	-2.6
TCW	**Tory Channel**	**5.98**	**207**	P		Pn	06 43 32.8	-3.8

*ISCJB **04** 06:43:41.7±0.5, 7.12N±008×34.01W±008, h10km, mb4.2/25, MS4.0/10, Error ellipse: s-maj=12.9km s-min=10.2km az=77.6*
*IDC **04** 06:43:42.4±0.7, 723N×34.09W, h0km, mb4.2/15, mb1 4.3/15, mb1mx4.2/22, mbtmp4.2/15, MS4.0/10, Ms1 4.0/10, ms1mx3.9/20, Error ellipse: s-maj=23.5km s-min=14.9km az=143.0*
*NEIC **04** 06:43:43.5±0.4, 7.13N×34.04W, h10km, mb4.4/14, Error ellipse: s-maj=12.6km s-min=9.3km az=120.0*

ISC 04 06:43:44.0±0.4, 715N±008×3402W±008, h10km, n41, σ1°01/38, mb4.2/25, MS4.0/10, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**13.03**	**188**	*e*Pn		**Pn**	**06 46 47.8**	**-1.3**
	18nm,0.3s							
RCBR				*e*Sn		**Sn**	**06 49 04.3**	**-10**
BDFB	**Brasilia**	**26.55**	**211**	P		**P**	**06 49 21.9**	**0.0**
	5.1nm,0.7s,mb4.1,baz=61,slow=5.9,SNR=9.5							
BDFB				LR		LR	06 59 06.6	
	comp=Z,369nm,20.3s,MS3.9,baz=38,slow=35							
DBIC	**Dimbokro**	**28.96**	**89**	P		**P**	**06 49 43.9**	**+0.4**
	3.3nm,0.8s,mb4.1,baz=289,slow=3.1,SNR=3.2							
DBIC	**Dimbokro**	**28.96**	**89**	*e*P		**P**	**06 49 42.6**	**-0.9**
	4.8nm,0.9s,mb4.2							
SJG	**San Juan**	**33.13**	**292**	LR		LR	07 00 29.6	
	comp=Z,178nm,19.6s,MS3.8,baz=126,slow=30							
SAML	**Samuel**	**33.17**	**242**	*e*P		**P**	**06 50 19.9**	**-0.7**
	4.6nm,1.0s,mb4.4							
SIV	**San Ignacio**	**35.30**	**229**	P		**P**	**06 50 40.2**	**+1.1**
	5.6nm,0.9s,mb4.5,baz=75,slow=10,SNR=25							
TORD	**Torodi Ar. Bea**	**35.63**	**77**	P		**P**	**06 50 42.6**	**+0.7**
	6.2nm,0.8s,mb4.6,baz=268,slow=9.2,SNR=36							
TORD				PcP		PcP	06 53 10.3	-0.2
	0.9nm,1.0s,baz=279,slow=3.8,SNR=2.4							
ROSC	**El Rosal**	**40.14**	**269**	LR		LR	07 08 26.2	
	comp=Z,123nm,18.4s,MS3.8,baz=212,slow=37							
CPUP	**Villa Florida**	**40.24**	**213**	LR		LR	07 06 04.3	
	comp=Z,204nm,20.8s,MS4.0,baz=85,slow=33							
LPAZ	**La Paz**	**41.01**	**235**	P		**P**	**06 51 28.7**	**+1.5**
	3.9nm,0.8s,mb4.1,baz=63,slow=7.4,SNR=26							
LPAZ				LR		LR	07 08 47.3	
	comp=Z,173nm,20.2s,MS3.9,baz=76,slow=37							
LPAZ	**La Paz**	**41.01**	**235**	*e*P		**P**	**06 51 28.2**	**+1.0**
	3.9nm,0.8s,mb4.1							
SCHQ	**Schefferville**	**54.31**	**337**	P		**P**	**06 53 10.2**	**-0.2**
	4.6nm,0.7s,mb4.5,baz=126,slow=5.5,SNR=16							
SCHQ	**Schefferville**	**54.31**	**337**	*e*P		**P**	**06 53 10.2**	**-0.3**
	6.3nm,0.8s,mb4.6							
WVT	**Waverly**	**56.84**	**309**	*e*P		**P**	**06 53 27.9**	**-0.7**
	2.5nm,0.6s,mb4.4							
GERES	**GERESS Array B**	**57.74**	**35**	P		**P**	**06 53 34.6**	**-0.4**
	0.4nm,0.2s,mb4.0,baz=250,slow=29,SNR=2.7							
GERES				LR		LR	07 14 31.3	
	comp=Z,172nm,19.2s,MS4.2,baz=91,slow=32							
CCM	**Cathedral Cave**	**60.00**	**310**	*e*P		**P**	**06 53 49.0**	**-1.7**
	3.5nm,0.8s,mb4.4							
NB2	**NORAR Subarra**	**63.38**	**23**	P		**P**	**06 54 13.6**	**+0.1**
	comp=Z,1.1nm,0.7s,mb4.1,baz=235,slow=6.5							
NOA	**NORSAR Array B**	**63.38**	**23**	P		**P**	**06 54 14.0**	**+0.5**
	comp=Z,3.5nm,1.0s,mb4.4,baz=232,slow=6.5,SNR=4.4							
NOA				LR		LR	07 18 23.3	
	comp=Z,108nm,18.4s,MS4.1,baz=240,slow=33							
CBKS	**Cedar Bluff**	**66.67**	**309**	*e*P		**P**	**06 54 34.2**	**-0.7**
	comp=Z,14nm,1.0s,mb5.0							
ULM	**Lac du Bonnet**	**66.71**	**322**	LR		LR	07 20 06.7	
	comp=Z,130nm,18.5s,MS4.2,baz=6.9,slow=33							
AKASG	**Malin Array Be**	**67.70**	**38**	P		**P**	**06 54 41.0**	**-0.5**
	comp=Z,1.6nm,0.7s,mb4.1,baz=255,slow=6.3,SNR=7.0							
BR131	**Keskin Array S**	**68.31**	**50**	P		**P**	**06 54 39.3**	**-5.9**
	comp=Z,1.9nm,0.8s,mb4.2							
BRTR	**Keskin Array B**	**68.31**	**50**	P		**P**	**06 54 46.6**	**+1.3**
	comp=Z,1.6nm,0.9s,mb4.1,baz=229,slow=4.7,SNR=6.3							
FCC	**Fort Churchill**	**68.68**	**331**	*e*P		**P**	**06 54 46.1**	**-1.4**
FCC				*e*		pP	06 54 49.6	-1.2
FINES	**FINESS Array B**	**69.75**	**26**	P		**P**	**06 54 54.0**	**-0.2**
	comp=Z,3.5nm,1.0s,mb4.2,baz=258,slow=5.6,SNR=8.0							
FINES				LR		LR	07 21 00.4	
	comp=Z,100nm,19.6s,MS4.1,baz=174,slow=32							
ISCO	**Idaho Springs**	**71.32**	**310**	*e*P		**P**	**06 55 04.3**	**+0.5**
	comp=Z,2.1nm,0.9s,mb4.1							
ANMO	**Albuquerque**	**71.55**	**304**	*e*P		**P**	**06 55 03.1**	**-2.1**
	comp=Z,5.0nm,1.6s,mb4.2							
JOF	**Joensuu**	**72.57**	**26**	*e*pkp		**P**	**06 55 11.2**	**-0.1**
LAO	**LASA Array**	**72.63**	**317**	*e*P		**P**	**06 55 12.5**	**+0.8**
	comp=Z,16nm,1.3s,mb4.8							
PV01	**Paradox Valley**	**73.47**	**308**	*e*P		**P**	**06 55 18.1**	**+1.5**
PV01				*e*PP		PP	06 57 58.6	-1.7
PDAR	**Pinedale Array**	**74.56**	**312**	P		**P**	**06 55 21.5**	**-1.5**
	comp=Z,1.0nm,0.6s,mb3.9,baz=98,slow=7.6,SNR=12							
DAU	**Daniels Canyon**	**75.68**	**310**	P		**P**	**06 55 30.6**	**+1.2**
DAU				*e*		pP	06 55 34.5	+1.7
YMR	**Madison River**	**75.72**	**314**	*e*P		**P**	**06 55 30.5**	**+0.8**
	comp=Z,6.1nm,0.8s,mb4.6							
HWUT	**Hardware Ranch**	**75.97**	**311**	*e*P		**P**	**06 55 30.7**	**-0.5**
	comp=Z,3.9nm,0.8s,mb4.4							
MSU	**Marysvale**	**76.32**	**308**	*e*P		**P**	**06 55 34.4**	**+1.3**
HLID	**Hailey**	**78.15**	**313**	*e*P		**P**	**06 55 44.6**	**+1.2**
	comp=Z,1.5nm,0.9s,mb3.9							
YKA	**Yellowknife Ar**	**79.34**	**332**	P		**P**	**06 55 48.5**	**-1.4**
	comp=Z,1.3nm,0.7s,mb4.0,baz=100,slow=5.7,SNR=26							
YKA				LR		LR	07 27 08.7	
	comp=Z,106nm,18.5s,MS4.2,baz=90,slow=33							
YKA	**Yellowknife Ar**	**79.34**	**332**	P		**P**	**06 55 48.5**	**-1.4**
YKA				LR		LR	07 27 08.7	
NVAR	**Mina Array Bea**	**81.13**	**308**	P		**P**	**06 56 00.6**	**+1.1**
	comp=Z,0.3nm,0.5s,mb3.5,baz=101,slow=7.7,SNR=4.2							
ILAR	**Eielson Array**	**93.07**	**337**	P		**P**	**06 56 58.8**	**+0.9**
	comp=Z,0.4nm,1.1s,mb3.8,baz=44,slow=4.3,SNR=4.4							

*ISCJB **04** 06:58:04.5±1.2, 3325N±007×14094E±009, h47km, mb3.7/2, Error ellipse: s-maj=13.1km s-min=8.3km az=84.0*
*IDC **04** 06:58:04.0±1.3, 3266N×139.11E, h0km, mb3.7/2, mb1 3.6/3, mb1mx3.3/19, mbtmp3.4/3, ML2.9/1, Error ellipse: s-maj=33.0km s-min=17.7km az=135.0*
*JMA **04** 06:58:04.7±0.2, 3330N×14091E, h47km, M2.8*

ISC 04 06:58:05.5±1.2, 3326N±007×14090E±009, h47km, n10, σ0°88/13, mb3.7/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.92**	**261**	P		**Pn**	**06 58 22.0**	**-0.1**
JHJ2				*e*S		**Sn**	**06 58 34.8**	**+0.5**
JHJ	**Hachijo jima 2**	**0.95**	**262**	Pn		**Pn**	**06 58 22.1**	**-0.4**
	79nm,0.3s,baz=77,slow=23,SNR=12							
JHJ				Sn		**Sn**	**06 58 34.5**	**-0.4**
	96nm,0.3s,baz=66,slow=23,SNR=23							

BSO1	**Boso 1**	**1.39**	**3**	P		**Pn**	**06 58 27.3**	**-1.2**
BSO3	**Boso 3**	**1.57**	**348**	P		**Pn**	**06 58 31.1**	**+0.1**
BSO4	**Boso 4**	**1.79**	**345**	P		**Pn**	**06 58 34.0**	**0.0**
KTJJ	**Kamata 2**	**2.26**	**318**	P		**Pn**	**06 58 40.6**	**+0.2**
KTJJ				*e*S		**Sn**	**06 59 06.2**	**-0.8**
JOD2	**Odawara 2**	**2.50**	**324**	P		**Pn**	**06 58 43.6**	**-0.1**
MJAR	**Matsushiro Arr**	**3.96**	**327**	Pn		**Pn**	**06 59 05.2**	**+1.6**
	0.8nm,0.3s,baz=155,slow=11,SNR=9.8							
WRA	**Warramunga Arr**	**53.27**	**188**	P		**P**	**07 07 18.8**	**-0.7**
	0.3nm,0.5s,mb3.5,baz=2.8,slow=7.6,SNR=9.9							
AKASG	**Malin Array Be**	**77.03**	**323**	P		**P**	**07 09 56.4**	**+2.9**
	0.6nm,0.4s,mb3.9,baz=40,slow=4.2,SNR=5.1							

*IDC **04** 06:59:24.1±0.7, 2016S×17403W, h0km, mb4.3/12, mb1 4.6/13, mb1mx4.5/17, mbtmp4.4/13, ML4.9/1, MS4.0/3, Ms1 4.0/3, ms1mx3.5/24, Error ellipse: s-maj=26.6km s-min=16.3km az=126.0*
*ISCJB **04** 06:59:27.5±0.2, 2030S±006×17406W±006, h32km, mb4.7/41, MS4.4/8, Error ellipse: s-maj=10.2km s-min=6.2km az=82.1*
*MOS **04** 06:59:27.7±1.1, 2027S×17404W, h33km, mb4.9/14, Error ellipse: s-maj=14.7km s-min=11.8km az=50.6*
*NEIC **04** 06:59:28.7±0.2, 2025S×17406W, mb4.8/19, Error ellipse: s-maj=11.2km s-min=5.8km az=138.0*
*BJI **04** 06:59:28.7, 2020S×174.10W, h30km, mB5.3, mb5.2, Ms5.0, Msz4.7*

ISC 04 06:59:29.4±0.2, 2035S±006×17398W±006, h34km, h34km±1.2km: pP-P, n132, σ1°09/97, mb4.7/41, MS4.4/8, 11C-4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.74**	**19**	Pn		**Pn**	**07 00 57.3**	**-8.6**
	16nm,0.3s,baz=141,slow=2.1,SNR=26							
AFI				Sn		**Sn**	**07 02 08.3**	**-13**
	21nm,0.3s,baz=132,slow=20,SNR=4.7							
AFI				T			07 07 58.6	
	13nm,0.3s,baz=138,slow=14,SNR=4.9							
AFI	**Afiamalu**	**6.74**	**19**	*e*P		**Pn**	**07 00 57.1**	**-8.8**
AFI				pmax		pmax		
	comp=Z,67nm,0.6s							
AFI	**Afiamalu**	**6.74**	**19**	*e*Pn		**Pn**	**07 00 57.1**	**-8.8**
	comp=Z,67nm,0.6s							
AFI				*e*Sn		**Sn**	**07 02 07.4**	**-14**
RAR	**Rarotonga**	**13.31**	**96**	Pn		**Pn**	**07 02 24.7**	**-11**
	comp=Z,4.5nm,0.3s,baz=257,slow=9.2,SNR=35							
RAR				Sn		Sn	07 04 37.4	-25
	comp=Z,2.1nm,0.3s,baz=75,slow=12,SNR=3.5							
RAR				LR		LR	07 06 01.7	
	comp=Z,390nm,21.1s,baz=49,slow=30							
RAR				T			07 16 44.4	
	comp=Z,3.0nm,0.3s,baz=164,slow=16,SNR=3.2							
DZM	**Mont Dzumac**	**18.34**	**261**	P		**Pn**	**07 03 43.8**	**+2.9**
	comp=Z,1.2nm,0.3s,baz=82,slow=19,SNR=15							
URZ	**Urewera**	**19.45**	**201**	P		**Pn**	**07 03 54.0**	**-0.4**
	comp=Z,3

MDJ				S	S	07 22 07.6	+3.7		
MDJ				SS	SS	07 27 30.5	+4.5		
MDJ				AMB	AMB				
	comp=Z,6.0nm,0.8s,mb4.7								
MDJ				AMB	AMB				
	comp=Z,105nm,9.1s								
MDJ				LR	LR				
	comp=N,55nm,25.1s								
MDJ				LR	LR				
	comp=E,92nm,43.0s								
MDJ				LR	LR				
	comp=Z,67nm,28.7s,MS3.9								
NJ2	**Nanjing**	**82.72**	**308**	*e*P	**P**	**07 11 52.1**	**+2.4**		
NJ2				AP	pP	07 12 02.1	+1.8		
NJ2				XP	sP	07 12 05.1	+0.9		
NJ2				PP	PP	07 15 05.2	+5.4		
NJ2				S	S	07 22 05.0	-0.1		
NJ2				XS	sS	07 22 20.0	-2.7		
NJ2				AMB	AMB				
	comp=Z,10.0nm,0.6s,mb5.0								
NJ2				AMB	AMB				
	comp=Z,60nm,8.6s								
NJ2				LR	LR				
	comp=N,750nm,26.3s,MS5.2								
NJ2				LR	LR				
	comp=E,950nm,25.2s,MS5.2								
NJ2				LR	LR				
	comp=Z,350nm,27.3s,MS4.6								
MAW	**Mawson**	**82.95**	**199**	P	**P**	**07 11 51.0**	**+0.2**		
	comp=Z,3.5nm,0.8s,mb4.5,baz=180,slow=1.0,SNR=3.4								
TMUT	**Trail Mountain**	**83.39**	**44**	*e*P	**P**	**07 11 54.4**	**+1.3**		
MNTX	**Cornudas Mount**	**83.62**	**53**	P	**P**	**07 11 54.0**	**-0.3**		
	comp=Z,6.6nm,1.1s,mb4.7								
LAZ	**Ladron**	**83.64**	**50**	*e*P	**P**	**07 11 54.9**	**+0.5**		
SRU	**San Rafael**	**83.74**	**44**	*e*P	**P**	**07 11 55.1**	**+0.2**		
SRU				pmax	pmax				
	comp=Z,10.0nm,1.0s,mb4.9								
SRU	**San Rafael**	**83.74**	**44**	*e*P	**P**	**07 11 55.1**	**+0.2**		
	comp=Z,10nm,1.0s,mb4.9								
HLID	**Hailey**	**83.79**	**39**	*e*P	**P**	**07 11 55.2**	**0.0**		
	comp=Z,7.1nm,1.0s,mb4.8								
BNM	**Barren Site**	**83.89**	**50**	*e*P	**P**	**07 11 56.3**	**+0.7**		
LPM	**Los Pinos Moun**	**83.96**	**50**	*e*P	**P**	**07 11 57.3**	**+1.2**		
DAU	**Daniels Canyon**	**83.97**	**43**	*e*P	**P**	**07 11 55.7**	**-0.4**		
DAU				*e**PP	pP	07 12 04.0	-2.7		
TCUT	**Toone Canyon**	**84.25**	**42**	*e*P	**P**	**07 11 57.0**	**-0.5**		
PV10	**Paradox Valley**	**84.34**	**46**	*e*P	**P**	**07 11 58.0**	**+0.1**		
PV10				*e*pP	pP	07 12 06.2	-2.4		
PV10				*e*sP	sP	07 12 09.4	-3.1		
ANMO	**Albuquerque**	**84.40**	**50**	*i*P	**P**	**07 11 59.1**	**+0.8**		
ANMO	**Albuquerque**	**84.40**	**50**	P	**P**	**07 11 59.0**	**+0.7**		
CN2	**Changchun**	**84.53**	**321**	*e*P	**P**	**07 12 01.5**	**+2.6**		
CN2				*e*AP	pP	07 12 11.9	+2.3		
CN2				*e*S		07 22 24.7			
CN2				AMB	AMB				
	comp=Z,50nm,1.0s,mb5.6								
CN2				AMB	AMB				
	comp=Z,200nm,5.0s								
CN2				LR	LR				
	comp=N,200nm,15.0s,MS4.8								
CN2				LR	LR				
	comp=E,200nm,15.0s,MS4.8								
CN2				LR	LR				
	comp=Z,200nm,16.0s,MS4.6								
PV01	**Paradox Valley**	**84.53**	**46**	*e*P	**P**	**07 11 59.2**	**+0.3**		
GDL2	**Guadalupe Moun**	**84.62**	**53**	*e*P	**P**	**07 11 59.8**	**+0.4**		
MA2	**Magadan**	**84.70**	**343**	*e*P	**P**	**07 11 56.6**	**-3.2**		
MA2				pmax	pmax				
	comp=Z,6.0nm,1.0s,mb4.7								
MCMT	**McKenzie Canyo**	**85.44**	**39**	*e*P	**P**	**07 12 03.4**	**-0.1**		
DLMT	**Dillon**	**85.89**	**38**	*e*P	**P**	**07 12 05.3**	**-0.5**		
	comp=Z,10nm,1.3s,mb4.9								
SMCO	**Snowmass**	**86.13**	**46**	P	**P**	**07 12 07.9**	**+1.0**		
PDAR	**Pinedale Array**	**86.30**	**42**	P	**P**	**07 12 07.0**	**-0.8**		
	comp=Z,0.8nm,0.8s,mb4.0,baz=202,slow=2.3,SNR=6.7								
COLA	**College**	**87.30**	**11**	*e*P	**P**	**07 12 11.6**	**-1.0**		
COLA				*e**PP	pP	07 12 22.2	-1.2		
COLA				pmax	pmax				
	comp=Z,12nm,1.0s,mb5.1								
COLA	**College**	**87.30**	**11**	*e*P	**P**	**07 12 11.6**	**-1.0**		
	comp=Z,12nm,1.0s,mb5.1								
COLA				*e*pP	pP	07 12 22.2	-1.1		
ILAR	**Eielson Array**	**87.38**	**11**	P	**P**	**07 12 11.8**	**-1.2**		
	comp=Z,0.9nm,0.6s,mb4.2,baz=227,slow=6.1,SNR=24								
VNA3	**Neumayer Olymp**	**88.00**	**175**	*e*P	**P**	**07 12 17.1**	**+1.1**		
VNA3				*e*		07 12 18.9			
VNA3				*e*	pP	07 12 28.4	+1.7		
VNA3				*e*		07 12 33.2			
VNA3				*e*		07 12 39.2			
VNA3				*e*		07 12 45.3			
VNA3				*e*		07 13 01.1			
SNAA	**Sanae**	**88.02**	**177**	*e*P	**P**	**07 12 15.7**	**-0.4**		
SNAA				*e*		07 12 17.1			
SNAA				*e*	pP	07 12 26.4	-0.4		
SNAA				*e*		07 12 35.5			
SNAA				*e*		07 12 58.5			
SNAA	**Sanae**	**88.02**	**177**	*e*P	**P**	**07 12 14.0**	**-2.1**		
SNAA				pmax	pmax				
	comp=Z,7.0nm,1.3s								
SNAA	**Sanae**	**88.02**	**177**	*e*P	**P**	**07 12 14.0**	**-2.1**		
	comp=Z,7.1nm,1.3s,mb4.7								
VNA2	**Neumayer--Watz**	**88.49**	**176**	*e*P	**P**	**07 12 18.1**	**-0.2**		
VNA2				*e*		07 12 19.8			
VNA2				*e*	pP	07 12 29.2	+0.2		
VNA2				*e*		07 12 32.5			
VNA2				*e*		07 12 38.5			
VNA2				*e*		07 12 43.8			
VNA2				*e*		07 12 48.5			
VNA2				*e*		07 12 59.4			
VNA2				*e*		07 13 23.0			
BILL	**Bilibino**	**89.32**	**353**	*i*P	**P**	**07 12 21.1**	**-1.1**		
BILL				pmax	pmax				
	comp=Z,4.0nm,1.3s,mb4.6								
RSSD	**Black Hills**	**90.46**	**43**	*e*P	**P**	**07 12 26.3**	**-1.2**		
HIA	**Hailar**	**90.80**	**323**	*i*P	**P**	**07 12 24.9**	**-4.2**		
HHC	**Hu-ho-hao-te**	**91.98**	**313**	*e*P	**P**	**07 12 36.6**	**+2.0**		
HHC				AP	pP	07 12 47.4	+2.1		
HHC				PP	PP	07 16 20.0	+5.8		
HHC				SKS		07 23 05.1			
HHC				S		07 23 33.9			
HHC				XS	sS	07 23 51.5	-0.3		
HHC				PS	PS	07 24 54.1	+6.2		
HHC				SS	SS	07 29 46.7	+3.8		
HHC				AMB	AMB				
	comp=Z,9.0nm,0.4s,mb5.5								
HHC				AMB	AMB				
	comp=Z,80nm,7.0s								
HHC				LR	LR				
	comp=N,138nm,6.9s								
HHC				LR	LR				
	comp=E,201nm,6.9s								
HHC				LR	LR				
	comp=Z,107nm,7.8s								
KMI	**Kunming**	**92.66**	**296**	P	**P**	**07 12 40.1**	**+2.4**		
KMI				S		07 23 40.5			
KMI				AMB	AMB				
	comp=Z,10.0nm,0.7s,mb5.3								
KMI				LR	LR				
	comp=N,126nm,14.0s								
KMI				LR	LR				
	comp=E,152nm,23.7s								
KMI				LR	LR				
	comp=Z,106nm,14.3s,MS4.4								
INK	**Inuvik**	**93.18**	**14**	*e*P	**P**	**07 12 38.5**	**-1.6**		
INK				pmax	pmax				
	comp=Z,3.0nm,1.1s								
INK	**Inuvik**	**93.18**	**14**	*e*P	**P**	**07 12 38.5**	**-1.6**		
	comp=Z,3.4nm,1.1s,mb4.7								
YAK	**Yakutsk**	**93.42**	**337**	*e*P	**P**	**07 12 39.3**	**-1.9**		
YAK				pmax	pmax				
	comp=Z,11nm,0.6s,mb5.5								
CD2	**Chengdu**	**93.91**	**301**	*e*P	**P**	**07 12 42.8**	**-0.7**		
CD2				AMB	AMB				
	comp=Z,10.0nm,0.9s,mb5.2								
YKA	**Yellowknife Ar**	**94.83**	**24**	P	**P**	**07 12 46.3**	**-1.4**		
	comp=Z,0.4nm,0.7s,mb3.9,baz=238,slow=4.5,SNR=12								
LZH	**Lanzhou**	**95.70**	**306**	*e*P	**P**	**07 12 51.2**	**-0.5**		
LZH				AP	pP	07 13 02.5	+0.1		
LZH				XP	sP	07 13 06.4	+0.1		
LZH				PP	PP	07 16 45.3	+2.0		
LZH				AMB	AMB				
	comp=Z,20nm,1.4s,mb5.3								
LZH				AMB	AMB				
	comp=Z,69nm,9.6s								
LZH				LR	LR				
	comp=N,177nm,17.2s								
LZH				LR	LR				
	comp=Z,245nm,19.5s,MS4.7								
LPAZ	**La Paz**	**98.61**	**111**	LR	LR	07 46 00.8			
	comp=Z,94nm,21.9s,MS4.2,baz=153,slow=28								
TIXI	**Tiksi**	**99.59**	**344**	*e*P	Pdif	07 13 10.3	+1.1		
RES	**Resolute Bay**	**106.62**	**16**	*e*PKPdf	PKiKP	07 17 50.8	-0.1		
WMQ	**Urumqi**	**109.69**	**310**	PDIF	Pdif	07 13 53.5	-0.6		
WMQ				PP	PP	07 18 31.0	+2.8		
WMQ				PP	PP				
	comp=Z,136nm,6.3s								
WMQ				LR	LR				
	comp=N,103nm,23.4s,MS4.5								
WMQ				LR	LR				
	comp=E,124nm,27.6s,MS4.5								
WMQ				LR	LR				
	comp=Z,342nm,20.0s								
ARU	**Arti**	**127.19**	**326**	*i*PKIKP	PKPdf	07 18 31.5	+1.3		
ARCES	**ARCESS Array B**	**129.40**	**351**	PKP	PKPdf	07 18 33.8	-0.6		
	comp=Z,1.6nm,0.8s,baz=0,slow=1.2,SNR=7.9								
ANN	**Anapa**	**144.38**	**320**	*i* PKHKP		07 18 53.9			
ANN				pmax	pmax				
	comp=Z,38nm,1.5s								
AKASG	**Malin Array Be**	**144.61**	**334**	PKP	PKPdf	07 19 00.5	-1.9		
	comp=Z,3.2nm,0.4s,baz=38,slow=4.1,SNR=28								
AKASG	**Malin Array Be**	**144.61**	**334**	PKP	PKPdf	07 19 00.5	-1.9		
MALT	**Malatya**	**146.79**	**310**	*e*PKPdf	PKPdf	07 19 07.0	+0.9		
MALT				*e*PKPbc	PKPbc	07 19 09.7	+1.8		
STHS	**Stebnicka Huta**	**148.55**	**341**	*e*	PKPab	07 19 20.0	+3.9		
CLL	**Collm**	**148.62**	**352**	*e*PKPdf	PKPdf	07 19 09.0	-0.1		
CLL				*i* PKPbc	PKPbc	07 19 12.8	0.0		
	comp=Z,12nm,1.3s								
CLL				*i* PKPab	PKPab	07 19 16.2	-0.2		
	comp=Z,8.0nm,0.9s								
CLL				*i* pPKPbc	pPKPbc	07 19 20.8	-3.0		
CLL				*i* (sPKPbc)		07 19 29.0			
CLL	**Collm**	**148.62**	**352**	*e*PKIKP	PKPdf	07 19 09.0	-0.1		
CLL				*i*		07 19 12.8			
CLL				*i*		07 19 16.2			
CLL				pmax	pmax				
	comp=Z,12nm,1.3s								
CLL				pmax	pmax				
	comp=Z,8.0nm,0.9s								
CLL	**Collm**	**148.62**	**352**	*e*PKP	PKPdf	07 19 09.0	-0.1		
CLL				*i* PKP	PKPbc	07 19 12.8	0.0		
CLL				*i* PKP	PKPab	07 19 16.2	-0.2		
KOLS	**Kolonicke sedl**	**148.64**	**339**	*e*PKP	PKPab	07 19 21.9	+5.4		
UPC	**Upice**	**148.88**	**348**	*e*PKPbc	PKPbc	07 19 14.4	+0.9		
BRG	**Berggiesshubel**	**148.91**	**350**	*e*PKP	PKPbc	07 19 14.2	+0.7		
	comp=Z,4.9nm,1.1s								
BRG	**Berggiesshubel**	**148.91**	**350**	*e*PKP2	PKPbc	07 19 14.2	+0.7		
BRG				pmax	pmax				
	comp=Z,5.0nm,1.1s								
DPC	**Dobruska-Polom**	**148.97**	**347**	*e*PKPBB	PKPbc	07 19 14.4	+0.7		
MORC	**Moravsky Berou**	**149.24**	**345**	*e*PKP2	PKPbc	07 19 14.8	+0.4		
BR131	**Keskin Array S**	**149.46**	**315**	*e*PKPdf	PKPdf	07 19 10.8	+0.4		
BRTR	**Keskin Array B**	**149.46**	**315**	PKPbc	PKPbc	07 19 15.0	+0.1		
	comp=Z,1.5nm,0.7s,baz=142,slow=3.6,SNR=4.8								
KECS	**Kecovo**	**149.61**	**341**	*e*PKP	PKPab	07 19 20.5	+0.1		
PRU	**Pruhonice**	**149.66**	**349**	*e*PKPB	PKPbc	07 19 16.2	+0.8		
NKC	**Novy Kostel**	**149.75**	**352**	*e*PKPAB	PKPab	07 19 20.7	-0.3		
VYHS	**Vyhne**	**150.08**	**343**	*e*PKP	PKPbc	07 19 17.2	+0.7		
VYHS				*e*	PKPab	07 19 27.4	+5.0		
PSZ	**Piszkesteto**	**150.29**	**341**	*e*pPKP/F	PKPbc	07 19 17.7	+0.7		
DOU				APKP		07 19 27.0			
DOU	**Dourbes**	**150.30**	**2**	PKP	PKiKP	07 19 20.9	+3.2		
GRA1	**Grafenberg Arr**	**150.43**	**353**	*e*PKP	PKPbc	07 19 18.1	+0.8		
GRF	**Grafenberg Arr**	**150.43**	**353**	*e*PKP	PKPbc	07 19 18.1	+0.8		
KHC	**Kasperske Hory**	**150.65**	**350**	*e*PKPBB	PKPbc	07 19 18.2	+0.4		
GERES	**GERESS Array B**	**150.91**	**350**	PKPbc	PKPbc	07 19 17.3	-1.1		
	comp=Z,0.8nm,0.7s,baz=322,slow=4.1,SNR=5.7								
PKSM	**Moragy**	**152.20**	**341**	*e*PKIKP	PKPdf	07 19 14.5	-0.2		

NEIC ***04*** *07:02:33.7, 1824N×10154W, h53km, MD3.8(MEX), After MEX.*

MEX 04 07:02:33.7±1.0, 1824N×10154W, h53km±21km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.63**	**174**	*i* P	Pn	07 02 45.0	-1.7
ZIIG				*i* S	Sn	07 02 54.8	-1.4
MOIG	**Morelia**	**1.47**	**13**	*i* P	Pn	07 02 56.8	-1.0
MOIG				*i* S	Sn	07 03 13.7	-2.2
CAIG	**El Cayaco**	**1.70**	**134**	*i* P	Pn	07 02 59.5	-1.4
CAIG				*i* S	Sn	07 03 18.4	-3.1
MEIG	**Mezcala**	**1.85**	**99**	*i* P	Pn	07 03 02.3	-0.8
MEIG				*i* S	Sn	07 03 25.0	-0.3
PLIG	**Platanillo**	**1.94**	**85**	*e*P	Pn	07 03 02.4	-1.8
PLIG				*i* S	Sn	07 03 25.2	-2.3
ACX	**Acapulco**	**2.06**	**131**	*i* P	Pn	07 03 05.5	-0.4
ACX				*i* S	Sn	07 03 30.0	-0.5
PPM	**Popocatepetl**	**2.88**	**73**	*e*P	Pn	07 03 14.4	-2.7
PPM				*i* S	Sn	07 03 48.8	-1.8
UTMO	**Huajuapan**	**3.58**	**96**	*i* P	Pn	07 03 25.5	-1.1
UTMO				*i* S	Sn	07 04 06.9	-0.8

NEIC ***04*** *07:09:53.9±1.1, 193S×10025E, h30km, mb4.5/2, Error ellipse: s-maj=54.0km s-min=10.5km az=55.0*
NEIC Felt [II] at Padang.
ISCJB ***04*** *07:09:56.2±3.3, 15S±03×1008E±04, h47km±24km, mb4.3/10, Error ellipse: s-maj=89.1km s-min=14.2km az=100.2*
IDC ***04*** *07:09:58.1±5.1, 162S×10057E, h55km±39km, mb3.8/7, mb1 4.0/8, mb1mx3.7/18, mbtmp4.1/8, MS2.8/1, Ms1 2.8/1, ms1mx2.1/28, Error ellipse: s-maj=87.4km s-min=15.9km az=54.0*

ISC 04 07:09:57.9±3.1, 15S±04×1007E±04, h47km±22km, n18, σ0§67/16, mb4.3/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.67**	**337**	P	**Pn**	**07 11 05.3**	**-0.5**
	0.9nm,0.3s,baz=358,slow=11,SNR=4.9						
PSI				LR	LR	07 12 47.0	
	comp=Z,109nm,21.6s,baz=194,slow=37						
PSI	**Prapat**	**4.67**	**337**	P	**Pn**	**07 11 05.3**	**-0.5**
PSI				LR	LR	07 12 47.0	
JIRN	**Jiri**	**32.22**	**335**	*e*P	**P**	**07 16 22.4**	**+0.8**
GUN	**Gumba**	**32.57**	**335**	*e*P	**P**	**07 16 25.3**	**+0.7**
	8.0nm,0.3s,mb5.1						
DMN	**Daman**	**32.64**	**334**	*e*P	**P**	**07 16 26.2**	**+1.0**
GKN	**Gorkha**	**33.19**	**333**	*e*P	**P**	**07 16 30.5**	**+0.5**
KOLN	**Koldanda**	**33.47**	**332**	*e*P	**P**	**07 16 32.7**	**+0.2**
WRA	**Warramunga Arr**	**37.61**	**121**	P	**P**	**07 17 08.1**	**+0.1**
	1.2nm,0.5s,mb3.9,baz=303,slow=9.3,SNR=27						
WRA				PcP	PcP	07 19 25.0	+0.1
	0.4nm,0.5s,baz=318,slow=2.8,SNR=6.9						
WRAB	**Tennant Creek**	**37.62**	**121**	*e*P	**P**	**07 17 07.7**	**-0.4**
	5.0nm,0.8s,mb4.3						
ASAR	**Alice Springs**	**38.95**	**127**	P	**P**	**07 17 19.9**	**+0.7**
	1.3nm,0.5s,mb3.9,baz=302,slow=7.8,SNR=21						
ASAR				PcP	PcP	07 19 28.9	-0.1
	0.3nm,0.4s,baz=306,slow=2.8,SNR=4.2						
SONM	**Songino Array**	**49.42**	**5**	P	**P**	**07 18 43.6**	**+0.6**
	1.4nm,0.7s,mb4.1,baz=185,slow=8.7,SNR=9.3						
MKAR	**Makanchi Array**	**50.78**	**344**	P	**P**	**07 18 53.3**	**-0.1**
	3.7nm,0.6s,mb4.5,baz=150,slow=7.9,SNR=36						
KURK	**Kurchatov**	**55.37**	**343**	*e*P	**P**	**07 19 26.0**	**-1.1**
	4.3nm,0.6s,mb4.7						
ZAL	**Zalesovo**	**56.84**	**349**	P	**P**	**07 19 36.8**	**-0.8**
	3.6nm,0.6s,mb4.6,baz=304,slow=6.8,SNR=13						
FINES	**FINESS Array B**	**84.04**	**332**	P	**P**	**07 22 22.6**	**-0.8**
	0.6nm,0.4s,mb4.1,baz=96,slow=4.8,SNR=6.7						
ARCES	**ARCESS Array B**	**86.28**	**340**	P	**P**	**07 22 33.9**	**-0.8**
	0.6nm,0.4s,mb4.1,baz=93,slow=7.3,SNR=8.7						
TZTN	**Tazewell**	**144.94**	**6**	*e*PKPdf	PKPdf	07 29 28.4	-1.4
JCT	**Junction City**	**145.25**	**32**	*e*PKPdf	PKPdf	07 29 30.8	+0.5
JCT				*e*pPKPdf	pPKPdf	07 29 50.3	+5.5

NEIC ***04*** *07:12:00.3, 3651N×1158W, h0km, MG4.1(MDD), After MDD.*
CSEM ***04*** *07:12:02.0±0.9, 3673N×1134W, h10km, mb4.1/5, Error ellipse: s-maj=17.5km s-min=12.7km az=36.0*

MDD 04 07:12:01.8±3.2, 3650N×1146W, h0km, mb4.1/5, Error ellipse: s-maj=29.6km s-min=24.2km az=114.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**2.43**	**64**	*e*Pn	Pn	07 12 41.6	-1.1
PTEO				*e*Sn	Sn	07 13 09.0	-4.1
PTEO							
	2.9nm,0.3s						
PTEO	**Sao Teotonio**	**2.43**	**64**	*e*Pn	Pn	07 12 41.6	-1.1
PTEO				*e*Sn	Sn	07 13 09.0	-4.1
	2.9nm,0.3s						
MOE	**Montemor**	**3.19**	**50**	*e*Sn	Sn	07 13 29.6	-2.4
EGRO	**El Granado**	**3.35**	**71**	P	Pn	07 12 54.5	-0.9
	1.6nm,0.1s,SNR=18						
EGRO				S	Sn	07 13 33.6	-2.3
	1.2nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.35**	**71**	P	Pn	07 12 54.5	-0.9
	1.6nm,0.1s,SNR=18						
EGRO				S	Sn	07 13 33.6	-2.2
	1.2nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.03**	**70**	P	Pn	07 13 03.3	-1.5
	2.0nm,0.2s,SNR=18						
EMIN				S	Sn	07 13 49.0	-3.6
	0.2nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.03**	**70**	P	Pn	07 13 03.3	-1.5
	2.0nm,0.2s,SNR=18						
EMIN				S	Sn	07 13 49.0	-3.7
	0.2nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.19**	**56**	P	Pn	07 13 05.5	-1.4
	1.6nm,0.1s,SNR=18						
EBAD				S	Sn	07 13 52.6	-3.9
	0.1nm,0.0s,SNR=7.9						
EBAD	**Badajoz**	**4.19**	**56**	P	Pn	07 13 05.5	-1.4
	1.6nm,0.1s,SNR=18						
EBAD				S	Sn	07 13 52.6	-3.9
	0.1nm,0.0s,SNR=7.9						
ESPR	**Espera**	**4.52**	**84**	P	Pn	07 13 10.0	-1.5
	3.8nm,0.1s,SNR=18						
ESPR				S	Sn	07 14 01.4	-3.4
	1.6nm,0.2s,SNR=7.9						
ESPR	**Espera**	**4.52**	**84**	P	Pn	07 13 10.0	-1.5
	3.8nm,0.1s,SNR=18						
ESPR				S	Sn	07 14 01.4	-3.4
	SNR=7.9						
PVIS	**Viseu**	**5.05**	**33**	*e*Sn	Sn	07 14 14.3	-3.5
PVIS							
	2.1nm,0.2s						
PVIS	**Viseu**	**5.05**	**33**	*e*Sn	Sn	07 14 14.3	-3.5
	2.1nm,0.2s						
EADA	**Adamuz**	**5.73**	**71**	P	Pn	07 13 26.9	-1.2
	1.4nm,0.2s,SNR=18						
EADA				S	Sn	07 14 31.1	-3.6
	0.1nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**5.73**	**71**	P	Pn	07 13 26.9	-1.2
	1.4nm,0.2s,SNR=18						
EADA				S	Sn	07 14 31.1	-3.5
	SNR=7.9						
ELOB	**Lobios**	**5.97**	**25**	S	Sn	07 14 35.2	-5.4
	0.0nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**5.97**	**25**	P	Pn	07 13 29.1	-2.4
ELOB				S	Sn	07 14 35.2	-5.4
ELOB	**Lobios**	**5.97**	**25**	P	Pn	07 13 29.1	-2.4
ELOB				S	Sn	07 14 35.2	-5.4
	SNR=7.9						

CSEM ***04*** *07:15:26.1±0.6, 3778N×2544W, h3km±1km, ML2.7, Error ellipse: s-maj=0.9km s-min=0.9km az=49.0, After PDA*
PDA ***04*** *07:15:26.1±0.6, 3778N×2544W, h3km±1km, ML2.7, Error ellipse: s-maj=0.9km s-min=0.9km az=49.0*

SVSA 04 07:15:26.1±0.6, 3778N×2544W, h3km±1km, ML2.7, Error ellipse: s-maj=0.9km s-min=0.9km az=49.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MESC	**Monte Escuro**	**0.02**	**344**	*i* P	Pg	07 15 27.1	+0.4
MESC				*i* S	Sg	07 15 27.9	+0.8
MESC	**Monte Escuro**	**0.02**	**344**	*i* S	Sg	07 15 27.9	+0.8
VIF	**Vila Franca**	**0.03**	**180**	*i* P	Pg	07 15 27.4	+0.5
VIF				*i* S	Sg	07 15 28.6	+1.2
VIF							
	5µm,0.3s						
VIF	**Vila Franca**	**0.03**	**180**	*i* S	Sg	07 15 28.6	+1.2
LFA	**Lagoa do Fogo**	**0.04**	**261**	*i* P	Pg	07 15 27.6	+0.7
PCNG	**Congro**	**0.04**	**107**	*i* P	Pg	07 15 27.4	+0.5
PCNG				*e*S	Sg	07 15 28.7	+1.2
PCNG							
	7µm,0.3s						
PCNG	**Congro**	**0.04**	**107**	*e*S	Sg	07 15 28.7	+1.2
PMAT	**Coroa da Mata**	**0.04**	**327**	*i* P	Pg	07 15 27.6	+0.5
PMAT				*i* S	Sg	07 15 28.6	+0.8
PMAT							
	5µm,0.2s						
PMAT	**Coroa da Mata**	**0.04**	**327**	*i* S	Sg	07 15 28.6	+0.8
PRCH	**Ribeira Ch**	**0.06**	**212**	*i* P	Pg	07 15 27.8	+0.5
PRCH				*i* S	Sg	07 15 29.2	+1.0
PRCH							
	3µm,0.3s						
PRCH	**Ribeira Ch**	**0.06**	**212**	*i* S	Sg	07 15 29.2	+1.0
PVER	**Pico Vermelho**	**0.06**	**288**	*i* P	Pg	07 15 27.8	+0.4
PVER				*i* S	Sg	07 15 28.9	+0.7
PVER							
	2µm,0.2s						
PVER	**Pico Vermelho**	**0.06**	**288**	*i* S	Sg	07 15 28.9	+0.7
FRA1	**Furnas**	**0.07**	**118**	*i* P	Pg	07 15 28.3	+0.7
CML	**Cha da Macela**	**0.08**	**265**	*i* P	Pg	07 15 28.5	+0.7
PFAD	**Fenais da Ajud**	**0.11**	**57**	*i* P	Pg	07 15 29.0	+0.7
MIRA	**Miradouro**	**0.13**	**87**	*i* P	Pg	07 15 29.4	+0.8

PVER	**Pico Vermelho**	**0.07**	**287**	*e*P	Pg	07	18	02.6 +0.5
PVER				*e*S	Sg	07	18	03.9 +0.9
PVER								
	2µm,0.3s							
PVER	**Pico Vermelho**	**0.07**	**287**	*e*P	Pg	07	18	02.6 +0.5
PVER				*e*S	Sg	07	18	03.9 +0.9
FRA1	**Furnas**	**0.07**	**119**	*e*P	Pg	07	18	03.1 +0.9
FRA1				*i* S	Sg	07	18	04.6 +1.4
CML	**Cha da Macela**	**0.09**	**265**	*e*P	Pg	07	18	03.4 +0.9
PFAD	**Fenais da Ajud**	**0.11**	**56**	*e*P	Pg	07	18	03.7 +0.8
MIRA	**Miradouro**	**0.12**	**86**	*e*P	Pg	07	18	03.8 +0.6
MIRA	**Miradouro**	**0.12**	**86**	*e*S	Sg	07	18	03.7 -1.2
FAC	**Faja de Cima**	**0.17**	**266**	*e*P	Pg	07	18	04.9 +0.9
PDA	**Ponta Delgada**	**0.18**	**260**	*e*P	Pg	07	18	05.0 +0.7
PDA				*e*S	Sg	07	18	08.1 +1.4
PSAN	**Santo Antonio**	**0.24**	**288**	*e*P	Pg	07	18	06.2 +0.7
PFET	**Feteiras**	**0.28**	**278**	*e*P	Pg	07	18	06.7 +0.5
SET2	**Ginetes**	**0.30**	**283**	*e*P	Pg	07	18	07.4 +0.8

IDC 04 07:23:48.4±6.4, 1879S×17469W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/14, mbtmp3.9/4, Error ellipse: s-maj=268.8km s-min=35.8km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.80**	**261**	P	P	07 30 59.2	+1.3
	2.8nm,0.5s,baz=90,slow=14,SNR=4.8						
WRA	**Warramunga Arr**	**47.95**	**260**	P	P	07 32 28.3	-0.4
	0.5nm,0.3s,baz=97,slow=7.3,SNR=23						
ASAR	**Alice Springs**	**47.96**	**255**	P	P	07 32 29.0	+0.3
	1.1nm,0.6s,baz=90,slow=8.5,SNR=21						
ILAR	**Eielson Array**	**85.99**	**12**	P	P	07 36 30.2	-0.4
	0.4nm,0.9s,baz=218,slow=6.2,SNR=5.5						

*ISCJB **04** 07:32:34.7±0.7, 1998S±008×1735W±0.1, h33km, mb4.0/7, Error ellipse: s-maj=15.1km s-min=8.7km az=64.7*
*IDC **04** 07:32:35.9±1.4, 2008S×17399W, h0km, mb4.0/6, mb1 4.2/8, mb1mx4.0/16, mbtmp4.0/8, ML3.7/2, MS3.3/1, Ms1 3.3/1, ms1mx2.7/23, Error ellipse: s-maj=35.3km s-min=27.0km az=108.0*
*NEIC **04** 07:32:41.0±0.8, 2011S×17400W, h35km, mb4.2/2, Error ellipse: s-maj=18.3km s-min=15.2km az=115.0*

ISC 04 07:32:37.3±0.7, 2003S±008×17348W±010, h35km, n15, σ1§35/15, mb4.0/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.30**	**15**	Pn	**Pn**	**07 34 08.8**	**+1.1**
	9.7nm,0.3s,baz=181,slow=0.7,SNR=14						
AFI				Sn	**Sn**	**07 35 17.1**	**-1.4**
	5.8nm,0.3s,baz=136,slow=23,SNR=2.1						
AFI				LR	LR	07 36 25.1	
	comp=Z,260nm,20.2s,baz=222,slow=35						
AFI				T		07 40 46.7	
	7.9nm,0.3s,baz=88,slow=18,SNR=6.7						
AFI	**Afiamalu**	**6.30**	**15**	Pn	**Pn**	**07 34 08.8**	**+1.1**
AFI				Sn	**Sn**	**07 35 17.1**	**-1.4**
AFI				LR	LR	07 36 25.1	
RAR	**Rarotonga**	**12.89**	**98**	Pn	**Pn**	**07 35 37.4**	**-0.6**
	3.3nm,0.3s,baz=290,slow=15,SNR=10						
DZM	**Mont Dzumac**	**18.84**	**260**	P	**Pn**	**07 36 52.8**	**-2.1**
	0.1nm,0.3s,baz=68,slow=18,SNR=2.0						
URZ	**Urewera**	**19.91**	**202**	P	**Pn**	**07 37 06.6**	**-1.0**
	0.7nm,0.3s,baz=320,slow=13,SNR=5.4						
CTA	**Charters Tower**	**37.76**	**263**	P	**P**	**07 39 50.0**	**+0.2**
	2.0nm,0.5s,mb4.1,baz=6.7,slow=15,SNR=2.9						
CTAO	**Charters Tower**	**37.76**	**263**	*e*P	**P**	**07 39 49.6**	**-0.2**
	1.9nm,0.6s,mb4.0						
ASAR	**Alice Springs**	**48.75**	**256**	P	**P**	**07 41 18.3**	**-0.2**
	1.2nm,0.6s,mb4.1,baz=97,slow=7.5,SNR=14						
WRAB	**Tennant Creek**	**48.85**	**261**	*e*P	**P**	**07 41 19.8**	**+0.5**
	2.7nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**48.86**	**261**	P	**P**	**07 41 20.1**	**+0.7**
	0.6nm,0.3s,mb4.0,baz=98,slow=6.4,SNR=18						
VNDA	**Vanda**	**58.79**	**186**	P	**P**	**07 42 35.1**	**+3.2**
	1.4nm,0.8s,mb4.0,baz=352,slow=4.1,SNR=6.3						
MJAR	**Matsushiro Arr**	**72.44**	**321**	P	**P**	**07 44 03.1**	**+3.0**
	1.3nm,0.5s,mb4.1,baz=152,slow=5.9,SNR=6.9						
ILAR	**Eielson Array**	**86.98**	**11**	P	**P**	**07 45 23.1**	**+4.3**
	0.3nm,0.8s,mb3.6,baz=237,slow=5.1,SNR=6.2						
AKASG	**Malin Array Be**	**144.52**	**335**	PKP	PKPdf	07 52 12.1	+2.1
	0.3nm,0.3s,baz=38,slow=4.2,SNR=5.2						
AKASG	**Malin Array Be**	**144.52**	**335**	PKP	PKPdf	07 52 12.1	+2.1

IDC 04 07:34:58.5±2.6, 250N×9963E, h111km±70km, mb3.2/3, mb1 3.4/3, mb1mx3.1/19, mbtmp3.6/3, Error ellipse: s-maj=255.0km s-min=22.9km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.77**	**293**	P	Pn	07 35 18.1	+0.7
	17nm,0.3s,baz=180,slow=4.4,SNR=105						
PSI				S	Sn	07 35 32.6	+0.8
	4.0nm,0.3s,baz=78,slow=21,SNR=23						
WRA	**Warramunga Arr**	**40.72**	**125**	P	P	07 42 27.7	-0.4
	0.8nm,0.4s,baz=302,slow=9.1,SNR=8.3						
ASAR	**Alice Springs**	**42.30**	**130**	P	P	07 42 42.0	+1.0
	0.2nm,0.4s,baz=298,slow=7.4,SNR=3.3						
MKAR	**Makanchi Array**	**46.63**	**344**	P	P	07 43 15.5	0.0
	0.4nm,0.5s,baz=151,slow=9.0,SNR=7.3						

*CSEM **04** 07:48:20.8±0.0, 44.30N×6.50E, h15km, ML2.6/14, Error ellipse: s-maj=1.1km s-min=0.8km az=141.0*
*GEN **04** 07:48:21.0, 44.33N×6.41E, h6km, ML2.0*
*ISCJB **04** 07:48:21.1±0.2, 44.34N±0.002×6.40E±0.002, h21km±3km, Error ellipse: s-maj=2.9km s-min=2.4km az=117.5*
*STR **04** 07:48:21.7±0.3, 44.33N×6.34E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **04** 07:48:21.5, 44.31N×6.40E, h4km, ML2.4(STR), ML2.7(LDG), After LDG.*
*LDG **04** 07:48:21.5±0.1, 44.31N×6.40E, h4km, Md2.8/1, Ml2.7/12, Error ellipse: s-maj=2.0km s-min=1.7km az=93.0*

ISC 04 07:48:20.7±0.2, 4433N±001×640E±002, h17km±2km, n69, σ0§71/126, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OG25	**Le Caire**	**0.24**	**281**	Pg	**Pg**	**07 48 25.4**	**-0.7**
OG25				Sg	**Sg**	**07 48 29.0**	**-0.8**
SURF	**Saint Ours**	**0.33**	**62**	Pg	**Pg**	**07 48 27.9**	**+0.2**
MBDF	**Montbardon**	**0.48**	**33**	*e*Pg	**Pg**	**07 48 30.1**	**-0.2**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**07 48 36.6**	**-0.3**
	62nm,0.4s						
MBDF	**Montbardon**	**0.48**	**33**	*e*Pg	**Pg**	**07 48 30.1**	**-0.2**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**07 48 36.6**	**-0.3**
	31nm,0.4s						
STOF	**St-Etienne Org**	**0.48**	**227**	Pg	**Pg**	**07 48 30.6**	**+0.2**
STOF				Sg	**Sg**	**07 48 37.9**	**+1.0**
PZZ	**Prazzo**	**0.53**	**70**	P	**Pg**	**07 48 31.4**	**+0.1**
PZZ				S	**Sg**	**07 48 38.4**	**-0.1**
DOI	**San Damiano**	**0.63**	**73**	Pg	**Pg**	**07 48 33.0**	**-0.1**
DOI				Sg	**Sg**	**07 48 42.2**	**+0.6**
RRL	**Cesana Torines**	**0.66**	**25**	P	**Pg**	**07 48 33.5**	**-0.1**
RRL				S	**Sg**	**07 48 42.2**	**-0.1**
STV	**Sta Anna Valdi**	**0.67**	**97**	P	**Pg**	**07 48 33.6**	**-0.2**
STV				S	**Sg**	**07 48 42.2**	**-0.5**
VILF	**Villemus**	**0.68**	**227**	Pg	**Pg**	**07 48 34.5**	**+0.4**
VILF				Sg	**Sg**	**07 48 48.6**	**+5.4**
SMRF	**Simiane la Rot**	**0.69**	**240**	*e*Pg	**Pg**	**07 48 33.6**	**-0.6**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**07 48 43.3**	**-0.1**
	54nm,0.3s						
SMRF	**Simiane la Rot**	**0.69**	**240**	*e*Pg	**Pg**	**07 48 33.6**	**-0.6**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**07 48 43.3**	**-0.1**
	27nm,0.3s						
MVIF	**Mont Vial**	**0.69**	**128**	Pg	**Pg**	**07 48 36.2**	**+2.0**
ORIF	**Oris-en-Rattie**	**0.70**	**328**	*e*Pg	**Pg**	**07 48 33.8**	**-0.6**
	SNR=1.0						
ENR	**Entracque**	**0.74**	**97**	P	**Pb**	**07 48 34.9**	**-0.2**
ENR				S	**Sg**	**07 48 44.3**	**-0.6**
TAVF	**Tavernes**	**0.75**	**199**	Pg	**Pg**	**07 48 34.9**	**-0.4**
TAVF				Sg	**Sg**	**07 48 45.8**	**+0.5**
FRF	**La Foret Royal**	**0.79**	**167**	*e*Pg	**Pg**	**07 48 35.8**	**-0.2**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**07 48 47.9**	**-0.5**
	38nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**0.79**	**167**	*e*Pg	**Pg**	**07 48 35.8**	**-0.2**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**07 48 47.9**	**-0.5**
	19nm,0.2s,SNR=1.0						
AUTN	**L'Aution**	**0.81**	**114**	Pg	**Pg**	**07 48 37.8**	**+1.3**
AUTN				Sg	**Sg**	**07 48 51.9**	**+4.8**
OCF	**Saint Nazaire**	**0.83**	**288**	Pg	**Pg**	**07 48 38.2**	**+1.4**
OG26	**St.-Nazaire-De**	**0.83**	**288**	Pg	**Pg**	**07 48 38.2**	**+1.4**
FENE	**Fenestrelle**	**0.85**	**34**	P	**Pb**	**07 48 36.7**	**-0.3**
FENE				S	**Sb**	**07 48 47.4**	**-0.7**
SBF	**Sospel**	**0.88**	**121**	*e*Pg	**Pg**	**07 48 37.9**	**+0.2**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**07 48 48.9**	**-0.4**
	58nm,0.4s,SNR=1.0						
SBF				*e*Sn	**Sn**	**07 48 50.9**	**+0.3**
	SNR=1.0						
SBF	**Sospel**	**0.88**	**121**	*e*Pg	**Pg**	**07 48 37.9**	**+0.2**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**07 48 48.9**	**-0.4**
	29nm,0.4s,SNR=1.0						
SBF				*e*Sn	**Sn**	**07 48 50.9**	**+0.3**
	SNR=1.0						
SAOF	**Saorge**	**0.90**	**112**	Pg	**Pg**	**07 48 39.5**	**+1.4**
PUYF	**Puyloubier**	**0.94**	**213**	Pg	**Pg**	**07 48 39.0**	**+0.1**
LMR	**La Mourre**	**0.99**	**175**	*e*Pg	**Pg**	**07 48 39.7**	**-0.3**
LMR				*e*Sg	**Sg**	**07 48 51.9**	**-1.1**
	34nm,0.2s,SNR=1.0						
LMR				*e*Sn	**Sn**	**07 48 53.4**	**-0.1**
	SNR=1.0						
LMR	**La Mourre**	**0.99**	**175**	*e*Pn	**Pn**	**07 48 38.8**	**-1.1**
LMR				*e*Pg	**Pg**	**07 48 39.7**	**-0.3**
LMR				*e*Sg	**Sg**	**07 48 51.9**	**-1.1**
LMR				*e*Sn	**Sn**	**07 48 53.4**	**-0.1**
LMR	**La Mourre**	**0.99**	**175**	*e*Pg	**Pg**	**07 48 39.7**	**-0.3**
LMR				*e*Sg	**Sg**	**07 48 51.9**	**-1.1**
	17nm,0.2s,SNR=1.0						
LMR				*e*Sn	**Sn**	**07 48 53.4**	**-0.1**
	SNR=1.0						
MONE	**Monesi**	**1.00**	**104**	P	**Pb**	**07 48 39.5**	**-0.1**
MONE				S	**Sb**	**07 48 52.3**	**-0.3**
TREF	**Trevaresse**	**1.01**	**227**	Pg	**Pg**	**07 48 40.6**	**+0.2**
RSP	**Reno Superiore**	**1.03**	**36**	P	**Pb**	**07 48 39.9**	**-0.1**
RSP				S	**Sb**	**07 48 52.7**	**-0.5**
PRAF	**Pradon**	**1.03**	**240**	Pg	**Pg**	**07 48 41.0**	**+0.4**
PRAF				Sg	**Sg**	**07 48 55.7**	**+1.6**
NEGI	**Negi**	**1.05**	**116**	P	**Pb**	**07 48 40.3**	**-0.2**
ROB	**Roburent**	**1.06**	**91**	P	**Pb**	**07 48 40.5**	**0.0**
ROB				S	**Sb**	**07 48 53.7**	**-0.4**
BERF	**Bertagne**	**1.14**	**207**	Pg	**Pg**	**07 48 42.8**	**+0.2**
IMI	**Imperia**	**1.15**	**111**	P	**Pn**	**07 48 41.5**	**-0.5**
IMI	**Imperia**	**1.15**	**111**	Pg	**Pg**	**07 48 42.8**	**-0.1**
GELF	**Grande-Etoile**	**1.18**	**217**	Pg	**Pg**	**07 48 43.2**	**-0.2**
GELF				Sg	**Sg**	**07 48 59.0**	**+0.2**
LPG	**La Plagne**	**1.20**	**12**	*e*Pn	**Pn**	**07 48 43.9**	**+1.2**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**07 49 00.6**	**+1.1**
	19nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**1.20**	**12**	*e*Pg	**Pg**	**07 48 42.9**	**-0.9**
LPG				*e*Pn	**Pn**	**07 48 43.9**	**+1.2**
LPG				*e*Sg	**Sg**	**07 49 00.6**	**+1.1**
LPG	**La Plagne**	**1.20**	**12**	*e*Pn	**Pn**	**07 48 43.9**	**+1.2**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**07 49 00.6**	**+1.1**
	9.4nm,0.4s,SNR=1.0						
LPL	**La Plagne**	**1.21**	**11**	*e*Pn	**Pn**	**07 48 43.9**	**+1.0**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**07 49 00.7**	**+0.7**
	44nm,0.5s						
LPL	**La Plagne**	**1.21**	**11**	*e*Pn	**Pn**	**07 48 43.9**	**+1.0**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**07 49 00.7**	**+0.7**
	22nm,0.5s						
RORO		**1.22**	**100**	P	**Pn**	**07 48 42.3**	**-0.6**
FIN	**Finale Ligure**	**1.30**	**94**	P	**Pn**	**07 48 43.6**	**-0.5**
FIN	**Finale Ligure**	**1.30**	**94**	Pg	**Pg**	**07 48 45.7**	**-0.1**
VIVF	**Saint-Julien-l**	**1.34**	**294**	*e*Pg	**Pg**	**07 48 46.5**	**-0.1**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**07 49 02.8**	**+0.6**
	13nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.34**	**294**	*e*Pn	**Pn**	**07 48 45.4**	**+0.7**
VIVF				*e*Pg	**Pg**	**07 48 46.5**	**-0.1**
VIVF				*e*Sn	**Sn**	**07 49 02.8**	**+0.6**
VIVF	**Saint-Julien-l**	**1.34**	**294**	*e*Pg	**Pg**	**07 48 46.5**	**-0.1**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**07 49 02.8**	**+0.6**
	6.6nm,0.2s,SNR=1.0						
TRAV		**1.52**	**38**	P	**Pn**	**07 48 47.0**	**-0.2**
PCP	**Pian Castagno**	**1.55**	**81**	P	**Pn**	**07 48 47.6**	**+0.1**
ORX	**Oropa**	**1.72**	**40**	P	**Pn**	**07 48 50.4**	**+0.5**
LASF	**Ste Croix**	**1.85**	**263**	*e*Pn	**Pn**	**07 48 51.4**	**-0.2**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**07 49 14.3**	**-0.3**
	16nm,0.3s,SNR=1.0						
LASF	**Ste Croix**	**1.85**	**263**	*e*Pn	**Pn**	**07 48 51.4**	**-0.2**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**07 49 14.3**	**-0.3**
	8.0nm,0.3s,SNR=1.0						
CABF	**La Chapelle**	**2.30**	**355**	*e*Pg	**Pg**	**07 49 04.0**	**-0.8**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**07 49 34.8**	**+0.2**
	5.0nm,0.4s						
CABF	**La Chapelle**	**2.30**	**355**	*e*Pg	**Pg**	**07 49 04.0**	**-0.8**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**07 49 34.8**	**+0.2**
	2.5nm,0.4s						
SMF	**Signal de Mont**	**2.94**	**323**	*e*Pn	**Pn**	**07 49 07.5**	**+0.9**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**07 49 41.1**	**-0.4**
	5.2nm,0.4s,SNR=1.0						
SMF	**Signal de Mont**	**2.94**	**323**	*e*Pn	**Pn**	**07 49 07.5**	**+0.9**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**07 49 41.1**	**-0.4**
	2.6nm,0.4s,SNR=1.0						
MTLF	**Montolieu**	**3.18**	**253**	*e*Pn	**Pn**	**07 49 10.0**	**0.0**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**07 49 46.2**	**-1.3**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**07 50 01.1**	**-1.8**
	3.6nm,0.5s,SNR=1.0						
MTLF	**Montolieu**	**3.18**	**253**	*e*Pn	**Pn**	**07 49 10.0**	**0.0**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**07 49 46.2**	**-1.3**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**07 50 01.1**	**-1.8**
	1.8nm,0.5s,SNR=1.0						
AVF	**Avril sur Loir**	**3.27**	**320**	*e*Sg	**Sg**	**07 50 04.4**	**-1.2**
	4.3nm,0.5s						
AVF	**Avril sur Loir**	**3.27**	**320**	*e*Sg	**Sg**	**07 50 04.4**	**-1.2**
	2.2nm,0.5s						
BGF	**Bois d'Agland**	**3.35**	**313**	*e*Pn	**Pn**	**07 49 13.1**	**+0.8**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**07 50 07.4**	**-1.0**
	6.5nm,0.4s						
BGF	**Bois d'Agland**	**3.35**	**313**	*e*Pn	**Pn**	**07 49 13.1**	**+0.8**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**07 50 07.4**	**-1.0**
	3.2nm,0.4s						
SSF	**Saint Saulge**	**3.41**	**324**	*e*Pn	**Pn**	**07 49 14.5**	**+1.4**
	SNR=1.0						
LOR	**Lormes**	**3.44**	**330**	*e*Pn	**Pn**	**07 49 14.5**	**+1.0**
LOR				*e*Sg	**Sg**	**07 50 10.3**	**-0.8**
	2.1nm,0.2s						
LOR	**Lormes**	**3.44**	**330**	*e*Pn	**Pn**	**07 49 14.5**	**+1.0**
LOR				*e*Sg	**Sg**	**07 50 10.3**	**-0.8**
	1.0nm,0.2s						
TCF	**Toulx Ste Croi**	**3.55**	**305**	*e*Pn	**Pn**	**07 49 16.0**	**+1.0**
	SNR=1.0						

IDC 04 07:53:19.5±4.9, 2017S×17376W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/13, mbtmp3.8/3, MS3.3/2, Ms1 3.4/2, ms1mx2.9/29, Error ellipse: s-maj=138.3km s-min=50.8km az=128.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.50**	**17**	LR	LR	07 56 35.8	
	comp=Z,83nm,19.8s,baz=192,slow=30						
RAR	**Rarotonga**	**13.13**	**97**	Pn	Pn	07 56 21.5	-5.7
	1.2nm,0.3s,baz=266,slow=9.1,SNR=4.2						
ASAR	**Alice Springs**	**48.46**	**256**	P	P	08 02 04.3	+0.6
	0.8nm,0.6s,baz=98,slow=7.5,SNR=9.3						
WRA	**Warramunga Arr**	**48.59**	**261**	P	P	08 02 04.9	+0.2
	0.5nm,0.6s,baz=98,slow=8.5,SNR=6.1						
MJAR	**Matsushiro Arr**	**72.38**	**321**	P	P	08 04 47.6	+0.2
	1.6nm,0.8s,baz=151,slow=6.9,SNR=5.8						
ILAR	**Eielson Array**	**87.16**	**11**	LR	LR	08 39 27.6	
	comp=Z,44nm,19.9s,baz=180,slow=32						
AKASG	**Malin Array Be**	**144.54**	**335**	PKP	PKPdf	08 12 56.7	-1.2
	1.5nm,0.7s,baz=42,slow=4.6,SNR=4.2						

*ISCJB **04** 08:23:01.9±0.4, 8195N±007×1183E±04, h10km, mb3.8/19, Error ellipse: s-maj=9.8km s-min=8.2km az=146.9*
*IDC **04** 08:23:01.7±0.7, 8186N×11876E, h0km, mb3.8/13, mb1 4.0/13, mb1mx3.9/23, mbtmp3.8/13, Error ellipse: s-maj=25.4km s-min=13.7km az=157.0*
*MOS **04** 08:23:02.4±2.1, 8191N×11872E, h10km, mb4.2/6, Error ellipse: s-maj=67.4km s-min=11.1km az=89.7*
*NEIC **04** 08:23:03.3±0.5, 8188N×11887E, h10km, mb4.1/2, Error ellipse: s-maj=14.4km s-min=7.8km az=159.0*

ISC 04 08:23:03.5±0.4, 8202N±007×1182E±04, h10km, n34, σ1§15/34, mb3.8/19, 7C-2D, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIXI	**Tiksi**	**10.67**	**162**	*e*P	**Pn**	**08 25 35.9**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BILL	**Bilibino**	**17.71**	**113**	*e*P	**Pn**	**08 27 10.6**	**+0.4**
BILL				pmax	pmax		
	comp=Z,10.0nm,2.5s						
YAK	**Yakutsk**	**20.32**	**164**	*de*P	**P**	**08 27 41.2**	**+1.6**
YAK				pmax	pmax		
	comp=Z,24nm,0.5s						
ARCES	**ARCESS Array B**	**22.39**	**293**	P	**P**	**08 28 04.3**	**+2.4**
	comp=Z,5.3nm,0.9s,mb4.0,baz=23,slow=10,SNR=9.8						
ARE0	**ARCESS Array S**	**22.39**	**293**	P	**P**	**08 28 02.5**	**+0.6**
LVZ	**Lovozero**	**22.71**	**283**	*e*P	**P**	**08 28 09.9**	**+4.6**
LVZ				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.3						
MA2	**Magadan**	**24.18**	**138**	*e*P	**P**	**08 28 22.2**	**+2.3**
MA2				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb3.8						
BOD	**Bodaibo**	**24.35**	**185**	*e*P	**P**	**08 28 18.6**	**-2.9**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb3.8						
INK	**Inuvik**	**25.45**	**55**	P	**P**	**08 28 31.7**	**+0.2**
	comp=Z,6.8nm,1.0s,mb4.2,baz=357,slow=12,SNR=19						
INK	**Inuvik**	**25.45**	**55**	*e*P	**P**	**08 28 31.1**	**-0.4**
INK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
INK	**Inuvik**	**25.45**	**55**	*e*P	**P**	**08 28 31.1**	**-0.4**
	comp=Z,5.3nm,0.9s,mb4.1						
COLA	**College**	**26.96**	**70**	*e*P	**P**	**08 28 46.1**	**+1.0**
ILAR	**Eielson Array**	**27.19**	**69**	P	**P**	**08 28 47.2**	**0.0**
	comp=Z,2.3nm,0.9s,mb3.7,baz=338,slow=10,SNR=14						
FINES	**FINESS Array B**	**30.02**	**286**	P	**P**	**08 29 12.6**	**+0.2**
	comp=Z,0.9nm,0.8s,mb3.6,baz=304,slow=9.9,SNR=4.0						
ARU	**Arti**	**30.39**	**251**	*e*P	**P**	**08 29 15.9**	**+0.2**
ARU				pmax	pmax		
	comp=Z,14nm,1.7s,mb4.4						
BVAR	**Borovoye Array**	**32.24**	**237**	P	**P**	**08 29 31.3**	**-0.6**
	comp=Z,0.2nm,0.4s,mb3.3,baz=12,slow=8.0,SNR=2.2						
NB2	**NORSAR Subarra**	**32.31**	**299**	P	**P**	**08 29 33.5**	**+0.9**
	comp=Z,2.3nm,0.8s,mb4.1,baz=14,slow=9.3						
NOA	**NORSAR Array B**	**32.31**	**299**	P	**P**	**08 29 33.6**	**+1.0**
	comp=Z,2.2nm,0.9s,mb4.0,baz=14,slow=8.8,SNR=4.0						
YKA	**Yellowknife Ar**	**33.09**	**43**	P	**P**	**08 29 37.7**	**-1.7**
	comp=Z,0.2nm,0.7s,mb3.2,baz=346,slow=8.6,SNR=5.8						
YKA				PcP	PcP	08 32 19.4	-3.2
	comp=Z,0.2nm,0.7s,baz=337,slow=3.1,SNR=4.7						
YKA	**Yellowknife Ar**	**33.09**	**43**	P	**P**	**08 29 37.7**	**-1.7**
YKA				PcP	PcP	08 32 19.4	-3.2
SONM	**Songino Array**	**34.53**	**194**	P	**P**	**08 29 50.5**	**-1.4**
	comp=Z,0.4nm,0.7s,mb3.5,baz=2.5,slow=10,SNR=4.1						
MKAR	**Makanchi Array**	**37.14**	**222**	P	**P**	**08 30 13.1**	**-1.2**
	comp=Z,0.9nm,0.9s,mb3.6,baz=359,slow=7.3,SNR=5.3						
MKAR				PcP	PcP	08 32 32.2	-2.2
	comp=Z,0.4nm,0.6s,baz=355,slow=2.6,SNR=4.5						
AKASG	**Malin Array Be**	**40.02**	**279**	P	**P**	**08 30 37.5**	**-1.0**
	comp=Z,0.5nm,0.6s,mb3.4,baz=7.8,slow=7.5,SNR=2.6						
AKASG	**Malin Array Be**	**40.02**	**279**	P	**P**	**08 30 37.5**	**-1.0**
CLL	**Colim**	**41.60**	**294**	*e*P	**P**	**08 30 50.0**	**-1.5**
AAK	**Ala-Archa**	**42.03**	**230**	*e*P	**P**	**08 30 57.8**	**+2.7**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.5						
KHC	**Kasperske Hory**	**43.66**	**293**	*i* P	**P**	**08 31 13.1**	**+4.8**
NEW	**Newport**	**46.88**	**49**	P	**P**	**08 31 33.6**	**-0.2**
	comp=Z,1.1nm,0.5s,mb4.1,baz=355,slow=7.6,SNR=3.8						
PDAR	**Pinedale Array**	**53.08**	**43**	P	**P**	**08 32 20.9**	**+0.1**

*STR **04** 09:13:05.1±0.3,4291N×071W,h5$^{km}_{\pm 1km}$,Ml3.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **04** 09:13:05.7±0.0,4312N×069W,h5^{km},ML3.5/32,Error ellipse: s-maj=0.8km s-min=0.6km az=162.0*
MDD 04 09:13:06.2±0.2,4308N×071W,h13$^{km}_{\pm 1km}$,mb3.5/5, mbLg3.0/29,15C-6D,Error ellipse: s-maj=2.1km s-min=1.1km az=10.0,PRXIMO,Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATE	**Arette**	**0.01**	**34**	Pg	Pg	09 13 08.6	+0.2
ATE				Sg	Sg	09 13 12.5	+2.5
ATE	**Arette**	**0.01**	**34**	Pg	Pg	09 13 08.7	+0.2
ATE				Lg		09 13 10.6	
ETSF	**Etsaut**	**0.21**	**150**	*e*Pg	Pg	09 13 10.3	-0.5
	SNR=1.0						
ETSF				*e*Sg	Sg	09 13 13.3	-0.7
	4µm,0.2s						
ETSF	**Etsaut**	**0.21**	**150**	*e*Pg	Pg	09 13 10.3	-0.5
	SNR=1.0						
ETSF				*e*Sg	Sg	09 13 13.3	-0.7
	2µm,0.2s						
LARF	**Larrau**	**0.21**	**258**	Pg	Pg	09 13 10.4	-0.4
LARF				Sg	Sg	09 13 14.1	+0.1
LARF	**Larrau**	**0.21**	**258**	Pg	Pg	09 13 10.4	-0.4
LARF				Lg		09 13 14.1	
ORDF	**Ordiarp**	**0.21**	**308**	Pg	Pg	09 13 10.7	-0.2
ORDF				Sg	Sg	09 13 17.7	+3.6
ORDF	**Ordiarp**	**0.21**	**308**	Pg	Pg	09 13 10.8	-0.1
ORDF				Lg		09 13 14.6	
REYF	**Montagne du Re**	**0.23**	**93**	Pg	Pg	09 13 11.0	-0.1
REYF				Sg	Sg	09 13 15.0	+0.5
REYF	**Montagne du Re**	**0.23**	**93**	Pg	Pg	09 13 11.1	0.0
REYF				Lg		09 13 14.7	
FDAF	**Les Forges d'A**	**0.28**	**159**	Pg	Pg	09 13 11.3	-0.8
FDAF				Lg		09 13 15.1	
SJPF	**Ste Jean**	**0.38**	**275**	*e*Pg	Pg	09 13 13.0	-0.9
	SNR=1.0						
SJPF				*e*Sg	Sg	09 13 19.1	+0.1
	1µm,0.2s						
SJPF	**Ste Jean**	**0.38**	**275**	*e*Pg	Pg	09 13 13.0	-0.9
	SNR=1.0						
SJPF				*e*Sg	Sg	09 13 19.1	+0.1
	562nm,0.2s						
OSSF	**Osses**	**0.44**	**293**	Pg	Pg	09 13 14.0	-1.0
OSSF	**Osses**	**0.44**	**293**	Pg	Pg	09 13 14.0	-1.0
OSSF				Lg		09 13 19.7	
IPRE	**Itoiz**	**0.55**	**240**	⇑Pg	Pg	09 13 16.1	-0.9
	50nm,0.2s,SNR=18						
IPRE				Lg		09 13 24.1	
	871nm,0.3s,SNR=7.9						
IPRE	**Itoiz**	**0.55**	**240**	Pg	Pg	09 13 16.1	-0.9
	16nm,0.2s,SNR=18						
VIEF	**Viey**	**0.57**	**110**	Pg	Pg	09 13 16.6	-0.7
VIEF				Lg		09 13 23.7	
LABF	**Labassere**	**0.57**	**93**	Pg	Pg	09 13 16.8	-0.6
LABF				Sg	Sg	09 13 24.2	-0.7
LABF	**Labassere**	**0.57**	**93**	Pg	Pg	09 13 16.5	-0.9
LABF				Lg		09 13 25.3	
EALK	**Alkurruntz**	**0.60**	**284**	⇑Pg	Pg	09 13 17.1	-0.9
	85nm,0.2s,SNR=18						
EALK				Lg		09 13 24.9	
	282nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.61**	**278**	⇓Pg	Pg	09 13 17.2	-0.9
	62nm,0.1s,SNR=18						
ELIZ				Lg		09 13 26.0	
	181nm,0.1s,SNR=17						
IUSE	**Utxeti**	**0.63**	**258**	⇑Pg	Pg	09 13 17.4	-1.1
	29nm,0.1s,SNR=18						
IUSE				Lg		09 13 26.0	
	189nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.63**	**258**	Pg	Pg	09 13 17.4	-1.1
	6.8nm,0.2s,SNR=18						
IUNC	**Unciti**	**0.67**	**241**	⇑Pg	Pg	09 13 18.7	-0.5
	18nm,0.1s,SNR=18						
IUNC				Lg		09 13 28.2	
	146nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.67**	**241**	Pg	Pg	09 13 18.7	-0.5
	5.0nm,0.2s,SNR=18						
EARA	**Aranguren**	**0.71**	**245**	⇑Pg	Pg	09 13 19.6	-0.5
	2.4nm,0.1s,SNR=18						
EARA				Lg		09 13 29.4	
	556nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**0.74**	**122**	⇓Pg	Pg	09 13 19.4	-1.1
	39nm,0.1s,SNR=18						
EBIE				Lg		09 13 29.0	
	219nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.74**	**122**	⇓Pg	Pg	09 13 19.4	-1.1
EBIE				Lg		09 13 29.1	
EBIE	**Bielsa**	**0.74**	**122**	⇓Pg	Pg	09 13 19.5	-1.0
EPF	**Esparros**	**0.77**	**93**	*e*Pn	Pn	09 13 21.6	-1.1
	SNR=1.0						
EPF				*e*Sg	Sg	09 13 29.5	-1.6
	270nm,0.3s,SNR=1.0						
EPF	**Esparros**	**0.77**	**93**	Pg	Pg	09 13 20.0	-1.1
EPF				Lg		09 13 29.5	
	135nm,0.3s						
EPF	**Esparros**	**0.77**	**93**	*e*Pg	Pg	09 13 20.0	-1.1
EPF				*e*Pn	Pn	09 13 21.6	-1.1
EPF				*e*Sg	Sg	09 13 29.5	-1.6
EPF	**Esparros**	**0.77**	**93**	*e*Pn	Pn	09 13 21.6	-1.1
	SNR=1.0						
EPF				*e*Sg	Sg	09 13 29.5	-1.6
	135nm,0.3s,SNR=1.0						
RESF	**Ens**	**0.81**	**109**	Pg	Pg	09 13 20.8	-1.1
RESF				Sg	Sg	09 13 31.5	-1.1
RESF	**Ens**	**0.81**	**109**	Pg	Pg	09 13 20.9	-1.0
RESF				Lg		09 13 31.6	
MELF	**Melles**	**1.09**	**100**	Pg	Pg	09 13 25.9	-1.4
MELF				Sg	Sg	09 13 40.8	-0.7
MELF	**Melles**	**1.09**	**100**	Pg	Pg	09 13 25.9	-1.4
MELF				Lg		09 13 40.4	
EGRA	**Graus**	**1.16**	**139**	⇑Pg	Pg	09 13 27.7	-0.8
	15nm,0.1s,SNR=18						
EGRA				Lg		09 13 43.3	
	112nm,0.3s,SNR=14						
EGRA	**Graus**	**1.16**	**139**	⇑Pg	Pg	09 13 27.8	-0.8
EGRA				Lg		09 13 44.5	
EGRA	**Graus**	**1.16**	**139**	Pg	Pg	09 13 27.7	-0.9
	0.7nm,0.1s,SNR=18						
MLS	**Moulis**	**1.32**	**95**	Pg	Pg	09 13 30.4	-1.3
MLS	**Moulis**	**1.32**	**95**	Pg	Pg	09 13 30.3	-1.4
MLS				Lg		09 13 48.3	
ESAC	**San Caprasio**	**1.37**	**173**	⇑Pg	Pg	09 13 30.7	-1.8
	22nm,0.1s,SNR=18						
ESAC				Lg		09 13 48.1	
	692nm,0.2s,SNR=24						
ESAC	**San Caprasio**	**1.37**	**173**	Pg	Pg	09 13 30.7	-1.8
	251nm,0.3s,SNR=18						
SALF	**Salau**	**1.43**	**102**	Pg	Pg	09 13 32.2	-1.4
SALF	**Salau**	**1.43**	**102**	Pg	Pg	09 13 32.1	-1.5
SALF				Lg		09 13 51.2	
GRBF	**Gourbit**	**1.66**	**98**	Pg	Pg	09 13 36.0	-2.1
PAND	**Andorre**	**1.75**	**108**	Pg	Pg	09 13 37.9	-1.9
PAND				Lg		09 14 01.1	
ELAN	**Lanestosa**	**2.00**	**275**	Pn	Pn	09 13 40.3	+0.6
	7.7nm,0.2s,SNR=55						
ELAN				Lg		09 14 06.7	
	86nm,0.3s,SNR=12						
ELAN	**Lanestosa**	**2.00**	**275**	Pn	Pn	09 13 40.2	+0.5
EMIR	**Miracle**	**2.02**	**125**	⇑Pg	Pg	09 13 43.4	-1.6
	9.5nm,0.1s,SNR=18						
EMIR				Lg		09 14 09.7	
	90nm,0.1s,SNR=16						
EMIR	**Miracle**	**2.02**	**125**	⇑Pg	Pg	09 13 43.4	-1.6
EMIR				Lg		09 14 09.7	
EMIR	**Miracle**	**2.02**	**125**	⇑Pg	Pg	09 13 43.3	-1.6
CARF	**Carcanieres**	**2.10**	**99**	Pg	Pg	09 13 45.1	-1.3
CARF				Sg	Sg	09 14 12.4	-1.2
CARF	**Carcanieres**	**2.10**	**99**	Pg	Pg	09 13 44.7	-1.7
CARF				Lg		09 14 12.5	
VALF	**Valcebollere**	**2.12**	**108**	Pg	Pg	09 13 43.9	-2.9
VALF	**Valcebollere**	**2.12**	**108**	Pg	Pg	09 13 43.8	-3.0
VALF				Lg		09 14 11.3	
LFF	**La Frestale**	**2.13**	**29**	*e*Pn	Pn	09 13 40.3	-1.1
	SNR=1.0						
LFF				*e*Sn	Sn	09 14 04.7	-3.1
LFF				*e*Sg	Sg	09 14 11.9	-2.8
	73nm,0.4s						
LFF	**La Frestale**	**2.13**	**29**	*e*Pn	Pn	09 13 40.3	-1.1
	SNR=1.0						
LFF				*e*Sn	Sn	09 14 04.7	-3.1
LFF				*e*Sg	Sg	09 14 11.9	-2.8
	36nm,0.4s						
MTLF	**Montolieu**	**2.15**	**82**	*e*Pg	Pg	09 13 44.7	-2.8
MTLF				*e*Sn	Sn	09 14 05.6	-2.7
MTLF				*e*Sg	Sg	09 14 12.0	-3.4
	35nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**2.15**	**82**	Pn	Pn	09 13 40.4	-1.3
MTLF				Pg	Pg	09 13 44.7	-2.8
MTLF				Sn	Sn	09 14 05.6	-2.7
MTLF				Lg		09 14 12.0	
	17nm,0.2s						
MTLF	**Montolieu**	**2.15**	**82**	*e*Pn	Pn	09 13 40.4	-1.3
MTLF				*e*Pg	Pg	09 13 44.7	-2.8
MTLF				*e*Sn	Sn	09 14 05.6	-2.7
MTLF				*e*Sg	Sg	09 14 12.0	-3.4
MTLF	**Montolieu**	**2.15**	**82**	*e*Pg	Pg	09 13 44.7	-2.8
MTLF				*e*Sn	Sn	09 14 05.6	-2.7
MTLF				*e*Sg	Sg	09 14 12.0	-3.4
	17nm,0.2s,SNR=1.0						
EPOB	**Poblet**	**2.18**	**142**	Pn	Pn	09 13 41.4	-0.7
	SNR=7.9						
EPOB				Pg	Pg	09 13 45.6	-2.4
	2.1nm,0.1s,SNR=38						
EPOB				Lg		09 14 13.3	
	185nm,0.4s,SNR=18						
EPOB	**Poblet**	**2.18**	**142**	Pn	Pn	09 13 42.1	0.0
EPOB				Pg	Pg	09 13 45.6	-2.4
EPOB				Lg		09 14 13.3	
EPOB	**Poblet**	**2.18**	**142**	Pn	Pn	09 13 42.1	0.0
	SNR=7.9						
EPOB	**Poblet**	**2.18**	**142**	Pg	Pg	09 13 45.6	-2.3
	1.3nm,0.1s,SNR=38						
ERTA	**Horta de San J**	**2.26**	**160**	Pn	Pn	09 13 42.6	-0.6
	0.9nm,0.1s,SNR=7.9						
ERTA				Pg	Pg	09 13 46.4	-3.1
	7.2nm,0.1s,SNR=23						
ERTA				Lg		09 14 16.0	
	70nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**2.26**	**160**	Pn	Pn	09 13 42.6	-0.6
ERTA				Pg	Pg	09 13 47.5	-2.0
ERTA				Lg		09 14 16.0	
ERTA	**Horta de San J**	**2.26**	**160**	Pn	Pn	09 13 42.6	-0.6
	0.9nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**2.26**	**160**	Pg	Pg	09 13 47.5	-2.0
	1.3nm,0.1s,SNR=23						
EBR	**Ebro Roquetas**	**2.43**	**158**	*e*P*P*		09 13 53.5	
EBR				*e*S*	Sb	09 14 22.5	+2.9
FILF	**Fillols**	**2.46**	**101**	Pg	Pg	09 13 49.1	-4.2
FILF				Sg	Sg	09 14 19.7	-5.5
FILF	**Fillols**	**2.46**	**101**	Pg	Pg	09 13 49.3	-4.0
FILF				Lg		09 14 19.5	
SJAF	**Saint Jean de**	**2.71**	**102**	Pg	Pg	09 13 55.5	-2.6
CAF	**Calviac**	**2.72**	**46**	*e*Pn	Pn	09 13 48.2	-1.3
CAF				*e*Sn	Sn	09 14 18.8	-3.5
CAF				*e*Sg	Sg	09 14 29.7	-3.8
	25nm,0.3s						
CAF	**Calviac**	**2.72**	**46**	Pn	Pn	09 13 48.2	-1.3
CAF				Sn	Sn	09 14 18.8	-3.5
CAF				Lg		09 14 29.7	
	12nm,0.3s						
CAF	**Calviac**	**2.72**	**46**	*e*Pn	Pn	09 13 48.2	-1.3
CAF				*e*Sg	Sg	09 14 29.7	-3.8
	12nm,0.3s						
EJON	**La Jonquera**	**2.72**	**102**	Pn	Pn	09 13 47.9	-1.6
	2.1nm,0.2s,SNR=7.9						
EJON				Pg	Pg	09 13 52.4	-5.9
	1.3nm,0.2s,SNR=9.4						
EJON				Lg		09 14 30.0	
	59nm,0.5s,SNR=5.7						
EJON	**La Jonquera**	**2.72**	**102**	Pn	Pn	09 13 52.5	+2.9
EJON				Pg	Pg	09 13 56.5	-1.9
EJON	**La Jonquera**	**2.72**	**102**	Pn	Pn	09 13 52.5	+2.9
	4.3nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**2.72**	**102**	Pg	Pg	09 13 56.5	-1.8
	25nm,0.4s,SNR=9.4						
EMOS	**Mosqueruela**	**2.72**	**176**	⇑Pn	Pn	09 13 47.7	-1.8
	0.2nm,0.1s,SNR=18						
EMOS				Pg	Pg	09 13 54.7	-3.6
	0.1nm,0.1s,SNR=7.9						
EMOS				Sn	Sn	09 14 20.3	-2.1
	10nm,0.2s,SNR=7.9						
EMOS				Lg		09 14 29.2	
	41nm,0.2s,SNR=9.7						
EMOS	**Mosqueruela**	**2.72**	**176**	⇑Pn	Pn	09 13 49.8	+0.2
EMOS				Pg	Pg	09 13 55.1	-3.3
EMOS				Sn	Sn	09 14 20.3	-2.1
EMOS				Lg		09 14 29.2	
EMOS	**Mosqueruela**	**2.72**	**176**	Pn	Pn	09 13 49.8	+0.2
	13nm,0.4s,SNR=18						
EMOS	**Mosqueruela**	**2.72**	**176**	Pg	Pg	09 13 55.1	-3.2
	6.8nm,0.3s,SNR=7.9						
EMOS				Sn	Sn	09 14 20.3	-2.0
	36nm,0.3s,SNR=7.9						
RJF	**Les Rejaudoux**	**2.74**	**35**	*e*Pn	Pn	09 13 48.0	-1.8
	SNR=1.0						
RJF				*e*Sn	Sn	09 14 19.1	-3.6
	SNR=1.0						
RJF				*e*Sg	Sg	09 14 30.0	-4.1
	26nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**2.74**	**35**	Pn	Pn	09 13 48.0	-1.8
RJF				Sn	Sn	09 14 19.1	-3.6
RJF				Lg		09 14 30.0	
	13nm,0.2s						
RJF	**Les Rejaudoux**	**2.74**	**35**	*e*Pn	Pn	09 13 48.0	-1.8
	SNR=1.0						
RJF				*e*Sg	Sg	09 14 30.0	-4.1
	13nm,0.2s,SNR=1.0						
EARI	**Arriondas**	**3.30**	**275**	Pn	Pn	09 13 58.3	+0.8
	0.8nm,0.1s,SNR=25						
EARI				Sn	Sn	09 14 35.3	-1.4
	16nm,0.2s,SNR=17						
EARI	**Arriondas**	**3.30**	**275**	Pn	Pn	09 13 58.3	+0.8
EARI				Sn	Sn	09 14 36.3	-0.4
EARI	**Arriondas**	**3.30**	**275**	Pn	Pn	09 13 58.3	+0.7
	7.4nm,0.7s,SNR=25						
EARI				Sn	Sn	09 14 36.3	-0.4
	16nm,0.2s,SNR=17						
LASF	**Ste Croix**	**3.46**	**72**	*e*Pn	Pn	09 13 58.1	-1.6
	SNR=1.0						
LASF				*e*Sn	Sn	09 14 37.1	-3.5
	SNR=1.0						
LASF				*e*Sg	Sg	09 14 52.1	-5.2
	29nm,0.5s,SNR=1.0						
LASF	**Ste Croix**	**3.46**	**72**	*e*Pn	Pn	09 13 58.1	-1.6
	SNR=1.0						
LASF				*e*Sn	Sn	09 14 37.1	-3.5
	SNR=1.0						
LASF				*e*Sg	Sg	09 14 52.1	-5.2
	14nm,0.5s,SNR=1.0						
ECHE	**Chera**	**3.49**	**183**	Pn	Pn	09 13 59.8	-0.4
	0.0nm,0.1s,SNR=4.0						
ECHE				Pg	Pg	09 14 06.5	-6.7
	1.2nm,0.3s,SNR=7.9						
ECHE				Sn	Sn	09 14 38.5	-2.9
	5.2nm,0.3s,SNR=7.9						
ECHE				Lg		09 14 52.4	
	19nm,0.4s,SNR=7.9						
ECHE	**Chera**	**3.49**	**183**	Pn	Pn	09 14 01.2	+1.0
ECHE				Pg	Pg	09 14 10.4	-2.8
ECHE				Sn	Sn	09 14 38.5	-2.9
ECHE				Lg		09 14 57.1	
ECHE	**Chera**	**3.49**	**183**	Pg	Pg	09 14 10.4	-2.7
	6.6nm,0.4s,SNR=7.9						
ECHE				Sn	Sn	09 14 38.5	-2.9
	5.2nm,0.3s,SNR=7.9						
MFF	**Saint Martin d**	**3.54**	**6**	*e*Pg	Pg	09 14 11.2	-2.9
	SNR=1.0						
MFF				*e*Sn	Sn	09 14 38.5	-4.1
	SNR=1.0						
MFF				*e*Sg	Sg	09 14 55.7	-4.3
	13nm,0.2s,SNR=1.0						
MFF	**Saint Martin d**	**3.54**	**6**	Pn	Pn	09 13 58.3	-2.6
MFF				Sn	Sn	09 14 38.5	-4.1
MFF				Lg		09 14 55.7	
	6.3nm,0.2s						
MFF	**Saint Martin d**	**3.54**	**6**	*e*Pn	Pn	09 13 58.3	-2.6
MFF				*e*Pg	Pg	09 14 11.2	-2.9
MFF				*e*Sn	Sn	09 14 38.5	-4.1
MFF				*e*Sg	Sg	09 14 55.7	-4.3
MFF	**Saint Martin d**	**3.54**	**6**	*e*Pg	Pg	09 14 11.2	-2.9
	SNR=1.0						
MFF				*e*Sn	Sn	09 14 38.5	-4.1
	SNR=1.0						
MFF				*e*Sg	Sg	09 14 55.7	-4.3
	6.3nm,0.2s,SNR=1.0						
GUD	**Guadarrama**	**3.54**	**228**	⇑Pn	Pn	09 14 00.9	0.0
	1.3nm,0.2s,SNR=18						
GUD				Sn	Sn	09 14 41.1	-1.6
	8.5nm,0.3s,SNR=6.1						
GUD	**Guadarrama**	**3.54**	**228**	⇑Pn	Pn	09 14 01.2	+0.3
GUD				Sn	Sn	09 14 41.1	-1.6
GUD	**Guadarrama**	**3.54**	**228**	Pn	Pn	09 14 01.2	+0.3
	SNR=18						
GUD				Sn	Sn	09 14 41.1	-1.6
	8.5nm,0.3s,SNR=6.1						
TCF	**Toulx Ste Croi**	**3.82**	**32**	*e*Pg	Pg	09 14 15.4	-4.0
TCF				*e*Sn	Sn	09 14 43.9	-5.6
	SNR=1.0						
TCF				*e*Sg	Sg	09 15 04.0	-4.9
	23nm,0.4s						
TCF	**Toulx Ste Croi**	**3.82**	**32**	Pn	Pn	09 14 02.1	-2.6
TCF				Sn	Sn	09 14 43.9	-5.6
TCF				Lg		09 15 04.0	
	12nm,0.4s						
TCF	**Toulx Ste Croi**	**3.82**	**32**	*e*Pn	Pn	09 14 02.1	-2.6
TCF				*e*Pg	Pg	09 14 15.4	-4.0
TCF				*e*Sn	Sn	09 14 43.9	-5.6
TCF				*e*Sg	Sg	09 15 04.0	-4.9
TCF	**Toulx Ste Croi**	**3.82**	**32**	*e*Pg	Pg	09 14 15.4	-4.0
TCF				*e*Sn	Sn	09 14 43.9	-5.6
	SNR=1.0						
TCF				*e*Sg	Sg	09 15 04.0	-4.9
	12nm,0.4s						
ESDC	**Sonseca Array**	**4.20**	**217**	Pn	Pn	09 14 10.8	+0.9
	3.6nm,0.1s,baz=40,slow=14,SNR=7.9						
ESDC				Sn	Sn	09 14 55.0	-3.7
	5.6nm,0.2s,baz=39,slow=24,SNR=7.9						
ESDC				Lg		09 15 15.8	
	6.3nm,0.4s,baz=39,slow=29,SNR=7.9						
ESDC	**Sonseca Array**	**4.20**	**217**	Pn	Pn	09 14 10.8	+1.0
	3.6nm,0.1s,slow=14,SNR=7.9						
ESDC				Sn	Sn	09 14 55.0	-3.7
	5.6nm,0.2s,slow=24,SNR=7.9						
ETOS	**Mallorca**	**4.24**	**140**	Pn	Pn	09 14 10.3	-0.1
	0.7nm,0.1s,SNR=9.4						
ETOS				Sn	Sn	09 14 56.8	-3.0
	6.9nm,0.3s,SNR=4.7						
ETOS	**Mallorca**	**4.24**	**140**	Pn	Pn	09 14 10.3	-0.1
	21nm,1.0s,SNR=9.4						
ETOS				Sn	Sn	09 14 56.8	-2.9
	6.9nm,0.3s,SNR=4.7						
VIVF	**Saint-Julien-l**	**4.27**	**64**	*e*P	Pn	09 14 12.6	+1.8
	SNR=1.0						
VIVF				*e*Sn	Sn	09 14 55.2	-5.3
VIVF				*e*Sg	Sg	09 15 18.6	-4.6
	10nm,0.5s						
VIVF	**Saint-Julien-l**	**4.27**	**64**	Pn	Pn	09 14 09.0	-1.8
VIVF				Pg	Pg	09 14 12.6	-1.5
VIVF				Sn	Sn	09 14 55.2	-5.3
VIVF	**Saint-Julien-l**	**4.27**	**64**	*e*Pn	Pn	09 14 09.0	-1.8
VIVF				*e*Sg	Sg	09 15 18.6	-4.6
VIVF	**Saint-Julien-l**	**4.27**	**64**	*e*P	Pn	09 14 12.6	+1.8
	SNR=1.0						
VIVF				*e*Sn	Sn	09 14 55.2	-5.3
VIVF				*e*Sg	Sg	09 15 18.6	-4.6
	5.1nm,0.5s						
BGF	**Bois d'Agland**	**4.30**	**35**	*e*Pn	Pn	09 14 09.3	-1.9
	SNR=1.0						
BGF				*e*Sn	Sn	09 14 55.6	-5.6
	SNR=1.0						
BGF				*e*Sg	Sg	09 15 18.7	-5.5
	49nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**4.30**	**35**	*e*Pn	Pn	09 14 09.3	-1.9
	SNR=1.0						
BGF				*e*Sn	Sn	09 14 55.6	-5.6
	SNR=1.0						
BGF				*e*Sg	Sg	09 15 18.7	-5.5
	24nm,0.4s,SNR=1.0						
EIBI	**Ibiza**	**4.34**	**158**	Pn	Pn	09 14 11.4	-0.4
	1.0nm,0.2s,SNR=4.0						
EIBI				Sn	Sn	09 14 56.9	-5.3
	5.3nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**4.34**	**158**	Pn	Pn	09 14 11.4	-0.4
	1.5nm,0.2s,SNR=4.0						
EIBI				Sn	Sn	09 14 56.9	-5.3
	5.3nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**4.60**	**258**	Pn	Pn	09 14 15.1	-0.3
	6.4nm,0.2s,SNR=18						
ECAL				Sn	Sn	09 15 05.4	-3.4
	23nm,0.2s,SNR=6.2						
ECAL				Lg		09 15 26.9	
	26nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**4.60**	**258**	Pn	Pn	09 14 15.1	-0.3
ECAL				Sn	Sn	09 15 07.5	-1.2
ECAL				Lg		09 15 33.0	
ECAL	**Calabor**	**4.60**	**258**	Pn	Pn	09 14 15.1	-0.3
	8.7nm,0.3s,SNR=18						
ECAL				Sn	Sn	09 15 07.5	-1.2
	23nm,0.2s,SNR=6.2						
EVIA	**Vianos**	**4.64**	**198**	Pn	Pn	09 14 16.1	+0.1
	2.5nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**4.65**	**256**	*e*Pn	Pn	09 14 15.6	-0.4
PBRG				*e*Sn	Sn	09 15 07.4	-2.4
PBRG							
	9.3nm,0.3s						
PBRG	**Braganca**	**4.65**	**256**	*e*Pn	Pn	09 14 15.6	-0.4
PBRG				*e*Sn	Sn	09 15 07.4	-2.4
	9.3nm,0.3s						
SMRF	**Simiane la Rot**	**4.65**	**77**	*e*Pn	Pn	09 14 14.4	-1.7
SMRF	**Simiane la Rot**	**4.65**	**77**	*e*P	Pn	09 14 18.2	+2.1
SMRF	**Simiane la Rot**	**4.65**	**77**	*e*P	Pn	09 14 18.2	+2.1
AVF	**Avril sur Loir**	**4.70**	**36**	*e*Pn	Pn	09 14 14.6	-2.1
AVF				*e*Sg	Sg	09 15 31.4	-5.5
	19nm,0.6s						
AVF	**Avril sur Loir**	**4.70**	**36**	*e*Pn	Pn	09 14 14.6	-2.1
AVF				*e*Sg	Sg	09 15 31.4	-5.5
	9.7nm,0.6s						
EPON	**Pontenova**	**4.72**	**275**	Pn	Pn	09 14 17.0	0.0
	0.5nm,0.1s,SNR=4.0						
EPON				Sn	Sn	09 15 08.1	-3.5
	0.6nm,0.3s,SNR=6.3						
EPON	**Pontenova**	**4.72**	**275**	Pn	Pn	09 14 17.9	+0.8
EPON				Sn

LOR				*e*Sg		Sg	09 15 50.3	-5.5	
	4.0nm,0.4s,SNR=1.0								
GRR	**Gorron**	**5.31**	**359**	*e*Pn		Pn	09 14 21.8	-3.3	
	SNR=1.0								
GRR				*e*Sn		Sn	09 15 20.2	-6.0	
	5.5nm,0.3s,SNR=1.0								
GRR	**Gorron**	**5.31**	**359**	*e*Pn		Pn	09 14 21.8	-3.3	
	SNR=1.0								
GRR				*e*Sn		Sn	09 15 20.2	-6.0	
	2.8nm,0.3s,SNR=1.0								
SGMF	**Saint Gilles**	**5.33**	**347**	*e*Pn		Pn	09 14 23.1	-2.4	
LDF	**La Druitiere**	**5.53**	**4**	*e*Pn		Pn	09 14 26.5	-1.7	
	SNR=1.0								
LDF				*e*Sn		Sn	09 15 25.7	-5.9	
	2.7nm,0.2s,SNR=1.0								
LDF	**La Druitiere**	**5.53**	**4**	*e*Pn		Pn	09 14 26.5	-1.7	
	SNR=1.0								
LDF				*e*Sn		Sn	09 15 25.7	-5.9	
	1.4nm,0.2s,SNR=1.0								
ROSF	**Rostrenen**	**5.55**	**342**	*e*Pn		Pn	09 14 26.2	-2.3	
	SNR=1.0								
ELOB	**Lobios**	**5.57**	**260**	⇓Pn		Pn	09 14 28.2	-0.6	
	2.2nm,0.2s,SNR=18								
ELOB				Sn		Sn	09 15 29.4	-3.3	
	8.5nm,0.3s,SNR=7.9								
ELOB				Lg			09 15 57.4		
	6.5nm,0.3s,SNR=7.9								
ELOB	**Lobios**	**5.57**	**260**	⇓Pn		Pn	09 14 28.2	-0.6	
ELOB				Sn		Sn	09 15 29.4	-3.3	
ELOB				Lg			09 16 03.5		
ELOB	**Lobios**	**5.57**	**260**	Pn		Pn	09 14 28.2	-0.6	
	2.2nm,0.2s,SNR=18								
ELOB				Sn		Sn	09 15 29.4	-3.3	
	8.5nm,0.3s,SNR=7.9								
PCAB	**Cabril**	**5.59**	**258**	*e*Pn		Pn	09 14 29.0	0.0	
PCAB				*e*Sn		Sn	09 15 29.8	-3.4	
PCAB									
	7.4nm,0.2s								
PCAB	**Cabril**	**5.59**	**258**	*e*Pn		Pn	09 14 29.0	0.0	
PCAB				*e*Sn		Sn	09 15 29.8	-3.4	
	7.4nm,0.2s								
MBDF	**Montbardon**	**5.65**	**71**	*e*Pn		Pn	09 14 28.0	-1.8	
FLN	**La Foliniere**	**5.69**	**1**	*e*Pn		Pn	09 14 27.6	-2.7	
	baz=175								
EADA	**Adamuz**	**5.72**	**212**	Pn		Pn	09 14 29.9	-0.9	
	0.9nm,0.2s,SNR=4.0								
EADA				Sn		Sn	09 15 31.7	-4.7	
	0.6nm,0.2s,SNR=7.9								
EADA				Lg			09 15 59.4		
	0.9nm,0.3s,SNR=7.9								
EADA	**Adamuz**	**5.72**	**212**	Pn		Pn	09 14 29.9	-0.9	
EADA				Sn		Sn	09 15 31.7	-4.7	
EADA				Lg			09 16 08.2		
EADA	**Adamuz**	**5.72**	**212**	Pn		Pn	09 14 29.9	-1.0	
	0.9nm,0.2s,SNR=4.0								
MTE	**Manteigas**	**5.78**	**245**	*e*Pn		Pn	09 14 30.9	-0.7	
MTE				*e*Sn		Sn	09 15 33.0	-4.7	
MTE									
	13nm,0.5s								
MTE	**Manteigas**	**5.78**	**245**	*e*Pn		Pn	09 14 30.9	-0.7	
MTE				*e*Sn		Sn	09 15 33.0	-4.7	
	13nm,0.5s								
PVIS	**Viseu**	**5.86**	**249**	*e*Sn		Sn	09 15 36.6	-3.2	
PVIS									
	6.3nm,0.3s								
PVIS	**Viseu**	**5.86**	**249**	*e*Sn		Sn	09 15 36.6	-3.2	
	6.3nm,0.3s								
LPL	**La Plagne**	**5.87**	**63**	*e*Pn		Pn	09 14 30.9	-1.9	
CABF	**La Chapelle**	**5.98**	**51**	*e*Sn		Sn	09 15 37.3	-5.4	
	4.9nm,0.6s,SNR=1.0								
CABF	**La Chapelle**	**5.98**	**51**	*e*Sn		Sn	09 15 37.3	-5.4	
	2.5nm,0.6s,SNR=1.0								
PCBR	**Castelo Branco**	**6.03**	**240**	*e*Sn		Sn	09 15 38.2	-5.7	
PCBR									
	5.5nm,0.3s								
PCBR	**Castelo Branco**	**6.03**	**240**	*e*Sn		Sn	09 15 38.2	-5.7	
	5.5nm,0.3s								
EMAZ	**Mazaricos**	**6.07**	**272**	Pn		Pn	09 14 35.4	-0.1	
	1.7nm,0.1s,SNR=7.9								
EMAZ				Sn		Sn	09 15 39.3	-5.6	
	0.7nm,0.2s,SNR=7.9								
EMAZ	**Mazaricos**	**6.07**	**272**	Pn		Pn	09 14 35.4	-0.1	
EMAZ				Sn		Sn	09 15 42.1	-2.8	
EMAZ	**Mazaricos**	**6.07**	**272**	Pn		Pn	09 14 35.4	-0.1	
EMAZ				Sn		Sn	09 15 42.1	-2.7	
EBAD	**Badajoz**	**6.44**	**230**	Pn		Pn	09 14 41.0	+0.3	
	0.4nm,0.1s,SNR=4.0								
EBAD				Sn		Sn	09 15 48.5	-5.6	
	3.8nm,0.2s,SNR=7.9								
EBAD				Lg			09 16 20.9		
	1.9nm,0.2s,SNR=7.9								
EBAD	**Badajoz**	**6.44**	**230**	Pn		Pn	09 14 41.0	+0.3	
EBAD				Sn		Sn	09 15 48.5	-5.6	
EBAD				Lg			09 16 31.8		
EBAD	**Badajoz**	**6.44**	**230**	Pn		Pn	09 14 41.0	+0.3	

*IDC **04** 09:24:40.5±1.7,352N×9588E,h0km,mb3.6/3,mb1 3.7/4, mb1mx3.4/20,mbtmp3.5/4,ML2.9/1,Error ellipse: s-maj=68.8km s-min=20.9km az=29.0*
*ISCJB **04** 09:24:42.6±1.3,38N±02×963E±0.1,h19km,mb3.7/4,Error ellipse: s-maj=26.3km s-min=13.8km az=128.8*
*NEIC **04** 09:24:44.0±1.6,388N×96.19E,mb4.3/1,Error ellipse: s-maj=33.4km s-min=23.9km az=216.0*

ISC 04 09:24:48.2±3.4,39N±02×963E±02,h51km±27km,n7, σ1§27/8,mb3.7/4,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.87**	**113**	Pn	**Pn**	**09 25 32.4**	**+1.0**
	1.3nm,0.3s,baz=308,slow=8.7,SNR=14						
PSI				Lg		09 26 20.3	
	2.9nm,0.3s,baz=164,slow=11,SNR=4.2						
PSI	**Prapat**	**2.87**	**113**	Pn	**Pn**	**09 25 32.4**	**+1.0**
PSI				Lg		09 26 20.3	
KULM	**Kulim**	**4.55**	**73**	*e*Pn	**Pn**	**09 25 52.7**	**-1.8**
KULM				*e*Sn	**Sn**	**09 26 46.7**	**+0.6**
WRA	**Warramunga Arr**	**44.28**	**124**	P	**P**	**09 32 52.8**	**0.0**
	0.7nm,0.4s,mb3.7,baz=302,slow=9.1,SNR=8.6						
WRA				pP	pP	09 32 58.3	-8.0
	0.9nm,0.5s,baz=302,slow=9.2,SNR=7.5						
WRAB	**Tennant Creek**	**44.28**	**124**	*e*P	**P**	**09 32 52.1**	**-0.8**
	3.3nm,0.8s,mb4.1						
ASAR	**Alice Springs**	**45.79**	**129**	P	**P**	**09 33 04.8**	**0.0**
	0.4nm,0.9s,mb3.4,baz=293,slow=7.7,SNR=3.0						
ASAR				pP	pP	09 33 10.6	-7.7
	0.2nm,0.5s,baz=296,slow=7.7,SNR=1.9						
ARCES	**ARCESS Array B**	**79.67**	**340**	P	**P**	**09 36 51.0**	**+0.7**
	0.5nm,0.6s,mb3.7,baz=94,slow=7.2,SNR=6.3						

*IDC **04** 09:30:36.0±1.7,2101S×17395W,h0km,mb3.8/8, mb1 4.1/8,mb1mx4.0/14,mbtmp3.8/8,MS3.5/5,Ms1 3.5/5, ms1mx3.1/28,Error ellipse: s-maj=79.5km s-min=22.0km az=148.0*
*NEIC **04** 09:30:41.3±1.2,2101S×17407W,h35km,mb4.4/2,Error ellipse: s-maj=57.7km s-min=14.0km az=150.0*
*ISCJB **04** 09:30:42.6±1.1,198S±02×1748W±02,h33km,mb3.9/10, MS3.5/3,Error ellipse: s-maj=40.6km s-min=8.8km az=84.4*

ISC 04 09:30:44.0±1.1,199S±02×1746W±02,h35km,n21, σ0§96/14,mb3.9/10,MS3.5/3,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.59**	**25**	Pn	**Pn**	**09 32 18.5**	**+0.1**
	3.9nm,0.3s,baz=133,slow=3.6,SNR=9.8						
AFI				Sn	**Sn**	**09 33 31.7**	**-0.5**
	5.5nm,0.3s,baz=217,slow=19,SNR=3.2						
AFI				LR	LR	09 34 51.2	
	comp=Z,224nm,19.4s,baz=187,slow=35						
RAR	**Rarotonga**	**13.97**	**98**	Pn	**Pn**	**09 33 40.7**	**-19**
	6.4nm,0.3s,baz=259,slow=7.6,SNR=17						
RAR				LR	LR	09 37 06.6	
	comp=Z,182nm,21.9s,baz=219,slow=30						
PPT	**Papeete**	**23.83**	**88**	LR	LR	09 42 28.0	
	comp=Z,223nm,18.8s,MS3.7,baz=102,slow=31						
HNR	**Honiara**	**26.69**	**289**	LR	LR	09 45 20.2	
	comp=Z,97nm,21.2s,MS3.3,baz=177,slow=32						
CTAO	**Charters Tower**	**36.70**	**263**	P	**P**	**09 37 47.9**	**+0.3**
	5.7nm,0.9s,mb4.4						
RKT	**Rikitea**	**36.94**	**102**	*e*LR	LR	09 46 46.5	
	130nm,29.2s						
STKA	**Stephens Creek**	**40.88**	**244**	P	**P**	**09 38 20.2**	**-2.4**
	1.2nm,0.4s,mb3.9,baz=131,slow=16,SNR=5.2						
ASAR	**Alice Springs**	**47.73**	**256**	P	**P**	**09 39 18.1**	**+0.7**
	1.5nm,0.7s,mb4.1,baz=101,slow=7.8,SNR=18						
WRAB	**Tennant Creek**	**47.81**	**261**	*e*P	**P**	**09 39 16.9**	**-1.1**
	3.6nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**47.82**	**261**	P	**P**	**09 39 19.2**	**+1.1**
	0.9nm,0.6s,mb4.0,baz=95,slow=7.8,SNR=17						
GUMO	**Guam**	**51.95**	**307**	LR	LR	09 59 05.8	
	comp=Z,40nm,20.4s,MS3.4,baz=39,slow=32						
MJAR	**Matsushiro Arr**	**71.69**	**322**	P	**P**	**09 42 06.6**	**+4.3**
	0.9nm,0.6s,mb3.9,baz=157,slow=6.4,SNR=5.3						
NVAR	**Mina Array Bea**	**78.47**	**42**	P	**P**	**09 42 41.5**	**+0.2**
	0.4nm,0.6s,mb3.5,baz=225,slow=8.8,SNR=3.6						
PDAR	**Pinedale Array**	**86.41**	**42**	P	**P**	**09 43 21.9**	**-0.8**
	0.2nm,0.7s,mb3.5,baz=220,slow=2.4,SNR=2.3						
ILAR	**Eielson Array**	**87.11**	**12**	P	**P**	**09 43 26.9**	**+0.8**
	0.4nm,0.7s,mb3.8,baz=225,slow=5.0,SNR=5.6						
YKA	**Yellowknife Ar**	**94.71**	**24**	P	**P**	**09 44 02.4**	**+0.8**
	0.2nm,0.7s,mb3.7,baz=236,slow=4.6,SNR=7.0						
YKA	**Yellowknife Ar**	**94.71**	**24**	P	**P**	**09 44 02.4**	**+0.8**
ARCES	**ARCESS Array B**	**128.91**	**351**	PKP	PKPdf	09 49 45.6	-2.3
	1.1nm,0.9s,baz=36,slow=2.3,SNR=4.1						
AKASG	**Malin Array Be**	**143.99**	**334**	PKPbc	PKPdf	09 50 15.1	-0.6
	0.5nm,0.4s,baz=41,slow=4.5,SNR=7.5						
AKASG	**Malin Array Be**	**143.99**	**334**	PKPbc	PKPdf	09 50 15.1	-0.6
BRTR	**Keskin Array B**	**148.75**	**315**	PKPbc	PKPbc	09 50 29.9	+2.3
	0.5nm,0.5s,baz=174,slow=4.3,SNR=3.1						

IDC 04 09:34:20.1±11.0,2008S×17379W,h0km,mb3.9/3, mb1 4.2/4,mb1mx3.8/15,mbtmp4.0/4,ML2.5/1,Error ellipse: s-maj=310.9km s-min=33.3km az=126.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.43**	**18**	Pn	Pn	09 35 54.6	-1.4
	5.7nm,0.3s,baz=292,slow=5.1,SNR=8.0						
AFI				Sn	Sn	09 37 00.6	-9.4
	6.8nm,0.3s,baz=15,slow=23,SNR=3.8						
RAR	**Rarotonga**	**13.17**	**97**	Pn	Pn	09 37 22.7	-5.7
	2.2nm,0.3s,baz=245,slow=6.6,SNR=7.6						
TBI	**Tubuai**	**22.83**	**103**	*e*LQ		09 39 49.6	
	268nm,26.2s						
TBI				*e*LR	LR	09 40 48.2	
	175nm,29.2s						
PPT	**Papeete**	**23.05**	**88**	*e*LQ		09 39 54.4	
	307nm,26.2s						
PPT				*e*LR	LR	09 41 01.3	
	191nm,26.0s,baz=257						
ASAR	**Alice Springs**	**48.46**	**256**	P	P	09 43 04.7	+0.4
	0.8nm,0.6s,baz=99,slow=7.7,SNR=13						
WRA	**Warramunga Arr**	**48.57**	**261**	P	P	09 43 04.6	-0.5
	0.5nm,0.3s,baz=98,slow=7.5,SNR=4.6						
MJAR	**Matsushiro Arr**	**72.29**	**321**	P	P	09 45 48.5	+1.1
	1.2nm,0.7s,baz=152,slow=5.6,SNR=4.6						

*STR **04** 09:42:04.1±0.5,4286N×078W,h5km±1km,Ml3.6,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ISCJB **04** 09:42:05.0±0.2,4318N±002×075W±002,h28km±2km, Error ellipse: s-maj=3.0km s-min=2.1km az=157.8*
*NEIC **04** 09:42:06.1,4310N×069W,h2km,ML3.4(LDG), ML3.5(STR),MN3.4(MDD),After LDG.*
*LDG **04** 09:42:06.1±0.1,4310N×069W,h2km,Md3.5/3,Ml3.4/23, Error ellipse: s-maj=1.2km s-min=0.9km az=158.0*
*INMG **04** 09:42:06.7±1.1,4307N×072W,h10km,ML3.0, Error ellipse: s-maj=3.2km s-min=1.6km az=29.0*
*CSEM **04** 09:42:06.1±0.0,4308N×070W,h8km,ML3.6/36,Error ellipse: s-maj=0.8km s-min=0.6km az=157.0*
*MDD **04** 09:42:06.5±0.2,4307N×071W,h11km,mbLg3.4/15,Error ellipse: s-maj=2.3km s-min=1.1km az=8.0,PRXIMO*

ISC 04 09:42:05.1±0.2,4314N±001×068W±001,h17km±1km,n188, σ1§18/346,5C-5D,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATE	**Arette**	**0.06**	**200**	Pg	**Pg**	**09 42 08.9**	**+0.6**
ATE				Sg	**Sg**	**09 42 13.7**	**+3.3**
ATE	**Arette**	**0.06**	**200**	Pg	**Pg**	**09 42 08.9**	**+0.6**
ATE				Lg		09 42 10.8	
ORDF	**Ordiarp**	**0.20**	**292**	Pg	**Pg**	**09 42 11.0**	**+0.9**
ORDF				Sg	**Sg**	**09 42 17.5**	**+4.1**
ORDF	**Ordiarp**	**0.20**	**292**	Pg	**Pg**	**09 42 11.0**	**+0.9**
ORDF				Lg		09 42 14.7	
REYF	**Montagne du Re**	**0.22**	**108**	Pg	**Pg**	**09 42 11.4**	**+1.1**
REYF	**Montagne du Re**	**0.22**	**108**	Pg	**Pg**	**09 42 11.4**	**+1.1**
REYF				Lg		09 42 14.9	
LARF	**Larrau**	**0.25**	**247**	Pg	**Pg**	**09 42 10.6**	**-0.2**
LARF				Sg	**Sg**	**09 42 14.8**	**+0.2**
LARF	**Larrau**	**0.25**	**247**	Pg	**Pg**	**09 42 10.7**	**-0.1**
LARF				Lg		09 42 14.4	
ETSF	**Etsaut**	**0.25**	**160**	*e*Pg	**Pg**	**09 42 10.6**	**-0.2**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**09 42 13.3**	**-1.4**
	6µm,0.2s						
ETSF	**Etsaut**	**0.25**	**160**	*e*Pg	**Pg**	**09 42 10.6**	**-0.2**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**09 42 13.3**	**-1.4**
	3µm,0.2s						
FDAF	**Les Forges d'A**	**0.33**	**166**	Pg	**Pg**	**09 42 11.5**	**-0.6**
FDAF				Lg		09 42 15.4	
SJPF	**Ste Jean**	**0.40**	**267**	*e*Pg	**Pg**	**09 42 13.3**	**-0.1**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**09 42 19.0**	**0.0**
	2µm,0.2s						
SJPF	**Ste Jean**	**0.40**	**267**	*e*Pg	**Pg**	**09 42 13.3**	**-0.1**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**09 42 19.0**	**0.0**
	837nm,0.2s						
OSSF	**Osses**	**0.45**	**286**	Pg	**Pg**	**09 42 14.1**	**-0.1**
OSSF				Sg	**Sg**	**09 42 19.5**	**-0.7**
OSSF	**Osses**	**0.45**	**286**	Pg	**Pg**	**09 42 14.2**	**+0.1**
OSSF				Lg		09 42 19.9	
LABF	**Labassere**	**0.56**	**99**	Pg	**Pg**	**09 42 16.5**	**+0.3**
LABF				Sg	**Sg**	**09 42 25.5**	**+1.8**
LABF	**Labassere**	**0.56**	**99**	Pg	**Pg**	**09 42 16.7**	**+0.5**
LABF				Lg		09 42 25.5	
VIEF	**Viey**	**0.57**	**116**	Pg	**Pg**	**09 42 16.9**	**+0.4**
VIEF				Sg	**Sg**	**09 42 23.9**	**-0.3**
VIEF	**Viey**	**0.57**	**116**	Pg	**Pg**	**09 42 16.9**	**+0.4**
VIEF				Lg		09 42 24.0	
IPRE	**Itoiz**	**0.60**	**237**	⇑Pg	**Pg**	**09 42 16.4**	**-0.6**
	31nm,0.2s,SNR=18						
IPRE				Lg		09 42 23.9	
	1µm,0.4s,SNR=13						
IPRE	**Itoiz**	**0.60**	**237**	Pg	**Pg**	**09 42 16.4**	**-0.6**
	31nm,0.2s,SNR=18						
EALK	**Alkurruntz**	**0.61**	**278**	⇑Pg	**Pg**	**09 42 17.3**	**+0.1**
	19nm,0.2s,SNR=18						
EALK				Lg		09 42 25.3	
	742nm,0.2s,SNR=43						
ELIZ	**Elizondo**	**0.62**	**273**	⇓Pg	**Pg**	**09 42 17.4**	**0.0**
	73nm,0.1s,SNR=18						
ELIZ				Lg		09 42 25.6	
	174nm,0.1s						
IUSE	**Utxeti**	**0.67**	**254**	⇑Pg	**Pg**	**09 42 17.7**	**-0.6**
	31nm,0.1s,SNR=18						
IUSE				Lg		09 42 26.5	
	308nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**0.67**	**254**	Pg	**Pg**	**09 42 17.7**	**-0.6**
	31nm,0.1s,SNR=18						
IUNC	**Unciti**	**0.71**	**238**	⇑Pg	**Pg**	**09 42 18.9**	**-0.3**
	48nm,0.1s,SNR=18						
IUNC				Lg		09 42 27.8	
	791nm,0.3s,SNR=7.9						
IUNC	**Unciti**	**0.71**	**238**	Pg	**Pg**	**09 42 18.9**	**-0.3**
	48nm,0.1s,SNR=18						
EBIE	**Bielsa**	**0.75**	**127**	⇓Pg	**Pg**	**09 42 19.7**	**-0.1**
	36nm,0.2s,SNR=18						
EBIE				Lg		09 42 29.2	
	430nm,0.1s,SNR=37						
EBIE	**Bielsa**	**0.75**	**127**	Pg	**Pg**	**09 42 19.7**	**-0.1**
	36nm,0.2s,SNR=18						
EPF	**Esparros**	**0.75**	**98**	*e*Pg	**Pg**	**09 42 20.4**	**+0.6**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**09 42 30.3**	**+0.5**
	493nm,0.3s						
EPF	**Esparros**	**0.75**	**98**	*e*Pg	**Pg**	**09 42 20.4**	**+0.6**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**09 42 30.3**	**+0.5**
	246nm,0.3s						
EARA	**Aranguren**	**0.76**	**242**	⇓Pg	**Pg**	**09 42 19.6**	**-0.3**
	160nm,0.1s,SNR=18						
EARA				Lg		09 42 29.5	
	922nm,0.1s,SNR=13						
RESF	**Ens**	**0.81**	**114**	Pg	**Pg**	**09 42 21.1**	**+0.1**
RESF				Sg	**Sg**	**09 42 31.2**	**-0.6**
RESF	**Ens**	**0.81**	**114**	Pg	**Pg**	**09 42 21.2**	**+0.2**
RESF				Lg		09 42 31.8	
MELF	**Melles**	**1.08**	**104**	Pg	**Pg**	**09 42 26.2**	**+0.1**
MELF				Sg	**Sg**	**09 42 41.8**	**+1.4**
MELF	**Melles**	**1.08**	**104**	Pg	**Pg**	**09 42 26.3**	**+0.1**
MELF				Lg		09 42 41.5	
EGRA	**Graus**	**1.19**	**142**	⇓Pg	**Pg**	**09 42 28.0**	**-0.1**
	14nm,0.2s,SNR=18						
EGRA				Lg		09 42 44.2	
	182nm,0.3s,SNR=15						
EGRA	**Graus**	**1.19**	**142**	⇓Pg	**Pg**	**09 42 28.0**	**-0.1**
EGRA				Lg		09 42 42.4	
MLS	**Moulis**	**1.31**	**97**	Pg	**Pg**	**09 42 30.4**	**0.0**
MLS				Sg	**Sg**	**09 42 48.8**	**+1.3**
MLS	**Moulis**	**1.31**	**97**	Pg	**Pg**	**09 42 30.5**	**+0.1**
MLS				Lg		09 42 48.3	
SALF	**Salau**	**1.42**	**105**	Pg	**Pg**	**09 42 32.5**	**0.0**
SALF				Sg	**Sg**	**09 42 51.5**	**+0.5**
SALF	**Salau**	**1.42**	**105**	Pg	**Pg**	**09 42 32.2**	**-0.3**
SALF				Lg		09 42 51.5	
ESAC	**San Caprasio**	**1.42**	**174**	⇑Pg	**Pg**	**09 42 31.5**	**-1.1**
	46nm,0.2s,SNR=18						
ESAC				Lg		09 42 49.8	
	562nm,0.2s,SNR=6.7						
ESAC	**San Caprasio**	**1.42**	**174**	Pg	**Pg**	**09 42 31.5**	**-1.1**
	46nm,0.2s,SNR=18						
GRBF	**Gourbit**	**1.65**	**100**	Pg	**Pg**	**09 42 35.3**	**-1.6**
PAND	**Andorre**	**1.75**	**110**	Pg	**Pg**	**09 42 38.8**	**+0.1**
PAND				Lg		09 43 02.4	
LPEF	**Le Peyrat**	**1.90**	**95**	Pg	**Pg**	**09 42 41.5**	**-0.2**
LPEF				Lg		09 43 07.8	
ELAN	**Lanestosa**	**2.02**	**274**	Pn	**Pn**	**09 42 40.5**	**+2.1**
	7.2nm,0.2s,SNR=63						
ELAN				Pg	**Pg**	**09 42 43.0**	**-1.0**
	36nm,0.2s,SNR=7.9						
ELAN				Sn	**Sn**	**09 43 03.6**	**+0.4**
	65nm,0.2s,SNR=6.4						
ELAN	**Lanestosa**	**2.02**	**274**	Pn	**Pn**	**09 42 40.5**	**+2.1**
ELAN				Pg	**Pg**	**09 42 43.0**	**-1.0**
ELAN				Sn	**Sn**	**09 43 06.1**	**+2.9**
ELAN	**Lanestosa**	**2.02**	**274**	Pn	**Pn**	**09 42 40.5**	**+2.1**
	7.2nm,0.2s,SNR=63						
ELAN	**Lanestosa**	**2.02**	**274**	Pg	**Pg**	**09 42 43.0**	**-0.9**
	36nm,0.2s,SNR=7.9						
ELAN				Sn	**Sn**	**09 43 06.1**	**+2.9**
	65nm,0.2s,SNR=6.4						
EMIR	**Miracle**	**2.04**	**126**	Pn	**Pn**	**09 42 40.3**	**+1.8**
	0.9nm,0.0s,SNR=4.0						
EMIR				Pg	**Pg**	**09 42 43.6**	**-0.6**
	41nm,0.1s,SNR=60						
EMIR				Lg		09 43 09.6	
	154nm,0.2s,SNR=5.2						
EMIR	**Miracle**	**2.04**	**126**	Pn	**Pn**	**09 42 40.3**	**+1.7**
	0.9nm,0.0s,SNR=4.0						
EMIR	**Miracle**	**2.04**	**126**	Pg	**Pg**	**09 42 43.6**	**-0.6**
	41nm,0.1s,SNR=60						
LFF	**La Frestale**	**2.07**	**29**	*e*Pg	**Pg**	**09 42 45.2**	**+0.3**
	SNR=1.0						
LFF				*e*Sn	**Sn**	**09 43 05.9**	**+1.5**
	SNR=1.0						
LFF				*e*Sg	**Sg**	**09 43 13.3**	**+1.5**
	106nm,0.3s,SNR=1.0						
LFF	**La Frestale**	**2.07**	**29**	*e*Pn	**Pn**	**09 42 40.4**	**+1.3**
LFF				*e*Pg	**Pg**	**09 42 45.2**	**+0.3**
LFF				*e*Sn	**Sn**	**09 43 05.9**	**+1.5**
LFF				*e*Sg	**Sg**	**09 43 13.3**	**+1.5**
LFF	**La Frestale**	**2.07**	**29**	*e*Pg	**Pg**	**09 42 45.2**	**+0.3**
	SNR=1.0						
LFF				*e*Sn	**Sn**	**09 43 05.9**	**+1.5**
	SNR=1.0						
LFF				*e*Sg	**Sg**	**09 43 13.3**	**+1.5**
	53nm,0.3s,SNR=1.0						
CARF	**Carcanieres**	**2.08**	**101**	Pg	**Pg**	**09 42 44.6**	**-0.6**
CARF				Sg	**Sg**	**09 43 13.8**	**+1.6**
CARF	**Carcanieres**	**2.08**	**101**	Pg	**Pg**	**09 42 44.4**	**-0.7**
CARF				Lg		09 43 10.6	
VALF	**Valcebollere**	**2.11**	**109**	Pg	**Pg**	**09 42 44.2**	**-1.5**
VALF	**Valcebollere**	**2.11**	**109**	Pg	**Pg**	**09 42 43.9**	**-1.9**
MTLF	**Montolieu**	**2.12**	**84**	*e*Sn	**Sn**	**09 43 06.5**	**+0.8**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**09 43 13.4**	**-0.1**
	70nm,0.3s						
MTLF	**Montolieu**	**2.12**	**84**	*e*Sn	**Sn**	**09 43 06.5**	**+0.8**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**09 43 13.4**	**-0.1**
	35nm,0.3s						
EPOB	**Poblet**	**2.21**	**143**	Pn	**Pn**	**09 42 41.9**	**+0.9**
	1.7nm,0.1s,SNR=41						
EPOB				Pg	**Pg**	**09 42 45.6**	**-1.9**
	19nm,0.1s,SNR=41						
EPOB				Lg		09 43 13.2	
	162nm,0.3s,SNR=23						
EPOB	**Poblet**	**2.21**	**143**	Pn	**Pn**	**09 42 41.9**	**+0.9**
	1.7nm,0.1s,SNR=41						
EPOB	**Poblet**	**2.21**	**143**	Pg	**Pg**	**09 42 45.6**	**-1.9**
	19nm,0.1s,SNR=41	

	0.9nm,0.1s,SNR=7.9							
EMOS	**Mosqueruela**	**2.78**	**177**		Pg	**Pg**	**09 42 55.2**	**-3.2**
	13nm,0.2s,SNR=7.9							
EMOS					Sn	**Sn**	**09 43 20.4**	**-1.4**
	48nm,0.3s,SNR=7.9							
FRNF	**Fournols**	**3.23**	**45**		Pn	**Pn**	**09 42 55.9**	**+0.8**
EARI	**Arriondas**	**3.32**	**274**		Pn	**Pn**	**09 42 58.4**	**+2.1**
	4.2nm,0.1s,SNR=41							
EARI					Sn	**Sn**	**09 43 36.2**	**+1.0**
	39nm,0.3s							
EARI	**Arriondas**	**3.32**	**274**		Pn	**Pn**	**09 42 58.4**	**+2.1**
EARI					Sn	**Sn**	**09 43 36.2**	**+1.0**
EARI	**Arriondas**	**3.32**	**274**		Pn	**Pn**	**09 42 58.3**	**+2.1**
EARI					Sn	**Sn**	**09 43 36.2**	**+1.0**
	39nm,0.3s							
LASF	**Ste Croix**	**3.42**	**73**	*e*Pn		**Pn**	**09 42 58.3**	**+0.6**
	SNR=1.0							
LASF				*e*Sn		**Sn**	**09 43 36.8**	**-1.0**
	SNR=1.0							
LASF				*e*Sg		**Sg**	**09 43 54.0**	**-1.1**
	30nm,0.4s							
LASF	**Ste Croix**	**3.42**	**73**	*e*Pn		**Pn**	**09 42 58.3**	**+0.6**
	SNR=1.0							
LASF				*e*Sn		**Sn**	**09 43 36.8**	**-1.0**
	SNR=1.0							
LASF				*e*Sg		**Sg**	**09 43 54.0**	**-1.1**
	15nm,0.4s							
MFF	**Saint Martin d**	**3.48**	**6**	*e*Pg		**Pg**	**09 43 11.8**	**-0.1**
	SNR=1.0							
MFF				*e*Sn		**Sn**	**09 43 38.9**	**-0.4**
	18nm,0.3s,SNR=1.0							
MFF				*e*Sg		**Sg**	**09 43 57.2**	**+0.1**
	28nm,0.4s							
MFF	**Saint Martin d**	**3.48**	**6**	*e*Pn		**Pn**	**09 42 58.5**	**0.0**
MFF				*e*Pg		**Pg**	**09 43 11.8**	**-0.1**
MFF				*e*Sn		**Sn**	**09 43 38.9**	**-0.4**
MFF				*e*Sg		**Sg**	**09 43 57.2**	**+0.1**
MFF	**Saint Martin d**	**3.48**	**6**	*e*Pg		**Pg**	**09 43 11.8**	**-0.1**
	SNR=1.0							
MFF				*e*Sn		**Sn**	**09 43 38.9**	**-0.4**
	9.1nm,0.3s,SNR=1.0							
MFF				*e*Sg		**Sg**	**09 43 57.2**	**+0.1**
	14nm,0.4s							
LBL	**Lubilhac**	**3.51**	**52**		Pn	**Pn**	**09 42 59.5**	**+0.6**
ECHE	**Chera**	**3.55**	**184**		Pn	**Pn**	**09 43 00.4**	**+1.0**
	1.6nm,0.3s,SNR=7.9							
ECHE					Pg	**Pg**	**09 43 10.2**	**-2.9**
	1.9nm,0.2s,SNR=8.6							
ECHE					Sn	**Sn**	**09 43 38.0**	**-3.0**
	4.5nm,0.2s,SNR=7.9							
ECHE					Lg		09 43 55.6	
	25nm,0.4s,SNR=7.9							
ECHE	**Chera**	**3.55**	**184**		Pg	**Pg**	**09 43 10.2**	**-3.0**
	1.9nm,0.2s,SNR=8.6							
ECHE					Sn	**Sn**	**09 43 38.0**	**-3.0**
	4.5nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**3.60**	**227**		Pn	**Pn**	**09 43 01.3**	**+1.2**
	3.1nm,0.2s,SNR=7.9							
GUD					Sn	**Sn**	**09 43 40.8**	**-1.4**
	16nm,0.3s,SNR=7.9							
PYM	**Petit Puy Mans**	**3.71**	**44**		Pn	**Pn**	**09 43 02.8**	**+1.2**
TCF	**Toulx Ste Croi**	**3.76**	**32**	*e*Pg		**Pg**	**09 43 17.0**	**-0.2**
TCF				*e*Sn		**Sn**	**09 43 44.3**	**-1.9**
	SNR=1.0							
TCF				*e*Sg		**Sg**	**09 44 06.2**	**+0.3**
	24nm,0.3s							
TCF	**Toulx Ste Croi**	**3.76**	**32**	*e*Pn		**Pn**	**09 43 04.1**	**+1.8**
TCF				*e*Pg		**Pg**	**09 43 17.0**	**-0.2**
TCF				*e*Sn		**Sn**	**09 43 44.3**	**-1.9**
TCF				*e*Sg		**Sg**	**09 44 06.2**	**+0.3**
TCF	**Toulx Ste Croi**	**3.76**	**32**	*e*Pg		**Pg**	**09 43 17.0**	**-0.2**
TCF				*e*Sn		**Sn**	**09 43 44.3**	**-1.9**
	SNR=1.0							
TCF				*e*Sg		**Sg**	**09 44 06.2**	**+0.3**
	12nm,0.3s							
COLF	**Collangettes**	**3.94**	**51**		Pn	**Pn**	**09 43 05.5**	**+0.8**
PLDF	**La Plantade**	**4.18**	**46**		Pn	**Pn**	**09 43 08.7**	**+0.7**
VIVF	**Saint-Julien-l**	**4.22**	**64**	*e*Pg		**Pg**	**09 43 25.2**	**-0.8**
	SNR=1.0							
VIVF				*e*Sn		**Sn**	**09 43 56.0**	**-1.6**
VIVF				*e*Sg		**Sg**	**09 44 19.6**	**-1.1**
	21nm,0.5s							
VIVF	**Saint-Julien-l**	**4.22**	**64**	*e*Pn		**Pn**	**09 43 09.6**	**+0.9**
VIVF				*e*Pg		**Pg**	**09 43 25.2**	**-0.8**
VIVF				*e*Sn		**Sn**	**09 43 56.0**	**-1.6**
VIVF				*e*Sg		**Sg**	**09 44 19.6**	**-1.1**
VIVF	**Saint-Julien-l**	**4.22**	**64**	*e*Pg		**Pg**	**09 43 25.2**	**-0.8**
	SNR=1.0							
VIVF				*e*Sn		**Sn**	**09 43 56.0**	**-1.6**
VIVF				*e*Sg		**Sg**	**09 44 19.6**	**-1.1**
	10nm,0.5s							
BGF	**Bois d'Agland**	**4.24**	**35**	*e*Pg		**Pg**	**09 43 25.8**	**-0.5**
	SNR=1.0							
BGF				*e*Sn		**Sn**	**09 43 56.8**	**-1.1**
BGF				*e*Sg		**Sg**	**09 44 20.5**	**-0.7**
	97nm,0.5s							
BGF	**Bois d'Agland**	**4.24**	**35**	*e*Pn		**Pn**	**09 43 09.8**	**+0.9**
BGF				*e*Pg		**Pg**	**09 43 25.8**	**-0.5**
BGF				*e*Sn		**Sn**	**09 43 56.8**	**-1.1**
BGF				*e*Sg		**Sg**	**09 44 20.5**	**-0.7**
BGF	**Bois d'Agland**	**4.24**	**35**	*e*Pg		**Pg**	**09 43 25.8**	**-0.5**
	SNR=1.0							
BGF				*e*Sn		**Sn**	**09 43 56.8**	**-1.1**
BGF				*e*Sg		**Sg**	**09 44 20.5**	**-0.7**
	48nm,0.5s							
ESDC	**Sonseca Array**	**4.25**	**217**		Pn	**Pn**	**09 43 09.0**	**-0.1**
	4.2nm,0.2s,baz=40,slow=14,SNR=8.3							
ESDC					Sn	**Sn**	**09 43 55.3**	**-3.0**
	2.6nm,0.1s,baz=39,slow=24,SNR=6.5							
ESDC					Lg		09 44 15.9	
	12nm,0.3s,baz=39,slow=29,SNR=7.9							
ESDC	**Sonseca Array**	**4.25**	**217**		Pn	**Pn**	**09 43 09.0**	**-0.1**
ESDC					Sn	**Sn**	**09 43 53.0**	**-5.3**
ESDC					Lg		09 44 15.9	
ESDC	**Sonseca Array**	**4.25**	**217**		Pn	**Pn**	**09 43 09.0**	**-0.1**
	4.2nm,0.2s,SNR=8.3							
ESDC					Sn	**Sn**	**09 43 53.0**	**-5.3**
	2.6nm,0.1s,SNR=6.5							
ETOS	**Mallorca**	**4.27**	**141**		Pn	**Pn**	**09 43 10.1**	**+0.8**
	5.6nm,0.3s,SNR=14							
ETOS					Sn	**Sn**	**09 43 55.8**	**-2.8**
	18nm,0.3s							
ETOS	**Mallorca**	**4.27**	**141**		Pn	**Pn**	**09 43 10.1**	**+0.8**
	5.6nm,0.3s,SNR=14							
ETOS					Sn	**Sn**	**09 43 55.8**	**-2.8**
	18nm,0.3s							
EIBI	**Ibiza**	**4.38**	**159**		Pn	**Pn**	**09 43 11.3**	**+0.5**
	1.9nm,0.2s,SNR=7.9							
EIBI					Sn	**Sn**	**09 43 56.9**	**-4.5**
	6.9nm,0.2s,SNR=7.9							
EIBI	**Ibiza**	**4.38**	**159**		Pn	**Pn**	**09 43 11.3**	**+0.5**
	1.9nm,0.2s,SNR=7.9							
EIBI					Sn	**Sn**	**09 43 56.9**	**-4.5**
	6.9nm,0.2s,SNR=7.9							
EBEN	**Beniarda**	**4.44**	**175**		Pn	**Pn**	**09 43 13.6**	**+1.9**
	1.0nm,0.2s,SNR=7.9							
EBEN					Sn	**Sn**	**09 43 59.8**	**-3.1**
	2.5nm,0.3s,SNR=7.9							
EBEN	**Beniarda**	**4.44**	**175**		Pn	**Pn**	**09 43 13.6**	**+1.9**
	1.0nm,0.2s,SNR=7.9							
EBEN					Sn	**Sn**	**09 43 59.8**	**-3.2**
	2.5nm,0.3s,SNR=7.9							
ETOB	**Tobarra**	**4.54**	**189**		Pn	**Pn**	**09 43 14.3**	**+1.4**
	1.2nm,0.1s,SNR=7.9							
ETOB	**Tobarra**	**4.54**	**189**		Pn	**Pn**	**09 43 14.3**	**+1.3**
	1.2nm,0.1s,SNR=7.9							
SMRF	**Simiane la Rot**	**4.62**	**77**	*e*Pn		**Pn**	**09 43 15.3**	**+1.2**
	SNR=1.0							
SMRF				*e*Sn		**Sn**	**09 44 06.8**	**-0.5**
	10nm,0.5s							
SMRF	**Simiane la Rot**	**4.62**	**77**	*e*Pn		**Pn**	**09 43 15.3**	**+1.2**
	SNR=1.0							
SMRF				*e*Sn		**Sn**	**09 44 06.8**	**-0.5**
	5.2nm,0.5s							
ECAL	**Calabor**	**4.64**	**257**		Pn	**Pn**	**09 43 15.4**	**+1.1**
	17nm,0.2s,SNR=18							
ECAL					Sn	**Sn**	**09 44 06.7**	**-1.0**
	14nm,0.2s							
ECAL					Lg		09 44 30.0	
	33nm,0.4s,SNR=7.9							
ECAL	**Calabor**	**4.64**	**257**		Pn	**Pn**	**09 43 15.4**	**+1.1**
	17nm,0.2s,SNR=18							
ECAL					Sn	**Sn**	**09 44 06.7**	**-1.0**
	14nm,0.2s							
AVF	**Avril sur Loir**	**4.64**	**37**	*e*Pn		**Pn**	**09 43 15.3**	**+0.9**
	SNR=1.0							
AVF				*e*Sn		**Sn**	**09 44 06.5**	**-1.3**
AVF				*e*Sg		**Sg**	**09 44 32.0**	**-2.0**
	29nm,0.6s							
AVF	**Avril sur Loir**	**4.64**	**37**	*e*Pn		**Pn**	**09 43 15.3**	**+0.9**
	SNR=1.0							
AVF				*e*Sn		**Sn**	**09 44 06.5**	**-1.3**
AVF				*e*Sg		**Sg**	**09 44 32.0**	**-2.0**
	14nm,0.6s							
PBRG	**Braganca**	**4.68**	**256**	*e*Pn		**Pn**	**09 43 15.8**	**+0.8**
PBRG				*e*Sn		**Sn**	**09 44 07.5**	**-1.3**
PBRG								
	12nm,0.1s							
PBRG	**Braganca**	**4.68**	**256**	*e*Pn		**Pn**	**09 43 15.8**	**+0.8**
PBRG				*e*Sn		**Sn**	**09 44 07.5**	**-1.3**
	12nm,0.1s							
EVIA	**Vianos**	**4.70**	**198**		Pn	**Pn**	**09 43 16.5**	**+1.2**
	5.1nm,0.2s,SNR=7.9							
EPON	**Pontenova**	**4.74**	**275**		Pn	**Pn**	**09 43 17.9**	**+2.2**
	1.7nm,0.1s,SNR=6.6							
EPON					Sn	**Sn**	**09 44 10.2**	**0.0**
	9.9nm,0.2s							
EPON	**Pontenova**	**4.74**	**275**		Pn	**Pn**	**09 43 18.6**	**+2.9**
EPON					Sn	**Sn**	**09 44 10.2**	**0.0**
EPON	**Pontenova**	**4.74**	**275**		Pn	**Pn**	**09 43 18.5**	**+2.8**
	4.6nm,0.2s,SNR=6.6							
EPON					Sn	**Sn**	**09 44 10.2**	**0.0**
	9.9nm,0.2s							
HYF	**Humbligny**	**4.75**	**28**	*e*Pn		**Pn**	**09 43 16.5**	**+0.6**
HYF				*e*Sn		**Sn**	**09 44 08.6**	**-1.9**
HYF				*e*Sg		**Sg**	**09 44 36.3**	**-1.3**
SMF	**Signal de Mont**	**4.75**	**41**	*e*Pn		**Pn**	**09 43 16.8**	**+0.9**
	SNR=1.0							
SMF				*e*Sg		**Sg**	**09 44 36.3**	**-1.4**
	8.3nm,0.2s							
SMF	**Signal de Mont**	**4.75**	**41**	*e*Pn		**Pn**	**09 43 16.8**	**+0.9**
	SNR=1.0							
SMF				*e*Sg		**Sg**	**09 44 36.3**	**-1.4**
	4.2nm,0.2s							
ERUA	**La Rua**	**4.82**	**263**		Pn	**Pn**	**09 43 18.2**	**+1.4**
	6.5nm,0.2s,SNR=7.9							
ERUA					Sn	**Sn**	**09 44 10.6**	**-1.6**
	7.0nm,0.3s,SNR=7.9							
ERUA	**La Rua**	**4.82**	**263**		Pn	**Pn**	**09 43 18.2**	**+1.4**
ERUA					Sn	**Sn**	**09 44 11.5**	**-0.8**
ERUA	**La Rua**	**4.82**	**263**		Pn	**Pn**	**09 43 18.2**	**+1.3**
	6.5nm,0.2s,SNR=7.9							
ERUA					Sn	**Sn**	**09 44 11.5**	**-0.8**
	7.0nm,0.3s,SNR=7.9							
SSF	**Saint Saulge**	**4.91**	**36**	*e*Pn		**Pn**	**09 43 18.7**	**+0.5**
	SNR=1.0							
SSF				*e*Sn		**Sn**	**09 44 13.6**	**-1.0**
SSF				*e*Sg		**Sg**	**09 44 41.1**	**-1.8**
	8.6nm,0.3s							
SSF	**Saint Saulge**	**4.91**	**36**	*e*Pn		**Pn**	**09 43 18.7**	**+0.5**
	SNR=1.0							
SSF				*e*Sn		**Sn**	**09 44 13.6**	**-1.0**
SSF				*e*Sg		**Sg**	**09 44 41.1**	**-1.8**
	4.3nm,0.3s							
ORIF	**Oris-en-Rattie**	**5.05**	**67**	*e*Pn		**Pn**	**09 43 21.6**	**+1.6**
	SNR=1.0							
ORIF				*e*Sn		**Sn**	**09 44 16.7**	**-1.3**
	11nm,0.3s							
ORIF	**Oris-en-Rattie**	**5.05**	**67**	*e*Pn		**Pn**	**09 43 21.6**	**+1.6**
	SNR=1.0							
ORIF				*e*Sn		**Sn**	**09 44 16.7**	**-1.3**
	5.3nm,0.3s							
QUIF	**Quistinic**	**5.09**	**341**	*e*Pn		**Pn**	**09 43 21.0**	**+0.4**
	SNR=1.0							
QUIF				*e*Sn		**Sn**	**09 44 17.8**	**-1.1**
	14nm,0.3s							
QUIF	**Quistinic**	**5.09**	**341**	*e*Pn		**Pn**	**09 43 21.0**	**+0.4**
	SNR=1.0							
QUIF				*e*Sn		**Sn**	**09 44 17.8**	**-1.1**
	6.8nm,0.3s							
LOR	**Lormes**	**5.23**	**36**	*e*Pn		**Pn**	**09 43 23.7**	**+1.2**
	baz=218,SNR=1.0							
LOR				*e*Sn		**Sn**	**09 44 21.5**	**-0.8**
LOR				*e*Sg		**Sg**	**09 44 51.0**	**-1.9**
	20nm,0.5s							
LOR	**Lormes**	**5.23**	**36**	*e*Pn		**Pn**	**09 43 23.7**	**+1.2**
	SNR=1.0							
LOR				*e*Sn		**Sn**	**09 44 21.5**	**-0.8**
LOR				*e*Sg		**Sg**	**09 44 51.0**	**-1.9**
	9.9nm,0.5s							
LMR	**La Mourre**	**5.25**	**85**	*e*Pn		**Pn**	**09 43 24.2**	**+1.4**
GRR	**Gorron**	**5.25**	**359**	*e*Pn		**Pn**	**09 43 22.1**	**-0.7**
	SNR=1.0							
GRR				*e*Sn		**Sn**	**09 44 20.3**	**-2.6**
	12nm,0.5s							
GRR	**Gorron**	**5.25**	**359**	*e*Pn		**Pn**	**09 43 22.1**	**-0.7**
	SNR=1.0							
GRR				*e*Sn		**Sn**	**09 44 20.3**	**-2.6**
	5.8nm,0.5s							
SGMF	**Saint Gilles**	**5.28**	**346**	*e*Pn		**Pn**	**09 43 23.9**	**+0.7**
	SNR=1.0							
SGMF				*e*Sn		**Sn**	**09 44 22.9**	**-0.8**
	4.8nm,0.3s							
SGMF	**Saint Gilles**	**5.28**	**346**	*e*Pn		**Pn**	**09 43 23.9**	**+0.7**
	SNR=1.0							
SGMF				*e*Sn		**Sn**	**09 44 22.9**	**-0.8**
	2.4nm,0.3s							
FRF	**La Foret Royal**	**5.36**	**83**	*e*Pn		**Pn**	**09 43 24.9**	**+0.7**
	SNR=1.0							
LDF	**La Druitiere**	**5.47**	**4**	*e*Pn		**Pn**	**09 43 26.6**	**+0.8**
	SNR=1.0							
LDF				*e*Sn		**Sn**	**09 44 27.6**	**-0.7**
	4.8nm,0.3s							
LDF	**La Druitiere**	**5.47**	**4**	*e*Pn		**Pn**	**09 43 26.6**	**+0.8**
	SNR=1.0							
LDF				*e*Sn		**Sn**	**09 44 27.6**	**-0.7**
	2.4nm,0.3s							
ROSF	**Rostrenen**	**5.51**	**342**	*e*Pn		**Pn**	**09 43 26.2**	**-0.1**
	SNR=1.0							
ROSF				*e*Sn		**Sn**	**09 44 28.1**	**-1.1**
	6.2nm,0.3s							
ROSF	**Rostrenen**	**5.51**	**342**	*e*Pn		**Pn**	**09 43 26.2**	**-0.1**
	SNR=1.0							
ROSF				*e*Sn		**Sn**	**09 44 28.1**	**-1.1**
	3.1nm,0.3s							
PVRL	**Vila Real**	**5.55**	**253**	*e*Pn		**Pn**	**09 43 27.5**	**+0.6**
PVRL				*e*Sn		**Sn**	**09 44 28.5**	**-1.8**
PVRL								
	19nm,0.3s							
PVRL	**Vila Real**	**5.55**	**253**	*e*Pn		**Pn**	**09 43 27.5**	**+0.6**
PVRL				*e*Sn		**Sn**	**09 44 28.5**	**-1.8**
	19nm,0.3s							
ELOB	**Lobios**	**5.61**	**259**		Pn	**Pn**	**09 43 28.4**	**+0.7**
	1.9nm,0.2s,SNR=7.9							
ELOB					Sn	**Sn**	**09 44 29.0**	**-2.6**
	4.9nm,0.2s							
ELOB					Lg		09 45 00.7	
	9.8nm,0.3s,SNR=7.9							
ELOB	**Lobios**	**5.61**	**259**		Pn	**Pn**	**09 43 28.4**	**+0.7**
ELOB					Sn	**Sn**	**09 44 30.6**	**-1.0**
ELOB					Lg		09 45 03.8	
ELOB	**Lobios**	**5.61**	**259**		Pn	**Pn**	**09 43 28.4**	**+0.7**
	1.9nm,0.2s,SNR=7.9							
ELOB					Sn	**Sn**	**09 44 30.6**	**-1.0**
	4.9nm,0.2s							
MBDF	**Montbardon**	**5.61**	**71**	*e*Pn		**Pn**	**09 43 28.6**	**+0.9**
MBDF	**Montbardon**	**5.61**	**71**	*e*P		**Pn**	**09 43 33.3**	**+5.6**
	SNR=1.0							
MBDF	**Montbardon**	**5.61**	**71**	*e*P		**Pn**	**09 43 33.3**	**+5.6**
	SNR=1.0							
PCAB	**Cabril**	**5.62**	**258**	*e*Pn		**Pn**	**09 43 29.0**	**+1.1**
PCAB				*e*Sn		**Sn**	**09 44 31.1**	**-1.0**
PCAB								
	10nm,0.4s							
FLN	**La Foliniere**	**5.63**	**1**	*e*Pn		**Pn**	**09 43 29.1**	**+1.1**
	baz=188,SNR=1.0							
FLN				*e*Sn		**Sn**	**09 44 30.8**	**-1.4**
	7.5nm,0.4s							
FLN	**La Foliniere**	**5.63**	**1**	*e*Pn		**Pn**	**09 43 29.1**	**+1.1**
	SNR=1.0							
FLN				*e*Sn		**Sn**	**09 44 30.8**	**-1.4**
	3.8nm,0.4s							
EADA	**Adamuz**	**5.78**	**212**		Pn	**Pn**	**09 43 30.2**	**+0.1**
	1.3nm,0.2s,SNR=7.9							
EADA					Sn	**Sn**	**09 44 30.7**	**-5.3**
	2.4nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**5.78**	**212**		Pn	**Pn**	**09 43 30.2**	**+0.1**
EADA					Sn	**Sn**	**09 44 31.9**	**-4.1**
EADA	**Adamuz**	**5.78**	**212**		Pn	**Pn**	**09 43 30.2**	**+0.1**
	1.3nm,0.2s,SNR=7.9							
EADA					Sn	**Sn**	**09 44 31.9**	**-4.1**
MTE	**Manteigas**	**5.82**	**244**	*e*Pn		**Pn**	**09 43 31.2**	**+0.6**
MTE				*e*Sn		**Sn**	**09 44 33.2**	**-3.7**
MTE								
	20nm,0.6s							
LPL	**La Plagne**	**5.82**	**63**	*e*Pn		**Pn**	**09 43 32.4**	**+1.8**
	SNR=1.0							
LPG	**La Plagne**	**5.83**	**64**	*e*Pn		**Pn**	**09 43 32.2**	**+1.5**
LPG	**La Plagne**	**5.83**	**64**	*e*P		**Pn**	**09 43 36.6**	**+5.9**
	SNR=1.0							
LPG	**La Plagne**	**5.83**	**64**	*e*P		**Pn**	**09 43 36.6**	**+5.9**
	SNR=1.0							
PVIS	**Viseu**	**5.90**	**248**	*e*Pn		**Pn**	**09 43 32.8**	**+1.0**
PVIS				*e*Sn		**Sn**	**09 44 35.0**	**-4.0**
PVIS								
	9.0nm,0.3s							
CABF	**La Chapelle**	**5.93**	**52**	*e*Pn		**Pn**	**09 43 33.9**	**+1.8**
SBF	**Sospel**	**5.94**	**80**	*e*Pn		**Pn**	**09 43 33.1**	**+0.8**
PCBR	**Castelo Branco**	**6.08**	**239**	*e*Sn		**Sn**	**09 44 38.6**	**-4.7**
PCBR								
	12nm,0.6s							
PCBR	**Castelo Branco**	**6.08**	**239**		Sn	**Sn**	**09 44 38.6**	**-4.7**
	6.2nm,0.6s							
EMAZ	**Mazaricos**	**6.09**	**271**		Pn	**Pn**	**09 43 35.5**	**+1.2**
	3.9nm,0.1s,SNR=4.5							
EMAZ					Sn	**Sn**	**09 44 41.2**	**-2.3**
	2.7nm,0.2s							
EMAZ	**Mazaricos**	**6.09**	**271**		Pn	**Pn**	**09 43 35.5**	**+1.2**
EMAZ					Sn	**Sn**	**09 44 41.2**	**-2.3**
EBAD	**Badajoz**	**6.49**	**230**		Pn	**Pn**	**09 43 40.7**	**+0.8**
	0.7nm,0.2s,SNR=7.9							
EBAD					Sn	**Sn**	**09 44 48.4**	**-5.2**
	0.2nm,0.3s,SNR=7.9							
EBAD	**Badajoz**	**6.49**	**230**		Pn	**Pn**	**09 43 40.7**	**+0.8**
EMIN	**Mina Concepcio**	**7.05**	**222**		Pn	**Pn**	**09 43 47.9**	**+0.4**
	0.3nm,0.2s,SNR=7.9							
EMIN					Sn	**Sn**	**09 45 00.1**	**-7.1**
	2.5nm,0.3s,SNR=7.9							
EMIN					Lg		09 45 43.2	
	SNR=7.9							
EMIN	**Mina Concepcio**	**7.05**	**222**		Pn	**Pn**	**09 43 47.9**	**+0.4**
EMIN					Sn	**Sn**	**09 45 00.1**	**-7.1**
EMIN					Lg		09 45 48.2	
EMIN	**Mina Concepcio**	**7.05**	**222**		Pn	**Pn**	**09 43 47.9**	**+0.4**
EGRO	**El Granado**	**7.64**	**225**		Sn	**Sn**	**09 45 14.2**	**-7.4**
	2.9nm,0.3s,SNR=7.9							

IDC 04 09:52:40.6±6.1, 1912N×14519E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.4/20, mbtmp3.5/3, ML4.1/1, Error ellipse: s-maj=299.6km s-min=33.2km az=85.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**18.41**	**342**	P	Pn	09 56 56.8	-0.4
	0.6nm,0.3s,baz=164,slow=10,SNR=7.0						
WRA	**Warramunga Arr**	**40.25**	**196**	P	P	10 00 19.5	+0.4
	0.7nm,0.9s,baz=18,slow=9.2,SNR=8.7						
ASAR	**Alice Springs**	**43.92**	**195**	P	P	10 00 49.0	-0.1
	0.2nm,0.4s,baz=16,slow=6.7,SNR=7.0						

*IDC **04** 09:53:06.7±3.0, 10.18N×122.71E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/19, mbtmp3.5/3, Error ellipse: s-maj=319.1km s-min=27.3km az=63.0*
*ISCJB **04** 09:53:08.7±0.5, 9.99N±0.04×122.19E±0.04, h10km, mb3.6/4, Error ellipse: s-maj=6.1km s-min=5.1km az=78.2*
*NEIC **04** 09:53:08.6±1.0, 10.11N×122.38E, h15km, mb3.6/1, Error ellipse: s-maj=25.1km s-min=17.5km az=77.0*
*MAN **04** 09:53:09.6, 10.00N×122.24E, h7km, mb3.2, ML4.5, MS3.1*

ISC 04 09:53:09.3±0.5, 1002N±0.04×12219E±0.04, h10km, n16, σ1s09/23, mb3.6/4, 1C-2D, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.72**	**33**	*e*P	**Pg**	**09 53 23.4**	**+0.2**
GUIM				*e*S	**Sg**	**09 53 32.8**	**+0.3**
SNPH	**Sibulan**	**1.23**	**123**	↓*i*P	**Pn**	**09 53 32.5**	**0.0**
SNPH				*e*S	**Sb**	**09 53 53.0**	**+4.5**
CUYO	**Cuyo Island**	**1.42**	**306**	*e*P	**Pn**	**09 53 35.2**	**+0.1**
CUYO				*e*S	**Sn**	**09 53 52.8**	**-1.0**
KALP	**Kalibo**	**1.66**	**5**	↑*e*P	**Sn**	**09 54 02.9**	**+3.2**
TBP	**Tagbilaran**	**1.68**	**101**	*e*P	**Pn**	**09 53 38.5**	**-0.2**
TBP				*e*S	**Sn**	**09 53 59.5**	**-0.7**
LLP	**Lapu-Lapu**	**1.77**	**80**	*e*P	**Pn**	**09 53 39.0**	**-0.9**
LLP				*e*S	**Sn**	**09 53 57.4**	**-5.1**
DCPH	**Dipolog City**	**1.83**	**141**	↓*e*P	**Pn**	**09 53 39.6**	**-1.1**
DCPH				*e*S	**Sn**	**09 54 00.1**	**-3.9**
IPIL	**Ipil**	**2.25**	**170**	*e*P	**Pn**	**09 53 46.8**	**+0.3**
PAGZ	**Pagadian**	**2.46**	**151**	*e*P	**Pn**	**09 53 50.7**	**+1.3**
MSLP	**Maasin**	**2.63**	**87**	*e*P	**Pn**	**09 53 52.4**	**+0.6**
BUKP	**Musuan**	**3.54**	**127**	*e*P	**Pn**	**09 54 06.2**	**+1.9**
KKM	**Kota Kinabalu**	**7.12**	**237**	*e*Pn	**Pn**	**09 54 54.9**	**+1.5**
KK

1.4nm,0.7s,baz=197,slow=7.9,SNR=7.1
SONM Songino Array 58.53 353 P P 10 13 11.5 +0.4
1.1nm,0.9s,baz=181,slow=7.1,SNR=5.2
MKAR Makanchi Array 64.19 335 P P 10 13 49.2 -0.2
0.7nm,0.6s,baz=145,slow=7.1,SNR=6.1
YKA Yellowknife Ar 116.86 24 PKP PKPdf 10 21 59.1 -0.3
0.2nm,0.6s,baz=316,slow=2.0,SNR=6.5

*ISCJB **04** 10:19:18.2±0.5, 8197N±009×74W±04, h10km, mb3.6/11, MS3.3/6, Error ellipse: s-maj=12.7km s-min=8.1km az=33.0*
*IDC **04** 10:19:19.6±0.9, 8215N×698W, h0km, mb3.5/8, mb1 3.6/9, mb1mx3.5/23, mbtmp3.5/9, ML3.5/1, MS3.3/7, Ms1 3.3/7, ms1mx2.9/25, Error ellipse: s-maj=28.3km s-min=17.9km az=32.0*
*NEIC **04** 10:19:20.5±0.6, 8209N×720W, h10km, mb4.1/4, Error ellipse: s-maj=13.8km s-min=10.6km az=198.0*
ISC 04 10:19:19.9±0.5, 8209N±008×72W±04, h10km, n27, σ1℘29/27, mb3.6/11, MS3.3/6, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**4.46**	**125**	*e*Pn	**Pn**	**10 20 26.6**	**-0.9**
KBS				*e*		10 20 26.8	
	baz=345,slow=9.3						
KBS				*e*Sn	**Sn**	**10 21 13.2**	**-6.1**
KBS				AML	AML	10 21 21.5	
	comp=Z,8.9nm,0.6s						
KBS	**Kingsbay**	**4.46**	**125**	*e*Pn	**Pn**	**10 20 26.4**	**-1.1**
KBS				*e*Sn	**Sn**	**10 21 11.2**	**-8.2**
DAG	**Danmarks Havn**	**5.73**	**207**	*i* P	**Pn**	**10 20 46.8**	**+1.8**
DAG				*i*		10 21 54.3	
HSP	**Hornsund**	**6.49**	**129**	*e*P	**Pn**	**10 20 55.0**	**-0.4**
HOPEN	**Hopen**	**8.03**	**116**	*e*Pn	**Pn**	**10 21 15.1**	**-1.4**
HOPEN				*e*Sn	**Sn**	**10 22 37.2**	**-10**
HOPEN				AML	AML	10 22 45.0	
	comp=N,34nm,0.2s						
SUMG	**Summit**	**11.47**	**232**	*e*Pn	**Pn**	**10 22 02.6**	**-1.2**
	comp=N,16nm,0.4s						
SUMG				*e*Sn	**Sn**	**10 24 03.7**	**-8.2**
ARCES	**ARCESS Array B**	**14.51**	**131**	Pn	**Pn**	**10 22 44.1**	**-1.1**
	comp=N,0.3nm,0.3s,baz=356,slow=11,SNR=5.1						
ARCES				LR	LR	10 27 50.7	
	comp=N,73nm,19.8s,baz=132,slow=35						
RES	**Resolute Bay**	**17.02**	**295**	*e*Pn	**Pn**	**10 23 13.4**	**-4.5**
	comp=N,2.6nm,0.6s						
SFJD	**Kangerlussuaq**	**18.16**	**240**	Pn	**Pn**	**10 23 28.1**	**-4.0**
	comp=N,0.9nm,0.3s,baz=357,slow=14,SNR=5.3						
SFJD	**Kangerlussuaq**	**18.16**	**240**	Pn	**Pn**	**10 23 28.1**	**-4.0**
FINES	**FINESS Array B**	**22.45**	**136**	P	**P**	**10 24 20.4**	**+1.4**
	comp=N,0.6nm,0.6s,mb3.2,baz=326,slow=12,SNR=2.8						
FRB	**Frobisher Bay**	**23.57**	**257**	P	**P**	**10 24 30.3**	**-0.4**
	comp=N,2.5nm,0.7s,mb3.7,baz=34,slow=19,SNR=4.8						
INK	**Inuvik**	**27.27**	**319**	*e*P	**P**	**10 25 02.8**	**-1.5**
	comp=N,2.4nm,1.2s,mb3.6						
YKA	**Yellowknife Ar**	**30.92**	**300**	P	**P**	**10 25 38.2**	**+1.5**
	comp=N,0.2nm,0.8s,mb3.0,baz=13,slow=8.7,SNR=4.3						
YKA				PcP	PcP	10 28 32.7	-0.4
	comp=N,0.1nm,0.6s,baz=2.9,slow=2.7,SNR=5.7						
YKA				LR	LR	10 38 14.4	
	comp=N,52nm,19.1s,MS3.2,baz=0.0,slow=37						
YKA	**Yellowknife Ar**	**30.92**	**300**	P	**P**	**10 25 38.2**	**+1.5**
YKA				PcP	PcP	10 28 32.7	-0.5
ARU	**Arti**	**31.23**	**102**	*e*P	**P**	**10 25 40.8**	**+1.4**
	comp=N,5.7nm,0.4s,mb4.8						
ILAR	**Eielson Array**	**31.84**	**328**	P	**P**	**10 25 45.5**	**+0.6**
	comp=N,0.5nm,1.0s,mb3.3,baz=9.0,slow=8.7,SNR=4.8						
SCHQ	**Schefferville**	**31.98**	**251**	LR	LR	10 38 08.1	
	comp=N,56nm,19.8s,MS3.2,baz=141,slow=35						
AKTO	**Aktyubinsk**	**37.01**	**105**	LR	LR	10 42 04.4	
	comp=N,74nm,20.5s,MS3.5,baz=0.0,slow=37						
ZAL	**Zalesovo**	**37.26**	**77**	LR	LR	10 46 12.4	
	comp=N,45nm,18.1s,MS3.3,baz=85,slow=43						
ULM	**Lac du Bonnet**	**40.42**	**278**	LR	LR	10 43 01.1	
	comp=N,44nm,21.4s,MS3.3,baz=34,slow=35						
MKAR	**Makanchi Array**	**43.91**	**82**	P	**P**	**10 27 26.7**	**0.0**
	comp=N,0.5nm,0.7s,mb3.4,baz=353,slow=7.7,SNR=4.6						
MKAR	**Makanchi Array**	**43.91**	**82**	P	**P**	**10 27 26.7**	**0.0**
BRTR	**Keskin Array B**	**44.66**	**134**	P	**P**	**10 27 34.8**	**+2.1**
	comp=N,0.3nm,0.4s,mb3.5,baz=347,slow=7.3,SNR=3.0						
SONM	**Songino Array**	**46.01**	**59**	P	**P**	**10 27 43.1**	**-0.3**
	comp=N,1.0nm,1.1s,mb3.7,baz=332,slow=8.2,SNR=4.6						
SONM				LR	LR	10 47 45.7	
	comp=N,57nm,19.9s,MS3.5,baz=251,slow=37						
ULN	**Ulaanbaatar**	**46.06**	**59**	*e*P	**P**	**10 27 43.5**	**-0.3**
	comp=N,3.8nm,1.0s,mb4.3						
ULN				*e*pP	pP	10 27 51.2	+4.3
TORD	**Torodi Ar. Bea**	**69.07**	**171**	P	**P**	**10 30 27.2**	**+1.3**
	comp=N,0.3nm,0.5s,mb3.5,baz=357,slow=6.4,SNR=7.9						

NNC 04 10:23:37.3±2.2, 3505N×7045E, h0km, mb3.8, mpv3.5, 1C-3D, Error ellipse: s-maj=48.4km s-min=16.5km az=92.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDNR	**Sundarnagar**	**6.51**	**121**	*e*P	Pn	10 25 04.0	-10
SDNR				*e*S	Sn	10 26 49.4	+20
DDI	**Dehra Dun**	**7.96**	**124**	*e*x	x	10 25 54.5	
KK31	**Karatay Array**	**8.04**	**0**	⇓Pn	Pn	10 25 37.9	+2.6
	1.4nm,0.5s,baz=179,slow=14,SNR=4.8						
KK31				⇑Sn	Sn	10 27 13.5	+6.5
	1.1nm,0.5s,baz=187,slow=23,SNR=5.5						
AB31	**Akbulak array**	**16.16**	**335**	⇓P	Pn	10 27 26.7	+0.9
	0.9nm,0.5s,baz=163,slow=12,SNR=4.5						
AB31				⇓S	Sn	10 30 26.3	+0.6
	0.4nm,0.5s,baz=159,slow=23,SNR=2.8						

*IDC **04** 10:29:18.6±1.3, 1789S×16793E, h0km, mb3.9/7, mb1 4.1/8, mb1mx4.0/14, mbtmp3.9/8, ML3.3/1, MS3.5/2, Ms1 3.5/2, ms1mx3.1/25, Error ellipse: s-maj=47.7km s-min=22.2km az=140.0*
*ISCJB **04** 10:29:22.4±1.3, 180S±0.1×1679E±02, h37km±16km, mb3.8/6, MS3.5/1, Error ellipse: s-maj=31.6km s-min=10.7km az=58.9*
ISC 04 10:29:23.5±1.3, 1802S±009×1680E±02, h33km±12km, n14, σ0℘88/11, mb3.9/6, MS3.5/1, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**0.42**	**35**	⇓*i*P	**Pb**	**10 29 32.6**	**-0.3**
DZM	**Mont Dzumac**	**4.29**	**200**	Pn	**Pn**	**10 30 27.5**	**+1.2**
	1.6nm,0.3s,baz=139,slow=20,SNR=30						
DZM				Sn	**Sn**	**10 31 14.5**	**-0.7**
	13nm,0.3s,baz=132,slow=23,SNR=9.5						
HNR	**Honiara**	**11.57**	**316**	LR	LR	10 36 01.2	
	comp=Z,158nm,18.6s,baz=178,slow=35						
CTA	**Charters Tower**	**20.65**	**261**	P	**P**	**10 34 01.1**	**+0.8**
	6.6nm,1.0s,baz=45,slow=7.1,SNR=4.4						
RPZ	**Rata Peaks**	**25.75**	**175**	LR	LR	10 43 11.7	
	comp=Z,138nm,21.6s,MS3.5,baz=195,slow=32						
STKA	**Stephens Creek**	**27.53**	**235**	*e*P	**P**	**10 35 06.6**	**-0.5**
	4.6nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**27.53**	**235**	P	**P**	**10 35 06.9**	**-0.2**
	5.8nm,0.9s,mb4.2,baz=59,slow=6.9,SNR=6.1						
WRA	**Warramunga Arr**	**31.85**	**261**	P	**P**	**10 35 44.7**	**-0.6**
	0.7nm,0.9s,mb3.5,baz=81,slow=6.1,SNR=4.3						
ASAR	**Alice Springs**	**32.30**	**254**	P	**P**	**10 35 48.8**	**-0.5**
	1.6nm,0.7s,mb4.0,baz=80,slow=8.4,SNR=12						
PPT	**Papeete**	**40.34**	**96**	*e*LQ		10 46 58.7	
	142nm,23.5s						
PPT				*e*LR	LR	10 48 28.2	
	117nm,22.5s						
SONM	**Songino Array**	**85.54**	**324**	P	**P**	**10 41 59.1**	**+0.9**
	0.4nm,0.5s,mb3.9,baz=134,slow=4.3,SNR=4.5						
NVAR	**Mina Array Bea**	**88.89**	**49**	P	**P**	**10 42 15.5**	**+1.1**
	0.4nm,0.7s,mb3.9,baz=210,slow=6.0,SNR=3.7						
ILAR	**Eielson Array**	**89.43**	**18**	P	**P**	**10 42 15.3**	**-1.7**
	0.3nm,0.7s,mb3.8,baz=233,slow=5.2,SNR=5.3						
ARCES	**ARCESS Array B**	**123.59**	**345**	PKP	PKPdf	10 48 17.1	-0.4
	1.6nm,0.7s,baz=66,slow=1.2,SNR=12						

IDC 04 10:38:07.7±2.2, 2060S×17409W, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.9/15, mbtmp4.0/5, ML2.3/1, Error ellipse: s-maj=76.3km s-min=25.7km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.01**	**19**	Pn	Pn	10 39 50.5	-0.9
	3.2nm,0.3s,baz=122,slow=23,SNR=6.6						
AFI				Sn	Sn	10 40 58.8	-13
	1.8nm,0.3s,baz=70,slow=18,SNR=2.5						
ASAR	**Alice Springs**	**48.06**	**256**	P	P	10 46 49.0	+0.2
	1.7nm,0.8s,baz=88,slow=8.4,SNR=14						
WRA	**Warramunga Arr**	**48.22**	**261**	P	P	10 46 49.8	-0.2
	1.4nm,0.9s,baz=96,slow=7.8,SNR=9.2						
MJAR	**Matsushiro Arr**	**72.52**	**321**	P	P	10 49 37.7	+1.3
	0.8nm,0.9s,baz=148,slow=4.6,SNR=4.6						
NVAR	**Mina Array Bea**	**78.62**	**41**	P	P	10 50 11.6	+0.3
	1.1nm,0.8s,baz=216,slow=7.3,SNR=7.4						

*ISCJB **04** 11:03:21.7±1.1, 2699S±003×7134W±007, h27km±7km, mb4.2/7, MS3.9/4, Error ellipse: s-maj=10.2km s-min=5.0km az=15.4*
*NEIC **04** 11:03:22.5, 2708S×7132W, h26km, mb4.5/4, ML4.7(GUC), After GUC.*
*GUC **04** 11:03:22.5±0.9, 2708S×7132W, h26km±12km, ML4.7*
*IDC **04** 11:03:26.2±0.9, 2692S×7094W, h30km±5km, mb3.8/4, mb1 4.0/6, mb1mx3.8/15, mbtmp3.9/6, ML3.9/2, MS3.7/6, Ms1 3.7/6, ms1mx3.5/25, Error ellipse: s-maj=34.9km s-min=24.7km az=63.0*
ISC 04 11:03:22.7±1.2, 2698S±003×7132W±006, h20km±6km, h29km±3.3km: pP-P, n38, σ1℘06/40, mb4.2/7, MS3.9/4, 1C-1D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.45**	**102**	⇓*i*P	**Pg**	**11 03 31.4**	**-0.4**
CDCH				*i* S	**Sg**	**11 03 38.0**	**0.0**
CRCH	**Chaqaral**	**0.89**	**45**	⇑*i*P	**Pb**	**11 03 39.9**	**+0.4**
CRCH				*i* S	**Sb**	**11 03 52.3**	**+1.4**
CPCH	**Copiapo**	**0.94**	**114**	*e*P	**Pb**	**11 03 39.7**	**-0.6**
CPCH				*i* S	**Sb**	**11 03 52.4**	**+0.2**
CPCH				AML	AML	11 03 54.9	
	comp=E,47μm,0.3s						
CPCH	**Copiapo**	**0.94**	**114**	*e*P	**Pb**	**11 03 39.7**	**-0.6**
CPCH				*i* S	**Sb**	**11 03 52.4**	**+0.2**
CPN1	**Cerro Paranal**	**2.49**	**20**	*e*P	**Pn**	**11 04 01.3**	**-0.7**
CPN1				AML	AML	11 04 50.1	
	comp=E,6μm,0.6s						
LSCH	**La Serena**	**2.92**	**179**	*e*P	**Pn**	**11 04 06.8**	**-1.2**
LSCH				*i* S	**Sn**	**11 04 41.1**	**-1.3**
LSCH				AML	AML	11 04 58.2	
	comp=N,1μm,0.5s						
LSCH	**La Serena**	**2.92**	**179**	*e*P	**Pn**	**11 04 06.8**	**-1.2**
LSCH				*i* S	**Sn**	**11 04 41.1**	**-1.3**
TLL	**Tololo Astrono**	**3.21**	**172**	*e*P	**Pn**	**11 04 11.8**	**-0.1**
TLL				*i* S	**Sn**	**11 04 48.9**	**-0.7**
TLL				AML	AML	11 05 08.6	
	comp=E,2μm,0.5s						
TLL	**Tololo Astrono**	**3.21**	**172**	*e*P	**Pn**	**11 04 11.8**	**-0.1**
TLL				*i* S	**Sn**	**11 04 48.9**	**-0.7**
ANCH	**Antofagasta**	**3.39**	**14**	*e*P	**Pn**	**11 04 12.7**	**-1.7**
ANCH				AML	AML	11 05 24.7	
	comp=E,2μm,0.8s						
CFAA	**Coronel Fontan**	**5.33**	**150**	Pn	**Pn**	**11 04 43.6**	**+2.4**
	comp=E,1.6nm,0.3s,baz=351,slow=9.0,SNR=54						
CFAA				Sn	**Sn**	**11 05 42.4**	**+0.3**
	comp=E,1.5nm,0.3s,baz=324,slow=16,SNR=5.0						
CFAA				LR	LR	11 06 44.5	
	comp=E,103nm,20.7s,baz=324,slow=38						
CFAA	**Coronel Fontan**	**5.33**	**150**	Pn	**Pn**	**11 04 43.6**	**+2.4**
CFAA				Sn	**Sn**	**11 05 42.4**	**+0.3**
CFAA				LR	LR	11 06 44.5	
FCH	**Farellones**	**6.39**	**172**	*e*P	**Pn**	**11 04 55.9**	**+0.2**
CLCH	**Cerro Calan**	**6.43**	**174**	*e*P	**Pn**	**11 04 58.5**	**+2.3**
PCH	**Pirque**	**6.65**	**174**	*e*P	**Pn**	**11 04 59.1**	**-0.3**
LPAZ	**La Paz**	**11.05**	**16**	Pn	**Pn**	**11 06 00.1**	**+0.6**
	comp=E,0.9nm,0.3s,baz=213,slow=7.5,SNR=17						
LPAZ	**La Paz**	**11.05**	**16**	*e*Pn	**Pn**	**11 06 00.2**	**+0.7**
	comp=E,2.6nm,0.4s						
CPUP	**Villa Florida**	**12.53**	**90**	LR	LR	11 10 33.6	
	comp=E,220nm,20.8s,baz=208,slow=35						
SIV	**San Ignacio**	**14.50**	**43**	Pn	**Pn**	**11 06 43.1**	**-3.6**
	comp=E,1.1nm,0.3s,baz=249,slow=9.9,SNR=23						
SIV				Sn	**Sn**	**11 09 25.6**	**-1.3**
	comp=E,0.1nm,0.3s,baz=212,slow=18,SNR=1.9						
SAML	**Samuel**	**19.52**	**25**	*e*P	**Pn**	**11 07 49.8**	**-0.3**
	comp=E,19nm,1.1s						
SAML				*e*pP	pP	11 07 59.1	+4.8
BDFB	**Brasilia**	**24.42**	**67**	P	**P**	**11 08 39.1**	**-0.8**
	comp=E,9.5nm,1.0s,mb4.2,baz=230,slow=7.6,SNR=6.2						
BDFB				LR	LR	11 19 08.3	
	comp=E,281nm,19.7s,MS3.8,baz=122,slow=39						
USHA	**Ushuaia**	**27.90**	**176**	LR	LR	11 20 40.1	
	comp=E,425nm,18.9s,MS4.0,baz=120,slow=37						
RPN	**Rapa Nui**	**33.77**	**261**	LR	LR	11 19 45.9	
	comp=E,375nm,20.0s,MS4.1,baz=250,slow=29						
SJG	**San Juan**	**45.10**	**7**	LR	LR	11 30 39.5	
	comp=E,61nm,19.3s,MS3.5,baz=76,slow=36						
VNA3	**Neumayer Olymp**	**55.66**	**160**	*e*	**P**	**11 13 01.8**	**+4.4**
VNA3				*e*	pP	11 13 07.8	+4.1
VNA3				*e*		11 13 17.5	
VNA3				*e*		11 13 20.5	
VNA3				*e*		11 13 38.5	
VNA2	**Neumayer--Watz**	**56.28**	**159**	*e*	**P**	**11 13 06.9**	**+5.1**
	baz=294,slow=8.1						
VNA2				*e*	pP	11 13 12.9	+4.8
VNA2				*e*		11 13 23.6	
VNA2				*e*		11 13 26.7	
VNA2				*e*		11 13 43.5	
SNAA	**Sanae**	**57.88**	**160**	*e*	**P**	**11 13 17.7**	**+4.5**
SNAA				*e*	pP	11 13 23.2	+3.7
SNAA				*e*		11 13 33.0	
SNAA				*e*		11 13 36.5	
SNAA	**Sanae**	**57.88**	**160**	*e*P	**P**	**11 13 12.4**	**-0.8**
	comp=E,6.7nm,1.1s,mb4.6						
QSPA	**South Pole Qui**	**63.23**	**180**	*e*P	**P**	**11 13 50.2**	**+0.5**
	comp=E,4.2nm,0.4s,mb4.9						
QSPA				*e*pP	pP	11 14 00.8	+4.7
PDAR	**Pinedale Array**	**77.83**	**332**	P	**P**	**11 15 22.1**	**+3.4**
	comp=E,0.1nm,0.3s,mb3.2,baz=156,slow=8.6,SNR=2.9						
PDAR				pP	pP	11 15 32.4	+7.2
	comp=E,2.4nm,1.2s,baz=142,slow=5.6,SNR=3.9						
HLID	**Hailey**	**80.57**	**330**	*e*P	**P**	**11 15 33.3**	**-0.4**
	comp=E,4.5nm,1.1s,mb4.3						
HLID				*e*pP	pP	11 15 45.6	+5.4
TORD	**Torodi Ar. Bea**	**81.26**	**70**	P	**P**	**11 15 38.4**	**+1.1**
	comp=E,5.9nm,0.5s,mb4.8,baz=265,slow=5.2,SNR=88						
YKA	**Yellowknife Ar**	**95.63**	**341**	P	**P**	**11 16 47.9**	**+1.1**
	comp=E,0.1nm,0.6s,mb3.4,baz=148,slow=5.8,SNR=2.6						
YKA				pP	pP	11 16 57.4	+4.1
	comp=E,0.5nm,0.9s,baz=139,slow=6.3,SNR=6.4						
WRA	**Warramunga Arr**	**127.14**	**211**	PKP	PKPdf	11 22 26.9	+1.3
	comp=E,0.5nm,0.9s,baz=154,slow=1.7,SNR=5.4						
KURK	**Kurchatov**	**147.07**	**36**	*e*PKPbc	PKPbc	11 23 03.2	-0.9
KURK				*e*PKPab	PKPab	11 23 05.5	-0.2
AAK	**Ala-Archa**	**148.13**	**52**	*e*PKPbc	PKPbc	11 23 05.1	-1.9
AAK				*e*PKPab	PKPab	11 23 08.2	-1.7
MKAR	**Makanchi Array**	**151.30**	**39**	PKPbc	PKPbc	11 23 15.8	+1.0
	comp=E,2.2nm,0.5s,baz=309,slow=2.1,SNR=31						
MKAR				pPKPbc	pPKPbc	11 23 25.2	+3.7
	comp=E,2.3nm,0.5s,baz=316,slow=2.3,SNR=9.2						
SONM	**Songino Array**	**159.11**	**4**	PKP	PKPdf	11 23 21.2	+1.8
	comp=E,0.7nm,1.1s,baz=356,slow=2.0,SNR=3.1						
SONM				pPKP	pPKPdf	11 23 31.0	+4.9
	comp=E,1.1nm,1.1s,baz=170,slow=0.9,SNR=5.9						

*CSEM **04** 11:09:06.5±0.1, 3897N×2659E, h15km, MD3.4, Error ellipse: s-maj=2.7km s-min=1.4km az=91.0*
*ISCJB **04** 11:09:07.2±0.4, 3896N±002×2662E±004, h12km±3km, Error ellipse: s-maj=5.5km s-min=3.0km az=139.5*
*ATH **04** 11:09:07.1, 3888N×2641E, h26km, MD3.5/4*
*ISK **04** 11:09:08.2, 3896N×2658E, h32km, MD3.4*
ISC 04 11:09:07.8±0.4, 3897N±002×2661E±004, h14km±3km, n38, σ0℘87/54, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AYVA	**Ayvalik**	**0.35**	**10**	*i* P	**Pg**	**11 09 14.0**	**-0.9**
AYVA				*i* S	**Sg**	**11 09 19.6**	**-0.1**
PRK	**Paraskevi**	**0.38**	**317**	*e*PB	**Pg**	**11 09 15.6**	**0.0**
PRK				*e*SB	**Sg**	**11 09 21.7**	**+0.9**
URLA	**Izmir**	**0.60**	**181**	*i* P	**Pg**	**11 09 19.2**	**-0.4**
URLA				*i* S	**Sg**	**11 09 28.7**	**+1.0**
KDAG	**Bornova**	**0.76**	**137**	*i* P	**Pg**	**11 09 22.4**	**-0.2**
KDAG				*i* S	**Sg**	**11 09 32.5**	**-0.1**
KDAG	**Bornova**	**0.76**	**137**	*i* P	**Pg**	**11 09 22.4**	**-0.2**
KDAG				*i* S	**Sg**	**11 09 32.5**	**-0.2**
IZM	**Izmir**	**0.76**	**138**	PG	**Pg**	**11 09 23.0**	**+0.3**
IZM				SG	**Sg**	**11 09 33.9**	**+1.2**
EZN	**Ezine**	**0.89**	**346**	PG	**Pg**	**11 09 24.6**	**-0.4**
EZN				SG	**Sg**	**11 09 36.9**	**+0.3**
AKS	**Akhisar**	**0.94**	**95**	PG	**Pg**	**11 09 25.8**	**-0.3**
BALB	**Balikesir**	**1.19**	**55**	PN	**Pn**	**11 09 29.0**	**-1.1**
SMG	**Samos**	**1.27**	**172**	*e*PN	**Pn**	**11 09 30.2**	**-0.9**
BTOK	**Tokmak**	**1.36**	**54**	*i* P	**Pn**	**11 09 32.9**	**+0.6**
BTOK				*i* S	**Sn**	**11 09 50.0**	**-0.1**
LIA	**Limnos Island**	**1.45**	**311**	*e*PN	**Pn**	**11 09 32.8**	**-0.7**
MANT	**Manisa**	**1.60**	**107**	*i* P	**Pn**	**11 09 36.4**	**+0.8**
MANT				*i* S	**Sn**	**11 09 56.2**	**+0.3**
MANT	**Manisa**	**1.60**	**107**	*i* P	**Pn**	**11 09 36.4**	**+0.8**
MANT				*i* S	**Sn**	**11 09 56.2**	**+0.2**
AYDN	**Tasoluk**	**1.64**	**142**	*i* P	**Pn**	**11 09 35.7**	**-0.5**
AYDN				*i* S	**Sn**	**11 09 56.9**	**-0.2**
DST	**Dursunbey**	**1.69**	**67**	PN	**Pn**	**11 09 36.8**	**-0.1**
BNT	**Bandirma**	**1.72**	**36**	PN	**Pn**	**11 09 37.0**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.77**	**14**	*e*PN	**Pn**	**11 09 37.8**	**-0.2**
SART	**Tekirdag**	**1.78**	**14**	*i* P	**Pn**	**11 09 40.4**	**+2.3**
SART				*i* S	**Sn**	**11 10 03.1**	**+2.7**
MRMT	**Marmara Adasi**	**1.80**	**25**	*e*PN	**Pn**	**11 09 37.5**	**-0.9**
MFT	**Murefte**	**1.89**	**16**	*e*PN	**Pn**	**11 09 39.2**	**-0.4**
MLSB	**Milas**	**1.90**	**151**	*e*PN	**Pn**	**11 09 39.3**	**-0.5**
BODT	**Bodrum**	**1.98**	**164**	*e*PN	**Pn**	**11 09 40.4**	**-0.5**
BDRM	**Kayabasi**	**2.01**	**161**	*i* P	**Pn**	**11 09 44.7**	**+3.4**
BDRM				*i* S	**Sn**	**11 10 12.9**	**+6.8**
ORLT	**Orhaneli**	**2.07**	**58**	*e*PN	**Pn**	**11 09 41.9**	**-0.2**
APE	**Apeiranthos**	**2.08**	**205**	*e*PN	**Pn**	**11 09 41.3**	**-0.9**
APE	**Apeiranthos**	**2.08**	**205**	*e*PN	**Pn**	**11 09 40.6**	**-1.6**
GDZ	**Gediz**	**2.24**	**86**	*i* P	**Pg**	**11 09 49.4**	**-1.4**
GDZ				*i* S	**Sg**	**11 10 18.4**	**-1.4**
YER	**Yerkesik**	**2.25**	**144**	*e*PN	**Pn**	**11 09 44.3**	**-0.3**
ULDT	**Uludag**	**2.28**	**58**	*i* P	**Pn**	**11 09 47.9**	**+2.9**
ULDT				*i* S	**Sn**	**11 10 17.4**	**+4.6**
DNZL	**Cakiroluk**	**2.30**	**123**	*i* P	**Pn**	**11 09 45.2**	**-0.1**
DNZL				*i* S	**Sg**	**11 10 23.5**	**+1.7**
RDO	**Rodhopi**	**2.33**	**340**	*e*PN	**Pn**	**11 09 46.1**	**+0.4**
DAT	**Datca**	**2.36**	**161**	*e*PN	**Pn**	**11 09 46.1**	**0.0**
YLV	**Yalova**	**2.66**	**52**	*e*PN	**Pn**	**11 09 50.0**	**-0.3**
ISK	**Istanbul-Kandi**	**2.82**	**41**	*e*PN	**Pn**	**11 09 52.1**	**-0.3**
EDRB	**Edirne**	**2.88**	**2**	*e*PN	**Pn**	**11 09 53.4**	**+0.2**
HRT	**Hereke**	**3.00**	**51**	*e*PN	**Pn**	**11 09 55.5**	**+0.7**
FETY	**Fethiye**	**3.04**	**139**	*e*PN	**Pn**	**11 09 55.6**	**+0.1**

*ISCJB **04** 11:11:32.0±1.2, 1915S±007×1688E±0.1, h159km±8km, mb4.0/7, Error ellipse: s-maj=23.3km s-min=11.8km az=14.7*
*NEIC **04** 11:11:34.9±4.5, 1916S×16883E, h176km±26km, mb4.2/2, Error ellipse: s-maj=59.1km s-min=16.6km az=218.0*
*IDC **04** 11:11:37.4±5.0, 1938S×16861E, h179km±33km, mb3.7/7, mb1 3.8/8, mb1mx3.6/16, mbtmp4.2/8, MS4.1/1, Ms1 4.1/1, ms1mx2.7/19, Error ellipse: s-maj=52.1km s-min=25.1km az=36.0*
ISC 04 11:11:33.1±1.2, 1914S±007×1689E±01, h154km±7km, n12, σ1℘11/14, mb4.0/7, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**1.58**	**338**	⇑*i*P	**Pn**	**11 12 02.7**	**-1.1**
BKM				S	**Sn**	**11 12 27.6**	**+0.3**
DZM	**Mont Dzumac**	**3.68**	**217**	P	**Pn**	**11 12 31.3**	**+2.0**
	9.8nm,0.3s,baz=41,slow=20,SNR=114						
DZM				S	**Sn**	**11 13 11.8**	**-1.2**
	5.6nm,0.3s,baz=67,slow=19,SNR=5.1						
URZ	**Urewera**	**20.36**	**161**	P	**P**	**11 15 58.5**	**+1.0**
	14nm,1.0s,baz=322,slow=11,SNR=5.0						
CTA	**Charters Tower**	**21.31**	**264**	P	**P**	**11 16 09.3**	**+1.7**
	3.8nm,0.8s,mb3.8,baz=93,slow=12,SNR=8.6						
CTA	**Charters Tower**	**21.31**	**264**	P	**P**	**11 16 09.3**	**+1.7**
PMG	**Port Moresby**	**23.12**	**292**	P	**P**	**11 16 25.9**	**+0.5**
	6.0nm,0.8s,mb4.1,baz=194,slow=6.3,SNR=3.9						
PMG				LR	LR	11 24 38.0	
	comp=Z,424nm,18.5s,baz=126,slow=34						
PMG	**Port Moresby**	**23.12**	**292**	*e*P	**P**	**11 16 25.2**	**-0.2**
	3.7nm,0.5s,mb4.1

FLWY				*e*Pg		**Pg**	11 17 54.7	**-1.6**
HLID	**Hailey**	**4.73**	**326**	*e*Pn		**Pn**	11 17 46.2	**+1.4**
DLMT	**Dillon**	**5.82**	**347**	*e*Pn		**Pn**	11 18 00.9	**+1.2**
	10nm,1.2s							
ANMO	**Albuquerque**	**5.85**	**143**	Pn		**Pn**	11 17 59.5	**-0.7**
	0.1nm,0.3s,baz=325,slow=14,SNR=5.9							
ANMO				Pg		**Pb**	11 18 15.5	**+0.4**
	0.3nm,0.3s,baz=332,slow=14,SNR=8.4							
ANMO				Lg			11 19 32.1	
	0.6nm,0.3s,baz=248,slow=20,SNR=8.0							
ANMO	**Albuquerque**	**5.85**	**143**	*e*Pn		**Pn**	11 17 59.7	**-0.5**
	1.3nm,0.8s							
NVAR	**Mina Array Bea**	**6.01**	**260**	Pn		**Pn**	11 18 05.9	**+3.6**
	0.1nm,0.3s,baz=79,slow=13,SNR=5.7							
YKA	**Yellowknife Ar**	**22.94**	**355**	P		**P**	11 21 36.4	**-1.5**
	0.3nm,0.7s,mb2.8,baz=166,slow=9.4,SNR=9.1							

IDC ***04*** *11:18:16.1±0.7, 249.5×14172E, h0km, mb4.4/10, mb1 4.5/13, mb1mx4.5/17, mbtmp4.4/13, ML4.4/2, MS4.1/1, Ms1 4.1/1, ms1mx3.0/22, Error ellipse: s-maj=26.3km s-min=14.1km az=82.0*

ISCJB ***04*** *11:18:18.2±0.3, 252.5±004×14174E±007, h28km, mb4.6/36, MS4.4/3, Error ellipse: s-maj=10.5km s-min=5.2km az=148.9*

BJI ***04*** *11:18:18.4, 203.5×14182E, h12km, mB4.8, mb4.7, Ms5.1, Msz4.3*

MOS ***04*** *11:18:19.2±0.9, 248.5×14172E, h33km, mb4.8/14, Error ellipse: s-maj=15.7km s-min=7.0km az=104.2*

NEIC ***04*** *11:18:20.7±0.4, 254.5×14163E, mb4.5/18, Error ellipse: s-maj=13.2km s-min=6.5km az=86.0*

ISC 04 11:18:20.6±0.3, 252.5±004×14172E±007, h29km, h29km±2.4km: pP-P, n94, σ1.1s15/84, mb4.6/36, MS4.4/3, 10C-4D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.72**	**142**	Pn	**Pn**	**11 20 25.9**	**+1.2**
	0.8nm,0.3s,baz=304,slow=5.0,SNR=6.8						
PMG				Sn	**Sn**	**11 22 03.5**	**+1.6**
	0.3nm,0.3s,baz=308,slow=18,SNR=2.0						
PMG	**Port Moresby**	**8.72**	**142**	*d*iP	**Pn**	**11 20 26.3**	**+1.6**
PMG	**Port Moresby**	**8.72**	**142**	*e*Pn	**Pn**	**11 20 25.6**	**+0.9**
	10nm,0.6s						
KAKA	**Kakadu**	**13.67**	**222**	*e*P	**Pn**	**11 21 29.5**	**-3.0**
	21nm,0.5s						
KAKA				*e*S	**Sn**	**11 23 54.8**	**-8.5**
CTA	**Charters Tower**	**18.01**	**166**	*e*P	**Pn**	**11 22 30.3**	**+1.6**
	5.8nm,0.9s						
CTA	**Charters Tower**	**18.01**	**166**	P	**Pn**	**11 22 30.2**	**+1.5**
	0.3nm,0.3s,baz=311,slow=11,SNR=3.4						
CTA	**Charters Tower**	**18.01**	**166**	*e*P	**Pn**	**11 22 30.3**	**+1.6**
CTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CTAO	**Charters Tower**	**18.01**	**166**	*e*P	**Pn**	**11 22 30.1**	**+1.4**
CTAO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CTAO	**Charters Tower**	**18.01**	**166**	*e*P	**Pn**	**11 22 30.1**	**+1.3**
	comp=Z,9.0nm,0.9s						
WRAB	**Tennant Creek**	**18.74**	**202**	*e*P	**Pn**	**11 22 37.1**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,41nm,0.8s						
WRAB	**Tennant Creek**	**18.74**	**202**	*e*P	**Pn**	**11 22 37.1**	**-0.6**
	comp=Z,41nm,0.8s						
WB2	**Warramunga Arr**	**18.75**	**202**	⇑*i*P	**Pn**	**11 22 36.5**	**-1.2**
WRA	**Warramunga Arr**	**18.76**	**202**	P	**Pn**	**11 22 36.2**	**-1.5**
	comp=Z,2.9nm,0.3s,baz=24,slow=12,SNR=91						
FITZ	**Fitzroy Crossi**	**22.10**	**224**	⇑*i*P	**P**	**11 23 12.2**	**-1.2**
	comp=Z,23nm,1.3s,mb4.5						
FITZ	**Fitzroy Crossi**	**22.10**	**224**	P	**P**	**11 23 12.3**	**-1.2**
	comp=Z,5.0nm,0.5s,mb4.2,baz=41,slow=12,SNR=27						
ASAR	**Alice Springs**	**22.34**	**199**	P	**P**	**11 23 15.4**	**-0.6**
	comp=Z,19nm,0.9s,mb4.5,baz=31,slow=9.6,SNR=108						
STKA	**Stephens Creek**	**29.20**	**180**	*e*P	**P**	**11 24 17.8**	**-1.7**
	comp=Z,12nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**29.20**	**180**	P	**P**	**11 24 17.9**	**-1.6**
	comp=Z,14nm,1.0s,mb4.7,baz=348,slow=7.4,SNR=9.8						
FORT	**Forrest**	**30.93**	**203**	*e*P	**P**	**11 24 35.4**	**+0.5**
	comp=Z,40nm,1.2s,mb5.1						
JHJ	**Hachijo jima 2**	**35.49**	**357**	LR	LR	11 37 09.9	
	comp=Z,262nm,19.7s,MS4.0,baz=192,slow=32						
SSE	**Sheshan**	**38.73**	**331**	P	**P**	**11 25 40.4**	**-1.7**
SSE				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,65nm,4.9s						
MJAR	**Matsushiro Arr**	**39.00**	**356**	P	**P**	**11 25 42.7**	**-1.6**
	comp=Z,1.3nm,0.5s,mb3.9,baz=146,slow=9.6,SNR=8.0						
MJAR	**Matsushiro Arr**	**39.00**	**356**	P	**P**	**11 25 42.7**	**-1.6**
MAJO	**Matsushiro**	**39.00**	**356**	*e*P	**P**	**11 25 42.2**	**-2.2**
MAJO				pmax	pmax		
	comp=Z,9.0nm,1.5s,mb4.3						
MAJO	**Matsushiro**	**39.00**	**356**	*e*P	**P**	**11 25 42.2**	**-2.1**
	comp=Z,9.3nm,1.5s,mb4.3						
NJ2	**Nanjing**	**40.66**	**330**	*e*P	**P**	**11 25 55.1**	**-3.0**
NJ2				AP	pP	11 25 58.5	-8.4
NJ2				XP	sP	11 26 01.4	-9.0
NJ2				PP	PP	11 27 33.1	+1.1
NJ2				S	**S**	**11 32 05.0**	**-1.2**
NJ2				XS	sS	11 32 13.0	-7.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
NJ2				AMB	AMB		
	comp=Z,50nm,4.8s						
NJ2				LR	LR		
	comp=N,490nm,10.0s,MS5.0						
NJ2				LR	LR		
	comp=E,1μm,12.8s,MS5.0						
NJ2				LR	LR		
	comp=Z,1μm,14.0s,MS5.0						
PSI	**Prapat**	**43.11**	**277**	P	**P**	**11 26 19.8**	**+1.6**
	comp=Z,4.0nm,0.6s,mb4.3,baz=131,slow=9.3,SNR=3.2						
PSI	**Prapat**	**43.11**	**277**	P	**P**	**11 26 19.8**	**+1.6**
VLA	**Vladivostok**	**46.29**	**350**	*i* P	**P**	**11 26 45.0**	**+1.5**
KMI	**Kunming**	**46.72**	**308**	P	**P**	**11 26 49.1**	**+2.2**
KMI				AP	pP	11 26 56.7	+0.9
KMI				XP	sP	11 27 02.3	+3.0
KMI				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.7						
KMI				LR	LR		
	comp=Z,343nm,18.2s,MS4.3						
BJT	**Baijiatuan**	**48.38**	**334**	*e*P	**P**	**11 26 59.9**	**+0.1**
BJT				pmax	pmax		
	comp=Z,13nm,1.1s						
BJT	**Baijiatuan**	**48.38**	**334**	*e*P	**P**	**11 26 59.9**	**+0.2**
	comp=Z,13nm,1.1s,mb4.9						
YSS	**Yuzh-Sakhalins**	**49.27**	**1**	⇑*e*P	**P**	**11 27 05.5**	**-1.1**
YSS				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.9						
KLR	**Kul'dur**	**52.26**	**352**	*e*P	**P**	**11 27 25.0**	**-4.2**
GTA	**Gaotai**	**56.74**	**322**	*e*P	**P**	**11 28 02.5**	**+0.8**
GTA				AP	pP	11 28 07.9	-2.8
GTA				XP	sP	11 28 11.3	-2.9
GTA				AMB	AMB		
	comp=Z,4.0nm,1.6s,mb4.2						
LSA	**Lhasa**	**57.96**	**308**	*e*P	**P**	**11 28 12.2**	**+1.9**
LSA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
LSA	**Lhasa**	**57.96**	**308**	*e*P	**P**	**11 28 12.2**	**+1.9**
	comp=Z,9.5nm,1.0s,mb4.8						
ULN	**Ulaanbaatar**	**58.60**	**333**	*d*iP	**P**	**11 28 15.2**	**+0.4**
ULN	**Ulaanbaatar**	**58.60**	**333**	*e*P	**P**	**11 28 15.3**	**+0.6**
	comp=Z,1.5nm,0.8s,mb4.1						
SONM	**Songino Array**	**58.88**	**333**	P	**P**	**11 28 17.1**	**+0.4**
	comp=Z,2.9nm,1.2s,mb4.2,baz=152,slow=6.4,SNR=8.5						
CIT	**Chita**	**59.34**	**340**	*e*P	**P**	**11 28 20.2**	**+0.3**
JIRN	**Jiri**	**61.23**	**303**	*e*P	**P**	**11 28 34.2**	**+1.4**
GUN	**Gumba**	**61.57**	**304**	*e*P	**P**	**11 28 36.6**	**+1.5**
	comp=Z,34nm,1.0s,mb5.4						
PKI	**Pulchoki**	**61.85**	**303**	*e*P	**P**	**11 28 38.1**	**+1.1**
KKN	**Kakani**	**62.03**	**303**	*e*P	**P**	**11 28 39.5**	**+1.3**
	comp=Z,21nm,0.9s,mb5.3						
DMN	**Daman**	**62.12**	**303**	*e*P	**P**	**11 28 40.2**	**+1.4**
ZAK	**Zakamensk**	**62.13**	**333**	*e*P	**P**	**11 28 39.3**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.8						
MA2	**Magadan**	**62.32**	**5**	*e*P	**P**	**11 28 39.4**	**-0.8**
MA2				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.9						
MA2	**Magadan**	**62.32**	**5**	*e*P	**P**	**11 28 39.4**	**-0.7**
	comp=Z,10nm,1.0s,mb4.9						
GKN	**Gorkha**	**62.64**	**303**	*e*P	**P**	**11 28 43.3**	**+1.0**
	comp=Z,20nm,0.6s,mb5.4						
TLY	**Talaya**	**62.91**	**334**	*e*P	**P**	**11 28 44.7**	**+0.6**
TLY				*e*PP	pP	11 28 55.0	+1.8
TLY				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
TLY	**Talaya**	**62.91**	**334**	*e*P	**P**	**11 28 44.7**	**+0.7**
	comp=Z,3.8nm,0.9s,mb4.5						
TLY				*e*pP	pP	11 28 55.0	+1.8
KOLN	**Koldanda**	**63.43**	**303**	*e*P	**P**	**11 28 47.5**	**0.0**
MOY	**Mondy**	**64.07**	**333**	*e*P	**P**	**11 28 52.5**	**+0.8**
BOD	**Bodaibo**	**64.13**	**344**	*e*P	**P**	**11 28 50.8**	**-1.3**
YAK	**Yakutsk**	**65.03**	**354**	⇓*e*P	**P**	**11 28 57.9**	**-0.1**
YAK				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.9						
WMQ	**Urumqi**	**66.76**	**320**	*e*P	**P**	**11 29 10.0**	**+0.9**
KRAR	**Krasnoyarsk**	**70.54**	**333**	*i* P	**P**	**11 29 33.1**	**+0.3**
MKAR	**Makanchi Array**	**71.50**	**321**	P	**P**	**11 29 39.2**	**+0.6**
	comp=Z,3.9nm,0.7s,mb4.4,baz=108,slow=7.8,SNR=33						
MKAR	**Makanchi Array**	**71.50**	**321**	P	**P**	**11 29 39.2**	**+0.6**
BILL	**Bilibino**	**72.46**	**9**	⇓*e*P	**P**	**11 29 44.1**	**-0.2**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb4.0						
TIXI	**Tiksi**	**74.51**	**356**	⇑*e*P	**P**	**11 29 55.2**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.6s,mb4.1						
AAK	**Ala-Archa**	**75.17**	**315**	*e*P	**P**	**11 30 00.2**	**0.0**
AAK				*e*PP	pP	11 30 10.6	+1.1
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
AAK	**Ala-Archa**	**75.17**	**315**	*e*P	**P**	**11 30 00.2**	**0.0**
	comp=Z,3.3nm,1.0s,mb4.2						
AAK				*e*pP	pP	11 30 10.6	+1.1
KURK	**Kurchatov**	**75.31**	**324**	*e*P	**P**	**11 30 00.9**	**-0.1**
KURK				*e*PP	pP	11 30 11.2	+0.9
KURK				pmax	pmax		
	comp=Z,24nm,1.4s,mb4.9						
KURK	**Kurchatov**	**75.31**	**324**	*e*P	**P**	**11 30 00.9**	**-0.1**
	comp=Z,24nm,1.4s,mb4.9						
KURK				*e*pP	pP	11 30 11.2	+0.9
VNDA	**Vanda**	**75.72**	**176**	P	**P**	**11 30 03.4**	**+0.1**
	comp=Z,1.2nm,0.8s,mb3.9,baz=316,slow=6.0,SNR=5.4						
VNDA	**Vanda**	**75.72**	**176**	*e*P	**P**	**11 30 03.2**	**-0.1**
VNDA				*e*PP	pP	11 30 13.0	+0.4
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
VNDA	**Vanda**	**75.72**	**176**	*e*P	**P**	**11 30 03.1**	**-0.2**
	comp=Z,1.4nm,0.7s,mb4.0						
VNDA				*e*pP	pP	11 30 13.0	+0.4
BVAR	**Borovoye Array**	**80.89**	**325**	P	**P**	**11 30 31.9**	**0.0**
	comp=Z,4.8nm,0.8s,mb4.5,baz=118,slow=5.4,SNR=7.4						
BRVK	**Borovoye**	**80.96**	**325**	*e*P	**P**	**11 30 32.6**	**+0.3**
BRVK				*e*PP	pP	11 30 41.0	-0.7
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
BRVK	**Borovoye**	**80.96**	**325**	*e*P	**P**	**11 30 32.6**	**+0.3**
	comp=Z,6.5nm,1.1s,mb4.5						
BRVK				*e*pP	pP	11 30 41.0	-0.7
ZRNK	**Zerenda**	**81.67**	**324**	*e*P	**P**	**11 30 36.2**	**+0.1**
ZRNK				*e*PP	pP	11 30 45.3	-0.2
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
ZRNK	**Zerenda**	**81.67**	**324**	*e*P	**P**	**11 30 36.1**	**+0.1**
	comp=Z,3.2nm,0.7s,mb4.4						
ZRNK				*e*pP	pP	11 30 45.3	-0.2
COLA	**College**	**84.07**	**24**	⇓*i* P	**P**	**11 30 47.3**	**-1.2**
ILAR	**Eielson Array**	**84.42**	**24**	P	**P**	**11 30 48.4**	**-2.0**
	comp=Z,4.4nm,0.9s,mb4.6,baz=260,slow=5.2,SNR=29						
DAWY	**Dawson**	**87.40**	**26**	*e*P	**P**	**11 31 04.9**	**-0.1**
QSPA	**South Pole Qui**	**87.42**	**180**	*e*P	**P**	**11 31 05.0**	**-0.1**
	comp=Z,9.5nm,1.0s,mb5.0						
QSPA				*e*pP	pP	11 31 13.3	-1.3
ARU	**Arti**	**88.29**	**327**	⇑*i* P	**P**	**11 31 08.7**	**-0.6**
ARU				*e*		11 34 36.4	
ARU				*e*S		11 41 34.2	
ARU				*e*SS	SS	11 47 45.8	+4.0
ARU				*e*SSS		11 51 20.4	
ARU				pmax	pmax		
	comp=Z,5.0nm,2.0s,mb4.4						
SYO	**Syowa Base**	**92.00**	**201**	⇑*e*P	**P**	**11 31 27.0**	**+0.4**
SYO	**Syowa Base**	**92.00**	**201**	⇓*e*PcP	PcP	11 31 30.0	+2.6
GNI	**Garni**	**96.96**	**310**	⇑*e*P	**P**	**11 31 46.0**	**-3.3**
GNI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KIV	**Kislovodsk**	**98.25**	**314**	*e*P	**P**	**11 31 54.2**	**-0.9**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb5.3						
OBN	**Obninsk**	**100.71**	**326**	⇑*e*P	Pdif	11 32 06.7	+0.6
OBN				pmax	pmax		
	comp=Z,8.0nm,0.6s						
VNA2	**Neumayer--Watz**	**103.92**	**190**	*e*Pdiff	Pdif	11 32 20.7	+0.3
VNA2	**Neumayer--Watz**	**103.92**	**190**	*e*Pdiff	Pdif	11 32 20.7	+0.3
VNA3	**Neumayer Olymp**	**104.03**	**189**	*e*Pdiff	Pdif	11 32 22.3	+1.5
VNA3	**Neumayer Olymp**	**104.03**	**189**	*e*Pdiff	Pdif	11 32 22.3	+1.5
VNA1	**Neumayer--Stat**	**104.31**	**190**	*e*Pdiff	Pdif	11 32 34.6	+13
LPAZ	**La Paz**	**145.08**	**123**	PKPbc	PKPbc	11 37 57.5	+3.0
	comp=Z,4.1nm,1.0s,baz=243,slow=2.6,SNR=9.8						
LPAZ	**La Paz**	**145.08**	**123**	*e*PKPdf	PKPdf	11 37 57.6	+2.6
LPAZ				*ep*PKPdf	pPKPdf	11 38 07.5	+2.6
CPUP	**Villa Florida**	**145.91**	**148**	PKPbc	PKPbc	11 37 59.1	+1.9
	comp=Z,0.6nm,0.3s,baz=272,slow=3.3,SNR=3.8						
DBIC	**Dimbokro**	**146.44**	**278**	PKPbc	PKPbc	11 38 00.8	+2.0
	comp=Z,4.3nm,0.8s,baz=12,slow=2.0,SNR=4.0						
SDV	**Santo Domingo**	**147.21**	**78**	*e*PKPdf	PKPdf	11 38 01.0	+2.3

IDC ***04*** *11:18:22.0±1.0, 203 3S×174 35W, h0km, mb4.0/7, mb1 4.3/8, mb1mx4.2/16, mbtmp4.1/8, ML4.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/22, Error ellipse: s-maj=46.4km s-min=21.5km az=146.0*

ISCJB ***04*** *11:18:22.9±0.7, 200 3S±008×173 9W±0.1, h33km, mb4.1/11, Error ellipse: s-maj=15.3km s-min=9.2km az=66.6*

NEIC ***04*** *11:18:24.4±0.5, 201 2S×174 39W, h15km, mb4.3/3, Error ellipse: s-maj=22.7km s-min=12.4km az=122.0*

ISC 04 11:18:25.8±0.7, 2006S±008×1739W±0.1, h35km, n32, σ1.8s87/18, mb4.1/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.45**	**19**	Pn	**Pn**	**11 19 59.9**	**+1.7**
	7.8nm,0.3s,baz=309,slow=19,SNR=8.7						
AFI				Sn	**Sn**	**11 21 08.9**	**-1.6**
	3.7nm,0.3s,baz=228,slow=17,SNR=1.9						
AFI				LR	LR	11 22 28.6	
	comp=Z,335nm,20.4s,baz=184,slow=36						
RAR	**Rarotonga**	**13.29**	**97**	Pn	**Pn**	**11 21 29.1**	**-2.7**
	1.8nm,0.3s,baz=230,slow=8.1,SNR=5.6						
RAR				Sn	**Sn**	**11 23 41.4**	**-17**
	0.8nm,0.3s,baz=94,slow=19,SNR=2.1						
DZM	**Mont Dzumac**	**18.45**	**260**	P	**Pn**	**11 22 39.4**	**+0.9**
	0.3nm,0.3s,baz=97,slow=16,SNR=5.3						
URZ	**Urewera**	**19.74**	**201**	P	**Pn**	**11 22 49.6**	**-4.5**
	0.8nm,0.3s,baz=171,slow=7.6,SNR=6.0						
RPZ	**Rata Peaks**	**26.73**	**205**	P	**P**	**11 24 05.8**	**+3.9**
	5.4nm,0.5s,mb4.4,baz=44,slow=3.5,SNR=5.1						
CTA	**Charters Tower**	**37.35**	**263**	P	**P**	**11 25 33.1**	**-1.8**
	4.9nm,0.8s,mb4.4,baz=123,slow=13,SNR=5.5						
ASAR	**Alice Springs**	**48.35**	**256**	P	**P**	**11 27 01.8**	**-2.2**
	2.1nm,0.9s,mb4.2,baz=90,slow=7.5,SNR=5.6						
WRA	**Warramunga Arr**	**48.46**	**261**	P	**P**	**11 27 03.0**	**-1.8**
	2.2nm,0.8s,mb4.3,baz=97,slow=7.5,SNR=5.4						
SBA	**Scott Base**	**58.59**	**185**	*e*P	**P**	**11 28 20.9**	**+1.9**
	1.8nm,0.8s,mb4.2						
QSPA	**South Pole Qui**	**70.01**	**180**	*e*P	**P**	**11 29 34.7**	**+0.9**
	5.0nm,0.8s,mb4.5						
MJAR	**Matsushiro Arr**	**72.20**	**321**	P	**P**	**11 29 48.8**	**+1.7**
	1.5nm,0.7s,mb4.0,baz=152,slow=6.3,SNR=5.4						
NVAR	**Mina Array Bea**	**78.11**	**41**	P	**P**	**11 30 26.1**	**+5.0**
	1.3nm,0.7s,mb4.0,baz=212,slow=7.3,SNR=11						
ANMO	**Albuquerque**	**84.16**	**50**	*e*P	**P**	**11 30 58.2**	**+4.9**
	1.8nm,1.1s,mb4.1						
PDAR	**Pinedale Array**	**86.05**	**42**	P	**P**	**11 31 07.3**	**+4.6**
	0.4nm,0.8s,mb3.7,baz=202,slow=3.2,SNR=4.7						
VNA3	**Neumayer Olymp**	**88.28**	**175**	*e*Pdiff	pP	11 31 25.8	+1.1
VNA3	**Neumayer Olymp**	**88.28**	**175**	*e*Pdiff	pP	11 31 25.8	+1.1
VNA3				*e*	sP	11 31 35.3	+6.6
VNA2	**Neumayer--Watz**	**88.77**	**176**	*e*Pdiff	pP	11 31 28.4	+1.4
VNA2	**Neumayer--Watz**	**88.77**	**176**	*e*Pdiff	pP	11 31 28.4	+1.4
VNA2				*e*	sP	11 31 30.4	-0.6
VNA2				*e*		11 31 39.3	
VNA1	**Neumayer--Stat**	**88.97**	**175**	*e*Pdiff	pP	11 31 27.9	0.0
VNA1	**Neumayer--Stat**	**88.97**	**175**	*e*Pdiff	pP	11 31 27.9	0.0
VNA1				*e*	sP	11 31 37.1	+5.2
YKA	**Yellowknife Ar**	**94.54**	**24**	P	**P**	**11 31 45.5**	**+3.0**
	0.2nm,0.7s,mb3.6,baz=243,slow=4.7,SNR=5.3						
YKA	**Yellowknife Ar**	**94.54**	**24**	P	**P**	**11 31 45.5**	**+2.9**
EKA	**Eskdalemuir Ar**	**144.09**	**9**	PKP	PKPdf	11 37 57.8	+0.1
	1.5nm,0.9s,baz=317,slow=3.5,SNR=3.4						
AKASG	**Malin Array Be**	**144.38**	**335**	PKP	PKPdf	11 37 57.5	-0.7
	0.9nm,0.5s,baz=38,slow=3.6,SNR=9.6						
AKASG	**Malin Array Be**	**144.38**	**335**	PKP	PKPdf	11 37 57.5	-0.7
MALT	**Malatya**	**146.65**	**310**	*e*PKPab	PKPab	11 38 06.8	+2.0
CLL	**Collm**	**148.34**	**352**	*e*PKPbc	PKPbc	11 38 12.0	+3.7
BRG	**Berggiesshubel**	**148.63**	**350**	*e*PKP	PKPbc	11 38 12.0	+2.9
	3.6nm,0.9s						
BRTR	**Keskin Array B**	**149.30**	**316**	PKPbc	PKPbc	11 38 12.9	+2.2
	0.8nm,0.7s,baz=106,slow=3.9,SNR=3.8						
MLR	**Muntele Rosu**	**149.80**	**332**	PKPbc	PKPbc	11 38 14.2	+2.2
	1.2nm,0.3s,baz=339,slow=18,SNR=4.9						
GERES	**GERESS Array B**	**150.64**	**350**	PKPbc	PKPbc	11 38 16.2	+2.2
	0.8nm,0.5s,baz=343,slow=3.1,SNR=3.7						
GERES	**GERESS Array B**	**150.64**	**350**	PKPbc	PKPbc	11 38 16.2	+2.2

NIED ***04*** *11:23:00, 27 30N×129 30E, h17km, Mw4.0 Best double couple: M0 9.85000×10^14 NP1:φs46.00000°, δ72.00000°, λ98.00000°. NP2:φs203.00000°, δ20.00000°, λ69.00000°.*

MOS ***04*** *11:23:55.8±1.2, 268 6N×129 04E, h33km, mb4.5/9, Error ellipse: s-maj=67.5km s-min=17.9km az=120.0*

ISCJB ***04*** *11:23:57.8±0.5, 272 3N±003×129 35E±004, h39km±5km, mb4.1/16, Error ellipse: s-maj=6.8km s-min=3.7km az=80.7*

JMA ***04*** *11:23:58.6±0.1, 272 8N×129 27E, h35km±3km, M3.9*

IDC ***04*** *11:24:00.1±5.4, 272 9N×129 22E, h39km±46km, mb3.7/11, mb1 3.8/11, mb1mx3.7/21, mbtmp3.9/11, Error ellipse: s-maj=43.6km s-min=17.9km az=69.0*

ISC 04 11:23:57.3±1.1, 2722N±003×12934E±004, h22km±7km, n44, σ0.9s69/56, mb4.1/16, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**0.66**	**328**	P	**Pb**	**11 24 10.1**	**0.0**
JTK				S	**Sb**	**11 24 18.5**	**-0.4**
JOW	**Kunigami**	**1.03**	**248**	Pn	**Pn**	**11 24 16.6**	**+0.1**
	366nm,0.3s,baz=103,slow=16,SNR=604						
JOW				Sn	**Sn**	**11 24 30.3**	**+0.2**
	501nm,0.3s,baz=112,slow=19,SNR=27						
JOW	**Kunigami**	**1.03**	**248**	P	**Pn**	**11 24 16.4**	**0.0**
JOW				S	**Sb**	**11 24 29.1**	**-0.4**
JAM	**Amami Oshima**	**1.21**	**11**	P	**Pn**	**11 24 19.0**	**+0.1**
JAM				S	**Sn**	**11 24 34.0**	**-0.5**
JZK	**Kikaishima**	**1.22**	**27**	P	**Pn**	**11 24 19.9**	**+0.8**
JZK				S	**Sn**	**11 24 34.5**	**-0.4**
JIH	**Iheya**	**1.24**	**262**	P	**Pn**	**11 24 19.5**	**+0.2**
JIH				S	**Sn**	**11 24 34.8**	**-0.5**
JJT2	**Tamagusuku 2**	**1.79**	**233**	P	**Pn**	**11 24 27.3**	**+0.4**
JJT2				S	**Sn**	**11 24 49.4**	**+0.5**
NAH1	**Naha**	**1.79**	**236**	S	**Sn**	**11 24 49.2**	**+0.2**
JAGN	**Aguni-jima**	**1.98**	**252**	P	**Pn**	**11 24 29.5**	**0.0**
JAGN				S	**Sn**	**11 24 53.3**	**-0.3**
JMZ	**Minamidaito 2**	**2.19**	**129**	P	**Pn**	**11 24 32.3**	**-0.1**
JMZ				S	**Sn**	**11 24 57.0**	**-1.8**
JKE	**Kume jima 2**	**2.45**	**249**	P	**Pn**	**11 24 35.5**	**-0.5**
JKE				S	**Sn**	**11 25 05.0**	**-0.3**
JNN	**Nakanoshima**	**2.65**	**10**	P	**Pn**	**11 24 39.6**	**+0.9**
JNN				S	**Sn**	**11 25 11.0**	**+0.8**
JKC	**Kuchinoerabu**	**3.31**	**13**	S	**Sn**	**11 25 26.3**	**-0.2**
JTN	**Tanegashima 3**	**3.71**	**22**	P	**Pn**	**11 24 53.7**	**+0.4**
JTN				S	**Sn**	**11 25 36.0**	**-0.3**
SONM	**Songino Array**	**27.29**	**325**	P	**P**	**11 29 41.8**	**+1.7**
	0.3nm,0.6s,mb3.0,baz=140,slow=10,SNR=4.5						
JIRN	**Jiri**	**38.15**	**281**	*e*P	**P**	**11 31 14.9**	**0.0**
GUN	**Gumba**	**38.38**	**281**	*e*P	**P**	**11 31 17.9**	**+1.0**
	5.2nm,0.3s,mb4.8				

s77,c139;Mantle waves: s107,c216; Half duration: 2±1 Moment tensor: Scale 10^{17}Nm; M_{rr}=1.72±.06; $M_{\theta\theta}$1.40±.05; $M_{\phi\phi}$0.31±.05; $M_{r\theta}$0.98±.13; $M_{r\phi}$2.11±.04; $M_{\theta\phi}$7.26±.40; Best double couple: $M_0$7.76900×10^{17} NP1:$\phi_0$83.00000°,δ17.00000°,λ-20.00000°. NP2: ϕ_s191.00000°,δ84.00000°,λ-106.00000°. Principal axes: T 7.4600, Plg37.0000°, Azm296.0000°; N 0.6160, Plg16.0000°, Azm193.0000°; P -8.0770, Plg48.0000°, Azm84.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

MOS ***04*** *11:25:28.7±1.3,2055S×17400W,h33km, mb5.7/64, MS5.8/46 Error ellipse: s-maj=9.3km s-min=7.4km az=59.7*

SZGRF ***04*** *11:25:28.2,2171S×174.16W,h37km, mb6.1,Tonga Islands*

ISC 04 11:25:28.7±0.1,2067S±003×17395W±004,h27km, h27km±.7km:pP-P,n717,σ1902/339,mb5.6/131,MS5.8/132, 49C-32D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.04**	**17**	Pn		**Pn**	**11 27 02.4**	**-7.4**
	33nn,0.3s,baz=288,slow=0.6,SNR=28							
AFI				Sn		**Sn**	**11 28 16.5**	**-12**
	84nn,0.3s,baz=217,slow=20,SNR=4.6							
AFI				T			11 34 16.1	
	40nn,0.3s,baz=69,slow=22,SNR=8.6							
AFI	**Afiamalu**	**7.04**	**17**	*e*P		**Pn**	**11 27 02.7**	**-7.2**
AFI				*e*			11 28 20.1	
AFI				pmax	pmax			
	comp=Z,603nm,0.6s							
AFI	**Afiamalu**	**7.04**	**17**	*e*Pn		**Pn**	**11 27 02.6**	**-7.2**
	comp=Z,602nm,0.6s							
AFI				*e*Sn		**Sn**	**11 28 20.1**	**-8.8**
RAR	**Rarotonga**	**13.26**	**95**	Pn		**Pn**	**11 28 25.6**	**-9.5**
	comp=Z,59nn,0.3s,baz=258,slow=8.8,SNR=83							
RAR				Sn		Sn	11 30 39.5	-22
	comp=Z,22nn,0.3s,baz=107,slow=20,SNR=4.5							
RAR				T			11 42 48.2	
	comp=Z,14nn,0.3s,baz=256,slow=15,SNR=4.5							
RAR	**Rarotonga**	**13.26**	**95**	Pn		**Pn**	**11 28 25.6**	**-9.5**
RAR				Sn		Sn	11 30 39.5	-22
BKM	**Butte a Klehm**	**17.09**	**277**	*i*P		**Pn**	**11 29 29.6**	**+4.1**
OUZ	**Omahuta**	**18.17**	**214**	*e*P*		**Pn**	**11 29 39.5**	**+0.6**
OUZ	**Omahuta**	**18.17**	**214**	*e*P		**Pn**	**11 29 39.5**	**+0.5**
DZM	**Mont Dzumac**	**18.32**	**262**	P		**Pn**	**11 29 41.9**	**+1.2**
	comp=Z,3.1nn,0.3s,baz=86,slow=14,SNR=36							
DZM				LR		LR	11 35 32.4	
	comp=Z,35μm,19.8s,baz=96,slow=33							
WCZ	**Waipu Caves**	**18.35**	**212**	*e*P*		**Pn**	**11 29 40.0**	**-1.2**
WCZ	**Waipu Caves**	**18.35**	**212**	*e*P*		**Pn**	**11 29 40.0**	**-1.2**
KUZ	**Kuaotunu**	**18.38**	**207**	*e*P*		**Pn**	**11 29 43.0**	**+1.5**
KUZ	**Kuaotunu**	**18.38**	**207**	*e*P*		**Pn**	**11 29 42.8**	**+1.3**
PUZ	**Puketiti**	**18.61**	**200**	*e*P*		**Pn**	**11 29 44.6**	**+0.3**
PUZ	**Puketiti**	**18.61**	**200**	*e*P*		**Pn**	**11 29 44.6**	**+0.3**
PUZ				S		**Sn**	**11 32 56.3**	**-15**
URZ	**Urewera**	**19.16**	**202**	P		**Pn**	**11 29 50.6**	**-0.4**
	comp=Z,6.9nn,0.3s,baz=12,slow=5.7,SNR=37							
URZ				S		**Sn**	**11 33 09.9**	**-15**
	comp=Z,3.4nn,0.3s,baz=35,slow=22,SNR=6.1							
BKZ	**Black Stump Fm**	**20.19**	**202**	*e*P*		**P**	**11 29 59.6**	**-1.5**
BKZ	**Black Stump Fm**	**20.19**	**202**	*e*P*		**P**	**11 29 59.6**	**-1.5**
HIZ	**Hauiti**	**20.24**	**206**	*e*P*		**P**	**11 30 02.6**	**+0.9**
HIZ	**Hauiti**	**20.24**	**206**	*e*P*		**P**	**11 30 02.6**	**+0.8**
SNZO	**South Karori**	**22.72**	**203**	*e*P*		**P**	**11 30 30.8**	**+2.5**
	comp=Z,113nm,0.8s,mb5.3							
SNZO				LR		LR		
	comp=Z,19μm,21.0s,MS5.5							
TBI	**Tubuai**	**22.85**	**101**	*e*LQ			11 34 37.8	
	comp=Z,32μm,28.0s							
TBI	**Tubuai**	**22.85**	**101**	*e*P		**P**	**11 30 25.8**	**-3.9**
	comp=Z,1μm,1.3s,mb6.1							
TBI				*e*LR		LR	11 35 33.8	
	comp=Z,35μm,26.5s							
QRZ	**Quartz Range**	**23.16**	**207**	*e*P*		**P**	**11 30 32.1**	**-0.9**
QRZ	**Quartz Range**	**23.16**	**207**	*e*P*		**P**	**11 30 32.1**	**-0.8**
PAE	**Paea**	**23.21**	**87**	*e*P		**P**	**11 30 29.7**	**-3.8**
	comp=Z,932nm,1.4s,mb6.0							
PPT	**Papeete**	**23.23**	**87**	*e*P		**P**	**11 30 29.6**	**-4.1**
	comp=Z,290nm,1.3s,mb5.6							
PPT	**Papeete**	**23.23**	**87**	*e*LQ			11 34 56.3	
	comp=Z,39μm,25.8s							
PPT				*e*LR		LR	11 35 52.3	
	comp=Z,34μm,24.5s							
PPT	**Papeete**	**23.23**	**87**	P		**P**	**11 30 31.4**	**-2.3**
	comp=Z,293nm,1.3s,mb5.6,baz=168,slow=0.5,SNR=12							
PPT				LR		LR	11 38 06.8	
	comp=Z,13μm,18.5s,MS5.4,baz=259,slow=33							
PPT	**Papeete**	**23.23**	**87**	*e*P		**P**	**11 30 31.6**	**-2.1**
PPT				*ep*P			11 30 39.3	
PPT				*es*P		sP	11 30 45.3	+0.6
TVO	**Taravao**	**23.49**	**87**	*e*P		**P**	**11 30 32.4**	**-4.0**
	comp=Z,552nm,1.2s,mb5.9							
THZ	**Tophouse**	**23.79**	**205**	*e*P*		**P**	**11 30 37.4**	**-1.7**
THZ				S*		**S**	**11 34 50.5**	**-2.4**
THZ	**Tophouse**	**23.79**	**205**	*e*P		**P**	**11 30 37.4**	**-1.7**
KHZ	**Kahutara**	**24.11**	**203**	*e*P*		**P**	**11 30 40.9**	**-1.2**
KHZ	**Kahutara**	**24.11**	**203**	*e*P		**P**	**11 30 40.9**	**-1.1**
DSZ	**Denniston Nort**	**24.23**	**207**	*e*P*		**P**	**11 30 43.2**	**+0.2**
DSZ	**Denniston Nort**	**24.23**	**207**	*e*P		**P**	**11 30 43.2**	**+0.1**
LTZ	**Lake Taylor**	**24.90**	**205**	*e*P*		**P**	**11 30 48.1**	**-1.2**
LTZ	**Lake Taylor**	**24.90**	**205**	*e*P		**P**	**11 30 50.2**	**+0.9**
PMOR	**Pomariorio Ree**	**25.42**	**81**	*e*P		**P**	**11 30 50.7**	**-3.2**
	comp=Z,235nm,1.4s,mb5.5							
VAH	**Vaihoa**	**25.60**	**82**	*e*P		**P**	**11 30 52.1**	**-3.5**
	comp=Z,263nm,1.3s,mb5.6							
WVZ	**Waitaha Valley**	**25.77**	**206**	*e*P*		**P**	**11 30 54.0**	**-3.1**
WVZ	**Waitaha Valley**	**25.77**	**206**	*e*P		**P**	**11 30 54.0**	**-3.1**
RPZ	**Rata Peaks**	**26.17**	**205**	P		**P**	**11 31 01.7**	**+0.9**
	comp=Z,50nm,0.7s,mb5.1,baz=300,slow=2.9,SNR=13							
RPZ	**Rata Peaks**	**26.17**	**205**	*e*P*		**P**	**11 31 01.4**	**+0.7**
FOZ	**Fox Glacier**	**26.61**	**207**	*e*P*		**P**	**11 31 06.0**	**+1.2**
FOZ	**Fox Glacier**	**26.61**	**207**	*e*P		**P**	**11 31 05.0**	**+0.3**
LBZ	**Lake Benmore**	**27.07**	**206**	*e*P*		**P**	**11 31 09.7**	**+0.7**
LBZ	**Lake Benmore**	**27.07**	**206**	*e*P		**P**	**11 31 08.7**	**-0.2**
JCZ	**Jackson Bay**	**27.42**	**208**	*e*P*		**P**	**11 31 12.6**	**+0.6**
JCZ	**Jackson Bay**	**27.42**	**208**	*e*P		**P**	**11 31 14.1**	**+2.1**
ODZ	**Otahua Downs**	**27.44**	**204**	*e*P*		**P**	**11 31 16.3**	**+4.1**
ODZ	**Otahua Downs**	**27.44**	**204**	*e*P		**P**	**11 31 16.3**	**+4.1**
HNR	**Honiara**	**27.53**	**290**	LR		LR	11 40 30.8	
	comp=Z,12μm,21.9s,MS5.4,baz=177,slow=33							
HNR	**Honiara**	**27.53**	**290**	PFAKE			11 31 20.0	+7.0
HNR				LR		LR		
	comp=Z,12μm,21.0s,MS5.5							
WKZ	**Wanaka**	**27.91**	**206**	*e*P*		**P**	**11 31 17.7**	**+1.3**
WKZ	**Wanaka**	**27.91**	**206**	*e*P		**P**	**11 31 19.7**	**+3.3**
WHZ	**Wether Hill Ro**	**29.22**	**206**	*e*P*		**P**	**11 31 30.1**	**+2.0**
WHZ	**Wether Hill Ro**	**29.22**	**206**	*e*P		**P**	**11 31 30.1**	**+2.0**
ARMA	**Armidale**	**32.43**	**246**	*e*P		**P**	**11 31 56.5**	**+0.1**
TAOE	**Nuku Hiva Isla**	**34.65**	**75**	*e*P		**P**	**11 32 12.9**	**-2.8**
	comp=Z,965nm,1.3s,mb6.6							
TAOE				*e*S		**S**	**11 37 38.1**	**-5.5**
	comp=Z,6μm,24.4s							
TAOE				*e*LR		LR	11 41 16.4	
	comp=Z,48μm,25.6s							
CNB	**Canberra Magne**	**35.31**	**238**	*e*P		**P**	**11 32 20.8**	**-0.6**
	comp=Z,159nn,1.2s,mb5.8							
RKT	**Rikitea**	**36.18**	**101**	*e*LQ			11 40 38.4	
	comp=Z,3μm,29.0s							
RKT				*e*LR		LR	11 41 33.9	
	comp=Z,24μm,27.0s							
CTA	**Charters Tower**	**37.25**	**264**	*e*P		**P**	**11 32 36.7**	**-1.2**
	comp=Z,27nm,0.6s,mb5.2							
CTA	**Charters Tower**	**37.25**	**264**	P		**P**	**11 32 36.9**	**-1.0**
	comp=Z,28nm,0.5s,mb5.3,baz=94,slow=10,SNR=45							
CTA	**Charters Tower**	**37.25**	**264**	*e*P		**P**	**11 32 36.7**	**-1.2**
CTA				pmax		pmax		
	comp=Z,27nm,0.6s							
CTAO	**Charters Tower**	**37.25**	**264**	*e*P		**P**	**11 32 36.9**	**-1.0**
CTAO				*e**SP		sP	11 32 50.7	+1.3
CTAO				pmax		pmax		
	comp=Z,37nm,0.6s,mb5.4							
CTAO				MLR		MLR		
	comp=Z,14μm,19.0s,MS5.8							
CTAO	**Charters Tower**	**37.25**	**264**	*e*P		**P**	**11 32 36.9**	**-1.1**
	comp=Z,37nm,0.6s,mb5.4							
CTAO				*es*P		sP	11 32 50.7	+1.3
CTAO				LR		LR		
	comp=Z,14μm,19.0s,MS5.8							
TOO	**Toolangi**	**38.89**	**235**	*e*P		**P**	**11 32 50.8**	**-1.0**
	comp=Z,33nm,0.7s,mb5.2							
TOO	**Toolangi**	**38.89**	**235**	*e*P		**P**	**11 32 50.8**	**-1.0**
TOO				pmax		pmax		
	comp=Z,33nm,0.7s,mb5.2							
PMG	**Port Moresby**	**39.09**	**281**	P		**P**	**11 32 52.4**	**-1.1**
	comp=Z,60nn,0.9s,mb5.3,baz=86,slow=5.6,SNR=28							
PMG				S		**S**	**11 38 47.6**	**-3.6**
	comp=Z,6.0nm,0.9s,baz=204,slow=19,SNR=2.8							
PMG	**Port Moresby**	**39.09**	**281**	P		**P**	**11 32 52.4**	**-1.1**
PMG				S		**S**	**11 38 47.6**	**-3.7**
PMG				pmax		pmax		
	comp=Z,60nm,1.0s							
PMG				smax				
	comp=N,6.0nm,0.9s							
PMG	**Port Moresby**	**39.09**	**281**	*e*P		**P**	**11 32 52.1**	**-1.4**
	comp=N,114nn,0.9s,mb5.6							
PMG				*es*P		sP	11 33 06.6	+1.6
PMG				LR		LR		
	comp=Z,8μm,21.0s,MS5.5							
TAU	**Tasmania Unive**	**39.22**	**227**	*e*P		**P**	**11 32 54.9**	**+0.4**
TAU				pmax		pmax		
	comp=Z,140nm,1.3s,mb5.5							
TAU				MLR		MLR		
	comp=Z,17μm,19.0s,MS5.9							
TAU	**Tasmania Unive**	**39.22**	**227**	*e*P		**P**	**11 32 54.9**	**+0.4**
	comp=Z,140nn,1.3s,mb5.5							
TAU				LR		LR		
	comp=Z,17μm,19.0s,MS5.9							
PTCN	**Pitcairn Islan**	**40.51**	**105**	PFAKE			11 33 20.0	+15
PTCN				LR		LR		
	comp=Z,11μm,20.0s,MS5.7							
STKA	**Stephens Creek**	**41.14**	**245**	*e*P		**P**	**11 33 06.9**	**-3.6**
	comp=Z,48nn,0.9s,mb5.1							
STKA	**Stephens Creek**	**41.14**	**245**	P		**P**	**11 33 07.5**	**-3.0**
	comp=Z,59nn,0.9s,mb5.2,baz=89,slow=8.8,SNR=53							
STKA				LR		LR	11 48 38.3	
	comp=Z,9μm,18.6s,MS5.7,baz=80,slow=34							
WAKE	**Wake Island**	**44.02**	**333**	*e*P		**P**	**11 33 32.2**	**-1.6**
	comp=Z,437nn,1.3s,mb6.0							
WAKE				*e*			11 33 42.9	
WAKE				LR		LR		
	comp=Z,6μm,20.0s,MS5.5							
POHA	**Pohakuloa**	**44.04**	**25**	PFAKE			11 33 50.0	+16
POHA				LR		LR		
	comp=Z,4μm,20.0s,MS5.3							
KIP	**Kipapa**	**44.64**	**21**	PFAKE			11 33 50.0	+11
KIP				LR		LR		
	comp=Z,3μm,21.0s,MS5.2							
ASAR	**Alice Springs**	**48.17**	**256**	P		**P**	**11 34 05.1**	**-1.4**
	comp=Z,72nn,1.0s,mb5.7,baz=88,slow=8.1,SNR=218							
ASAR				PcP		PcP	11 35 34.8	+1.2
	comp=Z,15nn,0.8s,baz=106,slow=4.4,SNR=4.7							
ASAR				S		**S**	**11 41 00.5**	**-3.4**
	comp=Z,5.9nm,1.0s,baz=94,slow=15,SNR=9.8							
WB2	**Warramunga Arr**	**48.32**	**261**	*e*P		**P**	**11 34 04.7**	**-3.0**
WB2				*e*S		**S**	**11 41 02.5**	**-3.5**
WRAB	**Tennant Creek**	**48.32**	**261**	P		**P**	**11 34 04.8**	**-2.9**
	comp=Z,330nm,1.1s,mb6.3,SNR=24							
WRAB	**Tennant Creek**	**48.32**	**261**	*e*P		**P**	**11 34 05.1**	**-2.6**
WRAB				pmax		pmax		
	comp=Z,168nn,1.3s,mb5.9							
WRAB				MLR		MLR		
	comp=Z,12μm,19.0s,MS5.9							
WRAB	**Tennant Creek**	**48.32**	**261**	*e*P		**P**	**11 34 05.1**	**-2.6**
	comp=Z,168nn,1.3s,mb5.9							
WRAB				LR		LR		
	comp=Z,12μm,19.0s,MS5.9							
WRA	**Warramunga Ar**	**48.33**	**261**	P		**P**	**11 34 05.1**	**-2.7**
	comp=Z,35nn,1.0s,mb5.3,baz=96,slow=5.9,SNR=97							
WRA				S		**S**	**11 41 02.8**	**-3.3**
	comp=Z,3.7nn,1.2s,baz=83,slow=16,SNR=5.8							
MIDW	**Midway**	**48.71**	**356**	PFAKE			11 34 20.0	+9.3
MIDW				LR		LR		
	comp=Z,7μm,20.0s,MS5.6							
KAKA	**Kakadu**	**51.77**	**270**	*e*P		**P**	**11 34 31.8**	**-2.1**
	comp=Z,67nn,0.5s,mb5.8							
KAKA				*e*S		**S**	**11 41 50.5**	**-3.6**
FORT	**Forrest**	**52.71**	**247**	*e*P		**P**	**11 34 38.2**	**-2.6**
	comp=Z,102nn,0.7s,mb5.9							
GUMO	**Guam**	**52.89**	**307**	P		**P**	**11 34 41.5**	**-0.7**
	comp=Z,244nn,1.1s,mb6.1,baz=149,slow=7.5,SNR=6.1							
DRV	**Dumont d'Urvil**	**54.49**	**201**	P		**P**	**11 34 52.0**	**-1.9**
DRV				S		**S**	**11 42 36.0**	**+4.9**
DRV				L			11 48 00.0	
FITZ	**Fitzroy Crossi**	**56.76**	**261**	*e*P		**P**	**11 35 08.8**	**-1.4**
	comp=Z,53nn,0.9s,mb5.6							
FITZ	**Fitzroy Crossi**	**56.76**	**261**	P		**P**	**11 35 09.4**	**-0.8**
	comp=Z,13nn,0.6s,mb5.2,baz=92,slow=8.6,SNR=46							
SBA	**Scott Base**	**57.98**	**185**	*e*P		**P**	**11 35 20.9**	**+2.1**
SBA				*e**PP		pP	11 35 27.1	-0.2
SBA				*e*			11 35 35.6	
SBA				pmax		pmax		
	comp=Z,162nn,1.2s,mb5.9							
SBA				MLR		MLR		
	comp=Z,8μm,19.0s,MS5.8							
SBA	**Scott Base**	**57.98**	**185**	*e*P		**P**	**11 35 20.9**	**+2.0**
	comp=Z,162nn,1.2s,mb5.9							
SBA				*ep*P		pP	11 35 27.1	-0.2
SBA				*e*			11 35 35.6	
SBA				LR		LR		
	comp=Z,8μm,19.0s,MS5.8							
VNDA	**Vanda**	**58.11**	**186**	P		**P**	**11 35 21.0**	**+1.3**
	comp=Z,21nn,0.9s,mb5.2,baz=9.3,slow=6.9,SNR=50							
VNDA				LR		LR	11 56 11.9	
	comp=Z,4μm,18.5s,MS5.6,baz=24,slow=32							
VNDA	**Vanda**	**58.11**	**186**	*e*P		**P**	**11 35 21.1**	**+1.4**
VNDA				*e**PP		pP	11 35 27.4	-0.8
VNDA				pmax		pmax		
	comp=Z,76nm,1.2s							
VNDA				MLR		MLR		
	comp=Z,4μm,20.0s							
VNDA	**Vanda**	**58.11**	**186**	*e*P		**P**	**11 35 21.1**	**+1.4**
	comp=Z,76nn,1.2s,mb5.6							
VNDA				*ep*P		pP	11 35 27.4	-0.8
VNDA				LR		LR		
	comp=Z,4μm,20.0s,MS5.5							
RPN	**Rapa Nui**	**58.87**	**110**	PFAKE			11 35 40.0	+15
RPN				LR		LR		
	comp=Z,13μm,20.0s,MS6.0							
KLBR	**Kellerberrin**	**61.42**	**245**	*e*P		**P**	**11 35 41.4**	**-1.0**
	comp=Z,131nn,0.8s,mb6.1							
MBWA	**Marble Bar**	**61.51**	**257**	*e*P		**P**	**11 35 41.7**	**-1.4**
	comp=Z,61nn,0.8s,mb5.8							
MBWA				LR		LR		
	comp=Z,16μm,19.0s,MS6.2							
NWAO	**Narrogin (SRO)**	**61.68**	**243**	P		**P**	**11 35 44.5**	**+0.3**
	comp=Z,9.5nn,0.4s,mb5.3,baz=121,slow=10.0,SNR=9.4							
NWAO				LR		LR	11 58 53.8	
	comp=Z,3μm,19.4s,MS5.4,baz=264,slow=33							
NWAO	**Narrogin (SRO)**	**61.68**	**243**	*e*P		**P**	**11 35 45.7**	**+1.5**
NWAO				*e**PP		pP	11 35 55.1	+2.3
NWAO				pmax		pmax		
	comp=Z,58nn,1.1s							
NWAO				MLR		MLR		
	comp=Z,3μm,20.0s							
NWAO	**Narrogin (SRO)**	**61.68**	**243**	*e*P		**P**	**11 35 45.7**	**+1.5**
	comp=Z,58nn,1.1s,mb5.6							
NWAO				*ep*P		pP	11 35 55.1	+2.3
NWAO				LR		LR		
	comp=Z,3μm,20.0s,MS5.4							
MUN	**Mundaring**	**62.67**	**244**	*e*P		**P**	**11 35 50.4**	**-0.4**
MUN				*e*S		**S**	**11 44 20.1**	**+2.6**
CBIJ	**Chichi jima**	**63.71**	**316**	P		**P**	**11 35 57.8**	**0.0**
	comp=Z,160nn,0.8s,mb6.1,baz=165,slow=18,SNR=3.4							
CASY	**Casey**	**65.44**	**206**	*e*P		**P**	**11 36 09.3**	**+0.3**
CASY				*i* S		S	11 44 54.8	+3.0
JHJ	**Hachijo jima 2**	**69.36**	**320**	P		**P**	**11 36 33.5**	**-0.4**
	comp=Z,62nn,0.4s,mb5.9,baz=99,slow=8.0,SNR=5.9							
QSPA	**South Pole Qui**	**69.40**	**180**	*e*P		**P**	**11 36 34.7**	**+0.6**
	comp=Z,94nn,1.0s,mb5.7							
TSM	**Tawau**	**71.28**	**282**	P		**P**	**11 36 45.9**	**+0.3**
MIR	**Mirnyy**	**72.44**	**205**	*d*iP		**P**	**11 36 55.0**	**+2.5**
MIR				pmax		pmax		
	comp=Z,610nm,1.2s,mb6.4							
MIR				MLR		MLR		
	comp=Z,3μm,18.0s,MS5.6							
MIR				MLR		MLR		
	comp=N,2μm,14.0s,MS5.7							
MIR				MLR		MLR		
	comp=E,2μm,12.0s,MS5.7							
MJAR	**Matsushiro Arr**	**72.65**	**321**	P		**P**	**11 36 53.7**	**-0.1**
	comp=E,21nn,0.8s,mb5.1,baz=161,slow=4.4,SNR=21							
MJAR				LR		LR	12 03 17.9	
	comp=E,2μm,19.5s,MS5.3,baz=145,slow=31							
MJAR	**Matsushiro Arr**	**72.65**	**321**	P		**P**	**11 36 53.7**	**-0.1**
MJAR				LR		LR	12 03 17.9	
MAJO	**Matsushiro**	**72.66**	**321**	*e*P		**P**	**11 36 53.8**	**0.0**
MAJO				pmax		pmax		
	comp=Z,33nn,0.8s,mb5.3							
MAJO				MLR		MLR		
	comp=Z,3μm,20.0s,MS5.5							
MAJO	**Matsushiro**	**72.66**	**321**	*e*P		**P**	**11 36 53.8**	**-0.1**
	comp=Z,33nn,0.8s,mb5.3							
MAJO				LR		LR		
	comp=Z,3μm,20.0s,MS5.5							
MAT	**Matsushiro**	**72.66**	**321**	P		**P**	**11 36 53.0**	**-0.8**
MAT				S		S	11 46 20.0	+2.8
MAT	**Matsushiro**	**72.66**	**321**	*e*P		**P**	**11 36 53.0**	**-0.8**
MAT				*e*S		S	11 46 21.0	+3.8
MAT				pmax		pmax		
	comp=Z,46nn,1.1s,mb5.3							
MAT				MLR		MLR		
	comp=Z,2μm,20.0s,MS5.4							
MAT	**Matsushiro**	**72.66**	**321**	*e*P		**P**	**11 36 53.0**	**-0.8**
	comp=Z,46nn,1.1s,mb5.3							
MAT				*e*S		S	11 46 21.0	+3.8
MAT				LR		LR		
	comp=Z,2μm,20.0s,MS5.4							
TGY	**Tagaytay City**	**72.70**	**293**	LR		LR	12 06 45.5	
	comp=Z,13nn,19.4s,baz=131,slow=34							
KKM	**Kota Kinabalu**	**73.48**	**283**	P		**P**	**11 36 59.2**	**+0.5**
KKM	**Kota Kinabalu**	**73.48**	**283**	*e*P		**P**	**11 36 58.1**	**-0.7**
KKM				*ep*P		pP	11 37 07.5	+0.1
YUK	**Yuzh-Kuril'sk**	**74.16**	**331**	P		**P**	**11 37 03.2**	**+0.5**
YUK				*e*S		S	11 46 26.6	-7.6
YUK				pmax		pmax		
	comp=Z,2μm,1.0s							
YUK				smax				
	comp=E,3μm,10.0s							
YUK				smax				
	comp=N,4μm,11.0s							
SNCC	**San Nicolas Is**	**74.63**	**45**	PFAKE			11 37 20.0	+15
SNCC				LR		LR		
	comp=Z,5μm,21.0s,MS5.8							
SAO	**San Andreas Ge**	**75.60**	**41**	*e*P		**P**	**11 37 11.5**	**+0.5**
SAO				*e**PP		pP	11 37 18.5	-1.3
SAO				pmax		pmax		
	comp=Z,109nm,1.3s,mb5.6							
SAO				MLR		MLR		
	comp=Z,7μm,19.0s,MS6.0							
SAO	**San Andreas Ge**	**75.60**	**41**	*e*P		**P**	**11 37 11.5**	**+0.4**
	comp=Z,109nn,1.3s,mb5.6							
SAO				*ep*P		pP	11 37 18.5	-1.3
SAO				LR		LR		
	comp=Z,7μm,19.0s,MS6.0							
ASAJ	**Asahikawa**	**75.75**	**329**	P		**P**	**11 37 12.9**	**+1.1**
	comp=Z,19nn,0.9s,mb5.0,baz=307,slow=5.3,SNR=9.3							
ASAJ	**Asahikawa**	**75.75**	**329**	P		**P**	**11 37 13.0**	**+1.1**
ASAJ				pmax		pmax		
	comp=Z,19nm,0.9s							
SKR	**Severo-Kuril's**	**75.79**	**341**	*e*P		**P**	**11 37 08.0**	**-4.1**
SKR				*e*			11 37 32.0	
SKR				*e*			11 40 09.0	
SKR				*e*PPP			11 41 44.0	
SKR				*e*S		S	11 46 48.0	-4.3
SKR				*e*			11 47 24.0	
SKR				*e*PS			11 47 36.0	
SKR				*e*SS		SS	11 51 40.0	-4.4
SKR				pmax		pmax		
	comp=Z,3μm,10.0s							
SKR				pmax		pmax		
	comp=Z,3μm,10.0s							
SKR				smax				
	comp=N,4μm,14.0s							
SKR				smax				
	comp=E,5μm,14.0s							
SKR				smax				
	comp=Z,3μm,14.0s							
SKR				MLR		MLR		
	comp=N,4μm,18.0s,MS5.9							
SKR				MLR		MLR		
	comp=E,4μm,18.0s,MS5.9							
SKR				MLR		MLR		
	comp=Z,6μm,18.0s,MS5.9							
HOPS	**Hopland**	**76.08**	**39**	PFAKE			11 37 30.0	+16
HOPS				LR		LR		
	comp=Z,5μm,20.0s,MS5.8							
MWC	**Mount Wilson**	**76.19**	**45**	*e*P		**P**	**11 37 14.1**	**-0.3**
MWC				*e**PP		pP	11 37 21.9	-1.2
ISA	**Isabella**	**76.79**	**44**	*e*P		**P**	**11 37 17.8**	**0.0**
ISA				*e**PP		pP	11 37 26.1	-0.4
ISA				pmax		pmax		
	comp=Z,79nm,1.2s,mb5.5							
ISA				MLR		MLR		
	comp=Z,1μm,19.0s,MS5.2							
ISA	**Isabella**	**76.79**	**44**	*e*P		**P**	**11 37 17.8**	**0.0**
	comp=Z,79nn,1.2s,mb5.5							
ISA				*ep*P		pP	11 37 26.1	-0.4
ISA				LR		LR		
	comp=Z,1μm,19.0s,MS5.2							
PFO	**Pinyon Flat Ob**	**76.90**	**46**	P		**P**	**11 37 18.7**	**+0.3**
	comp=Z,243nn,1

YSS *i* S S 11 47 16.0 +1.7
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.7
YSS pmax pmax
comp=Z,170nm,1.0s,mb5.9
YSS smax
comp=N,3µm,12.0s
YSS MLR MLR
comp=Z,4µm,18.0s,MS5.7
YSS MLR MLR
comp=E,2µm,16.0s
YSS Yuzh-Sakhalins 77.80 331 *e*P **P 11 37 23.4 -0.1**
comp=E,122nm,0.9s,mb5.8
YSS *ep*P pP 11 37 30.4 -1.8
YSS *es*P sP 11 37 35.7 +0.3
YSS LR LR
comp=Z,5µm,20.0s,MS5.9
YBH Yreka Blue Hor 78.10 37 *e*P **P 11 37 25.1 0.0**
YBH pmax pmax
comp=Z,174nm,2.0s
YBH MLR MLR
comp=Z,6µm,20.0s
YBH Yreka Blue Hor 78.10 37 *e*P **P 11 37 25.1 0.0**
comp=Z,174nm,2.0s,mb5.6
YBH LR LR
comp=Z,6µm,20.0s,MS5.9
HUMO Hull Mountain 78.55 36 *e*P **P 11 37 28.3 +0.7**
comp=Z,166nm,1.8s,mb5.7
HUMO *ep*P pP 11 37 37.2 +0.8
HUMO LR LR
comp=Z,5µm,20.0s,MS5.9
NVAR Mina Array Bea 78.59 41 P **P 11 37 28.1 +0.2**
comp=Z,22nm,0.8s,mb5.1,baz=212,slow=7.3,SNR=110
PAHR Pah Rah Range 78.72 40 *e*P **P 11 37 29.0 +0.4**
comp=Z,106nm,1.4s,mb5.6
PAHR *ep*P pP 11 37 38.6 +1.2
TPNV Topopah Spring 79.00 44 *e*P **P 11 37 29.9 -0.2**
TPNV pmax pmax
comp=Z,78nm,1.3s,mb5.5
TPNV MLR MLR
comp=Z,7µm,19.0s,MS6.0
TPNV Topopah Spring 79.00 44 *e*P **P 11 37 29.9 -0.2**
comp=Z,78nm,1.3s,mb5.5
TPNV LR LR
comp=Z,7µm,19.0s,MS6.0
TPH Tonopah 79.05 42 *e*P **P 11 37 30.5 +0.2**
TPH *e**PP pP 11 37 38.3 -0.8
TPH *e* 11 37 47.2
TPH pmax pmax
comp=Z,155nm,1.4s,mb5.7
TPH MLR MLR
comp=Z,6µm,19.0s,MS5.9
TPH Tonopah 79.05 42 *e*P **P 11 37 30.5 +0.2**
comp=Z,156nm,1.4s,mb5.8
TPH *ep*P pP 11 37 38.3 -0.8
TPH *e* 11 37 47.2
TPH LR LR
comp=Z,6µm,19.0s,MS5.9
NEN Nelson 79.16 45 *e*P **P 11 37 31.2 +0.3**
MOD Modoc 79.58 38 *e*P **P 11 37 33.4 +0.2**
comp=Z,36nm,1.1s,mb5.2
MOD LR LR
comp=Z,6µm,20.0s,MS5.9
KS15 Wonju Array Si 79.59 317 *e*P **P 11 37 34.5 +1.2**
QZH Quanzhou 79.70 302⇑ *i*P **P 11 37 34.1 +0.2**
QZH S S 11 47 38.7 +4.1
QZH PS 11 48 08.0
QZH AMB AMB
comp=Z,120nm,0.9s,mb5.8
QZH AMB AMB
comp=Z,2µm,12.9s
QZH LR LR
comp=N,2µm,13.8s
QZH LR LR
comp=E,4µm,19.6s
QZH LR LR
comp=Z,5µm,18.7s,MS5.9
TUC Tucson 80.14 50 *e*P **P 11 37 36.7 +0.4**
TUC pmax pmax
comp=Z,106nm,1.6s,mb5.5
TUC MLR MLR
comp=Z,6µm,19.0s,MS5.9
TUC Tucson 80.14 50 *e*P **P 11 37 36.7 +0.4**
comp=Z,106nm,1.6s,mb5.5
TUC LR LR
comp=Z,6µm,19.0s,MS5.9
KDAK Kodiak Island 80.16 11 P **P 11 37 35.7 -0.7**
comp=Z,31nm,0.8s,mb5.3,baz=175,slow=2.8,SNR=8.3
BMN Battle Mountai 80.47 40 *e*P **P 11 37 37.7 -0.4**
BMN *e**PP pP 11 37 45.8 -1.1
BMN *e**SP sP 11 37 52.1 +2.0
BMN pmax pmax
comp=Z,327nm,2.0s,mb5.9
BMN MLR MLR
comp=Z,5µm,19.0s,MS5.9
BMN Battle Mountai 80.47 40 *e*P **P 11 37 37.7 -0.3**
comp=Z,327nm,2.0s,mb5.9
BMN *ep*P pP 11 37 45.8 -1.1
BMN *es*P sP 11 37 52.1 +2.0
BMN LR LR
comp=Z,5µm,19.0s,MS5.9
SFJM Santa Fe 80.50 64 *e*P **P 11 37 37.0 -1.2**
VLA Vladivostok 80.65 323 *d*/*i*P **P 11 37 34.2 -4.8**
VLA *e*S S 11 47 37.8 -6.7
VLA pmax pmax
comp=Z,58nm,2.3s,mb5.1
VLA MLR MLR
comp=Z,4µm,20.0s,MS5.7
VLA Vladivostok 80.65 323⇓ *e*P **P 11 37 37.8 -1.2**
SSE Sheshan 80.74 308 P **P 11 37 40.1 +0.6**
SSE PP PP 11 40 44.6 +1.0
SSE S S 11 47 46.3 +0.8
SSE SS SS 11 53 01.3 +2.4
SSE AMB AMB
comp=Z,38nm,0.6s,mb5.5
SSE AMB AMB
comp=Z,1µm,12.0s
SSE LR LR
comp=N,557nm,17.9s,MS5.4
SSE LR LR
comp=E,1µm,17.7s,MS5.4
SSE LR LR
comp=Z,2µm,18.5s,MS5.5
CCUT Cedar City 81.22 44 *e*P **P 11 37 42.7 +0.6**
CCUT *ep*P pP 11 37 51.7 +0.8
ARUT Antelope Range 81.31 44 *e*P **P 11 37 43.1 +0.6**
ARUT *e* pP 11 37 49.6 -1.7
OCWA Octopus Mounta 81.42 31 *ep*P pP 11 37 50.6 -1.3
comp=Z,32nm,1.0s
OCWA *ep*P pP 11 37 57.5 +5.6
OCWA *es*P sP 11 37 57.7 +2.6
OCWA LR LR
comp=Z,5µm,19.0s,MS5.9
WUAZ Wupatki 81.44 47 *e*P **P 11 37 44.1 +0.9**
comp=Z,80nm,1.3s,mb5.5
WUAZ *ep*P pP 11 37 51.9 -0.1
WUAZ LR LR
comp=Z,3µm,20.0s,MS5.6
ELK Elko 81.87 41 *e*P **P 11 37 45.3 -0.2**
ELK pmax pmax
comp=Z,64nm,1.5s
ELK Elko 81.87 41 *e*P **P 11 37 45.3 -0.2**
comp=Z,64nm,1.5s,mb5.3
WPW White Pass 82.03 33 P **P 11 37 46.4 0.0**
PGC Sidney 82.39 31 *e*P **P 11 37 48.0 -0.2**
comp=Z,326nm,1.8s,mb6.0
HABR Khabarovsk 82.52 329⇑ *e*P **P 11 37 49.4 +0.5**
HABR *e*S S 11 48 06.6 +2.7
HABR pmax pmax
comp=Z,195nm,1.8s,mb5.8
HABR MLR MLR
comp=Z,3µm,19.3s,MS5.6
MSU Marysvale 82.54 44 *e*P **P 11 37 50.0 +1.0**
MSU *e**PP pP 11 37 58.6 +0.8
PLIG Platanillo 82.62 67 *i* P **P 11 37 50.1 +0.7**
MAW Mawson 82.66 199 *e*S S 11 48 14.7 +9.3
MAW Mawson 82.66 199 P **P 11 37 49.8 +0.2**
comp=Z,26nm,0.9s,mb5.3,baz=120,slow=5.1,SNR=22
MAW LR 12 14 02.6
comp=Z,7µm,18.0s,MS6.1,baz=118,slow=35
MAW Mawson 82.66 199 P **P 11 37 49.8 +0.2**
MAW pmax pmax
comp=Z,27nm,0.9s
MAW MLR MLR
comp=Z,7µm,18.0s
MAW Mawson 82.66 199 *e*P **P 11 37 49.9 +0.3**
comp=Z,29nm,0.9s,mb5.3
MAW *e*S S 11 48 14.7 +9.3
TWW Teanaway 82.67 33 P **P 11 37 50.8 +1.1**
MCW Mount Constitu 82.71 31 P **P 11 37 50.9 +1.0**
BBB Bella Bella 82.81 26 P **P 11 37 50.4 0.0**
baz=237,slow=8.7
SVW2 Sparrevohn 82.82 9 *e*P **P 11 37 49.5 -0.9**
SVW2 *es*P sP 11 38 04.2 +1.7
JCW Jim Creek 82.83 32 P **P 11 37 50.6 +0.1**
MDJ Mudanjiang 82.88 323 P **P 11 37 52.1 +1.3**
MDJ AP pP 11 37 58.4 -1.2
MDJ XP sP 11 38 01.3 -1.5
MDJ PP PP 11 41 02.2 +0.9
MDJ S S 11 48 10.7 +3.1
MDJ XS sS 11 48 21.4 -0.8
MDJ SS SS 11 53 34.1 +3.3
MDJ AMB AMB
comp=Z,46nm,1.1s,mb5.4
MDJ AMB AMB
comp=Z,1µm,11.2s
MDJ LR LR
comp=N,2µm,17.8s,MS5.7
MDJ LR LR
comp=E,1µm,17.8s,MS5.7
MDJ LR LR
comp=Z,4µm,17.8s,MS5.8
MDJ Mudanjiang 82.88 323 *e*P **P 11 37 51.7 +0.9**
comp=Z,51nm,0.9s,mb5.6
MDJ *ep*P pP 11 37 58.6 -1.0
MDJ *es*P sP 11 38 04.0 +1.2
HAWA Hanford 82.88 35 *e*P **P 11 37 50.8 0.0**
comp=Z,8.3nm,1.4s,mb4.6
HAWA *ep*P pP 11 37 58.3 -1.3
HAWA LR LR
comp=Z,1µm,19.0s,MS5.2
NJ2 Nanjing 82.94 308 *e*P **P 11 37 53.0 +1.9**
NJ2 AP pP 11 38 01.0 +1.1
NJ2 XP sP 11 38 03.8 +0.7
NJ2 PP PP 11 41 05.3 +3.6
NJ2 S S 11 48 11.0 +2.8
NJ2 XS sS 11 48 22.0 -0.8
NJ2 AMB AMB
comp=Z,40nm,0.9s,mb5.5
NJ2 AMB AMB
comp=Z,1µm,8.0s
NJ2 LR LR
comp=N,3µm,15.6s,MS5.8
NJ2 LR LR
comp=E,2µm,18.0s,MS5.8
NJ2 LR LR
comp=Z,1µm,17.0s,MS5.4
GBL Gable Mountain 83.05 34 P **P 11 37 51.9 +0.2**
DUG Dugway 83.07 43 *e*P **P 11 37 51.8 +0.1**
DUG *e**PP pP 11 37 59.6 -1.0
DUG pmax pmax
comp=Z,47nm,1.4s,mb5.3
DUG MLR MLR
comp=Z,4µm,19.0s,MS5.8
DUG Dugway 83.07 43 *e*P **P 11 37 51.8 +0.1**
comp=Z,47nm,1.4s,mb5.3
DUG *ep*P pP 11 37 59.6 -1.0
DUG LR LR
comp=Z,4µm,19.0s,MS5.8
BMO Blue Mountains 83.13 37 *e*P **P 11 37 51.1 -1.0**
comp=Z,96nm,1.5s,mb5.6
BMO LR LR
comp=Z,6µm,20.0s,MS6.0
WRW Wenatchee Ridg 83.13 33 P **P 11 37 51.9 -0.2**
GZH Guangzhou 83.14 298 P **P 11 37 52.5 +0.4**
GZH S S 11 48 08.9 -1.3
GZH LR LR
comp=N,1µm,20.7s,MS5.5
GZH LR LR
comp=E,1µm,21.0s,MS5.5
GZH LR LR
comp=Z,3µm,17.9s,MS5.8
SLKM Skilak Lake 83.15 12 *e*P **P 11 37 51.4 -0.8**
SLKM *e**PP pP 11 37 58.9 -2.1
SLKM *e**SP sP 11 38 06.4 +2.2
SLKM Skilak Lake 83.15 12 *e*P **P 11 37 51.4 -0.8**
SLKM *ep*P pP 11 37 58.9 -2.1
SLKM *es*P sP 11 38 06.4 +2.2
SLKM *e* 11 38 12.9
ETW Entiat 83.25 33 P **P 11 37 52.8 +0.1**
WRD Warden 83.35 34 P **P 11 37 54.4 +1.2**
NLU North Lily Min 83.40 43 *e*P **P 11 37 53.6 +0.2**
EPH Ephrata 83.47 34 P **P 11 37 53.7 -0.1**
WTV Waterville 83.50 33 P **P 11 37 53.8 -0.2**
TMUT Trail Mountain 83.60 44 *e*P **P 11 37 55.4 +0.9**
TMUT *ep*P pP 11 38 02.6 -0.7
TMUT *es*P sP 11 38 08.3 +1.8
PPM Popocatepetl 83.66 67 *e*P **P 11 37 55.2 +0.4**
MPU Maple Canyon 83.72 43 *e*P **P 11 37 55.4 +0.3**
comp=Z,64nm,1.4s,mb5.6
MPU *ep*P pP 11 38 02.2 -1.8
MPU LR LR
comp=Z,7µm,19.0s,MS6.0
NOQ North Oquirrh 83.76 42 *e*P **P 11 37 55.2 -0.1**
comp=Z,267nm,1.8s,mb6.1
MNTX Cornudas Mount 83.79 53 *e*P **P 11 37 55.2 -0.2**
comp=Z,50nm,1.3s,mb5.5
LAZ Ladron 83.83 50 *e*P **P 11 37 56.1 +0.5**
LENM Lemitar 83.83 50 *e*P **P 11 37 56.6 +0.9**
PAYG Puerto Ayora 83.83 88 PFAKE 11 38 10.0 +14
PAYG LR LR
comp=Z,5µm,19.0s,MS6.0
KGM Kluang 83.91 274 P **P 11 37 57.1 +1.1**
SPUT South Promonto 83.92 42 *e*P **P 11 37 56.9 +0.8**
SIT Sitka 83.92 20 PFAKE 11 38 10.0 +14
SIT LR LR
comp=Z,6µm,21.0s,MS6.0
SRU San Rafael 83.94 44 *e*P **P 11 37 56.4 +0.2**
SRU *e**PP pP 11 38 05.1 0.0
SRU pmax pmax
comp=Z,255nm,1.5s,mb6.1
SRU San Rafael 83.94 44 *e*P **P 11 37 56.4 +0.2**
comp=Z,255nm,1.5s,mb6.1
SRU *ep*P pP 11 38 05.1 0.0
LTX Lajitas 83.98 56 *e*P **P 11 37 56.5 +0.1**
LTX *e**SP sP 11 38 10.4 +2.0
LTX pmax pmax
comp=Z,124nm,1.6s,mb5.8
LTX MLR MLR
comp=Z,5µm,20.0s,MS5.9
LTX Lajitas 83.98 56 *e*P **P 11 37 56.5 0.0**
comp=Z,124nm,1.6s,mb5.8
LTX *es*P sP 11 38 10.4 +2.0
LTX LR LR
comp=Z,5µm,20.0s,MS5.9
HVU Hansel Valley 83.98 41 *e*P **P 11 37 56.1 -0.4**
HVU *e**PP pP 11 38 04.4 -0.9
HVU pmax pmax
comp=Z,83nm,1.4s,mb5.7
HVU Hansel Valley 83.98 41 *e*P **P 11 37 56.1 -0.3**
comp=Z,83nm,1.4s,mb5.7
HVU *ep*P pP 11 38 04.4 -0.9
CTU Camp Tracy 84.02 43 *e*P **P 11 37 56.4 -0.2**
comp=Z,53nm,1.2s,mb5.5
HLID Hailey 84.02 39 *e*P **P 11 37 56.4 -0.2**
comp=Z,51nm,1.1s,mb5.6
HLID *ep*P pP 11 38 04.7 -0.7
HLID *es*P sP 11 38 10.6 +2.0
HLID LR LR
comp=Z,2µm,19.0s,MS5.5
BNM Barren Site 84.07 50 *e*P **P 11 37 57.5 +0.7**
LPM Los Pinos Moun 84.14 50 *e*P **P 11 37 58.3 +1.1**
DAU Daniels Canyon 84.18 43 *e*P **P 11 37 57.7 +0.3**
MVCO Mesa Verde 84.30 47 *e*P **P 11 37 58.1 0.0**
PMR Palmer 84.36 12 *e*P **P 11 37 56.9 -1.5**
PMR *e**PP pP 11 38 07.0 -0.2
PMR *e**SP sP 11 38 11.4 +1.0
PMR pmax pmax
comp=Z,194nm,1.7s,mb6.0
PMR MLR MLR
comp=Z,2µm,20.0s,MS5.5
PMR Palmer 84.36 12 *e*P **P 11 37 56.9 -1.5**
comp=Z,194nm,1.7s,mb6.0
PMR *ep*P pP 11 38 07.0 -0.1
PMR *es*P sP 11 38 11.4 +1.0
PMR LR LR
comp=Z,2µm,20.0s,MS5.5
QIZ Qiongzhong 84.41 293⇓ *i*/P **P 11 37 59.8 +1.2**
QIZ XP sP 11 38 10.0 -0.6
QIZ PP PP 11 41 15.3 +1.6
QIZ S 11 48 24.6
QIZ XS sS 11 48 36.0 -1.6
QIZ AMB AMB
comp=Z,36nm,1.4s,mb5.3
QIZ AMB AMB
comp=Z,1µm,11.5s
QIZ LR LR
comp=N,474nm,18.8s,MS5.4
QIZ LR LR
comp=E,1µm,20.8s,MS5.4
QIZ LR LR
comp=Z,2µm,19.3s,MS5.6
TCUT Toone Canyon 84.47 42 *e*P **P 11 37 59.2 +0.3**
DL2 Dalian 84.49 315⇑ *i*P **P 11 37 59.8 +0.8**
DL2 AP pP 11 38 10.7 +2.8
DL2 S 11 48 22.9
DL2 AMB AMB
comp=Z,30nm,1.3s,mb5.3
DL2 AMB AMB
comp=Z,570nm,8.0s
DL2 LR LR
comp=N,1µm,18.8s,MS5.4
DL2 LR LR
comp=E,890nm,18.1s,MS5.4
DL2 LR LR
comp=Z,1µm,18.3s,MS5.4
TTA Tatalina 84.52 8 *e*P **P 11 37 58.4 -0.7**
TTA *e**PP pP 11 38 06.9 -1.1
TTA *e**SP sP 11 38 13.3 +2.1
TTA pmax pmax
comp=Z,168nm,1.3s,mb6.0
TTA Tatalina 84.52 8 *e*P **P 11 37 58.4 -0.7**
comp=Z,168nm,1.3s,mb6.0
TTA *ep*P pP 11 38 06.9 -1.1
TTA *es*P sP 11 38 13.3 +2.1
PV10 Paradox Valley 84.54 46 *e*P **P 11 37 59.5 +0.2**
ANMO Albuquerque 84.58 50 *e*P **P 11 37 59.4 -0.1**
ANMO *e**PP pP 11 38 07.3 -1.0
ANMO pmax pmax
comp=Z,250nm,1.9s
ANMO MLR MLR
comp=Z,4µm,19.0s
ANMO Albuquerque 84.58 50 *e*P **P 11 37 59.4 -0.1**
comp=Z,250nm,1.9s,mb6.0
ANMO *ep*P pP 11 38 07.2 -1.1
ANMO LR LR
comp=Z,4µm,19.0s,MS5.8
KLR Kul'dur 84.65 328 *e*P **P 11 37 57.5 -2.3**
KLR *e*S 11 48 20.5
KLR *e* 11 53 53.5
KLR pmax pmax
comp=E,600nm,11.0s
KLR pmax pmax
comp=Z,2µm,11.0s
KLR smax
comp=N,4µm,14.0s
KLR smax
comp=E,2µm,14.0s
KLR MLR MLR
comp=N,2µm,16.0s,MS5.7
KLR MLR MLR
comp=E,2µm,16.0s,MS5.7
PV01 Paradox Valley 84.73 46 *e*P **P 11 38 00.5 +0.3**
GDL2 Guadalupe Moun 84.79 53 *e*P **P 11 38 00.7 +0.2**
CN2 Changchun 84.79 321⇓ P **P 11 38 01.2 +0.7**
CN2 *e*AP pP 11 38 11.5 +2.1
CN2 PP PP 11 41 21.5 +4.6
CN2 *e*S 11 48 26.1
CN2 XS sS 11 48 42.1 +0.7
CN2 SS SS 11 54 01.1 +2.1
CN2 AMB AMB
comp=Z,40nm,1.6s,mb5.3
CN2 AMB AMB
comp=Z,300nm,12.0s
CN2 LR LR
comp=N,2µm,17.0s,MS5.6
CN2 LR LR
comp=E,1µm,17.0s,MS5.6
CN2 LR LR
comp=Z,3µm,17.0s,MS5.8
SNY Shenyang 84.82 318⇓ P **P 11 38 03.1 +2.4**
SNY PP PP 11 41 14.5 -2.6
SNY SKS 11 48 20.3
SNY S 11 48 28.7
SNY XS sS 11 48 42.5 +0.8
SNY SS SS 11 54 01.1 +1.7
SNY AMB AMB
comp=Z,32nm,1.8s,mb5.2
SNY AMB AMB
comp=Z,1µm,11.8s
SNY LR LR
comp=N,2µm,17.4s,MS5.7
SNY LR LR
comp=E,2µm,17.4s,MS5.7
SNY LR LR
comp=Z,3µm,16.8s,MS5.8
MA2 Magadan 85.01 343⇑ *i*P **P 11 38 00.2 -1.4**
MA2 pmax pmax
comp=Z,73nm,1.7s,mb5.5
MA2 MLR MLR
comp=Z,2µm,18.0s,MS5.4
MA2 Magadan 85.01 343 *e*P **P 11 38 00.0 -1.6**
comp=Z,46nm,1.1s,mb5.5
MA2 LR LR
comp=Z,3µm,22.0s,MS5.6
COCO West Island 85.06 259 PFAKE 11 38 10.0 +8.1
COCO LR LR
comp=Z,6µm,19.0s,MS6.0
CLNB Carlsbad 85.18 53 *e*P **P 11 38 02.3 -0.2**
NEW Newport 85.34 34 *e*P **P 11 38 01.7 -1.6**
NEW pmax pmax
comp=Z,33nm,1.4s
NEW MLR MLR
comp=Z,16µm,19.0s
NEW Newport 85.34 34 *e*P **P 11 38 01.7 -1.6**
comp=Z,33nm,1.4s,mb5.3
NEW LR LR
comp=Z,16µm,19.0s,MS6.4
CPRX Cap Rock 85.55 52 *e*P **P 11 38 04.3 0.0**
AHID Auburn Hatcher 85.57 41 PFAKE 11 38 20.0 +16
AHID LR LR
comp=Z,5µm,19.0s,MS6.0
WHN Wuhan 85.63 305 *e*P **P 11 38 06.0 +1.3**
MCMT McKenzie Canyo 85.67 39 *e*P **P 11 38 05.0 0.0**
SKAG Skagway 85.87 19 *e*P **P 11 38 06.3 +0.4**
SKAG *ep*P pP 11 38 13.2 -1.6
SKAG *es*P sP 11 38 18.0 0.0
DCID1 Drake Creek 85.97 40 *e*P **P 11 38 08.1 +1.7**
REDW Red Top Meadow 86.05 41 *e*P **P 11 38 07.0 +0.2**
comp=Z,84nm,1.5s,mb5.8
TPAW Teton Pass 86.06 41 *e*P **P 11 38 07.0 +0.1**
comp=Z,55nm,1.4s,mb5.6
DLMT Dillon 86.12 38 *e*P **P 11 38 06.8 -0.4**
comp=Z,106nm,1.4s,mb5.9
SNOW Snow King Moun 86.16 41 *e*P **P 11 38 07.2 -0.1**
comp=Z,104nm,1.6s,mb5.8
MSO Missoula 86.20 37 *e*P **P 11 38 06.8 -0.7**
comp=Z,20nm,1.3s,mb5.2
MSO LR LR
comp=Z,5µm,20.0s,MS5.9
MOOW Moose Ponds 86.32 40 *e*P **P 11 38 07.3 -0.9**
comp=Z,67nm,1.8s,mb5.6
MOOW *ep*P pP 11 38 16.1 -0.9
LOHW Long Hollow 86.33 41 *e*P **P 11 38 07.8 -0.4**
comp=Z,86nm,1.8s,mb5.7
LOHW *ep*P pP 11 38 14.7 -2.3
LOHW *es*P sP 11 38 23.0 +2.7
SMCO Snowmass 86.33 46 *e*P **P 11 38 08.3 +0.1**
comp=Z,127nm,1.6s,mb5.9
PLCA Paso Flores 86.38 132 PFAKE 11 38 20.0 +12
PLCA LR LR
comp=Z,5µm,19.0s,MS5.9
QLMT Earthquake Lak 86.51 39 *e*P **P 11 38 09.2 +0.2**
BW06 Boulder Array 86.52 42 PFAKE 11 38 20.0 +11
BW06 LR LR
comp=Z,5µm,19.0s,MS5.9
PDAR Pinedale Array 86.52 42 P **P 11 38 08.8 -0.4**
comp=Z,7.6nm,0.8s,mb5.0,baz=214,slow=3.1,SNR=56
PDAR LR LR 12 12 47.8
comp=Z,4µm,18.4s,MS5.9,baz=246,slow=33
CHMT Chamberlain Mo 86.63 37 *e*P **P 11 38 08.6 -1.1**
YFT Old Faithful 86.65 40 *e*P **P 11 38 11.2 +1.5**
YFT *e* 11 38 26.5
YMR Madison River 86.69 40 *e*P **P 11 38 10.4 +0.4**
comp=Z,113nm,1.7s,mb5.8

YMR LR LR
comp=Z,4μm,21.0s,MS5.8
DLBC Dease Lake 86.77 21 P **P** **11 38 09.6 -0.8**
comp=Z,13nm,1.2s,mb5.0,baz=229,slow=9.0,SNR=6.0
DLBC Dease Lake 86.77 21 *eP* **P** **11 38 10.0 -0.3**
IPM Ipoh 86.92 276 P **P** **11 38 12.4 +1.3**
HRY Holter Researc 87.32 38 *eP* **P** **11 38 12.6 -0.4**
SYO Syowa Base 87.36 191‖ *eP* **P** **11 38 11.0 -2.2**
SYO Syowa Base 87.36 191‖ *i*SP sP 11 38 18.2 -7.1
RWWY Rawlins 87.45 44 *eP* **P** **11 38 13.2 -0.4**
comp=Z,57nm,1.1s,mb5.7
JCT Junction City 87.49 56 *eP* **P** **11 38 13.7 -0.2**
JCT pmax pmax
comp=Z,37nm,1.4s,mb5.4
JCT MLR MLR
comp=Z,5μm,19.0s,MS5.9
JCT Junction City 87.49 56 *eP* **P** **11 38 13.7 -0.1**
comp=Z,36nm,1.4s,mb5.4
JCT LR LR
comp=Z,5μm,19.0s,MS5.9
WALA Waterton Lakes 87.52 35 *eP* **P** **11 38 13.4 -0.6**
comp=Z,72nm,1.4s,mb5.7
KULM Kulim 87.56 277 *eP* **P** **11 38 15.2 +1.0**
ISCO Idaho Springs 87.56 46 *eP* **P** **11 38 14.3 +0.1**
ISCO pmax pmax
comp=Z,18nm,1.4s,mb5.1
ISCO MLR MLR
comp=Z,3μm,19.0s,MS5.7
ISCO Idaho Springs 87.56 46 *eP* **P** **11 38 14.2 +0.1**
comp=Z,18nm,1.4s,mb5.1
ISCO LR LR
comp=Z,3μm,19.0s,MS5.7
COLA College 87.61 11 *eP* **P** **11 38 12.9 -1.5**
COLA *e* 11 38 28.8
COLA pmax pmax
comp=Z,72nm,0.8s,mb6.0
COLA MLR MLR
comp=Z,4μm,20.0s,MS5.8
COLA College 87.61 11 *eP* **P** **11 38 12.9 -1.5**
comp=Z,72nm,0.8s,mb6.0
COLA *e* 11 38 28.8
COLA LR LR
comp=Z,4μm,20.0s,MS5.8
ILAR Eielson Array 87.69 11 P **P** **11 38 13.3 -1.4**
comp=Z,18nm,0.8s,mb5.3,baz=220,slow=5.7,SNR=98
ILAR PKPPKP 12 04 11.3
comp=Z,0.5nm,0.9s,baz=326,slow=1.7,SNR=4.5
SNAA Sanae 87.70 177 P **P** **11 38 14.2 -0.7**
comp=Z,6.1nm,0.9s,mb4.8,baz=197,slow=4.6,SNR=30
SNAA Sanae 87.70 177‖ *i*PKiKP **P** **11 38 14.5 -0.3**
SNAA *e* 11 38 16.4
SNAA *e* 11 38 20.1
SNAA *e* pP 11 38 24.5 +0.8
SNAA *e* 11 38 25.8
SNAA *e* 11 38 30.4
SNAA *e* 11 38 32.8
SNAA *e* 11 38 35.9
SNAA *e* 11 38 43.7
SNAA *e* 11 38 52.0
SNAA *e* 11 38 59.0
SNAA *e* 11 39 04.9
SNAA *e* 11 41 40.6
SNAA Sanae 87.70 177 *d i*P **P** **11 38 14.5 -0.3**
SNAA Sanae 87.70 177 *eP* **P** **11 38 14.1 -0.7**
comp=Z,55nm,1.1s,mb5.7
GCMT Greycliff 88.07 39 *eP* **P** **11 38 17.1 +0.4**
CCIG Comitan 88.26 72 *i* P **P** **11 38 18.9 +1.4**
PSI Prapat 88.29 274 P **P** **11 38 17.9 +0.2**
comp=Z,29nm,0.9s,mb5.5,baz=163,slow=3.4,SNR=22
DAWY Dawson 88.63 14 *eP* **P** **11 38 18.9 -0.3**
BJT Baijiatuau 88.70 314 *eP* **P** **11 38 20.6 +1.0**
BJT pmax pmax
comp=Z,333nm,1.8s
BJT Baijiatuau 88.70 314 *eP* **P** **11 38 20.6 +1.0**
comp=Z,333nm,1.8s,mb6.4
BJI Beijing 88.71 314 P **P** **11 38 20.7 +1.1**
BJI SS SS 11 54 54.1 -2.3
BJI AMB AMB
comp=Z,36nm,1.5s,mb5.5
BJI AMB AMB
comp=Z,2μm,5.5s
BJI LR LR
comp=N,3μm,18.0s,MS5.7
BJI LR LR
comp=E,1μm,19.6s,MS5.7
BJI LR LR
comp=Z,2μm,19.6s,MS5.6
MAIT Maitri 88.72 182 *eP* **P** **11 38 20.1 +0.4**
NVL N'lazarevskaya 88.72 182⇑ *i*P **P** **11 38 08.8 -11**
NVL *i* S 11 49 09.7
NVL *e*SS SS 11 54 52.4 -4.1
NVL pmax pmax
comp=Z,36nm,1.9s,mb5.4
EFI East Falkland 88.85 146 PFAKE 11 38 30.0 +10
EFI LR LR
comp=Z,4μm,20.0s,MS5.8
EGMT Eagleton 89.22 37 *eP* **P** **11 38 21.3 -0.8**
comp=Z,22nm,1.3s,mb5.3
EGMT LR LR
comp=Z,5μm,20.0s,MS6.0
FCH Farellones 89.61 126‖ *eP* **P** **11 38 23.4 -0.4**
BILL Bilibino 89.64 353 *c i*P **P** **11 38 23.0 -1.0**
BILL pmax pmax
comp=Z,48nm,1.7s,mb5.5
BILL Bilibino 89.64 353 *eP* **P** **11 38 23.1 -0.9**
comp=Z,20nm,0.9s,mb5.4
BILL LR LR
comp=Z,5μm,20.0s,MS5.9
GYA Guiyang 90.05 298⇑ *i*P **P** **11 38 27.0 +1.1**
GYA AP pP 11 38 37.5 +2.7
GYA XP sP 11 38 41.4 +3.4
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.6
GYA AMB AMB
comp=Z,940nm,10.8s
GYA LR LR
comp=N,2μm,19.5s,MS5.7
GYA LR LR
comp=E,2μm,18.6s,MS5.7
GYA LR LR
comp=Z,2μm,19.8s,MS5.5
WMOK Wichita Mounta 90.09 53 *eP* **P** **11 38 25.6 -0.5**
WMOK pmax pmax
comp=Z,45nm,1.8s,mb5.5
WMOK MLR MLR
comp=Z,3μm,20.0s,MS5.8
WMOK Wichita Mounta 90.09 53 *eP* **P** **11 38 25.6 -0.5**
comp=Z,45nm,1.8s,mb5.5
WMOK LR LR
comp=Z,3μm,20.0s,MS5.8
EDM Edmonton 90.23 32 *eP* **P** **11 38 26.0 -0.7**
EDM *e**PP pP 11 38 33.7 -1.9
HKT Hockley 90.40 58 *eP* **P** **11 38 28.3 +0.8**
HKT pmax pmax
comp=Z,65nm,1.6s,mb5.7
HKT MLR MLR
comp=Z,1μm,20.0s,MS5.3
HKT Hockley 90.40 58 *eP* **P** **11 38 28.3 +0.8**
comp=Z,65nm,1.6s,mb5.7
HKT LR LR
comp=Z,1μm,20.0s,MS5.3
TLL Tololo Astrono 90.51 123 *eP* **P** **11 38 27.4 -0.7**
LAO LASA Array 90.58 40 *eP* **P** **11 38 28.5 +0.1**
comp=Z,127nm,1.6s,mb6.0
LAO LR LR
comp=Z,2μm,20.0s,MS5.5
RSSD Black Hills 90.68 43 *eP* **P** **11 38 27.8 -1.0**
RSSD pmax pmax
comp=Z,27nm,1.1s,mb5.5
RSSD MLR MLR
comp=Z,1μm,19.0s,MS5.3
RSSD Black Hills 90.68 43 *eP* **P** **11 38 27.8 -1.1**
comp=Z,27nm,1.1s,mb5.5
RSSD LR LR
comp=Z,1μm,19.0s,MS5.3
HIA Hailar 91.07 323 *eP* **P** **11 38 30.8 +0.1**
HIA pmax pmax
comp=Z,23nm,1.1s
HIA Hailar 91.07 323 *eP* **P** **11 38 30.8 +0.2**
comp=Z,23nm,1.1s,mb5.4
XAN Xi'an 91.28 306 P **P** **11 38 33.0 +1.4**
XAN SKS 11 48 59.8
XAN S 11 49 35.9
XAN XS sS 11 49 45.6 +2.3
XAN PS PS 11 50 37.6 -2.6
XAN AMB AMB
comp=Z,38nm,1.4s,mb5.5
XAN AMB AMB
comp=Z,808nm,12.6s
XAN LR LR
comp=N,757nm,19.2s,MS5.5
XAN LR LR
comp=E,2μm,18.4s,MS5.5
XAN LR LR
comp=Z,2μm,18.0s,MS5.5
CFAA Coronel Fontan 91.91 125 P **P** **11 38 34.1 -0.4**
comp=Z,1.8nm,0.9s,baz=250,slow=4.6,SNR=17
NATX Nacogdoches 92.04 57 *eP* **P** **11 38 35.4 +0.2**
NATX LR LR
comp=Z,7μm,19.0s,MS6.1
HHC Hu-ho-hao-te 92.21 313 *eP* **P** **11 38 36.9 +0.9**
HHC AP pP 11 38 45.6 +0.8
HHC XP sP 11 38 48.7 +0.7
HHC PP PP 11 42 19.6 +3.3
HHC SKS 11 49 06.7
HHC S 11 49 35.2
HHC XS sS 11 49 48.0 -3.7
HHC PS PS 11 50 53.9 +3.3
HHC SS SS 11 55 49.3 +2.3
HHC AMB AMB
comp=Z,22nm,0.3s,mb6.0
HHC AMB AMB
comp=Z,726nm,6.9s
HHC LR LR
comp=N,2μm,18.6s,MS5.7
HHC LR LR
comp=E,2μm,18.6s,MS5.7
HHC LR LR
comp=Z,2μm,18.6s,MS5.6
NNA Nana 92.35 104 PFAKE 11 38 50.0 +13
NNA LR LR
comp=Z,3μm,22.0s,MS5.7
CLNS Chul'man 92.57 331 *eP* **P** **11 38 37.5 -0.1**
CLNS *e**PP pP 11 38 44.1 -2.4
CLNS *e* 11 42 16.8
CLNS *eS* 11 49 36.2
CLNS *eP*S PS 11 50 51.1 -3.5
CLNS *eP*PS 11 51 34.9
CLNS *eS*S SS 11 55 45.4 -6.8
CLNS pmax pmax
comp=Z,16nm,1.0s,mb5.4
CLNS pmax pmax
comp=N,10.0nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS pmax pmax
comp=Z,11nm,0.9s,mb5.3
CLNS pmax pmax
comp=N,10.0nm,1.0s
CLNS pmax pmax
comp=E,10.0nm,0.9s
CLNS smax
comp=N,439nm,12.9s
CLNS smax
comp=Z,246nm,13.0s
CLNS smax
comp=E,383nm,12.7s
CLNS MLR MLR
comp=Z,3μm,18.0s,MS5.7
CLNS MLR MLR
comp=N,600nm,19.0s,MS5.6
CLNS MLR MLR
comp=E,2μm,19.0s,MS5.6
JTS JuntasAbangare 92.64 80 P **P** **11 38 38.5 +0.6**
comp=E,162nm,0.9s,mb6.5,SNR=6.1
JTS JuntasAbangare 92.64 80 *eP* **P** **11 38 38.9 +1.0**
JTS pmax pmax
comp=Z,47nm,1.1s
JTS MLR MLR
comp=Z,3μm,20.0s
JTS JuntasAbangare 92.64 80 *eP* **P** **11 38 38.9 +1.0**
comp=Z,47nm,1.1s,mb5.8
JTS LR LR
comp=Z,3μm,20.0s,MS5.8
KMI Kunming 92.83 296 P **P** **11 38 40.3 +1.5**
KMI AP pP 11 38 51.2 +3.5
KMI PP PP 11 42 22.4 +1.3
KMI SKS 11 49 08.5
KMI S 11 49 38.8
KMI XS sS 11 49 56.9 -0.3
KMI AMB AMB
comp=Z,27nm,1.7s,mb5.4
KMI AMB AMB
comp=Z,646nm,8.9s
KMI LR LR
comp=N,2μm,18.5s,MS5.8
KMI LR LR
comp=E,3μm,19.6s,MS5.8
KMI LR LR
comp=Z,4μm,18.9s,MS5.9
KSU1 Kansas State U 93.48 50 *eP* **P** **11 38 41.6 -0.2**
INK Inuvik 93.48 14 *eP* **P** **11 38 40.8 -1.0**
INK pmax pmax
comp=Z,40nm,1.1s
INK Inuvik 93.48 14 *eP* **P** **11 38 40.8 -1.0**
comp=Z,40nm,1.1s,mb5.8
YAK Yakutsk 93.72 337 *eP* **P** **11 38 42.4 -0.5**
YAK *e**PP pP 11 38 53.5 +1.7
YAK *eS* 11 49 14.1
YAK *e* 11 49 54.5
YAK pmax pmax
comp=Z,12nm,1.0s,mb5.3
YAK pmax pmax
comp=E,6.0nm,1.7s
YAK smax
comp=N,225nm,19.0s
YAK smax
comp=Z,69nm,18.2s
YAK smax
comp=E,199nm,15.6s
YAK MLR MLR
comp=N,589nm,19.0s,MS5.3
YAK MLR MLR
comp=Z,988nm,19.0s,MS5.3
YAK MLR MLR
comp=E,856nm,18.0s,MS5.3
YAK Yakutsk 93.72 337 *i Pr* **P** **11 38 41.6 -1.3**
YAK LR LR
comp=Z,2μm,19.0s,MS5.6
CHTO Chiang Mai 93.88 289 *eP* **P** **11 38 45.6 +2.0**
CHTO pmax pmax
comp=Z,34nm,1.1s,mb5.7
CHTO MLR MLR
comp=Z,2μm,21.0s,MS5.5
CHTO Chiang Mai 93.88 289 *eP* **P** **11 38 45.6 +2.0**
comp=Z,34nm,1.1s,mb5.7
CHTO LR LR
comp=Z,2μm,21.0s,MS5.5
YKA Yellowknife Ar 95.11 24 P **P** **11 38 48.5 -0.8**
comp=Z,7.6nm,0.9s,mb5.1,baz=237,slow=4.3,SNR=110
YKA PP PP 11 42 35.7 -3.2
comp=Z,0.7nm,0.9s,baz=234,slow=7.9,SNR=3.9
YKA PKKPbc PKKPbc 11 55 43.1 -0.2
comp=Z,0.3nm,0.8s,baz=34,slow=2.3,SNR=5.1
YKA LR LR 12 16 08.1
comp=Z,2μm,19.7s,MS5.5,baz=255,slow=32
YKA Yellowknife Ar 95.11 24 P **P** **11 38 48.5 -0.8**
YKA 11 42 35.7
YKA Yellowknife Ar 95.11 24 P **P** **11 38 48.5 -0.8**
YKA PP PP 11 42 35.7 -3.2
YKA PKKPbc PKKPbc 11 55 43.1 -0.2
YKA LR LR 12 16 08.1
YKW3 Yellowknife Ar 95.15 24 *eP* **P** **11 38 48.0 -1.4**
YKW3 *es*P sP 11 38 59.1 -2.4
CIT Chita 95.85 324 *eP* **P** **11 38 52.6 0.0**
CIT *e* 11 39 03.0
CIT *e* 11 42 41.2
CIT *e* 11 49 28.0
CIT pmax pmax
comp=Z,36nm,1.8s,mb5.5
LZH Lanzhou 95.91 306‖ P **P** **11 38 56.5 +3.6**
LZH PP PP 11 42 50.6 +5.4
LZH SKS 11 49 28.5
LZH S 11 50 08.3
LZH SS SS 11 56 42.7 +3.0
LZH AMB AMB
comp=Z,53nm,1.5s,mb5.8
LZH AMB AMB
comp=Z,645nm,9.7s
LZH LR LR
comp=E,3μm,16.3s
LZH LR LR
comp=Z,4μm,19.2s,MS5.9
FFC Flin Flon 96.76 34 PFAKE 11 39 10.0 +13
FFC LR LR
comp=Z,6μm,20.0s,MS6.1
CCM Cathedral Cave 96.98 52 PFAKE 11 39 10.0 +12
CCM LR LR
comp=Z,2μm,19.0s,MS5.5
PBA Port Blair 97.09 280 *eP* x 11 38 43.1
PBA *eS* x 11 39 01.2
PBA *ex* x 11 39 05.0
comp=E,148nm,0.2s
PBA *ex* x 11 39 05.3
comp=N,72nm,0.2s
OXF Oxford 97.14 56 *eP* **P** **11 39 01.7 +3.2**
OXF MLR MLR
comp=Z,7μm,19.0s,MS6.2
ULN Ulaanbaatar 98.00 318 *eP* **P** **11 39 04.1 +1.7**
ULN pmax pmax
comp=Z,18nm,1.1s,mb5.5
ULN Ulaanbaatar 98.00 318 *eP* **P** **11 39 04.1 +1.8**
comp=Z,18nm,1.1s,mb5.5
BOD Bodaibo 98.16 329 *eP* **P** **11 38 59.5 -3.6**
BOD pmax pmax
comp=Z,7.0nm,1.7s,mb4.9
ULM Lac du Bonnet 98.33 39 P **P** **11 39 02.4 -1.5**
comp=Z,4.5nm,1.1s,mb4.9,baz=267,slow=8.5,SNR=5.6
ULM LR LR 12 18 25.6
comp=Z,5μm,19.4s,MS6.0,baz=255,slow=32
PLAL Pickwick Lake 98.33 56 PFAKE 11 39 20.0 +16
PLAL LR LR
comp=Z,5μm,20.0s,MS6.0
SONM Songino Array 98.40 318 P **P** **11 39 04.5 +0.4**
comp=Z,2.2nm,0.9s,mb4.7,baz=104,slow=3.5,SNR=12
SONM PP PP 11 43 03.5 -0.8
comp=Z,1.7nm,0.9s,baz=120,slow=6.9,SNR=4.3
SONM LR LR 12 24 48.2
comp=Z,2μm,18.8s,MS5.7,baz=125,slow=36
SONM Songino Array 98.40 318 P **P** **11 39 04.5 +0.3**
SONM 11 43 03.5
LPAZ La Paz 98.47 111 P **P** **11 39 06.0 +1.5**
comp=Z,1.6nm,0.7s,mb4.7,baz=240,slow=6.6,SNR=3.6
LPAZ PP PP 11 43 02.7 -2.2
comp=Z,3.4nm,1.3s,baz=221,slow=9.0,SNR=6.2
LPAZ LR LR 12 13 54.2
comp=Z,3μm,21.7s,MS5.8,baz=301,slow=30
LPAZ La Paz 98.47 111 P **P** **11 39 06.0 +1.5**
LPAZ 11 43 02.7
LRAL Lakeview Retre 98.54 58 PFAKE 11 39 20.0 +15
LRAL LR LR
comp=Z,4μm,19.0s,MS5.9
WVT Waverly 98.90 55 PFAKE 11 39 20.0 +14
WVT LR LR
comp=Z,6μm,20.0s,MS6.1
TIXI Tiksi 99.91 344 *eP* Pdif 11 39 08.4 -2.5
TIXI *eS* 11 49 44.7
TIXI *e* 11 50 34.6
TIXI *eSP* SP 11 52 08.9 -2.3
TIXI *eSS* SS 11 57 32.4 -3.6
TIXI pmax pmax
comp=Z,7.0nm,1.1s,mb5.0
TIXI pmax pmax
comp=Z,300nm,12.2s
TIXI pmax pmax
comp=N,119nm,13.5s
TIXI pmax pmax
comp=E,117nm,12.7s
TIXI smax
comp=N,589nm,12.2s
TIXI smax
comp=E,516nm,11.8s
TIXI Tiksi 99.91 344 PFAKE 11 39 20.0 +9.1
TIXI LR LR
comp=Z,2μm,22.0s,MS5.7
GTA Gaotai 100.04 308 *eP* Pdif 11 39 13.9 +2.4
GTA AP 11 39 23.4
GTA PP PP 11 43 22.7 +5.9
GTA PPP 11 45 30.1
GTA SKS 11 49 48.5
GTA S Sdif 11 50 37.4 -7.1
GTA XS sS 11 51 00.6 +1.3
GTA SS SS 11 57 39.5 +1.7
GTA AMB AMB
comp=Z,4.0nm,1.4s
GTA AMB AMB
comp=Z,352nm,8.4s
GTA LR LR
comp=N,977nm,22.2s,MS5.4
GTA LR LR
comp=E,923nm,18.3s,MS5.4
GTA LR LR
comp=Z,2μm,17.6s,MS5.7
EYMN Ely 100.20 43 PFAKE 11 39 20.0 +7.8
EYMN LR LR
comp=Z,4μm,19.0s,MS6.0
ZAK Zakamensk 101.19 320 *eP* Pdif 11 39 20.9 +4.3
ZAK pmax pmax
comp=Z,4.0nm,1.9s
ZAK pmax pmax
comp=Z,16nm,1.8s
TLY Talaya 101.39 321⇑ *i*P Pdif 11 39 16.5 -1.0
TLY pmax pmax
comp=Z,2.0nm,2.5s
CPUP Villa Florida 102.81 125 PFAKE 11 39 40.0 +16
CPUP LR LR
comp=Z,477nm,19.0s,MS5.0
NHSC New Hope 104.03 60 PFAKE 11 39 40.0 +11
NHSC LR LR
comp=Z,4μm,19.0s,MS5.9
CAL Calcutta 104.48 289 *ex* x 11 39 41.6
CAL *ex* x 11 50 15.9
ERPA Erie 106.41 51 PFAKE 11 44 00.0 +9.1
ERPA LR LR
comp=Z,5μm,19.0s,MS6.1
CBN Corbin 107.49 55 PFAKE 11 44 00.0 +7.1
CBN LR LR
comp=Z,6μm,20.0s,MS6.2
WMQ Urumqi 109.91 310 PDIF Pdif 11 39 54.0 -1.4
WMQ PP PP 11 44 31.6 +1.6
WMQ PPP 11 46 51.0
WMQ SKS SKSdf 11 51 06.4 -1.1
WMQ S Sdif 11 52 03.7 -3.1
WMQ PS PS 11 53 53.6 -5.3
WMQ PP PP
comp=Z,372nm,5.8s
WMQ LR LR
comp=N,1μm,20.0s,MS5.7
WMQ LR LR
comp=E,2μm,19.3s,MS5.7
WMQ LR LR
comp=Z,1μm,19.7s,MS5.6
ZAL Zalesovo 113.02 321 PKiKP PKiKP 11 44 02.1 -1.2
comp=Z,1.1nm,0.4s,baz=308,slow=2.5,SNR=6.5
ZAL PP PP 11 44 55.6 +3.3
comp=Z,3.4nm,1.0s,baz=4.1,slow=7.5,SNR=7.7
NVS Novosibirsk 113.98 322 *e*PKiKP PKiKP 11 43 52.3 -13
NVS pmax pmax
comp=Z,10.0nm,1.5s
NVS pmax pmax
comp=N,4.0nm,1.3s
NVS pmax pmax
comp=E,7.0nm,1.5s
MK31 Makanchi Array 114.08 313 PKIKP PKiKP 11 44 04.5 -0.8
MK31 pmax pmax
comp=Z,4.0nm,0.8s
MKAR Makanchi Array 114.08 313 PKP PKiKP 11 44 04.2 -1.1
comp=Z,3.3nm,0.6s,baz=63,slow=2.2,SNR=27
MKAR PKKPbc PKKPbc 11 54 46.2 +0.1
comp=Z,1.3nm,0.8s,baz=272,slow=3.8,SNR=9.4
MKAR Makanchi Array 114.08 313 PKP PKiKP 11 44 04.2 -1.1
MKAR PKKPbc PKKPbc 11 54 46.2 +0.1
NDI New Delhi 115.67 293 *eP* PKPdf 11 44 07.0 -1.4
KURK Kurchatov 116.69 317 *d i*PKIKP PKPdf 11 44 09.3 -1.0
KURK Kurchatov 116.69 317 *e*PKPdf PKPdf 11 44 09.1 -1.2
KSH Kashi 118.10 305 *e*PKP PKPdf 11 44 11.0 -2.0
KSH PP PP
comp=Z,249nm,9.4s
KSH LR LR
comp=N,554nm,13.0s,MS5.6
KSH LR LR
comp=E,906nm,14.8s,MS5.6
TKM2 Tokmak 2 118.59 308 P PKPdf 11 44 13.9 0.0
SNR=8.0
KZA Kyzart 118.81 307 P PKPdf 11 44 17.6 +3.2
SNR=10

KBK Karagaybulak 119.05 308 P PKPdf 11 44 15.0 +0.1
SNR=6.4
CHMS Chumysh 119.21 308 P PKPdf 11 44 15.0 -0.2
SNR=5.5
FRU Bishkek 119.30 308 PKIKP PKPdf 11 44 15.6 +0.3
FRU e 11 45 32.5
FRU MLR MLR
comp=E,1μm,19.0s
FRU MLR MLR
comp=Z,1μm,19.0s,MS5.6
UCH Uchtor 119.36 308 P PKPdf 11 44 16.4 +1.0
SNR=20
AAK Ala-Archa 119.39 308 P PKPdf 11 44 15.7 +0.2
SNR=7.3
AAK Ala-Archa 119.39 308 d iPKIKP PKPdf 11 44 14.7 -0.8
AAK Ala-Archa 119.39 308 ePKPdf PKPdf 11 44 14.3 -1.2
USP Ospenovka 119.40 309 P PKPdf 11 44 15.4 -0.2
SNR=11
EKS2 Erkin-Say 119.92 308 P PKPdf 11 44 17.0 +0.5
SNR=7.9
AML Almayashu 119.97 307 P PKPdf 11 44 17.4 +0.8
SNR=16
VOSK Vostochnaya 121.32 320 PKIKP PKPdf 11 44 17.6 -1.6
VOSK pmax pmax
comp=Z,22nm,1.3s
KBS Kingsbay 121.62 359⇑ iPKIKP PKPdf 11 44 20.0 +0.2
BVAR Borovoye Array 121.64 320 PKP PKPdf 11 44 19.3 -0.6
comp=Z,2.6nm,0.3s,baz=79,slow=2.3,SNR=24
BRVK Borovoye 121.70 320 ePKIKP PKPdf 11 44 19.6 -0.4
KK31 Karatay Array 122.32 309 iPKIKP PKPdf 11 44 20.9 -0.2
KK31 pmax pmax
comp=Z,7.0nm,0.7s
KK31 Karatay Array 122.32 309 i PKP PKPdf 11 44 20.0 -1.1
KKAR Karatay Array 122.32 309 i PKIKP PKPdf 11 44 20.9 -0.2
KKAR pmax pmax
comp=Z,5.0nm,0.7s
ZRNK Zerenda 122.48 320 i PKIKP PKPdf 11 44 19.8 -1.7
ZRNK pmax pmax
comp=Z,16nm,1.0s
ZRNK Zerenda 122.48 320 ePKPdf PKPdf 11 44 20.4 -1.1
ARU Arti 127.47 326 iPKIKP PKPdf 11 44 30.8 -0.2
ARU ePPP 11 49 11.7
ARU e 11 51 33.2
ARU eSP SP 11 56 25.2 -8.4
ARU ePS PS 11 56 34.2 -2.7
ARU eSS SS 12 03 34.3 -5.7
ARU MLR MLR
comp=Z,5μm,20.0s,MS6.2
ARU MLR MLR
comp=N,1μm,18.0s,MS6.1
ARU MLR MLR
comp=E,4μm,20.0s,MS6.1
ARU Arti 127.47 326 ePKPdf PKPdf 11 44 30.4 -0.6
AB31 Akbulak array 128.80 317 i PKIKP PKPdf 11 44 33.2 -0.3
KEV Kevo 129.30 351 epkp PKPdf 11 44 33.6 -0.9
LVZ Lovozero 129.49 346⇓ iPKIKP PKPdf 11 44 36.1 +1.2
LVZ MLR MLR
comp=Z,1μm,19.0s,MS5.6
LVZ Lovozero 129.49 346⇓ iPKP PKPdf 11 44 36.2 +1.3
AKTK Aktyubinsk 129.70 319 PKP PKPdf 11 44 35.9 +0.6
AKTO Aktyubinsk 129.70 319 PKP PKPdf 11 44 35.9 +0.6
comp=Z,2.7nm,0.8s,baz=3.2,slow=3.6,SNR=12
AKTO Aktyubinsk 129.70 319 i PKIKP PKPdf 11 44 34.5 -0.7
AKTO pmax pmax
comp=Z,4.0nm,2.0s
ARCES ARCESS Array B 129.72 351 PKP PKPdf 11 44 34.8 -0.5
comp=Z,5.6nm,0.9s,baz=39,slow=1.6,SNR=18
ARE0 ARCESS Array S 129.72 351 ePKPdf PKPdf 11 44 36.2 +0.9
APA Apatity 130.03 347⇑ iPKIKP PKPdf 11 44 33.2 -2.7
APA i 11 46 55.0
APA eSS SS 12 04 10.0 -1.6
APA pmax pmax
comp=Z,38nm,1.6s
APA MLR MLR
comp=Z,2μm,20.0s,MS5.7
JOF Joensuu 134.39 344 epkp PKPdf 11 44 44.6 +0.5
PECR Pechory 134.62 331 ePKIKP PKPdf 11 44 48.0 +3.5
PECR e 11 47 14.0
PECR MLR MLR
comp=Z,3μm,20.0s,MS6.0
KAF Kangasniemi 136.28 346 epkp 11 44 42.2
FINES FINESS Array B 136.93 346 PKhKP 11 44 41.0
comp=Z,1.3nm,0.7s,baz=48,slow=2.8,SNR=6.0
FINES PKP PKPdf 11 44 47.8 -1.1
comp=Z,5.1nm,0.8s,baz=101,slow=6.0,SNR=12
FINES FINESS Array B 136.93 346 PKHKP 11 44 41.0
FINES 11 44 47.8
FINES pmax pmax
comp=Z,1.0nm,0.7s
FINES pmax pmax
comp=Z,5.0nm,0.8s
FINES FINESS Array B 136.93 346 PKP PKPdf 11 44 47.8 -1.1
LSZ Lusaka 138.18 213 ePKIKP PKPdf 11 44 53.0 +1.9
OBN Obninsk 138.65 334⇓ iPKIKP PKPdf 11 44 52.8 +0.8
OBN i 11 45 03.6
OBN e 11 47 48.8
OBN iSS SS 12 05 59.5 +4.0
OBN pmax pmax
comp=Z,20nm,0.9s
MAK Makhachkala 138.89 312 ePKIKP PKPdf 11 44 51.6 -0.9
MAK i 11 47 42.7
MAK eSS SS 12 05 58.1 -0.2
MAK pmax pmax
comp=Z,456nm,1.4s
VSU Vasula 139.38 343 d iPKIKP PKPdf 11 44 54.5 +1.2
VSU Vasula 139.38 343 i PKPr 11 44 54.6
NB2 NORSAR Subarra1 139.50 356 PKPd PKPdf 11 44 51.4 -2.2
comp=Z,29nm,1.7s,baz=7.7,slow=1.9
NB2 NORSAR Subarra1 139.50 356 PKPd PKPdf 11 44 51.4 -2.2
baz=7.7,slow=1.9
NOA NORSAR Array B 139.50 356 PKhKP 11 44 46.1
comp=Z,2.0nm,0.8s,baz=15,slow=4.5,SNR=5.3
NOA PKP PKPdf 11 44 52.3 -1.2
comp=Z,3.4nm,0.9s,baz=18,slow=4.3,SNR=4.5
NOA NORSAR Array B 139.50 356 PKHKP 11 44 46.1
NOA 11 44 52.3
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA pmax pmax
comp=Z,3.0nm,1.0s
NOA NORSAR Array B 139.50 356 PKP PKPdf 11 44 52.3 -1.2
VOR Voronezh 139.67 328 PKIKP PKPdf 11 44 53.0 -0.9
VOR pmax pmax
comp=Z,100nm,1.7s
HFS Hagfors 140.20 354 PKhKP 11 44 45.3
comp=Z,5.9nm,0.8s,baz=90,slow=1.5,SNR=11
HFS Hagfors 140.20 354 PKHKP 11 44 45.3
HFS pmax pmax
comp=Z,6.0nm,0.8s
DGRG David-gareji 140.89 311 P PKPdf 11 44 55.2 -0.9
ZEI Tsey 141.44 314 ePKIKP PKPdf 11 44 59.4 +2.3
ZEI e 11 47 56.6
KIV Kislovodsk 141.76 316 ePKIKP PKPdf 11 44 55.5 -2.1
KIV e 11 47 59.4
KIV eSS SS 12 06 28.2 -3.7
KIV eSSS 12 11 45.3
KIV pmax pmax
comp=Z,13nm,0.6s
GNI Garni 141.78 309⇑ iPKIKP PKPdf 11 44 59.1 +1.4
MNK Minsk 142.39 339 ePKHKP 11 44 54.0
KMBO Kilima Mbogo 142.56 238 PKhKP 11 44 56.3
comp=Z,11nm,1.0s,baz=46,slow=2.0,SNR=13
KMBO Kilima Mbogo 142.56 238 i PKIKP PKPdf 11 44 57.5 -1.6
KMBO pmax pmax
comp=Z,11nm,1.0s
CUKT Cukurca 143.50 305 eP PKPdf 11 45 00.2 -0.5
EAB Aberfoyle 143.69 10 eP PKPdf 11 44 58.0 -3.0
BHD Baghdad 143.81 298 ex x 11 45 05.0
SOC Sochi 143.84 317 d iPKIKP PKPdf 11 44 58.7 -2.6
SOC e 11 48 14.6
SOC e 11 52 09.8
SOC eSSS 12 12 14.3
SOC pmax pmax
comp=Z,22nm,0.8s
EAU Auchinoon 144.16 9 eP PKPdf 11 44 58.8 -3.1
EAU AMb AMB 11 45 02.1
comp=Z,200nm,1.4s
MSL Mosul 144.16 304 ex x 11 45 03.0
MUD Monsted U'grnd 144.19 357 i P PKPdf 11 45 00.6 -1.3
comp=Z,80nm,1.4s
MUD
comp=Z,1μm,18.0s
MUD Monsted U'grnd 144.19 357 ePKIKP PKPdf 11 45 00.6 -1.3
MUD pmax pmax
comp=Z,80nm,1.4s
MUD MLR MLR
comp=Z,2μm,18.0s,MS5.8
ESY Stoneypath 144.21 8 eP PKPdf 11 44 59.8 -2.1
ESY AMb AMB 11 45 10.7
comp=Z,100nm,1.6s
SUW Suwalki 144.24 343 ePKP PKPdf 11 44 59.9 -2.1
SUW ePKiKP PKiKP 11 45 07.2 +1.6
GMK Mull of Kintyr 144.28 11 eP PKPdf 11 44 59.4 -2.7
EBL Broad Law 144.29 9 eP PKPdf 11 44 58.9 -3.2
EBL AMb AMB 11 45 11.1
comp=Z,164nm,1.8s
ERZM Erzurum 144.29 310 i P PKPdf 11 45 04.3 +2.2
GCL Cushendall 144.44 12 eP PKPdf 11 45 00.0 -2.3
ANN Anapa 144.64 320 i PKIKP PKPdf 11 45 01.4 -1.3
ANN e 11 48 26.0
ANN eSS SS 12 06 59.3 -5.9
ANN pmax pmax
comp=Z,127nm,1.4s
EKA Eskdalemuir Ar 144.70 9 PKP PKPdf 11 45 00.8 -2.0
comp=Z,17nm,0.8s,baz=327,slow=2.7,SNR=32
ESK Eskdalemuir 144.71 9 eP PKPdf 11 45 01.0 -1.9
ESK Eskdalemuir 144.71 9 ePKPdf PKPdf 11 45 00.8 -2.0
COP Copenhagen 144.71 354 i P PKiKP 11 45 07.8 +1.2
comp=Z,39nm,1.1s
COP e 11 48 12.1
COP Copenhagen 144.71 354 i PKIKP PKiKP 11 45 07.8 +1.2
COP pmax pmax
comp=Z,39nm,1.1s
COP MLR MLR
comp=Z,1μm,19.0s,MS5.7
BWH Wardlaw 144.78 10 eP PKPdf 11 45 00.7 -2.3
BNGL BINGOL 144.79 309 i P PKPdf 11 45 04.0 +1.0
GAL1 Galloway 144.90 11 eP PKPdf 11 45 00.7 -2.5
AKASG Malin Array Be 144.91 334 PKP PKPdf 11 45 01.2 -2.0
comp=Z,18nm,0.5s,baz=41,slow=4.2,SNR=110
AKASG Malin Array Be 144.91 334 i PKIKP PKPdf 11 45 01.2 -2.0
AKASG pmax pmax
comp=Z,18nm,0.5s
BHH Howats Hill 144.92 9 eP PKPdf 11 45 01.2 -2.0
BBH Bruntsheil 144.93 9 eP PKPdf 11 45 00.3 -2.9
BSD Bornholm Skovb 144.96 351 i P PKPdf 11 45 01.3 -2.0
comp=Z,122nm,1.8s
BSD Bornholm Skovb 144.96 351 i PKIKP PKPdf 11 45 01.3 -2.0
BSD pmax pmax
comp=Z,120nm,1.8s
ASCN Ascension 145.21 143 ePKPdf PKPdf 11 45 05.5 +1.8
GMM Mts of Mourne 145.26 12 eP PKPbc 11 45 02.5 -1.0
BBO1 Bothel 145.26 9 eP PKPbc 11 45 01.4 -2.2
GUMT Gumushane 145.40 312 eP PKPbc 11 45 05.5 +1.5
CKE Keswick 145.43 9 eP PKPdf 11 45 02.9 -1.1
XDE Dent Fell 145.45 10 eP PKPdf 11 45 03.4 -0.7
GIM North Isle of 145.49 11 eP PKPdf 11 45 02.1 -2.1
CDU1 Dunnerdale 145.66 10 eP PKPdf 11 45 03.7 -0.7
RGN Rugen 145.73 352 ePKPdf PKPdf 11 45 05.5 +0.9
DCN Croghan 145.81 14 eP PKPdf 11 45 03.7 -1.0
LWH Whinny Nab 146.00 7 eP PKPdf 11 45 05.2 +0.2
DLF Lyons Farm 146.02 14 eP PKPdf 11 45 03.8 -1.3
GRSN GIRESUNGRSN 146.03 314 i P PKPdf 11 45 02.8 -2.3
DSB Dublin 146.10 13 ePKPab PKPab 11 45 06.1 -0.7
GKP Gorka Klasztor 146.34 348 ePKP PKPdf 11 45 06.9 +1.3
GKP epPKP pPKPdf 11 45 16.6 +1.8
WCB1 Church Bay 146.35 11 eP PKPdf 11 45 05.3 -0.3
WCB1 AMb AMB 11 45 08.3
comp=Z,118nm,1.2s
DESE Dese 146.40 259 eP PKPab 11 45 09.0 +1.1
WAR Warsaw 146.41 343 ePKP PKPdf 11 45 07.9 +2.2
WAR ePKiKP PKiKP 11 45 16.1 +6.0
WLF1 Llynfaes 146.46 11 eP PKPdf 11 45 05.9 +0.1
WLF1 AMb AMB 11 45 20.3
comp=Z,115nm,1.1s
YRC Rhoscolyn 146.46 12 eP PKPdf 11 45 06.3 +0.4
SIM Simferopol' 146.50 323 c iPKP2 PKPab 11 45 09.0 +0.7
SIM MLR MLR
comp=Z,2μm,18.3s,MS5.9
ELZG Elazig 146.54 309 i P PKPab 11 45 09.1 +0.6
WPM1 Penmaenmawr 146.58 11 eP PKPdf 11 45 06.5 +0.5
LHO Holmfirth 146.62 9 eP PKPdf 11 45 06.7 +0.6
BSEG Bad Segeberg 146.63 355 ePKPdf PKPdf 11 45 06.6 +0.5
KBI1 Birley Grange 146.95 8 eP PKPdf 11 45 07.9 +1.2
MYA Malataya 147.01 309 eP PKPab 11 45 09.8 -0.5
MALT Malataya 147.01 309 eP PKPdf 11 45 08.2 +1.5
MALT Malataya 147.01 309⇑ iP PKPab 11 45 10.0 -0.3
MALT Malataya 147.01 309 ePKPab PKPab 11 45 09.8 -0.5
SBD1 Bryn Du 147.03 10 eP PKPdf 11 45 07.3 +0.6
URFA Urfa 147.05 308 eP PKPdf 11 45 07.6 +0.8
KWE Weaver Farm 147.14 9 eP PKPdf 11 45 08.2 +1.3
SVSK Karacayir 147.35 313 eP PKPdf 11 45 08.5 +1.2
KVT Kavak 147.44 315 eP PKPdf 11 45 09.2 +1.8
HLM1 Long Mynd 147.46 10 eP PKPdf 11 45 08.8 +1.3
HLM1 AMb AMB 11 45 13.9
comp=Z,128nm,1.6s
SSP1 Stoney Pound 147.52 10 eP PKPdf 11 45 08.9 +1.3
SSP1 AMb AMB 11 45 14.4
comp=Z,113nm,1.2s
LVV L'vov 147.59 338 ePKP2 PKPab 11 45 10.2 -2.4
RUE Ruedersdorf 147.69 351 ePKPbc PKPbc 11 45 10.0 -0.7
KIS Kishinev 147.87 330 ePKIKP PKPdf 11 45 08.0 -0.2
KIS e 11 48 40.0
KIS ePS 12 01 25.0
KIS MLR MLR
comp=N,3μm,20.0s,MS6.2
KIS MLR MLR
comp=E,2μm,20.0s,MS6.2
KIS MLR MLR
comp=Z,5μm,20.0s,MS6.3
KIS MLR MLR
comp=Z,8μm,20.0s
JHLN Al Jahlan 147.94 305 ⇑P PKPab 11 45 12.4 -1.6
MCH1 Michaelchurch 147.95 11 eP PKPdf 11 45 10.0 +1.7
HAE Alders End 147.98 10 eP PKPdf 11 45 09.9 +1.5
HAE AMb AMB 11 45 16.9
comp=Z,225nm,1.6s
BOYT Boyabat 148.01 317 i P PKPdf 11 45 09.6 +1.2
GZT Gaziantep 148.01 308 i P PKPbc 11 45 11.2 -0.4
KWP Kalwaria 148.20 339 ePKP PKPbc 11 45 12.0 -0.1
KWP ePKiKP PKiKP 11 45 16.1 +2.3
HGH Gray Hill 148.32 11 eP PKPbc 11 45 11.4 -1.0
HGH AMb AMB 11 45 18.8
comp=Z,162nm,1.9s
GAZ Gaziantep 148.34 308 eP PKPab 11 45 14.1 -1.5
IBBN Ibbenburen 148.39 358 ePKPbc PKPbc 11 45 13.0 +0.5
CTKT Corum 148.49 316 i P PKPdf 11 45 10.1 +0.9
OJC Ojcow 148.56 343 ePKPdf PKPdf 11 45 09.6 +0.3
OJC ePKPbc PKPbc 11 45 12.7 -0.3
OJC ePKPab PKPab 11 45 14.6 -1.9
OJC epPKPdf pPKPdf 11 45 18.1 -0.4
OJC ePP PP 11 48 44.6 +2.1
OJC eSKSdf SKSdf 11 52 18.3 +2.6
OJC eSS SS 12 07 49.5 -0.1
OJC L 12 53 09.3
comp=Z,9.8nm,20.7s
OJC Ojcow 148.56 343 ePKIKP PKPdf 11 45 09.6 +0.3
OJC e 11 45 14.6
OJC e 11 45 18.1
OJC e 11 48 44.6
OJC eSS SS 12 07 49.5 -0.1
OJC MLR MLR
comp=Z,10μm,20.7s,MS6.6
OJC Ojcow 148.56 343 ePKPdf PKPdf 11 45 09.6 +0.3
OJC ePKPbc PKPbc 11 45 12.7 -0.3
OJC ePKPab PKPab 11 45 14.6 -1.9
OJC epPKPdf pPKPdf 11 45 18.1 -0.4
OJC ePP PP 11 48 44.6 +2.1
OJC eSKSdf SKSdf 11 52 18.3 +2.6
OJC eSS SS 12 07 49.5 -0.1
OJC LR LR
comp=Z,10μm,20.7s,MS6.6
YOZ Yozgat 148.62 314 eP PKPbc 11 45 13.9 +0.8
CLZ Clausthal 148.71 355 ePKPdf PKPdf 11 45 10.2 +0.6
CLZ ePKPbc PKPbc 11 45 14.2 +0.8
CLZ Clausthal 148.71 355 ePKPdf PKPdf 11 45 10.2 +0.6
CLZ ePKPbc PKPbc 11 45 14.2 +0.8
WTSB Winterswijk 148.76 359 ePKiKP PKPdf 11 45 10.6 +0.9
comp=Z,90nm,1.3s
KSP Ksiaz 148.82 347 ePKP PKPdf 11 45 12.0 +2.3
KSP ePKiKP PKiKP 11 45 14.8 -0.2
KSP Ksiaz 148.82 347 ePKP PKPdf 11 45 09.9 +0.2
KSP ePKPdf PKiKP 11 45 14.5 -0.5
KSP eSS SS 12 07 52.0 -0.5
KSP LR LR
comp=Z,4μm,21.6s,MS6.2
STHS Stebnicka Huta 148.86 341 ePKP PKPdf 11 45 11.4 +1.6
STHS e 11 45 14.4
BALT Daday 148.91 318 i P PKPdf 11 45 10.7 +0.8
CLL Collm 148.94 352 ePKPdf PKPdf 11 45 10.6 +0.7
CLL ePKPbc PKPbc 11 45 13.8 -0.1
comp=Z,125nm,1.3s
CLL ePKPab PKPab 11 45 18.7 +0.7
CLL eSKSP 11 59 03.2
CLL eSS SS 12 08 00.8 +7.0
CLL eSSS 12 13 39.4
CLL eSSSS 12 17 26.5
CLL eL 12 59 51.2
comp=Z,2μm,20.0s
CLL Collm 148.94 352 ePKPdf PKPdf 11 45 11.0 +1.1
comp=Z,25nm,1.6s
CLL ⇓ iPKPbc PKPbc 11 45 14.1 +0.2
comp=Z,125nm,1.4s
CLL ⇑ iPKPab PKPab 11 45 18.5 +0.5
comp=Z,89nm,1.1s
CLL i x x 11 45 30.6
CLL i x x 11 45 42.1
CLL ex x 11 50 05.0
CLL ex x 12 03 00.0
CLL eSS SS 12 07 55.0 +1.2
CLL eSSS 12 13 29.0
CLL eSSSS 12 17 30.0
CLL LmH 12 59 00.0
comp=N,1μm,18.5s
CLL LmH 12 59 00.0
comp=E,2μm,18.4s
CLL Collm 148.94 352⇓ ePKIKP PKPdf 11 45 11.0 +1.1
CLL i 11 45 14.1
CLL i 11 45 18.5
CLL pmax pmax
comp=Z,25nm,1.6s
CLL pmax pmax
comp=Z,125nm,1.4s
CLL pmax pmax
comp=Z,89nm,1.1s
CLL MLR MLR
comp=Z,3μm,17.2s,MS6.1
CLL Collm 148.94 352 ePKP PKPdf 11 45 11.0 +1.1
CLL ⇓ iPKP PKPbc 11 45 14.1 +0.2
KOLS Kolonicke sedl 148.95 339 ePKP2 PKPab 11 45 17.5 -0.6
KOLS MLR MLR
comp=Z,1μm,20.3s,MS5.7
DRWC Darouich 148.95 307 ⇑P PKPbc 11 45 14.5 +0.5
BURAR Bucovina Array 148.96 334 ⇓ iP PKPbc 11 45 15.0 +1.0
BURAR Bucovina Array 148.96 334 ⇓ iP PKPbc 11 45 16.5 +2.5
GTTG Gyttingen 149.03 355 ePKPbc PKPbc 11 45 14.8 +0.6
NIE Niedzica 149.14 342 ePKPab PKPbc 11 45 15.4 +0.9
UPC Upice 149.20 348⇑ ePKPB PKPbc 11 45 16.7 +2.1
UZH Uzhgorod 149.20 339 i PKP2 PKPbc 11 45 14.0 -0.6
UZH MLR MLR
comp=Z,2μm,18.0s,MS6.0
BRG Berggiesshubel 149.22 350 ePKPdf PKPdf 11 45 10.5 +0.1
BRG Berggiesshubel 149.22 350 i PKP PKPdf 11 45 11.1 +0.7
comp=Z,36nm,2.0s
BRG i 11 45 15.0
comp=Z,135nm,1.8s
BRG i 11 45 31.3
comp=Z,23nm,1.1s
BRG e 11 52 11.9
comp=Z,6.8nm,1.0s
BRG SS SS 12 07 55.0 -2.0
BRG
comp=N,1μm,17.9s
BRG
comp=E,1μm,18.4s
BRG
comp=Z,2μm,17.2s
BRG Berggiesshubel 149.22 350 i PKIKP PKPdf 11 45 11.1 +0.7
BRG i 11 45 15.0
BRG e 11 52 11.9
BRG SS SS 12 07 55.0 -2.0
BRG pmax pmax
comp=Z,36nm,2.0s
BRG MLR MLR
comp=N,1μm,17.9s,MS5.8
BRG MLR MLR
comp=E,1μm,18.4s,MS5.8
BRG MLR MLR
comp=Z,2μm,17.2s,MS5.9
KOZT Kozan 149.23 309 eP PKPdf 11 45 11.8 +1.4
CRVS Cervenica-Dubn 149.24 340 ePKP PKPbc 11 45 15.8 +1.1
CANT Cankiri 149.26 316 eP PKPbc 11 45 16.0 +1.3
CDAG Cicekdag 149.27 314 i P PKPbc 11 45 15.0 +0.2
BUG Bochum--Univer 149.28 359 ePKPdf PKPdf 11 45 10.4 -0.1
BUG ePKPbc PKPbc 11 45 15.7 +0.9
DPC Dobruska-Polom 149.29 347⇑ ePKPB PKPbc 11 45 15.1 +0.3
DPC ex x 11 59 09.7
DPC eSS SS 12 07 58.7 +1.0
DPC AMS AMS 13 01 00.0
comp=Z,3μm,18.2s
COBT Iskenderun 149.30 307 i P PKPbc 11 45 13.0 -1.9
ROOS tl_alroos 149.32 303 ⇑P PKPbc 11 45 16.6 +1.7
BTCH Batrach 149.33 306 ⇑P PKPbc 11 45 15.3 +0.4
AVNT Avonos 149.34 312 i P PKPdf 11 45 08.0 -2.6
OKC Ostrava-Krasne 149.35 345⇑ ePKPB PKPbc 11 45 15.2 +0.2
OKC ex x 11 59 03.3
OKC eSS SS 12 08 00.1 +1.7
OKC AMS AMS 12 47 40.0
comp=Z,2μm,20.5s
KFRA Kufra 149.36 305 ⇑P PKPbc 11 45 17.0 +2.0
ELDT Eldivan 149.45 316 i P PKPdf 11 45 12.0 +1.3
CEYT Ceyhan 149.48 309 eP PKPbc 11 45 16.1 +0.8
SAFT Safranbolu 149.51 318 eP PKPbc 11 45 12.2 +1.4
CFR Carcaliu 149.52 328 ⇑P PKPbc 11 45 15.6 +0.2
CFR Carcaliu 149.52 328 ⇑P PKPbc 11 45 15.6 +0.2
MORC Moravsky Berou 149.55 345⇑ iP PKPbc 11 45 13.8 -1.7
MORC Moravsky Berou 149.55 345 ePKPbc PKPbc 11 45 15.0 -0.5
WRDH Warideh 149.56 306 ⇑P PKPbc 11 45 16.2 +0.7
SLNF Slenfeh 149.67 306 ⇑P PKPbc 11 45 14.7 -1.0
VRI Vrincioaia 149.68 331⇑ iP PKPbc 11 45 15.8 0.0
VRI Vrincioaia 149.68 331⇑ iP PKPbc 11 45 16.6 +0.8
VRI Vrincioaia 149.68 331 ⇓P PKPbc 11 45 16.6 +0.8
BR131 Keskin Array S 149.71 315 ePKPdf PKPdf 11 45 11.5 +0.3
BR131 ePKPbc PKPbc 11 45 16.3 +0.4
BRTR Keskin Array B 149.71 315 PKP PKPdf 11 45 11.0 -0.2
comp=Z,4.0nm,0.9s,baz=132,slow=1.8,SNR=16
BRTR PKPbc PKPbc 11 45 16.6 +0.7
comp=Z,9.2nm,0.6s,baz=126,slow=2.6,SNR=25
PLOR Plostina 149.72 331⇑ iP PKPbc 11 45 16.3 +0.4
MOX Moxa 149.77 353 ePKPdf PKPdf 11 45 11.3 0.0
MOX ePKPbc PKPbc 11 45 16.6 +0.6
MOX Moxa 149.77 353 ePKP PKPbc 11 45 16.3 +0.3
comp=Z,136nm,1.6s
MOX
comp=Z,2μm,19.0s
MOX Moxa 149.77 353 ePKP2 PKPbc 11 45 16.3 +0.3
MOX pmax pmax
comp=Z,25nm,1.6s
MOX MLR MLR
comp=Z,136μm,19.0s
BIDA Albida 149.80 305 ⇑P PKPbc 11 45 16.7 +0.7
KAMT Kaman 149.84 314 eP PKPdf 11 45 11.2 -0.1
WERD Werda 149.88 352 ePKPdf PKPdf 11 45 11.8 +0.4
WERD ePKPbc PKPbc 11 45 17.0 +0.7
KARA Karaisali 149.88 310 eP PKPdf 11 45 12.4 +0.9
TIRR Tirgusor 149.89 327⇓ iP PKPbc 11 45 16.2 -0.1
TIRR Tirgusor 149.89 327 ePKPbc PKPbc 11 45 16.6 +0.3
HAWK Haweek 149.90 304 ⇑P PKPbc 11 45 18.6 +2.3
UCC Uccle 149.90 2 PKPbc PKPbc 11 45 16.4 +0.1
KECS Kecovo 149.92 341 ePKP PKPbc 11 45 16.5 +0.1
KECS e 11 45 39.8
BEBN Eben Emael 149.93 0 PKPbc PKPbc 11 45 17.1 +0.7
HGN Heimansgroeve 149.97 0 ePKiKP PKiKP 11 45 16.2 -1.2
comp=Z,52nm,1.9s
HGN ePP PP 11 48 48.3 -2.3
HGN ePPP 11 52 10.6
HARR Harsova 149.97 328⇓ iP PKPbc 11 45 17.6 +1.1
PRU Pruhonice 149.98 349⇑ ePKPB PKPbc 11 45 17.0 +0.5
PRU ex x 11 59 19.1
PRU eSS SS 12 08 08.0 +2.6
PRU AMS AMS 13 00 40.0
comp=Z,3μm,18.0s
FKH Fakeheh 150.00 303 eP PKPbc 11 45 18.0 +1.4
MENF Mencas 150.01 5 PKP PKPbc 11 45 15.8 -0.8
NKC Novy Kostel 150.07 352⇑ ePKPB PKPbc 11 45 17.5 +0.8
NKC AMS AMS 13 00 30.0
comp=Z,3μm,18.8s
MEM Membach 150.12 0 PKPbc PKPbc 11 45 17.4 +0.6
CVD Cernavoda 150.19 327⇑ iP PKPbc 11 45 16.6 -0.4

CVD	**Cernavoda**	**150.19 327**	⇑P		PKPbc	11 45 16.6	-0.4
ANTO	**Ankara**	**150.19 316**	*e*P		PKPdf	11 45 11.6	-0.3
ANTO	**Ankara**	**150.19 316**	⇑*i*P		PKPdf	11 45 12.3	+0.4
SALA	**Sala**	**150.19 300**	⇑P		PKPbc	11 45 18.6	+1.6
SNF	**Seneffe**	**150.19 2**	P	KP	PKPdf	11 45 13.8	+1.8
SNF				PKPbc	PKPbc	11 45 17.8	+0.7
TOTH	**TOTAH**	**150.25 301**	⇑P		PKPdf	11 45 18.6	+1.4
SGKT	**Sivrigoynuk**	**150.28 318**	*i* P		PKPdf	11 45 11.7	-0.4
QASN	**Qassioun**	**150.32 302**	⇑P		PKPdf	11 45 14.3	+2.2
MLR	**Muntele Rosu**	**150.32 331**	PKP		PKPdf	11 45 12.0	-0.2
	comp=Z,25nm,1.1s,baz=63,slow=5.6,SNR=8.2						
MLR				PKPbc	PKPbc	11 45 17.7	+0.3
	comp=Z,46nm,0.9s,baz=13,slow=3.6,SNR=31						
MLR	**Muntele Rosu**	**150.32 331**	⇑*i*P		PKPdf	11 45 12.8	+0.7
MLR	**Muntele Rosu**	**150.32 331**	PKIKP		PKPdf	11 45 12.0	-0.1
MLR						11 45 17.7	
MLR				pmax	pmax		
	comp=Z,25nm,1.1s						
MLR				pmax	pmax		
	comp=Z,46nm,1.0s						
MLR	**Muntele Rosu**	**150.32 331**	⇑P		PKPdf	11 45 12.8	+0.6
MANZ	**Manzenberg**	**150.35 352**	*e*PKPdf		PKPdf	11 45 12.7	+0.5
MANZ			*e*PKPbc		PKPbc	11 45 17.9	+0.5
VYHS	**Vyhne**	**150.40 343**	*e*PKP		PKPbc	11 45 17.8	+0.3
VYHS			*e*			11 45 41.5	
MERS	**Mersin**	**150.43 309**	*e*P		PKPdf	11 45 11.2	-1.1
TNS	**Taunus Mts**	**150.45 357**	*e*PKPdf		PKPdf	11 45 11.9	-0.4
TNS			*e*PKPbc		PKPbc	11 45 17.4	-0.2
TNS	**Taunus Mts**	**150.45 357**	*e*PKPdf		PKPdf	11 45 11.9	-0.4
TNS			*e*PKPbc		PKPbc	11 45 17.4	-0.2
TREC	**Trest**	**150.46 347**	⇑*e*PKPB		PKPbc	11 45 18.2	+0.5
TREC			AMS		AMS	13 02 20.0	
ROTZ	**Rotzenmuhle**	**150.56 352**	*e*PKPdf		PKPdf	11 45 12.5	0.0
ROTZ			*e*PKPbc		PKPbc	11 45 18.2	+0.3
PSZ	**Piszkesteto**	**150.60 341**	⇓*es*PKP/p		PKPbc	11 45 17.7	-0.3
PSZ	**Piszkesteto**	**150.60 341**	*e*PKPbc		PKPbc	11 45 17.5	-0.5
BRBR	**Barbar**	**150.61 302**	⇑P		PKPbc	11 45 19.2	+1.2
DOU	**Dourbes**	**150.61 2**	PKPbc		PKPbc	11 45 18.4	+0.4
DOU			XPKPab			11 45 31.1	
GIVF	**Givet**	**150.61 2**	*e*PKP1		PKPbc	11 45 17.9	-0.1
	comp=Z,86nm,0.9s						
DRGR		**150.62 336**	⇑*i*P		PKPdf	11 45 13.3	+0.7
DRGR		**150.62 336**	⇑*i*P		PKPbc	11 45 18.2	+0.2
DRGR		**150.62 336**	⇑P		PKPdf	11 45 13.3	+0.7
BAIF	**Baives**	**150.64 2**	*e*PKP1		PKPbc	11 45 18.1	0.0
	comp=Z,83nm,1.0s						
BHL	**Bhannes**	**150.69 303**	*e*P		PKPbc	11 45 18.9	+0.6
GRA1	**Grafenberg Arr**	**150.75 353**	*e*PKPdf		PKPdf	11 45 13.6	+0.8
GRA1			*e*PKPbc		PKPbc	11 45 19.3	+0.9
GRA1			*e*PKPab		PKPab	11 45 26.2	+0.8
GRA1			LR		LR		
	comp=Z,3μm,19.6s,MS6.1						
GRF	**Grafenberg Arr**	**150.75 353**	*e*PKPdf		PKPdf	11 45 13.6	+0.8
GRF			*e*PKPbc		PKPbc	11 45 19.3	+0.9
GRF			*e*PKPab		PKPab	11 45 26.2	+0.8
GRF			*e*L			12 58 33.4	
	comp=Z,3μm,19.6s						
SMOL	**Smolenice**	**150.75 344**	*e*PKP		PKPbc	11 45 19.2	+0.8
VOIR		**150.76 332**	⇑*i*P		PKPdf	11 45 14.3	+1.5
VOIR		**150.76 332**	⇑P		PKPdf	11 45 14.3	+1.5
TCHB	**Talchebab**	**150.82 300**	⇑P		PKPbc	11 45 20.3	+1.7
MEST	**Erdemli**	**150.82 309**	*i* P		PKPbc	11 45 18.7	+0.2
ABH	**Alteburg**	**150.83 358**	PKP		PKPbc	11 45 17.7	-0.8
KHC	**Kasperske Hory**	**150.97 350**	⇑*e*PKPB		PKPbc	11 45 19.4	+0.5
KHC			*ex*		x	11 59 07.3	
KHC			*e*SS		SS	12 08 16.5	+0.1
KHC			AMS		AMS	13 05 30.0	
	comp=Z,2μm,16.9s						
WLF	**Walferdange**	**151.07 360**	PKPbc		PKPbc	11 45 20.0	+0.9
WLF			E			11 45 35.9	
WLF	**Walferdange**	**151.07 360**	*e*PKPbc		PKPbc	11 45 19.6	+0.5
ZST	**Bratislava**	**151.13 345**	*e*PKP		PKPbc	11 45 20.0	+0.8
ZST			*e*			11 45 38.7	
ZST	**Bratislava**	**151.13 345**	*e*PKIKP		PKPbc	11 45 20.1	+0.9
ZST			MLR		MLR		
	comp=Z,708nm,18.7s,MS5.5						
MMAI	**Mount Meron Ar**	**151.17 301**	PKP		PKPdf	11 45 13.5	0.0
	comp=Z,0.4nm,0.3s,baz=275,slow=40,SNR=3.6						
MMAI			PKPbc		PKPbc	11 45 20.9	+1.6
	comp=Z,54nm,0.9s,baz=59,slow=4.0,SNR=34						
GEC2	**GERESS Array S**	**151.23 349**	*e*PKPdf		PKPdf	11 45 13.8	+0.3
GERES	**GERESS Array B**	**151.23 349**	PKP		PKPdf	11 45 12.1	-1.4
	comp=Z,1.4nm,0.8s,baz=258,slow=4.0,SNR=5.3						
GERES			PKPbc		PKPbc	11 45 19.8	+0.3
	comp=Z,10nm,0.8s,baz=22,slow=1.4,SNR=24						
IKL	**Isikli**	**151.31 309**	*e*P		PKPbc	11 45 19.7	0.0
KIZT	**Kizilcal**	**151.31 315**	*e*P		PKPbc	11 45 19.7	0.0
ROSF	**Rostrenen**	**151.39 13**	*e*PKP1		PKPbc	11 45 18.9	-1.0
	comp=Z,141nm,1.5s						
KONT	**Konya--Tatoy**	**151.46 313**	*e*P		PKPbc	11 45 20.1	+0.1
FLN	**La Foliniere**	**151.48 9**	*e*PKP1		PKPbc	11 45 19.4	-0.7
	comp=Z,189nm,1.3s						
FLN			*e*R			11 48 48.7	
	comp=Z,3μm,21.0s						
SGMF	**Saint Gilles**	**151.62 12**	*e*PKP1		PKPbc	11 45 19.4	-1.0
	comp=Z,140nm,1.5s						
BORA	**Eskisehir**	**151.68 318**	*i* P		PKPbc	11 45 20.9	+0.4
ERMK	**Ermenek**	**151.69 310**	*i* P		PKPbc	11 45 20.9	+0.4
LDF	**La Druitiere**	**151.70 9**	*e*PKP1		PKPbc	11 45 19.8	-0.8
	comp=Z,85nm,1.1s						
LANF	**Langenberg**	**151.72 358**	PKP		PKPdf	11 45 15.3	+1.0
SOP	**Sopron**	**151.74 345**	⇑*es*PKP/p		PKPbc	11 45 21.0	+0.3
GRR	**Gorron**	**151.79 10**	*e*PKP1		PKPbc	11 45 20.2	-0.6
	comp=Z,45nm,0.7s						
QUIF	**Quistinic**	**151.81 13**	*e*PKP1		PKPbc	11 45 20.0	-0.8
	comp=Z,152nm,1.5s						
STU	**Stuttgart**	**151.85 356**	*e*PKPbc		PKPbc	11 45 22.4	+1.5
BZS	**Buzias**	**152.02 336**	⇑*i*P		PKPdf	11 45 15.6	+0.9
BZS	**Buzias**	**152.02 336**	⇑P		PKPdf	11 45 15.6	+0.9
CSS	**Prodhromos**	**152.10 306**	*e*PKPbc		PKPbc	11 45 21.8	+0.3
MEZF	**Maizieres J'vi**	**152.22 1**	*e*PKP1		PKPbc	11 45 21.8	+0.1
	comp=Z,83nm,1.1s						
WLS	**Welschbruch**	**152.30 358**	PKP		PKPbc	11 45 21.9	0.0
CDF	**Champ du Feu**	**152.30 358**	*e*PKP1		PKPbc	11 45 21.8	-0.1
	comp=Z,61nm,1.2s						
ULDT	**Uludag**	**152.34 320**	*i* P		PKPdf	11 45 17.1	+1.9
BFO	**Black Forest**	**152.34 357**	*e*PKPbc		PKPbc	11 45 22.4	+0.4
BFO	**Black Forest**	**152.34 357**	*e*PKPbc		PKPbc	11 45 22.1	0.0
ARSA	**Arzberg**	**152.39 346**	⇑*i*P		PKPdf	11 45 15.3	0.0
	comp=Z,34nm,1.4s						
EIL	**Elat**	**152.41 295**	*e*PKPdf		PKPdf	11 45 17.4	+2.0
EIL			*e*PKPbc		PKPbc	11 45 23.5	+1.3
ECH	**Echery**	**152.50 358**	PKP		PKPbc	11 45 22.0	-0.4
THEF	**They Montfort**	**152.51 0**	PKP		PKPbc	11 45 21.8	-0.6
PKSM	**Moragy**	**152.51 341**	⇑*i*P		PKPdf	11 45 14.7	-0.8
PKSM	**Moragy**	**152.51 341**	PKIKP		PKPdf	11 45 15.3	-0.2
PKSM	**Moragy**	**152.51 341**	⇑P		PKPdf	11 45 14.7	-0.8
HAU	**Haudompre**	**152.73 360**	*e*PKP1		PKPbc	11 45 23.7	+0.8
	comp=Z,24nm,0.8s						
HAU			*e*R			11 48 48.7	
	comp=Z,2μm,18.8s						
ISP	**Isparta**	**152.77 314**	*e*PKIKP		PKPbc	11 45 23.0	0.0
TKTP	**Tekketepe**	**152.79 315**	*i* P		PKPdf	11 45 19.3	+3.4
FELD	**Feldberg im Sc**	**152.81 357**	PKP		PKPdf	11 45 16.8	+0.9
MOF	**Molkenrain**	**152.87 358**	PKP		PKPbc	11 45 21.8	-1.4
HINF	**Hinteralfeld**	**152.91 359**	*e*PKP1		PKPbc	11 45 22.8	-0.5
KBA	**Koelnbreinsper**	**153.00 349**	⇓*i*P		PKPdf	11 45 15.9	-0.2
	comp=Z,50nm,1.3s						
KBA	**Koelnbreinsper**	**153.00 349**	⇓*i*P		PKPdf	11 45 15.9	-0.2
PERS	**Pernice**	**153.06 346**	*e*PKPdf		PKPbc	11 45 21.8	-1.8
MOTA	**Moosalm**	**153.07 352**	⇑*i*P		PKPdf	11 45 17.3	+1.0
	comp=Z,40nm,1.1s						
WTTA	**Wattenberg**	**153.09 352**	⇓*i*P		PKPdf	11 45 16.4	+0.1
	comp=Z,43nm,0.7s,SNR=5.8						
BEO	**Belgrade**	**153.12 337**	⇑*i*P		PKPbc	11 45 23.3	-0.5
BBS	**Basel-Blauen**	**153.24 358**	PKIKP		PKPdf	11 45 17.0	+0.5
DAVA	**Damuels**	**153.27 354**	⇑*i*P		PKPdf	11 45 15.5	-1.1
	comp=Z,45nm,1.0s						
HYF	**Humbligny**	**153.32 5**	*e*PKP1		PKPbc	11 45 24.2	0.0
LOMF	**Lomont**	**153.38 359**	PKP		PKPbc	11 45 22.7	-1.6
LOR	**Lormes**	**153.41 3**	*e*PKP1		PKPbc	11 45 24.2	-0.2
	comp=Z,80nm,1.4s						
LOR			*e*R			11 48 48.7	
	comp=Z,4μm,18.8s						
SSF	**Saint Saulge**	**153.59 4**	*e*PKP1		PKPbc	11 45 24.7	-0.1
	comp=Z,58nm,1.1s						
MFF	**Saint Martin d**	**153.64 10**	*e*PKP1		PKPbc	11 45 24.3	-0.6
LJU	**Ljubljana**	**153.75 347**	*e*PKPdf		PKPdf	11 45 18.0	+0.7
LJU			*e*			11 45 25.0	
AVF	**Avril sur Loir**	**153.85 4**	*e*PKP1		PKPbc	11 45 24.8	-0.5
	comp=Z,38nm,1.2s						
VOY	**Vojsko**	**153.90 348**	*e*PKPbc		PKPbc	11 45 25.3	-0.1
VOY			*e*			11 45 28.7	
VOY			*e*			11 45 35.5	
VOY			*e*			11 45 37.9	
VOY			*e*			11 45 48.7	
DIVS	**Divcibare**	**153.91 337**	⇑*i*P		PKPdf	11 45 16.8	-0.7
SMF	**Signal de Mont**	**154.03 3**	*e*PKP1		PKPbc	11 45 25.2	-0.5
BGF	**Bois d'Agland**	**154.04 5**	*e*PKP1		PKPbc	11 45 25.5	-0.3
	comp=Z,50nm,1.1s						
BOJS	**Bojanci**	**154.10 345**	*i* PKPdf		PKPdf	11 45 18.1	+0.4
BOJS			*e*PKPbc		PKPbc	11 45 26.2	+0.4
CABF	**La Chapelle**	**154.12 360**	*e*PKP1		PKPbc	11 45 26.3	+0.4
TCF	**Toulx Ste Croi**	**154.25 6**	*e*PKP1		PKPbc	11 45 25.7	-0.5
BBLS	**Bajina Basta -**	**154.33 337**	⇑*i*P		PKPdf	11 45 18.7	+0.7
PLDF	**La Plantade**	**154.59 4**	PKP		PKiKP	11 45 28.1	+1.0
PYM	**Petit Puy Mans**	**154.86 5**	PKP		PKiKP	11 45 29.1	+1.6
STIP	**Stip**	**154.99 331**	*e*PKP		PKPdf	11 45 20.0	+1.0
VAY	**Valandovo**	**155.10 329**	*e*PKP		PKPdf	11 45 23.1	+4.0
SKO	**Skopje**	**155.10 332**	*e*PKP		PKPdf	11 45 21.1	+2.0
PBRG	**Braganca**	**156.31 24**	*e*PKPab		PKPab	11 45 49.3	+0.3
PVRL	**Vila Real**	**156.37 27**	*e*PKPab		PKPab	11 45 48.5	-0.7
PVIS	**Viseu**	**156.75 28**	*e*PKPdf		PKPdf	11 45 23.4	+2.1
PVIS	**Viseu**	**156.75 28**	*e*PKPab		PKPab	11 45 50.6	-0.3
VILF	**Villemus**	**156.88 1**	PKP			11 45 36.3	
MTE	**Manteigas**	**157.16 28**	*e*PKPab		PKPab	11 45 50.5	-2.1
MTE	**Manteigas**	**157.16 28**	*e*LR		LR	12 39 39.7	
	comp=Z,3μm,11.7s						
MTE	**Manteigas**	**157.16 28**	*e*LQ			12 50 06.3	
PTOM	**Tomar**	**157.41 30**	*e*PKPdf		PKPdf	11 45 22.6	+0.4
PTOM	**Tomar**	**157.41 30**	*e*PKPab		PKPab	11 45 53.8	+0.1
AQU	**L'Aquila**	**157.51 346**	*e*PKP2		PKPab	11 45 53.8	-0.3
PCBR	**Castelo Branco**	**157.65 28**	*e*PKPdf		PKPdf	11 45 23.5	+1.0
PBEJ	**Beja**	**158.92 32**	*e*PKPdf		PKPdf	11 45 25.5	+1.5
ESDC	**Sonseca Array**	**159.20 22**	PKP		PKPdf	11 45 23.3	-1.0
	comp=Z,0.2nm,0.3s,baz=1.5,slow=0.7,SNR=5.2						
ESDC			PKPab		PKPab	11 46 01.5	0.0
	comp=Z,4.5nm,0.8s,baz=323,slow=4.3,SNR=8.0						
TIP	**Timpagrande**	**159.38 336**	*e*PKPdf		PKPdf	11 45 24.9	+0.3
TIP			*ep*PKPdf		pPKPdf	11 45 40.7	+7.0
DBIC	**Dimbokro**	**162.52 141**	PKP		PKPdf	11 45 28.1	+0.2
	comp=Z,14nm,1.0s,baz=249,slow=1.3,SNR=6.7						
DBIC			PKPab		PKPab	11 46 14.6	-1.4
	comp=Z,6.1nm,0.9s,baz=203,slow=2.8,SNR=2.2						
MDT	**Midelt**	**164.62 36**	PKP		PKPdf	11 45 30.2	+0.3
	comp=Z,9.2nm,1.1s,baz=49,slow=1.8,SNR=8.5						
MDT			PKPab		PKPab	11 46 26.7	+1.5
	comp=Z,12nm,1.3s,baz=266,slow=6.2,SNR=2.5						
TORD	**Torodi Ar. Bea**	**171.44 150**	PKP		PKPdf	11 45 33.7	-0.8
	comp=Z,7.1nm,1.0s,baz=338,slow=1.8,SNR=21						
TORD			PKPab		PKPab	11 46 55.4	+0.1
	comp=Z,4.2nm,0.9s,baz=200,slow=3.4,SNR=6.9						

*ISCJB **04** 11:29:48.8±0.2, 4833N±001×658E±002, h8km±3km, Error ellipse: s-maj=2.6km s-min=2.2km az=92.1*
*STR **04** 11:29:50.6±0.2, 4835N×668E, h10km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **04** 11:29:50.9±0.0, 4835N×666E, h10km, ML2.9/13, Error ellipse: s-maj=0.8km s-min=0.7km az=148.0*
*LDG **04** 11:29:51.2±0.1, 4833N×664E, h10km, Md2.9/3, Ml2.9/13, Error ellipse: s-maj=1.1km s-min=0.8km az=158.0*
*NEIC **04** 11:29:51.2, 4833N×664E, h10km, ML2.9(LDG), After LDG.*
*BGR **04** 11:29:52.4±1.1, 4838N×679E, h10km, ML2.1, Error ellipse: s-maj=14.5km s-min=5.6km az=39.0*

ISC 04 11:29:50.1±0.2, 4833N±001×663E±002, h16km±3km, n63, σ0$78/129, France

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ECH	**Echery**	**0.37**	**108**	Pg		**Pg**		**11 29 58.1**	**+0.4**
ECH				Sg		**Sg**		**11 30 02.7**	**-0.2**
HAU	**Haudompre**	**0.38**	**210**	*e*Pg		**Pg**		**11 29 58.9**	**+1.0**
	SNR=1.0								
HAU				*e*Sg		**Sg**		**11 30 03.9**	**+0.8**
	114nm,0.3s								
HAU	**Haudompre**	**0.38**	**210**	*e*Pg		**Pg**		**11 29 58.9**	**+1.0**
	SNR=1.0								
HAU				*e*Sg		**Sg**		**11 30 03.9**	**+0.8**
	57nm,0.3s								
CDF	**Champ du Feu**	**0.44**	**79**	*e*Pg		**Pg**		**11 29 59.3**	**+0.4**
	SNR=1.0								
CDF				*e*Sg		**Sg**		**11 30 04.6**	**-0.3**
	56nm,0.3s,SNR=1.0								
CDF	**Champ du Feu**	**0.44**	**79**	*e*Pg		**Pg**		**11 29 59.3**	**+0.4**
	SNR=1.0								
CDF				*e*Sg		**Sg**		**11 30 04.6**	**-0.3**
	28nm,0.3s,SNR=1.0								
THEF	**They Montfort**	**0.44**	**256**	Pg		**Pg**		**11 30 00.0**	**+1.0**
THEF				Sg		**Sg**		**11 30 06.1**	**+1.0**
WLS	**Welschbruch**	**0.49**	**80**	Pg		**Pg**		**11 30 00.3**	**+0.4**
WLS				Sg		**Sg**		**11 30 06.6**	**+0.2**
HINF	**Hinteralfeld**	**0.54**	**164**	*e*Pg		**Pg**		**11 30 01.4**	**+0.6**
	SNR=1.0								
HINF				*e*Sg		**Sg**		**11 30 08.1**	**+0.1**
	87nm,0.2s,SNR=1.0								
HINF				*e*Sn		**Sg**		**11 30 10.9**	**+2.9**
	SNR=1.0								
HINF	**Hinteralfeld**	**0.54**	**164**	*e*Pg		**Pg**		**11 30 01.4**	**+0.6**
	SNR=1.0								
HINF				*e*Sg		**Sg**		**11 30 08.1**	**+0.1**
	44nm,0.2s,SNR=1.0								
HINF				*e*Sn		**Sg**		**11 30 10.9**	**+2.9**
	SNR=1.0								
MOF	**Molkenrain**	**0.59**	**145**	Pg		**Pg**		**11 30 02.5**	**+0.8**
MOF				Sg		**Sg**		**11 30 09.4**	**-0.2**
RFYF	**Reffroy**	**0.82**	**291**	*e*Pg		**Pg**		**11 30 07.0**	**+0.9**
	baz=124								
RFYF				*e*Sg		**Sg**		**11 30 18.0**	**+1.0**
	91nm,0.2s								
RFYF	**Reffroy**	**0.82**	**291**	*e*Pg		**Pg**		**11 30 07.0**	**+0.9**
RFYF				*e*Sg		**Sg**		**11 30 18.0**	**+1.0**
	46nm,0.2s								
LOMF	**Lomont**	**0.99**	**172**	Pg		**Pg**		**11 30 10.0**	**+0.7**
LOMF				Sg		**Sg**		**11 30 23.1**	**+0.8**
LANF	**Langenberg**	**1.01**	**50**	Pg		**Pg**		**11 30 10.3**	**+0.6**
LANF				Sg		**Sg**		**11 30 22.6**	**-0.4**
FELD	**Feldberg im Sc**	**1.03**	**116**	Pg		**Pg**		**11 30 10.1**	**+0.1**
FELD				Sg		**Sg**		**11 30 23.3**	**-0.2**
MEZF	**Maizieres J'vi**	**1.06**	**280**	*e*Pn		**Pn**		**11 30 10.7**	**+0.4**
	baz=100,SNR=1.0								
MEZF	**Maizieres J'vi**	**1.06**	**280**	*e*Pg		**Pg**		**11 30 11.4**	**+0.7**
MEZF				*e*Sn		**Sn**		**11 30 25.0**	**+0.3**
	18nm,0.2s,SNR=1.0								
MEZF	**Maizieres J'vi**	**1.06**	**280**	*e*Pn		**Pn**		**11 30 10.7**	**+0.4**
MEZF				*e*Pg		**Pg**		**11 30 11.4**	**+0.7**
MEZF				*e*Sn		**Sn**		**11 30 25.0**	**+0.3**
MEZF	**Maizieres J'vi**	**1.06**	**280**	*e*Pg		**Pg**		**11 30 11.4**	**+0.7**
MEZF				*e*Sn		**Sn**		**11 30 25.0**	**+0.3**
	8.9nm,0.2s,SNR=1.0								
SFTF	**Sexfontaines**	**1.07**	**264**	*e*Pn		**Pn**		**11 30 11.0**	**+0.6**
	baz=86								
SFTF	**Sexfontaines**	**1.07**	**264**	*e*Pg		**Pg**		**11 30 11.7**	**+0.9**
SFTF				*e*Sg		**Sg**		**11 30 26.0**	**+1.2**
	32nm,0.2s								
SFTF	**Sexfontaines**	**1.07**	**264**	*e*Pn		**Pn**		**11 30 11.0**	**+0.6**
SFTF				*e*Pg		**Pg**		**11 30 11.7**	**+0.9**
SFTF				*e*Sg		**Sg**		**11 30 26.0**	**+1.2**
SFTF	**Sexfontaines**	**1.07**	**264**	*e*Pg		**Pg**		**11 30 11.7**	**+0.9**
SFTF				*e*Sg		**Sg**		**11 30 26.0**	**+1.2**
	16nm,0.2s								
BFO	**Black Forest**	**1.13**	**90**	*e*Pg		**Pg**		**11 30 11.6**	**-0.4**
BFO				*e*Sg		**Sg**		**11 30 24.5**	**-2.3**
BFO	**Black Forest**	**1.13**	**90**	*e*Pg		**Pg**		**11 30 11.6**	**-0.4**
BFO				*e*Sg		**Sg**		**11 30 24.5**	**-2.3**
WLF	**Walferdange**	**1.37**	**347**	*e*Pg		**Pg**		**11 30 16.5**	**0.0**
WLF				*e*Sg		**Sg**		**11 30 34.9**	**+0.6**
WLF	**Walferdange**	**1.37**	**347**	P		**Pn**		**11 30 15.8**	**+1.4**
WLF				S		**Sn**		**11 30 33.7**	**+1.4**
	comp=E,15nm,0.0s								
WLF	**Walferdange**	**1.37**	**347**	P		**Pn**		**11 30 15.8**	**+1.3**
WLF	**Walferdange**	**1.37**	**347**	Pg		**Pg**		**11 30 16.5**	**0.0**
WLF				S		**Sn**		**11 30 33.6**	**+1.4**
WLF				Sg		**Sg**		**11 30 34.9**	**+0.6**
RUP	**Ruppelstein**	**1.40**	**12**	Pg		**Pg**		**11 30 17.1**	**+0.1**
RUP				Sg		**Sg**		**11 30 35.0**	**-0.3**
ABH	**Alteburg**	**1.66**	**21**	Pg		**Pg**		**11 30 21.9**	**-0.2**
ABH				Sg		**Sg**		**11 30 43.5**	**-0.2**
CABF	**La Chapelle**	**1.76**	**192**	*e*Pg		**Pg**		**11 30 24.5**	**+0.6**
CABF				*e*Sg		**Sg**		**11 30 46.6**	**-0.2**
	comp=E,20nm,0.5s,SNR=1.0								
CABF	**La Chapelle**	**1.76**	**192**	*e*Pn		**Pn**		**11 30 20.4**	**+0.5**
CABF				*e*Pg		**Pg**		**11 30 24.5**	**+0.6**
CABF				*e*Sg		**Sg**		**11 30 46.6**	**-0.2**
CABF	**La Chapelle**	**1.76**	**192**	*e*Pg		**Pg**		**11 30 24.5**	**+0.6**
CABF				*e*Sg		**Sg**		**11 30 46.6**	**-0.2**
	comp=E,10nm,0.5s,SNR=1.0								
TOD	**Tromm**	**1.92**	**48**	Pg		**Pg**		**11 30 27.0**	**+0.1**
TOD				Sg		**Sg**		**11 30 51.1**	**-0.7**
GIVF	**Givet**	**2.13**	**327**	*e*Pg		**Pg**		**11 30 30.9**	**-0.1**
GIVF				*e*Sg		**Sg**		**11 30 57.1**	**-1.5**
	comp=E,7.9nm,0.2s,SNR=1.0								
GIVF	**Givet**	**2.13**	**327**	*e*Pg		**Pg**		**11 30 30.9**	**-0.1**
GIVF				*e*Sg		**Sg**		**11 30 57.1**	**-1.5**
	comp=E,4.0nm,0.2s,SNR=1.0								
LOR	**Lormes**	**2.15**	**241**	*e*Pn		**Pn**		**11 30 25.5**	**+0.3**
	baz=64,SNR=1.0								
LOR	**Lormes**	**2.15**	**241**	*e*Pg		**Pg**		**11 30 31.2**	**-0.2**
	baz=64,SNR=1.0								
LOR				*e*Sg		**Sg**		**11 30 58.2**	**-1.1**
	comp=E,16nm,0.2s,SNR=1.0								
LOR	**Lormes**	**2.15**	**241**	*e*Pn		**Pn**		**11 30 25.5**	**+0.3**
LOR				*e*Pg		**Pg**		**11 30 31.2**	**-0.2**
LOR				*e*Sg		**Sg**		**11 30 58.2**	**-1.1**
LOR	**Lormes**	**2.15**	**241**	*e*Pg		**Pg**		**11 30 31.2**	**-0.2**
	SNR=1.0								
LOR				*e*Sg		**Sg**		**11 30 58.2**	**-1.1**
	comp=E,8.2nm,0.2s,SNR=1.0								
TNS	**Taunus Mts**	**2.23**	**31**	*e*Sg		**Sg**		**11 31 00.6**	**-1.3**
BAIF	**Baives**	**2.35**	**318**	*e*Pn		**Pn**		**11 30 28.0**	**+0.1**
BAIF				*e*Sg		**Sg**		**11 31 04.7**	**-0.9**
	comp=E,6.1nm,0.4s								
BAIF	**Baives**	**2.35**	**318**	*e*Pn		**Pn**		**11 30 28.0**	**+0.1**
BAIF				*e*Sg		**Sg**		**11 31 04.7**	**-0.9**
	comp=E,3.0nm,0.4s								
SSF	**Saint Saulge**	**2.46**	**240**	*e*Pg		**Pg**		**11 30 37.2**	**-0.1**
	SNR=1.0								
SSF				*e*Sg		**Sg**		**11 31 08.5**	**-0.8**
	comp=E,15nm,0.4s,SNR=1.0								
SSF	**Saint Saulge**	**2.46**	**240**	*e*Pn		**Pn**		**11 30 29.7**	**+0.2**
SSF				*e*Pg		**Pg**		**11 30 37.2**	**-0.1**
SSF				*e*Sg		**Sg**		**11 31 08.5**	**-0.8**
SSF	**Saint Saulge**	**2.46**	**240**	*e*Pg		**Pg**		**11 30 37.2**	**-0.1**
	SNR=1.0								
SSF				*e*Sg		**Sg**		**11 31 08.5**	**-0.8**
	comp=E,7.3nm,0.4s,SN

1.2nm,0.8s,mb3.9,baz=215,slow=7.5,SNR=5.5
MSU Marysvale 82.42 44 *e*P **P 12 04 33.0 +5.0**
PDAR Pinedale Array 86.39 42 P **P 12 04 50.3 +2.1**
0.6nm,0.7s,mb4.0,baz=297,slow=2.6,SNR=3.2
ILAR Eielson Array 87.40 11 P **P 12 04 54.8 +1.8**
0.6nm,0.6s,mb4.0,baz=230,slow=5.8,SNR=9.6
YKA Yellowknife Ar 94.88 24 P **P 12 05 29.0 +1.2**
0.3nm,0.8s,mb3.8,baz=236,slow=4.4,SNR=7.1
AKASG Malin Array Be 144.54 334 PKP PKPdf 12 11 42.2 +0.1
1.0nm,0.5s,baz=34,slow=3.9,SNR=7.1
AKASG Malin Array Be 144.54 334 PKP PKPdf 12 11 42.2 +0.1

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*IDC **04** 11:58:15.4±0.5,2069S×17433W,h0km,mb4.7/12, mb1 4.9/13,mb1mx4.8/16,mbtmp4.7/13,ML4.4/1,MS4.7/8, Ms1 4.7/8,ms1mx4.3/21,Error ellipse: s-maj=24.3km s-min=15.9km az=120.0*
*ISCJB **04** 11:58:16.6±0.2,2076S±005×17424W±006,h14km, mb5.1/62,MS5.0/20,Error ellipse: s-maj=9.1km s-min=6.0km az=94.7*
*SZGRF **04** 11:58:16.6,2156S×17450W,h33km,Tonga Islands*
*BJI **04** 11:58:18.4,2070S×17420W,h17km,mB5.7,mb5.1,Ms5.4, Msz5.2*
*NEIC **04** 11:58:18.4±0.2,2067S×17425W,mb5.2/36,MS4.9/1, Error ellipse: s-maj=10.0km s-min=5.6km az=138.0*
*MOS **04** 11:58:25.0±3.1,1959S×17497W,h33km,mb5.4/25, MS5.1/4,Error ellipse: s-maj=11.7km s-min=10.3km az=56.0*
*ORF **04** 11:58:34.3,1716S×17649W,h30km,mb6.0*
ISC 04 11:58:18.3±0.2,2078S±005×17416W±006,h15km, h15km±1.1km:pP-P,n344,σ1§11/148,mb5.1/62,MS5.0/20, 32C-22D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.20**	**19**	Pn	**Pn**	**11 59 57.5**	**-5.4**
	15nm,0.3s,baz=11,slow=5.6,SNR=12						
AFI				Sn	**Sn**	**12 01 13.1**	**-11**
	9.0nm,0.3s,baz=156,slow=20,SNR=2.6						
AFI				T		12 07 24.2	
	16nm,0.3s,baz=48,slow=22,SNR=13						
AFI	**Afiamalu**	**7.20**	**19**	*e*P	**Pn**	**11 59 57.1**	**-5.8**
AFI				*e*		12 01 08.7	
AFI				pmax	pmax		
	comp=Z,189nm,0.9s						
AFI	**Afiamalu**	**7.20**	**19**	*e*Pn	**Pn**	**11 59 57.0**	**-5.9**
	comp=Z,189nm,0.9s						
AFI				*e*Sn	**Sn**	**12 01 08.7**	**-16**
RAR	**Rarotonga**	**13.45**	**94**	Pn	**Pn**	**12 01 18.8**	**-10**
	comp=Z,2.8nm,0.3s,baz=258,slow=7.6,SNR=12						
RAR				Sn	Sn	12 03 33.3	-24
	comp=Z,1.1nm,0.3s,baz=90,slow=20,SNR=2.2						
RAR				LR	LR	12 05 05.6	
	comp=Z,2μm,19.5s,baz=231,slow=30						
RAR				T		12 15 34.3	
	comp=Z,7.7nm,0.3s,baz=212,slow=12,SNR=5.8						
DZM	**Mont Dzumac**	**18.10**	**262**	P	**Pn**	**12 02 30.9**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=79,slow=18,SNR=9.1						
URZ	**Urewera**	**18.99**	**202**	P	**Pn**	**12 02 38.9**	**-1.0**
	comp=Z,1.1nm,0.3s,baz=359,slow=5.6,SNR=9.5						
URZ				S	**Sn**	**12 05 58.7**	**-13**
	comp=Z,0.5nm,0.3s,baz=54,slow=18,SNR=5.5						
SNZO	**South Karori**	**22.54**	**202**	P	**P**	**12 03 18.9**	**+1.3**
	comp=Z,105nm,1.1s,mb5.2						
TBI	**Tubuai**	**23.03**	**101**	*e*LQ		12 07 39.4	
	comp=Z,7μm,27.5s						
TBI				*e*LR	LR	12 08 30.6	
	comp=Z,2μm,28.5s,baz=272						
PAE	**Paea**	**23.41**	**87**	*e*P	**P**	**12 03 17.5**	**-9.3**
	comp=Z,157nm,1.4s,mb5.3						
PPT	**Papeete**	**23.43**	**86**	*e*P	**P**	**12 03 17.9**	**-9.1**
	comp=Z,75nm,1.2s,mb5.0						
PPT	**Papeete**	**23.43**	**86**	*e*LQ		12 07 46.3	
	comp=Z,6μm,26.5s						
PPT				*e*LR	LR	12 08 44.6	
	comp=Z,2μm,26.0s,baz=268						
PPT	**Papeete**	**23.43**	**86**	LR	LR	12 10 25.8	
	comp=Z,647nm,18.6s,MS4.1,baz=257,slow=31						
TVO	**Taravao**	**23.70**	**87**	*e*P	**P**	**12 03 20.0**	**-9.5**
	comp=Z,125nm,1.1s,mb5.3						
RPZ	**Rata Peaks**	**25.98**	**205**	P	**P**	**12 03 51.2**	**+0.9**
	comp=Z,17nm,0.8s,mb4.7,baz=264,slow=5.7,SNR=7.3						
RPZ				LR	LR	12 12 31.0	
	comp=Z,1μm,19.7s,MS4.5,baz=25,slow=33						
HNR	**Honiara**	**27.38**	**290**	LR	LR	12 11 29.5	
	comp=Z,815nm,20.9s,MS4.3,baz=176,slow=29						
TAOE	**Nuku Hiva Isla**	**34.87**	**75**	*e*S	**S**	**12 10 27.4**	**-12**
	comp=Z,979nm,20.6s						
TAOE				*e*LR	LR	12 14 11.4	
	comp=Z,2μm,25.8s						
RKT	**Rikitea**	**36.35**	**101**	*e*LR	LR	12 14 38.4	
	comp=Z,1μm,28.5s,baz=277						
CTA	**Charters Tower**	**37.04**	**264**	*e*P	**P**	**12 05 26.7**	**-0.7**
	comp=Z,14nm,0.8s,mb4.8						
CTA	**Charters Tower**	**37.04**	**264**	*e*P	**P**	**12 05 26.7**	**-0.7**
CTA				pmax	pmax		
	comp=Z,14nm,0.8s						
CTAO	**Charters Tower**	**37.04**	**264**	*e*P	**P**	**12 05 26.8**	**-0.6**
CTAO				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.9						
CTAO	**Charters Tower**	**37.04**	**264**	*e*P	**P**	**12 05 26.8**	**-0.6**
	comp=Z,16nm,0.8s,mb4.9						
PMG	**Port Moresby**	**38.92**	**281**	⇓*e*P	**P**	**12 05 40.9**	**-2.4**
PMG	**Port Moresby**	**38.92**	**281**	*e*P	**P**	**12 05 43.1**	**-0.2**
	comp=Z,37nm,0.9s,mb5.1						
STKA	**Stephens Creek**	**40.92**	**245**	*e*P	**P**	**12 05 56.3**	**-3.6**
	comp=Z,12nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**40.92**	**245**	P	**P**	**12 05 57.1**	**-2.8**
	comp=Z,14nm,0.9s,mb4.6,baz=85,slow=7.1,SNR=12						
ASAR	**Alice Springs**	**47.95**	**256**	P	**P**	**12 06 55.1**	**-1.0**
	comp=Z,19nm,1.0s,mb5.1,baz=88,slow=8.5,SNR=84						
ASAR				S	**S**	**12 13 48.3**	**-4.9**
	comp=Z,1.1nm,0.9s,baz=98,slow=18,SNR=6.1						
WB2	**Warramunga Arr**	**48.11**	**261**	*e*P	**P**	**12 06 55.3**	**-2.0**
WRAB	**Tennant Creek**	**48.11**	**261**	P	**P**	**12 06 56.0**	**-1.4**
	comp=Z,112nm,1.1s,mb5.8,SNR=7.6						
WRAB	**Tennant Creek**	**48.11**	**261**	*e*P	**P**	**12 06 55.2**	**-2.2**
WRAB				pmax	pmax		
	comp=Z,34nm,1.0s,mb5.3						
WRAB	**Tennant Creek**	**48.11**	**261**	*e*P	**P**	**12 06 55.2**	**-2.1**
	comp=Z,34nm,1.0s,mb5.3						
WRA	**Warramunga Arr**	**48.12**	**261**	P	**P**	**12 06 55.5**	**-1.9**
	comp=Z,11nm,0.9s,mb4.9,baz=96,slow=7.7,SNR=51						
KAKA	**Kakadu**	**51.57**	**270**	*e*P	**P**	**12 07 22.1**	**-1.6**
	comp=Z,28nm,0.9s,mb5.2						
FORT	**Forrest**	**52.48**	**247**	*e*P	**P**	**12 07 28.5**	**-2.0**
	comp=Z,6.1nm,0.7s,mb4.6						
FORT	**Forrest**	**52.48**	**247**	*e*P	**P**	**12 07 29.0**	**-1.5**
	comp=Z,25nm,0.7s,mb5.3						
FITZ	**Fitzroy Crossi**	**56.55**	**262**	*e*P	**P**	**12 07 59.0**	**-1.0**
	comp=Z,18nm,1.4s,mb4.9						
SBA	**Scott Base**	**57.86**	**185**	*e*P	**P**	**12 08 10.5**	**+1.2**
SBA				pmax	pmax		
	comp=Z,74nm,1.6s,mb5.5						
SBA	**Scott Base**	**57.86**	**185**	*e*P	**P**	**12 08 10.5**	**+1.2**
	comp=Z,74nm,1.6s,mb5.5						
VNDA	**Vanda**	**57.98**	**186**	P	**P**	**12 08 10.9**	**+0.8**
	comp=Z,11nm,1.2s,mb4.8,baz=357,slow=6.2,SNR=15						
VNDA				LR	LR	12 29 34.0	
	comp=Z,599nm,18.3s,MS4.7,baz=42,slow=32						
VNDA	**Vanda**	**57.98**	**186**	*e*P	**P**	**12 08 10.8**	**+0.7**
VNDA				pmax	pmax		
	comp=Z,69nm,2.0s						
VNDA	**Vanda**	**57.98**	**186**	*e*P	**P**	**12 08 10.8**	**+0.7**
	comp=Z,68nm,2.0s,mb5.3						
KLBR	**Kellerberrin**	**61.19**	**245**	*e*P	**P**	**12 08 31.4**	**-0.9**
	comp=Z,7.2nm,1.2s,mb4.7						
KLBR	**Kellerberrin**	**61.19**	**245**	*e*P	**P**	**12 08 31.4**	**-0.9**
	comp=Z,174nm,1.4s,mb6.0						
MBWA	**Marble Bar**	**61.29**	**257**	*e*P	**P**	**12 08 31.2**	**-1.8**
	comp=Z,21nm,1.0s,mb5.2						
NWAO	**Narrogin (SRO)**	**61.45**	**243**	*e*P	**P**	**12 08 34.6**	**+0.6**
NWAO				pmax	pmax		
	comp=Z,53nm,1.2s						
NWAO	**Narrogin (SRO)**	**61.45**	**243**	*e*P	**P**	**12 08 34.6**	**+0.6**
	comp=Z,53nm,1.2s,mb5.5						
MUN	**Mundaring**	**62.44**	**244**	*e*P	**P**	**12 08 41.2**	**+0.5**
MUN	**Mundaring**	**62.44**	**244**	*e*P	**P**	**12 08 41.5**	**+0.8**
CASY	**Casey**	**65.26**	**206**	*e*P	**P**	**12 08 59.1**	**-0.1**
CASY	**Casey**	**65.26**	**206**	*e*P	**P**	**12 08 59.1**	**-0.1**
QSPA	**South Pole Qui**	**69.30**	**180**	*e*P	**P**	**12 09 25.2**	**+0.4**
	comp=Z,81nm,1.3s,mb5.5						
MIR	**Mirnyy**	**72.26**	**205**	*e*P	**P**	**12 09 44.0**	**+1.1**
MIR				*e*		12 10 09.5	
MIR				pmax	pmax		
	comp=Z,200nm,1.8s,mb5.8						
MJAR	**Matsushiro Arr**	**72.61**	**321**	P	**P**	**12 09 45.0**	**0.0**
	comp=Z,12nm,1.0s,mb4.8,baz=153,slow=6.1,SNR=19						
MAJO	**Matsushiro**	**72.62**	**321**	*e*P	**P**	**12 09 45.3**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
MAJO	**Matsushiro**	**72.62**	**321**	*e*P	**P**	**12 09 45.3**	**+0.3**
	comp=Z,16nm,0.9s,mb5.0						
MAT	**Matsushiro**	**72.62**	**321**	P	**P**	**12 09 44.9**	**-0.1**
MAT	**Matsushiro**	**72.62**	**321**	*e*P	**P**	**12 09 45.0**	**0.0**
MAT				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.0						
MAT				MLR	MLR		
	comp=Z,710nm,20.0s,MS4.9						
MAT	**Matsushiro**	**72.62**	**321**	*e*P	**P**	**12 09 45.0**	**0.0**
	comp=Z,23nm,1.2s,mb5.0						
MAT				LR	LR		
	comp=Z,710nm,20.0s,MS4.9						
KKM	**Kota Kinabalu**	**73.31**	**283**	P	**P**	**12 09 49.4**	**+0.3**
KSM	**Kuching**	**77.01**	**277**	*e*P	**P**	**12 10 11.4**	**+0.9**
CMB	**Columbia Colle**	**77.28**	**41**	*e*P	**P**	**12 10 12.4**	**+0.5**
CMB				pmax	pmax		
	comp=Z,20nm,1.4s,mb4.8						
CMB	**Columbia Colle**	**77.28**	**41**	*e*P	**P**	**12 10 12.4**	**+0.5**
	comp=Z,20nm,1.4s,mb4.8						
OHCM	**Honcut**	**77.45**	**39**	*e*P	**P**	**12 10 11.6**	**-1.3**
YSS	**Yuzh-Sakhalins**	**77.80**	**331**	*e*P	**P**	**12 10 19.0**	**+4.1**
YSS				*e*		12 10 31.0	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
YSS	**Yuzh-Sakhalins**	**77.80**	**331**	*e*P	**P**	**12 10 15.5**	**+0.6**
	comp=Z,39nm,1.1s,mb5.2						
NVAR	**Mina Array Bea**	**78.80**	**42**	P	**P**	**12 10 20.1**	**-0.3**
	comp=Z,4.3nm,0.7s,mb4.5,baz=211,slow=7.0,SNR=28						
TPH	**Tonopah**	**79.26**	**42**	*e*P	**P**	**12 10 23.3**	**+0.4**
TPH				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.0						
TPH	**Tonopah**	**79.26**	**42**	*e*P	**P**	**12 10 23.3**	**+0.4**
	comp=Z,25nm,1.2s,mb5.0						
NEN	**Nelson**	**79.38**	**45**	*e*P	**P**	**12 10 23.0**	**-0.5**
KS15	**Wonju Array Si**	**79.53**	**317**	P	**P**	**12 10 22.4**	**-2.0**
SSE	**Sheshan**	**80.65**	**308**	P	**P**	**12 10 31.6**	**+1.2**
SSE				AMB	AMB		
	comp=Z,36nm,0.6s,mb5.5						
SSE				AMB	AMB		
	comp=Z,168nm,12.0s						
ARUT	**Antelope Range**	**81.53**	**44**	*e*P	**P**	**12 10 35.9**	**+0.8**
MAW	**Mawson**	**82.50**	**199**	P	**P**	**12 10 37.9**	**-2.3**
	comp=Z,5.5nm,0.8s,mb4.5,baz=123,slow=7.9,SNR=7.1						
MAW	**Mawson**	**82.50**	**199**	*e*P	**P**		
MAW				pmax	pmax		
	comp=Z,36nm,1.3s						
MAW	**Mawson**	**82.50**	**199**	*e*P	**P**	**12 10 38.2**	**-2.0**
	comp=Z,36nm,1.3s,mb5.2						
HABR	**Khabarovsk**	**82.50**	**329**	*e*P	**P**	**12 10 41.3**	**+1.1**
HABR				*e*S	S	12 20 53.0	-3.4
MSU	**Marysvale**	**82.75**	**44**	*e*P	**P**	**12 10 42.7**	**+1.2**
MDJ	**Mudanjiang**	**82.85**	**323**	P	**P**	**12 10 43.8**	**+1.8**
MDJ				AP	pP	12 10 47.1	0.0
MDJ				PP	PP	12 13 53.6	+1.3
MDJ				S	S	12 21 03.4	+3.5
MDJ				XS	sS	12 21 08.6	+0.4
MDJ				SS	SS	12 26 26.8	+4.1
MDJ				AMB	AMB		
	comp=Z,18nm,0.9s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,3μm,17.4s						
MDJ				LR	LR		
	comp=N,452nm,13.5s,MS5.1						
MDJ				LR	LR		
	comp=E,432nm,16.9s,MS5.1						
MDJ				LR	LR		
	comp=Z,983nm,16.9s,MS5.2						
MDJ	**Mudanjiang**	**82.85**	**323**	*e*P	**P**	**12 10 43.0**	**+1.0**
	comp=Z,23nm,1.1s,mb5.1						
NJ2	**Nanjing**	**82.85**	**308**	*e*P	**P**	**12 10 44.0**	**+2.0**
NJ2				AP	pP	12 10 48.0	+0.9
NJ2				XP	sP	12 10 52.0	+3.1
NJ2				PP	PP	12 13 56.8	+4.5
NJ2				S	S	12 21 01.0	+1.0
NJ2				XS	sS	12 21 11.0	+2.7
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,720nm,10.0s						
NJ2				LR	LR		
	comp=N,2μm,15.4s,MS5.8						
NJ2				LR	LR		
	comp=E,3μm,16.4s,MS5.8						
NJ2				LR	LR		
	comp=Z,1μm,17.2s,MS5.3						
HAWA	**Hanford**	**83.09**	**35**	*e*P	**P**	**12 10 43.1**	**-0.2**
	comp=Z,3.1nm,1.4s,mb4.2						
BMO	**Blue Mountains**	**83.34**	**37**	*e*P	**P**	**12 10 44.2**	**-0.4**
BMO				pmax	pmax		
	comp=Z,29nm,1.5s,mb5.1						
BMO	**Blue Mountains**	**83.34**	**37**	*e*P	**P**	**12 10 44.2**	**-0.3**
	comp=Z,29nm,1.5s,mb5.1						
KGM	**Kluang**	**83.72**	**275**	P	**P**	**12 10 48.0**	**+1.5**
LAZ	**Ladron**	**84.05**	**50**	*e*P	**P**	**12 10 48.2**	**0.0**
HLID	**Hailey**	**84.23**	**39**	*e*P	**P**	**12 10 49.1**	**-0.1**
	comp=Z,14nm,1.1s,mb5.0						
BNM	**Barren Site**	**84.29**	**50**	*e*P	**P**	**12 10 50.1**	**+0.7**
LPM	**Los Pinos Moun**	**84.37**	**50**	*e*P	**P**	**12 10 50.3**	**+0.5**
DAU	**Daniels Canyon**	**84.39**	**43**	*e*P	**P**	**12 10 49.8**	**-0.2**
MVCO	**Mesa Verde**	**84.52**	**47**	*e*P	**P**	**12 10 51.4**	**+0.8**
KLR	**Kul'dur**	**84.64**	**328**	*e*P	**P**	**12 10 48.2**	**-3.0**
TTA	**Tatalina**	**84.65**	**8**	*e*P	**P**	**12 10 50.7**	**-0.6**
TTA				pmax	pmax		
	comp=Z,104nm,1.6s,mb5.7						
TTA	**Tatalina**	**84.65**	**8**	*e*P	**P**	**12 10 50.7**	**-0.6**
	comp=Z,104nm,1.6s,mb5.7						
TCUT	**Toone Canyon**	**84.68**	**42**	*e*P	**P**	**12 10 51.7**	**+0.2**
CN2	**Changchun**	**84.75**	**321**	*e*P	**P**	**12 10 52.5**	**+0.8**
CN2				*e*XP	sP	12 10 59.6	+1.0
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.8						
CN2				LR	LR		
	comp=N,400nm,15.0s,MS5.3						
CN2				LR	LR		
	comp=E,800nm,15.0s,MS5.3						
CN2				LR	LR		
	comp=Z,1μm,15.0s,MS5.4						
PV10	**Paradox Valley**	**84.76**	**46**	*e*P	**P**	**12 10 51.8**	**0.0**
ANMO	**Albuquerque**	**84.81**	**50**	*e*P	**P**	**12 10 52.2**	**+0.2**
ANMO				pmax	pmax		
	comp=Z,11nm,1.0s						
ANMO	**Albuquerque**	**84.81**	**50**	*e*P	**P**	**12 10 52.2**	**+0.2**
	comp=Z,11nm,1.0s,mb4.9						
PV01	**Paradox Valley**	**84.95**	**46**	P	**P**	**12 10 52.8**	**+0.1**
GDL2	**Guadalupe Moun**	**85.01**	**53**	*e*P	**P**	**12 10 53.3**	**+0.2**
MA2	**Magadan**	**85.05**	**343**	*c i*P	**P**	**12 10 50.9**	**-2.4**
MA2				pmax	pmax		
	comp=Z,19nm,1.7s,mb5.0						
MA2	**Magadan**	**85.05**	**343**	*e*P	**P**	**12 10 52.0**	**-1.3**
	comp=Z,23nm,1.4s,mb5.1						
WHN	**Wuhan**	**85.53**	**305**	⇓P	**P**	**12 10 57.5**	**+1.9**
NEW	**Newport**	**85.54**	**34**	*e*P	**P**	**12 10 55.4**	**-0.3**
CPRX	**Cap Rock**	**85.77**	**52**	P	**P**	**12 10 56.7**	**-0.2**
MCMT	**McKenzie Canyo**	**85.88**	**39**	*e*P	**P**	**12 10 57.5**	**+0.1**
SMCO	**Snowmass**	**86.55**	**46**	P	**P**	**12 11 01.3**	**+0.5**
	comp=Z,7.9nm,1.0s,mb4.9						
IPM	**Ipoh**	**86.73**	**276**	P	**P**	**12 11 03.2**	**+1.6**
PDAR	**Pinedale Array**	**86.74**	**42**	P	**P**	**12 11 01.2**	**-0.4**
	comp=Z,1.2nm,0.9s,mb4.1,baz=242,slow=2.9,SNR=7.5						
CHMT	**Chamberlain Mo**	**86.84**	**37**	*e*P	**P**	**12 11 01.5**	**-0.7**
SYO	**Syowa Base**	**87.21**	**192**	⇓*e*P	**P**	**12 11 02.1**	**-1.8**
SYO	**Syowa Base**	**87.21**	**192**	⇓*e*pP	pP	12 11 08.9	-0.1
KULM	**Kulim**	**87.37**	**277**	*e*P	**P**	**12 11 06.2**	**+1.4**
VNA3	**Neumayer Olymp**	**87.59**	**175**	*e*P	**P**	**12 11 05.8**	**0.0**
VNA3				*e*		12 11 07.6	
VNA3				*e*		12 11 15.3	
SNAA	**Sanae**	**87.60**	**177**	*e*P	**P**	**12 11 05.1**	**-0.7**
SNAA				*e*		12 11 06.7	
SNAA				*e*		12 11 15.1	
SNAA				*e*		12 11 21.7	
SNAA				*e*		12 11 24.4	
SNAA	**Sanae**	**87.60**	**177**	*e*P	**P**	**12 11 04.8**	**-1.0**
SNAA				pmax	pmax		
	comp=Z,48nm,1.3s						
SNAA	**Sanae**	**87.60**	**177**	*e*P	**P**	**12 11 04.8**	**-1.0**
	comp=Z,48nm,1.3s,mb5.6						
WALA	**Waterton Lakes**	**87.72**	**35**	*e*P	**P**	**12 11 05.6**	**-0.8**
	comp=Z,22nm,1.5s,mb5.2						
COLA	**College**	**87.75**	**11**	*e*P	**P**	**12 11 05.5**	**-1.0**
COLA				pmax	pmax		
	comp=Z,46nm,1.4s,mb5.5						
COLA	**College**	**87.75**	**11**	*e*P	**P**	**12 11 05.5**	**-1.0**
	comp=Z,46nm,1.4s,mb5.5						
ILAR	**Eielson Array**	**87.83**	**11**	P	**P**	**12 11 05.6**	**-1.3**
	comp=Z,5.0nm,1.0s,mb4.7,baz=216,slow=4.8,SNR=21						
VNA2	**Neumayer--Watz**	**88.08**	**176**	*e*P	**P**	**12 11 08.2**	**+0.1**
	baz=237,slow=3.5						
VNA2				*e*		12 11 10.0	
VNA2				*e*		12 11 16.1	
VNA2				*e*		12 11 17.9	
VNA2				*e*		12 11 24.2	
VNA1	**Neumayer--Stat**	**88.28**	**175**	*e*P	**P**	**12 11 10.0**	**+0.9**
VNA1				*e*		12 11 19.4	
VNA1				*e*		12 11 24.6	
BJT	**Baijiatuau**	**88.64**	**314**	*e*P	**P**	**12 11 11.2**	**+0.5**
BJI	**Beijing**	**88.64**	**314**	P	**P**	**12 11 11.2**	**+0.4**
BJI				AMB	AMB		
	comp=Z,15nm,2.0s,mb5.0						
DAWY	**Dawson**	**88.78**	**15**	*e*P	**P**	**12 11 11.0**	**-0.4**
BILL	**Bilibino**	**89.72**	**353**	⇓*e*P	**P**	**12 11 14.7**	**-1.1**
BILL				pmax	pmax		
	comp=Z,14nm,1.7s,mb5.0						
BILL				MLR	MLR		
	comp=Z,700nm,17.0s,MS5.2						
BILL	**Bilibino**	**89.72**	**353**	*e*P	**P**	**12 11 15.2**	**-0.6**
	comp=Z,9.2nm,1.1s,mb5.0						
GYA	**Guiyang**	**89.93**	**298**	⇑*i*P	**P**	**12 11 18.3**	**+1.5**
GYA				AP	pP	12 11 22.8	+1.0
GYA				XP	sP	12 11 25.6	+2.0
GYA				PP	PP	12 14 53.1	+3.6
GYA				SKS		12 21 40.4	
GYA				S		12 22 07.6	
GYA				PS	PS	12 23 17.9	+1.6
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.5						
GYA				AMB	AMB		
	comp=Z,120nm,4.2s						
GYA				LR	LR		
	comp=N,510nm,21.8s,MS5.0						
GYA				LR	LR		
	comp=E,430nm,22.4s,MS5.0						
GYA				LR	LR		
	comp=Z,450nm,22.8s,MS4.8						
NNT	**Nongplab**	**90.82**	**283**	P	**P**	**12 11 24.2**	**+3.3**
RSSD	**Black Hills**	**90.89**	**43**	*e*P	**P**	**12 11 20.8**	**-0.5**
RSSD				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.7						
RSSD	**Black Hills**	**90.89**	**43**	*e*P	**P**	**12 11 20.8**	**-0.4**
	comp=Z,4.0nm,1.1s,mb4.7						
XAN	**Xi'an**	**91.18**	**306**	P	**P**	**12 11 24.0**	**+1.4**
XAN				AMB	AMB		
	comp=Z,17nm,1.3s,mb5.2						
HHC	**Hu-ho-hao-te**	**92.14**	**313**	*e*P	**P**	**12 11 28.6**	**+1.5**
HHC				AP	pP	12 11 33.3	+1.2
HHC				XP	sP	12 11 35.6	+1.7
HHC				PP	PP	12 15 10.7	+3.7
HHC				SKS		12 21 59.1	
HHC				S		12 22 27.3	
HHC				SS	SS	12 28 39.9	+1.4
HHC				AMB	AMB		
	comp=Z,21nm,0.4s,mb5.8						
HHC				AMB	AMB		
	comp=Z,513nm,10.3s						
HHC				LR	LR		
	comp=N,568nm,16.2s,MS5.2						
HHC				LR	LR		
	comp=E,322nm,13.2s,MS5.2						
HHC				LR	LR		
	comp=Z,522nm,17.6s,MS5.0						
NANT	**Nan**	**92.17**	**289**	⇓P	**P**	**12 11 26.5**	**-0.7**
	comp=Z,178nm,1.0s						
KMI	**Kunming**	**92.69**	**296**	P	**P**	**12 11 31.1**	**+1.5**
KMI				AP	pP	12 11 35.9	+1.2
KMI				XP	sP	12 11 37.7	+1.2
KMI				PP	PP	12 15 14.8	+3.4
KMI				PPP		12 17 16.9	
KMI				SKS		12 22 02.5	
KMI				S		12 22 32.1	
KMI				PS	PS	12 23 49.2	+2.2
KMI				SS	SS	12 28 47.7	+1.3
KMI				SSS		12 32 26.2	
KMI				AMB	AMB		
	comp=Z,22nm,1.4s,mb5.4						
KMI				LR	LR		
	comp=N,966nm,18.0s,MS5.5						
KMI				LR	LR		
	comp=E,1μm,17.7s,MS5.5						
KMI				LR	LR		
	comp=Z,860nm,19.6s,MS5.2						
JTS	**JuntasAbangare**	**92.86**	**80**	⇓*i*P	**P**	**12 11 35.1**	**+4.7**
CHRT	**Chiangrai**	**93.36**	**290**	⇑P	**P**	**12 11 35.0**	**+2.3**
	comp=Z,113nm,1.3s,mb6.1						
INK	**Inuvik**	**93.64**	**14**	*e*P	**P**	**12 11 32.5**	**-1.5**
INK				*e*PP	pP	12 11 38.2	-0.8
INK				pmax	pmax		
	comp=Z,58nm,2.1s						
INK	**Inuvik**	**93.64**	**14**	*e*P	**P**	**12 11 32.5**	**-1.5**
	comp=Z,58nm,2.1s,mb5.6						
INK				*e*pP	pP	12 11 38.2	-0.8
CHTO	**Chiang Mai**	**93.73**	**289**	*e*P	**P**	**12 11 35.2**	**+0.8**
CHTO				*e*PP	pP	12 11 40.8	+1.3
CHTO				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.5						
CHTO	**Chiang Mai**	**93.73**	**289**	*e*P	**P**	**12 11 35.2**	**+0.9**
	comp=Z,24nm,1.1s,mb5.5						
CHTO				*e*pP	pP

RES	**Resolute Bay**	**107.08**	**16**	*e*PKPdf	PKiKP	12 16 42.6	-1.0
WMQ	**Urumqi**	**109.83**	**310**	PDIF	Pdif	12 12 46.4	-0.1
WMQ				PP	PP	12 17 24.0	+3.2
WMQ				PP	PP		
	comp=Z,472nm,6.6s						
WMQ				LR	LR		
	comp=N,295nm,20.9s,MS5.0						
WMQ				LR	LR		
	comp=E,245nm,18.3s,MS5.0						
WMQ				LR	LR		
	comp=Z,290nm,17.4s,MS4.9						
ZAL	**Zalesovo**	**112.98**	**321**	PKiKP	PKiKP	12 16 53.2	-1.5
	comp=Z,0.8nm,0.4s,baz=352,slow=4.8,SNR=6.4						
ZAL	**Zalesovo**	**112.98**	**321**	*i*PKIKP	PKiKP	12 16 54.4	-0.3
ZAL	**Zalesovo**	**112.98**	**321**	PKPdf	PKiKP	12 16 53.2	-1.5
NVS	**Novosibirsk**	**113.94**	**322**	*e*PKIKP	PKiKP	12 16 54.4	-2.1
NVS				pmax	pmax		
	comp=Z,9.0nm,1.5s						
NVS				pmax	pmax		
	comp=N,4.0nm,1.7s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.5s						
MKAR	**Makanchi Array**	**114.01**	**313**	PKiKP	PKiKP	12 16 55.7	-1.0
	comp=E,1.9nm,0.8s,baz=48,slow=1.8,SNR=13						
MKAR	**Makanchi Array**	**114.01**	**313**	*i*PKIKP	PKiKP	12 16 55.7	-1.0
KURK	**Kurchatov**	**116.64**	**317**	*i*PKIKP	PKPdf	12 17 00.2	-1.5
KURK	**Kurchatov**	**116.64**	**317**	*e*PKPdf	PKPdf	12 17 00.8	-1.0
KSH	**Kashi**	**118.00**	**305**	*e*PKP	PKPdf	12 16 59.7	-4.6
KSH				*e*XPKP		12 17 13.2	
KSH				PP	PP		
	comp=Z,288nm,6.8s						
KSH				LR	LR		
	comp=N,583nm,13.1s,MS5.5						
KSH				LR	LR		
	comp=E,520nm,15.3s,MS5.5						
KSH				LR	LR		
	comp=Z,301nm,17.0s,MS5.0						
AAK	**Ala-Archa**	**119.30**	**308**	*d i*PKIKP	PKPdf	12 17 05.8	-1.0
BRVK	**Borovoye**	**121.66**	**320**	*e*PKIKP	PKPdf	12 17 10.7	-0.7
ZRNK	**Zerenda**	**122.44**	**320**	*e*PKIKP	PKPdf	12 17 11.6	-1.3
SUMG	**Summit**	**122.55**	**14**	*e*PKPdf	PKPdf	12 17 13.6	+0.5
ARU	**Arti**	**127.45**	**326**	*i*PKIKP	PKPdf	12 17 21.9	-0.6
ARU	**Arti**	**127.45**	**326**	*e*PKPdf	PKPdf	12 17 21.8	-0.7
KEV	**Kevo**	**129.37**	**351**	*e*pkp		12 17 33.2	
LVZ	**Lovozero**	**129.55**	**346**	*i*PKIKP	PKPdf	12 17 26.8	+0.3
ARCES	**ARCESS Array B**	**129.79**	**351**	PKP	PKPdf	12 17 24.3	-2.7
	comp=Z,1.2nm,0.6s,baz=270,slow=0.7,SNR=4.7						
ARCES	**ARCESS Array B**	**129.79**	**351**	PKP	PKPdf	12 17 24.3	-2.7
APA	**Apatity**	**130.09**	**347**	*i*PKIKP	PKPdf	12 17 24.6	-2.9
APA				pmax	pmax		
	comp=Z,13nm,1.3s						
JOF	**Joensuu**	**134.44**	**344**	*e*pkp	PKPdf	12 17 35.6	-0.1
KAF	**Kangasniemi**	**136.34**	**346**	*e*pkp		12 17 48.5	
FINES	**FINESS Array B**	**136.98**	**346**	PKP	PKPdf	12 17 38.7	-1.8
	comp=Z,1.2nm,0.7s,baz=37,slow=1.0,SNR=6.7						
FINES	**FINESS Array B**	**136.98**	**346**	*i*PKIKP	PKPdf	12 17 41.0	+0.6
FINES	**FINESS Array B**	**136.98**	**346**	PKP	PKPdf	12 17 38.7	-1.8
LSZ	**Lusaka**	**137.98**	**213**	*e*PKIKP	PKPdf	12 17 44.2	+1.9
OBN	**Obninsk**	**138.66**	**334**	*i*PKIKP	PKPdf	12 17 44.7	+1.2
OBN				*i*		12 17 55.0	
OBN				pmax	pmax		
	comp=Z,18nm,1.3s						
OBN				MLR	MLR		
	comp=Z,600nm,16.0s,MS5.4						
ZEI	**Tsey**	**141.37**	**313**	*e*PKIKP	PKiKP	12 17 53.2	+2.0
ZEI				*e*		12 20 47.3	
GNI	**Garni**	**141.69**	**309**	*i*PKIKP	PKPdf	12 17 50.9	+1.9
KIV	**Kislovodsk**	**141.70**	**316**	*i*PKIKP	PKPdf	12 17 49.0	0.0
BHD	**Baghdad**	**143.68**	**298**	*ex*	x	12 17 54.0	
SOC	**Sochi**	**143.79**	**317**	*i*PKIKP	PKPdf	12 17 56.1	+3.4
SOC				*e*		12 21 04.3	
SOC				pmax	pmax		
	comp=Z,14nm,0.7s						
MSL	**Mosul**	**144.06**	**304**	*ex*	x	12 17 52.0	
ERZM	**Erzurum**	**144.21**	**310**	*i*P	PKPdf	12 17 53.2	-0.3
EZM	**Erzurum**	**144.21**	**310**	*e*P	PKPdf	12 17 53.5	0.0
SUW	**Suwalki**	**144.28**	**342**	*e*PKP	PKPdf	12 17 51.9	-1.7
ANN	**Anapa**	**144.60**	**320**	*i*PKHKP		12 17 52.7	
ANN				*e*		12 21 12.5	
ANN				pmax	pmax		
	comp=Z,74nm,1.3s						
BNGL	**BINGOL**	**144.71**	**309**	*i*P	PKPdf	12 17 54.3	0.0
AKASG	**Malin Array Be**	**144.92**	**334**	PKP	PKPdf	12 17 53.0	-1.7
	comp=Z,7.6nm,0.7s,baz=39,slow=3.7,SNR=51						
GUMT	**Gumushane**	**145.32**	**312**	*e*P	PKPbc	12 17 56.6	+1.4
GRSN	**GIRESUNGRSN**	**145.96**	**313**	*i*P		12 17 44.9	
GKP	**Gorka Klasztor**	**146.40**	**348**	*e*PKP	PKPdf	12 17 58.8	+1.6
ELZG	**Elazig**	**146.45**	**309**	*i*P	PKPdf	12 17 58.8	+1.5
SIM	**Simferopol'**	**146.46**	**322**	*c i*PKIKP	PKPdf	12 17 59.0	+1.7
SIM				*e*		12 18 06.0	
SIM				pmax	pmax		
	comp=Z,29nm,0.8s						
BSEG	**Bad Segeberg**	**146.72**	**355**	*e*PKPbc	PKPbc	12 17 59.3	-0.2
BSEG	**Bad Segeberg**	**146.72**	**355**	*e*PKPbc	PKPbc	12 17 59.3	-0.2
MYA	**Malatya**	**146.92**	**309**	*e*P	PKPbc	12 18 00.9	+0.9
MALT	**Malatya**	**146.92**	**309**	*e*P	PKPbc	12 18 00.3	+0.3
MALT	**Malatya**	**146.92**	**309**	*i*P	PKPbc	12 18 01.6	+1.6
MALT	**Malatya**	**146.92**	**309**	*e*PKPdf	PKPdf	12 17 59.0	+0.9
MALT				*e*PKPbc	PKPbc	12 18 01.5	+1.5
URFA	**Urfa**	**146.96**	**307**	*e*P	PKPbc	12 18 01.3	+1.2
SVSK	**Karacayir**	**147.27**	**313**	*e*P	PKPbc	12 18 02.5	+1.5
SVST	**Sivas**	**147.37**	**312**	*i*P	PKPbc	12 18 02.7	+1.4
KVT	**Kavak**	**147.37**	**315**	*e*P	PKPdf	12 18 01.5	+2.6
RUE	**Ruedersdorf**	**147.76**	**351**	*e*PKPbc	PKPbc	12 18 02.1	-0.3
GZT	**Gaziantep**	**147.92**	**308**	*i*P	PKPbc	12 18 03.2	+0.4
BOYT	**Boyabat**	**147.95**	**316**	*i*P	PKPbc	12 18 01.9	-0.9
KWP	**Kalwaria**	**148.23**	**339**	*e*PKP	PKPbc	12 18 04.2	+0.6
CTKT	**Corum**	**148.43**	**315**	*i*P	PKPdf	12 17 59.0	-1.6
IBBN	**Ibbenburen**	**148.50**	**358**	*e*PKPbc	PKPbc	12 18 04.5	+0.2
OJC	**Ojcow**	**148.61**	**343**	*e*PKPab	PKPbc	12 18 04.6	0.0
OJC	**Ojcow**	**148.61**	**343**	*e*PKPab	PKPbc	12 18 04.6	0.0
CLZ	**Clausthal**	**148.79**	**355**	*e*PKPbc	PKPbc	12 18 05.2	+0.1
CLZ	**Clausthal**	**148.79**	**355**	*e*PKPbc	PKPbc	12 18 05.2	+0.1
BALT	**Daday**	**148.85**	**318**	*i*P	PKPbc	12 18 05.5	+0.3
WTSB	**Winterswijk**	**148.86**	**359**	*e*PKiKP	PKiKP	12 18 05.1	-1.5
	comp=Z,45nm,1.5s						
KSP	**Ksiaz**	**148.89**	**347**	*e*PKP	PKPbc	12 18 05.8	+0.5
KSP	**Ksiaz**	**148.89**	**347**	*e*PKP	PKPbc	12 18 05.6	+0.3
KSP				*e*		12 18 15.3	
STHS	**Stebnicka Huta**	**148.90**	**340**	*e*PKP	PKPbc	12 18 06.1	+0.8
STHS				*e*		12 18 51.9	
BURAR	**Bucovina Array**	**148.97**	**334**	*i*P	PKPbc	12 18 06.1	+0.6
BURAR	**Bucovina Array**	**148.97**	**334**	*i*P	PKPbc	12 18 08.7	+3.2
BURAR	**Bucovina Array**	**148.97**	**334**	*i*P	PKPab	12 18 08.7	-0.9
KOLS	**Kolonicke sedl**	**148.98**	**339**	*e*PKP	PKPbc	12 18 06.9	+1.4
CLL	**Collm**	**149.02**	**351**	*e*PKPbc	PKPbc	12 18 05.4	-0.2
CLL	**Collm**	**149.02**	**351**	*i*PKPbc	PKPbc	12 18 05.3	-0.3
	comp=Z,58nm,1.3s						
CLL				*es*PKPbc		12 18 14.0	
CLL				*i s*PKPab		12 18 16.5	
CLL	**Collm**	**149.02**	**351**	*i*PKIKP	PKPbc	12 18 05.3	-0.3
CLL				pmax	pmax		
	comp=Z,58nm,1.3s						
GTTG	**Gyttingen**	**149.12**	**355**	*e*PKPbc	PKPbc	12 18 06.2	+0.3
KOZT	**Kozan**	**149.14**	**309**	*e*P	PKPbc	12 18 06.3	+0.4
NIE	**Niedzica**	**149.18**	**341**	*e*PKP	PKPbc	12 18 06.9	+0.9
CDAG	**Cicekdag**	**149.20**	**314**	*i*P	PKPbc	12 18 05.2	-0.9
COBT	**Iskenderun**	**149.21**	**307**	*i*P	PKPdf	12 18 02.8	+1.0
UPC	**Upice**	**149.26**	**347**	*e*PKPB	PKPbc	12 18 06.9	+0.7
UPC				*e*PKPAB	PKPab	12 18 13.6	+2.8
AVNT	**Avonos**	**149.27**	**312**	*i*P	PKPdf	12 18 03.3	+1.4
CRVS	**Cervenica-Dubn**	**149.28**	**340**	*e*PKP	PKPab	12 18 10.2	-0.6
CRVS				*e*		12 18 20.3	
BRG	**Berggiesshubel**	**149.29**	**350**	*e*PKPbc	PKPbc	12 18 06.3	0.0
BRG	**Berggiesshubel**	**149.29**	**350**	*e*PKP	PKPdf	12 18 01.8	-0.2
	comp=Z,4.0nm,1.1s						
BRG				*i*		12 18 06.4	
	comp=Z,23nm,1.3s						
BRG				*i*		12 18 15.0	
	comp=Z,28nm,1.1s						
DPC	**Dobruska-Polom**	**149.35**	**347**	*e*PKPB	PKPbc	12 18 07.1	+0.6
DPC				*e*PKPAB	PKPab	12 18 12.9	+1.8
DPC				*e*pPKP	pPKPdf	12 18 17.0	+10
BUG	**Bochum--Univer**	**149.38**	**358**	*e*PKPbc	PKPbc	12 18 06.8	+0.3
ELDT	**Eldivan**	**149.39**	**316**	*i*P	PKPdf	12 18 02.4	+0.2
CEYT	**Ceyhan**	**149.39**	**308**	*e*P	PKPbc	12 18 07.1	+0.5
OKC	**Ostrava-Krasne**	**149.40**	**344**	*e*PKPB	PKPbc	12 18 07.2	+0.6
OKC				*e*pPKP	pPKPdf	12 18 15.9	+8.5
CFR	**Carcaliu**	**149.50**	**328**	*i*P	PKPbc	12 18 06.8	0.0
CFR	**Carcaliu**	**149.50**	**328**	*i*P	PKPbc	12 18 06.8	0.0
MORC	**Moravsky Berou**	**149.60**	**345**	*i*P	PKPbc	12 18 07.3	+0.2
MORC	**Moravsky Berou**	**149.60**	**345**	*e*PKPbc	PKPbc	12 18 07.1	0.0
BR131	**Keskin Array S**	**149.64**	**315**	*e*PKPdf	PKPdf	12 18 03.0	+0.5
BR131				*e*PKPbc	PKPbc	12 18 07.7	+0.5
BR131				*e*PKPab	PKPab	12 18 13.6	+1.3
BRTR	**Keskin Array B**	**149.64**	**315**	PKP	PKPdf	12 18 02.1	-0.5
	comp=Z,1.1nm,0.9s,baz=258,slow=1.1,SNR=7.2						
BRTR				PKPbc	PKPbc	12 18 07.6	+0.4
	comp=Z,14nm,1.0s,baz=225,slow=1.2,SNR=37						
VRI	**Vrincioaia**	**149.67**	**330**	*i*P	PKPbc	12 18 07.2	-0.1
VRI	**Vrincioaia**	**149.67**	**330**	*i*P	PKPbc	12 18 07.8	+0.5
VRI	**Vrincioaia**	**149.67**	**330**	*i*P	PKPbc	12 18 07.8	+0.5
KAMT	**Kaman**	**149.77**	**314**	*e*P	PKPbc	12 18 08.1	+0.6
MOX	**Moxa**	**149.85**	**353**	*e*PKPbc	PKPbc	12 18 07.5	-0.2
MOX	**Moxa**	**149.85**	**353**	*e*PKP	PKPbc	12 18 07.9	+0.2
	comp=Z,53nm,1.4s						
MOX	**Moxa**	**149.85**	**353**	*e*PKIKP	PKPbc	12 18 07.9	+0.2
MOX				pmax	pmax		
	comp=Z,2.0nm,1.4s						
WERD	**Werda**	**149.95**	**352**	*e*PKPbc	PKPbc	12 18 08.0	+0.1
KECS	**Kecovo**	**149.96**	**340**	*i*PKP	PKPbc	12 18 07.8	-0.2
KECS				*e*		12 18 15.9	
UCC	**Uccle**	**150.02**	**2**	PKPbc	PKPbc	12 18 08.2	+0.1
UCC				APKPbc		12 18 16.4	
PRU	**Pruhonice**	**150.04**	**349**	*e*PKPB	PKPbc	12 18 08.6	+0.4
PRU				*e*PKPAB	PKPab	12 18 15.3	+1.3
PRU				*e*pPKP	pPKPdf	12 18 19.3	+11
HGN	**Heimansgroeve**	**150.08**	**360**	*e*PKiKP	PKiKP	12 18 08.5	-0.6
	comp=Z,32nm,2.4s						
ANTO	**Ankara**	**150.12**	**316**	*e*P	PKPbc	12 18 08.1	-0.2
ANTO	**Ankara**	**150.12**	**316**	*i*P	PKPbc	12 18 09.0	+0.6
ANTO	**Ankara**	**150.12**	**316**	*e*PKPbc	PKPbc	12 18 09.3	+1.0
NKC	**Novy Kostel**	**150.14**	**351**	*e*PKPB	PKPbc	12 18 09.2	+0.8
NKC				*e*PKPAB	PKPab	12 18 17.8	+3.4
NKC				*e*pPKP	pPKPdf	12 18 22.9	+14
CVD	**Cernavoda**	**150.17**	**327**	*i*P	PKPbc	12 18 09.1	+0.6
SGKT	**Sivrigoynuk**	**150.22**	**317**	*i*P	PKPbc	12 18 07.8	-0.8
MEM	**Membach**	**150.23**	**360**	PKPbc	PKPbc	12 18 08.6	0.0
MEM				APKPbc		12 18 19.1	
VRAC	**Vranov**	**150.27**	**346**	PKP2	PKPbc	12 18 09.1	+0.4
SNF	**Seneffe**	**150.31**	**2**	PKPbc	PKPbc	12 18 08.4	-0.4
MLR	**Muntele Rosu**	**150.32**	**331**	*i*P	PKPbc	12 18 08.5	-0.3
MERS	**Mersin**	**150.34**	**309**	*e*P	PKPbc	12 18 09.1	+0.2
MANZ	**Manzenberg**	**150.43**	**352**	*e*PKPbc	PKPbc	12 18 09.4	+0.3
VYHS	**Vyhne**	**150.44**	**342**	*e*PKP	PKPbc	12 18 09.7	+0.6
VYHS				*e*		12 18 20.1	
TREC	**Trest**	**150.52**	**347**	*i*PKPB	PKPbc	12 18 09.9	+0.6
TREC				*e*pPKP	pPKPdf	12 18 20.4	+11
TREC				*ex*	x	12 18 23.6	
TNS	**Taunus Mts**	**150.54**	**357**	*e*PKPbc	PKPbc	12 18 08.7	-0.7
TNS	**Taunus Mts**	**150.54**	**357**	*e*PKPbc	PKPbc	12 18 08.7	-0.7
BHL	**Bhannes**	**150.58**	**303**	*e*P	PKPbc	12 18 10.2	+0.7
ROTZ	**Rotzenmuhle**	**150.63**	**352**	*e*PKPbc	PKPbc	12 18 09.8	+0.2
DRGR		**150.63**	**336**	*i*P	PKPbc	12 18 10.5	+0.9
PSZ	**Piszkesteto**	**150.64**	**341**	*i*pPKP/F	PKPbc	12 18 10.3	+0.7
PSZ	**Piszkesteto**	**150.64**	**341**	*e*PKPbc	PKPbc	12 18 09.8	+0.2
GIVF	**Givet**	**150.73**	**1**	*e*PKP1	PKPbc	12 18 09.6	-0.2
	comp=Z,93nm,1.3s						
DOU	**Dourbes**	**150.73**	**2**	PKPbc	PKPbc	12 18 10.0	+0.2
DOU				APKPbc		12 18 20.8	
MEST	**Erdemli**	**150.74**	**309**	*i*P	PKPbc	12 18 07.5	-2.3
BAIF	**Baives**	**150.75**	**2**	*e*PKP1	PKPbc	12 18 09.8	-0.1
	comp=Z,100nm,1.3s						
VOIR		**150.76**	**332**	*i*P	PKPbc	12 18 10.1	+0.2
HENT	**Hendek**	**150.80**	**319**	*i*P	PKPbc	12 18 09.2	-0.7
GRA1	**Grafenberg Arr**	**150.83**	**353**	*e*PKPbc	PKPbc	12 18 10.3	+0.3
GRF	**Grafenberg Arr**	**150.83**	**353**	*e*PKPbc	PKPbc	12 18 10.3	+0.3
KHC	**Kasperske Hory**	**151.04**	**349**	*i*PKPB	PKPbc	12 18 10.8	+0.3
KHC				*e*PKPAB	PKPab	12 18 19.1	+1.0
KHC				*e*pPKP	pPKPdf	12 18 21.8	+12
KHC	**Kasperske Hory**	**151.04**	**349**	*e*PKHKP		12 18 10.8	
KHC				*e*		12 18 19.1	
WET	**Wettzell**	**151.14**	**350**	*e*PKPbc	PKPbc	12 18 11.5	+0.7
WLF	**Walferdange**	**151.18**	**360**	*e*PKPbc	PKPbc	12 18 11.8	+0.9
WLF	**Walferdange**	**151.18**	**360**	PKPbc	PKPbc	12 18 12.2	+1.4
WLF				APKPbc		12 18 21.9	
WLF	**Walferdange**	**151.18**	**360**	*e*PKPbc	PKPbc	12 18 11.5	+0.7
WLF				*e*PKPab	PKPab	12 18 18.6	0.0
ZST	**Bratislava**	**151.18**	**344**	*e*PKP	PKPbc	12 18 11.7	+0.8
ZST				*e*		12 18 19.7	
KIZT	**Kizilcal**	**151.25**	**315**	*e*P	PKPbc	12 18 11.4	+0.4
GEC2	**GERESS Array S**	**151.30**	**349**	*e*PKPbc	PKPbc	12 18 11.0	-0.1
GEC2	**GERESS Array S**	**151.30**	**349**	*e*PKPbc	PKPbc	12 18 11.0	-0.1
GERES	**GERESS Array B**	**151.30**	**349**	PKPbc	PKPbc	12 18 10.9	-0.2
	comp=Z,4.3nm,0.9s,baz=17,slow=1.4,SNR=15						
ROSF	**Rostrenen**	**151.54**	**13**	*e*PKP1	PKPbc	12 18 10.2	-1.5
ERMK	**Ermenek**	**151.61**	**310**	*i*P	PKPbc	12 18 12.7	+0.9
FLN	**La Foliniere**	**151.62**	**9**	*e*PKP1	PKPbc	12 18 11.2	-0.7
	comp=Z,73nm,1.2s						
SGMF	**Saint Gilles**	**151.77**	**12**	*e*PKP1	PKPbc	12 18 11.4	-0.8
SOP	**Sopron**	**151.79**	**345**	*e*pPKP/F	PKPbc	12 18 12.5	+0.2
LANF	**Langenberg**	**151.82**	**357**	PKP	PKPbc	12 18 12.3	0.0
LDF	**La Druitiere**	**151.84**	**8**	*e*PKP1	PKPbc	12 18 11.6	-0.8
	comp=Z,129nm,1.5s						
GRR	**Gorron**	**151.93**	**10**	*e*PKP1	PKPbc	12 18 12.0	-0.6
	comp=Z,65nm,1.2s						
STU	**Stuttgart**	**151.94**	**355**	*e*PKPbc	PKPbc	12 18 12.9	+0.3
BZS	**Buzias**	**152.03**	**336**	PKIKP	PKPbc	12 18 13.4	+0.6
MOA	**Molln**	**152.15**	**348**	*i*P	PKPbc	12 18 12.7	-0.3
	comp=Z,18nm,1.0s						
EIL	**Elat**	**152.28**	**294**	*e*PKPbc	PKPbc	12 18 14.3	+0.9
EIL				*e*PKPab	PKPab	12 18 25.2	+2.0
ULDT	**Uludag**	**152.29**	**319**	*i*P	PKPdf	12 18 10.1	+3.5
MEZF	**Maizieres J'vi**	**152.33**	**1**	*e*PKP1	PKPbc	12 18 13.4	-0.1
WLS	**Welschbruch**	**152.40**	**358**	PKP	PKPbc	12 18 14.2	+0.6
CDF	**Champ du Feu**	**152.41**	**358**	*e*PKP1	PKPbc	12 18 13.4	-0.3
	comp=Z,49nm,1.3s						
BFO	**Black Forest**	**152.44**	**356**	*e*PKPbc	PKPbc	12 18 13.5	-0.2
PKSM	**Moragy**	**152.55**	**340**	*i*P	PKPbc	12 18 13.5	-0.5
ECH	**Echery**	**152.61**	**358**	PKP	PKPbc	12 18 13.0	-1.1
ISP	**Isparta**	**152.70**	**314**	*e*PKIKP	PKPbc	12 18 15.0	+0.7
ISP				*e*		12 18 23.6	
HAU	**Haudompre**	**152.83**	**359**	*e*PKP1	PKPbc	12 18 15.3	+0.7
MOF	**Molkenrain**	**152.97**	**358**	PKP	PKPbc	12 18 14.9	0.0
HINF	**Hinteralfeld**	**153.01**	**358**	*e*PKP1	PKPbc	12 18 14.5	-0.5
KBA	**Koelnbreinsper**	**153.06**	**349**	*i*P	PKPbc	12 18 14.7	-0.4
	comp=Z,19nm,0.9s						
DAVA	**Damuels**	**153.35**	**354**	*i*P	PKPbc	12 18 16.7	+1.0
	comp=Z,32nm,1.1s						
LOMF	**Lomont**	**153.48**	**358**	PKP	PKPbc	12 18 16.8	+0.8
LOR	**Lormes**	**153.53**	**3**	*e*PKP1	PKPbc	12 18 15.8	-0.3
	comp=Z,48nm,1.3s						
SSF	**Saint Saulge**	**153.71**	**4**	*e*PKP1	PKPbc	12 18 16.3	-0.2
	comp=Z,35nm,1.2s						
MFF	**Saint Martin d**	**153.78**	**9**	*e*PKP1	PKPbc	12 18 16.0	-0.7
	comp=Z,74nm,1.7s						
LJU	**Ljubljana**	**153.81**	**346**	*e*PKPbc	PKPbc	12 18 17.0	+0.3
AVF	**Avril sur Loir**	**153.97**	**4**	*e*PKP1	PKPbc	12 18 16.6	-0.5
SMF	**Signal de Mont**	**154.15**	**3**	*e*PKP1	PKPbc	12 18 16.8	-0.7
BOJS	**Bojanci**	**154.15**	**345**	*e*PKPdf	PKPdf	12 18 09.7	+0.3
BOJS				*i*		12 18 18.6	
BGF	**Bois d'Agland**	**154.17**	**5**	*e*PKP1	PKPbc	12 18 17.1	-0.4
CABF	**La Chapelle**	**154.23**	**360**	*e*PKP1	PKPbc	12 18 18.1	+0.5
TCF	**Toulx Ste Croi**	**154.38**	**6**	*e*PKP1	PKPbc	12 18 17.4	-0.6
	comp=Z,28nm,1.2s						
RJF	**Les Rejaudoux**	**155.28**	**7**	*e*PKP1	PKPdf	12 18 19.5	+8.6
DBIC	**Dimbokro**	**162.56**	**142**	PKPab	PKPab	12 19 09.8	+2.3
	comp=Z,6.5nm,1.1s,baz=225,slow=6.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**171.44**	**152**	PKP	PKPdf	12 18 25.6	-0.5
	comp=Z,1.8nm,1.2s,baz=25,slow=0.5,SNR=3.6						
TORD				PKPab	PKPab	12 19 47.4	+0.6
	comp=Z,1.3nm,0.8s,baz=199,slow=2.6,SNR=3.6						

IDC 04 12:25:12.2±7.5, 1834S×17654W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.7/13, mbtmp4.0/2, Error ellipse: s-maj=298.2km s-min=119.8km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.30**	**260**	P	P	12 33 40.3	+0.7
	0.4nm,0.3s,baz=96,slow=7.6,SNR=15						
ASAR	**Alice Springs**	**46.39**	**255**	P	P	12 33 40.4	+0.1
	1.6nm,0.5s,baz=97,slow=7.6,SNR=37						
AKASG	**Malin Array Be**	**141.75**	**333**	PKP	PKPdf	12 44 44.8	-0.8
	0.9nm,0.5s,baz=40,slow=3.8,SNR=4.2						

IDC 04 12:42:54.8±8.4, 279S×15199E, h304km±82km, mb3.0/4, mb1 3.3/4, mb1mx3.0/14, mbtmp3.5/4, Error ellipse: s-maj=105.3km s-min=28.6km az=128.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.24**	**224**	P	P	12 47 45.3	+0.7
	0.5nm,0.4s,baz=49,slow=10.0,SNR=13						
WRA				PcP	PcP	12 51 15.2	-0.4
	0.6nm,0.9s,baz=48,slow=2.5,SNR=5.9						
ASAR	**Alice Springs**	**27.14**	**219**	P	P	12 48 10.6	0.0
	0.3nm,0.3s,baz=50,slow=8.6,SNR=13						
ILAR	**Eielson Array**	**80.62**	**22**	P	P	12 54 33.5	-0.4
	0.5nm,0.6s,baz=246,slow=5.4,SNR=11						
YKA	**Yellowknife Ar**	**94.04**	**28**	P	P	12 55 38.6	0.0
	0.2nm,0.7s,baz=272,slow=4.9,SNR=5.1						
TORD	**Torodi Ar. Bea**	**148.88**	**291**	PKPbc	PKPbc	13 02 07.5	+0.9
	0.5nm,0.4s,baz=58,slow=2.1,SNR=14						

*IDC **04** 12:43:32.3±0.8, 2056S×174.17W, h0km, mb4.1/10, mb1 4.3/11, mb1mx4.3/16, mbtmp4.1/11, ML4.2/1, Error ellipse: s-maj=32.6km s-min=17.7km az=137.0*
*MOS **04** 12:43:33.9±3.0, 2067S×17353W, h33km, mb4.5/3, Error ellipse: s-maj=20.4km s-min=17.0km az=51.9*
*ISCJB **04** 12:43:34.6±0.5, 2051S±009×174.1W±0.1, h33km, mb4.1/13, Error ellipse: s-maj=19.6km s-min=10.3km az=46.0*
*NEIC **04** 12:43:34.7±0.4, 2050S×174.16W, h15km, mb4.5/4, Error ellipse: s-maj=18.9km s-min=9.9km az=118.0*

ISC 04 12:43:36.9±0.5, 2062S±009×1740W±01, h35km, n33, σ1§31/29, mb4.1/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.02**	**18**	Pn	**Pn**	**12 45 11.0**	**-6.1**
	21nm,0.3s,baz=81,slow=3.1,SNR=30						
AFI				Sn	**Sn**	**12 46 25.0**	**-11**
	12nm,0.3s,baz=53,slow=20,SNR=3.4						
AFI	**Afiamalu**	**7.02**	**18**	*e*P	**Pn**	**12 45 14.0**	**-3.1**
AFI				pmax	pmax		
	comp=Z,76nm,0.4s						
AFI	**Afiamalu**	**7.02**	**18**	*e*Pn	**Pn**	**12 45 14.0**	**-3.1**
	comp=Z,76nm,0.4s						
AFI				*e*Sn	**Sn**	**12 46 23.4**	**-12**
RAR	**Rarotonga**	**13.35**	**95**	Pn	**Pn**	**12 46 32.0**	**-12**
	comp=Z,4.2nm,0.3s,baz=241,slow=12,SNR=17

comp=Z,0.3nm,0.3s,baz=74,slow=19,SNR=3.9
URZ Urewera 19.45 201 P **Pn 13 07 54.8 -3.1**
comp=Z,1.3nm,0.3s,baz=33,slow=4.8,SNR=7.3
RPZ Rata Peaks 26.43 204 P **P 13 09 06.9 +0.5**
comp=Z,10.0nm,0.6s,mb4.5,baz=303,slow=1.4,SNR=8.4
CTA Charters Tower 36.99 263 *e*P **P 13 10 38.5 -0.6**
comp=Z,6.9nm,0.7s,mb4.6
CTA Charters Tower 36.99 263 P **P 13 10 38.5 -0.7**
comp=Z,7.6nm,0.7s,mb4.7,baz=103,slow=9.7,SNR=9.5
CTA Charters Tower 36.99 263 *e*P **P 13 10 38.5 -0.6**
CTA pmax pmax
comp=Z,7.0nm,0.7s
CTAO Charters Tower 36.99 263 *e*P **P 13 10 39.1 0.0**
CTAO *e* 13 12 01.7
CTAO pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
CTAO Charters Tower 36.99 263 *e*P **P 13 10 39.1 0.0**
comp=Z,7.1nm,0.6s,mb4.7
CTAO *e*PP PP 13 12 01.7 -2.1
PMG Port Moresby 38.72 280 P **P 13 10 52.4 -1.3**
comp=Z,4.7nm,0.8s,mb4.3,baz=86,slow=11,SNR=2.7
PMG Port Moresby 38.72 280⇑*i*P **P 13 10 51.0 -2.7**
PMG Port Moresby 38.72 280 *e*P **P 13 10 45.7 -7.9**
STKA Stephens Creek 41.05 244 P **P 13 11 11.9 -1.2**
comp=Z,2.1nm,0.7s,mb3.9,baz=137,slow=21,SNR=3.4
STKA Stephens Creek 41.05 244 *e*P **P 13 11 14.8 +1.8**
ASAR Alice Springs 47.98 256 P **P 13 12 07.0 -1.4**
comp=Z,2.9nm,0.6s,mb4.5,baz=96,slow=8.0,SNR=27
ASAR PcP PcP 13 13 36.2 +0.1
comp=Z,1.0nm,0.6s,baz=106,slow=3.3,SNR=4.3
WB2 Warramunga Arr 48.09 261 *e*P **P 13 12 07.5 -1.7**
WRAB Tennant Creek 48.09 261⇑*i*P **P 13 12 07.7 -1.5**
WRAB Tennant Creek 48.09 261 *e*P **P 13 12 08.9 -0.3**
comp=Z,6.4nm,0.8s,mb4.7
WRA Warramunga Arr 48.10 261 P **P 13 12 07.8 -1.5**
comp=Z,3.1nm,0.7s,mb4.4,baz=96,slow=7.6,SNR=16
KAKA Kakadu 51.47 270 *e*P **P 13 12 36.2 +1.3**
comp=Z,7.1nm,0.7s,mb4.7
SBA Scott Base 58.38 185 *e*P **P 13 13 26.4 +1.5**
SBA pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
SBA Scott Base 58.38 185 *e*P **P 13 13 26.4 +1.5**
comp=Z,5.3nm,0.9s,mb4.6
VNDA Vanda 58.50 186 P **P 13 13 25.6 -0.2**
comp=Z,2.3nm,0.8s,mb4.2,baz=349,slow=6.1,SNR=12
VNDA Vanda 58.50 186 *e*P **P 13 13 26.3 +0.6**
VNDA pmax pmax
comp=Z,4.0nm,1.3s
VNDA Vanda 58.50 186 *e*P **P 13 13 26.3 +0.6**
comp=Z,4.0nm,1.3s,mb4.3
QSPA South Pole Qui 69.83 180 *e*P **P 13 14 40.1 +0.1**
comp=Z,22nm,1.2s,mb5.0
MJAR Matsushiro Arr 72.13 321 P **P 13 14 53.7 -0.2**
comp=Z,1.8nm,0.6s,mb4.2,baz=157,slow=5.6,SNR=11
MAJO Matsushiro 72.14 321 *e*P **P 13 14 53.3 -0.7**
MAT Matsushiro 72.14 321 P **P 13 14 53.8 -0.2**
MAT Matsushiro 72.14 321 *e*P **P 13 14 54.0 0.0**
YSS Yuzh-Sakhalins 77.29 331⇓*e*P **P 13 15 20.6 -3.2**
YSS pmax pmax
comp=Z,13nm,1.7s,mb4.6
NVAR Mina Array Bea 78.47 42 P **P 13 15 30.2 -0.3**
comp=Z,2.5nm,0.9s,mb4.2,baz=214,slow=6.7,SNR=9.7
NVAR Mina Array Bea 78.47 42 P **P 13 15 30.2 -0.3**
MDJ Mudanjiang 82.36 323 P **P 13 15 52.6 +1.3**
MDJ AP pP 13 15 55.9 -6.4
MDJ XP sP 13 15 57.2 -9.2
MDJ AMB AMB
comp=Z,9.0nm,0.8s,mb4.8
MDJ AMB AMB
comp=Z,189nm,11.5s
MDJ LR LR
comp=N,81nm,20.7s,MS4.4
MDJ LR LR
comp=E,152nm,24.9s,MS4.4
MDJ LR LR
comp=Z,261nm,22.8s,MS4.5
NJ2 Nanjing 82.44 308 *e*P **P 13 15 53.1 +1.4**
NJ2 AP pP 13 15 57.6 -5.2
NJ2 XP sP 13 16 00.9 -5.9
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
NJ2 AMB AMB
comp=Z,110nm,4.7s
NJ2 LR LR
comp=N,2μm,33.8s,MS5.2
NJ2 LR LR
comp=E,870nm,34.0s,MS5.2
NJ2 LR LR
comp=Z,1μm,36.9s,MS5.1
MSU Marysvale 82.44 44 *e*P **P 13 15 53.2 +1.4**
MAW Mawson 82.97 199 P **P 13 15 54.2 -0.2**
comp=Z,2.8nm,0.8s,mb4.4,baz=117,slow=6.8,SNR=3.4
SRU San Rafael 83.86 45 *e*P **P 13 15 59.7 +0.7**
SRU pmax pmax
comp=Z,14nm,1.2s,mb5.0
SRU San Rafael 83.86 45 *e*P **P 13 15 59.7 +0.7**
comp=Z,14nm,1.2s,mb5.0
BNM Barren Site 84.03 50 *e*P **P 13 16 00.8 +0.9**
LPM Los Pinos Moun 84.11 50 *e*P **P 13 16 01.0 +0.7**
TTA Tatalina 84.14 8 *e*P **P 13 16 01.3 +0.8**
TTA pmax pmax
comp=Z,11nm,1.0s,mb4.9
TTA Tatalina 84.14 8 *e*P **P 13 16 01.2 +0.8**
comp=Z,11nm,1.0s,mb5.0
CN2 Changchun 84.27 321 *e*P **P 13 16 02.1 +1.0**
TCUT Toone Canyon 84.36 43 *e*P **P 13 16 02.1 +0.6**
MA2 Magadan 84.51 343 P **P 13 16 01.4 -1.0**
MA2 pmax pmax
comp=E,9.0nm,1.3s
MA2 pmax pmax
comp=Z,10.0nm,1.3s,mb4.8
HWUT Hardware Ranch 84.53 42 *e*P **P 13 16 02.5 +0.1**
comp=Z,3.6nm,0.9s,mb4.5
ANMO Albuquerque 84.54 50 P **P 13 16 02.6 +0.1**
comp=Z,1.9nm,0.8s,mb4.3,baz=241,slow=5.1,SNR=6.9
ANMO Albuquerque 84.54 50⇑*e*P **P 13 16 03.0 +0.5**
ANMO Albuquerque 84.54 50 *e*P **P 13 16 02.7 +0.2**
comp=Z,4.3nm,1.1s,mb4.5
PV01 Paradox Valley 84.65 46 *e*P **P 13 16 03.4 +0.3**
PDAR Pinedale Array 86.41 42 P **P 13 16 10.4 -1.4**
comp=Z,1.0nm,0.8s,mb4.1,baz=214,slow=1.9,SNR=7.4
COLA College 87.25 11⇓*e*P **P 13 16 15.1 -0.8**
COLA College 87.25 11 *e*P **P 13 16 15.6 -0.3**
comp=Z,9.5nm,1.0s,mb5.0
ILAR Eielson Array 87.33 11 P **P 13 16 15.2 -1.2**
comp=Z,1.8nm,0.8s,mb4.3,baz=225,slow=3.9,SNR=17
VNA3 Neumayer Olymp 88.13 175⇑*i*P **P 13 16 19.3 -0.8**
VNA3 *e* pP 13 16 28.9 -2.4
VNA3 *e* pP 13 16 32.8 +1.5
SNAA Sanae 88.14 177⇑*i*P **P 13 16 19.6 -0.6**
SNAA *e* pP 13 16 28.4 -2.9
SNAA *e* 13 16 33.6
SNAA Sanae 88.14 177⇓*i*P **P 13 16 19.9 -0.3**
BJI Beijing 88.20 314 P **P 13 16 22.0 +1.6**
BJI AMB AMB
comp=Z,10.0nm,1.9s,mb4.7
VNA2 Neumayer--Watz 88.62 176⇑*i*P **P 13 16 21.6 -0.8**
VNA2 *e* pP 13 16 31.4 -2.1
VNA2 *e* 13 16 35.8
VNA1 Neumayer--Stat 88.82 175⇑*i*P **P 13 16 23.7 +0.3**
VNA1 *e* pP 13 16 33.9 -0.6
VNA1 *e* 13 16 38.3
BILL Bilibino 89.18 353⇑*e*P **P 13 16 24.4 -0.7**
BILL pmax pmax
comp=Z,10.0nm,1.7s,mb4.9
BILL Bilibino 89.18 353 *e*P **P 13 16 24.1 -1.0**
comp=Z,5.6nm,1.1s,mb4.8
XAN Xi'an 90.78 306 P **P 13 16 34.4 +1.8**
XAN AMB AMB
comp=Z,6.0nm,1.6s,mb4.7
HHC Hu-ho-hao-te 91.70 313 *e*P **P 13 16 38.4 +1.6**
HHC AP pP 13 16 43.3 -4.7
HHC XP sP 13 16 45.4 -6.6
HHC AMB AMB
comp=Z,4.0nm,0.3s,mb5.2
HHC AMB AMB
comp=Z,295nm,6.5s
HHC LR LR
comp=N,434nm,19.0s,MS5.0
HHC LR LR
comp=E,288nm,15.9s,MS5.0
HHC LR LR
comp=Z,498nm,19.1s,MS5.0
KMI Kunming 92.37 296 P **P 13 16 42.0 +2.1**
KMI AP pP 13 16 47.7 -3.3
KMI XP sP 13 16 48.9 -6.1
KMI S 13 27 42.4
KMI AMB AMB
comp=Z,9.0nm,1.1s,mb5.0
KMI LR LR
comp=N,205nm,18.6s,MS4.8
KMI LR LR
comp=E,228nm,19.7s,MS4.8
KMI LR LR
comp=Z,415nm,18.1s,MS4.9
INK Inuvik 93.14 14 *e*P **P 13 16 42.2 -1.3**
INK pmax pmax
comp=Z,14nm,1.7s
INK Inuvik 93.14 14 *e*P **P 13 16 42.2 -1.3**
comp=Z,14nm,1.7s,mb5.1
YAK Yakutsk 93.21 337⇓*e*P **P 13 16 42.4 -1.4**
YAK pmax pmax
comp=Z,5.0nm,0.6s,mb5.1
YKA Yellowknife Ar 94.84 24 P **P 13 16 50.4 -0.9**
comp=Z,0.4nm,0.8s,mb3.9,baz=240,slow=4.2,SNR=11
LZH Lanzhou 95.41 306 *e*P **P 13 16 55.3 +1.4**
LZH AP pP 13 17 00.2 -4.8
LZH XP sP 13 17 02.5 -6.5
LZH AMB AMB
comp=Z,21nm,1.4s,mb5.4
LZH AMB AMB
comp=Z,72nm,9.3s
LZH LR LR
comp=N,167nm,16.2s
LZH LR LR
comp=Z,293nm,19.3s,MS4.8
ULN Ulaanbaatar 97.48 318⇑*e*P **P 13 17 02.6 -0.7**
TIXI Tiksi 99.42 344⇑*e*P **P 13 17 08.9 -3.0**
WMQ Urumqi 109.41 311 PDIF Pdif 13 17 55.6 -0.8
WMQ PP PP
comp=Z,320nm,5.1s
WMQ LR LR
comp=N,176nm,17.5s,MS4.9
WMQ LR LR
comp=E,216nm,18.7s,MS4.9
WMQ LR LR
comp=Z,213nm,16.5s,MS4.8
BVAR Borovoye Array 121.12 320 PKP PKPdf 13 22 20.8 -1.3
comp=Z,0.6nm,0.6s,baz=48,slow=4.3,SNR=4.6
ARCES ARCESS Array B 129.25 351 PKP PKPdf 13 22 36.0 -1.6
comp=Z,0.7nm,0.6s,baz=66,slow=1.1,SNR=4.9
ARCES ARCESS Array B 129.25 351 PKP PKPdf 13 22 36.0 -1.6
NOA NORSAR Array B 139.06 356 PKP PKPdf 13 22 52.5 -3.5
comp=Z,0.7nm,0.9s,baz=355,slow=6.4,SNR=2.3
MALT Malatya 146.51 310 *e*PKP2 PKPab 13 23 11.5 -0.1
LVV L'vov 147.09 338 *i* PKP2 PKPab 13 23 11.8 -2.0
LVV L'vov 147.09 338 *i* P PKPdf 13 23 11.8 +1.7
STHS Stebnicka Huta 148.36 341 *e*PKP PKPbc 13 23 16.4 +0.7
CLL Collm 148.47 351⇓*i*PKPbc PKPbc 13 23 17.0 +1.0
comp=Z,29nm,1.6s
CLL *i* (sPKPab) 13 23 25.0
CLL *i* x x 13 23 38.7
CLL Collm 148.47 351⇓*e*PKP2 PKPbc 13 23 16.0 0.0
CLL pmax pmax
comp=Z,29nm,1.6s
UPC Upice 148.72 347⇑*e*PKPB PKPbc 13 23 15.8 -0.8
UPC *ep*PKP pPKPdf 13 23 32.8 +8.6
BRG Berggiesshubel 148.75 350 *e*PKP PKPbc 13 23 17.4 +0.8
comp=Z,6.9nm,1.1s
BRG Berggiesshubel 148.75 350 *e*PKP2 PKPbc 13 23 17.4 +0.7
BRG pmax pmax
comp=Z,7.0nm,1.1s
DPC Dobruska-Polom 148.80 347⇑*e*PKPB PKPbc 13 23 17.4 +0.6
DPC *ep*PKP pPKPdf 13 23 34.1 +10
MORC Moravsky Berou 149.06 345 *e*PKP2 PKPbc 13 23 17.9 +0.4
BR131 Keskin Array S 149.19 315 *e*PKPdf PKPbc 13 23 17.4 -0.3
BRTR Keskin Array B 149.19 315 PKPbc PKPbc 13 23 16.1 -1.7
comp=Z,1.3nm,0.7s,baz=122,slow=3.9,SNR=7.1
MOX Moxa 149.31 353 *e*PKP PKPbc 13 23 19.0 +0.9
comp=Z,24nm,1.7s
MOX Moxa 149.31 353 *e*PKP2 PKPbc 13 23 19.0 +0.9
MOX pmax pmax
comp=Z,53nm,1.7s
MOX Moxa 149.31 353 *e*P PKPdf 13 23 19.0 +5.3
MOX pmax pmax
comp=Z,53nm,1.7s
KECS Kecovo 149.42 341 *e*PKP PKPbc 13 23 19.0 +0.7
PRU Pruhonice 149.50 349⇑*e*PKPB PKPbc 13 23 19.3 +0.7
PRU *ep*PKP pPKPdf 13 23 35.0 +10
NKC Novy Kostel 149.60 351 *e*PKPAB PKPab 13 23 25.5 +1.6
VRAC Vranov 149.72 346 PKPbc PKPbc 13 23 19.8 +0.7
comp=Z,2.3nm,0.5s,baz=72,slow=6.4,SNR=4.8
MLR Muntele Rosu 149.80 331 PKPbc PKPbc 13 23 20.4 +1.1
comp=Z,2.2nm,0.6s,baz=59,slow=4.2,SNR=6.8
VYHS Vyhne 149.90 342 *e*PKP PKPbc 13 23 21.0 +1.5
GRF Grafenberg Arr 150.29 353 *e*PKP PKPbc 13 23 21.5 +1.0
KHC Kasperske Hory 150.50 350⇑*e*PKPB PKPbc 13 23 21.2 +0.2
KHC *e*PKPAB PKPab 13 23 29.1 +1.5
KHC *ep*PKP pPKPdf 13 23 38.0 +11
MMAI Mount Meron Ar 150.69 302 PKPbc PKPbc 13 23 22.4 +1.0
comp=Z,1.9nm,0.6s,baz=79,slow=3.3,SNR=3.3
GERES GERESS Array B 150.75 349 PKPbc PKPbc 13 23 20.5 -1.0
comp=Z,1.4nm,0.7s,baz=349,slow=2.7,SNR=5.8
TORD Tondi Ar. Bea 171.96 151 PKP PKPdf 13 23 36.7 -1.3
comp=Z,0.5nm,0.8s,baz=254,slow=6.2,SNR=4.7

NEIC ***04*** *13:04:15.7, 1468N×9379W, h31km, MD4.1(MEX), After MEX.*

MEX 04 13:04:15.7±0.8, 1468N×9379W, h31km±75km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.25**	**45**	*e*P		Pn		13 04 49.5	-1.3
CCIG				*i* S		Sn		13 05 14.8	-2.7
SCX	**San Cristobal**	**2.32**	**28**	*i* P		Pn		13 04 50.0	-1.8
SCX				*i* S		Sn		13 05 18.0	-1.3
HUIG	**Huatulco**	**2.49**	**296**	*e*P		Pn		13 04 53.0	-1.1
HUIG				*i* S		Sn		13 05 19.7	-3.7
OXX	**Oaxaca**	**3.70**	**311**	*e*P		Pn		13 05 09.0	-1.7
OXX				*i* S		Sn		13 05 52.0	-1.3

IDC ***04*** *13:05:41.6±0.6, 2007S×17445W, h0km, mb4.5/14, mb1 4.6/16, mb1mx4.6/20, mbtmp4.5/16, ML4.0/2, MS4.3/12, Ms1 4.3/12, ms1mx4.1/35, Error ellipse: s-maj=26.9km s-min=14.7km az=136.0*

MOS ***04*** *13:05:45.8±1.0, 2020S×17448W, h33km, mb5.0/15, Error ellipse: s-maj=15.6km s-min=13.7km az=66.2*

ISCJB ***04*** *13:05:46.9±0.3, 2021S±0.007×174.41W±0.007, h44km, mb4.7/35, MS4.6/14, Error ellipse: s-maj=11.5km s-min=8.0km az=89.5*

NEIC ***04*** *13:05:48.7±0.3, 2017S×17437W, mb4.8/18, Error ellipse: s-maj=12.8km s-min=7.4km az=142.0*

BJI ***04*** *13:05:48.6, 2020S×17440W, h47km, mB5.2, mb5.0, Ms5.2, Msz5.0*

ISC 04 13:05:48.7±0.3, 2021S±007×17434W±007, h46km, h46km±1.9km: pP-P, n125, σ1°11/83, mb4.7/35, MS4.6/14, 6C-2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.73**	**22**	Pn		**Pn**		**13 07 20.1**	**-4.8**
AFI	40nm,0.3s,baz=207,slow=16,SNR=8.8					**Sn**		**13 08 26.6**	**-14**
AFI	21nm,0.3s,baz=232,slow=20,SNR=3.3			LR	LR			13 09 16.8	
AFI	comp=Z,670nm,19.1s,baz=187,slow=32 **Afiamalu**	**6.73**	**22**	*e*Pn		**Pn**		**13 07 19.3**	**-5.5**
RAR	**Rarotonga**	**13.67**	**97**	Pn		**Pn**		**13 08 47.6**	**-12**
RAR	3.8nm,0.3s,baz=249,slow=7.9,SNR=12			LR	LR			13 12 36.9	
RAR	comp=Z,1μm,20.6s,baz=247,slow=30 T							13 23 03.7	
DZM	7.2nm,0.3s,baz=260,slow=22,SNR=3.3 **Mont Dzumac**	**18.02**	**261**	P		**Pn**		**13 09 58.5**	**+2.9**
URZ	1.3nm,0.3s,baz=69,slow=18,SNR=9.2 **Urewera**	**19.45**	**201**	P		**Pn**		**13 10 10.7**	**-2.1**
URZ	2.1nm,0.3s,baz=308,slow=5.2,SNR=7.6			LR	LR			13 16 55.3	
TBI	comp=Z,478nm,21.2s,baz=3.2,slow=34 **Tubuai**	**23.30**	**102**	*e*LQ				13 15 15.1	
TBI	3μm,28.0s			*e*LR	LR			13 16 09.2	
PPT	702nm,27.5s **Papeete**	**23.57**	**88**	*e*LQ				13 15 20.8	
	2μm,26.5s								
PPT				*e*LR	LR			13 16 30.3	
	554nm,21.2s,baz=249								
PPT	**Papeete**	**23.57**	**88**	LR	LR			13 17 41.0	
	comp=Z,785nm,18.7s,MS4.2,baz=93,slow=30								
RPZ	**Rata Peaks**	**26.43**	**204**	P	**P**			**13 11 22.6**	**+1.6**
	13nm,0.8s,mb4.5,baz=24,slow=7.2,SNR=6.0								
HNR	**Honiara**	**27.03**	**290**	LR	LR			13 20 34.7	
	comp=Z,304nm,18.4s,MS3.9,baz=177,slow=33								
TAOE	**Nuku Hiva Isla**	**34.89**	**76**	*e*LR	LR			13 21 45.6	
	1μm,25.4s								
RKT	**Rikitea**	**36.62**	**102**	*e*LR	LR			13 22 19.6	
	451nm,27.2s								
CTA	**Charters Tower**	**36.94**	**263**	*e*P	**P**			**13 12 52.6**	**-0.5**
	5.5nm,0.6s,mb4.6								
CTA	**Charters Tower**	**36.94**	**263**	P	**P**			**13 12 52.3**	**-0.8**
	7.0nm,0.6s,mb4.7,baz=92,slow=11,SNR=5.2								
CTA	**Charters Tower**	**36.94**	**263**	*e*P	**P**			**13 12 52.6**	**-0.5**
CTA				pmax	pmax				
	comp=Z,6.0nm,0.6s								
PMG	**Port Moresby**	**38.65**	**280**	P	**P**			**13 13 07.0**	**-0.6**
	comp=Z,17nm,1.1s,mb4.7,baz=115,slow=15,SNR=4.2								
PMG	**Port Moresby**	**38.65**	**280**	*e*P	**P**			**13 13 06.9**	**-0.7**
PMG				*e**PP	pP			13 13 19.7	-0.3
PMG				pmax	pmax				
	comp=Z,19nm,1.1s								
PMG	**Port Moresby**	**38.65**	**280**	*e*P	**P**			**13 13 06.9**	**-0.7**
	comp=Z,19nm,1.1s,mb4.8								
PMG				*ep*P	pP			13 13 19.7	-0.3
STKA	**Stephens Creek**	**41.01**	**244**	P	**P**			**13 13 24.6**	**-2.5**
	comp=Z,5.2nm,1.0s,mb4.1,baz=60,slow=4.6,SNR=3.2								
STKA				LR	LR			13 29 28.5	
	comp=Z,304nm,19.8s,MS4.2,baz=309,slow=35								
STKA	**Stephens Creek**	**41.01**	**244**	*e*P	**P**			**13 13 24.7**	**-2.5**
ASAR	**Alice Springs**	**47.92**	**256**	P	**P**			**13 14 20.2**	**-2.1**
	comp=Z,1.7nm,0.5s,mb4.4,baz=98,slow=8.0,SNR=11								
WB2	**Warramunga Arr**	**48.03**	**261**	*e*P	**P**			**13 14 22.8**	**-0.4**
WRAB	**Tennant Creek**	**48.03**	**261**	*e*P	**P**			**13 14 23.0**	**-0.2**
WRAB				*e**PP	pP			13 14 35.2	-0.8
WRAB				pmax	pmax				
	comp=Z,12nm,1.1s,mb4.8								
WRAB	**Tennant Creek**	**48.03**	**261**	*e*P	**P**			**13 14 22.9**	**-0.2**
	comp=Z,12nm,1.1s,mb4.8								
WRAB				*ep*P	pP			13 14 35.1	-0.8
WRA	**Warramunga Arr**	**48.04**	**261**	P	**P**			**13 14 22.0**	**-1.3**
	comp=Z,2.4nm,0.7s,mb4.3,baz=97,slow=7.4,SNR=13								
KAKA	**Kakadu**	**51.47**	**270**	*e*P	**P**			**13 14 51.3**	**+2.5**
	comp=Z,5.4nm,0.6s,mb4.7								
SBA	**Scott Base**	**58.41**	**185**	*e*P	**P**			**13 15 40.3**	**+0.9**
SBA				*e**PP	pP			13 15 52.8	+0.3
SBA				pmax	pmax				
	comp=Z,6.0nm,1.0s,mb4.6								
SBA	**Scott Base**	**58.41**	**185**	*e*P	**P**			**13 15 40.3**	**+0.9**
	comp=Z,6.1nm,1.0s,mb4.6								
SBA				*ep*P	pP			13 15 52.8	+0.3
VNDA	**Vanda**	**58.52**	**186**	P	**P**			**13 15 40.1**	**-0.1**
	comp=Z,1.2nm,0.8s,mb4.0,baz=17,slow=4.7,SNR=3.6								
VNDA				LR	LR			13 35 11.3	
	comp=Z,318nm,19.1s,MS4.5,baz=107,slow=30								
VNDA	**Vanda**	**58.52**	**186**	*e*P	**P**			**13 15 41.1**	**+0.9**
VNDA				pmax	pmax				
	comp=Z,2.0nm,0.9s								
VNDA	**Vanda**	**58.52**	**186**	*e*P	**P**			**13 15 41.1**	**+0.9**
	comp=Z,1.9nm,0.9s,mb4.1								
NWAO	**Narrogin (SRO)**	**61.56**	**243**	LR	LR			13 42 03.0	
	comp=Z,264nm,20.8s,MS4.4,baz=352,slow=36								
QSPA	**South Pole Qui**	**69.86**	**180**	*e*P	**P**			**13 16 54.4**	**-0.1**
	comp=Z,15nm,1.0s,mb4.9								
MJAR	**Matsushiro Arr**	**72.07**	**321**	P	**P**			**13 17 07.6**	**-0.3**
	comp=Z,2.3nm,0.6s,mb4.3,baz=154,slow=5.8,SNR=7.3								
MAJO	**Matsushiro**	**72.08**	**321**	*e*P	**P**			**13 17 07.9**	**0.0**
MAJO				pmax	pmax				
	comp=Z,6.0nm,0.8s,mb4.6								
MAJO	**Matsushiro**	**72.08**	**321**	*e*P	**P**			**13 17 07.8**	**-0.1**
	comp=Z,6.3nm,0.8s,mb4.6								
MAT	**Matsushiro**	**72.08**	**321**	P	**P**			**13 17 08.7**	**+0.8**
MAT	**Matsushiro**	**72.08**	**321**	*e*P	**P**			**13 17 09.0**	**+1.1**
CMB	**Columbia Colle**	**76.96**	**41**	*e*P	**P**			**13 17 36.8**	**+0.5**
CMB				pmax	pmax				
	comp=Z,7.0nm,1.3s,mb4.4								
CMB	**Columbia Colle**	**76.96**	**41**	*e*P	**P**			**13 17 36.8**	**+0.5**
	comp=Z,7.0nm,1.3s,mb4.4								
YSS	**Yuzh-Sakhalins**	**77.23**	**331**	*e*P	**P**			**13 17 38.7**	**+0.9**
YSS				*e**PP	pP			13 17 49.6	-1.8
YSS				pmax	pmax				
	comp=Z,27nm,1.2s,mb5.0								
YSS	**Yuzh-Sakhalins**	**77.23**	**331**	*e*P	**P**			**13 17 38.7**	**+0.9**
	comp=Z,27nm,1.2s,mb5.1								
YSS				*ep*P	pP			13 17 49.6	-1.8
YBH	**Yreka Blue Hor**	**77.96**	**37**	LR	LR			13 49 06.0	
	comp=Z,224nm,18.0s,MS4.5,baz=357,slow=33								
NVAR	**Mina Array Bea**	**78.49**	**42**	P	**P**			**13 17 45.1**	**+0.3**
	comp=Z,4.3nm,0.8s,mb4.5,baz=225,slow=8.9,SNR=16								
TPH	**Tonopah**	**78.96**	**42**	*e*P	**P**			**13 17 47.0**	**-0.4**
TPH				pmax	pmax				
	comp=Z,5.0nm,0.7s,mb4.5								
TPH	**Tonopah**	**78.96**	**42**	*e*P	**P**			**13 17 47.0**	**-0.4**
	comp=Z,4.7nm,0.7s,mb4.5								
NEN	**Nelson**	**79.11**	**46**	*e*P	**P**			**13 17 47.4**	**-0.7**
KDAK	**Kodiak Island**	**79.79**	**12**	LR	LR			13 49 44.4	
	comp=Z,273nm,18.1s,MS4.6,baz=108,slow=33								
SSE	**Sheshan**	**80.18**	**308**	P	**P**			**13 17 53.4**	**-0.6**
SSE				AMB	AMB				
	comp=Z,30nm,0.7s,mb5.3								
SSE				AMB	AMB				
	comp=Z,60nm,4.8s								
MDJ	**Mudanjiang**	**82.30**	**323**	P	**P**			**13 18 06.6**	**+1.3**
MDJ				AP	pP			13 18 18.9	0.0
MDJ				XP	sP			13 18 23.0	-1.1
MDJ				PP	PP			13 21 15.4	+1.2
MDJ				S	S			13 28 20.0	+2.6
MDJ				XS	sS			13 28 40.8	+0.5
MDJ				AMB	AMB				
	comp=Z,10.0nm,0.7s,mb4.8								
MDJ				AMB	AMB				
	comp=Z,93nm,5.6s								
MDJ				LR	LR				
	comp=N,168nm,19.6s,MS4.5								
MDJ				LR	LR				
	comp=E,64nm,15.7s,MS4.5								
MDJ				LR	LR				
	comp=Z,245nm,21.0s								
NJ2	**Nanjing**	**82.38**	**308**	*e*P	**P**			**13 18 07.6**	**+2.0**
NJ2				AP	pP			13 18 20.6	+1.3
NJ2				XP	sP			13 18 24.3	-0.2
NJ2				PP	PP			13 21 19.1	+4.2
NJ2				S	S			13 28 19.0	+0.8
NJ2				XS	sS			13 28 38.0	-3.1
NJ2				AMB	AMB				
	comp=Z,10.0nm,0.9s,mb4.8								
NJ2				AMB	AMB				
	comp=Z,90nm,10.0s								
NJ2				LR	LR				
	comp=N,2μm,33.8s,MS5.2								
NJ2				LR	LR				
	comp=E,870nm,34.0s,MS5.2								
NJ2				LR	LR				
	comp=Z,9μm,36.9s								
MSU	**Marysvale**	**82.47**	**44**	*e*P	**P**			**13 18 07.1**	**+1.0**
MAW	**Mawson**	**82.97**	**199**	LR	LR			13 56 02.5	
	comp=Z,353nm,18.0s,MS4.8,baz=235,slow=36								
SRU	**San Rafael**	**83.88**	**45**	*e*P	**P**			**13 18 14.7**	**+1.3**
SRU				pmax	pmax				
	comp=Z,16nm,1.0s,mb5.1								
SRU	**San Rafael**	**83.88**	**45**	*e*P	**P**			**13 18 14.7**	**+1.3**
	comp=Z,16nm,1.0s,mb5.1								
BNM	**Barren Site**	**84.06**	**50**	*e*P	**P**			**13 18 14.9**	**+0.6**
BNM				*ep*P	pP			13 18 30.5	+2.5
TTA	**Tatalina**	**84.12**	**8**	*e*P	**P**			**13 18 14.8**	**+0.2**
TTA				pmax	pmax				
	comp=Z,26nm,1.5s,mb5.1								
TTA	**Tatalina**	**84.12**	**8**	*e*P	**P**			**13 18 14.8**	**+0.2**
	comp=Z,26nm,1.5s,mb5.1								
LPM	**Los Pinos Moun**	**84.14**	**50**	*e*P	**P**			**13 18 14.7**	**0.0**
CN2	**Changchun**	**84.21**	**321**	*e*P	**P**			**13 18 20.1**	**+5.0**
TCUT	**Toone Canyon**	**84.38**	**43**	*e*P	**P**			**13 18 16.4**	**+0.5**
MA2	**Magadan**	**84.47**	**343**	P	**P**			**13 18 14.8**	**-1.6**
MA2				pmax	pmax				
	comp=Z,7.0nm,0.9s,mb4.8								
PV10	**Paradox Valley**	**84.48**	**46**	*e*P	**P**			**13 18 17.9**	**+1.5**
PV10				*ep*P	pP			13 18 30.8	+0.6
HWUT	**Hardware Ranch**	**84.55**	**42**	*e*P	**P**			**13 18 16.2**	**-0.6**
HWUT				*ep*P	pP			13 18 31.8	+1.3
ANMO	**Albuquerque**	**84.57**	**50**	P	**P**			**13 18 17.4**	**+0.5**
	comp=Z,6

ANMO					pmax	pmax			
	comp=Z,7.0nm,1.1s								
ANMO	**Albuquerque**	**84.57**	**50**	*e*P	**P**		**13 18 17.7**	**+0.8**	
	comp=Z,7.1nm,1.1s,mb4.7								
ANMO				*e*pP	pP		13 18 30.0	-0.6	
PV01	**Paradox Valley**	**84.68**	**46**	*e*P	**P**		**13 18 17.6**	**+0.1**	
PV01				*e*pP	pP		13 18 32.8	+1.7	
PDAR	**Pinedale Array**	**86.43**	**42**	P	**P**		**13 18 25.4**	**-0.8**	
	comp=Z,2.2nm,0.9s,mb4.4,baz=210,slow=3.0,SNR=13								
DLBC	**Dease Lake**	**86.48**	**22**	LR	LR		13 54 51.5		
	comp=Z,341nm,19.1s,MS4.8,baz=24,slow=34								
COLA	**College**	**87.23**	**11**	*e*P	**P**		**13 18 29.1**	**-1.0**	
COLA				pmax	pmax				
	comp=Z,14nm,0.8s,mb5.2								
COLA	**College**	**87.23**	**11**	*e*P	**P**		**13 18 29.1**	**-1.0**	
	comp=Z,14nm,0.8s,mb5.2								
ILAR	**Eielson Array**	**87.31**	**11**	P	**P**		**13 18 29.2**	**-1.3**	
	comp=Z,7nm,0.8s,mb4.5,baz=207,slow=5.8,SNR=14								
VNA3	**Neumayer Olymp**	**88.17**	**175**	*e*P	**P**		**13 18 34.6**	**+0.1**	
VNA3				*e*	pP		13 18 44.9	-3.4	
VNA3				*e*	pP		13 18 48.9	+0.6	
VNA3				*e*			13 18 55.0		
SNAA	**Sanae**	**88.17**	**177**⇑	*e*P	**P**		**13 18 33.8**	**-0.8**	
DAWY	**Dawson**	**88.28**	**15**	*e*P	**P**		**13 18 34.3**	**-0.8**	
VNA2	**Neumayer--Watz**	**88.65**	**176**	*e*P	**P**		**13 18 37.6**	**+0.8**	
VNA2				*e*	pP		13 18 47.0	-3.6	
VNA2				*e*	pP		13 18 50.7	+0.1	
VNA2				*e*			13 18 57.5		
BILL	**Bilibino**	**89.14**	**353**⇓	*e*P	**P**		**13 18 39.0**	**-0.1**	
BILL				pmax	pmax				
	comp=Z,6.0nm,0.8s,mb5.0								
BILL	**Bilibino**	**89.14**	**353**	*e*P	**P**		**13 18 38.2**	**-0.9**	
	comp=Z,5.2nm,0.8s,mb4.9								
RSSD	**Black Hills**	**90.59**	**43**	*e*P	**P**		**13 18 45.5**	**-0.4**	
RSSD				pmax	pmax				
	comp=Z,4.0nm,1.0s,mb4.7								
RSSD	**Black Hills**	**90.59**	**43**	*e*P	**P**		**13 18 45.5**	**-0.4**	
	comp=Z,4.3nm,1.0s,mb4.7								
HHC	**Hu-ho-hao-te**	**91.64**	**313**	*e*P	**P**		**13 18 51.9**	**+1.1**	
HHC				AP	pP		13 19 05.3	+0.7	
HHC				XP	sP		13 19 10.5	+0.7	
HHC				PP	PP		13 22 33.2	+3.7	
HHC				SKS			13 29 19.3		
HHC				S			13 29 46.2		
HHC				XS	sS		13 30 09.3	-1.4	
HHC				PS	PS		13 31 06.3	+3.9	
HHC				SS	SS		13 35 57.1	+2.2	
HHC				AMB	AMB				
	comp=Z,10.0nm,0.5s,mb5.4								
HHC				AMB	AMB				
	comp=Z,258nm,5.2s								
HHC				LR	LR				
	comp=N,434nm,19.2s,MS5.0								
HHC				LR	LR				
	comp=E,258nm,19.8s,MS5.0								
HHC				LR	LR				
	comp=Z,517nm,18.1s,MS5.0								
INK	**Inuvik**	**93.13**	**14**	*e*P	**P**		**13 18 56.1**	**-1.6**	
INK				*e**PP	pP		13 19 09.4	-2.1	
INK				pmax	pmax				
	comp=Z,4.0nm,1.1s								
INK	**Inuvik**	**93.13**	**14**	*e*P	**P**		**13 18 56.1**	**-1.6**	
	comp=Z,4.0nm,1.1s,mb4.8								
INK				*e*pP	pP		13 19 09.4	-2.1	
YAK	**Yakutsk**	**93.16**	**337**⇓	*e*P	**P**		**13 19 06.1**	**+8.3**	
CD2	**Chengdu**	**93.55**	**302**	*e*P	**P**		**13 19 02.9**	**+3.3**	
CD2				AMB	AMB				
	comp=Z,10.0nm,1.2s,mb5.1								
YKA	**Yellowknife Ar**	**94.84**	**24**	P	**P**		**13 19 04.6**	**-0.9**	
	comp=Z,1.1nm,0.9s,mb4.3,baz=235,slow=4.0,SNR=14								
YKA	**Yellowknife Ar**	**94.84**	**24**	P	**P**		**13 19 04.6**	**-0.9**	
LZH	**Lanzhou**	**95.35**	**306**	*e*P	**P**		**13 19 06.7**	**-1.1**	
LZH				AP	pP		13 19 20.5	-1.2	
LZH				XP	sP		13 19 25.8	-1.0	
LZH				PP	PP		13 22 59.7	+1.2	
LZH				AMB	AMB				
	comp=Z,19nm,1.5s,mb5.3								
LZH				AMB	AMB				
	comp=Z,68nm,9.2s								
LZH				LR	LR				
	comp=N,159nm,16.6s								
LZH				LR	LR				
	comp=Z,278nm,19.5s,MS4.7								
ULN	**Ulaanbaatar**	**97.42**	**318***c*	*i*P	**P**		**13 19 19.1**	**+1.9**	
ULM	**Lac du Bonnet**	**98.21**	**39**	P	**P**		**13 19 19.8**	**-1.0**	
	comp=Z,2.4nm,0.8s,mb4.8,baz=336,slow=3.4,SNR=3.2								
ULM	**Lac du Bonnet**	**98.21**	**39**	P	**P**		**13 19 19.8**	**-1.0**	
TIXI	**Tiksi**	**99.37**	**344**⇑	*i*P	**P**		**13 19 25.7**	**-0.3**	
WMQ	**Urumqi**	**109.34**	**311**	PDIF	Pdif		13 20 08.9	-1.4	
WMQ				PP	PP		13 24 45.1	+1.5	
WMQ				PP	PP				
	comp=Z,293nm,9.2s								
WMQ				LR	LR				
	comp=N,172nm,17.3s,MS4.9								
WMQ				LR	LR				
	comp=E,216nm,18.8s,MS4.9								
WMQ				LR	LR				
	comp=Z,201nm,15.8s,MS4.8								
MKAR	**Makanchi Array**	**113.50**	**313**	PKiKP	PKiKP		13 24 21.1	-0.5	
	comp=Z,0.4nm,0.8s,baz=46,slow=3.5,SNR=4.9								
AAK	**Ala-Archa**	**118.82**	**308**⇑	*i*PKiKP	PKPdf		13 24 31.0	-0.8	
ARCES	**ARCESS Array B**	**129.22**	**351**	PKP	PKPdf		13 24 51.0	-0.7	
	comp=Z,2.0nm,0.8s,baz=8.4,slow=1.4,SNR=9.2								
FINES	**FINESS Array B**	**136.40**	**346**	PKP	PKPdf		13 25 05.5	+0.3	
	comp=Z,5.6nm,1.3s,baz=2.7,slow=2.9,SNR=4.3								
EKA	**Eskdalemuir Ar**	**144.31**	**9**	PKP	PKPdf		13 25 17.5	-2.0	
	comp=Z,3.7nm,0.8s,baz=330,slow=4.1,SNR=6.3								
AKASG	**Malin Array Be**	**144.34**	**334**	PKP	PKPdf		13 25 17.2	-2.4	
	comp=Z,11nm,0.8s,baz=42,slow=4.3,SNR=16								
MALT	**Malatya**	**146.44**	**310**	*e*PKP2	PKPab		13 25 25.8	+0.3	
OJC	**Ojcow**	**148.03**	**343**	*e*PKPbc	PKPbc		13 25 27.5	-1.5	
CLL	**Collm**	**148.44**	**351**⇑	*i*PKPbc	PKPbc		13 25 29.2	-0.8	
	comp=Z,12nm,1.0s								
CLL				*i* PKPab	PKPab		13 25 33.4	0.0	
	comp=Z,14nm,0.8s								
CLL				*e*pPKPbc	pPKPbc		13 25 46.0	+1.8	
CLL	**Collm**	**148.44**	**351**⇑	*i*PKP2	PKPbc		13 25 29.2	-0.8	
CLL				pmax	pmax				
	comp=Z,12nm,1.0s								
BRG	**Berggiesshubel**	**148.71**	**350**	*e*PKP	PKPbc		13 25 31.6	+0.8	
	comp=Z,4.3nm,1.0s								
BRG				*i*			13 25 35.0		
	comp=Z,4.5nm,0.9s								
BRG	**Berggiesshubel**	**148.71**	**350**	*e*PKP2	PKPbc		13 25 31.5	+0.7	
BRG				pmax	pmax				
	comp=Z,4.0nm,1.0s								
BRG				pmax	pmax				
	comp=Z,5.0nm,0.9s								
MORC	**Moravsky Berou**	**149.02**	**345**	*e*PKPbc	PKPbc		13 25 32.2	+0.7	
MORC				*e*PKPab	PKPab		13 25 36.2	+0.4	
BR131	**Keskin Array S**	**149.13**	**315**	*e*PKPbc	PKPbc		13 25 32.7	+0.9	
BR131				*e*PKPab	PKPab		13 25 38.1	+1.8	
BRTR	**Keskin Array B**	**149.13**	**315**	PKPbc	PKPbc		13 25 31.4	-0.3	
	comp=Z,2.8nm,0.8s,baz=112,slow=2.3,SNR=4.1								
KECS	**Kecovo**	**149.37**	**340**	*e*PKP	PKPbc		13 25 33.5	+1.1	
KECS				*e*			13 25 38.2		
KECS	**Kecovo**	**149.37**	**340**	*e*PKP2	PKPab		13 25 33.6	-3.6	
VYHS	**Vyhne**	**149.85**	**342**	*e*PKP	PKPbc		13 25 33.9	+0.3	
GIVF	**Givet**	**150.17**	**1**	*e*PKP1	PKPbc		13 25 34.7	+0.3	
GRF	**Grafenberg Arr**	**150.25**	**353**	*e*PKP	PKPbc		13 25 35.8	+1.2	
KHC	**Kasperske Hory**	**150.46**	**349**	*e*PKP	PKPdf		13 25 30.5	+0.8	
KHC				x	x		13 25 34.5		
GERES	**GERESS Array B**	**150.71**	**349**	PKPbc	PKPbc		13 25 34.2	-1.4	
	comp=Z,3.6nm,0.9s,baz=14,slow=1.7,SNR=7.5								
CDF	**Champ du Feu**	**151.84**	**358**	*e*PKP1	PKPbc		13 25 38.5	+0.2	
	comp=Z,1.1nm,0.8s								
HAU	**Haudompre**	**152.27**	**359**	*e*PKP1	PKPbc		13 25 40.3	+1.1	
HINF	**Hinteralfeld**	**152.45**	**358**	*e*PKP1	PKPbc		13 25 39.6	0.0	
LOR	**Lormes**	**152.97**	**3**	*e*PKP1	PKPbc		13 25 41.1	+0.3	
SSF	**Saint Saulge**	**153.16**	**3**	*e*PKP1	PKPbc		13 25 41.5	+0.3	
	comp=Z,12nm,0.9s								
VISS	**Visnje**	**153.38**	**346**	*e*PKPbc	PKPab		13 25 53.5	-0.4	
BOJS	**Bojanci**	**153.56**	**345**	*i* PKPbc	PKPab		13 25 56.7	+2.0	
SMF	**Signal de Mont**	**153.59**	**3**	*e*PKP1	PKPbc		13 25 42.2	+0.1	
CABF	**La Chapelle**	**153.67**	**359**	*e*PKP1	PKPbc		13 25 43.2	+0.9	

*NEIC **04** 13:11:36.3±0.8,2063S×17379W,h10km,mb4.2/1,Error ellipse: s-maj=23.0km s-min=13.2km az=160.0*
*ISCJB **04** 13:11:37.7±0.7,207S±02×17377W±01,h33km,mb4.2/10,Error ellipse: s-maj=22.2km s-min=12.6km az=148.5*
*IDC **04** 13:11:37.6±1.2,2065S×174.15W,h0km,mb4.2/10,mb1 4.4/10,mb1mx4.3/16,mbtmp4.2/10,Error ellipse: s-maj=57.0km s-min=18.6km az=152.0*

ISC 04 13:11:40.4±0.7,207S±02×17376W±010,h35km,n31,
σ1§44/21,mb4.2/10,4C-1D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**7.01**	**16**	Pn		**Pn**	**13 13 16.5**	**-4.1**
	7.3nm,0.3s,baz=302,slow=4.3,SNR=4.9							
AFI				Sn		**Sn**	**13 14 28.3**	**-11**
	15nm,0.3s,baz=45,slow=22,SNR=4.2							
AFI				T			13 20 21.5	
	3.4nm,0.3s,baz=135,slow=16,SNR=4.1							
AFI	**Afiamalu**	**7.01**	**16**	*e*Pn		**Pn**	**13 13 17.7**	**-3.0**
AFI				*e*Sn		**Sn**	**13 14 28.2**	**-11**
RAR	**Rarotonga**	**13.07**	**95**	Pn		**Pn**	**13 14 43.4**	**-0.2**
	3.0nm,0.3s,baz=240,slow=10.0,SNR=15							
CTA	**Charters Tower**	**37.42**	**264**	P		**P**	**13 18 49.7**	**-0.4**
	4.1nm,0.7s,mb4.4,baz=105,slow=15,SNR=3.6							
PMG	**Port Moresby**	**39.28**	**281**	P		**P**	**13 19 04.6**	**-1.1**
	6.9nm,0.8s,mb4.4,baz=74,slow=18,SNR=3.1							
PMG	**Port Moresby**	**39.28**	**281**	*e*P		**P**	**13 19 05.1**	**-0.6**
	3.9nm,0.7s,mb4.2							
STKA	**Stephens Creek**	**41.29**	**245**	P		**P**	**13 19 21.0**	**-1.4**
	4.0nm,1.1s,mb4.0,baz=112,slow=16,SNR=5.1							
ASAR	**Alice Springs**	**48.34**	**256**	P		**P**	**13 20 18.9**	**+0.4**
	1.1nm,0.5s,mb4.2,baz=98,slow=8.0,SNR=34							
ASAR				PcP		PcP	13 21 47.5	+2.7
	0.8nm,0.6s,baz=108,slow=3.6,SNR=5.7							
WRA	**Warramunga Arr**	**48.51**	**261**	P		**P**	**13 20 19.7**	**-0.1**
	1.0nm,0.4s,mb4.2,baz=97,slow=7.6,SNR=15							
MJAR	**Matsushiro Arr**	**72.79**	**321**	P		**P**	**13 23 06.3**	**+1.0**
	3.7nm,0.7s,mb4.5,baz=153,slow=5.7,SNR=21							
MJAR	**Matsushiro Arr**	**72.79**	**321**	P		**P**	**13 23 06.3**	**+1.0**
MAT	**Matsushiro**	**72.80**	**321**	P		**P**	**13 23 06.4**	**+1.1**
NVAR	**Mina Array Bea**	**78.49**	**41**	P		**P**	**13 23 42.4**	**+4.5**
	0.8nm,0.5s,mb3.9,baz=213,slow=6.1,SNR=7.4							
NVAR	**Mina Array Bea**	**78.49**	**41**	P		**P**	**13 23 42.4**	**+4.5**
PV10	**Paradox Valley**	**84.43**	**46**	*e*P		**P**	**13 24 07.2**	**-2.1**
PDAR	**Pinedale Array**	**86.43**	**42**	P		**P**	**13 24 22.4**	**+3.2**
	0.6nm,0.7s,mb3.9,baz=212,slow=1.7,SNR=5.2							
ILAR	**Eielson Array**	**87.68**	**11**	P		**P**	**13 24 27.2**	**+1.8**
	1.2nm,0.7s,mb4.2,baz=217,slow=5.2,SNR=17							
BILL	**Bilibino**	**89.69**	**353**	*e*P		**P**	**13 24 35.3**	**+0.4**
YKA	**Yellowknife Ar**	**95.07**	**24**	P		**P**	**13 25 02.1**	**+2.5**
	0.6nm,0.8s,mb4.1,baz=241,slow=4.3,SNR=9.8							
BVAR	**Borovoye Array**	**121.78**	**320**	PKP		PKPdf	13 30 32.3	+1.7
	1.0nm,0.5s,baz=261,slow=0.2,SNR=6.7							
ARCES	**ARCESS Array B**	**129.78**	**351**	PKP		PKPdf	13 30 47.9	+2.0
	0.6nm,0.5s,baz=11,slow=1.2,SNR=9.9							
EKA	**Eskdalemuir Ar**	**144.70**	**9**	PKP		PKPdf	13 31 14.4	+1.0
	1.3nm,0.6s,baz=330,slow=2.9,SNR=5.3							
AKASG	**Malin Array Be**	**145.02**	**334**	PKP		PKPdf	13 31 15.0	+1.1
	0.5nm,0.3s,baz=36,slow=4.2,SNR=4.1							
CLL	**Collm**	**149.00**	**352**⇓	*i*(PKPbc)		PKPbc	13 31 27.7	+3.0
	comp=Z,10.0nm,1.2s							
CLL				⇑*i*PKPab		PKPab	13 31 30.3	+1.5
	comp=Z,8.0nm,0.8s							
BRG	**Berggiesshubel**	**149.29**	**350**	*e*P		PKPbc	13 31 28.4	+3.0
	comp=Z,3.4nm,0.7s							
DPC	**Dobruska-Polom**	**149.36**	**347**⇑	*e*PKPB		PKPbc	13 31 29.0	+3.4
DPC				*e*PKPAB		PKPab	13 31 33.1	+2.8
BRTR	**Keskin Array B**	**149.86**	**315**	PKPbc		PKPbc	13 31 29.9	+3.1
	comp=Z,1.2nm,0.7s,baz=147,slow=4.9,SNR=6.8							
PRU	**Pruhonice**	**150.04**	**349**⇑	*e*PKPB		PKPbc	13 31 30.8	+3.6
KHC	**Kasperske Hory**	**151.03**	**350**⇑	*e*PKPB		PKPbc	13 31 32.1	+2.5
GERES	**GERESS Array B**	**151.29**	**350**	PKPbc		PKPbc	13 31 33.3	+3.2
	comp=Z,1.2nm,0.6s,baz=117,slow=1.5,SNR=6.1							
MMAI	**Mount Meron Ar**	**151.34**	**301**	PKPbc		PKPbc	13 31 34.0	+3.7
	comp=Z,2.2nm,0.6s,baz=56,slow=14,SNR=3.2							

*ISCJB **04** 13:15:12.5±1.5,338S±0.1×1794W±0.3,h364km±13km,mb3.7/5,Error ellipse: s-maj=35.8km s-min=18.1km az=37.0*
*IDC **04** 13:15:14.8±5.3,3321S×17953E,h281km±43km,mb3.7/3,mb1 3.8/4,mb1mx3.5/13,mbtmp4.3/4,Error ellipse: s-maj=57.6km s-min=26.8km az=40.0*
*NEIC **04** 13:15:19.4±2.7,3361S×17907E,h300km±17km,mb4.1/3,Error ellipse: s-maj=39.9km s-min=22.9km az=60.0*

ISC 04 13:15:16.0±1.4,339S±01×1797W±03,h360km±10km,n76,
σ1§07/80,mb3.7/5,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	**Matakaoa Point**	**3.99**	**203**	PN		**Pn**	**13 16 24.2**	**-1.3**
MXZ				SN		**S**	**13 17 19.7**	**-2.0**
MXZ	**Matakaoa Point**	**3.99**	**203**	*e*P		**Pn**	**13 16 23.7**	**-1.8**
PUZ	**Puketiti**	**4.48**	**201**	PN		**Pn**	**13 16 29.8**	**-0.7**
PUZ				SN		**S**	**13 17 31.3**	**+0.5**
PUZ	**Puketiti**	**4.48**	**201**	*e*P		**Pn**	**13 16 29.8**	**-0.7**
MWZ	**Matawai**	**4.96**	**206**	PN		**Pn**	**13 16 35.0**	**-0.6**
MWZ				SN		**S**	**13 17 40.7**	**+0.7**
MWZ	**Matawai**	**4.96**	**206**	*e*P		**Pn**	**13 16 35.5**	**-0.1**
URZ	**Urewera**	**5.05**	**210**	P		**Pn**	**13 16 37.4**	**+0.8**
	5.7nm,0.3s,baz=338,slow=0.6,SNR=53							
URZ				S		**S**	**13 17 41.4**	**-0.5**
	23nm,0.3s,baz=110,slow=19,SNR=15							
URZ	**Urewera**	**5.05**	**210**	PN		**Pn**	**13 16 35.4**	**-1.3**
URZ				SN		**S**	**13 17 41.1**	**-0.8**
URZ	**Urewera**	**5.05**	**210**	*e*P		**Pn**	**13 16 36.4**	**-0.2**
KNZ	**Kokohu**	**5.53**	**202**	PN		**Pn**	**13 16 44.2**	**+2.3**
KNZ	**Kokohu**	**5.53**	**202**	*e*P		**Pn**	**13 16 43.2**	**+1.4**
BKZ	**Black Stump Fm**	**6.08**	**209**	PN		**Pn**	**13 16 49.1**	**+1.1**
BKZ	**Black Stump Fm**	**6.08**	**209**	*e*P		**Pn**	**13 16 49.1**	**+1.1**
TWVZ	**Taurewa**	**6.47**	**216**	PN		**Pn**	**13 16 52.9**	**+0.4**
TWVZ	**Taurewa**	**6.47**	**216**	P		**Pn**	**13 16 52.2**	**-0.3**
NGZ	**Ngauruhoe**	**6.48**	**214**	PN		**Pn**	**13 16 53.9**	**+1.3**
NGZ	**Ngauruhoe**	**6.48**	**214**	P		**Pn**	**13 16 53.2**	**+0.6**
WPVZ	**Whakapapa**	**6.53**	**214**	P		**Pn**	**13 16 53.6**	**+0.5**
TUVZ	**Tukino**	**6.53**	**213**	PN		**Pn**	**13 16 53.7**	**+0.6**
TUVZ	**Tukino**	**6.53**	**213**	P		**Pn**	**13 16 52.7**	**-0.4**
FWVZ	**Far West T-bar**	**6.56**	**214**	PN		**Pn**	**13 16 54.3**	**+0.7**
FWVZ	**Far West T-bar**	**6.56**	**214**	P		**Pn**	**13 16 53.3**	**-0.2**
MOVZ	**Moawhango**	**6.59**	**212**	PN		**Pn**	**13 16 54.4**	**+0.5**
MOVZ	**Moawhango**	**6.59**	**212**	P		**Pn**	**13 16 53.4**	**-0.5**
TRVZ	**Turoa**	**6.60**	**214**	PN		**Pn**	**13 16 55.1**	**+1.1**
WNVZ	**Wahianoa**	**6.60**	**213**	PN		**Pn**	**13 16 54.8**	**+0.8**
WNVZ	**Wahianoa**	**6.60**	**213**	P		**Pn**	**13 16 53.8**	**-0.2**
PXZ	**Pawanui**	**6.71**	**203**	PN		**Pn**	**13 16 56.5**	**+1.4**
VRZ	**Vera Road**	**6.86**	**219**	PN		**Pn**	**13 16 58.6**	**+1.7**
VRZ	**Vera Road**	**6.86**	**219**	*e*P		**Pn**	**13 16 57.6**	**+0.7**
TSZ	**Takapari Road**	**7.05**	**208**	PN		**Pn**	**13 16 59.9**	**+0.6**
TSZ	**Takapari Road**	**7.05**	**208**	P		**Pn**	**13 16 59.4**	**+0.2**
WAZ	**Wanganui**	**7.22**	**215**	PN		**Pn**	**13 17 02.0**	**+0.8**
WAZ	**Wanganui**	**7.22**	**215**	*e*P		**Pn**	**13 17 02.0**	**+0.8**
NEZ	**North Egmont**	**7.32**	**221**	P		**Pn**	**13 17 04.5**	**+2.3**
PKE	**Pukeiti**	**7.32**	**222**	P		**Pn**	**13 17 04.5**	**+2.2**
BFZ	**Birch Farm**	**7.49**	**204**	PN		**Pn**	**13 17 06.2**	**+1.9**
BFZ	**Birch Farm**	**7.49**	**204**	P		**Pn**	**13 17 05.2**	**+0.9**
TIWZ	**Tintock**	**7.71**	**206**	*e*PN		**Pn**	**13 17 07.7**	**+0.9**
MRZ	**Mangatainoka R**	**7.72**	**208**	*e*PN		**Pn**	**13 17 04.7**	**-2.3**
MRZ	**Mangatainoka R**	**7.72**	**208**	*e*P		**Pn**	**13 17 07.4**	**+0.4**
KIW	**Kapiti Island**	**8.16**	**210**	P		**Pn**	**13 17 10.8**	**-1.3**
MTW	**Mount Morrison**	**8.18**	**206**	P		**Pn**	**13 17 12.4**	**0.0**
CAW	**Cannon Point**	**8.30**	**208**	PN		**Pn**	**13 17 12.3**	**-1.5**
CAW	**Cannon Point**	**8.30**	**208**	P		**Pn**	**13 17 11.3**	**-2.5**
PAWZ	**Paruwai Farm**	**8.40**	**206**	P		**Pn**	**13 17 15.1**	**+0.1**
MSWZ	**Moikau Station**	**8.50**	**207**	PN		**Pn**	**13 17 16.7**	**+0.6**
MSWZ	**Moikau Station**	**8.50**	**207**	P		**Pn**	**13 17 15.7**	**-0.4**
MRW	**Makara Radio**	**8.55**	**210**	P		**Pn**	**13 17 15.4**	**-1.4**
WEL	**Wellington**	**8.57**	**209**	PN		**Pn**	**13 17 16.7**	**-0.3**
WEL	**Wellington**	**8.57**	**209**	P		**Pn**	**13 17 15.7**	**-1.3**
SNZO	**South Karori**	**8.62**	**209**	*e*Pn		**Pn**	**13 17 16.4**	**-1.1**
BHW	**Baring Head**	**8.64**	**208**	PN		**Pn**	**13 17 16.9**	**-0.8**
BHW	**Baring Head**	**8.64**	**208**	P		**Pn**	**13 17 15.9**	**-1.9**
TCW	**Tory Channel**	**8.72**	**211**	P		**Pn**	**13 17 17.0**	**-1.7**
NNZ	**Nelson**	**9.13**	**215**	*e*PN		**Pn**	**13 17 20.9**	**-2.7**
NNZ	**Nelson**	**9.13**	**215**	*e*P		**Pn**	**13 17 22.6**	**-1.0**
QRZ	**Quartz Range**	**9.27**	**220**	*e*P		**Pn**	**13 17 24.3**	**-0.9**
THZ	**Tophouse**	**9.78**	**214**	*e*PN		**Pn**	**13 17 29.9**	**-1.3**
THZ	**Tophouse**	**9.78**	**214**	*e*P		**Pn**	**13 17 31.4**	**+0.1**
KHZ	**Kahutara**	**10.02**	**210**	*e*P		**Pn**	**13 17 34.9**	**+0.7**
DSZ	**Denniston Nort**	**10.31**	**218**	*e*PN		**Pn**	**13 17 36.0**	**-1.5**
DSZ	**Denniston Nort**	**10.31**	**218**	*e*P		**Pn**	**13 17 36.5**	**-1.1**
LTZ	**Lake Taylor**	**10.87**	**213**	*e*P		**Pn**	**13 17 44.2**	**0.0**
MQZ	**McQueen's Vall**	**11.46**	**209**	PN		**Pn**	**13 17 52.3**	**+1.1**
RPZ	**Rata Peaks**	**12.15**	**214**	P		**P**	**13 17 59.7**	**+0.8**
	2.6nm,0.3s,baz=117,slow=21,SNR=16							
RPZ				S		**S**	**13 20 13.6**	**0.0**
	2.4nm,0.3s,baz=353,slow=20,SNR=14							
FOZ	**Fox Glacier**	**12.70**	**217**	PN		**Pn**	**13 18 05.1**	**-0.7**
JCZ	**Jackson Bay**	**13.54**	**218**	PN		**Pn**	**13 18 16.5**	**+0.9**
CTA	**Charters Tower**	**33.13**	**286**	P		**P**	**13 21 19.0**	**-0.8**
	3.5nm,0.8s,mb3.6,baz=128,slow=12,SNR=6.0							
ASAR	**Alice Springs**	**41.61**	**272**	P		**P**	**13 22 30.9**	**+0.8**
	2.6nm,0.7s,mb3.5,baz=111,slow=7.8,SNR=16							
WB2	**Warramunga Arr**	**42.91**	**277**	*e*P		**P**	**13 22 40.1**	**-0.4**
WRAB	**Tennant Creek**	**42.92**	**277**	*e*P		**P**	**13 22 40.2**	**-0.3**
	5.7nm,0.5s,mb4.0							
WRA	**Warramunga Arr**	**42.92**	**277**	P		**P**	**13 22 40.4**	**-0.2**
	4.0nm,0.6s,mb3.7,baz=116,slow=7.6,SNR=20							
CASY	**Casey**	**51.38**	**209**	*e*P		**P**	**13 23 53.2**	**+8.1**
	2.6nm,0.5s,mb3.7							
FINES	**FINESS Array B**	**147.86**	**337**	PKPbc		PKPbc	13 34 22.5	+3.5
	0.7nm,0.5s,baz=48,slow=4.1,SNR=4.9							
TORD	**Torodi Ar. Bea**	**159.30**	**184**	PKPab		PKPab	13 35 21.6	+10
	0.5nm,0.5s,baz=184,slow=3.9,SNR=7.7							

IDC 04 13:33:28.8±1.7,2004S×17415W,h0km,mb3.6/3,mb1 4.0/5,mb1mx3.7/16,mbtmp3.8/5,ML3.1/2,Error ellipse: s-maj=58.6km s-min=26.5km az=149.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**6.50**	**21**	Pn		Pn	13 35 05.3	-0.4
	2.7nm,0.3s,baz=202,slow=19,SNR=6.9							
AFI				Sn		Sn	13 36 11.4	-9.2
	4.8nm,0.3s,baz=112,slow=23,SNR=6.3							
RAR	**Rarotonga**	**13.52**	**97**	Pn		Pn	13 36 40.8	-1.0
	0.8nm,0.3s,baz=268,slow=12,SNR=4.7							
ASAR	**Alice Springs**	**48.13**	**256**	P		P	13 42 10.3	-0.2
	0.5nm,0.8s,baz=92,slow=8.2,SNR=13							
WRA	**Warramunga Arr**	**48.24**	**261**	P		P	13 42 12.0	+0.7
	0.3nm,0.3s,baz=96,slow=7.3,SNR=20							
ILAR	**Eielson Array**	**87.11**	**11**	P		P	13 46 16.8	+0.3
	0.7nm,1.0s,baz=223,slow=6.4,SNR=5.2							

**IDC 04 13:37:25.0±1.3,1948S×17460W,h0km,mb4.2/7,mb1 4.3/9,mb1mx4.0/20,mbtmp4.2/9,ML2.6/2,

PLAL	**Pickwick Lake**	**136.38**	**46**	*e*PKPdf	PKPdf	14 09 04.4	+4.1

*NEIC **04** 13:56:15.5, 3455S×7029W, h14km, ML2.5(GUC), After GUC.*

GUC 04 13:56:15.5±0.7, 3455S×7029W, h14km±3km, MD3.7, ML2.5, 9C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CICH	**Cipreses**	**0.25**	**334**	↓*i*P	Pg	13 56 20.9	-0.1
CICH				*i* S	Sg	13 56 24.9	+0.2
CACH	**El Canelo**	**0.50**	**329**	↑*i*P	Pg	13 56 25.2	-0.3
CACH				*i* S	Sg	13 56 32.1	0.0
SFDO	**San Fernando**	**0.60**	**264**	↑*i*P	Pg	13 56 26.9	-0.4
SFDO				*i* S	Sg	13 56 35.2	-0.1
CHCH	**Chadas Angostu**	**0.69**	**334**	↑*i*P	Pg	13 56 28.7	-0.2
CHCH				*i* S	Sg	13 56 38.5	+0.6
LMEL	**Las Melosas**	**0.70**	**6**	↑*i*P	Pg	13 56 28.9	-0.3
LMEL				*i* S	Sg	13 56 39.2	+0.7
LMEL				AML	AML	13 56 41.7	
	comp=N,273nm,0.1s						
LMEL	**Las Melosas**	**0.70**	**6**	↑*i*P	Pg	13 56 28.9	-0.3
LMEL				*i* S	Sg	13 56 39.2	+0.7
PCH	**Pirque**	**0.95**	**349**	↓*i*P	Pb	13 56 33.3	-0.4
PCH				*i* S	Sb	13 56 46.7	+0.7
TACH	**Talagante**	**1.04**	**329**	↓*i*P	Pb	13 56 34.9	-0.5
TACH				*i* S	Sb	13 56 49.4	+0.5
LNV	**Longovilo**	**1.10**	**302**	↑*i*P	Pb	13 56 35.4	-0.9
LNV				*i* S	Sb	13 56 51.1	+0.6
RCDM	**Rinconada Maip**	**1.14**	**338**	↓*i*P	Pb	13 56 36.5	-0.5
RCDM				*i* S	Sb	13 56 52.3	+0.6
RCDM				AML	AML	13 56 53.0	
	comp=N,333nm,0.1s						
RCDM	**Rinconada Maip**	**1.14**	**338**	↓*i*P	Pb	13 56 36.5	-0.5
RCDM				*i* S	Sb	13 56 52.3	+0.6
FCH	**Farellones**	**1.22**	**360**	↑*i*P	Pb	13 56 38.2	+0.1
FCH				*i* S	Sb	13 56 55.4	+1.5
FCH				AML	AML	13 56 56.5	
	comp=E,131nm,0.2s						
PEL	**Peldehue**	**1.44**	**347**	↑*i*P	Pn	13 56 41.7	+0.6
PEL				*i* S	Sn	13 57 01.8	+1.9
PEL				AML	AML	13 57 02.7	
	comp=N,275nm,0.3s						
PEL	**Peldehue**	**1.44**	**347**	↑*i*P	Pn	13 56 41.7	+0.6
PEL				*i* S	Sn	13 57 01.8	+1.9
LCCH	**Las Cruces**	**1.51**	**315**	↓*i*P	Pn	13 56 42.6	+0.6
LCCH				*i* S	Sn	13 57 03.1	+1.6
JACH	**Jahuel**	**1.88**	**352**	*e*P	Pn	13 56 49.5	+2.3
JACH				*i* S	Sn	13 57 15.0	+4.3

IDC 04 14:03:55.2±2.3, 1973S×17475W, h0km, mb3.7/4, mb1 4.1/5, mb1mx3.8/15, mbtmp3.8/5, ML2.3/1, Error ellipse: s-maj=99.7km s-min=22.5km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.45**	**27**	Pn	Pn	14 05 32.1	+0.8
	4.1nm,0.3s,baz=229,slow=9.3,SNR=12						
AFI				Sn	Sn	14 06 46.7	+1.0
	6.5nm,0.3s,baz=238,slow=20,SNR=5.2						
ASAR	**Alice Springs**	**47.67**	**256**	P	P	14 12 33.6	+0.3
	1.3nm,0.9s,baz=88,slow=8.4,SNR=12						
WRA	**Warramunga Arr**	**47.73**	**261**	P	P	14 12 33.9	+0.1
	0.2nm,0.3s,baz=96,slow=8.0,SNR=13						
NVAR	**Mina Array Bea**	**78.39**	**42**	P	P	14 15 57.0	-0.6
	0.8nm,0.7s,baz=206,slow=9.2,SNR=3.7						
ILAR	**Eielson Array**	**86.92**	**12**	P	P	14 16 42.1	+0.1
	0.3nm,0.8s,baz=214,slow=6.6,SNR=4.8						
AKASG	**Malin Array Be**	**143.74**	**334**	PKhKP		14 23 27.9	
	0.6nm,0.4s,baz=42,slow=3.1,SNR=4.9						
BRTR	**Keskin Array B**	**148.51**	**315**	PKPbc	PKPbc	14 23 44.8	+0.8
	0.9nm,0.7s,baz=162,slow=1.4,SNR=5.5						

*IDC **04** 14:11:08.4±1.9, 087N×97.10E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.6/19, mbtmp3.6/6, ML2.9/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/31, Error ellipse: s-maj=54.5km s-min=22.2km az=60.0*

*ISCJB **04** 14:11:11.7±1.3, 10N×01×972E±02, h33km, mb3.6/5, Error ellipse: s-maj=25.6km s-min=17.8km az=157.7*

*NEIC **04** 14:11:13.1±1.1, 092N×97.19E, h30km, Error ellipse: s-maj=22.2km s-min=15.4km az=76.0*

ISC 04 14:11:14.3±1.3, 10N±01×973E±02, h35km, n8, σ0§66/8, mb3.6/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.46**	**43**	Pn	**Pn**	**14 11 51.8**	**-0.1**
	2.1nm,0.3s,baz=218,slow=7.7,SNR=7.1						
PSI				LR	LR	14 12 29.0	
	comp=Z,274nm,18.6s,baz=357,slow=31						
KULM	**Kulim**	**5.46**	**38**	*e*Pn	**Pn**	**14 12 33.2**	**0.0**
WRA	**Warramunga Arr**	**41.88**	**122**	P	**P**	**14 19 01.7**	**+0.6**
	0.4nm,0.8s,mb3.1,baz=301,slow=9.1,SNR=3.2						
ASAR	**Alice Springs**	**43.23**	**127**	P	**P**	**14 19 11.6**	**-0.5**
	0.4nm,0.8s,mb3.2,baz=296,slow=7.6,SNR=5.0						
SONM	**Songino Array**	**47.33**	**8**	P	**P**	**14 19 45.0**	**+0.4**
	0.9nm,0.6s,mb3.9,baz=186,slow=9.5,SNR=8.5						
MKAR	**Makanchi Array**	**47.46**	**346**	P	**P**	**14 19 46.5**	**+0.9**
	1.4nm,0.9s,mb3.9,baz=150,slow=7.4,SNR=11						
ZAL	**Zalesovo**	**53.77**	**351**	P	**P**	**14 20 31.9**	**-1.2**
	1.0nm,0.5s,mb4.0,baz=327,slow=6.0,SNR=4.2						
ZAL	**Zalesovo**	**53.77**	**351**	P	**P**	**14 20 31.9**	**-1.3**

*IDC **04** 14:13:03.5±1.6, 087N×97.14E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/19, mbtmp3.8/7, ML3.1/1, Error ellipse: s-maj=50.9km s-min=21.8km az=58.0*

*ISCJB **04** 14:13:07.0±1.1, 10N×01×973E±02, h33km, mb3.8/6, Error ellipse: s-maj=23.2km s-min=17.6km az=152.7*

*NEIC **04** 14:13:08.3±0.9, 093N×97.25E, h30km, Error ellipse: s-maj=18.4km s-min=14.0km az=73.0*

ISC 04 14:13:09.4±1.2, 10N±01×973E±02, h35km, n9, σ0§44/9, mb3.8/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.44**	**42**	Pn	**Pn**	**14 13 46.7**	**+0.1**
	3.8nm,0.3s,baz=201,slow=11,SNR=5.8						
PSI	**Prapat**	**2.44**	**42**	Pn	**Pn**	**14 13 46.7**	**0.0**
KULM	**Kulim**	**5.44**	**38**	*e*Pn	**Pn**	**14 14 27.8**	**-0.1**
WRA	**Warramunga Arr**	**41.85**	**122**	P	**P**	**14 20 55.4**	**-0.6**
	0.3nm,0.6s,mb3.1,baz=305,slow=9.0,SNR=4.7						
ASAR	**Alice Springs**	**43.20**	**127**	P	**P**	**14 21 07.5**	**+0.7**
	0.4nm,0.7s,mb3.3,baz=298,slow=7.2,SNR=7.5						
SONM	**Songino Array**	**47.33**	**8**	P	**P**	**14 21 39.5**	**-0.1**
	1.7nm,0.6s,mb4.2,baz=189,slow=9.1,SNR=9.5						
MKAR	**Makanchi Array**	**47.47**	**346**	P	**P**	**14 21 41.3**	**+0.6**
	1.0nm,0.6s,mb3.9,baz=159,slow=8.1,SNR=9.7						
ZAL	**Zalesovo**	**53.77**	**351**	P	**P**	**14 22 28.2**	**0.0**
	1.5nm,0.4s,mb4.3,baz=305,slow=4.8,SNR=4.4						
ARCES	**ARCESS Array B**	**82.76**	**340**	P	**P**	**14 25 29.1**	**-0.6**
	0.8nm,0.8s,mb3.8,baz=111,slow=6.6,SNR=4.0						

*IDC **04** 14:21:35.3±0.6, 2025S×17402W, h0km, mb4.6/15, mb1 4.7/16, mb1mx4.7/20, mbtmp4.6/16, ML5.1/1, Error ellipse: s-maj=21.8km s-min=14.8km az=133.0*

*ISCJB **04** 14:21:36.1±0.3, 2029S±005×174.11W±007, h13km, mb4.8/47, MS4.5/5, Error ellipse: s-maj=10.0km s-min=6.2km az=69.3*

*BJI **04** 14:21:36.1, 2057S×17424W, h12km, mB5.3, mb5.1, Ms5.2, Msz4.8*

*NEIC **04** 14:21:40.3±6.2, 2032S×17408W, h33km±43km, mb4.8/31, Error ellipse: s-maj=11.7km s-min=8.4km az=152.0*

*MOS **04** 14:21:45.5±1.1, 2103S×17492W, h33km, mb5.0/21, Error ellipse: s-maj=19.8km s-min=13.6km az=155.6*

ISC 04 14:21:37.8±0.3, 2032S±005×17400W±006, h14km, h14km±1.5km:pP-P, n164, σ1§05/112, mb4.8/47, MS4.5/5, 13C-4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.72**	**19**	Pn	**Pn**	**14 23 08.5**	**-7.6**
	21nm,0.3s,baz=24,slow=3.8,SNR=34						
AFI				Sn	**Sn**	**14 24 19.2**	**-13**
	18nm,0.3s,baz=325,slow=23,SNR=4.2						
AFI				T		14 30 03.5	
	8.5nm,0.3s,baz=108,slow=19,SNR=5.9						

AFI	**Afiamalu**	**6.72**	**19**	*e*Pn	**Pn**	**14 23 08.4**	**-7.7**
RAR	**Rarotonga**	**13.34**	**96**	Pn	**Pn**	**14 24 36.1**	**-11**
	7.3nm,0.3s,baz=246,slow=10,SNR=43						
DZM	**Mont Dzumac**	**18.32**	**261**	P	**Pn**	**14 25 54.2**	**+2.8**
	1.4nm,0.3s,baz=75,slow=18,SNR=16						
DZM	**Mont Dzumac**	**18.32**	**261**	P	**Pn**	**14 25 54.2**	**+2.8**
URZ	**Urewera**	**19.46**	**201**	P	**Pn**	**14 26 05.3**	**0.0**
	5.7nm,0.3s,baz=0.9,slow=5.2,SNR=33						
MRZ	**Mangatainoka R**	**22.14**	**201**	SN	**S**	**14 30 22.8**	**-14**
SNZO	**South Karori**	**23.02**	**202**	*e*P	**P**	**14 26 40.6**	**-1.7**
	35nm,0.8s,mb4.8						
QRZ	**Quartz Range**	**23.44**	**206**	*e*PN	**P**	**14 26 47.3**	**+0.5**
THZ	**Tophouse**	**24.08**	**205**	*e*PN	**P**	**14 26 51.3**	**-1.4**
THZ				SN	**S**	**14 31 11.3**	**+1.5**
DSZ	**Denniston Nort**	**24.51**	**206**	*e*PN	**P**	**14 26 56.7**	**0.0**
LTZ	**Lake Taylor**	**25.20**	**204**	*e*PN	**P**	**14 27 04.4**	**+1.5**
RPZ	**Rata Peaks**	**26.46**	**205**	P	**P**	**14 27 15.2**	**+0.8**
	14nm,0.5s,mb4.8,baz=28,slow=3.3,SNR=8.1						
HNR	**Honiara**	**27.36**	**289**	*e*P	**P**	**14 27 13.7**	**-8.8**
CTA	**Charters Tower**	**37.24**	**263**	*e*P	**P**	**14 28 49.0**	**+0.2**
	8.4nm,0.6s,mb4.8						
CTA	**Charters Tower**	**37.24**	**263**	P	**P**	**14 28 49.1**	**+0.3**
	12nm,0.7s,mb4.8,baz=106,slow=12,SNR=12						
CTA	**Charters Tower**	**37.24**	**263**	*e*P	**P**	**14 28 49.0**	**+0.2**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
CTAO	**Charters Tower**	**37.24**	**263**	*e*P	**P**	**14 28 48.7**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.9						
CTAO	**Charters Tower**	**37.24**	**263**	*e*P	**P**	**14 28 48.7**	**-0.2**
	comp=Z,16nm,0.8s,mb4.9						
PMG	**Port Moresby**	**38.98**	**280**	P	**P**	**14 29 03.8**	**+0.3**
	comp=Z,8.6nm,0.8s,mb4.5,baz=84,slow=6.1,SNR=8.1						
PMG	**Port Moresby**	**38.98**	**280**	*e*P	**P**	**14 29 03.2**	**-0.3**
PMG				pmax	pmax		
	comp=Z,11nm,0.9s						
PMG	**Port Moresby**	**38.98**	**280**	*e*P	**P**	**14 29 03.2**	**-0.4**
	comp=Z,11nm,0.9s,mb4.6						
TAU	**Tasmania Unive**	**39.42**	**226**	*e*P	**P**	**14 29 06.7**	**-0.5**
TAU				pmax	pmax		
	comp=Z,48nm,1.0s,mb5.2						
TAU	**Tasmania Unive**	**39.42**	**226**	*e*P	**P**	**14 29 06.7**	**-0.5**
	comp=Z,48nm,1.0s,mb5.2						
STKA	**Stephens Creek**	**41.24**	**245**	*e*P	**P**	**14 29 20.3**	**-2.0**
	comp=Z,6.7nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**41.24**	**245**	P	**P**	**14 29 20.4**	**-1.9**
	comp=Z,8.1nm,0.7s,mb4.5,baz=87,slow=9.5,SNR=22						
STKA	**Stephens Creek**	**41.24**	**245**	*e*P	**P**	**14 29 19.9**	**-2.4**
ASAR	**Alice Springs**	**48.20**	**256**	P	**P**	**14 30 17.4**	**-0.4**
	comp=Z,6.1nm,0.7s,mb4.7,baz=91,slow=8.4,SNR=69						
WB2	**Warramunga Arr**	**48.32**	**261**	*e*P	**P**	**14 30 17.9**	**-0.9**
WRAB	**Tennant Creek**	**48.33**	**261**	*e*P	**P**	**14 30 16.3**	**-2.5**
WRAB				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
WRAB	**Tennant Creek**	**48.33**	**261**	*e*P	**P**	**14 30 16.3**	**-2.5**
	comp=Z,10nm,0.9s,mb4.9						
WRA	**Warramunga Arr**	**48.34**	**261**	P	**P**	**14 30 18.0**	**-0.8**
	comp=Z,2.0nm,0.5s,mb4.4,baz=97,slow=7.7,SNR=40						
KAKA	**Kakadu**	**51.72**	**270**	*e*P	**P**	**14 30 44.3**	**-0.3**
	comp=Z,7.4nm,0.6s,mb4.8						
FORT	**Forrest**	**52.80**	**246**	*e*P	**P**	**14 30 50.5**	**-2.1**
	comp=Z,16nm,0.5s,mb5.2						
FITZ	**Fitzroy Crossi**	**56.76**	**261**	*e*P	**P**	**14 31 21.7**	**+0.4**
	comp=Z,3.6nm,0.7s,mb4.5						
FITZ	**Fitzroy Crossi**	**56.76**	**261**	P	**P**	**14 31 21.5**	**+0.2**
	comp=Z,2.3nm,0.7s,mb4.3,baz=82,slow=12,SNR=10.0						
SBA	**Scott Base**	**58.32**	**185**	*e*P	**P**	**14 31 34.3**	**+2.0**
SBA				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.1						
SBA	**Scott Base**	**58.32**	**185**	*e*P	**P**	**14 31 34.3**	**+2.0**
	comp=Z,16nm,0.8s,mb5.1						
VNDA	**Vanda**	**58.45**	**186**	P	**P**	**14 31 34.4**	**+1.2**
	comp=Z,5.7nm,0.8s,mb4.7,baz=6.2,slow=6.5,SNR=32						
VNDA	**Vanda**	**58.45**	**186**	P	**P**	**14 31 34.4**	**+1.3**
VNDA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
VNDA	**Vanda**	**58.45**	**186**	*e*P	**P**	**14 31 34.8**	**+1.6**
	comp=Z,5.4nm,0.8s,mb4.6						
KLBR	**Kellerberrin**	**61.52**	**244**	*e*P	**P**	**14 31 54.5**	**+0.3**
	comp=Z,12nm,0.6s,mb5.2						
MBWA	**Mable Bar**	**61.55**	**256**	*e*P	**P**	**14 31 52.9**	**-1.5**
	comp=Z,5.6nm,0.6s,mb4.9						
NWAO	**Narrogin (SRO)**	**61.79**	**243**	P	**P**	**14 31 56.9**	**+0.9**
	comp=Z,4.5nm,0.6s,mb4.8,baz=135,slow=8.6,SNR=3.4						
NWAO	**Narrogin (SRO)**	**61.79**	**243**	P	**P**	**14 31 57.2**	**+1.1**
NWAO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
NWAO	**Narrogin (SRO)**	**61.79**	**243**	P	**P**	**14 31 57.2**	**+1.1**
	comp=Z,7.4nm,0.9s,mb4.8						
MUN	**Mundaring**	**62.77**	**244**	*e*P	**P**	**14 32 03.4**	**+0.7**
CASY	**Casey**	**65.73**	**205**	*e*P	**P**	**14 32 22.7**	**+0.7**
QSPA	**South Pole Qui**	**69.75**	**180**	*e*P	**P**	**14 32 47.7**	**+0.3**
	comp=Z,15nm,0.9s,mb4.9						
MJAR	**Matsushiro Arr**	**72.36**	**321**	P	**P**	**14 33 03.6**	**+0.5**
	comp=Z,8.6nm,0.8s,mb4.7,baz=159,slow=5.9,SNR=38						
MAJO	**Matsushiro**	**72.36**	**321**	*e*P	**P**	**14 33 03.1**	**-0.1**
MAJO				*e*		14 33 15.2	
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
MAJO	**Matsushiro**	**72.36**	**321**	*e*P	**P**	**14 33 03.1**	**-0.1**
	comp=Z,9.0nm,0.8s,mb4.8						
MAJO				*e*		14 33 15.2	
MAT	**Matsushiro**	**72.36**	**321**	P	**P**	**14 33 04.0**	**+0.8**
MAT	**Matsushiro**	**72.36**	**321**	*e*P	**P**	**14 33 04.0**	**+0.8**
MAT				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
MAT	**Matsushiro**	**72.36**	**321**	*e*P	**P**	**14 33 04.0**	**+0.8**
	comp=Z,9.7nm,0.8s,mb4.8						
KKM	**Kota Kinabalu**	**73.36**	**283**	*e*P	**P**	**14 33 09.6**	**+0.5**
ISA	**Isabella**	**76.58**	**44**	*e*P	**P**	**14 33 27.8**	**+0.1**
ISA				*e*PP	pP	14 33 39.0	+6.7
CMB	**Columbia Colle**	**76.83**	**41**	*e*P	**P**	**14 33 28.2**	**-1.0**
CMB				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
CMB	**Columbia Colle**	**76.83**	**41**	*e*P	**P**	**14 33 28.2**	**-1.0**
	comp=Z,3.6nm,0.9s,mb4.3						
KSM	**Kuching**	**77.11**	**276**	*e*P	**P**	**14 33 30.7**	**-0.1**
YSS	**Yuzh-Sakhalins**	**77.48**	**331**	*e*P	**P**	**14 33 34.0**	**+1.2**
YSS				*e*		14 33 42.0	
YSS	**Yuzh-Sakhalins**	**77.48**	**331**	*e*P	**P**	**14 33 33.3**	**+0.5**
	comp=Z,9.1nm,0.8s,mb4.8						
NVAR	**Mina Array Bea**	**78.36**	**41**	P	**P**	**14 33 37.9**	**+0.1**
	comp=Z,3.8nm,0.7s,mb4.4,baz=218,slow=8.2,SNR=20						
TPNV	**Topopah Spring**	**78.78**	**44**	*e*P	**P**	**14 33 40.5**	**+0.5**
TPNV				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
TPNV	**Topopah Spring**	**78.78**	**44**	*e*P	**P**	**14 33 40.5**	**+0.5**
	comp=Z,4.9nm,0.8s,mb4.5						
TPH	**Tonopah**	**78.83**	**42**	P	**P**	**14 33 39.0**	**-1.3**
TPH				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
TPH	**Tonopah**	**78.83**	**42**	P	**P**	**14 33 39.0**	**-1.3**
	comp=Z,12nm,0.9s,mb4.8						
NEN	**Nelson**	**78.96**	**45**	*e*P	**P**	**14 33 41.3**	**+0.3**
KS15	**Wonju Array Si**	**79.31**	**317**	P	**P**	**14 33 43.8**	**+0.9**
SSE	**Sheshan**	**80.49**	**308**	P	**P**	**14 33 49.5**	**+0.2**
SSE				AMB	AMB		
	comp=Z,34nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,95nm,2.9s,mb5.2						
WVOR	**Wild Horse Val**	**80.63**	**38**	*e*P	**P**	**14 33 49.9**	**-0.2**
WVOR				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
WVOR	**Wild Horse Val**	**80.63**	**38**	*e*P	**P**	**14 33 49.9**	**-0.2**
	comp=Z,3.7nm,0.8s,mb4.4						
MSU	**Marysvale**	**82.33**	**44**	*e*P	**P**	**14 33 59.9**	**+0.9**
MDJ	**Mudanjiang**	**82.58**	**323**	P	**P**	**14 34 02.5**	**+2.1**
MDJ				AP	pP	14 34 05.8	+0.8
MDJ				XP	sP	14 34 07.0	+0.4
MDJ				PP	PP	14 37 12.2	+2.4
MDJ				S	S	14 44 20.4	+3.4
MDJ				XS	sS	14 44 27.0	+2.4
MDJ				SS	SS	14 49 44.8	+6.3
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,90nm,5.0s						
MDJ				LR	LR		
	comp=Z,52nm,20.7s,MS3.9						
MDJ	**Mudanjiang**	**82.58**	**323**	*e*P	**P**	**14 34 02.1**	**+1.7**
	comp=Z,6.4nm,0.8s,mb4.7						
NJ2	**Nanjing**	**82.69**	**308**	*e*P	**P**	**14 34 02.3**	**+1.3**
NJ2				AP	pP	14 34 06.2	+0.6
NJ2				XP	sP	14 34 09.2	+2.0
NJ2				PP	PP	14 37 12.8	+2.1
NJ2				S	S	14 44 16.0	-2.2
NJ2				XS	sS	14 44 25.0	-0.8
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,230nm,12.0s						
NJ2				LR	LR		
	comp=N,620nm,39.6s						
NJ2				LR	LR		
	comp=E,350nm,31.8s						
NJ2				LR	LR		
	comp=Z,240nm,29.0s						
MAW	**Mawson**	**82.97**	**199**	P	**P**	**14 34 02.3**	**-0.1**
	comp=Z,4.6nm,0.2s,mb5.1,baz=134,slow=7.3,SNR=8.9						
MAW	**Mawson**	**82.97**	**199**	*e*P	**P**	**14 34 02.9**	**+0.5**
MAW				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MAW	**Mawson**	**82.97**	**199**	*e*P	**P**	**14 34 02.9**	**+0.5**
	comp=Z,8.8nm,0.8s,mb4.8						
TMUT	**Trail Mountain**	**83.39**	**44**	*e*P	**P**	**14 34 05.8**	**+1.2**
SRU	**San Rafael**	**83.73**	**44**	*e*P	**P**	**14 34 06.9**	**+0.6**
SRU				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.9						
SRU	**San Rafael**	**83.73**	**44**	*e*P	**P**	**14 34 06.9**	**+0.6**
	comp=Z,9.6nm,1.0s,mb4.9						
HLID	**Hailey**	**83.79**	**39**	*e*P	**P**	**14 34 07.0**	**+0.4**
	comp=Z,5.4nm,1.0s,mb4.6						
TTA	**Tatalina**	**84.18**	**8**	*e*P	**P**	**14 34 08.5**	**-0.1**
TTA				pmax	pmax		
	comp=Z,52nm,2.0s,mb5.3						
TTA	**Tatalina**	**84.18**	**8**	*e*P	**P**	**14 34 08.5**	**-0.2**
	comp=Z,52nm,2.0s,mb5.3						
PV10	**Paradox Valley**	**84.33**	**46**	P	**P**	**14 34 08.1**	**-1.3**
ANMO	**Albuquerque**	**84.40**	**50**	*e*P	**P**	**14 34 10.0**	**+0.3**
ANMO				pmax	pmax		
	comp=Z,15nm,1.6s						
ANMO	**Albuquerque**	**84.40**	**50**	*e*P	**P**	**14 34 10.0**	**+0.3**
	comp=Z,15nm,1.6s,mb4.9						
CN2	**Changchun**	**84.49**	**321**	*e*P	**P**	**14 34 11.1**	**+0.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
PV01	**Paradox Valley**	**84.53**	**46**	*e*P	**P**	**14 34 07.7**	**-2.7**
GDL2	**Guadalupe Moun**	**84.62**	**53**	*e*P	**P**	**14 34 11.4**	**+0.6**
QLMT	**Earthquake Lak**	**86.27**	**39**	*e*P	**P**	**14 34 19.5**	**+0.5**
PDAR	**Pinedale Array**	**86.30**	**42**	P	**P**	**14 34 18.4**	**-0.9**
	comp=Z,0.9nm,0.8s,mb4.0,baz=204,slow=3.3,SNR=6.8						
COLA	**College**	**87.28**	**11**	*e*P	**P**	**14 34 23.4**	**-0.6**
COLA				pmax	pmax		
	comp=Z,11nm,0.8s,mb5.1						
COLA	**College**	**87.28**	**11**	*e*P	**P**	**14 34 23.4**	**-0.6**
	comp=Z,11nm,0.8s,mb5.2						
ILAR	**Eielson Array**	**87.36**	**11**	P	**P**	**14 34 23.7**	**-0.7**
	comp=Z,2.8nm,0.7s,mb4.6,baz=223,slow=5.5,SNR=45						
KULM	**Kulim**	**87.47**	**277**	P	**P**	**14 34 22.1**	**-2.8**
SYO	**Syowa Base**	**87.69**	**192**	↓*i*P	**P**	**14 34 25.2**	**-0.8**
VNA3	**Neumayer Olymp**	**88.03**	**175**	*e*P	**P**	**14 34 27.0**	**-0.6**
VNA3				*e*	pP	14 34 30.0	-2.2
VNA3				*e*	pP	14 34 31.8	-0.4
VNA3				*e*		14 34 34.8	
VNA3				*e*		14 34 47.6	
VNA3				*e*		14 34 51.3	
SNAA	**Sanae**	**88.05**	**177**	*e*P	**P**	**14 34 26.7**	**-1.0**
SNAA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SNAA	**Sanae**	**88.05**	**177**	*e*P	**P**	**14 34 26.7**	**-0.9**
	comp=Z,2.8nm,0.9s,mb4.5						
VNA2	**Neumayer--Watz**	**88.52**	**176**	*e*P	**P**	**14 34 29.9**	**0.0**
VNA2				*e*	pP	14 34 32.7	-1.8
VNA2				*e*	pP	14 34 35.7	+1.2
VNA2				*e*		14 34 36.7	
VNA2				*e*		14 34 37.9	
VNA2				*e*		14 34 39.0	
VNA2				*e*		14 34 40.2	
VNA2				*e*		14 34 49.5	
VNA2				*e*		14 34 53.1	
BILL	**Bilibino**	**89.29**	**353**	*e*P	**P**	**14 34 33.4**	**-0.1**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.7						
BILL	**Bilibino**	**89.29**	**353**	*e*P	**P**	**14 34 33.4**	**-0.2**
	comp=Z,3.4nm,0.8s,mb4.7						
GYA	**Guiyang**	**89.84**	**298**	P	**P**	**14 34 32.6**	**-3.5**
GYA				S	S	14 45 18.3	
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.2						
GYA				AMB	AMB		
	comp=Z,90nm,3.8s						
GYA				LR	LR		
	comp=N,400nm,21.8s,MS4.9						
GYA				LR	LR

APA	**Apatity**	**129.69**	**347**	⇑*i*	PKHKP			14 40 26.0	
APA				*i*				14 40 51.0	
FINES	**FINESS Array B**	**136.58**	**346**		PKP	PKPdf		14 40 57.6	-1.8
	comp=Z,0.3nm,0.3s,baz=85,slow=4.2,SNR=4.0								
KMBO	**Kilima Mbogo**	**142.69**	**239**		PKP	PKPdf		14 41 10.5	-0.1
	comp=Z,1.1nm,0.5s,baz=51,slow=2.0,SNR=4.4								
AKASG	**Malin Array Be**	**144.58**	**334**		PKP	PKPdf		14 41 12.2	-1.7
	comp=Z,5.0nm,0.4s,baz=40,slow=4.2,SNR=37								
MALT	**Malatya**	**146.75**	**310**	⇑*i*	P	PKPbc		14 41 20.5	+1.2
MALT	**Malatya**	**146.75**	**310**	*e*	PKPbc	PKPbc		14 41 20.2	+0.9
OJC	**Ojcow**	**148.22**	**343**	*e*	PKPab	PKPbc		14 41 23.8	+0.5
STHS	**Stebnicka Huta**	**148.52**	**341**	*e*	PKP	PKPbc		14 41 25.2	+1.1
CLL	**Collm**	**148.59**	**352**	*i*	PKPbc	PKPbc		14 41 24.7	+0.4
	comp=Z,8.0nm,0.7s								
CLL				⇑*i*	PKPab	PKPab		14 41 27.7	-0.1
	comp=Z,10.0nm,0.8s								
CLL				*i*	sPKPbc			14 41 36.5	
CLL	**Collm**	**148.59**	**352**	*i*	PKHKP	PKPbc		14 41 24.7	+0.4
CLL				*e*				14 41 28.0	
CLL					pmax	pmax			
	comp=Z,8.0nm,0.7s								
CLL	**Collm**	**148.59**	**352**	*i*	PKP	PKPbc		14 41 24.7	+0.4
CLL				*e*				14 41 28.0	
KOLS	**Kolonicke sedl**	**148.61**	**339**	*e*	PKP	PKPbc		14 41 31.1	+6.8
BURAR	**Bucovina Array**	**148.63**	**335**	⇑*i*	P	PKPbc		14 41 24.9	+0.5
BURAR	**Bucovina Array**	**148.63**	**335**	⇑P		PKPbc		14 41 24.9	+0.4
NIE	**Niedzica**	**148.80**	**342**	*e*	PKP	PKPbc		14 41 25.9	+1.1
UPC	**Upice**	**148.85**	**348**	⇑*e*	PKPB	PKPbc		14 41 26.3	+1.3
BRG	**Berggiesshubel**	**148.88**	**350**	*i*	PKP	PKPbc		14 41 25.7	+0.7
	comp=Z,3.3nm,0.7s								
BRG	**Berggiesshubel**	**148.88**	**350**	*i*	PKIKP	PKPbc		14 41 25.7	+0.7
BRG					pmax	pmax			
	comp=Z,3.0nm,0.7s								
DPC	**Dobruska-Polom**	**148.94**	**347**	⇑*e*	PKPB	PKPbc		14 41 26.3	+1.1
DPC				*e*	PKPAB	PKPab		14 41 31.3	+2.1
MORC	**Moravsky Berou**	**149.21**	**345**	⇓*i*	P	PKPbc		14 41 26.1	+0.2
BR131	**Keskin Array S**	**149.43**	**315**	*e*	PKPbc	PKPbc		14 41 24.9	-1.5
BRTR	**Keskin Array B**	**149.43**	**315**		PKPbc	PKPbc		14 41 27.0	+0.6
	comp=Z,2.0nm,0.7s,baz=105,slow=3.2,SNR=8.3								
KECS	**Kecovo**	**149.58**	**341**	*e*	PKP	PKPbc		14 41 27.0	+0.2
KECS				*e*				14 41 32.8	
PRU	**Pruhonice**	**149.63**	**349**	⇑*e*	PKPB	PKPbc		14 41 27.4	+0.5
CVD	**Cernavoda**	**149.87**	**328**	⇑*i*	P	PKPbc		14 41 28.8	+1.3
MLR	**Muntele Rosu**	**149.99**	**331**	⇓*i*	P	PKPbc		14 41 28.5	+0.7
MLR	**Muntele Rosu**	**149.99**	**331**	⇓⇓	PKIKP	PKPbc		14 41 28.6	+0.8
VYHS	**Vyhne**	**150.05**	**343**	*e*	PKP	PKPbc		14 41 28.6	+0.7
DOU	**Dourbes**	**150.27**	**2**		PKPbc	PKPbc		14 41 28.6	+0.2
GIVF	**Givet**	**150.27**	**2**	*e*	PKP1	PKPbc		14 41 28.2	-0.3
BAIF	**Baives**	**150.29**	**2**	*e*	PKP1	PKPbc		14 41 28.6	+0.1
GRA1	**Grafenberg Arr**	**150.40**	**353**	*e*	PKP	PKPbc		14 41 29.7	+0.9
GRF	**Grafenberg Arr**	**150.40**	**353**	*e*	PKP	PKPbc		14 41 29.7	+0.9
VOIR		**150.43**	**332**	⇑*i*	P	PKPbc		14 41 30.2	+1.3
KHC	**Kasperske Hory**	**150.62**	**350**	⇑*e*	PKPB	PKPbc		14 41 30.1	+0.8
KHC				*e*	PKPAB	PKPab		14 41 38.7	+2.6
GERES	**GERESS Array B**	**150.88**	**350**		PKPbc	PKPbc		14 41 29.7	-0.2
	comp=Z,2.6nm,0.8s,baz=9.5,slow=1.6,SNR=7.3								
ROSF	**Rostrenen**	**151.07**	**13**	*e*	PKP1	PKPbc		14 41 29.4	-1.0
FLN	**La Foliniere**	**151.15**	**9**	*e*	PKP1	PKPbc		14 41 30.0	-0.5
	comp=Z,18nm,0.5s								
SGMF	**Saint Gilles**	**151.29**	**12**	*e*	PKP1	PKPbc		14 41 30.0	-0.9
	comp=Z,12nm,0.7s								
LDF	**La Druitiere**	**151.37**	**8**	*e*	PKP1	PKPbc		14 41 30.3	-0.8
	comp=Z,20nm,0.8s								
GRR	**Gorron**	**151.46**	**10**	*e*	PKP1	PKPbc		14 41 30.8	-0.5
	comp=Z,21nm,0.6s								
QUIF	**Quistinic**	**151.49**	**13**	*e*	PKP1	PKPbc		14 41 31.0	-0.3
BZS	**Buzias**	**151.68**	**337**	⇑*i*	P	PKPbc		14 41 31.9	+0.1
CDF	**Champ du Feu**	**151.96**	**358**	*e*	PKP1	PKPbc		14 41 32.3	-0.1
	comp=Z,8.2nm,0.8s								
PKSM	**Moragy**	**152.17**	**341**	⇑*i*	P	PKPbc		14 41 31.7	-1.2
HAU	**Haudompre**	**152.38**	**359**	*e*	PKP1	PKPbc		14 41 33.1	-0.3
LOR	**Lormes**	**153.07**	**3**	*e*	PKP1	PKPbc		14 41 34.7	-0.2
SSF	**Saint Saulge**	**153.25**	**4**	*e*	PKP1	PKPbc		14 41 35.1	-0.2
	comp=Z,5.8nm,0.6s								
MFF	**Saint Martin d**	**153.31**	**9**	*e*	PKP1	PKPbc		14 41 34.8	-0.6
	comp=Z,13nm,0.9s								
TORD	**Torodi Ar. Bea**	**171.76**	**149**		PKP	PKPdf		14 41 45.2	-0.8
	comp=Z,0.7nm,0.8s,baz=4.2,slow=1.2,SNR=3.6								
TORD					PKPab	PKPab		14 43 06.2	-1.7
	comp=Z,0.7nm,0.9s,baz=205,slow=4.5,SNR=3.7								

*IDC **04** 14:22:54.8±2.0, 2061S×17440W, h0km, mb4.6/9, mb1 4.7/10, mb1mx4.4/20, mbtmp4.7/10, ML5.1/1, MS3.8/9, Ms1 3.8/9, ms1mx3.5/30, Error ellipse: s-maj=45.9km s-min=28.5km az=100.0*

*ISCJB **04** 14:22:55.2±2.9, 2041S×009×1738W±02, h53km±31km, mb4.8/15, MS3.9/7, Error ellipse: s-maj=28.1km s-min=14.1km az=22.9*

*MOS **04** 14:22:58.5±0.8, 2060S×17450W, h33km, mb4.9/5, Error ellipse: s-maj=46.3km s-min=18.1km az=169.5*

*NEIC **04** 14:22:59.8±1.0, 2059S×17443W, h35km, mb4.9/11, Error ellipse: s-maj=22.5km s-min=14.7km az=85.0*

ISC 04 14:22:55.4±7.0, 2050S±008×1738W±02, h31km±51km, n46, σ1§20/35, mb4.8/15, MS3.9/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.83**	**17**	Sn	**Sn**	**14 25 49.7**	**-0.4**
	5.7nm,0.3s,baz=28,slow=21,SNR=1.5						
RAR	**Rarotonga**	**13.12**	**96**	LR	LR	14 29 53.7	
	comp=Z,320nm,18.4s,baz=43,slow=31						
DZM	**Mont Dzumac**	**18.49**	**262**	P	**Pn**	**14 27 11.8**	**+2.6**
	0.5nm,0.3s,baz=83,slow=18,SNR=3.3						
DZM				LR	LR	14 32 39.8	
	comp=Z,403nm,18.6s,baz=201,slow=33						
URZ	**Urewera**	**19.37**	**202**	P	**Pn**	**14 27 19.2**	**-0.6**
	5.2nm,0.3s,baz=8.7,slow=3.5,SNR=9.9						
TBI	**Tubuai**	**22.73**	**102**	eLR	LR	14 33 09.2	
	399nm,27.8s,baz=280						
PPT	**Papeete**	**23.06**	**87**	eLR	LR	14 33 24.7	
	465nm,28.0s,baz=247						
PPT	**Papeete**	**23.06**	**87**	LR	LR	14 34 28.2	
	comp=Z,213nm,18.7s,MS3.6,baz=62,slow=29						
THZ	**Tophouse**	**24.01**	**205**	*e*PN	**P**	**14 28 06.0**	**-1.3**
THZ				*e*SN	**S**	**14 32 16.8**	**-5.6**
RPZ	**Rata Peaks**	**26.39**	**205**	P	**P**	**14 28 31.2**	**+2.3**
	17nm,1.0s,mb4.5,baz=45,slow=1.4,SNR=2.2						
TAOE	**Nuku Hiva Isla**	**34.46**	**75**	eLR	LR	14 38 32.6	
	693nm,31.6s						
RKT	**Rikitea**	**36.06**	**101**	eLR	LR	14 39 18.1	
	332nm,31.5s						
CTA	**Charters Tower**	**37.42**	**263**	*e*P	**P**	**14 30 05.4**	**-0.3**
	2.8nm,0.6s,mb4.3						
CTA	**Charters Tower**	**37.42**	**263**	P	**P**	**14 30 05.5**	**-0.2**
	3.2nm,0.5s,mb4.4,baz=86,slow=12,SNR=3.5						
CTA	**Charters Tower**	**37.42**	**263**	*e*P	**P**	**14 30 05.4**	**-0.3**
CTA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CTAO	**Charters Tower**	**37.42**	**263**	*e*P	**P**	**14 30 04.8**	**-0.9**
CTAO				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.6						
CTAO	**Charters Tower**	**37.42**	**263**	*e*P	**P**	**14 30 04.8**	**-0.9**
	comp=Z,9.5nm,0.9s,mb4.6						
PMG	**Port Moresby**	**39.21**	**280**	P	**P**	**14 30 21.8**	**+1.0**
	comp=Z,14nm,0.9s,mb4.7,baz=108,slow=8.0,SNR=4.3						
PMG				LR	LR	14 44 26.1	
	comp=Z,146nm,19.0s,MS3.8,baz=23,slow=33						
PMG	**Port Moresby**	**39.21**	**280**	*e*P	**P**	**14 30 20.9**	**+0.2**
PMG				pmax	pmax		
	comp=Z,18nm,1.0s						
PMG	**Port Moresby**	**39.21**	**280**	*e*P	**P**	**14 30 20.9**	**+0.2**
	comp=Z,18nm,1.0s,mb4.8						
TAU	**Tasmania Unive**	**39.45**	**227**	*e*P	**P**	**14 30 23.6**	**+0.9**
STKA	**Stephens Creek**	**41.35**	**245**	*e*P	**P**	**14 30 36.3**	**-2.2**
	comp=Z,8.7nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**41.35**	**245**	P	**P**	**14 30 36.4**	**-2.1**
	comp=Z,11nm,0.7s,mb4.6,baz=99,slow=10,SNR=8.0						
STKA				LR	LR	14 45 31.9	
	comp=Z,198nm,21.5s,MS4.0,baz=46,slow=33						
STKA	**Stephens Creek**	**41.35**	**245**	*e*P	**P**	**14 30 35.9**	**-2.5**
ASAR	**Alice Springs**	**48.36**	**256**	P	**P**	**14 31 33.9**	**-0.4**
	comp=Z,14nm,0.8s,mb5.0,baz=89,slow=8.3,SNR=13						
WB2	**Warramunga Arr**	**48.50**	**261**	*e*P	**P**	**14 31 34.4**	**-0.9**
WRAB	**Tennant Creek**	**48.50**	**261**	*e*P	**P**	**14 31 33.9**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
WRAB	**Tennant Creek**	**48.50**	**261**	*e*P	**P**	**14 31 33.9**	**-1.5**
	comp=Z,10nm,0.8s,mb4.9						
WRA	**Warramunga Arr**	**48.51**	**261**	P	**P**	**14 31 34.3**	**-1.1**
	comp=Z,6.5nm,0.8s,mb4.7,baz=96,slow=7.0,SNR=9.7						
KAKA	**Kakadu**	**51.93**	**270**	*e*P	**P**	**14 32 01.1**	**-0.2**
	comp=Z,12nm,0.6s,mb5.0						
GUMO	**Guam**	**52.91**	**306**	LR	LR	14 51 35.8	
	comp=Z,58nm,18.7s,MS3.6,baz=78,slow=33						
FORT	**Forrest**	**52.92**	**246**	*e*P	**P**	**14 32 07.8**	**-0.8**
	comp=Z,17nm,0.6s,mb5.2						
FITZ	**Fitzroy Crossi**	**56.94**	**261**	*e*P	**P**	**14 32 38.0**	**+0.3**
	comp=Z,7.2nm,1.1s,mb4.6						
FITZ	**Fitzroy Crossi**	**56.94**	**261**	P	**P**	**14 32 38.4**	**+0.7**
	comp=Z,2.4nm,0.5s,mb4.5,baz=65,slow=10,SNR=7.4						
KLBR	**Kellerberrin**	**61.63**	**244**	*e*P	**P**	**14 33 10.4**	**+0.3**
	comp=Z,20nm,0.9s,mb5.2						
MBWA	**Marble Bar**	**61.70**	**256**	*e*P	**P**	**14 33 10.3**	**-0.3**
	comp=Z,19nm,0.7s,mb5.3						
NWAO	**Narrogin (SRO)**	**61.89**	**243**	P	**P**	**14 33 12.9**	**+1.0**
	comp=Z,9.8nm,0.8s,mb5.0,baz=100,slow=9.8,SNR=3.6						
NWAO	**Narrogin (SRO)**	**61.89**	**243**	*e*P	**P**	**14 33 12.5**	**+0.6**
NWAO				pmax	pmax		
	comp=Z,16nm,1.0s						
NWAO	**Narrogin (SRO)**	**61.89**	**243**	*e*P	**P**	**14 33 12.5**	**+0.6**
	comp=Z,16nm,1.0s,mb5.1						
CASY	**Casey**	**65.66**	**205**	*e*P	**P**	**14 33 37.4**	**+0.7**
	comp=Z,8.3nm,0.9s,mb4.8						
MJAR	**Matsushiro Arr**	**72.62**	**321**	P	**P**	**14 34 23.1**	**+3.2**
	comp=Z,2.1nm,0.6s,mb4.2,baz=152,slow=6.0,SNR=6.3						
ASAJ	**Asahikawa**	**75.68**	**329**	LR	LR	15 01 47.0	
	comp=Z,70nm,19.8s,MS4.0,baz=241,slow=31						
LPIG	**La Paz**	**76.04**	**57**	LR	LR	15 01 30.3	
	comp=Z,81nm,18.1s,MS4.1,baz=248,slow=30						
KSM	**Kuching**	**77.33**	**276**	*e*P	**P**	**14 34 49.2**	**+2.2**
BBB	**Bella Bella**	**82.59**	**26**	LR	LR	15 05 48.7	
	comp=Z,51nm,18.2s,MS3.9,baz=222,slow=31						
AKASG	**Malin Array Be**	**144.83**	**334**	PKP	PKPdf	14 42 31.2	+2.0
	comp=Z,3.7nm,0.6s,baz=41,slow=4.1,SNR=5.6						
BRTR	**Keskin Array B**	**149.70**	**315**	PKPbc	PKPbc	14 42 45.4	+3.4
	comp=Z,2.4nm,0.8s,baz=122,slow=1.9,SNR=5.4						

IDC 04 14:23:22.1±2.1, 249N×12806E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/16, mbtmp3.5/3, Error ellipse: s-maj=144.1km s-min=25.7km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.12**	**165**	P	P	14 28 30.3	+0.5
	0.9nm,0.4s,baz=344,slow=10.0,SNR=27						
ASAR	**Alice Springs**	**26.61**	**168**	P	P	14 29 01.7	-0.4
	0.4nm,0.8s,baz=353,slow=7.4,SNR=13						
MKAR	**Makanchi Array**	**59.33**	**325**	P	P	14 33 26.5	+0.7
	0.2nm,0.5s,baz=121,slow=7.3,SNR=5.0						

*NEIC **04** 14:40:18.3±7.3, 603N×12735E, h44km±67km, mb4.4/4, Error ellipse: s-maj=39.9km s-min=9.3km az=61.0*

*ISCJB **04** 14:40:21.8±1.4, 597N±007×1272E±01, h94km±14km, mb4.1/11, Error ellipse: s-maj=20.4km s-min=11.8km az=162.1*

*IDC **04** 14:40:24.8±7.3, 592N×127.18E, h101km±69km, mb3.6/6, mb1 3.8/6, mb1mx3.5/20, mbtmp4.0/6, MS3.2/1, Ms1 3.2/1, ms1mx2.3/28, Error ellipse: s-maj=36.3km s-min=16.1km az=92.0*

ISC 04 14:40:23.0±1.4, 597N±007×1272E±01, h85km±14km, n15, σ0§81/16, mb4.1/11, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**2.37**	**338**	⇓*i*	P	**Pn**	**14 40 59.9**	**0.0**
BIPH				*i*	S	**Sn**	**14 41 25.4**	**-2.7**
BUKP	**Musuan**	**2.87**	**311**	*e*P	**Pn**	**14 41 07.3**	**+0.6**
BUKP				*e*S	**Sn**	**14 41 41.4**	**+1.1**
KSM	**Kuching**	**17.47**	**256**	*e*P	**Pn**	**14 44 20.3**	**-0.7**
FITZ	**Fitzroy Crossi**	**23.97**	**184**	P	**P**	**14 45 29.0**	**-0.3**
	2.1nm,0.5s,mb3.7,baz=357,slow=9.4,SNR=12						
CBIJ	**Chichi jima**	**25.38**	**32**	P	**P**	**14 45 43.7**	**+1.6**
	99nm,0.7s,mb5.4,baz=286,slow=18,SNR=8.1						
CBIJ				LR	LR	14 54 25.5	
	comp=Z,47nm,19.7s,baz=104,slow=33						
WRAB	**Tennant Creek**	**26.67**	**165**	*e*P	**P**	**14 45 53.4**	**-0.5**
	5.0nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**26.68**	**165**	P	**P**	**14 45 54.3**	**+0.4**
	1.2nm,0.6s,mb3.8,baz=343,slow=11,SNR=24						
ASAR	**Alice Springs**	**30.16**	**168**	P	**P**	**14 46 24.8**	**-0.1**
	0.4nm,0.4s,mb3.4,baz=341,slow=7.2,SNR=38						
ASAR				PcP	PcP	14 49 24.9	+0.8
	0.3nm,0.4s,baz=349,slow=2.5,SNR=8.0						
NWAO	**Narrogin (SRO)**	**39.83**	**193**	P	**P**	**14 47 48.4**	**+0.5**
	3.5nm,0.4s,mb4.5,baz=21,slow=8.6,SNR=7.6						
MKAR	**Makanchi Array**	**56.03**	**324**	P	**P**	**14 49 53.4**	**+0.5**
	2.8nm,0.8s,mb4.3,baz=125,slow=8.4,SNR=22						
KURK	**Kurkutov**	**60.15**	**327**	*e*P	**P**	**14 50 21.5**	**-0.1**
	6.2nm,0.8s,mb4.7						
BRVK	**Borovoye**	**65.81**	**326**	*e*P	**P**	**14 50 58.6**	**-0.5**
	2.0nm,0.8s,mb4.0						
ZRNK	**Zerenda**	**66.48**	**326**	*e*P	**P**	**14 51 03.2**	**-0.2**
	2.3nm,0.5s,mb4.3						
ILAR	**Eielson Array**	**82.88**	**26**	P	**P**	**14 52 37.3**	**-0.8**
	0.4nm,0.8s,mb3.3,baz=246,slow=4.5,SNR=6.3						
TORD	**Torodi Ar. Bea**	**122.68**	**290**	PKP	PKPdf	14 59 09.2	+0.5
	0.8nm,0.6s,baz=53,slow=2.0,SNR=5.7						

IDC 04 14:40:33.9±2.0, 1984S×7094W, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.7/15, mbtmp3.7/4, ML3.5/2, Error ellipse: s-maj=74.0km s-min=40.2km az=169.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.43**	**38**	Pn	Pn	14 41 43.0	+0.7
	0.9nm,0.3s,baz=231,slow=13,SNR=18						
SIV	**San Ignacio**	**10.14**	**69**	Pn	Pn	14 43 02.3	+1.6
	0.5nm,0.3s,baz=261,slow=14,SNR=8.6						
TORD	**Torodi Ar. Bea**	**78.61**	**72**	P	P	14 52 36.8	-0.7
	1.0nm,0.8s,baz=248,slow=5.0,SNR=5.4						
YKA	**Yellowknife Ar**	**89.00**	**341**	P	P	14 53 29.2	-1.5
	0.4nm,0.6s,baz=132,slow=5.0,SNR=11						
MKAR	**Makanchi Array**	**145.34**	**33**	PKPbc	PKPbc	15 00 14.5	+1.0
	0.2nm,0.7s,baz=329,slow=3.3,SNR=3.5						
SONM	**Songjiang Array**	**151.99**	**4**	PKPbc	PKPbc	15 00 32.3	+1.3
	0.6nm,0.6s,baz=358,slow=1.8,SNR=5.3						

*ROM **04** 15:16:56.4±0.4, 4015N×2010E, h10km, Md3.0/2, Ml3.2/2, Error ellipse: s-maj=4.6km s-min=2.1km az=120.0*

*ATH **04** 15:16:57.2, 4018N×1966E, h12km±1km, MD3.6/7*

*THE **04** 15:16:58.7, 4005N×1972E, h2km, ML3.3*

*TIR **04** 15:16:58.3, 4013N×1984E, h0km, Ml2.6*

*CSEM **04** 15:16:58.8±0.1, 4008N×1983E, h12km, MD3.0/2, Error ellipse: s-maj=2.0km s-min=1.8km az=70.0*

*ISCJB **04** 15:16:59.6±0.3, 4008N±002×1982E±003, h10km, Error ellipse: s-maj=3.2km s-min=2.8km az=177.1*

ISC 04 15:17:00.3±0.4, 4007N±002×1983E±003, h10km, n29, σ1§36/45, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRN	**Sarande**	**0.23**	**146**	*i*	Pg	**Pg**	**15 17 03.8**	**-1.2**
SRN				*i*	Sg	**Sg**	**15 17 08.9**	**+0.7**
TPE	**Tepelena**	**0.26**	**31**	*i*	Pg	**Pg**	**15 17 02.4**	**-3.2**
TPE				*i*	Sg	**Sg**	**15 17 06.6**	**-2.6**
KEK	**Kerkira**	**0.36**	**184**		Pg	**Pg**	**15 17 06.3**	**-1.1**
KEK					Sg	**Sg**	**15 17 13.8**	**+1.7**
	998nm,0.4s						
KEK	**Kerkira**	**0.36**	**184**	*e*	PB	**Pg**	**15 17 06.4**	**-1.0**
KEK				*e*	SB	**Sg**	**15 17 13.3**	**+1.2**
LSK	**Leskovik**	**0.59**	**82**	*i*	Pg	**Pg**	**15 17 10.0**	**-1.8**
LSK				*i*	Sg	**Sg**	**15 17 19.7**	**+0.1**
IGT	**Igoumenitsa**	**0.66**	**144**	*e*	Pg	**Pg**	**15 17 11.9**	**-1.2**
IGT				*e*	Sg	**Sg**	**15 17 22.0**	**+0.3**
JAN	**Janina**	**0.89**	**117**	*e*	PB	**Pb**	**15 17 16.9**	**-0.8**
JAN				*e*	SB	**Sb**	**15 17 31.3**	**+1.7**
SCTE	**Santa Cesarea**	**1.05**	**271**		Pg	**Pg**	**15 17 19.4**	**-1.1**
SCTE					Sg	**Sg**	**15 17 36.5**	**+2.4**
	467nm,0.3s						
OHR	**Ohrid**	**1.27**	**35**	*i*	Pn	**Pn**	**15 17 24.1**	**-0.1**
OHR				*i*	Sn	**Sn**	**15 17 44.5**	**+3.2**
OHR	**Ohrid**	**1.27**	**35**	*i*	Pn	**Pn**	**15 17 24.0**	**-0.1**
OHR				*i*	Sn	**Sn**	**15 17 44.4**	**+3.1**
TIR	**Tirane**	**1.28**	**1**	*e*	Pg	**Pg**	**15 17 22.8**	**-2.1**
TIR				*e*	Sg	**Sg**	**15 17 42.0**	**+0.6**
LCI	**Lecce**	**1.34**	**282**		Pg	**Pg**	**15 17 24.4**	**-1.7**
LCI					Sg	**Sg**	**15 17 44.1**	**+0.5**
	72nm,0.3s						
FNA	**Florina**	**1.38**	**58**	*e*	Pg	**Pg**	**15 17 24.4**	**-2.3**
FNA				*e*	Sg	**Sg**	**15 17 46.4**	**+1.8**
QSH	**Qafa e Shtames**	**1.45**	**2**	*i*	Pn	**Pn**	**15 17 25.8**	**-0.8**
QSH				*i*	Sn	**Sn**	**15 17 45.8**	**+0.1**
BIA	**Bitola**	**1.48**	**50**	*i*	Pn	**Pn**	**15 17 25.8**	**-1.1**
BIA				*i*	Sn	**Sn**	**15 17 48.1**	**+1.7**
LKD	**Levkas**	**1.50**	**155**	*e*	Pg	**Pg**	**15 17 26.8**	**-2.3**
LKD				*e*	Sg	**Sg**	**15 17 47.1**	**-1.4**
KZN	**Kozani**	**1.50**	**80**	*e*	PB	**Pb**	**15 17 27.8**	**-0.5**
EVR	**Evrytania**	**1.91**	**126**	*e*	PN	**Pn**	**15 17 34.3**	**+1.4**
VLS	**Valsamata**	**1.98**	**162**	*e*	PN	**Pn**	**15 17 34.9**	**+1.1**
PE1	**Pezze di Greco**	**1.98**	**293**	*e*	Pn	**Pn**	**15 17 35.1**	**+1.2**
GRG	**Griva**	**2.15**	**65**	*e*	Pn	**Pn**	**15 17 37.5**	**+1.3**
SKO	**Skopje**	**2.25**	**32**	*i*	Pn	**Pn**	**15 17 38.0**	**+0.4**
STIP	**Stip**	**2.41**	**47**	*i*	Pn	**Pn**	**15 17 39.9**	**+0.1**
VAY	**Valandovo**	**2.43**	**58**	*i*	Pn	**Pn**	**15 17 42.3**	**+2.3**
VAY	**Valandovo**	**2.43**	**58**	*i*	Pn	**Pn**	**15 17 42.2**	**+2.2**
KNT	**Kendrikon**	**2.58**	**64**	*e*	Pn	**Pn**	**15 17 42.1**	**+0.1**
PLG	**Polygyros**	**2.78**	**83**	*e*	PN	**Pn**	**15 17 44.9**	**0.0**
SRS	**Serrai**	**3.05**	**69**	*e*	Pn	**Pn**	**15 17 54.0**	**+5.5**
ITM	**Ithomi**	**3.32**	**150**	*e*	Pn	**Pn**	**15 17 53.6**	**+1.3**

*NEIC **04** 15:17:42.2, 4506S×16725E, h124km, MG3.7(WEL), After WEL.*

WEL 04 15:17:44.1±0.3, 4516S×16739E, h118km±2km, ML3.7/9, Error ellipse: s-maj=2.7km s-min=1.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.36**	**208**	PN	Pn	15 18 00.5	-0.5
DCZ				SN	Sn	15 18 12.8	-1.0
DCZ	**Deep Cove**	**0.36**	**208**	P	Pn	15 17 59.5	-1.6
DCZ				S	Sn	15 18 11.8	-2.1
MLZ	**Mavora Lakes**	**0.58**	**109**	PN	Pn	15 18 02.2	-0.1
MLZ				SN	Sn	15 18 15.8	-0.4
MLZ	**Mavora Lakes**	**0.58**	**109**	P	Pn	15 18 02.2	-0.2
MSZ	**Milford Sound**	**0.62**	**38**	PN	Pn	15 18 02.7	+0.1
MSZ				SN	Sn	15 18 16.5	-0.1
MSZ	**Milford Sound**	**0.62**	**38**	P	Pn	15 18 01.7	-0.9
MSZ				S	Sn	15 18 15.5	-1.1
WHZ	**Wether Hill Ro**	**0.83**	**152**	PN	Pn	15 18 04.4	0.0
WHZ				SN	Sn	15 18 19.4	-0.3
WKZ	**Wanaka**	**1.20**	**75**	PN	Pn	15 18 08.2	+0.2
WKZ				SN	Sn	15 18 25.9	-0.3
WKZ	**Wanaka**	**1.20**	**75**	P	Pn	15 18 07.2	-0.8
EAZ	**Earnscleugh**	**1.36**	**94**	PN	Pn	15 18 09.7	-0.1
EAZ				SN	Sn	15 18 27.8	-1.4
EAZ	**Earnscleugh**	**1.36**	**94**	P	Pn	15 18 08.7	-1.1
JCZ	**Jackson Bay**	**1.46**	**43**	PN	Pn	15 18 10.6	-0.3
JCZ				SN	Sn	15 18 30.0	-1.3
JCZ	**Jackson Bay**	**1.46**	**43**	P	Pn	15 18 09.6	-1.3
JCZ				S	Sn	15 18 29.0	-2.3
TUZ	**Tuapeka**	**1.77**	**118**	PN	Pn	15 18 14.5	0.0
TUZ				SN	Sn	15 18 35.2	-2

TLL *i* S Sn 15 46 11.3 +1.6
TLL AML AML 15 46 19.5
comp=N,475nm,0.7s
TLL Tololo Astronro 2.47 15 *e*P Pn 15 45 41.9 +1.1
TLL *i* S Sn 15 46 11.3 +1.6

IDC 04 15:45:31.0±8.1, 1263S×16605E, h60km±61km, mb3.8/5, mb1 3.9/6, mb1mx3.7/15, mbtmp4.1/6, ML4.5/1, Error ellipse: s-maj=54.4km s-min=37.1km az=117.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.78**	**297**	P		Pn	15 47 08.4	+0.6
	10nm,0.3s,baz=214,slow=0.7,SNR=14						
HNR				S		Sn	15 48 24.3	+0.7
	6.2nm,0.3s,baz=264,slow=19,SNR=2.6						
ASAR	**Alice Springs**	**32.38**	**246**	P		P	15 51 55.0	+0.2
	1.0nm,0.9s,baz=80,slow=9.9,SNR=5.0						
MJAR	**Matsushiro Arr**	**55.51**	**333**	P		P	15 54 59.4	-0.4
	3.1nm,0.8s,baz=164,slow=8.6,SNR=13						
MAT	**Matsushiro**	**55.51**	**333**	P		P	15 54 59.4	-0.4
SONM	**Songino Array**	**80.11**	**324**	P		P	15 57 35.0	+0.5
	0.9nm,0.8s,baz=120,slow=5.3,SNR=6.1						
ILAR	**Eielson Array**	**84.91**	**18**	P		P	15 57 59.0	-0.4
	0.4nm,0.5s,baz=251,slow=4.8,SNR=7.2						
MKAR	**Makanchi Array**	**94.87**	**317**	P		P	15 58 46.9	+0.5
	1.5nm,0.8s,baz=92,slow=6.3,SNR=16						

MAN 04 15:48:30.6, 1006N×12227E, h27km, mb2.4, ML4.0, MS2.6, Panay

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.65**	**29**	*e*P		Pb	15 48 43.8	+0.4
GUIM				*e*S		Sb	15 48 52.9	+0.9
SNPH	**Sibulan**	**1.19**	**126**	*e*P		Pn	15 48 53.0	+1.5
CUYO	**Cuyo Island**	**1.46**	**303**	*e*P		Pn	15 48 55.6	+0.5
DCPH	**Dipolog City**	**1.82**	**144**	*i* P		Pn	15 49 00.0	0.0
DCPH				*e*S		Sn	15 49 23.1	+0.9
IPIL	**Ipil**	**2.28**	**172**	*e*P		Pn	15 49 07.2	+0.8
IPIL				*e*S		Sn	15 49 32.2	-1.3
BUSP	**Coron**	**2.80**	**314**	*e*P		Pn	15 49 14.4	+0.8
ENPP	**El Nido**	**3.02**	**292**	*e*P		Pn	15 49 17.0	+0.5

*IDC **04** 15:52:57.9±0.7, 2766N×140.13E, h471km±11km, mb2.7/7, mb1 3.0/9, mb1mx2.8/21, mbtmp3.7/9, Error ellipse: s-maj=35.4km s-min=11.8km az=79.0*
*ISCJB **04** 15:52:58.1±0.5, 2770N±005×1402E±02, h488km±6km, mb3.1/8, Error ellipse: s-maj=24.5km s-min=7.0km az=160.3*
*JMA **04** 15:52:59.8±0.3, 2789N×14061E, h485km±4km, M3.7*
ISC 04 15:52:59.4±0.5, 2776N±005×1404E±02, h488km±6km, n30, σ1s19/41, mb3.1/8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.69**	**113**	P	**P**	**15 54 01.8**	**-0.1**
	32nm,0.3s,baz=312,slow=24,SNR=26						
CBIJ				S	**S**	15 54 50.0	-2.7
	34nm,0.3s,baz=278,slow=22,SNR=12						
CBIJ	**Chichi jima**	**1.69**	**113**	P	**P**	15 54 01.8	-0.1
CBIJ				S	**S**	15 54 50.8	-1.9
JHHJ	**Haha-jima-NKT**	**1.91**	**126**	P	**P**	15 54 03.5	+0.6
JHHJ				S	**S**	15 54 54.9	+0.3
JHJ2	**Mitsune**	**5.36**	**354**	P	**P**	15 54 29.5	+0.4
JHJ2				*e*S	**S**	15 55 37.7	-4.6
JHJ	**Hachijo jima 2**	**5.37**	**354**	P	**P**	15 54 29.1	-0.1
	18nm,0.3s,baz=75,slow=24,SNR=10						
JHJ				S	**S**	15 55 39.8	-2.7
	5.2nm,0.3s,baz=74,slow=20,SNR=1.8						
BSO1	**Boso 1**	**6.89**	**4**	P	**P**	15 54 44.3	+0.3
BSO1				S	**S**	15 56 10.0	+0.3
BSO3	**Boso 3**	**7.02**	**0**	P	**P**	15 54 45.6	+0.2
BSO3				*e*S	**S**	15 56 10.2	-2.0
JIE	**Ise**	**7.35**	**335**	P	**P**	15 54 49.9	+1.2
JKN2	**Miekihoku**	**7.38**	**332**	P	**P**	15 54 50.6	+1.5
JOD2	**Odawara 2**	**7.57**	**352**	P	**P**	15 54 51.2	+0.2
JOD2				*e*S	**S**	15 56 20.6	-1.9
JNY	**Yasuok**	**7.89**	**344**	P	**P**	15 54 54.8	+0.5
JAO	**Obara**	**7.96**	**341**	P	**P**	15 54 55.8	+0.7
JEG	**Eigenji**	**8.13**	**336**	P	**P**	15 54 58.5	+1.7
JHU	**Hanno**	**8.13**	**353**	P	**P**	15 54 56.6	-0.2
JRY	**Ryogami san**	**8.34**	**351**	P	**P**	15 54 59.6	+0.6
JAG	**Ashikaga**	**8.68**	**355**	P	**P**	15 55 01.4	-1.2
JAG				*e*S	**S**	15 56 40.0	-3.9
JHO	**Hitachi**	**8.83**	**1**	P	**P**	15 55 04.6	+0.4
JHO				S	**S**	15 56 45.4	-1.3
MJAR	**Matsushiro Arr**	**8.96**	**348**	P	**P**	15 55 05.2	-0.3
	0.8nm,0.3s,baz=173,slow=11,SNR=13						
JMM	**Marumori**	**10.09**	**2**	P	**P**	15 55 19.3	+1.8
JMM				*e*S	**S**	15 57 10.7	-0.5
JYA	**Atsumi**	**10.82**	**357**	P	**P**	15 55 27.2	+1.8
JMK	**Ichinoseki**	**11.18**	**3**	P	**P**	15 55 31.0	+1.8
JOM	**Ohasama**	**11.71**	**3**	P	**P**	15 55 36.5	+1.7
WRA	**Warramunga Arr**	**47.78**	**188**	P	**P**	16 00 50.4	-1.1
	0.2nm,0.5s,mb2.7,baz=6.5,slow=7.5,SNR=14						
MKAR	**Makanchi Array**	**48.86**	**309**	P	**P**	16 00 58.1	-1.4
	0.3nm,0.3s,mb3.1,baz=88,slow=10,SNR=11						
ASAR	**Alice Springs**	**51.51**	**188**	P	**P**	16 01 18.1	-0.9
	0.1nm,0.3s,mb2.6,baz=353,slow=3.8,SNR=5.7						
YKA	**Yellowknife Ar**	**72.29**	**28**	P	**P**	16 03 36.3	+1.6
	0.2nm,0.6s,mb2.8,baz=290,slow=6.0,SNR=3.9						
ARCES	**ARCESS Array B**	**72.41**	**340**	P	**P**	16 03 35.2	-0.1
	1.1nm,0.8s,mb3.4,baz=47,slow=5.7,SNR=6.2						
KAF	**Kangasniemi**	**76.20**	**334**	*e*p	**P**	16 03 53.1	-3.8
	1.0nm,0.4s,mb3.7						
FINES	**FINESS Array B**	**76.67**	**333**	P	**P**	16 03 58.7	-0.7
	0.8nm,0.3s,mb3.7,baz=67,slow=5.5,SNR=12						
NOA	**NORSAR Array B**	**82.42**	**338**	P	**P**	16 04 28.3	-1.5
	0.5nm,0.6s,mb3.2,baz=45,slow=5.0,SNR=2.6						

*ISCJB **04** 16:18:17.5±1.0, 522S±005×15049E±006, h254km±10km, mb4.4/54, Error ellipse: s-maj=9.0km s-min=7.7km az=7.2*
*MOS **04** 16:18:17.5±0.8, 5.15S×15052E, h258km, mb4.4/17, Error ellipse: s-maj=13.6km s-min=8.9km az=76.0*
*IDC **04** 16:18:18.3±1.3, 520S×15041E, h250km±11km, mb4.2/16, mb1 4.4/19, mb1mx4.3/21, mbtmp4.8/19, Error ellipse: s-maj=12.5km s-min=10.1km az=118.0*
*NEIC **04** 16:18:18.7±0.3, 5.17S×150.44E, mb4.6/27, Error ellipse: s-maj=8.6km s-min=6.4km az=90.0*
*BJI **04** 16:18:18.1, 539S×150.79E, h284km, mB4.7, mb4.3*
ISC 04 16:18:19.4±0.9, 528S±004×15045E±006, h256km±8km, h258km±1.7km; pP-P, n113, σ1s03/122, mb4.4/54, 1C-8D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.23**	**218**	P	**Pn**	**16 19 38.9**	**+0.8**
	97nm,0.3s,baz=37,slow=5.7,SNR=637						
PMG				S	**S**	16 20 40.1	-0.9
	3.9nm,0.3s,baz=310,slow=13,SNR=2.0						
PMG	**Port Moresby**	**5.23**	**218**	*e*P	**Pn**	16 19 38.7	+0.6
PMG				pmax	pmax		
	comp=Z,2μm,0.8s						
PMG	**Port Moresby**	**5.23**	**218**	*e*Pn	**Pn**	16 19 38.7	+0.6
	comp=Z,2μm,0.8s						
PMG				*e*		16 19 43.0	
PMG				*e*S	**S**	16 20 28.9	-12
HNR	**Honiara**	**10.28**	**114**	P	**Pn**	**16 20 40.3**	**-1.1**
	comp=Z,6.8nm,0.3s,baz=273,slow=1.0,SNR=14						
HNR	**Honiara**	**10.28**	**114**	*e*P	**Pn**	16 20 40.0	-1.4
HNR				pmax	pmax		
	comp=Z,73nm,0.6s						
HNR	**Honiara**	**10.28**	**114**	*e*Pn	**Pn**	16 20 40.0	-1.4
	comp=Z,73nm,0.6s						
CTA	**Charters Tower**	**15.27**	**195**	⇓*i* P	**Pn**	16 21 44.2	+1.7
	comp=Z,44nm,0.8s						
CTA				*e*S	**S**	16 24 49.7	+20
CTA	**Charters Tower**	**15.27**	**195**	P	**Pn**	16 21 44.0	+1.6
	comp=Z,3.3nm,0.3s,baz=19,slow=12,SNR=50						
CTA	**Charters Tower**	**15.27**	**195**	⇓*i* P	**Pn**	16 21 44.2	+1.7
CTA				pmax	pmax		
	comp=Z,45nm,0.8s						
CTAO	**Charters Tower**	**15.27**	**195**	*e*P	**Pn**	16 21 44.2	+1.7
CTAO				pmax	pmax		
	comp=Z,57nm,0.8s						
CTAO	**Charters Tower**	**15.27**	**195**	*e*P	**Pn**	16 21 44.2	+1.7
	comp=Z,57nm,0.8s						
CTAO				*e*		16 21 50.5	
KAKA	**Kakadu**	**19.24**	**246**	*e*P	**P**	**16 22 24.8**	**-0.1**
	comp=Z,185nm,0.6s						
KAKA				*e*S	**S**	**16 25 46.5**	**-2.3**
WRAB	**Tennant Creek**	**21.38**	**226**	*e*P	**P**	**16 22 47.0**	**-0.2**
WRAB				*e*S	**S**	**16 26 27.4**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,279nm,0.8s						
WRAB	**Tennant Creek**	**21.38**	**226**	*e*P	**P**	16 22 47.0	-0.2
	comp=Z,279nm,0.8s						
WRAB				*e*S	**S**	**16 26 27.4**	**+0.6**
WB2	**Warramunga Arr**	**21.39**	**226**	*e*P	**P**	**16 22 47.3**	**+0.1**
WB2				*e*S	**S**	**16 26 27.0**	**+0.2**
WRA	**Warramunga Arr**	**21.40**	**226**	P	**P**	**16 22 47.3**	**0.0**
	comp=Z,132nm,0.7s,mb5.4,baz=48,slow=10,SNR=348						
WRA				S	**S**	16 26 28.5	+1.5
	comp=Z,10nm,0.8s,baz=48,slow=17,SNR=6.8						
WRA				ScP	ScP	16 29 51.5	-0.8
	comp=Z,2.2nm,0.8s,baz=54,slow=2.9,SNR=7.5						
WRA	**Warramunga Arr**	**21.40**	**226**	P	**P**	**16 22 47.3**	**0.0**
WRA				S	**S**	**16 26 28.5**	**+1.5**
DZM	**Mont Dzumac**	**22.76**	**139**	P	**P**	**16 23 01.0**	**+1.2**
	comp=Z,25nm,0.5s,mb4.8,baz=325,slow=8.6,SNR=53						
ASAR	**Alice Springs**	**24.25**	**219**	P	**P**	**16 23 13.8**	**+0.6**
	comp=Z,76nm,0.7s,mb5.1,baz=53,slow=8.7,SNR=1575						
ASAR				ScP	ScP	16 30 01.1	+1.2
	comp=Z,6.0nm,0.8s,baz=46,slow=3.1,SNR=16						
ARMA	**Armidale**	**25.03**	**178**	*e*P	**P**	**16 23 21.4**	**+1.1**
FITZ	**Fitzroy Crossi**	**27.38**	**240**	*e*P	**P**	**16 23 40.6**	**-0.6**
	comp=Z,60nm,0.8s,mb5.1						
FITZ	**Fitzroy Crossi**	**27.38**	**240**	P	**P**	**16 23 41.0**	**-0.2**
	comp=Z,54nm,1.0s,mb4.9,baz=83,slow=8.1,SNR=121						
STKA	**Stephens Creek**	**27.72**	**196**	*e*P	**P**	**16 23 42.2**	**-2.1**
	comp=Z,19nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**27.72**	**196**	P	**P**	**16 23 42.5**	**-1.8**
	comp=Z,29nm,0.8s,mb4.8,baz=350,slow=8.2,SNR=48						
STKA				ScP	ScP	16 30 10.3	+0.3
	comp=Z,7.7nm,1.0s,baz=342,slow=4.8,SNR=4.6						
CNB	**Canberra Magne**	**29.90**	**182**	*e*P	**P**	**16 24 04.9**	**+1.4**
	comp=Z,17nm,0.8s,mb4.6						
TOO	**Toolangi**	**32.45**	**187**	*e*P	**P**	**16 24 27.2**	**+1.4**
	comp=Z,21nm,0.8s,mb4.7						
TOO	**Toolangi**	**32.45**	**187**	*e*P	**P**	**16 24 27.2**	**+1.4**
TOO				pmax	pmax		
	comp=Z,21nm,0.8s,mb4.7						
FORT	**Forrest**	**32.96**	**217**	⇓*i* P	**P**	**16 24 30.1**	**-0.1**
	comp=Z,127nm,0.7s						
MBWA	**Marble Bar**	**33.70**	**239**	*e*P	**P**	**16 24 35.9**	**-0.7**
	comp=Z,24nm,0.7s,mb4.8						
TAU	**Tasmania Unive**	**37.57**	**184**	P	**P**	**16 25 10.6**	**+1.2**
TAU				pmax	pmax		
	comp=Z,39nm,1.0s,mb4.8						
TAU	**Tasmania Unive**	**37.57**	**184**	P	**P**	**16 25 10.6**	**+1.2**
	comp=Z,40nm,1.0s,mb4.8						
RAO	**Raoul Island**	**38.25**	**132**	P	**P**	**16 25 09.2**	**-5.8**
RAO				pmax	pmax		
	comp=Z,451nm,1.0s						
RAO	**Raoul Island**	**38.25**	**132**	P	**P**	**16 25 09.2**	**-5.8**
	comp=Z,452nm,1.0s						
KLBR	**Kellerberrin**	**40.28**	**225**	*e*P	**P**	**16 25 30.9**	**-0.9**
	comp=Z,43nm,0.7s,mb4.9						
KSM	**Kuching**	**40.65**	**278**	*e*P	**P**	**16 25 33.9**	**-0.8**
URZ	**Urewera**	**40.80**	**147**	P	**P**	**16 25 36.7**	**+0.7**
	comp=Z,4.4nm,0.5s,mb4.0,baz=281,slow=6.5,SNR=6.2						
YHNB	**Yeheng**	**41.07**	**318**	*e*P	**P**	**16 25 39.0**	**+0.8**
NWAO	**Narrogin (SRO)**	**41.39**	**224**	P	**P**	**16 25 40.5**	**-0.4**
	comp=Z,15nm,0.6s,mb4.4,baz=64,slow=5.8,SNR=20						
NWAO	**Narrogin (SRO)**	**41.39**	**224**	*e*P	**P**	**16 25 40.2**	**-0.6**
NWAO				pmax	pmax		
	comp=Z,21nm,0.9s						
NWAO	**Narrogin (SRO)**	**41.39**	**224**	*e*P	**P**	**16 25 40.2**	**-0.6**
	comp=Z,21nm,0.9s,mb4.4						
MUN	**Mundaring**	**41.60**	**226**	⇓*i* P	**P**	**16 25 42.2**	**-0.2**
RPZ	**Rata Peaks**	**42.37**	**158**	P	**P**	**16 25 48.2**	**-0.5**
	comp=Z,8.0nm,0.8s,mb4.0,baz=262,slow=2.9,SNR=3.7						
NJ2	**Nanjing**	**47.78**	**323**	*e*P	**P**	**16 26 32.3**	**+1.2**
NJ2				AP	pP	16 27 26.2	+0.8
NJ2				PP	PP	16 28 27.5	+2.2
NJ2				S	**S**	**16 33 08.0**	**+0.4**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.3						
NJ2				AMB	AMB		
	comp=Z,60nm,7.2s						
NJ2				LR	LR		
	comp=N,810nm,20.0s						
NJ2				LR	LR		
	comp=E,630nm,23.4s						
NJ2				LR	LR		
	comp=Z,600nm,18.5s						
KULM	**Kulim**	**50.82**	**281**	*e*P	**P**	**16 26 53.3**	**-0.7**
MDJ	**Mudanjiang**	**53.09**	**341**	P	**P**	**16 27 11.5**	**+0.8**
MDJ				PP	PP	16 29 14.3	+1.0
MDJ				S	**S**	**16 34 23.3**	**+2.7**
MDJ				AMB	AMB		
	comp=Z,2.0nm,0.9s,mb3.5						
MDJ				AMB	AMB		
	comp=Z,102nm,5.0s						
CN2	**Changchun**	**53.81**	**338**	*e*P	**P**	**16 27 18.0**	**+2.1**
KMI	**Kunming**	**55.33**	**305**	P	**P**	**16 27 28.2**	**+1.4**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.5s,mb3.9						
KMI				LR	LR		
	comp=N,115nm,17.4s						
KMI				LR	LR		
	comp=E,130nm,17.4s						
KMI				LR	LR		
	comp=Z,153nm,18.0s						
XAN	**Xi'an**	**55.38**	**318**	P	**P**	**16 27 26.9**	**-0.2**
XAN				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.4						
CD2	**Chengdu**	**57.29**	**312**	*e*P	**P**	**16 27 40.0**	**-0.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
HHC	**Hu-ho-hao-te**	**58.10**	**326**	*e*P	**P**	**16 27 47.5**	**+1.3**
HHC				PCP	PcP	16 28 36.0	+1.1
HHC				AP	pP	16 28 44.4	+1.7
HHC				PP	PP	16 30 01.2	+3.3
HHC				PCS	PcS	16 32 35.9	-0.7
HHC				S	**S**	**16 35 27.7**	**+1.0**
HHC				SCS	ScS	16 37 08.0	-1.5
HHC				SS	SS	16 39 25.8	+3.4
HHC				AMB	AMB		
	comp=Z,8.0nm,0.4s,mb4.5						
HHC				AMB	AMB		
	comp=Z,133nm,4.8s						
HHC				LR	LR		
	comp=N,106nm,5.8s						
HHC				LR	LR		
	comp=E,119nm,4.5s						
HHC				LR	LR		
	comp=Z,72nm,4.7s						
LZH	**Lanzhou**	**59.96**	**317**	⇑P	**P**	**16 28 00.0**	**+1.1**
LZH				AP	pP	16 28 57.5	+1.7
LZH				PP	PP	16 30 17.6	+3.2
LZH				AMB	AMB		
	comp=Z,29nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,54nm,7.7s						
GTA	**Gaotai**	**64.44**	**318**	*e*P	**P**	**16 28 29.0**	**+0.5**
GTA				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.1						
ULN	**Ulaanbaatar**	**65.19**	**329**	*e*P	**P**	**16 28 33.3**	**-0.1**
ULN				*e*		16 29 03.7	
ULN				*e**PP	pP	16 29 32.5	+1.2
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.9						
ULN	**Ulaanbaatar**	**65.19**	**329**	*e*P	**P**	**16 28 33.3**	**-0.1**
	comp=Z,2.0nm,0.7s,mb3.9						
ULN				*e*		16 28 45.4	
ULN				*e*PcP	PcP	16 29 03.7	0.0
ULN				*e*pP	pP	16 29 32.5	+1.2
SONM	**Songino Array**	**65.50**	**329**	P	**P**	**16 28 35.7**	**+0.4**
	comp=Z,1.4nm,0.6s,mb3.9,baz=149,slow=2.8,SNR=10						
LSA	**Lhasa**	**66.59**	**305**	*e*P	**P**	**16 28 43.2**	**+0.9**
LSA				*e*PP	pP	16 29 40.6	+0.2
LSA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
LSA	**Lhasa**	**66.59**	**305**	*e*P	**P**	**16 28 43.2**	**+0.9**
	comp=Z,3.9nm,0.8s,mb4.2						
LSA				pP	pP	16 29 40.6	+0.2
CASY	**Casey**	**66.88**	**196**	*e*P	**P**	**16 28 43.4**	**-0.6**
	comp=Z,19nm,0.9s,mb4.8						
CASY				*e*PcP	PcP	16 29 00.2	-11
ZAK	**Zakamensk**	**68.70**	**330**	*e*P	**P**	**16 28 51.4**	**-4.0**
ZAK				*e*	pP	16 29 51.9	-2.1
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.8s,mb3.9						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.8s,mb3.9						
YAK	**Yakutsk**	**69.00**	**350**	*d* P	**P**	**16 28 56.1**	**-1.2**
YAK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
YAK	**Yakutsk**	**69.00**	**350**	*e*P	**P**	**16 28 56.0**	**-1.2**
	comp=Z,11nm,1.0s,mb4.5						
YAK				*e*pP	pP	16 29 56.7	+0.9
JIRN	**Jiri**	**70.04**	**302**	*e*P	**P**	**16 29 04.1**	**+0.5**
	comp=Z,16nm,1.0s,mb4.7						
GUN	**Gumba**	**70.37**	**302**	*e*P	**P**	**16 29 06.1**	**+0.5**
	comp=Z,37nm,0.9s,mb5.1						
PKI	**Pulchoki**	**70.67**	**301**	*e*P	**P**	**16 29 07.5**	**+0.1**
PALK	**Pallekele**	**70.70**	**280**	P	**P**	**16 29 06.3**	**-1.2**
	comp=Z,14nm,1.1s,mb4.5						
KKN	**Kakani**	**70.84**	**302**	*e*P	**P**	**16 29 08.8**	**+0.4**
	comp=Z,16nm,0.8s,mb4.7						
DMN	**Daman**	**70.94**	**301**	*e*P	**P**	**16 29 09.4**	**+0.4**
	comp=Z,53nm,1.0s,mb5.1						
GKN	**Gorkha**	**71.45**	**302**	*e*P	**P**	**16 29 12.1**	**0.0**
	comp=Z,37nm,0.9s,mb5.0						
KOLN	**Koldanda**	**72.27**	**301**	*e*P	**P**	**16 29 17.0**	**+0.1**
	comp=Z,28nm,0.8s,mb5.0						
VNDA	**Vanda**	**72.44**	**177**	P	**P**	**16 29 18.2**	**+0.3**
	comp=Z,4.1nm,0.6s,mb4.2,baz=331,slow=6.2,SNR=26						
VNDA	**Vanda**	**72.44**	**177**	*e*P	**P**	**16 29 17.9**	**0.0**
VNDA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
VNDA	**Vanda**	**72.44**	**177**	*e*P	**P**	**16 29 17.9**	**-0.1**
	comp=Z,5.7nm,1.0s,mb4.2						
SBA	**Scott Base**	**73.03**	**176**	*e*P	**P**	**16 29 22.4**	**+1.0**
SBA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
SBA	**Scott Base**	**73.03**	**176**	P	**P**	**16 29 22.4**	**+1.0**
	comp=Z,2.3nm,0.6s,mb4.0						
BILL	**Bilibino**	**74.00**	**6**	P	**P**	**16 29 26.4**	**-0.6**
BILL				*e*		16 29 36.2	
BILL				*e**PP	pP	16 30 25.4	-1.0
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
BILL	**Bilibino**	**74.00**	**6**	*e*P	**P**	**16 29 26.4**	**-0.6**
	comp=Z,3.0nm,0.8s,mb4.0						
BILL				*e*		16 29 36.2	
BILL				*e*pP	pP	16 30 25.4	-1.0
WMQ	**Urumqi**	**74.52**	**318**	⇓*i* P	**P**	**16 29 30.0**	**0.0**
WMQ				PCP	PcP	16 29 43.5	+0.4
WMQ				PP	PP	16 32 21.7	+1.5
WMQ				*e*S	S	16 38 42.0	-1.7
WMQ				SKS		16 39 08.2	
WMQ				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb3.7						
WMQ				AMB	AMB		
	comp=Z,172nm,4.0s						
KRAR	**Krasnoyarsk**	**77.04**	**331**	⇓*e*P	**P**	**16 29 40.0**	**-4.2**
KRAR				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.6						
TIXI	**Tiksi**	**78.08**	**353**	*i* P	**P**	**16 29 53.3**	**+3.4**
MK31	**Makanchi Array**	**79.16**	**320**	P	**P**	**16 29 55.1**	**-0.7**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
MKAR	**Makanchi Array**	**79.16**	**320**	P	**P**	**16 29 55.3**	**-0.5**
	comp=Z,1.9nm,0.7s,mb3.9,baz=112,slow=4.7,SNR=20						
MKAR	**Makanchi Array**	**79.16**	**320**	*i* P	**P**	**16 29 55.2**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZAL	**Zalesovo**	**80.27**	**327**	P	**P**	**16 29 59.5**	**-2.2**
	comp=Z,1.5nm,0.6s,mb3.9,baz=3.0,slow=4.7,SNR=9.1						
ZAL	**Zalesovo**	**80.27**	**327**	*i* P	**P**	**16 30 01.1**	**-0.7**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KZA	**Kyzart**	**82.62**	**313**	P	**P**	**16 30 15.6**	**+1.5**
	SNR=8.7						
KURK	**Kurchatov**	**82.71**	**322**	*e*P	**P**	**16 30 12.4**	**-2.1**
KURK				*e**PP	pP	16 31 14.4	-0.9
KURK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.6						
KURK	**Kurchatov**	**82.71**	**322**	*e*P	**P**	**16 30 12.4**	**-2.1**
	comp=Z,10nm,1.1s,mb4.6						
KURK				*e*		16 30 24.8	
KURK				*e*pP	pP	16 31 14.4	-0.9
COLA	**College**	**83.18**	**22**	P	**P**	**16 30 13.3**	**-3.6**
COLA				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
COLA	**College**	**83.18**	**22**	P	**P**	**16 30 13.3**	**-3.6**
	comp=Z,6.3nm,0.9s,mb4.5						
UCH	**Uchtor**	**83.19**	**313**	P	**P**	**16 30 17.9**	**+0.9**
	SNR=9.1						
AAK	**Ala-Archa**	**83.30**	**314**	*e*P	**P**	**16 30 16.8**	**-0.7**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.5						
AAK	**Ala-Archa**	**83.30**	**314**	*e*P	**P**	**16 30 16.8**	**-0.7**
	comp=Z,8.4nm,1.1s,mb4.5						
AAK				*e*		16 30 23.0	
USP	**Ospenovka**	**83.44**	**314**	P	**P**	**16 30 18.2**	**0.0**
	SNR=13						
ILAR	**Eielson Array**	**83.49**	**23**	P	**P**	**16 30 15.6**	**-2.9**
	comp=Z,1.8nm,0.7s,mb4.0,baz=250,slow=5.5,SNR=17						
AML	**Almayashu**	**83.76**	**313**	P	**P**	**16 30 20.7**	**+0.8**
	SNR=24						
EKS2	**Erkin-Say**	**83.82**	**314**	P	**P**	**16 30 21.0**	**+0.8**
	SNR=9.5						
MAW	**Mawson**	**84.22**	**203**	P	**P**	**16 30 21.8**	**-0.4**
	comp=Z,7.0nm,0.8s,mb4.5,baz=86,slow=8.6,SNR=9.7						
MAW	**Mawson**	**84.22**	**203**	*e*P	**P**	**16 30 21.7

CPCH *i* S Sn 16 35 02.6 +0.2
TLL Tololo Astrono 3.38 177 *e*P Pn 16 35 28.2 +2.0
TLL *i* S Sn 16 36 07.9 +2.8
TLL AML AML 16 36 29.3
comp=N,291nm,0.6s
TLL Tololo Astrono 3.38 177 *e*P Pn 16 35 28.2 +2.0
TLL *i* S Sn 16 36 07.9 +2.8

STR ***04*** *16:53:58.7±0.7, 4300N×069W, h10km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***04*** *16:53:58.7±0.3, 4306N×069W, h18km±1km, Md1.6/2, Error ellipse: s-maj=5.9km s-min=2.2km az=27.0*
CSEM ***04*** *16:53:58.9±0.3, 4306N×069W, h17km±1km, ML2.1, Error ellipse: s-maj=6.3km s-min=2.2km az=29.0*
MDD 04 16:53:58.1±0.8, 4321N×062W, h0km, mbLg0.9/2, Error ellipse: s-maj=5.5km s-min=2.8km az=27.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.14**	**207**			Pg	Pg	16 54 02.0	+1.2
ATE						Sg	Sg	16 54 03.9	+1.3
ATE	**Arette**	**0.14**	**207**			Pg	Pg	16 54 02.1	+1.3
ATE						Lg		16 54 04.0	
ETSF	**Etsaut**	**0.31**	**172**	*e*Pg		Pg		16 54 03.6	-0.5
ETSF				*e*Sg		Sg		16 54 06.7	-1.5
	14nm,0.2s								
ETSF	**Etsaut**	**0.31**	**172**	*e*Pg		Pg		16 54 03.6	-0.5
ETSF				*e*Sg		Sg		16 54 06.7	-1.5
	7.1nm,0.2s								
LARF	**Larrau**	**0.32**	**238**			Pg	Pg	16 54 03.8	-0.5
LARF						Sg	Sg	16 54 08.1	-0.4
LARF	**Larrau**	**0.32**	**238**			Pg	Pg	16 54 03.9	-0.4
LARF						Lg		16 54 07.8	
SJPF	**Ste Jean**	**0.46**	**258**	*e*Pg		Pg		16 54 06.8	-0.1
SJPF				*e*Sg		Sg		16 54 12.2	-0.6
	4.1nm,0.2s								
SJPF	**Ste Jean**	**0.46**	**258**	*e*Pg		Pg		16 54 06.8	-0.1
SJPF				*e*Sg		Sg		16 54 12.2	-0.6
	2.0nm,0.2s								
EALK	**Alkurruntz**	**0.65**	**271**			Pg	Pg	16 54 10.3	-0.4
	0.4nm,0.1s,SNR=7.9								
EALK						Lg		16 54 18.3	
	0.2nm,0.1s,SNR=7.9								
EBIE	**Bielsa**	**0.76**	**133**			Pg	Pg	16 54 12.4	-0.4
	0.5nm,0.1s,SNR=7.9								
EBIE						Lg		16 54 22.4	
	0.7nm,0.1s,SNR=7.9								

IDC ***04*** *17:07:48.5±0.6, 2023S×174.11W, h0km, mb4.6/16, mb1 4.8/18, mb1mx4.8/21, mbtmp4.7/18, ML5.4/2, MS3.9/13, Ms1 3.9/13, ms1mx3.7/26, Error ellipse: s-maj=22.2km s-min=14.1km az=129.0*
ISCJB ***04*** *17:07:48.9±0.2, 2035S×174.06W±006, h14km, mb4.8/59, MS4.2/18, Error ellipse: s-maj=9.1km s-min=5.8km az=92.7*
NEIC ***04*** *17:07:50.6±0.2, 2030S×174.04W, h15km, mb4.9/39, Error ellipse: s-maj=8.1km s-min=4.5km az=141.0*
BJI ***04*** *17:07:50.6, 2030S×174.00W, h15km, mB5.3, mb5.1, Ms5.0, Msz4.7*
SZGRF ***04*** *17:07:50.8, 2150S×173.15W, h33km, Tonga Islands*
MOS ***04*** *17:07:52.0±1.0, 2026S×174.09W, h33km, mb5.1/26, Error ellipse: s-maj=12.0km s-min=9.7km az=138.1*
ISC 04 17:07:50.7±0.2, 2036S±005×17398W±006, h15km, h15km±1.3km:pP-P,n223,σ1§01/139, mb4.8/59, MS4.2/18, 12C-9D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.75**	**19**			Pn	**Pn**	**17 09 21.4**	**-7.9**
	23nm,0.3s,baz=35,slow=3.0,SNR=37								
AFI						Sn	**Sn**	**17 10 33.6**	**-12**
	34nm,0.3s,baz=191,slow=22,SNR=4.5								
AFI						LR	LR	17 11 03.7	
	comp=Z,179nm,19.9s,baz=179,slow=29								
AFI						T		17 16 14.9	
	9.4nm,0.3s,baz=125,slow=18,SNR=4.3								
AFI	**Afiamalu**	**6.75**	**19**	P		Pn	**Pn**	**17 09 21.4**	**-7.9**
AFI					pmax		pmax		
	comp=Z,23nm,0.3s								
AFI					MLR		MLR		
	comp=Z,179nm,20.0s								
AFI	**Afiamalu**	**6.75**	**19**	*e*Pn		Pn	**Pn**	**17 09 20.6**	**-8.7**
	comp=Z,129nm,0.5s								
AFI				*e*Sn		Sn	**Sn**	**17 10 30.8**	**-15**
RAO	**Raoul Island**	**9.55**	**201**			Pn	**Pn**	**17 10 06.3**	**-1.3**
	comp=Z,64nm,0.3s,baz=90,slow=20,SNR=3.8								
RAO						Sn	**Sn**	**17 11 49.7**	**-5.0**
	comp=Z,48nm,0.3s,baz=82,slow=22,SNR=7.0								
RAO						LR	LR	17 12 30.2	
	comp=Z,112nm,18.5s,baz=344,slow=29								
RAO	**Raoul Island**	**9.55**	**201**	P		Pn	**Pn**	**17 10 06.3**	**-1.3**
RAO								17 11 49.7	
RAO					pmax		pmax		
	comp=Z,64nm,0.3s								
RAO					smax				
	comp=N,48nm,0.3s								
RAO					MLR		MLR		
	comp=Z,112nm,18.5s								
RAO	**Raoul Island**	**9.55**	**201**	*e*Pn		Pn	**Pn**	**17 09 58.2**	**-9.4**
RAO				*e*Sn		Sn	**Sn**	**17 11 38.6**	**-16**
RAR	**Rarotonga**	**13.32**	**96**	Pn		Pn	**Pn**	**17 10 48.9**	**-10**
	comp=Z,7.1nm,0.3s,baz=257,slow=8.2,SNR=32								
RAR						Sn	Sn	17 12 59.6	-27
	comp=Z,3.5nm,0.3s,baz=104,slow=17,SNR=2.6								
RAR						LR	LR	17 15 16.4	
	comp=Z,423nm,18.5s,baz=302,slow=33								
RAR						T		17 24 52.4	
	comp=Z,3.1nm,0.3s,baz=273,slow=16,SNR=2.9								
RAR	**Rarotonga**	**13.32**	**96**	Pn		Pn	**Pn**	**17 10 48.9**	**-10**
RAR						Sn	Sn	17 12 59.6	-27
RAR						LR	LR	17 15 16.4	
DZM	**Mont Dzumac**	**18.33**	**261**	P		Pn	**Pn**	**17 12 07.3**	**+2.9**
	comp=Z,1.6nm,0.3s,baz=68,slow=17,SNR=16								
URZ	**Urewera**	**19.44**	**201**	P		Pn	**Pn**	**17 12 17.6**	**-0.2**
	comp=Z,5.0nm,0.3s,baz=8.4,slow=4.6,SNR=33								
URZ						S	**Sn**	**17 15 37.9**	**-18**
	comp=Z,0.6nm,0.3s,baz=195,slow=19,SNR=4.3								
TBI	**Tubuai**	**22.95**	**102**	*e*LQ				17 17 05.7	
	comp=Z,574nm,25.5s								
TBI				*e*LR		LR		17 17 54.8	
	comp=Z,343nm,31.0s								
SNZO	**South Karori**	**22.99**	**202**	*e*P		P		**17 12 54.1**	**-0.7**
	comp=Z,67nm,0.9s,mb5.1								
SNZO				*e*S		S		**17 16 55.7**	**-9.1**
PPT	**Papeete**	**23.24**	**87**	*e*LQ				17 17 07.4	
	comp=Z,505nm,25.5s								
PPT				*e*LR		LR		17 17 58.9	
	comp=Z,365nm,28.8s								
RPZ	**Rata Peaks**	**26.43**	**205**	P		P		**17 13 27.4**	**+0.5**
	comp=Z,19nm,0.5s,mb4.8,baz=342,slow=3.4,SNR=22								
HNR	**Honiara**	**27.39**	**290**	P		P		**17 13 34.8**	**-0.8**
HNR					pmax		pmax		
	comp=Z,14nm,0.7s,mb4.6								
HNR	**Honiara**	**27.39**	**290**	P		P		**17 13 34.8**	**-0.7**
	comp=Z,14nm,0.7s,mb4.6								
TAOE	**Nuku Hiva Isla**	**34.60**	**76**	*e*LR		LR		17 23 24.2	
	comp=Z,394nm,20.6s								
RKT	**Rikitea**	**36.27**	**102**	*e*LR		LR		17 24 00.1	
	comp=Z,279nm,31.2s								
CTA	**Charters Tower**	**37.25**	**263**	*e*P		P		**17 15 01.9**	**+0.1**
	comp=Z,8.3nm,0.6s,mb4.7								
CTA	**Charters Tower**	**37.25**	**263**	P		P		**17 15 01.9**	**+0.1**
	comp=Z,13nm,0.7s,mb4.8,baz=93,slow=11,SNR=22								
CTA	**Charters Tower**	**37.25**	**263**	*e*P		P		**17 15 01.9**	**+0.1**
CTA					pmax		pmax		
	comp=Z,8.0nm,0.6s								
CTAO	**Charters Tower**	**37.25**	**263**	*e*P		P		**17 15 01.9**	**+0.1**
CTAO					pmax		pmax		
	comp=Z,9.0nm,0.6s,mb4.8								
CTAO	**Charters Tower**	**37.25**	**263**	*e*P		P		**17 15 01.9**	**+0.1**
	comp=Z,9.4nm,0.6s,mb4.8								
PMG	**Port Moresby**	**39.01**	**280**	P		P		**17 15 16.4**	**-0.2**
	comp=Z,18nm,0.9s,mb4.8,baz=94,slow=4.2,SNR=12								
PMG	**Port Moresby**	**39.01**	**280**	*d* *i*P		P		**17 15 16.2**	**-0.4**
PMG	**Port Moresby**	**39.01**	**280**	*e*P		P		**17 15 16.3**	**-0.2**
	comp=Z,26nm,1.0s,mb4.9								
TOO	**Toolangi**	**39.04**	**235**	*e*P		P		**17 15 17.2**	**+0.3**
	comp=Z,11nm,1.2s,mb4.5								
TOO	**Toolangi**	**39.04**	**235**	*e*P		P		**17 15 17.2**	**+0.3**
TOO					pmax		pmax		
	comp=Z,11nm,1.2s,mb4.5								
TAU	**Tasmania Unive**	**39.41**	**226**	*e*P		P		**17 15 21.2**	**+1.2**
TAU					pmax		pmax		
	comp=Z,141nm,1.5s,mb5.5								
TAU	**Tasmania Unive**	**39.41**	**226**	*e*P		P		**17 15 21.2**	**+1.3**
	comp=Z,142nm,1.5s,mb5.5								
STKA	**Stephens Creek**	**41.25**	**245**	*e*P		P		**17 15 33.0**	**-2.2**
	comp=Z,7.1nm,0.6s,mb4.5								
STKA	**Stephens Creek**	**41.25**	**245**	P		P		**17 15 33.0**	**-2.2**
	comp=Z,8.9nm,0.7s,mb4.5,baz=90,slow=10,SNR=16								
STKA						LR	LR	17 30 59.3	
	comp=Z,301nm,20.2s,MS4.2,baz=205,slow=34								
ASAR	**Alice Springs**	**48.22**	**256**	P		P		**17 16 30.0**	**-0.7**
	comp=Z,7.5nm,0.7s,mb4.8,baz=93,slow=8.3,SNR=158								
ASAR						PcP	PcP	17 17 58.5	+0.7
	comp=Z,3.2nm,0.9s,baz=105,slow=4.1,SNR=6.3								
WB2	**Warramunga Arr**	**48.34**	**261**	*e*P		P		**17 16 30.5**	**-1.2**
WRAB	**Tennant Creek**	**48.34**	**261**	*i*P		P		**17 16 30.3**	**-1.4**
WRAB	**Tennant Creek**	**48.34**	**261**	*e*P		P		**17 16 30.1**	**-1.6**
	comp=Z,12nm,0.9s,mb4.9								
WRA	**Warramunga Arr**	**48.35**	**261**	P		P		**17 16 30.6**	**-1.2**
	comp=Z,3.5nm,0.5s,mb4.6,baz=96,slow=7.7,SNR=49								
WRA						PcP	PcP	17 17 58.9	+0.6
	comp=Z,2.1nm,0.7s,baz=98,slow=3.2,SNR=3.5								
KAKA	**Kakadu**	**51.74**	**270**	*e*P		P		**17 16 57.0**	**-0.5**
	comp=Z,11nm,0.9s,mb4.8								
GUMO	**Guam**	**52.68**	**306**	LR		LR		17 38 12.4	
	comp=Z,84nm,18.6s,MS3.8,baz=96,slow=35								
FORT	**Forrest**	**52.81**	**246**	*e*P		P		**17 17 04.6**	**-0.8**
	comp=Z,18nm,0.6s,mb5.2								
FITZ	**Fitzroy Crossi**	**56.78**	**261**	P		P		**17 17 33.7**	**-0.5**
	comp=Z,2.8nm,0.6s,mb4.5,baz=119,slow=9.0,SNR=12								
SBA	**Scott Base**	**58.29**	**185**	*e*P		P		**17 17 47.2**	**+2.3**
SBA					pmax		pmax		
	comp=Z,23nm,0.9s,mb5.2								
SBA	**Scott Base**	**58.29**	**185**	*e*P		P		**17 17 47.2**	**+2.3**
	comp=Z,23nm,0.9s,mb5.2								
VNDA	**Vanda**	**58.41**	**186**	P		P		**17 17 47.5**	**+1.8**
	comp=Z,6.7nm,0.8s,mb4.7,baz=4.3,slow=6.2,SNR=36								
VNDA						LR	LR	17 40 14.4	
	comp=Z,113nm,19.5s,MS4.0,baz=335,slow=33								
VNDA	**Vanda**	**58.41**	**186**	*e*P		P		**17 17 47.1**	**+1.4**
VNDA					pmax		pmax		
	comp=Z,7.0nm,0.9s								
VNDA	**Vanda**	**58.41**	**186**	*e*P		P		**17 17 47.1**	**+1.4**
	comp=Z,7.1nm,0.9s,mb4.7								
RPN	**Rapa Nui**	**59.01**	**110**	LR		LR		17 36 09.8	
	comp=Z,161nm,22.0s,MS4.1,baz=235,slow=29								
KLBR	**Kellerberrin**	**61.52**	**244**	*e*P		P		**17 18 07.2**	**+0.1**
	comp=Z,15nm,0.6s,mb5.3								
MBWA	**Marble Bar**	**61.56**	**256**	*e*P		P		**17 18 06.2**	**-1.1**
	comp=Z,29nm,1.4s,mb5.2								
NWAO	**Narrogin (SRO)**	**61.79**	**243**	P		P		**17 18 09.4**	**+0.5**
	comp=Z,4.3nm,0.6s,mb4.8,baz=158,slow=14,SNR=4.0								
NWAO						LR	LR	17 43 23.3	
	comp=Z,140nm,20.4s,MS4.1,baz=34,slow=35								
NWAO	**Narrogin (SRO)**	**61.79**	**243**	*e*P		P		**17 18 09.2**	**+0.3**
NWAO					pmax		pmax		
	comp=Z,25nm,1.3s								
NWAO	**Narrogin (SRO)**	**61.79**	**243**	*e*P		P		**17 18 09.2**	**+0.3**
	comp=Z,25nm,1.3s,mb5.2								
MUN	**Mundaring**	**62.78**	**244**	*e*P		P		**17 18 16.2**	**+0.7**
CASY	**Casey**	**65.70**	**205**	*e*P		P		**17 18 35.3**	**+0.6**
QSPA	**South Pole Qui**	**69.71**	**180**	*e*P		P		**17 19 00.6**	**+0.6**
	comp=Z,16nm,1.0s,mb4.9								
MJAR	**Matsushiro Arr**	**72.39**	**321**	P		P		**17 19 16.5**	**+0.2**
	comp=Z,14nm,0.9s,mb4.9,baz=157,slow=6.1,SNR=47								
MJAR						LR	LR	17 50 40.5	
	comp=Z,60nm,18.2s,MS3.9,baz=105,slow=36								
MAJO	**Matsushiro**	**72.40**	**321**	*e*P		P		**17 19 16.1**	**-0.2**
MAJO					pmax		pmax		
	comp=Z,14nm,0.8s,mb4.9								
MAJO	**Matsushiro**	**72.40**	**321**	*e*P		P		**17 19 16.1**	**-0.2**
	comp=Z,14nm,0.8s,mb5.0								
MAT	**Matsushiro**	**72.40**	**321**	P		P		**17 19 16.4**	**+0.1**
MAT				*e*S		S		17 28 36.0	-3.5
MAT	**Matsushiro**	**72.40**	**321**	*e*P		P		**17 19 16.0**	**-0.3**
MAT				S		S		17 28 36.0	-3.5
MAT					pmax		pmax		
	comp=Z,11nm,0.8s,mb4.8								
MAT	**Matsushiro**	**72.40**	**321**	*e*P		P		**17 19 16.0**	**-0.3**
	comp=Z,11nm,0.8s,mb4.8								
MAT					S		S	17 28 36.0	-3.5
KKM	**Kota Kinabalu**	**73.38**	**283**	*e*P		P		**17 19 22.2**	**+0.1**
ASAJ	**Asahikawa**	**75.47**	**329**	LR		LR		17 50 00.8	
	comp=Z,64nm,18.4s,MS4.0,baz=342,slow=34								
LPIG	**La Paz**	**76.12**	**58**	LR		LR		17 46 21.0	
	comp=Z,161nm,18.0s,MS4.4,baz=215,slow=30								
ISA	**Isabella**	**76.59**	**44**	P		P		**17 19 41.3**	**+0.7**
ISA					pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.6								
ISA	**Isabella**	**76.59**	**44**	P		P		**17 19 41.3**	**+0.7**
	comp=Z,6.0nm,0.8s,mb4.6								
CMB	**Columbia Colle**	**76.85**	**41**	*e*P		P		**17 19 41.7**	**-0.4**
CMB					pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.4								
CMB	**Columbia Colle**	**76.85**	**41**	*e*P		P		**17 19 41.7**	**-0.4**
	comp=Z,3.8nm,0.8s,mb4.4								
KSM	**Kuching**	**77.13**	**276**	*e*P		P		**17 19 44.5**	**+0.9**
GSC	**Goldstone**	**77.46**	**45**	P		P		**17 19 45.4**	**-0.1**
GLA	**Glamis**	**77.51**	**48**	P		P		**17 19 46.7**	**+0.9**
YSS	**Yuzh-Sakhalins**	**77.52**	**331**	*d* *i*P		P		**17 19 46.8**	**+0.9**
YSS					pmax		pmax		
	comp=Z,14nm,0.8s,mb4.9								
YSS					MLR		MLR		
	comp=Z,100nm,18.0s,MS4.2								
YSS	**Yuzh-Sakhalins**	**77.52**	**331**	*e*P		P		**17 19 46.2**	**+0.4**
	comp=Z,12nm,0.8s,mb4.9								
NVAR	**Mina Arrag Bea**	**78.38**	**41**	P		P		**17 19 50.9**	**+0.2**
	comp=Z,6.2nm,0.9s,mb4.5,baz=213,slow=7.4,SNR=13								
TPNV	**Topopah Spring**	**78.80**	**44**	*e*P		P		**17 19 52.9**	**0.0**
TPNV					pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.6								
TPNV	**Topopah Spring**	**78.80**	**44**	*e*P		P		**17 19 52.9**	**0.0**
	comp=Z,6.5nm,0.8s,mb4.6								
TPH	**Tonopah**	**78.84**	**42**	*e*P		P		**17 19 52.7**	**-0.5**
TPH					pmax		pmax		
	comp=Z,15nm,1.1s,mb4.8								
TPH	**Tonopah**	**78.84**	**42**	*e*P		P		**17 19 52.6**	**-0.5**
	comp=Z,15nm,1.1s,mb4.8								
NEN	**Nelson**	**78.97**	**45**	*e*P		P		**17 19 53.7**	**-0.2**
SHPR	**Sheep Range**	**79.25**	**45**	P		P		**17 19 56.0**	**+0.5**
KS15	**Wonju Array Si**	**79.34**	**317**	P		P		**17 19 56.2**	**+0.3**
TUC	**Tucson**	**79.96**	**50**	*e*P		P		**17 19 58.1**	**-1.2**
TUC					pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.5								
TUC	**Tucson**	**79.96**	**50**	*e*P		P		**17 19 58.1**	**-1.2**
	comp=Z,6.3nm,1.0s,mb4.5								
SSE	**Sheshan**	**80.53**	**308**	P		P		**17 20 01.1**	**-1.2**
SSE					AMB		AMB		
	comp=Z,23nm,0.7s,mb5.2								
SSE					AMB		AMB		
	comp=Z,105nm,4.2s								
WVOR	**Wild Horse Val**	**80.65**	**38**	*e*P		P		**17 20 02.5**	**-0.5**
WVOR					pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.5								
WVOR	**Wild Horse Val**	**80.65**	**38**	*e*P		P		**17 20 02.5**	**-0.5**
	comp=Z,3.6nm,0.7s,mb4.4								
CCUT	**Cedar City**	**81.03**	**45**	*e*P		P		**17 20 05.3**	**+0.3**
ARUT	**Antelope Range**	**81.11**	**44**	*e*P		P		**17 20 04.9**	**-0.5**
HABR	**Khabarovsk**	**82.24**	**329**	*e*P		P		**17 20 13.0**	**+1.6**
HABR				*e*S		S		17 30 29.3	+3.0
HABR					pmax		pmax		
	comp=Z,25nm,1.1s,mb5.1								
MSU	**Marysvale**	**82.34**	**44**	*e*P		P		**17 20 12.5**	**+0.6**
MDJ	**Mudanjiang**	**82.62**	**323**	P		P		**17 20 15.2**	**+1.8**
MDJ					AP		pP	17 20 18.4	+0.2
MDJ					PP		PP	17 23 24.8	+1.9
MDJ					S		S	17 30 34.0	+3.8
MDJ					XS		sS	17 30 39.4	+1.2
MDJ					AMB		AMB		
	comp=Z,11nm,0.9s,mb4.9								
MDJ					AMB		AMB		
	comp=Z,112nm,5.5s								
MDJ	**Mudanjiang**	**82.62**	**323**	*e*P		P		**17 20 14.6**	**+1.2**
	comp=Z,12nm,1.0s,mb4.9								
NJ2	**Nanjing**	**82.73**	**308**	*e*P		P		**17 20 16.2**	**+2.2**
NJ2					AP		pP	17 20 20.8	+2.0
NJ2					XP		sP	17 20 23.6	+3.1
NJ2					PP		PP	17 23 28.2	+4.4
NJ2					S		S	17 30 33.0	+1.7
NJ2					XS		sS	17 30 41.0	+1.7
NJ2					AMB		AMB		
	comp=Z,30nm,1.2s,mb5.2								
NJ2					AMB		AMB		
	comp=Z,60nm,7.8s								
NJ2					LR		LR		
	comp=N,450nm,26.3s,MS4.8								
NJ2					LR		LR		
	comp=E,310nm,28.9s,MS4.8								
NJ2					LR		LR		
	comp=Z,500nm,33.5s,MS4.7								
MAW	**Mawson**	**82.94**	**199**	P		P		**17 20 15.9**	**+0.8**
	comp=Z,9.2nm,0.9s,mb4.8,baz=131,slow=6.0,SNR=6.9								
MAW	**Mawson**	**82.94**	**199**	*e*P		P		**17 20 15.2**	**+0.1**
MAW				*e*				17 20 28.2	
MAW					pmax		pmax		
	comp=Z,16nm,1.0s								
MAW	**Mawson**	**82.94**	**199**	*e*P		P		**17 20 15.2**	**+0.2**
	comp=Z,16nm,1.0s,mb5.0								
MAW				*e*				17 20 28.2	
TMUT	**Trail Mountain**	**83.40**	**44**	P		P		**17 20 18.8**	**+1.4**
MNTX	**Cornudas Mount**	**83.63**	**53**	P		P		**17 20 18.9**	**+0.3**
	comp=Z,7.6nm,1.1s,mb4.7								
SRU	**San Rafael**	**83.75**	**44**	*e*P		P		**17 20 19.5**	**+0.3**
SRU					pmax		pmax		
	comp=Z,21nm,1.2s,mb5.1								
SRU	**San Rafael**	**83.75**	**44**	*e*P		P		**17 20 19.5**	**+0.3**
	comp=Z,21nm,1.2s,mb5.2								
HLID	**Hailey**	**83.80**	**39**	*e*P		P		**17 20 19.1**	**-0.4**
	comp=Z,5.7nm,1.0s,mb4.7								
LPM	**Los Pinos Moun**	**83.97**	**50**	*e*P		P		**17 20 21.1**	**+0.8**
TTA	**Tatalina**	**84.22**	**8**	*e*P		P		**17 20 21.1**	**-0.5**
TCUT	**Toone Canyon**	**84.26**	**42**	*e*P		P		**17 20 22.1**	**+0.2**
PV10	**Paradox Valley**	**84.35**	**46**	*e*P		P		**17 20 29.6**	**+7.3**
ANMO	**Albuquerque**	**84.41**	**50**	*i*P		P		**17 20 23.0**	**+0.4**
ANMO	**Albuquerque**	**84.41**	**50**	*e*P		P		**17 20 22.7**	**+0.1**
	comp=Z,16nm,1.5s,mb4.9								
CN2	**Changchun**	**84.53**	**321**	*e*P		P		**17 20 24.5**	**+1.3**
CN2					AMB		AMB		
	comp=Z,10.0nm,0.8s,mb5.0								
PV01	**Paradox Valley**	**84.54**	**46**	*e*P		P		**17 20 22.8**	**-0.4**
GDL2	**Guadalupe Moun**	**84.63**	**53**	*e*P		P		**17 20 24.2**	**+0.5**
CPRX	**Cap Rock**	**85.38**	**52**	*e*P		P		**17 20 26.6**	**-0.9**
PDAR	**Pinedale Array**	**86.31**	**42**	P		P		**17 20 31.4**	**-0.7**
	comp=Z,0.5nm,0.3s,mb4.2,baz=242,slow=3.2,SNR=6.3								
PDAR						LR	LR	17 56 42.3	
	comp=Z,72nm,18.1s,MS4.1,baz=160,slow=34								
PLCA	**Paso Flores**	**86.61**	**132**	P		P		**17 20 34.6**	**+1.1**
PLCA					pmax		pmax		
	comp=Z,9.0nm,1.3s								
PLCA	**Paso Flores**	**86.61**	**132**	P		P		**17 20 34.6**	**+1.1**
	comp=Z,8.9nm,1.3s,mb4.8								
RWWY	**Rawlins**	**87.25**	**44**	P		P		**17 20 36.8**	**+0.1**
	comp=Z,7.1nm,1.0s,mb4.8								
COLA	**College**	**87.31**	**11**	*e*P		P		**17 20 35.6**	**-1.4**
COLA				*e*				17 20 43.5	
COLA				*e*				17 20 52.6	
COLA					pmax		pmax		
	comp=Z,18nm,0.9s,mb5.3								
COLA	**College**	**87.31**	**11**	*e*P		P		**17 20 35.6**	**-1.3**
	comp=Z,18nm,0.9s,mb5.3								
COLA				*e*				17 20 43.5	
COLA				*e*				17 20 52.6	
ILAR	**Eielson Array**	**87.39**	**11**	P		P		**17 20 35.9**	**-1.5**
	comp=Z,2.7nm,0.8s,mb4.5,baz=211,slow=6.1,SNR=21								
KULM	**Kulim**	**87.49**	**277**	P		P		**17 20 39.3**	**+1.5**
VNA3	**Neumayer Olymp**	**87.99**	**175**	*e*P		P		**17 20 38.8**	**-1.4**
VNA3				*e*				17 20 40.8	
VNA3				*e*				17 20 50.0	
VNA3				*e*				17 20 53.8	
VNA3				*e*				17 21 05.0	
SNAA	**Sanae**	**88.01**	**177**	*i*P		P		**17 20 39.6**	**-0.7**
SNAA	**Sanae**	**88.01**	**177**	*e*P		P		**17 20 38.8**	**-1.5**
	comp=Z,4.1nm,0.9s,mb4.7								
DAWY	**Dawson**	**88.34**	**14**	*e*P		P		**17 20 41.3**	**-0.6**
BJT	**Baijiatuan**	**88.47**	**314**	*e*P		P		**17 20 43.4**	**+0.9**
BJT					pmax		pmax		
	comp=Z,13nm,1.0s								
BJT	**Baijiatuan**	**88.47**	**314**	*e*P		P		**17 20 43.4**	**+0.9**
	comp=Z,13nm,1.0s,mb5.1								
BJI	**Beijing**	**88.48**	**314**	P		P		**17 20 44.0**	**+1.5**
BJI					AMB		AMB		
	comp=Z,6.0nm,0.6s,mb5.0								
VNA2	**Neumayer--Watz**	**88.48**	**176**	*e*P		P		**17 20 41.5**	**-1.0**
VNA2				*e*				17 20 43.5	
VNA2				*e*				17 20 52.4	
VNA2				*e*				17 20 55.8	
VNA2				*e*				17 21 09.1	
**BIL

KURK	**Kurchatov**	**116.44**	**317**	⇓*i*	PKIKP	PKPdf	17 26 33.2	-0.7
KSH	**Kashi**	**117.90**	**305**	*e*	PKP	PKPdf	17 26 32.6	-4.1
KSH				*e*	XPKP		17 26 45.0	
KSH					PP	PP		
	comp=Z,125nm,4.7s							
KSH					LR	LR		
	comp=N,170nm,5.2s							
KSH					LR	LR		
	comp=E,219nm,4.8s							
KSH					LR	LR		
	comp=Z,184nm,5.3s							
AAK	**Ala-Archa**	**119.17**	**308**	⇓*i*	PKIKP	PKPdf	17 26 38.7	-0.5
AAK					MLR	MLR		
	comp=Z,100nm,18.0s,MS4.5							
ARU	**Arti**	**127.20**	**326**	⇓*i*	PKIKP	PKPdf	17 26 54.4	-0.1
ARU					MLR	MLR		
	comp=Z,100nm,19.0s,MS4.5							
ARCES	**ARCESS Array B**	**129.41**	**351**		PKP	PKPdf	17 26 58.0	-0.7
	comp=Z,0.5nm,0.3s,baz=6.1,slow=0.9,SNR=14							
FINES	**FINESS Array B**	**136.62**	**346**		PKP	PKPdf	17 27 12.4	+0.1
	comp=Z,0.5nm,0.4s,baz=46,slow=5.5,SNR=6.0							
FINES	**FINESS Array B**	**136.62**	**346**	⇑*i*	PKIKP	PKPdf	17 27 12.8	+0.5
KMBO	**Kilima Mbogo**	**142.69**	**239**		PKhKP		17 27 20.6	
	comp=Z,1.7nm,0.7s,baz=226,slow=21,SNR=5.3							
EKA	**Eskdalemuir Ar**	**144.40**	**9**		PKP	PKPdf	17 27 23.8	-2.6
	comp=Z,6.1nm,0.8s,baz=333,slow=2.9,SNR=12							
AKASG	**Malin Array Be**	**144.62**	**334**		PKP	PKPdf	17 27 24.1	-2.6
	comp=Z,6.5nm,0.4s,baz=39,slow=4.1,SNR=5.6							
AKASG	**Malin Array Be**	**144.62**	**334**	*i*	PKHKP		17 27 20.6	
AKASG					pmax	pmax		
	comp=Z,7.0nm,0.4s							
DCN	**Croghan**	**145.52**	**14**	*e*	P	PKPdf	17 27 24.0	-4.3
DLF	**Lyons Farm**	**145.73**	**13**	*e*	P	PKPdf	17 27 24.0	-4.7
BSEG	**Bad Segeberg**	**146.32**	**355**	*e*	PKPbc	PKPbc	17 27 31.0	+0.1
MALT	**Malatya**	**146.79**	**310**	*e*	PKP2	PKPab	17 27 32.9	-0.6
LVV	**L'vov**	**147.30**	**338**	*i*	PKP2	PKPab	17 27 33.4	-2.1
OJC	**Ojcow**	**148.26**	**343**	*e*	PKPdf	PKPdf	17 27 31.8	-1.1
OJC				*e*	PKPab	PKPab	17 27 35.7	-3.6
OJC				*e*	pPKPdf	pPKPdf	17 27 40.2	+2.3
CLZ	**Clausthal**	**148.40**	**355**	*e*	PKPbc	PKPbc	17 27 36.8	+0.2
STHS	**Stebnicka Huta**	**148.56**	**341**	*e*	PKP	PKPbc	17 27 37.6	+0.6
CLL	**Collm**	**148.63**	**352**	*e*	PKPbc	PKPbc	17 27 37.3	+0.1
CLL	**Collm**	**148.63**	**352**	⇓*i*	PKPbc	PKPbc	17 27 37.0	-0.2
	comp=Z,13nm,1.0s							
CLL				*i*	PKPab	PKPab	17 27 40.1	-0.7
	comp=Z,11nm,1.0s							
CLL				*i*	x	x	17 27 49.9	
CLL	**Collm**	**148.63**	**352**	⇓*i*	PKP2	PKPbc	17 27 37.0	-0.2
CLL					pmax	pmax		
	comp=Z,13nm,1.0s							
CLL					pmax	pmax		
	comp=Z,11nm,1.0s							
KOLS	**Kolonicke sedl**	**148.65**	**339**	*e*	PKP	pPKPdf	17 27 48.0	+9.5
NIE	**Niedzica**	**148.84**	**342**	*e*	PKP	PKPbc	17 27 38.5	+0.8
UPC	**Upice**	**148.89**	**348**	*e*	PKPB	PKPbc	17 27 38.3	+0.4
BRG	**Berggiesshubel**	**148.91**	**350**	*e*	PKPbc	PKPbc	17 27 38.1	+0.2
BRG	**Berggiesshubel**	**148.91**	**350**	*e*	PKP	PKPbc	17 27 37.9	0.0
	comp=Z,11nm,1.6s							
BRG	**Berggiesshubel**	**148.91**	**350**	*e*	PKP2	PKPbc	17 27 37.9	0.0
BRG					pmax	pmax		
	comp=Z,11nm,1.6s							
DPC	**Dobruska-Polom**	**148.98**	**347**	⇑*e*	PKPB	PKPbc	17 27 38.5	+0.4
DPC				*e*	PKPAB	PKPab	17 27 43.7	+1.5
MORC	**Moravsky Berou**	**149.25**	**345**	*e*	PKP2	PKPbc	17 27 38.8	0.0
MOX	**Moxa**	**149.46**	**353**	*e*	PKPbc	PKPbc	17 27 39.2	-0.1
MOX	**Moxa**	**149.46**	**353**	*e*	PKP	PKPbc	17 27 39.1	-0.2
	comp=Z,29nm,2.0s							
MOX	**Moxa**	**149.46**	**353**	*e*	PKP2	PKPbc	17 27 39.1	-0.2
MOX					pmax	pmax		
	comp=Z,24nm,2.0s							
BR131	**Keskin Array S**	**149.47**	**315**	*e*	PKPbc	PKPbc	17 27 39.1	-0.2
BRTR	**Keskin Array B**	**149.47**	**315**		PKPbc	PKPbc	17 27 39.6	+0.3
	comp=Z,1.3nm,0.5s,baz=145,slow=4.5,SNR=4.0							
BRTR	**Keskin Array B**	**149.47**	**315**	*i*	PKHKP	PKPdf	17 27 37.0	+2.2
BRTR					pmax	pmax		
	comp=Z,1.0nm,0.5s							
WERD	**Werda**	**149.57**	**352**	*e*	PKPbc	PKPbc	17 27 39.7	+0.1
KECS	**Kecovo**	**149.62**	**341**	*i*	PKP	PKPbc	17 27 40.1	+0.4
PRU	**Pruhonice**	**149.67**	**349**	⇑*e*	PKPB	PKPbc	17 27 39.4	-0.4
PRU				*e*	PKPAB	PKPab	17 27 46.2	+1.2
NKC	**Novy Kostel**	**149.76**	**352**	⇑*e*	PKPB	PKPbc	17 27 40.5	+0.5
NKC				*e*	PKPAB	PKPab	17 27 45.3	-0.1
VRAC	**Vranov**	**149.90**	**346**		PKPbc	PKPbc	17 27 40.7	+0.3
	comp=Z,2.5nm,0.6s,baz=233,slow=20,SNR=5.3							
MANZ	**Manzenberg**	**150.04**	**352**	*e*	PKPbc	PKPbc	17 27 41.2	+0.5
VYHS	**Vyhne**	**150.09**	**343**	*i*	PKP	PKPbc	17 27 41.3	+0.5
TNS	**Taunus Mts**	**150.14**	**357**	*e*	PKPbc	PKPbc	17 27 41.1	+0.1
TREC	**Trest**	**150.15**	**348**	⇑*e*	PKPB	PKPbc	17 27 41.2	+0.2
ROTZ	**Rotzenmuhle**	**150.25**	**352**	*e*	PKPbc	PKPbc	17 27 41.6	+0.4
DOU	**Dourbes**	**150.31**	**2**		PKPbc	PKPbc	17 27 40.9	-0.4
DOU					APKPbc		17 27 44.7	
GIVF	**Givet**	**150.31**	**2**	*e*	PKP1	PKPbc	17 27 41.0	-0.4
BAIF	**Baives**	**150.33**	**2**	*e*	PKP1	PKPbc	17 27 41.2	-0.2
	comp=Z,15nm,0.8s							
GRA1	**Grafenberg Arr**	**150.44**	**353**	*e*	PKPbc	PKPbc	17 27 42.2	+0.5
GRF	**Grafenberg Arr**	**150.44**	**353**	*e*	PKPbc	PKPbc	17 27 42.2	+0.5
SMOL	**Smolenice**	**150.45**	**345**	*e*	PKP	PKPbc	17 27 42.5	+0.8
KHC	**Kasperske Hory**	**150.66**	**350**	⇑*e*	PKPB	PKPbc	17 27 42.0	-0.2
KHC				*e*	PKPAB	PKPab	17 27 48.6	-0.5
WET	**Wettzell**	**150.76**	**351**	*e*	PKPbc	PKPbc	17 27 42.8	+0.4
GEC2	**GERESS Array S**	**150.92**	**350**	*e*	PKPbc	PKPbc	17 27 43.0	+0.2
GERES	**GERESS Array B**	**150.92**	**350**		PKPbc	PKPbc	17 27 43.0	+0.2
	comp=Z,4.7nm,1.0s,baz=48,slow=2.0,SNR=12							
ROSF	**Rostrenen**	**151.10**	**13**	*e*	PKP1	PKPbc	17 27 42.1	-1.1
FLN	**La Foliniere**	**151.19**	**9**	*e*	PKP1	PKPbc	17 27 42.6	-0.8
	comp=Z,22nm,0.7s							
SGMF	**Saint Gilles**	**151.32**	**12**	*e*	PKP1	PKPbc	17 27 42.7	-1.1
LDF	**La Druitiere**	**151.40**	**9**	*e*	PKP1	PKPbc	17 27 43.0	-0.9
	comp=Z,18nm,0.8s							
GRR	**Gorron**	**151.49**	**10**	*e*	PKP1	PKPbc	17 27 43.4	-0.7
	comp=Z,18nm,0.5s							
CDF	**Champ du Feu**	**152.00**	**358**	*e*	PKP1	PKPbc	17 27 44.8	-0.5
	comp=Z,20nm,1.2s							
BFO	**Black Forest**	**152.03**	**357**	*e*	PKPbc	PKPbc	17 27 45.2	-0.2
BFO	**Black Forest**	**152.03**	**357**	*e*	PKPdf	PKPdf	17 27 40.0	+1.2
BFO				*e*	PKPbc	PKPbc	17 27 44.9	-0.5
BFO				*e*	PKPbc	PKPbc	17 27 45.2	-0.2
HAU	**Haudompre**	**152.42**	**360**	*e*	PKP1	PKPbc	17 27 46.6	+0.3
HINF	**Hinteralfeld**	**152.60**	**359**	*e*	PKP1	PKPbc	17 27 45.9	-0.8
KBA	**Koelnbreinsper**	**152.69**	**349**	⇑*i*	P	PKPbc	17 27 46.2	-0.7
LOR	**Lormes**	**153.10**	**3**	*e*	PKP1	PKPbc	17 27 47.3	-0.5
SSF	**Saint Saulge**	**153.29**	**4**	*e*	PKP1	PKPbc	17 27 47.8	-0.4
MFF	**Saint Martin d**	**153.34**	**10**	*e*	PKP1	PKPbc	17 27 47.5	-0.8
AVF	**Avril sur Loir**	**153.55**	**4**	*e*	PKP1	PKPbc	17 27 48.5	-0.2
VISS	**Visnje**	**153.60**	**346**	*i*	PKPdf	PKPbc	17 27 47.7	-1.2
SMF	**Signal de Mont**	**153.72**	**3**	*e*	PKP1	PKPbc	17 27 48.4	-0.7
BGF	**Bois d'Agland**	**153.74**	**5**	*e*	PKP1	PKPbc	17 27 48.6	-0.6
	comp=Z,4.9nm,0.4s							
BOJS	**Bojanci**	**153.79**	**345**	*i*	PKPdf	PKPbc	17 27 49.1	-0.1
BOJS				*i*			17 27 57.8	
TCF	**Toulx Ste Croi**	**153.95**	**6**	*e*	PKP1	PKPbc	17 27 48.7	-0.9
RJF	**Les Rejaudoux**	**154.85**	**7**	*e*	PKP1	PKPbc	17 27 50.7	-0.8

*NEIC **04** 17:08:55.0,3362S×7005W,h9km,ML2.8(GUC),After GUC.*

GUC 04 17:08:55.0±1.2,3362S×7011W,h7km±2km,MD3.6,ML2.8, 5C-5D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YECH	**El Yeso**	**0.05**	**159**	*e*	P	Pg	17 08 57.4	+0.8
YECH				*i*	S	Sg	17 08 59.3	+1.6
YECH					AML	AML	17 08 60.0	
	comp=N,6μm,0.5s							
LMEL	**Las Melosas**	**0.24**	**200**	*e*	P	Pg	17 09 00.4	+0.6
LMEL				*i*	S	Sg	17 09 04.3	+1.2
LMEL					AML	AML	17 09 04.6	
	comp=N,4μm,0.1s							
FCH	**Farellones**	**0.33**	**332**	*e*	P	Pg	17 09 02.0	+0.6
FCH				*i*	S	Sg	17 09 07.5	+1.7
FCH					AML	AML	17 09 08.0	
	comp=N,3μm,0.2s							
PCH	**Pirque**	**0.34**	**270**	⇑*i*	P	Pg	17 09 03.0	+1.3
PCH				*i*	S	Sg	17 09 08.1	+1.9
FSR	**Penalolen**	**0.38**	**292**	*e*	P	Pg	17 09 02.9	+0.5
FSR				*i*	S	Sg	17 09 09.5	+2.2
FSR					AML	AML	17 09 10.1	
	comp=N,2μm,0.3s							
FSR	**Penalolen**	**0.38**	**292**	*e*	P	Pg	17 09 02.9	+0.5
FSR				*i*	S	Sg	17 09 09.5	+2.2
CLCH	**Cerro Calan**	**0.42**	**302**	⇑*i*	P	Pg	17 09 04.4	+1.1
CLCH				*i*	S	Sg	17 09 11.1	+2.3
CLCH					AML	AML	17 09 11.7	
	comp=N,3μm,0.5s							
CLCH					AML	AML	17 09 12.3	
	comp=N,3μm,0.6s							
DSCH	**Colegio Aleman**	**0.45**	**299**	⇑*i*	P	Pg	17 09 04.3	+0.6
DSCH				*i*	S	Sg	17 09 11.3	+1.8
DSCH					AML	AML	17 09 11.6	
	comp=N,310nm,0.2s							
STL	**Santa Lucia**	**0.48**	**292**	*i*	P	Pg	17 09 04.8	+0.5
STL				*i*	S	Sg	17 09 12.1	+1.4
STL					AML	AML	17 09 12.4	
	comp=N,546nm,0.2s							
SAN	**Santiago**	**0.49**	**289**	*i*	S	Sg	17 09 12.8	+1.8
SAN					AML	AML	17 09 13.2	
	comp=N,906nm,0.3s							
CHCH	**Chadas Angostu**	**0.55**	**235**	*e*	P	Pg	17 09 06.2	+0.6
CHCH				*i*	S	Sg	17 09 14.4	+1.5
RCDM	**Rinconada Maip**	**0.60**	**282**	⇓*i*	P	Pg	17 09 07.4	+0.8
RCDM				*i*	S	Sg	17 09 16.3	+1.9
RCDM					AML	AML	17 09 16.6	
	comp=N,2μm,0.2s							
PEL	**Peldehue**	**0.68**	**314**	⇓*i*	P	Pg	17 09 08.7	+0.6
PEL				*i*	S	Sg	17 09 18.4	+1.5
PEL					AML	AML	17 09 21.0	
	comp=E,647nm,0.3s							
PEL	**Peldehue**	**0.68**	**314**	⇓*i*	P	Pg	17 09 08.7	+0.6
PEL				*i*	S	Sg	17 09 18.4	+1.5
TACH	**Talagante**	**0.69**	**267**	*e*	P	Pg	17 09 08.9	+0.5
TACH				*i*	S	Sg	17 09 18.9	+1.5
ROCH	**El Roble**	**1.00**	**310**	⇓*i*	P	Pg	17 09 14.3	+0.2
JACH	**Jahuel**	**1.02**	**336**	⇓*i*	P	Pg	17 09 14.4	-0.2
JACH				*i*	S	Sg	17 09 28.2	+0.4
LNV	**Longovilo**	**1.14**	**252**	⇓*i*	P	Pg	17 09 16.2	-0.6
LCCH	**Las Cruces**	**1.23**	**276**	⇓*i*	P	Pb	17 09 18.0	-0.6

*BJI **04** 17:17:48.3,4200N×7951E,h9km,ML3.6*
*ISCJB **04** 17:17:51.2±1.9,419N±0.1×798E±0.1,h10km,Error ellipse: s-maj=21.3km s-min=8.4km az=109.3*
*NNC **04** 17:17:52.9±9.5,4209N×7972E,h0km,mb4.1,mpv3.7, Error ellipse: s-maj=84.8km s-min=36.3km az=165.0*

ISC 04 17:17:52.8±1.9,419N±01×798E±01,h10km,n11,σ0s90/13, 4C-2D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**2.46**	**304**	⇓	Pn	**Pn**	**17 18 31.7**	**-1.2**
	99nm,0.7s							
KNDC				⇑	Sn	**Sn**	**17 19 03.0**	**0.0**
	221nm,0.5s							
ULHL	**Ulahol**	**2.65**	**279**		P	**Pn**	**17 18 34.7**	**-0.8**
	SNR=20							
TKM2	**Tokmak 2**	**3.26**	**290**		P	**Pn**	**17 18 43.5**	**-0.4**
	SNR=37							
KZA	**Kyzart**	**3.37**	**275**		P	**Pn**	**17 18 46.9**	**+1.4**
	SNR=43							
KBK	**Karagaybulak**	**3.66**	**284**		P	**Pn**	**17 18 48.6**	**-0.8**
	SNR=13							
UCH	**Uchtor**	**3.93**	**277**		P	**Pn**	**17 18 54.6**	**+1.5**
	SNR=13							
AAK	**Ala-Archa**	**3.98**	**283**		P	**Pn**	**17 18 53.9**	**+0.1**
	SNR=12							
EKS2	**Erkin-Say**	**4.51**	**282**		P	**Pb**	**17 19 11.5**	**-0.5**
	SNR=16							
AML	**Almayashu**	**4.53**	**275**		P	**Pn**	**17 19 06.4**	**+5.0**
	SNR=13							
MK02	**Makanchi Array**	**5.21**	**20**	⇑	Pn	**Pn**	**17 19 09.8**	**-0.9**
	2.5nm,0.5s,baz=209,slow=15							
MK02				⇑	Sn	**Sn**	**17 20 11.8**	**+0.9**
	10nm,0.8s,baz=193,slow=25							
MK02				⇓	Lg		17 20 33.8	
	9.2nm,0.7s,baz=202,slow=30							
KK31	**Karatay Array**	**6.95**	**283**	⇑	Pg	**Pb**	**17 19 54.3**	**+0.8**
	2.3nm,0.6s,baz=93,slow=16,SNR=19							
KK31					Lg		17 21 23.3	
	9.0nm,0.7s,baz=81,slow=26,SNR=4.8							

*IDC **04** 17:22:51.8±0.6,2025S×17406W,h0km,mb4.5/16, mb1 4.7/17,mb1mx4.6/21,mbtmp4.5/17,ML5.1/1,MS3.5/3, Ms1 3.5/3,ms1mx3.2/22,Error ellipse: s-maj=22.9km s-min=14.4km az=134.0*
*ISCJB **04** 17:22:52.8±0.3,2039S±006×17407W±007,h15km, mb4.8/45,MS4.4/8,Error ellipse: s-maj=10.5km s-min=6.8km az=71.7*
*NEIC **04** 17:22:52.8±9.6,2030S×17406W,h7km±58km,mb4.9/27, Error ellipse: s-maj=12.9km s-min=9.9km az=154.0*
*BJI **04** 17:22:52.7,2030S×174.10W,h7km,mB5.3,mb5.0,Ms5.2, Msz4.8*
*MOS **04** 17:22:57.7±3.0,2033S×17437W,h33km,mb5.1/12,Error ellipse: s-maj=14.2km s-min=11.9km az=142.7*

ISC 04 17:22:54.4±0.3,2041S±006×17398W±007,h16km, h16km±.9km:pP-P,n166,σ1s09/103,mb4.8/45,MS4.4/8, 18C-11D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.80**	**18**		Pn	**Pn**	**17 24 24.3**	**-9.2**
	7.5nm,0.3s,baz=106,slow=0.9,SNR=14							
AFI					Sn	**Sn**	**17 25 34.0**	**-17**
	1.0nm,0.3s,baz=133,slow=18,SNR=1.7							
AFI					LR	LR	17 26 36.1	
	comp=Z,355nm,19.6s,baz=190,slow=34							
AFI					T		17 31 31.5	
	7.6nm,0.3s,baz=62,slow=16,SNR=6.2							
AFI	**Afiamalu**	**6.80**	**18**	*e*	P	**Pn**	**17 24 25.1**	**-8.4**
AFI					pmax	pmax		
	comp=Z,48nm,0.5s							
AFI	**Afiamalu**	**6.80**	**18**	*e*	Pn	**Pn**	**17 24 25.1**	**-8.4**
	comp=Z,48nm,0.5s							
AFI				*e*	Sn	**Sn**	**17 25 39.5**	**-11**
RAO	**Raoul Island**	**9.50**	**201**		Sn	**Sn**	**17 26 52.5**	**-4.4**
	comp=Z,50nm,0.3s,baz=73,slow=19,SNR=4.5							
RAR	**Rarotonga**	**13.31**	**96**		Pn	**Pn**	**17 25 52.8**	**-10**
	comp=Z,1.9nm,0.3s,baz=240,slow=10,SNR=4.2							
RAR					Sn	Sn	17 28 03.8	-27
	comp=Z,1.5nm,0.3s,baz=83,slow=17,SNR=4.1							
URZ	**Urewera**	**19.39**	**202**		P	**Pn**	**17 27 20.5**	**-0.3**
	comp=Z,5.6nm,0.3s,baz=359,slow=3.6,SNR=56							
URZ	**Urewera**	**19.39**	**202**		P*	**Pn**	**17 27 20.5**	**-0.3**
TBI	**Tubuai**	**22.94**	**102**	*e*	LQ		17 31 57.7	
	comp=Z,309nm,25.8s							
TBI				*e*	LR	LR	17 32 56.4	
	comp=Z,259nm,33.2s							
TCW	**Tory Channel**	**23.02**	**203**		P*	**P**	**17 27 56.2**	**-2.4**
PPT	**Papeete**	**23.25**	**87**	*e*	LQ		17 32 02.5	
	comp=Z,566nm,27.5s							
PPT				*e*	LR	LR	17 33 00.7	
	comp=Z,333nm,33.0s							
PPT	**Papeete**	**23.25**	**87**		LR	LR	17 36 07.8	
	comp=Z,173nm,18.2s,MS3.5,baz=107,slow=34							
THZ	**Tophouse**	**24.01**	**205**	*e*	P*	**P**	**17 28 07.2**	**-1.2**
LTZ	**Lake Taylor**	**25.12**	**204**		P*	**P**	**17 28 20.6**	**+2.0**
RPZ	**Rata Peaks**	**26.39**	**205**		P	**P**	**17 28 30.4**	**+0.4**
	comp=Z,10nm,0.5s,mb4.6,baz=311,slow=9.4,SNR=9.5							
HNR	**Honiara**	**27.41**	**290**		LR	LR	17 36 19.7	
	comp=Z,84nm,19.3s,baz=178,slow=30							
CNB	**Canberra Magne**	**35.42**	**237**	*e*	P	**P**	**17 29 50.1**	**+0.4**
	comp=Z,46nm,1.6s,mb5.2							
RKT	**Rikitea**	**36.26**	**102**	*e*	LR	LR	17 39 06.8	
	comp=Z,209nm,32.8s							
CTA	**Charters Tower**	**37.24**	**263**	*e*	P	**P**	**17 30 05.6**	**+0.4**
	comp=Z,9.2nm,0.8s,mb4.7							
CTA	**Charters Tower**	**37.24**	**263**		P	**P**	**17 30 05.8**	**+0.6**
	comp=Z,10nm,0.7s,mb4.8,baz=96,slow=10,SNR=12							
CTA	**Charters Tower**	**37.24**	**263**	*e*	P	**P**	**17 30 05.6**	**+0.4**
CTA					pmax	pmax		
	comp=Z,9.0nm,0.8s							
CTAO	**Charters Tower**	**37.24**	**263**	*e*	P	**P**	**17 30 05.1**	**-0.1**
CTAO					pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7							
CTAO	**Charters Tower**	**37.24**	**263**	*e*	P	**P**	**17 30 05.1**	**-0.1**
	comp=Z,10nm,0.8s,mb4.7							
PMG	**Port Moresby**	**39.01**	**280**		P	**P**	**17 30 19.6**	**-0.5**
	comp=Z,10.0nm,0.9s,mb4.6,baz=111,slow=6.7,SNR=7.8							
PMG	**Port Moresby**	**39.01**	**280**	*e*	P	**P**	**17 30 20.0**	**-0.1**
PMG	**Port Moresby**	**39.01**	**280**	*e*	P	**P**	**17 30 19.0**	**-1.2**
	comp=Z,13nm,1.1s,mb4.6							
TOO	**Toolangi**	**39.01**	**235**	*e*	P	**P**	**17 30 20.5**	**+0.4**
	comp=Z,7.8nm,0.6s,mb4.6							
TOO	**Toolangi**	**39.01**	**235**	*e*	P	**P**	**17 30 20.5**	**+0.4**
TOO					pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.6							
STKA	**Stephens Creek**	**41.22**	**245**	*e*	P	**P**	**17 30 36.2**	**-2.3**
	comp=Z,8.7nm,0.7s,mb4.5							
STKA	**Stephens Creek**	**41.22**	**245**		P	**P**	**17 30 36.5**	**-2.0**
	comp=Z,8.9nm,0.7s,mb4.5,baz=86,slow=9.6,SNR=24							
STKA					PcP	PcP	17 32 37.1	-0.2
	comp=Z,3.2nm,0.8s,baz=108,slow=6.4,SNR=2.9							
ASAR	**Alice Springs**	**48.20**	**256**		P	**P**	**17 31 33.5**	**-0.7**
	comp=Z,4.4nm,0.6s,mb4.6,baz=95,slow=7.2,SNR=70							
ASAR					PcP	PcP	17 33 02.4	+1.1
	comp=Z,3.1nm,0.9s,baz=108,slow=3.8,SNR=5.8							
WB2	**Warramunga Arr**	**48.33**	**261**	*e*	P	**P**	**17 31 34.0**	**-1.1**
WRAB	**Tennant Creek**	**48.33**	**261**	⇓*e*	P	**P**	**17 31 33.6**	**-1.5**
WRAB	**Tennant Creek**	**48.33**	**261**	*e*	P	**P**	**17 31 32.8**	**-2.3**
	comp=Z,8.1nm,0.9s,mb4.8							
WRA	**Warramunga Arr**	**48.34**	**261**		P	**P**	**17 31 34.2**	**-1.0**
	comp=Z,1.8nm,0.6s,mb4.3,baz=97,slow=7.4,SNR=41							
KAKA	**Kakadu**	**51.74**	**270**	*e*	P	**P**	**17 32 01.0**	**0.0**
	comp=Z,7.9nm,0.6s,mb4.8							
FORT	**Forrest**	**52.78**	**246**	*e*	P	**P**	**17 32 07.9**	**-0.9**
	comp=Z,20nm,0.6s,mb5.2							
FITZ	**Fitzroy Crossi**	**56.77**	**261**		P	**P**	**17 32 38.6**	**+1.0**
	comp=Z,3.1nm,0.8s,mb4.4,baz=165,slow=13,SNR=5.2							
SBA	**Scott Base**	**58.24**	**185**	*e*	P	**P**	**17 32 50.5**	**+2.5**
SBA					pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0							
SBA	**Scott Base**	**58.24**	**185**	*e*	P	**P**	**17 32 50.5**	**+2.5**
	comp=Z,16nm,0.9s,mb5.0							
VNDA	**Vanda**	**58.36**	**186**		P	**P**	**17 32 50.9**	**+2.0**
	comp=Z,5.5nm,0.8s,mb4.7,baz=10,slow=7.2,SNR=29							
VNDA	**Vanda**	**58.36**	**186**	*e*	P	**P**	**17 32 50.3**	**+1.4**
VNDA					pmax	pmax		
	comp=Z,6.0nm,0.7s							
VNDA	**Vanda**	**58.36**	**186**	*e*	P	**P**	**17 32 50.3**	**+1.4**
	comp=Z,6.1nm,0.7s,mb4.7							
KLBR	**Kellerberrin**	**61.50**	**244**	*e*	P	**P**	**17 33 10.6**	**+0.2**
	comp=Z,17nm,0.7s,mb5.3							
MBWA	**Marble Bar**	**61.54**	**256**	*e*	P	**P**	**17 33 09.1**	**-1.6**
	comp=Z,6.0nm,0.6s,mb4.9							
NWAO	**Narrogin (SRO)**	**61.77**	**243**	*e*	P	**P**	**17 33 09.5**	**-2.7**
MUN	**Mundaring**	**62.75**	**244**	*e*	P	**P**	**17 33 19.8**	**+1.0**
CASY	**Casey**	**65.66**	**205**	*e*	P	**P**	**17 33 38.8**	**+0.9**
QSPA	**South Pole Qui**	**69.66**	**180**	*e*	P	**P**	**17 34 04.1**	**+0.9**
	comp=Z,14nm,0.9s,mb4.9							
MJAR	**Matsushiro Arr**	**72.43**	**321**		P	**P**	**17 34 20.2**	**+0.2**
	comp=Z,7.8nm,0.8s,mb4.7,baz=158,slow=5.8,SNR=37							
MJAR	**Matsushiro Arr**	**72.43**	**321**		P	**P**	**17 34 20.2**	**+0.2**
MAJO	**Matsushiro**	**72.43**	**321**	*e*	P	**P**	**17 34 19.9**	**-0.1**
MAJO					pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8							
MAJO	**Matsushiro**	**72.43**	**321**	*e*	P	**P**	**17 34 19.9**	**0.0**
	comp=Z,11nm,0.9s,mb4.8							
MAT	**Matsushiro**	**72.43**	**321**		P	**P**	**17 34 19.9**	**-0.1**
MAT	**Matsushiro**	**72.43**	**321**	*e*	P	**P**	**17 34 20.0**	**0.0**
MAT					pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8							
MAT	**Matsushiro**	**72.43**	**321**	*e*	P	**P**	**17 34 20.0**	**0.0**
	comp=Z,9.0nm,0.8s,mb4.8							
KSM	**Kuching**	**77.14**	**276**	*e*	P	**P**	**17 34 48.0**	**+0.9**
YSS	**Yuzh-Sakhalins**	**77.56**	**331**	⇑*e*	P	**P**	**17 34 50.2**	**+0.6**
YSS					pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9							
YSS	**Yuzh-Sakhalins**	**77.56**	**331**	*e*	P	**P**	**17 34 50.1**	**+0.6**
	comp=Z,12nm,0.8s,mb4.9							
NVAR	**Mina Array Bea**	**78.42**	**41**		P	**P**	**17 34 54.5**	**+0.1**
	comp=Z,2.4nm,0.8s,mb4.2,baz=215,slow=7.1,SNR=11							
TPH	**Tonopah**	**78.88**	**42**		P	**P**	**17 34 55.6**	**-1.3**
TPH					pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8							
TP

GYA AMB AMB
comp=Z,80nm,3.9s
GYA LR LR
comp=N,370nm,21.0s,MS4.9
GYA LR LR
comp=E,380nm,22.4s,MS4.9
GYA LR LR
comp=Z,400nm,22.0s,MS4.8
XAN Xi'an 91.10 306 P **P** **17 36 00.0 +1.7**
XAN AMB AMB
comp=Z,6.0nm,0.8s,mb5.0
HHC Hu-ho-hao-te 92.01 313 *e*P **P** **17 36 03.5 +1.0**
HHC AP pP 17 36 09.0 +1.1
HHC XP sP 17 36 11.1 +1.3
HHC PP PP 17 39 47.5 +5.4
HHC SKS 17 46 35.1
HHC S 17 47 02.4
HHC XS sS 17 47 10.1 -2.6
HHC PS PS 17 48 19.3 +3.8
HHC SS SS 17 53 15.0 +2.4
HHC AMB AMB
comp=Z,12nm,1.2s,mb5.1
HHC AMB AMB
comp=Z,75nm,5.4s
HHC LR LR
comp=N,127nm,17.3s,MS4.5
HHC LR LR
comp=E,110nm,18.8s,MS4.5
HHC LR LR
comp=Z,109nm,18.8s,MS4.3
KMI Kunming 92.68 296 P **P** **17 36 05.7 +0.1**
KMI AP pP 17 36 11.3 +0.3
KMI XP sP 17 36 15.0 +2.1
KMI PP PP 17 39 52.6 +5.2
KMI S 17 47 08.8
KMI SS SS 17 53 24.3 +2.1
KMI AMB AMB
comp=Z,3.0nm,1.2s,mb4.6
KMI AMB AMB
comp=Z,114nm,5.3s
KMI LR LR
comp=N,124nm,15.3s,MS4.6
KMI LR LR
comp=E,130nm,17.5s,MS4.6
KMI LR LR
comp=Z,153nm,18.2s,MS4.5
INK Inuvik 93.24 14 P **P** **17 36 07.1 -1.1**
comp=Z,1.7nm,1.0s,mb4.4,baz=214,slow=10,SNR=4.4
YAK Yakutsk 93.47 337⇑ *e*P **P** **17 36 08.7 -0.5**
CD2 Chengdu 93.93 301 *e*P **P** **17 36 10.3 -1.1**
CD2 PP PP 17 39 59.3 +2.1
CD2 S 17 47 17.3
CD2 SS SS 17 53 41.0 +0.9
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
CD2 LR LR
comp=Z,70nm,16.0s,MS4.2
YKA Yellowknife Ar 94.89 24 P **P** **17 36 14.3 -1.4**
comp=Z,0.7nm,0.8s,mb4.1,baz=240,slow=4.3,SNR=13
YKA Yellowknife Ar 94.89 24 P **P** **17 36 14.3 -1.4**
YKA pmax pmax
comp=Z,1.0nm,0.8s
LZH Lanzhou 95.73 306 *e*P **P** **17 36 21.5 +1.9**
LZH AP pP 17 36 26.3 +1.3
LZH XP sP 17 36 28.5 +1.6
LZH PP PP 17 40 15.6 +4.5
LZH AMB AMB
comp=Z,18nm,1.4s,mb5.3
LZH AMB AMB
comp=Z,73nm,9.8s
LZH LR LR
comp=N,175nm,16.4s
LZH LR LR
comp=Z,301nm,19.5s,MS4.8
ULN Ulaanbaatar 97.78 318⇑ *e*P **P** **17 36 29.3 +0.4**
WMQ Urumqi 109.72 310 PDIF Pdif 17 37 21.6 -0.4
WMQ PP PP 17 41 59.1 +3.1
WMQ PP PP
comp=Z,138nm,4.3s
WMQ LR LR
comp=Z,30nm,18.3s,MS3.9
MKAR Makanchi Array 113.88 313 PKiKP PKiKP 17 41 30.8 -1.7
comp=Z,0.6nm,0.8s,baz=31,slow=2.8,SNR=7.3
KSH Kashi 117.93 305 *e*PKP PKPdf 17 41 36.0 -4.2
KSH *e*PKS 17 45 11.2
KSH PP PP
comp=Z,120nm,4.0s
KSH LR LR
comp=N,199nm,6.4s
KSH LR LR
comp=E,163nm,5.0s
KSH LR LR
comp=Z,141nm,5.9s
ARCES ARCESS Array B 129.46 351 PKP PKPdf 17 42 01.6 -0.8
comp=Z,1.4nm,0.8s,baz=50,slow=1.9,SNR=3.7
KIV Kislovodsk 141.55 316⇑ *i*PKIKP PKiKP 17 42 29.4 +1.8
KIV MLR MLR
comp=Z,100nm,17.0s,MS4.6
KMBO Kilima Mbogo 142.66 239 PKhKP 17 42 24.4
comp=Z,0.9nm,0.3s,baz=93,slow=24,SNR=4.8
EKA Eskdalemuir Ar 144.45 9 PKP PKPdf 17 42 27.3 -2.6
comp=Z,3.8nm,0.8s,baz=343,slow=2.9,SNR=8.1
AKASG Malin Array Be 144.66 334 PKP PKPdf 17 42 28.1 -2.2
comp=Z,9.0nm,0.8s,baz=41,slow=4.3,SNR=53
GKP Gorka Klasztor 146.08 348 *e*PKP PKiKP 17 42 39.1 +2.2
MALT Malatya 146.82 310 *e*PKP2 PKPab 17 42 36.7 -0.4
KWP Kalwaria 147.95 339 *e*PKP PKPbc 17 42 39.0 +0.1
OJC Ojcow 148.31 343 *e*PKPab PKPbc 17 42 39.8 0.0
STHS Stebnicka Huta 148.60 341 *e*PKP PKPbc 17 42 41.8 +1.2
CLL Collm 148.68 352 *e*PKPdf PKPdf 17 42 38.0 +1.0
CLL ⇓ *i*PKPbc PKPbc 17 42 40.5 -0.3
comp=Z,15nm,1.2s
CLL ⇑ *i*PKPab PKPab 17 42 44.0 -0.5
comp=Z,12nm,0.5s
CLL *i* (pPKPab) 17 42 46.5
CLL *i* x x 17 42 58.5
CLL Collm 148.68 352⇓ *e*PKIKP PKPdf 17 42 38.0 +1.0
CLL *i* PKPbc 17 42 40.5 -0.3
CLL *e* 17 42 44.0
CLL *i* 17 42 46.5
CLL pmax pmax
comp=Z,15nm,1.2s
CLL pmax pmax
comp=Z,12nm,0.5s
CLL Collm 148.68 352 *e*PKP PKPdf 17 42 38.0 +1.0
CLL ⇓ *i*PKP PKPbc 17 42 40.5 -0.3
KOLS Kolonicke sedl 148.70 339 *e*PKP PKPab 17 42 45.8 +1.3
BURAR Bucovina Array 148.72 335⇓ *i*P PKPbc 17 42 41.5 +0.6
NIE Niedzica 148.88 342 *e*PKP PKPbc 17 42 41.9 +0.6
UPC Upice 148.94 348⇑ *e*PKPB PKPbc 17 42 41.9 +0.4
UPC *ex* x 17 43 03.8
BRG Berggiesshubel 148.96 350 *e*PKP PKPbc 17 42 41.9 +0.3
comp=Z,3.0nm,1.0s
BRG Berggiesshubel 148.96 350 *e*PKP2 PKPbc 17 42 41.8 +0.3
BRG pmax pmax
comp=Z,3.0nm,1.0s
DPC Dobruska-Polom 149.03 347⇑ *e*PKPB PKPbc 17 42 42.4 +0.7
DPC *e*PKPAB PKPab 17 42 46.7 +0.8
DPC *ep*PKP pPKPdf 17 43 00.0 +17
CFR Carcaliu 149.28 329⇓ *i*P PKPbc 17 42 42.6 +0.3
VRI Vrincioaia 149.44 331⇑ *i*P PKPbc 17 42 43.1 +0.4
PLOR Plostina 149.48 331⇓ *i*P PKPbc 17 42 43.3 +0.5
BR131 Keskin Array S 149.50 315 *e*PKPbc PKPbc 17 42 42.3 -0.6
BRTR Keskin Array B 149.50 315 PKPbc PKPbc 17 42 43.0 +0.2
comp=Z,1.5nm,0.7s,baz=145,slow=2.9,SNR=9.0
MOX Moxa 149.50 353 *e*PKP PKPbc 17 42 42.8 -0.1
comp=Z,16nm,1.7s
MOX Moxa 149.50 353 *e*PKHKP 17 42 42.8
MOX pmax pmax
comp=Z,29nm,1.7s
KECS Kecovo 149.66 341 *e*PKP PKPbc 17 42 43.3 0.0
KECS Kecovo 149.66 341 *e*PKHKP 17 42 43.4
PRU Pruhonice 149.72 349⇑ *e*PKPB PKPbc 17 42 43.6 +0.2
PRU *e*PKPAB PKPab 17 42 48.5 -0.2
PRU *ex* x 17 43 01.1
PRU Pruhonice 149.72 349 *e*PKHKP 17 42 43.6
PRU *e* 17 42 48.5
HARR Harsova 149.73 328⇑ *i*P PKPbc 17 42 43.9 +0.5
CVD Cernavoda 149.95 327⇑ *i*P PKPbc 17 42 44.0 0.0
MLR Muntele Rosu 150.08 331⇑ *i*P PKPbc 17 42 44.6 +0.3
VYHS Vyhne 150.14 343 *e*PKP PKPbc 17 42 44.7 +0.3
DOU APKPbc 17 42 48.8
DOU Dourbes 150.36 2 PKPbc PKPbc 17 42 44.8 -0.2
GIVF Givet 150.36 2 *e*PKP1 PKPbc 17 42 44.4 -0.6
DRGR 150.37 336⇑ *i*P PKPbc 17 42 45.4 +0.4
BAIF Baives 150.38 2 *e*PKP1 PKPbc 17 42 44.7 -0.3
comp=Z,15nm,1.0s
GRA1 Grafenberg Arr 150.49 353 *e*PKP PKPbc 17 42 45.6 +0.3
GRF Grafenberg Arr 150.49 353 *e*PKP PKPbc 17 42 45.6 +0.3
VOIR 150.52 332⇑ *i*P PKPbc 17 42 46.3 +1.0
KHC Kasperske Hory 150.71 350⇑ *e*PKPB PKPbc 17 42 45.9 +0.1
KHC *e*PKPAB PKPab 17 42 51.6 -1.2
KHC *ep*PKP pPKPdf 17 43 06.2 +20
GERES GERESS Array B 150.97 350 PKPbc PKPbc 17 42 46.3 -0.1
comp=Z,2.1nm,0.9s,baz=45,slow=2.5,SNR=9.1
FLN La Froliniere 151.23 9 *e*PKP1 PKPbc 17 42 46.0 -1.0
comp=Z,15nm,0.8s
LDF La Druitiere 151.45 9 *e*PKP1 PKPbc 17 42 46.2 -1.3
comp=Z,16nm,0.8s
GRR Gorron 151.54 10 *e*PKP1 PKPbc 17 42 46.6 -1.1
comp=Z,26nm,0.8s
MEZF Maizieres J'vi 151.96 1 *e*PKP1 PKPbc 17 42 48.4 -0.3
CDF Champ du Feu 152.04 358 *e*PKP1 PKPbc 17 42 48.3 -0.6
PKSM Moragy 152.26 341⇓ *i*P PKPbc 17 42 48.5 -0.9
LOR Lormes 153.15 3 *e*PKP1 PKPbc 17 42 50.8 -0.5
SSF Saint Saulge 153.34 4 *e*PKP1 PKPbc 17 42 51.3 -0.4
comp=Z,9.0nm,0.8s
AVF Avril sur Loir 153.60 4 *e*PKP1 PKPbc 17 42 51.4 -0.9
SMF Signal de Mont 153.77 3 *e*PKP1 PKPbc 17 42 51.9 -0.8
CABF La Chapelle 153.87 360 *e*PKP1 PKPbc 17 42 53.0 +0.1
RJF Les Rejaudoux 154.90 7 *e*PKP1 PKPbc 17 42 54.5 -0.6
TORD Torodi Ar. Bea 171.68 150 PKP PKPdf 17 43 01.3 -0.9
comp=Z,1.1nm,1.0s,baz=59,slow=0.5,SNR=3.8

IDC 04 17:23:08.2±3.3, 2273N×1202W, h0km, mb3.7/1, mb1 3.6/2, mb1mx3.3/21, mbtmp3.6/2, ML3.2/1, Error ellipse: s-maj=116.7km s-min=62.7km az=70.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDT	**Midelt**	**11.99**	**32**	Lg		17 29 24.6	
	0.1nm,0.3s,baz=308,slow=15,SNR=3.3						
TORD	**Torodi Ar. Bea**	**16.15**	**124**	Pn	Pn	17 26 56.6	+0.1
	0.1nm,0.3s,baz=309,slow=12,SNR=5.2						
TORD				Sn	Sn	17 29 51.5	-4.8
	0.1nm,0.3s,baz=304,slow=22,SNR=2.9						
MKAR	**Makanchi Array**	**76.62**	**45**	P	P	17 35 01.0	+0.3
	0.3nm,0.5s,baz=300,slow=4.7,SNR=7.1						
WRA	**Warramunga Arr**	**148.58**	**91**	PKPbc	PKPbc	17 42 56.2	-0.9
	0.6nm,0.8s,baz=296,slow=2.1,SNR=5.6						
ASAR	**Alice Springs**	**148.71**	**98**	PKPbc	PKPbc	17 42 58.6	+1.2
	0.5nm,0.7s,baz=286,slow=1.9,SNR=8.4						

NEIC 04 17:43:09.7, 890N×8254W, h0km, ML4.5(UCR), After CASC., Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.66**	**249**	*e*P		Pg	17 43 23.4	+1.0
BUS	**Buena Vista**	**1.37**	**299**	*e*P		Pg	17 43 34.8	-1.1
BUS				*e*S		Sg	17 43 56.2	+2.6
URSC	**Urasca**	**1.53**	**307**	*e*P		Pn	17 43 37.5	-0.9
ICR	**Volcan Irazu**	**1.67**	**310**	*e*P		Pn	17 43 40.2	+0.1
LCR2	**La Lucha 2**	**1.67**	**300**	*e*P		Pn	17 43 40.5	+0.3
LCR2				*e*S		Sn	17 44 04.0	+1.8
SJS	**Escuela Geolog**	**1.81**	**305**	*e*P		Pn	17 43 43.0	+0.8
SJS				*e*S		Sn	17 44 08.8	+2.9
PRS1	**Puriscal**	**2.05**	**302**	*e*P		Pn	17 43 45.2	-0.2
PRS1				*e*S		Sn	17 44 13.4	+1.7
JTS	**JuntasAbangare**	**2.75**	**300**	*e*Pn		Pn	17 43 55.7	+0.6
JTS				*e*Sg		Sg	17 44 36.5	-1.6
VCR	**Vista de Mar**	**3.28**	**292**	*e*P		Pn	17 44 04.1	+1.8

IDC 04 17:45:51.4±4.1, 2257S×3942E, h0km, mb3.6/3, mb1 3.6/3, mb1mx3.3/20, mbtmp3.6/3, MS3.2/1, Ms1 3.2/1, ms1mx2.5/19, Error ellipse: s-maj=89.8km s-min=58.2km az=177.0, Mozambique Channel

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**21.41**	**354**	P	P	17 50 41.3	+0.5
	1.1nm,0.4s,baz=182,slow=16,SNR=5.9						
KMBO				LR	LR	17 59 45.9	
	comp=Z,68nm,19.7s,baz=96,slow=39						
TORD	**Torodi Ar. Bea**	**51.24**	**310**	P	P	17 54 57.1	+0.3
	0.8nm,0.7s,baz=130,slow=7.5,SNR=6.4						
MKAR	**Makanchi Array**	**79.15**	**28**	P	P	17 57 57.9	0.0
	0.2nm,0.5s,baz=224,slow=5.1,SNR=3.8						

ISCJB ***04*** *18:13:56.0±0.9, 4303N×008×010E±006, h14km±5km, Error ellipse: s-maj=13.2km s-min=6.2km az=146.6*
LDG ***04*** *18:13:55.4±0.2, 4305N×013E, h18km±1km, Md1.4/2, Ml1.4/1, Error ellipse: s-maj=5.7km s-min=2.1km az=165.0*
MDD ***04*** *18:13:56.5±0.6, 4302N×013E, h13km±4km, mbLg0.4/3, Error ellipse: s-maj=4.1km s-min=2.9km az=164.0, PRXIMO*
STR ***04*** *18:13:56.6±0.0, 4301N×000E, h10km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 04 18:13:56.3±0.9, 4303N±007×011E±006, h13km±5km, n11, σ0§37/15, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.03**	**302**	Pg	**Pg**	**18 13 59.0**	**+0.3**
LABF				Sg	**Sg**	**18 14 00.8**	**+0.4**
LABF	**Labassere**	**0.03**	**302**	Pg	**Pg**	**18 13 59.1**	**+0.4**
LABF				Lg		18 14 00.8	
VIEF	**Viey**	**0.16**	**204**	Pg	**Pg**	**18 14 00.3**	**+0.2**
VIEF				Sg	**Sg**	**18 14 03.1**	**+0.3**
VIEF	**Viey**	**0.16**	**204**	Pg	**Pg**	**18 14 00.4**	**+0.3**
VIEF				Lg		18 14 03.1	
EPF	**Esparros**	**0.17**	**89**	*e*Pg	**Pg**	**18 13 59.9**	**-0.3**
EPF				*e*Sg	**Sg**	**18 14 02.5**	**-0.5**
	6.4nm,0.2s						
EPF	**Esparros**	**0.17**	**89**	Pg	**Pg**	**18 13 59.9**	**-0.3**
EPF				Lg		18 14 02.5	
	3.2nm,0.2s						
EBIE	**Bielsa**	**0.34**	**176**	Pg	**Pg**	**18 14 03.3**	**+0.1**
	0.4nm,0.2s,SNR=7.9						
EBIE				Lg		18 14 07.4	
	1.4nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**0.51**	**255**	*e*Pg	**Pg**	**18 14 05.7**	**-0.7**
ETSF				*e*Sg	**Sg**	**18 14 13.0**	**-0.2**
	3.8nm,0.4s						
ETSF	**Etsaut**	**0.51**	**255**	Pg	**Pg**	**18 14 05.7**	**-0.7**
ETSF				Lg		18 14 13.0	
	1.9nm,0.4s						
MTLF	**Montolieu**	**1.57**	**78**	*e*Sg	**Sn**	**18 14 44.4**	**+0.4**
	0.5nm,0.2s						
MTLF	**Montolieu**	**1.57**	**78**	Sn	**Sn**	**18 14 44.4**	**+0.4**
	0.2nm,0.2s						

IDC 04 18:21:57.2±1.6, 1991S×17453W, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.9/15, mbtmp4.0/5, ML4.4/1, Error ellipse: s-maj=60.2km s-min=29.3km az=133.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.52**	**24**	Sn	Sn	18 24 41.0	-8.5
	6.4nm,0.3s,baz=167,slow=19,SNR=4.7						
RAR	**Rarotonga**	**13.89**	**98**	T		18 39 27.7	
	6.3nm,0.3s,baz=87,slow=21,SNR=4.3						
URZ	**Urewera**	**19.67**	**200**	P	Pn	18 26 28.5	-0.6
	1.2nm,0.3s,baz=24,slow=20,SNR=7.4						
STKA	**Stephens Creek**	**40.97**	**244**	P	P	18 29 40.4	-1.3
	2.2nm,0.6s,baz=101,slow=10,SNR=5.6						
ASAR	**Alice Springs**	**47.82**	**256**	P	P	18 30 37.2	+0.7
	0.7nm,0.7s,baz=92,slow=7.6,SNR=11						
ASAR				PcP	PcP	18 32 06.1	+0.8
	0.3nm,0.5s,baz=106,slow=3.9,SNR=4.8						
WRA	**Warramunga Arr**	**47.91**	**261**	P	P	18 30 38.1	+0.9
	0.5nm,0.3s,baz=96,slow=7.6,SNR=20						
ILAR	**Eielson Array**	**87.05**	**11**	P	P	18 34 44.5	-0.2
	1.4nm,1.1s,baz=217,slow=6.3,SNR=4.9						
ARCES	**ARCESS Array B**	**128.89**	**351**	PKP	PKPdf	18 41 05.9	-0.8
	1.6nm,0.9s,baz=301,slow=0.5,SNR=7.2						
AKASG	**Malin Array Be**	**143.99**	**334**	PKP	PKPdf	18 41 31.9	-2.7
	0.5nm,0.4s,baz=39,slow=4.4,SNR=7.1						

ISCJB ***04*** *18:38:47.8±0.4, 5004N±003×1846E±003, h0km, Error ellipse: s-maj=4.3km s-min=2.4km az=25.1*
IPEC ***04*** *18:38:48.2±0.3, 5004N×1859E, h0km, ML2.3/4, Error ellipse: s-maj=2.3km s-min=1.8km az=124.0*
WAR ***04*** *18:38:49.5, 4998N×1857E, ML2.6, Mining Induced*
NEIC ***04*** *18:38:49.0±0.8, 4996N×1855E, h5km, MG2.6(WAR), Error ellipse: s-maj=14.4km s-min=6.9km az=187.0*
CSEM ***04*** *18:38:50.0±0.1, 5005N×1848E, h1km, ML3.1/7, Error ellipse: s-maj=3.2km s-min=1.8km az=14.0*
VIE ***04*** *18:38:50.9±0.6, 4973N×1847E, h0km, mb1.9/4, ML2.6/4, Error ellipse: s-maj=3.8km s-min=2.7km az=83.0 19 km SE of Ostrava Suspected Mining induced.*
PRU ***04*** *18:38:50.1, 5000N×1849E, h0km*

ISC 04 18:38:49.2±0.4, 4999N±003×1850E±003, h0km, n28, σ1§11/51, 1C-2D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.22**	**296**	*e*Pg	**Pg**	**18 38 55.5**	**+2.2**
RAC				*e*Sg	**Sg**	**18 38 59.9**	**+3.8**
OKC	**Ostrava-Krasne**	**0.27**	**236**	*e*PG	**Pg**	**18 38 55.7**	**+1.3**
OKC				*e*SG	**Sg**	**18 39 00.6**	**+2.7**
	121nm,0.3s						
OKC	**Ostrava-Krasne**	**0.27**	**236**	*e*Pg	**Pg**	**18 38 55.6**	**+1.2**
OKC				*e*Sg	**Sg**	**18 38 59.8**	**+1.9**
MORC	**Moravsky Berou**	**0.65**	**251**	*e*P	**Pg**	**18 39 01.8**	**+0.1**
MORC	**Moravsky Berou**	**0.65**	**251**	*e*Pg	**Pg**	**18 39 02.3**	**+0.6**
MORC				*e*Sg	**Sg**	**18 39 10.4**	**+0.3**
	114nm,0.4s						
OJC	**Ojcow**	**0.87**	**74**	*e*Pg	**Pg**	**18 39 04.9**	**-0.9**
OJC				*i* Sg	**Sg**	**18 39 16.5**	**-0.6**
LIKS	**Likavka**	**1.02**	**157**	*e*PN	**Pn**	**18 39 09.5**	**-1.2**
LIKS				*e*SN	**Sn**	**18 39 24.7**	**-1.0**
JAVC	**Velka Javorina**	**1.25**	**206**	*e*Sg	**Sg**	**18 39 32.2**	**+2.8**
	29nm,0.5s						
NIE	**Niedzica**	**1.31**	**115**	*e*Pg	**Pg**	**18 39 13.6**	**-0.7**
NIE				*e*Sg	**Sg**	**18 39 32.3**	**+1.0**
VRAC	**Vranov**	**1.41**	**242**	*e*Pn	**Pn**	**18 39 15.7**	**-0.4**
VRAC				*e*Sg	**Sg**	**18 39 35.1**	**+0.6**
	33nm,0.3s						
DPC	**Dobruska-Polom**	**1.44**	**285**	*e*PG	**Pg**	**18 39 16.6**	**-0.2**
DPC				*e*SG	**Sg**	**18 39 36.2**	**+0.6**
	32nm,0.7s						
DPC	**Dobruska-Polom**	**1.44**	**285**	*e*Pg	**Pg**	**18 39 16.6**	**-0.2**
DPC				*e*Sg	**Sg**	**18 39 34.7**	**-0.9**
VYHS	**Vyhne**	**1.51**	**171**	*e*PN	**Pn**	**18 39 16.8**	**-0.7**
VYHS				*e*SN	**Sn**	**18 39 37.4**	**-0.5**
SMOL	**Smolenice**	**1.63**	**206**	*e*PN	**Pn**	**18 39 19.1**	**0.0**
SMOL				*e*SN	**Sn**	**18 39 41.2**	**+0.4**
KSP	**Ksiaz**	**1.65**	**302**	*e*Pn	**Pg**	**18 39 20.4**	**-0.4**
KSP				*e*Sn	**Sn**	**18 39 42.2**	**+1.0**
KSP	**Ksiaz**	**1.65**	**302**	*e*Pg	**Pg**	**18 39 20.4**	**-0.4**
KSP				*e*Sg	**Sg**	**18 39 42.0**	**-0.1**
KRUC	**Moravsky**	**1.65**	**237**	*e*Pn	**Pn**	**18 39 18.7**	**-0.7**
KRUC				*e*Sg	**Sg**	**18 39 41.4**	**-0.9**
	14nm,0.2s						
STHS	**Stebnicka Huta**	**1.87**	**107**	*e*PN	**Pn**	**18 39 23.7**	**+1.2**
STHS				*e*SN	**Sn**	**18 39 50.6**	**+3.8**
KECS	**Kecovo**	**1.99**	**138**	*e*PN	**Pn**	**18 39 23.3**	**-0.8**
KECS				*e*SN	**Sn**	**18 39 50.1**	**+0.4**
CRVS	**Cervenica-Dubn**	**2.22**	**118**	*e*PN	**Pn**	**18 39 30.2**	**+3.0**
CRVS				*e*SN	**Sn**	**18 39 58.8**	**+3.5**
PRU	**Pruhonice**	**2.55**	**272**	*e*PG	**Pg**	**18 39 35.6**	**-2.5**
PRU				*e*SG	**Sg**	**18 40 10.4**	**-0.8**
	11nm,0.4s						
KOLS	**Kolonicke sedl**	**2.68**	**112**	*e*PG	**Pg**	**18 39 40.9**	**+0.3**
KHC	**Kasperske Hory**	**3.31**	**257**	*e*PN	**Pn**	**18 39 42.0**	**-0.3**
KHC				*e*PG	**Pg**	**18 39 49.6**	**-3.1**
KHC				*e*SG	**Sg**	**18 40 34.8**	**-0.9**
	13nm,0.6s						
MOA	**Molln**	**3.52**	**234**⇓	*i*Pn	**Pn**	**18 39 44.4**	**-0.6**
MOA			⇑	*i*Sg	**Sg**	**18 40 41.4**	**-0.7**
	comp=Z,3.6nm,0.3s						
MOA	**Molln**	**3.52**	**234**⇓	*i*Pn	**Pn**	**18 39 44.4**	**-0.6**
MOA				Sg	**Sg**	**18 40 41.4**	**-0.7**
CLL	**Collm**	**3.74**	**293**	*e*Sg	**Sg**	**18 40 50.0**	**+0.7**
NKC	**Novy Kostel**	**3.90**	**276**	*e*SG	**Sg**	**18 40 53.8**	**-0.7**
	9.7nm,0.4s						
MOX	**Moxa**	**4.46**	**281**	*e*SG	**Sg**	**18 41 13.4**	**+1.0**

ISCJB ***04*** *19:30:57.3±0.8, 5139N±004×1615E±004, h0km, Error ellipse: s-maj=6.1km s-min=3.3km az=27.9*
IPEC ***04*** *19:30:58.7±0.4, 5144N×1645E, h0km, Error ellipse: s-maj=3.3km s-min=2.2km az=96.0*
PRU ***04*** *19:30:59.5, 5139N×1620E, h0km*
VIE ***04*** *19:30:59.3±0.5, 5130N×1615E, h0km, mb1.6/3, ML2.3/3, Error ellipse: s-maj=3.4km s-min=2.8km az=178.0 64 km WNW of Breslau Suspected Mining induced.*
CSEM ***04*** *19:31:00.2±0.4, 5138N×1622E, h1km, ML3.0/4, Error ellipse: s-maj=5.2km s-min=3.1km az=20.0*

ISC 04 19:30:58.4±0.8, 5142N±004×1619E±004, h0km, n15, σ0§80/33, 1C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.58**	**174**	*e*Pg	**Pg**	**19 31 10.3**	**+0.8**
KSP				*e*Sg	**Sg**	**19 31 18.6**	**+1.5**
KSP	**Ksiaz**	**0.58**	**174**	*e*Pg	**Pg**	**19 31 10.2**	**+0.7**
KSP				*e*Sg	**Sg**	**19 31 18.2**	**+1.1**
UPC	**Upice**	**0.92**	**187**	*e*PG	**Pg**	**19 31 16.5**	**+0.5**
DPC	**Dobruska-Polom**	**1.07**	**176**	*e*PG	**Pg**	**19 31 19.2**	**+0.2**
DPC				*e*SG	**Sg**	**19 31 33.6**	**+0.7**
	14nm,0.3s						
DPC	**Dobruska-Polom**	**1.07**	**176**	*e*Pg	**Pg**	**19 31 19.2**	**+0.2**
DPC				*e*Sg	**Sg**	**19 31 32.3**	**-0.6**
PRU	**Pruhonice**	**1.78**	**217**	*e*PG	**Pg**	**19 31 31.6**	**-0.8**
PRU				*e*SG	**Sg**	**19 31 55.8**	**+0.3**
	11nm,0.3s						
MORC	**Moravsky Berou**	**1.86**	**152**	*e*Pn	**Pn**	**19 31 31.1**	**-0.3**
MORC				*e*Sg	**Sg**	**19 31 55.1**	**-3.0**
CLL	**Collm**	**2.00**	**268**	*e*Pg	**Pg**	**19 31 36.0**	**-0.8**
CLL				*e*Sg	**Sg**	**19 32 03.0**	**+0.3**
	comp=Z,10.0nm,0.4s						
OKC	**Ostrava-Krasne**	**2.02**	**141**	*e*PN	**Pn**	**19 31 34.4**	**+0.8**
OKC				*e*PG	**Pg**	**19 31 37.3**	**+0.3**
OKC				*e*SG	**Sg**	**19 32 02.0**	**-1.2**
	comp=Z,15nm,0.6s						
VRAC	**Vranov**	**2.13**	**173**	*e*Pn	**Pn**	**19 31 36.0**	**+0.8**
VRAC				*e*Sg	**Sg**	**19 32 06.2**	**-0.6**
OJC	**Ojcow**	**2.58**	**116**	*e*Pg	**Pg**	**19 31 47.5**	**-0.4**
OJC				*e*Sg	**Sg**	**19 32 22.5**	**+1.1**
NKC	**Novy Kostel**	**2.66**	**245**	*e*PN	**Pn**	**19 31 42.6**	**+0.2**
NKC				*e*PG	**Pg**	**19 31 49.2**	**-0.1**
NKC				*e*SG	**Sg**	**19 32 24.2**	**+0.5**
	comp=Z,13nm,0.3s						
KHC	**Kasperske Hory**	**2.84**	**217**	*e*PN	**Pn**	**19 31 45.3**	**+0.4**
KHC				*e*PG	**Pg**	**19 31 50.7**	**-2.1**
KHC				*e*SN	**Sn**	**19 32 19.7**	**-0.2**
KHC				*e*SG	**Sg**	**19 32 29.2**	**-0.4**
	comp=Z,3.7nm,0.3s						
MOX				*e*SG	**Sg**	**19 32 35.1**	**+0.6**
MOX	**Moxa**	**2.99**	**257**	*e*PG	**Pg**	**19 31 55.0**	**-0.7**
MOA	**Molln**	**3.79**	**200**⇑	*i*Pn	**Pn**	**19 31 58.0**	**0.0**
MOA			⇓	*i*Sg	**Sg**	**19 33 00.7**	**+0.6**
	comp=Z,4.5nm,0.4s						

IDC ***04*** *19:33:32.1±0.6, 2102S×17458W, h0km, mb4.6/15, mb1 4.8/16, mb1mx4.7/21, mbtmp4.6/16, ML4.4/1, MS4.2/15, Ms1 4.2/15, ms1mx3.9/32, Error ellipse: s-maj=23.3km s-min=14.3km az=141.0*
ISCJB ***04*** *19:33:35.9±0.3, 2104S±008×17467W±007, h33km, mb4.8/41, MS4.3/15, Error ellipse: s-maj=12.5km s-min=7.6km az=101.7*
SZGRF ***04*** *19:33:36.2, 2141S×17343W, h33km, Tonga Islands*
BJI ***04*** *19:33:37.6, 2100S×17460W, h35km, mB5.2, mb4.9, Ms5.0, Msz4.5*
NEIC ***04*** *19:33:37.6±0.2, 2102S×17461W, h35km, mb4.8/24, Error ellipse: s-maj=9.9km s-min=5.4km az=144.0*
HRVD ***04*** *19:33:37.7±0.4, 2131S×17378W, h20km±1km, MW5.0/57, Centroid moment Tensor Solution. LP body waves: s20,c28;Mantle waves: s57,c87; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.24±.26; $M_{\theta\theta}$0.39±.18; $M_{\phi\phi}$-3.63

Azm304.0000°; N 0.6740, Plg4.0000°, Azm196.0000°; P -4.3110, Plg13.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*MOS **04** 19:33:40.2±2.5,20.11S×17.498W,h33km,mb5.0/18 Error ellipse: s-maj=15.6km s-min=12.8km az=144.6*

ISC 04 19:33:37.8±0.3,2105S±007×17458W±007,h35km, (h34km±4.4km:pP-P),n175,σ0±89/84,mb4.8/41,MS4.3/15, 12C-1D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**7.59**	**21**	Pn		**Pn**	**19 35 20.4**	**-5.4**
	18nm,0.3s,baz=290,slow=17,SNR=8.0							
AFI				Sn		**Sn**	**19 36 38.6**	**-12**
	6.6nm,0.3s,baz=17,slow=23,SNR=3.6							
AFI				LR		LR	19 37 58.4	
	comp=Z,624nm,19.9s,baz=188,slow=35							
AFI				T			19 43 07.6	
	9.8nm,0.3s,baz=253,slow=23,SNR=4.9							
AFI	**Afiamalu**	**7.59**	**21**	*e*P		**Pn**	**19 35 09.0**	**-17**
AFI							19 36 38.7	
AFI	**Afiamalu**	**7.59**	**21**	*e*P		**Pn**	**19 35 09.0**	**-17**
AFI				Pn		**Pn**	**19 35 20.4**	**-5.4**
AFI				Sn		**Sn**	**19 36 38.6**	**-12**
AFI				LR		LR	19 37 58.4	
RAR	**Rarotonga**	**13.82**	**93**	Pn		**Pn**	**19 36 37.7**	**-13**
	15nm,0.3s,baz=245,slow=8.5,SNR=25							
RAR				Sn		Sn	19 38 54.4	-29
	2.7nm,0.3s,baz=122,slow=21,SNR=4.0							
RAR				T			19 51 03.6	
	6.3nm,0.3s,baz=200,slow=17,SNR=3.3							
RAR	**Rarotonga**	**13.82**	**93**	Pn		**Pn**	**19 36 37.8**	**-13**
RAR				Sn		Sn	19 38 54.4	-29
DZM	**Mont Dzumac**	**17.68**	**263**	P		**Pn**	**19 37 46.0**	**+4.8**
	0.6nm,0.3s,baz=80,slow=20,SNR=6.8							
URZ	**Urewera**	**18.59**	**201**	P		**Pn**	**19 37 51.6**	**-0.8**
	1.1nm,0.3s,baz=193,slow=1.7,SNR=3.0							
TBI	**Tubuai**	**23.37**	**100**	*e*LQ			19 42 54.1	
	414nm,26.2s							
TBI				*e*LR		LR	19 43 48.8	
	1μm,29.8s,baz=272							
PPT	**Papeete**	**23.84**	**86**	*e*LQ			19 43 07.9	
	803nm,28.2s							
PPT				*e*LR		LR	19 44 04.7	
	1μm,28.8s,baz=259							
PPT	**Papeete**	**23.84**	**86**	LR		LR	19 46 13.8	
	comp=Z,369nm,19.4s,MS3.9,baz=252,slow=32							
RPZ	**Rata Peaks**	**25.58**	**205**	P		**P**	**19 39 03.6**	**+0.1**
	16nm,1.1s,mb4.5,baz=46,slow=15,SNR=4.1							
RPZ				LR		LR	19 48 57.3	
	comp=Z,992nm,18.6s,MS4.4,baz=24,slow=36							
HNR	**Honiara**	**27.10**	**291**	LR		LR	19 48 32.0	
	comp=Z,363nm,18.7s,MS4.0,baz=180,slow=33							
TAOE	**Nuku Hiva Isla**	**35.32**	**75**	*e*LR		LR	19 49 16.8	
	2um,30.6s							
CTA	**Charters Tower**	**36.62**	**264**	*e*P		**P**	**19 40 42.1**	**+1.4**
	4.1nm,0.6s,mb4.4							
CTA	**Charters Tower**	**36.62**	**264**	P		**P**	**19 40 41.0**	**+0.3**
	3.3nm,0.5s,mb4.4,baz=76,slow=8.5,SNR=8.9							
CTA	**Charters Tower**	**36.62**	**264**	*e*P		**P**	**19 40 42.1**	**+1.4**
CTA				pmax		pmax		
	comp=Z,4.0nm,0.6s							
RKT	**Rikitea**	**36.69**	**101**	*e*LR		LR	19 49 57.7	
	comp=Z,900nm,32.5s,baz=283							
PMG	**Port Moresby**	**38.58**	**282**	P		**P**	**19 40 57.2**	**0.0**
	comp=Z,23nm,1.0s,mb4.9,baz=103,slow=5.7,SNR=12							
STKA	**Stephens Creek**	**40.45**	**245**	*e*P		**P**	**19 41 10.4**	**-2.4**
	comp=Z,3.1nm,0.7s,mb4.2							
STKA	**Stephens Creek**	**40.45**	**245**	P		**P**	**19 41 11.1**	**-1.8**
	comp=Z,2.6nm,0.6s,mb4.2,baz=107,slow=12,SNR=6.8							
STKA				LR		LR	19 56 17.7	
	comp=Z,579nm,21.8s,MS4.4,baz=198,slow=34							
ASAR	**Alice Springs**	**47.51**	**257**	P		**P**	**19 42 08.7**	**-0.7**
	comp=Z,14nm,0.9s,mb5.0,baz=89,slow=8.3,SNR=89							
ASAR				PcP		PcP	19 43 40.1	+1.0
	comp=Z,2.9nm,0.7s,baz=99,slow=4.2,SNR=6.8							
WB2	**Warramunga Arr**	**47.68**	**262**	*e*P		**P**	**19 42 10.5**	**-0.3**
WRAB	**Tennant Creek**	**47.68**	**262**	*e*P		**P**	**19 42 10.4**	**-0.4**
WRAB				pmax		pmax		
	comp=Z,16nm,0.9s,mb5.0							
WRAB	**Tennant Creek**	**47.68**	**262**	*e*P		**P**	**19 42 10.4**	**-0.4**
	comp=Z,16nm,0.9s,mb5.1							
WRA	**Warramunga Arr**	**47.69**	**262**	P		**P**	**19 42 10.5**	**-0.4**
	comp=Z,4.1nm,0.5s,mb4.8,baz=99,slow=8.4,SNR=61							
KAKA	**Kakadu**	**51.18**	**270**	*e*P		**P**	**19 42 37.1**	**-0.4**
	comp=Z,5.8nm,0.6s,mb4.7							
FITZ	**Fitzroy Crossi**	**56.12**	**262**	*e*P		**P**	**19 43 13.3**	**-0.4**
	comp=Z,3.5nm,0.5s,mb4.7							
FITZ	**Fitzroy Crossi**	**56.12**	**262**	P		**P**	**19 43 13.6**	**0.0**
	comp=Z,2.0nm,0.5s,mb4.4,baz=123,slow=7.5,SNR=16							
VNDA	**Vanda**	**57.67**	**186**	P		**P**	**19 43 25.0**	**+0.3**
	comp=Z,1.9nm,0.9s,mb4.1,baz=0.3,slow=6.4,SNR=9.4							
RPN	**Rapa Nui**	**59.30**	**110**	LR		LR	20 04 55.0	
	comp=Z,410nm,19.1s,MS4.6,baz=211,slow=32							
MBWA	**Marble Bar**	**60.85**	**257**	*e*P		**P**	**19 43 45.6**	**-1.0**
	comp=Z,6.3nm,0.7s,mb4.8							
NWAO	**Narrogin (SRO)**	**60.98**	**243**	LR		LR	20 06 25.3	
	comp=Z,7.4nm,18.8s,baz=246,slow=32							
QSPA	**South Pole Qui**	**69.03**	**180**	*e*P		**P**	**19 44 41.2**	**+1.4**
	comp=Z,10nm,1.1s,mb4.7							
MJAR	**Matsushiro Arr**	**72.58**	**322**	P		**P**	**19 45 01.7**	**+0.3**
	comp=Z,9.2nm,0.9s,mb4.7,baz=157,slow=6.1,SNR=32							
MJAR				LR		LR	20 12 25.0	
	comp=Z,128nm,20.6s,MS4.2,baz=120,slow=32							
MAJO	**Matsushiro**	**72.58**	**322**	*e*P		**P**	**19 45 01.7**	**+0.3**
MAJO				pmax		pmax		
	comp=Z,12nm,0.9s,mb4.8							
MAJO	**Matsushiro**	**72.58**	**322**	*e*P		**P**	**19 45 01.7**	**+0.3**
	comp=Z,12nm,0.9s,mb4.8							
MAT	**Matsushiro**	**72.58**	**322**	P		**P**	**19 45 01.7**	**+0.3**
MAT				eS		S	19 54 09.6	-14
MAT	**Matsushiro**	**72.58**	**322**	*e*P		**P**	**19 45 02.0**	**+0.6**
MAT				S		S	19 54 10.0	-14
MAT				pmax		pmax		
	comp=Z,13nm,1.0s,mb4.8							
MAT	**Matsushiro**	**72.58**	**322**	*e*P		**P**	**19 45 02.0**	**+0.6**
	comp=Z,13nm,1.0s,mb4.8							
MAT				S		S	19 54 10.0	-14
LPIG	**La Paz**	**76.97**	**58**	LR		LR	20 10 24.2	
	comp=Z,157nm,21.5s,MS4.3,baz=204,slow=29							
CMB	**Columbia Colle**	**77.73**	**41**	*e*P		**P**	**19 45 31.1**	**0.0**
CMB				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.5							
CMB	**Columbia Colle**	**77.73**	**41**	*e*P		**P**	**19 45 31.1**	**0.0**
	comp=Z,4.8nm,0.8s,mb4.5							
YBH	**Yreka Blue Hor**	**78.76**	**37**	P		**P**	**19 45 36.1**	**-0.6**
	comp=Z,2.7nm,0.7s,mb4.3,baz=208,slow=8.0,SNR=5.5							
YBH				LR		LR	20 15 43.4	
	comp=Z,167nm,18.2s,MS4.4,baz=224,slow=32							
NVAR	**Mina Array Bea**	**79.27**	**42**	P		**P**	**19 45 39.6**	**+0.1**
	comp=Z,10nm,0.7s,mb4.9,baz=223,slow=8.7,SNR=29							
TPNV	**Topopah Spring**	**79.68**	**44**	*e*P		**P**	**19 45 41.7**	**-0.1**
TPNV				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.8							
TPNV	**Topopah Spring**	**79.68**	**44**	*e*P		**P**	**19 45 41.7**	**0.0**
	comp=Z,10nm,0.9s,mb4.8							
TPH	**Tonopah**	**79.73**	**42**	*e*P		**P**	**19 45 42.2**	**+0.2**
TPH				pmax		pmax		
	comp=Z,5.0nm,0.6s,mb4.6							
TPH	**Tonopah**	**79.73**	**42**	*e*P		**P**	**19 45 42.2**	**+0.2**
	comp=Z,5.1nm,0.6s,mb4.6							
SSE	**Sheshan**	**80.51**	**308**	P		**P**	**19 45 44.8**	**-1.4**
SSE				AMB		AMB		
	comp=Z,16nm,0.7s,mb5.1							
SSE				AMB		AMB		
	comp=Z,50nm,2.9s,mb4.9							
WVOR	**Wild Horse Val**	**81.53**	**38**	*e*P		**P**	**19 45 52.0**	**+0.3**
WVOR				pmax		pmax		
	comp=Z,8.0nm,0.9s,mb4.7							
WVOR	**Wild Horse Val**	**81.53**	**38**	*e*P		**P**	**19 45 52.0**	**+0.2**
	comp=Z,8.1nm,0.9s,mb4.7							
HABR	**Khabarovsk**	**82.53**	**329**	*e*P		**P**	**19 45 58.4**	**+1.5**
HABR				S		S	19 56 12.3	+1.0
NJ2	**Nanjing**	**82.71**	**308**	*e*P		**P**	**19 45 58.4**	**+0.6**
NJ2				AP		pP	19 46 09.1	+0.2
NJ2				XP		sP	19 46 11.6	-1.3
NJ2				PP		PP	19 49 10.4	+2.5
NJ2				AMB		AMB		
	comp=Z,20nm,0.5s,mb5.4							
NJ2				AMB		AMB		
	comp=Z,150nm,5.3s							
NJ2				LR		LR		
	comp=N,580nm,36.0s,MS4.8							
NJ2				LR		LR		
	comp=E,440nm,34.6s,MS4.8							
NJ2				LR		LR		
	comp=Z,210nm,21.3s							
MSU	**Marysvale**	**83.22**	**44**	*e*P		**P**	**19 46 01.5**	**+1.0**
BBB	**Bella Bella**	**83.41**	**27**	LR		LR	20 16 24.8	
	comp=Z,103nm,18.5s,MS4.2,baz=214,slow=31							
SRU	**San Rafael**	**84.63**	**45**	*e*P		**P**	**19 46 08.0**	**+0.3**
SRU				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.8							
SRU	**San Rafael**	**84.63**	**45**	P		**P**	**19 46 08.0**	**+0.3**
	comp=Z,7.1nm,0.9s,mb4.8							
KLR	**Kul'dur**	**84.65**	**328**	*e*P		**P**	**19 46 14.0**	**+6.2**
HVU	**Hansel Valley**	**84.66**	**41**	*e*P		**P**	**19 46 07.7**	**-0.1**
HVU				pmax		pmax		
	comp=Z,8.0nm,0.7s,mb5.0							
HVU	**Hansel Valley**	**84.66**	**41**	*e*P		**P**	**19 46 07.7**	**-0.1**
	comp=Z,8.3nm,0.7s,mb5.0							
HLID	**Hailey**	**84.69**	**39**	*e*P		**P**	**19 46 07.6**	**-0.4**
	comp=Z,9.2nm,0.8s,mb5.0							
CN2	**Changchun**	**84.71**	**321**	*e*P		**P**	**19 46 10.7**	**+2.6**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb5.0							
BNM	**Barren Site**	**84.76**	**51**	*e*P		**P**	**19 46 07.8**	**-0.6**
TTA	**Tatalina**	**84.97**	**8**	*e*P		**P**	**19 46 09.3**	**-0.1**
TTA				pmax		pmax		
	comp=Z,22nm,1.4s,mb5.1							
TTA	**Tatalina**	**84.97**	**8**	*e*P		**P**	**19 46 09.3**	**-0.1**
	comp=Z,22nm,1.4s,mb5.1							
TCUT	**Toone Canyon**	**85.15**	**43**	*e*P		**P**	**19 46 10.2**	**-0.1**
ANMO	**Albuquerque**	**85.28**	**50**	*e*P		**P**	**19 46 10.2**	**-0.8**
ANMO				pmax		pmax		
	comp=Z,5.0nm,1.0s							
ANMO	**Albuquerque**	**85.28**	**50**	*e*P		**P**	**19 46 10.2**	**-0.8**
	comp=Z,4.9nm,1.0s,mb4.6							
GDL2	**Guadalupe Moun**	**85.49**	**53**	*e*P		**P**	**19 46 12.2**	**+0.2**
NEW	**Newport**	**85.98**	**34**	LR		LR	20 18 04.4	
	comp=Z,194nm,19.7s,MS4.5,baz=208,slow=31							
PDAR	**Pinedale Array**	**87.20**	**42**	P		**P**	**19 46 19.6**	**-0.8**
	comp=Z,2.9nm,0.8s,mb4.6,baz=213,slow=2.6,SNR=24							
PDAR				LR		LR	20 22 35.3	
	comp=Z,132nm,18.8s,MS4.4,baz=149,slow=34							
FLWY	**Flagg Ranch**	**87.20**	**40**	*e*P		**P**	**19 46 20.5**	**+0.1**
	comp=Z,5.3nm,0.9s,mb4.8							
DLBC	**Dease Lake**	**87.34**	**22**	LR		LR	20 21 02.6	
	comp=Z,62nm,18.7s,MS4.0,baz=27,slow=33							
SNAA	**Sanae**	**87.35**	**177**	*e*P		**P**	**19 46 23.6**	**+2.5**
VNA3	**Neumayer Olymp**	**87.36**	**175**	*e*P		**P**	**19 46 20.7**	**-0.5**
VNA3				*e*		pP	19 46 32.3	0.0
VNA3				*e*			19 46 35.0	
VNA3				*e*			19 46 37.2	
VNA3				*e*			19 46 46.3	
PSI	**Prapat**	**87.72**	**274**	P		**P**	**19 46 22.9**	**0.0**
	comp=Z,6.9nm,0.8s,mb4.9,baz=190,slow=6.0,SNR=7.6							
PSI				LR		LR	20 27 57.8	
	comp=Z,136nm,18.7s,MS4.4,baz=359,slow=37							
PSI	**Prapat**	**87.72**	**274**	P		**P**	**19 46 22.9**	**0.0**
PSI				LR		LR	20 27 57.8	
VNA2	**Neumayer--Watz**	**87.84**	**176**	*e*P		**P**	**19 46 23.6**	**+0.1**
VNA2				*e*			19 46 25.4	
VNA2				*e*		pP	19 46 34.7	+0.1
VNA2				*e*			19 46 37.2	
VNA2				*e*			19 46 48.6	
COLA	**College**	**88.09**	**11**	*e*P		**P**	**19 46 24.3**	**-0.4**
COLA				pmax		pmax		
	comp=Z,11nm,1.0s,mb5.0							
COLA	**College**	**88.09**	**11**	*e*P		**P**	**19 46 24.3**	**-0.4**
	comp=Z,11nm,1.0s,mb5.0							
WALA	**Waterton Lakes**	**88.16**	**35**	*e*P		**P**	**19 46 24.6**	**-0.4**
	comp=Z,5.1nm,1.0s,mb4.7							
ILAR	**Eielson Array**	**88.17**	**11**	P		**P**	**19 46 24.0**	**-1.1**
	comp=Z,5.6nm,1.1s,mb4.7,baz=222,slow=5.1,SNR=14							
ILAR				PP		PP	19 49 47.9	-4.4
	comp=Z,0.4nm,0.9s,baz=226,slow=9.3,SNR=4.2							
DAWY	**Dawson**	**89.14**	**15**	*e*P		**P**	**19 46 29.7**	**+0.1**
BILL	**Bilibino**	**89.94**	**353**	*e*P		**P**	**19 46 29.9**	**-3.5**
BILL				pmax		pmax		
	comp=Z,5.0nm,2.4s,mb4.4							
XAN	**Xi'an**	**91.02**	**306**	P		**P**	**19 46 40.3**	**+1.9**
XAN				AP		pP	19 46 46.2	-3.3
XAN				AMB		AMB		
	comp=Z,14nm,1.0s,mb5.2							
RSSD	**Black Hills**	**91.36**	**43**	*e*P		**P**	**19 46 40.3**	**+0.4**
RSSD				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb4.3							
RSSD	**Black Hills**	**91.36**	**43**	*e*P		**P**	**19 46 40.3**	**+0.3**
	comp=Z,1.3nm,0.6s,mb4.4							
CHTO	**Chiang Mai**	**93.44**	**289**	*e*P		**P**	**19 46 51.7**	**+2.1**
CHTO				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb5.0							
CHTO	**Chiang Mai**	**93.44**	**289**	*e*P		**P**	**19 46 51.7**	**+2.1**
	comp=Z,4.2nm,0.7s,mb5.0							
INK	**Inuvik**	**93.99**	**14**	*e*P		**P**	**19 46 50.8**	**-1.3**
INK				pmax		pmax		
	comp=Z,8.0nm,1.3s							
INK	**Inuvik**	**93.99**	**14**	*e*P		**P**	**19 46 50.8**	**-1.3**
	comp=Z,7.7nm,1.3s,mb5.0							
YKA	**Yellowknife Ar**	**95.69**	**24**	P		**P**	**19 46 59.2**	**-0.7**
	comp=Z,2.1nm,0.8s,mb4.6,baz=236,slow=4.3,SNR=45							
YKA	**Yellowknife Ar**	**95.69**	**24**	P		**P**	**19 46 59.2**	**-0.7**
LPAZ	**La Paz**	**98.89**	**111**	LR		LR	20 25 43.2	
	comp=Z,98nm,18.7s,MS4.3,baz=228,slow=32							
MKAR	**Makanchi Array**	**113.90**	**313**	PKiKP		PKiKP	19 52 12.6	-0.3
	comp=Z,0.3nm,0.5s,baz=98,slow=1.5,SNR=9.0							
BVAR	**Borovoye Array**	**121.55**	**320**	PKP		PKPdf	19 52 26.5	-1.1
	comp=Z,1.4nm,0.6s,baz=87,slow=1.0,SNR=18							
ZRNK	**Zerenda**	**122.39**	**320**	*e*PKIKP		PKPdf	19 52 27.9	-1.3
ARU	**Arti**	**127.45**	**326**	*i* PKIKP		PKPdf	19 52 39.0	+0.1
ARU				*e*			19 54 37.3	
ARU				*e*		PPP	19 57 21.3	
ARU				*e*			19 59 41.1	
ARU				*e*		SS	20 11 46.8	-0.3
ARU	**Arti**	**127.45**	**326**	*e*PKPdf		PKPdf	19 52 38.9	0.0
AKTK	**Aktyubinsk**	**129.59**	**319**	PKP		PKPdf	19 52 43.8	+0.9
AKTO	**Aktyubinsk**	**129.59**	**319**	PKP		PKPdf	19 52 43.8	+0.8
	comp=Z,0.4nm,0.3s,baz=27,slow=2.3,SNR=4.3							
ARCES	**ARCESS Array B**	**130.00**	**351**	PKP		PKPdf	19 52 43.5	-0.2
	comp=Z,1.3nm,0.7s,baz=341,slow=2.6,SNR=7.1							
FINES	**FINESS Array B**	**137.15**	**346**	PKP		PKPdf	19 52 57.6	+0.4
	comp=Z,0.6nm,0.6s,baz=100,slow=9.9,SNR=5.3							
OBN	**Obninsk**	**138.72**	**333**	*e*PKIKP		PKPdf	19 53 11.2	+11
OBN				pmax		pmax		
	comp=Z,6.0nm,1.1s							
NB2	**NORSAR Subarra**	**139.84**	**356**	PKPd		PKPdf	19 52 55.6	-6.5
	comp=Z,1.4nm,1.0s,baz=8.3,slow=1.9							
NOA	**NORSAR Array B**	**139.84**	**356**	PKhKP			19 52 56.0	
	comp=Z,0.8nm,0.7s,baz=15,slow=4.3,SNR=3.8							
SUW	**Suwalki**	**144.41**	**342**	*e*PKP		PKPdf	19 53 08.4	-1.9
ANN	**Anapa**	**144.55**	**319**	*i* PKHKP			19 53 08.6	
ANN				pmax		pmax		
	comp=Z,22nm,0.8s							
AKASG	**Malin Array Be**	**144.99**	**333**	PKP		PKPdf	19 53 09.9	-1.3
	comp=Z,6.5nm,0.5s,baz=40,slow=4.1,SNR=59							
GRSN	**GIRESUNGRSN**	**145.85**	**313**	*i* P		PKPdf	19 53 12.3	-0.4
ELZG	**Elazig**	**146.31**	**309**	*i* P		PKPdf	19 53 16.6	+3.1
SIM	**Simferopol'**	**146.43**	**322**	*e*PKIKP		PKPdf	19 53 16.0	+2.3
SIM				*e*			19 53 26.0	
SIM				pmax		pmax		
	comp=Z,16nm,0.7s							
GKP	**Gorka Klasztor**	**146.58**	**347**	*e*PKP		PKPdf	19 53 16.1	+2.1
MALT	**Malatya**	**146.78**	**309**	*e*PKP2		PKPab	19 53 17.2	-0.2
BSEG	**Bad Segeberg**	**146.96**	**355**	*e*PKPbc		PKPbc	19 53 16.6	0.0
LVV	**L'vov**	**147.72**	**337**	*i* PKP2		PKPab	19 53 19.2	-1.9
GZT	**Gaziantep**	**147.77**	**307**	*i* P		PKPbc	19 53 19.9	+1.1
BOYT	**Boyabat**	**147.87**	**316**	*i* P		PKPbc	19 53 20.2	+1.1
RUE	**Ruedersdorf**	**147.96**	**350**	*e*PKPbc		PKPbc	19 53 19.2	-0.2
CTKT	**Corum**	**148.34**	**315**	*i* P		PKPbc	19 53 21.0	+0.7
KWP	**Kalwaria**	**148.34**	**338**	*e*PKP		PKPbc	19 53 20.8	+0.5
OJC	**Ojcow**	**148.75**	**342**	*e*PKPab		PKPbc	19 53 21.4	0.0
STHS	**Stebnicka Huta**	**149.01**	**340**	*e*PKP		PKPbc	19 53 23.0	+0.9
STHS				*e*			19 53 27.0	
CLZ	**Clausthal**	**149.02**	**354**	*e*PKPbc		PKPbc	19 53 22.3	+0.2
BURAR	**Bucovina Array**	**149.04**	**334**	⇑*i*P		PKPbc	19 53 22.5	+0.4
COBT	**Iskenderun**	**149.05**	**307**	*i* P		PKPbc	19 53 23.4	+1.2
KSP	**Ksiaz**	**149.06**	**347**	*e*PKP		PKPbc	19 53 23.0	+0.8
KOLS	**Kolonicke sedl**	**149.08**	**338**	*e*PKP		PKPbc	19 53 25.5	+3.3
KOLS				*e*			19 53 30.4	
AVNT	**Avonos**	**149.15**	**311**	*i* P		PKPdf	19 53 20.7	+2.5
CLL	**Collm**	**149.22**	**351**	*e*PKPbc		PKPbc	19 53 22.6	0.0
CLL	**Collm**	**149.22**	**351**	*i* PKPbc		PKPbc	19 53 22.5	-0.1
	comp=Z,12nm,1.2s							
CLL				⇓*i*PKPab		PKPab	19 53 26.8	-0.3
	comp=Z,11nm,0.8s							
UPC	**Upice**	**149.44**	**347**	⇑*e*PKPB			19 53 23.3	
BRG	**Berggiesshubel**	**149.49**	**349**	*e*PKPbc		PKPbc	19 53 23.2	-0.1
BRG	**Berggiesshubel**	**149.49**	**349**	*e*PKP		PKPbc	19 53 23.4	+0.1
	comp=Z,3.8nm,1.0s							
DPC	**Dobruska-Polom**	**149.51**	**346**	⇑*e*PKPB		PKPbc	19 53 23.8	+0.5
DPC				*e*PKPAB		PKPab	19 53 29.1	+0.8
DPC				*e*pPKP		pPKPdf	19 53 37.0	+6.7
BR131	**Keskin Array S**	**149.55**	**314**	*e*PKPbc		PKPbc	19 53 24.4	+1.0
BRTR	**Keskin Array B**	**149.55**	**314**	PKPbc		PKPbc	19 53 23.6	+0.3
	comp=Z,4.3nm,0.9s,baz=128,slow=3.2,SNR=21							
BRTR	**Keskin Array B**	**149.55**	**314**	*e*PKP2		PKPbc	19 53 24.1	+0.7
OKC	**Ostrava-Krasne**	**149.55**	**344**	*e*PKPB		PKPbc	19 53 23.7	+0.3
OKC				*e*PKPAB		PKPab	19 53 28.0	-0.4
MORC	**Moravsky Berou**	**149.76**	**344**	⇑*i* P		PKPdf	19 53 22.4	+3.2
MORC	**Moravsky Berou**	**149.76**	**344**	*e*PKPbc		PKPbc	19 53 24.3	+0.3
ANTO	**Ankara**	**150.04**	**315**	*e*PKIKP		PKPbc	19 53 24.6	0.0
MOX	**Moxa**	**150.06**	**352**	*e*PKPbc		PKPbc	19 53 24.5	-0.2
KECS	**Kecovo**	**150.07**	**340**	*e*PKP		PKPbc	19 53 25.1	+0.4
KECS				*e*			19 53 34.9	
SGKT	**Sivrigoynuk**	**150.15**	**317**	*i* P		PKPbc	19 53 25.4	+0.5
WERD	**Werda**	**150.16**	**351**	*e*PKPbc		PKPbc	19 53 25.0	+0.1
CVD	**Cernavoda**	**150.18**	**326**	⇑*i*P		PKPdf	19 53 23.8	+4.0
PRU	**Pruhonice**	**150.23**	**348**	⇑*e*PKPB		PKPbc	19 53 24.1	-1.0
MLR	**Muntele Rosu**	**150.35**	**330**	⇑*i*P		PKPdf	19 53 21.7	+1.6
VYHS	**Vyhne**	**150.57**	**342**	*e*PKP		PKPbc	19 53 26.1	+0.2
MEST	**Erdemli**	**150.59**	**308**	*i* P		PKPbc	19 53 26.3	+0.4
MANZ	**Manzenberg**	**150.64**	**351**	*e*PKPbc		PKPbc	19 53 26.2	+0.2
TREC	**Trest**	**150.69**	**346**	⇑*e*PKPB		PKPbc	19 53 26.7	+0.5
TNS	**Taunus Mts**	**150.79**	**356**	*e*PKPbc		PKPbc	19 53 26.6	+0.2
ROTZ	**Rotzenmuhle**	**150.84**	**351**	*e*PKPbc		PKPbc	19 53 26.5	0.0
MMAI	**Mount Meron Ar**	**150.85**	**300**	PKPbc		PKPbc	19 53 28.2	+1.6
	comp=Z,7.5nm,0.9s,baz=67,slow=8.4,SNR=8.8							
GIVF	**Givet**	**151.00**	**1**	*e*PKP1		PKPbc	19 53 27.2	+0.3
BAIF	**Baives**	**151.03**	**2**	*e*PKP1		PKPbc	19 53 27.4	+0.4
	comp=Z,5.3nm,0.6s							
GRA1	**Grafenberg Arr**	**151.05**	**352**	*e*PKPbc		PKPbc	19 53 26.9	-0.1
GRF	**Grafenberg Arr**	**151.05**	**352**	*e*PKPbc		PKPbc	19 53 26.9	-0.1
KHC	**Kasperske Hory**	**151.23**	**349**	⇑*e*PKPB		PKPbc	19 53 27.4	0.0
ERMK	**Ermenek**	**151.47**	**309**	*i* P		PKPbc	19 53 30.1	+2.1
GEC2	**GERESS Array S**	**151.48**	**348**	*e*PKPbc		PKPbc	19 53 28.0	0.0
GERES	**GERESS Array B**	**151.48**	**348**	PKPbc		PKPbc	19 53 28.2	+0.2
	comp=Z,6.2nm,0.8s,baz=48,slow=2.0,SNR=7.5							
FLN	**La Foliniere**	**151.95**	**9**	*e*PKP1		PKPbc	19 53 28.8	-0.3
EIL	**Elat**	**152.03**	**294**	*e*PKPbc		PKPbc	19 53 28.7	-0.6
ULDT	**Uludag**	**152.23**	**319**	*i* P		PKPbc	19 53 30.1	+0.4
GRR	**Gorron**	**152.26**	**9**	*e*PKP1		PKPbc	19 53

comp=Z,26nm,0.6s,mb5.3
SSE AMB AMB
comp=Z,62nm,4.5s
MAW Mawson 82.71 199 LR LR 20 34 38.6
comp=Z,238nm,18.5s,MS4.6,baz=247,slow=32
NJ2 Nanjing 82.77 308 *e*P **P** **20 02 41.8 -0.9**
NJ2 PP PP 20 05 55.1 +2.2
NJ2 S S 20 12 55.0 -3.3
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
NJ2 AMB AMB
comp=Z,100nm,10.1s
NJ2 LR LR
comp=N,790nm,32.6s,MS5.0
NJ2 LR LR
comp=E,530nm,30.0s,MS5.0
NJ2 LR LR
comp=Z,160nm,26.9s,MS4.3
ANMO Albuquerque 84.63 50⇓ *i*P **P** **20 02 52.7 +0.5**
PDAR Pinedale Array 86.54 42 P **P** **20 03 03.0 +1.3**
comp=Z,0.5nm,0.7s,mb3.8,baz=150,slow=3.3,SNR=4.2
COLA College 87.54 11⇑ *e*P **P** **20 03 06.0 -0.6**
ILAR Eielson Array 87.62 11 P **P** **20 03 05.8 -1.2**
comp=Z,0.9nm,0.7s,mb4.1,baz=222,slow=5.8,SNR=8.5
VNA3 Neumayer Olymp 87.79 175 *e*P **P** **20 03 08.6 +0.8**
VNA3 *e* 20 03 11.2
SNAA Sanae 87.80 177 *e*P **P** **20 03 16.7 +8.9**
SNAA *e* 20 03 19.5
VNA2 Neumayer--Watz 88.28 176 *e*P **P** **20 03 10.1 0.0**
VNA2 *e* 20 03 12.0
VNA2 *e* pP 20 03 22.1 +0.9
VNA2 *e* 20 03 24.5
BILL Bilibino 89.52 353⇓ *i*P **P** **20 03 15.8 -0.1**
BILL pmax pmax
comp=Z,4.0nm,1.3s,mb4.6
YKA Yellowknife Ar 95.08 24 P **P** **20 03 40.5 -1.1**
comp=Z,0.3nm,0.6s,mb3.9,baz=237,slow=4.4,SNR=7.6
YKA Yellowknife Ar 95.08 24 P **P** **20 03 40.5 -1.1**
ULN Ulaanbaatar 97.83 318 *i*P **P** **20 03 51.9 -2.2**
ARU Arti 127.31 326⇓ *i*PKIKP PKPdf 20 09 22.8 -0.4
ARCES ARCESS Array B 129.60 351** PKP PKPdf 20 09 26.1 -1.4
comp=Z,1.3nm,0.8s,baz=48,slow=1.8,SNR=6.7
OBN Obninsk 138.50 334 *i* PKIKP PKPdf 20 09 44.2 0.0
OBN pmax pmax
comp=Z,5.0nm,0.6s
KIV Kislovodsk 141.59 316⇑ *i*PKIKP PKPdf 20 09 51.0 +1.2
AKASG Malin Array Be 144.76 334 PKP PKPdf 20 09 53.8 -1.5
comp=Z,4.5nm,0.6s,baz=41,slow=4.2,SNR=28
MALT Malatya 146.84 309 *e*PKP2 PKPab 20 10 02.5 +0.4
CLL Collm 148.82 351⇓ *i* (PKiKP) 20 10 08.5
comp=Z,14nm,1.8s
CLL *ep*PKiKP 20 10 21.0
CLL *i* x x 20 10 34.5
CLL Collm 148.82 351⇓ *i*PKP2 PKPab 20 10 08.5 -1.5
CLL pmax pmax
comp=Z,14nm,1.8s
UPC Upice 149.08 347 *e*PKPAB PKPab 20 10 11.7 +0.7
BRG Berggiesshubel 149.10 350 *e*PKP2 PKPab 20 10 08.6 -2.6
BRG pmax pmax
comp=Z,2.0nm,0.8s
BRG Berggiesshubel 149.10 350 *e* PKPdf 20 10 08.6 +5.9
comp=Z,1.7nm,0.8s
DPC Dobruska-Polom 149.16 347 *e*PKPAB PKPab 20 10 11.4 0.0
DPC *ep*PKP pPKPdf 20 10 26.1 +12
OKC Ostrava-Krasne 149.22 344 *e*PKPAB PKPab 20 10 14.9 +3.3
OKC *ex* x 20 10 28.5
BRTR Keskin Array B 149.54 315 PKPbc PKPbc 20 10 07.1 -0.8
comp=Z,1.4nm,0.8s,baz=163,slow=1.3,SNR=5.5
MOX Moxa 149.65 353 *e*P PKPab 20 10 12.8 -0.6
PRU Pruhonice 149.85 349⇑ *e*PKPB PKPbc 20 10 08.8 +0.1
NKC Novy Kostel 149.95 352 *e*PKPAB PKPab 20 10 12.6 -2.0
NKC *ep*PKP pPKPdf 20 10 28.6 +13
KHC Kasperske Hory 150.85 350⇑ *e*PKPB PKPbc 20 10 11.4 +0.4
KHC *ep*PKP pPKPdf 20 10 22.2 +5.3
TORD Torodi Ar. Bea 171.59 151 PKP PKPdf 20 10 29.1 +2.0
comp=Z,0.3nm,0.8s,baz=60,slow=0.7,SNR=4.2

IDC 04 19:57:31.4±12.0, 762S×12883E, h110km±142km, mb3.3/1, mb1 3.9/4, mb1mx3.5/13, mbtmp4.1/4, ML4.2/3, Error ellipse: s-maj=87.1km s-min=60.6km az=19.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**10.87**	**196**	P		Pn	20 00 05.2	+1.5
	0.8nm,0.3s,baz=16,slow=14,SNR=32							
FITZ				S		Sn	20 02 02.2	-1.1
	2.0nm,0.3s,baz=115,slow=23,SNR=7.9							
WRA	**Warramunga Ar**	**13.36**	**157**	P		Pn	20 00 34.9	-1.7
	2.4nm,0.3s,baz=332,slow=13,SNR=35							
WRA				S		Sn	20 02 56.6	-7.0
	3.1nm,0.3s,baz=336,slow=23,SNR=9.3							
ASAR	**Alice Springs**	**16.68**	**164**	P		Pn	20 01 20.2	+1.8
	0.6nm,0.3s,baz=339,slow=9.9,SNR=20							
ASAR				S		S	20 04 20.2	-4.4
	0.8nm,0.3s,baz=354,slow=27,SNR=7.8							
MKAR	**Makanchi Array**	**68.11**	**327**	P		P	20 08 19.5	+0.1
	0.3nm,0.4s,baz=127,slow=8.0,SNR=13							

IDC 04 19:58:34.2±2.9, 2064S×17441W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.9/15, mbtmp3.9/5, MS3.6/1, Ms1 3.6/1, ms1mx2.8/28, Error ellipse: s-maj=101.4km s-min=32.0km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**7.15**	**21**	Pn		Pn	20 00 14.7	-5.3
	2.9nm,0.3s,baz=125,slow=20,SNR=1.3							
AFI				Sn		Sn	20 01 29.5	-13
	9.4nm,0.3s,baz=198,slow=19,SNR=2.9							
RAR	**Rarotonga**	**13.69**	**95**	Pn		Pn	20 01 35.7	-14
	3.4nm,0.3s,baz=232,slow=7.1,SNR=10							
PPT	**Papeete**	**23.66**	**87**	LR		LR	20 11 30.5	
	comp=Z,154nm,19.2s,baz=128,slow=33							
CTA	**Charters Tower**	**36.82**	**264**	P		P	20 05 44.7	+0.9
	3.6nm,0.7s,baz=105,slow=12,SNR=4.1							
ASAR	**Alice Springs**	**47.76**	**256**	P		P	20 07 13.1	+0.2
	1.2nm,0.6s,baz=94,slow=7.4,SNR=4.1							
WRA	**Warramunga Arr**	**47.91**	**261**	P		P	20 07 14.4	+0.3
	0.4nm,0.3s,baz=95,slow=7.6,SNR=5.6							
MJAR	**Matsushiro Arr**	**72.36**	**322**	P		P	20 10 01.6	-0.3
	0.8nm,0.5s,baz=159,slow=6.6,SNR=9.1							
ILAR	**Eielson Array**	**87.75**	**11**	P		P	20 11 25.1	+0.2
	0.3nm,0.6s,baz=207,slow=4.4,SNR=6.6							
AKASG	**Malin Array Be**	**144.70**	**334**	PKP		PKPdf	20 18 10.8	-2.0
	1.7nm,0.6s,baz=41,slow=4.2,SNR=14							
BRTR	**Keskin Array B**	**149.38**	**315**	PKPbc		PKPbc	20 18 25.2	+0.2
	0.8nm,0.7s,baz=167,slow=4.8,SNR=3.7							

*IDC **04** 20:05:01.6±3.0, 4301N×105.10W, h0km, mb3.3/2, mb1 3.7/4, mb1mx3.4/22, mbtmp3.5/4, ML3.0/2, Error ellipse: s-maj=64.5km s-min=10.2km az=161.0*
*ISCJB **04** 20:05:04.7±0.6, 4381N±005×10527W±008, h0km, mb4.3/1, Error ellipse: s-maj=8.6km s-min=6.9km az=89.8*
*NEIC **04** 20:05:04.5±0.7, 4398N×10529W, h0km, ML3.0, Error ellipse: s-maj=9.6km s-min=8.3km az=107.0, Suspected Mining explosion.*
NEIC 40 km [25 miles] SSE of Gillette.

ISC 04 20:05:06.3±0.6, 4376N±005×10530W±007, h0km, n21, σ1ᵖ37/24, mb4.3/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RSSD	**Black Hills**	**0.98**	**68**	*e*Pn		**Pn**	**20 05 25.5**	**-1.8**
PHWY	**Pilot Hill**	**2.46**	**183**	*e*Pn		**Pn**	**20 05 48.0**	**+0.4**
RWWY	**Rawlins**	**2.50**	**215**	*e*Pn		**Pn**	**20 05 48.6**	**+0.4**
LAO	**LASA Array**	**3.00**	**348**	*e*Pg		**Pn**	**20 05 57.2**	**+2.1**
PDAR	**Pinedale Array**	**3.27**	**254**	Pn		**Pn**	**20 05 58.1**	**-0.6**
	0.7nm,0.3s,baz=62,slow=19,SNR=10							
PDAR				Lg			20 06 43.6	
	8.0nm,0.3s,baz=73,slow=21,SNR=8.4							
GCMT	**Greycliff**	**3.72**	**305**	*e*P		**Pn**	**20 06 06.7**	**+1.8**
LOHW	**Long Hollow**	**3.85**	**270**	*e*Pn		**Pn**	**20 06 04.4**	**-2.4**
LOHW				*e*Pg		**Pb**	**20 06 13.9**	**-1.1**
FLWY	**Flagg Ranch**	**3.92**	**277**	*e*Pn		**Pn**	**20 06 06.5**	**-1.2**
FLWY				*e*Pg		**Pg**	**20 06 19.1**	**-2.2**
ISCO	**Idaho Springs**	**3.96**	**184**	*e*Pn		**Pn**	**20 06 09.2**	**+0.9**
REDW	**Red Top Meadow**	**4.05**	**266**	*e*Pn		**Pn**	**20 06 10.9**	**+1.4**
TPAW	**Teton Pass**	**4.11**	**268**	*e*Pn		**Pn**	**20 06 11.6**	**+1.3**
TCUT	**Toone Canyon**	**5.23**	**242**	*e*Pn		**Pn**	**20 06 26.8**	**+1.0**
EGMT	**Eagleton**	**5.28**	**325**	*e*Pn		**Pn**	**20 06 26.0**	**-0.4**
	8.4nm,0.5s							
DAU	**Daniels Canyon**	**5.55**	**235**	*e*Pn		**Pn**	**20 06 31.9**	**+1.7**
DAU				*e*Pg		**Pb**	**20 06 43.0**	**-1.1**
HVU	**Hansel Valley**	**5.85**	**253**	*e*Pn		**Pn**	**20 06 32.5**	**-1.7**
SRU	**San Rafael**	**6.08**	**222**	*e*Pn		**Pn**	**20 06 37.8**	**+0.4**
	7.7nm,0.4s							
CHMT	**Chamberlain Mo**	**6.43**	**302**	*e*P		**Pn**	**20 06 43.1**	**+0.9**
ULM	**Lac du Bonnet**	**9.14**	**41**	Pn		**Pn**	**20 07 18.9**	**-0.5**
	0.6nm,0.3s,baz=230,slow=9.5,SNR=5.1							
ULM				Lg			20 09 54.5	
	0.5nm,0.3s,baz=145,slow=13,SNR=3.4							
WMOK	**Wichita Mounta**	**10.32**	**149**	*e*Pn		**Pn**	**20 07 30.4**	**-5.2**
	3.0nm,1.0s							
YKA	**Yellowknife Ar**	**19.54**	**347**	P		**Pn**	**20 09 38.9**	**+2.3**
	0.1nm,0.4s,baz=154,slow=8.5,SNR=4.2							
ARCES	**ARCESS Array B**	**61.41**	**18**	P		**P**	**20 15 22.7**	**-1.5**
	2.4nm,1.0s,mb4.3,baz=333,slow=6.2,SNR=7.1							

*ISCJB **04** 20:12:35.9±0.5, 3818N±002×2669E±002, h6km±3km, Error ellipse: s-maj=3.1km s-min=2.9km az=134.7*
*ATH **04** 20:12:36.5, 3815N×2662E, h30km, MD3.7/12, ML3.8*
*ISK **04** 20:12:36.1, 3821N×2665E, h16km, MD3.4*
*CSEM **04** 20:12:36.5±0.1, 3817N×2674E, h12km, MD3.4, Error ellipse: s-maj=1.6km s-min=1.5km az=143.0*
*THE **04** 20:12:37.1, 3819N×2671E, h2km, ML3.7*

ISC 04 20:12:37.1±0.4, 3817N±002×2668E±002, h12km±3km, n64, σ0ᵖ90/84, 3C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URLA	**Izmir**	**0.20**	**341**	*i* P		**Pg**	**20 12 41.3**	**-0.1**
URLA				*i* S		**Sg**	**20 12 44.7**	**+0.3**
SMG	**Samos**	**0.48**	**165**	*e*PB		**Pg**	**20 12 46.8**	**+0.3**
SMG				*e*SB		**Sg**	**20 12 54.2**	**+1.3**
IZM	**Izmir**	**0.51**	**64**	*i* PG		**Pg**	**20 12 46.9**	**-0.2**
KDAG	**Bornova**	**0.52**	**63**	*i* P		**Pg**	**20 12 47.0**	**-0.3**
KDAG				*i* S		**Sg**	**20 12 56.1**	**+2.0**
CHOS	**Chios island**	**0.54**	**294**	*e*Pg		**Pg**	**20 12 47.8**	**+0.2**
CHOS				*e*Sg		**Sg**	**20 12 55.8**	**+1.1**
AYDN	**Tasoluk**	**1.08**	**118**	*i* P		**Pb**	**20 12 57.3**	**-0.4**
AYDN				*i* S		**Sb**	**20 13 11.5**	**-0.2**
PRK	**Paraskevi**	**1.12**	**344**	*e*PN		**Pn**	**20 12 57.6**	**-1.0**
PRK				*e*SN		**Sn**	**20 13 13.5**	**-0.4**
AYVA	**Ayvalik**	**1.13**	**0**	*i* P		**Pb**	**20 12 58.0**	**-0.7**
AYVA				*i* S		**Sb**	**20 13 14.8**	**+1.5**
AKS	**Akhisar**	**1.14**	**51**	PN		**Pn**	**20 12 57.7**	**-1.1**
AKS				SN		**Sn**	**20 13 13.7**	**-0.6**
BODT	**Bodrum**	**1.22**	**155**	PN		**Pn**	**20 12 59.2**	**-0.7**
BODT				SN		**Sn**	**20 13 17.1**	**+0.8**
MLSB	**Milas**	**1.23**	**135**	PN		**Pn**	**20 12 59.6**	**-0.6**
BDRM	**Kayabasi**	**1.26**	**151**	*i* P		**Pn**	**20 12 59.9**	**-0.7**
APE	**Apeiranthos**	**1.43**	**220**	PN		**Pn**	**20 13 02.9**	**0.0**
APE				SN		**Sn**	**20 13 21.3**	**-0.3**
APE	**Apeiranthos**	**1.43**	**220**	*e*Sg		**Sg**	**20 13 23.5**	**+0.4**
APE	**Apeiranthos**	**1.43**	**220**	*e*PN		**Pn**	**20 13 01.7**	**-1.2**
APE	**Apeiranthos**	**1.43**	**220**	*e*Pn		**Pn**	**20 13 02.9**	**0.0**
APE				*e*Sn		**Sn**	**20 13 21.3**	**-0.3**
APE				*e*Sg		**Sg**	**20 13 23.5**	**+0.4**
MANT	**Manisa**	**1.51**	**77**	*i* P		**Pn**	**20 13 06.0**	**+2.0**
MANT				*i* S		**Sn**	**20 13 24.8**	**+1.2**
DAT	**Datca**	**1.61**	**153**	PN		**Pn**	**20 13 04.7**	**-0.6**
YER	**Yerkesik**	**1.64**	**129**	PN		**Pn**	**20 13 05.8**	**0.0**
EZN	**Ezine**	**1.67**	**351**	PN		**Pn**	**20 13 04.8**	**-1.4**
BALB	**Balikesir**	**1.74**	**32**	*e*PN		**Pn**	**20 13 06.4**	**-0.7**
BTOK	**Tokmak**	**1.91**	**33**	*i* P		**Pn**	**20 13 12.8**	**+3.4**
BTOK				*i* S		**Sn**	**20 13 36.9**	**+3.5**
SANT	**Santorini**	**2.04**	**209**	*e*Pn		**Pn**	**20 13 12.3**	**+1.0**
LIA	**Limnos Island**	**2.08**	**326**	*e*PN		**Pn**	**20 13 11.5**	**-0.3**
DST	**Dursunbey**	**2.09**	**46**	*e*PN		**Pn**	**20 13 10.9**	**-1.0**
LOS	**Limnos**	**2.15**	**325**	*e*Pn		**Pn**	**20 13 13.0**	**+0.2**
LOS				*e*Sn		**Sn**	**20 13 41.4**	**+1.9**
PTL	**Penteli**	**2.22**	**268**	*e*PN		**Pn**	**20 13 12.5**	**-1.3**
KHL	**Karahalli**	**2.25**	**85**	*e*PN		**Pn**	**20 13 14.1**	**0.0**
ARG	**Arkhangelos**	**2.27**	**149**	*e*PN		**Pn**	**20 13 14.4**	**0.1**
KVR	**Kavouri**	**2.32**	**262**	*e*PN		**Pn**	**20 13 14.0**	**-1.1**
ATH	**Athens Observa**	**2.35**	**266**	*e*PN		**Pn**	**20 13 14.7**	**-0.8**
GDZ	**Gediz**	**2.38**	**67**	*i* P		**Pg**	**20 13 21.4**	**-1.3**
GDZ				*i* S		**Sg**	**20 13 54.3**	**+0.8**
BNT	**Bandirma**	**2.38**	**23**	*e*PN		**Pn**	**20 13 14.7**	**-1.3**
FETY	**Fethiye**	**2.45**	**128**	*e*PN		**Pn**	**20 13 17.6**	**+0.7**
RKY	**Sarkoy-Tekirda**	**2.54**	**9**	*e*PN		**Pn**	**20 13 17.4**	**-0.8**
SART	**Tekirdag**	**2.54**	**9**	*e*P		**Pg**	**20 13 24.4**	**-1.4**
SART				*i* S		**Sg**	**20 13 58.2**	**-0.6**
SART	**Tekirdag**	**2.54**	**9**	*i* S		**Sn**	**20 13 54.3**	**+5.2**
ORLT	**Orhaneli**	**2.54**	**42**	*e*PN		**Pn**	**20 13 18.0**	**-0.2**
KARP	**Karpathos**	**2.65**	**171**	*e*PN		**Pn**	**20 13 18.9**	**-0.7**
MFT	**Murefte**	**2.65**	**10**	*e*PN		**Pn**	**20 13 19.1**	**-0.6**
ULDT	**Uludag**	**2.74**	**43**	*i* P		**Pb**	**20 13 27.4**	**+1.3**
ULDT				*i* S		**Sg**	**20 14 03.7**	**-1.5**
ALN	**Alexandroupoli**	**2.77**	**350**	*e*Pn		**Pn**	**20 13 21.0**	**-0.2**
ALN				*e*Sn		**Sn**	**20 13 55.2**	**+0.7**
TKTP	**Tekketepe**	**2.88**	**92**	*i* P		**Pn**	**20 13 23.6**	**+0.8**
TKTP				*i* S		**Sg**	**20 14 08.5**	**-1.0**
ELL	**Elmali**	**2.94**	**118**	*e*PN		**Pn**	**20 13 23.8**	**+0.2**
XOR	**Xorichti**	**2.97**	**295**	*e*Pn		**Pn**	**20 13 24.9**	**+0.8**
OUR	**Ouranopolis**	**3.01**	**317**	*e*Pn		**Pn**	**20 13 24.8**	**+0.2**
NPS	**Neapolis**	**3.03**	**197**	*e*PN		**Pn**	**20 13 24.2**	**-0.6**
ZKR	**Zakros**	**3.07**	**187**	*e*PN		**Pn**	**20 13 25.1**	**-0.3**
ZKR	**Zakros**	**3.07**	**187**	*e*Pn		**Pn**	**20 13 25.1**	**-0.4**
RDO	**Rodhopi**	**3.10**	**344**	*e*PN		**Pn**	**20 13 25.9**	**+0.1**
YLV	**Yalova**	**3.17**	**40**	*e*PN		**Pn**	**20 13 27.3**	**+0.4**
BCK	**Bucak**	**3.18**	**102**	*e*PN		**Pn**	**20 13 27.4**	**+0.5**
BORA	**Eskisehir**	**3.40**	**59**	*i* P		**Pg**	**20 13 41.1**	**-1.1**
BORA				*i* S		**Sg**	**20 14 27.6**	**+1.4**
ISK	**Istanbul-Kandi**	**3.42**	**32**	*e*PN		**Pn**	**20 13 30.2**	**-0.1**
AGG	**Agios Georgios**	**3.51**	**285**	*e*Pn		**Pn**	**20 13 32.8**	**+1.3**
HRT	**Hereke**	**3.51**	**40**	*e*PN		**Pn**	**20 13 31.7**	**+0.2**
NVR	**Nevrokopi**	**3.84**	**327**	*e*PN		**Pn**	**20 13 36.2**	**+0.1**
KIZT	**Kizilcal**	**4.14**	**79**	*e*PN		**Pn**	**20 13 41.3**	**+1.2**
KNT	**Kendrikon**	**4.17**	**317**	*e*Pn		**Pn**	**20 13 41.6**	**+1.0**
CVD	**Cernavoda**	**6.22**	**9**⇑	*i*P		Px	20 14 29.2	
MLR	**Muntele Rosu**	**7.33**	**356**⇑	*i*P		**Pn**	**20 14 28.9**	**+4.9**
PLOR	**Plostina**	**7.67**	**360**⇓	*i*P		**Pn**	**20 14 34.2**	**+5.5**
VRI	**Vrincioaia**	**7.69**	**0**⇓	*i*P		**Pn**	**20 14 36.4**	**+7.5**
BZS	**Buzias**	**8.34**	**335**⇑	*i*P		**Pn**	**20 14 37.8**	**0.0**

IDC 04 20:13:06.8±1.8, 2097S×17348W, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.9/15, mbtmp4.0/5, ML4.7/1, Error ellipse: s-maj=59.2km s-min=34.8km az=163.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAR	**Rarotonga**	**12.80**	**94**	Pn		Pn	20 16 09.6	-0.4
	3.8nm,0.3s,baz=287,slow=14,SNR=5.4							
STKA	**Stephens Creek**	**41.41**	**245**	P		P	20 20 54.9	0.0
	2.6nm,0.7s,baz=85,slow=9.8,SNR=3.6							
ASAR	**Alice Springs**	**48.52**	**256**	P		P	20 21 52.4	+0.8
	0.8nm,0.6s,baz=99,slow=7.7,SNR=12							
WRA	**Warramunga Arr**	**48.72**	**261**	P		P	20 21 52.8	-0.2
	0.3nm,0.3s,baz=97,slow=7.6,SNR=18							
MJAR	**Matsushiro Arr**	**73.16**	**321**	P		P	20 24 39.7	+0.4
	0.7nm,0.6s,baz=158,slow=5.8,SNR=4.9							

*NEIC **04** 20:15:33.3, 38.13S×17626E, h154km, MG4.0(WEL), After WEL.*

WEL 04 20:15:34.6±0.2, 3812S×17628E, h146km±1km, ML3.8/15, Error ellipse: s-maj=2.2km s-min=2.1km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URZ	**Urewera**	**0.67**	**103**	PN		Pn	20 15 56.6	+0.1
URZ				SN		Sn	20 16 13.2	+0.1
MWZ	**Matawai**	**1.01**	**103**	PN		Pn	20 15 59.1	0.0
MWZ				SN		Sn	20 16 17.9	+0.2
MWZ	**Matawai**	**1.01**	**103**	P		Pn	20 15 58.1	-1.0
BKZ	**Black Stump Fm**	**1.06**	**171**	PN		Pn	20 15 59.7	+0.2
BKZ				SN		Sn	20 16 18.6	0.0
BKZ	**Black Stump Fm**	**1.06**	**171**	P		Pn	20 15 59.7	+0.1
BKZ				S		Sn	20 16 18.6	0.0
KRVZ	**Karewarewa**	**1.10**	**207**	PN		Pn	20 16 00.1	+0.2
WTVZ	**West Tongariro**	**1.14**	**208**	PN		Pn	20 16 00.5	+0.3
WTVZ	**West Tongariro**	**1.14**	**208**	P		Pn	20 15 59.5	-0.7
OTVZ	**Oturere**	**1.15**	**204**	PN		Pn	20 16 01.0	+0.6
NGZ	**Ngauruhoe**	**1.19**	**206**	PN		Pn	20 16 01.3	+0.7
NGZ	**Ngauruhoe**	**1.19**	**206**	P		Pn	20 16 00.3	-0.4
WPVZ	**Whakapapa**	**1.23**	**208**	PN		Pn	20 16 01.4	+0.3
WPVZ	**Whakapapa**	**1.23**	**208**	P		Pn	20 16 00.4	-0.7
TUVZ	**Tukino**	**1.25**	**203**	PN		Pn	20 16 01.7	+0.3
TUVZ	**Tukino**	**1.25**	**203**	P		Pn	20 16 00.7	-0.6
FWVZ	**Far West T-bar**	**1.27**	**206**	PN		Pn	20 16 01.8	+0.3
FWVZ	**Far West T-bar**	**1.27**	**206**	P		Pn	20 16 00.8	-0.7
TRVZ	**Turoa**	**1.31**	**206**	PN		Pn	20 16 02.3	+0.3
WNVZ	**Wahianoa**	**1.32**	**204**	PN		Pn	20 16 02.1	+0.1
WNVZ	**Wahianoa**	**1.32**	**204**	P		Pn	20 16 01.2	-0.8
MOVZ	**Moawhango**	**1.35**	**198**	PN		Pn	20 16 02.0	-0.3
MOVZ	**Moawhango**	**1.35**	**198**	P		Pn	20 16 01.0	-1.4
PKVZ	**Pokaka**	**1.38**	**212**	PN		Pn	20 16 02.7	+0.1
KNZ	**Kokohu**	**1.42**	**130**	*e*PN		Pn	20 16 03.3	+0.3
PUZ	**Puketiti**	**1.56**	**89**	PN		Pn	20 16 04.2	-0.3
PUZ	**Puketiti**	**1.56**	**89**	P		Pn	20 16 04.4	-0.1
MXZ	**Matakaoa Point**	**1.70**	**72**	PN		Pn	20 16 06.1	+0.1
MXZ	**Matakaoa Point**	**1.70**	**72**	P		Pn	20 16 05.1	-0.9
WAZ	**Wanganui**	**1.92**	**211**	PN		Pn	20 16 08.1	-0.5
WAZ	**Wanganui**	**1.92**	**211**	P		Pn	20 16 08.2	-0.4
PXZ	**Pawanui**	**1.97**	**167**	PN		Pn	20 16 08.4	-0.7
BFZ	**Birch Farm**	**2.56**	**181**	*e*P		Pn	20 16 14.6	-1.7
MRZ	**Mangatainoka R**	**2.60**	**192**	P		Pn	20 16 14.7	-2.1
KIW	**Kapiti Island**	**2.94**	**201**	P		Pn	20 16 17.3	-3.8
KIW				S		Sn	20 16 51.9	-5.0
MTW	**Mount Morrison**	**3.10**	**191**	P		Pn	20 16 19.1	-4.0
CAW	**Cannon Point**	**3.13**	**197**	P		Pn	20 16 19.7	-3.8
PAWZ	**Paruwai Farm**	**3.33**	**191**	P		Pn	20 16 21.9	-4.1
MRW	**Makara Radio**	**3.34**	**201**	P		Pn	20 16 22.0	-4.2
MSWZ	**Moikau Station**	**3.39**	**193**	P		Pn	20 16 22.5	-4.3
SNZO	**South Karori**	**3.41**	**200**	P		Pn	20 16 23.7	-3.4
TCW	**Tory Channel**	**3.46**	**206**	P		Pn	20 16 23.4	-4.3
BHW	**Baring Head**	**3.46**	**198**	P		Pn	20 16 23.2	-4.6
THZ	**Tophouse**	**4.47**	**214**	*e*P		Pn	20 16 37.4	-3.6
KHZ	**Kahutara**	**4.78**	**205**	*e*P		Pn	20 16 40.8	-4.2

IDC 04 20:18:40.8±2.0, 222N×12752E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/15, mbtmp3.5/3, Error ellipse: s-maj=157.5km s-min=23.7km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**23.02**	**163**	P		P	20 23 47.4	+0.2
	0.5nm,0.4s,baz=343,slow=10,SNR=18							
ASAR	**Alice Springs**	**26.47**	**167**	P		P	20 24 19.6	+0.1
	0.4nm,0.5s,baz=354,slow=7.9,SNR=9.4							
MKAR	**Makanchi Array**	**59.24**	**325**	P		P	20 28 44.2	+0.4
	0.3nm,0.4s,baz=115,slow=7.9,SNR=12							

*IDC **04** 20:30:23.5±2.3, 2049S×17445W, h0km, mb4.2/6, mb1 4.4/8, mb1mx4.1/18, mbtmp4.3/8, ML4.5/1, MS3.0/1, Ms1 3.0/1, ms1mx2.1/29, Error ellipse: s-maj=59.4km s-min=26.0km az=118.0*
*NEIC **04** 20:30:24.8±1.1, 2049S×17434W, h15km, mb4.7/4, Error ellipse: s-maj=29.2km s-min=11.9km az=121.0*
*ISCJB **04** 20:30:25.9±3.7, 2065S±02×17381W±02, h73km±49km, mb4.4/9, Error ellipse: s-maj=35.6km s-min=21.9km az=121.3*

ISC 04 20:30:26.4±2.4, 2078S±01×17399W±02, h49km±36km, n17, σ0ᵖ95/19, mb4.4/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**7.00**	**17**	Pn		**Pn**	**20 32 06.3**	**+0.1**
	3.7nm,0.3s,baz=127,slow=18,SNR=2.6							
AFI				Sn		**Sn**	**20 33 17.2**	**-7.2**
	7.3nm,0.3s,baz=65,slow=24,SNR=3.9							
RAR	**Rarotonga**	**13.17**	**95**	Pn		**Pn**	**20 33 30.2**	**-0.4**
	1.8nm,0.3s,baz=185,slow=7.8,SNR=3.6							
RAR				Sn		**Sn**	**20 35 40.0**	**-16**
	1.2nm,0.3s,baz=148,slow=16,SNR=4.2							
RAR				T			20 48 09.5	
	3.6nm,0.3s,baz=78,slow=14,SNR=3.1							
RAR	**Rarotonga**	**13.17**	**95**	Pn		**Pn**	**20 33 30.2**	**-0.4**
RAR				Sn		**Sn**	**20 35 40.0**	**-16**
DZM	**Mont D

mb3.3/8,Error ellipse: s-maj=14.7km s-min=7.7km az=37.4.
NEIC ***04*** *21:04:38.9±0.7, 4387N×13823E, h260km±9km, mb3.7/2, Error ellipse: s-maj=15.9km s-min=7.9km az=104.0*
JMA ***04*** *21:04:38.7±0.4, 4380N×13830E, h277km, M2.9*
MOS ***04*** *21:04:38.1±0.5, 4388N×13821E, h266km, mb3.7/1, Error ellipse: s-maj=26.8km s-min=12.3km az=87.4*
IDC ***04*** *21:04:39.4±1.5, 4387N×13823E, h264km±15km, mb3.0/8, mb1 3.3/10, mb1mx3.1/24, mbtmp3.7/10, Error ellipse: s-maj=22.8km s-min=12.9km az=103.0*

ISC 04 21:04:39.3±0.7, 4377N±006×1383E±01, h270km±9km, n35, σ0§92/39, mb3.3/8, 4C, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOSM	**Okushiri--Mats**	**1.89**	**153**	P	**Pn**	**21 05 22.7**	**+0.1**
JKB	**Kayabe**	**2.74**	**133**	P	**Pn**	**21 05 30.6**	**+0.2**
JWK2	**Keihoku**	**2.98**	**58**	P	**Pn**	**21 05 33.4**	**+0.5**
ASAJ	**Asahikawa**	**3.10**	**82**	P	**Pn**	**21 05 34.2**	**+0.1**
	3.4nm,0.3s,baz=262,slow=4.5,SNR=30						
ASAJ				S	**S**	**21 06 18.8**	**+1.1**
	baz=125,slow=26,SNR=2.8						
ASAJ	**Asahikawa**	**3.10**	**82**	P	**Pn**	**21 05 34.2**	**+0.1**
ASAJ	**Asahikawa**	**3.10**	**82**	P	**Pn**	**21 05 34.3**	**+0.2**
ASAJ				S	**S**	**21 06 18.8**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
JKK2	**Kamakawa 2**	**3.20**	**87**	P	**Pn**	**21 05 35.5**	**+0.3**
JKK2				*e*S	**S**	**21 06 20.4**	**+0.8**
JSE	**Soyaes**	**3.27**	**67**	P	**Pn**	**21 05 36.2**	**+0.2**
JNBK	**Urakawa-nobuka**	**3.57**	**113**	*e*S	**S**	**21 06 27.8**	**+0.9**
JCH	**Churui**	**3.86**	**106**	*e*S	**S**	**21 06 28.9**	**-3.8**
JAR	**Ashorobuto**	**3.98**	**95**	P	**Pn**	**21 05 44.3**	**+0.4**
JAR				*e*S	**S**	**21 06 34.1**	**-1.2**
JTKR	**Abashiri--Toko**	**4.04**	**85**	P	**Pn**	**21 05 44.7**	**+0.2**
JANG	**Nango**	**4.14**	**144**	P	**Pn**	**21 05 45.6**	**-0.1**
JANG				*e*S	**S**	**21 06 36.6**	**-2.0**
YSS	**Yuzh-Sakhalins**	**4.45**	**43**	⇑ *i* P	**Pn**	**21 05 48.0**	**-1.3**
YSS				pmax	pmax		
	comp=Z,80nm,0.9s						
YSS	**Yuzh-Sakhalins**	**4.45**	**43**	*e*P	**Pn**	**21 05 48.3**	**-1.0**
JMK	**Ichinoseki**	**5.29**	**155**	P	**Pn**	**21 05 59.0**	**-0.2**
JMK				*e*S	**S**	**21 07 00.7**	**-2.4**
NEM2	**Nemuro 2**	**5.40**	**92**	P	**Pn**	**21 05 59.8**	**-0.8**
NEM2				*e*S	**S**	**21 06 59.9**	**-5.8**
MAJO	**Matsushiro**	**7.22**	**181**	*e*P	**Pn**	**21 06 24.0**	**+1.0**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MAJO	**Matsushiro**	**7.22**	**181**	*e*P	**Pn**	**21 06 24.0**	**+1.0**
	comp=Z,4.0nm,0.6s						
MAT	**Matsushiro**	**7.22**	**181**	P	**Pn**	**21 06 23.4**	**+0.4**
MAT	**Matsushiro**	**7.22**	**181**	*e*P	**Pn**	**21 06 23.0**	**0.0**
MAT				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MAT	**Matsushiro**	**7.22**	**181**	*e*P	**Pn**	**21 06 23.0**	**0.0**
	comp=Z,8.2nm,0.8s						
MJAR	**Matsushiro Arr**	**7.22**	**181**	P	**Pn**	**21 06 24.0**	**+1.0**
	comp=Z,1.1nm,0.3s,baz=4.4,slow=12,SNR=19						
KURK	**Kurchatov**	**40.14**	**302**	*e*P	**P**	**21 11 48.4**	**-0.9**
BVAR	**Borovoye Array**	**44.46**	**307**	P	**P**	**21 12 23.7**	**-0.2**
	comp=Z,2.4nm,0.8s,mb3.5,baz=221,slow=33,SNR=3.6						
ILAR	**Eielson Array**	**45.22**	**36**	P	**P**	**21 12 29.8**	**-0.1**
	comp=Z,0.4nm,0.6s,mb2.9,baz=287,slow=9.0,SNR=7.9						
ARCES	**ARCESS Array B**	**56.87**	**337**	P	**P**	**21 13 55.0**	**-1.2**
	comp=Z,0.5nm,0.5s,mb3.2,baz=57,slow=8.8,SNR=6.1						
YKA	**Yellowknife Ar**	**59.21**	**31**	P	**P**	**21 14 12.5**	**+0.2**
	comp=Z,0.4nm,0.6s,mb3.0,baz=306,slow=6.5,SNR=9.4						
FINES	**FINESS Array B**	**61.79**	**330**	P	**P**	**21 14 29.2**	**-0.5**
	comp=Z,0.9nm,0.8s,mb3.4,baz=36,slow=10.0,SNR=5.0						
WRA	**Warramunga Arr**	**63.51**	**184**	P	**P**	**21 14 41.8**	**+0.8**
	comp=Z,0.5nm,0.4s,mb3.5,baz=1.6,slow=6.9,SNR=20						
ASAR	**Alice Springs**	**67.23**	**184**	P	**P**	**21 15 06.9**	**+2.1**
	comp=Z,0.5nm,0.6s,mb3.5,baz=357,slow=6.3,SNR=8.3						
PDAR	**Pinedale Array**	**74.60**	**45**	P	**P**	**21 15 48.9**	**0.0**
	comp=Z,0.5nm,0.7s,mb3.3,baz=299,slow=3.1,SNR=4.5						
SNAA	**Sanae**	**146.36**	**201**	⇑ *i*	PKPdf	21 23 50.3	+3.7
SNAA				*e*		21 23 53.8	
VNA2	**Neumayer--Watz**	**147.98**	**200**	⇑ *i*	PKPdf	21 23 52.3	+3.0
VNA2				*e*		21 23 56.5	
VNA1	**Neumayer--Stat**	**148.38**	**200**	⇑ *i*	PKPdf	21 23 53.4	+3.4
VNA1				*e*		21 23 57.4	

ISCJB ***04*** *21:29:19.7±0.6, 3818N±002×2671E±003, h3km±4km, Error ellipse: s-maj=4.1km s-min=3.8km az=103.9*
ATH ***04*** *21:29:20.1, 3815N×2659E, h25km±1km, MD3.6/4*
ISK ***04*** *21:29:22.7, 3817N×2670E, h30km, MD3.4*
CSEM ***04*** *21:29:22.8±0.1, 3818N×2678E, h40km, MD3.4, Error ellipse: s-maj=2.5km s-min=1.6km az=93.0*

ISC 04 21:29:20.7±0.5, 3819N±002×2671E±003, h7km±3km, n36, σ0§86/50, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.19**	**332**	*i* P	**Pg**	**21 29 24.8**	**+0.2**
URLA				*i* S	**Sg**	**21 29 28.7**	**+0.8**
KDAG	**Bornova**	**0.49**	**64**	*i* P	**Pg**	**21 29 30.4**	**+0.3**
KDAG				*i* S	**Sg**	**21 29 36.9**	**+0.4**
SMG	**Samos**	**0.49**	**168**	*e*PB	**Pg**	**21 29 30.1**	**-0.1**
SMG				*e*SB	**Sg**	**21 29 37.6**	**+1.0**
AYDN	**Tasoluk**	**1.06**	**119**	*i* P	**Pg**	**21 29 40.6**	**-0.5**
AYDN				*i* S	**Sg**	**21 29 53.4**	**-1.5**
AKS	**Akhisar**	**1.10**	**51**	PN	**Pn**	**21 29 42.4**	**-0.1**
AKS				SN	**Sn**	**21 29 57.2**	**-0.8**
PRK	**Paraskevi**	**1.11**	**342**	*e*PN	**Pn**	**21 29 41.3**	**-1.3**
PRK				*e*SN	**Sn**	**21 29 57.4**	**-0.7**
AYVA	**Ayvalik**	**1.12**	**359**	*i* P	**Pg**	**21 29 41.6**	**-0.5**
BODT	**Bodrum**	**1.22**	**157**	PN	**Pn**	**21 29 43.7**	**-0.4**
MLSB	**Milas**	**1.23**	**136**	PN	**Pn**	**21 29 44.3**	**+0.1**
MLSB				SN	**Sn**	**21 29 59.9**	**-1.1**
APE	**Apeiranthos**	**1.46**	**220**	*e*PN	**Pn**	**21 29 47.2**	**-0.2**
APE				*e*SN	**Sn**	**21 30 05.1**	**-1.6**
APE	**Apeiranthos**	**1.46**	**220**	*e*PN	**Pn**	**21 29 45.8**	**-1.6**
APE	**Apeiranthos**	**1.46**	**220**	*e*PB	**Pg**	**21 29 45.5**	**-1.9**
MANT	**Manisa**	**1.48**	**78**	*i* P	**Pn**	**21 29 48.2**	**+0.5**
MANT	**Manisa**	**1.48**	**78**	*i* P	**Pn**	**21 29 48.2**	**+0.5**
DAT	**Datca**	**1.61**	**154**	*e*PN	**Pn**	**21 29 50.1**	**+0.6**
EZN	**Ezine**	**1.66**	**350**	*e*PN	**Pn**	**21 29 50.8**	**+0.6**
EZN				*e*SN	**Sn**	**21 30 11.1**	**-0.6**
BALB	**Balikesir**	**1.71**	**32**	*e*PN	**Pn**	**21 29 51.6**	**+0.7**
DENT	**Denizli**	**1.89**	**103**	*e*PN	**Pn**	**21 29 53.0**	**-0.2**
DST	**Dursunbey**	**2.06**	**46**	*e*PN	**Pn**	**21 29 56.5**	**+0.9**
LIA	**Limnos Island**	**2.08**	**326**	*e*PN	**Pn**	**21 29 55.4**	**-0.5**
PTL	**Penteli**	**2.25**	**267**	*e*PB	**Pg**	**21 30 05.0**	**+1.2**
GDZ	**Gediz**	**2.35**	**67**	*i* P	**Pg**	**21 30 05.0**	**-0.6**
GDZ				*i* S	**Sg**	**21 30 34.4**	**-1.7**
KVR	**Kavouri**	**2.35**	**262**	*e*PB	**Pb**	**21 30 03.5**	**+0.2**
ATH	**Athens Observa**	**2.37**	**266**	*e*PG	**Pg**	**21 30 05.5**	**-0.7**
FETY	**Fethiye**	**2.44**	**129**	*e*PN	**Pn**	**21 30 01.1**	**+0.2**
MRMT	**Marmara Adasi**	**2.51**	**16**	*e*PN	**Pn**	**21 30 02.7**	**+0.9**
ORLT	**Orhaneli**	**2.52**	**42**	*e*PN	**Pn**	**21 30 02.6**	**+0.7**
SART	**Tekirdag**	**2.52**	**8**	*i* P	**Pb**	**21 30 06.9**	**+0.7**
SART				*i* S	**Sg**	**21 30 40.6**	**-1.1**
ULDT	**Uludag**	**2.71**	**43**	*i* P	**Pg**	**21 30 12.4**	**-0.3**
ULDT				*i* S	**Sg**	**21 30 46.7**	**-1.1**
TKTP	**Tekketepe**	**2.85**	**92**	*i* P	**Pn**	**21 30 06.8**	**+0.3**
TKTP				*i* S	**Sb**	**21 30 47.4**	**+0.5**
ELL	**Elmali**	**2.92**	**119**	*e*PN	**Pn**	**21 30 08.7**	**+1.2**
IZI	**Iznik**	**3.03**	**44**	*e*PN	**Pn**	**21 30 10.1**	**+1.1**
RDO	**Rodhopi**	**3.09**	**343**	*e*PN	**Pn**	**21 30 09.4**	**-0.4**
YLV	**Yalova**	**3.15**	**40**	*e*PN	**Pn**	**21 30 12.3**	**+1.7**
BORA	**Eskisehir**	**3.37**	**59**	*e*P	**Pg**	**21 30 25.1**	**-0.1**
BORA				*i* S	**Sg**	**21 31 09.2**	**+0.3**
KIZT	**Kizilcal**	**4.11**	**79**	*e*PN	**Pn**	**21 30 25.7**	**+1.9**

NEIC ***04*** *21:40:19.4, 32.11S×7168W, h35km, ML2.7(GUC), After GUC.*

GUC 04 21:40:19.4±0.6, 3212S×7168W, h34km±2km, MD3.6, ML2.7, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.28**	**33**	⇓ *i* P	Pb	21 40 26.8	-0.2
CHNG				*i* S	Sb	21 40 32.2	+0.2
CHNG				AML	AML	21 40 32.8	
	comp=E,526nm,0.3s						
ROCH	**El Roble**	**1.02**	**147**	*e*P	Pn	21 40 38.1	+0.8
JACH	**Jahuel**	**1.08**	**122**	*e*P	Pn	21 40 39.1	+1.0
JACH				*i* S	Sn	21 40 53.8	+2.0
CMCH	**Combarbala**	**1.10**	**32**	⇓ *i* P	Pn	21 40 39.1	+0.7
CMCH				*i* S	Sn	21 40 54.0	+1.6
CMCH				AML	AML	21 40 55.1	
	comp=E,724nm,0.5s						
CMCH	**Combarbala**	**1.10**	**32**	⇓ *i* P	Pn	21 40 39.1	+0.7
CMCH				*i* S	Sn	21 40 54.0	+1.6
PEL	**Peldehue**	**1.32**	**141**	⇑ *i* P	Pn	21 40 42.8	+1.4
PEL				*i* S	Sn	21 41 00.2	+2.3
PEL				AML	AML	21 41 03.0	
	comp=N,381nm,0.4s						
PEL	**Peldehue**	**1.32**	**141**	⇑ *i* P	Pn	21 40 42.8	+1.4
PEL				*i* S	Sn	21 41 00.2	+2.3
LCCH	**Las Cruces**	**1.36**	**176**	*e*P	Pn	21 40 42.7	+0.8
RCDM	**Rinconada Maip**	**1.55**	**152**	*e*P	Pn	21 40 46.1	+1.4
RCDM				*i* S	Sn	21 41 06.1	+2.5
RCDM				AML	AML	21 41 07.8	
	comp=N,128nm,0.1s						
RCDM	**Rinconada Maip**	**1.55**	**152**	*e*P	Pn	21 40 46.1	+1.4
RCDM				*i* S	Sn	21 41 06.1	+2.5
TACH	**Talagante**	**1.66**	**158**	*e*P	Pn	21 40 48.1	+2.1
TACH				*i* S	Sn	21 41 09.1	+3.0
FCH	**Farellones**	**1.68**	**136**	⇑ *i* P	Pn	21 40 48.4	+2.0
FCH				*i* S	Sn	21 41 10.6	+3.9
FCH				AML	AML	21 41 13.8	
	comp=N,96nm,0.2s						
PCH	**Pirque**	**1.79**	**147**	*i* P	Pn	21 40 49.8	+1.9
CICH	**Cipreses**	**2.44**	**155**	*e*P	Pn	21 40 58.4	+1.7

IDC ***04*** *22:15:48.5±1.6, 2084S×17374W, h0km, mb3.8/3, mb1 4.2/5, mb1mx3.9/16, mbtmp4.0/5, ML3.4/2, Error ellipse: s-maj=57.1km s-min=26.8km az=150.0*
ISCJB ***04*** *22:15:49.5±0.7, 2063S±008×1736W±0.1, h33km, mb4.0/5, Error ellipse: s-maj=16.3km s-min=9.0km az=61.5*
NEIC ***04*** *22:15:53.2±0.6, 2067S×17354W, h50km, mb4.4/2, Error ellipse: s-maj=15.2km s-min=10.3km az=155.0*

ISC 04 22:15:51.5±6.0, 2068S±009×1736W±01, h28km±47km, n11, σ0§96/11, mb4.0/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.96**	**15**	Pn	**Pn**	**22 17 32.4**	**+0.9**
	3.9nm,0.3s,baz=235,slow=16,SNR=3.6						
AFI				Sn	**Sn**	**22 18 48.3**	**-1.5**
	5.4nm,0.3s,baz=50,slow=18,SNR=4.7						
RAR	**Rarotonga**	**12.93**	**95**	Pn	**Pn**	**22 18 53.1**	**-0.3**
	2.0nm,0.3s,baz=15,slow=6.5,SNR=4.4						
CTAO	**Charters Tower**	**37.57**	**264**	P	**P**	**22 23 03.8**	**+0.4**
TAU	**Tasmania Unive**	**39.45**	**227**	*e*P	**P**	**22 23 18.1**	**-1.2**
	1.9nm,0.3s,mb4.3						
ASAR	**Alice Springs**	**48.49**	**256**	P	**P**	**22 24 31.7**	**0.0**
	1.9nm,0.8s,mb4.2,baz=87,slow=8.5,SNR=14						
WRAB	**Tennant Creek**	**48.65**	**261**	P	**P**	**22 24 32.7**	**-0.3**
	2.8nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**48.65**	**261**	P	**P**	**22 24 32.7**	**-0.3**
	0.3nm,0.3s,mb3.8,baz=97,slow=7.6,SNR=11						
VNDA	**Vanda**	**58.13**	**186**	P	**P**	**22 25 42.4**	**-0.2**
NWAO	**Narrogin (SRO)**	**61.97**	**243**	*e*P	**P**	**22 26 09.1**	**+0.2**
ILAR	**Eielson Array**	**87.64**	**11**	P	**P**	**22 28 39.8**	**+2.5**
	0.1nm,0.5s,mb3.3,baz=198,slow=5.7,SNR=4.2						
AKASG	**Malin Array Be**	**145.06**	**334**	PKPbc	PKPbc	22 35 28.2	+2.6
	0.9nm,0.5s,baz=39,slow=4.5,SNR=5.9						

ISK ***04*** *22:28:05.7, 4036N×2581E, h40km, MD3.3*
ATH ***04*** *22:28:05.3, 4041N×2587E, h24km, MD3.8/6*
SOF ***04*** *22:28:05.0, 4048N×2590E, h10km, MD3.1*
ISCJB ***04*** *22:28:05.8±0.5, 4041N±002×2589E±002, h17km±5km, Error ellipse: s-maj=3.3km s-min=2.9km az=122.3*
CSEM ***04*** *22:28:06.0±0.1, 4041N×2595E, h20km, ML3.8, Error ellipse: s-maj=1.4km s-min=1.2km az=51.0*
NEIC ***04*** *22:28:06.3, 4039N×2588E, h8km, ML3.5(ISK), ML3.8(ATH), ML3.8(THE), After THE.*
THE ***04*** *22:28:06.3, 4039N×2588E, h8km, ML3.8*

ISC 04 22:28:05.4±0.4, 4040N±002×2589E±002, h8km±3km, n71, σ0§97/89, 4C-4D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALN	**Alexandroupoli**	**0.51**	**13**	*e*Pg	**Pg**	**22 28 15.4**	**0.0**
ALN				*e*Sg	**Sg**	**22 28 23.6**	**+1.5**
EZN	**Ezine**	**0.66**	**150**	PG	**Pg**	**22 28 18.4**	**+0.2**
EZN				SG	**Sg**	**22 28 28.4**	**+1.6**
LIA	**Limnos Island**	**0.74**	**228**	*e*PN	**Pg**	**22 28 20.3**	**+0.7**
LOS	**Limnos**	**0.77**	**234**	*e*Pg	**Pg**	**22 28 21.0**	**+0.6**
LOS				*e*Sg	**Sg**	**22 28 31.6**	**+1.2**
RDO	**Rodhopi**	**0.80**	**340**	*e*PN	**Pg**	**22 28 20.5**	**-0.2**
RDO				*e*SN	**Sg**	**22 28 31.6**	**+0.5**
RKY	**Sarkoy-Tekirda**	**1.02**	**73**	PN	**Pn**	**22 28 24.8**	**-1.3**
RKY				SN	**Sn**	**22 28 39.0**	**-1.7**
SART	**Tekirdag**	**1.02**	**73**	*i* P	**Pg**	**22 28 24.5**	**-0.6**
SART				*i* S	**Sg**	**22 28 38.9**	**+0.5**
MFT	**Murefte**	**1.13**	**69**	PN	**Pn**	**22 28 27.0**	**-0.6**
MFT				SN	**Sn**	**22 28 42.2**	**-1.1**
PRK	**Paraskevi**	**1.19**	**166**	*e*PN	**Pn**	**22 28 28.0**	**-0.4**
PRK				*e*SN	**Sn**	**22 28 45.1**	**+0.4**
AYVA	**Ayvalik**	**1.25**	**150**	*i* P	**Pn**	**22 28 28.7**	**-0.5**
AYVA				*i* S	**Sb**	**22 28 45.2**	**-0.4**
KDZ	**Kurdzhali**	**1.30**	**344**	Pg	**Pg**	**22 28 29.5**	**-0.9**
MRMT	**Marmara Adasi**	**1.32**	**80**	PN	**Pn**	**22 28 29.1**	**-1.0**
TKR	**Tekirdag**	**1.38**	**64**	PN	**Pn**	**22 28 31.0**	**-0.1**
OUR	**Ouranopolis**	**1.46**	**268**	*e*Pg	**Pg**	**22 28 31.4**	**-2.0**
OUR				*e*Sg	**Sg**	**22 28 50.8**	**-1.6**
EDC	**Edincik**	**1.51**	**91**	PN	**Pn**	**22 28 32.5**	**-0.3**
BNT	**Bandirma**	**1.55**	**91**	PN	**Pn**	**22 28 32.6**	**-0.8**
RZN	**Rozhen**	**1.57**	**326**	Pg	**Pn**	**22 28 33.3**	**-0.3**
CRLT	**Corlu**	**1.58**	**62**	PN	**Pn**	**22 28 33.0**	**-0.8**
EDRB	**Edirne**	**1.58**	**24**	PN	**Pn**	**22 28 33.2**	**-0.6**
EDRB				SN	**Sn**	**22 28 53.1**	**-1.4**
DIM	**Dimitrovgrad**	**1.67**	**351**	P	**Pn**	**22 28 34.8**	**-0.3**
BALB	**Balikesir**	**1.70**	**116**	PN	**Pn**	**22 28 35.0**	**-0.5**
BTOK	**Tokmak**	**1.76**	**110**	*i* P	**Pn**	**22 28 36.5**	**+0.3**
BTOK				*i* S	**Sn**	**22 28 59.4**	**+0.5**
NVR	**Nevrokopi**	**1.81**	**302**	*e*PN	**Pn**	**22 28 36.8**	**-0.1**
PLG	**Polygyros**	**1.87**	**270**	*e*PN	**Pn**	**22 28 37.3**	**-0.4**
KCT	**Karacabey**	**1.89**	**93**	PN	**Pn**	**22 28 37.4**	**-0.6**
PLD	**Plovdiv**	**1.93**	**333**	P	**Pn**	**22 28 41.7**	**+3.2**
SLVT	**Silivri**	**1.95**	**64**	PN	**Pn**	**22 28 37.7**	**-1.1**
AOS	**Alonnisos**	**1.98**	**232**	*e*Pb	**Pb**	**22 28 39.7**	**-1.9**
SOH	**Sokhos**	**1.98**	**283**	*e*Pb	**Pb**	**22 28 39.5**	**-2.2**
CHOS	**Chios island**	**2.01**	**176**	*e*Pn	**Pn**	**22 28 39.9**	**+0.2**
CHOS				*e*Sn	**Sn**	**22 29 05.2**	**+0.1**
MMB	**Musomiste**	**2.02**	**307**	P	**Pn**	**22 28 40.0**	**+0.1**
CTT	**Catalca**	**2.07**	**68**	*e*PN	**Pn**	**22 28 40.4**	**-0.1**
ELBA	**Catalca**	**2.07**	**68**	*i* P	**Pn**	**22 28 39.4**	**-1.1**
ELBA				*i* S	**Sn**	**22 29 08.9**	**+2.4**
URLA	**Izmir**	**2.11**	**165**	*i* P	**Pn**	**22 28 41.1**	**+0.1**
URLA				*i* S	**Sn**	**22 29 08.1**	**+0.7**
AKS	**Akhisar**	**2.12**	**135**	*e*PN	**Pn**	**22 28 40.1**	**-1.1**
JMB	**Yambol**	**2.13**	**14**	*e*Pn	**Pn**	**22 28 41.2**	**-0.1**
JMB				*e*Sn	**Sn**	**22 29 09.6**	**+1.6**
JMB	**Yambol**	**2.13**	**14**	P	**Pn**	**22 28 41.0**	**-0.4**
JMB	**Yambol**	**2.13**	**14**	*e*Pn	**Pn**	**22 28 41.2**	**-0.2**
JMB				*e*Sn	**Sn**	**22 29 09.6**	**+1.6**
THE	**Thessaloniki**	**2.24**	**277**	*e*Pn	**Pn**	**22 28 43.4**	**+0.5**
DST	**Dursunbey**	**2.25**	**110**	*e*PN	**Pn**	**22 28 42.9**	**0.0**
IZM	**Izmir**	**2.26**	**152**	*e*PN	**Pn**	**22 28 42.5**	**-0.6**
BGKT	**Bogazkoy**	**2.32**	**69**	*e*PN	**Pn**	**22 28 43.1**	**-0.9**
ORLT	**Orhaneli**	**2.33**	**98**	*e*PN	**Pn**	**22 28 44.0**	**0.0**
KNT	**Kendrikon**	**2.40**	**290**	*e*Pn	**Pn**	**22 28 45.3**	**+0.3**
ULDT	**Uludag**	**2.50**	**95**	*i* P	**Pn**	**22 28 50.7**	**+4.4**
ULDT				*i* S	**Sn**	**22 29 22.9**	**+5.9**
ISK	**Istanbul-Kandi**	**2.50**	**73**	*e*PN	**Pn**	**22 28 46.3**	**-0.1**
PGB	**Panagyurishte**	**2.51**	**329**	P	**Pn**	**22 28 50.9**	**+4.3**
KKB	**Krupnik**	**2.58**	**306**	P	**Pn**	**22 28 48.5**	**+1.0**
LIT	**Litokhoron**	**2.62**	**265**	*e*Pn	**Pn**	**22 28 48.3**	**+0.3**
YLV	**Yalova**	**2.66**	**85**	*e*PN	**Pn**	**22 28 48.6**	**0.0**
IZI	**Iznik**	**2.74**	**90**	*e*PN	**Pn**	**22 28 49.9**	**+0.2**
SMG	**Samos**	**2.78**	**164**	*e*PN	**Pn**	**22 28 51.2**	**+0.9**
PVL	**Pavlikeni**	**2.85**	**352**	P	**Pn**	**22 28 50.5**	**-0.7**
SZH	**Strazhica**	**2.87**	**1**	P	**Pn**	**22 28 51.9**	**+0.4**
SILT	**Sile**	**2.95**	**74**	*e*PN	**Pn**	**22 28 52.0**	**-0.6**
VTS	**Vitosha**	**2.98**	**318**	⇓ *i* P	**Pg**	**22 29 01.0**	**-1.5**
VTS	**Vitosha**	**2.98**	**318**	P	**Pn**	**22 28 54.0**	**+1.0**
APE	**Apeiranthos**	**3.33**	**185**	*e*Pn	**Pn**	**22 28 57.5**	**-0.4**
APE	**Apeiranthos**	**3.33**	**185**	*e*Pn	**Pn**	**22 28 57.5**	**-0.4**
ALT	**Altintas**	**3.52**	**111**	*e*PN	**Pn**	**22 29 01.0**	**+0.6**
TIRR	**Tirgusor**	**4.47**	**24**	⇑ *i* P	**Pn**	**22 29 13.4**	**-0.1**
ARG	**Arkhangelos**	**4.53**	**156**	*e*PN	**Pn**	**22 29 16.0**	**+1.7**
KIZT	**Kizilcal**	**4.87**	**106**	*e*PN	**Pn**	**22 29 20.2**	**+1.3**
VOIR		**5.08**	**353**	⇓ *i* P	**Pn**	**22 29 23.1**	**+1.3**
MLR	**Muntele Rosu**	**5.09**	**0**	⇑ *i* P	**Pn**	**22 29 24.1**	**+2.0**
PLOR	**Plostina**	**5.48**	**6**	⇑ *i* P	**Pn**	**22 29 29.2**	**+1.8**
VRI	**Vrincioaia**	**5.50**	**6**	⇑ *i* P	**Pn**	**22 29 29.4**	**+1.7**
BR131	**Keskin Array S**	**5.98**	**94**	*e*Pn	**Pn**	**22 29 34.4**	**+0.1**
	1.7nm,0.3s						
BZS	**Buzias**	**6.08**	**330**	⇓ *i* P	**Pn**	**22 29 35.7**	**0.0**
KAMT	**Kaman**	**6.10**	**97**	*e*PN	**Pn**	**22 29 36.3**	**+0.3**
BURAR	**Bucovina Array**	**7.23**	**356**	⇓ *i* P	**Pn**	**22 29 53.1**	**+1.6**

IDC 04 22:34:03.9±3.9, 651S×14945E, h0km, mb3.4/1, mb1 3.9/2, mb1mx3.5/12, mbtmp3.6/2, ML3.6/1, Error ellipse: s-maj=137.1km s-min=48.9km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.66**	**218**	Sn	Sn	22 36 01.7	+16
	0.8nm,0.3s,baz=96,slow=23,SNR=2.7						
WRA	**Warramunga Arr**	**19.84**	**226**	P	Pn	22 38 37.5	-0.2
	0.2nm,0.3s,baz=52,slow=11,SNR=17						
ASAR	**Alice Springs**	**22.68**	**220**	P	P	22 39 06.3	-0.5
	1.1nm,0.5s,baz=58,slow=8.7,SNR=17						
TORD	**Torodi Ar. Bea**	**147.57**	**284**	PKPbc	PKPbc	22 53 50.8	+0.7
	0.2nm,0.4s,baz=87,slow=2.6,SNR=5.1						

IDC 04 22:38:25.6±2.6, 283S×13095E, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.7/16, mbtmp3.7/4, ML3.8/2, Error ellipse: s-maj=133.3km s-min=25.8km az=75.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**16.05**	**199**	Pn	Pn	22 42 12.8	+0.2
	0.2nm,0.3s,baz=356,slow=22,SNR=7.4						
WRA	**Warramunga Arr**	**17.32**	**169**	P	Pn	22 42 27.9	-0.9
	0.4nm,0.3s,baz=349,slow=11,SNR=20						
ASAR	**Alice Springs**	**20.91**	**172**	P	P	22 43 10.2	+0.6
	3.7nm,0.6s,baz=347,slow=9.8,SNR=54						
MKAR	**Makanchi Array**	**65.32**	**325**	P	P	22 49 09.8	+0.3
	0.3nm,0.7s,baz=115,slow=8.7,SNR=2.8						

NAO ***04*** *22:44:54.1±2.4, 7419N×971E, ML2.6*
CSEM ***04*** *22:44:54.2±0.9, 7410N×795E, h30km, ML2.6, Error ellipse: s-maj=29.4km s-min=6.1km az=67.0*
NEIC ***04*** *22:44:56.4, 7425N±10.1E, h0km, ML2.6(BER), After BER.*
ISCJB ***04*** *22:44:56.2±1.5, 7428N±005×11.1E±04, h10km, mb3.5/1, Error ellipse: s-maj=17.3km s-min=6.4km az=153.5*
BER ***04*** *22:44:56.9±3.0, 7421N×943E, h15km±46km, MD2.3, ML2.6(NAO)*
IDC ***04*** *22:45:00.8±1.5, 7452N×1228E, h0km, mb3.6/1, mb1 3.7/4, mb1mx3.3/22, mbtmp3.6/4, ML2.8/3, MS2.9/1, Ms1 2.9/1, ms1mx2.2/32, Error ellipse: s-maj=36.6km s-min=15.5km az=57.0*

**ISC 04 22

JOB eS Sn 22 58 33.4 +0.5
JAR Ashorobuto 0.55 28 ⇓P Pn 22 58 21.6 +0.4
JAR eS Sn 22 58 34.8 -0.2
JFR Furan 0.69 300 ⇓P Pn 22 58 22.1 -0.2
JNBK Urakawa-nobuka 0.72 223 ⇑P Pn 22 58 23.2 +0.7
JNBK eS Sn 22 58 37.1 -0.2
JBT2 Biratori 2 0.77 268 ⇓P Pn 22 58 23.1 +0.2
JBT2 eS Sn 22 58 36.9 -1.1
JEM Erimo 0.82 193 P Pn 22 58 23.8 +0.5
JAK Akkeshi 0.96 79 ⇑P Pn 22 58 24.8 +0.2
JAK eS Sn 22 58 40.4 -0.6
JAB Ashibetsu 1.11 309 ⇓P Pn 22 58 26.6 +0.5
JAB eS Sn 22 58 43.4 -0.2
JKK2 Kamakawa 2 1.16 336 ⇓P Pn 22 58 27.2 +0.6
JTKR Abashiri--Toko 1.21 17 ⇓P Pn 22 58 27.5 +0.4
JTKR eS Sn 22 58 45.8 +0.3
ASAJ Asahikawa 1.43 336 P Pn 22 58 30.6 +1.0
68nm,0.3s,baz=165,slow=11,SNR=145
ASAJ Asahikawa 1.43 336 PN Pn 22 58 30.6 +1.0
ASAJ pmax pmax
comp=Z,68nm,0.3s
JEW Eniwo 1.44 272 ⇓P Pn 22 58 30.2 +0.5
JEW eS Sn 22 58 50.1 0.0
JHR Hokuryu 1.54 308 ⇓P Pn 22 58 31.7 +0.8
JRA Rausu 1.68 47 P Pn 22 58 33.3 +0.8
JRA eS Sn 22 58 55.6 +0.6
NEM2 Nemuro 2 1.79 71 ⇑P Pn 22 58 33.5 -0.4
NEM2 eS Sn 22 58 55.6 -1.9
JKB Kayabe 1.99 243 ⇑P Pn 22 58 36.1 -0.2
JKB eS Sn 22 58 59.7 -2.1
YUK Yuzh-Kuril'sk 2.16 55 ePN Pn 22 58 37.5 -0.9
YUK *i* S Sn 22 59 05.4 -0.2
YUK smax
comp=N,950nm,0.5s
YUK smax
comp=E,950nm,0.5s
YUK smax
comp=N,2μm,0.7s
YUK smax
comp=E,2μm,0.7s
YSS Yuzh-Sakhalins 4.17 354⇑ *i*PN Pn 22 59 08.8 +4.1
YSS eS Sn 22 59 53.0 +0.5
YSS pmax pmax
comp=Z,20nm,0.6s
YSS smax
comp=N,20nm,0.8s
MJAR Matsushiro Arr 7.44 214 P Pn 22 59 49.9 +1.1
comp=N,0.6nm,0.3s,baz=30,slow=12,SNR=9.6
BOD Bodaibo 23.78 319 *e*P P 23 03 01.7 -2.7
BOD pmax pmax
comp=Z,2.0nm,0.8s,mb3.5
ULN Ulaanbaatar 25.89 294 *e*P P 23 03 22.9 -0.5
ULN pmax pmax
comp=Z,3.0nm,0.7s,mb3.8
ULN Ulaanbaatar 25.89 294 *e*P P 23 03 22.9 -0.6
comp=Z,2.8nm,0.7s,mb3.8
SONM Songino Array 26.33 294 P P 23 03 28.7 +1.3
comp=Z,5.4nm,0.8s,mb4.0,baz=82,slow=7.7,SNR=28
ZAK Zakamensk 28.31 300 *e*P P 23 03 45.8 +0.7
ZAK pmax pmax
comp=Z,5.0nm,1.7s,mb3.8
ZAL Zalesovo 39.40 307 P P 23 05 21.2 +0.4
comp=Z,3.3nm,0.3s,mb4.6,baz=24,slow=8.6,SNR=14
MKAR Makanchi Array 42.59 297 P P 23 05 47.4 +0.4
comp=Z,1.4nm,0.5s,mb4.0,baz=82,slow=11,SNR=11
MKAR ScP ScP 23 11 18.6 +1.9
comp=Z,0.4nm,0.6s,baz=50,slow=6.6,SNR=7.1
KURK Kurchatov 43.78 304 *e*P P 23 05 55.5 -1.0
KURK pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
KURK Kurchatov 43.78 304 *e*P P 23 05 55.5 -1.0
comp=Z,7.5nm,0.8s,mb4.5
ILAR Eielson Array 43.84 35 P P 23 05 57.4 +0.3
comp=Z,0.8nm,0.4s,mb3.8,baz=258,slow=5.5,SNR=18
BRVK Borovoye 48.03 309 *e*P P 23 06 30.6 +0.8
BRVK pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
BRVK Borovoye 48.03 309 *e*P P 23 06 30.6 +0.8
comp=Z,1.1nm,0.4s,mb4.0
INK Inuvik 48.58 29 P P 23 06 33.9 -0.1
comp=Z,0.8nm,0.3s,mb4.2,baz=288,slow=5.1,SNR=18
INK Inuvik 48.58 29 *e*P P 23 06 34.2 +0.2
INK pmax pmax
comp=Z,1.0nm,0.4s
INK Inuvik 48.58 29 *e*P P 23 06 34.2 +0.1
comp=Z,1.2nm,0.4s,mb4.2
ZRNK Zerenda 48.79 309 *e*P P 23 06 35.5 -0.2
ZRNK pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ZRNK Zerenda 48.79 309 *e*P P 23 06 35.5 -0.2
comp=Z,4.9nm,0.7s,mb4.5
ARU Arti 53.15 316 *e*P P 23 07 07.9 -0.4
ARU Arti 53.15 316 *e*P P 23 07 07.1 -1.2
comp=Z,2.8nm,0.6s,mb4.5
RES Resolute Bay 56.63 16 *e*P P 23 07 32.6 -0.7
RES pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
RES Resolute Bay 56.63 16 *e*P P 23 07 32.6 -0.7
comp=Z,3.0nm,0.5s,mb4.6
YKA Yellowknife Ar 48.58 32 P P 23 07 43.8 +0.4
comp=Z,0.3nm,0.6s,mb3.5,baz=305,slow=6.8,SNR=6.3
KEV Kevo 58.61 339 *ep* P 23 07 46.7 -0.5
ARCES ARCESS Array B 59.15 339 P P 23 07 50.4 -0.5
comp=Z,1.7nm,0.8s,mb4.1,baz=39,slow=7.8,SNR=4.9
ARCES ARCESS Array B 59.15 339 P P 23 07 50.4 -0.5
JOF Joensuu 61.62 331 *ep* P 23 08 07.7 0.0
comp=Z,1.5nm,0.4s,mb4.4
CTAO Charters Tower 62.64 177 P P 23 08 15.9 +1.4
CTAO pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
CTAO Charters Tower 62.64 177 P P 23 08 15.9 +1.4
comp=Z,5.0nm,0.7s,mb4.5
KAF Kangasniemi 63.90 332 *ep* P 23 08 21.8 -1.0
comp=Z,0.7nm,0.4s,mb3.8,baz=46,slow=6.3
KAF Kangasniemi 63.90 332 *e*P P 23 08 21.8 -1.0
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
FINES FINESS Array B 64.44 332 P P 23 08 25.6 -0.8
comp=Z,2.5nm,0.6s,mb4.2,baz=41,slow=8.5,SNR=31
NB2 NORSAR Subarra 69.45 337 P P 23 08 57.5 -0.6
comp=Z,1.1nm,0.6s,mb3.9,baz=34,slow=6.5
NOA NORSAR Array B 69.45 337 P P 23 08 57.7 -0.3
comp=Z,1.4nm,0.7s,mb3.9,baz=34,slow=6.2,SNR=7.0
NOA NORSAR Array B 69.45 337 P P 23 08 57.7 -0.3
AKASG Malin Array Be 70.68 322 P P 23 09 05.1 -0.5
comp=Z,0.8nm,0.3s,mb4.0,baz=42,slow=6.4,SNR=7.4
AKASG Malin Array Be 70.68 322 P P 23 09 05.1 -0.5
STKA Stephens Creek 74.34 182 *e*P P 23 09 28.1 +0.9

IDC ***04*** *23:00:28.3±0.6, 2077S×174.14W, h0km, mb4.6/17, mb1 4.7/18, mb1mx4.7/21, mbtmp4.6/18, ML4.8/1, MS4.0/6, Ms1 4.0/6, ms1mx3.5/25, Error ellipse: s-maj=22.3km s-min=14.5km az=135.0*
SZGRF ***04*** *23:00:32.4, 21.39S×173.23W, h33km, Tonga Islands*
ISCJB ***04*** *23:00:32.1±0.3, 2086S±006×174.20W±006, h33km, mb4.7/44, MS4.1/7, Error ellipse: s-maj=10.6km s-min=6.8km az=101.3*
BJI ***04*** *23:00:33.0, 2088S×173.53W, h51km, mB5.2, mb4.8, Ms5.0, Msz4.6*
NEIC ***04*** *23:00:34.1±0.2, 2080S×174.23W, h35km, mb4.8/21, Error ellipse: s-maj=10.9km s-min=5.7km az=141.0*
MOS ***04*** *23:00:35.5±3.0, 2072S×174.47W, h40km, mb5.0/14, Error ellipse: s-maj=13.9km s-min=12.4km az=60.2*
ISC 04 23:00:33.7±0.2, 2095S±005×17404W±006, h35km, (h41km,2,3km:pP-P), n222, σ1§24/97, mb4.7/44, MS4.1/7, 32C-6D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.33**	**17**	Pn	**Pn**	**23 02 10.4**	**-7.7**
	25nm,0.3s,baz=127,slow=1.4,SNR=15						
AFI				Sn	**Sn**	**23 03 24.0**	**-16**
	9.2nm,0.3s,baz=136,slow=18,SNR=5.2						
AFI				T		23 09 37.0	
	7.5nm,0.3s,baz=262,slow=22,SNR=4.4						
AFI	**Afiamalu**	**7.33**	**17**	*e*P	**Pn**	**23 02 10.8**	**-7.3**
AFI				pmax	pmax		
	comp=Z,129nm,0.6s						
AFI	**Afiamalu**	**7.33**	**17**	*e*Pn	**Pn**	**23 02 10.8**	**-7.4**
	comp=Z,129nm,0.6s						
AFI				*e*Sn	**Sn**	**23 03 24.6**	**-15**
RAO	**Raoul Island**	**8.98**	**202**	Sn	**Sn**	**23 04 19.1**	**-1.6**
	comp=Z,60nm,0.3s,baz=44,slow=21,SNR=3.5						
RAR	**Rarotonga**	**13.32**	**94**	Pn	**Pn**	**23 03 30.8**	**-9.3**
	comp=Z,15nm,0.3s,baz=262,slow=8.5,SNR=18						
RAR				Sn	Sn	23 05 43.0	-24
	comp=Z,3.0nm,0.3s,baz=123,slow=20,SNR=3.7						
RAR				LR	LR	23 06 47.5	
	comp=Z,500nm,18.9s,baz=271,slow=28						
RAR				T		23 17 46.4	
	comp=Z,4.3nm,0.3s,baz=260,slow=5.7,SNR=4.4						
RAR	**Rarotonga**	**13.32**	**94**	Pn	**Pn**	**23 03 30.9**	**-9.3**
RAR				Sn	Sn	23 05 43.0	-24
RAR				LR	LR	23 06 47.5	
DZM	**Mont Dzumac**	**18.20**	**263**	P	**Pn**	**23 04 45.6**	**+2.1**
	comp=Z,0.8nm,0.3s,baz=85,slow=18,SNR=12						
URZ	**Urewera**	**18.87**	**202**	P	**Pn**	**23 04 52.0**	**+0.4**
	comp=Z,3.2nm,0.3s,baz=320,slow=4.3,SNR=9.2						
URZ				S	**S**	**23 08 08.3**	**-15**
	comp=Z,0.5nm,0.3s,baz=287,slow=23,SNR=3.8						
TBI	**Tubuai**	**22.88**	**101**	*e*LQ		23 09 37.2	
	comp=Z,178nm,27.5s						
TBI				*e*LR	LR	23 10 47.0	
	comp=Z,762nm,26.2s,baz=272						
PAE	**Paea**	**23.30**	**86**	*e*P	**P**	**23 05 35.0**	**-3.5**
	comp=Z,78nm,1.3s,mb5.0						
PPT	**Papeete**	**23.33**	**86**	*e*P	**P**	**23 05 35.7**	**-3.1**
	comp=Z,39nm,1.2s,mb4.7						
PPT	**Papeete**	**23.33**	**86**	LR	LR	23 12 41.5	
	comp=Z,402nm,18.7s,MS3.9,baz=205,slow=31						
TVO	**Taravao**	**23.59**	**87**	*e*P	**P**	**23 05 37.7**	**-3.5**
	comp=Z,45nm,0.8s,mb5.0						
PMOR	**Pomariorio Ree**	**25.54**	**81**	*e*P	**P**	**23 05 56.6**	**-2.4**
	comp=Z,50nm,1.1s,mb5.0						
RPZ	**Rata Peaks**	**25.88**	**205**	P	**P**	**23 06 03.7**	**+1.6**
	comp=Z,6.4nm,0.5s,mb4.4,baz=346,slow=1.5,SNR=4.9						
HNR	**Honiara**	**27.55**	**291**	LR	LR	23 15 33.2	
	comp=Z,298nm,19.6s,MS3.9,baz=178,slow=33						
CTA	**Charters Tower**	**37.14**	**264**	*e*P	**P**	**23 07 40.3**	**-0.6**
	comp=Z,4.6nm,0.6s,mb4.5						
CTA	**Charters Tower**	**37.14**	**264**	P	**P**	**23 07 40.9**	**0.0**
	comp=Z,3.7nm,0.5s,mb4.5,baz=79,slow=9.0,SNR=5.8						
CTA	**Charters Tower**	**37.14**	**264**	*e*P	**P**	**23 07 40.3**	**-0.6**
CTA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
PMG	**Port Moresby**	**39.07**	**281**	P	**P**	**23 07 56.3**	**-0.9**
	comp=Z,14nm,0.8s,mb4.7,baz=99,slow=5.5,SNR=9.8						
PMG	**Port Moresby**	**39.07**	**281**	*c*P	**P**	**23 07 54.7**	**-2.5**
PMG	**Port Moresby**	**39.07**	**281**	*e*P	**P**	**23 07 56.9**	**-0.3**
	comp=Z,14nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**40.95**	**245**	*e*P	**P**	**23 08 10.6**	**-2.2**
	comp=Z,4.2nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**40.95**	**245**	P	**P**	**23 08 12.7**	**-0.2**
	comp=Z,4.7nm,0.7s,mb4.2,baz=96,slow=8.0,SNR=7.7						
ASAR	**Alice Springs**	**48.03**	**257**	P	**P**	**23 09 08.7**	**-0.6**
	comp=Z,6.7nm,0.7s,mb4.8,baz=89,slow=8.3,SNR=48						
ASAR				PcP	PcP	23 10 37.5	+0.5
	comp=Z,2.2nm,0.9s,baz=99,slow=5.5,SNR=2.2						
ASAR				S	**S**	**23 16 03.3**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=96,slow=14,SNR=3.4						
WB2	**Warramunga Arr**	**48.20**	**262**	*e*P	**P**	**23 09 09.1**	**-1.5**
WRAB	**Tennant Creek**	**48.20**	**262**	*e*P	**P**	**23 09 09.4**	**-1.3**
WRAB				*e*	pP	23 09 21.6	+0.5
WRAB				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
WRAB	**Tennant Creek**	**48.20**	**262**	*e*P	**P**	**23 09 09.4**	**-1.3**
	comp=Z,14nm,0.9s,mb5.0						
WRAB				*e*	pP	23 09 21.6	+0.5
WRA	**Warramunga Arr**	**48.21**	**262**	P	**P**	**23 09 09.3**	**-1.4**
	comp=Z,2.7nm,0.5s,mb4.6,baz=97,slow=7.4,SNR=29						
KAKA	**Kakadu**	**51.69**	**270**	*e*P	**P**	**23 09 36.0**	**-1.1**
	comp=Z,11nm,0.8s,mb4.8						
FORT	**Forrest**	**52.52**	**247**	*e*P	**P**	**23 09 42.2**	**-1.2**
	comp=Z,33nm,0.9s,mb5.3						
GUMO	**Guam**	**52.99**	**307**	LR	LR	23 27 12.2	
	comp=Z,93nm,21.2s,MS3.8,baz=139,slow=30						
FITZ	**Fitzroy Crossi**	**56.64**	**262**	P	**P**	**23 10 12.6**	**-0.7**
	comp=Z,3.1nm,0.8s,mb4.4,baz=129,slow=15,SNR=7.0						
SBA	**Scott Base**	**57.70**	**185**	*e*P	**P**	**23 10 22.4**	**+1.7**
SBA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
SBA	**Scott Base**	**57.70**	**185**	*e*P	**P**	**23 10 22.4**	**+1.7**
	comp=Z,10nm,1.0s,mb4.8						
VNDA	**Vanda**	**57.82**	**186**	P	**P**	**23 10 23.7**	**+2.1**
	comp=Z,2.7nm,1.0s,mb4.2,baz=348,slow=6.8,SNR=8.8						
VNDA	**Vanda**	**57.82**	**186**	*e*P	**P**	**23 10 23.5**	**+1.9**
VNDA				*e*	pP	23 10 36.6	+4.4
VNDA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
VNDA	**Vanda**	**57.82**	**186**	*e*P	**P**	**23 10 23.5**	**+2.0**
	comp=Z,5.8nm,1.1s,mb4.5						
VNDA				*e*	pP	23 10 36.5	+4.4
KLBR	**Kellerberrin**	**61.22**	**245**	*e*P	**P**	**23 10 45.7**	**+0.7**
	comp=Z,21nm,0.7s,mb5.4						
MBWA	**Marble Bar**	**61.37**	**257**	*e*P	**P**	**23 10 45.4**	**-0.6**
NWAO	**Narrogin (SRO)**	**61.48**	**243**	P	**P**	**23 10 46.2**	**-0.5**
	comp=Z,7.4nm,1.0s,mb4.8,baz=247,slow=6.7,SNR=4.5						
NWAO	**Narrogin (SRO)**	**61.48**	**243**	P	**P**	**23 10 46.2**	**-0.5**
QSPA	**South Pole Stati**	**69.12**	**180**	*e*P	**P**	**23 11 36.9**	**+0.6**
	comp=Z,73nm,0.6s						
MJAR	**Matsushiro Arr**	**72.82**	**321**	P	**P**	**23 11 58.6**	**0.0**
	comp=Z,2.8nm,0.6s,mb4.4,baz=154,slow=5.9,SNR=13						
MJAR				PP	PP	23 14 35.6	-5.4
	comp=Z,0.7nm,0.4s,baz=142,slow=4.7,SNR=5.0						
MAT	**Matsushiro**	**72.83**	**321**	P	**P**	**23 11 58.6**	**-0.1**
MAT				*e*S	S	23 21 34.6	+12
MAT	**Matsushiro**	**72.83**	**321**	*e*P	**P**	**23 11 59.0**	**+0.3**
MAT				S	S	23 21 35.0	+13
KSM	**Kuching**	**77.15**	**277**	*e*P	**P**	**23 12 25.0**	**+1.4**
KSM				*e*PcP	PcP	23 12 34.8	+0.5
CMB	**Columbia Colle**	**77.33**	**41**	*e*P	**P**	**23 12 24.9**	**+0.3**
CMB				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
CMB	**Columbia Colle**	**77.33**	**41**	*e*P	**P**	**23 12 24.9**	**+0.2**
	comp=Z,4.9nm,0.9s,mb4.4						
YSS	**Yuzh-Sakhalins**	**78.01**	**331**	*e*P	**P**	**23 12 29.0**	**+0.5**
YBH	**Yreka Blue Hor**	**78.38**	**37**	LR	LR	23 40 03.0	
	comp=Z,113nm,20.5s,MS4.2,baz=264,slow=30						
NVAR	**Mina Array Bea**	**78.85**	**41**	P	**P**	**23 12 33.8**	**+0.6**
	comp=Z,7.2nm,0.8s,mb4.7,baz=213,slow=7.7,SNR=36						
TPNV	**Topopah Spring**	**79.26**	**44**	*e*P	**P**	**23 12 35.6**	**+0.3**
TPNV				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
TPNV	**Topopah Spring**	**79.26**	**44**	*e*P	**P**	**23 12 35.6**	**+0.2**
	comp=Z,8.9nm,1.1s,mb4.6						
MOD	**Modoc**	**79.85**	**38**	*e*P	**P**	**23 12 38.4**	**-0.2**
	comp=Z,5.6nm,1.0s,mb4.5						
WVOR	**Wild Horse Val**	**81.14**	**38**	*e*P	**P**	**23 12 45.6**	**+0.1**
WVOR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
WVOR	**Wild Horse Val**	**81.14**	**38**	*e*P	**P**	**23 12 45.6**	**+0.2**
	comp=Z,9.9nm,1.0s,mb4.7						
MAW	**Mawson**	**82.37**	**199**	P	**P**	**23 12 52.5**	**+0.5**
	comp=Z,2.7nm,0.8s,mb4.3,baz=102,slow=13,SNR=4.3						
MSU	**Marysvale**	**82.80**	**44**	*e*P	**P**	**23 12 55.9**	**+1.7**
NJ2	**Nanjing**	**83.05**	**308**	*e*P	**P**	**23 12 52.8**	**-2.7**
NJ2				PP	PP	23 16 05.2	-1.4
NJ2				S	S	23 23 08.0	-4.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,70nm,8.8s						
NJ2				LR	LR		
	comp=N,400nm,32.2s,MS4.8						
NJ2				LR	LR		
	comp=E,590nm,35.0s,MS4.8						
NJ2				LR	LR		
	comp=Z,260nm,29.1s						
MDJ	**Mudanjiang**	**83.06**	**323**	P	**P**	**23 12 56.1**	**+0.6**
MDJ				PP	PP	23 16 06.4	-0.2
MDJ				S	S	23 23 15.2	+2.7
MDJ				SS	SS	23 28 39.6	+3.0
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,62nm,4.2s						
MDJ				LR	LR		
	comp=N,18nm,16.2s,MS4.0						
MDJ				LR	LR		
	comp=E,48nm,18.0s,MS4.0						
MDJ				LR	LR		
	comp=Z,84nm,18.9s,MS4.1						
HLID	**Hailey**	**84.29**	**39**	*e*P	**P**	**23 13 02.4**	**+0.5**
	comp=Z,12nm,1.0s,mb5.0						
BNM	**Barren Site**	**84.31**	**50**	*e*P	**P**	**23 13 02.5**	**+0.5**
BNM				*e*PcP	PcP	23 13 10.4	+4.8
DAU	**Daniels Canyon**	**84.44**	**43**	*e*P	**P**	**23 13 03.6**	**+1.0**
TCUT	**Toone Canyon**	**84.73**	**42**	*e*P	**P**	**23 13 04.5**	**+0.4**
TTA	**Tatalina**	**84.81**	**8**	*e*P	**P**	**23 13 04.1**	**-0.3**
TTA				pmax	pmax		
	comp=Z,16nm,1.4s,mb5.0						
TTA	**Tatalina**	**84.81**	**8**	*e*P	**P**	**23 13 04.1**	**-0.3**
	comp=Z,16nm,1.4s,mb5.0						
ANMO	**Albuquerque**	**84.83**	**50**	*e*P	**P**	**23 13 04.8**	**+0.3**
ANMO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ANMO	**Albuquerque**	**84.83**	**50**	*e*P	**P**	**23 13 04.8**	**+0.2**
	comp=Z,7.4nm,1.0s,mb4.8						
ANMO				*e*PcP	PcP	23 13 11.4	+3.5
GDL2	**Guadalupe Moun**	**85.02**	**53**	*e*P	**P**	**23 13 05.3**	**-0.2**
WHN	**Wuhan**	**85.72**	**305**	*e*P	**P**	**23 13 11.0**	**+2.0**
CPRX	**Cap Rock**	**85.78**	**52**	*e*P	**P**	**23 13 09.9**	**+0.6**
QLMT	**Earthquake Lak**	**86.78**	**39**	*e*P	**P**	**23 13 15.5**	**+1.3**
PDAR	**Pinedale Array**	**86.78**	**42**	P	**P**	**23 13 13.8**	**-0.5**
	comp=Z,4.0nm,0.9s,mb4.6,baz=226,slow=2.8,SNR=24						
FLWY	**Flagg Ranch**	**86.80**	**40**	*e*P	**P**	**23 13 15.1**	**+0.8**
	comp=Z,4.2nm,0.9s,mb4.7						
SYO	**Syowa Base**	**87.07**	**192⇓**	*e*P	**P**	**23 13 15.3**	**-0.3**
SYO	**Syowa Base**	**87.07**	**192⇓**	*ep*P	pP	23 13 21.8	-4.9
VNA3	**Neumayer Olymp**	**87.41**	**175⇑**	*i*P	**P**	**23 13 17.5**	**+0.2**
VNA3				*e*		23 13 19.7	
VNA3				*e*	pP	23 13 28.9	+0.5
VNA3				*e*		23 13 32.3	
SNAA	**Sanae**	**87.42**	**177⇑**	*i*P	**P**	**23 13 17.3**	**0.0**
SNAA				*e*	pP	23 13 29.9	+1.5
SNAA	**Sanae**	**87.42**	**177**	*e*P	**P**	**23 13 17.7**	**+0.4**
SNAA				pmax	pmax		
	comp=Z,11nm,1.1s						
SNAA	**Sanae**	**87.42**	**177**	*e*P	**P**	**23 13 17.6**	**+0.3**
	comp=Z,11nm,1.1s,mb5.0						
RWWY	**Rawlins**	**87.71**	**44**	*e*P	**P**	**23 13 18.2**	**-0.5**
	comp=Z,4.3nm,0.8s,mb4.7						
VNA2	**Neumayer--Watz**	**87.89**	**176⇑**	*i*P	**P**	**23 13 20.1**	**+0.5**
	baz=205,slow=3.2						
VNA2				*e*		23 13 22.5	
VNA2				*e*	pP	23 13 31.8	+1.1
VNA2				*e*		23 13 35.9	
COLA	**College**	**87.90**	**11**	*ce*P	**P**	**23 13 16.4**	**-3.2**
COLA	**College**	**87.90**	**11**	*e*P	**P**	**23 13 19.0**	**-0.6**
	comp=Z,19nm,1.2s,mb5.2						
ILAR	**Eielson Array**	**87.98**	**11**	P	**P**	**23 13 18.8**	**-1.2**
	comp=Z,1.9nm,0.6s,mb4.5,baz=223,slow=5.2,SNR=20						
VNA1	**Neumayer--Stat**	**88.10**	**175⇑**	*i*P	**P**	**23 13 21.5**	**+0.9**
VNA1				*e*		23 13 23.6	
VNA1				*e*	pP	23 13 32.1	+0.4
VNA1				*e*		23 13 35.1	
PSI	**Prapat**	**88.23**	**274**	P	**P**	**23 13 22.4**	**+1.3**
	comp=Z,15nm,1.0s,mb5.2,baz=194,slow=5.3,SNR=9.3						
DAWY	**Dawson**	**88.92**	**14**	*e*P	**P**	**23 13 24.4**	**0.0**
BILL	**Bilibino**	**89.91**	**353⇑**	*e*P	**P**	**23 13 27.0**	**-2.1**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.8						
XAN	**Xi'an**	**91.38**	**306**	P	**P**	**23 13 37.6**	**+1.7**
XAN				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.7						
JTS	**JuntasAbangare**	**92.77**	**80**	LR	LR	23 45 05.7	
	comp=Z,93nm,20.3s,MS4.2,baz=337,slow=29						
KMI	**Kunming**	**92.87**	**296**	P	**P**	**23 13 45.8**	**+3.0**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.5s,mb5.0						
INK	**Inuvik**	**93.77**	**14**	P	**P**	**23 13 46.1**	**-0.9**
	comp=Z,2.3nm,0.9s,mb4.6,baz=204,slow=5.9,SNR=8.1						
CHTO	**Chiang Mai**	**93.90**	**289**	*e*P	**P**	**23 13 48.8**	**+1.3**
CHTO				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb5.0						
CHTO	**Chiang Mai**	**93.90**	**289**	*e*P	**P**	**23 13 48.8**	**+1.3**
	comp=Z,7.3nm,1.1s,mb5.0						
YKA	**Yellowknife Ar**	**95.40**	**24**	P	**P**	**23 13 53.3**	**-1.1**
	comp=Z,1.4nm,0.8s,mb4.4,baz=237,slow=4.1,SNR=27						
YKA				PP	PP	23 17 42.4	-2.7
	comp=Z,0.4nm,1.0s,baz=231,slow=8.2,SNR=4.8						
YKA	**Yellowknife Ar**	**95.40**	**24**	P	**P**	**23 13 53.3**	**-1.1**
YKA				PP	PP	23 17 42.4	-2.7
ULN	**Ulaanbaatar**	**98.15**	**318⇑**	*e*P	**P**	**23 14 04.3**	**-2.6**
SONM	**Songino Array**	**98.55**	**318**	P	**P**	**23 14 10.7**	**+2.1**
	comp=Z,0.4nm,0.9s,mb4.0,baz=126,slow=2.0,SNR=3.8						
ZAL	**Zalesovo**	**113.19**	**321**	PKiKP	PKiKP	23 19 06.5	-0.8
	comp=Z,0.8nm,0.4s,baz=6.2,slow=2.0,SNR=4.0						
NVS	**Novosibirsk**	**114.15**	**322**	*e*PKiKP	PKiKP	23 19 08.5	-0.7
MKAR	**Makanchi Array**	**114.21**	**313**	PKP	PKiKP	23 19 08.8	-0.6
	comp=Z,0.8nm,0.7s,baz=191,slow=0.9,SNR=16						
MKAR	**Makanchi Array**	**114.21**	**313**	PKP	PKiKP	23 19 08.8	-0.6
KURK	**Kurchatov**	**116.84**	**317**	*d i*PKiKP	PKPdf	23 19 12.7	-1.7
KURK	**Kurchatov**	**116.84**	**317**	*e*PKPdf	PKPdf	23 19 13.1	-1.3
AAK	**Ala-Archa**	**119.50**	**308⇑**	*i*PKiKP	PKPdf	23 19 16.8	-2.7
ZRNK	**Zerenda**	**122.64**	**320**	*e*PKiKP	PKPdf	23 19 25.2	-0.3
ARU	**Arti**	**127.66**	**326**	*i*PKiKP	PKPdf	23 19 35.5	+0.3
ARU				*e*		23 21 34.5	
ARU				*e*		23 26 38.4	
ARU				*e*SS	SS	23 38 39.0	-5.7
ARU	**Arti**	**127.66**	**326**	*e*P	PKPdf	23 19 34.9	-0.3
ARCES	**ARCESS Array B**	**129.98**	**351**	PKP	PKPdf	23 19 39.1	-0.5
	comp=Z,2.9nm,0.8s,baz=9.5,slow=1.5,SNR=9.6						
JOF	**Joensuu**	**134.64**	**344**	*ep*	PKPdf	23 19 49.2	+0.8
KAF	**Kangasniemi**	**136.54**	**346**	*ep*	PKPdf	23 19 52.0	+0.1
FINES	**FINESS Array B**	**137.18**	**346**	PKhKP		23 19 39.0	
	comp=Z,0.3nm,0.4s,baz=0.0,slow=3.8,SNR=3.6						
FINES				PKP	PKPdf	23 19 52.6	-0.5
	comp=Z,1.2nm,0.7s,baz=91,slow=3.4,SNR=7.6						
FINES	**FINESS Array B**	**137.18**	**346**	PKP		23 19 39.0	
FINES				PKP	PKPdf	23 19 52.6	-0.5
GNI

BUG	**Bochum--Univer**	**149.55**	**358**	*e*PKPbc	PKPbc	23 20 20.0	+0.7
BUG				*e*PKPab	PKPab	23 20 27.8	+3.5
OKC	**Ostrava-Krasne**	**149.60**	**344**⇑	*e*PKPB	PKPbc	23 20 20.0	+0.6
MORC	**Moravsky Berou**	**149.80**	**345**⇓	*i*P	PKPbc	23 20 20.6	+0.7
MORC	**Moravsky Berou**	**149.80**	**345**	P	PKPbc	23 20 21.0	+1.1
BR131	**Keskin Array S**	**149.85**	**315**	*e*PKPdf	PKPdf	23 20 19.9	+4.8
BRTR	**Keskin Array B**	**149.85**	**315**	PKPbc	PKPbc	23 20 20.8	+0.8
	comp=Z,7.3nm,1.0s,baz=126,slow=2.1,SNR=26						
VRI	**Vrincioaia**	**149.88**	**330**⇑	*i*P	PKPbc	23 20 20.5	+0.4
MOX	**Moxa**	**150.03**	**353**	*e*PKPbc	PKPbc	23 20 21.0	+0.6
MOX	**Moxa**	**150.03**	**353**	*e*PKP	PKPbc	23 20 20.8	+0.4
	comp=Z,20nm,1.5s						
MOX	**Moxa**	**150.03**	**353**	*e*PKHKP		23 20 20.8	
MOX				pmax	pmax		
	comp=Z,16nm,1.5s						
WERD	**Werda**	**150.14**	**352**	*e*PKPbc	PKPbc	23 20 21.3	+0.6
WERD				*e*PKPab	PKPab	23 20 30.6	+3.9
KECS	**Kecovo**	**150.16**	**340**	*e*PKP	PKPbc	23 20 21.5	+0.8
KECS	**Kecovo**	**150.16**	**340**	*e*PKP2	PKPbc	23 20 21.6	+0.9
UCC	**Uccle**	**150.19**	**2**	PKPbc	PKPbc	23 20 20.9	+0.1
UCC				E		23 20 37.1	
PRU	**Pruhonice**	**150.24**	**349**⇑	*e*PKPB	PKPbc	23 20 21.2	+0.3
ANTO	**Ankara**	**150.33**	**315**	P	PKPbc	23 20 22.8	+1.6
NKC	**Novy Kostel**	**150.33**	**352**⇑	*e*PKPB	PKPbc	23 20 21.9	+0.7
CVD	**Cernavoda**	**150.38**	**327**⇑	*i*P	PKPbc	23 20 22.5	+1.2
MEM	**Membach**	**150.40**	**360**	PKPbc	PKPbc	23 20 21.5	+0.2
MEM				E		23 20 38.4	
SGKT	**Sivrigoynuk**	**150.43**	**317**	*i*P	PKPdf	23 20 16.3	+0.2
VRAC	**Vranov**	**150.46**	**346**⇑	*i*P	PKPbc	23 20 22.0	+0.5
VRAC	**Vranov**	**150.46**	**346**	P	PKPbc	23 20 22.4	+0.9
MLR	**Muntele Rosu**	**150.53**	**331**⇓	*i*P	PKPbc	23 20 22.2	+0.6
MLR	**Muntele Rosu**	**150.53**	**331**	P	PKPbc	23 20 22.2	+0.6
MANZ	**Manzenberg**	**150.62**	**352**	*e*PKPdf	PKPdf	23 20 16.9	+0.5
MANZ				*e*PKPbc	PKPbc	23 20 22.6	+0.8
MANZ				*e*PKPab	PKPab	23 20 31.7	+3.0
VYHS	**Vyhne**	**150.64**	**342**	*i* PKP	PKPbc	23 20 22.6	+0.7
TREC	**Trest**	**150.72**	**347**⇑	*e*PKPB	PKPbc	23 20 22.8	+0.7
TNS	**Taunus Mts**	**150.72**	**357**	*e*PKPbc	PKPbc	23 20 22.3	+0.2
ROTZ	**Rotzenmuhle**	**150.82**	**352**	*e*PKPbc	PKPbc	23 20 23.1	+0.8
DRGR		**150.84**	**336**	P	PKPbc	23 20 23.3	+0.9
PSZ	**Piszkesteto**	**150.84**	**341**⇑	*e*pPKP/F	PKPbc	23 20 24.0	+1.6
DOU	**Dourbes**	**150.90**	**2**	PKPbc	PKPbc	23 20 22.8	+0.3
GIVF	**Givet**	**150.90**	**2**	*e*PKP1	PKPbc	23 20 22.5	0.0
	comp=Z,45nm,1.1s						
BAIF	**Baives**	**150.92**	**2**	*e*PKP1	PKPbc	23 20 22.6	+0.1
	comp=Z,27nm,0.8s						
MEST	**Erdemli**	**150.94**	**309**	*i* P	PKPbc	23 20 22.0	-0.5
SMOL	**Smolenice**	**151.00**	**344**	*e*PKP	PKPbc	23 20 23.5	+0.8
GRA1	**Grafenberg Arr**	**151.02**	**353**	*e*PKPbc	PKPbc	23 20 23.1	+0.3
GRA1				*e*PKPab	PKPab	23 20 34.4	+4.0
GRF	**Grafenberg Arr**	**151.02**	**353**	*e*PKPbc	PKPbc	23 20 23.1	+0.3
GRF				*e*PKPab	PKPab	23 20 34.4	+4.0
KHC	**Kasperske Hory**	**151.23**	**350**⇑	*e*PKPB	PKPbc	23 20 23.5	+0.2
WET	**Wettzell**	**151.33**	**351**	*e*PKPbc	PKPbc	23 20 23.6	+0.1
WLF	**Walferdange**	**151.35**	**360**	*e*PKPbc	PKPbc	23 20 23.9	+0.4
WLF	**Walferdange**	**151.35**	**360**	PKPbc	PKPbc	23 20 24.3	+0.7
WLF				APKPbc		23 20 28.2	
WLF				XPKPab		23 20 39.2	
WLF	**Walferdange**	**151.35**	**360**	*e*PKPdf	PKPdf	23 20 19.0	+1.5
GERES	**GERESS Array B**	**151.49**	**349**	PKPbc	PKPbc	23 20 23.6	-0.3
	comp=Z,6.4nm,0.9s,baz=48,slow=2.0,SNR=16						
ROSF	**Rostrenen**	**151.69**	**13**	*e*PKP1	PKPbc	23 20 23.5	-0.8
FLN	**La Foliniere**	**151.78**	**9**	*e*PKP1	PKPbc	23 20 24.0	-0.5
	comp=Z,32nm,0.7s						
ERMK	**Ermenek**	**151.81**	**310**	*i* P	PKPbc	23 20 25.9	+1.3
SGMF	**Saint Gilles**	**151.91**	**12**	*e*PKP1	PKPbc	23 20 24.0	-0.8
	comp=Z,9.9nm,0.7s						
SOP	**Sopron**	**151.99**	**345**⇑	*e*pPKP/F	PKPbc	23 20 25.8	+0.8
LDF	**La Druitiere**	**151.99**	**9**	*e*PKP1	PKPbc	23 20 24.3	-0.7
GRR	**Gorron**	**152.08**	**10**	*e*PKP1	PKPbc	23 20 24.8	-0.4
	comp=Z,16nm,0.5s						
BZS	**Buzias**	**152.24**	**336**⇑	*i*P	PKPbc	23 20 26.0	+0.4
BZS	**Buzias**	**152.24**	**336**	P	PKPbc	23 20 26.2	+0.6
MEZF	**Maizieres J'vi**	**152.50**	**1**	*e*PKP1	PKPbc	23 20 26.2	0.0
	comp=Z,7.2nm,0.5s						
FUR	**Furstenfeldbru**	**152.51**	**352**	*e*PKPbc	PKPbc	23 20 27.0	+0.8
CDF	**Champ du Feu**	**152.58**	**358**	*e*PKP1	PKPbc	23 20 26.9	+0.6
	comp=Z,15nm,0.9s						
BFO	**Black Forest**	**152.62**	**357**	*e*PKPbc	PKPbc	23 20 26.7	+0.3
PKSM	**Moragy**	**152.75**	**341**	P	PKPbc	23 20 26.1	-0.6
TKTP	**Tekketepe**	**152.93**	**314**	*i* P	PKPdf	23 20 22.0	+2.2
HAU	**Haudompre**	**153.01**	**359**	*e*PKP1	PKPbc	23 20 27.2	-0.1
	comp=Z,7.6nm,0.5s						
HINF	**Hinteralfeld**	**153.19**	**359**	*e*PKP1	PKPbc	23 20 27.3	-0.4
	comp=Z,6.5nm,0.6s						
MOTA	**Moosalm**	**153.34**	**352**⇑	*i*P	PKPbc	23 20 28.2	+0.2
	comp=Z,7.1nm,1.1s						
WTTA	**Wattenberg**	**153.35**	**351**⇑	*i*P	PKPbc	23 20 28.3	+0.2
	comp=Z,7.7nm,0.7s						
WTTA	**Wattenberg**	**153.35**	**351**⇑	*i*P	PKPbc	23 20 28.3	+0.2
DAVA	**Damuels**	**153.54**	**354**⇑	*i*P	PKPbc	23 20 29.2	+0.8
	comp=Z,12nm,1.1s						
LOR	**Lormes**	**153.69**	**3**	*e*PKP1	PKPbc	23 20 28.6	-0.2
	comp=Z,12nm,1.0s						
SSF	**Saint Saulge**	**153.88**	**4**	*e*PKP1	PKPbc	23 20 29.2	0.0
	comp=Z,23nm,1.1s						
MFF	**Saint Martin d**	**153.93**	**10**	*e*PKP1	PKPbc	23 20 28.8	-0.5
AVF	**Avril sur Loir**	**154.14**	**4**	*e*PKP1	PKPbc	23 20 29.3	-0.4
BGF	**Bois d'Agland**	**154.33**	**5**	*e*PKP1	PKPbc	23 20 29.9	-0.2
	comp=Z,6.1nm,0.5s						
CABF	**La Chapelle**	**154.41**	**360**	*e*PKP1	PKPbc	23 20 31.1	+0.8
	comp=Z,6.8nm,0.8s						
RJF	**Les Rejaudoux**	**155.44**	**8**	*e*PKP1	PKPdf	23 20 32.4	+9.0
TORD	**Torodi Ar. Bea**	**171.23**	**152**	PKP	PKPdf	23 20 37.7	-0.5
	comp=Z,0.6nm,1.0s,baz=254,slow=1.0,SNR=3.2						
TORD				PKPab	PKPab	23 21 58.0	-0.2
	comp=Z,2.9nm,1.2s,baz=202,slow=2.9,SNR=5.8						

*ISCJB **04** 23:19:51.7±0.9, 35S±0.1×1036W±0.2, h10km, mb4.3/18, MS3.9/9, Error ellipse: s-maj=27.6km s-min=11.9km az=95.2*
*IDC **04** 23:19:51.4±1.6, 354S×10363W, h0km, mb4.0/9, mb1 4.2/9, mb1mx4.1/17, mbtmp4.0/9, MS3.9/9, Ms1 3.9/9, ms1mx3.6/20, Error ellipse: s-maj=64.9km s-min=18.6km az=54.0*
*NEIC **04** 23:19:53.3±0.9, 352S×10349W, h10km, mb4.7/10, Error ellipse: s-maj=27.3km s-min=13.3km az=48.0*
ISC 04 23:19:54.1±0.9, 35S±01×1035W±01, h10km, n35, σ1§19/24, mb4.3/18, MS3.9/9, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
JTS	**JuntasAbangare**	**22.96**	**53**	LR		LR	23 31 31.5	
	comp=Z,345nm,21.1s,MS3.8,baz=176,slow=30							
OTAV	**Otavalo**	**25.28**	**82**	*e*P		**P**	**23 25 21.4**	**+0.8**
	1.3nm,0.4s,mb3.8							
LPIG	**La Paz**	**28.19**	**347**	LR		LR	23 34 49.7	
	comp=Z,90nm,18.0s,MS3.4,baz=196,slow=32							
ROSC	**El Rosal**	**30.27**	**74**	LR		LR	23 35 37.6	
	comp=Z,127nm,18.2s,MS3.6,baz=15,slow=31							
SDV	**Santo Domingo**	**34.97**	**69**	*e*P		**P**	**23 26 43.9**	**-2.5**
	11nm,0.8s,mb4.8							
TUC	**Tucson**	**36.24**	**350**	*e*P		**P**	**23 26 53.8**	**-3.5**
	5.8nm,0.6s,mb4.7							
LPAZ	**La Paz**	**37.00**	**113**	P		**P**	**23 27 05.5**	**+1.7**
	0.9nm,0.5s,mb3.8,baz=324,slow=5.0,SNR=4.9							
LPAZ				LR		LR	23 39 19.6	
	comp=Z,118nm,18.2s,MS3.7,baz=252,slow=32							
LPAZ	**La Paz**	**37.00**	**113**	*e*P		**P**	**23 27 05.9**	**+2.1**
	1.7nm,0.8s,mb3.9							
LPAZ				LR		LR	23 39 19.6	
MIAR	**Mount Ida**	**38.94**	**13**	*e*P		**P**	**23 27 20.2**	**+0.1**
	18nm,1.4s,mb4.6							
PLAL	**Pickwick Lake**	**40.89**	**19**	*e*P		**P**	**23 27 35.6**	**-0.7**
	22nm,1.5s,mb4.6							
CFAA	**Coronel Fontan**	**43.38**	**134**	P		**P**	**23 27 56.1**	**-0.5**
	0.5nm,0.8s,mb3.3,baz=310,slow=8.4,SNR=5.7							
SIV	**San Ignacio**	**43.51**	**110**	P		**P**	**23 27 57.8**	**+0.1**
	1.3nm,0.8s,mb3.7,baz=285,slow=21,SNR=7.4							
PDAR	**Pinedale Array**	**46.34**	**354**	P		**P**	**23 28 20.9**	**+0.7**
	2.7nm,1.0s,mb4.1,baz=152,slow=6.6,SNR=6.8							
PPT	**Papeete**	**47.29**	**249**	*e*LR		LR	23 41 51.7	
	215nm,28.0s							
PPT	**Papeete**	**47.29**	**249**	LR		LR	23 41 43.3	
	comp=Z,111nm,18.0s,MS3.9,baz=30,slow=28							
LOHW	**Long Hollow**	**47.29**	**353**	*e*P		**P**	**23 28 27.4**	**-0.3**
	14nm,1.5s,mb4.7							
MOOW	**Moose Ponds**	**47.44**	**353**	*e*P		**P**	**23 28 30.2**	**+1.3**
	13nm,1.4s,mb4.7							
FLWY	**Flagg Ranch**	**47.77**	**353**	*e*P		**P**	**23 28 33.2**	**+1.8**
	51nm,1.6s,mb5.3							
HLID	**Hailey**	**47.83**	**349**	*e*P		**P**	**23 28 33.5**	**+1.7**
	6.0nm,1.1s,mb4.5							
QLMT	**Earthquake Lak**	**48.60**	**352**	*e*P		**P**	**23 28 40.8**	**+3.0**
CPUP	**Villa Florida**	**49.68**	**122**	LR		LR	23 46 59.6	
	comp=Z,81nm,18.2s,MS3.8,baz=242,slow=33							
CHMT	**Chamberlain Mo**	**50.89**	**351**	*e*P		**P**	**23 28 55.7**	**+0.4**
NEW	**Newport**	**52.87**	**349**	P		**P**	**23 29 10.0**	**-0.1**
	2.8nm,0.9s,mb4.2,baz=142,slow=9.7,SNR=5.6							
ULM	**Lac du Bonnet**	**53.90**	**6**	P		**P**	**23 29 17.2**	**-0.4**
	4.3nm,1.0s,mb4.3,baz=156,slow=8.6,SNR=4.0							
ULM				LR		LR	23 51 34.2	
	comp=Z,159nm,18.2s,MS4.1,baz=326,slow=35							
ULM	**Lac du Bonnet**	**53.90**	**6**	P		**P**	**23 29 17.2**	**-0.4**
ULM				LR		LR	23 51 34.2	
HKL	**Haleakala**	**57.03**	**297**	*e*P		**P**	**23 29 39.6**	**-0.6**
SCHQ	**Schefferville**	**65.51**	**22**	P		**P**	**23 30 36.2**	**-1.3**
	1.5nm,0.9s,mb4.0,baz=233,slow=5.1,SNR=4.0							
YKA	**Yellowknife Ar**	**66.32**	**354**	P		**P**	**23 30 41.6**	**-1.2**
	1.3nm,0.9s,mb4.0,baz=163,slow=6.2,SNR=20							
YKA				LR		LR	23 59 25.7	
	comp=Z,99nm,18.4s,MS4.0,baz=255,slow=36							
YKW3	**Yellowknife Ar**	**66.38**	**354**	*e*P		**P**	**23 30 42.3**	**-0.9**
KDAK	**Kodiak Island**	**72.57**	**335**	LR		LR	23 55 00.3	
	comp=Z,209nm,18.6s,MS4.4,baz=94,slow=29							
ILAR	**Eielson Array**	**75.13**	**342**	P		**P**	**23 31 35.2**	**-1.2**
	1.8nm,1.0s,mb4.0,baz=146,slow=4.3,SNR=10							
BRTR	**Keskin Array B**	**127.03**	**41**	PKP		PKPdf	23 38 57.3	-1.1
	0.8nm,1.0s,baz=156,slow=3.4,SNR=6.1							
SONM	**Songino Array**	**128.86**	**334**	PKP		PKPdf	23 39 01.1	-0.8
	0.9nm,1.0s,baz=315,slow=1.0,SNR=4.4							
ZRNK	**Zerenda**	**130.28**	**6**	*e*PKPdf		PKPdf	23 39 03.5	-1.1
MKAR	**Makanchi Array**	**136.54**	**354**	PKP		PKPdf	23 39 16.1	-0.2
	1.0nm,1.0s,baz=90,slow=1.2,SNR=3.6							

*ISCJB **04** 23:23:38.2±0.5, 39.34N±003×2102E±004, h10km, Error ellipse: s-maj=4.4km s-min=4.0km az=152.2*
*THE **04** 23:23:38.8, 3933N×2099E, h10km, ML2.4*
*ATH **04** 23:23:39.2, 3922N×2095E, h10km, MD3.2/3*
ISC 04 23:23:38.7±0.5, 3933N±003×2101E±004, h10km, n12, σ1§08/19, Greece

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
IGT	**Igoumenitsa**	**0.56**	**292**	*e*Pg		**Pg**	**23 23 48.5**	**-1.1**
IGT				*e*Sg		**Sg**	**23 23 57.6**	**+0.7**
LKD	**Levkas**	**0.68**	**204**	*e*Pg		**Pg**	**23 23 51.2**	**-0.6**
LKD				*e*Sg		**Sg**	**23 24 02.1**	**+1.4**
EVR	**Evrytania**	**0.75**	**123**	*e*PB		**Pb**	**23 23 53.2**	**-0.6**
LSK	**Leskovik**	**0.88**	**339**	*i* Pg		**Pg**	**23 23 55.4**	**-0.2**
LSK				*i* Sg		**Sg**	**23 24 11.4**	**+4.3**
SRN	**Sarande**	**0.95**	**306**	*i* Pg		**Pg**	**23 23 59.0**	**+2.0**
SRN				*i* Sg		**Sg**	**23 24 14.6**	**+5.2**
KEK	**Kerkira**	**1.01**	**293**	*e*PB		**Pb**	**23 23 58.5**	**+0.3**
AGG	**Agios Georgios**	**1.07**	**106**	*e*Pg		**Pg**	**23 23 58.7**	**-0.7**
AGG				*e*Sg		**Sg**	**23 24 14.7**	**+1.4**
VLS	**Valsamata**	**1.19**	**196**	*e*PB		**Pb**	**23 24 00.0**	**-1.4**
LIT	**Litokhoron**	**1.38**	**56**	*e*Pg		**Pg**	**23 24 04.9**	**-0.3**
LIT				*e*Sg		**Sg**	**23 24 25.3**	**+2.2**
FNA	**Florina**	**1.48**	**11**	*e*Pg		**Pg**	**23 24 06.5**	**-0.6**
FNA				*e*Sg		**Sg**	**23 24 26.1**	**-0.2**
XOR	**Xorichti**	**1.70**	**88**	*e*Pb		**Pb**	**23 24 09.7**	**-0.3**
GRG	**Griva**	**1.95**	**33**	*e*Pb		**Pb**	**23 24 12.6**	**-1.6**

*MOS **04** 23:51:50.7±1.7, 5464N×16176E, h20km, mb4.5/3, Error ellipse: s-maj=19.6km s-min=8.2km az=78.5*
*KRSC **04** 23:51:50.8±1.1, 5457N×16192E, h17km±1km, ML4.3*
*ISCJB **04** 23:51:51.8±0.6, 5458N±002×16187E±005, h21km±4km, mb3.9/11, Error ellipse: s-maj=5.2km s-min=2.6km az=39.6*
*IDC **04** 23:51:51.0±1.3, 5497N×16131E, h0km, mb3.7/8, mb1 4.0/8, mb1mx3.7/21, mbtmp3.7/8, Error ellipse: s-maj=39.5km s-min=23.8km az=155.0*
*NEIC **04** 23:51:55.7±0.6, 5486N×16130E, h35km, mb3.9/1, Error ellipse: s-maj=18.8km s-min=10.5km az=140.0*
ISC 04 23:51:52.3±0.6, 5459N±002×16187E±005, h18km±3km, n59, σ1§07/97, mb3.9/11, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
MKZ	**Mys Kozlova**	**0.09**	**247**	P		**Pg**	**23 51 55.1**	**-0.7**
MKZ	**Mys Kozlova**	**0.09**	**247**	*i* P		**Pg**	**23 51 54.9**	**-0.9**
MKZ				*e*S		**Sg**	**23 51 59.1**	**+0.9**
TUMR	**Tumrok**	**1.21**	**306**	*e*P		**Pn**	**23 52 12.5**	**-1.8**
TUMR				*e*S		**Sb**	**23 52 29.0**	**-1.0**
KMNR	**Kamenistaya**	**1.50**	**322**	*i* P		**Pn**	**23 52 17.5**	**-0.7**
KMNR				*e*S		**Sn**	**23 52 37.5**	**+0.2**
KII	**Karymskiy**	**1.52**	**250**	P		**Pn**	**23 52 17.3**	**-1.3**
KII				S		**Sn**	**23 52 36.6**	**-1.3**
KII	**Karymskiy**	**1.52**	**250**	*e*P		**Pn**	**23 52 17.4**	**-1.2**
KII				*e*S		**Sn**	**23 52 36.5**	**-1.4**
ZLN	**Zelenaya**	**1.55**	**337**	*i* P		**Pn**	**23 52 18.9**	**-0.1**
ZLN				*e*S		**Sn**	**23 52 38.4**	**-0.3**
LGNR	**Loginova**	**1.64**	**336**	*e*P		**Pn**	**23 52 20.4**	**+0.2**
LGNR				*i* S		**Sn**	**23 52 42.5**	**+1.7**
CIRR	**Tsirk**	**1.66**	**338**	*i* P		**Pn**	**23 52 20.4**	**0.0**
CIRR				*i* S		**Sn**	**23 52 42.7**	**+1.5**
KPT	**Kopyto**	**1.67**	**326**	*i* P		**Pn**	**23 52 20.3**	**-0.3**
KPT				*e*S		**Sn**	**23 52 41.5**	**-0.1**
KBTR	**Krutoberegovo**	**1.71**	**18**	P		**Pn**	**23 52 20.4**	**-0.7**
KBTR				S		**Sn**	**23 52 42.1**	**-0.4**
KBTR	**Krutoberegovo**	**1.71**	**18**	*e*P		**Pn**	**23 52 20.5**	**-0.6**
KBTR				*e*S		**Sn**	**23 52 42.9**	**+0.4**
KBG	**Krutoberegovo**	**1.73**	**16**	*e*P		**Pn**	**23 52 22.8**	**+1.3**
KBG				*e*S		**Sn**	**23 52 42.9**	**-0.3**
KBG				Smax				
	2µm,0.9s							
KRSR	**Krestovskiy**	**1.79**	**336**	*e*P		**Pn**	**23 52 21.7**	**-0.6**
KRSR				*e*S		**Sn**	**23 52 43.2**	**-1.4**
SPN	**Mys Shipunski**	**1.85**	**217**	*e*P		**Pn**	**23 52 21.6**	**-1.5**
SPN				*i* S		**Sn**	**23 52 43.9**	**-2.2**
KOZR	**Kozyr**	**1.86**	**323**	PN		**Pn**	**23 52 23.4**	**+0.2**
KOZR				S		**Sn**	**23 52 46.7**	**+0.5**
KLY	**Klyuchi**	**1.86**	**339**	P		**Pn**	**23 52 22.4**	**-0.8**
KLY				S		**Sn**	**23 52 45.5**	**-0.8**
KLY	**Klyuchi**	**1.86**	**339**	*e*P		**Pn**	**23 52 22.5**	**-0.7**
KLY				*e*S		**Sn**	**23 52 46.0**	**-0.3**
KOZ	**Kozyrevsk**	**1.86**	**323**	P		**Pn**	**23 52 23.4**	**+0.2**
KOZ				S		**Sn**	**23 52 46.7**	**+0.4**
KOZ	**Kozyrevsk**	**1.86**	**323**	*e*P		**Pn**	**23 52 23.5**	**+0.3**
KOZ				*e*S		**Sn**	**23 52 46.8**	**+0.5**
SMKR	**Semkarok**	**2.01**	**354**	*i* P		**Pn**	**23 52 22.0**	**+0.7**
SMKR				*e*S		**Sn**	**23 52 51.9**	**+2.0**
BDR	**Baidarnaya**	**2.02**	**350**	*i* P		**Pn**	**23 52 26.0**	**+0.6**
BDR				*e*S		**Sn**	**23 52 50.6**	**+0.5**
NLC	**Nalytchevo**	**2.06**	**227**	P		**Pn**	**23 52 25.1**	**-0.9**
NLC				S		**Sn**	**23 52 50.3**	**-0.9**
NLC	**Nalytchevo**	**2.06**	**227**	*e*P		**Pn**	**23 52 25.1**	**-0.9**
NLC				*e*S		**Sn**	**23 52 50.8**	**-0.4**
SRKR	**Sorokina**	**2.11**	**349**	*i* P		**Pn**	**23 52 26.9**	**+0.3**
SRKR				*e*S		**Sn**	**23 52 53.6**	**+1.3**
SRDR	**Sredinnyy**	**2.12**	**326**	*e*P		**Pn**	**23 52 26.7**	**-0.1**
SRDR				*e*S		**Sn**	**23 52 52.8**	**+0.1**
SDLR	**Sedlovina**	**2.20**	**235**	*e*P		**Pn**	**23 52 28.0**	**+0.1**
SDLR				*e*S		**Sn**	**23 52 55.2**	**+0.6**
SMAR	**Somma**	**2.25**	**235**	*e*P		**Pn**	**23 52 28.6**	**0.0**
SMAR				*e*S		**Sn**	**23 52 55.5**	**-0.3**
ESO	**Esso**	**2.25**	**308**	*e*P		**Pn**	**23 52 27.6**	**-1.0**
ESO				*e*S		**Sn**	**23 52 54.8**	**-1.2**
ESO				Smax				
	380nm,0.6s							
UGLR	**Uglovaya**	**2.27**	**234**	*e*P		**Pn**	**23 52 28.9**	**0.0**
UGLR				*e*S		**Sn**	**23 52 56.3**	**-0.1**
AVH	**Avacha**	**2.28**	**236**	*e*P		**Pn**	**23 52 29.0**	**0.0**
AVH				*e*S		**Sn**	**23 52 57.1**	**+0.5**
KOK	**Koryaka**	**2.31**	**237**	*e*P		**Pn**	**23 52 29.5**	**+0.1**
BKI	**Bering**	**2.45**	**74**	*e*S		**Sn**	**23 52 58.7**	**-2.1**
PET	**Petropavlovsk**	**2.47**	**232**	P		**Pn**	**23 52 31.5**	**-0.1**
PET				S		**Sn**	**23 53 01.3**	**0.0**
PET	**Petropavlovsk**	**2.47**	**232**	*e*Pn		**Pn**	**23 52 31.6**	**0.0**
PET				*e*Sn		**Sn**	**23 53 02.0**	**+0.7**
PET	**Petropavlovsk**	**2.47**	**232**	*e*P		**Pn**	**23 52 31.4**	**-0.2**
PET				*e*S		**Sn**	**23 53 01.9**	**+0.6**
GNL	**Ganaly**	**2.48**	**250**	*i* P		**Pn**	**23 52 32.0**	**+0.3**
KRMR	**Karymshinskiy**	**2.84**	**233**	*e*P		**Pn**	**23 52 37.1**	**+0.5**
KRMR				*e*S		**Sn**	**23 53 11.6**	**+1.3**
RUS	**Russkaya**	**2.95**	**224**	P		**Pn**	**23 52 38.1**	**-0.1**
RUS				S		**Sn**	**23 53 12.4**	**-0.7**
RUS	**Russkaya**	**2.95**	**224**	*e*P		**Pn**	**23 52 38.0**	**-0.2**
RUS				*e*S		**Sn**	**23 53 12.4**	**-0.7**
GRL	**Gorelyy**	**3.05**	**229**	*e*P		**Pn**	**23 52 40.5**	**+0.9**
GRL				*e*S		**Sn**	**23 53 16.0**	**+0.4**
APC	**Apacha**	**3.26**	**241**	P		**Pn**	**23 52 44.2**	**+1.8**
APC				*e*S		**Sn**	**23 53 22.5**	**+1.8**
APC				Smax				
	100nm,0.9s							
MIPR	**Malaya Ipel'ka**	**3.84**	**235**	*e*P		**Pn**	**23 52 51.5**	**+1.1**
PAU	**Pauzhetka**	**4.37**	**226**	*e*P		**Pn**	**23 52 59.9**	**+2.2**
TIXI	**Tiksi**	**22.19**	**333**	*e*P		**P**	**23 56 45.1**	**-2.4**
TIXI				pmax	pmax			
	comp=Z,3.6nm,1.2s,mb3.6							
MJAR	**Matsushiro Arr**	**24.30**	**232**	P		**P**	**23 57 09.7**	**+1.0**
	comp=Z,2.2nm,0.8s,mb3.7,baz=28,slow=9.3,SNR=6.3							
ILAR	**Eielson Array**	**27.02**	**47**	P		**P**	**23 57 32.9**	**-0.3**
	comp=Z,0.6nm,0.8s,mb3.2,baz=265,slow=8.8,SNR=6.5							
TLY	**Talaya**	**34.19**	**290**	P		**P**	**23 58 33.5**	**-3.1**
YKA	**Yellowknife Ar**	**41.35**	**44**	P		**P**	**23 59 38.3**	**+1.2**
	comp=Z,0.5nm,0.7s,mb3.3,baz=301,slow=8.1,SNR=9.2							
YKA	**Yellowknife Ar**	**41.35**	**44**	P		**P**	**23 59 38.3**	**+1.2**
KURK	**Kurchatov**	**47.84**	**302**	*e*P		**P**	**00 00 26.5**	**-2.4**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.1							
KURK	**Kurchatov**	**47.84**	**302**	*e*P		**P**	**00 00 26.4**	**-2.4**
	comp=Z,0.7nm,0.5s,mb4.0							
NVAR	**Mina Array Bea**	**54.26**	**72**	P		**P**	**00 01 20.8**	**+3.7**
	comp=Z,0.9nm,0.6s,mb3.9,baz=288,slow=5.1,SNR=4.7							
PDAR	**Pinedale Array**	**55.89**	**63**	P		**P**	**00 01 30.6**	**+1.7**
	comp=Z,0.4nm,0.6s,mb3.6,baz=323,slow=4.4,SNR=4.4							
FINES	**FINESS Array B**	**59.16**	**337**	P		**P**	**00 01 49.0**	**-2.9**
	comp=Z,0.7nm,0.7s,mb3.8,baz=35,slow=8.2,SNR=5.2							
NOA	**NORSAR Array B**	**62.39**	**344**	P		**P**	**00 02 12.0**	**-1.9**
	comp=Z,0.7nm,0.6s,mb3.9,baz=22,slow=6.7,SNR=3.7							
WRAB	**Tennant Creek**	**77.88**	**206**	*e*P		**P**	**00 03 50.4**	**+1.6**
WRAB				pmax	pmax			
	comp=Z,22nm,0.6s,mb5.3							
WRAB	**Tennant Creek**	**77.88**	**206**	*e*P

WRA	**Warramunga Arr**	**47.69**	**261**	P	P	00 39 23.8 +0.6
	0.4nm,0.4s,baz=98,slow=7.8,SNR=5.4					
ILAR	**Eielson Array**	**86.77**	**12**	P	P	00 43 30.9 -0.1
	1.0nm,1.0s,baz=229,slow=7.1,SNR=5.1					
ARCES	**ARCESS Array B**	**128.50**	**351**	PKP	PKPdf	00 49 52.2 -1.5
	1.3nm,0.8s,baz=26,slow=4.4,SNR=6.8					
GERES	**GERESS Array B**	**149.99**	**349**	PKPbc	PKPbc	00 50 37.2 -0.1
	1.2nm,0.9s,baz=29,slow=3.0,SNR=4.8					

IDC 05 00:31:08.7±3.6, 1985S×17469W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.8/14, mbtmp3.9/2, MS3.1/2, Ms1 3.1/2, ms1mx2.5/22, 1C, Error ellipse: s-maj=221.7km s-min=41.5km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.53**	**26**	LR	LR	00 34 10.0	
	comp=Z,92nm,18.1s,baz=261,slow=28						
HNR	**Honiara**	**26.59**	**289**	LR	LR	00 44 50.5	
	comp=Z,69nm,18.7s,baz=357,slow=31						
ASAR	**Alice Springs**	**47.69**	**256**	P	P	00 39 47.2	+0.2
	0.7nm,0.5s,baz=94,slow=8.1,SNR=6.7						
ASAR				PcP	PcP	00 41 17.1	+0.8
	0.6nm,0.6s,baz=107,slow=3.9,SNR=4.8						
ILAR	**Eielson Array**	**87.03**	**12**	P	P	00 43 55.6	-0.4
	0.7nm,0.7s,baz=227,slow=6.0,SNR=4.2						
ARCES	**ARCESS Array B**	**128.81**	**351**	PKP	PKPdf	00 50 16.9	-1.2
	1.0nm,0.6s,baz=21,slow=1.2,SNR=1.8						
FINES	**FINESS Array B**	**135.97**	**346**	PKP	PKPdf	00 50 31.5	-0.1
	0.4nm,0.5s,baz=54,slow=3.6,SNR=2.6						
AKASG	**Malin Array Be**	**143.87**	**334**	PKP	PKPdf	00 50 43.2	-2.7
	1.0nm,0.4s,baz=40,slow=4.1,SNR=4.1						
CLL	**Collm**	**148.03**	**351**	*i* (PKP)	PKPdf	00 50 56.2	+3.2
	comp=Z,5.0nm,0.8s						
BRG	**Berggiesshubel**	**148.30**	**350**	*i* P	PKPdf	00 50 56.6	+3.1
	comp=Z,1.3nm,0.8s						
DPC	**Dobruska-Polom**	**148.33**	**347**	*e*P	PKPdf	00 50 58.0	+4.5
PRU	**Pruhonice**	**149.04**	**348**	*e*P	PKPdf	00 50 59.2	+4.6
KHC	**Kasperske Hory**	**150.04**	**349**	*e*P	PKPdf	00 51 00.2	+4.0
GERES	**GERESS Array B**	**150.29**	**349**	PKPbc	PKPbc	00 51 02.0	+0.2
	comp=Z,0.9nm,0.7s,baz=33,slow=3.7,SNR=3.5						

*IDC **05** 00:50:20.6±5.9, 1965S×17261W, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.9/17, mbtmp4.0/5, MS3.4/1, Ms1 3.4/1, ms1mx2.9/17, Error ellipse: s-maj=247.9km s-min=35.9km az=146.0*

*ISCJB **05** 00:50:23.4±0.9, 1965S±0.1×1726W±0.2, h33km, mb4.1/6, MS3.2/1, Error ellipse: s-maj=23.0km s-min=14.7km az=56.5*

*NEIC **05** 00:50:25.5±0.7, 1962S×17260W, h35km, mb4.2/3, Error ellipse: s-maj=17.1km s-min=11.1km az=121.0*

ISC 05 00:50:25.5±0.9, 1965S±0.1×1726W±0.2, h35km, n14, σ0§55/13, mb4.1/6, MS3.2/1, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.74**	**8**	*e*Pn	**Pn**	**00 51 47.9**	**-0.4**
AFI				*e*Sn	**Sn**	**00 52 35.4**	**-18**
DZM	**Mont Dzumac**	**19.75**	**259**	P	**Pn**	**00 54 53.5**	**-0.5**
	0.4nm,0.3s,baz=84,slow=20,SNR=5.9						
PPT	**Papeete**	**21.89**	**88**	LR	LR	01 00 33.1	
	comp=Z,95nm,20.8s,MS3.2,baz=108,slow=28						
CTA	**Charters Tower**	**38.65**	**262**	P	**P**	**00 57 45.5**	**-0.1**
	2.4nm,0.8s,mb4.0,baz=85,slow=13,SNR=4.1						
CTAO	**Charters Tower**	**38.65**	**262**	*e*P	**P**	**00 57 45.5**	**0.0**
	1.7nm,0.5s,mb4.0						
PMG	**Port Moresby**	**40.19**	**279**	*e*P	**P**	**00 57 58.3**	**-0.1**
	1.8nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**42.75**	**244**	*e*P	**P**	**00 58 19.6**	**+0.2**
ASAR	**Alice Springs**	**49.67**	**255**	P	**P**	**00 59 14.8**	**+1.0**
	2.2nm,0.8s,mb4.3,baz=99,slow=8.1,SNR=18						
WRAB	**Tennant Creek**	**49.76**	**260**	*e*P	**P**	**00 59 14.7**	**+0.2**
	1.6nm,0.4s,mb4.4						
WRA	**Warramunga Arr**	**49.77**	**260**	P	**P**	**00 59 14.0**	**-0.5**
	0.9nm,0.5s,mb4.1,baz=97,slow=8.0,SNR=8.1						
SBA	**Scott Base**	**59.12**	**185**	P	**P**	**01 00 22.3**	**-0.2**
QSPA	**South Pole Qui**	**70.43**	**180**	P	**P**	**01 01 35.8**	**-0.3**
ILAR	**Eielson Array**	**86.43**	**11**	P	**P**	**01 03 04.9**	**+0.6**
	0.4nm,0.7s,mb3.7,baz=222,slow=6.9,SNR=4.3						
CLL	**Collm**	**148.09**	**353**	*e*PKPbc	PKPbc	01 10 08.0	+0.6

*ISCJB **05** 01:26:23.1±0.4, 5160N±003×684E±005, h0km, Error ellipse: s-maj=4.9km s-min=3.2km az=85.2*

*CSEM **05** 01:26:24.6±0.1, 5164N×698E, h1km, ML2.0/4, Error ellipse: s-maj=2.9km s-min=1.9km az=92.0*

*NEIC **05** 01:26:24.8, 5164N×696E, h1km, ML2.7(LDG), After LDG.*

*BUG **05** 01:26:24.2, 5162N×701E, h1km, ML1.0*

*LDG **05** 01:26:24.8±0.3, 5164N×696E, h1km, Ml2.7/2, Error ellipse: s-maj=5.6km s-min=3.3km az=13.0, Suspected Mining induced.*

*BNS **05** 01:26:24.4±0.6, 5164N×698E, h1km, ML1.7*

*BGR **05** 01:26:25.2±0.6, 5156N×702E, h1km, ML2.0/4, Error ellipse: s-maj=13.3km s-min=4.4km az=114.0*

ISC 05 01:26:24.1±0.4, 5161N±003×695E±004, h0km, n41, σ1§25/61, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BZER	**Hlnxe**	**0.05**	**288**	Pg	**Pg**	**01 26 26.4**	**+1.2**
BZER				Sg	**Sg**	**01 26 28.6**	**+2.8**
BZER	**Hlnxe**	**0.05**	**288**	Sg	**Sg**	**01 26 28.6**	**+2.8**
LAUG	**Laupendahl**	**0.25**	**181**	*e*Pg	**Pg**	**01 26 29.8**	**+0.8**
BUG	**Bochum--Univer**	**0.26**	**129**	*e*Pg	**Pg**	**01 26 29.9**	**+0.8**
BUG				Sg	**Sg**	**01 26 34.1**	**+1.7**
WTSB	**Winterswijk**	**0.37**	**346**	*e*Pg	**Pg**	**01 26 32.1**	**+0.5**
BNS	**Bensberg**	**0.66**	**167**	*e*Pg	**Pg**	**01 26 37.5**	**+0.8**
HOBG	**Hohbusch**	**0.67**	**159**	*e*Pg	**Pg**	**01 26 37.5**	**+0.5**
IBBN	**Ibbenburen**	**0.86**	**35**	*e*Pg	**Pg**	**01 26 41.7**	**+1.1**
	SNR=4.2						
IBBN				*e*Sg	**Sg**	**01 26 53.3**	**+1.4**
STB	**Steinbach**	**1.01**	**184**	*e*Pg	**Pg**	**01 26 44.4**	**+0.8**
STB				*e*Sg	**Sg**	**01 26 58.8**	**+2.0**
	22nm,0.4s						
KLL	**Kalltalsperre**	**1.04**	**203**	*e*Pg	**Pg**	**01 26 44.4**	**+0.4**
KLL				*e*Sg	**Sg**	**01 26 59.6**	**+2.1**
	16nm,0.2s						
HGN	**Heimansgroeve**	**1.06**	**218**	*e*Pg	**Pg**	**01 26 45.2**	**+0.8**
HGN				*e*Sg	**Sg**	**01 27 00.6**	**+2.4**
BEBN	**Eben Emael**	**1.14**	**225**	P	**Pg**	**01 26 46.5**	**+0.5**
BEBN				S	**Sg**	**01 27 02.7**	**+1.9**
	comp=N,15nm,0.0s						
MEM	**Membach**	**1.16**	**211**	P	**Pg**	**01 26 46.7**	**+0.3**
MEM				XP		01 26 47.1	
MEM				S	**Sg**	**01 27 03.0**	**+1.5**
	comp=E,17nm,0.0s						
MEM	**Membach**	**1.16**	**211**	P	**Pg**	**01 26 46.7**	**+0.3**
MEM				S	**Sg**	**01 27 02.9**	**+1.5**
BGG	**Burgeitz**	**1.42**	**170**	*e*Pg	**Pg**	**01 26 50.6**	**-0.8**
TNS	**Taunus Mts**	**1.68**	**145**	*e*Pg	**Pg**	**01 26 55.3**	**-1.0**
	SNR=3.8						
UCC	**Uccle**	**1.82**	**245**	P	**Pn**	**01 26 58.8**	**+2.1**
WLF	**Walferdange**	**2.01**	**195**	*e*Pn	**Pn**	**01 26 58.7**	**-0.6**
	SNR=0.9						
WLF				*e*Pg	**Pg**	**01 27 03.3**	**+0.7**
	SNR=2.0						
WLF				*e*Sg	**Sg**	**01 27 27.0**	**-1.6**
WLF	**Walferdange**	**2.01**	**195**	P	**Pn**	**01 27 02.1**	**+2.8**
WLF	**Walferdange**	**2.01**	**195**	P	**Pn**	**01 27 02.0**	**+2.7**
GIVF	**Givet**	**2.02**	**223**	*e*Pg	**Pg**	**01 27 03.0**	**+0.1**
GIVF				*e*Sn	**Sn**	**01 27 23.3**	**-2.1**
GIVF				*e*Sg	**Sg**	**01 27 29.5**	**+0.5**
	comp=E,12nm,0.2s						
DOU	**Dourbes**	**2.12**	**226**	P	**Pn**	**01 27 01.0**	**+0.1**
DOU				S	**Sn**	**01 27 26.5**	**-1.5**
	comp=E,3.8nm,0.0s						
CLZ	**Clausthal**	**2.14**	**82**	*e*Pg	**Pg**	**01 27 04.1**	**-1.1**
	SNR=2.6						
BAIF	**Baives**	**2.33**	**229**	*e*Pg	**Pg**	**01 27 08.4**	**-0.4**
BAIF				*e*Sg	**Sg**	**01 27 38.8**	**-0.1**
	comp=E,5.0nm,0.3s						
BAIF	**Baives**	**2.33**	**229**	*e*Pn	**Pn**	**01 27 02.4**	**-1.3**
BAIF				*e*Pg	**Pg**	**01 27 08.4**	**-0.4**
BAIF				*e*Sg	**Sg**	**01 27 38.8**	**-0.1**
BAIF	**Baives**	**2.33**	**229**	*e*Pg	**Pg**	**01 27 08.4**	**-0.4**
BAIF				*e*Sg	**Sg**	**01 27 38.8**	**-0.1**
RFYF	**Reffroy**	**3.13**	**198**	*e*Pn	**Pn**	**01 27 14.6**	**-0.1**
CDF	**Champ du Feu**	**3.20**	**176**	*e*Pn	**Pn**	**01 27 14.8**	**-0.9**
MEZF	**Maizieres J'vi**	**3.34**	**202**	*e*Pn	**Pn**	**01 27 17.2**	**-0.4**
	baz=19						
HINF	**Hinteralfeld**	**3.79**	**181**	*e*Pn	**Pn**	**01 27 22.9**	**-0.9**
LOR	**Lormes**	**4.79**	**206**	*e*Pn	**Pn**	**01 27 36.3**	**-1.2**
	baz=33						
CABF	**La Chapelle**	**5.03**	**187**	*e*Pn	**Pn**	**01 27 40.0**	**-0.8**
SSF	**Saint Saulge**	**5.07**	**208**	*e*Pn	**Pn**	**01 27 40.0**	**-1.4**
HYF	**Humbligny**	**5.17**	**215**	*e*Pn	**Pn**	**01 27 40.9**	**-1.9**
AVF	**Avril sur Loir**	**5.36**	**207**	*e*Pn	**Pn**	**01 27 43.7**	**-1.7**
SMF	**Signal de Mont**	**5.37**	**204**	*e*Pn	**Pn**	**01 27 44.0**	**-1.4**
LDF	**La Druitiere**	**5.46**	**239**	*e*Pn	**Pn**	**01 27 45.6**	**-1.1**
LDF				*e*Sn	**Sn**	**01 28 45.3**	**-4.9**
FLN	**La Foliniere**	**5.56**	**242**	*e*Pn	**Pn**	**01 27 47.1**	**-1.0**
	baz=61						
BGF	**Bois d'Agland**	**5.72**	**210**	*e*Pn	**Pn**	**01 27 49.1**	**-1.3**
GRR	**Gorron**	**5.97**	**240**	*e*Pn	**Pn**	**01 27 52.5**	**-1.3**
GRR				*e*Sn	**Sn**	**01 28 57.6**	**-5.3**
TCF	**Toulx Ste Croi**	**6.17**	**212**	*e*Pn	**Pn**	**01 27 54.9**	**-1.6**

IDC 05 02:08:29.9±1.1, 2004S×17462W, h0km, mb3.8/5, mb1 4.2/5, mb1mx4.0/13, mbtmp3.8/5, MS3.1/2, Ms1 3.1/2, ms1mx2.8/21, Error ellipse: s-maj=45.7km s-min=27.1km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.68**	**25**	LR	LR	02 11 39.5	
	comp=Z,84nm,20.2s,baz=142,slow=28						
DZM	**Mont Dzumac**	**17.79**	**260**	P	Pn	02 12 42.3	+3.5
	0.1nm,0.3s,baz=100,slow=21,SNR=2.3						
HNR	**Honiara**	**26.72**	**290**	LR	LR	02 23 15.2	
	comp=Z,82nm,18.7s,baz=357,slow=33						
STKA	**Stephens Creek**	**40.84**	**244**	P	P	02 16 10.5	-2.7
	2.7nm,0.8s,baz=104,slow=20,SNR=3.1						
ASAR	**Alice Springs**	**47.70**	**256**	P	P	02 17 08.4	+0.2
	1.1nm,0.7s,baz=100,slow=7.8,SNR=11						
WRA	**Warramunga Arr**	**47.80**	**261**	P	P	02 17 08.8	-0.2
	0.9nm,0.7s,baz=97,slow=7.3,SNR=6.6						
MJAR	**Matsushiro Arr**	**71.77**	**322**	P	P	02 19 55.3	+1.3
	0.8nm,0.6s,baz=156,slow=6.2,SNR=5.3						
NVAR	**Mina Array Bea**	**78.54**	**42**	P	P	02 20 33.0	-0.1
	0.3nm,0.4s,baz=213,slow=6.5,SNR=3.2						
ILAR	**Eielson Array**	**87.20**	**12**	P	P	02 21 17.7	-0.3
	0.3nm,0.6s,baz=214,slow=6.9,SNR=5.9						
AKASG	**Malin Array Be**	**144.07**	**334**	PKP	PKPdf	02 28 05.1	-2.3
	0.5nm,0.4s,baz=41,slow=4.1,SNR=7.1						
BRTR	**Keskin Array B**	**148.82**	**315**	PKPbc	PKPbc	02 28 19.2	-0.1
	0.4nm,0.6s,baz=123,slow=5.0,SNR=5.7						
GERES	**GERESS Array B**	**150.49**	**349**	PKPbc	PKPbc	02 28 23.0	-0.5
	1.2nm,1.0s,baz=318,slow=3.8,SNR=4.8						
TORD	**Torodi Ar. Bea**	**172.29**	**152**	PKPab	PKPab	02 30 06.0	+1.3
	0.5nm,0.9s,baz=266,slow=5.1,SNR=6.1						

IDC 05 02:19:09.2±1.0, 1372N×4556W, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/21, mbtmp3.9/6, MS3.7/8, Ms1 3.6/8, ms1mx3.3/27, Error ellipse: s-maj=31.2km s-min=25.0km az=180.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDV	**Santo Domingo**	**25.04**	**262**	LR	LR	02 32 59.7	
	comp=Z,100nm,19.9s,baz=216,slow=33						
BDFB	**Brasilia**	**29.27**	**185**	P	P	02 25 13.0	+0.1
	2.7nm,0.5s,baz=0.0,slow=5.1,SNR=4.7						
BDFB				LR	LR	02 35 53.7	
	comp=Z,120nm,18.1s,baz=201,slow=34						
ROSC	**El Rosal**	**29.70**	**256**	LR	LR	02 35 46.9	
	comp=Z,57nm,18.9s,baz=162,slow=34						
SIV	**San Ignacio**	**33.26**	**208**	P	P	02 25 49.0	+0.9
	1.0nm,0.8s,baz=27,slow=9.6,SNR=6.6						
CPUP	**Villa Florida**	**41.42**	**196**	LR	LR	02 45 32.7	
	comp=Z,56nm,18.4s,baz=270,slow=38						
TORD	**Torodi Ar. Bea**	**45.91**	**85**	P	P	02 27 33.2	-0.2
	2.6nm,0.9s,baz=287,slow=7.9,SNR=13						
ULM	**Lac du Bonnet**	**54.62**	**323**	P	P	02 28 40.2	+0.7
	1.4nm,0.6s,baz=164,slow=7.4,SNR=3.5						
YKA	**Yellowknife Ar**	**68.28**	**332**	LR	LR	02 55 36.2	
	comp=Z,55nm,20.0s,baz=305,slow=32						
BRTR	**Keskin Array B**	**73.11**	**52**	P	P	02 30 43.4	+2.1
	0.5nm,0.8s,baz=243,slow=5.0,SNR=3.6						
INK	**Inuvik**	**76.61**	**338**	LR	LR	03 00 18.5	
	comp=Z,55nm,19.5s,baz=91,slow=32						
ILAR	**Eielson Array**	**82.47**	**335**	P	P	02 31 32.1	-1.4
	0.3nm,0.9s,baz=64,slow=5.1,SNR=4.6						
KMBO	**Kilima Mbogo**	**83.28**	**93**	LR	LR	03 05 15.6	
	comp=Z,43nm,18.8s,baz=283,slow=33						
ATD	**Arta Tunnel**	**85.80**	**79**	LR	LR	03 09 33.4	
	comp=Z,91nm,19.4s,baz=98,slow=35						

*ISCJB **05** 02:21:59.4±0.6, 3934N±004×2097E±004, h10km, Error ellipse: s-maj=5.4km s-min=4.7km az=54.2*

*ATH **05** 02:21:59.7, 3934N×2101E, h4km, MD3.1/4*

*THE **05** 02:22:00.1, 3933N×2095E, h10km, ML2.2*

*SKO **05** 02:22:00.9, 3916N×2159E, h0km*

ISC 05 02:22:00.1±0.6, 3933N±004×2096E±004, h10km, n11, σ1§20/14, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.33**	**346**	*e*PG	**Pg**	**02 22 06.0**	**-0.7**
IGT	**Igoumenitsa**	**0.52**	**293**	*e*Pg	**Pg**	**02 22 09.7**	**-0.6**
IGT				*e*Sg	**Sg**	**02 22 17.6**	**+0.5**
LKD	**Levkas**	**0.67**	**201**	*e*Pg	**Pg**	**02 22 12.0**	**-1.0**
LKD				*e*Sg	**Sg**	**02 22 22.9**	**+1.1**
EVR	**Evrytania**	**0.78**	**122**	*e*PG	**Pg**	**02 22 14.0**	**-1.2**
KEK	**Kerkira**	**0.97**	**293**	*e*PG	**Pg**	**02 22 19.0**	**+0.2**
AGG	**Agios Georgios**	**1.11**	**106**	*e*Pg	**Pg**	**02 22 20.9**	**-0.6**
AGG				*e*Sg	**Sg**	**02 22 37.6**	**+1.7**
VLS	**Valsamata**	**1.19**	**194**	*e*PB	**Pb**	**02 22 22.5**	**-0.2**
LIT	**Litokhoron**	**1.41**	**57**	*e*Pg	**Pg**	**02 22 25.9**	**-1.3**
FNA	**Florina**	**1.48**	**12**	*e*Pg	**Pg**	**02 22 27.6**	**-1.0**
BIA	**Bitola**	**1.71**	**9**	*i* Pg	**Pg**	**02 22 35.5**	**+2.6**
STIP	**Stip**	**2.54**	**21**	*e*Pn	**Pn**	**02 22 43.8**	**+2.5**

*NEIC **05** 02:23:40.3, 2757S×7148W, h13km, ML4.1(GUC), After GUC.*

GUC 05 02:23:40.3±1.1, 2757S×7148W, h13km±7km, MD4.1, ML4.1, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.76**	**49**	*e*P	Pg	02 23 53.6	-1.5
CDCH				*i* S	Sg	02 24 04.7	-0.3
CPCH	**Copiapo**	**1.02**	**78**	*e*P	Pb	02 23 58.5	-1.3
CPCH				*i* S	Sb	02 24 12.5	-0.6
CPCH				AML	AML	02 24 17.0	
	comp=E,8μm,0.1s						
CPCH	**Copiapo**	**1.02**	**78**	*e*P	Pb	02 23 58.5	-1.3
CPCH				*i* S	Sb	02 24 12.5	-0.6
CRCH	**Chaqaral**	**1.44**	**32**	*e*P	Pn	02 24 05.1	-0.9
CRCH				*i* S	Sn	02 24 24.1	-0.7
LSCH	**La Serena**	**2.34**	**175**	*e*P	Pn	02 24 19.1	+0.7
LSCH				*i* S	Sn	02 24 46.7	-0.2
LSCH				AML	AML	02 25 03.9	
	comp=E,888nm,0.5s						
LSCH	**La Serena**	**2.34**	**175**	*e*P	Pn	02 24 19.1	+0.7
LSCH				S	Sn	02 24 46.7	-0.2
TLL	**Tololo Astrono**	**2.65**	**167**	*e*P	Pn	02 24 24.6	+1.9
TLL				*i* S	Sn	02 24 57.8	+3.2
TLL				AML	AML	02 25 16.2	
	comp=E,1μm,0.3s						
TLL	**Tololo Astrono**	**2.65**	**167**	*e*P	Pn	02 24 24.6	+1.9
TLL				*i* S	Sn	02 24 57.8	+3.2
CMCH	**Combarbala**	**3.61**	**174**	*e*P	Pn	02 24 36.0	+0.1
FCH	**Farellones**	**5.83**	**170**	*e*P	Pn	02 25 08.7	+2.3
FCH				*i* S	Sn	02 26 14.8	+1.8

*IDC **05** 02:49:14.3±0.6, 2020S×174.12W, h0km, mb4.5/13, mb1 4.7/14, mb1mx4.6/19, mbtmp4.5/14, ML5.1/1, MS4.0/10, Ms1 4.0/10, ms1mx3.8/21, Error ellipse: s-maj=23.6km s-min=15.2km az=131.0*

*ISCJB **05** 02:49:17.6±0.2, 2034S±006×17399W±005, h34km, mb4.9/74, MS4.2/13, Error ellipse: s-maj=9.6km s-min=5.9km az=121.9*

*MOS **05** 02:49:17.8±1.5, 2025S×174.10W, h33km, mb5.0/25, Error ellipse: s-maj=13.7km s-min=9.8km az=135.2*

*SZGRF **05** 02:49:18.7, 21.13S×174.82W, h34km, Tonga Islands*

*BJI **05** 02:49:19.5, 2020S×174.00W, h35km, mB5.2, mb4.9, Ms4.9, Msz4.6*

*NEIC **05** 02:49:19.6±0.2, 2023S×17403W, mb4.9/47, Error ellipse: s-maj=9.8km s-min=4.8km az=146.0*

ISC 05 02:49:19.5±0.2, 2039S±005×17395W±005, h36km, h36km±1.2km; pP-P, n234, σ1§02/137, mb4.9/74, MS4.2/13, 14C-12D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.77**	**18**	Pn	**Pn**	**02 50 49.1**	**-7.2**
	23nm,0.3s,baz=48,slow=2.1,SNR=15						
AFI				Sn	**Sn**	**02 51 59.6**	**-12**
	23nm,0.3s,baz=226,slow=22,SNR=3.3						
RAO	**Raoul Island**	**9.53**	**201**	Pn	**Pn**	**02 51 28.9**	**-5.3**
	30nm,0.3s,baz=348,slow=22,SNR=2.6						
RAO				Sn	**Sn**	**02 53 17.4**	**-2.6**
	118nm,0.3s,baz=248,slow=23,SNR=3.5						
RAR	**Rarotonga**	**13.29**	**96**	LR	LR	02 55 54.0	
	comp=Z,773nm,20.0s,baz=240,slow=30						
DZM	**Mont Dzumac**	**18.35**	**261**	P	**Pn**	**02 53 32.3**	**+1.2**
	0.9nm,0.3s,baz=65,slow=18,SNR=16						
DZM				LR	LR	02 59 14.2	
	comp=Z,483nm,18.2s,baz=201,slow=33						
URZ	**Urewera**	**19.42**	**202**	P	**Pn**	**02 53 44.5**	**+0.5**
	5.6nm,0.3s,baz=335,slow=2.5,SNR=23						
TBI	**Tubuai**	**22.91**	**102**	*e*P	**P**	**02 54 17.9**	**-2.2**
	441nm,1.3s,mb5.7						
TBI				*e*LR	LR	02 59 32.4	
	626nm,27.5s,baz=276						
PAE	**Paea**	**23.19**	**87**	*e*P	**P**	**02 54 19.7**	**-3.4**
	111nm,1.3s,mb5.1						
PPT	**Papeete**	**23.21**	**87**	*e*P	**P**	**02 54 20.5**	**-2.8**
	60nm,1.2s,mb4.9						
PPT	**Papeete**	**23.21**	**87**	*e*LR	LR	02 59 47.8	
	663nm,25.0s,baz=261						
PPT	**Papeete**	**23.21**	**87**	LR	LR	03 00 36.3	
	comp=Z,661nm,20.4s,MS3.8,baz=219,slow=29						
TVO	**Taravao**	**23.48**	**88**	*e*P	**P**	**02 54 22.6**	**-3.4**
	86nm,1.1s,mb5.1						
RPZ	**Rata Peaks**	**26.42**	**205**	P	**P**	**02 54 54.1**	**+1.4**
	12nm,0.5s,mb4.7,baz=27,slow=1.6,SNR=20						
RPZ	**Rata Peaks**	**26.42**	**205**	P	**P**	**02 54 54.1**	**+1.4**
HNR	**Honiara**	**27.43**	**290**	LR	LR	03 04 18.3	
	comp=Z,291nm,19.7s,MS3.9,baz=177,slow=33						
TAOE	**Nuku Hiva Isla**	**34.58**	**76**	*e*LR	LR	03 04 58.0	
	965nm,25.8s						
RKT	**Rikitea**	**36.23**	**102**	*e*LR	LR	03 05 38.5	
	489nm,29.0s						
CTA	**Charters Tower**	**37.28**	**263**	*e*P	**P**	**02 56 28.1**	**+0.3**
	5.5nm,0.5s,mb4.6						
CTA	**Charters Tower**	**37.28**	**263**	LR	LR	03 08 54.1	
	comp=Z,128nm,19.1s,MS3.7,baz=88,slow=32						
CTA	**Charters Tower**	**37.28**	**263**	*e*P	**P**	**02 56 28.1**	**+0.3**
CTA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
CTAO	**Charters Tower**	**37.28**	**263**	*e*P	**P**	**02 56 28.3**	**+0.5**
	comp=Z,7.3nm,0.6s,mb4.7						
PMG	**Port Moresby**	**39.04**	**280**	P	**P**	**02 56 40.8**	**-1.9**
	comp=Z,17nm,0.9s,mb4.8,baz=105,slow=6.1,SNR=4.8						
STKA	**Stephens Creek**	**41.26**	**245**	*e*P	**P**	**02 56 58.9**	**-2.2**
	comp=Z,5.0nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**41.26**	**245**	P	**P**	**02 56 59.3**	**-1.8**
	comp=Z,6.4nm,0.7s,mb4.3,baz=97,slow=10,SNR=13						
ASAR	**Alice Springs**	**48.23**	**256**	P	**P**	**02 57 56.0**	**-0.6**
	comp=Z,4.7nm,0.8s,mb4.6,baz=89,slow=8.1,SNR=35						
WRAB	**Tennant Creek**	**48.36**	**261**	*i* P	**P**	**02 57 55.2**	**-2.4**
WRA	**Warramunga Arr**	**48.37**	**261**	P	**P**	**02 57 56.8**	**-0.9**
	comp=Z,1.7nm,0.4s,mb4.4,baz=96,slow=8.3,SNR=11						
KAKA	**Kakadu**	**51.77**	**270**	*e*P	**P**	**02 58 23.7**	**+0.2**
	comp=Z,7.4nm,0.5s,mb4.9						
FORT	**Forrest**	**52.82**	**246**	*e*P	**P**	**02 58 30.6**	**-0.7**
	comp=Z,15nm,0.6s,mb5.1						
FITZ	**Fitzroy Crossi**	**56.80**	**261**	P	**P**	**02 58 59.3**	**-0.8**
	comp=Z,14nm,0.6s,mb4.2,baz=119,slow=13						
SBA	**Scott Base**	**58.27**	**185**	*e*P	**P**	**02 59 12.8**	**+2.4**
SBA				*e*	pP	02 59 23.5	+2.3
SBA				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
SBA	**Scott Base**	**58.27**	**185**	*e*P	**P**	**02 59 12.8**	**+2.4**
	comp=Z,13nm,0.9s,mb5.0						
SBA				*e*	pP	02 59 23.5	+2.3
VNDA	**Vanda**	**58.39**	**186**	P	**P**	**02 59 13.5**	**+2.2**
	comp=Z,2.8nm,0.8s,mb4.3,baz=10,slow=6.9,SNR=12						
VNDA	**Vanda**	**58.39**	**186**	*e*P	**P**	**02 59 12.9**	**+1.6**
VNDA				pmax	pmax		

comp=Z,28nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,45nm,5.2s
WVOR Wild Horse Val 80.65 38 *e*P **P 03 01 28.5 -0.1**
WVOR pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
WVOR Wild Horse Val 80.65 38 *e*P **P 03 01 28.5 -0.1**
comp=Z,8.5nm,0.8s,mb4.7
CCUT Cedar City 81.02 45 *e*P **P 03 01 31.6 +1.0**
ARUT Antelope Range 81.11 44 *e*P **P 03 01 31.5 +0.5**
WUAZ Wupatki 81.25 47 *e*P **P 03 01 32.5 +0.8**
comp=Z,10nm,1.0s,mb4.7
MSU Marysvale 82.34 44 *e*P **P 03 01 38.5 +1.0**
MDJ Mudanjiang 82.65 323 P **P 03 01 39.4 +0.3**
MDJ AP pP 03 01 49.0 -1.4
MDJ XP sP 03 01 52.7 -1.8
MDJ AMB AMB
comp=Z,6.0nm,0.6s,mb4.8
MDJ AMB AMB
comp=Z,90nm,5.9s
NJ2 Nanjing 82.77 308 *e*P **P 03 01 41.9 +2.2**
NJ2 AP pP 03 01 51.4 +0.4
NJ2 XP sP 03 01 54.6 -0.5
NJ2 PP PP 03 04 52.9 +3.0
NJ2 S S 03 11 55.0 -0.1
NJ2 XS sS 03 12 12.0 -1.8
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
NJ2 AMB AMB
comp=Z,140nm,5.2s
NJ2 LR LR
comp=N,630nm,31.7s
NJ2 LR LR
comp=E,680nm,39.6s
NJ2 LR LR
comp=Z,380nm,39.8s
DUG Dugway 82.86 43 *e*P **P 03 01 40.1 -0.1**
DUG pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
DUG Dugway 82.86 43 *e*P **P 03 01 40.1 -0.1**
comp=Z,6.6nm,1.2s,mb4.5
BMO Blue Mountains 82.91 37 *e*P **P 03 01 37.8 -2.6**
BMO pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
BMO Blue Mountains 82.91 37 *e*P **P 03 01 37.8 -2.7**
comp=Z,3.6nm,0.6s,mb4.6
TMUT Trail Mountain 83.40 44 *e*P **P 03 01 44.0 +1.0**
MPU Maple Canyon 83.52 43 *e*P **P 03 01 43.7 +0.1**
comp=Z,17nm,1.4s,mb5.0
MNTX Cornudas Mount 83.62 53 *e*P **P 03 01 44.2 +0.1**
comp=Z,21nm,1.5s,mb5.0
SRU San Rafael 83.75 44 *e*P **P 03 01 45.2 +0.4**
SRU pmax pmax
comp=Z,45nm,1.4s,mb5.4
SRU San Rafael 83.75 44 *e*P **P 03 01 45.2 +0.5**
comp=Z,45nm,1.4s,mb5.4
HVU Hansel Valley 83.77 41 *e*P **P 03 01 44.7 -0.2**
HVU pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
HVU Hansel Valley 83.77 41 *e*P **P 03 01 44.7 -0.2**
comp=Z,9.9nm,1.0s,mb4.9
HLID Hailey 83.80 39 *e*P **P 03 01 45.4 +0.3**
comp=Z,22nm,1.4s,mb5.1
CTU Camp Tracy 83.81 43 *e*P **P 03 01 45.6 +0.5**
comp=Z,6.2nm,1.0s,mb4.7
LTX Lajitas 83.82 56 *e*P **P 03 01 45.4 +0.2**
LTX pmax pmax
comp=Z,23nm,1.5s,mb5.1
LTX Lajitas 83.82 56 *e*P **P 03 01 45.4 +0.3**
comp=Z,23nm,1.5s,mb5.1
DAU Daniels Canyon 83.97 43 *e*P **P 03 01 46.3 +0.4**
TCUT Toone Canyon 84.26 42 *e*P **P 03 01 47.9 +0.5**
PV10 Paradox Valley 84.34 46 *e*P **P 03 01 48.1 +0.3**
ANMO Albuquerque 84.40 50⇑ *e*P **P 03 01 48.8 +0.7**
ANMO Albuquerque 84.40 50 *e*P **P 03 01 48.6 +0.5**
comp=Z,30nm,1.4s,mb5.2
HWUT Hardware Ranch 84.43 42 *e*P **P 03 01 47.5 -0.8**
comp=Z,7.2nm,0.8s,mb4.8
HWUT *e* 03 02 03.1
PV01 Paradox Valley 84.53 46 *e*P **P 03 01 49.2 +0.4**
SNY Shenyang 84.61 318 ⇑P **P 03 01 49.2 +0.1**
SNY AMB AMB
comp=Z,5.0nm,0.7s,mb4.8
MCMT McKenzie Canyo 85.45 39 *e*P **P 03 01 53.2 -0.2**
REDW Red Top Meadow 85.83 41 *e*P **P 03 01 55.4 +0.2**
comp=Z,17nm,1.4s,mb5.1
TPAW Teton Pass 85.84 41 *e*P **P 03 01 55.6 +0.3**
comp=Z,7.9nm,0.9s,mb4.9
DLMT Dillon 85.90 38 *e*P **P 03 01 52.5 -3.0**
comp=Z,6.6nm,0.9s,mb4.9
MOOW Moose Ponds 86.11 40 *e*P **P 03 01 56.5 -0.1**
comp=Z,6.5nm,1.1s,mb4.8
SMCO Snowmass 86.14 46 *e*P **P 03 01 57.4 +0.6**
comp=Z,6.3nm,1.2s,mb4.7
QLMT Earthquake Lak 86.29 39 *e*P **P 03 01 58.5 +1.0**
BW06 Boulder Array 86.31 42 *e*P **P 03 01 57.1 -0.5**
comp=Z,3.7nm,1.0s,mb4.6
PDAR Pinedale Array 86.31 42 P **P 03 01 57.5 -0.1**
comp=Z,2.0nm,1.0s,mb4.3,baz=220,slow=3.9,SNR=11
FLWY Flagg Ranch 86.32 40 *e*P **P 03 01 57.7 +0.1**
comp=Z,6.0nm,0.5s,mb5.1
CHMT Chamberlain Mo 86.41 37 *e*P **P 03 01 57.8 -0.3**
CHMT *e*pP pP 03 02 09.1 -0.3
YMR Madison River 86.48 40 *e*P **P 03 01 59.0 +0.6**
comp=Z,13nm,0.9s,mb5.2
LCCM Lewis and Clar 86.58 38 P **P 03 01 54.6 -4.4**
COLA College 87.33 11 *d iP* **P 03 02 01.8 -0.8**
COLA College 87.33 11 *e*P **P 03 02 01.9 -0.7**
comp=Z,21nm,1.1s,mb5.3
ILAR Eielson Array 87.41 11 P **P 03 02 02.2 -0.7**
comp=Z,2.5nm,0.8s,mb4.5,baz=216,slow=5.7,SNR=7.8
VNA3 Neumayer Olymp 87.97 175 *e*P **P 03 02 06.0 +0.4**
VNA3 *e* 03 02 07.6
VNA3 *e* 03 02 13.3
VNA3 *e* pP 03 02 16.2 -0.8
VNA3 *e* 03 02 20.6
VNA3 *e* 03 02 26.8
VNA3 *e* 03 02 36.1
VNA3 *e* 03 02 43.4
VNA3 *e* 03 02 49.7
VNA3 *e* 03 03 04.7
VNA3 *e* 03 03 18.6
VNA3 *e* 03 03 35.9
VNA3 *e* 03 03 49.3
SNAA Sanae 87.98 177 *e*P **P 03 02 04.4 -1.3**
SNAA *e* 03 02 06.2
SNAA *e* 03 02 20.8
SNAA *e* 03 02 25.0
SNAA *e* 03 03 00.7
SNAA Sanae 87.98 177⇑ *e*P **P 03 02 03.3 -2.4**
SNAA Sanae 87.98 177 *e*P **P 03 02 05.6 -0.1**
comp=Z,7.5nm,1.2s,mb4.8
DAWY Dawson 88.35 14 *e*P **P 03 02 07.0 -0.5**
VNA2 Neumayer--Watz 88.45 176 *e*P **P 03 02 07.4 -0.5**
VNA2 *e* 03 02 09.0
VNA2 *e* 03 02 14.1
VNA2 *e* pP 03 02 18.7 -0.6
VNA2 *e* pP 03 02 21.1 +1.8
VNA2 *e* 03 02 24.0
VNA2 *e* 03 02 27.9
VNA2 *e* 03 02 37.0
VNA2 *e* 03 02 43.8
VNA2 *e* 03 02 50.3
VNA2 *e* 03 03 07.7
VNA2 *e* 03 03 20.0
VNA2 *e* 03 03 37.5
VNA2 *e* 03 03 51.8
BJI Beijing 88.51 314 *e*P **P 03 02 10.8 +2.6**
BJI S 03 12 55.2
BJI AMB AMB
comp=Z,7.0nm,0.8s,mb5.0
BJI LR LR
comp=Z,68nm,21.6s,MS4.0
VNA1 Neumayer--Stat 88.66 175 *e*P **P 03 02 11.1 +2.2**
VNA1 *e* 03 02 15.2
VNA1 *e* pP 03 02 23.1 +2.9
VNA1 *e* 03 02 29.5
VNA1 *e* 03 02 38.4
VNA1 *e* 03 02 44.9
VNA1 *e* 03 03 07.4
VNA1 *e* 03 03 22.5
VNA1 *e* 03 03 36.2
VNA1 *e* 03 03 52.2
BILL Bilibino 89.36 353 ⇓*iP* **P 03 02 10.8 -1.4**
BILL pmax pmax
comp=Z,11nm,1.9s,mb4.9
WMOK Wichita Mounta 89.92 53 *e*P **P 03 02 14.0 -0.8**
WMOK *e**PP pP 03 02 25.6 -0.6
WMOK pmax pmax
comp=Z,4.0nm,1.4s,mb4.6
WMOK Wichita Mounta 89.92 53 *e*P **P 03 02 14.0 -0.9**
comp=Z,3.8nm,1.4s,mb4.5
WMOK *e*pP pP 03 02 25.6 -0.6
HKT Hockley 90.25 58 *e*P **P 03 02 17.6 +1.2**
HKT pmax pmax
comp=Z,17nm,1.6s,mb5.1
HKT Hockley 90.25 58 *e*P **P 03 02 17.6 +1.3**
comp=Z,17nm,1.6s,mb5.1
RSSD Black Hills 90.47 43 *e*P **P 03 02 16.2 -1.2**
RSSD pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
RSSD Black Hills 90.47 43 *e*P **P 03 02 16.2 -1.2**
comp=Z,2.3nm,0.6s,mb4.7
HHC Hu-ho-hao-te 92.02 313 *e*P **P 03 02 25.7 +1.1**
HHC AP pP 03 02 36.2 +0.3
HHC XP sP 03 02 40.5 +0.5
HHC PP PP 03 06 08.3 +3.9
HHC SKS 03 12 55.4
HHC S 03 13 22.4
HHC XS sS 03 13 40.7 -2.1
HHC PS PS 03 14 42.1 +3.9
HHC SS SS 03 19 35.4 +2.3
HHC AMB AMB
comp=Z,14nm,1.2s,mb5.2
HHC AMB AMB
comp=Z,74nm,5.7s
HHC LR LR
comp=N,90nm,16.5s,MS4.5
HHC LR LR
comp=E,120nm,18.0s,MS4.5
HHC LR LR
comp=Z,104nm,17.4s,MS4.3
JTS JuntasAbangare 92.60 80 *e*P **P 03 02 28.3 +1.0**
JTS pmax pmax
comp=Z,15nm,1.0s
JTS JuntasAbangare 92.60 80 *e*P **P 03 02 28.2 +1.0**
comp=Z,15nm,1.0s,mb5.4
KMI Kunming 92.70 296 P **P 03 02 28.6 +0.9**
KMI AP pP 03 02 39.5 +0.4
KMI XP sP 03 02 43.4 +0.2
KMI PP PP 03 06 12.8 +3.0
KMI SKS 03 12 58.4
KMI S 03 13 28.1
KMI SS SS 03 19 44.3 +1.4
KMI AMB AMB
comp=Z,8.0nm,0.8s,mb5.2
KMI AMB AMB
comp=Z,88nm,4.8s
KMI LR LR
comp=N,101nm,21.3s,MS4.6
KMI LR LR
comp=E,183nm,21.3s,MS4.6
KMI LR LR
comp=Z,130nm,14.9s
INK Inuvik 93.21 14 *e*P **P 03 02 28.6 -1.5**
INK pmax pmax
comp=Z,6.0nm,1.1s
INK Inuvik 93.21 14 *e*P **P 03 02 28.6 -1.5**
comp=Z,5.7nm,1.1s,mb4.9
YAK Yakutsk 93.46 337⇑ *e*P **P 03 02 30.1 -1.1**
YAK pmax pmax
comp=Z,12nm,0.7s,mb5.4
CD2 Chengdu 93.95 301 *e*P **P 03 02 31.0 -2.5**
CD2 AP pP 03 02 41.6 -3.2
CD2 XP sP 03 02 45.5 -3.4
CD2 PP PP 03 06 20.0 +0.5
CD2 SKS 03 13 01.7
CD2 S 03 13 34.9
CD2 XS sS 03 13 53.8 -6.1
CD2 SS SS 03 19 59.4 -1.3
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.3
CD2 LR LR
comp=E,90nm,9.6s
CD2 LR LR
comp=Z,80nm,10.8s,MS4.4
YKA Yellowknife Ar 94.85 24 P **P 03 02 37.0 -0.6**
comp=Z,1.0nm,0.9s,mb4.3,baz=241,slow=4.0,SNR=5.5
YKA LR LR 03 39 17.3
comp=Z,50nm,18.4s,MS4.0,baz=230,slow=32
YKA Yellowknife Ar 94.85 24 P **P 03 02 37.0 -0.6**
YKA LR LR 03 39 17.3
LZH Lanzhou 95.74 306 *e*P **P 03 02 41.5 -0.2**
LZH AP pP 03 02 52.1 -0.9
LZH XP sP 03 02 56.3 -0.8
LZH PP PP 03 06 35.7 +2.2
LZH AMB AMB
comp=Z,21nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,74nm,9.8s
LZH LR LR
comp=N,219nm,17.1s
LZH LR LR
comp=Z,312nm,19.3s,MS4.8
ULN Ulaanbaatar 97.78 318 *e*P **P 03 02 50.5 -0.4**
ULM Lac du Bonnet 98.11 39 LR LR 03 41 25.8
comp=Z,94nm,19.8s,MS4.3,baz=338,slow=32
SONM Songino Array 98.18 318 LR LR 03 44 16.1
comp=Z,45nm,19.9s,MS4.0,baz=238,slow=34
TIXI Tiksi 99.64 344 *e*P Pdif 03 02 56.7 -2.5
TIXI pmax pmax
comp=Z,1.0nm,0.6s,mb4.4
TLY Talaya 101.17 321⇑ *e*P Pdif 03 03 02.1 -3.9
TLY pmax pmax
comp=Z,7.0nm,0.8s
WMQ Urumqi 109.73 310 PDIF Pdif 03 03 44.8 +0.7
WMQ PP PP 03 08 22.3 +4.0
MKAR Makanchi Array 113.88 313 PKiKP PKiKP 03 07 56.0 +1.6
comp=Z,0.5nm,0.8s,baz=211,slow=1.4,SNR=5.9
KURK Kurchatov 116.48 317 ⇓*i* PKIKP PKPdf 03 07 56.0 -3.4
KSH Kashi 117.94 305 *e*PKP PKPdf 03 07 59.0 -3.2
KSH *e*XPKP 03 08 14.3
KSH PP PP
comp=Z,188nm,4.3s
KSH LR LR
comp=N,130nm,6.2s
KSH LR LR
comp=E,146nm,4.9s
KSH LR LR
comp=Z,210nm,4.9s
AAK Ala-Archa 119.21 308 *i* PKIKP PKPdf 03 08 01.2 -3.5
BVAR Borovoye Array 121.42 320 PKP PKPdf 03 08 08.8 -0.1
comp=Z,0.5nm,0.4s,baz=132,slow=2.2,SNR=5.0
ZRNK Zerenda 122.26 320 *e*PKIKP PKPdf 03 08 10.1 -0.4
ARU Arti 127.23 326 *i* PKIKP PKPdf 03 08 18.8 -1.2
ARU *e* 03 10 15.7
ARU *e* 03 15 21.7
ARU *e*SS SS 03 27 29.8 +4.0
ARCES ARCESS Array B 129.44 351 PKP PKPdf 03 08 23.7 -0.6
comp=Z,3.2nm,0.9s,baz=0.7,slow=0.8,SNR=9.8
ARCES ARCESS Array B 129.44 351 PKP PKPdf 03 08 23.7 -0.6
FINES FINESS Array B 136.65 346 PKP PKPdf 03 08 38.1 +0.3
comp=Z,0.5nm,0.5s,baz=54,slow=3.8,SNR=5.3
OBN Obninsk 138.39 334 *i* PKIKP PKPdf 03 08 48.0 +7.0
ANN Anapa 144.42 320 *i* PKIKP PKPdf 03 08 50.7 -1.1
ANN pmax pmax
comp=Z,27nm,1.3s
AKASG Malin Array Be 144.65 334 PKP PKPdf 03 08 51.0 -1.2
comp=Z,3.1nm,0.4s,baz=40,slow=4.3,SNR=21
BSEG Bad Segeberg 146.35 355 *e*PKPbc PKPbc 03 08 57.0 +0.6
MALT Malatya 146.83 310⇑ *i*P PKPab 03 09 02.2 +3.1
MALT Malatya 146.83 310 *e*PKPbc PKPbc 03 08 59.5 +1.7
LVV L'vov 147.33 338 *i* PKP2 PKPab 03 08 59.8 -1.3
RUE Ruedersdorf 147.41 351 *e*PKPbc PKPbc 03 09 00.0 +0.6
KWP Kalwaria 147.94 339 *e*PKP2 PKPab 03 09 01.3 -2.2
OJC Ojcow 148.29 343 *e*PKPab PKPab 03 09 02.2 -2.7
CLZ Clausthal 148.42 355 *e*PKPbc PKPbc 03 09 03.7 +1.6
STHS Stebnicka Huta 148.59 341 *e*PKP PKPbc 03 09 02.3 -0.2
CLL Collm 148.66 352 *e*PKPbc PKPbc 03 09 03.0 +0.3
CLL Collm 148.66 352 *i* PKPbc PKPbc 03 09 03.1 +0.4
comp=Z,16nm,1.3s
CLL *i* PKPab PKPab 03 09 05.6 -0.8
comp=Z,6.0nm,0.8s
CLL *i* pPKPbc pPKPbc 03 09 11.4 -3.0
CLL *i* sPKPbc 03 09 16.9
CLL *i* (sPKPab) 03 09 22.9
CLL Collm 148.66 352 *i* PKP2 PKPbc 03 09 03.1 +0.4
CLL pmax pmax
comp=Z,16nm,1.3s
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL Collm 148.66 352 *i* PKP PKPbc 03 09 03.1 +0.4
CLL *i* PKP PKPab 03 09 05.6 -0.8
CLL *i* pPKP pPKPdf 03 09 11.4 +0.7
KOLS Kolonicke sedl 148.69 339 *e* PKPab 03 09 08.5 +2.0
BURAR Bucovina Array 148.71 335 ⇓*i* P PKPbc 03 09 04.4 +1.6
NIE Niedzica 148.87 342 *e*PKP PKPbc 03 09 04.8 +1.5
UPC Upice 148.92 348 *e*PKPbc PKPbc 03 09 04.3 +0.9
UPC epPKP pPKPdf 03 09 21.4 +10
BRG Berggiesshubel 148.94 350 *e*PKP PKPbc 03 09 04.1 +0.7
comp=Z,4.4nm,0.9s
BRG *e* 03 09 18.0
comp=Z,5.9nm,1.1s
BRG Berggiesshubel 148.94 350 *e*PKP2 PKPbc 03 09 04.1 +0.7
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG pmax pmax
comp=Z,6.0nm,1.2s
CRVS Cervenica-Dubn 148.98 340 *e*PKP PKPab 03 09 08.8 +1.1
DPC Dobruska-Polom 149.01 347 *e*PKPbc PKPbc 03 09 04.5 +0.9
DPC epPKP pPKPdf 03 09 17.6 +6.4
OKC Ostrava-Krasne 149.07 345 *e*PKPab PKPab 03 09 11.9 +3.8
CFR Carcaliu 149.27 329 ⇑*iP* PKPbc 03 09 05.6 +1.3
CFR Carcaliu 149.27 329 ⇑P PKPbc 03 09 05.6 +1.3
MORC Moravsky Berou 149.28 345 *e*PKP2 PKPbc 03 09 04.5 +0.2
VRI Vrincioaia 149.43 331 ⇓*iP* PKPbc 03 09 06.0 +1.3
MOX Moxa 149.48 353 *e*PKPbc PKPbc 03 09 04.8 0.0
MOX Moxa 149.48 353 *e*P PKPbc 03 09 05.5 +0.7
comp=Z,14nm,1.6s
MOX Moxa 149.48 353 *e*PKP2 PKPbc 03 09 05.5 +0.7
MOX pmax pmax
comp=Z,20nm,1.6s
BR131 Keskin Array S 149.50 315 *e*PKPbc PKPbc 03 09 05.7 +0.9
BRTR Keskin Array B 149.50 315 PKPbc PKPbc 03 09 06.2 +1.3
comp=Z,1.3nm,0.7s,baz=147,slow=5.2,SNR=8.0
WERD Werda 149.59 352 *e*PKPbc PKPbc 03 09 05.6 +0.5
KECS Kecovo 149.65 341 *i* PKP PKPbc 03 09 06.1 +0.9
KECS *i* 03 09 09.6
KECS *e* 03 42 49.5
PRU Pruhonice 149.70 349 *e*PKPbc PKPbc 03 09 06.1 +0.8
HARR Harsova 149.73 328 ⇓*iP* PKPbc 03 09 07.3 +1.9
HARR Harsova 149.73 328 ⇓P PKPbc 03 09 07.3 +1.9
NKC Novy Kostel 149.79 352 *e*PKPbc PKPbc 03 09 06.7 +1.2
MEM Membach 149.84 0 PKPbc PKPbc 03 09 06.2 +0.6
MEM XPKPbc 03 09 21.9
MLR Muntele Rosu 150.07 331 PKPbc PKPbc 03 09 07.0 +0.7
comp=Z,5.1nm,0.8s,baz=96,slow=4.6,SNR=6.2
MLR Muntele Rosu 150.07 331 ⇓*iP* PKPbc 03 09 07.8 +1.6
MANZ Manzenberg 150.07 352 *e*PKPbc PKPbc 03 09 07.1 +0.9
VYHS Vyhne 150.12 343 *e*PKP PKPbc 03 09 07.7 +1.3
TNS Taunus Mts 150.17 357 *e*PKPbc PKPbc 03 09 07.5 +1.0
ROTZ Rotzenmuhle 150.27 352 *e*PKPbc PKPbc 03 09 07.4 +0.7
DOU Dourbes 150.33 2 PKPbc PKPbc 03 09 07.6 +0.7
DOU APKiKP 03 09 21.2
DOU XPKPab 03 09 31.7
GIVF Givet 150.33 2 *e*PKP1 PKPbc 03 09 07.5 +0.6
comp=Z,32nm,1.1s
PSZ Piszkesteto 150.34 341⇑ *ep*PKP/F PKPbc 03 09 08.3 +1.4
BAIF Baives 150.35 2 *e*PKP1 PKPbc 03 09 07.7 +0.8
comp=Z,38nm,1.3s
GRA1 Grafenberg Arr 150.47 353 *e*PKPbc PKPbc 03 09 08.2 +1.0
GRF Grafenberg Arr 150.47 353 *e*PKPbc PKPbc 03 09 08.2 +1.0
VOIR 150.51 332 ⇓*iP* PKPbc 03 09 09.6 +2.3
VOIR 150.51 332 ⇓P PKPbc 03 09 09.6 +2.4
KHC Kasperske Hory 150.69 350 *e*PKPbc PKPbc 03 09 08.6 +0.9
KHC *ep*PKP pPKPdf 03 09 21.2 +7.3
WLF Walferdange 150.78 360 *e*PKPbc PKPbc 03 09 09.2 +1.3
WLF Walferdange 150.78 360 PKPbc PKPbc 03 09 10.0 +2.1
WLF XPKPab 03 09 29.8
GEC2 GERESS Array S 150.95 350 *e*PKPbc PKPbc 03 09 08.4 +0.1
GERES GERESS Array B 150.95 350 PKPbc PKPbc 03 09 08.2 -0.1
comp=Z,1.6nm,0.8s,baz=349,slow=2.7,SNR=9.3
FLN La Foliniere 151.21 9 *e*PKP1 PKPbc 03 09 08.9 0.0
comp=Z,30nm,1.0s
SGMF Saint Gilles 151.34 12 *e*PKP1 PKPbc 03 09 09.1 -0.1
comp=Z,17nm,0.9s
LDF La Druitiere 151.42 9 *e*PKP1 PKPbc 03 09 09.4 0.0
comp=Z,31nm,1.1s
SOP Sopron 151.47 345⇑ *ep*PKP/F PKPbc 03 09 10.7 +1.2
GRR Gorron 151.51 10 *e*PKP1 PKPbc 03 09 09.8 +0.2
comp=Z,12nm,0.7s
BZS Buzias 151.75 337⇑ *i*P PKPbc 03 09 09.9 -0.3
BZS Buzias 151.75 337 ⇑P PKPbc 03 09 09.9 -0.3
CDF Champ du Feu 152.02 358 *e*PKP1 PKPbc 03 09 11.3 +0.5
comp=Z,9.9nm,1.0s
BFO Black Forest 152.06 357 *e*PKPbc PKPbc 03 09 11.0 +0.1
PKSM Moragy 152.25 341 ⇑*iP* PKPbc 03 09 11.8 +0.5
PKSM Moragy 152.25 341 ⇓P PKPbc 03 09 11.8 +0.5
HAU Haudompre 152.44 360 *e*PKP1 PKPbc 03 09 13.2 +1.5
HINF Hinteralfeld 152.63 359 *e*PKP1 PKPbc 03 09 12.3 +0.2
LOR Lormes 153.12 3 *e*PKP1 PKPbc 03 09 13.9 +0.7
comp=Z,11nm,1.0s
SSF Saint Saulge 153.31 4 *e*PKP1 PKPbc 03 09 14.1 +0.5
comp=Z,16nm,1.1s
BGF Bois d'Agland 153.76 5 *e*PKP1 PKPbc 03 09 15.7 +1.1
TORD Torodi Ar. Bea 171.68 149 PKP PKPdf 03 09 23.9 -0.3
comp=Z,0.7nm,1.0s,baz=17,slow=0.7,SNR=3.9
TORD PKPab PKPab 03 10 45.9 0.0
comp=Z,3.2nm,1.2s,baz=215,slow=4.8,SNR=5.4

ISCJB ***05*** *02:49:32.7±1.4, 1842N±006ₖ 1458E±0.1, h147km±14km, mb4.3/28, Error ellipse: s-maj=17.6km s-min=9.1km az=5.1*
MOS ***05*** *02:49:32.7±0.8, 1845Nₖ 14579E, h147km, mb4.8/10, Error ellipse: s-maj=22.8km s-min=9.4km az=91.5*
IDC ***05*** *02:49:33.8±1.6, 1837Nₖ 14600E, h146km±14km, mb4.2/9, mb1 4.3/11, mb1mx4.1/20, mbtmp4.6/11, Error ellipse: s-maj=24.0km s-min=10.7km az=93.0*
NEIC ***05*** *02:49:34.4±1.0, 1840Nₖ 14585E, h150km±10km, mb4.7/16, Error ellipse: s-maj=10.2km s-min=5.3km az=94.0*
ISC 05 02:49:34.0±1.3, 1841N±005ₖ 1458E±01, h144km±13km, n63, σ0°78/58, mb4.3/28, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.88**	**191**	P		P	**Pn**	**02 50 46.0**	**+0.3**
	94nm,0.3s,baz=43,slow=2.0,SNR=40								
GUMO				S			**Sn**	**02 51 40.8**	**-0.3**
	34nm,0.3s,baz=225,slow=23,SNR=3.8								
MJAR	**Matsushiro Arr**	**19.28**	**341**	P		P	**P**	**02 53 47.5**	**0.0**
	1.2nm,0.3s,baz=165,slow=9.8,SNR=10.0								
MAJO	**Matsushiro**	**19.28**	**341**	*e*P		P	**P**	**02 53 46.8**	**-0.7**
MAT	**Matsushiro**	**19.28**	**341**	P		P	**P**	**02 53 48.0**	**+0.5**
ASAJ	**Asahikawa**	**25.78**	**355**	P		P	**P**	**02 54 52.3**	**+0.9**
	10nm,0.6s,mb4.6,baz=202,slow=11,SNR=11								
KLR	**Kul'dur**	**32.79**	**343**	*e*P		P	**P**	**02 56 03.0**	**+10**
WRAB	**Tennant Creek**	**39.73**	**197**	*e*P		P	**P**	**02 56 52.4**	**+0.1**
WRAB						pmax	pmax		
	comp=Z,8.0nm,0.4s,mb4.7								
WRAB	**Tennant Creek**	**39.73**	**197**	*e*P		P	**P**	**02 56 52.4**	**0.0**
	comp=Z,8.0nm,0.4s,mb4.7								
WB2	**Warramunga Arr**	**39.74**	**197**	*e*P		P	**P**	**02 56 52.0**	**-0.4**
WRA	**Warramunga Arr**	**39.74**	**197**	P		P	**P**	**02 56 53.2**	**+0.7**
	comp=Z,8.0nm,0.6s,mb4.5,baz=18,slow=8.5,SNR=44								
WRA						ScP	ScP	03 02 30.8	-0.5
	comp=Z,2.2nm,0.8s,baz=16,slow=4.0,SNR=9.0								
MA2	**Magadan**	**41.27**	**4**	*e*P		P	**P**	**02 57 05.2**	**+0.2**
MA2						pmax	pmax		
	comp=Z,17nm,1.0s,mb4.6								
MA2	**Magadan**	**41.27**	**4**	P		P	**P**	**02 57 05.2**	**+0.2**
	comp=Z,17nm,1.0s,mb4.6								
FITZ	**Fitzroy Crossi**	**41.36**	**210**	*e*P		P	**P**	**02 57 06.3**	**+0.6**
	comp=Z,11nm,0.7s,mb4.6								
ASAR	**Alice Springs**	**43.41**	**196**	P		P	**P**	**02 57 22.4**	**+0.2**
	comp=Z,1.6nm,0.4s,mb4.0,baz=13,slow=6.9,SNR=21								
ASAR						ScP	ScP	03 02 45.0	-0.9
	comp=Z,1.0nm,0.8s,baz=20,slow=4.2,SNR=6.1								
SONM	**Songino Array**	**43.46**	**322**	P		P	**P**	**02 57 24.2**	**+1.6**
	comp=Z,0.4nm,0.4s,mb3.4,baz=190,slow=9.1,SNR=4.5								
MBWA	**Marble Bar**	**46.91**	**214**	*e*P		P	**P**	**02 57 50.3**	**+0.5**
	comp=Z,8.5nm,0.6s,mb4.5								
STKA	**Stephens Creek**	**50.16**	**185**	*e*P		P	**P**	**02 58 14.3**	**-0.4**
BILL	**Bilibino**	**51.28**	**10**	*e*P		P	**P**	**02 58 22.8**	**-0.3**
BILL						pmax	pmax		
	comp=Z,14nm,0.8s,mb4.6								
BILL	**Bilibino**	**51.28**	**10**	*e*P		P	**P**	**02 58 22.8**	**-0.3**
	comp=Z,14nm,0.8s,mb4.7								
MKAR	**Makanchi Array**	**58.76**	**314**	P		P	**P**	**02 59 17.2**	**+0.4**
	comp=Z,0.3nm,0.6s,mb3.3,baz=84,slow=8.3,SNR=3.6								
COLA	**College**	**63.47**	**26**	*e*P		P	**P**	**02 59 48.4**	**-0.1**

COLA pmax pmax
comp=Z,18nm,0.9s,mb4.9
COLA College 63.47 26 *e*P **P 02 59 48.4 -0.1**
comp=Z,18nm,0.9s,mb4.9
CHKZ Chkalovo 66.65 321 *e*P **P 03 00 09.3 +0.2**
CHKZ pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
CHKZ Chkalovo 66.65 321 *e*P **P 03 00 09.3 +0.2**
comp=Z,0.8nm,0.4s,mb3.9
ZRNK Zerenda 67.62 320 *e*P **P 03 00 15.1 -0.1**
ZRNK pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
ZRNK Zerenda 67.62 320 *e*P **P 03 00 15.1 -0.1**
comp=Z,1.1nm,0.5s,mb3.8
INK Inuvik 69.59 23 P **P 03 00 26.6 -0.8**
comp=Z,11nm,0.7s,mb4.7,baz=274,slow=6.4,SNR=46
INK Inuvik 69.59 23 *e*P **P 03 00 26.4 -1.0**
INK pmax pmax
comp=Z,13nm,0.8s
INK Inuvik 69.59 23 *e*P **P 03 00 26.4 -1.0**
comp=Z,13nm,0.8s,mb4.7
HDW Hoodsport 77.36 44 P **P 03 01 14.1 +1.3**
CMW Cultus Mountai 77.79 43 P **P 03 01 16.2 +1.0**
JCW Jim Creek 77.96 43 P **P 03 01 16.9 +0.8**
YKW3 Yellowknife Ar 78.16 28 *e*P **P 03 01 16.1 -1.1**
YKA Yellowknife Ar 78.18 28 P **P 03 01 16.6 -0.8**
comp=Z,6.7nm,0.6s,mb4.4,baz=288,slow=5.4,SNR=148
YKA Yellowknife Ar 78.18 28 P **P 03 01 16.6 -0.8**
FMW Mount Fremont 78.44 44 P **P 03 01 19.4 +0.6**
TWW Teanaway 78.92 44 P **P 03 01 22.6 +1.2**
RES Resolute Bay 79.68 14 *e*P **P 03 01 24.8 -0.7**
RES pmax pmax
comp=Z,8.0nm,0.7s,mb4.5
RES Resolute Bay 79.68 14 *e*P **P 03 01 24.8 -0.7**
comp=Z,7.7nm,0.7s,mb4.4
EPH Ephrata 79.70 44 P **P 03 01 26.0 +0.4**
HAWA Hanford 80.01 44 *e*P **P 03 01 27.5 +0.2**
comp=Z,0.8nm,0.9s,mb3.4
NEW Newport 81.04 42 *e*P **P 03 01 32.5 -0.3**
NEW pmax pmax
comp=Z,13nm,0.9s
NEW Newport 81.04 42 *e*P **P 03 01 32.5 -0.3**
comp=Z,13nm,0.9s,mb4.5
ARCES ARCESS Array B 82.81 342 P **P 03 01 41.8 -0.2**
comp=Z,1.2nm,0.4s,mb4.0,baz=67,slow=6.7,SNR=17
NVAR Mina Array Bea 83.21 52 P **P 03 01 44.2 +0.1**
comp=Z,5.0nm,0.8s,mb4.3,baz=218,slow=6.9,SNR=4.0
JOF Joensuu 84.34 335 *e*p **P 03 01 48.8 -1.0**
comp=Z,1.9nm,0.4s,mb4.2
FINES FINESS Array B 87.21 335 P **P 03 02 01.9 -2.1**
comp=Z,0.7nm,0.3s,mb3.9,baz=64,slow=5.3,SNR=17
FFC Flin Flon 87.27 33 *e*P **P 03 02 03.7 -0.6**
FFC pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
FFC Flin Flon 87.27 33 *e*P **P 03 02 03.7 -0.6**
comp=Z,9.8nm,0.8s,mb4.7
LAO LASA Array 88.49 41 *e*P **P 03 02 09.8 -0.2**
comp=Z,5.9nm,0.7s,mb4.5
FCC Fort Churchill 88.86 27 *e*P **P 03 02 10.5 -1.3**
FCC pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
FCC Fort Churchill 88.86 27 *e*P **P 03 02 10.5 -1.3**
comp=Z,3.7nm,0.8s,mb4.4
SMCO Snowmass 91.18 48 *e*P **P 03 02 23.6 +1.0**
comp=Z,5.1nm,0.7s,mb4.7
ULM Lac du Bonnet 92.76 34 P **P 03 02 28.3 -1.6**
comp=Z,2.9nm,0.8s,mb4.5,baz=316,slow=4.0,SNR=4.8
ULM Lac du Bonnet 92.76 34 P **P 03 02 28.3 -1.6**
ANMO Albuquerque 93.33 52 *e*P **P 03 02 32.9 +0.4**
ANMO pmax pmax
comp=Z,6.0nm,1.2s
ANMO Albuquerque 93.33 52 *e*P **P 03 02 32.9 +0.3**
comp=Z,6.2nm,1.2s,mb4.6
TORD Torodi Ar. Bea 132.75 309 PKP PKPdf 03 08 32.9 +1.2
comp=Z,0.3nm,0.7s,baz=145,slow=1.0,SNR=6.0
LPAZ La Paz 147.53 92 PKPbc PKPbc 03 09 00.5 -0.6
comp=Z,3.1nm,0.4s,baz=299,slow=3.0,SNR=17
LPAZ La Paz 147.53 92 *e*PKPdf PKPdf 03 09 00.1 +1.8
LPAZ *e*PKPbc PKPbc 03 09 03.1 +2.0
TRQA Tornquist 148.82 135 *e*PKPbc PKPbc 03 09 04.1 -0.3
TRQA *e*PKPab PKPab 03 09 09.2 +0.4
SAML Samuel 150.31 75 *e*PKPbc PKPbc 03 09 08.3 +0.2
SAML *e*PKPab PKPab 03 09 14.5 -0.4
CPUP Villa Florida 157.19 114 PKPab PKPab 03 09 44.2 +0.2
comp=Z,1.9nm,0.7s,baz=254,slow=3.7,SNR=5.2

*ISCJB **05** 03:00:53.0±0.4, 6.21S±004×1314E±0.1, h10km, mb4.2/16, MS4.1/1, Error ellipse: s-maj=17.8km s-min=5.8km az=162.6*
*IDC **05** 03:00:54.0±0.7, 6.07S×1314.2E, h0km, mb4.2/10, mb1 4.4/12, mb1mx4.3/16, mbtmp4.3/12, ML4.4/2, MS3.9/2, Ms1 3.9/2, ms1mx2.8/29, Error ellipse: s-maj=32.7km s-min=15.9km az=71.0*
*NEIC **05** 03:00:55.2±0.4, 6.17S×13135E, h10km, mb4.2/10, Error ellipse: s-maj=16.2km s-min=6.6km az=80.0*
ISC 05 03:00:55.2±4.0, 6.17S±005×1314E±01, h10km±25km, n36, σ0°97/40, mb4.2/16, MS4.1/1, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.58**	**171**	*e*P	**Pn**	**03 02 35.3**	**+3.3**
KAKA	41nm,0.2s			*e*S	**Sn**	**03 03 46.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**13.13**	**205**	*e*P	**Pn**	**03 04 00.6**	**-1.2**
FITZ	24nm,0.6s			*e*S	**Sn**	**03 06 12.6**	**-15**
FITZ	**Fitzroy Crossi**	**13.13**	**205**	Pn	**Pn**	**03 04 01.3**	**-0.5**
FITZ	2.1nm,0.3s,baz=36,slow=11,SNR=58			Sn	**Sn**	**03 06 14.5**	**-13**
WRAB	**Tennant Creek**	**13.98**	**168**	*e*Pn	**Pn**	**03 04 12.6**	**-0.7**
WRAB	18nm,0.7s			*e*Sn	**Sn**	**03 06 37.8**	**-11**
WRA	**Warramunga Arr**	**13.99**	**169**	Pn	**Pn**	**03 04 12.3**	**-1.2**
WRA	1.8nm,0.3s,baz=337,slow=14,SNR=49			Sn	**Sn**	**03 06 40.1**	**-8.6**
WRA	**Warramunga Arr**	**13.99**	**169**	Pn	**Pn**	**03 04 12.3**	**-1.2**
WRA	2.3nm,0.3s,baz=214,slow=20,SNR=9.4			Sn	**Sn**	**03 06 40.1**	**-8.6**
WB2	**Warramunga Arr**	**13.99**	**169**	*e*P	**Pn**	**03 04 12.9**	**-0.6**
WB2	6.1nm,0.7s			*e*S	**Sn**	**03 06 40.7**	**-8.1**
PMG	**Port Moresby**	**15.93**	**103**	LR	LR	03 10 30.7	
ASAR	**Alice Springs**	**17.56**	**172**	P	**Pn**	**03 05 00.9**	**+0.8**
ASAR	0.8nm,0.3s,baz=8.9,slow=10,SNR=44			S	**Sn**	**03 08 08.8**	**-6.9**
ASAR	**Alice Springs**	**17.56**	**172**	P	**Pn**	**03 05 00.9**	**+0.8**
ASAR	0.6nm,0.3s,baz=355,slow=24,SNR=7.5			S	**Sn**	**03 08 08.8**	**-6.9**
MBWA	**Marble Bar**	**18.71**	**216**	*e*P	**Pn**	**03 05 14.2**	**-0.1**
CTA	6.1nm,0.7s **Charters Tower**	**19.98**	**135**	P	**Pn**	**03 05 30.9**	**+1.5**
CTAO	8.0nm,0.8s,baz=309,slow=14,SNR=5.5 **Charters Tower**	**19.98**	**135**	*e*P	**Pn**	**03 05 32.6**	**+3.2**
FORT	12nm,0.9s **Forrest**	**24.69**	**187**	*e*P	**P**	**03 06 17.2**	**+0.9**
STKA	21nm,0.7s,mb4.8 **Stephens Creek**	**27.29**	**161**	*e*P	**P**	**03 06 39.8**	**-0.1**
STKA	5.1nm,1.2s,mb3.9 **Stephens Creek**	**27.29**	**161**	P	**P**	**03 06 39.8**	**-0.1**
PSI	5.5nm,1.1s,mb4.0,baz=115,slow=19,SNR=4.9 **Prapat**	**33.64**	**284**	P	**P**	**03 07 37.4**	**+1.4**
MJAR	5.5nm,0.7s,mb4.6,baz=101,slow=6.1,SNR=7.1 **Matsushiro Arr**	**42.96**	**8**	P	**P**	**03 08 53.8**	**-0.6**
MAJO	3.9nm,0.8s,mb4.2,baz=188,slow=9.4,SNR=11 **Matsushiro**	**42.96**	**8**	*e*P	**P**	**03 08 54.7**	**+0.3**
MAT	7.4nm,0.9s,mb4.4 **Matsushiro**	**42.96**	**8**	P	**P**	**03 08 54.7**	**+0.3**
MAT	**Matsushiro**	**42.96**	**8**	*e*P	**P**	**03 08 55.0**	**+0.6**
RAO	**Raoul Island**	**52.94**	**122**	LR	LR	03 28 23.8	
ULN	comp=Z,166nm,18.9s,MS4.1,baz=282,slow=31 **Ulaanbaatar**	**57.92**	**341**	*e*P	**P**	**03 10 48.4**	**+0.8**
SONM	2.4nm,0.7s,mb4.3 **Songino Array**	**58.12**	**340**	P	**P**	**03 10 50.1**	**+1.2**
MKAR	1.1nm,0.7s,mb4.0,baz=164,slow=6.8,SNR=9.5 **Makanchi Array**	**68.31**	**326**	P	**P**	**03 11 56.9**	**+0.3**
AAK	3.1nm,0.6s,mb4.5,baz=117,slow=8.3,SNR=34 **Ala-Archa**	**70.82**	**319**	*e*P	**P**	**03 12 11.9**	**-0.1**
ZAL	0.6nm,0.6s,mb3.7 **Zalesovo**	**71.47**	**333**	P	**P**	**03 12 14.7**	**-1.2**
KURK	1.5nm,0.4s,mb4.2,baz=12,slow=6.1,SNR=6.9 **Kurchatov**	**72.55**	**328**	*e*P	**P**	**03 12 22.1**	**-0.3**
VNDA	1.9nm,0.8s,mb4.1 **Vanda**	**73.11**	**173**	P	**P**	**03 12 27.3**	**+1.6**
	1.5nm,1.1s,mb3.9,baz=334,slow=8.5,SNR=4.2						
BVAR	**Borovoye Array**	**78.12**	**327**	P	**P**	**03 12 54.3**	**-0.2**
	1.6nm,0.7s,mb4.1,baz=104,slow=6.3,SNR=7.7						
CHKZ	**Chkalovo**	**78.30**	**328**	*e*P	**P**	**03 12 54.8**	**-0.6**
	1.7nm,0.8s,mb4.0						
ZRNK	**Zerenda**	**78.83**	**327**	*e*P	**P**	**03 12 57.2**	**-1.2**
	3.1nm,1.1s,mb4.2						
ILAR	**Eielson Array**	**92.00**	**25**	P	**P**	**03 14 02.5**	**-1.8**
	0.5nm,0.8s,mb3.9,baz=253,slow=3.8,SNR=4.8						
TORD	**Torodi Ar. Bea**	**130.02**	**282**	PKP	PKPdf	03 20 05.3	+0.1
	1.0nm,0.7s,baz=73,slow=1.5,SNR=6.6						
LPAZ	**La Paz**	**150.47**	**139**	PKPbc	PKPbc	03 20 50.7	+3.6
	2.1nm,0.8s,baz=338,slow=0.3,SNR=6.9						
LPAZ	**La Paz**	**150.47**	**139**	*e*PKPbc	PKPbc	03 20 49.8	+2.8

CASC 05 03:01:52.2±3.1, 1290N×8982W, h29km±144km, MD3.6, 1C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**0.96**	**11**	*e*P	Pn	03 02 16.0	+6.4
SBLS				*e*S	Sn	03 02 28.3	+6.1
BOQS	**Boqueron**	**0.98**	**32**	*e*P	Pn	03 02 16.2	+6.2
BOQS				*e*S	Sn	03 02 30.0	+7.0
SNJE	**San Jose**	**0.99**	**12**	*e*P	Pn	03 02 16.5	+6.5
SNJE				*e*S	Sn	03 02 31.9	+8.9
RTR	**El Retiro**	**1.01**	**10**	*e*P	Pn	03 02 16.2	+5.9
RTR				*e*S	Sn	03 02 31.2	+7.7
LFRS	**El Faro**	**1.03**	**46**	*e*P	Pn	03 02 17.1	+6.4
LFRS				*e*S	Sn	03 02 31.5	+7.4
LFU	**La Fuente**	**1.09**	**39**	*e*P	Pn	03 02 17.7	+6.2
LFU				*e*S	Sn	03 02 33.8	+8.3
LCBS	**La Ceiba**	**1.11**	**47**	*e*P	Pn	03 02 18.4	+6.6
LCBS				*e*S	Sn	03 02 31.9	+5.8
LBRS	**Las Brisas**	**1.13**	**42**	*e*P	Pn	03 02 18.4	+6.5
LBRS				*e*S	Sn	03 02 34.2	+7.8
IXG	**Ixpaco**	**1.41**	**334**⇑	*e*P	Pn	03 02 16.1	+0.2
IXG				*e*S	Sn	03 02 34.3	+0.8
MTO2	**Montecristo 2**	**1.56**	**17**⇓	*e*P	Pn	03 02 25.5	+7.5
MTO2				*e*S	Sn	03 02 46.5	+9.4

*ISCJB **05** 03:19:31.1±0.4, 37.11N±002×499W±002, h4km±3km, Error ellipse: s-maj=4.1km s-min=3.0km az=21.3*
*INMG **05** 03:19:32.5±1.2, 3697N×496W, h4km±2km, ML2.3, Error ellipse: s-maj=2.2km s-min=1.8km az=28.0*
*MDD **05** 03:19:33.2±0.2, 3691N×492W, h15km±4km, mbLg2.2/25, Error ellipse: s-maj=2.2km s-min=1.7km az=169.0, PRXIMO*
ISC 05 03:19:32.0±0.4, 3700N±002×495W±002, h12km±3km, n37, σ0°90/57, 7C-1D, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIJA	**Lijar**	**0.38**	**256**	⇑P	**Pg**	**03 19 39.4**	**-0.1**
LIJA				*e*S		03 19 47.3	
EMIJ	**Mijas**	**0.46**	**162**	⇑P	**Pg**	**03 19 39.3**	**-1.7**
	3.9nm,0.3s,SNR=18						
EMIJ				*e*S		03 19 45.8	
	140nm,0.2s,SNR=35						
REAL	**Reales**	**0.56**	**202**	⇑P	**Pg**	**03 19 41.7**	**-1.2**
REAL				*e*S		03 19 49.6	
ELOJ	**Sierra Loja**	**0.65**	**77**	⇑P	**Pg**	**03 19 44.8**	**+0.2**
	1.7nm,0.2s,SNR=18						
ELOJ				*e*S		03 19 54.8	
	4.3nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**0.69**	**218**	⇓P	**Pg**	**03 19 45.0**	**-0.4**
	2.5nm,0.2s,SNR=18						
EJIF				*e*S		03 19 54.2	
	22nm,0.3s,SNR=16						
ESPR	**Espera**	**0.74**	**260**	⇑P	**Pg**	**03 19 47.4**	**+1.0**
	6.5nm,0.3s,SNR=18						
ESPR				*e*S		03 20 01.2	
	53nm,0.3s,SNR=9.2						
ELUQ	**Luque**	**0.78**	**44**	Lg		03 20 00.1	
	0.4nm,0.5s,SNR=7.9						
GIBL	**Gibalbin**	**0.84**	**259**	⇑P	**Pg**	**03 19 49.2**	**+1.1**
ERON	**Agron**	**0.91**	**89**	Pg	**Pg**	**03 19 50.1**	**+0.5**
	5.2nm,0.2s,SNR=22						
ERON				Lg		03 20 03.0	
	6.5nm,0.2s,SNR=11						
MOMI	**Momias**	**0.91**	**223**	Pg	**Pg**	**03 19 50.1**	**+0.5**
SCRT	**Cerro San Cris**	**1.05**	**250**	⇑Pg	**Pg**	**03 19 53.6**	**+1.3**
EGUA	**Guajares**	**1.12**	**98**	Pg	**Pg**	**03 19 54.0**	**+0.5**
	0.6nm,0.2s,SNR=7.9						
EGUA				Lg		03 20 07.2	
	2.0nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**1.20**	**14**	Pg	**Pg**	**03 19 55.2**	**+0.1**
	18nm,0.3s,SNR=63						
EADA				Lg		03 20 12.3	
	20nm,0.2s,SNR=4.6						
EQUE	**Quentar**	**1.22**	**80**	Pg	**Pg**	**03 19 56.2**	**+0.7**
	7.4nm,0.2s,SNR=42						
EQUE				Lg		03 20 14.8	
	17nm,0.2s,SNR=14						
EBAN	**Banos Encina**	**1.48**	**38**	Pn	**Pn**	**03 19 59.3**	**+0.8**
	8.4nm,0.3s,SNR=16						
EBAN				Pg	**Pg**	**03 20 00.7**	**+0.2**
	1.8nm,0.1s,SNR=7.9						
EBAN				Sn	**Sn**	**03 20 18.5**	**+0.8**
	14nm,0.2s,SNR=7.9						
EBAN				Lg		03 20 20.6	
	163nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.57**	**300**	Pn	**Pn**	**03 19 59.2**	**-0.5**
	5.8nm,0.3s,SNR=21						
EMIN				Pg	**Pg**	**03 20 01.8**	**-0.4**
	4.4nm,0.1s,SNR=7.9						
EMIN				Sn	**Sn**	**03 20 19.6**	**-0.3**
	16nm,0.3s,SNR=12						
EMIN				Lg		03 20 22.8	
	7.6nm,0.2s,SNR=7.9						
EQES	**Quesada**	**1.69**	**61**	Pn	**Pn**	**03 20 02.8**	**+1.4**
	0.7nm,0.2s,SNR=7.9						
EQES				Pg	**Pg**	**03 20 04.2**	**-0.3**
	3.4nm,0.2s,SNR=22						
EQES				Sn	**Sn**	**03 20 23.8**	**+0.8**
	5.6nm,0.2s,SNR=7.9						
EQES				Lg		03 20 27.9	
	42nm,0.3s,SNR=5.0						
EHUE	**Huescar**	**2.04**	**66**	Pg	**Pg**	**03 20 09.0**	**-2.2**
	3.2nm,0.2s,SNR=7.9						
EHUE				Sn	**Sn**	**03 20 30.8**	**-0.7**
	2.2nm,0.4s,SNR=7.9						
EHUE				Lg		03 20 37.9	
	11nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**2.09**	**285**	Pn	**Pn**	**03 20 06.3**	**-0.5**
	5.5nm,0.3s,SNR=8.4						
EGRO				Sn	**Sn**	**03 20 32.9**	**+0.1**
	1.7nm,0.1s,SNR=4.0						
EGRO				Lg		03 20 39.1	
	12nm,0.3s,SNR=6.5						
EBAD	**Badajoz**	**2.40**	**318**	Pn	**Pn**	**03 20 10.7**	**-0.3**
	2.1nm,0.3s,SNR=14						
EBAD				Sn	**Sn**	**03 20 41.0**	**+0.7**
	0.2nm,0.3s,SNR=7.9						
EBAD				Lg		03 20 49.9	
	9.8nm,0.2s,SNR=11						
EVIA	**Vianos**	**2.53**	**49**	Pg	**Pg**	**03 20 19.5**	**-1.1**
	111nm,1.8s,SNR=7.9						
EVIA				Lg		03 20 51.7	
	10nm,0.3s,SNR=7.9						
PBEJ	**Beja**	**2.54**	**295**	*e*Sn	**Sn**	**03 20 44.0**	**+0.2**
PBEJ				*e*Sg	**Sg**	**03 20 53.7**	**+0.2**
PBEJ							
	6.8nm,0.3s						
ESDC	**Sonseca Array**	**2.78**	**16**	Pn	**Pn**	**03 20 17.8**	**+1.5**
	1.0nm,0.2s,baz=196,slow=12,SNR=11						
ESDC				Pg	**Pg**	**03 20 24.4**	**-0.9**
	SNR=7.9						
ESDC				Lg		03 21 00.8	
	5.1nm,0.4s,baz=199,slow=28,SNR=16						
PTEO	**Sao Teotonio**	**3.06**	**281**	*e*Sn	**Sn**	**03 20 56.3**	**-0.4**
PTEO				*e*Sg	**Sg**	**03 21 09.4**	**-1.0**
PTEO							
	14nm,1.0s						
EMUR	**La Murta**	**3.07**	**73**	Lg		03 21 09.5	
	6.6nm,1.2s,SNR=7.9						
ETOB	**Tobarra**	**3.15**	**58**	Pn	**Pn**	**03 20 22.2**	**+0.8**
	2.5nm,0.4s,SNR=6.2						
ETOB				Pg	**Pg**	**03 20 29.8**	**-2.6**
	SNR=7.9						
ETOB				Lg		03 21 12.3	
	15nm,0.4s,SNR=177						
PCBR	**Castelo Branco**	**3.46**	**326**	*e*Pn	**Pn**	**03 20 26.3**	**+0.6**
PCBR				*e*Sn	**Sn**	**03 21 06.7**	**+0.1**
PCBR				*e*Sg	**Sg**	**03 21 23.3**	**+0.1**
PCBR							
	4.3nm,0.8s						
PCBR	**Castelo Branco**	**3.46**	**326**	Pn	**Pn**	**03 20 26.3**	**+0.6**
PCBR				Sn	**Sn**	**03 21 06.7**	**+0.1**
PCBR				Lg		03 21 23.3	
	2.2nm,0.8s						
GUD	**Guadarrama**	**3.69**	**9**	Pn	**Pn**	**03 20 29.8**	**+1.0**
	4.5nm,0.3s,SNR=6.0						
GUD				Lg		03 21 28.8	
	4.4nm,0.4s,SNR=8.7						
PTOM	**Tomar**	**3.77**	**315**	*e*Sn	**Sn**	**03 21 13.9**	**-0.4**
PTOM				*e*Sg	**Sg**	**03 21 33.5**	**+0.3**
PTOM							
	6.3nm,0.2s						
MTE	**Manteigas**	**3.96**	**330**	*e*Pn	**Pn**	**03 20 33.5**	**+1.0**
MTE				*e*Sn	**Sn**	**03 21 19.1**	**+0.3**
MTE				*e*Sg	**Sg**	**03 21 40.0**	**+1.0**
MTE							
	12nm,0.6s						
ECHE	**Chera**	**4.06**	**49**	Lg		03 21 39.1	
	0.5nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**4.36**	**329**	*e*Pn	**Pn**	**03 20 39.1**	**+1.0**
PVIS				*e*Sn	**Sn**	**03 21 28.2**	**-0.7**
PVIS							
	4.7nm,0.6s						
PVRL	**Vila Real**	**4.78**	**334**	*e*Sn	**Sn**	**03 21 38.9**	**-0.2**
PVRL				*e*Sg	**Sg**	**03 22 05.5**	**0.0**
PBRG	**Braganca**	**4.99**	**344**	*e*Sn	**Sn**	**03 21 42.3**	**-2.1**
PBRG				*e*Sg	**Sg**	**03 22 13.0**	**+0.7**
PBRG							
	4.2nm,0.6s						
PCAB	**Cabril**	**5.27**	**334**	*e*Sn	**Sn**	**03 21 49.2**	**-2.1**
PCAB				*e*Sg	**Sg**	**03 22 21.0**	**-0.3**
PCAB							
	5.6nm,0.7s						
ELOB	**Lobios**	**5.42**	**335**	Sn	**Sn**	**03 21 53.7**	**-1.3**
	SNR=7.9						
ELOB				Lg		03 22 21.4	
	0.9nm,0.2s,SNR=7.9						

IDC 05 03:21:25.8±23.0, 1724S×17926E, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.8/13, mbtmp3.9/3, Error ellipse: s-maj=582.8km s-min=48.9km az=120.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.57**	**259**	P	P	03 29 22.8	-0.5
	0.6nm,0.4s,baz=91,slow=6.4,SNR=10						
ASAR	**Alice Springs**	**42.84**	**254**	P	P	03 29 26.6	+1.0
	2.1nm,0.7s,baz=96,slow=8.2,SNR=20						
MJAR	**Matsushiro Arr**	**66.06**	**325**	P	P	03 32 14.6	+0.1
	1.0nm,0.7s,baz=152,slow=7.0,SNR=4.1						

*NEIC **05** 03:26:22.6, 27.10S×71.19W, h25km, ML3.8(GUC), After GUC.*
GUC 05 03:26:22.6±0.9, 2710S×7119W, h25km±12km, MD4.0, ML3.8, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.32**	**86**⇓	*i*P	Pb	03 26 29.9	0.0
CDCH				*i*S	Sb	03 26 34.9	0.0
CPCH	**Copiapo**	**0.79**	**110**	*e*P	Pb	03 26 38.1	+0.5
CPCH				*i*S	Sb	03 26 49.5	+1.6
CPCH				AML	AML	03 26 52.4	
	comp=E,15µm,0.1s						
CPCH	**Copiapo**	**0.79**	**110**	*e*P	Pb	03 26 38.1	+0.5
CPCH				*i*S	Sb	03 26 49.5	+1.6
CRCH	**Chaqaral**	**0.90**	**34**	*e*P	Pb	03 26 38.9	-0.7
CRCH				*i*S	Sb	03 26 51.1	-0.1
CPN1	**Cerro Paranal**	**2.56**	**16**	*e*P	Pn	03 27 00.9	-1.5
CPN1				*i*S	Sn	03 27 31.0	-1.8
CPN1				AML	AML	03 27 48.7	
	comp=E,198nm,0.4s						
TLL	**Tololo Astrono**	**3.08**	**174**	*e*P	Pn	03 27 11.7	+2.1
TLL				*i*S	Sn	03 27 48.6	+3.0
TLL				AML	AML	03 28 14.4	
	comp=N,212nm,0.6s						
TLL	**Tololo Astrono**	**3.08**	**174**	*e*P	Pn	03 27 11.7	+2.1
TLL				*i*S	Sn	03 27 48.6	+3.0

MEX 05 03:27:32.1±0.8, 1701N×10088W, h25km±999km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.93**	**99**	*e*P	Pn	03 27 47.0	-2.6
ACX				*i*S	Sb	03 27 58.0	-3.6
MEIG	**Mezcala**	**1.51**	**53**	*i*P	Pn	03 27 53.9	-3.6
MEIG				*i*S	Sn	03 28 14.3	-2.0
PLIG	**Platanillo**	**1.90**	**44**	*i*P	Pn	03 27 58.3	-4.6
PLIG				*i*S	Sn	03 28 23.5	-2.5

*ISCJB **05** 03:40:39.2±0.5, 5140N±002×16.15E±003, h0km, mb3.1/1, Error ellipse: s-maj=3.8km s-min=2.4km az=46.1*
*NEIC **05** 03:40:39.1±0.4, 5160N×1629E, h5km, ML2.9(SZGRF), ML3.0(FUR), Error ellipse: s-maj=5.3km s-min=5.2km az=164.0*
*IPEC **05** 03:40:40.1±0.3, 5148N×1627E, h0km, ML2.6/4, Error ellipse: s-maj=3.8km s-min=1.9km az=86.0*
*IDC **05** 03:40:40.9±0.7, 5150N×1608E, h0km, mb2.9/1, mb1 3.2/8, mb1mx3.2/23, mbtmp3.1/8, ML3.1/7, Error ellipse: s-maj=13.4km s-min=7.2km az=112.0*
*WAR **05** 03:40:41.7, 5145N×1617E, ML2.9, Mining Induced*
*CSEM **05** 03:40:41.9±0.1, 5141N×1619E, h1km, ML3.4/7, Error ellipse: s-maj=1.8km s-min=1.3km az=9.0*
*VIE **05** 03:40:43.5±0.5, 5123N×1624E, h0km, mb2.3/5, ML2.9/5, Error ellipse: s-maj=3.0km s-min=2.9km az=122.0 55 km WNW of Breslau Suspected Mining induced.*
*PRU **05** 03:40:43.1, 5136N×1607E, h0km*
ISC 05 03:40:40.5±0.4, 5144N±002×1616E±003, h0km, n42, σ1°02/76, mb3.1/1, 3C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.60**	**172**	*i* Pgd	**Pg**	**03 40 52.9**	**+0.9**
KSP				*e*		03 40 59.8	
KSP				*e*Sg	**Sg**	**03 41 01.0**	**+1.2**
KSP				*e*L		03 41 06.5	
KSP	**Ksiaz**	**0.60**	**172**	⇓*i*Pg	**Pg**	**03 40 52.9**	**+0.9**
KSP				*e*Sg	**Sg**	**03 40 59.8**	**0.0**
KSP				*e*		03 41 06.3	
KSP	**Ksiaz**	**0.60**	**172**	*e*Pg	**Pg**	**03 40 52.6**	**+0.6**
KSP				*e*Sg	**Sg**	**03 40 59.8**	**0.0**
UPC	**Upice**	**0.93**	**186**	*e*PG	**Pg**	**03 40 59.1**	**+0.7**
DPC	**Dobruska-Polom**	**1.09**	**175**	*e*PG	**Pg**	**03 41 01.8**	**+0.4**
DPC				*e*SG	**Sg**	**03 41 16.1**	**+0.5**
	60nm,0.4s						
DPC	**Dobruska-Polom**	**1.09**	**175**	*e*Pg	**Pg**	**03 41 01.7**	**+0.3**
DPC				*e*Sg	**Sg**	**03 41 15.7**	**+0.1**
BRG

KRUC	**Moravsky**	**2.38**	**176**	*e*Pn		**Pn**	**03 41 21.1**	**+0.3**
KRUC				*e*Sg		**Sg**	**03 41 56.0**	**-1.0**
	comp=Z,32nm,0.9s							
OJC	**Ojcow**	**2.61**	**116**	*e*Pg		**Pg**	**03 41 29.5**	**-1.0**
OJC				*e*Sg		**Sg**	**03 42 04.2**	**-0.1**
NKC	**Novy Kostel**	**2.65**	**244**	*e*PN		**Pn**	**03 41 24.6**	**+0.2**
NKC				*e*PG		**Pg**	**03 41 31.2**	**0.0**
NKC				*e*SG		**Sg**	**03 42 06.0**	**+0.5**
	comp=Z,42nm,0.3s							
KHC	**Kasperske Hory**	**2.84**	**217**	*e*Pn		**Pn**	**03 41 27.9**	**+0.8**
KHC				*e*PG		**Pg**	**03 41 33.5**	**-1.5**
KHC				*e*SG		**Sg**	**03 42 10.8**	**-1.0**
	comp=Z,40nm,1.0s							
MOX	**Moxa**	**2.98**	**256**	*e*PN		**Pn**	**03 41 29.2**	**+0.2**
MOX				*e*PG		**Pg**	**03 41 37.3**	**-0.3**
MOX				*e*SG		**Sg**	**03 42 17.3**	**+1.1**
GEC2	**GERESS Array S**	**3.04**	**212**	*e*Pn		**Pn**	**03 41 30.3**	**+0.5**
GEC2				*e*Sg		**Sg**	**03 42 15.9**	**-2.2**
GERES	**GERESS Array B**	**3.04**	**212**	Pn		**Pn**	**03 41 31.0**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=27,slow=13,SNR=19							
GERES				Pg		**Pg**	**03 41 36.8**	**-1.9**
	comp=Z,3.5nm,0.3s,baz=32,slow=17,SNR=40							
GERES				Sn		**Sn**	**03 42 09.5**	**+2.6**
	comp=Z,1.8nm,0.3s,baz=39,slow=28,SNR=5.9							
GERES				Lg			03 42 15.9	
	comp=Z,4.5nm,0.3s,baz=32,slow=27,SNR=8.2							
GERES	**GERESS Array B**	**3.04**	**212**	Pg		**Pg**	**03 41 36.8**	**-2.0**
WET	**Wettzell**	**3.11**	**224**	*e*Pn		**Pn**	**03 41 31.3**	**+0.4**
WET				*e*Sg		**Sg**	**03 42 19.1**	**-1.5**
ZST	**Bratislava**	**3.30**	**169**	*e*SG		**Sg**	**03 42 28.1**	**+1.6**
NIE	**Niedzica**	**3.33**	**126**	*e*P		**Pg**	**03 41 45.4**	**+1.0**
NIE				*e*S		**Sg**	**03 42 28.9**	**+1.2**
MOA	**Molln**	**3.79**	**200**	⇑*i*Pn		**Pn**	**03 41 40.9**	**+0.7**
MOA				⇑*i*Sg		**Sg**	**03 42 42.7**	**+0.2**
	comp=Z,30nm,0.8s							
STHS	**Stebnicka Huta**	**3.83**	**120**	*e*PN		**Pn**	**03 41 42.5**	**+1.8**
STHS				*e*PG		**Pg**	**03 41 54.8**	**+0.9**
STHS				*e*SG		**Sg**	**03 42 51.0**	**+7.6**
ARSA	**Arzberg**	**4.21**	**186**	⇓*i*Pn		**Pn**	**03 41 46.2**	**+0.2**
ARSA				⇑*i*Sg		**Sg**	**03 42 56.1**	**+0.4**
	comp=Z,13nm,0.7s							
CRVS	**Cervenica-Dubn**	**4.25**	**125**	*e*SG		**Sg**	**03 43 04.4**	**+7.5**
KWP	**Kalwaria**	**4.55**	**111**	*e*Pg		**Pg**	**03 42 04.7**	**-3.0**
KWP				*e*Sg		**Sg**	**03 43 05.7**	**-0.9**
KWP	**Kalwaria**	**4.55**	**111**	*e*Pg		**Pg**	**03 42 04.7**	**-3.0**
KWP				*e*Sg		**Sg**	**03 43 05.7**	**-1.0**
KOLS	**Kolonicke sedl**	**4.66**	**120**	*e*PG		**Pg**	**03 42 11.9**	**+2.1**
DAVOX	**Davos**	**6.22**	**224**	Pn		**Pn**	**03 42 13.5**	**0.0**
	comp=Z,0.2nm,0.3s,baz=40,slow=17,SNR=2.3							
DAVOX				Lg			03 43 59.1	
	comp=Z,0.3nm,0.3s,baz=347,slow=24,SNR=3.3							
DAVOX	**Davos**	**6.22**	**224**	Pn		**Pn**	**03 42 13.5**	**-0.1**
DAVOX				Lg			03 43 59.1	
AKASG	**Malin Array Be**	**8.26**	**90**	Pn		**Pn**	**03 42 40.0**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=280,slow=12,SNR=4.9							
HFS	**Hagfors**	**8.83**	**352**	Pn		**Pn**	**03 42 44.0**	**-5.3**
	comp=Z,0.1nm,0.3s,baz=229,slow=15,SNR=4.0							
FINES	**FINESS Array B**	**11.42**	**25**	Pn		**Pn**	**03 43 19.8**	**-5.0**
	comp=Z,0.4nm,0.3s,baz=277,slow=11,SNR=6.0							
ARCES	**ARCESS Array B**	**18.69**	**10**	Pn		**Pn**	**03 44 55.8**	**-4.8**
	comp=Z,0.2nm,0.3s,baz=195,slow=12,SNR=8.2							
YKA	**Yellowknife Ar**	**59.94**	**336**	P		**P**	**03 50 48.2**	**-0.2**
	comp=Z,0.1nm,0.5s,mb3.1,baz=26,slow=7.3,SNR=3.8							
YKA	**Yellowknife Ar**	**59.94**	**336**	P		**P**	**03 50 48.2**	**-0.2**

MAN 05 03:44:08.4, 966N×12545E, h4km, mb2.0, ML3.7, MS3.6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.13**	**17**	*e*P	Pg	03 44 13.1	+2.1
SCPH				*e*S	Sg	03 44 21.8	+9.0
MSLP	**Maasin**	**0.75**	**309**	*e*P	Pg	03 44 22.3	-0.5
MSLP				*e*S	Sg	03 44 37.6	+5.0
TBP	**Tagbilaran**	**1.57**	**271**	*e*P	Pn	03 44 37.1	+0.1
TBP				*e*S	Sn	03 45 03.0	+5.3
PLP	**Palo**	**1.57**	**343**	*e*P	Pn	03 44 27.3	-10
PLP				*e*S	Sn	03 44 48.1	-10
BUKP	**Musuan**	**1.81**	**192**	*e*P	Pn	03 44 40.0	-0.3

ISCJB ***05*** *03:47:41.4±1.3, 139N±0.1×9282W±007, h49km±12km, mb4.0/5, MS3.7/3, Error ellipse: s-maj=18.9km s-min=7.9km az=55.2*

IDC ***05*** *03:47:42.1±3.4, 1491N×9205W, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.8/21, mbtmp3.9/6, ML3.4/1, MS3.7/3, Ms1 3.7/3, ms1mx3.0/27, Error ellipse: s-maj=137.9km s-min=32.4km az=42.0*

CASC ***05*** *03:47:42.6±1.3, 1406N×9270W, h85km±32km, MD4.3*

MEX ***05*** *03:47:47.1±0.6, 1413N×9281W, h19km±431km, MD4.3*

NEIC ***05*** *03:47:47.0, 1412N×9281W, h19km, MD4.3(MEX), After MEX.*

ISC 05 03:47:43.5±1.1, 1399N±009×9275W±006, h44km±12km, n19, σ1§08/17, mb4.0/5, MS3.7/3, 1C-1D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**1.13**	**73**	⇓*e*P	**Pn**	**03 48 03.2**	**+0.4**
FUG	**Fuego 3**	**1.90**	**76**	⇓*e*P	**Pn**	**03 48 12.7**	**-0.8**
IXG	**Ixpaco**	**2.23**	**85**	*e*P	**Pn**	**03 48 17.0**	**-0.9**
CCIG	**Comitan**	**2.36**	**14**	*i* P	**Pn**	**03 48 20.8**	**+1.1**
CCIG				*i* S	**Sn**	**03 48 46.6**	**-0.8**
SCX	**San Cristobal**	**2.74**	**2**	*e*P	**Pn**	**03 48 27.0**	**+2.1**
SCX				*i* S	**Sn**	**03 49 03.0**	**+6.3**
RTR	**El Retiro**	**3.01**	**91**	*e*P	Px	03 48 35.5	
RTR				*e*S	Sx	03 49 11.7	
SBLS	**San Blas**	**3.04**	**92**	*e*P	Px	03 48 34.9	
SBLS				*e*S	Sx	03 49 10.9	
OXX	**Oaxaca**	**4.91**	**309**	*e*P	**Pn**	**03 48 54.0**	**-0.8**
OXX				*i* S	**Sn**	**03 49 51.0**	**+0.6**
VHO	**Vista Hermosa**	**4.92**	**309**	*i* S	**Sn**	**03 49 49.4**	**-1.0**
JTS	**JuntasAbangare**	**8.46**	**115**	Pn	**Pn**	**03 49 43.9**	**+0.5**
	0.5nm,0.3s,baz=316,slow=23,SNR=6.5						
PDAR	**Pinedale Array**	**32.14**	**336**	P	**P**	**03 54 05.0**	**-1.7**
	0.4nm,0.3s,mb3.7,baz=116,slow=8.1,SNR=5.9						
NVAR	**Mina Array Bea**	**33.23**	**322**	P	**P**	**03 54 19.2**	**+2.9**
	1.0nm,0.7s,mb3.9,baz=131,slow=9.8,SNR=9.3						
NVAR	**Mina Array Bea**	**33.23**	**322**	P	**P**	**03 54 19.2**	**+2.9**
YBH	**Yreka Blue Hor**	**37.93**	**323**	LR	LR	04 11 00.8	
	comp=Z,80nm,20.8s,MS3.5,baz=158,slow=37						
SCHQ	**Schefferville**	**45.49**	**21**	LR	LR	04 16 18.8	
	comp=Z,125nm,18.5s,MS3.9,baz=220,slow=39						
YKA	**Yellowknife Ar**	**50.87**	**347**	P	**P**	**03 56 39.6**	**-0.4**
	3.4nm,0.8s,mb4.3,baz=150,slow=7.4,SNR=82						
CPUP	**Villa Florida**	**52.84**	**139**	LR	LR	04 21 15.1	
	comp=Z,80nm,18.6s,MS3.8,baz=135,slow=38						
INK	**Inuvik**	**60.25**	**344**	P	**P**	**03 57 47.1**	**-0.2**
	1.5nm,0.7s,mb4.1,baz=143,slow=4.5,SNR=5.3						
ILAR	**Eielson Array**	**62.57**	**337**	P	**P**	**03 58 03.6**	**+0.7**
	0.8nm,0.9s,mb3.8,baz=104,slow=6.6,SNR=7.0						

MOS ***05*** *03:51:03.5±1.1, 3734N×7227E, h167km, mb4.1/7, Error ellipse: s-maj=18.4km s-min=7.1km az=90.7*

ISCJB ***05*** *03:51:06.4±0.4, 3741N±003×7233E±006, h196km±5km, mb4.0/23, Error ellipse: s-maj=8.0km s-min=4.0km az=141.0*

BJI ***05*** *03:51:07.1, 3754N×7229E, h209km, mB4.2, mb4.7*

IDC ***05*** *03:51:07.3±3.3, 3740N×7235E, h188km±31km, mb3.4/11, mb1 3.6/15, mb1mx3.5/24, mbtmp4.0/15, Error ellipse: s-maj=17.8km s-min=15.3km az=156.0*

NEIC ***05*** *03:51:07.2±1.2, 3747N×7241E, h184km±11km, mb4.1/9, Error ellipse: s-maj=11.8km s-min=9.8km az=133.0*

NNC ***05*** *03:51:14.7±4.1, 3799N×7205E, h208km±30km, mb2.9, mpv3.8, Error ellipse: s-maj=42.4km s-min=29.2km az=34.0*

ISC 05 03:51:07.1±0.5, 3740N±003×7231E±007, h188km±5km, n76, σ1§13/93, mb4.1/23, 9C-8D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**3.57**	**53**	*i* P	**Pn**	**03 52 05.0**	**+2.0**
KSH				S	**Sn**	**03 52 47.6**	**+0.8**
KSH				Smax			
	comp=N,1μm,0.4s						
KSH				Smax			
	comp=E,810nm,0.4s						
AML	**Almayashu**	**4.84**	**12**	P	**Pn**	**03 52 19.6**	**+0.4**
	SNR=188						
UCH	**Uchtor**	**5.11**	**19**	P	**Pn**	**03 52 23.2**	**+0.6**
	SNR=73						
KZA	**Kyzart**	**5.19**	**25**	P	**Pn**	**03 52 23.7**	**+0.1**
	SNR=25						
EKS2	**Erkin-Say**	**5.37**	**12**	P	**Pn**	**03 52 26.5**	**+0.5**
	SNR=20						
AAK	**Ala-Archa**	**5.49**	**17**	P	**Pn**	**03 52 28.4**	**+0.9**
	SNR=77						
AAK	**Ala-Archa**	**5.49**	**17**	⇑*i*PN	**Pn**	**03 52 27.3**	**-0.2**
AAK				pmax	pmax		
	comp=Z,48nm,0.5s						
AAK	**Ala-Archa**	**5.49**	**17**	⇑*i*Pn	**Pn**	**03 52 27.3**	**-0.2**
	comp=Z,48nm,0.5s						
AAK				*e*Sn	**Sn**	**03 53 26.8**	**-4.0**
KBK	**Karagaybulak**	**5.63**	**20**	P	**Pn**	**03 52 30.6**	**+1.3**
	SNR=22						
DLH	**Dalhousie**	**5.70**	**147**	*e*P	**Pn**	**03 52 33.0**	**+2.8**
DLH				*e*S	**Sn**	**03 53 34.0**	**-1.8**
ULHL	**Ulahol**	**5.71**	**31**	P	**Pn**	**03 52 30.4**	**+0.1**
	SNR=13						
KK31	**Karatay Array**	**5.86**	**347**	⇓P	**Pn**	**03 52 32.0**	**-0.4**
	comp=Z,4.9nm,0.3s,baz=162,slow=12,SNR=126						
KK31				⇑S	**Sn**	**03 53 34.4**	**-5.1**
	comp=Z,86nm,0.5s,baz=160,slow=22,SNR=27						
CHMS	**Chumysh**	**5.90**	**18**	P	**Pn**	**03 52 33.0**	**+0.2**
	SNR=16						
TKM2	**Tokmak 2**	**6.06**	**24**	P	**Pn**	**03 52 35.3**	**+0.3**
	SNR=22						
USP	**Ospenovka**	**6.09**	**15**	P	**Pn**	**03 52 35.0**	**-0.3**
	SNR=13						
PONG	**Pong**	**6.21**	**150**	*e*P	**Pn**	**03 52 39.0**	**+2.2**
PONG				*e*S	**Sn**	**03 53 48.0**	**+0.4**
KLP	**Kalpa**	**7.63**	**138**	*e*P	**Pn**	**03 52 56.6**	**+1.1**
KLP				*e*S	**Sn**	**03 54 18.4**	**-3.1**
KLP				AML	AML	03 54 24.1	
	comp=N,344nm,0.6s						
KLP				AML	AML	03 54 25.2	
	comp=E,361nm,0.7s						
DDI	**Dehra Dun**	**8.52**	**144**	*e*P	**Pn**	**03 53 07.5**	**+0.4**
DDI				*e*S	**Sn**	**03 54 41.0**	**-1.6**
JOSI	**Joshimath**	**9.10**	**137**	*e*P	**Pn**	**03 53 06.4**	**-8.3**
JOSI				*e*S	**Sn**	**03 54 42.9**	**-13**
JOSI				AML	AML	03 54 49.4	
	comp=N,226nm,0.7s						
JOSI				AML	AML	03 54 49.7	
	comp=E,202nm,0.7s						
KHET	**Khetri**	**9.75**	**161**	*e*P	**Pn**	**03 53 22.0**	**-1.2**
KHET				*e*S	**Sn**	**03 55 03.9**	**-8.0**
KHET				AML	AML	03 55 09.7	
	comp=E,24nm,1.1s						
KHET				AML	AML	03 55 11.3	
	comp=N,24nm,0.9s						
SONA	**Sohna**	**9.97**	**155**	*e*P	**Pn**	**03 53 25.4**	**-0.6**
SONA				*e*S	**Sn**	**03 55 08.7**	**-8.3**
SONA				AML	AML	03 55 14.9	
	comp=E,46nm,0.6s						
SONA				AML	AML	03 55 16.3	
	comp=N,26nm,0.3s						
MKAR	**Makanchi Array**	**11.95**	**35**	P	**Pn**	**03 53 50.2**	**-1.4**
	comp=N,0.2nm,0.3s,baz=232,slow=18,SNR=9.0						
KURK	**Kurchatov**	**14.05**	**17**	⇓P	**Pn**	**03 54 20.3**	**+2.2**
	comp=N,10nm,1.0s						
KURK	**Kurchatov**	**14.05**	**17**	*e*Pn	**Pn**	**03 54 16.2**	**-1.9**
KURK				*e*P		03 54 19.9	
AB31	**Akbulak array**	**14.86**	**327**	⇑P	**Pn**	**03 54 26.4**	**-1.6**
	comp=N,7.3nm,0.5s,baz=137,slow=12,SNR=174						
AB31				S	**Sn**	**03 57 05.3**	**-8.6**
	comp=N,9.8nm,0.7s,baz=151,slow=23,SNR=11						
VOSK	**Vostochnaya**	**15.35**	**357**	⇑P	**Pn**	**03 54 32.5**	**-1.6**
	comp=N,1.8nm,0.5s						
BVA0	**Borovoye Array**	**15.68**	**356**	P	**Pn**	**03 54 36.6**	**-1.5**
	comp=N,0.6nm,0.7s,baz=234,slow=37,SNR=34						
BVAR	**Borovoye Array**	**15.68**	**356**	P	**Pn**	**03 54 36.7**	**-1.4**
	comp=N,1.5nm,0.3s,baz=158,slow=12,SNR=30						
BRVK	**Borovoye**	**15.72**	**355**	*e*P	**Pn**	**03 54 37.9**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BRVK	**Borovoye**	**15.72**	**355**	*e*P	**Pn**	**03 54 37.9**	**-0.7**
	comp=Z,9.8nm,1.0s						
ZRNK	**Zerenda**	**15.72**	**353**	⇓P	**Pn**	**03 54 38.1**	**-0.4**
	comp=Z,6.9nm,0.6s						
ZRNK	**Zerenda**	**15.72**	**353**	*e*P	**Pn**	**03 54 38.1**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,16nm,0.8s						
ZRNK	**Zerenda**	**15.72**	**353**	*e*P	**Pn**	**03 54 38.1**	**-0.4**
	comp=Z,16nm,0.8s						
CHKZ	**Chkalovo**	**16.32**	**356**	*e*P	**Pn**	**03 54 44.0**	**-1.7**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CHKZ	**Chkalovo**	**16.32**	**356**	*e*P	**Pn**	**03 54 44.0**	**-1.8**
	comp=Z,4.6nm,0.6s						
AKTK	**Aktyubinsk**	**16.57**	**326**	P	**Pn**	**03 54 48.7**	**0.0**
AKTK				S	**S**	**03 57 47.1**	**-4.4**
AKTO	**Aktyubinsk**	**16.57**	**326**	⇓P	**Pn**	**03 54 48.4**	**-0.3**
	comp=Z,0.1nm,0.5s						
AKTO	**Aktyubinsk**	**16.57**	**326**	P	**Pn**	**03 54 48.7**	**0.0**
	comp=Z,4.2nm,0.3s,baz=123,slow=11,SNR=47						
AKTO				S	**S**	**03 57 47.1**	**-4.4**
	comp=Z,0.8nm,0.3s,baz=1.3,slow=22,SNR=9.3						
AKTO	**Aktyubinsk**	**16.57**	**326**	P	**Pn**	**03 54 48.7**	**0.0**
AKTO				S	**S**	**03 57 47.1**	**-4.4**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.3s						
AKTO				smax			
	comp=N,1.0nm,0.3s						
WSAR	**Wadi Sarin**	**18.37**	**224**	P	**P**	**03 55 09.7**	**+2.1**
	comp=N,0.3nm,0.3s,baz=57,slow=18,SNR=5.1						
ZAL	**Zalesovo**	**18.65**	**24**	P	**P**	**03 55 10.9**	**+0.2**
	comp=N,7.7nm,0.3s,baz=250,slow=7.1,SNR=69						
ZAL	**Zalesovo**	**18.65**	**24**	*i* P	**P**	**03 55 10.8**	**+0.1**
ZAL				pmax	pmax		
	comp=Z,25nm,0.3s						
NVS	**Novosibirsk**	**18.98**	**20**	*e*P	**P**	**03 55 12.8**	**-1.4**
NVS				*e*S	**S**	**03 58 33.9**	**-5.7**
NVS				pmax	pmax		
	comp=N,14nm,0.8s						
NVS				pmax	pmax		
	comp=Z,16nm,0.8s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.1s						
NVS				smax			
	comp=N,3.0nm,0.7s						
NVS				smax			
	comp=E,1.0nm,0.5s						
ARU	**Arti**	**21.15**	**339**	⇑*i*P	**P**	**03 55 34.4**	**-3.0**
ARU				*e*		03 56 01.8	
ARU				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.3						
ARU	**Arti**	**21.15**	**339**	*e*P	**P**	**03 55 36.7**	**-0.8**
	comp=Z,6.8nm,0.6s,mb4.2						
KRAR	**Krasnoyarsk**	**23.20**	**30**	⇑*e*P	**P**	**03 56 00.3**	**+3.2**
KRAR				pmax	pmax		
	comp=Z,27nm,0.5s,mb4.9						
ANN	**Anapa**	**27.15**	**297**	*e*P	**P**	**03 56 25.8**	**-7.0**
ANN				*e*S	**S**	**04 00 57.2**	**+0.1**
ANN				pmax	pmax		
	comp=Z,34nm,1.0s,mb4.9						
BRTR	**Keskin Array B**	**30.17**	**287**	P	**P**	**03 57 01.2**	**+1.7**
	comp=Z,0.3nm,0.4s,mb3.4,baz=110,slow=8.3,SNR=3.6						
AKASG	**Malin Array Be**	**33.22**	**308**	P	**P**	**03 57 25.8**	**-0.3**
	comp=Z,0.5nm,0.4s,mb3.6,baz=107,slow=8.9,SNR=3.2						
JOF	**Joensuu**	**35.63**	**329**	*ep*	**P**	**03 57 48.1**	**+1.3**
	comp=Z,4.5nm,0.4s,mb4.5						
FINES	**FINESS Array B**	**37.34**	**325**	P	**P**	**03 58 01.6**	**+0.3**
	comp=Z,1.1nm,0.4s,mb3.9,baz=115,slow=9.6,SNR=13						
FINES	**FINESS Array B**	**37.34**	**325**	*i* P	**P**	**03 58 01.6**	**+0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KAF	**Kangasniemi**	**37.45**	**326**	*ep*	**P**	**03 58 02.1**	**-0.1**
	comp=Z,1.2nm,0.4s,mb3.9,baz=110,slow=8.6						
KAF	**Kangasniemi**	**37.45**	**326**	*e*P	**P**	**03 58 02.1**	**-0.1**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
NJ2	**Nanjing**	**38.32**	**84**	*e*P	**P**	**03 58 10.1**	**+0.6**
NJ2				PP	PP	03 59 47.8	+6.6
NJ2				LR	LR		
	comp=N,350nm,29.6s						
NJ2				LR	LR		
	comp=E,220nm,22.1s						
NJ2				LR	LR		
	comp=Z,60nm,21.1s						
SNY	**Shenyang**	**39.27**	**67**	⇓P	**P**	**03 58 18.4**	**+1.0**
SNY				AMB	AMB		
	comp=Z,9.0nm,0.4s,mb4.8						
SSE	**Sheshan**	**40.52**	**84**	*e*P	**P**	**03 58 26.4**	**-1.3**
SSE				AMB	AMB		
	comp=Z,33nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,30nm,3.5s						
ARCES	**ARCESS Array B**	**40.72**	**337**	P	**P**	**03 58 29.9**	**+0.5**
	comp=Z,3.1nm,0.5s,mb4.2,baz=119,slow=8.9,SNR=40						
YAK	**Yakutsk**	**42.62**	**36**	⇓*e*P	**P**	**03 58 46.6**	**+1.8**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.5						
NB2	**NORSAR Subarra**	**44.30**	**322**	P	**P**	**03 58 57.9**	**-0.3**
	comp=Z,2.5nm,0.5s,mb4.1,baz=92,slow=7.9						
NOA	**NORSAR Array B**	**44.30**	**322**	P	**P**	**03 58 58.2**	**0.0**
	comp=Z,2.7nm,0.5s,mb4.1,baz=94,slow=7.6,SNR=17						
NAO01	**NORSAR Array S**	**44.45**	**322**	*e*P	**P**	**03 58 59.0**	**-0.4**
	comp=Z,3.3nm,0.8s,mb4.0						
TIXI	**Tiksi**	**44.55**	**22**	⇓*i*P	**P**	**03 58 59.1**	**-1.0**
TIXI				*e*		04 00 38.4	
TIXI				*e*S	**S**	**04 05 17.9**	**-3.4**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
TIXI				pmax	pmax		
	comp=Z,67nm,16.3s						
BILL	**Bilibino**	**57.34**	**26**	⇓*e*P	**P**	**04 00 36.8**	**+1.4**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
ESDC	**Sonseca Array**	**57.97**	**298**	P	**P**	**04 00 39.5**	**-0.3**
	comp=Z,0.4nm,0.4s,mb3.6,baz=59,slow=7.3,SNR=4.1						
SUMG	**Summit**	**60.55**	**341**	*e*P	**P**	**04 00 58.9**	**+1.3**
	comp=Z,3.1nm,0.7s,mb4.2						
TORD	**Torodi Ar. Bea**	**66.79**	**269**	P	**P**	**04 01 38.5**	**+0.2**
	comp=Z,1.9nm,0.4s,mb4.3,baz=48,slow=5.7,SNR=63						
INK	**Inuvik**	**72.85**	**10**	P	**P**	**04 02 15.7**	**+0.4**
	comp=Z,1.2nm,0.5s,mb3.9,baz=351,slow=6.1,SNR=12						
INK	**Inuvik**	**72.85**	**10**	P	**P**	**04 02 15.7**	**+0.5**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**72.85**	**10**	*e*P	**P**	**04 02 15.4**	**+0.1**
	comp=Z,1.2nm,0.6s,mb3.8						
COLA	**College**	**73.32**	**17**	⇑*e*P	**P**	**04 02 18.1**	**+0.1**
ILAR	**Eielson Array**	**73.63**	**16**	P	**P**	**04 02 19.3**	**-0.5**
	comp=Z,0.5nm,0.8s,mb3.3,baz=313,slow=5.8,SNR=5.6						
YKA	**Yellowknife Ar**	**80.30**	**3**	P	**P**	**04 02 57.0**	**0.0**
	comp=Z,0.7nm,0.4s,mb3.6,baz=350,slow=5.5,SNR=46						
YKA				pP	pP	04 03 45.6	+2.9
	comp=Z,0.4nm,0.9s,baz=352,slow=5.6,SNR=4.3						
YKA	**Yellowknife Ar**	**80.30**	**3**	⇑*e*P	**P**	**04 02 57.0**	**0.0**
YKA	**Yellowknife Ar**	**80.30**	**3**	P	**P**	**04 02 57.0**	**0.0**
YKA				pP	pP	04 03 45.6	+2.9
WRA	**Warramunga Arr**	**81.58**	**123**	P	**P**	**04 03 03.7**	**-0.1**
	comp=Z,0.3nm,0.4s,mb3.3,baz=326,slow=5.0,SNR=10						

WEL 05 04:03:02.1±0.1, 3969S×17533E, h73km±1km, ML3.6/14, 3C-8D, Error ellipse: s-maj=1.0km s-min=0.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WAZ	**Wanganui**	**0.28**	**256**	⇓PN	Pn	04 03 13.5	+0.1
WAZ				SN	Sn	04 03 21.7	+0.1
MTVZ	**Mangateitei**	**0.32**	**19**	PN	Pn	04 03 13.5	-0.1
MTVZ				SN	Sn	04 03 22.0	-0.2
PKVZ	**Pokaka**	**0.40**	**1**	⇓PN	Pn	04 03 14.1	-0.2
PKVZ				SN	Sn	04 03 22.8	-0.4
WNVZ	**Wahianoa**	**0.42**	**29**	⇓PN	Pn	04 03 14.4	+0.1
WNVZ				SN	Sn	04 03 23.2	-0.2
TRVZ	**Turoa**	**0.42**	**23**	⇓PN	Pn	04 03 14.5	+0.1
MOVZ	**Moawhango**	**0.43**	**49**	⇓PN	Pn	04 03 14.3	-0.2
MOVZ				SN	Sn	04 03 23.0	-0.6
DRZ	**Dome Shelter**	**0.45**	**23**	PN	Pn	04 03 14.8	+0.1
DRZ				SN	Sn	04 03 23.9	0.0
FWVZ	**Far West T-bar**	**0.47**	**21**	⇑PN	Pn	04 03 14.7	-0.1
FWVZ				SN	Sn	04 03 23.9	-0.3
TUVZ	**Tukino**	**0.49**	**30**	⇓PN	Pn	04 03 15.1	+0.1
TUVZ				SN	Sn	04 03 24.7	+0.2
WPVZ	**Whakapapa**	**0.51**	**19**	⇓PN	Pn	04 03 15.1	-0.1
WPVZ				SN	Sn	04 03 24.7	-0.2
NGZ	**Ngauruhoe**	**0.55**	**22**	PN	Pn	04 03 15.6	-0.1
NGZ				SN	Sn	04 03 25.3	-0.3
OTVZ	**Oturere**	**0.58**	**26**	PN	Pn	04 03 16.1	+0.2
OTVZ				SN	Sn	04 03 26.2	0.0
TSZ	**Takapari Road**	**0.61**	**128**	PN	Pn	04 03 16.5	+0.4
WTVZ	**West Tongariro**	**0.61**	**19**	PN	Pn	04 03 16.0	-0.2
WTVZ				SN	Sn	04 03 26.3	-0.3
TWVZ	**Taurewa**	**0.62**	**7**	PN	Pn	04 03 15.8	-0.5
TWVZ				SN	Sn	04 03 25.9	-0

NEIC ***05*** *04:07:36.1±4.1,5128N×677E,h10km,ML2.7(LDG),Error ellipse: s-maj=46.3km s-min=9.4km az=30.0*

ISC 05 04:07:31.9±0.4,5151N±002×695E±004,h0km,n50,σ1§37/84,1D,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BZER	**Hlnxe**	**0.12**	**335**	*e*Pg	**Pg**	**04 07 34.4**	**+0.2**
BZER				Sg	**Sg**	**04 07 36.5**	**+0.8**
LAUG	**Laupendahl**	**0.16**	**181**	*e*Pg	**Pg**	**04 07 37.8**	**+2.8**
BUG	**Bochum--Univer**	**0.21**	**110**	*i*Pg	**Pg**	**04 07 37.8**	**+1.8**
BUG				Sg	**Sg**	**04 07 41.7**	**+2.9**
WTSB	**Winterswijk**	**0.46**	**348**	*e*Pg	**Pg**	**04 07 39.9**	**-0.9**
HOBG	**Hohbusch**	**0.58**	**155**	*e*Pg	**Pg**	**04 07 45.2**	**+2.1**
STB	**Steinbach**	**0.92**	**184**	*e*Pg	**Pg**	**04 07 51.8**	**+2.2**
STB				*e*Sg	**Sg**	**04 08 07.2**	**+5.6**
	34nm,0.4s						
IBBN	**Ibbenburen**	**0.94**	**32**	*e*Pg	**Pg**	**04 07 49.6**	**-0.3**
	SNR=2.7						
IBBN				*e*Sg	**Sg**	**04 08 01.3**	**-0.8**
KLL	**Kalltalsperre**	**0.96**	**205**	*e*Pg	**Pg**	**04 07 52.5**	**+2.2**
KLL				*e*Sg	**Sg**	**04 08 08.0**	**+5.4**
	23nm,0.3s						
HGN	**Heimansgroeve**	**0.99**	**221**	*e*Pn	**Pn**	**04 07 53.2**	**+0.2**
HGN				*e*Pg	**Pg**	**04 07 53.5**	**+2.6**
	16nm,0.1s						
HGN				*e*Sg	**Sg**	**04 08 09.0**	**+5.4**
HGN	**Heimansgroeve**	**0.99**	**221**	*e*Pg	**Pg**	**04 07 53.5**	**+2.6**
	16nm,0.1s						
HGN				*e*Sg	**Sg**	**04 08 09.0**	**+5.3**
BEBN	**Eben Emael**	**1.08**	**229**	P	**Pg**	**04 07 54.4**	**+1.8**
MEM	**Membach**	**1.08**	**214**	P	**Pg**	**04 07 54.6**	**+1.9**
MEM				XP		04 07 55.1	
MEM				S	**Sg**	**04 08 12.1**	**+5.3**
	comp=E,33nm,0.0s						
MEM	**Membach**	**1.08**	**214**	P	**Pg**	**04 07 54.6**	**+1.9**
BGG	**Burgeitz**	**1.33**	**169**	*e*Pg	**Pg**	**04 07 57.9**	**+0.5**
TNS	**Taunus Mts**	**1.60**	**143**	*e*Pn	**Pn**	**04 08 03.2**	**+1.7**
	SNR=1.8						
TNS				*e*Sg	**Sg**	**04 08 25.3**	**+1.8**
WLF	**Walferdange**	**1.92**	**196**	*e*Sg	**Sg**	**04 08 36.5**	**+2.9**
WLF	**Walferdange**	**1.92**	**196**	P	**Pn**	**04 08 11.0**	**+5.1**
WLF				S	**Sn**	**04 08 36.5**	**+5.8**
	comp=E,6.2nm,0.0s						
GIVF	**Givet**	**1.95**	**224**	*e*Pn	**Pn**	**04 08 06.2**	**-0.1**
GIVF				*e*Sg	**Sg**	**04 08 34.9**	**+0.2**
	comp=E,13nm,0.3s						
GIVF	**Givet**	**1.95**	**224**	*e*Pn	**Pn**	**04 08 06.2**	**-0.1**
GIVF				*e*Sg	**Sg**	**04 08 34.9**	**+0.2**
	comp=E,6.6nm,0.3s						
DOU	**Dourbes**	**2.06**	**227**	P	**Pn**	**04 08 08.6**	**+0.8**
DOU				S	**Sn**	**04 08 32.4**	**-1.8**
	comp=E,6.7nm,0.0s						
CLZ	**Clausthal**	**2.16**	**80**	*e*Sg	**Sg**	**04 08 39.6**	**-1.7**
BAIF	**Baives**	**2.27**	**231**	*e*Pn	**Pn**	**04 08 10.6**	**-0.1**
BAIF				*e*Sg	**Sg**	**04 08 44.6**	**-0.2**
	comp=E,5.6nm,0.3s						
BAIF	**Baives**	**2.27**	**231**	*e*Pn	**Pn**	**04 08 10.6**	**-0.1**
BAIF				*e*Sg	**Sg**	**04 08 44.6**	**-0.2**
	comp=E,2.8nm,0.3s						
RFYF	**Reffroy**	**3.04**	**199**	*e*Pn	**Pn**	**04 08 20.4**	**-0.9**
RFYF				*e*Sg	**Sg**	**04 09 08.3**	**-1.3**
	comp=E,3.1nm,0.3s						
RFYF	**Reffroy**	**3.04**	**199**	*e*Pn	**Pn**	**04 08 20.4**	**-0.9**
RFYF				*e*Sg	**Sg**	**04 09 08.3**	**-1.3**
	comp=E,1.5nm,0.3s						
MOX	**Moxa**	**3.07**	**105**	*e*Sg	**Sg**	**04 09 09.1**	**-1.4**
CDF	**Champ du Feu**	**3.11**	**176**	*e*Pn	**Pn**	**04 08 22.8**	**+0.5**
CDF				*e*Sg	**Sg**	**04 09 10.5**	**-1.4**
	comp=E,4.7nm,0.4s						
CDF	**Champ du Feu**	**3.11**	**176**	*e*Pn	**Pn**	**04 08 22.8**	**+0.5**
CDF				*e*Sg	**Sg**	**04 09 10.5**	**-1.4**
	comp=E,2.3nm,0.4s						
MEZF	**Maizieres J'vi**	**3.25**	**203**	*e*Sg	**Sg**	**04 09 15.1**	**-1.4**
	comp=E,4.2nm,0.3s						
MEZF	**Maizieres J'vi**	**3.25**	**203**	*e*Sg	**Sg**	**04 09 15.1**	**-1.4**
	comp=E,2.1nm,0.3s						
SFTF	**Sexfontaines**	**3.54**	**201**	*e*Pn	**Pn**	**04 08 27.5**	**-0.6**
SFTF				*e*Sg	**Sg**	**04 09 23.5**	**-2.0**
	comp=E,11nm,0.5s						
SFTF	**Sexfontaines**	**3.54**	**201**	*e*Pn	**Pn**	**04 08 27.5**	**-0.6**
SFTF				*e*Sg	**Sg**	**04 09 23.5**	**-2.0**
	comp=E,5.7nm,0.5s						
WERD	**Werda**	**3.55**	**105**	*e*Sg	**Sg**	**04 09 24.3**	**-1.7**
HINF	**Hinteralfeld**	**3.70**	**181**	*e*Pn	**Pn**	**04 08 29.8**	**-0.6**
LOR	**Lormes**	**4.70**	**207**	*e*Pn	**Pn**	**04 08 43.7**	**-0.4**
CABF	**La Chapelle**	**4.94**	**187**	*e*Pn	**Pn**	**04 08 46.8**	**-0.6**
CABF				*e*Sg	**Sg**	**04 10 07.4**	**-3.2**
	comp=E,1.0nm,0.3s						
CABF	**La Chapelle**	**4.94**	**187**	*e*Pn	**Pn**	**04 08 46.8**	**-0.6**
CABF				*e*Sg	**Sg**	**04 10 07.4**	**-3.2**
	comp=E,0.5nm,0.3s						
SSF	**Saint Saulge**	**4.99**	**208**	*e*Pn	**Pn**	**04 08 48.2**	**+0.1**
SSF				*e*Sg	**Sg**	**04 10 09.4**	**-2.9**
	comp=E,5.0nm,0.6s						
SSF	**Saint Saulge**	**4.99**	**208**	*e*Pn	**Pn**	**04 08 48.2**	**+0.1**
SSF				*e*Sg	**Sg**	**04 10 09.4**	**-2.9**
	comp=E,2.5nm,0.6s						
AVF	**Avril sur Loir**	**5.28**	**208**	*e*Pn	**Pn**	**04 08 51.1**	**-1.0**
AVF				*e*Sg	**Sg**	**04 10 18.4**	**-3.2**
	comp=E,1.1nm,0.5s						
AVF	**Avril sur Loir**	**5.28**	**208**	*e*Pn	**Pn**	**04 08 51.1**	**-1.0**
AVF				*e*Sg	**Sg**	**04 10 18.4**	**-3.2**
	comp=E,0.6nm,0.5s						
SMF	**Signal de Mont**	**5.28**	**204**	*e*Pn	**Pn**	**04 08 51.7**	**-0.4**
SMF				*e*Sg	**Sg**	**04 10 18.4**	**-3.2**
	comp=E,2.0nm,0.3s						
SMF	**Signal de Mont**	**5.28**	**204**	*e*Pn	**Pn**	**04 08 51.7**	**-0.4**
SMF				*e*Sg	**Sg**	**04 10 18.4**	**-3.2**
	comp=E,1.0nm,0.3s						
FLN	**La Foliniere**	**5.51**	**243**	*e*Pn	**Pn**	**04 08 55.1**	**-0.2**
FLN				*e*Sn	**Sn**	**04 09 55.1**	**-4.3**
	comp=E,2.8nm,0.4s						
FLN	**La Foliniere**	**5.51**	**243**	*e*Pn	**Pn**	**04 08 55.1**	**-0.2**
FLN				*e*Sn	**Sn**	**04 09 55.1**	**-4.3**
	comp=E,1.4nm,0.4s						
BGF	**Bois d'Agland**	**5.65**	**210**	*e*Pn	**Pn**	**04 08 56.8**	**-0.3**
GRR	**Gorron**	**5.93**	**241**	*e*Pn	**Pn**	**04 09 01.4**	**+0.4**
GRR				*e*Sn	**Sn**	**04 10 05.0**	**-4.6**
	comp=E,9.4nm,0.5s						
GRR	**Gorron**	**5.93**	**241**	*e*Pn	**Pn**	**04 09 01.4**	**+0.4**
GRR				*e*Sn	**Sn**	**04 10 05.0**	**-4.6**
	comp=E,4.7nm,0.5s						
MFF	**Saint Martin d**	**6.77**	**226**	*e*Pn	**Pn**	**04 09 11.6**	**-1.0**
CAF	**Calviac**	**7.35**	**208**	*e*Pn	**Pn**	**04 09 20.0**	**-0.5**

IDC 05 04:10:01.0±4.1,2069S×17378W,h0km,mb3.7/4, mb1 4.1/4,mb1mx3.8/14,mbtmp3.7/4,Error ellipse: s-maj=207.3km s-min=30.1km az=149.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**13.09**	**95**	Pn	Pn	04 13 03.1	-5.0
	1.2nm,0.3s,baz=260,slow=2.7,SNR=3.0						
ASAR	**Alice Springs**	**48.32**	**256**	P	P	04 18 44.1	0.0
	1.2nm,0.9s,baz=89,slow=8.3,SNR=8.3						
WRA	**Warramunga Arr**	**48.49**	**261**	P	P	04 18 46.1	+0.7
	0.4nm,0.4s,baz=97,slow=7.8,SNR=5.0						
NVAR	**Mina Array Bea**	**78.50**	**41**	P	P	04 22 05.5	+1.5
	0.4nm,0.6s,baz=224,slow=5.4,SNR=3.0						
ILAR	**Eielson Array**	**87.68**	**11**	P	P	04 22 50.0	-1.4
	0.3nm,0.7s,baz=228,slow=6.3,SNR=6.4						
AKASG	**Malin Array Be**	**145.00**	**334**	PKPbc	PKPbc	04 29 38.6	-0.8
	0.7nm,0.4s,baz=45,slow=4.2,SNR=4.3						

BJI ***05*** *04:19:39.9,1988S×17359W,h7km,mB5.8,mb5.6,Ms5.3, Msz4.9*

IDC ***05*** *04:19:39.2±0.4,2022S×17397W,h0km,mb3.5/20, mb1 5.4/22,mb1mx5.4/22,mbtmp5.3/22,ML5.5/2,MS4.8/17, Ms1 4.9/17,ms1mx4.7/22,Error ellipse: s-maj=17.7km s-min=12.3km az=135.0*

NEIC ***05*** *04:19:40.9±0.1,2026S×17387W,mb5.6/90,MS5.1/135, MW5.5,Error ellipse: s-maj=5.3km s-min=3.0km az=138.0, Moment Tensor Solution. s21 Moment tensor: Scale 10^17Nm; Mrr-1.77; Mθθ-0.22; Mφφ 1.99; Mrθ-0.24; Mθφ-0.03; Mφr-0.88; Best double couple: M0 2.10000×10^17 NP1:ϕs=171.00000°,δ=53.00000°,λ=-81.00000°. NP2: ϕs=7.00000°,δ=58.00000°,λ=-104.00000°. Principal axes: T 2.1900, Plg13.0000°, Azm91.0000°; N -0.1900, Plg7.0000°, Azm182.0000°; P -2.0000, Plg75.0000°, Azm302.0000°;*

HRVD ***05*** *04:19:40.9±0.1,2035S×17328W,h15km,MW5.5/106, Centroid moment Tensor Solution. LP body waves: s84,c148;Mantle waves: s106,c238; Half duration: 1s4 Moment tensor: Scale 10^17Nm; Mrr-1.85±.03; Mθθ0.34±.02; Mφφ 1.51±.02; Mrθ-0.19±.06; Mθφ 1.03±.02; Mφr-0.77±.06; Best double couple: M0 2.13500×10^17 NP1:ϕs=218.00000°,δ=35.00000°,λ=-78.00000°. NP2: ϕs=23.00000°,δ=56.00000°,λ=-98.00000°. Principal axes: T 2.2510, Plg11.0000°, Azm119.0000°; N -0.2330, Plg7.0000°, Azm28.0000°; P -2.0180, Plg77.0000°, Azm266.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISCJB ***05*** *04:19:43.4±0.1,2034S±004×17379W±003,h38km, mb5.5/137,MS5.1/173 Error ellipse: s-maj=5.8km s-min=3.8km az=116.1*

MOS ***05*** *04:19:44.4±0.9,2003S×17365W,h33km,mb5.7/63, MS5.1/63,Error ellipse: s-maj=10.9km s-min=7.1km az=70.8*

SZGRF ***05*** *04:19:46.7,1990S×17480W,h33km,mb5.2,Tonga Islands*

ISC 05 04:19:45.0±0.1,2036S±004×17376W±003,h39km, h39km±2.5km:pP-P,n835,σ1§02/334,mb5.5/137,MS5.1/173, 44C-130D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.69**	**17**	Pn	**Pn**	**04 21 12.2**	**-8.5**
	32nm,0.3s,baz=30,slow=1.6,SNR=30						
AFI				Sn	**Sn**	**04 22 21.4**	**-14**
	45nm,0.3s,baz=253,slow=19,SNR=3.2						
RAO	**Raoul Island**	**9.62**	**202**	Pn	**Pn**	**04 21 59.0**	**-2.0**
	90nm,0.3s,baz=87,slow=19,SNR=9.0						
RAO				Sn	**Sn**	**04 23 41.2**	**-6.5**
	87nm,0.3s,baz=272,slow=24,SNR=6.8						
RAO				LR	LR	04 24 58.8	
	comp=Z,2μm,20.2s,baz=230,slow=33						
RAR	**Rarotonga**	**13.11**	**96**	Pn	**Pn**	**04 22 39.4**	**-9.3**
	16nm,0.3s,baz=257,slow=7.8,SNR=80						
RAR				Sn	**Sn**	**04 24 55.9**	**-17**
	4.3nm,0.3s,baz=81,slow=19,SNR=4.3						
BKM	**Butte a Klehm**	**17.22**	**276**	*i*P	**Pn**	**04 23 44.9**	**+2.3**
DZM	**Mont Dzumac**	**18.53**	**261**	P	**Pn**	**04 23 58.9**	**+0.3**
	3.7nm,0.3s,baz=95,slow=14,SNR=42						
URZ	**Urewera**	**19.51**	**202**	P	**Pn**	**04 24 10.2**	**-0.3**
	6.1nm,0.3s,baz=25,slow=5.4,SNR=55						
URZ				S	**S**	**04 27 31.8**	**-15**
	1.2nm,0.3s,baz=240,slow=20,SNR=4.4						
TBI	**Tubuai**	**22.75**	**102**	*e*LQ		04 28 51.8	
	9μm,27.2s						
TBI	**Tubuai**	**22.75**	**102**	*e*P	**P**	**04 24 42.4**	**-1.3**
	1μm,1.3s,mb6.2						
TBI				*e*LR	LR	04 29 45.2	
	7μm,32.5s,baz=277						
PAE	**Paea**	**23.02**	**87**	*e*P	**P**	**04 24 44.2**	**-2.4**
	390nm,1.3s,mb5.7						
PPT	**Papeete**	**23.04**	**87**	*e*P	**P**	**04 24 44.7**	**-2.1**
	252nm,1.3s,mb5.5						
PPT	**Papeete**	**23.04**	**87**	*e*LQ		04 29 07.3	
	14μm,26.0s						
PPT				*e*LR	LR	04 30 05.4	
	6μm,29.5s,baz=259						
PPT	**Papeete**	**23.04**	**87**	P	**P**	**04 24 45.5**	**-1.3**
	299nm,1.2s,mb5.6,baz=258,slow=4.8,SNR=10						
PPT				LR	LR	04 31 58.9	
	comp=Z,2μm,19.9s,MS4.6,baz=260,slow=32						
SNZO	**South Karori**	**23.07**	**203**	*e*P	**P**	**04 24 49.2**	**+2.1**
	62nm,0.7s,mb5.2						
SNZO				*e*S	**S**	**04 29 00.1**	**+4.8**
SNZO				LR	LR		
	comp=Z,3μm,19.0s,MS4.7						
TVO	**Taravao**	**23.30**	**88**	*e*P	**P**	**04 24 46.9**	**-2.7**
	comp=Z,324nm,1.2s,mb5.6						
QRZ	**Quartz Range**	**23.51**	**207**	*e*P*	**P**	**04 24 53.5**	**+1.9**
QRZ	**Quartz Range**	**23.51**	**207**	P	**P**	**04 24 55.3**	**+3.7**
THZ	**Tophouse**	**24.14**	**205**	*e*P*	**P**	**04 24 56.8**	**-0.5**
THZ	**Tophouse**	**24.14**	**205**	*e*P	**P**	**04 24 56.8**	**-0.5**
KHZ	**Kahutara**	**24.46**	**203**	*e*P*	**P**	**04 25 00.6**	**+0.3**
KHZ	**Kahutara**	**24.46**	**203**	*e*P	**P**	**04 25 00.6**	**+0.4**
DSZ	**Denniston Nort**	**24.58**	**207**	*e*P*	**P**	**04 25 02.2**	**+0.9**
DSZ	**Denniston Nort**	**24.58**	**207**	*e*P	**P**	**04 25 02.2**	**+0.9**
PMOR	**Pomariorio Ree**	**25.20**	**82**	*e*P	**P**	**04 25 05.0**	**-2.0**
	comp=Z,94nm,1.1s,mb5.2						
VAH	**Vaihoa**	**25.39**	**83**	*e*P	**P**	**04 25 06.3**	**-2.4**
	comp=Z,144nm,1.1s,mb5.4						
WVZ	**Waitaha Valley**	**26.12**	**206**	*e*P*	**P**	**04 25 13.5**	**-1.8**
WVZ	**Waitaha Valley**	**26.12**	**206**	*e*P	**P**	**04 25 13.5**	**-1.8**
RPZ	**Rata Peaks**	**26.52**	**205**	P	**P**	**04 25 17.1**	**-1.8**
	comp=Z,51nm,0.9s,mb5.1,baz=58,slow=5.5,SNR=13						
RPZ				LR	LR	04 35 14.1	
	comp=Z,5μm,20.2s,MS5.0,baz=24,slow=35						
RPZ	**Rata Peaks**	**26.52**	**205**	*e*P*	**P**	**04 25 17.0**	**-1.9**
RPZ	**Rata Peaks**	**26.52**	**205**	*e*P	**P**	**04 25 18.9**	**0.0**
FOZ	**Fox Glacier**	**26.96**	**207**	*e*P*	**P**	**04 25 23.9**	**+1.0**
FOZ	**Fox Glacier**	**26.96**	**207**	*e*P	**P**	**04 25 23.9**	**+1.0**
HNR	**Honiara**	**27.59**	**289**	P	**P**	**04 25 25.8**	**-2.7**
	comp=Z,36nm,0.4s,mb5.4,baz=209,slow=0.0,SNR=3.5						
HNR				LR	LR	04 34 33.2	
	comp=Z,2μm,19.2s,MS4.7,baz=178,slow=33						
ODZ	**Otahua Downs**	**27.79**	**204**	*e*P*	**P**	**04 25 29.7**	**-0.7**
ODZ	**Otahua Downs**	**27.79**	**204**	*e*P*	**P**	**04 25 29.7**	**-0.7**
ARMA	**Armidale**	**32.72**	**245**	*i*P	**P**	**04 26 13.2**	**-0.7**
TAOE	**Nuku Hiva Isla**	**34.40**	**76**	*e*LQ		04 33 32.6	
	comp=Z,6μm,23.8s						
TAOE				*e*LR	LR	04 35 17.8	
	comp=Z,7μm,28.9s,baz=249						
CNB	**Canberra Magne**	**35.62**	**237**	*e*P	**P**	**04 26 38.4**	**-0.6**
	comp=Z,116nm,1.2s,mb5.7						
RKT	**Rikitea**	**36.07**	**102**	*e*P	**P**	**04 26 42.2**	**-0.6**
	comp=Z,234nm,1.1s,mb6.0						
RKT	**Rikitea**	**36.07**	**102**	*e*S	**S**	**04 32 19.4**	**0.0**
	comp=Z,633nm,28.2s						
RKT				*e*LR	LR	04 35 54.2	
	comp=Z,5μm,31.5s,baz=277						
CTA	**Charters Tower**	**37.45**	**263**	*e*P	**P**	**04 26 52.8**	**-1.8**
	comp=Z,22nm,0.5s,mb5.2						
CTA				*i* PCP	PcP	04 29 14.7	+2.1
CTA	**Charters Tower**	**37.45**	**263**	P	**P**	**04 26 52.7**	**-2.0**
	comp=Z,24nm,0.5s,mb5.3,baz=92,slow=11,SNR=9.2						
CTA				PcP	PcP	04 29 14.4	+1.8
	comp=Z,26nm,1.1s,baz=107,slow=2.4,SNR=3.5						
CTA	**Charters Tower**	**37.45**	**263**	*e*P	**P**	**04 26 52.8**	**-1.8**
CTA				*i*		04 29 14.7	
CTA				pmax	pmax		
	comp=Z,22nm,0.5s						
CTAO	**Charters Tower**	**37.45**	**263**	P	**P**	**04 26 53.5**	**-1.1**
CTAO				pmax	pmax		
	comp=Z,37nm,0.8s,mb5.3						
CTAO				MLR	MLR		
	comp=Z,4μm,19.0s,MS5.2						
CTAO	**Charters Tower**	**37.45**	**263**	P	**P**	**04 26 53.5**	**-1.2**
	comp=Z,38nm,0.8s,mb5.3						
CTAO				LR	LR		
	comp=Z,4μm,19.0s,MS5.2						
PMG	**Port Moresby**	**39.21**	**280**	P	**P**	**04 27 07.2**	**-2.1**
	comp=Z,160nm,1.0s,mb5.7,baz=101,slow=4.2,SNR=58						
PMG				LR	LR	04 40 23.9	
	comp=Z,1μm,20.1s,MS4.8,baz=307,slow=32						
TOO	**Toolangi**	**39.21**	**235**	*e*P	**P**	**04 27 09.3**	**-0.1**
	comp=Z,37nm,1.2s,mb5.0						
TOO	**Toolangi**	**39.21**	**235**	*e*P	**P**	**04 27 09.3**	**-0.1**
TOO				pmax	pmax		
	comp=Z,37nm,1.2s,mb5.0						
TAU	**Tasmania Unive**	**39.56**	**226**	*e*P	**P**	**04 27 13.1**	**+0.8**
TAU				pmax	pmax		
	comp=Z,121nm,1.2s,mb5.5						
TAU	**Tasmania Unive**	**39.56**	**226**	*e*P	**P**	**04 27 13.1**	**+0.8**
	comp=Z,121nm,1.2s,mb5.5						
STKA	**Stephens Creek**	**41.43**	**245**	*e*P	**P**	**04 27 24.5**	**-3.3**
	comp=Z,34nm,0.9s,mb5.0						
STKA				*e*PCP	PcP	04 29 25.5	+0.3
STKA				*e*S	PcS	04 33 15.3	-1.2
STKA	**Stephens Creek**	**41.43**	**245**	P	**P**	**04 27 25.1**	**-2.7**
	comp=Z,33nm,0.9s,mb5.0,baz=84,slow=9.3,SNR=39						
STKA				PcP	PcP	04 29 25.6	+0.4
	comp=Z,16nm,0.8s,baz=71,slow=2.6,SNR=4.0						
STKA				LR	LR	04 42 58.5	
	comp=Z,1μm,20.0s,MS4.8,baz=76,slow=34						
WAKE	**Wake Island**	**43.82**	**333**	*e*P	**P**	**04 27 45.7**	**-1.5**
	comp=Z,396nm,1.1s,mb6.1						
WAKE				LR	LR		
	comp=Z,1μm,19.0s,MS4.8						
KIP	**Kipapa**	**44.29**	**21**	*c i*P	**P**	**04 27 50.3**	**-0.6**
KIP	**Kipapa**	**44.29**	**21**	⇑*i*P	**P**	**04 27 50.4**	**-0.5**
ASAR	**Alice Springs**	**48.41**	**256**	P	**P**	**04 28 21.6**	**-1.8**
	comp=Z,33nm,0.9s,mb5.4,baz=88,slow=8.4,SNR=170						
ASAR				PcP	PcP	04 29 50.4	+1.2
	comp=Z,31nm,0.9s,baz=109,slow=3.9,SNR=10						
ASAR				S	**S**	**04 35 18.3**	**-2.9**
	comp=Z,1.2nm,0.8s,baz=93,slow=14,SNR=3.9						
MIDW	**Midway**	**48.41**	**356**	P	**P**	**04 28 23.2**	**-0.2**
MIDW				pP	pP	04 28 34.6	+0.1
MIDW				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
WB2	**Warramunga Arr**	**48.54**	**261**	*e*P	**P**	**04 28 21.8**	**-2.5**
WB2				*e*S	**S**	**04 35 21.9**	**-1.1**
WRAB	**Tennant Creek**	**48.54**	**261**	P	**P**	**04 28 22.9**	**-1.4**
	comp=Z,381nm,1.2s,mb6.3,SNR=20						
WRAB	**Tennant Creek**	**48.54**	**261**	P	**P**	**04 28 21.9**	**-2.4**
WRAB				*e*		04 29 51.2	
WRAB				pmax	pmax		
	comp=Z,192nm,1.3s,mb6.0						
WRAB				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.1						
WRAB	**Tennant Creek**	**48.54**	**261**	P	**P**	**04 28 21.9**	**-2.4**
	comp=Z,192nm,1.3s,mb6.0						
WRAB				*e*PcP	PcP	04 29 51.2	+1.5
WRAB				LR	LR		
	comp=Z,2μm,19.0s,MS5.1						
WRA	**Warramunga Arr**	**48.55**	**261**	P	**P**	**04 28 22.0**	**-2.4**
	comp=Z,49nm,1.1s,mb5.5,baz=97,slow=7.2,SNR=100						
WRA				PcP	PcP	04 29 51.2	+1.5
	comp=Z,21nm,0.9s,baz=93,slow=3.8,SNR=6.8						
KAKA	**Kakadu**	**51.95**	**270**	*e*P	**P**	**04 28 48.0**	**-2.1**
	comp=Z,181nm,1.4s,mb5.8						
GUMO	**Guam**	**52.85**	**306**	LR	LR	04 49 39.9	
	comp=Z,633nm,18.6s,MS4.7,baz=112,slow=34						
FORT	**Forrest**	**52.99**	**246**	*e*P	**P**	**04 28 56.5**	**-1.3**
	comp=Z,78nm,0.9s,mb5.6						
FITZ	**Fitzroy Crossi**	**56.98**	**261**	*i*P	**P**	**04 29 25.4**	**-1.2**
	comp=Z,58nm,1.4s,mb5.4						
FITZ	**Fitzroy Crossi**	**56.98**	**261**	P	**P**	**04 29 26.1**	**-0.6**
	comp=Z,11nm,0.8s,mb5.0,baz=108,slow=11,SNR=30						
SBA	**Scott Base**	**58.30**	**185**	*i*P	**P**	**04 29 38.7**	**+2.8**
SBA				pmax	pmax		
	comp=Z,99nm,1.0s,mb5.8						
SBA				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.2						
SBA	**Scott Base**	**58.30**	**185**	*i*P	**P**	**04 29 38.7**	**+2.8**
	comp=Z,99nm,1.0s,mb5.8						
SBA				LR	LR		
	comp=Z,2μm,19.0s,MS5.2						
VNDA	**Vanda**	**58.43**	**186**	P	**P**	**04 29 39.0**	**+2.1**
	comp=Z,28nm,0.9s,mb5.3,baz=8.0,slow=7.2,SNR=86						
VNDA				LR	LR	04 49 49.8	
	comp=Z,569nm,18.8s,MS4.7,baz=16,slow=31						
VNDA				PKP2bc		04 59 21.9	
	comp=Z,3.0nm,1.3s,baz=270,slow=6.5,SNR=3.2						
VNDA	**Vanda**	**58.43**	**186**	*i*P	**P**	**04 29 38.9**	**+2.1**
VNDA				pmax	pmax		
	comp=Z,52nm,1.1s						
VNDA				MLR	MLR		
	comp=Z,1μm,19.0s						
VNDA	**Vanda**	**58.43**	**186**	*i*P	**P**	**04 29 38.9**	**+2.1**
	comp=Z,52nm,1.1s,mb5.5						
VNDA				LR	LR		
	comp=Z,1μm,19.0s,MS5.0						
RPN	**Rapa Nui**	**58.81**	**110**	LR	LR	04 50 30.8	
	comp=Z,2μm,18.4s,MS5.2,baz=247,slow=31						
KLBR	**Kellerberrin**	**61.71**	**244**	*e*P	**P**	**04 29 58.5**	**-0.8**
	comp=Z,91nm,0.9s,mb5.9						
MBWA	**Marble Bar**	**61.75**	**256**	*e*P	**P**	**04 29 58.4**	**-1.2**
	comp=Z,78nm,1.1s,mb5.8						
MBWA				LR	LR		
	comp=Z,3μm,19.0s,MS5.4						
NWAO	**Narrogin (SRO)**	**61.97**	**243**	*e*P	**P**	**04 30 00.5**	**-0.6**
NWAO				pmax	pmax		
	comp=Z,91nm,1.3s						
NWAO				MLR	MLR		
	comp=Z,2μm,20.0s						
NWAO	**Narrogin (SRO)**	**61.97**	**243**	*e*P	**P**	**04 30 00.5**	**-0.5**
	comp=Z,91nm,1.3s,mb5.7						
NWAO				LR	LR		
	comp=Z,2μm,20.0s,MS5.3						
MUN	**Mundaring**	**62.96**	**244**	*e*P	**P**	**04 30 05.3**	**-2.3**
CASY	**Casey**	**65.79**	**205**	*e*P	**P**	**04 30 27.0**	**+0.8**
CASY				LR	LR		
	comp=Z,980nm,20.0s,MS5.0						
CGP	**Cagayan de Oro**	**66.93**	**289**	*i*P	**P**	**04 30 33.9**	**+0.4**
QSPA	**South Pole Qui**	**69.71**	**180**	*e*P	**P**	**04 30 50.8**	**0.0**
QSPA				LR	LR		
	comp=Z,1μm,20.0s,MS5.1						
TSM	**

PFO LR LR
comp=Z,856nm,19.0s,MS5.1
KHMM Horse Mountain 76.61 37 P **P 04 31 32.7 +1.1**
CMB Columbia Colle 76.72 41⇓*i*P **P 04 31 32.1 -0.1**
CMB pmax pmax
comp=Z,25nm,1.0s,mb5.1
CMB MLR MLR
comp=Z,845nm,19.0s,MS5.1
CMB Columbia Colle 76.72 41⇓*i*P **P 04 31 32.1 -0.1**
comp=Z,25nm,1.0s,mb5.1
CMB LR LR
comp=Z,845nm,19.0s,MS5.1
OHCM Honcut 76.89 39 *e*P **P 04 31 33.0 -0.2**
PET Petropavlovsk 76.89 343 *e*P **P 04 31 38.1 +4.9**
PET *e*S S 04 41 25.7 +7.5
PET *e*SP 04 42 01.9
PET *e*SS SS 04 46 18.4 +3.3
PET pmax pmax
comp=Z,200nm,11.3s
PET pmax pmax
comp=Z,300nm,13.0s
PET smax
comp=N,300nm,15.8s
PET smax
comp=E,400nm,16.8s
PET Petropavlovsk 76.89 343⇑*i*P **P 04 31 33.0 -0.2**
PET LR LR
comp=Z,828nm,19.0s,MS5.1
NACB Ninganchiao 76.93 302⇓*i*P **P 04 31 32.9 -0.5**
WDC Whiskeytown Da 77.09 38⇓*i*P **P 04 31 34.0 -0.3**
WDC pmax pmax
comp=Z,48nm,1.4s,mb5.2
WDC MLR MLR
comp=Z,1μm,19.0s,MS5.3
WDC Whiskeytown Da 77.09 38⇓*i*P **P 04 31 34.0 -0.3**
comp=Z,48nm,1.4s,mb5.2
WDC LR LR
comp=Z,1μm,19.0s,MS5.3
GSC Goldstone 77.32 45 *e*P **P 04 31 35.6 0.0**
KSM Kuching 77.34 276⇓*i*P **P 04 31 36.2 +0.6**
YHNB Yeheng 77.34 302⇓*i*P **P 04 31 35.7 -0.1**
GLA Glamis 77.36 48 *e*P **P 04 31 36.5 +0.7**
DAC Darwin (Calif) 77.39 43⇓*i*P **P 04 31 36.2 +0.3**
DAC pmax pmax
comp=Z,43nm,1.4s,mb5.2
DAC MLR MLR
comp=Z,938nm,19.0s,MS5.1
DAC Darwin (Calif) 77.39 43⇓*i*P **P 04 31 36.2 +0.3**
comp=Z,43nm,1.4s,mb5.2
DAC LR LR
comp=Z,938nm,19.0s,MS5.1
TATO Taipei 77.41 303 *e*P **P 04 31 35.7 -0.4**
comp=Z,471nm,1.2s,mb6.3
TATO LR LR
comp=Z,619nm,19.0s,MS5.0
YSS Yuzh-Sakhalins 77.62 331⇓*i*P **P 04 31 37.5 +0.3**
YSS pmax pmax
comp=Z,216nm,1.3s,mb5.9
YSS MLR MLR
comp=Z,618nm,19.0s,MS5.0
YSS Yuzh-Sakhalins 77.62 331⇓*i*P **P 04 31 37.5 +0.2**
comp=Z,216nm,1.3s,mb5.9
YSS LR LR
comp=Z,618nm,19.0s,MS5.0
YBH Yreka Blue Hor 77.75 37 P **P 04 31 38.0 0.0**
comp=Z,19nm,0.9s,mb5.0,baz=183,slow=3.1,SNR=28
YBH Yreka Blue Hor 77.75 37⇓*i*P **P 04 31 37.8 -0.2**
YBH pmax pmax
comp=Z,30nm,1.1s
YBH MLR MLR
comp=Z,1μm,19.0s
YBH Yreka Blue Hor 77.75 37⇓*i*P **P 04 31 37.8 -0.2**
comp=Z,30nm,1.1s,mb5.1
YBH LR LR
comp=Z,1μm,19.0s,MS5.3
HUMO Hull Mountain 78.20 36⇓*i*P **P 04 31 39.8 -0.6**
comp=Z,99nm,1.7s,mb5.5
HUMO LR LR
comp=Z,985nm,19.0s,MS5.2
NVAR Mina Array Bea 78.24 41 P **P 04 31 41.1 +0.4**
comp=Z,27nm,0.9s,mb5.2,baz=214,slow=7.2,SNR=159
PAHR Pah Rah Range 78.38 40⇓*i*P **P 04 31 41.5 +0.1**
comp=Z,65nm,1.3s,mb5.4
TPNV Topopah Spring 78.66 44 P **P 04 31 43.3 +0.3**
TPNV pmax pmax
comp=Z,57nm,1.0s,mb5.5
TPNV Topopah Spring 78.66 44⇓*i*P **P 04 31 43.4 +0.4**
TPNV pmax pmax
comp=Z,57nm,1.1s,mb5.4
TPNV MLR MLR
comp=Z,1μm,19.0s,MS5.3
TPNV Topopah Spring 78.66 44⇓*i*P **P 04 31 43.4 +0.4**
comp=Z,57nm,1.1s,mb5.4
TPNV LR LR
comp=Z,1μm,19.0s,MS5.3
TPH Tonopah 78.70 42 *e*P **P 04 31 43.2 -0.1**
TPH pmax pmax
comp=Z,91nm,1.1s,mb5.6
TPH MLR MLR
comp=Z,989nm,19.0s,MS5.2
TPH Tonopah 78.70 42 P **P 04 31 43.5 +0.2**
TPH pmax pmax
comp=Z,91nm,1.1s,mb5.6
TPH Tonopah 78.70 42 *e*P **P 04 31 43.1 -0.1**
comp=Z,990nm,1.1s,mb5.6
TPH LR LR
comp=Z,989nm,19.0s,MS5.2
NEN Nelson 78.82 45 *e*P **P 04 31 44.0 +0.1**
SHPR Sheep Range 79.11 44 P **P 04 31 43.9 -1.5**
MOD Modoc 79.23 38⇓*i*P **P 04 31 46.1 -0.1**
comp=Z,31nm,1.0s,mb5.2
MOD LR LR
comp=Z,1μm,19.0s,MS5.3
COR Corvallis 79.35 34 PFAKE 04 32 00.0 +13
COR LR LR
comp=Z,2μm,19.0s,MS5.5
KS15 Wonju Array Si 79.49 316 *e*P **P 04 31 48.7 +1.2**
QZH Quanzhou 79.69 301⇑*i*P **P 04 31 50.0 +1.3**
QZH S S 04 41 51.8 +3.5
QZH PS 04 42 31.4
QZH AMB AMB
comp=Z,1μm,8.8s
QZH LR LR
comp=Z,780nm,16.9s,MS5.1
TUC Tucson 79.81 50 P **P 04 31 50.3 +1.0**
TUC Tucson 79.81 50⇓*i*P **P 04 31 50.1 +0.8**
TUC pmax pmax
comp=Z,59nm,1.1s,mb5.4
TUC MLR MLR
comp=Z,466nm,19.0s,MS4.8
TUC Tucson 79.81 50⇓*i*P **P 04 31 50.1 +0.8**
comp=Z,60nm,1.1s,mb5.4
TUC LR LR
comp=Z,466nm,19.0s,MS4.8
KDAK Kodiak Island 79.83 11 P **P 04 31 48.6 -0.8**
comp=Z,29nm,1.1s,mb5.1,baz=188,slow=5.0,SNR=4.5
BMN Battle Mountai 80.13 40 P **P 04 31 51.8 +0.8**
BMN Battle Mountai 80.13 40⇓*i*P **P 04 31 50.8 -0.2**
comp=Z,55nm,1.3s,mb5.3
BMN LR LR
comp=Z,1μm,19.0s,MS5.2
VLA Vladivostok 80.51 323*c i*P **P 04 31 53.5 +0.5**
VLA pmax pmax
comp=Z,90nm,1.5s,mb5.5
WVOR Wild Horse Val 80.52 38⇓*i*P **P 04 31 53.1 0.0**
WVOR pmax pmax
comp=Z,38nm,1.0s,mb5.3
WVOR MLR MLR
comp=Z,2μm,19.0s,MS5.4
WVOR Wild Horse Val 80.52 38⇓*i*P **P 04 31 53.0 -0.1**
comp=Z,38nm,1.0s,mb5.3
WVOR LR LR
comp=Z,2μm,19.0s,MS5.4
SSE Sheshan 80.69 308 *e*P **P 04 31 53.5 -0.5**
SSE AP pP 04 32 05.6 -0.3
SSE PP PP 04 34 56.9 -1.2
SSE S S 04 41 56.8 -1.9
SSE AMB AMB
comp=Z,41nm,1.5s,mb5.1
SSE AMB AMB
comp=Z,81nm,3.5s
SSE LR LR
comp=N,265nm,36.0s,MS4.6
SSE LR LR
comp=E,405nm,36.1s,MS4.6
SSE LR LR
comp=Z,585nm,40.8s,MS4.6
LVP Lakeview Peak 80.81 33 P **P 04 31 54.9 +0.2**
CCUT Cedar City 80.88 44⇓*i*P **P 04 31 55.7 +0.7**
ARUT Antelope Range 80.97 44 *e*P **P 04 31 56.1 +0.6**
OOW Octopus West 81.05 31 P **P 04 31 56.8 +0.8**
OCWA Octopus Mounta 81.07 31 *e*P **P 04 31 56.6 +0.6**
comp=Z,29nm,1.0s,mb5.2
OCWA LR LR
comp=Z,839nm,19.0s,MS5.1
WUAZ Wupatki 81.10 47⇓*i*P **P 04 31 57.0 +0.8**
comp=Z,65nm,1.1s,mb5.5
WUAZ LR LR
comp=Z,629nm,19.0s,MS5.0
LON Longmire 81.58 33 P **P 04 31 58.0 -0.7**
GNW Green Mountain 81.61 32 P **P 04 31 59.2 +0.3**
WPW White Pass 81.68 33 P **P 04 31 59.5 +0.3**
PGC Sidney 82.04 31⇓*e*P **P 04 32 00.6 -0.6**
comp=Z,56nm,1.0s,mb5.5
RMW Rattlesnake Mo 82.05 33 P **P 04 32 01.5 +0.3**
MVU Marysvale 82.17 44 PFAKE 04 32 10.0 +8.2
MVU LR LR
comp=Z,784nm,21.0s,MS5.0
MSU Marysvale 82.20 44 *e*P **P 04 32 03.1 +1.1**
TWW Teanaway 82.32 33 P **P 04 32 03.3 +0.7**
HABR Khabarovsk 82.34 328 *e*P **P 04 32 04.1 +1.3**
HABR S S 04 42 17.5 +1.6
HABR pmax pmax
comp=Z,243nm,1.3s,mb6.0
HABR pmax pmax
comp=Z,454nm,1.4s,mb6.2
HABR MLR MLR
comp=Z,467nm,18.1s,MS4.9
PLIG Platanillo 82.34 67 *i*P **P 04 32 03.8 +1.0**
SVW2 Sparrevohn 82.49 9 *e*P **P 04 32 02.2 -1.3**
SVW2 *e* pP 04 32 13.5 -1.9
RSW Rattlesnake Hi 82.50 34 P **P 04 32 04.1 +0.5**
HAWA Hanford 82.53 34⇓*i*P **P 04 32 03.5 -0.3**
comp=Z,4.1nm,1.2s
HAWA LR LR
comp=Z,162nm,19.0s,MS4.4
DUG Dugway 82.72 42 *e*P **P 04 32 04.7 0.0**
DUG pmax pmax
comp=Z,31nm,1.3s,mb5.2
DUG MLR MLR
comp=Z,1μm,19.0s,MS5.2
DUG Dugway 82.72 42 *e*P **P 04 32 04.7 -0.1**
comp=Z,31nm,1.3s,mb5.2
DUG LR LR
comp=Z,1μm,19.0s,MS5.2
MDJ Mudanjiang 82.74 323 P **P 04 32 05.9 +1.1**
MDJ PP PP 04 35 14.8 -0.2
MDJ S S 04 42 21.3 +1.4
MDJ SS SS 04 47 43.4 +0.7
MDJ AMB AMB
comp=Z,90nm,1.2s,mb5.7
MDJ AMB AMB
comp=Z,429nm,4.2s
MDJ LR LR
comp=N,245nm,26.7s,MS4.8
MDJ LR LR
comp=E,469nm,28.1s,MS4.8
MDJ LR LR
comp=Z,730nm,30.9s,MS4.9
MDJ Mudanjiang 82.74 323⇓*i*P **P 04 32 05.7 +0.8**
comp=Z,143nm,1.3s,mb5.8
MDJ LR LR
comp=Z,463nm,20.0s,MS4.8
BMO Blue Mountains 82.78 37 P **P 04 32 05.2 +0.2**
BMO Blue Mountains 82.78 37⇓*i*P **P 04 32 04.4 -0.7**
comp=Z,52nm,1.4s,mb5.4
BMO LR LR
comp=Z,1μm,19.0s,MS5.3
WRW Wenatchee Ridg 82.78 33 P **P 04 32 04.9 -0.1**
SLKM Skilak Lake 82.81 11 *e*P **P 04 32 04.1 -1.1**
NJ2 Nanjing 82.89 308 *e*P **P 04 32 06.8 +1.2**
NJ2 PP PP 04 35 20.1 +3.8
NJ2 S S 04 42 18.0 -3.4
NJ2 AMB AMB
comp=Z,90nm,1.0s,mb5.8
NJ2 AMB AMB
comp=Z,340nm,3.9s
NJ2 LR LR
comp=N,440nm,15.0s,MS5.2
NJ2 LR LR
comp=E,760nm,17.9s,MS5.2
NJ2 LR LR
comp=Z,190nm,16.6s,MS4.5
MAW Mawson 83.01 199 P **P 04 32 07.4 +1.2**
comp=Z,41nm,0.8s,mb5.5,baz=128,slow=6.0,SNR=50
MAW LR LR 05 07 32.8
comp=Z,2μm,18.2s,MS5.5,baz=111,slow=35
MAW Mawson 83.01 199 *e*P **P 04 32 07.2 +1.0**
MAW pmax pmax
comp=Z,37nm,0.9s
MAW MLR MLR
comp=Z,3μm,22.0s
MAW Mawson 83.01 199 *e*P **P 04 32 07.2 +1.0**
comp=Z,37nm,0.9s,mb5.4
MAW LR LR
comp=Z,3μm,22.0s,MS5.6
NLU North Lily Min 83.06 43 *e*P **P 04 32 06.8 +0.3**
EPH Ephrata 83.11 34 P **P 04 32 06.8 +0.1**
GZH Guangzhou 83.15 298 P **P 04 32 07.8 +0.9**
GZH S S 04 42 27.6 +3.6
GZH SS SS 04 47 50.4 +1.7
GZH LR LR
comp=N,339nm,23.4s,MS4.8
GZH LR LR
comp=E,282nm,19.1s,MS4.8
GZH LR LR
comp=Z,430nm,22.0s,MS4.8
WTV Waterville 83.15 33 P **P 04 32 06.7 -0.2**
TMUT Trail Mountain 83.26 44⇓*i*P **P 04 32 08.6 +1.1**
MPU Maple Canyon 83.38 43 *e*P **P 04 32 08.7 +0.6**
comp=Z,55nm,1.1s,mb5.5
MPU LR LR
comp=Z,3μm,19.0s,MS5.7
PPM Popocatepetl 83.38 67 *e*P **P 04 32 08.3 +0.2**
MNTX Cornudas Mount 83.46 53 PFAKE 04 32 20.0 +11
MNTX LR LR
comp=Z,640nm,19.0s,MS5.0
SPUT South Promonto 83.58 42⇓*i*P **P 04 32 09.3 +0.1**
SPUT *e*pP pP 04 32 21.2 +0.2
OD2 Odessa Site #2 83.60 34 P **P 04 32 09.3 0.0**
SRU San Rafael 83.60 44⇓*i*P **P 04 32 09.9 +0.6**
SRU pmax pmax
comp=Z,118nm,1.1s,mb5.9
SRU San Rafael 83.60 44⇓*i*P **P 04 32 09.9 +0.6**
comp=Z,118nm,1.1s,mb5.9
HVU Hansel Valley 83.64 41 *e*P **P 04 32 09.7 +0.2**
HVU pmax pmax
comp=Z,46nm,1.2s,mb5.5
HVU Hansel Valley 83.64 41 *e*P **P 04 32 09.7 +0.2**
comp=Z,46nm,1.2s,mb5.5
PAYG Puerto Ayora 83.65 88 PFAKE 04 32 20.0 +10
PAYG LR LR
comp=Z,1μm,20.0s,MS5.2
LTX Lajitas 83.67 56⇓*i*P **P 04 32 10.0 +0.4**
LTX pmax pmax
comp=Z,88nm,1.5s,mb5.7
LTX MLR MLR
comp=Z,849nm,20.0s,MS5.1
LTX Lajitas 83.67 56⇓*i*P **P 04 32 10.0 +0.4**
comp=Z,88nm,1.5s,mb5.7
LTX LR LR
comp=Z,849nm,20.0s,MS5.1
HLID Hailey 83.67 39⇓*i*P **P 04 32 10.1 +0.5**
comp=Z,50nm,1.1s,mb5.6
HLID LR LR
comp=Z,551nm,20.0s,MS4.9
CTU Camp Tracy 83.67 42 *e*P **P 04 32 09.6 -0.1**
comp=Z,56nm,1.2s,mb5.6
DAU Daniels Canyon 83.83 43 *e*P **P 04 32 11.2 +0.7**
GAMB Gambell 83.87 1 P **P 04 32 11.5 +0.8**
MVCO Mesa Verde 83.96 47 *e*P **P 04 32 12.0 +0.9**
PMR Palmer 84.02 12 *e*P **P 04 32 10.1 -1.3**
PMR pmax pmax
comp=Z,42nm,1.1s,mb5.5
PMR MLR MLR
comp=Z,943nm,19.0s,MS5.2
PMR Palmer 84.02 12 *e*P **P 04 32 10.1 -1.3**
comp=Z,42nm,1.1s,mb5.5
PMR LR LR
comp=Z,943nm,19.0s,MS5.2
KGM Kluang 84.06 274 P **P 04 32 13.2 +1.5**
TCUT Toone Canyon 84.12 42⇓*i*P **P 04 32 12.5 +0.5**
TTA Tatalina 84.19 8⇓*i*P **P 04 32 12.1 -0.2**
TTA pmax pmax
comp=Z,170nm,1.6s,mb5.9
TTA Tatalina 84.19 8 *e*P **P 04 32 12.2 -0.1**
comp=Z,86nm,1.3s,mb5.7
PV10 Paradox Valley 84.20 46 *e*P **P 04 32 12.9 +0.6**
VHO Vista Hermosa 84.23 70 *e*P **P 04 32 14.0 +1.5**
OXX Oaxaca 84.24 70 *e*P **P 04 32 12.0 -0.6**
ANMO Albuquerque 84.25 50 P **P 04 32 13.7 +1.1**
ANMO Albuquerque 84.25 50⇓*i*P **P 04 32 13.4 +0.8**
ANMO pmax pmax
comp=Z,91nm,1.3s
ANMO MLR MLR
comp=Z,977nm,19.0s
ANMO Albuquerque 84.25 50⇓*i*P **P 04 32 13.4 +0.8**
comp=Z,91nm,1.3s,mb5.7
ANMO LR LR
comp=Z,977nm,19.0s,MS5.2
HWUT Hardware Ranch 84.30 42 PFAKE 04 32 20.0 +7.2
HWUT LR LR
comp=Z,1μm,19.0s,MS5.4
PV01 Paradox Valley 84.39 46 *e*P **P 04 32 13.8 +0.5**
DL2 Dalian 84.40 315 P **P 04 32 13.6 +0.3**
DL2 *e*S 04 42 37.0
DL2 AMB AMB
comp=Z,40nm,1.0s,mb5.5
DL2 AMB AMB
comp=Z,250nm,5.3s
DL2 LR LR
comp=N,300nm,14.5s,MS4.9
DL2 LR LR
comp=E,240nm,14.0s,MS4.9
DL2 LR LR
comp=Z,650nm,17.3s,MS5.1
QIZ Qiongzhong 84.45 293⇓P **P 04 32 14.8 +1.2**
QIZ S 04 42 38.6
QIZ XS sS 04 42 56.5 -0.4
QIZ PS 04 43 39.3
QIZ SS SS 04 48 12.4 +4.5
QIZ AMB AMB
comp=Z,50nm,1.4s,mb5.5
QIZ AMB AMB
comp=Z,252nm,6.2s
QIZ LR LR
comp=E,434nm,19.1s
QIZ LR LR
comp=Z,377nm,20.5s,MS4.8
QIZ Qiongzhong 84.45 293 P **P 04 32 15.3 +1.7**
comp=Z,92nm,1.3s,mb5.8
QIZ LR LR
comp=Z,440nm,20.0s,MS4.8
KLR Kul'dur 84.48 328 *e*P **P 04 32 10.5 -3.3**
KLR *e*S 04 42 36.5
KLR *e* 04 43 48.0
KLR pmax pmax
comp=E,28nm,1.6s
KLR pmax pmax
comp=Z,100nm,1.6s,mb5.7
KLR pmax pmax
comp=Z,1μm,9.0s
CN2 Changchun 84.66 321⇓P **P 04 32 15.1 +0.4**
CN2 *e*S 04 42 38.7
CN2 AMB AMB
comp=Z,70nm,1.4s,mb5.6
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,200nm,19.0s,MS4.8
CN2 LR LR
comp=E,300nm,19.0s,MS4.8
CN2 LR LR
comp=Z,400nm,17.0s,MS4.9
SNY Shenyang 84.70 318⇓P **P 04 32 15.6 +0.7**
SNY SKS 04 42 38.2
SNY S 04 42 42.0
SNY AMB AMB
comp=Z,43nm,1.8s,mb5.3
SNY AMB AMB
comp=Z,595nm,3.6s
SNY LR LR
comp=N,170nm,14.8s,MS4.8
SNY LR LR
comp=E,312nm,18.0s,MS4.8
SNY LR LR
comp=Z,376nm,19.2s,MS4.8
MA2 Magadan 84.77 343*d i*P **P 04 32 14.0 -1.2**
MA2 *e*S 04 42 40.7
MA2 *e*PS 04 43 42.3
MA2 *e*SS SS 04 48 17.7 +5.1
MA2 pmax pmax
comp=Z,100nm,1.3s,mb5.8
MA2 MLR MLR
comp=Z,6μm,19.2s,MS6.0
MA2 Magadan 84.77 343⇓*i*P **P 04 32 13.8 -1.3**
comp=Z,109nm,1.5s,mb5.8
MA2 LR LR
comp=Z,645nm,20.0s,MS5.0
NEW Newport 84.98 34 *e*P **P 04 32 15.2 -1.1**
NEW pmax pmax
comp=Z,10.0nm,0.8s
NEW MLR MLR
comp=Z,2μm,19.0s
NEW Newport 84.98 34 *e*P **P 04 32 15.2 -1.1**
comp=Z,9.8nm,0.8s,mb5.0
NEW LR LR
comp=Z,2μm,19.0s,MS5.6
AHID Auburn Hatcher 85.22 41 PFAKE 04 32 30.0 +13
AHID LR LR
comp=Z,867nm,20.0s,MS5.1
COCO West Island 85.29 259 PFAKE 04 32 30.0 +12
COCO LR LR
comp=Z,720nm,19.0s,MS5.1
MCMT McKenzie Canyo 85.32 39 *e*P **P 04 32 18.1 +0.1**
WHN Wuhan 85.60 305⇑P **P 04 32 21.0 +1.7**
DCD1 Drake Creek 85.62 40 *e*P **P 04 32 19.6 +0.2**
REDW Red Top Meadow 85.70 41⇓*i*P **P 04 32 19.6 -0.2**
comp=Z,70nm,1.3s,mb5.7
TPAW Teton Pass 85.71 40⇓*i*P **P 04 32 20.2 +0.3**
comp=Z,74nm,1.4s,mb5.7
TPAW *e*pP pP 04 32 23.8 -8.0
TPAW *e* pP 04 32 31.0 -0.8
DLMT Dillon 85.77 38⇓*i*P **P 04 32 20.1 -0.2**
comp=Z,59nm,1.2s,mb5.7
MSO Missoula 85.85 37 *e*P **P 04 32 19.1 -1.5**
comp=Z,26nm,1.4s,mb5.3
MSO LR LR
comp=Z,786nm,19.0s,MS5.1
MOOW Moose Ponds 85.97 40 *e*P **P 04 32 20.8 -0.4**
comp=Z,39nm,1.5s,mb5.4
BSMT Bassoo Peak 85.98 35 P **P 04 32 20.7 -0.5**
LOHW Long Hollow 85.99 41 *e*P **P 04 32 21.2 0.0**
comp=Z,37nm,1.3s,mb5.5
SMCO Snowmass 86.00 46 P **P 04 32 21.9 +0.6**
comp=Z,42nm,1.1s,mb5.6
LRM Limekiln Ridge 86.12 38 P **P 04 32 21.9 0.0**
TIA Tai'an 86.15 311⇓P **P 04 32 22.4 +0.3**
TIA AMB AMB
comp=Z,128nm,1.2s,mb6.0
QLMT Earthquake Lak 86.16 39 *e*P **P 04 32 22.7 +0.6**
BW06 Boulder Array 86.18 42 P **P 04 32 22.0 -0.2**
BW06 LR LR
comp=Z,1μm,19.0s,MS5.3
PDAR Pinedale Array 86.18 42 P **P 04 32 21.9 -0.3**
comp=Z,12nm,0.9s,mb5.1,baz=204,slow=3.3,SNR=73
PDAR PKKP PKKPbc 04 50 21.9 +1.4
comp=Z,1.1nm,0.9s,baz=67,slow=3.9,SNR=6.7
PDAR LR LR 05 08 22.1
comp=Z,903nm,18.1s,MS5.2,baz=246,slow=34
FLWY Flagg Ranch 86.19 40 *e*P **P 04 32 22.2 -0.1**
comp=Z,87nm,1.3s,mb5.8
CHMT Chamberlain Mo 86.28 37 *e*P **P 04 32 22.1 -0.7**
YFT Old Faithful 86.30 40 *e*P **P 04 32 24.7 +1.8**
YMR Madison River 86.35 39 *e*P **P 04 32 23.7 +0.7**
comp=Z,90nm,1.5s,mb5.8
DLBC Dease Lake 86.42 21 P **P 04 32 23.7 +0.3**
DLBC pP pP 04 32 42.9 +7.5
PLCA Paso Flores 86.45 132 *e*P **P 04 32 24.7 +1.1**
PLCA pmax pmax
comp=Z,45nm,1.6s
PLCA MLR MLR
comp=Z,1μm,19.0s
PLCA Paso Flores 86.45 132 *e*P **P 04 32 24.7 +1.1**
comp=Z,45nm,1.6s,mb5.5
PLCA LR LR
comp=Z,1μm,19.0s,MS5.4
LKWY Lake 86.63 40⇓*i*P **P 04 32 25.0 +0.6**

LKWY pmax pmax
comp=Z,20nm,1.0s,mb5.3
LKWY MLR MLR
comp=Z,1µm,19.0s,MS5.3
LKWY Lake 86.63 40⇓ *i*P **P 04 32 25.0 +0.6**
comp=Z,20nm,1.0s,mb5.3
LKWY LR LR
comp=Z,1µm,19.0s,MS5.3
HRY Holter Researc 86.97 37 *e*P **P 04 32 25.9 -0.2**
IPM Ipoh 87.06 276 P **P 04 32 28.3 +1.7**
RWWY Rawlins 87.11 43 *e*P **P 04 32 26.4 -0.3**
comp=Z,39nm,0.9s,mb5.6
WALA Waterton Lakes 87.16 35 *e*P **P 04 32 26.3 -0.7**
comp=Z,43nm,1.3s,mb5.5
JCT Junction City 87.18 56⇓ *i*P **P 04 32 26.5 -0.6**
JCT pmax pmax
comp=Z,70nm,1.4s,mb5.7
JCT MLR MLR
comp=Z,875nm,20.0s,MS5.2
JCT Junction City 87.18 56⇓ *i*P **P 04 32 26.5 -0.6**
comp=Z,70nm,1.4s,mb5.7
JCT LR LR
comp=Z,875nm,20.0s,MS5.2
ISCO Idaho Springs 87.22 46 *e*P **P 04 32 27.3 0.0**
ISCO pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
ISCO MLR MLR
comp=Z,569nm,19.0s,MS5.0
ISCO Idaho Springs 87.22 46 *e*P **P 04 32 27.3 0.0**
comp=Z,8.1nm,0.9s,mb5.0
ISCO LR LR
comp=Z,569nm,19.0s,MS5.0
COLA College 87.27 11 *d i*P **P 04 32 26.2 -1.4**
COLA College 87.27 11⇓ *i*P **P 04 32 26.2 -1.3**
comp=Z,79nm,1.1s,mb5.9
COLA LR LR
comp=Z,1µm,19.0s,MS5.3
ILAR Eielson Array 87.35 11 P **P 04 32 26.6 -1.4**
comp=Z,11nm,0.9s,mb5.1,baz=230,slow=6.0,SNR=79
ILAR PP PP 04 35 47.7 -4.8
comp=Z,2.7nm,1.1s,baz=200,slow=7.7,SNR=4.9
ILAR PKKP PKKPbc 04 50 14.7 -3.1
comp=Z,0.4nm,0.7s,baz=333,slow=2.7,SNR=4.7
ILAR LR LR 05 09 47.1
comp=Z,511nm,18.4s,MS5.0,baz=333,slow=34
ILAR Eielson Array 87.35 11 P **P 04 32 26.6 -1.4**
ILAR 04 35 47.8
AMTX Amarillo 87.68 52 PFAKE 04 32 40.0 +10
AMTX LR LR
comp=Z,2µm,19.0s,MS5.5
KULM Kulim 87.69 276⇓ *i*P **P 04 32 31.0 +1.4**
SYO Syowa Base 87.69 191⇑ *i*P **P 04 32 29.0 -0.6**
SYO Syowa Base 87.69 191⇓ *e*PcP PcP 04 32 34.3 +2.8
GCMT Greyclif 87.72 39 *e*P **P 04 32 29.9 +0.1**
VNA3 Neumayer Olymp 87.97 175⇓ *i*P **P 04 32 31.0 +0.1**
VNA3 *e* 04 32 32.5
VNA3 *e* 04 32 35.8
VNA3 *e* 04 32 38.9
VNA3 *e* pP 04 32 42.2 -0.7
VNA3 *e* pP 04 32 44.0 +1.1
VNA3 *e* 04 32 49.6
VNA3 *e* 04 32 52.3
VNA3 *e* 04 32 55.9
VNA3 *e* 04 32 59.6
VNA3 *e* 04 33 05.8
VNA3 *e* 04 33 12.6
VNA3 *e* 04 33 24.4
VNA3 *e* 04 33 31.7
VNA3 *e* 04 33 40.9
VNA3 *e* 04 33 51.0
SNAA Sanae 88.00 177⇓ *i*P **P 04 32 31.2 +0.2**
SNAA *e* 04 32 32.5
SNAA *e* 04 32 35.3
SNAA *e* pP 04 32 39.8 -3.2
SNAA *e* pP 04 32 43.6 +0.6
SNAA *e* 04 32 48.7
SNAA *e* 04 32 53.3
SNAA *e* 04 32 56.3
SNAA *e* 04 33 01.6
SNAA *e* 04 33 20.0
SNAA *e* 04 33 30.3
SNAA Sanae 88.00 177 *c* i**P P 04 32 29.4 -1.6**
SNAA Sanae 88.00 177 *e*P **P 04 32 31.0 -0.1**
comp=Z,36nm,1.3s,mb5.5
CCIG Comitan 88.00 72 *e*P **P 04 32 31.3 +0.2**
PHWY Pilot Hill 88.06 44 *e*P **P 04 32 31.2 -0.1**
DAWY Dawson 88.29 14⇓ *i*P **P 04 32 32.1 -0.3**
SNG Songkhla 88.39 278 P **P 04 32 34.0 +1.1**
comp=Z,414nm,1.0s,mb6.6
VNA2 Neumayer--Watz 88.46 176⇓ *i*P **P 04 32 33.6 +0.4**
VNA2 *e* 04 32 35.1
VNA2 *e* 04 32 38.6
VNA2 *e* 04 32 41.4
VNA2 *e* pP 04 32 43.8 -1.4
VNA2 *e* pP 04 32 46.2 +1.0
VNA2 *e* 04 32 51.0
VNA2 *e* 04 32 53.6
VNA2 *e* 04 32 56.1
VNA2 *e* 04 32 59.2
VNA2 *e* 04 33 05.3
VNA2 *e* 04 33 13.6
VNA2 *e* 04 33 23.6
VNA2 *e* 04 33 32.2
VNA2 *e* 04 33 40.3
VNA2 *e* 04 33 51.1
BJT Baijiatuau 88.62 314 *e*P **P 04 32 34.9 +0.9**
BJT pmax pmax
comp=Z,282nm,1.6s
BJT MLR MLR
comp=Z,548nm,19.0s
BJT Baijiatuau 88.62 314 *e*P **P 04 32 34.9 +1.0**
comp=Z,282nm,1.6s,mb6.3
BJT LR LR
comp=Z,548nm,19.0s,MS5.0
BJI Beijing 88.62 314 P **P 04 32 35.1 +1.1**
BJI S 04 43 18.5
BJI AMB AMB
comp=Z,89nm,1.6s,mb5.8
BJI AMB AMB
comp=Z,722nm,3.3s
BJI LR LR
comp=N,365nm,17.4s,MS5.0
BJI LR LR
comp=E,319nm,17.4s,MS5.0
BJI LR LR
comp=Z,404nm,29.2s
VNA1 Neumayer--Stat 88.67 175⇓ *i*P **P 04 32 35.0 +0.8**
VNA1 *e* 04 32 36.0
VNA1 *e* 04 32 38.9
VNA1 *e* 04 32 41.1
VNA1 *e* pP 04 32 44.5 -1.7
VNA1 *e* pP 04 32 47.2 +1.0
VNA1 *e* 04 32 52.5
VNA1 *e* 04 32 55.2
VNA1 *e* 04 32 57.8
VNA1 *e* 04 33 01.1
VNA1 *e* 04 33 05.9
VNA1 *e* 04 33 11.3
VNA1 *e* 04 33 21.8
VNA1 *e* 04 33 30.6
VNA1 *e* 04 33 40.4
VNA1 *e* 04 33 49.5
EGMT Eagleton 88.87 37 *e*P **P 04 32 34.3 -0.9**
comp=Z,22nm,1.3s,mb5.3
EGMT LR LR
comp=Z,984nm,19.0s,MS5.2
EFI East Falkland 89.01 146 *e*P **P 04 32 36.4 +0.6**
NVL N'lazarevskaya 89.03 182⇑ *i*P **P 04 32 37.6 +1.7**
NVL *e*S 04 43 11.1
NVL pmax pmax
comp=Z,21nm,1.5s,mb5.2
NVL MLR MLR
comp=Z,1µm,17.4s,MS5.4
ENH Enshi 89.28 303 PFAKE 04 32 50.0 +13
ENH LR LR
comp=Z,7µm,22.0s,MS6.0
BILL Bilibino 89.36 353⇓ *i*P **P 04 32 36.0 -1.4**
BILL *e* 04 36 07.0
BILL *i* S 04 43 25.3
BILL *e*SS SS 04 49 22.3 +2.6
BILL pmax pmax
comp=Z,66µm,1.5s
BILL Bilibino 89.36 353⇓ *i*P **P 04 32 36.3 -1.1**
comp=Z,50nm,1.2s,mb5.7
BILL LR LR
comp=Z,1µm,20.0s,MS5.3
FCH Farellones 89.65 125 *e*P **P 04 32 39.7 +0.9**
WMOK Wichita Mounta 89.77 53 *e*P **P 04 32 38.7 -0.7**
WMOK pmax pmax
comp=Z,32nm,1.6s,mb5.4
WMOK MLR MLR
comp=Z,491nm,20.0s,MS4.9
WMOK Wichita Mounta 89.77 53 *e*P **P 04 32 38.7 -0.7**
comp=Z,32nm,1.6s,mb5.4
WMOK LR LR
comp=Z,491nm,20.0s,MS4.9
EDM Edmonton 89.87 32 *e*P **P 04 32 39.2 -0.7**
GYA Guiyang 90.06 298⇓ *i*P **P 04 32 42.7 +2.0**
GYA AP pP 04 32 47.8 -4.9
GYA XP sP 04 32 50.4 -6.7
GYA AMB AMB
comp=Z,40nm,1.6s,mb5.5
GYA AMB AMB
comp=Z,260nm,7.0s
GYA LR LR
comp=N,180nm,16.5s,MS5.1
GYA LR LR
comp=E,520nm,15.9s,MS5.1
GYA LR LR
comp=Z,350nm,17.0s,MS4.9
HKT Hockley 90.09 58 *e*P **P 04 32 41.2 +0.3**
HKT pmax pmax
comp=Z,68nm,1.6s,mb5.7
HKT MLR MLR
comp=Z,664nm,19.0s,MS5.1
HKT Hockley 90.09 58 *e*P **P 04 32 41.2 +0.3**
comp=Z,68nm,1.6s,mb5.7
HKT LR LR
comp=Z,664nm,19.0s,MS5.1
LAO LASA Array 90.23 40 *e*P **P 04 32 42.0 +0.5**
comp=Z,326nm,2.2s,mb6.3
LAO LR LR
comp=Z,531nm,22.0s,MS4.9
RSSD Black Hills 90.33 43⇓ *i*P **P 04 32 41.4 -0.6**
RSSD pmax pmax
comp=Z,36nm,1.1s,mb5.6
RSSD MLR MLR
comp=Z,2µm,19.0s,MS5.5
RSSD Black Hills 90.33 43⇓ *i*P **P 04 32 41.4 -0.6**
comp=Z,36nm,1.1s,mb5.6
RSSD LR LR
comp=Z,2µm,19.0s,MS5.5
CBKS Cedar Bluff 90.81 49 PFAKE 04 33 00.0 +16
CBKS LR LR
comp=Z,349nm,19.0s,MS4.8
HIA Hailar 90.93 323 *e*P **P 04 32 45.2 +0.4**
HIA pmax pmax
comp=Z,26nm,1.1s
HIA MLR MLR
comp=Z,736nm,19.0s
HIA Hailar 90.93 323 *e*P **P 04 32 45.2 +0.4**
comp=Z,26nm,1.1s,mb5.5
HIA LR LR
comp=Z,736nm,19.0s,MS5.1
NNT Nongplab 91.09 283 P **P 04 32 48.8 +3.3**
XAN Xi'an 91.24 306 P **P 04 32 47.7 +1.5**
XAN S 04 43 50.1
XAN AMB AMB
comp=Z,78nm,1.2s,mb5.9
XAN AMB AMB
comp=Z,324nm,6.6s
XAN LR LR
comp=E,256nm,17.1s
XAN LR LR
comp=Z,356nm,16.1s,MS4.9
NATX Nacogdoches 91.72 57 PFAKE 04 33 00.0 +12
NATX LR LR
comp=Z,648nm,20.0s,MS5.1
HHC Hu-ho-hao-te 92.13 313⇓ *i*P **P 04 32 51.0 +0.7**
HHC PP PP 04 36 33.5 +2.9
HHC SKS 04 43 19.8
HHC S 04 43 46.6
HHC SS SS 04 49 59.3 -0.5
HHC AMB AMB
comp=Z,86nm,1.4s,mb5.9
HHC AMB AMB
comp=Z,273nm,4.4s
HHC LR LR
comp=N,252nm,17.8s,MS4.9
HHC LR LR
comp=E,291nm,17.4s,MS4.9
HHC LR LR
comp=Z,348nm,22.6s
NNA Nana 92.25 104 PFAKE 04 33 00.0 +9.1
NNA LR LR
comp=Z,720nm,20.0s,MS5.1
NANT Nan 92.39 289⇑ P **P 04 32 54.5 +3.0**
comp=Z,350nm,0.5s
CLNS Chul'man 92.39 331 *e*P **P 04 32 50.9 -0.6**
CLNS *e**PP pP 04 32 58.4 -5.1
CLNS *e* 04 36 29.7
CLNS *e*S 04 43 49.4
CLNS pmax pmax
comp=Z,44nm,1.1s,mb5.7
CLNS pmax pmax
comp=N,21nm,1.0s
CLNS pmax pmax
comp=E,15nm,1.2s
CLNS pmax pmax
comp=N,12nm,1.0s
CLNS pmax pmax
comp=Z,11nm,1.0s,mb5.1
CLNS pmax pmax
comp=E,8.0nm,0.8s
CLNS smax
comp=N,96nm,13.5s
CLNS smax
comp=Z,103nm,14.6s
CLNS smax
comp=E,86nm,12.8s
CLNS MLR MLR
comp=Z,400nm,17.0s,MS4.9
CLNS MLR MLR
comp=N,80nm,11.0s
CLNS MLR MLR
comp=E,400nm,17.0s
JTS JuntasAbangare 92.42 80 P **P 04 32 53.8 +2.1**
comp=E,539nm,1.1s,SNR=14
JTS JuntasAbangare 92.42 80 *e*P **P 04 32 53.1 +1.4**
JTS pmax pmax
comp=Z,146nm,1.2s
JTS MLR MLR
comp=Z,657nm,19.0s
JTS JuntasAbangare 92.42 80 *e*P **P 04 32 53.1 +1.4**
comp=Z,146nm,1.2s,mb6.2
JTS LR LR
comp=Z,657nm,19.0s,MS5.1
KMI Kunming 92.85 296 P **P 04 32 56.1 +2.4**
KMI PP PP 04 36 42.2 +6.0
KMI PPP 04 38 42.4
KMI SKS 04 43 23.9
KMI S 04 43 55.9
KMI SS SS 04 50 10.6 +0.5
KMI AMB AMB
comp=Z,51nm,1.3s,mb5.8
KMI AMB AMB
comp=Z,208nm,3.1s
KMI LR LR
comp=N,287nm,22.1s,MS5.0
KMI LR LR
comp=E,540nm,20.0s,MS5.0
KMI LR LR
comp=Z,746nm,19.0s,MS5.2
BTO Baotou 93.10 312 *e*P **P 04 32 55.7 +0.9**
BTO AMB AMB
comp=Z,32nm,1.1s,mb5.7
INK Inuvik 93.14 14 *e*P **P 04 32 54.2 -0.8**
INK pmax pmax
comp=Z,30nm,1.1s
INK Inuvik 93.14 14 *e*P **P 04 32 54.2 -0.8**
comp=Z,30nm,1.1s,mb5.6
INK *e*pP pP 04 32 57.0 -10
KSU1 Kansas State U 93.15 49 *e*P **P 04 32 55.0 0.0**
YAK Yakutsk 93.51 337 *d i*P **P 04 32 55.2 -1.5**
YAK pmax pmax
comp=Z,27nm,0.6s,mb5.8
YAK Yakutsk 93.51 337 *i* Pr **P 04 32 55.2 -1.5**
YAK LR LR
comp=Z,294nm,20.0s,MS4.7
TRQA Tornquist 93.59 133 PFAKE 04 33 10.0 +13
TRQA LR LR
comp=Z,807nm,19.0s,MS5.2
MIAR Mount Ida 93.63 55 *e*P **P 04 32 57.0 -0.2**
MIAR pmax pmax
comp=Z,34nm,1.6s,mb5.5
MIAR Mount Ida 93.63 55 *e*P **P 04 32 57.0 -0.3**
comp=Z,34nm,1.6s,mb5.5
CHTO Chiang Mai 93.95 288 *e*P **P 04 33 00.4 +1.7**
CHTO pmax pmax
comp=Z,65nm,1.1s,mb6.0
CHTO MLR MLR
comp=Z,354nm,19.0s,MS4.8
CHTO Chiang Mai 93.95 288 *e*P **P 04 33 00.4 +1.7**
comp=Z,65nm,1.1s,mb6.0
CHTO LR LR
comp=Z,354nm,19.0s,MS4.8
CD2 Chengdu 94.08 301 *e*P **P 04 32 57.4 -1.9**
CD2 AP pP 04 33 10.9 -0.4
CD2 PP PP 04 36 46.7 +0.8
CD2 S 04 44 01.3
CD2 XS sS 04 44 24.2 -3.1
CD2 PS PS 04 45 27.1 +0.7
CD2 SS SS 04 50 25.8 -2.0
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb5.2
CD2 AMB AMB
comp=Z,190nm,9.6s
CD2 LR LR
comp=N,180nm,16.8s
CD2 LR LR
comp=Z,230nm,18.0s,MS4.7
YKA Yellowknife Ar 94.76 24 P **P 04 33 01.8 -0.6**
comp=Z,4.5nm,0.8s,mb4.9,baz=236,slow=4.1,SNR=81
YKA PP PP 04 36 46.5 -4.6
comp=Z,0.4nm,0.8s,baz=236,slow=6.9,SNR=5.1
YKA PKKP PKKPbc 04 49 59.2 +0.2
comp=Z,0.7nm,0.9s,baz=37,slow=2.4,SNR=8.1
YKA LR LR 05 07 52.2
comp=Z,400nm,21.4s,MS4.8,baz=245,slow=30
YKA Yellowknife Ar 94.76 24 P **P 04 33 01.8 -0.7**
YKA 04 36 46.5
YKA Yellowknife Ar 94.76 24 P **P 04 33 01.8 -0.7**
YKA PP PP 04 36 46.5 -4.6
YKA PKKP PKKPbc 04 49 59.2 +0.2
YKA LR LR 05 07 52.2
YKW3 Yellowknife Ar 94.80 24 *e*P **P 04 33 01.4 -1.2**
OTAV Otavalo 95.07 92 *e*P **P 04 33 05.6 +1.7**
comp=Z,7.4nm,1.2s,mb5.0
OTAV LR LR
comp=Z,952nm,19.0s,MS5.3
CIT Chita 95.70 324 *e*P **P 04 33 06.7 0.0**
CIT pmax pmax
comp=Z,44nm,2.0s,mb5.5
LZH Lanzhou 95.87 306 ⇓P **P 04 33 08.2 +0.7**
LZH PP PP 04 37 02.4 +2.7
LZH SKS 04 43 39.7
LZH *e*S 04 44 19.5
LZH AMB AMB
comp=Z,56nm,1.5s,mb5.8
LZH AMB AMB
comp=Z,332nm,9.6s
LZH LR LR
comp=E,1µm,17.5s
LZH LR LR
comp=Z,1µm,19.3s,MS5.5
FFC Flin Flon 96.41 34 *e*P **P 04 33 08.1 -1.9**
FFC pmax pmax
comp=Z,38nm,1.8s,mb5.5
FFC MLR MLR
comp=Z,959nm,19.0s,MS5.3
FFC Flin Flon 96.41 34 *e*P **P 04 33 08.1 -1.9**
comp=Z,38nm,1.8s,mb5.5
FFC LR LR
comp=Z,959nm,19.0s,MS5.3
CCM Cathedral Cave 96.65 52 *e*P **P 04 33 10.2 -0.9**
CCM pmax pmax
comp=Z,6.0nm,0.9s,mb5.0
CCM MLR MLR
comp=Z,480nm,19.0s,MS5.0
CCM Cathedral Cave 96.65 52 *e*P **P 04 33 10.2 -0.9**
comp=Z,6.4nm,0.9s,mb5.0
CCM LR LR
comp=Z,480nm,19.0s,MS5.0
OXF Oxford 96.83 56 PFAKE 04 33 20.0 +8.2
OXF LR LR
comp=Z,983nm,19.0s,MS5.3
FVM French Village 97.23 52 *e*P **P 04 33 13.1 -0.6**
FVM *e* pP 04 33 24.8 -0.9
FVM pmax pmax
comp=Z,28nm,1.4s,mb5.5
FVM French Village 97.23 52 *e*P **P 04 33 13.1 -0.6**
comp=Z,28nm,1.4s,mb5.5
FVM *e*pP pP 04 33 17.4 -8.3
FVM *e* pP 04 33 24.8 -0.9
ULN Ulaanbaatar 97.88 318 *c i*P **P 04 33 16.2 -0.4**
ULN Ulaanbaatar 97.88 318 PFAKE 04 33 30.0 +13
ULN LR LR
comp=Z,354nm,19.0s,MS4.9
ULM Lac du Bonnet 97.98 39 P **P 04 33 15.9 -1.1**
comp=Z,7.5nm,1.0s,mb5.2,baz=250,slow=4.2,SNR=9.9
ULM LR LR 05 14 47.5
comp=Z,812nm,18.1s,MS5.3,baz=260,slow=34
BOD Bodaibo 97.99 329 *e*P **P 04 33 12.8 -4.3**
BOD pmax pmax
comp=Z,5.0nm,1.6s,mb4.8
PLAL Pickwick Lake 98.02 56 *e*P **P 04 33 15.6 -1.7**
comp=Z,2.4nm,0.8s,mb4.8
PLAL LR LR
comp=Z,623nm,19.0s,MS5.1
LRAL Lakeview Retre 98.23 58 PFAKE 04 33 30.0 +12
LRAL LR LR
comp=Z,422nm,19.0s,MS5.0
SONM Songino Array 98.28 318 P **P 04 33 18.6 +0.2**
comp=Z,6.0nm,1.1s,mb5.0,baz=115,slow=3.6,SNR=24
SONM PP PP 04 37 14.0 -4.3
comp=Z,3.2nm,1.1s,baz=96,slow=4.6,SNR=5.4
SONM LR LR 05 18 06.7
comp=Z,282nm,18.9s,MS4.8,baz=252,slow=36
SONM Songino Array 98.28 318 P **P 04 33 18.6 +0.2**
SONM 04 37 14.0
LPAZ La Paz 98.42 111 P **P 04 33 20.9 +1.9**
comp=Z,2.4nm,1.1s,mb4.6,baz=201,slow=1.8,SNR=7.1
LPAZ PP PP 04 37 13.3 -6.1
comp=Z,0.8nm,0.9s,baz=230,slow=7.9,SNR=3.0
LPAZ LR LR 05 11 02.0
comp=Z,508nm,18.7s,MS5.0,baz=318,slow=31
LPAZ La Paz 98.42 111 P **P 04 33 21.9 +2.9**
LPAZ LR LR
comp=Z,623nm,20.0s,MS5.1
WVT Waverly 98.58 55 PFAKE 04 33 30.0 +10
WVT LR LR
comp=Z,748nm,19.0s,MS5.2
TIXI Tiksi 99.66 344 *e*P Pdif 04 33 22.1 -2.5
TIXI *e* 04 43 56.5
TIXI *e*PS PS 04 46 22.8 -4.3
TIXI *e*SS SS 04 51 37.8 -8.7
TIXI pmax pmax
comp=Z,11nm,1.0s,mb5.2
TIXI pmax pmax
comp=Z,72nm,10.5s
TIXI pmax pmax
comp=N,21nm,8.4s
TIXI pmax pmax
comp=E,40nm,11.9s
TIXI Tiksi 99.66 344⇑ *i*P Pdif 04 33 24.0 -0.6
TIXI pP pP 04 33 37.6 +1.0
TIXI LR LR
comp=Z,436nm,19.0s,MS5.0
EYMN Ely 99.86 43 PFAKE 04 33 40.0 +15
EYMN LR LR
comp=Z,664nm,19.0s,MS5.2
GTA Gaotai 99.98 308 *e*P Pdif 04 33 27.2 +1.2
GTA PP PP 04 37 33.0 +1.7
GTA PPP 04 39 40.4
GTA SKS 04 44 00.8
GTA S Sdif 04 44 50.3 -7.4
GTA XS sS 04 45 13.5 -4.3
GTA AMB AMB
comp=Z,7.0nm,1.4s,mb4.9
GTA AMB AMB
comp=Z,130nm,8.4s
GTA LR LR
comp=N,289nm,20.5s,MS5.0
GTA LR LR
comp=E,363nm,19.8s,MS5.0

GTA LR LR
comp=Z,379nm,18.2s,MS4.9
WCI Wyandotte Cave 100.40 53 PFAKE 04 33 40.0 +12
WCI LR LR
comp=Z,784nm,19.0s,MS5.2
ZAK Zakamensk 101.07 320 *e*P Pdif 04 33 25.8 -5.0
ZAK pmax pmax
comp=Z,9.0nm,1.7s
TLY Talaya 101.26 321 *e*P Pdif 04 33 31.8 +0.1
TLY Talaya 101.26 321 *e*P Pdif 04 33 31.9 +0.2
TLY LR LR
comp=Z,416nm,21.0s,MS4.9
DWPF Disney 101.29 64 PFAKE 04 33 40.0 +8.2
DWPF LR LR
comp=Z,345nm,19.0s,MS4.9
SHL Shillong 102.28 293 *e*P Pdif 04 33 38.0 +1.8
CPUP Villa Florida 102.84 124 PFAKE 04 33 50.0 +11
CPUP LR LR
comp=Z,230nm,19.0s,MS4.7
ACSO Alum Creek Sta 103.43 52 PFAKE 04 33 50.0 +8.7
ACSO LR LR
comp=Z,364nm,19.0s,MS4.9
NHSC New Hope 103.72 60 PFAKE 04 33 50.0 +7.4
NHSC LR LR
comp=Z,407nm,19.0s,MS5.0
LSA Lhasa 104.06 297 PFAKE 04 34 00.0 +16
LSA LR LR
comp=Z,248nm,21.0s,MS4.7
BLA Blacksburg 104.59 55 PFAKE 04 34 00.0 +14
BLA LR LR
comp=Z,34nm,19.0s
SDV Santo Domingo 105.29 86 PFAKE 04 38 20.0 +17
SDV LR LR
comp=Z,303nm,19.0s,MS4.9
SAML Samuel 105.81 106 PFAKE 04 38 20.0 +16
SAML LR LR
comp=Z,382nm,20.0s,MS4.9
ERPA Erie 106.08 51 PFAKE 04 38 20.0 +15
ERPA LR LR
comp=Z,570nm,19.0s,MS5.1
RES Resolute Bay 106.58 16 *e*PKP PKiKP 04 38 04.5 -1.4
PALK Pallekele 107.03 272 PFAKE 04 38 20.0 +13
PALK LR LR
comp=Z,412nm,19.0s,MS5.0
CBN Corbin 107.17 55 PFAKE 04 38 20.0 +13
CBN LR LR
comp=Z,799nm,20.0s,MS5.3
SSPA Standing Stone 107.31 52 PFAKE 04 38 20.0 +13
SSPA LR LR
comp=Z,879nm,19.0s,MS5.3
BINY Binghamton 109.01 51 PFAKE 04 38 20.0 +10
BINY LR LR
comp=Z,813nm,19.0s,MS5.3
DGAR Diego Garcia 109.33 254 PFAKE 04 38 20.0 +9.0
DGAR LR LR
comp=Z,617nm,19.0s,MS5.2
WMQ Urumqi 109.85 310 PDIF Pdif 04 34 09.1 -0.8
WMQ PP PP 04 38 46.6 +2.2
WMQ S Sdif 04 46 18.8 -1.2
WMQ PP PP
comp=Z,200nm,4.3s
WMQ LR LR
comp=N,128nm,20.3s,MS4.6
WMQ LR LR
comp=E,124nm,21.0s,MS4.6
WMQ LR LR
comp=Z,212nm,20.2s,MS4.7
SJG San Juan 112.14 78 PFAKE 04 38 30.0 +14
SJG LR LR
comp=Z,522nm,19.0s,MS5.1
LBNH Lisbon 112.26 49 PFAKE 04 38 30.0 +13
LBNH LR LR
comp=Z,1μm,19.0s,MS5.5
HRV Harvard--Oak R 112.30 51 PFAKE 04 38 30.0 +13
HRV LR LR
comp=Z,1μm,19.0s,MS5.5
WES Weston 112.46 52 PFAKE 04 38 30.0 +13
WES LR LR
comp=Z,1μm,22.0s,MS5.5
ZAL Zalesovo 112.89 321 PKiKP PKiKP 04 38 17.1 -0.7
comp=Z,2.2nm,0.7s,baz=1.5,slow=3.2,SNR=14
ZAL PP PP 04 39 00.9 -5.4
comp=Z,3.1nm,0.9s,baz=31,slow=7.9,SNR=9.1
ZAL Zalesovo 112.89 321⇑ *i*PKIKP PKiKP 04 38 17.1 -0.6
NVS Novosibirsk 113.84 322 *e*PKIKP PKiKP 04 38 15.7 -3.9
NVS pmax pmax
comp=N,2.0nm,1.1s
NVS pmax pmax
comp=E,4.0nm,1.1s
NVS pmax pmax
comp=Z,10.0nm,1.1s
MK31 Makanchi Array 114.00 313 PKIKP PKiKP 04 38 19.3 -0.6
MKAR Makanchi Array 114.00 313 Pdiff Pdif 04 34 28.6 +0.3
comp=Z,1.2nm,0.9s,baz=69,slow=7.9,SNR=4.7
MKAR PKIKP PKiKP 04 38 19.4 -0.4
comp=Z,6.3nm,0.8s,baz=63,slow=1.8,SNR=45
MKAR PP PP 04 39 11.6 -2.6
comp=Z,8.2nm,1.2s,baz=83,slow=9.9,SNR=5.8
MKAR PKKPbc PKKPbc 04 49 02.2 +1.1
comp=Z,0.5nm,0.7s,baz=258,slow=4.3,SNR=6.6
MKAR Makanchi Array 114.00 313 P Pdif 04 34 28.6 +0.3
MKAR 04 38 19.4
MKAR Makanchi Array 114.00 313 Pdif Pdif 04 34 28.6 +0.3
MKAR PKPdf PKiKP 04 38 19.4 -0.4
MKAR PP PP 04 39 11.6 -2.6
MKAR PKKPbc PKKPbc 04 49 02.2 +1.1
DDI Dehra Dun 115.27 295 *ex* x 04 39 04.0
BDFB Brasilia 115.81 120 PKKPbc PKKPbc 04 48 56.9 +2.1
comp=Z,4.0nm,0.8s,baz=146,slow=3.6,SNR=5.8
SCHQ Schefferville 116.11 38 PKP PKPdf 04 38 23.4 -0.5
comp=Z,2.5nm,0.9s,baz=234,slow=2.5,SNR=3.5
SCHQ Schefferville 116.11 38 PKP PKPdf 04 38 23.4 -0.5
SCHQ LR LR
comp=Z,665nm,20.0s,MS5.2
KURK Kurchatov 116.58 317⇑ *i*PKIKP PKPdf 04 38 24.2 -0.6
KURK Kurchatov 116.58 317 PKPdf PKPdf 04 38 23.9 -0.9
KURK LR LR
comp=Z,386nm,19.0s,MS5.0
ULHL Ulahol 118.03 308 P PKPdf 04 38 28.7 +1.1
SNR=7.7
KSH Kashi 118.07 305 *e*PKP PKPdf 04 38 28.3 +0.6
KSH *e*PPP 04 42 03.3
KSH *e*PKS 04 42 04.0
KSH *e*SKS SKSdf 04 45 39.8 +3.1
KSH PP PP
comp=Z,255nm,5.2s
KSH LR LR
comp=N,123nm,5.0s
KSH LR LR
comp=E,187nm,9.3s
KSH LR LR
comp=Z,231nm,5.6s
TKM2 Tokmak 2 118.53 309 P PKPdf 04 38 28.6 +0.1
SNR=13
KZA Kyzart 118.76 308 P PKPdf 04 38 30.4 +1.4
SNR=8.3
KBK Karagaybulak 119.00 308 P PKPdf 04 38 30.1 +0.6
SNR=9.6
CHMS Chumysh 119.15 309 P PKPdf 04 38 30.0 +0.2
SNR=6.2
UCH Uchtor 119.31 308 P PKPdf 04 38 31.5 +1.4
SNR=21
AAK Ala-Archa 119.33 308 P PKPdf 04 38 30.7 +0.5
SNR=8.1
AAK Ala-Archa 119.33 308 *e*PKPdf PKPdf 04 38 29.4 -0.8
AAK LR LR
comp=Z,275nm,19.0s,MS4.9
USP Ospenovka 119.34 309 P PKPdf 04 38 30.3 +0.2
SNR=14
EKS2 Erkin-Say 119.86 308 P PKPdf 04 38 31.8 +0.7
SNR=7.2
AML Almayashu 119.92 308 P PKPdf 04 38 31.2 0.0
SNR=23
VOSK Vostochnaya 121.20 320 PKIKP PKPdf 04 38 32.8 -0.9
VOSK pmax pmax
comp=Z,18nm,1.0s
CHKZ Chkalovo 121.29 321 *e*PKIKP PKPdf 04 38 32.8 -1.1
CHKZ *e* 04 40 05.4
KBS Kingsbay 121.32 359 *e*PKIKP PKPdf 04 38 32.3 -1.6
KBS MLR MLR
comp=Z,371nm,19.0s,MS5.0
BVA0 Borovoye Array 121.52 320 *i* PKIKP PKPdf 04 38 33.6 -0.7
BRVK Borovoye 121.58 320 PKIKP PKPdf 04 38 33.7 -0.7
BRVK MLR MLR
comp=Z,249nm,19.0s,MS4.9

SUMG Summit 122.06 14 PKPdf PKPdf 04 38 35.2 -0.1
DAG Danmarks Havn 122.18 7 *i* P PKPdf 04 38 33.6 -2.0
comp=Z,2.7nm,0.7s
DAG Danmarks Havn 122.18 7 *e*PKIKP PKPdf 04 38 33.6 -2.0
DAG pmax pmax
comp=Z,3.0nm,0.7s
KK31 Karatay Array 122.26 309 *i* PKIKP PKPdf 04 38 35.5 -0.2
KK31 pmax pmax
comp=Z,14nm,1.0s
KK31 Karatay Array 122.26 309 *i* PKP PKPdf 04 38 35.6 -0.1
KKAR Karatay Array 122.26 309 *i* PKIKP PKPdf 04 38 35.5 -0.2
KKAR pmax pmax
comp=Z,14nm,1.0s
ZRNK Zerenda 122.36 320 PKIKP PKPdf 04 38 34.8 -1.1
SUR Sutherland 125.73 195 PFAKE 04 39 00.0 +18
SUR LR LR
comp=Z,948nm,19.0s,MS5.5
SVE Sverdlovsk 126.10 326⇓ *e*PKIKP PKPdf 04 38 42.5 -0.6
SVE *e* 04 38 56.8
SVE pmax pmax
comp=Z,60nm,1.7s
SVE MLR MLR
comp=N,200nm,18.0s,MS5.2
SVE MLR MLR
comp=E,400nm,18.0s,MS5.2
SVE MLR MLR
comp=Z,500nm,18.0s,MS5.2
SCO Scoresbysund 127.14 11 *i* P PKPdf 04 38 44.6 -0.5
comp=Z,5.6nm,0.9s
SCO Scoresbysund 127.14 11 *i* PKIKP PKPdf 04 38 44.6 -0.5
SCO pmax pmax
comp=Z,6.0nm,0.9s
ARU Arti 127.31 326 *i* PKIKP PKPdf 04 38 44.8 -0.6
ARU *e* 04 45 46.7
ARU *e*SP SP 04 50 42.2 -3.6
ARU *e*SS SS 04 57 51.9 +0.1
ARU MLR MLR
comp=Z,500nm,20.0s,MS5.2
ARU MLR MLR
comp=N,200nm,21.0s,MS5.2
ARU MLR MLR
comp=E,500nm,20.0s,MS5.2
ARU Arti 127.31 326 PKPdf PKPdf 04 38 45.4 0.0
ARU LR LR
comp=Z,512nm,20.0s,MS5.2
AB31 Akbulak array 128.70 317 *i* PKIKP PKPdf 04 38 47.8 -0.3
KEV Kevo 129.02 351 PFAKE 04 39 00.0 +11
KEV LR LR
comp=Z,335nm,20.0s,MS5.0
LVZ Lovozero 129.23 347⇑ *i*PKIKP PKPdf 04 38 48.3 -0.8
LVZ Lovozero 129.23 347⇑ *e*PKP PKPdf 04 38 48.4 -0.7
LVZ LR LR
comp=Z,370nm,21.0s,MS5.0
ARCES ARCESS Array B 129.44 351 PKP PKPdf 04 38 48.8 -0.7
comp=Z,23nm,1.1s,baz=299,slow=2.5,SNR=19
ARE0 ARCESS Array S 129.44 351 PKPdf PKPdf 04 38 49.0 -0.5
APA Apatity 129.77 347⇓ *i*PKIKP PKPdf 04 38 49.0 -1.1
APA *i* 04 38 54.0
APA pmax pmax
comp=Z,22nm,1.2s
APA MLR MLR
comp=Z,500nm,20.0s,MS5.2
RCBR Riachuelo 131.10 118 PFAKE 04 39 10.0 +17
RCBR LR LR
comp=Z,712nm,19.0s,MS5.4
LBTB Lobatse 131.13 204 PKIKP PKPdf 04 38 55.5 +2.8
LBTB MLR MLR
comp=Z,694nm,19.0s,MS5.4
ORR Orenburg 131.14 322 *e*PKIKP PKPdf 04 38 52.3 -0.4
ORR pmax pmax
comp=Z,10.0nm,0.9s
KLMR Klimovskoe 133.28 338 *d i*PKIKP PKPdf 04 38 50.3 -6.4
KLMR pmax pmax
comp=Z,50nm,1.5s
JOF Joensuu 134.15 344 *ep* PKPdf 04 38 57.4 -1.0
comp=Z,13nm,0.8s
KAF Kangasniemi 136.03 347 *ep* PKPdf 04 38 57.4 -4.5
comp=Z,14nm,0.9s
FINES FINESS Array B 136.67 346 PKhKP 04 38 51.6
comp=Z,1.4nm,0.8s,baz=315,slow=0.3,SNR=4.1
FINES PKP PKPdf 04 39 02.4 -0.7
comp=Z,9.3nm,0.9s,baz=90,slow=3.8,SNR=24
FINES PP PP 04 41 40.0 -5.4
comp=Z,4.2nm,1.1s,baz=358,slow=9.7,SNR=6.2
FINES FINESS Array B 136.67 346 PKHKP 04 38 51.7
FINES 04 39 02.4
MOS Moscow 137.58 334 *e*PKIKP PKPdf 04 39 04.5 -0.3
MOS *e* 04 41 58.1
OBN Obninsk 138.45 334⇑ PKHKP 04 38 57.0
OBN *i* 04 39 06.3
OBN *e* 04 39 14.5
OBN *e* 04 39 21.5
OBN 04 41 54.0
OBN *e*SS SS 05 00 07.3 +0.4
OBN pmax pmax
comp=Z,52nm,1.2s
OBN Obninsk 138.45 334⇑ *e*PKP PKPdf 04 39 06.8 +0.5
OBN LR LR
comp=Z,305nm,19.0s,MS5.1
MAK Makhachkala 138.81 313 *c i*PKIKP PKPdf 04 39 05.9 -1.1
MAK *e* 04 41 59.0
MAK *e* 04 46 13.5
MAK pmax pmax
comp=Z,201nm,1.3s
TSUM Tsumeb 139.14 197 PFAKE 04 39 20.0 +12
TSUM LR LR
comp=Z,678nm,19.0s,MS5.4
NB2 NORSAR Subarra139.21 356 PKPd 04 38 59.6
comp=Z,8.9nm,1.0s,baz=7.3,slow=1.9
NB2 NORSAR Subarra139.21 356 PKPd 04 38 59.6
baz=7.3,slow=1.9
NOA NORSAR Array B 139.21 356 PKhKP 04 38 59.8
comp=Z,3.1nm,0.9s,baz=5.7,slow=2.4,SNR=7.1
KONO Kongsberg 140.68 357 PFAKE 04 39 20.0 +10
KONO LR LR
comp=Z,287nm,20.0s,MS5.0
ZEI Tsey 141.35 314 *e*PKHKP PKPdf 04 39 07.1 -4.5
KIV Kislovodsk 141.66 316 *d i*PKIKP PKPdf 04 39 12.0 -0.2
KIV Kislovodsk 141.66 316 *i* PKPr PKPdf 04 39 12.0 -0.2
KIV LR LR
comp=Z,306nm,19.0s,MS5.1
MNK Minsk 142.17 340 *e*PKHKP 04 39 06.0
DIGO Kars 142.60 311 *i* P PKPdf 04 39 10.3 -3.6
KMBO Kilima Mbogo 142.87 239 PKhKP 04 39 11.8
comp=Z,17nm,1.0s,baz=26,slow=2.0,SNR=13
KMBO Kilima Mbogo 142.87 239⇑ *i*PKHKP PKPdf 04 39 12.5 -1.8
KMBO Kilima Mbogo 142.87 239 PKP PKPdf 04 39 11.8 -2.5
EAB Aberfoyle 143.36 10 *e*P PKPdf 04 39 11.8 -3.4
EAB AMb AMB 04 39 14.2
comp=Z,131nm,1.6s
SOC Sochi 143.74 317 *d i*PKHKP PKPdf 04 39 12.6 -3.3
SOC *e* 04 46 17.7
SOC *e*SSS 05 06 27.7
SOC pmax pmax
comp=Z,22nm,0.9s
EAU Auchinoon 143.83 9 *e*P PKPdf 04 39 13.3 -2.7
EAU AMb AMB 04 39 15.3
comp=Z,363nm,1.6s
ESY Stoneypath 143.88 8 *e*P PKPdf 04 39 13.3 -2.8
MUD Monsted U'grnd 143.89 357⇑ *i*P PKPdf 04 39 14.0 -2.1
comp=Z,78nm,1.3s
MUD *e* 04 43 28.3
MUD
comp=Z,2μm,20.0s
MUD Monsted U'grnd 143.89 357⇑ *i*PKIKP PKPdf 04 39 14.0 -2.1
MUD pmax pmax
comp=Z,78nm,1.3s
MUD MLR MLR
comp=Z,2μm,20.0s,MS5.9
MUD Monsted U'grnd 143.89 357⇑ *i*P PKPdf 04 39 14.0 -2.1
MUD *e* 04 43 28.3
GMK Mull of Kintyr 143.95 11 *e*P PKPdf 04 39 13.5 -2.8
EBL Broad Law 143.96 9 *e*P PKPdf 04 39 13.9 -2.3
EBL AMb AMB 04 39 15.6
comp=Z,185nm,1.4s
SUW Suwalki 143.99 343 *e*PKP PKPdf 04 39 13.8 -2.5
GCL Cushendall 144.10 12 *e*P PKPdf 04 39 14.2 -2.3
MSL Mosul 144.13 304 *i* x x 04 39 16.0
ERZM Erzurum 144.22 311 *i* P PKPdf 04 39 16.4 -0.3
ESK Eskdalemuir 144.38 9 *e*P PKPdf 04 39 14.5 -2.4
ESK AMb AMB 04 39 16.6
comp=Z,89nm,1.6s
ESK Eskdalemuir 144.38 9 PKPdf PKPdf 04 39 15.0 -1.9
ESK LR LR
comp=Z,683nm,20.0s,MS5.4

COP Copenhagen 144.42 354 *i* P PKPdf 04 39 15.7 -1.4
comp=Z,46nm,0.9s
COP *i* 04 42 27.3
COP *i* 04 53 54.6
COP
comp=Z,140nm,17.0s
COP Copenhagen 144.42 354 *i* PKIKP PKPdf 04 39 15.7 -1.4
COP pmax pmax
comp=Z,46nm,0.9s
COP MLR MLR
comp=Z,150nm,17.0s,MS4.8
BWH Wardlaw 144.44 10 *e*P PKPdf 04 39 15.2 -1.9
ANN Anapa 144.52 321 *i* PKIKP PKPdf 04 39 15.9 -1.3
ANN *e* 04 39 31.4
ANN pmax pmax
comp=Z,104nm,1.0s
GAL1 Galloway 144.56 11 *e*P PKPdf 04 39 14.2 -3.0
BHH Howats Hill 144.59 9 *e*P PKPdf 04 39 15.7 -1.6
BSD Bornholm Skovb 144.69 351⇓ *i*P PKPdf 04 39 15.7 -1.8
comp=Z,100nm,1.0s
BSD *e* 04 50 52.9
BSD Bornholm Skovb 144.69 351⇓ *i*PKIKP PKPdf 04 39 15.7 -1.8
BSD pmax pmax
comp=Z,100nm,1.0s
BSD Bornholm Skovb 144.69 351⇓ *i*P PKPdf 04 39 15.7 -1.8
BSD *e* 04 50 52.9
BSD *i* 05 09 17.5
GCD Castle Douglas 144.70 10 *e*P PKPdf 04 39 15.8 -1.7
AKASG Malin Array Be 144.71 335 PKP PKPdf 04 39 15.7 -1.8
comp=Z,164nm,1.1s,baz=38,slow=4.2,SNR=228
BNGL BINGOL 144.74 309 *i* P PKPdf 04 39 18.1 +0.5
BTMT Batman 144.76 308 P PKPdf 04 39 18.3 +0.6
MACK Trabzon 144.91 313 *i* P PKPdf 04 39 17.5 -0.4
BDL Dobcross Hall 144.91 9 *e*P PKPdf 04 39 17.3 -0.6
GMM Mts of Mourne 144.92 12 *e*P PKPdf 04 39 16.2 -1.7
BBO1 Bothel 144.93 10 *e*P PKPdf 04 39 16.9 -1.0
CKE Keswick 145.10 10 *e*P PKPbc 04 39 16.9 -0.9
XDE Dent Fell 145.12 10 *e*P PKPbc 04 39 17.0 -0.8
WIM Isle of Man 145.25 11 *e*P PKPbc 04 39 18.2 0.0
WIM AMb AMB 04 39 19.3
comp=Z,230nm,1.3s
GUMT Gumushane 145.32 313 P PKPbc 04 39 20.3 +1.9
DCN Croghan 145.47 14⇓ *i*P PKPdf 04 39 18.9 0.0
LWH Whinny Nab 145.68 7 *e*P PKPdf 04 39 18.2 -1.0
DLF Lyons Farm 145.68 14⇓ *i*P PKPdf 04 39 19.5 +0.3
DSB Dublin 145.76 13 PKPdf PKPdf 04 39 20.2 +0.8
GRSN GIRESUNGRSN 145.94 314 *i* P PKPdf 04 39 19.9 +0.3
WCB1 Church Bay 146.01 12 *e*P PKPdf 04 39 20.2 +0.4
WCB1 AMb AMB 04 39 22.3
comp=Z,252nm,1.4s
WME Myndd Eilian 146.04 11 *e*P PKPdf 04 39 19.7 -0.1
GKP Gorka Klasztor 146.07 348 *e*PKP PKPdf 04 39 21.4 +1.5
WLF1 Llynfaes 146.12 11 *e*P PKPdf 04 39 20.9 +0.9
WLF1 AMb AMB 04 39 22.0
comp=Z,167nm,1.3s
YRC Rhoscolyn 146.13 12 *e*P PKPdf 04 39 20.8 +0.8
YRC AMb AMB 04 39 22.6
comp=Z,296nm,1.5s
WAR Warsaw 146.16 344 *e*PKP PKPdf 04 39 21.9 +1.9
WPM1 Penmaenmawr 146.24 11 *e*P PKPdf 04 39 21.2 +1.0
WPM1 AMb AMB 04 39 23.4
comp=Z,447nm,1.4s
LHO Holmfirth 146.29 9 *e*P PKPdf 04 39 20.5 +0.3
BSEG Bad Segeberg 146.34 356 *e*PKPdf PKPdf 04 39 21.4 +1.1
BSEG *e*PP PP 04 42 42.3 -1.9
BSEG Bad Segeberg 146.34 356 *e*PKPdf PKPdf 04 39 21.4 +1.1
BSEG *e*PP PP 04 42 42.4 -1.8
SIM Simferopol' 146.35 323 *e*PKP2 PKPab 04 39 22.4 -0.1
SIM pmax pmax
comp=Z,69nm,1.0s
SIM pmax pmax
comp=Z,200nm,8.0s
SIM MLR MLR
comp=Z,300nm,20.0s,MS5.1
YRE Yr Eifl 146.41 12 *e*P PKPdf 04 39 21.6 +1.1
ELZG Elazig 146.47 310 *i* P PKPdf 04 39 22.5 +1.9
KBI1 Birley Grange 146.62 8 *e*P PKPdf 04 39 21.5 +0.7
DESE Dese 146.62 259 *e*P PKPdf 04 39 24.1 +3.3
SBD1 Bryn Du 146.69 10 *e*P PKPdf 04 39 19.3 -1.7
KWE Weaver Farm 146.81 9 *e*P PKPdf 04 39 22.4 +1.3
MYA Malataya 146.94 310 P PKPbc 04 39 25.3 +2.0
MALT Malataya 146.95 310 P PKPdf 04 39 24.7 +3.4
MALT Malataya 146.95 310⇑ *i*P PKPbc 04 39 25.1 +1.7
MALT Malataya 146.95 310 PKPdf PKPdf 04 39 22.7 +1.3
MALT *e*PKPbc PKPbc 04 39 24.7 +1.4
URFA Urfa 147.00 308 P PKPdf 04 39 19.9 -1.5
HLM1 Long Mynd 147.13 10 *e*P PKPdf 04 39 21.4 -0.2
SSP1 Stoney Pound 147.19 11 *e*P PKPdf 04 39 21.9 +0.2
SVSK Karacayir 147.26 313 P PKPdf 04 39 22.4 +0.6
KVT Kavak 147.34 316 P PKPbc 04 39 26.3 +1.9
SVST Sivas 147.36 313 *i* P PKPbc 04 39 26.2 +1.7
LVV L'vov 147.37 338 *i* PKP2 PKPbc 04 39 24.4 -0.1
ATAB Bozova 147.38 308 *i* P PKPbc 04 39 26.0 +1.4
RUE Ruedersdorf 147.41 351 *e*PKPbc PKPbc 04 39 24.7 +0.1
RUE PKPab PKPab 04 39 25.4 -1.2
MCH1 Michaelchurch 147.61 11 *e*P PKPdf 04 39 20.3 -2.1
HAE Alders End 147.65 10 *e*P PKPdf 04 39 22.2 -0.4
KIS Kishinev 147.69 331 *e*PKHKP 04 39 14.0
KIS *e* 04 42 50.0
BOYT Boyabat 147.90 317 *i* P PKPbc 04 39 26.4 +0.4
GZT Gaziantep 147.96 309 *i* P PKPbc 04 39 27.4 +1.3
KWP Kalwaria 147.98 340 *e*PKP PKPbc 04 39 26.6 +0.4
KWP Kalwaria 147.98 340 *e*PKIKP PKPdf 04 39 23.2 +0.1
KWP *e* 04 39 26.6
KWP Kalwaria 147.98 340 *e*PKPdf PKPdf 04 39 23.2 +0.2
KWP *e*PKPbc PKPbc 04 39 26.5 +0.3
KWP *e*PKP PKPdf 04 39 26.6 +3.5
HGH Gray Hill 147.99 11 *e*P PKPdf 04 39 23.1 0.0
IBBN Ibbenburen 148.09 358 *e*PKPdf PKPdf 04 39 23.7 +0.4
IBBN *e*PKPbc PKPbc 04 39 26.9 +0.4
SKP1 Kophill 148.22 8 *e*P PKPdf 04 39 26.1 +2.6
OJC Ojcow 148.32 343 *e*PKPdf PKPdf 04 39 22.6 -1.0
OJC *e*PKiKP PKiKP 04 39 27.2 -1.5
CTKT Corum 148.39 316 *i* P PKPdf 04 39 24.6 +0.8
CLZ Clausthal 148.41 355 *e*PKPdf PKPdf 04 39 24.0 +0.2
CLZ *e*PKPbc PKPbc 04 39 27.8 +0.5
CLZ *e*PP PP 04 42 54.4 -2.0
CLZ Clausthal 148.41 355 *e*PKP2 PKPbc 04 39 27.8 +0.5
CLZ *e* 04 42 54.4
WTSB Winterswijk 148.45 359 *e*PKiKP PKiKP 04 39 27.5 -1.5
comp=Z,129nm,1.4s
BNN Bunyan 148.54 312 P PKPdf 04 39 25.2 +1.2
KSP Ksiaz 148.56 348 *e*PKP PKPbc 04 39 28.2 +0.5
KSP Ksiaz 148.56 348 *e*PKP PKPdf 04 39 24.5 +0.5
KSP *e*PKPdf PKPdf 04 39 28.2 +4.2
KSP *e*pPKP pPKPdf 04 39 37.1 +0.7
KSP LR LR
comp=Z,800nm,21.4s,MS5.5
STHS Stebnicka Huta 148.63 341 *e*PKP PKPbc 04 39 28.4 +0.5
CLL Collm 148.66 352 *e*PKPdf PKPdf 04 39 24.5 +0.3
CLL ⇓ *i*PKPbc PKPbc 04 39 28.0 0.0
comp=Z,175nm,1.1s
CLL *e*PKPab PKPab 04 39 31.7 +0.1
CLL *e*SKSP 04 53 16.9
CLL *e*L 05 59 36.4
comp=Z,423nm,18.0s
CLL Collm 148.66 352 *i* PKPdf PKPdf 04 39 24.5 +0.3
comp=Z,20nm,1.3s
CLL ⇓ *i*PKPbc PKPbc 04 39 28.1 +0.1
comp=Z,173nm,1.1s
CLL *i* PKPab PKPab 04 39 31.0 -0.6
comp=Z,92nm,1.0s
CLL *i* (sPKPab) 04 39 36.9
CLL *i* x x 04 39 47.4
CLL *ex* x 04 42 05.0
CLL *e*PS 04 53 48.0
CLL LmH 05 57 00.0
comp=N,600nm,19.1s
CLL LmH 05 57 00.0
comp=E,300nm,21.7s
CLL Collm 148.66 352⇓ *i*PKIKP PKPdf 04 39 24.5 +0.3
CLL *i* 04 39 31.0
CLL pmax pmax
comp=Z,20nm,1.3s
CLL pmax pmax
comp=Z,173nm,1.1s
CLL pmax pmax
comp=Z,92nm,1.0s
CLL MLR MLR
comp=Z,500nm,17.0s,MS5.4
CLL Collm 148.66 352 *i* PKP PKPdf 04 39 24.5 +0.3
CLL ⇓ *i*PKP PKPbc 04 39 28.1 +0.1

CLL *i* PKP PKPab 04 39 31.0 -0.6
CLL LR LR
comp=Z,500nm,17.0s,MS5.4
KOLS Kolonicke sedl 148.72 339 *e*PKP PKPbc 04 39 28.6 +0.5
GTTG Gyttingen 148.74 356 *e*PKPdf PKPbc 04 39 24.3 0.0
GTTG *e*PKPbc PKPbc 04 39 28.5 +0.3
BURAR Bucovina Array 148.76 335 ⇓*i*P PKPbc 04 39 29.1 +0.9
BURAR Bucovina Array 148.76 335 ⇓P PKPbc 04 39 29.1 +0.9
BALT Daday 148.79 319 *i* P PKPbc 04 39 29.5 +1.2
CSA1 St Austell 148.80 14 *e*P PKPbc 04 39 28.1 -0.2
NIE Niedzica 148.90 342 *e*PKP PKPdf 04 39 25.7 +1.1
NIE *e* 04 39 26.0
NIE Niedzica 148.90 342 *e*PKP PKPdf 04 39 25.7 +1.1
NIE *i* 04 39 30.0
DYA Yadsworthy 148.93 13 *e*P PKPdf 04 39 27.4 +2.8
UPC Upice 148.94 348 *e*PKPDF PKPdf 04 39 24.7 +0.1
UPC ⇑*e*PKPB PKPbc 04 39 29.5 +0.8
BRG Berggiesshubel 148.95 351 *e*PKPdf PKPdf 04 39 25.3 +0.6
BRG *e*PKPbc PKPbc 04 39 29.0 +0.3
BRG Berggiesshubel 148.95 351 *i* PKP PKPdf 04 39 25.3 +0.6
comp=Z,17nm,1.3s
BRG *i* 04 39 28.9
comp=Z,66nm,1.2s
BRG *e* 04 42 53.7
comp=Z,12nm,1.6s
BRG SS SS 05 02 14.0 +6.3
BRG
comp=N,183nm,21.2s
BRG
comp=E,84nm,16.8s
BRG
comp=Z,323nm,22.6s
BRG Berggiesshubel 148.95 351 *i* PKIKP PKPdf 04 39 25.3 +0.6
BRG *i* 04 39 28.9
BRG pmax pmax
comp=Z,17nm,1.3s
BRG MLR MLR
comp=N,183nm,21.2s,MS4.9
BRG MLR MLR
comp=E,84nm,16.8s,MS4.9
BRG MLR MLR
comp=Z,323nm,22.6s
BUG Bochum--Univer 148.97 359 *e*PKPdf PKPdf 04 39 25.0 +0.3
BUG *e*PKPbc PKPbc 04 39 28.7 -0.1
CRVS Cervenica-Dubn 149.01 340 *e*PKP PKPbc 04 39 29.8 +0.9
DPC Dobruska-Polom 149.02 347 *e*PKPDF PKPdf 04 39 25.1 +0.3
DPC ⇑*e*PKPB PKPbc 04 39 29.7 +0.8
DPC AMS AMS 05 50 20.0
comp=Z,600nm,18.4s
OKC Ostrava-Krasne 149.10 345 *e*PKPDF PKPdf 04 39 25.4 +0.5
OKC ⇑*e*PKPB 04 39 29.9
CANT Cankiri 149.16 317 P PKPdf 04 39 26.1 +1.1
KOZT Kozan 149.17 310 P PKPbc 04 39 30.4 +1.2
CDAG Cicekdag 149.18 315 *i* P PKPdf 04 39 24.9 -0.1
COBT Iskenderun 149.25 308 *i* P PKPbc 04 39 30.7 +1.2
AVNT Avonos 149.26 313 *i* P PKPdf 04 39 22.9 -2.3
MORC Moravsky Berou 149.30 346 ⇓*i*P PKPdf 04 39 25.4 +0.2
MORC Moravsky Berou 149.30 346 PKP2 PKPab 04 39 30.8 -3.4
MORC Moravsky Berou 149.30 346 *e*PKPdf PKPdf 04 39 25.1 -0.1
MORC *e*PKPbc PKPbc 04 39 29.9 +0.4
ELDT Eldivan 149.34 317 *i* P PKPdf 04 39 25.8 +0.5
CFR Carcaliu 149.34 329 ⇓*i*P PKPbc 04 39 30.1 +0.4
CFR Carcaliu 149.34 329 ⇓P PKPbc 04 39 30.1 +0.4
SAFT Safranbolu 149.39 319 P PKPbc 04 39 25.8 +0.5
CEYT Ceyhan 149.42 309 P PKPdf 04 39 26.7 +1.2
UBBA Unterbreizbach 149.46 355 *e*PKPbc PKPbc 04 39 29.8 -0.2
MOX Moxa 149.48 353 *e*PKPdf PKPdf 04 39 25.8 +0.3
MOX *e*PKPbc PKPbc 04 39 30.2 +0.2
MOX Moxa 149.48 353 *e*PKP PKPdf 04 39 25.7 +0.2
MOX *e* 04 39 30.2
comp=Z,211nm,1.8s
MOX
comp=Z,500nm,18.0s
HTY Hatay 149.49 307 P PKPbc 04 39 31.2 +1.2
VRI Vrincioaia 149.49 331 ⇑*i*P PKPbc 04 39 30.2 +0.1
VRI Vrincioaia 149.49 331 ⇓*i*P PKPbc 04 39 30.7 +0.6
VRI Vrincioaia 149.49 331 ⇑P PKPbc 04 39 30.2 +0.2
PLOR Plostina 149.54 331 ⇓*i*P PKPbc 04 39 30.7 +0.5
LIKS Likavka 149.57 343 *e*PKP PKPbc 04 39 32.5 +2.3
UCC Uccle 149.59 2 PKPbc PKPbc 04 39 29.8 -0.5
UCC PKPab PKPab 04 39 34.7 -0.7
UCC APKPbc 04 39 40.1
WERD Werda 149.59 352 *e*PKPdf PKPdf 04 39 26.2 +0.5
WERD *e*PKPbc PKPbc 04 39 30.4 +0.1
BR131 Keskin Array S 149.61 315 PKPdf PKPdf 04 39 26.1 +0.4
BR131 *e*PKPbc PKPbc 04 39 30.9 +0.6
BR131 LR LR
comp=Z,244nm,21.0s,MS5.0
BRTR Keskin Array B 149.61 315 PKP PKPdf 04 39 26.9 +1.2
comp=Z,46nm,1.1s,baz=201,slow=1.4,SNR=32
BRTR PKPbc PKPbc 04 39 31.6 +1.3
comp=Z,20nm,0.8s,baz=132,slow=3.1,SNR=51
BRTR PP PP 04 42 51.0 -12
comp=Z,1.6nm,1.0s,baz=356,slow=8.7,SNR=3.0
BEBN Eben Emael 149.62 1 PKPbc PKPbc 04 39 30.2 -0.1
BEBN PKPab PKPab 04 39 34.9 -0.7
BEBN E 04 39 46.8
PRA Prague 149.65 350 ⇑PKPB PKPbc 04 39 30.0 -0.4
HGN Heimansgroeve 149.66 0 *e*PKiKP PKiKP 04 39 30.7 -0.8
comp=Z,85nm,1.7s
KECS Kecovo 149.69 341 *i* PKP PKPbc 04 39 31.2 +0.7
KECS *e* 04 39 36.3
PRU Pruhonice 149.71 349 *e*PKPDF PKPdf 04 39 25.7 -0.2
PRU ⇑*e*PKPB PKPbc 04 39 30.6 0.0
PRU AMS AMS 05 46 40.0
comp=Z,500nm,19.7s
TIRR Tirgusor 149.73 328 ⇑*i*P PKPbc 04 39 31.1 +0.5
TIRR Tirgusor 149.73 328 *e*PKPbc PKPbc 04 39 31.1 +0.5
KAMT Kaman 149.75 315 P PKPdf 04 39 26.2 +0.2
NIG Nigde 149.75 312 P PKPdf 04 39 28.7 +2.8
NKC Novy Kostel 149.79 352 *e*PKPDF PKPdf 04 39 26.8 +0.8
NKC ⇑*e*PKPB PKPbc 04 39 31.3 +0.5
HARR Harsova 149.80 328 ⇓*i*P PKPbc 04 39 31.9 +1.1
HARR Harsova 149.80 328 ⇓P PKPbc 04 39 31.9 +1.1
KARA Karaisali 149.81 310 P PKPdf 04 39 24.1 -1.9
MEM Membach 149.81 0 PKPbc PKPbc 04 39 31.0 +0.2
MEM PKPab PKPab 04 39 35.7 -0.7
SNF Seneffe 149.88 2 PKPbc PKPbc 04 39 31.9 +0.9
SNF PKPab PKPab 04 39 37.2 +0.6
VRAC Vranov 149.95 346 ⇓*i*P PKPbc 04 39 32.1 +0.9
VRAC Vranov 149.95 346 ⇓P PKPbc 04 39 32.1 +0.9
MANZ Manzenberg 150.07 352 *e*PKPdf PKPdf 04 39 26.7 +0.2
MANZ *e*PKPbc PKPbc 04 39 32.1 +0.6
ANTO Ankara 150.09 316 *e*PKIKP PKPdf 04 39 26.9 +0.4
ANTO *e* 04 39 32.3
ANTO *e* 04 39 38.3
ANTO MLR MLR
comp=Z,238nm,19.0s,MS5.0
MLR Muntele Rosu 150.13 332 ⇓*i*P PKPdf 04 39 26.6 +0.1
MLR Muntele Rosu 150.13 332 ⇓P PKPdf 04 39 26.6 +0.1
TNS Taunus Mts 150.15 357 *e*PKPbc PKPbc 04 39 32.1 +0.4
VYHS Vyhne 150.15 343 *e*PKP PKPbc 04 39 32.4 +0.7
VYHS *e* 05 04 59.4
SGKT Sivrigoynuk 150.16 318 *i* P PKPdf 04 39 26.4 -0.2
TREC Trest 150.20 348 *e*PKPDF PKPdf 04 39 27.1 +0.5
TREC ⇑*e*PKPB PKPbc 04 39 32.4 +0.6
ROTZ Rotzenmuhle 150.28 352 *e*PKPdf PKPdf 04 39 26.5 -0.3
ROTZ *e*PKPbc PKPbc 04 39 32.2 +0.2
DOU Dourbes 150.30 2 PKP PKPdf 04 39 26.6 -0.2
DOU PKPbc PKPbc 04 39 32.3 +0.3
DOU PKiKP PKiKP 04 39 35.4 +2.6
DOU PKPab PKPab 04 39 37.5 -0.8
GIVF Givet 150.30 2 *e*PKIKP PKPdf 04 39 26.5 -0.3
BAIF Baives 150.32 3 *e*PKIKP PKPdf 04 39 26.5 -0.3
MERS Mersin 150.37 310 P PKPbc 04 39 33.2 +1.0
PSZ Piszkesteto 150.37 341 ⇓*i*pPKP/F PKPbc 04 39 32.6 +0.4
PSZ Piszkesteto 150.37 341 ⇓*i*P PKPbc 04 39 33.1 +0.9
PSZ Piszkesteto 150.37 341 PKPdf PKPdf 04 39 26.7 -0.2
PSZ *e*PKPbc PKPbc 04 39 32.5 +0.4
DRGR 150.40 337 ⇓*i*P PKPbc 04 39 32.8 +0.5
DRGR 150.40 337 ⇓P PKPbc 04 39 32.8 +0.5
JLP Les Platons 150.42 11 *e*P PKPdf 04 39 27.1 +0.1
JVM Valle D.L. Mar 150.43 11 *e*P PKPdf 04 39 27.3 +0.3
GRA1 Grafenberg Arr 150.46 353 *e*PKPdf PKPdf 04 39 27.6 +0.5
GRA1 *e*PKPbc PKPbc 04 39 33.0 +0.6
GRA1 *e*PP PP 04 43 12.0 +3.7
GRA1 LR LR
comp=Z,400nm,18.9s,MS5.2
GRF Grafenberg Arr 150.46 353 *e*PKPdf PKPdf 04 39 27.6 +0.5
GRF *e*PKPbc PKPbc 04 39 33.0 +0.6
GRF *e*PP PP 04 43 12.0 +3.7
GRF *e*L 05 57 31.9
comp=Z,380nm,18.9s
JRS Jersey 150.47 11 *e*P PKPdf 04 39 27.3 +0.2
SMOL Smolenice 150.50 345 *e*PKP PKPbc 04 39 33.9 +1.4
SMOL *e* 04 39 40.1
ABH Alteburg 150.53 358 PKP PKPdf 04 39 28.3 +1.1
VOIR 150.57 332 ⇑*i*P PKPbc 04 39 33.5 +0.8
VOIR 150.57 332 ⇑P PKPbc 04 39 33.5 +0.9
BHL Bhannes 150.67 304 *e*P PKPdf 04 39 28.7 +1.3
KHC Kasperske Hory 150.70 350 *e*PKPDF PKPdf 04 39 27.4 0.0
KHC ⇑*e*PKPB PKPbc 04 39 33.4 +0.4
KHC AMS AMS 05 47 20.0
comp=Z,600nm,21.0s
RUP Ruppelstein 150.72 359 PKIKP PKPdf 04 39 28.3 +0.8
MTUR Matau 150.73 332 ⇓*i*P PKPbc 04 39 33.9 +0.9
MTUR Matau 150.73 332 P PKPbc 04 39 33.9 +0.9
HENT Hendek 150.73 320 *i* P PKPbc 04 39 33.0 -0.1
TOD Tromm 150.75 357 PKIKP PKPdf 04 39 28.1 +0.6
MDU Mudurnu 150.75 319 P PKPbc 04 39 33.6 +0.6
WLF Walferdange 150.76 0 *e*PKPdf PKPdf 04 39 28.6 +1.1
WLF *e*PKPbc PKPbc 04 39 33.9 +0.8
WLF Walferdange 150.76 0 PKPbc PKPbc 04 39 33.7 +0.6
WLF PKPab PKPab 04 39 39.8 -0.4
WLF APKPbc 04 39 44.9
WLF Walferdange 150.76 0 *e*PKPdf PKPdf 04 39 28.0 +0.5
WLF *e*PKPbc PKPbc 04 39 33.5 +0.4
WLF *e*PKPab PKPab 04 39 40.0 -0.2
WET Wettzell 150.79 351 *e*PKPdf PKPdf 04 39 28.0 +0.4
WET *e*PKPbc PKPbc 04 39 33.7 +0.5
WET *e*PP PP 04 43 07.2 -3.0
ZST Bratislava 150.88 345 *e*PKP PKPbc 04 39 34.2 +0.8
ZST *e* 04 39 42.2
ZST Bratislava 150.88 345 *e*PKIKP PKPbc 04 39 34.2 +0.8
ZST *e* 04 39 42.2
ZST MLR MLR
comp=Z,98nm,18.9s,MS4.6
SRO Srobarova 150.92 343 *e*PKP PKPbc 04 39 34.7 +1.2
GEC2 GERESS Array S 150.96 350 *e*PKPdf PKPdf 04 39 28.2 +0.4
GEC2 *e*PKPbc PKPbc 04 39 33.2 -0.4
GERES GERESS Array B 150.96 350 PKP PKPdf 04 39 28.3 +0.4
comp=Z,2.9nm,0.9s,baz=343,slow=1.4,SNR=13
GERES PKPbc PKPbc 04 39 34.8 +1.2
comp=Z,39nm,1.1s,baz=48,slow=2.0,SNR=69
BUC1 Bucharest 150.97 330 ⇓*i*P PKPbc 04 39 34.3 +0.7
BUC1 Bucharest 150.97 330 ⇓P PKPbc 04 39 34.4 +0.8
SRO1 Iza 150.99 343 *e*PKP PKPbc 04 39 34.7 +1.1
BUD Budapest 151.02 342 ⇑*i*pPKP/F PKPbc 04 39 34.0 +0.3
ROSF Rostrenen 151.06 13 *e*PKIKP PKPdf 04 39 27.3 -0.7
comp=Z,39nm,1.3s
FLN La Foliniere 151.15 9 *e*PKIKP PKPdf 04 39 27.6 -0.5
comp=Z,55nm,1.0s
FLN *e*R
comp=Z,517nm,18.5s
FLN La Foliniere 151.15 9 *e*PKPdf PKPdf 04 39 27.6 -0.5
FLN LR LR
comp=Z,520nm,18.5s,MS5.4
KIZT Kizilcal 151.22 315 P PKPdf 04 39 28.1 -0.1
IKL Isikli 151.25 309 P PKPbc 04 39 34.9 +0.6
SGMF Saint Gilles 151.28 12 *e*PKIKP PKPdf 04 39 27.7 -0.6
comp=Z,63nm,1.3s
LDF La Druitiere 151.37 9 *e*PKIKP PKPdf 04 39 27.8 -0.7
comp=Z,102nm,1.6s
KONT Konya--Tatoy 151.38 313 P PKPbc 04 39 35.3 +0.7
LANF Langenberg 151.42 358 PKP PKPdf 04 39 29.4 +0.9
GRR Gorron 151.46 10 *e*PKIKP PKPdf 04 39 28.2 -0.4
QUIF Quistinic 151.48 13 *e*PKIKP PKPdf 04 39 27.9 -0.7
comp=Z,96nm,1.5s
SOP Sopron 151.49 345 ⇓*i*pPKP/F PKPbc 04 39 35.2 +0.4
STU Stuttgart 151.56 356 *e*PKPdf PKPdf 04 39 29.4 +0.7
STU *e*PKPbc PKPbc 04 39 35.3 +0.3
STU Stuttgart 151.56 356 PKIKP PKPbc 04 39 36.3 +1.3
STU Stuttgart 151.56 356 *e*PKPbc PKPbc 04 39 34.8 -0.2
BORA Eskisehir 151.57 318 *i* P PKPdf 04 39 27.6 -1.1
ERMK Ermenek 151.62 311 *i* P PKPdf 04 39 29.7 +0.9
BZS Buzias 151.80 337 ⇓*i*P PKPdf 04 39 29.1 0.0
BZS Buzias 151.80 337 ⇓P PKPdf 04 39 29.1 0.0
MOA Molln 151.82 349 ⇓*i*P PKPbc 04 39 35.6 +0.1
comp=Z,109nm,1.8s,SNR=9.0
MEZF Maizieres J'vi 151.91 2 *e*PKIKP PKPdf 04 39 29.3 0.0
FUR Furstenfeldbru 151.96 353 *e*PKPdf PKPdf 04 39 29.7 +0.3
FUR *e*PKPbc PKPbc 04 39 36.2 +0.3
FUR *e*PP PP 04 43 16.0 -0.9
ELBA Catalca 151.98 323 *i* P PKPbc 04 39 35.6 -0.3
WLS Welschbruch 152.00 358 PKP PKPdf 04 39 30.1 +0.7
CDF Champ du Feu 152.00 359 *e*PKIKP PKPdf 04 39 28.7 -0.7
BFO Black Forest 152.04 357 *e*PKPdf PKPdf 04 39 29.6 +0.1
BFO *e*PKPbc PKPbc 04 39 36.1 0.0
BFO Black Forest 152.04 357 PKIKP PKPdf 04 39 29.7 +0.2
CSS Prodhromos 152.05 307 *e*PKPbc PKPbc 04 39 35.9 -0.2
ARSA Arzberg 152.13 346 ⇓*i*P PKPbc 04 39 36.4 +0.1
comp=Z,112nm,1.7s,SNR=6.1
PVL Pavlikeni 152.15 329 *e*P PKPbc 04 39 38.0 +1.7
THEF They Montfort 152.20 0 PKP PKPdf 04 39 30.6 +0.9
ECH Echery 152.20 359 PKP PKPdf 04 39 30.4 +0.7
ULD Uludag 152.21 350 *i* P PKPdf 04 39 29.6 -0.1
PKSM Moragy 152.28 341 ⇓*i*P PKPdf 04 39 29.6 -0.2
PKSM Moragy 152.28 341 ⇓P PKPdf 04 39 29.6 -0.2
HAU Haudompre 152.42 360 *e*PKIKP PKPdf 04 39 30.5 +0.5
HAU *e*R
comp=Z,495nm,19.5s
HAU Haudompre 152.42 360 *e*PKPdf PKPdf 04 39 30.5 +0.5
HAU LR LR
comp=Z,500nm,19.5s,MS5.3
EIL Elat 152.44 295 *e*PKPdf PKPdf 04 39 30.6 +0.5
EIL *e*PKPbc PKPbc 04 39 38.1 +1.1
EIL *e*PKPab PKPab 04 39 48.7 +1.5
FELD Feldberg im Sc 152.51 357 PKP PKPdf 04 39 30.6 +0.4
MOF Molkenrain 152.57 359 PKP PKPdf 04 39 30.8 +0.6
HINF Hinteralfeld 152.61 359 PKIKP PKPdf 04 39 29.7 -0.6
GDZ Gediz 152.64 318 *i* P PKPbc 04 39 37.0 -0.4
ISP Isparta 152.68 315 PKIKP PKPbc 04 39 38.0 +0.5
ISP *e* 04 39 48.8
ISP Isparta 152.68 315 *e*PKPbc PKPbc 04 39 37.4 -0.1
TKTP Tekketepe 152.70 315 *i* P PKPdf 04 39 29.2 -1.2
KOGS Kog 152.72 345 *e*PKPdf PKPdf 04 39 30.0 -0.5
KOGS *e*PKPbc PKPbc 04 39 37.9 +0.3
KOGS *e*PKPab PKPab 04 39 49.0 +0.6
KBA Koelnbreinsper 152.73 349 *i* P PKPbc 04 39 37.5 -0.1
comp=Z,86nm,1.5s,SNR=6.6
MOTA Moosalm 152.79 353 ⇓*i*P PKPbc 04 39 38.0 +0.2
comp=Z,57nm,1.2s,SNR=13
PERS Pernice 152.80 347 *e*PKPdf PKPdf 04 39 30.3 -0.3
PERS *i* PKPbc PKPbc 04 39 37.4 -0.4
PERS *e*PKPab PKPab 04 39 48.6 -0.1
WTTA Wattenberg 152.81 352 ⇓*i*P PKPbc 04 39 38.0 +0.2
comp=Z,126nm,1.5s,SNR=9.0
BEO Belgrade 152.91 337 ⇑*i*P PKPbc 04 39 38.8 +0.8
BBS Basel-Blauen 152.94 358 PKIKP PKPbc 04 39 35.5 -2.6
DAVA Damuels 152.98 355 ⇓*i*P PKPbc 04 39 38.7 +0.5
comp=Z,110nm,1.5s,SNR=8.9
SVIS Svilajnac 153.07 336 ⇑*i*P PKPbc 04 39 38.5 +0.1
LOMF Lomont 153.07 359 PKP PKPbc 04 39 38.6 +0.2
LOR Lormes 153.09 4 *e*PKIKP PKPdf 04 39 30.8 -0.2
comp=Z,48nm,1.3s
LOR *e*R
comp=Z,843nm,18.5s
LOR Lormes 153.09 4 *e*PKPdf PKPdf 04 39 30.8 -0.2
LOR LR LR
comp=Z,840nm,18.5s,MS5.6
PGB Panagyurishte 153.22 330 *e*P PKPbc 04 39 38.7 0.0
SEST Monte Rota 153.23 351 PKP PKPdf 04 39 34.9 +3.7
SSF Saint Saulge 153.27 4 *e*PKIKP PKPdf 04 39 31.0 -0.3
comp=Z,24nm,1.1s
MFF Saint Martin d 153.31 10 *e*PKIKP PKPdf 04 39 30.9 -0.4
comp=Z,44nm,1.4s
BRES Bressanone 153.35 352 PKP PKPdf 04 39 31.4 0.0
CADS Cadrg 153.48 348 *e*PKPdf PKPdf 04 39 30.7 -0.9
LJU Ljubljana 153.49 347 *e*PKPdf PKPdf 04 39 31.5 -0.1
LJU *e*PKPbc PKPbc 04 39 39.9 +0.6
AVF Avril sur Loir 153.53 4 *e*PKIKP PKPdf 04 39 31.1 -0.6
comp=Z,8.2nm,1.0s
SISC Sisak 153.60 344 *i* PKP PKPdf 04 39 32.1 +0.4
GRUS Gruza 153.61 336 ⇑*i*P PKPdf 04 39 32.0 +0.2
VTS Vitosha 153.63 331 *e*P PKPdf 04 39 33.0 +1.2
VTS Vitosha 153.63 331 ⇓*i*P PKPdf 04 39 32.3 +0.5
VOY Vojsko 153.63 348 *e*PKPdf PKPdf 04 39 31.0 -0.8
VOY *e*PKPbc PKPbc 04 39 39.5 -0.1
VOY *e* 04 54.9
DIVS Divcibare 153.70 337 ⇑*i*P PKPdf 04 39 31.4 -0.5
SMF Signal de Mont 153.71 4 *e*PKIKP PKPdf 04 39 31.4 -0.5
comp=Z,25nm,1.3s
BGF Bois d'Agland 153.72 5 *e*PKPdf PKPdf 04 39 31.8 -0.1
BRMO Bormio 153.73 354 PKP PKPdf 04 39 32.4 +0.5
CABF La Chapelle 153.82 0 *e*PKIKP PKPdf 04 39 32.3 +0.2
comp=Z,30nm,0.9s
TUE Stuetta 153.83 355 PKP PKPdf 04 39 32.3 +0.2
BOJS Bojanci 153.84 346 *e*PKPdf PKPdf 04 39 32.1 0.0
BOJS *e*PKPbc PKPbc 04 39 40.9 +0.9
TCF Toulx Ste Croi 153.93 6 *e*PKIKP PKPdf 04 39 31.8 -0.4
comp=Z,54nm,1.6s
CTI Castel Tesino 154.00 351 PKIKP PKPdf 04 39 32.8 +0.5
EMAZ Mazaricos 154.10 26 PKP PKPdf 04 39 32.9 +0.4
BBUS Bajina Basta - 154.11 338 ⇑*i*P PKPdf 04 39 34.2 +1.7
MMB Musomiste 154.16 329 *e*P PKPdf 04 39 33.0 +0.5
AGO Saint Agoulin 154.25 5 PKP PKPbc 04 39 40.8 -0.1
STS Santiago 154.33 26 PKIKP PKPdf 04 39 32.9 +0.1
PLDF La Plantade 154.37 4 PKP PKPbc 04 39 42.0 +0.8
KDAG Bornova 154.43 319 *i* P PKPab 04 39 54.4 -1.3
MCGN Macugnaga 154.43 357 PKP PKPdf 04 39 33.5 +0.6
EPON Pontenova 154.50 23 PKP PKPdf 04 39 33.9 +0.9
PYM Petit Puy Mans 154.54 5 PKP PKPdf 04 39 33.5 +0.4
YER Yerkesik 154.54 316 P PKPab 04 39 58.1 +1.9
STIP Stip 154.80 331 *i* PKP PKPdf 04 39 33.2 -0.2
RJF Les Rejaudoux 154.82 8 *e*PKIKP PKPdf 04 39 33.2 -0.3
RJF *e*R
comp=Z,599nm,20.5s
RJF Les Rejaudoux 154.82 8 *e*PKPdf PKPdf 04 39 33.2 -0.3
RJF LR LR
comp=Z,600nm,20.5s,MS5.4
EZAM Zamans 154.88 27 PKIKP PKPdf 04 39 34.7 +1.2
LPL La Plagne 154.91 359 *e*PKIKP PKPdf 04 39 34.0 +0.4
comp=Z,51nm,1.7s
SKO Skopje 154.91 333 *i* PKP PKPdf 04 39 34.1 +0.5
VAY Valandovo 154.92 330 *i* PKP PKPdf 04 39 32.8 -0.8
LPG La Plagne 154.93 359 *e*PKIKP PKPdf 04 39 34.1 +0.5
comp=Z,60nm,1.8s
LFF La Frestale 155.07 9 *e*PKIKP PKPdf 04 39 33.5 -0.3
LBL Lubilhac 155.07 5 PKP PKPdf 04 39 43.7 +10
EARI Arriondas 155.19 20 PKP PKPdf 04 39 34.7 +0.7
CAF Calviac 155.26 7 *e*PKIKP PKPdf 04 39 33.9 -0.2
ERUA La Rua 155.31 24 PKIKP PKPdf 04 39 35.1 +1.0
ELOB Lobios 155.38 26 PKIKP PKPdf 04 39 35.1 +0.9
ORIF Oris-en-Rattie 155.51 1 *e*PKIKP PKPdf 04 39 34.5 +0.1
comp=Z,74nm,1.8s
ORIF *e*R
comp=Z,580nm,20.8s
PCAB Cabril 155.52 26 *e*PKPdf PKPdf 04 39 34.3 -0.1
VIVF Saint-Julien-l 155.54 3 *e*PKIKP PKPdf 04 39 34.6 +0.2
comp=Z,26nm,1.3s
MBDF Montbardon 155.70 359 *e*PKIKP PKPdf 04 39 34.8 +0.1
comp=Z,59nm,1.7s
BIA Bitola 155.73 331 *i* PKP PKPdf 04 39 31.4 -3.3
ELAN Lanestosa 155.80 17 PKP PKPdf 04 39 35.0 +0.2
ECAL Calabor 155.85 24 PKP PKPdf 04 39 36.2 +1.3
OHR Ohrid 155.89 332 *i* PKP PKPdf 04 39 34.6 -0.3
PBRG Braganca 155.96 24 *e*PKPab PKPab 04 40 02.7 +0.5
PVRL Vila Real 156.01 27 *e*PKPdf PKPdf 04 39 36.1 +1.0
PVRL Vila Real 156.01 27 *e*PKPab PKPab 04 40 02.9 +0.5
VMG Vicchio 156.05 351 PKP PKPdf 04 39 35.5 +0.4
ARV Arcevia 156.26 348 PKIKP PKPdf 04 39 35.9 +0.5
LASF Ste Croix 156.27 4 *e*PKIKP PKPdf 04 39 35.8 +0.4
EALK Alkurruntz 156.30 14 PKP PKPdf 04 39 37.3 +1.8
ELIZ Elizondo 156.35 14 PKIKP PKPdf 04 39 37.0 +1.5
PVIS Viseu 156.40 28 *e*PKPdf PKPdf 04 39 36.3 +0.7
PVIS Viseu 156.40 28 *e*PKPab PKPab 04 40 04.6 +0.5
AUTN L'Aution 156.41 358 PKP PKPdf 04 39 36.9 +1.3
STOF St-Etienne Org 156.43 1 PKP pPKPdf 04 39 45.4 -2.6
SMRF Simiane la Rot 156.44 1 *e*PKIKP PKPdf 04 39 36.1 +0.5
comp=Z,135nm,1.9s
SJPF Ste Jean 156.47 14 *e*PKIKP PKPdf 04 39 36.0 +0.3
comp=Z,56nm,1.3s
MVIF Mont Vial 156.52 358 PKP pPKPdf 04 39 46.6 -1.5
SBF Sospel 156.54 358 *e*PKIKP PKPdf 04 39 35.2 -0.6
VILF Villemus 156.57 1 PKP pPKPdf 04 39 45.9 -2.3
PRAF Pradon 156.61 2 PKP pPKPdf 04 39 46.4 -1.8
CHIE El Hierro 156.74 67 PKP PKPdf 04 39 37.9 +1.8
TREF Trevaresse 156.79 2 PKP pPKPdf 04 39 46.9 -1.6
TAVF Tavernes 156.81 0 PKP pPKPdf 04 39 46.4 -2.1
MTE Manteigas 156.81 28 *e*PKPdf PKPdf 04 39 37.5 +1.4
MTE Manteigas 156.81 28 *e*PKPab PKPab 04 40 09.8 +3.9
MTE Manteigas 156.81 28 PKPdf PKPdf 04 39 37.3 +1.2
ETSF Etsaut 156.81 13 *e*PKIKP PKPdf 04 39 36.7 +0.6
comp=Z,30nm,0.9s
SANT Santorini 156.82 318 PKPab PKPab 04 40 06.2 +0.3
MTLF Montolieu 156.84 7 *e*PKIKP PKPdf 04 39 36.1 0.0
comp=Z,35nm,1.4s
EPF Esparros 156.86 11 *e*PKIKP PKPdf 04 39 36.3 +0.1
comp=Z,49nm,1.2s
FRF La Foret Royal 156.86 359 *e*PKIKP PKPdf 04 39 35.6 -0.6
PTOM Tomar 157.05 30 *e*PKPdf PKPdf 04 39 36.0 -0.4
PTOM Tomar 157.05 30 *e*PKPab PKPab 04 40 07.4 +0.5
LMR La Mourre 157.09 359 *e*PKIKP PKPdf 04 39 36.2 -0.3
comp=Z,54nm,1.5s
BERF Bertagne 157.11 1 PKP pPKPdf 04 39 46.6 -2.3
EBIE Bielsa 157.16 12 PKP PKPdf 04 39 37.5 +1.0
PCBR Castelo Branco 157.30 28 *e*PKPdf PKPdf 04 39 37.6 +0.9
EGRA Graus 157.66 12 PKP PKPdf 04 39 38.5 +1.3
PGF Pioggiola 157.76 355 *e*PKIKP PKPdf 04 39 36.9 -0.4
CCAN Las Canadas 157.78 65 PKP PKPdf 04 39 39.4 +2.0
GUD Guadarrama 157.92 21 PKIKP PKPdf 04 39 39.3 +1.8
ESAC San Caprasio 157.96 13 PKP PKPdf 04 39 39.1 +1.6
EVO Evora 158.10 31 *e*PKIKP PKPdf 04 39 38.0 +0.3
comp=Z,80nm,1.4s
EVO *e*R
comp=Z,615nm,18.2s
EMIR Miracle 158.15 9 PKP PKPdf 04 39 40.1 +2.3
EBAD Badajoz 158.39 29 PKP PKPdf 04 39 38.8 +0.7
PBEJ Beja 158.56 32 *e*PKPdf PKPdf 04 39 40.2 +1.9
ESDC Sonseca Array 158.85 22 PKP PKPdf 04 39 37.0 -1.6
comp=Z,2.3nm,0.9s,baz=352,slow=2.8,SNR=10
ESDC PKPab PKPab 04 40 15.3 +0.6
comp=Z,2.8nm,0.8s,baz=318,slow=4.1,SNR=7.9
ESDC Sonseca Array 158.85 22 PKP PKPdf 04 39 37.0 -1.6
ESDC PKP PKPdf 04 39 40.1 +1.4
ESDC PKPab PKPab 04 40 15.3 +0.6
ESLA Sonseca Array 158.85 22 PFAKE 04 39 50.0 +11
ESLA LR LR
comp=Z,3μm,20.0s,MS6.1
ERTA Horta de San J 158.86 12 PKP PKPdf 04 39 39.6 +1.0
EBR Ebro Roquetas 159.03 12 *e*PKPDF PKPdf 04 39 39.0 +0.2
EGRO El Granado 159.14 32 PKP PKPdf 04 39 40.6 +1.6
TIP Timpagrande 159.17 336 PKPdf PKPdf 04 39 39.6 +0.6
TIP PKPab PKPab 04 40 16.7 +0.6
EMIN Mina Concepcio 159.35 30 PKP PKPdf 04 39 41.0 +1.8
ECHE Chera 159.86 16 PKIKP PKPdf 04 39 41.2 +1.4
EADA Adamuz 159.93 26 PKP PKPdf 04 39 41.5 +1.7
EBAN Banos Encina 160.25 24 PKIKP PKPdf 04 39 42.6 +2.4
EVIA Vianos 160.28 21 PKIKP PKPdf 04 39 42.7 +2.4
ESPR Espera 160.46 30 PKP PKPdf 04 39 43.2 +2.7
ETOB Tobarra 160.58 19 PKP PKPdf 04 39 43.0 +2.4
EQES Quesada 160.83 23 PKP PKPdf 04 39 43.1 +2.3
EJIF Jimena Fronter 160.97 30 PKIKP PKPdf 04 39 42.5 +1.5
EHUE Huescar 160.99 22 PKIKP PKPdf 04 39 42.8 +1.8
ERON Agron 161.23 26 PKP PKPdf 04 39 42.5 +1.2
DBIC Dimbokro 162.65 140 PKP PKPdf 04 39 43.8 +1.1
comp=Z,11nm,0.9s,baz=54,slow=1.1,SNR=6.8
DBIC PKPab PKPab 04 40 31.9 +0.6
comp=Z,9.3nm,1.0s,baz=181,slow=3.9,SNR=3.9
DBIC Dimbokro 162.65 140 *e*PKPdf PKPdf 04 39 43.3 +0.6
DBIC *e*PKPab PKPab 04 40 31.5 +0.2
DBIC LR LR
comp=Z,520nm,19.0s
TORD Torodi Ar. Bea 171.61 148 PKP PKPdf 04 39 49.4 +0.1
comp=Z,7.8nm,1.0s,baz=334,slow=0.8,SNR=35
TORD PKPab PKPab 04 41 11.7 +0.9
comp=Z,2.8nm,0.9s,baz=242,slow=4.1,SNR=20
TORD PP PP 04 44 59.3 -2.4
comp=Z,1.8nm,1.1s,baz=148,slow=8.7,SNR=4.1

CASC 05 04:22:53.2₀2.0, 812N×8282W, h3km, MD3.9, 1C,
Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
DVD	**David**	**0.48**	**49**	*e*P	Pg	04 23 02.9	+0.5
DVD				*e*S	Sg	04 23 11.8	+3.2
CNI	**Changuinola**	**1.32**	**13**	*e*P	Pg	04 23 17.3	-1.2
CNI				*e*S	Sg	04 23 34.8	-0.9
BUS	**Buena Vista**	**1.

VPS2	**Volcan Poas 2**	**2.49**	**326**	*e*P		Pn	04 23 35.7	+1.2
AZU	**Azuero**	**2.54**	**97**	*e*P		Pn	04 23 35.6	+0.3

IDC 05 04:27:57.3±4.5, 594S×15440E, h75km±39km, mb3.5/5, mb1 3.9/7, mb1mx3.7/16, mbtmp4.0/7, ML3.9/2, Error ellipse: s-maj=30.6km s-min=24.3km az=172.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.96**	**244**	P	Pn	04 29 50.1	-0.1
	5.5nm,0.3s,baz=56,slow=4.7,SNR=9.7						
PMG				S	Sn	04 31 19.8	+1.1
	2.0nm,0.3s,baz=186,slow=23,SNR=11						
DZM	**Mont Dzumac**	**19.82**	**145**	P	Pn	04 32 22.2	-1.9
	0.9nm,0.3s,baz=314,slow=8.9,SNR=9.1						
WRA	**Warramunga Arr**	**23.96**	**233**	P	P	04 33 05.3	+0.7
	0.9nm,0.5s,baz=57,slow=9.6,SNR=4.9						
ASAR	**Alice Springs**	**26.45**	**226**	P	P	04 33 27.5	+0.3
	0.9nm,0.6s,baz=58,slow=9.1,SNR=4.8						
ASAR				PcP	PcP	04 36 51.8	+1.1
	1.5nm,0.5s,baz=64,slow=2.6,SNR=13						
MKAR	**Makanchi Array**	**82.23**	**319**	P	P	04 40 11.1	+0.8
	0.2nm,0.4s,baz=101,slow=7.8,SNR=4.0						
ILAR	**Eielson Array**	**82.61**	**22**	P	P	04 40 11.2	-1.1
	0.6nm,0.7s,baz=251,slow=4.8,SNR=7.6						
NVAR	**Mina Array Bea**	**91.53**	**52**	P	P	04 40 57.9	+2.3
	0.5nm,0.7s,baz=253,slow=2.7,SNR=3.0						
BDFB	**Brasilia**	**149.14**	**134**	PKPbc	PKPbc	04 47 36.7	-0.3
	2.5nm,0.8s,baz=180,slow=2.3,SNR=2.8						
TORD	**Torodi Ar. Bea**	**152.17**	**287**	PKPbc	PKPbc	04 47 45.0	+0.8
	0.8nm,0.6s,baz=47,slow=2.6,SNR=7.0						
TORD				PKPab	PKPab	04 47 54.1	0.0
	1.0nm,0.8s,baz=78,slow=2.2,SNR=4.2						

*ISCJB **05** 04:45:11.3±0.5, 209S±0.1×1740W±0.1, h43km, mb4.4/15, Error ellipse: s-maj=21.6km s-min=11.1km az=89.9*
*MOS **05** 04:45:11.2±0.3, 2068S×17371W, h33km, mb4.8/2, Error ellipse: s-maj=51.9km s-min=27.7km az=64.9*
*IDC **05** 04:45:12.4±0.7, 2106S×17383W, h41km±4km, mb4.1/9, mb1 4.4/10, mb1mx4.2/14, mbtmp4.3/10, ML4.1/1, Error ellipse: s-maj=33.0km s-min=16.4km az=140.0*
*NEIC **05** 04:45:13.0±0.4, 2091S×17393W, mb4.5/6, Error ellipse: s-maj=21.1km s-min=10.8km az=136.0*
*SZGRF **05** 04:45:25.9, 2060S×17269W, h33km, Tonga Islands region*
ISC 05 04:45:13.0±0.5, 210S±01×1739W±01, h45km, h45km±.6km:pP-P, n50, σ1°03/24, mb4.4/15, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.31**	**16**	P	**Pn**	**04 46 47.7**	**-9.5**
	3.5nm,0.3s,baz=14,slow=22,SNR=6.4						
RAR	**Rarotonga**	**13.19**	**94**	P	**Pn**	**04 48 06.7**	**-11**
	1.9nm,0.3s,baz=246,slow=6.5,SNR=4.8						
URZ	**Urewera**	**18.90**	**202**	P	**Pn**	**04 49 30.0**	**-0.7**
	0.6nm,0.3s,baz=0.0,slow=3.0,SNR=5.6						
STKA	**Stephens Creek**	**41.06**	**245**	*e*P	**P**	**04 52 51.9**	**-0.2**
	4.8nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**41.06**	**245**	P	**P**	**04 52 51.1**	**-1.0**
	4.4nm,0.8s,mb4.2,baz=80,slow=8.3,SNR=5.7						
ASAR	**Alice Springs**	**48.14**	**257**	P	**P**	**04 53 48.9**	**+0.3**
	7.5nm,0.9s,mb4.7,baz=89,slow=8.3,SNR=57						
WB2	**Warramunga Arr**	**48.32**	**262**	*e*P	**P**	**04 53 49.5**	**-0.5**
WRA	**Warramunga Arr**	**48.33**	**262**	P	**P**	**04 53 49.8**	**-0.2**
	4.6nm,1.0s,mb4.5,baz=96,slow=7.5,SNR=16						
FORT	**Forrest**	**52.63**	**247**	*e*P	**P**	**04 54 22.7**	**+0.2**
	12nm,0.7s,mb4.9						
VNDA	**Vanda**	**57.81**	**186**	P	**P**	**04 55 03.4**	**+3.5**
	1.6nm,0.8s,mb4.1,baz=15,slow=5.9,SNR=8.6						
VNDA				pP	pP	04 55 15.8	+3.3
	1.7nm,0.9s,baz=8.2,slow=6.1,SNR=4.6						
QSPA	**South Pole Qui**	**69.10**	**180**	*e*P	**P**	**04 56 17.0**	**+2.6**
	16nm,1.1s,mb4.9						
QSPA				*e*pP	pP	04 56 29.3	+1.9
MJAR	**Matsushiro Arr**	**72.92**	**321**	P	**P**	**04 56 38.6**	**+1.1**
	2.2nm,0.8s,mb4.2,baz=158,slow=6.5,SNR=5.5						
MJAR				pP	pP	04 56 50.5	0.0
	1.7nm,0.8s,baz=156,slow=6.8,SNR=3.6						
CMB	**Columbia Colle**	**77.26**	**41**	*e*P	**P**	**04 57 02.5**	**-0.1**
CMB				*e**PP	pP	04 57 15.0	-0.7
CMB				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
CMB	**Columbia Colle**	**77.26**	**41**	*e*P	**P**	**04 57 02.5**	**-0.1**
	comp=Z,4.7nm,0.9s,mb4.4						
CMB				*e*pP	pP	04 57 15.0	-0.7
KSM	**Kuching**	**77.28**	**277**	*e*P	**P**	**04 57 05.7**	**+3.0**
NVAR	**Mina Array Bea**	**78.79**	**41**	P	**P**	**04 57 11.2**	**+0.2**
	comp=Z,6.3nm,0.9s,mb4.5,baz=214,slow=7.2,SNR=35						
NVAR				pP	pP	04 57 24.2	+0.1
	comp=Z,6.2nm,0.9s,baz=214,slow=7.1,SNR=12						
PAHR	**Pah Rah Range**	**78.93**	**40**	*e*P	**P**	**04 57 11.4**	**-0.4**
	comp=Z,4.1nm,0.9s,mb4.4						
PAHR				*e*pP	pP	04 57 24.8	-0.1
TPNV	**Topopah Spring**	**79.19**	**44**	*e*P	**P**	**04 57 13.4**	**+0.2**
TPNV				*e**PP	pP	04 57 26.3	-0.1
TPNV				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
TPNV	**Topopah Spring**	**79.19**	**44**	*e*P	**P**	**04 57 13.4**	**+0.2**
	comp=Z,4.1nm,0.8s,mb4.4						
TPNV				*e*pP	pP	04 57 26.3	-0.1
MAW	**Mawson**	**82.39**	**199**	P	**P**	**04 57 29.1**	**-1.2**
	comp=Z,3.3nm,0.8s,mb4.3,baz=66,slow=20,SNR=3.1						
MSU	**Marysvale**	**82.72**	**44**	*e*P	**P**	**04 57 33.0**	**+1.0**
MSU				*e**PP	pP	04 57 45.9	+0.6
PDAR	**Pinedale Array**	**86.72**	**42**	P	**P**	**04 57 52.3**	**+0.1**
	comp=Z,0.8nm,0.9s,mb4.0,baz=230,slow=3.7,SNR=5.6						
PDAR				pP	pP	04 58 04.2	-1.2
	comp=Z,0.8nm,0.8s,baz=222,slow=2.0,SNR=5.8						
ILAR	**Eielson Array**	**87.98**	**11**	P	**P**	**04 57 56.6**	**-1.6**
	comp=Z,1.2nm,0.9s,mb4.1,baz=226,slow=5.0,SNR=7.6						
ILAR				pP	pP	04 58 09.5	-2.1
	comp=Z,1.8nm,1.1s,baz=212,slow=5.5,SNR=6.1						
YKA	**Yellowknife Ar**	**95.37**	**24**	P	**P**	**04 58 31.3**	**-1.2**
	comp=Z,0.5nm,0.7s,mb4.0,baz=236,slow=4.3,SNR=16						
YKA				pP	pP	04 58 44.6	-1.3
	comp=Z,0.6nm,0.8s,baz=236,slow=4.3,SNR=9.5						
MKAR	**Makanchi Array**	**114.32**	**313**	PKP	PKiKP	05 03 47.4	-0.4
	comp=Z,0.6nm,0.7s,baz=64,slow=2.8,SNR=6.1						
MKAR				pPKP		05 04 00.7	
	comp=Z,0.6nm,0.8s,baz=53,slow=4.7,SNR=4.7						
ZRNK	**Zerenda**	**122.75**	**320**	*e*P	PKPdf	05 04 03.3	-0.6
ZRNK				*e*pP		05 04 17.0	
AKASG	**Malin Array Be**	**145.21**	**334**	PKPbc	PKPbc	05 04 45.0	-0.4
	comp=Z,4.5nm,0.7s,baz=39,slow=3.9,SNR=17						
AKASG				pPKP	pPKPdf	05 04 57.7	-1.8
	comp=Z,2.1nm,0.6s,baz=34,slow=3.4,SNR=4.7						
AKASG	**Malin Array Be**	**145.21**	**334**	PKPbc	PKPbc	05 04 45.0	-0.4
AKASG				pPKP	pPKPdf	05 04 57.7	-1.8
MALT	**Malatya**	**147.24**	**309**	*e*P	PKPdf	05 04 51.9	+2.8
MALT				*e*pP		05 05 06.3	
STHS	**Stebnicka Huta**	**149.16**	**341**	*e*PKP	PKPbc	05 04 58.7	+2.2
CLL	**Collm**	**149.25**	**352**	*e*PKPbc	pPKPbc	05 05 10.3	-0.1
CLL	**Collm**	**149.25**	**352**	*i* PKPbc	PKPbc	05 04 57.4	+0.7
	comp=Z,10.0nm,1.2s						
CLL				*e*PKPab	PKPab	05 05 01.0	-0.3
CLL				*e*pPKPbc	pPKPbc	05 05 10.0	-0.4
CLL	**Collm**	**149.25**	**352**	*i* PKP2	PKPbc	05 04 57.4	+0.7
CLL				pmax	pmax		
	comp=Z,10.0nm,1.2s						
BRG	**Berggiesshubel**	**149.53**	**350**	*e*PKPbc	pPKPbc	05 05 11.0	-0.1
BRG	**Berggiesshubel**	**149.53**	**350**	*e*PKP	PKPbc	05 04 58.1	+0.7
	comp=Z,5.5nm,1.1s						
BRG				*e*		05 05 04.8	
	comp=Z,2.3nm,0.7s						
BR131	**Keskin Array S**	**149.95**	**315**	*e*P	PKPbc	05 04 59.1	+0.6
BR131				*e*pP		05 05 12.6	
BRTR	**Keskin Array B**	**149.95**	**315**	PKPbc	PKPbc	05 04 59.4	+0.9
	comp=Z,2.5nm,0.9s,baz=128,slow=2.0,SNR=14						
BRTR				pPKPbc	pPKPbc	05 05 12.2	0.0
	comp=Z,2.1nm,0.8s,baz=126,slow=2.1,SNR=7.0						
MOX	**Moxa**	**150.07**	**353**	*e*PKPbc	pPKPbc	05 05 12.1	-0.4
WERD	**Werda**	**150.18**	**352**	*e*PKPbc	pPKPbc	05 05 12.5	-0.2
KECS	**Kecovo**	**150.22**	**341**	*e*PKP	PKPbc	05 05 00.2	+1.1
MANZ	**Manzenberg**	**150.66**	**352**	*e*PKPbc	pPKPbc	05 05 13.5	-0.4
ROTZ	**Rotzenmuhle**	**150.86**	**352**	*e*PKPbc	pPKPbc	05 05 14.5	+0.1
GIVF	**Givet**	**150.92**	**2**	*e*PKP1	PKPbc	05 05 01.1	+0.4
	comp=Z,20nm,0.9s						
BAIF	**Baives**	**150.94**	**3**	*e*PKP1	PKPbc	05 05 01.3	+0.5
	comp=Z,18nm,0.8s						
GEC2	**GERESS Array S**	**151.53**	**349**	*e*PKPbc	pPKPbc	05 05 16.1	+0.2
GERES	**GERESS Array B**	**151.53**	**349**	PKPbc	PKPbc	05 05 02.9	+0.8
	comp=Z,1.7nm,0.8s,baz=300,slow=1.1,SNR=7.5						
GERES				pPKPbc	pPKPbc	05 05 14.9	-1.0
	comp=Z,1.9nm,0.9s,baz=45,slow=2.5,SNR=4.6						
FLN	**La Foliniere**	**151.78**	**9**	*e*PKP1	PKPbc	05 05 02.7	0.0
	comp=Z,22nm,1.0s						
LDF	**La Druitiere**	**152.00**	**9**	*e*PKP1	PKPbc	05 05 02.9	-0.3
GRR	**Gorron**	**152.08**	**10**	*e*PKP1	PKPbc	05 05 03.3	-0.1
	comp=Z,44nm,1.3s						
CDF	**Champ du Feu**	**152.61**	**358**	*e*PKP1	PKPbc	05 05 05.1	+0.5
	comp=Z,3.7nm,0.6s						

*ISCJB **05** 04:46:51.6±0.2, 2075S×00605W±0.06, h44km, mb4.7/58, MS4.6/11, Error ellipse: s-maj=10.4km s-min=6.2km az=103.7*
*MOS **05** 04:46:51.0±1.4, 2064S×17404W, h33km, mb5.0/28, Error ellipse: s-maj=14.4km s-min=10.3km az=52.8*
*BJI **05** 04:46:52.9, 2086S×17362W, h64km, mB5.3, mb4.9, Ms4.9, Msz4.7*
*NEIC **05** 04:46:53.2±0.1, 2068S×17407W, mb4.8/39, Error ellipse: s-maj=7.6km s-min=3.8km az=142.0*
*IDC **05** 04:46:53.2±0.6, 2063S×17403W, h43km±4km, mb4.3/12, mb1 4.5/13, mb1mx4.4/17, mbtmp4.6/13, ML4.6/1, MS4.3/2, Ms1 4.3/2, ms1mx3.8/13, Error ellipse: s-maj=24.2km s-min=13.9km az=126.0*
*SZGRF **05** 04:46:57.1, 1956S×173.11W, h43km, Tonga Islands*
ISC 05 04:46:53.5±0.2, 2076S±006×17400W±006, h46km, h46km±.7km:pP-P, n212, σ0°84/127, mb4.7/58, MS4.6/11, 5C-6D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.13**	**18**	P	**Pn**	**04 48 27.1**	**-8.1**
	12nm,0.3s,baz=330,slow=11,SNR=5.1						
AFI				S	**Sn**	**04 49 40.3**	**-15**
	21nm,0.3s,baz=170,slow=23,SNR=4.5						
AFI	**Afiamalu**	**7.13**	**18**	*e*Pn	**Pn**	**04 48 27.8**	**-7.4**
AFI				*e*Sn	**Sn**	**04 49 42.1**	**-13**
RAR	**Rarotonga**	**13.30**	**94**	P	**Pn**	**04 49 45.2**	**-14**
	4.7nm,0.3s,baz=221,slow=7.7,SNR=7.1						
RAR				S	Sn	04 51 59.0	-27
	2.0nm,0.3s,baz=96,slow=17,SNR=3.2						
URZ	**Urewera**	**19.06**	**202**	P	**Pn**	**04 51 12.2**	**-0.9**
	1.6nm,0.3s,baz=34,slow=5.2,SNR=9.1						
TBI	**Tubuai**	**22.88**	**101**	*e*LQ		04 56 06.4	
	331nm,29.8s						
TBI				*e*LR	LR	04 56 50.7	
	424nm,28.2s						
PPT	**Papeete**	**23.28**	**86**	*e*LQ		04 56 11.4	
	470nm,27.0s						
PPT				*e*LR	LR	04 57 15.2	
	348nm,23.0s						
PPT	**Papeete**	**23.28**	**86**	LR	LR	04 58 56.9	
	comp=Z,919nm,18.6s,MS4.3,baz=250,slow=31						
RPZ	**Rata Peaks**	**26.07**	**205**	P	**P**	**04 52 23.6**	**+0.9**
	8.1nm,0.7s,mb4.3,baz=342,slow=6.4,SNR=2.8						
HNR	**Honiara**	**27.51**	**290**	LR	LR	05 01 52.5	
	comp=Z,408nm,18.2s,MS4.0,baz=178,slow=33						
TAOE	**Nuku Hiva Isla**	**34.72**	**75**	*e*LR	LR	05 02 21.9	
	718nm,21.5s						
RKT	**Rikitea**	**36.21**	**101**	*e*LR	LR	05 03 14.3	
	363nm,28.2s						
CTAO	**Charters Tower**	**37.19**	**264**	P	**P**	**04 53 58.8**	**-1.4**
CTAO				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.6						
CTAO	**Charters Tower**	**37.19**	**264**	P	**P**	**04 53 58.8**	**-1.3**
	comp=Z,9.5nm,1.1s,mb4.5						
PMG	**Port Moresby**	**39.06**	**281**	P	**P**	**04 54 16.1**	**+0.2**
	comp=Z,9.3nm,0.8s,mb4.6,baz=307,slow=2.1,SNR=3.9						
PMG	**Port Moresby**	**39.06**	**281**	*e*P	**P**	**04 54 15.7**	**-0.2**
PMG				pmax	pmax		
	comp=Z,13nm,1.0s						
PMG	**Port Moresby**	**39.06**	**281**	*e*P	**P**	**04 54 15.7**	**-0.2**
	comp=Z,13nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**41.06**	**245**	*e*P	**P**	**04 54 30.9**	**-1.6**
	comp=Z,5.2nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**41.06**	**245**	P	**P**	**04 54 31.1**	**-1.4**
	comp=Z,9.2nm,0.9s,mb4.4,baz=87,slow=8.8,SNR=8.5						
STKA	**Stephens Creek**	**41.06**	**245**	*e*P	**P**	**04 54 30.2**	**-2.3**
ASAR	**Alice Springs**	**48.10**	**256**	P	**P**	**04 55 28.7**	**+0.1**
	comp=Z,11nm,0.9s,mb4.9,baz=91,slow=8.1,SNR=19						
WB2	**Warramunga Arr**	**48.26**	**261**	*e*P	**P**	**04 55 29.3**	**-0.5**
WRAB	**Tennant Creek**	**48.26**	**261**	*e*P	**P**	**04 55 29.1**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.2						
WRAB	**Tennant Creek**	**48.26**	**261**	*e*P	**P**	**04 55 29.1**	**-0.8**
	comp=Z,24nm,1.1s,mb5.2						
WRA	**Warramunga Arr**	**48.27**	**261**	P	**P**	**04 55 29.5**	**-0.4**
	comp=Z,7.1nm,1.0s,mb4.7,baz=97,slow=7.6,SNR=8.0						
WRA				PcP	PcP	04 56 58.5	+2.2
	comp=Z,1.6nm,0.8s,baz=101,slow=3.2,SNR=3.6						
KAKA	**Kakadu**	**51.72**	**270**	*e*P	**P**	**04 55 56.2**	**+0.1**
	comp=Z,16nm,0.8s,mb5.0						
FORT	**Forrest**	**52.63**	**247**	*e*P	**P**	**04 56 02.7**	**-0.1**
	comp=Z,17nm,0.7s,mb5.1						
FITZ	**Fitzroy Crossi**	**56.70**	**262**	*e*P	**P**	**04 56 33.0**	**+0.7**
	comp=Z,8.8nm,1.4s,mb4.6						
SBA	**Scott Base**	**57.89**	**185**	*e*P	**P**	**04 56 42.4**	**+1.7**
SBA				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
SBA	**Scott Base**	**57.89**	**185**	*e*P	**P**	**04 56 42.4**	**+1.7**
	comp=Z,8.0nm,0.9s,mb4.8						
VNDA	**Vanda**	**58.02**	**186**	P	**P**	**04 56 42.9**	**+1.3**
	comp=Z,2.6nm,0.8s,mb4.3,baz=354,slow=6.1,SNR=9.4						
VNDA	**Vanda**	**58.02**	**186**	*e*P	**P**	**04 56 42.2**	**+0.6**
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VNDA	**Vanda**	**58.02**	**186**	*e*P	**P**	**04 56 42.2**	**+0.6**
	comp=Z,2.7nm,0.8s,mb4.3						
MBWA	**Marble Bar**	**61.45**	**257**	*e*P	**P**	**04 57 05.2**	**0.0**
	comp=Z,18nm,0.8s,mb5.2						
CASY	**Casey**	**65.34**	**206**	*e*P	**P**	**04 57 30.8**	**-0.1**
	comp=Z,6.7nm,0.8s,mb4.7						
CASY				*e*pP	pP	04 57 44.7	+0.6
QSPA	**South Pole Qui**	**69.31**	**180**	*e*P	**P**	**04 57 56.3**	**+0.2**
	comp=Z,16nm,1.0s,mb4.9						
QSPA				*e*pP	pP	04 58 09.5	+0.1
MJAR	**Matsushiro Arr**	**72.69**	**321**	P	**P**	**04 58 15.8**	**-0.8**
	comp=Z,5.5nm,0.8s,mb4.5,baz=157,slow=6.0,SNR=10.0						
MJAR	**Matsushiro Arr**	**72.69**	**321**	P	**P**	**04 58 15.8**	**-0.8**
MAJO	**Matsushiro**	**72.69**	**321**	*e*P	**P**	**04 58 17.2**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
MAJO	**Matsushiro**	**72.69**	**321**	*e*P	**P**	**04 58 17.2**	**+0.7**
	comp=Z,8.1nm,0.8s,mb4.7						
MAT	**Matsushiro**	**72.69**	**321**	P	**P**	**04 58 17.6**	**+1.1**
MAT	**Matsushiro**	**72.69**	**321**	*e*P	**P**	**04 58 18.0**	**+1.5**
MAT				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
MAT	**Matsushiro**	**72.69**	**321**	*e*P	**P**	**04 58 18.0**	**+1.5**
	comp=Z,16nm,1.2s,mb4.8						
SAO	**San Andreas Ge**	**75.70**	**41**	pP	pP	04 58 47.1	-0.4
ISA	**Isabella**	**76.89**	**44**	P	**P**	**04 58 41.2**	**+0.4**
PFO	**Pinyon Flat Ob**	**77.00**	**46**	*e*P	**P**	**04 58 41.0**	**-0.4**
PFO				*e**PP	pP	04 58 54.1	-0.8
PFO				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
PFO	**Pinyon Flat Ob**	**77.00**	**46**	*e*P	**P**	**04 58 41.0**	**-0.4**
	comp=Z,13nm,1.2s,mb4.7						
PFO				*e*pP	pP	04 58 54.1	-0.7
CMB	**Columbia Colle**	**77.16**	**41**	*e*P	**P**	**04 58 42.0**	**-0.3**
CMB				*e*	pP	04 58 52.9	-2.9
CMB				*e**PP	pP	04 58 54.8	-1.0
CMB				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
CMB	**Columbia Colle**	**77.16**	**41**	*e*P	**P**	**04 58 42.0**	**-0.3**
	comp=Z,7.9nm,0.9s,mb4.6						
CMB				*e*PcP	PcP	04 58 52.9	0.0
CMB				*e*pP	pP	04 58 54.8	-1.0
PET	**Petropavlovsk**	**77.21**	**343**	*i* P	**P**	**04 58 33.1**	**-10**
OHCM	**Honcut**	**77.33**	**39**	*e*P	**P**	**04 58 42.7**	**-0.6**
WDC	**Whiskeytown Da**	**77.54**	**38**	*e*P	**P**	**04 58 44.3**	**-0.1**
WDC				*e**PP	pP	04 58 57.2	-0.7
WDC				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.6						
WDC	**Whiskeytown Da**	**77.54**	**38**	*e*P	**P**	**04 58 44.2**	**-0.2**
	comp=Z,11nm,1.3s,mb4.6						
WDC				*e*pP	pP	04 58 57.2	-0.7
GSC	**Goldstone**	**77.76**	**45**	P	**P**	**04 58 45.8**	**+0.1**
GSC				*e**PP	pP	04 58 59.0	-0.1
GLA	**Glamis**	**77.79**	**48**	P	pP	04 58 59.6	+0.3
GLA	**Glamis**	**77.79**	**48**	pP	pP	04 58 59.6	+0.3
DAC	**Darwin (Calif)**	**77.83**	**44**	P	pP	04 58 59.2	-0.3
DAC	**Darwin (Calif)**	**77.83**	**44**	pP	pP	04 58 59.2	-0.3
YSS	**Yuzh-Sakhalins**	**77.86**	**331⇑**	*e*P	**P**	**04 58 47.4**	**+1.2**
YSS				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
NVAR	**Mina Array Bea**	**78.69**	**41**	P	**P**	**04 58 51.0**	**+0.2**
	comp=Z,11nm,0.8s,mb4.8,baz=213,slow=7.5,SNR=24						
NVAR				pP	pP	04 59 03.9	-0.4
	comp=Z,9.3nm,0.9s,baz=213,slow=7.4,SNR=10.0						
NVAR	**Mina Array Bea**	**78.69**	**41**	P	**P**	**04 58 51.0**	**+0.2**
NVAR				pP	pP	04 59 03.9	-0.4
PAHR	**Pah Rah Range**	**78.82**	**40**	*e*P	**P**	**04 58 51.5**	**0.0**
	comp=Z,12nm,1.2s,mb4.7						
PAHR				*e*pP	pP	04 59 04.4	-0.7
TPNV	**Topopah Spring**	**79.09**	**44**	*e*P	**P**	**04 58 52.7**	**-0.3**
TPNV				*e**PP	pP	04 59 05.9	-0.7
TPNV				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.6						
TPNV	**Topopah Spring**	**79.09**	**44**	*e*P	**P**	**04 58 52.7**	**-0.3**
	comp=Z,11nm,1.3s,mb4.6						
TPNV				*e*pP	pP	04 59 05.9	-0.6
TPH	**Tonopah**	**79.15**	**42**	P	**P**	**04 58 53.7**	**+0.4**
TPH				*e**PP	pP	04 59 06.7	-0.1
TPH				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
TPH	**Tonopah**	**79.15**	**42**	P	**P**	**04 58 53.7**	**+0.4**
	comp=Z,18nm,1.1s,mb4.9						
TPH				pP	pP	04 59 06.7	-0.1
NEN	**Nelson**	**79.26**	**45**	*e*P	**P**	**04 58 53.9**	**-0.1**
NEN				*e*pP	pP	04 59 06.3	-1.2
SHPR	**Sheep Range**	**79.55**	**45**	P	**P**	**04 58 56.0**	**+0.6**
MOD	**Modoc**	**79.68**	**38**	*e*P	**P**	**04 58 55.5**	**-0.7**
	comp=Z,1.8nm,0.8s,mb4.0						
MOD				*e*pP	pP	04 59 08.7	-1.1
TUC	**Tucson**	**80.23**	**50**	*e*P	**P**	**04 58 59.3**	**+0.1**
TUC				*e**PP	pP	04 59 12.8	+0.1
TUC				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
TUC	**Tucson**	**80.23**	**50**	*e*P	**P**	**04 58 59.3**	**+0.1**
	comp=Z,2.7nm,0.8s,mb4.2						
TUC				*e*pP	pP	04 59 12.8	0.0
BMN	**Battle Mountai**	**80.57**	**40**	*e*P	**P**	**04 59 00.6**	**-0.4**
BMN				*e**PP	pP	04 59 14.0	-0.6
BMN				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
BMN	**Battle Mountai**	**80.57**	**40**	*e*P	**P**	**04 59 00.6**	**-0.4**
	comp=Z,12nm,1.1s,mb4.8						
BMN				*e*pP	pP	04 59 13.9	-0.6
SSE	**Sheshan**	**80.76**	**308**	*e*P	**P**	**04 59 02.4**	**+0.4**
SSE				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.8						
SSE				AMB	AMB		
	comp=Z,332nm,12.0s						
WVOR	**Wild Horse Val**	**80.97**	**38**	*e*P	**P**	**04 59 02.8**	**-0.4**
WVOR				*e**PP	pP	04 59 15.6	-1.1
WVOR				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
WVOR	**Wild Horse Val**	**80.97**	**38**	*e*P	**P**	**04 59 02.8**	**-0.4**
	comp=Z,12nm,1.1s,mb4.7						
WVOR				*e*pP	pP	04 59 15.6	-1.1
CCUT	**Cedar City**	**81.32**	**44**	*e*P	**P**	**04 59 05.7**	**+0.6**
CCUT				*e*pP	pP	04 59 18.6	0.0
ARUT	**Antelope Range**	**81.41**	**44**	*e*P	**P**	**04 59 06.0**	**+0.5**
ARUT				*e**PP	pP	04 59 19.3	+0.3
WUAZ	**Wupatki**	**81.53**	**47**	P	**P**	**04 59 06.8**	**+0.7**
	comp=Z,14nm,1.1s,mb4.8						
WUAZ				pP	pP	04 59 19.8	+0.1
MAW	**Mawson**	**82.56**	**199**	P	**P**	**04 59 12.1**	**+0.6**
	comp=Z,3.6nm,0.8s,mb4.5,baz=156,slow=4.8,SNR=4.7						
MAW				pP	pP	04 59 25.1	0.0
	comp=Z,6.3nm,1.0s,baz=96,slow=7.2,SNR=3.9						
MAW	**Mawson**	**82.56**	**199**	*e*P	**P**	**04 59 12.1**	**+0.6**
MAW				pmax	pmax	

SNY					LR	LR				
	comp=Z,217nm,14.9s,MS4.7									
SMCO	**Snowmass**	**86.43**	**46**	*e*P	**P**		**04 59 32.1**	**+1.0**		
	comp=Z,4.3nm,1.1s,mb4.6									
SMCO				*e*pP	pP		04 59 45.5	+0.7		
QLMT	**Earthquake Lak**	**86.61**	**39**	*e*P	**P**		**04 59 32.1**	**+0.1**		
BW06	**Boulder Array**	**86.62**	**42**	*e*P	**P**		**04 59 31.2**	**-0.8**		
	comp=Z,3.2nm,1.3s,mb4.4									
PDAR	**Pinedale Array**	**86.62**	**42**	P	**P**		**04 59 31.1**	**-0.9**		
	comp=Z,1.3nm,0.8s,mb4.2,baz=191,slow=3.1,SNR=7.9									
PDAR				pP	pP		04 59 43.9	-1.8		
	comp=Z,1.3nm,0.9s,baz=247,slow=3.1,SNR=4.2									
VNA3	**Neumayer Olymp**	**87.60**	**175**	*e*P	**P**		**04 59 35.8**	**-1.0**		
VNA3				*e*			04 59 37.0			
VNA3				*e*			04 59 41.5			
VNA3				*e*	pP		04 59 48.3	-2.2		
VNA3				*e*	pP		04 59 53.6	+3.1		
SNAA	**Sanae**	**87.61**	**177**	*e*P	**P**		**04 59 36.1**	**-0.7**		
SNAA				*e*			04 59 37.2			
SNAA				*e*			04 59 41.2			
SNAA				*e*	pP		04 59 49.3	-1.2		
SNAA				*e*	pP		04 59 53.9	+3.4		
SNAA	**Sanae**	**87.61**	**177**‖	*e*P	**P**		**04 59 36.0**	**-0.8**		
SNAA	**Sanae**	**87.61**	**177**	*e*P	**P**		**04 59 35.9**	**-1.0**		
	comp=Z,5.8nm,1.1s,mb4.7									
COLA	**College**	**87.70**	**11**	*e*P	**P**		**04 59 36.1**	**-1.2**		
COLA				*e**PP	pP		04 59 48.9	-2.1		
COLA				pmax	pmax					
	comp=Z,3.0nm,0.6s,mb4.7									
COLA	**College**	**87.70**	**11**	*e*P	**P**		**04 59 36.1**	**-1.2**		
	comp=Z,2.7nm,0.6s,mb4.7									
COLA				*e*pP	pP		04 59 48.9	-2.1		
ILAR	**Eielson Array**	**87.78**	**11**	P	**P**		**04 59 36.8**	**-0.8**		
	comp=Z,1.4nm,0.7s,mb4.3,baz=218,slow=5.2,SNR=10									
ILAR				pP	pP		04 59 49.6	-1.7		
	comp=Z,2.6nm,1.0s,baz=225,slow=4.8,SNR=6.4									
VNA2	**Neumayer--Watz**	**88.08**	**176**	*e*P	**P**		**04 59 38.8**	**-0.3**		
VNA2				*e*			04 59 40.0			
VNA2				*e*			04 59 44.8			
VNA2				*e*	pP		04 59 51.7	-1.1		
VNA2				*e*	pP		04 59 57.0	+4.2		
VNA2				*e*			05 00 00.2			
AMTX	**Amarillo**	**88.10**	**52**	*e*P	**P**		**04 59 39.9**	**+0.7**		
	comp=Z,3.4nm,0.6s,mb4.8									
DAWY	**Dawson**	**88.72**	**14**	*e*P	**P**		**04 59 41.6**	**-0.5**		
DAWY				*e*pP	pP		04 59 54.8	-1.0		
BJI	**Beijing**	**88.74**	**314**	*e*P	**P**		**04 59 43.8**	**+1.6**		
BJI				AMB	AMB					
	comp=Z,7.0nm,1.4s,mb4.8									
BJI				LR	LR					
	comp=Z,117nm,15.9s,MS4.4									
BILL	**Bilibino**	**89.72**	**353**‖	*e*P	**P**		**04 59 45.9**	**-0.9**		
BILL				pmax	pmax					
	comp=Z,6.0nm,1.7s,mb4.7									
EDM	**Edmonton**	**90.33**	**32**	*e*P	**P**		**04 59 48.3**	**-1.3**		
EDM				*e**PP	pP		05 00 02.1	-1.2		
HHC	**Hu-ho-hao-te**	**92.24**	**313**	*e*P	**P**		**04 59 59.5**	**+1.0**		
HHC				PP	PP		05 03 42.5	+3.4		
HHC				SKS			05 10 27.1			
HHC				S			05 10 55.7			
HHC				SS	SS		05 17 10.2	+1.7		
HHC				AMB	AMB					
	comp=Z,15nm,1.0s,mb5.3									
HHC				AMB	AMB					
	comp=Z,59nm,5.1s									
HHC				LR	LR					
	comp=N,153nm,16.9s,MS4.6									
HHC				LR	LR					
	comp=E,128nm,17.4s,MS4.6									
HHC				LR	LR					
	comp=Z,231nm,18.3s,MS4.7									
JTS	**JuntasAbangare**	**92.71**	**80**	*e*P	**P**		**05 00 01.1**	**+0.5**		
JTS				pmax	pmax					
	comp=Z,9.0nm,0.9s									
JTS	**JuntasAbangare**	**92.71**	**80**	*e*P	**P**		**05 00 01.1**	**+0.5**		
	comp=Z,9.3nm,0.9s,mb5.2									
KMI	**Kunming**	**92.82**	**296**	P	**P**		**05 00 02.0**	**+0.9**		
KMI				S			05 11 00.2			
KMI				LR	LR					
	comp=Z,109nm,14.9s,MS4.4									
INK	**Inuvik**	**93.58**	**14**	*e*P	**P**		**05 00 03.7**	**-0.9**		
INK				*e**PP	pP		05 00 16.3	-2.1		
INK				pmax	pmax					
	comp=Z,3.0nm,0.9s									
INK	**Inuvik**	**93.58**	**14**	*e*P	**P**		**05 00 03.7**	**-1.0**		
	comp=Z,3.2nm,0.9s,mb4.8									
INK				*e*pP	pP		05 00 16.3	-2.1		
YAK	**Yakutsk**	**93.79**	**337**	*i* P	**P**		**04 59 55.7**	**-10**		
CD2	**Chengdu**	**94.10**	**301**	*e*P	**P**		**05 00 06.0**	**-1.0**		
CD2				AMB	AMB					
	comp=Z,10.0nm,0.8s,mb5.3									
CD2				AMB	AMB					
	comp=Z,60nm,5.3s									
YKA	**Yellowknife Ar**	**95.21**	**24**	P	**P**		**05 00 11.2**	**-0.9**		
	comp=Z,1.2nm,0.7s,mb4.4,baz=238,slow=4.6,SNR=20									
YKA				pP	pP		05 00 23.8	-2.1		
	comp=Z,0.8nm,0.8s,baz=238,slow=4.5,SNR=7.8									
YKA	**Yellowknife Ar**	**95.21**	**24**	P	**P**		**05 00 11.2**	**-0.9**		
YKA				pP	pP		05 00 23.8	-2.1		
YKW3	**Yellowknife Ar**	**95.25**	**24**	*e*P	**P**		**05 00 11.1**	**-1.2**		
LZH	**Lanzhou**	**95.92**	**306**	*e*P	**P**		**05 00 17.5**	**+2.1**		
LZH				AP	pP		05 00 30.5	+1.4		
LZH				PP	PP		05 04 11.6	+3.7		
LZH				AMB	AMB					
	comp=Z,19nm,1.3s,mb5.4									
LZH				AMB	AMB					
	comp=Z,63nm,8.8s									
LZH				LR	LR					
	comp=E,209nm,17.4s									
LZH				LR	LR					
	comp=Z,317nm,19.7s,MS4.8									
MKAR	**Makanchi Array**	**114.10**	**313**	PKP	PKiKP		05 05 27.4	-0.2		
	comp=Z,1.1nm,0.8s,baz=77,slow=1.3,SNR=8.4									
MKAR				pPKP			05 05 40.0			
	comp=Z,0.8nm,0.8s,baz=64,slow=2.8,SNR=5.0									
MKAR	**Makanchi Array**	**114.10**	**313**	PKP	PKiKP		05 05 27.4	-0.2		
MKAR				pPKP			05 05 40.0			
KURK	**Kurchatov**	**116.72**	**317**‖	*i* PKIKP	PKPdf		05 05 32.4	-0.3		
KURK	**Kurchatov**	**116.72**	**317**	*e*PKPdf	PKPdf		05 05 32.0	-0.7		
AAK	**Ala-Archa**	**119.40**	**308**‖	*i* PKIKP	PKPdf		05 05 36.4	-1.4		
BRVK	**Borovoye**	**121.74**	**320**	*e*PKIKP	PKPdf		05 05 41.9	-0.4		
ZRNK	**Zerenda**	**122.52**	**320**	*e*PKIKP	PKPdf		05 05 43.3	-0.5		
ZRNK				*e*			05 05 56.7			
ARU	**Arti**	**127.52**	**326**	*i* PKIKP	PKPdf		05 05 52.4	-1.0		
ARU				*e*			05 07 51.6			
ARU				*e*			05 12 55.2			
ARU				*e*SS	SS		05 24 58.7	-2.8		
ARCES	**ARCESS Array B**	**129.80**	**351**	PKP	PKPdf		05 05 56.9	-0.8		
	comp=Z,2.1nm,0.8s,baz=0.0,slow=2.4,SNR=9.0									
FINES	**FINESS Array B**	**137.00**	**346**	PKP	PKPdf		05 06 09.4	-1.9		
	comp=Z,0.7nm,0.6s,baz=126,slow=2.6,SNR=3.9									
OBN	**Obninsk**	**138.71**	**334**	*i* PKIKP	PKPdf		05 06 16.0	+1.6		
OBN				PS	PS		05 19 32.0	-3.8		
OBN				MLR	MLR					
	comp=Z,200nm,17.0s,MS4.9									
KIV	**Kislovodsk**	**141.79**	**316**	*i* PKHKP			05 06 12.8			
MSL	**Mosul**	**144.17**	**304**	*ex*	x		05 06 25.0			
SUW	**Suwalki**	**144.31**	**343**	*e*PKIKP	PKPdf		05 06 23.9	-0.5		
ANN	**Anapa**	**144.68**	**320**	*i* PKIKP	PKPdf		05 06 27.3	+2.2		
ANN				pmax	pmax					
	comp=Z,22nm,1.3s									
ANN				MLR	MLR					
	comp=N,253nm,23.0s,MS5.1									
ANN				MLR	MLR					
	comp=E,287nm,23.0s,MS5.1									
ANN				MLR	MLR					
	comp=Z,182nm,23.0s,MS4.8									
AKASG	**Malin Array Be**	**144.97**	**334**	PKP	PKPdf		05 06 24.9	-0.7		
	comp=Z,6.2nm,0.5s,baz=41,slow=4.3,SNR=26									
AKASG				pPKP	pPKPdf		05 06 37.3	-2.4		
	comp=Z,5.2nm,0.7s,baz=41,slow=4.2,SNR=8.0									
SIM	**Simferopol'**	**146.53**	**323**	PKP2	PKPab		05 06 31.1	+0.3		
SIM				pmax	pmax					
	comp=Z,10.0nm,0.8s									
BSEG	**Bad Segeberg**	**146.72**	**355**	*e*PKPbc	PKPbc		05 06 30.0	-0.3		
MALT	**Malatya**	**147.03**	**309**‖	*i* P	PKPbc		05 06 33.6	+2.4		
MALT	**Malatya**	**147.03**	**309**	*e*PKPbc	PKPbc		05 06 32.5	+1.3		
MALT				*e*pPKPdf	pPKPdf		05 06 46.1	+2.9		
LVV	**L'vov**	**147.66**	**338**	*i* PKP2	PKPab		05 06 33.0	-2.2		
KIS	**Kishinev**	**147.92**	**330**	*e*PKP2	PKPab		05 06 46.0	+10		
OJC	**Ojcow**	**148.63**	**343**	*e*PKIKP	PKiKP		05 06 36.3	-0.6		
KSP	**Ksiaz**	**148.90**	**347**	*e*PKP2	PKPab		05 06 37.2	-3.0		
STHS	**Stebnicka Huta**	**148.93**	**341**	*e*PKP	PKPbc		05 06 38.1	+1.9		
STHS				*e*			05 06 54.9			
CLL	**Collm**	**149.02**	**351**	*e*PKPbc	PKPbc		05 06 36.8	+0.4		
CLL	**Collm**	**149.02**	**351**	*i* PKPbc	PKPbc		05 06 36.6	+0.2		
	comp=Z,16nm,1.2s									
CLL				*i* PKPab	PKPab		05 06 40.7	0.0		
	comp=Z,9.0nm,0.9s									
CLL				*i* pPKPbc	pPKPbc		05 06 50.0	-0.6		
CLL				*es*PKPbc			05 06 53.0			
CLL	**Collm**	**149.02**	**351**	*i* PKP2	PKPbc		05 06 36.6	+0.2		
CLL				pmax	pmax					
	comp=Z,16nm,1.2s									
CLL				pmax	pmax					
	comp=Z,9.0nm,0.9s									
CLL	**Collm**	**149.02**	**351**	*i* PKP	PKPbc		05 06 36.6	+0.2		
CLL				*i* PKP	PKPab		05 06 40.7	0.0		
CLL				*i* pPKP	pPKPbc		05 06 50.0	-0.6		
BURAR	**Bucovina Array**	**149.02**	**334**‖	*i* P	PKPbc		05 06 37.7	+1.2		
UPC	**Upice**	**149.28**	**347**	*e*PKPbc	PKPbc		05 06 38.1	+1.0		
BRG	**Berggiesshubel**	**149.30**	**350**	*e*PKPbc	PKPbc		05 06 37.3	+0.1		
BRG				*ep*PKPbc	pPKPbc		05 06 50.6	-0.7		
BRG	**Berggiesshubel**	**149.30**	**350**	*e*PKP	PKPbc		05 06 37.3	+0.1		
	comp=Z,4.9nm,1.0s									
BRG	**Berggiesshubel**	**149.30**	**350**	*e*PKP2	PKPbc		05 06 37.3	+0.1		
BRG				pmax	pmax					
	comp=Z,5.0nm,1.0s									
DPC	**Dobruska-Polom**	**149.36**	**347**	*e*PKPbc	PKPbc		05 06 38.3	+1.0		
DPC				*ep*PKP	pPKPdf		05 06 51.3	+4.2		
MORC	**Moravsky Berou**	**149.62**	**345**	*e*PKP2	PKPbc		05 06 38.1	+0.2		
VRI	**Vrincioaia**	**149.73**	**331**‖	*i* P	PKPbc		05 06 38.8	+0.6		
BR131	**Keskin Array S**	**149.73**	**315**	*e*PKPbc	PKPbc		05 06 38.7	+0.4		
BR131				*ep*PKPdf	pPKPdf		05 06 46.1	-1.6		
BR131				*e*			05 06 52.1			
BRTR	**Keskin Array B**	**149.73**	**315**	PKPbc	PKPbc		05 06 39.5	+1.2		
	comp=Z,4.7nm,0.8s,baz=124,slow=2.9,SNR=14									
MOX	**Moxa**	**149.85**	**353**	*e*PKPbc	PKPbc		05 06 38.6	+0.1		
WERD	**Werda**	**149.96**	**352**	*e*PKPbc	PKPbc		05 06 38.7	-0.1		
WERD				*ep*PKPbc	pPKPbc		05 06 52.1	-0.8		
KECS	**Kecovo**	**149.99**	**341**	*e*PKP	PKPbc		05 06 39.6	+0.8		
KECS				*e*			05 06 53.3			
KECS	**Kecovo**	**149.99**	**341**	*e*PKP2	PKPbc		05 06 39.7	+0.9		
PRU	**Pruhonice**	**150.05**	**349**	*e*PKPbc	PKPbc		05 06 39.7	+0.7		
PRU				*ep*PKP	pPKPdf		05 06 51.3	+3.1		
NKC	**Novy Kostel**	**150.15**	**352**	*e*PKPbc	PKPbc		05 06 39.7	+0.5		
ANTO	**Ankara**	**150.22**	**316**	*e*PKIKP	PKPbc		05 06 39.8	+0.4		
MLR	**Muntele Rosu**	**150.37**	**331**‖	*i* P	PKPbc		05 06 40.5	+0.7		
MANZ	**Manzenberg**	**150.43**	**352**	*e*PKPbc	PKPbc		05 06 40.6	+0.7		
MANZ				*ep*PKPbc	pPKPbc		05 06 53.2	-0.8		
VYHS	**Vyhne**	**150.47**	**343**	*e*PKP	PKPbc		05 06 40.9	+0.9		
VYHS				*e*			05 06 53.5			
TNS	**Taunus Mts**	**150.53**	**357**	*e*PKPbc	PKPbc		05 06 40.5	+0.4		
DOU	**Dourbes**	**150.70**	**2**	PKPbc	PKPbc		05 06 39.6	-0.9		
GIVF	**Givet**	**150.70**	**2**	*e*PKP1	PKPbc		05 06 41.1	+0.6		
	comp=Z,34nm,1.1s									
BAIF	**Baives**	**150.73**	**2**	*e*PKP1	PKPbc		05 06 41.2	+0.6		
	comp=Z,35nm,1.1s									
GRA1	**Grafenberg Arr**	**150.83**	**353**	*e*PKPbc	PKPbc		05 06 41.7	+0.9		
GRA1				*ep*PKPbc	pPKPbc		05 06 54.0	-1.0		
GRF	**Grafenberg Arr**	**150.83**	**353**	*e*PKPbc	PKPbc		05 06 41.7	+0.9		
GRF				*ep*PKPbc	pPKPbc		05 06 54.0	-1.0		
KHC	**Kasperske Hory**	**151.05**	**350**	*e*PKPbc	PKPbc		05 06 42.1	+0.7		
KHC				*ep*PKP	pPKPdf		05 06 54.2	+4.4		
WET	**Wettzell**	**151.15**	**351**	*e*PKPbc	PKPbc		05 06 42.1	+0.5		
WLF	**Walferdange**	**151.16**	**360**	*e*PKPbc	PKPbc		05 06 42.5	+0.9		
GEC2	**GERESS Array S**	**151.30**	**349**	*e*PKPbc	PKPbc		05 06 42.3	+0.4		
GERES	**GERESS Array B**	**151.30**	**349**	PKPbc	PKPbc		05 06 42.4	+0.5		
	comp=Z,3.3nm,0.9s,baz=37,slow=0.7,SNR=10									
FLN	**La Poliniere**	**151.58**	**9**	*e*PKP1	PKPbc		05 06 42.5	-0.1		
SGMF	**Saint Gilles**	**151.72**	**12**	*e*PKP1	PKPbc		05 06 42.7	-0.2		
LDF	**La Druitiere**	**151.80**	**9**	*e*PKP1	PKPbc		05 06 43.0	-0.1		
	comp=Z,21nm,1.0s									
GRR	**Gorron**	**151.89**	**10**	*e*PKP1	PKPbc		05 06 43.3	0.0		
BZS	**Buzias**	**152.08**	**336**‖	*i* P	PKPbc		05 06 44.1	+0.4		
CDF	**Champ du Feu**	**152.39**	**358**	*e*PKP1	PKPbc		05 06 44.1	-0.3		
	comp=Z,5.6nm,0.7s									
BFO	**Black Forest**	**152.43**	**357**	*e*PKPbc	PKPbc		05 06 44.5	0.0		
HAU	**Haudompre**	**152.81**	**359**	*e*PKP1	PKPbc		05 06 45.7	+0.3		
HINF	**Hinteralfeld**	**153.00**	**359**	*e*PKP1	PKPbc		05 06 45.2	-0.6		
LOR	**Lormes**	**153.50**	**3**	*e*PKP1	PKPbc		05 06 47.3	+0.4		
	comp=Z,15nm,1.0s									
SSF	**Saint Saulge**	**153.68**	**4**	*e*PKP1	PKPbc		05 06 47.8	+0.5		
	comp=Z,9.6nm,0.9s									
AVF	**Avril sur Loir**	**153.94**	**4**	*e*PKP1	PKPbc		05 06 48.0	+0.2		
SMF	**Signal de Mont**	**154.12**	**3**	*e*PKP1	PKPbc		05 06 48.4	+0.2		
BGF	**Bois d'Agland**	**154.14**	**5**	*e*PKP1	PKPbc		05 06 48.6	+0.4		
CABF	**La Chapelle**	**154.21**	**360**	*e*PKP1	PKPbc		05 06 49.7	+1.3		
TORD	**Torodi Ar. Bea**	**171.38**	**151**	PKP	PKPdf		05 06 56.3	-0.5		
	comp=Z,1.1nm,0.9s,baz=328,slow=4.7,SNR=4.9									
TORD				pPKP	pPKPdf		05 07 10.3	-0.8		
	comp=Z,1.0nm,0.9s,baz=213,slow=1.5,SNR=3.8									

*IDC **05** 05:00:27.2±2.6, 2123S×17377W, h0km, mb3.8/7, mb1 4.1/7, mb1mx4.0/14, mbtmp3.8/7, Error ellipse: s-maj=151.4km s-min=22.5km az=149.0*
*NEIC **05** 05:00:30.9±0.6, 2177S×17343W, h35km, Error ellipse: s-maj=34.1km s-min=12.2km az=166.0*
*ISCJB **05** 05:00:31.3±2.1, 2105S×10808×1740W±05, h33km, mb3.7/7, Error ellipse: s-maj=127.0km s-min=18.4km az=116.1*

ISC 05 05:00:30.9±0.9, 2125S±02×17355W±01, h35km, n13, σ1§66/12, mb3.7/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.46**	**13**	Pn		**Pn**	**05 02 11.4**	**-5.8**
	2.4nm,0.3s,baz=331,slow=22,SNR=5.1							
AFI				Sn		**Sn**	**05 03 27.9**	**-13**
	4.1nm,0.3s,baz=134,slow=22,SNR=4.8							
RAR	**Rarotonga**	**12.79**	**92**	Pn		**Pn**	**05 03 29.0**	**-1.1**
	2.6nm,0.3s,baz=283,slow=12,SNR=7.0							
STKA	**Stephens Creek**	**41.30**	**246**	P		**P**	**05 08 12.6**	**-0.4**
	1.7nm,0.6s,mb3.8,baz=66,slow=8.4,SNR=3.4							
ASAR	**Alice Springs**	**48.46**	**257**	P		**P**	**05 09 10.1**	**+0.1**
	1.6nm,0.8s,mb4.1,baz=89,slow=8.2,SNR=17							
WRA	**Warramunga Arr**	**48.68**	**262**	P		**P**	**05 09 10.8**	**-0.8**
	1.1nm,0.8s,mb3.9,baz=95,slow=8.3,SNR=7.0							
NVAR	**Mina Array Bea**	**78.72**	**41**	P		**P**	**05 12 33.5**	**+3.8**
	0.5nm,0.7s,mb3.6,baz=211,slow=8.6,SNR=4.7							
NVAR	**Mina Array Bea**	**78.72**	**41**	P		**P**	**05 12 33.5**	**+3.8**
PDAR	**Pinedale Array**	**86.65**	**41**	P		**P**	**05 13 13.4**	**+2.6**
	0.5nm,0.9s,mb3.7,baz=204,slow=3.3,SNR=4.2							
ILAR	**Eielson Array**	**88.15**	**11**	P		**P**	**05 13 19.5**	**+1.4**
	0.3nm,0.8s,mb3.6,baz=209,slow=7.0,SNR=5.3							
YKA	**Yellowknife Ar**	**95.45**	**24**	P		**P**	**05 13 52.5**	**+0.6**
	0.1nm,0.7s,mb3.4,baz=238,slow=4.4,SNR=5.7							
YKA	**Yellowknife Ar**	**95.45**	**24**	P		**P**	**05 13 52.5**	**+0.6**
AKASG	**Malin Array Be**	**145.60**	**334**	PKPbc		PKPbc	05 20 07.4	+1.7
	1.2nm,0.6s,baz=42,slow=4.1,SNR=11							
BRTR	**Keskin Array B**	**150.41**	**315**	PKPbc		PKPbc	05 20 20.2	+1.6
	0.5nm,0.6s,baz=120,slow=5.5,SNR=3.9							

JMA 05 05:32:00.2±0.3, 4398N×14792E, h75km, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.69**	**249**	P		Pn	05 32 28.2	+0.3
NEM2				*e*S		Sn	05 32 49.4	+0.6
JRA	**Rausu**	**2.02**	**270**	P		Pn	05 32 32.6	+0.4
JRA				*e*S		Sn	05 32 57.9	+1.3
JNK	**Nakash**	**2.35**	**261**	P		Pn	05 32 37.2	+0.5
JNK				*e*S		Sn	05 33 04.7	+0.1
JAK	**Akkeshi**	**2.54**	**248**	P		Pn	05 32 39.6	+0.3
JAK				*e*S		Sn	05 33 09.8	+0.6
JTKR	**Abashiri--Toko**	**2.90**	**271**	P		Pn	05 32 44.2	+0.2
JAR	**Ashorobuto**	**3.09**	**259**	P		Pn	05 32 47.7	+1.1
JAR				*e*S		Sn	05 33 23.6	+1.1
JCH	**Churui**	**3.60**	**249**	P		Pn	05 32 53.9	+0.4
JCH				*e*S		Sn	05 33 33.9	-0.9
JNBK	**Urakawa-nobuka**	**4.15**	**248**	P		Pn	05 33 01.0	0.0
JKB	**Kayabe**	**5.47**	**250**	P		Pn	05 33 19.4	+0.3
JKB				*e*S		Sn	05 34 17.8	-2.9

*SZGRF **05** 05:33:24.0, 2103S×17364W, h33km, Tonga Islands*
*IDC **05** 05:33:25.7±4.2, 1987S×17370W, h26km±27km, mb4.6/12, mb1 4.8/14, mb1mx4.7/15, mbtmp4.7/14, ML4.6/1, MS4.4/6, Ms1 4.4/6, ms1mx4.1/24, Error ellipse: s-maj=23.0km s-min=14.1km az=132.0*
*ISCJB **05** 05:33:25.1±0.2, 1999S±005×17363W±005, h34km, mb5.0/80, MS4.5/9, Error ellipse: s-maj=8.1km s-min=5.1km az=110.3*

*MOS **05** 05:33:25.5±1.2, 1985S×17370W, h33km, mb5.2/31, Error ellipse: s-maj=12.2km s-min=9.3km az=54.9*
*CSEM **05** 05:33:25.5, 20.12S×17370W, h33km, mb5.6*
*BJI **05** 05:33:27.0, 1990S×17370W, h39km, mB5.5, mb5.1, Ms5.1, Ms2.4*
*HRVD **05** 05:33:27.2±0.2, 1997S×17305W, h14km, MW5.2/73, Centroid moment Tensor Solution. LP body waves: s44,c60;Mantle waves: s73,c118; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-5.59±.27; Mθθ 1.23±.20; Mϕϕ 4.36±.20; Mrθ 2.24±.50; Mrϕ 4.21±.14; Mθϕ-1.26±.45; Best double couple: Mo7.07600×10^16 NP1:ϕs11.00000°, δ50.00000°, λ-126.00000°. NP2: ϕs239.00000°, δ52.00000°, λ-56.00000°. Principal axes: T 7.2910, Plg1.0000°, Azm305.0000°; N -0.4300, Plg26.0000°, Azm36.0000°; P -6.8620, Plg64.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **05** 05:33:27.2±0.2, 1993S×17367W, mb5.0/55 Error ellipse: s-maj=8.2km s-min=4.2km az=144.0*

ISC 05 05:33:26.9±0.2, 1999S±005×17358W±005, h36km, h36km±2.2km:pP-P, n333, σ0§94/170, mb5.0/80, MS4.5/9, 13C-18D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.29**	**16**	Pn		**Pn**	**05 34 51.3**	**-5.8**
	22nm,0.3s,baz=281,slow=3.1,SNR=22							
AFI				Sn		**Sn**	**05 35 54.5**	**-13**
	11nm,0.3s,baz=217,slow=20,SNR=2.4							
AFI	**Afiamalu**	**6.29**	**16**	P		**Pn**	**05 34 51.3**	**-5.9**
AFI				pmax	pmax			
	comp=Z,22nm,0.3s							
AFI	**Afiamalu**	**6.29**	**16**	*e*Pn		**Pn**	**05 34 49.8**	**-7.4**
	comp=Z,197nm,0.6s							
AFI				*e*Sn		**Sn**	**05 35 57.9**	**-10**
RAO	**Raoul Island**	**10.03**	**202**	Sn		**Sn**	**05 37 34.1**	**-5.5**
	comp=Z,33nm,0.3s,baz=287,slow=19,SNR=5.1							
RAO				LR	LR		05 38 58.3	
	comp=Z,897nm,18.2s,baz=24,slow=33							
RAR	**Rarotonga**	**12.99**	**98**	Pn		**Pn**	**05 36 19.4**	**-10**
	comp=Z,13nm,0.3s,baz=254,slow=8.9,SNR=28							
RAR				Sn	Sn		05 38 31.3	-21
	comp=Z,2.4nm,0.3s,baz=108,slow=19,SNR=4.3							
RAR				LR	LR		05 40 44.1	
	comp=Z,2μm,19.1s,baz=259,slow=33							
DZM	**Mont Dzumac**	**18.76**	**260**	P		**Pn**	**05 37 43.1**	**-0.4**
	comp=Z,1.8nm,0.3s,baz=69,slow=17,SNR=18							
URZ	**Urewera**	**19.92**	**202**	P		**Pn**	**05 37 56.1**	**-1.3**
	comp=Z,3.1nm,0.3s,baz=39,slow=6.2,SNR=16							
URZ				S		**S**	**05 41 27.0**	**-11**
	comp=Z,1.1nm,0.3s,baz=181,slow=23,SNR=6.5							
TBI	**Tubuai**	**22.66**	**103**	*e*P		**P**	**05 38 24.2**	**-0.7**
	comp=Z,275nm,1.3s,mb5.5							
PAE	**Paea**	**22.83**	**88**	*e*P		**P**	**05 38 25.6**	**-1.2**
	comp=Z,108nm,1.2s,mb5.2							
PPT	**Papeete**	**22.85**	**88**

CMB **Columbia Colle 76.33 41** *e*P **P** 05 45 11.8 -0.4
comp=Z,4.5nm,0.9s,mb4.4
PET **Petropavlovsk 76.59 343** *e*P **P** 05 45 14.2 +0.5
PET pmax pmax
comp=Z,59nm,1.0s,mb5.5
WDC **Whiskeytown Da 76.69 37** *e*P **P** 05 45 14.3 0.0
WDC pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
WDC **Whiskeytown Da 76.69 37** *e*P **P** 05 45 14.3 0.0
comp=Z,7.5nm,1.2s,mb4.5
NACB **Ninganchiao 76.88 302** *e*P **P** 05 45 16.2 +0.9
YBH **Yreka Blue Hor 77.36 37** *e*P **P** 05 45 18.2 +0.2
YBH pmax pmax
comp=Z,8.0nm,1.1s
YBH **Yreka Blue Hor 77.36 37** *e*P **P** 05 45 18.2 +0.2
comp=Z,7.8nm,1.1s,mb4.5
YSS **Yuzh-Sakhalins 77.38 331** *e*P **P** 05 45 18.3 +0.1
YSS pmax pmax
comp=Z,15nm,0.7s,mb5.0
YSS **Yuzh-Sakhalins 77.38 331** *e*P **P** 05 45 18.6 +0.4
comp=Z,24nm,0.9s,mb5.1
KSM **Kuching 77.47 276** *e*P **P** 05 45 19.6 +0.9
NVAR **Mina Array Bea 77.85 41** P **P** 05 45 21.1 +0.3
comp=Z,3.2nm,0.8s,mb4.3,baz=215,slow=7.1,SNR=24
MNV **Mina 77.95 41** *e*P **P** 05 45 21.4 +0.1
MNV pmax pmax
comp=Z,20nm,1.4s,mb4.8
MNV **Mina 77.95 41** *e*P **P** 05 45 21.4 +0.1
comp=Z,20nm,1.4s,mb4.8
PAHR **Pah Rah Range 77.98 40** *e*P **P** 05 45 21.6 +0.1
comp=Z,8.3nm,1.1s,mb4.6
TPNV **Topopah Spring 78.27 44** *e*P **P** 05 45 23.2 +0.1
TPNV pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
TPNV **Topopah Spring 78.27 44** *e*P **P** 05 45 23.2 +0.1
comp=Z,7.7nm,1.2s,mb4.5
TPH **Tonopah 78.32 42** *e*P **P** 05 45 23.4 0.0
TPH pmax pmax
comp=Z,12nm,1.1s,mb4.7
TPH **Tonopah 78.32 42** *e*P **P** 05 45 23.4 0.0
comp=Z,12nm,1.1s,mb4.8
NEN **Nelson 78.44 45** *e*P **P** 05 45 23.8 -0.2
MOD **Modoc 78.83 38** *e*P **P** 05 45 26.8 +0.6
comp=Z,3.7nm,0.7s,mb4.4
TUC **Tucson 79.44 50** *e*P **P** 05 45 30.0 +0.5
TUC pmax pmax
comp=Z,26nm,1.7s,mb4.9
TUC **Tucson 79.44 50** *e*P **P** 05 45 30.0 +0.5
comp=Z,26nm,1.7s,mb4.9
QZH **Quanzhou 79.65 301** P **P** 05 45 31.0 +0.3
BMN **Battle Mountai 79.74 40** *e*P **P** 05 45 31.6 +0.5
BMN pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BMN **Battle Mountai 79.74 40** *e*P **P** 05 45 31.6 +0.5
comp=Z,5.3nm,0.9s,mb4.5
WVOR **Wild Horse Val 80.13 38** *e*P **P** 05 45 32.8 -0.5
WVOR pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
WVOR **Wild Horse Val 80.13 38** *e*P **P** 05 45 32.8 -0.4
comp=Z,9.1nm,1.3s,mb4.5
CCUT **Cedar City 80.50 44** *e*P **P** 05 45 36.0 +0.7
ARUT **Antelope Range 80.58 44** *e*P **P** 05 45 35.8 +0.1
SSE **Sheshan 80.60 308** *e*P **P** 05 45 34.8 -1.0
SSE AP pP 05 45 44.2 -2.7
SSE XP sP 05 45 48.0 -3.0
SSE S S 05 55 37.8 -2.5
SSE AMB AMB
comp=Z,21nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,63nm,6.7s
SSE LR LR
comp=N,69nm,39.5s,MS4.0
SSE LR LR
comp=E,134nm,39.5s,MS4.0
SSE LR LR
comp=Z,228nm,37.2s,MS4.2
WUAZ **Wupatki 80.72 47** *e*P **P** 05 45 37.0 +0.6
comp=Z,2.8nm,0.6s,mb4.4
MSU **Marysvale 81.81 44** *e*P **P** 05 45 42.9 +0.7
HAWA **Hanford 82.13 34** *e*P **P** 05 45 43.1 -0.8
comp=Z,0.5nm,0.9s
DUG **Dugway 82.34 42** *e*P **P** 05 45 45.1 +0.1
DUG *e**PP pP 05 45 56.9 +0.8
DUG pmax pmax
comp=Z,1.0nm,0.8s
DUG **Dugway 82.34 42** *e*P **P** 05 45 45.1 +0.1
comp=Z,1.1nm,0.8s
DUG *e*pP pP 05 45 56.9 +0.7
MDJ **Mudanjiang 82.55 323** P **P** 05 45 47.6 +1.5
MDJ AMB AMB
comp=Z,13nm,0.9s,mb5.0
MDJ AMB AMB
comp=Z,129nm,5.2s
TMUT **Trail Mountain 82.87 44** *e*P **P** 05 45 48.8 +1.0
MNTX **Cornudas Mount 83.11 53** *e*P **P** 05 45 49.2 +0.3
comp=Z,13nm,1.4s,mb4.8
SRU **San Rafael 83.22 44** *e*P **P** 05 45 50.1 +0.5
SRU pmax pmax
comp=Z,11nm,1.0s,mb4.8
SRU **San Rafael 83.22 44** *e*P **P** 05 45 50.1 +0.5
comp=Z,11nm,1.0s,mb4.8
HLID **Hailey 83.28 39** *e*P **P** 05 45 50.0 +0.1
comp=Z,9.8nm,1.0s,mb4.8
LTX **Lajitas 83.32 56** *e*P **P** 05 45 49.9 -0.2
LTX pmax pmax
comp=Z,23nm,1.6s,mb5.0
LTX **Lajitas 83.32 56** *e*P **P** 05 45 49.9 -0.2
comp=Z,23nm,1.6s,mb5.0
MAW **Mawson 83.41 199** *e*P **P** 05 45 51.2 +0.6
comp=Z,7.9nm,1.2s,mb4.6
MAW **Mawson 83.41 199** P **P** 05 45 51.0 +0.4
comp=Z,11nm,1.1s,mb4.8,baz=102,slow=8.9,SNR=7.9
MAW **Mawson 83.41 199** *e*P **P** 05 45 51.5 +0.9
MAW *e* 05 46 05.8
MAW pmax pmax
comp=Z,13nm,1.1s
MAW **Mawson 83.41 199** *e*P **P** 05 45 51.5 +1.0
comp=Z,14nm,1.1s,mb4.9
MAW *e* 05 46 05.8
DAU **Daniels Canyon 83.45 43** *e*P **P** 05 45 51.5 +0.8
TCUT **Toone Canyon 83.74 42** *e*P **P** 05 45 52.4 +0.2
TTA **Tatalina 83.80 8** *e*P **P** 05 45 51.9 -0.6
TTA pmax pmax
comp=Z,34nm,1.5s,mb5.3
TTA **Tatalina 83.80 8** *e*P **P** 05 45 51.9 -0.7
comp=Z,34nm,1.5s,mb5.2
PV10 **Paradox Valley 83.82 46** *e*P **P** 05 45 52.6 0.0
ANMO **Albuquerque 83.88 50** *e*P **P** 05 45 53.4 +0.4
ANMO pmax pmax
comp=Z,26nm,1.5s
ANMO **Albuquerque 83.88 50** *e*P **P** 05 45 53.4 +0.5
comp=Z,26nm,1.5s,mb5.1
PV01 **Paradox Valley 84.01 46** *e*P **P** 05 45 54.0 +0.4
MA2 **Magadan 84.47 343** *e*P **P** 05 45 55.8 -0.1
MA2 *e*S 05 56 17.7
CN2 **Changchun 84.49 321** *e*P **P** 05 45 57.4 +1.4
CN2 *e*S 05 56 20.4
CN2 AMB AMB
comp=Z,20nm,1.1s,mb5.2
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,13.0s,MS4.8
CN2 LR LR
comp=E,200nm,13.0s,MS4.8
CN2 LR LR
comp=Z,200nm,14.0s,MS4.7
SNY **Shenyang 84.55 318** ⇑P **P** 05 45 57.8 +1.5
SNY PP PP 05 49 14.1 +2.1
SNY AMB AMB
comp=Z,12nm,1.8s,mb4.7
SNY AMB AMB
comp=Z,113nm,5.9s
SNY LR LR
comp=E,237nm,14.5s
SNY LR LR
comp=Z,198nm,16.3s,MS4.6
NEW **Newport 84.58 34** *e*P **P** 05 45 55.3 -1.2
AHID **Auburn Hatcher 84.83 41** *e*P **P** 05 45 57.5 -0.3
MCMT **McKenzie Canyo 84.93 39** *e*P **P** 05 45 57.9 -0.3
REDW **Red Top Meadow 85.31 41** *e*P **P** 05 46 00.1 -0.1
comp=Z,15nm,1.4s,mb4.9
TPAW **Teton Pass 85.32 40** *e*P **P** 05 46 00.1 -0.1
comp=Z,17nm,1.4s,mb5.0
DLMT **Dillon 85.38 38** *e*P **P** 05 46 00.4 -0.1
comp=Z,8.0nm,1.2s,mb4.7

WHN **Wuhan 85.53 305** *e*P **P** 05 46 03.0 +1.7
MOOW **Moose Ponds 85.58 40** *e*P **P** 05 46 00.7 -0.8
comp=Z,5.1nm,1.4s,mb4.6
SMCO **Snowmass 85.62 46** *e*P **P** 05 46 02.1 +0.4
comp=Z,6.1nm,0.9s,mb4.8
QLMT **Earthquake Lak 85.77 39** *e*P **P** 05 46 03.1 +0.7
BW06 **Boulder Array 85.79 42** *e*P **P** 05 46 01.9 -0.7
comp=Z,5.9nm,1.1s,mb4.7
PDAR **Pinedale Array 85.79 42** P **P** 05 46 02.0 -0.5
comp=Z,3.3nm,1.0s,mb4.5,baz=224,slow=3.6,SNR=16
FLWY **Flagg Ranch 85.79 40** *e*P **P** 05 46 02.9 +0.3
comp=Z,17nm,1.3s,mb5.1
CHMT **Chamberlain Mo 85.89 37** *e*P **P** 05 46 02.1 -0.9
TIA **Tai'an 86.04 311** *e*P **P** 05 46 04.4 +0.6
TIA AMB AMB
comp=Z,24nm,1.2s,mb5.3
PLCA **Paso Flores 86.57 132** *e*P **P** 05 46 06.9 +0.5
PLCA *e**PP pP 05 46 19.1 +1.4
PLCA pmax pmax
comp=Z,11nm,1.3s
PLCA **Paso Flores 86.57 132** *e*P **P** 05 46 06.9 +0.5
comp=Z,11nm,1.3s,mb4.9
PLCA *e*pP pP 05 46 19.1 +1.4
JCT **Junction City 86.83 56** *e*P **P** 05 46 06.4 -1.3
JCT pmax pmax
comp=Z,3.0nm,0.3s,mb5.0
JCT **Junction City 86.83 56** *e*P **P** 05 46 06.4 -1.3
comp=Z,2.7nm,0.3s,mb5.0
COLA **College 86.88 11** *c i*P **P** 05 46 07.0 -0.9
COLA **College 86.88 11** *e*P **P** 05 46 06.7 -1.3
comp=Z,15nm,0.8s,mb5.3
ILAR **Eielson Array 86.96 11** P **P** 05 46 07.0 -1.2
comp=Z,3.4nm,0.8s,mb4.6,baz=223,slow=4.9,SNR=29
AMTX **Amarillo 87.32 51** *e*P **P** 05 46 10.2 +0.1
comp=Z,6.9nm,0.8s,mb4.9
KULM **Kulim 87.82 276** *e*P **P** 05 46 14.6 +2.1
KULM *e* pP 05 46 25.9 +2.2
DAWY **Dawson 87.89 14** *e*P **P** 05 46 12.4 -0.3
VNA3 **Neumayer Olymp 88.33 175** ⇓*i*P **P** 05 46 14.7 -0.2
VNA3 *e* 05 46 15.9
VNA3 *e* 05 46 18.3
VNA3 *e* 05 46 20.1
VNA3 *e* pP 05 46 25.2 -0.9
VNA3 *e* 05 46 29.1
VNA3 *e* 05 46 33.4
VNA3 *e* 05 46 37.0
VNA3 *e* 05 47 21.1
VNA3 *e* 05 47 27.0
SNAA **Sanae 88.36 177** ⇓*i*P **P** 05 46 14.4 -0.6
SNAA *e* 05 46 16.0
SNAA *e* 05 46 18.2
SNAA *e* 05 46 20.1
SNAA *e* pP 05 46 25.1 -1.2
SNAA *e* 05 46 28.2
SNAA *e* 05 46 31.8
SNAA *e* 05 47 23.8
SNAA **Sanae 88.36 177** *e*P **P** 05 46 14.9 -0.1
SNAA pmax pmax
comp=Z,21nm,1.4s
SNAA **Sanae 88.36 177** *e*P **P** 05 46 14.9 -0.1
comp=Z,21nm,1.4s,mb5.2
EGMT **Eagleton 88.47 37** *e*P **P** 05 46 16.0 +0.4
comp=Z,3.6nm,0.9s,mb4.6
BJT **Baijiatuau 88.49 314** *e*P **P** 05 46 17.0 +1.4
BJT pmax pmax
comp=Z,67nm,1.7s
BJT **Baijiatuau 88.49 314** *e*P **P** 05 46 17.0 +1.4
comp=Z,67nm,1.7s,mb5.6
BJI **Beijing 88.49 314** P **P** 05 46 17.1 +1.5
BJI AMB AMB
comp=Z,24nm,1.8s,mb5.1
BJI AMB AMB
comp=Z,300nm,4.2s
VNA2 **Neumayer--Watz 88.81 175** ⇓*i*P **P** 05 46 16.9 -0.3
VNA2 *e* 05 46 18.3
VNA2 *e* 05 46 21.1
VNA2 *e* 05 46 22.7
VNA2 *e* pP 05 46 25.7 -2.7
VNA2 *e* pP 05 46 29.9 +1.5
VNA2 *e* 05 46 32.5
VNA2 *e* 05 46 37.3
VNA2 *e* 05 46 47.0
VNA2 *e* 05 46 53.9
VNA2 *e* 05 47 23.8
VNA2 *e* 05 47 32.6
BILL **Bilibino 89.01 353** *e*P **P** 05 46 17.6 -0.5
BILL pmax pmax
comp=Z,5.0nm,0.5s,mb5.1
BILL **Bilibino 89.01 353** *e*P **P** 05 46 17.6 -0.5
comp=Z,4.6nm,0.5s,mb5.1
VNA1 **Neumayer--Stat 89.02 175** ⇓*i*P **P** 05 46 18.6 +0.5
VNA1 *e* 05 46 19.6
VNA1 *e* 05 46 21.8
VNA1 *e* 05 46 24.5
VNA1 *e* pP 05 46 28.9 -0.5
VNA1 *e* 05 46 33.6
VNA1 *e* 05 46 35.8
VNA1 *e* 05 46 39.0
VNA1 *e* 05 46 54.4
VNA1 *e* 05 47 22.3
VNA1 *e* 05 47 27.3
EDM **Edmonton 89.47 31** *e*P **P** 05 46 19.0 -1.2
RSSD **Black Hills 89.94 42** *e*P **P** 05 46 21.4 -1.1
RSSD pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
RSSD **Black Hills 89.94 42** *e*P **P** 05 46 21.4 -1.0
comp=Z,6.3nm,0.9s,mb5.0
XAN **Xi'an 91.16 306** P **P** 05 46 30.1 +2.0
XAN AMB AMB
comp=Z,16nm,1.5s,mb5.1
HHC **Hu-ho-hao-te 92.01 313** *e*P **P** 05 46 33.9 +1.9
HHC SKS 05 57 03.4
HHC AMB AMB
comp=Z,24nm,1.2s,mb5.4
HHC AMB AMB
comp=Z,164nm,6.2s
HHC LR LR
comp=N,161nm,23.8s,MS4.6
HHC LR LR
comp=E,195nm,20.6s,MS4.6
HHC LR LR
comp=Z,116nm,20.2s,MS4.3
CLNS **Chul'man 92.15 331** *e*P **P** 05 46 31.7 -1.0
CLNS pmax pmax
comp=Z,20nm,1.1s,mb5.4
CLNS pmax pmax
comp=N,7.0nm,0.8s
CLNS pmax pmax
comp=E,9.0nm,0.9s
JTS **JuntasAbangare 92.19 80** *e*P **P** 05 46 33.6 +0.7
INK **Inuvik 92.74 14** *e*P **P** 05 46 34.3 -1.1
INK pmax pmax
comp=Z,7.0nm,1.2s
INK **Inuvik 92.74 14** *e*P **P** 05 46 34.3 -1.1
comp=Z,6.6nm,1.2s,mb4.9
YAK **Yakutsk 93.24 337** *e*P **P** 05 46 37.0 -0.7
CHTO **Chiang Mai 94.00 288** *e*P **P** 05 46 43.8 +2.6
CHTO pmax pmax
comp=Z,11nm,1.0s,mb5.2
CHTO **Chiang Mai 94.00 288** *e*P **P** 05 46 43.8 +2.6
comp=Z,11nm,1.0s,mb5.2
YKA **Yellowknife Ar 94.35 24** P **P** 05 46 41.9 -0.9
comp=Z,1.6nm,0.8s,mb4.5,baz=237,slow=4.4,SNR=21
YKA PKKP PKKPbc 06 03 42.3 0.0
comp=Z,0.3nm,0.7s,baz=44,slow=2.1,SNR=5.9
LZH **Lanzhou 95.79 306** *e*P **P** 05 46 51.2 +1.8
LZH AP pP 05 47 00.3 -0.4
LZH AMB AMB
comp=Z,20nm,1.2s,mb5.4
ULM **Lac du Bonnet 97.58 39** P **P** 05 46 57.5 -0.1
comp=Z,1.1nm,0.5s,mb4.6,baz=237,slow=3.8,SNR=3.4
SONM **Songino Array 98.13 318** P **P** 05 47 01.0 +1.0
comp=Z,0.6nm,0.7s,mb4.2,baz=97,slow=4.8,SNR=3.2
TIXI **Tiksi 99.35 344** *e*P **P** 05 47 01.5 -4.0
TIXI *e* 05 57 36.9
TIXI *e*SP SP 05 59 57.5 -4.0
TIXI *e*SS SS 06 05 17.6 -7.0
TIXI pmax pmax
comp=Z,3.0nm,1.1s,mb4.7
TIXI **Tiksi 99.35 344** ⇑*i*P **P** 05 47 04.2 -1.3
MKAR **Makanchi Array 113.87 313** PKiKP PKiKP 05 52 01.0 -0.9
comp=Z,1.0nm,0.7s,baz=60,slow=1.1,SNR=8.7
KURK **Kurchatov 116.43 317** *e*PKIKP PKPdf 05 52 06.0 -0.8
AAK **Ala-Archa 119.24 308** *i* PKIKP PKPdf 05 52 11.5 -0.7

AAK **Ala-Archa 119.24 308** *e*PKP PKPdf 05 52 11.6 -0.6
BRVK **Borovoye 121.40 321** *e*PKIKP PKPdf 05 52 15.9 -0.5
ZRNK **Zerenda 122.18 321** *e*PKIKP PKPdf 05 52 17.1 -0.8
ARU **Arti 127.10 327** *i* PKIKP PKPdf 05 52 26.9 -0.4
ARU *e* 05 59 28.9
ARU *e*SP SP 06 04 23.7 -2.8
ARU *e*SS SS 06 11 27.2 -4.5
ARU **Arti 127.10 327** *e*PKPdf PKPdf 05 52 27.2 0.0
ARCES **ARCESS Array B 129.10 351** PKP PKPdf 05 52 30.8 -0.3
comp=Z,4.1nm,0.9s,baz=90,slow=1.5,SNR=8.7
JOF **Joensuu 133.84 345** *ep* PKPdf 05 52 38.0 -2.1
comp=Z,3.5nm,0.8s
FINES **FINESS Array B 136.35 346** PKP PKPdf 05 52 44.3 -0.4
comp=Z,1.5nm,0.7s,baz=101,slow=6.0,SNR=7.4
OBN **Obninsk 138.19 334** *i* PKIKP PKPdf 05 52 50.0 +1.8
OBN *e* 05 53 02.0
OBN pmax pmax
comp=Z,6.0nm,0.5s
OBN **Obninsk 138.19 334** *e*PKP PKPdf 05 52 50.1 +1.9
NOA **NORSAR Array B 138.85 356** PKP PKPdf 05 52 49.1 -0.2
comp=Z,1.4nm,1.0s,baz=37,slow=1.9,SNR=2.7
ZEI **Tsey 141.22 314** *e*PKIKP PKPdf 05 52 56.0 +2.3
KMBO **Kilima Mbogo 143.20 239** PKP PKPdf 05 52 57.4 +0.2
comp=Z,1.1nm,0.4s,baz=213,slow=22,SNR=3.9
KMBO **Kilima Mbogo 143.20 239** PKP PKPdf 05 52 57.4 +0.2
MSL **Mosul 144.07 305** *ex* x 05 52 58.5
ANN **Anapa 144.34 321** *i* PKIKP PKPdf 05 52 59.7 +0.5
ANN pmax pmax
comp=Z,47nm,1.9s
AKASG **Malin Array Be 144.45 335** PKP PKPdf 05 52 57.5 -1.8
comp=Z,1.1nm,0.8s,baz=39,slow=3.9,SNR=45
BNGL **BINGOL 144.63 310** *i* P PKPdf 05 53 00.3 +0.6
GRSN **GIRESUNGRSN 145.80 315** *i* P PKPdf 05 53 02.0 +0.3
BSEG **Bad Segeberg 145.98 356** *e*PKPbc PKPbc 05 53 03.0 +0.2
SIM **Simferopol' 146.16 324** *ce*PKP2 PKPab 05 53 05.2 +1.2
SIM pmax pmax
comp=Z,34nm,1.2s
SIM MLR MLR
comp=Z,300nm,18.0s,MS5.1
ELZG **Elazig 146.37 310** *i* P PKPbc 05 53 06.2 +2.2
MALT **Malatya 146.84 310** *e*P PKPdf 05 53 03.2 -0.3
MALT **Malatya 146.84 310** ⇑*i*P PKPbc 05 53 07.1 +1.8
MALT **Malatya 146.84 310** *e*PKPbc PKPbc 05 53 07.3 +1.9
URFA **Urfa 146.90 309** *e*P PKPbc 05 53 06.1 +0.6
LVV **L'vov 147.09 339** *i* PKP2 PKPab 05 53 06.6 -1.0
SVSK **Karacayir 147.13 314** *e*P PKPbc 05 53 07.8 +1.7
KVT **Kavak 147.19 316** *e*P PKPbc 05 53 05.0 -1.3
KIS **Kishinev 147.45 331** *e*PKIKP PKPdf 05 53 05.0 +0.5
BOYT **Boyabat 147.74 318** *i* P PKPbc 05 53 09.1 +1.2
GZT **Gaziantep 147.86 309** *i* P PKPbc 05 53 09.5 +1.4
OJC **Ojcow 148.02 344** *e*PKPdf PKPdf 05 53 05.2 -0.2
OJC *e*PKPbc PKPbc 05 53 08.7 +0.1
OJC *e*PKPab PKPab 05 53 11.9 +0.6
OJC *ep*PKPdf pPKPdf 05 53 15.3 -1.7
OJC **Ojcow 148.02 344** *e*PKIKP PKPdf 05 53 05.2 -0.2
OJC *e* 05 53 08.7
OJC *e* 05 53 15.3
CLZ **Clausthal 148.06 355** *e*PKPbc PKPbc 05 53 09.1 +0.4
WTSB **Winterswijk 148.09 360** *e*PKP PKPdf 05 53 08.5 +3.0
comp=Z,26nm,1.2s
KSP **Ksiaz 148.24 348** *e*PKP2 PKPbc 05 53 09.9 +0.8
CTKT **Corum 148.24 317** *i* P PKPbc 05 53 10.6 +1.4
CLL **Collm 148.32 352** *e*PKPbc PKPbc 05 53 09.7 +0.3
CLL **Collm 148.32 352** *i* PKPbc PKPbc 05 53 09.6 +0.2
comp=Z,59nm,1.5s
CLL *i* PKPab PKPab 05 53 12.5 0.0
comp=Z,41nm,1.0s
CLL **Collm 148.32 352** *i* PKP2 PKPab 05 53 09.6 -2.9
CLL pmax pmax
comp=Z,59nm,1.5s
CLL pmax pmax
comp=Z,41nm,1.0s
STHS **Stebnicka Huta 148.33 341** *e*PKP PKPbc 05 53 10.1 +0.7
GTTG **Gyttingen 148.39 356** *e*PKPbc PKPbc 05 53 09.9 +0.4
KOLS **Kolonicke sedl 148.44 340** *e*PKP PKPbc 05 53 12.6 -0.4
BURAR **Bucovina Array 148.50 335** ⇓*i*P PKPbc 05 53 10.9 +1.1
BURAR **Bucovina Array 148.50 335** ⇓P PKPbc 05 53 10.9 +1.1
BUG **Bochum--Univer 148.61 359** *e*PKPbc PKPbc 05 53 10.3 +0.2
UPC **Upice 148.61 348** *e*PKPbc PKPbc 05 53 10.8 +0.7
BRG **Berggiesshubel 148.61 351** *e*PKPbc PKPbc 05 53 10.7 +0.6
BRG **Berggiesshubel 148.61 351** *i* PKP PKPbc 05 53 10.9 +0.8
comp=Z,34nm,1.9s
BRG *i* 05 53 13.9
comp=Z,18nm,1.1s
BALT **Daday 148.63 319** *i* P PKPbc 05 53 11.6 +1.4
DPC **Dobruska-Polom 148.70 348** *e*PKPbc PKPbc 05 53 11.4 +1.1
DPC *e*PKPab PKPab 05 53 14.7 +0.6
CRVS **Cervenica-Dubn 148.72 341** *e*PKP PKPbc 05 53 13.0 +2.6
OKC **Ostrava-Krasne 148.78 345** *e*PKPbc PKPbc 05 53 11.4 +0.8
MORC **Moravsky Berou 148.98 346** ⇓*i*P PKPbc 05 53 11.9 +0.8
MORC **Moravsky Berou 148.98 346** *e*PKPbc PKPbc 05 53 11.1 +0.1
CANT **Cankiri 149.00 317** *e*P PKPbc 05 53 12.6 +1.5
CDAG **Cicekdag 149.04 315** *i* P PKPdf 05 53 08.7 +1.6
KOZT **Kozan 149.06 311** *e*P PKPbc 05 53 12.0 +0.8
UBBA **Unterbreizbach 149.11 356** *e*PKPbc PKPbc 05 53 11.4 0.0
CFR **Carcaliu 149.12 329** ⇑*i*P PKPbc 05 53 12.1 +0.7
CFR **Carcaliu 149.12 329** ⇑P PKPbc 05 53 12.1 +0.7
AVNT **Avonos 149.14 313** *i* P PKPdf 05 53 08.5 +1.2
MOX **Moxa 149.14 354** *e*PKPbc PKPbc 05 53 12.1 +0.7
MOX **Moxa 149.14 354** *e*P PKPbc 05 53 11.8 +0.4
comp=Z,31nm,1.5s
MOX **Moxa 149.14 354** *e*PKP2 PKPbc 05 53 11.8 +0.4
MOX pmax pmax
comp=Z,1.0nm,1.5s
ELDT **Eldivan 149.19 317** *i* P PKPbc 05 53 12.4 +0.9
SAFT **Safranbolu 149.23 319** *e*P PKPbc 05 53 12.8 +1.1
VRI **Vrincioaia 149.25 332** ⇓*i*P PKPbc 05 53 12.4 +0.7
VRI **Vrincioaia 149.25 332** ⇓P PKPbc 05 53 12.4 +0.7
WERD **Werda 149.25 353** *e*PKPbc PKPbc 05 53 12.4 +0.7
HGN **Heimansgroeve 149.29 1** *e*PKP PKPdf 05 53 11.0 +3.5
comp=Z,30nm,2.4s
MENF **Mencas 149.31 5** PKP PKPbc 05 53 12.1 +0.2
MENF **Mencas 149.31 5** *e*P PKPbc 05 53 12.1 +0.2
PRA **Prague 149.32 350** PKPbc PKPbc 05 53 12.0 +0.1
PRU **Pruhonice 149.38 350** *e*PKPbc PKPbc 05 53 12.3 +0.3
PRU *e*PKPab PKPab 05 53 16.1 -0.7
KECS **Kecovo 149.39 341** *e*PKP PKPbc 05 53 12.0 -0.1
NKC **Novy Kostel 149.44 352** *e*PKPbc PKPbc 05 53 13.2 +1.0
NKC *e*PKPab PKPab 05 53 16.2 -0.9
MEM **Membach 149.45 1** PKPbc PKPbc 05 53 13.0 +0.8
BR131 **Keskin Array S 149.47 316** *e*PKPbc PKPbc 05 53 12.5 +0.2
BRTR **Keskin Array B 149.47 316** PKPbc PKPbc 05 53 11.9 -0.4
comp=Z,7.6nm,0.9s,baz=132,slow=1.8,SNR=29
SNF **Seneffe 149.50 3** PKPbc PKPbc 05 53 12.8 +0.5
SNF E 05 53 16.2
HARR **Harsova 149.57 329** ⇑*i*P PKPbc 05 53 13.7 +1.2
HARR **Harsova 149.57 329** ⇑P PKPbc 05 53 13.7 +1.1
KAMT **Kaman 149.60 315** *e*P PKPbc 05 53 13.4 +0.8
VRAC **Vranov 149.63 347** PKP2 PKPbc 05 53 14.1 +1.4
KARA **Karaisali 149.71 311** P PKPbc 05 53 14.4 +1.5
MANZ **Manzenberg 149.73 353** *e*PKPbc PKPbc 05 53 13.2 +0.3
TNS **Taunus Mts 149.79 357** *e*PKPbc PKPbc 05 53 13.4 +0.3
VYHS **Vyhne 149.85 343** *i* PKP PKPbc 05 53 13.3 +0.1
TREC **Trest 149.87 348** *e*PKPbc PKPbc 05 53 14.2 +0.9
MLR **Muntele Rosu 149.89 332** ⇓*i*P PKPbc 05 53 13.7 +0.4
MLR **Muntele Rosu 149.89 332** ⇓P PKPbc 05 53 13.7 +0.4
DOU **Dourbes 149.93 2** PKPbc PKPbc 05 53 14.0 +0.6
DOU E 05 53 16.7
GIVF **Givet 149.93 2** *e*PKP1 PKPbc 05 53 13.6 +0.2
comp=Z,87nm,1.3s
ROTZ **Rotzenmuhle 149.93 352** *e*PKPbc PKPbc 05 53 13.7 +0.3
ANTO **Ankara 149.94 317** *e*P PKPbc 05 53 14.0 +0.6
ANTO **Ankara 149.94 317** ⇓*i*P PKPbc 05 53 14.3 +0.9
ANTO **Ankara 149.94 317** *e*PKPbc PKPbc 05 53 14.4 +1.0
BAIF **Baives 149.95 3** *e*PKP1 PKPbc 05 53 13.9 +0.5
comp=Z,74nm,1.1s
SGKT **Sivrigoynuk 150.00 319** *i* P PKPdf 05 53 05.0 -3.6
PSZ **Piszkesteto 150.07 342** ⇓*ep*PKP/F PKPbc 05 53 14.2 +0.5
PSZ **Piszkesteto 150.07 342** ⇓*i*P PKPbc 05 53 15.1 +1.4
PSZ **Piszkesteto 150.07 342** *e*PKPbc PKPbc 05 53 14.2 +0.5
GRA1 **Grafenberg Arr 150.12 354** *e*PKP PKPbc 05 53 14.9 +1.0
GRF **Grafenberg Arr 150.12 354** *e*PKP PKPbc 05 53 14.9 +1.0
DRGR **150.13 337** ⇑*i*P PKPbc 05 53 14.7 +0.8
MERS **Mersin 150.26 310** *e*P PKPbc 05 53 15.0 +0.8
KHC **Kasperske Hory 150.36 350** *e*PKPbc PKPbc 05 53 15.2 +0.8
WLF **Walferdange 150.39 0** *e*PKPbc PKPbc 05 53 15.5 +1.0
WLF **Walferdange 150.39 0** PKPbc PKPbc 05 53 15.9 +1.4
WLF E 05 53 18.9
WLF **Walferdange 150.39 0** *e*PKPbc PKPbc 05 53 15.0 +0.5
HENT **Hendek 150.56 320** *i* P PKPbc 05 53 15.4 +0.5
MDU **Mudurnu 150.59 319** *e*P PKPbc 05 53 15.6 +0.6
GEC2 **GERESS Array S 150.62 350** *e*PKPbc PKPbc 05 53 15.1 0.0

GERES	**GERESS Array B**	**150.62**	**350**	PKPbc	PKPbc	05 53 15.5	+0.5		
	comp=Z,8.5nm,1.0s,baz=17,slow=1.8,SNR=16								
ROSF	**Rostrenen**	**150.66**	**13**	*e*PKP1	PKPbc	05 53 14.6	-0.5		
	comp=Z,84nm,1.5s								
FLN	**La Foliniere**	**150.76**	**9**	*e*PKP1	PKPbc	05 53 15.1	-0.3		
	comp=Z,80nm,1.0s								
SGMF	**Saint Gilles**	**150.88**	**12**	*e*PKP1	PKPbc	05 53 15.2	-0.5		
	comp=Z,181nm,1.7s								
LDF	**La Druitiere**	**150.98**	**9**	*e*PKP1	PKPbc	05 53 15.6	-0.3		
	comp=Z,78nm,1.2s								
LANF	**Langenberg**	**151.06**	**358**	PKP	PKPbc	05 53 16.8	+0.7		
LANF	**Langenberg**	**151.06**	**358**	*e*P	PKPbc	05 53 16.8	+0.7		
GRR	**Gorron**	**151.07**	**10**	*e*PKP1	PKPbc	05 53 15.9	-0.2		
	comp=Z,32nm,0.8s								
KIZT	**Kizilcal**	**151.07**	**316**	*e*P	PKPbc	05 53 17.1	+1.0		
QUIF	**Quistinic**	**151.08**	**13**	*e*PKP1	PKPbc	05 53 15.9	-0.2		
	comp=Z,72nm,1.4s								
IKL	**Isikli**	**151.15**	**310**	*e*P	PKPbc	05 53 17.0	+0.7		
ERMK	**Ermenek**	**151.51**	**311**	*i* P	PKPbc	05 53 18.3	+1.2		
BZS	**Buzias**	**151.53**	**337**	⇓*i*P	PKPbc	05 53 17.6	+0.4		
BZS	**Buzias**	**151.53**	**337**	⇓P	PKPbc	05 53 17.6	+0.4		
MEZF	**Maizieres J'vi**	**151.53**	**2**	*e*PKP1	PKPbc	05 53 17.7	+0.5		
WLS	**Welschbruch**	**151.63**	**359**	PKP	PKPbc	05 53 17.9	+0.5		
WLS	**Welschbruch**	**151.63**	**359**	*e*P	PKPbc	05 53 17.9	+0.5		
CDF	**Champ du Feu**	**151.64**	**359**	*e*PKP1	PKPbc	05 53 17.6	+0.2		
	comp=Z,32nm,1.1s								
BFO	**Black Forest**	**151.69**	**357**	*e*PKPbc	PKPbc	05 53 17.5	0.0		
THEF	**They Montfort**	**151.83**	**1**	PKP	PKPbc	05 53 18.6	+0.7		
THEF	**They Montfort**	**151.83**	**1**	*e*P	PKPbc	05 53 18.6	+0.7		
PKSM	**Moragy**	**151.99**	**342**	⇓*i*P	PKPbc	05 53 18.2	0.0		
PKSM	**Moragy**	**151.99**	**342**	⇓P	PKPbc	05 53 18.2	0.0		
HAU	**Haudompre**	**152.05**	**0**	*e*PKP1	PKPbc	05 53 19.5	+1.1		
	comp=Z,31nm,1.1s								
FELD	**Feldberg im Sc**	**152.15**	**358**	*e*P	PKPbc	05 53 19.1	+0.5		
HINF	**Hinteralfeld**	**152.24**	**359**	*e*PKP1	PKPbc	05 53 18.7	-0.1		
LOMF	**Lomont**	**152.71**	**359**	PKP	PKPbc	05 53 19.6	-0.2		
LOMF	**Lomont**	**152.71**	**359**	*e*P	PKPbc	05 53 19.6	-0.2		
LOR	**Lormes**	**152.71**	**4**	*e*PKP1	PKPbc	05 53 20.1	+0.3		
	comp=Z,46nm,1.2s								
SSF	**Saint Saulge**	**152.89**	**4**	*e*PKP1	PKPbc	05 53 20.5	+0.3		
	comp=Z,51nm,1.1s								
MFF	**Saint Martin d**	**152.92**	**10**	*e*PKP1	PKPbc	05 53 20.2	-0.1		
	comp=Z,71nm,1.5s								
AVF	**Avril sur Loir**	**153.15**	**5**	*e*PKP1	PKPbc	05 53 20.6	-0.2		
SMF	**Signal de Mont**	**153.33**	**4**	*e*PKP1	PKPbc	05 53 21.0	-0.2		
	comp=Z,21nm,1.1s								
BGF	**Bois d'Agland**	**153.34**	**6**	*e*PKP1	PKPbc	05 53 21.3	+0.1		
GRUS	**Gruza**	**153.34**	**337**	⇑*i*P	PKPbc	05 53 22.1	+0.9		
DIVS	**Divcibare**	**153.43**	**338**	⇑*i*P	PKPbc	05 53 21.2	-0.2		
CABF	**La Chapelle**	**153.45**	**1**	*e*PKP1	PKPbc	05 53 22.3	+0.8		
	comp=Z,31nm,1.1s								
CEY	**Cerknica**	**153.49**	**347**	*e*PKPbc	PKPdf	05 53 15.2	+1.3		
BOJS	**Bojanci**	**153.53**	**346**	*e*PKPbc	PKPdf	05 53 13.3	-0.6		
TCF	**Toulx Ste Croi**	**153.54**	**7**	*e*PKP1	PKPbc	05 53 21.5	-0.2		
	comp=Z,17nm,1.1s								
PLDF	**La Plantade**	**153.99**	**4**	PKP	PKPbc	05 53 22.9	+0.3		
PLDF	**La Plantade**	**153.99**	**4**	*e*P	PKPbc	05 53 22.9	+0.3		
LBL	**Lubilhac**	**154.69**	**5**	PKP	PKPbc	05 53 24.1	0.0		
LBL	**Lubilhac**	**154.69**	**5**	*e*P	PKPbc	05 53 24.1	0.0		
MBDF	**Montbardon**	**155.33**	**359**	*e*PKP1	PKPdf	05 53 26.5	+10		
TORD	**Torodi Ar. Bea**	**171.83**	**146**	PKP	PKPdf	05 53 31.8	+0.1		
	comp=Z,2.5nm,1.0s,baz=251,slow=0.3,SNR=9.1								
TORD				PKPab	PKPab	05 54 54.9	+0.8		
	comp=Z,2.4nm,1.1s,baz=230,slow=3.8,SNR=5.2								

*CSEM **05** 05:41:08.7, 3808N×2019E, h19km, MD3.6/5, After ATH*
*NEIC **05** 05:41:08.7, 3808N×2019E, h19km, MD3.6(ATH), After ATH.*

ATH 05 05:41:09.3, 3811N×2023E, h22km, MD3.6/5, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.29**	**77**	*e*PB	Pb	05 41 16.1	+0.1
VLS				*e*SB	Sb	05 41 21.4	+0.9
RLS	**Riolos of Patr**	**0.98**	**93**	*e*PN	Pn	05 41 28.1	+0.4
EVR	**Evrytania**	**1.48**	**56**	*e*PN	Pn	05 41 37.0	+2.4
ITM	**Ithomi**	**1.64**	**124**	*e*PN	Pn	05 41 38.7	+2.0
KEK	**Kerkira**	**1.64**	**348**	*e*PN	Pn	05 41 38.9	+2.2
LKR	**Lokris**	**2.24**	**75**	*e*PB	Pb	05 41 47.7	-1.4

IDC 05 05:41:17.7±4.2, 1764S×17734W, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.9/13, mbtmp4.0/4, Error ellipse: s-maj=184.6km s-min=31.7km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.65**	**241**	P	P	05 48 51.5	+0.2
	1.4nm,0.5s,baz=90,slow=8.1,SNR=4.3						
WRA	**Warramunga Arr**	**45.68**	**259**	P	P	05 49 40.4	+0.2
	0.9nm,0.5s,baz=95,slow=7.4,SNR=20						
ASAR	**Alice Springs**	**45.84**	**254**	P	P	05 49 42.0	+0.5
	3.4nm,0.5s,baz=87,slow=8.9,SNR=32						
ILAR	**Eielson Array**	**85.40**	**13**	P	P	05 53 56.6	-0.4
	0.2nm,0.5s,baz=218,slow=5.0,SNR=11						

CASC 05 05:43:55.4±3.6, 1619N×8678W, h0km±72km, MD4.1, 1C, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTO2	**Montecristo 2**	**3.06**	**235**	*e*P	Pn	05 44 51.2	+6.2
MTO2				*e*S	Sn	05 45 31.9	+9.5
BLLM	**Bellamira**	**3.07**	**208**	*e*P	Pn	05 44 49.3	+4.2
BLLM				*e*S	Sn	05 45 29.4	+6.8
VSM	**San Miguel**	**3.10**	**208**	*e*P	Pn	05 44 49.0	+3.5
VSM				*e*S	Sn	05 45 29.7	+6.4
LBRS	**Las Brisas**	**3.27**	**222**	*e*P	Pn	05 44 54.2	+6.2
LBRS				*e*S	Sn	05 45 35.1	+7.5
LCBS	**La Ceiba**	**3.29**	**221**	*e*P	Pn	05 44 53.8	+5.6
LCBS				*e*S	Sn	05 45 36.2	+7.1
LFRS	**El Faro**	**3.37**	**221**	*e*P	Pn	05 44 56.3	+7.0
LFRS				*e*S	Sn	05 45 39.4	+9.4
BOQS	**Boqueron**	**3.43**	**225**	*e*P	Pn	05 45 01.6	+12
BOQS				*e*S	Sn	05 45 41.9	+10
CRIN	**San Cristobal**	**3.48**	**184**	*e*P	Pn	05 44 50.7	0.0
CRIN				*e*S	Sn	05 45 33.0	+0.4
TELN	**Telica**	**3.56**	**181**	*e*P	Pn	05 44 52.2	+0.3
TELN				*e*S	Sn	05 45 37.0	+2.3
SNJE	**San Jose**	**3.58**	**230**	*e*P	Pn	05 45 01.5	+9.4
SNJE				*e*S	Sn	05 45 46.5	+11
TEL3	**Telica 3**	**3.59**	**181**	*e*P	Pn	05 44 52.6	+0.3
TEL3				*e*S	Sn	05 45 34.4	-1.0
SBLS	**San Blas**	**3.61**	**230**	*e*P	Pn	05 44 58.8	+6.3
SBLS				*e*S	Sn	05 45 44.3	+8.5
CNGN	**Cerro Negro**	**3.66**	**179**	*e*P	Pn	05 44 53.1	-0.2
CNGN				*e*S	Sn	05 45 36.8	-0.4
MIRN	**Miramar**	**3.72**	**179**	*e*P	Pn	05 44 53.4	-0.7
MIRN				*e*S	Sn	05 45 40.9	+2.3
LEON	**Leon**	**3.75**	**182**	*e*P	Pn	05 44 53.4	-1.1
MOMJ	**Momotombo**	**3.76**	**176**	*e*P	Pn	05 44 57.7	+3.1
MOMJ				*e*S	Sn	05 45 41.3	+1.7
APYN	**Apoyeque**	**3.95**	**174**	*e*P	Pn	05 44 59.1	+1.8
APYN				*e*S	Sn	05 45 46.3	+2.0
COPN	**Copaltepe**	**3.98**	**177**	*e*P	Pn	05 44 58.2	+0.5
COPN				*e*S	Sn	05 45 48.4	+3.3
APON	**Apoyo**	**4.30**	**171**	⇑*e*P	Pn	05 45 06.0	+4.0
APON				*e*S	Sn	05 45 55.9	+3.0
SOR	**Soroa**	**7.47**	**28**	*e*P	Pn	05 45 40.2	-5.4

IDC 05 05:51:02.8±2.0, 1817S×17603W, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.7/14, mbtmp3.7/4, Error ellipse: s-maj=59.3km s-min=35.2km az=120.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**20.89**	**195**	P	P	05 55 46.8	+0.2
	2.0nm,0.3s,baz=333,slow=18,SNR=5.7						
WRA	**Warramunga Arr**	**46.80**	**259**	P	P	05 59 35.3	+1.1
	0.4nm,0.7s,baz=97,slow=7.6,SNR=5.7						
ASAR	**Alice Springs**	**46.90**	**254**	P	P	05 59 34.6	-0.3
	0.5nm,0.8s,baz=89,slow=8.4,SNR=4.9						
ILAR	**Eielson Array**	**85.65**	**12**	P	P	06 03 42.9	-0.5
	0.4nm,0.8s,baz=227,slow=6.3,SNR=4.6						

*HLW **05** 06:16:05.9, 3849N×2248E, h33km, Mb3.9*
*NEIC **05** 06:16:08.9, 3828N×2263E, h22km, mb4.2/25,*
MD4.2(PDG), ML4.1(THE), ML4.2(CSEM), ML4.3(ATH), After ATH.
NEIC Felt at Vari.
*ISCJB **05** 06:16:08.5±0.1, 3832N±001×2267E±002, h10km, mb4.3/36, Error ellipse: s-maj=2.2km s-min=1.6km az=58.8*
*ATH **05** 06:16:08.9, 3828N×2263E, h22km±1km, MD4.2/18, ML4.3*
*ROM **05** 06:16:08.7±0.9, 3812N×2275E, h10km, Ml4.0/6, Error ellipse: s-maj=14.6km s-min=8.2km az=53.0*
*BJI **05** 06:16:08.9, 3849N×2170E, h49km, mB5.0, mb4.7, Ms5.1, Msz4.8*
*CSEM **05** 06:16:10.5±0.1, 3819N×2284E, h46km, mb4.4/5, ML4.7/3, Error ellipse: s-maj=1.4km s-min=1.1km az=24.0*
*IDC **05** 06:16:11.0±2.8, 3834N×2261E, h27km±19km, mb4.0/16, mb1 4.1/26, mb1mx4.1/34, mbtmp4.1/26, ML3.8/7, Error ellipse: s-maj=13.1km s-min=12.0km az=137.0*
*THE **05** 06:16:10.3, 3835N×2277E, h6km, ML4.1*
*MOS **05** 06:16:10.5±1.2, 3835N×2274E, h29km, mb4.6/15, Error ellipse: s-maj=4.9km s-min=2.9km az=111.6*
*PDG **05** 06:16:14.4±0.2, 3840N×2210E, h11km±1km*

ISC 05 06:16:09.9±0.1, 3830N±001×2269E±002, h10km, n383, σ1$42/422, mb4.3/36, 29C-16D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKR	**Lokris**	**0.43**	**35**	*e*PB	Pg	06 16 18.3	0.0
LKR				*e*SB	Sg	06 16 25.9	+1.9
MGER	**Gerania Oros**	**0.55**	**124**	*e*PN	Pg	06 16 20.5	0.0
AGG	**Agios Georgios**	**0.78**	**339**	*e*Pg	Pg	06 16 23.5	-1.4
ATH	**Athens Observa**	**0.87**	**111**	*e*PN	Pn	06 16 26.4	-1.8
EVR	**Evrytania**	**0.93**	**312**	*e*PN	Pn	06 16 26.2	-2.8
EVR				*e*SN	Sn	06 16 39.0	-3.3
PTL	**Penteli**	**0.96**	**105**	*e*PN	Pn	06 16 28.1	-1.3
KVR	**Kavouri**	**0.97**	**118**	*e*PN	Pn	06 16 29.0	-0.6
RLS	**Riolos of Patr**	**0.99**	**256**	*e*PN	Pn	06 16 26.7	-3.2
NEO	**Neokhori**	**1.09**	**22**	*e*PN	Pn	06 16 29.9	-1.3
NEO				*e*SN	Sn	06 16 45.9	-0.5
XOR	**Xorichti**	**1.14**	**20**	*e*Pg	Pg	06 16 29.6	-1.2
ITM	**Ithomi**	**1.27**	**209**	*e*PN	Pn	06 16 31.9	-1.8
AOS	**Alonnisos**	**1.28**	**47**	*e*Pg	Pg	06 16 32.9	-1.5
VLI	**Veliai**	**1.59**	**173**	*e*PN	Pn	06 16 37.3	-0.8
VLI				*e*SN	Sn	06 16 59.2	+0.6
LKD	**Levkas**	**1.65**	**285**	*e*Pb	Pb	06 16 39.2	-1.2
LKD				*e*Sb	Sb	06 17 02.4	+1.1
VLS	**Valsamata**	**1.66**	**267**	*e*PN	Pn	06 16 38.7	-0.3
LIT	**Litokhoron**	**1.81**	**355**	*e*Pb	Pn	06 16 40.3	-0.8
LIT				*e*Sb	Sb	06 17 04.6	-1.2
KYTH	**Kithira**	**2.03**	**172**	*e*PN	Pn	06 16 44.2	0.0
KZN	**Kozani**	**2.13**	**341**	*e*PN	Pn	06 16 45.7	+0.2
PLG	**Polygyros**	**2.16**	**16**	*e*PN	Pn	06 16 44.9	-1.0
IGT	**Igoumenitsa**	**2.21**	**305**	*e*Pn	Pn	06 16 47.8	+1.1
OUR	**Ouranopolis**	**2.27**	**26**	*e*Pn	Pn	06 16 46.8	-0.7
THE	**Thessaloniki**	**2.34**	**5**	*e*Pn	Pn	06 16 47.2	-1.2
THE				*e*Sn	Sn	06 17 16.2	-1.1
LSK	**Leskovik**	**2.46**	**319**	*i* Pg	Pg	06 16 53.6	-3.5
APE	**Apeiranthos**	**2.57**	**118**	*e*P	Pn	06 16 51.0	-0.5
APE	**Apeiranthos**	**2.57**	**118**	⇑*i*P	Pn	06 16 51.6	+0.1
APE	**Apeiranthos**	**2.57**	**118**	*e*Pn	Pn	06 16 51.5	0.0
SOH	**Sokhos**	**2.57**	**11**	*e*Pn	Pn	06 16 51.3	-0.3
SRN	**Sarande**	**2.62**	**308**	*i* Pg	Pn	06 16 53.5	+1.2
SRN				*i* Sg	Pb	06 16 59.7	+2.7
KEK	**Kerkira**	**2.66**	**303**	Pn	Pn	06 16 53.7	+0.9
	2μm,1.2s						
KEK	**Kerkira**	**2.66**	**303**	*e*Pb	Pn	06 16 53.2	+0.4
KEK	**Kerkira**	**2.66**	**303**	Pn	Pn	06 16 53.7	+0.9
	2μm,1.2s						
FNA	**Florina**	**2.68**	**338**	*e*Pn	Pn	06 16 52.8	-0.3
FNA				*e*Sn	Sn	06 17 27.7	+2.0
KNT	**Kendrikon**	**2.87**	**3**	*e*Pn	Pn	06 16 55.5	-0.2
SRS	**Serrai**	**2.90**	**14**	*e*Pn	Pn	06 16 55.6	-0.5
BIA	**Bitola**	**2.92**	**339**	*i* Pn	Pn	06 16 57.2	+0.8
BIA	**Bitola**	**2.92**	**339**	*i* Pn	Pn	06 16 57.1	+0.8
SANT	**Santorini**	**2.93**	**130**	*e*Pn	Pn	06 17 00.2	+3.7
VAY	**Valandovo**	**3.02**	**358**	*i* Pn	Pn	06 16 57.2	-0.6
VAY				*i* Sn	Sn	06 17 35.0	+1.0
VAY	**Valandovo**	**3.02**	**358**	*i* Pn	Pn	06 16 57.1	-0.7
VAY				*i* Sn	Sn	06 17 35.0	+1.0
URLA	**Izmir**	**3.07**	**88**	*i* P	Pn	06 16 59.7	+1.2
URLA				*i* S	Sn	06 17 42.7	+7.4
VAM	**Vamos**	**3.13**	**157**	*e*PN	Pn	06 16 59.3	+0.1
OHR	**Ohrid**	**3.17**	**333**	*i* Pn	Pn	06 17 00.6	+0.8
OHR	**Ohrid**	**3.17**	**333**	*i* Pn	Pn	06 17 00.5	+0.7
NVR	**Nevrokopi**	**3.18**	**16**	*e*PN	Pn	06 16 59.9	-0.1
AYVA	**Ayvalik**	**3.29**	**71**	*i* P	Pn	06 17 01.5	+0.1
SMG	**Samos**	**3.33**	**99**	*e*PN	Pn	06 17 02.7	+0.7
STIP	**Stip**	**3.42**	**354**	*i* Pn	Pn	06 17 03.5	+0.3
IDI	**Anoyia**	**3.48**	**149**	*i* Pn	Pn	06 17 03.7	-0.5
	8.1nm,0.3s,baz=316,slow=14,SNR=25						
IDI					Sn	06 17 47.7	+2.2
	69nm,0.3s,baz=52,slow=8.4,SNR=5.1						
RDO	**Rodhopi**	**3.59**	**37**	*e*PN	Pn	06 17 05.7	0.0
IZM	**Izmir**	**3.60**	**87**	*e*P	Pn	06 17 06.9	+1.2
KDAG	**Bornova**	**3.60**	**87**	*i* P	Pn	06 17 07.0	+1.3
KDAG				*i* S	Sg	06 18 06.8	+1.3
GVD	**Gavdhos**	**3.63**	**162**	*e*Pn	Pn	06 17 07.8	+1.7
GVD				*e*Sn	Sn	06 17 52.0	+3.0
ALN	**Alexandroupoli**	**3.67**	**44**	*e*Pn	Pn	06 17 05.8	-0.9
SIVA	**Sivas**	**3.69**	**152**	*e*Pn	Pn	06 17 08.7	+1.7
SCTE	**Santa Cesarea**	**3.73**	**300**	Pn	Pn	06 17 08.1	+0.6
	415nm,0.8s						
SKO	**Skopje**	**3.79**	**346**	*i* Pn	Pn	06 17 09.4	+1.0
NPS	**Neapolis**	**3.83**	**141**	*e*PN	Pn	06 17 09.9	+1.0
LAST	**Lasithi**	**3.85**	**144**	*e*Pn	Pn	06 17 09.9	+0.7
LAST				*e*Sn	Sn	06 17 55.3	+0.8
BODT	**Bodrum**	**3.87**	**107**	*e*P	Pn	06 17 09.8	+0.4
QSH	**Qafa e Shtames**	**3.87**	**327**	*i* Pn	Pn	06 17 12.2	+2.8
QSH				*i* Sn	Sg	06 18 12.2	-1.9
BDRM	**Kayabasi**	**3.97**	**107**	*i* P	Pn	06 17 12.4	+1.6
LCI	**Lecce**	**4.09**	**301**	Pn	Pn	06 17 13.4	+0.9
	66nm,0.4s						
AYDN	**Tasoluk**	**4.15**	**97**	*i* P	Pn	06 17 17.4	+4.1
XRY	**Khrisi**	**4.18**	**144**	*e*PN	Pn	06 17 15.2	+1.4
DAT	**Datca**	**4.19**	**110**	*e*P	Pn	06 17 15.7	+1.9
SART	**Tekirdag**	**4.22**	**54**	*i* P	Pn	06 17 21.3	+7.1
BALB	**Balikesir**	**4.26**	**70**	*e*P	Pn	06 17 15.8	+1.0
VTS	**Vitosha**	**4.31**	**5**	⇑*i*P	Pn	06 17 16.1	+0.6
VTS	**Vitosha**	**4.31**	**5**	⇑P	Pn	06 17 16.1	+0.6
MFT	**Murefte**	**4.33**	**54**	*e*P	Pn	06 17 15.2	-0.6
BTOK	**Tokmak**	**4.41**	**69**	*i* P	Pn	06 17 21.0	+4.1
ULC	**Ulcinj**	**4.51**	**325**	*e*Pn	Pn	06 17 20.2	+1.9
ULC				*e*Sn	Sn	06 18 08.8	-2.0
KARP	**Karpathos**	**4.51**	**126**	*e*PN	Pn	06 17 20.0	+1.7
MANT	**Manisa**	**4.62**	**86**	*i* P	Pn	06 17 21.4	+1.7
EDRB	**Edirne**	**4.72**	**40**	*e*P	Pn	06 17 23.2	+2.1
TIP	**Timpagrande**	**4.72**	**283**	Pn	Pn	06 17 21.2	+0.1
	94nm,0.8s						
TIP	**Timpagrande**	**4.72**	**283**	*e*Pn	Pn	06 17 21.2	+0.1
SERS	**Sersale**	**4.75**	**281**	Pn	Pn	06 17 22.1	+0.5
SERS				Sn	Sn	06 18 15.4	-1.4
	117nm,0.5s						
PVY	**Plav**	**4.77**	**335**	*e*Pn	Pn	06 17 24.1	+2.3
PVY				*e*Sn	Sn	06 18 16.4	-0.7
PE1	**Pezze di Greco**	**4.78**	**303**	*e*Pn	Pn	06 17 20.5	-1.4
TTG	**Podgorica**	**4.89**	**329**	*e*Pn	Pn	06 17 24.8	+1.4
TTG				*e*Sn	Sn	06 18 18.4	-1.7
PLAC	**Placanica**	**4.91**	**274**	Pn	Pn	06 17 24.7	+0.9
	48nm,0.7s						
BUM	**Brajici-Budva**	**4.94**	**325**	*e*Pn	Pn	06 17 25.4	+1.2
BUM				*e*Sn	Sn	06 18 19.3	-2.0
GRI	**Girifalco**	**4.94**	**278**	Pn	Pn	06 17 24.5	+0.3
	57nm,0.5s						
BRT	**Bari-Castellan**	**4.96**	**303**	Pn	Pn	06 17 26.4	+2.0
	120nm,0.8s						
IVA	**Berane**	**5.04**	**336**	*e*Pn	Pn	06 17 28.1	+2.6
IVA				*e*Sn	Sn	06 18 22.7	-1.1
IVA	**Berane**	**5.04**	**336**	*e*Pn	Pn	06 17 28.1	+2.6
IVA				*e*Sn	Sn	06 18 22.7	-1.1
ORLT	**Orhaneli**	**5.13**	**68**	*e*P	Pn	06 17 24.6	-2.2
SOI	**Samo**	**5.23**	**270**	Pn	Pn	06 17 28.8	+0.6
	37nm,0.4s						
SOI	**Samo**	**5.23**	**270**	P	Pn	06 17 28.8	+0.6
SOI				pmax	pmax		
	comp=Z,37nm,0.4s						
HCY	**Herceg Novi**	**5.24**	**324**	*e*Pn	Pn	06 17 29.3	+1.0
HCY				*e*Sn	Sn	06 18 25.6	-3.1
BAI	**Bari**	**5.29**	**304**	*e*Pn	Pn	06 17 28.7	-0.2
SG1	**Sgolgore (BA)**	**5.29**	**301**	*e*Pn	Pn	06 17 28.5	-0.5
NKY	**Niksic**	**5.32**	**329**	*e*Pn	Pn	06 17 30.4	+1.1
NKY				*e*Sn	Sn	06 18 28.4	-2.2
ULDT	**Uludag**	**5.33**	**68**	*i* P	Pn	06 17 31.0	+1.4
ULDT				*i* S	Sg	06 18 58.5	-2.7
CEL	**Celeste**	**5.35**	**272**	Pn	Pn	06 17 29.8	+0.1
	comp=Z,135nm,0.7s						
FETY	**Fethiye**	**5.35**	**106**	*e*P	Pn	06 17 33.4	+3.6
AMUR	**Altamura**	**5.37**	**301**	Pn	Pn	06 17 30.1	0.0
	comp=Z,40nm,0.5s						
SCHR	**S. Chirico Rap**	**5.47**	**292**	Pn	Pn	06 17 33.0	+1.5
	comp=Z,115nm,1.0s						
TREB	**Trebinje**	**5.52**	**325**	P	Pn	06 17 33.0	+0.9
GOLH	**Golhisar**	**5.55**	**99**	*i* P	Pn	06 17 40.9	+8.4
BRY	**Bratogost**	**5.58**	**327**	*e*Pn	Pn	06 17 34.5	+1.6
BRY				*e*Sn	Sn	06 18 35.0	-2.1
PTRP	**Pietrapertosa**	**5.59**	**295**	Pn	Pn	06 17 33.9	+0.8
	comp=Z,770nm,8.3s						
CUC	**Castrocucco**	**5.61**	**290**	Pn	Pn	06 17 35.2	+1.9
	comp=Z,163nm,0.6s						
PLE	**Pljevlja**	**5.62**	**335**	*e*Pn	Pn	06 17 35.2	+1.8
PLE				*e*Sn	Sn	06 18 36.5	-1.4
IZI	**Iznik**	**5.64**	**67**	*e*P	Pn	06 17 35.0	+1.2
MSRU	**Castanea**	**5.65**	**272**	Pn	Pn	06 17 33.6	-0.3
MSRU				Sn	Sn	06 18 37.3	-1.5
	comp=Z,157nm,0.5s						
YLV	**Yalova**	**5.65**	**64**	*e*P	Pn	06 17 36.3	+2.4
CDT	**Castel del Mon**	**5.68**	**301**	*e*Pn	Pn	06 17 33.1	-1.2
UPM	**Unac-Piva**	**5.68**	**331**	*e*Pn	Pn	06 17 35.6	+1.3
UPM				*e*Sn	Sn	06 18 37.9	-1.7
GRUS	**Gruza**	**5.78**	**346**	⇑*i*Pn	Pn	06 17 35.3	-0.5
MGR	**Morigerati**	**5.84**	**291**	Pn	Pn	06 17 36.8	+0.3
	comp=Z,102nm,0.5s						
SLCN	**Sala Consilina**	**5.86**	**293**	Pn	Pn	06 17 37.6	+0.9
	comp=Z,267nm,0.5s						
MMME	**Mongiuffi-Meli**	**5.87**	**269**	Pn	Pn	06 17 36.7	-0.3
MMME				Sn	Sn	06 18 41.7	-2.7
	comp=Z,124nm,0.7s						
STON	**Ston**	**5.94**	**322**	*i* Pn	Pn	06 17 36.5	-1.4
STON				*i* Sn	Sn	06 18 42.4	-3.6
TKTP	**Tekketepe**	**6.02**	**90**	*i* P	Pn	06 17 42.2	+3.2
CMPR	**Campora**	**6.07**	**292**	Pn	Pn	06 17 40.5	+0.8
	comp=Z,111nm,0.8s						
MRLC	**Muro Lucano**	**6.08**	**296**	Pn	Pn	06 17 39.8	-0.1
	comp=Z,55nm,0.6s						
BBLS	**Bajina Basta -**	**6.09**	**337**	⇑*i*Pn	Pn	06 17 41.1	+1.1
DIVS	**Divcibare**	**6.14**	**342**	⇑*i*Pn	Pn	06 17 40.7	0.0
DIVS				Sn	Sn	06 18 51.2	+0.2
DIVS	**Divcibare**	**6.14**	**342**	*e*Pn	Pn	06 17 40.5	-0.2
DIVS	**Divcibare**	**6.14**	**342**	*e*Pn	Pn	06 17 40.5	-0.2
DIVS				Sn	Sn	06 18 51.2	+0.2
SGO	**Sicignano**	**6.14**	**294**	Pn	Pn	06 17 41.5	+0.8
	comp=Z,30nm,0.4s						
SGO	**Sicignano**	**6.14**	**294**	P	Pn	06 17 41.5	+0.8
SGO				pmax	pmax		
	comp=Z,30nm,0.4s						
ISP	**Isparta**	**6.19**	**92**	*e*P

PSZ pmax pmax
comp=Z,15nm,0.6s
PSZ Piszkesteto 9.83 349 *e*Pn **Pn 06 18 33.5 +2.2**
comp=Z,15nm,0.6s
PSZ *e*Sn **Sn 06 20 28.6 +6.9**
PSZ Piszkesteto 9.83 349 *e*Pn **Pn 06 18 33.5 +2.2**
comp=Z,15nm,0.6s
BOYT Boyabat 9.90 68 *i* P **Pn 06 18 42.3 +10**
VOY Vojsko 10.11 323 *e*Pn **Pn 06 18 36.4 +1.3**
VOY *e* 06 18 46.6
VOY *e*Sn **Sn 06 20 21.7 -6.9**
KECS Kecovo 10.31 352 *e*P **Pn 06 18 42.6 +4.8**
KECS Kecovo 10.31 352 *e* **Pn 06 18 42.6 +4.8**
ARSA Arzberg 10.38 332⇓ *i*Pn **Pn 06 18 38.3 -0.5**
ARSA ⇓ *i*Sn **Sn 06 20 32.4 -2.7**
VYHS Vyhne 10.57 346 *e*P **Pn 06 18 46.1 +4.7**
VYHS Vyhne 10.57 346 *e* **Pn 06 18 46.1 +4.7**
KOLS Kolonicke sedl 10.64 359 *e*P **Pn 06 18 47.6 +5.3**
KOLS Kolonicke sedl 10.64 359 *e* **Pn 06 18 47.6 +5.3**
CRVS Cervenica-Dubn 10.64 356 *e*P **Pn 06 18 48.9 +6.5**
CRVS Cervenica-Dubn 10.64 356 *e* **Pn 06 18 48.9 +6.5**
HNAT Natroun 10.86 140⇑ P **Pn 06 18 43.8 -1.5**
STHS Stebnicka Huta 11.17 355 *e*PN **Pn 06 18 49.7 +0.1**
AWBH 11.22 151⇓ P **Pn 06 18 48.6 -1.7**
PGF Pioggiola 11.26 296 *e*P **Pn 06 18 52.7 +1.8**
comp=Z,32nm,0.9s
PGF Pioggiola 11.26 296 *e*P **Pn 06 18 52.7 +1.8**
PGF pmax pmax
comp=Z,16nm,0.9s
PGF Pioggiola 11.26 296 *e*P **Pn 06 18 52.7 +1.8**
comp=Z,16nm,0.9s
KWP Kalwaria 11.33 0 *e*P **Pn 06 18 55.7 +3.9**
MOA Molln 11.35 330⇓ *i*Pn **Pn 06 18 51.4 -0.8**
MOA ⇓ *i*Sn **Sn 06 20 57.0 -2.0**
HSAF As Saff 11.36 137 P **Pn 06 18 51.1 -1.1**
HSAF S **Sn 06 20 51.3 -7.7**
GLL Jalalah 11.47 137⇑ P **Pn 06 18 52.5 -1.3**
MMAI Mount Meron Ar 11.60 113 Pn **Pn 06 18 55.3 -0.3**
comp=Z,0.9nm,0.3s,baz=316,slow=12,SNR=3.7
VRAC Vranov 11.85 340 Pn **Pn 06 18 57.7 -1.2**
baz=140,slow=17,SNR=1.9
SUZ 11.90 132 P **Pn 06 18 58.0 -1.6**
comp=Z,220nm,0.4s
OKC Ostrava-Krasne 11.99 346 AMS AMS 06 24 20.0
comp=Z,800nm,17.7s
MALT Malatya 12.37 85⇑ *i*P **Pn 06 19 15.0 +9.0**
MALT Malatya 12.37 85 *e*Pn **Pn 06 19 15.9 +10**
GERES GERESS Array B 12.38 331 Pn **Pn 06 19 05.1 -1.2**
comp=Z,0.2nm,0.3s,baz=145,slow=14,SNR=4.3
KHC Kasperske Hory 12.67 332 *e*P **Pn 06 19 11.2 +1.1**
KHC AMS AMS 06 24 20.0
comp=Z,800nm,9.8s
KHC Kasperske Hory 12.67 332 *i* P **Pn 06 19 09.5 -0.6**
DAVOX Davos 12.68 316 Pn **Pn 06 19 08.7 -1.5**
comp=Z,0.2nm,0.3s,baz=153,slow=18,SNR=1.9
ANN Anapa 12.80 55 *e*P **Pn 06 19 10.3 -1.7**
ANN *e*S **Sn 06 21 34.0 -0.6**
ANN pmax pmax
comp=Z,25nm,1.6s
ANN Anapa 12.80 55 *e*P **Pn 06 19 10.3 -1.7**
comp=Z,25nm,1.6s
DPC Dobruska-Polom 12.88 341 *e*P **Pn 06 19 10.5 -2.5**
DPC AMS AMS 06 24 50.0
comp=Z,500nm,15.2s
PRU Pruhonice 13.06 336 AMS AMS 06 25 40.0
comp=Z,300nm,14.9s
ASUT 13.17 143⇑ P **Pn 06 19 16.0 -1.0**
AKASG Malin Array Be 13.24 18 Pn **Pn 06 19 14.7 -3.3**
comp=Z,1.0nm,0.3s,baz=207,slow=12,SNR=6.3
EIL Elat 13.31 127 *e*Pn **Pn 06 19 19.2 +0.3**
comp=Z,102nm,0.6s
EIL Elat 13.31 127 *e*Pn **Pn 06 19 19.2 +0.3**
comp=Z,102nm,0.6s
MBDF Montbardon 13.54 303 *e*P **Pn 06 19 24.6 +2.6**
comp=Z,19nm,1.0s
MBDF Montbardon 13.54 303 *e*P **Pn 06 19 24.6 +2.6**
MBDF pmax pmax
comp=Z,10.0nm,1.0s
MBDF Montbardon 13.54 303 *e*P **Pn 06 19 24.6 +2.6**
comp=Z,9.5nm,1.0s
LPG La Plagne 13.87 306 *e*P **Pn 06 19 28.7 +2.2**
comp=Z,11nm,0.7s
LPG La Plagne 13.87 306 *e*P **Pn 06 19 28.7 +2.2**
LPG pmax pmax
comp=Z,5.0nm,0.7s
LPG La Plagne 13.87 306 *e*P **Pn 06 19 28.7 +2.2**
comp=Z,5.4nm,0.7s
LPL La Plagne 13.89 306 *e*P **Pn 06 19 28.0 +1.2**
comp=Z,7.1nm,0.5s
LPL La Plagne 13.89 306 *e*P **Pn 06 19 28.0 +1.2**
LPL pmax pmax
comp=Z,4.0nm,0.5s
LPL La Plagne 13.89 306 *e*P **Pn 06 19 28.0 +1.2**
comp=Z,3.5nm,0.5s
HDK1 Dakhla 13.93 154⇑ P **Pn 06 19 26.3 -1.0**
NKC Novy Kostel 13.99 332 AMS AMS 06 25 10.0
comp=Z,500nm,9.8s
GTR Jabal at Tayr 14.38 150⇓ P **Pn 06 19 31.6 -1.9**
CLL Collm 14.70 335 *i* (PP) 06 19 46.6
comp=Z,11nm,1.0s
CLL Collm 14.70 335 *i* P 06 19 46.6
CLL pmax pmax
comp=Z,11nm,1.0s
CABF La Chapelle 14.79 309 *e*P **Pn 06 19 38.5 -0.5**
comp=Z,12nm,0.7s
CABF La Chapelle 14.79 309 *e*P **Pn 06 19 38.5 -0.5**
CABF pmax pmax
comp=Z,6.0nm,0.7s
CABF La Chapelle 14.79 309 *e*P **Pn 06 19 38.5 -0.5**
comp=Z,19nm,0.7s
HINF Hinteralfeld 14.96 315 *e*P **Pn 06 19 42.0 +0.6**
comp=Z,7.5nm,0.6s
HINF Hinteralfeld 14.96 315 *e*P **Pn 06 19 42.0 +0.6**
HINF pmax pmax
comp=Z,4.0nm,0.6s
HINF Hinteralfeld 14.96 315 *e*P **Pn 06 19 42.0 +0.6**
comp=Z,3.8nm,0.6s
CDF Champ du Feu 15.07 317 *e*P **Pn 06 19 43.4 +0.6**
HAU Haudompre 15.35 314 *e*P **Pn 06 19 47.3 +0.8**
comp=Z,10nm,0.6s
HAU Haudompre 15.35 314 *e*P **Pn 06 19 47.3 +0.8**
HAU pmax pmax
comp=Z,5.0nm,0.6s
HAU Haudompre 15.35 314 *e*P **Pn 06 19 47.3 +0.8**
comp=Z,5.2nm,0.6s
SUW Suwalki 15.72 1 *e*P **Pn 06 19 56.6 +5.2**
KIV Kislovodsk 16.08 63 *e*P **Pn 06 19 58.6 +2.6**
KIV pmax pmax
comp=Z,15nm,1.2s
SMF Signal de Mont 16.19 307 *e*P **Pn 06 19 58.3 +0.9**
comp=Z,11nm,0.7s
SMF Signal de Mont 16.19 307 *e*P **Pn 06 19 58.3 +0.9**
SMF pmax pmax
comp=Z,6.0nm,0.7s
SMF Signal de Mont 16.19 307 *e*P **Pn 06 19 58.3 +0.9**
comp=Z,5.5nm,0.7s
MTLF Montolieu 16.29 294 *e*P **Pn 06 19 57.8 -0.9**
comp=Z,10nm,0.8s
MTLF Montolieu 16.29 294 *e*P **Pn 06 19 57.8 -0.9**
MTLF pmax pmax
comp=Z,5.0nm,0.8s
MTLF Montolieu 16.29 294 *e*P **Pn 06 19 57.8 -0.9**
comp=Z,5.2nm,0.8s
LOR Lormes 16.44 309 *e*P **Pn 06 20 01.6 +0.9**
comp=Z,16nm,1.0s
LOR Lormes 16.44 309 *e*P **Pn 06 20 01.6 +0.9**
LOR pmax pmax
comp=Z,8.0nm,1.0s
LOR Lormes 16.44 309 *e*P **Pn 06 20 01.6 +0.9**
comp=Z,8.2nm,1.0s
AVF Avril sur Loir 16.55 307 *e*P **Pn 06 20 03.3 +1.2**
comp=Z,7.9nm,0.7s
AVF Avril sur Loir 16.55 307 *e*P **Pn 06 20 03.3 +1.2**
AVF pmax pmax
comp=Z,4.0nm,0.7s
AVF Avril sur Loir 16.55 307 *e*P **Pn 06 20 03.3 +1.2**
comp=Z,4.0nm,0.7s
SSF Saint Saulge 16.57 308 *e*P **Pn 06 20 03.1 +0.8**
comp=Z,30nm,1.1s
SSF Saint Saulge 16.57 308 *e*P **Pn 06 20 03.1 +0.8**
SSF pmax pmax
comp=Z,15nm,1.1s
SSF Saint Saulge 16.57 308 *e*P **Pn 06 20 03.1 +0.8**
comp=Z,15nm,1.1s
ZEI Tsey 16.72 68 *e*P **Pn 06 20 10.1 +5.9**

CAF Calviac 16.76 300 *e*P **Pn 06 20 06.7 +1.9**
BGF Bois d'Agland 16.78 306 *e*P **Pn 06 20 06.0 +1.0**
comp=Z,16nm,0.7s
BGF Bois d'Agland 16.78 306 *e*P **Pn 06 20 06.0 +1.0**
BGF pmax pmax
comp=Z,8.0nm,0.7s
BGF Bois d'Agland 16.78 306 *e*P **Pn 06 20 06.0 +1.0**
comp=Z,7.8nm,0.7s
TCF Toulx Ste Croi 17.09 304 *e*P **Pn 06 20 07.8 -1.1**
GNI Garni 17.19 77 P **Pn 06 20 11.6 +1.6**
comp=Z,1.0nm,0.3s,baz=303,slow=17,SNR=1.9
GNI Garni 17.19 77 P **Pn 06 20 11.6 +1.5**
GNI pmax pmax
comp=Z,1.0nm,0.3s
RJF Les Rejaudoux 17.24 301 *e*P **Pn 06 20 10.1 -0.7**
comp=Z,8.1nm,0.7s
RJF Les Rejaudoux 17.24 301 *e*P **Pn 06 20 10.1 -0.7**
RJF pmax pmax
comp=Z,4.0nm,0.7s
RJF Les Rejaudoux 17.24 301 *e*P **Pn 06 20 10.1 -0.7**
comp=Z,4.1nm,0.7s
EPF Esparros 17.59 293 *e*P **Pn 06 20 15.5 +0.4**
ETSF Etsaut 18.23 292 *e*P **Pn 06 20 24.6 +1.7**
SJPF Ste Jean 18.73 292 *e*P **Pn 06 20 28.7 -0.4**
comp=Z,7.4nm,0.7s
SJPF Ste Jean 18.73 292 *e*P **Pn 06 20 28.7 -0.4**
SJPF pmax pmax
comp=Z,4.0nm,0.7s
SJPF Ste Jean 18.73 292 *e*P **Pn 06 20 28.7 -0.4**
comp=Z,7.7nm,0.7s
MFF Saint Martin d 18.74 304 *e*P **Pn 06 20 29.3 +0.1**
OBN Obninsk 19.27 25⇓ *e*P **Pn 06 20 34.5 -1.1**
OBN pmax pmax
comp=Z,27nm,1.1s
OBN Obninsk 19.27 25 *e*P **Pn 06 20 34.5 -1.1**
comp=Z,27nm,1.1s
LDF La Druitiere 19.43 309 *e*P **Pn 06 20 36.6 -0.9**
comp=Z,11nm,0.5s
LDF La Druitiere 19.43 309 *e*P **Pn 06 20 36.6 -0.9**
LDF pmax pmax
comp=Z,5.0nm,0.5s
LDF La Druitiere 19.43 309 *e*P **Pn 06 20 36.6 -0.9**
comp=Z,5.3nm,0.5s
FLN La Foliniere 19.72 309 *e*P **Pn 06 20 38.5 -2.4**
GRR Gorron 19.80 308 *e*P **Pn 06 20 39.3 -2.7**
comp=Z,15nm,0.6s
GRR Gorron 19.80 308 *e*P **Pn 06 20 39.3 -2.7**
GRR pmax pmax
comp=Z,7.0nm,0.6s
GRR Gorron 19.80 308 *e*P **Pn 06 20 39.3 -2.7**
comp=Z,7.4nm,0.6s
MOS Moscow 20.12 25 *e*P **P 06 20 41.3 -2.6**
MOS *e* 06 20 48.1
MOS *e* 06 20 59.2
VSU Vasula 20.35 6 *e*P **P 06 20 45.5 -0.9**
ESDC Sonseca Array 20.74 282 P **P 06 20 49.3 -1.3**
comp=Z,16nm,0.8s,baz=76,slow=11,SNR=32
ESLA Sonseca Array 20.74 282 *e*P **P 06 20 49.8 -0.9**
comp=Z,4.7nm,1.0s
SGMF Saint Gilles 20.82 307 *e*P **P 06 20 50.4 -1.1**
QUIF Quistinic 21.10 305 *e*P **P 06 20 52.4 -2.1**
comp=Z,35nm,0.7s,mb4.5
QUIF Quistinic 21.10 305 *e*P **P 06 20 52.4 -2.1**
QUIF pmax pmax
comp=Z,17nm,0.7s,mb4.5
QUIF Quistinic 21.10 305 *e*P **P 06 20 52.4 -2.1**
comp=Z,18nm,0.7s,mb4.5
ROSF Rostrenen 21.30 306 *e*P **P 06 20 55.3 -1.3**
comp=Z,41nm,1.0s,mb4.4
ROSF Rostrenen 21.30 306 *e*P **P 06 20 55.3 -1.3**
ROSF pmax pmax
comp=Z,20nm,1.0s,mb4.4
ROSF Rostrenen 21.30 306 *e*P **P 06 20 55.3 -1.3**
comp=Z,20nm,1.0s,mb4.4
HFS Hagfors 22.59 348 P **P 06 21 07.6 -2.9**
comp=Z,2.0nm,0.6s,mb3.7,baz=153,slow=13,SNR=8.2
MDT Midelt 22.83 264 P **P 06 21 11.6 -1.5**
comp=Z,3.1nm,0.8s,mb3.8,baz=87,slow=11,SNR=6.3
FINES FINESS Array B 23.27 4 P **P 06 21 17.1 -0.6**
comp=Z,2.7nm,0.6s,mb3.8,baz=167,slow=9.6,SNR=8.3
FINES FINESS Array B 23.27 4 *i* P **P 06 21 19.2 +1.6**
FINES pmax pmax
comp=Z,3.0nm,0.6s
NB2 NORSAR Subarra 23.88 346 P **P 06 21 20.8 -2.8**
comp=Z,4.7nm,0.9s,mb3.9,baz=160,slow=11
NOA NORSAR Array B 23.88 346 P **P 06 21 20.3 -3.3**
comp=Z,2.1nm,0.7s,mb3.7,baz=147,slow=9.7,SNR=7.0
KAF Kangasniemi 23.95 4 *e*p **P 06 21 20.0 -4.2**
comp=Z,4.1nm,0.6s,mb4.0
KAF Kangasniemi 23.95 4 *e*P **P 06 21 20.0 -4.2**
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.0
EKA Eskdalemuir Ar 24.34 323 P **P 06 21 26.4 -1.4**
comp=Z,4.9nm,0.6s,mb4.1,baz=122,slow=8.9,SNR=14
KLMR Klimovskoe 24.93 20 *e*P **P 06 21 30.7 -2.5**
KLMR pmax pmax
comp=Z,20nm,1.4s,mb4.5
JOF Joensuu 25.21 9 *e*p **P 06 21 32.3 -3.4**
comp=Z,2.2nm,0.5s,mb3.9
ORR Orenburg 26.07 49 *e*P **P 06 21 45.3 +1.8**
ORR pmax pmax
comp=Z,10.0nm,1.1s,mb4.3
ARU Arti 29.85 41 *e*P **P 06 22 16.4 -0.9**
ARU *e* 06 23 10.0
ARU *e*S **S 06 27 12.7 -1.4**
ARU *e*SS SS 06 28 42.8 -38
TORD Torodi Ar. Bea 31.23 222 P **P 06 22 28.1 -1.4**
comp=Z,3.0nm,0.6s,mb4.3,baz=34,slow=9.0,SNR=27
ARCES ARCESS Array B 31.34 2 P **P 06 22 28.4 -2.0**
comp=Z,1.6nm,0.8s,mb3.9,baz=195,slow=9.5,SNR=8.1
ARCES PcP PcP 06 25 21.7 -2.6
comp=Z,1.5nm,0.7s,baz=203,slow=2.8,SNR=6.0
ARCES ARCESS Array B 31.34 2 P **P 06 22 28.4 -2.0**
ARCES PcP PcP 06 25 21.7 -2.6
ARCES ARCESS Array B 31.34 2 PcP PcP 06 25 21.7 -2.6
ZRNK Zerenda 34.90 50 *e*P **P 06 23 01.3 -0.2**
ZRNK pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
ZRNK Zerenda 34.90 50 *e*P **P 06 23 01.3 -0.2**
comp=Z,4.3nm,1.0s,mb4.3
ZRNK Zerenda 34.90 50 *e*P **P 06 23 01.3 -0.2**
comp=Z,4.3nm,1.0s,mb4.3
CHKZ Chkalovo 35.93 49 *e*P **P 06 23 10.3 -0.1**
CHKZ pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
CHKZ Chkalovo 35.93 49 *e*P **P 06 23 10.3 -0.1**
comp=Z,3.1nm,0.7s,mb4.3
CHKZ Chkalovo 35.93 49 *e*P **P 06 23 10.3 -0.1**
comp=Z,3.1nm,0.7s,mb4.3
AAK Ala-Archa 39.15 67 *e*P **P 06 23 37.2 -0.5**
AAK pmax pmax
comp=Z,6.0nm,1.2s,mb4.2
AAK Ala-Archa 39.15 67 *e*P **P 06 23 36.8 -0.9**
comp=Z,3.8nm,0.8s,mb4.2
AAK Ala-Archa 39.15 67 *e*P **P 06 23 36.8 -0.9**
comp=Z,3.8nm,0.8s,mb4.2
DBIC Dimbokro 40.16 225 P **P 06 23 44.3 -1.8**
comp=Z,7.6nm,0.6s,mb4.6,baz=16,slow=9.7,SNR=9.4
DBIC Dimbokro 40.16 225 *e*P **P 06 23 44.9 -1.2**
DBIC Dimbokro 40.16 225 *e*P **P 06 23 44.9 -1.2**
KURK Kurchatov 40.84 54 *e*P **P 06 23 50.6 -1.1**
KURK pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
KURK Kurchatov 40.84 54 *e*P **P 06 23 50.6 -1.1**
comp=Z,4.2nm,0.8s,mb4.1
KURK Kurchatov 40.84 54 *e*P **P 06 23 50.6 -1.1**
comp=Z,4.2nm,0.8s,mb4.1
NVS Novosibirsk 43.34 47 *e*P **P 06 24 10.1 -2.1**
NVS pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
NVS pmax pmax
comp=N,3.0nm,0.9s
NVS pmax pmax
comp=E,6.0nm,1.1s
MKAR Makanchi Array 43.78 59 P **P 06 24 14.6 -1.1**
comp=E,3.2nm,0.4s,mb4.4,baz=274,slow=7.5,SNR=58
MKAR ScP ScP 06 29 49.8 -4.2
comp=E,2.1nm,0.8s,baz=283,slow=3.4,SNR=16
ZAL Zalesovo 44.33 48 P **P 06 24 18.6 -1.5**
comp=E,4.0nm,0.6s,mb4.3,baz=202,slow=9.0,SNR=18
ZAL Zalesovo 44.33 48 P **P 06 24 18.5 -1.6**
ZAK Zakamensk 56.19 49 *e*P **P 06 25 47.2 -2.7**
ZAK pmax pmax
comp=Z,7.0nm,1.7s,mb4.4
ZAK pmax pmax
comp=Z,6.0nm,1.7s,mb4.3

SONM Songino Array 59.06 51 P **P 06 26 08.6 -1.6**
comp=Z,2.9nm,0.9s,mb4.3,baz=283,slow=9.5,SNR=15
BOD Bodaibo 59.23 39 *e*P **P 06 26 08.0 -3.3**
BOD pmax pmax
comp=Z,4.0nm,1.5s,mb4.2
ULN Ulaanbaatar 59.45 51 *e*P **P 06 26 11.7 -1.1**
ULN pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
ULN Ulaanbaatar 59.45 51 *e*P **P 06 26 11.7 -1.1**
comp=Z,3.5nm,0.8s,mb4.4
ULN Ulaanbaatar 59.45 51 *e*P **P 06 26 11.7 -1.1**
comp=Z,3.5nm,0.8s,mb4.4
SCHQ Schefferville 59.52 318 P **P 06 26 11.8 -1.6**
comp=Z,3.1nm,0.5s,mb4.6,baz=45,slow=3.7,SNR=21
SCHQ Schefferville 59.52 318 *e*P **P 06 26 11.9 -1.5**
comp=Z,4.3nm,0.5s,mb4.7
SCHQ Schefferville 59.52 318 *e*P **P 06 26 11.9 -1.5**
comp=Z,4.3nm,0.5s,mb4.7
SNY Shenyang 72.61 50 P **P 06 27 35.7 -1.7**
SNY AMB AMB
comp=Z,7.0nm,0.5s,mb4.8
YKA Yellowknife Ar 73.85 341 P **P 06 27 42.9 -1.9**
comp=Z,0.8nm,0.6s,mb3.9,baz=32,slow=5.4,SNR=21
YKA Yellowknife Ar 73.85 341 P **P 06 27 42.9 -1.9**
YKA Yellowknife Ar 73.85 341 P **P 06 27 42.9 -1.9**
NJ2 Nanjing 75.28 61 *e*P **P 06 27 52.3 -0.8**
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
FWV Forest Hill 76.77 307 *e*P **P 06 28 01.4 -0.1**
FWV Forest Hill 76.77 307 *e*P **P 06 28 01.5 -0.1**
ILAR Eielson Array 76.94 355 P **P 06 28 00.6 -2.0**
comp=Z,1.0nm,1.0s,mb3.7,baz=7.4,slow=2.3,SNR=5.7
DAWY Dawson 76.99 352 *e*P **P 06 28 02.1 -0.7**
DAWY Dawson 76.99 352 *e*P **P 06 28 02.1 -0.7**
SSE Sheshan 77.44 60 *e*P **P 06 28 02.1 -3.3**
SSE AMB AMB
comp=Z,55nm,0.7s
SSE AMB AMB
comp=Z,38nm,4.1s
DLBC Dease Lake 80.96 346 P **P 06 28 20.9 -3.7**
comp=Z,7.7nm,0.7s,mb4.8,baz=36,slow=9.3,SNR=12
CCM Cathedral Cave 82.71 313 *e*P **P 06 28 31.8 -2.0**
CCM pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
CCM Cathedral Cave 82.71 313 *e*P **P 06 28 31.8 -2.1**
comp=Z,3.1nm,0.5s,mb4.6
CCM Cathedral Cave 82.71 313 *e*P **P 06 28 31.8 -2.0**
comp=Z,3.1nm,0.5s,mb4.6
LAO LASA Array 83.83 327 *e*P **P 06 28 39.8 +0.2**
comp=Z,3.6nm,0.8s,mb4.5
EGMT Eagleton 84.21 330 *e*P **P 06 28 41.3 -0.2**
comp=Z,7.0nm,1.0s,mb4.8
MIAR Mount Ida 86.50 312 *e*P **P 06 28 53.0 0.0**
MIAR pmax pmax
comp=Z,9.0nm,1.3s,mb4.8
MIAR Mount Ida 86.50 312 *e*P **P 06 28 53.0 0.0**
comp=Z,8.7nm,1.3s,mb4.8
WMOK Wichita Mounta 89.33 315 *e*P **P 06 29 06.4 -0.1**
WMOK pmax pmax
comp=Z,23nm,1.2s,mb5.4
WMOK Wichita Mounta 89.33 315 *e*P **P 06 29 06.4 -0.1**
comp=Z,23nm,1.2s,mb5.4
WRA Warramunga Arr 118.84 93 PKP PKPdf 06 34 55.8 -2.7
comp=Z,0.6nm,0.7s,baz=323,slow=2.0,SNR=4.6
ASAR Alice Springs 120.49 97 PKP PKPdf 06 34 59.6 -2.0
comp=Z,0.7nm,0.6s,baz=299,slow=1.5,SNR=4.8

IDC ***05*** *06:16:14.5±0.4, 1981S×17469W, h0km, mb5.1/29, mb1 5.2/30, mb1mx5.2/30, mbtmp5.1/30, ML5.0/1, MS5.5/27, Ms1 5.5/27, ms1mx5.3/34, Error ellipse: s-maj=15.8km s-min=9.5km az=149.0*

ISCJB ***05*** *06:16:18.7±0.1, 1994S±003×17457W±004, h36km, mb5.4/100, MS5.7/131, Error ellipse: s-maj=5.9km s-min=3.7km az=80.1*

MOS ***05*** *06:16:19.7±1.2, 1961S×17463W, h33km, mb5.7/42, MS5.7/32, Error ellipse: s-maj=9.9km s-min=7.4km az=66.1*

SZGRF ***05*** *06:16:20.7, 2006S×17391W, h40km, mb6.0, Tonga Islands*

HRVD ***05*** *06:16:20.3±0.1, 1987S×17404W, h12km, MW5.9/113, Centroid moment Tensor Solution. LP body waves: s98,c217;Mantle waves: s113,c344; Half duration: 2s1 Moment tensor: Scale 10^17Nm; Mrr-1.44±.06; Mθθ3.32±.06; Mϕϕ-1.88±.07; Mrθ-0.36±.16; Mθϕ6.90±.05; Mϕr1.79±.16; Best double couple: M08.64900×10^17 NP1:ϕs99.00000°, δ75.00000°, λ-9.00000°. NP2: ϕs192.00000°, δ82.00000°, λ-165.00000°. Principal axes: T 8.1490, Plg4.0000°, Azm325.0000°; N -1.0010, Plg73.0000°, Azm220.0000°; P -7.1480, Plg16.0000°, Azm56.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***05*** *06:16:20.3±0.1, 1983S×17465W, h35km, mb5.6/46, MS5.8/81, MW5.9 Error ellipse: s-maj=6.4km s-min=3.3km az=127.0, Moment Tensor Solution. s14 Moment tensor: Scale 10^17Nm; Mrr-0.27; Mθθ-0.23; Mϕϕ0.50; Mrθ-0.28; Mθϕ7.39; Mϕr3.20; Best double couple: M08.10000×10^17 NP1:ϕs179.00000°, δ88.00000°, λ-157.00000°. NP2: ϕs88.00000°, δ67.00000°, λ-2.00000°. Principal axes: T 8.1000, Plg15.0000°, Azm311.0000°; N -0.0600, Plg66.0000°, Azm184.0000°; P -8.0400, Plg18.0000°, Azm46.0000°;*

BJI ***05*** *06:16:20.2, 1980S×17470W, h35km, mB5.6, mb5.2, Ms5.8, Msz5.6*

ISC 05 06:16:20.5±0.1, 1998S±003×17451W±004, h38km, h38km±2.0km: pP-P, n664, σ1§12/285, mb5.4/100, MS5.7/131, 34C-26D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.57**	**24**	Pn	**Pn**	**Pn**	**06 17 46.8**	**-7.8**
	62nm,0.3s,baz=77,slow=2.4,SNR=54							
AFI				Sn		**Sn**	**06 18 53.2**	**-15**
	57nm,0.3s,baz=276,slow=10.0,SNR=4.1							
AFI				LR	LR	LR	06 19 53.2	
	comp=Z,26µm,21.3s,baz=195,slow=34							
RAO	**Raoul Island**	**9.74**	**198**	Pn	**Pn**	**Pn**	**06 18 41.2**	**+3.2**
	40nm,0.3s,baz=18,slow=20,SNR=3.2							
RAO				Sn		**Sn**	**06 20 23.1**	**-3.0**
	34nm,0.3s,baz=96,slow=22,SNR=2.7							
RAO				LR	LR	LR	06 21 58.1	
	comp=Z,33µm,19.7s,baz=210,slow=35							
RAR	**Rarotonga**	**13.86**	**98**	Pn		**Pn**	**06 19 25.3**	**-9.0**
	23nm,0.3s,baz=254,slow=8.8,SNR=69							
RAR				Sn		Sn	06 21 44.9	-22
	14nm,0.3s,baz=85,slow=12,SNR=3.8							
BKM	**Butte a Klehm**	**16.49**	**275**	⇑ *i*P		**Pn**	**06 20 16.8**	**+7.9**
DZM	**Mont Dzumac**	**17.90**	**260**	P		**Pn**	**06 20 29.5**	**+3.0**
	3.0nm,0.3s,baz=76,slow=18,SNR=58							
DZM				LR	LR	LR	06 25 37.4	
	comp=Z,15µm,18.8s,baz=90,slow=32							
PUZ	**Puketiti**	**19.10**	**198**	PN		**Pn**	**06 20 40.1**	**-0.9**
PUZ	**Puketiti**	**19.10**	**198**	*e*P		**Pn**	**06 20 40.7**	**-0.3**
MWZ	**Matawai**	**19.56**	**199**	*e*PN		**Pn**	**06 20 44.0**	**-2.5**
MWZ	**Matawai**	**19.56**	**199**	*e*P		**Pn**	**06 20 45.3**	**-1.1**
URZ	**Urewera**	**19.62**	**200**	P		**Pn**	**06 20 45.2**	**-2.0**
	4.3nm,0.3s,baz=17,slow=4.4,SNR=25							
URZ				S		**S**	**06 24 17.1**	**-7.9**
	1.0nm,0.3s,baz=341,slow=13,SNR=4.0							
URZ	**Urewera**	**19.62**	**200**	*e*PN		**Pn**	**06 20 44.5**	**-2.7**
URZ	**Urewera**	**19.62**	**200**	*e*P		**Pn**	**06 20 46.0**	**-1.2**
BKZ	**Black Stump Fm**	**20.64**	**200**	PN		**P**	**06 20 56.1**	**-0.7**
BKZ	**Black Stump Fm**	**20.64**	**200**	P		**P**	**06 20 56.1**	**-0.6**
PXZ	**Pawanui**	**21.32**	**198**	*e*SN		**S**	**06 24 51.0**	**-7.6**
BFZ	**Birch Farm**	**22.10**	**199**	PN		**P**	**06 21 11.4**	**-0.9**
BFZ	**Birch Farm**	**22.10**	**199**	P		**P**	**06 21 11.4**	**-1.0**
MRZ	**Mangatainoka R**	**22.29**	**200**	PN		**P**	**06 21 12.0**	**-2.4**
MRZ	**Mangatainoka R**	**22.29**	**200**	*e*P		**P**	**06 21 12.0**	**-2.4**
SNZO	**South Karori**	**23.16**	**201**	*e*P		**P**	**06 21 25.1**	**+1.5**
	244nm,1.1s,mb5.5							
TBI	**Tubuai**	**23.51**	**103**	*e*LQ			06 25 59.1	
	101µm,27.5s							
TBI	**Tubuai**	**23.51**	**103**	*e*P		**P**	**06 21 24.1**	**-3.0**
	641nm,1.2s,mb5.9							
TBI				*e*LR	LR	LR	06 26 45.5	
	7µm,33.0s							
QRZ	**Quartz Range**	**23.55**	**205**	PN		**P**	**06 21 25.6**	**-1.8**
QRZ	**Quartz Range**	**23.55**	**205**	*e*P		**P**	**06 21 25.6**	**-1.8**
PAE	**Paea**	**23.71**	**89**	*e*P		**P**	**06 21 25.7**	**-3.2**
PPT	**Papeete**	**23.73**	**88**	*e*P		**P**	**06 21 26.1**	**-3.0**

PPT Papeete 23.73 88 *e*LQ 06 26 01.0
97µm,26.0s
PPT *e*LR LR 06 26 58.9
17µm,29.2s
PPT Papeete 23.73 88 P **P** **06 21 26.8 -2.3**
24nm,0.7s,mb4.8,baz=237,slow=6.9,SNR=12
PPT LR LR 06 28 05.4
comp=Z,6µm,21.9s,MS5.0,baz=261,slow=30
TVO Taravao 24.00 89 *e*P **P** **06 21 28.7 -2.8**
THZ Tophouse 24.20 203 PN **P** **06 21 31.9 -1.5**
THZ Tophouse 24.20 203 *e*P **P** **06 21 32.5 -0.9**
KHZ Kahutara 24.55 202 *e*PN **P** **06 21 35.8 -0.7**
KHZ Kahutara 24.55 202 *e*P **P** **06 21 38.0 +1.4**
DSZ Denniston Nort 24.61 205 *e*PN **P** **06 21 36.9 -0.3**
DSZ Denniston Nort 24.61 205 *e*P **P** **06 21 40.0 +2.8**
LTZ Lake Taylor 25.32 203 PN **P** **06 21 43.0 -0.6**
LTZ Lake Taylor 25.32 203 *e*P **P** **06 21 43.9 +0.3**
PMOR Pomariorio Ree 25.85 83 *e*P **P** **06 21 46.4 -2.0**
153nm,1.0s,mb5.5
VAH Vaihoa 26.04 84 *e*P **P** **06 21 47.9 -2.2**
266nm,1.1s,mb5.7
WVZ Waitaha Valley 26.16 205 *e*PN **P** **06 21 51.1 -0.1**
WVZ Waitaha Valley 26.16 205 *e*P **P** **06 21 52.4 +1.2**
RPZ Rata Peaks 26.58 204 P **P** **06 21 56.3 +1.4**
62nm,0.6s,mb5.3,baz=54,slow=2.4,SNR=29
HNR Honiara 26.80 289 P **P** **06 21 55.2 -1.7**
62nm,0.6s,mb5.3,baz=268,slow=17,SNR=3.7
HNR LR LR 06 31 09.7
comp=Z,5µm,18.1s,MS5.1,baz=174,slow=34
FOZ Fox Glacier 26.99 206 PN **P** **06 21 57.8 -0.9**
FOZ Fox Glacier 26.99 206 *e*P **P** **06 22 00.3 +1.6**
LBZ Lake Benmore 27.48 204 PN **P** **06 22 03.0 -0.1**
LBZ Lake Benmore 27.48 204 *e*P **P** **06 22 03.4 +0.3**
JCZ Jackson Bay 27.79 206 *e*PN **P** **06 22 05.9 +0.1**
JCZ Jackson Bay 27.79 206 *e*P **P** **06 22 06.1 +0.2**
WKZ Wanaka 28.31 205 PN **P** **06 22 10.5 +0.1**
WKZ Wanaka 28.31 205 *e*P **P** **06 22 11.9 +1.5**
ARMA Armidale 32.24 244 *e*P **P** **06 22 45.5 +0.2**
TAOE Nuku Hiva Isla 34.99 77 *e*LR LR 06 32 07.2
42µm,25.8s
CNB Canberra Magne 35.24 237 *e*P **P** **06 23 11.1 -0.2**
39nm,0.7s,mb5.5
CTA Charters Tower 36.80 263⇑ *i*P **P** **06 23 24.3 -0.4**
27nm,0.5s,mb5.3
CTA Charters Tower 36.80 263 P **P** **06 23 24.6 -0.1**
27nm,0.5s,mb5.3,baz=93,slow=12,SNR=7.0
CTA LR LR 06 36 43.3
comp=Z,16µm,20.6s,MS5.8,baz=89,slow=34
CTA Charters Tower 36.80 263⇑ *i*P **P** **06 23 24.3 -0.4**
CTA pmax pmax
comp=Z,27nm,0.5s
CTAO Charters Tower 36.80 263 P **P** **06 23 24.5 -0.2**
CTAO MLR MLR
comp=Z,15µm,20.0s,MS5.8
RKT Rikitea 36.83 102 *e*P **P** **06 23 23.2 -1.7**
comp=Z,139nm,1.0s,mb5.8
RKT Rikitea 36.83 102 *e*S **S** **06 29 01.8 -4.9**
comp=Z,3µm,29.0s
PMG Port Moresby 38.45 280 P **P** **06 23 38.3 -0.2**
comp=Z,40nm,0.9s,mb5.2,baz=89,slow=4.9,SNR=16
PMG LR LR 06 34 53.0
comp=Z,5µm,19.6s,MS5.4,baz=301,slow=29
PMG Port Moresby 38.45 280 P **P** **06 23 38.3 -0.2**
PMG pmax pmax
comp=Z,40nm,0.9s
STKA Stephens Creek 40.96 244 *e*P **P** **06 23 56.6 -2.9**
comp=Z,17nm,1.0s,mb4.6
STKA Stephens Creek 40.96 244 P **P** **06 23 56.9 -2.6**
comp=Z,22nm,1.0s,mb4.8,baz=90,slow=9.6,SNR=21
STKA PcP PcP 06 25 59.0 -0.2
comp=Z,11nm,0.8s,baz=45,slow=1.7,SNR=2.8
STKA LR LR 06 39 21.1
comp=Z,13µm,18.4s,MS5.8,baz=66,slow=34
POHA Pohakuloa 43.65 26 PFAKE 06 24 30.0 +8.7
POHA LR LR
comp=Z,5µm,20.0s,MS5.4
KIP Kipapa 44.19 22 P **P** **06 24 24.4 -1.3**
KIP pmax pmax
comp=Z,82nm,0.8s,mb5.5
KIP MLR MLR
comp=Z,5µm,22.0s,MS5.4
KIP Kipapa 44.19 22 P **P** **06 24 24.4 -1.3**
comp=Z,82nm,0.8s,mb5.5
KIP LR LR
comp=Z,5µm,22.0s,MS5.4
ASAR Alice Springs 47.82 256 P **P** **06 24 52.5 -1.8**
comp=Z,16nm,0.9s,mb5.1,baz=88,slow=8.2,SNR=55
ASAR PcP PcP 06 26 22.9 +0.3
comp=Z,20nm,0.8s,baz=107,slow=3.9,SNR=5.9
ASAR S **S** **06 31 47.6 -0.9**
comp=Z,0.7nm,0.7s,baz=91,slow=15,SNR=3.1
WB2 Warramunga Arr 47.91 261 *e*P **P** **06 24 53.4 -1.5**
WRAB Tennant Creek 47.91 261 P **P** **06 24 54.0 -0.9**
comp=Z,204nm,0.7s,mb6.3,SNR=12
WRAB Tennant Creek 47.91 261 *e*P **P** **06 24 54.1 -0.8**
WRAB Tennant Creek 47.91 261 P **P** **06 24 53.5 -1.4**
comp=Z,98nm,1.2s,mb5.7
WRA Warramunga Arr 47.92 261 P **P** **06 24 53.5 -1.5**
comp=Z,12nm,0.8s,mb5.0,baz=92,slow=5.9,SNR=63
WRA PcP PcP 06 26 23.4 +0.4
comp=Z,10nm,0.9s,baz=96,slow=3.3,SNR=2.9
WRA S **S** **06 31 52.7 +2.8**
comp=Z,0.3nm,0.5s,baz=131,slow=22,SNR=3.0
MIDW Midway 47.99 357 PFAKE 06 25 10.0 +14
MIDW LR LR
comp=Z,7µm,20.0s,MS5.6
KAKA Kakadu 51.25 270 *e*P **P** **06 25 19.1 -1.3**
comp=Z,21nm,0.4s,mb5.4
GUMO Guam 52.05 307 LR LR 06 43 38.9
comp=Z,4µm,20.9s,MS5.5,baz=129,slow=32
FORT Forrest 52.50 246 *e*P **P** **06 25 28.7 -1.0**
comp=Z,52nm,0.7s,mb5.6
DRV Dumont d'Urvil 54.96 200 S **S** **06 33 29.0 +2.1**
DRV L 06 39 00.0
FITZ Fitzroy Crossi 56.34 261⇑ *i*P **P** **06 25 57.0 -0.6**
comp=Z,6.9nm,0.5s,mb4.9
FITZ Fitzroy Crossi 56.34 261 P **P** **06 25 57.1 -0.5**
comp=Z,8.7nm,1.0s,mb4.7,baz=115,slow=8.1,SNR=9.2
FITZ LR LR 06 49 33.2
comp=Z,5µm,19.0s,MS5.6,baz=278,slow=36
SBA Scott Base 58.63 185 *e*P **P** **06 26 17.0 +3.3**
SBA pmax pmax
comp=Z,295nm,1.8s,mb6.0
SBA Scott Base 58.63 185 *e*P **P** **06 26 17.0 +3.3**
comp=Z,294nm,1.8s,mb6.0
VNDA Vanda 58.74 186 P **P** **06 26 16.5 +2.0**
comp=Z,15nm,0.9s,mb5.0,baz=9.0,slow=7.1,SNR=60
VNDA LR LR 06 47 21.4
comp=Z,4µm,18.8s,MS5.5,baz=26,slow=32
VNDA Vanda 58.74 186 *e*P **P** **06 26 17.2 +2.7**
VNDA pmax pmax
comp=Z,60nm,1.4s
VNDA MLR MLR
comp=Z,4µm,21.0s
VNDA Vanda 58.74 186 *e*P **P** **06 26 17.2 +2.7**
comp=Z,60nm,1.4s,mb5.4
VNDA LR LR
comp=Z,4µm,21.0s,MS5.5
RPN Rapa Nui 59.61 110 LR LR 06 44 29.5
comp=Z,4µm,20.1s,MS5.5,baz=259,slow=28
MBWA Marble Bar 61.16 256 *e*P **P** **06 26 30.1 -1.0**
comp=Z,13nm,0.7s,mb5.2
MBWA LR LR
comp=Z,4µm,19.0s,MS5.6
KLBR Kellerberrin 61.24 244 *e*P **P** **06 26 31.0 -0.6**
comp=Z,48nm,1.1s,mb5.5
NWAO Narrogin (SRO) 61.52 243 PFAKE 06 26 50.0 +16
NWAO LR LR
comp=Z,6µm,19.0s,MS5.8
MUN Mundaring 62.50 244 *e*P **P** **06 26 39.5 -0.6**
CASY Casey 65.84 205 *e*P **P** **06 27 02.9 +0.9**
comp=Z,62nm,1.2s,mb5.5
CASY LR LR
comp=Z,4µm,19.0s,MS5.6
QSPA South Pole Qui 70.09 180 *e*P **P** **06 27 30.6 +1.9**
comp=Z,135nm,0.8s,mb5.9
MJAR Matsushiro Arr 71.78 321 P **P** **06 27 38.1 -0.9**
comp=Z,20nm,0.8s,mb5.1,baz=157,slow=6.1,SNR=47
MJAR LR LR 06 53 23.1
comp=Z,4µm,21.9s,MS5.6,baz=140,slow=31
MAJO Matsushiro 71.79 321 P **P** **06 27 38.1 -0.9**
MAT Matsushiro 71.79 321 P **P** **06 27 38.0 -1.0**
MAT S S 06 36 56.0 -0.6
MAT Matsushiro 71.79 321 *e*P **P** **06 27 38.0 -1.0**
MAT *e*S S 06 36 57.0 +0.4
MAT pmax pmax
comp=Z,17nm,0.9s,mb5.0
MAT MLR MLR
comp=Z,5µm,22.0s,MS5.7
MAT Matsushiro 71.79 321 *e*P **P** **06 27 38.0 -1.0**
comp=Z,17nm,0.9s,mb5.0
MAT *e*S S 06 36 57.0 +0.4
MAT LR LR
comp=Z,5µm,22.0s,MS5.7
MIR Mirnyy 72.84 205 *c i*P **P** **06 27 48.0 +2.7**
MIR *i* 06 28 05.0
MIR pmax pmax
comp=Z,220nm,2.0s,mb5.7
SMY Shemya 73.07 353 PFAKE 06 28 00.0 +13
SMY LR LR
comp=Z,14µm,21.0s,MS6.2
ASAJ Asahikawa 74.88 329 P **P** **06 27 56.9 -0.4**
comp=Z,12nm,0.8s,mb4.9,baz=197,slow=19,SNR=9.7
ASAJ Asahikawa 74.88 329 P **P** **06 27 56.9 -0.4**
ASAJ pmax pmax
comp=Z,12nm,0.8s
SKR Severo-Kuril's 74.96 341 *e*P **P** **06 27 48.7 -9.0**
SKR pmax pmax
comp=Z,80nm,0.6s,mb5.8
SKR pmax pmax
comp=E,90nm,1.0s
SAO San Andreas Ge 75.43 42 *e*P **P** **06 27 59.9 -0.5**
SAO pmax pmax
comp=Z,40nm,1.1s,mb5.3
SAO San Andreas Ge 75.43 42 *e*P **P** **06 27 59.9 -0.5**
comp=Z,40nm,1.1s,mb5.3
PTRM Twissleman Ran 75.53 43 *e*P **P** **06 28 01.7 +0.7**
HOPS Hopland 75.87 39 P **P** **06 28 03.7 +0.7**
comp=Z,100nm,1.4s,mb5.5
HOPS LR LR
comp=Z,8µm,19.0s,MS6.0
MWC Mount Wilson 76.08 45 P **P** **06 28 03.7 -0.4**
BAR Barrett 76.13 47 P **P** **06 28 04.8 +0.4**
NACB Ninganchiao 76.13 302 *e*P **P** **06 28 03.1 -1.3**
KIPM Iron Peak 76.17 38 *e*P **P** **06 28 04.4 -0.2**
PET Petropavlovsk 76.33 344 *e*P **P** **06 28 08.2 +2.7**
PET *e*S S 06 37 49.3 +1.6
PET *e*PS 06 38 33.5
PET pmax pmax
comp=Z,300nm,15.4s
PET smax
comp=N,800nm,18.5s
PET MLR MLR
comp=Z,3µm,20.0s,MS5.6
PET MLR MLR
comp=Z,3µm,19.0s
PET Petropavlovsk 76.33 344 PFAKE 06 28 20.0 +14
PET LR LR
comp=Z,5µm,21.0s,MS5.8
LPIG La Paz 76.34 58 P **P** **06 28 05.6 0.0**
comp=Z,27nm,1.0s,mb5.2,baz=1.9,slow=10,SNR=1.8
LPIG LR LR 06 53 08.4
comp=Z,6µm,21.9s,MS5.9,baz=217,slow=29
YHNB Yeheng 76.55 303 *e*P **P** **06 28 07.0 +0.2**
KSM Kuching 76.59 277 *e*P **P** **06 28 08.0 +1.0**
ISA Isabella 76.66 44 P **P** **06 28 07.2 -0.2**
KHMM Horse Mountain 76.72 37 P **P** **06 28 09.0 +1.2**
PFO Pinyon Flat Ob 76.81 47 P **P** **06 28 08.1 -0.1**
PFO pmax pmax
comp=Z,140nm,1.8s,mb5.6
PFO Pinyon Flat Ob 76.81 47 *e*P **P** **06 28 08.2 -0.1**
comp=Z,145nm,1.8s,mb5.6
CMB Columbia Colle 76.89 41 P **P** **06 28 08.3 -0.4**
CMB MLR MLR
comp=Z,3µm,19.0s,MS5.7
YSS Yuzh-Sakhalins 76.94 331 *e*P **P** **06 28 08.2 -0.8**
YSS pmax pmax
comp=Z,54nm,1.1s,mb5.4
YSS Yuzh-Sakhalins 76.94 331 P **P** **06 28 09.0 0.0**
comp=Z,72nm,1.0s,mb5.6
OHCM Honcut 77.04 39 P **P** **06 28 09.6 +0.1**
CHGN Chignik 77.19 9 *e*P **P** **06 28 07.9 -2.5**
WDC Whiskeytown Da 77.21 38 P **P** **06 28 10.3 -0.2**
WDC pmax pmax
comp=Z,73nm,1.3s,mb5.5
WDC Whiskeytown Da 77.21 38 *e*P **P** **06 28 09.4 -1.1**
comp=Z,73nm,1.3s,mb5.5
GSC Goldstone 77.54 45 P **P** **06 28 12.0 -0.4**
DAC Darwin (Calif) 77.59 44 P **P** **06 28 12.4 -0.3**
DAC pmax pmax
comp=Z,199nm,2.0s,mb5.7
DAC MLR MLR
comp=Z,5µm,19.0s,MS5.9
DAC Darwin (Calif) 77.59 44 P **P** **06 28 12.4 -0.2**
comp=Z,200nm,2.0s,mb5.7
DAC LR LR
comp=Z,5µm,19.0s,MS5.9
GLA Glamis 77.62 48 P **P** **06 28 14.0 +1.2**
YBH Yreka Blue Hor 77.87 37 P **P** **06 28 13.6 -0.6**
comp=Z,14nm,0.8s,mb5.0,baz=131,slow=0.9,SNR=31
YBH LR LR 06 54 35.1
comp=Z,5µm,21.3s,MS5.8,baz=239,slow=30
YBH Yreka Blue Hor 77.87 37 P **P** **06 28 14.0 -0.2**
YBH pmax pmax
comp=Z,151nm,1.6s
YBH Yreka Blue Hor 77.87 37 P **P** **06 28 14.0 -0.2**
comp=Z,151nm,1.6s,mb5.7
HUMO Hull Mountain 78.30 36 P **P** **06 28 17.5 +0.9**
HUMO LR LR
comp=Z,5µm,19.0s,MS5.9
NVAR Mina Array Bea 78.42 42 P **P** **06 28 17.1 -0.1**
comp=Z,16nm,0.7s,mb5.1,baz=214,slow=7.2,SNR=140
PAHR Pah Rah Range 78.53 40 P **P** **06 28 17.7 -0.2**
KS15 Wonju Array Si 78.72 317 P **P** **06 28 20.6 +1.7**
TPNV Topopah Spring 78.86 44 *e*P **P** **06 28 19.6 -0.1**
TPNV pmax pmax
comp=Z,33nm,0.8s,mb5.3
TPNV Topopah Spring 78.86 44 *e*P **P** **06 28 19.6 -0.1**
comp=Z,33nm,0.8s,mb5.3
QZH Quanzhou 78.89 302 P **P** **06 28 21.6 +1.8**
QZH S S 06 38 18.0 +2.6
QZH LR LR
comp=N,3µm,22.5s,MS5.7
QZH LR LR
comp=E,2µm,18.1s,MS5.7
QZH LR LR
comp=Z,4µm,21.1s,MS5.8
TPH Tonopah 78.89 43 P **P** **06 28 20.3 +0.5**
TPH pmax pmax
comp=Z,49nm,0.8s,mb5.5
TPH Tonopah 78.89 43 P **P** **06 28 20.3 +0.4**
comp=Z,48nm,0.8s,mb5.5
NEN Neon 79.06 46 *e*P **P** **06 28 20.6 -0.1**
SHPR Sheep Range 79.33 45 P **P** **06 28 22.4 +0.2**
MOD Modoc 79.36 38 P **P** **06 28 22.5 +0.1**
comp=Z,56nm,1.2s,mb5.4
MOD LR LR
comp=Z,7µm,19.0s,MS6.0
COR Corvallis 79.43 35 PFAKE 06 28 30.0 +7.2
COR LR LR
comp=Z,6µm,19.0s,MS6.0
KDAK Kodiak Island 79.59 12 P **P** **06 28 22.6 -1.1**
comp=Z,359nm,0.8s,mb6.3,SNR=13
KDAK Kodiak Island 79.59 12 P **P** **06 28 22.4 -1.2**
comp=Z,43nm,0.7s,mb5.5,baz=175,slow=4.3,SNR=26
KDAK LR LR 07 02 14.0
comp=Z,3µm,18.4s,MS5.6,baz=209,slow=35
KDAK Kodiak Island 79.59 12 P **P** **06 28 22.4 -1.2**
VLA Vladivostok 79.78 323 P **P** **06 28 26.0 +1.3**
VLA S S 06 38 31.0 +6.2
SSE Sheshan 79.90 308 *e*P **P** **06 28 25.9 +0.6**
SSE PcP PcP 06 28 33.5 +0.7
SSE AP pP 06 28 38.1 +1.2
SSE XP sP 06 28 42.9 +1.6
SSE PP PP 06 31 26.8 -0.3
SSE S S 06 38 25.5 -0.6
SSE XS sS 06 38 46.1 +0.7
SSE AMB AMB
comp=Z,58nm,0.7s,mb5.6
SSE AMB AMB
comp=Z,132nm,5.6s
SSE LR LR
comp=N,1µm,35.5s,MS5.3
SSE LR LR
comp=E,2µm,35.4s,MS5.3
SSE LR LR
comp=Z,3µm,38.0s,MS5.3
TUC Tucson 80.10 50 P **P** **06 28 27.0 +0.6**
TUC Tucson 80.10 50 P **P** **06 28 27.1 +0.7**
BMN Battle Mountai 80.29 41 P **P** **06 28 27.7 +0.3**
BMN pmax pmax
comp=Z,80nm,1.3s,mb5.5
BMN MLR MLR
comp=Z,3µm,22.0s,MS5.7
BMN Battle Mountai 80.29 41 P **P** **06 28 27.7 +0.3**
comp=Z,80nm,1.3s,mb5.5
BMN LR LR
comp=Z,3µm,22.0s,MS5.7
SFJM Santa Fe 80.67 64 *e*P **P** **06 28 30.0 +0.5**
CCUT Cedar City 81.10 45 *e*P **P** **06 28 32.6 +0.8**
ARUT Antelope Range 81.18 45 *e*P **P** **06 28 32.6 +0.4**
HDW Hoodsport 81.60 32 P **P** **06 28 35.0 +0.6**
STW Striped Peak 81.63 32 P **P** **06 28 35.2 +0.6**
LON Longmire 81.64 34 P **P** **06 28 34.1 -0.5**
HABR Khabarovsk 81.65 329⇑ *e*P **P** **06 28 35.7 +1.0**
HABR *e*S S 06 38 45.0 +0.6
HABR pmax pmax
comp=Z,71nm,1.1s,mb5.5
HABR MLR MLR
comp=Z,2µm,20.0s,MS5.5
FMW Mount Fremont 81.83 33 P **P** **06 28 36.2 +0.6**
MDJ Mudanjiang 82.01 323 P **P** **06 28 37.4 +0.8**
MDJ AP pP 06 28 46.9 -1.3
MDJ XP sP 06 28 50.7 -1.8
MDJ PP PP 06 31 44.8 +0.2
MDJ S S 06 38 50.1 +2.0
MDJ XS sS 06 39 06.4 -1.0
MDJ SS SS 06 44 10.6 +3.2
MDJ AMB AMB
comp=Z,24nm,1.2s,mb5.0
MDJ AMB AMB
comp=Z,304nm,4.8s
MDJ LR LR
comp=N,1µm,18.4s,MS5.7
MDJ LR LR
comp=E,3µm,18.4s,MS5.7
MDJ LR LR
comp=Z,4µm,18.4s,MS5.8
MDJ Mudanjiang 82.01 323 P **P** **06 28 37.5 +0.9**
MDJ *e* 06 29 06.0
MDJ LR LR
comp=Z,4µm,20.0s,MS5.8
NJ2 Nanjing 82.10 308 *e*P **P** **06 28 38.1 +1.1**
NJ2 AP pP 06 28 48.2 -0.5
NJ2 XP sP 06 28 51.5 -1.5
NJ2 PP PP 06 31 46.0 +0.7
NJ2 S S 06 38 49.0 0.0
NJ2 XS sS 06 39 07.0 -1.3
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
NJ2 AMB AMB
comp=Z,160nm,3.8s
NJ2 LR LR
comp=N,2µm,23.6s
NJ2 LR LR
comp=E,8µm,29.2s
NJ2 LR LR
comp=Z,3µm,20.3s,MS5.7
RMW Rattlesnake Mo 82.11 33 P **P** **06 28 37.5 +0.4**
SVW2 Sparrevohn 82.22 9 *e*P **P** **06 28 35.8 -1.9**
TWW Teanaway 82.38 34 P **P** **06 28 39.4 +0.9**
EBG Ellensburg 82.39 34 P **P** **06 28 38.9 +0.3**
MSU Marysvale 82.41 45 P **P** **06 28 39.5 +0.8**
BBB Bella Bella 82.43 27 P **P** **06 28 38.7 -0.1**
comp=Z,7.8nm,0.8s,mb4.7,baz=187,slow=2.3,SNR=4.8
BBB LR LR 06 57 06.3
comp=Z,2µm,21.5s,MS5.5,baz=230,slow=30
BBB Bella Bella 82.43 27 P **P** **06 28 38.7 -0.1**
BBB LR LR 06 57 06.3
TBM Table Mountain 82.55 34 P **P** **06 28 39.8 +0.4**
SLKM Skilak Lake 82.58 12 *e*P **P** **06 28 38.4 -1.2**
HAWA Hanford 82.62 35 P **P** **06 28 39.2 -0.5**
HAWA LR LR
comp=Z,544nm,19.0s,MS4.9
USHA Ushuaia 82.75 146 LR LR 06 56 29.6
comp=Z,2µm,21.7s,MS5.5,baz=231,slow=29
BMO Blue Mountains 82.89 37 *e*P **P** **06 28 40.6 -0.6**
comp=Z,414nm,2.2s,mb6.1
BMO LR LR
comp=Z,5µm,19.0s,MS5.9
DUG Dugway 82.92 43 PFAKE 06 28 50.0 +8.7
DUG LR LR
comp=Z,3µm,19.0s,MS5.7
MAW Mawson 83.14 199 P **P** **06 28 43.8 +1.3**
comp=Z,20nm,0.9s,mb5.1,baz=128,slow=6.6,SNR=21
MAW LR LR 07 03 16.7
comp=Z,6µm,19.7s,MS6.0,baz=120,slow=34
MAW Mawson 83.14 199 *e*P **P** **06 28 43.7 +1.2**
MAW pmax pmax
comp=Z,86nm,1.3s
MAW Mawson 83.14 199 *e*P **P** **06 28 43.7 +1.2**
comp=Z,86nm,1.3s,mb5.6
WTV Waterville 83.22 34 P **P** **06 28 42.3 -0.5**
NLU North Lily Min 83.26 43 *e*P **P** **06 28 43.9 +0.8**
SIT Sitka 83.46 20 PFAKE 06 28 50.0 +5.9
SIT LR LR
comp=Z,3µm,20.0s,MS5.7
TMUT Trail Mountain 83.47 44 P **P** **06 28 45.0 +0.9**
MPU Maple Canyon 83.58 43 PFAKE 06 29 00.0 +15
MPU LR LR
comp=Z,6µm,19.0s,MS6.0
DL2 Dalian 83.63 315 *e*P **P** **06 28 46.4 +1.4**
DL2 S S 06 39 07.9 +3.3
DL2 PS 06 40 06.9
DL2 AMB AMB
comp=Z,20nm,1.4s,mb5.0
DL2 AMB AMB
comp=Z,260nm,5.8s
DL2 LR LR
comp=N,780nm,17.9s,MS5.4
DL2 LR LR
comp=E,1µm,18.8s,MS5.4
DL2 LR LR
comp=Z,1µm,18.1s,MS5.3
QIZ Qiongzhong 83.65 293 P **P** **06 28 46.7 +1.6**
QIZ S S 06 39 05.3 +0.5
QIZ PS 06 40 04.3
QIZ AMB AMB
comp=Z,25nm,1.9s,mb5.0
QIZ LR LR
comp=E,1µm,19.6s
QIZ LR LR
comp=Z,2µm,20.8s,MS5.4
KLR Kul'dur 83.78 328 *e*P **P** **06 28 42.7 -3.1**
PMR Palmer 83.79 12 *e*P **P** **06 28 43.9 -1.9**
PMR pmax pmax
comp=Z,88nm,1.6s,mb5.6
PMR MLR MLR
comp=Z,2µm,17.0s,MS5.6
PMR Palmer 83.79 12 *e*P **P** **06 28 43.9 -1.9**
comp=Z,88nm,1.6s,mb5.6
PMR LR LR
comp=Z,2µm,17.0s,MS5.6
HVU Hansel Valley 83.82 42 P **P** **06 28 46.1 +0.2**
HLID Hailey 83.82 39 PFAKE 06 29 00.0 +14
HLID LR LR
comp=Z,3µm,22.0s,MS5.6
SRU San Rafael 83.82 45 P **P** **06 28 46.3 +0.3**
CTU Camp Tracy 83.87 43 *e*P **P** **06 28 46.7 +0.5**
comp=Z,21nm,0.9s,mb5.3
TTA Tatalina 83.91 8 P **P** **06 28 45.2 -1.2**
TTA 06 29 00.1
CN2 Changchun 83.92 321 *e*P **P** **06 28 47.0 +0.5**
CN2 *e*AP pP 06 29 00.3 +2.1
CN2 *e*XP sP 06 29 05.5 +3.0
CN2 *e*S S 06 39 05.2 -2.3
CN2 AMB AMB
comp=Z,30nm,1.2s,mb5.3
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,900nm,16.0s,MS5.5
CN2 LR LR
comp=E,1µm,16.0s,MS5.5
CN2 LR LR
comp=Z,1µm,21.0s,MS5.3
SNY Shenyang 83.95 318 ⇓P **P** **06 28 46.5 -0.1**
SNY AP pP 06 28 57.1 -1.2
SNY XP sP 06 29 00.5 -2.1
SNY SKS 06 39 07.3
SNY S S 06 39 09.5 +1.7
SNY XS sS 06 39 27.1 -0.1
SNY SS SS 06 44 40.6 +4.4
SNY AMB AMB
comp=Z,9.0nm,0.8s,mb5.0
SNY AMB AMB

comp=Z,246nm,6.1s
SNY LR LR
comp=N,1µm,16.5s,MS5.5
SNY LR LR
comp=E,1µm,20.6s,MS5.5
SNY LR LR
comp=Z,2µm,18.1s,MS5.5
LTX Lajitas 84.03 56 P **P 06 28 47.8 +0.8**
LTX pmax pmax
comp=Z,39nm,1.0s,mb5.5
DAU Daniels Canyon 84.04 43 P **P 06 28 48.0 +1.0**
DAU Daniels Canyon 84.04 43 *e*P **P 06 28 47.7 +0.7**
MA2 Magadan 84.19 343 *e*P **P 06 28 46.0 -1.9**
MA2 *e*S 06 39 08.2
MA2 PS 06 40 05.6
MA2 pmax pmax
comp=Z,40nm,0.8s,mb5.6
MA2 MLR MLR
comp=Z,30µm,18.8s,MS6.7
MA2 Magadan 84.19 343 PFAKE 06 29 00.0 +12
MA2 LR LR
comp=Z,5µm,21.0s,MS5.9
MVCO Mesa Verde 84.22 47 *e*P **P 06 28 48.2 +0.2**
PAYG Puerto Ayora 84.34 89 PFAKE 06 29 00.0 +11
PAYG LR LR
comp=Z,2µm,20.0s,MS5.6
PV10 Paradox Valley 84.44 46 *e*P **P 06 28 49.0 -0.1**
PV10 *e*pP pP 06 28 53.2 -7.6
ANMO Albuquerque 84.54 50 P **P 06 28 50.4 +0.8**
ANMO Albuquerque 84.54 50 P **P 06 28 50.3 +0.7**
comp=Z,43nm,0.9s,mb5.6,baz=234,slow=5.8,SNR=117
ANMO Albuquerque 84.54 50 P **P 06 28 50.3 +0.7**
ANMO LR LR
comp=Z,4µm,21.0s,MS5.7
PV01 Paradox Valley 84.63 46 *e*P **P 06 28 50.2 +0.1**
COCO West Island 84.67 259 PFAKE 06 29 00.0 +10
COCO LR LR
comp=Z,6µm,20.0s,MS6.0
VHO Vista Hermosa 84.76 70 *e*P **P 06 28 52.5 +1.8**
OXX Oaxaca 84.77 70 *e*P **P 06 28 52.0 +1.2**
WHN Wuhan 84.80 305 *e*P **P 06 28 51.5 +0.6**
WHN *e*S 06 39 20.0
WHN LR LR
comp=Z,9µm,37.4s,MS5.9
NEW Newport 85.06 34 P **P 06 28 51.8 -0.5**
comp=Z,11nm,0.8s,mb5.0,baz=227,slow=6.0,SNR=7.3
NEW Newport 85.06 34 P **P 06 28 52.0 -0.2**
NEW pmax pmax
comp=Z,43nm,1.2s
NEW Newport 85.06 34 *e*P **P 06 28 51.9 -0.4**
comp=Z,43nm,1.3s,mb5.4
NEW LR LR
comp=Z,7µm,22.0s,MS6.0
TIA Tai'an 85.37 311 ⇑P **P 06 28 54.2 +0.4**
TIA AMB AMB
comp=Z,44nm,1.4s,mb5.4
SKAG Skagway 85.39 19 *e*P **P 06 28 54.3 +0.5**
AHID Auburn Hatcher 85.39 41 P **P 06 28 54.2 +0.4**
comp=Z,60nm,1.1s,mb5.6
AHID LR LR
comp=Z,4µm,19.0s,MS5.8
MCMT McKenzie Canyo 85.46 39 *e*P **P 06 28 54.6 +0.3**
TPAW Teton Pass 85.88 41 P **P 06 28 56.7 +0.5**
MENT Mentasta 86.12 14 *e*P **P 06 28 56.7 -0.8**
LOHW Long Hollow 86.15 41 *e*P **P 06 28 57.2 -0.5**
comp=Z,100nm,1.6s,mb5.8
SMCO Snowmass 86.23 46 P **P 06 28 58.2 +0.2**
comp=Z,26nm,0.8s,mb5.5
DLBC Dease Lake 86.32 22 P **P 06 28 58.6 +0.1**
comp=Z,6.4nm,0.7s,mb5.0,baz=198,slow=8.4,SNR=5.4
DLBC LR LR 07 01 59.6
comp=Z,2µm,18.0s,MS5.5,baz=227,slow=32
DLBC Dease Lake 86.32 22 *e*P **P 06 28 58.2 -0.3**
BW06 Boulder Array 86.36 42 PFAKE 06 29 10.0 +11
BW06 LR LR
comp=Z,3µm,19.0s,MS5.7
PDAR Pinedale Array 86.36 42 P **P 06 28 57.6 -1.0**
comp=Z,5.8nm,0.7s,mb4.9,baz=195,slow=3.0,SNR=50
PDAR PKKPbc PKKPbc 06 46 57.2 +1.6
comp=Z,0.5nm,0.7s,baz=46,slow=4.3,SNR=4.0
PDAR LR LR 07 03 41.2
comp=Z,3µm,18.2s,MS5.7,baz=251,slow=33
YMR Madison River 86.50 40 *e*P **P 06 28 59.8 +0.4**
comp=Z,55nm,1.1s,mb5.7
YMR LR LR
comp=Z,3µm,20.0s,MS5.7
LKWY Lake 86.78 40 P **P 06 29 02.0 +1.2**
KULM Kulim 86.95 277 *e*P **P 06 29 01.7 +0.1**
COLA College 87.03 11 *d*/P **P 06 28 59.9 -2.0**
COLA College 87.03 11 *e*P **P 06 29 00.1 -1.9**
comp=Z,23nm,0.3s,mb5.9
COLA LR LR
comp=Z,2µm,20.0s,MS5.5
ILAR Eielson Array 87.11 11 P **P 06 29 00.4 -2.0**
comp=Z,15nm,0.6s,mb5.4,baz=226,slow=6.0,SNR=190
ILAR PKKPbc PKKPbc 06 46 49.9 -4.0
comp=Z,0.5nm,1.0s,baz=278,slow=2.8,SNR=3.6
ILAR LR LR 07 06 29.0
comp=Z,2µm,18.2s,MS5.6,baz=223,slow=35
PLCA Paso Flores 87.23 132 P **P 06 29 04.4 +1.5**
PLCA pmax pmax
comp=Z,58nm,1.4s
PLCA Paso Flores 87.23 132 PFAKE 06 29 20.0 +17
PLCA LR LR
comp=Z,3µm,21.0s,MS5.7
WALA Waterton Lakes 87.25 35 P **P 06 29 02.9 -0.1**
comp=Z,83nm,1.5s,mb5.7
ISCO Idaho Springs 87.46 46 P **P 06 29 04.4 +0.4**
ISCO 06 29 10.1
ISCO pmax pmax
comp=Z,7.0nm,0.7s,mb5.0
ISCO Idaho Springs 87.46 46 *e*P **P 06 29 04.3 +0.3**
comp=Z,6.9nm,0.7s,mb5.0
ISCO LR LR
comp=Z,4µm,19.0s,MS5.8
JCT Junction City 87.55 56 P **P 06 29 04.3 -0.2**
JCT pmax pmax
comp=Z,34nm,1.0s,mb5.5
JCT Junction City 87.55 56 PFAKE 06 29 20.0 +16
JCT LR LR
comp=Z,4µm,22.0s,MS5.8
SNG Songkhla 87.63 278 P **P 06 29 06.0 +1.1**
PSI Prapat 87.72 274 P **P 06 29 04.9 -0.4**
comp=Z,9.0nm,0.9s,mb5.0,baz=153,slow=5.8,SNR=3.9
BJT Baijiatuau 87.85 314 P **P 06 29 07.1 +1.2**
BJT MLR MLR
comp=Z,2µm,19.0s
BJI Beijing 87.85 314 P **P 06 29 07.0 +1.1**
BJI AP pP 06 29 19.1 +1.4
BJI XP sP 06 29 24.2 +2.3
BJI SKS 06 39 34.0
BJI S 06 39 52.1
BJI AMB AMB
comp=Z,33nm,1.6s,mb5.3
BJI AMB AMB
comp=Z,463nm,4.2s
BJI LR LR
comp=N,1µm,20.0s,MS5.6
BJI LR LR
comp=E,2µm,21.1s,MS5.6
BJI LR LR
comp=Z,4µm,23.8s,MS5.7
GCMT Greycliff 87.87 39 *e*P **P 06 29 06.2 +0.2**
SYO Syowa Base 87.93 192 ⇑*i*P **P 06 29 06.0 -0.3**
AMTX Amarillo 88.00 52 PFAKE 06 29 20.0 +13
AMTX LR LR
comp=Z,4µm,20.0s,MS5.8
SNAA Sanae 88.41 177 ⇓*i*Pdiff **P 06 29 08.5 -0.1**
SNAA *e* 06 29 10.2
SNAA *e* 06 29 13.9
SNAA *e* pP 06 29 16.8 -3.5
SNAA *e* pP 06 29 19.4 -0.9
SNAA *e* 06 29 24.5
SNAA *e* 06 29 26.8
SNAA *e* 06 29 30.9
SNAA *e* 06 29 35.9
SNAA *e* 06 29 41.1
SNAA *e* 06 29 45.5
SNAA *e* 06 30 20.3
SNAA *e* 06 30 35.8
SNAA Sanae 88.41 177 P **P 06 29 08.5 -0.1**
SNAA pmax pmax
comp=Z,40nm,1.0s
SNAA Sanae 88.41 177 *e*P **P 06 29 08.8 +0.2**
comp=Z,40nm,0.9s,mb5.7

VNA3 Neumayer Olymp 88.42 175 ⇓*i*Pdiff **P 06 29 09.0 +0.4**
VNA3 *e* 06 29 10.3
VNA3 *e* 06 29 14.2
VNA3 *e* pP 06 29 17.7 -2.6
VNA3 *e* pP 06 29 20.1 -0.2
VNA3 *e* 06 29 24.7
VNA3 *e* 06 29 27.8
VNA3 *e* 06 29 31.9
VNA3 *e* 06 29 38.9
VNA3 *e* 06 29 43.5
VNA3 *e* 06 29 48.2
VNA3 *e* 06 30 07.0
VNA3 *e* 06 30 13.0
VNA3 *e* 06 30 22.4
VNA3 *e* 06 30 27.4
VNA3 *e* 06 30 35.6
VNA3 *e* 06 30 38.5
VNA3 *e* 06 30 49.5
BILL Bilibino 88.89 353 *e*P **P 06 29 09.1 -1.7**
BILL pmax pmax
comp=Z,31nm,1.1s,mb5.5
BILL MLR MLR
comp=Z,10µm,20.0s,MS6.2
BILL Bilibino 88.89 353 *e*P **P 06 29 09.1 -1.7**
comp=Z,31nm,1.1s,mb5.5
BILL LR LR
comp=Z,10µm,20.0s,MS6.2
VNA2 Neumayer--Watz 88.90 176 ⇓*i*Pdiff **P 06 29 11.7 +0.9**
baz=181,slow=3.0
VNA2 *e* 06 29 13.0
VNA2 *e* 06 29 16.8
VNA2 *e* pP 06 29 20.4 -2.2
VNA2 *e* pP 06 29 22.1 -0.5
VNA2 *e* 06 29 27.4
VNA2 *e* 06 29 31.0
VNA2 *e* 06 29 34.2
VNA2 *e* 06 29 41.4
VNA2 *e* 06 29 46.3
VNA2 *e* 06 29 49.1
VNA2 *e* 06 30 09.7
VNA2 *e* 06 30 15.3
VNA2 *e* 06 30 23.8
VNA2 *e* 06 30 28.5
VNA2 *e* 06 30 37.5
VNA2 *e* 06 30 40.0
VNA2 *e* 06 30 51.7
EGMT Eagleton 88.99 37 PFAKE 06 29 20.0 +8.7
EGMT LR LR
comp=Z,5µm,19.0s,MS5.9
VNA1 Neumayer--Stat 89.11 175 ⇓*i*Pdiff **P 06 29 12.8 +1.0**
VNA1 *e* 06 29 14.1
VNA1 *e* 06 29 17.9
VNA1 *e* pP 06 29 21.7 -1.9
VNA1 *e* pP 06 29 23.8 +0.2
VNA1 *e* 06 29 28.5
VNA1 *e* 06 29 32.3
VNA1 *e* 06 29 39.2
VNA1 *e* 06 29 44.6
VNA1 *e* 06 29 50.5
VNA1 *e* 06 30 07.2
VNA1 *e* 06 30 23.2
GYA Guiyang 89.26 298 ⇓*i*P **P 06 29 13.3 +0.8**
GYA SKS 06 39 36.9
GYA AMB AMB
comp=Z,20nm,1.4s,mb5.2
GYA AMB AMB
comp=Z,400nm,7.5s
GYA LR LR
comp=N,1µm,22.8s,MS5.3
GYA LR LR
comp=E,920nm,21.9s,MS5.3
GYA LR LR
comp=Z,1µm,21.0s,MS5.4
NVL N'lazarevskaya 89.39 182 ⇑*i*P **P 06 29 13.5 +0.3**
NVL *e*S 06 39 44.9
NVL pmax pmax
comp=Z,48nm,1.8s,mb5.5
NVL MLR MLR
comp=Z,746nm,21.7s,MS5.1
EFI East Falkland 89.72 146 PFAKE 06 29 30.0 +15
EFI LR LR
comp=Z,3µm,22.0s,MS5.7
EDM Edmonton 89.92 32 *e*P **P 06 29 15.2 -0.4**
EDM 06 32 50.9
HIA Hailar 90.20 323 *e*P **P 06 29 15.6 -1.3**
NNT Nongplab 90.32 283 P **P 06 29 20.9 +3.4**
LAO LASA Array 90.39 40 *e*P **P 06 29 18.7 +0.9**
comp=Z,200nm,1.8s,mb6.2
XAN Xi'an 90.44 306 P **P 06 29 18.2 +0.1**
XAN AP pP 06 29 28.5 -1.4
XAN SKS 06 39 49.5
XAN S 06 40 16.8
XAN AMB AMB
comp=Z,35nm,1.3s,mb5.5
XAN AMB AMB
comp=Z,188nm,7.4s
XAN LR LR
comp=E,2µm,22.0s
XAN LR LR
comp=Z,2µm,22.9s,MS5.5
FCH Farellones 90.44 126 *e*P **P 06 29 19.1 +1.1**
HKT Hockley 90.48 58 P **P 06 29 19.0 +0.8**
HKT Hockley 90.48 58 PFAKE 06 29 30.0 +12
HKT LR LR
comp=Z,3µm,20.0s,MS5.7
RSSD Black Hills 90.53 43 P **P 06 29 18.3 -0.2**
CBKS Cedar Bluff 91.09 49 P **P 06 29 21.8 +0.7**
CBKS pmax pmax
comp=Z,34nm,1.1s,mb5.6
CBKS Cedar Bluff 91.09 49 PFAKE 06 29 30.0 +8.9
CBKS LR LR
comp=Z,3µm,19.0s,MS5.7
HHC Hu-ho-hao-te 91.36 313 ⇑P **P 06 29 23.5 +1.2**
HHC AP pP 06 29 36.9 +2.8
HHC XP sP 06 29 42.2 +3.8
HHC PP PP 06 33 03.0 +3.0
HHC SKS 06 39 49.5
HHC S 06 40 15.4
HHC XS sS 06 40 39.7 +1.5
HHC PS PS 06 41 31.9 +0.1
HHC SS SS 06 46 23.5 -0.8
HHC AMB AMB
comp=Z,41nm,1.2s,mb5.6
HHC AMB AMB
comp=Z,188nm,4.2s
HHC LR LR
comp=N,652nm,24.3s,MS5.5
HHC LR LR
comp=E,2µm,25.0s,MS5.5
HHC LR LR
comp=Z,3µm,24.1s,MS5.7
NANT Nan 91.59 289 ⇑P **P 06 29 25.5 +2.1**
comp=Z,162nm,0.5s
CLNS Chul'man 91.71 331 *e*P **P 06 29 22.4 -1.6**
CLNS pmax pmax
comp=N,15nm,1.1s
CLNS pmax pmax
comp=E,15nm,1.1s
CLNS pmax pmax
comp=Z,39nm,1.1s,mb5.7
KMI Kunming 92.05 296 P **P 06 29 26.5 +1.0**
KMI AP pP 06 29 37.7 +0.4
KMI XP sP 06 29 41.7 +0.1
KMI PP PP 06 33 08.6 +3.1
KMI PPP 06 35 10.4
KMI SKS 06 39 55.0
KMI S 06 40 25.4
KMI XS sS 06 40 42.3 -2.2
KMI PS PS 06 41 41.3 +1.9
KMI SS SS 06 46 37.6 +3.4
KMI SSS 06 50 14.0
KMI AMB AMB
comp=Z,17nm,1.6s,mb5.1
KMI AMB AMB
comp=Z,132nm,3.1s
KMI LR LR
comp=N,1µm,20.6s,MS5.7
KMI LR LR
comp=E,2µm,21.7s,MS5.7
KMI LR LR
comp=Z,4µm,26.0s,MS5.8
NATX Nacogdoches 92.10 57 *e*P **P 06 29 26.5 +0.7**
comp=Z,17nm,0.6s,mb5.6

NATX *e*pP pP 06 29 39.9 +2.4
BTO Baotou 92.32 312 *e*P **P 06 29 27.0 +0.2**
BTO LR LR
comp=N,769nm,9.3s
BTO LR LR
comp=E,1µm,9.9s
CFAA Coronel Fontan 92.74 125 P **P 06 29 29.1 +0.4**
comp=E,1.7nm,0.9s,mb4.5,baz=248,slow=5.0,SNR=16
CHRT Chiangrai 92.78 290 ⇑P **P 06 29 30.0 +1.1**
comp=E,110nm,1.3s,mb6.1
YAK Yakutsk 92.88 337 *e*P **P 06 29 27.8 -1.6**
YAK *e* 06 40 19.1
YAK pmax pmax
comp=Z,17nm,1.2s,mb5.3
YAK pmax pmax
comp=E,7.0nm,1.4s
YAK pmax pmax
comp=Z,19nm,0.9s,mb5.5
YAK pmax pmax
comp=N,4.0nm,1.4s
YAK pmax pmax
comp=N,216nm,15.1s
YAK pmax pmax
comp=E,197nm,18.3s
YAK Yakutsk 92.88 337 *e*P **P 06 29 27.1 -2.3**
INK Inuvik 92.94 14 P **P 06 29 28.1 -1.5**
comp=E,18nm,0.8s,mb5.5,baz=225,slow=4.5,SNR=49
INK LR LR 07 03 30.4
comp=E,2µm,21.4s,MS5.5,baz=220,slow=31
INK Inuvik 92.94 14 *e*P **P 06 29 28.1 -1.5**
INK pmax pmax
comp=Z,41nm,1.0s
INK Inuvik 92.94 14 *e*P **P 06 29 28.1 -1.6**
comp=Z,41nm,1.0s,mb5.8
JTS JuntasAbangare 93.05 80 P **P 06 29 31.0 +0.9**
comp=Z,282nm,0.8s,SNR=6.5
JTS JuntasAbangare 93.05 80 *d*/P **P 06 29 31.0 +0.9**
JTS JuntasAbangare 93.05 80 PFAKE 06 29 40.0 +10
JTS LR LR
comp=Z,3µm,20.0s,MS5.7
CHTO Chiang Mai 93.16 289 *e*P **P 06 29 32.3 +1.6**
CHTO pmax pmax
comp=Z,19nm,1.0s,mb5.5
CHTO MLR MLR
comp=Z,2µm,21.0s,MS5.4
CHTO Chiang Mai 93.16 289 *e*P **P 06 29 32.3 +1.6**
comp=Z,19nm,1.0s,mb5.5
CHTO LR LR
comp=Z,2µm,21.0s,MS5.4
CD2 Chengdu 93.28 302 *e*P **P 06 29 31.0 -0.2**
CD2 AP pP 06 29 44.5 +1.5
CD2 XP sP 06 29 49.7 +2.4
CD2 PP PP 06 33 18.0 +2.8
CD2 SKS 06 39 59.8
CD2 S 06 40 32.1
CD2 XS sS 06 40 55.0 -0.5
CD2 PS PS 06 41 56.0 +2.9
CD2 SS SS 06 46 53.0 +1.0
CD2 AMB AMB
comp=Z,10.0nm,1.2s,mb5.1
CD2 AMB AMB
comp=Z,80nm,5.8s
CD2 LR LR
comp=E,760nm,20.4s
CD2 LR LR
comp=Z,1µm,19.2s,MS5.3
YKA Yellowknife Ar 94.69 24 P **P 06 29 36.2 -1.4**
comp=Z,7.9nm,0.7s,mb5.3,baz=240,slow=4.5,SNR=150
YKA PP PP 06 33 24.9 -1.2
comp=Z,0.7nm,0.9s,baz=240,slow=7.7,SNR=4.5
YKA PKKPbc PKKPbc 06 46 34.5 -0.2
comp=Z,0.4nm,0.9s,baz=34,slow=2.4,SNR=5.1
YKA LR LR 07 04 59.3
comp=Z,1µm,21.0s,MS5.4,baz=185,slow=31
YKA Yellowknife Ar 94.69 24 P **P 06 29 36.2 -1.5**
YKA 06 33 24.9
YKA Yellowknife Ar 94.69 24 P **P 06 29 36.2 -1.4**
YKA PP PP 06 33 24.9 -1.2
YKA PKKPbc PKKPbc 06 46 34.5 -0.2
YKA LR LR 07 04 59.3
LZH Lanzhou 95.07 306 ⇑P **P 06 29 40.6 +1.2**
LZH AP pP 06 29 51.6 +0.4
LZH XP sP 06 29 55.7 +0.2
LZH SKS 06 40 12.3
LZH *e*S 06 40 50.2
LZH XS sS 06 41 08.3 -2.8
LZH PS PS 06 42 16.7 +3.9
LZH SS SS 06 47 19.8 +2.3
LZH AMB AMB
comp=Z,47nm,1.5s,mb5.7
LZH AMB AMB
comp=Z,421nm,9.2s
LZH LR LR
comp=E,2µm,17.2s
LZH LR LR
comp=Z,3µm,19.5s,MS5.8
OTAV Otavalo 95.78 92 PFAKE 06 30 00.0 +17
OTAV LR LR
comp=Z,2µm,21.0s,MS5.5
FFC Flin Flon 96.48 34 PFAKE 06 30 00.0 +14
FFC LR LR
comp=Z,4µm,22.0s,MS5.9
CCM Cathedral Cave 96.97 52 P **P 06 29 47.0 -1.1**
CCM pmax pmax
comp=Z,12nm,0.9s,mb5.3
CCM Cathedral Cave 96.97 52 PFAKE 06 30 00.0 +12
CCM LR LR
comp=Z,3µm,19.0s,MS5.7
ULN Ulaanbaatar 97.13 318 P **P 06 29 49.0 +0.2**
ULN Ulaanbaatar 97.13 318 *e*P **P 06 29 48.6 -0.2**
comp=Z,8.2nm,1.0s,mb5.1
BOD Bodaibo 97.30 329 *e*P **P 06 29 46.8 -2.7**
SONM Songino Array 97.53 318 P **P 06 29 50.1 -0.4**
comp=Z,2.4nm,0.8s,mb4.8,baz=121,slow=4.3,SNR=16
SONM LR LR 07 15 46.0
comp=Z,2µm,18.1s,MS5.6,baz=105,slow=37
FVM French Village 97.56 52 P **P 06 29 51.3 +0.6**
SLM Saint Louis 97.91 52 *e*P **P 06 29 52.5 +0.2**
ULM Lac du Bonnet 98.13 39 P **P 06 29 52.1 -1.2**
comp=Z,3.3nm,0.7s,mb5.0,baz=244,slow=4.8,SNR=8.4
ULM LR LR 07 11 42.6
comp=Z,5µm,18.0s,MS6.1,baz=253,slow=34
PLAL Pickwick Lake 98.38 56 PFAKE 06 30 10.0 +16
PLAL LR LR
comp=Z,4µm,21.0s,MS5.8
TIXI Tiksi 99.10 344 *e*P **P 06 29 53.8 -3.8**
TIXI *e* 06 33 57.0
TIXI *e* 06 40 28.9
TIXI *e*PS PS 06 42 50.9 -5.7
TIXI *e*SS SS 06 48 06.2 -8.1
TIXI pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
TIXI MLR MLR
comp=Z,846nm,17.0s,MS5.3
LPAZ La Paz 99.21 111 P **P 06 29 60.0 +1.8**
comp=Z,2.3nm,1.0s,mb4.7,baz=277,slow=4.9,SNR=7.3
LPAZ PP PP 06 34 02.0 +1.1
comp=Z,2.1nm,1.1s,baz=297,slow=2.7,SNR=3.6
LPAZ LR LR 07 04 40.8
comp=Z,814nm,21.2s,MS5.2,baz=236,slow=29
LPAZ La Paz 99.21 111 P **P 06 30 00.0 +1.9**
LPAZ 06 34 02.1
LPAZ pmax pmax
comp=Z,2.0nm,1.0s
LPAZ pmax pmax
comp=Z,2.0nm,1.1s
LPAZ La Paz 99.21 111 P **P 06 30 02.8 +4.6**
LPAZ LR LR
comp=Z,838nm,20.0s,MS5.2
SHL Shillong 101.49 293 *e*P Pdif 06 30 05.0 -3.2
SHL *e*S SKSac 06 40 48.0 +3.4
DWPF Disney 101.76 64 PFAKE 06 30 20.0 +11
DWPF LR LR
comp=Z,985nm,19.0s,MS5.3
FCC Fort Churchill 102.02 32 *e*P Pdif 06 30 11.1 +0.5
FCC pmax pmax
comp=Z,11nm,1.2s
FCC Fort Churchill 102.02 32 *e*Pdif Pdif 06 30 11.1 +0.4
comp=Z,11nm,1.2s
CPUP Villa Florida 103.64 125 PFAKE 06 30 30.0 +12
CPUP LR LR
comp=Z,357nm,21.0s,MS4.9
ACSO Alum Creek Sta 103.75 52 PFAKE 06 30 30.0 +12
ACSO LR LR
comp=Z,1µm,19.0s,MS5.5

BLA Blacksburg 104.95 56 PFAKE 06 30 40.0 +16
BLA LR LR
comp=Z,229nm,21.0s,MS4.7
SIV San Ignacio 105.48 114 PKKPbc PKKPbc 06 46 04.0 0.0
comp=Z,2.3nm,0.9s,baz=99,slow=6.0,SNR=8.2
SAML Samuel 106.59 106 PFAKE 06 34 50.0 +8.6
SAML LR LR
comp=Z,1μm,21.0s,MS5.4
CBN Corbin 107.53 55 PFAKE 06 35 00.0 +17
CBN LR LR
comp=Z,5μm,22.0s,MS6.0
WMQ Urumqi 109.06 311 PDIF Pdif 06 30 42.8 +0.9
WMQ PP PP 06 35 18.6 +4.3
WMQ S Sdif 06 42 45.8 -3.3
WMQ PP PP
comp=Z,153nm,5.4s
WMQ LR LR
comp=N,696nm,22.3s,MS5.6
WMQ LR LR
comp=E,2μm,26.5s,MS5.6
WMQ LR LR
comp=Z,2μm,22.3s,MS5.7
BINY Binghamton 109.32 51 PFAKE 06 35 00.0 +13
BINY LR LR
comp=Z,5μm,22.0s,MS6.0
ZAL Zalesovo 112.15 321 PKiKP PKiKP 06 34 50.6 -1.3
comp=Z,1.5nm,0.6s,baz=343,slow=1.6,SNR=6.0
HRV Harvard--Oak R 112.61 51 PFAKE 06 35 00.0 +7.2
HRV LR LR
comp=Z,3μm,19.0s,MS6.0
WES Weston 112.77 51 PFAKE 06 35 10.0 +17
WES LR LR
comp=Z,3μm,19.0s,MS5.8
NVS Novosibirsk 113.11 322 *e*PKIKP PKiKP 06 34 51.1 -2.6
NVS pmax pmax
comp=N,1.0nm,0.9s
NVS pmax pmax
comp=E,3.0nm,0.9s
NVS pmax pmax
comp=Z,6.0nm,0.9s
MKAR Makanchi Array 113.22 313 Pdiff Pdif 06 31 02.0 +1.6
comp=Z,0.3nm,0.6s,baz=72,slow=4.7,SNR=2.5
MKAR PKiKP PKiKP 06 34 52.8 -1.2
comp=Z,2.0nm,0.6s,baz=64,slow=1.3,SNR=19
MKAR Makanchi Array 113.22 313 *i* PKIKP PKiKP 06 34 52.8 -1.1
MKAR pmax pmax
comp=Z,2.0nm,0.6s
KURK Kurchatov 115.83 317 *e*PKIKP PKPdf 06 34 57.5 -1.4
SCHQ Schefferville 116.25 38 PFAKE 06 35 10.0 +10
SCHQ LR LR
comp=Z,4μm,19.0s,MS6.0
BBSR BB Station 116.79 63 PFAKE 06 35 10.0 +9.2
BBSR LR LR
comp=Z,1μm,21.0s,MS5.5
KSH Kashi 117.28 305 *e*PKP PKPdf 06 35 01.0 -0.7
KSH *e*XPKP 06 35 14.8
KSH *e*PKS 06 38 36.2
KSH *e*PPP 06 38 44.4
KSH *e*SKS SKSdf 06 42 08.2 -2.6
KSH *e*SKKS SKKSac 06 43 04.0 -6.5
KSH *e*SS SS 06 52 14.0 -5.7
KSH PP PP
comp=Z,165nm,4.5s
KSH LR LR
comp=N,763nm,14.5s,MS5.5
KSH LR LR
comp=E,412nm,12.5s,MS5.5
KSH LR LR
comp=Z,793nm,20.6s
AAK Ala-Archa 118.54 308 *i* PKIKP PKPdf 06 35 03.0 -1.2
AAK Ala-Archa 118.54 308 PKPdf PKPdf 06 35 03.0 -1.2
AAK PKKPbc PKKPbc 06 45 22.0 +1.3
AAK LR LR
comp=Z,2μm,22.0s,MS5.6
CHKZ Chkalovo 120.55 321 PKPdf PKPdf 06 35 06.6 -1.4
CHKZ PKKPbc PKKPbc 06 45 15.0 +1.6
BRVK Borovoye 120.83 321 *e*PKIKP PKPdf 06 35 08.1 -0.5
BRVK MLR MLR
comp=Z,2μm,21.0s,MS5.8
KBS Kingsbay 120.92 359 PFAKE 06 35 20.0 +11
KBS LR LR
comp=Z,909nm,20.0s,MS5.4
ZRNK Zerenda 121.61 321 PKIKP PKPdf 06 35 08.9 -1.2
SUMG Summit 121.86 14 PKPdf PKPdf 06 35 11.0 +0.5
DAG Danmarks Havn 121.88 6 *i* P PKPdf 06 35 08.5 -2.1
DAG pmax pmax
comp=Z,2.1nm,0.5s
DAG Danmarks Havn 121.88 6 *e*PKIKP PKPdf 06 35 08.5 -2.1
DAG pmax pmax
comp=Z,2.0nm,0.5s
SVE Sverdlovsk 125.39 326 *e*PKIKP PKPdf 06 35 16.0 -1.3
SVE pmax pmax
comp=Z,36nm,1.5s
SVE MLR MLR
comp=N,1μm,15.0s,MS5.7
SVE MLR MLR
comp=E,600nm,15.0s,MS5.7
SVE MLR MLR
comp=Z,2μm,15.0s,MS6.0
ARU Arti 126.60 326 *i* PKIKP PKPdf 06 35 19.3 -0.3
ARU *e* 06 37 15.0
ARU *e* 06 42 21.6
ARU *e*SS SS 06 54 20.6 +2.0
ARU Arti 126.60 326 PKPdf PKPdf 06 35 19.5 -0.1
ARU LR LR
comp=Z,3μm,21.0s,MS5.9
SCO Scoresbysund 126.90 11 *i* P PKPdf 06 35 19.9 -0.3
comp=Z,5.2nm,0.8s
SCO Scoresbysund 126.90 11 *e*PKIKP PKPdf 06 35 19.9 -0.3
SCO pmax pmax
comp=Z,5.0nm,0.8s
KEV Kevo 128.53 351 PFAKE 06 35 30.0 +6.7
KEV LR LR
comp=Z,2μm,21.0s,MS5.8
LVZ Lovozero 128.69 346 *i* PKIKP PKPdf 06 35 23.0 -0.6
LVZ Lovozero 128.69 346 *e*PKP PKPdf 06 35 23.0 -0.6
AKTK Aktyubinsk 128.83 319 PKP PKPdf 06 35 22.6 -1.2
AKTO Aktyubinsk 128.83 319 PKP PKPdf 06 35 22.6 -1.2
comp=Z,4.3nm,0.9s,baz=84,slow=3.9,SNR=10.0
AKTO Aktyubinsk 128.83 319 PKIKP PKPdf 06 35 22.6 -1.3
AKTO pmax pmax
comp=Z,4.0nm,0.9s
ARCES ARCESS Array B 128.96 351 PKP PKPdf 06 35 21.2 -2.9
comp=Z,6.6nm,0.7s,baz=5.5,slow=1.5,SNR=16
ARE0 ARCESS Array S 128.96 351 PKPdf PKPdf 06 35 24.5 +0.4
APA Apatity 129.24 347 ⇓ *i* PKIKP PKPdf 06 35 23.0 -1.6
APA *i* 06 35 35.7
APA *e*SS SS 06 54 45.0 -6.3
APA pmax pmax
comp=Z,5.0nm,0.7s
ORR Orenburg 130.40 322 *e*PKIKP PKPdf 06 35 26.3 -0.6
ORR pmax pmax
comp=Z,10.0nm,1.7s
BORG Borgarnes 131.82 15 PFAKE 06 35 40.0 +10
BORG LR LR
comp=Z,2μm,20.0s,MS5.9
RCBR Riachuelo 131.90 118 PFAKE 06 35 40.0 +10
RCBR LR LR
comp=Z,2μm,19.0s,MS5.8
KLMR Klimovskoe 132.66 338 *i* PKIKP PKPdf 06 35 30.4 -0.7
KLMR pmax pmax
comp=Z,40nm,1.6s
JOF Joensuu 133.59 344 *ep* PKPdf 06 35 29.4 -3.5
comp=Z,9.0nm,0.6s
JOF Joensuu 133.59 344 *e*PKIKP PKPdf 06 35 29.4 -3.5
JOF pmax pmax
comp=Z,9.0nm,0.6s
KAF Kangasniemi 135.49 346 *ep* PKPdf 06 35 34.7 -1.7
comp=Z,7.3nm,0.6s
KAF Kangasniemi 135.49 346 *e*PKIKP PKPdf 06 35 34.7 -1.7
KAF pmax pmax
comp=Z,7.0nm,0.6s
FINES FINESS Array B 136.13 346 PKhKP 06 35 29.0
comp=Z,2.0nm,0.6s,baz=197,slow=2.0,SNR=10.0
FINES FINESS Array B 136.13 346 PKHKP 06 35 29.0
FINES pmax pmax
comp=Z,2.0nm,0.6s
MOS Moscow 136.93 334 *e*PKIKP 06 35 56.9
MOS MLR MLR
comp=Z,3μm,22.0s,MS6.0
OBN Obninsk 137.80 334 *i* PKIKP PKPdf 06 35 43.0 +2.3
OBN *e* 06 35 56.2
OBN 06 38 23.0
OBN MLR MLR
comp=Z,2μm,20.0s,MS5.9
OBN Obninsk 137.80 334 *e*PKP PKPdf 06 35 42.7 +2.0
OBN LR LR
comp=Z,2μm,22.0s,MS5.9
MAK Makhachkala 138.04 313 *e*PKIKP PKPdf 06 35 43.9 +2.8
MAK pmax pmax
comp=Z,36nm,0.3s
LSZ Lusaka 138.46 214 PFAKE 06 36 00.0 +18
LSZ LR LR
comp=Z,4μm,19.0s,MS6.2
NB2 NORSAR Subarra138.78 356 PKPd 06 35 30.4
comp=Z,9.9nm,1.2s,baz=14,slow=1.8
NB2 NORSAR Subarra138.78 356 PKPd 06 35 30.4
baz=14,slow=1.8
NOA NORSAR Array B138.78 356 PKhKP 06 35 32.7
comp=Z,1.1nm,0.6s,baz=15,slow=4.2,SNR=9.3
NOA NORSAR Array B138.78 356 PKHKP 06 35 32.7
NOA pmax pmax
comp=Z,1.0nm,0.6s
HFS Hagfors 139.46 354 PKhKP 06 35 33.3
comp=Z,4.9nm,0.6s,baz=352,slow=3.0,SNR=12
HFS Hagfors 139.46 354 PKHKP 06 35 33.3
HFS pmax pmax
comp=Z,5.0nm,0.6s
GOF Gofitskoye 140.19 318 *e*PKIKP PKiKP 06 35 52.3 +4.7
KONO Kongsberg 140.26 357 PFAKE 06 36 00.0 +15
KONO LR LR
comp=Z,1μm,22.0s,MS5.7
ZEI Tsey 140.58 314 *e*PKIKP PKPdf 06 35 45.8 0.0
KIV Kislovodsk 140.89 316 PFAKE 06 36 00.0 +14
KIV LR LR
comp=Z,2μm,20.0s,MS5.8
GNI Garni 140.93 310 PKP PKPdf 06 35 46.6 +0.2
comp=Z,3.3nm,0.4s,baz=27,slow=19,SNR=2.9
GNI Garni 140.93 310 PKP PKPdf 06 35 46.6 +0.2
GNI LR LR
comp=Z,695nm,20.0s,MS5.4
MNK Minsk 141.56 339 *e*PKHKP 06 35 40.0
KMBO Kilima Mbogo 142.46 240 PKhKP 06 35 46.8
comp=Z,2.2nm,0.5s,baz=60,slow=18,SNR=5.9
CUKT Cukurca 142.67 306 *e*P PKPdf 06 35 46.1 -3.4
SOC Sochi 142.98 317 *i* PKIKP PKiKP 06 35 57.1 +3.8
SOC *e* 06 38 57.8
SOC pmax pmax
comp=Z,11nm,0.7s
MSL Mosul 143.34 304 *ex* x 06 35 49.0
SUW Suwalki 143.42 342 *e*PKP PKPdf 06 35 49.7 -1.2
ERZM Erzurum 143.44 311 *i* P PKPdf 06 35 48.6 -2.2
EZM Erzurum 143.44 311 *e*P PKPdf 06 35 49.4 -1.5
EAU Auchinoon 143.56 8 *e*P PKPdf 06 35 47.2 -3.9
GMK Mull of Kintyr 143.71 11 *e*P PKPdf 06 35 47.0 -4.3
ANN Anapa 143.77 320 *i* PKIKP PKPdf 06 35 51.9 +0.4
ANN *e*SS SS 06 57 42.8 -1.8
ANN pmax pmax
comp=Z,97nm,1.7s
ANN MLR MLR
comp=N,2μm,21.0s,MS6.0
ANN MLR MLR
comp=E,1μm,21.0s,MS6.0
ANN MLR MLR
comp=Z,328nm,21.0s,MS5.1
BNGL BINGOL 143.95 309 *i* P PKPdf 06 35 51.1 -0.7
COP Copenhagen 143.96 353 *i* P 06 36 09.7
COP
comp=Z,850nm,22.0s
AKASG Malin Array Be 144.06 334 PKP PKPdf 06 35 48.6 -3.3
comp=Z,7.2nm,0.5s,baz=39,slow=3.9,SNR=53
EKA Eskdalemuir Ar 144.10 8 PKP PKPdf 06 35 48.9 -3.1
comp=Z,7.8nm,0.7s,baz=333,slow=3.0,SNR=26
ESK Eskdalemuir 144.11 8 PFAKE 06 36 00.0 +7.9
ESK LR LR
comp=Z,2μm,19.0s,MS5.9
BWH Wardlaw 144.18 9 *e*P PKPdf 06 35 49.6 -2.6
BSD Bornholm Skovb 144.20 351 *i* P PKPdf 06 35 53.3 +1.1
BSD
comp=Z,2μm,21.0s
BSD Bornholm Skovb 144.20 351 *e*PKIKP PKPdf 06 35 53.3 +1.1
BSD MLR MLR
comp=Z,2μm,21.0s,MS5.9
GAL1 Galloway 144.31 10 *e*P PKPdf 06 35 50.9 -1.5
GUMT Gumushane 144.54 313 *e*P PKPdf 06 35 52.3 -0.5
BBO1 Bothel 144.66 9 *e*P PKPdf 06 35 50.8 -2.2
CKE Keswick 144.83 9 *e*P PKPdf 06 35 51.4 -1.9
XDE Dent Fell 144.85 9 *e*P PKPdf 06 35 51.6 -1.7
XDE AMb AMB 06 35 52.8
comp=Z,76nm,0.8s
CDU1 Dunnerdale 145.06 9 *e*P PKPbc 06 35 52.1 -1.1
GRSN GIRESUNGRSN 145.17 314 *i* P PKPbc 06 35 53.1 -0.4
DCN Croghan 145.26 13 *e*P PKPbc 06 35 52.5 -1.3
DLF Lyons Farm 145.47 13 *e*P PKPdf 06 35 53.3 -1.1
DSB Dublin 145.55 13 *e*PKPbc PKPbc 06 35 54.4 -0.3
DSB *e*PKPab PKPab 06 35 58.9 +3.9
GKP Gorka Klasztor 145.55 348 *e*PKP PKPdf 06 35 53.5 -1.1
WAR Warsaw 145.59 343 *e*PKP PKPdf 06 35 55.8 +1.2
SIM Simferopol' 145.62 323 *ce*PKIKP PKPdf 06 35 56.0 +1.3
SIM *e* 06 36 00.3
SIM *e* 06 39 11.0
SIM pmax pmax
comp=Z,154nm,0.8s
SIM pmax pmax
comp=Z,251nm,0.9s
SIM pmax pmax
comp=Z,200nm,8.6s
SIM pmax pmax
comp=Z,300nm,11.0s
ELZG Elazig 145.69 310 *i* P PKPdf 06 35 56.9 +2.1
WCB1 Church Bay 145.77 11 *e*P PKPdf 06 35 54.4 -0.5
WCB1 AMb AMB 06 35 56.1
comp=Z,132nm,0.9s
WLF1 Llynfaes 145.88 11 *e*P PKPdf 06 35 55.0 -0.1
WLF1 AMb AMB 06 35 56.4
comp=Z,118nm,0.8s
YRC Rhoscolyn 145.89 11 *e*P PKPdf 06 35 54.9 -0.2
YRC AMb AMB 06 35 56.4
comp=Z,140nm,1.0s
BSEG Bad Segeberg 145.90 355 *e*PKPbc PKPbc 06 35 55.6 -0.2
WPM1 Penmaenmawr 145.99 10 *e*P PKPdf 06 35 55.4 +0.1
WPM1 AMb AMB 06 35 57.0
comp=Z,141nm,0.8s
DESE Dese 146.00 260 *e*P PKPdf 06 35 59.2 +3.9
LHO Holmfirth 146.02 8 *e*P PKPdf 06 35 55.0 -0.3
ASCN Ascension 146.08 143 PFAKE 06 36 10.0 +15
ASCN LR LR
comp=Z,1μm,22.0s,MS5.7
MALT Malatya 146.16 310 *e*P PKPdf 06 35 57.0 +1.4
MALT Malatya 146.16 310 ⇓ *i*P PKPdf 06 35 57.8 +2.2
MALT Malatya 146.16 310 PKPdf PKPdf 06 35 57.1 +1.5
MALT *e*PKPbc PKPbc 06 35 58.0 +1.3
YRE Yr Eifl 146.17 11 *e*P PKPdf 06 35 55.6 0.0
YRE AMb AMB 06 35 57.3
comp=Z,83nm,1.2s
URFA Urfa 146.21 308 *e*P PKPdf 06 35 57.2 +1.5
KBI1 Birley Grange 146.34 8 *e*P PKPdf 06 35 55.7 -0.2
SBD1 Bryn Du 146.44 10 *e*P PKPdf 06 35 56.8 +0.7
SVSK Karacayir 146.49 313 *e*P PKPdf 06 35 58.8 +2.7
KWE Weaver Farm 146.53 8 *e*P PKPdf 06 35 57.0 +0.8
KVT Kavak 146.57 316 *e*P PKPdf 06 35 57.7 +1.4
SVST Sivas 146.59 313 *i* P PKPdf 06 35 59.5 +3.2
ATAB Bozova 146.59 308 *i* P PKPdf 06 35 58.9 +2.6
LVV L'vov 146.75 338 *i* PKP2 PKPab 06 35 58.2 -1.4
HLM1 Long Mynd 146.87 9 *e*P PKPdf 06 35 57.8 +1.0
HLM1 AMb AMB 06 36 04.3
comp=Z,90nm,1.2s
RUE Ruedersdorf 146.92 351 *e*PKPbc PKPbc 06 35 58.5 -0.3
RUE Ruedersdorf 146.92 351 *e*PKPbc PKPbc 06 35 58.6 -0.3
SSP1 Stoney Pound 146.93 10 *e*P PKPdf 06 35 57.7 +0.8
SSP1 AMb AMB 06 36 00.5
comp=Z,87nm,1.2s
KIS Kishinev 147.01 330 *e*PKP2 PKPab 06 35 58.0 -2.6
KIS *e* 06 42 50.0
KIS MLR MLR
comp=N,3μm,20.0s,MS6.0
KIS MLR MLR
comp=E,600nm,20.0s,MS6.0
KIS MLR MLR
comp=Z,3μm,20.0s,MS6.1
KIS MLR MLR
comp=Z,7μm,24.0s
BOYT Boyabat 147.14 317 *i* P PKPdf 06 35 59.9 +2.7
GZT Gaziantep 147.17 309 *i* P PKPdf 06 36 00.2 +2.9
HTR Trewern Hill 147.24 10 *e*P PKPdf 06 35 59.1 +1.7
MCH1 Michaelchurch 147.36 10 *e*P PKPdf 06 35 58.9 +1.3
KWP Kalwaria 147.37 339 *e*PKP PKPbc 06 36 02.4 +2.3
HAE Alders End 147.39 9 *e*P PKPdf 06 35 58.3 +0.6
HAE AMb AMB 06 36 02.7
comp=Z,170nm,1.4s
GAZ Gaziantep 147.50 309 *e*P PKPbc 06 36 01.8 +1.4
CTKT Corum 147.63 316 *i* P PKPbc 06 36 01.6 +0.8
IBBN Ibbenburen 147.68 357 *e*PKPbc PKPbc 06 36 00.9 0.0
PDA Ponta Delgada 147.68 50 *e* 07 31 20.0
HGH Gray Hill 147.74 10 *e*P PKPdf 06 36 00.0 +1.8
HGH AMb AMB 06 36 09.0
comp=Z,105nm,1.4s
OJC Ojcow 147.75 343 *e*PKPdf PKPdf 06 35 56.4 -1.9
OJC *e*PKPab PKPab 06 36 00.4 -3.1
OJC *ep*PKPdf pPKPdf 06 36 05.6 -4.8
OJC *e*SS SS 06 58 37.6 +7.7
OJC L 07 39 09.2
comp=Z,22nm,23.1s
OJC Ojcow 147.75 343 *e*PKHKP 06 35 56.4
OJC *e* 06 36 00.4
OJC Ojcow 147.75 343 *e*PKPdf PKPdf 06 35 56.4 -1.9
OJC *e*PKPab PKPab 06 36 00.4 -3.1
OJC *ep*PKPdf pPKPdf 06 36 05.6 -4.8
OJC *e*SS SS 06 58 37.6 +7.7
BNN Bunyan 147.77 312 *e*P PKPbc 06 36 02.2 +1.0
TOS Tosya 147.91 317 *e*P PKPdf 06 36 01.3 +2.8
CLZ Clausthal 147.97 354 *e*PKPbc PKPbc 06 36 02.2 +0.5
STHS Stebnicka Huta 148.03 340 *e*PKP PKPbc 06 36 02.9 +1.0
STHS *e* 06 36 27.1
KSP Ksiaz 148.03 347 *e*PKP PKPdf 06 36 01.5 +2.8
KSP Ksiaz 148.03 347 *e*PKP PKPdf 06 35 58.8 +0.1
KSP *e*PKPdf PKPdf 06 36 01.9 +3.2
KSP *e*SS SS 06 58 29.0 -4.1
KSP LR LR
comp=Z,6μm,22.1s,MS6.3
BALT Daday 148.04 318 *i* P PKPbc 06 36 02.7 +0.8
WTSB Winterswijk 148.06 358 *e*PKP PKPbc 06 36 02.1 +0.2
BURAR Bucovina Array 148.11 334 ⇑ *i*P PKPbc 06 36 02.8 +0.7
KOLS Kolonicke sedl 148.12 339 *e*PKP2 PKPab 06 36 06.6 +1.6
KOLS Kolonicke sedl 148.12 339 *e* PKPdf 06 36 06.6 +7.7
CLL Collm 148.18 351 *e*PKPdf PKPdf 06 35 58.9 -0.1
comp=Z,16nm,1.3s
CLL *i* PKPbc PKPbc 06 36 02.1 -0.2
comp=Z,74nm,0.8s
CLL *e*PKPab PKPab 06 36 04.8 -0.4
comp=Z,63nm,0.8s
CLL *ep*PKPbc pPKPbc 06 36 13.8 -0.5
CLL *es*PKPbc 06 36 18.9
CLL *e*PP PP 06 39 28.6 -2.0
CLL *e*SS SS 06 58 20.3 -14
CLL *e*SSS 07 04 12.9
CLL *e*LR LR 07 26 13.6
CLL *e*L 07 41 03.8
comp=Z,4μm,22.0s
CLL Collm 148.18 351 *e*PKPdf PKPdf 06 35 59.0 0.0
comp=Z,15nm,1.3s
CLL *i* PKPbc PKPbc 06 36 01.9 -0.4
comp=Z,73nm,0.8s
CLL *i* PKPab PKPab 06 36 05.1 -0.1
comp=Z,62nm,0.8s
CLL *i* pPKPbc pPKPbc 06 36 13.7 -0.6
CLL *i* sPKPbc 06 36 18.1
CLL *ex* x 06 36 30.0
CLL *ex* x 06 36 47.0
CLL *ex* x 06 47 55.0
CLL *e*SSS 07 04 16.0
CLL Lm 07 40 00.0
comp=N,2μm,21.6s
CLL Lm 07 40 00.0
comp=E,1μm,19.5s
CLL Collm 148.18 351 *e*PKIKP PKPdf 06 35 59.0 0.0
CLL *i* 06 36 01.9
CLL *i* 06 36 05.1
CLL *i* 06 36 13.7
CLL pmax pmax
comp=Z,15nm,1.3s
CLL pmax pmax
comp=Z,73nm,0.8s
CLL pmax pmax
comp=Z,62nm,0.8s
CLL MLR MLR
comp=Z,4μm,22.4s,MS6.1
CLL Collm 148.18 351 *e*PKP PKPdf 06 35 59.0 0.0
CLL *i* PKP PKPdf 06 36 01.9 +2.9
GTTG Gvttingen 148.30 355 *e*PKPbc PKPbc 06 36 02.4 -0.2
SWK Warminster 148.30 9 *e*P PKPdf 06 36 01.7 +2.5
NIE Niedzica 148.32 341 *e*PKP PKPbc 06 36 03.1 +0.5
KOZT Kozan 148.38 310 *e*P PKPbc 06 36 03.4 +0.6
CANT Cankiri 148.40 317 *e*P PKPbc 06 36 04.3 +1.5
CDAG Cicekdag 148.41 315 *i* P PKPdf 06 36 02.6 +3.3
UPC Upice 148.41 347 *e*PKPDF PKPdf 06 36 00.0 +0.7
UPC ⇑ *e*PKPB PKPbc 06 36 03.0 +0.1
CRVS Cervenica-Dubn 148.41 340 *e*PKP PKPbc 06 36 04.4 +1.5
BRG Berggiesshubel 148.45 350 *e*PKPbc PKPbc 06 36 03.2 +0.2
BRG *e*PKPab PKPab 06 36 07.2 +0.9
BRG Berggiesshubel 148.45 350 *e*PKP PKPdf 06 36 00.0 +0.6
comp=Z,13nm,1.4s
BRG *i* 06 36 03.5
comp=Z,19nm,0.8s
BRG *i* 06 36 07.4
comp=Z,29nm,0.8s
BRG *e* 06 39 30.0
comp=Z,5.5nm,1.1s
BRG *i* 06 47 59.2
comp=Z,2.6nm,0.7s
BRG SS SS 06 58 41.0 +3.3
BRG
comp=N,1μm,23.7s
BRG
comp=E,689nm,22.4s
BRG
comp=Z,1μm,24.9s
BRG Berggiesshubel 148.45 350 *e*PKIKP PKPdf 06 36 00.0 +0.6
BRG *i* 06 36 03.5
BRG *i* 06 36 07.4
BRG *e* 06 39 30.0
BRG SS SS 06 58 41.0 +3.3
BRG pmax pmax
comp=Z,13nm,1.4s
BRG MLR MLR
comp=N,1μm,23.7s,MS5.7
BRG MLR MLR
comp=E,689nm,22.4s,MS5.7
BRG MLR MLR
comp=Z,1μm,24.9s,MS5.7
COBT Iskenderun 148.46 308 *i* P PKPbc 06 36 03.6 +0.7
AVNT Avonos 148.49 313 *i* P PKPdf 06 36 00.8 +1.3
DPC Dobruska-Polom 148.49 347 *e*PKPDF PKPdf 06 36 00.0 +0.5
DPC ⇑ *e*PKPB PKPbc 06 36 04.0 +0.9
DPC AMS AMS 07 41 20.0
comp=Z,3μm,21.8s
OKC Ostrava-Krasne 148.54 344 ⇑ *e*PKPB PKPbc 06 36 03.5 +0.3
OKC AMS AMS 07 37 40.0
comp=Z,6μm,22.9s
BUG Bochum--Univer 148.57 358 *e*PKPbc PKPbc 06 36 02.9 -0.4
ELDT Eldivan 148.58 317 *i* P PKPbc 06 36 03.4 +0.1
CEYT Ceyhan 148.63 309 *e*P PKPbc 06 36 04.8 +1.4
SAFT Safranbolu 148.64 319 *e*P PKPbc 06 36 03.5 0.0
CFR Carcaliu 148.65 328 ⇓ *i*P PKPbc 06 36 04.5 +1.0
MORC Moravsky Berou 148.75 345 ⇓ *i*P PKPbc 06 36 03.8 +0.1
MORC Moravsky Berou 148.75 345 *e*PKPdf PKPdf 06 36 00.2 +0.3
MORC PKPdf PKPdf 06 36 00.5 +0.6
MORC *e*PKPbc PKPbc 06 36 04.2 +0.5
MORC *e*PKPab PKPab 06 36 08.1 +0.6
VRI Vrincioaia 148.82 331 ⇓ *i*P PKPbc 06 36 04.2 +0.3
BR131 Keskin Array S 148.84 315 *e*PKPdf PKPdf 06 36 00.9 +0.9
BR131 *e*PKPab PKPab 06 36 08.0 0.0
BR131 LR LR
comp=Z,1μm,20.0s,MS5.7
BRTR Keskin Array B 148.84 315 PKP PKPdf 06 36 00.7 +0.6
comp=Z,18nm,0.7s,baz=103,slow=1.6,SNR=9.5
BRTR PKPbc PKPbc 06 36 04.2 +0.3
comp=Z,34nm,0.8s,baz=128,slow=3.1,SNR=75
KAMT Kaman 148.97 315 *e*P PKPbc 06 36 04.8 +0.5
MOX Moxa 149.01 352 *e*PKPbc PKPbc 06 36 04.4 0.0
MOX Moxa 149.01 352 *e*PKP PKPdf 06 36 00.3 0.0
MOX *e* 06 36 04.8
comp=Z,118nm,1.7s
MOX
comp=Z,2μm,22.0s
MOX Moxa 149.01 352 *e*PKIKP PKPdf 06 36 00.3 0.0
MOX *e* 06 36 04.8
MOX pmax pmax
comp=Z,31nm,1.7s
MOX MLR MLR
comp=Z,118μm,22.0s
UBBA Unterbreizbach 149.01 354 *e*PKPbc PKPbc 06 36 04.3 -0.1
TIRR Tirgusor 149.02 327 ⇓ *i*P PKPbc 06 36 04.7 +0.3

TIRR	Tirgusor	149.02	327	*e*PKPbc	PKPbc	06 36 05.0	+0.5
KARA	Karaisali	149.03	310	*e*P	PKPdf	06 36 01.4	+1.1
KRTS	Karatas	149.09	309	*e*P	PKPbc	06 36 06.0	+1.4
KECS	Kecovo	149.09	340	*i* PKP	PKPbc	06 36 04.9	+0.3
HARR	Harsova	149.10	328	⇑*i*P	PKPbc	06 36 05.3	+0.7
WERD	Werda	149.12	351	*e*PKPbc	PKPbc	06 36 04.9	+0.2
WERD				*e*PKPab	PKPab	06 36 09.6	+0.6
PRA	Prague	149.14	349	⇑PKPB	PKPbc	06 36 05.0	+0.3
FKH	Fakeheh	149.17	304	*e*P	PKPbc	06 36 05.8	+0.9
PRU	Pruhonice	149.20	349	*e*PKPDF	PKPdf	06 36 01.2	+0.6
PRU				⇑*e*PKPB	PKPbc	06 36 05.5	+0.6
PRU				AMS	AMS	07 41 30.0	
	comp=Z,2μm,23.1s						
UCC	Uccle	149.23	1	PKPbc	PKPbc	06 36 05.3	+0.4
UCC				APKP		06 36 22.0	
HGN	Heimansgroeve	149.28	359	*e*PKP	PKPbc	06 36 05.5	+0.4
NKC	Novy Kostel	149.31	351⇑	*e*PKPB	PKPbc	06 36 05.1	0.0
NKC				AMS	AMS	07 40 40.0	
	comp=Z,2μm,22.8s						
ANTO	Ankara	149.32	316	*e*P	PKPbc	06 36 05.6	+0.4
ANTO	Ankara	149.32	316⇓	*i*P	PKPbc	06 36 05.5	+0.3
ANTO	Ankara	149.32	316	*e*PKPbc	PKPbc	06 36 06.4	+1.2
ANTO				*e*PKPab	PKPab	06 36 09.8	-0.1
ANTO				LR	LR		
	comp=Z,1μm,21.0s,MS5.7						
LOD	Lodumlu	149.33	316	*e*P	PKPbc	06 36 06.0	+0.8
MENF	Mencas	149.37	4	PKP	PKPdf	06 36 04.6	+3.7
SGKT	Sivrigoynuk	149.41	318	*i* P	PKPbc	06 36 06.2	+0.8
VRAC	Vranov	149.41	346	*i*P	PKPbc	06 36 05.5	+0.1
MEM	Membach	149.43	359	PKPbc	PKPbc	06 36 05.6	+0.2
MLR	Muntele Rosu	149.46	331	PKP	PKPdf	06 36 02.2	+1.1
	comp=Z,32nm,1.2s,baz=340,slow=3.8,SNR=7.0						
MLR				PKPbc	PKPbc	06 36 06.2	+0.6
	comp=Z,37nm,0.9s,baz=288,slow=9.6,SNR=25						
MLR	Muntele Rosu	149.46	331⇓	*i*P	PKPdf	06 36 05.0	+4.0
SNF	Seneffe	149.52	2	PKPbc	PKPbc	06 36 06.2	+0.5
SNF				APKP		06 36 22.5	
SNF				E		06 36 48.4	
VYHS	Vyhne	149.58	342	*i* PKP	PKPbc	06 36 06.2	+0.4
MERS	Mersin	149.58	310	*e*P	PKPbc	06 36 06.2	+0.4
MANZ	Manzenberg	149.59	352	*e*PKPbc	PKPbc	06 36 06.3	+0.4
TREC	Trest	149.67	347⇑	*e*PKPB	PKPbc	06 36 06.6	+0.6
TNS	Taunus Mts	149.73	356	*e*PKPbc	PKPbc	06 36 06.1	-0.1
DRGR		149.77	336⇓	*i*P	PKPbc	06 36 06.1	-0.2
PSZ	Piszkesteto	149.78	341⇓	*e*pPKP/F	PKPbc	06 36 06.6	+0.3
PSZ	Piszkesteto	149.78	341	*e*PKPdf	PKPdf	06 36 01.5	0.0
PSZ				*e*PKPbc	PKPbc	06 36 06.8	+0.5
ROTZ	Rotzenmuhle	149.79	351	*e*PKPbc	PKPbc	06 36 06.7	+0.4
BHL	Bhannes	149.87	304	*e*P	PKPbc	06 36 07.1	+0.6
VOIR		149.90	332⇓	*i*P	PKPbc	06 36 06.7	+0.1
DOU	Dourbes	149.94	1	PKPbc	PKPbc	06 36 06.6	-0.1
DOU				PKPab	PKPab	06 36 11.8	-0.6
DOU				APKPbc		06 36 16.8	
DOU				APKPab		06 36 24.3	
SMOL	Smolenice	149.94	344	*e*PKP	PKPbc	06 36 07.6	+0.9
SMOL				*e*		06 36 25.6	
BAIF	Baives	149.97	2	*e*PKIKP	PKPdf	06 36 02.6	+0.8
MEST	Erdemli	149.98	310	*i* P	PKPbc	06 36 06.8	0.0
HENT	Hendek	149.98	319	*i* P	PKPbc	06 36 07.2	+0.4
GRF	Grafenberg Arr	150.00	353	*e*PKPbc	PKPbc	06 36 07.3	+0.5
GRF				*e*PKPab	PKPab	06 36 13.1	+0.5
GRF				*e*L		07 42 11.2	
	comp=Z,3μm,21.2s						
MDU	Mudurnu	150.00	319	*e*P	PKPbc	06 36 07.0	+0.2
JLP	Les Platons	150.17	10	*e*P	PKPbc	06 36 06.4	-0.9
JLP				AMb	AMB	06 36 08.4	
	comp=Z,113nm,0.9s						
KHC	Kasperske Hory	150.19	349	*e*PKPDF	PKPdf	06 36 02.6	+0.4
KHC				⇑*e*PKPB	PKPbc	06 36 08.0	+0.7
KHC				AMS	AMS	07 42 10.0	
	comp=Z,3μm,20.5s						
JRS	Jersey	150.22	10	*e*P	PKPdf	06 36 06.3	+4.1
JRS				AMb	AMB	06 36 09.0	
	comp=Z,102nm,2.0s						
WET	Wettzell	150.30	350	*e*PKPbc	PKPbc	06 36 08.0	+0.4
ZST	Bratislava	150.32	344	*e*PKP	PKPbc	06 36 08.5	+0.9
ZST				*e*		06 36 19.1	
ZST	Bratislava	150.32	344	*e*PKP2	PKPbc	06 36 08.5	+0.9
ZST				MLR	MLR		
	comp=Z,470nm,23.5s,MS5.2						
WLF	Walferdange	150.37	359	*e*PKPbc	PKPbc	06 36 08.2	+0.5
WLF	Walferdange	150.37	359	PKPbc	PKPbc	06 36 08.9	+1.1
WLF				APKPbc		06 36 18.4	
WLF	Walferdange	150.37	359	*e*PKPdf	PKPdf	06 36 02.5	+0.1
WLF				*e*PKPbc	PKPbc	06 36 08.4	+0.7
BUD	Budapest	150.43	341⇑	*e*pPKP/F	PKPbc	06 36 08.7	+0.8
KIZT	Kizilcal	150.45	315	*e*P	PKPbc	06 36 08.0	+0.1
GEC2	GERESS Array S	150.45	349	*e*PKPbc	PKPbc	06 36 08.0	+0.1
GERES	GERESS Array B	150.45	349	PKP	PKPdf	06 36 02.9	+0.3
	comp=Z,9.4nm,0.7s,baz=51,slow=4.3,SNR=9.8						
GERES				PKPbc	PKPbc	06 36 08.1	+0.1
	comp=Z,9.7nm,0.7s,baz=20,slow=3.1,SNR=46						
IKL	Isikli	150.46	309	*e*P	PKPbc	06 36 07.8	-0.2
PHNC	Paralimni	150.72	307	P	PKPbc	06 36 07.6	-1.0
BORA	Eskisehir	150.81	318	*i* P	PKPbc	06 36 09.0	+0.2
ROSF	Rostrenen	150.83	12	*e*PKIKP	PKPdf	06 36 03.2	0.0
ERMK	Ermenek	150.84	311	*i* P	PKPbc	06 36 09.6	+0.8
FLN	La Foliniere	150.88	8	*e*PKIKP	PKPdf	06 36 03.7	+0.4
	comp=Z,46nm,1.1s						
FLN				*e*R			
	comp=Z,3μm,20.2s						
FLN	La Foliniere	150.88	8	*e*PKPdf	PKPdf	06 36 03.7	+0.4
FLN				LR	LR		
	comp=Z,3μm,20.3s,MS6.1						
SOP	Sopron	150.93	345⇑	*e*pPKP/F	PKPbc	06 36 10.0	+0.9
LANF	Langenberg	151.00	357	PKP	PKPbc	06 36 08.1	-1.1
PKS6	Bocsa	151.05	340⇓	*e*P	PKPdf	06 36 07.4	+3.9
SGMF	Saint Gilles	151.05	11	*e*PKIKP	PKPdf	06 36 03.7	+0.2
YLV	Yalova	151.06	320	*e*P	PKPbc	06 36 09.5	+0.1
LDF	La Druitiere	151.09	8	*e*PKIKP	PKPdf	06 36 03.9	+0.3
	comp=Z,33nm,1.2s						
STU	Stuttgart	151.12	355	*e*PKPbc	PKPbc	06 36 09.6	+0.1
BZS	Buzias	151.17	336⇓	*i*P	PKPbc	06 36 09.3	-0.3
GRR	Gorron	151.19	9	*e*PKIKP	PKPdf	06 36 04.3	+0.6
ELBA	Catalca	151.25	322	*i* P	PKPdf	06 36 07.7	+3.9
QUIF	Quistinic	151.26	12	*e*PKIKP	PKPdf	06 36 04.3	+0.5
	comp=Z,26nm,1.2s						
CSS	Prodhromos	151.26	307	P	PKPbc	06 36 09.7	-0.1
	comp=Z,1.5nm,1.2s						
CSS	Prodhromos	151.26	307	*e*PKPbc	PKPbc	06 36 09.8	0.0
CSS				*e*PKPab	PKPab	06 36 18.2	+0.4
MOA	Molln	151.30	348	*i* P	PKPbc	06 36 09.8	-0.1
	comp=Z,188nm,3.9s,SNR=7.8						
JMB	Yambol	151.37	326	*i* P	PKPbc	06 36 10.5	+0.4
PVL	Pavlikeni	151.46	329	*i* P	PKPbc	06 36 11.0	+0.7
ULDT	Uludag	151.47	320	*i* P	PKPbc	06 36 10.3	0.0
FUR	Furstenfeldbru	151.49	352	*e*PKPbc	PKPbc	06 36 10.1	-0.3
WLS	Welschbruch	151.59	357	PKP	PKPbc	06 36 10.9	+0.3
BFO	Black Forest	151.62	356	*e*PKPbc	PKPbc	06 36 10.4	-0.3
BFO				*e*PKPab	PKPab	06 36 18.9	-0.5
BFO	Black Forest	151.62	356	*e*PKPdf	PKPdf	06 36 03.6	-0.8
BFO				*e*PKPbc	PKPbc	06 36 11.0	+0.3
BFO				*e*PKPab	PKPab	06 36 18.8	-0.6
EIL	Elat	151.64	296	*e*PKPbc	PKPbc	06 36 11.7	+1.0
PKSM	Moragy	151.69	341⇓	*i*P	PKPbc	06 36 10.1	-0.7
EDRB	Edirne	151.72	325	*e*P	pPKPab	06 36 31.3	-0.3
ALFC	Alevga	151.72	308	P	PKPbc	06 36 11.0	+0.1
	comp=Z,3.0nm,0.7s						
ECH	Echery	151.79	358	PKP	PKPbc	06 36 10.9	-0.2
THEF	They Montfort	151.81	359	PKP	PKPbc	06 36 11.3	+0.2
GDZ	Gediz	151.88	318	*i* P	PKPbc	06 36 11.7	+0.5
ISP	Isparta	151.91	315	*e*P	PKPdf	06 36 02.6	-2.2
TKTP	Tekketepe	151.93	315	*i* P	PKPbc	06 36 11.8	+0.4
MOF	Molkenrain	152.16	358	PKP	PKPdf	06 36 09.8	+4.6
KBA	Koelnbreinsper	152.22	348⇓	*i*P	PKPbc	06 36 10.4	-1.6
	comp=Z,134nm,2.5s,SNR=9.3						
PERS	Pernice	152.26	346	*e*PKPdf	PKPdf	06 36 05.3	-0.1
PERS				*e*PKPbc	PKPbc	06 36 12.0	-0.1
BEO	Belgrade	152.28	337⇑	*i*P	PKPbc	06 36 13.3	+1.1
MOTA	Moosalm	152.32	352⇑	*i*P	PKPbc	06 36 12.7	+0.5
	comp=Z,30nm,1.0s						
WTTA	Wettenberg	152.32	351⇓	*i*P	PKPbc	06 36 12.0	-0.2
	comp=Z,175nm,2.3s,SNR=9.2						
BTOK	Tokmak	152.37	320	*i* P	pPKPdf	06 36 16.3	-1.4
SQTA	Sankt Quirin	152.43	352⇑	*i*P	PKPbc	06 36 12.9	+0.4
	comp=Z,56nm,1.4s						
OBKA	Obir	152.51	346⇓	*i*P	PKPbc	06 36 11.3	-1.4
	comp=Z,57nm,2.0s						
DAVA	Damuels	152.52	354⇑	*i*P	PKPbc	06 36 13.3	+0.6
	comp=Z,291nm,4.3s,SNR=7.3						
KDZ	Kurdzhali	152.56	326	*i* P	PKPbc	06 36 12.6	-0.2
LOMF	Lomont	152.67	358	PKP	PKPbc	06 36 13.5	+0.5
LOR	Lormes	152.74	2	*e*PKIKP	PKPdf	06 36 06.8	+0.7
	comp=Z,41nm,1.3s						
LOR				*e*R			
	comp=Z,6μm,20.2s						
LOR	Lormes	152.74	2	*e*PKPdf	PKPdf	06 36 06.8	+0.7
LOR				LR	LR		
	comp=Z,6μm,20.3s,MS6.4						
MANT	Manisa	152.82	318	*i* P	PKPbc	06 36 13.9	+0.6
GOLH	Golhisar	152.87	314	*i* P	PKPab	06 36 26.1	+1.5
SSF	Saint Saulge	152.93	3	*e*PKIKP	PKPdf	06 36 07.0	+0.7
VTS	Vitosha	152.95	330	*i* P	PKPbc	06 36 13.6	0.0
VTS	Vitosha	152.95	330⇑	*i*P	PKPbc	06 36 14.3	+0.7
LJU	Ljubljana	152.96	346	*e*PKPbc	PKPbc	06 36 14.0	+0.3
GRUS	Gruza	152.97	335⇑	*i*P	PKPbc	06 36 14.1	+0.4
GMNA	Gemona	153.01	348	PKP	PKPdf	06 36 06.3	-0.2
DIVS	Divcibare	153.07	337⇑	*i*P	PKPdf	06 36 05.2	-1.3
AVF	Avril sur Loir	153.20	3	*e*PKIKP	PKPdf	06 36 07.0	+0.3
BOJS	Bojanci	153.29	345	*e*PKPbc	PKPbc	06 36 15.1	+0.7
SMF	Signal de Mont	153.37	3	*e*PKIKP	PKPdf	06 36 07.5	+0.5
TUE	Stuetta	153.38	354	PKP	PKPdf	06 36 07.8	+0.8
CABF	La Chapelle	153.43	359	*e*PKIKP	PKPdf	06 36 08.2	+1.1
	comp=Z,35nm,1.2s						
MMB	Musomiste	153.47	328	*i* P	PKPbc	06 36 15.0	+0.2
BBLS	Bajina Basta -	153.48	337⇑	*i*P	PKPbc	06 36 15.9	+1.1
FETY	Fethiye	153.52	314	*e*P	pPKPdf	06 36 19.5	+0.1
TCF	Toulx Ste Croi	153.62	5	*e*PKIKP	PKPdf	06 36 08.5	+1.2
	comp=Z,13nm,0.8s						
KDAG	Bornova	153.68	319	*i* P	PKPbc	06 36 18.2	+2.9
AYDN	Tasoluk	153.74	317	*i* P	PKPbc	06 36 17.6	+2.2
MCGN	Macugnaga	154.00	356	PKP	PKPdf	06 36 08.7	+0.8
PYM	Petit Puy Mans	154.21	4	PKP	PKPdf	06 36 10.2	+2.0
LPL	La Plagne	154.51	358	*e*PKIKP	PKPdf	06 36 10.0	+1.4
RJF	Les Rejaudoux	154.53	7	*e*PKIKP	PKPdf	06 36 09.2	+0.6
	comp=Z,46nm,1.6s						
RJF				*e*R			
	comp=Z,4μm,20.0s						
CAF	Calviac	154.96	6	*e*PKIKP	PKPdf	06 36 10.3	+1.1
	comp=Z,27nm,1.5s						
ORIF	Oris-en-Rattie	155.12	359	*e*PKIKP	PKPdf	06 36 10.6	+1.2
ORIF				*e*R			
	comp=Z,3μm,20.5s						
VIVF	Saint-Julien-l	155.18	1	*e*PKIKP	PKPdf	06 36 10.6	+1.1
	comp=Z,14nm,0.9s						
MBDF	Montbardon	155.29	358	*e*PKIKP	PKPdf	06 36 10.6	+0.9
PCAB	Cabril	155.48	25	*e*PKPab	PKPab	06 36 35.8	+0.1
PBRG	Braganca	155.89	23	*e*PKPab	PKPab	06 36 37.4	-0.1
LASF	Ste Croix	155.93	3	*e*PKIKP	PKPdf	06 36 11.8	+1.3
PRAF	Pradon	156.24	1	PKP	PKPdf	06 36 13.7	+2.8
SJPF	Ste Jean	156.25	12	*e*PKIKP	PKPdf	06 36 11.3	+0.4
NRCA	Norcia	156.32	346	PKP	PKPdf	06 36 11.3	+0.3
PVIS	Viseu	156.38	26	*e*PKPab	PKPab	06 36 39.6	+0.1
MTLF	Montolieu	156.54	6	*e*PKIKP	PKPdf	06 36 12.3	+1.0
ETSF	Etsaut	156.58	11	*e*PKIKP	PKPdf	06 36 11.7	+0.3
	comp=Z,36nm,1.3s						
EPF	Esparros	156.61	10	*e*PKIKP	PKPdf	06 36 12.6	+1.2
LMR	La Mourre	156.69	358	*e*PKIKP	PKPdf	06 36 12.2	+0.7
MTE	Manteigas	156.78	26	*e*PKPdf	PKPdf	06 36 12.2	+0.6
MTE	Manteigas	156.78	26	*e*PKPab	PKPab	06 36 41.8	+0.5
MTE	Manteigas	156.78	26	*e*LQ		07 20 49.5	
MTE				*e*LR	LR	07 29 20.8	
	comp=Z,2μm,27.5s						
PTOM	Tomar	157.06	28	*e*PKPab	PKPab	06 36 43.2	+0.7
PCBR	Castelo Branco	157.28	27	*e*PKPdf	PKPdf	06 36 12.9	+0.5
PCBR	Castelo Branco	157.28	27	*e*PKPab	PKPab	06 36 43.7	+0.2
PGF	Pioggiola	157.30	353	*e*PKIKP	PKPdf	06 36 12.4	+0.1
GUD	Guadarrama	157.81	20	PKIKP	PKPdf	06 36 14.5	+1.6
EVO	Evora	158.12	29	*e*PKIKP	PKPdf	06 36 13.1	-0.2
	comp=Z,37nm,1.2s						
EVO				*e*R			
	comp=Z,2μm,21.2s						
PTEO	Sao Teotonio	158.56	32	*e*PKPab	PKPab	06 36 48.2	-0.8
PBEJ	Beja	158.60	30	*e*PKPdf	PKPdf	06 36 14.7	+0.8
ESDC	Sonseca Array	158.75	20	PKP	PKPdf	06 36 14.4	+0.3
	comp=Z,0.3nm,0.3s,baz=353,slow=3.8,SNR=5.4						
ESDC				PKPab	PKPab	06 36 49.2	-0.6
	comp=Z,3.8nm,0.7s,baz=335,slow=3.1,SNR=8.7						
ESLA	Sonseca Array	158.75	20	PFAKE		06 36 30.0	+16
ESLA				LR	LR		
	comp=Z,9μm,20.0s,MS6.6						
DBIC	Dimbokro	163.39	141	PKP	PKPdf	06 36 19.5	+0.5
	comp=Z,8.1nm,0.9s,baz=161,slow=5.2,SNR=5.0						
DBIC				PKPab	PKPab	06 37 10.6	+0.5
	comp=Z,8.2nm,0.9s,baz=216,slow=7.1,SNR=3.6						
DBIC	Dimbokro	163.39	141	PKP	PKPdf	06 36 19.5	+0.5
DBIC				PKPab	PKPab	06 37 10.6	+0.5
DBIC				LR	LR		
	comp=Z,3μm,20.0s						
MDT	Midelt	164.35	33	PKP	PKPdf	06 36 21.5	+1.6
	comp=Z,6.7nm,0.9s,baz=44,slow=0.9,SNR=8.0						
MDT				PKPab	PKPab	06 37 14.9	+0.6
	comp=Z,4.8nm,0.9s,baz=307,slow=8.7,SNR=2.7						
TORD	Torodi Ar. Bea	172.30	151	PKP	PKPdf	06 36 24.9	-0.4
	comp=Z,7.0nm,0.9s,baz=320,slow=0.9,SNR=30						
TORD				PKPab	PKPab	06 37 50.2	+0.8
	comp=Z,8.5nm,1.1s,baz=222,slow=4.4,SNR=6.3						

IDC 05 06:25:21.4±7.5, 596S×14762E, h94km±65km, mb4.1/2, mb1 4.1/3, mb1mx3.5/13, mbtmp4.2/3, ML4.2/1, Error ellipse: s-maj=71.6km s-min=54.7km az=125.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.45	187	P	Pn	06 26 12.5	-0.6
	2.3nm,0.3s,baz=324,slow=8.7,SNR=10.0						
PMG				S	Sn	06 26 53.8	+0.8
	12nm,0.3s,baz=358,slow=22,SNR=8.4						
WRA	Warramunga Arr	18.97	222	P	Pn	06 29 35.0	-1.9
	0.7nm,0.3s,baz=49,slow=11,SNR=9.9						
ASAR	Alice Springs	22.00	215	P	P	06 30 09.2	+1.3
	6.5nm,0.8s,baz=51,slow=8.6,SNR=23						
FITZ	Fitzroy Crossi	24.61	239	*e*P	P	06 30 33.8	+0.9
	16nm,0.4s						
FITZ	Fitzroy Crossi	24.61	239	P	P	06 30 32.9	0.0
	8.4nm,0.4s,baz=62,slow=8.8,SNR=26						
TORD	Torodi Ar. Bea	145.67	285	PKPbc	PKPbc	06 44 49.6	+0.4
	0.5nm,0.6s,baz=78,slow=3.7,SNR=4.0						

*IDC **05** 06:33:04.1±1.2,27.18S×71.12W, h0km, mb4.1/5, mb1 3.9/9, mb1mx3.8/18, mbtmp3.9/9, ML3.8/2, Error ellipse: s-maj=35.3km s-min=16.6km az=73.0*

*ISCJB **05** 06:33:06.7±0.8,2721S±003×7125W±008, h34km±9km, mb4.0/5, Error ellipse: s-maj=11.8km s-min=4.8km az=25.2*

*NEIC **05** 06:33:07.4,2726S×71.17W, h35km, ML4.6(GUC), After GUC.*

NEIC Felt [IV] at Copiapo and [II] at Caldera.

*GUC **05** 06:33:07.4±0.9,2726S×71.17W, h35km±6km, MD4.3, ML4.6*

ISC 05 06:33:07.4±1.2, 2721S±003×7124W±008, h26km±8km, n30, σ0§97/41, mb4.0/5, 5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	Caldera	0.39	70⇓	*i*P	Pb	06 33 15.6	-0.2
CDCH				*i* S	Sb	06 33 22.1	+0.6
CPCH	Copiapo	0.80	101⇓	*i*P	Pb	06 33 22.4	-0.3
CPCH				*i* S	Sb	06 33 33.2	+0.1
CPCH				AML	AML	06 33 35.8	
	comp=N,81μm,0.1s						
CPCH				AML	AML	06 33 36.4	
	comp=E,74μm,0.1s						
CPCH	Copiapo	0.80	101⇓	*i*P	Pb	06 33 22.4	-0.3
CPCH				*i* S	Sb	06 33 33.2	+0.1
CRCH	Chaqaral	1.02	33	*e*P	Pn	06 33 25.7	-0.3
CRCH				*i* S	Sn	06 33 40.1	+0.7
VACH	Vallenar	1.43	163	*e*P	Pn	06 33 31.0	-0.7
VACH				*i* S	Sn	06 33 48.9	-0.7
LSCH	La Serena	2.69	180⇓	*i*P	Pn	06 33 49.2	+0.1
LSCH				*i* S	Sn	06 34 19.8	-1.0
LSCH				AML	AML	06 34 43.9	
	comp=E,1μm,0.8s						
LSCH	La Serena	2.69	180⇓	*i*P	Pn	06 33 49.2	+0.1
LSCH				*i* S	Sn	06 34 19.8	-1.0
TLL	Tololo Astrono	2.98	173	*e*P	Pn	06 33 53.5	+0.5
TLL				*i* S	Sn	06 34 28.0	+0.2
TLL				AML	AML	06 34 45.8	
	comp=N,2μm,0.5s						
TLL	Tololo Astrono	2.98	173	*e*P	Pn	06 33 53.5	+0.5
TLL				*i* S	Sn	06 34 28.0	+0.2
ANCH	Antofagasta	3.59	12	*e*P	Pn	06 34 00.3	-1.1
CMCH	Combarbala	3.96	177	*e*P	Pn	06 34 05.3	-1.2
CFAA	Coronel Fontan	5.11	150	Pn	Pn	06 34 23.6	+1.4
	comp=N,0.4nm,0.3s,baz=325,slow=7.8,SNR=72						
CFAA				Pg	Pn	06 34 37.9	+16
	comp=N,1.0nm,0.3s,baz=329,slow=14,SNR=16						
CFAA				Sn	Sn	06 35 20.2	-0.1
	comp=N,0.8nm,0.3s,baz=322,slow=12,SNR=3.5						
CFAA				Lg		06 35 44.5	
	comp=N,2.5nm,0.3s,baz=232,slow=18,SNR=5.2						
CFAA	Coronel Fontan	5.11	150	Pn	Pn	06 34 23.6	+1.4
CFAA				Pg	Pn	06 34 37.9	+16
CFAA				Sn	Sn	06 35 20.2	-0.1
CFAA				Lg		06 35 44.5	
JACH	Jahuel	5.49	174	*e*P	Pn	06 34 26.6	-0.9
FCH	Farellones	6.16	173	*e*P	Pn	06 34 38.1	+1.5
PCH	Pirque	6.42	175	*e*P	Pn	06 34 42.9	+2.5
TACH	Talagante	6.43	178	*e*P	Pn	06 34 39.4	-1.0
LPAZ	La Paz	11.24	15	Pn	Pn	06 35 46.5	+0.1
	comp=N,0.3nm,0.3s,baz=194,slow=8.9,SNR=10						
LPAZ	La Paz	11.24	15	*e*Pn	Pn	06 35 47.2	+0.9
	comp=N,3.0nm,0.6s						
CPUP	Villa Florida	12.46	89	Pn	Pn	06 36 03.0	-0.1
	comp=N,0.2nm,0.3s,baz=243,slow=12,SNR=4.0						
TRQA	Tornquist	13.33	147	*e*Pn	Pn	06 36 16.8	+1.8
SIV	San Ignacio	14.61	42	Pn	Pn	06 36 30.4	-2.0
	comp=N,0.3nm,0.3s,baz=232,slow=11,SNR=9.3						
SAML	Samuel	19.69	24	*e*P	Pn	06 37 35.2	-1.0
	comp=N,3.0nm,0.7s						
SAML				*e*pP	pP	06 37 41.9	+0.2
BDFB	Brasilia	24.44	67	P	P	06 38 23.3	-0.7
	comp=N,4.2nm,0.6s,mb4.0,baz=250,slow=8.9,SNR=8.2						
SNAA	Sanae	57.65	160	P	P	06 42 55.2	-0.2
	comp=N,0.5nm,0.7s,mb3.6,baz=296,slow=10,SNR=5.1						
ULM	Lac du Bonnet	80.15	344	P	P	06 45 15.7	+0.5
	comp=N,0.9nm,0.5s,mb3.9,baz=128,slow=3.8,SNR=3.0						
TORD	Torodi Ar. Bea	81.27	70	P	P	06 45 22.1	+0.8
	comp=N,5.4nm,0.8s,mb4.5,baz=255,slow=5.6,SNR=14						
SCHQ	Schefferville	81.79	3	P	P	06 45 25.8	+1.8
	comp=N,1.3nm,0.9s,mb3.9,baz=170,slow=8.0,SNR=1.8						
ZAL	Zalesovo	147.99	27	PKPbc	PKPbc	06 52 48.4	-2.1
	comp=N,5.6nm,0.8s,baz=170,slow=3.5,SNR=9.8						
MKAR	Makanchi Array	151.42	40	PKPbc	PKPbc	06 53 00.1	+1.2
	comp=N,4.6nm,0.7s,baz=322,slow=2.3,SNR=50						

*BJI **05** 06:36:16.0, 3820N×11880W, h14km, mB4.9, mb4.5, Ms4.6, Msz4.3*

*ISCJB **05** 06:36:17.7±0.3, 3827N±002×11865W±002, h10km, mb5.0/3, MS5.0/2, Error ellipse: s-maj=3.2km s-min=2.4km az=12.2*

*IDC **05** 06:36:17.7±2.0, 3813N×11882W, h0km, mb3.2/2, mb1 3.7/4, mb1mx3.4/22, mbtmp3.4/4, ML4.0/2, MS3.8/1, Ms1 3.8/1, ms1mx3.4/10, Error ellipse: s-maj=22.5km s-min=7.8km az=171.0*

*NEIC **05** 06:36:19.0, 3823N×11876W, h14km, ML4.3(REN), After REN.*

NEIC Felt at Hawthorne.

ISC 05 06:36:19.1±0.2, 3823N±002×11871W±002, h10km, n59, σ1§39/99, mb5.0/3, MS5.0/2, 3C-1D, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVAR	Mina Array Bea	0.38	58	Pg	Pg	06 36 27.6	+1.1
	1μm,0.3s,baz=240,slow=20						
NVAR				Lg		06 36 33.2	

WUAZ	**Wupatki**	**6.47**	**112**	Pn	**Pn**	**06 37 55.8**	**+1.3**
	45nm,0.7s						
WUAZ				*e*Sg	**Sg**	**06 39 36.0**	**-11**
PV10	**Paradox Valley**	**7.61**	**86**	*e*Pn	**Pn**	**06 38 09.3**	**-0.7**
REDW	**Red Top Meadow**	**7.86**	**47**	*e*Pn	**Pn**	**06 38 12.9**	**-0.6**
REDW				*e*Lg		06 40 26.9	
TPAW	**Teton Pass**	**7.88**	**46**	*e*Pn	**Pn**	**06 38 13.5**	**-0.3**
	4.8nm,1.0s						
TPAW				*e*Sg	Sn	06 40 27.2	+44
MCMT	**McKenzie Canyo**	**7.92**	**32**	*e*Pn	**Pn**	**06 38 15.3**	**+0.9**
PV01	**Paradox Valley**	**7.99**	**88**	*e*Pn	**Pn**	**06 38 17.8**	**+2.5**
MVCO	**Mesa Verde**	**8.16**	**94**	*e*Pn	**Pn**	**06 38 16.5**	**-1.0**
MOOW	**Moose Ponds**	**8.16**	**45**	Pn	**Pn**	**06 38 16.6**	**-1.1**
	20nm,1.1s						
PDAR	**Pinedale Array**	**8.31**	**54**	Pn	**Pn**	**06 38 23.0**	**+3.3**
	0.2nm,0.3s,baz=238,slow=13,SNR=22						
PDAR				Lg		06 40 40.4	
	0.5nm,0.3s,baz=221,slow=23,SNR=7.0						
SMCO	**Snowmass**	**9.22**	**80**	*e*Pn	**Pn**	**06 38 32.8**	**+0.6**
	5.5nm,0.7s						
ANMO	**Albuquerque**	**10.38**	**105**	Lg		06 41 44.7	
	0.2nm,0.3s,baz=202,slow=16,SNR=2.4						
ULM	**Lac du Bonnet**	**20.21**	**46**	P	**P**	**06 40 55.4**	**+1.3**
	2.1nm,0.9s,baz=240,slow=12,SNR=3.8						
YKA	**Yellowknife Ar**	**24.42**	**5**	P	**P**	**06 41 39.7**	**+1.9**
	0.2nm,0.7s,baz=187,slow=9.3,SNR=7.5						
MDJ	**Mudanjiang**	**77.09**	**317**	P	**P**	**06 48 10.9**	**-1.7**
MDJ				AP	pP	06 48 14.1	-1.8
MDJ				PP	PP	06 51 01.8	-4.3
MDJ				S	S	06 57 58.9	-2.7
MDJ				SCS	ScS	06 58 27.1	-2.9
MDJ				SS	SS	07 02 55.3	-3.4
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,133nm,11.7s						
MDJ				LR	LR		
	comp=N,655nm,16.9s,MS5.3						
MDJ				LR	LR		
	comp=E,1μm,16.9s,MS5.3						
CN2	**Changchun**	**79.84**	**319**	*e*P	**P**	**06 48 26.7**	**-1.1**
NJ2	**Nanjing**	**91.91**	**314**	*e*P	**P**	**06 49 28.2**	**+0.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.3						
LZH	**Lanzhou**	**96.23**	**327**	*e*P	**P**	**06 49 44.6**	**-3.0**
LZH				AP	pP	06 49 49.3	-1.6
LZH				XP	sP	06 49 51.6	-0.5
LZH				*e*PP	PP	06 53 38.7	-2.0
LZH				AMB	AMB		
	comp=Z,19nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,52nm,8.9s						
LZH				LR	LR		
	comp=E,149nm,16.9s						
LZH				LR	LR		
	comp=Z,214nm,19.3s,MS4.6						

CASC 05 06:44:14.8±2.2, 880N×8251W, h1km±6km, MD3.9, 4C-1D, Fault plane solution: NP1:ϕ=325.44000°,δ84.28000°, λ34.59000°., Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DVD	**David**	**0.36**	**171**⇑	*i*P	Pg	06 44 23.3	+1.5
DVD				*e*S	Sg	06 44 28.8	+2.3
CNI	**Changuinola**	**0.62**	**359**⇑	*i*P	Pg	06 44 27.4	+0.9
CNI				*e*S	Sg	06 44 36.9	+2.3
BUS	**Buena Vista**	**1.45**	**301**⇑	*i*P	Pn	06 44 42.7	+0.6
BUS				*e*S	Sg	06 45 03.4	+2.1
URSC	**Urasca**	**1.62**	**310**⇓	*e*P	Pn	06 44 44.8	+0.3
URSC				*e*S	Sn	06 45 06.8	+0.6
PRS1	**Puriscal**	**2.13**	**304**⇑	*e*P	Pn	06 44 53.2	+1.6
PRS1				*e*S	Sn	06 45 21.2	+2.5

CASC 05 06:54:02.4±1.9, 819N×8283W, h5km, MD4.3, 2C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DVD	**David**	**0.45**	**57**⇓	*e*P	Pg	06 54 11.8	+0.8
CNI	**Changuinola**	**1.26**	**14**⇓	*e*P	Pg	06 54 25.3	-1.2
CNI				*e*S	Sg	06 54 42.8	-0.1
BUS	**Buena Vista**	**1.64**	**326**	*e*P	Pn	06 54 33.6	+1.8
BUS				*e*S	Sn	06 54 55.3	+2.0
URSC	**Urasca**	**1.89**	**330**⇑	*e*P	Pn	06 54 35.1	-0.2
URSC				*e*S	Sn	06 55 01.1	+1.8
ICR	**Volcan Irazu**	**2.04**	**331**	*e*P	Pn	06 54 38.4	+1.1
ICR				*e*S	Sn	06 55 05.7	+2.5
PRS1	**Puriscal**	**2.31**	**321**	*e*P	Pn	06 54 38.9	-2.2
PRS1				*e*S	Sn	06 55 09.4	-0.4
VPS2	**Volcan Poas 2**	**2.43**	**325**	*e*P	Pn	06 54 44.2	+1.5
AZU	**Azuero**	**2.56**	**99**⇑	*e*P	Pn	06 54 44.6	0.0
VCR	**Vista de Mar**	**3.37**	**305**	*e*P	Pn	06 54 53.5	-2.2

IDC 05 06:54:40.3±6.8, 574S×12915E, h281km±81km, mb2.9/1, mb1 3.0/5, mb1mx3.0/15, mbtmp3.8/5, Error ellipse: s-maj=34.2km s-min=32.7km az=162.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.75**	**195**	P	Pn	06 57 32.1	-0.2
	0.1nm,0.3s,baz=6.0,slow=19,SNR=5.6						
FITZ				S	S	06 59 51.7	-2.1
	0.1nm,0.3s,baz=107,slow=17,SNR=3.1						
WRA	**Warramunga Arr**	**14.99**	**161**	P	Pn	06 57 58.5	-0.7
	0.2nm,0.3s,baz=340,slow=11,SNR=15						
WRA				S	S	07 00 41.8	-0.7
	0.1nm,0.3s,baz=339,slow=21,SNR=4.0						
PMG	**Port Moresby**	**18.22**	**103**	P	P	06 58 33.0	-0.2
	0.8nm,0.3s,baz=287,slow=11,SNR=2.3						
ASAR	**Alice Springs**	**18.40**	**166**	P	P	06 58 36.4	+1.1
	0.4nm,0.3s,baz=346,slow=11,SNR=19						
ASAR				S	S	07 01 45.2	-5.1
	0.1nm,0.3s,baz=345,slow=19,SNR=4.4						
MKAR	**Makanchi Array**	**66.72**	**327**	P	P	07 05 01.5	+0.1
	0.2nm,0.3s,baz=118,slow=8.5,SNR=5.8						

IDC 05 06:59:47.3±3.2, 1991S×17442W, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/17, mbtmp3.9/6, ML2.1/1, Error ellipse: s-maj=124.4km s-min=25.3km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.48**	**23**	Pn	Pn	07 01 23.9	0.0
	2.4nm,0.3s,baz=180,slow=18,SNR=4.4						
AFI				Sn	Sn	07 02 31.3	-7.3
	2.4nm,0.3s,baz=145,slow=23,SNR=2.5						
CTA	**Charters Tower**	**36.90**	**263**	P	P	07 06 58.9	+1.3
	2.7nm,0.7s,baz=144,slow=19,SNR=4.0						
ASAR	**Alice Springs**	**47.93**	**256**	P	P	07 08 27.6	+0.2
	0.3nm,0.5s,baz=93,slow=7.9,SNR=6.2						
WRA	**Warramunga Arr**	**48.02**	**261**	P	P	07 08 27.9	-0.1
	0.3nm,0.4s,baz=97,slow=7.3,SNR=9.8						
FITZ	**Fitzroy Crossi**	**56.44**	**261**	P	P	07 09 31.0	+0.3
	2.4nm,1.0s,baz=64,slow=23,SNR=2.4						
ILAR	**Eielson Array**	**87.04**	**11**	P	P	07 12 34.8	+0.1
	0.6nm,0.8s,baz=216,slow=5.1,SNR=5.0						
ARCES	**ARCESS Array B**	**128.91**	**351**	PKP	PKPdf	07 18 55.5	-1.4
	2.8nm,0.9s,baz=328,slow=3.2,SNR=5.4						

*NEIC **05** 07:03:17.8, 2749S×7151W, h30km, ML3.7(GUC), After GUC.*

GUC 05 07:03:17.8±0.8, 2749S×7151W, h30km±25km, MD3.9, ML3.7, 3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.74**	**56**⇓	*e*P	Pn	07 03 31.0	-1.1
CDCH				*i* S	Sb	07 03 42.2	+0.3
CPCH	**Copiapo**	**1.04**	**83**⇓	*i*P	Pn	07 03 36.5	+0.2
CPCH				*i* S	Sn	07 03 50.3	+0.5
CPCH				AML	AML	07 03 53.2	
	comp=E,5μm,0.1s						
CPCH	**Copiapo**	**1.04**	**83**⇓	*i*P	Pn	07 03 36.5	+0.2
CPCH				*i* S	Sn	07 03 50.3	+0.5
CRCH	**Chaqaral**	**1.39**	**35**	*e*P	Pn	07 03 41.7	+0.6
TLL	**Tololo Astrono**	**2.74**	**167**	*e*P	Pn	07 04 02.0	+2.3
TLL				*i* S	Sn	07 04 34.9	+3.1
TLL				AML	AML	07 04 50.9	
	comp=E,217nm,0.6s						
TLL	**Tololo Astrono**	**2.74**	**167**	*e*P	Pn	07 04 02.0	+2.3
TLL				*i* S	Sn	07 04 34.9	+3.1

*ISCJB **05** 07:07:32.2±0.3, 4288N±002×209E±003, h10km, Error ellipse: s-maj=2.8km s-min=2.2km az=32.5*
*NEIC **05** 07:07:33.9, 4281N×2.11E, h5km, ML2.0(STR), ML2.5(LDG), After STR.*
*STR **05** 07:07:33.9±0.1, 4281N×2.11E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **05** 07:07:34.3±0.0, 4282N×2.10E, h5km, ML2.5/10, Error ellipse: s-maj=0.9km s-min=0.7km az=106.0*
*MDD **05** 07:07:34.5±0.2, 4280N×2.11E, h10km±1km, mbLg1.7/16, Error ellipse: s-maj=1.9km s-min=1.7km az=95.0, PRXIMO*
*LDG **05** 07:07:34.3±0.0, 4282N×2.10E, h2km, Md2.4/3, Ml2.5/11, Error ellipse: s-maj=0.9km s-min=0.5km az=101.0*

ISC 05 07:07:33.3±0.3, 4284N±002×211E±003, h13km±5km, n58, σ0s78/91, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CARF	**Carcanieres**	**0.13**	**183**	Pg	**Pg**	**07 07 36.5**	**-0.1**
CARF				Sg	**Sg**	**07 07 38.3**	**-0.8**
CARF	**Carcanieres**	**0.13**	**183**	Pg	**Pg**	**07 07 36.6**	**0.0**
CARF				Lg		07 07 38.3	
LPEF	**Le Peyrat**	**0.18**	**305**	Pg	**Pg**	**07 07 38.7**	**+1.3**
LPEF				Lg		07 07 42.4	
LRDF	**Laroque-de-Fa**	**0.33**	**73**	Pg	**Pg**	**07 07 40.8**	**+0.9**
LRDF				Sg	**Sg**	**07 07 45.7**	**+1.3**
LRDF	**Laroque-de-Fa**	**0.33**	**73**	Pg	**Pg**	**07 07 40.9**	**+1.0**
LRDF				Lg		07 07 45.9	
CLLI	**Llivia**	**0.38**	**196**	Pg	**Pg**	**07 07 41.0**	**+0.1**
CLLI				Lg		07 07 45.7	
	26nm,0.1s						
FILF	**Fillols**	**0.43**	**131**	Pg	**Pg**	**07 07 40.6**	**-1.3**
FILF				Sg	**Sg**	**07 07 45.4**	**-2.3**
FILF	**Fillols**	**0.43**	**131**	Pg	**Pg**	**07 07 40.7**	**-1.2**
FILF				Lg		07 07 45.5	
VALF	**Valcebollere**	**0.45**	**189**	Pg	**Pg**	**07 07 42.3**	**+0.2**
VALF				Sg	**Sg**	**07 07 47.8**	**-0.3**
VALF	**Valcebollere**	**0.45**	**189**	Pg	**Pg**	**07 07 42.3**	**+0.2**
VALF				Lg		07 07 47.9	
MTLF	**Montolieu**	**0.50**	**9**	*e*Pn	**Pg**	**07 07 47.0**	**+3.8**
MTLF				*e*Sg	**Sg**	**07 07 51.6**	**+1.7**
	8.0nm,0.1s						
MTLF				*e*Sn	**Sg**	**07 07 55.6**	**+5.7**
MTLF	**Montolieu**	**0.50**	**9**	Pg	**Pg**	**07 07 44.6**	**+1.4**
MTLF				Lg		07 07 51.6	
	4.0nm,0.1s						
MTLF	**Montolieu**	**0.50**	**9**	*e*Pg	**Pg**	**07 07 44.6**	**+1.4**
MTLF				*e*Pn	**Pg**	**07 07 47.0**	**+3.8**
MTLF				*e*Sg	**Sg**	**07 07 51.6**	**+1.7**
MTLF				*e*Sn	**Sg**	**07 07 55.6**	**+5.7**
MTLF	**Montolieu**	**0.50**	**9**	*e*Pn	**Pg**	**07 07 47.0**	**+3.8**
MTLF				*e*Sg	**Sg**	**07 07 51.6**	**+1.7**
	4.0nm,0.1s						
MTLF				*e*Sn	**Sg**	**07 07 55.6**	**+5.7**
CBRU	**Bruguera**	**0.56**	**175**	Pg	**Pg**	**07 07 44.5**	**+0.3**
CBRU				Lg		07 07 51.1	
	9.8nm,0.2s						
SALF	**Salau**	**0.69**	**263**	Pg	**Pg**	**07 07 46.9**	**+0.3**
SALF				Sg	**Sg**	**07 07 56.2**	**+0.6**
SALF	**Salau**	**0.69**	**263**	Pg	**Pg**	**07 07 46.9**	**+0.3**
SALF				Lg		07 07 56.2	
EJON	**La Jonquera**	**0.69**	**124**	Pg	**Pg**	**07 07 47.1**	**+0.3**
	1.9nm,0.1s,SNR=7.9						
EJON				Lg		07 07 56.7	
	2.4nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**0.69**	**124**	Pg	**Pg**	**07 07 47.3**	**+0.5**
EJON				Lg		07 07 56.7	
EJON	**La Jonquera**	**0.69**	**124**	Pg	**Pg**	**07 07 47.3**	**+0.5**
	1.0nm,0.1s,SNR=7.9						
MLS	**Moulis**	**0.76**	**279**	Lg		07 07 58.9	
CORG	**Organya**	**0.85**	**224**	Pg	**Pg**	**07 07 50.3**	**+0.6**
CSOR	**Sort**	**0.86**	**237**	Pg	**Pg**	**07 07 50.1**	**+0.2**
CSOR				Lg		07 08 01.5	
	4.0nm,0.2s						
MELF	**Melles**	**1.00**	**272**	Lg		07 08 06.1	
EMIR	**Miracle**	**1.03**	**205**	Pg	**Pg**	**07 07 53.3**	**+0.3**
	0.3nm,0.0s,SNR=6.4						
EMIR				Lg		07 08 06.9	
	4.1nm,0.1s,SNR=5.1						
EMIR	**Miracle**	**1.03**	**205**	Pg	**Pg**	**07 07 53.3**	**+0.2**
	0.3nm,0.0s,SNR=6.4						
CFON	**Fontmartina**	**1.11**	**167**	Pg	**Pg**	**07 07 54.8**	**+0.2**
CFON				Lg		07 08 08.4	
	11nm,0.2s						
EPF	**Esparros**	**1.31**	**279**	*e*Pg	**Pg**	**07 07 58.9**	**+0.3**
EPF				*e*Sg	**Sg**	**07 08 15.7**	**0.0**
	7.8nm,0.2s						
EPF	**Esparros**	**1.31**	**279**	*e*Pg	**Pg**	**07 07 58.9**	**+0.3**
EPF				*e*Sg	**Sg**	**07 08 15.7**	**0.0**
	3.9nm,0.2s						
CAVN	**Les Avellanes**	**1.39**	**227**	Pg	**Pg**	**07 08 00.2**	**+0.2**
CAVN				Lg		07 08 18.0	
	4.4nm,0.1s						
EBIE	**Bielsa**	**1.46**	**264**	Pg	**Pg**	**07 08 01.1**	**-0.2**
	0.2nm,0.1s,SNR=4.0						
EBIE				Lg		07 08 21.6	
	2.3nm,0.3s,SNR=13						
EBIE	**Bielsa**	**1.46**	**264**	Pg	**Pg**	**07 08 04.7**	**+3.4**
EBIE				Lg		07 08 25.5	
EBIE	**Bielsa**	**1.46**	**264**	Pg	**Pg**	**07 08 04.7**	**+3.4**
	0.6nm,0.2s,SNR=4.0						
EGRA	**Graus**	**1.48**	**245**	Pg	**Pg**	**07 08 00.8**	**-0.9**
	1.2nm,0.2s,SNR=7.9						
EGRA				Lg		07 08 21.5	
	5.1nm,0.3s,SNR=7.9						
EGRA	**Graus**	**1.48**	**245**	Pg	**Pg**	**07 08 03.5**	**+1.8**
EGRA				Lg		07 08 24.1	
EGRA	**Graus**	**1.48**	**245**	Pg	**Pg**	**07 08 03.5**	**+1.8**
	1.1nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**1.48**	**208**	Pg	**Pg**	**07 08 05.0**	**-0.5**
	0.4nm,0.1s,SNR=7.9						
EPOB				Lg		07 08 26.3	
	1.4nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**1.48**	**208**	Pg	**Pg**	**07 08 05.2**	**-0.3**
EPOB				Lg		07 08 26.3	
EPOB	**Poblet**	**1.48**	**208**	Pg	**Pg**	**07 08 05.2**	**-0.3**
	0.9nm,0.1s,SNR=7.9						
LASF	**Ste Croix**	**1.77**	**45**	*e*Pg	**Pg**	**07 08 07.7**	**+0.5**
LASF				*e*Sg	**Sg**	**07 08 30.8**	**+0.6**
	4.9nm,0.3s						
LASF	**Ste Croix**	**1.77**	**45**	*e*Pg	**Pg**	**07 08 07.7**	**+0.5**
LASF				*e*Sg	**Sg**	**07 08 30.8**	**+0.6**
	2.5nm,0.3s						
ETSF	**Etsaut**	**1.96**	**272**	*e*Pg	**Pg**	**07 08 10.9**	**-0.1**
ETSF				*e*Sg	**Sg**	**07 08 36.0**	**-0.5**
	5.3nm,0.4s						
ETSF	**Etsaut**	**1.96**	**272**	*e*Pg	**Pg**	**07 08 10.9**	**-0.1**
ETSF				*e*Sg	**Sg**	**07 08 36.0**	**-0.5**
	2.7nm,0.4s						
CAF	**Calviac**	**2.08**	**359**	*e*Pg	**Pg**	**07 08 13.4**	**+0.2**
CAF				*e*Sn	**Sn**	**07 08 34.1**	**+0.5**
CAF				*e*Sg	**Sg**	**07 08 40.7**	**+0.5**
	8.5nm,0.2s						
CAF	**Calviac**	**2.08**	**359**	*e*Pg	**Pg**	**07 08 13.4**	**+0.2**
CAF				*e*Sn	**Sn**	**07 08 34.1**	**+0.5**
CAF				*e*Sg	**Sg**	**07 08 40.7**	**+0.5**
	4.2nm,0.2s						
LFF	**La Frestale**	**2.32**	**335**	*e*Pg	**Pg**	**07 08 17.6**	**-0.1**
LFF				*e*Sn	**Sn**	**07 08 39.6**	**+0.2**
LFF				*e*Sg	**Sg**	**07 08 47.9**	**+0.1**
	7.6nm,0.3s						
LFF	**La Frestale**	**2.32**	**335**	*e*Pg	**Pg**	**07 08 17.6**	**-0.1**
LFF				*e*Sn	**Sn**	**07 08 39.6**	**+0.2**
LFF				*e*Sg	**Sg**	**07 08 47.9**	**+0.1**
	3.8nm,0.3s						
SJPF	**Ste Jean**	**2.46**	**277**	*e*Sg	**Sg**	**07 08 51.8**	**-0.7**
	1.7nm,0.3s						
SJPF	**Ste Jean**	**2.46**	**277**	*e*Sg	**Sg**	**07 08 51.8**	**-0.7**
	0.9nm,0.3s						
RJF	**Les Rejaudoux**	**2.50**	**350**	*e*Pg	**Pg**	**07 08 21.0**	**-0.1**
RJF				*e*Sg	**Sg**	**07 08 53.4**	**-0.1**
	5.7nm,0.3s						
RJF	**Les Rejaudoux**	**2.50**	**350**	*e*Pg	**Pg**	**07 08 21.0**	**-0.1**
RJF				*e*Sg	**Sg**	**07 08 53.4**	**-0.1**
	2.8nm,0.3s						
VIVF	**Saint-Julien-l**	**2.73**	**42**	*e*Pg	**Pg**	**07 08 25.4**	**-0.3**
VIVF				*e*Sg	**Sg**	**07 09 01.1**	**0.0**
	1.8nm,0.2s						
VIVF	**Saint-Julien-l**	**2.73**	**42**	*e*Pg	**Pg**	**07 08 25.4**	**-0.3**
VIVF				*e*Sg	**Sg**	**07 09 01.1**	**0.0**
	0.9nm,0.2s						
TCF	**Toulx Ste Croi**	**3.44**	**1**	*e*Pg	**Pg**	**07 08 38.3**	**-1.0**
TCF				*e*Sg	**Sg**	**07 09 22.9**	**-1.0**
	2.9nm,0.3s						
TCF	**Toulx Ste Croi**	**3.44**	**1**	*e*Pg	**Pg**	**07 08 38.3**	**-1.0**
TCF				*e*Sg	**Sg**	**07 09 22.9**	**-1.0**
	1.5nm,0.3s						
BGF	**Bois d'Agland**	**3.75**	**8**	*e*Pg	**Pg**	**07 08 44.2**	**-0.9**
BGF				*e*Sg	**Sg**	**07 09 33.0**	**-0.7**
	6.4nm,0.4s						
BGF	**Bois d'Agland**	**3.75**	**8**	*e*Pg	**Pg**	**07 08 44.2**	**-0.9**
BGF				*e*Sg	**Sg**	**07 09 33.0**	**-0.7**
	3.2nm,0.4s						
MFF	**Saint Martin d**	**4.09**	**338**	*e*Pg	**Pg**	**07 08 50.2**	**-1.4**
MFF				*e*Sg	**Sg**	**07 09 43.1**	**-1.4**
	1.8nm,0.2s						

CASC 05 07:07:37.0±2.3, 811N×8282W, h14km±17km, MD4.2, 2C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.64**	**327**	*e*S	Sg	07 07 58.7	+0.6
BUS	**Buena Vista**	**1.71**	**327**⇓	*e*P	Pn	07 08 06.5	0.0
BUS				⇑*i*P		07 08 06.7	
BUS				*e*S	Sn	07 08 30.0	+1.9
URSC	**Urasca**	**1.96**	**331**	*e*P	Pn	07 08 10.2	+0.4
URSC				*e*S	Sn	07 08 35.9	+1.6
ICR	**Volcan Irazu**	**2.11**	**332**	*e*P	Pn	07 08 14.2	+2.3
PRS1	**Puriscal**	**2.38**	**322**⇑	*e*P	Pn	07 08 14.4	-1.2
PRS1				*e*S	Sn	07 08 43.4	-1.1
VPS2	**Volcan Poas 2**	**2.50**	**326**	*e*P	Pn	07 08 19.6	+2.4
VCR	**Vista de Mar**	**3.43**	**306**⇓	*i*P	Pn	07 08 28.8	-1.2

*NEIC **05** 07:12:27.1, 2708S×7122W, h28km, ML4.0(GUC), After GUC.*

GUC 05 07:12:27.1±0.8, 2708S×7122W, h28km±10km, MD4.0, ML4.0, 2C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.35**	**90**⇓	*i*P	Pb	07 12 34.9	-0.2
CDCH				*i* S	Sb	07 12 40.8	+0.2
CPCH	**Copiapo**	**0.82**	**110**⇓	*i*P	Pn	07 12 43.3	+0.5
CPCH				*i* S	Sb	07 12 55.3	+1.7
CPCH				AML	AML	07 12 58.3	
	comp=E,26μm,0.1s						
CPCH	**Copiapo**	**0.82**	**110**⇓	*i*P	Pn	07 12 43.3	+0.5
CPCH				*i* S	Sb	07 12 55.3	+1.7
CRCH	**Chaqaral**	**0.90**	**37**⇑	*i*P	Pn	07 12 43.5	-0.4
CRCH				*i* S	Sb	07 12 55.5	-0.3
CRCH				AML	AML	07 13 01.8	
	comp=N,2μm,0.3s						
CRCH	**Chaqaral**	**0.90**	**37**⇑	*i*P	Pn	07 12 43.5	-0.4
CRCH				*i* S	Sb	07 12 55.5	-0.3
TLL	**Tololo Astrono**	**3.10**	**173**	*i* P	Pn	07 13 16.4	+2.3
TLL				*i* S	Sn	07 13 53.0	+2.7
TLL				AML	AML	07 14 11.2	
	comp=N,649nm,0.5s						
TLL	**Tololo Astrono**	**3.10**	**173**	*i* P	Pn	07 13 16.4	+2.3
TLL				*i* S	Sn	07 13 53.0	+2.7

*IDC **05** 07:45:17.8±9.2, 3239S×17994E, h261km±97km, mb2.9/2, mb1 3.2/3, mb1mx3.0/11, mbtmp3.6/3, MS3.3/2, Ms1 3.3/2, ms1mx3.2/7, Error ellipse: s-maj=100.0km s-min=45.8km az=2.0*
*ISCJB **05** 07:45:20.7±2.1, 333S±03×179.1W±05, h393km±31km, mb3.1/2, Error ellipse: s-maj=82.1km s-min=27.0km az=62.9*

ISC 05 07:45:24.1±2.1, 334S±03×1794W±05, h386km±32km, n13, σ0s96/16, mb3.1/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.36**	**18**	LR	LR	07 46 56.9	
	comp=Z,394nm,20.4s,baz=330,slow=27						
MXZ	**Matakaoa Point**	**4.52**	**204**	PN	**Pn**	**07 46 39.8**	**-0.6**
MXZ				SN	**S**	**07 47 42.3**	**-0.1**
PUZ	**Puketiti**	**5.00**	**201**	PN	**Pn**	**07 46 46.2**	**+0.8**
PUZ				SN	**S**	**07 47 52.2**	**+0.7**
MWZ	**Matawai**	**5.49**	**206**	*e*PN	**Pn**	**07 46 47.9**	**-2.7**
MWZ				SN	**S**	**07 48 01.7**	**+0.9**
URZ	**Urewera**	**5.58**	**209**	P	**Pn**	**07 46 50.6**	**-1.0**
	1.1nm,0.3s,baz=257,slow=6.2,SNR=11						
URZ				S	**S**	**07 48 02.9**	**+0.1**
	2.5nm,0.3s,baz=88,slow=22,SNR=10.0						
URZ	**Urewera**	**5.58**	**209**	PN	**Pn**	**07 46 50.9**	**-0.7**
URZ				SN	**S**	**07 48 02.7**	**0.0**
BKZ	**Black Stump Fm**	**6.61**	**209**	PN	**Pn**	**07 47 03.3**	**+0.4**
MRZ	**Mangatainoka R**	**8.25**	**207**	PN	**Pn**	**07 47 22.3**	**+0.7**
MRZ				SN	**S**	**07 48 56.4**	**-1.5**
THZ	**Tophouse**	**10.30**	**214**	PN	**Pn**	**07 47 46.6**	**+1.0**
RPZ	**Rata Peaks**	**12.68**	**213**	LR	LR	07 53 16.9	
	comp=Z,134nm,20.4s,baz=359,slow=36						
ASAR	**Alice Springs**	**41.84**	**271**	P	**P**	**07 52 38.8**	**+0.9**
	0.3nm,0.5s,mb2.9,baz=104,slow=7.4,SNR=5.0						
WRA	**Warramunga Arr**	**43.11**	**276**	P	**P**	**07 52 47.3**	**-0.7**
	0.6nm,0.4s,mb3.3,baz=111,slow=8.1,SNR=12						
FINES	**FINESS Array B**	**147.52**	**337**	PKPbc	PKPbc	08 04 26.2	+2.8
	0.4nm,0.3s,baz=63,slow=3.4,SNR=5.4						

WEL 05 07:49:08.8±0.6, 4705S×16600E, h33km, ML3.5/8, 3C-1D, Error ellipse: s-maj=5.5km s-min=3.7km az=90.0, Off west coast of South Island

| Code | Station Name | Δ° | AZ° | Phase ID | | Time | Res |
|---|---|---|---

MOS ***05*** *08:00:29.0±0.8, 2947N×8097E, h33km, mb5.1/62, Error ellipse: s-maj=10.4km s-min=4.2km az=128.9*
ISCJB ***05*** *08:00:29.2±0.5, 2947N±002×8091E±002, h33km±4km, mb4.8/120, MS4.1/4, Error ellipse: s-maj=4.2km s-min=2.4km az=28.9*
DMN ***05*** *08:00:29.2±0.7, 2943N×8126E, h10km, Ml5.0/6, Error ellipse: s-maj=33.7km s-min=13.5km az=28.0*
SZGRF ***05*** *08:00:30.1, 2946N×8143E, h33km, mb4.9, Nepal*
IDC ***05*** *08:00:30.8±7.6, 2948N×8103E, h33km±57km, mb4.3/21, mb1 4.4/22, mb1mx4.3/26, mbtmp4.5/22, ML4.2/1, Error ellipse: s-maj=17.9km s-min=15.1km az=7.0*
NNC ***05*** *08:00:35.2±8.4, 3059N×8108E, h0km, mb4.0, Error ellipse: s-maj=141.7km s-min=125.6km az=65.0*

ISC 05 08:00:29.9±0.6, 2948N±002×8091E±002, h23km±4km, h17km±2.0km:pP-P, n326, σ0s96/354, mb4.8/120, MS4.1/4, 82C-19D, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LGTI	**Lohaghat**	**0.58**	**267**	*e*P	**Pb**	**08 00 41.7**	**+0.3**
LGTI				*e*S	**Sb**	**08 00 51.0**	**+1.9**
PTH	**Pithoragarh**	**0.60**	**277**	*e*P	**Pb**	**08 00 40.0**	**-1.8**
PTH				*e*S	**Sb**	**08 00 48.1**	**-1.8**
JOSI	**Joshimath**	**1.59**	**313**	*e*P	**Pn**	**08 00 49.4**	**-7.3**
JOSI				*e*S	**Sn**	**08 01 08.7**	**-7.7**
JOSI				AML	AML	08 01 16.6	
	comp=Z,19μm,0.5s						
JOSI				AML	AML	08 01 16.7	
	comp=N,33μm,0.7s						
KALG	**Kalgarh**	**1.88**	**271**	*e*P	**Pn**	**08 00 50.0**	**-11**
KALG				*e*S	**Sn**	**08 01 15.0**	**-8.6**
KALG				AML	AML	08 01 17.8	
	comp=E,12μm,0.3s						
KALG				AML	AML	08 01 18.0	
	comp=N,3μm,0.6s						
DDI	**Dehra Dun**	**2.61**	**289**	*e*P	**Pn**	**08 01 12.0**	**+1.2**
DDI				*ex*	x	08 01 52.0	
ASOR	**Ausora**	**2.84**	**256**	*e*P	**Pn**	**08 01 14.5**	**+0.7**
KOLN	**Koldanda**	**2.92**	**125**	*e*Pn	**Pn**	**08 01 16.4**	**+1.5**
KOLN	**Koldanda**	**2.92**	**125**	*e*Sn	**Sn**	**08 01 51.6**	**+2.3**
	comp=N,1μm,0.3s						
KLP	**Kalpa**	**3.07**	**312**	*e*P	**Pn**	**08 01 18.6**	**+1.6**
KLP				*ex*	x	08 02 01.0	
KLP				AML	AML	08 02 14.7	
	comp=N,3μm,0.7s						
KLP				AML	AML	08 02 15.6	
	comp=E,3μm,0.7s						
NDI	**New Delhi**	**3.33**	**257**	*e*P	**Pn**	**08 01 20.0**	**-0.5**
NDI				*e*P		08 01 21.1	
NDI				*e*S	**Sn**	**08 01 58.5**	**-0.8**
NDI				*e*S	**Sn**	**08 01 58.7**	**-0.6**
AGRA	**Agra**	**3.44**	**230**	*e*P	**Pn**	**08 01 22.1**	**0.0**
AGRA				*e*S	**Sn**	**08 02 01.6**	**-0.6**
AYAN	**Aya Nagar**	**3.46**	**254**	*e*P	**Pn**	**08 01 23.3**	**+0.9**
AYAN				*e*S	**Sn**	**08 02 02.0**	**-0.6**
SONA	**Sohna**	**3.57**	**251**	*e*P	**Pn**	**08 01 24.8**	**+0.9**
SONA				*e*S	**Sn**	**08 02 05.9**	**+0.5**
KKR	**Kurukshetra**	**3.59**	**279**	*e*P	**Pn**	**08 01 24.6**	**+0.5**
GKN	**Gorkha**	**3.59**	**113**	*e*Pn	**Pn**	**08 01 25.4**	**+1.2**
GKN	**Gorkha**	**3.59**	**113**	*e*Sn	**Sn**	**08 02 07.6**	**+1.7**
	comp=E,2μm,0.3s						
SMLA	**Simla**	**3.63**	**298**	*e*P	**Pn**	**08 01 23.6**	**-1.1**
SMLA				*e*S	**Sn**	**08 02 07.0**	**+0.2**
SDNR	**Sundarnagar**	**3.95**	**302**	*e*P	**Pn**	**08 01 31.4**	**+2.3**
SDNR				*ex*	x	08 02 32.0	
DMN	**Daman**	**4.14**	**116**	*e*Pn	**Pn**	**08 01 32.2**	**+1.5**
DMN				*e*Sn	**Sn**	**08 02 19.0**	**-0.4**
	comp=E,1μm,0.7s						
KKN	**Kakani**	**4.20**	**113**	*e*Pn	**Pn**	**08 01 33.3**	**+0.8**
KKN				*e*Sn	**Sn**	**08 02 21.5**	**+0.7**
	comp=E,766nm,0.4s						
BHK	**Bhakra**	**4.33**	**298**	*ex*	**Pn**	**08 01 30.0**	**-4.4**
BHK				*ex*	**Sn**	**08 02 27.6**	**+3.5**
PKI	**Pulchoki**	**4.39**	**115**	*e*Pn	**Pn**	**08 01 36.1**	**+0.9**
PKI				*e*Sn	**Sn**	**08 02 25.0**	**-0.7**
	comp=E,722nm,0.4s						
GUN	**Gumba**	**4.64**	**108**	*e*Pn	**Pn**	**08 01 39.8**	**+1.2**
KHET	**Khetri**	**4.69**	**254**	*e*P	**Pn**	**08 01 40.0**	**+0.6**
KHET				*e*S	**Sn**	**08 02 32.7**	**-0.3**
JIRN	**Jiri**	**4.99**	**110**	*e*Pn	**Pn**	**08 01 44.4**	**+1.0**
JIRN	**Jiri**	**4.99**	**110**	*e*Sn	**Sn**	**08 02 40.8**	**+0.5**
	comp=E,977nm,0.3s						
DLH	**Dalhousie**	**5.22**	**307**	*e*P	**Pn**	**08 01 47.0**	**+0.4**
DLH				*e*S	**Sn**	**08 02 47.0**	**+0.8**
AJM	**Ajmer**	**6.29**	**243**	*e*P	**Pn**	**08 02 01.8**	**+0.4**
AJM				*e*S	**Sn**	**08 03 08.7**	**-3.8**
BHPL	**Bhopal**	**6.95**	**207**	*e*P	**Pn**	**08 02 08.4**	**-2.0**
BHPL				*e*S	**Sn**	**08 03 23.7**	**-5.1**
BOK	**Bokaro**	**7.20**	**141**	*e*P	**Pn**	**08 02 13.3**	**-0.5**
BOK				*e*S	**Sn**	**08 03 30.8**	**-4.1**
BLSP	**Bilaspur**	**7.40**	**171**	*e*P	**Pn**	**08 02 16.0**	**-0.6**
BLSP				*ex*	x	08 03 30.0	
CHCP	**Chirah Chowk**	**7.74**	**305**	↑P	**Pn**	**08 02 21.0**	**-0.1**
NIL	**Nilore**	**7.74**	**304**	Pn	**Pn**	**08 02 21.7**	**+0.5**
	comp=E,137nm,0.7s,SNR=5.0						
THW	**Thamme Wali**	**8.52**	**295**	↑P	**Pn**	**08 02 30.4**	**-1.5**
CEP	**Cherat**	**8.80**	**302**	P	**Pn**	**08 02 35.2**	**-0.6**
CEP				S	Sx	08 04 51.0	
LSA	**Lhasa**	**8.92**	**86**	P	**Pn**	**08 02 41.0**	**+3.6**
LSA	**Lhasa**	**8.92**	**86**	*e*P	**Pn**	**08 02 38.3**	**+0.9**
LSA				pmax	pmax		
	comp=Z,26nm,0.5s						
LSA	**Lhasa**	**8.92**	**86**	*e*Pn	**Pn**	**08 02 38.3**	**+0.9**
	comp=Z,26nm,0.5s						
JASL	**Jaisalmer**	**9.19**	**256**	*e*P	**Pn**	**08 02 41.4**	**+0.4**
DRP	**Derazinda**	**9.49**	**286**	↑P	**Pn**	**08 02 43.9**	**-1.4**
CAL	**Calcutta**	**9.61**	**134**	*e*P	**Pn**	**08 02 45.1**	**-1.7**
CAL				*e*S	**Sn**	**08 04 28.4**	**-5.6**
VIS	**Vishakhapatnam**	**11.91**	**169**	*e*P	**Pn**	**08 03 15.7**	**-2.7**
VIS				*e*S	**Sn**	**08 05 20.3**	**-10**
HYB	**Hyderabad**	**12.20**	**191**	*i* P	**Pn**	**08 03 20.0**	**-2.3**
	comp=Z,35nm,0.8s						
HYB				*es*P		08 03 27.0	
HYB				*e*		08 03 33.0	
HYB				*e*S	**Sn**	**08 05 25.5**	**-12**
HYB				*e*S	**Sn**	**08 05 41.0**	**+3.5**
POO	**Poona**	**12.66**	**212**	↓*i*P	**Pn**	**08 03 26.0**	**-2.6**
	comp=Z,24nm,0.7s						
POO				*ex*	x	08 03 57.6	
POO				*i x*	x	08 05 38.0	
POO				*ex*	x	08 05 52.0	
POO				*ex*	x	08 06 04.0	
POO				*ex*	x	08 09 12.5	
KAD	**Karad**	**13.59**	**208**	*e*P	**Pn**	**08 03 43.0**	**+1.7**
KAD				*i* x	x	08 06 01.6	
AAK	**Ala-Archa**	**14.11**	**340**	*e*P	**Pn**	**08 03 45.9**	**-2.4**
AAK				pmax	pmax		
	comp=Z,16nm,0.9s						
AAK	**Ala-Archa**	**14.11**	**340**	*e*Pn	**Pn**	**08 03 45.9**	**-2.4**
	comp=Z,16nm,0.9s						
AAK				Sn	**Sn**	**08 06 11.2**	**-13**
WMQ	**Urumqi**	**15.30**	**19**	↓P	**Pn**	**08 04 03.5**	**-1.0**
WMQ				AP	pP	08 04 07.0	-8.3
WMQ				XP	sP	08 04 10.5	-7.8
WMQ				PP		08 04 15.8	
WMQ				PPP		08 04 23.0	
WMQ				S	**Sn**	**08 06 52.5**	**-0.8**
WMQ				XS	sS	08 06 58.0	-21
WMQ				SS		08 07 10.0	
WMQ				AMB	AMB		
	comp=Z,19nm,0.6s						
WMQ				AMB	AMB		
	comp=Z,149nm,3.5s						
WMQ				LR	LR		
	comp=N,246nm,10.2s						
WMQ				LR	LR		
	comp=E,284nm,11.9s						
WMQ				LR	LR		
	comp=Z,176nm,16.7s						
KK31	**Karatay Array**	**15.95**	**331**	P	**Pn**	**08 04 08.9**	**-3.9**
	comp=Z,4.9nm,0.5s,baz=131,slow=12,SNR=43						
KK31				↑S	**Sn**	**08 06 57.5**	**-11**
	comp=Z,13nm,0.7s,baz=136,slow=23,SNR=12						
MKAR	**Makanchi Array**	**17.32**	**3**	P	**Pn**	**08 04 27.9**	**-2.2**
	comp=Z,0.8nm,0.3s,baz=182,slow=12,SNR=22						
MKAR	**Makanchi Array**	**17.32**	**3**	*i* P	**Pn**	**08 04 28.0**	**-2.2**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
GTA	**Gaotai**	**18.44**	**53**	*e*P	**Pn**	**08 04 41.5**	**-2.5**
GTA				AP	pP	08 04 46.1	-4.0
GTA				XP	sP	08 04 48.9	-4.1
GTA				S	**Sn**	**08 08 04.8**	**-4.6**
GTA				XS	sS	08 08 09.8	-14
GTA				SS		08 08 28.0	
GTA				AMB	AMB		
	comp=Z,4.0nm,1.4s						
GTA				AMB	AMB		
	comp=Z,126nm,5.3s						
GTA				LR	LR		
	comp=N,325nm,15.2s						
GTA				LR	LR		
	comp=E,293nm,16.7s						
GTA				LR	LR		
	comp=Z,328nm,17.9s						
CHTO	**Chiang Mai**	**19.56**	**119**	*e*P	**Pn**	**08 04 56.6**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CHTO	**Chiang Mai**	**19.56**	**119**	*e*P	**Pn**	**08 04 56.6**	**-0.9**
	comp=Z,5.3nm,0.7s						
CD2	**Chengdu**	**19.80**	**80**	*e*P	**Pn**	**08 04 59.1**	**-1.2**
CD2				XP	sP	08 05 06.1	-1.8
CD2				PP		08 05 17.6	
CD2				S	**Sn**	**08 08 35.1**	**-7.1**
CD2				SS		08 09 02.3	
CD2				AMB	AMB		
	comp=Z,20nm,1.1s						
CD2				AMB	AMB		
	comp=Z,120nm,4.3s						
CD2				LR	LR		
	comp=E,260nm,9.6s						
CD2				LR	LR		
	comp=Z,180nm,10.8s						
KMI	**Kunming**	**19.88**	**97**	P	**Pn**	**08 05 01.8**	**+0.6**
KMI				AP	pP	08 05 06.1	+0.3
KMI				XP	sP	08 05 08.6	-0.1
KMI				PP		08 05 19.9	
KMI				PPP		08 05 29.7	
KMI				S	**Sn**	**08 08 37.4**	**-6.6**
KMI				XS	sS	08 08 45.9	-6.3
KMI				SS		08 09 06.4	
KMI				SSS		08 09 19.9	
KMI				AMB	AMB		
	comp=Z,143nm,6.5s						
KMI				LR	LR		
	comp=N,206nm,19.1s						
KMI				LR	LR		
	comp=E,217nm,25.5s						
KMI				LR	LR		
	comp=Z,211nm,21.7s						
LZH	**Lanzhou**	**20.36**	**65**	*e*P	**P**	**08 05 04.5**	**-0.2**
LZH				AP		08 05 09.3	
LZH				XP	sP	08 05 12.5	-1.5
LZH				PP		08 05 24.7	
LZH				*e*S	**S**	**08 08 45.9**	**-5.9**
LZH				XS	sS	08 08 53.2	-8.6
LZH				*e*SS		08 09 20.5	
LZH				AMB	AMB		
	comp=Z,28nm,1.2s						
LZH				AMB	AMB		
	comp=Z,159nm,4.9s						
LZH				LR	LR		
	comp=N,583nm,10.3s						
LZH				LR	LR		
	comp=Z,997nm,13.5s,MS4.3						
ABKT	**Ailbek**	**20.71**	**300**	P	**P**	**08 05 09.7**	**+1.1**
	comp=Z,104nm,1.2s,SNR=6.7						
WSAR	**Wadi Sarin**	**20.89**	**258**	P	**P**	**08 05 12.1**	**+1.5**
	comp=Z,9.8nm,0.8s,baz=72,slow=10.0,SNR=7.5						
KURK	**Kurchatov**	**21.28**	**356**	P	**P**	**08 05 14.0**	**-0.7**
	comp=Z,247nm,0.8s,mb5.6,SNR=19						
KURK	**Kurchatov**	**21.28**	**356**	↑*e*P	**P**	**08 05 13.8**	**-0.9**
KURK	**Kurchatov**	**21.28**	**356**	*e*P	**P**	**08 05 14.3**	**-0.4**
	comp=Z,6.6nm,1.0s,mb3.9						
GYA	**Guiyang**	**22.93**	**91**	↓*i*P	**P**	**08 05 31.5**	**-0.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.1						
XAN	**Xi'an**	**24.21**	**72**	P	**P**	**08 05 45.0**	**+0.2**
XAN				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.1						
VOSK	**Vostochnaya**	**24.35**	**345**	↓P	**P**	**08 05 46.1**	**+0.1**
	comp=Z,4.4nm,0.5s,mb4.2						
ZAL	**Zalesovo**	**24.60**	**6**	P	**P**	**08 05 48.0**	**-0.4**
	comp=Z,11nm,0.5s,mb4.7,baz=276,slow=6.9,SNR=18						
ZAL	**Zalesovo**	**24.60**	**6**	P	**P**	**08 05 48.0**	**-0.4**
BVA0	**Borovoye Array**	**24.76**	**345**	P	**P**	**08 05 49.4**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=148,slow=13,SNR=18						
BVAR	**Borovoye Array**	**24.76**	**345**	P	**P**	**08 05 47.8**	**-2.0**
	comp=Z,3.4nm,0.4s,mb4.2,baz=138,slow=9.0,SNR=14						
BRVK	**Borovoye**	**24.82**	**345**	*e*P	**P**	**08 05 50.3**	**0.0**
BRVK				*e**PP		08 05 56.2	
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1						
BRVK	**Borovoye**	**24.82**	**345**	*e*P	**P**	**08 05 50.3**	**0.0**
	comp=Z,5.0nm,0.8s,mb4.1						
BRVK				*e*pP		08 05 56.2	
ZRNK	**Zerenda**	**25.03**	**343**	↓P	**P**	**08 05 51.8**	**-0.5**
	comp=Z,14nm,1.1s,mb4.4						
ZRNK	**Zerenda**	**25.03**	**343**	*e*P	**P**	**08 05 52.4**	**+0.1**
ZRNK				*e**PP	pP	08 05 57.0	-2.0
ZRNK				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb4.7						
ZRNK	**Zerenda**	**25.03**	**343**	*e*P	**P**	**08 05 52.4**	**+0.1**
	comp=Z,9.7nm,0.4s,mb4.7						
ZRNK				*e*pP	pP	08 05 57.0	-2.1
CHKZ	**Chkalovo**	**25.32**	**346**	*e*P	**P**	**08 05 55.2**	**+0.3**
CHKZ				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.7						
CHKZ	**Chkalovo**	**25.32**	**346**	*e*P	**P**	**08 05 55.2**	**+0.3**
	comp=Z,18nm,0.8s,mb4.6						
AB31	**Akbulak array**	**25.40**	**327**	↓P	**P**	**08 05 56.4**	**+0.8**
	comp=Z,18nm,0.8s,mb4.7,baz=0.0,slow=0.1,SNR=6.1						
BTO	**Baotou**	**26.18**	**57**	*e*P	**P**	**08 06 05.8**	**+3.1**
MOY	**Mondy**	**26.74**	**28**	*e*P	**P**	**08 06 11.5**	**+3.8**
MOY				pmax	pmax		
	comp=Z,23nm,1.6s,mb4.5						
ZAK	**Zakamensk**	**26.83**	**33**	*e*P	**P**	**08 06 08.3**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,17nm,1.9s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.9						
SONM	**Songino Array**	**26.86**	**40**	P	**P**	**08 06 09.4**	**+0.6**
	comp=Z,3.2nm,0.8s,mb3.9,baz=229,slow=9.3,SNR=14						
AKTK	**Aktyubinsk**	**27.11**	**327**	P	**P**	**08 06 11.2**	**+0.1**
AKTO	**Aktyubinsk**	**27.11**	**327**	↑P	**P**	**08 06 11.3**	**+0.2**
	comp=Z,0.2nm,0.9s						
AKTO	**Aktyubinsk**	**27.11**	**327**	P	**P**	**08 06 11.2**	**+0.1**
	comp=Z,3.9nm,0.7s,mb4.0,baz=121,slow=9.4,SNR=13						
AKTO	**Aktyubinsk**	**27.11**	**327**	P	**P**	**08 06 11.2**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.1						
HHC	**Hu-ho-hao-te**	**27.38**	**57**	*e*P	**P**	**08 06 14.7**	**+1.2**
HHC				AP	pP	08 06 19.2	-1.0
HHC				XP	sP	08 06 22.4	-0.7
HHC				PP		08 07 01.1	
HHC				PCP	PcP	08 09 34.6	+2.5
HHC				S	**S**	**08 10 52.7**	**+0.5**
HHC				XS	sS	08 11 01.1	-2.3
HHC				SS		08 12 06.9	
HHC				SCP	ScP	08 13 14.6	+3.4
HHC				PCS	PcS	08 13 16.8	+3.0
HHC				SCS	ScS	08 17 03.2	+0.5
HHC				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.3						
HHC				AMB	AMB		
	comp=Z,239nm,9.3s						
HHC				LR	LR		
	comp=N,238nm,13.5s,MS4.2						
HHC				LR	LR		
	comp=E,349nm,15.1s,MS4.2						
HHC				LR	LR		
	comp=Z,269nm,16.7s,MS3.9						
ORR	**Orenburg**	**29.45**	**326**	*e*P	**P**	**08 06 32.4**	**+0.5**
ORR				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.7						
SVE	**Sverdlovsk**	**30.83**	**338**	*e*P	**P**	**08 06 45.0**	**+0.8**
ARU	**Arti**	**31.23**	**336**	↑*i*P	**P**	**08 06 48.2**	**+0.6**
ARU				*e*		08 07 48.6	
ARU				*e*S	**S**	**08 11 50.0**	**-2.6**
ARU				*e*SS	SS	08 13 32.5	-34
ARU				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.7						
GNI	**Garni**	**31.35**	**300**	P	**P**	**08 06 50.8**	**+2.1**
	comp=Z,3.4nm,0.4s,mb4.5,baz=353,slow=8.1,SNR=6.2						
ZEI	**Tsey**	**32.44**	**304**	*e*P	**P**	**08 07 00.1**	**+1.8**
ZEI				*e**PP	pP	08 07 09.3	+4.2
ZEI				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.0						
NJ2	**Nanjing**	**32.60**	**76**	*e*P	**P**	**08 07 02.1**	**+2.4**
NJ2				AP	pP	08 07 05.6	-0.9
NJ2				XP	sP	08 07 08.6	-0.7
NJ2				PP	PP	08 08 09.3	-4.2
NJ2				S	**S**	**08 12 17.0**	**+2.9**
NJ2				XS	sS	08 12 26.0	+0.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,120nm,7.6s						
NJ2				LR	LR		
	comp=N,430nm,22.2s,MS4.2						
NJ2				LR	LR		
	comp=E,390nm,21.0s,MS4.2						
NJ2				LR	LR		
	comp=Z,230nm,23.9s,MS3.8						
KIV	**Kislovodsk**	**33.55**	**306**	↑*e*P	**P**	**08 07 08.9**	**+0.9**
KIV				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
KIV	**Kislovodsk**	**33.55**	**306**	*e*P	**P**	**08 07 08.5**	**+0.5**
	comp=Z,8.8nm,0.5s,mb5.0						
SSE	**Sheshan**	**34.69**	**77**	*e*P	**P**	**08 07 17.5**	**-0.4**
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,74nm,6.1s						
SOC	**Sochi**	**35.59**	**305**	*e*P	**P**	**08 07 25.1**	**-0.6**
SOC				*e*		08 08 43.0	
SOC				*e*S	**S**	**08 12 57.4**	**-3.0**
SOC				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.0						
MALT	**Malatya**	**36.08**	**296**	↓*i*P	**P**	**08 07 31.5**	**+1.6**
MALT	**Malatya**	**36.08**	**296**	*e*P	**P**	**08 07 31.4**	**+1.5**
MALT				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
MALT	**Malatya**	**36.08**	**296**	*e*P	**P**	**08 07 31.4**	**+1.6**
	comp=Z,5.3nm,0.8s,mb4.5						
VRHR	**Novokhopersk**	**36.33**	**318**	*e*P	**P**	**08 07 32.1**	**+0.1**
VRHR				pmax	pmax		
	comp=Z,20nm,0.5s,mb5.3						
VRHR				pmax	pmax		
	comp=N,20nm,0.7s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.4s						
BOD	**Bodaibo**	**36.44**	**29**	*e*P	**P**	**08 07 33.0**	**+0.1**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
SNY	**Shenyang**	**36.44**	**59**	↑P	**P**	**08 07 36.6**	**+3.7**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
ANN	**Anapa**	**37.41**	**306**	*e*P	**P**	**08 07 40.3**	**-0.9**
ANN				*e*S	**S**	**08 13 22.3**	**-5.8**
ANN				pmax	pmax		
	comp=Z,44nm,1.1s,mb5.2						
CN2	**Changchun**	**38.03**	**56**	*e*P	**P**	**08 07 45.8**	**-0.6**
CN2				*e*AP	pP	08 07 50.5	-2.8
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
BR131	**Keskin Array S**	**39.83**	**298**	*e*P	**P**	**08 08 01.6**	**+0.2**
	comp=Z,3.1nm,0.8s,mb4.1						
BR131				*e*pP	pP	08 08 06.2	-2.1
BRTR	**Keskin Array B**	**39.83**	**298**	P	**P**	**08 08 01.9**	**+0.4**
	comp=Z,2.6nm,0.8s,mb4.0,baz=99,slow=7.6,SNR=16						
OBN	**Obninsk**	**40.62**	**322**	*α i*P	**P**	**08 08 07.9**	**-0.1**
OBN						08 09 41.0	
OBN				*e*		08 10 05.6	
OBN				*e*		08 17 12.7	
OBN				pmax	pmax		
	comp=Z,20nm,0.6s,mb4.9						
MDJ	**Mudanjiang**	**41.08**	**55**	P	**P**	**08 08 11.5**	**-0.3**
MDJ				AP	pP	08 08 14.6	-4.1
MDJ				XP	sP	08 08 15.9	-5.6
MDJ				PP	PP	08 09 45.9	-0.8
MDJ				SCP	ScP	08 14 01.0	+1.4
MDJ				PCS	PcS	08 14 02.2	0.0
MDJ				S	**S**	**08 14 24.1**	**+0.9**
MDJ				XS	sS	08 14 29.2	-5.5
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,87nm,6.5s						
MDJ				LR	LR		
	comp=N,165nm,16.9s,MS4.0						
MDJ				LR	LR		
	comp=E,123nm,19.0s,MS4.0						
MDJ				LR	LR		
	comp=Z,249nm,14.8s,MS4.2						
KLMR	**Klimovskoe**	**41.65**	**331**	*e*P	**P**	**08 08 16.0**	**-0.5**
KLMR				pmax	pmax		
	comp=Z,20nm,1.4s,mb4.5						
AKASG	**Malin Array Be**	**43.81**	**314**	P	**P**	**08 08 33.5**	**-0.5**
	comp=Z,4.2nm,0.5s,mb4.4,baz=80,slow=7.3,SNR=34						
CFR	**Carcaliu**	**44.01**	**306**	↓*i*P	**P**	**08 08 34.9**	**-0.7**
CFR	**Carcaliu**	**44.01**	**306**	↑P	**P**	**08 08 34.9**	**-0.7**
VRI	**Vrincioaia**	**45.02**	**307**	↓*i*P	**P**	**08 08 45.0**	**+1.3**
VRI	**Vrincioaia**	**45.02**	**307**	↓P	**P**	**08 08 45.0**	**+1.3**
PLOR	**Plostina**	**45.08**	**307**	↑*i*P	**P**	**08 08 46.0**	**+1.9**
YAK	**Yakutsk**	**45.36**	**30**	*e*P	**P**	**08 08 46.1**	**-0.3**
YAK				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.8						
MLR	**Muntele Rosu**	**45.56**	**306**	↓*i*P	**P**	**08 08 50.3**	**+2.3**
MLR	**Muntele Rosu**	**45.56**	**306**	↓P	**P**	**08 08 50.3**	**+2.3**
BURAR	**Bucovina Array**	**46.13**	**309**	↓*i*P	**P**	**08 08 53.4**	**+0.9**
BURAR	**Bucovina Array**	**46.13**	**309**	↓P	**P**	**08 08 53.4**	**+0.9**
APA	**Apatity**	**47.30**	**337**	↑*i*P	**P**	**08 08 57.0**	**-4.6**
APA				*i*	pP	08 09 02.6	-6.1
DRGR		**47.82**	**308**	↓*i*P	**P**	**08 09 07.0**	**+1.3**
KWP	**Kalwaria**	**47.88**	**312**	*e*P	**P**	**08 09 06.7**	**+0.6**
FINES	**FINESS Array B**	**47.88**	**328**	P	**P**	**08 09 05.8**	**-0.3**
	comp=Z,3.5nm,0.6s,mb4.6,baz=110,slow=8.6,SNR=21						
FINES	**FINESS Array B**	**47.88**	**328**	*i* P	**P**	**08 09 05.8**	**-0.3**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
FINES	**FINESS Array B**	**47.88**	**328**	P	**P**	**08 09 05.8**	**-0.3**
KAF	**Kangasniemi**	**47.96**	**329**	*ep*	**P**	**08 09 06.0**	**-0.8**
	comp=Z,4.3nm,0.7s,mb4.6,baz=106,slow=7.5						
KAF	**Kangasniemi**	**47.96**	**329**	*e*P	**P**	**08 09 06.0**	**-0.8**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
KOLS	**Kolonicke sed

BRG pmax pmax

MOA Molln 53.51 310⇑ *i*P **P 08 09 48.5 0.0**
comp=Z,8.2nm,0.6s,mb4.9

GEC2 GERESS Array S 53.79 311 *e*P **P 08 09 50.3 -0.4**
comp=Z,5.0nm,0.6s,mb4.6

GEC2 **GERESS Array S 53.79 311** *e*P **P 08 09 50.3 -0.4**
GEC2 pmax pmax
comp=Z,5.0nm,0.6s,mb4.6

GERES GERESS Array B 53.79 311 P **P 08 09 51.1 +0.4**
comp=Z,4.0nm,0.5s,mb4.6,baz=86,slow=6.8,SNR=18

KHC Kasperske Hory 53.85 311 *e*P **P 08 09 51.0 -0.1**

KHC Kasperske Hory 53.85 311⇑ *e*P **P 08 09 51.3 +0.2**

VOJS Vojsko 53.96 308 *e*P **P 08 09 52.0 +0.1**

CADS Cadrg 54.04 308 *e*P **P 08 09 52.4 0.0**

CLL Collm 54.05 314 *e*P **P 08 09 52.6 0.0**
comp=Z,6.0nm,0.6s,mb4.7

CLL Collm 54.05 314 *i* P **P 08 09 52.2 -0.4**
comp=Z,16nm,1.5s,mb4.7

CLL Collm 54.05 314 *i*P **P 08 09 52.2 -0.4**
CLL pmax pmax
comp=Z,16nm,1.5s,mb4.7

KBA Koelnbreinsper 54.21 309⇑ *i*P **P 08 09 53.7 0.0**
comp=Z,4.7nm,0.5s,mb4.7

KBA Koelnbreinsper 54.21 309⇑ *i*P **P 08 09 53.7 0.0**
KBA pmax pmax
comp=Z,5.0nm,0.5s,mb4.7

WERD Werda 54.56 313 *e*P **P 08 09 56.0 -0.2**
comp=Z,18nm,1.1s,mb5.0

ROTZ Rotzenmuhle 54.68 312 *e*P **P 08 09 57.8 +0.6**
comp=Z,12nm,0.9s,mb4.9

MANZ Manzenberg 54.73 313 *e*P **P 08 09 58.2 +0.7**
comp=Z,6.0nm,0.6s,mb4.8

NB2 NORSAR Subarra 54.90 326 P **P 08 09 57.6 -1.1**
comp=Z,4.8nm,0.7s,mb4.6,baz=92,slow=6.9

NOA NORSAR Array B 54.90 326 P **P 08 09 58.0 -0.7**
comp=Z,4.0nm,0.7s,mb4.6,baz=92,slow=7.1,SNR=21

MA2 Magadan 54.95 36⇑ *e*P **P 08 09 59.3 +0.2**
MA2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.5

MOX Moxa 54.98 313 *e*P **P 08 09 59.4 +0.1**
comp=Z,10.0nm,0.8s,mb4.9

GRA1 Grafenberg Arr 55.33 312 *e*P **P 08 10 02.6 +0.8**
comp=Z,10.0nm,0.6s,mb5.0

GRF Grafenberg Arr 55.33 312 *e*P **P 08 10 02.6 +0.8**
comp=Z,10.0nm,0.6s,mb5.0

GRF Grafenberg Arr 55.33 312 *e*P **P 08 10 02.6 +0.8**
GRF pmax pmax
comp=Z,10.0nm,0.6s,mb5.0

GRF Grafenberg Arr 55.33 312 *e*P **P 08 10 02.6 +0.8**
GRF pmax pmax
comp=Z,10.0nm,0.6s,mb5.0

WTTA Wattenberg 55.34 309⇑ *i*P **P 08 10 01.5 -0.4**
comp=Z,19nm,1.0s,mb5.1

WTTA Wattenberg 55.34 309⇑ *i*P **P 08 10 01.5 -0.4**
WTTA pmax pmax
comp=Z,19nm,1.0s,mb5.1

WATA Walderalm 55.37 309⇑ *i*P **P 08 10 01.4 -0.7**
comp=Z,5.2nm,0.9s,mb4.6

WATA Walderalm 55.37 309⇑ *i*P **P 08 10 01.4 -0.7**
WATA pmax pmax
comp=Z,5.0nm,0.9s,mb4.5

BSEG Bad Segeberg 55.52 317 *e*P **P 08 10 03.5 +0.3**
comp=Z,12nm,0.7s,mb5.0

BSEG Bad Segeberg 55.52 317 *e*P **P 08 10 03.5 +0.3**
BSEG pmax pmax
comp=Z,12nm,0.7s,mb5.0

SQTA Sankt Quirin 55.63 309⇓ *i*P **P 08 10 03.5 -0.6**
comp=Z,7.8nm,0.9s,mb4.8

SQTA Sankt Quirin 55.63 309⇓ *i*P **P 08 10 03.5 -0.5**
SQTA pmax pmax
comp=Z,8.0nm,0.9s,mb4.8

CLZ Clausthal 55.65 315 *e*P **P 08 10 04.1 0.0**
comp=Z,21nm,0.8s,mb5.2

CLZ Clausthal 55.65 315 *e*P **P 08 10 04.1 0.0**
CLZ pmax pmax
comp=Z,21nm,0.8s,mb5.2

MOTA Moosalm 55.69 309⇑ *i*P **P 08 10 03.8 -0.6**
comp=Z,8.9nm,0.9s,mb4.8

MOTA Moosalm 55.69 309⇑ *i*P **P 08 10 03.8 -0.6**
MOTA pmax pmax
comp=Z,9.0nm,0.9s,mb4.8

UBBA Unterbreizbach 55.98 314 *e*P **P 08 10 06.0 -0.5**
comp=Z,4.0nm,0.6s,mb4.6

BFO Black Forest 57.39 311 *e*P **P 08 10 12.9 -3.6**
comp=Z,3.0nm,0.9s,mb4.3

BFO Black Forest 57.39 311 *e*P **P 08 10 12.9 -3.6**
BFO pmax pmax
comp=Z,3.0nm,0.9s,mb4.3

BUG Bochum--Univer 57.62 315 *e*P **P 08 10 18.2 +0.1**
comp=Z,10.0nm,0.6s,mb5.0

CDF Champ du Feu 58.07 311 *e*P **P 08 10 21.3 0.0**

HINF Hinteralfeld 58.46 310⇑ *i*P **P 08 10 23.6 -0.4**
comp=Z,28nm,0.7s,mb5.1

HINF Hinteralfeld 58.46 310⇑ *i*P **P 08 10 23.6 -0.4**
HINF pmax pmax
comp=Z,14nm,0.7s,mb5.1

HINF Hinteralfeld 58.46 310⇑ *i*P **P 08 10 23.6 -0.4**
comp=Z,14nm,0.7s,mb5.1

WLF Walferdange 58.59 313 *e*P **P 08 10 25.5 +0.6**
comp=Z,12nm,0.7s,mb5.0

HAU Haudompre 58.76 311⇑ *i*P **P 08 10 26.9 +0.8**
comp=Z,41nm,0.8s,mb5.2

HAU Haudompre 58.76 311⇑ *i*P **P 08 10 26.9 +0.8**
HAU pmax pmax
comp=Z,20nm,0.8s,mb5.2

HAU Haudompre 58.76 311⇑ *i*P **P 08 10 26.9 +0.8**
comp=Z,20nm,0.8s,mb5.2

SBF Sospel 58.84 306 *e*P **P 08 10 26.8 +0.2**
comp=Z,57nm,0.8s,mb5.3

SBF Sospel 58.84 306 *e*P **P 08 10 26.8 +0.2**
SBF pmax pmax
comp=Z,28nm,0.8s,mb5.3

SBF Sospel 58.84 306 *e*P **P 08 10 26.8 +0.2**
comp=Z,28nm,0.8s,mb5.3

LPG La Plagne 58.97 308⇑ *i*P **P 08 10 28.2 +0.6**
comp=Z,69nm,0.8s,mb5.5

LPG La Plagne 58.97 308⇑ *i*P **P 08 10 28.2 +0.6**
LPG pmax pmax
comp=Z,34nm,0.8s,mb5.4

LPG La Plagne 58.97 308⇑ *i*P **P 08 10 28.2 +0.6**
comp=Z,34nm,0.8s,mb5.4

LPL La Plagne 58.98 308⇑ *i*P **P 08 10 28.3 +0.7**
comp=Z,86nm,0.7s,mb5.6

LPL La Plagne 58.98 308⇑ *i*P **P 08 10 28.3 +0.7**
LPL pmax pmax
comp=Z,43nm,0.7s,mb5.6

LPL La Plagne 58.98 308⇑ *i*P **P 08 10 28.3 +0.7**
comp=Z,43nm,0.7s,mb5.6

MBDF Montbardon 59.12 307⇑ *i*P **P 08 10 28.2 -0.4**
comp=Z,19nm,0.7s,mb4.9

MBDF Montbardon 59.12 307⇑ *i*P **P 08 10 28.2 -0.4**
MBDF pmax pmax
comp=Z,9.0nm,0.7s,mb4.9

MBDF Montbardon 59.12 307⇑ *i*P **P 08 10 28.2 -0.4**
comp=Z,9.4nm,0.7s,mb4.9

CABF La Chapelle 59.20 309 *e*P **P 08 10 29.2 +0.1**
comp=Z,15nm,0.8s,mb4.8

CABF La Chapelle 59.20 309 *e*P **P 08 10 29.2 +0.1**
CABF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8

CABF La Chapelle 59.20 309 *e*P **P 08 10 29.2 +0.1**
comp=Z,7.6nm,0.8s,mb4.8

GIVF Givet 59.36 313 *e*P **P 08 10 30.4 +0.1**
comp=Z,18nm,0.6s,mb4.9

GIVF Givet 59.36 313 *e*P **P 08 10 30.4 +0.1**
GIVF pmax pmax
comp=Z,9.0nm,0.6s,mb5.0

GIVF Givet 59.36 313 *e*P **P 08 10 30.4 +0.1**
comp=Z,8.8nm,0.6s,mb5.0

FRF La Foret Royal 59.46 306 *e*P **P 08 10 30.7 -0.3**
comp=Z,37nm,0.8s,mb5.1

FRF La Foret Royal 59.46 306 *e*P **P 08 10 30.7 -0.3**
FRF pmax pmax
comp=Z,18nm,0.8s,mb5.2

FRF La Foret Royal 59.46 306 *e*P **P 08 10 30.7 -0.3**
comp=Z,18nm,0.8s,mb5.2

MEZF Maizieres J'vi 59.51 312 *e*P **P 08 10 31.2 -0.1**
comp=Z,14nm,0.4s,mb5.0

ORIF Oris-en-Rattie 59.70 307 *e*P **P 08 10 32.9 +0.3**
comp=Z,33nm,1.2s,mb4.9

ORIF Oris-en-Rattie 59.70 307 *e*P **P 08 10 32.9 +0.3**
ORIF pmax pmax
comp=Z,16nm,1.2s,mb4.9

ORIF Oris-en-Rattie 59.70 307 *e*P **P 08 10 32.9 +0.3**
comp=Z,16nm,1.2s,mb4.9

BAIF Baives 59.76 313 *e*P **P 08 10 32.9 -0.1**

SMRF Simiane la Rot 60.12 306 *e*P **P 08 10 35.9 +0.4**
comp=Z,23nm,1.0s,mb4.9

SMRF Simiane la Rot 60.12 306 *e*P **P 08 10 35.9 +0.4**
comp=Z,23nm,1.0s,mb5.2

VIVF Saint-Julien-l 60.55 307 *e*P **P 08 10 38.4 0.0**
comp=Z,22nm,0.9s,mb5.0

VIVF Saint-Julien-l 60.55 307 *e*P **P 08 10 38.4 0.0**
VIVF pmax pmax
comp=Z,11nm,0.9s,mb5.0

VIVF Saint-Julien-l 60.55 307 *e*P **P 08 10 38.4 0.0**
comp=Z,11nm,0.9s,mb5.0

LOR Lormes 60.55 310⇑ *i*P **P 08 10 37.7 -0.8**
comp=Z,21nm,1.0s,mb4.9

LOR Lormes 60.55 310⇑ *i*P **P 08 10 37.7 -0.8**
LOR pmax pmax
comp=Z,10.0nm,1.0s,mb4.9

LOR Lormes 60.55 310⇑ *i*P **P 08 10 37.7 -0.8**
comp=Z,10nm,1.0s,mb4.9

SMF Signal de Mont 60.70 310⇑ *i*P **P 08 10 39.1 -0.4**
comp=Z,35nm,0.8s,mb5.2

SMF Signal de Mont 60.70 310⇑ *i*P **P 08 10 39.1 -0.4**
SMF pmax pmax
comp=Z,17nm,0.8s,mb5.2

SMF Signal de Mont 60.70 310⇑ *i*P **P 08 10 39.1 -0.4**
comp=Z,17nm,0.8s,mb5.2

SSF Saint Saulge 60.83 310⇑ *i*P **P 08 10 39.9 -0.5**
comp=Z,33nm,0.8s,mb5.2

SSF Saint Saulge 60.83 310⇑ *i*P **P 08 10 39.9 -0.5**
SSF pmax pmax
comp=Z,17nm,0.8s,mb5.2

SSF Saint Saulge 60.83 310⇑ *i*P **P 08 10 39.9 -0.5**
comp=Z,16nm,0.8s,mb5.2

AVF Avril sur Loir 61.00 310⇑ *i*P **P 08 10 41.0 -0.5**
comp=Z,30nm,0.8s,mb5.2

AVF Avril sur Loir 61.00 310⇑ *i*P **P 08 10 41.0 -0.5**
AVF pmax pmax
comp=Z,15nm,0.8s,mb5.2

AVF Avril sur Loir 61.00 310⇑ *i*P **P 08 10 41.0 -0.5**
comp=Z,15nm,0.8s,mb5.2

LASF Ste Croix 61.30 307⇑ *i*P **P 08 10 43.8 +0.3**
comp=Z,47nm,1.1s,mb5.2

HYF Humbligny 61.36 311 *e*P **P 08 10 44.0 0.0**

BGF Bois d'Agland 61.39 310⇑ *i*P **P 08 10 43.6 -0.6**
comp=Z,16nm,0.6s,mb5.0

BGF Bois d'Agland 61.39 310⇑ *i*P **P 08 10 43.6 -0.6**
BGF pmax pmax
comp=Z,8.0nm,0.6s,mb5.0

BGF Bois d'Agland 61.39 310⇑ *i*P **P 08 10 43.6 -0.6**
comp=Z,8.0nm,0.6s,mb5.0

TCF Toulx Ste Croi 61.88 310⇑ *i*P **P 08 10 47.5 0.0**
comp=Z,42nm,0.9s,mb5.3

TCF Toulx Ste Croi 61.88 310⇑ *i*P **P 08 10 47.5 0.0**
TCF pmax pmax
comp=Z,21nm,0.9s,mb5.3

TCF Toulx Ste Croi 61.88 310⇑ *i*P **P 08 10 47.5 0.0**
comp=Z,21nm,0.9s,mb5.3

CAF Calviac 62.33 308⇑ *i*P **P 08 10 50.7 +0.3**
comp=Z,11nm,0.5s,mb4.9

CAF Calviac 62.33 308⇑ *i*P **P 08 10 50.7 +0.3**
CAF pmax pmax
comp=Z,6.0nm,0.5s,mb5.0

CAF Calviac 62.33 308⇑ *i*P **P 08 10 50.7 +0.3**
comp=Z,5.6nm,0.5s,mb5.0

RJF Les Rejaudoux 62.60 309 *e*P **P 08 10 52.6 +0.3**
comp=Z,26nm,0.9s,mb5.1

RJF Les Rejaudoux 62.60 309 *e*P **P 08 10 52.6 +0.3**
RJF pmax pmax
comp=Z,13nm,0.9s,mb5.1

RJF Les Rejaudoux 62.60 309 *e*P **P 08 10 52.6 +0.3**
comp=Z,13nm,0.9s,mb5.0

MTLF Montolieu 62.64 306⇑ *i*P **P 08 10 52.6 +0.1**
comp=Z,20nm,0.9s,mb4.9

MTLF Montolieu 62.64 306⇑ *i*P **P 08 10 52.6 +0.1**
MTLF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0

MTLF Montolieu 62.64 306⇑ *i*P **P 08 10 52.6 +0.1**
comp=Z,9.8nm,0.9s,mb4.9

LDF La Druitiere 62.84 313 *e*P **P 08 10 53.2 -0.7**
comp=Z,38nm,1.0s,mb5.2

LDF La Druitiere 62.84 313 *e*P **P 08 10 53.2 -0.7**
LDF pmax pmax
comp=Z,19nm,1.0s,mb5.2

LDF La Druitiere 62.84 313 *e*P **P 08 10 53.2 -0.7**
comp=Z,19nm,1.0s,mb5.2

FLN La Foliniere 63.03 313 *e*P **P 08 10 54.1 -1.1**

LFF La Frestale 63.23 308 *e*P **P 08 10 56.5 0.0**
comp=Z,20nm,0.5s,mb5.2

LFF La Frestale 63.23 308 *e*P **P 08 10 56.5 0.0**
LFF pmax pmax
comp=Z,10.0nm,0.5s,mb5.2

LFF La Frestale 63.23 308 *e*P **P 08 10 56.5 0.0**
comp=Z,10nm,0.5s,mb5.2

GRR Gorron 63.37 312⇑ *i*P **P 08 10 56.6 -0.8**
comp=Z,18nm,0.7s,mb5.0

GRR Gorron 63.37 312⇑ *i*P **P 08 10 56.6 -0.8**
GRR pmax pmax
comp=Z,9.0nm,0.7s,mb5.0

GRR Gorron 63.37 312⇑ *i*P **P 08 10 56.6 -0.8**
comp=Z,8.8nm,0.7s,mb5.0

MFF Saint Martin d 63.38 310⇑ *i*P **P 08 10 56.8 -0.6**
comp=Z,15nm,0.5s,mb5.1

MFF Saint Martin d 63.38 310⇑ *i*P **P 08 10 56.8 -0.6**
MFF pmax pmax
comp=Z,7.0nm,0.5s,mb5.0

MFF Saint Martin d 63.38 310⇑ *i*P **P 08 10 56.8 -0.6**
comp=Z,7.3nm,0.5s,mb5.1

EMIR Miracle 63.53 305 P **P 08 10 57.7 -0.7**
comp=Z,111nm,1.4s,mb5.7

EPOB Poblet 64.01 304 P **P 08 11 02.4 +0.7**
comp=Z,119nm,2.1s,mb5.5

EBIE Bielsa 64.28 306 P **P 08 11 03.6 +0.2**
comp=Z,160nm,2.7s,mb5.6

EGRA Graus 64.31 306 P **P 08 11 03.5 0.0**
comp=Z,9.4nm,0.6s,mb5.0

SGMF Saint Gilles 64.50 313⇑ *i*P **P 08 11 04.4 -0.4**
comp=Z,35nm,0.7s,mb5.2

SGMF Saint Gilles 64.50 313⇑ *i*P **P 08 11 04.4 -0.4**
SGMF pmax pmax
comp=Z,18nm,0.7s,mb5.2

SGMF Saint Gilles 64.50 313⇑ *i*P **P 08 11 04.4 -0.4**
comp=Z,18nm,0.7s,mb5.2

ROSF Rostrenen 64.93 313⇑ *i*P **P 08 11 07.1 -0.6**
comp=Z,28nm,0.7s,mb5.1

ROSF Rostrenen 64.93 313⇑ *i*P **P 08 11 07.1 -0.6**
ROSF pmax pmax
comp=Z,14nm,0.7s,mb5.1

ROSF Rostrenen 64.93 313⇑ *i*P **P 08 11 07.1 -0.6**
comp=Z,14nm,0.7s,mb5.1

QUIF Quistinic 64.98 312 *e*P **P 08 11 07.1 -0.9**
comp=Z,11nm,0.5s,mb4.8

QUIF Quistinic 64.98 312 *e*P **P 08 11 07.1 -0.9**
QUIF pmax pmax
comp=Z,5.0nm,0.5s,mb4.8

QUIF Quistinic 64.98 312 *e*P **P 08 11 07.1 -0.9**
comp=Z,5.3nm,0.5s,mb4.8

ESAC San Caprasio 65.01 305 P **P 08 11 08.3 +0.2**
comp=Z,285nm,1.7s

KAKA Kakadu 65.02 123 *e*Pn **P 08 11 06.9 -1.3**
comp=Z,5.2nm,0.6s,mb4.7

SJPF Ste Jean 65.11 307 *e*P **P 08 11 09.0 +0.2**
comp=Z,8.7nm,0.7s,mb4.6

SJPF Ste Jean 65.11 307 *e*P **P 08 11 09.0 +0.2**
SJPF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6

SJPF Ste Jean 65.11 307 *e*P **P 08 11 09.0 +0.2**
comp=Z,4.3nm,0.7s,mb4.6

ELAN Lanestosa 66.61 308 P **P 08 11 18.6 +0.1**
comp=Z,8.6nm,0.7s,mb4.9

EHUE Huescar 67.84 302 P **P 08 11 26.5 +0.2**
EHUE pmax pmax
comp=Z,2.0nm,0.5s,mb4.4

EHUE Huescar 67.84 302 P **P 08 11 26.5 +0.2**
comp=Z,1.7nm,0.5s,mb4.3

GUD Guadarrama 67.99 305 P **P 08 11 27.2 0.0**
GUD pmax pmax
comp=Z,15nm,0.7s,mb5.1

GUD Guadarrama 67.99 305 P **P 08 11 27.2 0.0**
comp=Z,15nm,0.7s,mb5.1

ESDC Sonseca Array 68.19 304 P **P 08 11 28.6 +0.1**
comp=Z,7.3nm,0.8s,mb4.8,baz=59,slow=7.1,SNR=20

ESDC Sonseca Array 68.19 304 P **P 08 11 28.6 +0.2**
comp=Z,9.1nm,0.6s,mb5.0

SUMG Summit 70.24 344 *e*P **P 08 11 41.2 +0.1**
comp=Z,8.3nm,1.2s,mb4.5

ELOB Lobios 70.29 308 P **P 08 11 42.2 +0.7**
comp=Z,2.9nm,0.6s,mb4.4

EMIN Mina Concepcio 70.86 303 P **P 08 11 44.1 -0.8**
comp=Z,10nm,0.7s,mb4.9

WRA Warramunga Arr 71.17 127 P **P 08 11 45.9 -0.9**
comp=Z,16nm,0.8s,mb5.0,baz=320,slow=6.0,SNR=178

WRAB Tennant Creek 71.17 127 P **P 08 11 46.0 -0.9**
comp=Z,148nm,0.6s,SNR=14

WRAB Tennant Creek 71.17 127 *e*P **P 08 11 46.2 -0.7**
WRAB pmax pmax
comp=Z,32nm,0.8s,mb5.3

WRAB Tennant Creek 71.17 127 *e*P **P 08 11 46.2 -0.6**
comp=Z,32nm,0.8s,mb5.3

WB2 Warramunga Arr 71.18 127 *e*P **P 08 11 45.9 -1.0**

ASAR Alice Springs 73.40 130 P **P 08 11 59.3 -0.8**
comp=Z,8.0nm,0.5s,mb4.9,baz=312,slow=6.1,SNR=150

TORD Torodi Ar. Bea 74.36 276 P **P 08 12 05.8 0.0**
comp=Z,5.8nm,0.8s,mb4.6,baz=54,slow=4.9,SNR=41

FORT Forrest 74.87 139 *e*P **P 08 12 06.8 -1.9**
comp=Z,7.9nm,0.7s,mb4.8

TSUM Tsumeb 77.88 240 P **P 08 12 26.1 +0.3**
comp=Z,3.6nm,1.0s,mb4.2,baz=0.0,slow=9.1

ILAR Eielson Array 78.97 19 P **P 08 12 29.6 -2.2**
comp=Z,0.9nm,0.9s,baz=298,slow=5.3,SNR=7.8

ILAR PP PP 08 15 29.5 -1.2
comp=Z,0.9nm,0.9s,baz=311,slow=7.0,SNR=6.4

INK Inuvik 79.22 12 P **P 08 12 31.9 -1.2**
comp=Z,1.0nm,0.6s,mb3.9,baz=336,slow=5.2,SNR=13

CTA Charters Tower 79.94 120 *e*P **P 08 12 36.6 -0.5**
comp=Z,7.5nm,0.6s,mb4.8

CTA Charters Tower 79.94 120 *e*P **P 08 12 36.6 -0.5**
CTA pmax pmax
comp=Z,8.0nm,0.6s

DBIC Dimbokro 83.08 274 P **P 08 12 52.9 -0.8**
comp=Z,2.8nm,0.5s,mb4.6,baz=53,slow=3.8,SNR=7.3

STKA Stephens Creek 83.92 132 *e*P **P 08 12 54.2 -3.8**
comp=Z,2.9nm,0.5s,mb4.7

STKA Stephens Creek 83.92 132 P **P 08 12 54.6 -3.4**
comp=Z,2.8nm,0.5s,mb4.7,baz=320,slow=5.4,SNR=17

YKA Yellowknife Ar 87.50 7 P **P 08 13 14.2 -1.6**
comp=Z,0.9nm,0.7s,mb4.1,baz=338,slow=5.1,SNR=22

YKA PKKPbc PKKPbc 08 31 02.2 -2.3
comp=Z,0.1nm,0.6s,baz=168,slow=2.4,SNR=7.8

YKA Yellowknife Ar 87.50 7 P **P 08 13 14.2 -1.6**
YKA PKKPbc PKKPbc 08 31 02.2 -2.3

FLWY Flagg Ranch 106.03 9 *e*PKPdf PKiKP 08 18 51.6 -0.5

LOHW Long Hollow 106.50 9 *e*PKPdf PKiKP 08 18 48.2 -4.7

REDW Red Top Meadow 106.72 9 *e*PKPdf PKiKP 08 18 53.8 +0.4

CPUP Villa Florida 143.10 265 PKhKP 08 19 58.0
comp=Z,0.7nm,0.5s,baz=45,slow=2.9,SNR=4.4

CPUP PKP PKPdf 08 20 01.6 -0.4
comp=Z,1.2nm,0.6s,baz=90,slow=1.0,SNR=3.2

CPUP Villa Florida 143.10 265 PKIKP PKPdf 08 20 01.6 -0.4

CPUP pmax pmax
comp=Z,1.0nm,0.6s

TRQA Tornquist 148.15 245 *e*PKPbc PKPbc 08 20 14.4 +0.5

LPAZ La Paz 148.71 288 PKP PKPdf 08 20 12.9 +1.4
comp=Z,4.1nm,0.9s,baz=40,slow=4.3,SNR=8.8

LPAZ PKPbc PKPbc 08 20 16.5 +1.2
comp=Z,4.1nm,0.9s,baz=35,slow=3.0,SNR=14

LPAZ La Paz 148.71 288 *e*PKPdf PKPdf 08 20 13.2 +1.7

LPAZ *e*PKPbc PKPbc 08 20 16.4 +1.1

IDC ***05*** *08:04:16.2≙0.6,2724S×71.18W,h0km,mb4.4/14, mb1 4.5/15,mb1mx4.4/19,mbtmp4.4/15,ML4.2/1,MS4.2/4, Ms1 4.2/4,ms1mx3.6/24,Error ellipse: s-maj=23.8km s-min=16.6km az=74.0*

NEIC ***05*** *08:04:19.3,2727S×71.17W,h30km,mb4.7/20, ML4.9(GUC),After GUC.*

NEIC Felt [IV] at Copiapo and [II] at Caldera.

ISCJB ***05*** *08:04:19.1≙0.2,2727S≙002×7117W≙004,h32km, mb4.5/31,MS4.4/5,Error ellipse: s-maj=5.5km s-min=3.1km az=173.5*

GUC ***05*** *08:04:19.3≙1.0,2727S×71.17W,h30km≙8km,ML4.9*

BJI ***05*** *08:04:19.3,2730S×7120W,h29km,mB5.1,Ms5.0,Msz4.8*

MOS ***05*** *08:04:19.7≙1.6,2719S×7090W,h33km,mb5.0/9,Error ellipse: s-maj=17.8km s-min=9.3km az=91.9*

ISC 05 08:04:21.2≙0.2,2726S≙002×7105W≙005,h34km, h34km≙.4km:pP-P,n133,σ1s08/111,mb4.5/31,MS4.4/5, 2C-6D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.27**	**47⇓**	*i*P		**Pb**		**08 04 26.9**	**-1.7**
CDCH				*i* S		**Sb**		**08 04 33.3**	**-0.2**
CPCH	**Copiapo**	**0.62**	**99⇓**	*i*P		**Pn**		**08 04 32.5**	**-1.1**
CPCH				*i* S		**Sb**		**08 04 43.3**	**+0.9**
CPCH					AML	AML		08 04 46.5	
	comp=E,65μm,0.1s								
CPCH	**Copiapo**	**0.62**	**99⇓**	*i*P		**Pn**		**08 04 32.5**	**-1.1**
CPCH				*i* S		**Sb**		**08 04 43.3**	**+0.9**
CRCH	**Chaqaral**	**0.98**	**23**	*e*P		**Pn**		**08 04 37.5**	**-1.1**
CRCH				*i* S		**Sn**		**08 04 52.0**	**+0.7**
VACH	**Vallenar**	**1.34**	**169**	*e*P		**Pn**		**08 04 42.7**	**-0.8**
VACH				*i* S		**Sn**		**08 05 01.0**	**+0.9**
LSCH	**La Serena**	**2.65**	**184**	*e*P		**Pn**		**08 04 59.8**	**-1.7**
LSCH				*i* S		**Sn**		**08 05 30.9**	**-1.5**
LSCH					AML	AML		08 05 52.2	
	comp=E,3μm,0.5s								
LSCH	**La Serena**	**2.65**	**184**	P		**Pn**		**08 04 59.8**	**-1.7**
LSCH				S		**Sn**		**08 05 30.9**	**-1.5**
TLL	**Tololo Astrono**	**2.91**	**176**	*e*P		**Pn**		**08 05 04.8**	**-0.3**
TLL				*i* S		**Sn**		**08 05 39.4**	**+0.6**
TLL					AML	AML		08 05 54.9	
	comp=E,8μm,0.4s								
TLL	**Tololo Astrono**	**2.91**	**176**	P		**Pn**		**08 05 04.8**	**-0.3**
TLL				S		**Sn**		**08 05 39.4**	**+0.6**
OVCH	**Ovalle**	**3.34**	**182**	*e*P		**Pn**		**08 05 08.3**	**-2.7**
OVCH				*i* S		**Sn**		**08 05 45.6**	**-3.9**
OVCH					AML	AML		08 06 08.7	
	comp=N,4μm,0.4s								
OVCH	**Ovalle**	**3.34**	**182**	P		**Pn**		**08 05 08.3**	**-2.7**
OVCH				S		**Sn**		**08 05 45.6**	**-3.9**
ANCH	**Antofagasta**	**3.61**	**9**	*e*P		**Pn**		**08 05 14.8**	**+0.2**
CMCH	**Combarbala**	**3.90**	**179**	*e*P		**Pn**		**08 05 16.5**	**-2.2**
CHNG	**Los Chungos**	**4.63**	**185**	*e*P		**Pn**		**08 05 27.3**	**-1.4**
CFAA	**Coronel Fontan**	**4.98**	**151**	Pn		**Pn**		**08 05 36.3**	**+2.8**
	comp=N,1.5nm,0.3s,baz=329,slow=13,SNR=60								
CFAA					Sn	**Sn**		**08 06 34.9**	**+5.1**
	comp=N,1.8nm,0.3s,baz=297,slow=23,SNR=3.1								
CFAA					Lg			08 06 51.0	
	comp=N,7.3nm,0.3s,baz=241,slow=22,SNR=8.5								
CFAA	**Coronel Fontan**	**4.98**	**151**	Pn		**Pn**		**08 05 36.3**	**+2.8**
CFAA					Sn	**Sn**		**08 06 34.9**	**+5.1**
CFAA					Lg			08 06 51.0	
PEL	**Peldehue**	**5.88**	**177**	*e*P		**Pn**		**08 05 45.2**	**-0.7**
FCH	**Farellones**	**6.09**	**174**	*e*P		**Pn**		**08 05 49.0**	**+0.3**
CLCH	**Cerro Calan**	**6.13**	**176**	*e*P		**Pn**		**08 05 49.6**	**+0.3**
CHCH	**Chadas Angostu**	**6.66**	**177**	*e*P		**Pn**		**08 05 56.6**	**0.0**
CACH	**El Canelo**	**6.85**	**177**	*e*P		**Pn**		**08 05 60.0**	**+0.8**
LPAZ	**La Paz**	**11.25**	**15**	Pn		**Pn**		**08 06 58.4**	**-1.1**
	comp=N,0.8nm,0.3s,baz=198,slow=7.1,SNR=51								
LPAZ	**La Paz**	**11.25**	**15**	*e*P		**Pn**		**08 06 57.7**	**-1.8**
LPAZ					pmax	pmax			
	comp=Z,11nm,0.7s								
LPAZ	**La Paz**	**11.25**	**15**	*e*Pn		**Pn**		**08 06 57.7**	**-1.8**
	comp=Z,11nm,0.7s								
LPAZ				*e*Sn		**Sn**		**08 09 21.1**	**+17**
CPUP	**Villa Florida**	**12.29**	**89**	Pn		**Pn**		**08 07 18.6**	**+4.8**
	comp=Z,0.4nm,0.3s,baz=245,slow=12,SNR=11								
CPUP					LR	LR		08 11 56.7	
	comp=Z,543nm,20.1s,baz=279,slow=37								
CPUP	**Villa Florida**	**12.29**	**89**	*e*P		**Pn**		**08 07 11.1**	**-2.6**
CPUP					pmax	pmax			
	comp=Z,62nm,1.0s								
CPUP	**Villa Florida**	**12.29**	**89**	*e*Pn		**Pn**		**08 07 11.1**	**-2.6**
	comp=Z,62nm,1.0s								
CPUP					LR	LR		08 11 56.6	
TRQA	**Tornquist**	**13.19**	**147**	*e*Pn		**Pn**		**08 07 25.9**	**-0.2**
	comp=Z,36nm,1.0s								
PLCA	**Paso Flores**	**13.45**	**178**	P		**Pn**		**08 07 31.4**	**+1.8**
PLCA					pmax	pmax			
	comp=Z,44nm,1.8s								
PLCA	**Paso Flores**	**13.45**	**178**	Pn		**Pn**		**08 07 31.4**	**+1.9**
	comp=Z,44nm,1.8s								
SIV	**San Ignacio**	**14.54**	**42**	Pn		**Pn**		**08 07 40.7**	**-3.7**
	comp=Z,0.7nm,0.3s,baz=247,slow=7.6,SNR=33								
NNA	**Nana**	**16.14**	**339**	*e*Pn		**Pn**		**08 08 05.2**	**-0.1**
	comp=Z,22nm,1.3s								
SAML	**Samuel**	**19.67**	**24**	*e*P		**Pn**		**08 08 47.8**	**-1.0**
	comp=Z,7.7nm,0.6s								
BDFB	**Brasilia**	**24.31**	**66**	P		**P**		**08 09 35.4**	**0.0**
	comp=Z,18nm,0.8s,mb4.5,baz=241,slow=11,SNR=22								
BDFB					LR	LR		08 18 27.8	

comp=Z,601nm,21.8s,MS4.0,baz=161,slow=35
BAO Brasilia Array 24.33 66 P **P** 08 09 36.5 +0.8
USHA Ushuaia 27.62 177 P **P** 08 10 10.7 +5.3
comp=Z,14nm,1.0s,mb4.5,baz=80,slow=5.7,SNR=3.2
RPN Rapa Nui 33.97 261 LR LR 08 20 44.0
comp=Z,602nm,20.5s,MS4.3,baz=153,slow=29
SDV Santo Domingo 35.93 1 P **P** 08 11 17.9 -0.4
comp=Z,4.7nm,0.8s,mb4.5,baz=255,slow=10,SNR=3.6
VNA3 Neumayer Olymp 55.32 160 ⇓*i* Pdiff **P** 08 13 51.9 +0.4
VNA3 *e* 08 13 56.9
VNA3 *e* pP 08 14 01.8 +0.2
VNA3 *e* 08 14 06.3
VNA3 *e* 08 14 12.5
VNA3 *e* 08 14 21.4
VNA3 *e* 08 14 35.3
VNA3 *e* 08 14 45.9
VNA1 Neumayer--Stat 55.58 159 ⇓*i* Pdiff **P** 08 13 54.1 +0.7
VNA1 *e* 08 13 58.7
VNA1 *e* pP 08 14 04.0 +0.5
VNA1 *e* 08 14 08.6
VNA1 *e* 08 14 14.2
VNA1 *e* 08 14 21.7
VNA2 Neumayer--Watz 55.94 159 *e*Pdiff **P** 08 13 56.2 +0.3
VNA2 *e* 08 14 01.2
VNA2 *e* pP 08 14 05.7 -0.4
VNA2 *e* 08 14 09.6
VNA2 *e* 08 14 11.8
VNA2 *e* 08 14 15.8
VNA2 *e* 08 14 23.9
VNA2 *e* 08 14 39.7
VNA2 *e* 08 14 49.2
SNAA Sanae 57.54 160 P **P** 08 14 07.1 -0.1
comp=Z,3.1nm,0.8s,mb4.4,baz=289,slow=7.2,SNR=37
SNAA Sanae 57.54 160 ⇓*i* Pdiff **P** 08 14 07.2 -0.1
SNAA *e* 08 14 11.0
SNAA *e* pP 08 14 17.4 -0.1
SNAA *e* 08 14 21.5
SNAA *e* 08 14 31.9
SNAA Sanae 57.54 160 *e*P **P** 08 14 06.9 -0.4
SNAA Sanae 57.54 160 *e*P **P** 08 14 07.0 -0.3
comp=Z,18nm,1.0s,mb5.0
NATX Nacogdoches 62.86 337 *e*P **P** 08 14 45.1 +1.4
QSPA South Pole Qui 62.96 180 *e*P **P** 08 14 44.7 +0.4
comp=Z,12nm,1.1s,mb4.9
CPCT Cooper Cave 63.65 348 *e*P **P** 08 14 48.3 -0.6
CPCT *e*pP pP 08 14 58.4 -0.9
CPCT *e*PP PP 08 17 12.4 +3.3
SWET Sewanee 63.71 346 *e*P **P** 08 14 48.8 -0.5
SWET *e*pP pP 08 14 58.6 -1.1
SWET *e*PP PP 08 17 11.8 +2.2
OXF Oxford 63.85 343 *e*P **P** 08 14 49.7 -0.5
OXF *e**PP pP 08 14 59.7 -0.8
OXF pmax pmax
comp=Z,15nm,1.0s,mb5.0
OXF Oxford 63.85 343 *e*P **P** 08 14 49.6 -0.6
comp=Z,15nm,1.0s,mb5.0
OXF *e*pP pP 08 14 59.7 -0.8
PLAL Pickwick Lake 63.96 344 *e*P **P** 08 14 49.1 -1.9
comp=Z,5.4nm,0.9s,mb4.6
PLAL *e*PP PP 08 17 13.9 +2.1
LTX Lajitas 64.36 329 *e*P **P** 08 14 54.6 +1.0
LTX *e**PP pP 08 15 03.9 0.0
WVT Waverly 65.00 345 *e*P **P** 08 14 56.4 -1.4
WVT *e**PP pP 08 15 06.9 -1.2
WVT pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
WVT Waverly 65.00 345 *e*P **P** 08 14 56.4 -1.4
comp=Z,4.9nm,0.9s,mb4.5
WVT *e*pP pP 08 15 06.9 -1.2
MNTX Cornudas Mount 67.14 329 *e*P **P** 08 15 11.2 -0.4
comp=Z,6.0nm,0.9s,mb4.6
MNTX *e*pP pP 08 15 21.0 -1.0
MNTX *e*PP PP 08 17 44.4 +4.8
FVM French Village 67.39 343 *e*P **P** 08 15 12.6 -0.5
FVM pmax pmax
comp=Z,39nm,1.4s,mb5.2
FVM French Village 67.39 343 *e*P **P** 08 15 12.6 -0.5
FVM pmax pmax
comp=Z,39nm,1.4s,mb5.2
FVM French Village 67.39 343 *e*P **P** 08 15 12.6 -0.5
comp=Z,39nm,1.4s,mb5.2
ACSO Alum Creek Sta 68.05 350 *e*P **P** 08 15 16.1 -1.2
comp=Z,7.5nm,1.0s,mb4.7
KSU1 Kansas State U 70.20 339 *e*P **P** 08 15 30.1 -0.4
ANMO Albuquerque 70.35 330 P **P** 08 15 30.5 -1.0
comp=Z,0.3nm,0.3s,mb3.6,baz=76,slow=8.3,SNR=2.0
ANMO Albuquerque 70.35 330 P **P** 08 15 30.5 -1.0
VNDA Vanda 70.86 191 P **P** 08 15 35.0 +0.4
comp=Z,0.5nm,0.7s,mb3.6,baz=132,slow=4.9,SNR=3.1
VNDA Vanda 70.86 191 P **P** 08 15 35.0 +0.3
FRNY Flat Rock 71.78 358 *e*P **P** 08 15 40.8 +0.6
SYO Syowa Base 71.83 159 ⇑*e*P **P** 08 15 40.0 -0.4
DBIC Dimbokro 72.28 73 P **P** 08 15 44.7 +1.6
comp=Z,10.0nm,0.8s,mb4.8,baz=229,slow=4.7,SNR=8.8
DBIC LR LR 08 45 27.5
comp=Z,293nm,19.7s,MS4.6,baz=251,slow=34
DBIC Dimbokro 72.28 73 P **P** 08 15 42.3 -0.8
WUAZ Wupatki 73.13 327 *e*P **P** 08 15 49.9 +1.6
comp=Z,10nm,1.1s,mb4.7
PV01 Paradox Valley 73.94 330 *e*P **P** 08 15 54.1 +1.1
SMCO Snowmass 74.12 332 *e*P **P** 08 15 55.9 +1.9
comp=Z,4.9nm,0.8s,mb4.5
NEN Nelson 74.99 324 *e*P **P** 08 15 59.9 +0.8
SRU San Rafael 75.62 329 *e*P **P** 08 16 03.7 +1.0
SRU pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
SRU San Rafael 75.62 329 *e*P **P** 08 16 03.7 +1.0
comp=Z,3.3nm,0.7s,mb4.4
MSU Marysvale 75.90 328 *e*P **P** 08 16 05.8 +1.5
MVU Marysvale 75.91 328 *e*P **P** 08 16 03.9 -0.5
comp=Z,6.7nm,1.1s,mb4.5
ARUT Antelope Range 75.94 327 *e*P **P** 08 16 03.6 -0.9
ARUT *e*PP PP 08 18 39.7 -15
RSSD Black Hills 77.19 336 *e*P **P** 08 16 12.4 +0.8
RSSD pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
RSSD Black Hills 77.19 336 *e*P **P** 08 16 12.4 +0.9
comp=Z,2.8nm,0.6s,mb4.4
SUR Sutherland 77.39 120 P **P** 08 16 14.6 +1.9
comp=Z,3.0nm,0.6s,mb4.4,baz=284,slow=8.3,SNR=4.4
DUG Dugway 77.54 328 *e*P **P** 08 16 14.0 +0.5
DUG pmax pmax
comp=Z,16nm,1.5s,mb4.7
DUG Dugway 77.54 328 *e*P **P** 08 16 14.0 +0.4
comp=Z,16nm,1.5s,mb4.7
HWUT Hardware Ranch 78.10 330 *e*P **P** 08 16 16.9 +0.3
comp=Z,4.3nm,0.6s,mb4.6
PDAR Pinedale Array 78.18 332 P **P** 08 16 17.5 +0.4
comp=Z,3.2nm,1.2s,mb4.1,baz=123,slow=5.5,SNR=7.1
NVAR Mina Array Bea 78.90 324 P **P** 08 16 22.3 +1.3
comp=Z,3.0nm,0.4s,mb3.5,baz=142,slow=4.5,SNR=2.7
MAW Mawson 79.39 164 P **P** 08 16 24.1 +0.3
comp=Z,6.8nm,0.8s,mb4.7,baz=188,slow=7.0,SNR=12
MAW Mawson 79.39 164 *e*P **P** 08 16 24.0 +0.3
MAW pmax pmax
comp=Z,9.0nm,0.9s
MAW Mawson 79.39 164 *e*P **P** 08 16 24.0 +0.2
comp=Z,8.8nm,0.9s,mb4.7
FLWY Flagg Ranch 79.74 332 *e*P **P** 08 16 26.9 +1.3
comp=Z,4.7nm,1.1s,mb4.3
ULM Lac du Bonnet 80.25 344 P **P** 08 16 27.6 -0.7
comp=Z,2.6nm,0.6s,mb4.3,baz=146,slow=3.7,SNR=5.4
TSUM Tsumeb 80.27 107 P **P** 08 16 30.5 +2.0
comp=Z,7.8nm,0.8s,mb4.7,baz=240,slow=5.5,SNR=9.8
GCMT Greycliff 80.72 334 *e*P **P** 08 16 31.6 +0.7
GCMT *e*pP pP 08 16 41.3 -0.2
TORD Torodi Ar. Bea 81.12 70 P **P** 08 16 34.3 +1.2
comp=Z,17nm,0.8s,mb5.0,baz=254,slow=5.1,SNR=73
LBTB Lobatse 84.37 115 *e*P **P** 08 16 49.9 0.0
LBTB pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
LBTB Lobatse 84.37 115 *e*P **P** 08 16 49.9 0.0
comp=Z,9.1nm,0.7s,mb5.0
EDM Edmonton 88.17 336 *e*P **P** 08 17 07.1 -1.5
EDM *e**PP pP 08 17 17.0 -2.3
YKA Yellowknife Ar 95.97 341 P **P** 08 17 43.6 -1.1
comp=Z,0.7nm,1.0s,mb4.0,baz=139,slow=4.9,SNR=9.6
OBN Obninsk 121.84 40 ⇑*i* PKIKP PKPdf 08 23 11.8 +0.1
OBN *e* 08 23 23.6
OBN *e* 08 27 27.3
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.5
KLMR Klimovskoe 123.39 33 *i* PKIKP PKPdf 08 23 14.7 0.0
KLMR pmax pmax
comp=Z,10.0nm,1.3s
ASAR Alice Springs 123.93 208 PKP PKPdf 08 23 15.8 0.0
comp=Z,0.8nm,0.8s,baz=132,slow=1.5,SNR=8.3
KIV Kislovodsk 125.02 54 *i* PKIKP PKPdf 08 23 17.4 -0.4
WRA Warramunga Arr 127.03 210 PKP PKPdf 08 23 21.5 -0.2
comp=Z,2.1nm,0.9s,baz=153,slow=1.6,SNR=21
ARU Arti 133.95 36 *i* PKIKP PKPdf 08 23 34.7 -0.1
ARU *e* 08 26 00.8
ARU *e*SS SS 08 43 47.0 -3.4
AKTK Aktyubinsk 135.15 45 PKP PKPdf 08 23 36.4 -0.6
AKTO Aktyubinsk 135.15 45 PKP PKPdf 08 23 36.4 -0.6
comp=Z,1.5nm,0.8s,baz=21,slow=1.5,SNR=4.3
ZRNK Zerenda 140.86 38 *e*PKIKP PKPdf 08 23 48.8 +1.3
BVAR Borovoye Array 141.58 37 PKP PKPdf 08 23 48.0 -0.8
comp=Z,0.5nm,0.3s,baz=299,slow=3.1,SNR=6.7
NVS Novosibirsk 146.67 27 *e*PKP2 PKPab 08 23 57.5 -3.0
NVS pmax pmax
comp=Z,29nm,1.1s
NVS pmax pmax
comp=N,2.0nm,0.7s
NVS pmax pmax
comp=E,11nm,1.1s
KURK Kurchatov 147.15 36 *i* PKP2 PKPab 08 23 58.9 -3.5
KURK Kurchatov 147.15 36 *e*PKPdf PKPdf 08 23 59.5 +1.0
AML Almayashu 147.69 53 P PKPbc 08 24 04.6 +2.4
SNR=8.2
USP Ospenovka 147.92 51 P PKPbc 08 24 04.6 +1.8
SNR=5.2
ZAL Zalesovo 147.96 27 PKPbc PKPbc 08 24 03.5 +0.6
comp=E,18nm,0.7s,baz=182,slow=3.0,SNR=27
AAK Ala-Archa 148.11 52 P PKPbc 08 24 05.7 +2.4
SNR=9.6
AAK Ala-Archa 148.11 52 *e*PKPdf PKPdf 08 24 01.3 +1.3
AAK *e*PKPbc PKPbc 08 24 04.6 +1.3
FRU Bishkek 148.14 52 *e*P PKPdf 08 24 04.5 +4.4
FRU pmax pmax
comp=Z,67nm,0.8s
UCH Uchtor 148.25 53 P PKPbc 08 24 06.4 +2.7
SNR=27
KBK Karagaybulak 148.43 52 P PKPbc 08 24 06.3 +2.2
SNR=8.0
TKM2 Tokmak 2 148.79 51 P PKPbc 08 24 07.0 +1.9
SNR=8.9
KZA Kyzart 148.81 53 P PKPbc 08 24 07.7 +2.6
SNR=6.1
BOD Bodaibo 149.25 355 *e*P PKPdf 08 24 04.5 +2.6
ULHL Ulahol 149.46 52 P PKPbc 08 24 09.1 +2.3
SNR=6.1
MKAR Makanchi Array 151.35 40 PKPbc PKPbc 08 24 11.9 +0.7
comp=Z,16nm,0.7s,baz=322,slow=2.3,SNR=125
MKAR PKPab PKPab 08 24 21.4 +2.0
comp=Z,8.5nm,0.7s,baz=311,slow=1.8,SNR=14
MDJ Mudanjiang 156.04 322 PKP PKPdf 08 24 11.5 -0.4
MDJ PP PP
comp=Z,175nm,6.7s
WMQ Urumqi 156.18 41 PKP PKPdf 08 24 10.2 -1.9
WMQ APKP 08 24 20.7
WMQ XPKP 08 24 25.0
WMQ PKP2 PKPab 08 24 39.9 0.0
WMQ PP PP 08 28 18.5 +1.2
WMQ PP PP
comp=Z,121nm,9.5s
WMQ LR LR
comp=N,38nm,24.3s,MS4.5
WMQ LR LR
comp=E,90nm,27.5s,MS4.5
WMQ LR LR
comp=Z,112nm,21.6s
CN2 Changchun 158.79 325 *e*PKP PKPdf 08 24 15.1 -0.2
SONM Songino Array 159.36 5 PKP PKPdf 08 24 17.0 +1.0
comp=Z,1.2nm,0.9s,baz=338,slow=1.6,SNR=7.2
SONM PKPab PKPab 08 24 54.4 +0.7
comp=Z,0.5nm,0.9s,baz=344,slow=4.7,SNR=2.9
SONM PP PP 08 28 36.4 +1.6
comp=Z,0.7nm,1.0s,baz=288,slow=0.9,SNR=3.9
HHC Hu-ho-hao-te 166.27 352 *e*PKP PKPdf 08 24 22.3 -0.4
HHC APKP 08 24 33.9
HHC XPKP 08 24 38.3
HHC PKP2 PKPab 08 25 25.1 +1.1
HHC PKS 08 27 53.5
HHC PP PP 08 29 12.6 +1.2
HHC SKS SKSdf 08 31 20.5 -3.7
HHC SKKS SKKSac 08 35 55.1 -1.4
HHC PP PP
comp=Z,141nm,10.3s
HHC LR LR
comp=N,94nm,19.7s
HHC LR LR
comp=E,241nm,23.8s
HHC LR LR
comp=Z,123nm,26.2s
NJ2 Nanjing 170.15 301 *e*PKP PKPdf 08 24 25.4 0.0
NJ2 APKP 08 24 36.2
NJ2 XPKP 08 24 39.4
NJ2 PKP2 PKPab 08 25 43.9 +2.8
NJ2 PKS 08 27 57.0
NJ2 PP PP 08 29 35.0 +3.8
NJ2 PP PP
comp=Z,170nm,5.9s
NJ2 LR LR
comp=N,730nm,20.0s
NJ2 LR LR
comp=E,400nm,24.4s
NJ2 LR LR
comp=Z,320nm,22.1s
LZH Lanzhou 170.18 25 *e*PKP PKPdf 08 24 24.6 -0.8
LZH APKP 08 24 34.8
LZH LR LR
comp=E,147nm,18.5s
LZH LR LR
comp=Z,254nm,20.3s
KMI Kunming 174.03 109 PKP PKPdf 08 24 27.0 -0.1
CD2 Chengdu 174.18 50 *e*PKP PKPdf 08 24 24.7 -2.5

IDC 05 08:04:24.5±1.5, 164N×12727E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.6/16, mbtmp3.6/4, Error ellipse: s-maj=147.0km s-min=20.9km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.54**	**162**	P	P		08 09 24.6	-1.4
	0.8nm,0.7s,baz=340,slow=10,SNR=11							
ASAR	**Alice Springs**	**25.97**	**166**	P	P		08 10 00.2	+1.6
	0.2nm,0.6s,baz=350,slow=8.5,SNR=3.2							
SONM	**Songino Array**	**49.44**	**342**	P	P		08 13 15.6	-0.6
	0.5nm,0.6s,baz=154,slow=8.9,SNR=4.4							
MKAR	**Makanchi Array**	**59.57**	**326**	P	P		08 14 30.4	+0.6
	1.6nm,0.5s,baz=118,slow=8.0,SNR=16							

IDC 05 08:04:51.9±1.7, 4999N×8486E, h0km, mb3.3/1, mb1 3.7/3, mb1mx3.4/22, mbtmp3.4/3, ML3.3/2, MS3.2/1, Ms1 3.2/1, ms1mx3.1/13, Error ellipse: s-maj=59.3km s-min=8.8km az=104.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**3.63**	**209**	Pn	Pn		08 05 50.8	+1.5
	1.7nm,0.3s,baz=25,slow=13,SNR=15							
MKAR				Sn	Sn		08 06 33.5	+0.6
	7.2nm,0.3s,baz=28,slow=25,SNR=6.8							
MKAR				Lg			08 06 39.5	
	18nm,0.3s,baz=27,slow=31,SNR=18							
ZAL	**Zalesovo**	**3.95**	**359**	Pn	Pn		08 05 55.6	+1.8
	6.2nm,0.3s,baz=275,slow=12,SNR=15							
ZAL				Sn	Sn		08 06 41.9	+1.0
	8.4nm,0.3s,baz=271,slow=16,SNR=9.5							
ZAL				Lg			08 06 58.0	
	22nm,0.3s,baz=198,slow=20,SNR=10							
ZAL				LR	LR		08 07 34.3	
	comp=Z,305nm,18.8s,baz=101,slow=41							
ZAL	**Zalesovo**	**3.95**	**359**	P	Pn		08 05 55.6	+1.8
ZAL							08 06 41.9	
ZAL				pmax	pmax			
	comp=Z,6.0nm,0.3s							
BVAR	**Borovoye Array**	**9.52**	**294**	Sn	Sn		08 08 49.3	-8.7
	comp=Z,1.9nm,0.3s,baz=100,slow=24,SNR=13							
YKA	**Yellowknife Ar**	**66.80**	**10**	P	P		08 15 44.4	-0.9
	comp=Z,0.2nm,0.5s,baz=345,slow=6.6,SNR=6.2							

*IDC **05** 08:06:40.6±0.7, 2724S×7107W, h0km, mb4.5/11, mb1 4.5/12, mb1mx4.4/17, mbtmp4.5/12, ML4.2/1, Error ellipse: s-maj=27.8km s-min=18.8km az=64.0*

*NEIC **05** 08:06:41.0, 2729S×71.19W, h2km, mb4.6/8, ML4.8(GUC), After GUC.*
NEIC Felt [IV] at Copiapo and [III] at Caldera.
*GUC **05** 08:06:41.5±0.9, 2729S×7120W, h2km±4km, ML4.8*
*ISCJB **05** 08:06:43.3±1.2, 27.18S±0.003×71.14W±0.10, h29km±7km, mb4.5/18, Error ellipse: s-maj=14.4km s-min=5.2km az=159.7*
*MOS **05** 08:06:44.2±1.4, 27.12S×7103W, h33km, mb4.8/4, Error ellipse: s-maj=29.8km s-min=13.6km az=90.9*

ISC 05 08:06:42.3±1.5, 2723S±003×7123W±008, h11km±9km, n64, σ1°07/56, mb4.5/18, 8C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.38**	**67**	⇓*i* P	**Pg**		**08 06 49.2**	**-0.8**
CDCH				*i* S	**Sg**		**08 06 55.7**	**+0.6**
CPCH	**Copiapo**	**0.79**	**100**	*e*P	**Pg**		**08 06 57.0**	**-0.5**
CPCH				*i* S	**Sg**		**08 07 08.5**	**+0.7**
CPCH				AMP			08 07 11.4	
	comp=E,103μm,0.2s							
CPCH	**Copiapo**	**0.79**	**100**	*e*P	**Pg**		**08 06 57.0**	**-0.5**
CPCH				*i* S	**Sg**		**08 07 08.5**	**+0.7**
CRCH	**Chaqaral**	**1.03**	**32**	*e*P	**Pb**		**08 07 01.9**	**-0.2**
CRCH				*i* S	**Sb**		**08 07 16.9**	**+1.3**
CRCH				AMP			08 07 22.5	
	comp=N,18μm,0.3s							
CRCH	**Chaqaral**	**1.03**	**32**	*e*P	**Pb**		**08 07 01.9**	**-0.2**
CRCH				*i* S	**Sb**		**08 07 16.9**	**+1.3**
VACH	**Vallenar**	**1.41**	**163**	*e*P	**Pn**		**08 07 08.0**	**+0.2**
VACH				*i* S	**Sn**		**08 07 25.0**	**-1.3**
LCO	**Las Campanas**	**1.84**	**166**	⇑*i* P	**Pn**		**08 07 13.4**	**-0.3**
LCO				*i* S	**Sn**		**08 07 37.3**	**+0.3**
TLL	**Tololo Astrono**	**2.95**	**173**	*e*P	**Pn**		**08 07 30.7**	**+1.6**
TLL				AML	AML		08 08 22.6	
	comp=E,5μm,0.7s							
CFAA	**Coronel Fontan**	**5.08**	**150**	Pn	**Pn**		**08 08 00.1**	**+1.7**
	baz=349,slow=9.3,SNR=1.9							
CFAA				Sn	**Sn**		**08 08 58.3**	**+1.3**
	comp=E,1.0nm,0.3s,baz=270,slow=20,SNR=2.6							
LPAZ	**La Paz**	**11.26**	**15**	Pn	**Pn**		**08 09 22.3**	**-0.8**
	comp=E,0.7nm,0.3s,baz=190,slow=5.7,SNR=6.6							
LPAZ	**La Paz**	**11.26**	**15**	Pn	**Pn**		**08 09 22.3**	**-0.8**
TRQA	**Tornquist**	**13.30**	**147**	*e*Pn	**Pn**		**08 09 48.4**	**-2.6**
	comp=E,34nm,1.0s							
SIV	**San Ignacio**	**14.62**	**42**	Pn	**Pn**		**08 10 04.9**	**-4.1**
	comp=E,0.8nm,0.3s,baz=233,slow=12,SNR=6.7							
SAML	**Samuel**	**19.71**	**24**	*e*P	**Pn**		**08 11 12.0**	**-1.0**
	comp=E,6.9nm,0.6s							
BDFB	**Brasilia**	**24.44**	**67**	P	**P**		**08 11 59.7**	**-1.2**
	comp=E,16nm,0.7s,mb4.5,baz=249,slow=7.6,SNR=8.9							
BAO	**Brasilia Array**	**24.46**	**67**	P	**P**		**08 11 59.5**	**-1.6**
SDV	**Santo Domingo**	**35.90**	**1**	P	**P**		**08 13 42.7**	**+0.3**
	comp=E,4.0nm,0.9s,mb4.3,baz=225,slow=7.1,SNR=2.8							
VNA3	**Neumayer Olymp**	**55.40**	**160**	⇑*i* Pdiff	**P**		**08 16 15.7**	**-0.8**
VNA3	**Neumayer Olymp**	**55.40**	**160**	⇑*i* Pdiff	**P**		**08 16 15.7**	**-0.8**
VNA3				*e*			08 16 24.7	
VNA3				*e*			08 16 33.8	
VNA3				*e*			08 19 19.2	
VNA1	**Neumayer--Stat**	**55.67**	**159**	⇑*i* Pdiff	**P**		**08 16 19.0**	**+0.6**
VNA1	**Neumayer--Stat**	**55.67**	**159**	⇑*i* Pdiff	**P**		**08 16 19.0**	**+0.6**
VNA1				*e*			08 16 28.6	
VNA2	**Neumayer--Watz**	**56.02**	**159**	⇑*i* Pdiff	**P**		**08 16 20.1**	**-0.8**
VNA2	**Neumayer--Watz**	**56.02**	**159**	⇑*i* Pdiff	**P**		**08 16 20.1**	**-0.8**
VNA2				*e*			08 16 29.9	
VNA2				*e*			08 16 38.4	
VNA2				*e*			08 19 17.6	
SNAA	**Sanae**	**57.62**	**160**	P	**P**		**08 16 31.2**	**-1.1**
	comp=E,2.5nm,0.9s,mb4.2,baz=306,slow=6.1,SNR=5.8							
SNAA	**Sanae**	**57.62**	**160**	⇑*i* Pdiff	**P**		**08 16 31.1**	**-1.2**
SNAA				*e*			08 16 40.1	
SNAA				*e*			08 16 49.3	
SNAA	**Sanae**	**57.62**	**160**	*e*P	**P**		**08 16 31.0**	**-1.3**
OXF	**Oxford**	**63.77**	**343**	*e*P	**P**		**08 17 13.7**	**-0.5**
OXF				pmax	pmax			
	comp=Z,19nm,1.1s,mb5.0							
OXF	**Oxford**	**63.77**	**343**	*e*P	**P**		**08 17 13.7**	**-0.5**
	comp=Z,19nm,1.1s,mb5.0							
FVM	**French Village**	**67.32**	**344**	*e*P	**P**		**08 17 36.8**	**-0.4**
FVM				pmax	pmax			
	comp=Z,17nm,1.3s,mb4.9							
FVM	**French Village**	**67.32**	**344**	*e*P	**P**		**08 17 36.8**	**-0.3**
	comp=Z,17nm,1.3s,mb4.9							
ACSO	**Alum Creek Sta**	**68.00**	**350**	*e*P	**P**		**08 17 40.2**	**-1.2**
	comp=Z,7.8nm,1.0s,mb4.7							
DBIC	**Dimbokro**	**72.42**	**73**	P	**P**		**08 18 08.4**	**-0.1**
	comp=Z,11nm,0.9s,mb4.8,baz=240,slow=5.4,SNR=7.2							
SRU	**San Rafael**	**75.51**	**329**	*e*P	**P**		**08 18 27.8**	**+1.2**
SRU				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.2							
SRU	**San Rafael**	**75.51**	**329**	*e*P	**P**		**08 18 27.8**	**+1.1**
	comp=Z,2.3nm,0.7s,mb4.2							
DUG	**Dugway**	**77.43**	**329**	*e*P	**P**		**08 18 38.8**	**+1.3**
DUG				pmax	pmax			
	comp=Z,2.0nm,1.0s,mb4.0							
DUG	**Dugway**	**77.43**	**329**	*e*P	**P**		**08 18 38.8**	**+1.3**
	comp=Z,2.2nm,1.0s,mb4.0							
SUR	**Sutherland**	**77.54**	**120**	P	**P**		**08 18 39.0**	**+0.9**
	comp=Z,12nm,1.1s,mb4.7,baz=246,slow=10.0,SNR=3.0							
PDAR	**Pinedale Array**	**78.08**	**322**	P	**P**		**08 18 42.7**	**+1.6**
	comp=Z,0.3nm,0.5s,mb3.4,baz=152,slow=4.1,SNR=3.5							
NVAR	**Mina Array Bea**	**78.78**	**324**	P	**P**		**08 18 46.5**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=158,slow=7.5,SNR=2.1							
MAW	**Mawson**	**79.46**	**164**	P	**P**		**08 18 48.0**	**-0.7**
	comp=Z,7.0nm,0.9s,mb4.6,baz=238,slow=8.6,SNR=7.1							
ULM	**Lac du Bonnet**	**80.17**	**344**	P	**P**		**08 18 51.9**	**-0.7**
	comp=Z,1.4nm,0.5s,mb4.2,baz=189,slow=4.6,SNR=3.6							
YMR	**Madison River**	**80.23**	**332**	*e*P	**P**		**08 18 53.4**	**+0.6**
	comp=Z,18nm,1.2s,mb4.9							
TSUM	**Tsumeb**	**80.43**	**107**	P	**P**		**08 18 55.0**	**+1.1**
	comp=Z,8.8nm,1.1s,mb4.6,baz=241,slow=5.1,SNR=6.3							
GCMT	**Greycliff**	**80.63**	**334**	*e*P	**P**		**08 18 55.8**	**+0.8**
HLID	**Hailey**	**80.83**	**330**	*e*P	**P**		**08 18 57.5**	**+1.5**
	comp=Z,4.0nm,0.9s,mb4.3							
TORD	**Torodi Ar. Bea**	**81.26**	**70**	P	**P**		**08 18 58.4**	**0.0**
	comp=Z,18nm,0.8s,mb5.0,baz=254,slow=5.0,SNR=22							
EDM	**Edmonton**	**88.08**	**336**	*e*P	**P**		**08 19 31.1**	**-1.7**
YKA	**Yellowknife Ar**	**95.89**	**341**	P	**P**		**08 20 07.7**	**-1.3**
	comp=Z,0.6nm,1.0s,mb4.0,baz=140,slow=5.0,SNR=4.2							
WRA	**Warramunga Arr**	**126.97**	**211**	PKP	PKPdf		08 25 45.7	-0.6
	comp=Z,0.6nm,0.7s,baz=170,slow=1.7,SNR=4.6							
AKTO	**Aktyubinsk**	**135.24**	**45**	PKP	PKPdf		08 26 02.4	+0.5
	comp=Z,1.6nm,0.8s,baz=256,slow=4.2,SNR=5.4							
ZRNK	**Zerenda**	**140.94**	**38**	*e*PKIKP	PKPdf		08 26 13.0	+0.6
BVAR	**Borovoye Array**	**141.65**	**37**	PKP	PKPdf		08 26 12.6	-1.0
	comp=Z,1.3nm,0.8s,baz=270,slow=1.4,SNR=5.3							
NVS	**Novosibirsk**	**146.72**	**27**	*e*PKIKP	PKPdf		08 26 20.9	-1.6
NVS				pmax	pmax			
	comp=N,5.0nm,1.0s							
NVS				pmax	pmax			
	comp=E,7.0nm,1.0s							
NVS				pmax	pmax			
	comp=Z,22nm,1.0s							
KURK	**Kurchatov**	**147.22**	**36**	*e*PKP2	PKPab		08 26 23.9	-3.4
AML	**Almayashu**	**147.80**	**53**	P	PKPbc		08 26 28.8	+1.6
	SNR=6.7							
ZAL	**Zalesovo**	**148.00**	**27**	PKPbc	PKPbc		08 26 27.6	-0.1
	comp=Z,15nm,0.8s,baz=182,slow=3.3,SNR=19							
USP	**Ospenovka**	**148.03**	**51**	P	PKPbc		08 26 28.7	+1.0
	SNR=5.2							
AAK	**Ala-Archa**	**148.22**	**52**	P	PKPbc		08 26 29.5	+1.2
	SNR=9.4							
UCH	**Uchtor**	**148.35**	**53**	P	PKPbc		08 26 30.7	+2.1
	SNR=9.9							
KBK	**Karagaybulak**	**148.53**	**52**	P	PKPbc		08 26 30.4	+1.3
	SNR=6.5							
TKM2	**Tokmak 2**	**148.90**	**51**	P	PKPbc		08 26 31.2	+1.2
	SNR=7.9							
ULHL	**Ulahol**	**149.57**	**52**	P	PKPbc		08 26 33.4	+1.7
	SNR=5.9							
MKAR	**Makanchi Array**	**151.43**	**40**	PKPbc	PKPbc		08 26 35.9	-0.2
	comp=Z,14nm,0.8s,baz=315,slow=2.4,SNR=26							
SONM	**Songino Array**	**159.34**	**5**	PKP	PKPdf		08 26 40.7	0.0
	comp=Z,1.2nm,0.9s,baz=48,slow=2.2,SNR=5.9							

*IDC **05** 08:14:19.7±0.9, 3448N×7321E, h0km, mb3.8/10, mb1 3.9/13, mb1mx3.8/24, mbtmp3.8/13, ML3.9/3, Error ellipse: s-maj=24.6km s-min=19.9km az=50.0*
*NEIC **05** 08:14:21.0±1.0, 3439N×7315E, h10km, mb3.4/3, Error ellipse: s-maj=21.8km s-min=15.1km az=65.0*
*MOS **05** 08:14:21.7±1.2, 3447N×7309

mb3.5/9, Error ellipse: s-maj=8.8km s-min=5.2km az=88.5
*NDI **05** 08:14:26.5±3.9, 34°58'N×73°44'E, h10km, ML3.4, mb3.4(NEIC)*
*NNC **05** 08:14:30.4±8.0, 34°94'N×73°45'E, h65km±61km, mb3.1, mpv4.3, Error ellipse: s-maj=65.3km s-min=57.6km az=95.0*

ISC 05 08:14:25.2±0.5, 34°61'N±003'×73°26'E±005, h35km±8km, n49, σ1°27/58, mb3.5/9, 5C, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHCP	**Chirah Chowk**	**0.95**	**180**	P	**Pn**	**08 14 39.7**	**-2.3**
CEP	**Cherat**	**1.36**	**235**	⇑P	**Pn**	**08 14 46.3**	**-1.4**
CEP				S	**Sn**	**08 15 05.0**	**+0.5**
THW	**Thamme Wali**	**2.21**	**215**	P	**Pn**	**08 15 00.2**	**+0.9**
DLH	**Dalhousie**	**3.06**	**132**	*e*P	**Pn**	**08 15 13.0**	**+1.9**
DLH				*e*x	x	08 15 57.0	
PONG	**Pong**	**3.48**	**139**	*e*P	**Pn**	**08 15 20.0**	**+3.2**
PONG				*e*x	x	08 16 06.0	
BHK	**Bhakra**	**4.14**	**139**	*e*P	**Pn**	**08 15 26.9**	**+0.9**
SDNR	**Sundarnagar**	**4.40**	**134**	*e*P	**Pn**	**08 15 31.4**	**+2.0**
SDNR				*e*S	**Sn**	**08 16 21.0**	**+1.6**
SMLA	**Simla**	**4.78**	**135**	*e*P	**Pn**	**08 15 36.2**	**+1.5**
SMLA				*e*x	x	08 16 48.6	
	689nm,0.4s						
KLP	**Kalpa**	**5.19**	**125**	*e*P	**Pn**	**08 15 43.3**	**+2.9**
KLP				*e*S	**Sn**	**08 16 36.3**	**-2.7**
KLP				AML	AML	08 17 11.1	
	comp=E,267nm,0.5s						
KLP				AML	AML	08 17 19.4	
	comp=N,217nm,0.9s						
KHET	**Khetri**	**6.87**	**161**	*e*x	x	08 15 54.0	
KHET				*e*S	**Sn**	**08 17 17.0**	**-3.3**
KHET				AML	AML	08 18 09.3	
	comp=N,11nm,0.3s						
KHET				AML	AML	08 18 13.5	
	comp=E,14nm,0.8s						
AYAN	**Aya Nagar**	**6.94**	**151**	*e*P	**Pn**	**08 16 06.3**	**+1.9**
AYAN				*e*S	**Sn**	**08 17 21.2**	**-0.9**
AYAN				AML	AML	08 18 12.3	
	comp=Z,11nm,0.0s						
SONA	**Sohna**	**7.13**	**152**	*e*P	**Pn**	**08 16 14.9**	**+8.0**
SONA				*e*S	**Sn**	**08 17 28.1**	**+1.4**
SONA				AML	AML	08 18 20.4	
	comp=N,13nm,0.4s						
SONA				AML	AML	08 18 22.3	
	comp=E,24nm,0.3s						
AAK	**Ala-Archa**	**8.07**	**7**	*e*P	**Pn**	**08 16 25.1**	**+5.2**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AAK	**Ala-Archa**	**8.07**	**7**	*e*Pn	**Pn**	**08 16 25.1**	**+5.2**
	comp=Z,2.7nm,0.6s						
KK31	**Karatay Array**	**8.75**	**347**	⇑P	**Pn**	**08 16 30.6**	**+1.5**
	comp=Z,3.9nm,0.3s,baz=161,slow=12,SNR=194						
KK31				S	**Sn**	**08 18 05.1**	**-1.4**
	comp=Z,2.8nm,0.4s,baz=162,slow=22,SNR=9.1						
GKN	**Gorkha**	**11.75**	**121**	*e*Pn	**Pn**	**08 17 09.7**	**-0.5**
GKN				*e*Sn	**Sn**	**08 19 14.4**	**-5.6**
	comp=Z,24nm,0.4s						
DMN	**Daman**	**12.31**	**121**	*e*Pn	**Pn**	**08 17 16.5**	**-1.5**
DMN				*e*Sn	**Sn**	**08 19 28.0**	**-5.9**
	comp=Z,23nm,0.6s						
KKN	**Kakani**	**12.33**	**120**	*e*Pn	**Pn**	**08 17 16.9**	**-1.3**
PKI	**Pulchoki**	**12.55**	**121**	*e*Pn	**Pn**	**08 17 20.2**	**-1.0**
GUN	**Gumba**	**12.69**	**118**	*e*Pn	**Pn**	**08 17 21.1**	**-2.0**
JIRN	**Jiri**	**13.06**	**119**	*e*Pn	**Pn**	**08 17 25.7**	**-2.5**
JIRN				*e*Sn	**Sn**	**08 19 44.8**	**-7.3**
	comp=Z,16nm,0.5s						
MKAR	**Makanchi Array**	**13.96**	**27**	Pn	**Pn**	**08 17 41.5**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=209,slow=12,SNR=3.2						
AB31	**Akbulak array**	**17.63**	**330**	⇑P	**Pn**	**08 18 27.5**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=142,slow=13,SNR=34						
BVA0	**Borovoye Array**	**18.52**	**355**	P	**Pn**	**08 18 39.2**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=157,slow=11,SNR=14						
BVAR	**Borovoye Array**	**18.52**	**355**	P	**Pn**	**08 18 39.2**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=154,slow=9.0,SNR=14						
BRVK	**Borovoye**	**18.57**	**354**	*e*P	**Pn**	**08 18 39.7**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	**Borovoye**	**18.57**	**354**	*e*P	**Pn**	**08 18 39.7**	**+0.2**
	comp=Z,1.8nm,0.8s						
ZRNK	**Zerenda**	**18.59**	**352**	⇑P	**Pn**	**08 18 39.8**	**+0.1**
	comp=Z,3.4nm,0.9s						
ZRNK	**Zerenda**	**18.59**	**352**	*e*P	**Pn**	**08 18 39.7**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ZRNK	**Zerenda**	**18.59**	**352**	*e*P	**Pn**	**08 18 39.7**	**+0.1**
	comp=Z,7.6nm,1.1s						
CHKZ	**Chkalovo**	**19.16**	**355**	*e*P	**Pn**	**08 18 47.1**	**+0.6**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CHKZ	**Chkalovo**	**19.16**	**355**	*e*P	**Pn**	**08 18 47.0**	**+0.5**
	comp=Z,0.7nm,0.6s						
AKTK	**Aktyubinsk**	**19.34**	**329**	P	**Pn**	**08 18 48.2**	**-0.5**
AKTO	**Aktyubinsk**	**19.34**	**329**	⇑P	**Pn**	**08 18 47.6**	**-1.1**
	comp=Z,0.1nm,0.6s						
AKTO	**Aktyubinsk**	**19.34**	**329**	P	**Pn**	**08 18 48.2**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=131,slow=11,SNR=25						
AKTO	**Aktyubinsk**	**19.34**	**329**	P	**Pn**	**08 18 48.2**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	**Zalesovo**	**20.97**	**19**	P	**P**	**08 19 04.3**	**-0.8**
	comp=Z,5.4nm,0.3s,baz=252,slow=6.4,SNR=8.5						
ZAL	**Zalesovo**	**20.97**	**19**	P	**P**	**08 19 04.3**	**-0.8**
SONM	**Songino Array**	**27.98**	**52**	P	**P**	**08 20 13.2**	**+0.7**
	comp=Z,0.1nm,0.3s,mb2.9,baz=277,slow=11,SNR=2.5						
FINES	**FINESS Array B**	**40.07**	**327**	P	**P**	**08 21 57.3**	**+0.2**
	comp=Z,0.4nm,0.6s,mb3.4,baz=108,slow=8.9,SNR=4.0						
ARCES	**ARCESS Array B**	**43.59**	**338**	P	**P**	**08 22 26.6**	**+0.7**
	comp=Z,0.7nm,0.3s,mb3.8,baz=116,slow=8.3,SNR=21						
NB2	**NORSAR Subarra**	**46.99**	**324**	P	**P**	**08 22 51.7**	**-1.1**
	comp=Z,0.2nm,0.3s,mb3.5,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**46.99**	**324**	P	**P**	**08 22 52.2**	**-0.6**
	comp=Z,0.4nm,0.3s,mb3.8,baz=103,slow=8.1,SNR=3.6						
NOA	**NORSAR Array B**	**46.99**	**324**	P	**P**	**08 22 52.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**67.55**	**271**	P	**P**	**08 25 17.8**	**-0.1**
	comp=Z,0.9nm,0.5s,mb4.1,baz=46,slow=5.7,SNR=12						
INK	**Inuvik**	**75.46**	**10**	P	**P**	**08 26 06.1**	**+0.5**
	comp=Z,0.3nm,0.4s,mb3.5,baz=319,slow=3.0,SNR=6.5						
WRA	**Warramunga Arr**	**79.42**	**123**	P	**P**	**08 26 28.0**	**+0.2**
	comp=Z,0.4nm,0.3s,mb3.8,baz=324,slow=4.7,SNR=6.7						
ASAR	**Alice Springs**	**81.66**	**126**	P	**P**	**08 26 40.1**	**+0.4**
	comp=Z,0.5nm,0.7s,mb3.5,baz=298,slow=4.9,SNR=6.8						
YKA	**Yellowknife Ar**	**83.03**	**4**	P	**P**	**08 26 46.6**	**-0.3**
	comp=Z,0.2nm,0.7s,mb3.3,baz=347,slow=5.4,SNR=6.5						

IDC 05 08:36:10.7±4.4, 35°96'S×102°24'W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.9/15, mbtmp3.9/4, MS3.8/2, Ms1 3.8/2, ms1mx3.3/24, Error ellipse: s-maj=132.1km s-min=35.7km az=17.0, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**10.68**	**324**	LR	LR	08 41 06.0	
	comp=Z,252nm,18.5s,baz=136,slow=28						
LPAZ	**La Paz**	**36.09**	**66**	P	P	08 43 15.3	+1.1
	2.4nm,0.9s,baz=239,slow=7.8,SNR=11						
SIV	**San Ignacio**	**41.63**	**72**	P	P	08 44 00.4	-0.1
	1.7nm,0.8s,baz=227,slow=8.7,SNR=7.8						
ROSC	**El Rosal**	**48.30**	**39**	LR	LR	09 01 02.1	
	comp=Z,154nm,18.7s,baz=15,slow=31						
VNA3	**Neumayer Olymp**	**57.22**	**157**	*e*	P	08 46 06.8	+7.2
VNA3				*e*		08 46 11.7	
VNA3				*e*		08 46 20.7	
VNA2	**Neumayer--Watz**	**58.02**	**157**	*e*	P	08 46 13.1	+7.8
	baz=265,slow=4.4						
VNA2				*e*		08 46 20.0	
VNA2				*e*		08 46 29.6	
NVAR	**Mina Array Bea**	**75.50**	**347**	P	P	08 47 57.5	+0.7
	0.7nm,0.8s,baz=167,slow=7.7,SNR=4.0						
PDAR	**Pinedale Array**	**78.64**	**355**	P	P	08 48 13.9	-0.5
	0.8nm,0.8s,baz=152,slow=6.6,SNR=8.1						
BRTR	**Keskin Array B**	**145.22**	**70**	PKPbc	PKPbc	08 55 49.2	-0.7
	0.7nm,0.7s,baz=298,slow=3.1,SNR=3.6						

IDC 05 08:37:17.8±24.0, 18°84'S×173°35'W, h107km±168km, mb3.5/5, mb1 3.7/6, mb1mx3.5/17, mbtmp3.9/6, ML3.9/1, Error ellipse: s-maj=294.5km s-min=46.2km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**19.20**	**257**	P	P	08 41 34.3	+1.0
	0.4nm,0.3s,baz=58,slow=13,SNR=4.8						
CTA	**Charters Tower**	**38.04**	**261**	P	P	08 44 25.4	-0.3
	2.4nm,0.6s,baz=103,slow=13,SNR=4.8						
ASAR	**Alice Springs**	**49.17**	**255**	P	P	08 45 55.1	+0.2
	1.7nm,0.8s,baz=98,slow=8.2,SNR=19						
WB2	**Warramunga Arr**	**49.18**	**260**	*e*P	P	08 45 55.3	+0.4
WRA	**Warramunga Arr**	**49.19**	**260**	P	P	08 45 55.2	+0.2
	0.7nm,0.5s,baz=98,slow=8.5,SNR=17						
FITZ	**Fitzroy Crossi**	**57.61**	**260**	P	P	08 46 57.7	+1.2
	1.5nm,1.0s,baz=205,slow=19,SNR=2.6						
ILAR	**Eielson Array**	**85.80**	**11**	P	P	08 49 44.8	-0.5
	0.3nm,0.7s,baz=225,slow=5.6,SNR=4.2						

*NIED **05** 08:39:00, 37°60'N×142°70'E, h29km, Mw3.9 Best double couple: M0:8.25000×10^14 NP1:φs33.00000°, δ66.00000°, λ112.00000°. NP2:φs168.00000°, δ32.00000°, λ49.00000°.*
*NEIC **05** 08:39:37.6, 37°56'N×142°66'E, h27km, MG4.1(JMA), After JMA.*
*JMA **05** 08:39:37.6±0.2, 37°56'N×142°66'E, h27km, M4.1*
*ISCJB **05** 08:39:38.0±1.0, 37°55'N±005'×142°71'E±007, h34km±10km, mb3.6/7, Error ellipse: s-maj=10.5km s-min=6.8km az=51.2*
*IDC **05** 08:39:40.6±4.8, 37°55'N×142°61'E, h34km±38km, mb3.5/7, mb1 3.6/10, mb1mx3.5/24, mbtmp3.7/10, ML3.7/3, MS3.1/2, Ms1 3.1/2, ms1mx2.7/29, Error ellipse: s-maj=31.7km s-min=18.3km az=94.0*

ISC 05 08:39:39.5±1.8, 37°57'N±004'×142°63'E±006, h29km±15km, n25, σ0°85/36, mb3.6/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.34**	**311**	P	**Pn**	**08 40 01.4**	**-0.9**
JIO				S	**Sn**	**08 40 18.9**	**-0.3**
JFK	**Kawauchi**	**1.41**	**262**	P	**Pn**	**08 40 02.4**	**-0.9**
JFK				S	**Sn**	**08 40 20.4**	**-0.5**
JMM	**Marumori**	**1.49**	**282**	P	**Pn**	**08 40 03.1**	**-1.2**
JMM				S	**Sn**	**08 40 21.8**	**-1.0**
ONAJ	**Iwakimizuishiy**	**1.53**	**253**	P	**Pn**	**08 40 04.0**	**-1.0**
ONAJ				S	**Sn**	**08 40 23.0**	**-0.9**
JOU	**Okura**	**1.75**	**298**	P	**Pn**	**08 40 07.8**	**-0.1**
JOU				*e*S	**Sn**	**08 40 30.8**	**+1.7**
JMK	**Ichinoseki**	**1.77**	**322**	P	**Pn**	**08 40 07.9**	**-0.3**
JFT	**Otama**	**1.82**	**269**	P	**Pn**	**08 40 09.0**	**+0.1**
JFT				S	**Sn**	**08 40 32.1**	**+1.0**
JOM	**Ohasama**	**2.17**	**331**	P	**Pn**	**08 40 13.2**	**-0.5**
JYK	**Kaneyama**	**2.24**	**308**	P	**Pn**	**08 40 15.0**	**+0.4**
JAG	**Ashikaga**	**2.79**	**247**	P	**Pn**	**08 40 22.1**	**-0.1**
JAW	**Awa shima**	**2.81**	**289**	P	**Pn**	**08 40 25.7**	**+3.2**
JRY	**Ryogami san**	**3.37**	**244**	P	**Pn**	**08 40 30.0**	**-0.2**
JRY				S	**Sn**	**08 41 08.4**	**-0.9**
MJAR	**Matsushiro Arr**	**3.68**	**255**	Pn	**Pn**	**08 40 35.6**	**+1.1**
	5.5nm,0.3s,baz=82,slow=15,SNR=50						
MJAR				LR	LR	08 42 12.6	
	comp=Z,290nm,21.0s,baz=75,slow=42						
MAJO	**Matsushiro**	**3.69**	**255**	*e*Pn	**Pn**	**08 40 36.3**	**+1.7**
MAT	**Matsushiro**	**3.69**	**255**	P	**Pn**	**08 40 35.8**	**+1.3**
MAT				*e*S	**Sn**	**08 41 18.3**	**+1.3**
MAT	**Matsushiro**	**3.69**	**255**	*e*P	**Pn**	**08 40 36.0**	**+1.5**
MAT				S	**Sn**	**08 41 23.0**	**+6.0**
JHJ	**Hachijo jima 2**	**5.01**	**208**	Pn	**Pn**	**08 40 52.5**	**-0.4**
	9.0nm,0.3s,baz=324,slow=12,SNR=5.1						
JHJ				Sn	**Sn**	**08 41 45.0**	**-4.8**
	20nm,0.3s,baz=60,slow=23,SNR=7.0						
JHJ				LR	LR	08 43 07.3	
	comp=Z,178nm,19.0s,baz=113,slow=42						
ASAJ	**Asahikawa**	**6.54**	**360**	Pn	**Pn**	**08 41 13.7**	**-0.1**
	1.5nm,0.3s,baz=221,slow=20,SNR=9.3						
ASAJ				Sn	**Sn**	**08 42 26.9**	**-0.5**
	0.6nm,0.3s,baz=68,slow=19,SNR=4.3						
SONM	**Songino Array**	**28.30**	**303**	P	**P**	**08 45 31.3**	**+0.8**
	1.3nm,0.8s,mb3.6,baz=100,slow=8.3,SNR=9.3						
MKAR	**Makanchi Array**	**44.66**	**302**	P	**P**	**08 47 49.2**	**-0.3**
	0.5nm,0.5s,mb3.6,baz=83,slow=11,SNR=3.6						
ILAR	**Eielson Array**	**48.52**	**33**	P	**P**	**08 48 20.6**	**+0.8**
	0.6nm,1.0s,mb3.6,baz=264,slow=8.2,SNR=4.8						
BVAR	**Borovoye Array**	**50.93**	**312**	P	**P**	**08 48 37.9**	**-0.3**
	0.5nm,0.5s,mb3.7,baz=74,slow=11,SNR=3.5						
WRA	**Warramunga Arr**	**57.73**	**189**	P	**P**	**08 49 27.5**	**-0.2**
	0.5nm,0.7s,mb3.7,baz=7.3,slow=7.1,SNR=4.5						
ASAR	**Alice Springs**	**61.46**	**189**	P	**P**	**08 49 53.5**	**+0.2**
	0.2nm,0.7s,mb3.4,baz=14,slow=7.8,SNR=3.3						
FINES	**FINESS Array B**	**68.79**	**333**	P	**P**	**08 50 40.9**	**-0.1**
	0.6nm,0.5s,mb3.8,baz=76,slow=5.9,SNR=5.2						

*ISCJB **05** 08:42:32.4±0.5, 31°73'S×003°×68°31'W±005, h118km±4km, mb3.9/8, Error ellipse: s-maj=7.3km s-min=5.0km az=23.1*
*IDC **05** 08:42:33.0±0.5, 31°69'S×68°23'W, h111km±3km, mb3.7/7, mb1 3.9/10, mb1mx3.8/15, mbtmp4.1/10, MS3.4/1, Ms1 3.4/1, ms1mx3.0/15, Error ellipse: s-maj=24.7km s-min=12.6km az=78.0*
*GUC **05** 08:42:32.5±0.9, 31°75'S×68°45'W, h150km, ML4.5*

ISC 05 08:42:33.3±0.5, 31°73'S±003'×68°30'W±005, h113km±4km, h114km±1.5km: pP-P, n44, σ0°93/57, mb3.9/8, 7C-5D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**0.13**	**22**	P	**Pn**	**08 42 48.6**	**-0.3**
	256nm,0.3s,baz=192,slow=2.2,SNR=5632						
CFAA				S	**Sn**	**08 43 00.8**	**+0.2**
	282nm,0.3s,baz=358,slow=21,SNR=164						
JACH	**Jahuel**	**2.17**	**243**	⇓*i*P	**Pn**	**08 43 08.8**	**+0.3**
JACH				*e*S	**Sn**	**08 43 36.7**	**+1.2**
FCH	**Farellones**	**2.32**	**226**	⇑*i*P	**Pn**	**08 43 11.0**	**+0.6**
FCH				*i* S	**Sn**	**08 43 41.1**	**+2.1**
FCH				AML	AML	08 43 44.3	
	comp=N,903nm,0.3s						
CMCH	**Combarbala**	**2.38**	**283**	⇓*i*P	**Pn**	**08 43 11.3**	**+0.1**
CMCH				*i* S	**Sn**	**08 43 41.2**	**+0.9**
CMCH				AML	AML	08 43 43.3	
	comp=N,9μm,0.5s						
PEL	**Peldehue**	**2.46**	**234**	⇓*i*P	**Pn**	**08 43 11.9**	**-0.4**
PEL				*i* S	**Sn**	**08 43 41.9**	**-0.4**
PEL				AML	AML	08 43 43.9	
	comp=N,3μm,0.5s						
CLCH	**Cerro Calan**	**2.52**	**228**	⇑*i*P	**Pn**	**08 43 13.0**	**0.0**
CLCH				*i* S	**Sn**	**08 43 44.2**	**+0.6**
CLCH				AML	AML	08 43 47.5	
	comp=E,3μm,0.5s						
CLCH				AML	AML	08 43 48.2	
	comp=E,3μm,0.8s						
DSCH	**Colegio Aleman**	**2.54**	**228**	*i* P	**Pn**	**08 43 13.2**	**-0.1**
DSCH				*i* S	**Sn**	**08 43 44.4**	**+0.3**
FSR	**Penalolen**	**2.57**	**227**	*i* P	**Pn**	**08 43 14.0**	**+0.3**
FSR				*i* S	**Sn**	**08 43 45.5**	**+0.8**
FSR				AML	AML	08 43 48.0	
	comp=N,2μm,0.6s						
ROCH	**El Roble**	**2.61**	**241**	*i* P	**Pn**	**08 43 13.4**	**-0.8**
STL	**Santa Lucia**	**2.61**	**229**	*e*P	**Pn**	**08 43 14.1**	**-0.2**
STL				*i* S	**Sn**	**08 43 45.9**	**+0.2**
STL				AML	AML	08 43 49.0	
	comp=E,452nm,0.8s						
LMEL	**Las Melosas**	**2.65**	**217**	⇑*i*P	**Pn**	**08 43 15.2**	**+0.4**
LMEL				*i* S	**Sn**	**08 43 47.8**	**+1.0**
LMEL				AML	AML	08 43 57.6	
	comp=N,570nm,0.2s						
PCH	**Pirque**	**2.66**	**224**	⇑*i*P	**Pn**	**08 43 15.1**	**+0.3**
TLL	**Tololo Astrono**	**2.66**	**305**	⇑*i*P	**Pn**	**08 43 15.9**	**+1.0**
TLL				*i* S	**Sn**	**08 43 48.3**	**+1.5**
TLL				AML	AML	08 43 57.3	
	comp=E,1μm,0.5s						
OVCH	**Ovalle**	**2.73**	**293**	⇓*i*P	**Pn**	**08 43 15.8**	**0.0**
OVCH				*i* S	**Sn**	**08 43 47.9**	**-0.6**
OVCH				AML	AML	08 43 49.7	
	comp=N,1μm,0.3s						
CHNG	**Los Chungos**	**2.73**	**266**	⇓*i*P	**Pn**	**08 43 14.8**	**-1.1**
CHNG				*i* S	**Sn**	**08 43 47.2**	**-1.3**
CHNG				AML	AML	08 43 55.3	
	comp=N,803nm,0.5s						
RCDM	**Rinconada Maip**	**2.75**	**230**	*e*P	**Pn**	**08 43 15.8**	**-0.3**
RCDM				*i* S	**Sn**	**08 43 49.2**	**+0.2**
RCDM				AML	AML	08 43 50.7	
	comp=E,2μm,0.3s						
TACH	**Talagante**	**2.94**	**229**	*e*P	**Pn**	**08 43 17.9**	**-0.6**
TACH				*i* S	**Sn**	**08 43 52.5**	**-0.9**
CHCH	**Chadas Angostu**	**2.96**	**221**	*e*P	**Pn**	**08 43 18.4**	**-0.4**
CHCH				*i* S	**Sn**	**08 43 53.9**	**-0.1**
CACH	**El Canelo**	**3.07**	**219**	⇑*i*P	**Pn**	**08 43 20.3**	**+0.1**
LSCH	**La Serena**	**3.12**	**305**	⇑*i*P	**Pn**	**08 43 20.7**	**-0.2**
LSCH				*i* S	**Sn**	**08 43 56.4**	**-1.2**
LSCH				AML	AML	08 44 00.1	
	comp=E,905nm,0.2s						
CICH	**Cipreses**	**3.14**	**214**	*e*P	**Pn**	**08 43 21.6**	**+0.4**
LCCH	**Las Cruces**	**3.27**	**237**	*e*P	**Pn**	**08 43 20.9**	**-2.0**
LNV	**Longovilo**	**3.44**	**229**	*e*P	**Pn**	**08 43 22.8**	**-2.3**
SFDO	**San Fernando**	**3.67**	**218**	*e*P	**Pn**	**08 43 26.8**	**-1.5**
CPUP	**Villa Florida**	**11.00**	**63**	P	**Pn**	**08 45 04.5**	**-2.8**
	comp=E,2.0nm,0.3s,baz=209,slow=12,SNR=20						
CPUP				LR	LR	08 48 56.8	
	comp=E,186nm,18.6s,baz=92,slow=35						
LPAZ	**La Paz**	**15.37**	**1**	P	**Pn**	**08 46 06.0**	**+1.9**
	comp=E,0.5nm,0.3s,baz=166,slow=5.4,SNR=12						
SIV	**San Ignacio**	**16.99**	**24**	P	**Pn**	**08 46 24.5**	**+0.5**
	comp=E,0.3nm,0.3s,baz=204,slow=11,SNR=12						
BDFB	**Brasilia**	**24.45**	**54**	P	**P**	**08 47 44.9**	**+3.3**
	comp=E,2.6nm,0.5s,mb3.8,baz=224,slow=6.7,SNR=4.9						
VNA3	**Neumayer Olymp**	**50.30**	**159**	*e*	**P**	**08 51 18.6**	**+0.3**
VNA3				*e*		08 51 22.6	
VNA3				*e*		08 51 27.4	
VNA3				*e*	pP	08 51 46.1	+1.2
VNA1	**Neumayer--Stat**	**50.56**	**158**	*e*	**P**	**08 51 21.7**	**+1.5**
VNA1				*e*		08 51 24.2	
VNA1				*e*		08 51 31.7	
VNA1				*e*	pP	08 51 48.7	+1.8
VNA2	**Neumayer--Watz**	**50.91**	**158**	*e*	**P**	**08 51 22.6**	**-0.3**
	baz=291,slow=7.9						
VNA2				*e*		08 51 26.7	
VNA2	**Neumayer--Watz**	**50.91**	**158**	*e*	**P**	**08 51 32.7**	**+10**
	baz=291,slow=7.9						
VNA2				*e*		08 51 50.0	
SNAA	**Sanae**	**52.52**	**159**	P	**P**	**08 51 35.1**	**+0.2**
	comp=E,1.0nm,0.8s,mb3.9,baz=300,slow=12,SNR=13						
SNAA				pP	pP	08 52 00.9	-0.7
	comp=E,2.2nm,0.9s,baz=314,slow=6.4,SNR=6.0						
SNAA	**Sanae**	**52.52**	**159**	*e*	**P**	**08 51 35.1**	**+0.3**
SNAA				*e*		08 51 38.7	
SNAA				*e*	pP	08 52 01.6	-0.1
VNDA	**Vanda**	**66.92**	**190**	P	**P**	**08 53 13.2**	**-0.3**
	comp=E,1.6nm,0.9s,mb3.9,baz=140,slow=3.6,SNR=5.7						
MAW	**Mawson**	**74.43**	**163**	P	**P**	**08 53 58.1**	**-0.8**
	comp=E,2.7nm,0.8s,mb4.0,baz=234,slow=10,SNR=3.5						
MAW				pP	pP	08 54 26.8	-0.7
	comp=E,4.8nm,0.8s,baz=226,slow=8.5,SNR=5.1						
TORD	**Torodi Ar. Bea**	**80.46**	**68**	P	**P**	**08 54 32.8**	**+0.2**
	comp=E,0.4nm,0.5s,mb3.5,baz=271,slow=6.8,SNR=6.5						
TORD				pP	pP	08 55 01.0	-0.4
	comp=E,3.8nm,0.9s,baz=248,slow=4.7,SNR=14						
PDAR	**Pinedale Array**	**83.24**	**331**	P	**P**	**08 54 47.1**	**0.0**
	comp=E,1.5nm,0.9s,mb3.8,baz=138,slow=7.0,SNR=10						
NVAR	**Mina Array Bea**	**83.90**	**323**	P	**P**	**08 54 51.5**	**+0.9**
	comp=E,1.4nm,0.8s,mb3.8,baz=145,slow=6.8,SNR=9.4						
ULM	**Lac du Bonnet**	**85.20**	**343**	P	**P**	**08 54 55.5**	**-1.5**
	comp=E,1.0nm,0.5s,mb4.0,baz=181,slow=3.4,SNR=5.3						
WRA	**Warramunga Arr**	**124.23**	**206**	PKP	PKPdf	09 01 18.0	-0.6
	comp=E,0.8nm,0.3s,baz=156,slow=1.9,SNR=35						
WRA				pPKP	pPKPdf	09 01 48.7	-0.6
	comp=E,0.4nm,0.6s,baz=157,slow=1.9,SNR=2.1						
WRA	**Warramunga Arr**	**124.23**	**206**	pPKP	pPKPdf	09 01 48.7	-0.6
ZAL	**Zalesovo**	**150.62**	**33**	PKPbc	PKPbc	09 02 10.9	-1.0
	comp=E,2.8nm,0.5s,baz=187,slow=2.0,SNR=19						
ZAL				pPKPbc	pPKPbc	09 02 40.0	-2.4
	comp=E,1.8nm,0.6s,baz=188,slow=4.0,SNR=3.4						
MKAR	**Makanchi Array**	**152.91**	**48**	PKPbc	PKPbc	09 02 15.9	-1.3
	comp=E,1.6nm,0.8s,baz=318,slow=1.6,SNR=9.2						
MKAR				PKPab	PKPab	09 02 28.2	-0.5
	comp=E,0.4nm,0.3s,baz=304,slow=1.8,SNR=5.9						
MKAR				pPKPbc	pPKPbc	09 02 47.8	+0.1
	comp=E,1.3nm,0.9s,baz=336,slow=2.7,SNR=3.4						

*IDC **05** 08:44:10.2±1.2, 34°91'N×23°75'E, h0km, mb3.7/6, mb1 3.7/9, mb1mx3.5/24, mbtmp3.6/9, ML3.8/3, Error ellipse: s-maj=28.6km s-min=17.3km az=163.0*
*HLW **05** 08:44:12.8, 35°00'N×23°96'E, h33km, Mb3.6*
*ISCJB **05** 08:44

HRVD ***05*** *08:49:12.3±0.3, 1996S×17350W, h13km±1km, MW5.1/74, Centroid moment Tensor Solution. LP body waves: s32,c39;Mantle waves: s74,c113; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.58±.23; $M_{\theta\theta}$-1.84±.17; $M_{\phi\phi}$3.42±.19; $M_{r\theta}$1.78±.51; $M_{r\phi}$-3.85±.14; $M_{\theta\phi}$-0.56±.40; Best double couple: M≤5.10000×10^{16} NP1:*ϕ_s*196.00000°,δ64.00000°,λ-11.00000°. NP2:* ϕ_s*290.00000°,δ80.00000°,λ-154.00000°. Principal axes: T 5.7010, Plg11.0000°, Azm61.0000°; N -1.2000, Plg62.0000°, Azm310.0000°; P -4.5000, Plg26.0000°, Azm156.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 05 08:49:12.5±0.3, 1990S×007×17399W±006, h58km, h58km±2.7km:pP-P,n210,σ1§05/100,mb4.8/47,MS4.5/26, 16C-6D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.32**	**20**	Pn	**Pn**	**08 50 35.5**	**-7.6**
	10.0nm,0.3s,baz=202,slow=6.7,SNR=16						
AFI				Sn	**Sn**	**08 51 49.2**	**-4.7**
	6.9nm,0.3s,baz=332,slow=22,SNR=2.4						
RAR	**Rarotonga**	**13.38**	**98**	Pn	**Pn**	**08 52 05.6**	**-14**
	5.3nm,0.3s,baz=270,slow=8.5,SNR=9.9						
DZM	**Mont Dzumac**	**18.40**	**260**	P	**Pn**	**08 53 24.6**	**+1.2**
	0.7nm,0.3s,baz=102,slow=14,SNR=9.8						
DZM				LR	LR	08 59 07.5	
	comp=Z,3μm,21.6s,baz=294,slow=33						
URZ	**Urewera**	**19.86**	**201**	P	**Pn**	**08 53 36.8**	**-4.0**
	1.2nm,0.3s,baz=4.8,slow=10,SNR=10						
TBI	**Tubuai**	**23.05**	**103**	*e*LQ		08 58 31.7	
	6μm,26.2s						
TBI	**Tubuai**	**23.05**	**103**	*e*LR	LR	08 59 30.5	
	1μm,26.0s						
PPT	**Papeete**	**23.23**	**88**	*e*LQ		08 58 31.7	
	6μm,25.5s						
PPT	**Papeete**	**23.23**	**88**	*e*LR	LR	08 59 31.6	
	3μm,26.0s,baz=257						
PPT	**Papeete**	**23.23**	**88**	LR	LR	09 02 15.0	
	comp=Z,935nm,18.5s,MS4.3,baz=261,slow=34						
RPZ	**Rata Peaks**	**26.84**	**204**	P	**P**	**08 54 46.2**	**-1.2**
	20nm,0.9s,mb4.7,baz=137,slow=5.2,SNR=5.2						
RPZ				LR	LR	09 04 55.3	
	comp=Z,1μm,20.4s,MS4.5,baz=18,slow=35						
RPZ	**Rata Peaks**	**26.84**	**204**	P	**P**	**08 54 46.2**	**-1.2**
RPZ				LR	LR	09 04 55.3	
HNR	**Honiara**	**27.24**	**289**	LR	LR	09 04 30.1	
	comp=Z,720nm,18.0s,MS4.3,baz=175,slow=34						
TAOE	**Nuku Hiva Isla**	**34.49**	**76**	*e*LR	LR	09 04 40.2	
	6μm,26.5s						
RKT	**Rikitea**	**36.36**	**102**	*e*LQ		09 04 19.8	
	880nm,28.0s						
RKT				*e*LR	LR	09 05 36.6	
	1μm,27.2s,baz=277						
CTA	**Charters Tower**	**37.30**	**263**	P	**P**	**08 56 18.8**	**-0.1**
	4.9nm,0.6s,mb4.5,baz=100,slow=8.4,SNR=12						
CTAO	**Charters Tower**	**37.30**	**263**	*e*P	**P**	**08 56 17.5**	**-1.4**
CTAO				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.7						
CTAO	**Charters Tower**	**37.30**	**263**	*e*P	**P**	**08 56 17.5**	**-1.4**
	comp=Z,5.6nm,0.5s,mb4.7						
PMG	**Port Moresby**	**38.92**	**280**	P	**P**	**08 56 32.2**	**-0.3**
	comp=Z,2.7nm,0.4s,mb4.3,baz=90,slow=15,SNR=2.1						
STKA	**Stephens Creek**	**41.44**	**244**	P	**P**	**08 56 49.6**	**-3.7**
	comp=Z,4.4nm,0.9s,mb4.1,baz=73,slow=6.2,SNR=5.9						
STKA				LR	LR	09 13 05.8	
	comp=Z,1μm,19.8s,MS4.7,baz=100,slow=35						
STKA	**Stephens Creek**	**41.44**	**244**	*e*P	**P**	**08 56 49.7**	**-3.7**
ASAR	**Alice Springs**	**48.32**	**256**	P	**P**	**08 57 46.2**	**-1.8**
	comp=Z,3.0nm,0.6s,mb4.5,baz=102,slow=7.9,SNR=50						
ASAR				PcP	PcP	08 59 14.8	+0.8
	comp=Z,1.2nm,0.7s,baz=100,slow=5.1,SNR=3.1						
WRAB	**Tennant Creek**	**48.41**	**261**	*e*P	**P**	**08 57 47.8**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,62nm,1.6s,mb5.4						
WRAB	**Tennant Creek**	**48.41**	**261**	*e*P	**P**	**08 57 47.8**	**-0.9**
	comp=Z,62nm,1.6s,mb5.4						
WRA	**Warramunga Arr**	**48.42**	**261**	P	**P**	**08 57 47.5**	**-1.3**
	comp=Z,2.0nm,0.6s,mb4.3,baz=96,slow=7.6,SNR=41						
GUMO	**Guam**	**52.41**	**306**	LR	LR	09 20 02.7	
	comp=Z,162nm,18.1s,MS4.1,baz=90,slow=36						
GUMO	**Guam**	**52.41**	**306**	*e*P	**P**	**08 58 17.4**	**-1.5**
	comp=Z,0.1nm,0.9s						
FITZ	**Fitzroy Crossi**	**56.84**	**261**	P	**P**	**08 58 52.3**	**+1.2**
	comp=Z,3.5nm,0.9s,mb4.4,baz=87,slow=12,SNR=3.6						
FITZ				LR	LR	09 22 25.0	
	comp=Z,563nm,21.4s,MS4.6,baz=270,slow=35						
SBA	**Scott Base**	**58.74**	**185**	*e*P	**P**	**08 59 05.1**	**+0.8**
SBA				pmax	pmax		
	comp=Z,31nm,1.2s,mb5.2						
SBA	**Scott Base**	**58.74**	**185**	*e*P	**P**	**08 59 05.1**	**+0.8**
	comp=Z,31nm,1.2s,mb5.2						
VNDA	**Vanda**	**58.86**	**186**	P	**P**	**08 59 05.7**	**+0.5**
	comp=Z,3.5nm,0.9s,mb4.4,baz=18,slow=6.6,SNR=13						
VNDA				LR	LR	09 18 33.5	
	comp=Z,405nm,20.6s,MS4.5,baz=287,slow=30						
VNDA	**Vanda**	**58.86**	**186**	*e*P	**P**	**08 59 05.6**	**+0.4**
VNDA				pmax	pmax		
	comp=Z,12nm,1.3s						
VNDA	**Vanda**	**58.86**	**186**	*e*P	**P**	**08 59 05.5**	**+0.4**
	comp=Z,12nm,1.3s,mb4.8						
MBWA	**Marble Bar**	**61.66**	**256**	*e*P	**P**	**08 59 23.9**	**-0.3**
	comp=Z,41nm,1.4s,mb5.4						
CASY	**Casey**	**66.11**	**205**	*e*P	**P**	**08 59 53.4**	**-0.1**
	comp=Z,30nm,1.4s,mb5.1						
QSPA	**South Pole Qui**	**70.17**	**180**	*e*P	**P**	**09 00 20.1**	**+1.2**
	comp=Z,13nm,1.1s,mb4.8						
MJAR	**Matsushiro Arr**	**72.04**	**321**	P	**P**	**09 00 29.9**	**-0.3**
	comp=Z,4.8nm,0.8s,mb4.5,baz=154,slow=6.2,SNR=6.9						
MJAR				LR	LR	09 28 13.2	
	comp=Z,241nm,20.1s,MS4.5,baz=155,slow=33						
MJAR	**Matsushiro Arr**	**72.04**	**321**	P	**P**	**09 00 29.9**	**-0.3**
MJAR				LR	LR	09 28 13.2	
MAT	**Matsushiro**	**72.04**	**321**	P	**P**	**09 00 30.5**	**+0.2**
MAT	**Matsushiro**	**72.04**	**321**	*e*P	**P**	**09 00 31.0**	**+0.7**
MIR	**Mirnyy**	**73.12**	**205**	*e*P	**P**	**09 00 32.0**	**-4.6**
MIR				pmax	pmax		
	comp=Z,280nm,1.5s						
CMB	**Columbia Colle**	**76.51**	**41**	*e*P	**P**	**09 00 56.4**	**+0.2**
CMB				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
CMB	**Columbia Colle**	**76.51**	**41**	*e*P	**P**	**09 00 56.4**	**+0.2**
	comp=Z,9.6nm,1.3s,mb4.6						
YSS	**Yuzh-Sakhalins**	**77.12**	**331**	*e*P	**P**	**09 00 58.9**	**-0.8**
YSS				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.8						
NVAR	**Mina Array Bea**	**78.04**	**42**	P	**P**	**09 01 03.4**	**-1.4**
	comp=Z,2.6nm,0.9s,mb4.2,baz=214,slow=7.0,SNR=16						
MNV	**Mina**	**78.14**	**42**	*e*P	**P**	**09 01 04.4**	**-0.9**
MNV				pmax	pmax		
	comp=Z,26nm,1.5s,mb4.9						
MNV	**Mina**	**78.14**	**42**	*e*P	**P**	**09 01 04.4**	**-0.9**
	comp=Z,26nm,1.5s,mb4.9						
NEN	**Nelson**	**78.65**	**45**	*e*P	**P**	**09 01 08.6**	**+0.4**
TUC	**Tucson**	**79.67**	**50**	*e*P	**P**	**09 01 14.0**	**+0.2**
TUC				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
TUC	**Tucson**	**79.67**	**50**	*e*P	**P**	**09 01 14.0**	**+0.3**
	comp=Z,10nm,1.2s,mb4.6						
SSE	**Sheshan**	**80.25**	**308**	*e*P	**P**	**09 01 18.1**	**+1.2**
SSE				AMB	AMB		
	comp=Z,23nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,177nm,12.0s						
ARUT	**Antelope Range**	**80.79**	**44**	*e*P	**P**	**09 01 19.9**	**+0.2**
ARUT				*e**PP	pP	09 01 38.4	+2.4
HABR	**Khabarovsk**	**81.85**	**329**	*e*P	**P**	**09 01 23.2**	**-2.2**
HABR				S	S	09 11 32.8	-1.5
MVU	**Marysvale**	**81.99**	**44**	P	**P**	**09 01 25.2**	**-0.9**
	comp=Z,13nm,1.4s,mb4.7						
MSU	**Marysvale**	**82.02**	**44**	*e*P	**P**	**09 01 27.5**	**+1.3**
MDJ	**Mudanjiang**	**82.25**	**323**	P	**P**	**09 01 28.9**	**+1.4**
MDJ				PP	PP	09 04 38.1	+1.6
MDJ				S	S	09 11 41.5	+3.1
MDJ				SS	SS	09 17 04.4	+5.0
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,71nm,4.6s						
MDJ				LR	LR		
	comp=N,214nm,18.8s,MS4.8						
MDJ				LR	LR		
	comp=E,282nm,19.4s,MS4.8						
MDJ				LR	LR		
	comp=Z,571nm,16.9s,MS5.0						
MDJ	**Mudanjiang**	**82.25**	**323**	P	**P**	**09 01 29.4**	**+1.9**
	comp=Z,4.9nm,0.5s,mb4.7						
NJ2	**Nanjing**	**82.45**	**308**	*e*P	**P**	**09 01 29.3**	**+0.8**
NJ2				AP	pP	09 01 46.9	+2.1
NJ2				XP	sP	09 01 53.9	+2.7
NJ2				PP	PP	09 04 40.9	+2.8
NJ2				S	S	09 11 39.0	-1.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,150nm,10.0s						
NJ2				LR	LR		
	comp=N,560nm,25.2s						
NJ2				LR	LR		
	comp=E,650nm,20.0s						
NJ2				LR	LR		
	comp=Z,190nm,26.0s,MS4.3						
MNTX	**Cornudas Mount**	**83.36**	**53**	*e*P	**P**	**09 01 32.7**	**-0.5**
	comp=Z,11nm,1.3s,mb4.7						
MAW	**Mawson**	**83.37**	**199**	P	**P**	**09 01 33.0**	**-0.3**
	comp=Z,9.9nm,1.1s,mb4.8,baz=138,slow=8.1,SNR=7.3						
MAW				LR	LR	09 38 01.2	
	comp=Z,426nm,19.2s,MS4.8,baz=102,slow=35						
MAW	**Mawson**	**83.37**	**199**	*e*P	**P**	**09 01 33.5**	**+0.2**
MAW				pmax	pmax		
	comp=Z,30nm,1.3s						
MAW	**Mawson**	**83.37**	**199**	*e*P	**P**	**09 01 33.5**	**+0.2**
	comp=Z,30nm,1.3s,mb5.2						
SRU	**San Rafael**	**83.43**	**44**	*e*P	**P**	**09 01 34.1**	**+0.5**
SRU				pmax	pmax		
	comp=Z,24nm,1.3s,mb5.1						
SRU	**San Rafael**	**83.43**	**44**	*e*P	**P**	**09 01 34.1**	**+0.5**
	comp=Z,24nm,1.3s,mb5.1						
HLID	**Hailey**	**83.45**	**39**	*e*P	**P**	**09 01 33.5**	**-0.1**
	comp=Z,10nm,1.3s,mb4.7						
LTX	**Lajitas**	**83.58**	**56**	*e*P	**P**	**09 01 35.3**	**+0.9**
LTX				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.8						
LTX	**Lajitas**	**83.58**	**56**	*e*P	**P**	**09 01 35.3**	**+0.9**
	comp=Z,9.6nm,1.3s,mb4.8						
TCUT	**Toone Canyon**	**83.93**	**42**	*e*P	**P**	**09 01 36.8**	**+0.7**
KLR	**Kul'dur**	**83.99**	**328**	*e*P	**P**	**09 01 35.8**	**-0.6**
PV10	**Paradox Valley**	**84.03**	**46**	*e*P	**P**	**09 01 36.8**	**+0.1**
CN2	**Changchun**	**84.18**	**321**	*e*P	**P**	**09 01 38.1**	**+0.7**
CN2				*e*S		09 11 57.6	
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.9						
CN2				LR	LR		
	comp=N,200nm,18.0s,MS4.7						
CN2				LR	LR		
	comp=E,200nm,18.0s,MS4.7						
CN2				LR	LR		
	comp=Z,200nm,21.0s,MS4.5						
PV01	**Paradox Valley**	**84.22**	**46**	*e*P	**P**	**09 01 37.9**	**+0.3**
SNY	**Shenyang**	**84.23**	**318**	⇑P	**P**	**09 01 39.6**	**+1.9**
SNY				S		09 12 04.1	
SNY				AMB	AMB		
	comp=Z,9.0nm,0.4s,mb5.2						
SNY				LR	LR		
	comp=E,222nm,20.4s						
SNY				LR	LR		
	comp=Z,174nm,19.6s,MS4.4						
REDW	**Red Top Meadow**	**85.49**	**41**	*e*P	**P**	**09 01 43.6**	**-0.4**
	comp=Z,12nm,1.5s,mb4.8						
FLWY	**Flagg Ranch**	**85.97**	**40**	*e*P	**P**	**09 01 47.2**	**+0.8**
	comp=Z,8.2nm,1.2s,mb4.8						
FLWY				*e*pP	pP	09 02 01.5	-1.3
PDAR	**Pinedale Array**	**85.98**	**42**	P	**P**	**09 01 45.9**	**-0.5**
	comp=Z,1.7nm,1.1s,mb4.2,baz=225,slow=4.0,SNR=8.6						
PDAR				LR	LR	09 31 40.0	
	comp=Z,250nm,21.8s,MS4.6,baz=253,slow=30						
CHMT	**Chamberlain Mo**	**86.04**	**37**	*e*P	**P**	**09 01 47.0**	**+0.2**
YMR	**Madison River**	**86.13**	**40**	*e*P	**P**	**09 01 47.3**	**+0.1**
COLA	**College**	**86.86**	**11**	*e*P	**P**	**09 01 49.7**	**-1.0**
	comp=Z,26nm,1.3s,mb5.3						
ILAR	**Eielson Array**	**86.95**	**11**	P	**P**	**09 01 49.9**	**-1.3**
	comp=Z,2.6nm,0.9s,mb4.4,baz=226,slow=5.3,SNR=17						
ILAR				LR	LR	09 40 42.9	
	comp=Z,99nm,18.0s,MS4.3,baz=356,slow=36						
DAWY	**Dawson**	**87.90**	**14**	*e*P	**P**	**09 01 55.4**	**-0.3**
SYO	**Syowa Base**	**88.10**	**192**	*e*P	**P**	**09 02 03.2**	**+6.5**
BJT	**Baijiatuan**	**88.15**	**314**	*e*P	**P**	**09 01 58.8**	**+1.9**
PSI	**Prapat**	**88.21**	**274**	P	**P**	**09 01 57.7**	**+0.5**
	comp=Z,3.1nm,0.5s,mb4.8,baz=157,slow=4.5,SNR=6.6						
PSI	**Prapat**	**88.21**	**274**	P	**P**	**09 01 57.7**	**+0.5**
VNA3	**Neumayer Olymp**	**88.44**	**175**	⇑*i*P	**P**	**09 01 57.6**	**-0.7**
VNA3				*e*		09 01 59.0	
VNA3				*e*		09 02 04.8	
VNA3				*e*		09 02 08.6	
VNA3				*e*	pP	09 02 13.7	-1.1
VNA3				*e*		09 02 21.4	
VNA3				*e*		09 02 28.9	
VNA3				*e*		09 02 47.3	
SNAA	**Sanae**	**88.46**	**177**	P	**P**	**09 01 55.7**	**-2.7**
	comp=Z,0.7nm,0.8s,mb3.9,baz=288,slow=5.8,SNR=5.8						
SNAA	**Sanae**	**88.46**	**177**	⇑*i*P	**P**	**09 01 59.4**	**+1.0**
SNAA				*e*		09 02 01.1	
SNAA				*e*		09 02 05.2	
SNAA				*e*		09 02 10.1	
SNAA				*e*	pP	09 02 14.5	-0.4
SNAA				*e*		09 02 22.6	
SNAA				*e*		09 02 37.6	
SNAA				*e*		09 02 47.4	
SNAA	**Sanae**	**88.46**	**177**	*e*P	**P**	**09 01 57.0**	**-1.4**
SNAA				pmax	pmax		
	comp=Z,16nm,1.4s						
SNAA	**Sanae**	**88.46**	**177**	*e*P	**P**	**09 01 57.0**	**-1.4**
	comp=Z,16nm,1.4s,mb5.1						
BILL	**Bilibino**	**88.88**	**353**	*e*P	**P**	**09 02 00.0**	**-0.4**
BILL				pmax	pmax		
	comp=Z,16nm,1.7s,mb5.1						
BILL	**Bilibino**	**88.88**	**353**	*e*P	**P**	**09 02 00.8**	**+0.5**
	comp=Z,10nm,1.1s,mb5.1						
VNA2	**Neumayer--Watz**	**88.93**	**176**	⇑*i*P	**P**	**09 02 00.6**	**0.0**
VNA2				*e*		09 02 02.0	
VNA2				*e*		09 02 07.4	
VNA2				*e*		09 02 11.1	
VNA2				*e*	pP	09 02 15.0	-2.1
VNA2				*e*		09 02 23.1	
VNA2				*e*		09 02 30.0	
VNA2				*e*		09 02 38.8	
VNA2				*e*		09 02 49.1	
VNA2				*e*		09 03 06.7	
VNA1	**Neumayer--Stat**	**89.14**	**175**	⇑*i*P	**P**	**09 02 01.8**	**+0.2**
VNA1				*e*		09 02 03.1	
VNA1				*e*		09 02 09.6	
VNA1				*e*	pP	09 02 14.1	-4.0
VNA1				*e*	pP	09 02 17.8	-0.3
VNA1				*e*		09 02 24.1	
VNA1				*e*		09 02 31.7	
VNA1				*e*		09 02 40.2	
EDM	**Edmonton**	**89.59**	**32**	*e*P	**P**	**09 02 03.6**	**-0.1**
XAN	**Xi'an**	**90.80**	**306**	P	**P**	**09 02 11.8**	**+2.4**
HHC	**Hu-ho-hao-te**	**91.67**	**313**	*e*P	**P**	**09 02 14.6**	**+1.2**
HHC				AP	pP	09 02 32.3	+2.4
HHC				PP	PP	09 05 57.6	+5.2
HHC				SKS		09 12 39.6	
HHC				AMB	AMB		
	comp=Z,18nm,1.2s,mb5.3						
HHC				AMB	AMB		
	comp=Z,142nm,6.1s						
HHC				LR	LR		
	comp=N,186nm,21.4s,MS4.6						
HHC				LR	LR		
	comp=E,138nm,19.6s,MS4.6						
HHC				LR	LR		
	comp=Z,131nm,19.2s,MS4.4						
KMI	**Kunming**	**92.46**	**296**	P	**P**	**09 02 18.0**	**+1.0**
KMI				PP	PP	09 06 02.6	+4.0
KMI				SKS		09 12 44.7	
KMI				S		09 13 14.7	
KMI				SS	SS	09 19 30.7	+2.2
KMI				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.9						
KMI				AMB	AMB		
	comp=Z,64nm,3.6s						
KMI				LR	LR		
	comp=N,172nm,19.1s,MS4.6						
KMI				LR	LR		
	comp=E,151nm,21.1s,MS4.6						
KMI				LR	LR		
	comp=Z,256nm,21.1s,MS4.7						
JTS	**JuntasAbangare**	**92.55**	**80**	*e*P	**P**	**09 02 18.5**	**+1.1**
JTS	**JuntasAbangare**	**92.55**	**80**	*e*P	**P**	**09 02 18.6**	**+1.2**
	comp=Z,14nm,1.0s,mb5.3						
INK	**Inuvik**	**92.75**	**14**	P	**P**	**09 02 16.6**	**-1.7**
	comp=Z,2.1nm,1.1s,mb4.5,baz=233,slow=2.2,SNR=2.8						
INK	**Inuvik**	**92.75**	**14**	*e*P	**P**	**09 02 15.3**	**-3.1**
INK				pmax	pmax		
	comp=Z,11nm,1.4s						
INK	**Inuvik**	**92.75**	**14**	*e*P	**P**	**09 02 15.3**	**-3.1**
	comp=Z,11nm,1.4s,mb5.1						
CD2	**Chengdu**	**93.67**	**301**	*e*P	**P**	**09 02 21.2**	**-1.4**
CD2				PP	PP	09 06 10.0	+1.9
CD2				S		09 13 22.8	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
CD2				AMB	AMB		
	comp=Z,80nm,6.3s						
CD2				LR	LR		
	comp=E,90nm,18.0s						
CD2				LR	LR		
	comp=Z,100nm,16.8s,MS4.3						
YKA	**Yellowknife Ar**	**94.43**	**24**	P	**P**	**09 02 24.7**	**-1.4**
	comp=Z,0.5nm,0.9s,mb3.9,baz=243,slow=4.3,SNR=6.2						
YKA				PP	PP	09 06 08.4	-5.6
	comp=Z,0.3nm,1.1s,baz=250,slow=8.2,SNR=4.3						
YKA				LR	LR	09 39 05.5	
	comp=Z,177nm,19.3s,MS4.5,baz=260,slow=32						
YKA	**Yellowknife Ar**	**94.43**	**24**	P	**P**	**09 02 24.7**	**-1.4**
YKA				PP	PP	09 06 08.4	-5.6
YKA				LR	LR	09 39 05.5	
LZH	**Lanzhou**	**95.43**	**306**	*e*P	**P**	**09 02 31.5**	**+0.8**
LZH				AP	pP	09 02 48.6	+1.4
LZH				PP	PP	09 06 26.3	+4.5
LZH				AMB	AMB		
	comp=Z,21nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,72nm,9.4s						
LZH				LR	LR		
	comp=E,278nm,17.3s						
LZH				LR	LR		
	comp=Z,329nm,19.6s,MS4.8						
ULM	**Lac du Bonnet**	**97.76**	**39**	LR	LR	09 42 17.1	
	comp=Z,347nm,19.1s,MS4.9,baz=283,slow=33						
SONM	**Songino Array**	**97.81**	**318**	P	**P**	**09 02 43.0**	**+1.6**
	comp=Z,0.5nm,0.8s,mb4.1,baz=115,slow=7.4,SNR=2.4						
LPAZ	**La Paz**	**98.78**	**111**	LR	LR	09 39 44.3	
	comp=Z,69nm,18.2s,MS4.2,baz=144,slow=31						
TIXI	**Tiksi**	**99.17**	**344**	*e*P	**P**	**09 02 45.5**	**-2.0**
TIXI				*e*SS	SS	09 21 02.0	-1.4
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb4.5						
TIXI				MLR	MLR		
	comp=Z,151nm,16.0s,MS4.6						
WMQ	**Urumqi**	**109.39**	**311**	PDIF	Pdif	09 03 33.1	+0.1
WMQ				PP	PP	09 08 09.3	+2.8
WMQ				PP	PP		
	comp=Z,114nm,5.1s						
WMQ				LR	LR		
	comp=N,79nm,26.5s,MS4.4						
WMQ				LR	LR		
	comp=E,122nm,24.8s,MS4.4						
WMQ				LR	LR		
	comp=Z,93nm,21.2s,MS4.3						
KSH	**Kashi**	**117.64**	**305**	*e*PKP	PKPdf	09 07 54.2	+2.3
KSH				*e*PKS		09 11 29.3	
KSH				PP	PP		
	comp=Z,101nm,4.1s						
KSH				LR	LR		
	comp=N,194nm,5.4s						
KSH				LR	LR		
	comp=E,221nm,6.9s						
KSH				LR	LR		
	comp=Z,225nm,5.9s						
AAK	**Ala-Archa**	**118.89**	**308**	*i* PKIKP	PKPdf	09 07 56.1	+1.8
BVAR	**Borovoye Array**	**121.03**	**321**	PKP	PKPdf	09 07 57.9	-0.5
	comp=Z,0.8nm,0.6s,baz=126,slow=2.0,SNR=4.9						
ZRNK	**Zerenda**	**121.87**	**321**	*e*PKIKP	PKPdf	09 08 01.4	+1.4
ARU	**Arti**	**126.82**	**327**	*i* PKIKP	PKPdf	09 08 11.4	+1.9
ARU				*e*		09 10 05.7	
ARU				*e*		09 15 13.3	
ARU				*e*SS	SS	09 27 10.4	+1.0
ARU				MLR	MLR		
	comp=Z,400nm,20.0s,MS5.1						
ARU				MLR	MLR		
	comp=N,40nm,19.0s,MS5.0						
ARU				MLR	MLR		
	comp=E,300nm,20.0s,MS5.0						
ARCES	**ARCESS Array B**	**128.96**	**351**	PKP	PKPdf	09 08 13.4	-0.2
	comp=E,3.6nm,0.9s,baz=352,slow=2.5,SNR=4.3						
OBN	**Obninsk**	**137.95**	**334**	*i* PKIKP	PKiKP	09 08 38.0	+5.5
SUW	**Suwalki**	**143.50**	**343**	*e*PKIKP	PKPdf	09 08 39.6	-0.9
AKASG	**Malin Array Be**	**144.21**	**335**	PKP	PKPdf	09 08 40.1	-1.6
	comp=E,6.5nm,0.8s,baz=36,slow=4.0,SNR=15						
SIM	**Simferopol'**	**145.87**	**323**	*e*PKP2	PKPab	09 08 47.3	+1.6
SIM				pmax	pmax		
	comp=Z,25nm,0.8s						
SIM				MLR	MLR		
	comp=Z,300nm,21.0s,MS5.0						
BSEG	**Bad Segeberg**	**145.87**	**355**	*e*PKPbc	PKPbc	09 08 45.3	0.0
MALT	**Malatya**	**146.50**	**310**	⇑*i*P	PKPab	09 08 51.2	+3.0
MALT	**Malatya**	**146.50**	**310**	*e*PKPbc	PKPbc	09 08 49.8	+2.7
MALT				*e*PKPab	PKPab	09 08 55.0	+6.8
LVV	**L'vov**	**146.87**	**338**	*i* PKP2	PKPab	09 08 48.6	-1.0
BOYT	**Boyabat**	**147.42**	**318**	*i* P	PKPbc	09 08 51.4	+1.6
KWP	**Kalwaria**	**147.48**	**340**	*e*PKP	PKPab	09 08 53.3	+1.3
IBBN	**Ibbenburen**	**147.63**	**358**	*e*PKPbc	PKPbc	09 08 51.2	+0.9
OJC	**Ojcow**	**147.83**	**343**	*e*PKPbc	PKPbc	09 08 48.8	-2.0
OJC				*e*PKPab	PKPab	09 08 51.5	-1.9
CTKT	**Corum**	**147.92**	**316**	*i* P	PKPbc	09 08 52.8	+1.7
CLZ	**Clausthal**	**147.94**	**355**	*e*PKPbc	PKPbc	09 08 52.2	+1.0
KSP	**Ksiaz**	**148.07**	**348**	*e*PKP2	PKPab	09 08 52.6	-1.8
STHS	**Stebnicka Huta**	**148.13**	**341**	*e*PKP	PKPbc	09 08 53.3	+1.7

comp=Z,2.6nm,0.3s,baz=29,slow=2.7,SNR=7.1
VRAC Vranov 149.46 346 ⇓ *i*P PKPab 09 09 01.5 +1.5
MANZ Manzenberg 149.59 352 *e*PKPbc PKPbc 09 08 56.4 +1.0
ANTO Ankara 149.61 317 *e*PKPbc PKPbc 09 08 56.1 +0.7
MLR Muntele Rosu 149.63 332 *e*PKPbc PKPbc 09 08 56.2 +0.8
comp=Z,14nm,1.1s,baz=144,slow=2.2,SNR=6.9
MLR Muntele Rosu 149.63 332 ⇑ *i*P PKPbc 09 08 56.9 +1.4
VYHS Vyhne 149.66 343 *e*PKP PKPbc 09 08 56.1 +0.6
TNS Taunus Mts 149.69 357 *e*PKPbc PKPbc 09 08 56.8 +1.2
TREC Trest 149.71 348 *e*PKPbc PKPbc 09 08 56.8 +1.2
ROTZ Rotzenmuhle 149.80 352 *e*PKPbc PKPbc 09 08 56.1 +0.2
DOU Dourbes 149.85 2 PKPbc PKPbc 09 08 57.0 +1.0
DOU PKPab PKPab 09 09 02.0 +0.4
DOU E 09 09 04.8
DOU APKPbc 09 09 14.0
GIVF Givet 149.85 2 *e*PKP1 PKPbc 09 08 56.5 +0.5
comp=Z,89nm,1.4s
PSZ Piszkesteto 149.87 341 *e*PKP/F PKPbc 09 08 57.3 +1.3
PSZ Piszkesteto 149.87 341 *e*PKPbc PKPbc 09 08 56.6 +0.6
BAIF Baives 149.88 2 *e*PKP1 PKPbc 09 08 56.6 +0.6
comp=Z,43nm,1.2s
DRGR 149.90 337 ⇓ *i*P PKPbc 09 08 57.2 +1.1
GRF Grafenberg Arr 149.99 353 *e*PKPbc PKPbc 09 08 57.7 +1.4
VOIR 150.07 333 ⇓ *i*P PKPbc 09 08 58.3 +1.8
KHC Kasperske Hory 150.22 350 *e*PKPbc PKPbc 09 08 58.1 +1.2
KHC AMS AMS 10 16 30.0
comp=Z,400nm,19.9s
WLF Walferdange 150.31 360 *e*PKPbc PKPbc 09 08 58.6 +1.5
WLF Walferdange 150.31 360 PKPbc PKPbc 09 08 58.9 +1.8
WLF E 09 09 06.6
WLF APKPbc 09 09 13.9
WLF Walferdange 150.31 360 *e*PKPdf PKPdf 09 08 53.6 +1.8
WLF *e*PKPbc PKPbc 09 08 58.8 +1.7
WET Wettzell 150.31 351 *e*PKPbc PKPbc 09 08 58.2 +1.1
ZST Bratislava 150.38 345 *e* PKiKP 09 09 01.5 +3.5
GEC2 GERESS Array S 150.47 350 *e*PKPbc PKPbc 09 08 58.3 +0.8
GERES GERESS Array B 150.47 350 PKPbc PKPbc 09 08 56.8 -0.7
comp=Z,3.3nm,0.9s,baz=48,slow=2.0,SNR=11
FLN La Foliniere 150.74 9 *e*PKP1 PKPbc 09 08 58.0 -0.1
comp=Z,55nm,1.3s
FLN *e*R
comp=Z,222nm,19.8s
SGMF Saint Gilles 150.88 12 *e*PKP1 PKPbc 09 08 58.1 -0.3
LDF La Druiniere 150.95 8 *e*PKP1 PKPbc 09 08 58.5 -0.1
comp=Z,73nm,1.5s
SOP Sopron 151.00 345 ⇑ *e*PKP/F PKPdf 09 08 53.9 +1.0
GRR Gorron 151.05 9 *e*PKP1 PKPbc 09 09 00.0 +1.2
QUIF Quistinic 151.08 13 *e*PKP1 PKPbc 09 08 59.5 +0.6
BZS Buzias 151.30 337 ⇓ *i*P PKPbc 09 08 59.4 0.0
CDF Champ du Feu 151.54 358 *e*PKP1 PKPbc 09 09 00.5 +0.5
comp=Z,55nm,1.4s
BFO Black Forest 151.58 357 *e*PKPbc PKPbc 09 09 01.1 +1.0
PKSM Moragy 151.78 341 ⇑ *i*P PKPbc 09 09 01.5 +1.0
HAU Haudompre 151.97 360 *e*PKP1 PKPbc 09 09 02.3 +1.4
HAU *e*R
comp=Z,168nm,20.8s
LOR Lormes 152.65 3 *e*PKP1 PKPbc 09 09 02.9 +0.4
LOR *e*R
comp=Z,244nm,19.2s
SSF Saint Saulge 152.83 4 *e*PKP1 PKPbc 09 09 03.4 +0.5
comp=Z,36nm,1.3s
AVF Avril sur Loir 153.09 4 *e*PKP1 PKPbc 09 09 03.5 0.0
comp=Z,16nm,1.2s
GRUS Gruza 153.11 336 ⇑ *i*P PKPbc 09 09 04.8 +1.3
DIVS Divcibare 153.20 337 ⇑ *i*P PKPbc 09 09 04.8 +1.1
SMF Signal de Mont 153.27 3 *e*PKP1 PKPbc 09 09 03.9 +0.1
BGF Bois d'Agland 153.29 5 *e*PKP1 PKPbc 09 09 04.2 +0.3
BBLS Bajina Basta - 153.61 338 ⇑ *i*P PKPbc 09 09 14.0 +9.4
TORD Torodi Ar. Bea 172.11 148 PKP PKPdf 09 09 14.1 -0.5
comp=Z,0.9nm,0.9s,baz=259,slow=1.2,SNR=4.6
TORD PKPab PKPab 09 10 38.6 +0.4
comp=Z,0.7nm,1.0s,baz=244,slow=6.3,SNR=3.7

IDC ***05*** *08:49:42.5±0.9,2924N×8074E, h0km, mb3.7/9, mb1 3.9/10, mb1mx3.7/22, mbtmp3.7/10, ML3.6/1, Error ellipse: s-maj=33.1km s-min=18.1km az=56.0*
ISCJB ***05*** *08:49:47.6±0.7, 2930N±003×8091E±005, h53km±7km, mb3.9/15, Error ellipse: s-maj=7.2km s-min=5.3km az=143.2*
NEIC ***05*** *08:49:48.2±1.1, 2938N×8071E, h35km, mb3.9/3, Error ellipse: s-maj=31.1km s-min=15.5km az=60.0*
NDI ***05*** *08:49:49.9±3.7, 2942N×8092E, h33km, ML3.8*
ISC 05 08:49:49.0±0.6, 2934N±003×8092E±005, h46km±7km, n45, σ1§13/64, mb3.9/15, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LGTI	**Lohaghat**	**0.59**	**281**	*e*P	**Pn**	**08 49 59.0**	**-2.2**
LGTI				*e*S	**Sn**	**08 50 09.0**	**-0.9**
PTH	**Pithoragarh**	**0.65**	**289**	*e*P	**Pn**	**08 49 57.0**	**-4.9**
PTH				*e*S	**Sn**	**08 50 05.0**	**-6.1**
KALG	**Kalgarh**	**1.89**	**276**	*e*P	**Pn**	**08 50 07.2**	**-12**
KALG				*e*S	**Sn**	**08 50 31.8**	**-10**
DDI	**Dehra Dun**	**2.67**	**292**	*e*P	**Pn**	**08 50 29.0**	**-0.5**
DDI				*ex*	**Sn**	**08 51 09.0**	**+8.3**
ASOR	**Ausora**	**2.81**	**259**	*e*P	**Pn**	**08 50 32.8**	**+1.3**
KLP	**Kalpa**	**3.18**	**314**	*e*P	**Pn**	**08 50 37.6**	**+1.1**
KLP				*e*S	**Sn**	**08 51 13.4**	**+0.3**
KLP				AML	AML	08 51 32.3	
	comp=N,517nm,1.0s						
KLP				AML	AML	08 51 32.5	
	comp=E,638nm,0.9s						
NDI	**New Delhi**	**3.31**	**260**	*e*P	**Pn**	**08 50 39.4**	**+1.1**
NDI				*e*S	**Sn**	**08 51 16.0**	**-0.3**
NDI				*e*S	**Sn**	**08 51 16.0**	**-0.3**
AGRA	**Agra**	**3.36**	**232**	*ex*	**Pn**	**08 50 43.9**	**+4.9**
AGRA				*e*S	**Sn**	**08 51 18.7**	**+1.1**
AGRA				AML	AML	08 51 40.6	
	comp=E,238nm,0.3s						
AGRA				AML	AML	08 51 42.0	
	comp=N,313nm,0.6s						
AYAN	**Aya Nagar**	**3.43**	**257**	*e*P	**Pn**	**08 50 40.4**	**+0.4**
AYAN				*e*S	**Sn**	**08 51 19.0**	**-0.4**
SONA	**Sohna**	**3.54**	**253**	*e*P	**Pn**	**08 50 42.0**	**+0.6**
SONA				*e*S	**Sn**	**08 51 21.4**	**-0.5**
SMLA	**Simla**	**3.70**	**300**	*e*P	**Pn**	**08 50 44.1**	**+0.5**
SMLA				*e*S	**Sn**	**08 51 26.1**	**0.0**
SMLA				AML	AML	08 51 41.1	
	comp=N,284nm,0.2s						
SMLA				AML	AML	08 51 41.7	
	comp=E,310nm,0.3s						
SDNR	**Sundarnagar**	**4.03**	**303**	*e*P	**Pn**	**08 50 50.4**	**+2.2**
SDNR				*ex*	**Sn**	**08 51 54.0**	**+20**
KHET	**Khetri**	**4.66**	**256**	*e*P	**Pn**	**08 50 57.6**	**+0.7**
KHET				*e*S	**Sn**	**08 51 49.2**	**-0.5**
AJM	**Ajmer**	**6.24**	**244**	*i* P	**Pn**	**08 51 19.0**	**+0.5**
AJM				*e*S	**Sn**	**08 52 24.8**	**-3.7**
AJM				AML	AML	08 53 07.1	
	comp=E,177nm,0.7s						
AJM				AML	AML	08 53 11.5	
	comp=N,175nm,0.7s						
BHPL	**Bhopal**	**6.83**	**208**	*e*P	**Pn**	**08 51 27.5**	**+0.9**
BHPL				*e*S	**Sn**	**08 52 41.9**	**-1.2**
BOK	**Bokaro**	**7.09**	**140**	*e*P	**Pn**	**08 51 31.4**	**+1.2**
BOK				*e*S	**Sn**	**08 52 47.1**	**-2.3**
NGP	**Nagpur**	**8.33**	**192**	*e*P	**Pn**	**08 51 46.9**	**-0.2**
NGP				*e*S	**Sn**	**08 53 17.1**	**-2.7**
AKL	**Akola**	**9.30**	**203**	*i* x	x	08 53 06.6	
AKL				*ex*	x	08 55 24.8	
SHL	**Shillong**	**10.44**	**108**	*ex*	**Pn**	**08 52 08.0**	**-8.1**
SHL				*ex*	**Sn**	**08 54 04.0**	**-7.6**
VIS	**Vishakhapatnam**	**11.77**	**169**	*e*P	**Pn**	**08 52 35.3**	**+1.0**
VIS				*e*S	**Sn**	**08 54 37.5**	**-6.7**
HYB	**Hyderabad**	**12.06**	**191**	*i* P	**Pn**	**08 52 41.0**	**+2.8**
HYB				*e*S	**Sn**	**08 54 44.0**	**-7.3**
POO	**Poona**	**12.55**	**213**	*e*P	**Pn**	**08 52 45.0**	**+0.2**
POO				*i* S	**Sn**	**08 54 55.0**	**-8.1**
POO				*ex*	x	08 55 10.0	
POO				*ex*	x	08 55 10.0	
KAD	**Karad**	**13.47**	**209**	*ex*	x	08 55 18.4	
AAK	**Ala-Archa**	**14.24**	**340**	*e*Pn	**Pn**	**08 53 04.5**	**-3.4**
MKAR	**Makanchi Array**	**17.46**	**3** P	P	**Pn**	**08 53 47.2**	**-1.9**
	comp=N,0.2nm,0.3s,baz=190,slow=12,SNR=7.7						
KURK	**Kurchatov**	**21.42**	**356**	*e*P	**P**	**08 54 31.1**	**-1.9**
	comp=N,7.1nm,0.9s,mb4.0						
ZAL	**Zalesovo**	**24.74**	**5** P	P	**P**	**08 55 04.8**	**-1.3**
	comp=N,1.4nm,0.5s,mb3.8,baz=276,slow=8.6,SNR=5.0						
BVAR	**Borovoye Array**	**24.90**	**345** P	P	**P**	**08 55 08.4**	**+0.8**
	comp=N,0.4nm,0.3s,mb3.4,baz=148,slow=8.5,SNR=3.4						
ZRNK	**Zerenda**	**25.17**	**343**	*e*P	**P**	**08 55 09.4**	**-0.6**
	comp=N,2.5nm,0.8s,mb3.8						
CHKZ	**Chkalovo**	**25.46**	**346**	*e*P	**P**	**08 55 12.7**	**0.0**
	comp=N,3.2nm,0.8s,mb3.9						
SONM	**Songino Array**	**26.96**	**40** P	P	**P**	**08 55 29.2**	**+2.9**
	comp=N,0.3nm,0.4s,mb3.2,baz=233,slow=9.1,SNR=3.6						
AKASG	**Malin Array Be**	**43.91**	**314** P	P	**P**	**08 57 50.1**	**-1.1**
	comp=N,0.3nm,0.4s,mb3.4,baz=80,slow=7.3,SNR=4.2						
FINES	**FINESS Array B**	**48.00**	**328** P	P	**P**	**08 58 23.1**	**-0.4**
	comp=N,0.4nm,0.5s,mb3.7,baz=46,slow=9.9,SNR=3.1						
ARCES	**ARCESS Array B**	**50.90**	**338** P	P	**P**	**08 58 45.3**	**-0.3**
	comp=N,1.5nm,0.8s,mb4.0,baz=106,slow=9.5,SNR=4.9						
LPG	**La Plagne**	**59.06**	**308**	*e*P	**P**	**08 59 45.0**	**+0.5**
	comp=N,9.4nm,0.9s,mb4.5						
LPL	**La Plagne**	**59.07**	**308**	*e*P	**P**	**08 59 45.0**	**+0.5**
	comp=N,21nm,1.0s,mb4.8						
SMF	**Signal de Mont**	**60.80**	**310**	*e*P	**P**	**08 59 55.8**	**-0.6**
AVF	**Avril sur Loir**	**61.09**	**310**	*e*P	**P**	**08 59 57.8**	**-0.6**
BGF	**Bois d'Agland**	**61.49**	**310**	*e*P	**P**	**09 00 00.5**	**-0.5**
TCF	**Toulx Ste Croi**	**61.98**	**310**	*e*P	**P**	**09 00 04.4**	**+0.1**
	comp=N,12nm,1.0s,mb4.7						
WRA	**Warramunga Arr**	**71.08**	**127** P	P	**P**	**09 01 03.2**	**+0.8**
	comp=N,1.7nm,0.6s,mb4.1,baz=321,slow=6.2,SNR=16						
WRA	**Warramunga Arr**	**71.08**	**127** P	P	**P**	**09 01 03.2**	**+0.8**
ASAR	**Alice Springs**	**73.30**	**130** P	P	**P**	**09 01 16.3**	**+0.6**
	comp=N,0.6nm,0.3s,mb4.0,baz=314,slow=6.2,SNR=11						
TORD	**Torodi Ar. Bea**	**74.38**	**276** P	P	**P**	**09 01 22.1**	**+0.1**
	comp=N,0.5nm,0.8s,mb3.5,baz=47,slow=4.5,SNR=3.6						
COLA	**College**	**78.75**	**19** *e*P	P	**P**	**09 01 48.9**	**+2.1**
	comp=N,23nm,0.8s						
COLA				*e*PcP	PcP	09 01 59.4	+3.9

ISCJB ***05*** *08:59:50.8±1.2, 6469N±004×306E±02, h0km, Error ellipse: s-maj=12.5km s-min=4.8km az=27.0*
IDC ***05*** *08:59:51.1±3.0, 6464N×3136E, h0km, mb1 3.0/4, mb1mx2.9/21, mbtmp2.9/4, ML2.7/4, Error ellipse: s-maj=45.3km s-min=10.3km az=99.0*
HEL ***05*** *08:59:52.7±0.3, 6470N×3060E, h0km, ML1.8, Explosion*
ISC 05 08:59:52.0±1.1, 6472N±003×305E±02, h0km, n10, σ0§99/18, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSF	**Maaselka**	**1.34**	**334**	*e*P	**Pg**	**09 00 17.0**	**-0.8**
MSF				*e*S	**Sg**	**09 00 35.2**	**0.0**
KJN	**Kajaani**	**1.37**	**243**	*e*P	**Pg**	**09 00 17.4**	**-0.8**
KJN				*e*S	**Sg**	**09 00 35.9**	**-0.1**
KUA	**Liikasenvaara**	**1.69**	**347**	*e*P	**Pn**	**09 00 23.1**	**+0.2**
KU4				*e*S	**Sn**	**09 00 46.1**	**+0.9**
OUL	**Oulu**	**2.00**	**283**	*e*P	**Pn**	**09 00 28.4**	**+1.4**
OUL				*e*S	**Sn**	**09 00 54.3**	**+1.6**
OUL				MSG		09 00 56.1	
	comp=Z,4.3nm,0.1s						
SUF	**Sumiainen**	**2.79**	**226**	*e*P	**Pn**	**09 00 39.1**	**+1.2**
SUF				*e*S	**Sn**	**09 01 12.2**	**0.0**
SUF				MSG		09 01 19.0	
	comp=Z,2.5nm,0.1s						
KAF	**Kangasniemi**	**3.23**	**218**	*e*P	**Pn**	**09 00 45.0**	**+1.1**
KAF				*e*S	**Sb**	**09 01 28.7**	**-1.3**
KAF				MSG		09 01 32.5	
	comp=Z,3.7nm,0.2s						
FINES	**FINESS Array B**	**3.85**	**213**	Pn	**Pn**	**09 00 52.7**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=36,slow=15,SNR=12						
FINES				Pg	**Pg**	**09 01 00.7**	**-5.2**
	comp=Z,0.3nm,0.3s,baz=33,slow=16,SNR=9.1						
FINES				Lg		09 01 50.6	
	comp=Z,0.8nm,0.3s,baz=38,slow=29,SNR=8.4						
ARCES	**ARCESS Array B**	**5.21**	**340**	Pn	**Pn**	**09 01 11.1**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=151,slow=13,SNR=42						
ARCES				Sn	**Sn**	**09 02 09.6**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=154,slow=25,SNR=5.4						
ARCES				Lg		09 02 32.8	
	comp=Z,0.6nm,0.3s,baz=155,slow=29,SNR=6.4						
HFS	**Hagfors**	**9.04**	**247**	Pn	**Pn**	**09 02 03.3**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=62,slow=13,SNR=3.6						
NOA	**NORSAR Array B**	**9.53**	**256**	Pn	**Pn**	**09 02 09.5**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=69,slow=14,SNR=2.1						

ISCJB ***05*** *09:06:40.8±3.9, 6.1S±02×1477E±02, h64km±35km, mb4.0/5, Error ellipse: s-maj=42.2km s-min=26.3km az=75.4*
NEIC ***05*** *09:06:41.8±3.0, 6.19S×14789E, h58km±27km, mb4.2/4, Error ellipse: s-maj=38.0km s-min=19.2km az=139.0*
IDC ***05*** *09:06:43.9±5.1, 6.26S×14797E, h81km±46km, mb3.6/4, mb1 3.7/6, mb1mx3.5/15, mbtmp3.8/6, ML4.0/1, MS3.6/2, Ms1 3.6/2, ms1mx3.0/20, Error ellipse: s-maj=51.7km s-min=31.8km az=130.0*
ISC 05 09:06:39.9±3.9, 60S±02×1478E±02, h41km±36km, n13, σ0§96/14, mb4.0/5, MS3.7/1, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.42**	**190**	P	**Pn**	**09 07 31.4**	**+0.7**
	2.4nm,0.3s,baz=42,slow=12,SNR=5.7						
PMG				S	**Sn**	**09 08 10.6**	**+0.6**
	5.7nm,0.3s,baz=224,slow=21,SNR=9.5						
PMG				LR	LR	09 08 48.3	
	comp=Z,529nm,19.6s,baz=86,slow=38						
PMG	**Port Moresby**	**3.42**	**190**	*e*Pn	**Pn**	**09 07 30.9**	**+0.2**
PMG				S	**Sn**	**09 08 10.6**	**+0.6**
PMG				LR	LR	09 08 48.3	
WRAB	**Tennant Creek**	**19.00**	**222**	*e*P	**Pn**	**09 10 57.9**	**-1.2**
	21nm,1.4s						
WB2	**Warramunga Arr**	**19.01**	**222**	*e*P	**Pn**	**09 10 58.3**	**-0.8**
WRA	**Warramunga Arr**	**19.02**	**222** P	P	**Pn**	**09 10 58.1**	**-1.1**
	0.5nm,0.3s,baz=48,slow=11,SNR=40						
ASAR	**Alice Springs**	**22.04**	**216** P	P	**P**	**09 11 31.4**	**+0.5**
	2.0nm,0.4s,mb3.9,baz=53,slow=8.8,SNR=57						
DZM	**Mont Dzumac**	**24.11**	**133**	LR	LR	09 20 00.8	
	comp=Z,250nm,18.1s,MS3.7,baz=23,slow=34						
FITZ	**Fitzroy Crossi**	**24.70**	**239**	*e*P	**P**	**09 11 58.6**	**+1.6**
	3.3nm,0.4s,mb4.2						
FITZ	**Fitzroy Crossi**	**24.70**	**239** P	P	**P**	**09 11 58.4**	**+1.4**
	1.5nm,0.3s,mb3.9,baz=70,slow=10,SNR=22						
STKA	**Stephens Creek**	**26.37**	**192**	*e*P	**P**	**09 12 11.5**	**-0.7**
	6.0nm,1.9s,mb3.8						
STKA	**Stephens Creek**	**26.37**	**192** P	P	**P**	**09 12 10.6**	**-1.6**
	0.8nm,0.4s,mb3.6,baz=15,slow=11,SNR=4.9						
MBWA	**Marble Bar**	**31.03**	**238**	*e*P	**P**	**09 12 55.0**	**+1.3**
	12nm,1.3s,mb4.6						
ILAR	**Eielson Array**	**85.20**	**23** P	P	**P**	**09 19 11.9**	**0.0**
	0.5nm,0.9s,mb3.6,baz=254,slow=5.6,SNR=5.0						

IDC 05 09:23:59.8±1.9, 259N×12516E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/17, mbtmp3.7/3, Error ellipse: s-maj=183.3km s-min=24.7km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.14**	**158**	P	P	09 29 17.1	-0.2
	3.4nm,0.6s,baz=337,slow=11,SNR=26						
WB2	**Warramunga Arr**	**24.14**	**158**	*e*P	P	09 29 17.3	-0.1
ASAR	**Alice Springs**	**27.45**	**162** P	P	P	09 29 48.8	+1.4
	0.3nm,0.5s,baz=346,slow=7.2,SNR=7.8						
MKAR	**Makanchi Array**	**57.61**	**326** P	P	P	09 33 51.2	-0.2
	0.5nm,0.5s,baz=119,slow=7.4,SNR=7.8						

GUC 05 09:31:02.7±1.0, 3178S×7175W, h54km±5km, MD3.5, ML2.7, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.24**	**116** ⇓	*i*P	Pn	09 31 11.9	+0.2
CHNG				*i* S	Sn	09 31 18.5	+0.4
CHNG				AML	AML	09 31 18.9	
	comp=E,706nm,0.2s						
CMCH	**Combarbala**	**0.88**	**47** ⇑	*i*P	Pn	09 31 19.4	+0.4
CMCH				*i* S	Sn	09 31 32.4	+1.6
CMCH				AML	AML	09 31 33.3	
	comp=E,2μm,0.5s						
JACH	**Jahuel**	**1.33**	**133** ⇑	*i*P	Pn	09 31 26.3	+1.4
JACH				*i* S	Sn	09 31 43.4	+1.8
PEL	**Peldehue**	**1.63**	**147**	*i* S	Sn	09 31 50.0	+1.2
PEL				AML	AML	09 31 59.4	
	comp=E,136nm,0.4s						
LCCH	**Las Cruces**	**1.70**	**175**	*i* P	Pn	09 31 29.9	0.0
TLL	**Tololo Astrono**	**1.80**	**27**	*i* P	Pn	09 31 32.4	+1.0
TLL				*i* S	Sn	09 31 54.5	+1.4
TLL				AML	AML	09 32 00.7	
	comp=E,110nm,0.3s						
RCDM	**Rinconada Maip**	**1.88**	**155**	*e*P	Pn	09 31 33.2	+0.8
RCDM				*i* S	Sn	09 31 55.9	+0.9
RCDM				AML	AML	09 32 11.2	
	comp=E,144nm,0.5s						
CLCH	**Cerro Calan**	**1.91**	**148** ⇓	*i*P	Pn	09 31 34.1	+1.3
CLCH				*i* S	Sn	09 31 56.9	+1.3
CLCH				AML	AML	09 32 13.4	
	comp=N,63nm,0.4s						
FCH	**Farellones**	**1.97**	**142**	*e*P	Pn	09 31 34.9	+1.2
FCH				*i* S	Sn	09 31 59.0	+1.7
FCH				AML	AML	09 32 09.0	
	comp=E,41nm,0.2s						
TACH	**Talagante**	**1.99**	**160**	*i* S	Sn	09 31 58.8	+1.2
CACH	**El Canelo**	**2.52**	**158**	*i* S	Sn	09 32 12.7	+2.0

IDC ***05*** *09:34:59.1±0.9, 1981S×17460W, h0km, mb4.1/9, mb1 4.4/9, mb1mx4.3/14, mbtmp4.1/9, MS4.0/5, Ms1 4.0/5, ms1mx3.4/31, Error ellipse: s-maj=40.7km s-min=19.7km az=142.0*
ISCJB ***05*** *09:35:02.9±0.4, 198S±01×1747W±01, h33km, mb4.4/17, MS4.1/5, Error ellipse: s-maj=21.2km s-min=11.2km az=103.2*
MOS ***05*** *09:35:02.4±0.3, 1987S×17466W, h31km, mb5.0/3, Error ellipse: s-maj=34.9km s-min=21.7km az=144.5*
NEIC ***05*** *09:35:03.3±0.4, 1962S×17470W, h25km, mb4.8/8, Error ellipse: s-maj=19.5km s-min=10.0km az=136.0*
ISC 05 09:35:04.9±0.4, 198S±01×1747W±01, h35km, n44, σ0§60/37, mb4.4/17, MS4.1/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.49**	**26**	Pn	**Pn**	**09 36 31.4**	**-6.4**
	6.9nm,0.3s,baz=115,slow=2.2,SNR=20						
AFI				Sn	**Sn**	**09 37 38.1**	**-12**
	8.9nm,0.3s,baz=245,slow=23,SNR=6.1						
AFI	**Afiamalu**	**6.49**	**26**	*e*P	**Pn**	**09 36 30.9**	**-6.9**
AFI				pmax	pmax		
	comp=Z,29nm,0.4s						
AFI	**Afiamalu**	**6.49**	**26**	*e*Pn	**Pn**	**09 36 30.9**	**-6.9**
	comp=Z,29nm,0.4s						
RAR	**Rarotonga**	**14.03**	**98**	Pn	**Pn**	**09 38 09.4**	**-12**
	comp=Z,1.7nm,0.3s,baz=217,slow=10,SNR=4.4						
DZM	**Mont Dzumac**	**17.78**	**259** P	P	**Pn**	**09 39 17.7**	**+8.2**
	comp=Z,0.3nm,0.3s,baz=78,slow=16,SNR=4.8						
STKA	**Stephens Creek**	**40.90**	**244** P	P	**P**	**09 42 42.0**	**-1.6**
	comp=Z,1.8nm,0.8s,mb3.7,baz=96,slow=10,SNR=2.8						
ASAR	**Alice Springs**	**47.72**	**256** P	P	**P**	**09 43 38.8**	**+0.6**
	comp=Z,1.8nm,0.8s,mb4.1,baz=98,slow=8.1,SNR=21						
ASAR				PcP	PcP	09 45 08.8	+1.8
	comp=Z,0.6nm,0.5s,baz=109,slow=3.8,SNR=5.2						
WRAB	**Tennant Creek**	**47.78**	**261**	*e*P	**P**	**09 43 39.4**	**+0.8**
WRAB				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.8						
WRAB	**Tennant Creek**	**47.78**	**261**	*e*P	**P**	**09 43 39.4**	**+0.7**
	comp=Z,14nm,1.3s,mb4.8						
WRA	**Warramunga Arr**	**47.79**	**261** P	P	**P**	**09 43 38.5**	**-0.2**
	comp=Z,2.0nm,0.9s,mb4.1,baz=97,slow=7.1,SNR=12						
VNDA	**Vanda**	**58.89**	**186** P	P	**P**	**09 44 60.0**	**-0.3**
	comp=Z,1.2nm,1.1s,mb3.9,baz=37,slow=6.8,SNR=3.5						
QSPA	**South Pole Qui**	**70.26**	**180**	*e*P	**P**	**09 46 15.4**	**+1.0**
	comp=Z,8.1nm,1.0s,mb4.6						
MJAR	**Matsushiro Arr**	**71.56**	**322** P	P	**P**	**09 46 23.3**	**+0.9**
	comp=Z,1.5nm,0.7s,mb4.0,baz=152,slow=4.6,SNR=4.1						
ASAJ	**Asahikawa**	**74.66**	**330**	LR	LR	10 17 26.8	
	comp=Z,55nm,18.1s,MS3.9,baz=189,slow=34						
YBH	**Yreka Blue Hor**	**77.83**	**37**	LR	LR	10 16 50.4	
	comp=Z,82nm,19.1s,MS4.1,baz=240,slow=32						
NVAR	**Mina Array Bea**	**78.40**	**42** P	P	**P**	**09 47 01.8**	**0.0**
	comp=Z,2.9nm,0.8s,mb4.3,baz=213,slow=7.1,SNR=20						
PMSA	**Palmer Station**	**80.67**	**156**	*e*P	**P**	**09 47 13.8**	**-0.3**
ARUT	**Antelope Range**	**81.17**	**45**	*e*P	**P**	**09 47 17.3**	**+0.5**
MSU	**Marysvale**	**82.40**	**45**	*e*P	**P**	**09 47 23.3**	**0.0**
MAW	**Mawson**	**83.25**	**199**	LR	LR	10 22 55.5	
	comp=Z,151nm,20.7s,MS4.3,baz=242,slow=34						
TMUT	**Trail Mountain**	**83.46**	**44**	*e*P	**P**	**09 47 29.6**	**+0.8**
HLID	**Hailey**	**83.79**	**39**	*e*P	**P**	**09 47 30.3**	**-0.2**
	comp=Z,5.6nm,1.0s,mb4.7						
SRU	**San Rafael**	**83.81**	**45**	*e*P	**P**	**09 47 30.7**	**+0.1**
SRU				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.7						
SRU	**San Rafael**	**83.81**	**45**	*e*P	**P**	**09 47 30.7**	**+0.1**
	comp=Z,4.0nm,0.7s,mb4.7						
MNTX	**Cornudas Mount**	**83.82**	**53**	*e*P	**P**	**09 47 30.5**	**-0.1**
	comp=Z,9.1nm,1.3s,mb4.8						
TCUT	**Toone Canyon**	**84.30**	**43**	*e*P	**P**	**09 47 33.3**	**+0.2**
PV10	**Paradox Valley**	**84.43**	**46**	*e*P	**P**	**09 47 33.7**	**0.0**
ANMO	**Albuquerque**	**84.55**	**50**	*e*P	**P**	**09 47 34.5**	**+0.2**
ANMO				pmax	pmax		
	comp=Z,13nm,1.1s						
ANMO	**Albuquerque**	**84.55**	**50**	*e*P	**P**	**09 47 34.5**	**+0.2**
	comp=Z,13nm,1.1s,mb5.0						
PV01	**Paradox Valley**	**84.63**	**46**	*e*P	**P**	**09 47 34.6**	**-0.1**
**NEW

ellipse: s-maj=12.7km s-min=7.0km az=124.9
*BJI **05** 10:06:58.2, 4386N×8520E, h11km, mB4.7, mb4.7, ML4.2, Ms4.3, Msz3.7*
*IDC **05** 10:06:59.6±0.7, 4390N×8526E, h30km±4km, mb3.6/10, mb1 3.8/13, mb1mx3.7/24, mbtmp3.7/13, ML3.7/4, Error ellipse: s-maj=20.8km s-min=10.9km az=56.0*
*NNC **05** 10:07:04.8±4.0, 4407N×8492E, h31km±23km, mb4.0, mpv3.7, Error ellipse: s-maj=28.2km s-min=18.4km az=122.0*

ISC 05 10:07:00.6±0.3, 4400N±004×8523E±006, h29km, h29km±1.8km: pP-P, n67, σ1§14/74, mb4.0/16, MS3.9/1, 5C-9D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**1.79**	**95**	⇓*i* P	**Pn**	**10 07 32.7**	**+3.2**
WMQ				SG	**Sn**	**10 07 58.8**	**+7.6**
WMQ				Smax			
	comp=N,2μm,0.5s						
MK09	**Makanchi Array**	**3.47**	**324**	⇑Pn	**Pn**	**10 07 54.6**	**+2.0**
	comp=N,2.3nm,0.3s,baz=143,slow=15						
MK09				⇓Pg	**Pn**	**10 08 05.0**	**+12**
	comp=N,61nm,0.6s,baz=139,slow=16						
MK09				⇓Lg		10 08 49.1	
	comp=N,227nm,0.5s,baz=148,slow=30						
MK31	**Makanchi Array**	**3.48**	**324**	P	**Pn**	**10 07 54.8**	**+2.1**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**3.48**	**324**	Pn	**Pn**	**10 07 55.0**	**+2.3**
	comp=Z,3.6nm,0.3s,baz=142,slow=15,SNR=70						
MKAR				Pg	**Pn**	**10 08 04.0**	**+11**
	comp=Z,22nm,0.3s,baz=136,slow=17,SNR=90						
MKAR				Lg		10 08 49.2	
	comp=Z,77nm,0.3s,baz=149,slow=28,SNR=9.0						
MKAR	**Makanchi Array**	**3.48**	**324**	*i* P	**Pn**	**10 07 55.0**	**+2.3**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.4s						
FRU	**Bishkek**	**7.82**	**265**	*e*P	**Pn**	**10 08 52.0**	**-0.3**
FRU				pmax	pmax		
	comp=E,93nm,1.5s						
AAK	**Ala-Archa**	**7.95**	**264**	*e*P	**Pn**	**10 08 52.9**	**-1.2**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
AAK				MLR	MLR		
	comp=Z,100nm,16.0s						
KURK	**Kurchatov**	**8.08**	**329**	⇑Pn	**Pn**	**10 08 56.8**	**+0.9**
	comp=Z,3.1nm,0.8s						
KURK				⇓Lg		10 11 14.7	
	comp=Z,37nm,0.8s						
KURK	**Kurchatov**	**8.08**	**329**	*e*P	**Pn**	**10 08 56.9**	**+1.0**
KURK	**Kurchatov**	**8.08**	**329**	*e*Pn	**Pn**	**10 08 56.6**	**+0.8**
	comp=Z,2.4nm,0.7s						
ZAL	**Zalesovo**	**9.95**	**359**	Pn	**Pn**	**10 09 21.9**	**+0.3**
	comp=Z,4.2nm,0.3s,baz=300,slow=8.7,SNR=23						
ZAL				Sn	**Sn**	**10 11 11.1**	**-1.1**
	comp=Z,1.9nm,0.3s,baz=243,slow=24,SNR=8.0						
KK31	**Karatay Array**	**10.73**	**270**	⇑Pn	**Pn**	**10 09 32.1**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=81,slow=12,SNR=12						
KK31	**Karatay Array**	**10.73**	**270**	*i* P	**Pn**	**10 09 31.2**	**-1.0**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KKAR	**Karatay Array**	**10.73**	**270**	*i* P	**Pn**	**10 09 31.2**	**-1.0**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NVS	**Novosibirsk**	**10.93**	**354**	*e*P	**Pn**	**10 09 29.4**	**-5.6**
NVS				*i* S	**Sn**	**10 11 32.1**	**-4.1**
VOSK	**Vostochnaya**	**12.87**	**318**	⇑Pn	**Pn**	**10 10 02.0**	**+0.6**
	comp=Z,2.8nm,0.8s						
VOSK				⇓Lg		10 13 46.4	
	comp=Z,12nm,1.0s						
BVA0	**Borovoye Array**	**13.33**	**318**	⇓Pn	**Pn**	**10 10 09.2**	**+1.4**
	comp=Z,0.6nm,1.2s,baz=118,slow=14,SNR=9.9						
BVA0	**Borovoye Array**	**13.33**	**318**	*i* P	**Pn**	**10 10 09.2**	**+1.4**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.2s						
BVAR	**Borovoye Array**	**13.33**	**318**	Pn	**Pn**	**10 10 06.4**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=125,slow=13,SNR=4.2						
BRVK	**Borovoye**	**13.40**	**318**	*e*P	**Pn**	**10 10 08.5**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRVK	**Borovoye**	**13.40**	**318**	*e*Pn	**Pn**	**10 10 08.5**	**-0.3**
	comp=Z,2.1nm,0.5s						
CHKZ	**Chkalovo**	**13.63**	**320**	*e*P	**Pn**	**10 10 12.2**	**+0.4**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.5s						
CHKZ	**Chkalovo**	**13.63**	**320**	*e*Pn	**Pn**	**10 10 12.2**	**+0.4**
	comp=Z,3.4nm,0.5s						
ZRNK	**Zerenda**	**13.98**	**316**	⇑Pn	**Pn**	**10 10 16.1**	**-0.5**
	comp=Z,4.5nm,1.0s						
ZRNK				⇓Lg		10 14 22.3	
	comp=Z,17nm,1.4s						
ZRNK	**Zerenda**	**13.98**	**316**	*e*P	**Pn**	**10 10 15.9**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ZRNK	**Zerenda**	**13.98**	**316**	*e*Pn	**Pn**	**10 10 15.9**	**-0.7**
	comp=Z,5.6nm,0.8s						
SONM	**Songino Array**	**15.21**	**68**	Pn	**Pn**	**10 10 33.6**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=262,slow=13,SNR=10						
GUN	**Gumba**	**16.06**	**178**	*e*P	**Pn**	**10 10 45.3**	**+1.0**
	comp=Z,62nm,0.6s						
KKN	**Kakani**	**16.17**	**180**	*e*P	**Pn**	**10 10 46.5**	**+0.8**
	comp=Z,24nm,0.6s						
KOLN	**Koldanda**	**16.25**	**185**	*e*P	**Pn**	**10 10 46.5**	**-0.1**
	comp=Z,12nm,1.0s						
JIRN	**Jiri**	**16.32**	**177**	*e*P	**Pn**	**10 10 48.8**	**+1.2**
DMN	**Daman**	**16.35**	**180**	*e*P	**Pn**	**10 10 48.8**	**+0.8**
	comp=Z,6.7nm,0.4s						
PKI	**Pulchoki**	**16.39**	**179**	*e*P	**Pn**	**10 10 48.9**	**+0.4**
	comp=Z,13nm,0.4s						
ARU	**Arti**	**20.96**	**316**	⇓*i* P	**P**	**10 11 44.1**	**+3.0**
ARU				*e*		10 12 03.4	
ARU				*e*S	**S**	**10 15 41.6**	**+8.5**
ARU				*e*SS		10 16 11.1	
ARU				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BOD	**Bodaibo**	**22.59**	**42**	*e*P	**P**	**10 11 58.2**	**-0.4**
SNY	**Shenyang**	**28.00**	**81**	⇓P	**P**	**10 12 48.0**	**-0.8**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb4.8						
NJ2	**Nanjing**	**28.85**	**103**	*e*P	**P**	**10 12 59.1**	**+2.7**
NJ2				AP	pP	10 13 05.5	+0.6
NJ2				XP	sP	10 13 07.9	-0.6
NJ2				S	**S**	**10 17 47.0**	**+2.4**
NJ2				XS	sS	10 17 57.0	-1.7
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,60nm,4.4s						
NJ2				LR	LR		
	comp=N,480nm,18.0s,MS4.1						
NJ2				LR	LR		
	comp=E,220nm,22.5s,MS4.1						
NJ2				LR	LR		
	comp=Z,180nm,21.2s,MS3.6						
AKASG	**Malin Array Be**	**37.74**	**301**	P	**P**	**10 14 14.2**	**+0.5**
	comp=Z,0.6nm,0.4s,mb3.7,baz=66,slow=8.8,SNR=5.1						
AKASG	**Malin Array Be**	**37.74**	**301**	*i* P	**P**	**10 14 16.6**	**+2.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRTR	**Keskin Array B**	**38.15**	**282**	P	**P**	**10 14 16.9**	**-0.2**
	comp=Z,0.5nm,0.4s,mb3.6,baz=85,slow=7.6,SNR=5.6						
ARCES	**ARCESS Array B**	**39.11**	**331**	P	**P**	**10 14 24.3**	**-1.0**
	comp=Z,3.6nm,1.1s,mb4.0,baz=102,slow=6.6,SNR=2.5						
NB2	**NORSAR Subarra**	**45.46**	**319**	P	**P**	**10 15 25.1**	**+8.2**
	comp=Z,0.5nm,0.5s,mb3.6,baz=77,slow=7.9						
NOA	**NORSAR Array B**	**45.46**	**319**	P	**P**	**10 15 16.1**	**-0.9**
	comp=Z,0.4nm,0.7s,mb3.4,baz=77,slow=7.8,SNR=2.6						
HINF	**Hinteralfeld**	**52.46**	**304**	*e*P	**P**	**10 16 10.5**	**-0.1**
BAIF	**Baives**	**53.00**	**307**	*e*P	**P**	**10 16 14.8**	**+0.2**
CABF	**La Chapelle**	**53.48**	**303**	*e*P	**P**	**10 16 18.2**	**+0.1**
LPG	**La Plagne**	**53.60**	**301**	*e*P	**P**	**10 16 19.3**	**+0.3**
	comp=Z,10nm,0.7s,mb4.5						
LPG	**La Plagne**	**53.60**	**301**	*e*P	**P**	**10 16 19.3**	**+0.3**
LPG				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
LPG	**La Plagne**	**53.60**	**301**	*e*P	**P**	**10 16 19.3**	**+0.3**
	comp=Z,5.1nm,0.7s,mb4.6						
LPL	**La Plagne**	**53.60**	**301**	*e*P	**P**	**10 16 19.2**	**+0.2**
	comp=Z,10nm,0.8s,mb4.5						
LPL	**La Plagne**	**53.60**	**301**	*e*P	**P**	**10 16 19.2**	**+0.2**
LPL				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
LPL	**La Plagne**	**53.60**	**301**	*e*P	**P**	**10 16 19.2**	**+0.2**
	comp=Z,5.2nm,0.8s,mb4.5						
ORIF	**Oris-en-Rattie**	**54.42**	**301**	*e*P	**P**	**10 16 24.9**	**-0.1**
LOR	**Lormes**	**54.51**	**304**	*e*P	**P**	**10 16 26.1**	**+0.5**
	comp=Z,3.8nm,0.8s,mb4.2						
LOR	**Lormes**	**54.51**	**304**	*e*P	**P**	**10 16 26.1**	**+0.5**
LOR				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
LOR	**Lormes**	**54.51**	**304**	*e*P	**P**	**10 16 26.1**	**+0.5**
	comp=Z,1.9nm,0.8s,mb4.2						
TCF	**Toulx Ste Croi**	**55.98**	**304**	*e*P	**P**	**10 16 36.9**	**+0.7**
ILAR	**Eielson Array**	**64.19**	**22**	P	**P**	**10 17 31.4**	**-1.1**
	comp=Z,0.1nm,0.5s,mb3.1,baz=316,slow=3.8,SNR=5.4						
ILAR				pP	pP	10 17 40.6	-1.0
	comp=Z,0.6nm,0.7s,baz=315,slow=5.9,SNR=6.2						
FITZ	**Fitzroy Crossi**	**72.00**	**140**	P	**P**	**10 18 19.6**	**-1.9**
	comp=Z,0.9nm,0.4s,mb4.0,baz=34,slow=15,SNR=5.2						
YKA	**Yellowknife Ar**	**72.67**	**10**	P	**P**	**10 18 25.2**	**-0.3**
	comp=Z,0.2nm,0.5s,mb3.3,baz=339,slow=6.0,SNR=8.7						
YKA				pP	pP	10 18 34.0	-0.7
	comp=Z,0.8nm,0.7s,baz=341,slow=6.1,SNR=12						
YKA				sP	sP	10 18 38.1	-0.1
	comp=Z,0.2nm,0.5s,baz=340,slow=6.0,SNR=4.3						
YKA	**Yellowknife Ar**	**72.67**	**10**	P	**P**	**10 18 25.2**	**-0.3**
YKA				pP	pP	10 18 34.0	-0.7
YKA				sP	sP	10 18 38.1	-0.1
TORD	**Torodi Ar. Bea**	**76.38**	**275**	P	**P**	**10 18 45.5**	**-1.6**
	comp=Z,1.1nm,0.7s,mb3.9,baz=40,slow=5.3,SNR=10						
WRAB	**Tennant Creek**	**77.89**	**133**	*e*P	**P**	**10 18 53.9**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**77.89**	**133**	*e*P	**P**	**10 18 53.9**	**-1.6**
	comp=Z,4.3nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**77.89**	**133**	P	**P**	**10 18 54.2**	**-1.4**
	comp=Z,2.1nm,0.6s,mb4.2,baz=332,slow=4.7,SNR=35						
WRA				pP	pP	10 19 03.7	-1.2
	comp=Z,0.7nm,0.5s,baz=339,slow=5.1,SNR=3.9						
WB2	**Warramunga Arr**	**77.90**	**133**	*e*P	**P**	**10 18 54.0**	**-1.6**
ASAR	**Alice Springs**	**80.75**	**136**	P	**P**	**10 19 09.7**	**-1.5**
	comp=Z,0.7nm,0.7s,mb3.7,baz=332,slow=5.7,SNR=14						

CASC 05 10:34:16.7±1.6, 936N×8278W, h6km±7km, MD3.6, 2C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNI	**Changuinola**	**0.27**	**77**	⇓*e*P	Pg	10 34 22.2	+0.3
CNI				*e*S	Sg	10 34 27.1	+1.7
CTCR	**Cotoan**	**0.46**	**177**	⇑*i* P	Pg	10 34 26.1	+0.6
CTCR				*e*S	Sg	10 34 33.1	+1.7
DVD	**David**	**0.97**	**160**	*e*P	Pg	10 34 34.8	-0.6
DVD				*e*S	Sg	10 34 49.0	+1.1
BUS	**Buena Vista**	**0.98**	**282**	⇑*e*P	Pg	10 34 35.3	-0.3
BUS				*e*S	Sg	10 34 49.6	+1.3
URSC	**Urasca**	**1.09**	**296**	*e*P	Pg	10 34 36.6	-1.0
URSC				*e*S	Sg	10 34 52.3	+0.5
IRZ2	**Volcan Irazu 2**	**1.26**	**299**	⇓*i* P	Pg	10 34 41.9	+1.1
PRS1	**Puriscal**	**1.63**	**293**	*e*P	Pn	10 34 46.2	+0.2
PRS1				*e*S	Sn	10 35 09.2	+1.9
PTP	**Ponta Puerca**	**18.85**	**60**	⇓*i* P		10 34 37.1	
PTP				*e*S		10 34 53.7	

IDC 05 10:50:52.5±1.2, 288N×12841E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.7/17, mbtmp3.7/5, Error ellipse: s-maj=120.7km s-min=18.4km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.41**	**166**	P	P	10 56 04.4	+1.1
	0.8nm,0.6s,baz=345,slow=11,SNR=16						
ASAR	**Alice Springs**	**26.92**	**169**	P	P	10 56 37.0	+1.7
	0.1nm,0.4s,baz=349,slow=7.9,SNR=3.6						
ASAR				PcP	PcP	10 59 55.9	-1.6
	0.3nm,0.6s,baz=354,slow=2.1,SNR=5.6						
STKA	**Stephens Creek**	**36.76**	**161**	P	P	10 58 00.6	-1.2
	2.1nm,0.9s,baz=344,slow=9.0,SNR=3.5						
SONM	**Songino Array**	**48.65**	**340**	P	P	10 59 38.8	+0.6
	0.6nm,0.7s,baz=150,slow=8.1,SNR=6.1						
MKAR	**Makanchi Array**	**59.21**	**325**	P	P	11 00 55.8	+0.4
	1.1nm,0.4s,baz=118,slow=8.0,SNR=17						

IDC 05 10:59:38.6±4.6, 1868S×17513W, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.7/13, mbtmp3.5/4, MS3.4/1, Ms1 3.4/1, ms1mx2.6/19, Error ellipse: s-maj=300.7km s-min=27.6km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**10.82**	**193**	LR	LR	11 05 27.5	
	comp=Z,189nm,18.7s,baz=250,slow=32						
WRA	**Warramunga Arr**	**47.56**	**260**	P	P	11 08 16.6	+0.8
	0.4nm,0.7s,baz=96,slow=7.8,SNR=6.9						
ASAR	**Alice Springs**	**47.59**	**255**	P	P	11 08 16.1	0.0
	0.6nm,0.8s,baz=83,slow=8.4,SNR=6.6						
NVAR	**Mina Array Bea**	**77.86**	**42**	P	P	11 11 38.3	+0.3
	1.3nm,1.0s,baz=220,slow=7.9,SNR=4.2						
YKA	**Yellowknife Ar**	**93.75**	**24**	P	P	11 12 57.5	+0.1
	0.2nm,0.7s,baz=239,slow=4.4,SNR=6.2						
AKASG	**Malin Array Be**	**142.65**	**334**	PKP	PKPdf	11 19 11.7	-2.0
	1.3nm,0.5s,baz=39,slow=3.9,SNR=4.8						

*ISCJB **05** 11:18:20.9±2.5, 2725S±006×713W±02, h26km±17km, mb3.9/1, MS3.2/1, Error ellipse: s-maj=25.3km s-min=9.4km az=175.8*
*IDC **05** 11:18:20.6±12.0, 2663S×7099W, h0km, mb4.0/1, mb1 4.0/1, mb1mx3.6/13, mbtmp4.0/1, MS3.4/1, Ms1 3.3/1, ms1mx2.8/18, Error ellipse: s-maj=769.8km s-min=110.5km az=7.0*
*NEIC **05** 11:18:22.1, 2725S×7125W, h46km, MG3.8(GUC), After GUC.*
*GUC **05** 11:18:22.1±1.0, 2725S×7125W, h46km±13km, ML3.8*

ISC 05 11:18:20.8±1.9, 2725S±005×7134W±010, h16km±9km, n11, σ0§47/14, mb3.9/1, MS3.2/1, 1C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.48**	**69**	⇓*i* P	**Pg**	**11 18 30.1**	**-0.4**
CDCH				*i* S	**Sg**	**11 18 37.3**	**+0.3**
CPCH	**Copiapo**	**0.88**	**97**	⇓*i* P	**Pb**	**11 18 37.9**	**+0.2**
CPCH				*i* S	**Sb**	**11 18 49.3**	**+0.1**
CPCH				AML	AML	11 18 50.3	
	comp=E,12μm,0.1s						
CPCH	**Copiapo**	**0.88**	**97**	⇓*i* P	**Pb**	**11 18 37.9**	**+0.2**
CPCH				*i* S	**Sb**	**11 18 49.3**	**+0.1**
CRCH	**Chaqaral**	**1.10**	**35**	*e*P	**Pb**	**11 18 40.9**	**-0.6**
CRCH				*i* S	**Sb**	**11 18 55.6**	**0.0**
CRCH				AML	AML	11 19 06.2	
	comp=E,1μm,0.4s						
CRCH	**Chaqaral**	**1.10**	**35**	*e*P	**Pb**	**11 18 40.9**	**-0.6**
CRCH				*i* S	**Sb**	**11 18 55.6**	**0.0**
LCO	**Las Campanas**	**1.84**	**162**	⇑*i* P	**Pn**	**11 18 51.8**	**+0.1**
LCO				*i* S	**Sn**	**11 19 13.8**	**-0.9**
TLL	**Tololo Astrono**	**2.94**	**171**	*e*P	**Pn**	**11 19 07.7**	**+0.8**
TLL				AML	AML	11 20 08.9	
	comp=N,589nm,0.8s						
BDFB	**Brasilia**	**24.54**	**67**	LR	LR	11 34 16.6	
	comp=N,80nm,18.3s,MS3.2,baz=24,slow=40						
TORD	**Torodi Ar. Bea**	**81.36**	**70**	P	P	**11 30 37.0**	**+0.4**
	comp=N,1.3nm,0.8s,mb3.9,baz=255,slow=4.7,SNR=5.5						
ZAL	**Zalesovo**	**148.07**	**27**	PKPbc	PKPbc	11 38 05.2	-0.4
	comp=N,1.2nm,0.4s,baz=140,slow=3.2,SNR=7.1						
MKAR	**Makanchi Array**	**151.51**	**40**	PKPbc	PKPbc	11 38 14.6	+0.6
	comp=N,1.1nm,0.8s,baz=326,slow=2.5,SNR=9.5						

*NEIC **05** 11:20:29.7, 2734S×7117W, h8km, ML3.8(GUC), After GUC.*

GUC 05 11:20:29.7±1.2, 2734S×7117W, h8km±5km, ML3.8, 3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.40**	**49**	⇓*i* P	Pg	11 20 37.7	+0.1
CDCH				*i* S	Sg	11 20 44.3	+1.5
CPCH	**Copiapo**	**0.72**	**92**	⇓*i* P	Pg	11 20 47.3	+3.6
CPCH				*i* S	Sg	11 20 58.6	+5.5
CPCH				AML	AML	11 21 00.8	
	comp=E,34μm,0.1s						
CPCH	**Copiapo**	**0.72**	**92**	⇓*i* P	Pg	11 20 47.3	+3.6
CPCH				*i* S	Sg	11 20 58.6	+5.5
CRCH	**Chaqaral**	**1.10**	**26**	*e*P	Pg	11 20 50.1	-0.8
CRCH				*i* S	Sg	11 21 04.9	-0.4
CRCH				AML	AML	11 21 09.2	
	comp=N,1μm,0.3s						
CRCH	**Chaqaral**	**1.10**	**26**	*e*P	Pg	11 20 50.1	-0.8
CRCH				*i* S	Sg	11 21 04.9	-0.4
LCO	**Las Campanas**	**1.71**	**166**	*e*P	Pn	11 21 00.7	+0.8
LCO				*i* S	Sn	11 21 23.0	+1.2
TLL	**Tololo Astrono**	**2.83**	**174**	*e*P	Pn	11 21 16.8	+1.6
TLL				AML	AML	11 22 07.9	
	comp=E,448nm,0.6s						

IDC 05 11:29:34.9±7.0, 2039S×17340W, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/16, mbtmp4.0/5, ML2.5/1, MS3.4/2, Ms1 3.4/2, ms1mx2.9/26, Error ellipse: s-maj=186.7km s-min=35.2km az=125.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.63**	**14**	Pn	Pn	11 31 13.7	+0.1
	5.6nm,0.3s,baz=185,slow=16,SNR=11						
AFI				Sn	Sn	11 32 25.9	-3.9
	7.6nm,0.3s,baz=85,slow=19,SNR=4.4						
AFI				LR	LR	11 32 40.7	
	comp=Z,76nm,19.0s,baz=41,slow=28						
CTA	**Charters Tower**	**37.79**	**263**	P	P	11 36 53.4	+0.6
	1.7nm,0.5s,baz=80,slow=11,SNR=3.4						
STKA	**Stephens Creek**	**41.73**	**245**	P	P	11 37 24.8	-0.8
	2.1nm,0.8s,baz=103,slow=13,SNR=3.1						
ASAR	**Alice Springs**	**48.74**	**256**	P	P	11 38 22.2	+0.9
	0.7nm,0.6s,baz=96,slow=7.9,SNR=14						
WRA	**Warramunga Arr**	**48.88**	**261**	P	P	11 38 22.6	+0.2
	0.8nm,0.5s,baz=98,slow=7.8,SNR=15						
LPIG	**La Paz**	**75.68**	**57**	LR	LR	12 08 11.7	
	comp=Z,78nm,18.0s,baz=208,slow=31						

*IDC **05** 11:36:39.9±2.2, 432S×13023E, h0km, mb3.7/1, mb1 4.2/4, mb1mx3.8/15, mbtmp4.0/4, ML4.1/3, Error ellipse: s-maj=104.4km s-min=26.6km az=75.0*
*ISCJB **05** 11:36:57.0±4.6, 495S±03×1299E±03, h176km±47km, mb3.6/1, Error ellipse: s-maj=57.8km s-min=37.4km az=120.0*

ISC 05 11:36:58.1±4.7, 495S±03×1298E±03, h165km±50km, n7, σ1§46/8, mb3.6/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**8.17**	**162**	*e*P	**Pn**	**11 38 54.3**	**+0.8**
	35nm,0.6s						
KAKA				*e*S	**Sn**	**11 40 19.5**	**-5.2**
FITZ	**Fitzroy Crossi**	**13.73**	**197**	*e*P	**Pn**	**11 40 06.3**	**+0.4**
	13nm,0.5s						
FITZ	**Fitzroy Crossi**	**13.73**	**197**	Pn	**Pn**	**11 40 05.3**	**-0.6**
	1.3nm,0.3s,baz=26,slow=13,SNR=32						
FITZ				Sn	Sx	11 42 30.8	
	0.2nm,0.3s,baz=86,slow=19,SNR=2.8						
WRA	**Warramunga Arr**	**15.57**	**164**	Pn	**Pn**	**11 40 27.2**	**-1.5**
	0.5nm,0.3s,baz=349,slow=13,SNR=20						
WRA				Sn	Sx	11 43 12.7	
	0.7nm,0.3s,baz=348,slow=23,SNR=7.9						
WB2	**Warramunga Arr**	**15.58**	**164**	*e*P	**Pn**	**11 40 28.2**	**-0.6**
WB2				*e*S	Sx	11 43 12.6	
ASAR	**Alice Springs**	**19.06**	**168**	P	**P**	**11 41 09.3**	**+1.7**
	0.7nm,0.3s,baz=346,slow=11,SNR=34						
ASAR				S	Sx	11 44 31.4	
	0.2nm,0.3s,baz=347,slow=20,SNR=16						
MKAR	**Makanchi Array**	**66.40**	**326**	P	**P**	**11 47 29.1**	**-0.1**
	0.4nm,0.4s,mb3.6,baz=112,slow=7.3,SNR=9.0						

*ISCJB **05** 11:47:39.8±1.2, 2222S±009×659W±02, h265km±16km, mb3.4/3, Error ellipse: s-maj=29.3km s-min=14.6km az=173.8*
*IDC **05** 11:47:40.5±1.8, 2214S×6590W, h254km±19km, mb3.1/3, mb1 3.1/6, mb1mx3.0/17, mbtmp3.5/6, Error ellipse: s-maj=30.6km s-min=17.7km az=89.0*

ISC 05 11:47:40.6±1.2, 2220S±009×660W±02, h260km±16km, n8, σ0§97/7, mb3.4/3, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**6.21**	**341**	P	**Pn**	**11 49 13.0**	**+1.5**
	0.6nm,0.3s,baz=154,slow=7.0,SNR=11						
LPAZ				S	**S**	**11 50 23.6**	**-0.8**
	0.1nm,0.3s,baz=300,slow=17,SNR=3.7						
SIV	**San Ignacio**	**7.75**	**38**	P	**Pn**	**11 49 30.6**	**-0.1**
	0.9nm,0.3s,baz=227,slow=8.9,SNR=25						
CFAA	**Coronel Fontan**	**9.57**	**191**	P	**Pn**	**11 49 53.2**	**-0.5**
	0.1nm,0.3s,baz=16,slow=7.4,SNR=3.7						
SNAA	**Sanae**	**60.75**	**161**	P	**P**	**11 57 25.5**	**+0.5**
	0.5nm,1.0s,mb3.0,baz=248,slow=5.4,SNR=2.9						
TORD	**Torodi Ar. Bea**	**75.08**	**69**	P	**P**	**11 58 53.6**	**-0.4**
	2.4nm,0.5s,mb4.1,baz=256,slow=5.7,SNR=71						
YKA	**Yellowknife Ar**	**92.76**	**340**	P	**P**	**12 00 23.3**	**-0.1**
	0.1nm,0.5s,mb3.0,baz=135,slow=4.6,SNR=3.5						
WRA	**Warramunga Arr**	**133.63**	**207**	PKP	PKPdf	12 06 29.1	+2.9
	0.9nm,1.1s,baz=168,slow=1.6,SNR=5.9						
MKAR	**Makanchi Array**	**144.56**	**39**	PKP	PKPdf	12 06 46.4	+0.3
	1.0nm,0.7s,baz=300,slow=4.8,SNR=10						

*ISCJB **05** 11:50:28.5±4.1, 2693S±006×712W±02, h31km±28km, mb4.2/5, MS4.1/2, Error ellipse: s-maj=33.9km s

3.3nm,0.7s,baz=320,slow=2.2,SNR=28
MKAR pPKPbc pPKPbc 12 10 31.9 -0.9
4.1nm,0.6s,baz=330,slow=2.0,SNR=18
MKAR Makanchi Array 151.23 40 PKPbc PKPbc 12 10 20.9 +0.6
MKAR pPKPbc pPKPbc 12 10 31.9 -0.9

IDC ***05*** *12:06:39.5±0.8, 1975S×17472W, h0km, mb4.1/11, mb1 4.4/12, mb1mx4.3/17, mbtmp4.2/12, ML4.1/1, MS3.9/14, Ms1 3.9/14, ms1mx3.6/30, Error ellipse: s-maj=33.8km s-min=16.9km az=136.0*
ISCJB ***05*** *12:06:43.0±0.6, 196S±0.1×1749W±0.1, h33km, mb4.2/15, MS3.9/11, Error ellipse: s-maj=22.1km s-min=12.8km az=82.2*
NEIC ***05*** *12:06:43.1±0.4, 1976S×17474W, h25km, mb4.8/3, Error ellipse: s-maj=16.5km s-min=9.6km az=130.0*
MOS ***05*** *12:06:51.2-3.0, 1787S×17607W, h33km, mb5.3/1, Error ellipse: s-maj=29.1km s-min=15.9km az=148.3*

ISC 05 12:06:44.6±0.6, 196S±01×1747W±01, h35km, n62, σ0§98/27, mb4.2/15, MS3.9/11, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.29**	**27**	**Pn**		**12 08 13.3**	**-1.6**
	4.5nm,0.3s,baz=45,slow=19,SNR=4.3						
AFI				Sn	**Sn**	**12 09 19.9**	**-5.7**
	4.9nm,0.3s,baz=90,slow=20,SNR=3.5						
RAO	**Raoul Island**	**10.07**	**196**	LR	LR	12 12 21.5	
	comp=Z,834nm,21.5s,baz=291,slow=34						
RAR	**Rarotonga**	**14.13**	**99**	**Pn**	**Pn**	**12 09 49.8**	**-12**
	1.3nm,0.3s,baz=292,slow=14,SNR=3.9						
RAR				LR	LR	12 13 20.9	
	comp=Z,300nm,21.5s,baz=235,slow=28						
DZM	**Mont Dzumac**	**17.77**	**259**	P	**Pn**	**12 10 55.8**	**+6.7**
	0.3nm,0.3s,baz=76,slow=17,SNR=9.4						
DZM				LR	LR	12 15 57.8	
	comp=Z,204nm,19.7s,baz=204,slow=32						
URZ	**Urewera**	**19.94**	**199**	P	**Pn**	**12 11 09.7**	**-5.5**
	0.5nm,0.3s,baz=3.8,slow=15,SNR=3.4						
TBI	**Tubuai**	**23.82**	**104**	*e*LQ		12 16 23.9	
	1μm,27.0s						
TBI				*e*LR	LR	12 17 08.1	
	337nm,28.5s						
PPT	**Papeete**	**23.93**	**89**	*e*LQ		12 16 21.1	
	695nm,25.2s						
PPT				*e*LR	LR	12 17 22.1	
	682nm,27.5s,baz=261						
PPT	**Papeete**	**23.93**	**89**	LR	LR	12 17 53.7	
	comp=Z,382nm,21.2s,MS3.8,baz=258,slow=28						
HNR	**Honiara**	**26.45**	**289**	LR	LR	12 19 44.2	
	comp=Z,41nm,19.2s,MS3.0,baz=175,slow=30						
RPZ	**Rata Peaks**	**26.87**	**203**	P	**P**	**12 12 20.8**	**-1.2**
	18nm,1.0s,mb4.5,baz=112,slow=5.4,SNR=3.5						
TAOE	**Nuku Hiva Isla**	**35.11**	**77**	*e*LR	LR	12 22 31.9	
	1μm,28.5s						
CTA	**Charters Tower**	**36.64**	**262**	P	**P**	**12 13 48.0**	**+0.3**
	2.9nm,0.6s,mb4.3,baz=105,slow=13,SNR=6.3						
CTA				LR	LR	12 27 13.8	
	comp=Z,313nm,20.0s,MS4.1,baz=140,slow=34						
CTA	**Charters Tower**	**36.64**	**262**	P	**P**	**12 13 48.0**	**+0.3**
CTA				LR	LR	12 27 13.8	
CTAO	**Charters Tower**	**36.64**	**262**	*e*P	**P**	**12 13 47.2**	**-0.5**
RKT	**Rikitea**	**37.13**	**103**	*e*LR	LR	12 23 12.4	
	347nm,35.0s						
PMG	**Port Moresby**	**38.16**	**280**	LR	LR	12 28 06.7	
	comp=Z,176nm,19.1s,MS3.9,baz=207,slow=34						
STKA	**Stephens Creek**	**40.95**	**244**	P	**P**	**12 14 23.2**	**-0.6**
	1.2nm,0.9s,mb3.5,baz=94,slow=13,SNR=3.1						
STKA				LR	LR	12 29 22.2	
	comp=Z,234nm,20.2s,MS4.0,baz=28,slow=33						
STKA	**Stephens Creek**	**40.95**	**244**	P	**P**	**12 14 23.2**	**-0.6**
STKA				LR	LR	12 29 22.1	
ASAR	**Alice Springs**	**47.72**	**255**	P	**P**	**12 15 18.8**	**+0.9**
	0.8nm,0.4s,mb4.1,baz=89,slow=7.9,SNR=8.0						
ASAR				PcP	PcP	12 16 48.9	+2.1
	0.8nm,0.6s,baz=99,slow=4.0,SNR=5.9						
WRA	**Warramunga Arr**	**47.77**	**260**	P	**P**	**12 15 17.4**	**-0.9**
	0.7nm,0.3s,mb4.1,baz=96,slow=7.4,SNR=18						
GUMO	**Guam**	**51.63**	**307**	LR	LR	12 37 29.3	
	comp=Z,47nm,18.2s,MS3.5,baz=85,slow=36						
FITZ	**Fitzroy Crossi**	**56.19**	**261**	P	**P**	**12 16 21.1**	**+0.1**
	1.7nm,0.9s,mb4.1,baz=117,slow=2.3,SNR=2.9						
VNDA	**Vanda**	**59.13**	**186**	P	**P**	**12 16 44.0**	**+2.3**
	0.9nm,0.8s,mb3.9,baz=26,slow=7.6,SNR=5.4						
VNDA	**Vanda**	**59.13**	**186**	P	**P**	**12 16 44.0**	**+2.3**
QSPA	**South Pole Qui**	**70.51**	**180**	*e*P	**P**	**12 17 54.9**	**-0.8**
	5.7nm,0.9s,mb4.5						
MJAR	**Matsushiro Arr**	**71.33**	**322**	P	**P**	**12 18 01.7**	**+1.0**
	0.8nm,0.5s,mb3.9,baz=144,slow=5.9,SNR=2.8						
ASAJ	**Asahikawa**	**74.42**	**330**	LR	LR	12 43 59.4	
	comp=Z,120nm,21.9s,MS4.1,baz=156,slow=30						
NVAR	**Mina Array Bea**	**78.26**	**42**	P	**P**	**12 18 41.8**	**+1.0**
	0.5nm,0.4s,mb3.8,baz=212,slow=7.3,SNR=6.1						
MAW	**Mawson**	**83.47**	**199**	LR	LR	12 53 25.8	
	comp=Z,120nm,20.4s,MS4.3,baz=74,slow=34						
SMCO	**Snowmass**	**86.10**	**46**	*e*P	**P**	**12 19 26.3**	**+4.5**
	4.3nm,1.1s,mb4.6						
PDAR	**Pinedale Array**	**86.20**	**42**	P	**P**	**12 19 22.9**	**+0.6**
	0.3nm,0.3s,mb3.9,baz=257,slow=3.6,SNR=4.8						
PDAR				LR	LR	12 54 57.8	
	comp=Z,77nm,18.0s,MS4.1,baz=83,slow=34						
COLA	**College**	**86.66**	**11**	*e*P	**P**	**12 19 23.8**	**-0.8**
COLA				pmax	pmax		
	comp=Z,11nm,0.8s,mb5.1						
COLA	**College**	**86.66**	**11**	*e*P	**P**	**12 19 23.8**	**-0.8**
	comp=Z,11nm,0.8s,mb5.2						
ILAR	**Eielson Array**	**86.75**	**12**	P	**P**	**12 19 25.4**	**+0.4**
	comp=Z,2.2nm,0.8s,mb4.4,baz=213,slow=6.3,SNR=14						
ILAR				LR	LR	12 55 55.9	
	comp=Z,38nm,18.6s,MS3.8,baz=358,slow=34						
DAWY	**Dawson**	**87.75**	**15**	*e*P	**P**	**12 19 33.9**	**+4.0**
YKA	**Yellowknife Ar**	**94.40**	**24**	P	**P**	**12 20 01.1**	**+0.3**
	comp=Z,0.9nm,0.8s,mb4.3,baz=240,slow=4.3,SNR=20						
YKA	**Yellowknife Ar**	**94.40**	**24**	P	**P**	**12 20 01.1**	**+0.3**
ULM	**Lac du Bonnet**	**97.95**	**39**	LR	LR	13 02 14.1	
	comp=Z,69nm,18.8s,MS4.2,baz=10,slow=34						
MKAR	**Makanchi Array**	**112.78**	**313**	PKiKP	PKiKP	12 25 18.9	+1.3
	comp=Z,0.5nm,0.7s,baz=66,slow=2.9,SNR=5.2						
ARCES	**ARCESS Array B**	**128.51**	**351**	PKP	PKPdf	12 25 48.1	+0.4
	comp=Z,1.9nm,0.9s,baz=5.7,slow=1.2,SNR=8.7						
AKASG	**Malin Array Be**	**143.59**	**334**	PKP	PKPdf	12 26 15.3	-0.3
	comp=Z,0.5nm,0.4s,baz=39,slow=4.2,SNR=6.0						
CLL	**Collm**	**147.73**	**351**	*i* PKPbc	PKPbc	12 26 29.6	+4.0
CLL				⇑*i*PKiKP	PKiKP	12 26 31.9	+4.4
	comp=Z,14nm,0.9s						
BRG	**Berggiesshubel**	**148.00**	**350**	*i* PKP	PKPdf	12 26 30.3	+7.2
	comp=Z,2.5nm,0.7s						
BRG	**Berggiesshubel**	**148.00**	**350**	*i* PKP2	PKPab	12 26 30.3	+1.3
BRG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRTR	**Keskin Array B**	**148.40**	**316**	PKPbc	PKPbc	12 26 28.2	+0.9
	comp=Z,3.1nm,0.8s,baz=126,slow=2.1,SNR=14						
GIVF	**Givet**	**149.52**	**1**	*e*PKP1	PKPbc	12 26 34.1	+3.9
BAIF	**Baives**	**149.56**	**1**	*e*PKP1	PKPbc	12 26 34.1	+3.9
MMAI	**Mount Meron Ar**	**149.95**	**303**	PKPbc	PKPbc	12 26 34.7	+3.5
	comp=Z,3.0nm,0.5s,baz=80,slow=5.5,SNR=6.4						
GERES	**GERESS Array B**	**150.00**	**349**	PKPbc	PKPbc	12 26 33.5	+2.2
	comp=Z,1.0nm,0.7s,baz=28,slow=3.5,SNR=5.3						
FLN	**La Foliniere**	**150.50**	**8**	*e*PKP1	PKPbc	12 26 36.0	+3.5
	comp=Z,35nm,1.1s						
SGMF	**Saint Gilles**	**150.68**	**11**	*e*PKP1	PKPbc	12 26 36.3	+3.3
LDF	**La Druitiere**	**150.71**	**7**	*e*PKP1	PKPbc	12 26 36.4	+3.4
	comp=Z,36nm,1.2s						
GRR	**Gorron**	**150.82**	**8**	*e*PKP1	PKPbc	12 26 36.8	+3.5
	comp=Z,20nm,1.0s						
MEZF	**Maizieres J'vi**	**151.13**	**0**	*e*PKP1	PKPbc	12 26 38.3	+4.3
CDF	**Champ du Feu**	**151.17**	**357**	*e*PKP1	PKPbc	12 26 38.0	+3.9
	comp=Z,8.5nm,0.8s						
HAU	**Haudompre**	**151.61**	**358**	*e*PKP1	PKPbc	12 26 40.0	+4.9
LOR	**Lormes**	**152.34**	**2**	*e*PKP1	PKPbc	12 26 40.6	+3.8
SSF	**Saint Saulge**	**152.53**	**3**	*e*PKP1	PKPbc	12 26 41.1	+3.9
MFF	**Saint Martin d**	**152.66**	**8**	*e*PKP1	PKPbc	12 26 41.0	+3.5
	comp=Z,10nm,0.9s						
AVF	**Avril sur Loir**	**152.79**	**3**	*e*PKP1	PKPbc	12 26 41.2	+3.4
SMF	**Signal de Mont**	**152.96**	**2**	*e*PKP1	PKPbc	12 26 41.8	+3.7
CABF	**La Chapelle**	**153.01**	**359**	*e*PKP1	PKPbc	12 26 43.5	+5.2

IDC 05 12:23:29.8±7.4, 1842S×17698W, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.6/13, mbtmp3.5/3, MS3.0/1, Ms1 3.0/1, ms1mx2.5/21, Error ellipse: s-maj=321.4km s-min=37.6km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.72**	**49**	LR	LR	12 26 27.3	
	comp=Z,126nm,21.7s,baz=110,slow=26						
WRA	**Warramunga Arr**	**45.88**	**260**	P	P	12 31 54.8	+1.0
	0.8nm,0.7s,baz=96,slow=7.6,SNR=13						
ASAR	**Alice Springs**	**45.96**	**255**	P	P	12 31 54.2	-0.3
	0.4nm,0.6s,baz=94,slow=7.9,SNR=9.6						
ILAR	**Eielson Array**	**86.08**	**12**	P	P	12 36 12.0	-0.4
	0.3nm,0.7s,baz=220,slow=5.6,SNR=5.6						

ISCJB ***05*** *12:27:44.6±0.5, 2828S×0.002×7162W×0.07, h33km, mb3.9/3, Error ellipse: s-maj=8.5km s-min=3.4km az=14.9*
NEIC ***05*** *12:27:47.2, 2828S×7122W, h49km, mb4.0/2, After GUC.*
NEIC Felt [III] at Copiapo and [II] at Caldera.
GUC ***05*** *12:27:47.2±0.8, 2828S×7122W, h49km±29km, MD4.2, ML4.5*
IDC ***05*** *12:27:48.1±1.0, 2822S×7130W, h54km±6km, mb3.6/2, mb1 3.9/4, mb1mx3.6/15, mbtmp3.9/4, Error ellipse: s-maj=41.2km s-min=13.7km az=60.0*

ISC 05 12:27:46.7±0.5, 2827S±002×7154W±007, h35km, n35, σ0§85/45, mb3.9/3, 10C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.75**	**114**	⇓*i*P	**Pn**	**12 28 01.0**	**+0.2**
VACH				*i* S	**Sn**	**12 28 09.5**	**-1.4**
CDCH	**Caldera**	**1.35**	**28**	⇑*i*P	**Pn**	**12 28 08.8**	**-0.1**
CDCH				*i* S	**Sn**	**12 28 24.9**	**-0.6**
CPCH	**Copiapo**	**1.39**	**49**	*e*P	**Pn**	**12 28 11.4**	**+2.0**
CPCH				*i* S	**Sn**	**12 28 27.7**	**+1.2**
CPCH				AML	AML	12 28 30.4	
	comp=E,94μm,0.1s						
CPCH	**Copiapo**	**1.39**	**49**	*e*P	**Pn**	**12 28 11.4**	**+2.0**
CPCH				*i* S	**Sn**	**12 28 27.7**	**+1.2**
LSCH	**La Serena**	**1.66**	**171**	⇑*i*P	**Pn**	**12 28 13.6**	**+0.4**
LSCH				*i* S	**Sn**	**12 28 33.1**	**0.0**
LSCH				AML	AML	12 28 39.0	
	comp=N,5μm,0.3s						
LSCH	**La Serena**	**1.66**	**171**	⇑*i*P	**Pn**	**12 28 13.6**	**+0.4**
LSCH				S	**Sn**	**12 28 33.1**	**0.0**
TLL	**Tololo Astrono**	**2.00**	**161**	⇑*i*P	**Pn**	**12 28 18.8**	**+0.8**
TLL				*i* S	**Sn**	**12 28 42.4**	**+0.8**
TLL				AML	AML	12 28 44.0	
	comp=N,6μm,0.4s						
TLL	**Tololo Astrono**	**2.00**	**161**	⇑*i*P	**Pn**	**12 28 18.8**	**+0.8**
TLL				*i* S	**Sn**	**12 28 42.4**	**+0.8**
CRCH	**Chaqaral**	**2.08**	**23**	⇑*i*P	**Pn**	**12 28 19.1**	**+0.1**
CRCH				*i* S	**Sn**	**12 28 42.9**	**-0.8**
CRCH				AML	AML	12 29 00.4	
	comp=N,2μm,0.5s						
CRCH	**Chaqaral**	**2.08**	**23**	⇑*i*P	**Pn**	**12 28 19.1**	**+0.1**
CRCH				*i* S	**Sn**	**12 28 42.9**	**-0.8**
CHNG	**Los Chungos**	**3.60**	**179**	⇑*i*P	**Pn**	**12 28 39.6**	**-0.4**
CHNG				*i* S	**Sn**	**12 29 19.1**	**-2.2**
CHNG				AML	AML	12 29 43.8	
	comp=E,546nm,0.5s						
CFAA	**Coronel Fontan**	**4.39**	**140**	P	**Pn**	**12 28 51.9**	**+1.1**
	comp=E,2.1nm,0.3s,baz=321,slow=12,SNR=98						
CFAA				S	**Sn**	**12 29 40.6**	**0.0**
	comp=E,6.1nm,0.3s,baz=83,slow=19,SNR=12						
CFAA	**Coronel Fontan**	**4.39**	**140**	P	**Pn**	**12 28 51.9**	**+1.1**
CFAA				S	**Sn**	**12 29 40.6**	**0.0**
JACH	**Jahuel**	**4.47**	**170**	*e*P	**Pn**	**12 28 52.6**	**+0.7**
ANCH	**Antofagasta**	**4.68**	**13**	*e*P	**Pn**	**12 28 54.2**	**-0.6**
ROCH	**El Roble**	**4.71**	**175**	*e*P	**Pn**	**12 28 55.0**	**-0.2**
FCH	**Farellones**	**5.16**	**168**	⇑*i*P	**Pn**	**12 29 02.5**	**+1.2**
FCH				*i* S	**Sn**	**12 29 59.3**	**-0.3**
CLCH	**Cerro Calan**	**5.18**	**171**	*e*P	**Pn**	**12 29 02.2**	**+0.5**
LCCH	**Las Cruces**	**5.19**	**180**	⇓*i*P	**Pn**	**12 29 01.0**	**-0.8**
TACH	**Talagante**	**5.39**	**175**	*i* P	**Pn**	**12 29 04.7**	**-0.2**
PCH	**Pirque**	**5.41**	**171**	⇑*i*P	**Pn**	**12 29 05.2**	**+0.4**
CHCH	**Chadas Angostu**	**5.70**	**173**	*i* P	**Pn**	**12 29 08.2**	**-0.6**
CACH	**El Canelo**	**5.89**	**172**	*i* P	**Pn**	**12 29 11.3**	**0.0**
CICH	**Cipreses**	**6.11**	**171**	*i* P	**Pn**	**12 29 14.4**	**0.0**
SFDO	**San Fernando**	**6.34**	**176**	⇓*i*P	**Pn**	**12 29 17.1**	**-0.5**
LPAZ	**La Paz**	**12.33**	**16**	P	**Pn**	**12 30 38.5**	**-1.1**
	comp=E,0.5nm,0.3s,baz=205,slow=6.4,SNR=12						
SIV	**San Ignacio**	**15.58**	**41**	P	**Pn**	**12 31 16.5**	**-7.1**
	comp=E,0.6nm,0.3s,baz=246,slow=11,SNR=13						
SAML	**Samuel**	**20.77**	**24**	*e*P	**P**	**12 32 24.1**	**-0.4**
	comp=E,5.3nm,0.9s						
SMCO	**Snowmass**	**74.80**	**332**	*e*P	**P**	**12 39 24.9**	**+1.7**
	comp=E,2.1nm,0.8s,mb4.1						
PDAR	**Pinedale Array**	**78.87**	**332**	P	**P**	**12 39 46.6**	**+0.4**
	comp=E,0.7nm,0.6s,mb3.8,baz=127,slow=7.1,SNR=6.7						
TORD	**Torodi Ar. Bea**	**81.87**	**70**	P	**P**	**12 40 00.9**	**-1.4**
	comp=E,0.6nm,0.6s,mb3.7,baz=278,slow=5.3,SNR=8.4						
TORD				pP	pP	12 40 15.9	+2.6
	comp=E,1.0nm,0.8s,baz=269,slow=4.4,SNR=4.8						
TORD				sP	sP	12 40 21.9	+4.5
	comp=E,1.2nm,0.6s,baz=266,slow=5.5,SNR=5.3						
ASAR	**Alice Springs**	**122.84**	**208**	PKP	PKPdf	12 46 37.8	-1.2
	comp=E,0.3nm,0.4s,baz=131,slow=1.7,SNR=9.4						
WRA	**Warramunga Arr**	**125.94**	**210**	PKP	PKPdf	12 46 44.0	-0.9
	comp=E,0.7nm,0.4s,baz=153,slow=1.8,SNR=28						
ZAL	**Zalesovo**	**149.05**	**27**	PKPbc	PKPbc	12 47 29.7	-1.3
	comp=E,2.1nm,0.6s,baz=183,slow=3.2,SNR=9.6						
ZAL				pPKPbc	pPKPbc	12 47 45.2	+2.8
	comp=E,1.1nm,0.4s,baz=170,slow=3.0,SNR=2.9						
MKAR	**Makanchi Array**	**152.40**	**41**	PKPbc	PKPbc	12 47 37.4	-1.5
	comp=E,0.5nm,0.4s,baz=304,slow=1.8,SNR=6.4						
MKAR				pPKPbc	pPKPbc	12 47 54.5	+4.1
	comp=E,0.5nm,0.6s,baz=345,slow=1.7,SNR=4.3						

IDC ***05*** *12:36:45.5±13.0, 3606N×7152E, h75km±102km, mb3.2/5, mb1 3.4/6, mb1mx3.2/21, mbtmp3.6/6, ML3.9/1, Error ellipse: s-maj=83.1km s-min=37.6km az=153.0*
ISCJB ***05*** *12:36:46.8±2.0, 364N±0.1×714E±0.2, h84km±22km, mb3.3/4, Error ellipse: s-maj=30.7km s-min=8.0km az=108.7*
NNC ***05*** *12:36:57.6±5.7, 3689N×7036E, h63km±131km, mb3.2, mpv3.8, Error ellipse: s-maj=83.2km s-min=43.2km az=91.0*

ISC 05 12:36:48.9±1.8, 365N±01×715E±02, h92km±21km, n16, σ0§90/20, mb3.3/4, 2C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.66**	**353**	P	**Pn**	**12 38 26.5**	**+2.4**
	3.0nm,0.3s,baz=180,slow=13,SNR=44						
KK31				⇑S	**Sn**	**12 39 37.0**	**-1.6**
	2.0nm,0.4s,baz=179,slow=22,SNR=4.6						
KOLN	**Koldanda**	**13.40**	**127**	*e*P	**Pn**	**12 39 54.8**	**-0.4**
	7.4nm,0.4s						
KOLN				*e*S	**Sn**	**12 42 15.6**	**-6.8**
GKN	**Gorkha**	**13.93**	**124**	*e*P	**Pn**	**12 40 01.9**	**-0.1**
	13nm,0.4s						
GKN				*e*S	**Sn**	**12 42 25.5**	**-10**
DMN	**Daman**	**14.50**	**124**	*e*P	**Pn**	**12 40 09.5**	**+0.1**
KKN	**Kakani**	**14.50**	**123**	*e*P	**Pn**	**12 40 08.9**	**-0.5**
PKI	**Pulchoki**	**14.72**	**123**	*e*P	**Pn**	**12 40 12.8**	**+0.4**
	3.4nm,0.2s						
GUN	**Gumba**	**14.83**	**121**	*e*P	**Pn**	**12 40 14.3**	**+0.6**
	3.5nm,0.2s						
JIRN	**Jiri**	**15.20**	**121**	*e*P	**Pn**	**12 40 17.9**	**-0.5**
	11nm,0.3s						
JIRN				*e*S	**S**	**12 42 57.5**	**-19**
AB31	**Akbulak array**	**15.32**	**330**	P	**Pn**	**12 40 19.0**	**-0.9**
	0.7nm,0.3s,baz=135,slow=14,SNR=37						
AB31				S	S	12 42 57.6	-22
	1.7nm,0.5s,baz=98,slow=28,SNR=4.0						
AKTO	**Aktyubinsk**	**17.02**	**329**	⇑P	**Pn**	**12 40 41.5**	**+0.4**
	0.1nm,1.0s						
AKTO	**Aktyubinsk**	**17.02**	**329**	P	**Pn**	**12 40 41.4**	**+0.4**
	0.4nm,0.3s,baz=135,slow=11,SNR=5.5						
ZAL	**Zalesovo**	**19.74**	**24**	P	**Pn**	**12 41 13.6**	**+0.1**
	1.5nm,0.3s,baz=343,slow=4.4,SNR=4.1						
FINES	**FINESS Array B**	**37.74**	**326**	P	**P**	**12 43 57.4**	**+1.6**
	0.3nm,0.3s,mb3.6,baz=122,slow=9.6,SNR=5.6						
NOA	**NORSAR Array B**	**44.66**	**323**	P	**P**	**12 44 52.4**	**+0.1**
	0.4nm,0.5s,mb3.4,baz=103,slow=7.4,SNR=3.2						
TORD	**Torodi Ar. Bea**	**66.15**	**269**	P	**P**	**12 47 25.2**	**-1.2**
	0.3nm,0.8s,mb3.2,baz=55,slow=5.6,SNR=4.5						
YKA	**Yellowknife Ar**	**81.25**	**3**	P	**P**	**12 48 54.7**	**0.0**
	0.1nm,0.5s,mb2.9,baz=350,slow=5.7,SNR=3.9						

NEIC ***05*** *12:51:13.7, 3441S×7009W, h17km, ML3.2(GUC), After GUC.*

GUC 05 12:51:13.7±0.8, 3441S×7009W, h17km±2km, MD4.0, ML3.2, 16C-9D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CICH	**Cipreses**	**0.29**	**288**	⇓*i*P	Pg	12 51 19.5	-0.4
CACH	**El Canelo**	**0.51**	**305**	⇑*i*P	Pg	12 51 23.2	-0.7
LMEL	**Las Melosas**	**0.57**	**351**	⇑*i*P	Pg	12 51 24.5	-0.5
LMEL				*i* S	Sg	12 51 33.2	+0.6
LMEL				AML	AML	12 51 35.8	
	comp=N,4μm,0.1s						
LMEL	**Las Melosas**	**0.57**	**351**	⇑*i*P	Pg	12 51 24.5	-0.5
LMEL				*i* S	Sg	12 51 33.2	+0.6
CHCH	**Chadas Angostu**	**0.66**	**315**	⇓*i*P	Pg	12 51 26.4	-0.4
CHCH				*i* S	Sg	12 51 35.5	-0.1
YECH	**El Yeso**	**0.74**	**1**	⇑*i*P	Pb	12 51 28.0	-0.1
YECH				*i* S	Sb	12 51 39.2	+1.3
YECH				AML	AML	12 51 40.4	
	comp=N,438nm,0.2s						
SFDO	**San Fernando**	**0.79**	**255**	⇑*i*P	Pb	12 51 28.3	-0.6
SFDO				*i* S	Sb	12 51 39.5	+0.2
PCH	**Pirque**	**0.86**	**336**	⇓*i*P	Pb	12 51 29.9	-0.3
PCH				*i* S	Sb	12 51 42.5	+1.1
FSR	**Penalolen**	**1.00**	**339**	*e*P	Pb	12 51 32.6	+0.2
FSR				*i* S	Sb	12 51 46.5	+1.2
FSR				AML	AML	12 51 48.3	
	comp=E,879nm,0.2s						
FSR	**Penalolen**	**1.00**	**339**	*e*P	Pb	12 51 32.6	+0.2
FSR				*i* S	Sb	12 51 46.5	+1.2
TACH	**Talagante**	**1.03**	**317**	⇓*i*P	Pb	12 51 32.6	-0.5
TACH				*i* S	Sb	12 51 47.3	+1.1
SAN	**Santiago**	**1.06**	**333**	⇑*i*P	Pb	12 51 33.6	0.0
SAN				*i* S	Sb	12 51 48.4	+1.2
SAN				AML	AML	12 51 49.1	
	comp=N,1μm,0.2s						
SAN	**Santiago**	**1.06**	**333**	⇑*i*P	Pb	12 51 33.6	0.0
SAN				*i* S	Sb	12 51 48.4	+1.2
STL	**Santa Lucia**	**1.07**	**335**	⇑*i*P	Pb	12 51 33.0	-0.7
STL				*i* S	Sb	12 51 48.0	+0.5
STL				AML	AML	12 51 48.7	
	comp=N,382nm,0.2s						
CLCH	**Cerro Calan**	**1.08**	**340**	⇑*i*P	Pb	12 51 33.8	0.0
CLCH				*i* S	Sb	12 51 48.6	+1.1
CLCH				AML	AML	12 51 54.0	
	comp=N,938nm,0.7s						
CLCH				AML	AML	12 51 54.5	
	comp=N,1μm,0.7s						
FCH	**Farellones**	**1.09**	**351**	⇑*i*P	Pb	12 51 33.9	-0.2
FCH				*i* S	Sb	12 51 49.8	+1.8
FCH				AML	AML	12 51 52.1	
	comp=N,850nm,0.2s						
RCDM	**Rinconada Maip**	**1.09**	**327**	⇑*i*P	Pb	12 51 33.8	-0.3
RCDM				*i* S	Sb	12 51 49.4	+1.4
RCDM				AML	AML	12 51 50.5	
	comp=E,2μm,0.1s						
RCDM	**Rinconada Maip**	**1.09**	**327**	⇑*i*P	Pb	12 51 33.8	-0.3
RCDM				*i* S	Sb	12 51 49.4	+1.4
NICH	**Los Niches**	**1.11**	**237**	⇓*i*P	Pb	12 51 34.2	-0.2
NICH				*i* S	Sb	12 51 49.4	+0.8
LNV	**Longovilo**	**1.18**	**292**	⇑*i*P	Pn	12 51 35.0	-0.4
LNV				*i* S	Sb	12 51 51.2	+0.5
PEL	**Peldehue**	**1.35**	**338**	⇑*i*P	Pn	12 51 38.3	+0.5
PEL				*i* S	Sn	12 51 57.5	+2.2
PEL				AML	AML	12 51 59.2	
	comp=E,856nm,0.3s						
PEL	**Peldehue**	**1.35**	**338**	⇑*i*P	Pn	12 51 38.3	+0.5
PEL				*i* S	Sn	12 51 57.5	+2.2
LCCH	**Las Cruces**	**1.54**	**307**	⇓*i*P	Pn	12 51 41.1	+0.8
LCCH				*i* S	Sn	12 52 02.3	+2.3
TALC	**Talca**	**1.61**	**232**	⇓*i*P	Pn	12 51 42.5	+1.3
TALC				*i* S	Sn	12 52 03.9	+2.3
TALC				AML	AML	12 52 05.3	
	comp=E,2μm,0.1s						
TALC	**Talca**	**1.61**	**232**	⇓*i*P	Pn	12 51 42.5	+

IDC 05 13:33:18.7±10.0, 1947S×17312W, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.7/16, mbtmp3.9/4, ML1.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/22, Error ellipse: s-maj=284.5km s-min=35.7km az=123.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.67**	**13**	Pn	Pn	13 34 44.4	+0.1
	1.9nm,0.3s,baz=294,slow=16,SNR=6.7						
AFI				Sn	Sn	13 35 43.8	-6.4
	2.8nm,0.3s,baz=128,slow=19,SNR=3.2						
HNR	**Honiara**	**27.89**	**287**	LR	LR	13 48 25.0	
	comp=Z,46nm,19.5s,baz=177,slow=32						
STKA	**Stephens Creek**	**42.37**	**244**	P	P	13 41 14.3	-0.3
	1.4nm,0.7s,baz=112,slow=11,SNR=3.1						
ASAR	**Alice Springs**	**49.22**	**255**	P	P	13 42 09.6	+0.8
	1.4nm,0.6s,baz=97,slow=8.1,SNR=28						
WRA	**Warramunga Arr**	**49.30**	**260**	P	P	13 42 09.7	+0.3
	0.4nm,0.4s,baz=98,slow=7.2,SNR=50						

*NEIC **05** 13:50:31.2, 4232N×1596E, h10km, ML2.5(ROM), After ROM.*
*CSEM **05** 13:50:32.8±0.4, 4224N×1582E, h8km, ML3.5/4, Error ellipse: s-maj=9.3km s-min=3.4km az=36.0*
ROM 05 13:50:31.2±0.6, 4232N×1596E, h10km, Md2.7/12, Ml2.5/7, Error ellipse: s-maj=7.7km s-min=4.0km az=30.0, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FGMS	**Monte Sant'Ang**	**0.61**	**181**	Pn	Pg	13 50 42.7	-0.4
	60nm,0.2s						
MS1	**Monte Sant'Ang**	**0.62**	**181**	*e*Pg	Pg	13 50 43.2	0.0
RGNG	**Rignano Grg**	**0.71**	**203**	Pn	Pn	13 50 43.2	-4.0
FG2	**Serracapriola**	**0.79**	**229**	Pn	Pn	13 50 44.5	-3.9
	145nm,0.3s						
FRES	**Fresagrandinar**	**1.02**	**250**	Pn	Pn	13 50 50.6	-1.0
FRES				Sn	Sn	13 51 04.4	-1.6
	134nm,0.4s						
CIGN	**Sant'Elia a Pi**	**1.03**	**230**	Pn	Pn	13 50 51.0	-0.7
	61nm,0.5s						
TRIV	**Trivento**	**1.19**	**243**	Pn	Pn	13 50 53.9	0.0
TRIV				Sn	Sn	13 51 09.3	-0.8
SGTA	**Sant Agata di**	**1.27**	**201**	Pn	Pn	13 50 54.9	-0.1
SGTA				Sn	Sn	13 51 12.4	+0.4
	80nm,0.6s						
AMUR	**Altamura**	**1.50**	**161**	Pn	Pn	13 50 58.9	+0.8
	18nm,0.5s						
INTR	**Introdacqua**	**1.56**	**259**	Pn	Pn	13 50 58.6	-0.4
INTR				Sn	Sn	13 51 19.5	+0.3
	175nm,0.6s						
SG1	**Sgolgore (BA)**	**1.58**	**160**	*e*Pg	Pg	13 51 01.3	-0.2
SG1				*e*Sg	Sg	13 51 23.2	+1.3
MCRV	**Calabrutti - M**	**1.65**	**201**	Pn	Pn	13 51 00.7	+0.5
	37nm,0.4s						
VVLD	**Villa Vallelon**	**1.80**	**256**	Pn	Pn	13 51 02.8	+0.5
VVLD				Sn	Sn	13 51 26.0	+0.9
	52nm,0.5s						
NRCA	**Norcia**	**2.16**	**285**	Pn	Pn	13 51 08.4	+1.1
	5.0nm,0.2s						

*NEIC **05** 13:56:30.1, 3262S×7154W, h15km±3km, ML2.8(GUC), After GUC.*
GUC 05 13:56:30.1±0.7, 3262S×7154W, h15km±3km, MD3.6, ML2.8, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.56**	**128**	*i*P	Pg	13 56 41.5	+0.4
ROCH				*i*S	Sg	13 56 50.1	+1.4
JACH	**Jahuel**	**0.80**	**94**	⇑*i*P	Pg	13 56 44.8	-0.8
JACH				*i*S	Sg	13 56 55.8	-0.3
LCCH	**Las Cruces**	**0.85**	**182**	*e*P	Pb	13 56 45.3	-1.3
LCCH				*i*S	Sg	13 56 56.7	-1.1
PEL	**Peldehue**	**0.89**	**126**	⇑*i*P	Pb	13 56 46.2	-0.9
PEL				*i*S	Sb	13 56 58.3	-0.5
PEL				AML	AML	13 56 59.5	
	comp=N,561nm,0.3s						
PEL	**Peldehue**	**0.89**	**126**	⇑*i*P	Pb	13 56 46.2	-0.9
PEL				*i*S	Sb	13 56 58.3	-0.5
RCDM	**Rinconada Maip**	**1.06**	**145**	*e*P	Pb	13 56 48.8	-1.4
RCDM				*i*S	Sb	13 57 03.0	-0.8
RCDM				AML	AML	13 57 03.6	
	comp=N,2μm,0.1s						
CLCH	**Cerro Calan**	**1.14**	**133**	*i*P	Pb	13 56 50.4	-1.1
CLCH				*i*S	Sb	13 57 05.4	-0.8
CLCH				AML	AML	13 57 06.7	
	comp=N,158nm,0.5s						
TACH	**Talagante**	**1.14**	**154**	*e*P	Pn	13 56 50.3	-1.2
TACH				*i*S	Sb	13 57 05.4	-0.8
FCH	**Farellones**	**1.26**	**124**	*e*P	Pn	13 56 52.1	-1.1
FCH				*i*S	Sb	13 57 08.8	-0.8
FCH				AML	AML	13 57 09.2	
	comp=E,131nm,0.2s						
PCH	**Pirque**	**1.31**	**139**	*e*P	Pn	13 56 53.1	-0.8
PCH				*i*S	Sb	13 57 10.7	-0.5
LNV	**Longovilo**	**1.33**	**175**	*i*P	Pn	13 56 52.6	-1.5
LNV				*i*S	Sn	13 57 10.4	-1.2
CHCH	**Chadas Angostu**	**1.50**	**151**	*i*P	Pn	13 56 56.2	-0.3
CHCH				*i*S	Sn	13 57 15.6	-0.2
CMCH	**Combarbala**	**1.52**	**18**	*e*P	Pn	13 56 55.7	-1.0
CMCH				*i*S	Sn	13 57 15.9	-0.3
CMCH				AML	AML	13 57 19.7	
	comp=E,405nm,0.6s						
CMCH	**Combarbala**	**1.52**	**18**	*e*P	Pn	13 56 55.7	-1.0
CMCH				*i*S	Sn	13 57 15.9	-0.3
LMEL	**Las Melosas**	**1.66**	**138**	*e*P	Pn	13 56 58.2	-0.4
LMEL				*i*S	Sn	13 57 19.5	-0.1
LMEL				AML	AML	13 57 24.6	
	comp=N,130nm,0.3s						
LMEL	**Las Melosas**	**1.66**	**138**	*e*P	Pn	13 56 58.2	-0.4
LMEL				*i*S	Sn	13 57 19.5	-0.1
CACH	**El Canelo**	**1.68**	**152**	*e*P	Pn	13 56 59.4	+0.4
CACH				*i*S	Sn	13 57 22.0	+1.7
CICH	**Cipreses**	**1.93**	**151**	⇑*i*P	Pn	13 57 02.6	+0.2
CICH				*i*S	Sn	13 57 27.6	+1.1
SFDO	**San Fernando**	**2.03**	**168**	*i*P	Pn	13 57 04.5	+0.7
TLL	**Tololo Astrono**	**2.53**	**15**	*i*P	Pn	13 57 12.2	+1.6
TLL				*i*S	Sn	13 57 44.1	+3.0
TLL				AML	AML	13 57 50.5	
	comp=N,68nm,0.4s						
TLL	**Tololo Astrono**	**2.53**	**15**	*i*P	Pn	13 57 12.2	+1.6
TLL				*i*S	Sn	13 57 44.1	+3.0

IDC 05 14:07:02.7±7.3, 2972S×17731W, h34km±49km, mb4.0/4, mb1 4.2/4, mb1mx3.8/13, mbtmp4.2/4, Error ellipse: s-maj=43.5km s-min=42.7km az=6.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.71**	**311**	Pn	Pn	14 07 16.3	0.0
	2μm,0.3s,baz=91,slow=7.5,SNR=130						
RAO				Sn	Sn	14 07 26.0	0.0
	3μm,0.3s,baz=64,slow=20,SNR=26						
CTA	**Charters Tower**	**34.29**	**278**	P	P	14 13 46.9	+1.1
	2.0nm,0.4s,baz=86,slow=11,SNR=6.7						
STKA	**Stephens Creek**	**35.22**	**256**	P	P	14 13 53.4	-0.4
	2.0nm,0.4s,baz=113,slow=9.7,SNR=5.2						
ASAR	**Alice Springs**	**43.75**	**266**	P	P	14 15 04.9	+0.1
	0.8nm,0.6s,baz=105,slow=7.3,SNR=11						
WRA	**Warramunga Arr**	**44.68**	**271**	P	P	14 15 12.4	+0.1
	2.0nm,0.4s,baz=110,slow=8.0,SNR=56						
FINES	**FINESS Array B**	**144.71**	**341**	PKP	PKPdf	14 26 34.1	-1.8
	1.8nm,0.4s,baz=53,slow=3.7,SNR=18						
AKASG	**Malin Array Be**	**151.11**	**324**	PKPbc	PKPbc	14 26 51.8	-0.4
	0.4nm,0.4s,baz=48,slow=2.9,SNR=4.7						

IDC 05 14:10:43.2±5.9, 1796S×17604W, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.7/14, mbtmp3.6/4, ML1.7/1, Error ellipse: s-maj=276.2km s-min=23.3km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.75**	**46**	Pn	Pn	14 12 10.9	+1.1
	1.4nm,0.3s,baz=221,slow=17,SNR=4.3						
AFI				Sn	Sn	14 13 15.3	-1.2
	1.0nm,0.3s,baz=208,slow=21,SNR=2.7						
WRA	**Warramunga Arr**	**46.84**	**259**	P	P	14 19 15.7	+0.8
	0.6nm,0.8s,baz=96,slow=7.3,SNR=11						
ASAR	**Alice Springs**	**46.94**	**254**	P	P	14 19 15.4	-0.3
	0.5nm,0.8s,baz=92,slow=8.3,SNR=8.6						
ILAR	**Eielson Array**	**85.45**	**12**	P	P	14 23 22.4	-0.4
	0.5nm,0.7s,baz=222,slow=5.7,SNR=12						

*GUC **05** 14:23:35.5±0.6, 2515S×7072W, h41km±3km, ML4.7*
*ISCJB **05** 14:23:36.1±0.7, 2516S×003×708W±02, h49km±8km, mb4.2/5, Error ellipse: s-maj=23.0km s-min=4.5km az=10.6*
*NEIC **05** 14:23:36.1±3.0, 2511S×7110W, h32km±22km, mb4.4/3, ML4.7(GUC), Error ellipse: s-maj=28.2km s-min=7.2km az=95.0*
NEIC Felt [IV] at Paposo, [III] at Taltal and [II] at Caldera.
*IDC **05** 14:23:37.7±0.8, 2514S×7064W, h39km±5km, mb4.0/4, mb1 3.8/7, mb1mx3.7/17, mbtmp3.9/7, ML3.5/3, Error ellipse: s-maj=35.2km s-min=19.3km az=92.0*
ISC 05 14:23:36.9±0.8, 2514S±003×709W±01, h39km±10km, n24, σ0°78/27, mb4.2/5, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPN1	**Cerro Paranal**	**0.65**	**38**	*e*P	Pn	14 23 48.5	-1.2
CPN1				*i*S	Sn	14 23 57.8	-1.0
CPN1				AML	AML	14 23 58.3	
	comp=N,53μm,0.2s						
CRCH	**Chaqaral**	**1.21**	**170**	*e*P	Pn	14 23 57.7	+0.3
CRCH				*i*S	Sn	14 24 12.6	+0.1
ANCH	**Antofagasta**	**1.51**	**15**	⇓*i*P	Pn	14 24 02.7	+1.3
ANCH				*i*S	Sn	14 24 20.0	+0.1
CDCH	**Caldera**	**1.92**	**180**	*e*P	Pn	14 24 06.6	-0.5
CDCH				*i*S	Sn	14 24 28.3	-1.7
CPCH	**Copiapo**	**2.25**	**169**	*e*P	Pn	14 24 11.8	+0.2
CPCH				*i*S	Sn	14 24 37.9	-0.2
CPCH				AML	AML	14 24 42.6	
	comp=N,8μm,0.1s						
CPCH	**Copiapo**	**2.25**	**169**	P	Pn	14 24 11.8	+0.2
CPCH				*i*S	Sn	14 24 37.9	-0.2
LCO	**Las Campanas**	**3.85**	**178**	*e*P	Pn	14 24 33.5	-0.1
LCO				*i*S	Sn	14 25 17.9	+0.2
TLL	**Tololo Astrono**	**5.00**	**180**	*e*P	Pn	14 24 49.7	+0.2
CFAA	**Coronel Fontan**	**6.83**	**161**	Pn	Pn	14 25 16.4	+1.9
	comp=N,0.2nm,0.3s,baz=352,slow=10,SNR=8.6						
CFAA				Sn	Sn	14 26 31.6	+0.6
	comp=N,0.3nm,0.3s,baz=210,slow=20,SNR=3.6						
LPAZ	**La Paz**	**9.17**	**17**	Pn	Pn	14 25 47.8	+1.1
	comp=N,0.3nm,0.3s,baz=180,slow=7.2,SNR=6.9						
LPAZ	**La Paz**	**9.17**	**17**	*e*Pn	Pn	14 25 47.4	+0.8
	comp=N,4.6nm,0.9s						
SIV	**San Ignacio**	**12.90**	**47**	Pn	Pn	14 26 37.8	+0.1
	comp=N,0.4nm,0.3s,baz=237,slow=12,SNR=7.1						
TRQA	**Tornquist**	**14.91**	**152**	*e*P	Pn	14 27 09.5	+4.5
	comp=N,11nm,0.8s						
JTS	**JuntasAbangare**	**37.81**	**337**	P	P	14 30 48.5	-1.0
	comp=N,11nm,1.2s,mb4.5						
SNAA	**Sanae**	**59.45**	**160**	P	P	14 33 35.6	-0.1
	comp=N,0.4nm,0.3s,mb3.9,baz=271,slow=8.1,SNR=19						
SNAA	**Sanae**	**59.45**	**160**	*e*P	P	14 33 34.8	-0.9
	comp=N,2.5nm,0.7s,mb4.3						
TORD	**Torodi Ar. Bea**	**80.25**	**71**	P	P	14 35 43.4	0.0
	comp=N,2.9nm,0.6s,mb4.4,baz=261,slow=5.3,SNR=37						
TORD				pP	pP	14 35 55.3	-0.1
	comp=N,1.9nm,0.6s,baz=261,slow=5.5,SNR=7.6						
MAW	**Mawson**	**81.36**	**164**	P	P	14 35 49.7	+0.3
	comp=N,2.0nm,0.9s,mb4.1,baz=230,slow=7.0,SNR=6.4						
YKA	**Yellowknife Ar**	**94.03**	**341**	P	P	14 36 51.1	+0.2
	comp=N,0.3nm,0.7s,mb3.9,baz=141,slow=4.5,SNR=7.0						
YKA				pP	pP	14 37 03.6	+0.5
	comp=N,0.3nm,0.7s,baz=136,slow=4.2,SNR=3.2						
ASAR	**Alice Springs**	**125.88**	**208**	PKP	PKPdf	14 42 35.6	+1.1
	comp=N,0.7nm,0.7s,baz=130,slow=1.7,SNR=17						
ASAR				pPKP	pPKPdf	14 42 48.3	+1.3
	comp=N,0.3nm,0.5s,baz=132,slow=1.6,SNR=2.7						
WRA	**Warramunga Arr**	**128.93**	**211**	PKP	PKPdf	14 42 41.8	+1.5
	comp=N,1.0nm,0.6s,baz=157,slow=1.7,SNR=14						
WRA				pPKP	pPKPdf	14 42 53.9	+1.1
	comp=N,0.4nm,0.8s,baz=51,slow=11,SNR=2.5						
ZAL	**Zalesovo**	**145.99**	**26**	PKPbc	PKPbc	14 43 12.3	-0.1
	comp=N,2.0nm,0.6s,baz=154,slow=5.0,SNR=9.9						
ZAL	**Zalesovo**	**145.99**	**26**	PKPbc	PKPbc	14 43 12.3	-0.1
MKAR	**Makanchi Array**	**149.60**	**38**	PKPbc	PKPbc	14 43 22.4	+0.3
	comp=N,1.9nm,0.7s,baz=312,slow=2.8,SNR=23						
MKAR				pPKPbc	pPKPbc	14 43 35.0	+0.4
	comp=N,0.5nm,0.6s,baz=317,slow=2.5,SNR=5.1						

*ISCJB **05** 14:58:51.3±2.3, 245N±0.1×1418E±03, h85km±21km, mb3.6/6, Error ellipse: s-maj=43.2km s-min=20.0km az=10.9*
*IDC **05** 14:58:52.4±2.3, 2449N×14188E, h74km±21km, mb3.3/6, mb1 3.6/8, mb1mx3.4/20, mbtmp3.6/8, Error ellipse: s-maj=38.2km s-min=16.4km az=100.0*
ISC 05 14:58:52.6±2.1, 245N±01×1418E±03, h80km±19km, n8, σ0°84/9, mb3.6/6, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.60**	**8**	P	Pn	14 59 32.6	+0.1
	13nm,0.3s,baz=258,slow=23,SNR=13						
CBIJ				S	Sn	15 00 03.9	+0.7
	25nm,0.3s,baz=106,slow=23,SNR=7.6						
MJAR	**Matsushiro Arr**	**12.38**	**346**	P	Pn	15 01 44.3	-1.5
	0.3nm,0.3s,baz=218,slow=5.1,SNR=5.6						
WRA	**Warramunga Arr**	**44.77**	**190**	P	P	15 06 58.1	-0.2
	1.3nm,0.4s,mb4.0,baz=7.7,slow=8.1,SNR=44						
WRA				PcP	PcP	15 08 40.8	+1.7
	0.5nm,0.5s,baz=4.6,slow=3.2,SNR=6.0						
ASAR	**Alice Springs**	**48.49**	**190**	P	P	15 07 27.8	+0.5
	0.3nm,0.6s,mb3.3,baz=16,slow=13,SNR=8.9						
MKAR	**Makanchi Array**	**51.87**	**311**	P	P	15 07 54.4	+1.5
	0.2nm,0.4s,mb3.5,baz=86,slow=8.4,SNR=7.0						
ILAR	**Eielson Array**	**60.15**	**28**	P	P	15 08 51.4	-0.5
	0.8nm,0.8s,mb3.8,baz=249,slow=6.3,SNR=8.8						
YKA	**Yellowknife Ar**	**74.58**	**28**	P	P	15 10 23.1	+0.2
	0.6nm,0.6s,mb3.5,baz=292,slow=5.8,SNR=10						
FINES	**FINESS Array B**	**80.10**	**334**	P	P	15 10 52.8	-1.0
	0.2nm,0.3s,mb3.4,baz=76,slow=8.0,SNR=3.6						

*ISCJB **05** 15:22:51.3±0.3, 3996S±002×17475E±004, h119km±3km, mb4.4/6, Error ellipse: s-maj=4.9km s-min=2.8km az=30.8*
*NEIC **05** 15:22:51.3, 3992S×17483E, h130km, mb4.7/3, After WEL.*
NEIC Felt at Marton and Plymouth.
*IDC **05** 15:22:51.9±2.0, 3992S×17458E, h93km±18km, mb3.8/3, mb1 3.9/6, mb1mx3.7/13, mbtmp4.1/6, MS3.3/2, Ms1 3.3/2, ms1mx2.9/21, Error ellipse: s-maj=24.1km s-min=21.4km az=153.0*
*WEL **05** 15:22:53.4±0.1, 3994S×17479E, h111km±1km, ML4.4/22, Error ellipse: s-maj=0.8km s-min=0.5km az=90.0*
WEL Felt from Taranaki to Wellington, maximum reported intensity MM 4.
ISC 05 15:22:52.3±0.3, 3996S±002×17476E±004, h115km±3km, n133, σ0°91/157, mb4.4/6, 45C-16D, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WAZ	**Wanganui**	**0.27**	**42**	⇑PN	Pn	15 23 09.7	+1.3
WAZ				*e*SN	Sn	15 23 21.0	+0.4
WAZ				*e*SN	Sn	15 23 21.3	+0.7
WAZ	**Wanganui**	**0.27**	**42**	⇑P	Pn	15 23 09.7	+1.3
WAZ				S	Sn	15 23 22.0	+1.4
RAEZ	**Rainy Point**	**0.72**	**337**	⇓PN	Pn	15 23 12.5	+1.3
RAEZ				SN	Sn	15 23 25.5	-0.1
RAEZ	**Rainy Point**	**0.72**	**337**	⇓P	Pn	15 23 12.5	+1.2
MTVZ	**Mangateitei**	**0.79**	**44**	PN	Pn	15 23 12.3	+0.5
MTVZ				SN	Sn	15 23 26.7	0.0
PKVZ	**Pokaka**	**0.81**	**35**	⇑PN	Pn	15 23 12.4	+0.4
PKVZ				SN	Sn	15 23 26.2	-0.7
VRZ	**Vera Road**	**0.83**	**0**	⇓PN	Pn	15 23 12.7	+0.5
VRZ				SN	Sn	15 23 26.5	-0.7
VRZ				SN	Sn	15 23 26.7	-0.5
VRZ	**Vera Road**	**0.83**	**0**	⇓P	Pn	15 23 12.7	+0.5
NEZ	**North Egmont**	**0.85**	**323**	⇑PN	Pn	15 23 13.1	+0.7
NEZ	**North Egmont**	**0.85**	**323**	⇑P	Pn	15 23 13.1	+0.7
NRZ	**Ngariki Road**	**0.89**	**314**	⇑↑PN	Pn	15 23 13.5	+0.8
NRZ				SN	Sn	15 23 28.3	+0.1
NRZ	**Ngariki Road**	**0.89**	**314**	⇑*i*P	Pn	15 23 13.5	+0.8
WNVZ	**Wahianoa**	**0.90**	**46**	⇑PN	Pn	15 23 13.4	+0.6
WNVZ				SN	Sn	15 23 28.4	-0.1
WNVZ	**Wahianoa**	**0.90**	**46**	⇑P	Pn	15 23 12.4	-0.5
FWVZ	**Far West T-bar**	**0.93**	**42**	⇓PN	Pn	15 23 13.6	+0.5
FWVZ				SN	Sn	15 23 28.4	-0.5
FWVZ	**Far West T-bar**	**0.93**	**42**	⇓P	Pn	15 23 12.6	-0.5
TSZ	**Takapari Road**	**0.93**	**97**	PN	Pn	15 23 13.8	+0.7
TSZ	**Takapari Road**	**0.93**	**97**	P	Pn	15 23 13.8	+0.6
MOVZ	**Moawhango**	**0.94**	**55**	⇑PN	Pn	15 23 13.5	+0.2
MOVZ				SN	Sn	15 23 28.8	-0.3
MOVZ	**Moawhango**	**0.94**	**55**	⇑P	Pn	15 23 12.5	-0.8
MRZ	**Mangatainoka R**	**0.95**	**139**	⇑PN	Pn	15 23 14.4	+1.1
MRZ				SN	Sn	15 23 30.0	+0.8
MRZ	**Mangatainoka R**	**0.95**	**139**	⇑P	Pn	15 23 14.4	+1.1
PKE	**Pukeiti**	**0.96**	**322**	⇓PN	Pn	15 23 14.1	+0.6
PKE				SN	Sn	15 23 28.9	-0.6
PKE	**Pukeiti**	**0.96**	**322**	⇓P	Pn	15 23 14.1	+0.6
NWEZ	**Newall Road**	**0.97**	**314**	⇓PN	Pn	15 23 14.4	+1.0
NWEZ	**Newall Road**	**0.97**	**314**	⇓P	Pn	15 23 14.4	+0.9
WPVZ	**Whakapapa**	**0.97**	**39**	⇑PN	Pn	15 23 13.9	+0.4
WPVZ				SN	Sn	15 23 29.0	-0.5
WPVZ	**Whakapapa**	**0.97**	**39**	⇑P	Pn	15 23 12.9	-0.6
TUVZ	**Tukino**	**0.97**	**46**	PN	Pn	15 23 14.2	+0.6
TUVZ				SN	Sn	15 23 29.5	-0.2
TUVZ	**Tukino**	**0.97**	**46**	P	Pn	15 23 13.2	-0.4
NGZ	**Ngauruhoe**	**1.01**	**40**	PN	Pn	15 23 14.4	+0.4
NGZ	**Ngauruhoe**	**1.01**	**40**	P	Pn	15 23 13.4	-0.6
TWVZ	**Taurewa**	**1.03**	**31**	⇓PN	Pn	15 23 14.3	+0.2
TWVZ				SN	Sn	15 23 29.4	-1.2
TWVZ	**Taurewa**	**1.03**	**31**	⇓P	Pn	15 23 13.3	-0.8
OTVZ	**Oturere**	**1.06**	**42**	PN	Pn	15 23 15.0	+0.6
OTVZ				SN	Sn	15 23 31.1	-0.1
WTVZ	**West Tongariro**	**1.06**	**38**	⇑PN	Pn	15 23 14.7	+0.3
WTVZ				SN	Sn	15 23 30.0	-1.1
WTVZ	**West Tongariro**	**1.06**	**38**	⇑P	Pn	15 23 13.7	-0.7
DUWZ	**D'Urville Isla**	**1.06**	**217**	⇑PN	Pn	15 23 15.3	+0.9
DUWZ				SN	Sn	15 23 32.3	+1.1
KRVZ	**Karewarewa**	**1.10**	**39**	PN	Pn	15 23 15.2	+0.3
KRVZ				SN	Sn	15 23 31.4	-0.6
CAW	**Cannon Point**	**1.18**	**168**	⇑PN	Pn	15 23 16.9	+1.3
CAW				SN	Sn	15 23 33.5	+0.1
CAW	**Cannon Point**	**1.18**	**168**	⇑P	Pn	15 23 15.9	+0.2
TIWZ	**Tintock**	**1.19**	**134**	⇑PN	Pn	15 23 17.0	+1.1
TIWZ				SN	Sn	15 23 34.7	+1.0
KATZ	**Kakaramea**	**1.22**	**37**	PN	Pn	15 23 16.5	+0.4
KATZ	**Kakaramea**	**1.22**	**37**	P	Pn	15 23 15.5	-0.6
MRW	**Makara Radio**	**1.27**	**182**	⇑PN	Pn	15 23 18.0	+1.2
MRW				SN	Sn	15 23 35.2	-0.1
MRW	**Makara Radio**	**1.27**	**182**	⇑P	Pn	15 23 17.0	+0.3
TCW	**Tory Channel**	**1.31**	**196**	⇑PN	Pn	15 23 18.3	+1.2
TCW				SN	Sn	15 23 35.7	-0.3
TCW	**Tory Channel**	**1.31**	**196**	⇑P	Pn	15 23 17.3	+0.2
WEL	**Wellington**	**1.33**	**180**	⇑PN	Pn	15 23 18.4	+1.0
WEL	**Wellington**	**1.33**	**180**	⇑P	Pn	15 23 17.4	0.0
MTW	**Mount Morrison**	**1.33**	**155**	⇑PN	Pn	15 23 18.3	+1.0
MTW				SN	Sn	15 23 36.0	-0.4
MTW	**Mount Morrison**	**1.33**	**155**	⇑P	Pn	15 23 17.3	-0.1
RATZ	**Rangitukua**	**1.34**	**36**	PN	Pn	15 23 17.9	+0.4
RATZ	**Rangitukua**	**1.34**	**36**	P	Pn	15 23 16.9	-0.6
BFZ	**Birch Farm**	**1.35**	**123**	⇑PN	Pn	15 23 18.4	+0.8
BFZ				SN	Sn	15 23 36.1	-0.7
BFZ	**Birch Farm**	**1.35**	**123**	⇓P	Pn	15 23 18.4	+0.8
SNZO	**South Karori**	**1.35**	**182**	⇑PN	Pn	15 23 18.6	+1.0
SNZO				SN	Sn	15 23 36.1	-0.8
SNZO	**South Karori**	**1.35**	**182**	⇑P	Pn	15 23 18.6	+1.0
SNZO				*e*Sn	Sn	15 23 33.5	-3.5
HIZ	**Hauiti**	**1.44**	**3**	⇓PN	Pn	15 23 19.0	+0.3
HIZ				SN	Sn	15 23 37.9	-0.8
HIZ	**Hauiti**	**1.44**	**3**	⇑P	Pn	15 23 19.0	+0.4
BHW	**Baring Head**	**1.46**	**177**	⇑PN	Pn	15 23 19.7	+0.9
BHW				SN	Sn	15 23 37.8	-1.2
BHW	**Baring Head**	**1.46**	**177**	⇑P	Pn	15 23 18.7	-0.1
WATZ	**Wairara**	**1.46**	**32**	PN	Pn	15 23 19.3	+0.5
WATZ	**Wairara**	**1.46**	**32**	P	Pn	15 23 18.3	-0.5
MSWZ	**Moikau Station**	**1.51**	**166**	⇑PN	Pn	15 23 20.4	+1.0
MSWZ	**Moikau Station**	**1.51**	**166**	⇑P	Pn	15 23 19.4	0.0
PAWZ	**Paruwai Farm**	**1.52**	**161**	⇑PN	Pn	15 23 20.5	+1.0
PAWZ	**Paruwai Farm**	**1.52**	**161**	⇑P	Pn	15 23 19.5	0.0
BKZ	**Black Stump Fm**	**1.56**	**60**	P	Pn	15 23 20.0	0.0
BKZ				SN	Sn	15 23 39.8	-1.3
BKZ	**Black Stump Fm**	**1.56**	**60**	P	Pn	15 23 20.0	0.0
TUWZ	**Tuamarina**	**1.60**	**202**	PN	Pn	15 23 21.2	+0.7
TRWZ	**Traveller**	**1.61**	**154**	PN	Pn	15 23 21.4	+0.8
PXZ	**Pawanui**	**1.62**	**93**	PN	Pn	15 23

1.9nm,0.5s
FINES FINESS Array B 151.22 329 PKPbc PKPbc 15 42 33.3 +1.3
1.6nm,0.6s,baz=68,slow=5.1,SNR=8.2
FINES PKPab PKPab 15 42 40.2 -0.2
0.4nm,0.5s,baz=22,slow=1.5,SNR=3.9
FINES FINESS Array B 151.22 329 PKPbc PKPbc 15 42 33.3 +1.3
FINES PKPab PKPab 15 42 40.2 -0.2
TORD Torodi Ar. Bea 152.61 195 PKPbc PKPbc 15 42 38.3 +3.1
0.3nm,0.5s,baz=151,slow=3.2,SNR=4.5
TORD PKPab PKPab 15 42 48.0 +1.8
1.6nm,0.8s,baz=159,slow=4.3,SNR=6.5

*NEIC **05** 15:24:06.2, 19.17N×9895W, h1km, MD3.5(MEX), After MEX.*

MEX 05 15:24:06.2±1.0, 1917N×9895W, h1km, MD3.5, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CIVM	**Cilcuayo**	**0.07**	**205**	*i* P	Pg	15 24 06.8	-0.8
CIVM				*i* S	Sg	15 24 08.3	-0.2
RFVM	**Rio Frio**	**0.24**	**48**	*i* P	Pg	15 24 09.7	-1.1
RFVM				*i* S	Sg	15 24 14.0	0.0
UNM	**Universidad Na**	**0.27**	**307**	*i* P	Pg	15 24 09.9	-1.3
UNM				*i* P		15 24 11.2	
UNM				*i* P		15 24 11.5	
UNM				*i* S	Sg	15 24 15.5	+0.8
UNM				*e*S	Sg	15 24 15.6	+0.9
UNM				*i* S	Sg	15 24 16.1	+1.4
UNM	**Universidad Na**	**0.27**	**307**	*i* P	Pg	15 24 09.9	-1.3
UNM				*i* P		15 24 11.2	
UNM				*i* P		15 24 11.5	
UNM				*i* S	Sg	15 24 15.5	+0.8
UNM				*i* S	Sg	15 24 16.1	+1.4
PPM	**Popocatepetl**	**0.33**	**108**	*i* P	Pg	15 24 11.1	-1.3
PPM				*i* P		15 24 12.8	
PPM				*i* P		15 24 13.5	
PPM				*i* S	Sg	15 24 15.4	-1.3
PPM				*i* S	Sg	15 24 17.0	+0.3
PPM				*i* S	Sg	15 24 17.1	+0.4
PPM	**Popocatepetl**	**0.33**	**108**	*i* P	Pg	15 24 11.1	-1.3
PPM				*i* P		15 24 12.8	
PPM				*i* P		15 24 13.5	
PPM				*i* S	Sg	15 24 15.0	-1.7
PPM				*i* S	Sg	15 24 17.0	+0.3
YAIG	**Yautepec**	**0.33**	**199**	*e*P	Pg	15 24 12.1	-0.3
YAIG				*i* S	Sg	15 24 16.9	+0.3
PTVM	**Pico Tres Padr**	**0.45**	**340**	*i* P	Pg	15 24 13.1	-1.7
PLIG	**Platanillo**	**0.93**	**214**	*i* P	Pg	15 24 23.0	-1.1
PLIG				*i* S	Sg	15 24 35.1	-1.1
MEIG	**Mezcala**	**1.39**	**207**	*i* P	Pn	15 24 28.6	-4.1
MEIG				*e*S	Sg	15 24 48.1	-2.8
UTMO	**Huajuapan**	**1.72**	**141**	*e*P	Pn	15 24 35.9	-1.4
UTMO				*e*S	Sn	15 24 54.5	-5.4
ACX	**Acapulco**	**2.47**	**202**	*i* P	Pn	15 24 45.0	-2.6
ACX				*i* S	Sn	15 25 14.9	-3.4

*NEIC **05** 15:26:16.8, 3757N×2088E, h13km, MD3.5(ATH), After ATH.*
*CSEM **05** 15:26:16.9±0.7, 3754N×2085E, h2km, MD3.5, Error ellipse: s-maj=15.8km s-min=7.7km az=59.0*
*ATH **05** 15:26:16.8, 3757N×2088E, h13km±4km, MD3.5/4*
*ISCJB **05** 15:26:17.2±1.3, 3756N±005×2086E±008, h10km, Error ellipse: s-maj=11.0km s-min=5.7km az=109.4*

ISC 05 15:26:17.2±1.3, 3755N±006×2087E±009, h10km, n7, σ1§02/11, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.67**	**341**	*e*PB	**Pg**	**15 26 29.6**	**-0.5**
VLS				*e*SB	**Sg**	**15 26 39.1**	**+0.3**
RLS	**Riolos of Patr**	**0.69**	**43**	*e*PG	**Pg**	**15 26 29.5**	**-1.1**
RLS				*e*SB	**Sg**	**15 26 39.2**	**-0.5**
ITM	**Ithomi**	**0.92**	**113**	*e*PB	**Pb**	**15 26 33.5**	**-1.7**
ITM				*e*SB	**Sb**	**15 26 47.6**	**+0.1**
LKD	**Levkas**	**1.17**	**352**	*e*P	**Pb**	**15 26 38.7**	**-0.8**
EVR	**Evrytania**	**1.55**	**28**	*e*PB	**Pb**	**15 26 46.0**	**0.0**
EVR				*e*SB	**Sb**	**15 27 06.6**	**+0.9**
VLI	**Veliai**	**1.85**	**116**	*e*PN	**Pn**	**15 26 50.5**	**+1.6**
AGG	**Agios Georgios**	**1.87**	**38**	*e*P	**Pn**	**15 26 51.0**	**+1.8**

CASC 05 15:34:28.1±4.8, 1205N×8843W, h20km±17km, MD4.0, 3C-5D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**1.35**	**26**	*e*P	Pn	15 34 51.7	-0.1
CNCH				*e*S	Sn	15 35 08.9	-0.2
VSM	**San Miguel**	**1.38**	**6⇓**	*e*P	Pn	15 34 52.9	+0.7
VSM				*e*S	Sn	15 35 10.9	+1.2
BLLM	**Bellamira**	**1.40**	**8**	*e*P	Pn	15 34 52.5	+0.1
BLLM				*e*S	Sn	15 35 11.2	+1.0
CRIN	**San Cristobal**	**1.50**	**64**	*e*P	Pn	15 34 54.0	+0.1
CRIN				*e*S	Sn	15 35 14.1	+1.4
LEON	**Leon**	**1.55**	**76⇓**	*e*P	Pn	15 34 54.1	-0.5
SNVI	**San Vicente**	**1.60**	**346**	*e*P	Pn	15 34 55.4	+0.2
SNVI				*e*S	Sn	15 35 14.9	-0.4
TEL3	**Telica 3**	**1.64**	**71**	*e*P	Pn	15 34 55.4	-0.4
TEL3				*e*S	Sn	15 35 17.3	+1.2
TELN	**Telica**	**1.66**	**70**	*e*P	Pn	15 34 55.8	-0.2
TELN				*e*S	Sn	15 35 17.9	+1.1
LFRS	**El Faro**	**1.68**	**339⇑**	*e*P	Pn	15 34 56.1	-0.2
LFRS				*e*S	Sn	15 35 18.4	+1.2
LCBS	**La Ceiba**	**1.68**	**342**	*e*P	Pn	15 34 56.0	-0.3
LCBS				*e*S	Sn	15 35 20.0	+2.7
MIRN	**Miramar**	**1.73**	**77**	*e*P	Pn	15 34 57.1	+0.1
COPN	**Copaltepe**	**1.81**	**86⇑**	*e*P	Pn	15 34 58.1	0.0
BOQS	**Boqueron**	**1.87**	**334**	*e*P	Pn	15 34 59.4	+0.5
BOQS				*e*S	Sn	15 35 21.8	-0.1
MOMJ	**Momotombo**	**1.88**	**79⇓**	*e*P	Pn	15 34 58.8	-0.3
MOMJ				*e*S	Sn	15 35 23.0	+0.7
APYN	**Apoyeque**	**2.04**	**85**	*e*P	Pn	15 35 02.1	+0.7
APYN				*e*S	Sn	15 35 27.3	+1.0
TISN	**Laguna Tiscapa**	**2.12**	**87**	*e*P	Pn	15 35 03.1	+0.7
TISN				*e*S	Sn	15 35 28.8	+0.7
SBLS	**San Blas**	**2.12**	**327⇑**	*e*P	Pn	15 35 03.1	+0.7
SBLS				*e*S	Sn	15 35 28.7	+0.5
SNJE	**San Jose**	**2.14**	**328⇓**	*e*P	Pn	15 35 03.3	+0.7
SNJE				*e*S	Sn	15 35 39.0	+10
TICN	**Ticuantepe**	**2.15**	**90⇓**	*e*P	Pn	15 35 04.3	+1.5
TICN				*e*S	Sn	15 35 30.6	+1.6
RTR	**El Retiro**	**2.18**	**327**	*e*P	Pn	15 35 04.3	+1.0
RTR				*e*S	Sn	15 35 37.3	+7.6
RBDL	**Robledal**	**2.39**	**329**	*e*P	Pn	15 35 07.4	+1.3

*IDC **05** 15:43:21.1±6.9, 432S×12569E, h471km±94km, mb2.9/3, mb1 2.9/5, mb1mx2.8/17, mbtmp3.7/5, Error ellipse: s-maj=115.7km s-min=29.2km az=57.0*
*ISCJB **05** 15:43:22.5±1.0, 46S±02×1249E±04, h500km, mb3.5/3, Error ellipse: s-maj=66.2km s-min=14.5km az=127.1*
*NEIC **05** 15:43:23.2±0.8, 462S×12522E, h500km, mb3.7/1, Error ellipse: s-maj=60.4km s-min=13.9km az=64.0*

ISC 05 15:43:23.3±1.0, 46S±02×1252E±04, h500km, n8, σ0§80/8, mb3.5/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.41**	**178**	P	**P**	**15 46 16.5**	**-0.2**
	0.1nm,0.3s,baz=7.3,slow=18,SNR=5.0						
WRAB	**Tennant Creek**	**17.64**	**150**	*e*P	**P**	**15 47 00.5**	**+0.2**
WRA	**Warramunga Arr**	**17.64**	**150**	P	**P**	**15 47 00.1**	**-0.2**
	0.6nm,0.3s,baz=330,slow=10,SNR=76						
WB2	**Warramunga Arr**	**17.65**	**150**	*e*P	**P**	**15 47 00.8**	**+0.4**
ASAR	**Alice Springs**	**20.71**	**157**	P	**P**	**15 47 29.7**	**+1.4**
	1.8nm,0.6s,baz=330,slow=9.8,SNR=34						
STKA	**Stephens Creek**	**31.17**	**152**	P	**P**	**15 48 59.0**	**-1.7**
	1.8nm,1.0s,mb3.4,baz=337,slow=11,SNR=4.0						
MKAR	**Makanchi Array**	**63.67**	**329**	P	**P**	**15 53 05.3**	**+0.3**
	0.4nm,0.4s,mb3.3,baz=116,slow=8.2,SNR=12						
KURK	**Kurchatov**	**68.05**	**330**	P	**P**	**15 53 32.1**	**-0.3**
	1.8nm,0.9s,mb3.7						

*NEIC **05** 15:53:45.2, 3221N×11508W, h7km, ML3.9(ECX), After ECX.*

ECX 05 15:53:45.0±0.5, 3221N×11507W, h7km, MD2.9, ML3.1, 2C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RDX	**Rancho Dowling**	**0.80**	**250⇑**	*e*P	Pg	15 53 58.9	-1.4
RDX				*e*S	Sg	15 54 09.3	-1.3
GLA	**Glamis**	**0.86**	**14**	*e*Pg	Pg	15 53 58.2	-3.3
GLA				*e*Sg	Sg	15 54 10.7	-2.1
RMX	**La Rumorosa**	**0.94**	**295⇓**	*e*P	Pg	15 54 01.1	-1.9
RMX				*e*S	Sg	15 54 14.3	-0.9
RMX				⇑*e*		15 54 15.2	
	comp=E,510nm,0.2s						
CBX	**Cerro Bola**	**1.35**	**275⇓**	*e*P	Pn	15 54 08.8	-1.6
ENX	**Ensenada**	**1.39**	**257**	*e*P	Pn	15 54 09.3	-1.6
ENX				*e*S	Sb	15 54 27.9	-1.4
ECNX	**Esteban Cantu**	**1.41**	**247**	*e*P	Pn	15 54 09.5	-1.6
ECNX				*e*P		15 54 09.0	
ECNX				*e*S	Sb	15 54 27.8	-2.1
ECNX				*e*S	Sb	15 54 28.6	-1.2
PBX	**Punta Banda**	**1.48**	**252⇓**	*e*P	Pn	15 54 10.4	-1.6
PBX				*e*S	Sn	15 54 30.5	-1.2
PFO	**Pinyon Flat Ob**	**1.82**	**320**	*e*Pn	Pn	15 54 16.2	-0.5
GSC	**Goldstone**	**3.41**	**335**	Pn	Pn	15 54 42.9	+4.4
GSC				*e*Pg	Pg	15 54 51.6	+1.4
NEN	**Nelson**	**3.44**	**3**	Pn	Pn	15 54 40.2	+1.3
TUC	**Tucson**	**3.63**	**87**	Pn	Pn	15 54 49.0	+7.4
TUC				*e*S	Sn	15 55 35.5	+11
TPNV	**Topopah Spring**	**4.83**	**349**	Pn	Pn	15 54 52.6	-5.4
MSU	**Marysvale**	**6.72**	**20**	Pn	Pn	15 55 30.3	+6.3

*ISCJB **05** 15:55:24.4±0.7, 3809N±003×2692E±004, h8km±7km, Error ellipse: s-maj=5.5km s-min=5.2km az=85.9*
*ISK **05** 15:55:24.5, 3815N×2691E, h21km, MD3.2*
*CSEM **05** 15:55:24.8±0.2, 3810N×2702E, h15km, MD3.2, Error ellipse: s-maj=5.0km s-min=1.6km az=109.0*
*ATH **05** 15:55:25.7, 3803N×2664E, h10km±7km, MD3.2/3*

ISC 05 15:55:24.9±0.5, 3810N±002×2692E±004, h13km±4km, n17, σ0§83/27, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.37**	**315**	*i* P	**Pg**	**15 55 32.0**	**-0.2**
URLA				*i* S	**Sg**	**15 55 37.6**	**+0.4**
URLA	**Izmir**	**0.37**	**315**	*i* P	**Pg**	**15 55 32.0**	**-0.3**
IZM	**Izmir**	**0.40**	**42**	*i* PG	**Pg**	**15 55 32.9**	**0.0**
IZM				*i* SG	**Sg**	**15 55 38.7**	**+0.4**
SMG	**Samos**	**0.40**	**190**	*e*PB	**Pg**	**15 55 32.8**	**-0.1**
SMG				*e*SB	**Sg**	**15 55 38.0**	**-0.3**
KDAG	**Bornova**	**0.40**	**42**	*i* P	**Pg**	**15 55 33.0**	**0.0**
KDAG				*i* S	**Sg**	**15 55 38.7**	**+0.3**
AYDN	**Tasoluk**	**0.88**	**120**	*i* P	**Pg**	**15 55 42.1**	**+0.2**
AYDN				*i* S	**Sg**	**15 55 53.4**	**+0.1**
AKS	**Akhisar**	**1.04**	**42**	*i* PG	**Pg**	**15 55 44.5**	**-0.6**
AKS				*i* SG	**Sg**	**15 55 58.2**	**-0.5**
MLSB	**Milas**	**1.05**	**140**	*e*PN	**Pn**	**15 55 45.2**	**-0.1**
BODT	**Bodrum**	**1.08**	**163**	PN	**Pn**	**15 55 45.8**	**+0.1**
BODT				SN	**Sn**	**15 56 00.8**	**+0.2**
BDRM	**Kayabasi**	**1.11**	**158**	*i* P	**Pb**	**15 55 46.9**	**+0.9**
BDRM				*i* S	**Sb**	**15 56 00.9**	**+0.5**
PRK	**Paraskevi**	**1.25**	**336**	*e*PB	**Pb**	**15 55 49.2**	**+0.8**
PRK				*e*SB	**Sb**	**15 56 06.3**	**+1.9**
MANT	**Manisa**	**1.34**	**73**	*i* P	**Pn**	**15 55 50.7**	**+1.4**
MANT				*i* S	**Sn**	**15 56 07.6**	**+0.6**
DAT	**Datca**	**1.47**	**159**	*e*PN	**Pn**	**15 55 51.0**	**0.0**
APE	**Apeiranthos**	**1.51**	**227**	*e*PB	**Pn**	**15 55 50.4**	**-1.3**
BALB	**Balikesir**	**1.71**	**26**	*e*PN	**Pn**	**15 55 52.3**	**-2.0**
DST	**Dursunbey**	**2.01**	**41**	*e*PN	**Pn**	**15 55 57.3**	**-1.2**
KCT	**Karacabey**	**2.43**	**27**	*e*PN	**Pn**	**15 56 02.5**	**-1.8**

*CSEM **05** 16:02:01.5±0.1, 3625N×768W, h40km, ML4.0/5, Error ellipse: s-maj=2.6km s-min=2.0km az=59.0*
*NEIC **05** 16:02:04.5, 3646N×765W, h20km, MN3.1(MDD), After MDD.*
*SFS **05** 16:02:04.0, 3646N×765W, h0km, ML3.1*
*CNRM **05** 16:02:04.8, 3623N×764W, h30km, MD3.3*
*MDD **05** 16:02:04.4±1.0, 3640N×773W, h32km±24km, mbLg2.9/34, Error ellipse: s-maj=14.5km s-min=4.6km az=33.0, PRXIMO*
*INMG **05** 16:02:05.4±1.1, 3640N×774W, h31km, MD3.0, ML2.8, Error ellipse: s-maj=4.5km s-min=2.2km az=41.0*
*ISCJB **05** 16:02:05.1±0.7, 3663N±004×755W±004, h83km±8km, Error ellipse: s-maj=7.1km s-min=3.3km az=65.3*
*IGIL **05** 16:02:05.0, 3650N×780W, h19km, ML2.8*

ISC 05 16:02:05.4±0.7, 3655N±003×760W±003, h61km±13km, n73, σ1§18/133, 7C-2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EGRO	**El Granado**	**0.98**	**6**	⇑P	**Pn**	**16 02 23.6**	**+0.4**
	13nm,0.1s,SNR=18						
EGRO				S	**Sn**	**16 02 37.5**	**+1.0**
	109nm,0.1s						
EGRO	**El Granado**	**0.98**	**6**	P	**Pn**	**16 02 23.6**	**+0.3**
	13nm,0.1s,SNR=18						
MORF	**Marmelete**	**1.13**	**312**	*e*P	**Pn**	**16 02 23.4**	**-1.8**
MORF				*e*S	**Sn**	**16 02 36.4**	**-3.5**
MORF				*e*S	**Sn**	**16 02 36.4**	**-3.4**
MORF				AML	AML	16 02 40.1	
	comp=N,178nm,0.1s						
MORF	**Marmelete**	**1.13**	**312**	*e*P	**Pn**	**16 02 23.4**	**-1.7**
MORF				*e*S	**Sn**	**16 02 36.4**	**-3.4**
PTEO	**Sao Teotonio**	**1.34**	**318**	*e*P	**Pn**	**16 02 26.8**	**-1.1**
PTEO				*e*S	**Sn**	**16 02 43.5**	**-1.3**
PTEO							
	comp=N,87nm,0.2s						
PTEO	**Sao Teotonio**	**1.34**	**318**	*e*P	**Pn**	**16 02 26.8**	**-1.1**
PTEO				*e*S	**Sn**	**16 02 43.5**	**-1.3**
	comp=N,87nm,0.2s						
EMIN	**Mina Concepcio**	**1.42**	**31**	⇑P	**Pn**	**16 02 29.6**	**+0.5**
	comp=N,5.1nm,0.1s,SNR=18						
EMIN				S	**Sn**	**16 02 47.5**	**+0.7**
	comp=N,47nm,0.1s,SNR=5.5						
EMIN	**Mina Concepcio**	**1.42**	**31**	P	**Pn**	**16 02 29.6**	**+0.5**
	comp=N,5.1nm,0.1s,SNR=18						
ESPR	**Espera**	**1.44**	**77**	⇓P	**Pn**	**16 02 29.2**	**-0.1**
	comp=N,20nm,0.1s,SNR=18						
ESPR				S	**Sn**	**16 02 47.7**	**+0.5**
	comp=N,110nm,0.2s,SNR=4.5						
ESPR	**Espera**	**1.44**	**77**	P	**Pn**	**16 02 29.2**	**-0.1**
	comp=N,20nm,0.1s,SNR=18						
ESPR				S	**Sn**	**16 02 47.7**	**+0.5**
	comp=N,110nm,0.2s,SNR=4.5						
PBEJ	**Beja**	**1.48**	**352**	*e*P	**Pn**	**16 02 30.2**	**+0.3**
PBEJ				*e*S	**Sn**	**16 02 49.3**	**+1.0**
PBEJ							
	comp=N,48nm,0.2s						
PBEJ	**Beja**	**1.48**	**352**	*e*P	**Pn**	**16 02 30.2**	**+0.3**
PBEJ				*e*S	**Sn**	**16 02 49.3**	**+1.0**
	comp=N,48nm,0.2s						
EJIF	**Jimena Fronter**	**1.72**	**93**	⇑P	**Pn**	**16 02 33.3**	**+0.1**
	comp=N,3.7nm,0.2s,SNR=18						
EJIF				S	**Sn**	**16 02 53.0**	**-1.1**
	comp=N,3.2nm,0.3s						
LIJA	**Lijar**	**1.80**	**78**	*e*P	**Pn**	**16 02 32.0**	**-2.2**
LIJA				*e*S	**Sn**	**16 02 55.3**	**-0.7**
MOE	**Montemor**	**2.05**	**343**	*e*Pn	**Pn**	**16 02 38.1**	**+0.5**
MOE				*e*Sn	**Sn**	**16 03 02.8**	**+0.7**
EBAD	**Badajoz**	**2.25**	**12**	⇑P	**Pn**	**16 02 40.7**	**+0.5**
	comp=N,2.8nm,0.1s,SNR=18						
EBAD				S	**Sn**	**16 03 07.5**	**+0.6**
	comp=N,21nm,0.1s						
EBAD	**Badajoz**	**2.25**	**12**	P	**Pn**	**16 02 40.7**	**+0.5**
	comp=N,2.8nm,0.1s,SNR=18						
EMIJ	**Mijas**	**2.28**	**89**	P	**Pn**	**16 02 39.8**	**-0.8**
	comp=N,2.6nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**16 03 07.1**	**-0.5**
	comp=N,3.5nm,0.2s,SNR=4.0						
ELUQ	**Luque**	**2.85**	**68**	P	**Pn**	**16 02 49.1**	**+0.6**
	comp=N,2.7nm,0.1s,SNR=4.0						
ELUQ				S	**Sn**	**16 03 22.1**	**+0.5**
	comp=N,16nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**2.90**	**55**	⇑P	**Pn**	**16 02 50.0**	**+0.9**
	comp=N,1.7nm,0.1s,SNR=18						
EADA				S	**Sn**	**16 03 22.0**	**-0.8**
	comp=N,19nm,0.1s						
EADA	**Adamuz**	**2.90**	**55**	P	**Pn**	**16 02 50.0**	**+0.9**
	comp=N,1.7nm,0.1s,SNR=18						
PTOM	**Tomar**	**3.12**	**348**	*e*Pn	**Pn**	**16 02 52.9**	**+0.7**
PTOM				*e*Sn	**Sn**	**16 03 27.8**	**-0.5**
PTOM							
	comp=N,35nm,0.2s						
PTOM	**Tomar**	**3.12**	**348**	*e*Pn	**Pn**	**16 02 52.9**	**+0.7**
PTOM				*e*Sn	**Sn**	**16 03 27.8**	**-0.5**
	comp=N,35nm,0.2s						
EGUA	**Guajares**	**3.26**	**84**	P	**Pn**	**16 02 54.0**	**0.0**
	comp=N,1.0nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**16 03 31.6**	**0.0**
	comp=N,1.1nm,0.2s,SNR=4.0						
PCBR	**Castelo Branco**	**3.28**	**2**	*e*Pn	**Pn**	**16 02 55.1**	**+0.7**
PCBR				*e*Sn	**Sn**	**16 03 32.8**	**+0.6**
PCBR							
	comp=N,14nm,0.3s						
PCBR	**Castelo Branco**	**3.28**	**2**	*e*Pn	**Pn**	**16 02 55.1**	**+0.7**
PCBR				*e*Sn	**Sn**	**16 03 32.8**	**+0.6**
	comp=N,14nm,0.3s						
ECOG	**Cogollos-Vega**	**3.31**	**76**	P	**Pn**	**16 02 54.5**	**-0.3**
	comp=N,4.5nm,0.2s,SNR=4.0						
ECOG				S	**Sn**	**16 03 34.1**	**+1.1**
	comp=N,3.4nm,0.2s,SNR=4.0						
ECOG	**Cogollos-Vega**	**3.31**	**76**	P	**Pn**	**16 02 56.2**	**+1.4**
ECOG				S	**Sn**	**16 03 34.1**	**+1.1**
ECOG	**Cogollos-Vega**	**3.31**	**76**	P	**Pn**	**16 02 56.2**	**+1.4**
	comp=N,4.5nm,0.2s,SNR=4.0						
ECOG				S	**Sn**	**16 03 34.1**	**+1.1**
	comp=N,3.4nm,0.2s,SNR=4.0						
EQUE	**Quentar**	**3.40**	**78**	P	**Pn**	**16 02 56.7**	**+0.8**
	comp=N,1.7nm,0.1s,SNR=5.4						
EQUE				S	**Sn**	**16 03 36.4**	**+1.4**
	comp=N,2.0nm,0.1s,SNR=4.8						
EBAN	**Banos Encina**	**3.44**	**61**	⇓P	**Pn**	**16 02 56.9**	**+0.4**
	comp=N,5.8nm,0.1s,SNR=18						
EBAN				S	**Sn**	**16 03 34.5**	**-1.5**
	comp=N,9.7nm,0.1s						
MIF	**Mishlifen**	**3.69**	**147**	*e*P	**Pn**	**16 02 55.0**	**-5.0**
MIF				*i* S	**Sn**	**16 03 33.0**	**-9.3**
EQES	**Quesada**	**3.83**	**70**	P	**Pn**	**16 03 03.0**	**+1.2**
	comp=N,3.2nm,0.1s,SNR=12						
EQES				S	**Sn**	**16 03 46.0**	**+0.5**
	comp=N,3.9nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.83**	**70**	P	**Pn**	**16 03 03.0**	**+1.1**
EQES				S	**Sn**	**16 03 46.0**	**+0.5**
EQES	**Quesada**	**3.83**	**70**	P	**Pn**	**16 03 03.0**	**+1.2**
	comp=N,3.2nm,0.1s,SNR=12						
EQES				S	**Sn**	**16 03 46.0**	**+0.4**
	comp=N,3.9nm,0.1s,SNR=7.9						
MTE	**Manteigas**	**3.84**	**1**	*e*Pn	**Pn**	**16 03 02.6**	**+0.6**
MTE				*e*Sn	**Sn**	**16 03 45.9**	**0.0**
MTE							
	comp=N,16nm,0.4s						
MTE	**Manteigas**	**3.84**	**1**	*e*Pn	**Pn**	**16 03 02.6**	**+0.6**
MTE				*e*Sn	**Sn**	**16 03 45.9**	**0.0**
	comp=N,16nm,0.4s						
PVIS	**Viseu**	**4.16**	**357**	*e*Pn	**Pn**	**16 03 07.2**	**+0.8**
PVIS				*e*Sn	**Sn**	**16 03 53.2**	**-0.6**
PVIS							
	comp=N,9.1nm,0.1s						
PVIS	**Viseu**	**4.16**	**357**	*e*Pn	**Pn**	**16 03 07.2**	**+0.8**
PVIS				*e*Sn	**Sn**	**16 03 53.2**	**-0.6**
	comp=N,9.1nm,0.1s						
KIB	**El Ksiba**	**4.17**	**162**	*e*P	**Pn**	**16 03 03.0**	**-3.6**
KIB				*i* S	**Sn**	**16 03 44.0**	**-10**
EHUE	**Huescar**	**4.19**	**71**	P	**Pn**	**16 03 07.3**	**+0.4**
	comp=N,4.2nm,0.1s,SNR=7.9						
EHUE				S	**Sn**	**16 03 54.5**	**0.0**
	comp=N,3.4nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**4.24**	**42**	P	**Pn**	**16 03 08.5**	**+1.1**
	comp=N,2.0nm,0.1s,baz=226,slow=14,SNR=3.9						
ESDC				S	**Sn**	**16 03 55.8**	**+0.2**
	comp=N,3.2nm,0.2s,baz=226,slow=23,SNR=4.8						
ESDC	**Sonseca Array**	**4.24**	**42**	P	**Pn**	**16 03 08.5**	**+1.1**
	comp=N,2.0nm,0.1s,SNR=3.9						
EVIA	**Vianos**	**4.55**	**61**	P	**Pn**	**16 03 13.1**	**+1.3**
	comp=N,3.1nm,0.2s,SNR=7.9						
EVIA				S	**Sn**	**16 04 02.6**	**-0.7**
	comp=N,4.7nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**4.55**	**61**	P	**Pn**	**16 03 13.1**	**+1.3**
EVIA				S	**Sn**	**16 04 02.6**	**-0.7**
PTO	**Porto**	**4.64**	**351**	*e*Sn	**Sn**	**16 04 04.1**	**-1.5**
PTO							
	comp=N,57nm,0.1s						
PTO	**Porto**	**4.64**	**351**	*e*Sn	**Sn**	**16 04 04.1**	**-1.5**
	comp=N,57nm,0.1s						
PVRL	**Vila Real**	**4.72**	**359**	*e*Pn	**Pn**	**16 03 14.7**	**+0.7**
PVRL				*e*Sn	**Sn**	**16 04 06.7**	**-0.7**
PVRL							
	comp=N,18nm,0.2s						
GUD	**Guadarrama**	**4.89**	**32**	P	**Pn**	**16 03 18.3**	**+1.8**
	comp=N,1.0nm,0.1s,SNR=5.3						
GUD				S	**Sn**	**16 04 12.5**	**+0.7**
	comp=N,2.7nm,0.2s,SNR=5.8						
PCAB	**Cabril**	**5.16**	**356**	*e*Pn	**Pn**	**16 03 21.0**	**+0.9**
PCAB				*e*Sn	**Sn**	**16 04 17.1**	**-1.2**
PCAB							
	comp=N,7.8nm,0.1s						
EMUR	**La Murta**	**5.24**	**74**	S	**Sn**	**16 04 18.7**	**-1.5**
	comp=N,5.8nm,0.4s,SNR=4.0						
ETOB	**Tobarra**	**5.24**	**65**	⇑P	**Pn**	**16 03 21.0**	**-0.2**
	comp=N,2.7nm,0.1s,SNR=18						
ETOB				S	**Sn**	**16 04 18.8**	**-1.5**
	comp=N,5.5nm,0.2s,SNR=5.3						
ETOB	**Tobarra**	**5.24**	**65**	⇑P	**Pn**	**16 03 21.0**	**-0.2**
ETOB				S	**Sn**	**16 04 18.8**	**-1.5**
ETOB	**Tobarra**	**5.24**	**65**	P	**Pn**	**16 03 21.0**	**-0.2**
	comp=N,2.7nm,0.1s,SNR=18						
PBRG	**

PCH	**Pirque**	**0.86**	**338**				*i* P	Pb	16 12 02.0	-0.4
PCH						*i* S	Sb	16 12 14.3	+0.8
TACH	**Talagante**	**1.02**	**319**			*e*P	Pb	16 12 04.7	-0.3
TACH						*i* S	Sb	16 12 19.3	+1.3
RCDM	**Rinconada Maip**	**1.09**	**329**	⇑		*i*P	Pb	16 12 06.1	-0.1
RCDM						*i* S	Sb	16 12 21.4	+1.3
RCDM						AML	AML	16 12 22.4	
	comp=N,158nm,0.1s								
LNV	**Longovilo**	**1.16**	**293**			*i* P	Pn	16 12 07.2	0.0
LNV						*i* S	Sb	16 12 22.8	+0.8
LCCH	**Las Cruces**	**1.52**	**308**			*e*P	Pn	16 12 13.9	+1.7
LCCH						*i* S	Sn	16 12 34.1	+2.6
JACH	**Jahuel**	**1.78**	**347**			*e*P	Pn	16 12 17.6	+1.9

TIF ***05*** *16:19:45.8, 41.37N×4396E, h12km±2km*
CSEM ***05*** *16:19:45.8±0.1, 41.18N×4391E, h2km, mb3.9, Error ellipse: s-maj=4.1km s-min=1.2km az=127.0*
ISCJB ***05*** *16:19:46.1±0.6, 4134N±003'×4395E±003, h6km±5km, Error ellipse: s-maj=4.8km s-min=3.7km az=149.9*
MOS ***05*** *16:19:46.7±1.6, 4123N×4356E, h32km, mb3.9/1, Error ellipse: s-maj=46.5km s-min=8.7km az=74.9*

ISC 05 16:19:46.4±0.5, 4133N±003'×4394E±003', h6km±5km, n22, σ0§42/34, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AKH	**Akhalkalaki**	**0.34**	**283**		P		**Pg**	**16 19 53.2**	**+0.2**
AKH					S		**Sg**	**16 19 57.9**	**+0.4**
KZR	**Kazreti**	**0.36**	**82**		P		**Pg**	**16 19 53.6**	**+0.2**
KZR					S		**Sg**	**16 19 58.6**	**+0.4**
STE	**Stepanavan**	**0.48**	**133**		P		**Pg**	**16 19 56.0**	**+0.4**
STE					S		**Sg**	**16 20 02.5**	**+0.6**
GOR	**Gori**	**0.67**	**11**		P		**Pg**	**16 20 18.8**	**+20**
GOR					S		**Sg**	16 20 28.4	+21
TBLG	**Delisi**	**0.72**	**56**		P		**Pg**	**16 20 00.0**	**-0.2**
TBLG					S		**Sg**	**16 20 10.1**	**+0.5**
MTA	**Mtatsminda**	**0.74**	**60**		P		**Pg**	**16 20 00.2**	**-0.4**
MTA					S		**Sg**	**16 20 10.3**	**+0.2**
SAMG	**Sameba**	**0.76**	**61**		P		**Pg**	**16 19 59.9**	**-0.9**
SAMG					S		**Sg**	**16 20 10.1**	**-0.6**
DUS	**Dusheti**	**0.95**	**37**		P		**Pg**	**16 20 03.9**	**-0.7**
DUS					S		**Sg**	**16 20 17.9**	**+1.0**
DIGO	**Kars**	**1.01**	**205**	*i*	P		**Pg**	**16 20 05.5**	**-0.2**
DIGO				*i*	S		**Sg**	**16 20 18.7**	**-0.1**
DGRG	**David-gareji**	**1.09**	**83**		P		**Pg**	**16 20 07.0**	**-0.2**
DGRG					S		**Sg**	**16 20 20.7**	**-0.7**
ONI	**Oni**	**1.30**	**344**		P		**Pn**	**16 20 10.4**	**-0.6**
ONI					S		**Sg**	**16 20 28.3**	**+0.1**
AMRG		**1.32**	**334**		P		**Pn**	**16 20 10.9**	**-0.5**
AMRG					S		**Sb**	**16 20 28.7**	**-0.2**
ZEI	**Tsey**	**1.44**	**359**	*e*	PG		**Pg**	**16 20 13.4**	**-0.5**
LACR	**Lac**	**1.52**	**10**	*e*	Pn		**Pn**	**16 20 14.3**	**+0.2**
ARTV	**Artvin**	**1.52**	**265**	*i*	P		**Pn**	**16 20 14.2**	**+0.1**
ARTV				*i*	S		**Sn**	**16 20 34.0**	**-0.2**
KORR	**Kora**	**1.76**	**3**	*e*	Pn		**Pn**	**16 20 17.6**	**+0.2**
VLKR	**Vladikavkaz**	**1.80**	**18**	*e*	Pn		**Pn**	**16 20 18.2**	**+0.2**
SNJR	**Sundja**	**1.85**	**20**	*e*	Pn		**Pn**	**16 20 18.9**	**+0.2**
KMSR	**Komsomolskaya**	**2.06**	**7**	*e*	Pn		**Pn**	**16 20 21.7**	**+0.2**
BTKR	**Batakoyurt**	**2.09**	**12**	*e*	Pn		**Pn**	**16 20 22.2**	**+0.3**
PRTR	**Priterechnaya**	**2.43**	**6**	*e*	Pn		**Pn**	**16 20 26.9**	**+0.3**
TRKR	**Terskaya**	**2.46**	**14**	*e*	Pn		**Pn**	**16 20 27.3**	**+0.2**

ISCJB ***05*** *16:23:50.5±0.1, 2035S±004'×17387W±004, h7km, mb5.2/104, MS4.8/43, Error ellipse: s-maj=6.4km s-min=3.9km az=79.6*
NEIC ***05*** *16:23:51.6±4.5, 2031S×17394W, h7km±27km, mb5.2/65, MS5.3/1, Error ellipse: s-maj=8.0km s-min=4.7km az=153.0*
IDC ***05*** *16:23:51.2±0.5, 2025S×17402W, h0km, mb5.0/17, mb1 5.2/19, mb1mx5.2/19, mbtmp5.0/19, ML5.7/2, MS4.6/18, Ms1 4.6/18, ms1mx4.4/24, Error ellipse: s-maj=20.4km s-min=13.7km az=124.0*
HRVD ***05*** *16:23:51.6±0.3, 2030S×17338W, h20km±2km, MW5.1/81, Centroid moment Tensor Solution. LP body waves: s34,c50;Mantle waves: s81,c130; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.35±.16; Mθθ2.51±.14; Mϕϕ-2.16±.12; Mrθ2.32±.39; Mθϕ1.51±.09; Mϕr4.66±.70; Best double couple: M○5.90600×10^16 NP1:ϕs116.00000°, δ28.00000°, λ-4.00000°. NP2: ϕs209.00000°, δ88.00000°, λ-118.00000°. Principal axes: T 5.8000, Plg37.0000°, Azm324.0000°; N 0.2170, Plg28.0000°, Azm210.0000°; P -6.0130, Plg40.0000°, Azm93.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***05*** *16:23:51.5, 2030S×17390W, h6km, mB5.5, mb5.3, Ms5.1, Msz4.8*
MOS ***05*** *16:23:54.7±1.6, 2033S×17396W, h33km, mb5.4/39, MS4.8/15, Error ellipse: s-maj=10.4km s-min=7.9km az=49.2*
SZGRF ***05*** *16:23:58.9, 1943S×17366W, h33km, mb4.9, Tonga Islands*
ORF ***05*** *16:24:15.5, 1273S×17707W, h30km, mb5.8*

ISC 05 16:23:52.1±0.1, 2039S±004'×17380W±004', h7km, h7km±1.7km:pP-P, n406, σ1§16/243, mb5.2/104, MS4.8/43, 16C-28D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.72**	**17**		Pn		**Pn**	**16 25 23.6**	**-7.5**
	34nm,0.3s,baz=44,slow=1.6,SNR=40								
AFI					Sn		**Sn**	**16 26 34.4**	**-14**
	74nm,0.3s,baz=28,slow=23,SNR=5.1								
AFI					LR		LR	16 27 11.4	
	comp=Z,710nm,21.7s,baz=196,slow=30								
AFI	**Afiamalu**	**6.72**	**17**		P		**Pn**	**16 25 23.6**	**-7.6**
AFI					pmax		pmax		
	comp=Z,34nm,0.3s								
AFI					MLR		MLR		
	comp=Z,710nm,21.7s								
AFI	**Afiamalu**	**6.72**	**17**	*e*	Pn		**Pn**	**16 25 23.4**	**-7.8**
	comp=Z,269nm,0.6s								
AFI				*e*	Sn		**Sn**	**16 26 32.9**	**-15**
RAO	**Raoul Island**	**9.59**	**202**		Pn		**Pn**	**16 26 10.0**	**-0.5**
	comp=Z,95nm,0.3s,baz=96,slow=22,SNR=5.3								
RAO					Sn		**Sn**	**16 27 50.8**	**-7.6**
	comp=Z,33nm,0.3s,baz=90,slow=20,SNR=4.1								
RAO	**Raoul Island**	**9.59**	**202**	*e*	Pn		**Pn**	**16 26 05.7**	**-4.8**
RAO				*e*	Sn		**Sn**	**16 27 51.3**	**-7.1**
RAR	**Rarotonga**	**13.14**	**96**		Pn		**Pn**	**16 26 51.4**	**-7.7**
	comp=Z,32nm,0.3s,baz=256,slow=9.6,SNR=155								
RAR					Sn		Sn	16 29 02.9	-23
	comp=Z,5.3nm,0.3s,baz=58,slow=13,SNR=4.1								
BKM	**Butte a Klehm**	**17.20**	**276**	⇑	*i*P		**Pn**	**16 27 57.2**	**+4.5**
DZM	**Mont Dzumac**	**18.50**	**261**		P		**Pn**	**16 28 10.4**	**+1.6**
	comp=Z,4.5nm,0.3s,baz=90,slow=22,SNR=45								
DZM					LR		LR	16 33 52.2	
	comp=Z,2μm,19.8s,baz=302,slow=33								
PUZ	**Puketiti**	**18.93**	**200**		P*		**Pn**	**16 28 14.2**	**+0.2**
URZ	**Urewera**	**19.48**	**202**		P		**Pn**	**16 28 21.0**	**+0.3**
	comp=Z,17nm,0.3s,baz=356,slow=3.2,SNR=86								
URZ					S		**Sn**	**16 31 43.5**	**-16**
	comp=Z,1.4nm,0.3s,baz=108,slow=19,SNR=6.4								
URZ	**Urewera**	**19.48**	**202**		P*		**Pn**	**16 28 20.5**	**-0.1**
HIZ	**Hauiti**	**20.56**	**206**		P*		**P**	**16 28 33.8**	**+2.5**
BFZ	**Birch Farm**	**21.94**	**201**		P*		**P**	**16 28 47.2**	**+1.0**
MRZ	**Mangatainoka R**	**22.15**	**202**		P*		**P**	**16 28 45.5**	**-2.9**
TBI	**Tubuai**	**22.77**	**102**	*e*	LQ			16 33 03.0	
	comp=Z,3μm,27.0s								
TBI	**Tubuai**	**22.77**	**102**	*e*	P		**P**	**16 28 53.3**	**-1.7**
	comp=Z,826nm,1.3s,mb6.0								
TBI				*e*	LR		LR	16 34 07.9	
	comp=Z,3μm,27.0s,baz=275								
SNZO	**South Karori**	**23.03**	**203**	*e*	P		**P**	**16 28 56.4**	**-1.3**
	comp=Z,87nm,0.8s,mb5.2								
SNZO				*e*	S		**S**	**16 32 59.9**	**-8.8**
PAE	**Paea**	**23.05**	**87**	*e*	P		**P**	**16 28 55.1**	**-2.8**
PPT	**Papeete**	**23.07**	**87**	*e*	P		**P**	**16 28 55.8**	**-2.3**
	comp=Z,94nm,1.2s,mb5.1								
PPT	**Papeete**	**23.07**	**87**	*e*	LQ			16 33 06.9	
	comp=Z,3μm,26.0s								
PPT				*e*	LR		LR	16 34 10.8	
	comp=Z,3μm,25.0s,baz=258								
PPT	**Papeete**	**23.07**	**87**		P		**P**	**16 28 57.4**	**-0.7**
	comp=Z,46nm,0.9s,mb4.9,baz=226,slow=9.8,SNR=11								
PPT					LR		LR	16 36 21.1	
	comp=Z,1μm,20.2s,MS4.3,baz=260,slow=32								
TVO	**Taravao**	**23.34**	**88**	*e*	P		**P**	**16 28 57.9**	**-3.0**
	comp=Z,233nm,1.4s,mb5.4								
NNZ	**Nelson**	**23.45**	**205**		P*		**P**	**16 28 59.9**	**-2.3**
QRZ	**Quartz Range**	**23.47**	**207**		P*		**P**	**16 29 02.0**	**-0.4**
THZ	**Tophouse**	**24.11**	**205**	*e*	P*		**P**	**16 29 06.8**	**-1.5**
THZ					S*		**S**	**16 33 23.1**	**-3.0**
KHZ	**Kahutara**	**24.42**	**203**		P*		**P**	**16 29 10.4**	**-0.8**
DSZ	**Denniston Nort**	**24.54**	**207**		P*		**P**	**16 29 12.8**	**+0.5**
LTZ	**Lake Taylor**	**25.22**	**205**		P*		**P**	**16 29 17.9**	**-0.5**
PMOR	**Pomariorio Ree**	**25.23**	**82**	*e*	P		**P**	**16 29 15.9**	**-2.7**
	comp=Z,30nm,0.9s,mb4.8								
VAH	**Vaihoa**	**25.42**	**83**	*e*	P		**P**	**16 29 17.1**	**-3.1**
	comp=Z,47nm,1.1s,mb4.9								
WVZ	**Waitaha Valley**	**26.08**	**206**		P*		**P**	**16 29 26.8**	**+0.5**
RPZ	**Rata Peaks**	**26.48**	**205**		P		**P**	**16 29 30.6**	**+0.7**
	comp=Z,50nm,0.5s,mb5.3,baz=337,slow=3.9,SNR=43								
HNR	**Honiara**	**27.57**	**289**		LR		LR	16 38 55.7	
	comp=Z,1μm,19.5s,MS4.5,baz=177,slow=33								
HNR	**Honiara**	**27.57**	**289**		P		**P**	**16 29 37.5**	**-2.1**
HNR					pmax		pmax		
	comp=Z,49nm,0.9s,mb5.1								
HNR	**Honiara**	**27.57**	**289**		P		**P**	**16 29 37.5**	**-2.1**
	comp=Z,49nm,0.9s,mb5.1								
JCZ	**Jackson Bay**	**27.73**	**208**		P*		**P**	**16 29 40.5**	**-0.7**
ODZ	**Otahua Downs**	**27.76**	**204**	*e*	P*		**P**	**16 29 43.4**	**+2.1**
WKZ	**Wanaka**	**28.23**	**206**		P*		**P**	**16 29 48.1**	**+2.6**
WHZ	**Wether Hill Ro**	**29.54**	**206**		P*		**P**	**16 30 00.6**	**+3.5**
TAOE	**Nuku Hiva Isla**	**34.44**	**76**	*e*	LR		LR	16 39 36.4	
	comp=Z,3μm,23.9s								
CNB	**Canberra Magne**	**35.58**	**237**	*e*	P		**P**	**16 30 49.3**	**-0.7**
	comp=Z,15nm,0.5s,mb5.2								
RKT	**Rikitea**	**36.09**	**102**	*e*	LR		LR	16 40 17.5	
	comp=Z,2μm,26.8s,baz=269								
CTA	**Charters Tower**	**37.42**	**263**	*e*	P		**P**	**16 31 04.8**	**-0.9**
	comp=Z,26nm,0.6s,mb5.2								
CTA	**Charters Tower**	**37.42**	**263**		LR		LR	16 43 53.0	
	comp=Z,867nm,20.6s,MS4.5,baz=93,slow=32								
CTA	**Charters Tower**	**37.42**	**263**	*e*	P		**P**	**16 31 04.8**	**-0.9**
CTA					pmax		pmax		
	comp=Z,26nm,0.6s								
CTAO	**Charters Tower**	**37.42**	**263**	*e*	P		**P**	**16 31 04.5**	**-1.2**
CTAO					pmax		pmax		
	comp=Z,31nm,0.6s,mb5.3								
CTAO	**Charters Tower**	**37.42**	**263**	*e*	P		**P**	**16 31 04.5**	**-1.2**
	comp=Z,31nm,0.6s,mb5.3								
TOO	**Toolangi**	**39.17**	**235**	*e*	P		**P**	**16 31 20.4**	**-0.1**
	comp=Z,18nm,0.4s,mb5.1								
PMG	**Port Moresby**	**39.18**	**280**		P		**P**	**16 31 19.3**	**-1.2**
	comp=Z,41nm,0.9s,mb5.2,baz=92,slow=6.6,SNR=15								
PMG					LR		LR	16 44 48.0	
	comp=Z,960nm,20.9s,MS4.6,baz=118,slow=32								
PMG	**Port Moresby**	**39.18**	**280**	*e*	P		**P**	**16 31 19.4**	**-1.2**
PMG					pmax		pmax		
	comp=Z,49nm,0.9s								
PMG	**Port Moresby**	**39.18**	**280**	*e*	P		**P**	**16 31 19.4**	**-1.2**
	comp=Z,49nm,0.9s,mb5.2								
TAU	**Tasmania Unive**	**39.52**	**226**	*e*	P		**P**	**16 31 23.7**	**+0.3**
TAU					pmax		pmax		
	comp=Z,28nm,0.7s,mb5.1								
TAU	**Tasmania Unive**	**39.52**	**226**	*e*	P		**P**	**16 31 23.7**	**+0.3**
	comp=Z,28nm,0.7s,mb5.1								
STKA	**Stephens Creek**	**41.39**	**245**	*e*	P		**P**	**16 31 35.8**	**-3.1**
	comp=Z,11nm,0.6s,mb4.7								
STKA	**Stephens Creek**	**41.39**	**245**		P		**P**	**16 31 36.4**	**-2.5**
	comp=Z,13nm,0.6s,mb4.7,baz=89,slow=9.5,SNR=57								
STKA					LR		LR	16 48 12.0	
	comp=Z,1μm,18.1s,MS4.9,baz=53,slow=35								
WAKE	**Wake Island**	**43.83**	**333**	*e*	P		**P**	**16 31 58.2**	**-0.5**
	comp=Z,213nm,1.1s,mb5.8								
ASAR	**Alice Springs**	**48.38**	**256**		P		**P**	**16 32 32.3**	**-2.2**
	comp=Z,12nm,0.5s,mb5.2,baz=92,slow=8.1,SNR=258								
ASAR					PcP		PcP	16 34 02.5	+1.4
	comp=Z,7.1nm,0.7s,baz=105,slow=4.7,SNR=4.8								
ASAR					S		**S**	**16 39 28.8**	**-6.4**
	comp=Z,2.0nm,0.8s,baz=94,slow=16,SNR=8.4								
WB2	**Warramunga Arr**	**48.51**	**261**	⇓	*i*P		**P**	**16 32 33.8**	**-1.7**
WRAB	**Tennant Creek**	**48.51**	**261**		P		**P**	**16 32 33.2**	**-2.3**
	comp=Z,105nm,0.9s,mb5.9,SNR=19								
WRAB	**Tennant Creek**	**48.51**	**261**	*e*	P		**P**	**16 32 33.0**	**-2.5**
WRAB	**Tennant Creek**	**48.51**	**261**	*e*	P		**P**	**16 32 33.2**	**-2.4**
	comp=Z,26nm,0.8s,mb5.3								
WRA	**Warramunga Arr**	**48.52**	**261**		P		**P**	**16 32 33.3**	**-2.3**
	comp=Z,11nm,0.9s,mb4.9,baz=97,slow=7.4,SNR=119								
WRA					PcP		PcP	16 34 03.0	+1.5
	comp=Z,3.2nm,0.4s,baz=101,slow=3.2,SNR=3.0								
WRA					S		**S**	**16 39 28.9**	**-8.2**
	comp=Z,0.6nm,0.8s,baz=36,slow=28,SNR=3.2								
KAKA	**Kakadu**	**51.91**	**270**	⇓	*i*P		**P**	**16 32 59.9**	**-1.5**
	comp=Z,16nm,0.4s,mb5.3								
FORT	**Forrest**	**52.95**	**246**	⇓	*i*P		**P**	**16 33 07.9**	**-1.2**
	comp=Z,39nm,0.6s,mb5.5								
FITZ	**Fitzroy Crossi**	**56.95**	**261**	*e*	P		**P**	**16 33 37.0**	**-1.0**
	comp=Z,8.9nm,0.4s,mb5.2								
FITZ	**Fitzroy Crossi**	**56.95**	**261**		LR		LR	16 57 56.9	
	comp=Z,767nm,18.2s,MS4.8,baz=96,slow=36								
SBA	**Scott Base**	**58.28**	**185**	*e*	P		**P**	**16 33 49.7**	**+2.4**
SBA					pmax		pmax		
	comp=Z,81nm,1.3s,mb5.6								
SBA	**Scott Base**	**58.28**	**185**	*e*	P		**P**	**16 33 49.7**	**+2.4**
	comp=Z,80nm,1.3s,mb5.6								
VNDA	**Vanda**	**58.41**	**186**		P		**P**	**16 33 50.4**	**+2.2**
	comp=Z,9.2nm,0.8s,mb4.9,baz=5.9,slow=6.7,SNR=40								
VNDA					LR		LR	16 54 54.9	
	comp=Z,280nm,19.8s,MS4.4,baz=354,slow=32								
VNDA	**Vanda**	**58.41**	**186**	*e*	P		**P**	**16 33 50.2**	**+2.0**
VNDA					pmax		pmax		
	comp=Z,41nm,1.4s								
VNDA	**Vanda**	**58.41**	**186**	*e*	P		**P**	**16 33 50.2**	**+2.0**
	comp=Z,41nm,1.4s,mb5.3								
RPN	**Rapa Nui**	**59.84**	**110**		LR		LR	16 53 06.3	
	comp=Z,637nm,18.3s,MS4.8,baz=289,slow=30								
KLBR	**Kellerberrin**	**61.67**	**244**	*e*	P		**P**	**16 34 09.9**	**-0.7**
	comp=Z,27nm,0.6s,mb5.5								
MBWA	**Marble Bar**	**61.72**	**256**	*e*	P		**P**	**16 34 09.6**	**-1.3**
	comp=Z,23nm,0.8s,mb5.3								
NWAO	**Narrogin (SRO)**	**61.94**	**243**	*e*	P		**P**	**16 34 12.6**	**+0.2**
NWAO					pmax		pmax		
	comp=Z,59nm,1.4s								
NWAO	**Narrogin (SRO)**	**61.94**	**243**	*e*	P		**P**	**16 34 12.6**	**+0.2**
	comp=Z,59nm,1.4s,mb5.5								
MUN	**Mundaring**	**62.92**	**244**	*e*	P		**P**	**16 34 19.9**	**+0.9**
CASY	**Casey**	**65.75**	**205**	*e*	P		**P**	**16 34 38.4**	**+0.8**
QSPA	**South Pole Qui**	**69.69**	**180**	*e*	P		**P**	**16 35 03.4**	**+1.0**
	comp=Z,61nm,1.3s,mb5.4								
TSM	**Tawau**	**71.36**	**282**		P		**P**	**16 35 13.7**	**+1.1**
MJAR	**Matsushiro Arr**	**72.52**	**321**		P		**P**	**16 35 19.4**	**-0.2**
	comp=Z,43nm,0.8s,mb5.4,baz=158,slow=6.1,SNR=122								
MJAR					LR		LR	17 06 20.3	
	comp=Z,213nm,19.1s,MS4.4,baz=145,slow=35								
MAJO	**Matsushiro**	**72.53**	**321**	*e*	P		**P**	**16 35 19.6**	**0.0**
MAJO					pmax		pmax		
	comp=Z,49nm,0.9s,mb5.4								
MAJO	**Matsushiro**	**72.53**	**321**	*e*	P		**P**	**16 35 19.6**	**-0.1**
	comp=Z,49nm,0.9s,mb5.4								
MAT	**Matsushiro**	**72.53**	**321**		P		**P**	**16 35 19.4**	**-0.2**
MAT				*e*	S		S	16 44 46.0	+1.7
MAT	**Matsushiro**	**72.53**	**321**	*e*	P		**P**	**16 35 19.0**	**-0.6**
MAT					S		S	16 44 47.0	+2.7
MAT					pmax		pmax		
	comp=Z,32nm,0.8s,mb5.3								
MAT	**Matsushiro**	**72.53**	**321**	*e*	P		**P**	**16 35 19.0**	**-0.6**
	comp=Z,32nm,0.8s,mb5.3								
MAT					S		S	16 44 47.0	+2.7
MIR	**Mirnyy**	**72.75**	**205**	*d*	*i*P		**P**	**16 35 24.0**	**+3.0**
MIR					pmax		pmax		
	comp=Z,320nm,1.9s,mb5.9								
KKM	**Kota Kinabalu**	**73.56**	**283**		P		**P**	**16 35 26.4**	**+0.7**
KKM	**Kota Kinabalu**	**73.56**	**283**	*e*	P		**P**	**16 35 26.0**	**+0.3**
SAO	**San Andreas Ge**	**75.30**	**41**	*e*	P		**P**	**16 35 35.8**	**0.0**
SAO					pmax		pmax		
	comp=Z,14nm,0.9s,mb4.9								
SAO	**San Andreas Ge**	**75.30**	**41**	*e*	P		**P**	**16 35 35.8**	**-0.1**
	comp=Z,14nm,0.9s,mb4.9								
LRV	**Little Rabbit**	**75.35**	**42**	*e*	P		**P**	**16 35 35.6**	**-0.5**
SKR	**Severo-Kuril's**	**75.57**	**341**	*e*	P		**P**	**16 35 27.5**	**-10**
MWC	**Mount Wilson**	**75.89**	**45**	*e*	P		**P**	**16 35 39.3**	**+0.1**
LPIG	**La Paz**	**75.99**	**57**		LR		LR	17 02 49.6	
	comp=Z,486nm,21.3s,MS4.8,baz=192,slow=31								
ISA	**Isabella**	**76.49**	**44**	*e*	P		**P**	**16 35 43.2**	**+0.6**
ISA					pmax		pmax		
	comp=Z,25nm,1.0s,mb5.1								
ISA	**Isabella**	**76.49**	**44**	*e*	P		**P**	**16 35 43.1**	**+0.5**
	comp=Z,25nm,1.0s,mb5.1								
PFO	**Pinyon Flat Ob**	**76.60**	**46**	*e*	P		**P**	**16 35 42.6**	**-0.7**
PFO					pmax		pmax		
	comp=Z,13nm,1.0s,mb4.8								
PFO	**Pinyon Flat Ob**	**76.60**	**46**	*e*	P		**P**	**16 35 42.6**	**-0.6**
	comp=Z,13nm,1.0s,mb4.8								
CMB	**Columbia Colle**	**76.75**	**41**	*e*	P		**P**	**16 35 44.0**	**-0.1**
CMB					pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.6								
CMB	**Columbia Colle**	**76.75**	**41**	*e*	P		**P**	**16 35 44.0**	**-0.2**
	comp=Z,7.1nm,0.8s,mb4.7								
PET	**Petropavlovsk**	**76.91**	**343**	*e*	P		**P**	**16 35 53.7**	**+8.7**
PET				*e*				16 38 32.0	
PET				*e*	SP			16 46 10.7	
PET					pmax		pmax		
	comp=Z,200nm,12.3s								
PET					pmax		pmax		
	comp=Z,100nm,10.9s								
PET					MLR		MLR		
	comp=Z,300nm,20.0s,MS4.6								
NACB	**Ninganchiao**	**76.92**	**302**	*e*	P		**P**	**16 35 44.4**	**-0.6**
WDC	**Whiskeytown Da**	**77.13**	**38**	*e*	P		**P**	**16 35 46.4**	**+0.2**
WDC					pmax		pmax		
	comp=Z,25nm,1.5s,mb4.9								
WDC	**Whiskeytown Da**	**77.13**	**38**	*e*	P		**P**	**16 35 46.4**	**+0.1**
	comp=Z,25nm,1.5s,mb4.9								
YHNB	**Yeheng**	**77.33**	**302**	*e*	P		**P**	**16 35 47.1**	**-0.3**
TATO	**Taipei**	**77.39**	**303**	*e*	P		**P**	**16 35 48.0**	**+0.2**
	comp=Z,118nm,1.4s,mb5.6								
GLA	**Glamis**	**77.40**	**48**	*e*	P		**P**	**16 35 48.7**	**+0.9**
YSS	**Yuzh-Sakhalins**	**77.63**	**331**	*e*	P		**P**	**16 35 48.0**	**-1.0**
YSS					pmax		pmax		
	comp=Z,51nm,1.1s,mb5.4								
YSS					MLR		MLR		
	comp=Z,400nm,16.0s,MS4.8								
YSS	**Yuzh-Sakhalins**	**77.63**	**331**	*e*	P		**P**	**16 35 49.0**	**0.0**
	comp=Z,36nm,0.9s,mb5.3								
YBH	**Yreka Blue Hor**	**77.79**	**37**	*e*	P		**P**	**16 35 50.3**	**+0.3**
YBH					pmax		pmax		
	comp=Z,7.0nm,0.8s								
YBH	**Yreka Blue Hor**	**77.79**	**37**	*e*	P		**P**	**16 35 50.3**	**+0.4**
	comp=Z,7.2nm,0.8s,mb4.7								
NVAR	**Mina Array Bea**	**78.28**	**41**		P		**P**	**16 35 53.2**	**+0.5**
	comp=Z,12nm,0.8s,mb4.9,baz=220,slow=6.9,SNR=32								
PAHR	**Pah Rah Range**	**78.42**	**40**	*e*	P		**P**	**16 35 53.2**	**-0.2**
	comp=Z,18nm,1.1s,mb4.9								
TPNV	**Topopah Spring**	**78.69**	**44**	*e*	P		**P**	**16 35 54.7**	**-0.3**
TPNV					pmax		pmax		
	comp=Z,21nm,0.9s,mb5.1								
TPNV	**Topopah Spring**	**78.69**	**44**	*e*	P		**P**	**16 35 54.7**	**-0.2**
	comp=Z,22nm,0.9s,mb5.1								
TPH	**Tonopah**	**78.74**	**42**	*e*	P		**P**	**16 35 54.8**	**-0.4**
TPH					pmax		pmax		
	comp=Z,24nm,0.8s,mb5.2								
TPH	**Tonopah**	**78.74**	**42**	*e*	P		**P**	**16 35 54.8**	**-0.4**
	comp=Z,24nm,0.8s,mb5.2								
NEN	**Nelson**	**78.86**	**45**	*e*	P		**P**	**16 35 56.2**	**+0.3**
MOD	**Modoc**	**79.27**	**38**	*e*	P		**P**	**16 35 57.0**	**-1.2**
	comp=Z,11nm,0.8s,mb4.8								
KS15	**Wonju Array Si**	**79.48**	**316**	*e*	P		**P**	**16 36 00.4**	**+1.1**
QZH	**Quanzhou**	**79.68**	**301**	⇑	*i*P		**P**	**16 36 01.6**	**+1.2**
QZH					S		S	16 46 04.0	+1.0
QZH					AMB		AMB		
	comp=Z,130nm,0.8s,mb5.9								
QZH					AMB		AMB		
	comp=Z,400nm,3.6s								
QZH					LR		LR		
	comp=Z,750nm,

ANMO Albuquerque 84.29 50 *e*P P **16 36 24.7 +0.1**
comp=Z,124nm,1.9s,mb5.7
HWUT Hardware Ranch 84.33 42 *e*P P **16 36 24.0 -0.8**
comp=Z,13nm,1.0s,mb5.0
DL2 Dalian 84.40 315 *e*P P **16 36 26.7 +1.6**
DL2 S 16 46 46.9
DL2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.0
DL2 AMB AMB
comp=Z,260nm,5.8s
DL2 LR LR
comp=N,180nm,17.3s,MS4.6
DL2 LR LR
comp=E,110nm,16.7s,MS4.6
DL2 LR LR
comp=Z,410nm,17.4s,MS4.9
PV01 Paradox Valley 84.43 46 *e*P P **16 36 25.6 +0.3**
QIZ Qiongzhong 84.43 293 P P **16 36 23.0 -2.3**
QIZ AP pP 16 36 35.8 +8.0
QIZ S 16 46 48.4
QIZ PS 16 47 49.9
QIZ AMB AMB
comp=Z,21nm,1.0s,mb5.2
QIZ LR LR
comp=E,176nm,21.1s
QIZ LR LR
comp=Z,235nm,19.4s,MS4.6
KLR Kul'dur 84.49 328 *e*P P **16 36 21.5 -4.1**
KLR *e*S 16 46 47.5
KLR smax
comp=N,700nm,12.0s
KLR smax
comp=E,500nm,12.0s
GDL2 Guadalupe Moun 84.50 53 *e*P P **16 36 26.9 +1.2**
CN2 Changchun 84.66 321 ⇑P P **16 36 27.2 +0.7**
CN2 *e*S 16 46 50.8
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.2
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,200nm,16.0s,MS4.8
CN2 LR LR
comp=E,200nm,16.0s,MS4.8
CN2 LR LR
comp=Z,200nm,18.0s,MS4.5
SNY Shenyang 84.70 318 ⇑P P **16 36 27.9 +1.2**
SNY PP PP 16 39 44.6 +2.1
SNY SKS 16 46 49.0
SNY S 16 46 53.4
SNY AMB AMB
comp=Z,14nm,1.1s,mb5.0
SNY AMB AMB
comp=Z,334nm,8.2s
SNY LR LR
comp=N,193nm,16.3s,MS4.8
SNY LR LR
comp=E,253nm,17.6s,MS4.8
SNY LR LR
comp=Z,310nm,16.7s,MS4.8
MA2 Magadan 84.78 343 *e*P P **16 36 26.5 -0.6**
MA2 *e*S 16 46 51.6
MA2 pmax pmax
comp=Z,20nm,0.9s,mb5.2
MA2 MLR MLR
comp=Z,2µm,17.0s,MS5.6
MA2 Magadan 84.78 343 *e*P P **16 36 25.3 -1.8**
CPRX Cap Rock 85.26 52 *e*P P **16 36 30.1 +0.6**
MCMT McKenzie Canyo 85.36 39 *e*P P **16 36 30.5 +0.5**
WHN Wuhan 85.58 305 ⇓P P **16 36 32.5 +1.4**
REDW Red Top Meadow 85.74 41 *e*P P **16 36 32.1 +0.3**
comp=Z,29nm,1.4s,mb5.3
TPAW Teton Pass 85.75 40 *e*P P **16 36 31.4 -0.5**
comp=Z,11nm,1.3s,mb4.9
TPAW *e* 16 36 40.0
DLMT Dillon 85.81 38 *e*P P **16 36 32.4 +0.2**
comp=Z,18nm,1.1s,mb5.2
IMW Indian Meadow 85.98 40 *e*P P **16 36 33.2 +0.2**
comp=Z,7.0nm,0.9s,mb4.9
LOHW Long Hollow 86.03 41 *e*P P **16 36 33.0 -0.3**
comp=Z,31nm,1.7s,mb5.3
SMCO Snowmass 86.04 46 *e*P P **16 36 34.0 +0.7**
comp=Z,13nm,1.0s,mb5.1
QLMT Earthquake Lak 86.20 39 *e*P P **16 36 35.1 +0.9**
PDAR Pinedale Array 86.22 42 P P **16 36 34.0 -0.2**
comp=Z,4.1nm,0.9s,mb4.6,baz=220,slow=3.9,SNR=22
PDAR LR LR 17 11 21.8
comp=Z,240nm,19.0s,MS4.6,baz=254,slow=33
FLWY Flagg Ranch 86.22 40 *e*P P **16 36 34.5 +0.3**
comp=Z,29nm,1.3s,mb5.3
CHMT Chamberlain Mo 86.32 37 *e*P P **16 36 33.9 -0.9**
PLCA Paso Flores 86.46 132 *e*P P **16 36 36.2 +0.8**
IPM Ipoh 87.03 276 P P **16 36 39.7 +1.5**
RWWY Rawlins 87.15 43 *e*P P **16 36 36.5 -2.3**
comp=Z,13nm,0.8s,mb5.2
WALA Waterton Lakes 87.20 35 *e*P P **16 36 37.3 -1.8**
comp=Z,8.8nm,1.0s,mb4.9
COLA College 87.30 11 ⇓*i*P P **16 36 38.4 -1.1**
COLA College 87.30 11 *e*P P **16 36 38.4 -1.2**
comp=Z,38nm,0.9s,mb5.6
ILAR Eielson Array 87.38 11 P P **16 36 38.6 -1.3**
comp=Z,5.6nm,0.6s,mb4.9,baz=220,slow=5.9,SNR=47
ILAR PP PP 16 40 03.0 -1.2
comp=Z,1.0nm,1.0s,baz=209,slow=13,SNR=3.1
SYO Syowa Base 87.66 191 ⇓*e*P P **16 36 40.5 -0.8**
KULM Kulim 87.67 276 *e*P P **16 36 42.1 +0.8**
AMTX Amarillo 87.72 52 *e*P P **16 36 42.9 +1.3**
comp=Z,13nm,0.8s,mb5.2
VNA3 Neumayer Olymp 87.95 175 ⇑*i*P P **16 36 43.1 +0.4**
VNA3 *e* pP 16 36 44.9 -0.2
VNA3 *e* 16 36 48.9
VNA3 *e* 16 36 57.8
VNA3 *e* 16 37 04.3
VNA3 *e* 16 37 10.0
VNA3 *e* 16 37 14.9
VNA3 *e* 16 37 18.3
SNAA Sanae 87.97 177 ⇑*i*P P **16 36 43.1 +0.3**
SNAA *e* pP 16 36 45.1 -0.1
SNAA *e* 16 36 50.8
SNAA *e* 16 36 57.7
SNAA *e* 16 37 03.1
SNAA *e* 16 37 10.7
SNAA Sanae 87.97 177 *e*P P **16 36 40.9 -1.9**
SNAA Sanae 87.97 177 *e*P P **16 36 42.7 -0.1**
comp=Z,15nm,1.2s,mb5.1
DAWY Dawson 88.32 14 *e*P P **16 36 43.8 -0.6**
SNG Songkhla 88.36 278 P P **16 36 45.0 +0.4**
PSI Prapat 88.42 274 P P **16 36 45.0 +0.1**
comp=Z,10nm,0.7s,mb5.2,baz=186,slow=6.4,SNR=10.0
VNA2 Neumayer--Watz 88.44 176 ⇑*i*P P **16 36 45.5 +0.5**
baz=183,slow=3.7
VNA2 *e* pP 16 36 47.2 -0.2
VNA2 *e* 16 36 51.6
VNA2 *e* 16 37 00.7
VNA2 *e* 16 37 07.4
VNA2 *e* 16 37 14.0
VNA2 *e* 16 37 20.7
VNA2 *e* 16 37 22.8
BJI Beijing 88.62 314 P P **16 36 46.8 +1.0**
BJI SKS 16 47 17.4
BJI S 16 47 30.0
BJI AMB AMB
comp=Z,13nm,1.2s,mb5.1
BJI AMB AMB
comp=Z,345nm,7.8s
BJI LR LR
comp=N,179nm,16.2s,MS4.9
BJI LR LR
comp=E,338nm,16.2s,MS4.9
BJI LR LR
comp=Z,251nm,18.8s,MS4.7
VNA1 Neumayer--Stat 88.64 175 ⇑*i*P P **16 36 46.9 +1.0**
VNA1 *e* pP 16 36 48.3 -0.1
VNA1 *e* 16 36 53.9
VNA1 *e* 16 37 01.9
VNA1 *e* 16 37 06.9
VNA1 *e* 16 37 15.3
EFI East Falkland 89.01 146 *e*P P **16 36 45.4 -2.2**
BILL Bilibino 89.38 353 *e*P P **16 36 48.4 -1.0**
BILL pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
BILL Bilibino 89.38 353 *e*P P **16 36 48.4 -1.0**
comp=Z,9.6nm,0.9s,mb5.1
WMOK Wichita Mounta 89.81 53 *e*P P **16 36 49.9 -1.5**
WMOK pmax pmax
comp=Z,12nm,1.5s,mb5.0
WMOK Wichita Mounta 89.81 53 *e*P P **16 36 49.9 -1.5**
comp=Z,12nm,1.5s,mb5.0
GYA Guiyang 90.04 298 P P **16 36 54.3 +1.8**
GYA AP pP 16 36 58.7 +3.7
GYA XP sP 16 37 02.1 +6.3
GYA SKS 16 47 18.1
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
GYA AMB AMB
comp=Z,100nm,4.2s
GYA LR LR
comp=N,480nm,21.4s,MS5.1
GYA LR LR
comp=E,540nm,22.8s,MS5.1
GYA LR LR
comp=Z,530nm,21.0s,MS5.0
HKT Hockley 90.13 58 *e*P P **16 36 53.3 +0.4**
HKT pmax pmax
comp=Z,22nm,1.5s,mb5.3
HKT Hockley 90.13 58 *e*P P **16 36 53.3 +0.4**
comp=Z,22nm,1.5s,mb5.3
RSSD Black Hills 90.37 43 *e*P P **16 36 52.5 -1.5**
RSSD pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
RSSD Black Hills 90.37 43 *e*P P **16 36 52.5 -1.5**
comp=Z,8.8nm,1.0s,mb5.0
XAN Xi'an 91.23 306 P P **16 36 59.4 +1.4**
XAN SKS 16 47 32.7
XAN S 16 48 02.6
XAN PS PS 16 49 08.4 +2.7
XAN AMB AMB
comp=Z,22nm,0.9s,mb5.5
XAN LR LR
comp=E,120nm,16.7s
XAN LR LR
comp=Z,177nm,18.5s,MS4.5
HHC Hu-ho-hao-te 92.13 313 *e*P P **16 37 02.6 +0.4**
HHC PP PP 16 40 45.7 +3.7
HHC SKS 16 47 29.6
HHC S 16 47 58.0
HHC SS SS 16 54 12.8 -1.3
HHC AMB AMB
comp=Z,7.0nm,0.4s,mb5.3
HHC AMB AMB
comp=Z,188nm,4.7s
HHC LR LR
comp=N,155nm,16.2s
HHC LR LR
comp=E,209nm,8.8s
HHC LR LR
comp=Z,261nm,24.1s
NANT Nan 92.36 289 ⇓P P **16 37 06.0 +2.7**
comp=Z,150nm,0.6s
JTS JuntasAbangare 92.45 80 *e*P P **16 37 04.5 +0.8**
JTS JuntasAbangare 92.45 80 *e*P P **16 37 06.2 +2.5**
comp=Z,22nm,0.9s,mb5.5
KMI Kunming 92.83 296 P P **16 37 05.1 -0.3**
KMI PP PP 16 40 53.3 +5.7
KMI SKS 16 47 33.1
KMI S 16 48 06.2
KMI PS PS 16 49 27.3 +3.8
KMI SS SS 16 54 24.1 -0.1
KMI SSS 16 58 02.9
KMI AMB AMB
comp=Z,21nm,1.0s,mb5.5
KMI AMB AMB
comp=Z,144nm,4.9s
KMI LR LR
comp=N,258nm,19.0s,MS4.9
KMI LR LR
comp=E,320nm,20.0s,MS4.9
KMI LR LR
comp=Z,415nm,19.0s,MS4.9
INK Inuvik 93.17 14 P P **16 37 06.2 -0.7**
comp=Z,8.0nm,1.1s,mb5.1,baz=200,slow=7.5,SNR=15
INK Inuvik 93.17 14 *e*P P **16 37 05.9 -1.1**
INK pmax pmax
comp=Z,15nm,1.3s
INK Inuvik 93.17 14 *e*P P **16 37 05.9 -1.1**
comp=Z,15nm,1.3s,mb5.3
YAK Yakutsk 93.52 337 *e*P P **16 37 06.7 -1.9**
YAK pmax pmax
comp=Z,10.0nm,0.6s,mb5.4
YAK Yakutsk 93.52 337 *e*P P **16 37 06.7 -1.9**
comp=Z,9.8nm,0.6s,mb5.4
CHRT Chiangrai 93.55 290 ⇓P P **16 37 11.5 +2.8**
comp=Z,108nm,0.8s
CHTO Chiang Mai 93.93 288 *e*P P **16 37 12.5 +2.0**
CHTO pmax pmax
comp=Z,16nm,0.9s,mb5.5
CHTO Chiang Mai 93.93 288 *e*P P **16 37 12.5 +2.1**
comp=Z,16nm,0.9s,mb5.5
CD2 Chengdu 94.07 301 *e*P P **16 37 09.4 -1.7**
CD2 AP pP 16 37 22.9 +9.3
CD2 PP PP 16 40 58.7 +1.4
CD2 S 16 48 13.3
CD2 SS SS 16 54 37.8 -4.2
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.6
CD2 AMB AMB
comp=Z,100nm,5.9s
CD2 LR LR
comp=N,140nm,18.0s
CD2 LR LR
comp=Z,140nm,20.4s,MS4.4
YKA Yellowknife Ar 94.80 24 P P **16 37 13.6 -0.8**
comp=Z,2.2nm,0.8s,mb4.6,baz=235,slow=4.1,SNR=31
YKA PKKP PKKPbc 16 54 16.7 +5.8
comp=Z,0.6nm,0.9s,baz=38,slow=2.9,SNR=5.5
YKA LR LR 17 14 51.9
comp=Z,191nm,18.8s,MS4.6,baz=260,slow=32
YKA Yellowknife Ar 94.80 24 P P **16 37 13.6 -0.8**
YKA pmax pmax
comp=Z,2.0nm,0.9s
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA MLR MLR
comp=Z,191nm,18.8s
YKA Yellowknife Ar 94.80 24 P P **16 37 13.7 -0.8**
YKA PKKP PKKPbc 16 54 16.7 +5.8
YKA LR LR 17 14 51.9
YKW3 Yellowknife Ar 94.83 24 *e*P P **16 37 13.6 -1.0**
LZH Lanzhou 95.86 306 *e*P P **16 37 20.1 +0.8**
LZH PP PP 16 41 14.6 +3.4
LZH SKS 16 47 50.5
LZH *e*S 16 48 31.2
LZH *e*SS SS 16 55 01.8 -5.6
LZH AMB AMB
comp=Z,21nm,1.3s,mb5.4
LZH AMB AMB
comp=Z,89nm,8.7s
LZH LR LR
comp=N,237nm,17.4s
LZH LR LR
comp=Z,298nm,19.8s,MS4.8
ULN Ulaanbaatar 97.88 318 *e*P P **16 37 28.3 -0.2**
ULN pmax pmax
comp=Z,2.0nm,0.6s,mb4.8
ULN Ulaanbaatar 97.88 318 *e*P P **16 37 28.3 -0.2**
comp=Z,2.4nm,0.6s,mb4.9
ULM Lac du Bonnet 98.02 39 P P **16 37 28.7 -0.3**
comp=Z,0.9nm,0.3s,mb4.7,baz=339,slow=5.2,SNR=3.7
ULM LR LR 17 16 33.3
comp=Z,561nm,19.0s,MS5.1,baz=284,slow=32
PLAL Pickwick Lake 98.06 56 *e*P P **16 37 34.2 +4.9**
comp=Z,6.1nm,0.5s,mb5.4
SONM Songino Array 98.28 318 P P **16 37 29.6 -0.6**
comp=Z,0.9nm,0.5s,mb4.6,baz=70,slow=1.7,SNR=5.5
SONM PP PP 16 41 28.4 -1.4
comp=Z,2.0nm,1.0s,baz=108,slow=4.7,SNR=3.0
SONM LR LR 17 17 13.9
comp=Z,210nm,21.3s,MS4.6,baz=255,slow=33
SONM Songino Array 98.28 318 P P **16 37 29.6 -0.7**
SONM 16 41 28.4
LPAZ La Paz 98.44 111 P P **16 37 33.3 +2.3**
comp=Z,0.7nm,0.6s,mb4.4,baz=0.5,slow=2.5,SNR=4.5
LPAZ PP PP 16 41 31.4 +0.3
comp=Z,0.6nm,0.3s,baz=283,slow=6.9,SNR=4.2
LPAZ LR LR 17 12 29.3
comp=Z,242nm,21.7s,MS4.7,baz=319,slow=30
LPAZ La Paz 98.44 111 P P **16 37 33.3 +2.3**
LPAZ 16 41 31.4
LPAZ La Paz 98.44 111 P P **16 37 33.3 +2.3**
LPAZ PP PP 16 41 31.4 +0.3
LPAZ LR LR 17 12 29.3
TIXI Tiksi 99.68 344 *e*P Pdif 16 37 33.5 -3.0
TIXI *e* 16 48 11.3
TIXI *e* 16 49 05.1
TIXI *e*SP SP 16 50 31.6 -5.7
TIXI *e* 16 51 17.9
TIXI *e*SS SS 16 55 54.3 -6.8
TIXI pmax pmax
comp=Z,3.0nm,1.0s,mb4.7
GTA Gaotai 99.97 308 *e*P Pdif 16 37 39.3 +1.5
GTA PP PP 16 41 45.9 +3.2
GTA PPP 16 43 54.8
GTA SKS 16 48 12.9
GTA S 16 48 59.7
GTA AMB AMB
comp=Z,2.0nm,1.0s,mb4.5
GTA AMB AMB
comp=Z,96nm,5.3s
GTA LR LR
comp=N,161nm,20.5s,MS4.7
GTA LR LR
comp=E,252nm,25.5s,MS4.7
GTA LR LR
comp=Z,261nm,22.4s,MS4.7
ZAL Zalesovo 112.89 321 PKiKP PKiKP 16 42 29.0 -0.7
comp=Z,1.4nm,0.5s,baz=29,slow=0.6,SNR=3.4
ZAL PP PP 16 43 12.5 -5.4
comp=Z,1.7nm,0.3s,baz=258,slow=1.5,SNR=5.6
ZAL Zalesovo 112.89 321 PKPdf PKiKP 16 42 29.0 -0.7
ZAL PP PP 16 43 12.5 -5.4
MKAR Makanchi Array 113.99 313 Pdiff Pdif 16 38 41.8 +1.7
comp=Z,0.7nm,0.8s,baz=93,slow=5.8,SNR=2.2
MKAR PKiKP PKiKP 16 42 30.7 -1.1
comp=Z,1.0nm,0.8s,baz=63,slow=2.2,SNR=6.6
MKAR PKKPbc PKKPbc 16 53 13.4 +0.4
comp=Z,0.3nm,0.6s,baz=283,slow=5.3,SNR=4.0
MKAR Makanchi Array 113.99 313 P Pdif 16 38 41.8 +1.7
MKAR 16 42 30.7
KURK Kurchatov 116.58 317 *i* PKiKP PKPdf 16 42 35.3 -1.5
KURK Kurchatov 116.58 317 *e*PKPdf PKPdf 16 42 35.2 -1.6
KSH Kashi 118.06 305 *e*PKP PKPdf 16 42 37.1 -2.6
KSH PP PP
comp=Z,61nm,3.6s
KSH LR LR
comp=N,131nm,5.4s
KSH LR LR
comp=E,130nm,8.1s
KSH LR LR
comp=Z,207nm,5.4s
AAK Ala-Archa 119.33 308 *i* PKiKP PKPdf 16 42 40.2 -1.9
AAK MLR MLR
comp=Z,100nm,20.0s,MS4.5
BVAR Borovoye Array 121.52 320 PKP PKPdf 16 42 45.4 -0.9
comp=Z,2.6nm,0.6s,baz=136,slow=1.6,SNR=15
BRVK Borovoye 121.58 320 *e*PKiKP PKPdf 16 42 45.2 -1.2
ZRNK Zerenda 122.36 320 *e*PKiKP PKPdf 16 42 46.8 -1.1
SVE Sverdlovsk 126.10 326 *e*PKiKP PKPdf 16 43 00.0 +4.9
SVE *e* 16 44 52.5
SVE *e* 16 54 40.0
SVE *e* 16 56 14.0
SVE MLR MLR
comp=N,100nm,16.0s,MS5.2
SVE MLR MLR
comp=E,400nm,16.0s,MS5.2
SVE MLR MLR
comp=Z,500nm,16.0s,MS5.3
ARU Arti 127.32 326 *i* PKiKP PKPdf 16 42 56.9 -0.5
ARU *e* 16 44 58.9
ARU *e* 16 49 59.7
ARU *e*PS PS 16 55 01.6 -0.3
ARU *e*SS SS 17 02 08.0 +1.4
ARU MLR MLR
comp=N,200nm,19.0s,MS5.0
ARU MLR MLR
comp=Z,300nm,19.0s,MS5.0
ARU MLR MLR
comp=E,200nm,18.5s,MS5.0
ARU Arti 127.32 326 *e*PKPdf PKPdf 16 42 55.9 -1.5
ARCES ARCESS Array B 129.46 351 PKP PKPdf 16 42 59.6 -1.8
comp=E,2.8nm,0.5s,baz=11,slow=1.5,SNR=26
KLMR Klimovskoe 133.29 338 *i* PKiKP PKPdf 16 43 07.5 -1.2
KLMR pmax pmax
comp=Z,10.0nm,1.7s
JOF Joensuu 134.16 344 *e*p PKPdf 16 43 09.0 -1.4
comp=Z,6.0nm,0.6s
KAF Kangasniemi 136.04 347 *e*p PKPdf 16 43 08.3 -5.6
comp=Z,4.1nm,0.7s
FINES FINESS Array B 136.69 346 PKP PKPdf 16 43 13.6 -1.5
comp=Z,2.3nm,0.6s,baz=113,slow=5.0,SNR=14
OBN Obninsk 138.46 334 *i* PKiKP PKPdf 16 43 16.4 -2.0
OBN 16 46 12.0
OBN pmax pmax
comp=Z,6.0nm,0.5s
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.5
LSZ Lusaka 138.50 213 *e*PKiKP PKPdf 16 43 19.7 +1.3
NB2 NORSAR Subarra1 139.23 356 PKPa 16 43 13.5
comp=Z,0.5nm,0.5s,baz=17,slow=2.5
NOA NORSAR Array B 139.23 356 PKP PKPdf 16 43 18.3 -1.5
comp=Z,0.7nm,0.6s,baz=13,slow=4.1,SNR=3.8
KMBO Kilima Mbogo 142.83 239 PKhKP 16 43 24.4
comp=Z,1.1nm,0.3s,baz=39,slow=23,SNR=4.9
SOC Sochi 143.73 317 *i* PKHKP 16 43 21.0
SOC *e* 16 50 32.0
SOC pmax pmax
comp=Z,161nm,18.0s
SUW Suwalki 144.01 343 *e*PKP PKPdf 16 43 27.1 -1.2
ANN Anapa 144.52 321 *i* PKiKP PKPdf 16 43 27.7 -1.5
ANN pmax pmax
comp=Z,26nm,1.0s
BSD Bornholm Skovb 144.71 351 *i* P PKPdf 16 43 28.2 -1.3
comp=Z,29nm,1.0s
BSD Bornholm Skovb 144.71 351 *i* PKiKP PKPdf 16 43 28.2 -1.3
BSD pmax pmax
comp=Z,29nm,1.0s
AKASG Malin Array Be 144.72 334 PKP PKPdf 16 43 27.5 -2.1
comp=Z,11nm,0.4s,baz=38,slow=4.3,SNR=62
BNGL BINGOL 144.73 309 *i* P PKPdf 16 43 30.0 +0.5
DCN Croghan 145.50 14 *e*P PKPdf 16 43 29.1 -1.8
DLF Lyons Farm 145.71 14 *e*P PKPdf 16 43 29.8 -1.5
GRSN GIRESUNGRSN 145.93 314 *i* P PKPdf 16 43 27.5 -4.2
GKP Gorka Klasztor 146.09 348 *e*PKP PKPdf 16 43 32.3 +0.4
SIM Simferopol' 146.36 323 *e*PKP2 PKPab 16 43 34.4 0.0
SIM pmax pmax
comp=Z,18nm,0.8s
SIM pmax pmax
comp=Z,100nm,8.1s
SIM pmax pmax
comp=Z,33nm,1.0s
SIM MLR MLR
comp=Z,200nm,21.0s,MS4.9
BSEG Bad Segeberg 146.36 356 *e*PKPbc PKPbc 16 43 33.4 -0.2
ELZG Elazig 146.47 310 *i* P PKPbc 16 43 35.5 +1.6
MALT Malatya 146.94 310 ⇓*i*P PKPbc 16 43 36.6 +1.3
MALT Malatya 146.94 310 *e*PKPdf PKPdf 16 43 34.4 +1.1
LVV L'vov 147.38 338 *i* PKP2 PKPab 16 43 36.8 -1.6
RUE Ruedersdorf 147.43 351 *e*PKPbc PKPbc 16 43 36.9 +0.2
KIS Kishinev 147.69 330 *e*PKP2 PKPab 16 43 40.0 +0.4
KIS *e* 16 47 08.0
KIS MLR MLR
comp=Z,600nm,20.0s,MS5.4
KIS MLR MLR
comp=Z,700nm,20.0s
BOYT Boyabat 147.90 317 *i* P PKPbc 16 43 39.2 +1.2
GZT Gaziantep 147.95 309 *i* P PKPbc 16 43 38.7 +0.6
KWP Kalwaria 147.99 340 *e*PKP PKPbc 16 43 39.5 +1.3
IBBN Ibbenburen 148.12 358 *e*PKPbc PKPbc 16 43 38.2 -0.3
OJC Ojcow 148.34 343 *e*PKPab PKPbc 16 43 39.0 -0.1
CTKT Corum 148.39 316 *i* P PKPbc 16 43 39.1 -0.1
CLZ Clausthal 148.44 355 *e*PKPbc PKPbc 16 43 39.5 +0.2
KSP Ksiaz 148.58 348 *e*PKP PKPbc 16 43 39.9 +0.2
KSP Ksiaz 148.58 348 *e*PKP PKPbc 16 43 39.8 +0.1
KSP LR LR
comp=Z,500nm,20.4s,MS5.3
STHS Stebnicka Huta 148.64 341 *e*PKP PKPbc 16 43 40.6 +0.7
CLL Collm 148.68 352 *e*PKPbc PKPbc 16 43 39.9 -0.1
CLL Collm 148.68 352 *i* PKPbc PKPbc 16 43 39.9 -0.1
comp=Z,39nm,1.1s
CLL *i* PKPab PKPab 16 43 44.1 +0.5
comp=Z,39nm,1.0s
CLL *i* x x 16 43 53.1
CLL *i* x x 16 43 58.0
CLL *ex* x 16 44 03.0
CLL *ex* x 16 44 17.0
CLL *e*PP PP 16 47 12.0 +2.3

CLL	**Collm**	**148.68**	**352**	*i* PKP2	PKPbc	16 43 39.9	-0.1
CLL				pmax	pmax			
	comp=Z,39nm,1.1s							
CLL				pmax	pmax			
	comp=Z,39nm,1.0s							
CLL				MLR	MLR			
	comp=Z,300nm,17.5s,MS5.1							
KOLS	**Kolonicke sedl**	**148.74**	**339**	*e*	PKPab	16 43 46.4	+2.6
GTTG	**Guttingen**	**148.76**	**355**	*e*PKPbc	PKPbc	16 43 40.5	+0.3
BURAR	**Bucovina Array**	**148.77**	**335**	⇓*i*P	PKPbc	16 43 40.8	+0.6
BURAR	**Bucovina Array**	**148.77**	**335**	⇓P	PKPbc	16 43 40.8	+0.6
BALT	**Daday**	**148.79**	**319**	*i* P	PKPbc	16 43 40.5	+0.3
UPC	**Upice**	**148.96**	**348**	*e*PKPbc	PKPbc	16 43 40.5	-0.2
UPC				*e*PKPab	PKPab	16 43 47.9	+3.2
BRG	**Berggiesshubel**	**148.97**	**350**	*e*PKPbc	PKPbc	16 43 40.9	+0.2
BRG	**Berggiesshubel**	**148.97**	**350**	*e*PKP	PKPdf	16 43 38.5	+1.8
	comp=Z,1.9nm,1.0s							
BRG				*i*		16 43 42.2		
	comp=Z,15nm,1.1s							
BRG	**Berggiesshubel**	**148.97**	**350**	*e*PKP2	PKPdf	16 43 38.5	+1.8
BRG				pmax	pmax			
	comp=Z,2.0nm,1.0s							
BRG				pmax	pmax			
	comp=Z,15nm,1.2s							
BUG	**Bochum--Univer**	**149.00**	**359**	*e*PKPbc	PKPbc	16 43 40.6	-0.2
CRVS	**Cervenica-Dubn**	**149.03**	**340**	*e*PKP	PKPbc	16 43 44.1	+3.2
OKC	**Ostrava-Krasne**	**149.11**	**345**	*e*PKPbc	PKPbc	16 43 40.6	-0.5
OKC				AMS	AMS	17 52 10.0		
	comp=Z,500nm,24.5s							
CDAG	**Cicekdag**	**149.17**	**315**	*i* P	PKPbc	16 43 42.2	+1.0
COBT	**Iskenderun**	**149.24**	**308**	*i* P	PKPbc	16 43 41.8	+0.4
AVNT	**Avonos**	**149.26**	**313**	*i* P	PKPdf	16 43 39.1	+1.9
MORC	**Moravsky Berou**	**149.31**	**346**	⇓*i*P	PKPdf	16 43 38.7	+1.5
MORC	**Moravsky Berou**	**149.31**	**346**	*e*PKPdf	PKPdf	16 43 37.6	+0.4
ELDT	**Eldivan**	**149.34**	**317**	*i* P	PKPbc	16 43 42.4	+0.8
CFR	**Carcaliu**	**149.35**	**329**	⇑*i*P	PKPbc	16 43 41.8	+0.1
CFR	**Carcaliu**	**149.35**	**329**	⇑P	PKPbc	16 43 41.8	+0.1
VRI	**Vrincioaia**	**149.50**	**331**	⇓*i*P	PKPbc	16 43 42.7	+0.7
VRI	**Vrincioaia**	**149.50**	**331**	⇓P	PKPbc	16 43 42.7	+0.6
MOX	**Moxa**	**149.50**	**353**	*e*PKPbc	PKPbc	16 43 41.8	-0.2
MOX	**Moxa**	**149.50**	**353**	*e*PKP	PKPbc	16 43 42.2	+0.2
	comp=Z,28nm,1.3s							
MOX								
	comp=Z,200nm,18.0s							
MOX	**Moxa**	**149.50**	**353**	*e*PKP2	PKPbc	16 43 42.2	+0.2
MOX				pmax	pmax			
	comp=Z,63nm,1.3s							
MOX				MLR	MLR			
	comp=Z,28µm,18.0s							
WERD	**Werda**	**149.62**	**352**	*e*PKPbc	PKPbc	16 43 42.4	+0.1
KECS	**Kecovo**	**149.70**	**341**	*e*PKP	PKPbc	16 43 42.8	+0.3
KECS				*e*		16 43 47.7		
KECS	**Kecovo**	**149.70**	**341**	*e*PKP2	PKPbc	16 43 42.9	+0.4
PRU	**Pruhonice**	**149.73**	**349**	*e*PKPbc	PKPbc	16 43 42.5	-0.1
PRU				*e*pPKP	pPKPab	16 43 51.4	+1.1
PRU				AMS	AMS	17 59 00.0		
	comp=Z,200nm,15.9s							
TIRR	**Tirgusor**	**149.73**	**328**	⇑*i*P	PKPbc	16 43 42.9	+0.3
TIRR	**Tirgusor**	**149.73**	**328**	*e*PKPbc	PKPbc	16 43 41.6	-1.0
HARR	**Harsova**	**149.81**	**328**	⇓*i*P	PKPbc	16 43 43.6	+0.8
HARR	**Harsova**	**149.81**	**328**	⇓P	PKPbc	16 43 43.6	+0.8
NKC	**Novy Kostel**	**149.81**	**352**	*e*PKPbc	PKPbc	16 43 43.3	+0.5
MEM	**Membach**	**149.84**	**0**	PKPbc	PKPbc	16 43 43.0	+0.1
MEM				XPKiKP		16 43 47.4		
VRAC	**Vranov**	**149.97**	**346**	PKP2	PKPbc	16 43 43.8	+0.6
ANTO	**Ankara**	**150.08**	**316**	⇑*i*P	PKPbc	16 43 43.1	-0.4
ANTO	**Ankara**	**150.08**	**316**	*e*PKPbc	PKPbc	16 43 41.8	-1.7
MANZ	**Manzenberg**	**150.09**	**352**	*e*PKPbc	PKPbc	16 43 43.9	+0.4
MLR	**Muntele Rosu**	**150.14**	**331**	⇓*i*P	PKPbc	16 43 44.4	+0.8
MLR	**Muntele Rosu**	**150.14**	**331**	PKIKP	PKPbc	16 43 44.1	+0.5
MLR	**Muntele Rosu**	**150.14**	**331**	⇓P	PKPbc	16 43 44.4	+0.8
SGKT	**Sivrigoynuk**	**150.16**	**318**	*i* P	PKPbc	16 43 44.1	+0.5
VYHS	**Vyhne**	**150.17**	**343**	*e*PKP	PKPbc	16 43 43.6	-0.1
TNS	**Taunus Mts**	**150.18**	**357**	*e*PKPbc	PKPbc	16 43 44.0	+0.3
TREC	**Trest**	**150.22**	**348**	*e*PKPbc	PKPbc	16 43 43.7	-0.1
ROTZ	**Rotzenmuhle**	**150.30**	**352**	*e*PKPbc	PKPbc	16 43 44.3	+0.3
DOU	**Dourbes**	**150.33**	**2**	PKPbc	PKPbc	16 43 44.1	+0.1
DOU				APKPbc		16 43 45.3		
GIVF	**Givet**	**150.33**	**2**	*e*PKP1	PKPbc	16 43 43.6	-0.4
	comp=Z,42nm,0.9s							
BAIF	**Baives**	**150.35**	**3**	*e*PKP1	PKPbc	16 43 43.9	-0.2
	comp=Z,65nm,1.1s							
PSZ	**Piszkesteto**	**150.38**	**341**	⇓*e*pPKP/F	PKPbc	16 43 44.3	+0.1
PSZ	**Piszkesteto**	**150.38**	**341**	*e*PKPbc	PKPbc	16 43 41.9	-2.3
DRGR		**150.41**	**337**	⇑*i*P	PKPbc	16 43 44.0	-0.3
GRF	**Grafenberg Arr**	**150.49**	**353**	*e*PKPbc	PKPbc	16 43 44.5	+0.1
GRF				*e*L		17 49 16.5		
	comp=Z,205nm,22.0s							
SMOL	**Smolenice**	**150.52**	**345**	*e*PKP	PKPbc	16 43 46.5	+2.0
VOIR		**150.58**	**332**	⇓*i*P	PKPbc	16 43 46.0	+1.4
VOIR		**150.58**	**332**	⇓P	PKPbc	16 43 46.0	+1.3
KHC	**Kasperske Hory**	**150.72**	**350**	*e*PKPbc	PKPbc	16 43 44.7	-0.3
KHC	**Kasperske Hory**	**150.72**	**350**	*i* PKIKP	PKPbc	16 43 44.2	-0.8
HENT	**Hendek**	**150.73**	**320**	*i* P	PKPbc	16 43 45.0	0.0
MEST	**Erdemli**	**150.76**	**309**	*i* P	PKPbc	16 43 45.3	+0.2
WLF	**Walferdange**	**150.79**	**0**	*e*PKPbc	PKPbc	16 43 45.9	+0.8
WLF	**Walferdange**	**150.79**	**0**	*e*PKPdf	PKPdf	16 43 38.6	-1.0
WLF				*e*PKPbc	PKPbc	16 43 45.3	+0.2
WET	**Wettzell**	**150.81**	**351**	*e*PKPbc	PKPbc	16 43 45.1	-0.1
ZST	**Bratislava**	**150.89**	**345**	*e*PKP	PKPbc	16 43 47.6	+2.2
GEC2	**GERESS Array S**	**150.97**	**350**	*e*PKPbc	PKPbc	16 43 45.5	-0.1
GERES	**GERESS Array B**	**150.97**	**350**	PKP	PKPdf	16 43 40.2	+0.3
	comp=Z,0.8nm,0.8s,baz=90,slow=2.9,SNR=3.2							
GERES				PKPbc	PKPbc	16 43 45.8	+0.2
	comp=Z,6.4nm,0.9s,baz=82,slow=2.8,SNR=21							
ROSF	**Rostrenen**	**151.09**	**13**	*e*PKP1	PKPbc	16 43 44.7	-1.1
MMAI	**Mount Meron Ar**	**151.14**	**302**	PKPbc	PKPbc	16 43 47.5	+1.6
	comp=Z,12nm,0.7s,baz=74,slow=6.2,SNR=22							
MMAI				PKPab	PKPab	16 43 55.5	+1.8
	comp=Z,8.8nm,0.6s,baz=58,slow=7.0,SNR=10							
FLN	**La Foliniere**	**151.18**	**9**	*e*PKP1	PKPbc	16 43 45.3	-0.8
	comp=Z,30nm,0.6s							
FLN				*e*R				
	comp=Z,205nm,22.2s							
SGMF	**Saint Gilles**	**151.31**	**12**	*e*PKP1	PKPbc	16 43 45.3	-1.1
	comp=Z,14nm,0.6s							
LDF	**La Druitiere**	**151.40**	**9**	*e*PKP1	PKPbc	16 43 45.6	-1.0
	comp=Z,33nm,0.9s							
GRR	**Gorron**	**151.49**	**10**	*e*PKP1	PKPbc	16 43 46.1	-0.7
	comp=Z,39nm,0.5s							
SOP	**Sopron**	**151.50**	**345**	⇓*e*PKP/p	pPKPbc	16 43 51.8	+2.5
ERMK	**Ermenek**	**151.62**	**310**	*i* P	PKPbc	16 43 48.9	+1.8
BZS	**Buzias**	**151.81**	**337**	⇓*i*P	PKPbc	16 43 47.4	-0.1
BZS	**Buzias**	**151.81**	**337**	⇓P	PKPbc	16 43 47.4	-0.2
MEZF	**Maizieres J'vi**	**151.94**	**2**	*e*PKP1	PKPbc	16 43 47.5	-0.3
FUR	**Furstenfeldbru**	**151.99**	**353**	*e*PKPbc	PKPbc	16 43 47.8	-0.1
WLS	**Welschbruch**	**152.02**	**358**	PKP	PKPbc	16 43 48.2	+0.2
CDF	**Champ du Feu**	**152.03**	**358**	*e*PKP1	PKPbc	16 43 47.5	-0.5
	comp=Z,24nm,0.8s							
BFO	**Black Forest**	**152.07**	**357**	*e*PKPbc	PKPbc	16 43 48.2	+0.1
THEF	**They Montfort**	**152.22**	**0**	PKP	PKPbc	16 43 48.8	+0.4
PKSM	**Moragy**	**152.29**	**341**	⇓*i*P	PKPbc	16 43 48.5	-0.1
PKSM	**Moragy**	**152.29**	**341**	⇓P	PKPbc	16 43 48.5	-0.1
HAU	**Haudompre**	**152.45**	**360**	*e*PKP1	PKPbc	16 43 49.4	+0.5
	comp=Z,12nm,0.6s							
HAU				*e*R				
	comp=Z,283nm,20.5s							
HINF	**Hinteralfeld**	**152.63**	**359**	*e*PKP1	PKPbc	16 43 48.6	-0.8
	comp=Z,8.4nm,0.6s							
KBA	**Koelnbreinsper**	**152.75**	**349**	⇑*i*P	PKPbc	16 43 49.4	-0.2
	comp=Z,11nm,0.9s							
WTTA	**Wattenberg**	**152.83**	**352**	⇑*i*P	PKPbc	16 43 49.5	-0.3
	comp=Z,9.0nm,0.6s,SNR=5.5							
DAVA	**Damuels**	**153.00**	**354**	⇑*i*P	PKPbc	16 43 50.5	+0.3
	comp=Z,20nm,1.2s							
LOR	**Lormes**	**153.12**	**4**	*e*PKP1	PKPbc	16 43 49.9	-0.5
	comp=Z,6.2nm,0.5s							
LOR				*e*R				
	comp=Z,445nm,20.5s							
SSF	**Saint Saulge**	**153.30**	**4**	*e*PKP1	PKPbc	16 43 50.6	-0.2
	comp=Z,17nm,0.9s							
MFF	**Saint Martin d**	**153.34**	**10**	*e*PKP1	PKPbc	16 43 50.1	-0.8
PDKS	**Podkum**	**153.39**	**346**	*e*PKPbc	PKPbc	16 43 50.7	-0.3
DAVOX	**Davos**	**153.50**	**354**	PKPbc	PKPbc	16 43 51.8	+0.5
	comp=Z,5.7nm,0.6s,baz=245,slow=3.1,SNR=7.7							
AVF	**Avril sur Loir**	**153.56**	**4**	*e*PKP1	PKPbc	16 43 50.6	-0.8
SMF	**Signal de Mont**	**153.74**	**4**	*e*PKP1	PKPbc	16 43 51.0	-0.8
BGF	**Bois d'Agland**	**153.75**	**5**	*e*PKP1	PKPbc	16 43 51.3	-0.5
	comp=Z,12nm,0.6s							
JAVS	**Javornik**	**153.75**	**348**	*e*PKPbc	PKPbc	16 43 52.2	+0.4
CABF	**La Chapelle**	**153.84**	**0**	*e*PKP1	PKPbc	16 43 52.1	+0.1
BOJS	**Bojanci**	**153.86**	**345**	*e*PKPbc	PKPbc	16 43 52.3	+0.2
TCF	**Toulx Ste Croi**	**153.96**	**6**	*e*PKP1	PKPbc	16 43 51.5	-0.8
	comp=Z,9.9nm,0.8s							
IDI	**Anoyia**	**157.84**	**316**	PKPab	PKPab	16 44 22.9	+0.7
	comp=Z,5.5nm,0.4s,baz=26,slow=9.9,SNR=15							
ESDC	**Sonseca Array**	**158.89**	**22**	PKPab	PKPab	16 44 27.8	+1.1
	comp=Z,0.3nm,0.4s,baz=319,slow=4.1,SNR=4.1							
TORD	**Torodi Ar. Bea**	**171.61**	**148**	PKP	PKPdf	16 44 00.9	-0.4
	comp=Z,3.0nm,1.0s,baz=338,slow=1.3,SNR=10							
TORD				PKPab	PKPab	16 45 23.3	+0.6
	comp=Z,4.6nm,1.2s,baz=228,slow=5.8,SNR=5.7							
TORD				PP	PP	16 49 12.1	-1.4
	comp=Z,0.7nm,0.8s,baz=167,slow=7.1,SNR=3.0							

*IDC **05** 16:31:24.4±0.7, 20.14S×174.05W, h0km, mb4.2/12, mb1 4.4/13, mb1mx4.4/17, mbtmp4.2/13, ML4.4/1, Error ellipse: s-maj=26.4km s-min=17.0km az=133.0*
*ISCJB **05** 16:31:27.5±0.5, 203S±0.1×174.05W±0.09, h33km, mb4.3/17, Error ellipse: s-maj=16.6km s-min=10.0km az=109.0*
*MOS **05** 16:31:27.1±1.2, 20.35S×173.99W, h33km, mb4.7/4, Error ellipse: s-maj=28.8km s-min=16.6km az=167.4*
*NEIC **05** 16:31:29.6±0.3, 20.17S×174.08W, h35km, mb4.5/5, Error ellipse: s-maj=14.7km s-min=8.9km az=136.0*

ISC 05 16:31:29.4±0.5, 203S±0.1×17397W±0.09, h35km, n39, σ1§08/32, mb4.3/17, 2C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**13.31**	**96**	Pn	Pn	Pn	**16 34 24.5**	**-11**
	7.2nm,0.3s,baz=261,slow=8.3,SNR=23							
DZM	**Mont Dzumac**	**18.35**	**261**	P	Pn	Pn	**16 35 43.3**	**+2.2**
	0.5nm,0.3s,baz=53,slow=19,SNR=8.4							
URZ	**Urewera**	**19.50**	**201**	P	Pn	Pn	**16 35 54.3**	**-0.7**
	1.1nm,0.3s,baz=2.0,slow=8.1,SNR=6.1							
URZ				S	S	S	**16 39 16.4**	**-16**
	0.3nm,0.3s,baz=349,slow=16,SNR=2.5							
PPT	**Papeete**	**23.23**	**87**	P	P	P	**16 36 30.1**	**-3.4**
	7.8nm,0.3s,mb4.5,baz=270,slow=2.0,SNR=2.5							
RPZ	**Rata Peaks**	**26.50**	**205**	P	P	P	**16 37 04.5**	**+1.0**
	9.3nm,0.7s,mb4.4,baz=337,slow=13,SNR=3.9							
CTA	**Charters Tower**	**37.27**	**263**	P	P	P	**16 38 38.3**	**+0.4**
	4.4nm,0.8s,mb4.3,baz=81,slow=6.7,SNR=5.3							
PMG	**Port Moresby**	**39.00**	**280**	P	P	P	**16 38 51.7**	**-0.7**
	8.6nm,0.9s,mb4.5,baz=95,slow=8.4,SNR=4.3							
PMG	**Port Moresby**	**39.00**	**280**	*e*P	P	P	**16 38 51.0**	**-1.4**
PMG				pmax	pmax			
	comp=Z,18nm,1.1s							
PMG	**Port Moresby**	**39.00**	**280**	*e*P	P	P	**16 38 51.0**	**-1.4**
	comp=Z,18nm,1.1s,mb4.7							
STKA	**Stephens Creek**	**41.29**	**245**	P	P	P	**16 39 09.1**	**-2.2**
	comp=Z,3.1nm,0.7s,mb4.0,baz=94,slow=10,SNR=6.4							
STKA	**Stephens Creek**	**41.29**	**245**	*e*P	P	P	**16 39 08.8**	**-2.5**
ASAR	**Alice Springs**	**48.24**	**256**	P	P	P	**16 40 06.3**	**-0.4**
	comp=Z,1.7nm,0.7s,mb4.2,baz=89,slow=8.5,SNR=12							
ASAR				PcP	PcP	PcP	16 41 34.8	+1.4
	comp=Z,1.2nm,0.7s,baz=106,slow=4.2,SNR=4.8							
WRAB	**Tennant Creek**	**48.36**	**261**	*e*P	P	P	**16 40 06.4**	**-1.3**
WRA	**Warramunga Arr**	**48.37**	**261**	P	P	P	**16 40 07.1**	**-0.6**
	comp=Z,0.7nm,0.4s,mb4.1,baz=98,slow=8.8,SNR=7.0							
FITZ	**Fitzroy Crossi**	**56.80**	**261**	P	P	P	**16 41 10.5**	**+0.4**
	comp=Z,1.3nm,0.7s,mb4.1,baz=153,slow=9.0,SNR=3.8							
VNDA	**Vanda**	**58.48**	**186**	P	P	P	**16 41 23.6**	**+1.6**
	comp=Z,1.6nm,0.8s,mb4.1,baz=8.3,slow=7.1,SNR=7.2							
VNDA	**Vanda**	**58.48**	**186**	*e*P	P	P	**16 41 22.9**	**+1.0**
VNDA				pmax	pmax			
	comp=Z,3.0nm,0.9s							
VNDA	**Vanda**	**58.48**	**186**	*e*P	P	P	**16 41 22.9**	**+1.0**
	comp=Z,2.5nm,0.9s,mb4.2							
QSPA	**South Pole Qui**	**69.78**	**180**	*e*P	P	P	**16 42 36.3**	**+0.2**
	comp=Z,7.8nm,1.0s,mb4.6							
MJAR	**Matsushiro Arr**	**72.35**	**321**	P	P	P	**16 42 52.3**	**+0.7**
	comp=Z,4.4nm,0.8s,mb4.4,baz=157,slow=6.2,SNR=13							
NVAR	**Mina Array Bea**	**78.32**	**41**	P	P	P	**16 43 26.6**	**+0.7**
	comp=Z,3.0nm,0.8s,mb4.3,baz=218,slow=7.3,SNR=14							
TPNV	**Topopah Spring**	**78.74**	**44**	*e*P	P	P	**16 43 28.1**	**-0.1**
TPNV				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3							
TPNV	**Topopah Spring**	**78.74**	**44**	*e*P	P	P	**16 43 28.1**	**-0.2**
	comp=Z,2.8nm,0.8s,mb4.2							
TPH	**Tonopah**	**78.78**	**42**	P	P	P	**16 43 29.0**	**+0.5**
NEN	**Nelson**	**78.91**	**45**	*e*P	P	P	**16 43 24.3**	**-4.9**
LPM	**Los Pinos Moun**	**83.92**	**50**	*e*P	P	P	**16 43 56.8**	**+1.1**
ANMO	**Albuquerque**	**84.35**	**50**	*e*P	P	P	**16 43 58.9**	**+1.0**
ANMO				pmax	pmax			
	comp=Z,5.0nm,1.2s							
ANMO	**Albuquerque**	**84.35**	**50**	*e*P	P	P	**16 43 58.9**	**+0.9**
	comp=Z,4.7nm,1.2s,mb4.5							
PDAR	**Pinedale Array**	**86.25**	**42**	P	P	P	**16 44 07.0**	**-0.5**
	comp=Z,0.7nm,0.9s,mb3.9,baz=268,slow=4.2,SNR=4.1							
ILAR	**Eielson Array**	**87.32**	**11**	P	P	P	**16 44 12.1**	**-0.6**
	comp=Z,0.6nm,0.6s,mb4.0,baz=224,slow=5.2,SNR=8.4							
YKA	**Yellowknife Ar**	**94.77**	**24**	P	P	P	**16 44 46.9**	**-0.4**
	comp=Z,0.5nm,0.9s,mb4.0,baz=241,slow=4.5,SNR=6.1							
MKAR	**Makanchi Array**	**113.81**	**313**	Pdiff	Pdiff		16 46 14.4	+2.1
	comp=Z,0.2nm,0.7s,baz=108,slow=4.7,SNR=2.1							
BVAR	**Borovoye Array**	**121.34**	**320**	PKP	PKPdf		16 50 18.5	-0.3
	comp=Z,0.6nm,0.6s,baz=58,slow=0.8,SNR=4.6							
ARCES	**ARCESS Array B**	**129.34**	**351**	PKP	PKPdf		16 50 32.8	-1.3
	comp=Z,1.6nm,0.9s,baz=22,slow=3.9,SNR=4.4							
AKASG	**Malin Array Be**	**144.56**	**334**	PKP	PKPdf		16 51 00.8	-1.4
	comp=Z,1.5nm,0.4s,baz=41,slow=4.1,SNR=13							
CLL	**Collm**	**148.56**	**352**	⇑*i*x	PKPbc		16 51 13.4	+0.9
	comp=Z,6.0nm,1.0s							
CLL				*i* x	x		16 51 22.7	
CLL	**Collm**	**148.56**	**352**	*i* P	PKPbc		16 51 13.4	+0.9
CLL				*i*			16 51 22.7	
BURAR	**Bucovina Array**	**148.62**	**335**	⇑*i*P	PKPbc		16 51 14.8	+2.1
GERES	**GERESS Array B**	**150.85**	**350**	PKPbc	PKPbc		16 51 18.7	+0.6
	comp=Z,0.3nm,0.3s,baz=57,slow=4.9,SNR=3.9							

*ISCJB **05** 16:32:59.8±1.8, 36.08N±0.09×70.8E±0.2, h74km±17km, mb3.4/5, Error ellipse: s-maj=25.2km s-min=6.6km az=114.8*
*IDC **05** 16:32:59.6±6.7, 36.13N×71.15E, h50km±54km, mb3.4/6, mb1 3.6/9, mb1mx3.4/22, mbtmp3.6/9, ML3.5/3, Error ellipse: s-maj=58.2km s-min=28.1km az=39.0*
*NEIC **05** 16:33:02.9±5.0, 36.24N×71.12E, h80km±37km, mb3.2/2, Error ellipse: s-maj=45.6km s-min=21.4km az=207.0*
*NNC **05** 16:33:09.5±2.4, 36.97N×69.81E, h0km, mb3.6, mpv3.8, Error ellipse: s-maj=25.3km s-min=16.5km az=120.0*

ISC 05 16:33:01.8±1.6, 3607N±0.09×708E±0.2, h84km±15km, n31, σ1§19/35, mb3.4/5, 2C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**5.55**	**128**	*e*P	**Sn**	**Sn**	**16 35 26.0**	**+1.8**
AML	**Almayashu**	**6.46**	**20**	P	**Pn**	**Pn**	**16 34 34.5**	**+0.3**
	SNR=71							
UCH	**Uchtor**	**6.79**	**24**	P	**Pn**	**Pn**	**16 34 39.2**	**+0.5**
	SNR=24							
KZA	**Kyzart**	**6.93**	**29**	P	**Pn**	**Pn**	**16 34 41.2**	**+0.6**
	SNR=8.1							
EKS2	**Erkin-Say**	**6.97**	**18**	P	**Pn**	**Pn**	**16 34 41.6**	**+0.3**
	SNR=20							
KK31	**Karatay Array**	**7.03**	**358**	P	**Pn**	**Pn**	**16 34 41.4**	**-0.5**
	2.3nm,0.2s,baz=186,slow=13,SNR=90							
KK31				⇑S	**Sn**	**Sn**	**16 35 54.0**	**-6.3**
	1.5nm,0.3s,baz=193,slow=26,SNR=4.0							
AAK	**Ala-Archa**	**7.15**	**23**	P	**Pn**	**Pn**	**16 34 44.1**	**+0.4**
	SNR=40							
AAK	**Ala-Archa**	**7.15**	**23**	*e*Pn	**Pn**	**Pn**	**16 34 42.9**	**-0.8**
	22nm,0.4s							
AAK				*e*Sn	**Sn**	**Sn**	**16 35 54.8**	**-8.6**
KBK	**Karagaybulak**	**7.32**	**25**	P	**Pn**	**Pn**	**16 34 47.4**	**+1.4**
	SNR=7.5							
CHMS	**Chumysh**	**7.56**	**23**	P	**Pn**	**Pn**	**16 34 49.7**	**+0.4**
	SNR=18							
USP	**Ospenovka**	**7.73**	**21**	P	**Pn**	**Pn**	**16 34 44.9**	**-6.8**
	SNR=11							
TKM2	**Tokmak 2**	**7.78**	**27**	P	**Pn**	**Pn**	**16 34 52.8**	**+0.5**
	SNR=6.8							
KOLN	**Koldanda**	**13.66**	**124**	*e*P	**Pn**	**Pn**	**16 36 11.4**	**-0.4**
	1.8nm,0.3s							
KOLN				*e*S	**Sn**	**Sn**	**16 38 36.3**	**-5.6**
MKAR	**Makanchi Array**	**13.74**	**35**	P	**Pn**	**Pn**	**16 36 09.2**	**-3.6**
	0.1nm,0.3s,baz=224,slow=14,SNR=2.7							
GKN	**Gorkha**	**14.23**	**121**	*e*P	**Pn**	**Pn**	**16 36 17.5**	**-1.7**
KKN	**Kakani**	**14.81**	**120**	*e*P	**Pn**	**Pn**	**16 36 25.0**	**-1.7**
	4.7nm,0.5s							
GUN	**Gumba**	**15.16**	**118**	*e*P	**Pn**	**Pn**	**16 36 30.9**	**-0.3**
AB31	**Akbulak array**	**15.38**	**332**	P	**Pn**	**Pn**	**16 36 31.8**	**-2.2**
	0.9nm,0.3s,baz=148,slow=12,SNR=64							
AB31				S	S	S	16 39 11.5	-23
	0.6nm,0.4s,baz=154,slow=23,SNR=4.5							
JIRN	**Jiri**	**15.53**	**118**	*e*P	**Pn**	**Pn**	**16 36 35.6**	**-0.2**
	5.1nm,0.3s							
JIRN				*e*S	**S**	**S**	**16 39 18.0**	**-20**
KURK	**Kurchatov**	**15.69**	**19**	*e*Pn	**Pn**	**Pn**	**16 36 41.4**	**+3.5**
	1.0nm,0.6s							
ZRNK	**Zerenda**	**16.92**	**356**	Pn	**Pn**	**Pn**	**16 36 52.8**	**-0.4**
	0.8nm,0.4s							
BVAR	**Borovoye Array**	**16.95**	**359**	P	**Pn**	**Pn**	**16 36 52.9**	**-0.6**
	0.2nm,0.3s,baz=166,slow=13,SNR=5.4							
AKTK	**Aktyubinsk**	**17.07**	**331**	P	**Pn**	**Pn**	**16 36 54.4**	**-0.6**
AKTO	**Aktyubinsk**	**17.07**	**331**	⇑P	**Pn**	**Pn**	**16 36 55.5**	**+0.5**
	0.1nm,0.8s							
AKTO	**Aktyubinsk**	**17.07**	**331**	P	**Pn**	**Pn**	**16 36 54.4**	**-0.6**
	0.5nm,0.3s,baz=150,slow=14,SNR=16							
ZAL	**Zalesovo**	**20.36**	**24**	P	**P**	**P**	**16 37 29.1**	**-2.3**
	2.6nm,0.4s,baz=232,slow=7.2,SNR=9.1							
ARCES	**ARCESS Array B**	**41.48**	**338**	P	**P**	**P**	**16 40 43.2**	**+2.8**
	1.0nm,0.7s,mb3.8,baz=110,slow=8.8,SNR=8.2							
NOA	**NORSAR Array B**	**44.62**	**323**	P	**P**	**P**	**16 41 07.0**	**+1.2**
	0.3nm,0.5s,mb3.3,baz=99,slow=7.8,SNR=3.0							
INK	**Inuvik**	**74.35**	**9**	P	**P**	**P**	**16 44 31.4**	**+1.1**
	0.7nm,0.5s,mb3.6,baz=12,slow=4.4,SNR=5.2							
YKA	**Yellowknife Ar**	**81.68**	**3**	P	**P**	**P**	**16 45 10.9**	**+0.1**
	0.1nm,0.4s,mb3.0,baz=349,slow=5.2,SNR=3.9							
WRA	**Warramunga Arr**	**81.91**	**122**	P	**P**	**P**	**16 45 13.1**	**+1.1**
	0.3nm,0.7s,mb3.3,baz=326,slow=4.7,SNR=4.3							

BJI 05 16:36:53.9, 4074N×12275E, h15km, ML3.8, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MDJ	**Mudanjiang**	**6.36**	**50**	PG	Pg	Pg	16 38 50.0	-5.6
MDJ				Smax				
	comp=N,140nm,0.9s							
MDJ				Smax				

Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.22**	**129**	*e*P	Pg	17 29 27.4	+0.8
PTCA				*e*S	Sg	17 29 30.4	+1.0
PTCA	28nm,0.2s						
PTCA	**Ponta do Capel**	**0.22**	**129**	*e*P	Pg	17 29 27.4	+0.8
PTCA				*e*S	Sg	17 29 30.4	+1.0
PCED	**Cedros**	**0.26**	**110**	*e*P	Pg	17 29 27.2	-0.2
PCED				*e*S	Sg	17 29 31.2	+0.4
PCED	59nm,0.2s						
PCED	**Cedros**	**0.26**	**110**	*e*P	Pg	17 29 27.2	-0.2
PCED				*e*S	Sg	17 29 31.2	+0.4
CALA	**Caldeira**	**0.28**	**120**	*e*S	Sg	17 29 32.0	+0.6
PICO	**Pico**	**0.51**	**115**	*e*P	Pg	17 29 31.6	-0.6
PICO				*e*S	Sg	17 29 38.8	0.0
ROSA	**Rosais**	**0.60**	**90**	*e*P	Pg	17 29 33.2	-0.8
ROSA				*e*S	Sg	17 29 41.0	-0.8

KRSC 05 17:48:18.6±3.7, 5355N×16856E, h17km±16km, ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.25**	**319**	*e*P	Pn	17 48 53.9	-1.1
BKI				*e*S	Sn	17 49 18.5	-3.7
BKI	330nm,0.6s			Smax			
MKZ	**Mys Kozlova**	**4.15**	**287**	*e*P	Pn	17 49 24.7	+3.6
KBTR	**Krutoberegovo**	**4.25**	**311**	*e*P	Pn	17 49 23.8	+1.2
KBTR				*e*S	Sn	17 50 14.5	+2.7
KBG	**Krutoberegovo**	**4.33**	**311**	*e*S	Sn	17 50 12.5	-1.2
SMKR	**Semkarok**	**5.08**	**310**	*e*P	Pn	17 49 35.6	+1.6
SMKR				*e*S	Sn	17 50 33.7	+1.4
ZLN	**Zelenaya**	**5.12**	**302**	*e*P	Pn	17 49 36.3	+1.8
SPN	**Mys Shipunski**	**5.14**	**268**	*e*P	Pn	17 49 36.5	+1.8
BDR	**Baidarnaya**	**5.20**	**309**	*e*P	Pn	17 49 38.8	+3.3
SRKR	**Sorokina**	**5.26**	**309**	*e*P	Pn	17 49 39.2	+2.8
KMNR	**Kamenistaya**	**5.31**	**298**	*e*P	Pn	17 49 38.6	+1.5
NLC	**Nalytchevo**	**5.53**	**270**	*i* P	Pn	17 49 42.3	+2.2
SDLR	**Sedlovina**	**5.79**	**271**	*e*P	Pn	17 49 46.4	+2.7
SDLR				*e*S	Sn	17 50 48.1	-1.7
SRDR	**Sredinnyy**	**5.80**	**302**	*e*P	Pn	17 49 45.6	+1.7
UGLR	**Uglovaya**	**5.84**	**271**	*e*P	Pn	17 49 46.8	+2.4
SMAR	**Somma**	**5.84**	**271**	*e*P	Pn	17 49 46.3	+1.9
AVH	**Avacha**	**5.88**	**271**	*e*P	Pn	17 49 48.0	+3.0
AVH				*e*S	Sn	17 50 49.9	-2.1
KOK	**Koryaka**	**5.94**	**271**	*e*P	Pn	17 49 47.7	+1.9
GNL	**Ganaly**	**6.32**	**276**	*i* P	Pn	17 49 52.0	+1.0
GNL				*e*S	Sn	17 51 02.4	-0.4

*ISCJB **05** 17:50:30.5±0.7, 1995S±008×1740W±0.1, h33km, mb3.9/6, Error ellipse: s-maj=17.8km s-min=9.4km az=53.5*
*IDC **05** 17:50:30.8±1.3, 2011S×17447W, h0km, mb3.8/4, mb1 4.2/6, mb1mx4.0/16, mbtmp4.0/6, ML3.5/2, MS2.9/1, Ms1 2.9/1, ms1mx2.7/16, Error ellipse: s-maj=56.0km s-min=22.2km az=135.0*
*NEIC **05** 17:50:35.0±0.7, 2026S×17407W, h35km, mb4.2/2, Error ellipse: s-maj=21.2km s-min=15.1km az=128.0*
ISC 05 17:50:35.0±0.7, 203S±01×1741W±01, h35km, n15, σ1°24/15, mb3.9/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.72**	**19**	Pn	**Pn**	**17 52 11.3**	**+0.2**
AFI	7.5nm,0.3s,baz=64,slow=1.3,SNR=15			Sn	**Sn**	**17 53 17.9**	**-8.6**
AFI	18nm,0.3s,baz=28,slow=21,SNR=8.9			LR	LR	17 53 50.3	
AFI	comp=Z,87nm,18.6s,baz=105,slow=30 **Afiamalu**	**6.72**	**19**	*e*Pn	**Pn**	**17 52 10.9**	**-0.3**
AFI				Pn	**Pn**	**17 52 11.3**	**+0.1**
AFI				Sn	**Sn**	**17 53 17.9**	**-8.6**
AFI				LR	LR	17 53 50.3	
RAR	**Rarotonga**	**13.39**	**96**	Pn	**Pn**	**17 53 40.6**	**-1.8**
RAR	1.0nm,0.3s,baz=294,slow=18,SNR=2.5			Sn	**Sn**	**17 55 53.7**	**-16**
URZ	3.2nm,0.3s,baz=96,slow=13,SNR=5.1 **Urewera**	**19.46**	**201**	P	**Pn**	**17 55 00.1**	**+0.1**
ASAR	0.9nm,0.3s,baz=284,slow=4.2,SNR=5.8 **Alice Springs**	**48.17**	**256**	P	**P**	**17 59 10.8**	**-1.0**
WRA	1.3nm,0.9s,mb4.0,baz=97,slow=7.5,SNR=16 **Warramunga Arr**	**48.29**	**261**	P	**P**	**17 59 11.2**	**-1.5**
VNDA	0.7nm,0.7s,mb3.8,baz=95,slow=7.7,SNR=17 **Vanda**	**58.46**	**186**	P	**P**	**18 00 28.6**	**+1.2**
QSPA	1.9nm,1.1s,mb4.0 **South Pole Qui**	**69.77**	**180**	P	**P**	**18 01 42.6**	**+1.0**
NVAR	2.1nm,0.8s,mb4.1 **Mina Array Bea**	**78.38**	**42**	P	**P**	**18 02 34.1**	**+2.3**
MCMT	0.8nm,0.6s,mb3.8,baz=214,slow=8.2,SNR=4.8 **McKenzie Canyo**	**85.45**	**39**	*e*P	**P**	**18 03 02.6**	**-6.4**
ILAR	**Eielson Array**	**87.35**	**11**	P	**P**	**18 03 18.9**	**+0.5**
AKASG	0.5nm,0.6s,mb3.9,baz=215,slow=5.4,SNR=5.7 **Malin Array Be**	**144.54**	**334**	PKP	PKPdf	18 10 06.2	-1.5
CLL	1.1nm,0.5s,baz=44,slow=4.4,SNR=6.5 **Collm**	**148.57**	**352**	*e*PKPbc	PKPbc	18 10 19.0	+0.8
BRTR	**Keskin Array B**	**149.38**	**315**	PKPbc	PKPbc	18 10 20.6	+0.4
GERES	0.7nm,0.7s,baz=104,slow=3.5,SNR=5.2 **GERESS Array B**	**150.85**	**349**	PKPbc	PKPbc	18 10 24.7	+0.9
	0.2nm,0.3s,baz=52,slow=2.4,SNR=5.3						

*ISCJB **05** 17:58:38.2±1.0, 4310N±006×107W±004, h14km±9km, Error ellipse: s-maj=9.3km s-min=4.4km az=14.8*
*MDD **05** 17:58:39.5±0.4, 4311N×108W, h6km±6km, mbLg0.8/6, Error ellipse: s-maj=2.3km s-min=1.5km az=7.0, PRXIMO*
*LDG **05** 17:58:39.1±0.1, 4308N×109W, h2km, Md1.9/3, Ml1.4/1, Error ellipse: s-maj=2.3km s-min=1.0km az=20.0*
*STR **05** 17:58:39.3±0.1, 4310N×109W, h2km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 05 17:58:38.9±0.9, 4309N±005×108W±004, h10km±10km, n19, σ0°32/30, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LARF	**Larrau**	**0.09**	**127**	Pg	**Pg**	**17 58 41.2**	**0.0**
LARF				Lg		17 58 43.0	
SJPF	**Ste Jean**	**0.11**	**282**	*e*Pg	**Pg**	**17 58 41.5**	**-0.1**
SJPF				*e*Sg	**Sg**	**17 58 43.1**	**-0.4**
SJPF	64nm,0.3s **Ste Jean**	**0.11**	**282**	Pg	**Pg**	**17 58 41.5**	**-0.1**
SJPF				Lg		17 58 43.1	
ORDF	32nm,0.3s **Ordiarp**	**0.16**	**41**	Pg	**Pg**	**17 58 42.4**	**0.0**
ORDF				Sg	**Sg**	**17 58 44.9**	**0.0**
ORDF	**Ordiarp**	**0.16**	**41**	Pg	**Pg**	**17 58 42.5**	**0.0**
ORDF				Lg		17 58 44.9	
OSSF	**Osses**	**0.21**	**321**	Pg	**Pg**	**17 58 43.3**	**0.0**
OSSF				Sg	**Sg**	**17 58 46.1**	**-0.1**
OSSF	**Osses**	**0.21**	**321**	Pg	**Pg**	**17 58 43.4**	**+0.1**
OSSF				Lg		17 58 46.1	
ATE	**Arette**	**0.28**	**91**	Pg	**Pg**	**17 58 44.6**	**+0.1**
ATE				Sg	**Sg**	**17 58 49.1**	**+0.8**
ATE	**Arette**	**0.28**	**91**	Pg	**Pg**	**17 58 44.7**	**+0.2**
ATE				Lg		17 58 49.0	
ELIZ	**Elizondo**	**0.34**	**283**	Pg	**Pg**	**17 58 45.6**	**0.0**
ELIZ	0.4nm,0.2s,SNR=4.0			Lg		17 58 50.1	
EALK	1.8nm,0.2s,SNR=7.4 **Alkurruntz**	**0.34**	**293**	Pg	**Pg**	**17 58 45.9**	**+0.3**
EALK	0.1nm,0.0s,SNR=4.0			Lg		17 58 50.3	
IPRE	1.3nm,0.1s,SNR=5.8 **Itoiz**	**0.35**	**215**	Pg	**Pg**	**17 58 45.8**	**0.0**
IPRE	0.6nm,0.1s,SNR=7.9			Lg		17 58 51.7	
IUSE	0.9nm,0.2s,SNR=7.9 **Utxeti**	**0.37**	**247**	Pg	**Pg**	**17 58 46.7**	**+0.5**
IUSE	1.6nm,0.1s,SNR=7.9			Lg		17 58 51.8	
ETSF	2.0nm,0.1s,SNR=7.9 **Etsaut**	**0.43**	**116**	*e*Pg	**Pg**	**17 58 47.1**	**-0.2**
ETSF				*e*Sg	**Sg**	**17 58 53.1**	**+0.2**
ETSF	2.5nm,0.2s **Etsaut**	**0.43**	**116**	Pg	**Pg**	**17 58 47.1**	**-0.2**
ETSF				Lg		17 58 53.1	
IUNC	1.2nm,0.2s **Unciti**	**0.45**	**223**	Lg		17 58 55.3	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	1.5nm,0.1s,SNR=4.0						
EBIE	**Bielsa**	**0.99**	**114**	Pg	**Pg**	**17 58 57.2**	**-0.6**
EBIE	0.1nm,0.1s,SNR=4.0			Lg		17 59 11.7	
EPF	0.3nm,0.2s,SNR=7.9 **Esparros**	**1.04**	**93**	*e*Pg	**Pg**	**17 58 58.6**	**-0.3**
EPF				*e*Sg	**Sg**	**17 59 12.2**	**-0.3**
EPF	0.8nm,0.2s **Esparros**	**1.04**	**93**	Pg	**Pg**	**17 58 58.6**	**-0.3**
EPF	0.4nm,0.2s			Lg		17 59 12.2	

IDC 05 18:24:20.1±1.9, 713S×12938E, h0km, mb3.6/2, mb1 4.1/5, mb1mx3.8/14, mbtmp3.9/5, ML3.9/2, Error ellipse: s-maj=84.3km s-min=26.6km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.50**	**198**	Pn	Pn	18 27 06.2	+0.6
	0.4nm,0.3s,baz=29,slow=17,SNR=41						
FITZ				Sn	Sn	18 29 02.9	-12
	2.3nm,0.3s,baz=262,slow=23,SNR=9.6						
WRA	**Warramunga Arr**	**13.61**	**160**	Pn	Pn	18 27 34.4	-0.1
	1.9nm,0.3s,baz=336,slow=15,SNR=55						
WRA				Sn	Sn	18 29 56.1	-10
	1.5nm,0.3s,baz=326,slow=23,SNR=12						
ASAR	**Alice Springs**	**17.01**	**166**	P	Pn	18 28 19.4	0.0
	0.8nm,0.3s,baz=341,slow=11,SNR=68						
ASAR				S	Sn	18 31 20.2	-8.8
	0.5nm,0.3s,baz=346,slow=26,SNR=8.3						
STKA	**Stephens Creek**	**27.13**	**157**	P	P	18 30 05.0	+0.2
	2.0nm,0.9s,baz=319,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**68.00**	**327**	P	P	18 35 21.2	+0.2
	0.1nm,0.4s,baz=130,slow=7.2,SNR=4.1						

IDC 05 18:26:37.9±5.6, 2099S×17301W, h0km, mb3.9/5, mb1 4.1/7, mb1mx3.9/19, mbtmp4.0/7, ML3.2/2, MS3.9/1, Ms1 3.9/1, ms1mx2.8/21, Error ellipse: s-maj=140.4km s-min=35.8km az=124.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.14**	**10**	Pn	Pn	18 28 23.6	0.0
	4.6nm,0.3s,baz=174,slow=5.8,SNR=9.6						
RAO	**Raoul Island**	**9.35**	**207**	LR	LR	18 31 49.9	
	comp=Z,605nm,18.6s,baz=319,slow=33						
DZM	**Mont Dzumac**	**19.15**	**263**	P	Pn	18 31 03.4	-0.1
	0.3nm,0.3s,baz=69,slow=21,SNR=5.8						
CTA	**Charters Tower**	**38.09**	**264**	P	P	18 33 58.1	-0.2
	3.2nm,0.6s,baz=91,slow=13,SNR=3.5						
STKA	**Stephens Creek**	**41.81**	**245**	P	P	18 34 28.8	-0.5
	1.2nm,0.7s,baz=96,slow=9.1,SNR=3.8						
ASAR	**Alice Springs**	**48.95**	**256**	P	P	18 35 26.3	+0.4
	0.7nm,0.6s,baz=97,slow=8.1,SNR=7.9						
WRA	**Warramunga Arr**	**49.15**	**261**	P	P	18 35 26.9	-0.5
	0.6nm,0.5s,baz=97,slow=6.2,SNR=5.3						
FITZ	**Fitzroy Crossi**	**57.58**	**261**	P	P	18 36 31.3	+1.9
	1.8nm,0.9s,baz=80,slow=12,SNR=3.5						

*ISCJB **05** 18:52:40.2±0.7, 3823N±003×2680E±004, h6km±5km, Error ellipse: s-maj=5.0km s-min=4.4km az=100.9*
*ISK **05** 18:52:40.3, 3827N×2682E, h16km, MD2.8*
*CSEM **05** 18:52:40.3±0.1, 3826N×2685E, h12km, MD2.8, Error ellipse: s-maj=2.7km s-min=1.8km az=100.0*
*ATH **05** 18:52:41.0, 3821N×2670E, h25km±2km, MD3.1/3*
ISC 05 18:52:40.9±0.5, 3825N±002×2681E±004, h11km±4km, n17, σ0°48/30, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.20**	**304**	*i* P	**Pg**	**18 52 44.8**	**-0.4**
URLA				*i* S	**Sg**	**18 52 48.2**	**+0.2**
IZM	**Izmir**	**0.39**	**67**	PG	**Pg**	**18 52 48.3**	**-0.2**
IZM				SG	**Sg**	**18 52 54.2**	**+0.5**
KDAG	**Bornova**	**0.39**	**67**	*i* P	**Pg**	**18 52 48.5**	**-0.2**
KDAG				*i* S	**Sg**	**18 52 53.8**	**-0.1**
SMG	**Samos**	**0.54**	**177**	*e*PN	**Pg**	**18 52 51.3**	**-0.1**
SMG				*e*SN	**Sg**	**18 52 59.5**	**+1.0**
AKS	**Akhisar**	**1.01**	**51**	*e*PG	**Pg**	**18 52 59.5**	**-0.8**
AKS				*e*SG	**Sg**	**18 53 14.1**	**+0.7**
AYDN	**Tasoluk**	**1.03**	**124**	*i* P	**Pb**	**18 53 00.4**	**-0.3**
AYDN				*i* S	**Sg**	**18 53 14.2**	**0.0**
AYVA	**Ayvalik**	**1.06**	**355**	*i* P	**Pb**	**18 53 00.5**	**-0.8**
AYVA				*i* S	**Sb**	**18 53 15.8**	**+0.7**
PRK	**Paraskevi**	**1.08**	**337**	*e*PN	**Pn**	**18 53 01.7**	**-0.2**
PRK				*e*SN	**Sn**	**18 53 17.2**	**+0.3**
MLSB	**Milas**	**1.22**	**141**	*e*PN	**Pn**	**18 53 03.4**	**-0.5**
BODT	**Bodrum**	**1.25**	**161**	*e*PN	**Pn**	**18 53 04.0**	**-0.2**
BDRM	**Kayabasi**	**1.28**	**157**	*i* P	**Pn**	**18 53 04.7**	**0.0**
BDRM				*i* S	**Sb**	**18 53 21.6**	**+0.1**
BDRM	**Kayabasi**	**1.28**	**157**	*i* P	**Pn**	**18 53 04.7**	**0.0**
BDRM				*i* S	**Sb**	**18 53 21.6**	**+0.1**
MANT	**Manisa**	**1.40**	**79**	*i* P	**Pn**	**18 53 07.0**	**+0.8**
MANT				*i* S	**Sn**	**18 53 24.5**	**-0.2**
APE	**Apeiranthos**	**1.55**	**221**	*e*PN	**Pn**	**18 53 08.2**	**-0.2**
DAT	**Datca**	**1.64**	**158**	*e*PN	**Pn**	**18 53 09.8**	**+0.2**
ULDT	**Uludag**	**2.62**	**43**	*i* P	**Pb**	**18 53 28.6**	**+0.9**
ULDT				*i* S	**Sb**	**18 53 59.5**	**-0.4**
TKTP	**Tekketepe**	**2.78**	**93**	*i* P	**Pg**	**18 53 33.5**	**-0.6**
TKTP				*i* S	**Sg**	**18 54 17.8**	**+7.7**

*ISCJB **05** 18:55:44.3±1.1, 128S±01×764W±01, h69km±10km, mb3.6/6, Error ellipse: s-maj=26.3km s-min=11.1km az=89.1*
*NEIC **05** 18:55:45.5±1.3, 1280S×7639W, h61km±12km, mb4.1/1, Error ellipse: s-maj=21.8km s-min=10.7km az=48.0*
NEIC Felt [III] at San Vicente de Canete.
*IDC **05** 18:55:49.1±4.8, 1276S×7625W, h91km±45km, mb3.3/6, mb1 3.6/8, mb1mx3.5/18, mbtmp3.7/8, MS3.2/1, Ms1 3.1/1, ms1mx2.4/10, Error ellipse: s-maj=50.6km s-min=27.9km az=54.0*
ISC 05 18:55:46.0±1.1, 128S±01×764W±01, h63km±10km, n15, σ1°14/13, mb3.8/6, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**0.88**	**330**	*e*P	**Pn**	**18 56 02.6**	**0.0**
NNA				*e*S	**Sn**	**18 56 14.7**	**-0.2**
LPAZ	**La Paz**	**8.74**	**115**	P	**Pn**	**18 57 51.9**	**+2.3**
	2.3nm,0.3s,baz=309,slow=13,SNR=45						
LPAZ	**La Paz**	**8.74**	**115**	*e*P	**Pn**	**18 57 50.4**	**+0.8**
SAML	**Samuel**	**13.51**	**75**	*e*P	**Pn**	**18 58 52.9**	**-1.8**
	6.4nm,0.6s						
SIV	**San Ignacio**	**15.19**	**104**	P	**Pn**	**18 59 17.4**	**+0.8**
	0.3nm,0.3s,baz=245,slow=17,SNR=5.4						
CFAA	**Coronel Fontan**	**20.20**	**159**	P	**P**	**19 00 15.7**	**+0.1**
	0.6nm,0.6s,baz=333,slow=12,SNR=3.2						
BDFB	**Brasilia**	**27.65**	**99**	LR	LR	19 13 23.2	
	comp=Z,55nm,21.8s,baz=114,slow=38						
PLCA	**Paso Flores**	**28.34**	**171**	*e*P	**P**	**19 01 31.2**	**-2.7**
	3.9nm,0.8s,mb4.1						
PDAR	**Pinedale Array**	**63.06**	**333**	P	**P**	**19 06 07.2**	**+0.6**
	0.3nm,0.5s,mb3.7,baz=143,slow=10.0,SNR=3.6						
NVAR	**Mina Array Bea**	**64.25**	**324**	P	**P**	**19 06 16.4**	**+1.9**
	0.2nm,0.4s,mb3.5,baz=143,slow=7.7,SNR=2.5						
ULM	**Lac du Bonnet**	**65.02**	**346**	P	**P**	**19 06 18.9**	**-0.6**
	2.1nm,0.4s,mb4.5,baz=153,slow=3.9,SNR=4.5						
YKA	**Yellowknife Ar**	**80.70**	**343**	P	**P**	**19 07 51.6**	**-0.7**
	0.1nm,0.4s,mb3.1,baz=140,slow=5.4,SNR=7.7						
TORD	**Torodi Ar. Bea**	**81.57**	**74**	P	**P**	**19 07 57.1**	**+0.3**
	0.6nm,0.7s,mb3.6,baz=253,slow=4.6,SNR=4.1						
WRA	**Warramunga Arr**	**135.61**	**223**	PKP	PKPdf	19 14 59.8	+0.7
	0.5nm,1.0s,baz=124,slow=2.0,SNR=6.2						
SONM	**Songino Array**	**144.95**	**357**	PKP	PKPdf	19 15 15.6	-0.4
	3.7nm,0.7s,baz=329,slow=2.8,SNR=18						

*NEIC **05** 18:56:43.1, 27.16S×7120W, h20km, ML3.3(GUC), After GUC.*
GUC 05 18:56:43.1±0.6, 2716S×7120W, h20km±11km, MD3.5, ML3.3, 2C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.34**	**76**	⇓*i* P	Pg	18 56 50.5	0.0
CDCH				*i* S	Sg	18 56 55.5	+0.1
CPCH	**Copiapo**	**0.78**	**105**	⇑*i* P	Pb	18 56 58.5	+0.6
CPCH				*i* S	Sb	18 57 09.8	+1.6
CPCH				AML	AML	18 57 11.7	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=E,7μm,0.1s						
CPCH	**Copiapo**	**0.78**	**105**	⇑*i* P	Pb	18 56 58.5	+0.6
CPCH				*i* S	Sb	18 57 09.8	+1.6
CRCH	**Chaqaral**	**0.96**	**33**	*i* P	Pb	18 57 00.2	-0.9
CRCH				*i* S	Sb	18 57 12.9	-0.4
CRCH				AML	AML	18 57 15.6	
	comp=N,522nm,0.3s						
CRCH	**Chaqaral**	**0.96**	**33**	*i* P	Pb	18 57 00.2	-0.9
CRCH				*i* S	Sb	18 57 12.9	-0.4
TLL	**Tololo Astrono**	**3.02**	**174**	*e*P	Pn	18 57 31.6	+1.8
TLL				*i* S	Sn	18 58 08.4	+3.0
TLL				AML	AML	18 58 25.6	
	comp=N,93nm,0.7s						
TLL	**Tololo Astrono**	**3.02**	**174**	*e*P	Pn	18 57 31.6	+1.8
TLL				*i* S	Sn	18 58 08.4	+3.0

JMA 05 19:21:12.2±0.1, 4314N×14610E, h75km±1km, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.34**	**311**	P	Pn	19 21 24.3	+0.1
NEM2				S	Sn	19 21 33.1	+0.1
JAK	**Akkeshi**	**1.04**	**263**	P	Pn	19 21 31.5	+0.1
JAK				*e*S	Sn	19 21 45.9	+0.2
JRA	**Rausu**	**1.07**	**319**	P	Pn	19 21 31.8	0.0
JRA				*e*S	Sn	19 21 46.8	+0.4
JNK	**Nakash**	**1.10**	**294**	P	Pn	19 21 31.9	-0.3
JNK				*e*S	Sn	19 21 46.6	-0.5
JOB	**Onbets**	**1.68**	**263**	P	Pn	19 21 40.0	+0.4
JOB				*e*S	Sn	19 22 00.5	+0.1
JAR	**Ashorobuto**	**1.71**	**276**	P	Pn	19 21 40.6	+0.5
JAR				*e*S	Sn	19 22 01.7	+0.5
JTKR	**Abashiri--Toko**	**1.80**	**298**	P	Pn	19 21 41.8	+0.6
JTKR				*e*S	Sn	19 22 04.2	+0.9
JCH	**Churui**	**2.08**	**256**	P	Pn	19 21 45.0	0.0
JCH				*e*S	Sn	19 22 09.3	-0.7
JMP	**Maruseppu**	**2.17**	**294**	P	Pn	19 21 46.9	+0.7
JMP				*e*S	Sn	19 22 13.3	+1.1

*ISCJB **05** 19:33:40.6±1.6, 605S±01×1279E±03, h383km±20km, mb3.3/2, Error ellipse: s-maj=43.1km s-min=13.6km az=146.7*
*NEIC **05** 19:33:43.6±2.3, 6005S×12803E, h402km±31km, mb4.5/2, Error ellipse: s-maj=36.1km s-min=17.8km az=89.0*
*IDC **05** 19:33:44.4±3.0, 6015S×12824E, h412km±36km, mb3.0/2, mb1 3.1/5, mb1mx2.9/14, mbtmp3.8/5, Error ellipse: s-maj=47.6km s-min=12.4km az=75.0*
ISC 05 19:33:44.4±1.7, 605S±01×1281E±03, h411km±21km, n8, σ0°55/10, mb3.3/2, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.90**	**148**	⇑*i* P	**P**	**19 35 38.2**	**-0.1**
	58nm,0.6s						
FITZ	**Fitzroy Crossi**	**12.24**	**191**	P	**P**	**19 36 25.6**	**-0.7**
	0.1nm,0.3s,baz=339,slow=17,SNR=3.7						
WRAB	**Tennant Creek**	**15.10**	**157**	*e*P	**P**	**19 36 57.7**	**+0.3**
	4.1nm,0.6s						
WRA	**Warramunga Arr**	**15.10**	**157**	P	**P**	**19 36 57.2**	**-0.3**
	0.6nm,0.3s,baz=336,slow=11,SNR=50						
WRA				S	**S**	**19 39 36.5**	**-0.8**
	0.2nm,0.3s,baz=340,slow=21,SNR=3.4						
WB2	**Warramunga Arr**	**15.11**	**157**	*e*P	**P**	**19 36 58.4**	**+0.9**
ASAR	**Alice Springs**	**18.41**	**163**	P	**P**	**19 37 33.2**	**+0.6**
	0.4nm,0.3s,baz=344,slow=12,SNR=27						
ASAR				S	**S**	**19 40 41.2**	**+0.3**
	0.1nm,0.3s,baz=343,slow=18,SNR=7.6						
MJAR	**Matsushiro Arr**	**43.39**	**12**	P	**P**	**19 41 07.9**	**-0.6**
	0.5nm,0.4s,mb3.2,baz=188,slow=8.4,SNR=5.3						
MKAR	**Makanchi Array**	**66.39**	**327**	P	**P**	**19 43 51.2**	**+0.3**
	0.4nm,0.4s,mb3.4,baz=120,slow=8.1,SNR=13						

MAN 05 19:42:42.6, 1713N×12148E, h8km, mb2.7, ML4.2, MS1.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.38**	**119**	*e*P	Pg	19 42 59.9	+10
APYP	**Conner**	**0.76**	**343**	*e*P	Pg	19 43 04.9	+7.5
ABRA	**Dolores**	**0.90**	**305**	*e*P	Pg	19 43 12.1	+12
PALP	**Palanan**	**0.90**	**94**	⇑*e*P	Pg	19 42 52.3	-7.8
PALP				*i* S	Sg	19 43 00.2	-12
PALP	**Palanan**	**0.90**	**94**	*e*P	Pg	19 42 52.2	-7.8
PALP				*e*S	Sg	19 42 59.7	-12
BALP	**Baler**	**1.38**	**176**	*e*P	Pn	19 43 14.7	+6.5

*ISCJB **05** 19:50:27.4±0.3, 4629N±002×1260E±002, h7km, Error ellipse: s-maj=2.8km s-min=1.9km az=35.3*
*ROM **05** 19:50:27.5±0.1, 4631N×1264E, h5km, Md2.4/6, Ml1.7/4, Error ellipse: s-maj=2.1km s-min=1.4km az=7.0*
*VIE **05** 19:50:27.5±0.2, 4629N×1264E, h7km, mb1.4/3, ML1.9/7, Error ellipse: s-maj=2.2km s-min=0.8km az=22.0 18 km SW of Ampezzo*
*LJU **05** 19:50:38.8, 4621N×1354E, h0km, ML0.4*
ISC 05 19:50:27.7±0.6, 4626N±002×1261E±002, h14km±6km, n30, σ0°78/55, 13C-13D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLNI	**Malnisio**	**0.11**	**181**	⇓*i* Pg	**Pg**	**19 50 30.6**	**-0.4**
MLNI				*i* Sg	**Sg**	**19 50 32.9**	**-0.6**
CSO	**Casso**	**0.20**	**274**	⇓*i* Pg	**Pg**	**19 50 31.5**	**-0.8**
CSO				*i* Sg	**Sg**	**19 50 34.5**	**-1.0**
MPRI	**Monte Prat**	**0.26**	**94**	⇑*i* Pg	**Pg**	**19 50 33.4**	**0.0**
MPRI				*i* Sg	**Sg**	**19 50 37.8**	**+0.6**
CAE	**Caneva**	**0.28**	**206**	⇑*i* Pg	**Pg**	**19 50 33.5**	**-0.1**
CAE				*i* Sg	**Sg**	**19 50 38.5**	**+0.8**
BOO	**Bordano**	**0.34**	**80**	⇓*i* Pg	**Pg**	**19 50 34.2**	**-0.6**
BOO				*i* Sg	**S

SQTA	**Sankt Quirin**	**1.36**	**315**	⇓*i*Pg		**Pg**		**19 50 53.7**	**-0.3**
SQTA				⇑*i*Sg		**Sg**		**19 51 12.6**	**+0.9**
	comp=Z,5.8nm,0.4s								
OBKA	**Obir**	**1.36**	**79**	⇓*i*Pg		**Pg**		**19 50 52.8**	**-1.1**
OBKA				⇓*i*Sg		**Sg**		**19 51 12.1**	**+0.3**
	comp=Z,5.8nm,0.3s								
MOTA	**Moosalm**	**1.50**	**317**	⇓*i*Pg		**Pg**		**19 50 56.3**	**-0.3**
MOTA				⇑*i*Sg		**Sg**		**19 51 17.5**	**+1.4**
	comp=Z,3.0nm,0.3s								
MOA	**Molln**	**1.95**	**35**	⇓*i*Pg		**Pg**		**19 51 04.3**	**-0.9**
MOA				⇑*i*Sg		**Sg**		**19 51 30.8**	**+0.3**
	comp=Z,1.5nm,0.3s								
DAVA	**Damuels**	**2.14**	**300**	⇑*i*Pg		**Pg**		**19 51 08.8**	**0.0**
DAVA				⇑*i*Sg		**Sg**		**19 51 37.5**	**+1.0**
	comp=Z,4.5nm,0.4s								

OTT 05 20:02:16.7±0.1, 6292N×8526W, h18km, MN3.1/3, 171km southwest from Coral Harbour, Nu Boothia Ungava Seisimic Zone., Hudson Bay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YRTN	**Rankin Inlet**	**3.14**	**271**	PN	Pn	20 03 05.3	0.0
YRTN				SN	Sn	20 03 40.0	-2.3
YRTN				LG		20 03 52.5	
YRTN				Trac		20 03 53.8	
	comp=Z,62nm,0.2s						
QILN	**Qililugaq Expl**	**3.78**	**353**	PN	Pn	20 03 13.6	-0.5
QILN				SN	Sn	20 03 56.2	-1.9
QILN				LG		20 04 13.5	
QILN				Trac		20 04 15.5	
	comp=Z,33nm,0.2s						
FCC	**Fort Churchill**	**6.00**	**230**	PN	Pn	20 03 43.8	-0.7
FCC				SN	Sn	20 04 49.6	-3.2
FCC				LG		20 05 22.6	
FCC				Trac		20 05 26.2	
	comp=Z,6.7nm,0.2s						
ILON	**Igloolik, Nuna**	**6.63**	**11**	PN	Pn	20 03 52.0	-1.2
ILON				SN	Sn	20 05 03.4	-4.8
ILON				LG		20 05 41.4	
ILON				Trac		20 05 48.8	
	comp=Z,15nm,0.3s						
GIFN	**Gifford Fjord,**	**7.25**	**10**	PN	Pn	20 04 00.3	-1.4
GIFN				SN	Sn	20 05 19.1	-4.6
GIFN				LG		20 06 00.7	
GIFN				Trac		20 06 03.0	
	comp=Z,14nm,0.3s						
SILO	**Sutton Inlier**	**8.47**	**179**	PN	Pn	20 04 16.6	-1.8
SILO				SN	Sn	20 05 47.5	-6.0
KUQ	**Kuujjuuaa**	**9.59**	**113**	PN	Pn	20 04 33.1	-0.7
KUQ				SN	Sn	20 06 12.6	-8.4
KUQ				LG		20 07 12.6	
KUQ				Trac		20 07 19.0	
	comp=Z,5.7nm,0.3s						
VIMO	**Victor Mine**	**10.16**	**175**	PN	Pn	20 04 40.5	-1.2
VIMO				SN	Sn	20 06 27.2	-7.9
PINU	**Pond Inlet**	**10.19**	**12**	PN	Pn	20 04 41.7	-0.3
PINU				SN	Sn	20 06 26.7	-9.1
PINU				LG		20 07 30.8	
WEMQ	**Wemindji, Queb**	**10.61**	**155**	PN	Pn	20 04 45.8	-2.0
WEMQ				SN	Sn	20 06 37.2	-8.9
YOSQ	**Ashton Mining**	**12.21**	**140**	PN	Pn	20 05 07.3	-2.4
YOSQ				SN	Sn	20 07 14.1	-11
YOSQ				LG		20 08 37.9	
RES	**Resolute Bay**	**12.30**	**348**	PN	Pn	20 05 07.8	-3.1
RES				SN	Sn	20 07 17.1	-10
RES				LG		20 08 37.6	
SCHQ	**Schefferville**	**12.47**	**122**	PN	Pn	20 05 08.4	-4.8
SCHQ				SN	Sn	20 07 23.5	-8.1

*STR **05** 20:15:10.7±0.0, 4300N×003W, h2km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **05** 20:15:10.6±0.1, 4300N×002W, h2km, Md1.7/3, Ml1.4/2, Error ellipse: s-maj=2.0km s-min=1.0km az=169.0*
MDD 05 20:15:10.9±0.3, 4300N×003W, h0km, mbLg0.6/2, Error ellipse: s-maj=2.9km s-min=2.1km az=156.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.09**	**56**	Pg	Pg	20 15 12.7	0.0
LABF				Sg	Sg	20 15 14.2	+0.4
LABF	**Labassere**	**0.09**	**56**	Pg	Pg	20 15 12.7	0.0
LABF				Lg		20 15 14.2	
VIEF	**Viey**	**0.12**	**161**	Pg	Pg	20 15 13.3	+0.1
VIEF				Sg	Sg	20 15 15.3	+0.5
VIEF	**Viey**	**0.12**	**161**	Pg	Pg	20 15 13.4	+0.1
VIEF				Lg		20 15 15.3	
EPF	**Esparros**	**0.27**	**83**	*e*Pg	Pg	20 15 15.5	-0.7
EPF				*e*Sg	Sg	20 15 19.6	-0.1
	6.4nm,0.2s						
EPF	**Esparros**	**0.27**	**83**	Pg	Pg	20 15 15.5	-0.7
EPF				Lg		20 15 19.6	
	3.2nm,0.2s						
EBIE	**Bielsa**	**0.34**	**158**	Pg	Pg	20 15 16.9	-0.5
	0.2nm,0.1s,SNR=7.9						
EBIE				Lg		20 15 21.4	
	0.4nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.40**	**256**	*e*Pg	Pg	20 15 18.3	-0.3
ETSF				*e*Sg	Sg	20 15 23.7	-0.2
	3.8nm,0.2s						
ETSF	**Etsaut**	**0.40**	**256**	Pg	Pg	20 15 18.3	-0.3
ETSF				Lg		20 15 23.7	
	1.9nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**278**	*e*Pg	Pg	20 15 27.3	-0.6
SJPF				*e*Sg	Sg	20 15 39.0	-0.4
	0.9nm,0.3s						
SJPF	**Ste Jean**	**0.89**	**278**	Pg	Pg	20 15 27.3	-0.6
SJPF				Lg		20 15 39.0	
	0.4nm,0.3s						
MTLF	**Montolieu**	**1.68**	**77**	*e*Pg	Pg	20 15 41.7	-1.4
MTLF				*e*Sg	Sg	20 16 03.3	-1.6
	0.8nm,0.3s						
MTLF	**Montolieu**	**1.68**	**77**	Pg	Pg	20 15 41.7	-1.4
MTLF				Lg		20 16 03.3	
	0.4nm,0.3s						

*IDC **05** 20:30:60.0±0.5, 2261S×1264W, h0km, mb4.3/20, mb1 4.3/20, mb1mx4.3/23, mbtmp4.3/20, MS3.9/18, Ms1 3.9/18, ms1mx3.8/28, Error ellipse: s-maj=19.0km s-min=12.1km az=166.0*
*ISCJB **05** 20:31:00.3±0.3, 2257S±0.006×1264W±0.007, h10km, mb4.5/51, MS4.0/20, Error ellipse: s-maj=9.6km s-min=7.3km az=68.5*
*MOS **05** 20:31:01.7±0.7, 2257S×1266W, h20km, mb4.8/20, Error ellipse: s-maj=16.5km s-min=7.4km az=72.9*
*NEIC **05** 20:31:01.7±0.2, 2265S×1262W, h10km, mb4.7/27, Error ellipse: s-maj=7.4km s-min=5.6km az=143.0*
*SZGRF **05** 20:31:01.1, 2350S×1150W, h33km, mb4.8, Southern Mid-Atlantic Ridge*
ISC 05 20:31:02.2±0.3, 2258S±0.006×1261W±0.007, h10km, n140, σ0.966/125, mb4.5/51, MS4.0/20, 2C-6D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSUM	**Tsumeb**	**28.39**	**89**	P	**P**	**20 36 57.4**	**+0.8**
	4.8nm,1.0s,mb4.1,baz=248,slow=8.6,SNR=6.7						
TSUM				LR	LR	20 45 45.2	
	comp=Z,247nm,19.9s,MS3.8,baz=256,slow=31						
SUR	**Sutherland**	**31.11**	**116**	LR	LR	20 46 11.5	
	comp=Z,293nm,20.5s,MS3.9,baz=294,slow=29						
BDFB	**Brasilia**	**34.10**	**275**	P	**P**	**20 37 46.8**	**-0.1**
	9.4nm,0.9s,mb4.7,baz=108,slow=6.1,SNR=9.6						
LBTB	**Lobatse**	**34.97**	**102**	P	**P**	**20 37 54.2**	**-0.2**
	3.0nm,0.6s,mb4.4,baz=287,slow=12,SNR=6.9						
TORD	**Torodi Ar. Bea**	**38.17**	**23**	P	**P**	**20 38 22.1**	**+0.3**
	12nm,0.8s,mb4.7,baz=199,slow=8.7,SNR=61						
MATP	**Matopo**	**38.23**	**95**	P	**P**	**20 38 20.8**	**-1.4**
	4.8nm,0.9s,mb4.2,baz=235,slow=9.4,SNR=5.6						
LSZ	**Lusaka**	**39.17**	**87**	P	**P**	**20 38 30.6**	**+0.4**
	7.8nm,0.9s,mb4.5,baz=254,slow=8.1,SNR=18						
CPUP	**Villa Florida**	**40.73**	**255**	P	**P**	**20 38 43.2**	**+0.1**
	2.5nm,0.6s,mb4.0,baz=95,slow=6.8,SNR=8.5						
TRQA	**Tornquist**	**44.81**	**238**	*e*P	**P**	**20 39 15.9**	**-0.3**
	19nm,0.8s,mb5.0						
SIV	**San Ignacio**	**46.05**	**269**	P	**P**	**20 39 26.2**	**+0.1**
	3.4nm,0.9s,mb4.3,baz=95,slow=13,SNR=16						
VNA2	**Neumayer--Watz**	**48.46**	**178**	*e*	**P**	**20 39 44.8**	**0.0**
	baz=345,slow=8.2						
VNA2				*e*		20 39 59.4	
VNA3	**Neumayer Olymp**	**48.71**	**179**	*e*	**P**	**20 39 47.2**	**+0.4**
VNA3				*e*		20 40 02.0	
SNAA	**Sanae**	**49.43**	**176**	P	**P**	**20 39 50.6**	**-1.7**
	0.8nm,0.9s,mb3.8,baz=346,slow=6.4,SNR=4.5						
SNAA	**Sanae**	**49.43**	**176**	*e*	**P**	**20 39 53.2**	**+0.9**
SNAA				*e*		20 40 06.0	
CFAA	**Coronel Fontan**	**49.88**	**247**	P	**P**	**20 39 54.1**	**-1.6**
	1.2nm,0.8s,mb4.0,baz=79,slow=6.6,SNR=17						
CFAA				LR	LR	20 58 26.8	
	comp=Z,21nm,20.4s,MS3.1,baz=227,slow=33						
SAML	**Samuel**	**50.29**	**277**	*e*P	**P**	**20 39 59.4**	**+0.6**
	30nm,1.6s,mb5.1						
LPAZ	**La Paz**	**52.49**	**266**	P	**P**	**20 40 14.1**	**-1.2**
	2.4nm,0.8s,mb4.2,baz=174,slow=7.8,SNR=7.8						
KMBO	**Kilima Mbogo**	**52.91**	**73**	P	**P**	**20 40 18.9**	**+0.5**
	0.9nm,0.3s,mb4.2,baz=214,slow=21,SNR=6.9						
KMBO				LR	LR	21 00 21.2	
	comp=Z,141nm,18.2s,MS4.0,baz=88,slow=33						
SYO	**Syowa Base**	**55.93**	**160**	⇓*e*P	**P**	**20 40 39.8**	**-0.6**
ESDC	**Sonseca Array**	**62.45**	**8**	P	**P**	**20 41 25.1**	**-0.4**
	0.4nm,0.5s,mb3.8,baz=191,slow=7.7,SNR=5.1						
MAW	**Mawson**	**63.81**	**156**	LR	LR	21 02 37.0	
	comp=Z,206nm,20.9s,MS4.3,baz=153,slow=30						
SDV	**Santo Domingo**	**64.84**	**292**	LR	LR	21 06 14.2	
	comp=Z,126nm,18.0s,MS4.2,baz=115,slow=33						
SDV	**Santo Domingo**	**64.84**	**292**	*e*P	**P**	**20 41 42.6**	**+1.3**
	16nm,0.9s,mb5.0						
ETSF	**Etsaut**	**66.09**	**10**	*e*P	**P**	**20 41 49.4**	**0.0**
ROSC	**El Rosal**	**66.16**	**286**	P	**P**	**20 41 50.3**	**+0.5**
	17nm,0.8s,mb5.1,baz=81,slow=17,SNR=7.5						
ROSC				LR	LR	21 09 30.5	
	comp=Z,166nm,19.1s,MS4.3,baz=205,slow=35						
SJPF	**Ste Jean**	**66.20**	**9**	*e*P	**P**	**20 41 50.7**	**+0.6**
QSPA	**South Pole Qui**	**67.63**	**180**	*e*P	**P**	**20 42 00.1**	**+0.9**
	5.9nm,1.0s,mb4.6						
LASF	**Ste Croix**	**68.02**	**13**	*e*P	**P**	**20 42 01.8**	**+0.1**
FRF	**La Foret Royal**	**68.15**	**15**	*e*P	**P**	**20 42 02.7**	**+0.2**
LFF	**La Frestale**	**68.29**	**10**	*e*P	**P**	**20 42 03.5**	**+0.2**
	9.8nm,0.7s,mb4.6						
LFF	**La Frestale**	**68.29**	**10**	*e*P	**P**	**20 42 03.5**	**+0.2**
LFF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
LFF	**La Frestale**	**68.29**	**10**	*e*P	**P**	**20 42 03.5**	**+0.2**
	comp=Z,4.9nm,0.7s,mb4.7						
SMRF	**Simiane la Rot**	**68.30**	**14**	*e*P	**P**	**20 42 04.0**	**+0.6**
CAF	**Calviac**	**68.50**	**11**	*e*P	**P**	**20 42 04.4**	**-0.3**
	comp=Z,2.5nm,0.6s,mb4.1						
CAF	**Calviac**	**68.50**	**11**	*e*P	**P**	**20 42 04.4**	**-0.3**
CAF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
CAF	**Calviac**	**68.50**	**11**	*e*P	**P**	**20 42 04.4**	**-0.3**
	comp=Z,1.3nm,0.6s,mb4.1						
RJF	**Les Rejaudoux**	**68.77**	**11**	*e*P	**P**	**20 42 06.3**	**-0.1**
RJF				*e*R			
	comp=Z,119nm,22.8s						
RJF	**Les Rejaudoux**	**68.77**	**11**	*e*P	**P**	**20 42 06.3**	**-0.1**
RJF				LR	LR		
	comp=Z,120nm,22.8s,MS4.1						
VIVF	**Saint-Julien-l**	**68.94**	**13**	*e*P	**P**	**20 42 07.8**	**+0.4**
EIL	**Elat**	**69.22**	**43**	*e*P	**P**	**20 42 08.7**	**-0.5**
	comp=Z,141nm,0.8s						
ORIF	**Oris-en-Rattie**	**69.26**	**14**	*e*P	**P**	**20 42 10.0**	**+0.6**
	comp=Z,7.6nm,0.8s,mb4.4						
ORIF				*e*R			
	comp=Z,89nm,18.8s						
ORIF	**Oris-en-Rattie**	**69.26**	**14**	*e*P	**P**	**20 42 10.0**	**+0.6**
ORIF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
ORIF	**Oris-en-Rattie**	**69.26**	**14**	*e*P	**P**	**20 42 10.0**	**+0.6**
	comp=Z,3.8nm,0.8s,mb4.4						
MBDF	**Montbardon**	**69.28**	**15**	*e*P	**P**	**20 42 10.3**	**+0.8**
MFF	**Saint Martin d**	**69.77**	**9**	*e*P	**P**	**20 42 12.6**	**0.0**
TCF	**Toulx Ste Croi**	**69.84**	**11**	*e*P	**P**	**20 42 13.2**	**+0.2**
	comp=Z,5.7nm,0.8s,mb4.3						
TCF	**Toulx Ste Croi**	**69.84**	**11**	*e*P	**P**	**20 42 13.2**	**+0.2**
TCF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
TCF	**Toulx Ste Croi**	**69.84**	**11**	*e*P	**P**	**20 42 13.2**	**+0.2**
	comp=Z,2.8nm,0.8s,mb4.2						
LPG	**La Plagne**	**70.00**	**14**	*e*P	**P**	**20 42 14.8**	**+0.8**
	comp=Z,11nm,0.8s,mb4.5						
LPG	**La Plagne**	**70.00**	**14**	*e*P	**P**	**20 42 14.8**	**+0.8**
LPG				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
LPG	**La Plagne**	**70.00**	**14**	*e*P	**P**	**20 42 14.8**	**+0.8**
	comp=Z,5.3nm,0.8s,mb4.5						
LPL	**La Plagne**	**70.02**	**14**	*e*P	**P**	**20 42 14.8**	**+0.7**
	comp=Z,12nm,0.8s,mb4.6						
LPL	**La Plagne**	**70.02**	**14**	*e*P	**P**	**20 42 14.8**	**+0.7**
LPL				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
LPL	**La Plagne**	**70.02**	**14**	*e*P	**P**	**20 42 14.8**	**+0.7**
	comp=Z,5.8nm,0.8s,mb4.6						
BGF	**Bois d'Agland**	**70.22**	**11**	*e*P	**P**	**20 42 15.3**	**0.0**
SMF	**Signal de Mont**	**70.49**	**12**	*e*P	**P**	**20 42 16.8**	**-0.1**
AVF	**Avril sur Loir**	**70.53**	**12**	*e*P	**P**	**20 42 17.3**	**+0.1**
	comp=Z,4.6nm,0.7s,mb4.2						
AVF	**Avril sur Loir**	**70.53**	**12**	*e*P	**P**	**20 42 17.3**	**+0.1**
AVF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
AVF	**Avril sur Loir**	**70.53**	**12**	*e*P	**P**	**20 42 17.3**	**+0.1**
	comp=Z,2.3nm,0.7s,mb4.2						
SSF	**Saint Saulge**	**70.82**	**12**	*e*P	**P**	**20 42 19.0**	**0.0**
	comp=Z,10nm,0.9s,mb4.4						
SSF	**Saint Saulge**	**70.82**	**12**	*e*P	**P**	**20 42 19.0**	**0.0**
SSF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
SSF	**Saint Saulge**	**70.82**	**12**	*e*P	**P**	**20 42 19.0**	**0.0**
	comp=Z,5.1nm,0.9s,mb4.5						
CABF	**La Chapelle**	**70.91**	**14**	*e*P	**P**	**20 42 19.3**	**-0.2**
	comp=Z,10nm,0.8s,mb4.5						
CABF	**La Chapelle**	**70.91**	**14**	*e*P	**P**	**20 42 19.3**	**-0.2**
CABF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
CABF	**La Chapelle**	**70.91**	**14**	*e*P	**P**	**20 42 19.3**	**-0.2**
	comp=Z,5.3nm,0.8s,mb4.5						
LOR	**Lormes**	**71.09**	**12**	*e*P	**P**	**20 42 20.6**	**0.0**
LOR				*e*R			
	comp=Z,88nm,22.5s						
LOR	**Lormes**	**71.09**	**12**	*e*P	**P**	**20 42 20.6**	**0.0**
LOR				LR	LR		
	comp=Z,90nm,22.5s,MS4.0						
GRR	**Gorron**	**71.42**	**8**	*e*P	**P**	**20 42 22.4**	**-0.2**
LDF	**La Druitiere**	**71.72**	**9**	*e*P	**P**	**20 42 24.2**	**-0.2**
DAVOX	**Davos**	**71.97**	**16**	LR	LR	21 13 13.8	
	comp=Z,72nm,20.4s,MS3.9,baz=242,slow=35						
BOJS	**Bojanci**	**72.35**	**20**	*e*P	**P**	**20 42 28.3**	**+0.1**
VISS	**Visnje**	**72.48**	**20**	*e*P	**P**	**20 42 29.2**	**+0.2**
BFO	**Black Forest**	**73.04**	**14**	*e*P	**P**	**20 42 31.6**	**-0.7**
	comp=Z,15nm,1.4s,mb4.7						
BFO	**Black Forest**	**73.04**	**14**	*e*P	**P**	**20 42 31.6**	**-0.7**
BFO				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.7						
FUR	**Furstenfeldbru**	**73.61**	**16**	*e*P	**P**	**20 42 35.0**	**-0.7**
	comp=Z,12nm,0.9s,mb4.8						
FUR	**Furstenfeldbru**	**73.61**	**16**	*e*P	**P**	**20 42 35.0**	**-0.7**
FUR				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
WLF	**Walferdange**	**73.83**	**13**	*e*P	**P**	**20 42 36.9**	**-0.1**
	comp=Z,15nm,1.1s,mb4.8						
BAIF	**Baives**	**73.84**	**11**	*e*P	**P**	**20 42 36.7**	**-0.3**
	comp=Z,6.0nm,0.8s,mb4.3						
BAIF	**Baives**	**73.84**	**11**	*e*P	**P**	**20 42 36.7**	**-0.3**
BAIF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BAIF	**Baives**	**73.84**	**11**	*e*P	**P**	**20 42 36.7**	**-0.3**
	comp=Z,3.0nm,0.8s,mb4.3						
PKSM	**Moragy**	**74.10**	**22**	⇓*i*P	**P**	**20 42 39.0**	**+0.5**
GEC2	**GERESS Array S**	**74.89**	**18**	*e*P	**P**	**20 42 43.1**	**0.0**
	comp=Z,3.0nm,1.0s,mb4.2						
GEC2	**GERESS Array S**	**74.89**	**18**	*e*P	**P**	**20 42 43.1**	**0.0**
GEC2				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
GERES	**GERESS Array B**	**74.89**	**18**	P	**P**	**20 42 42.3**	**-0.8**
	comp=Z,1.0nm,0.8s,mb3.8,baz=193,slow=5.2,SNR=8.0						
GERES				PP	PP	20 45 29.4	-1.2
	comp=Z,0.3nm,0.6s,baz=19,slow=31,SNR=3.2						
GERES				LR	LR	21 12 23.8	
	comp=Z,40nm,18.6s,MS3.8,baz=323,slow=33						
GERES	**GERESS Array B**	**74.89**	**18**	P	**P**	**20 42 42.3**	**-0.8**
GERES						20 45 29.4	
WET	**Wettzell**	**74.93**	**17**	*e*P	**P**	**20 42 42.8**	**-0.6**
	comp=Z,7.0nm,1.1s,mb4.5						
WET	**Wettzell**	**74.93**	**17**	*e*P	**P**	**20 42 42.8**	**-0.6**
WET				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
GRA1	**Grafenberg Arr**	**75.00**	**16**	*e*P	**P**	**20 42 43.5**	**-0.3**
	comp=Z,10.0nm,1.1s,mb4.7						
GRF	**Grafenberg Arr**	**75.00**	**16**	*e*P	**P**	**20 42 43.5**	**-0.3**
	comp=Z,10.0nm,1.1s,mb4.7						
GRF	**Grafenberg Arr**	**75.00**	**16**	*e*P	**P**	**20 42 43.5**	**-0.3**
GRF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
GRF	**Grafenberg Arr**	**75.00**	**16**	*e*P	**P**	**20 42 43.5**	**-0.3**
GRF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
KHC	**Kasperske Hory**	**75.11**	**17**	*e*P	**P**	**20 42 43.7**	**-0.7**
ROTZ	**Rotzenmuhle**	**75.32**	**16**	*e*P	**P**	**20 42 45.1**	**-0.5**
	comp=Z,9.0nm,1.3s,mb4.5						
MANZ	**Manzenberg**	**75.50**	**16**	*e*P	**P**	**20 42 46.3**	**-0.3**
	comp=Z,19nm,2.0s,mb4.7						
BR131	**Keskin Array S**	**75.53**	**35**	*e*P	**P**	**20 42 47.3**	**+0.5**
	comp=Z,9.3nm,1.1s,mb4.6						
BRTR	**Keskin Array B**	**75.53**	**35**	P	**P**	**20 42 46.4**	**-0.4**
	comp=Z,4.4nm,0.9s,mb4.4,baz=190,slow=6.3,SNR=29						
UBBA	**Unterbreizbach**	**75.75**	**15**	*e*P	**P**	**20 42 48.5**	**+0.4**
NKC	**Novy Kostel**	**75.81**	**16**	*e*P	**P**	**20 42 47.8**	**-0.6**
VYHS	**Vyhne**	**76.14**	**21**	*e*P	**P**	**20 42 50.1**	**-0.2**
VRAC	**Vranov**	**76.15**	**19**	LR	LR	21 15 23.0	
	comp=Z,74nm,19.6s,MS4.0,baz=202,slow=35						
PRU	**Pruhonice**	**76.16**	**18**	*e*P	**P**	**20 42 48.7**	**-1.7**
MLR	**Muntele Rosu**	**76.28**	**27**	⇓*i*P	**P**	**20 42 51.5**	**+0.4**
GTTG	**Gvttingen**	**76.42**	**14**	*e*P	**P**	**20 42 52.1**	**+0.2**
	comp=Z,4.0nm,0.6s,mb4.5						
KECS	**Kecovo**	**76.69**	**22**	*i* P	**P**	**20 42 53.1**	**-0.3**
LIKS	**Likavka**	**76.72**	**21**	*e*P	**P**	**20 42 53.5**	**-0.1**
BRG	**Berggiesshubel**	**76.79**	**17**	*e*(P)	**P**	**20 43 00.7**	**+6.7**
	comp=Z,1.7nm,0.7s,mb4.1						
BRG	**Berggiesshubel**	**76.79**	**17**	*e*P	**P**	**20 43 00.7**	**+6.7**
BRG				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BRG				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
CLL	**Collm**	**76.94**	**16**	*e*P	**P**	**20 42 52.5**	**-2.3**
CLL	**Collm**	**76.94**	**16**	⇓*i*P	**P**	**20 42 53.6**	**-1.2**
CLL	**Collm**	**76.94**	**16**	⇓*i*P	**P**	**20 42 53.6**	**-1.2**
CLL				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3						
CLL	**Collm**	**76.94**	**16**	⇓*i*PKP	**P**	**20 42 53.6**	**-1.2**
	comp=Z,5.0nm,1.3s,mb4.3						
UPC	**Upice**	**77.04**	**18**	*e*P	**P**	**20 42 55.2**	**-0.2**
MALT	**Malatya**	**77.20**	**39**	⇑*i*P	**P**	**20 42 56.9**	**+0.6**
CRVS	**Cervenica-Dubn**	**77.39**	**22**	*e*P	**P**	**20 42 59.8**	**+2.5**
BSEG	**Bad Segeberg**	**78.73**	**14**	*e*P	**P**	**20 43 04.5**	**-0.3**
	comp=Z,11nm,1.0s,mb4.7						
BSEG	**Bad Segeberg**	**78.73**	**14**	*e*P	**P**	**20 43 04.5**	**-0.3**
BSEG				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
VNDA	**Vanda**	**80.07**	**179**	P	**P**	**20 43 12.8**	**+0.8**
	comp=Z,1.0nm,0.8s,mb3.8,baz=209,slow=4.2,SNR=4.9						
VNDA				LR	LR	21 14 22.2	
	comp=Z,172nm,19.6s,MS4.4,baz=174,slow=32						
AKASG	**Malin Array Be**	**81.76**	**25**	P	**P**	**20 43 20.1**	**-1.0**
	comp=Z,1.2nm,0.6s,mb4.0,baz=221,slow=5.1,SNR=6.0						
GNI	**Garni**	**82.12**	**41**	LR	LR	21 16 15.3	
	comp=Z,33nm,21.4s,MS3.7,baz=170,slow=33						
GNI	**Garni**	**82.12**	**41**	*e*P	**P**	**20 43 24.1**	**+1.1**
GNI				pmax	pmax		
	comp=Z,56nm,1.6s						
GNI	**Garni**	**82.12**	**41**	*e*P	**P**	**20 43 24.1**	**+1.0**
	comp=Z,56nm,1.6s,mb5.2						
SUW	**Suwalki**	**82.28**	**20**	*e*P	**P**	**20 43 22.9**	**-1.0**
SUW				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.1						
SUW	**Suwalki**	**82.28**	**20**	*e*P	**P**	**20 43 22.9**	**-1.0**
	comp=Z,24nm,1.0s,mb5.1						
KIV	**Kislovodsk**	**83.34**	**37**	*e*P	**P**	**20 43 29.5**	**+0.1**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
KIV	**Kislovodsk**	**83.34**	**37**	*e*P	**P**	**20 43 29.5**	**+0.1**
	comp=Z,4.7nm,0.7s,mb4.6						
HFS	**Hagfors**	**85.17**	**13**	LR	LR	21 17 50.9	
	comp=Z,64nm,20.4s,MS4.0,baz=219,slow=33						
NOA	**NORSAR Array B**	**85.52**	**11**	P	**P**	**20 43 40.6**	**+0.1**
	comp=Z,0.7nm,0.8s,mb3.9,baz=200,slow=5.4,SNR=2.6						
NOA				LR	LR	21 23 32.3	
	comp=Z,38nm,18.1s,MS3.8,baz=180,slow=37						
BINY	**Binghamton**

CDCH	**Caldera**	**3.04**	**212**	⇓*i*P		**Pn**	**20 55 27.6**	**-0.8**
CDCH				*i* S		**Sn**	**20 56 03.0**	**-1.2**
CPCH	**Copiapo**	**3.10**	**203**	*e*P		**Pn**	**20 55 28.9**	**-0.1**
CPCH				*i* S		**Sn**	**20 56 06.2**	**+0.8**
CPCH				AML		AML	20 56 11.1	
	comp=E,10μm,0.2s							
CPCH	**Copiapo**	**3.10**	**203**	*e*P		**Pn**	**20 55 28.9**	**-0.1**
CPCH				S		**Sn**	**20 56 06.2**	**+0.8**
LCO	**Las Campanas**	**4.74**	**198**	*e*P		**Pn**	**20 55 50.2**	**-1.0**
LCO				*i* S		**Sn**	**20 56 44.9**	**-0.1**
TLL	**Tololo Astrono**	**5.87**	**195**	*e*P		**Pn**	**20 56 05.3**	**-1.1**
CFAA	**Coronel Fontan**	**7.12**	**175**	P		**Pn**	**20 56 23.4**	**+0.1**
	comp=E,0.9nm,0.3s,baz=351,slow=13,SNR=124							
CFAA				S		**Sn**	**20 57 40.4**	**-2.2**
	comp=E,1.0nm,0.3s,baz=230,slow=17,SNR=4.2							
LPAZ	**La Paz**	**8.21**	**6**	P		**Pn**	**20 56 34.4**	**-3.7**
	comp=E,1.4nm,0.3s,baz=7.4,slow=1.3,SNR=7.1							
LPAZ				LR		LR	20 59 45.9	
	comp=E,71nm,20.9s,baz=202,slow=38							
CPUP	**Villa Florida**	**10.72**	**102**	P		**Pn**	**20 57 09.0**	**-3.1**
	comp=E,1.5nm,0.3s,baz=257,slow=11,SNR=8.4							
CPUP				LR		LR	21 01 43.1	
	comp=E,133nm,19.0s,baz=227,slow=40							
CPUP	**Villa Florida**	**10.72**	**102**	*e*P		**Pn**	**20 57 08.8**	**-3.3**
CPUP				LR		LR	21 01 43.1	
SIV	**San Ignacio**	**11.27**	**43**	P		**Pn**	**20 57 12.9**	**-6.6**
	comp=E,24nm,0.3s,baz=247,slow=9.4,SNR=277							
SIV				S		**Sn**	**20 59 08.4**	**-15**
	comp=E,1.3nm,0.3s,baz=121,slow=23,SNR=2.1							
TRQA	**Tornquist**	**14.79**	**158**	*e*P		**Pn**	**20 58 06.0**	**+0.6**
	comp=E,16nm,0.7s							
SAML	**Samuel**	**16.43**	**21**	*e*P		**Pn**	**20 58 19.7**	**-6.2**
	comp=E,14nm,1.1s							
BDFB	**Brasilia**	**21.58**	**70**	P		**P**	**20 59 21.8**	**-0.9**
	comp=E,108nm,0.8s,mb5.3,baz=250,slow=11,SNR=47							
BAO	**Brasilia Array**	**21.60**	**70**	P		**P**	**20 59 19.5**	**-3.4**
OTAV	**Otavalo**	**26.23**	**338**	*e*P		**P**	**21 00 06.5**	**-0.1**
	comp=E,3.7nm,0.8s,mb3.9							
SJG	**San Juan**	**42.44**	**4**	P		**P**	**21 02 22.6**	**-3.2**
	comp=E,24nm,0.2s,mb5.5,baz=312,slow=18,SNR=7.4							
VNA3	**Neumayer Olymp**	**57.29**	**161**	*e*		**P**	**21 04 19.6**	**+1.5**
VNA3				*e*			21 04 29.2	
VNA3				*e*			21 04 34.9	
VNA3				*e*		pP	21 04 47.0	+2.6
VNA3				*e*			21 04 58.3	
VNA3				*e*			21 05 08.5	
VNA1	**Neumayer--Stat**	**57.51**	**160**	*e*		**P**	**21 04 28.4**	**+8.7**
VNA1				*e*			21 04 37.3	
VNA1				*e*		pP	21 04 54.1	+8.1
VNA1				*e*			21 05 04.3	
VNA2	**Neumayer--Watz**	**57.88**	**160**	*e*		**P**	**21 04 23.8**	**+1.5**
	baz=293,slow=8.2							
VNA2				*e*			21 04 32.4	
VNA2				*e*			21 04 38.7	
VNA2				*e*		pP	21 04 50.2	+1.6
VNA2				*e*			21 05 02.4	
VNA2				*e*			21 05 13.8	
SNAA	**Sanae**	**59.50**	**160**	P		**P**	**21 04 34.0**	**+0.5**
	comp=E,2.1nm,0.8s,mb4.2,baz=306,slow=5.7,SNR=13							
SNAA	**Sanae**	**59.50**	**160**	*e*		**P**	**21 04 34.8**	**+1.3**
SNAA				*e*			21 04 43.1	
SNAA				*e*			21 04 51.1	
SNAA				*e*		pP	21 05 00.7	+0.8
SNAA				*e*			21 05 13.3	
SNAA				*e*			21 05 23.4	
SWET	**Sewanee**	**61.51**	**344**	*e*P		**P**	**21 04 45.2**	**-2.0**
PLAL	**Pickwick Lake**	**61.85**	**342**	*e*P		**P**	**21 04 47.6**	**-1.9**
	comp=E,3.8nm,0.6s,mb4.6							
JCT	**Junction City**	**62.12**	**330**	*e*P		**P**	**21 04 50.9**	**-0.4**
JCT				pmax		pmax		
	comp=E,23nm,0.8s,mb5.3							
JCT	**Junction City**	**62.12**	**330**	*e*P		**P**	**21 04 50.9**	**-0.4**
	comp=E,23nm,0.8s,mb5.3							
LTX	**Lajitas**	**63.04**	**326**	*e*P		**P**	**21 04 57.1**	**-0.3**
LTX				pmax		pmax		
	comp=E,3.0nm,0.8s,mb4.3							
LTX	**Lajitas**	**63.04**	**326**	*e*P		**P**	**21 04 57.1**	**-0.3**
	comp=E,3.0nm,0.8s,mb4.3							
MIAR	**Mount Ida**	**63.18**	**337**	*e*P		**P**	**21 04 57.4**	**-0.9**
MIAR				pmax		pmax		
	comp=E,14nm,0.9s,mb4.9							
MIAR	**Mount Ida**	**63.18**	**337**	*e*P		**P**	**21 04 57.4**	**-0.9**
	comp=E,14nm,0.9s,mb4.9							
FVM	**French Village**	**65.32**	**341**	*e*P		**P**	**21 05 11.1**	**-1.2**
FVM				pmax		pmax		
	comp=E,33nm,0.6s,mb5.3							
FVM	**French Village**	**65.32**	**341**	*e*P		**P**	**21 05 11.1**	**-1.2**
	comp=E,33nm,0.6s,mb5.3							
WMOK	**Wichita Mounta**	**65.33**	**333**	*e*P		**P**	**21 05 10.2**	**-2.1**
WMOK				pmax		pmax		
	comp=E,3.0nm,0.9s,mb4.1							
WMOK	**Wichita Mounta**	**65.33**	**333**	*e*P		**P**	**21 05 10.2**	**-2.1**
	comp=E,2.9nm,0.9s,mb4.1							
CLNB	**Carlsbad**	**65.53**	**328**	*e*P		**P**	**21 05 14.3**	**+0.6**
QSPA	**South Pole Qui**	**65.71**	**180**	⇓*i*P		**P**	**21 05 16.7**	**+1.9**
	comp=E,25nm,0.5s,mb5.3							
GDL2	**Guadalupe Moun**	**65.71**	**327**	*e*P		**P**	**21 05 15.4**	**+0.6**
MIV	**Mineville/With**	**68.36**	**356**	*e*P		**P**	**21 05 30.2**	**-1.3**
BNM	**Barren Site**	**68.40**	**327**	*e*P		**P**	**21 05 32.8**	**+1.0**
LPM	**Los Pinos Moun**	**68.53**	**327**	*e*P		**P**	**21 05 33.6**	**+1.0**
ANMO	**Albuquerque**	**68.96**	**328**	*e*P		**P**	**21 05 35.8**	**+0.5**
ANMO				pmax		pmax		
	comp=E,10.0nm,0.9s							
ANMO	**Albuquerque**	**68.96**	**328**	*e*P		**P**	**21 05 35.8**	**+0.5**
	comp=E,9.6nm,0.9s,mb4.6							
FRNY	**Flat Rock**	**69.12**	**357**	*e*P		**P**	**21 05 35.8**	**-0.5**
TUC	**Tucson**	**69.14**	**323**	*e*P		**P**	**21 05 36.4**	**0.0**
TUC				pmax		pmax		
	comp=E,12nm,1.0s,mb4.7							
TUC	**Tucson**	**69.14**	**323**	*e*P		**P**	**21 05 36.4**	**0.0**
	comp=E,12nm,1.0s,mb4.7							
MVCO	**Mesa Verde**	**71.75**	**328**	*e*P		**P**	**21 05 53.1**	**+0.9**
ISCO	**Idaho Springs**	**72.51**	**331**	*e*P		**P**	**21 05 57.1**	**+0.3**
ISCO				pmax		pmax		
	comp=E,10.0nm,1.1s,mb4.6							
ISCO	**Idaho Springs**	**72.51**	**331**	*e*P		**P**	**21 05 57.0**	**+0.3**
	comp=E,10nm,1.1s,mb4.6							
PV01	**Paradox Valley**	**72.52**	**328**	*e*P		**P**	**21 05 58.1**	**+1.3**
SMCO	**Snowmass**	**72.61**	**330**	*e*P		**P**	**21 05 58.5**	**+1.1**
	comp=E,18nm,1.0s,mb4.8							
PHWY	**Pilot Hill**	**73.68**	**332**	*e*P		**P**	**21 06 03.3**	**-0.4**
SYO	**Syowa Base**	**73.75**	**159**	⇑*e*P		**P**	**21 06 04.6**	**+0.5**
NEN	**Nelson**	**73.87**	**323**	*e*P		**P**	**21 06 05.8**	**+1.0**
VNDA	**Vanda**	**73.90**	**190**	P		**P**	**21 06 06.8**	**+1.9**
	comp=Z,1.6nm,0.8s,mb3.8,baz=136,slow=5.2,SNR=9.1							
VNDA	**Vanda**	**73.90**	**190**	P		**P**	**21 06 06.8**	**+1.9**
SRU	**San Rafael**	**74.23**	**328**	*e*P		**P**	**21 06 07.4**	**+0.5**
SRU				pmax		pmax		
	comp=E,15nm,0.7s,mb4.8							
SRU	**San Rafael**	**74.23**	**328**	*e*P		**P**	**21 06 07.4**	**+0.5**
	comp=E,15nm,0.7s,mb4.8							
CCUT	**Cedar City**	**74.48**	**325**	*e*P		**P**	**21 06 10.0**	**+1.7**
PPT	**Papeete**	**74.56**	**257**	LR		LR	21 31 23.8	
	comp=Z,174nm,18.4s,baz=213,slow=30							
RWWY	**Rawlins**	**74.75**	**331**	*e*P		**P**	**21 06 10.6**	**+0.7**
	comp=E,16nm,0.9s,mb4.8							
RSSD	**Black Hills**	**75.45**	**335**	*e*P		**P**	**21 06 13.6**	**-0.3**
RSSD				pmax		pmax		
	comp=Z,20nm,1.1s,mb4.8							
RSSD	**Black Hills**	**75.45**	**335**	*e*P		**P**	**21 06 13.6**	**-0.3**
	comp=Z,20nm,1.1s,mb4.8							
TPNV	**Topopah Spring**	**75.60**	**323**	*e*P		**P**	**21 06 16.0**	**+1.3**
TPNV				pmax		pmax		
	comp=E,12nm,1.0s,mb4.6							
TPNV	**Topopah Spring**	**75.60**	**323**	*e*P		**P**	**21 06 16.0**	**+1.3**
	comp=E,12nm,1.0s,mb4.6							
DAC	**Darwin (Calif)**	**75.87**	**321**	*e*P		**P**	**21 06 17.6**	**+1.3**
DAC				pmax		pmax		
	comp=E,11nm,1.1s,mb4.5							
DAC	**Darwin (Calif)**	**75.87**	**321**	*e*P		**P**	**21 06 17.6**	**+1.3**
	comp=E,11nm,1.1s,mb4.5							
DUG	**Dugway**	**76.19**	**327**	*e*P		**P**	**21 06 19.0**	**+0.9**
DUG				pmax		pmax		
	comp=E,11nm,1.0s,mb4.5							
DUG	**Dugway**	**76.19**	**327**	*e*P		**P**	**21 06 19.0**	**+0.9**
	comp=E,11nm,1.0s,mb4.5							
PDAR	**Pinedale Array**	**76.65**	**331**	P		**P**	**21 06 20.6**	**-0.1**
	comp=E,1.9nm,0.6s,mb4.0,baz=130,slow=7.6,SNR=21							
PDAR				pP		pP	21 06 47.1	-1.2
	comp=E,0.9nm,0.6s,baz=128,slow=12,SNR=2.6							
SPUT	**South Promonto**	**76.87**	**328**	*e*P		**P**	**21 06 22.0**	**+0.1**
AHID	**Auburn Hatcher**	**77.35**	**330**	*e*P		**P**	**21 06 25.0**	**+0.4**
	comp=Z,26nm,1.0s,mb4.9							
REDW	**Red Top Meadow**	**77.71**	**330**	*e*P		**P**	**21 06 26.9**	**+0.4**
	comp=Z,8.6nm,0.8s,mb4.5							
LOHW	**Long Hollow**	**77.79**	**330**	*e*P		**P**	**21 06 27.4**	**+0.4**
	comp=Z,3.9nm,0.5s,mb4.4							
NVAR	**Mina Array Bea**	**77.79**	**322**	P		**P**	**21 06 27.9**	**+0.9**
	comp=Z,1.5nm,0.8s,mb3.8,baz=146,slow=7.1,SNR=9.4							
NVAR				pP		pP	21 06 55.6	+0.9
	comp=Z,0.5nm,0.6s,baz=138,slow=6.2,SNR=3.0							
TPAW	**Teton Pass**	**77.85**	**330**	*e*P		**P**	**21 06 28.3**	**+0.9**
	comp=Z,13nm,0.9s,mb4.7							
MOOW	**Moose Ponds**	**77.96**	**330**	*e*P		**P**	**21 06 28.1**	**+0.1**
	comp=Z,3.9nm,0.8s,mb4.2							
ULM	**Lac du Bonnet**	**78.13**	**343**	P		**P**	**21 06 27.6**	**-1.4**
	comp=Z,4.6nm,0.7s,mb4.3,baz=354,slow=1.4,SNR=8.4							
ULM				pP		pP	21 06 54.7	-1.9
	comp=Z,4.0nm,0.6s,baz=165,slow=7.5,SNR=4.6							
ULM				sP		sP	21 07 06.0	-2.2
	comp=Z,5.5nm,0.5s,baz=166,slow=6.2,SNR=5.3							
IMW	**Indian Meadow**	**78.16**	**330**	*e*P		**P**	**21 06 29.3**	**+0.2**
	comp=Z,12nm,1.1s,mb4.5							
IMW				*e*pP		pP	21 06 57.5	+0.6
FLWY	**Flagg Ranch**	**78.20**	**331**	*e*P		**P**	**21 06 29.9**	**+0.6**
	comp=Z,15nm,0.8s,mb4.8							
FLWY				*e*pP		pP	21 06 56.7	-0.4
TORD	**Torodi Ar. Bea**	**78.46**	**70**	P		**P**	**21 06 30.6**	**-0.2**
	comp=Z,3.1nm,0.4s,mb4.4,baz=263,slow=5.3,SNR=82							
TORD				pP		pP	21 06 58.4	-0.1
	comp=Z,6.9nm,0.6s,baz=258,slow=5.0,SNR=5.4							
TORD				sP		sP	21 07 10.1	-0.1
	comp=Z,8.6nm,0.8s,baz=251,slow=5.1,SNR=4.1							
YMR	**Madison River**	**78.78**	**331**	*e*P		**P**	**21 06 33.3**	**+0.8**
	comp=Z,14nm,1.0s,mb4.8							
SCHQ	**Schefferville**	**79.02**	**1**	P		**P**	**21 06 32.4**	**-1.4**
	comp=Z,4.7nm,0.8s,mb4.3,baz=195,slow=5.4,SNR=5.4							
SCHQ				LR		LR	21 39 15.7	
	comp=Z,72nm,18.2s,baz=188,slow=34							
SCHQ	**Schefferville**	**79.02**	**1**	P		**P**	**21 06 32.4**	**-1.4**
SCHQ				LR		LR	21 39 15.7	
GCMT	**Greycliff**	**79.11**	**332**	*e*P		**P**	**21 06 34.6**	**+0.3**
GCMT				*e*pP		pP	21 07 01.9	-0.8
GCMT				*e*sP		sP	21 07 11.9	-1.7
PAHR	**Pah Rah Range**	**79.29**	**323**	*e*P		**P**	**21 06 36.5**	**+1.2**
	comp=Z,16nm,1.0s,mb4.8							
PAHR				*e*pP		pP	21 07 03.7	+0.6
MCMT	**McKenzie Canyo**	**79.75**	**330**	*e*P		**P**	**21 06 38.7**	**+0.9**
MCMT				*e*pP		pP	21 07 06.6	+1.0
MOD	**Modoc**	**81.32**	**324**	*e*P		**P**	**21 06 45.9**	**-0.3**
	comp=Z,8.6nm,1.1s,mb4.5							
MOD				*e*pP		pP	21 07 14.8	+0.7
MAW	**Mawson**	**81.50**	**163**	P		**P**	**21 06 47.4**	**+0.3**
	comp=Z,11nm,0.5s,mb4.9,baz=203,slow=6.3,SNR=39							
MAW				pP		pP	21 07 16.7	+1.7
	comp=Z,3.8nm,0.5s,baz=176,slow=4.0,SNR=3.3							
MAW				sP		sP	21 07 27.5	+0.8
	comp=Z,12nm,0.9s,baz=215,slow=6.4,SNR=5.6							
MAW	**Mawson**	**81.50**	**163**	P		**P**	**21 06 47.4**	**+0.3**
MAW				*PP		pP	21 07 16.7	+1.7
WALA	**Waterton Lakes**	**83.46**	**332**	*e*P		**P**	**21 06 57.1**	**-0.2**
	comp=Z,9.4nm,0.9s,mb4.6							
FCC	**Fort Churchill**	**85.52**	**347**	*e*P		**P**	**21 07 06.5**	**-1.2**
FCC				*e*PP		pP	21 07 33.6	-2.2
FCC				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.2							
FCC	**Fort Churchill**	**85.52**	**347**	*e*P		**P**	**21 07 06.5**	**-1.2**
	comp=Z,1.9nm,0.6s,mb4.2							
FCC				*e*pP		pP	21 07 33.6	-2.2
YKA	**Yellowknife Ar**	**93.97**	**341**	P		**P**	**21 07 46.2**	**-1.2**
	comp=Z,3.0nm,0.8s,mb4.7,baz=138,slow=4.6,SNR=46							
YKA				pP		pP	21 08 14.1	-1.7
	comp=Z,2.6nm,0.9s,baz=137,slow=4.4,SNR=8.7							
YKA				sP		sP	21 08 25.1	-2.1
	comp=Z,2.2nm,0.7s,baz=136,slow=4.3,SNR=7.0							
YKA	**Yellowknife Ar**	**93.97**	**341**	P		**P**	**21 07 46.2**	**-1.2**
YKA				*PP		pP	21 08 14.2	-1.6
YKA	**Yellowknife Ar**	**93.97**	**341**	P		**P**	**21 07 46.2**	**-1.2**
YKA				pP		pP	21 08 14.2	-1.6
YKA				sP		sP	21 08 25.1	-2.1
ASAR	**Alice Springs**	**127.22**	**207**	PKP		PKPdf	21 13 34.2	+0.8
	comp=Z,4.1nm,0.7s,baz=138,slow=2.0,SNR=36							
ASAR				pPKP		pPKPdf	21 14 03.5	+0.5
	comp=Z,3.1nm,0.8s,baz=146,slow=1.9,SNR=8.9							
WRA	**Warramunga Arr**	**130.32**	**209**	PKP		PKPdf	21 13 40.6	+1.3
	comp=Z,4.3nm,0.8s,baz=155,slow=1.7,SNR=56							
WRA				pPKP		pPKPdf	21 14 09.6	+0.7
	comp=Z,3.8nm,0.9s,baz=155,slow=1.7,SNR=7.3							
TIXI	**Tiksi**	**131.74**	**353**	*i* PKIKP		PKPdf	21 13 39.9	-2.1
TIXI				pmax		pmax		
	comp=Z,1.0nm,1.1s							
AKTO	**Aktyubinsk**	**131.90**	**43**	pPKP		pPKPdf	21 14 10.2	-1.7
	comp=Z,1.2nm,0.8s,baz=277,slow=3.5,SNR=2.7							
ZRNK	**Zerenda**	**137.56**	**37**	*e*P		PKPdf	21 13 53.5	+0.5
ZRNK				*e*pP			21 14 22.2	
BVAR	**Borovoye Array**	**138.28**	**36**	pPKP		pPKPdf	21 14 24.1	+0.3
	comp=Z,1.0nm,0.6s,baz=270,slow=1.2,SNR=4.5							
KURK	**Kurchatov**	**143.85**	**35**	*e*P		PKPdf	21 14 02.1	-2.1
KURK				*e*pP			21 14 30.6	
EKS2	**Erkin-Say**	**144.45**	**50**	P		PKPdf	21 14 05.0	-0.2
	SNR=5.1							
AML	**Almayashu**	**144.56**	**51**	P		PKPdf	21 14 06.0	+0.6
	SNR=8.2							
ZAL	**Zalesovo**	**144.68**	**27**	PKP		PKPdf	21 14 04.7	-1.0
	comp=Z,9.9nm,0.7s,baz=166,slow=4.0,SNR=58							
ZAL				pPKP		pPKPdf	21 14 33.5	-1.8
	comp=Z,6.1nm,0.8s,baz=175,slow=4.2,SNR=6.3							
AAK	**Ala-Archa**	**144.96**	**50**	P		PKPdf	21 14 07.2	+1.0
	SNR=12							
AAK	**Ala-Archa**	**144.96**	**50**	*e*P		PKPdf	21 14 06.0	-0.2
AAK				*e*pP			21 14 34.7	
FRU	**Bishkek**	**144.98**	**49**	*e*PKIKP		PKPdf	21 14 06.5	+0.3
FRU				*e*			21 14 34.5	
CHMS	**Chumysh**	**145.01**	**49**	P		PKPbc	21 14 06.8	+1.0
	SNR=5.2							
UCH	**Uchtor**	**145.10**	**51**	P		PKPbc	21 14 08.0	+1.8
	SNR=20							
KBK	**Karagaybulak**	**145.27**	**50**	P		PKPbc	21 14 08.1	+1.4
	SNR=14							
TKM2	**Tokmak 2**	**145.62**	**49**	P		PKPdf	21 14 09.1	+1.7
	SNR=8.2							
KZA	**Kyzart**	**145.67**	**50**	P		PKPdf	21 14 10.1	+2.7
	SNR=8.7							
BOD	**Bodaibo**	**146.64**	**357**	*e*PKIKP		PKPdf	21 14 07.8	-1.2
BOD				*e*			21 14 37.7	
BOD				pmax		pmax		
	comp=Z,10.0nm,0.7s							
BOD				pmax		pmax		
	comp=Z,10.0nm,0.7s							
MKAR	**Makanchi Array**	**148.07**	**39**	PKP		PKPdf	21 14 11.2	-0.2
	comp=Z,6.7nm,0.7s,baz=318,slow=1.9,SNR=54							
MKAR				PKPbc		PKPbc	21 14 14.7	0.0
	comp=Z,6.9nm,0.7s,baz=307,slow=2.8,SNR=62							
MKAR				pPKPbc		pPKPbc	21 14 43.0	-1.1
	comp=Z,12nm,0.7s,baz=317,slow=2.5,SNR=15							
MKAR	**Makanchi Array**	**148.07**	**39**	PKP		PKPdf	21 14 11.2	-0.2
MKAR				PKPbc		PKPbc	21 14 14.7	0.0
MKAR				pPKPbc		pPKPbc	21 14 43.0	-1.1
HYB	**Hyderabad**	**148.96**	**97**	*i* PKP		PKPbc	21 14 18.0	+1.0
HYB				*e*			21 14 34.0	
HYB				*e*			21 14 47.5	
DDI	**Dehra Dun**	**150.26**	**71**	*ex*		x	21 14 20.0	
KLR	**Kul'dur**	**150.44**	**332**	*e*PKIKP		PKPdf	21 14 16.8	+1.6
MOY	**Mondy**	**151.81**	**13**	*e*PKIKP		PKPbc	21 14 24.6	+0.8
MOY				pmax		pmax		
	comp=Z,10.0nm,2.0s							
CIT	**Chita**	**152.45**	**357**	*e*PKIKP		PKPbc	21 14 25.6	+0.4
CIT				*e*			21 14 54.6	
WMQ	**Urumqi**	**152.90**	**39**	*e*PKP		PKPdf	21 14 22.5	+3.6
MJAR	**Matsushiro Arr**	**153.75**	**304**	PKPbc		PKPbc	21 14 28.3	+0.2
	comp=Z,2.5nm,0.8s,baz=128,slow=1.5,SNR=6.3							
MJAR				PKPab		PKPab	21 14 42.3	+1.0
	comp=Z,2.9nm,0.9s,baz=76,slow=2.3,SNR=5.5							
MJAR				pPKPbc		pPKPbc	21 14 58.0	+0.5
	comp=Z,1.4nm,0.8s,baz=67,slow=2.5,SNR=2.1							
MJAR				pPKPab		pPKPab	21 15 09.9	0.0
	comp=Z,2.8nm,0.8s,baz=84,slow=2.4,SNR=4.7							
MJAR	**Matsushiro Arr**	**153.75**	**304**	PKIKP		PKPbc	21 14 28.3	+0.2
MJAR							21 14 58.0	
MJAR	**Matsushiro Arr**	**153.75**	**304**	PKPbc		PKPbc	21 14 28.3	+0.2
MJAR				PKPab		PKPab	21 14 42.3	+1.0
MJAR				pPKPbc		pPKPbc	21 14 58.0	+0.5
MJAR				pPKPab		pPKPab	21 15 09.9	0.0
MAT	**Matsushiro**	**153.75**	**304**	P		pPKPab	21 15 11.8	+1.9
SONM	**Songino Array**	**156.43**	**8**	PKPab		PKPab	21 14 52.0	-0.7
	comp=Z,1.6nm,0.8s,baz=326,slow=3.6,SNR=7.7							
SONM				pPKPab		pPKPab	21 15 20.4	-1.0
	comp=Z,1.7nm,0.8s,baz=327,slow=3.6,SNR=4.9							
ULN	**Ulaanbaatar**	**156.47**	**7**	*e*PKP2		PKPab	21 14 52.8	-0.2

IDC 05 21:12:09.0±4.8, 1370N×9235W, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.7/18, mbtmp3.9/4, ML3.6/1, Error ellipse: s-maj=185.7km s-min=35.2km az=36.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JTS	**JuntasAbangare**	**7.99**	**114**	Pn		Pn	21 14 06.7	+0.4
	0.8nm,0.3s,baz=247,slow=18,SNR=3.3							
NVAR	**Mina Array Bea**	**33.70**	**322**	P		P	21 18 52.5	+0.7
	0.6nm,0.7s,baz=130,slow=9.7,SNR=5.0							
YKA	**Yellowknife Ar**	**51.24**	**347**	P		P	21 21 14.4	0.0
	3.8nm,0.8s,baz=150,slow=7.6,SNR=5.1							
ILAR	**Eielson Array**	**62.98**	**337**	P		P	21 22 36.8	-0.7
	1.4nm,1.1s,baz=108,slow=4.3,SNR=5.3							

IDC 05 21:38:28.9±75.0, 2122S×17975W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/12, mbtmp3.7/3, Error ellipse: s-maj=1348.0km s-min=151.8km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**36.00**	**245**	P		P	21 45 31.0	-0.5
	0.9nm,0.6s,baz=105,slow=12,SNR=2.9							
ASAR	**Alice Springs**	**42.76**	**258**	P		P	21 46 28.9	+0.9
	0.7nm,0.6s,baz=88,slow=8.2,SNR=7.0							
WRA	**Warramunga Arr**	**42.88**	**263**	P		P	21 46 29.4	+0.4
	0.3nm,0.4s,baz=96,slow=8.3,SNR=29							

IDC 05 22:12:49.3±5.0, 842S×15905E, h94km±69km, mb3.3/3, mb1 3.5/3, mb1mx3.3/14, mbtmp3.6/3, Error ellipse: s-maj=82.4km s-min=40.2km az=128.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**1.34**	**138**	P		Pn	22 13 13.8	+0.5
	28nm,0.3s,baz=277,slow=1.0,SNR=16							
HNR				S		Sn	22 13 31.2	-0.1
	124nm,0.3s,baz=97,slow=21,SNR=17							
WRA	**Warramunga Arr**	**26.50**	**242**	P		P	22 18 19.0	+1.1
	0.2nm,0.3s,baz=66,slow=9.0,SNR=8.8							
ASAR	**Alice Springs**	**28.44**	**235**	P		P	22 18 34.6	-0.6
	0.2nm,0.3s,baz=64,slow=9.5,SNR=5.4							
MKAR	**Makanchi Array**	**87.13**	**318**	P		P	22 25 24.9	+0.1
	0.3nm,0.5s,baz=98,slow=6.7,SNR=6.1							

*NEIC **05** 22:22:01.2, 3442S×7009W, h14km, ML3.2(GUC), After GUC.*

GUC 05 22:22:01.2±0.7, 3442S×7009W, h14km±3km, MD4.1, ML3.2, 10C-7D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CICH	**Cipreses**	**0.29**	**291**	⇓*i*P		Pg	22 22 07.3	0.0
CICH				*i* S		Sg	22 22 11.5	+0.1
CACH	**El Canelo**	**0.52**	**306**	⇑*i*P		Pg	22 22 11.1	-0.4
CACH				*i* S		Sg	22 22 18.2	-0.3
LMEL	**Las Melosas**	**0.58**	**351**	⇑*i*P		Pg	22 22 12.3	-0.3
LMEL				*i* S		Sg	22 22 20.8	+0.5

	comp=E,764nm,0.4s						
PEL	**Peldehue**	**1.36**	**339**	⇑*iP*	Pn	22 31 53.9	+0.3
PEL				*i* S	Sn	22 32 12.8	+1.3
LCCH	**Las Cruces**	**1.54**	**307**	⇑*i*P	Pn	22 31 56.8	+0.6
LCCH				*i* S	Sn	22 32 18.0	+2.0
ROCH	**El Roble**	**1.63**	**332**	⇑*i*P	Pn	22 31 58.5	+1.1
ROCH				*i* S	Sn	22 32 21.6	+3.5
JACH	**Jahuel**	**1.77**	**346**	*e*P	Pn	22 32 01.4	+2.0
CCHI	**Chillan**	**2.72**	**216**	*i* P	Pn	22 32 17.1	+4.7
CCHI				*i* S	Sn	22 32 53.0	+7.9
CCHI				AML	AML	22 32 57.1	
	comp=N,407nm,1.2s						
CCHI	**Chillan**	**2.72**	**216**	*i* P	Pn	22 32 17.1	+4.7
CCHI				*i* S	Sn	22 32 53.0	+7.9
CHNG	**Los Chungos**	**2.78**	**335**	⇓*i*P	Pn	22 32 17.4	+4.1
CHNG				AML	AML	22 32 58.4	
	comp=E,227nm,0.7s						

NEIC ***05*** *22:37:15.4, 34.43S×70.09W, h17km, ML2.6(GUC), After GUC.*

GUC 05 22:37:15.4±0.8, 34.43S×70.09W, h17km±3km, MD3.8, ML2.6, 13C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CICH	**Cipreses**	**0.30**	**291**	⇓*iP*	Pg	22 37 21.6	-0.1
CICH				*i* S	Sg	22 37 26.1	0.0
CACH	**El Canelo**	**0.53**	**306**	⇑*i*P	Pg	22 37 25.3	-0.5
CACH				*i* S	Sg	22 37 32.8	-0.1
LMEL	**Las Melosas**	**0.59**	**350**	⇑*i*P	Pg	22 37 26.5	-0.5
LMEL				*i* S	Sg	22 37 35.5	+0.7
LMEL				AML	AML	22 37 36.2	
	comp=N,432nm,0.3s						
LMEL	**Las Melosas**	**0.59**	**350**	⇑*i*P	Pg	22 37 26.5	-0.5
LMEL				*i* S	Sg	22 37 35.5	+0.7
CHCH	**Chadas Angostu**	**0.68**	**316**	⇓*i*P	Pg	22 37 28.4	-0.3
CHCH				*i* S	Sg	22 37 38.2	+0.4
SFDO	**San Fernando**	**0.79**	**256**	⇑*i*P	Pb	22 37 30.5	-0.2
SFDO				*i* S	Sb	22 37 40.8	-0.3
PCH	**Pirque**	**0.88**	**336**	⇓*i*P	Pb	22 37 31.9	-0.3
PCH				*i* S	Sb	22 37 44.2	+0.5
TACH	**Talagante**	**1.05**	**317**	⇓*i*P	Pb	22 37 34.7	-0.4
TACH				*i* S	Sb	22 37 49.2	+0.7
CLCH	**Cerro Calan**	**1.09**	**340**	⇑*i*P	Pb	22 37 35.8	-0.1
CLCH				*i* S	Sb	22 37 51.4	+1.5
CLCH				AML	AML	22 37 56.1	
	comp=E,349nm,0.5s						
FCH	**Farellones**	**1.11**	**351**	⇑*i*P	Pb	22 37 35.9	-0.2
FCH				*i* S	Sb	22 37 51.9	+1.6
FCH				AML	AML	22 37 56.8	
	comp=E,161nm,0.3s						
RCDM	**Rinconada Maip**	**1.11**	**327**	⇑*i*P	Pb	22 37 35.9	-0.3
RCDM				*i* S	Sb	22 37 51.4	+1.1
RCDM				AML	AML	22 37 52.5	
	comp=E,394nm,0.1s						
RCDM	**Rinconada Maip**	**1.11**	**327**	⇑*i*P	Pb	22 37 35.9	-0.3
RCDM				*i* S	Sb	22 37 51.4	+1.1
LNV	**Longovilo**	**1.20**	**293**	⇑*i*P	Pn	22 37 37.1	-0.2
LNV				*i* S	Sb	22 37 53.4	+0.6
PEL	**Peldehue**	**1.37**	**339**	⇑*i*P	Pn	22 37 40.5	+0.7
PEL				*i* S	Sn	22 37 59.5	+1.9
PEL				AML	AML	22 38 02.4	
	comp=N,330nm,0.3s						
PEL	**Peldehue**	**1.37**	**339**	⇑*i*P	Pn	22 37 40.5	+0.7
PEL				*i* S	Sn	22 37 59.5	+1.9
LCCH	**Las Cruces**	**1.56**	**307**	⇑*i*P	Pn	22 37 43.4	+1.1
LCCH				*i* S	Sn	22 38 04.1	+2.0
ROCH	**El Roble**	**1.64**	**332**	⇑*i*P	Pn	22 37 45.0	+1.5
ROCH				*i* S	Sn	22 38 08.1	+3.9
JACH	**Jahuel**	**1.79**	**346**	*e*P	Pn	22 37 47.8	+2.2

ISCJB ***05*** *22:43:24.7±0.7, 20.35S×007×173.4W±0.1, h33km, mb4.1/6, MS4.0/3, Error ellipse: s-maj=14.8km s-min=7.8km az=56.4*

IDC ***05*** *22:43:28.6±1.1, 20.16S×174.44W, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.1/16, mbtmp4.1/8, ML4.5/1, MS3.8/4, Ms1 3.9/4, ms1mx3.4/20, Error ellipse: s-maj=40.8km s-min=21.8km az=123.0*

NEIC ***05*** *22:43:33.6±0.8, 2021S×174.44W, h35km, Error ellipse: s-maj=33.3km s-min=17.0km az=119.0*

MOS ***05*** *22:43:37.9±2.9, 1872S×175.21W, h33km, mb4.3/5, Error ellipse: s-maj=35.9km s-min=21.0km az=47.3*

ISC 05 22:43:27.7±0.7, 2032S±008×173.42W±010, h35km, n36, σ0§86/19, mb4.1/6, MS4.0/3, 1C-5D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.56**	**14**	Pn	**Pn**	**22 45 00.9**	**-0.7**
	10nm,0.3s,baz=195,slow=16,SNR=9.3						
AFI				Sn	**Sn**	**22 46 08.7**	**-6.4**
	8.3nm,0.3s,baz=15,slow=18,SNR=5.9						
AFI	**Afiamalu**	**6.56**	**14**	P	**Pn**	**22 45 00.9**	**-0.7**
AFI						22 46 08.7	
AFI				pmax	pmax		
	comp=Z,10.0nm,0.3s						
AFI				smax			
	comp=N,8.0nm,0.3s						
RAO	**Raoul Island**	**9.79**	**204**	Sn	**Sn**	**22 47 34.4**	**-0.2**
	comp=N,27nm,0.3s,baz=68,slow=23,SNR=2.5						
RAR	**Rarotonga**	**12.80**	**96**	Pn	**Pn**	**22 46 27.1**	**+0.1**
	comp=N,31nm,0.3s,baz=274,slow=10.0,SNR=9.8						
RAR				LR	LR	22 49 56.8	
	comp=N,272nm,19.9s,baz=225,slow=28						
DZM	**Mont Dzumac**	**18.86**	**261**	P	**Pn**	**22 47 45.8**	**+0.4**
	comp=N,0.5nm,0.3s,baz=63,slow=18,SNR=7.3						
URZ	**Urewera**	**19.68**	**203**	P	**Pn**	**22 47 55.7**	**+0.4**
	comp=N,1.4nm,0.3s,baz=160,slow=21,SNR=6.8						
URZ				S	**S**	**22 51 25.5**	**-8.1**
	comp=N,0.4nm,0.3s,baz=322,slow=9.1,SNR=3.4						
TBI	**Tubuai**	**22.44**	**102**	eLQ		22 52 33.5	
	comp=N,660nm,27.8s						
TBI				*e*LR	LR	22 53 31.9	
	comp=N,234nm,28.5s						
PPT	**Papeete**	**22.71**	**87**	*e*LQ		22 52 38.9	
	comp=N,876nm,25.8s						
PPT				*e*LR	LR	22 53 37.7	
	comp=N,110nm,28.5s						
RPZ	**Rata Peaks**	**26.70**	**206**	P	**P**	**22 49 08.6**	**+5.1**
	comp=N,5.6nm,0.5s,mb4.4,baz=42,slow=11,SNR=5.8						
STKA	**Stephens Creek**	**41.74**	**245**	P	**P**	**22 51 12.2**	**-1.2**
	comp=N,1.7nm,0.6s,mb3.8,baz=94,slow=11,SNR=4.1						
STKA	**Stephens Creek**	**41.74**	**245**	*e*P	**P**	**22 51 12.6**	**-0.8**
ASAR	**Alice Springs**	**48.74**	**256**	P	**P**	**22 52 08.2**	**-0.7**
	comp=N,0.6nm,0.3s,mb4.1,baz=90,slow=7.6,SNR=13						
ASAR	**Alice Springs**	**48.74**	**256**	P	**P**	**22 52 08.2**	**-0.6**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WRA	**Warramunga Arr**	**48.88**	**261**	P	**P**	**22 52 10.0**	**+0.1**
	comp=Z,0.5nm,0.3s,mb4.0,baz=95,slow=6.7,SNR=9.1						
WRA	**Warramunga Arr**	**48.88**	**261**	P	**P**	**22 52 10.0**	**+0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**72.69**	**321**	P	**P**	**22 54 54.7**	**+2.8**
	comp=Z,2.8nm,0.8s,mb4.3,baz=162,slow=6.4,SNR=8.3						
MJAR	**Matsushiro Arr**	**72.69**	**321**	P	**P**	**22 54 54.7**	**+2.8**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PDAR	**Pinedale Array**	**85.93**	**42**	P	pP	22 56 14.6	-0.5
	comp=Z,0.3nm,0.7s,baz=257,slow=3.6,SNR=2.7						
ILAR	**Eielson Array**	**87.24**	**11**	P	**P**	**22 56 16.7**	**+6.2**
	comp=Z,0.6nm,0.7s,mb4.0,baz=235,slow=5.8,SNR=7.1						
ILAR	**Eielson Array**	**87.24**	**11**	P	**P**	**22 56 16.7**	**+6.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**94.59**	**23**	LR	LR	23 36 01.6	
	comp=Z,54nm,18.9s,MS4.0,baz=280,slow=33						
ULM	**Lac du Bonnet**	**97.74**	**39**	LR	LR	23 39 44.7	
	comp=Z,57nm,18.9s,MS4.1,baz=19,slow=34						
LPAZ	**La Paz**	**98.13**	**111**	LR	LR	23 30 13.6	
	comp=Z,50nm,21.5s,MS4.0,baz=271,slow=28						
FINES	**FINESS Array B**	**136.70**	**346**	PKP	PKPdf	23 02 51.4	+5.2
	comp=Z,0.3nm,0.7s,baz=11,slow=22,SNR=2.5						
AKASG	**Malin Array Be**	**144.81**	**335**	PKP	PKPdf	23 03 03.4	+2.6
	comp=Z,1.6nm,0.5s,baz=42,slow=4.3,SNR=15						
AKASG	**Malin Array Be**	**144.81**	**335**	PKHKP	PKPdf	23 03 03.4	+2.6
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MALT	**Malatya**	**147.17**	**310**	⇓*i*P	PKPbc	23 03 14.2	+7.1
CLL	**Collm**	**148.66**	**352**	*e*PKPbc	PKPbc	23 03 17.0	+6.0
BURAR	**Bucovina Array**	**148.85**	**335**	⇓*i*P	PKPbc	23 03 16.8	+5.3
CFR	**Carcaliu**	**149.47**	**329**	⇓*i*P	PKPbc	23 03 17.5	+4.4
PLOR	**Plostina**	**149.66**	**332**	⇓*i*P	PKPab	23 03 27.8	+9.1
BRTR	**Keskin Array B**	**149.81**	**316**	PKPbc	PKPbc	23 03 17.4	+3.5
	comp=Z,1.2nm,0.8s,baz=97,slow=3.1,SNR=4.2						
BRTR	**Keskin Array B**	**149.81**	**316**	PKIKP	PKPbc	23 03 17.4	+3.5
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
DRGR		**150.49**	**337**	⇑*i*P	PKPab	23 03 26.5	+4.3
GERES	**GERESS Array B**	**150.97**	**350**	PKPbc	PKPbc	23 03 21.7	+5.1
	comp=Z,0.4nm,0.7s,baz=329,slow=2.3,SNR=4.7						
PKSM	**Moragy**	**152.34**	**342**	⇓*i*P	PKPbc	23 03 22.7	+2.9

ISC 05 23:31:24.2±2.3, 514N±01×70E±04, h17km±9km, n6, σ0§47/10, 1C, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WTSB	**Winterswijk**	**0.54**	**350**	*e*Pg	**Pg**	**23 31 35.2**	**+0.3**
HGN	**Heimansgroeve**	**0.93**	**224**	*e*Pg	**Pg**	**23 31 42.0**	**-0.3**
HGN				*e*Sg	**Sg**	**23 31 54.9**	**+0.3**
MEM	**Membach**	**1.02**	**216**	⇑P	**Pb**	**23 31 43.2**	**-0.2**
MEM				S	**Sb**	**23 31 57.4**	**+0.8**
	comp=N,12nm,0.4s						
BEBN	**Eben Emael**	**1.03**	**232**	P	**Pb**	**23 31 42.9**	**-0.7**
BEBN				S	**Sb**	**23 31 56.2**	**-0.6**
SNF	**Seneffe**	**1.93**	**242**	P	**Pn**	**23 31 56.6**	**+0.4**
DOU	**Dourbes**	**2.01**	**229**	P	**Pn**	**23 31 57.0**	**-0.3**
DOU				S	**Sn**	**23 32 22.4**	**+0.3**
	comp=N,1.0nm,0.2s						

ISCJB ***05*** *23:58:28.0±1.0, 459N±0.1×149.7E±0.1, h165km±11km, mb3.9/19, Error ellipse: s-maj=23.1km s-min=13.4km az=129.4*

IDC ***05*** *23:58:31.8±2.7, 46.15N×149.46E, h176km±30km, mb3.4/12, mb1 3.6/13, mb1mx3.5/23, mbtmp3.9/13, Error ellipse: s-maj=47.7km s-min=14.1km az=171.0*

MOS ***05*** *23:58:31.6±1.1, 46.22N×149.36E, h189km, mb3.9/1, Error ellipse: s-maj=21.8km s-min=17.4km az=108.3*

NEIC ***05*** *23:58:32.2±1.9, 46.29N×149.43E, h175km, mb3.7/1, Error ellipse: s-maj=52.3km s-min=12.4km az=176.0*

JMA ***05*** *23:58:32.7±0.4, 45.20N×149.66E, h177km, M4.1*

ISC 05 23:58:28.5±1.0, 460N±01×1497E±01, h153km±11km, n50, σ1§24/44, mb3.9/19, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JRA	**Rausu**	**3.85**	**240**	P	**Pn**	**23 59 27.8**	**+0.9**
NEM2	**Nemuro 2**	**3.86**	**229**	P	**Pn**	**23 59 25.6**	**-1.4**
NEM2				*e*S	**Sn**	**00 00 07.5**	**-4.9**
JNK	**Nakash**	**4.29**	**238**	P	**Pn**	**23 59 33.2**	**+0.6**
JTKR	**Abashiri--Toko**	**4.59**	**246**	P	**Pn**	**23 59 37.5**	**+1.0**
JAK	**Akkeshi**	**4.67**	**232**	P	**Pn**	**23 59 37.0**	**-0.6**
JAK				*e*S	Sx	00 00 26.3	
YSS	**Yuzh-Sakhalins**	**4.92**	**284**	*e*PN	**Pn**	**23 59 42.1**	**+1.3**
JAR	**Ashorobuto**	**5.03**	**240**	P	**Pn**	**23 59 43.0**	**+0.8**
JOB	**Onbets**	**5.22**	**236**	P	**Pn**	**23 59 44.5**	**-0.3**
JOB				*e*S	Sx	00 00 40.5	
ASAJ	**Asahikawa**	**5.38**	**252**	P	**Pn**	**23 59 48.8**	**+1.8**
	3.9nm,0.3s,baz=77,slow=14,SNR=14						
ASAJ	**Asahikawa**	**5.38**	**252**	P	**Pn**	**23 59 49.2**	**+2.2**
ASAJ	**Asahikawa**	**5.38**	**252**	PN	**Pn**	**23 59 48.8**	**+1.8**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
JKK2	**Kamakawa 2**	**5.38**	**250**	P	**Pn**	**23 59 48.5**	**+1.5**
JCH	**Churui**	**5.67**	**236**	P	**Pn**	**23 59 49.9**	**-0.9**
JCH				*e*S	Sx	00 00 49.2	
JBT2	**Biratori 2**	**6.17**	**241**	P	**Pn**	**23 59 57.4**	**0.0**
JBT2				*e*S	Sx	00 01 03.1	
JEM	**Erimo**	**6.17**	**232**	P	**Pn**	**23 59 57.1**	**-0.4**
JNBK	**Urakawa-nobuka**	**6.23**	**236**	P	**Pn**	**23 59 57.1**	**-1.2**
JNBK				*e*S	Sx	00 01 00.6	
JNB	**Noboribetsu**	**7.16**	**244**	*e*S	Sx	00 01 25.8	
JKB	**Kayabe**	**7.49**	**240**	P	**Pn**	**00 00 13.2**	**-1.8**
JKB				*e*S	Sx	00 01 30.5	
JYM2	**Yakumo 2**	**7.77**	**244**	P	**Pn**	**00 00 18.1**	**-0.6**
JSR	**Shiriuchi**	**8.07**	**240**	*e*S	Sx	00 01 43.7	
JTM	**Tenmabayashi**	**8.16**	**234**	*e*S	Sx	00 01 43.8	
JANG	**Nango**	**8.21**	**230**	*e*S	Sx	00 01 45.4	
JTH	**Tanohata**	**8.34**	**226**	*e*S	Sx	00 01 48.3	
JRG	**Rokugo**	**9.38**	**229**	P	**Pn**	**00 00 37.6**	**-2.6**
JRG				*e*S	Sx	00 02 12.8	
JIO	**Ouri**	**9.75**	**223**	*e*S	Sx	00 02 22.5	
JFK	**Kawauchi**	**10.85**	**221**	*e*S	Sx	00 02 48.9	
ILAR	**Eielson Array**	**38.61**	**38**	P	**P**	**00 05 37.0**	**+0.3**
	comp=Z,2.0nm,0.9s,mb3.8,baz=277,slow=9.0,SNR=14						
INK	**Inuvik**	**43.55**	**32**	P	**P**	**00 06 17.7**	**+0.7**
	comp=Z,0.9nm,0.4s,mb3.7,baz=306,slow=7.1,SNR=8.3						
INK	**Inuvik**	**43.55**	**32**	P	**P**	**00 06 17.7**	**+0.7**
MKAR	**Makanchi Array**	**45.20**	**297**	P	**P**	**00 06 29.2**	**-0.9**
	comp=Z,0.9nm,0.5s,mb3.6,baz=70,slow=7.0,SNR=24						
MKAR				PcP	PcP	00 08 06.7	-1.0
	comp=Z,0.4nm,0.6s,baz=46,slow=2.2,SNR=4.3						
BVAR	**Borovoye Array**	**49.53**	**309**	P	**P**	**00 07 02.2**	**-1.3**
	comp=Z,0.4nm,0.4s,mb3.4,baz=70,slow=9.2,SNR=3.9						
ZRNK	**Zerenda**	**50.31**	**309**	*e*P	**P**	**00 07 07.4**	**-2.0**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.9						
ZRNK	**Zerenda**	**50.31**	**309**	*e*P	**P**	**00 07 07.4**	**-2.0**
	comp=Z,0.7nm,0.3s,mb3.8						
JIRN	**Jiri**	**52.66**	**273**	*e*P	**P**	**00 07 28.2**	**+1.3**
	comp=Z,6.6nm,0.5s,mb4.7						
GUN	**Gumba**	**52.72**	**273**	*e*P	**P**	**00 07 28.8**	**+1.5**
	comp=Z,4.6nm,0.3s,mb4.7						
YKA	**Yellowknife Ar**	**52.93**	**35**	P	**P**	**00 07 29.1**	**+0.3**
	comp=Z,1.3nm,0.6s,mb3.8,baz=298,slow=6.9,SNR=22						
KKN	**Kakani**	**53.21**	**274**	*e*P	**P**	**00 07 32.5**	**+1.6**
	comp=Z,8.6nm,0.6s,mb4.7						
PKI	**Pulchoki**	**53.26**	**273**	*e*P	**P**	**00 07 32.6**	**+1.3**
DMN	**Daman**	**53.44**	**273**	*e*P	**P**	**00 07 33.4**	**+0.8**
GKN	**Gorkha**	**53.53**	**274**	*e*P	**P**	**00 07 34.2**	**+1.0**
	comp=Z,4.1nm,0.3s,mb4.6						
KOLN	**Koldanda**	**54.39**	**275**	*e*P	**P**	**00 07 40.6**	**+1.1**
	comp=Z,3.3nm,0.3s,mb4.6						
JOF	**Joensuu**	**60.97**	**333**	*e*p	**P**	**00 08 23.2**	**-2.2**
	comp=Z,0.9nm,0.5s,mb3.9						
FINES	**FINESS Array B**	**63.71**	**334**	P	**P**	**00 08 41.8**	**-1.9**
	comp=Z,1.2nm,0.7s,mb3.9,baz=46,slow=8.2,SNR=7.6						
NVAR	**Mina Array Bea**	**64.86**	**60**	P	**P**	**00 08 52.4**	**+1.3**
	comp=Z,0.4nm,0.8s,mb3.3,baz=313,slow=4.9,SNR=4.8						
PDAR	**Pinedale Array**	**67.08**	**52**	P	**P**	**00 09 06.2**	**+0.9**
	comp=Z,1.0nm,0.6s,mb3.8,baz=297,slow=2.2,SNR=10						
NOA	**NORSAR Array B**	**68.17**	**340**	P	**P**	**00 09 10.2**	**-2.0**
	comp=Z,0.6nm,0.6s,mb3.5,baz=30,slow=6.4,SNR=3.3						
AKASG	**Malin Array Be**	**70.85**	**325**	P	**P**	**00 09 26.8**	**-1.8**
	comp=Z,1.1nm,0.4s,mb4.0,baz=34,slow=5.9,SNR=8.9						
AKASG	**Malin Array Be**	**70.85**	**325**	P	**P**	**00 09 26.8**	**-1.8**
BRTR	**Keskin Array B**	**77.31**	**315**	P	**P**	**00 10 06.8**	**+0.8**
	comp=Z,0.5nm,0.7s,mb3.3,baz=90,slow=6.2,SNR=5.4						
GERES	**GERESS Array B**	**78.08**	**332**	P	**P**	**00 10 09.6**	**-0.7**
	comp=Z,0.7nm,0.5s,mb3.5,baz=35,slow=5.8,SNR=9.0						

IDC ***05*** *23:59:42.1±1.5, 4.29S×136.65E, h0km, mb3.8/2, mb1 4.0/5, mb1mx3.8/13, mbtmp3.7/5, ML3.7/3, Error ellipse: s-maj=60.7km s-min=26.5km az=97.0*

ISCJB ***05*** *23:59:44.7±1.2, 4.41S±009×136.9E±03, h33km, mb3.8/2, Error ellipse: s-maj=39.0km s-min=12.0km az=14.7*

NEIC ***05*** *23:59:46.7±2.1, 4.39S×136.92E, h35km, mb3.6/1, Error ellipse: s-maj=54.9km s-min=19.9km az=91.0*

ISC 05 23:59:46.5±1.2, 459S±008×1371E±03, h35km, n9, σ1§44/12, mb3.8/2, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**9.29**	**209**	*e*P	**Pn**	**00 02 00.6**	**+2.6**
	5.1nm,0.4s						
WB2	**Warramunga Arr**	**15.49**	**190**	*e*P	**Pn**	**00 03 21.9**	**-0.4**
WRA	**Warramunga Arr**	**15.49**	**190**	Pn	**Pn**	**00 03 23.7**	**+1.4**
	0.2nm,0.3s,baz=2.9,slow=13,SNR=2.7						
WRA				Sn	**Sn**	**00 06 09.9**	**-2.9**
	0.3nm,0.3s,baz=8.2,slow=21,SNR=5.4						
FITZ	**Fitzroy Crossi**	**17.50**	**219**	*e*P	**Pn**	**00 03 47.9**	**+0.2**
	4.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**17.50**	**219**	P	**Pn**	**00 03 47.9**	**+0.2**
	0.2nm,0.3s,baz=60,slow=20,SNR=6.4						
FITZ				S	**S**	**00 06 49.7**	**-19**
	0.2nm,0.3s,baz=187,slow=15,SNR=3.8						
ASAR	**Alice Springs**	**19.21**	**189**	P	**Pn**	**00 04 10.7**	**+2.2**
	0.5nm,0.3s,baz=14,slow=8.9,SNR=22						
ASAR				S	**S**	**00 07 43.0**	**-0.2**
	0.1nm,0.3s,baz=360,slow=12,SNR=4.3						
MKAR	**Makanchi Array**	**70.32**	**323**	P	**P**	**00 10 55.2**	**-1.3**
	0.4nm,0.5s,mb3.6,baz=111,slow=7.8,SNR=8.3						
MKAR	**Makanchi Array**	**70.32**	**323**	P	**P**	**00 10 55.2**	**-1.3**
ILAR	**Eielson Array**	**88.19**	**25**	P	**P**	**00 12 33.6**	**-0.2**
	0.6nm,0.6s,mb4.0,baz=256,slow=4.2,SNR=8.2						

MAN 06 00:06:49.9, 950N×12267E, h16km, mb3.0, ML4.4, MS2.7, 3C-2D, Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.58**	**105**	⇓*i*P	Pg	00 07 01.9	+0.6
SNPH				*i* S	Sg	00 07 10.5	+1.4
GUIM	**Jordan**	**1.12**	**356**	*e*P	Pb	00 07 08.8	-2.1
DCPH	**Dipolog City**	**1.13**	**143**	⇑*e*P	Pn	00 07 09.4	-1.6
DCPH				*e*S	Sb	00 07 24.6	-1.0
LLP	**Lapu-Lapu**	**1.52**	**57**	⇑*i*P	Pn	00 07 15.9	-0.4
LLP				*i* S	Sn	00 07 35.5	-0.2
IPIL	**Ipil**	**1.70**	**183**	⇑*i*P	Pn	00 07 18.6	-0.2
IPIL				*i* S	Sn	00 07 41.1	+0.8
IPIL	**Ipil**	**1.70**	**183**	*e*P	Pn	00 07 18.5	-0.4
IPIL				*e*S	Sn	00 07 39.9	-0.4
PAGZ	**Pagadian**	**1.79**	**157**	*e*P	Pn	00 07 20.2	+0.2
RCP	**Roxas**	**2.05**	**2**	⇓*e*P	Pn	00 07 23.1	-0.5
RCP				*e*S	Sn	00 07 51.3	+2.4
CUYO	**Cuyo Island**	**2.11**	**310**	*e*P	Pn	00 07 23.6	-0.9
MSLP	**Maasin**	**2.25**	**74**	*e*P	Pn	00 07 27.5	+1.0

PRE 06 00:14:30.7±0.9, 2642S×2740E, h2km, ML3.6, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSR	**Koster**	**0.72**	**321**	*e*P	Pg	00 14 45.0	+0.5
KSR				*e*S	Sg	00 14 54.3	+0.4
KSR				AML	AML	00 15 10.6	
	comp=Z,1μm,0.1s						
SLR	**Silverton**	**1.04**	**50**	*e*P	Pg	00 14 50.1	-0.6
SLR				*e*S	Sg	00 15 05.5	+1.2
SLR				AML	AML	00 15 08.4	
	comp=Z,798nm,0.4s						
SWZ	**Schweizer**	**2.00**	**247**	*e*P	Pn	00 15 05.7	+0.2
SWZ				*e*S	Sn	00 15 32.1	+1.0
SWZ				AML	AML	00 15 36.6	
	comp=Z,930nm,0.5s						
LBTB	**Lobatse**	**2.14**	**310**	*e*P	Pn	00 15 08.8	+1.3
LBTB				*e*S	Sn	00 15 35.2	+0.6
LBTB				AML	AML	00 15 43.0	
	comp=Z,292nm,0.4s						
BFT	**Belfast (SA)**	**2.49**	**74**	*e*P	Pn	00 15 13.2	+1.0
BFT				*e*S	Sn	00 15 44.0	+0.9
BFT				AML	AML	00 15 48.6	
	comp=Z,223nm,0.4s						
HVD	**Hendrik Verwoe**	**4.50**	**201**	*e*P	Pn	00 15 40.5	+0.7
HVD				*e*S	Sn	00 16 31.8	-0.9
HVD				AML	AML	00 16 32.4	
	comp=Z,43nm,0.8s						
PKA	**Prieska**	**5.23**	**231**	*e*P	Pn	00 15 50.8	+0.9
PKA				*e*S	Sn	00 16 49.5	-1.2
PKA				AML	AML	00 16 55.2	
	comp=Z,93nm,0.4s						
GRM	**Grahamstown**	**6.92**	**186**	*e*P	Pn	00 16 14.0	+0.9
SUR	**Sutherland**	**8.27**	**222**	*e*P	Pn	00 16 32.6	+1.0
SUR				*e*S	Sn	00 18 02.0	-3.5
CER	**Ceres**	**9.87**	**224**	*e*P	Pn	00 16 55.0	+1.5

NEIC ***06*** *00:14:56.7, 17.11N×100.92W, h18km, MD3.5(MEX), After MEX.*

MEX 06 00:14:56.7±0.5, 1711N×10091W, h16km±46km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.62**	**95**	*i* P	Pg	00 15 06.6	-2.3
CAIG				*i* S	Sg	00 15 14.8	-2.4
ZIIG	**Zihuatanejo**	**0.72**	**314**	*i* P	Pg	00 15 08.4	-2.5
ZIIG				*i* S	Sg	00 15 17.2	-3.3
ACX	**Acapulco**	**0.98**	**104**	*e*P	Pb	00 15 13.5	-1.9
ACX				*i* S	Sb	00 15 28.0	-0.1
MEIG	**Mezcala**	**1.48**	**56**	*i* P	Pn	00 15 19.4	-3.2
MEIG				*i* S	Sn	00 15 36.6	-5.1
PLIG	**Platanillo**	**1.86**	**46**	*i* P	Pn

comp=Z,1.5nm,0.5s,mb4.3

WRA	**Warramunga Arr**	**48.51**	**260**	P		**P**	**00 37 19.9**	**-0.1**
	comp=Z,0.7nm,0.3s,mb4.1,baz=96,slow=7.6,SNR=9.2							
VNDA	**Vanda**	**59.07**	**186**	P		**P**	**00 38 38.4**	**+1.2**
	comp=Z,1.8nm,0.9s,mb4.1,baz=18,slow=5.1,SNR=5.4							
VNDA	**Vanda**	**59.07**	**186**	*e*P		**P**	**00 38 37.7**	**+0.5**
VNDA				pmax		pmax		
	comp=Z,4.0nm,1.1s							
VNDA	**Vanda**	**59.07**	**186**	*e*P		**P**	**00 38 37.7**	**+0.5**
	comp=Z,3.8nm,1.1s,mb4.3							
CASY	**Casey**	**66.32**	**205**	P		**P**	**00 39 23.9**	**-1.6**
	comp=Z,3.9nm,0.7s,mb4.5							
QSPA	**South Pole Qui**	**70.36**	**180**	*e*P		**P**	**00 39 52.4**	**+1.6**
	comp=Z,5.7nm,1.1s,mb4.4							
MJAR	**Matsushiro Arr**	**71.92**	**321**	P		**P**	**00 40 02.0**	**+1.7**
	comp=Z,5.2nm,0.7s,mb4.6,baz=156,slow=5.6,SNR=15							
NVAR	**Mina Array Bea**	**77.85**	**42**	P		**P**	**00 40 35.8**	**+1.3**
	comp=Z,0.4nm,0.7s,mb3.5,baz=223,slow=8.5,SNR=4.4							
ILAR	**Eielson Array**	**86.74**	**11**	P		**P**	**00 41 20.6**	**-0.4**
	comp=Z,0.6nm,0.8s,mb3.9,baz=230,slow=6.1,SNR=7.2							
YKA	**Yellowknife Ar**	**94.22**	**24**	P		**P**	**00 41 56.3**	**+0.3**
	comp=Z,0.1nm,0.7s,mb3.4,baz=274,slow=40,SNR=2.7							
YKA	**Yellowknife Ar**	**94.22**	**24**	P		**P**	**00 41 56.3**	**+0.3**
BVAR	**Borovoye Array**	**120.92**	**321**	PKP		PKPdf	00 47 29.4	+0.2
	comp=Z,0.7nm,0.7s,baz=72,slow=1.9,SNR=6.6							
ARCES	**ARCESS Array B**	**128.77**	**351**	PKP		PKPdf	00 47 44.0	-0.2
	comp=Z,1.7nm,0.9s,baz=104,slow=1.1,SNR=3.5							
AKASG	**Malin Array Be**	**144.05**	**335**	PKP		PKPdf	00 48 10.9	-1.5
	comp=Z,3.2nm,0.6s,baz=39,slow=4.4,SNR=18							
BSEG	**Bad Segeberg**	**145.67**	**356**	*e*PKPbc		PKPbc	00 48 16.8	+1.2
RUE	**Ruedersdorf**	**146.74**	**351**	*e*PKPbc		PKPbc	00 48 20.7	+1.9
CLZ	**Clausthal**	**147.75**	**355**	*e*PKPbc		PKPbc	00 48 23.4	+1.8
STHS	**Stebnicka Huta**	**147.96**	**341**	*e*PKP		PKPbc	00 48 24.2	+2.1
CLL	**Collm**	**147.99**	**352**	*e*PKPbc		PKPbc	00 48 23.3	+1.1
CLL	**Collm**	**147.99**	**352**	*i* PKPbc		PKPbc	00 48 23.3	+1.1
	comp=Z,10.0nm,1.0s							
CLL				*i* PKPab		PKPab	00 48 26.0	+1.1
	comp=Z,6.0nm,0.8s							
CLL				*i* (pPKPbc)			00 48 29.8	
CLL				*i* sPKPbc			00 48 37.6	
CLL				*i* sPKPab			00 48 41.7	
CLL	**Collm**	**147.99**	**352**	*i* PKP		PKPbc	00 48 23.3	+1.1
CLL				*i* PKP		PKPab	00 48 26.0	+1.1
CLL				*i*			00 48 29.8	
KOLS	**Kolonicke sedl**	**148.06**	**340**	*e*PKP		PKPab	00 48 32.0	+6.8
BURAR	**Bucovina Array**	**148.10**	**335**	⇑*i* P		PKPbc	00 48 24.4	+1.9
UPC	**Upice**	**148.27**	**348**	*e*PKP		PKPbc	00 48 24.8	+1.9
BRG	**Berggiesshubel**	**148.28**	**351**	*e*PKPbc		PKPbc	00 48 24.3	+1.3
BRG	**Berggiesshubel**	**148.28**	**351**	*e*PKP		PKPbc	00 48 24.5	+1.5
	comp=Z,3.3nm,1.1s							
BRG	**Berggiesshubel**	**148.28**	**351**	*e*PKIKP		PKPbc	00 48 24.5	+1.5
BRG				pmax		pmax		
	comp=Z,3.0nm,1.1s							
DPC	**Dobruska-Polom**	**148.35**	**347**	*e*PKP		PKPbc	00 48 25.3	+2.1
MORC	**Moravsky Berou**	**148.63**	**346**	⇓*i* P		PKPbc	00 48 26.0	+2.1
CFR	**Carcaliu**	**148.71**	**329**	⇓*i* P		PKPbc	00 48 26.0	+1.9
WERD	**Werda**	**148.93**	**352**	*e*PKPbc		PKPbc	00 48 25.5	+0.9
KECS	**Kecovo**	**149.02**	**341**	*e*PKP		PKPbc	00 48 25.8	+0.9
PRU	**Pruhonice**	**149.04**	**349**	*e*PKP		PKPbc	00 48 26.4	+1.5
BRTR	**Keskin Array B**	**149.04**	**316**	PKPbc		PKPbc	00 48 26.6	+1.7
	comp=Z,1.2nm,0.7s,baz=127,slow=2.9,SNR=11							
NKC	**Novy Kostel**	**149.12**	**352**	*e*PKP		PKPbc	00 48 26.9	+1.8
MANZ	**Manzenberg**	**149.40**	**352**	*e*PKPbc		PKPbc	00 48 27.2	+1.4
VYHS	**Vyhne**	**149.48**	**343**	*e*PKP		PKPbc	00 48 28.5	+2.5
MLR	**Muntele Rosu**	**149.49**	**332**	PKPbc		PKPbc	00 48 28.0	+1.9
	comp=Z,4.3nm,0.9s,baz=316,slow=1.8,SNR=6.8							
MLR	**Muntele Rosu**	**149.49**	**332**	⇓*i* P		PKPbc	00 48 27.5	+1.5
MLR	**Muntele Rosu**	**149.49**	**332**	⇓PKIKP		PKPbc	00 48 27.6	+1.6
TNS	**Taunus Mts**	**149.49**	**357**	*e*PKPbc		PKPbc	00 48 26.4	+0.3
TREC	**Trest**	**149.53**	**348**	*e*PKP		PKPbc	00 48 27.7	+1.6
ROTZ	**Rotzenmuhle**	**149.61**	**352**	*e*PKPbc		PKPbc	00 48 28.0	+1.7
GIVF	**Givet**	**149.65**	**2**	*e*PKP1		PKPbc	00 48 27.7	+1.2
BAIF	**Baives**	**149.67**	**2**	*e*PKP1		PKPbc	00 48 27.8	+1.3
DRGR		**149.74**	**337**	⇑*i* P		PKPbc	00 48 28.6	+1.9
GRA1	**Grafenberg Arr**	**149.80**	**353**	*e*PKPbc		PKPbc	00 48 27.9	+1.1
GRF	**Grafenberg Arr**	**149.80**	**353**	*e*PKPbc		PKPbc	00 48 27.9	+1.1
VOIR		**149.92**	**333**	⇓*i* P		PKPbc	00 48 29.9	+2.8
KHC	**Kasperske Hory**	**150.03**	**350**	*e*PKP		PKPbc	00 48 28.8	+1.4
KHC				*ex*		x	00 48 35.1	
WLF	**Walferdange**	**150.11**	**360**	*e*PKPbc		PKPbc	00 48 28.1	+0.5
GEC2	**GERESS Array S**	**150.28**	**350**	*e*PKPbc		PKPbc	00 48 29.1	+1.1
GERES	**GERESS Array B**	**150.28**	**350**	PKPbc		PKPbc	00 48 29.3	+1.3
	comp=Z,1.9nm,1.0s,baz=29,slow=3.0,SNR=13							
FLN	**La Foliniere**	**150.53**	**9**	*e*PKP1		PKPbc	00 48 28.7	+0.1
LDF	**La Druitiere**	**150.75**	**8**	*e*PKP1		PKPbc	00 48 29.7	+0.6
	comp=Z,5.9nm,0.8s							
GRR	**Gorron**	**150.84**	**10**	*e*PKP1		PKPbc	00 48 30.1	+0.8
	comp=Z,6.1nm,0.7s							
BZS	**Buzias**	**151.14**	**337**	⇑*i* P		PKPbc	00 48 31.5	+1.5
BFO	**Black Forest**	**151.38**	**357**	*e*PKPbc		PKPbc	00 48 31.4	+0.8
PKSM	**Moragy**	**151.61**	**341**	⇑*i* P		PKPbc	00 48 32.0	+0.9
SSF	**Saint Saulge**	**152.63**	**4**	*e*PKP1		PKPbc	00 48 34.4	+1.0

NEIC **06** *00:31:59.9±3.7, 3175N×9584E, h10km, mb3.6/2, Error ellipse: s-maj=65.0km s-min=51.7km az=96.0*
IDC **06** *00:32:00.7±1.0, 3169N×9507E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.7/20, mbtmp3.8/10, ML3.2/1, Error ellipse: s-maj=38.6km s-min=22.9km az=57.0*
MOS **06** *00:32:03.7±1.6, 3169N×9511E, h33km, mb4.0/4, Error ellipse: s-maj=45.0km s-min=14.5km az=122.1*
ISCJB **06** *00:32:04.9±1.6, 3172N±007×9506E±007, h39km±19km, mb3.8/10, Error ellipse: s-maj=12.6km s-min=9.4km az=133.0*
BJI **06** *00:32:06.8, 3200N×9561E, h6km, mb4.4, ML3.4, Ms3.5, Msz3.4*

ISC 06 00:32:07.9±1.2, 3175N±007×9504E±007, h49km±15km, n21, σ1s03/23, mb3.8/10, 1C, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**6.76**	**205**	*e*P		**Pn**		**00 33 44.0**	**-0.4**
SHL				*e*S		**Sn**		**00 35 00.0**	**0.0**
CD2	**Chengdu**	**7.51**	**94**	*e*P		**Pn**		**00 33 52.5**	**-2.2**
CD2				S		**Sn**		**00 35 19.2**	**+0.7**
CD2				Smax					
	comp=N,10.0nm,1.1s								
CD2				Smax					
	comp=E,10.0nm,1.3s								
GYA	**Guiyang**	**11.45**	**114**	⇑*i* P		**Pn**		**00 34 50.1**	**+1.4**
GYA				AMB		AMB			
	comp=Z,10.0nm,0.9s								
MKAR	**Makanchi Array**	**17.93**	**331**	P		**Pn**		**00 36 12.0**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=139,slow=13,SNR=6.5								
MKAR	**Makanchi Array**	**17.93**	**331**	P		**Pn**		**00 36 12.0**	**-1.6**
AAK	**Ala-Archa**	**19.59**	**309**	*e*P		**Pn**		**00 36 35.2**	**+1.6**
AAK				pmax		pmax			
	comp=Z,3.0nm,0.9s								
AAK	**Ala-Archa**	**19.59**	**309**	*e*P		**Pn**		**00 36 35.2**	**+1.7**
	comp=Z,2.9nm,0.9s								
KURK	**Kurchatov**	**22.52**	**332**	*e*P		**P**		**00 37 04.4**	**+1.0**
KURK				pmax		pmax			
	comp=Z,1.0nm,0.6s,mb3.4								
KURK	**Kurchatov**	**22.52**	**332**	*e*P		**P**		**00 37 04.4**	**+1.0**
	comp=Z,1.3nm,0.6s,mb3.5								
BVAR	**Borovoye Array**	**27.74**	**327**	P		**P**		**00 37 52.1**	**+0.3**
	comp=Z,0.9nm,0.8s,mb3.5,baz=128,slow=9.6,SNR=8.2								
BRTR	**Keskin Array B**	**49.62**	**297**	P		**P**		**00 40 55.5**	**+1.1**
	comp=Z,0.9nm,0.7s,mb3.9,baz=84,slow=6.2,SNR=9.0								
FINES	**FINESS Array B**	**52.68**	**326**	P		**P**		**00 41 17.1**	**-0.2**
	comp=Z,1.1nm,1.0s,mb3.8,baz=76,slow=8.0,SNR=5.2								
ARCES	**ARCESS Array B**	**53.49**	**336**	P		**P**		**00 41 22.1**	**-1.1**
	comp=Z,1.4nm,0.7s,mb4.0,baz=56,slow=24,SNR=3.5								
GERES	**GERESS Array B**	**61.45**	**312**	P		**P**		**00 42 19.0**	**-0.2**
	comp=Z,0.3nm,0.6s,mb3.6,baz=54,slow=6.8,SNR=4.3								
KMBO	**Kilima Mbogo**	**63.65**	**251**	P		**P**		**00 42 33.0**	**-1.0**
	comp=Z,1.1nm,0.5s,mb4.1,baz=333,slow=6.8,SNR=3.8								
KMBO	**Kilima Mbogo**	**63.65**	**251**	P		**P**		**00 42 33.0**	**-1.0**
KMBO				pmax		pmax			
	comp=Z,1.0nm,0.5s								
ASAR	**Alice Springs**	**66.48**	**141**	P		**P**		**00 42 52.2**	**0.0**
	comp=Z,0.9nm,0.7s,mb3.9,baz=321,slow=6.6,SNR=7.0								
ASAR	**Alice Springs**	**66.48**	**141**	P		**P**		**00 42 52.3**	**0.0**
ASAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
YKA	**Yellowknife Ar**	**83.11**	**13**	P		**P**		**00 44 27.6**	**-0.8**
	comp=Z,0.5nm,1.1s,mb3.5,baz=331,slow=4.9,SNR=5.1								
YKA	**Yellowknife Ar**	**83.11**	**13**	P		**P**		**00 44 27.6**	**-0.8**
YKA				pmax		pmax			
	comp=Z,1.0nm,1.1s								
TORD	**Torodi Ar. Bea**	**85.99**	**283**	P		**P**		**00 44 43.9**	**+0.9**
	comp=Z,1.8nm,0.7s,mb4.4,baz=52,slow=4.0,SNR=18								

ISCJB **06** *00:43:34.5±1.4, 167S±03×663E±03, h10km, mb4.2/14, MS4.1/5, Error ellipse: s-maj=54.2km s-min=14.3km az=96.1*
IDC **06** *00:43:35.8±2.1, 1658S×6651E, h0km, mb4.1/9, mb1 4.2/9, mb1mx3.9/20, mbtmp4.1/9, MS4.0/5, Ms1 4.0/5, ms1mx3.4/28, Error ellipse: s-maj=76.9km s-min=20.8km az=51.0*
NEIC **06** *00:43:36.6±0.9, 1669S×6634E, h10km, mb4.8/6, Error ellipse: s-maj=34.3km s-min=10.2km az=48.0*

ISC 06 00:43:37.2±1.4, 166S±03×664E±03, h10km, n21, σ0s72/16, mb4.2/14, MS4.1/5, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**32.53**	**295**	LR		LR		01 00 16.6	
	comp=Z,120nm,21.0s,MS3.6,baz=94,slow=31								
NWAO	**Narrogin (SRO)**	**48.51**	**119**	LR		LR		01 08 29.9	
	comp=Z,133nm,21.2s,MS3.9,baz=351,slow=31								
FITZ	**Fitzroy Crossi**	**56.39**	**101**	P		**P**		**00 53 19.2**	**+0.6**
	3.3nm,0.8s,mb4.4,baz=266,slow=5.4,SNR=6.0								
FITZ				LR		LR		01 12 27.0	
	comp=Z,97nm,18.6s,MS3.9,baz=90,slow=31								
AAK	**Ala-Archa**	**59.41**	**7**	*e*P		**P**		**00 53 40.4**	**+0.5**
	0.9nm,0.8s,mb3.9								
GNI	**Garni**	**59.94**	**341**	*e*P		**P**		**00 53 44.1**	**+0.5**
	9.7nm,1.2s,mb4.7								
ASAR	**Alice Springs**	**63.31**	**108**	P		**P**		**00 54 06.2**	**0.0**
	2.3nm,0.6s,mb4.5,baz=271,slow=6.0,SNR=27								
BRTR	**Keskin Array B**	**63.81**	**332**	P		**P**		**00 54 11.0**	**+1.4**
	0.5nm,0.7s,mb3.7,baz=165,slow=6.2,SNR=4.3								
WRA	**Warramunga Arr**	**64.25**	**104**	P		**P**		**00 54 12.8**	**+0.3**
	4.8nm,0.7s,mb4.6,baz=267,slow=6.1,SNR=27								
WRAB	**Tennant Creek**	**64.26**	**104**	*e*P		**P**		**00 54 12.9**	**+0.4**
	13nm,0.8s,mb5.0								
MKAR	**Makanchi Array**	**64.71**	**12**	P		**P**		**00 54 14.9**	**-0.5**
	0.4nm,0.7s,mb3.6,baz=224,slow=8.5,SNR=5.2								
SANT	**Santorini**	**65.34**	**324**	*e*P		**P**		**00 54 18.6**	**-0.9**
	19nm,0.3s								
STKA	**Stephens Creek**	**69.08**	**118**	P		**P**		**00 54 41.5**	**-1.7**
	0.9nm,0.4s,mb4.1,baz=302,slow=22,SNR=3.1								
STKA	**Stephens Creek**	**69.08**	**118**	*e*P		**P**		**00 54 41.8**	**-1.4**
ZRNK	**Zerenda**	**69.30**	**2**	*e*P		**P**		**00 54 44.3**	**-0.3**
	1.6nm,0.6s,mb4.1								
BVAR	**Borovoye Array**	**69.42**	**3**	P		**P**		**00 54 45.4**	**0.0**
	0.9nm,0.7s,mb3.8,baz=170,slow=8.2,SNR=8.3								
ZAL	**Zalesovo**	**72.01**	**11**	P		**P**		**00 55 00.5**	**-0.7**
	0.7nm,0.3s,mb4.0,baz=300,slow=4.2,SNR=4.2								
SONM	**Songino Array**	**73.46**	**27**	P		**P**		**00 55 09.4**	**-0.3**
	0.8nm,0.7s,mb3.8,baz=203,slow=6.1,SNR=5.2								
CTA	**Charters Tower**	**75.22**	**107**	LR		LR		01 28 15.7	
	comp=Z,106nm,19.3s,MS4.2,baz=227,slow=36								
CTAO	**Charters Tower**	**75.22**	**107**	*e*P		**P**		**00 55 20.6**	**+0.6**
	9.0nm,1.1s,mb4.6								
HNR	**Honiara**	**90.74**	**100**	LR		LR		01 30 33.5	
	comp=Z,411nm,22.0s,MS4.8,baz=179,slow=31								
PDAR	**Pinedale Array**	**153.69**	**353**	PKP		PKPdf		01 03 28.6	+0.1
	0.3nm,0.4s,baz=339,slow=7.9,SNR=5.0								

ISCJB **06** *00:56:22.4±0.6, 3778N±002×2098E±002, h1km±4km, mb3.4/6, Error ellipse: s-maj=3.9km s-min=3.1km az=28.8*
IDC **06** *00:56:22.0±1.1, 3771N×2111E, h0km, mb3.5/6, mb1 3.5/10, mb1mx3.4/25, mbtmp3.4/10, ML3.2/4, Error ellipse: s-maj=20.6km s-min=18.5km az=96.0*
THE **06** *00:56:23.4, 3775N×2096E, h1km, ML3.5*
ATH **06** *00:56:24.3, 3787N×2110E, h10km±1km, MD3.8/12, ML3.6*
NEIC **06** *00:56:24.3, 3787N×2110E, h9km, ML3.6(ATH), After ATH.*
CSEM **06** *00:56:24.1±0.1, 3778N×2098E, h2km, ML3.6, Error ellipse: s-maj=2.4km s-min=1.4km az=16.0*

ISC 06 00:56:23.7±0.6, 3779N±002×2101E±002, h1km±4km, n65, σ1s24/91, mb3.4/6, 2C-1D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.45**	**53**	⇓*i* PB		**Pg**		**00 56 31.6**	**-0.7**
RLS				*e*SB		**Sg**		**00 56 36.5**	**-1.6**
VLS	**Valsamata**	**0.51**	**320**	*e*PG		**Pg**		**00 56 34.0**	**+0.5**
VLS				*e*SB		**Sg**		**00 56 42.0**	**+1.9**
ITM	**Ithomi**	**0.95**	**130**	*e*PB		**Pg**		**00 56 41.7**	**-0.1**
ITM				*e*SB		**Sg**		**00 56 55.8**	**+1.7**
LKD	**Levkas**	**0.96**	**343**	*e*Pg		**Pg**		**00 56 41.2**	**-0.9**
LKD				*e*Sg		**Sg**		**00 56 56.6**	**+2.1**
EVR	**Evrytania**	**1.29**	**29**	*e*PN		**Pn**		**00 56 46.0**	**-2.8**
EVR				*e*SB		**Sg**		**00 57 03.5**	**-1.6**
EVR	**Evrytania**	**1.29**	**29**	*e*Pn		**Pn**		**00 56 46.2**	**-2.6**
AGG	**Agios Georgios**	**1.61**	**40**	*e*Pb		**Pb**		**00 56 51.7**	**-2.5**
AGG				*e*Sb		**Sg**		**00 57 15.1**	**-0.3**
MGER	**Gerania Oros**	**1.79**	**83**	*e*PG		**Pg**		**00 56 56.0**	**-2.0**
IGT	**Igoumenitsa**	**1.82**	**343**	*e*Pb		**Pb**		**00 56 55.9**	**-1.9**
IGT				*e*Sb		**Sb**		**00 57 19.0**	**-2.1**
VLI	**Veliai**	**1.87**	**124**	*e*PN		**Pn**		**00 56 58.8**	**+2.0**
VLI				*e*SN		**Sn**		**00 57 24.1**	**+3.0**
JAN	**Janina**	**1.87**	**356**	*e*PN		**Pn**		**00 56 57.5**	**+0.7**
JAN				*e*SN		**Sn**		**00 57 20.7**	**-0.4**
JAN	**Janina**	**1.87**	**356**	*e*Pn		**Pn**		**00 56 57.4**	**+0.6**
KEK	**Kerkira**	**2.14**	**334**	*e*PN		**Pn**		**00 57 01.2**	**+0.6**
ATH	**Athens Observa**	**2.15**	**84**	*e*PN		**Pn**		**00 57 01.5**	**+0.8**
ATH				*e*SN		**Sn**		**00 57 28.2**	**+0.2**
KVR	**Kavouri**	**2.18**	**88**	*e*PN		**Pn**		**00 57 02.5**	**+1.3**
KYTH	**Kithira**	**2.21**	**132**	*e*PN		**Pn**		**00 57 04.0**	**+2.5**
SRN	**Sarande**	**2.23**	**340**	*i* Pn		**Pn**		**00 57 01.6**	**-0.2**
SRN				*i* Sn		**Sg**		**00 57 36.6**	**+1.2**
PTL	**Penteli**	**2.27**	**83**	*e*PN		**Pn**		**00 57 03.3**	**+1.0**
NEO	**Neokhori**	**2.30**	**48**	*e*PN		**Pn**		**00 57 02.5**	**-0.3**
XOR	**Xorichti**	**2.33**	**47**	*e*Pn		**Pn**		**00 57 02.8**	**-0.3**
LSK	**Leskovik**	**2.38**	**352**	*i* Pn		**Pn**		**00 57 04.3**	**+0.4**
LSK				*i* Sn		**Sg**		**00 57 41.8**	**+1.6**
LIT	**Litokhoron**	**2.58**	**26**	*e*Pn		**Pn**		**00 57 06.8**	**+0.2**
LIT				*e*Sn		**Sb**		**00 57 41.1**	**-1.9**
AOS	**Alonnisos**	**2.64**	**58**	*e*Pn		**Pn**		**00 57 06.7**	**-0.7**
FNA	**Florina**	**3.01**	**5**	*e*Pn		**Pn**		**00 57 12.5**	**+0.1**
FNA				*e*Sn		**Sn**		**00 57 50.6**	**+1.5**
PLG	**Polygyros**	**3.20**	**35**	*e*PN		**Pn**		**00 57 15.1**	**-0.1**
GRG	**Griva**	**3.34**	**18**	*e*Pn		**Pn**		**00 57 16.5**	**-0.5**
GRG				*e*Sn		**Sn**		**00 57 59.2**	**+1.8**
LCI	**Lecce**	**3.40**	**319**	Pn		**Pn**		**00 57 17.2**	**-0.7**
OUR	**Ouranopolis**	**3.44**	**41**	*e*Pn		**Pn**		**00 57 18.1**	**-0.3**
SOH	**Sokhos**	**3.53**	**30**	*e*Pn		**Pn**		**00 57 20.3**	**+0.6**
TIP	**Timpagrande**	**3.62**	**294**	⇑*e*Pn		**Pn**		**00 57 20.6**	**-0.3**
TIP				*e*Sn		**Sn**		**00 58 03.4**	**-0.8**
TIP	**Timpagrande**	**3.62**	**294**	⇑*e*Pn		**Pn**		**00 57 20.6**	**-0.2**
TIP				*e*Sn		**Sn**		**00 58 03.4**	**-0.8**
TIR	**Tirane**	**3.67**	**346**	*e*Pn		**Pn**		**00 57 21.9**	**+0.4**
APE	**Apeiranthos**	**3.67**	**100**	*e*Pn		**Pn**		**00 57 22.4**	**+0.9**
KNT	**Kendrikon**	**3.67**	**23**	*e*Pn		**Pn**		**00 57 21.6**	**0.0**
KNT				*e*Sn		**Sn**		**00 58 08.0**	**+2.4**
KNT	**Kendrikon**	**3.67**	**23**	*e*Pn		**Pn**		**00 57 21.6**	**0.0**
SRS	**Serrai**	**3.88**	**30**	*e*Pn		**Pn**		**00 57 24.9**	**+0.4**
SRS				*e*Sn		**Sn**		**00 58 12.0**	**+1.3**
SOI	**Samo**	**3.93**	**276**	Pn		**Pn**		**00 57 25.1**	**-0.1**
IDI	**Anoyia**	**4.00**	**127**	Pn		**Pn**		**00 57 25.1**	**-1.0**
	0.5nm,0.3s,baz=328,slow=19,SNR=16								
IDI					Sn	**Sn**		**00 58 10.3**	**-3.3**
	1.7nm,0.3s,baz=32,slow=19,SNR=4.0								
CEL	**Celeste**	**4.07**	**278**	Pn		**Pn**		**00 57 26.7**	**-0.4**
CEL					Sn	**Sn**		**00 58 14.9**	**-0.5**
PE1	**Pezze di Greco**	**4.10**	**318**	*e*Pn		**Pn**		**00 57 26.7**	**-0.8**
ORI	**Oriolo Calabro**	**4.22**	**304**	Pn		**Pn**		**00 57 30.7**	**+1.5**
SG1	**Sgolgore (BA)**	**4.54**	**314**	*e*Pn		**Pn**		**00 57 33.3**	**-0.2**
BAI	**Bari**	**4.61**	**317**	*e*Pn		**Pn**		**00 57 33.5**	**-1.0**
CUC	**Castrocucco**	**4.61**	**300**	Pn		**Pn**		**00 57 36.7**	**+2.1**
HAVL	**Avola**	**4.76**	**262**	Pn		**Pn**		**00 57 34.9**	**-1.7**
MGR	**Morigerati**	**4.86**	**301**	Pn		**Pn**		**00 57 38.2**	**+0.3**
SLCN	**Sala Consilina**	**4.93**	**304**	Pn		**Pn**		**00 57 39.9**	**+1.0**
CDT	**Castel del Mon**	**4.93**	**315**	*e*Pn		**Pn**		**00 57 38.2**	**-0.7**
SGO	**Scignano**	**5.23**	**304**	Pn		**Pn**		**00 57 44.2**	**+1.2**
VAE	**Valguarnera**	**5.25**	**269**	Pn		**Pn**		**00 57 43.4**	**+0.1**
	0.9nm,0.3s,baz=290,slow=18,SNR=6.7								
VAE					Sn	**Sn**		**00 58 44.4**	**0.0**
	1.5nm,0.3s,baz=158,slow=12,SNR=2.7								
FG5	**Orsara di Pugl**	**5.65**	**310**	Pn		**Pn**		**00 57 49.8**	**+1.0**
RGNG	**Rignano Grg**	**5.71**	**315**	Pn		**Pn**		**00 57 48.9**	**-0.7**
NVLJ	**Novalja**	**8.20**	**328**	*i* Pn		**Pn**		**00 58 22.3**	**-1.5**
NVLJ				*i* Sn		**Sn**		**00 59 50.8**	**-6.3**
MLR	**Muntele Rosu**	**8.54**	**24**	Pn		**Pn**		**00 58 30.1**	**+1.7**
	0.1nm,0.3s,baz=185,slow=11,SNR=2.0								
BOJS	**Bojanci**	**8.83**	**333**	*i* Pn		**Pn**		**00 58 33.4**	**+0.9**
BOJS				*i* Sn		**Sn**		**01 00 07.9**	**-4.8**
CEY	**Cerknica**	**9.34**	**330**	*i* Pn		**Pn**		**00 58 38.5**	**-0.9**
CEY				*i* Sn		**Sn**		**01 00 19.6**	**-5.5**
PERS	**Pernice**	**9.86**	**336**	*i* Pn		**Pn**		**00 58 45.6**	**-1.0**
PERS				*i* Sn		**Sn**		**01 00 27.1**	**-11**
BRTR	**Keskin Array B**	**10.05**	**75**	Pn		**Pn**		**00 58 50.7**	**+1.5**
	0.1nm,0.3s,baz=287,slow=15,SNR=3.9								
MMAI	**Mount Meron Ar**	**12.67**	**108**	Pn		**Pn**		**00 59 20.9**	**-4.1**
	0.2nm,0.3s,baz=320,slow=13,SNR=3.0								
HFS	**Hagfors**	**22.85**	**351**	P		**P**		**01 01 26.8**	**-1.5**
	0.8nm,0.5s,mb3.5,baz=161,slow=14,SNR=4.6								
FINES	**FINESS Array B**	**23.89**	**6**	P		**P**		**01 01 36.0**	**-2.9**
	0.3nm,0.6s,mb3.0,baz=182,slow=8.1,SNR=4.0								
EKA	**Eskdalemuir Ar**	**23.97**	**325**	P		**P**		**01 01 38.7**	**-0.9**
	0.7nm,0.7s,mb3.3,baz=131,slow=11,SNR=3.9								
TORD	**Torodi Ar. Bea**	**29.98**	**220**	P		**P**		**01 02 32.2**	**-1.4**
	0.7nm,0.8s,mb3.5,baz=31,slow=9.3,SNR=13								
ARCES	**ARCESS Array B**	**31.90**	**3**	P		**P**		**01 02 51.3**	**+0.7**
	0.6nm,0.6s,mb3.7,baz=192,slow=11,SNR=7.2								
MKAR	**Makanchi Array**	**45.18**	**58**	P		**P**		**01 04 38.7**	**-3.4**
	0.3nm,0.5s,mb3.5,baz=278,slow=8.6,SNR=6.3								

ISCJB **06** *01:32:17.8±0.5, 3426N±002×3580E±003, h10km±3km, Error ellipse: s-maj=4.6km s-min=2.3km az=39.7*
GII **06** *01:32:18.0±0.4, 3421N×3568E, h0km±30km, ML2.6/4, Mw2.7/3*
NSSC **06** *01:32:18.7, 3427N×3586E, h11km±1km*

JHU	**Hanno**	**8.40**	**346**	*e*S		**Sn**	**01 42 26.2**	**-2.5**
JRY	**Ryogami san**	**8.64**	**345**	P		**Pn**	**01 41 00.4**	**+1.7**
JRY				S		**Sn**	**01 42 34.2**	**-0.4**
JHO	**Hitachi**	**8.95**	**354**	P		**Pn**	**01 41 04.3**	**+1.3**
MJAR	**Matsushiro Arr**	**9.31**	**342**	P		**Pn**	**01 41 08.3**	**+0.4**
	0.5nm,0.3s,baz=338,slow=16,SNR=5.7							
MJAR				S		**Sn**	**01 42 51.4**	**+0.3**
	0.7nm,0.3s,baz=146,slow=18,SNR=3.9							
JFK	**Kawauchi**	**9.68**	**356**	P		**Pn**	**01 41 14.4**	**+1.5**
JFK				S		**Sn**	**01 42 53.5**	**-6.5**
JOW	**Kunigami**	**11.97**	**269**	LR		LR	01 45 02.3	
	comp=Z,131nm,19.6s,baz=265,slow=31							
ASAJ	**Asahikawa**	**16.42**	**2**	LR		LR	01 48 38.9	
	comp=Z,60nm,18.4s,baz=139,slow=35							
KLR	**Kul'dur**	**22.84**	**343**	*e*P		**P**	**01 43 52.3**	**-1.2**
SONM	**Songino Array**	**33.99**	**316**	ScP		ScP	01 51 47.4	-0.6
	0.3nm,0.2s,baz=132,slow=2.2,SNR=3.7							
WRAB	**Tennant Creek**	**47.87**	**189**	*e*P		**P**	**01 47 27.0**	**0.0**
WRAB				pmax		pmax		
	comp=Z,18nm,0.9s,mb4.9							
WRAB	**Tennant Creek**	**47.87**	**189**	*e*P		**P**	**01 47 27.0**	**0.0**
	comp=Z,18nm,0.9s,mb4.9							
WB2	**Warramunga Arr**	**47.87**	**189**	*e*P		**P**	**01 47 26.9**	**-0.2**
WRA	**Warramunga Arr**	**47.88**	**189**	P		**P**	**01 47 27.1**	**0.0**
	comp=Z,6.2nm,0.5s,mb4.7,baz=11,slow=8.3,SNR=34							
FITZ	**Fitzroy Crossi**	**48.10**	**201**	*e*P		**P**	**01 47 29.4**	**+0.6**
	comp=Z,3.2nm,0.4s,mb4.5							
ZAL	**Zalesovo**	**48.77**	**319**	PcP		PcP	01 48 57.8	-0.1
	comp=Z,1.0nm,0.5s,baz=21,slow=5.0,SNR=5.3							
MKAR	**Makanchi Array**	**49.77**	**309**	P		**P**	**01 47 41.8**	**+0.2**
	comp=Z,0.3nm,0.5s,mb3.5,baz=100,slow=6.0,SNR=3.5							
MKAR				PcP		PcP	01 49 01.3	-0.2
	comp=Z,0.5nm,0.5s,baz=79,slow=6.3,SNR=4.7							
MKAR				ScP		ScP	01 52 49.0	-1.6
	comp=Z,0.6nm,0.7s,baz=81,slow=5.3,SNR=5.7							
MKAR	**Makanchi Array**	**49.77**	**309**	P		**P**	**01 47 41.8**	**+0.2**
MKAR							01 49 01.3	
ASAR	**Alice Springs**	**51.60**	**189**	P		**P**	**01 47 54.9**	**-0.5**
	comp=Z,0.9nm,0.4s,mb4.2,baz=359,slow=5.2,SNR=20							
KURK	**Kurchatov**	**52.27**	**314**	*e*P		**P**	**01 47 59.2**	**-1.1**
KURK				pmax		pmax		
	comp=Z,1.0nm,0.7s,mb4.0							
KURK	**Kurchatov**	**52.27**	**314**	*e*P		**P**	**01 47 59.2**	**-1.2**
	comp=Z,1.4nm,0.7s,mb4.1							
MBWA	**Marble Bar**	**53.00**	**206**	*e*P		**P**	**01 48 05.9**	**+0.2**
	comp=Z,5.5nm,0.6s,mb4.8							
BVAR	**Borovoye Array**	**57.32**	**317**	P		**P**	**01 48 36.8**	**0.0**
	comp=Z,0.7nm,0.4s,mb4.0,baz=79,slow=7.7,SNR=5.7							
STKA	**Stephens Creek**	**59.23**	**180**	*e*P		**P**	**01 48 47.9**	**-2.2**
	comp=Z,3.5nm,1.3s,mb4.2							
STKA	**Stephens Creek**	**59.23**	**180**	P		**P**	**01 48 47.3**	**-2.8**
	comp=Z,3.0nm,0.7s,mb4.4,baz=322,slow=19,SNR=6.2							
STKA	**Stephens Creek**	**59.23**	**180**	*e*P		**P**	**01 48 47.6**	**-2.6**
FORT	**Forrest**	**59.57**	**194**	*e*P		**P**	**01 48 52.3**	**-0.2**
	comp=Z,20nm,1.0s,mb5.1							
KLBR	**Kellerberrin**	**63.21**	**203**	*e*P		**P**	**01 49 16.8**	**-0.2**
	comp=Z,29nm,1.2s,mb5.1							
AKTK	**Aktyubinsk**	**65.31**	**316**	P		**P**	**01 49 30.4**	**-0.4**
AKTO	**Aktyubinsk**	**65.31**	**316**	P		**P**	**01 49 30.4**	**-0.4**
	comp=Z,0.8nm,0.7s,mb3.7,baz=67,slow=16,SNR=4.0							
AKTO	**Aktyubinsk**	**65.31**	**316**	P		**P**	**01 49 30.4**	**-0.4**
AKTO				pmax		pmax		
	comp=Z,1.0nm,0.7s,mb3.8							
TAU	**Tasmania Unive**	**70.43**	**176**	*e*P		**P**	**01 49 55.6**	**-7.3**
	comp=Z,74nm,1.3s,mb5.4							
YKA	**Yellowknife Ar**	**71.83**	**28**	P		**P**	**01 50 12.4**	**+1.0**
	comp=Z,0.3nm,0.4s,mb3.5,baz=296,slow=6.4,SNR=9.2							
ARCES	**ARCESS Array B**	**72.85**	**341**	P		**P**	**01 50 18.6**	**+1.2**
	comp=Z,3.3nm,0.9s,mb4.2,baz=48,slow=7.4,SNR=10							
JOF	**Joensuu**	**74.37**	**334**	*e*p		**P**	**01 50 26.6**	**+0.3**
	comp=Z,4.3nm,0.5s,mb4.4							
KAF	**Kangasniemi**	**76.76**	**334**	*e*p		**P**	**01 50 37.0**	**-3.0**
	comp=Z,3.3nm,0.4s,mb4.4							
KAF	**Kangasniemi**	**76.76**	**334**	*e*P		**P**	**01 50 37.0**	**-3.0**
KAF				pmax		pmax		
	comp=Z,3.0nm,0.4s,mb4.4							
FINES	**FINESS Array B**	**77.23**	**334**	P		**P**	**01 50 43.8**	**+1.1**
	comp=Z,2.8nm,0.7s,mb4.1,baz=68,slow=5.3,SNR=34							
NVAR	**Mina Array Bea**	**80.50**	**52**	P		**P**	**01 50 59.8**	**-0.7**
	comp=Z,0.2nm,0.4s,mb3.3,baz=198,slow=8.5,SNR=2.7							
NVAR				pP		pP	01 51 21.5	+1.3
	comp=Z,1.0nm,0.7s,baz=279,slow=5.4,SNR=6.9							
AKASG	**Malin Array Be**	**81.89**	**324**	P		**P**	**01 51 08.3**	**+0.3**
	comp=Z,1.3nm,0.4s,mb4.1,baz=54,slow=5.4,SNR=9.1							
AKASG	**Malin Array Be**	**81.89**	**324**	P		**P**	**01 51 08.3**	**+0.3**
NB2	**NORSAR Subarra**	**82.91**	**338**	P		**P**	**01 51 13.6**	**+0.4**
	comp=Z,4.4nm,1.1s,mb4.2,baz=44,slow=5.3							
NOA	**NORSAR Array B**	**82.91**	**338**	P		**P**	**01 51 13.9**	**+0.7**
	comp=Z,1.6nm,0.7s,mb4.0,baz=45,slow=5.2,SNR=8.4							
BRTR	**Keskin Array B**	**85.29**	**313**	P		**P**	**01 51 25.9**	**+0.6**
	comp=Z,0.6nm,0.6s,mb3.7,baz=92,slow=3.6,SNR=5.3							
GERES	**GERESS Array B**	**90.79**	**329**	P		**P**	**01 51 52.0**	**+0.4**
	comp=Z,1.0nm,0.6s,mb4.1,baz=46,slow=5.8,SNR=11							
LPAZ	**La Paz**	**150.19**	**74**	PKP		PKPdf	01 58 37.1	+3.2
	comp=Z,0.6nm,0.4s,baz=330,slow=6.7,SNR=2.9							
LPAZ				PKPbc		PKPbc	01 58 41.1	+2.1
	comp=Z,0.6nm,0.4s,baz=326,slow=4.4,SNR=6.7							

*ISCJB **06** 01:50:39.0±0.6, 4103N±003×2030E±004, h10km, Error ellipse: s-maj=4.7km s-min=3.8km az=76.3*
*THE **06** 01:50:40.1, 4111N×2033E, h1km, ML2.6*
*SKO **06** 01:50:40.5, 4106N×2031E, h7km, M2.3, ML2.4*
*CSEM **06** 01:50:41.4±0.3, 4105N×2046E, h2km, ML2.4, Error ellipse: s-maj=5.0km s-min=4.4km az=111.0*

ISC 06 01:50:39.6±0.6, 4105N±003×2030E±004, h10km, n17, σ1§25/29, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.38**	**80**	*i*	Pg		**Pg**	**01 50 46.9**	**-0.3**
OHR				*i*	Sg		**Sg**	**01 50 53.4**	**+1.2**
OHR	**Ohrid**	**0.38**	**80**	*i*	Pg		**Pg**	**01 50 46.8**	**-0.3**
OHR				*i*	Sg		**Sg**	**01 50 53.4**	**+1.2**
TIR	**Tirane**	**0.45**	**313**	*e*	Pg		**Pg**	**01 50 48.4**	**0.0**
TIR				*e*	Sg		**Sg**	**01 50 53.7**	**-0.6**
KBN	**Korca**	**0.56**	**139**	*i*	Pg		**Pg**	**01 50 49.0**	**-1.5**
KBN				*i*	Sg		**Sg**	**01 50 57.1**	**-0.7**
QSH	**Qafa e Shtames**	**0.56**	**328**	*i*	Pg		**Pg**	**01 50 51.0**	**+0.4**
QSH				*i*	Sg		**Sg**	**01 51 07.0**	**+9.0**
BIA	**Bitola**	**0.77**	**92**	*i*	Pg		**Pg**	**01 50 53.5**	**-1.0**
BIA				*i*	Sg		**Sg**	**01 51 05.8**	**+1.1**
BIA	**Bitola**	**0.77**	**92**	*i*	Pg		**Pg**	**01 50 53.5**	**-1.0**
BIA				*i*	Sg		**Sg**	**01 51 05.7**	**+1.1**
FNA	**Florina**	**0.85**	**107**	*e*	Pg		**Pg**	**01 50 55.3**	**-0.8**
FNA				*e*	Sg		**Sg**	**01 51 08.0**	**+0.8**
SKO	**Skopje**	**1.26**	**42**	*e*	Pg		**Pg**	**01 51 03.4**	**-0.4**
SKO				*i*	Sg		**Sg**	**01 51 23.5**	**+3.3**
SKO				*e*	Lg			01 51 25.1	
	comp=N,68nm,0.3s								
SKO	**Skopje**	**1.26**	**42**	*e*	Pg		**Pg**	**01 51 03.4**	**-0.4**
SKO				*i*	Sg		**Sg**	**01 51 23.5**	**+3.3**
IGT	**Igoumenitsa**	**1.51**	**179**	*e*	Pg		**Pg**	**01 51 07.3**	**-1.4**
IGT				*e*	Sg		**Sg**	**01 51 30.1**	**+1.9**
GRG	**Griva**	**1.59**	**92**	*e*	Pg		**Pg**	**01 51 08.5**	**-1.6**
GRG				*e*	Sg		**Sg**	**01 51 30.0**	**-0.8**
VAY	**Valandovo**	**1.73**	**80**	*e*	Pn		**Pn**	**01 51 11.2**	**+1.4**
LIT	**Litokhoron**	**1.91**	**119**	*e*	Pb		**Pb**	**01 51 14.0**	**-0.6**
KNT	**Kendrikon**	**1.96**	**86**	*e*	Pb		**Pb**	**01 51 13.7**	**-1.8**
LKD	**Levkas**	**2.35**	**173**	*e*	Pn		**Pn**	**01 51 20.3**	**+2.0**
AGG	**Agios Georgios**	**2.55**	**142**	*e*	Pn		**Pn**	**01 51 23.0**	**+2.0**

*NEIC **06** 01:50:55.6, 3199S×7139W, h42km, MG2.7(GUC), After GUC.*

GUC 06 01:50:55.6±1.0, 3199S×7139W, h42km±3km, MD3.5, ML2.7, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.14**	**317**	⇓	*i*P		Pn	01 51 02.7	0.0
CHNG					*i*	S	Sn	01 51 07.7	+0.1
CHNG						AML	AML	01 51 08.5	
	comp=E,865nm,0.3s								
CMCH	**Combarbala**	**0.88**	**22**		*e*P		Pn	01 51 12.0	+0.6
CMCH					*i*	S	Sn	01 51 24.7	+1.7
CMCH						AML	AML	01 51 28.3	
	comp=E,1μm,0.7s								
CMCH	**Combarbala**	**0.88**	**22**		*e*P		Pn	01 51 12.0	+0.6
CMCH					*i*	S	Sn	01 51 24.7	+1.7
JACH	**Jahuel**	**0.96**	**136**	⇑	*i*P		Pn	01 51 13.9	+1.3
JACH					*i*	S	Sn	01 51 27.1	+1.9
PEL	**Peldehue**	**1.30**	**153**	⇑	*i*P		Pn	01 51 18.4	+1.2
PEL					*i*	S	Sn	01 51 35.1	+1.7
PEL						AML	AML	01 51 37.4	
	comp=E,183nm,0.4s								
PEL	**Peldehue**	**1.30**	**153**	⇑	*i*P		Pn	01 51 18.4	+1.2
PEL					*i*	S	Sn	01 51 35.1	+1.7
LCCH	**Las Cruces**	**1.49**	**186**		*i*P		Pn	01 51 20.2	+0.3
RCDM	**Rinconada Maip**	**1.58**	**162**		*i*P		Pn	01 51 21.8	+0.8
RCDM					*i*	S	Sn	01 51 42.3	+2.1
RCDM						AML	AML	01 51 49.8	
	comp=E,169nm,0.1s								
RCDM	**Rinconada Maip**	**1.58**	**162**		*i*P		Pn	01 51 21.8	+0.8
RCDM					*i*	S	Sn	01 51 42.3	+2.1
FCH	**Farellones**	**1.62**	**146**		*e*P		Pn	01 51 23.5	+1.8
FCH					*i*	S	Sn	01 51 44.1	+2.7
FCH						AML	AML	01 51 47.6	
	comp=E,69nm,0.2s								
TACH	**Talagante**	**1.70**	**167**	⇑	*i*P		Pn	01 51 24.3	+1.5
TACH					*i*	S	Sn	01 51 45.6	+2.2
PCH	**Pirque**	**1.79**	**156**		*i*P		Pn	01 51 25.0	+1.1
CHCH	**Chadas Angostu**	**2.04**	**163**		*i*P		Pn	01 51 29.0	+1.6
LMEL	**Las Melosas**	**2.10**	**152**		*i*P		Pn	01 51 29.1	+0.8
LMEL					*i*	S	Sn	01 51 55.4	+2.1
LMEL						AML	AML	01 52 02.8	
	comp=N,158nm,0.2s								
LMEL	**Las Melosas**	**2.10**	**152**		*i*P		Pn	01 51 29.1	+0.8
LMEL					*i*	S	Sn	01 51 55.4	+2.1

GUC 06 01:57:54.9±0.7, 3443S×7009W, h14km±4km, MD3.5, ML2.3, 8C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.30**	**291**	⇑	*i*P		Pg	01 58 01.0	-0.1
CICH					*i*	S	Sg	01 58 05.7	+0.4
CACH	**El Canelo**	**0.53**	**306**	⇑	*i*P		Pg	01 58 04.7	-0.6
CACH					*i*	S	Sg	01 58 12.2	-0.1
LMEL	**Las Melosas**	**0.59**	**350**	⇑	*i*P		Pg	01 58 05.9	-0.5
LMEL					*i*	S	Sg	01 58 14.6	+0.4
LMEL						AML	AML	01 58 15.9	
	comp=E,251nm,0.1s								
CHCH	**Chadas Angostu**	**0.68**	**316**	⇓	*i*P		Pg	01 58 07.9	-0.3
CHCH					*i*	S	Sg	01 58 17.9	+0.7
SFDO	**San Fernando**	**0.79**	**256**	⇑	*i*P		Pg	01 58 09.8	-0.4
SFDO					*i*	S	Sg	01 58 20.4	-0.2
PCH	**Pirque**	**0.88**	**336**	⇓	*i*P		Pg	01 58 11.3	-0.7
PCH					*i*	S	Sg	01 58 23.6	+0.1
TACH	**Talagante**	**1.05**	**317**	⇑	*i*P		Pb	01 58 14.0	-0.8
TACH					*i*	S	Sb	01 58 28.7	+0.3
FCH	**Farellones**	**1.11**	**351**	⇑	*i*P		Pb	01 58 15.4	-0.5
FCH					*i*	S	Sb	01 58 32.2	+1.9
RCDM	**Rinconada Maip**	**1.11**	**327**	⇑	*i*P		Pb	01 58 15.3	-0.6
RCDM					*i*	S	Sb	01 58 31.0	+0.7
RCDM						AML	AML	01 58 32.2	
	comp=E,185nm,0.1s								
LNV	**Longovilo**	**1.20**	**293**	⇓	*i*P		Pn	01 58 16.6	-0.6
LNV					*i*	S	Sb	01 58 33.0	+0.3
LCCH	**Las Cruces**	**1.56**	**307**	⇑	*i*P		Pn	01 58 22.8	+0.6
LCCH					*i*	S	Sn	01 58 43.9	+1.7
ROCH	**El Roble**	**1.65**	**332**		*i*P		Pn	01 58 25.3	+1.9
ROCH					*i*	S	Sn	01 58 47.7	+3.4
JACH	**Jahuel**	**1.79**	**346**		*e*P		Pn	01 58 27.7	+2.2

*LDG **06** 02:05:26.7±0.1, 4409N×691E, h3km, Md1.9/3, Ml1.7/6, Error ellipse: s-maj=1.4km s-min=1.0km az=76.0*
*STR **06** 02:05:26.7±1.2, 4361N×7.13E, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ISCJB **06** 02:05:27.0±0.4, 4405N±003×691E±004, h19km±6km, Error ellipse: s-maj=5.0km s-min=4.1km az=73.8*

ISC 06 02:05:26.3±0.4, 4409N±002×688E±004, h18km±5km, n13, σ0§50/26, France

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MVIF	**Mont Vial**	**0.27**	**134**		Pg		**Pg**	**02 05 32.2**	**-0.1**
MVIF					Sg		**Sg**	**02 05 37.3**	**+0.8**
AUTN	**L'Aution**	**0.40**	**103**		Pg		**Pg**	**02 05 35.5**	**+0.9**
AUTN					Sg		**Sg**	**02 05 40.5**	**+0.3**
SBF	**Sospel**	**0.46**	**119**	*e*	Pg		**Pg**	**02 05 35.3**	**-0.3**
SBF				*e*	Sg		**Sg**	**02 05 41.0**	**-0.8**
	15nm,0.4s								
SAOF	**Saorge**	**0.50**	**102**		Pg		**Pg**	**02 05 36.0**	**-0.3**
SAOF					Sg		**Sg**	**02 05 43.5**	**+0.5**
FRF	**La Foret Royal**	**0.55**	**198**	*e*	Pg		**Pg**	**02 05 37.5**	**+0.2**
FRF				*e*	Sg		**Sg**	**02 05 44.6**	**-0.2**
	4.2nm,0.3s								
MBDF	**Montbardon**	**0.64**	**353**	*e*	Pg		**Pg**	**02 05 39.1**	**+0.1**
MBDF				*e*	Sg		**Sg**	**02 05 47.6**	**0.0**
	2.3nm,0.2s								
LMR	**La Mourre**	**0.80**	**200**	*e*	Pg		**Pg**	**02 05 41.8**	**-0.1**
LMR				*e*	Sg		**Sg**	**02 05 51.8**	**-0.7**
	4.0nm,0.4s								
SMRF	**Simiane la Rot**	**0.95**	**264**	*e*	Pg		**Pg**	**02 05 44.9**	**+0.2**
SMRF				*e*	Sg		**Sg**	**02 05 57.5**	**+0.3**
	3.8nm,0.2s								
ORIF	**Oris-en-Rattie**	**1.10**	**320**	*e*	Pg		**Pg**	**02 05 46.8**	**-0.7**
ORIF				*e*	Sg		**Sg**	**02 06 02.8**	**+0.9**
	5.4nm,0.5s								
LPG	**La Plagne**	**1.41**	**356**	*e*	Pg		**Pg**	**02 05 53.9**	**+0.4**
LPG				*e*	Sg		**Sg**	**02 06 11.3**	**-0.7**
	4.2nm,0.7s								
LPL	**La Plagne**	**1.43**	**356**	*e*	Pg		**Pg**	**02 05 53.5**	**-0.4**
LPL				*e*	Sg		**Sg**	**02 06 12.1**	**-0.5**
	0.8nm,0.3s								
VIVF	**Saint-Julien-l**	**1.76**	**297**	*e*	Pg		**Pg**	**02 05 59.8**	**-0.3**
VIVF				*e*	Sn		**Sn**	**02 06 18.4**	**+0.6**
	0.8nm,0.3s								
PGF	**Pioggiola**	**2.18**	**134**	*e*	Pn		**Pn**	**02 06 02.1**	**+0.5**
PGF				*e*	Sn		**Sn**	**02 06 27.7**	**-0.5**
	0.2nm,0.2s								

MAN 06 02:23:24.2, 1818N×12076E, h6km, mb2.0, ML3.7, MS1.1, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.20**	**319**	⇓	*i*P		Pg	02 23 29.0	+0.9
PIP					*e*S		Sg	02 23 35.9	+5.1
ABRA	**Dolores**	**0.53**	**185**		*e*P		Pg	02 23 34.7	+0.3
ABRA					*e*S		Sg	02 23 45.4	+4.1
APYP	**Conner**	**0.56**	**124**		*e*P		Pg	02 23 35.0	0.0
CVP	**Callao Caves**	**1.12**	**115**		*e*P		Pg	02 23 45.0	-0.7
CVP					*e*S		Sg	02 24 02.0	+1.8
SGCP	**Mt. Cagua**	**1.23**	**87**		*e*P		Pg	02 23 46.8	-1.0
CAUP	**Cauayan**	**1.59**	**140**		*e*P		Pn	02 23 52.9	0.0
BALP	**Baler**	**2.55**	**162**		*e*P		Pn	02 24 06.4	+0.3

*ORF **06** 02:28:43.5, 2499S×17778E, h30km, mb6.3*
*SZGRF **06** 02:29:29.1, 2488S×17927W, h528km, South of Fiji Islands*
*IDC **06** 02:29:29.6±0.4, 2494S×17971E, h500km±3km, mb4.6/24, mb1 4.7/26, mb1mx4.7/26, mbtmp5.5/26, Error ellipse: s-maj=8.6km s-min=6.4km az=178.0*
*MOS **06** 02:29:29.4±0.8, 2483S×17966E, h496km, mb5.4/38, Error ellipse: s-maj=9.2km s-min=7.8km az=53.6*
*BJI **06** 02:29:30.5, 2464S×17980E, h508km, mB4.9, mb4.9*
*ISCJB **06** 02:29:30.7±0.1, 2507S±003×17968E±003, h519km, mb5.2/119, Error ellipse: s-maj=4.2km s-min=3.0km az=61.5*
*HRVD **06** 02:29:31.4±0.3, 2503S×17990E, h528km±1km, MW5.6/80, Centroid moment Tensor Solution. LP body waves: s80,c125; Half duration: 1s5 Moment tensor: Scale 10^17 Nm; Mrr1.05±.06; Mθθ-1.33±.09; Mφφ0.27±.09; Mrθ-0.53±.09; Mrφ-1.23±.08; Mθφ-2.47±.08; Best double couple: Mo3.04900×10^17 NP1:φ94.00000°, δ31.00000°, λ158.00000°. NP2:φ203.00000°, δ79.00000°, λ61.00000°. Principal axes: T 3.2010, Plg48.0000°, Azm82.0000°; N -0.3060, Plg29.0000°, Azm209.0000°; P -2.8970, Plg28.0000°, Azm316.0000°; nsta1 refers to body waves, cutoff=40s.*
*NEIC **06** 02:29:31.4±0.1, 2498S×17968E, mb5.3/81 Error ellipse: s-maj=5.5km s-min=3.4km az=151.0*
*BGS **06** 02:29:36.7±5.0, 2490S×17964E, h518km, mb5.3(NEIC)*

ISC 06 02:29:31.7±0.1, 2514S±003×17975E±003, h522km, h522km±3.5km: pP-P, n719, σ0§87/328, mb5.2/117, 170C-46D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.59**	**154**		P		**P**	**02 30 55.9**	**-0.5**
	3μm,0.3s,baz=110,slow=3.5,SNR=77								
RAO					S		**S**	**02 32 03.5**	**-2.0**
	734nm,0.3s,baz=259,slow=22,SNR=3.1								
RAO	**Raoul Island**	**4.59**	**154**		P		**P**	**02 30 55.9**	**-0.5**
RAO					S		**S**	**02 32 03.5**	**-2.0**
RAO					smax				
	comp=N,734nm,0.3s								
RAO	**Raoul Island**	**4.59**	**154**	*e*	P		**P**	**02 30 56.7**	**+0.3**
MXZ	**Matakaoa Point**	**12.45**	**185**	*e*	PN		**P**	**02 32 15.3**	**+0.4**
MXZ					SN		**S**	**02 34 27.7**	**-1.5**
DZM	**Mont Dzumac**	**12.57**	**281**		P		**P**	**02 32 17.2**	**+1.0**
	comp=N,11nm,0.3s,baz=89,slow=16,SNR=128								
DZM					S		**S**	**02 34 33.8**	**+2.2**
	baz=18,slow=21,SNR=6.4								
PUZ	**Puketiti**	**12.96**	**185**	*e*	PN		**P**	**02 32 21.2**	**+1.0**
PUZ					SN		**S**	**02 34 35.7**	**-3.3**
URZ	**Urewera**	**13.27**	**189**		P		**P**	**02 32 23.0**	**-0.5**
	comp=N,39nm,0.3s,baz=3.4,slow=2.9,SNR=16								
URZ					S		**S**	**02 34 43.2**	**-1.9**
	comp=N,16nm,0.3s,baz=219,slow=22,SNR=18								
URZ	**Urewera**	**13.27**	**189**	*e*	PN		**P**	**02 32 22.2**	**-1.3**
URZ					SN		**S**	**02 34 42.4**	**-2.7**
MWZ	**Matawai**	**13.29**	**188**	*e*	PN		**P**	**02 32 23.2**	**-0.5**
AFI	**Afiamalu**	**13.72**	**37**		P		**P**	**02 32 21.3**	**-6.9**
	comp=N,75nm,0.3s,baz=35,slow=3.2,SNR=127								
AFI					S		**S**	**02 34 37.3**	**-16**
	comp=N,19nm,0.3s,baz=44,slow=18,SNR=7.5								
AFI	**Afiamalu**	**13.72**	**37**		P		**P**	**02 32 21.3**	**-6.9**
AFI					S		**S**	**02 34 37.3**	**-16**
AFI					pmax	pmax			
	comp=Z,75nm,0.3s								
AFI					smax				
	comp=N,19nm,0.3s								
AFI	**Afiamalu**	**13.72**	**37**		P		**P**	**02 32 20.6**	**-7.6**
	comp=N,870nm,0.9s								
KNZ	**Kokohu**	**13.95**	**187**	*e*	PN		**P**	**02 32 30.4**	**-0.2**
BKZ	**Black Stump Fm**	**14.26**	**190**	*e*	PN		**P**	**02 32 32.1**	**-1.7**
BKZ				*e*	SN		**S**	**02 34 59.5**	**-4.2**
MOVZ	**Moawhango**	**14.62**	**192**	*e*	PN		**P**	**02 32 37.3**	**-0.3**
TSZ	**Takapari Road**	**15.21**	**191**	*e*	PN		**P**	**02 32 43.6**	**-0.2**
BFZ	**Birch Farm**	**15.77**	**190**	*e*	PN		**P**	**02 32 49.8**	**+0.3**
MRZ	**Mangatainoka R**	**15.87**	**192**		SN		**S**	**02 35 26.1**	**-7.8**
CAW	**Cannon Point**	**16.40**	**193**		SN		**S**	**02 35 40.0**	**-3.3**
DSZ	**Denniston Nort**	**17.83**	**200**	*e*	PN		**P**	**02 33 09.0**	**-0.2**
LTZ	**Lake Taylor**	**18.65**	**197**	*e*	PN		**P**	**02 33 16.5**	**-0.3**
RAR	**Rarotonga**	**19.23**	**82**		P		**P**	**02 33 20.8**	**-1.2**
	comp=N,6.3nm,0.3s,baz=244,slow=6.6,SNR=22								
WVZ	**Waitaha Valley**	**19.36**	**200**	*e*	PN		**P**	**02 33 23.2**	**-0.2**
WVZ				*e*	PN		**P**	**02 33 23.4**	**+0.1**
WVZ				*e*	SN		**S**	**02 36 37.0**	**+5.3**
RPZ	**Rata Peaks**	**19.85**	**199**		P		**P**	**02 33 28.8**	**+1.1**
	comp=N,89nm,0.5s,baz=335,slow=2.5,SNR=37								
RPZ	**Rata Peaks**	**19.85**	**199**	*e*	PN		**P**	**02 33 27.6**	**-0.2**
LBZ	**Lake Benmore**	**20.72**	**200**	*e*	PN		**P**	**02 33 34.1**	**-1.5**
JCZ	**Jackson Bay**	**20.91**	**203**	*e*	PN		**P**	**02 33 36.4**	**-1.0**
HNR	**Honiara**	**24.47**	**306**		P		**P**	**02 34 06.6**	**-2.6**
	comp=N,856nm,0.7s,mb6.5,baz=188,slow=0.2,SNR=46								
HNR	**Honiara**	**24.47**	**306**	*e*	P		**P**	**02 34 06.7**	**-2.5**
HNR					pmax	pmax			
	comp=Z,715nm,0.8s,mb6.3								
HNR	**Honiara**	**24.47**	**306**	*e*	P		**P**	**02 34 06.7**	**-2.5**
	comp=Z,715nm,0.8s,mb6.3								
ARMA	**Armidale**	**25.40**	**252**	⇓	*i*P		**P**	**02 34 19.6**	**+2.2**
ARMA					*e*S

WRAB Tennant Creek 42.10 268 P **P** **02 36 37.8 +0.1**
comp=N,1µm,0.7s,SNR=30
WRAB Tennant Creek 42.10 268⇑*iP* **P** **02 36 37.3 -0.4**
WRAB pmax pmax
comp=Z,230nm,0.8s,mb5.8
WRAB Tennant Creek 42.10 268⇑*iP* **P** **02 36 37.2 -0.5**
comp=Z,230nm,0.8s,mb5.8
WRAB *e*ScP ScP 02 41 25.4 +4.5
WRA Warramunga Arr 42.11 268 P **P** **02 36 37.2 -0.6**
comp=Z,107nm,0.7s,mb5.5,baz=103,slow=8.1,SNR=323
WRA PP PP 02 38 31.6 +3.4
comp=Z,17nm,0.9s,baz=100,slow=8.4,SNR=4.9
WRA ScP ScP 02 41 25.6 +4.7
comp=Z,37nm,0.9s,baz=104,slow=4.2,SNR=25
WRA S **S** **02 42 17.8 -1.6**
comp=Z,24nm,0.8s,baz=100,slow=15,SNR=19
WRA Warramunga Arr 42.11 268 P **P** **02 36 37.2 -0.6**
WRA 02 38 31.6
WRA S **S** **02 42 17.8 -1.6**
FORT Forrest 45.68 251 *e*P **P** **02 37 05.2 -0.2**
comp=Z,170nm,0.6s,mb5.8
WAKE Wake Island 45.96 343 *e*P **P** **02 37 05.5 -2.1**
comp=Z,79nm,0.7s,mb5.3
KAKA Kakadu 46.21 276⇓*iP* **P** **02 37 08.5 -1.0**
comp=Z,86nm,0.6s,mb5.5
KAKA *e*SCP ScP 02 41 41.8 +4.0
FITZ Fitzroy Crossi 50.52 267⇓*iP* **P** **02 37 41.9 +0.3**
comp=Z,183nm,0.7s,mb5.5
FITZ *e*SCP ScP 02 42 00.7 +4.5
FITZ *e* 02 44 17.5
FITZ Fitzroy Crossi 50.52 267 P **P** **02 37 41.6 0.0**
comp=Z,96nm,0.7s,mb5.2,baz=128,slow=9.7,SNR=132
FITZ ScP ScP 02 42 00.8 +4.5
comp=Z,5.1nm,0.8s,baz=144,slow=3.5,SNR=4.2
FITZ S **S** **02 44 15.9 -0.7**
comp=Z,3.0nm,0.8s,baz=214,slow=22,SNR=9.8
GUMO Guam 51.36 315 P **P** **02 37 46.6 -1.1**
comp=Z,127nm,0.6s,mb5.4,baz=183,slow=8.6,SNR=11
MIDW Midway 53.12 3 P **P** **02 37 58.6 -1.8**
comp=Z,58nm,0.6s,mb5.1
VNDA Vanda 53.13 185 P **P** **02 38 02.1 +1.6**
comp=Z,4.0nm,0.4s,baz=6.3,slow=8.3,SNR=62
VNDA ScP ScP 02 42 09.5 +1.9
comp=Z,3.4nm,1.0s,baz=9.5,slow=6.5,SNR=3.9
VNDA Vanda 53.13 185 *e*P **P** **02 38 02.2 +1.8**
VNDA *e* 02 39 00.4
VNDA pmax pmax
comp=Z,4.0nm,0.5s
VNDA Vanda 53.13 185 *e*P **P** **02 38 02.2 +1.8**
comp=Z,4.4nm,0.5s
VNDA *e*PcP PcP 02 39 00.4 +0.2
SBA Scott Base 53.13 183 *e*P **P** **02 38 03.4 +3.0**
SBA 02 39 01.7
SBA Scott Base 53.13 183 *e*P **P** **02 38 03.4 +2.9**
SBA PcP PcP 02 39 01.6 +1.4
SBA pP pP 02 39 47.2 +6.3
KLBR Kellerberrin 54.31 248⇓*iP* **P** **02 38 08.8 0.0**
comp=Z,117nm,0.8s,mb5.3
NWAO Narrogin (SRO) 54.52 246 P **P** **02 38 10.1 -0.2**
comp=Z,20nm,0.8s,mb4.4,baz=160,slow=3.5,SNR=5.6
NWAO Narrogin (SRO) 54.52 246 P **P** **02 38 10.1 -0.2**
MBWA Marble Bar 54.94 261⇓*iP* **P** **02 38 12.8 -0.4**
MBWA pP pP 02 39 53.3 -1.4
MUN Mundaring 55.54 247⇓*iP* **P** **02 38 17.8 +0.4**
CASY Casey 58.90 206 *e*P **P** **02 38 40.8 +0.4**
RPN Rapa Nui 62.89 109 P **P** **02 39 07.7 +1.1**
comp=Z,159nm,0.9s,mb5.4,baz=295,slow=3.9,SNR=7.6
QSPA South Pole Qui 64.95 180⇑*iP* **P** **02 39 21.7 +2.0**
comp=Z,98nm,1.0s,mb5.2
QSPA *e*pP pP 02 41 07.8 +1.9
TSM Tawau 66.76 287 P **P** **02 39 31.2 +0.2**
KKM Kota Kinabalu 69.05 288 P **P** **02 39 44.9 -0.1**
KKM Kota Kinabalu 69.05 288⇓*iP* **P** **02 39 44.8 -0.2**
KKM *e*pP pP 02 41 28.5 -4.5
TGY Tagaytay City 69.32 297 P **P** **02 39 47.0 +0.3**
comp=Z,192nm,0.3s,baz=171,slow=18,SNR=4.4
MJAR Matsushiro Arr 72.79 326 P **P** **02 40 05.6 -1.4**
comp=Z,46nm,0.9s,mb4.9,baz=161,slow=5.9,SNR=90
MJAR pP pP 02 41 51.5 -5.0
comp=Z,1.8nm,0.7s,baz=161,slow=6.3,SNR=2.0
MJAR Matsushiro Arr 72.79 326 P **P** **02 40 05.6 -1.4**
MJAR pP pP 02 41 51.5 -5.0
MAJO Matsushiro 72.79 326⇓*iP* **P** **02 40 05.6 -1.4**
MAJO pmax pmax
comp=Z,48nm,0.9s,mb4.9
MAJO Matsushiro 72.79 326⇓*iP* **P** **02 40 05.6 -1.4**
comp=Z,48nm,0.9s,mb4.9
MAT Matsushiro 72.79 326 P **P** **02 40 05.6 -1.4**
MAT S S 02 48 50.6 -0.2
MAT Matsushiro 72.79 326 *e*P **P** **02 40 06.0 -1.0**
MAT *e*S S 02 48 51.0 +0.2
MAT pmax pmax
comp=Z,57nm,1.0s,mb5.0
MAT Matsushiro 72.79 326 *e*P **P** **02 40 06.0 -1.0**
comp=Z,57nm,1.0s,mb5.0
MAT *e*S S 02 48 51.0 +0.2
TATO Taipei 75.21 307 P **P** **02 40 20.1 -0.5**
MAW Mawson 76.52 201 *e*P **P** **02 40 29.8 +1.9**
comp=Z,19nm,1.1s,mb4.4
MAW Mawson 76.52 201 P **P** **02 40 29.2 +1.2**
comp=Z,15nm,0.6s,mb4.6,baz=116,slow=6.6,SNR=18
MAW Mawson 76.52 201⇑*iP* **P** **02 40 29.0 +1.1**
MAW pmax pmax
comp=Z,38nm,1.0s
MAW Mawson 76.52 201⇑*iP* **P** **02 40 29.0 +1.1**
comp=Z,38nm,1.0s,mb4.8
QZH Guanzhou 77.31 305⇑*iP* **P** **02 40 32.2 0.0**
QZH AP pP 02 42 27.1 +3.7
QZH S S 02 49 38.0 -1.6
QZH SCS ScS 02 49 57.5 -4.2
QZH AMB AMB
comp=Z,120nm,1.1s,mb5.2
QZH AMB AMB
comp=Z,540nm,3.1s
KGM Kluang 78.59 278 P **P** **02 40 40.1 +1.0**
KS15 Wonju Array Si 79.06 320 P **P** **02 40 42.0 +0.4**
SSE Sheshan 79.14 312 *e*P **P** **02 40 41.8 -0.3**
SSE PCP PcP 02 40 48.2 -0.1
SSE AP pP 02 42 34.4 +0.4
SSE PP PP 02 43 48.7 -2.0
SSE S S 02 49 54.9 -3.9
SSE SCS ScS 02 50 12.2 -4.4
SSE AMB AMB
comp=Z,39nm,0.7s,mb4.8
SSE AMB AMB
comp=Z,97nm,3.7s
YSS Yuzh-Sakhalins 79.16 335⇑*iP* **P** **02 40 42.0 -0.2**
YSS *i* S S 02 50 00.0 +1.1
YSS pmax pmax
comp=Z,50nm,0.8s,mb4.9
YSS smax
comp=N,1µm,8.0s
YSS Yuzh-Sakhalins 79.16 335 P **P** **02 40 42.3 +0.1**
comp=N,32nm,0.4s,mb5.0
PET Petropavlovsk 79.97 347⇑*eP* **P** **02 40 44.9 -1.6**
PET *e*S S 02 50 04.8 -2.5
PET *e*SP 02 50 49.3
PET *e*SPP 02 51 14.7
PET *e*SS SS 02 55 34.8 +3.0
PET pmax pmax
comp=Z,41nm,0.6s,mb4.9
PET smax
comp=N,400nm,16.0s
PET MLR MLR
comp=Z,100nm,16.0s
GZH Guangzhou 80.25 301 P **P** **02 40 48.1 +0.2**
GZH S S 02 50 10.8 +0.6
QIZ Qiongzhong 80.93 296⇑P **P** **02 40 52.0 +0.6**
QIZ AP pP 02 42 43.6 -0.4
QIZ S S 02 50 14.6 -2.5
QIZ AMB AMB
comp=Z,31nm,2.0s,mb4.4
QIZ AMB AMB
comp=Z,196nm,3.4s
NJ2 Nanjing 81.30 311 *e*P **P** **02 40 53.8 +0.4**
NJ2 AP pP 02 42 50.1 +4.1
NJ2 PP PP 02 44 11.8 +3.5
NJ2 S S 02 50 17.0 -3.8
NJ2 AMB AMB
comp=Z,50nm,0.8s,mb5.0
NJ2 AMB AMB
comp=Z,200nm,11.0s
USHA Ushuaia 81.39 147 P **P** **02 40 53.0 -0.8**
comp=Z,26nm,1.0s,mb4.6,baz=262,slow=6.9,SNR=5.8
IPM Ipoh 81.72 279 P **P** **02 40 55.9 +0.4**

SYO Syowa Base 81.76 193⇑*iP* **P** **02 40 56.0 +0.3**
SAC San Andreas 82.72 43 *e*P **P** **02 41 00.6 0.0**
SAO San Andreas Ge 82.81 44⇑*iP* **P** **02 41 00.9 -0.1**
SAO pmax pmax
comp=Z,76nm,1.0s,mb5.2
SAO San Andreas Ge 82.81 44⇑*iP* **P** **02 41 00.9 -0.1**
comp=Z,76nm,1.0s,mb5.2
PSI Prapat 82.89 276 P **P** **02 41 01.2 -0.2**
comp=Z,33nm,1.1s,mb4.8,baz=142,slow=3.3,SNR=16
PSI pP pP 02 42 50.4 -4.2
comp=Z,2.5nm,0.4s,baz=171,slow=23,SNR=1.7
PSI Prapat 82.89 276 P **P** **02 41 01.2 -0.2**
PSI pP pP 02 42 50.4 -4.2
PTRM Twissleman Ran 82.91 45 P **P** **02 41 02.0 +0.5**
MDJ Mudanjiang 83.16 326 P **P** **02 41 03.2 +0.4**
MDJ AP pP 02 42 58.6 +2.5
MDJ PP PP 02 44 19.6 -3.8
MDJ S S 02 50 32.6 -6.8
MDJ XS sS 02 53 58.2 -3.1
MDJ AMB AMB
comp=Z,23nm,1.0s,mb4.7
MDJ AMB AMB
comp=Z,102nm,5.4s
MDJ Mudanjiang 83.16 326 *e*P **P** **02 41 01.5 -1.3**
comp=Z,28nm,1.0s,mb4.8
CHGN Chignik 83.21 12 *e*P **P** **02 41 01.4 -1.6**
HOPS Hopland 83.22 41⇑*iP* **P** **02 41 03.5 +0.4**
comp=Z,126nm,1.0s,mb5.4
SNAA Sanae 83.44 179 *e*P **P** **02 41 04.5 +0.3**
SNAA Sanae 83.44 179 *e*P **P** **02 41 04.5 +0.3**
SNAA *e* 02 41 05.7
SNAA *e* 02 41 07.5
SNAA *e* pP 02 43 02.2 +4.6
SNAA *e* 02 43 06.9
SNAA Sanae 83.44 179⇑*iP* **P** **02 41 04.0 -0.2**
SNAA *e**PP pP 02 42 57.0 -0.6
SNAA pmax pmax
comp=Z,37nm,1.1s
SNAA Sanae 83.44 179⇑*iP* **P** **02 41 04.0 -0.1**
comp=Z,37nm,1.1s,mb4.8
SNAA *e*pP pP 02 42 57.0 -0.6
HABR Khabarovsk 83.49 332 *e*P **P** **02 41 05.7 +1.3**
HABR S S 02 50 38.9 -3.7
HABR pmax pmax
comp=Z,61nm,1.6s,mb4.9
KIPM Iron Peak 83.50 40 *e*P **P** **02 41 05.0 +0.5**
BAR Barrett 83.51 49 P **P** **02 41 04.9 +0.4**
LPIG La Paz 83.54 60 P **P** **02 41 05.0 +0.3**
comp=Z,68nm,0.7s,mb5.3,baz=19,slow=1.3,SNR=7.8
WHN Wuhan 83.58 308 P **P** **02 41 05.0 +0.1**
WHN AMB AMB
comp=Z,90nm,1.1s,mb5.2
VNA3 Neumayer Olymp 83.66 177 *e*P **P** **02 41 05.9 +0.6**
VNA3 Neumayer Olymp 83.66 177 *e*P **P** **02 41 05.9 +0.6**
VNA3 *e* 02 41 07.0
VNA3 *e* 02 41 08.4
VNA3 *e* pP 02 42 55.8 -2.9
VNA3 *e* pP 02 43 02.9 +4.2
VNA3 *e* 02 43 08.3
VNA3 *e* 02 43 19.8
MAIT Maitri 83.98 184 *e*P **P** **02 41 07.7 +0.8**
ISA Isabella 84.04 46⇑*iP* **P** **02 41 07.5 +0.3**
ISA pmax pmax
comp=Z,102nm,0.8s,mb5.4
ISA Isabella 84.04 46⇑*iP* **P** **02 41 07.5 +0.3**
comp=Z,102nm,0.8s,mb5.4
KHMM Horse Mountain 84.04 39⇑*iP* **P** **02 41 07.7 +0.5**
VNA2 Neumayer--Watz 84.07 178 *e*P **P** **02 41 08.1 +0.8**
baz=189,slow=5.1
VNA2 Neumayer--Watz 84.07 178 *e*P **P** **02 41 08.1 +0.8**
baz=188,slow=4.3
VNA2 *e* 02 41 09.4
VNA2 *e* 02 41 10.8
VNA2 *e* pP 02 42 58.2 -2.7
VNA2 *e* pP 02 43 05.5 +4.6
VNA2 *e* 02 43 11.0
VNA2 *e* 02 43 19.8
VNA2 *e* 02 43 22.7
PFO Pinyon Flat Ob 84.19 49 P **P** **02 41 08.0 +0.1**
comp=Z,344nm,1.2s,mb5.8,SNR=19
PFO Pinyon Flat Ob 84.19 49⇑*iP* **P** **02 41 08.5 +0.6**
PFO pmax pmax
comp=Z,74nm,1.1s,mb5.1
PFO Pinyon Flat Ob 84.19 49⇑*iP* **P** **02 41 08.4 +0.6**
comp=Z,74nm,1.1s,mb5.1
CMB Columbia Colle 84.25 43⇑*iP* **P** **02 41 08.0 -0.2**
CMB pmax pmax
comp=Z,89nm,1.0s,mb5.2
CMB Columbia Colle 84.25 43⇑*iP* **P** **02 41 08.0 -0.2**
comp=Z,89nm,1.0s,mb5.2
VNA1 Neumayer--Stat 84.31 177 *e*P **P** **02 41 09.4 +0.9**
VNA1 Neumayer--Stat 84.31 177 *e*P **P** **02 41 09.4 +0.9**
VNA1 *e* 02 41 10.6
VNA1 *e* 02 41 12.0
VNA1 *e* pP 02 43 00.7 -1.5
VNA1 *e* pP 02 43 07.8 +5.6
VNA1 *e* 02 43 12.8
VNA1 *e* 02 43 21.4
VNA1 *e* 02 43 24.8
OHCM Honcut 84.39 42 *e*P **P** **02 41 08.6 -0.3**
WDC Whiskeytown Da 84.55 40⇑*iP* **P** **02 41 09.7 0.0**
WDC pmax pmax
comp=Z,77nm,1.0s,mb5.2
WDC Whiskeytown Da 84.55 40⇑*iP* **P** **02 41 09.7 0.0**
comp=Z,77nm,1.0s,mb5.2
KBO Bosley Butte 84.64 38 P **P** **02 41 10.7 +0.6**
CN2 Changchun 84.75 324⇓*iP* **P** **02 41 10.6 0.0**
CN2 *e*S 02 50 52.7
CN2 AMB AMB
comp=Z,60nm,1.3s,mb5.0
CN2 AMB AMB
comp=Z,200nm,3.0s
GSC Goldstone 84.93 47⇓*iP* **P** **02 41 11.7 +0.2**
GSC *e**PP pP 02 43 06.8 +1.4
DAC Darwin (Calif) 84.98 46⇑*iP* **P** **02 41 11.8 0.0**
DAC pmax pmax
comp=Z,23nm,0.9s,mb4.7
DAC Darwin (Calif) 84.98 46⇑*iP* **P** **02 41 11.8 0.0**
comp=Z,23nm,0.9s,mb4.7
GLA Glamis 84.99 50⇑*iP* **P** **02 41 12.8 +1.0**
GLA *e*pP pP 02 43 09.2 +3.4
KEBM Edson Butte 85.01 38⇑*iP* **P** **02 41 12.3 +0.4**
YBH Yreka Blue Hor 85.18 39 P **P** **02 41 13.3 +0.5**
comp=Z,35nm,0.9s,mb4.9,baz=193,slow=2.0,SNR=53
YBH Yreka Blue Hor 85.18 39⇑*iP* **P** **02 41 13.0 +0.2**
YBH pmax pmax
comp=Z,55nm,1.0s
YBH Yreka Blue Hor 85.18 39⇑*iP* **P** **02 41 13.0 +0.3**
comp=Z,55nm,1.0s,mb5.0
KLR Kul'dur 85.49 331 *e*P **P** **02 41 10.0 -4.3**
KLR *e* 02 51 04.5
KLR *e* 02 56 53.5
KLR pmax pmax
comp=Z,62nm,1.6s,mb4.9
HUMO Hull Mountain 85.61 39⇑*iP* **P** **02 41 15.3 +0.5**
comp=Z,99nm,1.2s,mb5.3
KDAK Kodiak Island 85.80 14 P **P** **02 41 14.9 -0.8**
comp=Z,30nm,0.8s,mb5.0,baz=154,slow=3.0,SNR=15
NVAR Mina Array Bea 85.80 44 P **P** **02 41 15.9 +0.2**
comp=Z,32nm,0.8s,mb5.0,baz=216,slow=7.4,SNR=212
PAHR Pah Rah Range 85.89 42⇑*iP* **P** **02 41 16.2 0.0**
comp=Z,62nm,0.9s,mb5.2
PAHR *e*PP PP 02 44 41.6 -3.7
BBOR Butler Butte 85.94 38 P **P** **02 41 16.6 +0.2**
HOG Hogback Mounta 86.09 39 P **P** **02 41 17.7 +0.6**
TPNV Topopah Spring 86.25 46⇑*iP* **P** **02 41 18.2 +0.3**
TPNV pmax pmax
comp=Z,66nm,0.8s,mb5.3
TPNV Topopah Spring 86.25 46⇑*iP* **P** **02 41 18.2 +0.4**
comp=Z,66nm,0.8s,mb5.3
TPH Tonopah 86.27 45⇑*iP* **P** **02 41 18.0 0.0**
TPH pmax pmax
comp=Z,82nm,0.8s,mb5.4
TPH Tonopah 86.27 45⇑*iP* **P** **02 41 18.0 0.0**
comp=Z,82nm,0.8s,mb5.4
NEN Nelson 86.44 48 P **P** **02 41 19.3 +0.5**
NEN *e*PP PP 02 44 45.2 -4.4
MOD Modoc 86.69 40⇑*iP* **P** **02 41 19.9 0.0**
comp=Z,33nm,0.5s,mb5.2
SHPR Sheep Range 86.71 47 P **P** **02 41 20.8 +0.7**
HBO Huckleberry Mo 86.76 38 P **P** **02 41 20.4 +0.2**
IRO Indian Ridge 86.90 38 P **P** **02 41 21.1 +0.1**
BROR Big Rock Looko 86.95 38 P **P** **02 41 21.2 0.0**
FRIS Frissel Point 87.11 38 P **P** **02 41 22.1 +0.2**

WIFE Three Sisters- 87.17 38 P **P** **02 41 22.7 +0.5**
GYA Guiyang 87.18 301⇓*iP* **P** **02 41 22.6 +0.4**
GYA AP pP 02 43 20.8 +3.9
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.7
GYA AMB AMB
comp=Z,120nm,4.2s
SSOR Sweet Springs 87.33 37 P **P** **02 41 23.0 +0.1**
TUC Tucson 87.45 53⇑*iP* **P** **02 41 24.8 +1.3**
TUC *e**PP pP 02 43 17.5 -0.8
TUC pmax pmax
comp=Z,108nm,1.0s,mb5.4
TUC Tucson 87.45 53⇑*iP* **P** **02 41 24.8 +1.3**
comp=Z,108nm,1.0s,mb5.4
TUC *e*pP pP 02 43 17.4 -0.8
PLCA Paso Flores 87.57 134 P **P** **02 41 26.3 +2.2**
PLCA *PP pP 02 43 20.7 +1.8
PLCA pmax pmax
comp=Z,62nm,1.3s
PLCA Paso Flores 87.57 134 P **P** **02 41 26.3 +2.3**
comp=Z,62nm,1.3s,mb5.2
PLCA pP pP 02 43 20.7 +1.8
BMN Battle Mountai 87.66 43⇑*iP* **P** **02 41 24.6 +0.1**
BMN *e* 02 44 58.1
BMN pmax pmax
comp=Z,91nm,1.1s,mb5.4
BMN Battle Mountai 87.66 43⇑*iP* **P** **02 41 24.6 +0.1**
comp=Z,91nm,1.1s,mb5.4
BMN *e*PP PP 02 44 58.1 -1.2
MA2 Magadan 87.72 346 *e*P **P** **02 41 23.3 -1.4**
MA2 *e*S 02 51 01.4
MA2 *e* 02 51 18.3
MA2 pmax pmax
comp=Z,30nm,0.9s,mb5.0
MA2 Magadan 87.72 346 *e*P **P** **02 41 23.0 -1.7**
comp=Z,22nm,0.9s,mb4.9
BJT Baijiatuau 87.76 317 *e*P **P** **02 41 24.6 -0.4**
BJI Beijing 87.77 317 P **P** **02 41 25.1 +0.1**
BJI AP pP 02 43 14.9 -5.0
BJI XP sP 02 44 12.0 -0.8
BJI SKS 02 51 01.8
BJI S 02 51 26.8
BJI AMB AMB
comp=Z,23nm,1.4s,mb4.7
BJI AMB AMB
comp=Z,290nm,3.2s
WVOR Wild Horse Val 88.00 41⇑*iP* **P** **02 41 26.2 +0.1**
WVOR pmax pmax
comp=Z,104nm,1.0s,mb5.5
WVOR Wild Horse Val 88.00 41⇑*iP* **P** **02 41 26.2 +0.1**
comp=Z,104nm,1.0s,mb5.5
HOOD Mount Hood Mea 88.06 37 P **P** **02 41 26.9 +0.5**
SVW2 Sparrevohn 88.23 12 *e*P **P** **02 41 25.2 -2.0**
EFI East Falkland 88.28 148 P **P** **02 41 28.7 +1.3**
EFI pmax pmax
comp=Z,96nm,0.8s,mb5.6
EFI East Falkland 88.28 148 P **P** **02 41 28.7 +1.3**
comp=Z,96nm,0.8s,mb5.6
OOW Octopus West 88.29 34 P **P** **02 41 28.3 +0.9**
OCWA Octopus Mounta 88.30 34 P **P** **02 41 28.4 +1.0**
OTR Olympics--Tyee 88.44 34 P **P** **02 41 29.1 +1.0**
CCUT Cedar City 88.49 47⇑*iP* **P** **02 41 29.5 +1.1**
OBC Olympics--Boni 88.54 34 P **P** **02 41 29.3 +0.7**
ARUT Antelope Range 88.57 47 *e*P **P** **02 41 29.1 +0.4**
VTHM Trough 88.58 38 P **P** **02 41 28.9 +0.1**
WUAZ Wupatki 88.73 50⇑*iP* **P** **02 41 30.1 +0.6**
comp=Z,89nm,1.2s,mb5.5
SLKM Skilak Lake 88.79 14 *e*P **P** **02 41 27.9 -1.9**
HDW Hoodsport 88.81 35 P **P** **02 41 30.4 +0.5**
GNW Green Mountain 88.87 35 P **P** **02 41 30.3 +0.1**
LON Longmire 88.89 36 P **P** **02 41 29.9 -0.3**
WPW White Pass 88.99 36 P **P** **02 41 30.8 +0.1**
FMW Mount Fremont 89.07 36 P **P** **02 41 31.4 +0.3**
PGC Sidney 89.26 34⇑*iP* **P** **02 41 31.6 -0.3**
comp=Z,184nm,0.7s,mb6.0
XAN Xi'an 89.32 308 P **P** **02 41 32.9 +0.7**
XAN AMB AMB
comp=Z,57nm,1.1s,mb5.3
RMW Rattlesnake Mo 89.34 35 P **P** **02 41 32.4 +0.1**
TWW Teanaway 89.63 36 P **P** **02 41 34.4 +0.7**
KMI Kunming 89.64 298 P **P** **02 41 35.2 +1.5**
KMI PP PP 02 45 19.0 +4.2
KMI PPP 02 47 22.7
KMI SKS 02 51 13.7
KMI S 02 51 39.8
KMI PS PS 02 54 04.7 +3.0
KMI SS SS 02 57 56.3 +4.0
KMI SSS 03 01 37.4
KMI AMB AMB
comp=Z,43nm,0.8s,mb5.3
KMI AMB AMB
comp=Z,122nm,3.7s
EBG Ellensburg 89.65 36 P **P** **02 41 33.8 +0.1**
PRW Prosser 89.70 37 P **P** **02 41 34.2 +0.2**
JCW Jim Creek 89.74 35 P **P** **02 41 34.0 -0.2**
MSU Marysvale 89.80 47 P **P** **02 41 35.6 +1.2**
LTY Liberty 89.81 36 P **P** **02 41 34.1 -0.4**
TTA Tatalina 89.86 11 *e*P **P** **02 41 33.1 -1.6**
TTA pmax pmax
comp=Z,40nm,1.1s,mb5.2
TTA Tatalina 89.86 11 *e*P **P** **02 41 33.1 -1.7**
comp=Z,40nm,1.1s,mb5.2
HAWA Hanford 89.89 37⇑*iP* **P** **02 41 34.8 -0.1**
comp=Z,3.4nm,0.8s,mb4.2
CHTO Chiang Mai 89.90 291⇓*iP* **P** **02 41 35.9 +1.0**
CHTO pmax pmax
comp=Z,58nm,1.1s,mb5.3
CHTO Chiang Mai 89.90 291⇓*iP* **P** **02 41 35.9 +1.0**
comp=Z,58nm,1.1s,mb5.3
PMR Palmer 90.00 14 *e*P **P** **02 41 33.5 -1.9**
PMR pmax pmax
comp=Z,40nm,0.9s,mb5.2
PMR Palmer 90.00 14 *e*P **P** **02 41 33.5 -1.9**
comp=Z,40nm,0.9s,mb5.2
RPW Rockport 90.12 35 P **P** **02 41 35.5 -0.4**
BMO Blue Mountains 90.21 39⇑*iP* **P** **02 41 35.9 -0.5**
BMO pmax pmax
comp=Z,75nm,1.5s,mb5.3
BMO Blue Mountains 90.21 39⇑*iP* **P** **02 41 35.9 -0.5**
comp=Z,75nm,1.5s,mb5.3
DUG Dugway 90.30 45⇑*iP* **P** **02 41 36.6 -0.2**
DUG pmax pmax
comp=Z,41nm,1.2s,mb5.1
DUG Dugway 90.30 45⇑*iP* **P** **02 41 36.6 -0.1**
comp=Z,42nm,1.2s,mb5.1
WTV Waterville 90.47 36 P **P** **02 41 37.1 -0.5**
NLU North Lily Min 90.64 46⇑*iP* **P** **02 41 38.5 +0.2**
TMUT Trail Mountain 90.86 46⇑*iP* **P** **02 41 40.3 +1.0**
TMUT *e*pP pP 02 43 40.0 +5.1
MPU Maple Canyon 90.96 46⇑*iP* **P** **02 41 40.3 +0.5**
comp=Z,54nm,0.8s,mb5.5
NOQ North Quirrh 90.99 45⇑*iP* **P** **02 41 39.8 -0.1**
comp=Z,86nm,0.9s,mb5.7
MNTX Cornudas Mount 91.10 55⇑*iP* **P** **02 41 41.0 +0.5**
comp=Z,31nm,0.9s,mb5.2
MNTX *e*pP pP 02 43 37.6 +1.7
MNTX *e*PP PP 02 45 25.0 -1.2
HHC Hu-ho-hao-te 91.13 315 *eP* **P** **02 41 40.3 -0.3**
HHC AP pP 02 43 39.6 +3.5
HHC PP PP 02 45 29.0 +2.5
HHC SKS 02 51 22.8
HHC S 02 51 48.8
HHC PS PS 02 54 16.6 -0.7
HHC SS SS 02 58 13.3 -0.3
HHC AMB AMB
comp=Z,25nm,1.3s,mb5.0
HHC AMB AMB
comp=Z,80nm,4.2s
SPUT South Promonto 91.14 44⇑*iP* **P** **02 41 40.3 -0.4**
LAZ Ladron 91.14 52 *eP* **P** **02 41 41.3 +0.6**
LENM Lemitar 91.14 53 *eP* **P** **02 41 41.3 +0.6**
HLID Hailey 91.17 42⇑*iP* **P** **02 41 41.0 +0.2**
comp=Z,18nm,0.8s,mb5.0
HLID *e*PP PP 02 45 24.4 -2.4
HVU Hansel Valley 91.19 44⇑*iP* **P** **02 41 40.9 0.0**
HVU pmax pmax
comp=Z,57nm,0.7s,mb5.6
HVU Hansel Valley 91.19 44⇑*iP* **P** **02 41 40.9 +0.1**
comp=Z,57nm,0.7s,mb5.6
SRU San Rafael 91.21 47⇑*iP* **P** **02 41 41.1 +0.1**
SRU pmax pmax
comp=Z,79nm,0.8s,mb5.7
SRU San Rafael 91.21 47⇑*iP* **P** **02 41 41.1 +0.1**
comp=Z,80nm,0.8s,mb5.7

CTU **Camp Tracy** 91.25 45⇑ *iP* P 02 41 41.1 0.0
comp=Z,71nm,0.9s,mb5.6
LTX **Lajitas** 91.28 58⇑ *iP* P 02 41 42.1 +0.8
LTX pmax pmax
comp=Z,55nm,0.9s,mb5.5
LTX **Lajitas** 91.28 58⇑ *iP* P 02 41 42.1 +0.8
comp=Z,55nm,0.9s,mb5.5
BNM **Barren Site** 91.38 53 P P 02 41 42.6 +0.8
DAU **Daniels Canyon** 91.42 45 P P 02 41 42.4 +0.5
LPM **Los Pinos Moun** 91.46 53 *eP* P 02 41 42.8 +0.7
LPM *epP* pP 02 43 39.0 +1.4
CD2 **Chengdu** 91.57 303 P P 02 41 42.4 -0.2
CD2 AP pP 02 43 42.2 +4.0
CD2 PP PP 02 45 32.3 +2.4
CD2 SKS 02 51 22.7
CD2 S 02 51 53.6
CD2 PS PS 02 54 21.9 0.0
CD2 SS SS 02 58 19.6 -0.2
CD2 AMB AMB
comp=Z,60nm,1.0s,mb5.6
CD2 AMB AMB
comp=Z,50nm,6.0s
MVCO **Mesa Verde** 91.59 49 *eP* P 02 41 42.6 -0.1
TCUT **Toone Canyon** 91.69 45⇑ *iP* P 02 41 43.2 0.0
PV10 **Paradox Valley** 91.82 48 *eP* P 02 41 43.5 -0.3
ANMO **Albuquerque** 91.90 52 *c iP* P 02 41 44.4 +0.3
ANMO **Albuquerque** 91.90 52⇑ *iP* P 02 41 44.4 +0.2
comp=Z,23nm,0.9s,mb5.2
ANMO *epP* pP 02 43 41.0 +1.3
BTO **Baotou** 91.99 314 *eP* P 02 41 44.3 -0.3
PV01 **Paradox Valley** 92.01 49 *eP* P 02 41 44.5 -0.2
GDL2 **Guadalupe Moun** 92.10 55 P P 02 41 45.8 +0.7
GDL2 *epP* pP 02 43 42.2 +1.5
GDL2 *ePP* PP 02 45 33.9 -0.1
NEW **Newport** 92.33 37 *eP* P 02 41 44.9 -1.2
NEW pmax pmax
comp=Z,5.0nm,0.6s
NEW **Newport** 92.33 37 *eP* P 02 41 44.9 -1.2
comp=Z,5.1nm,0.6s,mb4.7
CLNB **Carlsbad** 92.49 56 *eP* P 02 41 46.6 -0.3
MCMT **McKenzie Canyo** 92.81 41 *eP* P 02 41 48.3 0.0
DCID1 **Drake Creek** 93.15 43 *eP* P 02 41 51.1 +1.2
COLA **College** 93.17 13⇑ *iP* P 02 41 47.4 -2.6
COLA pmax pmax
comp=Z,20nm,0.9s,mb5.2
COLA **College** 93.17 13⇑ *iP* P 02 41 47.4 -2.6
comp=Z,20nm,0.9s,mb5.2
REDW **Red Top Meadow** 93.24 43⇑ *iP* P 02 41 50.1 -0.2
comp=Z,54nm,1.3s,mb5.4
TPAW **Teton Pass** 93.24 43⇑ *iP* P 02 41 50.1 -0.2
comp=Z,30nm,1.2s,mb5.2
DLMT **Dillon** 93.25 41 *eP* P 02 41 50.2 -0.1
comp=Z,9.6nm,0.4s,mb5.2
MSO **Missoula** 93.27 39 *eP* P 02 41 49.2 -1.2
comp=Z,3.3nm,0.6s,mb4.5
ILAR **Eielson Array** 93.28 14 P P 02 41 48.0 -2.5
comp=Z,7.0nm,0.6s,mb4.8,baz=226,slow=5.2,SNR=136
ILAR *pP* pP 02 43 40.1 -6.0
comp=Z,2.1nm,1.1s,baz=226,slow=4.8,SNR=2.5
ILAR PP PP 02 45 43.4 +0.3
comp=Z,6.3nm,1.1s,baz=224,slow=6.9,SNR=6.7
BSMT **Bassoo Peak** 93.37 38 P P 02 41 49.8 -1.1
BILL **Bilibino** 93.43 355 *c iP* P 02 41 49.6 -1.6
BILL pmax pmax
comp=Z,19nm,1.1s,mb5.0
BILL **Bilibino** 93.43 355 *eP* P 02 41 49.2 -2.0
comp=Z,13nm,0.8s,mb5.0
IMW **Indian Meadow** 93.46 43⇑ *iP* P 02 41 51.3 0.0
comp=Z,22nm,0.9s,mb5.2
IMW *epP* pP 02 43 48.0 +1.0
MOOW **Moose Ponds** 93.50 43 P P 02 41 51.4 -0.1
comp=Z,28nm,1.4s,mb5.2
LOHW **Long Hollow** 93.52 43 P P 02 41 51.5 -0.1
comp=Z,9.0nm,0.6s,mb5.1
LRM **Limekiln Ridge** 93.58 40 P P 02 41 51.7 -0.1
SMCO **Snowmass** 93.62 48⇑ *iP* P 02 41 52.2 +0.2
comp=Z,32nm,0.8s,mb5.5
SMCO *ePP* PP 02 45 42.5 -3.2
QLMT **Earthquake Lak** 93.66 42 P P 02 41 52.8 +0.6
FLWY **Flagg Ranch** 93.71 43⇑ *iP* P 02 41 52.5 0.0
comp=Z,39nm,0.9s,mb5.5
CHMT **Chamberlain Mo** 93.71 39 P P 02 41 51.5 -0.9
BW06 **Boulder Array** 93.73 44 P P 02 41 52.0 -0.6
comp=Z,20nm,1.2s,mb5.1
PDAR **Pinedale Array** 93.73 44 P P 02 41 51.9 -0.6
comp=Z,7.7nm,0.9s,mb4.8,baz=214,slow=3.6,SNR=41
PDAR *pP* pP 02 43 45.6 -2.7
comp=Z,0.6nm,0.8s,baz=188,slow=3.6,SNR=1.3
PDAR PP PP 02 45 43.4 -3.2
comp=Z,4.6nm,0.9s,baz=231,slow=6.9,SNR=10
YFT **Old Faithful** 93.82 42 P P 02 41 54.8 +1.8
YMR **Madison River** 93.86 42 *eP* P 02 41 53.3 +0.2
comp=Z,22nm,1.1s,mb5.2
LZH **Lanzhou** 93.95 308 *eP* P 02 41 55.0 +1.5
LZH PP PP 02 45 53.1 +4.8
LZH SKS 02 51 37.0
LZH S 02 52 13.0
LZH SS SS 02 58 54.3 +0.8
LZH AMB AMB
comp=Z,46nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,140nm,4.2s
CFAA **Coronel Fontan** 93.99 128 P P 02 41 54.8 +1.1
comp=Z,1.4nm,0.7s,baz=235,slow=4.1,SNR=20
HRY **Holter Researc** 94.42 40 P P 02 41 55.2 -0.5
DAWY **Dawson** 94.47 17⇑ *iP* P 02 41 54.5 -1.4
WALA **Waterton Lakes** 94.53 37 P P 02 41 55.4 -0.7
comp=Z,13nm,1.0s,mb5.0
RWWY **Rawlins** 94.70 46 *eP* P 02 41 56.5 -0.4
comp=Z,11nm,0.7s,mb5.1
JCT **Junction City** 94.78 59 *eP* P 02 41 56.8 -0.5
JCT pmax pmax
comp=Z,31nm,1.1s,mb5.3
JCT **Junction City** 94.78 59 *eP* P 02 41 56.8 -0.5
comp=Z,31nm,1.1s,mb5.3
ISCO **Idaho Springs** 94.84 48 P P 02 41 57.8 +0.2
ISCO pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
ISCO **Idaho Springs** 94.84 48 P P 02 41 57.8 +0.2
comp=Z,10.0nm,0.8s,mb5.0
GCMT **Greycliff** 95.22 42 *eP* P 02 41 59.2 -0.1
AMTX **Amarillo** 95.33 54 *eP* P 02 41 59.5 -0.3
comp=Z,6.3nm,0.6s,mb4.9
PHWY **Pilot Hill** 95.66 47 P P 02 42 01.3 +0.1
EGMT **Eagleton** 96.31 40 P P 02 42 03.4 -0.8
comp=Z,5.7nm,0.9s,mb4.8
WMOK **Wichita Mounta** 97.41 55 *eP* P 02 42 08.7 -0.4
WMOK pmax pmax
comp=Z,2.0nm,0.9s,mb4.3
WMOK **Wichita Mounta** 97.41 55 *eP* P 02 42 08.7 -0.4
comp=Z,1.8nm,0.9s,mb4.3
HKT **Hockley** 97.66 61 P P 02 42 10.2 0.0
LAO **LASA Array** 97.74 42⇑ *iP* P 02 42 10.6 0.0
comp=Z,13nm,0.8s,mb5.3
SONM **Songino Array** 97.89 319 P Pdif 02 42 10.8 -0.4
comp=Z,1.3nm,0.7s,baz=118,slow=3.1,SNR=6.6
SONM *pP* pP 02 44 01.9 -5.4
comp=Z,1.0nm,0.9s,baz=122,slow=5.2,SNR=2.6
SONM PP PP 02 46 13.6 -4.6
comp=Z,3.6nm,1.1s,baz=133,slow=6.3,SNR=4.9
SONM PKKP PKKPbc 02 58 44.3 +1.6
comp=Z,2.2nm,0.9s,baz=254,slow=3.3,SNR=8.0
SONM **Songino Array** 97.89 319 P Pdif 02 42 10.8 -0.4
SONM *PP pP 02 44 01.9 -5.4
SONM 02 46 13.6
RSSD **Black Hills** 97.91 45 *eP* Pdif 02 42 10.4 -0.9
RSSD *e* 02 46 13.4
RSSD pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
RSSD **Black Hills** 97.91 45 *eP* Pdif 02 42 10.4 -0.9
comp=Z,5.9nm,0.7s
RSSD *ePP* PP 02 46 13.4 -5.0
GTA **Gaotai** 98.30 310 P Pdif 02 42 14.0 +0.9
GTA PP PP 02 46 26.1 +4.8
GTA SKS 02 51 59.5
GTA S Sdif 02 52 52.8 -2.7
GTA PS PS 02 55 32.1 0.0
GTA SS SS 02 59 54.7 +0.4
GTA AMB AMB
comp=Z,8.0nm,1.5s,mb4.8
GTA AMB AMB
comp=Z,67nm,5.3s
INK **Inuvik** 99.28 16 P Pdif 02 42 15.4 -2.0
INK pmax pmax
comp=Z,14nm,1.0s
INK **Inuvik** 99.28 16 Pdif Pdif 02 42 15.4 -2.0
comp=Z,14nm,1.0s
YKA **Yellowknife Ar** 101.57 26 P Pdif 02 42 26.1 -1.5
comp=Z,0.5nm,0.5s,baz=239,slow=4.4,SNR=19
YKA PP PP 02 46 29.1 -17
comp=Z,0.8nm,0.9s,baz=234,slow=6.5,SNR=4.8
YKA PKIKP PKiKP 02 46 46.3 -1.8
comp=Z,0.7nm,0.5s,baz=262,slow=1.7,SNR=25
YKA SKP 02 49 33.4
comp=Z,0.2nm,0.6s,baz=251,slow=1.7,SNR=4.9
YKA **Yellowknife Ar** 101.57 26 P Pdif 02 42 26.1 -1.5
YKA PP PP 02 46 29.1 -17
LPAZ **La Paz** 102.12 114 P Pdif 02 42 33.4 +3.3
comp=Z,2.2nm,0.9s,baz=119,slow=3.0,SNR=9.3
LPAZ PKiKP PKiKP 02 46 49.1 +0.1
comp=Z,0.8nm,0.5s,baz=253,slow=9.0,SNR=4.3
LPAZ **La Paz** 102.12 114 P Pdif 02 42 33.4 +3.3
LPAZ *i* 02 46 49.1
LPAZ pmax pmax
comp=Z,2.0nm,0.9s
LPAZ pmax pmax
comp=Z,1.0nm,0.5s
LPAZ **La Paz** 102.12 114 Pdif Pdif 02 42 34.0 +3.9
ULM **Lac du Bonnet** 105.48 42 PKiKP PKiKP 02 46 52.9 -2.3
comp=Z,1.8nm,0.8s,baz=59,slow=7.3,SNR=3.1
ULM **Lac du Bonnet** 105.48 42 PKPdf PKiKP 02 46 52.9 -2.3
PLAL **Pickwick Lake** 105.63 58 *e*PKP PKiKP 02 46 53.5 -2.0
SIV **San Ignacio** 108.02 118 PKiKP PKiKP 02 46 59.8 -0.1
comp=Z,1.8nm,0.8s,baz=276,slow=6.6,SNR=4.0
WMQ **Urumqi** 108.36 310 PDIF Pdif 02 42 57.4 -0.4
WMQ PP PP 02 47 37.6 +2.4
WMQ PPP 02 50 00.4
WMQ *e*S Sdif 02 54 13.9 -5.5
WMQ PS PS 02 57 08.2 -1.5
WMQ PP PP
comp=Z,41nm,10.5s
SDV **Santo Domingo** 111.44 90 PKiKP PKiKP 02 47 06.3 -0.1
comp=Z,2.5nm,0.4s,baz=343,slow=9.4,SNR=5.3
SDV **Santo Domingo** 111.44 90 PKPdf PKiKP 02 47 06.3 -0.1
ZAL **Zalesovo** 112.77 320 SKP 02 49 54.7
comp=Z,1.3nm,0.3s,baz=55,slow=11,SNR=4.7
RES **Resolute Bay** 112.81 17 *e*PKiKP PKiKP 02 47 06.5 -2.5
MKAR **Makanchi Array** 112.82 312 Pdiff Pdif 02 43 20.3 +2.7
comp=Z,0.4nm,0.4s,baz=90,slow=7.0,SNR=4.0
MKAR PKiKP PKiKP 02 47 07.8 -1.3
comp=Z,2.2nm,0.4s,baz=94,slow=0.7,SNR=16
MKAR SKP 02 49 56.2
comp=Z,4.4nm,0.7s,baz=86,slow=1.7,SNR=10
NVS **Novosibirsk** 113.83 321 *e*PKiKP PKiKP 02 47 08.0 -3.0
KURK **Kurchatov** 115.93 316 *e*PKPdf PKPdf 02 47 13.4 -1.6
KURK *e*PP PP 02 48 20.4 -8.1
KURK *e*SKPdf SKPdf 02 50 01.1 +0.3
AAK **Ala-Archa** 117.46 307⇑ *i*PKiKP PKPdf 02 47 15.3 -2.6
LONY **Lake Ozonia** 118.07 51 *e*PKPdf PKPdf 02 47 17.1 -2.0
LONY *e*PP PP 02 48 39.9 -3.3
BDFB **Brasilia** 118.28 126 PKiKP PKiKP 02 47 19.3 -0.3
comp=Z,6.1nm,0.8s,baz=270,slow=1.1,SNR=8.6
BDFB SKP 02 50 06.1
comp=Z,3.8nm,0.8s,baz=220,slow=7.4,SNR=4.0
SJG **San Juan** 118.85 82 PKiKP PKiKP 02 47 20.0 -0.7
comp=Z,20nm,0.6s,baz=308,slow=23,SNR=10
SJG SKP 02 50 07.2
comp=Z,5.8nm,0.4s,baz=258,slow=23,SNR=5.0
SJG **San Juan** 118.85 82 *i* PKIKP PKPdf 02 47 20.0 -0.6
SJG 02 50 07.2
SJG pmax pmax
comp=Z,20nm,0.6s
SJG pmax pmax
comp=N,6.0nm,0.4s
SJG **San Juan** 118.85 82 *e*PKPdf PKPdf 02 47 19.9 -0.8
SJG *e*SKPdf SKPdf 02 50 06.7 +0.3
QUA2 **Belchertown** 119.33 54 *e*PKPdf PKPdf 02 47 20.3 -1.2
KKAR **Karatay Array** 120.42 307 *i* PKIKP PKPdf 02 47 22.9 -0.7
KKAR pmax pmax
comp=Z,3.0nm,0.6s
BVA0 **Borovoye Array** 121.21 318 *i* PKIKP PKPdf 02 47 23.9 -1.3
BVA0 pmax pmax
comp=Z,1.0nm,0.6s
BRVK **Borovoye** 121.28 318 *e*PKIKP PKPdf 02 47 24.1 -1.2
BRVK *e* 02 50 11.8
ZRNK **Zerenda** 122.05 318 *e*PKIKP PKPdf 02 47 25.3 -1.5
LZG **Guadaloupe-1** 122.14 86 *e*P PKPdf 02 47 26.9 0.0
TBG **Guadaloupe-3** 122.16 87 *e*P PKPdf 02 47 27.0 0.0
SCG **Saint Claude** 122.19 86 *e*P PKPdf 02 47 27.3 +0.3
PHG **Guadaloupe-2** 122.22 86 *e*P PKPdf 02 47 27.5 +0.4
FDF **Fort de France** 122.23 88 *e*P PKPdf 02 47 27.3 +0.1
SEG **Port Louis** 122.48 86 *e*P PKPdf 02 47 27.2 -0.4
MGG **Marie-Galante** 122.48 87 *e*P PKPdf 02 47 27.4 -0.2
DEG **La Desirade** 122.85 86 *e*P PKPdf 02 47 27.6 -0.7
SCHQ **Schefferville** 123.57 40 PKP PKPdf 02 47 28.0 -1.7
comp=Z,11nm,0.9s,baz=313,slow=1.8,SNR=13
SCHQ **Schefferville** 123.57 40 PKP PKPdf 02 47 28.0 -1.7
KBS **Kingsbay** 125.86 357 *e*P PKPdf 02 47 33.5 -0.6
SVE **Sverdlovsk** 126.54 323 *e*PKIKP PKPdf 02 47 34.6 -0.8
SVE *e* 02 50 22.5
SVE pmax pmax
comp=Z,40nm,1.1s
ARU **Arti** 127.73 323 *i* PKIKP PKPdf 02 47 37.3 -0.3
ARU *e* 02 49 46.3
ARU *e*SS SS 03 06 11.9 -6.6
ARU **Arti** 127.73 323 *e*PKPdf PKPdf 02 47 36.8 -0.9
AB31 **Akbulak array** 127.90 314 *i* PKIKP PKPdf 02 47 36.7 -1.3
AB31 pmax pmax
comp=Z,1.0nm,0.6s
SFJD **Kangerlussuaq** 128.00 23⇑ *iP* PKPdf 02 47 36.4 -1.8
comp=Z,10.0nm,0.6s
SFJD **Kangerlussuaq** 128.00 23⇑ *i*PKIKP PKPdf 02 47 36.4 -1.8
SFJD pmax pmax
comp=Z,10.0nm,0.6s
SUMG **Summit** 128.13 14 *e*PKPdf PKPdf 02 47 36.9 -1.5
SUMG *ep*PKPdf pPKPdf 02 49 40.6 -0.6
LSZ **Lusaka** 131.19 218 *e*PKPdf PKPdf 02 47 46.1 +1.9
LSZ *e*SKP 02 50 23.5
KEV **Kevo** 132.57 347 *ep* PKPdf 02 47 38.5 -8.3
comp=Z,7.0nm,0.5s
ARCES **ARCESS Array B** 133.05 348 PKhKP 02 47 31.9
comp=Z,2.5nm,0.8s,baz=20,slow=3.9,SNR=9.4
ARCES PKP PKPdf 02 47 46.3 -1.4
comp=Z,16nm,0.5s,baz=356,slow=0.8,SNR=48
ARCES *e*PKP pPKPdf 02 49 46.6 -4.0
comp=Z,3.8nm,0.8s,baz=28,slow=5.5,SNR=2.0
ARCES SKPbc SKPbc 02 50 27.3 +0.7
comp=Z,41nm,0.8s,baz=45,slow=3.6,SNR=40
ARCES **ARCESS Array B** 133.05 348 PKHKP 02 47 31.9
ARCES 02 47 46.3
ARCES 02 50 27.3
KTK1 **Kautokeino** 133.91 349 *eP* PKPdf 02 47 48.9 -0.4
KTK1 *e*PP PP 02 50 29.8 +3.0
KTK1 **Kautokeino** 133.91 349 *eP* PKPdf 02 47 47.2 -2.1
TRO **Tromso** 134.06 351 *e* 02 47 41.8
TRO *e*PP PP 02 50 29.2 +1.6
KLMR **Klimovskoe** 135.19 334 *c iP*KIKP PKPdf 02 47 50.1 -1.6
KLMR *e* 02 50 33.7
KLMR pmax pmax
comp=Z,20nm,1.1s
KMBO **Kilima Mbogo** 135.29 240 PKP PKPdf 02 47 53.0 +1.1
comp=Z,2.1nm,0.8s,baz=42,slow=24,SNR=6.0
KMBO SKPbc SKPbc 02 50 37.5 +3.7
comp=Z,14nm,1.0s,baz=23,slow=0.8,SNR=16
LOF **Lofoten** 136.18 353 *eP* PKPdf 02 47 47.9 -5.6
LOF *e*PP PP 02 50 38.9 -1.9
JOF **Joensuu** 136.81 340 *ep* 02 47 43.8
comp=Z,25nm,0.6s
MOR8 **Moi Rana** 137.92 351 *eP* 02 47 48.8
MOR8 *e*PP PP 02 50 48.9 -2.7
KAF **Kangasniemi** 138.94 341 *ep* 02 47 47.4
comp=Z,3.8nm,0.5s
FINES **FINESS Array B** 139.54 341 PKhKP 02 47 49.3
comp=Z,3.2nm,0.5s,baz=47,slow=4.5,SNR=56
FINES PKP PKPdf 02 47 58.6 -1.1
comp=Z,8.1nm,0.4s,baz=64,slow=4.8,SNR=26
FINES SKP 02 50 46.8
comp=Z,36nm,0.8s,baz=66,slow=4.6,SNR=41
FINES SKPab 02 50 57.5
comp=Z,13nm,0.9s,baz=58,slow=4.7,SNR=6.4
FINES **FINESS Array B** 139.54 341 PKP 02 47 49.3
FINES PKP PKPdf 02 47 58.6 -1.1
FINES SKP 02 50 46.8
FINES SKPab 02 50 57.5
GNI **Garni** 139.70 303 *i* PKIKP PKPdf 02 48 00.7 +0.7
OBN **Obninsk** 139.70 328⇑ *i*PKIKP PKPdf 02 47 59.0 -1.0
OBN *e* 02 50 48.4
OBN *e* 02 50 57.9
OBN pmax pmax
comp=Z,5.0nm,0.8s
NSS **Namsos** 139.82 352 *e* 02 47 50.1
KIV **Kislovodsk** 140.48 309 *i* PKIKP PKPdf 02 48 01.5 +0.1
KIV *e* 02 50 50.0
KIV pmax pmax
comp=Z,9.0nm,1.1s
CUKT **Cukurca** 140.91 299 *eP* 02 47 52.8
DOMB **Dombas** 142.57 353 *eP* PKPdf 02 48 00.2 -4.9
SOC **Sochi** 142.66 310 *e*PKHKP 02 48 02.3
SOC *i* 02 48 05.9
SOC *e* 02 50 04.5
MARD **Mardin** 143.14 299 *i* P PKPdf 02 48 04.8 -1.3
NB2 **NORSAR Subarra** 143.26 351 PKPa PKPdf 02 48 02.5 -3.8
comp=Z,17nm,0.6s,baz=16,slow=3.2
NB2 **NORSAR Subarra** 143.26 351 PKPa PKPdf 02 48 02.5 -3.8
baz=16,slow=3.2
NOA **NORSAR Array B** 143.26 351 PKP PKPdf 02 48 02.7 -3.6
comp=Z,46nm,0.8s,baz=15,slow=5.0,SNR=163
NOA SKPbc SKPbc 02 50 56.6 +1.2
comp=Z,19nm,1.0s,baz=13,slow=4.1,SNR=8.0
FOO **Floro** 143.38 356⇑ *iP* PKPdf 02 48 03.1 -3.5
FOO AMb AMB 02 48 05.1
comp=Z,56nm,1.0s
NAO01 **NORSAR Array S** 143.50 351 *e*PKPdf PKPdf 02 48 03.6 -3.2
NAO01 *e*SKP 02 50 56.5
GUMT **Gumushane** 143.60 305 *eP* PKPdf 02 48 06.5 -0.4
HYA **Hoyanger** 143.72 355 *eP* PKPdf 02 48 05.7 -1.5
HYA AMb AMB 02 48 07.0
comp=Z,61nm,1.2s
IZAR **Zarasai** 143.81 335 *eP* PKPdf 02 48 05.2 -2.1
IZAR AMb AMB 02 48 06.3
comp=Z,24nm,0.5s
ANN **Anapa** 143.84 312 *i* PKHKP 02 48 04.9
ANN pmax pmax
comp=Z,47nm,0.6s
SUE **Sulen** 143.93 356⇑ *iP* PKPdf 02 48 05.2 -2.3
SUE AMb AMB 02 48 05.9
comp=Z,131nm,0.7s
IDID **Didziasalis** 143.93 334 *eP* PKPdf 02 48 05.6 -1.9
IDID AMb AMB 02 48 06.8
comp=Z,18nm,0.8s
ISAL **Salakas** 143.99 335 *eP* PKPdf 02 48 05.7 -1.9
ISAL AMb AMB 02 48 07.5
comp=Z,19nm,0.7s
MNK **Minsk** 144.06 332 *e*PKHKP 02 48 04.0
MNK pmax pmax
comp=Z,390nm,1.0s
IIGN **Ignalina** 144.11 334 *eP* PKPdf 02 48 06.3 -1.5
IIGN AMb AMB 02 48 07.4
comp=Z,58nm,0.5s
ELZG **Elazig** 144.37 302 *i* P PKPdf 02 48 09.2 +1.0
OSL **Oslo** 144.39 351 *eP* PKPdf 02 48 06.5 -1.8
OSL AMb AMB 02 48 08.2
comp=Z,82nm,1.1s
ASK **Askoy** 144.47 355 *eP* PKPdf 02 48 06.9 -1.5
ASK AMb AMB 02 48 09.3
comp=Z,145nm,1.6s
BER **Bergen** 144.56 355 *eP* PKPdf 02 48 07.2 -1.4
BER *eP* 02 48 07.3
BER AMb AMB 02 48 08.7
comp=Z,116nm,0.8s
BER AMb AMB 02 48 09.2
comp=Z,104nm,0.8s
BER **Bergen** 144.56 355 *eP* PKPdf 02 48 07.2 -1.4
BER *eP* 02 48 07.3
EGD **Espegrend** 144.68 355 *eP* PKPdf 02 48 07.8 -1.0
KONO **Kongsberg** 144.83 351 *eP* PKPdf 02 48 08.0 -1.1
KONO **Kongsberg** 144.83 351 *c iP*KIKP PKPdf 02 48 08.0 -1.1
KONO **Kongsberg** 144.83 351 *e*PKPdf PKPdf 02 48 07.9 -1.1
MALT **Malatya** 144.83 301 *i*P PKPdf 02 48 10.1 +1.0
MALT **Malatya** 144.83 301 *e*PKPdf PKPdf 02 48 09.6 +0.6
ODD1 **Odda** 144.92 354 *eP* PKPdf 02 48 07.5 -1.7
BLS5 **Blasjo** 145.42 354 *e*PKPa 02 48 11.3
BLS5 AMb AMB 02 48 12.1
comp=Z,32nm,0.6s
BLS5 **Blasjo** 145.42 354⇑ *iP* PKPdf 02 48 11.3 +1.2
SVSK **Karacayir** 145.58 305 *eP* PKPdf 02 48 12.6 +2.3
SVST **Sivas** 145.65 304 *i* P PKPdf 02 48 12.8 +2.4
GZT **Gaziantep** 145.67 300 *i* P PKPdf 02 48 12.0 +1.5
KMY **Karmoy** 145.73 355⇑ *iP* PKPdf 02 48 10.9 +0.3
KMY AMb AMB 02 48 12.5
comp=Z,133nm,0.9s
AKASG **Malin Array Be** 145.88 326 PKPbc PKPbc 02 48 11.2 -1.4
comp=Z,22nm,0.4s,baz=46,slow=4.1,SNR=140
AKASG *e*PKPbc 02 50 08.0
comp=Z,6.9nm,0.7s,baz=43,slow=4.1,SNR=3.7
AKASG SKPbc SKPbc 02 51 03.2 +1.8
comp=Z,14nm,0.9s,baz=43,slow=2.5,SNR=9.1
AKASG **Malin Array Be** 145.88 326 PKIKP PKPdf 02 48 11.2 +0.4
AKASG 02 50 08.0
STAV **Stavanger** 145.97 354 *eP* PKPdf 02 48 11.6 +0.6
STAV AMb AMB 02 48 13.9
comp=Z,82nm,0.7s
GAZ **Gaziantep** 145.98 300 *eP* PKPdf 02 48 11.8 +0.8
SUW **Suwalki** 146.29 335 *e*PKPdf PKPdf 02 48 12.5 +1.0
SUW *e* 02 50 10.2
SUW **Suwalki** 146.29 335 *e*PKPdf PKPdf 02 48 11.0 -0.5
SUW *e*PKP PKPdf 02 48 12.5 +1.0
SUW *e* 02 50 10.2
ROOS **tl_alroos** 146.31 294 ⇑P pPKPdf 02 50 09.5 -5.2
ZALF **Zalf** 146.37 292 ⇑P pPKPdf 02 50 17.4 +2.5
SNART **Snartemo** 146.40 353⇑ *iP* PKPdf 02 48 12.9 +1.2
SNART AMb AMB 02 48 13.7
comp=Z,61nm,0.7s
DRWC **Darouich** 146.50 299 ⇑P pPKPdf 02 50 13.4 -1.7
RTO **Tolsta** 146.52 6⇑ *eP* PKPdf 02 48 12.9 +1.0
KFRA **Kufra** 146.60 296 ⇑P pPKPdf 02 50 17.7 +2.5
RSC **Scourie** 146.63 5⇑ *eP* PKPdf 02 48 13.2 +1.1
BOYT **Boyabat** 146.70 308 *i* P PKPdf 02 48 15.2 +3.0
BNN **Bunyan** 146.70 303 *eP* PKPdf 02 48 11.8 -0.5
BTCH **Batrach** 146.76 298 ⇑P pPKPdf 02 50 13.4 -2.1
MLA1 **Latheron** 146.78 3⇑ *eP* PKPdf 02 48 13.7 +1.4
COBT **Iskenderun** 146.84 299 *i* P PKPdf 02 48 16.0 +3.5
REB **Eisghbrachaidh** 146.85 5⇑ *eP* PKPdf 02 48 13.7 +1.2
WRDH **Warideh** 146.87 297 ⇑P pPKPdf 02 50 13.7 -2.0
SALA **Sala** 146.89 292 ⇑P pPKPdf 02 50 14.5 -1.2
YOZ **Yozgat** 146.90 305 *eP* PKPdf 02 48 15.3 +2.7
RRH **Rhenigidale** 146.92 6⇑ *eP* PKPdf 02 48 14.1 +1.5
KOZT **Kozan** 147.01 301 *eP* PKPdf 02 48 13.9 +1.1
BIDA **Albida** 147.01 296 ⇑P pPKPdf 02 50 14.9 -1.1
SLNF **Slenfeh** 147.01 297 ⇑P pPKPdf 02 50 14.0 -1.9
CTKT **Corum** 147.02 307 *i* P PKPdf 02 48 16.1 +3.4
RRR **Rubha Reidh** 147.07 5⇑ *eP* PKPdf 02 48 14.3 +1.5
TOTH **TOTAH** 147.10 293 ⇑P pPKPdf 02 50 15.1 -1.0
QASN **Gassioun** 147.21 293 ⇑P pPKPdf 02 50 16.4 +0.1
KSK **Scoval** 147.37 6⇑ *eP* PKPdf 02 48 15.7 +2.4
TOS **Tosya** 147.45 308 *eP* PKPdf 02 48 17.2 +3.8
KAC **Achnashellach** 147.46 5⇑ *eP* PKPdf 02 48 15.9 +2.5
AVNT **Avonos** 147.47 303 *i* P PKPdf 02 48 11.1 -2.4
BRBR **Barbar** 147.49 293 ⇑P pPKPdf 02 50 23.7 +7.0
MCD **Coleburn Disti** 147.51 3⇑ *eP* PKPdf 02 48 15.5 +1.9
KPL **Plockton** 147.59 5⇑ *eP* PKPdf 02 48 16.0 +2.3
CDAG **Cicekdag** 147.61 305 *i* P PKPdf 02 48 17.7 +4.0
BALT **Daday** 147.74 309 *i* P PKPdf 02 48 18.0 +4.0
KSB **Sheil Bridge** 147.74 5⇑ *eP* PKPdf 02 48 16.3 +2.4
MME1 **Meikle Cairn** 147.79 3⇑ *eP* PKPdf 02 48 15.9 +1.9
MUD **Monsted U'grnd** 147.97 350⇑ *iP* PKPdf 02 48 17.1 +2.8
comp=Z,38nm,0.8s
MUD *e* 02 49 58.1
MUD *i* 02 50 18.0
MUD **Monsted U'grnd** 147.97 350⇑ *i*PKIKP PKPdf 02 48 17.1 +2.8
MUD pmax pmax
comp=Z,38nm,0.8s
KAR1 **Arisaig** 147.99 6⇑ *eP* PKPdf 02 48 17.1 +2.8
BSD **Bornholm Skovb** 148.04 344⇑ *iP* PKPdf 02 48 17.2 +2.8
comp=Z,60nm,0.9s
BSD **Bornholm Skovb** 148.04 344⇑ *i*PKIKP PKPdf 02 48 17.2 +2.8
BSD pmax pmax
comp=Z,60nm,0.9s
ELDT **Eldivan** 148.05 307 *i* P PKPdf 02 48 18.4 +4.0
COP **Copenhagen** 148.10 346⇑ *iP* PKPdf 02 48 17.6 +3.1
comp=Z,24nm,0.7s
COP *i* 02 48 48.7
COP *e* 02 50 03.8
COP **Copenhagen** 148.10 346⇑ *i*PKP2 PKPab 02 48 17.6 -5.7
COP pmax pmax
comp=Z,24nm,0.7s
BR131 **Keskin Array S** 148.12 305 *e*PKPdf PKPdf 02 48 13.8 -0.7
BR131 *e*PKPbc PKPbc 02 48 17.6 -1.0
BR131 *e*PKPab PKPab 02 48 23.2 -0.2
BR131 *ep*PKPdf pPKPdf 02 50 16.7 -1.1
BRTR **Keskin Array B** 148.12 305 PKP PKPdf 02 48 13.6 -1.0
comp=Z,4.0nm,0.5s,baz=108,slow=1.7,SNR=11

BRTR PKPbc PKPbc 02 48 18.6 0.0
comp=Z,7.6nm,0.5s,baz=112,slow=2.3,SNR=56
BRTR pPKPbc pPKPbc 02 50 16.2 -3.8
comp=Z,3.8nm,0.8s,baz=118,slow=3.4,SNR=4.8
KAMT Kaman 148.17 305 *e*P PKPdf 02 48 14.4 -0.2
SAFT Safranbolu 148.33 309 *e*P PKPdf 02 48 17.8 +2.9
WAR Warsaw 148.49 335 *e*PKP PKPdf 02 48 18.6 +3.5
EIL Elat 148.50 286 *e*PKPbc PKPbc 02 48 19.8 +0.3
EIL *e*PKPab PKPab 02 48 25.0 +0.1
EIL *ep*PKPdf pPKPdf 02 50 17.6 -0.8
MEST Erdemli 148.50 300 *i* P PKPbc 02 48 19.9 +0.3
ANTO Ankara 148.70 306 ⇓*i*P PKPbc 02 48 20.3 +0.3
ANTO Ankara 148.70 306 *e*PKPdf PKPdf 02 48 15.4 -0.1
ANTO *e*PKPbc PKPbc 02 48 20.1 +0.1
ANTO *ep*PKPdf pPKPdf 02 50 17.5 -1.2
LOD Lodumlu 148.72 306 *e*P PKPdf 02 48 17.4 +1.8
EAB Aberfoyle 148.84 4⇑*e*P PKPdf 02 48 19.2 +3.5
IKL Isikli 148.94 299 *e*P PKPbc 02 48 20.9 +0.4
GKP Gorka Klasztor 148.98 339 *e*PKP PKPbc 02 48 20.2 -0.5
GKP *e* 02 50 21.6
LVV L'vov 148.98 329 *e*PKHKP 02 48 20.2
SGKT Sivrigoynuk 149.01 308 *i* P PKPbc 02 48 20.4 -0.3
EDI Edinburgh 149.17 3⇑*e*P PKPdf 02 48 19.8 +3.5
PGBU Glenifferbraes 149.20 5⇑*e*P PKPdf 02 48 20.0 +3.7
ESY Stoneypath 149.20 3⇑*e*P PKPdf 02 48 20.0 +3.8
EAU Auchinoon 149.24 4⇑*e*P PKPdf 02 48 20.4 +4.1
EBL Broad Law 149.33 3⇑*e*P PKPdf 02 48 20.6 +4.1
CSS Prodhromos 149.45 297 *e*P PKPdf 02 48 17.5 +0.9
CSS Prodhromos 149.45 297 *e*PKPbc PKPbc 02 48 22.6 +0.2
CSS *e*PKPab PKPab 02 48 29.0 +0.1
ERMK Ermenek 149.46 300 *i* P PKPbc 02 48 23.4 +1.5
GMK Mull of Kintyr 149.57 6⇑*e*P PKPdf 02 48 21.0 +4.1
KONT Konya--Tatoy 149.58 303 *e*P PKPdf 02 48 18.8 +1.9
CFR Carcaliu 149.61 318 ⇓*i*P PKPbc 02 48 22.0 -0.2
CFR Carcaliu 149.61 318 ⇓P PKPbc 02 48 22.0 -0.2
MDU Mudurnu 149.65 308 *e*P PKPdf 02 48 20.2 +3.2
KIZT Kizilcal 149.68 305 *e*P PKPbc 02 48 22.4 +0.1
KWP Kalwaria 149.73 330 *e*PKP PKPbc 02 48 22.2 -0.3
KWP *e* 02 50 17.0
KWP Kalwaria 149.73 330 *e*PKPdf PKPdf 02 48 16.4 -0.7
KWP *e*PKPbc PKPbc 02 48 22.1 -0.4
KWP *e*PKP PKPdf 02 48 22.2 +5.1
KWP *e* 02 50 17.0
HENT Hendek 149.74 309 *i* P PKPbc 02 48 21.5 -1.0
ESK Eskdalemuir 149.78 3⇑*e*P PKPdf 02 48 21.2 +4.0
ESK Eskdalemuir 149.78 3 *e*PKPbc PKPbc 02 48 21.0 -1.5
TIRR Tirgusor 149.81 317 ⇑*i*P PKPbc 02 48 22.5 -0.2
TIRR Tirgusor 149.81 317 *e*PKPbc PKPbc 02 48 22.2 -0.5
BURAR **Bucovina Array 149.85 325** ⇓*i*P PKPbc 02 48 23.3 +0.5
BURAR **Bucovina Array 149.85 325** ⇓P PKPbc 02 48 23.3 +0.5
BWH Wardlaw 149.89 4 *e*P PKPdf 02 48 21.6 +4.2
HARR Harsova 149.99 318 ⇓*i*P PKPbc 02 48 23.3 +0.2
HARR Harsova 149.99 318 ⇓P PKPbc 02 48 23.3 +0.3
BHH Howats Hill 150.00 3 *e*P PKPdf 02 48 21.9 +4.4
VRI Vrincioaia 150.07 321 ⇓*i*P PKPbc 02 48 23.2 -0.1
VRI Vrincioaia 150.07 321 ⇓*i*P PKPbc 02 48 23.2 -0.1
VRI Vrincioaia 150.07 321 ⇓P PKPbc 02 48 23.2 -0.1
PLOR Plostina 150.12 321 ⇓*i*P PKPbc 02 48 23.1 -0.3
GAL1 Galloway 150.12 5⇑*e*P PKPdf 02 48 22.2 +4.5
BSEG Bad Segeberg 150.18 347 *e*PKPdf PKPdf 02 48 16.9 -0.9
BSEG *e*PKPbc PKPbc 02 48 23.1 -0.4
BDL Dobcross Hall 150.30 3 *e*P PKPbc 02 48 23.1 -0.7
BBO1 Bothel 150.35 4 *e*P PKPbc 02 48 22.7 -1.1
BORA Eskisehir 150.40 307 *i* P PKPbc 02 48 23.9 -0.2
KOLS Kolonicke sedl 150.43 329 *e*PKP PKPdf 02 48 18.6 +0.4
KOLS *e* 02 48 24.9
KOLS *e* 02 50 30.3
CKE Keswick 150.51 3⇑*e*P PKPbc 02 48 23.3 -1.0
STHS Stebnicka Huta 150.54 331 *i* PKP PKPbc 02 48 24.5 +0.1
STHS *e* 02 50 28.0
OJC Ojcow 150.54 333 *e*PKPdf PKPdf 02 48 17.5 -0.9
OJC *e*PKiKP PKiKP 02 48 24.0 -0.8
XDE Dent Fell 150.57 4⇑*e*P PKPbc 02 48 23.4 -1.0
XDE AMb AMB 02 48 24.6
comp=Z,193nm,1.0s
RUE Ruedersdorf 150.70 342 *e*PKPbc PKPbc 02 48 24.4 -0.3
RUE Ruedersdorf 150.70 342 *e*PKPbc PKPbc 02 48 23.8 -0.9
GIM North Isle of 150.71 5⇑*e*P PKPbc 02 48 23.7 -1.1
MLR Muntele Rosu 150.73 321 PKP PKPdf 02 48 17.5 -1.1
comp=Z,1.6nm,0.6s,baz=282,slow=2.8
MLR PKPbc PKPbc 02 48 24.8 0.0
baz=6.3,slow=9.2
MLR Muntele Rosu 150.73 321 ⇓*i*P PKPbc 02 48 24.3 -0.5
CDU1 Dunnerdale 150.75 4⇑*e*P PKPbc 02 48 23.8 -1.0
CRVS Cervenica-Dubn 150.82 330 *e*PKP PKPbc 02 48 25.0 0.0
CRVS *e* 02 48 34.0
CRVS *e* 02 50 28.6
CRVS Cervenica-Dubn 150.82 330 *e*PKIKP PKPbc 02 48 25.0 0.0
CRVS *e* 02 48 34.0
WIM Isle of Man 150.84 5⇑*e*P PKPbc 02 48 23.9 -1.1
WIM AMb AMB 02 48 24.7
comp=Z,138nm,0.7s
ISP Isparta 151.01 303 *e*PKIKP PKPbc 02 48 24.3 -1.1
ISP *e* 02 48 34.5
TKTP Tekketepe 151.10 304 *i* P PKPdf 02 48 23.4 +4.2
ULDT Uludag 151.25 309 *i* P PKPbc 02 48 26.1 +0.2
VOIR 151.28 321 ⇑*i*P PKPbc 02 48 26.0 0.0
VOIR 151.28 321 ⇑P PKPbc 02 48 26.0 0.0
DCN Croghan 151.34 9⇑*i*P PKPbc 02 48 25.0 -1.2
KSP Ksiaz 151.35 338 *e*PKP PKPbc 02 48 26.1 -0.1
KSP *e* 02 50 24.7
KSP Ksiaz 151.35 338 *e*PKPdf PKPbc 02 48 26.1 -0.1
KSP *ep*PKP pPKPdf 02 50 25.2 +2.2
DLF Lyons Farm 151.49 8⇑*i*P PKPbc 02 48 25.2 -1.3
OKC Ostrava-Krasne 151.50 335 *e*PKPDF PKPdf 02 48 19.8 0.0
OKC ⇑*e*PKPB PKPbc 02 48 26.2 -0.3
OKC *ep*PKP pPKPdf 02 50 26.2 +3.0
KECS Kecovo 151.57 330 *e*PKP PKPbc 02 48 26.2 -0.5
KECS *e* 02 48 36.8
KECS *e* 02 50 26.7
KECS Kecovo 151.57 330 *e*PKIKP PKPbc 02 48 26.3 -0.4
KECS *e* 02 48 36.8
KECS *e* 02 50 26.7
LHO Holmfirth 151.60 2⇑*e*P PKPdf 02 48 25.6 +5.6
WCB1 Church Bay 151.61 5⇑*e*P PKPdf 02 48 25.3 +5.3
WCB1 AMb AMB 02 48 26.4
comp=Z,93nm,1.3s
WME Myndd Eilian 151.62 5⇑*e*P PKPdf 02 48 25.5 +5.5
WME AMb AMB 02 48 26.9
comp=Z,16nm,0.5s
DRGR 151.69 326 ⇓*i*P PKPbc 02 48 26.6 -0.4
DRGR 151.69 326 ⇓P PKPbc 02 48 26.6 -0.4
WLF1 Llynfaes 151.71 5⇑*e*P PKPdf 02 48 25.6 +5.4
WLF1 AMb AMB 02 48 26.3
comp=Z,49nm,0.5s
UPC Upice 151.73 338 *e*PKPDF PKPdf 02 48 20.0 -0.2
UPC ⇑*e*PKPB PKPbc 02 48 27.0 -0.1
UPC *ep*PKP pPKPdf 02 50 27.4 +3.8
YRC Rhoscolyn 151.74 5⇑*e*P PKPdf 02 48 25.4 +5.2
YRC AMb AMB 02 48 27.4
comp=Z,59nm,1.4s
DPC Dobruska-Polom 151.75 337 *ep*PKP pPKPdf 02 50 25.8 +2.2
ELL Elmali 151.78 301 *e*P PKPdf 02 48 25.8 +5.5
MORC Moravsky Berou 151.78 335 ⇓*i*P PKPdf 02 48 20.2 0.0
MORC Moravsky Berou 151.78 335 *e*PKPdf PKPdf 02 48 19.4 -0.8
MORC *e*PKPbc PKPbc 02 48 26.4 -0.8
WPM1 Penmaenmawr 151.78 5⇑*e*P PKPdf 02 48 25.9 +5.7
WPM1 AMb AMB 02 48 27.3
comp=Z,69nm,1.0s
WIT Witteveen 151.87 351 ⇑*i*PKiKP PKiKP 02 48 27.5 -0.1
comp=Z,324nm,1.6s
YLL Llanberis 151.88 5 *e*P PKPdf 02 48 25.8 +5.4
CLL Collm 151.96 342 *e*PKPdf PKPdf 02 48 19.9 -0.6
CLL *e*PKPbc PKPbc 02 48 26.8 -0.8
CLL *e*PKPab PKPab 02 48 38.5 -0.9
CLL Collm 151.96 342 *e*PKPdf PKPdf 02 48 20.0 -0.5
comp=Z,20nm,1.7s
CLL ⇑*i*PKPbc PKPbc 02 48 27.1 -0.5
comp=Z,89nm,0.8s
CLL ⇓*i*PKPab PKPab 02 48 38.4 -1.0
comp=Z,26nm,0.8s
CLL *ep*PKPbc pPKPbc 02 50 27.0 -2.8
CLL *ep*PKPab pPKPab 02 50 39.0 +2.4
CLL Collm 151.96 342 ⇑*e*PKIKP PKPdf 02 48 20.0 -0.5
CLL *i* 02 48 38.4
CLL pmax pmax
comp=Z,20nm,1.7s
CLL pmax pmax
comp=Z,89nm,0.8s
CLL pmax pmax
comp=Z,26nm,0.8s

CLL Collm 151.96 342 *e*PKP PKPdf 02 48 20.0 -0.5
CLL ⇑*i*PKP PKPbc 02 48 27.1 -0.5
CLL ⇓*i*PKP PKPab 02 48 38.4 -1.0
CLL *ep*PKP pPKPdf 02 50 27.0 +3.1
YRE Yr Eifl 152.02 5⇑*e*P PKPdf 02 48 26.1 +5.5
YRE AMb AMB 02 48 28.9
comp=Z,50nm,1.4s
BRG Berggiesshubel 152.08 341 *e*PKPdf PKPdf 02 48 19.6 -1.1
BRG *e*PKPbc PKPbc 02 48 27.3 -0.5
BRG *e*PKPab PKPab 02 48 38.8 -1.1
BRG Berggiesshubel 152.08 341 *i* PKP PKPdf 02 48 20.8 +0.1
comp=Z,11nm,1.5s
BRG *i* 02 48 27.6
comp=Z,31nm,0.6s
BRG *i* 02 48 39.0
comp=Z,12nm,0.7s
BRG *i* pPKP pPKPdf 02 50 27.1 +3.0
comp=Z,11nm,1.1s
BRG *e* 02 51 54.6
comp=Z,4.0nm,1.0s
BRG Berggiesshubel 152.08 341 *i* PKIKP PKPdf 02 48 20.8 +0.1
BRG *i* 02 48 39.0
BRG pmax pmax
comp=Z,11nm,1.5s
CLZ Clausthal 152.13 346 *e*PKPdf PKPdf 02 48 20.4 -0.4
CLZ *e*PKPbc PKPbc 02 48 27.5 -0.4
CLZ *ep*PKPbc pPKPbc 02 50 30.8 +0.6
CLZ Clausthal 152.13 346 *e*PKIKP PKPbc 02 48 27.5 -0.4
SBD1 Bryn Du 152.18 4⇑*e*P PKPbc 02 48 27.0 -1.0
IBBN Ibbenburen 152.20 349 *e*PKPdf PKPdf 02 48 20.3 -0.6
IBBN *e*PKPbc PKPbc 02 48 27.6 -0.5
IBBN *e*PKPab PKPab 02 48 39.1 -1.3
IBBN *ep*PKPbc pPKPbc 02 50 30.7 +0.3
PSZ Piszkesteto 152.25 330⇑*e*PKP/p PKPbc 02 48 27.8 -0.4
PSZ *ep*PKP/A pPKPbc 02 50 33.3 +2.8
PSZ Piszkesteto 152.25 330 *e*PKPbc PKPbc 02 48 27.3 -0.9
VYHS Vyhne 152.28 332 *e*PKP PKPbc 02 48 27.8 -0.5
VYHS *e* 02 50 31.0
GTTG Gyttingen 152.50 346 *e*PKPbc PKPbc 02 48 28.0 -0.7
GTTG *e*PKPab PKPab 02 48 40.7 -1.0
VRAC Vranov 152.52 336 ⇓*i*P PKPbc 02 48 28.3 -0.5
VRAC Vranov 152.52 336 ⇓P PKPbc 02 48 28.3 -0.5
HLM1 Long Mynd 152.59 3⇑*e*P PKPbc 02 48 27.8 -1.1
HLM1 AMb AMB 02 48 28.6
comp=Z,52nm,1.0s
PRU Pruhonice 152.66 339 *e*PKPDF PKPdf 02 48 21.0 -0.5
PRU ⇑*e*PKPB PKPbc 02 48 28.6 -0.5
PRU *e*PKPAB PKPab 02 48 41.5 -0.9
PRU *ep*PKP pPKPdf 02 50 28.4 +3.4
PRU Pruhonice 152.66 339 *e*PKIKP PKPdf 02 48 21.0 -0.5
PRU *e* 02 48 41.5
SSP1 Stoney Pound 152.67 4⇑*e*P PKPbc 02 48 28.1 -1.1
SSP1 AMb AMB 02 48 29.4
comp=Z,58nm,1.3s
WTSB Winterswijk 152.68 350⇑*i*PKiKP PKiKP 02 48 28.4 -0.8
comp=Z,92nm,0.6s
WTSB *e*PKPab PKPab 02 48 40.5 -1.9
comp=Z,27nm,1.4s
WTSB pPKiKP 02 50 25.4
WTSB *i* x x 02 50 31.9
SMOL Smolenice 152.84 334 *e*PKP PKPbc 02 48 29.2 -0.3
SMOL *e* 02 48 42.4
SMOL Smolenice 152.84 334 *e*PKIKP PKPbc 02 48 29.3 -0.2
SMOL *e* 02 48 42.4
WERD Werda 152.93 342 *e*PKPdf PKPdf 02 48 20.8 -1.1
WERD *e*PKPbc PKPbc 02 48 29.2 -0.5
WERD *e*PKPab PKPab 02 48 43.0 -0.5
TREC Trest 152.94 337 *e*PKPDF PKPdf 02 48 21.0 -0.9
TREC ⇑*e*PKPB PKPbc 02 48 29.2 -0.5
TREC *ep*PKP pPKPdf 02 50 31.9 +6.5
MOX Moxa 152.94 343 *e*PKPdf PKPdf 02 48 21.2 -0.7
MOX *e*PKPbc PKPbc 02 48 29.1 -0.6
MOX *e*PKPab PKPab 02 48 42.6 -0.9
MOX *ep*PKPbc pPKPbc 02 50 32.5 +0.4
MOX *ep*PKPab pPKPab 02 50 41.6 +0.9
MOX Moxa 152.94 343 *e*P PKPdf 02 48 21.4 -0.5
comp=Z,18nm,1.6s
MOX *e* 02 48 29.1
MOX *e* 02 48 42.6
MOX *e* 02 50 32.6
MOX Moxa 152.94 343 *e*PKIKP PKPdf 02 48 21.4 -0.5
MOX *e* 02 48 42.6
BUD Budapest 152.97 330⇓*e*PKP/F PKPbc 02 48 29.6 -0.2
HTR Trewern Hill 153.00 4 *e*P PKPbc 02 48 28.4 -1.4
BZS Buzias 153.04 325 ⇓*i*P PKPdf 02 48 21.8 -0.3
HAE Alders End 153.08 3⇑*e*P PKPbc 02 48 28.8 -1.2
HAE AMb AMB 02 48 30.7
comp=Z,74nm,1.4s
NKC Novy Kostel 153.09 342 *e*PKPDF PKPdf 02 48 21.6 -0.5
NKC ⇑*e*PKPB PKPbc 02 48 29.7 -0.3
NKC *e*PKPAB PKPab 02 48 40.9 -3.3
NKC *ep*PKP pPKPdf 02 50 25.9 +0.3
NKC Novy Kostel 153.09 342 *e*PKIKP PKPdf 02 48 21.6 -0.5
NKC *e* 02 48 40.9
MCH1 Michaelchurch 153.10 4⇑*e*P PKPbc 02 48 28.6 -1.4
BUG Bochum--Univer 153.11 350 *e*PKPbc PKPbc 02 48 29.3 -0.8
BUG *ep*PKPbc pPKPbc 02 50 32.8 +0.3
BUG *ep*PKPab pPKPab 02 50 41.7 +0.3
UBBA Unterbreizbach 153.17 346 *e*PKPdf PKPdf 02 48 21.4 -0.9
UBBA *e*PKPbc PKPbc 02 48 29.3 -0.9
UBBA *ep*PKPab pPKPab 02 50 43.2 +1.6
SSW Stow on the Wo 153.18 2⇑*e*P PKPbc 02 48 29.2 -1.0
ZST Bratislava 153.23 334 *e*PKP PKPdf 02 48 22.3 0.0
ZST *e* 02 50 31.8
MANZ Manzenberg 153.40 342 *e*PKPdf PKPdf 02 48 21.9 -0.7
MANZ *e*PKPbc PKPbc 02 48 30.4 -0.3
MANZ *ep*PKPbc pPKPbc 02 50 34.2 +1.1
SKP1 Kophill 153.45 1⇑*e*P PKPbc 02 48 29.4 -1.4
HGH Gray Hill 153.47 4⇑*e*P PKPbc 02 48 29.5 -1.3
HGH AMb AMB 02 48 31.4
comp=Z,61nm,1.5s
ROTZ Rotzenmuhle 153.57 342 *e*PKPdf PKPdf 02 48 21.5 -1.3
ROTZ *e*PKPbc PKPbc 02 48 30.5 -0.6
ROTZ *e*PKPab PKPab 02 48 45.8 -0.5
ROTZ *ep*PKPab pPKPab 02 50 45.3 +2.0
SWN1 Swindon 153.64 2⇑*e*P PKPbc 02 48 29.5 -1.7
KHC Kasperske Hory 153.72 339 *e*PKPDF PKPdf 02 48 22.3 -0.7
KHC ⇑*e*PKPB PKPbc 02 48 30.0 -1.4
KHC *e*PKPAB PKPab 02 48 46.5 -0.4
KHC *ep*PKP pPKPdf 02 50 25.8 -0.7
KHC Kasperske Hory 153.72 339 *e*PKIKP PKPdf 02 48 22.3 -0.7
KHC *e* 02 48 30.0
KHC *e* 02 48 46.5
URLA Izmir 153.75 307 *i* P PKPdf 02 48 27.4 +4.3
SOP Sopron 153.86 334⇑*e*PKP/F PKPdf 02 48 22.5 -0.7
SOP *e* 02 48 31.3
GRA1 Grafenberg Arr 153.91 343 *e*PKPdf PKPdf 02 48 22.6 -0.7
GRA1 *e*PKPbc PKPbc 02 48 31.3 -0.5
GRF Grafenberg Arr 153.91 343 *e*PKPdf PKPdf 02 48 22.6 -0.7
GRF *e*PKPbc PKPbc 02 48 31.3 -0.5
GEC2 GERESS Array S 153.93 339 *e*PKPdf PKPdf 02 48 21.8 -1.5
GEC2 *e*PKPbc PKPbc 02 48 31.2 -0.6
GERES GERESS Array B 153.93 339 PKP PKPdf 02 48 22.6 -0.7
comp=Z,2.8nm,0.9s,baz=70,slow=1.6,SNR=21
GERES PKPbc PKPbc 02 48 30.1 -1.7
comp=Z,5.7nm,0.7s,baz=34,slow=2.1,SNR=30
GERES PKPab PKPab 02 48 46.7 -1.0
comp=Z,2.9nm,0.6s,baz=32,slow=4.7,SNR=8.3
GERES pPKPbc pPKPbc 02 50 27.9 -6.4
comp=Z,1.6nm,0.9s,baz=96,slow=1.0,SNR=2.2
GERES GERESS Array B 153.93 339 PKIKP PKPdf 02 48 22.6 -0.7
GERES 02 48 30.1
GERES 02 48 46.7
WET Wettzell 153.93 340 *e*PKPdf PKPdf 02 48 22.0 -1.3
WET *e*PKPab PKPab 02 48 47.2 -0.6
HGN Heimansgroeve 153.97 351⇑*i*PKiKP PKiKP 02 48 30.9 -1.1
comp=Z,13nm,1.5s
HGN *i* PKPab PKPab 02 48 46.4 -1.6
comp=Z,34nm,1.0s
BEBN Eben Emael 153.98 351 PKPab PKPab 02 48 46.8 -1.2
SWK Warminster 153.99 3⇑*e*P PKPbc 02 48 30.8 -1.1
VTS Vitosha 154.01 318 ⇓*i*P PKPbc 02 48 32.0 0.0
VTS Vitosha 154.01 318 ⇓P PKPbc 02 48 32.0 0.0
TNS Taunus Mts 154.07 347 *e*PKPdf PKPdf 02 48 22.8 -0.7
TNS *e*PKPbc PKPbc 02 48 31.6 -0.5
TNS *e*PKPab PKPab 02 48 46.9 -1.5
PKSM Moragy 154.09 329⇑*i*P PKPdf 02 48 22.8 -0.8
PKSM Moragy 154.09 329 ⇑P PKPdf 02 48 22.8 -0.8
MEM Membach 154.12 351 PKP PKPdf 02 48 23.2 -0.4
MEM PKPbc PKPbc 02 48 31.1 -1.1
MEM E 02 48 38.0

MEM PKPab PKPab 02 48 46.8 -1.7
UCC Uccle 154.14 353 PKP PKPdf 02 48 22.3 -1.4
UCC PKPbc PKPbc 02 48 31.3 -0.9
UCC PKiKP PKiKP 02 48 36.5 +4.3
UCC E 02 48 45.0
UCC PKPab PKPab 02 48 47.0 -1.7
UCC APKPbc 02 50 35.2
SNF Seneffe 154.43 353 PKPab PKPab 02 48 48.7 -1.2
SNF APKPbc 02 50 36.4
SNF APKPab 02 50 47.6
GIVF Givet 154.77 352 *e*PKIKP PKPdf 02 48 23.9 -0.6
DOU Dourbes 154.80 353 PKPbc PKPdf 02 48 33.1 +8.6
DOU PKiKP PKPdf 02 48 35.3 +11
DOU E 02 48 46.4
DOU PKPab PKPab 02 48 49.4 -2.1
DOU APKP 02 50 25.6
DOU APKPbc 02 50 35.6
DOU APKPab 02 50 49.9
BAIF Baives 154.88 353 *e*PKIKP PKPdf 02 48 24.2 -0.4
WLF Walferdange 155.01 350 *e*PKPdf PKPdf 02 48 24.6 -0.2
WLF *e*PKPab PKPab 02 48 51.3 -1.1
WLF *ep*PKPbc pPKPbc 02 50 37.6 +1.0
WLF *ep*PKPab pPKPab 02 50 51.1 +1.7
WLF Walferdange 155.01 350 PKP PKPdf 02 48 24.7 -0.1
WLF PKPbc PKPdf 02 48 34.1 +9.3
WLF PKPab PKPab 02 48 51.5 -1.0
WLF APKPbc 02 50 37.6
WLF APKPab 02 50 45.8
WLF Walferdange 155.01 350 *e*PKPdf PKPdf 02 48 24.2 -0.6
WLF *e*PKPdf 02 48 33.5
WLF *e*PKPab PKPab 02 48 50.3 -2.2
STU Stuttgart 155.27 345 *e*PKPdf PKPdf 02 48 24.4 -0.8
STU Stuttgart 155.27 345 *e*PKPdf PKPdf 02 48 24.0 -1.2
STU *e*PKPab PKPab 02 48 52.3 -1.3
FUR Furstenfeldbru 155.28 341 *e*PKPdf PKPdf 02 48 24.7 -0.5
FUR *e*PKPab PKPab 02 48 53.2 -0.4
PERS Pernice 155.28 334 *e*PKPdf PKPdf 02 48 23.9 -1.3
PERS *e* 02 48 33.9
KBA Koelnbreinsper 155.58 337⇓*i*P PKPdf 02 48 24.3 -1.3
comp=Z,32nm,1.9s
BFO Black Forest 155.88 346 *e*PKPdf PKPdf 02 48 25.0 -1.0
BFO *e*PKPab PKPab 02 48 54.7 -1.5
BFO *ep*PKPab pPKPab 02 50 53.9 +0.8
BFO Black Forest 155.88 346 *e*PKP2 PKPab 02 48 54.7 -1.5
JVM Valle D.L. Mar 155.92 3 *e*P PKPdf 02 48 26.0 -0.1
WTTA Wattenberg 155.98 340⇑*i*P PKPdf 02 48 24.9 -1.2
comp=Z,124nm,3.1s
WTTA Wattenberg 155.98 340⇑*i*P PKPdf 02 48 24.9 -1.2
LJU Ljubljana 156.00 334 *e*PKPdf PKPdf 02 48 24.7 -1.4
LJU *i* PKPbc PKPdf 02 48 35.7 +10
LJU *ep*PKPbc pPKPbc 02 50 38.7 -0.1
LJU *e* 02 50 48.2
LJU Ljubljana 156.00 334 *e*PKIKP PKPdf 02 48 24.7 -1.4
LJU *i* 02 48 35.7
CDF Champ du Feu 156.03 348 *e*PKIKP PKPdf 02 48 25.3 -0.9
comp=Z,16nm,1.3s
BOJS Bojanci 156.15 332 *i* PKPdf PKPdf 02 48 25.2 -1.1
BOJS *e*PKPbc PKPdf 02 48 36.6 +10
BOJS *i* pPKPbc pPKPbc 02 50 42.0 +2.9
MEZF Maizieres J'vi 156.31 351 *e*PKIKP PKPdf 02 48 26.1 -0.4
FLN La Foliniere 156.42 0 *e*PKIKP PKPdf 02 48 25.9 -0.8
comp=Z,12nm,0.7s
LDF La Druitiere 156.59 360 *e*PKIKP PKPdf 02 48 26.1 -0.8
HAU Haudompre 156.59 349 *e*PKIKP PKPdf 02 48 26.0 -0.9
HINF Hinteralfeld 156.68 348 *e*PKIKP PKPdf 02 48 26.1 -0.9
comp=Z,30nm,1.4s
ROSF Rostrenen 156.72 5 *e*PKIKP PKPdf 02 48 26.2 -0.8
GRR Gorron 156.79 1 *e*PKIKP PKPdf 02 48 26.4 -0.7
SGMF Saint Gilles 156.86 4 *e*PKIKP PKPdf 02 48 26.0 -1.2
QUIF Quistinic 157.15 5 *e*PKIKP PKPdf 02 48 26.6 -1.0
LOR Lormes 157.67 353 *e*PKIKP PKPdf 02 48 27.7 -0.5
comp=Z,45nm,1.4s
HYF Humbligny 157.79 355 *e*PKIKP PKPdf 02 48 28.3 -0.1
SSF Saint Saulge 157.92 353 *e*PKIKP PKPdf 02 48 27.9 -0.6
comp=Z,35nm,1.3s
CABF La Chapelle 157.98 348 *e*PKIKP PKPdf 02 48 28.6 0.0
comp=Z,22nm,1.0s
AVF Avril sur Loir 158.20 353 *e*PKIKP PKPdf 02 48 27.9 -1.0
comp=Z,20nm,1.4s
SMF Signal de Mont 158.29 352 *e*PKIKP PKPdf 02 48 28.2 -0.8
comp=Z,19nm,1.3s
BGF Bois d'Agland 158.48 354 *e*PKIKP PKPdf 02 48 28.8 -0.4
MFF Saint Martin d 158.58 360 *e*PKIKP PKPdf 02 48 28.8 -0.5
comp=Z,75nm,1.4s
TCF Toulx Ste Croi 158.80 355 *e*PKIKP PKPdf 02 48 29.1 -0.5
comp=Z,16nm,1.0s
LPL La Plagne 158.90 346 *e*PKIKP PKPdf 02 48 29.7 0.0
LPG La Plagne 158.91 346 *e*PKIKP PKPdf 02 48 30.0 +0.3
MBDF Montbardon 159.64 345 *e*PKIKP PKPdf 02 48 30.4 -0.1
comp=Z,9.0nm,0.7s
ORIF Oris-en-Rattie 159.65 347 *e*PKIKP PKPdf 02 48 30.5 0.0
RJF Les Rejaudoux 159.83 356 *e*PKIKP PKPdf 02 48 30.4 -0.3
comp=Z,38nm,1.4s
VIVF Saint-Julien-l 159.93 350 *e*PKIKP PKPdf 02 48 30.8 0.0
comp=Z,12nm,1.1s
CAF Calviac 160.17 355 *e*PKIKP PKPdf 02 48 31.0 -0.1
comp=Z,16nm,1.1s
LFF La Frestale 160.23 358 *e*PKIKP PKPdf 02 48 30.7 -0.5
SBF Sospel 160.29 343 *e*PKIKP PKPdf 02 48 31.5 +0.3
SMRF Simiane la Rot 160.62 347 *e*PKIKP PKPdf 02 48 31.6 0.0
comp=Z,11nm,0.9s
FRF La Foret Royal 160.78 345 *e*PKIKP PKPdf 02 48 31.9 +0.1
LASF Ste Croix 160.81 351 *e*PKIKP PKPdf 02 48 31.8 0.0
comp=Z,79nm,1.7s
LMR La Mourre 161.02 345 *e*PKIKP PKPdf 02 48 32.1 +0.1
comp=Z,3.4nm,0.7s
PGF Pioggiola 161.03 339 *e*PKIKP PKPdf 02 48 32.6 +0.6
MTLF Montolieu 161.73 354 *e*PKIKP PKPdf 02 48 32.5 -0.3
SJPF Ste Jean 162.05 2 *e*PKIKP PKPdf 02 48 33.4 +0.3
comp=Z,12nm,0.9s
EPF Esparros 162.15 359 *e*PKIKP PKPdf 02 48 33.2 0.0
comp=Z,21nm,1.1s
PCAB Cabril 162.26 19 *e*PKPdf PKPdf 02 48 33.7 +0.4
PCAB Cabril 162.26 19 *e*PKPab PKPab 02 49 22.8 -1.2
ETSF Etsaut 162.28 1 *e*PKPdf PKPdf 02 48 33.5 +0.2
comp=Z,18nm,1.1s
PBRG Braganca 162.53 16 *e*PKPab PKPab 02 49 24.0 -1.2
PTO Porto 162.59 22 *e*PKPab PKPab 02 49 21.5 -4.0
PVRL Vila Real 162.75 19 *e*PKPdf PKPdf 02 48 34.2 +0.4
PVRL Vila Real 162.75 19 *e*PKPab PKPab 02 49 25.3 -0.9
PVIS Viseu 163.21 20 *e*PKPdf PKPdf 02 48 34.6 +0.4
PVIS Viseu 163.21 20 *e*PKPab PKPab 02 49 27.2 -1.0
MTE Manteigas 163.60 20 *e*PKPdf PKPdf 02 48 34.9 +0.3
MTE Manteigas 163.60 20 *e*PKPab PKPab 02 49 28.6 -1.3
MTE *e*S 02 50 41.0
PTOM Tomar 164.01 23 *e*PKPdf PKPdf 02 48 35.1 +0.2
PTOM Tomar 164.01 23 *e*PKPab PKPab 02 49 30.6 -1.1
PCBR Castelo Branco 164.13 21 *e*PKPdf PKPdf 02 48 35.5 +0.5
PCBR Castelo Branco 164.13 21 *e*PKPab PKPab 02 49 31.0 -1.3
GUD Guadarrama 164.20 11 PKIKP PKPdf 02 48 36.7 +1.6
ERTA Horta de San J 164.22 358 PKP PKPdf 02 48 35.5 +0.4
PLOU Loures 164.38 27 *e*PKPab PKPab 02 49 29.5 -3.8
MOE Montemor 165.00 25 *e*PKPdf PKPdf 02 48 37.0 +1.2
MOE Montemor 165.00 25 *e*PKPab PKPab 02 49 35.1 -1.0
EVO Evora 165.12 24⇑*i*PKIKP PKPdf 02 48 36.5 +0.6
comp=Z,99nm,1.3s
ESDC Sonseca Array 165.17 11 PKP PKPdf 02 48 36.0 +0.1
comp=Z,0.8nm,0.8s,baz=180,slow=0.9,SNR=4.1
ESDC PKPab PKPab 02 49 36.0 -0.9
comp=Z,6.3nm,0.5s,baz=343,slow=4.1,SNR=44
ESDC Sonseca Array 165.17 11 PKP PKPdf 02 48 36.8 +0.9
EBAD Badajoz 165.27 21 PKP PKPdf 02 48 37.1 +1.1
PBEJ Beja 165.62 25 *e*PKPdf PKPdf 02 48 37.1 +0.8
PTEO Sao Teotonio 165.68 28 *e*PKPdf PKPdf 02 48 36.4 +0.1
EMIN Mina Concepcio 166.28 22 PKP PKPdf 02 48 37.2 +0.4
EVIA Vianos 166.41 8 PKIKP PKPdf 02 48 38.9 +2.0
EADA Adamuz 166.50 15 PKP PKPdf 02 48 38.8 +1.8
EBAN Banos Encina 166.67 12 PKIKP PKPdf 02 48 38.3 +1.2
EQES Quesada 167.15 10 PKP PKPdf 02 48 38.6 +1.2
ELUQ Luque 167.15 14 PKIKP PKPdf 02 48 38.6 +1.1
EHUE Huescar 167.21 8 PKIKP PKPdf 02 48 38.4 +0.9
ESPR Espera 167.36 21 PKP PKPdf 02 48 39.5 +1.9
ECOG Cogollos-Vega 167.57 12 PKIKP PKPdf 02 48 38.7 +0.9
ELOJ Sierra Loja 167.57 15 PKIKP PKPdf 02 48 38.9 +1.1
ERON Agron 167.77 14 PKP PKPdf 02 48 37.9 0.0
EJIF Jimena Fronter 167.87 20 PKIKP PKPdf 02 48 40.4 +2.4
TORD Torodi Ar. Bea 167.93 189 PKP PKPdf 02 48 38.2 +0.2
comp=Z,14nm,1.1s,baz=331,slow=0.4,SNR=38
TORD PKPab PKPab 02 49 50.5 +1.4
comp=Z,13nm,0.9s,baz=180,slow=3.7,SNR=22
TORD pPKPab pPKPab 02

TORD					PKKPbc			02 53 39.6			
	comp=Z,2.5nm,1.0s,baz=181,slow=3.3,SNR=4.3										
TORD					PKKP			02 56 33.2			
	comp=Z,0.6nm,0.7s,baz=7.0,slow=8.9,SNR=4.8										
MDT	**Midelt**		**171.45**	**26**	PKP	PKPdf		02 48 41.0	+0.9		
	comp=Z,8.5nm,0.9s,baz=33,slow=1.8,SNR=11										
MDT					PKPab	PKPab		02 50 04.7	+0.1		
	comp=Z,8.8nm,0.9s,baz=316,slow=5.4,SNR=10										

MAN 06 02:41:24.2, 1715N×12147E, h1km, mb2.5, ML4.0, MS0.2, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAUP	**Cauayan**	**0.39**	**121**	*e*P	Pg	02 41 32.7	+1.0
CVP	**Callao Caves**	**0.64**	**31**	*e*P	Pg	02 41 35.5	-1.0
ABRA	**Dolores**	**0.88**	**304**	*e*P	Pg	02 41 41.7	+0.7
ABRA				*e*S	Sg	02 41 55.5	+3.1

*ISCJB **06** 04:09:45.6±0.5, 4168N×002×2550E×004, h2km±4km, Error ellipse: s-maj=4.7km s-min=3.9km az=38.0*
*CSEM **06** 04:09:46.4±0.1, 4172N×2548E, h12km, MD2.7, Error ellipse: s-maj=2.0km s-min=1.6km az=86.0*
*SOF **06** 04:09:46.0, 4170N×2548E, h12km, MD2.7*
*NEIC **06** 04:09:47.6, 4159N×2538E, h25km, MD2.7(SOF), MD3.6(ATH), After ATH.*
*THE **06** 04:09:48.4, 4167N×2561E, h17km, ML3.3*
*ATH **06** 04:09:48.1, 4157N×2536E, h25km, MD3.6/3*

ISC 06 04:09:46.6±0.4, 4167N±002×2549E±004, h5km±4km, n29, σ1§11/39, 2C-2D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDZ	**Kurdzhali**	**0.06**	**248**	*i* Pg	**Sg**	**04 09 49.4**	**+0.4**
DIM	**Dimitrovgrad**	**0.38**	**5**	*i* Pg	**Pg**	**04 09 53.7**	**-0.3**
RDO	**Rodhopi**	**0.53**	**176**	⇑*i*PB	**Pg**	**04 09 57.2**	**+0.5**
RDO				*e*SB	**Sg**	**04 10 04.5**	**+0.9**
PZN	**Rozhen**	**0.58**	**272**	*i* Pg	**Pg**	**04 09 57.4**	**-0.3**
PLD	**Plovdiv**	**0.73**	**307**	*i* Pg	**Pg**	**04 10 00.4**	**-0.2**
ALN	**Alexandroupoli**	**0.88**	**151**	*e*Pg	**Pg**	**04 10 03.8**	**+0.3**
ALN				*e*Sg	**Sg**	**04 10 16.3**	**+1.4**
JMB	**Yambol**	**1.14**	**45**	*i* Pg	**Pg**	**04 10 08.1**	**-0.3**
JMB	**Yambol**	**1.14**	**45**	*e*Pg	**Pg**	**04 10 07.9**	**-0.6**
JMB				*e*Sg	**Sg**	**04 10 22.5**	**-0.7**
NVR	**Nevrokopi**	**1.26**	**256**	*e*PN	**Pn**	**04 10 09.9**	**-1.0**
NVR				*e*SN	**Sn**	**04 10 26.0**	**-2.2**
PGB	**Panagyurishte**	**1.32**	**312**	*i* Pg	**Pg**	**04 10 11.1**	**-0.8**
MMB	**Musomiste**	**1.32**	**267**	*i* P	**Pn**	**04 10 11.1**	**-0.6**
SRS	**Serrai**	**1.53**	**249**	*e*Pg	**Pg**	**04 10 14.7**	**-1.2**
SRS				*e*Sg	**Sg**	**04 10 35.9**	**+0.1**
PVL	**Pavlikeni**	**1.55**	**356**	P	**Pn**	**04 10 13.4**	**-1.4**
SZH	**Strazhica**	**1.63**	**12**	P	**Pn**	**04 10 16.5**	**+0.6**
OUR	**Ouranopolis**	**1.76**	**221**	*e*Pb	**Pb**	**04 10 17.4**	**-1.9**
OUR				*e*Sb	**Sb**	**04 10 42.0**	**+0.4**
LOS	**Limnos**	**1.76**	**190**	*e*Pb	**Pn**	**04 10 17.1**	**-0.7**
LOS	**Limnos**	**1.76**	**190**	*e*Pb	**Pn**	**04 10 17.0**	**-0.8**
LIA	**Limnos Island**	**1.79**	**188**	*e*PN	**Pn**	**04 10 17.8**	**-0.3**
LIA				*e*SN	**Sn**	**04 10 39.7**	**-1.4**
SOH	**Sokhos**	**1.82**	**243**	*e*Pb	**Pb**	**04 10 19.9**	**-0.4**
VTS	**Vitosha**	**1.93**	**299**	*i* P	**Pn**	**04 10 21.7**	**+1.7**
VTS	**Vitosha**	**1.93**	**299**	*e*Pn	**Pn**	**04 10 21.6**	**+1.5**
VTS				*e*Sn	**Sn**	**04 10 46.1**	**+1.5**
VTS	**Vitosha**	**1.93**	**299**	⇑*i*P	**Pn**	**04 10 22.1**	**+2.1**
VTS	**Vitosha**	**1.93**	**299**	S	**Sn**	**04 10 46.5**	**+1.8**
KNT	**Kendrikon**	**2.01**	**256**	*e*Pn	**Pn**	**04 10 22.5**	**+1.3**
KNT				*e*Sn	**Sn**	**04 10 48.4**	**+1.6**
CHOS	**Chios island**	**3.31**	**172**	*e*Pn	**Pn**	**04 10 39.6**	**+0.6**
TIRR	**Tirgusor**	**3.51**	**37**	S	**Sg**	**04 11 38.1**	**-1.4**
MLR	**Muntele Rosu**	**3.83**	**5**	⇓*i*P	**Pn**	**04 10 48.3**	**+2.1**
MLR	**Muntele Rosu**	**3.83**	**5**	S	**Sg**	**04 11 51.6**	**+1.9**
MLR	**Muntele Rosu**	**3.83**	**5**	⇓P	**Pn**	**04 10 48.3**	**+2.1**
MLR				S	**Sg**	**04 11 51.6**	**+1.9**

*NIED **06** 04:47:00, 2270N×12150E, h50km, Mw4.1 Best double couple: Mo1.56000×10^15 NP1:φs=56.00000°, δ70.00000°, λ-133.00000°. NP2:φs=306.00000°, δ47.00000°, λ-28.00000°.*
*IDC **06** 04:47:04.5±1.3, 2231N×12131E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.4/20, mbtmp3.6/4, MS4.1/2, Ms1 4.0/2, ms1mx2.6/31, Error ellipse: s-maj=44.9km s-min=25.8km az=75.0*
*ISCJB **06** 04:47:08.3±1.4, 2257N±008×12141E±007, h44km±17km, mb3.6/2, Error ellipse: s-maj=13.9km s-min=10.1km az=174.0*
*NEIC **06** 04:47:08.4±0.9, 2261N×12189E, h35km, MG3.8(JMA), Error ellipse: s-maj=65.5km s-min=11.9km az=77.0*
*JMA **06** 04:47:09.5±0.1, 2267N×12148E, h28km, M3.8*

ISC 06 04:47:09.4±1.7, 2258N±010×12138E±007, h37km±22km, n13, σ0§97/20, mb3.6/2, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**1.60**	**7**	*e*Pn	**Pn**	**04 47 32.5**	**-2.7**
YHNB	**Yeheng**	**2.08**	**360**	*e*Pn	**Pn**	**04 47 42.1**	**+0.3**
YHNB				*e*Sn	**Sn**	**04 48 05.6**	**-0.8**
TATO	**Taipei**	**2.39**	**2**	*e*Pn	**Pn**	**04 47 45.7**	**-0.3**
YOJ	**Yonaguni jima**	**2.40**	**38**	P	**Pn**	**04 47 46.5**	**+0.4**
YOJ				*e*S	**Sn**	**04 48 13.8**	**-0.4**
HATJ	**Hateruma jima**	**2.67**	**56**	P	**Pn**	**04 47 50.3**	**+0.5**
HATJ				*e*S	**Sn**	**04 48 20.5**	**-0.5**
IRIF	**Iriomote-Funau**	**2.78**	**51**	P	**Pn**	**04 47 51.9**	**+0.6**
IRIF				*e*S	**Sn**	**04 48 23.9**	**+0.3**
JKRS	**Kuro-shima**	**2.92**	**55**	P	**Pn**	**04 47 53.9**	**+0.6**
JKRS				*e*S	**Sn**	**04 48 27.0**	**-0.2**
JIJ	**Ishigaki jima**	**3.10**	**54**	P	**Pn**	**04 47 56.5**	**+0.8**
JIJ				*e*S	**Sn**	**04 48 30.9**	**-0.6**
JTJ	**Tarama**	**3.67**	**55**	P	**Pn**	**04 48 14.6**	**+1.0**
JTJ				*e*S	**Sn**	**04 48 45.4**	**-0.3**
MJAR	**Matsushiro Arr**	**20.15**	**43**	P	**P**	**04 51 43.3**	**+2.9**
	2.2nm,0.7s,baz=234,slow=9.6,SNR=10						
MKAR	**Makanchi Array**	**39.62**	**317**	P	**P**	**04 54 39.0**	**+1.7**
	1.2nm,0.8s,mb3.7,baz=104,slow=10,SNR=5.8						
WRA	**Warramunga Arr**	**44.12**	**162**	P	**P**	**04 55 12.1**	**-1.9**
	0.3nm,0.7s,baz=344,slow=8.6,SNR=5.2						
ASAR	**Alice Springs**	**47.55**	**164**	P	**P**	**04 55 40.6**	**-0.5**
	0.2nm,0.4s,mb3.5,baz=341,slow=7.1,SNR=5.2						

*SZGRF **06** 05:01:31.1, 2226S×17728W, h33km, South of Fiji Islands*
*CSEM **06** 05:01:38.7, 2079S×17783W, h33km, mb5.6*
*ISCJB **06** 05:02:23.0±0.1, 2125S±004×178.18W±004, h463km, mb4.8/98, Error ellipse: s-maj=6.2km s-min=3.9km az=81.1*
*MOS **06** 05:02:22.9±1.4, 2080S×17832W, h449km, mb4.9/38, Error ellipse: s-maj=10.8km s-min=8.7km az=58.7*
*BJI **06** 05:02:23.2, 2063S×17840W, h438km, mB5.0, mb5.2*
*IDC **06** 05:02:23.8±1.2, 2119S×17822W, h459km±12km, mb4.3/15, mb1 4.4/17, mb1mx4.3/19, mbtmp5.0/17, Error ellipse: s-maj=12.6km s-min=9.0km az=140.0*
*HRVD **06** 05:02:24.4±0.7, 2109S×17824W, h473km±4km, MW5.2/31, Centroid moment Tensor Solution. LP body waves: s31,c39; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-4.79±.44; Mθθ3.23±.61; Mφφ1.57±.79; Mrθ-5.86±.63; Mrφ1.48±.64; Mθφ-0.11±.77; Best double couple: Mo7.30100×10^16 NP1:φs=230.00000°, δ21.00000°, λ-120.00000°. NP2:φs=82.00000°, δ72.00000°, λ-79.00000°. Principal axes: T 6.6840, Plg26.0000°, Azm163.0000°; N 1.2440, Plg10.0000°, Azm258.0000°; P -7.9180, Plg62.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s.*
*NEIC **06** 05:02:24.4±0.1, 2106S×17823W, mb4.8/72 Error ellipse: s-maj=7.5km s-min=3.7km az=148.0*
*BGS **06** 05:02:26.9±3.3, 2107S×17823W, h465km, mb4.8(NEIC)*

ISC 06 05:02:24.1±0.1, 2128S±004×17810W±004, h465km, h465km±3.1km: pP-P, n480, σ1§01/227, mb4.8/98, 23C-77D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**7.94**	**179**	P	**P**	**05 04 19.3**	**+0.2**
	144nm,0.3s,baz=74,slow=20,SNR=11						
RAO				S	**S**	**05 05 39.7**	**-14**
	213nm,0.3s,baz=81,slow=16,SNR=4.3						
RAO	**Raoul Island**	**7.94**	**179**	P	**P**	**05 04 19.3**	**+0.2**
RAO				S	**S**	**05 05 39.7**	**-14**
AFI	**Afiamalu**	**9.49**	**40**	P	**P**	**05 04 29.9**	**-5.8**
	11nm,0.3s,baz=8.4,slow=1.6,SNR=34						
AFI				S	**S**	**05 06 08.3**	**-16**
	8.3nm,0.3s,baz=39,slow=21,SNR=9.0						
AFI	**Afiamalu**	**9.49**	**40**	*e*P	**P**	**05 04 29.2**	**-6.5**
AFI				*e*S	**S**	**05 06 09.1**	**-15**
AFI				pmax	pmax		
	comp=Z,116nm,0.8s						
AFI	**Afiamalu**	**9.49**	**40**	*e*P	**P**	**05 04 29.2**	**-6.5**
	comp=Z,116nm,0.8s						
AFI				*e*S	**S**	**05 06 09.1**	**-15**
DZM	**Mont Dzumac**	**14.39**	**264**	P	**P**	**05 05 29.0**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=91,slow=16,SNR=26						
DZM				S	**S**	**05 08 01.8**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=159,slow=22,SNR=6.0						
MXZ	**Matakaoa Point**	**16.52**	**190**	*e*PN	**P**	**05 05 48.8**	**-2.1**
MXZ				SN	**S**	**05 08 51.9**	**+10**
PUZ	**Puketiti**	**17.03**	**190**	*e*PN	**P**	**05 05 54.5**	**-1.7**
RAR	**Rarotonga**	**17.09**	**93**	P	**P**	**05 05 54.4**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=248,slow=6.4,SNR=4.5						
MWZ	**Matawai**	**17.41**	**192**	*e*PN	**P**	**05 05 58.6**	**-1.6**
URZ	**Urewera**	**17.42**	**193**	P	**P**	**05 05 59.0**	**-1.3**
	comp=Z,16nm,0.3s,baz=353,slow=2.6,SNR=69						
URZ				S	**S**	**05 09 00.6**	**+2.4**
	comp=Z,3.1nm,0.3s,baz=182,slow=22,SNR=5.2						
URZ	**Urewera**	**17.42**	**193**	*e*PN	**P**	**05 05 58.4**	**-1.8**
BKZ	**Black Stump Fm**	**18.42**	**193**	*e*PN	**P**	**05 06 08.4**	**-1.7**
MRZ	**Mangatainoka R**	**20.05**	**194**	*e*PN	**P**	**05 06 23.4**	**-1.7**
KIW	**Kapiti Island**	**20.40**	**195**	*e*PN	**P**	**05 06 28.1**	**-0.1**
QRZ	**Quartz Range**	**21.05**	**200**	*e*PN	**P**	**05 06 34.4**	**+0.3**
NNZ	**Nelson**	**21.15**	**198**	*e*PN	**P**	**05 06 34.8**	**-0.2**
TUWZ	**Tuamarina**	**21.19**	**197**	*e*PN	**P**	**05 06 35.2**	**-0.1**
THZ	**Tophouse**	**21.79**	**198**	*e*PN	**P**	**05 06 40.4**	**-0.4**
KHZ	**Kahutara**	**22.21**	**197**	*e*PN	**P**	**05 06 43.8**	**-0.8**
LTZ	**Lake Taylor**	**22.91**	**198**	*e*PN	**P**	**05 06 49.6**	**-1.3**
RPZ	**Rata Peaks**	**24.13**	**200**	P	**P**	**05 07 01.3**	**-0.5**
	comp=Z,34nm,0.6s,mb5.0,baz=18,slow=2.5,SNR=7.2						
HNR	**Honiara**	**24.19**	**296**	LR	LR	05 13 33.3	
	comp=Z,150nm,18.6s,baz=181,slow=32						
JCZ	**Jackson Bay**	**25.21**	**203**	PN	**P**	**05 07 11.1**	**-0.3**
TBI	**Tubuai**	**26.56**	**100**	*e*LR	LR	05 13 35.8	
	comp=Z,332nm,28.0s						
PPT	**Papeete**	**27.14**	**87**	*e*LR	LR	05 13 43.1	
	comp=Z,296nm,26.0s						
ARMA	**Armidale**	**28.65**	**245**	*e*P	**P**	**05 07 43.7**	**+2.0**
CNB	**Canberra Magne**	**31.72**	**237**	*e*P	**P**	**05 08 10.4**	**+2.1**
	comp=Z,34nm,0.7s,mb4.9						
CTA	**Charters Tower**	**33.33**	**266**	*e*P	**P**	**05 08 22.7**	**+0.7**
	comp=Z,16nm,0.7s,mb4.6						
CTA				*e*PCP	PcP	05 10 52.4	+1.6
CTA	**Charters Tower**	**33.33**	**266**	P	**P**	**05 08 22.6**	**+0.5**
	comp=Z,22nm,0.8s,mb4.7,baz=97,slow=11,SNR=35						
CTA				PcP	PcP	05 10 50.3	-0.5
	comp=Z,11nm,0.7s,baz=112,slow=3.0,SNR=7.1						
CTA	**Charters Tower**	**33.33**	**266**	*e*P	**P**	**05 08 22.7**	**+0.7**
CTA				*e*		05 10 52.4	
CTA				pmax	pmax		
	comp=Z,16nm,0.7s						
CTAO	**Charters Tower**	**33.33**	**266**	*e*P	**P**	**05 08 22.4**	**+0.4**
CTAO				*e*		05 10 51.7	
CTAO				pmax	pmax		
	comp=Z,16nm,0.6s,mb4.6						
CTAO	**Charters Tower**	**33.33**	**266**	*e*P	**P**	**05 08 22.4**	**+0.3**
	comp=Z,16nm,0.6s,mb4.6						
CTAO				*e*PcP	PcP	05 10 51.7	+0.9
TOO	**Toolangi**	**35.37**	**235**	*e*P	**P**	**05 08 40.9**	**+1.7**
	comp=Z,17nm,0.7s,mb4.6						
TOO	**Toolangi**	**35.37**	**235**	*e*P	**P**	**05 08 40.9**	**+1.7**
TOO				pmax	pmax		
	comp=Z,17nm,0.7s,mb4.6						
PMG	**Port Moresby**	**35.43**	**284**	⇓*i*P	**P**	**05 08 39.4**	**-0.4**
PMG				pmax	pmax		
	comp=Z,75nm,0.9s						
PMG	**Port Moresby**	**35.43**	**284**	⇓*i*P	**P**	**05 08 39.4**	**-0.4**
	comp=Z,75nm,0.9s,mb5.1						
STKA	**Stephens Creek**	**37.37**	**245**	*e*P	**P**	**05 08 54.8**	**-1.0**
	comp=Z,9.9nm,0.8s,mb4.3						
STKA				*e*PCP	PcP	05 11 03.1	+0.2
STKA	**Stephens Creek**	**37.37**	**245**	LR	LR	05 22 30.7	
	comp=Z,157nm,18.4s,baz=140,slow=37						
STKA	**Stephens Creek**	**37.37**	**245**	P	**P**	**05 08 54.9**	**-1.0**
	comp=Z,14nm,0.6s,mb4.5,baz=90,slow=9.9,SNR=28						
STKA				PcP	PcP	05 11 03.2	+0.3
	comp=Z,4.6nm,0.4s,baz=86,slow=6.2,SNR=5.6						
STKA				S	**S**	**05 14 07.8**	**-1.8**
	comp=Z,5.3nm,1.0s,baz=38,slow=20,SNR=5.1						
STKA	**Stephens Creek**	**37.37**	**245**	*e*P	**P**	**05 08 54.7**	**-1.2**
STKA				*e*PcP	PcP	05 11 03.1	+0.2
TAOE	**Nuku Hiva Isla**	**38.56**	**77**	*e*LR	LR	05 19 28.8	
	comp=Z,3μm,28.4s						
ASAR	**Alice Springs**	**44.25**	**258**	P	**P**	**05 09 51.0**	**+0.1**
	comp=Z,13nm,0.7s,mb4.5,baz=91,slow=8.2,SNR=117						
ASAR				PcP	PcP	05 11 26.5	+0.9
	comp=Z,17nm,0.6s,baz=104,slow=3.9,SNR=24						
ASAR				ScP	ScP	05 14 35.1	+2.4
	comp=Z,5.8nm,0.7s,baz=103,slow=4.4,SNR=13						
ASAR				S	**S**	**05 15 49.5**	**-0.3**
	comp=Z,4.3nm,0.8s,baz=97,slow=16,SNR=13						
ASAR	**Alice Springs**	**44.25**	**258**	P	**P**	**05 09 51.1**	**+0.2**
ASAR						05 11 26.5	
ASAR				S	**S**	**05 15 49.5**	**-0.3**
WB2	**Warramunga Arr**	**44.39**	**263**	⇓*i*P	**P**	**05 09 51.3**	**-0.7**
WB2				*e*PCP	PcP	05 11 27.7	+1.6
WRAB	**Tennant Creek**	**44.40**	**263**	*e*P	**P**	**05 09 50.4**	**-1.6**
WRAB				*e*		05 11 27.6	
WRAB				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.6						
WRAB	**Tennant Creek**	**44.40**	**263**	*e*P	**P**	**05 09 50.4**	**-1.7**
	comp=Z,19nm,0.8s,mb4.6						
WRAB				*e*PcP	PcP	05 11 27.6	+1.5
WRA	**Warramunga Arr**	**44.41**	**263**	P	**P**	**05 09 51.5**	**-0.6**
	comp=Z,16nm,0.7s,mb4.5,baz=96,slow=7.4,SNR=297						
WRA				PcP	PcP	05 11 26.8	+0.7
	comp=Z,5.9nm,0.5s,baz=93,slow=3.4,SNR=8.2						
WRA				S	**S**	**05 15 50.2**	**-1.7**
	comp=Z,1.4nm,0.9s,baz=98,slow=14,SNR=4.9						
KAKA	**Kakadu**	**47.90**	**272**	⇓*i*P	**P**	**05 10 18.2**	**-0.6**
	comp=Z,17nm,0.4s,mb4.7						
FORT	**Forrest**	**48.90**	**247**	*e*P	**P**	**05 10 26.6**	**+0.3**
	comp=Z,42nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**52.84**	**263**	⇓*i*P	**P**	**05 10 55.3**	**+0.2**
	comp=Z,11nm,0.6s,mb4.4						
FITZ				*e*PCP	PcP	05 11 58.8	+1.9
FITZ	**Fitzroy Crossi**	**52.84**	**263**	P	**P**	**05 10 55.5**	**+0.4**
	comp=Z,9.0nm,0.8s,mb4.1,baz=86,slow=7.0,SNR=38						
SBA	**Scott Base**	**57.09**	**184**	*e*P	**P**	**05 11 28.0**	**+3.1**
SBA				*e**PP	pP	05 13 01.8	+3.1
SBA				pmax	pmax		
	comp=Z,41nm,1.4s,mb4.6						
SBA	**Scott Base**	**57.09**	**184**	*e*P	**P**	**05 11 28.0**	**+3.0**
	comp=Z,41nm,1.4s,mb4.6						
SBA				*e*pP	pP	05 13 01.8	+3.1
VNDA	**Vanda**	**57.13**	**185**	P	**P**	**05 11 26.6**	**+1.4**
	comp=Z,3.8nm,0.7s,mb3.8,baz=355,slow=7.8,SNR=22						
VNDA				ScP	ScP	05 15 31.0	+2.9
	comp=Z,4.7nm,0.9s,baz=348,slow=4.2,SNR=11						
VNDA	**Vanda**	**57.13**	**185**	*e*P	**P**	**05 11 27.6**	**+2.4**
VNDA				*e**PP	pP	05 13 03.4	+4.4
VNDA				pmax	pmax		
	comp=Z,13nm,1.4s						
VNDA	**Vanda**	**57.13**	**185**	*e*P	**P**	**05 11 27.6**	**+2.4**
	comp=Z,13nm,1.4s,mb4.0						
VNDA				*e*pP	pP	05 13 03.4	+4.4
VNDA				*e*ScP	ScP	05 15 30.1	+2.0
MBWA	**Marble Bar**	**57.59**	**258**	*e*P	**P**	**05 11 28.6**	**+0.1**
	comp=Z,32nm,0.7s,mb4.8						
KLBR	**Kellerberrin**	**57.64**	**245**	*e*P	**P**	**05 11 29.5**	**+0.7**
	comp=Z,45nm,0.9s,mb4.8						
MUN	**Mundaring**	**58.91**	**245**	*e*P	**P**	**05 11 38.3**	**+1.0**
CASY	**Casey**	**63.22**	**205**	*e*P	**P**	**05 12 07.0**	**+1.2**
	comp=Z,17nm,0.7s,mb4.7						
CASY				*e*pP	pP	05 13 45.9	+3.8
QSPA	**South Pole Qui**	**68.79**	**180**	*e*P	**P**	**05 12 42.3**	**+1.6**
	comp=Z,22nm,0.9s,mb4.7						
QSPA				*e*pP	pP	05 14 19.8	+0.8
KKM	**Kota Kinabalu**	**69.87**	**285**	P	**P**	**05 12 47.8**	**+0.6**
MJAR	**Matsushiro Arr**	**70.78**	**324**	P	**P**	**05 12 51.8**	**-0.8**
	comp=Z,22nm,0.7s,mb4.8,baz=156,slow=5.9,SNR=70						
MAJO	**Matsushiro**	**70.78**	**324**	*e*P	**P**	**05 12 51.0**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,22nm,0.6s,mb4.9						
MAJO	**Matsushiro**	**70.78**	**324**	*e*P	**P**	**05 12 51.0**	**-1.6**
	comp=Z,22nm,0.6s,mb4.9						
MAT	**Matsushiro**	**70.78**	**324**	P	**P**	**05 12 51.4**	**-1.2**
MAT	**Matsushiro**	**70.78**	**324**	*e*P	**P**	**05 12 51.0**	**-1.6**
MAT				pmax	pmax		
	comp=Z,20nm,0.4s,mb5.0						
MAT	**Matsushiro**	**70.78**	**324**	*e*P	**P**	**05 12 51.0**	**-1.6**
	comp=Z,20nm,0.4s,mb5.0						
ASAJ	**Asahikawa**	**74.37**	**332**	P	**P**	**05 13 14.4**	**+1.1**
	comp=Z,70nm,0.6s,mb5.4,baz=210,slow=7.1,SNR=56						
SKR	**Severo-Kuril's**	**75.18**	**343**	*e*P	**P**	**05 13 13.0**	**-4.9**
YSS	**Yuzh-Sakhalins**	**76.55**	**334**	⇑*i*P	**P**	**05 13 25.9**	**+0.4**
YSS				pmax	pmax		
	comp=Z,80nm,0.9s,mb5.2						
YSS	**Yuzh-Sakhalins**	**76.55**	**334**	*e*P	**P**	**05 13 25.6**	**+0.1**
	comp=Z,107nm,1.0s,mb5.3						
SSE	**Sheshan**	**78.12**	**310**	*e*P	**P**	**05 13 32.6**	**-1.5**
SSE				AMB	AMB		
	comp=Z,41nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,72nm,5.3s						
SAO	**San Andreas Ge**	**78.66**	**43**	*e*P	**P**	**05 13 36.8**	**-0.2**
SAO				*e*		05 16 40.6	
SAO				pmax	pmax		
	comp=Z,33nm,0.9s,mb4.9						
SAO	**San Andreas Ge**	**78.66**	**43**	*e*P	**P**	**05 13 36.8**	**-0.3**
	comp=Z,33nm,0.9s,mb4.9						
SAO				*e*PP	PP	05 16 40.6	-2.3
PTRM	**Twissleman Ran**	**78.79**	**45**	*e*P	**P**	**05 13 38.3**	**+0.6**
VLA	**Vladivostok**	**78.86**	**325**	*e*P	**P**	**05 13 38.0**	**-0.1**
VLA				pmax	pmax		
	comp=Z,55nm,1.3s,mb4.9						
HOPS	**Hopland**	**79.02**	**41**	*e*P	**P**	**05 13 39.2**	**+0.2**
	comp=Z,43nm,1.0s,mb4.9						
CHGN	**Chignik**	**79.05**	**11**	*e*P	**P**	**05 13 37.2**	**-1.9**
KHMM	**Horse Mountain**	**79.82**	**39**	*e*P	**P**	**05 13 44.0**	**+0.9**
CMB	**Columbia Colle**	**80.10**	**43**	*e*P	**P**	**05 13 44.7**	**+0.1**
CMB				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.5						
CMB	**Columbia Colle**	**80.10**	**43**	*e*P	**P**	**05 13 44.7**	**+0.1**
	comp=Z,22nm,1.3s,mb4.5						
KGM	**Kluang**	**80.10**	**276**	P	**P**	**05 13 46.1**	**+1.5**
PFO	**Pinyon Flat Ob**	**80.16**	**48**	*e*P	**P**	**05 13 45.4**	**+0.4**
PFO				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.5						
PFO	**Pinyon Flat Ob**	**80.16**	**48**	*e*P	**P**	**05 13 45.4**	**+0.4**
	comp=Z,18nm,1.1s,mb4.5						
OHCM	**Honcut**	**80.20**	**41**	*e*P	**P**	**05 13 44.9**	**-0.3**
NJ2	**Nanjing**	**80.30**	**310**	*e*P	**P**	**05 13 47.0**	**+1.3**
NJ2				PP	PP	05 16 52.0	-4.4
NJ2				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,180nm,11.8s						
WDC	**Whiskeytown Da**	**80.33**	**40**	⇓*i*P	**P**	**05 13 46.2**	**+0.3**
WDC				pmax	pmax		
	comp=Z,27nm,1.1s,mb4.7						
WDC	**Whiskeytown Da**	**80.33**	**40**	⇓*i*P	**P**	**05 13 46.2**	**+0.3**
	comp=Z,27nm,1.1s,mb4.7						
YBH	**Yreka Blue Hor**	**80.95**	**39**	⇓*i*P	**P**	**05 13 49.7**	**+0.6**
YBH				pmax	pmax		
	comp=Z,29nm,0.7s						
YBH	**Yreka Blue Hor**	**80.95**	**39**	⇓*i*P	**P**	**05 13 49.7**	**+0.6**
	comp=Z,29nm,0.7s,mb4.9						
HABR	**Khabarovsk**	**81.08**	**331**	⇑*i*P	**P**	**05 13 50.9**	**+1.2**
HABR				*e*S	S	05 23 10.9	-9.3
HABR				pmax	pmax		
	comp=Z,87nm,1.0s,mb5.2						
MDJ	**Mudanjiang**	**81.10**	**325**	P	**P**	**05 13 50.1**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,102nm,4.2s						
MDJ	**Mudanjiang**	**81.10**	**325**	⇓*i*P	**P**	**05 13 49.8**	**0.0**
	comp=Z,38nm,0.8s,mb5.0						
HUMO	**Hull Mountain**	**81.36**	**38**	⇓*i*P	**P**	**05 13 52.0**	**+0.7**
	comp=Z,17nm,0.8s,mb4.6						
NVAR	**Mina Array Bea**	**81.65**	**43**	P	**P**	**05 13 53.4**	**+0.6**
	comp=Z,15nm,0.8s,mb4.5,baz=210,slow=7.1,SNR=92						
PAHR	**Pah Rah Range**	**81.72**	**42**	⇓*i*P	**P**	**05 13 53.5**	**+0.4**
	comp=Z,26nm,1.0s,mb4.7						
TPH

comp=Z,31nm,0.8s,mb5.0
OD2 Odessa Site #2 86.68 36 P **P** 05 14 17.5 0.0
TMUT Trail Mountain 86.77 46 *eP* **P** 05 14 18.5 +0.6
GYA Guiyang 86.95 300⇓*iP* **P** 05 14 19.5 +0.7
GYA AMB AMB
comp=Z,30nm,0.9s,mb5.0
HLID Hailey 86.98 41⇓*iP* **P** 05 14 19.3 +0.4
comp=Z,7.0nm,0.9s,mb4.4
HVU Hansel Valley 87.04 43 *eP* **P** 05 14 18.9 -0.3
HVU pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
HVU Hansel Valley 87.04 43 *eP* **P** 05 14 18.9 -0.3
comp=Z,3.6nm,0.7s,mb4.2
SRU San Rafael 87.13 46⇓*iP* **P** 05 14 19.9 +0.2
SRU pmax pmax
comp=Z,19nm,0.9s,mb4.8
SRU San Rafael 87.13 46⇓*iP* **P** 05 14 19.9 +0.2
comp=Z,19nm,0.9s,mb4.8
LAZ Ladron 87.21 51 *eP* **P** 05 14 21.3 +1.2
SNAA Sanae 87.24 179 *eP* pP 05 16 07.7 +3.3
MNTX Cornudas Mount 87.28 55⇓*iP* **P** 05 14 21.2 +0.9
comp=Z,18nm,0.8s,mb4.9
MNTX *ep*P pP 05 16 05.4 +0.8
DAU Daniels Canyon 87.31 45 *eP* **P** 05 14 21.2 +0.7
VNA3 Neumayer Olymp 87.37 176 *eP* **P** 05 14 21.5 +0.7
VNA3 *e* 05 14 25.2
VNA3 *e* 05 14 32.8
VNA3 *e* 05 14 39.5
BNM Barren Site 87.47 52 *eP* **P** 05 14 22.0 +0.7
LPM Los Pinos Moun 87.54 52 *eP* **P** 05 14 21.8 +0.2
LTX Lajitas 87.55 57⇓*iP* **P** 05 14 22.7 +1.0
LTX pmax pmax
comp=Z,17nm,1.1s,mb4.7
LTX Lajitas 87.55 57⇓*iP* **P** 05 14 22.7 +1.0
comp=Z,17nm,1.1s,mb4.7
TCUT Toone Canyon 87.57 44 *eP* **P** 05 14 21.7 0.0
MVCO Mesa Verde 87.58 49 *eP* **P** 05 14 21.9 +0.1
PV10 Paradox Valley 87.77 47 *eP* **P** 05 14 22.2 -0.5
VNA2 Neumayer--Watz 87.81 177 *eP* **P** 05 14 23.7 +0.8
baz=229,slow=3.3
VNA2 *e* 05 14 27.6
VNA2 *e* 05 14 34.1
VNA2 *e* 05 14 40.6
VNA2 Neumayer--Watz 87.81 177 *eP* pP 05 16 10.4 +3.2
baz=165,slow=3.2
ANMO Albuquerque 87.96 51⇓*eP* **P** 05 14 24.0 +0.4
ANMO pmax pmax
comp=Z,9.0nm,0.9s
ANMO Albuquerque 87.96 51⇓*eP* **P** 05 14 24.0 +0.4
comp=Z,8.9nm,0.9s,mb4.5
PV01 Paradox Valley 87.98 48 *eP* **P** 05 14 23.7 0.0
VNA1 Neumayer--Stat 88.04 177 *eP* **P** 05 14 22.3 -1.7
VNA1 *e* 05 14 25.8
VNA1 *e* 05 14 32.6
VNA1 *e* 05 14 40.1
VNA1 Neumayer--Stat 88.04 177 *eP* pP 05 16 12.1 +3.7
NEW Newport 88.06 36 *eP* **P** 05 14 23.0 -1.0
NEW pmax pmax
comp=Z,8.0nm,0.9s
NEW Newport 88.06 36 *eP* **P** 05 14 23.0 -1.1
comp=Z,8.4nm,0.9s,mb4.5
MENT Mentasta 88.21 15 *eP* **P** 05 14 24.0 -0.8
GDL2 Guadalupe Moun 88.28 55 *eP* **P** 05 14 26.1 +1.0
GDL2 *ep*P pP 05 16 11.6 +2.0
XAN Xi'an 88.53 307 P **P** 05 14 26.9 +0.7
XAN AMB AMB
comp=Z,77nm,1.0s,mb5.5
MCMT McKenzie Canyo 88.61 40 *eP* **P** 05 14 27.4 +0.8
CLNB Carlsbad 88.67 55 *eP* **P** 05 14 26.8 -0.2
COLA College 88.99 12 *eP* **P** 05 14 26.1 -2.3
comp=Z,41nm,0.8s,mb5.3
MSO Missoula 89.04 38 *eP* **P** 05 14 27.5 -1.1
comp=Z,2.6nm,0.6s,mb4.2
DLMT Dillon 89.04 40⇓*eP* **P** 05 14 28.9 +0.3
comp=Z,30nm,1.2s,mb5.0
REDW Red Top Meadow 89.07 42⇓*iP* **P** 05 14 28.9 +0.1
comp=Z,29nm,1.1s,mb5.0
TPAW Teton Pass 89.08 42⇓*iP* **P** 05 14 29.3 +0.5
comp=Z,23nm,1.1s,mb4.9
ILAR Eielson Array 89.09 13 P **P** 05 14 26.8 -2.1
comp=Z,11nm,0.6s,mb4.9,baz=219,slow=5.7,SNR=190
ILAR PP PP 05 18 01.9 -4.9
comp=Z,1.8nm,0.9s,baz=221,slow=8.3,SNR=5.0
ILAR PKiKP PKiKP 05 19 22.6 -1.9
comp=Z,0.2nm,0.4s,baz=274,slow=2.8,SNR=4.6
ILAR PKKPbc PKKPbc 05 32 03.0 -0.5
comp=Z,0.2nm,0.5s,baz=18,slow=1.7,SNR=4.5
ILAR Eielson Array 89.09 13 P **P** 05 14 26.8 -2.1
ILAR PP PP 05 18 01.9 -4.9
HIA Hailar 89.27 325 *eP* **P** 05 14 29.0 -0.7
HIA pmax pmax
comp=Z,20nm,0.8s
HIA Hailar 89.27 325 *eP* **P** 05 14 29.0 -0.7
comp=Z,20nm,0.8s,mb5.0
IMW Indian Meadow 89.29 42⇓*iP* **P** 05 14 30.4 +0.6
comp=Z,20nm,0.8s,mb5.0
MOOW Moose Ponds 89.34 42 *eP* **P** 05 14 30.0 0.0
comp=Z,4.2nm,0.8s,mb4.3
QLMT Earthquake Lak 89.47 41 *eP* **P** 05 14 31.4 +0.8
CHMT Chamberlain Mo 89.48 38 *eP* **P** 05 14 30.3 -0.4
FLWY Flagg Ranch 89.53 42⇓*iP* **P** 05 14 31.4 +0.5
comp=Z,28nm,0.9s,mb5.1
SMCO Snowmass 89.57 47 *eP* **P** 05 14 31.1 0.0
comp=Z,7.5nm,0.7s,mb4.6
BW06 Boulder Array 89.59 43⇓*iP* **P** 05 14 30.7 -0.4
comp=Z,13nm,0.8s,mb4.8
PDAR Pinedale Array 89.59 43 P **P** 05 14 30.9 -0.3
comp=Z,12nm,0.8s,mb4.8,baz=212,slow=2.7,SNR=110
PDAR PP PP 05 18 07.5 -3.3
comp=Z,0.3nm,0.8s,baz=258,slow=6.8,SNR=3.6
PDAR PKKPbc PKKPbc 05 32 04.0 +1.8
comp=Z,0.6nm,0.8s,baz=93,slow=4.5,SNR=5.1
KMI Kunming 89.62 297 P **P** 05 14 33.4 +2.1
KMI AMB AMB
comp=Z,39nm,1.0s,mb5.2
YMR Madison River 89.67 41⇓*eP* **P** 05 14 32.6 +1.1
comp=Z,17nm,0.8s,mb4.9
BILL Bilibino 89.80 354*dP* **P** 05 14 30.7 -1.4
BILL pmax pmax
comp=Z,19nm,0.9s,mb4.9
BILL Bilibino 89.80 354⇓*iP* **P** 05 14 30.5 -1.7
comp=Z,14nm,0.6s,mb5.0
HHC Hu-ho-hao-te 89.83 314⇑P **P** 05 14 32.5 +0.2
HHC AMB AMB
comp=Z,33nm,1.3s,mb5.0
HHC AMB AMB
comp=Z,60nm,6.5s
LKWY Lake 89.96 41 *eP* **P** 05 14 34.5 +1.6
LKWY pmax pmax
comp=Z,17nm,1.0s,mb4.8
LKWY Lake 89.96 41 *eP* **P** 05 14 34.5 +1.6
comp=Z,17nm,1.0s,mb4.8
HRY Holter Researc 90.20 39 *eP* **P** 05 14 33.7 -0.3
DAWY Dawson 90.23 16⇓*iP* **P** 05 14 33.0 -1.2
CHTO Chiang Mai 90.42 290⇓*iP* **P** 05 14 36.6 +1.6
CHTO pmax pmax
comp=Z,28nm,0.6s,mb5.3
CHTO Chiang Mai 90.42 290⇓*iP* **P** 05 14 36.6 +1.6
comp=Z,28nm,0.6s,mb5.3
GCMT Greycliff 91.03 41 *eP* **P** 05 14 38.0 +0.2
JCT Junction City 91.08 58 *eP* **P** 05 14 38.2 +0.1
JCT pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
JCT Junction City 91.08 58 *eP* **P** 05 14 38.2 +0.1
comp=Z,6.0nm,0.7s,mb4.6
CD2 Chengdu 91.13 303 *eP* **P** 05 14 37.6 -0.7
CD2 PP PP 05 18 24.3 +1.4
CD2 SKS 05 24 23.0
CD2 S 05 24 52.0
CD2 SS SS 05 31 13.2 -0.2
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
CD2 AMB AMB
comp=Z,60nm,9.0s
AMTX Amarillo 91.45 53 *eP* **P** 05 14 39.7 0.0
comp=Z,4.7nm,0.6s,mb4.6
YAK Yakutsk 92.80 338 *eP* **P** 05 14 43.9 -2.1
YAK pmax pmax
comp=Z,52nm,0.8s,mb5.6
YAK Yakutsk 92.80 338 *eP* **P** 05 14 43.5 -2.5
comp=Z,30nm,0.8s,mb5.4
EDM Edmonton 92.81 33 *eP* **P** 05 14 44.7 -1.3
LZH Lanzhou 93.17 307 *eP* **P** 05 14 48.8 +1.1
LZH AMB AMB
comp=Z,38nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,130nm,4.0s
LAO LASA Array 93.56 41⇓*eP* **P** 05 14 49.8 +0.4
comp=Z,6.3nm,0.7s,mb4.8
RSSD Black Hills 93.78 44 *eP* **P** 05 14 49.9 -0.6
RSSD pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
RSSD Black Hills 93.78 44 *eP* **P** 05 14 49.9 -0.6
comp=Z,9.2nm,0.8s,mb4.9
INK Inuvik 95.05 15 *eP* **P** 05 14 53.9 -2.3
INK pmax pmax
comp=Z,8.0nm,1.1s
INK Inuvik 95.05 15 *eP* **P** 05 14 53.9 -2.3
comp=Z,7.9nm,1.1s,mb4.7
ULN Ulaanbaatar 95.89 319 *eP* **P** 05 14 59.2 -0.8
ULN pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
ULN Ulaanbaatar 95.89 319 *eP* **P** 05 14 59.2 -0.8
comp=Z,4.9nm,0.8s,mb4.7
SONM Songino Array 96.28 319 P **P** 05 15 00.8 -1.0
comp=Z,1.3nm,0.6s,mb4.2,baz=128,slow=2.4,SNR=6.2
YKA Yellowknife Ar 97.26 25 P **P** 05 15 04.5 -1.7
comp=Z,0.6nm,0.5s,mb4.1,baz=236,slow=4.5,SNR=25
YKA PP PP 05 19 05.7 -4.3
comp=Z,0.6nm,1.0s,baz=245,slow=7.7,SNR=4.7
YKA PKiKP PKiKP 05 19 36.6 -1.9
comp=Z,0.2nm,0.7s,baz=242,slow=1.6,SNR=5.9
YKA PKKPbc PKKPbc 05 31 42.8 +0.3
comp=Z,0.1nm,0.5s,baz=27,slow=2.4,SNR=4.7
YKA Yellowknife Ar 97.26 25 P **P** 05 15 04.5 -1.7
YKA PP PP 05 19 05.7 -4.3
GTA Gaotai 97.39 309 *eP* **P** 05 15 07.1 +0.3
GTA AMB AMB
comp=Z,7.0nm,1.2s,mb4.8
ZAK Zakamensk 99.17 321 *eP* Pdif 05 15 11.0 -3.7
ZAK pmax pmax
comp=Z,4.0nm,1.4s,mb4.6
TIXI Tiksi 99.47 345⇓*iP* Pdif 05 15 12.4 -3.6
TIXI pmax pmax
comp=Z,5.0nm,1.2s,mb4.7
ZAL Zalesovo 111.05 321 PKiKP PKiKP 05 20 02.0 -1.8
comp=Z,2.1nm,0.6s,baz=327,slow=4.3,SNR=11
MKAR Makanchi Array 111.66 313 Pdiff Pdif 05 16 09.5 -0.7
comp=Z,1.4nm,0.8s,baz=91,slow=6.5,SNR=6.2
MKAR PKiKP PKiKP 05 20 03.7 -1.3
comp=Z,1.5nm,0.4s,baz=66,slow=2.0,SNR=22
KURK Kurchatov 114.50 317 *e*PKiKP PKiKP 05 20 08.6 -1.8
BDFB Brasilia 118.81 123 PKKPbc PKKPbc 05 30 36.9 +1.5
comp=Z,3.4nm,0.7s,baz=60,slow=9.1,SNR=3.7
VOSK Vostochnaya 119.27 319 PKiKP PKPdf 05 20 16.8 -2.8
VOSK pmax pmax
comp=Z,4.0nm,0.7s
BVA0 Borovoye Array 119.61 320 *i* PKiKP PKPdf 05 20 18.7 -1.6
KKAR Karatay Array 119.66 308 *i* PKiKP PKPdf 05 20 19.3 -1.1
KKAR pmax pmax
comp=Z,1.0nm,0.5s
BRVK Borovoye 119.67 320 *e*PKiKP PKPdf 05 20 18.8 -1.6
ZRNK Zerenda 120.45 320 *e*PKiKP PKPdf 05 20 20.0 -1.9
SUMG Summit 123.93 14 *e*PKPdf PKPdf 05 20 27.6 -1.0
ARU Arti 125.79 325 *i* PKiKP PKPdf 05 20 31.3 -0.8
ARU *e* 05 22 31.0
ARU Arti 125.79 325 *e*PKPdf PKPdf 05 20 31.5 -0.6
AB31 Akbulak array 126.58 316 *i* PKiKP PKPdf 05 20 33.0 -0.6
KEV Kevo 129.22 349 *ep* PKPdf 05 20 37.3 -1.3
comp=Z,4.9nm,0.7s
ARCES ARCESS Array B 129.67 349 PKhKP 05 20 26.4
comp=Z,1.5nm,0.7s,baz=298,slow=1.0,SNR=13
ARCES PKP PKPdf 05 20 38.0 -1.5
comp=Z,8.2nm,0.6s,baz=320,slow=0.7,SNR=25
ARCES SKPbc SKPbc 05 23 18.4 +0.8
comp=Z,3.5nm,0.8s,baz=4.3,slow=4.9,SNR=5.0
ARCES ARCESS Array B 129.67 349 PKHKP 05 20 26.4
ARCES 05 20 38.0
ARE0 ARCESS Array S 129.67 349 *e*PKPdf PKPdf 05 20 37.7 -1.8
MATP Matopo 131.07 214 SKPbc SKPbc 05 23 25.9 +3.0
comp=Z,9.1nm,0.7s,baz=168,slow=3.8,SNR=16
KLMR Klimovskoe 132.55 336 *i* PKHKP 05 20 34.3
KLMR pmax pmax
comp=Z,10.0nm,1.5s
JOF Joensuu 133.84 342 *ep* PKPdf 05 20 46.0 -1.4
comp=Z,12nm,0.6s
LSZ Lusaka 135.44 218 SKPbc SKPbc 05 23 37.8 +0.5
comp=Z,1.0nm,0.6s,baz=136,slow=5.5,SNR=3.9
KAF Kangasniemi 135.87 344 *ep* PKPdf 05 20 49.5 -1.7
comp=Z,10nm,0.7s
FINES FINESS Array B 136.49 343 PKhKP 05 20 39.1
comp=Z,0.6nm,0.3s,baz=50,slow=3.4,SNR=15
FINES PKP PKPdf 05 20 50.5 -1.8
comp=Z,2.1nm,0.5s,baz=53,slow=3.1,SNR=9.2
FINES SKPbc SKPbc 05 23 40.2 -0.3
comp=Z,4.9nm,0.8s,baz=46,slow=8.2,SNR=10
FINES FINESS Array B 136.49 343 PKP 05 20 39.1
FINES PKP PKPdf 05 20 50.5 -1.8
FINES SKPbc SKPbc 05 23 40.2 -0.3
OBN Obninsk 137.39 331 *i* PKIKP PKPdf 05 20 54.1 +0.1
OBN *e* 05 23 44.1
OBN pmax pmax
comp=Z,6.0nm,0.7s
KMBO Kilima Mbogo 138.89 242 PKP PKPdf 05 20 58.6 +1.9
comp=Z,3.9nm,0.9s,baz=41,slow=4.8,SNR=8.7
NB2 NORSAR Subarra139.74 353 PKPa 05 20 48.9
comp=Z,2.3nm,0.7s,baz=16,slow=3.2
NOA NORSAR Array B139.74 353 PKhKP 05 20 48.9
comp=Z,2.9nm,0.6s,baz=16,slow=4.6,SNR=19
NOA SKPbc SKPbc 05 23 50.8 +1.1
comp=Z,2.5nm,0.9s,baz=15,slow=4.4,SNR=4.5
SUW Suwalki 143.53 339 *e*PKP PKPdf 05 21 02.5 -2.5
SUW Suwalki 143.53 339 *e*PKIKP PKPdf 05 21 02.5 -2.5
SUW Suwalki 143.53 339 *e*PKPdf PKPdf 05 21 02.1 -2.9
SUW *e*PKP PKPdf 05 21 02.5 -2.5
GRSN GIRESUNGRSN 143.56 311 *i* P PKPdf 05 21 02.0 -3.1
AKASG Malin Array Be 143.65 330 PKhKP 05 21 02.1
comp=Z,31nm,0.4s,baz=43,slow=4.3,SNR=223
AKASG SKPbc SKPbc 05 24 00.4 +1.0
comp=Z,0.4nm,0.4s,baz=35,slow=1.4,SNR=5.5
DRBT Darb Altahta 143.68 304⇑P PKPdf 05 21 08.4 +3.1
ELZG Elazig 143.85 307 *i* P PKPdf 05 21 05.9 +0.4
MALT Malatya 144.32 307⇓*iP* PKPdf 05 21 07.1 +0.7
MALT Malatya 144.32 307 *e*PKPdf PKPdf 05 21 06.9 +0.5
MUD Monsted U'grnd 144.46 353⇓*iP* PKPdf 05 21 05.1 -1.5
comp=Z,80nm,0.9s
MUD *i* 05 22 18.6
MUD Monsted U'grnd 144.46 353⇓*i*PKIKP PKPdf 05 21 05.1 -1.5
MUD pmax pmax
comp=Z,80nm,0.9s
COP Copenhagen 144.75 350⇓*iP* PKPdf 05 21 06.2 -0.9
comp=Z,38nm,0.9s
COP Copenhagen 144.75 350⇓*i*PKIKP PKPdf 05 21 06.2 -0.9
COP pmax pmax
comp=Z,38nm,0.9s
BSD Bornholm Skovb 144.83 347⇓*iP* PKPdf 05 21 06.1 -1.1
comp=Z,112nm,1.1s
BSD Bornholm Skovb 144.83 347⇓*i*PKIKP PKPdf 05 21 06.1 -1.1
BSD pmax pmax
comp=Z,110nm,1.1s
SVST Sivas 144.92 310 *i* P PKPdf 05 21 08.7 +1.3
JHLN Al Jahlan 145.04 302⇑P PKPdf 05 21 09.4 +1.8
GZT Gaziantep 145.26 305 *i* P PKPdf 05 21 09.0 +1.0
BOYT Boyabat 145.69 313 *i* P PKPdf 05 21 10.8 +2.1
ESK Eskdalemuir 145.80 5 *e*PKIKP PKPdf 05 21 08.8 -0.1
BWH Wardlaw 145.90 6 *e*P PKPdf 05 21 09.1 +0.1
GKP Gorka Klasztor 145.97 344 *e*PKP PKPdf 05 21 10.0 +0.8
BHH Howats Hill 146.02 5 *e*P PKPdf 05 21 09.7 +0.4
GAL1 Galloway 146.10 7 *e*P PKPdf 05 21 09.7 +0.2
CTKT Corum 146.11 312 *i* P PKPdf 05 21 11.9 +2.5
DRWC Darouich 146.17 305⇑P PKPdf 05 21 12.2 +2.7
ROOS tl_alroos 146.32 300⇑P PKPbc 05 21 12.8 +0.9
BDL Dobcross Hall 146.33 5 *e*P PKPdf 05 21 11.2 +1.4
KIS Kishinev 146.33 326*dP*KIKP PKPdf 05 21 10.0 +0.2
BBO1 Bothel 146.37 5 *e*P PKPdf 05 21 10.1 +0.2
KFRA Kufra 146.46 302⇑P PKPbc 05 21 13.1 +0.9
BTCH Batrach 146.50 304⇑P PKPdf 05 21 12.2 +2.2
COBT Iskenderun 146.51 305 *i* P PKPbc 05 21 13.0 +0.6
CKE Keswick 146.53 5 *e*P PKPdf 05 21 11.2 +1.1
ZALF Zalf 146.54 298⇑P PKPbc 05 21 13.7 +1.2
LVV L'vov 146.56 334 *e*PKIKP PKPdf 05 21 11.6 +1.4
XDE Dent Fell 146.58 6 *e*P PKPdf 05 21 11.2 +0.9
XDE AMb AMB 05 21 15.1
comp=Z,60nm,1.9s
BALT Daday 146.66 314 *i* P PKPdf 05 21 13.0 +2.7
WRDH Warideh 146.68 303⇑P PKPdf 05 21 13.2 +2.8
GIM North Isle of 146.69 7 *e*P PKPdf 05 21 11.8 +1.4
CDU1 Dunnerdale 146.77 5 *e*P PKPdf 05 21 11.7 +1.2
BSEG Bad Segeberg 146.77 351 *e*PKPbc PKPbc 05 21 12.5 -0.6
AVNT Avonos 146.80 309 *i* P PKPdf 05 21 10.1 -0.5
WIM Isle of Man 146.81 7 *eP* PKPdf 05 21 12.2 +1.6
WIM AMb AMB 05 21 14.2
comp=Z,64nm,1.5s
CDAG Cicekdag 146.81 311 *i* P PKPab 05 21 16.6 +0.7
BIDA Albida 146.89 302⇑P PKPbc 05 21 13.9 +0.4
ARNB Al Arnab 146.93 303⇑P PKPbc 05 21 14.3 +0.8
SALA Sala 147.08 298⇑P PKPbc 05 21 14.8 +0.8
ELDT Eldivan 147.11 313 *i* P PKPbc 05 21 14.1 0.0
TOTH TOTAH 147.20 299⇑P PKPbc 05 21 15.3 +1.1
DCN Croghan 147.23 10 *eP* PKPdf 05 21 13.2 +1.9
KWP Kalwaria 147.25 335 *e*PKP PKPdf 05 21 13.8 +2.5
KWP *e* 05 21 17.9
QASN Qassioun 147.28 299⇑P PKPdf 05 21 13.0 +1.6
BR131 Keskin Array S 147.29 311 *e*PKPdf PKPdf 05 21 11.0 -0.4
BR131 *e*PKPbc PKPbc 05 21 13.9 -0.6
BRTR Keskin Array B 147.29 311 PKPbc PKPbc 05 21 14.2 -0.3
comp=Z,11nm,0.6s,baz=138,slow=3.6,SNR=21
DLF Lyons Farm 147.39 9 *eP* PKPdf 05 21 13.5 +1.9
RUE Ruedersdorf 147.53 346 *e*PKPbc PKPbc 05 21 14.6 -0.5
RUE *e*PKPab PKPab 05 21 18.3 -0.5
RUE Ruedersdorf 147.53 346 *e*PKPbc PKPbc 05 21 14.9 -0.3
BRBR Barbar 147.57 299⇑P PKPdf 05 21 14.6 +2.8
WCB1 Church Bay 147.58 7 *eP* PKPdf 05 21 13.9 +2.0
WCB1 AMb AMB 05 21 14.7
comp=Z,37nm,0.8s
WME Myndd Eilian 147.59 7 *eP* PKPdf 05 21 14.1 +2.2
LHO Holmfirth 147.66 4 *eP* PKPdf 05 21 14.1 +2.1
WLF1 Llynfaes 147.68 7 *eP* PKPdf 05 21 14.1 +2.1
WLF1 AMb AMB 05 21 15.0
comp=Z,33nm,0.6s
BURAR Bucovina Array 147.69 330⇑*iP* PKPbc 05 21 15.7 +0.1
BURAR Bucovina Array 147.69 330⇑P PKPbc 05 21 15.7 +0.1
YRC Rhoscolyn 147.70 7 *eP* PKPdf 05 21 13.9 +1.8
TCHB Talchebab 147.72 298⇑P PKPdf 05 21 14.9 +2.8
WPM1 Penmaenmawr 147.77 7 *eP* PKPdf 05 21 14.3 +2.2
ANTO Ankara 147.81 312⇑*iP* PKPbc 05 21 16.3 +0.4
ANTO Ankara 147.81 312 *e*PKPbc PKPbc 05 21 16.2 +0.4
OJC Ojcow 147.85 338 *e*PKPdf PKPbc 05 21 15.3 -0.7
OJC *e*PKPab PKPab 05 21 19.5 -0.6
CFR Carcaliu 147.86 324⇓*iP* PKPbc 05 21 15.9 -0.1
CFR Carcaliu 147.86 324⇓P PKPbc 05 21 15.9 -0.1
KOLS Kolonicke sedl 147.97 334 *e*PKP PKPbc 05 21 17.6 +1.3
KOLS *e* 05 21 21.4
STHS Stebnicka Huta 147.99 336 *e*PKP PKPbc 05 21 16.7 +0.4
STHS *e* 05 21 21.1
SGKT Sivrigoynuk 148.00 314 *i* P PKPbc 05 21 16.5 +0.1
MEST Erdemli 148.10 306 *i* P PKPbc 05 21 16.9 +0.3
MMAI Mount Meron Ar 148.11 299 PKPbc PKPbc 05 21 17.5 +0.8
comp=Z,31nm,0.5s,baz=64,slow=5.7,SNR=120
TIRR Tirgusor 148.16 323⇓*iP* PKPbc 05 21 16.4 -0.3
TIRR Tirgusor 148.16 323 *e*PKPbc PKPbc 05 21 16.4 -0.4
TIRR *e*PKPab PKPab 05 21 20.9 -0.5
VRI Vrincioaia 148.16 326⇑*iP* PKPbc 05 21 16.7 -0.1
VRI Vrincioaia 148.16 326⇑P PKPbc 05 21 16.7 0.0
SBD1 Bryn Du 148.18 6 *eP* PKPbc 05 21 16.0 -0.8
HARR Harsova 148.28 323⇓*iP* PKPbc 05 21 17.2 +0.1
HARR Harsova 148.28 323⇓P PKPbc 05 21 17.2 +0.2
CRVS Cervenica-Dubn 148.32 335 *e*PKP PKPbc 05 21 17.8 +0.6
CRVS *e* 05 21 22.5
NIE Niedzica 148.34 337 *e*PKPdf PKPbc 05 21 17.4 +0.2
NIE *e*PKPab PKPab 05 21 22.7 +0.6
KSP Ksiaz 148.41 342 *e*PKP PKPbc 05 21 17.1 -0.3
KSP *e* 05 21 23.1
KSP Ksiaz 148.41 342 *e*PKPdf PKPbc 05 21 17.2 -0.2
KSP *e* 05 21 22.4
HLM1 Long Mynd 148.60 6 *eP* PKPbc 05 21 16.9 -0.9
HLM1 AMb AMB 05 21 17.6
comp=Z,41nm,0.8s
HENT Hendek 148.65 315 *i* P PKPbc 05 21 17.7 -0.3
SSP1 Stoney Pound 148.68 6 *eP* PKPdf 05 21 16.6 +2.9
IBBN Ibbenburen 148.70 353 *e*PKPbc PKPbc 05 21 17.7 -0.4
IBBN *e*PKPab PKPab 05 21 23.2 -0.4
OKC Ostrava-Krasne 148.73 340 *e*PKPDF PKPbc 05 21 18.0 -0.2
OKC *e*PKPB PKPab 05 21 23.5 -0.2
UPC Upice 148.79 343 *e*PKPDF PKPdf 05 21 12.9 -0.9
UPC ⇑*e*PKPB PKPbc 05 21 18.1 -0.2
UPC *e*PKPAB PKPab 05 21 23.5 -0.4
CLZ Clausthal 148.79 350 *e*PKPbc PKPbc 05 21 18.1 -0.2
CLZ *e*PKPab PKPab 05 21 23.5 -0.4
CLL Collm 148.80 347 *e*PKPbc PKPbc 05 21 17.8 -0.5
CLL *e*PKPab PKPab 05 21 23.2 -0.8
CLL Collm 148.80 347⇓*i*PKPbc PKPbc 05 21 18.0 -0.3
comp=Z,53nm,0.7s
CLL *i* PKPab PKPab 05 21 22.9 -1.1
CLL Collm 148.80 347⇓*i*PKP2 PKPbc 05 21 18.0 -0.3
CLL pmax pmax
comp=Z,53nm,0.7s
MLR Muntele Rosu 148.82 326⇑*iP* PKPbc 05 21 18.1 -0.3
MLR Muntele Rosu 148.82 326⇑P PKPbc 05 21 18.1 -0.3
DPC Dobruska-Polom 148.84 342 *e*PKPDF PKPdf 05 21 13.1 -0.8
DPC ⇑*e*PKPB PKPbc 05 21 18.4 0.0
DPC *e*PKPAB PKPab 05 21 24.0 -0.1
DPC *ep*PKP pPKPab 05 23 18.4 +7.5
DPC Dobruska-Polom 148.84 342 *e*PKIKP PKPdf 05 21 13.1 -0.8
DPC *e* 05 21 24.0
MORC Moravsky Berou 148.98 340⇓*iP* PKPbc 05 21 18.7 -0.1
MORC Moravsky Berou 148.98 340 *e*PKPbc PKPbc 05 21 18.0 -0.7
MORC *e*PKPab PKPab 05 21 24.1 -0.6
BRG Berggiesshubel 148.99 345 *e*PKPbc PKPbc 05 21 18.1 -0.7
BRG *e*PKPab PKPab 05 21 24.2 -0.6
BRG Berggiesshubel 148.99 345 *i* PKP PKPbc 05 21 18.4 -0.4
comp=Z,20nm,0.9s
BRG *i* 05 21 24.1
comp=Z,19nm,0.8s
BRG Berggiesshubel 148.99 345 *i* PKP2 PKPbc 05 21 18.5 -0.3
BRG pmax pmax
comp=Z,20nm,0.9s
BRG pmax pmax
comp=Z,19nm,0.9s
HTR Trewern Hill 149.00 6 *eP* PKPbc 05 21 17.7 -1.2
HTR AMb AMB 05 21 19.3
comp=Z,7.1nm,0.4s
ERMK Ermenek 149.01 306 *i* P PKPbc 05 21 21.2 +2.3
KECS Kecovo 149.04 336 *e*PKP PKPbc 05 21 19.3 +0.4
KECS *e* 05 21 25.0
EIL Elat 149.10 292 *e*PKPbc PKPbc 05 21 19.9 +0.8
EIL *e*PKPab PKPab 05 21 26.4 +1.2
MCH1 Michaelchurch 149.11 6 *eP* PKPbc 05 21 17.8 -1.3
HAE Alders End 149.11 5 *eP* PKPbc 05 21 17.7 -1.4
HAE AMb AMB 05 21 21.2
comp=Z,52nm,1.7s
WTSB Winterswijk 149.14 354⇓*i*PKiKP PKPbc 05 21 18.5 -0.7
comp=Z,53nm,0.8s
WTSB *i* PKPab PKPab 05 21 24.4 -1.0
GTTG Gvttingen 149.15 350 *e*PKPbc PKPbc 05 21 18.8 -0.4
GTTG *e*PKPab PKPab 05 21 25.0 -0.4
CSS Prodhromos 149.25 303 *e*PKPbc PKPbc 05 21 19.3 -0.2
CSS *e*PKPab PKPab 05 21 26.2 +0.4
VOIR 149.32 327⇑*iP* PKPbc 05 21 19.4 -0.2
VOIR 149.32 327⇑P PKPbc 05 21 19.4 -0.2
BORA Eskisehir 149.41 314 *i* P PKPbc 05 21 19.5 -0.3
DRGR 149.45 331⇑*iP* PKPbc 05 21 18.8 -1.1
DRGR 149.45 331⇑P PKPbc 05 21 18.8 -1.2
BUG Bochum--Univer 149.61 353 *e*PKPbc PKPbc 05 21 19.6 -0.7
BUG *e*PKPab PKPab 05 21 26.3 -1.0
VYHS Vyhne 149.64 337 *e*PKP PKPbc 05 21 20.3 -0.1
VYHS *e* 05 21 27.1
PRU Pruhonice 149.66 344 *e*PKPDF PKPdf 05 21 15.3 +0.1
PRU ⇑*e*PKPB PKPbc 05 21 19.9 -0.5
PRU *e*PKPAB PKPab 05 21 26.7 -0.8
VRAC Vranov 149.69 341⇓*iP* PKPbc 05 21 19.9 -0.6
VRAC Vranov 149.69 341⇓P PKPbc 05 21 19.9 -0.6
MOX Moxa 149.71 348 *e*PKPbc PKPbc 05 21 19.9 -0.7
MOX *e*PKPab PKPab 05 21 27.1 -0.7
MOX Moxa 149.71 348 *eP* PKPbc 05 21 20.0 -0.6
comp=Z,44nm,1.5s
MOX *e* 05 21 27.1
MOX Moxa 149.71 348 *e*PKHKP PKPbc 05 21 20.0 -0.6
MOX *e* 05 21 27.1
MOX pmax pmax
comp=Z,18nm,1.5s
PSZ Piszkesteto 149.73 336⇓*e*PKP/F PKPbc 05 21 20.3 -0.3
PSZ *e*PKP/p PKPab 05 21 28.0 +0.2
PSZ Piszkesteto 149.73 336⇓*iP* PKPbc 05 21 20.4 -0.2
PSZ Piszkesteto 149.73 336 *e*PKPbc PKPbc 05 21 20.1 -0.5
PSZ *e*PKPab PKPab 05 21 27.2 -0.6
WERD Werda 149.76 347 *e*PKPbc PKPbc 05 21 20.3 -0.4
WERD *e*PKPab PKPab 05 21 27.3 -0.6
UBBA Unterbreizbach 149.84 350 *e*PKPbc PKPbc 05 21 20.3 -0.6
NKC Novy Kostel 149.93 346⇑*e*PKPB PKPbc 05 21 20.8 -0.3

NKC				*e*PKPAB	PKPab	05 21 28.0	-0.7
TREC	**Trest**	**150.03**	**342**⇑	*e*PKPB	PKPbc	05 21 21.0	-0.3
TREC				*e*PKPAB	PKPab	05 21 28.8	-0.3
SMOL	**Smolenice**	**150.11**	**339**	*e*PKP	PKPbc	05 21 22.1	+0.6
SMOL				*e*		05 21 29.9	
MANZ	**Manzenberg**	**150.24**	**347**	*e*PKPbc	PKPbc	05 21 21.8	0.0
MANZ				*e*PKPab	PKPab	05 21 29.4	-0.5
TKTP	**Tekketepe**	**150.35**	**311**	*i* P	PKPbc	05 21 21.5	-0.6
HGN	**Heimansgroeve**	**150.41**	**355**⇓	*i*PKiKP	PKiKP	05 21 21.5	-1.2
	comp=Z,18nm,0.9s						
HGN				*i* PKPab	PKPab	05 21 29.5	-1.2
	comp=Z,35nm,1.1s						
SRO	**Srobarova**	**150.41**	**337**	*e*PKP	PKPab	05 21 31.0	+0.4
SRO2	**Moca**	**150.42**	**337**	*e*PKP	PKPab	05 21 31.4	+0.7
BUD	**Budapest**	**150.42**	**336**⇓	*e*PKP/F	PKPbc	05 21 21.6	-0.6
ROTZ	**Rotzenmuhle**	**150.42**	**346**	*e*PKPbc	PKPbc	05 21 21.8	-0.4
ROTZ				*e*PKPab	PKPab	05 21 30.3	-0.4
GDZ	**Gediz**	**150.45**	**313**	*i* P	PKPbc	05 21 22.0	-0.3
SRO1	**Iza**	**150.48**	**337**	*e*PKP	PKPab	05 21 31.8	+0.9
UCC	**Uccle**	**150.48**	**357**	PKPbc	PKPbc	05 21 21.8	-0.6
UCC				PKPab	PKPab	05 21 30.0	-0.9
CSA1	**St Austell**	**150.50**	**9**	*e*P	PKPdf	05 21 19.5	+3.0
ZST	**Bratislava**	**150.50**	**339**	*e*PKP	PKPbc	05 21 22.5	+0.1
ZST				*e*		05 21 31.8	
MEM	**Membach**	**150.55**	**355**	PKP	PKPdf	05 21 16.4	-0.2
MEM				PKPbc	PKPbc	05 21 22.0	-0.5
MEM				PKPab	PKPab	05 21 30.5	-0.7
TNS	**Taunus Mts**	**150.66**	**351**	*e*PKPbc	PKPbc	05 21 22.3	-0.5
TNS				*e*PKPab	PKPab	05 21 30.7	-1.0
KHC	**Kasperske Hory**	**150.69**	**344**	*e*PKPDF	PKPdf	05 21 16.4	-0.4
KHC			⇑	*e*PKPB	PKPbc	05 21 22.6	-0.2
KHC				*e*PKPAB	PKPab	05 21 31.6	-0.2
GRA1	**Grafenberg Arr**	**150.70**	**348**	*e*PKPbc	PKPbc	05 21 22.6	-0.3
GRA1				*e*PKPab	PKPab	05 21 31.5	-0.4
GRF	**Grafenberg Arr**	**150.70**	**348**	*e*PKPbc	PKPbc	05 21 22.6	-0.3
GRF				*e*PKPab	PKPab	05 21 31.5	-0.4
SNF	**Seneffe**	**150.77**	**357**	PKPbc	PKPbc	05 21 22.8	-0.2
SNF				PKPab	PKPab	05 21 32.0	-0.2
MENF	**Mencas**	**150.78**	**360**	PKP	PKPbc	05 21 22.1	-1.0
BZS	**Buzias**	**150.84**	**331**⇓	*i*P	PKPbc	05 21 22.7	-0.5
BZS	**Buzias**	**150.84**	**331**	⇓P	PKPbc	05 21 22.7	-0.5
WET	**Wettzell**	**150.85**	**345**	*e*PKPbc	PKPbc	05 21 23.0	-0.2
WET				*e*PKPab	PKPab	05 21 32.3	-0.2
GEC2	**GERESS Array S**	**150.92**	**344**	*e*PKPbc	PKPbc	05 21 23.0	-0.4
GEC2				*e*PKPab	PKPab	05 21 32.3	-0.5
GERES	**GERESS Array B**	**150.92**	**344**	PKPbc	PKPbc	05 21 23.0	-0.3
	comp=Z,12nm,0.6s,baz=38,slow=2.4,SNR=87						
GERES				PKPab	PKPab	05 21 32.6	-0.2
	comp=Z,8.6nm,0.7s,baz=20,slow=4.3,SNR=13						
ABH	**Alteburg**	**151.11**	**352**	PKP	PKPbc	05 21 22.8	-1.0
SOP	**Sopron**	**151.12**	**339**⇓	*e*PKP/p	PKPbc	05 21 23.5	-0.3
SOP				*e*PKP/F	PKPab	05 21 34.0	+0.3
GIVF	**Givet**	**151.15**	**356**	*e*PKIKP	PKPdf	05 21 17.8	+0.3
DOU	**Dourbes**	**151.17**	**356**	PKPbc	PKPbc	05 21 23.5	-0.5
DOU				PKPab	PKPab	05 21 32.8	-1.1
TOD	**Tromm**	**151.21**	**351**	PKIKP	PKPbc	05 21 23.0	-1.0
BAIF	**Baives**	**151.22**	**357**	*e*PKIKP	PKPdf	05 21 18.1	+0.5
RUP	**Ruppelstein**	**151.35**	**353**	PKIKP	PKPbc	05 21 23.7	-0.6
WLF	**Walferdange**	**151.48**	**354**	*e*PKPbc	PKPbc	05 21 24.8	+0.2
WLF				*e*PKPab	PKPab	05 21 34.6	-0.5
WLF	**Walferdange**	**151.48**	**354**	PKPbc	PKPbc	05 21 24.9	+0.3
WLF				PKPab	PKPab	05 21 34.2	-1.0
WLF	**Walferdange**	**151.48**	**354**	*e*PKPbc	PKPbc	05 21 24.6	0.0
WLF				*e*PKPab	PKPab	05 21 33.8	-1.4
KDZ	**Kurdzhali**	**151.62**	**321**	*i* P	PKPbc	05 21 24.5	-0.5
PKSM	**Moragy**	**151.62**	**335**⇑	*i*P	PKPbc	05 21 24.1	-0.9
PKSM	**Moragy**	**151.62**	**335**	⇑P	PKPbc	05 21 24.1	-0.8
MOA	**Molln**	**151.68**	**342**	*i* P	PKPbc	05 21 24.3	-0.8
	comp=Z,7.9nm,0.6s,SNR=13						
STU	**Stuttgart**	**151.96**	**350**	*e*PKPbc	PKPbc	05 21 25.0	-0.7
LANF	**Langenberg**	**151.96**	**352**	PKP	PKPbc	05 21 25.2	-0.5
FUR	**Furstenfeldbru**	**152.14**	**347**	*e*PKPbc	PKPbc	05 21 25.7	-0.4
FUR				*e*PKPab	PKPab	05 21 37.5	-0.4
VTS	**Vitosha**	**152.24**	**325**	*i* P	PKPbc	05 21 26.3	0.0
VTS	**Vitosha**	**152.24**	**325**⇓	*i*P	PKPbc	05 21 26.2	-0.1
VTS	**Vitosha**	**152.24**	**325**	PKIKP	PKPbc	05 21 26.1	-0.2
FLN	**La Foliniere**	**152.51**	**3**	*e*PKIKP	PKPdf	05 21 19.6	+0.1
PERS	**Pernice**	**152.51**	**340**	*i* PKPdf	PKPbc	05 21 25.9	-1.0
PERS				*e*		05 21 38.9	
BFO	**Black Forest**	**152.52**	**351**	*e*PKPbc	PKPbc	05 21 26.3	-0.7
BFO				*e*PKPab	PKPab	05 21 38.6	-1.0
WLS	**Welschbruch**	**152.58**	**352**	PKP	PKPbc	05 21 26.7	-0.4
MMB	**Musomiste**	**152.63**	**323**	*i* P	PKPbc	05 21 26.7	-0.5
MMB	**Musomiste**	**152.63**	**323**	*i* PKIKP	PKPbc	05 21 26.6	-0.6
KBA	**Koelnbreinsper**	**152.64**	**343**⇓	*i*P	PKPbc	05 21 26.0	-1.2
	comp=Z,8.5nm,0.6s,SNR=6.4						
LDF	**La Druitiere**	**152.70**	**3**	*e*PKIKP	PKPdf	05 21 19.6	-0.2
	comp=Z,18nm,1.1s						
MEZF	**Maizieres J'vi**	**152.72**	**355**	*e*PKIKP	PKPdf	05 21 20.2	+0.4
ECH	**Echery**	**152.80**	**352**	PKP	PKPbc	05 21 26.5	-1.1
KKB	**Krupnik**	**152.81**	**324**	P	PKPbc	05 21 28.8	+1.2
SGMF	**Saint Gilles**	**152.85**	**7**	*e*PKIKP	PKPdf	05 21 20.4	+0.4
GRR	**Gorron**	**152.86**	**4**	*e*PKIKP	PKPdf	05 21 20.1	+0.1
WTTA	**Wattenberg**	**152.91**	**345**⇓	*i*P	PKPbc	05 21 27.4	-0.4
	comp=Z,18nm,0.6s,SNR=10						
FELD	**Feldberg im Sc**	**153.01**	**351**	PKP	PKPbc	05 21 27.3	-0.7
QUIF	**Quistinic**	**153.12**	**8**	*e*PKIKP	PKPdf	05 21 20.9	+0.5
LJU	**Ljubljana**	**153.23**	**340**	*e*PKPdf	PKPbc	05 21 27.9	-0.6
LJU				*e*		05 21 41.6	
ROBS	**Robic**	**153.35**	**342**	*e*PKPdf	PKPbc	05 21 27.6	-1.2
ROBS				*e*		05 21 41.4	
BOJS	**Bojanci**	**153.47**	**339**	*e*PKPdf	PKPbc	05 21 28.8	-0.2
BOJS				*e*		05 21 43.2	
LOMF	**Lomont**	**153.69**	**352**	PKP	PKPbc	05 21 30.1	+0.6
LOR	**Lormes**	**154.03**	**357**	*e*PKIKP	PKPdf	05 21 22.1	+0.4
	comp=Z,3.5nm,0.6s						
SSF	**Saint Saulge**	**154.25**	**357**	*e*PKIKP	PKPdf	05 21 22.5	+0.5
CABF	**La Chapelle**	**154.50**	**353**	*e*PKIKP	PKPdf	05 21 22.5	+0.1
	comp=Z,12nm,1.0s						
MFF	**Saint Martin d**	**154.69**	**3**	*e*PKIKP	PKPdf	05 21 22.7	+0.1
TCF	**Toulx Ste Croi**	**155.06**	**359**	*e*PKIKP	PKPdf	05 21 23.3	+0.2
	comp=Z,11nm,1.0s						
RJF	**Les Rejaudoux**	**156.04**	**1**	*e*PKIKP	PKPdf	05 21 24.7	+0.3
	comp=Z,11nm,0.9s						
ORIF	**Oris-en-Rattie**	**156.20**	**353**	*e*PKIKP	PKPdf	05 21 25.1	+0.5
MBDF	**Montbardon**	**156.27**	**351**	*e*PKIKP	PKPdf	05 21 25.4	+0.7
VIVF	**Saint-Julien-l**	**156.38**	**355**	*e*PKIKP	PKPdf	05 21 25.5	+0.7
	comp=Z,7.7nm,1.1s						
LASF	**Ste Croix**	**157.21**	**356**	*e*PKIKP	PKPdf	05 21 25.6	-0.3
	comp=Z,12nm,1.1s						
MTLF	**Montolieu**	**158.00**	**359**	*e*PKIKP	PKPdf	05 21 27.0	+0.1
	comp=Z,8.3nm,1.1s						
EPF	**Esparros**	**158.27**	**3**	*e*PKIKP	PKPdf	05 21 27.6	+0.4
PBRG	**Braganca**	**158.28**	**18**	*e*PKPab	PKPab	05 22 03.7	-0.6
PVRL	**Vila Real**	**158.47**	**20**	*e*PKPab	PKPab	05 22 03.8	-1.4
PVIS	**Viseu**	**158.91**	**21**	*e*PKPab	PKPab	05 22 06.3	-0.8
MTE	**Manteigas**	**159.31**	**21**	*e*PKPab	PKPab	05 22 08.1	-0.8
PTOM	**Tomar**	**159.71**	**23**	*e*PKPdf	PKPdf	05 21 30.2	+1.4
PTOM	**Tomar**	**159.71**	**23**	*e*PKPab	PKPab	05 22 09.7	-0.9
PCBR	**Castelo Branco**	**159.84**	**21**	*e*PKPdf	PKPdf	05 21 29.2	+0.2
PCBR	**Castelo Branco**	**159.84**	**21**	*e*PKPab	PKPab	05 22 10.6	-0.6
MOE	**Montemor**	**160.68**	**25**	*e*PKPab	PKPab	05 22 14.3	-0.5
EVO	**Evora**	**160.80**	**24**	*e*PKIKP	PKPdf	05 21 30.4	+0.4
	comp=Z,9.1nm,0.8s						
ESDC	**Sonseca Array**	**160.99**	**14**	PKPab	PKPab	05 22 15.6	-0.6
	comp=Z,2.8nm,0.8s,baz=344,slow=4.0,SNR=11						
PBEJ	**Beja**	**161.30**	**25**	*e*PKPdf	PKPdf	05 21 31.0	+0.4
TORD	**Torodi Ar. Bea**	**171.91**	**179**	PKP	PKPdf	05 21 38.5	0.0
	comp=Z,4.9nm,1.1s,baz=342,slow=0.4,SNR=13						
TORD				PKPab	PKPab	05 23 06.0	+1.5
	comp=Z,0.8nm,0.8s,baz=168,slow=2.2,SNR=4.1						

IDC 06 05:08:43.7±3.0, 2007S×17356W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.9/14, mbtmp3.9/4, MS2.9/1, Ms1 2.9/1, ms1mx2.6/25, Error ellipse: s-maj=109.3km s-min=37.5km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.36**	**16**	LR	LR	05 12 06.3	
	comp=Z,106nm,21.3s,baz=302,slow=32						
ASAR	**Alice Springs**	**48.67**	**256**	P	P	05 17 29.9	+0.3
	1.2nm,0.6s,baz=97,slow=7.3,SNR=5.8						
WRA	**Warramunga Arr**	**48.79**	**261**	P	P	05 17 30.4	-0.1
	1.0nm,0.6s,baz=96,slow=7.2,SNR=5.3						
MJAR	**Matsushiro Arr**	**72.42**	**321**	P	P	05 20 12.0	+0.2
	2.1nm,0.7s,baz=162,slow=7.2,SNR=6.1						
ILAR	**Eielson Array**	**87.03**	**11**	P	P	05 21 29.8	-1.2
	0.3nm,0.7s,baz=225,slow=6.0,SNR=4.7						
AKASG	**Malin Array Be**	**144.53**	**335**	PKP	PKPdf	05 28 20.9	-1.2
	0.6nm,0.5s,baz=39,slow=4.0,SNR=5.4						
BRTR	**Keskin Array B**	**149.54**	**316**	PKPbc	PKPbc	05 28 36.2	+1.2
	1.1nm,0.9s,baz=174,slow=1.2,SNR=6.5						

IDC 06 05:14:22.3±2.3, 648S×12664E, h0km, mb3.7/1, mb1 4.1/3, mb1mx3.8/14, mbtmp3.9/3, ML4.1/2, Error ellipse: s-maj=332.4km s-min=31.4km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.33**	**152**	Pn	Pn	05 18 02.3	+2.4
	0.8nm,0.3s,baz=331,slow=12,SNR=24						
ASAR	**Alice Springs**	**18.46**	**159**	P	Pn	05 18 38.5	-1.0
	0.6nm,0.3s,baz=344,slow=12,SNR=19						
MKAR	**Makanchi Array**	**66.00**	**328**	P	P	05 25 10.7	+0.2
	0.3nm,0.3s,baz=123,slow=8.1,SNR=3.6						

*NEIC **06** 05:23:31.2, 1668N×95.11W, h74km, MD3.8(MEX), After MEX.*

MEX 06 05:23:31.2±1.6, 1668N×9511W, h74km±37km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.32**	**227**	*i* P	Pn	05 23 51.3	-2.6
HUIG				*i* S	Sn	05 24 09.9	-1.1
TUIG	**Tuzandepetl**	**1.50**	**26**	*i* P	Pn	05 23 54.0	-2.2
TUIG				*i* S	Sn	05 24 13.1	-2.1
OXX	**Oaxaca**	**1.60**	**285**	*i* P	Pn	05 23 57.2	-0.3
OXX				*i* S	Sn	05 24 15.5	-2.0
VHO	**Vista Hermosa**	**1.60**	**284**	*e*P	Pn	05 23 56.5	-1.1
VHO				*i* S	Sn	05 24 17.4	-0.3
UTMO	**Huajuapan**	**2.82**	**294**	*i* P	Pn	05 24 12.5	-1.5
UTMO				*i* S	Sn	05 24 44.5	-2.4
CCIG	**Comitan**	**2.88**	**97**	*i* P	Pn	05 24 15.1	+0.3
CCIG				*i* S	Sn	05 24 46.5	-1.8

*ISCJB **06** 05:28:08.4±0.9, 4167N±006×2443E±004, h10km, Error ellipse: s-maj=9.0km s-min=4.2km az=172.6*
*CSEM **06** 05:28:09.9±0.3, 4166N×2440E, h15km, ML2.4, Error ellipse: s-maj=6.2km s-min=3.9km az=178.0*
*ATH **06** 05:28:11.8, 4123N×2436E, h15km±1km, MD3.1/3*
*THE **06** 05:28:11.4, 4163N×2435E, h11km, ML2.4*

ISC 06 05:28:09.2±0.9, 4167N±006×2443E±004, h10km, n9, σ0.9s97/15, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NVR	**Nevrokopi**	**0.54**	**233**	*e*PB	**Pg**	**05 28 19.7**	**+0.1**
NVR				*e*SB	**Sg**	**05 28 25.4**	**-1.3**
SRS	**Serrai**	**0.84**	**229**	*e*Pg	**Pg**	**05 28 25.5**	**+0.1**
SRS				*e*Sg	**Sg**	**05 28 37.8**	**+1.4**
RDO	**Rodhopi**	**0.98**	**122**	*e*PN	**Pn**	**05 28 28.8**	**-0.3**
RDO				*e*SN	**Sn**	**05 28 41.2**	**-1.8**
SOH	**Sokhos**	**1.18**	**224**	*e*Pg	**Pg**	**05 28 31.6**	**-0.2**
SOH				*e*Sg	**Sg**	**05 28 48.0**	**+0.9**
KNT	**Kendrikon**	**1.26**	**247**	*e*Pg	**Pg**	**05 28 32.7**	**-0.7**
KNT				*e*Sg	**Sg**	**05 28 50.0**	**+0.2**
VTS	**Vitosha**	**1.29**	**316**	*e*Pg	**Pg**	**05 28 34.6**	**+0.6**
OUR	**Ouranopolis**	**1.38**	**194**	*e*Pg	**Pg**	**05 28 34.6**	**-1.1**
ALN	**Alexandroupoli**	**1.44**	**122**	*e*Pg	**Pg**	**05 28 37.6**	**+0.7**
ALN				*e*Sg	**Sg**	**05 28 57.2**	**+1.6**
PLG	**Polygyros**	**1.50**	**210**	*e*PN	**Pn**	**05 28 32.2**	**-3.9**

*IDC **06** 05:47:52.7±1.1, 1977S×17371W, h0km, mb3.8/6, mb1 4.1/7, mb1mx4.0/16, mbtmp3.9/7, ML2.1/1, Error ellipse: s-maj=53.2km s-min=21.3km az=135.0*
*ISCJB **06** 05:47:56.8±0.9, 196S±02×1737W±02, h33km, mb3.8/7, Error ellipse: s-maj=30.0km s-min=15.2km az=76.6*
*NEIC **06** 05:47:57.5±0.8, 2001S×17356W, h35km, mb4.0/2, Error ellipse: s-maj=33.1km s-min=17.9km az=136.0*

ISC 06 05:47:58.1±0.9, 197S±01×1736W±02, h35km, n14, σ1s47/12, mb3.8/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.01**	**17**	Pn	**Pn**	**05 49 23.4**	**-1.0**
	2.9nm,0.3s,baz=82,slow=5.2,SNR=5.6						
AFI				Sn	**Sn**	**05 50 26.4**	**-5.6**
	2.7nm,0.3s,baz=9.9,slow=22,SNR=2.0						
RAR	**Rarotonga**	**13.05**	**99**	Pn	**Pn**	**05 50 52.3**	**-8.6**
	1.2nm,0.3s,baz=309,slow=3.8,SNR=6.5						
URZ	**Urewera**	**20.19**	**202**	P	**P**	**05 52 26.2**	**-3.4**
	6.1nm,0.7s,baz=259,slow=21,SNR=3.9						
PMG	**Port Moresby**	**39.25**	**279**	*e*P	**P**	**05 55 25.1**	**+2.0**
	2.9nm,0.8s,mb4.1						
ASAR	**Alice Springs**	**48.73**	**255**	P	**P**	**05 56 39.1**	**0.0**
	1.0nm,0.6s,mb4.0,baz=99,slow=8.1,SNR=14						
ASAR				PcP	PcP	05 58 06.0	+2.1
	1.1nm,0.7s,baz=113,slow=4.0,SNR=5.9						
WRA	**Warramunga Arr**	**48.81**	**260**	P	**P**	**05 56 38.6**	**-1.3**
	0.7nm,0.4s,mb4.1,baz=97,slow=7.4,SNR=8.6						
SBA	**Scott Base**	**58.98**	**185**	*e*P	**P**	**05 57 55.3**	**+1.2**
	0.8nm,0.7s,mb3.9						
NVAR	**Mina Array Bea**	**77.64**	**41**	P	**P**	**05 59 53.7**	**+2.9**
	0.3nm,0.5s,mb3.5,baz=231,slow=12,SNR=3.5						
NVAR	**Mina Array Bea**	**77.64**	**41**	P	**P**	**05 59 53.7**	**+2.9**
PDAR	**Pinedale Array**	**85.58**	**42**	P	**P**	**06 00 33.5**	**+0.8**
	0.4nm,0.9s,mb3.7,baz=240,slow=5.0,SNR=4.2						
ILAR	**Eielson Array**	**86.67**	**11**	P	**P**	**06 00 37.5**	**-0.7**
	0.3nm,0.7s,mb3.6,baz=211,slow=5.8,SNR=4.7						
AKASG	**Malin Array Be**	**144.17**	**335**	PKP	PKPdf	06 07 29.9	-0.3
	0.4nm,0.4s,baz=23,slow=2.6,SNR=5.0						
BRTR	**Keskin Array B**	**149.24**	**316**	PKPbc	PKPbc	06 07 41.7	-1.3
	0.9nm,0.9s,baz=134,slow=3.6,SNR=5.0						
GERES	**GERESS Array B**	**150.33**	**350**	PKPbc	PKPbc	06 07 45.6	0.0
	0.3nm,0.2s,baz=24,slow=7.3,SNR=3.5						

*NEIC **06** 06:06:48.9, 2725S×7164W, h15km, ML3.8(GUC), After GUC.*

GUC 06 06:06:48.9±0.9, 2725S×7164W, h15km±10km, ML3.8, 2C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.74**	**76**	⇓*i*P	Pg	06 07 00.5	-2.9
CDCH				*i* S	Sg	06 07 10.3	-2.9
CPCH	**Copiapo**	**1.15**	**96**	⇓*i*P	Pn	06 07 07.6	-2.8
CPCH				*i* S	Sb	06 07 22.0	-3.2
CPCH				AML	AML	06 07 24.4	
	comp=E,8μm,0.1s						
CPCH	**Copiapo**	**1.15**	**96**	⇓*i*P	Pn	06 07 07.6	-2.8
CPCH				*i* S	Sb	06 07 22.0	-3.2
CRCH	**Chaqaral**	**1.28**	**45**	⇑*i*P	Pn	06 07 10.0	-2.3
CRCH				*i* S	Sb	06 07 25.1	-3.9
CRCH				AML	AML	06 07 30.5	
	comp=N,1μm,0.3s						
CRCH	**Chaqaral**	**1.28**	**45**	⇑*i*P	Pn	06 07 10.0	-2.3
CRCH				*i* S	Sb	06 07 25.1	-3.9
LCO	**Las Campanas**	**1.94**	**155**	*e*P	Pn	06 07 20.8	-0.5
LCO				*i* S	Sn	06 07 44.7	-0.7
TLL	**Tololo Astrono**	**3.00**	**166**	AML	AML	06 08 35.8	
	comp=N,396nm,0.5s						

CASC 06 06:14:30.0±3.6, 1231N×8765W, h101km±55km, MD3.5, 3C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TEL3	**Telica 3**	**0.83**	**72**⇑	*e*P	Pn	06 14 47.5	-1.1
TEL3				*e*S	Sn	06 15 01.6	-1.1
MIRN	**Miramar**	**0.93**	**82**	*e*P	Pn	06 14 48.6	-1.0
CNCH	**Conchagua**	**0.97**	**349**	*e*P	Pn	06 14 56.2	+6.0
CNCH				*e*S	Sn	06 15 13.5	+8.1
COPN	**Copaltepe**	**1.04**	**97**	*e*P	Pn	06 14 50.0	-0.9
COPN				*e*S	Sn	06 15 09.2	+2.6
MOMJ	**Momotombo**	**1.09**	**85**⇑	*e*P	Pn	06 14 51.0	-0.4
MOMJ				*e*S	Sn	06 15 09.7	+2.1
VSM	**San Miguel**	**1.27**	**331**	*e*P	Pn	06 14 57.9	+4.4
VSM				*e*S	Sn	06 15 17.5	+6.3
APYN	**Apoyeque**	**1.27**	**93**	*e*P	Pn	06 14 53.6	+0.1
APYN				*e*S	Sn	06 15 12.5	+1.2
MGAN	**Managua**	**1.38**	**97**	*e*P	Pn	06 14 55.0	+0.2
TICN	**Ticuantepe**	**1.41**	**101**	*e*P	Pn	06 14 56.3	+1.1
SNVI	**San Vicente**	**1.74**	**318**	*e*S	Sn	06 15 24.7	+3.3
LCBS	**La Ceiba**	**1.86**	**316**⇓	*e*P	Pn	06 15 05.1	+4.3
LCBS				*e*S	Sn	06 15 28.0	+3.8
LFRS	**El Faro**	**1.90**	**314**	*e*P	Pn	06 15 05.4	+4.2
LFRS				*e*S	Sn	06 15 28.4	+3.3
LBRS	**Las Brisas**	**1.96**	**316**	*e*P	Pn	06 15 07.4	+5.3
LBRS				*e*S	Sn	06 15 31.9	+5.3

BJI 06 06:21:17.7, 3739N×11503E, h17km, ML3.6, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIA	**Tai'an**	**2.05**	**124**	P	Pn	06 21 53.1	+1.7
TIA				PG	Pg	06 21 55.6	-1.5
TIA				SG	Sg	06 22 22.1	-1.6
TIA				Smax			
	comp=N,505nm,0.5s						
TIA				Smax			
	comp=E,595nm,0.5s						
BJI	**Beijing**	**2.79**	**18**	P	Pn	06 22 00.9	-0.7
BJI				PG	Pg	06 22 05.6	-5.7
BJI				S	Sn	06 22 31.7	-3.2
BJI				SG	Sg	06 22 39.5	-8.0
BJI				Smax			
	comp=N,272nm,0.6s						
BJI				Smax			
	comp=E,201nm,0.7s						
HHC	**Hu-ho-hao-te**	**4.38**	**323**	*e*PG	Pg	06 22 37.2	-4.4
HHC				SG	Sg	06 23 35.0	-3.4
HHC				Smax			
	comp=N,142nm,0.4s						
HHC				Smax			
	comp=E,120nm,0.7s						
BTO	**Baotou**	**5.05**	**311**	*e*PG	Pg	06 22 47.9	-6.6
BTO				SG	Sg	06 23 49.5	-10
BTO				Smax			
	comp=N,32nm,0.6s						
BTO				Smax			
	comp=E,28nm,0.8s						
XAN	**Xi'an**	**5.99**	**238**	PG	Pg	06 23 00.2	-12
XAN				SG	Sg	06 24 28.7	-1.2
XAN				Smax			
	comp=N,16nm,0.9s						
XAN				Smax			
	comp=E,14nm,0.8s						

*SZGRF **06** 07:09:13.0, 4327N×3481W, h33km, mb4.4, Northern Mid-Atlantic Ridge*
*BJI **06** 07:09:20.2, 4360N×3240W, h10km, mB5.0, mb4.9, Ms4.0, Msz3.9*
*ISCJB **06** 07:09:21.6±0.4, 4362N±008×3247W±004, h10km, mb4.4/84, MS3.6/21, Error ellipse: s-maj=11.6km s-min=4.0km az=1.8*
*IDC **06** 07:09:21.8±0.6, 4361N×3251W, h0km, mb4.2/25, mb1 4.3/25, mb1mx4.2/31, mbtmp4.2/25, MS3.6/15, Ms1 3.6/15, ms1mx3.5/26, Error ellipse: s-maj=17.0km s-min=11.3km az=6.0*
*MOS **06** 07:09:21.4±0.7, 4358N×3248W, h10km, mb4.5/32, Error ellipse: s-maj=9.3km s-min=6.7km az=45.5*
*NEIC **06** 07:09:23.3±0.2, 4360N×3245W, h10km, mb4.5/50, MS3.5/2, Error ellipse: s-maj=7.5km s-min=2.4km az=180.0*
*CSEM **06** 07:09:25.0±0.1, 4363N×3249W, h36km, mb4.5/53, Ms3.3*

ISC 06 07:09:23.5±0.4, 4368N±008×3243W±004, h10km, (h22km±6.8km: pP-P), n234, σ0.9s66/219, mb4.4/84, MS3.6/21, 8C, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**21.59**	**91**	P	**P**	**07 14 14.1**	**+0.7**
	2.2nm,0.9s,mb3.6,baz=297,slow=38,SNR=4.9						
ESK	**Eskdalemuir**	**22.09**	**48**	*e*P	**P**	**07 14 18.3**	**-0.4**
ESK				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.4						
ESK	**Eskdalemuir**	**22.09**	**48**	*e*P	**P**	**07 14 18.3**	**-0.4**
	comp=Z,19nm,1.3s,mb4.4						
ESK	**Eskdalemuir**	**22.09**	**48**	*e*P	**P**	**07 14 18.3**	**-0.4**
	comp=Z,19nm,1.3s,mb4.4						
EKA	**Eskdalemuir Ar**	**22.12**	**48**	P	**P**	**07 14

comp=Z,12nm,1.1s,mb4.3
HAU MLR MLR

comp=Z,100nm,18.0s,MS3.4
HAU Haudompre 27.16 67 *e*P **P 07 15 08.0 +1.1**
comp=Z,12nm,1.1s,mb4.3
HAU LR LR

comp=Z,100nm,18.0s,MS3.4
HINF Hinteralfeld 27.52 67 *e*P **P 07 15 10.1 -0.1**
CDF Champ du Feu 27.74 66 *e*P **P 07 15 12.3 +0.1**
comp=Z,10nm,1.0s,mb4.1
CDF Champ du Feu 27.74 66 *e*P **P 07 15 12.3 +0.1**
CDF pmax pmax

comp=Z,5.0nm,1.0s,mb4.1
CDF Champ du Feu 27.74 66 *e*P **P 07 15 12.3 +0.1**
comp=Z,5.2nm,1.0s,mb4.1
FRB Frobisher Bay 28.71 327 LR LR 07 23 52.8
comp=Z,129nm,20.7s,MS3.5,baz=194,slow=30
SUMG Summit 29.12 356 *e*P **P 07 15 24.9 +0.4**
comp=Z,11nm,0.9s,mb4.6
SUMG Summit 29.12 356 *e*P **P 07 15 24.9 +0.4**
comp=Z,11nm,0.9s,mb4.6
DAVOX Davos 29.70 69 LR LR 07 26 53.5
comp=Z,80nm,18.2s,MS3.4,baz=260,slow=35
GRA1 Grafenberg Arr 30.21 63 *e*P **P 07 15 35.0 +0.9**
comp=Z,5.0nm,1.0s,mb4.2
GRF Grafenberg Arr 30.21 63 *e*P **P 07 15 35.0 +0.9**
comp=Z,5.0nm,1.0s,mb4.2
GRF Grafenberg Arr 30.21 63 *e*P **P 07 15 35.0 +0.9**
GRF pmax pmax

comp=Z,5.0nm,1.0s,mb4.2
GRF Grafenberg Arr 30.21 63 *e*P **P 07 15 35.0 +0.9**
GRF pmax pmax

comp=Z,5.0nm,1.0s,mb4.2
NOA NORSAR Array B 31.05 41 LR LR 07 26 28.4
comp=Z,64nm,20.4s,MS3.3,baz=115,slow=33
CLL Collm 31.21 60 *e*P **P 07 15 44.0 +1.1**
comp=Z,6.0nm,1.2s,mb4.3
CLL *e*(sP) sP 07 15 50.0 +2.8
CLL Collm 31.21 60 *e*P **P 07 15 44.0 +1.1**
CLL *e* 07 15 50.0
CLL pmax pmax

comp=Z,6.0nm,1.2s,mb4.3
KHC Kasperske Hory 31.80 64 *e*P **P 07 15 49.1 +1.0**
GERES GERESS Array B 31.92 64 P **P 07 15 50.0 +0.8**
comp=Z,1.5nm,0.7s,mb4.0,baz=281,slow=7.6,SNR=15
GERES LR LR 07 27 12.1
comp=Z,84nm,18.8s,MS3.5,baz=274,slow=33
MORC Moravsky Berou 34.26 62 *e*P **P 07 16 08.8 -0.8**
MORC pmax pmax

comp=Z,3.0nm,0.9s,mb4.2
MORC Moravsky Berou 34.26 62 *e*P **P 07 16 08.8 -0.8**
comp=Z,3.1nm,0.9s,mb4.2
MORC Moravsky Berou 34.26 62 *e*P **P 07 16 08.8 -0.8**
comp=Z,3.1nm,0.9s,mb4.2
PSZ Piszkesteto 36.15 64 P **P 07 16 25.1 -0.8**
PSZ pmax pmax

comp=Z,2.0nm,0.4s,mb4.4
PSZ Piszkesteto 36.15 64 P **P 07 16 25.1 -0.8**
comp=Z,1.6nm,0.4s,mb4.3
PSZ Piszkesteto 36.15 64 P **P 07 16 25.1 -0.8**
comp=Z,1.6nm,0.4s,mb4.3
KECS Kecovo 36.41 63 *e*P **P 07 16 28.3 +0.2**
KECS *e* 07 31 26.3
STHS Stebnicka Huta 36.70 62 *e*P **P 07 16 29.6 -0.9**
FINES FINESS Array B 38.22 41 P **P 07 16 43.9 +0.4**
comp=Z,5.4nm,0.8s,mb4.3,baz=275,slow=6.9,SNR=24
FINES LR LR 07 32 35.5
comp=Z,66nm,18.4s,MS3.5,baz=170,slow=36
FINES FINESS Array B 38.22 41 P **P 07 16 43.8 +0.3**
KAF Kangasniemi 38.34 40 *e*p **P 07 16 43.9 -0.5**
comp=Z,8.6nm,0.7s,mb4.6
KAF Kangasniemi 38.34 40 *e*P **P 07 16 43.9 -0.5**
KAF pmax pmax

comp=Z,9.0nm,0.7s,mb4.6
ARCES ARCESS Array B 38.77 28 P **P 07 16 48.1 0.0**
comp=Z,3.1nm,0.9s,mb4.1,baz=243,slow=8.0,SNR=12
FCC Fort Churchill 39.93 314 *e*P **P 07 16 58.0 +0.2**
FCC *e* 07 19 01.5
FCC pmax pmax

comp=Z,3.0nm,0.6s,mb4.2
FCC Fort Churchill 39.93 314 *e*P **P 07 16 58.0 +0.2**
comp=Z,3.2nm,0.6s,mb4.2
FCC *e*PcP PcP 07 19 01.4 -1.7
EYMN Ely 40.52 297 *e*P **P 07 17 02.2 -0.5**
comp=Z,19nm,1.2s,mb4.6
EYMN Ely 40.52 297 *e*P **P 07 17 02.2 -0.5**
comp=Z,19nm,1.2s,mb4.6
JOF Joensuu 40.65 39 *e*p **P 07 17 04.0 +0.3**
comp=Z,9.9nm,0.9s,mb4.4
RES Resolute Bay 41.19 339 *e*P **P 07 17 08.2 0.0**
RES pmax pmax

comp=Z,3.0nm,1.0s,mb3.9
RES Resolute Bay 41.19 339 *e*P **P 07 17 08.2 0.0**
comp=Z,3.4nm,1.0s,mb3.9
RES Resolute Bay 41.19 339 *e*P **P 07 17 08.2 0.0**
comp=Z,3.4nm,1.0s,mb3.9
AKASG Malin Array Be 41.40 58 P **P 07 17 09.6 -0.3**
comp=Z,4.6nm,0.9s,mb4.1,baz=283,slow=7.9,SNR=12
AKASG Malin Array Be 41.40 58 P **P 07 17 09.6 -0.3**
SWET Sewanee 41.55 277 *e*P **P 07 17 10.9 -0.2**
SWET *e*pP pP 07 17 21.4 +7.1
SWET Sewanee 41.55 277 *e*P **P 07 17 10.9 -0.2**
SWET *e*pP pP 07 17 21.4 +7.2
TORD Torodi Ar. Bea 42.22 126 P **P 07 17 16.8 +0.1**
comp=Z,1.3nm,0.9s,mb3.5,baz=320,slow=7.6,SNR=5.4
ULM Lac du Bonnet 42.62 302 P **P 07 17 19.2 -0.7**
comp=Z,1.1nm,0.7s,mb3.7,baz=56,slow=9.9,SNR=3.2
ULM LR LR 07 34 04.3
comp=Z,95nm,19.5s,MS3.7,baz=113,slow=35
ULM Lac du Bonnet 42.62 302 P **P 07 17 19.2 -0.7**
ULM LR LR 07 34 04.3
DBIC Dimbokro 44.09 139 P **P 07 17 31.6 -0.2**
comp=Z,3.0nm,0.8s,mb4.1,baz=285,slow=12,SNR=2.4
DBIC LR LR 07 33 04.0
comp=Z,78nm,18.4s,MS3.7,baz=181,slow=32
OXF Oxford 44.39 278 *e*P **P 07 17 32.2 -1.9**
OXF pmax pmax

comp=Z,36nm,0.9s,mb5.1
OXF Oxford 44.39 278 *e*P **P 07 17 32.2 -2.0**
comp=Z,36nm,0.9s,mb5.1
OXF Oxford 44.39 278 *e*P **P 07 17 32.2 -1.9**
comp=Z,36nm,0.9s,mb5.1
OBN Obninsk 44.55 50‖ *e*P **P 07 17 35.6 +0.2**
OBN *e*SS SS 07 27 28.5 -2.0
OBN pmax pmax

comp=Z,6.0nm,0.3s,mb4.9
OBN MLR MLR

comp=Z,100nm,17.0s,MS3.8
OBN Obninsk 44.55 50 *e*ScS ScS 07 27 28.5 -5.1
comp=Z,100nm,17.0s
FFC Flin Flon 44.96 310 *e*P **P 07 17 39.0 +0.3**
FFC pmax pmax

comp=Z,5.0nm,0.8s,mb4.4
FFC Flin Flon 44.96 310 *e*P **P 07 17 39.0 +0.3**
comp=Z,4.8nm,0.8s,mb4.4
FFC Flin Flon 44.96 310 *e*P **P 07 17 39.0 +0.3**
comp=Z,4.8nm,0.8s,mb4.4
KSU1 Kansas State U 47.30 288 *e*P **P 07 17 56.6 -0.6**
KSU1 Kansas State U 47.30 288 *e*P **P 07 17 56.6 -0.5**
MIAR Mount Ida 47.35 281 *e*P **P 07 17 57.0 -0.5**
MIAR *e* 07 19 27.8
MIAR pmax pmax

comp=Z,17nm,1.0s,mb4.9
MIAR Mount Ida 47.35 281 *e*P **P 07 17 57.0 -0.5**
comp=Z,17nm,1.0s,mb4.9
MIAR *e*pP pP 07 18 07.7 +7.0
MIAR *e*PcP PcP 07 19 27.8 -0.5
MIAR Mount Ida 47.35 281 *e*P **P 07 17 57.0 -0.5**
comp=Z,17nm,1.0s,mb4.9
MIAR *e*pP pP 07 18 07.7 +7.0
BRTR Keskin Array B 48.32 71 P **P 07 18 05.8 +0.7**
comp=Z,2.0nm,0.9s,mb4.1,baz=290,slow=5.1,SNR=9.9
BRTR Keskin Array B 48.32 71‖ *e*P **P 07 18 05.8 +0.8**
YKA Yellowknife Ar 49.05 322 P **P 07 18 10.2 -0.4**
comp=Z,1.6nm,0.8s,mb4.1,baz=68,slow=7.2,SNR=21
YKA PcP PcP 07 19 32.7 -1.7
comp=Z,2.0nm,0.8s,baz=72,slow=4.0,SNR=19
YKA LR LR 07 36 00.3
comp=Z,55nm,20.1s,MS3.5,baz=95,slow=33
YKA Yellowknife Ar 49.05 322 P **P 07 18 10.2 -0.5**
YKA 07 19 32.7
YKA Yellowknife Ar 49.05 322 P **P 07 18 10.2 -0.5**
YKA PcP PcP 07 19 32.7 -1.7
YKA LR LR 07 36 00.3
YKA Yellowknife Ar 49.05 322 PcP PcP 07 19 32.7 -1.7
LAO LASA Array 50.32 301 *e*P **P 07 18 21.0 +0.7**
comp=Z,7.7nm,0.8s,mb4.8
LAO LASA Array 50.32 301 *e*P **P 07 18 21.0 +0.7**
comp=Z,7.7nm,0.8s,mb4.8
EDM Edmonton 51.78 311 *e*P **P 07 18 31.5 +0.2**
EGMT Eagleton 51.91 304 *e*P **P 07 18 32.6 +0.4**
comp=Z,13nm,1.1s,mb4.8
EGMT Eagleton 51.91 304 *e*P **P 07 18 32.6 +0.3**
comp=Z,13nm,1.1s,mb4.8
PHWY Pilot Hill 52.26 294 *e*P **P 07 18 35.1 +0.2**
PHWY Pilot Hill 52.26 294 *e*P **P 07 18 35.1 +0.2**
MALT Malatya 52.27 70 *e*P **P 07 18 34.5 -0.4**
MALT pmax pmax

comp=Z,2.0nm,0.6s,mb4.2
MALT Malatya 52.27 70 *e*P **P 07 18 34.5 -0.5**
comp=Z,2.4nm,0.6s,mb4.3
MALT Malatya 52.27 70 *e*P **P 07 18 34.5 -0.4**
comp=Z,2.4nm,0.6s,mb4.3
GCMT Greycliff 52.86 301 *e*P **P 07 18 39.8 +0.5**
GCMT Greycliff 52.86 301 *e*P **P 07 18 39.8 +0.5**
ISCO Idaho Springs 53.10 293 *e*P **P 07 18 41.1 0.0**
ISCO pmax pmax

comp=Z,3.0nm,1.0s,mb4.2
ISCO Idaho Springs 53.10 293 *e*P **P 07 18 41.1 0.0**
comp=Z,3.4nm,1.0s,mb4.2
ISCO Idaho Springs 53.10 293 *e*P **P 07 18 41.1 0.0**
comp=Z,3.4nm,1.0s,mb4.2
ROSC El Rosal 53.41 236 LR LR 07 37 44.8
comp=Z,54nm,20.0s,MS3.6,baz=105,slow=32
HRY Holter Researc 53.76 303 *e*P **P 07 18 45.5 -0.5**
HRY Holter Researc 53.76 303 *e*P **P 07 18 45.5 -0.5**
LKWY Lake 53.89 300 P **P 07 18 47.7 +0.8**
LKWY pmax pmax

comp=Z,2.0nm,0.6s,mb4.2
LKWY Lake 53.89 300 P **P 07 18 47.6 +0.7**
comp=Z,2.4nm,0.6s,mb4.3
LKWY Lake 53.89 300 P **P 07 18 47.7 +0.8**
comp=Z,2.4nm,0.6s,mb4.3
WALA Waterton Lakes 53.91 306 *e*P **P 07 18 47.4 +0.4**
comp=Z,23nm,1.0s,mb5.1
WALA Waterton Lakes 53.91 306 *e*P **P 07 18 47.4 +0.3**
comp=Z,23nm,1.0s,mb5.1
INK Inuvik 54.06 333 P **P 07 18 47.8 -0.3**
comp=Z,8.0nm,0.9s,mb4.6,baz=46,slow=10,SNR=4.3
INK Inuvik 54.06 333 *e*P **P 07 18 47.5 -0.6**
INK pmax pmax

comp=Z,8.0nm,0.9s
INK Inuvik 54.06 333 *e*P **P 07 18 47.5 -0.7**
comp=Z,7.9nm,0.9s,mb4.6
INK Inuvik 54.06 333 *e*P **P 07 18 47.5 -0.6**
comp=Z,7.9nm,0.9s,mb4.6
PDAR Pinedale Array 54.23 298 P **P 07 18 48.6 -0.8**
comp=Z,6.0nm,0.8s,mb4.6,baz=62,slow=8.5,SNR=51
PDAR LR LR 07 40 48.4
comp=Z,51nm,18.2s,MS3.6,baz=197,slow=35
FLWY Flagg Ranch 54.31 300 *e*P **P 07 18 49.7 -0.3**
comp=Z,9.3nm,0.8s,mb4.8
FLWY Flagg Ranch 54.31 300 *e*P **P 07 18 49.7 -0.3**
comp=Z,9.3nm,0.8s,mb4.8
SMCO Snowmass 54.32 293 *e*P **P 07 18 50.6 +0.6**
comp=Z,7.2nm,0.9s,mb4.6
MOOW Moose Ponds 54.50 299 *e*P **P 07 18 51.4 0.0**
comp=Z,23nm,1.5s,mb5.0
MOOW Moose Ponds 54.50 299 *e*P **P 07 18 51.4 0.0**
comp=Z,23nm,1.5s,mb5.0
CHMT Chamberlain Mo 54.52 304 *e*P **P 07 18 51.6 0.0**
CHMT *e*PcP PcP 07 19 54.2 -0.6
CHMT Chamberlain Mo 54.52 304 *e*P **P 07 18 51.6 +0.1**
CHMT Chamberlain Mo 54.52 304 *e*PcP PcP 07 19 54.2 -0.6
IMW Indian Meadow 54.55 300 *e*P **P 07 18 52.2 +0.5**
comp=Z,16nm,0.8s,mb5.1
IMW Indian Meadow 54.55 300 *e*P **P 07 18 52.2 +0.5**
comp=Z,16nm,0.8s,mb5.1
REDW Red Top Meadow 54.76 299 *e*P **P 07 18 53.5 +0.3**
comp=Z,24nm,1.3s,mb5.1
REDW Red Top Meadow 54.76 299 *e*P **P 07 18 53.5 +0.3**
comp=Z,24nm,1.3s,mb5.1
TPAW Teton Pass 54.76 299 *e*P **P 07 18 53.5 +0.3**
comp=Z,8.5nm,0.9s,mb4.8
TPAW Teton Pass 54.76 299 *e*P **P 07 18 53.5 +0.3**
comp=Z,8.5nm,0.9s,mb4.8
DLMT Dillon 54.87 302 *e*P **P 07 18 54.6 +0.5**
comp=Z,15nm,1.3s,mb4.9
DLMT Dillon 54.87 302 *e*P **P 07 18 54.6 +0.5**
comp=Z,15nm,1.3s,mb4.9
MSO Missoula 54.98 304 *e*P **P 07 18 55.0 +0.1**
comp=Z,6.6nm,1.1s,mb4.6
MSO *e*PcP PcP 07 19 54.2 -2.4
MSO Missoula 54.98 304 *e*P **P 07 18 55.0 +0.2**
comp=Z,6.6nm,1.1s,mb4.6
MSO Missoula 54.98 304 *e*PcP PcP 07 19 54.2 -2.4
MCMT McKenzie Canyo 55.29 301 *e*P **P 07 18 57.4 +0.3**
MCMT McKenzie Canyo 55.29 301 *e*P **P 07 18 57.4 +0.3**
ARU Arti 55.58 42 P **P 07 18 58.2 -1.0**
ARU pmax pmax

comp=Z,2.0nm,0.5s,mb4.4
ARU Arti 55.58 42 P **P 07 18 58.2 -1.0**
comp=Z,2.0nm,0.5s,mb4.4
ARU Arti 55.58 42 P **P 07 18 58.2 -1.0**
comp=Z,2.0nm,0.5s,mb4.4
NEW Newport 56.16 307 P **P 07 19 03.0 -0.3**
comp=Z,11nm,0.9s,mb4.9,baz=71,slow=7.1,SNR=17
NEW Newport 56.16 307 *e*P **P 07 19 03.4 +0.1**
NEW pmax pmax

comp=Z,15nm,1.0s
NEW Newport 56.16 307 *e*P **P 07 19 03.4 0.0**
comp=Z,15nm,1.0s,mb5.0
NEW Newport 56.16 307 *e*P **P 07 19 03.4 +0.1**
comp=Z,15nm,1.0s,mb5.0
ANMO Albuquerque 56.19 288 P **P 07 19 03.9 +0.4**
comp=Z,11nm,0.8s,mb4.2,baz=76,slow=7.4,SNR=9.5
ANMO Albuquerque 56.19 288*c i*P **P 07 19 04.2 +0.7**
ANMO Albuquerque 56.19 288 P **P 07 19 03.9 +0.4**
GDL2 Guadalupe Moun 56.24 284 P **P 07 18 58.8 -5.1**
DAU Daniels Canyon 56.51 296 *e*P **P 07 19 06.6 +0.8**
HVU Hansel Valley 56.78 298 *e*P **P 07 19 07.7 -0.1**
HVU pmax pmax

comp=Z,5.0nm,0.9s,mb4.5
HVU Hansel Valley 56.78 298 *e*P **P 07 19 07.7 -0.1**
comp=Z,4.9nm,0.9s,mb4.5
HVU Hansel Valley 56.78 298 *e*P **P 07 19 07.7 -0.1**
comp=Z,4.9nm,0.9s,mb4.5
TMUT Trail Mountain 57.07 295 *e*P **P 07 19 10.5 +0.7**
BGU Big Grassy Mou 57.39 297 *e*P **P 07 19 18.4 +6.3**
DUG Dugway 57.64 297 *e*P **P 07 19 13.8 0.0**
DUG pmax pmax

comp=Z,19nm,1.2s,mb5.0
DUG Dugway 57.64 297 *e*P **P 07 19 13.8 0.0**
comp=Z,19nm,1.2s,mb5.0
DLBC Dease Lake 57.67 322 P **P 07 19 14.8 +0.7**
comp=Z,4.1nm,0.9s,mb4.5,baz=28,slow=10,SNR=7.0
MSU Marysvale 58.13 295 *e*P **P 07 19 17.6 +0.4**
MSU Marysvale 58.13 295 *e*P **P 07 19 17.5 +0.3**
MVU Marysvale 58.15 295 *e*P **P 07 19 27.9 +10**
DAWY Dawson 58.33 330 *e*P **P 07 19 18.6 -0.1**
WUAZ Wupatki 59.23 291 *e*P **P 07 19 26.2 +1.2**
comp=Z,12nm,1.3s,mb4.8
WUAZ Wupatki 59.23 291 *e*P **P 07 19 26.2 +1.2**
comp=Z,12nm,1.3s,mb4.8
ARUT Antelope Range 59.35 295 *e*P **P 07 19 26.5 +0.7**
CCUT Cedar City 59.44 294 *e*P **P 07 19 26.7 +0.3**
CCUT *e*pP pP 07 19 37.8 +8.3
CCUT Cedar City 59.44 294 *e*P **P 07 19 26.7 +0.4**
ILAR Eielson Array 60.46 333 P **P 07 19 33.6 +0.2**
comp=Z,2.5nm,0.7s,mb4.4,baz=41,slow=6.2,SNR=14
ILAR PcP PcP 07 20 17.4 -0.7
comp=Z,1.1nm,0.9s,baz=3.1,slow=3.2,SNR=4.0
ILAR LR LR 07 44 33.9
comp=Z,65nm,18.2s,MS3.8,baz=179,slow=35
ILAR Eielson Array 60.46 333 P **P 07 19 33.6 +0.2**
ILAR 07 20 17.4
ILAR Eielson Array 60.46 333 PcP PcP 07 20 17.4 -0.7
COLA College 60.70 334 *i* P **P 07 19 35.5 +0.4**
COLA College 60.70 334 *e*P **P 07 19 35.2 +0.1**
comp=Z,5.7nm,1.1s,mb4.6
COLA College 60.70 334 *e*P **P 07 19 35.2 +0.1**
comp=Z,5.7nm,1.1s,mb4.6
BDFB Brasilia 60.73 197 LR LR 07 41 09.1
comp=Z,119nm,18.9s,MS4.1,baz=83,slow=31
NVAR Mina Array Bea 62.16 298 P **P 07 19 44.7 -0.2**
comp=Z,1.0nm,0.8s,mb4.0,baz=62,slow=7.4,SNR=9.5
NVAR PcP PcP 07 20 26.1 +1.1
comp=Z,0.8nm,0.8s,baz=243,slow=2.7,SNR=4.6
NVAR Mina Array Bea 62.16 298 P **P 07 19 44.7 -0.2**
NVAR PcP PcP 07 20 26.1 +1.1
YBH Yreka Blue Hor 63.02 303 P **P 07 19 49.4 -1.2**
comp=Z,1.8nm,0.9s,mb4.2,baz=78,slow=8.0,SNR=3.7
BRVK Borovoye 63.11 41 P **P 07 19 49.1 -2.1**
BRVK pmax pmax

comp=Z,2.0nm,0.7s,mb4.4
BRVK Borovoye 63.11 41 P **P 07 19 49.1 -2.2**
comp=Z,2.1nm,0.7s,mb4.4
BVAR Borovoye Array 63.18 41 P **P 07 19 51.4 -0.3**
comp=Z,1.9nm,0.8s,mb4.3,baz=288,slow=6.1,SNR=9.7
OHCM Honcut 63.66 300 *e*P **P 07 19 54.7 -0.1**
OHCM Honcut 63.66 300 *e*P **P 07 19 54.7 -0.2**
TIXI Tiksi 64.21 6‖ *e*P **P 07 19 58.8 +0.3**
TIXI pmax pmax

comp=Z,8.0nm,1.1s,mb4.7
TIXI Tiksi 64.21 6 *e*P **P 07 19 58.8 +0.3**
comp=Z,8.0nm,1.1s,mb4.7
BILL Bilibino 67.72 353 *i* P **P 07 20 21.4 +0.3**
BILL pmax pmax

comp=Z,10.0nm,2.5s,mb4.4
BILL Bilibino 67.72 353 *i* P **P 07 20 21.4 +0.3**
comp=Z,10.0nm,2.5s,mb4.4
LPAZ La Paz 68.03 217 P **P 07 20 22.8 -0.3**
comp=Z,2.1nm,0.9s,mb4.2,baz=32,slow=8.0,SNR=8.3
KURK Kurchatov 68.56 40*c i*P **P 07 20 25.9 -0.5**
KURK Kurchatov 68.56 40 *e*P **P 07 20 25.3 -1.1**
comp=Z,1.6nm,0.7s,mb4.1
KURK Kurchatov 68.56 40 *i* P **P 07 20 25.9 -0.5**
ZAL Zalesovo 68.98 34 P **P 07 20 28.2 -0.7**
comp=Z,1.0nm,0.4s,mb4.1,baz=229,slow=6.3,SNR=3.5
ZAL LR LR 07 51 51.3
comp=Z,75nm,18.2s,MS4.0,baz=257,slow=37
ZAL Zalesovo 68.98 34 *i* P **P 07 20 30.2 +1.2**
ZAL pmax pmax

comp=Z,1.0nm,0.4s
ZAL Zalesovo 68.98 34 P **P 07 20 28.2 -0.8**
AAK Ala-Archa 72.03 48 *e*P **P 07 20 48.3 +0.7**
AAK pmax pmax

comp=Z,1.0nm,0.4s,mb4.1
AAK Ala-Archa 72.03 48 *e*P **P 07 20 48.3 +0.7**
comp=Z,0.6nm,0.4s,mb3.9
AAK Ala-Archa 72.03 48 *e*P **P 07 20 48.3 +0.7**
comp=Z,1.0nm,0.4s,mb4.1
MKAR Makanchi Array 73.05 41 P **P 07 20 53.0 -0.7**
comp=Z,1.8nm,0.8s,mb4.1,baz=321,slow=5.7,SNR=13
YAK Yakutsk 73.66 9‖ *e*P **P 07 20 56.9 -0.4**
YAK pmax pmax

comp=Z,18nm,0.7s,mb5.1
YAK Yakutsk 73.66 9 *e*P **P 07 20 56.9 -0.4**
comp=Z,18nm,0.7s,mb5.1
BOD Bodaibo 75.06 18 *e*P **P 07 21 03.8 -1.6**
BOD pmax pmax

comp=Z,4.0nm,1.1s,mb4.3
BOD Bodaibo 75.06 18 *e*P **P 07 21 03.8 -1.6**
comp=Z,4.0nm,1.1s,mb4.3
MA2 Magadan 77.08 358*ce*P **P 07 21 16.9 0.0**
MA2 *e*S S 07 31 02.9 -2.8
MA2 pmax pmax

comp=Z,10.0nm,1.1s,mb4.7
MA2 Magadan 77.08 358 *e*P **P 07 21 16.9 0.0**
comp=Z,10.0nm,1.1s,mb4.7
MA2 *e*S S 07 31 02.9 -2.8
WMQ Urumqi 77.81 40 *e*P **P 07 21 21.8 +0.8**
WMQ AP pP 07 21 26.3 +2.0
WMQ XP sP 07 21 28.8 +3.3
WMQ PCP PcP 07 21 32.0 +1.1
WMQ PP PP 07 24 19.8 +3.3
WMQ *e*S S 07 31 13.3 -0.3
WMQ AMB AMB

comp=Z,4.0nm,0.9s,mb4.3
WMQ LR LR

comp=N,33nm,21.8s,MS3.8
WMQ LR LR

comp=E,36nm,24.5s,MS3.8
WMQ LR LR

comp=Z,38nm,22.6s,MS3.7
SONM Songino Array 81.92 27 P **P 07 21 43.7 +0.4**
comp=Z,2.6nm,0.8s,mb4.2,baz=322,slow=6.5,SNR=7.2
ULN Ulaanbaatar 82.11 26 *e*P **P 07 21 44.0 -0.2**
ULN pmax pmax

comp=Z,2.0nm,0.9s,mb4.0
ULN Ulaanbaatar 82.11 26 *e*P **P 07 21 44.0 -0.3**
comp=Z,2.3nm,0.9s,mb4.1
ULN Ulaanbaatar 82.11 26 *e*P **P 07 21 44.0 -0.2**
comp=Z,2.0nm,0.9s,mb4.0
HHC Hu-ho-hao-te 89.82 26 *e*P **P 07 22 22.4 0.0**
HHC AP pP 07 22 27.3 +1.6
HHC XP sP 07 22 31.2 +4.3
HHC PP PP 07 25 56.7 +2.0
HHC SKS 07 32 50.1
HHC S 07 33 11.0
HHC XS sS 07 33 18.7 -1.4
HHC PS PS 07 34 20.5 -0.6
HHC SS SS 07 39 11.6 +0.1
HHC AMB AMB

comp=Z,17nm,1.1s,mb5.3
HHC AMB AMB

comp=Z,64nm,6.9s
HHC LR LR

comp=Z,64nm,19.9s,MS4.0
MDJ Mudanjiang 90.64 13 P **P 07 22 24.5 -1.7**
MDJ AP pP 07 22 27.8 -1.8
MDJ XP sP 07 22 29.1 -1.6
MDJ PP PP 07 25 58.7 -2.5
MDJ S 07 33 19.6
MDJ XS sS 07 33 25.5 -2.1
MDJ SS SS 07 39 21.5 -1.9
MDJ AMB AMB

comp=Z,5.0nm,0.9s,mb4.8
MDJ LR LR

comp=Z,26nm,23.1s,MS3.6
CN2 Changchun 90.69 16 *e*P **P 07 22 25.0 -1.4**
CD2 Chengdu 95.64 37 *e*P **P 07 22 47.6 -1.6**
CD2 AMB AMB

comp=Z,10.0nm,0.9s,mb5.2
NJ2 Nanjing 100.19 24 *e*P Pdif 07 23 11.1 +1.4
NJ2 AP 07 23 16.0
NJ2 PP PP 07 27 19.1 +3.7
NJ2 S Sdif 07 34 43.0 -2.2
NJ2 XS 07 34 52.0
SSE Sheshan 101.77 23 *e*P Pdif 07 23 14.4 -2.3
VNDA Vanda 145.55 185 PKPbc PKPbc 07 28 59.7 -2.4
comp=Z,1.8nm,0.9s,baz=231,slow=4.4,SNR=6.2
WRA Warramunga Arr 153.87 29 PKPbc PKPbc 07 29 25.5 +2.5
comp=Z,0.2nm,0.6s,baz=331,slow=2.6,SNR=3.6
ASAR Alice Springs 157.09 34 PKPab PKPab 07 29 49.5 -0.3
comp=Z,1.2nm,0.7s,baz=332,slow=3.8,SNR=10

MAN 06 07:09:33.4, 822N×12363E, h7km, mb2.5, ML4.0, MS0.5, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**0.45**	**214**	*e*P		Pg	07 09 42.5	+0.4
DCPH	**Dipolog City**	**0.46**	**322**‖	*i*P		Pg	07 09 42.8	+0.6
DCPH				*i* S		Sg	07 09 51.3	+3.1
IPIL	**Ipil**	**1.14**	**248**‖	*e*P		Pg	07 09 53.9	-1.3
IPIL				*i* S		Sg	07 10 08.8	-1.2
IPIL	**Ipil**	**1.14**	**248**	*e*P		Pg	07 09 54.8	-0.4
SNPH	**Sibulan**	**1.18**	**341**‖	*e*P		Pg	07 09 55.0	-1.1
BUKP	**Musuan**	**1.45**	**103**	*e*P		Pn	07 10 01.1	+1.1

ISCJB ***06*** *07:12:23.8±0.6, 8.18N±0.03×123.62E±0.04, h27km±5km, mb4.2/13, Error ellipse: s-maj=6.3km s-min=4.6km az=158.1*
MAN ***06*** *07:12:23.2, 8.19N×123.60E, h11km, mb3.3, ML4.5, MS1.4*
MAN F DIPOLOG CITY INTENSITY II.
IDC ***06*** *07:12:37.7±14.0, 8.15N×123.22E, h132km±139km, mb3.6/8, mb1 3.7/8, mb1mx3.5/21, mbtmp4.0/8, Error ellipse: s-maj=57.2km s-min=21.9km az=52.0*

ISC 06 07:12:23.9±0.7, 8.18N±0.03×123.64E±0.04, h17km±5.5km, n34, σ1s06/43, mb4.2/13, 5C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**0.42**	**217**	*e*P		**Pg**	**07 12 32.0**	**-0.4**
PAGZ				*e*S		**Sg**	**07 12 38.7**	**+0.6**
DCPH	**Dipolog City**	**0.49**	**325**‖	*i*P		**Pg**	**07 12 32.7**	**-1.1**
DCPH				*i* S		**Sg**	**07 12 41.2**	**+0.9**
CGP	**Cagayan de Oro**	**1.08**	**75**‖	*e*P		**Pb**	**07 12 40.5**	**-3.7**
CGP				*i* S		**Sb**	**07 12 55.0**	**-3.0**
IPIL	**Ipil**	**1.13**	**250**‖	*e*P		**Pn**	**07 12 43.5**	**-1.5**
IPIL				*i* S		**Sb**	**07 12 58.5**	**-0.9**
IPIL	**Ipil**	**1.13**	**250**	*e*P		**Pn**	**07 12 43.5**	**-1.4**
CTBH	**Cotabato--PC H**	**1.13**	**148**‖	*i*P		**Pn**	**07 12 43.4**	**-1.5**

CTBH				*i* S		**Sb**	**07 12 59.2**	**-0.2**
SNPH	**Sibulan**	**1.22**	**341**	*i*P		**Pn**	**07 12 45.0**	**-1.2**
SNPH				*i* S		**Sb**	**07 13 03.0**	**+1.0**
BUKP	**Musuan**	**1.44**	**102**	*e*P		**Pn**	**07 12 49.4**	**+0.2**
TBP	**Tagbilaran**	**1.52**	**8**	*i* P		**Pn**	**07 12 49.3**	**-0.9**
TBP				*e*S		**Sn**	**07 13 08.7**	**-0.9**
KCP	**Kidapawan**	**1.85**	**129**	*e*P		**Pn**	**07 12 55.8**	**+0.9**
LLP	**Lapu-Lapu**	**2.15**	**9**	*e*P		**Pn**	**07 12 58.8**	**-0.1**
LLP				*i* S		**Sn**	**07 13 26.8**	**+1.6**
DAV	**Davao City (W)**	**2.22**	**120**	*e*P		**Pn**	**07 13 03.1**	**+3.2**
MSLP	**Maasin**	**2.28**	**32**	*e*P		**Pn**	**07 13 01.2**	**+0.3**
SCPH	**Surigao**	**2.42**	**49**	*e*P		**Pn**	**07 12 56.2**	**-6.6**
GUIM	**Jordan**	**2.64**	**337**	*e*P		**Pn**	**07 13 05.0**	**-0.7**
BIPH	**Bislig**	**2.70**	**90**	*i*P		**Pn**	**07 13 10.7**	**+4.2**
BIPH				*i* S		**Sn**	**07 13 44.0**	**+5.3**
CUYO	**Cuyo Island**	**3.70**	**316**	*e*P		**Pn**	**07 13 21.9**	**+1.5**
ENPP	**El Nido**	**5.13**	**306**	*e*P		**Pn**	**07 13 40.9**	**+0.9**
PSI	**Prapat**	**25.16**	**259**	P		**P**	**07 17 48.3**	**0.0**
	4.2nm,0.8s,mb4.0,baz=250,slow=13,SNR=3.7							
FITZ	**Fitzroy Crossi**	**26.19**	**176**	P		**P**	**07 18 00.1**	**+2.5**
	4.1nm,0.8s,mb4.0,baz=254,slow=2.1,SNR=5.8							
WRA	**Warramunga Arr**	**29.87**	**159**	P		**P**	**07 18 35.2**	**+4.7**
	0.8nm,0.9s,mb3.5,baz=331,slow=10,SNR=5.1							
ASAR	**Alice Springs**	**33.20**	**163**	P		**P**	**07 19 01.5**	**+1.7**
	0.9nm,0.8s,mb3.8,baz=346,slow=8.4,SNR=7.0							
JIRN	**Jiri**	**40.32**	**304**	*e*P		**P**	**07 20 01.2**	**+0.8**
	17nm,0.7s,mb4.9							
GUN	**Gumba**	**40.67**	**304**	*e*P		**P**	**07 20 03.9**	**+0.6**
	23nm,0.7s,mb4.9							
PKI	**Pulchoki**	**40.94**	**303**	*e*P		**P**	**07 20 05.5**	**0.0**
KKN	**Kakani**	**41.12**	**303**	*e*P		**P**	**07 20 07.0**	**0.0**
DMN	**Daman**	**41.20**	**303**	*e*P		**P**	**07 20 07.9**	**+0.2**
	15nm,0.8s,mb4.7							
GKN	**Gorkha**	**41.73**	**303**	*e*P		**P**	**07 20 11.6**	**-0.4**
KOLN	**Koldanda**	**42.51**	**302**	*e*P		**P**	**07 20 18.7**	**+0.3**
	21nm,0.7s,mb5.0							
STKA	**Stephens Creek**	**43.37**	**158**	P		**P**	**07 20 25.4**	**+0.1**
	3.3nm,0.7s,mb4.2,baz=326,slow=14,SNR=4.3							
MKAR	**Makanchi Array**	**52.17**	**325**	P		**P**	**07 21 32.9**	**-0.7**
	1.5nm,0.8s,mb4.0,baz=128,slow=7.9,SNR=8.6							
BVAR	**Borovoye Array**	**61.94**	**327**	P		**P**	**07 22 41.7**	**-1.0**
	1.3nm,0.8s,mb4.1,baz=131,slow=6.7,SNR=5.4							
BRTR	**Keskin Array B**	**84.84**	**309**	P		**P**	**07 24 57.0**	**-0.6**
	1.7nm,0.8s,mb4.2,baz=111,slow=7.0,SNR=8.6							
AKASG	**Malin Array Be**	**86.52**	**321**	P		**P**	**07 25 04.4**	**-1.6**
	0.8nm,0.5s,mb4.2,baz=74,slow=4.2,SNR=5.5							

*ISCJB **06** 07:14:04.1±0.6,6628N±004×14196W±009,h10km,Error ellipse: s-maj=5.7km s-min=5.5km az=30.5*
*NEIC **06** 07:14:04.8,6629N×14228W,h1km,ML2.8(PGC), ML2.9(AEIC),After AEIC.*
*PGC **06** 07:14:07.0,6623N×14179W,h1km,ML2.8/2,265km northwest of Dawson, Yt Northern Yukon - Alaska border.*

ISC 06 07:14:04.9±0.5,6630N±004×14193W±008,h10km,n16, σ1§13/30,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BM3	**Burnt Mountain**	**1.54**	**318**	P		**Pn**	**07 14 31.6**	**-0.8**
BM3				S		**Sn**	**07 14 52.9**	**+0.4**
DAWY	**Dawson**	**2.49**	**153**	Pn		**Pn**	**07 14 46.9**	**+1.5**
DAWY				Sn		**Sn**	**07 15 17.1**	**+1.3**
DAWY				Sg		**Sg**	**07 15 22.4**	**-2.4**
DAWY				Trac			07 15 26.4	
	comp=Z,11nm,0.2s							
DAWY	**Dawson**	**2.49**	**153**	Pn		**Pn**	**07 14 46.9**	**+1.5**
DAWY				*e*Sn		**Sn**	**07 15 17.1**	**+1.3**
DAWY				*e*Sg		**Sg**	**07 15 22.4**	**-2.4**
IL1	**Eielson Array**	**2.57**	**236**	P		**Pn**	**07 14 46.0**	**-0.5**
IL1				S		**Sn**	**07 15 18.2**	**+0.3**
DOT	**Dot Lake**	**2.81**	**200**	P		**Pn**	**07 14 50.4**	**+0.5**
COLA	**College**	**2.85**	**242**	P		**Pn**	**07 14 50.2**	**-0.2**
COLA				S		**Sn**	**07 15 25.1**	**+0.5**
COLD	**Coldfoot**	**3.41**	**290**	P		**Pn**	**07 14 57.3**	**-0.7**
MENT	**Mentasta**	**3.46**	**194**	P		**Pn**	**07 14 59.0**	**+0.2**
INK	**Inuvik**	**3.83**	**54**	Pn		**Pn**	**07 15 06.1**	**+2.2**
INK				Sn		**Sn**	**07 15 50.1**	**+1.1**
INK				Sg		**Sg**	**07 16 06.6**	**-1.3**
INK				Trac			07 16 13.2	
	comp=Z,16nm,0.5s							
INK	**Inuvik**	**3.83**	**54**	*e*Pn		**Pn**	**07 15 06.1**	**+2.2**
INK				*e*Sn		**Sn**	**07 15 51.8**	**+2.9**
TRF	**Thorofare Moun**	**4.57**	**235**	P		**Pn**	**07 15 13.4**	**-0.6**
IM3	**Indian Mountai**	**4.81**	**272**	P		**Pn**	**07 15 17.0**	**-0.3**
HYT	**Haines Junctio**	**5.84**	**158**	Pn		**Pn**	**07 15 35.5**	**+4.0**
HYT				Sg		**Sg**	**07 17 05.7**	**-6.6**
HYT				Trac			07 17 14.5	
	comp=Z,4.0nm,0.5s							
HYT	**Haines Junctio**	**5.84**	**158**	*e*Pn		**Pn**	**07 15 35.5**	**+4.0**
HYT				*e*Sg		**Sg**	**07 17 05.7**	**-6.6**
YKW3	**Yellowknife Ar**	**12.32**	**95**	Pn		**Pn**	**07 16 58.7**	**-1.6**
YKW3				Sn		**Sn**	**07 19 11.5**	**-6.2**
YKW3				Trac			07 19 33.3	
	comp=Z,1.0nm,0.7s							
YKW3	**Yellowknife Ar**	**12.32**	**95**	*e*Pn		**Pn**	**07 16 58.7**	**-1.6**
YKW3				*e*Sn		**Sn**	**07 19 11.5**	**-6.2**

MAN 06 07:14:38.7,815N×12363E,h10km,mb3.8,ML4.8,MS2.3, 3C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PAGZ	**Pagadian**	**0.39**	**219**	*e*P		Pg	07 14 47.7	+1.3
DCPH	**Dipolog City**	**0.51**	**327**	*i*P		Pg	07 14 48.4	-0.3
DCPH				*i* S		Sg	07 14 56.0	+0.6
CTBH	**Cotabato--PC H**	**1.11**	**147**	*i*P		Pb	07 14 58.2	-1.8
CTBH				*i* S		Sg	07 15 12.9	-1.5
IPIL	**Ipil**	**1.11**	**251**	*e*P		Pb	07 14 59.2	-0.8
IPIL				*e*S		Sg	07 15 14.9	+0.3
IPIL	**Ipil**	**1.11**	**251**	*e*P		Pb	07 14 59.1	-0.9
SNPH	**Sibulan**	**1.25**	**342**	*i* P		Pn	07 15 01.0	-1.2
SNPH				*i* S		Sb	07 15 23.0	+4.5
BUKP	**Musuan**	**1.44**	**101**	*e*P		Pn	07 15 04.6	-0.2
TBP	**Tagbilaran**	**1.55**	**8**	*e*P		Pn	07 15 06.3	-0.1
TBP				*e*S		Sn	07 15 24.6	-1.8
GUIM	**Jordan**	**2.67**	**337**	*e*P		Pn	07 15 23.0	+1.3

*ISCJB **06** 07:29:42.4±0.3,4350N±002×1765E±003,h10km,Error ellipse: s-maj=3.9km s-min=2.1km az=73.6*
*PDG **06** 07:29:43.3±0.3,4350N×1775E,h0km±1km*
*NEIC **06** 07:29:43.3,4350N×1775E,h0km,ML2.9(PDG), ML3.1(LDG),After PDG.*
*CSEM **06** 07:29:43.1±0.1,4349N×1776E,h15km,ML3.1,Error ellipse: s-maj=2.4km s-min=1.4km az=29.0*
*LDG **06** 07:29:45.3±0.1,4345N×1800E,h10km,Ml3.1/7,Error ellipse: s-maj=5.9km s-min=1.9km az=17.0*

ISC 06 07:29:44.1±0.3,4352N±002×1772E±003,h10km,n38, σ1§51/69,9C-10D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STON	**Ston**	**0.65**	**181**	*i* Pg		**Pg**	**07 29 54.5**	**-2.1**
STON				*i* Sg		**Sg**	**07 30 04.8**	**-0.2**
BRY	**Bratogost**	**0.86**	**135**	*i*Pg		**Pg**	**07 29 58.2**	**-2.5**
BRY				*e*Sg		**Sg**	**07 30 12.3**	**+0.4**
TREB	**Trebinje**	**0.92**	**150**	P		**Pg**	**07 29 59.7**	**-2.2**
TREB				S		**Sg**	**07 30 14.7**	**+0.8**
UPM	**Unac-Piva**	**0.92**	**109**	*i*Pg		**Pg**	**07 29 59.9**	**-1.9**
UPM				*e*Sg		**Sg**	**07 30 13.9**	**0.0**
NKY	**Niksic**	**1.17**	**127**	*i*Pg		**Pg**	**07 30 04.4**	**-2.2**
NKY				*e*Sg		**Sg**	**07 30 22.8**	**+1.0**
HCY	**Herceg Novi**	**1.21**	**152**	*i*Pg		**Pg**	**07 30 05.1**	**-2.3**
HCY				*e*Sg		**Sg**	**07 30 23.8**	**+0.7**
PLE	**Pljevlja**	**1.23**	**98**	*i*Pg		**Pg**	**07 30 05.4**	**-2.4**
PLE				*e*Sg		**Sg**	**07 30 24.5**	**+0.6**
BBLS	**Bajina Basta -**	**1.28**	**73**	*i*Pg		**Pg**	**07 30 07.4**	**-1.2**
BBLS				Sg		**Sg**	**07 30 27.5**	**+2.3**
BUM	**Brajici-Budva**	**1.49**	**144**	*e*Pg		**Pg**	**07 30 10.5**	**-2.2**
BUM				*e*Sg		**Sg**	**07 30 33.3**	**+1.2**
TTG	**Podgorica**	**1.57**	**133**	*e*Pg		**Pg**	**07 30 11.7**	**-2.5**
TTG				*e*Sg		**Sg**	**07 30 36.0**	**+1.5**
IVA	**Berane**	**1.72**	**111**	*i*Pn		**Pn**	**07 30 14.7**	**+0.6**
IVA				*e*Sn		**Sn**	**07 30 40.5**	**+4.5**
DIVS	**Divcibare**	**1.75**	**70**	*i*Pn		**Pn**	**07 30 14.6**	**+0.2**
DIVS				Sn		**Sn**	**07 30 37.4**	**+0.7**
PVY	**Plav**	**1.89**	**118**	*e*Pn		**Pn**	**07 30 17.3**	**+0.9**
PVY				*e*Sn		**Sn**	**07 30 44.7**	**+4.4**
ULC	**Ulcinj**	**1.92**	**143**	*e*Pn		**Pn**	**07 30 17.9**	**+1.1**
ULC				*e*Sn		**Sn**	**07 30 45.9**	**+4.9**
NVLJ	**Novalja**	**2.31**	**298**	*i* Pn		**Pn**	**07 30 24.6**	**+2.5**
NVLJ				*i* Sn		**Sn**	**07 30 56.0**	**+5.4**
RHK1	**Bakonya**	**2.59**	**5**	*e*P		**Pn**	**07 30 26.0**	**0.0**
BOJS	**Bojanci**	**2.66**	**319**	*i* Pn		**Pn**	**07 30 28.9**	**+1.9**
BOJS				*i* Sn		**Sn**	**07 31 06.0**	**+6.8**
PKSM	**Moragy**	**2.77**	**13**	*e*Pn		**Pn**	**07 30 28.0**	**-0.6**
PKSM				*e*Sn		**Sn**	**07 31 10.1**	**+8.0**
PERS	**Pernice**	**3.62**	**330**	*i* Pn		**Pn**	**07 30 40.8**	**+0.5**
PERS				*i* Sn		**Sn**	**07 31 22.0**	**-1.1**
VOY	**Vojsko**	**3.71**	**314**	*e*Pn		**Pn**	**07 30 43.8**	**+2.4**
VOY				*e*			07 30 54.7	
VOY				*e*Sn		**Sn**	**07 31 34.3**	**+9.2**
ARSA	**Arzberg**	**4.04**	**338**	*i*Sn		**Sn**	**07 31 33.3**	**-0.1**
ARSA	**Arzberg**	**4.04**	**338**	*i*Pn		**Pn**	**07 30 45.6**	**-0.4**
ARSA				*i*Sn		**Sn**	**07 31 34.8**	**+1.4**
ARSA	**Arzberg**	**4.04**	**338**	*i*Pn		**Pn**	**07 30 45.6**	**-0.4**
ARSA				*i* Sn		**Sn**	**07 31 33.3**	**-0.1**
PSZ	**Piszkesteto**	**4.66**	**18**	*e*PB		**Pb**	**07 31 08.3**	**+2.4**
PSZ				*e*Sg		**Sg**	**07 32 11.5**	**-2.2**
PSZ	**Piszkesteto**	**4.66**	**18**	*e*Pn		**Pn**	**07 30 54.4**	**-0.1**
PSZ	**Piszkesteto**	**4.66**	**18**	*e*Pn		**Pn**	**07 30 54.4**	**-0.1**
MOA	**Molln**	**4.96**	**332**	*i*Sn		**Sn**	**07 31 55.9**	**-0.1**
MOA	**Molln**	**4.96**	**332**	*i*Pn		**Pn**	**07 30 59.0**	**+0.3**
MOA				*i*Sn		**Sn**	**07 31 58.5**	**+2.5**
MOA	**Molln**	**4.96**	**332**	*i*Pn		**Pn**	**07 30 59.0**	**+0.3**
MOA				*i* Sn		**Sn**	**07 31 55.9**	**-0.2**
VYHS	**Vyhne**	**5.04**	**8**	*e*		**Pg**	**07 31 18.1**	**-2.5**
VYHS	**Vyhne**	**5.04**	**8**	*e*SN		**Sn**	**07 31 55.5**	**-2.5**
SBF	**Sospel**	**7.46**	**276**	*e*Pn		**Pn**	**07 31 34.8**	**+1.8**
SBF				*e*Sn		**Sn**	**07 32 56.9**	**-0.8**
	4.2nm,0.3s							
MBDF	**Montbardon**	**7.97**	**283**	*e*Pn		**Pn**	**07 31 41.7**	**+1.7**
MBDF				*e*Sn		**Sn**	**07 33 09.2**	**-1.0**
	0.7nm,0.2s							
LPG	**La Plagne**	**8.09**	**288**	*e*Pn		**Pn**	**07 31 43.5**	**+1.9**
LPG				*e*Sn		**Sn**	**07 33 12.2**	**-0.8**
	0.8nm,0.3s							
LPL	**La Plagne**	**8.10**	**288**	*e*Pn		**Pn**	**07 31 43.6**	**+1.8**
LPL				*e*Sn		**Sn**	**07 33 12.8**	**-0.6**
	2.1nm,0.5s							
ORIF	**Oris-en-Rattie**	**8.62**	**283**	*e*Pn		**Pn**	**07 31 50.7**	**+1.8**
ORIF				*e*Sn		**Sn**	**07 33 24.7**	**-1.4**
	0.7nm,0.4s							
CABF	**La Chapelle**	**8.79**	**295**	*e*Pn		**Pn**	**07 31 52.9**	**+1.6**
CABF				*e*Sn		**Sn**	**07 33 28.5**	**-1.9**
	4.6nm,0.6s							
VIVF	**Saint-Julien-l**	**9.47**	**283**	*e*Pn		**Pn**	**07 32 01.9**	**+1.4**
VIVF				*e*Sn		**Sn**	**07 33 45.0**	**-2.0**
	1.7nm,0.5s							

IDC 06 07:40:01.5±2.6,553S×13114E,h0km,mb3.8/1,mb1 3.8/4, mb1mx3.6/13,mbtmp3.6/4,ML3.6/2,Error ellipse: s-maj=117.9km s-min=28.9km az=78.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.61**	**203**	Pn		Pn	07 43 15.0	-0.7
	0.1nm,0.3s,baz=124,slow=24,SNR=14							
FITZ				Sn		Sn	07 45 34.3	-13
	0.1nm,0.3s,baz=46,slow=17,SNR=2.7							
WRA	**Warramunga Arr**	**14.66**	**168**	Pn		Pn	07 43 29.5	-0.7
	0.4nm,0.3s,baz=350,slow=14,SNR=28							
WRA				Sn		Sn	07 46 02.4	-11
	0.3nm,0.3s,baz=353,slow=23,SNR=5.6							
ASAR	**Alice Springs**	**18.23**	**172**	P		Pn	07 44 17.0	+1.1
	0.2nm,0.3s,baz=355,slow=11,SNR=22							
ASAR				S		Sn	07 47 28.1	-12
	0.0nm,0.3s,baz=356,slow=27,SNR=2.6							
MKAR	**Makanchi Array**	**67.63**	**326**	P		P	07 51 00.4	+0.2
	0.6nm,0.5s,baz=113,slow=9.6,SNR=5.1							

*IDC **06** 08:08:40.6±0.5,1056S×11532E,h0km,mb4.6/20, mb1 4.6/20,mb1mx4.6/21,mbtmp4.6/20,MS2.8/1, Ms1 2.8/1,ms1mx2.3/24,Error ellipse: s-maj=24.2km s-min=12.8km az=61.0*
*ISCJB **06** 08:08:43.2±0.2,1052S±004×11534E±006,h29km, mb4.7/57,MS4.6/1,Error ellipse: s-maj=9.4km s-min=5.0km az=120.1*
*MOS **06** 08:08:43.9±1.1,1047S×11542E,h33km,mb4.9/19,Error ellipse: s-maj=16.1km s-min=7.9km az=112.6*
*BJI **06** 08:08:43.5,1050S×11540E,h32km,mB5.0,mb5.0,Ms4.9, Msz4.7*
*NEIC **06** 08:08:45.6±0.2,1053S×11538E,mb4.9/16,Error ellipse: s-maj=10.8km s-min=5.4km az=59.0*

ISC 06 08:08:45.3±0.2,1058S±004×11536E±006,h31km, h31km±1.2km:pP-P,n121,σ0§98/111,mb4.7/56,MS4.6/1, 4C-3D,South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BJII	**Banjamegara**	**6.45**	**300**	P		**Pn**	**08 10 17.5**	**-0.6**
	196nm,0.9s							
MBWA	**Marble Bar**	**11.32**	**159**	*e*Pn		**Pn**	**08 11 17.6**	**-7.3**
	34nm,0.4s							
FITZ	**Fitzroy Crossi**	**12.45**	**128**	*e*P		**Pn**	**08 11 37.9**	**-2.4**
	4.6nm,0.3s							
FITZ				*e*S		**Sn**	**08 13 41.7**	**-16**
FITZ	**Fitzroy Crossi**	**12.45**	**128**	Pn		**Pn**	**08 11 37.3**	**-2.9**
	0.7nm,0.3s,baz=316,slow=14,SNR=16							
FITZ				Sn		**Sn**	**08 13 46.8**	**-11**
	0.6nm,0.3s,baz=205,slow=13,SNR=5.3							
FITZ				LR		LR	08 16 17.3	
	comp=Z,46nm,20.7s,baz=301,slow=36							
KSI	**Kapahiang**	**14.41**	**298**	P		**Pn**	**08 12 02.8**	**-4.3**
	125nm,0.8s							
SWI	**Sorong**	**18.52**	**60**	P		**Pn**	**08 13 01.2**	**+1.9**
	154nm,0.4s							
WRA	**Warramunga Arr**	**20.52**	**119**	P		**P**	**08 13 21.7**	**+0.9**
	16nm,1.0s,baz=300,slow=11,SNR=48							
WRA				S		**S**	**08 16 57.1**	**-12**
	0.5nm,0.2s,baz=289,slow=24,SNR=5.8							
WRAB	**Tennant Creek**	**20.52**	**119**	*e*P		**P**	**08 13 22.6**	**+1.7**
WRAB	**Tennant Creek**	**20.52**	**119**	*e*P		**P**	**08 13 22.5**	**+1.6**
	22nm,0.8s							
WB2	**Warramunga Arr**	**20.53**	**119**	*e*P		**P**	**08 13 21.7**	**+0.7**
WB2				*e*S		**S**	**08 16 58.1**	**-11**
KLBR	**Kellerberrin**	**21.02**	**174**	*e*P		**P**	**08 13 28.1**	**+1.8**
	120nm,1.7s,mb5.0							
KLBR				*e*S		S	08 16 57.1	-22
PSI	**Prapat**	**21.08**	**308**	P		**P**	**08 13 26.9**	**-0.1**
	2.9nm,0.5s,mb3.9,baz=265,slow=16,SNR=4.6							
MUN	**Mundaring**	**21.31**	**178**	*e*P		**P**	**08 13 31.6**	**+2.2**
MUN				*e*S		**S**	**08 17 07.1**	**-17**
KULM	**Kulim**	**21.52**	**316**	*e*P		**P**	**08 13 30.7**	**-1.0**
ASAR	**Alice Springs**	**21.95**	**129**	P		**P**	**08 13 37.1**	**+0.8**
	6.9nm,0.8s,mb4.2,baz=304,slow=8.8,SNR=34							
ASAR				S		**S**	**08 17 34.5**	**-2.3**
	2.1nm,0.8s,baz=305,slow=24,SNR=5.6							
NWAO	**Narrogin (SRO)**	**22.31**	**176**	P		**P**	**08 13 40.1**	**+0.1**
	19nm,1.0s,mb4.5,baz=330,slow=12,SNR=2.8							
NWAO				S		**S**	**08 17 29.1**	**-15**
	9.3nm,0.8s,baz=237,slow=13,SNR=2.8							
NWAO	**Narrogin (SRO)**	**22.31**	**176**	P		**P**	**08 13 40.1**	**0.0**
NWAO				S		**S**	**08 17 29.1**	**-15**
NWAO				pmax	pmax			
	comp=Z,19nm,1.0s							
NWAO	**Narrogin (SRO)**	**22.31**	**176**	*e*P		**P**	**08 13 41.9**	**+1.8**
FORT	**Forrest**	**23.30**	**151**	*e*P		**P**	**08 13 49.6**	**-1.0**
	comp=Z,19nm,0.5s,mb4.8							
FORT				*e*S		**S**	**08 17 59.1**	**-1.7**
QIZ	**Qiongzhong**	**29.92**	**349**	*e*P		**P**	**08 14 49.5**	**-0.8**
	comp=Z,54nm,1.5s,mb5.1							
STKA	**Stephens Creek**	**32.20**	**135**	*e*P		**P**	**08 15 09.4**	**-1.0**
	comp=Z,7.3nm,1.2s,mb4.4							
STKA	**Stephens Creek**	**32.20**	**135**	P		**P**	**08 15 09.3**	**-1.1**
	comp=Z,7.7nm,0.9s,mb4.5,baz=314,slow=11,SNR=6.6							
GYA	**Guiyang**	**37.77**	**347**	P		**P**	**08 15 59.9**	**+1.4**
GYA				AMB	AMB			
	comp=Z,10.0nm,1.4s,mb4.3							
WHN	**Wuhan**	**40.90**	**359**	*e*P		**P**	**08 16 26.1**	**+1.6**
SSE	**Sheshan**	**41.81**	**8**	*e*P		**P**	**08 16 30.4**	**-1.6**
SSE				AMB	AMB			
	comp=Z,37nm,0.7s,mb5.1							
SSE				AMB	AMB			
	comp=Z,228nm,3.5s							
NJ2	**Nanjing**	**42.52**	**4**	*e*P		**P**	**08 16 41.3**	**+3.5**
NJ2				S		**S**	**08 23 00.0**	**+2.0**
NJ2				AMB	AMB			
	comp=Z,20nm,1.1s,mb4.8							
NJ2				AMB	AMB			
	comp=Z,60nm,10.0s							
NJ2				LR	LR			
	comp=N,780nm,20.1s,MS4.7							
NJ2				LR	LR			
	comp=E,830nm,22.4s,MS4.7							
NJ2				LR	LR			
	comp=Z,640nm,20.3s,MS4.5							
CD2	**Chengdu**	**42.73**	**345**	*e*P		**P**	**08 16 40.0**	**+0.5**
CD2				AP	pP		08 16 49.8	+1.0
CD2				XP	sP		08 16 53.8	+1.2
CD2				PP	PP		08 18 22.2	+3.3
CD2				S	**S**		**08 23 02.0**	**+0.9**
CD2				XS	sS		08 23 18.5	+2.1
CD2				SS	SS		08 26 08.9	-3.4
CD2				AMB	AMB			
	comp=Z,20nm,0.9s,mb4.8							
CD2				AMB	AMB			
	comp=Z,60nm,5.9s							
CD2				LR	LR			
	comp=E,110nm,14.4s							
XAN	**Xi'an**	**44.79**	**352**	P		**P**	**08 16 55.6**	**-0.5**
XAN				AP	pP		08 17 03.1	-2.3
XAN				XP	sP		08 17 06.0	-3.2
XAN				AMB	AMB			
	comp=Z,9.0nm,0.6s,mb4.8							
HYB	**Hyderabad**	**45.79**	**307**	*i* P		**P**	**08 17 03.0**	**-1.0**
HYB				*e*		pP	08 17 12.0	-1.3
LSA	**Lhasa**	**46.35**	**330**	P		**P**	**08 17 10.0**	**+1.6**
LSA	**Lhasa**	**46.35**	**330**	*e*P		**P**	**08 17 08.6**	**+0.2**
LSA				pmax	pmax			
	comp=Z,5.0nm,0.5s,mb4.7							
LSA	**Lhasa**	**46.35**	**330**	*e*P		**P**	**08 17 08.6**	**+0.3**
	comp=Z,5.5nm,0.5s,mb4.7							
JIRN	**Jiri**	**47.37**	**324**	*e*P		**P**	**08 17 16.5**	**+0.1**
	comp=Z,59nm,0.6s,mb5.7							
GUN	**Gumba**	**47.74**	**324**	*e*P		**P**	**08 17 19.4**	**+0.2**
	comp=Z,58nm,0.6s,mb5.8							
PKI	**Pulchoki**	**47.76**	**323**	*e*P		**P**	**08 17 18.9**	**-0.5**
	comp=Z,25nm,0.9s,mb5.2							
DMN	**Daman**	**47.97**	**323**	*e*P		**P**	**08 17 20.5**	**-0.5**
	comp=Z,39nm,0.6s,mb5.6							
KKN	**Kakani**	**48.00**	**323**	*e*P		**P**	**08 17 20.9**	**-0.4**
	comp=Z,20nm,0.7s,mb5.2							
GKN	**Gorkha**	**48.54**	**323**	*e*P		**P**	**08 17 25.0**	**-0.4**
	comp=Z,24nm,0.5s,mb5.5							
KOLN	**Koldanda**	**48.99**	**322**	*e*P		**P**	**08 17 28.3**	**-0.6**
	comp=Z,28nm,0.6s,mb5.5							
HHC	**Hu-ho-hao-te**	**51.29**	**356**	*e*P		**P**	**08 17 48.4**	**+2.1**
HHC				AMB	AMB			
	comp=Z,20nm,1.1s,mb5.0							
HHC				AMB	AMB			
	comp=Z,82nm,4.0s							
MAJO	**Matsushiro**	**51.57**	**24**	*e*P		**P**	**08 17 47.4**	**-1.0**
MAJO				pmax	pmax			
	comp=Z,8.0nm,0.7s,mb4.8							
MAJO	**Matsushiro**	**51.57**	**24**	*e*P		**P**	**08 17 47.4**	**-1.0**
	comp=Z,8.1nm,0.7s,mb4.8							
MAT	**Matsushiro**	**51.57**	**24**	P		**P**	**08 17 47.4**	**-1.0**
MAT	**Matsushiro**	**51.57**	**24**	*e*P		**P**	**08 17 47.0**	**-1.4**
MAT				pmax	pmax			
	comp=Z,9.0nm,0.6s,mb4.9							
MAT	**Matsushiro**	**51.57**	**24**	*e*P		**P**	**08 17 47.0**	**-1.4**
	comp=Z,8.7nm,0.6s,mb4.8							
MJAR	**Matsushiro Arr**	**51.57**	**24**	P		**P**	**08 17 47.6**	**-0.8**
	comp=Z,12nm,0.7s,mb4.9,baz=200,slow=7.9,SNR=44							
GTA	**Gaotai**	**51.79**	**345**	*e*P		**P**	**08 17 51.3**	**+1.2**
GTA				AP	pP		08 18 00.4	+0.8
GTA				XP	sP		08 18 04.1	+0.8
GTA				PCP	PcP		08 19 05.3	+2.4
GTA				AMB	AMB			
	comp=Z,6.0nm,0.6s,mb4.7							
MDJ	**Mudanjiang**	**56.43**	**12**	P		**P**	**08 18 23.4**	**-0.5**
MDJ				AMB	AMB			
	comp=Z,24nm,0.7s,mb5.3							
MDJ				AMB	AMB			
	comp=Z,66nm,3.6s

ARU					pmax	pmax		
	comp=Z,15nm,1.4s,mb4.7							
GNI	**Garni**	**82.36**	**313**		P	**P**	**08 21 05.0**	**+0.9**
	comp=Z,3.6nm,0.4s,mb4.6,baz=254,slow=22,SNR=2.9							
GNI	**Garni**	**82.36**	**313**		*e*P	**P**	**08 21 05.6**	**+1.5**
GNI					pmax	pmax		
	comp=Z,14nm,1.4s							
TIXI	**Tiksi**	**82.54**		**4**	*e*P	**P**	**08 21 04.3**	**-0.7**
TIXI					pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6							
ZEI	**Tsey**	**83.87**	**315**		*e*P	**P**	**08 21 13.9**	**+2.0**
ZEI					*e**PP	pP	08 21 21.4	-0.4
ZEI					pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.7							
SNAA	**Sanae**	**88.51**	**196**		*e*P	**P**	**08 21 34.6**	**-0.1**
SNAA					*e*	pP	08 21 44.1	-0.6
SNAA	**Sanae**	**88.51**	**196**		*e*P	**P**	**08 21 33.4**	**-1.3**
SNAA					*e**PP	pP	08 21 43.7	-1.0
SNAA					pmax	pmax		
	comp=Z,14nm,1.1s							
SNAA	**Sanae**	**88.51**	**196**		*e*P	**P**	**08 21 33.4**	**-1.3**
	comp=Z,14nm,1.1s,mb5.2							
SNAA					*e*pP	pP	08 21 43.7	-1.0
VNA2	**Neumayer--Watz**	**90.15**	**196**		*e*P	**P**	**08 21 42.7**	**+0.3**
VNA2					*e*	pP	08 21 52.6	+0.2
BRTR	**Keskin Array B**	**90.40**	**310**		P	**P**	**08 21 44.1**	**+0.5**
	comp=Z,1.3nm,0.8s,mb4.3,baz=145,slow=7.5,SNR=7.1							
BRTR	**Keskin Array B**	**90.40**	**310**		*i* P	**P**	**08 21 43.7**	**+0.1**
BRTR					pmax	pmax		
	comp=Z,1.0nm,0.8s							
VNA3	**Neumayer Olymp**	**90.57**	**195**		*e*P	**P**	**08 21 44.9**	**+0.5**
VNA3					*e*	pP	08 21 54.4	0.0
OBN	**Obninsk**	**92.27**	**326**		*e*P	**P**	**08 21 53.2**	**+1.0**
OBN					pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.7							
AKASG	**Malin Array Be**	**95.66**	**320**		P	**P**	**08 22 07.1**	**-0.7**
	comp=Z,0.4nm,0.3s,mb4.3,baz=90,slow=3.5,SNR=7.0							
FINES	**FINESS Array B**	**98.86**	**331**		P	**P**	**08 22 22.2**	**-0.1**
	comp=Z,1.7nm,0.8s,mb4.6,baz=96,slow=10.0,SNR=9.5							
ARCES	**ARCESS Array B**	**99.78**	**339**		P	Pdif	08 22 25.6	-0.8
	comp=Z,1.8nm,0.7s,baz=97,slow=4.9,SNR=8.3							
TORD	**Torodi Ar. Bea**	**115.19**	**280**		PKP	PKiKP	08 27 24.6	+1.1
	comp=Z,0.7nm,0.6s,baz=40,slow=1.0,SNR=8.0							
YKA	**Yellowknife Ar**	**117.08**		**24**	PKP	PKPdf	08 27 27.4	+0.4
	comp=Z,1.1nm,0.6s,baz=310,slow=2.0,SNR=45							
YKA	**Yellowknife Ar**	**117.08**		**24**	PKP	PKPdf	08 27 27.4	+0.4
NVAR	**Mina Array Bea**	**124.78**		**50**	PKP	PKPdf	08 27 44.9	+3.0
	comp=Z,1.2nm,0.8s,baz=218,slow=0.7,SNR=9.2							
MIAR	**Mount Ida**	**144.42**		**43**	*e*PKIKP	PKPdf	08 28 19.0	+0.7
LONY	**Lake Ozonia**	**145.02**		**12**	*e*PKPdf	PKPdf	08 28 19.9	+0.6
UALR	**University of**	**145.10**		**42**	*e*PKPdf	PKPdf	08 28 20.9	+1.4
BLO	**Bloomington**	**145.49**		**31**	*e*PKIKP	PKPdf	08 28 21.4	+1.2
NCB	**Newcomb**	**145.71**		**12**	*e*PKPbc	PKPbc	08 28 21.9	+0.9
ACSO	**Alum Creek Sta**	**146.29**		**26**	*e*PKPbc	PKPbc	08 28 24.5	+1.8
WCI	**Wyandotte Cave**	**146.32**		**32**	*e*PKP2	PKPab	08 28 24.3	+0.7
WVT	**Waverly**	**147.01**		**36**	*e*PKP2	PKPab	08 28 26.4	+0.1
OXF	**Oxford**	**147.15**		**40**	*e*PKP2	PKPab	08 28 27.2	+0.3
TZTN	**Tazewell**	**149.00**		**30**	*e*PKPbc	PKPbc	08 28 32.2	+2.0
BDFB	**Brasilia**	**149.18**	**213**		PKPbc	PKPbc	08 28 32.9	+2.4
	comp=Z,9.6nm,0.6s,baz=149,slow=2.8,SNR=16							
BDFB	**Brasilia**	**149.18**	**213**		PKP2	PKPbc	08 28 32.9	+2.3
BDFB					pmax	pmax		
	comp=Z,10.0nm,0.6s							
LRAL	**Lakeview Retre**	**149.63**		**39**	*e*PKPbc	PKPbc	08 28 33.3	+1.7
LRAL					*e*PKPab	PKPab	08 28 39.1	+2.2
ELN	**Prospectdale**	**149.75**		**26**	*e*PKPbc	PKPbc	08 28 33.6	+1.6
ELN					*e*PKPab	PKPab	08 28 39.2	+1.9
LPAZ	**La Paz**	**153.08**	**173**		PKPbc	PKPbc	08 28 42.7	+3.0
	comp=Z,0.9nm,0.8s,baz=192,slow=2.9,SNR=3.7							
LPAZ	**La Paz**	**153.08**	**173**		PKIKP	PKPbc	08 28 42.7	+3.0
LPAZ					pmax	pmax		
	comp=Z,1.0nm,0.8s							

IDC 06 08:11:40.9±1.7, 5648S×2743W, h0km, mb4.0/2, mb1 4.1/2, mb1mx3.7/13, mbtmp4.0/2, Error ellipse: s-maj=71.9km s-min=42.0km az=4.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**16.45**	**157**	*e*P	Pn	08 15 47.2	+14
VNA1				*e*		08 15 52.4	
VNA3	**Neumayer Olymp**	**16.64**	**160**	*e*P	Pn	08 15 51.6	+16
VNA3				*e*		08 15 57.7	
VNA2	**Neumayer--Watz**	**16.85**	**157**	*e*P	Pn	08 15 53.1	+15
	baz=312,slow=12						
VNA2				*e*		08 15 59.1	
SNAA	**Sanae**	**18.41**	**155**	*e*P	Pn	08 16 08.0	+11
SNAA				*e*		08 16 12.3	
LPAZ	**La Paz**	**50.52**	**306**	P	P	08 20 41.8	+0.9
	0.4nm,0.4s,baz=146,slow=4.1,SNR=6.5						
TORD	**Torodi Ar. Bea**	**73.49**	**30**	P	P	08 23 15.1	-0.2
	1.7nm,0.5s,baz=199,slow=6.5,SNR=23						
YKA	**Yellowknife Ar**	**136.40**	**318**	PKP	PKPdf	08 31 01.9	-2.7
	0.1nm,0.5s,baz=124,slow=1.9,SNR=9.0						
INK	**Inuvik**	**146.05**	**320**	PKPbc	PKPbc	08 31 19.9	-2.7
	1.1nm,0.7s,baz=101,slow=5.9,SNR=6.3						
ILAR	**Eielson Array**	**150.30**	**311**	PKPbc	PKPbc	08 31 31.6	-2.4
	1.9nm,0.7s,baz=126,slow=1.9,SNR=7.3						
SONM	**Songino Array**	**150.88**	**87**	PKPbc	PKPbc	08 31 34.6	-0.8
	2.0nm,0.4s,baz=215,slow=3.7,SNR=10.0						

*IDC **06** 08:21:56.5±0.5, 1056S×11525E, h0km, mb4.3/18, mb1 4.4/18, mb1mx4.4/20, mbtmp4.3/18, MS3.4/1, Ms1 3.4/1, ms1mx2.4/27, Error ellipse: s-maj=23.0km s-min=12.6km az=61.0*

*ISCJB **06** 08:21:59.1±0.3, 1051S±006×11538E±008, h32km, mb4.5/33, Error ellipse: s-maj=12.9km s-min=5.7km az=114.7*

*MOS **06** 08:21:59.5±0.7, 1047S×11537E, h33km, mb4.6/8, Error ellipse: s-maj=18.3km s-min=10.5km az=112.2*

*BJI **06** 08:21:59.3, 1060S×11530E, h32km, mB4.9, mb4.9*

*NEIC **06** 08:22:01.3±0.3, 1056S±006×11536E±008, **h34**km, **h34**km±1.6km:**pP-P, n66, σ0§88/66, mb4.5**/32, South of Bali*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**11.35**	**159**	*e*Pn	**Pn**	**08 24 33.0**	**-8.2**
	40nm,0.4s						
MBWA				*e*Sn	**Sn**	**08 26 24.8**	**-22**
FITZ	**Fitzroy Crossi**	**12.46**	**128**	*e*P	**Pn**	**08 24 51.9**	**-4.6**
	4.6nm,0.3s						
FITZ				*e*S	**Sn**	**08 27 00.3**	**-14**
FITZ	**Fitzroy Crossi**	**12.46**	**128**	Pn	**Pn**	**08 24 52.1**	**-4.4**
	0.9nm,0.3s,baz=302,slow=8.7,SNR=30						
FITZ				Sn	**Sn**	**08 27 00.7**	**-13**
	0.7nm,0.3s,baz=202,slow=16,SNR=5.5						
WRA	**Warramunga Arr**	**20.53**	**119**	P	**P**	**08 26 37.7**	**+0.8**
	4.9nm,0.5s,baz=293,slow=11,SNR=45						
WRA				S	**S**	**08 30 13.4**	**-11**
	0.3nm,0.4s,baz=79,slow=29,SNR=4.1						
WRAB	**Tennant Creek**	**20.54**	**119**	*e*P	**P**	**08 26 37.4**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.4s						
WRAB	**Tennant Creek**	**20.54**	**119**	*e*P	**P**	**08 26 37.4**	**+0.4**
	comp=Z,6.3nm,0.4s						
WB2	**Warramunga Arr**	**20.54**	**119**	*e*P	**P**	**08 26 38.1**	**+1.0**
WB2				*e*S	**S**	**08 30 14.3**	**-11**
KLBR	**Kellerberrin**	**21.05**	**174**	*e*P	**P**	**08 26 42.4**	**-0.1**
	comp=Z,9.6nm,0.7s,mb4.2						
KLBR				*e*S	S	08 30 12.3	-23
MUN	**Mundaring**	**21.33**	**178**	*e*P	**P**	**08 26 47.4**	**+1.8**
KULM	**Kulim**	**21.50**	**316**	*e*P	**P**	**08 26 46.3**	**-1.1**
ASAR	**Alice Springs**	**21.96**	**129**	P	**P**	**08 26 53.0**	**+0.6**
	comp=Z,5.5nm,0.8s,mb4.0,baz=304,slow=9.8,SNR=34						
ASAR				S	**S**	**08 30 47.3**	**-5.6**
	comp=Z,0.5nm,1.0s,baz=246,slow=19,SNR=3.1						
NWAO	**Narrogin (SRO)**	**22.33**	**176**	P	**P**	**08 26 56.9**	**+0.7**
	comp=Z,4.8nm,0.7s,mb4.1,baz=338,slow=17,SNR=3.7						
NWAO				S	**S**	**08 30 43.3**	**-17**
	comp=Z,2.7nm,0.5s,baz=105,slow=23,SNR=2.9						
NWAO				LR	LR	08 35 58.9	
	comp=Z,90nm,19.3s,baz=15,slow=38						
FORT	**Forrest**	**23.33**	**151**	*e*P	**P**	**08 27 05.7**	**-1.1**
	comp=Z,26nm,0.7s,mb4.8						
FORT				*e*S	**S**	**08 31 13.4**	**-3.4**
QIZ	**Qiongzhong**	**29.90**	**349**	*e*P	**P**	**08 28 07.8**	**+1.7**
	comp=Z,48nm,1.5s,mb5.0						
CTA	**Charters Tower**	**31.22**	**111**	P	**P**	**08 28 20.1**	**+2.4**
	comp=Z,6.4nm,1.1s,mb4.4,baz=310,slow=10,SNR=4.0						
STKA	**Stephens Creek**	**32.22**	**135**	*e*P	**P**	**08 28 25.3**	**-1.2**
	comp=Z,12nm,1.8s,mb4.4						
STKA	**Stephens Creek**	**32.22**	**135**	P	**P**	**08 28 25.4**	**-1.1**
	comp=Z,5.3nm,0.9s,mb4.4,baz=325,slow=16,SNR=12						
JIRN	**Jiri**	**47.35**	**324**	*e*P	**P**	**08 30 32.6**	**+0.5**
	comp=Z,30nm,0.6s,mb5.4						
GUN	**Gumba**	**47.72**	**324**	*e*P	**P**	**08 30 35.3**	**+0.3**
	comp=Z,28nm,0.6s,mb5.5						
PKI	**Pulchoki**	**47.74**	**323**	*e*P	**P**	**08 30 34.9**	**-0.2**
DMN	**Daman**	**47.95**	**323**	*e*P	**P**	**08 30 36.7**	**0.0**
	comp=Z,24nm,0.6s,mb5.4						
KKN	**Kakani**	**47.98**	**323**	*e*P	**P**	**08 30 37.0**	**0.0**
GKN	**Gorkha**	**48.52**	**323**	*e*P	**P**	**08 30 40.6**	**-0.5**
	comp=Z,13nm,0.3s,mb5.4						
KOLN	**Koldanda**	**48.97**	**322**	*e*P	**P**	**08 30 44.4**	**-0.2**
	comp=Z,18nm,0.6s,mb5.3						
MAJO	**Matsushiro**	**51.55**	**24**	*e*P	**P**	**08 31 03.7**	**-0.5**
MAJO				*e**PP	pP	08 31 14.5	+0.2
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
MAJO	**Matsushiro**	**51.55**	**24**	*e*P	**P**	**08 31 03.7**	**-0.4**
	comp=Z,4.4nm,0.6s,mb4.6						
MAJO				*e*pP	pP	08 31 14.4	+0.2
MAT	**Matsushiro**	**51.55**	**24**	P	**P**	**08 31 03.5**	**-0.7**
MAT				*e*S	**S**	**08 38 33.0**	**+11**
MAT	**Matsushiro**	**51.55**	**24**	*e*P	**P**	**08 31 04.0**	**-0.2**
MAT				S	**S**	**08 38 33.0**	**+11**
MJAR	**Matsushiro Arr**	**51.55**	**24**	P	**P**	**08 31 03.7**	**-0.4**
	comp=Z,6.1nm,0.7s,mb4.6,baz=200,slow=7.7,SNR=27						
MJAR	**Matsushiro Arr**	**51.55**	**24**	P	**P**	**08 31 03.7**	**-0.4**
MDJ	**Mudanjiang**	**56.41**	**12**	P	**P**	**08 31 39.3**	**-0.3**
MDJ				AMB	AMB		
	comp=Z,13nm,0.6s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,55nm,3.9s						
MDJ	**Mudanjiang**	**56.41**	**12**	*e*P	**P**	**08 31 39.4**	**-0.2**
	comp=Z,8.2nm,0.6s,mb4.9						
MDJ				*e*pP	pP	08 31 49.0	-0.9
ULN	**Ulaanbaatar**	**58.63**	**353**	*e*P	**P**	**08 31 55.3**	**+0.1**
ULN				*e**PP	pP	08 32 05.0	-0.5
ULN				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
ULN	**Ulaanbaatar**	**58.63**	**353**	*e*P	**P**	**08 31 55.3**	**+0.1**
	comp=Z,5.0nm,0.9s,mb4.5						
ULN				*e*pP	pP	08 32 05.0	-0.5
SONM	**Songino Array**	**58.68**	**353**	P	**P**	**08 31 56.1**	**+0.5**
	comp=Z,4.1nm,0.8s,mb4.5,baz=168,slow=7.6,SNR=15						
SONM				PcP	PcP	08 32 46.4	+1.1
	comp=Z,1.6nm,0.7s,baz=190,slow=3.4,SNR=2.5						
MKAR	**Makanchi Array**	**64.28**	**335**	P	**P**	**08 32 33.4**	**0.0**
	comp=Z,2.6nm,0.5s,mb4.5,baz=150,slow=7.2,SNR=41						
MKAR				PcP	PcP	08 33 08.4	+0.4
	comp=Z,1.5nm,0.7s,baz=129,slow=5.9,SNR=4.9						
MKAR	**Makanchi Array**	**64.28**	**335**	P	**P**	**08 32 33.4**	**0.0**
MKAR				PcP	PcP	08 33 08.4	+0.4
AAK	**Ala-Archa**	**64.79**	**328**	*e*P	**P**	**08 32 36.9**	**+0.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
AAK	**Ala-Archa**	**64.79**	**328**	*e*P	**P**	**08 32 36.9**	**+0.2**
	comp=Z,2.8nm,0.7s,mb4.4						
WSAR	**Wadi Sarin**	**64.86**	**302**	P	**P**	**08 32 37.3**	**+0.1**
	comp=Z,3.9nm,0.6s,mb4.6,baz=175,slow=7.1,SNR=5.6						
MAW	**Mawson**	**66.57**	**199**	P	**P**	**08 32 47.6**	**-0.7**
	comp=Z,2.9nm,0.9s,mb4.3,baz=44,slow=13,SNR=3.2						
BOD	**Bodaibo**	**68.14**	**359**	*e*P	**P**	**08 32 57.2**	**-1.0**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
KURK	**Kurchatov**	**68.87**	**336**	*e*P	**P**	**08 33 02.9**	**+0.2**
KURK				*e**PP	pP	08 33 12.1	-1.1
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
KURK	**Kurchatov**	**68.87**	**336**	*e*P	**P**	**08 33 02.9**	**+0.1**
	comp=Z,2.3nm,0.6s,mb4.3						
KURK				*e*pP	pP	08 33 12.1	-1.1
ZAL	**Zalesovo**	**69.28**	**341**	P	**P**	**08 33 04.5**	**-0.8**
	comp=Z,1.8nm,0.6s,mb4.2,baz=357,slow=7.5,SNR=8.6						
ZAL	**Zalesovo**	**69.28**	**341**	P	**P**	**08 33 04.5**	**-0.8**
VNDA	**Vanda**	**71.04**	**170**	P	**P**	**08 33 15.6**	**-0.4**
	comp=Z,1.1nm,0.8s,mb3.8,baz=303,slow=3.7,SNR=5.1						
BVAR	**Borovoye Array**	**74.03**	**334**	P	**P**	**08 33 34.1**	**+0.2**
	comp=Z,3.6nm,0.8s,mb4.3,baz=140,slow=7.8,SNR=10						
ZRNK	**Zerenda**	**74.59**	**333**	*e*P	**P**	**08 33 37.1**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
ZRNK	**Zerenda**	**74.59**	**333**	*e*P	**P**	**08 33 37.1**	**0.0**
	comp=Z,3.5nm,0.5s,mb4.5						
KMBO	**Kilima Mbogo**	**78.10**	**271**	P	**P**	**08 33 57.6**	**+0.6**
	comp=Z,0.7nm,0.4s,mb3.9,baz=208,slow=24,SNR=3.0						
AKTK	**Aktyubinsk**	**78.50**	**327**	P	**P**	**08 33 59.6**	**+0.4**
AKTO	**Aktyubinsk**	**78.50**	**327**	P	**P**	**08 33 59.6**	**+0.4**
	comp=Z,3.3nm,0.8s,mb4.3,baz=106,slow=4.9,SNR=6.6						
TIXI	**Tiksi**	**82.52**		**4**	*e*P	**P**	**08 34 15.3**	**-5.5**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.2						
BRTR	**Keskin Array B**	**90.38**	**310**	P	**P**	**08 34 59.8**	**+0.5**
	comp=Z,0.4nm,0.5s,mb4.0,baz=134,slow=5.3,SNR=4.1						
FINES	**FINESS Array B**	**98.84**	**331**	P	**P**	**08 35 37.6**	**-0.4**
	comp=Z,1.6nm,1.0s,mb4.5,baz=126,slow=5.9,SNR=4.6						
ARCES	**ARCESS Array B**	**99.76**	**339**	P	Pdif	08 35 40.6	-1.5
	comp=Z,0.6nm,0.6s,baz=101,slow=3.8,SNR=5.5						
TORD	**Torodi Ar. Bea**	**115.19**	**280**	PKP	PKiKP	08 40 40.0	+0.7
	comp=Z,0.5nm,0.6s,baz=67,slow=1.5,SNR=5.2						
YKA	**Yellowknife Ar**	**117.06**		**24**	PKP	PKPdf	08 40 43.3	+0.5
	comp=Z,0.7nm,0.6s,baz=310,slow=2.0,SNR=28							
NVAR	**Mina Array Bea**	**124.77**		**50**	PKP	PKPdf	08 41 00.3	+2.6
	comp=Z,0.3nm,0.5s,baz=224,slow=4.3,SNR=5.5							
CPUP	**Villa Florida**	**142.65**	**191**		PKP	PKPdf	08 41 30.4	-0.7
	comp=Z,0.2nm,0.3s,baz=316,slow=14,SNR=3.3							
WCI	**Wyandotte Cave**	**146.30**		**32**	*e*PKP2	PKPab	08 41 40.5	+1.1
WVT	**Waverly**	**146.99**		**36**	*e*PKP2	PKPab	08 41 42.4	+0.3
BDFB	**Brasilia**	**149.20**	**213**		PKPbc	PKPbc	08 41 48.6	+2.1
	comp=Z,5.8nm,0.6s,baz=94,slow=1.6,SNR=9.8							
LRAL	**Lakeview Retre**	**149.62**		**39**	*e*PKPdf	PKPdf	08 41 42.2	-0.7
LRAL					*e*PKPbc	PKPbc	08 41 49.4	+1.9
LPAZ	**La Paz**	**153.10**	**173**		PKPab	PKPab	08 42 08.6	+1.4
	comp=Z,1.0nm,0.7s,baz=210,slow=3.8,SNR=5.1							

MAN 06 08:35:15.8, 1013N×12611E, h7km, mb2.5, ML4.0, MS0.8, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.70**	**241**	*e*P	Pg	08 35 29.4	+0.1
SCPH				*e*S	Sg	08 35 39.1	+0.7
MSLP	**Maasin**	**1.23**	**270**	*e*P	Pb	08 35 38.1	-1.3
PLP	**Palo**	**1.52**	**313**	*e*P	Pn	08 35 42.7	-0.6
PLP				*e*S	Sn	08 36 03.9	+0.6
BESP	**Borongan**	**1.61**	**336**	*e*P	Pn	08 35 44.0	-0.6
TBP	**Tagbilaran**	**2.25**	**259**	*e*P	Pn	08 35 53.4	-0.1
TBP				*e*S	Sn	08 36 22.2	+0.6
BUKP	**Musuan**	**2.46**	**205**	*e*P	Pn	08 35 56.9	+0.6

*ISCJB **06** 08:41:42.2±6.0, 1150N±009×141.1E±0.1, h19km±43km, mb4.1/12, Error ellipse: s-maj=20.1km s-min=11.4km az=69.5*

*IDC **06** 08:41:46.0±7.0, 1159N×14128E, h33km±53km, mb3.9/11, mb1 4.1/12, mb1mx3.9/22, mbtmp4.1/12, ML4.3/1, Error ellipse: s-maj=27.3km s-min=16.6km az=93.0*

*NEIC **06** 08:41:48.7±2.8, 1153N×14140E, h60km±29km, mb4.3/1, Error ellipse: s-maj=29.0km s-min=11.6km az=88.0*

ISC 06 08:41:48.2±2.7, 1154N±008×1412E±02, h54km±26km, **n15, σ1§09/15, mb4.1**/12, **Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.09**	**60**	Pn	**Pn**	**08 42 47.1**	**-1.0**
	21nm,0.3s,baz=1.1,slow=22,SNR=7.3						
GUMO				Sn	**Sn**	**08 43 38.1**	**+3.4**
	5.5nm,0.3s,baz=65,slow=23,SNR=2.9						
PMG	**Port Moresby**	**21.62**	**164**	P	**P**	**08 46 32.5**	**-1.2**
	13nm,0.6s,mb4.5,baz=353,slow=6.5,SNR=10.0						
WB2	**Warramunga Arr**	**32.01**	**192**	*e*P	**P**	**08 48 09.4**	**+0.1**
WRA	**Warramunga Arr**	**32.01**	**192**	*e*P	**P**	**08 48 09.2**	**-0.1**
	1.4nm,0.7s,mb3.9,baz=15,slow=9.7,SNR=17						
ASAR	**Alice Springs**	**35.71**	**192**	P	**P**	**08 48 42.5**	**+1.0**
	0.8nm,0.6s,mb3.8,baz=18,slow=13,SNR=17						
DZM	**Mont Dzumac**	**41.56**	**143**	P	**P**	**08 49 31.4**	**+0.9**
	8.4nm,0.9s,mb4.4,baz=333,slow=9.0,SNR=3.9						
MKAR	**Makanchi Array**	**60.54**	**317**	P	**P**	**08 51 54.1**	**+1.3**
	0.3nm,0.4s,mb3.8,baz=107,slow=7.7,SNR=3.7						
KURK	**Kurchatov**	**63.90**	**321**	*e*P	**P**	**08 52 15.9**	**+0.6**
	2.1nm,0.6s,mb4.3						
BVAR	**Borovoye Array**	**69.35**	**322**	P	**P**	**08 52 50.9**	**+0.8**
	1.3nm,0.5s,mb4.1,baz=81,slow=8.9,SNR=7.1						
ILAR	**Eielson Array**	**71.93**	**25**	P	**P**	**08 53 03.8**	**-2.0**
	0.6nm,0.6s,mb3.7,baz=251,slow=5.9,SNR=13						
YKA	**Yellowknife Ar**	**86.29**	**27**	P	**P**	**08 54 24.2**	**0.0**
	0.7nm,0.7s,mb4.0,baz=291,slow=4.9,SNR=15						
ARCES	**ARCESS Array B**	**87.92**	**342**	P	**P**	**08 54 31.1**	**-1.0**
	1.4nm,0.8s,mb4.2,baz=69,slow=6.6,SNR=3.7						
NVAR	**Mina Array Bea**	**90.96**	**51**	P	**P**	**08 54 46.9**	**+0.6**
	0.6nm,0.8s,mb4.0,baz=255,slow=6.4,SNR=5.3						
FINES	**FINESS Array B**	**91.49**	**334**	P	**P**	**08 54 47.3**	**-1.4**
	1.0nm,0.7s,mb4.3,baz=94,slow=5.7,SNR=6.8						
LPAZ	**La Paz**	**151.12**	**103**	PKPbc	PKPbc	09 01 38.7	+3.4
	1.6nm,0.6s,baz=347,slow=2.3,SNR=15						

*CRAAG **06** 08:43:53.8, 3649N×141E, Ml3.0*

*ISCJB **06** 08:43:55.7±1.2, 3651N±006×160E±007, h8km±12km, Error ellipse: s-maj=10.4km s-min=8.8km az=106.3*

*CSEM **06** 08:43:55.1±0.2, 3649N×162E, h5km, mb3.6/3, Error ellipse: s-maj=7.2km s-min=4.8km az=79.0*

*MDD **06** 08:43:56.9±0.6, 3646N×164E, h0km, mb3.3/5, Error ellipse: s-maj=8.3km s-min=4.9km az=96.0, PRXIMO*

*NEIC **06** 08:43:57.8, 3656N×169E, h0km, MG3.6(MDD), After MDD.*

ISC 06 08:43:56.3±1.9, 365N±02×17E±01, h10km±32km, **n19, σ0§96/31, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EBNR	**Beni Rached**	**0.20**	**209**	P	**Pg**	**08 44 00.0**	**-0.5**
ECHA	**Ech Chlef**	**0.39**	**216**	P	**Pg**	**08 44 02.0**	**-2.0**
EANR	**'Ain N'Sour**	**0.68**	**221**	P	**Pg**	**08 44 10.0**	**+0.5**
EMHD	**Djebel Mahouad**	**1.08**	**104**	P	**Pg**	**08 44 17.5**	**+0.4**
ETRT	**Tiaret**	**1.11**	**195**	P	**Pg**	**08 44 17.0**	**-0.6**
EIBI	**Ibiza**	**2.57**	**355**	P	**Pn**	**08 44 38.7**	**+0.8**
	1.8nm,0.1s,SNR=9.1						
EIBI				S	**Sn**	**08 45 08.1**	**-1.1**
	2.0nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**2.57**	**355**	P	**Pn**	**08 44 38.7**	**+0.8**
	1.8nm,0.1s,SNR=9.1						
EIBI				S	**Sn**	**08 45 08.1**	**-1.1**
	2.0nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**2.69**	**327**	P	**Pn**	**08 44 39.6**	**+0.1**
	1.1nm,0.2s,SNR=6.6						
EBEN				S	**Sn**	**08 45 11.2**	**-0.9**
	0.5nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**2.69**	**327**	P	**Pn**	**08 44 39.6**	**+0.1**
	1.1nm,0.2s,SNR=6.6						
EBEN				S	**Sn**	**08 45 11.2**	**-0.9**
	0.5nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.35**	**312**	P	**Pn**	**08 44 49.2**	**+0.6**
	0.6nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**08 45 28.0**	**-0.3**
	0.6nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.35**	**312**	P	**Pn**	**08 44 49.2**	**+0.6**
	0.6nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**08 45 28.0**	**-0.4**
	0.6nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.42**	**15**	P	**Pn**	**08 44 49.7**	**+0.1**
	0.3nm,0.1s,SNR=7.9						
ETOS				S	**Sn**	**08 45 29.3**	**-1.0**
	0.7nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.42**	**15**	P	**Pn**	**08

comp=Z,3.4nm,1.0s,mb4.3,baz=145,slow=12,SNR=4.9
VNDA Vanda 58.78 186 P **P** 08 54 02.9 +0.5
comp=Z,0.7nm,0.9s,mb3.7,baz=353,slow=7.4,SNR=4.4
VNDA Vanda 58.78 186 P **P** 08 54 02.9 +0.5
QSPA South Pole Qui 70.13 180 *e*P **P** 08 55 16.1 -0.5
comp=Z,7.8nm,1.3s,mb4.5
NVAR Mina Array Bea 78.41 42 P **P** 08 56 05.6 +0.8
comp=Z,2.3nm,0.9s,mb4.1,baz=222,slow=8.8,SNR=12
SRU San Rafael 83.81 45 *e*P **P** 08 56 34.5 +0.9
SRU pmax pmax
comp=Z,8.0nm,1.3s,mb4.7
SRU San Rafael 83.81 45 *e*P **P** 08 56 34.5 +1.0
comp=Z,8.5nm,1.3s,mb4.7
PV10 Paradox Valley 84.42 46 *e*P **P** 08 56 38.0 +1.3
ANMO Albuquerque 84.53 50*c i*P **P** 08 56 38.0 +0.8
ANMO Albuquerque 84.53 50 *e*P **P** 08 56 37.9 +0.6
comp=Z,6.5nm,1.2s,mb4.6
PV01 Paradox Valley 84.62 46 *e*P **P** 08 56 37.9 +0.2
MCMT McKenzie Canyo 85.44 39 *e*P **P** 08 56 42.5 +0.7
PDAR Pinedale Array 86.34 42 P **P** 08 56 46.3 0.0
comp=Z,0.7nm,1.0s,mb3.9,baz=204,slow=3.3,SNR=5.4
COLA College 87.00 11 *e*P **P** 08 56 49.1 -0.3
COLA *e**PP pP 08 56 57.5 -3.0
COLA pmax pmax
comp=Z,22nm,1.0s,mb5.3
COLA College 87.00 11 *e*P **P** 08 56 49.0 -0.4
comp=Z,22nm,1.0s,mb5.3
COLA *e*pP pP 08 56 57.5 -3.0
ILAR Eielson Array 87.08 11 P **P** 08 56 49.6 -0.2
comp=Z,4.5nm,1.1s,mb4.6,baz=210,slow=6.1,SNR=20
WALA Waterton Lakes 87.23 35 *e*P **P** 08 56 50.2 -0.4
DAWY Dawson 88.06 15 *e*P **P** 08 56 55.2 +0.6
EDM Edmonton 89.89 32 P **P** 08 57 02.9 -0.3
INK Inuvik 92.91 14 *e*P **P** 08 57 16.1 -1.1
INK pmax pmax
comp=Z,8.0nm,1.3s
INK Inuvik 92.91 14 *e*P **P** 08 57 16.1 -1.1
comp=Z,7.8nm,1.3s,mb5.0
YKA Yellowknife Ar 94.67 24 P **P** 08 57 23.7 -1.5
comp=Z,0.5nm,0.8s,mb4.0,baz=241,slow=4.3,SNR=10.0
YKA Yellowknife Ar 94.67 24 P **P** 08 57 23.7 -1.5
TIXI Tiksi 99.06 344 *i*P **P** 08 57 44.9 -0.2
TIXI pmax pmax
comp=Z,3.0nm,0.7s,mb4.9
ARCES ARCESS Array B 128.92 351 PKP PKPdf 09 03 11.4 -0.3
comp=Z,3.1nm,0.8s,baz=357,slow=2.4,SNR=7.6
FINES FINESS Array B 136.09 346 *i* PKHKP 09 03 06.5
FINES pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 144.02 334 PKP PKPdf 09 03 37.7 -1.9
comp=Z,1.9nm,0.5s,baz=38,slow=3.8,SNR=11
AKASG Malin Array Be 144.02 334 *i* PKHKP PKPdf 09 03 37.7 -1.9
AKASG pmax pmax
comp=Z,2.0nm,0.5s
BSEG Bad Segeberg 145.86 355 *e*PKPbc PKPbc 09 03 44.2 +0.8
MALT Malatya 146.12 310 *e*PKIKP PKPbc 09 03 46.5 +2.3
IBBN Ibbenburen 147.65 357 *e*PKPbc PKPbc 09 03 49.6 +1.1
CLZ Clausthal 147.93 354 *e*PKPbc PKPbc 09 03 49.8 +0.5
STHS Stebnicka Huta 147.99 340 *e*PKP PKPab 09 03 51.6 -0.6
CLL Collm 148.14 351 *e*PKPbc PKPbc 09 03 50.5 +0.7
CLL Collm 148.14 351⇑ *i*PKPbc PKPbc 09 03 50.6 +0.8
comp=Z,15nm,0.9s
CLL Collm 148.14 351⇑ *i*PKIKP PKPbc 09 03 50.6 +0.8
CLL pmax pmax
comp=Z,15nm,0.9s
GTTG Gyttingen 148.26 355 *e*PKPbc PKPbc 09 03 51.8 +1.6
UPC Upice 148.37 347 *e*PKP PKPbc 09 03 51.8 +1.4
CRVS Cervenica-Dubn 148.37 340 *e*PKP PKPab 09 03 54.9 +1.2
BRG Berggiesshubel 148.41 350 *e*PKP PKPbc 09 03 51.5 +1.0
comp=Z,5.4nm,1.0s
BRG Berggiesshubel 148.41 350 *e*PKIKP PKPbc 09 03 51.5 +0.9
BRG pmax pmax
comp=Z,5.0nm,1.0s
DPC Dobruska-Polom 148.45 347 *e*PKP PKPbc 09 03 52.3 +1.6
OKC Ostrava-Krasne 148.50 344 *e*PKP PKPbc 09 03 52.9 +2.1
BRTR Keskin Array B 148.80 315 PKPbc PKPbc 09 03 52.5 +0.9
comp=Z,1.8nm,0.9s,baz=116,slow=2.9,SNR=9.5
BRTR Keskin Array B 148.80 315 *i* PKIKP PKPbc 09 03 52.5 +0.9
BRTR pmax pmax
comp=Z,2.0nm,0.9s
MOX Moxa 148.97 352 *e*PKPbc PKPbc 09 03 52.6 +0.6
MOX Moxa 148.97 352 *e*P PKPbc 09 03 52.9 +0.9
comp=Z,16nm,1.6s
MOX Moxa 148.97 352 *e*PKIKP PKPbc 09 03 52.9 +0.9
MOX pmax pmax
comp=Z,44nm,1.6s
KECS Kecovo 149.05 340 *e*PKP PKPbc 09 03 52.4 +0.2
WERD Werda 149.08 351 *e*PKPbc PKPbc 09 03 53.0 +0.7
PRU Pruhonice 149.16 349 *e*PKP PKPbc 09 03 53.4 +0.9
NKC Novy Kostel 149.27 351 *e*PKP PKPbc 09 03 53.8 +1.1
VYHS Vyhne 149.54 342 *i* PKP PKPbc 09 03 54.6 +1.2
MANZ Manzenberg 149.56 352 *e*PKPbc PKPbc 09 03 54.7 +1.3
TREC Trest 149.63 347 *e*PKP PKPbc 09 03 54.3 +0.7
TNS Taunus Mts 149.69 356 *e*PKPbc PKPbc 09 03 54.6 +0.8
PSZ Piszkesteto 149.74 341 *e*PKIKP PKPbc 09 03 55.1 +1.2
ROTZ Rotzenmuhle 149.75 351 *e*PKPbc PKPbc 09 03 54.9 +1.0
GIVF Givet 149.90 1 *e*PKP1 PKPbc 09 03 55.0 +0.7
BAIF Baives 149.93 2 *e*PKP1 PKPbc 09 03 55.2 +0.8
comp=Z,38nm,1.3s
GRF Grafenberg Arr 149.96 353 *e*PKPbc PKPbc 09 03 55.4 +1.0
KHC Kasperske Hory 150.16 349 *e*PKP PKPbc 09 03 56.0 +1.1
WET Wettzell 150.26 350 *e*PKPbc PKPbc 09 03 55.9 +0.7
WLF Walferdange 150.34 359 *e*PKPbc PKPbc 09 03 56.8 +1.5
GEC2 GERESS Array S 150.41 349 *e*PKPbc PKPbc 09 03 56.3 +0.8
GERES GERESS Array B 150.41 349 PKPbc PKPbc 09 03 55.9 +0.4
comp=Z,2.8nm,0.8s,baz=64,slow=3.1,SNR=10
ROSF Rostrenen 150.80 12 *e*PKP1 PKPbc 09 03 56.5 +0.1
FLN La Foliniere 150.85 8 *e*PKP1 PKPbc 09 03 56.7 +0.2
comp=Z,22nm,1.1s
SGMF Saint Gilles 151.02 11 *e*PKP1 PKPbc 09 03 56.9 0.0
LDF La Druitiere 151.06 8 *e*PKP1 PKPbc 09 03 57.1 +0.1
comp=Z,20nm,1.1s
GRR Gorron 151.16 9 *e*PKP1 PKPbc 09 03 57.5 +0.2
MEZF Maizieres J'vi 151.50 1 *e*PKP1 PKPbc 09 03 59.0 +0.9
comp=Z,17nm,0.8s
CDF Champ du Feu 151.56 357 *e*PKP1 PKPbc 09 03 58.9 +0.7
comp=Z,7.1nm,0.8s
BFO Black Forest 151.58 356 *e*PKPbc PKPbc 09 03 59.0 +0.7
HAU Haudompre 151.99 359 *e*PKP1 PKPbc 09 04 00.7 +1.5
HINF Hinteralfeld 152.17 358 *e*PKP1 PKPbc 09 04 00.0 +0.4
LOR Lormes 152.71 2 *e*PKP1 PKPbc 09 04 01.2 +0.4
SSF Saint Saulge 152.90 3 *e*PKP1 PKPbc 09 04 01.9 +0.7
comp=Z,16nm,1.1s
MFF Saint Martin d 153.01 9 *e*PKP1 PKPbc 09 04 01.6 +0.1
comp=Z,20nm,1.2s
SMF Signal de Mont 153.33 2 *e*PKP1 PKPbc 09 04 02.7 +0.5
CABF La Chapelle 153.39 359 *e*PKP1 PKPbc 09 04 03.3 +1.0
comp=Z,17nm,1.2s
TCF Toulx Ste Croi 153.58 5 *e*PKP1 PKPbc 09 04 02.8 +0.1

*IDC **06** 08:49:56.1±0.7, 1186N×14372E, h0km, mb4.2/11, mb1 4.4/12, mb1mx4.2/20, mbtmp4.2/12, ML4.4/1, MS3.4/2, Ms1 3.4/2, ms1mx2.9/24, Error ellipse: s-maj=26.5km s-min=15.6km az=98.0*
*ISCJB **06** 08:49:58.6±5.1, 1182N×008×1436E±0.1, h28km±36km, mb4.2/16, MS3.3/2, Error ellipse: s-maj=20.3km s-min=11.5km az=44.2*
*MOS **06** 08:49:58.9±1.0, 1180N×14370E, h33km, mb4.7/4, Error ellipse: s-maj=25.2km s-min=14.3km az=90.2*
*NEIC **06** 08:50:02.7±2.1, 1185N×14382E, h46km±21km, mb4.5/3, Error ellipse: s-maj=26.0km s-min=12.3km az=86.0*
ISC 06 08:50:00.7±5.5, 1184N±008×1437E±01, h30km±39km, n25, σ0§95/24, mb4.2/16, MS3.3/2, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.08**	**33**	Pn	**Pn**	**08 50 33.8**	**+0.2**
	131nm,0.3s,baz=179,slow=3.1,SNR=63						
GUMO				Sn	**Sn**	**08 50 59.0**	**+0.5**
	237nm,0.3s,baz=205,slow=22,SNR=9.7						
MJAR	**Matsushiro Arr**	**25.09**	**350**	P	**P**	**08 55 20.7**	**-1.9**
	1.5nm,0.7s,mb3.6,baz=168,slow=9.0,SNR=6.3						
MJAR				LR	LR	09 04 35.3	
	comp=Z,150nm,19.5s,MS3.5,baz=190,slow=35						
ASAJ	**Asahikawa**	**32.17**	**359**	LR	LR	09 07 21.3	
	comp=Z,48nm,21.4s,MS3.1,baz=134,slow=32						
WRA	**Warramunga Arr**	**32.90**	**196**	P	**P**	**08 56 31.6**	**-0.5**
	2.1nm,0.5s,mb4.3,baz=19,slow=9.8,SNR=32						
ASAR	**Alice Springs**	**36.56**	**195**	P	**P**	**08 57 04.1**	**+0.3**
	0.5nm,0.6s,mb3.5,baz=18,slow=10.0,SNR=9.8						
DZM	**Mont Dzumac**	**40.42**	**146**	P	**P**	**08 57 36.4**	**+0.2**
	2.6nm,0.6s,mb4.2,baz=287,slow=20,SNR=5.8						
SONM	**Songino Array**	**47.52**	**326**	P	**P**	**08 58 34.1**	**+0.9**
	1.3nm,0.6s,mb4.1,baz=147,slow=7.7,SNR=7.6						
MKAR	**Makanchi Array**	**61.96**	**317**	P	**P**	**09 00 18.8**	**+1.0**
	1.7nm,0.7s,mb4.3,baz=94,slow=8.8,SNR=15						
MKAR	**Makanchi Array**	**61.96**	**317**	P	**P**	**09 00 18.8**	**+1.0**
KURK	**Kurchatov**	**65.18**	**321**	*e*P	**P**	**09 00 39.4**	**+0.3**
KURK				*e*		09 01 08.9	
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
KURK	**Kurchatov**	**65.18**	**321**	*e*P	**P**	**09 00 39.4**	**+0.3**
	comp=Z,7.3nm,0.8s,mb4.8						
KURK				*e*PcP	PcP	09 01 08.9	-2.6
KKAR	**Karatay Array**	**69.74**	**312**	*i* P	**P**	**09 01 08.7**	**+0.8**
VOSK	**Vostochnaya**	**70.20**	**322**	P	**P**	**09 01 10.4**	**-0.3**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
BVA0	**Borovoye Array**	**70.58**	**322**	*i* P	**P**	**09 01 13.5**	**+0.4**
ILAR	**Eielson Array**	**70.63**	**25**	P	**P**	**09 01 11.4**	**-1.9**
	comp=Z,1.2nm,0.7s,mb3.9,baz=248,slow=5.4,SNR=16						
ZRNK	**Zerenda**	**71.41**	**322**	*e*P	**P**	**09 01 18.4**	**+0.3**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
ZRNK	**Zerenda**	**71.41**	**322**	*e*P	**P**	**09 01 18.4**	**+0.3**
	comp=Z,4.2nm,0.8s,mb4.4						
INK	**Inuvik**	**76.41**	**22**	*e*P	**P**	**09 01 46.5**	**-0.8**
INK				*e*		09 01 58.6	
INK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
INK	**Inuvik**	**76.41**	**22**	*e*P	**P**	**09 01 46.5**	**-0.8**
	comp=Z,6.3nm,1.2s,mb4.4						
INK				*e*PcP	PcP	09 01 58.6	-0.4
YKA	**Yellowknife Ar**	**84.93**	**27**	P	**P**	**09 02 32.7**	**-0.2**
	comp=Z,1.9nm,0.6s,mb4.4,baz=286,slow=5.1,SNR=40						
ARCES	**ARCESS Array B**	**88.38**	**342**	P	**P**	**09 02 49.2**	**-0.6**
	comp=Z,2.6nm,0.8s,mb4.5,baz=69,slow=6.8,SNR=9.8						
NVAR	**Mina Array Bea**	**88.91**	**51**	P	**P**	**09 02 54.4**	**+2.1**
	comp=Z,1.9nm,0.7s,mb4.5,baz=259,slow=6.1,SNR=15						
FINES	**FINESS Array B**	**92.25**	**335**	P	**P**	**09 03 06.6**	**-1.1**
	comp=Z,0.6nm,0.5s,mb4.2,baz=74,slow=10,SNR=4.4						
PDAR	**Pinedale Array**	**94.01**	**45**	P	**P**	**09 03 19.9**	**+4.0**
	comp=Z,0.4nm,0.7s,mb4.4,baz=255,slow=2.7,SNR=4.6						
TORD	**Torodi Ar. Bea**	**134.86**	**302**	PKP	PKPdf	09 09 20.1	+3.5
	comp=Z,0.7nm,1.0s,baz=52,slow=2.1,SNR=2.6						

*ISCJB **06** 08:53:08.8±3.3, 50S×02×15326E±007, h67km±30km, mb3.5/6, Error ellipse: s-maj=28.2km s-min=10.9km az=10.7*
*IDC **06** 08:53:10.5±5.0, 4.97S×15323E, h67km±42km, mb3.5/6, mb1 3.7/7, mb1mx3.6/15, mbtmp3.9/7, ML2.9/1, Error ellipse: s-maj=32.5km s-min=23.5km az=56.0*
ISC 06 08:53:11.8±2.6, 51S±02×15325E±007, h78km±23km, n9, σ0§60/9, mb3.5/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.43**	**234**	P	**Pn**	**08 54 58.6**	**+1.0**
	1.1nm,0.3s,baz=27,slow=8.4,SNR=9.1						
PMG				S	**Sn**	**08 56 19.5**	**-0.8**
	4.6nm,0.3s,baz=169,slow=19,SNR=10						
HNR	**Honiara**	**7.94**	**124**	S	**Sn**	**08 56 32.6**	**-0.2**
	2.8nm,0.3s,baz=234,slow=2.4,SNR=1.7						
DZM	**Mont Dzumac**	**21.20**	**144**	P	**P**	**08 57 50.7**	**-0.3**
	9.6nm,0.8s,mb4.2,baz=316,slow=9.1,SNR=8.2						
WRA	**Warramunga Arr**	**23.62**	**230**	P	**P**	**08 58 15.2**	**-0.5**
	0.8nm,0.5s,mb3.3,baz=54,slow=9.5,SNR=5.9						
WRA				PcP	PcP	09 01 58.7	+0.3
	0.4nm,0.8s,baz=57,slow=2.7,SNR=4.9						
ASAR	**Alice Springs**	**26.27**	**223**	P	**P**	**08 58 40.5**	**+0.7**
	0.3nm,0.4s,mb3.0,baz=56,slow=9.1,SNR=5.6						
ASAR				PcP	PcP	09 02 05.5	+1.2
	0.4nm,0.6s,baz=56,slow=2.7,SNR=6.0						
SONM	**Songino Array**	**66.77**	**328**	P	**P**	**09 03 54.6**	**-0.3**
	0.2nm,0.3s,mb3.4,baz=157,slow=4.7,SNR=2.1						
VNDA	**Vanda**	**72.57**	**178**	P	**P**	**09 04 31.2**	**+0.7**
	1.0nm,0.6s,mb3.8,baz=343,slow=5.4,SNR=5.6						
MKAR	**Makanchi Array**	**80.81**	**319**	P	**P**	**09 05 16.5**	**-0.4**
	0.5nm,0.5s,mb3.6,baz=93,slow=6.1,SNR=7.8						
TORD	**Torodi Ar. Bea**	**150.81**	**288**	PKPbc	PKPbc	09 12 55.5	+0.3
	1.9nm,0.5s,baz=57,slow=2.1,SNR=23						

WEL 06 09:01:29.9±0.1, 4109S×17506E, h29km, ML3.5/26, 8C-5D, Error ellipse: s-maj=0.6km s-min=0.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAW	**Cannon Point**	**0.02**	**170**	⇓P*	Pb	09 01 34.8	0.0
CAW				S*	Sb	09 01 38.5	+0.4
KIW	**Kapiti Island**	**0.25**	**333**	⇑P*	Pb	09 01 36.7	0.0
KIW				S*	Sb	09 01 41.6	+0.4
WEL	**Wellington**	**0.30**	**228**	P*	Pb	09 01 37.2	-0.1
WEL				S*	Sb	09 01 42.8	+0.5
MRW	**Makara Radio**	**0.31**	**242**	⇓P*	Pb	09 01 37.4	0.0
MRW				S*	Sb	09 01 42.7	+0.2
MTW	**Mount Morrison**	**0.34**	**102**	⇑P*	Pb	09 01 37.9	0.0
MTW				S*	Sb	09 01 44.2	+1.0
SNZO	**South Karori**	**0.35**	**230**	P*	Pb	09 01 37.9	-0.1
SNZO				S*	Sb	09 01 43.8	+0.3
BHW	**Baring Head**	**0.35**	**204**	⇓P*	Pb	09 01 37.9	-0.1
BHW				S*	Sb	09 01 43.7	+0.1
MSWZ	**Moikau Station**	**0.36**	**157**	⇑P*	Pb	09 01 38.2	+0.1
MSWZ				S*	Sb	09 01 44.5	+0.8
PAWZ	**Paruwai Farm**	**0.40**	**137**	⇑P*	Pb	09 01 38.8	0.0
PAWZ				S*	Sb	09 01 45.8	+0.9
TRWZ	**Traveller**	**0.56**	**124**	⇑P*	Pb	09 01 41.2	-0.2
TRWZ				S*	Sb	09 01 50.4	+1.3
MRZ	**Mangatainoka R**	**0.58**	**43**	⇓P*	Pb	09 01 41.2	-0.4
MRZ				S*	Sb	09 01 50.6	+1.1
TCW	**Tory Channel**	**0.61**	**258**	⇑P*	Pb	09 01 42.0	-0.1
TCW				S*	Sb	09 01 49.9	-0.4
TIWZ	**Tintock**	**0.70**	**64**	⇑P*	Pb	09 01 43.3	-0.2
DUWZ	**D'Urville Isla**	**0.91**	**288**	⇑P*	Pb	09 01 47.0	-0.1
TUWZ	**Tuamarina**	**0.91**	**247**	P*	Pb	09 01 46.3	-0.9
CMWZ	**Cape Campbell**	**0.92**	**224**	P*	Pb	09 01 47.2	-0.1
BFZ	**Birch Farm**	**0.98**	**66**	*e*P*	Pb	09 01 46.9	-1.5
BSWZ	**Blackbirch Sta**	**1.09**	**235**	⇓P*	Pb	09 01 49.0	-1.2
TSZ	**Takapari Road**	**1.23**	**34**	P*	Pb	09 01 50.9	-1.7
NNZ	**Nelson**	**1.28**	**264**	*e*PN	Pn	09 01 51.8	0.0
WAZ	**Wanganui**	**1.33**	**357**	PN	Pn	09 01 53.8	+1.3
KHZ	**Kahutara**	**1.75**	**220**	*e*PN	Pn	09 01 57.2	-1.1
KHZ				S*	Sb	09 02 18.0	-5.0
MOVZ	**Moawhango**	**1.76**	**18**	*e*PN	Pn	09 01 58.5	+0.1
THZ	**Tophouse**	**1.76**	**247**	*e*PN	Pn	09 01 57.8	-0.6
WNVZ	**Wahianoa**	**1.80**	**13**	*e*PN	Pn	09 01 59.6	+0.6
PKVZ	**Pokaka**	**1.81**	**7**	*e*PN	Pn	09 01 60.0	+0.9
TRVZ	**Turoa**	**1.82**	**12**	*e*PN	Pn	09 02 00.3	+1.0
FWVZ	**Far West T-bar**	**1.87**	**12**	*e*PN	Pn	09 02 00.9	+1.0
RAEZ	**Rainy Point**	**1.87**	**344**	*e*PN	Pn	09 02 02.5	+2.6
TUVZ	**Tukino**	**1.87**	**14**	*e*PN	Pn	09 02 00.9	+1.0
WPVZ	**Whakapapa**	**1.92**	**11**	*e*PN	Pn	09 02 01.5	+0.9
QRZ	**Quartz Range**	**1.94**	**277**	PN	Pn	09 02 01.8	+0.9
NGZ	**Ngauruhoe**	**1.95**	**12**	PN	Pn	09 02 02.2	+1.1
VRZ	**Vera Road**	**1.97**	**353**	PN	Pn	09 02 03.4	+2.0
OTVZ	**Oturere**	**1.97**	**14**	*e*PN	Pn	09 02 02.2	+0.8
WTVZ	**West Tongariro**	**2.01**	**12**	*e*PN	Pn	09 02 02.8	+0.9
TWVZ	**Taurewa**	**2.03**	**8**	*e*PN	Pn	09 02 03.1	+0.9
KRVZ	**Karewarewa**	**2.04**	**13**	*e*PN	Pn	09 02 03.6	+1.4
ODZ	**Otahua Downs**	**5.11**	**218**	*e*PN	Pn	09 02 41.5	-3.0

IDC 06 09:09:47.7±6.7, 1911S×6983W, h83km±49km, mb3.3/2, mb1 3.5/4, mb1mx3.3/15, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=57.8km s-min=40.1km az=62.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.24**	**30**	P	Pn	09 10 37.5	+1.3
	0.9nm,0.3s,baz=211,slow=7.4,SNR=28						
LPAZ				S	Sn	09 11 15.3	+1.6
	1.2nm,0.3s,baz=212,slow=8.5,SNR=4.2						
SIV	**San Ignacio**	**8.91**	**71**	P	Pn	09 11 52.9	-0.6
	0.8nm,0.3s,baz=268,slow=12,SNR=19						
TORD	**Torodi Ar. Bea**	**77.39**	**71**	P	P	09 21 34.2	+0.6
	0.4nm,0.9s,baz=246,slow=4.8,SNR=4.2						
YKA	**Yellowknife Ar**	**88.65**	**341**	P	P	09 22 30.4	-1.2
	0.3nm,0.5s,baz=134,slow=4.8,SNR=17						
SONM	**Songino Array**	**151.18**	**5**	PKPbc	PKPbc	09 29 32.4	+1.1
	0.6nm,0.6s,baz=346,slow=0.6,SNR=3.9						

*IDC **06** 09:24:15.2±0.8, 1621S×17307W, h0km, mb4.2/11, mb1 4.4/11, mb1mx4.3/18, mbtmp4.2/11, MS4.0/10, Ms1 4.0/10, ms1mx3.6/22, Error ellipse: s-maj=32.7km s-min=17.2km az=136.0*
*ISCJB **06** 09:24:18.6±0.5, 1625S±0.1×173.1W±0.1, h33km, mb4.2/14, MS4.0/9, Error ellipse: s-maj=17.8km s-min=11.9km az=88.5*
*MOS **06** 09:24:20.7±1.0, 1662S×17360W, h18km, mb4.5/1, Error ellipse: s-maj=22.8km s-min=16.1km az=45.6*
*NEIC **06** 09:24:24.2±3.4, 1651S×17351W, h40km±28km, mb4.5/3, Error ellipse: s-maj=21.6km s-min=15.0km az=198.0*
ISC 06 09:24:20.5±0.6, 163S±01×1730W±01, h35km, n50, σ1§08/27, mb4.2/14, MS4.0/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.64**	**28**	Pn	**Pn**	**09 24 53.0**	**-7.5**
	25nm,0.3s,baz=17,slow=0.9,SNR=74						
AFI				Sn	**Sn**	**09 25 19.6**	**-12**
	83nm,0.3s,baz=71,slow=21,SNR=8.7						
AFI	**Afiamalu**	**2.64**	**28**	*e*Pn	**Pn**	**09 24 53.0**	**-7.5**
AFI				Sn	**Sn**	**09 25 19.6**	**-12**
RAR	**Rarotonga**	**13.50**	**113**	Pn	**Pn**	**09 27 22.2**	**-7.3**
	3.1nm,0.3s,baz=308,slow=12,SNR=7.1						
RAR				LR	LR	09 31 08.0	
	comp=Z,335nm,20.4s,baz=279,slow=30						
RAO	**Raoul Island**	**13.69**	**198**	*e*P	**Pn**	**09 27 30.4**	**-1.6**
DZM	**Mont Dzumac**	**20.21**	**250**	P	**P**	**09 28 56.2**	**+3.9**
	10nm,0.7s,baz=75,slow=16,SNR=10						
DZM				LR	LR	09 35 23.0	
	comp=Z,643nm,19.2s,MS4.0,baz=29,slow=33						
PPT	**Papeete**	**22.49**	**97**	*e*LQ		09 33 36.0	
	212nm,24.0s						
PPT				*e*LR	LR	09 34 32.2	
	327nm,25.8s,baz=259						
PPT	**Papeete**	**22.49**	**97**	LR	LR	09 36 30.2	
	comp=Z,244nm,18.4s,MS3.7,baz=289,slow=33						
TBI	**Tubuai**	**23.26**	**111**	*e*LR	LR	09 35 01.8	
	358nm,26.2s,baz=292						
URZ	**Urewera**	**23.57**	**200**	P	**P**	**09 29 27.4**	**-0.5**
	12nm,0.7s,mb4.4,baz=334,slow=12,SNR=7.2						
HNR	**Honiara**	**27.17**	**281**	LR	LR	09 39 14.5	
	comp=Z,519nm,20.0s,MS4.1,baz=179,slow=33						
RKT	**Rikitea**	**36.41**	**107**	*e*LR	LR	09 41 02.9	
	331nm,31.8s						
CTA	**Charters Tower**	**38.79**	**258**	P	**P**	**09 31 42.6**	**+0.9**
	2.4nm,0.7s,mb4.0,baz=118,slow=3.9,SNR=3.7						
PMG	**Port Moresby**	**39.34**	**275**	P	**P**	**09 31 48.1**	**+1.7**
	4.9nm,0.6s,mb4.4,baz=46,slow=5.4,SNR=3.5						
STKA	**Stephens Creek**	**43.91**	**241**	P	**P**	**09 32 22.0**	**-1.7**
	3.8nm,0.7s,mb4.2,baz=37,slow=16,SNR=3.0						
STKA				LR	LR	09 47 42.0	
	comp=Z,136nm,18.9s,MS3.9,baz=180,slow=32						
STKA	**Stephens Creek**	**43.91**	**241**	P	**P**	**09 32 22.0**	**-1.7**
STKA				LR	LR	09 47 42.0	
WB2	**Warramunga Arr**	**49.98**	**257**	*e*P	**P**	**09 33 11.0**	**-0.1**
WRAB	**Tennant Creek**	**49.98**	**257**	*e*P	**P**	**09 33 10.7**	**-0.4**
WRA	**Warramunga Arr**	**49.99**	**257**	P	**P**	**09 33 10.2**	**-1.0**
	2.6nm,0.8s,mb4.3,baz=95,slow=5.9,SNR=25						
ASAR	**Alice Springs**	**50.18**	**253**	P	**P**	**09 33 12.2**	**-0.4**
	14nm,0.6s,mb5.2,baz=89,slow=7.5,SNR=48						
KAKA	**Kakadu**	**52.78**	**266**	*e*P	**P**	**09 33 32.7**	**+0.6**
	5.5nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**58.37**	**259**	LR	LR	09 58 20.5	
	comp=Z,127nm,19.0s,MS4.1,baz=90,slow=35						
SBA	**Scott Base**	**62.43**	**185**	*e*P	**P**	**09 34 42.3**	**+2.3**
SBA				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.4						
SBA	**Scott Base**	**62.43**	**185**	*e*P	**P**	**09 34 42.3**	**+2.4**
	comp=Z,2.6nm,0.9s,mb4.4						
VNDA	**Vanda**	**62.56**	**186**	P	**P**	**09 34 41.8**	**+0.9**
	comp=Z,1.5nm,1.0s,mb4.1,baz=20,slow=3.9,SNR=6.0						
QSPA	**South Pole Qui**	**73.79**	**180**	*e*P	**P**	**09 35 52.1**	**+0.9**
	comp=Z,4.8nm,0.9s,mb4.4						
NVAR	**Mina Array Bea**	**74.74**	**42**	P	**P**	**09 35 57.1**	**+0.3**
	comp=Z,0.2nm,0.5s,mb3.3,baz=224,slow=9.2,SNR=5.0						
MSU	**Marysvale**	**78.80**	**44**	*e*P	**P**	**09 36 19.8**	**+0.1**
PDAR	**Pinedale Array**	**82.67**	**42**	P	**P**	**09 36 40.1**	**-0.2**
	comp=Z,1.1nm,0.9s,mb3.9,baz=228,slow=3.8,SNR=8.3						
PDAR				LR	LR	10 07 13.2	
	comp=Z,88nm,18.7s,MS4.2,baz=255,slow=31						
ILAR	**Eielson Array**	**83.22**	**11**	P	**P**	**09 36 42.4**	**-0.9**
	comp=Z,0.9nm,0.6s,mb4.0,baz=234,slow=5.2,SNR=16						
YKA	**Yellowknife Ar**	**90.75**	**23**	P	**P**	**09 37 18.8**	**-1.0**
	comp=Z,0.1nm,0.6s,mb3.3,baz=235,slow=5.0,SNR=6.7						
YKA				LR	LR	10 11 12.6	
	comp=Z,54nm,19.1s,MS4.0,baz=260,slow=31						
YKA	**Yellowknife Ar**	**90.75**	**23**	P	**P**	**09 37 18.8**	**-1.

DIVS	**Divcibare**	**1.73**	**4**	⇑*i*Pn	**Pn**	**09 36 13.1**	**+0.2**
DIVS				Sn	**Sn**	**09 36 36.4**	**+1.2**
BIA	**Bitola**	**1.76**	**139**	*e*Pn	**Pn**	**09 36 14.4**	**+1.1**
STIP	**Stip**	**1.90**	**110**	*e*Pn	**Pn**	**09 36 15.3**	**0.0**

IDC 06 10:11:24.1±7.4, 2008S×6878W, h127km±50km, mb3.2/2, mb1 3.4/4, mb1mx3.2/15, mbtmp3.6/4, Error ellipse: s-maj=73.0km s-min=33.0km az=42.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.82**	**9**	P	Pn	10 12 22.6	+1.1
	5.0nm,0.3s,baz=195,slow=7.8,SNR=86						
LPAZ				S	Sn	10 13 07.4	+1.6
	baz=196,slow=20,SNR=1.2						
SIV	**San Ignacio**	**8.39**	**62**	P	Pn	10 13 22.2	-0.6
	0.5nm,0.3s,baz=261,slow=13,SNR=10						
TORD	**Torodi Ar. Bea**	**76.77**	**71**	P	P	10 23 02.4	+0.9
	0.2nm,0.4s,baz=252,slow=6.0,SNR=6.2						
YKA	**Yellowknife Ar**	**89.89**	**341**	P	P	10 24 07.9	-0.7
	0.3nm,0.6s,baz=130,slow=4.5,SNR=18						

*ISCJB **06** 10:16:43.9±0.3, 632S±004×10375E±005, h46km, mb4.9/80, MS4.0/20, Error ellipse: s-maj=7.3km s-min=5.2km az=103.4*

*MOS **06** 10:16:43.8±1.0, 596S×10398E, h33km, mb5.0/26, Error ellipse: s-maj=13.7km s-min=7.0km az=109.3*

*BJI **06** 10:16:44.0, 630S×10380E, h30km, mB4.9, mb4.9, Ms4.6, Ms2.4.1*

*NEIC **06** 10:16:46.1±0.2, 625S×10381E, mb4.9/20, Error ellipse: s-maj=7.8km s-min=5.4km az=52.0*

NEIC Felt [III] at Krui.

*IDC **06** 10:16:46.2±0.5, 6.19S×10385E, h43km±4km, mb4.4/19, mb1 4.5/19, mb1mx4.4/21, mbtmp4.7/19, MS3.9/6, Ms1 4.0/6, ms1mx3.5/29, Error ellipse: s-maj=20.0km s-min=10.2km az=47.0*

ISC 06 10:16:46.1±0.3, 633S±004×10372E±004, h48km, h48km±1.3km:pP-P, n159, σ1§05/147, mb4.9/80, MS4.0/20, 15C-9D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLI	**Kotabumi**	**1.84**	**38**	P	**Pn**	**10 17 15.3**	**0.0**
	2µm,0.9s						
KSI	**Kapahiang**	**2.89**	**337**	P	**Pn**	**10 17 28.7**	**-0.9**
	1µm,0.8s						
COCO	**West Island**	**8.95**	**229**	*e*Pn	**Pn**	**10 18 51.9**	**-0.9**
	190nm,0.8s						
COCO				*e*Sn	**Sn**	**10 20 30.1**	**-2.1**
KSM	**Kuching**	**10.16**	**41**	*e*Pn	**Pn**	**10 19 08.3**	**-1.0**
KULM	**Kulim**	**11.94**	**345**	Pn	**Pn**	**10 19 32.8**	**-0.8**
KKM	**Kota Kinabalu**	**17.51**	**46**	*e*Pn	**Pn**	**10 20 45.9**	**-0.8**
MBWA	**Marble Bar**	**21.39**	**135**	*e*P	**P**	**10 21 29.2**	**-0.5**
	11nm,0.9s,mb4.2						
FITZ	**Fitzroy Crossi**	**24.37**	**121**	*e*P	**P**	**10 22 00.3**	**+0.6**
	16nm,1.1s,mb4.4						
FITZ	**Fitzroy Crossi**	**24.37**	**121**	P	**P**	**10 22 00.1**	**+0.4**
	3.5nm,0.7s,mb3.9,baz=213,slow=4.6,SNR=9.7						
CHTO	**Chiang Mai**	**25.42**	**349**	*e*P	**P**	**10 22 07.9**	**-1.3**
CHTO				*e*		10 25 42.7	
CHTO				pmax	pmax		
	comp=Z,24nm,0.9s,mb4.7						
CHTO	**Chiang Mai**	**25.42**	**349**	*e*P	**P**	**10 22 07.9**	**-1.3**
	comp=Z,24nm,0.9s,mb4.7						
CHTO				*e*PcP	PcP	10 25 42.7	+2.3
QIZ	**Qiongzhong**	**25.91**	**13**	P	**P**	**10 22 15.1**	**+1.5**
QIZ				S	**S**	**10 26 41.4**	**+1.0**
QIZ				AMB	AMB		
	comp=Z,15nm,1.6s,mb4.3						
QIZ				LR	LR		
	comp=N,335nm,19.2s						
QIZ				LR	LR		
	comp=Z,371nm,19.2s,MS3.9						
QIZ	**Qiongzhong**	**25.91**	**13**	*e*P	**P**	**10 22 13.3**	**-0.4**
PALK	**Pallekele**	**26.65**	**300**	*e*P	**P**	**10 22 20.3**	**0.0**
	comp=Z,20nm,1.6s,mb4.4						
KAKA	**Kakadu**	**29.00**	**105**	*e*P	**P**	**10 22 40.2**	**-1.2**
	comp=Z,12nm,0.6s,mb4.8						
NWAO	**Narrogin (SRO)**	**29.30**	**156**	LR	LR	10 32 50.1	
	comp=Z,363nm,19.2s,MS4.0,baz=335,slow=33						
NWAO	**Narrogin (SRO)**	**29.30**	**156**	*e*P	**P**	**10 22 44.1**	**+0.1**
NWAO				pmax	pmax		
	comp=Z,62nm,1.8s						
NWAO	**Narrogin (SRO)**	**29.30**	**156**	*e*P	**P**	**10 22 44.1**	**+0.1**
	comp=Z,62nm,1.8s,mb5.0						
KMI	**Kunming**	**31.27**	**358**	P	**P**	**10 23 05.2**	**+3.8**
KMI				S	**S**	**10 28 06.6**	**+1.8**
KMI				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.7						
KMI				LR	LR		
	comp=N,241nm,20.1s,MS4.0						
KMI				LR	LR		
	comp=E,188nm,18.0s,MS4.0						
KMI				LR	LR		
	comp=Z,353nm,21.6s,MS4.0						
WRA	**Warramunga Arr**	**32.66**	**117**	P	**P**	**10 23 13.4**	**-0.2**
	comp=Z,4.2nm,0.6s,mb4.5,baz=285,slow=12,SNR=42						
WRA				pPcP		10 26 11.9	
	comp=Z,0.6nm,0.4s,baz=319,slow=2.2,SNR=5.1						
WRAB	**Tennant Creek**	**32.67**	**117**	*i* P	**P**	**10 23 15.1**	**+1.5**
WRAB	**Tennant Creek**	**32.67**	**117**	*e*P	**P**	**10 23 13.5**	**-0.2**
	comp=Z,13nm,0.8s,mb4.9						
WB2	**Warramunga Arr**	**32.67**	**117**	*e*P	**P**	**10 23 13.9**	**+0.2**
GYA	**Guiyang**	**32.72**	**5**⇑	*i*P	**P**	**10 23 14.3**	**+0.2**
GYA				AP	pP	10 23 26.4	-0.2
GYA				XP	sP	10 23 31.6	-0.7
GYA				PP	PP	10 24 22.6	-6.0
GYA				S	**S**	**10 28 23.0**	**-4.2**
GYA				XS	sS	10 28 43.2	-5.1
GYA				SCP	ScP	10 29 40.9	+2.2
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
GYA				AMB	AMB		
	comp=Z,90nm,4.0s						
GYA				LR	LR		
	comp=N,430nm,16.2s,MS4.4						
GYA				LR	LR		
	comp=E,410nm,16.0s,MS4.4						
GYA				LR	LR		
	comp=Z,420nm,16.4s,MS4.2						
ASAR	**Alice Springs**	**33.74**	**124**	P	**P**	**10 23 24.1**	**+1.0**
	comp=Z,3.2nm,0.8s,mb4.3,baz=300,slow=7.8,SNR=38						
ASAR				pPcP		10 26 16.0	
	comp=Z,1.8nm,0.9s,baz=301,slow=2.2,SNR=4.1						
NGP	**Nagpur**	**36.50**	**319**	*e*P	**P**	**10 23 47.3**	**+0.5**
NGP				AMb	AMB	10 23 49.8	
	comp=Z,17nm,0.8s,mb5.0						
CD2	**Chengdu**	**37.02**	**0**	*e*P	**P**	**10 23 52.6**	**+1.4**
CD2				AP	pP	10 24 04.8	+0.9
CD2				XP	sP	10 24 10.2	+0.7
CD2				PP	PP	10 25 20.8	+4.6
CD2				S	**S**	**10 29 36.4**	**+2.9**
CD2				XS	sS	10 29 56.8	+2.0
CD2				SS	SS	10 32 09.1	-7.8
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
CD2				AMB	AMB		
	comp=Z,80nm,5.3s						
CD2				LR	LR		
	comp=E,160nm,16.8s						
CD2				LR	LR		
	comp=Z,130nm,18.0s,MS3.8						
JIRN	**Jiri**	**37.80**	**334**⇑	*i*P	**P**	**10 23 58.5**	**+0.7**
	comp=Z,156nm,0.7s,mb5.9						
LSA	**Lhasa**	**37.80**	**342**	*e*P	**P**	**10 23 58.4**	**+0.6**
LSA				pmax	pmax		
	comp=Z,22nm,0.9s,mb4.9						
LSA	**Lhasa**	**37.80**	**342**	*e*P	**P**	**10 23 58.4**	**+0.5**
	comp=Z,22nm,0.9s,mb4.9						
PKI	**Pulchoki**	**38.07**	**333**⇑	*i*P	**P**	**10 24 00.1**	**+0.1**
	comp=Z,28nm,0.6s,mb5.2						
GUN	**Gumba**	**38.15**	**334**⇑	*i*P	**P**	**10 24 01.4**	**+0.6**
	comp=Z,177nm,0.5s						
DMN	**Daman**	**38.24**	**333**⇑	*i*P	**P**	**10 24 01.9**	**+0.4**
	comp=Z,62nm,0.8s,mb5.4						
KKN	**Kakani**	**38.31**	**333**⇑	*i*P	**P**	**10 24 02.4**	**+0.3**
	comp=Z,119nm,0.8s,mb5.7						
GKN	**Gorkha**	**38.79**	**333**⇑	*i*P	**P**	**10 24 06.5**	**+0.4**
	comp=Z,45nm,0.4s,mb5.5						
KOLN	**Koldanda**	**39.08**	**331**⇑	*i*P	**P**	**10 24 09.0**	**+0.5**
	comp=Z,95nm,0.8s,mb5.6						
XAN	**Xi'an**	**40.45**	**7**	P	**P**	**10 24 18.4**	**-1.5**
XAN				AP	pP	10 24 26.5	-6.2
XAN				XP	sP	10 24 31.5	-6.8
XAN				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.7						
SSE	**Sheshan**	**40.79**	**23**	*e*P	**P**	**10 24 24.3**	**+1.6**
SSE				AP	pP	10 24 38.4	+2.9
SSE				PP	PP	10 25 59.9	+2.6
SSE				PCP	PcP	10 26 24.2	+1.1
SSE				S	**S**	**10 30 32.3**	**+2.2**
SSE				SCS	ScS	10 34 22.4	-1.2
SSE				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
SSE				AMB	AMB		
	comp=Z,61nm,3.5s						
SSE				LR	LR		
	comp=N,63nm,19.7s,MS3.5						
SSE				LR	LR		
	comp=E,22nm,19.7s,MS3.5						
SSE				LR	LR		
	comp=Z,88nm,19.5s,MS3.6						
NJ2	**Nanjing**	**40.80**	**20**	*e*P	**P**	**10 24 25.0**	**+2.2**
NJ2				AP	pP	10 24 37.3	+1.7
NJ2				XP	sP	10 24 42.1	+0.9
NJ2				PP	PP	10 26 04.3	+6.8
NJ2				S	**S**	**10 30 34.0**	**+3.7**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,90nm,10.5s						
NJ2				LR	LR		
	comp=N,420nm,22.6s						
NJ2				LR	LR		
	comp=E,1µm,32.6s						
NJ2				LR	LR		
	comp=Z,250nm,25.0s,MS4.0						
AGRA	**Agra**	**41.66**	**324**	*e*P	**P**	**10 24 30.5**	**+0.7**
LZH	**Lanzhou**	**42.19**	**0**	*e*P	**P**	**10 24 37.4**	**+3.2**
LZH				AP	pP	10 24 49.0	+2.0
LZH				XP	sP	10 24 52.5	-0.1
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.5						
LZH				AMB	AMB		
	comp=Z,61nm,4.0s						
LZH				LR	LR		
	comp=E,490nm,15.0s						
LZH				LR	LR		
	comp=Z,740nm,16.3s,MS4.7						
SONA	**Sohna**	**42.92**	**324**	*e*P	**P**	**10 24 40.4**	**+0.3**
SONA				AMb	AMB	10 24 42.2	
	comp=Z,35nm,0.6s,mb5.2						
AYAN	**Aya Nagar**	**43.07**	**325**	*e*P	**P**	**10 24 41.7**	**+0.4**
PMG	**Port Moresby**	**43.12**	**97**	P	**P**	**10 24 41.9**	**+0.3**
	comp=Z,25nm,0.7s,mb5.0,baz=285,slow=6.1,SNR=18						
PMG	**Port Moresby**	**43.12**	**97**	*i*P	**P**	**10 24 42.0**	**+0.3**
PMG	**Port Moresby**	**43.12**	**97**	*e*P	**P**	**10 24 41.9**	**+0.2**
	comp=Z,26nm,0.8s,mb5.0						
NDI	**New Delhi**	**43.17**	**325**	*e*P	**P**	**10 24 41.9**	**-0.2**
NDI				AMb	AMB	10 24 43.8	
	comp=Z,51nm,0.8s,mb5.3						
KUDL	**Kundal**	**43.19**	**324**	*e*P	**P**	**10 24 42.5**	**+0.2**
KUDL				AMb	AMB	10 24 57.3	
	comp=Z,65nm,0.9s,mb5.4						
CTA	**Charters Tower**	**43.46**	**113**	P	**P**	**10 24 45.3**	**+0.9**
	comp=Z,4.5nm,0.7s,mb4.3,baz=306,slow=5.5,SNR=3.4						
CTA				LR	LR	10 45 13.6	
	comp=Z,124nm,18.8s,MS3.8,baz=47,slow=39						
STKA	**Stephens Creek**	**43.52**	**131**	P	**P**	**10 24 44.5**	**-0.4**
	comp=Z,8.4nm,0.5s,mb4.7,baz=295,slow=8.7,SNR=5.5						
STKA				pP	pP	10 24 57.4	-0.5
	comp=Z,20nm,0.7s,baz=304,slow=7.6,SNR=7.1						
STKA	**Stephens Creek**	**43.52**	**131**	*e*P	**P**	**10 24 44.5**	**-0.5**
STKA				*e*pP	pP	10 24 57.1	-0.8
KHET	**Khetri**	**43.54**	**323**	*e*P	**P**	**10 24 45.5**	**+0.4**
KHET				AMb	AMB	10 24 47.9	
	comp=Z,17nm,0.7s,mb4.9						
KHET				*ex*	x	10 24 55.9	
DDI	**Dehra Dun**	**43.97**	**327**	*ex*	x	10 25 01.0	
KKR	**Kurukshetra**	**44.37**	**326**	*e*P	**P**	**10 24 51.0**	**-0.8**
KLP	**Kalpa**	**44.82**	**329**	*e*P	**P**	**10 24 55.8**	**+0.4**
KLP				AMb	AMB	10 24 57.2	
	comp=Z,12nm,0.5s,mb5.0						
SMLA	**Simla**	**45.08**	**327**	*e*P	**P**	**10 24 55.2**	**-2.2**
SMLA				AMb	AMB	10 25 11.2	
	comp=Z,63nm,2.1s,mb5.1						
GTA	**Gaotai**	**45.65**	**356**	P	**P**	**10 25 02.3**	**+0.4**
GTA				AP	pP	10 25 15.0	+0.1
GTA				XP	sP	10 25 19.8	-0.6
GTA				PCP	PcP	10 26 44.2	+4.7
GTA				PP	PP	10 26 50.3	+0.9
GTA				S	**S**	**10 31 39.6**	**-1.7**
GTA				XS	sS	10 32 00.9	-2.1
GTA				SS	SS	10 34 54.7	-11
GTA				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.9						
GTA				AMB	AMB		
	comp=Z,92nm,4.6s						
GTA				LR	LR		
	comp=N,155nm,20.2s,MS4.1						
GTA				LR	LR		
	comp=E,146nm,17.9s,MS4.1						
GTA				LR	LR		
	comp=Z,202nm,20.5s,MS4.0						
HHC	**Hu-ho-hao-te**	**47.49**	**8**	*e*P	**P**	**10 25 16.6**	**+0.2**
HHC				AP	pP	10 25 28.9	-0.5
HHC				XP	sP	10 25 33.9	-1.0
HHC				PCP	PcP	10 26 44.3	-1.7
HHC				PP	PP	10 27 07.9	-0.1
HHC				SCP	ScP	10 30 34.5	-1.6
HHC				PCS	PcS	10 30 39.4	-2.0
HHC				S	**S**	**10 32 08.9**	**+1.2**
HHC				XS	sS	10 32 30.0	+0.6
HHC				SCS	ScS	10 35 03.4	-2.5
HHC				SS	SS	10 35 31.9	-4.0
HHC				AMB	AMB		
	comp=Z,24nm,1.1s,mb5.0						
HHC				AMB	AMB		
	comp=Z,80nm,5.4s						
HHC				LR	LR		
	comp=N,213nm,16.1s,MS4.4						
HHC				LR	LR		
	comp=E,272nm,16.6s,MS4.4						
HHC				LR	LR		
	comp=Z,221nm,18.2s,MS4.2						
BJT	**Baijiatuan**	**47.52**	**13**	*e*P	**P**	**10 25 16.3**	**-0.3**
BJT				pmax	pmax		
	comp=Z,25nm,0.8s						
BJT	**Baijiatuan**	**47.52**	**13**	*e*P	**P**	**10 25 16.3**	**-0.3**
	comp=Z,25nm,0.8s,mb5.3						
BJI	**Beijing**	**47.55**	**13**	P	**P**	**10 25 16.4**	**-0.4**
BJI				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.4						
BJI				LR	LR		
	comp=N,199nm,13.1s,MS4.3						
BJI				LR	LR		
	comp=E,130nm,14.2s,MS4.3						
BJI				LR	LR		
	comp=Z,126nm,21.8s						
WMQ	**Urumqi**	**51.98**	**345**⇑	*i*P	**P**	**10 25 50.8**	**+0.4**
WMQ				AP	pP	10 26 03.3	-0.3
WMQ				XP	sP	10 26 08.3	-0.8
WMQ				PCP	PcP	10 27 02.8	+0.4
WMQ				PP	PP	10 27 49.9	+1.1
WMQ				PPP		10 28 48.7	
WMQ				SCP	ScP	10 30 54.4	-0.8
WMQ				PCS	PcS	10 30 59.6	-0.9
WMQ				S	**S**	**10 33 09.5**	**-0.8**
WMQ				PS		10 33 25.8	
WMQ				XS	sS	10 33 30.8	-1.5
WMQ				AMB	AMB		
	comp=Z,44nm,0.7s,mb5.5						
WMQ				LR	LR		
	comp=N,47nm,18.5s,MS3.7						
WMQ				LR	LR		
	comp=E,52nm,21.8s,MS3.7						
WMQ				LR	LR		
	comp=Z,34nm,19.5s,MS3.4						
MAT	**Matsushiro**	**53.49**	**35**	P	**P**	**10 25 59.3**	**-2.3**
MAT	**Matsushiro**	**53.49**	**35**	*e*P	**P**	**10 25 59.0**	**-2.6**
MJAR	**Matsushiro Arr**	**53.49**	**35**	P	**P**	**10 25 59.9**	**-1.8**
	comp=Z,3.4nm,0.5s,mb4.5,baz=211,slow=7.7,SNR=19						
CN2	**Changchun**	**53.62**	**19**	*e*P	**P**	**10 26 01.7**	**-0.9**
CN2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
SONM	**Songino Array**	**53.98**	**2**	P	**P**	**10 26 05.6**	**+0.4**
	comp=Z,26nm,0.8s,mb5.2,baz=179,slow=8.8,SNR=132						
ULN	**Ulaanbaatar**	**54.04**	**3**	*e*P	**P**	**10 26 05.5**	**-0.1**
ULN				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
ULN	**Ulaanbaatar**	**54.04**	**3**	*e*P	**P**	**10 26 05.5**	**-0.1**
	comp=Z,16nm,0.9s,mb4.9						
KZA	**Kyzart**	**54.73**	**334**	P	**P**	**10 26 11.8**	**+1.2**
	SNR=12						
UCH	**Uchtor**	**55.17**	**334**	P	**P**	**10 26 14.6**	**+0.7**
	SNR=11						
TKM2	**Tokmak 2**	**55.27**	**335**	P	**P**	**10 26 14.6**	**0.0**
	SNR=25						
KBK	**Karagaybulak**	**55.33**	**334**	P	**P**	**10 26 16.0**	**+1.0**
	SNR=10						
AML	**Almayashu**	**55.46**	**333**	P	**P**	**10 26 16.4**	**+0.5**
	SNR=17						
AAK	**Ala-Archa**	**55.51**	**334**	*i* P	**P**	**10 26 15.6**	**-0.7**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
AAK				MLR	MLR		
	comp=Z,100nm,25.0s,MS3.8						
AAK	**Ala-Archa**	**55.51**	**334**	*e*P	**P**	**10 26 15.6**	**-0.7**
	comp=Z,6.9nm,0.9s,mb4.7						
HNR	**Honiara**	**55.73**	**97**	P	**P**	**10 26 18.3**	**+0.5**
	comp=Z,26nm,0.6s,mb5.5,baz=138,slow=1.2,SNR=3.9						
MDJ	**Mudanjiang**	**55.80**	**22**	P	**P**	**10 26 20.4**	**+2.1**
MDJ				PP	PP	10 28 25.3	+2.2
MDJ				SCP	ScP	10 31 13.1	+1.2
MDJ				PCS	PcS	10 31 18.1	+0.9
MDJ				S	**S**	**10 34 06.8**	**+4.9**
MDJ				XS	sS	10 34 25.6	+1.5
MDJ				SCS	ScS	10 36 05.9	+2.5
MDJ				SS	SS	10 37 53.9	+6.0
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,43nm,3.6s						
MDJ				LR	LR		
	comp=N,47nm,18.8s,MS3.6						
MDJ				LR	LR		
	comp=E,18nm,18.1s,MS3.6						
MDJ				LR	LR		
	comp=Z,39nm,18.8s,MS3.5						
EKS2	**Erkin-Say**	**55.85**	**334**	P	**P**	**10 26 19.2**	**+0.5**
	SNR=24						
MK31	**Makanchi Array**	**56.21**	**342**	P	**P**	**10 26 20.5**	**-0.8**
MK31				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
MKAR	**Makanchi Array**	**56.21**	**342**	P	**P**	**10 26 20.6**	**-0.6**
	comp=Z,11nm,0.6s,mb5.1,baz=144,slow=7.5,SNR=77						
ZAK	**Zakamensk**	**56.48**	**360**⇓	*i*P	**P**	**10 26 22.3**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
HIA	**Hailar**	**57.10**	**12**	*e*P	**P**	**10 26 26.5**	**-1.1**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
HIA	**Hailar**	**57.10**	**12**	*e*P	**P**	**10 26 26.5**	**-1.1**
	comp=Z,5.1nm,0.5s,mb4.8						
KK31	**Karatay Array**	**57.69**	**332**	*i* P	**P**	**10 26 30.7**	**-1.0**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
KKAR	**Karatay Array**	**57.69**	**332**	*i* P	**P**	**10 26 30.7**	**-1.0**
TLY	**Talaya**	**57.78**	**360**‖	*e*P	**P**	**10 26 32.8**	**+0.4**
TLY	**Talaya**	**57.78**	**360**	*e*P	**P**	**10 26 32.9**	**+0.6**
	comp=Z,14nm,1.3s,mb4.8						
MOY	**Mondy**	**57.81**	**358**	*e*P	**P**	**10 26 32.9**	**+0.3**
KLR	**Kul'dur**	**60.49**	**21**	*e*P	**P**	**10 26 46.0**	**-5.2**
KURK	**Kurchatov**	**60.81**	**342**	*e*P	**P**	**10 26 52.6**	**-0.7**
KURK				*e**PP	pP	10 27 06.5	-0.2
KURK				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.3						
KURK	**Kurchatov**	**60.81**	**342**	*e*P	**P**	**10 26 52.6**	**-0.7**
	comp=Z,23nm,0.9s,mb5.3						
KURK				*e*pP	pP	10 27 06.5	-0.2
ASAJ	**Asahikawa**	**61.22**	**31**	LR	LR	10 51 00.6	
	comp=Z,28nm,19.2s,MS3.4,baz=168,slow=34						
ZAL	**Zalesovo**	**62.12**	**347**	P	**P**	**10 27 00.9**	**-1.2**
	comp=Z,21nm,0.5s,mb5.6,baz=321,slow=3.7,SNR=68						
ZAL				pP	pP	10 27 14.8	-0.8
	comp=Z,13nm,0.7s,baz=325,slow=3.8,SNR=11						
NVS	**Novosibirsk**	**63.30**	**347**⇑	*i*P	**P**	**10 27 07.6**	**-2.4**
NVS				pmax	pmax		
	comp=N,13nm,1.4s						
NVS				pmax	pmax		
	comp=E,11nm,1.4s						
NVS				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.9						
YSS	**Yuzh-Sakhalins**	**63.31**	**29**	*i* P	**P**	**10 27 08.6**	**-1.5**
YSS				pmax	pmax		
	comp=Z,32nm,1.4s,mb5.3						
YSS	**Yuzh-Sakhalins**	**63.31**	**29**	*e*P	**P**	**10 27 08.8**	**-1.2**
	comp=Z,16nm,0.9s,mb5.2						
BOD	**Bodaibo**	**64.47**	**6**	*e*P	**P**	**10 27 16.2**	**-1.5**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.4						
VOSK	**Vostochnaya**	**65.06**	**339**	P	**P**	**10 27 20.5**	**-1.1**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
BVA0	**Borovoye Array**	**65.52**	**339**	*i* P	**P**	**10 27 23.6**	**-0.9**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
BVAR	**Borovoye Array**	**65.52**	**339**	P	**P**	**10 27 23.8**	**-0.7**
	comp=Z,8.3nm,0.5s,mb5.0,baz=146,slow=8.8,SNR=66						
BVAR				pP	pP	10 27 37.0	-1.1
	comp=Z,8.6nm,0.7s,baz=128,slow=9.6,SNR=11						
BRVK	**Borovoye**	**65.58**	**339**	*e*P	**P**	**10 27 24.2**	**-0.7**
BRVK				*e**PP	pP	10 27 38.0	-0.5
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
BRVK	**Borovoye**	**65.58**	**339**	*e*P	**P**	**10 27 24.2**	**-0.8**
	comp=Z,3.9nm,0.7s,mb4.5						
BRVK				*e*pP	pP	10 27 38.0	-0.5
ZRNK	**Zerenda**	**65.97**	**338**	*e*P	**P**	**10 27 26.4**	**-1.0**
ZRNK				*e**PP	pP	10 27 39.9	-1.1
ZRNK				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
ZRNK	**Zerenda**	**65.97**	**338**	*e*P	**P**	**10 27 26.4**	**-1.1**
	comp=Z,11nm,0.7s,mb5.0						
ZRNK				*e*pP	pP	10 27 39.9	-1.0
KMBO	**Kilima Mbogo**	**66.49**	**272**	LR	LR	10 52 14.9	
	comp=Z,94nm,19.7s,MS4.0,baz=94,slow=32						
MAW	**Mawson**	**67.09**	**196**	pP	pP	10 27 48.4	+0.2
	comp=Z,3.0nm,0.7s,baz=26,slow=4.1,SNR=2.3						
MAW				LR	LR	10 51 37.3	
	comp=Z,206nm,20.1s,MS4.3,baz=73,slow=31						
AB31	**Akbulak array**	**67.20**	**331**	*i* P	**P**	**10 27 35.0**	**-0.3**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
YAK	**Yakutsk**	**71.05**	**13**	*i* P	**P**	**10 27 57.3**	**-1.8**
YAK				pmax	pmax		
	comp=Z,14nm,0.5s,mb5.2						
GNI	**Garni**	**71.20**	**316**	*i* P	**P**	**10 28 01.4**	**+1.4**
GNI			

ANN					pmax	pmax			
	comp=Z,16nm,0.9s,mb5.0								
BR131	**Keskin Array S**	**78.96**	**312**	*eP*	**P**		**10 28 45.4**	**+0.6**	
	comp=Z,1.7nm,0.6s,mb4.2								
BRTR	**Keskin Array B**	**78.96**	**312**	P	**P**		**10 28 45.4**	**+0.7**	
	comp=Z,3.2nm,0.8s,mb4.3,baz=129,slow=6.5,SNR=23								
BRTR				pP	pP		10 28 59.6	+1.0	
	comp=Z,2.5nm,0.8s,baz=138,slow=6.0,SNR=5.4								
BRTR	**Keskin Array B**	**78.96**	**312**	*i* P	**P**		**10 28 45.4**	**+0.7**	
BRTR				pmax	pmax				
	comp=Z,3.0nm,0.8s								
TIXI	**Tiksi**	**79.56**	**8**	⇑*i* P	**P**		**10 28 44.6**	**-3.4**	
TIXI				pmax	pmax				
	comp=Z,4.0nm,1.1s,mb4.3								
TIXI				MLR	MLR				
	comp=Z,71nm,15.0s,MS4.1								
OBN	**Obninsk**	**82.41**	**328**	*i* P	**P**		**10 29 03.6**	**+0.4**	
OBN				*e**PP	pP		10 29 18.7	+1.6	
OBN				*e*			10 32 11.3		
OBN				pmax	pmax				
	comp=Z,8.0nm,0.6s,mb4.8								
AKASG	**Malin Array Be**	**85.16**	**322**	P	**P**		**10 29 17.3**	**+0.1**	
	comp=Z,4.0nm,0.6s,mb4.7,baz=89,slow=4.7,SNR=12								
AKASG				pP	pP		10 29 30.1	-1.2	
	comp=Z,0.8nm,0.4s,baz=87,slow=5.3,SNR=2.9								
VRI	**Vrincioaia**	**85.53**	**317**	⇑*i* P	**P**		**10 29 21.3**	**+2.2**	
VRI	**Vrincioaia**	**85.53**	**317**	⇑P	**P**		**10 29 21.3**	**+2.3**	
BILL	**Bilibino**	**85.93**	**20**	*i* P	**P**		**10 29 19.7**	**-1.4**	
MLR	**Muntele Rosu**	**85.97**	**316**	P	**P**		**10 29 22.9**	**+1.6**	
	comp=Z,5.2nm,1.0s,mb4.7,baz=50,slow=2.7,SNR=9.0								
MLR				pP	pP		10 29 35.4	+0.1	
	comp=Z,4.3nm,0.6s,baz=44,slow=6.4,SNR=4.8								
MLR	**Muntele Rosu**	**85.97**	**316**	⇓*i* P	**P**		**10 29 23.1**	**+1.8**	
MLR	**Muntele Rosu**	**85.97**	**316**	⇓P	**P**		**10 29 23.1**	**+1.9**	
BURAR	**Bucovina Array**	**86.94**	**318**	⇓*i* P	**P**		**10 29 28.5**	**+2.5**	
BURAR	**Bucovina Array**	**86.94**	**318**	⇓P	**P**		**10 29 28.5**	**+2.5**	
JOF	**Joensuu**	**87.70**	**334**	*ep*	**P**		**10 29 30.2**	**+0.5**	
	comp=Z,8.8nm,1.1s,mb4.9								
BZS	**Buzias**	**88.98**	**316**	⇓*i* P	**P**		**10 29 37.0**	**+1.3**	
BZS	**Buzias**	**88.98**	**316**	⇓P	**P**		**10 29 37.0**	**+1.3**	
FINES	**FINESS Array B**	**89.65**	**332**	P	**P**		**10 29 39.4**	**+0.5**	
	comp=Z,1.7nm,0.6s,mb4.6,baz=113,slow=6.3,SNR=15								
FINES				pP	pP		10 29 53.4	+0.5	
	comp=Z,3.4nm,0.8s,baz=106,slow=6.2,SNR=9.4								
FINES	**FINESS Array B**	**89.65**	**332**	*i* P	**P**		**10 29 39.4**	**+0.6**	
FINES				pmax	pmax				
	comp=Z,2.0nm,0.6s								
FINES	**FINESS Array B**	**89.65**	**332**	P	**P**		**10 29 39.4**	**+0.5**	
FINES				pP	pP		10 29 53.4	+0.5	
KAF	**Kangasniemi**	**89.70**	**333**	*ep*	**P**		**10 29 39.1**	**0.0**	
	comp=Z,11nm,0.7s,mb5.3								
KAF	**Kangasniemi**	**89.70**	**333**	*eP*	**P**		**10 29 39.1**	**0.0**	
KAF				pmax	pmax				
	comp=Z,11nm,0.7s,mb5.3								
ARCES	**ARCESS Array B**	**91.78**	**340**	P	**P**		**10 29 48.5**	**-0.2**	
	comp=Z,3.2nm,1.0s,mb4.6,baz=89,slow=6.2,SNR=9.0								
NOA	**NORSAR Array B**	**96.71**	**331**	pP	pP		10 30 25.7	+0.2	
	comp=Z,0.6nm,0.8s,baz=95,slow=5.0,SNR=2.8								
TBI	**Tubuai**	**102.78**	**116**	*eLR*	LR		10 35 29.8		
	comp=Z,93nm,24.5s								
PPT	**Papeete**	**103.86**	**110**	*eLR*	LR		10 35 01.1		
	comp=Z,87nm,27.8s								
YKA	**Yellowknife Ar**	**117.32**	**19**	PKP	PKPdf		10 35 25.5	-0.7	
	comp=Z,0.3nm,0.7s,baz=350,slow=2.0,SNR=13								
NVAR	**Mina Array Bea**	**130.37**	**44**	PKP	PKPdf		10 35 53.9	+2.7	
	comp=Z,0.3nm,0.5s,baz=280,slow=2.7,SNR=5.4								
SCHQ	**Schefferville**	**131.04**	**353**	PKP	PKPdf		10 35 54.0	+1.5	
	comp=Z,1.1nm,0.5s,baz=239,slow=14,SNR=5.2								
ULM	**Lac du Bonnet**	**133.24**	**17**	PKP	PKPdf		10 35 57.3	+0.6	
	comp=Z,1.4nm,0.6s,baz=331,slow=1.0,SNR=3.1								
PDAR	**Pinedale Array**	**133.31**	**34**	PKP	PKPdf		10 35 59.0	+2.2	
	comp=Z,0.4nm,0.5s,baz=268,slow=5.5,SNR=5.9								
WMOK	**Wichita Mounta**	**144.92**	**33**	*e*PKIKP	PKPdf		10 36 17.5	-0.4	
LTX	**Lajitas**	**145.49**	**45**	*e*PKIKP	PKPdf		10 36 20.8	+1.9	
CCM	**Cathedral Cave**	**145.62**	**21**	*e*PKIKP	PKPdf		10 36 19.3	+0.2	
ACSO	**Alum Creek Sta**	**145.71**	**9**	*e*PKPbc	PKPbc		10 36 20.1	+0.4	
MIAR	**Mount Ida**	**147.69**	**27**	*e*PKPbc	PKPbc		10 36 25.3	-0.1	
MIAR				*e*PKPab	PKPab		10 36 28.5	+0.7	
WVT	**Waverly**	**148.50**	**18**	*e*PKPbc	PKPbc		10 36 28.2	+0.6	
WVT				*e*PKPab	PKPab		10 36 32.6	+1.6	
TZTN	**Tazewell**	**149.20**	**11**	*e*PKPdf	PKPdf		10 36 25.1	0.0	
TZTN				*e*PKPbc	PKPbc		10 36 30.0	+0.7	
TZTN				*e*PKPab	PKPab		10 36 33.9	0.0	
SWET	**Sewanee**	**149.91**	**16**	*e*PKPbc	PKPbc		10 36 31.2	+0.2	
CPCT	**Cooper Cave**	**150.04**	**14**	*e*PKPbc	PKPbc		10 36 32.1	+0.7	
CPCT				*e*PKPab	PKPab		10 36 37.2	-0.1	
CPCT				*es*PKPdf			10 36 46.4		

GUC 06 10:23:22.8±0.9, 3184S×7157W, h54km±4km, MD3.6, ML2.8, 6C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
CHNG	**Los Chungos**	**0.07**	**125**	*eP*	Pn		10 23 31.3	+0.3
CHNG				*i* S	Sn		10 23 37.3	+0.4
CHNG				AML	AML		10 23 38.0	
	comp=E,1μm,0.3s							
CMCH	**Combarbala**	**0.82**	**36**	⇑*i* P	Pn		10 23 38.9	+0.7
CMCH				*i* S	Sn		10 23 51.0	+1.4
CMCH				AML	AML		10 23 51.9	
	comp=E,1μm,0.3s							
JACH	**Jahuel**	**1.18**	**136**	⇓*i* P	Pn		10 23 44.2	+1.2
JACH				*i* S	Sn		10 23 59.8	+1.7
ROCH	**El Roble**	**1.23**	**157**	⇑*i* P	Pn		10 23 44.3	+0.7
PEL	**Peldehue**	**1.50**	**150**	⇓*i* P	Pn		10 23 48.1	+0.8
PEL				*i* S	Sn		10 24 06.7	+0.9
PEL				AML	AML		10 24 10.0	
	comp=E,139nm,0.4s							
LCCH	**Las Cruces**	**1.63**	**180**	⇑*i* P	Pn		10 23 49.2	+0.1
LCCH				*i* S	Sn		10 24 07.6	-1.4
RCDM	**Rinconada Maip**	**1.77**	**159**	*i* P	Pn		10 23 51.7	+0.7
RCDM				*i* S	Sn		10 24 13.1	+0.7
RCDM				AML	AML		10 24 17.6	
	comp=E,200nm,0.1s							
CLCH	**Cerro Calan**	**1.78**	**151**	⇑*i* P	Pn		10 23 52.1	+1.0
CLCH				*i* S	Sn		10 24 13.8	+1.1
CLCH				AML	AML		10 24 16.1	
	comp=E,84nm,0.2s							
TLL	**Tololo Astrono**	**1.79**	**22**	⇓*i* P	Pn		10 23 52.4	+1.0
TLL				*i* S	Sn		10 24 14.7	+1.7
TLL				AML	AML		10 24 18.6	
	comp=N,95nm,0.3s							
FCH	**Farellones**	**1.84**	**144**	⇑*i* P	Pn		10 23 53.1	+1.2
FCH				*i* S	Sn		10 24 16.4	+2.4
FCH				AML	AML		10 24 18.7	
	comp=N,56nm,0.2s							
TACH	**Talagante**	**1.89**	**164**	⇑*i* P	Pn		10 23 53.1	+0.5
PCH	**Pirque**	**1.99**	**154**	⇓*i* P	Pn		10 23 55.2	+1.3
PCH				*i* S	Sn		10 24 18.6	+0.9
CHCH	**Chadas Angostu**	**2.23**	**160**	*eP*	Pn		10 23 58.6	+1.3
CHCH				*i* S	Sn		10 24 24.9	+1.4
LMEL	**Las Melosas**	**2.31**	**150**	*i* P	Pn		10 23 59.3	+0.9
LMEL				*i* S	Sn		10 24 27.4	+1.7
LMEL				AML	AML		10 24 30.0	
	comp=N,101nm,0.1s							
CICH	**Cipreses**	**2.66**	**159**	*eP*	Pn		10 24 04.4	+1.3

*IDC **06** 10:24:57.5±1.5, 2001S×17447W, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.1/17, mbtmp4.0/10, MS3.3/1, Ms1 3.3/1, ms1mx2.6/26, Error ellipse: s-maj=70.8km s-min=19.2km az=154.0*

*MOS **06** 10:24:59.6±1.6, 2066S×174.18W, h36km, mb4.3/1, Error ellipse: s-maj=32.5km s-min=18.2km az=168.2*

*ISCJB **06** 10:25:01.0±0.7, 201S±02×1746W±0.1, h33km, mb4.0/11, Error ellipse: s-maj=31.3km s-min=14.1km az=119.6*

*NEIC **06** 10:25:01.5±0.6, 1987S×17452W, h25km, mb4.7/2, Error ellipse: s-maj=25.3km s-min=11.4km az=141.0*

ISC 06 10:25:03.1±0.7, 199S±02×1745W±01, h35km, n36, σ1§06/23, mb4.0/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
AFI	**Afiamalu**	**6.47**	**24**	Pn	**Pn**		**10 26 33.1**	**-2.8**
	3.3nm,0.3s,baz=317,slow=2.9,SNR=7.9							
AFI				Sn	**Sn**		**10 27 40.3**	**-8.2**
	9.8nm,0.3s,baz=356,slow=20,SNR=8.8							
AFI	**Afiamalu**	**6.47**	**24**	Pn	**Pn**		**10 26 33.1**	**-2.8**
AFI				*ePn*	**Pn**		**10 26 33.2**	**-2.7**
AFI				Sn	**Sn**		**10 27 40.4**	**-8.2**
RAR	**Rarotonga**	**13.87**	**98**	Pn	**Pn**		**10 28 09.1**	**-8.1**
	1.2nm,0.3s,baz=199,slow=8.9,SNR=4.9							

DZM	**Mont Dzumac**	**17.92**	**260**	P	**Pn**		**10 29 03.6**	**-5.9**	
	0.1nm,0.3s,baz=80,slow=20,SNR=3.1								
PPT	**Papeete**	**23.72**	**89**	LR	LR		10 37 05.5		
	comp=Z,77nm,21.6s,baz=269,slow=31								
CTA	**Charters Tower**	**36.82**	**263**	P	**P**		**10 32 08.6**	**+0.9**	
	1.9nm,0.4s,mb4.3,baz=94,slow=13,SNR=4.1								
ASAR	**Alice Springs**	**47.85**	**256**	P	**P**		**10 33 37.8**	**+0.3**	
	1.0nm,0.6s,mb4.0,baz=101,slow=7.9,SNR=17								
WRA	**Warramunga Arr**	**47.94**	**261**	P	**P**		**10 33 36.5**	**-1.6**	
	0.4nm,0.5s,mb3.7,baz=97,slow=7.5,SNR=19								
MBWA	**Marble Bar**	**61.19**	**256**	*eP*	**P**		**10 35 14.3**	**+0.1**	
	38nm,1.5s								
QSPA	**South Pole Qui**	**70.20**	**180**	*eP*	**P**		**10 36 10.7**	**-1.7**	
QSPA				*epP*	pP		10 36 17.5	-5.7	
MJAR	**Matsushiro Arr**	**71.70**	**321**	P	**P**		**10 36 22.3**	**+0.8**	
	2.5nm,0.7s,mb4.2,baz=155,slow=5.9,SNR=11								
NVAR	**Mina Array Bea**	**78.34**	**42**	P	**P**		**10 37 00.7**	**+1.0**	
	1.4nm,0.7s,mb4.0,baz=213,slow=7.2,SNR=13								
TPNV	**Topopah Spring**	**78.78**	**44**	*eP*	**P**		**10 37 03.1**	**+0.9**	
TPNV				pmax	pmax				
	comp=Z,1.0nm,0.7s,mb3.9								
TPNV	**Topopah Spring**	**78.78**	**44**	*eP*	**P**		**10 37 03.1**	**+0.9**	
	comp=Z,1.2nm,0.7s,mb3.9								
MSU	**Marysvale**	**82.33**	**45**	*eP*	**P**		**10 37 22.0**	**+0.8**	
ANMO	**Albuquerque**	**84.47**	**50**	P	**P**		**10 37 33.5**	**+1.3**	
	comp=Z,0.8nm,0.6s,mb4.0,baz=262,slow=4.6,SNR=4.3								
PDAR	**Pinedale Array**	**86.28**	**42**	P	**P**		**10 37 41.0**	**-0.2**	
	comp=Z,0.6nm,1.0s,mb3.8,baz=151,slow=3.4,SNR=4.1								
ILAR	**Eielson Array**	**87.01**	**11**	P	**P**		**10 37 44.6**	**-0.2**	
	comp=Z,1.0nm,0.6s,mb4.2,baz=232,slow=6.4,SNR=29								
INK	**Inuvik**	**92.83**	**14**	P	**P**		**10 38 11.8**	**-0.3**	
	comp=Z,1.8nm,0.9s,mb4.5,baz=169,slow=10.0,SNR=5.5								
INK	**Inuvik**	**92.83**	**14**	P	**P**		**10 38 11.8**	**-0.3**	
YKA	**Yellowknife Ar**	**94.59**	**24**	P	**P**		**10 38 19.8**	**-0.4**	
	comp=Z,0.3nm,0.7s,mb3.9,baz=240,slow=4.2,SNR=9.7								
ARCES	**ARCESS Array B**	**128.85**	**351**	PKP	PKPdf		10 44 06.7	-0.2	
	comp=Z,0.8nm,0.5s,baz=350,slow=1.4,SNR=12								
BRTR	**Keskin Array B**	**148.77**	**315**	PKPbc	PKPbc		10 44 47.9	+1.1	
	comp=Z,0.5nm,0.6s,baz=174,slow=3.7,SNR=4.9								
GIVF	**Givet**	**149.82**	**1**	*e*PKP1	PKPbc		10 44 50.2	+0.8	
BAIF	**Baives**	**149.86**	**2**	*e*PKP1	PKPbc		10 44 50.0	+0.5	
	comp=Z,15nm,1.2s								
FLN	**La Foliniere**	**150.77**	**8**	*e*PKP1	PKPbc		10 44 51.7	0.0	
	comp=Z,11nm,0.7s								
LDF	**La Druitiere**	**150.98**	**8**	*e*PKP1	PKPbc		10 44 52.1	-0.1	
	comp=Z,12nm,1.0s								
GRR	**Gorron**	**151.09**	**9**	*e*PKP1	PKPbc		10 44 52.4	0.0	
	comp=Z,10nm,0.7s								
CDF	**Champ du Feu**	**151.49**	**358**	*e*PKP1	PKPbc		10 44 53.8	+0.5	
HAU	**Haudompre**	**151.92**	**359**	*e*PKP1	PKPbc		10 44 55.6	+1.3	
HINF	**Hinteralfeld**	**152.10**	**358**	*e*PKP1	PKPbc		10 44 54.8	+0.1	
LOR	**Lormes**	**152.63**	**2**	*e*PKP1	PKPbc		10 44 56.4	+0.5	
SSF	**Saint Saulge**	**152.82**	**3**	*e*PKP1	PKPbc		10 44 56.7	+0.3	
	comp=Z,6.3nm,1.0s								
MFF	**Saint Martin d**	**152.94**	**9**	*e*PKP1	PKPbc		10 44 56.1	-0.5	
SMF	**Signal de Mont**	**153.25**	**3**	*e*PKP1	PKPbc		10 44 57.1	-0.2	
TCF	**Toulx Ste Croi**	**153.51**	**5**	*e*PKP1	PKPbc		10 44 57.7	-0.2	

*ISCJB **06** 10:37:52.4±0.6, 209S±01×17391W±009, h16km, mb4.2/11, Error ellipse: s-maj=17.4km s-min=10.7km az=131.8*

*IDC **06** 10:37:52.2±1.2, 2098S×17402W, h0km, mb4.1/7, mb1 4.3/9, mb1mx4.1/16, mbtmp4.1/9, ML3.2/2, Error ellipse: s-maj=45.9km s-min=19.5km az=150.0*

*NEIC **06** 10:37:54.6±0.4, 2093S×17396W, mb4.3/4, Error ellipse: s-maj=14.0km s-min=8.3km az=156.0*

ISC 06 10:37:56.7±3.9, 208S±01×17389W±010, h29km±30km, h17km±.9km: pP-P, n27, σ1§16/22, mb4.2/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
AFI	**Afiamalu**	**7.17**	**17**	Pn	**Pn**		**10 39 38.8**	**-0.8**
	3.2nm,0.3s,baz=125,slow=6.0,SNR=8.3							
AFI				Sn	**Sn**		**10 40 49.1**	**-11**
	9.9nm,0.3s,baz=18,slow=19,SNR=6.5							
RAR	**Rarotonga**	**13.19**	**94**	Pn	**Pn**		**10 41 01.4**	**-0.6**
	1.0nm,0.3s,baz=124,slow=18,SNR=3.5							
DZM	**Mont Dzumac**	**18.35**	**263**	P	**Pn**		**10 42 11.9**	**+3.0**
	0.5nm,0.3s,baz=77,slow=18,SNR=9.9							
URZ	**Urewera**	**19.03**	**202**	P	**Pn**		**10 42 20.0**	**+2.8**
	1.0nm,0.3s,baz=347,slow=3.5,SNR=6.6							
TBI	**Tubuai**	**22.77**	**101**	*e*LR	LR		10 48 14.4	
	128nm,30.8s							
PPT	**Papeete**	**23.18**	**86**	*e*LR	LR		10 48 22.2	
	176nm,29.5s							
CTAO	**Charters Tower**	**37.28**	**264**	*eP*	**P**		**10 45 05.8**	**-0.1**
	1.1nm,0.4s,mb4.0							
CTAO				*epP*	pP		10 45 10.2	-4.5
PMG	**Port Moresby**	**39.18**	**281**	*eP*	**P**		**10 45 21.4**	**-0.5**
STKA	**Stephens Creek**	**41.12**	**245**	P	**P**		**10 45 35.4**	**-2.7**
	4.0nm,0.7s,mb4.1,baz=107,slow=8.5,SNR=6.9							
STKA	**Stephens Creek**	**41.12**	**245**	P	**P**		**10 45 35.4**	**-2.7**
STKA				*epP*	pP		10 45 40.5	-6.3
ASAR	**Alice Springs**	**48.19**	**256**	P	**P**		**10 46 34.2**	**-0.1**
	6.0nm,0.8s,mb4.7,baz=100,slow=7.8,SNR=47							
WB2	**Warramunga Arr**	**48.35**	**261**	*eP*	**P**		**10 46 35.3**	**-0.3**
WRAB	**Tennant Creek**	**48.35**	**261**	*eP*	**P**		**10 46 35.1**	**-0.6**
	0.9nm,0.5s,mb4.1							
WRA	**Warramunga Arr**	**48.36**	**261**	P	**P**		**10 46 35.0**	**-0.8**
	2.4nm,0.8s,mb4.3,baz=96,slow=7.4,SNR=46							
KAKA	**Kakadu**	**51.83**	**270**	*eP*	**P**		**10 47 02.1**	**+0.1**
	5.2nm,0.6s,mb4.6							
FITZ	**Fitzroy Crossi**	**56.79**	**262**	*eP*	**P**		**10 47 38.4**	**+0.3**
	9.2nm,1.5s,mb4.6							
SBA	**Scott Base**	**57.83**	**185**	*eP*	**P**		**10 47 43.9**	**-1.5**
SBA				*epP*	pP		10 47 49.2	-5.2
MBWA	**Marble Bar**	**61.53**	**257**	*eP*	**P**		**10 48 10.4**	**-0.5**
MJAR	**Matsushiro Arr**	**72.81**	**321**	P	**P**		**10 49 22.5**	**0.0**
	1.9nm,0.6s,mb4.2,baz=156,slow=5.8,SNR=12							
MAJO	**Matsushiro**	**72.82**	**321**	*eP*	**P**		**10 49 22.8**	**+0.3**
NVAR	**Mina Array Bea**	**78.67**	**41**	P	**P**		**10 49 58.4**	**+2.4**
	1.0nm,0.7s,mb3.8,baz=213,slow=6.4,SNR=9.4							
PDAR	**Pinedale Array**	**86.61**	**42**	P	**P**		**10 50 37.4**	**+0.1**
	0.4nm,0.7s,mb3.8,baz=207,slow=1.7,SNR=3.6							
ILAR	**Eielson Array**	**87.84**	**11**	P	**P**		**10 50 44.7**	**+1.5**
	0.8nm,1.2s,mb3.8,baz=238,slow=6.0,SNR=4.1							
AAK	**Ala-Archa**	**119.53**	**308**	*e*PKPdf	PKPdf		10 56 44.3	+0.8
AKASG	**Malin Array Be**	**145.08**	**334**	PKPbc	PKPbc		10 57 31.0	+0.4
	0.8nm,0.5s,baz=37,slow=4.0,SNR=5.8							
MALT	**Malatya**	**147.16**	**309**	*e*PKPdf	PKPdf		10 57 35.8	+1.1
MALT				*e*PKPbc	PKPbc		10 57 37.9	+1.0
MALT				*e*PKPab	PKPab		10 57 39.9	+1.3
BR131	**Keskin Array S**	**149.86**	**315**	*e*PKPdf	PKPdf		10 57 39.5	+0.4

*NIED **06** 11:05:00, 3000N×13090E, h35km, Mw4.0 Best double couple: M₀1.01000×10¹⁵ NP1:φ₀31.00000°, δ71.00000°, λ92.00000°. NP2:φ₀206.00000°, δ20.00000°, λ85.00000°.*

*ISCJB **06** 11:05:46.2±1.0, 3001N±007×1309E±01, h52km±7km, mb3.7/6, MS3.6/1, Error ellipse: s-maj=22.4km s-min=7.0km az=54.9*

*NEIC **06** 11:05:46.5, 3003N×13093E, h27km, MG3.6(JMA), After JMA.*

*JMA **06** 11:05:46.5±0.2, 3003N×13093E, h27km±2km, M3.6*

*IDC **06** 11:05:48.4±2.7, 3003N×13076E, h53km±43km, mb3.5/6, mb1 3.5/8, mb1mx3.3/23, mbtmp3.7/8, ML3.0/2, MS3.6/1, Ms1 3.6/1, ms1mx2.3/26, Error ellipse: s-maj=68.9km s-min=18.7km az=127.0*

ISC 06 11:05:47.8±1.0, 3007N±007×1308E±01, h46km±7km, n16, σ0§84/19, mb3.7/6, MS3.6/1, 1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
JTN	**Tanegashima 3**	**0.60**	**15**	⇓P	**Pn**		**11 05 58.6**	**-1.5**
JTN				S	**Sn**		**11 06 07.3**	**-1.6**
JKC	**Kuchinoerabu**	**0.65**	**307**	P	**Pn**		**11 06 00.8**	**+0.1**
JNN	**Nakanoshima**	**0.83**	**254**	P	**Pn**		**11 06 03.9**	**+0.8**
JTSR	**Tashiro 2**	**1.10**	**6**	P	**Pn**		**11 06 06.8**	**0.0**
JTSR				S	**Sn**		**11 06 22.0**	**+1.3**
JSU	**Suzuyama**	**1.46**	**349**	P	**Pn**		**11 06 11.9**	**+0.2**
JNAR	**Kushima--Naru**	**1.51**	**16**	P	**Pn**		**11 06 12.5**	**+0.1**
JNAR				*eS*	**Sn**		**11 06 31.1**	**+0.3**
JOW	**Kunigami**	**3.92**	**215**	P	**Pn**		**11 06 45.5**	**0.0**
	1.8nm,0.3s,baz=124,slow=22,SNR=4.7							
JOW				S	**Sn**		**11 07 29.9**	**-0.2**
	2.1nm,0.3s,baz=205,slow=30,SNR=7.3							
MJAR	**Matsushiro Arr**	**8.95**	**42**	P	**Pn**		**11 07 56.1**	**+1.7**
	0.3nm,0.3s,baz=278,slow=19,SNR=4.2							
SONM	**Songino Array**	**25.80**	**320**	P	**P**		**11 11 13.6**	**-1.0**
	0.4nm,0.5s,mb3.2,baz=127,slow=8.7,SNR=3.6							
MKAR	**Makanchi Array**	**40.81**	**308**	P	**P**		**11 13 25.5**	**+0.7**
	0.8nm,0.5s,mb3.6,baz=88,slow=11,SNR=12							
BVAR	**Borovoye Array**	**49.01**	**316**	P	**P**		**11 14 30.0**	**+0.1**

	1.3nm,0.5s,mb4.2,baz=98,slow=11,SNR=6.8								
AKTO	**Aktyubinsk**	**56.81**	**313**	LR	LR		11 41 50.3		
	comp=Z,51nm,18.9s,MS3.6,baz=241,slow=38								
ARCES	**ARCESS Array B**	**67.28**	**338**	P	**P**		**11 16 37.4**	**-0.2**	
	1.5nm,1.0s,mb4.0,baz=40,slow=6.3,SNR=4.6								
ARCES	**ARCESS Array B**	**67.28**	**338**	P	**P**		**11 16 37.4**	**-0.2**	
FINES	**FINESS Array B**	**70.65**	**330**	P	**P**		**11 16 57.4**	**-1.2**	
	0.4nm,0.5s,mb3.6,baz=55,slow=5.3,SNR=4.3								
BRTR	**Keskin Array B**	**76.46**	**308**	P	**P**		**11 17 33.1**	**+0.4**	
	0.6nm,0.8s,mb3.6,baz=107,slow=4.1,SNR=4.1								

*ISCJB **06** 11:10:59.7±1.8, 209S±01×682W±0.1, h192km, mb3.1/2, Error ellipse: s-maj=18.2km s-min=17.6km az=148.6*

*IDC **06** 11:11:01.6±6.9, 2077S×6800W, h192km±47km, mb3.0/2, mb1 3.2/4, mb1mx3.1/14, mbtmp3.5/4, Error ellipse: s-maj=72.3km s-min=25.6km az=20.0*

ISC 06 11:11:01.4±1.8, 209S±01×681W±01, h192km, n4, σ1§63/6, mb3.1/2, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
LPAZ	**La Paz**	**4.54**	**360**	P	**Pn**		**11 12 11.4**	**+1.8**
	1.5nm,0.3s,baz=198,slow=8.4,SNR=15							
LPAZ				S	**Sn**		**11 13 02.4**	**-0.8**
	baz=154,slow=12,SNR=1.9							
SIV	**San Ignacio**	**8.25**	**55**	P	**Pn**		**11 12 54.6**	**-3.3**
	0.8nm,0.3s,baz=234,slow=13,SNR=18							
SIV				S	**Sn**		**11 14 31.1**	**+0.5**
	0.1nm,0.3s,baz=293,slow=21,SNR=3.1							
TORD	**Torodi Ar. Bea**	**76.45**	**70**	P	**P**		**11 22 29.7**	**-0.1**
	0.2nm,0.5s,mb3.0,baz=259,slow=5.8,SNR=5.9								
YKA	**Yellowknife Ar**	**90.82**	**340**	P	**P**		**11 23 42.5**	**-0.3**	
	0.2nm,0.6s,mb3.3,baz=130,slow=4.5,SNR=12								

MAN 06 11:23:38.1, 1863N×12077E, h28km, mb2.6, ML4.1, MS2.6, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
PIP	**Pasuquin**	**0.33**	**205**	⇑*i* P	Pb		11 23 46.9	+1.1
PIP				*eS*	Sb		11 23 54.5	+3.4
APYP	**Conner**	**0.89**	**149**	*eP*	Pn		11 23 54.0	-0.8
APYP				*eS*	Sb		11 24 06.7	+0.4
ABRA	**Dolores**	**0.97**	**183**	*eP*	Pn		11 23 56.1	+0.1
CVP	**Callao Caves**	**1.36**	**132**	*eP*	Pn		11 24 01.0	-0.3
CVP				*eS*	Sn		11 24 15.0	-3.4
CAUP	**Cauayan**	**1.95**	**149**	*eP*	Pn		11 24 11.5	+2.1
**

ULN	**Ulaanbaatar**	**27.13**	**302**	*e*P		**P**	**11 51 20.9**	**0.0**
	comp=Z,1.5nm,0.6s,mb3.7							
SONM	**Songino Array**	**27.57**	**302**	P		**P**	**11 51 26.0**	**+1.2**
	comp=Z,1.1nm,0.6s,mb3.6,baz=103,slow=8.1,SNR=8.4							
SONM				LR		LR	12 02 52.5	
	comp=Z,43nm,18.1s,MS3.1,baz=186,slow=37							
TLY	**Talaya**	**29.93**	**309**	*c i*P		**P**	**11 51 46.0**	**+0.2**
TLY	**Talaya**	**29.93**	**309**	*e*P		**P**	**11 51 46.0**	**+0.2**
	comp=Z,1.5nm,0.6s,mb3.9							
ZAK	**Zakamensk**	**29.94**	**306**⇑	*i*P		**P**	**11 51 46.0**	**+0.1**
ZAK				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.2							
GYA	**Guiyang**	**32.08**	**259**	P		**P**	**11 52 04.6**	**-0.2**
GYA				AMB	AMB			
	comp=Z,10.0nm,0.7s,mb4.8							
BILL	**Bilibino**	**32.54**	**17**	*e*P		**P**	**11 52 08.6**	**-0.2**
BILL				pmax	pmax			
	comp=Z,2.0nm,1.0s,mb4.0							
BILL	**Bilibino**	**32.54**	**17**	*e*P		**P**	**11 52 08.6**	**-0.1**
	comp=Z,2.0nm,1.0s,mb4.0							
TIXI	**Tiksi**	**34.01**	**352**⇑	*e*P		**P**	**11 52 20.9**	**-0.7**
TIXI				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.2							
ZAL	**Zalesovo**	**41.48**	**311**	P		**P**	**11 53 24.4**	**-0.3**
	comp=Z,3.9nm,0.4s,mb4.3,baz=74,slow=2.1,SNR=9.1							
MKAR	**Makanchi Array**	**43.94**	**301**	P		**P**	**11 53 44.6**	**+0.1**
	comp=Z,2.7nm,0.7s,mb4.1,baz=84,slow=10,SNR=19							
MKAR				pP		pP	11 53 56.2	0.0
	comp=Z,3.1nm,0.7s,baz=88,slow=10,SNR=11							
MKAR	**Makanchi Array**	**43.94**	**301**	P		**P**	**11 53 44.6**	**+0.1**
MKAR				pP		pP	11 53 56.2	0.0
KURK	**Kurchatov**	**45.59**	**307**	*c i*P		**P**	**11 53 57.5**	**-0.2**
KURK	**Kurchatov**	**45.59**	**307**	*e*P		**P**	**11 53 57.3**	**-0.4**
	comp=Z,9.7nm,0.6s,mb4.9							
ILAR	**Eielson Array**	**48.01**	**33**	P		**P**	**11 54 16.6**	**0.0**
	comp=Z,1.2nm,0.9s,mb3.9,baz=273,slow=5.8,SNR=13							
ILAR				pP		pP	11 54 26.4	-2.0
	comp=Z,0.6nm,0.7s,baz=265,slow=5.7,SNR=3.3							
BVAR	**Borovoye Array**	**50.12**	**312**	P		**P**	**11 54 32.4**	**-0.4**
	comp=Z,1.1nm,0.4s,mb4.3,baz=66,slow=7.2,SNR=7.0							
BVAR				PcP		PcP	11 55 50.9	-0.9
	comp=Z,1.0nm,0.5s,baz=64,slow=3.4,SNR=4.2							
BRVK	**Borovoye**	**50.18**	**312**	*e*P		**P**	**11 54 33.4**	**+0.2**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.4							
BRVK	**Borovoye**	**50.18**	**312**	*e*P		**P**	**11 54 33.4**	**+0.2**
	comp=Z,1.5nm,0.5s,mb4.3							
ZRNK	**Zerenda**	**50.95**	**312**	*e*P		**P**	**11 54 38.6**	**-0.5**
ZRNK				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.0							
ZRNK	**Zerenda**	**50.95**	**312**	*e*P		**P**	**11 54 38.6**	**-0.5**
	comp=Z,1.2nm,0.5s,mb4.1							
INK	**Inuvik**	**52.89**	**28**	P		**P**	**11 54 53.5**	**+0.1**
	comp=Z,0.8nm,0.5s,mb3.9,baz=275,slow=11,SNR=16							
INK	**Inuvik**	**52.89**	**28**	*e*P		**P**	**11 54 53.7**	**+0.2**
INK				pmax	pmax			
	comp=Z,1.0nm,0.4s							
INK	**Inuvik**	**52.89**	**28**	*e*P		**P**	**11 54 53.6**	**+0.2**
	comp=Z,0.9nm,0.4s,mb4.0							
ARU	**Arti**	**55.75**	**318**⇓	*i*P		**P**	**11 55 14.5**	**+0.2**
ARU				*e*			11 56 11.2	
ARU				*e*			11 57 16.8	
ARU				*e*S		**S**	**12 02 59.8**	**+1.7**
ARU				*e*SS		SS	12 06 45.6	+1.7
ARU				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.6							
AB31	**Akbulak array**	**57.54**	**310**	*i* P		**P**	**11 55 26.6**	**-0.4**
AB31				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.2							
WRAB	**Tennant Creek**	**58.49**	**189**	*e*P		**P**	**11 55 33.5**	**-0.2**
WRAB				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3							
WRAB	**Tennant Creek**	**58.49**	**189**	*e*P		**P**	**11 55 33.5**	**-0.2**
	comp=Z,1.6nm,0.6s,mb4.2							
WB2	**Warramunga Arr**	**58.50**	**189**	*e*P		**P**	**11 55 33.7**	**0.0**
WRA	**Warramunga Arr**	**58.50**	**189**	P		**P**	**11 55 33.7**	**0.0**
	comp=Z,2.8nm,0.6s,mb4.5,baz=6.3,slow=6.9,SNR=52							
WRA	**Warramunga Arr**	**58.50**	**189**	*i* P		**P**	**11 55 33.7**	**0.0**
WRA				pmax	pmax			
	comp=Z,3.0nm,0.6s							
RES	**Resolute Bay**	**61.12**	**15**	*e*P		**P**	**11 55 50.9**	**-0.8**
RES				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.4							
RES	**Resolute Bay**	**61.12**	**15**	*e*P		**P**	**11 55 50.9**	**-0.9**
	comp=Z,1.5nm,0.6s,mb4.3							
ASAR	**Alice Springs**	**62.23**	**189**	P		**P**	**11 55 59.8**	**+0.6**
	comp=Z,1.2nm,0.6s,mb4.2,baz=7.2,slow=5.0,SNR=20							
ASAR				pP		pP	11 56 12.3	+0.9
	comp=Z,1.0nm,0.7s,baz=8.4,slow=4.4,SNR=5.5							
YKA	**Yellowknife Ar**	**62.31**	**31**	P		**P**	**11 55 59.8**	**0.0**
	comp=Z,0.5nm,0.7s,mb3.8,baz=301,slow=6.1,SNR=12							
YKA	**Yellowknife Ar**	**62.31**	**31**	*i* P		**P**	**11 55 59.7**	**-0.1**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**62.31**	**31**	P		**P**	**11 55 59.8**	**0.0**
ARCES	**ARCESS Array B**	**62.94**	**339**	P		**P**	**11 56 03.8**	**-0.1**
	comp=Z,0.9nm,0.6s,mb4.1,baz=50,slow=8.1,SNR=11							
JOF	**Joensuu**	**65.05**	**332**	*ep*		**P**	**11 56 16.9**	**-0.9**
OBN	**Obninsk**	**67.38**	**323**	*e*P		**P**	**11 56 32.4**	**-0.3**
OBN				*e*			11 59 02.3	
OBN				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.5							
KAF	**Kangasniemi**	**67.38**	**333**	*ep*		**P**	**11 56 31.8**	**-0.9**
	comp=Z,5.3nm,0.7s,mb4.7							
KAF	**Kangasniemi**	**67.38**	**333**	*e*P		**P**	**11 56 31.8**	**-0.9**
KAF				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.7							
FINES	**FINESS Array B**	**67.90**	**332**	P		**P**	**11 56 35.6**	**-0.3**
	comp=Z,5.4nm,0.7s,mb4.7,baz=49,slow=8.8,SNR=31							
FINES				LR		LR	12 27 00.5	
	comp=Z,28nm,18.0s,MS3.5,baz=158,slow=36							
FINES	**FINESS Array B**	**67.90**	**332**	*i* P		**P**	**11 56 35.7**	**-0.3**
FINES				pmax	pmax			
	comp=Z,5.0nm,0.7s							
KIV	**Kislovodsk**	**70.48**	**311**⇓	*e*P		**P**	**11 56 52.8**	**+0.8**
KIV				pmax	pmax			
	comp=Z,9.0nm,0.8s,mb4.8							
GNI	**Garni**	**71.39**	**307**	*i* P		**P**	**11 57 01.6**	**+4.1**
FFC	**Flin Flon**	**72.22**	**33**	*e*P		**P**	**11 57 02.7**	**+0.2**
FFC				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.1							
FFC	**Flin Flon**	**72.22**	**33**	*e*P		**P**	**11 57 02.6**	**+0.2**
	comp=Z,2.5nm,0.8s,mb4.2							
FCC	**Fort Churchill**	**72.50**	**27**	*e*P		**P**	**11 57 03.5**	**-0.7**
FCC				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.0							
FCC	**Fort Churchill**	**72.50**	**27**	*e*P		**P**	**11 57 03.5**	**-0.6**
	comp=Z,1.6nm,0.9s,mb4.0							
NB2	**NORSAR Subarra**	**73.17**	**337**	P		**P**	**11 57 07.5**	**-0.6**
	comp=Z,4.7nm,0.8s,mb4.5,baz=38,slow=6.2							
NOA	**NORSAR Array B**	**73.17**	**337**	P		**P**	**11 57 08.0**	**-0.1**
	comp=Z,3.4nm,0.7s,mb4.4,baz=39,slow=5.9,SNR=17							
NOA				pP		pP	11 57 19.1	-1.4
	comp=Z,0.7nm,0.7s,baz=26,slow=8.5,SNR=2.6							
AKASG	**Malin Array Be**	**73.60**	**322**	P		**P**	**11 57 10.3**	**-0.3**
	comp=Z,2.1nm,0.4s,mb4.4,baz=46,slow=5.8,SNR=21							
AKASG				pP		pP	11 57 22.6	-0.5
	comp=Z,0.5nm,0.3s,baz=45,slow=6.1,SNR=3.1							
AKASG	**Malin Array Be**	**73.60**	**322**	*i* P		**P**	**11 57 10.3**	**-0.3**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.4s							
AKASG	**Malin Array Be**	**73.60**	**322**	P		**P**	**11 57 10.3**	**-0.3**
AKASG				pP		pP	11 57 22.6	-0.5
BW06	**Boulder Array**	**76.27**	**46**	*e*P		**P**	**11 57 26.5**	**+0.4**
	comp=Z,0.6nm,0.5s,mb3.8							
PDAR	**Pinedale Array**	**76.27**	**46**	P		**P**	**11 57 26.7**	**+0.7**
	comp=Z,0.5nm,0.5s,mb3.7,baz=34,slow=0.6,SNR=5.0							
PDAR				pP		pP	11 57 38.5	0.0
	comp=Z,0.7nm,0.7s,baz=298,slow=2.8,SNR=3.5							
BRTR	**Keskin Array B**	**78.41**	**312**	P		**P**	**11 57 38.4**	**+0.3**
	comp=Z,0.6nm,0.4s,mb3.9,baz=78,slow=3.1,SNR=4.6							
PV10	**Paradox Valley**	**79.41**	**49**	*e*P		**P**	**11 57 44.9**	**+1.4**
CLL	**Collm**	**80.22**	**330**	*i* P		**P**	**11 57 48.1**	**+0.2**
KHC	**Kasperske Hory**	**81.70**	**329**⇓	*e*P		**P**	**11 57 56.5**	**+0.7**
GERES	**GERESS Array B**	**81.88**	**329**	P		**P**	**11 57 57.3**	**+0.6**
	comp=Z,0.2nm,0.2s,mb3.6,baz=317,slow=5.7,SNR=3.5							
GERES				pP		pP	11 58 10.3	+1.0
	comp=Z,0.3nm,0.3s,baz=45,slow=12,SNR=2.0							
GERES				LR		LR	12 36 45.3	
	comp=Z,32nm,18.6s,MS3.7,baz=292,slow=37							
GERES	**GERESS Array B**	**81.88**	**329**	P		**P**	**11 57 57.3**	**+0.6**
GERES				*PP		pP	11 58 10.3	+1.0
ANMO	**Albuquerque**	**83.23**	**50**⇑	*e*P		**P**	**11 58 06.3**	**+2.5**
VNA2	**Neumayer--Wakz**	**143.81**	**196**	*e*PKPdf	PKPdf	PKPdf	12 05 08.6	-3.8
	baz=133,slow=2.9							
VNA2				*e*			12 05 13.1	
VNA2				*e*			12 05 20.7	
VNA3	**Neumayer Olymp**	**144.05**	**195**	*e*PKPdf	PKPdf	PKPdf	12 05 08.2	-4.6
VNA3				*e*			12 05 13.8	
VNA3				*e*			12 05 22.2	
LPAZ	**La Paz**	**145.46**	**59**	PKPbc	PKPbc	PKPbc	12 05 16.5	+1.2
	comp=Z,0.7nm,0.5s,baz=85,slow=4.3,SNR=6.8							

MOS 06 11:59:48.8±1.8, 4294N×4704E, h16km, mb3.8/1, Error ellipse: s-maj=21.7km s-min=11.6km az=5.3, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DBC	**Dubki**	**0.17**	**299**	*e*PG		Pg	11 59 52.5	-0.6
DBC				*i* S		Sg	11 59 57.0	+0.9
UNCR	**Uncukul**	**0.28**	**219**	PG		Pg	11 59 57.0	+2.1
UNCR				*i* S		Sg	12 00 05.5	+6.5
UNCR				pmax	pmax			
	comp=Z,33nm,0.4s							
BTLR	**Botlikh**	**0.66**	**246**	*e*PG		Pg	11 59 59.2	-2.5
BTLR				*i* S		Sg	12 00 07.9	-2.6
BTLR				pmax	pmax			
	comp=Z,45nm,0.4s							
VLKR	**Vladikavkaz**	**1.74**	**274**	*e*PN		Pn	12 00 20.0	+1.7
BTKR	**Batakoyurt**	**1.88**	**284**	*e*PN		Pn	12 00 21.6	+1.4
LACR	**Lac**	**2.02**	**268**	*e*PN		Pn	12 00 25.0	+2.8
KMSR	**Komsomolskaya**	**2.06**	**283**	*e*PN		Pn	12 00 24.2	+1.5
PRTR	**Priterechnaya**	**2.17**	**293**	*e*PN		Pn	12 00 25.4	+1.2
KORR	**Kora**	**2.18**	**275**	*e*PN		Pn	12 00 26.4	+2.0
ZEI	**Tsey**	**2.31**	**267**	*e*PN		Pn	12 00 28.8	+2.6

*MOS **06** 12:00:11.9±3.5, 4997N×8810E, h15km, mb4.2/1, Error ellipse: s-maj=71.9km s-min=30.6km az=103.8*
*ISCJB **06** 12:00:16.4±0.9, 5015N±007×8731E±009, h10km, Error ellipse: s-maj=10.8km s-min=7.0km az=126.1*
*NNC **06** 12:00:17.2±5.4, 5006N×8746E, h6km±30km, mb3.7, mpv3.9, Error ellipse: s-maj=44.2km s-min=21.1km az=95.0*

ISC 06 12:00:18.2±1.1, 5007N±008×8739E±010, h10km, n13, σ1 30/18, 9C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AKAR	**Aktash**	**0.30**	**30**	*i* PG		**Pg**	**12 00 19.8**	**-4.3**
AKAR				*e*			12 00 26.4	
UKR	**Ust'-Kan**	**1.88**	**299**	*e*PN		**Pn**	**12 00 53.8**	**+3.4**
UKR				*e*			12 01 26.0	
TASR	**Tashtagol**	**2.72**	**6**	*e*PN		**Pn**	**12 01 03.4**	**+1.5**
TASR				*e*			12 01 38.9	
CERR	**Cheremushki**	**3.76**	**40**	*i* PN		**Pn**	**12 01 16.3**	**+0.1**
CERR				*e*			12 02 04.5	
MK05	**Makanchi Array**	**4.71**	**228**	⇑Pn		**Pn**	**12 01 29.9**	**+0.6**
	16nm,0.6s,baz=53,slow=13							
MK05				⇓Sn		**Sn**	**12 02 27.8**	**+3.8**
	25nm,0.5s,baz=59,slow=26							
MK05				⇑Lg			12 02 47.7	
	25nm,0.4s,baz=53,slow=30							
NVS	**Novosibirsk**	**5.42**	**334**	*e*PN		**Pn**	**12 01 38.0**	**-0.9**
NVS				*e*			12 01 55.2	
KURK	**Kurchatov**	**5.65**	**280**	⇓Pn		**Pn**	**12 01 43.6**	**+1.5**
	9.4nm,0.9s							
KURK				⇑Lg			12 03 18.6	
	26nm,0.8s							
VOSK	**Vostochnaya**	**10.59**	**291**	⇑Pn		**Pn**	**12 02 49.7**	**-0.3**
	0.8nm,0.5s							
VOSK				⇑Sn		**Sn**	**12 04 49.5**	**+0.8**
	1.5nm,0.5s							
BVA0	**Borovoye Array**	**10.99**	**292**	⇑Pn		**Pn**	**12 02 54.0**	**-1.5**
	0.4nm,0.9s,baz=110,slow=15,SNR=9.3							
BVA0				⇓Sn		**Sn**	**12 05 00.9**	**+2.4**
	0.5nm,0.9s,baz=108,slow=24,SNR=7.7							
ZRNK	**Zerenda**	**11.81**	**291**	⇓Pn		**Pn**	**12 03 06.2**	**-0.4**
	1.2nm,0.6s							
ZRNK				⇑Sn		**Sn**	**12 05 17.3**	**-1.2**
	2.5nm,0.8s							
KK31	**Karatay Array**	**13.52**	**245**	⇓Pn		**Pn**	**12 03 25.9**	**-4.0**
	0.3nm,0.3s,baz=58,slow=12,SNR=9.9							
KK31				⇑Sn		**Sn**	**12 05 59.6**	**-0.6**
	3.4nm,0.9s,baz=56,slow=24,SNR=5.4							
AB31	**Akbulak array**	**17.75**	**278**	⇑P		**Pn**	**12 04 24.3**	**-1.1**
	0.8nm,0.7s,baz=77,slow=11,SNR=9.7							
AKTO	**Aktyubinsk**	**18.74**	**282**	⇓P		**Pn**	**12 04 36.2**	**-1.3**

IDC 06 12:07:52.8±7.9, 1878S×17525W, h0km, mb3.3/3, mb1 3.7/3, mb1mx3.5/13, mbtmp3.3/3, Error ellipse: s-maj=343.7km s-min=37.6km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**47.43**	**260**	P		P	12 16 29.7	+0.7
	0.2nm,0.4s,baz=97,slow=7.5,SNR=4.7							
ASAR	**Alice Springs**	**47.45**	**255**	P		P	12 16 29.3	+0.1
	0.3nm,0.8s,baz=98,slow=8.6,SNR=5.6							
ILAR	**Eielson Array**	**86.09**	**12**	P		P	12 20 35.0	-0.5
	0.2nm,0.6s,baz=228,slow=6.2,SNR=8.9							

IDC 06 12:08:26.1±2.6, 9445×11787E, h0km, mb3.3/3, mb1 3.5/5, mb1mx3.4/16, mbtmp3.3/5, ML3.1/2, MS3.1/1, Ms1 3.1/1, ms1mx2.3/17, Error ellipse: s-maj=160.5km s-min=21.8km az=53.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.45**	**140**	Pn		Pn	12 11 10.5	-0.3
	0.2nm,0.3s,baz=284,slow=23,SNR=6.7							
FITZ				Sn		Sn	12 13 07.1	-12
	0.1nm,0.3s,baz=167,slow=12,SNR=3.2							
FITZ				LR		LR	12 15 08.6	
	comp=Z,77nm,18.1s,baz=89,slow=35							
WRA	**Warramunga Arr**	**19.03**	**125**	P		Pn	12 12 49.7	-0.6
	0.1nm,0.3s,baz=300,slow=13,SNR=3.1							
ASAR	**Alice Springs**	**20.86**	**135**	P		P	12 13 10.4	+0.9
	0.5nm,0.7s,baz=315,slow=11,SNR=6.7							
SONM	**Songino Array**	**57.92**	**351**	P		P	12 18 20.5	+0.6
	0.4nm,0.6s,baz=166,slow=8.2,SNR=4.7							
MKAR	**Makanchi Array**	**64.34**	**334**	P		P	12 19 03.2	-0.3
	0.3nm,0.6s,baz=150,slow=6.7,SNR=3.1							

*ISCJB **06** 12:22:26.8±1.5, 183S±02×178.1W±02, h578km±20km, mb3.5/8, Error ellipse: s-maj=40.3km s-min=18.0km az=121.9*
*NEIC **06** 12:22:27.8±1.2, 1831S×17803W, h578km±13km, mb4.2/1, Error ellipse: s-maj=30.4km s-min=13.7km az=151.0*
*IDC **06** 12:22:30.2±5.9, 1797S×17829W, h591km±63km, mb3.0/7, mb1 3.3/7, mb1mx3.2/13, mbtmp3.9/7, Error ellipse: s-maj=55.7km s-min=21.5km az=142.0*

ISC 06 12:22:28.1±1.5, 183S±02×1780W±02, h580km±18km, n14, σ1 00/10, mb3.5/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.42**	**55**	P		**P**	**12 24 20.8**	**-0.2**
PMG	**Port Moresby**	**34.91**	**280**	P		**P**	**12 28 33.3**	**+1.1**
	4.5nm,0.8s,mb4.2							
WRA	**Warramunga Arr**	**44.94**	**260**	P		**P**	**12 29 51.8**	**-0.4**
	0.4nm,0.5s,mb3.2,baz=94,slow=7.2,SNR=14							
WRA				PcP		PcP	12 31 21.8	+1.0
	0.3nm,0.3s,baz=90,slow=3.9,SNR=11							
ASAR	**Alice Springs**	**45.05**	**255**	P		**P**	**12 29 53.7**	**+0.7**
	0.8nm,0.4s,mb3.6,baz=91,slow=7.6,SNR=23							
ASAR				PcP		PcP	12 31 22.1	+0.8
	0.5nm,0.4s,baz=106,slow=3.9,SNR=11							
CASY	**Casey**	**65.92**	**205**	P		**P**	**12 32 16.7**	**-0.8**
MJAR	**Matsushiro Arr**	**68.47**	**323**	P		**P**	**12 32 32.0**	**-1.0**
	0.6nm,0.5s,mb3.3,baz=152,slow=6.4,SNR=5.9							
NVAR	**Mina Array Bea**	**79.45**	**44**	P		**P**	**12 33 36.9**	**+1.8**
	0.7nm,0.6s,mb3.1,baz=212,slow=6.5,SNR=7.6							
ILAR	**Eielson Array**	**86.20**	**13**	P		**P**	**12 34 07.3**	**-1.4**
	0.7nm,0.4s,mb3.6,baz=220,slow=4.8,SNR=21							
PDAR	**Pinedale Array**	**87.39**	**43**	P		**P**	**12 34 15.3**	**+1.0**
	0.3nm,0.4s,mb3.4,baz=243,slow=1.0,SNR=4.5							
YKA	**Yellowknife Ar**	**94.55**	**25**	P		**P**	**12 34 46.6**	**-0.6**
	0.2nm,0.5s,mb3.5,baz=241,slow=4.5,SNR=6.3							
ARCES	**ARCESS Array B**	**126.79**	**350**	PKP		PKPdf	12 40 25.4	-1.0
	3.2nm,1.1s,baz=54,slow=2.1,SNR=6.3							
ARCES	**ARCESS Array B**	**126.79**	**350**	PKP		PKPdf	12 40 25.4	-1.0
BRTR	**Keskin Array B**	**145.35**	**315**	PKP		PKPdf	12 40 59.9	-0.6
	0.7nm,0.6s,baz=142,slow=6.3,SNR=4.2							
GERES	**GERESS Array B**	**148.11**	**345**	PKPbc		PKPbc	12 41 09.2	+0.1
	0.8nm,0.4s,baz=48,slow=2.0,SNR=4.9							

IDC 06 12:32:00.0±3.9, 626S×14921E, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.6/15, mbtmp3.6/5, ML2.2/1, Error ellipse: s-maj=108.5km s-min=24.5km az=109.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.73**	**213**	Pn		Pn	12 32 60.0	+1.2
	1.4nm,0.3s,baz=30,slow=11,SNR=10							
PMG				Sn		Sn	12 33 45.6	+2.2
	4.4nm,0.3s,baz=192,slow=22,SNR=8.5							
WRA	**Warramunga Arr**	**19.84**	**225**	P		Pn	12 36 32.3	-1.6
	0.1nm,0.3s,baz=51,slow=11,SNR=19							
ASAR	**Alice Springs**	**22.72**	**219**	P		P	12 37 02.8	-0.7
	0.4nm,0.7s,baz=50,slow=9.0,SNR=5.4							
FITZ	**Fitzroy Crossi**	**25.83**	**241**	P		P	12 37 33.7	+0.7
	1.7nm,0.9s,baz=83,slow=8.1,SNR=4.3							
MJAR	**Matsushiro Arr**	**43.80**	**347**	P		P	12 40 07.6	0.0
	1.8nm,1.0s,baz=162,slow=11,SNR=4.1							

*KRSC **06** 12:42:12.5±0.8, 6152N×16833E, h0km±5km, ML3.8*
*ISCJB **06** 12:42:13.5±0.4, 6153N±004×16850E±0.10, h10km, mb3.8/9, Error ellipse: s-maj=7.0km s-min=5.1km az=35.8*
*IDC **06** 12:42:13.3±1.0, 6140N×16846E, h0km, mb3.7/8, mb1 4.0/8, mb1mx3.7/24, mbtmp3.7/8, Error ellipse: s-maj=40.3km s-min=18.0km az=166.0*
*MOS **06** 12:42:13.6±0.8, 6152N×16835E, h15km, mb4.4/1, Error ellipse: s-maj=30.0km s-min=18.0km az=80.0*
*NEIC **06** 12:42:18.9±1.6, 6154N×16831E, h38km±15km, mb4.0/3, Error ellipse: s-maj=19.1km s-min=8.3km az=166.0*

ISC 06 12:42:15.4±0.4, 6157N±004×1685E±01, h10km, n34, σ0 99/36, mb3.8/9, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KAMR	**Kamenskoye**	**1.40**	**311**	*e*P		**Pn**	**12 42 40.6**	**-0.4**
KAMR				*e*S		**Sn**	**12 42 59.5**	**0.0**
KAMR				Smax				
	1μm,0.7s							
OSSR	**Ossora**	**3.56**	**232**	*e*P		**Pn**	**12 43 08.8**	**-1.9**
KBG	**Krutoberegovo**	**6.11**	**212**	*e*P		**Pn**	**12 43 45.9**	**+0.1**
KBTR	**Krutoberegovo**	**6.13**	**211**	*e*P		**Pn**	**12 43 45.8**	**-0.2**
SMKR	**Semkarok**	**6.17**	**219**	*e*P		**Pn**	**12 43 46.9**	**+0.3**
SRKR	**Sorokina**	**6.21**	**221**	*e*P		**Pn**	**12 43 47.3**	**+0.3**
BDR	**Baidarnaya**	**6.26**	**220**	*e*P		**Pn**	**12 43 47.8**	**0.0**
BKI	**Bering**	**6.52**	**193**	*e*P		**Pn**	**12 43 51.4**	**+0.1**
BILL	**Bilibino**	**6.57**	**353**	*e*PN		**Pn**	**12 43 52.7**	**+0.7**
BILL	**Bilibino**	**6.57**	**353**	*e*Pn		**Pn**	**12 43 52.7**	**+0.7**
BILL	**Bilibino**	**6.57**	**353**	*e*P		**Pn**	**12 43 54.3**	**+2.3**
BILL				*e*S		**Sn**	**12 45 08.5**	**+1.5**
BILL				Smax				
	60nm,1.1s							
SRDR	**Sredinnyy**	**6.95**	**225**	*e*P		**Pn**	**12 43 58.5**	**+1.2**
KMNR	**Kamenistaya**	**7.24**	**220**	*e*P		**Pn**	**12 44 02.1**	**+0.8**
ESO	**Esso**	**7.61**	**226**	*e*P		**Pn**	**12 44 07.6**	**+1.3**
SEY	**Seymchan**	**7.65**	**287**	*e*P		**Pn**	**12 44 07.1**	**+0.3**
MA2	**Magadan**	**8.95**	**265**	*e*PN		**Pn**	**12 44 24.0**	**-0.7**
MA2	**Magadan**	**8.95**	**265**	*e*P		**Pn**	**12 44 26.5**	**+1.8**
SPN	**Mys Shipunski**	**9.64**	**212**	*e*P		**Pn**	**12 44 35.1**	**+0.9**
COLA	**College**	**19.64**	**61**	P		**Pn**	**12 46 46.0**	**+0.5**
COLA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
COLA	**College**	**19.64**	**61**	P		**Pn**	**12 46 46.0**	**+0.4**
	comp=Z,1.9nm,0.7s							
ILAR	**Eielson Array**	**20.06**	**61**	P		**P**	**12 46 49.3**	**+0.5**
	comp=Z,4.2nm,0.7s,baz=276,slow=8.5,SNR=46							
INK	**Inuvik**	**24.57**	**49**	P		**P**	**12 47

2.5nm,0.3s,baz=78,slow=18,SNR=7.7
AFI S Sn 13 23 40.7 +0.7
5.4nm,0.3s,baz=93,slow=19,SNR=5.6
WRA Warramunga Arr 48.89 259 P P 13 30 25.1 +0.4
0.6nm,0.9s,baz=97,slow=7.2,SNR=14
ASAR Alice Springs 48.95 254 P P 13 30 25.4 +0.3
0.7nm,0.5s,baz=92,slow=8.3,SNR=21
ILAR Eielson Array 85.04 11 P P 13 34 13.8 -0.4
0.4nm,0.7s,baz=218,slow=6.4,SNR=6.3

*ISCJB **06** 13:27:07.5±0.7, 39.34N×004×2088E±005, h10km±7km, Error ellipse: s-maj=8.2km s-min=4.9km az=67.7*
*ATH **06** 13:27:07.9, 39.40N×2093E, h29km±7km, MD2.7/3*
*CSEM **06** 13:27:07.5±0.3, 3935N×2087E, h15km, MD2.7, Error ellipse: s-maj=9.0km s-min=5.5km az=29.0*
*THE **06** 13:27:08.1, 39.34N×2086E, h6km, ML2.2*

ISC 06 13:27:08.1±0.6,**3934N**±004×**2086E**±005,**h16**km±5km,**n7, σ0§80/14, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.32**	**358**	*e*PB	**Pg**	**13 27 14.6**	**-0.2**
JAN				*e*SB	**Sg**	**13 27 19.8**	**+0.4**
IGT	**Igoumenitsa**	**0.46**	**296**	*e*Pg	**Pg**	**13 27 16.1**	**-1.2**
IGT				*e*Sg	**Sg**	**13 27 23.8**	**+0.4**
LKD	**Levkas**	**0.65**	**195**	*e*Pg	**Pg**	**13 27 19.7**	**-1.1**
LKD				*e*Sg	**Sg**	**13 27 30.5**	**+1.1**
EVR	**Evrytania**	**0.85**	**119**	*e*PB	**Pb**	**13 27 23.8**	**-0.5**
EVR				*e*SN	**Sn**	**13 27 37.1**	**-0.2**
KEK	**Kerkira**	**0.91**	**295**	*e*PN	**Pn**	**13 27 25.5**	**-0.6**
KEK				*e*SN	**Sn**	**13 27 40.0**	**+1.2**
AGG	**Agios Georgios**	**1.18**	**105**	*e*Pg	**Pg**	**13 27 30.6**	**-0.3**
AGG				*e*Sg	**Sg**	**13 27 47.5**	**+1.2**
AGG	**Agios Georgios**	**1.18**	**105**	*e*Pg	**Pg**	**13 27 30.5**	**-0.4**
AGG				*e*Sg	**Sg**	**13 27 47.5**	**+1.2**

IDC 06 13:56:18.1±2.1,**684S**×**12959E, h0**km,**mb3.5**/1,**mb1 3.8**/4, **mb1mx3.6**/14,**mbtmp3.7**/4,**ML3.7**/3,**Error ellipse: s-maj=87.4km s-min=27.5km az=77.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.84**	**199**	Pn	Pn	13 59 09.4	+1.2
	0.4nm,0.3s,baz=56,slow=14,SNR=18						
FITZ				Sn	Sn	14 01 09.7	-11
	0.4nm,0.3s,baz=0.0,slow=20,SNR=4.8						
WRA	**Warramunga Arr**	**13.81**	**161**	Pn	Pn	13 59 34.8	-0.4
	0.4nm,0.3s,baz=342,slow=13,SNR=31						
WRA				Sn	Sn	14 01 57.1	-12
	0.8nm,0.3s,baz=334,slow=22,SNR=14						
ASAR	**Alice Springs**	**17.23**	**167**	P	Pn	14 00 19.9	-0.2
	0.3nm,0.3s,baz=336,slow=9.7,SNR=25						
ASAR				S	Sn	14 03 22.9	-10
	0.2nm,0.3s,baz=346,slow=25,SNR=5.1						
MKAR	**Makanchi Array**	**67.87**	**327**	P	P	14 07 18.4	+0.2
	0.3nm,0.5s,baz=112,slow=8.3,SNR=8.3						

*IDC **06** 14:01:01.0±0.6, 2001S×17424W, h0km, mb4.1/12, mb1 4.4/13, mb1mx4.3/17, mbtmp4.2/13, ML4.8/1, MS3.8/14, Ms1 3.8/14, ms1mx3.5/34, Error ellipse: s-maj=25.3km s-min=17.1km az=134.0*
*ISCJB **06** 14:01:04.7±0.4, 2003S±008×17432W±009, h33km, mb4.4/21, MS3.9/12, Error ellipse: s-maj=13.5km s-min=10.0km az=77.4*
*NEIC **06** 14:01:06.2±0.3, 2000S×17424W, h35km, mb4.7/13, Error ellipse: s-maj=12.9km s-min=9.3km az=135.0*
*MOS **06** 14:01:06.4±2.8, 20.10S×174.39W, h33km, mb4.9/8, Error ellipse: s-maj=18.6km s-min=15.2km az=135.5*

ISC 06 14:01:06.4±0.4,**2006S**±008×**17418W**±009,**h35**km,**n96, σ1§02/57, mb4.4**/21,**MS3.9**/12,**3C-5D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.53**	**21**	Pn	**Pn**	**14 02 33.0**	**-7.0**
	47nm,0.3s,baz=66,slow=2.0,SNR=81						
AFI				Sn	**Sn**	**14 03 39.5**	**-14**
	20nm,0.3s,baz=18,slow=20,SNR=2.6						
AFI				LR	LR	14 04 51.1	
	comp=Z,738nm,20.6s,baz=208,slow=35						
AFI	**Afiamalu**	**6.53**	**21**	*e*P	**Pn**	**14 02 33.0**	**-6.9**
AFI				pmax	pmax		
	comp=Z,98nm,0.4s						
AFI	**Afiamalu**	**6.53**	**21**	*e*Pn	**Pn**	**14 02 33.0**	**-7.0**
	comp=Z,98nm,0.4s						
AFI				*e*Sn	**Sn**	**14 03 37.9**	**-15**
RAR	**Rarotonga**	**13.54**	**97**	Pn	**Pn**	**14 04 04.7**	**-11**
	comp=Z,4.8nm,0.3s,baz=266,slow=9.5,SNR=22						
RAR				Sn	Sn	14 06 16.0	-29
	comp=Z,3.7nm,0.3s,baz=104,slow=21,SNR=6.4						
RAR				LR	LR	14 07 26.1	
	comp=Z,115nm,19.2s,baz=223,slow=28						
DZM	**Mont Dzumac**	**18.19**	**260**	P	**Pn**	**14 05 19.7**	**+3.6**
	comp=Z,0.5nm,0.3s,baz=76,slow=18,SNR=8.0						
URZ	**Urewera**	**19.65**	**201**	P	**Pn**	**14 05 32.1**	**-1.5**
	comp=Z,3.0nm,0.3s,baz=30,slow=3.7,SNR=20						
URZ				S	**S**	**14 08 56.8**	**-15**
	comp=Z,0.5nm,0.3s,baz=302,slow=15,SNR=3.3						
TBI	**Tubuai**	**23.19**	**103**	*e*LQ		14 10 20.8	
	comp=Z,552nm,26.8s						
TBI				*e*LR	LR	14 11 23.4	
	comp=Z,112nm,25.0s						
TBI	**Tubuai**	**23.19**	**103**	*e*T		14 30 15.1	
	comp=Z,5.8nm,0.3s						
PAE	**Paea**	**23.40**	**88**	*e*T		14 30 22.7	
	comp=Z,15nm,0.3s						
PPT	**Papeete**	**23.42**	**88**	*e*LQ		14 10 27.2	
	comp=Z,537nm,26.2s						
PPT				*e*LR	LR	14 11 35.1	
	comp=Z,129nm,22.8s						
RPZ	**Rata Peaks**	**26.63**	**204**	P	**P**	**14 06 44.7**	**+3.1**
	comp=Z,6.6nm,0.5s,mb4.4,baz=19,slow=10,SNR=8.5						
HNR	**Honiara**	**27.12**	**289**	LR	LR	14 14 16.2	
	comp=Z,58nm,18.7s,MS3.2,baz=178,slow=29						
CTA	**Charters Tower**	**37.10**	**263**	*e*P	**P**	**14 08 14.3**	**+1.0**
	comp=Z,3.7nm,0.4s,mb4.6						
CTA	**Charters Tower**	**37.10**	**263**	P	**P**	**14 08 13.6**	**+0.3**
	comp=Z,4.1nm,0.5s,mb4.5,baz=91,slow=10,SNR=13						
CTA	**Charters Tower**	**37.10**	**263**	P	**P**	**14 08 13.6**	**+0.3**
CTA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
CTAO	**Charters Tower**	**37.10**	**263**	*e*P	**P**	**14 08 14.1**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.8						
CTAO	**Charters Tower**	**37.10**	**263**	*e*P	**P**	**14 08 14.1**	**+0.7**
	comp=Z,15nm,1.0s,mb4.8						
PMG	**Port Moresby**	**38.77**	**280**	LR	LR	14 22 17.4	
	comp=Z,60nm,19.5s,MS3.4,baz=27,slow=33						
STKA	**Stephens Creek**	**41.21**	**244**	P	**P**	**14 08 46.0**	**-1.6**
	comp=Z,1.8nm,0.4s,mb4.0,baz=322,slow=12,SNR=3.7						
STKA				LR	LR	14 24 09.0	
	comp=Z,228nm,18.5s,MS4.1,baz=145,slow=34						
STKA	**Stephens Creek**	**41.21**	**244**	*e*P	**P**	**14 08 45.7**	**-2.0**
ASAR	**Alice Springs**	**48.10**	**256**	P	**P**	**14 09 41.5**	**-1.2**
	comp=Z,1.9nm,0.6s,mb4.3,baz=87,slow=8.2,SNR=20						
ASAR				PcP	PcP	14 11 11.2	+1.4
	comp=Z,1.6nm,0.6s,baz=107,slow=3.9,SNR=7.9						
WB2	**Warramunga Arr**	**48.20**	**261**	*e*P	**P**	**14 09 43.6**	**+0.2**
WRAB	**Tennant Creek**	**48.20**	**261**	*e*P	**P**	**14 09 43.5**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
WRAB	**Tennant Creek**	**48.20**	**261**	*e*P	**P**	**14 09 43.5**	**+0.1**
	comp=Z,6.0nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**48.21**	**261**	P	**P**	**14 09 42.3**	**-1.1**
	comp=Z,2.8nm,0.6s,mb4.5,baz=97,slow=7.2,SNR=40						
KAKA	**Kakadu**	**51.56**	**269**	*e*P	**P**	**14 10 08.5**	**-0.4**
	comp=Z,3.5nm,0.4s,mb4.6						
GUMO	**Guam**	**52.35**	**306**	LR	LR	14 29 53.1	
	comp=Z,55nm,18.6s,MS3.6,baz=85,slow=33						
FITZ	**Fitzroy Crossi**	**56.64**	**261**	*e*P	**P**	**14 10 46.5**	**+0.6**
	comp=Z,3.7nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**56.64**	**261**	P	**P**	**14 10 46.5**	**+0.6**
	comp=Z,1.5nm,0.6s,mb4.2,baz=145,slow=16,SNR=5.2						
FITZ				LR	LR	14 31 43.3	
	comp=Z,73nm,18.3s,MS3.8,baz=95,slow=33						
SBA	**Scott Base**	**58.57**	**185**	*e*P	**P**	**14 11 01.5**	**+2.0**
SBA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
SBA	**Scott Base**	**58.57**	**185**	*e*P	**P**	**14 11 01.5**	**+2.0**
	comp=Z,4.0nm,0.8s,mb4.5						
VNDA	**Vanda**	**58.69**	**186**	P	**P**	**14 11 01.4**	**+1.1**
	comp=Z,3.2nm,0.9s,mb4.3,baz=355,slow=6.5,SNR=12						
VNDA	**Vanda**	**58.69**	**186**	*e*P	**P**		**14 11 01.1 +0.8**
VNDA				pmax	pmax		
	comp=Z,13nm,1.6s						
VNDA	**Vanda**	**58.69**	**186**	*e*P	**P**		**14 11 01.1 +0.7**
	comp=Z,13nm,1.6s,mb4.7						
MBWA	**Marble Bar**	**61.44**	**256**	*e*P	**P**		**14 11 18.8 -0.5**
CASY	**Casey**	**65.89**	**205**	*e*P	**P**		**14 11 48.8 +0.2**
	comp=Z,3.9nm,0.8s,mb4.5						
QSPA	**South Pole Qui**	**70.01**	**180**	*e*P	**P**		**14 12 14.5 +0.1**
	comp=Z,17nm,1.4s,mb4.8						
MJAR	**Matsushiro Arr**	**72.05**	**321**	P	**P**		**14 12 27.6 +0.9**
	comp=Z,1.6nm,0.7s,mb4.0,baz=160,slow=5.9,SNR=5.8						
LPIG	**La Paz**	**76.12**	**58**	LR	LR	14 37 21.7	
	comp=Z,54nm,20.7s,MS3.8,baz=227,slow=29						
ISA	**Isabella**	**76.50**	**44**	P	**P**		**14 12 52.7 0.0**
KSM	**Kuching**	**76.91**	**276**	*e*P	**P**		**14 12 57.1 +2.1**
YBH	**Yreka Blue Hor**	**77.75**	**37**	LR	LR	14 40 56.1	
	comp=Z,81nm,21.0s,MS4.0,baz=74,slow=31						
NVAR	**Mina Array Bea**	**78.28**	**42**	P	**P**		**14 13 03.5 +0.8**
	comp=Z,2.8nm,0.8s,mb3.7,baz=223,slow=8.6,SNR=4.9						
NVAR	**Mina Array Bea**	**78.28**	**42**	P	**P**		**14 13 03.5 +0.8**
MAW	**Mawson**	**83.17**	**199**	P	**P**		**14 13 29.0 +0.2**
	comp=Z,2.5nm,0.7s,mb4.3,baz=84,slow=5.3,SNR=7.1						
MAW	**Mawson**	**83.17**	**199**	*e*P	**P**		**14 13 29.2 +0.4**
MAW				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MAW	**Mawson**	**83.17**	**199**	*e*P	**P**		**14 13 29.2 +0.4**
	comp=Z,9.1nm,0.9s,mb4.8						
ANMO	**Albuquerque**	**84.36**	**50**	*i* P	**P**		**14 13 36.1 +1.2**
NEW	**Newport**	**84.96**	**34**	LR	LR	14 47 45.3	
	comp=Z,111nm,18.7s,MS4.3,baz=231,slow=33						
PDAR	**Pinedale Array**	**86.22**	**42**	P	**P**		**14 13 44.0 -0.1**
	comp=Z,0.7nm,1.0s,mb3.9,baz=198,slow=2.8,SNR=3.6						
PDAR				LR	LR	14 46 03.1	
	comp=Z,43nm,21.9s,MS3.8,baz=168,slow=31						
DLBC	**Dease Lake**	**86.28**	**22**	LR	LR	14 46 11.4	
	comp=Z,63nm,21.4s,MS4.0,baz=162,slow=31						
PLCA	**Paso Flores**	**86.95**	**132**	P	**P**		**14 13 47.6 -0.1**
COLA	**College**	**87.05**	**11**	*i* P	**P**		**14 13 47.6 -0.7**
COLA	**College**	**87.05**	**11**	*e*P	**P**		**14 13 47.4 -0.9**
	comp=Z,6.0nm,0.8s,mb4.9						
ILAR	**Eielson Array**	**87.13**	**11**	P	**P**		**14 13 48.1 -0.6**
	comp=Z,1.1nm,0.9s,mb4.1,baz=221,slow=5.0,SNR=12						
VNA3	**Neumayer Olymp**	**88.31**	**175**	*e*	**P**		**14 13 53.4 -0.9**
VNA3				*e*		14 13 56.4	
SNAA	**Sanae**	**88.32**	**177**	*e*	**P**		**14 13 53.2 -1.1**
SNAA				*e*		14 13 56.2	
SNAA	**Sanae**	**88.32**	**177**	*e*P	**P**		**14 13 53.4 -0.9**
SNAA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SNAA	**Sanae**	**88.32**	**177**	*e*P	**P**		**14 13 53.4 -0.9**
	comp=Z,4.0nm,0.9s,mb4.7						
VNA2	**Neumayer--Watz**	**88.79**	**176**	*e*	**P**		**14 13 56.2 -0.3**
	baz=174,slow=3.9						
VNA2				*e*		14 13 59.1	
BILL	**Bilibino**	**89.01**	**353**	*i* P	**P**		**14 13 56.9 -0.7**
INK	**Inuvik**	**92.94**	**14**	P	**P**		**14 14 14.9 -1.0**
INK				pmax	pmax		
	comp=Z,8.0nm,1.5s						
INK	**Inuvik**	**92.94**	**14**	P	**P**		**14 14 14.9 -0.9**
	comp=Z,7.5nm,1.5s,mb4.9						
YKA	**Yellowknife Ar**	**94.64**	**24**	P	**P**		**14 14 23.4 -0.2**
	comp=Z,0.4nm,0.8s,mb3.9,baz=233,slow=4.7,SNR=5.6						
YKA	**Yellowknife Ar**	**94.64**	**24**	P	**P**		**14 14 23.4 -0.2**
SONM	**Songino Array**	**97.80**	**318**	LR	LR	14 59 25.0	
	comp=Z,41nm,18.5s,MS4.0,baz=249,slow=36						
ULM	**Lac du Bonnet**	**98.00**	**39**	LR	LR	14 54 24.9	
	comp=Z,79nm,18.6s,MS4.2,baz=306,slow=33						
MKAR	**Makanchi Array**	**113.50**	**313**	PKiKP	PKiKP	14 19 40.2	-0.5
	comp=Z,0.5nm,0.6s,baz=178,slow=0.8,SNR=8.2						
BVAR	**Borovoye Array**	**121.04**	**320**	PKP	PKPdf	14 19 55.2	0.0
	comp=Z,1.7nm,0.4s,baz=124,slow=9,SNR=13						
ARCES	**ARCESS Array B**	**129.09**	**351**	PKP	PKPdf	14 20 09.7	-0.8
	comp=Z,1.0nm,0.7s,baz=358,slow=1.9,SNR=9.3						
FINES	**FINESS Array B**	**136.29**	**346**	PKP	PKPdf	14 20 21.6	-2.6
	comp=Z,0.4nm,0.5s,baz=90,slow=3.8,SNR=4.0						
AKASG	**Malin Array Be**	**144.27**	**334**	PKP	PKPdf	14 20 36.6	-2.0
	comp=Z,2.4nm,0.5s,baz=42,slow=4.4,SNR=20						
MALT	**Malatya**	**146.46**	**310**	*i* P	PKPbc	14 20 46.1	+2.4
MALT	**Malatya**	**146.46**	**310**	*e*PKPbc	PKPbc	14 20 46.0	+2.3
STHS	**Stebnicka Huta**	**148.22**	**341**	*e*PKP	pPKPbc	14 21 01.2	+1.2
CLL	**Collm**	**148.31**	**351**	⇓*i* PKPbc	PKPbc	14 20 49.2	+0.4
	comp=Z,7.0nm,0.9s						
CLL				*i* (pPKPbc)		14 20 55.2	
CLL				*i* sPKPbc		14 21 00.8	
CLL	**Collm**	**148.31**	**351**	⇓*i* PKP2	PKPbc	14 20 49.2	+0.4
CLL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CLL	**Collm**	**148.31**	**351**	⇓*i* PKP	PKPbc	14 20 49.2	+0.4
CLL				*i*		14 20 55.2	
BURAR	**Bucovina Array**	**148.32**	**335**	⇓*i* P	PKPdf	14 20 40.3	-5.1
BRG	**Berggiesshubel**	**148.59**	**350**	*e*PKP	PKPbc	14 20 50.4	+0.9
	comp=Z,2.5nm,0.9s						
BRG	**Berggiesshubel**	**148.59**	**350**	*e*PKP2	PKPbc	14 20 50.4	+0.9
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
DPC	**Dobruska-Polom**	**148.65**	**347**	*e*PKP	PKPbc	14 20 50.8	+1.1
BR131	**Keskin Array S**	**149.12**	**315**	*e*PKPdf	PKPdf	14 20 46.0	-0.7
BR131				*e*PKPbc	PKPbc	14 20 51.4	+0.5
BRTR	**Keskin Array B**	**149.12**	**315**	PKPbc	PKPbc	14 20 51.8	+0.9
	comp=Z,1.9nm,0.7s,baz=122,slow=3.6,SNR=11						
KECS	**Kecovo**	**149.28**	**341**	*e*PKP	PKPdf	14 20 48.3	+1.3
PRU	**Pruhonice**	**149.34**	**349**	*e*PKP	PKPbc	14 20 52.3	+0.9
NKC	**Novy Kostel**	**149.44**	**352**	*e*PKP	PKPbc	14 20 52.6	+0.9
MLR	**Muntele Rosu**	**149.68**	**331**	⇑*i* P	PKPbc	14 20 54.0	+1.7
VYHS	**Vyhne**	**149.75**	**343**	*e*PKP	PKPbc	14 20 53.0	+0.5
DOU	**Dourbes**	**150.01**	**2**	PKPbc	PKPbc	14 20 53.5	+0.4
GRA1	**Grafenberg Arr**	**150.12**	**353**	*e*PKP	PKPbc	14 20 54.1	+0.7
KHC	**Kasperske Hory**	**150.34**	**350**	*e*PKP	PKPbc	14 20 54.0	+0.1
GERES	**GERESS Array B**	**150.59**	**349**	PKPbc	PKPbc	14 20 55.0	+0.5
	comp=Z,1.3nm,0.7s,baz=292,slow=0.7,SNR=11						
BZS	**Buzias**	**151.37**	**336**	⇓*i* P	PKPbc	14 20 57.0	+0.7
PKSM	**Moragy**	**151.87**	**341**	⇑*i* P	PKPbc	14 20 57.9	+0.5
TORD	**Torodi Ar. Bea**	**172.07**	**149**	PKP	PKPdf	14 21 10.8	-0.5
	comp=Z,0.5nm,0.7s,baz=211,slow=1.1,SNR=5.2						
TORD				PKPab	PKPab	14 22 34.0	-0.6
	comp=Z,0.8nm,0.8s,baz=226,slow=5.1,SNR=4.1						

*NSSC **06** 14:09:41.8, 3372N×3559E, h10km±3km*
*ISCJB **06** 14:09:42.1±0.8, 3376N±003×3564E±006, h10km±4km, Error ellipse: s-maj=8.6km s-min=4.0km az=150.2*
*GRAL **06** 14:09:42.7±1.7, 3387N×3553E, h15km±10km, MD3.2*
*CSEM **06** 14:09:42.3±0.2, 3376N×3574E, h10km, Mc1.8, Error ellipse: s-maj=5.4km s-min=3.6km az=77.0*

ISC 06 14:09:42.4±0.7,**3376N**±003×**3564E**±006,**h11**km±4km,**n19, σ0§79/36,4D,Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BHL	**Bhannes**	**0.14**	**4**	*i* Pg	**Pg**	**14 09 45.3**	**-0.5**
BHL				*i* Sg	**Sg**	**14 09 48.6**	**+0.5**
MATL	**Matirih**	**0.38**	**224**	*i* Pg	**Pg**	**14 09 51.1**	**+1.2**
BRBR	**Barbar**	**0.43**	**144**	⇑P	**Pg**	**14 09 50.0**	**-1.0**
BRBR				⇑S	**Sg**	**14 09 56.7**	**-0.1**
BRBR	**Barbar**	**0.43**	**144**	⇑*i* P	**Pg**	**14 09 50.0**	**-1.0**
HWQ	**Hawqa**	**0.57**	**26**	*i* Pg	**Pg**	**14 09 51.8**	**-1.7**
HWQ				*i* Sg	**Sg**	**14 10 00.4**	**-0.7**
QASN	**Qassioun**	**0.58**	**113**	⇑P	**Pg**	**14 09 53.9**	**+0.3**
QASN				⇑S	**Sg**	**14 10 02.7**	**+1.5**
QASN	**Qassioun**	**0.58**	**113**	⇑*i* P	**Pg**	**14 09 53.9**	**+0.3**
QASN				⇑*i* S	**Sg**	**14 10 02.7**	**+1.5**
TOTH	**TOTAH**	**0.77**	**121**	⇑P	**Pg**	**14 09 56.3**	**-1.0**
TOTH				⇑S	**Sg**	**14 10 08.1**	**+0.8**
TOTH	**TOTAH**	**0.77**	**121**	⇑*i* P	**Pg**	**14 09 56.3**	**-1.0**
TOTH				⇑*i* S	**Sg**	**14 10 08.1**	**+0.7**
BIDA	**Albida**	**1.37**	**24**	⇑P	**Pn**	**14 10 07.2**	**-0.3**
BIDA				⇑S	**Sb**	**14 10 26.2**	**+0.7**
BIDA	**Albida**	**1.37**	**24**	⇑*i* P	**Pn**	**14 10 07.2**	**-0.2**
BIDA				⇑*i* S	**Sb**	**14 10 26.2**	**+0.7**
SALA	**Sala**	**1.39**	**139**	⇓P	**Pn**	**14 10 07.5**	**-0.2**
SALA				⇓S	**Sn**	**14 10 24.9**	**-1.1**
SALA	**Sala**	**1.39**	**139**	⇓*i* P	**Pn**	**14 10 07.5**	**-0.2**
SALA				⇓*i* S	**Sn**	**14 10 24.9**	**-1.2**
ROOS	**tl_alroos**	**1.43**	**73**	⇑P	**Pn**	**14 10 07.9**	**-0.3**
ROOS				⇑S	**Sn**	**14 10 27.4**	**+0.4**
ROOS	**tl_alroos**	**1.43**	**73**	⇑*i* P	**Pn**	**14 10 07.9**	**-0.3**
ROOS				⇑*i* S	**Sn**	**14 10 27.4**	**+0.4**
WRDH	**Warideh**	**1.85**	**20**	⇑P	**Pn**	**14 10 14.8**	**+0.7**
WRDH				⇑S	**Sn**	**14 10 37.8**	**+0.3**
WRDH	**Warideh**	**1.85**	**20**	⇑*i* P	**Pn**	**14 10 14.8**	**+0.7**
WRDH				⇑*i* S	**Sn**	**14 10 37.8**	**+0.3**
SLNF	**Slenfeh**	**1.89**	**15**	⇑P	**Pn**	**14 10 15.3**	**+0.7**
SLNF				⇑*i* S	**Sn**	**14 10 38.2**	**-0.2**

IDC 06 14:12:29.2±1.7,**512S**×**14276E, h0**km,**mb3.6**/3,**mb1 4.1**/4, **mb1mx3.8**/12,**mbtmp3.9**/4,**ML3.9**/1,**Error ellipse: s-maj=117.6km s-min=27.4km az=122.0,New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**12.68**	**233**	*e*P	Pn	14 15 31.6	+0.9
	7.5nm,0.6s						
WB2	**Warramunga Arr**	**16.85**	**208**	*e*P	Pn	14 16 26.6	+0.1
WRA	**Warramunga Arr**	**16.86**	**208**	Pn	Pn	14 16 26.9	+0.3
	0.5nm,0.3s,baz=26,slow=12,SNR=34						
ASAR	**Alice Springs**	**20.32**	**204**	P	P	14 17 06.8	0.0
	2.6nm,0.7s,baz=33,slow=11,SNR=30						
FITZ	**Fitzroy Crossi**	**21.13**	**231**	P	P	14 17 16.1	+0.5
	1.7nm,0.9s,baz=55,slow=14,SNR=5.0						
ILAR	**Eielson Array**	**86.36**	**24**	P	P	14 25 13.1	-0.2
	0.6nm,0.7s,baz=258,slow=4.7,SNR=10						

*ISCJB **06** 14:19:02.9±0.3, 4504N±002×308E±003, h15km±4km, Error ellipse: s-maj=3.1km s-min=2.9km az=61.3*
*LDG **06** 14:19:05.2±0.0, 4504N×309E, h2km, Md2.3/3, Ml2.2/20, Error ellipse: s-maj=0.7km s-min=0.6km az=110.0*
*STR **06** 14:19:05.6±0.4, 4507N×310E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 06 14:19:04.1±0.3,**4504N**±002×**308E**±002,**h15**km±4km,**n27, σ0§80/53,France**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBL	**Lubilhac**	**0.23**	**31**	Pg	**Pg**	**14 19 09.7**	**+0.6**
LBL				Sg	**Sg**	**14 19 12.7**	**+0.1**
FRNF	**Fournols**	**0.51**	**314**	Pg	**Pg**	**14 19 15.1**	**+1.0**
FRNF				Sg	**Sg**	**14 19 21.3**	**+0.3**
COLF	**Collangettes**	**0.64**	**42**	Pg	**Pg**	**14 19 17.2**	**+0.5**
COLF				Sg	**Sg**	**14 19 25.4**	**+0.1**
PYM	**Petit Puy Mans**	**0.71**	**356**	Pg	**Pg**	**14 19 19.1**	**+1.1**
CAF	**Calviac**	**0.73**	**262**	*e*Pg	**Pg**	**14 19 19.0**	**+0.6**
CAF				*e*Sg	**Sg**	**14 19 28.3**	**+0.2**
	20nm,0.2s						
PLDF	**La Plantade**	**1.00**	**22**	Pg	**Pg**	**14 19 24.3**	**+0.8**
PLDF				Sg	**Sg**	**14 19 37.2**	**+0.5**
AGO	**Saint Agoulin**	**1.01**	**2**	Pg	**Pg**	**14 19 24.6**	**+0.9**
AGO				Sg	**Sg**	**14 19 38.1**	**+1.1**
LASF	**Ste Croix**	**1.11**	**150**	*e*Pg	**Pg**	**14 19 25.9**	**+0.4**
LASF				*e*Sg	**Sg**	**14 19 40.5**	**+0.5**
	4.7nm,0.2s						
RJF	**Les Rejaudoux**	**1.14**	**284**	*e*Pg	**Pg**	**14 19 26.6**	**+0.5**
RJF				*e*Sg	**Sg**	**14 19 41.5**	**+0.5**
	22nm,0.3s						
VIVF	**Saint-Julien-l**	**1.14**	**99**	*e*Pg	**Pg**	**14 19 26.6**	**+0.5**
VIVF				*e*Sg	**Sg**	**14 19 41.2**	**+0.1**
	18nm,0.3s						
BGF	**Bois d'Agland**	**1.53**	**354**	*e*Pg	**Pg**	**14 19 34.0**	**+0.5**
BGF				*e*Sg	**Sg**	**14 19 53.5**	**+0.1**
	14nm,0.3s						
LFF	**La Frestale**	**1.67**	**267**	*e*Pn	**Pn**	**14 19 34.0**	**+1.3**
LFF				*e*Sg	**Sg**	**14 19 57.8**	**0.0**
	5.8nm,0.3s						
SMF	**Signal de Mont**	**1.69**	**18**	*e*Pg	**Pg**	**14 19 36.8**	**+0.2**
SMF				*e*Sg	**Sg**	**14 19 58.2**	**-0.4**
	3.0nm,0.2s						
AVF	**Avril sur Loir**	**1.76**	**6**	*e*Pg	**Pg**	**14 19 37.8**	**-0.1**
AVF				*e*Sg	**Sg**	**14 20 00.4**	**-0.4**
	2.7nm,0.2s						
MTLF	**Montolieu**	**1.81**	**200**	*e*

LCO	**Las Campanas**	**1.71**	**158**	*i* P		**Pn**	**14 40 01.1**	**-0.5**
LCO				*i* S		**Sn**	**14 40 23.3**	**-0.1**
TLL	**Tololo Astrono**	**2.79**	**169**	*e*P		**Pn**	**14 40 15.8**	**-0.7**
TLL				*i* S		**Sn**	**14 40 49.5**	**-0.5**
TLL				AML	AML		14 41 10.3	
	comp=E,4µm,0.6s							
TLL	**Tololo Astrono**	**2.79**	**169**	*e*P		**Pn**	**14 40 15.8**	**-0.7**
TLL				*i* S		**Sn**	**14 40 49.5**	**-0.5**
CPN1	**Cerro Paranal**	**2.94**	**19**	*i* P		**Pn**	**14 40 16.8**	**-1.8**
CPN1				AML	AML		14 41 13.8	
	comp=E,2µm,0.6s							
CMCH	**Combarbala**	**3.75**	**174**	*i* P		**Pn**	**14 40 27.8**	**-2.0**
CFAA	**Coronel Fontan**	**5.01**	**147**	Pn		**Pn**	**14 40 48.7**	**+1.6**
	comp=E,0.5nm,0.3s,baz=319,slow=12,SNR=26							
CFAA				Lg			14 42 03.9	
	comp=E,4.4nm,0.3s,baz=60,slow=20,SNR=13							
CFAA	**Coronel Fontan**	**5.01**	**147**	Pn		**Pn**	**14 40 48.7**	**+1.6**
CFAA				Lg			14 42 03.9	
PEL	**Peldehue**	**5.74**	**174**	*e*P		**Pn**	**14 40 55.0**	**-2.0**
LPAZ	**La Paz**	**11.50**	**16**	Pn		**Pn**	**14 42 15.3**	**-0.8**
	comp=E,0.5nm,0.3s,baz=197,slow=5.1,SNR=11							
LPAZ	**La Paz**	**11.50**	**16**	*e*P		**Pn**	**14 42 14.6**	**-1.5**
LPAZ				pmax	pmax			
	comp=Z,9.0nm,0.9s							
LPAZ	**La Paz**	**11.50**	**16**	*e*Pn		**Pn**	**14 42 14.6**	**-1.5**
	comp=Z,9.3nm,0.9s							
CPUP	**Villa Florida**	**12.64**	**88**	Pn		**Pn**	**14 42 34.9**	**+3.2**
	comp=Z,0.5nm,0.3s,baz=244,slow=11,SNR=5.0							
CPUP				LR	LR		14 47 55.5	
	comp=Z,538nm,18.3s,baz=247,slow=40							
CPUP	**Villa Florida**	**12.64**	**88**	*e*P		**Pn**	**14 42 34.6**	**+2.9**
CPUP				pmax	pmax			
	comp=Z,25nm,0.6s							
CPUP	**Villa Florida**	**12.64**	**88**	*e*P		**Pn**	**14 42 34.6**	**+2.9**
	comp=Z,25nm,0.6s							
TRQA	**Tornquist**	**13.25**	**146**	*e*Pn		**Pn**	**14 42 43.8**	**+3.9**
	comp=Z,12nm,0.6s							
TRQA				*e*Sn		**Sn**	**14 45 13.2**	**+6.0**
PLCA	**Paso Flores**	**13.29**	**177**	*e*P		**Pn**	**14 42 49.2**	**+8.6**
PLCA				pmax	pmax			
	comp=Z,8.0nm,1.0s							
PLCA	**Paso Flores**	**13.29**	**177**	*e*P		**Pn**	**14 42 49.2**	**+8.6**
	comp=Z,7.6nm,1.0s							
SIV	**San Ignacio**	**14.90**	**42**	Pn		**Pn**	**14 42 58.2**	**-4.3**
	comp=Z,0.7nm,0.3s,baz=254,slow=9.3,SNR=12							
NNA	**Nana**	**16.18**	**341**	P		**Pn**	**14 43 22.9**	**+3.7**
	comp=Z,38nm,1.3s							
SAML	**Samuel**	**19.97**	**25**	*e*P		**Pn**	**14 44 02.5**	**-3.3**
	comp=Z,17nm,1.4s							
BDFB	**Brasilia**	**24.70**	**66**	P		**P**	**14 44 51.8**	**-1.1**
	comp=Z,7.1nm,0.9s,mb4.2,baz=243,slow=7.2,SNR=5.8							
BDFB				LR	LR		14 55 27.3	
	comp=Z,182nm,20.9s,MS3.5,baz=289,slow=39							
VNA3	**Neumayer Olymp**	**55.28**	**160**	*e*		**P**	**14 49 05.1**	**-0.2**
VNA3				*e*		pP	14 49 08.7	-0.5
VNA2	**Neumayer--Watz**	**55.90**	**159**	*e*		**P**	**14 49 09.7**	**-0.1**
	baz=294,slow=8.2							
VNA2				*e*		pP	14 49 13.7	0.0
VNA2				*e*			14 49 22.4	
SNAA	**Sanae**	**57.50**	**160**	P		**P**	**14 49 19.6**	**-1.5**
	comp=Z,2.6nm,0.9s,mb4.3,baz=273,slow=6.1,SNR=12							
SNAA	**Sanae**	**57.50**	**160**	*e*		**P**	**14 49 19.8**	**-1.3**
SNAA				*e*		pP	14 49 23.7	-1.4
SNAA				*e*			14 49 31.8	
SNAA	**Sanae**	**57.50**	**160**	*e*P		**P**	**14 49 19.0**	**-2.1**
SNAA				pmax	pmax			
	comp=Z,14nm,1.1s							
SNAA	**Sanae**	**57.50**	**160**	*e*P		**P**	**14 49 19.0**	**-2.1**
	comp=Z,14nm,1.1s,mb4.9							
QSPA	**South Pole Qui**	**62.79**	**180**	*e*P		**P**	**14 49 57.2**	**-0.1**
	comp=Z,17nm,1.3s,mb5.0							
SWET	**Sewanee**	**63.79**	**347**	*e*P		**P**	**14 50 03.3**	**-0.7**
SWET				*e*			14 50 11.6	
OXF	**Oxford**	**63.91**	**344**	P		**P**	**14 50 04.8**	**0.0**
WVT	**Waverly**	**65.08**	**345**	*e*P		**P**	**14 50 11.6**	**-0.8**
WVT				*e*			14 50 19.5	
MIAR	**Mount Ida**	**65.10**	**340**	P		**P**	**14 50 09.6**	**-3.0**
MIAR				pmax	pmax			
	comp=Z,12nm,1.2s,mb4.8							
MIAR	**Mount Ida**	**65.10**	**340**	P		**P**	**14 50 09.6**	**-2.9**
	comp=Z,12nm,1.2s,mb4.8							
WMOK	**Wichita Mounta**	**67.02**	**336**	P		**P**	**14 50 25.0**	**+0.1**
WMOK				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.5							
WMOK	**Wichita Mounta**	**67.02**	**336**	P		**P**	**14 50 24.9**	**0.0**
	comp=Z,4.0nm,0.9s,mb4.5							
ACSO	**Alum Creek Sta**	**68.16**	**350**	*e*P		**P**	**14 50 31.4**	**-0.7**
	comp=Z,12nm,1.0s,mb4.9							
SBA	**Scott Base**	**69.60**	**191**	P		**P**	**14 50 42.0**	**+0.9**
SBA				pmax	pmax			
	comp=Z,6.0nm,1.3s,mb4.4							
SBA	**Scott Base**	**69.60**	**191**	P		**P**	**14 50 42.0**	**+0.9**
	comp=Z,5.7nm,1.3s,mb4.3							
VNDA	**Vanda**	**70.63**	**191**	P		**P**	**14 50 47.6**	**+0.2**
	comp=Z,1.3nm,1.0s,mb3.8,baz=144,slow=3.9,SNR=4.0							
VNDA	**Vanda**	**70.63**	**191**	P		**P**	**14 50 47.7**	**+0.3**
VNDA				pmax	pmax			
	comp=Z,4.0nm,1.2s							
VNDA	**Vanda**	**70.63**	**191**	P		**P**	**14 50 47.7**	**+0.3**
	comp=Z,3.6nm,1.2s,mb4.2							
DBIC	**Dimbokro**	**72.66**	**73**	LR		LR	15 22 21.4	
	comp=Z,68nm,21.1s,MS3.9,baz=14,slow=35							
DBIC	**Dimbokro**	**72.66**	**73**	P		**P**	**14 51 02.8**	**+3.2**
DBIC				pmax	pmax			
	comp=Z,36nm,1.4s							
DBIC	**Dimbokro**	**72.66**	**73**	P		**P**	**14 51 02.8**	**+3.2**
	comp=Z,36nm,1.4s,mb5.1							
WUAZ	**Wupatki**	**73.08**	**327**	*e*P		**P**	**14 51 03.8**	**+1.7**
	comp=Z,6.9nm,1.1s,mb4.5							
NEN	**Nelson**	**74.92**	**325**	*e*P		**P**	**14 51 14.1**	**+1.2**
MSU	**Marysvale**	**75.86**	**328**	*e*P		**P**	**14 51 20.1**	**+1.8**
DAU	**Daniels Canyon**	**76.97**	**330**	*e*P		**P**	**14 51 26.4**	**+1.8**
PDAR	**Pinedale Array**	**78.17**	**332**	P		**P**	**14 51 31.6**	**+0.4**
	comp=Z,0.5nm,0.6s,mb3.6,baz=120,slow=5.3,SNR=5.5							
NVAR	**Mina Array Bea**	**78.83**	**324**	P		**P**	**14 51 36.2**	**+1.3**
	comp=Z,0.4nm,0.7s,mb3.5,baz=132,slow=5.8,SNR=4.3							
ULM	**Lac du Bonnet**	**80.31**	**344**	P		**P**	**14 51 42.6**	**-0.4**
	comp=Z,0.8nm,0.4s,mb4.0,baz=172,slow=7.3,SNR=3.9							
TSUM	**Tsumeb**	**80.55**	**107**	*e*P		**P**	**14 51 45.6**	**+1.3**
	comp=Z,5.9nm,1.0s,mb4.5							
HLID	**Hailey**	**80.90**	**330**	*e*P		**P**	**14 51 47.5**	**+1.4**
	comp=Z,4.0nm,1.1s,mb4.3							
MCMT	**McKenzie Canyo**	**81.23**	**332**	*e*P		**P**	**14 51 49.3**	**+1.5**
TORD	**Torodi Ar. Bea**	**81.51**	**70**	P		**P**	**14 51 50.0**	**+0.6**
	comp=Z,3.6nm,0.7s,mb4.4,baz=248,slow=3.5,SNR=19							
CASY	**Casey**	**86.58**	**181**	*e*P		**P**	**14 52 15.7**	**+0.5**
	comp=Z,8.7nm,1.0s,mb4.9							
YKA	**Yellowknife Ar**	**96.01**	**341**	P		**P**	**14 52 58.0**	**-1.2**
	comp=Z,0.3nm,0.8s,mb3.8,baz=141,slow=4.7,SNR=6.4							
YKA	**Yellowknife Ar**	**96.01**	**341**	P		**P**	**14 52 58.0**	**-1.2**
ASAR	**Alice Springs**	**123.62**	**208**	PKP		PKPdf	14 58 29.4	-0.1
	comp=Z,0.8nm,0.7s,baz=134,slow=1.9,SNR=8.4							
WRA	**Warramunga Arr**	**126.70**	**211**	PKP		PKPdf	14 58 35.9	+0.4
	comp=Z,1.5nm,0.7s,baz=165,slow=1.7,SNR=14							
ZRNK	**Zerenda**	**141.21**	**38**	*e*PKIKP		PKPdf	14 59 02.6	+0.1
KURK	**Kurchatov**	**147.49**	**36**	*e*PKP2		PKPab	14 59 13.3	-4.7
ZAL	**Zalesovo**	**148.27**	**27**	PKPbc		PKPbc	14 59 15.4	-2.7
	comp=Z,4.2nm,0.9s,baz=168,slow=3.8,SNR=16							
AAK	**Ala-Archa**	**148.49**	**52**	*e*PKIKP		PKPdf	14 59 15.1	0.0
AAK				*e*			14 59 22.4	
BOD	**Bodaibo**	**149.38**	**354**	*e*PKIKP		PKPdf	14 59 13.2	-3.3
MKAR	**Makanchi Array**	**151.71**	**40**	PKPbc		PKPbc	14 59 26.4	-0.1
	comp=Z,3.1nm,0.7s,baz=323,slow=2.0,SNR=33							
MJAR	**Matsushiro Arr**	**153.35**	**297**	PKPbc		PKPbc	14 59 30.7	+0.6
	comp=Z,1.3nm,0.9s,baz=90,slow=0.5,SNR=5.1							
SONM	**Songino Array**	**159.56**	**4**	PKP		PKPdf	14 59 31.5	+0.9
	comp=Z,0.2nm,0.4s,baz=48,slow=2.1,SNR=3.4							
SONM				PKPab		PKPab	15 00 07.8	-1.0
	comp=Z,0.4nm,0.9s,baz=2.9,slow=2.9,SNR=3.1							

*ISCJB **06** 15:03:03.6±0.5, 5043N×003W×1881E×003, h0km, Error ellipse: s-maj=5.0km s-min=2.4km az=36.3*
*IPEC **06** 15:03:05.3±0.2, 5037N×1887E, h0km, ML2.3/3, Error ellipse: s-maj=2.3km s-min=0.8km az=173.0*
*WAR **06** 15:03:05.3, 5037N×1891E, ML2.8, Mining Induced*
*NEIC **06** 15:03:05.5±0.8, 5035N×1890E, h5km, MG2.9(WAR), Error ellipse: s-maj=13.1km s-min=5.8km az=192.0*
*CSEM **06** 15:03:06.1±0.2, 5034N×1889E, h1km±1km, ML3.2/6, Error ellipse: s-maj=5.1km s-min=2.4km az=18.0*
*VIE **06** 15:03:07.2±1.0, 5046N×1837E, h0km, mb2.3/3, ML2.7/3, Error ellipse: s-maj=6.7km s-min=5.1km az=144.0 50 km WNW of Kattowitz Suspected Mining induced.*

*IDC **06** 15:03:09.2±0.9, 5072N×1789E, h0km, mb1 3.2/4, mb1mx3.0/20, mbtmp3.0/4, ML2.9/3, Error ellipse: s-maj=20.4km s-min=8.4km az=136.0*

ISC 06 15:03:04.9±0.5, 5038N±003×1885E±003, h0km, n35, σ1§28/63, 2C, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.52**	**235**	*e*Pg		**Pg**	**15 03 16.3**	**+1.4**
RAC				*e*Sg		**Sg**	**15 03 24.1**	**+2.5**
OJC	**Ojcow**	**0.63**	**105**	*e*Pg		**Pg**	**15 03 16.8**	**-0.2**
OJC				*e*Sg		**Sg**	**15 03 25.0**	**-0.1**
OKC	**Ostrava-Krasne**	**0.71**	**220**	*e*PG		**Pg**	**15 03 19.1**	**+0.6**
OKC				*e*SG		**Sg**	**15 03 29.7**	**+1.9**
	307nm,1.4s							
MORC	**Moravsky Berou**	**1.04**	**235**	*e*Pg		**Pg**	**15 03 24.6**	**-0.3**
MORC	**Moravsky Berou**	**1.04**	**235**	*e*Pg		**Pg**	**15 03 24.9**	**0.0**
MORC				*e*Sg		**Sg**	**15 03 38.4**	**+0.1**
	54nm,0.3s							
LIKS	**Likavka**	**1.34**	**173**	*e*PN		**Pn**	**15 03 31.2**	**+0.3**
LIKS				*e*SN		**Sn**	**15 03 48.6**	**-0.9**
NIE	**Niedzica**	**1.35**	**135**	*e*Pg		**Pg**	**15 03 30.5**	**-0.3**
NIE				*e*Sg		**Sg**	**15 03 47.1**	**-1.2**
DPC	**Dobruska-Polom**	**1.62**	**270**	*e*PG		**Pg**	**15 03 34.6**	**-1.4**
DPC				*e*SG		**Sg**	**15 03 56.9**	**-0.2**
DPC	**Dobruska-Polom**	**1.62**	**270**	*e*Pn		**Pn**	**15 03 34.5**	**-0.3**
DPC				*e*Sg		**Sg**	**15 03 56.8**	**-0.3**
KSP	**Ksiaz**	**1.70**	**287**	*e*Pn		**Pn**	**15 03 36.3**	**+0.5**
KSP				*e*Pg		**Pg**	**15 03 37.6**	**+0.2**
KSP				*e*Sg		**Sg**	**15 04 00.8**	**+1.4**
VRAC	**Vranov**	**1.82**	**235**	Pn		**Pn**	**15 03 38.4**	**+1.0**
	9.3nm,0.3s,baz=50,slow=14,SNR=17							
VRAC				Lg			15 04 01.9	
	11nm,0.3s,baz=132,slow=22,SNR=7.4							
VRAC	**Vranov**	**1.82**	**235**	*e*Pn		**Pn**	**15 03 38.3**	**+0.9**
VRAC				*e*Sg		**Sg**	**15 04 02.2**	**-1.1**
	19nm,0.2s							
STHS	**Stebnicka Huta**	**1.82**	**121**	*e*PN		**Pn**	**15 03 39.0**	**+1.5**
STHS				*e*SN		**Sn**	**15 04 05.8**	**+4.5**
VYHS	**Vyhne**	**1.89**	**180**	*e*PN		**Pn**	**15 03 37.7**	**-0.7**
VYHS				*e*SN		**Sn**	**15 04 01.0**	**-2.0**
KRUC	**Moravsky**	**2.07**	**231**	*e*Sg		**Sg**	**15 04 09.5**	**-2.0**
	15nm,0.3s							
KECS	**Kecovo**	**2.18**	**150**	*e*PN		**Pn**	**15 03 41.9**	**-0.5**
KECS				*e*PG		**Pg**	**15 03 45.7**	**-1.0**
KECS				*e*SN		**Sn**	**15 04 14.0**	**+3.9**
CRVS	**Cervenica-Dubn**	**2.25**	**130**	*e*PG		**Pg**	**15 03 47.3**	**-0.8**
CRVS				*e*SN		**Sn**	**15 04 16.6**	**+4.7**
PSZ	**Piszkesteto**	**2.56**	**164⇑**	*e*PB		**Pb**	**15 03 54.5**	**+2.8**
PSZ				*e*SB		**Sb**	**15 04 25.0**	**+1.3**
PSZ	**Piszkesteto**	**2.56**	**164**	*e*Pn		**Pn**	**15 03 50.3**	**+2.7**
PSZ	**Piszkesteto**	**2.56**	**164**	*e*Pn		**Pn**	**15 03 50.3**	**+2.7**
KOLS	**Kolonicke sedl**	**2.65**	**122**	*e*PN		**Pn**	**15 03 49.5**	**+0.6**
KOLS				*e*PG		**Pg**	**15 03 56.5**	**+0.7**
PRU	**Pruhonice**	**2.80**	**264**	*e*PN		**Pn**	**15 03 50.1**	**-0.9**
PRU				*e*PG		**Pg**	**15 03 55.6**	**-3.0**
PRU				*e*SG		**Sg**	**15 04 34.5**	**-0.4**
	12nm,0.7s							
PRA	**Prague**	**2.86**	**265**	SG		**Sg**	**15 04 38.0**	**+1.3**
BRG	**Berggiesshubel**	**3.17**	**281**	PG		**Pg**	**15 04 03.8**	**-1.9**
BRG				SG		**Sg**	**15 04 47.5**	**+0.8**
	4.8nm,0.5s							
KHC	**Kasperske Hory**	**3.64**	**252**	*e*PN		**Pn**	**15 04 01.6**	**-1.0**
KHC				*e*SG		**Sg**	**15 04 59.1**	**-2.9**
	21nm,0.6s							
GERES	**GERESS Array B**	**3.69**	**247**	Pn		**Pn**	**15 04 03.0**	**-0.2**
	0.5nm,0.3s,baz=56,slow=15,SNR=8.3							
GERES				Pg		**Pg**	**15 04 09.9**	**-5.7**
	2.7nm,0.3s,baz=62,slow=17,SNR=23							
GERES				Lg			15 05 01.0	
	2.6nm,0.3s,baz=65,slow=27,SNR=11							
CLL	**Collm**	**3.82**	**286**	*e*Pg		**Pg**	**15 04 19.0**	**+0.8**
CLL				*e*Sg		**Sg**	**15 05 10.0**	**+2.2**
	comp=Z,30nm,1.3s							
MOA	**Molln**	**3.94**	**232⇑**	*i*Sg		**Sg**	**15 05 10.7**	**-0.7**
	comp=Z,6.4nm,0.5s							
NKC	**Novy Kostel**	**4.11**	**270**	*e*SG		**Sg**	**15 05 16.2**	**-0.8**
	comp=Z,18nm,1.1s							
MOX	**Moxa**	**4.63**	**276**	(PN)		**Pn**	**15 04 17.0**	**+0.9**
MOX				(PG)		**Pg**	**15 04 34.3**	**+0.7**
MOX				(SG)		**Sg**	**15 05 32.6**	**-1.0**
MOX	**Moxa**	**4.63**	**276**	Pg		**Pg**	**15 04 34.3**	**+0.7**
AKASG	**Malin Array Be**	**6.62**	**83**	Pn		**Pn**	**15 04 52.2**	**+8.8**
	comp=Z,0.3nm,0.3s,baz=271,slow=13,SNR=3.3							
AKASG				Pg		**Pg**	**15 05 07.8**	**-3.9**
	comp=Z,0.5nm,0.3s,baz=277,slow=16,SNR=5.1							
AKASG	**Malin Array Be**	**6.62**	**83**	Pn		**Pn**	**15 04 52.2**	**+8.8**
AKASG				Pg		**Pg**	**15 05 07.8**	**-3.9**
FINES	**FINESS Array B**	**11.79**	**17**	Pn		**Pn**	**15 05 51.2**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=186,slow=14,SNR=6.9							
ARCES	**ARCESS Array B**	**19.48**	**7**	Pn		**Pn**	**15 07 30.5**	**-4.0**
	comp=Z,0.1nm,0.3s,baz=191,slow=12,SNR=4.3							

*IDC **06** 15:05:00.6±0.6, 1980S×1745 2W, h0km, mb4.3/11, mb1 4.5/13, mb1mx4.4/17, mbtmp4.3/13, ML3.4/2, MS3.6/2, Ms1 3.6/2, ms1mx3.0/29, Error ellipse: s-maj=25.0km s-min=15.0km az=126.0*
*SZGRF **06** 15:05:03.9, 2072S×175.11W, h33km, Tonga Islands*
*BJI **06** 15:05:04.6, 1990S×1746 0W, h44km, mB5.1, mb4.8, Ms4.9, Msz4.5*
*ISCJB **06** 15:05:04.4±0.3, 2001S±007×1746 0W±009, h39km, mb4.6/31, MS4.1/2, Error ellipse: s-maj=12.2km s-min=9.3km az=60.9*
*NEIC **06** 15:05:06.7±0.3, 1995S×1745 8W, mb4.7/17, Error ellipse: s-maj=11.5km s-min=7.8km az=128.0*
*MOS **06** 15:05:07.0±3.0, 1986S×1749 2W, h33km, mb4.8/15, Error ellipse: s-maj=16.6km s-min=14.2km az=71.0*

ISC 06 15:05:06.0±0.3, 2000S±007×17446W±009, h41km, h41km±3.8km: pP-P, n150, σ1§02/66, mb4.6/31, MS4.1/2, 7C-6D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.58**	**23**	Pn		**Pn**	**15 06 35.9**	**-4.3**
	7.3nm,0.3s,baz=59,slow=3.0,SNR=21							
AFI				Sn		**Sn**	**15 07 39.5**	**-14**
	17nm,0.3s,baz=53,slow=23,SNR=7.1							
AFI	**Afiamalu**	**6.58**	**23**	*e*P		**Pn**	**15 06 35.2**	**-5.0**
AFI				pmax	pmax			
	comp=Z,33nm,0.4s							
AFI	**Afiamalu**	**6.58**	**23**	*e*Pn		**Pn**	**15 06 35.2**	**-5.0**
	comp=Z,32nm,0.4s							
AFI				*e*Sn		**Sn**	**15 07 37.6**	**-16**
RAR	**Rarotonga**	**13.80**	**98**	Pn		**Pn**	**15 08 08.8**	**-10**
	comp=Z,2.9nm,0.3s,baz=262,slow=7.3,SNR=14							
RAR				LR	LR		15 11 48.4	
	comp=Z,197nm,21.6s,baz=107,slow=29							
DZM	**Mont Dzumac**	**17.95**	**260**	P		**Pn**	**15 09 17.0**	**+4.6**
	comp=Z,0.6nm,0.3s,baz=47,slow=23,SNR=9.3							
URZ	**Urewera**	**19.61**	**200**	P		**Pn**	**15 09 31.1**	**-1.3**
	comp=Z,0.9nm,0.3s,baz=265,slow=1.3,SNR=5.3							
TBI	**Tubuai**	**23.46**	**103**	*e*LQ			15 14 39.4	
	comp=Z,230nm,37.5s							
TBI	**Tubuai**	**23.46**	**103**	*e*LR	LR		15 15 38.2	
	comp=Z,137nm,26.8s							
TBI	**Tubuai**	**23.46**	**103**	*e*T			15 34 29.3	
	comp=Z,12nm,0.3s							
PAE	**Paea**	**23.65**	**88**	*e*T			15 34 27.5	
	comp=Z,28nm,0.3s							
PPT	**Papeete**	**23.67**	**88**	*e*LQ			15 14 39.4	
	comp=Z,139nm,25.0s							
PPT	**Papeete**	**23.67**	**88**	*e*LR	LR		15 15 43.1	
	comp=Z,183nm,23.5s							
TVO	**Taravao**	**23.94**	**89**	*e*T			15 34 44.4	
	comp=Z,4.9nm,0.3s							
RPZ	**Rata Peaks**	**26.57**	**204**	P		**P**	**15 10 42.8**	**+2.6**
	comp=Z,4.6nm,0.6s,mb4.2,baz=31,slow=21,SNR=5.9							
TAOE	**Nuku Hiva Isla**	**34.95**	**76**	*e*T			15 48 22.9	
	comp=Z,58nm,0.3s							
RKT	**Rikitea**	**36.78**	**102**	*e*LR	LR		15 21 48.2	
	comp=Z,569nm,30.0s							
RKT	**Rikitea**	**36.78**	**102**	*e*T			15 51 09.2	
	comp=Z,2.8nm,0.3s							
CTA	**Charters Tower**	**36.85**	**263**	*e*P		**P**	**15 12 11.2**	**+0.9**
	comp=Z,1.3nm,0.4s,mb4.1							
CTA	**Charters Tower**	**36.85**	**263**	P		**P**	**15 12 11.2**	**+1.0**
	comp=Z,2.7nm,0.4s,mb4.4,baz=86,slow=11,SNR=14							
CTA				LR	LR		15 24 49.8	
	comp=Z,138nm,18.2s,MS3.8,baz=118,slow=32							
CTA	**Charters Tower**	**36.85**	**263**	*e*P		**P**	**15 12 11.2**	**+0.9**
CTA				pmax	pmax			
	comp=Z,1.0nm,0.4s							
CTAO	**Charters Tower**	**36.85**	**263**	*e*P		**P**	**15 12 10.8**	**+0.5**
CTAO				pmax	pmax			
	comp=Z,3.0nm,0.4s,mb4.5							
CTAO	**Charters Tower**	**36.85**	**263**	*e*P		**P**	**15 12 10.8**	**+0.5**
	comp=Z,3.0nm,0.4s,mb4.5							
STKA	**Stephens Creek**	**41.00**	**244**	*e*P		**P**	**15 12 42.6**	**-2.4**
	comp=Z,6.0nm,1.2s,mb4.1							
STKA	**Stephens Creek**	**41.00**	**244**	P		**P**	**15 12 42.5**	**-2.5**
	comp=Z,2.6nm,0.6s,mb4.1,baz=131,slow=9.7,SNR=9.2							
STKA	**Stephens Creek**	**41.00**	**244**	*e*P		**P**	**15 12 42.2**	**-2.7**
ASAR	**Alice Springs**	**47.87**	**256**	P		**P**	**15 13 39.4**	**-0.5**
	comp=Z,3.0nm,0.9s,mb4.3,baz=90,slow=7.8,SNR=24							
ASAR				PcP	PcP		15 15 08.8	+0.8
	comp=Z,1.5nm,0.8s,baz=86,slow=3.6,SNR=6.2							
WB2	**Warramunga Arr**	**47.95**	**261**	*e*P		**P**	**15 13 40.4**	**-0.1**
WRAB	**Tennant Creek**	**47.96**	**261**	*e*P		**P**	**15 13 40.8**	**+0.3**
WRAB				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.6							
WRAB	**Tennant Creek**	**47.96**	**261**	*e*P		**P**	**15 13 40.8**	**+0.3**
	comp=Z,4.7nm,0.8s,mb4.6							
WRA	**Warramunga Arr**	**47.97**	**261**	P		**P**	**15 13 39.8**	**-0.7**
	comp=Z,0.8nm,0.3s,mb4.2,baz=96,slow=7.4,SNR=58							
KAKA	**Kakadu**	**51.30**	**270**	*e*P		**P**	**15 14 05.6**	**-0.3**
	comp=Z,4.2nm,0.6s,mb4.5							
FITZ	**Fitzroy Crossi**	**56.39**	**261**	*e*P		**P**	**15 14 43.6**	**+0.4**
	comp=Z,4.4nm,1.1s,mb4.4							
FITZ	**Fitzroy Crossi**	**56.39**	**261**	P		**P**	**15 14 43.9**	**+0.7**
	baz=78,slow=6.0							
SBA	**Scott Base**	**58.61**	**185**	*e*P		**P**	**15 15 00.5**	**+1.8**
SBA				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.5							
SBA	**Scott Base**	**58.61**	**185**	*e*P		**P**	**15 15 00.5**	**+1.8**
	comp=Z,4.7nm,0.9s,mb4.5							
VNDA	**Vanda**	**58.72**	**186**	P		**P**	**15 15 00.7**	**+1.1**
	comp=Z,1.7nm,0.8s,mb4.1,baz=354,slow=6.5,SNR=9.0							
VNDA				PcP	PcP		15 15 50.0	+0.9
	comp=Z,1.3nm,0.9s,baz=9.1,slow=6.0,SNR=4.1							
VNDA	**Vanda**	**58.72**	**186**	*e*P		**P**	**15 15 00.4**	**+0.9**
VNDA				*e*PP		pP	15 15 12.4	+0.9
VNDA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
VNDA	**Vanda**	**58.72**	**186**	*e*P		**P**	**15 15 00.4**	**+0.9**
	comp=Z,2.4nm,0.9s,mb4.2							
VNDA				*e*pP		pP	15 15 12.4	+0.9
MBWA	**Marble Bar**	**61.21**	**256**	*e*P		**P**	**15 15 15.7**	**-0.9**
	comp=Z,5.3nm,0.8s,mb4.7							
QSPA	**South Pole Qui**	**70.06**	**180**	*e*P		**P**	**15 16 13.9**	**+0.2**
	comp=Z,8.5nm,1.2s,mb4.5							
QSPA				*e*pP		pP	15 16 27.4	+1.5
MJAR	**Matsushiro Arr**	**71.84**	**321**	P		**P**	**15 16 25.1**	**+0.7**
	comp=Z,2.6nm,0.7s,mb4.2,baz=156,slow=6.0,SNR=11							
MAJO	**Matsushiro**	**71.84**	**321**	*e*P		**P**	**15 16 24.2**	**-0.3**
MAJO				pmax	pmax			
	comp=Z,20nm,1.4s,mb4.8							
MAJO	**Matsushiro**	**71.84**	**321**	*e*P		**P**	**15 16 24.2**	**-0.3**
	comp=Z,20nm,1.4s,mb4.9							
KKM	**Kota Kinabalu**	**72.87**	**283**	*e*

IBBN	**Ibbenburen**	**147.71**	**357**	*e*PKPbc	PKPbc	15 24 46.7	+0.6
CLZ	**Clausthal**	**148.00**	**354**	*e*PKPbc	PKPbc	15 24 47.5	+0.6
BURAR	**Bucovina Array**	**148.16**	**334**	⇓*i*P	PKPbc	15 24 49.6	+2.3
CLL	**Collm**	**148.21**	**351**	*e*PKPbc	PKPbc	15 24 47.9	+0.4
CLL	**Collm**	**148.21**	**351**	⇑*i*PKPbc	PKPbc	15 24 47.8	+0.3
	comp=Z,14nm,1.0s						
CLL				*e*PKPab	PKPab	15 24 51.0	+0.5
	comp=Z,7.0nm,0.8s						
CLL	**Collm**	**148.21**	**351**	⇑*i*PKIKP	PKPbc	15 24 47.8	+0.3
CLL				*e*		15 24 51.0	
CLL				pmax	pmax		
	comp=Z,14nm,1.0s						
CLL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GTTG	**Gvttingen**	**148.33**	**355**	*e*PKPbc	PKPbc	15 24 48.1	+0.3
BRG	**Berggiesshubel**	**148.49**	**350**	*e*PKPbc	PKPbc	15 24 48.7	+0.5
BRG	**Berggiesshubel**	**148.49**	**350**	*e*PKP	PKPbc	15 24 48.8	+0.6
	comp=Z,4.6nm,0.9s						
BRG	**Berggiesshubel**	**148.49**	**350**	*e*PKIKP	PKPbc	15 24 48.8	+0.6
BRG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
DPC	**Dobruska-Polom**	**148.53**	**347**	*e*PKPbc	PKPbc	15 24 49.2	+0.9
OKC	**Ostrava-Krasne**	**148.58**	**344**	*e*PKPbc	PKPbc	15 24 48.9	+0.5
CFR	**Carcaliu**	**148.70**	**328**	⇑*i*P	PKPbc	15 24 49.5	+0.8
CFR	**Carcaliu**	**148.70**	**328**	⇑P	PKPbc	15 24 49.5	+0.8
BR131	**Keskin Array S**	**148.90**	**315**	*e*PKPbc	PKPbc	15 24 50.0	+0.7
BRTR	**Keskin Array B**	**148.90**	**315**	PKPbc	PKPbc	15 24 50.0	+0.7
	comp=Z,1.9nm,0.5s,baz=134,slow=2.9,SNR=14						
MOX	**Moxa**	**149.05**	**352**	*e*PKPbc	PKPbc	15 24 49.8	+0.2
KECS	**Kecovo**	**149.14**	**340**	*e*PKP	PKPbc	15 24 50.2	+0.4
WERD	**Werda**	**149.15**	**352**	*e*PKPbc	PKPbc	15 24 50.3	+0.4
PRU	**Pruhonice**	**149.24**	**349**	*e*PKPbc	PKPbc	15 24 50.6	+0.5
PRU				*e*PKPab	PKPab	15 24 54.9	+0.2
NKC	**Novy Kostel**	**149.34**	**351**	*e*PKPbc	PKPbc	15 24 50.9	+0.5
MLR	**Muntele Rosu**	**149.51**	**331**	PKPbc	PKPbc	15 24 52.0	+1.2
	comp=Z,4.2nm,0.8s,baz=33,slow=1.5,SNR=8.3						
MLR	**Muntele Rosu**	**149.51**	**331**	⇑*i*P	PKPbc	15 24 51.8	+1.0
MLR	**Muntele Rosu**	**149.51**	**331**	⇑P	PKPbc	15 24 51.8	+1.1
SNF	**Seneffe**	**149.54**	**2**	PKPbc	PKPbc	15 24 50.8	0.0
VYHS	**Vyhne**	**149.62**	**342**	*i* PKP	PKPbc	15 24 52.1	+1.1
MANZ	**Manzenberg**	**149.63**	**352**	*e*PKPbc	PKPbc	15 24 51.8	+0.7
TREC	**Trest**	**149.71**	**347**	*e*PKPbc	PKPbc	15 24 52.0	+0.7
TNS	**Taunus Mts**	**149.76**	**356**	*e*PKPbc	PKPbc	15 24 52.0	+0.6
ROTZ	**Rotzenmuhle**	**149.83**	**351**	*e*PKPbc	PKPbc	15 24 52.1	+0.5
GIVF	**Givet**	**149.96**	**1**	*e*PKP1	PKPbc	15 24 52.4	+0.5
DOU	**Dourbes**	**149.97**	**1**	PKPbc	PKPbc	15 24 52.2	+0.3
BAIF	**Baives**	**149.99**	**2**	*e*PKP1	PKPbc	15 24 52.6	+0.7
	comp=Z,18nm,1.0s						
GRA1	**Grafenberg Arr**	**150.03**	**353**	*e*PKPbc	PKPbc	15 24 52.9	+0.9
GRF	**Grafenberg Arr**	**150.03**	**353**	*e*PKPbc	PKPbc	15 24 52.9	+0.9
KHC	**Kasperske Hory**	**150.23**	**349**	*e*PKPbc	PKPbc	15 24 53.1	+0.6
KHC				*e*PKPab	PKPab	15 24 59.4	+0.7
WET	**Wettzell**	**150.34**	**350**	*e*PKPbc	PKPbc	15 24 53.1	+0.3
WLF	**Walferdange**	**150.40**	**359**	*e*PKPbc	PKPbc	15 24 54.0	+1.1
WLF	**Walferdange**	**150.40**	**359**	PKPbc	PKPbc	15 24 54.2	+1.2
MMAI	**Mount Meron Ar**	**150.42**	**302**	PKPbc	PKPbc	15 24 54.7	+1.7
	comp=Z,7.1nm,0.7s,baz=74,slow=6.2,SNR=10						
GEC2	**GERESS Array S**	**150.49**	**349**	*e*PKPbc	PKPbc	15 24 53.6	+0.5
GERES	**GERESS Array B**	**150.49**	**349**	PKPbc	PKPbc	15 24 53.8	+0.7
	comp=Z,4.3nm,0.9s,baz=40,slow=2.3,SNR=25						
FLN	**La Foliniere**	**150.90**	**8**	*e*PKP1	PKPbc	15 24 54.1	0.0
	comp=Z,25nm,0.9s						
SGMF	**Saint Gilles**	**151.07**	**11**	*e*PKP1	PKPbc	15 24 54.3	-0.2
LDF	**La Druitiere**	**151.11**	**8**	*e*PKP1	PKPbc	15 24 54.6	0.0
	comp=Z,18nm,1.0s						
GRR	**Gorron**	**151.22**	**9**	*e*PKP1	PKPbc	15 24 55.0	+0.2
	comp=Z,15nm,0.7s						
BZS	**Buzias**	**151.22**	**336**	⇓*i*P	PKPbc	15 24 55.5	+0.6
BZS	**Buzias**	**151.22**	**336**	⇓P	PKPbc	15 24 55.5	+0.7
FUR	**Furstenfeldbru**	**151.53**	**352**	*e*PKPbc	PKPbc	15 24 56.0	+0.4
MEZF	**Maizieres J'vi**	**151.57**	**1**	*e*PKP1	PKPbc	15 24 56.2	+0.5
	comp=Z,28nm,1.1s						
CDF	**Champ du Feu**	**151.62**	**358**	*e*PKP1	PKPbc	15 24 56.3	+0.5
	comp=Z,16nm,0.9s						
BFO	**Black Forest**	**151.65**	**356**	*e*PKPbc	PKPbc	15 24 56.1	+0.2
PKSM	**Moragy**	**151.73**	**341**	⇓*i*P	PKPbc	15 24 56.3	+0.3
PKSM	**Moragy**	**151.73**	**341**	⇓P	PKPbc	15 24 56.3	+0.3
HAU	**Haudompre**	**152.06**	**359**	*e*PKP1	PKPbc	15 24 58.1	+1.3
	comp=Z,9.1nm,0.6s						
HINF	**Hinteralfeld**	**152.24**	**358**	*e*PKP1	PKPbc	15 24 57.3	+0.1
	comp=Z,7.0nm,0.6s						
PERS	**Pernice**	**152.30**	**346**	*e*PKPdf	PKPbc	15 24 57.1	-0.2
LOR	**Lormes**	**152.77**	**3**	*e*PKP1	PKPbc	15 24 58.8	+0.4
	comp=Z,3.1nm,0.5s						
SSF	**Saint Saulge**	**152.96**	**3**	*e*PKP1	PKPbc	15 24 59.3	+0.5
	comp=Z,17nm,1.0s						
MFF	**Saint Martin d**	**153.06**	**9**	*e*PKP1	PKPbc	15 24 58.9	-0.1
	comp=Z,8.4nm,0.8s						
AVF	**Avril sur Loir**	**153.22**	**3**	*e*PKP1	PKPbc	15 24 59.4	0.0
BOJS	**Bojanci**	**153.33**	**345**	*e*PKPdf	PKPbc	15 25 00.4	+0.8
BGF	**Bois d'Agland**	**153.42**	**4**	*e*PKP1	PKPbc	15 25 00.1	+0.3
	comp=Z,8.9nm,0.6s						
CABF	**La Chapelle**	**153.46**	**359**	*e*PKP1	PKPbc	15 25 01.0	+1.1
	comp=Z,31nm,1.4s						

MOS ***06*** *15:28:58.4± 1.6, 2304N× 14236E, h33km, mb4.5/10, Error ellipse: s-maj=25.1km s-min=8.6km az=104.5*
NEIC ***06*** *15:29:07.7± 1.8, 2322N× 14232E, h96km± 15km, mb4.3/10, Error ellipse: s-maj=14.3km s-min=11.3km az=88.0*
IDC ***06*** *15:29:09.9± 2.2, 2318N× 14235E, h113km± 17km, mb3.7/15, mb1 3.9/18, mb1mx3.8/25, mbtmp4.1/18, Error ellipse: s-maj=20.3km s-min=14.0km az=97.0*
ISCJB ***06*** *15:29:11.5± 1.4, 2340N± 008× 142.1E± 0.1, h138km± 10km, mb3.9/25, Error ellipse: s-maj=19.4km s-min=12.6km az=163.3*
JMA ***06*** *15:29:14.2± 0.2, 2354N× 14204E, h170km, M5.0*

ISC 06 15:29:12.1± 1.5, 2338N± 009× 1421E± 01, h130km± 11km, n62, σ1§22/67, mb3.9/25, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**3.23**	**1**	P	**Pn**	**15 30 03.8**	**+2.1**
JHHJ				S	**Sn**	**15 30 41.5**	**+1.5**
CBIJ	**Chichi jima**	**3.70**	**1**	P	**Pn**	**15 30 09.8**	**+2.0**
	83nm,0.3s,baz=186,slow=6.9,SNR=175						
CBIJ				S	**Sn**	**15 30 52.9**	**+1.9**
	149nm,0.3s,baz=323,slow=23,SNR=11						
CBIJ	**Chichi jima**	**3.70**	**1**	P	**Pn**	**15 30 09.7**	**+1.9**
CBIJ				S	**Sn**	**15 30 52.4**	**+1.5**
JHJ	**Hachijo jima 2**	**9.92**	**348**	P	**Pn**	**15 31 31.6**	**+0.3**
	6.3nm,0.3s,baz=246,slow=18,SNR=6.3						
BSO1	**Boso 1**	**11.28**	**355**	P	**Pn**	**15 31 48.4**	**-0.9**
BSO3	**Boso 3**	**11.46**	**353**	P	**Pn**	**15 31 51.3**	**-0.5**
BSO4	**Boso 4**	**11.67**	**353**	P	**Pn**	**15 31 54.7**	**+0.2**
BSO4				*e*S	**Sn**	**15 34 00.8**	**-2.3**
JOD2	**Odawara 2**	**12.13**	**348**	P	**Pn**	**15 31 59.6**	**-0.9**
JOD2				*e*S	**Sn**	**15 34 10.7**	**-3.5**
JNY	**Yasuok**	**12.50**	**344**	P	**Pn**	**15 32 05.7**	**+0.4**
JAO	**Obara**	**12.58**	**341**	P	**Pn**	**15 32 07.2**	**+0.8**
JHU	**Hanno**	**12.67**	**349**	P	**Pn**	**15 32 05.9**	**-1.7**
JHU				*e*S	**Sn**	**15 34 21.3**	**-5.9**
JRY	**Ryogami san**	**12.90**	**348**	P	**Pn**	**15 32 09.4**	**-1.1**
JYT	**Yasato**	**12.91**	**353**	P	**Pn**	**15 32 09.3**	**-1.4**
JAG	**Ashikaga**	**13.20**	**350**	P	**Pn**	**15 32 11.6**	**-2.9**
JHO	**Hitachi**	**13.25**	**354**	P	**Pn**	**15 32 13.1**	**-2.0**
JHO				*e*S	**Sn**	**15 34 31.0**	**-10**
MJAR	**Matsushiro Arr**	**13.55**	**346**	P	**Pn**	**15 32 18.3**	**-0.5**
	0.9nm,0.3s,baz=127,slow=13,SNR=12						
MAJO	**Matsushiro**	**13.55**	**346**	P	**Pn**	**15 32 18.2**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MAJO	**Matsushiro**	**13.55**	**346**	P	**Pn**	**15 32 18.2**	**-0.7**
	comp=Z,5.7nm,0.5s						
MAT	**Matsushiro**	**13.55**	**346**	P	**Pn**	**15 32 18.2**	**-0.7**
MAT	**Matsushiro**	**13.55**	**346**	*e*P	**Pn**	**15 32 18.0**	**-0.9**
JMK	**Ichinoseki**	**15.54**	**357**	P	**Pn**	**15 32 44.1**	**+0.1**
ASAJ	**Asahikawa**	**20.68**	**1**	P	**P**	**15 33 44.9**	**+3.2**
	comp=Z,3.6nm,0.6s,baz=205,slow=9.1,SNR=7.0						
SONM	**Songino Array**	**37.43**	**320**	P	**P**	**15 36 15.1**	**+2.6**
	comp=Z,0.6nm,0.8s,mb3.3,baz=125,slow=7.4,SNR=4.8						
SONM				PcP	PcP	15 38 28.5	+0.1
	comp=Z,0.4nm,0.8s,baz=116,slow=5.7,SNR=3.2						
YAK	**Yakutsk**	**39.55**	**351**	*e*P	**P**	**15 36 30.8**	**+0.5**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.3						
YAK	**Yakutsk**	**39.55**	**351**	*e*P	**P**	**15 36 30.8**	**+0.5**
	comp=Z,6.1nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**43.73**	**191**	P	**P**	**15 37 02.0**	**-2.3**
	comp=Z,1.5nm,0.6s,mb3.8,baz=8.3,slow=8.4,SNR=14						
FITZ	**Fitzroy Crossi**	**44.27**	**203**	*e*P	**P**	**15 36 58.8**	**-10**
	comp=Z,9.7nm,0.9s,mb4.4						
BILL	**Bilibino**	**47.07**	**12**	*e*P	**P**	**15 37 31.7**	**+1.1**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.9						
BILL	**Bilibino**	**47.07**	**12**	*e*P	**P**	**15 37 31.7**	**+1.1**
	comp=Z,2.0nm,0.7s,mb3.9						
ASAR	**Alice Springs**	**47.45**	**190**	P	**P**	**15 37 32.6**	**-0.9**
	comp=Z,0.4nm,0.6s,mb3.2,baz=16,slow=12,SNR=4.6						
ZAL	**Zalesovo**	**52.31**	**321**	P	**P**	**15 38 10.7**	**+0.5**
	comp=Z,1.4nm,0.3s,mb4.1,baz=111,slow=2.3,SNR=4.1						
MKAR	**Makanchi Array**	**52.85**	**312**	P	**P**	**15 38 16.8**	**+2.5**
	comp=Z,0.7nm,0.5s,mb3.6,baz=88,slow=9.0,SNR=14						
KURK	**Kurchatov**	**55.59**	**316**	*e*P	**P**	**15 38 35.3**	**+1.3**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
KURK	**Kurchatov**	**55.59**	**316**	*e*P	**P**	**15 38 35.3**	**+1.3**
	comp=Z,2.9nm,0.7s,mb4.2						
BVAR	**Borovoye Array**	**60.77**	**319**	P	**P**	**15 39 12.1**	**+2.1**
	comp=Z,2.5nm,0.4s,mb4.4,baz=90,slow=8.0,SNR=24						
BRVK	**Borovoye**	**60.83**	**319**	*e*P	**P**	**15 39 10.3**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
BRVK	**Borovoye**	**60.83**	**319**	*e*P	**P**	**15 39 10.3**	**-0.2**
	comp=Z,1.6nm,0.8s,mb3.9						
ILAR	**Eielson Array**	**60.99**	**28**	P	**P**	**15 39 11.0**	**-0.6**
	comp=Z,1.3nm,0.7s,mb3.9,baz=260,slow=5.5,SNR=16						
ZRNK	**Zerenda**	**61.61**	**319**	P	**P**	**15 39 15.5**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
ZRNK	**Zerenda**	**61.61**	**319**	P	**P**	**15 39 15.5**	**-0.2**
	comp=Z,2.6nm,0.9s,mb4.1						
INK	**Inuvik**	**66.42**	**24**	P	**P**	**15 39 47.5**	**+0.4**
	comp=Z,1.0nm,0.5s,mb3.9,baz=297,slow=3.8,SNR=20						
INK	**Inuvik**	**66.42**	**24**	*e*P	**P**	**15 39 46.7**	**-0.4**
INK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
INK	**Inuvik**	**66.42**	**24**	*e*P	**P**	**15 39 46.7**	**-0.5**
	comp=Z,3.7nm,1.1s,mb4.1						
ARU	**Arti**	**67.34**	**323**	*e*P	**P**	**15 39 53.6**	**+0.6**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
ARU	**Arti**	**67.34**	**323**	*e*P	**P**	**15 39 53.6**	**+0.7**
	comp=Z,5.5nm,0.6s,mb4.6						
YKA	**Yellowknife Ar**	**75.42**	**28**	P	**P**	**15 40 41.4**	**-0.1**
	comp=Z,1.8nm,0.6s,mb3.9,baz=293,slow=5.8,SNR=28						
YKA	**Yellowknife Ar**	**75.42**	**28**	P	**P**	**15 40 41.4**	**-0.1**
RES	**Resolute Bay**	**75.67**	**13**	*e*P	**P**	**15 40 42.9**	**0.0**
RES				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
RES	**Resolute Bay**	**75.67**	**13**	*e*P	**P**	**15 40 42.9**	**0.0**
	comp=Z,2.4nm,0.8s,mb3.9						
KEV	**Kevo**	**76.46**	**341**	*e*p	**P**	**15 40 46.4**	**-1.0**
	comp=Z,6.5nm,1.2s,mb4.1						
KEV	**Kevo**	**76.46**	**341**	*e*P	**P**	**15 40 46.4**	**-1.0**
KEV				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.2						
ARCES	**ARCESS Array B**	**77.02**	**341**	P	**P**	**15 40 51.6**	**+1.1**
	comp=Z,1.6nm,0.7s,mb3.7,baz=73,slow=8.5,SNR=13						
JOF	**Joensuu**	**78.38**	**334**	*e*p	**P**	**15 40 57.6**	**-0.5**
	comp=Z,3.4nm,0.5s,mb4.2						
KAF	**Kangasniemi**	**80.79**	**335**	*e*p	**P**	**15 41 11.2**	**+0.1**
	comp=Z,1.1nm,0.5s,mb3.7						
KAF	**Kangasniemi**	**80.79**	**335**	*e*P	**P**	**15 41 11.2**	**+0.1**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.7						
FINES	**FINESS Array B**	**81.25**	**334**	P	**P**	**15 41 13.2**	**-0.3**
	comp=Z,0.4nm,0.5s,mb3.3,baz=60,slow=5.5,SNR=7.6						
NVAR	**Mina Array Bea**	**82.85**	**51**	P	**P**	**15 41 22.8**	**+0.9**
	comp=Z,1.7nm,0.8s,mb3.9,baz=270,slow=3.5,SNR=15						
QLMT	**Earthquake Lak**	**84.70**	**43**	*e*P	**P**	**15 41 30.1**	**-1.2**
PDAR	**Pinedale Array**	**86.88**	**44**	P	**P**	**15 41 42.5**	**+0.5**
	comp=Z,0.4nm,0.6s,mb3.5,baz=308,slow=4.9,SNR=4.1						
NOA	**NORSAR Array B**	**87.03**	**338**	P	**P**	**15 41 43.2**	**+0.4**
	comp=Z,0.7nm,0.8s,mb3.6,baz=45,slow=4.8,SNR=2.9						
LPAZ	**La Paz**	**150.71**	**82**	PKPbc	PKPbc	15 48 49.9	+1.1
	comp=Z,1.1nm,0.5s,baz=289,slow=5.2,SNR=4.4						
LPAZ	**La Paz**	**150.71**	**82**	PKPbc	PKPbc	15 48 49.9	+1.1

IDC 06 15:30:08.4± 2.0, 295S× 12984E, h0km, mb3.9/2, mb1 4.2/4, mb1mx3.8/17, mbtmp3.9/4, ML3.4/1, Error ellipse: s-maj=135.8km s-min=26.1km az=78.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**15.61**	**195**	Pn	Pn	15 33 49.3	-0.4
	0.1nm,0.3s,baz=28,slow=15,SNR=4.1						
WRA	**Warramunga Arr**	**17.45**	**166**	P	Pn	15 34 14.2	+1.0
	43nm,0.3s,baz=348,slow=11,SNR=71						
ASAR	**Alice Springs**	**20.96**	**170**	P	P	15 34 52.8	-0.2
	9.3nm,0.7s,baz=348,slow=9.5,SNR=119						
SONM	**Songino Array**	**54.58**	**341**	P	P	15 39 38.9	+0.4
	0.4nm,0.6s,baz=156,slow=6.7,SNR=4.8						

IDC ***06*** *15:33:17.3± 0.8, 2915× 13031E, h0km, mb4.0/9, mb1 4.3/11, mb1mx4.1/20, mbtmp4.1/11, ML4.4/2, MS4.5/1, Ms1 4.5/1, ms1mx2.7/27, Error ellipse: s-maj=46.6km s-min=15.0km az=74.0*
ISCJB ***06*** *15:33:19.9± 0.5, 2955± 006× 1302E± 0.1, h33km, mb4.1/14, Error ellipse: s-maj=20.5km s-min=7.9km az=151.4*
NEIC ***06*** *15:33:22.0± 0.4, 2965× 13025E, h35km, mb4.4/9, Error ellipse: s-maj=18.5km s-min=7.8km az=72.0*

ISC 06 15:33:21.6± 3.9, 2965± 007× 1303E± 01, h32km± 28km, n23, σ1§00/24, mb4.1/14, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**15.73**	**197**	Pn	**Pn**	**15 36 58.9**	**-1.8**
	0.3nm,0.3s,baz=22,slow=9.4,SNR=7.0						
WRAB	**Tennant Creek**	**17.33**	**167**	*e*Pn	**Pn**	**15 37 21.7**	**+0.8**
	24nm,0.4s						
WRA	**Warramunga Arr**	**17.34**	**167**	P	**Pn**	**15 37 19.8**	**-1.2**
	2.6nm,0.3s,baz=349,slow=11,SNR=33						
WRA				S	**Sn**	**15 40 23.3**	**-10**
	0.2nm,0.3s,baz=350,slow=24,SNR=3.5						
KSM	**Kuching**	**20.47**	**282**	*e*P	P	**15 37 57.2**	**+0.8**
ASAR	**Alice Springs**	**20.88**	**171**	P	P	**15 38 01.9**	**+1.0**
	32nm,0.7s,baz=348,slow=9.5,SNR=128						
ASAR				S	**S**	**15 41 51.0**	**-1.0**
	4.3nm,0.8s,baz=348,slow=17,SNR=10.0						
CTA	**Charters Tower**	**23.07**	**139**	P	P	**15 38 26.4**	**+2.1**
	4.0nm,0.8s,mb3.9,baz=287,slow=11,SNR=3.2						
CTAO	**Charters Tower**	**23.07**	**139**	P	P	**15 38 26.2**	**+1.9**
	11nm,1.1s,mb4.2						
STKA	**Stephens Creek**	**30.67**	**161**	*e*P	P	**15 39 32.8**	**-0.3**
	4.0nm,0.9s,mb4.2,baz=318,slow=15,SNR=5.0						
STKA	**Stephens Creek**	**30.67**	**161**	*e*P	P	**15 39 32.3**	**-0.8**
MJAR	**Matsushiro Arr**	**39.98**	**10**	P	P	**15 40 52.2**	**-0.9**
	1.7nm,0.8s,mb3.8,baz=172,slow=9.0,SNR=7.2						
MAJO	**Matsushiro**	**39.98**	**10**	P	P	**15 40 51.4**	**-1.8**
ULN	**Ulaanbaatar**	**54.55**	**341**	*e*P	P	**15 42 47.2**	**+0.7**
	3.6nm,0.9s,mb4.4						
ULN				*e*		15 42 53.2	
SONM	**Songino Array**	**54.74**	**340**	P	P	**15 42 48.9**	**+1.0**
	1.2nm,0.7s,mb4.0,baz=149,slow=7.4,SNR=12						
AFI	**Afiamalu**	**58.18**	**104**	LR	LR	16 03 59.7	
	comp=Z,394nm,19.7s,baz=136,slow=32						
MKAR	**Makanchi Array**	**65.05**	**326**	P	P	**15 43 59.6**	**+0.9**
	1.1nm,0.7s,mb4.0,baz=121,slow=7.2,SNR=10						
KURK	**Kurchatov**	**69.26**	**328**	*e*P	P	**15 44 24.8**	**-0.6**
	6.6nm,0.8s,mb4.6						
KURK				*e*		15 44 32.2	
BVAR	**Borovoye Array**	**74.84**	**327**	P	P	**15 44 59.3**	**+0.5**
	1.2nm,0.8s,mb3.9,baz=116,slow=6.9,SNR=7.1						
BRVK	**Borovoye**	**74.91**	**327**	*e*P	P	**15 44 58.8**	**-0.4**
	1.4nm,0.8s,mb3.9						
ZRNK	**Zerenda**	**75.56**	**327**	*e*P	P	**15 45 03.1**	**+0.1**
	2.3nm,0.9s,mb4.1						
ZRNK				*e*		15 45 09.7	
VNDA	**Vanda**	**76.40**	**173**	P	P	**15 45 09.2**	**+1.5**
	0.4nm,0.8s,mb3.4,baz=320,slow=8.1,SNR=2.7						
ARU	**Arti**	**82.46**	**328**	P	P	**15 45 40.1**	**-0.6**
	2.3nm,0.8s,mb4.2						
QSPA	**South Pole Qui**	**86.99**	**180**	P	P	**15 46 03.1**	**-0.5**
	8.5nm,1.4s,mb4.8						
INK	**Inuvik**	**95.02**	**22**	P	P	**15 46 40.7**	**-0.3**
	0.7nm,0.8s,mb4.2,baz=342,slow=3.2,SNR=4.4						

IDC ***06*** *15:36:45.7± 0.7, 1992S× 17435W, h0km, mb4.4/15, mb1 4.6/17, mb1mx4.5/21, mbtmp4.4/17, ML3.8/2, MS3.8/6, Ms1 3.8/6, ms1mx3.4/24, Error ellipse: s-maj=24.0km s-min=14.8km az=131.0*
ISCJB ***06*** *15:36:48.8± 0.4, 2011S± 008× 174.45W± 0.08, h33km, mb4.7/30, MS4.0/7, Error ellipse: s-maj=13.0km s-min=9.0km az=90.2*
MOS ***06*** *15:36:49.5± 1.3, 1990S× 17447W, h33km, mb5.2/4, Error ellipse: s-maj=15.7km s-min=12.9km az=52.5*
BJI ***06*** *15:36:49.3, 2034S× 17446W, h40km, mB5.2, mb4.9, Ms5.1, Ms2.4*
NEIC ***06*** *15:36:50.8± 0.3, 1991S× 17444W, h35km, mb5.0/14, Error ellipse: s-maj=13.4km s-min=7.4km az=136.0*

ISC 06 15:36:50.3± 0.4, 2013S± 008× 17428W± 008, h35km, (h34km± 2.3km: pP-P), n96, σ1§13/65, mb4.7/30, MS4.0/7, 3C-6D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.63**	**22**	Pn	**Pn**	**15 38 22.3**	**-2.9**
	15nm,0.3s,baz=161,slow=0.7,SNR=38						
AFI				Sn	**Sn**	**15 39 29.2**	**-10**
	36nm,0.3s,baz=45,slow=21,SNR=8.8						
AFI	**Afiamalu**	**6.63**	**22**	*e*P	**Pn**	**15 38 22.3**	**-3.0**
AFI				*e*		15 39 29.9	
AFI				pmax	pmax		
	comp=Z,55nm,0.4s						
AFI	**Afiamalu**	**6.63**	**22**	*e*Pn	**Pn**	**15 38 22.3**	**-2.9**
	comp=Z,55nm,0.4s						
AFI				*e*Sn	**Sn**	**15 39 29.9**	**-10**
RAO	**Raoul Island**	**9.66**	**199**	Sn	**Sn**	**15 40 48.8**	**-5.3**
	comp=Z,70nm,0.3s,baz=252,slow=19,SNR=2.8						
RAR	**Rarotonga**	**13.62**	**97**	Pn	**Pn**	**15 39 56.7**	**-4.2**
	comp=Z,4.0nm,0.3s,baz=252,slow=8.2,SNR=21						
RAR				Sn	Sn	15 42 07.9	-23
	comp=Z,2.5nm,0.3s,baz=255,slow=6.1,SNR=4.3						
DZM	**Mont Dzumac**	**18.09**	**260**	P	**Pn**	**15 41 02.7**	**+4.0**
	comp=Z,0.8nm,0.3s,baz=73,slow=16,SNR=18						
URZ	**Urewera**	**19.55**	**201**	P	**Pn**	**15 41 16.8**	**+0.5**
	comp=Z,2.0nm,0.3s,baz=78,slow=7.1,SNR=13						
URZ				S	**S**	**15 44 37.0**	**-17**
	comp=Z,0.9nm,0.3s,baz=223,slow=18,SNR=4.2						
TBI	**Tubuai**	**23.27**	**102**	*e*LR	LR	15 47 15.3	
	comp=Z,520nm,31.0s						
TBI	**Tubuai**	**23.27**	**102**	*e*T		16 05 54.9	
	comp=Z,8.6nm,0.2s						
PAE	**Paea**	**23.49**	**88**	*e*T		16 06 10.1	
	comp=Z,21nm,0.3s						
PPT	**Papeete**	**23.51**	**88**	*e*LQ		15 46 30.1	
	comp=Z,363nm,25.8s						
PPT				*e*LR	LR	15 47 19.8	
	comp=Z,720nm,29.8s						
TVO	**Taravao**	**23.78**	**89**	*e*T		16 06 32.8	
	comp=Z,6.4nm,0.3s						
RPZ	**Rata Peaks**	**26.52**	**204**	P	**P**	**15 42 28.0**	**+3.5**
	comp=Z,2.9nm,0.4s,mb4.2,baz=90,slow=4.0,SNR=4.7						
HNR	**Honiara**	**27.05**	**289**	LR	LR	15 49 52.9	
	comp=Z,67nm,18.9s,MS3.2,baz=18,slow=29

SNAA				*e*			15 49 57.9		
VNA2	**Neumayer--Watz**	**88.73**	**176**	*e*P		**P**	**15 49 40.5**	**+0.3**	
	baz=203,slow=3.0								
VNA2				*e*			15 49 42.9		
VNA2				*e*		pP	15 49 51.0	-0.3	
VNA2				*e*			15 49 54.8		
VNA2				*e*			15 50 00.1		
VNA2				*e*			15 50 03.9		
VNA1	**Neumayer--Stat**	**88.93**	**175**	*e*P		**P**	**15 49 40.1**	**-1.0**	
VNA1				*e*			15 49 42.2		
VNA1				*e*		pP	15 49 48.6	-3.7	
VNA1				*e*		pP	15 49 52.4	+0.1	
BILL	**Bilibino**	**89.07**	**353**	*i* P		**P**	**15 49 41.2**	**-0.6**	
INK	**Inuvik**	**93.04**	**14**	*i* P		**P**	**15 49 59.4**	**-0.8**	
	comp=Z,1.4nm,1.1s,mb4.3,baz=193,slow=5.6,SNR=2.6								
CD2	**Chengdu**	**93.55**	**301**	*e*P		**P**	**15 50 01.9**	**-0.7**	
CD2					AP	pP	15 50 12.5	-1.2	
CD2					XP	sP	15 50 16.4	-1.3	
CD2					PP	PP	15 53 49.0	+1.7	
CD2					SKS		16 00 32.0		
CD2					AMB	AMB			
	comp=Z,10.0nm,0.9s,mb5.2								
CD2					AMB	AMB			
	comp=Z,40nm,8.6s								
CD2					LR	LR			
	comp=Z,60nm,9.6s								
YKA	**Yellowknife Ar**	**94.75**	**24**	P		**P**	**15 50 07.1**	**-0.9**	
	comp=Z,0.3nm,0.8s,mb3.8,baz=240,slow=4.3,SNR=5.6								
YKA					LR	LR	16 29 39.9		
	comp=Z,39nm,18.2s,MS3.9,baz=180,slow=34								
YKA	**Yellowknife Ar**	**94.75**	**24**	P		**P**	**15 50 07.1**	**-0.9**	
YKA					LR	LR	16 29 39.9		
SONM	**Songino Array**	**97.79**	**318**	P		**P**	**15 50 23.8**	**+2.0**	
	comp=Z,1.7nm,1.2s,mb4.5,baz=125,slow=4.4,SNR=4.9								
ARCES	**ARCESS Array B**	**129.14**	**351**	PKP		PKPdf	15 55 54.0	-0.6	
	comp=Z,1.6nm,0.8s,baz=325,slow=1.9,SNR=7.1								
FINES	**FINESS Array B**	**136.33**	**346**	PKP		PKPdf	15 56 07.8	-0.3	
	comp=Z,0.3nm,0.6s,baz=72,slow=6.2,SNR=3.8								
FINES	**FINESS Array B**	**136.33**	**346**	*i* PKIKP		PKPdf	15 56 09.6	+1.5	
OBN	**Obninsk**	**138.03**	**334**	*e*PKIKP		PKPdf	15 56 10.1	-1.2	
OBN				pmax		pmax			
	comp=Z,4.0nm,0.9s								
AKASG	**Malin Array Be**	**144.29**	**334**	PKP		PKPdf	15 56 20.2	-2.3	
	comp=Z,1.1nm,0.3s,baz=36,slow=4.1,SNR=14								
AKASG	**Malin Array Be**	**144.29**	**334**	*i* PKIKP		PKPdf	15 56 20.0	-2.5	
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.3s								
MALT	**Malatya**	**146.43**	**310** ⇑	*i* P		PKPdf	15 56 29.2	+3.0	
MALT	**Malatya**	**146.43**	**310**	*e*PKPdf		PKPdf	15 56 28.5	+2.3	
KOLS	**Kolonicke sedl**	**148.34**	**339**	*e*PKP		PKPdf	15 56 28.5	-0.9	
BURAR	**Bucovina Array**	**148.34**	**335** ⇓	*i* P		PKPbc	15 56 34.7	+1.8	
BURAR	**Bucovina Array**	**148.34**	**335** ⇓	P		PKPbc	15 56 34.7	+1.8	
CLL	**Collm**	**148.36**	**351**	*i* PKPbc		PKPbc	15 56 32.6	-0.3	
	comp=Z,6.0nm,1.0s								
CLL				*i* sPKPbc			15 56 47.2		
BRG	**Berggiesshubel**	**148.64**	**350**	*e*P		PKPbc	15 56 33.9	+0.2	
	comp=Z,2.0nm,0.9s								
BRG	**Berggiesshubel**	**148.64**	**350**	*e*PKP2		PKPbc	15 56 33.9	+0.3	
BRG				pmax		pmax			
	comp=Z,2.0nm,0.9s								
BR131	**Keskin Array S**	**149.11**	**315**	*e*PKPbc		PKPbc	15 56 34.6	-0.2	
BR131				*e*PKPab		PKPab	15 56 40.5	+1.3	
BRTR	**Keskin Array B**	**149.11**	**315**	PKPbc		PKPbc	15 56 35.0	+0.2	
	comp=Z,0.9nm,0.6s,baz=127,slow=3.3,SNR=6.6								
BRTR	**Keskin Array B**	**149.11**	**315**	*i* PKP2		PKPbc	15 56 35.0	+0.2	
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
TIRR	**Tirgusor**	**149.27**	**327** ⇓	*i* P		PKPab	15 56 40.0	+0.2	
KECS	**Kecovo**	**149.31**	**341**	*e*PKP		PKPdf	15 56 31.9	+0.9	
MLR	**Muntele Rosu**	**149.70**	**331** ⇓	*i* P		PKPbc	15 56 36.7	+0.4	
GRF	**Grafenberg Arr**	**150.18**	**353**	*e*PKP		PKPbc	15 56 38.1	+0.7	
KHC	**Kasperske Hory**	**150.39**	**350** ⇓	*i* PKIKP		PKPbc	15 56 38.6	+0.7	
GERES	**GERESS Array B**	**150.64**	**349**	PKPbc		PKPbc	15 56 38.5	0.0	
	comp=Z,1.3nm,0.8s,baz=4.8,slow=1.6,SNR=7.2								
PKSM	**Moragy**	**151.91**	**341** ⇓	*i* P		PKPbc	15 56 41.3	-0.2	

*ISCJB **06** 15:37:57.7±0.2, 4359N±001×055W±002, h10km, Error ellipse: s-maj=2.4km s-min=1.6km az=35.3*
*MDD **06** 15:38:01.4±0.2, 4344N×057W, h10km, mbLg1.9/21, Error ellipse: s-maj=2.1km s-min=1.6km az=172.0, PRXIMO*
*NEIC **06** 15:38:01.4, 4341N×058W, h5km, ML2.5(STR), ML2.7(LDG), MN1.9(MDD), After STR.*
*STR **06** 15:38:01.4±0.4, 4341N×058W, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **06** 15:38:01.1±0.0, 4345N×058W, h2km, ML2.8/20, Error ellipse: s-maj=0.9km s-min=0.6km az=126.0*
*LDG **06** 15:38:01.0±0.0, 4344N×058W, h3km, Md2.7/3, Ml2.7/20, Error ellipse: s-maj=0.8km s-min=0.6km az=117.0*

ISC 06 15:37:59.5±0.2, 4352N±001×058W±002, h8km±3km, n116, σ0§99/199, 2C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORDF	**Ordiarp**	**0.40**	**220**	Pg	**Pg**	**15 38 07.7**	**+0.4**
ORDF				Sg	**Sg**	**15 38 13.7**	**+1.1**
ORDF	**Ordiarp**	**0.40**	**220**	Pg	**Pg**	**15 38 07.8**	**+0.4**
ORDF				Lg		15 38 13.8	
ATE	**Arette**	**0.44**	**191**	Pg	**Pg**	**15 38 07.8**	**-0.3**
ATE				Sg	**Sg**	**15 38 13.2**	**-0.7**
ATE	**Arette**	**0.44**	**191**	Pg	**Pg**	**15 38 07.8**	**-0.3**
ATE				Lg		15 38 13.5	
REYF	**Montagne du Re**	**0.47**	**163**	Pg	**Pg**	**15 38 08.1**	**-0.6**
REYF				Lg		15 38 14.6	
OSSF	**Osses**	**0.56**	**242**	Pg	**Pg**	**15 38 11.5**	**+1.1**
OSSF	**Osses**	**0.56**	**242**	Pg	**Pg**	**15 38 11.2**	**+0.8**
OSSF				Lg		15 38 19.5	
LARF	**Larrau**	**0.56**	**212**	Pg	**Pg**	**15 38 10.4**	**0.0**
LARF				Sg	**Sg**	**15 38 17.3**	**-0.5**
LARF	**Larrau**	**0.56**	**212**	Pg	**Pg**	**15 38 10.4**	**0.0**
LARF				Lg		15 38 18.2	
ETSF	**Etsaut**	**0.62**	**178**	*e*Pg	**Pg**	**15 38 10.8**	**-0.7**
ETSF				*e*Sg	**Sg**	**15 38 18.4**	**-1.2**
	20nm,0.2s						
ETSF	**Etsaut**	**0.62**	**178**	*e*Pg	**Pg**	**15 38 10.8**	**-0.7**
ETSF				*e*Sg	**Sg**	**15 38 18.4**	**-1.2**
	9.9nm,0.2s						
SJPF	**Ste Jean**	**0.62**	**229**	*e*Pg	**Pg**	**15 38 11.9**	**+0.4**
SJPF				*e*Sg	**Sg**	**15 38 19.4**	**-0.2**
	12nm,0.1s						
SJPF	**Ste Jean**	**0.62**	**229**	*e*Pg	**Pg**	**15 38 11.9**	**+0.4**
SJPF				*e*Sg	**Sg**	**15 38 19.4**	**-0.2**
	6.2nm,0.1s						
LABF	**Labassere**	**0.67**	**134**	Pg	**Pg**	**15 38 13.0**	**+0.5**
LABF				Sg	**Sg**	**15 38 22.2**	**+1.0**
LABF	**Labassere**	**0.67**	**134**	Pg	**Pg**	**15 38 13.2**	**+0.7**
LABF				Lg		15 38 21.8	
EALK	**Alkurruntz**	**0.74**	**246**	Pg	**Pg**	**15 38 14.2**	**+0.4**
	15nm,0.3s,SNR=18						
EALK				Lg		15 38 24.6	
	52nm,0.3s,SNR=20						
EALK	**Alkurruntz**	**0.74**	**246**	Pg	**Pg**	**15 38 14.5**	**+0.8**
EALK				Lg		15 38 24.6	
EALK	**Alkurruntz**	**0.74**	**246**	Pg	**Pg**	**15 38 14.5**	**+0.8**
	0.4nm,0.1s,SNR=18						
VIEF	**Viey**	**0.77**	**145**	Pg	**Pg**	**15 38 13.8**	**-0.6**
VIEF				Sg	**Sg**	**15 38 23.7**	**-0.8**
VIEF	**Viey**	**0.77**	**145**	Pg	**Pg**	**15 38 14.3**	**-0.1**
VIEF				Lg		15 38 24.1	
ELIZ	**Elizondo**	**0.78**	**243**	Pg	**Pg**	**15 38 15.1**	**+0.6**
	7.0nm,0.2s,SNR=18						
ELIZ				Lg		15 38 25.6	
	22nm,0.2s,SNR=28						
ELIZ	**Elizondo**	**0.78**	**243**	Pg	**Pg**	**15 38 15.2**	**+0.7**
ELIZ				Lg		15 38 27.4	
ELIZ	**Elizondo**	**0.78**	**243**	Pg	**Pg**	**15 38 15.2**	**+0.7**
	2.2nm,0.2s,SNR=18						
EPF	**Esparros**	**0.83**	**126**	*e*Pg	**Pg**	**15 38 15.9**	**+0.4**
EPF				*e*Sg	**Sg**	**15 38 26.7**	**+0.4**
	36nm,0.2s						
EPF	**Esparros**	**0.83**	**126**	*e*Pg	**Pg**	**15 38 15.9**	**+0.4**
EPF				*e*Sg	**Sg**	**15 38 26.7**	**+0.4**
	18nm,0.2s						
IUSE	**Utxeti**	**0.91**	**231**	Pg	**Pg**	**15 38 17.1**	**+0.2**
	0.2nm,0.0s,SNR=7.9						
IUSE				Lg		15 38 28.8	
	6.9nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**0.91**	**231**	Pg	**Pg**	**15 38 17.6**	**+0.6**
	0.1nm,0.0s,SNR=7.9						
IPRE	**Itoiz**	**0.91**	**219**	Pg	**Pg**	**15 38 17.0**	**0.0**
	0.6nm,0.1s,SNR=4.0						
IPRE				Lg		15 38 28.9	
	7.8nm,0.3s,SNR=5.3						
IPRE	**Itoiz**	**0.91**	**219**	Pg	**Pg**	**15 38 17.7**	**+0.7**
	1.0nm,0.1s,SNR=4.0						
RESF	**Ens**	**0.98**	**136**	Pg	**Pg**	**15 38 18.5**	**+0.2**
RESF				Lg		15 38 30.4	
EBIE	**Bielsa**	**0.99**	**147**	Pg	**Pg**	**15 38 17.6**	**-0.9**
	1.3nm,0.2s,SNR=18						
EBIE				Lg		15 38 29.5	
	7.2nm,0.2s,SNR=13						
EBIE	**Bielsa**	**0.99**	**147**	Pg	**Pg**	**15 38 18.1**	**-0.4**
EBIE				Lg		15 38 30.1	
EBIE	**Bielsa**	**0.99**	**147**	Pg	**Pg**	**15 38 18.1**	**-0.4**
	1.4nm,0.2s,SNR=18						
IUNC	**Unciti**	**1.02**	**222**	Pg	**Pg**	**15 38 19.1**	**0.0**
	0.7nm,0.1s,SNR=7.9						
IUNC				Lg		15 38 33.7	
	6.6nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**1.02**	**222**	Pg	**Pg**	**15 38 19.5**	**+0.5**
	SNR=7.9						
EARA	**Aranguren**	**1.04**	**225**	Lg		15 38 33.9	
	4.6nm,0.1s,SNR=4.0						
MELF	**Melles**	**1.17**	**123**	Pg	**Pg**	**15 38 21.7**	**-0.4**
MELF	**Melles**	**1.17**	**123**	Pg	**Pg**	**15 38 22.2**	**+0.1**
MELF				Lg		15 38 36.3	
EGRA	**Graus**	**1.48**	**153**	Pg	**Pg**	**15 38 27.6**	**-0.3**
	1.0nm,0.1s,SNR=18						
EGRA				Lg		15 38 46.3	
	5.5nm,0.2s,SNR=9.0						
EGRA	**Graus**	**1.48**	**153**	Pg	**Pg**	**15 38 27.6**	**-0.3**
EGRA				Lg		15 38 48.8	
SALF	**Salau**	**1.50**	**120**	Pg	**Pg**	**15 38 29.7**	**+1.4**
LFF	**La Frestale**	**1.71**	**33**	*e*Pg	**Pg**	**15 38 33.9**	**+1.6**
LFF				*e*Sg	**Sg**	**15 38 56.8**	**+2.4**
	23nm,0.3s						
LFF	**La Frestale**	**1.71**	**33**	Pn	**Pn**	**15 38 30.1**	**+0.5**
LFF				Pg	**Pg**	**15 38 33.9**	**+1.6**
LFF				Lg		15 38 56.8	
	12nm,0.3s						
LFF	**La Frestale**	**1.71**	**33**	*e*Pn	**Pn**	**15 38 30.1**	**+0.5**
LFF				*e*Pg	**Pg**	**15 38 33.9**	**+1.6**
LFF				*e*Sg	**Sg**	**15 38 56.8**	**+2.4**
LFF	**La Frestale**	**1.71**	**33**	*e*Pg	**Pg**	**15 38 33.9**	**+1.6**
LFF				*e*Sg	**Sg**	**15 38 56.8**	**+2.4**
	12nm,0.3s						
ESAC	**San Caprasio**	**1.80**	**177** ⇑	Pg	**Pg**	**15 38 33.5**	**-0.5**
	28nm,0.2s,SNR=18						
ESAC				Lg		15 38 55.9	
	29nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.80**	**177** ⇑	Pg	**Pg**	**15 38 33.6**	**-0.4**
ESAC				Lg		15 38 56.2	
ESAC	**San Caprasio**	**1.80**	**177**	Pg	**Pg**	**15 38 33.6**	**-0.4**
	15nm,0.2s,SNR=18						
MTLF	**Montolieu**	**2.05**	**94**	*e*Pg	**Pg**	**15 38 38.9**	**+0.1**
MTLF				*e*Sg	**Sg**	**15 39 04.8**	**-0.5**
	8.1nm,0.3s						
MTLF	**Montolieu**	**2.05**	**94**	Pn	**Pn**	**15 38 35.0**	**+0.7**
MTLF				Pg	**Pg**	**15 38 38.9**	**+0.1**
MTLF				Lg		15 39 04.8	
	4.1nm,0.3s						
MTLF	**Montolieu**	**2.05**	**94**	*e*Pn	**Pn**	**15 38 35.0**	**+0.7**
MTLF				*e*Pg	**Pg**	**15 38 38.9**	**+0.1**
MTLF				*e*Sg	**Sg**	**15 39 04.8**	**-0.5**
MTLF	**Montolieu**	**2.05**	**94**	*e*Pg	**Pg**	**15 38 38.9**	**+0.1**
MTLF				*e*Sg	**Sg**	**15 39 04.8**	**-0.5**
	4.1nm,0.3s						
ELAN	**Lanestosa**	**2.10**	**263**	Pg	**Pg**	**15 38 39.6**	**-0.2**
	0.1nm,0.1s,SNR=4.0						
ELAN				Lg		15 39 09.2	
	2.9nm,0.2s,SNR=5.0						
ELAN	**Lanestosa**	**2.10**	**263**	Pg	**Pg**	**15 38 40.1**	**+0.3**
ELAN				Lg		15 39 09.2	
ELAN	**Lanestosa**	**2.10**	**263**	Pg	**Pg**	**15 38 40.1**	**+0.3**
	1.6nm,0.3s,SNR=4.0						
EMIR	**Miracle**	**2.23**	**135**	Pg	**Pg**	**15 38 41.4**	**-0.9**
	SNR=4.0						
EMIR				Lg		15 39 12.3	
	4.8nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**2.23**	**135**	Pg	**Pg**	**15 38 41.4**	**-0.9**
	SNR=4.0						
RJF	**Les Rejaudoux**	**2.33**	**39**	*e*Pg	**Pg**	**15 38 45.3**	**+1.0**
RJF				*e*Sg	**Sg**	**15 39 16.2**	**+1.7**
	11nm,0.3s						
RJF	**Les Rejaudoux**	**2.33**	**39**	Pn	**Pn**	**15 38 39.1**	**+0.9**
RJF				Pg	**Pg**	**15 38 45.3**	**+1.0**
RJF				Lg		15 39 16.2	
	5.5nm,0.3s						
RJF	**Les Rejaudoux**	**2.33**	**39**	*e*Pn	**Pn**	**15 38 39.1**	**+0.9**
RJF				*e*Pg	**Pg**	**15 38 45.3**	**+1.0**
RJF				*e*Sg	**Sg**	**15 39 16.2**	**+1.7**
RJF	**Les Rejaudoux**	**2.33**	**39**	*e*Pg	**Pg**	**15 38 45.3**	**+1.0**
RJF				*e*Sg	**Sg**	**15 39 16.2**	**+1.7**
	5.5nm,0.3s						
CAF	**Calviac**	**2.37**	**53**	*e*Pg	**Pg**	**15 38 46.1**	**+1.2**
CAF				*e*Sg	**Sg**	**15 39 16.6**	**+1.1**
	7.6nm,0.3s						
CAF	**Calviac**	**2.37**	**53**	Pn	**Pn**	**15 38 39.8**	**+1.1**
CAF				Pg	**Pg**	**15 38 46.1**	**+1.2**
CAF				Lg		15 39 16.6	
	3.8nm,0.3s						
CAF	**Calviac**	**2.37**	**53**	*e*Pn	**Pn**	**15 38 39.8**	**+1.1**
CAF				*e*Pg	**Pg**	**15 38 46.1**	**+1.2**
CAF				*e*Sg	**Sg**	**15 39 16.6**	**+1.1**
CAF	**Calviac**	**2.37**	**53**	*e*Pg	**Pg**	**15 38 46.1**	**+1.2**
CAF				*e*Sg	**Sg**	**15 39 16.6**	**+1.1**
	3.8nm,0.3s						
EPOB	**Poblet**	**2.49**	**150**	Pg	**Pg**	**15 38 46.0**	**-1.2**
	0.6nm,0.2s,SNR=7.9						
EPOB				Lg		15 39 16.7	
	1.7nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.49**	**150**	Pg	**Pg**	**15 38 46.4**	**-0.8**
EPOB				Lg		15 39 16.9	
EPOB	**Poblet**	**2.49**	**150**	Pg	**Pg**	**15 38 46.4**	**-0.8**
	SNR=7.9						
ERTA	**Horta de San J**	**2.65**	**165**	Pg	**Pg**	**15 38 48.1**	**-2.2**
	0.6nm,0.1s,SNR=7.9						
ERTA				Lg		15 39 23.1	
	1.0nm,0.1s,SNR=7.9						
MFF	**Saint Martin d**	**3.10**	**6**	*e*Pg	**Pg**	**15 38 59.9**	**+1.0**
MFF				*e*Sg	**Sg**	**15 39 40.8**	**+1.7**
	4.3nm,0.3s						
MFF	**Saint Martin d**	**3.10**	**6**	Pn	**Pn**	**15 38 49.8**	**+1.0**
MFF				Pg	**Pg**	**15 38 59.9**	**+1.0**
MFF	**Saint Martin d**	**3.10**	**6**	*e*Pn	**Pn**	**15 38 49.8**	**+1.0**
MFF				*e*Pg	**Pg**	**15 38 59.9**	**+1.0**
MFF				*e*Sg	**Sg**	**15 39 40.8**	**+1.7**
MFF	**Saint Martin d**	**3.10**	**6**	*e*Pg	**Pg**	**15 38 59.9**	**+1.0**
MFF				*e*Sg	**Sg**	**15 39 40.8**	**+1.7**
	2.2nm,0.3s						
EMOS	**Mosqueruela**	**3.15**	**178**	Pn	**Pn**	**15 38 49.7**	**+0.2**
	0.0nm,0.1s,SNR=4.0						
EMOS				Pg	**Pg**	**15 38 57.4**	**-2.6**
	0.9nm,0.2s,SNR=7.9						
EMOS				Lg		15 39 40.7	
	1.9nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**3.15**	**178**	Pn	**Pn**	**15 38 52.0**	**+2.5**
EMOS				Pg	**Pg**	**15 38 57.6**	**-2.3**
EMOS				Sn	**Sn**	**15 39 29.9**	**+2.6**
EMOS				Lg		15 39 40.7	
EMOS	**Mosqueruela**	**3.15**	**178**	Pn	**Pn**	**15 38 52.0**	**+2.5**
	SNR=4.0						
EMOS	**Mosqueruela**	**3.15**	**178**	Pg	**Pg**	**15 38 57.6**	**-2.4**
	0.3nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	**3.26**	**79**	*e*Pg	**Pg**	**15 39 02.1**	**+0.1**
LASF				*e*Sg	**Sg**	**15 39 43.8**	**-0.5**
	4.7nm,0.5s						
LASF	**Ste Croix**	**3.26**	**79**	Pn	**Pn**	**15 38 52.0**	**+1.0**
LASF				Pg	**Pg**	**15 39 02.1**	**+0.1**
LASF	**Ste Croix**	**3.26**	**79**	*e*Pn	**Pn**	**15 38 52.0**	**+1.0**
LASF				*e*Pg	**Pg**	**15 39 02.1**	**+0.1**
LASF				*e*Sg	**Sg**	**15 39 43.8**	**-0.5**
LASF	**Ste Croix**	**3.26**	**79**	*e*Pg	**Pg**	**15 39 02.1**	**+0.1**
LASF				*e*Sg	**Sg**	**15 39 43.8**	**-0.5**
	2.3nm,0.5s						
EARI	**Arriondas**	**3.38**	**268**	Pn	**Pn**	**15 38 53.5**	**+0.9**
	0.0nm,0.1s,SNR=7.9						
EARI				Pg	**Pg**	**15 39 03.3**	**-1.0**
	0.3nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**3.38**	**268**	Pn	**Pn**	**15 38 53.5**	**+0.9**
EARI	**Arriondas**	**3.38**	**268**	Pg	**Pg**	**15 39 03.3**	**-1.0**
BGF	**Bois d'Agland**	**3.89**	**37**	*e*Pg	**Pg**	**15 39 14.0**	**-0.1**
BGF				*e*Sg	**Sg**	**15 40 04.7**	**+0.2**
	16nm,0.3s						
BGF	**Bois d'Agland**	**3.89**	**37**	*e*Pg	**Pg**	**15 39 14.0**	**-0.1**
BGF				*e*Sg	**Sg**	**15 40 04.7**	**+0.2**
	8.0nm,0.3s						
VIVF	**Saint-Julien-l**	**4.01**	**69**	*e*Pg	**Pg**	**15 39 15.4**	**-0.9**
VIVF				*e*Sg	**Sg**	**15 40 07.6**	**-0.7**
	2.0nm,0.5s						
VIVF	**Saint-Julien-l**	**4.01**	**69**	Pn	**Pn**	**15 39 01.5**	**+0.2**
VIVF				Pg	**Pg**	**15 39 15.4**	**-0.9**
VIVF	**Saint-Julien-l**	**4.01**	**69**	*e*Pn	**Pn**	**15 39 01.5**	**+0.2**
VIVF				*e*Pg	**Pg**	**15 39 15.4**	**-0.9**
VIVF				*e*Sg	**Sg**	**15 40 07.6**	**-0.7**
VIVF	**Saint-Julien-l**	**4.01**	**69**	*e*Pg	**Pg**	**15 39 15.4**	**-0.9**
VIVF				*e*Sg	**Sg**	**15 40 07.6**	**-0.7**
	1.0nm,0.5s						
AVF	**Avril sur Loir**	**4.29**	**39**	*e*Pg	**Pg**	**15 39 21.4**	**-0.4**
AVF				*e*Sg	**Sg**	**15 40 17.8**	**+0.4**
	4.8nm,0.6s						
AVF	**Avril sur Loir**	**4.29**	**39**	*e*Pg	**Pg**	**15 39 21.4**	**-0.4**
AVF				*e*Sg	**Sg**	**15 40 17.8**	**+0.4**
	2.4nm,0.6s						
SMF	**Signal de Mont**	**4.42**	**44**	*e*Pg	**Pg**	**15 39 23.6**	**-0.7**
SMF				*e*Sg	**Sg**	**15 40 21.3**	**-0.3**
	2.8nm,0.4s						
SMF	**Signal de Mont**	**4.42**	**44**	*e*Pg	**Pg**	**15 39 23.6**	**-0.7**
SMF				*e*Sg	**Sg**	**15 40 21.3**	**-0.3**
	1.4nm,0.4s						
SSF	**Saint Saulge**	**4.57**	**38**	*e*Pg	**Pg**	**15 39 26.6**	**-0.4**
SSF				*e*Sg	**Sg**	**15 40 25.9**	**-0.3**
	2.2nm,0.4s						
SSF	**Saint Saulge**	**4.57**	**38**	*e*Pg	**Pg**	**15 39 26.6**	**-0.4**
SSF				*e*Sg	**Sg**	**15 40 25.9**	**-0.3**
	1.1nm,0.4s						
QUIF	**Quistinic**	**4.75**	**339**	*e*Sn	**Sn**	**15 40 05.7**	**-1.2**
	4.0nm,0.3s						
QUIF	**Quistinic**	**4.75**	**339**	*e*Sn	**Sn**	**15 40 05.7**	**-1.2**
	2.0nm,0.3s						
GRR	**Gorron**	**4.87**	**358**	*e*Pg	**Pg**	**15 39 32.9**	**0.0**
GRR				*e*Sn	**Sn**	**15 40 08.6**	**-1.2**
GRR				*e*Sg	**Sg**	**15 40 36.0**	**0.0**
	2.0nm,0.3s						
GRR	**Gorron**	**4.87**	**358**	Pn	**Pn**	**15 39 14.0**	**+0.8**
GRR				Pg	**Pg**	**15 39 32.9**	**0.0**
GRR				Sn	**Sn**	**15 40 08.6**	**-1.2**
GRR				Lg		15 40 36.0	
	1.0nm,0.3s						
GRR	**Gorron**	**4.87**	**358**	*e*Pn	**Pn**	**15 39 14.0**	**+0.8**
GRR				*e*Pg	**Pg**	**15 39 32.9**	**0.0**
GRR				*e*Sn	**Sn**	**15 40 08.6**	**-1.2**
GRR				*e*Sg	**Sg**	**15 40 36.0**	**0.0**
GRR	**Gorron**	**4.87**	**358**	*e*Pg	**Pg**	**15 39 32.9**	**0.0**
GRR				*e*Sn	**Sn**	**15 40 08.6**	**-1.2**
GRR				*e*Sg	**Sg**	**15 40 36.0**	**0.0**
	1.0nm,0.3s						
LOR	**Lormes**	**4.88**	**38**	*e*Pg	**Pg**	**15 39 32.4**	**-0.6**
LOR				*e*Sg	**Sg**	**15 40 35.8**	**-0.5**
	2.0nm,0.3s						
LOR	**Lormes**	**4.88**	**38**	*e*Pg	**Pg**	**15 39 32.4**	**-0.6**
LOR				*e*Sg	**Sg**	**15 40 35.8**	**-0.5**
	1.0nm,0.3s						
SGMF	**Saint Gilles**	**4.93**	**344**	*e*Pn	**Pn**	**15 39 15.1**	**+1.1**
SGMF				*e*Sn	**Sn**	**15 40 10.2**	**-1.0**
	2.1nm,0.3s						
SGMF	**Saint Gilles**	**4.93**	**344**	*e*Pn	**Pn**	**15 39 15.1**	**+1.1**
SGMF				*e*Sn	**Sn**	**15 40 10.2**	**-1.0**
	1.0nm,0.3s						
LDF	**La Druitiere**	**5.08**	**3**	*e*Pg	**Pg**	**15 39 36.6**	**-0.3**
LDF				*e*Sn	**Sn**	**15 40 13.2**	**-1.8**
LDF				*e*Sg	**Sg**	**15 40 42.7**	**-0.1**
	2.3nm,0.4s						
LDF	**La Druitiere**	**5.08**	**3**	*e*Pg	**Pg**	**15 39 36.6**	**-0.3**
LDF				*e*Sn	**Sn**	**15 40 13.2**	**-1.8**
LDF				*e*Sg	**Sg**	**15 40 42.7**	**-0.1**
	1.1nm,0.4s						
ROSF	**Rostrenen**	**5.17**	**340**	*e*Pn	**Pn**	**15 39 18.1**	**+0.9**
ROSF				*e*Sn	**Sn**	**15 40 15.8**	**-1.3**
	1.8nm,0.3s						
ROSF	**Rostrenen**	**5.17**	**340**	*e*Pn	**Pn**	**15 39 18.1**	**+0.9**
ROSF				*e*Sn	**Sn**	**15 40 15.8**	**-1.3**
	0.9nm,0.3s						
FLN	**La Foliniere**

	comp=Z,7.0nm,1.1s,mb4.5								
MAJO	**Matsushiro**	**72.42**	**321**	P		**P**	**15 50 38.9**	**+1.6**
	comp=Z,7.1nm,1.1s,mb4.5								
NVAR	**Mina Array Bea**	**78.39**	**41**	P		**P**	**15 51 11.7**	**+0.1**
	comp=Z,1.6nm,0.8s,mb4.0,baz=214,slow=7.6,SNR=7.9								
PDAR	**Pinedale Array**	**86.33**	**42**	P		**P**	**15 51 52.5**	**-0.5**
	comp=Z,0.5nm,0.7s,mb3.9,baz=255,slow=1.5,SNR=4.9								
ILAR	**Eielson Array**	**87.41**	**11**	P		**P**	**15 52 32.2**	**-0.7**
	comp=Z,0.7nm,0.8s,mb4.0,baz=219,slow=6.6,SNR=5.3								
YKA	**Yellowknife Ar**	**94.86**	**24**	P		**P**	**15 52 32.2**	**-0.7**
	comp=Z,0.5nm,0.8s,mb4.0,baz=238,slow=4.4,SNR=6.6								
YKA	**Yellowknife Ar**	**94.86**	**24**	P		**P**	**15 52 32.2**	**-0.7**
ARCES	**ARCESS Array B**	**129.44**	**351**	PKP		PKPdf	15 58 19.0	-0.5	
	comp=Z,0.6nm,0.6s,baz=26,slow=2.3,SNR=4.4								
AKASG	**Malin Array Be**	**144.64**	**334**	PKP		PKPdf	15 58 46.1	-1.3	
	comp=Z,1.3nm,0.4s,baz=40,slow=4.2,SNR=6.7								
CLL	**Collm**	**148.66**	**352**	*e*PKPab		PKPab	15 59 01.0	-0.6	
CLL				epPKPbc		pPKPbc	15 59 08.0	-4.0	
GERES	**GERESS Array B**	**150.94**	**350**	PKPbc		PKPbc	15 59 04.0	+0.5	
	comp=Z,0.4nm,0.5s,baz=51,slow=10,SNR=3.9								

*CSEM **06** 15:53:47.7, 3626N×188E, h0km, ML3.0, After ALG*
*CRAAG **06** 15:53:47.7, 3626N×188E, Ml3.0*
*ISCJB **06** 15:53:53.0±0.7, 3636N±005×148E±009, h10km, Error ellipse: s-maj=10.5km s-min=6.8km az=151.5*
*MDD **06** 15:53:53.5±0.6, 3630N×148E, h0km, mb3.1/3, Error ellipse: s-maj=8.4km s-min=6.1km az=0.0, PRXIMO*
ISC 06 15:53:53.5±0.8, 3633N±005×152E±009, h10km, n8, σ1§03/10, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EBNR	**Beni Rached**	**0.04**	**168**	P		**Pg**	**15 53 54.0**	**-1.4**
ECHA	**Ech Chlef**	**0.22**	**214**	P		**Pg**	**15 53 59.5**	**+1.5**
EAIN	**`Ain N'Sour**	**0.51**	**222**	P		**Pg**	**15 54 02.0**	**-1.4**
ETRT	**Tiaret**	**0.96**	**191**	P		**Pg**	**15 54 07.0**	**-4.9**
EMHD	**Djebel Mahouad**	**1.17**	**96**	P		**Pb**	**15 54 16.3**	**+0.6**
EIBI	**Ibiza**	**2.69**	**357**	P		**Pn**	**15 54 37.1**	**+0.3**
	2.4nm,0.2s,SNR=7.9							
EIBI				S		**Sn**	**15 55 08.1**	**-1.4**
	0.6nm,0.2s,SNR=7.9							
ETOB	**Tobarra**	**3.36**	**314**	P		**Pn**	**15 54 46.4**	**+0.5**
	0.1nm,0.1s,SNR=7.9							
ETOB				S		**Sn**	**15 55 26.0**	**+0.1**
	0.2nm,0.1s,SNR=7.9							
EMOS	**Mosqueruela**	**4.32**	**339**	P		**Pn**	**15 55 00.2**	**+1.1**
	0.4nm,0.1s,SNR=7.9							

MAN 06 16:01:31.2, 1344N×12055E, h29km, mb2.5, ML4.0, MS2.4, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PGP	**Puerto Galera**	**0.40**	**81**	⇑*i*P		Pb	16 01 41.2	+1.2
PGP				*i* S		Sb	16 01 48.4	+2.4
LUBP	**Lubang**	**0.41**	**315**	*e*P		Pb	16 01 40.6	+0.5
LUBP				*e*S		Sb	16 01 42.0	-4.4
TGY	**Tagaytay City**	**0.76**	**30**	⇓*e*P		Pb	16 01 46.5	+0.6
TGY				*i* S		Sb	16 01 57.1	+1.3
BOAC	**Boac**	**1.26**	**89**	*e*P		Pn	16 01 52.0	-0.9
BUSP	**Coron**	**1.47**	**193**	*e*P		Pn	16 01 56.6	+0.9
OTRP	**Odiongan**	**1.79**	**127**	*e*P		Pn	16 02 01.7	+1.6
POLP	**Polillo Island**	**1.86**	**46**	*e*P		Pn	16 02 04.0	+2.9
ENPP	**El Nido**	**2.48**	**206**	*e*P		Pn	16 02 09.8	+0.2
BALP	**Baler**	**2.49**	**23**	*e*P		Pn	16 02 11.3	+1.5
CUYO	**Cuyo Island**	**2.62**	**170**	*e*P		Pn	16 02 11.9	+0.4

IDC 06 16:08:16.6±4.9, 1932S×17451W, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/16, mbtmp3.9/5, ML2.5/1, Error ellipse: s-maj=165.2km s-min=23.7km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**5.99**	**26**	Pn		Pn	16 09 47.6	+1.2
	6.5nm,0.3s,baz=51,slow=0.6,SNR=14							
AFI				Sn		Sn	16 10 54.8	-0.8
	2.4nm,0.3s,baz=61,slow=22,SNR=2.9							
CTA	**Charters Tower**	**36.89**	**262**	P		P	16 15 28.8	+2.0
	5.4nm,0.9s,baz=90,slow=5.1,SNR=3.6							
ASAR	**Alice Springs**	**47.98**	**255**	P		P	16 16 57.4	+0.2
	0.6nm,0.9s,baz=88,slow=8.4,SNR=4.1							
WRA	**Warramunga Arr**	**48.02**	**260**	P		P	16 16 56.2	-1.2
	0.4nm,0.5s,baz=97,slow=7.6,SNR=3.2							
ILAR	**Eielson Array**	**86.47**	**11**	P		P	16 21 00.7	-0.5
	0.4nm,0.8s,baz=232,slow=6.7,SNR=4.1							

*ISCJB **06** 16:13:43.9±0.3, 4351N±002×053W±003, h3km, Error ellipse: s-maj=3.7km s-min=2.1km az=75.4*
*STR **06** 16:13:44.9±0.5, 4343N×045W, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **06** 16:13:46.5±0.4, 4343N×058W, h10km, mbLg1.5/13, Error ellipse: s-maj=2.7km s-min=1.9km az=6.0, PRXIMO*
*LDG **06** 16:13:46.0±0.1, 4344N×058W, h3km, Md2.3/2, Ml2.2/8, Error ellipse: s-maj=1.8km s-min=0.9km az=124.0*
ISC 06 16:13:45.2±0.3, 4347N±002×054W±003, h9km±6km, n48, σ0§75/64, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ORDF	**Ordiarp**	**0.38**	**228**	Pg		**Pg**	**16 13 52.7**	**0.0**
ORDF				Sg		**Sg**	**16 13 58.9**	**+1.1**
ORDF	**Ordiarp**	**0.38**	**228**	Pg		**Pg**	**16 13 52.8**	**+0.1**
ORDF				Lg			16 13 58.5	
ATE	**Arette**	**0.40**	**197**	Pg		**Pg**	**16 13 52.7**	**-0.3**
ATE				Sg		**Sg**	**16 13 58.4**	**+0.1**
ATE	**Arette**	**0.40**	**197**	Pg		**Pg**	**16 13 52.5**	**-0.5**
ATE				Lg			16 13 58.0	
REYF	**Montagne du Re**	**0.41**	**164**	Pg		**Pg**	**16 13 53.1**	**-0.2**
REYF				Lg			16 13 59.4	
LARF	**Larrau**	**0.54**	**217**	Pg		**Pg**	**16 13 55.4**	**-0.3**
LARF				Sg		**Sg**	**16 14 02.5**	**-0.2**
LARF	**Larrau**	**0.54**	**217**	Pg		**Pg**	**16 13 55.1**	**-0.5**
LARF				Lg			16 14 02.7	
OSSF	**Osses**	**0.56**	**248**	Pg		**Pg**	**16 13 56.5**	**+0.4**
OSSF				Sg		**Sg**	**16 14 05.5**	**+1.9**
OSSF	**Osses**	**0.56**	**248**	Pg		**Pg**	**16 13 56.5**	**+0.4**
OSSF				Lg			16 14 04.0	
ETSF	**Etsaut**	**0.57**	**181**	*e*Pg		**Pg**	**16 13 55.9**	**-0.4**
ETSF				*e*Sg		**Sg**	**16 14 03.5**	**-0.2**
	8.2nm,0.2s							
ETSF	**Etsaut**	**0.57**	**181**	Pg		**Pg**	**16 13 55.9**	**-0.4**
ETSF				Lg			16 14 03.5	
	4.1nm,0.2s							
SJPF	**Ste Jean**	**0.61**	**235**	*e*Pg		**Pg**	**16 13 56.9**	**-0.1**
SJPF				*e*Sg		**Sg**	**16 14 04.6**	**-0.4**
	5.7nm,0.2s							
SJPF	**Ste Jean**	**0.61**	**235**	Pg		**Pg**	**16 13 56.9**	**-0.1**
SJPF				Lg			16 14 04.6	
	2.8nm,0.2s							
LABF	**Labassere**	**0.62**	**133**	Pg		**Pg**	**16 13 58.4**	**+1.3**
LABF				Lg			16 14 06.9	
FDAF	**Les Forges d'A**	**0.65**	**181**	Pg		**Pg**	**16 13 57.3**	**-0.4**
FDAF				Lg			16 14 05.7	
VIEF	**Viey**	**0.72**	**144**	Lg			16 14 08.8	
EALK	**Alkurruntz**	**0.75**	**251**	Pg		**Pg**	**16 13 59.5**	**-0.1**
	2.4nm,0.2s,SNR=7.9							
EALK				Lg			16 14 09.4	
	9.8nm,0.4s,SNR=7.9							
ELIZ	**Elizondo**	**0.78**	**247**	Pg		**Pg**	**16 14 00.0**	**-0.2**
	1.7nm,0.2s,SNR=7.9							
ELIZ				Lg			16 14 09.9	
	8.2nm,0.2s,SNR=7.9							
EPF	**Esparros**	**0.78**	**124**	*e*Pg		**Pg**	**16 14 01.2**	**+1.0**
EPF				*e*Sg		**Sg**	**16 14 11.8**	**+1.4**
	10nm,0.2s							
EPF	**Esparros**	**0.78**	**124**	Pg		**Pg**	**16 14 01.2**	**+1.0**
EPF				Lg			16 14 11.8	
	5.2nm,0.2s							
IPRE	**Itoiz**	**0.89**	**222**	Pg		**Pg**	**16 14 01.4**	**-1.0**
	0.1nm,0.0s,SNR=7.9							
IPRE				Lg			16 14 13.7	
	2.8nm,0.2s,SNR=7.9							
IUSE	**Utxeti**	**0.90**	**235**	Pg		**Pg**	**16 14 03.1**	**+0.6**
	1.1nm,0.1s,SNR=7.9							
IUSE				Lg			16 14 14.0	
	3.4nm,0.2s,SNR=7.9							
EBIE	**Bielsa**	**0.93**	**147**	Pg		**Pg**	**16 14 02.7**	**-0.4**
	0.3nm,0.1s,SNR=7.9							
EBIE				Lg			16 14 16.0	
	2.1nm,0.1s,SNR=7.9							
IUNC	**Unciti**	**1.00**	**225**	Pg		**Pg**	**16 14 04.9**	**+0.5**
	0.2nm,0.0s,SNR=7.9							
IUNC				Lg			16 14 17.7	
	SNR=7.9							
EGRA	**Graus**	**1.42**	**153**	Pg		**Pg**	**16 14 12.3**	**-0.2**
	0.1nm,0.1s,SNR=7.9							
EGRA				Lg			16 14 31.7	
	2.2nm,0.3s,SNR=7.9							
LFF	**La Frestale**	**1.74**	**32**	*e*Pn		**Pn**	**16 14 15.3**	**-0.2**
LFF	**La Frestale**	**1.74**	**32**	*e*Pg		**Pg**	**16 14 19.0**	**+0.5**
LFF				*e*Sg		**Sg**	**16 14 42.0**	**+1.0**
	6.0nm,0.3s							
LFF	**La Frestale**	**1.74**	**32**	Pn		**Pn**	**16 14 15.3**	**-0.2**
LFF				Pg		**Pg**	**16 14 19.0**	**+0.5**
LFF				Lg			16 14 42.0	
	3.0nm,0.3s							
ESAC	**San Caprasio**	**1.75**	**178**	Pg		**Pg**	**16 14 16.3**	**-2.4**
	6.3nm,0.1s,SNR=7.9							
ESAC				Lg			16 14 41.6	
	22nm,0.2s,SNR=7.9							
MTLF	**Montolieu**	**2.02**	**93**	*e*Pn		**Pn**	**16 14 20.1**	**+0.7**
MTLF	**Montolieu**	**2.02**	**93**	*e*Pg		**Pg**	**16 14 24.1**	**+0.2**
MTLF				*e*Sg		**Sg**	**16 14 50.0**	**0.0**
	2.5nm,0.3s							
MTLF	**Montolieu**	**2.02**	**93**	Pn		**Pn**	**16 14 20.1**	**+0.7**
MTLF				Pg		**Pg**	**16 14 24.1**	**+0.2**
MTLF				Lg			16 14 50.0	
	1.2nm,0.3s							
ELAN	**Lanestosa**	**2.12**	**265**	Lg			16 14 53.7	
	1.0nm,0.2s,SNR=7.9							
RJF	**Les Rejaudoux**	**2.35**	**38**	*e*Pn		**Pn**	**16 14 24.2**	**+0.2**
RJF	**Les Rejaudoux**	**2.35**	**38**	*e*Pg		**Pg**	**16 14 30.4**	**+0.1**
RJF				*e*Sg		**Sg**	**16 15 01.4**	**+0.5**
	1.9nm,0.2s							
RJF	**Les Rejaudoux**	**2.35**	**38**	Pn		**Pn**	**16 14 24.2**	**+0.2**
RJF				Pg		**Pg**	**16 14 30.4**	**+0.1**
RJF				Lg			16 15 01.4	
	0.9nm,0.2s							
CAF	**Calviac**	**2.38**	**51**	*e*Pn		**Pn**	**16 14 24.8**	**+0.5**
CAF	**Calviac**	**2.38**	**51**	*e*Pg		**Pg**	**16 14 31.3**	**+0.6**
CAF				*e*Sg		**Sg**	**16 15 01.7**	**+0.2**
	1.6nm,0.2s							
CAF	**Calviac**	**2.38**	**51**	Pn		**Pn**	**16 14 24.8**	**+0.5**
CAF				Pg		**Pg**	**16 14 31.3**	**+0.6**
CAF				Lg			16 15 01.7	
	0.8nm,0.2s							
EPOB	**Poblet**	**2.43**	**150**	Pg		**Pg**	**16 14 30.6**	**-1.3**
	0.1nm,0.1s,SNR=7.9							
EPOB				Lg			16 15 02.0	
	0.1nm,0.1s,SNR=7.9							
ERTA	**Horta de San J**	**2.59**	**165**	Lg			16 15 07.7	
	0.4nm,0.1s,SNR=7.9							
MFF	**Saint Martin d**	**3.15**	**5**	*e*Pn		**Pn**	**16 14 35.2**	**+0.3**
MFF	**Saint Martin d**	**3.15**	**5**	*e*Pg		**Pg**	**16 14 45.1**	**-0.4**
MFF				*e*Sg		**Sg**	**16 15 26.0**	**-0.2**
	1.1nm,0.3s							
MFF	**Saint Martin d**	**3.15**	**5**	Pn		**Pn**	**16 14 35.2**	**+0.3**
MFF				Pg		**Pg**	**16 14 45.1**	**-0.4**
MFF				Lg			16 15 26.0	
	0.6nm,0.3s							
BGF	**Bois d'Agland**	**3.91**	**37**	*e*Pg		**Pg**	**16 14 59.1**	**-1.1**
BGF				*e*Sg		**Sg**	**16 15 49.8**	**-1.1**
	6.5nm,0.5s							
AVF	**Avril sur Loir**	**4.32**	**38**	*e*Pg		**Pg**	**16 15 06.2**	**-1.7**
AVF				*e*Sg		**Sg**	**16 16 03.5**	**-0.3**
	0.9nm,0.4s							
AVF	**Avril sur Loir**	**4.32**	**38**	Pg		**Pg**	**16 15 06.2**	**-1.7**
AVF				Lg			16 16 03.5	
	0.4nm,0.4s							
GRR	**Gorron**	**4.92**	**358**	*e*Pn		**Pn**	**16 14 59.1**	**-0.3**

*ISCJB **06** 16:23:18.9±1.5, 349N±0.1×218W±006, h40km±32km, Error ellipse: s-maj=18.3km s-min=7.6km az=21.3*
*CSEM **06** 16:23:18.6±0.4, 3500N×226W, h20km, mb3.8/2, Error ellipse: s-maj=8.7km s-min=5.5km az=150.0*
*MDD **06** 16:23:19.3±1.9, 3479N×224W, h25km±13km, mb3.4/9, Error ellipse: s-maj=26.7km s-min=11.4km az=14.0, PRXIMO*
ISC 06 16:23:19.0±1.1, 3487N±009×218W±005, h29km±7km, n17, σ1§00/27, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZAI	**Zaio**	**0.48**	**282**	*i* P		**Pb**	**16 23 28.0**	**-0.9**
ZAI				*i* S		**Sb**	**16 23 35.0**	**-0.8**
OLHC	**Oulhaca**	**0.73**	**59**	P		**Pb**	**16 23 32.0**	**-1.1**
EMLI	**Melilla**	**0.76**	**304**	P		**Pn**	**16 23 33.9**	**+0.2**
	188nm,0.2s,SNR=7.9							
EMLI				S		**Sb**	**16 23 44.6**	**+0.9**
	102nm,0.1s,SNR=7.9							
EMEL	**Melilla**	**0.77**	**304**	P		**Pn**	**16 23 33.9**	**+0.1**
	188nm,0.2s,SNR=7.9							
EMEL				S		**Sb**	**16 23 44.6**	**+0.8**
	102nm,0.1s,SNR=7.9							
ODZI	**Dziouia**	**0.88**	**62**	P		**Pn**	**16 23 34.0**	**-1.4**
EGUA	**Guajares**	**2.26**	**330**	P		**Pn**	**16 23 54.8**	**+0.5**
	0.3nm,0.2s,SNR=4.0							
EGUA				S		**Sn**	**16 24 19.3**	**-1.9**
	0.4nm,0.1s,SNR=7.9							
EQUE	**Quentar**	**2.54**	**337**	P		**Pn**	**16 23 59.1**	**+0.9**
	0.5nm,0.0s,SNR=4.0							
EQUE				S		**Sn**	**16 24 27.9**	**-0.3**
	1.6nm,0.2s,SNR=4.0							
EMIJ	**Mijas**	**2.70**	**309**	P		**Pn**	**16 24 00.5**	**+0.1**
	0.4nm,0.1s,SNR=7.9							
EMIJ				S		**Sn**	**16 24 30.2**	**-2.0**
	2.8nm,0.2s,SNR=5.6							
EQES	**Quesada**	**3.01**	**346**	P		**Pn**	**16 24 06.9**	**+2.3**
	1.7nm,0.2s,SNR=6.4							
EQES				S		**Sn**	**16 24 39.8**	**+0.1**
	3.2nm,0.2s,SNR=7.9							
EQES	**Quesada**	**3.01**	**346**	P		**Pn**	**16 24 06.9**	**+2.2**
	1.7nm,0.2s,SNR=6.4							
EQES				S		**Sn**	**16 24 39.8**	**+0.1**
	3.2nm,0.2s,SNR=7.9							
EMUR	**La Murta**	**3.06**	**14**	P		**Pn**	**16 24 05.9**	**+0.6**
	1.4nm,0.2s,SNR=4.0							
EMUR	**La Murta**	**3.06**	**14**	P		**Pn**	**16 24 05.9**	**+0.6**
	SNR=4.0							
ETOB	**Tobarra**	**3.80**	**7**	P		**Pn**	**16 24 16.4**	**+0.9**
	0.5nm,0.1s,SNR=9.3							
ETOB				S		**Sn**	**16 24 58.5**	**-0.6**
	SNR=7.9							
ETOB	**Tobarra**	**3.80**	**7**	P		**Pn**	**16 24 16.4**	**+0.9**
	1.1nm,0.2s,SNR=9.3							
ETOB				S		**Sn**	**16 24 58.5**	**-0.7**
	1.1nm,0.2s,SNR=7.9							
EBEN	**Beniarda**	**4.13**	**22**	P		**Pn**	**16 24 21.0**	**+0.9**
	0.0nm,0.0s,SNR=4.0							
EMIN	**Mina Concepcio**	**4.64**	**310**	P		**Pn**	**16 24 27.7**	**+0.7**
	0.1nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**4.64**	**310**	P		**Pn**	**16 24 27.7**	**+0.7**
	0.1nm,0.2s,SNR=7.9							

*IDC **06** 16:24:49.6±1.2, 1252N×12585E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.8/21, mbtmp4.0/9, MS3.5/1, Ms1 3.5/1, ms1mx2.6/25, Error ellipse: s-maj=114.7km s-min=14.9km az=70.0*
*ISCJB **06** 16:24:51.1±1.4, 1263N±003×12586E±005, h23km±10km, mb4.2/20, Error ellipse: s-maj=8.3km s-min=5.3km az=3.7*
*MAN **06** 16:24:51.2, 1269N×12591E, h43km, mb3.7, ML4.8, MS5.1*
*MOS **06** 16:24:52.3±0.7, 1241N×12566E, h33km, mb4.6/11, Error ellipse: s-maj=49.8km s-min=11.3km az=116.4*
*NEIC **06** 16:24:55.2±0.6, 1247N×12552E, h35km, mb4.5/12, Error ellipse: s-maj=21.7km s-min=9.6km az=68.0*
ISC 06 16:24:51.4±1.7, 1260N±003×12583E±005, h12km±11km, n56, σ0§92/63, mb4.2/20, 3C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BESP	**Borongan**	**1.07**	**201**	*e*P		**Pb**	**16 25 12.0**	**+0.1**
BESP				*e*S		**Sb**	**16 25 26.5**	**+0.7**
PLP	**Palo**	**1.66**	**210**	*e*P		**Pn**	**16 25 19.3**	**-1.0**
PLP				*i* S		**Sn**	**16 25 41.2**	**-0.3**
PVCP	**Virac**	**1.91**	**301**	⇑*i*P		**Pn**	**16 25 22.0**	**-1.8**
PVCP				*i* S		**Sn**	**16 25 56.8**	**+9.0**
PVCP	**Virac**	**1.91**	**301**	*e*P		**Pn**	**16 25 22.0**	**-1.8**
OCLP	**Ormoc**	**1.95**	**218**	*e*P		**Pn**	**16 25 25.0**	**+0.6**
MMPH	**Masbate**	**2.17**	**264**	⇓*e*P		**Pn**	**16 25 27.1**	**-0.3**
MMPH				*i* S		**Sn**	**16 25 53.5**	**-0.8**
MSLP	**Maasin**	**2.63**	**201**	*e*P		**Pn**	**16 25 34.4**	**+0.6**
SCPH	**Surigao**	**2.82**	**187**	*e*P		**Pn**	**16 25 36.3**	**-0.1**
SCPH				*e*S		**Sn**	**16 26 05.4**	**-5.0**
LLP	**Lapu-Lapu**	**2.92**	**219**	⇑*e*P		**Pn**	**16 25 38.8**	**+1.1**
LLP				*i* S		**Sn**	**16 26 11.5**	**-1.1**
AUQP	**San Andres**	**3.16**	**283**	*e*P		**Pn**	**16 25 45.2**	**+4.2**
RCP	**Roxas**	**3.19**	**251**	⇑*e*P		**Pn**	**16 25 40.8**	**-0.7**
RCP				*e*S		**Sn**	**16 26 21.0**	**+1.5**
TBP	**Tagbilaran**	**3.48**	**214**	*e*P		**Pn**	**16 25 45.7**	**+0.3**
TBP				*e*S		**Sn**	**16 26 27.4**	**+0.8**
BUTP	**Butuan**	**3.62**	**183**	*e*P		**Pn**	**16 25 48.8**	**+1.5**
GUIM	**Jordan**	**3.74**	**239**	*e*P		**Pn**	**16 25 48.6**	**-0.3**
BOAC	**Boac**	**3.98**	**283**	*e*P		**Pn**	**16 25 52.4**	**+0.2**
POLP	**Polillio Island**	**4.33**	**300**	*e*P		**Pn**	**16 26 01.2**	**+4.0**
BUKP	**Musuan**	**4.76**	**189**	*e*P		**Pn**	**16 26 03.0**	**+0.1**
BALP	**Baler**	**5.17**	**308**	*e*P		**Pn**	**16 26 07.1**	**-1.6**
BUSP	**Coron**	**5.54**	**264**	*e*P		**Pn**	**16 26 14.3**	**+0.6**
CAUP	**Cauayan**	**5.80**	**319**	*e*P		**Pn**	**16 26 17.8**	**+0.4**
APYP	**Conner**	**6.85**	**320**	*e*P		**Pn**	**16 26 31.6**	**-0.1**
ABRA	**Dolores**	**7.04**	**316**	*e*P		**Pn**	**16 26 35.0**	**+0.7**
QIZ	**Qiongzhong**	**16.65**	**295**	P		**Pn**	**16 28 41.3**	**-3.4**
	64nm,1.5s							
KSM	**Kuching**	**18.95**	**236**	*e*P		**Pn**	**16 29 11.3**	**-1.6**
PSI	**Prapat**	**28.36**	**252**	LR		LR	16 42 20.0	
	comp=Z,79nm,18.2s,baz=178,slow=37							
FITZ	**Fitzroy Crossi**	**30.51**	**180**	*e*P		**P**	**16 31 04.4**	**0.0**
	10nm,0.8s,mb4.7							
FITZ	**Fitzroy Crossi**	**30.51**	**180**	P		**P**	**16 31 04.1**	**-0.3**
	6.1nm,0.8s,mb4.5,baz=19,slow=6.4,SNR=15							
WRAB	**Tennant Creek**	**33.40**	**165**	*e*P		**P**	**16 31 28.7**	**-1.1**
WRAB				pmax		pmax		
	comp=Z,11nm,1.2s,mb4.7							
WRAB	**Tennant Creek**	**33.40**	**165**	*e*P		**P**	**16 31 28.7**	**-1.1**
	comp=Z,10nm,1.2s,mb4.6							
WRA	**Warramunga Arr**	**33.41**	**165**	P		**P**	**16 31 29.1**	**-0.7**
	comp=Z,0.8nm,0.8s,mb3.7,baz=343,slow=9.3,SNR=7.6							
WRA				PcP		PcP	16 34 12.0	+0.8
	comp=Z,0.8nm,0.6s,baz=340,slow=3.0,SNR=13							
LSA	**Lhasa**	**36.36**	**303**	P		**P**	**16 31 55.7**	**+0.3**
LSA				pmax		pmax		
	comp=Z,6.0nm,1.1s,mb4.4							
LSA	**Lhasa**	**36.36**	**303**	P		**P**	**16 31 55.7**	**+0.3**
	comp=Z,5.8nm,1.1s,mb4.4							
ASAR	**Alice Springs**	**36.90**	**168**	P		**P**	**16 31 59.0**	**-1.0**
	comp=Z,0.8nm,0.7s,mb3.7,baz=344,slow=7.2,SNR=17							
ASAR				PcP		PcP	16 34 21.8	+0.4
	comp=Z,0.7nm,0.6s,baz=344,slow=2.8,SNR=9.6							
CTAO	**Charters Tower**	**38.20**	**148**	P		**P**	**16 32 15.1**	**+4.1**
CTAO				pmax		pmax		
	comp=Z,12nm,1.1s,mb4.5							
CTAO	**Charters Tower**	**38.20**	**148**	P		**P**	**16 32 15.1**	**+4.2**
	comp=Z,12nm,1.1s,mb4.5							
ULN	**Ulaanbaatar**	**38.50**	**340**	*e*P		**P**	**16 32 14.2**	**+0.7**
ULN				pmax		pmax		
	comp=Z,5.0nm,1.1s,mb4.2							
ULN	**Ulaanbaatar**	**38.50**	**340**	*e*P		**P**	**16 32 14.2**	**+0.7**
	comp=Z,4.8nm,1.1s,mb4.1							
SONM	**Songino Array**	**38.70**	**339**	P		**P**	**16 32 16.2**	**+1.1**
	comp=Z,2.2nm,1.1s,mb3.8,baz=157,slow=8.2,SNR=8.8							
TLY	**Talaya**	**42.91**	**340**	P		**P**	**16 32 51.2**	**+1.3**
TLY				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.0							
TLY	**Talaya**	**42.91**	**340**	P		**P**	**16 32 51.2**	**+1.3**
	comp=Z,1.9nm,0.6s,mb4.0							
MKAR	**Makanchi Array**	**49.93**	**322**	P		**P**	**16 33 46.0**	**+1.0**
	comp=Z,2.1nm,0.9s,mb4.2,baz=116,slow=8.2,SNR=12							
ZAL	**Zalesovo**	**52.39**	**331**	P		**P**	**16 34 03.5**	**0.0**
	comp=Z,0.9nm,0.3s,mb4.2,baz=343,slow=9.0,SNR=4.7							
KURK	**Kurchatov**	**53.92**	**325**	*e*P		**P**	**16 34 15.6**	**+0.8**
KURK				pmax		pmax		
	comp=Z,10.0nm,1.1s,mb4.7							
KURK	**Kurchatov**	**53.92**	**325**	*e*P		**P**	**16 34 15.6**	**+0.8**
	comp=Z,9.5nm,1.1s,mb4.6							
TIXI	**Tiksi**	**59.04**	**1**	*e*P		**P**	**16 34 47.7**	**-3.6**
TIXI				pmax		pmax		
	comp=Z,3.0nm,1.2s,mb4.2							
BVAR	**Borovoye Array**	**59.52**	**325**	P		**P**	**16 34 55.4**	**+0.8**
	comp=Z,2.1nm,0.8s,mb4.2,baz=114,slow=7.2,SNR=14							
BRVK	**Borovoye**	**59.59**	**

GORS				*i* Sg		**Sg**	**16 52 51.1**	**+0.7**
GORS									
	comp=Z,2.0nm,0.1s								
VOY	**Vojsko**	**0.64**	**119**	*e*Pg		**Pg**	**16 52 41.5**	**-0.8**
VOY				*e*Sg		**Sg**	**16 52 52.0**	**+1.2**
KBA	**Koelnbreinsper**	**0.75**	**13**⇓	*i*Pg		**Pg**	**16 52 44.6**	**+0.1**
KBA				⇑*i*Sg		**Sg**	**16 52 54.5**	**0.0**
	comp=Z,2.6nm,0.1s								
JAVS	**Javornik**	**0.81**	**123**	*i* Pg		**Pg**	**16 52 44.8**	**-0.8**
OBKA	**Obir**	**1.02**	**80**⇑	*i*Pg		**Pg**	**16 52 49.1**	**-0.4**
OBKA				⇓*i*Sg		**Sg**	**16 53 03.4**	**+0.5**
	comp=Z,3.0nm,0.2s								

MAN 06 16:58:51.2, 1271N×12597E, h13km, mb3.2, ML4.5, MS6.2, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**1.22**	**205**	*e*P	Pn	16 59 13.1	-0.8
BESP				*e*S	Sb	16 59 27.5	-2.1
PLP	**Palo**	**1.81**	**212**	*e*P	Pn	16 59 20.3	-1.8
PLP				*i* S	Sn	16 59 41.3	-3.6
PVCP	**Virac**	**1.97**	**297**⇑	*i*P	Pn	16 59 23.1	-1.2
PVCP				*i* S	Sn	16 59 51.4	+2.6
PVCP	**Virac**	**1.97**	**297**	*e*P	Pn	16 59 23.0	-1.3
OCLP	**Ormoc**	**2.12**	**219**	*e*P	Pn	16 59 26.2	-0.1
MSLP	**Maasin**	**2.78**	**203**	*e*P	Pn	16 59 36.6	+1.2
SCPH	**Surigao**	**2.95**	**189**	*e*P	Pn	16 59 38.0	+0.3
GUIM	**Jordan**	**3.90**	**238**	*e*P	Pn	16 59 48.8	-2.1
BOAC	**Boac**	**4.09**	**281**	*e*P	Pn	16 59 54.9	+1.5
POLP	**Polillo Island**	**4.40**	**298**	*e*P	Pn	16 59 59.7	+2.1
CAUP	**Cauayan**	**5.81**	**317**	*e*P	Pn	17 00 19.0	+2.0
APYP	**Conner**	**6.86**	**319**	*e*P	Pn	17 00 32.7	+1.3

*NEIC **06** 16:59:35.4, 2750S×7149W, h6km, ML3.8(GUC), After GUC.*

GUC 06 16:59:35.4±0.9, 2750S×7149W, h6km±13km, ML3.8, 3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.72**	**54**⇓	*i*P	Pg	16 59 49.3	0.0
CDCH				*i* S	Sg	17 00 00.6	+1.8
CPCH	**Copiapo**	**1.02**	**82**⇓	*i*P	Pg	16 59 54.2	-0.7
CPCH				*i* S	Sg	17 00 08.8	+0.6
CPCH				AML	AML	17 00 10.7	
	comp=N,18μm,0.1s						
CPCH	**Copiapo**	**1.02**	**82**⇓	*i*P	Pg	16 59 54.2	-0.7
CPCH				*i* S	Sg	17 00 08.8	+0.6
CRCH	**Chaqaral**	**1.39**	**34**	*e*P	Pn	17 00 00.5	-0.7
CRCH				AML	AML	17 00 28.2	
	comp=E,962nm,0.6s						
LCO	**Las Campanas**	**1.65**	**155**	*e*P	Pn	17 00 05.6	+0.7
LCO				*i* S	Sn	17 00 27.4	+1.0
TLL	**Tololo Astrono**	**2.72**	**167**	*e*P	Pn	17 00 20.9	+1.3
TLL				AML	AML	17 01 12.2	
	comp=N,425nm,0.7s						

*IDC **06** 17:00:53.6±1.6, 2772S×7131W, h0km, mb4.0/1, mb1 3.6/4, mb1mx3.5/15, mbtmp3.6/4, ML3.4/3, MS3.2/1, Ms1 3.1/1, ms1mx2.5/20, Error ellipse: s-maj=49.2km s-min=23.2km az=72.0*
*NEIC **06** 17:00:54.8, 2741S×7154W, h40km, MG4.0(GUC), After GUC.*
*GUC **06** 17:00:54.8±0.8, 2741S×7154W, h40km±4km, ML4.0*
*ISCJB **06** 17:00:56.8±1.0, 2742S±004×7148W±0.10, h33km, mb3.8/1, MS3.0/1, Error ellipse: s-maj=12.4km s-min=5.6km az=28.8*

ISC 06 17:00:59.3±1.0, 2744S±004×714W±01, h35km, n18, σ1§17/20, mb3.8/1, MS3.0/1, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.59**	**52**	*e*P	**Pn**	**17 01 08.3**	**-2.9**
CDCH				*i* S	**Sn**	**17 01 19.3**	**-0.2**
CDCH				AML	AML	17 01 20.4	
	comp=E,6μm,0.8s						
CDCH	**Caldera**	**0.59**	**52**	*e*P	**Pn**	**17 01 08.3**	**-2.9**
CDCH				*i* S	**Sn**	**17 01 19.3**	**-0.2**
CPCH	**Copiapo**	**0.89**	**85**	*e*P	**Pn**	**17 01 13.5**	**-1.7**
CPCH				*i* S	**Sn**	**17 01 28.4**	**+1.5**
CPCH				AML	AML	17 01 30.5	
	comp=N,20μm,0.1s						
CPCH	**Copiapo**	**0.89**	**85**	*e*P	**Pn**	**17 01 13.5**	**-1.7**
CPCH				*i* S	**Sn**	**17 01 28.4**	**+1.5**
CRCH	**Chaqaral**	**1.27**	**31**	*i* S	**Sn**	**17 01 35.5**	**-0.8**
CRCH				AML	AML	17 01 48.0	
	comp=E,2μm,0.3s						
LCO	**Las Campanas**	**1.67**	**160**	*e*P	**Pn**	**17 01 25.0**	**-1.0**
LCO				*i* S	**Sn**	**17 01 46.9**	**+0.8**
TLL	**Tololo Astrono**	**2.76**	**170**	*i* S	**Sn**	**17 02 12.9**	**-0.2**
TLL				AML	AML	17 02 30.9	
	comp=E,1μm,0.2s						
CFAA	**Coronel Fontan**	**4.96**	**148**	Pn	**Pn**	**17 02 06.6**	**-4.6**
	comp=E,0.6nm,0.3s,baz=235,slow=20,SNR=9.0						
CFAA				Lg		17 03 22.7	
	comp=E,0.7nm,0.3s,baz=235,slow=17,SNR=3.5						
CFAA	**Coronel Fontan**	**4.96**	**148**	Pn	**Pn**	**17 02 06.6**	**-4.6**
CFAA				Lg		17 03 22.7	
LPAZ	**La Paz**	**11.49**	**16**	Pn	**Pn**	**17 03 42.6**	**+1.8**
	comp=E,0.1nm,0.3s,baz=215,slow=11,SNR=2.0						
SIV	**San Ignacio**	**14.85**	**42**	Pn	**Pn**	**17 04 27.8**	**+1.1**
	comp=E,0.2nm,0.3s,baz=241,slow=16,SNR=2.8						
BDFB	**Brasilia**	**24.63**	**66**	LR	LR	17 16 13.2	
	comp=E,54nm,20.2s,MS3.0,baz=213,slow=37						
VNA3	**Neumayer Olymp**	**55.24**	**160**	*e*	**P**	**17 10 29.3**	**+0.5**
VNA3				*e*		17 10 32.8	
VNA2	**Neumayer--Watz**	**55.86**	**159**	*e*	**P**	**17 10 32.8**	**-0.5**
	baz=296,slow=6.7						
VNA2				*e*		17 10 37.1	
SNAA	**Sanae**	**57.46**	**160**	*e*	**P**	**17 10 38.9**	**-5.8**
TORD	**Torodi Ar. Bea**	**81.44**	**70**	P	**P**	**17 13 13.1**	**+0.5**
	comp=E,0.9nm,0.7s,mb3.8,baz=258,slow=4.9,SNR=4.7						
WRA	**Warramunga Arr**	**126.73**	**211**	PKP	PKPdf	17 19 58.8	-0.2
	comp=E,0.7nm,0.7s,baz=158,slow=1.6,SNR=9.6						
MKAR	**Makanchi Array**	**151.66**	**40**	PKPbc	PKPbc	17 20 50.7	+0.8
	comp=E,0.9nm,0.8s,baz=293,slow=2.1,SNR=5.4						

*ISCJB **06** 17:06:59.4±0.4, 3702N±002×10480W±005, h5km, mb3.2/2, Error ellipse: s-maj=5.5km s-min=3.4km az=167.1*
*NEIC **06** 17:07:01.3±0.4, 3701N×10477W, h5km, MN3.1, Error ellipse: s-maj=7.3km s-min=4.5km az=68.0*
*IDC **06** 17:07:03.3±3.1, 37.15N×10561W, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.4/22, mbtmp3.2/4, ML3.4/2, MS2.6/1, Ms1 2.6/1, ms1mx2.0/17, Error ellipse: s-maj=82.7km s-min=13.8km az=94.0*

ISC 06 17:07:01.4±0.4, 3696N±002×10483W±005, h5km, n44, σ1§41/63, mb3.2/2, New Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDCO	**Great Sand Dun**	**0.95**	**326**	Pg	**Pg**	**17 07 17.3**	**-2.4**
SDCO				*e*Sg	**Sg**	**17 07 28.2**	**-3.8**
ANMO	**Albuquerque**	**2.41**	**214**	Pn	**Pn**	**17 07 42.5**	**+1.1**
	6.0nm,0.3s,baz=36,slow=13,SNR=76						
ANMO				Lg		17 08 16.7	
	22nm,0.3s,baz=124,slow=20,SNR=11						
ANMO	**Albuquerque**	**2.41**	**214**	*e*Pn	**Pn**	**17 07 42.3**	**+0.9**
ANMO				*e*Sn	**Sn**	**17 08 09.2**	**-2.1**
SMCO	**Snowmass**	**2.79**	**323**	*e*Pn	**Pn**	**17 07 47.4**	**+0.7**
SMCO				*e*Sn	**Sn**	**17 08 23.1**	**+2.4**
ISCO	**Idaho Springs**	**2.90**	**348**	*e*Pn	**Pn**	**17 07 49.3**	**+1.0**
MVCO	**Mesa Verde**	**2.95**	**276**	*e*Pn	**Pn**	**17 07 49.9**	**+1.0**
MVCO				*e*Pg	**Pg**	**17 07 55.0**	**-2.9**
MVCO				*e*Sn	**Sb**	**17 08 31.4**	**+0.7**
LPM	**Los Pinos Moun**	**3.02**	**210**	*e*Pn	**Pn**	**17 07 50.5**	**+0.6**
LPM				*e*Pg	**Pg**	**17 07 57.7**	**-1.7**
LPM				*e*Sn	**Sb**	**17 08 32.9**	**0.0**
BNM	**Barren Site**	**3.17**	**208**	*e*Pn	**Pn**	**17 07 52.4**	**+0.6**
BNM				*e*Pg	**Pg**	**17 08 00.4**	**-1.7**
BNM				*e*Sn	**Sb**	**17 08 36.2**	**-0.8**
LAZ	**Ladron**	**3.17**	**217**	*e*Pn	**Pn**	**17 07 52.3**	**+0.4**
LAZ				*e*Pg	**Pg**	**17 08 02.5**	**+0.2**
LENM	**Lemitar**	**3.29**	**213**	*e*Pn	**Pn**	**17 07 57.7**	**+4.1**
CPRX	**Cap Rock**	**4.00**	**168**	*e*Pn	**Pn**	**17 08 05.7**	**+2.3**
CPRX				*e*Pg	**Pg**	**17 08 14.9**	**-3.1**
CPRX				*e*S	**Sb**	**17 09 04.0**	**+3.0**
PHWY	**Pilot Hill**	**4.36**	**354**	*e*Pn	**Pn**	**17 08 08.7**	**+0.3**
CLNB	**Carlsbad**	**4.75**	**170**	*e*Pn	**Pn**	**17 08 14.4**	**+0.8**
CLNB				*e*Pg	**Pg**	**17 08 28.9**	**-3.6**
CLNB				*e*Sg	**Sb**	**17 09 28.3**	**+5.7**
GDL2	**Guadalupe Moun**	**4.76**	**175**	*e*Pn	**Pn**	**17 08 14.2**	**+0.3**
SRU	**San Rafael**	**4.98**	**297**	*e*Pn	**Pn**	**17 08 07.2**	**-10**
RWWY	**Rawlins**	**5.07**	**339**	*e*Pn	**Pn**	**17 08 18.6**	**+0.5**
	30nm,0.8s						
WMOK	**Wichita Mounta**	**5.39**	**113**	*e*Pn	**Pn**	**17 08 21.9**	**-0.6**
	42nm,0.6s						
WUAZ	**Wupatki**	**5.49**	**257**	*e*Pn	**Pn**	**17 08 24.4**	**+0.7**
	42nm,0.6s						
TMUT	**Trail Mountain**	**5.55**	**297**	*e*Pn	**Pn**	**17 08 25.7**	**+1.1**
MSU	**Marysvale**	**6.03**	**287**	*e*Pn	**Pn**	**17 08 33.7**	**+2.5**
MVU	**Marysvale**	**6.05**	**287**	*e*Pn	**Pb**	**17 08 44.4**	**-2.9**
DAU	**Daniels Canyon**	**6.10**	**306**	*e*Pn	**Pn**	**17 08 31.9**	**-0.3**
MPU	**Maple Canyon**	**6.15**	**302**	Pn	**Pn**	**17 08 31.9**	**-1.0**
	34nm,1.1s						
NLU	**North Lily Min**	**6.43**	**300**	P	**Pb**	**17 08 48.0**	**-5.6**
CTU	**Camp Tracy**	**6.56**	**307**	P	**Pb**	**17 08 52.2**	**-3.9**
TCUT	**Toone Canyon**	**6.59**	**311**	Pn	**Pn**	**17 08 40.2**	**+1.2**
TUC	**Tucson**	**6.75**	**228**	*e*Pn	**Pn**	**17 08 48.5**	**+7.3**
TUC				*e*Pg	**Pg**	**17 09 07.4**	**-3.4**
NOQ	**North Oquirrh**	**6.78**	**305**	P	**Pb**	**17 09 03.3**	**+3.5**
KSU1	**Kansas State U**	**6.83**	**69**	Pn	**Pb**	**17 08 50.8**	**-10**
CCUT	**Cedar City**	**6.83**	**278**	*e*Pn	**Pn**	**17 08 48.9**	**+6.6**
PDAR	**Pinedale Array**	**6.84**	**329**	Pn	**Pn**	**17 08 41.4**	**-1.0**
	0.1nm,0.3s,baz=136,slow=15,SNR=6.9						
PDAR				Pg	**Pg**	**17 09 06.5**	**-6.0**
	0.2nm,0.3s,baz=128,slow=17,SNR=23						
PDAR				Lg		17 10 33.7	
	0.1nm,0.3s,baz=120,slow=20,SNR=2.4						
ARUT	**Antelope Range**	**6.91**	**279**	Pn	**Pb**	**17 08 54.5**	**-7.4**
DUG	**Dugway**	**7.04**	**300**	*e*Pn	**Pn**	**17 08 54.2**	**+9.0**
DUG				*e*Pg	**Pg**	**17 09 08.8**	**-7.4**
RSSD	**Black Hills**	**7.18**	**5**	*e*Pn	**Pn**	**17 08 46.4**	**-0.6**
	9.2nm,0.7s						
RSSD				*e*Pg	**Pg**	**17 09 10.7**	**-8.2**
RSSD				*e*Sn	**Sn**	**17 10 08.5**	**-0.4**
BGU	**Big Grassy Mou**	**7.52**	**304**	P	**Pn**	**17 08 57.7**	**+6.0**
BGU				*e*Pg	**Pg**	**17 09 27.5**	**+2.1**
JCT	**Junction City**	**7.70**	**146**	Pn	**Pn**	**17 08 55.4**	**+1.3**
	19nm,0.6s						
JCT				*e*Pg	**Pg**	**17 09 19.8**	**-9.1**
REDW	**Red Top Meadow**	**7.88**	**326**	P	Px	17 09 27.1	
TPAW	**Teton Pass**	**8.03**	**326**	*e*Pn	**Pn**	**17 08 57.6**	**-1.1**
	16nm,1.1s						
NEN	**Nelson**	**8.19**	**264**	P	**Pb**	**17 09 24.4**	**+0.6**
IMW	**Indian Meadow**	**8.35**	**328**	P	**Pn**	**17 09 08.5**	**+5.4**
	8.1nm,1.0s						
MIAR	**Mount Ida**	**9.46**	**101**	*e*Pn	**Pn**	**17 09 16.1**	**-2.2**
	62nm,1.3s						
ULM	**Lac du Bonnet**	**14.77**	**23**	LR	LR	17 16 51.9	
	comp=Z,28nm,21.3s,baz=43,slow=40						
YKA	**Yellowknife Ar**	**26.27**	**350**	P	**P**	**17 12 36.3**	**-1.2**
	0.4nm,0.8s,mb3.0,baz=165,slow=9.0,SNR=6.4						
ILAR	**Eielson Array**	**37.27**	**332**	P	**P**	**17 14 14.2**	**0.0**
	0.6nm,0.9s,mb3.4,baz=135,slow=8.3,SNR=6.1						

*ISCJB **06** 17:11:29.8±0.3, 4319N±002×043W±002, h6km±4km, Error ellipse: s-maj=3.7km s-min=3.0km az=151.3*
*STR **06** 17:11:30.9±0.1, 4310N×047W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **06** 17:11:31.8±0.2, 4309N×046W, h6km±3km, mbLg1.4/11, Error ellipse: s-maj=2.5km s-min=1.2km az=10.0, PRXIMO*
*CSEM **06** 17:11:31.4±0.0, 4309N×046W, h2km, Ml2.4/9, Error ellipse: s-maj=0.7km s-min=0.5km az=166.0*
*LDG **06** 17:11:31.3±0.0, 4309N×047W, h2km, Md2.4/3, Ml2.3/10, Error ellipse: s-maj=0.5km s-min=0.4km az=161.0*

ISC 06 17:11:30.7±0.3, 4314N±002×045W±002, h11km±4km, n54, σ0§63/96, 4C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.08**	**153**	Pg	**Pg**	**17 11 33.2**	**0.0**
REYF				Lg		17 11 34.6	
ATE	**Arette**	**0.20**	**253**	Pg	**Pg**	**17 11 34.6**	**-0.3**
ATE				Sg	**Sg**	**17 11 37.2**	**-0.5**
ATE	**Arette**	**0.20**	**253**	Pg	**Pg**	**17 11 34.6**	**-0.3**
ATE				Lg		17 11 37.3	
ETSF	**Etsaut**	**0.26**	**199**	*e*Pg	**Pg**	**17 11 35.4**	**-0.6**
ETSF				*e*Sg	**Sg**	**17 11 38.0**	**-1.5**
	21nm,0.3s						
ETSF	**Etsaut**	**0.26**	**199**	*e*Pg	**Pg**	**17 11 35.4**	**-0.6**
ETSF				*e*Sg	**Sg**	**17 11 38.0**	**-1.5**
	11nm,0.3s						
FDAF	**Les Forges d'A**	**0.34**	**196**	Pg	**Pg**	**17 11 37.0**	**-0.4**
FDAF				Lg		17 11 41.3	
ORDF	**Ordiarp**	**0.37**	**281**	Pg	**Pg**	**17 11 38.2**	**+0.3**
ORDF				Sg	**Sg**	**17 11 43.1**	**+0.3**
ORDF	**Ordiarp**	**0.37**	**281**	Pg	**Pg**	**17 11 38.2**	**+0.3**
ORDF				Lg		17 11 43.9	
LABF	**Labassere**	**0.39**	**104**	Pg	**Pg**	**17 11 38.9**	**+0.5**
LABF				Sg	**Sg**	**17 11 44.5**	**+0.8**
LABF	**Labassere**	**0.39**	**104**	Pg	**Pg**	**17 11 38.8**	**+0.4**
LABF				Lg		17 11 44.6	
LARF	**Larrau**	**0.41**	**255**	Pg	**Pg**	**17 11 38.7**	**-0.1**
LARF				Sg	**Sg**	**17 11 44.3**	**0.0**
LARF	**Larrau**	**0.41**	**255**	Pg	**Pg**	**17 11 38.7**	**-0.1**
LARF				Lg		17 11 45.0	
VIEF	**Viey**	**0.43**	**127**	Pg	**Pg**	**17 11 39.2**	**0.0**
VIEF				Sg	**Sg**	**17 11 45.0**	**+0.1**
VIEF	**Viey**	**0.43**	**127**	Pg	**Pg**	**17 11 39.3**	**+0.2**
VIEF				Lg		17 11 45.1	
EPF	**Esparros**	**0.59**	**101**	*e*Pg	**Pg**	**17 11 42.5**	**+0.4**
EPF				*e*Sg	**Sg**	**17 11 50.8**	**+1.0**
	7.3nm,0.2s						
EPF	**Esparros**	**0.59**	**101**	*e*Pg	**Pg**	**17 11 42.5**	**+0.4**
EPF				*e*Sg	**Sg**	**17 11 50.8**	**+1.0**
	3.7nm,0.2s						
EBIE	**Bielsa**	**0.63**	**136**	Pg	**Pg**	**17 11 42.9**	**0.0**
	0.3nm,0.1s,SNR=18						
EBIE				Lg		17 11 51.0	
	10nm,0.2s,SNR=27						
EBIE	**Bielsa**	**0.63**	**136**	Pg	**Pg**	**17 11 42.9**	**0.0**
	0.3nm,0.1s,SNR=18						
RESF	**Ens**	**0.67**	**120**	Pg	**Pg**	**17 11 43.8**	**+0.2**
RESF				Lg		17 11 52.7	
EALK	**Alkurruntz**	**0.78**	**276**	⇑Pg	**Pg**	**17 11 46.5**	**+0.8**
	0.1nm,0.1s,SNR=18						
EALK				Lg		17 11 57.5	
	0.7nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.79**	**272**	⇑Pg	**Pg**	**17 11 46.7**	**+0.7**
	0.4nm,0.1s,SNR=18						
ELIZ				Lg		17 11 57.0	
	2.3nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**0.83**	**257**	⇑Pg	**Pg**	**17 11 47.5**	**+0.8**
	0.4nm,0.1s,SNR=18						
IUSE				Lg		17 11 58.8	
	1.2nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.83**	**257**	Pg	**Pg**	**17 11 47.5**	**+0.7**
	0.4nm,0.1s,SNR=18						
IUNC	**Unciti**	**0.87**	**244**	Lg		17 11 58.8	
	0.9nm,0.1s,SNR=4.0						
MELF	**Melles**	**0.92**	**107**	Lg		17 12 01.1	
EGRA	**Graus**	**1.10**	**149**	⇑Pg	**Pg**	**17 11 52.2**	**+0.4**
	0.3nm,0.2s,SNR=18						
EGRA				Lg		17 12 07.6	
	1.1nm,0.2s,SNR=9.0						
SALF	**Salau**	**1.26**	**107**	Lg		17 12 12.0	
ESAC	**San Caprasio**	**1.42**	**181**	Lg		17 12 17.3	
	2.6nm,0.1s,SNR=8.2						
EMIR	**Miracle**	**1.91**	**129**	Lg		17 12 32.2	
	1.1nm,0.0s,SNR=7.9						
MTLF	**Montolieu**	**1.96**	**83**	*e*Pg	**Pg**	**17 12 08.0**	**-0.2**
MTLF				*e*Sn	**Sn**	**17 12 28.0**	**-0.4**
MTLF				*e*Sg	**Sg**	**17 12 33.4**	**-0.2**
	2.4nm,0.3s						
MTLF	**Montolieu**	**1.96**	**83**	Pn	**Pn**	**17 12 04.0**	**+0.1**
MTLF				Pg	**Pg**	**17 12 08.0**	**-0.2**
MTLF				Sn	**Sn**	**17 12 28.0**	**-0.4**
MTLF				Lg		17 12 33.4	
	1.2nm,0.3s						
MTLF	**Montolieu**	**1.96**	**83**	*e*Pn	**Pn**	**17 12 04.0**	**+0.1**
MTLF				*e*Sn	**Sn**	**17 12 28.0**	**-0.4**
MTLF				*e*Sg	**Sg**	**17 12 33.4**	**-0.2**
	1.2nm,0.3s						
LFF	**La Frestale**	**1.99**	**25**	*e*Pn	**Pn**	**17 12 05.0**	**+0.7**
LFF	**La Frestale**	**1.99**	**25**	*e*Pg	**Pg**	**17 12 09.5**	**+0.7**
LFF				*e*Sn	**Sn**	**17 12 29.7**	**+0.5**
LFF				*e*Sg	**Sg**	**17 12 35.9**	**+1.3**
	6.7nm,0.3s						
LFF	**La Frestale**	**1.99**	**25**	Pn	**Pn**	**17 12 05.0**	**+0.7**
LFF				Pg	**Pg**	**17 12 09.5**	**+0.7**
LFF				Sn	**Sn**	**17 12 29.7**	**+0.5**
LFF				Lg		17 12 35.9	
	3.3nm,0.3s						
LFF	**La Frestale**	**1.99**	**25**	*e*Pg	**Pg**	**17 12 09.5**	**+0.7**
LFF				*e*Sn	**Sn**	**17 12 29.7**	**+0.5**
LFF				*e*Sg	**Sg**	**17 12 35.9**	**+1.3**
	3.3nm,0.3s						
EPOB	**Poblet**	**2.12**	**147**	Pg	**Pg**	**17 12 10.7**	**-0.6**
	0.0nm,0.1s,SNR=7.9						
EPOB				Lg		17 12 37.7	
	0.4nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**2.26**	**165**	Lg		17 12 41.2	
	0.7nm,0.2s,SNR=7.9						
CAF	**Calviac**	**2.54**	**45**	*e*Pg	**Pg**	**17 12 19.5**	**+0.1**
CAF				*e*Sn	**Sn**	**17 12 42.9**	**+0.1**
CAF				*e*Sg	**Sg**	**17 12 52.8**	**+0.5**
	1.2nm,0.1s						
CAF	**Calviac**	**2.54**	**45**	*e*Pg	**Pg**	**17 12 19.5**	**+0.1**
CAF				*e*Sn	**Sn**	**17 12 42.9**	**+0.1**
CAF				*e*Sg	**Sg**	**17 12 52.8**	**+0.5**
	0.6nm,0.1s						
RJF	**Les Rejaudoux**	**2.58**	**32**	*e*Pg	**Pg**	**17 12 20.2**	**+0.1**
RJF				*e*Sn	**Sn**	**17 12 43.4**	**-0.4**
RJF				*e*Sg	**Sg**	**17 12 54.1**	**+0.5**
	2.6nm,0.2s						
RJF	**Les Rejaudoux**	**2.58**	**32**	*e*Pg	**Pg**	**17 12 20.2**	**+0.1**
RJF				*e*Sn	**Sn**	**17 12 43.4**	**-0.4**
RJF				*e*Sg	**Sg**	**17 12 54.1**	**+0.5**
	1.3nm,0.2s						
EMOS	**Mosqueruela**	**2.78**	**180**	Lg		17 12 56.3	
	SNR=4.0						
LASF	**Ste Croix**	**3.26**	**72**	*e*Pn	**Pn**	**17 12 22.0**	**+0.2**
LASF				*e*Sg	**Sg**	**17 13 14.4**	**-1.0**
	0.9nm,0.3s						
LASF	**Ste Croix**	**3.26**	**72**	*e*Pn	**Pn**	**17 12 22.0**	**+0.2**
LASF				*e*Sg	**Sg**	**17 13 14.4**	**-1.0**
	0.4nm,0.3s						
MFF	**Saint Martin d**	**3.46**	**3**	*e*Pg	**Pg**	**17 12 36.7**	**-0.4**
MFF				*e*Sn	**Sn**	**17 13 05.0**	**-0.7**
MFF				*e*Sg	**Sg**	**17 13 21.8**	**-0.2**
	1.8nm,0.3s						
MFF	**Saint Martin d**	**3.46**	**3**	Pg	**Pg**	**17 12 36.7**	**-0.4**
MFF				Sn	**Sn**	**17 13 05.0**	**-0.7**
MFF	**Saint Martin d**	**3.46**	**3**	*e*Pg	**Pg**	**17 12 36.7**	**-0.4**
MFF				*e*Sn	**Sn**	**17 13 05.0**	**-0.7**
MFF				*e*Sg	**Sg**	**17 13 21.8**	**-0.2**
	0.9nm,0.3s						
BGF	**Bois d'Agland**	**4.14**	**33**	*e*Sg	**Sg**	**17 13 42.7**	**-0.9**
	7.5nm,0.5s						
BGF	**Bois d'Agland**	**4.14**	**33**	*e*Sg	**Sg**	**17 13 42.7**	**-0.9**
	3.8nm,0.5s						
AVF	**Avril sur Loir**	**4.53**	**35**	*e*Sg	**Sg**	**17 13 55.0**	**-1.3**
	0.6nm,0.2s						
AVF	**Avril sur Loir**	**4.53**	**35**	*e*Sg	**Sg**	**17 13 55.0**	**-1.3**
	0.3nm,0.2s						
LOR	**Lormes**	**5.12**	**35**	*e*Sg	**Sg**	**17 14 13.5**	**-1.7**
	1.6nm,0.4s						
LOR	**Lormes**	**5.12**	**35**	*e*Sg	**Sg**	**17 14 13.5**	**-1.7**
	0.8nm,0.4s						

*ISCJB **06** 17:25:38.6±1.1, 60S±0.1×1133E±02, h620km±18km, mb3.6/8, Error ellipse: s-maj=27.8km s-min=10.7km az=109.8*
*NEIC **06** 17:25:38.4±0.9, 606S×113.18E, h596km±13km, mb4.1/7, Error ellipse: s-maj=21.2km s-min=7.9km az=56.0*
*IDC **06** 17:25:40.6±2.5, 597S×11349E, h616km±31km, mb2.9/6, mb1 3.0/7, mb1mx2.9/17, mbtmp3.9/7, Error ellipse: s-maj=38.2km s-min=11.0km az=54.0*

ISC 06 17:25:39.0±1.2, 61S±01×1132E±02, h604km±18km, n19, σ0§67/19, mb3.6/8, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**8.02**	**339**	*e*P	**P**	**17 27 38.4**	**-0.2**
KKM	**Kota Kinabalu**	**12.38**	**14**	*e*P	**P**	**17 28 20.6**	**-0.9**
MBWA	**Marble Bar**	**16.29**	**158**	*e*P	**P**	**17 28 58.4**	**-0.2**
	16nm,1.4s						
FITZ	**Fitzroy Crossi**	**17.04**	**136**	*e*P	**P**	**17 29 06.0**	**+0.5**
	5.3nm,1.3s						
FITZ	**Fitzroy Crossi**	**17.04**	**136**	P	**P**	**17 29 05.9**	**+0.4**
	0.3nm,0.3s,baz=38,slow=16,SNR=14						
KAKA	**Kakadu**	**20.07**	**111**	*e*P	**P**	**17 29 33.5**	**+0.4**
	5.3nm,0.5s						
WRA	**Warramunga Arr**	**24.73**	**126**	P	**P**	**17 30 15.0**	**+0.5**
	1.5nm,0.7s,mb3.8,baz=303,slow=11,SNR=30						
WRA				PcP	PcP	17 33 30.7	+1.1
	0.5nm,0.8s,baz=309,slow=1.8,SNR=4.8						
WRA				S	**S**	**17 33 54.0**

s-min=21.5km az=63.0
ISCJB ***06*** *18:16:10.9±0.6, 25S±02×1206E±03, h33km, mb4.1/8, Error ellipse: s-maj=45.8km s-min=11.0km az=125.2*
NEIC ***06*** *18:16:13.1±0.6, 2.44S×120.70E, h35km, mb4.4/4, Error ellipse: s-maj=40.1km s-min=9.5km az=62.0*

ISC 06 18:16:13.4±0.6, 25S±02×1207E±03, h35km, n12, σ0≤85/12, mb4.1/8, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**9.54**	**332**	Pn		**Pn**	**18 18 19.3**	**-9.0**
WRAB	**Tennant Creek**	**21.91**	**143**	*eP*		**P**	**18 21 03.4**	**-0.1**
	21nm,1.0s,mb4.5							
WRA	**Warramunga Arr**	**21.91**	**143**	P		**P**	**18 21 03.5**	**0.0**
	8.2nm,0.9s,mb4.2,baz=320,slow=11,SNR=41							
WB2	**Warramunga Arr**	**21.92**	**143**	*eP*		**P**	**18 21 03.7**	**+0.1**
ASAR	**Alice Springs**	**24.67**	**150**	P		**P**	**18 21 32.0**	**+1.2**
	3.9nm,0.9s,mb3.9,baz=331,slow=8.4,SNR=22							
NWAO	**Narrogin (SRO)**	**30.49**	**186**	P		**P**	**18 22 21.9**	**-1.0**
	46nm,1.4s,mb5.0							
STKA	**Stephens Creek**	**35.28**	**148**	*eP*		**P**	**18 23 04.4**	**-0.3**
ULN	**Ulaanbaatar**	**51.51**	**348**	P		**P**	**18 25 15.4**	**-0.1**
	1.0nm,0.8s,mb3.8							
SONM	**Songino Array**	**51.61**	**348**	P		**P**	**18 25 14.3**	**-2.0**
	0.4nm,0.7s,mb3.4,baz=165,slow=9.7,SNR=5.0							
MKAR	**Makanchi Array**	**59.52**	**330**	P		**P**	**18 26 13.8**	**+0.7**
	0.4nm,0.6s,mb3.6,baz=139,slow=7.6,SNR=5.2							
AAK	**Ala-Archa**	**61.20**	**323**	P		**P**	**18 26 25.8**	**+1.2**
	3.3nm,1.6s,mb4.2							
ZRNK	**Zerenda**	**70.06**	**330**	P		**P**	**18 27 21.8**	**+0.1**

ISCJB ***06*** *18:26:48.6±0.2, 38.64S±004×78.63E±006, h10km, mb5.3/97, MS5.5/50, Error ellipse: s-maj=7.2km s-min=5.6km az=168.8*
IDC ***06*** *18:26:48.4±0.4, 38.57S×78.43E, h0km, mb4.6/25, mb1 4.7/25, mb1mx4.7/25, mbtmp4.6/25, MS5.6/16, Ms1 5.6/16, ms1mx5.3/23, Error ellipse: s-maj=16.0km s-min=11.8km az=10.0*
BJI ***06*** *18:26:48.5, 38.60S×78.60E, h10km, mB5.9, mb5.2, Ms5.8, Msz5.4*
MOS ***06*** *18:26:49.1±1.5, 38.66S×78.69E, h10km, mb5.5/28, MS5.5/12, Error ellipse: s-maj=14.9km s-min=8.8km az=90.2*
NEIC ***06*** *18:26:50.5±0.3, 38.62S×78.57E, h10km, mb5.3/31, MS5.3/1, MW6.0, Error ellipse: s-maj=12.7km s-min=10.3km az=209.0, Moment Tensor Solution. s11 Moment tensor: Scale 10^18 Nm; Mrr=0.02; Mθθ=-0.95; Mφφ=0.93; Mrθ=0.18; Mrφ=-1.02; Mθφ=-0.09; Best double couple: M0=1.40000×10^18 NP1:φs=111.00000°, δ=89.00000°, λ=172.00000°. NP2:φs=201.00000°, δ=82.00000°, λ=1.00000°. Principal axes: T 1.4000, Plg7.0000°, Azm66.0000°; N 0.0100, Plg82.0000°, Azm284.0000°; P -1.4100, Plg5.0000°, Azm157.0000°;*
CSEM ***06*** *18:26:50.8, 38.68S×78.43E, h33km, mb5.5*
HRVD ***06*** *18:26:50.5±0.1, 38.51S×78.40E, h12km, MW5.9/105, Centroid moment Tensor Solution. LP body waves: s105,c230;Mantle waves: s102,c317; Half duration: 2s2 Moment tensor: Scale 10^18 Nm; Mrr=0.15±.01; Mθθ=0.84±.01; Mφφ=0.99±.01; Mrθ=0.28±.01; Mφφ-0.14±.01; Mφr=0.03±.01; Best double couple: M0=0.97900×10^18 NP1:φs=312.00000°, δ=76.00000°, λ=-166.00000°. NP2: φs=219.00000°, δ=77.00000°, λ=-14.00000°. Principal axes: T 1.0030, Plg1.0000°, Azm266.0000°; N -0.0480, Plg71.0000°, Azm357.0000°; P -0.9550, Plg19.0000°, Azm175.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 06 18:26:50.2±0.2, 3863S±004×7856E±006, h10km, (h18km±1.8km; pP-P), n271, σ1≤27/201, mb5.3/97, MS5.5/50, 9C-17D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MAW	**Mawson**	**30.32**	**192**	*eP*		**P**	**18 33 01.4**	**-0.4**
	9.7nm,0.8s,mb4.6							
MAW	**Mawson**	**30.32**	**192**	P		**P**	**18 33 01.1**	**-0.7**
	24nm,1.1s,mb4.8,baz=11,slow=14,SNR=12							
MAW				LR		LR	18 42 57.2	
	comp=Z,18μm,19.1s,MS5.7,baz=17,slow=32							
MAW	**Mawson**	**30.32**	**192**	*eP*		**P**	**18 33 01.4**	**-0.4**
MAW				pmax		pmax		
	comp=Z,10.0nm,0.8s							
DGAR	**Diego Garcia**	**31.56**	**348**	*eP*		**P**	**18 33 14.4**	**+1.7**
DGAR				pmax		pmax		
	comp=Z,310nm,1.5s,mb5.9							
DGAR	**Diego Garcia**	**31.56**	**348**	*eP*		**P**	**18 33 14.4**	**+1.6**
	comp=Z,310nm,1.5s,mb5.9							
NWAO	**Narrogin (SRO)**	**31.72**	**92**	P		**P**	**18 33 13.8**	**-0.3**
	comp=Z,5.7nm,0.9s,mb4.4,baz=263,slow=8.1,SNR=2.1							
NWAO				LR		LR	18 42 52.8	
	comp=Z,35μm,21.9s,MS6.0,baz=236,slow=30							
KLBR	**Kellerberrin**	**32.64**	**90**	*eP*		**P**	**18 33 27.7**	**+5.5**
	comp=Z,156nm,1.9s,mb5.6							
CASY	**Casey**	**33.14**	**157**	*eP*		**P**	**18 33 24.9**	**-1.7**
OPO	**Ambohidratompo**	**33.78**	**297**	P		**P**	**18 33 30.1**	**-2.1**
	comp=Z,4.4nm,0.9s,mb4.4,baz=108,slow=12,SNR=4.7							
SYO	**Syowa Base**	**36.93**	**202**	*i*⇑*eP*		**P**	**18 34 01.5**	**+2.2**
MBWA	**Marble Bar**	**39.34**	**76**	*eP*		**P**	**18 34 20.2**	**+0.6**
	comp=Z,256nm,1.1s,mb4.8							
FORT	**Forrest**	**41.03**	**94**	*eP*		**P**	**18 34 33.5**	**-0.1**
	comp=Z,66nm,1.0s,mb5.2							
DRV	**Dumont d'Urvil**	**44.00**	**150**	P		**P**	**18 34 56.0**	**-1.8**
DRV	**Dumont d'Urvil**	**44.00**	**150**	PP		PP	18 36 38.0	-2.2
DRV				S		**S**	**18 41 32.0**	**+2.3**
DRV				L			18 45 00.0	
DRV				R			18 48 00.0	
PSI	**Prapat**	**45.31**	**29**	P		**P**	**18 35 08.4**	**+0.2**
	comp=Z,6.7nm,0.8s,mb4.5,baz=201,slow=8.1,SNR=7.0							
FITZ	**Fitzroy Crossi**	**45.63**	**77**	*eP*		**P**	**18 35 11.1**	**+0.4**
	comp=Z,29nm,2.0s,mb4.9							
FITZ	**Fitzroy Crossi**	**45.63**	**77**	P		**P**	**18 35 09.7**	**-1.1**
	comp=Z,3.7nm,0.7s,mb4.4,baz=227,slow=8.0,SNR=13							
FITZ				LR		LR	18 51 48.4	
	comp=Z,10μm,18.9s,MS5.8,baz=166,slow=33							
PALK	**Pallekele**	**45.70**	**3**	*eP*		**P**	**18 35 11.9**	**+0.6**
	comp=Z,101nm,1.6s,mb5.5							
LBTB	**Lobatse**	**46.41**	**271**	P		**P**	**18 35 15.6**	**-1.3**
	comp=Z,3.9nm,0.8s,mb4.4,baz=127,slow=10,SNR=4.8							
LBTB	**Lobatse**	**46.41**	**271**	*eP*		**P**	**18 35 17.9**	**+1.0**
LBTB				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.6							
LBTB	**Lobatse**	**46.41**	**271**	*eP*		**P**	**18 35 17.9**	**+1.0**
	comp=Z,5.7nm,0.8s,mb4.5							
MAIT	**Maitri**	**46.47**	**205**	*eP*		**P**	**18 35 17.5**	**+0.1**
MAIT				*e*PcP		PcP	18 36 56.1	+4.2
SUR	**Sutherland**	**46.76**	**259**	P		**P**	**18 35 19.5**	**-0.2**
	comp=Z,35nm,1.1s,mb5.2,baz=137,slow=9.2,SNR=4.6							
TRD	**Trivandrum**	**46.91**	**358**	*eP*		**P**	**18 35 22.6**	**+1.8**
KULM	**Kulim**	**48.26**	**30**	*eP*		**P**	**18 35 30.8**	**-0.5**
ASAR	**Alice Springs**	**48.97**	**89**	P		**P**	**18 35 37.0**	**+0.2**
	comp=Z,111nm,0.9s,mb4.9,baz=239,slow=5.9,SNR=115							
ASAR				PcP		PcP	18 37 03.8	+3.0
	comp=Z,7.4nm,1.0s,baz=237,slow=2.5,SNR=4.6							
KSM	**Kuching**	**49.46**	**44**	*eP*		**P**	**18 35 40.8**	**+0.3**
KSM				*e*pP		pP	18 35 48.5	+4.8
LSZ	**Lusaka**	**49.84**	**283**	P		**P**	**18 35 42.5**	**-0.9**
	comp=Z,6.6nm,0.7s,mb4.8,baz=148,slow=9.0,SNR=7.5							
STKA	**Stephens Creek**	**51.03**	**103**	P		**P**	**18 35 51.5**	**-1.0**
	comp=Z,14nm,0.6s,mb5.1,baz=261,slow=4.7,SNR=21							
STKA				LR		LR	18 53 16.7	
	comp=Z,15μm,21.1s,MS6.0,baz=242,slow=31							
STKA	**Stephens Creek**	**51.03**	**103**	*eP*		**P**	**18 35 51.4**	**-1.0**
STKA				*e*pP		pP	18 35 58.2	+2.6
SNAA	**Sanae**	**51.19**	**204**	P		**P**	**18 35 53.1**	**-0.5**
	comp=Z,5.0nm,1.1s,mb4.4,baz=90,slow=7.4,SNR=15							
SNAA	**Sanae**	**51.19**	**204**	*i*⇓*eP*		**P**	**18 35 52.8**	**-0.8**
SNAA				*e*		pP	18 35 55.5	-1.3
SNAA				*e*		pP	18 35 56.7	-0.1
SNAA				*e*			18 36 00.8	
SNAA				*e*			18 36 07.0	
SNAA				*e*			18 36 10.6	
SNAA				*e*			18 36 14.4	
SNAA				*e*			18 37 11.1	
SNAA				*e*			18 37 16.5	
SNAA				*e*			18 37 24.6	
SNAA	**Sanae**	**51.19**	**204**	*eP*		**P**	**18 35 52.9**	**-0.7**
SNAA				pmax		pmax		
	comp=Z,32nm,1.2s							
SNAA	**Sanae**	**51.19**	**204**	*eP*		**P**	**18 35 52.9**	**-0.7**
	comp=Z,32nm,1.2s,mb5.1							
VNDA	**Vanda**	**51.20**	**164**	P		**P**	**18 35 53.6**	**-0.1**
	comp=Z,12nm,0.9s,mb4.8,baz=268,slow=7.9,SNR=30							
VNDA				LR		LR	18 55 48.4	
	comp=Z,15μm,18.7s,MS6.0,baz=268,slow=34							
VNDA	**Vanda**	**51.20**	**164**	*eP*		**P**	**18 35 53.6**	**-0.1**
VNDA				*e**PP		pP	18 36 02.7	+5.9
VNDA				pmax		pmax		
	comp=Z,40nm,1.1s							
VNDA	**Vanda**	**51.20**	**164**	*eP*		**P**	**18 35 53.6**	**-0.1**
	comp=Z,40nm,1.1s,mb5.3							
VNDA				*e*pP		pP	18 36 02.7	+5.9
WRA	**Warramunga Arr**	**51.31**	**85**	P		**P**	**18 35 54.7**	**+0.2**
	comp=Z,26nm,0.7s,mb5.3,baz=236,slow=7.6,SNR=214							
WB2	**Warramunga Arr**	**51.31**	**85**	*i*⇑*P*		**P**	**18 35 54.7**	**+0.1**
WRAB	**Tennant Creek**	**51.32**	**85**	P		**P**	**18 35 55.2**	**+0.6**
	comp=Z,303nm,0.7s,mb6.3,SNR=22							
WRAB	**Tennant Creek**	**51.32**	**85**	*eP*		**P**	**18 35 55.1**	**+0.5**
WRAB				*e**PP		pP	18 36 02.5	+4.7
WRAB				pmax		pmax		
	comp=Z,119nm,1.1s,mb5.7							
WRAB	**Tennant Creek**	**51.32**	**85**	*eP*		**P**	**18 35 55.1**	**+0.5**
	comp=Z,120nm,1.1s,mb5.7							
WRAB				*e*pP		pP	18 36 02.5	+4.7
WRAB				*e*sP		sP	18 36 06.1	+7.1
MNGI	**Mangalore**	**51.41**	**355**	*eP*		**P**	**18 35 52.3**	**-3.0**
MNGI				*e*S		**S**	**18 43 12.9**	**-2.0**
QSPA	**South Pole Qui**	**51.53**	**180**	*i*⇓*P*		**P**	**18 35 56.2**	**0.0**
PBA	**Port Blair**	**51.74**	**18**	*ex*		x	18 34 21.9	
PBA				*ex*		x	18 38 40.5	
SBA	**Scott Base**	**52.21**	**164**	*eP*		**P**	**18 36 02.2**	**+1.0**
SBA				*e**PP		pP	18 36 10.5	+6.1
SBA				pmax		pmax		
	comp=Z,70nm,1.4s,mb5.4							
SBA	**Scott Base**	**52.21**	**164**	*eP*		**P**	**18 36 02.2**	**+1.0**
	comp=Z,70nm,1.4s,mb5.4							
SBA				*e*pP		pP	18 36 10.5	+6.1
VNA2	**Neumayer--Watz**	**52.75**	**204**	*i*⇓*P*		**P**	**18 36 05.0**	**-0.2**
	baz=87,slow=6.1							
VNA2				*e*		pP	18 36 07.0	-1.4
VNA2				*e*		pP	18 36 08.0	-0.4
VNA2				*e*			18 36 13.1	
VNA2				*e*			18 36 18.9	
VNA2				*e*			18 36 20.8	
VNA2				*e*			18 36 28.4	
VNA2				*e*			18 36 34.7	
VNA2				*e*			18 36 48.4	
VNA2				*e*			18 37 17.1	
VNA2				*e*			18 37 22.2	
VNA2				*e*			18 37 28.6	
VNA1	**Neumayer--Stat**	**53.09**	**205**	*i*⇓*P*		**P**	**18 36 07.9**	**+0.2**
VNA1				*e*		pP	18 36 10.3	-0.6
VNA1				*e*		pP	18 36 11.5	+0.6
VNA1				*e*			18 36 22.2	
VNA1				*e*			18 36 24.0	
VNA1				*e*			18 36 33.9	
VNA1				*e*			18 37 24.4	
VNA1				*e*			18 37 30.2	
VNA1				*e*			18 37 36.2	
KMBO	**Kilima Mbogo**	**53.10**	**304**	P		**P**	**18 36 05.9**	**-1.9**
	comp=Z,1.7nm,0.5s,mb4.3,baz=248,slow=21,SNR=4.4							
KMBO				LR		LR	18 53 41.5	
	comp=Z,5μm,21.2s,MS5.5,baz=125,slow=30							
VNA3	**Neumayer Olymp**	**53.41**	**204**	*i*⇓*P*		**P**	**18 36 09.9**	**-0.2**
VNA3				*e*		pP	18 36 12.3	-1.0
VNA3				*e*		pP	18 36 13.2	-0.1
VNA3				*e*			18 36 23.9	
VNA3				*e*			18 36 25.8	
VNA3				*e*			18 36 33.1	
VNA3				*e*			18 36 40.9	
VNA3				*e*			18 37 20.3	
VNA3				*e*			18 37 24.6	
VNA3				*e*			18 37 30.5	
KAKA	**Kakadu**	**54.09**	**77**	*eP*		**P**	**18 36 14.7**	**-0.4**
	comp=Z,23nm,0.7s,mb5.2							
NNT	**Nongplab**	**54.66**	**26**	P		**P**	**18 36 23.4**	**+4.2**
HYB	**Hyderabad**	**55.74**	**360**	*i* P		**P**	**18 36 30.0**	**+2.9**
HYB				*e*S		**S**	**18 44 15.0**	**+1.3**
HYB				LR		LR	18 55 32.0	
	comp=Z,20nm,18.0s							
KAD	**Karad**	**55.79**	**355**	*eP*		**P**	**18 36 27.3**	**-0.1**
KAD				AMb		AMB	18 36 31.7	
	comp=Z,96nm,1.6s,mb5.6							
VIS	**Vishakhapatnam**	**56.23**	**5**	*eP*		**P**	**18 36 31.3**	**+0.8**
VIS				AMb		AMB	18 36 46.9	
	comp=Z,91nm,1.8s,mb5.5							
KKM	**Kota Kinabalu**	**56.52**	**47**	*eP*		**P**	**18 36 31.6**	**-1.0**
POO	**Poona**	**57.02**	**355**	*i*⇓*P*		**P**	**18 36 35.0**	**-1.2**
	comp=Z,114nm,1.2s,mb5.8							
POO				*ex*		x	18 37 12.1	
POO				AMb		AMB	18 37 14.7	
	comp=Z,114nm,1.6s,mb5.6							
BOM	**Bombay**	**57.47**	**354**	*eP*		**P**	**18 36 38.9**	**-0.4**
BOM				*ex*		x	18 36 51.2	
	comp=Z,62nm,1.7s							
BOM				*e*S		**S**	**18 44 38.2**	**+1.7**
NGP	**Nagpur**	**59.46**	**1**	*i*⇓*P*		**P**	**18 36 54.6**	**+1.4**
NGP				*e*S		**S**	**18 45 05.4**	**+2.9**
CTA	**Charters Tower**	**60.55**	**93**	*i*⇑*P*		**P**	**18 37 01.5**	**+0.8**
	comp=Z,19nm,0.9s,mb5.2							
CTA	**Charters Tower**	**60.55**	**93**	P		**P**	**18 37 00.9**	**+0.2**
	comp=Z,12nm,1.0s,mb5.0,baz=238,slow=7.8,SNR=8.6							
CTA	**Charters Tower**	**60.55**	**93**	*i*⇑*P*		**P**	**18 37 01.5**	**+0.8**
CTA				pmax		pmax		
	comp=Z,19nm,0.9s							
CTAO	**Charters Tower**	**60.55**	**93**	*eP*		**P**	**18 37 01.6**	**+0.9**
CTAO				*e**PP		pP	18 37 08.8	+4.9
CTAO				pmax		pmax		
	comp=Z,88nm,1.4s,mb5.7							
CTAO	**Charters Tower**	**60.55**	**93**	*eP*		**P**	**18 37 01.6**	**+0.9**
	comp=Z,88nm,1.4s,mb5.7							
CTAO				*e*pP		pP	18 37 08.8	+4.9
NANT	**Nan**	**60.78**	**24**	⇑P		**P**	**18 37 01.0**	**-1.3**
	comp=Z,150nm,1.0s,mb6.1							
JBP	**Jabalpur**	**61.48**	**1**	*ex*		x	18 37 06.3	
	comp=Z,20nm,1.3s							
JBP				⇓*iP*			18 37 07.3	
JBP				*i* S		**S**	**18 45 30.3**	**+1.9**
CHRT	**Chiangrai**	**61.50**	**23**	⇓P		**P**	**18 37 10.0**	**+2.8**
	comp=Z,105nm,0.7s,mb6.1							
CAL	**Calcutta**	**61.53**	**10**	*i*⇓*P*		**P**	**18 37 11.1**	**+3.7**
CAL				*e*S		**S**	**18 45 33.3**	**+4.3**
BHPL	**Bhopal**	**61.55**	**359**	*eP*		**P**	**18 37 08.3**	**+0.8**
BHPL				AMb		AMB	18 37 12.2	
	comp=Z,51nm,1.5s,mb5.4							
BHJ	**Bhuj**	**62.12**	**351**	*eP*		**P**	**18 37 09.3**	**-2.0**
BHJ				AMb		AMB	18 37 16.1	
	comp=Z,71nm,1.9s,mb5.5							
BOK	**Bokaro**	**62.47**	**8**	*eP*		**P**	**18 37 13.4**	**-0.3**
BOK				AMb		AMB	18 37 29.9	
	comp=Z,54nm,1.6s,mb5.4							
QIZ	**Qiongzhong**	**64.42**	**33**	*i*⇑*P*		**P**	**18 37 26.3**	**-0.3**
QIZ				AP		pP	18 37 29.8	0.0
QIZ				PPP			18 41 22.5	
QIZ				S		**S**	**18 46 05.9**	**+0.7**
QIZ				XS		sS	18 46 11.2	+0.7
QIZ				PS			18 46 23.4	
QIZ				SS		SS	18 50 15.3	+0.2
QIZ				AMB		AMB		
	comp=Z,23nm,2.2s,mb4.8							
QIZ				AMB		AMB		
	comp=Z,673nm,6.0s							
QIZ				LR		LR		
	comp=N,2μm,27.1s,MS5.4							
QIZ				LR		LR		
	comp=E,3μm,24.5s,MS5.4							
QIZ				LR		LR		
	comp=Z,2μm,21.5s,MS5.3							
AJM	**Ajmer**	**64.87**	**356**	*eP*		**P**	**18 37 29.0**	**-0.5**
AJM				*i* P		pP	18 37 30.0	-2.7
AJM				AMb		AMB	18 37 34.7	
	comp=Z,119nm,0.8s,mb6.0							
PKI	**Pulchoki**	**66.16**	**7**	*eP*		**P**	**18 37 36.5**	**-1.4**
	comp=Z,74nm,1.0s,mb5.7							
DMN	**Daman**	**66.17**	**6**	*eP*		**P**	**18 37 36.3**	**-1.6**
	comp=Z,121nm,0.9s,mb5.9							
RPZ	**Rata Peaks**	**66.21**	**128**	P		**P**	**18 37 39.6**	**+1.4**
	comp=Z,15nm,0.9s,mb5.0,baz=315,slow=4.3,SNR=2.1							
KOLN	**Koldanda**	**66.22**	**5**	*eP*		**P**	**18 37 36.6**	**-1.6**
	comp=Z,85nm,1.0s,mb5.7							
JIRN	**Jiri**	**66.32**	**7**	*eP*		**P**	**18 37 38.2**	**-0.7**
	comp=Z,111nm,1.0s,mb5.8							
KKN	**Kakani**	**66.37**	**7**	*eP*		**P**	**18 37 37.5**	**-1.7**
	comp=Z,102nm,0.9s,mb5.9							
GKN	**Gorkha**	**66.52**	**6**	*eP*		**P**	**18 37 39.1**	**-1.1**
	comp=Z,120nm,1.1s,mb5.8							
GUN	**Gumba**	**66.54**	**7**	*eP*		**P**	**18 37 39.5**	**-0.8**
	comp=Z,633nm,1.4s							
NDI	**New Delhi**	**66.97**	**359**	*eP*		**P**	**18 37 42.8**	**-0.2**
NDI				AMb		AMB	18 37 46.2	
	comp=Z,38nm,2.0s,mb5.1							
NDI				*e*S		S	18 46 35.0	-1.3
NDI				*ex*		x	18 51 04.0	
KMI	**Kunming**	**67.34**	**24**	P		**P**	**18 37 45.7**	**+0.3**
KMI				AP		pP	18 37 57.2	+8.6
KMI				PCP		PcP	18 38 12.4	-0.6
KMI				PP		PP	18 40 17.2	+3.5
KMI				PPP			18 41 54.5	
KMI				SCP			18 42 11.6	
KMI				PCS			18 42 15.9	
KMI				S		S	18 46 38.5	-2.3
KMI				PS			18 47 07.6	
KMI				SKS			18 47 36.5	
KMI				SS		SS	18 51 01.9	+1.4
KMI				SSS			18 54 01.4	
KMI				AMB		AMB		
	comp=Z,25nm,1.4s,mb5.0							
KMI				AMB		AMB		
	comp=Z,797nm,5.8s							
KMI				LR		LR		
	comp=N,2μm,14.0s,MS5.5							
KMI				LR		LR		
	comp=E,869nm,13.6s,MS5.5							
KMI				LR		LR		
	comp=Z,3μm,16.4s,MS5.5							
PMG	**Port Moresby**	**67.48**	**84**	P		**P**	**18 37 47.9**	**+1.6**
	comp=Z,24nm,0.7s,mb5.3,baz=250,slow=5.4,SNR=18							
DDI	**Dehra Dun**	**68.59**	**360**	*eP*		**P**	**18 37 52.0**	**-1.3**
LSA	**Lhasa**	**68.98**	**12**	P		**P**	**18 37 55.1**	**-0.6**
LSA				AP		pP	18 38 05.0	+6.0
LSA				XP		sP	18 38 08.2	+8.0
LSA				S		S	18 46 59.3	-1.1
LSA				SCS		ScS	18 47 57.5	+1.2
LSA				LR		LR		
	comp=N,2μm,39.4s							
LSA				LR		LR		
	comp=E,5μm,28.2s							
LSA				LR		LR		
	comp=Z,5μm,39.4s,MS5.4							
LSA	**Lhasa**	**68.98**	**12**	*eP*		**P**	**18 37 56.9**	**+1.2**
LSA				pmax		pmax		
	comp=Z,45nm,1.1s,mb5.3							
LSA	**Lhasa**	**68.98**	**12**	*eP*		**P**	**18 37 56.9**	**+1.2**
	comp=Z,45nm,1.1s,mb5.3							
SMLA	**Simla**	**69.41**	**359**	*eP*		**P**	**18 37 56.3**	**-2.0**
SMLA				AMb		AMB	18 37 59.6	
	comp=Z,77nm,1.6s,mb5.4							
GYA	**Guiyang**	**69.89**	**27**	*i*⇑*P*		**P**	**18 37 59.8**	**-1.5**
GYA				AP		pP	18 38 04.6	0.0
GYA				XP		sP	18 38 07.9	+2.1
GYA				PP		PP	18 40 37.7	+1.9
GYA				PPP			18 42 17.3	
GYA				S		S	18 47 12.6	+1.5
GYA				AMB		AMB		
	comp=Z,40nm,1.6s,mb5.1							
GYA				AMB		AMB		
	comp=Z,790nm,6.3s							
GYA				LR		LR		
	comp=N,2μm,17.3s,MS5.5							
GYA				LR		LR		
	comp=E,820nm,16.7s,MS5.5							
GYA				LR		LR		
	comp=Z,2μm,18.2s,MS5.5							
URZ	**Urewera**	**73.04**	**126**	P		**P**	**18 38 21.0**	**+0.7**
	comp=Z,41nm,1.1s,mb5.3,baz=303,slow=3.6,SNR=7.8							
CD2	**Chengdu**	**73.06**	**22**	*eP*		**P**	**18 38 19.9**	**-0.5**
CD2				AP		pP	18 38 24.6	+0.9
CD2				XP		sP	18 38 26.9	+2.0
CD2				PP		PP	18 41 05.0	+2.0
CD2				S		S	18 47 46.2	-1.5
CD2				XS		sS	18 47 54.1	+1.0
CD2				PS			18 48 20.5	
CD2				SS		SS	18 52 30.1	+1.6
CD2				AMB		AMB		
	comp=Z,40nm,1.0s,mb5.3							
CD2				AMB		AMB		
	comp=Z,440nm,7.2s							
CD2				LR		LR		
	comp=E,2μm,19.2s							
CD2				LR		LR		
	comp=Z,1μm,24.0s,MS5.2							
KBD	**Kabd**	**73.35**	**332**	*eP*		**P**	**18 38 22.3**	**+0.1**
KBD				AMb		AMB	18 38 30.2	
	comp=Z,320nm,1.3s,mb6.1							
QZH	**Quanzhou**	**73.52**	**38**	P		**P**	**18 38 21.5**	**-1.6**
QZH				S		S	18 47 57.0	+4.1
QZH				SS		SS	18 52 31.0	-4.5
QZH				AMB		AMB		
	comp=Z,290nm,1.7s,mb5.9							
QZH				AMB		AMB		
	comp=Z,2μm,4.5s							
QZH				LR		LR		
	comp=N,3μm,16.7s,MS5.8							
QZH				LR		LR		
	comp=E,3μm,14.5s,MS5.8							
QZH				LR		LR		
	comp=Z,4μm,20.1s							
NAY	**Al-Naaiem**	**73.58**	**332**	*eP*		**P**	**18 38 22.9**	**-0.6**
NAY				AMb		AMB	18 38 36.1	
	comp=Z,63nm,1.5s,mb5.3							
MIB	**Mutribah**	**74.05**	**332**	*eP*		**P**	**18 38 25.4**	**-0.9**
MIB				AMb		AMB	18 38 34.2	
	comp=Z,97nm,1.2s,mb5.6							
DZM	**Mont Dzumac**	**74.99**	**106**	LR		LR	19 10 01.5	
	comp=Z,6μm,18.3s,MS5.9,baz=279,slow=34							
WHN	**

LZH LR LR
comp=Z,3μm,20.0s,MS5.6
ABKT Ailbek 78.47 344 P **P 18 38 54.1 +2.7**
comp=Z,198nm,1.1s,mb6.0,SNR=9.3
EIL Elat 79.19 322 *eP* **P 18 38 56.3 +0.9**
comp=Z,2μm,1.4s
EIL *ep*P pP 18 39 02.8 +4.1
EIL *es*P sP 18 39 05.7 +5.9
NJ2 Nanjing 79.69 34 *eP* **P 18 38 59.2 +1.1**
NJ2 AP pP 18 39 03.9 +2.5
NJ2 XP sP 18 39 07.3 +4.7
NJ2 PP PP 18 42 02.1 +3.2
NJ2 S S 18 49 00.0 -0.5
NJ2 XS sS 18 49 10.0 +4.1
NJ2 LR LR
comp=Z,20μm,21.7s,MS6.4
SSE Sheshan 79.93 36 *eP* **P 18 38 55.1 -4.3**
SSE AP pP 18 39 04.6 +1.9
SSE XP sP 18 39 08.4 +4.5
SSE AMB AMB
comp=Z,28nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,183nm,3.5s
SSE LR LR
comp=N,2μm,21.3s,MS5.4
SSE LR LR
comp=E,1μm,21.3s,MS5.4
SSE LR LR
comp=Z,2μm,16.3s,MS5.4
JOW Kunigami 80.01 44 LR LR 19 10 55.4
comp=Z,990nm,21.0s,MS5.1,baz=291,slow=33
GTA Gaotai 80.07 17 *eP* **P 18 38 59.4 -0.7**
GTA AP pP 18 39 04.2 +0.8
GTA XP sP 18 39 06.3 +1.7
GTA PP PP 18 42 04.5 +2.4
GTA S S 18 49 03.5 -1.0
GTA SKS 18 49 10.7
GTA XS sS 18 49 16.8 +6.8
GTA PS 18 49 52.5
GTA SS SS 18 54 19.1 +4.5
GTA AMB AMB
comp=Z,20nm,0.9s,mb5.0
GTA AMB AMB
comp=Z,717nm,5.8s
GTA LR LR
comp=N,2μm,19.8s,MS5.5
GTA LR LR
comp=E,2μm,18.2s,MS5.5
GTA LR LR
comp=Z,2μm,19.8s,MS5.4
KZA Kyzart 80.38 358 P **P 18 39 02.9 +1.1**
SNR=16
AML Almayashu 80.50 356 P **P 18 39 02.5 0.0**
SNR=19
UCH Uchtor 80.56 357 P **P 18 39 06.2 +3.4**
SNR=12
AAK Ala-Archa 80.96 357 P **P 18 39 05.8 +0.9**
SNR=17
AAK Ala-Archa 80.96 357 P **P 18 39 03.9 -1.0**
comp=Z,117nm,1.9s,mb5.5,SNR=9.8
AAK Ala-Archa 80.96 357⇓ *eP* **P 18 39 04.2 -0.7**
AAK pmax pmax
comp=Z,84nm,2.6s,mb5.2
AAK MLR MLR
comp=Z,2μm,13.0s,MS5.6
AAK Ala-Archa 80.96 357 *eP* **P 18 39 04.3 -0.6**
comp=Z,52nm,1.4s,mb5.3
KBK Karagaybulak 80.97 357 P **P 18 39 07.0 +2.1**
SNR=11
EKS2 Erkin-Say 81.02 356 P **P 18 39 06.3 +1.0**
SNR=23
FRU Bishkek 81.16 357 *eP* **P 18 39 07.0 +1.0**
FRU pmax pmax
comp=Z,140nm,2.0s,mb5.5
FRU MLR MLR
comp=Z,6μm,20.0s,MS6.0
TKM2 Tokmak 2 81.21 358 P **P 18 39 08.7 +2.4**
SNR=8.0
CHMS Chumysh 81.32 357 P **P 18 39 07.1 +0.3**
SNR=12
MSL Mosul 81.43 332 *ex* x 18 39 11.0
MSL Mosul 81.43 332 *ex* x 18 49 25.0
AAA Alma-Ata 81.53 359 *eP* **P 18 39 06.0 -1.9**
AAA *eS* S 18 49 18.0 -1.7
AAA pmax pmax
comp=Z,970nm,4.0s
AAA smax
comp=E,2μm,10.0s
AAA MLR MLR
comp=Z,6μm,22.0s,MS5.9
USP Ospenovka 81.59 357 P **P 18 39 08.2 0.0**
SNR=14
KKAR Karatay Array 81.67 354 *i* P **P 18 39 07.3 -1.4**
KKAR pmax pmax
comp=Z,80nm,1.1s,mb5.6
RAO Raoul Island 81.83 121 LR LR 19 08 17.8
comp=Z,3μm,20.7s,MS5.6,baz=310,slow=30
WMQ Urumqi 82.48 7 ⇑P **P 18 39 12.6 -0.3**
WMQ AP pP 18 39 17.1 +0.9
WMQ XP sP 18 39 19.6 +2.2
WMQ PP PP 18 42 22.6 +0.6
WMQ S S 18 49 25.1 -4.4
WMQ SKS 18 49 28.1
WMQ PS 18 50 15.9
WMQ AMB AMB
comp=Z,49nm,1.8s,mb5.1
WMQ AMB AMB
comp=Z,696nm,4.6s
WMQ LR LR
comp=N,3μm,19.5s,MS5.7
WMQ LR LR
comp=E,847nm,17.8s,MS5.7
WMQ LR LR
comp=Z,2μm,20.2s,MS5.5
TIA Tai'an 82.55 31 *eP* **P 18 39 13.8 +0.5**
BTO Baotou 83.94 24 *eP* **P 18 39 18.8 -1.6**
BTO S S 18 49 41.6 -2.7
CSS Prodhromos 84.35 324 *eP* **P 18 39 24.6 +2.0**
comp=Z,47nm,1.2s,mb5.5
BNGL BINGOL 84.50 332 *i* P **P 18 39 27.4 +4.1**
GZT Gaziantep 84.52 328 *i* P **P 18 39 25.5 +2.1**
HHC Hu-ho-hao-te 84.65 25 ⇑P **P 18 39 22.5 -1.6**
HHC AP pP 18 39 27.3 -0.1
HHC XP sP 18 39 29.9 +1.3
HHC PP PP 18 42 42.3 +2.6
HHC SKS 18 49 43.2
HHC S 18 49 48.8
HHC XS sS 18 49 57.7 +0.8
HHC PS 18 50 45.9
HHC SS SS 18 55 25.4 +2.8
HHC AMB AMB
comp=Z,13nm,1.0s,mb5.0
HHC AMB AMB
comp=Z,555nm,5.9s
HHC LR LR
comp=N,2μm,20.6s,MS5.7
HHC LR LR
comp=E,3μm,20.2s,MS5.7
HHC LR LR
comp=Z,1μm,22.8s,MS5.3
ELZG Elazig 84.93 330 *i* P **P 18 39 29.3 +3.9**
MALT Malatya 84.99 329 *eP* **P 18 39 29.4 +3.6**
MALT *e* pP 18 39 33.6 +4.5
MALT pmax pmax
comp=Z,38nm,1.4s,mb5.3
MALT Malatya 84.99 329 *eP* **P 18 39 29.4 +3.6**
comp=Z,38nm,1.4s,mb5.3
MALT *ep*PcP PcP 18 39 33.6 +4.5
MK31 Makanchi Array 85.10 3 P **P 18 39 24.5 -1.9**
MK31 pmax pmax
comp=Z,48nm,1.2s,mb5.5
MKAR Makanchi Array 85.10 3 P **P 18 39 24.6 -1.8**
comp=Z,6.7nm,0.8s,mb4.8,baz=168,slow=6.2,SNR=33
DGRG David-gareji 85.25 336 P **P 18 39 31.2 +4.1**
DGRG S 18 50 03.4
BJT Baijiatuau 85.50 28 *eP* **P 18 39 29.0 +0.6**
BJT pmax pmax
comp=Z,32nm,1.1s
BJT Baijiatuau 85.50 28 *eP* **P 18 39 29.0 +0.6**
comp=Z,32nm,1.1s,mb5.5
BJI Beijing 85.53 28 *eP* **P 18 39 28.9 +0.4**
BJI XP sP 18 39 39.9 +6.9
BJI S 18 49 53.9
BJI PS 18 51 26.4
BJI AMB AMB
comp=Z,20nm,1.1s,mb5.3
BJI AMB AMB
comp=Z,449nm,4.4s
BJI LR LR
comp=N,1μm,22.2s,MS5.6
BJI LR LR
comp=E,2μm,19.4s,MS5.6
BJI LR LR
comp=Z,2μm,20.0s,MS5.5
MTA Mtatsminda 85.66 335 P **P 18 39 32.5 +3.4**
TBLG Delisi 85.71 335 P **P 18 39 32.5 +3.1**
ERMK Ermenek 85.93 325 *i* P **P 18 39 31.2 +0.8**
MAK Makhachkala 85.96 338 *eP* **P 18 39 29.7 -0.9**
MAK *i* S 18 49 52.2
MAK pmax pmax
comp=Z,140nm,1.6s,mb5.9
ARTV Artvin 86.18 333 *i* P **P 18 39 27.4 -4.3**
DL2 Dalian 86.70 32 PR **P 18 39 35.9 +1.7**
DL2 SKS 18 50 00.7
DL2 S 18 50 12.8
DL2 PS 18 51 16.1
DL2 SSS 18 59 26.9
DL2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.3
DL2 AMB AMB
comp=Z,320nm,4.6s
DL2 LR LR
comp=N,870nm,22.3s,MS5.3
DL2 LR LR
comp=E,1μm,22.2s,MS5.3
DL2 LR LR
comp=Z,870nm,20.3s,MS5.2
CDAG Cicekdag 87.77 327 *i* P **P 18 39 41.8 +2.4**
TORD Torodi Ar. Bea 88.11 288 P **P 18 39 40.4 -0.6**
comp=Z,0.5nm,0.9s,baz=138,slow=8.8,SNR=2.7
TORD PP PP 18 43 11.1 +3.4
comp=Z,0.8nm,1.1s,baz=146,slow=8.7,SNR=2.2
BR131 Keskin Array S 88.16 327 *eP* **P 18 39 44.0 +2.7**
comp=Z,8.0nm,1.3s,mb4.8
BRTR Keskin Array B 88.16 327 P **P 18 39 42.0 +0.7**
comp=Z,1.4nm,1.1s,baz=174,slow=4.3,SNR=8.5
KS15 Wonju Array Si 88.28 37 P **P 18 39 43.1 +1.2**
CBIJ Chichi jima 88.36 53 LR LR 19 15 44.5
comp=Z,528nm,20.8s,MS4.9,baz=331,slow=33
KIV Kislovodsk 88.37 335 *d* iP **P 18 39 44.1 +1.8**
KIV pmax pmax
comp=Z,19nm,1.8s,mb5.0
KIV Kislovodsk 88.37 335 *eP* **P 18 39 44.8 +2.5**
comp=Z,8.2nm,1.0s,mb4.9
KURK Kurchatov 88.96 0 P **P 18 39 44.2 -0.9**
comp=Z,76nm,2.0s,mb5.7,SNR=7.2
KURK Kurchatov 88.96 0 *eP* **P 18 39 47.0 +1.9**
KURK *e**PP pP 18 39 54.5 +6.1
KURK pmax pmax
comp=Z,58nm,1.6s,mb5.7
KURK Kurchatov 88.96 0 *eP* **P 18 39 47.0 +1.9**
comp=Z,58nm,1.6s,mb5.7
KURK *ep*P pP 18 39 54.5 +6.1
AB31 Akbulak array 89.04 348 *i* P **P 18 39 46.3 +0.9**
AB31 pmax pmax
comp=Z,300nm,2.2s,mb6.2
SOC Sochi 89.07 333 *d* iP **P 18 39 45.4 -0.2**
SOC *e* pP 18 39 48.0 -0.9
SOC *eS* 18 50 09.1
SOC *e* 18 50 35.3
SOC *eSS* SS 18 56 26.3 -1.0
SOC pmax pmax
comp=Z,11nm,0.8s,mb5.2
SOC MLR MLR
comp=Z,651nm,13.0s,MS5.2
SANT Santorini 89.28 320 *eP* **P 18 39 41.5 -5.0**
comp=Z,135nm,1.4s,mb6.1
SONM Songino Array 89.58 18 P **P 18 39 46.5 -1.5**
comp=Z,3.0nm,0.8s,mb4.7,baz=197,slow=5.3,SNR=15
SONM PP PP 18 43 20.7 +1.2
comp=Z,1.0nm,1.1s,baz=189,slow=5.5,SNR=3.4
SONM LR LR 19 19 54.6
comp=Z,2μm,20.1s,MS5.5,baz=190,slow=36
SONM Songino Array 89.58 18 P **P 18 39 46.5 -1.5**
SONM 18 43 20.7
BALT Daday 89.77 328 *i* P **P 18 39 49.5 +0.6**
ULN Ulaanbaatar 89.77 19 *eP* **P 18 39 47.1 -1.8**
ULN pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
ULN Ulaanbaatar 89.77 19 *eP* **P 18 39 47.1 -1.8**
comp=Z,8.7nm,0.9s,mb5.1
ULDT Uludag 90.49 324 *i* P **P 18 39 42.8 -9.5**
AKTO Aktyubinsk 90.51 347 P **P 18 39 51.7 -0.6**
AKTO pmax pmax
comp=Z,3.0nm,1.5s,mb4.4
ANN Anapa 90.94 332 *eP* **P 18 39 57.7 +3.4**
ANN *eS* 18 50 24.9
ANN pmax pmax
comp=Z,17nm,0.7s,mb5.5
ANN MLR MLR
comp=Z,181nm,20.0s,MS4.5
VOSK Vostochnaya 91.21 355 P **P 18 39 53.9 -1.7**
VOSK pmax pmax
comp=Z,29nm,2.0s,mb5.3
JHJ Hachijo jima 2 91.24 47 LR LR 19 19 46.4
comp=Z,1μm,20.0s,MS5.3,baz=233,slow=35
ZAK Zakamensk 91.26 16 *eP* **P 18 39 54.7 -1.1**
ZAK pmax pmax
comp=Z,15nm,1.7s,mb5.0
ZAK pmax pmax
comp=Z,2.0nm,2.0s
ZAK pmax pmax
comp=Z,14nm,1.8s,mb5.0
BVA0 Borovoye Array 91.55 355 *i* P **P 18 39 56.2 -1.0**
BVA0 pmax pmax
comp=Z,3.0nm,1.4s,mb4.4
ZRNK Zerenda 91.58 354 *eP* **P 18 39 57.8 +0.5**
ZRNK pmax pmax
comp=Z,10.0nm,1.4s,mb5.0
ZRNK Zerenda 91.58 354 *eP* **P 18 39 57.8 +0.6**
comp=Z,10nm,1.4s,mb5.0
BRVK Borovoye 91.59 355 P **P 18 39 55.5 -1.8**
comp=Z,43nm,1.0s,mb5.7,SNR=6.4
BRVK Borovoye 91.59 355 *eP* **P 18 39 56.1 -1.2**
BRVK pmax pmax
comp=Z,13nm,1.5s,mb5.0
BRVK Borovoye 91.59 355 *eP* **P 18 39 56.1 -1.2**
comp=Z,13nm,1.5s,mb5.0
MOY Mondy 92.03 14 *eP* **P 18 40 00.8 +1.4**
MOY pmax pmax
comp=Z,28nm,4.4s
ORR Orenburg 92.25 345 *d* iP **P 18 40 05.1 +4.7**
ORR *eS* 18 52 09.5
ORR SS SS 18 57 13.8 +0.5
ORR pmax pmax
comp=Z,10.0nm,1.7s,mb4.9
ORR MLR MLR
comp=Z,3μm,21.0s,MS5.8
SIM Simferopol' **92.33 330** *eP* **P 18 40 02.2 +1.5**
SIM *i* S 18 51 04.0
SIM pmax pmax
comp=Z,15nm,1.3s,mb5.2
ZAL Zalesovo 92.35 4 P **P 18 39 59.5 -1.3**
comp=Z,3.4nm,0.9s,mb4.7,baz=297,slow=3.4,SNR=16
ZAL LR LR 19 19 24.9
comp=Z,5μm,21.5s,MS5.9,baz=282,slow=34
ZAL Zalesovo 92.35 4 *i* P **P 18 40 02.7 +1.9**
ZAL pmax pmax
comp=Z,3.0nm,0.9s
TLY Talaya 92.57 15 *i* P **P 18 40 01.6 -0.2**
TLY Talaya 92.57 15 *eP* **P 18 40 01.4 -0.4**
comp=Z,8.8nm,1.3s,mb5.0
MAT Matsushiro 92.85 44 P **P 18 40 00.3 -2.9**
MAT Matsushiro 92.85 44 *eP* **P 18 40 00.0 -3.2**
MAT LR LR
comp=Z,1μm,21.0s,MS5.3
MAJO Matsushiro 92.86 44 *eP* **P 18 40 00.3 -2.9**
MAJO pmax pmax
comp=Z,50nm,1.6s,mb5.7
MAJO Matsushiro 92.86 44 *eP* **P 18 40 00.3 -2.8**
comp=Z,50nm,1.6s,mb5.7
MJAR Matsushiro Arr 92.86 44 P **P 18 40 03.4 +0.2**
comp=Z,0.9nm,0.7s,mb4.3,baz=201,slow=4.0,SNR=4.0
MJAR LR LR 19 18 08.1
comp=Z,1μm,21.9s,MS5.3,baz=225,slow=33
MJAR Matsushiro Arr 92.86 44 P **P 18 40 03.4 +0.2**
MJAR LR LR 19 18 08.1
NVS Novosibirsk 93.18 3⇓ *i* P **P 18 40 03.5 -1.2**
NVS *i* S 18 51 08.5
NVS pmax pmax
comp=Z,20nm,1.2s,mb5.4
NVS pmax pmax
comp=N,12nm,1.4s
NVS pmax pmax
comp=E,6.0nm,1.4s
NVS pmax pmax
comp=Z,18nm,1.9s,mb5.2
NVS pmax pmax
comp=N,14nm,1.7s
NVS pmax pmax
comp=E,9.0nm,1.8s
NVS smax
comp=N,28nm,2.4s
NVS smax
comp=E,31nm,2.4s
TIRR Tirgusor 94.27 327 *eP* **P 18 40 09.9 +0.2**
MDJ Mudanjiang 94.78 34 P **P 18 40 13.8 +1.8**
MDJ AP pP 18 40 17.1 +1.7
MDJ PP PP 18 43 57.9 -2.6
MDJ S 18 51 22.4
MDJ AMB AMB
comp=Z,3.0nm,0.8s,mb4.8
MDJ AMB AMB
comp=Z,68nm,6.8s
MDJ LR LR
comp=N,2μm,36.1s,MS5.6
MDJ LR LR
comp=E,3μm,33.8s,MS5.6
MDJ LR LR
comp=Z,1μm,25.9s
HIA Hailar 94.79 26 *eP* **P 18 40 12.6 +0.5**
HIA pmax pmax
comp=Z,20nm,1.2s
HIA Hailar 94.79 26 *eP* **P 18 40 12.6 +0.5**
comp=Z,20nm,1.2s,mb5.4
CIT Chita 95.29 21 *eP* **P 18 40 09.3 -5.1**
CIT *e* 18 44 09.8
CIT pmax pmax
comp=Z,37nm,3.2s
KIS Kishinev 96.12 328 *eP* **P 18 40 23.0 +4.8**
KIS *e* 18 44 10.0
KIS *ep*PP 18 46 18.0
KIS *e* 18 50 58.0
KIS *eS* 18 51 33.0
KIS *ep*PS PS 18 53 04.0 +6.5
KIS *ep*PPS 18 53 32.0
AFI Afiamalu 96.17 113 LR LR 19 15 06.3
comp=Z,1μm,19.2s,MS5.3,baz=250,slow=30
ARU Arti 96.20 349⇓ *i* P **P 18 40 19.0 +0.5**
ARU *eS* 18 50 51.1
ARU pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
ARU MLR MLR
comp=Z,2μm,24.0s,MS5.5
ARU MLR MLR
comp=N,2μm,25.0s,MS5.5
ARU MLR MLR
comp=E,700nm,23.0s,MS5.5
ARU Arti 96.20 349 *eP* **P 18 40 17.0 -1.5**
comp=E,17nm,1.4s,mb5.3
SVE Sverdlovsk 96.29 350 *eP* **P 18 40 19.8 +0.9**
SVE *e* 18 44 18.0
SVE *eS* 18 50 58.0
SVE *e* 18 53 07.0
SVE pmax pmax
comp=Z,40nm,2.0s,mb5.5
SVE MLR MLR
comp=N,2μm,22.0s,MS5.5
SVE MLR MLR
comp=E,500nm,22.0s,MS5.5
SVE MLR MLR
comp=Z,2μm,22.0s,MS5.5
AKASG Malin Array Be 98.93 331 P **P 18 40 29.6 -1.2**
comp=Z,0.1nm,0.4s,baz=168,slow=3.1,SNR=4.9
OBN Obninsk 100.04 337 P Pdif 18 40 40.1 +4.4
OBN pmax pmax
comp=Z,2.0nm,0.7s
OBN MLR MLR
comp=Z,1μm,24.0s,MS5.4
BOD Bodaibo 100.58 18 *eP* Pdif 18 40 40.2 +2.0
BOD pmax pmax
comp=Z,15nm,0.8s
YSS Yuzh-Sakhalins 102.67 39 *i* P Pdif 18 40 45.2 -2.2
YSS pmax pmax
comp=Z,21nm,2.3s
YSS MLR MLR
comp=Z,700nm,26.0s,MS5.1
OKC Ostrava-Krasne 102.90 325 AMS AMS 19 36 10.0
comp=Z,1μm,19.2s
TBI Tubuai 103.68 135 *eS* Sdif 18 52 32.6 -8.4
comp=Z,472nm,30.2s
TBI *eSS* SS 18 59 54.8 +0.7
comp=Z,1μm,30.0s
TBI *eLQ* 19 10 03.6
comp=Z,3μm,38.0s
TBI *eLR* LR 19 14 47.2
comp=Z,3μm,24.0s,baz=217
DPC Dobruska-Polom 104.10 324 *ePP* PP 18 45 13.4 +2.0
DPC *eSKS* 18 51 35.9
DPC AMS AMS 19 36 50.0
comp=Z,800nm,17.5s
KHC Kasperske Hory 104.54 322 *ePP* PP 18 45 14.7 -0.1
KHC *eSP* SP 18 54 25.5 -0.8
KHC AMS AMS 19 36 00.0
comp=Z,2μm,18.1s
PRU Pruhonice 104.67 323 *ePP* PP 18 45 20.1 +4.4
PRU *eSKS* 18 51 35.0
PRU *eSP* SP 18 54 31.6 +3.9
PRU AMS AMS 19 40 20.0
comp=Z,800nm,18.3s
NKC Novy Kostel 105.83 322 *eSKS* SKSac 18 51 48.2 +6.5
NKC AMS AMS 19 40 40.0
comp=Z,1μm,18.6s
GRF Grafenberg Arr 106.06 321 *ePP* PP 18 45 26.7 +0.7
GRF *eSdiff* Sdif 18 52 57.6 -3.2
GRF *eSP* SP 18 54 46.2 +4.1
GRF *eSS* SS 19 00 22.6 -4.1
GRF *eL* 19 40 44.2
comp=Z,2μm,19.5s
CLL Collm 106.29 323 *ePP* PP 18 45 40.6 +13
CLL *eSKSac* SKSac 18 51 46.9 +3.1
CLL *eSdiff* Sdif 18 53 07.3 +4.6
CLL *ePS* PS 18 54 48.1 +2.4
CLL *ePPS* 18 55 55.4
CLL *eSS* SS 19 00 37.0 +7.3
CLL *eSSS* 19 04 31.9
CLL *eSSSS* 19 07 56.0
CLL *eL* 19 38 15.2
comp=Z,1μm,18.0s
CLL Collm 106.29 323⇓ *ix* x 18 45 41.2
comp=Z,11nm,1.4s
CLL *ex* x 18 45 58.0
CLL *eSKSac* SKSac 18 51 44.0 +0.2
CLL *eSdif* Sdif 18 53 03.0 +0.3
CLL *ePS* PS 18 54 52.0 +6.3
CLL *ex* x 18 56 12.0
CLL *eSS* SS 19 00 18.0 -12
CLL *eSSS* 19 04 33.0
CLL Lm 19 37 00.0
comp=Z,1μm,18.2s
MOX Moxa 106.50 322 *e*(P) PP 18 45 40.5 +11
MOX
comp=Z,1μm,20.0s
PPT Papeete 108.19 132 *eS* Sdif 18 53 00.6 -18
comp=Z,595nm,26.2s
PPT *eSS* SS 19 00 48.7 -6.9
comp=Z,1μm,29.5s
PPT *eLQ* 19 12 00.0
comp=Z,7μm,32.2s
PPT *eLR* LR 19 16 57.2
comp=Z,4μm,28.2s,baz=225
RKT Rikitea 111.00 147 *eLR* LR 19 18 20.8
comp=Z,2μm,25.2s,baz=208
KONO Kongsberg 113.12 329 *ePP* PP 18 46 16.7 -0.5
TIXI Tiksi 115.54 16 *i* PKIKP PKPdf 18 45 34.4 +1.9
TIXI *e* 18 52 14.9
TIXI pmax pmax
comp=Z,2.0nm,1.2s
TIXI MLR MLR
comp=Z,1μm,19.0s,MS5.6
TRO Tromso 116.34 340 *ePP* PP 18 46 36.7 -3.2
TRO AMS AMS 19 34 04.7
comp=Z,970nm,22.4s,MS5.4
BJO Bjornoya 119.44 345 AMS AMS 19 36 16.5
comp=Z,1μm,17.2s,MS5.7
TAOE Nuku Hiva Isla 120.60 134 *eLR* LR 19 22 44.4

	comp=Z,6µm,29.2s								
PDA	**Ponta Delgada**	**122.11**	**295**	*e*LR	LR	19 25 50.0			
KBS	**Kingsbay**	**123.36**	**348**	*e*PP	PP	18 47 27.6	-0.5		
KBS					AMS	AMS	19 42 53.4		
	comp=Z,648nm,20.0s,MS5.3								
BILL	**Bilibino**	**124.35**	**27**	*i* PKIKP	PKPdf	18 45 52.0	+2.6		
BILL					MLR	MLR			
	comp=Z,1µm,23.0s,MS5.5								
ILAR	**Eielson Array**	**142.86**	**30**	PKP	PKPdf	18 46 22.4	-1.5		
	comp=Z,1.6nm,0.8s,baz=287,slow=3.2,SNR=9.7								
EYAK	**Cordova Ski Ar**	**144.83**	**37**	*e*PKPdf	PKPdf	18 46 28.9	+1.5		
INK	**Inuvik**	**145.47**	**20**	*e*PKIKP	PKPdf	18 46 26.5	-2.0		
INK				*e*		18 46 33.8			
DAWY	**Dawson**	**146.09**	**29**	*e*PKPdf	PKPdf	18 46 28.3	-1.2		
DAWY				*ep*PKPdf	pPKPdf	18 46 36.2	+3.2		
FRB	**Frobisher Bay**	**148.13**	**333**	PKPbc	PKPbc	18 46 32.5	-3.7		
	comp=Z,13nm,1.0s,baz=279,slow=9.6,SNR=3.5								
JTS	**JuntasAbangare**	**148.16**	**212**	*e*PKP2	PKPab	18 46 42.3	+3.2		
SKAG	**Skagway**	**150.06**	**35**	*e*PKPdf	PKPdf	18 46 37.1	+1.1		
MOAC	**Moa**	**151.00**	**239**	*e*P	PKPbc	18 46 43.2	-0.1		
SCHQ	**Schefferville**	**151.65**	**316**	PKPbc	PKPbc	18 46 44.2	-0.6		
	comp=Z,12nm,0.7s,baz=73,slow=3.8,SNR=9.8								
SCHQ	**Schefferville**	**151.65**	**316**	*e*PKPdf	PKPbc	18 46 44.8	0.0		
YKW3	**Yellowknife Ar**	**154.72**	**14**	*e*PKPdf	PKPdf	18 46 44.4	+1.4		
YKA	**Yellowknife Ar**	**154.78**	**14**	PKP	PKPdf	18 46 42.3	-0.8		
	comp=Z,1.0nm,0.8s,baz=345,slow=2.1,SNR=12								
YKA				PKPab	PKPab	18 47 06.4	-0.3		
	comp=Z,4.3nm,0.9s,baz=336,slow=3.2,SNR=11								
YKA				PP	PP	18 50 38.1	-4.1		
	comp=Z,0.7nm,0.8s,baz=337,slow=6.0,SNR=4.1								
YKA	**Yellowknife Ar**	**154.78**	**14**	PKP	PKPdf	18 46 42.3	-0.8		
YKA				PKPab	PKPab	18 47 06.4	-0.3		
YKA				PP	PP	18 50 38.1	-4.1		
NVAR	**Mina Array Bea**	**166.79**	**86**	PKP	PKPdf	18 46 53.5	-2.5		
	comp=Z,0.2nm,0.5s,baz=263,slow=4.5,SNR=2.1								
NVAR				PKPab	PKPab	18 48 00.1	+1.1		
	comp=Z,7.8nm,1.1s,baz=238,slow=7.2,SNR=8.3								
NVAR				PP	PP	18 51 50.0	+3.2		
	comp=Z,0.5nm,0.8s,baz=236,slow=6.4,SNR=2.9								
NVAR	**Mina Array Bea**	**166.79**	**86**	PKP	PKPdf	18 46 53.5	-2.5		
NVAR				PKPab	PKPab	18 48 00.1	+1.1		
NVAR				PP	PP	18 51 50.0	+3.2		
ULM	**Lac du Bonnet**	**167.72**	**343**	PKP	PKPdf	18 46 53.9	-2.8		
	comp=Z,0.5nm,0.4s,baz=27,slow=2.3,SNR=1.9								
CHMT	**Chamberlain Mo**	**168.01**	**42**	*e*PKPdf	PKPdf	18 47 02.8	+5.9		
CHMT				*e*		18 47 11.7			
CHMT				*e*PKPab	PKPab	18 48 10.8	+6.4		
PLAL	**Pickwick Lake**	**168.68**	**255**	*e*PKPdf	PKPdf	18 47 03.2	+5.8		
PLAL				*ep*PKPdf	pPKPdf	18 47 11.6	+11		
NEN	**Nelson**	**168.90**	**101**	*e*PKPdf	PKPdf	18 47 06.0	+8.6		
NEN				*e*PKPab	PKPab	18 48 13.7	+5.4		
HLID	**Hailey**	**169.04**	**59**	*e*PKPdf	PKPdf	18 47 01.1	+3.6		
HLID				*e*PKPab	PKPab	18 48 10.0	+1.1		
TUC	**Tucson**	**170.12**	**127**	*e*PKIKP	PKPdf	18 47 02.7	+4.5		
CCUT	**Cedar City**	**170.54**	**93**	*e*PKPdf	PKPdf	18 47 05.0	+6.6		
CCUT				*e*PKPab	PKPab	18 48 17.6	+2.0		
BGU	**Big Grassy Mou**	**170.79**	**72**	*e*PKPdf	PKPdf	18 47 10.7	+12		
BGU				*e*PKPab	PKPab	18 48 27.8	+11		
DUG	**Dugway**	**171.06**	**76**	*e*PKIKP	PKPdf	18 47 03.5	+4.8		
LAO	**LASA Array**	**171.21**	**22**	*e*PKPdf	PKPdf	18 46 59.1	+0.3		
MOOW	**Moose Ponds**	**171.32**	**51**	*e*PKPdf	PKPdf	18 47 06.9	+8.0		
MOOW				*e*PKPab	PKPab	18 48 24.6	+5.5		
TPAW	**Teton Pass**	**171.33**	**53**	*e*PKPdf	PKPdf	18 47 06.3	+7.4		
TPAW				*e*PKPab	PKPab	18 48 20.2	+1.1		
WUAZ	**Wupatki**	**171.48**	**108**	*e*PKPdf	PKPdf	18 47 03.4	+4.5		
WUAZ				*e*PKPab	PKPab	18 48 27.6	+7.8		
MSU	**Marysvale**	**171.59**	**87**	*e*PKPdf	PKPdf	18 47 04.7	+5.7		
MSU				*e*SKPdf	SKPdf	18 50 28.1	-2.1		
DAU	**Daniels Canyon**	**172.21**	**74**	*e*PKIKP	PKPdf	18 47 03.3	+4.0		
TMUT	**Trail Mountain**	**172.36**	**82**	*e*PKPdf	PKPdf	18 47 05.4	+6.1		
TMUT				*e*PKPab	PKPab	18 48 25.1	+1.5		
MIAR	**Mount Ida**	**172.47**	**240**	*e*PKIKP	PKPdf	18 47 04.0	+4.6		
PDAR	**Pinedale Array**	**172.58**	**54**	PKP	PKPdf	18 46 59.1	-0.3		
	comp=Z,0.2nm,0.4s,baz=172,slow=3.3,SNR=2.2								
PDAR				PKPab	PKPab	18 48 26.4	+1.8		
	comp=Z,2.0nm,0.9s,baz=358,slow=1.4,SNR=8.1								
SRU	**San Rafael**	**172.90**	**83**	*e*PKIKP	PKPdf	18 47 04.0	+4.4		
GDL2	**Guadalupe Moun**	**173.16**	**159**	*e*PKPdf	PKPdf	18 47 06.8	+7.1		
LAZ	**Ladron**	**173.77**	**131**	*e*PKPdf	PKPdf	18 47 06.3	+6.4		
LAZ				*e*PKPab	PKPab	18 48 35.6	+5.6		
BNM	**Barron Site**	**173.88**	**135**	*e*PKPdf	PKPdf	18 47 06.5	+6.6		
BNM				*e*PKPab	PKPab	18 48 32.3	+1.9		
WMOK	**Wichita Mounta**	**175.57**	**210**	*e*PKIKP	PKPdf	18 47 03.9	+3.4		
SMCO	**Snowmass**	**175.65**	**81**	*e*PKPdf	PKPdf	18 47 06.5	+6.0		
SMCO				*e*SKPdf	SKPdf	18 50 35.4	+4.0		
KSU1	**Kansas State U**	**176.20**	**279**	*e*PKPdf	PKPdf	18 47 07.2	+6.6		
AMTX	**Amarillo**	**176.26**	**177**	*e*PKPdf	PKPdf	18 47 04.1	+3.5		
ISCO	**Idaho Springs**	**176.56**	**69**	*e*PKIKP	PKPdf	18 47 02.5	+1.8		
ISCO				*e*		18 47 08.7			
ISCO	**Idaho Springs**	**176.56**	**69**	*e*PKPdf	PKPdf	18 47 02.5	+1.8		
ISCO				*ep*PKPdf	pPKPdf	18 47 08.7	+4.5		
ISCO				*e*SKPdf	SKPdf	18 50 44.5	+13		

*NEIC **06** 18:31:53.8, 7593N×11962W, h18km, mb3.3/1, ML3.4(OTT), After OTT.*

OTT 06 18:31:53.8±0.3, 7593N×11962W, h18km, ML3.4/13, 35km south from Mould Bay, Nt Sverdrup Seismic Zone., Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RES	**Resolute Bay**	**6.38**	**89**	PN	Pn	18 33 26.8	-0.1
RES				SN	Sn	18 34 36.5	-2.7
RES				Trac		18 34 42.7	
	comp=Z,6.4nm,0.3s						
RES	**Resolute Bay**	**6.38**	**89**	Pn	Pn	18 33 26.8	-0.1
RES				Sn	Sn	18 34 36.5	-2.7
INK	**Inuvik**	**8.74**	**216**	PN	Pn	18 33 57.0	-2.2
INK				SN	Sn	18 35 30.7	-6.5
INK				Trac		18 35 33.1	
	comp=Z,1.0nm,0.1s						
INK	**Inuvik**	**8.74**	**216**	Pn	Pn	18 33 57.0	-2.2
INK				Sn	Sn	18 35 30.7	-6.5
COWN	**Contwyoto Lake**	**11.06**	**161**	PN	Pn	18 34 29.3	-1.7
COWN				SN	Sn	18 36 25.8	-8.4
COWN				Trac		18 36 47.3	
	comp=Z,1.0nm,0.2s						
COWN	**Contwyoto Lake**	**11.06**	**161**	Pn	Pn	18 34 29.3	-1.7
COWN				Sn	Sn	18 36 25.8	-8.4
YNEN	**Yamba Lake Nor**	**11.24**	**161**	PN	Pn	18 34 32.2	-1.4
YNEN				SN	Sn	18 36 30.1	-8.6
YNEN				Trac		18 36 38.0	
	comp=Z,0.6nm,0.1s						
YNEN	**Yamba Lake Nor**	**11.24**	**161**	Pn	Pn	18 34 32.2	-1.4
YNEN				Sn	Sn	18 36 30.1	-8.6
ACKN	**Achilles Lake**	**11.36**	**161**	PN	Pn	18 34 33.4	-1.7
YMBN	**Yamba Lake**	**11.42**	**162**	PN	Pn	18 34 33.7	-2.2
YMBN				SN	Sn	18 36 34.9	-8.2
YMBN				Trac		18 36 48.1	
	comp=Z,1.4nm,0.4s						
YMBN	**Yamba Lake**	**11.42**	**162**	Pn	Pn	18 34 33.7	-2.2
YMBN				Sn	Sn	18 36 34.9	-8.2
CTLN	**Castor Lake**	**11.62**	**172**	PN	Pn	18 34 36.7	-2.0
CTLN				Trac		18 36 43.5	
	comp=Z,0.4nm,0.1s						
CTLN	**Castor Lake**	**11.62**	**172**	Pn	Pn	18 34 36.7	-2.0
GLWN	**Glow Worm Lake**	**11.75**	**158**	PN	Pn	18 34 38.2	-2.3
GLWN	**Glow Worm Lake**	**11.75**	**158**	Pn	Pn	18 34 38.2	-2.3
ILKN	**Indian Lake**	**11.86**	**170**	PN	Pn	18 34 40.9	-1.1
ILKN				SN	Sn	18 36 44.7	-9.1
ILKN	**Indian Lake**	**11.86**	**170**	Pn	Pn	18 34 40.9	-1.1
ILKN				Sn	Sn	18 36 44.7	-9.1
GALN	**Gameti Lake**	**11.90**	**175**	PN	Pn	18 34 39.8	-2.8
GBLN	**Grizzly Bear L**	**11.99**	**166**	PN	Pn	18 34 42.0	-1.8
GBLN				SN	Sn	18 36 48.4	-8.7
GBLN				Trac		18 37 04.2	
	comp=Z,1.1nm,0.1s						
GBLN	**Grizzly Bear L**	**11.99**	**166**	Pn	Pn	18 34 42.0	-1.8
GBLN				Sn	Sn	18 36 48.4	-8.7
MCKN	**MacKay Lake No**	**12.19**	**160**	PN	Pn	18 34 44.3	-2.2
MCKN				SN	Sn	18 36 51.9	-10
MCKN				Trac		18 37 02.9	
	comp=Z,0.6nm,0.1s						
MCKN	**MacKay Lake No**	**12.19**	**160**	Pn	Pn	18 34 44.3	-2.2
MCKN				Sn	Sn	18 36 51.9	-10
GIFN	**Gifford Fjord,**	**12.38**	**99**	PN	Pn	18 34 46.2	-2.9
GIFN				SN	Sn	18 36 56.9	-10
GIFN				Trac		18 37 37.5	
	comp=Z,1.5nm,0.3s						
GIFN	**Gifford Fjord,**	**12.38**	**99**	Pn	Pn	18 34 46.2	-2.9
GIFN				Sn	Sn	18 36 51.9	-15
MLON	**Marlo Lake**	**12.44**	**160**	PN	Pn	18 34 47.1	-2.8
MLON				SN	Sn	18 36 57.6	-10
MLON				Trac		18 37 14.7	
	comp=Z,0.5nm,0.1s						
MLON	**Marlo Lake**	**12.44**	**160**	Pn	Pn	18 34 47.1	-2.8
MLON				Sn	Sn	18 36 57.6	-10
BOXN	**Box Lake**	**12.57**	**160**	PN	Pn	18 34 49.5	-2.3
BOXN				SN	Sn	18 37 00.8	-10
BOXN				Trac		18 37 06.3	
	comp=Z,0.7nm,0.2s						
BOXN	**Box Lake**	**12.57**	**160**	Pn	Pn	18 34 49.5	-2.3
BOXN				Sn	Sn	18 37 00.8	-11
ILON	**Igloolik, Nuna**	**12.79**	**101**	PN	Pn	18 34 52.0	-2.7
ILON				SN	Sn	18 37 06.4	-10
ILON	**Igloolik, Nuna**	**12.79**	**101**	Pn	Pn	18 34 52.0	-2.7
ILON				Sn	Sn	18 37 06.4	-10
SNPN	**Snap Lake**	**12.81**	**162**	PN	Pn	18 34 52.9	-2.0
SNPN				SN	Sn	18 37 07.1	-10
SNPN				Trac		18 37 18.9	
	comp=Z,0.9nm,0.1s						
SNPN	**Snap Lake**	**12.81**	**162**	Pn	Pn	18 34 52.9	-2.1
SNPN				Sn	Sn	18 37 07.1	-10
KNDN	**Kennady Lake**	**13.04**	**159**	PN	Pn	18 34 55.6	-2.6
KNDN				SN	Sn	18 37 12.4	-10
KNDN				Trac		18 37 22.4	
	comp=Z,0.5nm,0.1s						
KNDN	**Kennady Lake**	**13.04**	**159**	Pn	Pn	18 34 55.6	-2.6
KNDN				Sn	Sn	18 37 12.4	-10
YKW3	**Yellowknife Ar**	**13.54**	**170**	PN	Pn	18 35 02.8	-2.2
YKW3				SN	Sn	18 37 26.8	-8.2
YKW3				Trac		18 39 29.1	
	comp=Z,2.5nm,0.6s						
YKW3	**Yellowknife Ar**	**13.54**	**170**	Pn	Pn	18 35 02.8	-2.2
YKW3				Sn	Sn	18 37 26.8	-8.2
DAWY	**Dawson**	**13.57**	**219**	*e*Pn	Pn	18 35 03.7	-1.6
DAWY				*e*Sn	Sn	18 37 17.5	-18
QILN	**Qililugaq Expl**	**13.88**	**114**	PN	Pn	18 35 07.0	-2.6
QILN				SN	Sn	18 37 31.7	-11
QILN				Trac		18 37 39.0	
	comp=Z,1.2nm,0.2s						
QILN	**Qililugaq Expl**	**13.88**	**114**	Pn	Pn	18 35 07.0	-2.6
QILN				Sn	Sn	18 37 31.7	-11
FCC	**Fort Churchill**	**19.51**	**138**	*e*P	Pn	18 36 17.6	-3.7
	1.5nm,0.8s						
FCC				*e*S	Sn	18 39 41.9	-18

*SFS **06** 18:34:46.0, 3482N×439W, h0km, ML3.7*
*NEIC **06** 18:34:46.9, 3482N×439W, h0km, MG3.7(MDD), After MDD.*
*MDD **06** 18:34:48.3±0.4, 3493N×437W, h0km, mb3.6/8, Error ellipse: s-maj=4.2km s-min=3.7km az=13.0, PRXIMO*
*ISCJB **06** 18:34:49.1±0.8, 3496N±002×446W±003, h30km±8km, Error ellipse: s-maj=3.9km s-min=3.0km az=37.8*
*CSEM **06** 18:34:49.5±0.2, 3489N×426W, h25km, ML3.3/3, Error ellipse: s-maj=4.4km s-min=3.2km az=110.0*
*INMG **06** 18:34:50.1±1.3, 3483N×448W, h31km, ML2.5, Error ellipse: s-maj=6.8km s-min=4.3km az=11.0*
*CNRM **06** 18:34:50.4, 3493N×426W, h19km, MD3.6*

ISC 06 18:34:49.0±0.8, 3494N±002×441W±003, h19km±5km, n76, σ1§44/131, 1C, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPAL	**Palemas**	**0.47**	**53**	*i* P	**Pg**	**18 34 58.0**	**-0.6**
TOU	**Touzarine**	**0.54**	**88**	P	**Pg**	**18 34 57.0**	**-2.7**
TOU				S	**Sg**	**18 35 04.0**	**-2.9**
EMEL	**Melilla**	**1.24**	**73**	P	**Pn**	**18 35 10.3**	**-1.0**
	10.0nm,0.1s,SNR=7.9						
EMEL				S	**Sb**	**18 35 27.5**	**+0.1**
	32nm,0.1s,SNR=7.9						
EMLI	**Melilla**	**1.25**	**73**	P	**Pn**	**18 35 10.3**	**-1.1**
	10.0nm,0.1s,SNR=7.9						
EMLI				S	**Sb**	**18 35 27.5**	**-0.1**
	32nm,0.1s,SNR=7.9						
MELI	**Melilla**	**1.26**	**73**	P	**Pn**	**18 35 11.7**	**+0.1**
MELI				S	**Sb**	**18 35 27.1**	**-0.8**
MELI	**Melilla**	**1.26**	**73**	*e*P	**Pn**	**18 35 11.7**	**+0.1**
MELI				*e*S	**Sb**	**18 35 27.1**	**-0.8**
MDAL	**Dalia**	**1.30**	**318**	*i* P	**Pn**	**18 35 14.0**	**+1.8**
MDAL				*i* S	**Sn**	**18 35 30.0**	**+1.0**
ZAI	**Zaio**	**1.36**	**88**	*i* P	**Pn**	**18 35 11.0**	**-2.0**
ZAI				*i* S	**Sn**	**18 35 27.0**	**-3.6**
IFR	**Ifrane**	**1.54**	**203**	P	**Pn**	**18 35 16.0**	**+0.5**
IFR				S	**Sn**	**18 35 34.0**	**-1.0**
EMIJ	**Mijas**	**1.65**	**350**	P	**Pn**	**18 35 13.6**	**-3.4**
EMIJ				S	**Sn**	**18 35 32.2**	**-5.5**
EMIJ	**Mijas**	**1.65**	**350**	P	**Pn**	**18 35 13.6**	**-3.3**
	0.3nm,0.1s,SNR=13						
EJIF	**Jimena Fronter**	**1.74**	**330**	P	**Pn**	**18 35 19.6**	**+1.5**
	SNR=7.9						
EJIF	**Jimena Fronter**	**1.74**	**330**	P	**Pn**	**18 35 19.6**	**+1.4**
	SNR=7.9						
MAL	**Malaga**	**1.78**	**360**	*e*P	**Pn**	**18 35 17.6**	**-1.2**
CZD	**Col de Zad**	**1.98**	**196**	*i* P	**Pn**	**18 35 23.0**	**+1.6**
CZD				*i* S	**Sn**	**18 35 45.0**	**-0.7**
EGUA	**Guajares**	**2.01**	**20**	⇑P	**Pn**	**18 35 20.4**	**-1.5**
	0.3nm,0.2s,SNR=18						
EGUA				S	**Sn**	**18 35 45.0**	**-1.5**
	2.9nm,0.2s,SNR=7.9						
LIJA	**Lijar**	**2.12**	**338**	P	**Pn**	**18 35 22.2**	**-1.2**
LIJA				S	**Sn**	**18 35 50.0**	**+0.7**
LIJA	**Lijar**	**2.12**	**338**	*e*P	**Pn**	**18 35 22.2**	**-1.3**
LIJA				*e*S	**Sn**	**18 35 50.0**	**+0.7**
ERON	**Agron**	**2.13**	**13**	P	**Pn**	**18 35 26.4**	**+2.8**
ERON				S	**Sn**	**18 35 51.5**	**+2.0**
ERON	**Agron**	**2.13**	**13**	P	**Pn**	**18 35 26.4**	**+2.8**
	1.6nm,0.1s,SNR=4.0						
ERON				S	**Sn**	**18 35 51.5**	**+2.0**
	1.5nm,0.1s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.21**	**5**	P	**Pn**	**18 35 26.5**	**+1.8**
	0.5nm,0.2s,SNR=7.9						
ELOJ				S	**Sn**	**18 35 54.0**	**+2.5**
	8.9nm,0.4s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.21**	**5**	P	**Pn**	**18 35 24.0**	**-0.7**
ELOJ				P		18 35 27.0	
ELOJ				S	**Sn**	**18 35 55.5**	**+3.9**
ELOJ	**Sierra Loja**	**2.21**	**5**	P	**Pn**	**18 35 27.0**	**+2.3**
	0.5nm,0.2s,SNR=7.9						
ELOJ				S	**Sn**	**18 35 55.5**	**+3.9**
	8.9nm,0.4s,SNR=7.9						
ESPR	**Espera**	**2.26**	**329**	P	**Pn**	**18 35 26.4**	**+1.1**
	0.3nm,0.1s,SNR=9.9						
ESPR				S	**Sn**	**18 35 54.6**	**+2.0**
	23nm,0.4s,SNR=7.9						
ESPR	**Espera**	**2.26**	**329**	P	**Pn**	**18 35 26.4**	**+1.1**
ESPR				S	**Sn**	**18 35 54.6**	**+2.0**
ESPR	**Espera**	**2.26**	**329**	P	**Pn**	**18 35 26.4**	**+1.1**
	0.3nm,0.1s,SNR=9.9						
ESPR				S	**Sn**	**18 35 54.6**	**+2.0**
	23nm,0.4s,SNR=7.9						
EQUE	**Quentar**	**2.39**	**19**	P	**Pn**	**18 35 27.4**	**+0.2**
	0.3nm,0.0s,SNR=12						
EQUE				S	**Sn**	**18 35 57.5**	**+1.5**
	0.6nm,0.0s,SNR=6.7						
ECOG	**Cogollos-Vega**	**2.43**	**16**	P	**Pn**	**18 35 28.9**	**+1.2**
	0.4nm,0.2s,SNR=7.9						
ECOG				S	**Sn**	**18 35 57.4**	**+0.5**
	1.6nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**2.62**	**2**	P	**Pn**	**18 35 31.7**	**+1.5**
	0.7nm,0.2s,SNR=10						
ELUQ				S	**Sn**	**18 36 03.5**	**+1.9**
	4.6nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**2.62**	**2**	P	**Pn**	**18 35 31.7**	**+1.5**
ELUQ				S	**Sn**	**18 36 04.4**	**+2.9**
ELUQ	**Luque**	**2.62**	**2**	P	**Pn**	**18 35 31.7**	**+1.4**
	0.7nm,0.2s,SNR=10						
ELUQ				S	**Sn**	**18 36 04.4**	**+2.9**
	4.6nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**2.70**	**41**	P	**Pn**	**18 35 32.4**	**+1.0**
	SNR=7.9						
ENIJ				S	**Sn**	**18 36 03.6**	**0.0**
	1.4nm,0.1s,SNR=7.9						
KIB	**El Ksiba**	**2.72**	**210**	*i* P	**Pn**	**18 35 34.0**	**+2.3**
KIB				*i* S	**Sn**	**18 35 05.0**	**+0.8**
ZFT	**Errachidia**	**2.90**	**179**	*e*P	**Pn**	**18 35 36.0**	**+1.8**
ZFT				*i* S	**Sn**	**18 36 07.0**	**-1.5**
EQES	**Quesada**	**3.05**	**20**	P	**Pn**	**18 35 36.8**	**+0.6**
	6.6nm,0.3s,SNR=13						
EQES				S	**Sn**	**18 36 14.1**	**+1.9**
	12nm,0.3s,SNR=7.9						
EQES	**Quesada**	**3.05**	**20**	P	**Pn**	**18 35 36.8**	**+0.6**
EQES				S	**Sn**	**18 36 14.9**	**+2.6**
EQES	**Quesada**	**3.05**	**20**	P	**Pn**	**18 35 36.8**	**+0.5**
	6.6nm,0.3s,SNR=13						
EQES				S	**Sn**	**18 36 14.9**	**+2.6**
	12nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**3.22**	**26**	P	**Pn**	**18 35 40.2**	**+1.7**
	1.3nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**18 36 19.0**	**+2.6**
	2.5nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.22**	**358**	P	**Pn**	**18 35 38.8**	**+0.2**
	3.5nm,0.3s,SNR=12						
EADA				S	**Sn**	**18 36 16.3**	**-0.2**
	0.5nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.22**	**358**	P	**Pn**	**18 35 38.8**	**+0.2**
	3.5nm,0.3s,SNR=12						
EADA				S	**Sn**	**18 36 16.3**	**-0.2**
	0.5nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**3.26**	**9**	P	**Pn**	**18 35 41.6**	**+2.5**
	1.4nm,0.2s,SNR=7.9						
EBAN				S	**Sn**	**18 36 17.6**	**+0.3**
	1.3nm,0.2s,SNR=7.9						
TZC	**Tazercounte**	**3.28**	**213**	*i* P	**Pn**	**18 35 39.5**	**0.0**
EMIN	**Mina Concepcio**	**3.36**	**328**	P	**Pn**	**18 35 39.6**	**-0.9**
	1.9nm,0.3s,SNR=16						
EMIN				S	**Sn**	**18 36 18.4**	**-1.5**
	0.2nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.36**	**328**	P	**Pn**	**18 35 39.6**	**-1.0**
EMIN				S	**Sn**	**18 36 17.6**	**-2.3**
EMIN	**Mina Concepcio**	**3.36**	**328**	P	**Pn**	**18 35 39.6**	**-0.9**
	1.9nm,0.3s,SNR=16						
EGRO	**El Granado**	**3.59**	**317**	P	**Pn**	**18 35 43.0**	**-0.7**
	4.4nm,0.3s,SNR=12						
EGRO				S	**Sn**	**18 36 25.0**	**-0.6**
	1.4nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.59**	**317**	P	**Pn**	**18 35 43.0**	**-0.7**
	4.4nm,0.3s,SNR=12						
EMUR	**La Murta**	**3.86**	**40**	S	**Sn**	**18 36 30.5**	**-1.7**
	8.0nm,0.5s,SNR=5.6						
EMUR	**La Murta**	**3.86**	**40**	S	**Sn**	**18 36 30.5**	**-1.7**
	8.0nm,0.5s,SNR=5.6						
EVIA	**Vianos**	**3.99**	**22**	P	**Pn**	**18 35 51.6**	**+2.4**
EVIA	**Vianos**	**3.99**	**22**	P	**Pn**	**18 35 51.6**	**+2.4**
PBEJ	**Beja**	**4.16**	**319**	*e*Pn	**Pn**	**18 35 51.2**	**-0.2**
PBEJ				*e*Sn	**Sn**	**18 36 37.6**	**-1.9**
PBEJ							
	5.1nm,0.5s						
PBEJ	**Beja**	**4.16**	**319**	*e*Pn	**Pn**	**18 35 51.2**	**-0.2**
PBEJ				*e*Sn	**Sn**	**18 36 37.6**	**-1.9**
	5.1nm,0.5s						
EBAD	**Badajoz**	**4.34**	**332**	P	**Pn**	**18 35 53.4**	**-0.6**
	0.6nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**18 36 42.1**	**-2.0**
	0.6nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.34**	**332**	P	**Pn**	**18 35 53.4**	**-0.6**
ETOB	**Tobarra**	**4.35**	**31**	P	**Pn**	**18 35 55.8**	**+1.7**
	3.6nm,0.4s,SNR=12						
ETOB				S	**Sn**	**18 36 44.3**	**0.0**
	2.1nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.35**	**31**	P	**Pn**	**18 35 55.8**	**+1.7**
	3.6nm,0.4s,SNR=12						
ETOB				S	**Sn**	**18 36 44.3**	**0.0**
PTEO	**Sao Teotonio**	**4.35**	**308**	*e*Pn	**Pn**	**18 35 54.4**	**+0.3**
PTEO				*e*Sn	**Sn**	**18 36 42.4**	**-2.0**
PTEO							
	9.1nm,0.4s						
PTEO	**Sao Teotonio**	**4.35**	**308**	*e*Pn	**Pn**	**18 35 54.4**	**+0.3**
PTEO				*e*Sn	**Sn**	**18 36 42.4**	**-2.0**
	9.1nm,0.4s						
ESDC	**Sonseca Array**	**4.74**	**4**	P	**Pn**	**18 36 00.0**	**+0.6**
	0.5nm,0.3s,base=184,slow=14,SNR=4.0						
ESDC				S	**Sn**	**18 36 53.2**	**-0.7**
	1.7nm,0.5s,baz=187,slow=22,SNR=9.1						

ISC 06 19:04:08.8±0.5, 2028S±009×17408W±009, h35km, n61, σ0§80/45, mb4.4/22, 2C-4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.71**	**19**	Pn	**Pn**	**19 05 38.4**	**-6.4**
	13nm,0.3s,baz=14,slow=8.4,SNR=7.7						
AFI				Sn	**Sn**	**19 06 51.7**	**-8.2**
	18nm,0.3s,baz=265,slow=22,SNR=3.8						
RAR	**Rarotonga**	**13.42**	**96**	Pn	**Pn**	**19 07 03.6**	**-13**
	6.1nm,0.3s,baz=251,slow=8.7,SNR=27						
RAR				Sn	Sn	19 09 14.5	-30
	0.2nm,0.3s,baz=341,slow=18,SNR=2.4						
DZM	**Mont Dzumac**	**18.25**	**261**	P	**Pn**	**19 08 19.8**	**+0.5**
	0.2nm,0.3s,baz=56,slow=16,SNR=3.3						
URZ	**Urewera**	**19.48**	**201**	P	**Pn**	**19 08 33.1**	**-0.9**
	1.3nm,0.3s,baz=344,slow=6.6,SNR=8.0						
RPZ	**Rata Peaks**	**26.47**	**205**	P	**P**	**19 09 47.4**	**+4.9**
	4.7nm,0.5s,mb4.2,baz=8.1,slow=14,SNR=5.0						
CTAO	**Charters Tower**	**37.17**	**263**	P	**P**	**19 11 16.2**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
CTAO	**Charters Tower**	**37.17**	**263**	P	**P**	**19 11 16.2**	**-0.2**
	comp=Z,5.3nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**41.20**	**244**	P	**P**	**19 11 50.4**	**+0.3**
	comp=Z,6.3nm,1.0s,mb4.2,baz=114,slow=12,SNR=3.2						
ASAR	**Alice Springs**	**48.15**	**256**	P	**P**	**19 12 45.1**	**-0.3**
	comp=Z,3.0nm,0.9s,mb4.3,baz=90,slow=8.5,SNR=21						
WB2	**Warramunga Arr**	**48.26**	**261**	*e*P	**P**	**19 12 46.3**	**0.0**
WRAB	**Tennant Creek**	**48.26**	**261**	P	**P**	**19 12 45.5**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
WRAB	**Tennant Creek**	**48.26**	**261**	P	**P**	**19 12 45.5**	**-0.8**
	comp=Z,9.2nm,1.0s,mb4.8						
WRA	**Warramunga Arr**	**48.27**	**261**	P	**P**	**19 12 45.4**	**-1.0**
	comp=Z,2.3nm,1.0s,mb4.1,baz=95,slow=7.4,SNR=24						
FITZ	**Fitzroy Crossi**	**56.70**	**261**	P	**P**	**19 13 48.6**	**-0.2**
	comp=Z,0.8nm,0.8s,mb3.8,baz=113,slow=7.7,SNR=3.5						
SBA	**Scott Base**	**58.36**	**185**	*e*P	**P**	**19 14 02.1**	**+1.6**
SBA				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
SBA	**Scott Base**	**58.36**	**185**	*e*P	**P**	**19 14 02.1**	**+1.6**
	comp=Z,8.3nm,1.2s,mb4.6						
VNDA	**Vanda**	**58.48**	**186**	P	**P**	**19 14 02.5**	**+1.2**
	comp=Z,1.8nm,1.0s,mb4.0,baz=356,slow=4.8,SNR=5.5						
VNDA	**Vanda**	**58.48**	**186**	*e*P	**P**	**19 14 00.9**	**-0.5**
VNDA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
VNDA	**Vanda**	**58.48**	**186**	*e*P	**P**	**19 14 00.9**	**-0.4**
	comp=Z,4.9nm,1.3s,mb4.4						
MBWA	**Marble Bar**	**61.49**	**256**	P	**P**	**19 14 21.1**	**-0.9**
	comp=Z,25nm,1.3s,mb5.2						
QSPA	**South Pole Qui**	**69.79**	**180**	*e*P	**P**	**19 15 15.5**	**0.0**
	comp=Z,8.5nm,1.1s,mb4.6						
MJAR	**Matsushiro Arr**	**72.28**	**321**	P	**P**	**19 15 31.5**	**+0.9**
	comp=Z,4.6nm,0.9s,mb4.4,baz=163,slow=5.7,SNR=13						
MAJO	**Matsushiro**	**72.28**	**321**	*e*P	**P**	**19 15 30.7**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
MAJO	**Matsushiro**	**72.28**	**321**	*e*P	**P**	**19 15 30.6**	**0.0**
	comp=Z,5.8nm,0.8s,mb4.6						
KKM	**Kota Kinabalu**	**73.28**	**283**	P	**P**	**19 15 37.7**	**+1.1**
KSM	**Kuching**	**77.03**	**276**	*e*P	**P**	**19 15 59.5**	**+1.3**
YSS	**Yuzh-Sakhalins**	**77.41**	**331**	P	**P**	**19 15 59.2**	**-1.1**
YSS				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
YSS	**Yuzh-Sakhalins**	**77.41**	**331**	P	**P**	**19 15 59.2**	**-1.1**
	comp=Z,11nm,1.1s,mb4.7						
NVAR	**Mina Array Bea**	**78.38**	**42**	P	**P**	**19 16 06.2**	**+0.5**
	comp=Z,1.9nm,1.0s,mb4.0,baz=216,slow=6.7,SNR=10						
MSU	**Marysvale**	**82.34**	**44**	*e*P	**P**	**19 16 27.7**	**+0.7**
ANMO	**Albuquerque**	**84.42**	**50**	P	**P**	**19 16 37.8**	**+0.1**
	comp=Z,1.3nm,0.7s,mb4.2,baz=223,slow=5.3,SNR=4.6						
ANMO	**Albuquerque**	**84.42**	**50**	*e*P	**P**	**19 16 37.6**	**-0.1**
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ANMO	**Albuquerque**	**84.42**	**50**	*e*P	**P**	**19 16 37.6**	**-0.1**
	comp=Z,2.3nm,1.0s,mb4.3						
PDAR	**Pinedale Array**	**86.31**	**42**	P	**P**	**19 16 46.7**	**-0.4**
	comp=Z,0.7nm,1.1s,mb3.8,baz=209,slow=1.7,SNR=3.6						
COLA	**College**	**87.25**	**11**	P	**P**	**19 16 51.0**	**-0.7**
COLA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.9						
COLA	**College**	**87.25**	**11**	P	**P**	**19 16 51.0**	**-0.7**
	comp=Z,6.5nm,0.8s,mb4.9						
XAN	**Xi'an**	**90.95**	**306**	P	**P**	**19 17 10.3**	**+1.2**
XAN				XP	sP	19 17 22.7	-1.6
XAN				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.6						
INK	**Inuvik**	**93.14**	**14**	P	**P**	**19 17 18.4**	**-0.8**
	comp=Z,1.7nm,1.1s,mb4.4,baz=201,slow=7.2,SNR=4.1						
INK	**Inuvik**	**93.14**	**14**	*e*P	**P**	**19 17 17.9**	**-1.3**
INK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
INK	**Inuvik**	**93.14**	**14**	*e*P	**P**	**19 17 17.9**	**-1.3**
	comp=Z,2.6nm,1.1s,mb4.6						
YAK	**Yakutsk**	**93.32**	**337**	P	**P**	**19 17 21.1**	**+1.0**
CD2	**Chengdu**	**93.79**	**301**	*e*P	**P**	**19 17 21.9**	**-0.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.2						
YKA	**Yellowknife Ar**	**94.81**	**24**	P	**P**	**19 17 25.8**	**-1.0**
	comp=Z,0.2nm,0.7s,mb3.6,baz=235,slow=4.9,SNR=4.2						
YKA	**Yellowknife Ar**	**94.81**	**24**	P	**P**	**19 17 25.8**	**-1.0**
ARCES	**ARCESS Array B**	**159.32**	**351**	PKP	PKPdf	19 23 13.7	+0.2
	comp=Z,1.1nm,0.8s,baz=5.7,slow=2.7,SNR=3.7						
AKASG	**Malin Array Be**	**144.51**	**334**	PKP	PKPdf	19 23 39.8	-1.6
	comp=Z,1.4nm,0.5s,baz=39,slow=4.4,SNR=16						
MALT	**Malatya**	**146.67**	**310**	*e*PKP2	PKPab	19 23 48.5	+0.5
CLL	**Collm**	**148.54**	**351**	*e*PKPbc	PKPbc	19 23 52.0	+0.1
CLL				*e*PKPbc	PKPab	19 24 02.0	+6.6
BURAR	**Bucovina Array**	**148.56**	**335**	⇓*i*P	PKPbc	19 23 53.7	+1.7
BURAR	**Bucovina Array**	**148.56**	**335**	⇓P	PKPbc	19 23 53.7	+1.8
BRG	**Berggiesshubel**	**148.82**	**350**	*e*P	PKPab	19 23 58.8	+2.3
	comp=Z,3.1nm,1.2s						
BRG				*e*		19 24 09.9	
	comp=Z,3.3nm,1.0s						
BRG	**Berggiesshubel**	**148.82**	**350**	*e*PKP2	PKPab	19 23 58.8	+2.3
BRG				pmax	pmax		
	comp=Z,3.0nm,1.3s						
BRG				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BRTR	**Keskin Array B**	**149.35**	**315**	PKPbc	PKPbc	19 23 54.3	+0.4
	comp=Z,0.8nm,0.9s,baz=130,slow=3.9,SNR=6.1						
MLR	**Muntele Rosu**	**149.92**	**331**	⇓*i*P	PKPbc	19 23 56.7	+1.3
MLR	**Muntele Rosu**	**149.92**	**331**	⇓P	PKPbc	19 23 56.7	+1.3
DOU	**Dourbes**	**150.23**	**2**	PKPbc	PKPbc	19 23 56.8	+0.7
GRF	**Grafenberg Arr**	**150.35**	**353**	*e*PKIKP	PKPab	19 24 07.0	+4.2
WLF	**Walferdange**	**150.68**	**360**	APKPbc		19 24 08.3	
GERES	**GERESS Array B**	**150.82**	**349**	PKPbc	PKPbc	19 23 55.3	-2.2
	comp=Z,0.4nm,0.6s,baz=26,slow=3.4,SNR=5.0						
BZS	**Buzias**	**151.61**	**336**	⇑*i*P	PKPbc	19 23 58.8	-0.5
BZS	**Buzias**	**151.61**	**336**	⇑P	PKPbc	19 23 58.8	-0.5

*ISCJB **06** 19:04:12.8±0.5, 4376N±003×105.12W±006, h0km, mb4.1/2, Error ellipse: s-maj=6.0km s-min=3.8km az=5.0*
*IDC **06** 19:04:13.3±1.9, 4365N×105.39W, h0km, mb3.9/2, mb1 3.7/5, mb1mx3.4/22, mbtmp3.5/5, ML3.2/3, Error ellipse: s-maj=46.1km s-min=9.1km az=151.0*
*NEIC **06** 19:04:14.7±0.4, 4372N×105.18W, h0km, ML3.2, Error ellipse: s-maj=6.7km s-min=4.7km az=130.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.

ISC 06 19:04:14.6±0.5, 4375N±003×10514W±005, h0km, n36, σ1§01/53, mb4.1/2, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.88**	**64**	*e*Pg	**Pg**	**19 04 33.7**	**+2.2**
PHWY	**Pilot Hill**	**2.45**	**186**	*e*Pn	**Pn**	**19 04 56.5**	**+0.6**
PHWY				*e*Sn	**Sn**	**19 05 28.5**	**+1.9**
RWWY	**Rawlins**	**2.56**	**217**	*e*Pn	**Pn**	**19 04 58.0**	**+0.7**
RWWY				*e*Sn	**Sn**	**19 05 28.7**	**-0.4**
LAO	**LASA Array**	**3.04**	**346**	*e*Pn	**Pn**	**19 05 04.3**	**+0.3**
LAO				*e*Sn	**Sn**	**19 05 41.2**	**+0.1**
PDAR	**Pinedale Array**	**3.37**	**255**	Pn	**Pn**	**19 05 08.2**	**-0.4**
	2.2nm,0.3s,baz=76,slow=16,SNR=42						
PDAR				Lg		19 05 52.0	
	2.8nm,0.3s,baz=72,slow=34,SNR=6.5						
BW06	**Boulder Array**	**3.37**	**255**	*e*Pn	**Pn**	**19 05 07.9**	**-0.6**
BW06				*e*Sn	**Sn**	**19 05 50.4**	**+1.2**
GCMT	**Greycliff**	**3.82**	**304**	*e*Pn	**Pn**	**19 05 14.4**	**-0.3**
GCMT				*e*Sn	**Sn**	**19 06 03.0**	**+2.8**
ISCO	**Idaho Springs**	**3.96**	**185**	*e*Pn	**Pn**	**19 05 17.9**	**+1.3**
ISCO				*e*Sn	**Sb**	**19 06 13.1**	**-0.5**
FLWY	**Flagg Ranch**	**4.03**	**277**	*e*Pn	**Pn**	**19 05 16.2**	**-1.3**
MOOW	**Moose Ponds**	**4.06**	**272**	*e*Pn	**Pn**	**19 05 18.7**	**+0.7**
YFT	**Old Faithful**	**4.16**	**282**	*e*Pn	**Pn**	**19 05 19.9**	**+0.5**
YFT				*e*Sn	**Sb**	**19 06 19.7**	**+0.1**
REDW	**Red Top Meadow**	**4.17**	**267**	*e*Pn	**Pn**	**19 05 19.7**	**+0.2**
REDW				*e*Sn	**Sn**	**19 06 17.0**	**+8.0**
IMW	**Indian Meadow**	**4.20**	**274**	*e*Pn	**Pn**	**19 05 21.0**	**+1.1**
TPAW	**Teton Pass**	**4.23**	**269**	*e*Pn	**Pn**	**19 05 19.9**	**-0.3**
DCID1	**Drake Creek**	**4.39**	**270**	Pn	**Pn**	**19 05 23.3**	**+0.8**
DCID1				*e*Sn	**Sn**	**19 06 23.0**	**+8.7**
AHID	**Auburn Hatcher**	**4.46**	**259**	*e*Pn	**Pn**	**19 05 23.4**	**0.0**
AHID				*e*Pg	**Pg**	**19 05 34.5**	**-5.7**
QLMT	**Earthquake Lak**	**4.65**	**286**	*e*Pg	**Pg**	**19 05 36.9**	**-6.7**
QLMT				*e*S	**Sg**	**19 06 38.7**	**-5.2**
SMCO	**Snowmass**	**4.77**	**197**	*e*Pn	**Pn**	**19 05 30.7**	**+3.0**
SMCO				*e*Pg	**Pg**	**19 05 41.2**	**-4.7**
SMCO				*e*S	**Sb**	**19 06 36.9**	**-0.1**
TCUT	**Toone Canyon**	**5.33**	**243**	*e*Pn	**Pn**	**19 05 34.9**	**-0.6**
EGMT	**Eagleton**	**5.36**	**325**	Pn	**Pn**	**19 05 35.9**	**+0.1**
	14nm,0.6s						
HRY	**Holter Researc**	**5.58**	**304**	P	**Pn**	**19 05 47.8**	**+9.0**
DAU	**Daniels Canyon**	**5.64**	**236**	*e*Pn	**Pn**	**19 05 40.0**	**+0.4**
DAU				*e*Sn	**Sn**	**19 06 40.2**	**-4.9**
MCMT	**McKenzie Canyo**	**5.64**	**284**	*e*Pn	**Pn**	**19 05 43.8**	**+4.2**
SPUT	**South Promonto**	**5.92**	**248**	*e*Pn	**Pn**	**19 05 42.7**	**-0.8**
HVU	**Hansel Valley**	**5.96**	**253**	*e*Pn	**Pn**	**19 05 44.5**	**+0.5**
MPU	**Maple Canyon**	**6.11**	**235**	*e*Pn	**Pn**	**19 05 44.6**	**-1.6**
	9.4nm,0.7s						
SRU	**San Rafael**	**6.15**	**223**	*e*Pn	**Pn**	**19 05 46.0**	**-0.7**
	11nm,0.6s						
SRU				*e*Sn	**Sn**	**19 06 58.0**	**+0.4**
SRU				*e*Sg	**Sg**	**19 07 21.2**	**-11**
TMUT	**Trail Mountain**	**6.36**	**228**	*e*Pn	**Pn**	**19 05 49.1**	**-0.5**
CHMT	**Chamberlain Mo**	**6.54**	**302**	*e*Pn	**Pn**	**19 05 51.8**	**-0.2**
DUG	**Dugway**	**6.73**	**241**	*e*Pn	**Pn**	**19 05 53.3**	**-1.3**
	5.5nm,0.8s						
MSU	**Marysvale**	**7.45**	**228**	*e*Pn	**Pn**	**19 06 04.2**	**-0.4**
MSU				*e*Pg	**Pg**	**19 06 32.8**	**-4.6**
ULM	**Lac du Bonnet**	**9.07**	**41**	Pn	**Pn**	**19 06 26.1**	**-0.7**
	0.5nm,0.3s,baz=220,slow=13,SNR=4.6						
ULM				Lg		19 08 59.8	
	0.3nm,0.3s,baz=157,slow=19,SNR=3.3						
WUAZ	**Wupatki**	**9.52**	**212**	*e*Pn	**Pn**	**19 06 30.3**	**-2.6**
	3.8nm,0.6s						
YKA	**Yellowknife Ar**	**19.58**	**347**	P	**Pn**	**19 08 45.1**	**-0.2**
	baz=159,slow=12,SNR=5.2						
ARCES	**ARCESS Array B**	**61.38**	**18**	P	**P**	**19 14 30.7**	**-1.7**
	1.7nm,0.9s,mb4.2,baz=339,slow=6.5,SNR=5.9						
FINES	**FINESS Array B**	**67.99**	**23**	P	**P**	**19 15 14.2**	**-1.3**
	0.8nm,0.8s,mb4.0,baz=336,slow=3.0,SNR=4.4						

*ISCJB **06** 19:15:30.0±1.2, 390S±02×789E±02, h10km, mb4.1/9, MS4.3/2, Error ellipse: s-maj=32.5km s-min=17.9km az=78.7*
*IDC **06** 19:15:30.2±1.2, 3892S×7889E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/14, mbtmp3.9/6, MS4.4/2, Ms1 4.3/2, ms1mx3.1/25, Error ellipse: s-maj=37.1km s-min=27.3km az=132.0*
*NEIC **06** 19:15:32.0±0.9, 3899S×7895E, h10km, mb4.3/4, Error ellipse: s-maj=25.3km s-min=16.0km az=127.0*

ISC 06 19:15:31.3±1.2, 389S±02×788E±02, h10km, n15, σ0§74/11, mb4.1/9, MS4.3/2, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAW	**Mawson**	**30.07**	**192**	LR	LR	19 32 16.0	
	comp=Z,656nm,18.7s,MS4.3,baz=86,slow=33						
FITZ	**Fitzroy Crossi**	**45.52**	**77**	LR	LR	19 39 49.0	
	comp=Z,350nm,18.8s,MS4.3,baz=165,slow=32						
ASAR	**Alice Springs**	**48.79**	**89**	P	**P**	**19 24 16.2**	**-0.2**
	0.5nm,0.6s,mb3.7,baz=241,slow=5.9,SNR=11						
STKA	**Stephens Creek**	**50.79**	**102**	P	**P**	**19 24 30.9**	**-0.7**
	2.0nm,0.7s,mb4.2,baz=272,slow=12,SNR=3.4						
VNDA	**Vanda**	**50.86**	**164**	P	**P**	**19 24 33.1**	**+0.9**
	0.9nm,0.7s,mb3.8,baz=272,slow=5.8,SNR=7.4						
VNDA	**Vanda**	**50.86**	**164**	P	**P**	**19 24 30.7**	**-1.5**
	1.2nm,0.7s,mb3.9						
SNAA	**Sanae**	**50.99**	**204**	P	**P**	**19 24 32.1**	**-1.1**
	0.6nm,0.9s,mb3.5,baz=65,slow=8.3,SNR=3.5						
WRA	**Warramunga Arr**	**51.15**	**85**	P	**P**	**19 24 34.5**	**+0.1**
	1.8nm,0.6s,mb4.2,baz=235,slow=7.5,SNR=29						
WB2	**Warramunga Ar**	**51.16**	**85**	*e*P	**P**	**19 24 34.7**	**+0.3**
WRAB	**Tennant Creek**	**51.16**	**85**	*e*P	**P**	**19 24 34.3**	**-0.2**
	10nm,1.0s,mb4.7						
QSPA	**South Pole Qui**	**51.24**	**180**	*e*P	**P**	**19 24 35.3**	**+0.3**
	6.5nm,1.2s,mb4.4						
SBA	**Scott Base**	**51.88**	**164**	*e*P	**P**	**19 24 41.2**	**+1.4**
	4.8nm,1.4s,mb4.2						
MKAR	**Makanchi Array**	**85.39**	**2**	P	**P**	**19 28 09.2**	**+0.4**
	0.9nm,0.8s,mb4.0,baz=170,slow=8.0,SNR=5.3						
YKA	**Yellowknife Ar**	**155.03**	**15**	PKPbc	PKPdf	19 35 33.9	+10
	0.3nm,0.9s,baz=346,slow=2.6,SNR=4.9						
YKA	**Yellowknife Ar**	**155.03**	**15**	PKPbc	PKPdf	19 35 33.9	+10

*IDC **06** 19:23:43.7±2.6, 3564N×7174E, h0km, mb3.5/6, mb1 3.7/9, mb1mx3.5/22, mbtmp3.6/9, ML3.5/3, MS3.8/1, Ms1 3.8/1, ms1mx2.7/24, Error ellipse: s-maj=56.0km s-min=28.7km az=138.0*
*ISCJB **06** 19:23:59.8±1.2, 3632N±006×713E±01, h113km±14km, mb3.4/5, Error ellipse: s-maj=19.8km s-min=5.2km az=127.0*
*NEIC **06** 19:24:05.6±6.8, 3671N×7152E, h124km±36km, mb4.1/2, Error ellipse: s-maj=69.6km s-min=25.1km az=181.0*
*NNC **06** 19:24:08.6±6.0, 3690N×7062E, h115km±59km, mb3.2, mpv4.3, Error ellipse: s-maj=67.1km s-min=58.6km az=61.0*

ISC 06 19:24:01.2±1.1, 3631N±006×713E±01, h115km±12km, n38, σ1§03/45, mb3.4/5, 6C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**5.36**	**133**	*e*P	**Pn**	**19 25 21.0**	**+2.0**
DLH				*e*S	**Sn**	**19 26 20.0**	**+0.4**
AML	**Almayashu**	**6.09**	**17**	P	**Pn**	**19 25 29.1**	**+0.3**
	SNR=132						
UCH	**Uchtor**	**6.40**	**22**	P	**Pn**	**19 25 33.5**	**+0.6**
	SNR=21						
KZA	**Kyzart**	**6.51**	**27**	P	**Pn**	**19 25 34.8**	**+0.4**
	SNR=8.6						
EKS2	**Erkin-Say**	**6.61**	**16**	P	**Pn**	**19 25 36.1**	**+0.2**
	SNR=17						
SDNR	**Sundarnagar**	**6.71**	**134**	*e*P	**Pn**	**19 25 38.0**	**+0.9**
SDNR				*e*S	**Sn**	**19 26 49.6**	**-2.4**
AAK	**Ala-Archa**	**6.76**	**20**	P	**Pn**	**19 25 38.4**	**+0.5**
	SNR=26						
AAK	**Ala-Archa**	**6.76**	**20**	*e*Pn	**Pn**	**19 25 36.9**	**-1.1**
	15nm,0.4s						
AAK				*e*Sn	**Sn**	**19 26 43.7**	**-10**
KK31	**Karatay Array**	**6.81**	**355**	⇓P	**Pn**	**19 25 37.6**	**-1.0**
	11nm,0.4s,baz=181,slow=14,SNR=222						
KK31				⇑S	**Sn**	**19 26 49.0**	**-5.6**
	2.4nm,0.4s,baz=192,slow=27,SNR=4.1						
KBK	**Karagaybulak**	**6.92**	**23**	P	**Pn**	**19 25 41.2**	**+1.2**
	SNR=5.3						
SMLA	**Simla**	**7.09**	**135**	⇑*i*P	**Pn**	**19 25 41.6**	**-0.7**
SMLA				*i* S	**Sn**	**19 26 58.4**	**-3.1**
	418nm,0.3s						
CHMS	**Chumysh**	**7.17**	**20**	P	**Pn**	**19 25 43.5**	**0.0**
	SNR=6.9						
USP	**Ospenovka**	**7.36**	**18**	P	**Pn**	**19 25 45.8**	**-0.2**
	SNR=18						
TKM2	**Tokmak 2**	**7.37**	**25**	P	**Pn**	**19 25 46.7**	**+0.6**
	SNR=6.5						
MKAR	**Makanchi Array**	**13.28**	**35**	Pn	**Pn**	**19 26 58.4**	**-6.9**
	0.0nm,0.3s,baz=216,slow=12,SNR=2.6						
KOLN	**Koldanda**	**13.43**	**126**	*e*P	**Pn**	**19 27 06.8**	**-0.3**
	4.3nm,0.3s						
GKN	**Gorkha**	**13.97**	**123**	*e*P	**Pn**	**19 27 13.9**	**-0.2**
	9.5nm,0.4s						
GKN				*e*S	**Sn**	**19 29 40.1**	**-8.0**
DMN	**Daman**	**14.54**	**123**	*e*P	**Pn**	**19 27 21.8**	**+0.4**
KKN	**Kakani**	**14.55**	**122**	*e*P	**Pn**	**19 27 21.3**	**-0.1**
	4.2nm,0.3s						
KKN				*e*S	**Sn**	**19 29 54.6**	**-7.4**
PKI	**Pulchoki**	**14.77**	**122**	*e*P	**Pn**	**19 27 24.9**	**+0.6**
GUN	**Gumba**	**14.89**	**120**	*e*P	**Pn**	**19 27 25.6**	**-0.1**
JIRN	**Jiri**	**15.26**	**120**	*e*P	**Pn**	**19 27 30.4**	**0.0**
	11nm,0.4s						
AB31	**Akbulak array**	**15.38**	**331**	P	**Pn**	**19 27 29.5**	**-2.4**
	2.6nm,0.6s,baz=142,slow=12,SNR=66						
AB31				⇓S	S	19 30 08.2	-22
	0.5nm,0.5s,baz=166,slow=21,SNR=5.3						
VOSK	**Vostochnaya**	**16.41**	**359**	⇑P	**Pn**	**19 27 41.8**	**-2.9**
	1.2nm,0.7s						
ZRNK	**Zerenda**	**16.72**	**355**	⇑P	**Pn**	**19 27 47.9**	**-0.6**
	0.8nm,0.5s						
ZRNK	**Zerenda**	**16.72**	**355**	*e*Pn	**Pn**	**19 27 46.7**	**-1.7**
	1.5nm,0.5s						
BVA0	**Borovoye Array**	**16.72**	**358**	⇑P	**Pn**	**19 27 47.8**	**-0.7**
	0.2nm,0.6s,baz=161,slow=11,SNR=10.0						
BVAR	**Borovoye Array**	**16.72**	**358**	P	**Pn**	**19 27 47.2**	**-1.3**
	0.3nm,0.3s,baz=162,slow=10,SNR=13						
AKTK	**Aktyubinsk**	**17.08**	**330**	P	**Pn**	**19 27 54.1**	**+1.3**
AKTK				LR	LR	19 35 14.7	
AKTO	**Aktyubinsk**	**17.08**	**330**	⇑P	**Pn**	**19 27 52.7**	**-0.1**
AKTO	**Aktyubinsk**	**17.08**	**330**	P	**Pn**	**19 27 54.1**	**+1.3**
	0.5nm,0.3s,baz=119,slow=9.2,SNR=15						
AKTO				LR	LR	19 35 14.7	
	comp=Z,332nm,19.2s,baz=0.0,slow=39						
ZAL	**Zalesovo**	**19.95**	**24**	P	**P**	**19 28 23.9**	**-0.3**
	1.3nm,0.4s,baz=264,slow=6.5,SNR=5.8						
FINES	**FINESS Array B**	**37.79**	**326**	P	**P**	**19 31 07.5**	**+1.4**
	0.2nm,0.3s,mb3.4,baz=115,slow=9.5,SNR=9.6						
ARCES	**ARCESS Array B**	**41.42**	**338**	P	**P**	**19 31 37.6**	**+1.4**
	0.5nm,0.4s,mb3.7,baz=116,slow=8.9,SNR=8.9						
NOA	**NORSAR Array B**	**44.69**	**323**	P	**P**	**19 32 03.0**	**+0.5**
	0.3nm,0.5s,mb3.3,baz=96,slow=7.8,SNR=3.4						
TORD	**Torodi Ar. Bea**	**65.99**	**269**	P	**P**	**19 34 34.2**	**-0.9**
	0.2nm,0.4s,mb3.3,baz=52,slow=5.8,SNR=6.2						
YKA	**Yellowknife Ar**	**81.42**	**3**	P	**P**	**19 36 05.8**	**+0.5**
	0.2nm,0.5s,mb3.2,baz=352,slow=5.5,SNR=7.2						
YKA	**Yellowknife Ar**	**81.42**	**3**	P	**P**	**19 36 05.8**	**+0.5**

IDC 06 19:27:32.9±2.5, 470N×12332E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/18, mbtmp3.5/3, Error ellipse: s-maj=344.6km s-min=26.5km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.78**	**156**	P	P	19 33 14.8	+0.4
	0.4nm,0.3s,baz=336,slow=9.7,SNR=18						
ASAR	**Alice Springs**	**30.02**	**160**	P	P	19 33 43.5	+0.2
	0.4nm,0.7s,baz=342,slow=6.7,SNR=4.3						
MKAR	**Makanchi Array**	**54.85**	**327**	P	P	19 37 05.0	+0.1
	0.2nm,0.5s,baz=124,slow=7.3,SNR=5.5						

IDC 06 19:38:09.6±12.0, 2091N×12217E, h157km±121km, mb3.2/7, mb1 3.4/7, mb1mx3.1/20, mbtmp3.7/7, Error ellipse: s-maj=67.4km s-min=13.8km az=68.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**29.72**	**338**	P	P	19 44 00.8	-0.1
	0.1nm,0.3s,baz=152,slow=13,SNR=2.7						
FITZ	**Fitzroy Crossi**	**38.92**	**175**	P	P	19 45 19.9	-0.1
	1.4nm,0.8s,baz=16,slow=7.4,SNR=6.2						
MKAR	**Makanchi Array**	**41.34**	**318**	P	P	19 45 40.4	+0.5
	1.3nm,0.6s,baz=112,slow=9.7,SNR=15						
WRA	**Warramunga Arr**	**42.32**	**163**	P	P	19 45 47.1	-0.7
	0.5nm,0.3s,baz=343,slow=9.2,SNR=15						
ASAR	**Alice Springs**	**45.76**	**165**	P	P	19 46 16.8	+1.6
	0.3nm,0.5s,baz=346,slow=7.3,SNR=5.9					

comp=E,46μm,0.4s
YUK A 19 48 26.0
comp=E,15μm,0.4s
YUK Yuzh-Kuril'sk 1.65 268 ⇓*i*PN **Pn 19 48 02.0 -0.3**
YUK *i* S **Sn 19 48 21.5 -0.8**
YUK pmax pmax
comp=Z,3μm,0.3s
YUK pmax pmax
comp=N,770nm,0.4s
YUK pmax pmax
comp=E,880nm,0.4s
YUK smax
comp=N,26μm,0.3s
YUK smax
comp=E,8μm,0.3s
NEM2 Nemuro 2 1.89 248 P **Pn 19 48 04.7 -0.9**
NEM2 *e*S **Sn 19 48 26.1 -2.2**
JRA Rausu 2.19 267 P **Pn 19 48 10.4 +0.7**
JRA *e*S **Sn 19 48 36.2 +0.7**
JNK Nakash 2.53 259 P **Pn 19 48 14.7 +0.3**
JNK *e*S **Sn 19 48 43.2 -0.8**
JAK Akkeshi 2.74 247 P **Pn 19 48 16.5 -0.7**
JAK *e*S **Sn 19 48 46.6 -2.5**
JTKR Abashiri--Toko 3.06 269 P **Pn 19 48 23.0 +1.4**
JAR Ashorobuto 3.27 257 P **Pn 19 48 25.3 +0.8**
JAR *e*S **Sn 19 49 02.0 -0.2**
JOB Onbets 3.36 251 P **Pn 19 48 25.6 -0.1**
JOB *e*S **Sn 19 49 03.2 -1.1**
JMP Maruseppu 3.45 270 P **Pn 19 48 28.7 +1.7**
JCH Churui 3.79 249 P **Pn 19 48 30.8 -0.8**
JKK2 Kamakawa 2 3.90 268 P **Pn 19 48 35.2 +2.0**
ASAJ Asahikawa 3.99 272 P **Pn 19 48 36.0 +1.6**
comp=E,9.3nm,0.3s,baz=99,slow=12,SNR=39
ASAJ LR LR 19 50 25.9
comp=E,961nm,20.2s,baz=135,slow=43
ASAJ Asahikawa 3.99 272 PN **Pn 19 48 36.1 +1.7**
ASAJ pmax pmax
comp=Z,9.0nm,0.3s
ASAJ MLR MLR
comp=Z,961nm,20.2s
JSE Soyaes 4.07 284 P **Pn 19 48 37.3 +1.9**
JFR Furan 4.14 259 P **Pn 19 48 37.9 +1.5**
JFR *e*S **Sn 19 49 24.5 +1.0**
JNBK Urakawa-nobuka 4.34 247 P **Pn 19 48 38.8 -0.4**
JNBK *e*S **Sn 19 49 27.5 -1.0**
JWK2 Keihoku 4.61 287 P **Pn 19 48 46.1 +3.2**
YSS Yuzh-Sakhalins 4.74 309 ⇓*i*P **Pn 19 48 46.3 +1.7**
YSS AMB AMB 19 48 47.0
comp=Z,140nm,0.5s
YSS AMB AMB 19 48 47.0
comp=Z,180nm,0.5s
YSS AMB AMB 19 48 47.0
comp=Z,270nm,0.5s
YSS pP 19 48 59.0
YSS sP 19 49 05.0
YSS *e*S **Sn 19 49 37.0 -1.3**
YSS A 19 49 44.3
comp=Z,250nm,0.9s
YSS A 19 49 44.3
comp=Z,350nm,0.9s
YSS AMS AMS 19 50 24.0
comp=Z,600nm,19.0s
YSS Yuzh-Sakhalins 4.74 309 ⇓*i*Pn **Pn 19 48 46.7 +2.0**
JYG Yagishiri 4.83 276 P **Pn 19 48 49.0 +3.0**
JEW Eniwo 5.03 258 P **Pn 19 48 50.9 +2.2**
JEW *e*S **Sn 19 49 48.4 +2.9**
UGL Uglegorsk 6.50 322 *e*P **Pn 19 49 11.4 +2.6**
UGL AMB AMB 19 49 14.0
comp=Z,85nm,0.5s
UGL *e*S **Sn 19 50 19.5 -2.1**
UGL A 19 50 35.5
comp=Z,60nm,0.5s
UGL A 19 50 35.5
comp=Z,70nm,0.5s
UGL Uglegorsk 6.50 322 *e*PN **Pn 19 49 11.4 +2.6**
UGL S **Sn 19 50 31.2 +10**
UGL pmax pmax
comp=Z,85nm,0.5s
UGL smax
comp=E,65nm,0.4s
UGL smax
comp=N,62nm,0.5s
UGL smax
comp=Z,58nm,0.5s
TYV Tymovskoe 7.71 333 *e*P **Pn 19 49 25.0 -0.4**
TYV AMB AMB 19 49 37.8
comp=Z,22nm,0.8s
TYV AMB AMB 19 49 37.8
comp=Z,48nm,0.8s
SKR Severo-Kuril's 8.52 37 *e*P **Pn 19 49 33.1 -3.3**
SKR AMB AMB 19 49 35.0
comp=Z,80nm,0.5s
SKR sP 19 49 39.5
SKR *e*S **Sn 19 51 06.9 -4.2**
SKR A 19 51 18.5
comp=Z,80nm,0.5s
SKR Severo-Kuril's 8.52 37 *e*PN **Pn 19 49 33.1 -3.3**
SKR pmax pmax
comp=N,80nm,0.5s
SKR pmax pmax
comp=Z,80nm,0.5s
HABR Khabarovsk 10.06 300 PN **Pn 19 49 58.4 +0.9**
NKL Nikolayevsk 10.31 334 *e*P **Pn 19 50 00.5 -0.4**
MAJO Matsushiro 10.70 228 *e*PN **Pn 19 50 04.2 -2.0**
MAJO pmax pmax
comp=Z,42nm,0.6s
MAJO Matsushiro 10.70 228 *e*Pn **Pn 19 50 04.2 -2.1**
comp=Z,42nm,0.6s
MAT Matsushiro 10.70 228 P **Pn 19 50 03.7 -2.5**
MAT Matsushiro 10.70 228 *e*PN **Pn 19 50 04.0 -2.2**
MAT pmax pmax
comp=Z,37nm,0.8s
MAT Matsushiro 10.70 228 *e*P **Pn 19 50 04.0 -2.2**
comp=Z,37nm,0.8s
MJAR Matsushiro Arr 10.70 228 P **Pn 19 50 03.6 -2.7**
comp=Z,4.3nm,0.3s,baz=29,slow=14,SNR=150
PET Petropavlovsk 11.31 34 PN **Pn 19 50 16.3 +1.7**
KLR Kul'dur 12.37 300 *e*P **Pn 19 50 29.2 +0.2**
JHJ Hachijo jima 2 12.76 214 S **Sn 19 52 41.7 -13**
comp=Z,28nm,0.3s,baz=70,slow=22,SNR=8.5
MDJ Mudanjiang 13.29 279 P **Pn 19 50 40.8 -0.8**
MDJ S **Sn 19 53 06.9 -0.8**
MDJ SCP ScP 19 59 35.6 -1.3
MDJ PCS PcS 19 59 40.5 -2.0
MDJ AMB AMB
comp=Z,6.0nm,0.9s
MDJ AMB AMB
comp=Z,189nm,12.5s
MDJ LR LR
comp=N,176nm,25.6s
MDJ LR LR
comp=E,131nm,19.2s
EKMR Ekimchan 13.45 317 *e*P **Pn 19 50 42.0 -1.8**
EKMR AMB AMB 19 50 52.7
comp=E,16nm,0.9s
MA2 Magadan 15.58 5 *i*P **Pn 19 51 15.2 +3.3**
MA2 Magadan 15.58 5 *e*Pn **Pn 19 51 12.9 +1.0**
comp=E,26nm,1.1s
YASR Yasnyy 16.13 312 *e*P **Pn 19 51 16.5 -2.4**
YASR AMB AMB 19 51 35.1
comp=E,7.0nm,0.5s
CN2 Changchun 16.34 277 *e*P **Pn 19 51 25.8 +4.2**
KS15 Wonju Array Si 16.71 253 *e*Pn **Pn 19 51 27.2 +1.0**
ZEA Zeya 16.72 313 *e*P **Pn 19 51 25.4 -0.9**
ZEA AMB AMB 19 51 36.4
comp=E,49nm,1.6s
ZEA AMB AMB 19 51 36.4
comp=E,73nm,1.6s
ZEA sP sP 19 51 41.5 -4.7
KROS Kirovskiy 17.19 314 *e*P **Pn 19 51 30.5 -1.6**
KROS AMB AMB 19 51 33.1
comp=E,4.0nm,0.6s
KROS pP pP 19 51 42.9 -1.9
JNU Nakatsue 17.35 237 P **Pn 19 51 32.5 -1.7**
comp=E,0.1nm,0.3s,baz=67,slow=5.5,SNR=2.0
CBIJ Chichi jima 17.64 198 S Sx 19 54 36.6
comp=E,5.5nm,0.3s,baz=261,slow=19,SNR=4.6
CBIJ LR LR 19 56 56.4
comp=E,219nm,20.1s,baz=124,slow=32
HIA Hailar 20.09 295 *e*P **P 19 52 02.8 -2.2**
HIA pmax pmax
comp=Z,8.0nm,0.7s
HIA Hailar 20.09 295 *e*P **P 19 52 02.8 -2.2**
comp=Z,8.2nm,0.7s
YAK Yakutsk 20.97 335 *e*P **P 19 52 11.5 -2.9**
YAK *e**PP 19 52 29.0
YAK pmax pmax
comp=Z,46nm,0.7s
YAK Yakutsk 20.97 335 *e*P **P 19 52 11.5 -2.9**
comp=Z,46nm,0.7s
YAK *e*pP 19 52 29.0
BJI Beijing 23.99 271 *e*P **P 19 52 45.4 0.0**
BJI AMB AMB
comp=Z,25nm,0.7s,mb4.8
BJT Baijiatuau 24.00 271 *e*P **P 19 52 44.8 -0.7**
BJT pmax pmax
comp=Z,18nm,0.6s
BJT Baijiatuau 24.00 271 *e*P **P 19 52 44.8 -0.7**
comp=Z,18nm,0.6s,mb4.7
SSE Sheshan 24.87 248 *e*P **P 19 52 53.4 0.0**
SSE AMB AMB
comp=Z,48nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,47nm,3.5s
TIA Tai'an 24.87 262 *e*P **P 19 52 53.2 -0.3**
BOD Bodaibo 25.18 315 *e*P **P 19 52 51.9 -4.4**
BOD pmax pmax
comp=Z,4.0nm,1.3s,mb3.8
BILL Bilibino 25.82 16 *i*P **P 19 53 01.2 -0.9**
BILL pmax pmax
comp=Z,4.0nm,1.4s,mb3.8
BILL Bilibino 25.82 16 P **P 19 53 01.1 -1.0**
comp=Z,5.6nm,0.9s,mb4.1
NJ2 Nanjing 25.86 252 *e*P **P 19 53 04.1 +1.6**
NJ2 AP pP 19 53 16.4 +0.7
NJ2 XP sP 19 53 22.1 +0.2
NJ2 PP 19 53 45.9
NJ2 S **S 19 57 28.0 -0.6**
NJ2 XS sS 19 57 50.0 -1.0
NJ2 AMB AMB
comp=Z,60nm,0.9s,mb5.1
NJ2 AMB AMB
comp=Z,200nm,8.6s
NJ2 LR LR
comp=N,510nm,19.3s,MS4.5
NJ2 LR LR
comp=E,1μm,17.1s,MS4.5
NJ2 LR LR
comp=Z,630nm,13.1s,MS4.3
HHC Hu-ho-hao-te 27.03 276 *e*P **P 19 53 14.7 +1.7**
HHC AP pP 19 53 26.4 +0.2
HHC XP sP 19 53 31.9 -0.5
HHC PP 19 54 01.0
HHC S **S 19 57 47.9 +0.9**
HHC XS sS 19 58 07.4 -2.1
HHC SCP ScP 20 00 11.2 +2.2
HHC PCS PcS 20 00 16.8 +2.1
HHC AMB AMB
comp=Z,24nm,1.1s,mb4.6
HHC AMB AMB
comp=Z,179nm,5.8s
HHC LR LR
comp=N,147nm,13.7s,MS3.9
HHC LR LR
comp=E,166nm,14.7s,MS3.9
HHC LR LR
comp=Z,150nm,14.5s,MS3.7
ULN Ulaanbaatar 28.56 292 *e*P **P 19 53 26.9 +0.3**
ULN *e**PP pP 19 53 43.5 +3.6
ULN *e* 19 56 37.0
ULN pmax pmax
comp=Z,11nm,1.0s,mb4.5
ULN Ulaanbaatar 28.56 292 *e*P **P 19 53 26.9 +0.3**
comp=Z,11nm,1.0s,mb4.5
ULN *e*pP pP 19 53 43.5 +3.6
ULN *e*PcP PcP 19 56 37.0 +0.1
SONM Songino Array 29.00 292 P **P 19 53 30.6 +0.1**
comp=Z,4.1nm,0.6s,mb4.3,baz=81,slow=8.5,SNR=32
SONM LR LR 20 04 37.8
comp=Z,315nm,20.5s,MS3.9,baz=352,slow=35
TIXI Tiksi 29.16 348 *e*P **P 19 53 26.6 -5.4**
TIXI *e* 19 53 46.3
TIXI pmax pmax
comp=Z,1.0nm,0.7s
WHN Wuhan 29.86 255 P **P 19 53 38.0 -0.2**
TLY Talaya 30.39 300 P **P 19 53 42.6 -0.2**
TLY pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
TLY Talaya 30.39 300 P **P 19 53 42.6 -0.2**
comp=Z,2.3nm,0.7s,mb4.0
ZAK Zakamensk 30.72 298 *e*P **P 19 53 45.1 -0.6**
ZAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.0
XAN Xi'an 31.80 265 P **P 19 53 52.9 -2.4**
XAN AMB AMB
comp=Z,4.0nm,1.0s,mb4.2
MOY Mondy 32.03 301 *e*P **P 19 53 57.8 +0.5**
LZH Lanzhou 34.48 272 *e*P **P 19 54 19.8 +1.2**
LZH AP pP 19 54 32.3 +0.3
LZH XP sP 19 54 37.5 -0.7
LZH AMB AMB
comp=Z,26nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,140nm,5.9s
LZH LR LR
comp=E,559nm,14.3s
LZH LR LR
comp=Z,790nm,15.2s,MS4.6
GTA Gaotai 35.94 280 P **P 19 54 32.3 +1.1**
GTA AP pP 19 54 44.4 -0.3
GTA XP sP 19 54 49.5 -1.3
GTA PP PP 19 55 54.4 +0.8
GTA PCP PcP 19 56 58.1 +1.0
GTA S **S 20 00 09.1 +3.3**
GTA XS sS 20 00 27.8 -0.8
GTA SCP ScP 20 00 37.4 -1.5
GTA SS SS 20 02 33.3 -11
GTA AMB AMB
comp=Z,9.0nm,1.3s,mb4.5
GTA AMB AMB
comp=Z,122nm,7.2s
GTA LR LR
comp=N,246nm,16.3s,MS4.1
GTA LR LR
comp=E,165nm,17.5s,MS4.1
GTA LR LR
comp=Z,213nm,17.1s,MS4.0
CD2 Chengdu 37.15 265 P **P 19 54 41.5 0.0**
CD2 AP pP 19 54 53.7 -1.4
CD2 XP sP 19 54 59.0 -2.2
CD2 PP PP 19 56 09.0 +2.1
CD2 S **S 20 00 23.5 -0.8**
CD2 XS sS 20 00 44.1 -3.0
CD2 SS SS 20 02 54.7 -14
CD2 AMB AMB
comp=Z,40nm,0.7s,mb5.4
CD2 AMB AMB
comp=Z,120nm,5.9s
CD2 LR LR
comp=E,120nm,18.0s
CD2 LR LR
comp=Z,140nm,12.0s
GYA Guiyang 37.70 256 ⇑*i*P **P 19 54 46.0 -0.2**
GYA AP pP 19 54 58.2 -1.5
GYA XP sP 19 55 03.3 -2.5
GYA PP PP 19 56 14.7 +1.7
GYA PCP PcP 19 57 03.7 +1.3
GYA S **S 20 00 30.6 -2.1**
GYA SCP ScP 20 00 47.8 +2.4
GYA SCS ScS 20 04 54.1 -0.1
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
GYA AMB AMB
comp=Z,90nm,3.8s
GYA LR LR
comp=N,340nm,16.4s,MS4.4
GYA LR LR
comp=E,310nm,16.0s,MS4.4
GYA LR LR
comp=Z,300nm,16.2s,MS4.2
KDAK Kodiak Island 38.48 48 P **P 19 54 51.8 -0.9**
comp=Z,7.0nm,0.4s,mb4.8,baz=330,slow=4.9,SNR=16
COLA College 40.36 36 *c i*P **P 19 55 09.0 +0.6**
COLA College 40.36 36 *e*P **P 19 55 08.1 -0.3**
comp=Z,12nm,0.9s,mb4.6
ILAR Eielson Array 40.78 36 P **P 19 55 11.6 -0.2**
comp=Z,5.9nm,0.8s,mb4.2,baz=257,slow=7.3,SNR=40
KMI Kunming 41.29 258 P **P 19 55 16.5 +0.5**
KMI AMB AMB
comp=Z,22nm,1.0s,mb4.7
ZAL Zalesovo 41.37 307 P **P 19 55 15.2 -1.5**
comp=Z,1.7nm,0.3s,mb4.1,baz=23,slow=4.5,SNR=7.2
ZAL PcP PcP 19 57 13.8 -0.3
comp=Z,5.0nm,0.7s,baz=30,slow=3.9,SNR=18
NVS Novosibirsk 42.06 309 *i*P **P 19 55 20.6 -1.7**
NVS *e* 19 57 14.5
NVS pmax pmax
comp=Z,8.0nm,1.2s,mb4.2
NVS pmax pmax
comp=E,6.0nm,1.3s
WMQ Urumqi 42.63 292 ⇑*i*P **P 19 55 28.0 +1.0**
WMQ AP pP 19 55 41.0 +0.3
WMQ XP sP 19 55 46.3 -0.5
WMQ PP PP 19 57 09.8 +3.3
WMQ PCP PcP 19 57 20.3 +2.0
WMQ PPP 19 57 44.0
WMQ SCP ScP 20 01 06.0 +1.3
WMQ *e*S **S 20 01 47.5 +1.3**
WMQ XS sS 20 02 08.0 -1.3
WMQ AMB AMB
comp=Z,25nm,0.6s,mb5.1
WMQ AMB AMB
comp=Z,50nm,7.5s
WMQ LR LR
comp=N,296nm,14.3s,MS4.4
WMQ LR LR
comp=E,248nm,18.5s,MS4.4
WMQ LR LR
comp=Z,169nm,18.6s,MS4.0
MK31 Makanchi Array 45.06 298 P **P 19 55 46.4 0.0**
MK31 pmax pmax
comp=Z,11nm,0.7s,mb4.8
MKAR Makanchi Array 45.06 298 P **P 19 55 46.8 +0.3**
comp=Z,11nm,0.6s,mb4.9,baz=78,slow=9.1,SNR=125
MKAR PcP PcP 19 57 26.3 -0.2
comp=Z,3.6nm,0.6s,baz=71,slow=4.3,SNR=6.2
INK Inuvik 45.74 31 P **P 19 55 52.4 +0.6**
comp=Z,13nm,0.5s,mb5.1,baz=290,slow=6.2,SNR=133
INK Inuvik 45.74 31 ⇑*e*P **P 19 55 51.9 +0.1**
INK *e* 19 57 25.8
INK pmax pmax
comp=Z,19nm,0.8s
INK Inuvik 45.74 31 ⇑*e*P **P 19 55 51.9 +0.1**
comp=Z,19nm,0.8s,mb5.1
INK *e*PcP PcP 19 57 25.8 -3.0
KURK Kurchatov 45.93 304 *c i*P **P 19 55 53.2 -0.1**
KURK Kurchatov 45.93 304 ⇑*e*P **P 19 55 52.9 -0.4**
comp=Z,11nm,0.6s,mb5.0
KURK *e*PcP PcP 19 57 28.9 -0.6
LSA Lhasa 46.90 272 *e*P **P 19 56 02.3 +1.4**
LSA pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
LSA Lhasa 46.90 272 *e*P **P 19 56 02.3 +1.4**
comp=Z,8.6nm,0.7s,mb4.8
KKM Kota Kinabalu 47.11 226 *e*P **P 19 56 02.7 +0.2**
CHTO Chiang Mai 48.07 255 *e*P **P 19 56 10.5 +0.5**
CHTO *e**PP pP 19 56 23.9 -0.1
CHTO pmax pmax
comp=Z,25nm,1.4s,mb5.0
CHTO Chiang Mai 48.07 255 *e*P **P 19 56 10.5 +0.5**
comp=Z,25nm,1.4s,mb5.0
CHTO *e*pP pP 19 56 23.9 0.0
SHL Shillong 48.77 267 *e*P **P 19 56 15.5 +0.1**
VOSK Vostochnaya 49.62 309 P **P 19 56 21.2 -0.7**
VOSK pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
BVA0 Borovoye Array 49.83 309 *i*P **P 19 56 23.9 +0.4**
BVA0 pmax pmax
comp=Z,1.0nm,1.1s,mb3.8
BRVK Borovoye 49.88 309 *e*P **P 19 56 23.2 -0.7**
BRVK *e* 19 57 42.8
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
BRVK Borovoye 49.88 309 *e*P **P 19 56 23.2 -0.7**
comp=Z,2.1nm,0.6s,mb4.3
BRVK *e*PcP PcP 19 57 42.8 -0.9
DLBC Dease Lake 49.93 43 P **P 19 56 25.6 +1.3**
comp=Z,2.6nm,0.6s,mb4.5,baz=331,slow=3.7,SNR=4.2
ZRNK Zerenda 50.63 310 *e*P **P 19 56 28.6 -0.9**
ZRNK *e* 19 57 45.2
ZRNK pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
ZRNK Zerenda 50.63 310 *e*P **P 19 56 28.6 -1.0**
comp=Z,8.0nm,0.9s,mb4.7
ZRNK *e*PcP PcP 19 57 45.2 -1.2
ULHL Ulahol 50.90 295 P **P 19 56 32.7 +1.2**
SNR=6.2
TKM2 Tokmak 2 51.00 296 P **P 19 56 33.5 +1.2**
SNR=13
KBK Karagaybulak 51.55 296 P **P 19 56 37.5 +1.1**
SNR=18
USP Ospenovka 51.55 296 P **P 19 56 37.2 +0.8**
SNR=16
KZA Kyzart 51.62 295 P **P 19 56 39.1 +2.1**
SNR=18
JIRN Jiri 51.63 273 ⇑*i*P **P 19 56 37.9 +0.9**
comp=Z,31nm,0.6s,mb5.4
GUN Gumba 51.71 274 ⇑*i*P **P 19 56 38.4 +0.8**
comp=Z,84nm,0.7s,mb5.8
AAK Ala-Archa 51.85 296 P **P 19 56 39.4 +0.7**
SNR=10
AAK Ala-Archa 51.85 296 *e*P **P 19 56 38.1 -0.6**
AAK *e* 19 57 48.8
AAK pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
AAK Ala-Archa 51.85 296 *e*P **P 19 56 38.1 -0.6**
comp=Z,4.7nm,0.6s,mb4.6
AAK *e*PcP PcP 19 57 48.8 -2.2
KKN Kakani 52.21 274 ⇑*i*P **P 19 56 41.9 +0.6**
comp=Z,47nm,0.8s,mb5.4
PKI Pulchoki 52.24 274 ⇑*i*P **P 19 56 42.1 +0.5**
comp=Z,19nm,0.5s,mb5.3
EKS2 Erkin-Say 52.30 296 P **P 19 56 43.0 +0.9**
SNR=18
DMN Daman 52.44 274 ⇑*i*P **P 19 56 43.9 +0.8**
comp=Z,68nm,0.7s,mb5.7
GKN Gorkha 52.55 275 ⇑*i*P **P 19 56 44.3 +0.5**
comp=Z,43nm,0.6s,mb5.6
AML Almayashu 52.61 296 P **P 19 56 45.9 +1.6**
SNR=12
SVE Sverdlovsk 53.38 317 *e*P **P 19 56 46.0 -3.9**
SVE pmax pmax
comp=Z,16nm,1.5s,mb4.7
KOLN Koldanda 53.43 275 ⇑*i*P **P 19 56 51.0 +0.7**
comp=Z,65nm,0.9s,mb5.6
KSM Kuching 54.09 229 *e*P **P 19 56 55.5 +0.3**
KSM *e*pP pP 19 57 10.0 +0.6
BOK Bokaro 54.17 270 *e*P **P 19 56 55.2 -0.5**
BOK AMb AMB 19 56 57.0
comp=Z,10nm,1.5s,mb4.5
KK31 Karatay Array 54.18 298 *i*P **P 19 56 56.0 +0.2**
KK31 pmax pmax
comp=Z,6.0nm,0.3s,mb5.0
KKAR Karatay Array 54.18 298 *i*P **P 19 56 56.0 +0.2**
KKAR pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
RES Resolute Bay 54.42 17 *e*P **P 19 56 56.4 -1.2**
RES pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
RES Resolute Bay 54.42 17 *e*P **P 19 56 56.4 -1.2**
comp=Z,5.0nm,0.8s,mb4.5
ARU Arti 54.58 317 ⇓*i*P **P 19 56 57.3 -1.4**
ARU *e* 19 57 59.9
ARU *e* 19 58 58.8
ARU *e*S **S 20 04 28.8 -5.6**
ARU *e*SS SS 20 08 12.3 -5.2
ARU pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
ARU Arti 54.58 317 *e*P **P 19 56 56.5 -2.2**
comp=Z,5.6nm,0.6s,mb4.8
YKW3 Yellowknife Ar 55.07 34 *e*P **P 19 57 01.7 -0.5**
YKW3 *e*pP pP 19 57 15.4 -1.0
KLP Kalpa 55.08 282 *e*P **P 19 57 03.4 +1.0**
KLP AMb AMB 19 57 04.3
comp=Z,33nm,0.8s,mb5.4
YKA Yellowknife Ar 55.11 34 P **P 19 57 02.4 -0.1**
comp=Z,3.9nm,0.7s,mb4.5,baz=300,slow=6.7,SNR=48
YKA PcP PcP 19 58 02.7 -0.6
comp=Z,1.2nm,0.5s,baz=303,slow=3.7,SNR=6.2
YKA Yellowknife Ar 55.11 34 P **P 19 57 02.4 -0.1**
YKA PcP PcP 19 58 02.7 -0.6
KALG Kalgarh 55.88 280 *ex* x 19 56 55.6
DDI Dehra Dun 55.91 281 *ex* **P 19 57 08.0 -0.3**
SMLA Simla 56.07 282 *e*P **P 19 57 07.6 -1.8**
SMLA ⇓*i*P 19 57 07.6

KULM Kulim 56.75 241 *e*P **P** 19 57 14.9 +0.6
KKR Kurukshetra 56.99 281 *e*P **P** 19 57 15.8 -0.2
BISR Bishrakh 57.36 280 *e*P **P** 19 57 19.3 +0.7
AB31 Akbulak array 57.40 309 *i* P **P** 19 57 18.8 -0.1
AB31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
NDI New Delhi 57.45 280 *e*P **P** 19 57 19.6 +0.3
NDI AMb AMB 19 57 20.2
comp=Z,36nm,1.0s,mb5.3
AYAN Aya Nagar 57.63 280 *e*P **P** 19 57 20.0 -0.5
AYAN AMb AMB 19 57 21.4
comp=Z,18nm,0.4s,mb5.5
SONA Sohna 57.80 280 *e*P **P** 19 57 21.6 -0.1
SONA AMb AMB 19 57 22.8
comp=Z,19nm,0.7s,mb5.3
AKTO Aktyubinsk 57.85 311 *i* P **P** 19 57 21.5 -0.5
AKTO pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
KUDL Kundal 58.29 280 *e*P **P** 19 57 25.0 -0.1
KUDL AMb AMB 19 57 27.1
comp=Z,17nm,0.9s,mb5.1
KEV Kevo 58.63 340 *e*p **P** 19 57 25.0 -2.5
comp=Z,1.3nm,0.3s,mb4.4
KEV Kevo 58.63 340 *e*P **P** 19 57 25.0 -2.5
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
KHET Khetri 58.81 280 *e*P **P** 19 57 28.3 -0.4
KHET AMb AMB 19 57 29.3
comp=Z,10.0nm,1.1s,mb4.8
ARCES ARCESS Array B 59.16 340 P **P** 19 57 30.1 -1.1
comp=Z,0.8nm,0.3s,mb4.2,baz=45,slow=8.0,SNR=21
ARCES PcP PcP 19 58 18.8 -0.4
comp=Z,2.6nm,0.7s,baz=32,slow=4.8,SNR=7.2
PSI Prapat 59.76 241 P **P** 19 57 36.0 +0.8
comp=Z,9.7nm,1.0s,mb4.8,baz=79,slow=5.2,SNR=5.5
KTK1 Kautokeino 60.10 340 *e*P **P** 19 57 38.6 +1.0
KLMR Klimovskoe 60.52 328 *e*P **P** 19 57 39.3 -1.2
KLMR pmax pmax
comp=Z,10.0nm,1.5s,mb4.7
BHPL Bhopal 60.60 275 *e*P **P** 19 57 40.9 -0.1
BHPL AMb AMB 19 57 41.9
comp=Z,24nm,0.8s,mb5.4
TRO Tromso 60.65 342 *e*P **P** 19 57 39.2 -2.1
TRO AMb AMB 19 57 41.6
comp=Z,15nm,1.4s,mb4.9
TRO Tromso 60.65 342 *e*P **P** 19 57 39.2 -2.1
comp=Z,15nm,1.4s,mb4.9
NGP Nagpur 60.74 272 *e*P **P** 19 57 39.8 -2.2
NGP AMb AMB 19 57 41.6
comp=Z,24nm,1.6s,mb5.1
YBH Yreka Blue Hor 62.10 58 P **P** 19 57 51.8 +0.6
comp=Z,2.5nm,0.7s,mb4.5,baz=39,slow=3.3,SNR=5.8
JOF Joensuu 62.11 332 *e*p **P** 19 57 49.4 -1.8
comp=Z,5.1nm,0.5s,mb4.9
LOF Lofoten 63.03 343 *e*P **P** 19 57 58.8 +1.4
HYB Hyderabad 63.50 269 *i* P **P** 19 58 00.5 0.0
SUMG Summit 63.53 2 *e*P **P** 19 58 00.0 -0.7
comp=Z,12nm,1.0s,mb4.9
CTAO Charters Tower 63.90 182 P **P** 19 58 02.4 -0.7
CTAO pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
CTAO Charters Tower 63.90 182 P **P** 19 58 02.4 -0.7
comp=Z,2.6nm,0.7s,mb4.4
MSO Missoula 64.15 49 *e*P **P** 19 58 05.1 +0.4
comp=Z,6.6nm,0.9s,mb4.7
MSO *e*pP pP 19 58 19.9 +0.6
KAF Kangasniemi 64.32 334 *e*p **P** 19 58 04.4 -1.4
comp=Z,4.7nm,0.5s,mb4.8,baz=40,slow=6.3
KAF Kangasniemi 64.32 334 *e*P **P** 19 58 04.4 -1.4
KAF pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
MOR8 Moi Rana 64.44 341 *e*P **P** 19 58 04.4 -2.3
FINES FINESS Array B 64.88 333 P **P** 19 58 08.3 -1.2
comp=Z,7.3nm,0.6s,mb4.9,baz=42,slow=7.8,SNR=90
FINES pP pP 19 58 22.1 -2.0
comp=Z,2.1nm,0.5s,baz=43,slow=7.3,SNR=4.9
WRAB Tennant Creek 64.96 194 *e*P **P** 19 58 08.7 -1.4
WRAB pmax pmax
comp=Z,17nm,1.2s,mb5.0
WRAB Tennant Creek 64.96 194 *e*P **P** 19 58 08.7 -1.3
comp=Z,17nm,1.2s,mb5.0
WRA Warramunga Arr 64.97 194 P **P** 19 58 08.9 -1.2
comp=Z,2.1nm,0.8s,mb4.2,baz=14,slow=6.9,SNR=10
WRA Warramunga Arr 64.97 194 *i* P **P** 19 58 10.0 -0.1
WRA pmax pmax
comp=Z,2.0nm,0.8s
FCC Fort Churchill 65.36 30 *e*P **P** 19 58 11.8 -0.8
FCC *e**PP pP 19 58 25.3 -1.8
FCC pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
FCC Fort Churchill 65.36 30 *e*P **P** 19 58 11.8 -0.8
comp=Z,5.3nm,0.4s,mb4.9
FCC *e*pP pP 19 58 25.3 -1.8
OBN Obninsk 65.45 324 *e*P **P** 19 58 12.8 -0.4
OBN *e* 20 00 36.2
OBN *e*S S 20 06 46.7 -7.2
OBN pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
OBN Obninsk 65.45 324 *e*P **P** 19 58 12.6 -0.6
comp=Z,7.0nm,0.6s,mb4.9
CMB Columbia Colle 65.74 60 *e*P **P** 19 58 15.2 +0.1
CMB pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
CMB Columbia Colle 65.74 60 *e*P **P** 19 58 15.2 +0.1
comp=Z,2.3nm,0.6s,mb4.4
KAD Karad 66.72 272 *e*P **P** 19 58 20.7 -0.6
KAD AMb AMB 19 58 21.2
comp=Z,17nm,0.5s,mb5.4
NVAR Mina Array Bea 66.78 59 P **P** 19 58 22.6 +0.8
comp=Z,4.1nm,0.6s,mb4.6,baz=305,slow=5.6,SNR=39
REDW Red Top Meadow 68.03 51 P **P** 19 58 27.8 -1.8
comp=Z,9.4nm,1.1s,mb4.7
FRB Frobisher Bay 68.64 17 P **P** 19 58 32.5 -1.0
comp=Z,15nm,0.6s,mb5.1,baz=348,slow=7.3,SNR=16
ASAR Alice Springs 68.69 194 P **P** 19 58 33.5 -0.2
comp=Z,2.1nm,0.8s,mb4.1,baz=9.3,slow=5.8,SNR=28
ASAR pP pP 19 58 47.2 -1.1
comp=Z,1.4nm,0.8s,baz=9.4,slow=6.0,SNR=5.4
PDAR Pinedale Array 69.13 50 P **P** 19 58 36.3 -0.2
comp=Z,3.3nm,0.8s,mb4.3,baz=261,slow=1.8,SNR=23
PDAR pP pP 19 58 52.1 +1.0
comp=Z,1.9nm,0.6s,baz=318,slow=2.0,SNR=6.0
GOF Gofitskoye 69.14 313 *e*P **P** 19 58 36.2 -0.3
GOF pmax pmax
comp=Z,45nm,0.7s,mb5.5
NB2 NORSAR Subarra 69.53 339 P **P** 19 58 38.2 -0.8
comp=Z,8.1nm,0.8s,mb4.7,baz=30,slow=6.5
NOA NORSAR Array B 69.53 339 P **P** 19 58 38.5 -0.5
comp=Z,3.6nm,0.5s,mb4.6,baz=31,slow=6.3,SNR=34
NOA NORSAR Array B 69.53 339 P **P** 19 58 38.5 -0.5
MBWA Marble Bar 69.97 208 *e*P **P** 19 58 40.8 -0.9
comp=Z,8.8nm,0.8s,mb4.7
KIV Kislovodsk 70.06 312 *e*P **P** 19 58 42.9 +0.7
KIV *e**PP pP 19 59 01.0 +4.1
KIV pmax pmax
comp=Z,28nm,0.6s,mb5.4
KIV Kislovodsk 70.06 312 *e*P **P** 19 58 42.9 +0.6
comp=Z,28nm,0.6s,mb5.4
KIV *e*pP pP 19 59 01.0 +4.2
ZEI Tsey 70.20 311 *e*P **P** 19 58 43.5 +0.4
ZEI *e**PP pP 19 58 59.8 +2.0
ZEI pmax pmax
comp=Z,19nm,0.9s,mb5.0
MSU Marysvale 70.42 55 *e*P **P** 19 58 45.0 +0.5
ULM Lac du Bonnet 70.78 38 P **P** 19 58 45.7 -0.9
comp=Z,1.8nm,0.4s,mb4.3,baz=307,slow=6.7,SNR=4.8
ULM Lac du Bonnet 70.78 38 P **P** 19 58 45.7 -0.9
BORG Borgarnes 71.18 355 P **P** 19 58 49.5 +0.5
comp=Z,10nm,0.8s,mb4.8,baz=248,slow=2.4,SNR=5.7
AKASG Malin Array Be 71.72 324 P **P** 19 58 51.8 -0.5
comp=Z,5.2nm,0.4s,mb4.8,baz=38,slow=6.1,SNR=46
AKASG sP sP 19 59 12.3 -0.6
comp=Z,2.3nm,0.5s,baz=37,slow=5.6,SNR=3.1
ANN Anapa 72.20 316 *e*P **P** 19 58 54.4 -0.8
ANN *e* 20 01 36.1
ANN *e*S S 20 08 09.0 -4.9
ANN pmax pmax
comp=Z,12nm,0.6s,mb5.0
WUAZ Wupatki 72.89 57 *e*P **P** 19 58 60.0 +0.7
comp=Z,4.5nm,1.0s,mb4.3
ISCO Idaho Springs 73.33 51 *e*P **P** 19 59 02.0 +0.1
ISCO pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
ISCO Idaho Springs 73.33 51 *e*P **P** 19 59 02.0 +0.1
comp=Z,1.4nm,0.6s,mb4.1
BURAR Bucovina Array 75.77 324 ⇓*i*P **P** 19 59 16.5 +0.5
BURAR Bucovina Array 75.77 324 ⇓P **P** 19 59 16.5 +0.5
OJC Ojcow 75.85 329 *e*P **P** 19 59 16.3 -0.2
BSEG Bad Segeberg 75.90 336 *e*P **P** 19 59 17.2 +0.4
comp=Z,12nm,0.9s,mb4.8
BSEG Bad Segeberg 75.90 336 *e*P **P** 19 59 17.2 +0.4
BSEG pmax pmax
comp=Z,12nm,0.9s,mb4.8
KOLS Kolonicke sedl 75.94 327 *e*P **P** 19 59 19.0 +2.0
STHS Stebnicka Huta 75.95 327 *i* P **P** 19 59 18.1 +1.0
ANMO Albuquerque 76.21 55 *i* P **P** 19 59 19.3 +0.8
comp=Z,2.1nm,0.7s,mb4.2,baz=307,slow=7.2,SNR=6.3
ANMO Albuquerque 76.21 55⇓*e*P **P** 19 59 19.7 +1.2
CRVS Cervenica-Dubn 76.28 327 *e*P **P** 19 59 19.0 +0.1
CRVS *e* 19 59 25.4
MALT Malatya 76.29 310⇑*i*P **P** 19 59 20.6 +1.6
MALT Malatya 76.29 310 *e*P **P** 19 59 20.4 +1.4
MALT *e**PP pP 19 59 33.9 +0.1
MALT pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
MALT Malatya 76.29 310 *e*P **P** 19 59 20.4 +1.4
comp=Z,4.2nm,0.8s,mb4.4
MALT *e*pP pP 19 59 33.9 +0.1
CFR Carcaliu 76.38 321⇓*i*P **P** 19 59 19.9 +0.4
CFR Carcaliu 76.38 321⇓P **P** 19 59 19.9 +0.4
VRI Vrincioaia 76.48 322⇓*i*P **P** 19 59 20.7 +0.6
VRI Vrincioaia 76.48 322⇓P **P** 19 59 20.7 +0.6
PLOR Plostina 76.53 322⇑*i*P **P** 19 59 20.8 +0.5
OKC Ostrava-Krasne 76.78 329 *e*P **P** 19 59 22.0 +0.3
TIRR Tirgusor 76.81 320⇓*i*P **P** 19 59 21.8 -0.1
TIRR Tirgusor 76.81 320⇓P **P** 19 59 21.8 -0.1
HARR Harsova 76.85 321⇑*i*P **P** 19 59 22.6 +0.5
HARR Harsova 76.85 321⇑P **P** 19 59 22.6 +0.4
UMR Umm Al-Rimmam 76.90 298 *e*P **P** 19 59 22.5 +0.1
UMR AMb AMB 19 59 23.5
comp=Z,46nm,0.6s,mb5.6
MIB Mutribah 76.96 299 *e*P **P** 19 59 22.9 +0.1
MIB AMb AMB 19 59 24.0
comp=Z,47nm,0.7s,mb5.5
KECS Kecovo 77.00 327 *e*P **P** 19 59 23.0 0.0
KECS Kecovo 77.00 327 *e*P **P** 19 59 23.1 +0.1
DPC Dobruska-Polom 77.01 331 *e*P **P** 19 59 23.7 +0.7
SCHQ Schefferville 77.05 20 P **P** 19 59 23.2 0.0
comp=Z,2.0nm,0.3s,mb4.5,baz=336,slow=4.7,SNR=13
SCHQ Schefferville 77.05 20 *e*P **P** 19 59 22.9 -0.4
comp=Z,2.9nm,0.5s,mb4.5
MORC Moravsky Berou 77.05 330⇓*i*P **P** 19 59 24.0 +0.7
MORC Moravsky Berou 77.05 330 *e*P **P** 19 59 23.1 -0.2
comp=Z,6.3nm,0.7s,mb4.7
MLR Muntele Rosu 77.12 322 P **P** 19 59 24.3 +0.6
comp=Z,10.0nm,0.6s,mb4.9,baz=166,slow=4.8,SNR=25
MLR Muntele Rosu 77.12 322⇑*i*P **P** 19 59 24.5 +0.9
KBD Kabd 77.17 298 *e*P **P** 19 59 24.3 +0.4
QRN Al-Qurain 77.32 298 *e*P **P** 19 59 25.1 +0.4
QRN AMb AMB 19 59 25.8
comp=Z,55nm,0.3s
CLL Collm 77.33 333 *e*P **P** 19 59 24.2 -0.6
comp=Z,19nm,0.6s,mb5.2
CLL Collm 77.33 333⇑*i*P **P** 19 59 24.4 -0.4
comp=Z,19nm,0.6s,mb5.2
CLL *i* x x 19 59 27.7
CLL *e*pP pP 19 59 39.0 -0.7
CLL Collm 77.33 333⇑*i*P **P** 19 59 24.4 -0.4
CLL *e**PP pP 19 59 39.0 -0.7
CLL pmax pmax
comp=Z,19nm,0.6s,mb5.2
BRG Berggiesshubel 77.39 332 *e*P **P** 19 59 24.9 -0.3
comp=Z,6.0nm,0.9s,mb4.5
BRG Berggiesshubel 77.39 332 *e*P **P** 19 59 25.0 -0.2
comp=Z,3.4nm,0.9s,mb4.3
BRG Berggiesshubel 77.39 332 *e*P **P** 19 59 25.0 -0.2
BRG pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
NAY Al-Naaiem 77.40 298 *e*P **P** 19 59 25.3 0.0
NAY AMb AMB 19 59 26.4
comp=Z,18nm,0.8s,mb5.1
RDF Al-Radifah 77.43 298 *e*P **P** 19 59 25.7 +0.3
RDF AMb AMB 19 59 26.7
comp=Z,55nm,0.4s,mb5.8
DRGR 77.47 325⇓*i*P **P** 19 59 25.9 +0.3
DRGR 77.47 325⇓P **P** 19 59 25.9 +0.2
VOIR 77.55 323⇑*i*P **P** 19 59 27.3 +1.2
VOIR 77.55 323⇑P **P** 19 59 27.3 +1.2
VYHS Vyhne 77.63 328 *e*P **P** 19 59 27.0 +0.5
PSZ Piszkesteto 77.69 327 *e*P **P** 19 59 27.1 +0.2
PSZ pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
PSZ Piszkesteto 77.69 327 *e*P **P** 19 59 27.1 +0.2
comp=Z,10nm,0.8s,mb4.8
CLZ Clausthal 77.70 335 *e*P **P** 19 59 27.1 +0.2
comp=Z,14nm,0.8s,mb4.9
CLZ Clausthal 77.70 335 *e*P **P** 19 59 27.1 +0.2
CLZ pmax pmax
comp=Z,14nm,0.8s,mb4.9
VRAC Vranov 77.78 330 LR LR 20 35 56.3
comp=Z,340nm,21.3s,MS4.6,baz=324,slow=37
VRAC Vranov 77.78 330⇓*i*P **P** 19 59 28.3 +0.9
VRAC Vranov 77.78 330⇓P **P** 19 59 28.2 +0.9
BR131 Keskin Array S 77.82 314 *e*P **P** 19 59 27.4 -0.1
comp=Z,3.0nm,0.7s,mb4.3
BRTR Keskin Array B 77.82 314 P **P** 19 59 27.9 +0.3
comp=Z,3.1nm,0.8s,mb4.3,baz=73,slow=3.7,SNR=24
PRU Pruhonice 77.94 331 *e*P **P** 19 59 28.4 +0.2
IBBN Ibbenburen 78.07 336 *e*P **P** 19 59 29.2 +0.2
comp=Z,12nm,0.7s,mb4.9
GTTG Guttingen 78.09 335 *e*P **P** 19 59 29.2 +0.2
comp=Z,9.0nm,0.7s,mb4.8
SMOL Smolenice 78.14 329 *i* P **P** 19 59 30.5 +1.2
ANTO Ankara 78.14 315 *e*P **P** 19 59 30.2 +0.8
ANTO pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
ANTO Ankara 78.14 315 *e*P **P** 19 59 30.2 +0.8
comp=Z,5.4nm,0.6s,mb4.7
TREC Trest 78.19 331 *e*P **P** 19 59 29.8 +0.2
WERD Werda 78.30 333 *e*P **P** 19 59 30.0 -0.2
comp=Z,5.0nm,0.8s,mb4.5
MOX Moxa 78.35 333 *e*P **P** 19 59 30.1 -0.4
comp=Z,6.0nm,0.8s,mb4.6
MOX Moxa 78.35 333 *e*P **P** 19 59 30.6 +0.1
NKC Novy Kostel 78.43 333 *e*P **P** 19 59 30.6 -0.4
ZST Bratislava 78.53 329 *e*P **P** 19 59 30.9 -0.6
MANZ Manzenberg 78.76 333 *e*P **P** 19 59 33.1 +0.4
comp=Z,6.0nm,0.9s,mb4.5
BZS Buzias 78.87 325⇓*i*P **P** 19 59 33.2 -0.1
BZS Buzias 78.87 325⇓P **P** 19 59 33.2 -0.1
ROTZ Rotzenmuhle 78.91 333 *e*P **P** 19 59 33.9 +0.3
comp=Z,4.0nm,0.8s,mb4.4
BUG Bochum-Univer 78.98 336 *e*P **P** 19 59 33.5 -0.5
comp=Z,11nm,0.7s,mb4.9
KHC Kasperske Hory 79.00 332 *e*P **P** 19 59 34.5 +0.5
KHC Kasperske Hory 79.00 332*c i*P **P** 19 59 34.4 +0.4
GEC2 GERESS Array S 79.20 331 *e*P **P** 19 59 34.9 -0.2
comp=Z,7.0nm,0.8s,mb4.6
GEC2 GERESS Array S 79.20 331 *e*P **P** 19 59 34.9 -0.2
GEC2 pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
GERES GERESS Array B 79.20 331 P **P** 19 59 35.1 0.0
comp=Z,5.5nm,0.6s,mb4.6,baz=33,slow=5.3,SNR=62
WET Wettzell 79.22 332 *e*P **P** 19 59 35.5 +0.2
comp=Z,13nm,0.9s,mb4.9
WET Wettzell 79.22 332 *e*P **P** 19 59 35.5 +0.2
WET pmax pmax
comp=Z,13nm,0.9s,mb4.9
GRA1 Grafenberg Arr 79.30 333 *e*P **P** 19 59 36.3 +0.6
comp=Z,27nm,0.7s,mb5.3
GRF Grafenberg Arr 79.30 333 *e*P **P** 19 59 36.3 +0.6
comp=Z,27nm,0.7s,mb5.3
GRF Grafenberg Arr 79.30 333 *e*P **P** 19 59 36.3 +0.6
GRF pmax pmax
comp=Z,27nm,0.7s,mb5.3
GRF Grafenberg Arr 79.30 333 *e*P **P** 19 59 36.3 +0.6
GRF pmax pmax
comp=Z,27nm,0.7s,mb5.3
PKSM Moragy 79.58 327⇓*i*P **P** 19 59 37.0 -0.2
PKSM Moragy 79.58 327⇓P **P** 19 59 37.0 -0.3
TNS Taunus Mts 79.71 335 *e*P **P** 19 59 37.8 -0.1
comp=Z,8.0nm,0.8s,mb4.7
TNS Taunus Mts 79.71 335 *e*P **P** 19 59 37.8 -0.1
TNS pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
MOA Molln 79.85 330⇑*i*P **P** 19 59 39.0 +0.3
comp=Z,5.8nm,1.0s,mb4.5,SNR=13
ARSA Arzberg 79.90 329⇑*i*P **P** 19 59 39.3 +0.3
comp=Z,2.4nm,0.9s,mb4.1
BEBN Eben Emael 80.01 337 P **P** 19 59 39.9 +0.3
comp=Z,8.0nm,0.7s,mb4.8
MEM Membach 80.09 337⇓P **P** 19 59 40.0 0.0
comp=Z,5.2nm,0.8s,mb4.5
FUR Furstenfeldbru 80.61 332 *e*P **P** 19 59 43.4 +0.6
comp=Z,27nm,1.0s,mb5.1
FUR Furstenfeldbru 80.61 332 *e*P **P** 19 59 43.4 +0.6
FUR pmax pmax
comp=Z,27nm,1.0s,mb5.1
VTS Vitosha 80.62 322⇓*i*P **P** 19 59 43.8 +1.0
VTS Vitosha 80.62 322⇓P **P** 19 59 43.8 +1.0
GRUS Gruza 80.64 324 *i* P **P** 19 59 42.2 -0.8
SNF Seneffe 80.66 338 P **P** 19 59 43.0 0.0
comp=Z,3.5nm,0.7s,mb4.4
STU Stuttgart 80.75 334 *e*P **P** 19 59 43.4 -0.2
comp=Z,13nm,0.7s,mb5.0
STU Stuttgart 80.75 334 *e*P **P** 19 59 43.1 -0.5
STU pmax pmax
comp=Z,16nm,0.8s,mb5.0
STU Stuttgart 80.75 334 *e*P **P** 19 59 43.1 -0.5
comp=Z,16nm,0.8s,mb5.0
DIVS Divcibare 80.78 325⇑*i*P **P** 19 59 43.2 -0.5
KBA Koelnbreinsper 80.83 331 *i* P **P** 19 59 44.8 +0.8
comp=Z,11nm,1.1s,mb4.7,SNR=19
KBA Koelnbreinsper 80.83 331 *i* P **P** 19 59 44.8 +0.8
KBA pmax pmax
comp=Z,11nm,1.0s,mb4.7
GIVF Givet 80.88 337 *e*P **P** 19 59 43.9 -0.3
DOU Dourbes 80.95 337⇓P **P** 19 59 43.0 -1.6
comp=Z,1.8nm,0.6s,mb4.2
BAIF Baives 81.09 337 *e*P **P** 19 59 45.0 -0.3
comp=Z,7.5nm,0.8s,mb4.4
BAIF Baives 81.09 337 *e*P **P** 19 59 45.0 -0.3
BAIF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BAIF Baives 81.09 337 *e*P **P** 19 59 45.0 -0.3
comp=Z,3.8nm,0.8s,mb4.4
WATA Walderalm 81.22 332⇑*i*P **P** 19 59 46.3 +0.3
comp=Z,11nm,1.1s,mb4.7,SNR=9.4
WATA Walderalm 81.22 332⇑*i*P **P** 19 59 46.3 +0.2
WATA pmax pmax
comp=Z,11nm,1.1s,mb4.7
WTTA Wattenberg 81.27 332⇓*i*P **P** 19 59 46.9 +0.6
comp=Z,14nm,1.0s,mb4.8
WTTA Wattenberg 81.27 332⇓*i*P **P** 19 59 46.9 +0.6
WTTA pmax pmax
comp=Z,14nm,1.0s,mb4.8
MOTA Moosalm 81.38 332 *i* P **P** 19 59 47.2 +0.4
comp=Z,14nm,1.0s,mb4.8,SNR=22
MOTA Moosalm 81.38 332 *i* P **P** 19 59 47.2 +0.3
MOTA pmax pmax
comp=Z,14nm,1.0s,mb4.8
BFO Black Forest 81.42 334 *e*P **P** 19 59 46.8 -0.3
comp=Z,9.0nm,0.8s,mb4.8
BFO Black Forest 81.42 334 *e*P **P** 19 59 46.8 -0.3
BFO pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SQTA Sankt Quirin 81.45 332 *i* P **P** 19 59 47.7 +0.4
comp=Z,7.2nm,0.9s,mb4.6,SNR=11
SQTA Sankt Quirin 81.45 332 *i* P **P** 19 59 47.7 +0.5
SQTA pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
CDF Champ du Feu 81.67 335 *e*P **P** 19 59 48.3 -0.1
comp=Z,20nm,0.8s,mb4.8
CDF Champ du Feu 81.67 335 *e*P **P** 19 59 48.3 -0.1
CDF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
CDF Champ du Feu 81.67 335 *e*P **P** 19 59 48.3 -0.1
comp=Z,9.9nm,0.8s,mb4.8
DAVA Damuels 81.83 333⇓*i*P **P** 19 59 49.5 +0.2
comp=Z,20nm,1.2s,mb4.9
MEZF Maizieres J'vi 82.25 336 *e*P **P** 19 59 51.5 0.0
comp=Z,24nm,0.8s,mb4.9
MEZF Maizieres J'vi 82.25 336 *e*P **P** 19 59 51.5 0.0
comp=Z,24nm,0.8s,mb5.2
HAU Haudompre 82.31 335 *e*P **P** 19 59 52.4 +0.6
comp=Z,10nm,0.7s,mb4.5
HAU *e*R
comp=Z,355nm,23.0s
HAU Haudompre 82.31 335 *e*P **P** 19 59 52.4 +0.6
HAU pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
HAU MLR MLR
comp=Z,360nm,23.0s,MS4.7
HAU Haudompre 82.31 335 *e*P **P** 19 59 52.4 +0.6
comp=Z,5.1nm,0.7s,mb4.6
HAU LR LR
comp=Z,360nm,23.0s,MS4.7
HINF Hinteralfeld 82.33 335 *e*P **P** 19 59 51.3 -0.6
comp=Z,7.8nm,0.7s,mb4.5
HINF Hinteralfeld 82.33 335 *e*P **P** 19 59 51.3 -0.6
HINF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
HINF Hinteralfeld 82.33 335 *e*P **P** 19 59 51.3 -0.6
comp=Z,3.9nm,0.7s,mb4.5
FLN La Foliniere 83.51 340 *e*P **P** 19 59 57.1 -0.9
comp=Z,17nm,0.7s,mb5.0
FLN *e*R
comp=Z,433nm,22.8s
FLN La Foliniere 83.51 340 *e*P **P** 19 59 57.1 -0.9
FLN pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
FLN MLR MLR
comp=Z,430nm,22.8s,MS4.8
FLN La Foliniere 83.51 340 *e*P **P** 19 59 57.1 -0.9
comp=Z,8.6nm,0.7s,mb5.0
FLN LR LR
comp=Z,430nm,22.8s,MS4.8
LDF La Druitiere 83.58 339 *e*P **P** 19 59 57.5 -0.8
comp=Z,3.1nm,0.4s,mb4.5
LDF La Druitiere 83.58 339 *e*P **P** 19 59 57.5 -0.8
LDF pmax pmax
comp=Z,2.0nm,0.4s,mb4.6
LDF La Druitiere 83.58 339 *e*P **P** 19 59 57.5 -0.8
comp=Z,1.5nm,0.4s,mb4.5
CABF La Chapelle 83.64 335 *e*P **P** 19 59 58.6 -0.1
comp=Z,14nm,0.9s,mb4.8
CABF La Chapelle 83.64 335 *e*P **P** 19 59 58.6 -0.1
CABF pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
CABF La Chapelle 83.64 335 *e*P **P** 19 59 58.6 -0.1
comp=Z,6.8nm,0.9s,mb4.8
MIAR Mount Ida 83.70 47 *e*P **P** 19 59 58.5 -0.5
MIAR pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
MIAR Mount Ida 83.70 47 *e*P **P** 19 59 58.5 -0.5
comp=Z,9.7nm,0.8s,mb5.0
LOR Lormes 83.71 336 *e*P **P** 19 59 58.8 -0.2
comp=Z,24nm,0.9s,mb5.0
LOR *e*R
comp=Z,381nm,23.0s
LOR Lormes 83.71 336 *e*P **P** 19 59 58.8 -0.2
LOR pmax pmax
comp=Z,12nm,0.9s,mb5.0
LOR MLR MLR
comp=Z,380nm,23.0s,MS4.7
LOR Lormes 83.71 336 *e*P **P** 19 59 58.8 -0.2
comp=Z,12nm,0.9s,mb5.0
LOR LR LR
comp=Z,380nm,23.0s,MS4.7
GRR Gorron 83.95 340 *e*P **P** 20 00 00.3 +0.1
comp=Z,33nm,0.7s,mb5.2
GRR Gorron 83.95 340 *e*P **P** 20 00 00.3 +0.1
GRR pmax pmax
comp=Z,16nm,0.7s,mb5.3
GRR Gorron 83.95 340 *e*P **P** 20 00 00.3 +0.1
comp=Z,16nm,0.7s,mb5.3
SSF Saint Saulge 84.00 337 *e*P **P** 20 00 00.3 -0.2
comp=Z,22nm,0.9s,mb5.0
SSF Saint Saulge 84.00 337 *e*P **P** 20 00 00.3 -0.2
SSF pmax pmax
comp=Z,11nm,0.9s,mb5.0
SSF Saint Saulge 84.00 337 *e*P **P** 20 00 00.3 -0.2
comp=Z,11nm,0.9s,mb5.0
HYF Humbligny 84.06 337 *e*P **P** 20 00 01.1 +0.3
SMF Signal de Mont 84.28 336 *e*P **P** 20 00 01.9 0.0
comp=Z,26nm,0.7s,mb5.2
SMF Signal de Mont 84.28 336 *e*P **P** 20 00 01.9 0.0
SMF pmax pmax
comp=Z,13nm,0.7s,mb5.2
SMF Signal de Mont 84.28 336 *e*P **P** 20 00 01.9 0.0
comp=Z,13nm,0.7s,mb5.2
AVF Avril sur Loir 84.29 337 *e*P **P** 20 00 02.0 0.0
comp=Z,16nm,0.7s,mb5.0
AVF Avril sur Loir 84.29 337 *e*P **P** 20 00 02.0 0.0
AVF pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
AVF Avril sur Loir 84.29 337 *e*P **P** 20 00 02.0 0.0
comp=Z,8.3nm,0.7s,mb5.0

LPL	**La Plagne**	**84.42**	**334**	*e*P	**P**	**20 00 03.1**	**+0.5**	
	comp=Z,24nm,0.8s,mb5.1							
LPL	**La Plagne**	**84.42**	**334**	*e*P	**P**	**20 00 03.1**	**+0.5**	
LPL				pmax	pmax			
	comp=Z,12nm,0.8s,mb5.1							
LPL	**La Plagne**	**84.42**	**334**	*e*P	**P**	**20 00 03.1**	**+0.5**	
	comp=Z,12nm,0.8s,mb5.1							
LPG	**La Plagne**	**84.43**	**334**	*e*P	**P**	**20 00 03.4**	**+0.7**	
	comp=Z,28nm,0.7s,mb5.2							
LPG	**La Plagne**	**84.43**	**334**	*e*P	**P**	**20 00 03.4**	**+0.7**	
LPG				pmax	pmax			
	comp=Z,14nm,0.7s,mb5.2							
LPG	**La Plagne**	**84.43**	**334**	*e*P	**P**	**20 00 03.4**	**+0.7**	
	comp=Z,14nm,0.7s,mb5.2							
SGMF	**Saint Gilles**	**84.49**	**341**	*e*P	**P**	**20 00 02.5**	**-0.5**	
	comp=Z,32nm,0.7s,mb5.3							
SGMF	**Saint Gilles**	**84.49**	**341**	*e*P	**P**	**20 00 02.5**	**-0.5**	
SGMF				pmax	pmax			
	comp=Z,16nm,0.7s,mb5.3							
SGMF	**Saint Gilles**	**84.49**	**341**	*e*P	**P**	**20 00 02.5**	**-0.5**	
	comp=Z,16nm,0.7s,mb5.3							
EIL	**Elat**	**84.57**	**307**	*e*P	**P**	**20 00 04.4**	**+1.0**	
	comp=Z,295nm,1.4s							
EIL				*e*pP	pP	20 00 17.2	-1.2	
ROSF	**Rostrenen**	**84.58**	**341**	*e*P	**P**	**20 00 03.0**	**-0.4**	
	comp=Z,41nm,0.9s,mb5.2							
ROSF	**Rostrenen**	**84.58**	**341**	*e*P	**P**	**20 00 03.0**	**-0.4**	
ROSF				pmax	pmax			
	comp=Z,21nm,0.9s,mb5.3							
ROSF	**Rostrenen**	**84.58**	**341**	*e*P	**P**	**20 00 03.0**	**-0.4**	
	comp=Z,20nm,0.9s,mb5.3							
BGF	**Bois d'Agland**	**84.65**	**337**	*e*P	**P**	**20 00 04.4**	**+0.6**	
	comp=Z,8.5nm,0.6s,mb4.7							
BGF	**Bois d'Agland**	**84.65**	**337**	*e*P	**P**	**20 00 04.4**	**+0.6**	
BGF				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.7							
BGF	**Bois d'Agland**	**84.65**	**337**	*e*P	**P**	**20 00 04.4**	**+0.6**	
	comp=Z,4.3nm,0.6s,mb4.8							
AQU	**L'Aquila**	**84.86**	**328**	⇑P	**P**	**20 00 06.1**	**+1.3**	
QUIF	**Quistinic**	**84.95**	**341**	*e*P	**P**	**20 00 04.5**	**-0.8**	
	comp=Z,22nm,0.8s,mb5.0							
QUIF	**Quistinic**	**84.95**	**341**	*e*P	**P**	**20 00 04.5**	**-0.8**	
QUIF				pmax	pmax			
	comp=Z,11nm,0.8s,mb5.0							
QUIF	**Quistinic**	**84.95**	**341**	*e*P	**P**	**20 00 04.5**	**-0.8**	
	comp=Z,11nm,0.8s,mb5.0							
MBDF	**Montbardon**	**85.11**	**333**	*e*P	**P**	**20 00 05.9**	**-0.2**	
	comp=Z,12nm,0.6s,mb4.9							
MBDF	**Montbardon**	**85.11**	**333**	*e*P	**P**	**20 00 05.9**	**-0.2**	
MBDF				pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.9							
MBDF	**Montbardon**	**85.11**	**333**	*e*P	**P**	**20 00 05.9**	**-0.2**	
	comp=Z,5.8nm,0.6s,mb4.9							
ORIF	**Oris-en-Rattie**	**85.22**	**334**	*e*P	**P**	**20 00 07.1**	**+0.4**	
	comp=Z,14nm,0.7s,mb4.9							
ORIF				*e*R				
	comp=Z,492nm,22.0s							
ORIF	**Oris-en-Rattie**	**85.22**	**334**	*e*P	**P**	**20 00 07.1**	**+0.4**	
ORIF				pmax	pmax			
	comp=Z,7.0nm,0.7s,mb4.9							
ORIF	**Oris-en-Rattie**	**85.22**	**334**	*e*P	**P**	**20 00 07.1**	**+0.4**	
	comp=Z,7.2nm,0.7s,mb4.9							
MFF	**Saint Martin d**	**85.43**	**339**	*e*P	**P**	**20 00 07.1**	**-0.6**	
	comp=Z,33nm,0.7s,mb5.3							
MFF	**Saint Martin d**	**85.43**	**339**	*e*P	**P**	**20 00 07.1**	**-0.6**	
MFF				pmax	pmax			
	comp=Z,16nm,0.7s,mb5.3							
MFF	**Saint Martin d**	**85.43**	**339**	*e*P	**P**	**20 00 07.1**	**-0.6**	
	comp=Z,16nm,0.7s,mb5.3							
VIVF	**Saint-Julien-l**	**85.65**	**335**	*e*P	**P**	**20 00 09.3**	**+0.5**	
	comp=Z,28nm,1.0s,mb5.2							
VIVF	**Saint-Julien-l**	**85.65**	**335**	*e*P	**P**	**20 00 09.3**	**+0.5**	
VIVF				pmax	pmax			
	comp=Z,14nm,1.0s,mb5.2							
VIVF	**Saint-Julien-l**	**85.65**	**335**	*e*P	**P**	**20 00 09.3**	**+0.5**	
	comp=Z,14nm,1.0s,mb5.1							
SBF	**Sospel**	**85.66**	**333**	*e*P	**P**	**20 00 08.3**	**-0.6**	
	comp=Z,13nm,0.6s,mb5.0							
SBF	**Sospel**	**85.66**	**333**	*e*P	**P**	**20 00 08.3**	**-0.6**	
SBF				pmax	pmax			
	comp=Z,6.0nm,0.6s,mb5.0							
SBF	**Sospel**	**85.66**	**333**	*e*P	**P**	**20 00 08.3**	**-0.6**	
	comp=Z,6.4nm,0.6s,mb5.0							
SMRF	**Simiane la Rot**	**86.17**	**334**	*e*P	**P**	**20 00 11.9**	**+0.6**	
	comp=Z,9.8nm,0.8s,mb4.8							
SMRF	**Simiane la Rot**	**86.17**	**334**	*e*P	**P**	**20 00 11.9**	**+0.6**	
	comp=Z,9.8nm,0.8s,mb5.1							
RJF	**Les Rejaudoux**	**86.17**	**337**	*e*P	**P**	**20 00 11.8**	**+0.4**	
	comp=Z,15nm,0.9s,mb4.9							
RJF				*e*R				
	comp=Z,427nm,22.0s							
RJF	**Les Rejaudoux**	**86.17**	**337**	*e*P	**P**	**20 00 11.8**	**+0.4**	
RJF				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.9							
RJF				MLR	MLR			
	comp=Z,430nm,22.0s,MS4.8							
RJF	**Les Rejaudoux**	**86.17**	**337**	*e*P	**P**	**20 00 11.8**	**+0.4**	
	comp=Z,7.3nm,0.9s,mb4.9							
RJF				LR	LR			
	comp=Z,430nm,22.0s,MS4.8							
FRF	**La Foret Royal**	**86.19**	**333**	*e*P	**P**	**20 00 11.1**	**-0.4**	
	comp=Z,24nm,1.1s,mb5.0							
FRF	**La Foret Royal**	**86.19**	**333**	*e*P	**P**	**20 00 11.1**	**-0.4**	
FRF				pmax	pmax			
	comp=Z,12nm,1.1s,mb5.0							
FRF	**La Foret Royal**	**86.19**	**333**	*e*P	**P**	**20 00 11.1**	**-0.4**	
	comp=Z,12nm,1.1s,mb5.0							
PGF	**Pioggiola**	**86.30**	**331**	*e*P	**P**	**20 00 11.5**	**-0.5**	
	comp=Z,10nm,0.7s,mb4.9							
PGF	**Pioggiola**	**86.30**	**331**	*e*P	**P**	**20 00 11.5**	**-0.5**	
PGF				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.8							
PGF	**Pioggiola**	**86.30**	**331**	*e*P	**P**	**20 00 11.5**	**-0.5**	
	comp=Z,5.1nm,0.7s,mb4.9							
CAF	**Calviac**	**86.36**	**337**	*e*P	**P**	**20 00 13.2**	**+0.9**	
	comp=Z,26nm,0.9s,mb5.2							
CAF	**Calviac**	**86.36**	**337**	*e*P	**P**	**20 00 13.2**	**+0.9**	
CAF				pmax	pmax			
	comp=Z,13nm,0.9s,mb5.2							
CAF	**Calviac**	**86.36**	**337**	*e*P	**P**	**20 00 13.2**	**+0.9**	
	comp=Z,13nm,0.9s,mb5.2							
LMR	**La Mourre**	**86.44**	**333**	*e*P	**P**	**20 00 12.5**	**-0.2**	
	comp=Z,49nm,1.0s,mb5.4							
LMR	**La Mourre**	**86.44**	**333**	*e*P	**P**	**20 00 12.5**	**-0.2**	
LMR				pmax	pmax			
	comp=Z,25nm,1.0s,mb5.4							
LMR	**La Mourre**	**86.44**	**333**	*e*P	**P**	**20 00 12.5**	**-0.2**	
	comp=Z,25nm,1.0s,mb5.4							
LASF	**Ste Croix**	**86.61**	**335**	*e*P	**P**	**20 00 13.2**	**-0.3**	
	comp=Z,12nm,0.8s,mb4.8							
LFF	**La Frestale**	**86.72**	**337**	*e*P	**P**	**20 00 14.2**	**+0.1**	
	comp=Z,22nm,0.6s,mb5.3							
LFF	**La Frestale**	**86.72**	**337**	*e*P	**P**	**20 00 14.2**	**+0.1**	
LFF				pmax	pmax			
	comp=Z,11nm,0.6s,mb5.3							
LFF	**La Frestale**	**86.72**	**337**	*e*P	**P**	**20 00 14.2**	**+0.1**	
	comp=Z,11nm,0.6s,mb5.3							
MTLF	**Montolieu**	**87.77**	**336**	*e*P	**P**	**20 00 19.5**	**+0.4**	
	comp=Z,9.7nm,0.8s,mb4.8							
MTLF	**Montolieu**	**87.77**	**336**	*e*P	**P**	**20 00 19.5**	**+0.4**	
MTLF				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.8							
MTLF	**Montolieu**	**87.77**	**336**	*e*P	**P**	**20 00 19.5**	**+0.4**	
	comp=Z,4.8nm,0.8s,mb4.8							
EPF	**Esparros**	**88.59**	**337**	*e*P	**P**	**20 00 22.6**	**-0.4**	
ETSF	**Etsaut**	**88.97**	**338**	*e*P	**P**	**20 00 24.9**	**+0.1**	
	comp=Z,9.9nm,0.6s,mb5.0							
ETSF	**Etsaut**	**88.97**	**338**	*e*P	**P**	**20 00 24.9**	**+0.1**	
ETSF				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb5.0							
ETSF	**Etsaut**	**88.97**	**338**	*e*P	**P**	**20 00 24.9**	**+0.1**	
	comp=Z,4.9nm,0.6s,mb5.0							
ESDC	**Sonseca Array**	**92.89**	**339**	P	**P**	**20 00 42.6**	**-0.4**	
	comp=Z,1.2nm,0.7s,mb4.5,baz=21,slow=4.3,SNR=12							
TORD	**Torodi Ar. Bea**	**115.35**	**323**	PKP	PKPdf	20 06 10.4	-1.1	
	comp=Z,0.4nm,0.4s,baz=14,slow=2.7,SNR=9.7							
TORD				pPKP		20 06 25.7		
	comp=Z,0.5nm,0.5s,baz=9.4,slow=1.7,SNR=3.1							
VNDA	**Vanda**	**121.65**	**177**	PKP	PKPdf	20 06 22.1	-1.6	
	comp=Z,0.6nm,0.9s,baz=272,slow=3.1,SNR=4.3							
LPAZ	**La Paz**	**138.69**	**59**	PKP	PKPdf	20 06 56.9	+1.0	
	comp=Z,0.6nm,0.6s,baz=67,slow=3.1,SNR=3.8							
BDFB	**Brasilia**	**148.48**	**31**	PKPbc	PKPbc	20 07 16.6	+0.1	
	comp=Z,4.5nm,0.7s,baz=2.9,slow=1.8,SNR=5.2							
SNAA	**Sanae**	**149.01**	**197**	PKPbc	PKPbc	20 07 15.7	-2.2	
	comp=Z,0.9nm,0.7s,baz=182,slow=1.6,SNR=10.0							
SNAA	**Sanae**	**149.01**	**197**	*e*PKPdf	PKPdf	20 07 10.4	-3.4	
SNAA				*e*		20 07 16.1		
SNAA				*e*		20 07 17.7		
SNAA				*e*		20 07 23.9		
SNAA				*e*		20 07 35.0		
SNAA				*e*		20 07 38.7		
SNAA				*e*		20 08 21.1		
VNA2	**Neumayer--Watz**	**150.53**	**196**	*e*PKPdf	PKPdf	20 07 13.9	-2.3	
VNA2				*e*		20 07 20.5		
VNA2				*e*		20 07 21.9		
VNA2				*e*		20 07 26.4		
VNA2				*e*		20 07 37.3		
VNA2				*e*		20 07 40.4		
VNA2				*e*		20 07 45.5		
VNA2				*e*		20 07 49.7		
VNA2				*e*		20 08 14.9		
VNA2				*e*		20 08 16.6		
VNA2				*e*		20 08 22.4		
VNA3	**Neumayer Olymp**	**150.70**	**194**	*e*PKPdf	PKPdf	20 07 14.6	-1.9	
VNA3				*e*		20 07 20.4		
VNA3				*e*		20 07 27.6		
VNA3				*e*		20 07 37.7		
VNA3				*e*		20 07 44.3		
VNA3				*e*		20 08 22.3		
VNA3				*e*		20 08 24.2		
VNA1	**Neumayer--Stat**	**150.92**	**196**	*e*PKPdf	PKPdf	20 07 16.3	-0.5	
VNA1				*e*		20 07 21.4		
VNA1				*e*		20 07 22.7		
VNA1				*e*		20 07 28.6		
VNA1				*e*		20 07 38.4		
VNA1				*e*		20 07 42.0		
VNA1				*e*		20 07 47.6		
VNA1				*e*		20 08 13.0		
VNA1				*e*		20 08 14.5		
CPUP	**Villa Florida**	**152.83**	**58**	PKPbc	PKPbc	20 07 25.8	-1.1	
	comp=Z,0.9nm,0.7s,baz=22,slow=4.4,SNR=3.6							

*NNC **06** 20:21:24.7±4.5, 4191N×7687E, h0km, mb3.2, mpv3.1, Error ellipse: s-maj=49.3km s-min=23.7km az=122.0*
*ISCJB **06** 20:21:26.0±1.5, 4194N±007×7672E±008, h10km, Error ellipse: s-maj=11.2km s-min=7.2km az=103.8*
*KNET **06** 20:21:26.7±0.9, 4196N×7653E, h10km, 3km, ml2.0, Error ellipse: s-maj=4.9km s-min=3.8km az=109.0*

ISC 06 20:21:25.9±1.5, 4194N±007×7672E±008, h10km, n10, σ1§46/18, 13C-5D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.47**	**311**			P	**Pg**	**20 21 33.7**	**-1.4**
	12nm,0.1s,SNR=129								
ULHL				⇑S			**Sg**	**20 21 41.0**	**-0.4**
	84nm,0.3s								
KZA	**Kyzart**	**1.10**	**278**	⇓P			**Pb**	**20 21 44.7**	**-2.4**
	5.9nm,0.2s,SNR=12								
KZA				⇑S			**Sg**	**20 21 60.0**	**-1.5**
	42nm,0.3s								
TKM2	**Tokmak 2**	**1.29**	**320**	⇑P			**Pn**	**20 21 48.6**	**-1.4**
	2.9nm,0.1s,SNR=21								
TKM2				⇑S			**Sb**	**20 22 06.6**	**-0.2**
	22nm,0.1s								
KNDC	**Almaty**	**1.29**	**8**	⇑P			**Pn**	**20 21 49.2**	**-0.9**
	42nm,0.5s								
KNDC				⇓S			**Sb**	**20 22 07.4**	**+0.4**
	24nm,0.2s								
UCH	**Uchtor**	**1.67**	**281**	⇓P			**Pn**	**20 21 55.2**	**0.0**
	6.9nm,0.3s,SNR=15								
UCH				⇑S			**Sn**	**20 22 17.4**	**+0.7**
	8.1nm,0.2s								
AAK	**Ala-Archa**	**1.79**	**294**	⇑P			**Pn**	**20 21 57.5**	**+0.6**
	4.0nm,0.2s,SNR=9.6								
AAK				⇑S			**Sn**	**20 22 21.6**	**+1.9**
	18nm,0.3s								
CHMS	**Chumysh**	**1.80**	**307**	⇑P			**Pn**	**20 21 57.7**	**+0.7**
	2.9nm,0.2s,SNR=5.8								
CHMS				⇑S			**Sn**	**20 22 22.5**	**+2.6**
	14nm,0.2s								
AML	**Almayashu**	**2.26**	**276**	⇑P			**Pn**	**20 22 05.8**	**+2.4**
	4.7nm,0.2s,SNR=7.2								
AML				⇓S			**Sn**	**20 22 36.4**	**+5.1**
	30nm,0.4s								
EKS2	**Erkin-Say**	**2.30**	**289**	⇑P			**Pn**	**20 22 07.2**	**+3.3**
	2.6nm,0.2s,SNR=10								
KK31	**Karatay Array**	**4.73**	**286**	⇑Pg			**Pg**	**20 22 54.3**	**-2.3**
	0.2nm,0.3s,baz=116,slow=16,SNR=6.7								
KK31				⇓Lg				20 23 52.1	
	1.3nm,0.5s,baz=107,slow=30,SNR=4.5								

*ISCJB **06** 20:26:02.8±0.5, 3874N±002×2324E±003, h7km±4km, mb3.3/7, Error ellipse: s-maj=3.8km s-min=2.8km az=161.1*
*IDC **06** 20:26:02.4±1.1, 3873N×2304E, h0km, mb3.4/7, mb1 3.5/10, mb1mx3.4/24, mbtmpg3.4/10, ML3.5/3, Error ellipse: s-maj=24.8km s-min=16.0km az=104.0*
*NEIC **06** 20:26:03.0, 3875N×2325E, h20km, ML4.0(ATH), After ATH.*
*ATH **06** 20:26:03.0, 3875N×2325E, h20km±1km, MD3.7/16, ML4.0*
*THE **06** 20:26:04.1, 3878N×2323E, h10km, ML3.5*
*CSEM **06** 20:26:04.6±0.1, 3877N×2325E, h15km, ML4.0, Error ellipse: s-maj=1.9km s-min=1.6km az=81.0*
*MOS **06** 20:26:06.0±1.5, 3878N×2327E, h33km, mb3.5/1, Error ellipse: s-maj=12.9km s-min=7.2km az=104.0*
*SKO **06** 20:26:07.0, 3888N×2354E, h32km*

ISC 06 20:26:03.8±0.5, 3874N±002×2325E±003, h6km±3km, n74, σ1§22/94, mb3.3/7, 5C-5D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.21**	**246**	⇑*i*PB			**Pg**	**20 26 08.1**	**+0.1**
LKR				*e*SB			**Sg**	**20 26 11.8**	**+0.9**
NEO	**Neokhori**	**0.57**	**358**	⇑*i*PN			**Pg**	**20 26 15.0**	**+0.3**
NEO				*e*SN			**Sg**	**20 26 22.8**	**+0.7**
XOR	**Xorichti**	**0.63**	**356**	*e*Pg			**Pg**	**20 26 15.4**	**-0.4**
XOR				*e*Sg			**Sg**	**20 26 24.3**	**+0.3**
XOR	**Xorichti**	**0.63**	**356**	*e*Pg			**Pg**	**20 26 15.4**	**-0.5**
XOR				*e*Sg			**Sg**	**20 26 24.3**	**+0.3**
AOS	**Alonnisos**	**0.66**	**49**	*e*Pg			**Pg**	**20 26 16.5**	**+0.1**
AOS				*e*Sg			**Sg**	**20 26 26.1**	**+1.2**
MGER	**Gerania Oros**	**0.75**	**179**	*e*PN			**Pn**	**20 26 17.5**	**-3.4**
AGG	**Agios Georgios**	**0.77**	**292**	*e*Pg			**Pg**	**20 26 17.9**	**-0.6**
AGG				*e*Sg			**Sg**	**20 26 29.0**	**+0.5**
PTL	**Penteli**	**0.84**	**145**	*e*PN			**Pn**	**20 26 19.7**	**-2.5**
ATH	**Athens Observa**	**0.85**	**154**	*e*PN			**Pn**	**20 26 20.0**	**-2.3**
ATH				*e*SN			**Sn**	**20 26 31.5**	**-3.5**
KVR	**Kavouri**	**1.00**	**156**	*e*PN			**Pn**	**20 26 22.5**	**-1.8**
EVR	**Evrytania**	**1.14**	**279**	*e*PN			**Pn**	**20 26 24.2**	**-2.0**
LIT	**Litokhoron**	**1.48**	**337**	*e*Pg			**Pg**	**20 26 30.0**	**-2.2**
LIT				*e*Sg			**Sg**	**20 26 51.9**	**+0.5**
RLS	**Riolos of Patr**	**1.56**	**245**	*e*PN			**Pn**	**20 26 32.0**	**0.0**
PLG	**Polygyros**	**1.64**	**5**	*e*PN			**Pn**	**20 26 32.2**	**-0.9**
OUR	**Ouranopolis**	**1.69**	**19**	*e*Pb			**Pb**	**20 26 33.2**	**-2.0**
OUR				*e*Sb			**Sb**	**20 26 56.7**	**-0.1**
OUR	**Ouranopolis**	**1.69**	**19**	*e*Pb			**Pb**	**20 26 33.2**	**-2.1**
ITM	**Ithomi**	**1.87**	**214**	*e*PN			**Pn**	**20 26 36.6**	**+0.3**
LIA	**Limnos Island**	**1.90**	**52**	⇓*i*PB			**Pb**	**20 26 35.9**	**-2.9**
THE	**Thessaloniki**	**1.90**	**354**	*e*Pb			**Pb**	**20 26 35.5**	**-3.3**
THE	**Thessaloniki**	**1.90**	**354**	*e*Pb			**Pb**	**20 26 35.5**	**-3.4**
KZN	**Kozani**	**1.94**	**324**	*e*PN			**Pn**	**20 26 37.1**	**-0.1**
LKD	**Levkas**	**2.03**	**270**	*e*Pn			**Pn**	**20 26 37.7**	**-0.8**
LKD				*e*Sn			**Sn**	**20 27 06.6**	**+2.4**
VLI	**Veliai**	**2.03**	**187**	*e*PN			**Pn**	**20 26 38.3**	**-0.2**
JAN	**Janina**	**2.08**	**297**	*e*PN			**Pn**	**20 26 39.0**	**-0.1**
SOH	**Sokhos**	**2.08**	**2**	*e*Pn			**Pn**	**20 26 38.9**	**-0.3**
SOH				*e*Sn			**Sn**	**20 27 06.3**	**+0.9**
VLS	**Valsamata**	**2.16**	**256**	*e*PN			**Pn**	**20 26 41.2**	**+0.9**
CHOS	**Chios island**	**2.23**	**98**	*e*Pn			**Pn**	**20 26 41.5**	**+0.3**
CHOS				*e*Sn			**Sn**	**20 27 11.5**	**+2.5**
GRG	**Griva**	**2.31**	**344**	*e*Pn			**Pn**	**20 26 41.5**	**-0.8**
GRG				*e*Sn			**Sn**	**20 27 10.9**	**-0.1**
SRS	**Serrai**	**2.39**	**6**	*e*Pn			**Pn**	**20 26 43.2**	**-0.2**
SRS				*e*Sn			**Sn**	**20 27 13.1**	**+0.1**
IGT	**Igoumenitsa**	**2.40**	**290**	*e*Pn			**Pn**	**20 26 44.1**	**+0.5**
PRK	**Paraskevi**	**2.41**	**77**	*e*PN			**Pn**	**20 26 43.5**	**-0.2**
KNT	**Kendrikon**	**2.44**	**354**	*e*Pn			**Pn**	**20 26 44.0**	**-0.1**
APE	**Apeiranthos**	**2.46**	**132**	*e*Pn			**Pn**	**20 26 44.6**	**+0.2**
APE				*e*Sn			**Sn**	**20 27 18.4**	**+3.7**
APE	**Apeiranthos**	**2.46**	**132**	⇑*i*P			**Pn**	**20 26 44.8**	**+0.4**
APE	**Apeiranthos**	**2.46**	**132**	*d*iP			**Pn**	**20 26 44.6**	**+0.2**
KYTH	**Kithira**	**2.46**	**184**	*e*PB			**Pb**	**20 26 45.3**	**-3.1**
FNA	**Florina**	**2.50**	**325**	*e*Pn			**Pn**	**20 26 45.2**	**+0.3**
FNA				*e*Sn			**Sn**	**20 27 17.1**	**+1.4**
NVR	**Nevrokopi**	**2.65**	**10**	*e*PN			**Pn**	**20 26 46.5**	**-0.5**
BIA	**Bitola**	**2.72**	**328**	*i* Pn			**Pn**	**20 26 51.3**	**+3.4**
THR3	**Thira Island,**	**2.89**	**143**	*e*Pn			**Pn**	**20 26 51.8**	**+1.5**
THR3				*e*Sn			**Sn**	**20 27 28.9**	**+3.6**
THR1	**Thera Island**	**2.95**	**143**	*e*Pn			**Pn**	**20 26 52.1**	**+1.0**
RDO	**Rodhopi**	**2.98**	**35**	*e*PN			**Pn**	**20 26 50.4**	**-1.2**
OHR	**Ohrid**	**3.03**	**322**	*i* Pn			**Pn**	**20 26 52.8**	**+0.6**
OHR				*e*Pg			**Pg**	**20 27 02.9**	**+1.1**
OHR	**Ohrid**	**3.03**	**322**	*i* Pn			**Pn**	**20 26 52.7**	**+0.5**
ALN	**Alexandroupoli**	**3.05**	**44**	*e*Pn			**Pn**	**20 26 52.5**	**0.0**
KARN	**Karanos**	**3.37**	**171**	*e*Pn			**Pn**	**20 26 58.3**	**+1.4**
VAM	**Vamos**	**3.41**	**167**	*e*PN			**Pn**	**20 26 58.5**	**+1.0**
IDI	**Anoyia**	**3.69**	**159**	Pn			**Pn**	**20 27 01.6**	**+0.3**
	4.1nm,0.3s,baz=323,slow=12,SNR=33								
IDI				Sn			**Sn**	**20 27 44.4**	**-0.6**
	4.5nm,0.3s,baz=303,slow=18,SNR=3.1								
VTS	**Vitosha**	**3.85**	**360**	⇑*i*P			**Pn**	**20 27 04.4**	**+0.9**
VTS	**Vitosha**	**3.85**	**360**	⇑P			**Pn**	**20 27 04.4**	**+0.9**
GVD	**Gavdhos**	**3.95**	**170**	*e*Pn			**Pn**	**20 27 06.2**	**+1.3**
GVD	**Gavdhos**	**3.95**	**170**	*e*Pn			**Pn**	**20 27 06.8**	**+1.9**
NPS	**Neapolis**	**3.95**	**151**	*e*PN			**Pn**	**20 27 05.2**	**+0.3**
ZKR	**Zakros**	**4.33**	**146**	*e*Pn			**Pn**	**20 27 11.8**	**+1.7**
GRUS	**Gruza**	**5.49**	**340**	*i* Pn			**Pn**	**20 27 24.7**	**-1.3**
DIVS	**Divcibare**	**5.89**	**336**	⇑*i*Pn			**Pn**	**20 27 31.6**	**+0.1**
DIVS	**Divcibare**	**5.89**	**336**	*e*Pn			**Pn**	**20 27 32.9**	**+1.4**
MLR	**Muntele Rosu**	**7.04**	**16**	Pn			**Pn**	**20 27 49.8**	**+2.5**
	0.6nm,0.3s,baz=296,slow=8.3,SNR=6.9								
MLR				Sn			**Sn**	**20 29 09.2**	**+1.6**
	baz=195,slow=16								
BR131	**Keskin Array S**	**8.13**	**80**	*e*P			**Pn**	**20 28 02.4**	**+0.2**
	0.4nm,0.3s								
BR131	**Keskin Array S**	**8.13**	**80**	*e*P			**Pn**	**20 28 02.4**	**+0.1**
	0.4nm,0.3s								
BRTR	**Keskin Array B**	**8.13**	**80**	Pn			**Pn**	**20 28 03.5**	**+1.2**
	0.2nm,0.3s,baz=253,slow=12,SNR=8.4								
PKSM	**Moragy**	**8.21**	**337**	⇓*i*P			**Pn**	**20 28 03.5**	**+0.2**
PKSM	**Moragy**	**8.21**	**337**	⇓P			**Pn**	**20 28 03.5**	**+0.2**
PKSM	**Moragy**	**8.21**	**337**	P			**Pn**	**20 28 03.6**	**+0.3**
HFS	**Hagfors**	**22.25**	**347**	P			**P**	**20 30 58.7**	**-2.6**
	1.2nm,0.8s,mb3.4,baz=185,slow=12,SNR=2.4								
FINES	**FINESS Array B**	**22.80**	**4**	P			**P**	**20 31 04.8**	**-2.3**
	0.9nm,0.8s,mb3.2,baz=157,slow=7.4,SNR=4.6								
NOA	**NORSAR Array B**	**23.55**	**345**	P			**P**	**20 31 15.6**	**+0.5**
	0.3nm,0.7s,mb2.9,baz=166,slow=20,SNR=2.8								
EKA	**Eskdalemuir Ar**	**24.26**	**322**	P			**P**	**20 31 19.5**	**-2.0**
	0.7nm,0.8s,mb3.2,baz=118,slow=9.1,SNR=3.0								
TORD	**Torodi Ar. Bea**	**31.85**	**223**	P			**P**	**20 32 28.8**	**-0.6**
	0.5nm,0.5s,mb3.6,baz=33,slow=9.3,SNR=13								
MKAR	**Makanchi Array**	**43.18**	**59**	P			**P**	**20 34 05.2**	**-0.1**
	0.6nm,0.7s,mb3.5,baz=280,slow=8.1,SNR=5.5								
MKAR	**Makanchi Array**	**43.18**	**59**	*e*P			**P**	**20 34 05.2**	**-0.1**
YKA	**Yellowknife Ar**	**73.58**	**341**	P			**P**	**20 37 36.3**	**-1.4**
	0.2nm,0.6s,mb3.2,baz=31,slow=5.5,SNR=4.2					

	1.4nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**48.74**	**262**	P	**P**	**21 10 24.3**	**-1.1**
	0.3nm,0.3s,mb3.8,baz=97,slow=7.3,SNR=11						
ILAR	**Eielson Array**	**88.21**	**11**	P	**P**	**21 14 31.6**	**0.0**
	0.5nm,0.8s,mb3.8,baz=226,slow=7.7,SNR=4.2						
ARCES	**ARCESS Array B**	**130.43**	**351**	PKP	PKPdf	21 20 53.2	+2.3
	1.1nm,0.8s,baz=48,slow=1.8,SNR=6.2						
ARCES	**ARCESS Array B**	**130.43**	**351**	PKP	PKPdf	21 20 53.2	+2.2
AKASG	**Malin Array Be**	**145.71**	**334**	PKP	PKPdf	21 21 19.8	+1.0
	0.3nm,0.3s,baz=39,slow=4.1,SNR=4.8						
GERES	**GERESS Array B**	**151.94**	**350**	PKPbc	PKPbc	21 21 39.0	+3.6
	0.3nm,0.6s,baz=336,slow=2.9,SNR=5.0						

*ISCJB **06** 21:05:04.0±0.5, 4005N±002×2754E±003, h9km±4km, Error ellipse: s-maj=4.4km s-min=3.7km az=117.4*
*ISK **06** 21:05:03.7, 4004N×2754E, h16km, MD3.1*
*CSEM **06** 21:05:04.0±0.1, 4004N×2758E, h15km, MD3.1, Error ellipse: s-maj=1.9km s-min=1.7km az=76.0*
*ATH **06** 21:05:05.1, 4001N×2761E, h52km±47km, MD3.4/4*

ISC 06 21:05:04.5±0.5, 4006N±002×2753E±003, h12km±4km, n29, σ0°83/42, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EDC	**Edincik**	**0.39**	**41**	*i*	PG	**Pg**	**21 05 12.5**	**+0.3**
EDC					SG	**Sg**	**21 05 18.5**	**+1.1**
BNT	**Bandirma**	**0.42**	**44**	*i*	PG	**Pg**	**21 05 12.8**	**-0.1**
BNT					SG	**Sg**	**21 05 18.4**	**-0.1**
BALB	**Balikesir**	**0.49**	**147**	*i*	PG	**Pg**	**21 05 13.6**	**-0.6**
BALB					SG	**Sg**	**21 05 20.6**	**-0.2**
MRMT	**Marmara Adasi**	**0.55**	**5**		PG	**Pg**	**21 05 15.3**	**0.0**
RKY	**Sarkoy-Tekirda**	**0.69**	**337**		PG	**Pg**	**21 05 18.0**	**+0.1**
SART	**Tekirdag**	**0.69**	**337**	*i*	P	**Pg**	**21 05 17.9**	**0.0**
SART				*i*	S	**Sg**	**21 05 27.7**	**+0.8**
MFT	**Murefte**	**0.76**	**345**		PG	**Pg**	**21 05 18.6**	**-0.6**
DST	**Dursunbey**	**0.95**	**118**		PG	**Pg**	**21 05 22.2**	**-0.8**
ORLT	**Orhaneli**	**1.05**	**90**		PG	**Pg**	**21 05 23.8**	**-0.9**
AKS	**Akhisar**	**1.20**	**169**		PN	**Pn**	**21 05 26.7**	**-0.4**
ULDT	**Uludag**	**1.23**	**85**	*i*	P	**Pn**	**21 05 28.2**	**+0.6**
ULDT				*i*	S	**Sb**	**21 05 44.4**	**+0.8**
PRK	**Paraskevi**	**1.27**	**231**	*e*	P	**Pn**	**21 05 27.7**	**-0.4**
PRK				*e*	S	**Sb**	**21 05 44.3**	**-0.3**
CTT	**Catalca**	**1.29**	**32**		PN	**Pn**	**21 05 28.3**	**-0.1**
ELBA	**Catalca**	**1.29**	**32**	*i*	P	**Pn**	**21 05 28.4**	**0.0**
ELBA				*i*	S	**Sb**	**21 05 42.9**	**-2.3**
ELBA	**Catalca**	**1.29**	**32**	*i*	P	**Pn**	**21 05 28.4**	**0.0**
ELBA				*i*	S	**Sb**	**21 05 42.8**	**-2.4**
YLV	**Yalova**	**1.50**	**69**		PN	**Pn**	**21 05 30.1**	**-1.1**
IZI	**Iznik**	**1.51**	**79**		PN	**Pn**	**21 05 30.5**	**-0.9**
KDAG	**Bornova**	**1.66**	**187**	*i*	P	**Pn**	**21 05 36.9**	**+3.3**
KDAG				*i*	S	**Sn**	**21 05 55.0**	**+0.1**
KDAG	**Bornova**	**1.66**	**187**	*i*	S	**Sn**	**21 05 55.0**	**+0.2**
IZM	**Izmir**	**1.67**	**187**		PN	**Pn**	**21 05 32.5**	**-1.1**
MANT	**Manisa**	**1.75**	**153**	*i*	P	**Pn**	**21 05 34.7**	**-0.1**
MANT				*i*	S	**Sn**	**21 05 59.2**	**+2.1**
GDZ	**Gediz**	**1.79**	**122**	*i*	P	**Pn**	**21 05 35.3**	**+0.1**
GDZ				*i*	S	**Sn**	**21 06 01.9**	**+3.9**
HRT	**Hereke**	**1.80**	**64**		PN	**Pn**	**21 05 35.6**	**+0.2**
LIA	**Limnos Island**	**1.81**	**266**	*e*	P	**Pn**	**21 05 35.8**	**+0.2**
RDO	**Rodhopi**	**1.87**	**306**	*e*	P	**Pn**	**21 05 36.9**	**+0.5**
RDO				*e*	S	**Sn**	**21 06 00.2**	**+0.3**
EDRB	**Edirne**	**1.89**	**342**		PN	**Pn**	**21 05 35.9**	**-0.7**
ALT	**Altintas**	**2.23**	**116**		PN	**Pn**	**21 05 40.8**	**-0.5**
BORA	**Eskisehir**	**2.25**	**94**	*i*	P	**Pn**	**21 05 41.3**	**-0.3**
BORA				*i*	S	**Sg**	**21 06 18.4**	**+1.5**
NVR	**Nevrokopi**	**3.08**	**296**	*e*	P	**Pn**	**21 05 54.4**	**+1.4**

CASC 06 21:07:33.3±2.9, 875N×8248W, h6km±7km, MD4.4, MW4.4, 7C-8D, Fault plane solution: NP1:φ81.11000°, δ90.00000°, λ30.00000°., Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CTCR	**Cotoan**	**0.31**	**298**	↓*i*	P	Pg	21 07 38.5	-0.8
DVD	**David**	**0.31**	**174**	↑*i*	P	Pg	21 07 40.4	+1.0
ACR	**Cerro Adams**	**0.68**	**262**	*e*	S	Sg	21 07 56.2	+0.9
ACR				↑*i*	P		21 07 45.8	
BUS	**Buena Vista**	**1.49**	**303**	*e*	P	Pn	21 07 58.9	-1.7
BUS				*e*	S	Sn	21 08 20.6	+0.2
URSC	**Urasca**	**1.67**	**310**	↑*i*	P	Pn	21 08 02.0	-1.1
VTU	**Volcan Turrial**	**1.78**	**315**	↓*e*	P	Pn	21 08 04.3	-0.3
VTU				*e*	S	Sn	21 08 27.8	+0.2
IRZ2	**Volcan Irazu 2**	**1.85**	**311**	↓*e*	P	Pn	21 08 05.2	-0.3
IRZ2				*e*	S	Sn	21 08 29.6	+0.4
OCM	**Ochomogo**	**1.85**	**308**	↓*e*	P	Pn	21 08 05.2	-0.3
OCM				*e*	S	Sn	21 08 29.7	+0.5
SJS	**Escuela Geolog**	**1.95**	**307**	↑*e*	P	Pn	21 08 07.4	+0.5
SJS				*e*	S	Sn	21 08 32.8	+1.1
PRS1	**Puriscal**	**2.18**	**304**	*e*	P	Pn	21 08 09.5	-0.6
PRS1				*e*	S	Sn	21 08 38.0	+0.5
VPS2	**Volcan Poas 2**	**2.25**	**310**	*e*	P	Pn	21 08 11.4	+0.4
VPS2				*e*	S	Sn	21 08 41.0	+2.1
POA2	**Poas 2**	**2.25**	**309**	↓*e*	P	Pn	21 08 11.7	+0.7
POA2				*e*	S	Sn	21 08 38.5	-0.6
CGA2	**Cerro Gallo 2**	**2.33**	**303**	*e*	P	Pn	21 08 12.6	+0.5
CGA2				*e*	S	Sn	21 08 42.1	+1.1
AZU	**Azuero**	**2.38**	**113**	↑*e*	P	Pn	21 08 12.7	-0.2
AZU				*e*	S	Sn	21 08 44.2	+1.7
EPA	**Esparza**	**2.42**	**301**	*e*	P	Pn	21 08 13.9	+0.5
EPA				*e*	S	Sn	21 08 44.9	+1.6
PINA	**Piqa, Costa Ab**	**2.44**	**78**	↑*e*	P	Pn	21 08 12.3	-1.4
PINA				*e*	S	Sn	21 08 44.0	+0.2
ZANG	**Zanguenga, Cho**	**2.59**	**85**	↑*i*	P	Pn	21 08 14.8	-0.9
CAO	**Cobano**	**2.75**	**290**	*e*	P	Pn	21 08 17.0	-1.0
CAO				*e*	S	Sn	21 08 51.0	-0.5
ACLA	**Agua Clara, Si**	**2.81**	**77**	↓*i*	P	Pn	21 08 17.6	-1.2
JTS	**JuntasAbangare**	**2.88**	**302**	*e*	S	Sn	21 08 57.7	+3.1
LIM1	**Limonal**	**3.35**	**306**	*i*	P	Pn	21 08 27.0	+0.9
RIN3	**Volcan Rincon**	**3.50**	**306**	↓*e*	P	Pn	21 08 30.6	+2.4
PTP	**Ponta Puerca**	**18.90**	**58**	↓*e*	P		21 07 46.5	
PTP				*e*	S		21 07 55.6	

IDC 06 21:21:35.0±1.2, 1908N×14570E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/19, mbtmp3.6/5, Error ellipse: s-maj=61.9km s-min=23.0km az=96.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.34**	**197**	P		P	21 29 14.0	-0.2
	0.4nm,0.4s,baz=12,slow=8.1,SNR=16							
ASAR	**Alice Springs**	**44.01**	**196**	P		P	21 29 45.0	+0.7
	0.2nm,0.4s,baz=17,slow=11,SNR=4.5							
ILAR	**Eielson Array**	**63.31**	**26**	P		P	21 32 05.6	-0.1
	0.6nm,1.0s,baz=246,slow=7.8,SNR=4.6							
BVAR	**Borovoye Array**	**66.19**	**320**	P		P	21 32 26.0	+1.6
	0.6nm,0.5s,baz=100,slow=6.9,SNR=8.7							
FINES	**FINESS Array B**	**86.54**	**335**	P		P	21 34 17.8	-2.1
	0.2nm,0.3s,baz=68,slow=4.8,SNR=8.4							

*ISCJB **06** 21:27:42.7±1.0, 2774N±008×54.11E±006, h5km±7km, mb3.5/6, Error ellipse: s-maj=14.8km s-min=5.4km az=53.8*
*NEIC **06** 21:27:45.4, 2791N×5415E, h14km, mb3.3/2, ML3.1(THR), After THR.*
*CSEM **06** 21:27:45.6±0.1, 2784N×5410E, h27km, ML3.1, Error ellipse: s-maj=3.2km s-min=1.3km az=11.0*
*THR **06** 21:27:45.5±0.7, 2791N×5415E, h14km±7km, ML3.1*
*IDC **06** 21:27:51.1±3.8, 2760N×5400E, h72km±47km, mb3.3/7, mb1 3.4/8, mb1mx3.2/23, mbtmp3.6/8, ML3.1/1, Error ellipse: s-maj=26.3km s-min=25.3km az=177.0*

ISC 06 21:27:48.7±0.8, 2775N±008×5398E±006, h36km±10km, n24, σ1°20/34, mb3.5/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.03**	**302**	*e*	PG	**Pn**	**21 28 05.9**	**-0.7**
GHIR				*e*	SG	**Sn**	**21 28 20.9**	**+1.1**
GHIR					AML	AML	21 28 27.3	
	comp=N,210nm,0.6s							
GHIR					AML	AML	21 28 32.2	
	comp=E,268nm,0.4s							
GHIR	**Ghir-Karzin**	**1.03**	**302**	*e*	Pg	**Pn**	**21 28 05.0**	**-1.6**
GHIR				*e*	Sg	**Sn**	**21 28 20.0**	**+0.2**
GHIR	**Ghir-Karzin**	**1.03**	**302**	*e*	Pg	**Pn**	**21 28 05.9**	**-0.7**
	SNR=90							
GHIR				*e*	Sg	**Sn**	**21 28 20.0**	**+0.2**
BNDS	**Bandar-Abbas**	**1.98**	**100**	*e*	PG	**Pn**	**21 28 19.5**	**-0.2**
BNDS					AML	AML	21 28 56.7	
	comp=E,136nm,0.3s							
BNDS					AML	AML	21 29 03.8	
	comp=N,254nm,0.4s							
BNDS	**Bandar-Abbas**	**1.98**	**100**	*e*	Pg	**Pn**	**21 28 19.0**	**-0.7**
BNDS				*e*	Sg	**Sn**	**21 28 44.0**	**+0.8**
BNDS	**Bandar-Abbas**	**1.98**	**100**	*e*	Pg	**Pn**	**21 28 19.5**	**-0.2**
	SNR=90							
BNDS				*e*	Sg	**Sn**	**21 28 44.0**	**+0.8**
KRBR	**Kerman**	**3.30**	**47**	*e*	Pn	**Pn**	**21 28 36.5**	**-1.4**
KRBR				*e*	SG	**Sn**	**21 29 21.7**	**+5.7**
KRBR					AML	AML	21 29 23.8	
	comp=N,92nm,0.5s							
KRBR	**Kerman**	**3.30**	**47**	*e*	Pn	**Pn**	**21 28 36.0**	**-1.9**
KRBR				*e*	Sg	**Sn**	**21 29 21.0**	**+5.0**
KRBR	**Kerman**	**3.30**	**47**	*e*	Pn	**Pn**	**21 28 36.0**	**-1.9**
KRBR				*e*	Sg	**Sn**	**21 29 21.7**	**+5.7**
	SNR=90							
NASN	**Na'in**	**5.14**	**349**	*e*	PN	**Pn**	**21 29 02.8**	**-0.4**
NASN	**Na'in**	**5.14**	**349**	*e*	Pn	**Pn**	**21 29 02.0**	**-1.1**
WSAR	**Wadi Sarin**	**6.15**	**136**	P		**Pn**	**21 29 17.9**	**+0.8**
	comp=N,0.5nm,0.3s,baz=127,slow=8.7,SNR=12							
WSAR					S	**Sn**	**21 30 25.9**	**-0.1**
	comp=N,0.4nm,0.3s,baz=20,slow=19,SNR=6.4							
WSAR	**Wadi Sarin**	**6.15**	**136**	P		**Pn**	**21 29 17.9**	**+0.8**
WSAR					S	**Sn**	**21 30 25.9**	**-0.1**
MALT	**Malatya**	**16.74**	**313**	*e*	Pn	**Pn**	**21 31 43.4**	**+2.9**
	comp=N,1.7nm,0.8s							
BR131	**Keskin Array S**	**20.66**	**311**	*e*	P	**P**	**21 32 26.1**	**+0.9**
	comp=N,1.2nm,0.8s							
BR131	**Keskin Array S**	**20.66**	**311**	*e*	P	**P**	**21 32 26.1**	**+0.9**
	comp=N,1.2nm,0.8s							
BRTR	**Keskin Array B**	**20.66**	**311**	P		**P**	**21 32 26.2**	**+1.0**
	comp=N,1.6nm,0.9s,baz=132,slow=9.2,SNR=9.7							
AKTK	**Aktyubinsk**	**22.87**	**7**	P		**P**	**21 32 51.0**	**+2.2**
AKTO	**Aktyubinsk**	**22.87**	**7**	P		**P**	**21 32 51.0**	**+2.2**
	comp=N,0.7nm,0.6s,mb3.3,baz=180,slow=11,SNR=3.2							
BVAR	**Borovoye Array**	**28.04**	**21**	P		**P**	**21 33 36.2**	**-0.2**
	comp=N,0.6nm,0.6s,mb3.4,baz=231,slow=6.7,SNR=5.7							
ZAL	**Zalesovo**	**34.56**	**32**	P		**P**	**21 34 33.1**	**-0.7**
	comp=N,0.9nm,0.3s,mb4.2,baz=208,slow=9.4,SNR=4.9							
FINES	**FINESS Array B**	**38.51**	**339**	P		**P**	**21 35 06.2**	**-1.3**
	comp=N,0.2nm,0.3s,mb3.3,baz=144,slow=11,SNR=5.6							
TORD	**Torodi Ar. Bea**	**50.74**	**264**	P		**P**	**21 36 44.0**	**-0.9**
	comp=N,0.5nm,0.8s,mb3.5,baz=52,slow=7.7,SNR=4.4							
YKA	**Yellowknife Ar**	**89.61**	**355**	P		**P**	**21 40 41.6**	**-1.0**
	comp=N,0.2nm,0.7s,mb3.6,baz=7.2,slow=5.0,SNR=4.7							

*NIED **06** 21:34:00, 3530N×14270E, h11km, Mw4.1 Best double couple: M0 1.34000×10^15 NP1:φ178.00000°, δ58.00000°, λ-102.00000°. NP2:φ19.00000°, δ34.00000°, λ-72.00000°.*
*IDC **06** 21:34:14.3±0.6, 3526N×14259E, h0km, mb4.0/17, mb1 4.2/21, mb1mx4.1/29, mbtmp4.1/21, ML4.4/4, MS2.7/1, Ms1 2.7/1, ms1mx2.3/26, Error ellipse: s-maj=16.9km s-min=15.2km az=103.0*
*ISCJB **06** 21:34:15.6±1.3, 3534N±003×14260E±004, h20km±9km, mb4.1/25, Error ellipse: s-maj=5.9km s-min=4.8km az=125.3*
*JMA **06** 21:34:16.5±0.3, 3534N×14267E, h54km, M4.3*
*BJI **06** 21:34:17.7, 3530N×14250E, h35km, mB4.3, mb4.3, Ms3.8, Msz3.6*
*NEIC **06** 21:34:19.8±0.5, 3534N×14254E, h35km, mb4.6/4, MW4.0(NIED), Error ellipse: s-maj=11.0km s-min=7.8km az=181.0*
*MOS **06** 21:34:20.2±0.9, 3575N×14249E, h33km, mb4.6/7, Error ellipse: s-maj=15.5km s-min=8.6km az=122.2*

ISC 06 21:34:16.6±1.4, 3530N±003×14258E±004, h16km±9km, n71, σ1°92/94, mb4.1/25, 2C-2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.46**	**286**	P		**Pn**	**21 34 42.4**	**+0.2**
CHOJ				S		**Sn**	**21 35 00.7**	**-0.3**
BSO1	**Boso 1**	**1.47**	**244**	P		**Pn**	**21 34 41.7**	**-0.6**
BSO1				S		**Sn**	**21 35 00.5**	**-0.7**
BSO3	**Boso 3**	**1.77**	**254**	P		**Pn**	**21 34 46.7**	**+0.2**
KTR	**Katsuura**	**1.86**	**266**	S		**Sn**	**21 35 11.7**	**+0.8**
BSO4	**Boso 4**	**1.86**	**261**	P		**Pn**	**21 34 48.7**	**+0.9**
BSO4				S		**Sn**	**21 35 13.1**	**+2.1**
JIM2	**Oshima 3**	**2.65**	**258**	P		**Pn**	**21 34 58.0**	**-0.6**
JIM2				S		**Sn**	**21 35 30.6**	**+0.2**
JAG	**Ashikaga**	**2.77**	**295**	P		**Pn**	**21 35 00.4**	**+0.1**
JOD2	**Odawara 2**	**2.85**	**270**	P		**Pn**	**21 35 01.2**	**-0.2**
JOD2				S		**Sn**	**21 35 33.2**	**-2.3**
JMM	**Marumori**	**2.93**	**331**	P		**Pn**	**21 35 01.2**	**-1.3**
JMM				S		**Sn**	**21 35 35.5**	**-1.9**
JRY	**Ryogami san**	**3.08**	**284**	P		**Pn**	**21 35 05.4**	**+0.9**
JRY				S		**Sn**	**21 35 42.1**	**+1.2**
JHJ2	**Mitsune**	**3.17**	**227**	P		**Pn**	**21 35 04.9**	**-0.8**
JHJ2				S		**Sn**	**21 35 40.8**	**-2.3**
JHJ	**Hachijo jima 2**	**3.18**	**228**	Pn		**Pn**	**21 35 05.0**	**-0.9**
	89nm,0.3s,baz=92,slow=14,SNR=57							
JHJ					Sn	**Sn**	**21 35 39.2**	**-4.3**
	112nm,0.3s,baz=71,slow=22,SNR=4.2							
JYN	**Shimob**	**3.30**	**275**	P		**Pn**	**21 35 07.8**	**+0.2**
JYN				S		**Sn**	**21 35 46.3**	**-0.2**
JNS	**Sasagawa**	**3.63**	**315**	*e*S		**Sn**	**21 35 54.9**	**+0.3**
MJAR	**Matsushiro Arr**	**3.75**	**290**	Pn		**Pn**	**21 35 14.4**	**+0.6**
	17nm,0.3s,baz=43,slow=8.4,SNR=163							
MJAR					Sn	**Sn**	**21 35 57.6**	**-0.1**
	9.1nm,0.3s,baz=324,slow=27,SNR=8.5							
MAJO	**Matsushiro**	**3.76**	**290**	↑*e*	Pn	**Pn**	**21 35 15.1**	**+1.3**
MAJO				*e*	Sn	**Sn**	**21 35 54.5**	**-3.2**
MAT	**Matsushiro**	**3.76**	**290**	P		**Pn**	**21 35 14.2**	**+0.4**
MAT				S		**Sn**	**21 35 57.8**	**+0.1**
MAT	**Matsushiro**	**3.76**	**290**	P		**Pn**	**21 35 15.3**	**+1.5**
MAT				S		**Sn**	**21 35 58.1**	**+0.4**
MAT	**Matsushiro**	**3.76**	**290**	*e*P		**Pn**	**21 35 14.0**	**+0.2**
MAT				*e*S		**Sn**	**21 35 58.0**	**+0.3**
JMK	**Ichinoseki**	**3.80**	**344**	P		**Pn**	**21 35 13.4**	**-1.0**
JMK				S		**Sn**	**21 35 54.7**	**-4.1**
JYK	**Kaneyama**	**4.02**	**334**	P		**Pn**	**21 35 16.8**	**-0.7**
JYK				S		**Sn**	**21 36 02.7**	**-1.5**
JAW	**Awa shima**	**4.12**	**321**	P		**Pn**	**21 35 21.3**	**+2.4**
JOM	**Ohasama**	**4.29**	**347**	P		**Pn**	**21 35 19.8**	**-1.3**
JOM				S		**Sn**	**21 36 06.6**	**-4.2**
JSD	**Sado**	**4.41**	**309**	P		**Pn**	**21 35 23.6**	**+0.7**
JSD				S		**Sn**	**21 36 15.1**	**+1.2**
CBIJ	**Chichi jima**	**8.19**	**182**	Pn		**Pn**	**21 36 11.6**	**-3.2**
	12nm,0.3s,baz=280,slow=19,SNR=18							
CBIJ					Sn	**Sn**	**21 37 38.8**	**-8.1**
	29nm,0.3s,baz=280,slow=22,SNR=9.5							
ASAJ	**Asahikawa**	**8.80**	**0**	Pn		**Pn**	**21 36 21.4**	**-1.7**
	9.8nm,0.3s,baz=221,slow=12,SNR=72							
ASAJ					Sn	**Sn**	**21 37 56.5**	**-5.4**
	2.1nm,0.3s,baz=95,slow=22,SNR=5.8							
ASAJ					LR	LR	21 40 27.8	
	comp=Z,51nm,18.9s,baz=52,slow=42							
ASAJ	**Asahikawa**	**8.80**	**0**	P		**Pn**	**21 36 21.4**	**-1.7**
ASAJ							21 37 56.6	
ASAJ					pmax	pmax		
	comp=Z,10.0nm,0.3s							
ASAJ					smax			
	comp=N,2.0nm,0.3s							
ASAJ					MLR	MLR		
	comp=Z,51nm,18.9s							
YSS	**Yuzh-Sakhalins**	**11.64**	**1**	*c*	P	**Pn**	**21 37 01.2**	**-0.8**
YSS					pmax	pmax		
	comp=Z,23nm,0.7s							
YSS	**Yuzh-Sakhalins**	**11.64**	**1**	*e*	Pn	**Pn**	**21 37 00.6**	**-1.4**
	comp=Z,20nm,0.6s							
KS15	**Wonju Array Si**	**12.04**	**284**	*e*	Pn	**Pn**	**21 37 07.1**	**-0.3**
SSE	**Sheshan**	**18.38**	**263**	*e*	P	**Pn**	**21 38 29.6**	**-1.1**
SSE					AP	pP	21 38 37.5	+2.3
SSE					XP	sP	21 38 43.0	+5.8
SSE					S	**Sn**	**21 41 47.2**	**-8.5**
SSE					XS	sS	21 42 07.6	+0.3
SSE					AMB	AMB		
	comp=Z,32nm,0.7s							
SSE					AMB	AMB		
	comp=Z,127nm,3.5s							
NJ2	**Nanjing**	**20.00**	**267**	*e*	P	**Pn**	**21 38 50.4**	**+0.2**
NJ2					AP	pP	21 38 59.0	+6.1
NJ2					XP	sP	21 39 02.3	+7.3
NJ2					PP		21 39 08.4	
NJ2					S	**Sn**	**21 42 24.0**	**-11**
NJ2					XS	sS	21 42 39.0	-0.9
NJ2					AMB	AMB		
	comp=Z,10.0nm,0.6s							
NJ2					AMB	AMB		
	comp=Z,150nm,9.2s							
NJ2					LR	LR		
	comp=N,330nm,23.4s							
NJ2					LR	LR		
	comp=E,770nm,39.8s							
CIT	**Chita**	**26.58**	**318**	*e*	P	**P**	**21 39 55.2**	**+1.3**
YAK	**Yakutsk**	**27.96**	**347**	*e*	P	**P**	**21 40 06.5**	**+0.2**
YAK					pmax	pmax		
	comp=Z,11nm,0.6s,mb4.7							
YAK	**Yakutsk**	**27.96**	**347**	*e*	P	**P**	**21 40 06.5**	**+0.2**
	comp=Z,11nm,0.6s,mb4.7							
ULN	**Ulaanbaatar**	**29.12**	**306**	*e*	P	**P**	**21 40 18.4**	**+1.8**
ULN					pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0							
ULN	**Ulaanbaatar**	**29.12**	**306**	*e*	P	**P**	**21 40 18.4**	**+1.7**
	comp=Z,3.1nm,1.0s,mb4.0							
BOD	**Bodaibo**	**29.49**	**329**	*e*	P	**P**	**21 40 19.1**	**-0.8**
BOD					pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9							
SONM	**Songino Array**	**29.55**	**306**	P		**P**	**21 40 22.3**	**+1.8**
	comp=Z,1.8nm,0.8s,mb3.8,baz=104,slow=9.2,SNR=17							
SONM					PcP	PcP	21 43 26.1	+0.9
	comp=Z,0.5nm,0.6s,baz=139,slow=2.6,SNR=5.8							
CD2	**Chengdu**	**32.67**	**273**	*e*	P	**P**	**21 40 48.4**	**+0.5**
CD2					AP	pP	21 40 57.9	+5.1
CD2					XP	sP	21 41 01.9	+7.1
CD2					PP	PP	21 41 57.6	-4.2
CD2					S	**S**	**21 46 00.7**	**-2.7**
CD2					XS	sS	21 46 16.7	+5.2
CD2					SS	SS	21 47 58.6	-25
CD2					AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8							
CD2					LR	LR		
	comp=E,80nm,14.4s							
CD2					LR	LR		
	comp=Z,100nm,15.6s							
TIXI	**Tiksi**	**37.12**	**353**	*i*	P	**P**	**21 41 26.9**	**+0.6**
MKAR	**Makanchi Array**	**45.85**	**304**	P		**P**	**21 42 38.6**	**+0.7**
	comp=Z,0.6nm,0.7s,mb3.6,baz=86,slow=9.7,SNR=5.1							
KURK	**Kurchatov**	**47.75**	**309**	*e*	P	**P**	**21 42 52.4**	**-0.3**
	comp=Z,9.2nm,0.8s,mb4.9							
KDAK	**Kodiak Island**	**47.77**	**41**	P		**P**	**21 42 52.5**	**-0.4**
	comp=Z,5.3nm,0.6s,mb4.7,baz=329,slow=4.4,SNR=6.3							
ILAR	**Eielson Array**	**50.46**	**32**	P		**P**	**21 43 13.7**	**+0.2**
	comp=Z,1.0nm,0.7s,mb3.9,baz=271,slow=6.0,SNR=11							
BVAR	**Borovoye Array**	**52.44**	**313**	P		**P**	**21 43 28.1**	**-0.2**
	comp=Z,0.3nm,0.6s,mb3.4,baz=35,slow=3.6,SNR=3.8							
BVAR					PcP	PcP	21 44 39.3	+0.3
	comp=Z,1.1nm,0.5s,baz=78,slow=3.4,SNR=6.5							
WRA	**Warramunga Arr**	**55.49**	**189**	P		**P**	**21 43 50.3**	**-0.4**
	comp=Z,2.4nm,0.7s,mb4.3,baz=7.0,slow=7.5,SNR=24							
INK	**Inuvik**	**55.50**	**27**	P		**P**	**21 43 50.4**	**-0.4**
	comp=Z,0.5nm,0.6s,mb3.7,baz=240,slow=9.9,SNR=3.4							
ARU	**Arti**	**58.28**	**319**	↓*i*	P	**P**	**21 44 10.3**	**-0.1**
ARU				*e*			21 46 13.9	
ARU				*e*	S	**S**	**21 52 06.7**	**-5.3**
ARU				*e*	SS	SS	21 55 56.6	-7.2
ARU					pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4							
ASAR	**Alice Springs**	**59.22**	**189**	P		**P**	**21 44 17.2**	**+0.2**
	comp=Z,0.8nm,0.7s,mb3.8,baz=9.0,slow=7.1,SNR=8.7							
AKTK	**Aktyubinsk**	**60.54**	**313**	P		**P**	**21 44 26.5**	**+0.5**
AKTO	**Aktyubinsk**	**60.54**	**313**	P		**P**	**21 44 26.5**	**+0.5**
	comp=Z,2.7nm,0.9s,mb4.4,baz=69,slow=11,SNR=8.8							
AKTO	**Aktyubinsk**	**60.54**	**313**	P		**P**	**21 44 26.5**	**+0.5**
AKTO					pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.4							
FINES	**FINESS Array B**	**70.78**	**333**	P		**P**	**21 45 31.6**	**-0.5**
	comp=Z,0.9nm,0.8s,mb3.8,baz=44,slow=8.5,SNR=5.5							
FINES	**FINESS Array B**	**70.78**	**333**	*i*	P	**P**	**21 45 31.2**	**-1.0**
FINES					pmax	pmax		
	comp=Z,1.0nm,0.8s							
KIV	**Kislovodsk**	**72.75**	**312**	*d*	P	**P

	comp=Z,6.7nm,0.8s,mb4.3								
STKA	**Stephens Creek**	**41.26**	**245**	P		**P**		**22 13 17.0**	**-1.2**
	comp=Z,7.4nm,0.8s,mb4.4,baz=117,slow=9.9,SNR=7.5								
ASAR	**Alice Springs**	**48.23**	**256**	P		**P**		**22 14 14.0**	**+0.3**
	comp=Z,5.4nm,0.9s,mb4.6,baz=101,slow=7.9,SNR=29								
WB2	**Warramunga Arr**	**48.35**	**261**	*e*P		**P**		**22 14 14.3**	**-0.4**
WRAB	**Tennant Creek**	**48.35**	**261**	*e*P		**P**		**22 14 14.7**	**0.0**
WRAB				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.5								
WRAB	**Tennant Creek**	**48.35**	**261**	*e*P		**P**		**22 14 14.7**	**0.0**
	comp=Z,3.7nm,0.8s,mb4.5								
WRA	**Warramunga Arr**	**48.36**	**261**	P		**P**		**22 14 14.2**	**-0.6**
	comp=Z,2.8nm,0.8s,mb4.3,baz=97,slow=7.1,SNR=27								
FITZ	**Fitzroy Crossi**	**56.79**	**261**	*e*P		**P**		**22 15 17.9**	**+0.8**
	comp=Z,8.3nm,1.5s,mb4.5								
SBA	**Scott Base**	**58.27**	**185**	*e*P		**P**		**22 15 28.3**	**+0.7**
SBA				pmax		pmax			
	comp=Z,5.0nm,1.0s,mb4.5								
SBA	**Scott Base**	**58.27**	**185**	*e*P		**P**		**22 15 28.3**	**+0.7**
	comp=Z,4.8nm,1.0s,mb4.5								
VNDA	**Vanda**	**58.40**	**186**	P		**P**		**22 15 28.8**	**+0.4**
	comp=Z,0.7nm,0.6s,mb3.9,baz=323,slow=4.7,SNR=7.8								
VNDA	**Vanda**	**58.40**	**186**	*e*P		**P**		**22 15 28.6**	**+0.2**
VNDA				pmax		pmax			
	comp=Z,4.0nm,1.3s								
VNDA	**Vanda**	**58.40**	**186**	*e*P		**P**		**22 15 28.6**	**+0.2**
	comp=Z,3.9nm,1.3s,mb4.3								
MBWA	**Marble Bar**	**61.57**	**256**	*e*P		**P**		**22 15 50.5**	**+0.3**
	comp=Z,7.2nm,0.8s,mb4.8								
CASY	**Casey**	**65.70**	**205**	*e*P		**P**		**22 16 17.6**	**+0.2**
	comp=Z,4.6nm,0.8s,mb4.6								
QSPA	**South Pole Qui**	**69.69**	**180**	*e*P		**P**		**22 16 42.1**	**-0.5**
	comp=Z,12nm,1.1s,mb4.7								
MJAR	**Matsushiro Arr**	**72.42**	**321**	P		**P**		**22 17 01.7**	**+2.6**
	comp=Z,2.8nm,0.7s,mb4.3,baz=160,slow=5.8,SNR=8.6								
NVAR	**Mina Array Bea**	**78.38**	**41**	P		**P**		**22 17 34.2**	**+0.9**
	comp=Z,3.5nm,0.9s,mb4.3,baz=209,slow=7.2,SNR=16								
MAW	**Mawson**	**82.93**	**199**	P		**P**		**22 17 57.6**	**-0.1**
MAW				pmax		pmax			
	comp=Z,4.0nm,0.8s								
MAW	**Mawson**	**82.93**	**199**	P		**P**		**22 17 57.6**	**-0.1**
	comp=Z,4.4nm,0.8s,mb4.5								
PDAR	**Pinedale Array**	**86.31**	**42**	P		**P**		**22 18 15.8**	**+1.1**
	comp=Z,0.7nm,0.8s,mb3.9,baz=242,slow=3.2,SNR=5.3								
ILAR	**Eielson Array**	**87.40**	**11**	P		**P**		**22 18 20.8**	**+0.7**
	comp=Z,1.1nm,0.9s,mb4.1,baz=214,slow=6.6,SNR=6.3								
SNAA	**Sanae**	**87.99**	**177**	*e*P		**P**		**22 18 22.1**	**-0.8**
SNAA				pmax		pmax			
	comp=Z,2.0nm,0.8s								
SNAA	**Sanae**	**87.99**	**177**	*e*P		**P**		**22 18 22.1**	**-0.8**
	comp=Z,2.0nm,0.8s,mb4.4								
YKA	**Yellowknife Ar**	**94.85**	**24**	P		**P**		**22 18 55.4**	**+0.7**
	comp=Z,0.5nm,0.7s,mb4.0,baz=237,slow=4.4,SNR=15								
LPAZ	**La Paz**	**98.59**	**111**	LR		LR		22 53 17.7	
	comp=Z,55nm,20.1s,MS4.0,baz=190,slow=29								
AKASG	**Malin Array Be**	**144.64**	**334**	PKP		PKPdf		22 25 09.1	-0.3
	comp=Z,3.0nm,0.6s,baz=42,slow=4.2,SNR=24								
CLL	**Collm**	**148.65**	**352**	*e*PKPbc		PKPbc		22 25 22.0	+2.2
CLL				*e*(sPKPab)				22 25 34.0	
CLL				*ex*		x		22 25 44.0	
BRTR	**Keskin Array B**	**149.49**	**315**	PKPbc		PKPbc		22 25 23.9	+1.9
	comp=Z,0.6nm,0.6s,baz=111,slow=4.4,SNR=5.1								
GRF	**Grafenberg Arr**	**150.46**	**353**	*e*PKIKP		PKPbc		22 25 26.2	+1.9
GERES	**GERESS Array B**	**150.94**	**350**	PKPbc		PKPbc		22 25 27.7	+2.3
	comp=Z,0.8nm,0.9s,baz=339,slow=3.0,SNR=6.6								
FLN	**La Foliniere**	**151.20**	**9**	*e*PKP1		PKPab		22 25 39.3	+5.4
	comp=Z,9.5nm,0.8s								
GRR	**Gorron**	**151.51**	**10**	*e*PKP1		PKPab		22 25 40.2	+5.0
	comp=Z,9.9nm,0.8s								

ISCJB ***06*** *22:22:04.4±0.7, 110S±0.1×1152E±0.2, h33km, mb4.2/7, Error ellipse: s-maj=28.9km s-min=8.1km az=89.6*
IDC ***06*** *22:22:04.2±1.3, 1043S×11547E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.8/16, mbtmp3.8/6, ML3.7/1, Error ellipse: s-maj=52.3km s-min=20.3km az=54.0*
NEIC ***06*** *22:22:15.1±7.6, 1163S×11538E, h35km, Error ellipse: s-maj=98.4km s-min=32.8km az=121.0*

ISC 06 22:22:06.4±0.7, 109S±01×1155E±01, h35km, n17, σ0§50/19, mb4.2/7, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**10.97**	**159**	*e*Pn		**Pn**	**22 24 41.0**	**+0.2**
	11nm,0.3s							
MBWA				*e*Sn		**Sn**	**22 26 36.3**	**-5.8**
FITZ	**Fitzroy Crossi**	**12.12**	**127**	Pn		**Pn**	**22 25 01.4**	**+4.9**
	0.3nm,0.3s,baz=322,slow=19,SNR=8.2							
FITZ				Sn		**Sn**	**22 27 10.1**	**-0.2**
	0.4nm,0.3s,baz=51,slow=23,SNR=6.6							
WRA	**Warramunga Arr**	**20.21**	**119**	P		**P**	**22 26 44.6**	**+6.4**
	1.3nm,0.5s,baz=291,slow=12,SNR=15							
WRA				S		**S**	**22 30 24.0**	**+0.9**
	0.5nm,0.9s,baz=294,slow=18,SNR=3.7							
WRAB	**Tennant Creek**	**20.22**	**119**	*e*P		**P**	**22 26 45.1**	**+6.9**
WB2	**Warramunga Arr**	**20.22**	**119**	*e*P		**P**	**22 26 44.7**	**+6.4**
WB2				*e*S		**S**	**22 30 22.2**	**-1.1**
ASAR	**Alice Springs**	**21.62**	**128**	P		**P**	**22 27 00.1**	**+6.8**
	1.3nm,0.7s,mb3.5,baz=301,slow=10,SNR=15							
JIRN	**Jiri**	**47.73**	**324**	*e*P		**P**	**22 30 39.7**	**0.0**
	6.7nm,0.6s,mb4.9							
GUN	**Gumba**	**48.09**	**324**	*e*P		**P**	**22 30 42.5**	**0.0**
PKI	**Pulchoki**	**48.11**	**323**	*e*P		**P**	**22 30 43.6**	**+0.9**
KKN	**Kakani**	**48.35**	**323**	*e*P		**P**	**22 30 44.1**	**-0.4**
GKN	**Gorkha**	**48.89**	**323**	*e*P		**P**	**22 30 48.1**	**-0.6**
	4.4nm,0.3s,mb4.9							
KOLN	**Koldanda**	**49.34**	**322**	*e*P		**P**	**22 30 51.5**	**-0.6**
	3.1nm,0.5s,mb4.6							
MJAR	**Matsushiro Arr**	**51.79**	**23**	P		**P**	**22 31 10.7**	**+0.2**
	0.9nm,0.9s,mb3.7,baz=198,slow=8.5,SNR=11							
SONM	**Songino Array**	**59.03**	**353**	P		**P**	**22 32 03.0**	**+0.3**
	1.3nm,0.9s,mb3.9,baz=170,slow=7.2,SNR=10							
MKAR	**Makanchi Array**	**64.66**	**335**	P		**P**	**22 32 40.8**	**+0.2**
	0.6nm,0.6s,mb3.8,baz=145,slow=7.2,SNR=10							
YKA	**Yellowknife Ar**	**117.30**	**24**	PKP		PKPdf	22 40 50.4	+2.4
	0.2nm,0.6s,baz=302,slow=1.8,SNR=4.9							
BDFB	**Brasilia**	**149.01**	**212**	PKPbc		PKPbc	22 41 55.8	+5.2
	2.6nm,0.9s,baz=161,slow=4.8,SNR=3.1							

CASC 06 22:29:35.1±2.3, 878N×8251W, h0km±5km, MD3.9, 4C, Fault plane solution: NP1:ϕ±327.85000°, δ67.48000°, λ45.90000°., Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.66**	**259**	⇑*i*P		Pg	22 29 49.1	+1.3
ACR				*e*S		Sg	22 29 59.4	+3.0
BUS	**Buena Vista**	**1.45**	**302**	*e*P		Pn	22 30 02.1	-0.5
BUS				*e*S		Sg	22 30 23.7	+1.9
URSC	**Urasca**	**1.63**	**310**	⇑*i*P		Pn	22 30 05.1	+0.1
SJS	**Escuela Geolog**	**1.91**	**307**	⇑*e*P		Pn	22 30 09.6	+0.8
LAJ	**Bijagual**	**1.92**	**304**	*e*P		Pn	22 30 13.6	+4.6
LAJ				*e*S		Sn	22 30 42.4	+8.6
PRS1	**Puriscal**	**2.14**	**304**	*e*P		Pn	22 30 12.5	+0.5
PRS1				*e*S		Sn	22 30 41.7	+2.4
CGA2	**Cerro Gallo 2**	**2.29**	**303**	*e*P		Pn	22 30 15.7	+1.6
CGA2				*e*S		Sn	22 30 46.2	+3.4
AZU	**Azuero**	**2.42**	**114**	⇑*e*P		Pn	22 30 16.2	+0.2
AZU				*e*S		Sn	22 30 46.8	+0.5
PTP	**Ponta Puerca**	**18.91**	**58**	*e*S			22 30 01.7	

ISCJB ***06*** *22:42:35.2±0.3, 4300N±002×1251E±002, h10km, Error ellipse: s-maj=2.7km s-min=2.0km az=108.0*
ZUR ***06*** *22:42:35.7, 4294N×1238E, h10km, ML3.1/7*
NEIC ***06*** *22:42:35.6, 4305N×1257E, h6km, ML3.2(ROM), After ROM.*
ROM ***06*** *22:42:35.6±0.1, 4305N×1257E, h6km±1km, Md3.1/3, Ml3.3/14, Error ellipse: s-maj=1.2km s-min=1.1km az=113.0*
CSEM ***06*** *22:42:35.6±0.1, 4305N×1258E, h12km, ML3.1/13, Error ellipse: s-maj=1.1km s-min=1.0km az=27.0*
LDG ***06*** *22:42:36.8±0.1, 4311N×1260E, h8km, Ml3.1/14, Error ellipse: s-maj=3.5km s-min=3.0km az=34.0*
PRU ***06*** *22:42:38.6, 4310N×1288E, h0km*
SZGRF ***06*** *22:42:39.9, 4317N×1281E, h10km, mb3.5, Central Italy*
STR ***06*** *22:43:06.7±1.3, 4292N×953E, h10km±1km, Ml3.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 06 22:42:36.3±0.3, 4301N±002×1252E±002, h7km±2km, n141, σ1§19/207, 15C-13D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MURB	**Monte Urbino**	**0.26**	**0**	⇑*i*Pg		**Pg**	**22 42 40.9**	**-0.4**
MURB					Sg	**Sg**	**22 42 44.9**	**+0.2**
	32µm,0.3s							
SNTG	**Esanatoglia**	**0.39**	**51**	⇑*i*Pg		**Pg**	**22 42 43.3**	**-0.6**
NRCA	**Norcia**	**0.47**	**112**	⇑*i*Pg		**Pg**	**22 42 45.5**	**+0.2**
SACS	**San Casciano d**	**0.48**	**251**	⇑*i*Pg		**Pg**	**22 42 46.5**	**+1.0**
SACS					Sg	**Sg**	**22 42 55.4**	**+3.7**
	2µm,0.4s							
BADI	**Badiali**	**0.54**	**338**	Pg		**Pg**	**22 42 46.1**	**-0.6**
BADI					Sg	**Sg**	**22 42 55.1**	**+1.3**
	2µm,0.5s							
ARV	**Arcevia**	**0.58**	**32**	Pg		**Pg**	**22 42 46.4**	**-1.0**
ARVD	**Arcevia**	**0.58**	**32**	Pg		**Pg**	**22 42 46.3**	**-1.1**
ARVD					Sg	**Sg**	**22 42 54.8**	**-0.1**
	2µm,0.2s							
CING	**Cingoli**	**0.61**	**53**	Pg		**Pg**	**22 42 47.2**	**-0.9**
CING					Sg	**Sg**	**22 42 56.3**	**+0.2**
	1µm,0.3s							
MNS	**Montasola**	**0.63**	**169**	Pg		**Pg**	**22 42 49.3**	**+0.8**
	928nm,0.5s							
FSSB	**Fossombrone**	**0.71**	**15**	Pg		**Pg**	**22 42 48.8**	**-1.1**
	268nm,0.4s							
CRE	**Caprese Michel**	**0.74**	**326**	Pg		**Pg**	**22 42 50.1**	**-0.4**
CRE					Sg	**Sg**	**22 43 01.0**	**+0.9**
	220nm,0.2s							
ARCI	**Arcidosso**	**0.78**	**259**	Pg		**Pg**	**22 42 51.5**	**+0.2**
ARCI					Sg	**Sg**	**22 43 03.4**	**+1.9**
	415nm,0.7s							
CAMP	**Campotosto**	**0.81**	**126**	Pg		**Pg**	**22 42 51.6**	**-0.1**
	1µm,0.9s							
FIAM	**Fiamignano**	**0.86**	**149**	Pg		**Pg**	**22 42 53.0**	**+0.2**
	1µm,0.5s							
TERO	**Teramo**	**0.88**	**115**	Pg		**Pg**	**22 42 52.5**	**-0.7**
	817nm,0.4s							
AQU	**L'Aquila**	**0.92**	**135**	Pg		**Pg**	**22 42 53.9**	**0.0**
RSM	**Repubblica di**	**0.92**	**357**	Pg		**Pg**	**22 42 53.6**	**-0.4**
	1µm,1.3s							
AOI	**Ancona**	**0.96**	**55**	Pg		**Pg**	**22 42 53.5**	**-1.1**
	785nm,0.7s							
PESA	**Pesaro**	**0.96**	**14**	Pg		**Pg**	**22 42 53.7**	**-1.0**
	1µm,0.3s							
CSNT	**Castellina Chi**	**1.01**	**298**	Pg		**Pg**	**22 42 55.2**	**-0.5**
	274nm,0.4s							
SFI	**Santa Sofia**	**1.02**	**332**	Pg		**Pg**	**22 42 55.0**	**-0.9**
SFI					Sg	**Sg**	**22 43 10.1**	**+0.9**
	542nm,0.8s							
VLC	**Villacollemand**	**1.93**	**307**	*e*Pn		**Pn**	**22 43 09.4**	**-0.1**
VLC	**Villacollemand**	**1.93**	**307**	*e*Pn		**Pn**	**22 43 09.4**	**-0.2**
VALM		**2.13**	**310**	P		**Pn**	**22 43 13.8**	**+1.6**
NVLJ	**Novalja**	**2.31**	**47**	*i* Pn		**Pn**	**22 43 14.4**	**-0.3**
NVLJ				*i* Sn		**Sn**	**22 43 44.2**	**+0.9**
COZM		**2.38**	**306**	P		**Pn**	**22 43 15.4**	**+0.7**
SC2M	**Scurtabr**	**2.58**	**304**	P		**Pn**	**22 43 18.6**	**+0.2**
CORF	**Corte**	**2.58**	**255**	P		**Pn**	**22 43 19.5**	**+1.0**
PGF	**Pioggiola**	**2.63**	**261**	*e*Pn		**Pn**	**22 43 19.3**	**+0.1**
PGF				*e*Sn		**Sn**	**22 43 50.8**	**-0.6**
	12nm,0.3s							
PGF	**Pioggiola**	**2.63**	**261**	*e*Pn		**Pn**	**22 43 19.3**	**+0.1**
PGF				*e*Sn		**Sn**	**22 43 50.8**	**-0.6**
	6.1nm,0.3s							
BOJS	**Bojanci**	**3.17**	**37**	*i* Pn		**Pn**	**22 43 27.2**	**+0.6**
BOJS				*e*Sn		**Sn**	**22 44 05.7**	**+0.9**
VOY	**Vojsko**	**3.18**	**18**	*e*Pn		**Pn**	**22 43 26.4**	**-0.3**
VOY				*e*Sn		**Sn**	**22 44 03.7**	**-1.2**
CADS	**Cadrg**	**3.33**	**15**	*i* Pn		**Pn**	**22 43 30.4**	**-0.5**
CADS				*i* Sn		**Sn**	**22 44 09.1**	**+0.3**
FIN	**Finale Ligure**	**3.35**	**292**	P		**Pn**	**22 43 28.5**	**-0.6**
LJU	**Ljubljana**	**3.36**	**25**	*e*Pn		**Pn**	**22 43 29.6**	**+0.5**
LJU				*e*Sn		**Sn**	**22 44 10.3**	**+1.0**
LJU	**Ljubljana**	**3.36**	**25**	*e*Pn		**Pn**	**22 43 29.6**	**+0.4**
LJU				*e*Sn		**Sn**	**22 44 10.3**	**+1.0**
RORO		**3.42**	**290**	P		**Pn**	**22 43 29.9**	**-0.2**
IMI	**Imperia**	**3.49**	**287**	P		**Pn**	**22 43 31.0**	**0.0**
NEGI	**Negi**	**3.61**	**285**	P		**Pn**	**22 43 31.5**	**-1.1**
ROB	**Roburent**	**3.61**	**292**	P		**Pn**	**22 43 32.1**	**-0.6**
MONE	**Monesi**	**3.63**	**289**	P		**Pn**	**22 43 31.8**	**-1.1**
SAOF	**Saorge**	**3.74**	**287**	P		**Pn**	**22 43 35.1**	**+0.6**
OBKA	**Obir**	**3.79**	**22**	⇓*i*Pn		**Pn**	**22 43 35.6**	**+0.6**
OBKA				⇑*i*Sn		**Sn**	**22 44 21.1**	**+1.2**
OBKA	**Obir**	**3.79**	**22**	*e*Pn		**Pn**	**22 43 35.4**	**+0.3**
OBKA				*i* Sn		**Sn**	**22 44 21.1**	**+1.2**
SBF	**Sospel**	**3.80**	**285**	*e*Pn		**Pn**	**22 43 34.6**	**-0.7**
MUGIO	**Muggio**	**3.83**	**321**	⇓*i*Pn		**Pn**	**22 43 35.3**	**-0.4**
	62nm,0.5s							
MUGIO				*e*Sn		**Sn**	**22 44 18.2**	**-2.9**
	62nm,0.5s							
AUTN	**L'Aution**	**3.84**	**287**	P		**Pn**	**22 43 39.0**	**+3.2**
BERNI	**Berninapass**	**3.84**	**333**	*e*Pn		**Pn**	**22 43 36.4**	**+0.5**
	36nm,0.5s							
BERNI				*e*Sn		**Sn**	**22 44 19.5**	**-1.8**
	36nm,0.5s							
ENR	**Entracque**	**3.90**	**290**	P		**Pn**	**22 43 36.8**	**+0.2**
FUORN	**Ofenpass**	**3.95**	**337**	⇓*i*Pn		**Pn**	**22 43 38.6**	**+1.2**
	49nm,0.6s							
FUORN				*e*Sn		**Sn**	**22 44 24.1**	**+0.1**
	49nm,0.6s							
MVIF	**Mont Vial**	**4.01**	**285**	P		**Pn**	**22 43 40.2**	**+2.1**
PERS	**Pernice**	**4.07**	**26**	*i* Pn		**Pn**	**22 43 40.8**	**+1.8**
PERS				*e*Sn		**Sn**	**22 44 27.0**	**+0.1**
KBA	**Koelnbreinsper**	**4.11**	**8**	⇑*i*Pn		**Pn**	**22 43 40.3**	**+0.7**
	SNR=9.8							
KBA				⇑*i*Sn		**Sn**	**22 44 29.5**	**+1.6**
KBA	**Koelnbreinsper**	**4.11**	**8**	*e*Pn		**Pn**	**22 43 40.5**	**+0.9**
ORX	**Oropa**	**4.18**	**310**	P		**Pn**	**22 43 40.1**	**-0.4**
PZZ	**Prazzo**	**4.20**	**293**	P		**Pn**	**22 43 39.7**	**-1.1**
DAVOX	**Davos**	**4.21**	**334**	⇓*i*Pn		**Pn**	**22 43 42.5**	**+1.5**
	47nm,0.9s							
VSL	**Villasalto**	**4.23**	**215**	*e*Pn		**Pn**	**22 43 42.6**	**+1.4**
VSL				*e*Sn		**Sn**	**22 44 29.9**	**-1.0**
VSL	**Villasalto**	**4.23**	**215**	*e*Pn		**Pn**	**22 43 42.7**	**+1.5**
VSL				*e*Sn		**Sn**	**22 44 29.9**	**-1.0**
WTTA	**Wattenberg**	**4.30**	**352**	*i* Pn		**Pn**	**22 43 43.5**	**+1.3**
	SNR=11							
WTTA				⇓*i*Sn		**Sn**	**22 44 34.8**	**+2.2**
WTTA	**Wattenberg**	**4.30**	**352**	*e*Pn		**Pn**	**22 43 43.8**	**+1.6**
SQTA	**Sankt Quirin**	**4.31**	**348**	⇑*i*Pn		**Pn**	**22 43 43.2**	**+0.8**
	SNR=25							
SQTA				⇑*i*Sn		**Sn**	**22 44 34.7**	**+1.8**
FRF	**La Foret Royal**	**4.33**	**279**	*e*Pn		**Pn**	**22 43 42.1**	**-0.4**
FRF				*e*Sn		**Sn**	**22 44 30.4**	**-2.8**
	7.3nm,0.4s							
FRF	**La Foret Royal**	**4.33**	**279**	*e*Pn		**Pn**	**22 43 42.1**	**-0.4**
FRF				*e*Sn		**Sn**	**22 44 30.4**	**-2.8**
	3.7nm,0.4s							
WATA	**Walderalm**	**4.38**	**352**	⇓*i*Pn		**Pn**	**22 43 44.0**	**+0.7**
	SNR=9.0							
WATA				⇑*i*Sn		**Sn**	**22 44 36.9**	**+2.4**
FUSIO	**Fusio**	**4.41**	**323**	*e*Pn		**Pn**	**22 43 43.5**	**-0.1**
	49nm,0.7s							
FUSIO	**Fusio**	**4.41**	**323**	*e*P		**Pn**	**22 43 43.8**	**+0.2**
LMR	**La Mourre**	**4.41**	**276**	*e*Pn		**Pn**	**22 43 43.1**	**-0.5**
LMR				*e*Sn		**Sn**	**22 44 32.2**	**-3.1**
	7.0nm,0.4s							
LMR	**La Mourre**	**4.41**	**276**	*e*Pn		**Pn**	**22 43 43.1**	**-0.5**
LMR				*e*Sn		**Sn**	**22 44 32.2**	**-3.1**
	3.5nm,0.4s							
MOTA	**Moosalm**	**4.45**	**347**	⇓*i*Pn		**Pn**	**22 43 45.3**	**+1.0**
	SNR=18							
MOTA				⇓*i*Sn		**Sn**	**22 44 39.0**	**+2.7**
MOTA	**Moosalm**	**4.45**	**347**	⇓*i*Pn		**Pn**	**22 43 45.2**	**+1.0**
MOTA				*e*Sn		**Sn**	**22 44 39.0**	**+2.7**
MMK	**Mattmark**	**4.46**	**315**	*e*Pn		**Pn**	**22 43 43.8**	**-0.5**
	27nm,0.8s							
MMK	**Mattmark**	**4.46**	**315**	*e*P		**Pn**	**22 43 44.4**	**+0.1**
MBDF	**Montbardon**	**4.50**	**294**	*e*Pn		**Pn**	**22 43 44.5**	**-0.4**
LLS	**Linth-Limmern**	**4.58**	**328**	*e*Pn		**Pn**	**22 43 44.4**	**-1.6**
	31nm,1.0s							
LLS	**Linth-Limmern**	**4.58**	**328**	*e*P		**Pn**	**22 43 47.7**	**+1.7**
DAVA	**Damuels**	**4.67**	**337**	⇑*i*Pn		**Pn**	**22 43 48.7**	**+1.5**
DAVA				⇑*i*Sn		**Sn**	**22 44 43.9**	**+2.3**
DAVA	**Damuels**	**4.67**	**337**	*e*Pn		**Pn**	**22 43 49.2**	**+2.0**
ARSA	**Arzberg**	**4.75**	**26**	*i* Pn		**Pn**	**22 43 47.9**	**-0.3**
	SNR=8.0							
ARSA				⇑*i*Sn		**Sn**	**22 44 41.8**	**-1.7**
ARSA	**Arzberg**	**4.75**	**26**	*e*Pn		**Pn**	**22 43 47.8**	**-0.4**
ARSA				*e*Sn		**Sn**	**22 44 38.0**	**-5.5**
ARSA	**Arzberg**	**4.75**	**26**	*i* Pn		**Pn**	**22 43 47.9**	**-0.3**
ARSA				*e*Sn		**Sn**	**22 44 38.0**	**-5.5**
TAVF	**Tavernes**	**4.76**	**280**	P		**Pn**	**22 43 49.0**	**+0.6**
RMOA	**Moar Alm**	**4.76**	**3**	⇓*i*Pn		**Pn**	**22 43 50.4**	**+1.9**
LPG	**La Plagne**	**4.83**	**303**	*e*P		**Pn**	**22 43 50.9**	**+1.4**
LPL	**La Plagne**	**4.86**	**303**	*e*P		**Pn**	**22 43 51.0**	**+1.2**
LPL				*e*Sn		**Sn**	**22 44 42.2**	**-4.1**
	1.2nm,0.2s							
LPL	**La Plagne**	**4.86**	**303**	*e*P		**Pn**	**22 43 51.0**	**+1.2**
LPL				*e*Sn		**Sn**	**22 44 42.2**	**-4.1**
	0.6nm,0.2s							
STOF	**St-Etienne Org**	**4.91**	**284**	P		**Pn**	**22 43 53.3**	**+2.8**
MOA	**Molln**	**5.00**	**14**	⇑*i*Pn		**Pn**	**22 43 52.3**	**+0.6**
	SNR=30							
MOA				⇓*i*Sn		**Sn**	**22 44 49.9**	**+0.1**
MOA	**Molln**	**5.00**	**14**	*e*Pn		**Pn**	**22 43 52.7**	**+1.0**
MOA				*e*Sn		**Sn**	**22 44 46.6**	**-3.1**
MOA	**Molln**	**5.00**	**14**	⇑*i*Pn		**Pn**	**22 43 52.3**	**+0.6**
MOA				*e*Sn		**Sn**	**22 44 46.6**	**-3.1**
BERF	**Bertagne**	**5.01**	**276**	P		**Pn**	**22 43 52.5**	**+0.7**
PUYF	**Puyloubier**	**5.01**	**278**	P		**Pn**	**22 43 52.4**	**+0.5**
VILF	**Villemus**	**5.03**	**282**	P		**Pn**	**22 43 53.7**	**+1.6**
SMRF	**Simiane la Rot**	**5.15**	**283**	*e*P		**Pn**	**22 43 55.1**	**+1.3**
ORIF	**Oris-en-Rattie**	**5.16**	**294**	*e*Pn		**Pn**	**22 43 52.9**	**-1.1**
GELF	**Grande-Etoile**	**5.20**	**277**	P		**Pn**	**22 43 54.9**	**+0.4**
TREF	**Trevaresse**	**5.25**	**279**	P		**Pn**	**22 43 55.8**	**+0.7**
PRAF	**Pradon**	**5.42**	**281**	P		**Pn**	**22 43 58.0**	**+0.5**
PKSM	**Moragy**	**5.42**	**52**	⇓*e*Pn		**Pn**	**22 44 00.7**	**+3.2**
PKSM				*e*Sn		**Sn**	**22 44 59.6**	**-0.5**
SOP	**Sopron**	**5.47**	**30**	⇓*e*Pn		**Pn**	**22 43 58.2**	**-0.1**
SOP				*e*Sn		**Sn**	**22 44 59.3**	**-2.2**
CABF	**La Chapelle**	**5.83**	**310**	*e*Pn		**Pn**	**22 44 02.6**	**-0.5**
GEC2	**GERESS Array S**	**5.90**	**8**	*e*Pn		**Pn**	**22 44 04.0**	**-0.1**
GEC2				*e*Sn		**Sn**	**22 45 09.3**	**-2.6**
VIVF	**Saint-Julien-l**	**5.96**	**291**	*e*P		**Pn**	**22 44 07.1**	**+2.1**
BFO	**Black Forest**	**6.08**	**333**	*e*Pn		**Pn**	**22 44 06.3**	**-0.2**
BFO	**Black Forest**	**6.08**	**333**	*e*Pn		**Pn**	**22 44 06.3**	**-0.3**
ZST	**Bratislava**	**6.10**	**30**	*e*SN		**Sn**	**22 45 12.8**	**-4.2**
WET	**Wettzell**	**6.14**	**2**	*e*Pn		**Pn**	**22 44 06.4**	**-1.1**
WET				*e*Sn		**Sn**	**22 45 13.5**	**-4.5**
KHC	**Kasperske Hory**	**6.17**	**6**	*e*PN		**Pn**	**22 44 07.1**	**-0.7**
KHC				*e*SN		**Sn**	**22 45 15.6**	**-3.0**
HINF	**Hinteralfeld**	**6.25**	**322**	*e*Pn		**Pn**	**22 44 07.9**	**-1.0**
HINF				*e*Sn		**Sn**	**22 45 14.5**	**-6.1**
	4.8nm,0.3s							
HINF	**Hinteralfeld**	**6.25**	**322**	*e*Pn		**Pn**	**22 44 07.9**	**-1.0**
HINF				*e*Sn		**Sn**	**22 45 14.5**	**-6.1**
	2.4nm,0.3s							
LASF	**Ste Croix**	**6.39**	**283**	*e*Pn		**Pn**	**22 44 10.5**	**-0

SG1	Sgolgore (BA)	2.53	288	*e*Pn		Pn	22 43 25.6	-1.4
KNT	Kendrikon	2.55	64	*e*Pn		Pn	22 43 28.8	+1.6
PLG	Polygyros	2.77	83	*e*PN		Pn	22 43 30.9	+0.7
CDT	Castel del Mon	2.90	291	*e*Pn		Pn	22 43 32.7	+0.7
SRS	Serrai	3.02	69	*e*Pn		Pn	22 43 35.1	+1.4
ITM	Ithomi	3.33	150	*e*PN		Pn	22 43 38.6	+0.6

*ISCJB **06** 22:50:44.0±0.3, 4302N×002×1245E×003, h8km±3km, mb3.5/1, Error ellipse: s-maj=3.5km s-min=2.8km az=67.5*
*NEIC **06** 22:50:44.5, 4306N×1256E, h4km, ML3.0(ROM), After ROM.*
*ROM **06** 22:50:44.5±0.2, 4306N×1256E, h4km±2km, Md3.0/7, Ml3.0/12, Error ellipse: s-maj=1.6km s-min=1.3km az=93.0*
*CSEM **06** 22:50:44.8±0.1, 4303N×1265E, h10km, ML2.7/13, Error ellipse: s-maj=2.4km s-min=2.0km az=40.0*
*LDG **06** 22:50:46.1±0.3, 4309N×1262E, h8km, Ml2.7/13, Error ellipse: s-maj=5.6km s-min=3.6km az=97.0*
*IDC **06** 22:50:46.1±1.6, 4316N×1243E, h0km, mb3.1/2, mb1 3.3/5, mb1mx3.2/21, mbtmp3.3/5, ML3.3/3, Error ellipse: s-maj=33.2km s-min=16.9km az=100.0*
*PRU **06** 22:50:50.3, 4329N×1303E, h0km*

ISC 06 22:50:44.9±0.4, 4302N±002×1247E±003, h1km±3km, n86, σ1§16/142, mb3.6/1, 9C-10D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MURB	**Monte Urbino**	0.25	10	Pg		Pg	22 50 49.7	0.0
MURB				Sg		Sg	22 50 53.6	+0.6
	9µm,0.3s							
SNTG	**Esanatoglia**	0.42	55	Pg		Pg	22 50 52.2	-0.8
SNTG				Sg		Sg	22 50 57.9	-0.5
SACS	**San Casciano d**	0.44	248	Pg		Pg	22 50 55.2	+1.9
SACS				Sg		Sg	22 51 04.1	+5.0
	948nm,0.7s							
NRCA	**Norcia**	0.51	111	Pg		Pg	22 50 54.4	-0.2
BADI	**Badiali**	0.52	342	Pg		Pg	22 50 54.8	-0.1
BADI				Sg		Sg	22 51 04.0	+2.4
	520nm,0.7s							
ARV	**Arcevia**	0.59	36	Pg		Pg	22 50 55.3	-1.0
ARV				Sg		Sg	22 51 03.8	-0.2
ARVD	**Arcevia**	0.59	36	Pg		Pg	22 50 55.2	-1.1
ARVD				Sg		Sg	22 51 03.7	-0.3
	1µm,0.9s							
CING	**Cingoli**	0.64	56	Pg		Pg	22 50 56.1	-1.1
CING				Sg		Sg	22 51 05.4	-0.2
	867nm,0.3s							
MNS	**Montasola**	0.65	166	Pg		Pg	22 50 57.9	+0.6
MNS				Sg		Sg	22 51 09.7	+3.9
	670nm,0.5s							
FSSB	**Fossombrone**	0.71	18	Pg		Pg	22 50 57.7	-0.9
FSSB				Sg		Sg	22 51 08.0	+0.2
	544nm,0.8s							
ARCI	**Arcidosso**	0.75	258	Pg		Pg	22 51 00.8	+1.6
	293nm,1.0s							
CAMP	**Campotosto**	0.84	124	Pg		Pg	22 51 00.5	-0.6
CAMP				Sg		Sg	22 51 13.4	+1.4
	787nm,0.9s							
FIAM	**Fiamignano**	0.89	147	Pg		Pg	22 51 02.1	+0.2
	776nm,0.7s							
RSM	**Repubblica di**	0.92	359	Pg		Pg	22 51 02.7	+0.3
	364nm,1.1s							
TERO	**Teramo**	0.92	115	Pg		Pg	22 51 01.6	-1.0
TERO				Sg		Sg	22 51 15.6	+1.0
	622nm,0.5s							
AQU	**L'Aquila**	0.96	133	*e*P		Pg	22 51 02.4	-0.8
AQU				Pg		Pg	22 51 03.4	+0.2
AQU	**L'Aquila**	0.96	133	*e*P		Pg	22 51 02.4	-0.8
AQU	**L'Aquila**	0.96	133	Pg		Pg	22 51 03.4	+0.2
PESA	**Pesaro**	0.96	16	Pg		Pg	22 51 02.5	-0.9
	557nm,0.7s							
AOI	**Ancona**	0.99	57	Pg		Pg	22 51 02.4	-1.4
	470nm,0.7s							
SFI	**Santa Sofia**	1.00	333	Pg		Pg	22 51 04.4	+0.4
	134nm,0.6s							
TOLF	**Tolfa**	1.01	200	Pg		Pg	22 51 05.3	+1.0
VLC	**Villacollemand**	1.90	308	*e*Pn		Pn	22 51 19.1	+0.7
VLC	**Villacollemand**	1.90	308	*e*Pn		Pn	22 51 19.0	+0.6
NVLJ	**Novalja**	2.33	48	*i* Pn		Pn	22 51 23.4	-1.0
NVLJ				*i* Sn		Sn	22 51 53.2	-0.4
PGF	**Pioggiola**	2.59	261	*e*Pn		Pn	22 51 28.5	+0.5
PGF				*e*Sn		Sn	22 51 59.9	-0.3
	12nm,0.6s							
PGF	**Pioggiola**	2.59	261	*e*Pn		Pn	22 51 28.5	+0.5
PGF				*e*Sn		Sn	22 51 59.9	-0.3
	6.0nm,0.6s							
VOY	**Vojsko**	3.18	18	*e*Pn		Pn	22 51 35.3	-0.8
LJU	**Ljubljana**	3.37	25	*e*Pn		Pn	22 51 38.8	+0.1
LJU				*i* Sn		Sn	22 52 19.4	+0.2
SBF	**Sospel**	3.76	285	*e*Pn		Pn	22 51 43.9	-0.1
OBKA	**Obir**	3.79	22	⇑*i* Pn		Pn	22 51 44.3	-0.2
OBKA				⇑*i* Sn		Sn	22 52 29.7	-0.1
OBKA				⇑*i* Sg		Sg	22 52 50.3	+3.5
	44nm,0.8s							
OBKA	**Obir**	3.79	22	⇑*i* Pn		Pn	22 51 44.3	-0.2
OBKA				*i* Sn		Sn	22 52 29.7	-0.1
KBA	**Koelnbreinsper**	4.11	8	*i* Pn		Pn	22 51 49.7	+0.8
	SNR=7.5							
KBA				⇓*i* Sn		Sn	22 52 38.4	+0.9
DAVOX	**Davos**	4.19	335	Pn		Pn	22 51 50.7	+0.8
	1.3nm,0.3s,baz=161,slow=18,SNR=12							
DAVOX				Sn		Sn	22 52 40.5	+1.0
	0.9nm,0.3s,baz=343,slow=20,SNR=4.7							
DAVOX	**Davos**	4.19	335	Pn		Pn	22 51 50.7	+0.8
DAVOX				Sn		Sn	22 52 40.5	+1.0
FRF	**La Foret Royal**	4.28	279	*e*Pn		Pn	22 51 51.0	-0.2
FRF				*e*Sn		Sn	22 52 39.5	-2.3
	1.0nm,0.3s							
FRF	**La Foret Royal**	4.28	279	*e*Pn		Pn	22 51 51.0	-0.2
FRF				*e*Sn		Sn	22 52 39.5	-2.3
	0.5nm,0.3s							
WTTA	**Wattenberg**	4.29	352	⇓*i* Pn		Pn	22 51 52.5	+1.2
WTTA				⇑*i* Sn		Sn	22 52 42.3	+0.3
SQTA	**Sankt Quirin**	4.30	348	⇑*i* Pn		Pn	22 51 52.9	+1.4
	SNR=7.3							
SQTA				⇓*i* Sn		Sn	22 52 43.7	+1.5
SQTA	**Sankt Quirin**	4.30	348	⇑*i* Pn		Pn	22 51 52.8	+1.4
WATA	**Walderalm**	4.37	352	⇓*i* Pn		Pn	22 51 54.1	+1.8
WATA				⇑*i* Sn		Sn	22 52 46.4	+2.5
WATA	**Walderalm**	4.37	352	⇓*i* Pn		Pn	22 51 54.1	+1.8
WATA				*i* Sn		Sn	22 52 46.4	+2.5
WATA	**Walderalm**	4.37	352	⇓*i* Pn		Pn	22 51 54.1	+1.8
WATA				*i* Sn		Sn	22 52 46.3	+2.4
LMR	**La Mourre**	4.37	276	*e*Pn		Pn	22 51 51.7	-0.7
LMR				*e*Sn		Sn	22 52 41.4	-2.5
	0.7nm,0.3s							
LMR	**La Mourre**	4.37	276	*e*Pn		Pn	22 51 51.7	-0.7
LMR				*e*Sn		Sn	22 52 41.4	-2.5
	0.3nm,0.3s							
MOTA	**Moosalm**	4.43	348	⇓*i* Pn		Pn	22 51 53.7	+0.4
	SNR=6.2							
MOTA				⇑*i* Sn		Sn	22 52 48.1	+2.6
MBDF	**Montbardon**	4.46	295	*e*Pn		Pn	22 51 53.6	0.0
DAVA	**Damuels**	4.65	338	⇓*i* Pn		Pn	22 51 56.6	+0.4
DAVA				⇓*i* Sn		Sn	22 52 52.7	+2.0
LPG	**La Plagne**	4.80	303	*e*P		Pn	22 52 01.0	+2.7
LPL	**La Plagne**	4.82	303	*e*P		Pn	22 52 01.3	+2.7
LPL				*e*Sn		Sn	22 52 51.3	-3.7
	1.4nm,0.4s							
LPL	**La Plagne**	4.82	303	*e*P		Pn	22 52 01.3	+2.7
LPL				*e*Sn		Sn	22 52 51.3	-3.7
	0.7nm,0.4s							
MOA	**Molln**	5.00	14	*i* Pn		Pn	22 52 01.6	+0.6
	SNR=12							
MOA				⇓*i* Sn		Sn	22 52 59.6	+0.2
SMRF	**Simiane la Rot**	5.11	283	*e*P		Pn	22 52 04.4	+1.9
ORIF	**Oris-en-Rattie**	5.12	294	*e*Pn		Pn	22 52 02.0	-0.7
CABF	**La Chapelle**	5.79	311	*e*Pn		Pn	22 52 11.2	-0.7
GEC2	**GERESS Array S**	5.89	8	*e*Pn		Pn	22 52 13.5	+0.2
GEC2				*e*Sn		Sn	22 53 19.5	-2.0
GERES	**GERESS Array B**	5.89	8	Pn		Pn	22 52 12.1	-1.3
	0.3nm,0.3s,baz=184,slow=13,SNR=13							
GERES				Sn		Sn	22 53 20.1	-1.4
	0.6nm,0.3s,baz=189,slow=24,SNR=7.6							
VIVF	**Saint-Julien-l**	5.92	291	*e*P		Pn	22 52 17.0	+3.3
WET	**Wettzell**	6.14	3	*e*Pn		Pn	22 52 15.1	-1.6
WET				*e*Sn		Sn	22 53 23.0	-4.5
KHC	**Kasperske Hory**	6.17	7	*e*PN		Pn	22 52 16.6	-0.5
KHC				*e*SN		Sn	22 53 23.2	-5.0
HINF	**Hinteralfeld**	6.22	322	*e*Pn		Pn	22 52 16.5	-1.3
HINF				*e*Sn		Sn	22 53 23.6	-5.9
	1.9nm,0.3s							
HINF	**Hinteralfeld**	6.22	322	*e*Pn		Pn	22 52 16.5	-1.3
HINF				*e*Sn		Sn	22 53 23.6	-5.9
	0.9nm,0.3s							
LASF	**Ste Croix**	6.35	283	*e*Pn		Pn	22 52 19.3	-0.3
CDF	**Champ du Feu**	6.50	328	*e*Pn		Pn	22 52 20.9	-0.8
CDF				*e*Sn		Sn	22 53 30.2	-6.4
	1.4nm,0.3s							
CDF	**Champ du Feu**	6.50	328	*e*Pn		Pn	22 52 20.9	-0.8
CDF				*e*Sn		Sn	22 53 30.2	-6.4
	0.7nm,0.3s							
HAU	**Haudompre**	6.58	321	*e*Pn		Pn	22 52 22.4	-0.4
HAU				*e*Sn		Sn	22 53 32.1	-6.5
	3.7nm,0.5s							
HAU	**Haudompre**	6.58	321	*e*Pn		Pn	22 52 22.4	-0.4
HAU				*e*Sn		Sn	22 53 32.1	-6.5
	1.9nm,0.5s							
PRU	**Pruhonice**	7.12	11	*e*PN		Pn	22 52 30.9	+0.7
SMF	**Signal de Mont**	7.12	304	*e*Pn		Pn	22 52 28.9	-1.3
SMF				*e*Sn		Sn	22 53 45.8	-6.0
	0.3nm,0.3s							
SMF	**Signal de Mont**	7.12	304	*e*Pn		Pn	22 52 28.9	-1.3
SMF				*e*Sn		Sn	22 53 45.8	-6.0
	0.2nm,0.3s							
LOR	**Lormes**	7.42	308	*e*Pn		Pn	22 52 32.9	-1.4
LOR				*e*Sn		Sn	22 53 52.9	-6.3
	1.0nm,0.5s							
LOR	**Lormes**	7.42	308	*e*Pn		Pn	22 52 32.9	-1.4
LOR				*e*Sn		Sn	22 53 52.9	-6.3
	0.5nm,0.5s							
MTLF	**Montolieu**	7.50	276	*e*Pn		Pn	22 52 34.8	-0.6
SSF	**Saint Saulge**	7.53	306	*e*Pn		Pn	22 52 34.1	-1.6
SSF				*e*Sn		Sn	22 53 55.4	-6.3
	0.4nm,0.3s							
SSF	**Saint Saulge**	7.53	306	*e*Pn		Pn	22 52 34.1	-1.6
SSF				*e*Sn		Sn	22 53 55.4	-6.3
	0.2nm,0.3s							
MEZF	**Maizieres J'vi**	7.55	319	*e*Pn		Pn	22 52 33.9	-2.1
MEZF				*e*Sn		Sn	22 53 54.2	-8.0
	0.8nm,0.4s							
MEZF	**Maizieres J'vi**	7.55	319	*e*Pn		Pn	22 52 33.9	-2.1
MEZF				*e*Sn		Sn	22 53 54.2	-8.0
	0.4nm,0.4s							
BGF	**Bois d'Agland**	7.71	301	*e*Pn		Pn	22 52 36.8	-1.4
BGF				*e*Sn		Sn	22 54 00.0	-6.1
	0.8nm,0.3s							
BGF	**Bois d'Agland**	7.71	301	*e*Pn		Pn	22 52 36.8	-1.4
BGF				*e*Sn		Sn	22 54 00.0	-6.1
	0.4nm,0.3s							
CAF	**Calviac**	7.74	288	*e*Pn		Pn	22 52 38.1	-0.6
BRG	**Berggiesshubel**	7.93	7	SG		Sg	22 55 15.9	+17
	2.6nm,0.9s							
TCF	**Toulx Ste Croi**	8.01	298	*e*Pn		Pn	22 52 41.1	-1.3
LFF	**La Frestale**	8.67	287	*e*Pn		Pn	22 52 50.5	-1.0
AKASG	**Malin Array Be**	13.78	50	Pn		Pn	22 54 02.5	+1.0
	0.7nm,0.3s,baz=208,slow=17,SNR=4.3							
FINES	**FINESS Array B**	20.17	19	P		P	22 55 22.0	+1.2
	1.0nm,0.7s,baz=192,slow=13,SNR=7.4							
TORD	**Torodi Ar. Bea**	31.18	201	P		P	22 57 08.1	+2.6
	0.8nm,1.1s,mb3.6,baz=12,slow=8.5,SNR=4.0							

*ISCJB **06** 22:59:12.5±0.5, 3815N±002×2670E±005, h10km, Error ellipse: s-maj=5.4km s-min=3.2km az=154.8*
*ATH **06** 22:59:12.6, 3815N×2652E, h12km±9km, MD3.0/3*
*CSEM **06** 22:59:12.1±0.1, 3817N×2673E, h15km, MD2.9, Error ellipse: s-maj=3.0km s-min=2.4km az=96.0*
*ISK **06** 22:59:13.4, 3817N×2683E, h23km, MD2.9*

ISC 06 22:59:12.4±0.5, 3815N±002×2668E±005, h10km, n17, σ0§86/28, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	0.22	343	*i* P		Pg	22 59 17.2	+0.3
URLA				*i* S		Sg	22 59 20.8	+0.9
SMG	**Samos**	0.46	164	*e*PB		Pg	22 59 22.4	+1.0
SMG				*e*SB		Sg	22 59 29.8	+2.3
IZM	**Izmir**	0.52	62	*i* PG		Pg	22 59 22.5	-0.1
IZM				*i* SG		Sg	22 59 29.4	-0.1
KDAG	**Bornova**	0.53	61	*i* P		Pg	22 59 22.6	-0.1
KDAG				*i* S		Sg	22 59 29.6	0.0
KDAG	**Bornova**	0.53	61	*i* P		Pg	22 59 22.6	-0.1
KDAG				*i* S		Sg	22 59 29.6	0.0
AYDN	**Tasoluk**	1.07	117	*i* P		Pg	22 59 33.2	+0.2
AYDN				*i* S		Sg	22 59 47.7	+0.8
PRK	**Paraskevi**	1.14	344	*e*PN		Pn	22 59 33.7	-0.7
PRK				*e*SB		Sb	22 59 48.9	-0.1
AKS	**Akhisar**	1.15	50	PG		Pg	22 59 33.1	-1.4
AYVA	**Ayvalik**	1.16	1	*i* P		Pb	22 59 34.7	+0.2
AYVA				*i* S		Sb	22 59 51.2	+1.7
BODT	**Bodrum**	1.20	155	*e*PN		Pn	22 59 34.1	-1.1
BODT				*e*SN		Sn	22 59 50.6	-0.9
MLSB	**Milas**	1.22	134	*e*PN		Pn	22 59 34.4	-1.1
BDRM	**Kayabasi**	1.24	150	*i* P		Pn	22 59 36.4	+0.5
BDRM				*i* S		Sb	22 59 52.6	+0.6
BDRM	**Kayabasi**	1.24	150	*i* P		Pn	22 59 36.3	+0.4
BDRM				*i* S		Sb	22 59 52.6	+0.5
APE	**Apeiranthos**	1.41	220	*e*PB		Pb	22 59 37.9	-1.0
DAT	**Datca**	1.59	153	*e*PN		Pn	22 59 40.7	+0.1
YER	**Yerkesik**	1.63	128	*e*PN		Pn	22 59 40.5	-0.7
BALB	**Balikesir**	1.76	32	*e*PN		Pn	22 59 42.4	-0.5

*IDC **06** 23:03:33.3±1.0, 2034S×174.12W, h0km, mb4.0/7, mb1 4.3/7, mb1mx4.1/14, mbtmp4.0/7, MS2.9/3, Ms1 2.9/3, ms1mx2.8/25, Error ellipse: s-maj=38.5km s-min=23.8km az=136.0*
*ISCJB **06** 23:03:35.4±0.7, 1988S±008×174.0W±0.1, h33km, mb4.2/13, Error ellipse: s-maj=19.1km s-min=8.4km az=56.1*
*NEIC **06** 23:03:38.2±0.6, 1986S×1740.3W, h35km, mb4.5/7, Error ellipse: s-maj=19.4km s-min=13.4km az=131.0*

ISC 06 23:03:38.2±0.7, 1992S±008×1740W±01, h35km, n27, σ1§45/20, mb4.2/13, 2C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	6.34	20	Pn		Pn	23 05 08.8	-0.3
	8.0nm,0.3s,baz=78,slow=1.6,SNR=8.5							
AFI				Sn		Sn	23 06 20.8	+0.6
	15nm,0.3s,baz=144,slow=20,SNR=6.5							
AFI	**Afiamalu**	6.34	20	*e*Pn		Pn	23 05 07.5	-1.6
	41nm,0.4s							
AFI				*e*Sn		Sn	23 06 18.1	-2.2
RAR	**Rarotonga**	13.37	98	Pn		Pn	23 06 33.9	-11
	2.9nm,0.3s,baz=254,slow=13,SNR=6.5							
RAR				LR		LR	23 09 58.8	
	comp=Z,57nm,20.9s,baz=298,slow=29							
DZM	**Mont Dzumac**	18.40	260	Pn		Pn	23 07 52.5	+2.1
	0.4nm,0.3s,baz=66,slow=17,SNR=7.3							
URZ	**Urewera**	19.84	201	LR		LR	23 13 54.0	
	comp=Z,167nm,19.6s,baz=292,slow=32							
PPT	**Papeete**	23.22	88	LR		LR	23 15 58.6	
	comp=Z,7.2nm,18.4s,baz=198,slow=32							
CTAO	**Charters Tower**	37.31	263	*e*P		P	23 10 46.9	0.0
	4.5nm,0.7s,mb4.4							
PMG	**Port Moresby**	38.93	280	P		P	23 11 00.7	+0.2
	14nm,1.1s,mb4.6							
STKA	**Stephens Creek**	41.44	244	P		P	23 11 17.9	-3.4
	2.4nm,0.7s,mb3.9,baz=99,slow=16,SNR=3.1							
ASAR	**Alice Springs**	48.32	256	P		P	23 12 15.1	-1.0
	1.9nm,0.8s,mb4.2,baz=91,slow=8.0,SNR=16							
WRAB	**Tennant Creek**	48.41	261	P		P	23 12 16.6	-0.3
	6.5nm,1.0s,mb4.6							
WRA	**Warramunga Arr**	48.42	261	P		P	23 12 15.1	-1.8
	1.3nm,0.8s,mb4.0,baz=96,slow=8.7,SNR=14							
SBA	**Scott Base**	58.72	185	*e*P		P	23 13 32.2	-0.2
	3.2nm,1.0s,mb4.3							
VNDA	**Vanda**	58.85	186	P		P	23 13 31.6	-1.6
	0.9nm,0.9s,mb3.8,baz=324,slow=5.7,SNR=4.4							
VNDA	**Vanda**	58.85	186	*e*P		P	23 13 32.1	-1.1
	1.7nm,1.1s,mb4.0							
CASY	**Casey**	66.10	205	*e*P		P	23 14 21.4	-0.3
	18nm,1.4s,mb4.9							
QSPA	**South Pole Qui**	70.15	180	*e*P		P	23 14 48.5	+1.4
	3.6nm,1.0s,mb4.3							
MJAR	**Matsushiro Arr**	72.06	321	P		P	23 15 01.5	+2.8
	3.3nm,0.8s,mb4.3,baz=154,slow=5.8,SNR=9.2							
NVAR	**Mina Array Bea**	78.05	42	P		P	23 15 35.3	+2.1
	1.1nm,0.9s,mb3.8,baz=217,slow=7.2,SNR=5.2							
ILAR	**Eielson Array**	86.96	11	P		P	23 16 22.8	+3.1
	0.5nm,0.7s,mb3.9,baz=220,slow=5.8,SNR=5.3							
AKASG	**Malin Array Be**	144.23	335	PKP		PKPdf	23 23 09.5	-0.8
	1.3nm,0.4s,baz=40,slow=4.3,SNR=12							
MALT	**Malatya**	146.51	310	*e*PKPbc		PKPbc	23 23 16.7	+1.0
BURAR	**Bucovina Array**	148.28	335	⇑*i* P		PKPbc	23 23 22.4	+1.8
BRTR	**Keskin Array B**	149.16	316	PKPbc		PKPbc	23 23 24.6	+1.7
	0.5nm,0.8s,baz=190,slow=8.3,SNR=4.5							
BRTR				PKPab		PKPab	23 23 31.1	+3.8
	0.9nm,0.7s,baz=43,slow=2.8,SNR=8.0							
MLR	**Muntele Rosu**	149.65	332	⇑*i* P		PKPbc	23 23 26.0	+2.0
GERES	**GERESS Array B**	150.49	350	PKPbc		PKPbc	23 23 25.8	-0.3
	0.6nm,0.9s,baz=352,slow=1.9,SNR=5.4							
BZS	**Buzias**	151.32	337	⇓*i* P		PKPbc	23 23 29.2	+1.2

*IDC **06** 23:25:44.4±1.5, 1143N×86.10W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/17, mbtmp3.5/3, Error ellipse: s-maj=52.3km s-min=19.3km az=55.0*
*NEIC **06** 23:25:46.8±5.0, 1166N×8387W, h35km, mb3.8/1, Error ellipse: s-maj=153.0km s-min=18.3km az=108.0*
*ISCJB **06** 23:25:48.5±1.2, 1082N±004×8649W±007, h20km±7km, mb3.6/4, Error ellipse: s-maj=12.9km s-min=3.6km az=116.9*
*CASC **06** 23:25:48.2±2.6, 1086N×8640W, h3km±8km, MD3.9, ML3.4, mb3.8(NEIC)*

ISC 06 23:25:47.1±1.2, 1084N±004×8650W±006, h1km±5km, n34, σ1§13/47, mb3.7/4, 3C-7D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	0.78	55	*e*P		Pg	23 26 02.2	+0.2
RIN3	**Volcan Rincon**	1.10	92	⇑*e*P		Pg	23 26 06.6	-1.5
RIN3				*e*S		Sg	23 26 22.2	-0.1
MADN	**Villa Maderas**	1.10	59	⇓*e*P		Pg	23 26 07.8	-0.4
VCR	**Vista de Mar**	1.10	130	*e*P		Pg	23 26 07.7	-0.5
VCR				*e*S		Sg	23 26 24.0	+1.5
CONN	**Concepcion**	1.12	50	⇓*e*P		Pg	23 26 07.9	-0.7
APON	**Apoyo**	1.15	21	*e*P		Pg	23 26 09.4	+0.1
MASN	**Masaya**	1.19	16	*e*P		Pg	23 26 09.8	-0.1
TICN	**Ticuantepe**	1.22	12	*e*P		Pg	23 26 10.6	+0.1
TICN				*e*S		Sg	23 26 27.8	+1.5
LIM1	**Limonal**	1.23	96	*i* P		Pg	23 26 08.6	-2.0
XAVN	**Gruta Xavier**	1.31	7	⇓*i* P		Pg	23 26 11.8	-0.6
XAVN				*e*S		Sg	23 26 29.4	0.0
TISN	**Laguna Tiscapa**	1.32	10	⇑*e*P		Pg	23 26 11.6	-0.7
MGAN	**Managua**	1.32	11	⇓*e*P		Pn	23 26 11.9	-0.8
MGAN				*e*S		Sg	23 26 30.3	+0.6
MGAN				*i*			23 26 37.0	
	comp=E,711nm,0.6s							
COPN	**Copaltepe**	1.34	356	⇑*e*P		Pn	23 26 12.0	-0.9
COPN				*e*S		Sg	23 26 31.1	+1.0
APYN	**Apoyeque**	1.40	6	*e*P		Pn	23 26 13.0	-0.6
APYN				*e*S		Sg	23 26 32.3	+0.3
MOMJ	**Momotombo**	1.56	358	*e*P		Pn	23 26 15.0	-1.0
MIRN	**Miramar**	1.61	352	*e*P		Pn	23 26 16.5	-0.1
MIRN				*e*S		Sn	23 26 39.4	+1.5
JTS	**JuntasAbangare**	1.61	110	Pn		Pn	23 26 14.6	-2.0
	comp=E,22nm,0.3s,baz=315,slow=21,SNR=63							
JTS				Sn		Sn	23 26 34.4	-3.6
	comp=E,49nm,0.3s,baz=308,slow=20,SNR=9.8							
JTS	**JuntasAbangare**	1.61	110	Pn		Pn	23 26 14.6	-2.0
JTS				Sn		Sn	23 26 34.4	-3.6
TEL3	**Telica 3**	1.76	349	*e*P		Pn	23 26 18.0	-0.6
CAO	**Cobano**	1.77	129	⇓*e*P		Pn	23 26 20.5	+1.7
EPA	**Esparza**	2.05	114	⇓*e*P		Pn	23 26 24.1	+1.4
EPA				*e*S		Sn	23 26 50.9	+2.1
CGA2	**Cerro Gallo 2**	2.16	112	*e*P		Pn	23 26 25.0	+0.9
CGA2				*e*S		Sn	23 26 49.8	-1.7
POA2	**Poas 2**	2.30	106	*e*P		Pn	23 26 27.0	+0.9
PRS1	**Puriscal**	2.31	111	*e*P		Pn	23 26 27.0	+0.8
PRS1				*e*S		Sn	23 26 53.9	-1.3
OCM	**Ochomogo**	2.66	110	*e*P		Pn	23 26 33.9	+2.8
IRZ2	**Volcan Irazu 2**	2.70	108	⇓*e*P		Pn	23 26 32.5	+1.0
URSC	**Urasca**	2.85	110	*e*P		Pn	23 26 34.3	+0.6
BUS	**Buena Vista**	2.98	115	*e*P		Pn	23 26 36.7	+1.3
CTCR	**Cotoan**	4.16	117	*e*P		Pn	23 26 51.1	-0.5
WMOK	**Wichita Mounta**	26.30	337	*e*P		P	23 31 22.

σ1⚲25/12, **mb4.1/7, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.61**	**18**	Pn	**Pn**	**23 43 40.8**	**-0.4**
	3.1nm,0.3s,baz=105,slow=12,SNR=4.4						
AFI				Sn	**Sn**	**23 44 46.4**	**-10**
	5.6nm,0.3s,baz=37,slow=22,SNR=3.2						
RAR	**Rarotonga**	**13.23**	**97**	Pn	**Pn**	**23 45 11.9**	**0.0**
	1.0nm,0.3s,baz=132,slow=5.7,SNR=6.0						
DZM	**Mont Dzumac**	**18.45**	**261**	P	**Pn**	**23 46 20.5**	**+0.7**
	0.2nm,0.3s,baz=115,slow=17,SNR=3.2						
STKA	**Stephens Creek**	**41.39**	**244**	P	**P**	**23 49 52.8**	**+2.7**
	2.8nm,0.9s,mb3.9,baz=95,slow=12,SNR=2.9						
WAKE	**Wake Island**	**43.67**	**333**	P	**P**	**23 50 09.5**	**+0.9**
	47nm,0.4s,mb5.6						
ASAR	**Alice Springs**	**48.34**	**256**	P	**P**	**23 50 45.1**	**-0.3**
	0.8nm,0.6s,mb3.9,baz=91,slow=8.6,SNR=5.9						
WRAB	**Tennant Creek**	**48.46**	**261**	*e*P	**P**	**23 50 44.4**	**-2.0**
	0.9nm,0.5s,mb4.1						
WRA	**Warramunga Arr**	**48.47**	**261**	P	**P**	**23 50 43.6**	**-2.8**
	0.4nm,0.4s,mb3.8,baz=96,slow=7.4,SNR=12						
MJAR	**Matsushiro Arr**	**72.37**	**321**	P	**P**	**23 53 29.5**	**-0.2**
	0.8nm,0.6s,mb3.8,baz=149,slow=5.9,SNR=4.5						
MJAR	**Matsushiro Arr**	**72.37**	**321**	P	**P**	**23 53 29.5**	**-0.2**
ILAR	**Eielson Array**	**87.26**	**11**	P	**P**	**23 54 51.1**	**+0.7**
	0.3nm,0.5s,mb3.8,baz=210,slow=5.0,SNR=5.6						
ARCES	**ARCESS Array B**	**129.31**	**351**	PKP	PKPdf	00 01 12.7	+0.5
	1.5nm,0.9s,baz=17,slow=1.3,SNR=8.0						
FINES	**FINESS Array B**	**136.53**	**346**	PKP	PKPdf	00 01 27.0	+1.2
	0.3nm,0.8s,baz=297,slow=1.3,SNR=4.4						
FINES	**FINESS Array B**	**136.53**	**346**	PKP	PKPdf	00 01 27.0	+1.2
AKASG	**Malin Array Be**	**144.56**	**335**	PKP	PKPdf	00 01 38.2	-2.0
	0.4nm,0.3s,baz=35,slow=3.8,SNR=6.4						
BRTR	**Keskin Array B**	**149.46**	**315**	PKPbc	PKPbc	00 01 53.4	+0.4
	0.4nm,0.5s,baz=159,slow=5.4,SNR=3.9						
GERES	**GERESS Array B**	**150.82**	**350**	PKPbc	PKPbc	00 01 57.5	+1.3
	0.4nm,0.6s,baz=29,slow=3.0,SNR=4.4						

*ISCJB **06** 23:55:53.0±0.8, 207S±02×173.3W±0.1, h33km, mb4.0/5, Error ellipse: s-maj=22.5km s-min=12.8km az=140.0*
*IDC **06** 23:55:54.1±5.0, 2109S×17390W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/14, mbtmp3.7/3, MS3.2/3, Ms1 3.2/3, ms1mx2.9/22, Error ellipse: s-maj=224.6km s-min=32.5km az=145.0*
*NEIC **06** 23:56:01.7±1.1, 2026S×17445W, h35km, mb4.4/3, Error ellipse: s-maj=42.6km s-min=27.4km az=147.0*
ISC 06 23:55:55.8±0.8, 208S±02×1734W±01, h35km, n12, σ0$52/9, mb4.0/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.96**	**13**	Pn	**Pn**	**23 57 35.3**	**0.0**
	4.5nm,0.3s,baz=103,slow=18,SNR=2.9						
AFI				Sn	**Sn**	**23 58 42.8**	**-10**
	5.3nm,0.3s,baz=123,slow=20,SNR=3.2						
AFI				LR	LR	23 59 48.8	
	comp=Z,99nm,19.1s,baz=176,slow=32						
RAR	**Rarotonga**	**12.70**	**95**	Pn	**Pn**	**23 58 54.1**	**+0.2**
	2.3nm,0.3s,baz=75,slow=16,SNR=5.0						
RAR				LR	LR	00 02 10.0	
	comp=Z,83nm,18.8s,baz=290,slow=28						
DZM	**Mont Dzumac**	**18.85**	**262**	P	**Pn**	**00 00 14.4**	**+0.8**
	0.3nm,0.3s,baz=97,slow=21,SNR=5.6						
ASAR	**Alice Springs**	**48.69**	**256**	P	**P**	**00 04 35.7**	**-0.9**
	0.5nm,0.6s,mb3.7,baz=101,slow=7.8,SNR=10						
WRAB	**Tennant Creek**	**48.86**	**261**	P	**P**	**00 04 38.2**	**+0.3**
	1.1nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**48.87**	**261**	P	**P**	**00 04 38.0**	**+0.1**
	0.7nm,0.8s,mb3.8,baz=96,slow=7.5,SNR=19						
MBWA	**Marble Bar**	**62.03**	**256**	*e*P	**P**	**00 06 12.1**	**-0.5**
	2.8nm,0.8s,mb4.4						
QSPA	**South Pole Qui**	**69.33**	**180**	*e*P	pP	00 07 09.1	-1.4
	6.4nm,1.1s						
ILAR	**Eielson Array**	**87.66**	**11**	P	**P**	**00 08 46.0**	**+5.3**
	0.6nm,0.8s,mb3.9,baz=218,slow=5.0,SNR=4.9						
AKASG	**Malin Array Be**	**145.22**	**335**	PKPbc	PKPbc	00 15 31.5	+2.1
	0.6nm,0.4s,baz=40,slow=4.6,SNR=5.7						
BRTR	**Keskin Array B**	**150.15**	**315**	PKPbc	PKPbc	00 15 46.0	+3.1
	0.6nm,0.9s,baz=64,slow=2.9,SNR=3.7						
BRTR				PKPab	PKPab	00 15 52.2	+3.3
	0.6nm,0.8s,baz=111,slow=2.8,SNR=4.9						
GERES	**GERESS Array B**	**151.40**	**350**	PKPbc	PKPbc	00 15 51.5	+5.6
	0.1nm,0.3s,baz=348,slow=3.1,SNR=3.5						
GERES				PKPab	PKPab	00 15 59.4	+5.3
	0.9nm,0.9s,baz=325,slow=2.1,SNR=4.4						

*NEIC **07** 00:11:35.6±3.5, 3050S×17877W, h395km±15km, mb4.5/3, Error ellipse: s-maj=56.9km s-min=22.1km az=63.0*
WEL 07 00:12:51.1±0.6, 3582S×17824E, h170km±9km, ML3.7/11, Error ellipse: s-maj=12.4km s-min=8.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.74**	**178**	PN	Pn	00 13 24.7	0.0
MXZ				SN	Sn	00 13 50.6	0.0
MXZ				*e*SN	Sn	00 13 50.7	+0.1
MXZ	**Matakaoa Point**	**1.74**	**178**	P	Pn	00 13 24.1	-0.6
MXZ				S	Sn	00 13 50.2	-0.4
PUZ	**Puketiti**	**2.25**	**180**	PN	Pn	00 13 30.8	+0.4
PUZ				SN	Sn	00 14 00.3	-0.4
PUZ	**Puketiti**	**2.25**	**180**	*e*P	Pn	00 13 30.9	+0.6
MWZ	**Matawai**	**2.58**	**193**	PN	Pn	00 13 34.8	+0.7
MWZ				*e*SN	Sn	00 14 07.9	+0.4
MWZ	**Matawai**	**2.58**	**193**	P	Pn	00 13 34.2	0.0
URZ	**Urewera**	**2.60**	**200**	PN	Pn	00 13 35.0	+0.5
URZ				SN	Sn	00 14 08.4	+0.4
URZ	**Urewera**	**2.60**	**200**	*e*P	Pn	00 13 35.2	+0.8
KNZ	**Kokohu**	**3.23**	**188**	PN	Pn	00 13 41.7	-0.5
KNZ	**Kokohu**	**3.23**	**188**	*e*P	Pn	00 13 41.7	-0.4
BKZ	**Black Stump Fm**	**3.62**	**202**	PN	Pn	00 13 46.8	-0.3
BKZ	**Black Stump Fm**	**3.62**	**202**	*e*P	Pn	00 13 47.7	+0.6
WNVZ	**Wahianoa**	**4.09**	**210**	*e*PN	Pn	00 13 54.3	+1.3
WNVZ	**Wahianoa**	**4.09**	**210**	P	Pn	00 13 53.4	+0.4
PXZ	**Pawanui**	**4.35**	**194**	PN	Pn	00 13 54.3	-2.0
PXZ				SN	Sn	00 14 44.6	-2.7
MRZ	**Mangatainoka R**	**5.27**	**203**	PN	Pn	00 14 05.9	-2.5
MRZ				*e*SN	Sn	00 15 04.2	-4.8
MRZ	**Mangatainoka R**	**5.27**	**203**	*e*P	Pn	00 14 06.1	-2.3
KIW	**Kapiti Island**	**5.68**	**206**	PN	Pn	00 14 10.8	-2.9
KIW	**Kapiti Island**	**5.68**	**206**	P	Pn	00 14 10.3	-3.4
CAW	**Cannon Point**	**5.84**	**204**	PN	Pn	00 14 12.3	-3.5
CAW	**Cannon Point**	**5.84**	**204**	P	Pn	00 14 11.9	-4.0
TCW	**Tory Channel**	**6.22**	**209**	*e*PN	Pn	00 14 17.6	-3.2
TUWZ	**Tuamarina**	**6.54**	**210**	*e*PN	Pn	00 14 21.7	-3.3
THZ	**Tophouse**	**7.25**	**213**	PN	Pn	00 14 32.1	-2.4
KHZ	**Kahutara**	**7.54**	**208**	*e*PN	Pn	00 14 34.9	-3.3
MQZ	**McQueen's Vall**	**8.98**	**207**	*e*SN	Sn	00 16 26.8	-10

*ISCJB **07** 00:13:37.1±0.9, 2736S±005×672W±0.1, h129km±13km, mb3.7/4, Error ellipse: s-maj=19.4km s-min=8.5km az=13.0*
*IDC **07** 00:13:38.2±1.8, 2742S×67.19W, h125km±18km, mb3.6/3, mb1 3.4/7, mb1mx3.3/16, mbtmp3.7/7, Error ellipse: s-maj=28.8km s-min=16.1km az=109.0*
*NEIC **07** 00:13:38.8±0.7, 2737S×6704W, h131km±8km, mb3.7/4, Error ellipse: s-maj=13.8km s-min=6.8km az=100.0*
ISC 07 00:13:38.1±0.8, 2736S±005×672W±01, h122km±12km, n18, σ0$93/17, mb3.8/4, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**4.33**	**192**	P	**Pn**	**00 14 43.1**	**+1.0**
	1.7nm,0.3s,baz=350,slow=12,SNR=158						
CFAA				S	**Sn**	**00 15 30.5**	**-1.3**
	3.5nm,0.3s,baz=284,slow=20,SNR=12						
CFAA	**Coronel Fontan**	**4.33**	**192**	P	**Pn**	**00 14 43.1**	**+1.0**
CFAA				S	**Sn**	**00 15 30.5**	**-1.3**
CPUP	**Villa Florida**	**8.85**	**86**	P	**Pn**	**00 15 44.0**	**+0.9**
	0.4nm,0.3s,baz=244,slow=11,SNR=3.2						
CPUP	**Villa Florida**	**8.85**	**86**	*e*Pn	**Pn**	**00 15 42.1**	**-1.1**
	14nm,0.5s						
LPAZ	**La Paz**	**11.05**	**355**	P	**Pn**	**00 16 14.7**	**+2.1**
	0.2nm,0.3s,baz=165,slow=8.2,SNR=7.1						
LPAZ	**La Paz**	**11.05**	**355**	*e*Pn	**Pn**	**00 16 14.4**	**+1.8**
	0.7nm,0.4s						
LPAZ				*e*Sn	**Sn**	**00 18 13.2**	**-1.1**
TRQA	**Tornquist**	**11.53**	**159**	*e*Pn	**Pn**	**00 16 18.8**	**-0.1**
SIV	**San Ignacio**	**12.65**	**28**	P	**Pn**	**00 16 32.8**	**-0.8**
	0.4nm,0.3s,baz=260,slow=8.1,SNR=5.3						

PLCA	**Paso Flores**	**13.63**	**191**	*e*Pn	**Pn**	**00 16 47.0**	**+0.7**
	0.6nm,0.7s						
SAML	**Samuel**	**18.70**	**12**	*e*P	**P**	**00 17 47.9**	**+1.0**
	1.9nm,0.6s						
CCM	**Cathedral Cave**	**68.87**	**340**	*e*P	**P**	**00 24 29.1**	**-0.5**
	1.4nm,0.4s,mb4.1						
TORD	**Torodi Ar. Bea**	**77.94**	**68**	P	**P**	**00 25 22.8**	**+0.1**
	0.8nm,0.5s,mb3.7,baz=269,slow=5.8,SNR=17						
PDAR	**Pinedale Array**	**79.95**	**330**	P	**P**	**00 25 33.7**	**+0.1**
	0.7nm,0.7s,mb3.6,baz=126,slow=8.0,SNR=6.6						
ULM	**Lac du Bonnet**	**81.35**	**342**	P	**P**	**00 25 40.3**	**-0.8**
	0.9nm,0.5s,mb3.8,baz=169,slow=5.2,SNR=3.4						
WRA	**Warramunga Arr**	**128.57**	**206**	PKP	PKPdf	00 32 30.2	-0.4
	0.5nm,1.0s,baz=163,slow=1.7,SNR=4.8						
AAK	**Ala-Archa**	**145.42**	**54**	*e*PKPdf	PKPdf	00 33 01.9	+0.3
ZAL	**Zalesovo**	**146.39**	**30**	PKPbc	PKPbc	00 33 04.3	-0.5
	3.6nm,0.5s,baz=168,slow=4.1,SNR=11						
MKAR	**Makanchi Array**	**149.15**	**43**	PKPbc	PKPbc	00 33 11.6	-0.5
	1.8nm,0.6s,baz=298,slow=2.4,SNR=17						

*NEIC **07** 00:25:26.7±1.6, 3182S×17772W, h35km, mb4.1/1, Error ellipse: s-maj=40.7km s-min=20.3km az=126.0*
IDC 07 00:25:37.0±7.0, 3100S×17847W, h86km±45km, mb3.5/3, mb1 3.7/3, mb1mx3.4/12, mbtmp3.8/3, MS4.0/2, Ms1 4.0/2, ms1mx3.0/24, Error ellipse: s-maj=96.6km s-min=26.9km az=142.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.81**	**16**	P	Pn	00 26 06.0	-0.5
RAO	64nm,0.3s,baz=102,slow=20,SNR=2.2			S	Sn	00 26 29.4	+0.4
	125nm,0.3s,baz=18,slow=20,SNR=3.8						
URZ	**Urewera**	**8.11**	**205**	S	Sn	00 29 04.6	+2.7
	0.4nm,0.3s,baz=100,slow=21,SNR=4.9						
RPZ	**Rata Peaks**	**15.17**	**210**	LR	LR	00 34 22.2	
	comp=Z,247nm,19.8s,baz=252,slow=35						
STKA	**Stephens Creek**	**33.95**	**258**	P	P	00 32 12.3	+0.4
	2.1nm,0.6s,baz=122,slow=15,SNR=3.1						
ASAR	**Alice Springs**	**42.67**	**268**	P	P	00 33 25.1	0.0
	0.3nm,0.5s,baz=102,slow=7.4,SNR=4.9						
WRAB	**Tennant Creek**	**43.71**	**273**	*e*P	P	00 33 33.4	0.0
	1.9nm,0.6s						
WRA	**Warramunga Arr**	**43.72**	**273**	P	P	00 33 33.7	+0.2
	0.5nm,0.3s,baz=111,slow=8.1,SNR=17						
CBIJ	**Chichi jima**	**68.91**	**323**	LR	LR	01 00 18.7	
	comp=Z,249nm,21.9s,baz=113,slow=30						
KAF	**Kangasniemi**	**144.97**	**340**	*e*p	PKPdf	00 44 59.4	-4.7
FINES	**FINESS Array B**	**145.56**	**339**	PKPbc	PKPbc	00 45 03.6	-1.8
	0.4nm,0.3s,baz=49,slow=4.5,SNR=19						
NOA	**NORSAR Array B**	**149.28**	**351**	PKPbc	PKPbc	00 45 14.9	-0.7
	0.2nm,0.4s,baz=12,slow=4.3,SNR=3.3						

IDC 07 00:25:57.6±5.7, 3818S×7942E, h0km, mb4.2/2, mb1 4.5/2, mb1mx3.8/12, mbtmp4.2/2, MS4.0/6, Ms1 4.0/6, ms1mx3.6/19, Error ellipse: s-maj=332.1km s-min=59.6km az=14.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAW	**Mawson**	**30.90**	**192**	LR	LR	00 41 45.0	
	comp=Z,141nm,18.7s,baz=68,slow=31						
NWAO	**Narrogin (SRO)**	**31.06**	**92**	LR	LR	00 41 56.7	
	comp=Z,301nm,19.1s,baz=71,slow=31						
FITZ	**Fitzroy Crossi**	**44.87**	**77**	LR	LR	00 50 53.7	
	comp=Z,92nm,19.1s,baz=283,slow=33						
ASAR	**Alice Springs**	**48.28**	**89**	P	P	00 34 40.0	-0.4
	2.1nm,1.0s,baz=241,slow=6.9,SNR=7.4						
WRA	**Warramunga Arr**	**50.59**	**85**	P	P	00 34 58.7	+0.6
	6.0nm,0.9s,baz=236,slow=7.5,SNR=18						
VNDA	**Vanda**	**51.43**	**164**	LR	LR	00 54 58.7	
	comp=Z,119nm,18.9s,baz=294,slow=34						
KMBO	**Kilima Mbogo**	**53.42**	**303**	LR	LR	00 54 22.3	
	comp=Z,82nm,18.3s,baz=92,slow=32						
USHA	**Ushuaia**	**83.33**	**198**	LR	LR	01 15 13.5	
	comp=Z,272nm,18.4s,baz=106,slow=36						
YKA	**Yellowknife Ar**	**154.19**	**15**	PKPbc	PKPbc	00 45 58.5	-1.0
	0.1nm,0.6s,baz=355,slow=2.3,SNR=5.3						

*IGIL **07** 00:30:35.9, 3924N×921W, h2km, ML1.3*
*INMG **07** 00:30:35.3±0.9, 3927N×921W, h10km, ML1.2, Error ellipse: s-maj=4.9km s-min=1.5km az=104.0*
MDD 07 00:30:35.7±1.0, 3926N×919W, h13km±10km, mbLg1.7/3, Error ellipse: s-maj=8.1km s-min=3.5km az=121.0, PRXIMO, Portugal

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLOU	**Loures**	**0.37**	**175**	*e*Pg	Pg	00 30 42.3	-0.8
PLOU				*e*Sg	Sg	00 30 48.2	+0.1
PLOU	15nm,0.1s						
ALMR	**Almeirim**	**0.49**	**102**	*e*P	Pg	00 30 44.8	-0.5
ALMR				*e*S	Sg	00 30 51.5	-0.2
ALMR				*e*S	Sg	00 30 51.5	-0.2
ALMR	comp=N,17nm,0.2s			AML	AML	00 30 53.3	
ALMR	**Almeirim**	**0.49**	**102**	*e*P	Pg	00 30 44.8	-0.5
ALMR				*e*S	Sg	00 30 51.5	-0.3
PTOM	**Tomar**	**0.70**	**59**	*e*Pg	Pg	00 30 48.5	-0.9
PTOM				*e*Sg	Sg	00 30 58.3	-0.3
PTOM	comp=N,12nm,0.1s						
MOE	**Montemor**	**0.98**	**138**	*e*P	Pb	00 30 53.0	-1.5
MOE				*e*S	Sb	00 31 06.1	-1.3
PCBR	**Castelo Branco**	**1.45**	**66**	*e*S	Sn	00 31 19.1	-1.3
PCBR	comp=N,1.1nm,0.2s						
PCBR	**Castelo Branco**	**1.45**	**66**	Lg		00 31 19.1	
	comp=N,0.6nm,0.2s						
PBEJ	**Beja**	**1.61**	**139**	*e*Sn	Sn	00 31 23.1	-1.2
PBEJ	comp=N,1.1nm,0.1s						
PBEJ	**Beja**	**1.61**	**139**	Sn	Sn	00 31 23.1	-1.2
	comp=N,0.6nm,0.1s						
MTE	**Manteigas**	**1.71**	**47**	*e*Sn	Sn	00 31 25.1	-1.7
MTE	comp=N,1.7nm,0.2s						
MTE	**Manteigas**	**1.71**	**47**	Sn	Sn	00 31 25.1	-1.7
	comp=N,0.9nm,0.2s						
PTEO	**Sao Teotonio**	**1.75**	**168**	*e*Sg	Sg	00 31 29.3	-2.5
PVIS	**Viseu**	**1.77**	**34**	*e*Sg	Sg	00 31 31.6	-0.9
PVIS	comp=N,1.6nm,0.1s						
PVIS	**Viseu**	**1.77**	**34**	Lg		00 31 31.6	
	comp=N,0.8nm,0.1s						
EBAD	**Badajoz**	**1.77**	**106**	Pg	Pg	00 31 07.5	-2.1
	comp=N,0.0nm,0.2s,SNR=7.9						
EBAD	comp=N,1.7nm,0.1s,SNR=7.9			Lg		00 31 29.3	
EMIN	**Mina Concepcio**	**2.47**	**126**	Lg		00 31 51.8	
	comp=N,0.6nm,0.2s,SNR=7.9						

*IDC **07** 00:31:43.6±0.9, 2097S×17459W, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.2/16, mbtmp4.1/9, MS3.8/6, Ms1 3.8/6, ms1mx3.4/30, Error ellipse: s-maj=40.5km s-min=22.8km az=145.0*
*ISCJB **07** 00:31:44.4±0.8, 2083S±008×1742W±0.1, h33km, mb4.0/11, MS3.9/4, Error ellipse: s-maj=20.1km s-min=9.4km az=48.2*
*NEIC **07** 00:31:49.0±0.5, 2110S×17449W, h35km, mb4.2/3, Error ellipse: s-maj=16.9km s-min=12.0km az=138.0*
ISC 07 00:31:47.3±0.7, 2089S±008×1742W±01, h35km, n30, σ0$98/20, mb4.0/11, MS3.9/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.32**	**19**	Sn	**Sn**	**00 34 53.4**	**-0.1**
	4.2nm,0.3s,baz=198,slow=20,SNR=4.2						
AFI	**Afiamalu**	**7.32**	**19**	*e*Pn	**Pn**	**00 33 23.7**	**-8.0**
AFI				*e*Sn	**Sn**	**00 34 51.8**	**-1.8**
RAR	**Rarotonga**	**13.51**	**94**	Pn	**Pn**	**00 34 48.9**	**-7.5**
	6.1nm,0.3s,baz=243,slow=6.2,SNR=14						
RAR				Sn	**Sn**	**00 37 05.8**	**-19**
	0.7nm,0.3s,baz=120,slow=20,SNR=3.4						
RAR				LR	LR	00 39 16.4	
	comp=Z,274nm,21.8s,baz=296,slow=33						
DZM	**Mont Dzumac**	**18.02**	**263**	P	**Pn**	**00 35 55.9**	**+1.1**
	0.1nm,0.3s,baz=73,slow=19,SNR=2.7						
DZM				LR	LR	00 40 11.4	
	comp=Z,161nm,19.5s,baz=22,slow=29						

PPT	**Papeete**	**23.51**	**86**	LR	LR	00 44 32.2	
	comp=Z,270nm,18.0s,MS3.8,baz=214,slow=32						
HNR	**Honiara**	**27.35**	**291**	LR	LR	00 46 53.6	
	comp=Z,138nm,18.0s,MS3.6,baz=178,slow=34						
CTA	**Charters Tower**	**36.96**	**264**	P	**P**	**00 38 52.4**	**-0.6**
	2.8nm,0.7s,mb4.2,baz=53,slow=6.8,SNR=4.0						
TAU	**Tasmania Unive**	**38.88**	**227**	P	**P**	**00 39 07.8**	**-1.4**
	310nm,1.9s						
ASAR	**Alice Springs**	**47.86**	**257**	P	**P**	**00 40 21.0**	**-0.6**
	3.4nm,0.9s,mb4.4,baz=92,slow=8.0,SNR=22						
SBA	**Scott Base**	**57.75**	**185**	*e*P	**P**	**00 41 34.6**	**0.0**
	0.6nm,0.7s,mb3.7						
VNDA	**Vanda**	**57.87**	**186**	P	**P**	**00 41 35.4**	**-0.1**
	0.8nm,0.9s,mb3.7,baz=0.0,slow=7.1,SNR=3.1						
MBWA	**Marble Bar**	**61.20**	**257**	*e*P	**P**	**00 41 58.0**	**-0.4**
	64nm,1.7s						
QSPA	**South Pole Qui**	**69.19**	**180**	*e*P	**P**	**00 42 50.2**	**0.0**
	1.2nm,0.8s,mb3.9						
MJAR	**Matsushiro Arr**	**72.65**	**321**	P	**P**	**00 43 11.7**	**+0.4**
	3.3nm,1.0s,mb4.2,baz=164,slow=6.4,SNR=6.1						
ASAJ	**Asahikawa**	**75.80**	**329**	LR	LR	01 15 14.2	
	comp=Z,76nm,18.6s,MS4.0,baz=49,slow=34						
YBH	**Yreka Blue Hor**	**78.44**	**37**	LR	LR	01 11 10.3	
	comp=Z,112nm,18.9s,MS4.2,baz=179,slow=30						
NVAR	**Mina Array Bea**	**78.93**	**42**	P	**P**	**00 43 51.3**	**+4.2**
	0.4nm,0.3s,mb3.8,baz=204,slow=8.9,SNR=4.1						
PDAR	**Pinedale Array**	**86.86**	**42**	P	**P**	**00 44 32.3**	**+4.1**
	0.3nm,0.7s,mb3.6,baz=216,slow=4.5,SNR=2.6						
ILAR	**Eielson Array**	**87.95**	**11**	P	**P**	**00 44 35.6**	**+2.1**
	2.4nm,1.1s,mb4.3,baz=214,slow=5.1,SNR=7.6						
PSI	**Prapat**	**88.04**	**274**	P	**P**	**00 44 34.3**	**+0.5**
	5.9nm,1.0s,mb4.8,baz=117,slow=9.6,SNR=3.5						
YKA	**Yellowknife Ar**	**95.42**	**24**	P	**P**	**00 45 11.4**	**+3.4**
	0.6nm,1.0s,mb4.0,baz=240,slow=3.9,SNR=6.4						
YKA	**Yellowknife Ar**	**95.42**	**24**	P	**P**	**00 45 11.4**	**+3.4**
AKASG	**Malin Array Be**	**144.99**	**334**	PKP	PKPdf	00 51 21.5	+0.8
	3.9nm,0.9s,baz=35,slow=3.0,SNR=19						
MALT	**Malatya**	**146.94**	**309**	*e*PKPbc	PKPbc	00 51 29.7	+3.8
KWP	**Kalwaria**	**148.31**	**339**	*e*PKPbc	PKPbc	00 51 32.1	+2.4
CLL	**Collm**	**149.11**	**351**	*e*PKPbc	PKPbc	00 51 34.0	+2.2
CLL				*ep*PKPbc	pPKPbc	00 51 45.0	+1.8
BR131	**Keskin Array S**	**149.67**	**314**	*e*PKPbc	PKPbc	00 51 35.7	+2.6
BRTR	**Keskin Array B**	**149.67**	**314**	PKPbc	PKPbc	00 51 36.0	+2.9
	1.9nm,1.0s,baz=116,slow=2.9,SNR=10						
GERES	**GERESS Array B**	**151.39**	**349**	PKPbc	PKPbc	00 51 39.2	+1.9
	0.9nm,0.9s,baz=22,slow=1.4,SNR=6.7						
ESDC	**Sonseca Array**	**159.50**	**22**	PKPab	PKPab	00 52 20.4	+0.2
	0.1nm,0.3s,baz=295,slow=8.0,SNR=4.3						

*IDC **07** 00:36:54.6±1.6, 752S×129.94E, h0km, mb3.8/3, mb1 4.1/6, mb1mx3.9/14, mbtmp3.9/6, ML4.1/3, Error ellipse: s-maj=96.3km s-min=24.1km az=80.0*
*ISCJB **07** 00:36:57.4±0.6, 784S±006×1295E±0.1, h33km, mb4.5/9, Error ellipse: s-maj=19.1km s-min=6.0km az=145.5*
*NEIC **07** 00:36:59.3±0.9, 759S×13006E, h35km, mb4.1/1, Error ellipse: s-maj=40.4km s-min=11.9km az=74.0*
ISC 07 00:36:59.7±0.6, 780S±005×1297E±01, h35km, n17, σ0$99/20, mb4.5/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.96**	**201**	Pn	**Pn**	**00 39 38.2**	**+4.2**
	1.1nm,0.3s,baz=33,slow=13,SNR=52						
FITZ				Sn	**Sn**	**00 41 35.1**	**-0.2**
	1.5nm,0.3s,baz=154,slow=22,SNR=6.7						
WRAB	**Tennant Creek**	**12.88**	**160**	*e*Pn	**Pn**	**00 40 02.6**	**+2.4**
	7.3nm,0.5s						
WRAB				*e*Sn	**Sn**	**00 42 21.4**	**-0.9**
WRA	**Warramunga Arr**	**12.89**	**160**	Pn	**Pn**	**00 40 02.3**	**+2.0**
	1.1nm,0.3s,baz=335,slow=13,SNR=46						
WRA				Sn	**Sn**	**00 42 21.1**	**-1.3**
	1.8nm,0.3s,baz=336,slow=22,SNR=9.6						
ASAR	**Alice Springs**	**16.29**	**166**	Pn	**Pn**	**00 40 46.8**	**+1.1**
	0.6nm,0.3s,baz=331,slow=8.8,SNR=26						
ASAR				Sn	**Sn**	**00 43 45.4**	**+0.1**
	0.4nm,0.3s,baz=351,slow=27,SNR=7.3						
STKA	**Stephens Creek**	**26.40**	**157**	*e*P	**P**	**00 42 30.1**	**-2.8**
JIRN	**Jiri**	**54.87**	**312**	*e*P	**P**	**00 46 26.9**	**+0.3**
	4.6nm,0.5s

JJT2				S		**Sb**	**00 53 35.9**	**+0.9**
NAH1	**Naha**	**0.74**	**2**	P		**Pb**	**00 53 26.5**	**-0.5**
NAH1				*e*S		**Sb**	**00 53 36.7**	**0.0**
JKE	**Kume jima 2**	**1.17**	**318**	P		**Pn**	**00 53 32.8**	**-0.4**
JKE				*e*S		**Sn**	**00 53 47.6**	**-0.7**
JAGN	**Aguni-jima**	**1.19**	**341**	P		**Pn**	**00 53 33.1**	**-0.3**
JAGN				S		**Sn**	**00 53 48.7**	**0.0**
JOW	**Kunigami**	**1.47**	**22**	Pn		**Pn**	**00 53 37.2**	**-0.1**
	91nm,0.3s,baz=197,slow=13,SNR=53							
JOW				Sn		**Sn**	**00 53 55.1**	**-0.6**
	76nm,0.3s,baz=319,slow=20,SNR=10							
JOW	**Kunigami**	**1.47**	**22**	P		**Pn**	**00 53 37.1**	**-0.3**
JIH	**Iheya**	**1.59**	**10**	P		**Pn**	**00 53 39.1**	**+0.1**
JTK	**Tokunoshima**	**2.59**	**26**	P		**Pn**	**00 53 53.3**	**+0.6**
JTK				*e*S		**Sn**	**00 54 23.5**	**+0.3**
JMZ	**Minamidaito 2**	**3.23**	**83**	P		**Pn**	**00 54 00.8**	**-0.7**
JMZ				S		**Sn**	**00 54 35.9**	**-3.1**
JAM	**Amami Oshima**	**3.41**	**30**	P		**Pn**	**00 54 04.6**	**+0.6**
SONM	**Songino Array**	**27.93**	**329**	P		**P**	**00 58 59.5**	**-1.0**
	0.4nm,0.5s,mb3.3,baz=123,slow=5.3,SNR=2.9							
MKAR	**Makanchi Array**	**41.68**	**313**	P		**P**	**01 00 58.0**	**-0.7**
	0.6nm,0.7s,mb3.4,baz=96,slow=10,SNR=11							
ASAR	**Alice Springs**	**49.21**	**172**	P		**P**	**01 02 03.9**	**+5.5**
	0.6nm,1.0s,mb3.6,baz=356,slow=7.4,SNR=4.0							
ASAR	**Alice Springs**	**49.21**	**172**	P		**P**	**01 02 03.9**	**+5.5**
BVAR	**Borovoye Array**	**50.52**	**319**	P		**P**	**01 02 08.4**	**0.0**
	0.3nm,0.5s,mb3.5,baz=83,slow=10,SNR=4.3							
BRTR	**Keskin Array B**	**77.11**	**308**	P		**P**	**01 05 05.2**	**+1.7**
	0.3nm,0.7s,mb3.3,baz=78,slow=7.7,SNR=3.5							
YKA	**Yellowknife Ar**	**79.44**	**25**	P		**P**	**01 05 18.0**	**+1.7**
	0.5nm,0.8s,mb3.5,baz=302,slow=5.4,SNR=6.6							
NOA	**NORSAR Array B**	**79.78**	**334**	P		**P**	**01 05 18.7**	**+0.4**
	1.2nm,0.8s,mb3.9,baz=52,slow=5.5,SNR=4.4							

ISCJB ***07*** *00:54:54.9±0.3, 6048N±003×16737E±008, h10km, mb4.4/56, MS3.8/3, Error ellipse: s-maj=6.2km s-min=3.1km az=46.3*

IDC ***07*** *00:54:54.5±0.9, 6041N×16734E, h0km, mb4.1/18, mb1 4.3/18, mb1mx4.2/24, mbtmp4.1/18, MS3.8/2, Ms1 3.8/2, ms1mx2.8/30, Error ellipse: s-maj=24.3km s-min=15.0km az=161.0*

BJI ***07*** *00:54:54.3, 6040N×16730E, h10km, mB4.9, mb4.8, Ms4.9, Msz4.1*

KRSC ***07*** *00:54:54.2±1.2, 6046N×16739E, h0km±3km, ML4.3*

MOS ***07*** *00:54:55.3±0.7, 6043N×16733E, h16km, mb4.7/35, Error ellipse: s-maj=12.5km s-min=5.4km az=90.8*

NEIC ***07*** *00:54:56.3±0.3, 6041N×16727E, h10km, mb4.6/32, Error ellipse: s-maj=7.3km s-min=4.2km az=156.0*

SZGRF ***07*** *00:55:02.8, 6073N×16766E, h33km, mb4.7, Eastern Siberia, Russia*

ISC 07 00:54:56.5±0.3, 6051N±003×16736E±008, h10km, n170, σ0999/180, mb4.4/56, MS3.8/3, 7C-1D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAMR	**Kamenskoye**	**2.03**	**345**	*i*	P		**Pn**	**00 55 31.4**	**+0.7**
KAMR				*i*	S		**Sn**	**00 55 59.3**	**+3.2**
KAMR					Smax				
	1μm,1.1s								
OSSR	**Ossora**	**2.51**	**242**	*e*	P		**Pn**	**00 55 37.5**	**+0.2**
OSSR					Smax				
	1μm,0.1s								
EVNR	**Evensk**	**4.16**	**293**	*e*	P		**Pn**	**00 56 01.7**	**+1.7**
KBG	**Krutoberegovo**	**4.92**	**212**	*e*	P		**Pn**	**00 56 10.7**	**+0.3**
KBTR	**Krutoberegovo**	**4.93**	**211**		P		**Pn**	**00 56 09.6**	**-1.0**
KBTR					S		**Sn**	**00 57 05.3**	**-2.4**
KBTR	**Krutoberegovo**	**4.93**	**211**	*e*	P		**Pn**	**00 56 10.4**	**-0.2**
KBTR				*e*	S		**Sn**	**00 57 06.2**	**-1.5**
SMKR	**Semkarok**	**5.00**	**221**	*e*	P		**Pn**	**00 56 12.4**	**+0.8**
SRKR	**Sorokina**	**5.04**	**223**	*e*	P		**Pn**	**00 56 12.9**	**+0.8**
BDR	**Baidarnaya**	**5.10**	**222**	*e*	P		**Pn**	**00 56 13.6**	**+0.7**
BKI	**Bering**	**5.37**	**189**	*i*	P		**Pn**	**00 56 17.3**	**+0.6**
BKI				*e*	S		**Sn**	**00 57 16.2**	**-2.4**
BKI					Smax				
	40nm,2.0s								
KLY	**Klyuchi**	**5.49**	**223**		P		**Pn**	**00 56 17.9**	**-0.4**
KLY	**Klyuchi**	**5.49**	**223**	*e*	P		**Pn**	**00 56 17.7**	**-0.6**
CIRR	**Tsirk**	**5.62**	**221**	*e*	P		**Pn**	**00 56 21.1**	**+1.1**
ZLN	**Zelenaya**	**5.68**	**220**	*e*	P		**Pn**	**00 56 22.6**	**+1.7**
SRDR	**Sredinnyy**	**5.81**	**227**	*e*	P		**Pn**	**00 56 24.1**	**+1.4**
KPT	**Kopyto**	**5.91**	**223**	*e*	P		**Pn**	**00 56 25.7**	**+1.6**
KOZR	**Kozyr**	**5.94**	**225**		PN		**Pn**	**00 56 25.1**	**+0.6**
KOZ	**Kozyrevsk**	**5.96**	**225**		P		**Pn**	**00 56 25.1**	**+0.4**
KOZ	**Kozyrevsk**	**5.96**	**225**	*e*	P		**Pn**	**00 56 24.3**	**-0.4**
KMNR	**Kamenistaya**	**6.08**	**221**	*e*	P		**Pn**	**00 56 28.2**	**+1.9**
ESO	**Esso**	**6.48**	**229**	*e*	P		**Pn**	**00 56 33.1**	**+1.2**
TUMR	**Tumrok**	**6.50**	**219**	*e*	P		**Pn**	**00 56 34.3**	**+2.2**
SEY	**Seymchan**	**7.51**	**295**	*e*	P		**Pn**	**00 56 49.0**	**+2.9**
BILL	**Bilibino**	**7.58**	**357**	⇑*i*	PN		**Pn**	**00 56 48.3**	**+1.4**
BILL					pmax	pmax			
	comp=Z,15nm,0.6s								
BILL	**Bilibino**	**7.58**	**357**	⇑*i*	Pn		**Pn**	**00 56 48.3**	**+1.4**
	comp=Z,15nm,0.6s								
BILL				*e*	Sn		**Sn**	**00 58 15.2**	**+2.3**
BILL	**Bilibino**	**7.58**	**357**	*e*	P		**Pn**	**00 56 49.6**	**+2.7**
BILL				*e*	S		**Sn**	**00 58 13.9**	**+1.1**
BILL					Smax				
	comp=Z,110nm,1.1s								
MA2	**Magadan**	**8.36**	**271**	⇑*e*	PN		**Pn**	**00 56 58.0**	**+0.4**
MA2					pmax	pmax			
	comp=Z,47nm,0.7s								
MA2	**Magadan**	**8.36**	**271**	⇑*e*	Pn		**Pn**	**00 56 58.0**	**+0.3**
	comp=Z,47nm,0.7s								
MA2				*e*	Sn		**Sn**	**00 58 29.2**	**-2.8**
MA2	**Magadan**	**8.36**	**271**	*i*	P		**Pn**	**00 57 00.0**	**+2.4**
SPN	**Mys Shipunski**	**8.44**	**212**		P		**Pn**	**00 56 58.1**	**-0.7**
SPN					S		**Sn**	**00 58 29.6**	**-4.6**
SPN	**Mys Shipunski**	**8.44**	**212**	*e*	P		**Pn**	**00 56 59.5**	**+0.7**
GNL	**Ganaly**	**8.53**	**221**	*e*	P		**Pn**	**00 57 01.8**	**+1.7**
NLC	**Nalytchevo**	**8.56**	**214**		P		**Pn**	**00 57 01.4**	**+0.9**
AVH	**Avacha**	**8.65**	**217**	*e*	P		**Pn**	**00 57 02.4**	**+0.7**
PET	**Petropavlovsk**	**8.89**	**216**	*e*	PN		**Pn**	**00 57 03.2**	**-1.7**
PET					pmax	pmax			
	comp=Z,20nm,0.9s								
PET	**Petropavlovsk**	**8.89**	**216**	*e*	Pn		**Pn**	**00 57 03.2**	**-1.7**
	comp=Z,20nm,0.9s								
TTA	**Tatalina**	**17.37**	**66**	*e*	P		**Pn**	**00 59 02.3**	**+3.4**
TTA					pmax	pmax			
	comp=Z,38nm,1.5s								
TTA	**Tatalina**	**17.37**	**66**	*e*	Pn		**Pn**	**00 59 02.3**	**+3.4**
	comp=Z,38nm,1.5s								
YAK	**Yakutsk**	**18.01**	**291**	*d*	iP		**Pn**	**00 59 08.7**	**+1.8**
YAK					pmax	pmax			
	comp=Z,69nm,0.9s								
YAK					MLR	MLR			
	comp=Z,100nm,13.0s								
YAK	**Yakutsk**	**18.01**	**291**	*e*	Pn		**Pn**	**00 59 07.2**	**+0.3**
	comp=Z,78nm,1.1s								
TIXI	**Tiksi**	**18.75**	**322**	*e*	P		**Pn**	**00 59 15.9**	**0.0**
TIXI				*e*	S		**Sn**	**01 02 41.3**	**-4.3**
TIXI					pmax	pmax			
	comp=Z,4.0nm,0.8s								
TIXI					MLR	MLR			
	comp=Z,205nm,11.0s								
COLA	**College**	**20.65**	**59**	*e*	P		**P**	**00 59 36.8**	**+0.6**
COLA					pmax	pmax			
	comp=Z,14nm,1.0s								
COLA	**College**	**20.65**	**59**	*e*	P		**P**	**00 59 36.8**	**+0.5**
	comp=Z,14nm,1.0s								
ILAR	**Eielson Array**	**21.07**	**59**		P	P	**P**	**00 59 41.8**	**+1.0**
	comp=Z,8.3nm,0.8s,mb4.1,baz=257,slow=7.6,SNR=40								
ILAR					LR	LR		01 09 15.4	
	comp=Z,56nm,19.0s,MS3.0,baz=342,slow=41								
KLR	**Kul'dur**	**23.08**	**257**	*e*	P		**P**	**01 00 00.0**	**-2.2**
DAWY	**Dawson**	**24.40**	**59**	*e*	Pn		**P**	**01 00 15.3**	**+0.4**
INK	**Inuvik**	**25.69**	**47**		P		**P**	**01 00 26.5**	**-0.2**
	comp=Z,19nm,1.1s,mb4.5,baz=291,slow=10,SNR=48								
INK	**Inuvik**	**25.69**	**47**	*e*	P		**P**	**01 00 26.7**	**0.0**
BOD	**Bodaibo**	**26.86**	**288**	*e*	P		**P**	**01 00 36.7**	**-0.5**
BOD					pmax	pmax			
	comp=Z,11nm,1.3s,mb4.2								
VLA	**Vladivostok**	**27.51**	**247**	*i*	P		**P**	**01 00 42.2**	**-0.9**
MJAR	**Matsushiro Arr**	**30.32**	**231**		P		**P**	**01 01 06.9**	**-1.2**
	comp=Z,3.0nm,1.1s,mb4.0,baz=6.5,slow=7.5,SNR=6.6								
RES	**Resolute Bay**	**34.91**	**27**	*e*	P		**P**	**01 01 49.5**	**+1.3**
RES					pmax	pmax			
	comp=Z,3.0nm,1.1s,mb4.1								
RES	**Resolute Bay**	**34.91**	**27**	*e*	P		**P**	**01 01 49.5**	**+1.3**
	comp=Z,3.4nm,1.1s,mb4.2								
YKA	**Yellowknife Ar**	**35.19**	**52**		P		**P**	**01 01 50.3**	**-0.3**
	comp=Z,0.5nm,0.5s,mb3.7,baz=303,slow=8.2,SNR=12								
YKA					PcP	PcP		01 04 19.0	-2.7
	comp=Z,0.2nm,0.8s,baz=312,slow=3.8,SNR=4.3								
YKA	**Yellowknife Ar**	**35.19**	**52**		P		**P**	**01 01 50.3**	**-0.3**
YKA					PcP	PcP		01 04 19.0	-2.6
TLY	**Talaya**	**35.27**	**285**	*e*	P		**P**	**01 01 52.0**	**+0.7**
TLY					pmax	pmax			
	comp=Z,9.0nm,1.2s,mb4.6								
TLY	**Talaya**	**35.27**	**285**	*e*	P		**P**	**01 01 52.0**	**+0.6**
	comp=Z,8.7nm,1.2s,mb4.6								
ULN	**Ulaanbaatar**	**36.15**	**277**	*e*	P		**P**	**01 01 58.7**	**-0.1**
ULN					pmax	pmax			
	comp=Z,7.0nm,1.2s,mb4.5								
ULN	**Ulaanbaatar**	**36.15**	**277**	*e*	P		**P**	**01 01 58.7**	**-0.1**
	comp=Z,7.0nm,1.2s,mb4.5								
ZAK	**Zakamensk**	**36.29**	**283**	*e*	P		**P**	**01 01 59.1**	**-1.0**
ZAK				*e*		pP		01 02 00.6	-2.5
ZAK					pmax	pmax			
	comp=Z,5.0nm,1.5s,mb4.2								
SONM	**Songino Array**	**36.49**	**278**		P		**P**	**01 02 02.2**	**+0.4**
	comp=Z,2.4nm,1.0s,mb4.1,baz=55,slow=8.1,SNR=15								
SONM					PcP	PcP		01 04 26.3	+0.8
	comp=Z,0.5nm,0.8s,baz=97,slow=3.1,SNR=3.5								
SSE	**Sheshan**	**42.22**	**247**		P		**P**	**01 02 46.0**	**-3.6**
SSE					AMB	AMB			
	comp=Z,20nm,0.7s,mb4.9								
SSE					AMB	AMB			
	comp=Z,37nm,3.3s								
ZAL	**Zalesovo**	**42.38**	**300**		P		**P**	**01 02 48.8**	**-2.1**
	comp=Z,0.6nm,0.6s,mb3.4,baz=118,slow=2.5,SNR=3.1								
NVS	**Novosibirsk**	**42.42**	**301**	*i*	P		**P**	**01 02 47.0**	**-4.3**
NVS				*i*				01 04 30.5	
NVS					pmax	pmax			
	comp=Z,8.0nm,1.4s,mb4.2								
NVS					pmax	pmax			
	comp=N,7.0nm,1.5s								
NVS					pmax	pmax			
	comp=E,5.0nm,1.3s								
NJ2	**Nanjing**	**42.50**	**250**	*e*	P		**P**	**01 02 52.6**	**+0.7**
NJ2					PP	PP		01 04 33.0	+2.7
NJ2					S	S		**01 09 10.0**	**-3.9**
NJ2					XS	sS		01 09 28.0	+8.9
NJ2					AMB	AMB			
	comp=Z,30nm,1.0s,mb4.9								
NJ2					AMB	AMB			
	comp=Z,140nm,5.2s								
NJ2					LR	LR			
	comp=N,280nm,28.0s								
NJ2					LR	LR			
	comp=E,1μm,20.0s								
NJ2					LR	LR			
	comp=Z,200nm,24.2s,MS3.9								
FCC	**Fort Churchill**	**45.31**	**46**		P		**P**	**01 03 13.7**	**-0.8**
FCC					pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.2								
FCC	**Fort Churchill**	**45.31**	**46**		P		**P**	**01 03 13.7**	**-0.8**
	comp=Z,2.9nm,0.8s,mb4.2								
SUMG	**Summit**	**46.02**	**11**	*e*	P		**P**	**01 03 20.0**	**-0.1**
	comp=Z,25nm,1.3s,mb5.0								
KURK	**Kurchatov**	**47.33**	**300**	*c*	iP		**P**	**01 03 29.9**	**-0.5**
KURK	**Kurchatov**	**47.33**	**300**	⇑	eP		**P**	**01 03 29.9**	**-0.5**
	comp=Z,7.7nm,0.6s,mb4.8								
ARCES	**ARCESS Array B**	**47.42**	**343**		P		**P**	**01 03 30.6**	**-0.4**
	comp=Z,4.5nm,0.7s,mb4.5,baz=19,slow=6.8,SNR=17								
NACB	**Ninganchiao**	**48.00**	**242**		P		**P**	**01 03 33.7**	**-1.9**
MKAR	**Makanchi Array**	**48.65**	**294**		P		**P**	**01 03 39.9**	**-0.7**
	comp=Z,0.8nm,0.6s,mb3.9,baz=52,slow=6.5,SNR=4.4								
BVA0	**Borovoye Array**	**48.98**	**307**	*i*	P		**P**	**01 03 42.9**	**-0.2**
BVA0					pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.1								
BVAR	**Borovoye Array**	**48.98**	**307**		P		**P**	**01 03 43.1**	**0.0**
	comp=Z,8.4nm,0.5s,mb5.1,baz=49,slow=7.3,SNR=69								
BRVK	**Borovoye**	**49.00**	**307**	*e*	P		**P**	**01 03 42.8**	**-0.5**
BRVK					pmax	pmax			
	comp=Z,5.0nm,0.5s,mb4.8								
BRVK	**Borovoye**	**49.00**	**307**	*e*	P		**P**	**01 03 42.8**	**-0.5**
	comp=Z,4.9nm,0.5s,mb4.8								
ZRNK	**Zerenda**	**49.58**	**308**	*i*	P		**P**	**01 03 47.2**	**-0.5**
ZRNK					pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.6								
ZRNK	**Zerenda**	**49.58**	**308**	*e*	P		**P**	**01 03 47.3**	**-0.4**
	comp=Z,10nm,1.0s,mb4.8								
SVE	**Sverdlovsk**	**49.64**	**316**	*e*	P		**P**	**01 03 49.0**	**+0.9**
SVE					pmax	pmax			
	comp=Z,24nm,1.5s,mb5.0								
ARU	**Arti**	**50.65**	**317**	⇑*i*	P		**P**	**01 03 55.7**	**-0.1**
ARU				*e*				01 05 09.5	
ARU				*e*				01 05 48.9	
ARU				*e*	S		**S**	**01 11 09.4**	**-1.3**
ARU				*e*	SS			01 14 45.2	+0.3
ARU					pmax	pmax			
	comp=Z,10.0nm,1.2s,mb4.6								
ARU	**Arti**	**50.65**	**317**	*e*	P		**P**	**01 03 55.5**	**-0.3**
	comp=Z,29nm,1.6s,mb5.0								
PDAR	**Pinedale Array**	**50.82**	**71**		P		**P**	**01 03 56.7**	**-0.4**
	comp=Z,0.6nm,0.8s,mb3.6,baz=336,slow=3.3,SNR=5.2								
JOF	**Joensuu**	**52.44**	**336**	*e*	p		**P**	**01 04 07.8**	**-1.4**
KAF	**Kangasniemi**	**54.12**	**339**	*e*	p		**P**	**01 04 20.3**	**-1.3**
FINES	**FINESS Array B**	**54.79**	**338**		P		**P**	**01 04 25.4**	**-1.1**
	comp=Z,2.2nm,0.8s,mb4.2,baz=32,slow=9.4,SNR=12								
AAK	**Ala-Archa**	**55.38**	**296**	*i*	P		**P**	**01 04 30.1**	**-0.6**
AAK					pmax	pmax			
	comp=Z,4.0nm,1.7s,mb4.2								
AAK	**Ala-Archa**	**55.38**	**296**	*e*	P		**P**	**01 04 29.7**	**-1.0**
	comp=Z,1.7nm,0.7s,mb4.2								
AB31	**Akbulak array**	**55.98**	**311**	*i*	P		**P**	**01 04 34.7**	**-0.3**
AB31					pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.5								
SCHQ	**Schefferville**	**57.23**	**34**		P		**P**	**01 04 43.3**	**-0.6**
	comp=Z,2.4nm,0.9s,mb4.2,baz=5.1,slow=8.8,SNR=4.0								
NB2	**NORSAR Subarra**	**57.39**	**346**		P		**P**	**01 04 44.5**	**-0.6**
	comp=Z,27nm,1.7s,mb5.0,baz=15,slow=7.4								
NOA	**NORSAR Array B**	**57.39**	**346**		P		**P**	**01 04 44.8**	**-0.2**
	comp=Z,4.2nm,0.6s,mb4.6,baz=14,slow=7.3,SNR=15								
VSU	**Vasula**	**57.44**	**337**	*i*	P		**P**	**01 04 44.1**	**-1.3**
LSA	**Lhasa**	**57.93**	**274**	*e*	P		**P**	**01 04 49.1**	**+0.3**
LSA					pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.7								
LSA	**Lhasa**	**57.93**	**274**	*e*	P		**P**	**01 04 49.1**	**+0.3**
	comp=Z,4.9nm,0.7s,mb4.7								
OBN	**Obninsk**	**58.30**	**329**	*e*	P		**P**	**01 04 51.3**	**-0.1**
OBN					pmax	pmax			
	comp=Z,11nm,1.3s,mb4.7								
AKASG	**Malin Array Be**	**64.13**	**332**		P		**P**	**01 05 30.1**	**-0.9**
	comp=Z,1.2nm,0.5s,mb4.2,baz=22,slow=6.4,SNR=12								
AKASG	**Malin Array Be**	**64.13**	**332**	*i*	P		**P**	**01 05 30.7**	**-0.2**
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.5s								
GOF	**Gofitskoye**	**65.46**	**320**	*e*	P		**P**	**01 05 40.1**	**+0.5**
KWP	**Kalwaria**	**66.56**	**336**	*e*	P		**P**	**01 05 47.0**	**+0.3**
KIV	**Kislovodsk**	**66.56**	**320**	*i*	P		**P**	**01 05 46.4**	**-0.3**
KIV					pmax	pmax			
	comp=Z,6.0nm,1.4s,mb4.4								
OJC	**Ojcow**	**66.56**	**338**	*e*	P		**P**	**01 05 46.9**	**+0.2**
CLL	**Collm**	**66.64**	**343**	*e*	P		**P**	**01 05 46.0**	**-1.2**
GRA1	**Grafenberg Arr**	**68.47**	**344**	*e*	P		**P**	**01 05 58.9**	**+0.1**
	comp=Z,6.0nm,1.3s,mb4.5								
GRF	**Grafenberg Arr**	**68.47**	**344**	*e*	P		**P**	**01 05 58.9**	**+0.1**
	comp=Z,6.0nm,1.3s,mb4.5								
GRF	**Grafenberg Arr**	**68.47**	**344**	*e*	P		**P**	**01 05 58.9**	**+0.1**
GRF					pmax	pmax			
	comp=Z,6.0nm,1.3s,mb4.5								
GRF	**Grafenberg Arr**	**68.47**	**344**	*e*	P		**P**	**01 05 58.9**	**+0.1**
GRF					pmax	pmax			
	comp=Z,6.0nm,1.3s,mb4.5								
KHC	**Kasperske Hory**	**68.67**	**342**	*i*	P		**P**	**01 05 59.9**	**-0.1**
GERES	**GERESS Array B**	**68.93**	**342**		P		**P**	**01 06 01.3**	**-0.3**
	comp=Z,0.5nm,0.5s,mb3.7,baz=36,slow=12,SNR=5.3								
BAIF	**Baives**	**68.95**	**348**	*e*	P		**P**	**01 06 01.7**	**-0.1**
	comp=Z,29nm,1.5s,mb4.7								
BAIF	**Baives**	**68.95**	**348**	*e*	P		**P**	**01 06 01.7**	**-0.1**
BAIF					pmax	pmax			
	comp=Z,14nm,1.5s,mb4.7								
BAIF	**Baives**	**68.95**	**348**	*e*	P		**P**	**01 06 01.7**	**-0.1**
	comp=Z,14nm,1.5s,mb4.7								
CDF	**Champ du Feu**	**70.24**	**346**	*e*	P		**P**	**01 06 09.5**	**-0.2**
	comp=Z,11nm,1.1s,mb4.4								
CDF	**Champ du Feu**	**70.24**	**346**	*e*	P		**P**	**01 06 09.5**	**-0.2**
CDF					pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.4								
CDF	**Champ du Feu**	**70.24**	**346**	*e*	P		**P**	**01 06 09.5**	**-0.2**
	comp=Z,5.6nm,1.1s,mb4.4								
MEZF	**Maizieres J'vi**	**70.40**	**348**	*e*	P		**P**	**01 06 10.8**	**+0.1**
	comp=Z,28nm,1.4s,mb4.7								
MEZF	**Maizieres J'vi**	**70.40**	**348**	*e*	P		**P**	**01 06 10.8**	**+0.1**
	comp=Z,28nm,1.4s,mb5.0								
FLN	**La Foliniere**	**70.64**	**352**	*e*	P		**P**	**01 06 11.6**	**-0.6**
HAU	**Haudompre**	**70.75**	**347**	*e*	P		**P**	**01 06 13.5**	**+0.7**
LDF	**La Druitiere**	**70.78**	**351**	*e*	P		**P**	**01 06 12.3**	**-0.7**
HINF	**Hinteralfeld**	**70.88**	**346**	*e*	P		**P**	**01 06 13.1**	**-0.5**
GRR	**Gorron**	**71.04**	**352**	*e*	P		**P**	**01 06 14.3**	**-0.3**
	comp=Z,9.7nm,0.9s,mb4.5								
GRR	**Gorron**	**71.04**	**352**	*e*	P		**P**	**01 06 14.3**	**-0.3**
GRR					pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.4								
GRR	**Gorron**	**71.04**	**352**	*e*	P		**P**	**01 06 14.3**	**-0.3**
	comp=Z,4.8nm,0.9s,mb4.4								
LOR	**Lormes**	**71.75**	**348**	*e*	P		**P**	**01 06 18.6**	**-0.3**
	comp=Z,14nm,1.1s,mb4.5								
LOR	**Lormes**	**71.75**	**348**	*e*	P		**P**	**01 06 18.6**	**-0.3**
LOR					pmax	pmax			
	comp=Z,7.0nm,1.1s,mb4.5								
LOR	**Lormes**	**71.75**	**348**	*e*	P		**P**	**01 06 18.6**	**-0.3**
	comp=Z,7.1nm,1.1s,mb4.5								
SSF	**Saint Saulge**	**71.98**	**348**	*e*	P		**P**	**01 06 20.1**	**-0.2**
	comp=Z,5.8nm,0.9s,mb4.2								
SSF	**Saint Saulge**	**71.98**	**348**	*e*	P		**P**	**01 06 20.1**	**-0.2**
SSF					pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.2								
SSF	**Saint Saulge**	**71.98**	**348**	*e*	P		**P**	**01 06 20.1**	**-0.2**
	comp=Z,2.9nm,0.9s,mb4.2								
CABF	**La Chapelle**	**72.15**	**347**	*e*	P		**P**	**01 06 21.2**	**-0.1**
	comp=Z,5.2nm,0.8s,mb4.2								
CABF	**La Chapelle**	**72.15**	**347**	*e*	P		**P**	**01 06 21.2**	**-0.1**
CABF					pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3								
CABF	**La Chapelle**	**72.15**	**347**	*e*	P		**P**	**01 06 21.2**	**-0.1**
	comp=Z,2.6nm,0.8s,mb4.2								
AVF	**Avril sur Loir**	**72.27**	**349**	*e*	P		**P**	**01 06 21.7**	**-0.3**
SMF	**Signal de Mont**	**72.36**	**348**	*e*	P		**P**	**01 06 22.2**	**-0.4**
BGF	**Bois d'Agland**	**72.55**	**349**	*e*	P		**P**	**01 06 23.7**	**0.0**
	comp=Z,43nm,1.6s,mb4.8								
BGF	**Bois d'Agland**	**72.55**	**349**	*e*	P		**P**	**01 06 23.7**	**0.0**
BGF					pmax	pmax			
	comp=Z,22nm,1.6s,mb4.8								
BGF	**Bois d'Agland**	**72.55**	**349**	*e*	P		**P**	**01 06 23.7**	**0.0**
	comp=Z,22nm,1.6s,mb4.8								
TCF	**Toulx Ste Croi**	**72.88**	**349**	*e*	P		**P**	**01 06 25.5**	**-0.1**
	comp=Z,31nm,1.6s,mb4.7								
TCF	**Toulx Ste Croi**	**72.88**	**349**	*e*	P		**P**	**01 06 25.5**	**-0.1**
TCF					pmax	pmax			
	comp=Z,15nm,1.6s,mb4.7								
TCF	**Toulx Ste Croi**	**72.88**	**349**	*e*	P		**P**	**01 06 25.5**	**-0.1**
	comp=Z,15nm,1.6s,mb4.7								
LPL	**La Plagne**	**73.16**	**346**	*e*	P		**P**	**01 06 27.8**	**+0.5**
LPG	**La Plagne**	**73.17**	**346**	*e*	P		**P**	**01 06 28.2**	**+0.8**
	comp=Z,35nm,1.5s,mb4.8								
LPG	**La Plagne**	**73.17**	**346**	*e*	P		**P**	**01 06 28.2**	**+0.8**
LPG					pmax	pmax			
	comp=Z,17nm,1.5s,mb

ICR	**Volcan Irazu**	**1.77**	**312**⇑	*e*P	Pn	01 28 16.6	+0.4
ICR				*e*S	Sn	01 28 41.3	+2.0
SJS	**Escuela Geolog**	**1.91**	**307**	*e*P	Pn	01 28 19.8	+1.6
SJS				*e*S	Sn	01 28 44.1	+1.2
PRS1	**Puriscal**	**2.15**	**304**⇑	*e*P	Pn	01 28 21.7	+0.2
PRS1				*e*S	Sn	01 28 50.9	+2.3
CGA2	**Cerro Gallo 2**	**2.29**	**302**⇑	*e*P	Pn	01 28 24.6	+1.2
CGA2				*e*S	Sn	01 28 54.6	+2.4
AZU	**Azuero**	**2.42**	**114**⇑	*e*P	Pn	01 28 25.3	+0.2
AZU				*e*S	Sn	01 28 55.5	+0.2
PTP	**Ponta Puerca**	**18.90**	**58**⇑	*e*P		01 27 58.4	
PTP				*e*S		01 28 10.1	

ISCJB ***07*** *01:43:06.7±0.7, 213S±0.1×1739W±0.1, h33km, mb4.5/7, MS3.8/2, Error ellipse: s-maj=20.9km s-min=13.1km az=134.5*

IDC ***07*** *01:43:08.7±7.2, 211.4S×17462W, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.9/14, mbtmp4.0/3, MS3.4/4, Ms1 3.4/4, ms1mx3.0/29, Error ellipse: s-maj=338.1km s-min=35.5km az=145.0*

NEIC ***07*** *01:43:10.3±0.6, 2193S×17394W, h35km, mb4.7/4, Error ellipse: s-maj=30.8km s-min=12.3km az=173.0*

ISC 07 01:43:09.2±0.7, 214S±01×1739W±01, h35km, n17, σ0§52/10, mb4.5/7, MS3.8/2, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.67**	**16**	Pn			**Pn**	**01 44 58.2**	**-0.2**
	1.6nm,0.3s,baz=267,slow=17,SNR=1.9								
AFI				Sn			**Sn**	**01 46 18.5**	**-5.5**
	1.8nm,0.3s,baz=198,slow=20,SNR=3.2								
AFI				LR			LR	01 47 41.2	
	comp=Z,198nm,19.1s,baz=181,slow=36								
RAR	**Rarotonga**	**13.18**	**92**	Pn			**Pn**	**01 46 14.2**	**+0.4**
	3.4nm,0.3s,baz=354,slow=14,SNR=10								
RAR				LR			LR	01 50 25.4	
	comp=Z,35nm,18.6s,baz=228,slow=32								
HNR	**Honiara**	**27.80**	**291**	LR			LR	01 57 49.9	
	comp=Z,77nm,21.2s,MS3.3,baz=176,slow=32								
CTAO	**Charters Tower**	**37.22**	**265**	*e*P			**P**	**01 50 17.3**	**+0.1**
	26nm,1.5s,mb4.8								
ASAR	**Alice Springs**	**48.05**	**257**	P			**P**	**01 51 45.5**	**+0.4**
	2.0nm,0.8s,mb4.2,baz=94,slow=8.3,SNR=15								
WRAB	**Tennant Creek**	**48.26**	**262**	*e*P			**P**	**01 51 46.2**	**-0.5**
	5.9nm,1.0s,mb4.6								
WRA	**Warramunga Arr**	**48.27**	**262**	P			**P**	**01 51 46.9**	**+0.2**
	2.7nm,0.9s,mb4.3,baz=99,slow=7.9,SNR=6.1								
FITZ	**Fitzroy Crossi**	**56.70**	**262**	LR			LR	02 16 33.3	
	comp=Z,307nm,20.8s,MS4.4,baz=230,slow=36								
NWAO	**Narrogin (SRO)**	**61.41**	**243**	*e*P			**P**	**01 53 22.2**	**+0.4**
	25nm,1.2s,mb5.2								
SNAA	**Sanae**	**87.02**	**177**	*e*P			**P**	**01 55 50.1**	**-0.9**
	0.8nm,0.7s,mb4.1								
ILAR	**Eielson Array**	**88.34**	**11**	P			**P**	**01 56 01.4**	**+4.1**
	1.0nm,1.1s,mb4.0,baz=216,slow=4.1,SNR=6.2								
AKASG	**Malin Array Be**	**145.53**	**334**	PKPbc		PKPbc	PKPbc	02 02 46.7	+2.9
	0.4nm,0.4s,baz=36,slow=3.5,SNR=12								
AKASG	**Malin Array Be**	**145.53**	**334**	PKPbc		PKPbc	PKPbc	02 02 46.7	+2.9
CLL	**Collm**	**149.61**	**351**	*es*PKPbc			PKPbc	02 03 12.0	
BRG	**Berggiesshubel**	**149.89**	**350**	*e*P		PKPab	PKPbc	02 03 05.9	+4.7
	2.9nm,1.2s								
BR131	**Keskin Array S**	**150.21**	**314**	*e*PKPbc		PKPbc	PKPbc	02 02 58.5	+2.1
BRTR	**Keskin Array B**	**150.21**	**314**	PKPbc		PKPbc	PKPbc	02 02 59.8	+3.4
	1.3nm,1.0s,baz=48,slow=2.1,SNR=7.9								

SZGRF ***07*** *01:53:00.0, 2125N×12189E, h33km, mb5.6, MS5.1, Taiwan region*

NIED ***07*** *01:53:00, 2170N×121.10E, h20km, Mw5.2 Best double couple: M07.98000×10^16 NP1:φs342.00000°, δ66.00000°, λ-63.00000°. NP2:φs111.00000°, δ35.00000°, λ-135.00000°.*

ISCJB ***07*** *01:53:01.8±0.1, 2155N±002×12085E±002, h38km, mb5.3/178, MS4.9/59, Error ellipse: s-maj=2.9km s-min=2.3km az=52.0*

BJI ***07*** *01:53:01.2, 2165N×12066E, h20km, mB5.2, mb5.0, ML4.9, Ms5.1, Msz4.8*

MOS ***07*** *01:53:01.3±0.8, 2160N×12085E, h33km, mb5.6/81, MS5.0/24, Error ellipse: s-maj=8.3km s-min=3.8km az=118.6*

JMA ***07*** *01:53:02.8±0.3, 2174N×121.12E, h0km, M5.2*

IDC ***07*** *01:53:02.6±2.1, 2148N×12081E, h33km±14km, mb4.6/23, mb1 4.8/23, mb1mx4.8/25, mbtmp4.8/23, MS4.8/20, Ms1 4.8/20, ms1mx4.5/41, Error ellipse: s-maj=17.4km s-min=9.4km az=68.0*

HRVD ***07*** *01:53:03.7±0.2, 2154N×12068E, h24km, MW5.3/94, Centroid moment Tensor Solution. LP body waves: s85,c137;Mantle waves: s94,c171; Half duration: 1§1 Moment tensor: Scale 10^17Nm; Mr=1.00±.02; Mθθ0.42±.02; Mθφ0.57±.02; Mrθ-0.29±.03; Mφφ-0.66±.01; Mφr-0.27±.04; Best double couple: M01.15800×10^17 NP1:φs118.00000°, δ49.00000°, λ-120.00000°. NP2: φs339.00000°, δ49.00000°, λ-61.00000°. Principal axes: T 1.1610, Plg0.0000°, Azm48.0000°; N -0.0060, Plg22.2000°, Azm139.0000°; P -1.1550, Plg68.0000°, Azm318.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***07*** *01:53:03.6±0.1, 2156N×12081E, mb5.4/93, MS5.2/8, MW5.4 Error ellipse: s-maj=4.1km s-min=3.5km az=87.0, Moment Tensor Solution. s7 Moment tensor: Scale 10^17 Nm; Mrr-1.33; Mθθ0.41; Mφφ0.92; Mrθ0.36; Mφθ-0.63; Mφr-1.21; Best double couple: M01.80000×10^17 NP1: φs338.00000°, δ67.00000°, λ-81.00000°. NP2: φs135.00000°, δ25.00000°, λ-111.00000°. Principal axes: T 1.8200, Plg21.0000°, Azm61.0000°; N 0.0500, Plg9.0000°, Azm154.0000°; P -1.8600, Plg67.0000°, Azm265.0000°;*

ISC 07 01:53:03.8±0.1, 2159N±002×12085E±002, h40km, h40km±.7km:pP-P, n549, σ0§99/566, mb5.3/178, MS4.9/59, 20C-53D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.66**	**15**	*e*Pn			**Pn**	**01 53 44.1**	**0.0**
YHNB	**Yeheng**	**3.10**	**9**	*e*Pn			**Pn**	**01 53 50.9**	**+0.7**
TATO	**Taipei**	**3.42**	**10**	Pn			**Pn**	**01 53 55.9**	**+1.3**
YOJ	**Yonaguni jima**	**3.48**	**34**	P			**Pn**	**01 53 56.2**	**+0.8**
YOJ				S			**Sn**	**01 54 35.1**	**-0.2**
SGCP	**Mt. Cagua**	**3.52**	**161**	*e*P			**Pn**	**01 53 54.9**	**-1.0**
HATJ	**Hateruma jima**	**3.67**	**47**	P			**Pn**	**01 53 58.3**	**+0.3**
HATJ				S			**Sn**	**01 54 39.8**	**-0.1**
APYP	**Conner**	**3.73**	**174**	*e*P			**Pn**	**01 53 58.1**	**-0.7**
IRIF	**Iriomote-Funau**	**3.81**	**44**	P			**Pn**	**01 54 00.6**	**+0.7**
IRIF				S			**Sn**	**01 54 43.5**	**+0.1**
ABRA	**Dolores**	**3.92**	**182**	*e*P			**Pn**	**01 54 00.9**	**-0.6**
ABRA				*e*S			**Sn**	**01 54 43.9**	**-2.4**
JKRS	**Kuro-shima**	**3.92**	**47**	P			**Pn**	**01 54 02.3**	**+0.8**
JKRS				S			**Sn**	**01 54 46.5**	**+0.2**
QZH	**Quanzhou**	**3.93**	**328**	P			**Pn**	**01 53 59.0**	**-2.6**
QZH				S			**Sn**	**01 54 40.1**	**-6.4**
QZH				Smax					
	comp=N,2μm,1.2s								
QZH				Smax					
	comp=E,3μm,0.8s								
QZH				LR			LR		
	comp=N,21μm,13.2s								
QZH				LR			LR		
	comp=E,10μm,11.0s								
QZH				LR			LR		
	comp=Z,28μm,16.3s								
JIJ	**Ishigaki jima**	**4.10**	**47**	P			**Pn**	**01 54 04.0**	**+0.1**
JIJ				S			**Sn**	**01 54 49.2**	**-1.4**
JTJ	**Tarama**	**4.67**	**49**	P			**Pn**	**01 54 12.3**	**+0.6**
JTJ				*e*S			**Sn**	**01 55 04.9**	**+0.4**
CAUP	**Cauayan**	**4.71**	**169**	*e*P			**Pn**	**01 54 11.8**	**-0.5**
PALP	**Palanan**	**4.74**	**162**⇓	*e*P			**Pn**	**01 54 13.2**	**+0.5**
PALP				*e*S			**Sn**	**01 55 08.9**	**+2.4**
PALP	**Palanan**	**4.74**	**162**	*e*P			**Pn**	**01 54 12.8**	**+0.1**
BCPH	**Baguio City Da**	**5.19**	**183**⇓	*e*P			**Pn**	**01 54 17.7**	**-1.2**
BCPH				*e*S			**Sn**	**01 55 16.7**	**-0.8**
JMJ	**Miyako jima 2**	**5.19**	**51**	P			**Pn**	**01 54 20.3**	**+1.4**
JMJ				*e*S			**Sn**	**01 55 17.3**	**-0.3**
JOGS	**Gusukube**	**5.24**	**52**	P			**Pn**	**01 54 20.6**	**+1.0**
JOGS				*e*S			**Sn**	**01 55 19.0**	**+0.2**
BOLP	**Bolinao**	**5.26**	**190**	*e*P			**Pn**	**01 54 19.0**	**-0.9**
SCZP	**Santa Cruz**	**5.85**	**189**	*e*P			**Pn**	**01 54 26.9**	**-1.1**
BALP	**Baler**	**5.86**	**173**	*e*P			**Pn**	**01 54 28.0**	**-0.1**
HKC	**Hong Kong**	**6.24**	**278**	*i* Pn			**Pn**	**01 54 30.0**	**-3.4**
HKC				*i* Sn			**Sn**	**01 55 40.0**	**-3.4**
GZH	**Guangzhou**	**7.11**	**283**	P			**Pn**	**01 54 40.5**	**-4.7**
GZH				S			**Sn**	**01 55 54.1**	**-11**
GZH				AMB		AMB			
	comp=Z,151nm,0.5s								
GZH				Smax					
	comp=N,805nm,0.7s								
GZH				Smax					
	comp=E,570nm,0.7s								
JKE	**Kume jima 2**	**7.19**	**48**	P			**Pn**	**01 54 45.6**	**-0.7**
JKE				S			**Sn**	**01 56 04.6**	**-2.0**
TGY	**Tagaytay City**	**7.45**	**179**	Pn			**Pn**	**01 54 50.5**	**+0.6**
	comp=E,62nm,0.3s,baz=309,slow=6.5,SNR=3.6								
JAGN	**Aguni-jima**	**7.67**	**48**	P			**Pn**	**01 54 51.0**	**-1.9**
JAGN				S			**Sn**	**01 56 15.8**	**-2.7**
LUBP	**Lubang**	**7.84**	**184**	*e*P			**Pn**	**01 54 54.0**	**-1.2**
JOW	**Kunigami**	**8.55**	**51**	Pn			**Pn**	**01 55 03.1**	**-1.9**
	comp=E,7.4nm,0.3s,baz=222,slow=14,SNR=11								
JOW				Sn			**Sn**	**01 56 36.9**	**-3.2**
	comp=E,0.7nm,0.3s,baz=135,slow=19,SNR=3.7								
JOW	**Kunigami**	**8.55**	**51**	P			**Pn**	**01 55 05.0**	**0.0**
JOW				*e*S			**Sn**	**01 56 36.9**	**-3.2**
SSE	**Sheshan**	**9.47**	**2**	P			**Pn**	**01 55 21.5**	**+3.9**
SSE				S			**Sn**	**01 57 09.3**	**+6.6**
SSE				AMB		AMB			
	comp=Z,35nm,0.7s								
SSE				AMB		AMB			
	comp=Z,47nm,3.4s								
SSE				LR		LR			
	comp=N,2μm,25.8s								
SSE				LR		LR			
	comp=E,6μm,25.8s								
SSE				LR		LR			
	comp=Z,4μm,20.5s								
BUSP	**Coron**	**9.55**	**184**	*e*P			**Pn**	**01 55 17.8**	**-1.0**
NJ2	**Nanjing**	**10.57**	**351**	*e*P			**Pn**	**01 55 38.3**	**+5.6**
NJ2				AP				01 55 45.5	
NJ2				S			**Sn**	**01 57 38.0**	**+8.3**
NJ2				LR		LR			
	comp=N,10μm,11.9s								
NJ2				LR		LR			
	comp=E,16μm,18.9s								
NJ2				LR		LR			
	comp=Z,5μm,15.9s								
QIZ	**Qiongzhong**	**10.64**	**258**	P			**Pn**	**01 55 31.0**	**-2.6**
QIZ				AMB		AMB			
	comp=Z,42nm,0.9s								
QIZ				LR		LR			
	comp=N,5μm,17.8s								
QIZ				LR		LR			
	comp=E,8μm,18.9s								
QIZ				LR		LR			
	comp=Z,11μm,17.8s								
QIZ	**Qiongzhong**	**10.64**	**258**	Pn			**Pn**	**01 55 31.2**	**-2.4**
WHN	**Wuhan**	**10.66**	**328**	P			**Pn**	**01 55 31.7**	**-2.2**
WHN				S			**Sn**	**01 57 23.5**	**-8.3**
WHN				LR		LR			
	comp=Z,16μm,18.0s								
GYA	**Guiyang**	**13.84**	**293**⇑	*i* P			**Pn**	**01 56 14.6**	**-2.7**
GYA				AP				01 56 21.8	
GYA				XP				01 56 28.7	
GYA				AMB		AMB			
	comp=Z,40nm,1.4s								
GYA				AMB		AMB			
	comp=Z,280nm,4.5s								
GYA				LR		LR			
	comp=N,5μm,14.0s								
GYA				LR		LR			
	comp=E,4μm,11.4s								
GYA				LR		LR			
	comp=Z,3μm,11.4s								
TIA	**Tai'an**	**14.93**	**348**	*e*P			**Pn**	**01 56 30.3**	**-1.7**
TIA				LR		LR			
	comp=N,7μm,12.0s								
TIA				LR		LR			
	comp=E,3μm,8.0s								
XAN	**Xi'an**	**16.27**	**322**	P			**Pn**	**01 56 48.5**	**-0.8**
XAN				AP		pP		01 56 57.9	-3.8
XAN				XP		sP		01 57 02.8	-4.0
XAN				S			**S**	**01 59 52.0**	**-8.1**
XAN				AMB		AMB			
	comp=Z,78nm,1.8s								
XAN				AMB		AMB			
	comp=Z,393nm,4.3s								
XAN				LR		LR			
	comp=N,5μm,18.0s								
XAN				LR		LR			
	comp=E,4μm,19.1s								
XAN				LR		LR			
	comp=Z,8μm,19.7s								
KS15	**Wonju Array Si**	**16.93**	**20**	*e*Pn			**Pn**	**01 56 58.4**	**+0.8**
KMI	**Kunming**	**17.00**	**285**	P			**Pn**	**01 56 57.7**	**-0.8**
KMI				AP		pP		01 57 06.5	-3.3
KMI				XP		sP		01 57 12.4	-2.5
KMI				PPP				01 57 20.7	
KMI				S			**S**	**02 00 05.5**	**-10**
KMI				SS				02 00 27.4	
KMI				SSS				02 00 40.3	
KMI				AMB		AMB			
	comp=Z,33nm,1.2s								
KMI				AMB		AMB			
	comp=Z,379nm,3.8s								
KMI				LR		LR			
	comp=N,4μm,14.2s								
KMI				LR		LR			
	comp=E,3μm,14.0s								
KMI				LR		LR			
	comp=Z,2μm,15.6s								
DL2	**Dalian**	**17.27**	**2**	P			**Pn**	**01 57 02.6**	**+0.7**
DL2				AP		pP		01 57 11.8	-1.0
DL2				XP		sP		01 57 15.6	-2.3
DL2				S			**S**	**02 00 17.4**	**-3.2**
DL2				AMB		AMB			
	comp=Z,20nm,0.8s								
DL2				AMB		AMB			
	comp=Z,280nm,8.1s								
DL2				LR		LR			
	comp=N,2μm,18.4s								
DL2				LR		LR			
	comp=E,680nm,15.7s								
DL2				LR		LR			
	comp=Z,2μm,18.1s								
CD2	**Chengdu**	**17.91**	**305**⇓	*i* P			**Pn**	**01 57 07.1**	**-2.6**
CD2				AP		pP		01 57 11.6	-8.2
CD2				XP		sP		01 57 18.8	-6.1
CD2				PP				01 57 21.4	
CD2				S			**S**	**02 00 22.5**	**-11**
CD2				XS		sS		02 00 35.4	-14
CD2				SS				02 00 46.1	
CD2				AMB		AMB			
	comp=Z,110nm,1.6s								
CD2				AMB		AMB			
	comp=Z,230nm,5.9s								
CD2				LR		LR			
	comp=N,4μm,6.9s								
CD2				LR		LR			
	comp=Z,2μm,18.0s								
BJT	**Baijiatuau**	**18.80**	**349**	P			**Pn**	**01 57 20.7**	**+0.1**
BJT				pmax		pmax			
	comp=Z,253nm,1.3s								
BJT	**Baijiatuau**	**18.80**	**349**	P			**Pn**	**01 57 20.7**	**+0.2**
	comp=Z,253nm,1.3s								
BJI	**Beijing**	**18.82**	**349**	P			**Pn**	**01 57 20.6**	**-0.2**
BJI				S			**S**	**02 00 49.8**	**-1.7**
BJI				AMB		AMB			
	comp=Z,133nm,1.6s								
BJI				LR		LR			
	comp=N,4μm,18.2s								
BJI				LR		LR			
	comp=E,3μm,17.5s								
BJI				LR		LR			
	comp=Z,4μm,19.1s								
NANT	**Nan**	**19.12**	**265**	⇑P			**Pn**	**01 57 24.0**	**-0.4**
	comp=Z,340nm,1.0s								
CBIJ	**Chichi jima**	**20.18**	**70**	LR			LR	02 04 00.9	
	comp=Z,2μm,21.6s,MS4.4,baz=141,slow=32								
SNY	**Shenyang**	**20.31**	**6**	⇑P			**P**	**01 57 40.1**	**+3.9**
SNY				S			**S**	**02 01 27.2**	**+5.5**
SNY				AMB		AMB			
	comp=Z,20nm,0.9s								
SNY				LR		LR			
	comp=E,3μm,24.6s								
SNY				LR		LR			
	comp=Z,547nm,17.4s								
JHJ	**Hachijo jima 2**	**20.32**	**52**	LR			LR	02 06 32.3	
	comp=Z,2μm,18.2s,MS4.5,baz=265,slow=40								
LZH	**Lanzhou**	**20.70**	**318**	⇓P			**P**	**01 57 41.8**	**+1.3**
LZH				AP				01 57 51.0	
LZH				XP		sP		01 57 55.0	-0.6
LZH				PP				01 58 03.7	
LZH				PPP				01 58 13.3	
LZH				S			**S**	**02 01 27.0**	**-2.6**
LZH				XS		sS		02 01 40.0	-5.6
LZH				PCP		PcP		02 01 51.0	+1.8
LZH				SS				02 01 56.0	
LZH				AMB		AMB			
	comp=Z,365nm,1.5s								
LZH				AMB		AMB			
	comp=Z,1μm,4.6s								
LZH				LR		LR			
	comp=E,3μm,11.5s								
LZH				LR		LR			
	comp=Z,5μm,13.3s,MS5.1								
CHG	**Chiang Mai**	**20.75**	**266**	⇓P			**P**	**01 57 41.7**	**+0.7**
	comp=Z,58nm,1.3s								
CHTO	**Chiang Mai**	**20.75**	**266**⇓	*i* P			**P**	**01 57 41.6**	**+0.6**
CHTO				pmax		pmax			
	comp=Z,116nm,1.5s								
CHTO	**Chiang Mai**	**20.75**	**266**⇓	*i* P			**P**	**01 57 41.6**	**+0.6**
	comp=Z,116nm,1.5s								
HHC	**Hu-ho-hao-te**	**20.75**	**340**	⇓P			**P**	**01 57 42.1**	**+1.0**
HHC				AP				01 57 51.0	
HHC				XP		sP		01 57 54.1	-2.0
HHC				PP				01 58 05.9	
HHC				S			**S**	**02 01 31.9**	**+1.4**
HHC				PCP		PcP		02 01 47.6	-1.7
HHC				AMB		AMB			
	comp=Z,107nm,1.5s								
HHC				LR		LR			
	comp=N,5μm,16.2s,MS5.0								
HHC				LR		LR			
	comp=E,3μm,17.6s,MS5.0								
HHC				LR		LR			
	comp=Z,6μm,16.9s,MS5.0								
BTO	**Baotou**	**21.07**	**337**	*e*P			**P**	**01 57 43.7**	**-0.8**
BTO				S			**S**	**02 01 32.0**	**-4.8**
BTO				AMB		AMB			
	comp=Z,109nm,1.3s,mb5.0								
BTO				LR		LR			
	comp=N,3μm,15.3s,MS5.0								
BTO				LR		LR			
	comp=E,4μm,16.3s,MS5.0								
MAJO	**Matsushiro**	**21.21**	**42**	P			**P**	**01 57 47.2**	**+1.2**
MAT	**Matsushiro**	**21.21**	**42**	P			**P**	**01 57 46.2**	**+0.2**
MAT				S			**S**	**02 01 37.0**	**-2.5**
MAT	**Matsushiro**	**21.21**	**42**	*e*P			**P**	**01 57 46.0**	**0.0**
MAT				*e*S			**S**	**02 01 37.0**	**-2.5**
MAT				pmax		pmax			
	comp=Z,60nm,1.6s,mb4.7								
MAT				MLR		MLR			
	comp=Z,2μm,20.0s,MS4.6								
MAT	**Matsushiro**	**21.21**	**42**	*e*P			**P**	**01 57 46.0**	**0.0**
	comp=Z,60nm,1.6s,mb4.7								
MAT				*e*S			**S**	**02 01 37.0**	**-2.5**
MAT				LR		LR			
	comp=Z,2μm,20.0s,MS4.6								
MJAR	**Matsushiro Arr**	**21.21**	**42**	P			**P**	**01 57 46.2**	**+0.2**
	comp=Z,11nm,0.7s,mb4.3,baz=221,slow=9.3,SNR=33								
MJAR				LR		LR		02 06 43.1	
	comp=Z,2μm,21.1s,MS4.5,baz=220,slow=38								
NNT	**Nongplab**	**22.06**	**249**	P			**P**	**01 57 57.0**	**+1.9**
CN2	**Changchun**	**22.48**	**9**	*e*P			**P**	**01 58 00.4**	**+0.9**
CN2				*e*S			**S**	**02 02 02.3**	**-1.8**
CN2				AMB		AMB			
	comp=Z,20nm,1.2s,mb4.4								
CN2				AMB		AMB			
	comp=Z,200nm,3.0s								
CN2				LR		LR			
	comp=N,2μm,20.0s,MS4.7								
CN2				LR		LR			
	comp=E,2μm,20.0s,MS4.7								
CN2				LR		LR			
	comp=Z,2μm,21.0s,MS4.6								
VLA	**Vladivostok**	**23.36**	**21**	*e*P			**P**	**01 58 08.1**	**-0.7**
VLA				*e*				01 58 32.6	
VLA				pmax		pmax			
	comp=Z,42nm,1.2s,mb4.7								
VLA				MLR		MLR			
	comp=Z,2μm,18.2s,MS4.6								
VLA	**Vladivostok**	**23.36**	**21**	*i* P			**P**	**01 58 08.6**	**-0.2**
MDJ	**Mudanjiang**	**24.07**	**15**	P			**P**	**01 58 15.5**	**+0.2**
MDJ				AP				01 58 23.9	
MDJ				XP		sP		01 58 27.9	-3.1
MDJ				S			**S**	**02 02 27.2**	**-2.9**
MDJ				XS		sS		02 02 41.6	-6.5
MDJ				SCP		ScP		02 05 37.2	+6.0
MDJ				PCS		PcS		02 05 41.0	+5.3
MDJ				SCS		ScS		02 09 23.6	+5.2
MDJ				AMB		AMB			
	comp=Z,37nm,0.8s,mb4.9								
MDJ				AMB		AMB			
	comp=Z,257nm,5.9s								
MDJ				LR		LR			
	comp=N,2μm,14.5s,MS4.8								
MDJ				LR		LR			
	comp=E,768nm,13.4s,MS4.8								
MDJ				LR		LR			
	comp=Z,3μm,14.5s,MS4.9								
MDJ	**Mudanjiang**	**24.07**	**15**	P			**P**	**01 58 15.8**	**+0.5**
GUMO	**Guam**	**24.21**	**105**	LR			LR	02 06 05.9	
	comp=Z,2μm,21.5s,MS4.5,baz=116,slow=32								
GTA	**Gaotai**	**25.27**	**319**⇓	*i* P			**P**	**01 58 26.4**	**+0.1**
GTA				AP		pP		01 58 35.8	-1.4
GTA				XP		sP		01 58 39.9	-2.1
GTA				PP				01 59 06.5	
GTA				PCP		PcP		02 02 00.3	+1.7
GTA				S			**S**	**02 02 50.1**	**+0.8**
GTA				XS		sS		02 03 04.6	-3.0
GTA				SCP		ScP		02 05 36.6	+2.0
GTA				AMB		AMB			
	comp=Z,63nm,1.5s,mb4.9								
GTA				AMB		AMB			
	comp=Z,598nm,8.4s								
GTA				LR		LR			
	comp=N,2μm,21.3s,MS4.9								
GTA				LR		LR			
	comp=E,2μm,19.4s,MS4.9								
GTA				LR		LR			
	comp=Z,4μm,20.2s,MS4.9								
SHL	**Shillong**	**26.82**	**284**	*i* P			**P**	**01 58 39.8**	**-0.4**
SHL				*ex*			x	02 03 23.8	
HIA	**Hailar**	**27.63**	**358**⇑	*e*P			**P**	**01 58 46.8**	**-0.7**
HIA	**Hailar**	**27.63**	**358**	P			**P**	**01 58 46.8**	**-0.7**
LSA	**Lhasa**	**27.91**	**293**	P			**P**	**01 58 51.0**	**+1.0**
LSA				AP		pP		01 58 59.2	-1.8
LSA				XP		sP		01 59 03.2	-2.6
LSA				PCP		PcP		02 02 04.6	-0.2
LSA				S			**S**	**02 03 27.0**	**-3.9**
LSA				XS		sS		02 03 47.0	-2.2
LSA				AMB		AMB			
	comp=Z,30nm,1.6s,mb4.7								
LSA				AMB		AMB			
	comp=Z,290nm,11.9s								
LSA				LR		LR			
	comp=N,980nm,18.2s,MS4.7								
LSA				LR		LR			
	comp=E,1μm,15.7s,MS4.7								
LSA				LR		LR			
	comp=Z,2μm,19.0s,MS4.6								
LSA	**Lhasa**	**27.91**	**293**	P			**P

SONM LR LR 02 11 55.0
comp=Z,4µm,18.9s,MS5.1,baz=152,slow=39
SONM Songino Array 28.65 339 P **P 01 58 56.7 +0.1**
SONM 02 02 09.0
ASAJ Asahikawa 28.79 34 P **P 01 58 59.8 +1.9**
comp=Z,17nm,0.7s,mb4.9,baz=238,slow=12,SNR=25
ASAJ LR LR 02 11 50.6
comp=Z,909nm,19.2s,MS4.4,baz=232,slow=39
ASAJ Asahikawa 28.79 34 P **P 01 58 59.8 +2.0**
ASAJ pmax pmax
comp=Z,17nm,0.7s
ASAJ MLR MLR
comp=Z,909nm,19.2s
KLR Kul'dur 28.91 15 *eP* **P 01 58 55.8 -3.1**
KLR *e* pP 01 59 06.0 -3.9
KLR *eS* **S 02 03 40.0 -6.7**
KLR MLR MLR
comp=N,2µm,15.0s
KLR MLR MLR
comp=Z,3µm,15.0s,MS5.0
HABR Khabarovsk 29.13 20 *eP* **P 01 58 58.2 -2.7**
HABR *eS* **S 02 03 49.1 -1.1**
CAL Calcutta 30.13 278 *eP* **P 01 59 10.0 +0.3**
CIT Chita 30.90 351 *eP* **P 01 59 15.1 -1.4**
CIT *e* pP 01 59 26.3 -1.2
CIT *e* 02 02 13.7
CIT pmax pmax
comp=Z,83nm,1.5s,mb5.3
YSS Yuzh-Sakhalins 30.90 30 *eP* **P 01 59 17.1 +0.6**
YSS *e* 01 59 22.6
YSS *e* 01 59 32.1
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.1
YSS MLR MLR
comp=Z,1µm,18.0s,MS4.5
YSS MLR MLR
comp=N,1µm,19.0s,MS4.7
YSS MLR MLR
comp=E,1µm,20.0s,MS4.7
YSS Yuzh-Sakhalins 30.90 30 P **P 01 59 18.0 +1.5**
comp=E,36nm,0.9s,mb5.2
ZAK Zakamensk 31.89 339 *i* P **P 01 59 24.8 -0.4**
ZAK pmax pmax
comp=Z,34nm,1.6s,mb4.9
JIRN Jiri 32.01 288 *eP* **P 01 59 25.7 -0.6**
comp=Z,343nm,1.4s,mb6.0
BOK Bokaro 32.29 281 *eP* **P 01 59 29.6 +0.9**
BOK AMb AMB 01 59 31.8
comp=Z,89nm,1.2s,mb5.5
GUN Gumba 32.30 288 *eP* **P 01 59 29.5 +0.6**
comp=Z,209nm,1.1s,mb5.9
PKI Pulchoki 32.70 288 *eP* **P 01 59 32.1 -0.2**
comp=Z,251nm,1.6s,mb5.9
KKN Kakani 32.83 288 *eP* **P 01 59 33.3 -0.1**
comp=Z,138nm,1.1s,mb5.8
TLY Talaya 32.88 340 P **P 01 59 34.5 +0.6**
comp=Z,122nm,1.4s,mb5.6,SNR=5.7
TLY Talaya 32.88 340*d* *i*P **P 01 59 34.1 +0.2**
TLY pmax pmax
comp=Z,26nm,1.3s,mb5.0
TLY Talaya 32.88 340 P **P 01 59 34.1 +0.2**
DMN Daman 32.97 288 *eP* **P 01 59 34.8 +0.1**
comp=Z,338nm,1.5s,mb6.0
IRK Irkutsk 33.18 341 *eP* **P 01 59 35.5 -1.0**
IRK *e* pP 01 59 47.1 -0.5
IRK pmax pmax
comp=Z,83nm,1.6s,mb5.4
GKN Gorkha 33.41 288 *eP* **P 01 59 38.3 -0.2**
comp=Z,158nm,1.2s,mb5.8
MOY Mondy 33.76 338 *eP* **P 01 59 41.2 -0.4**
MOY pmax pmax
comp=Z,116nm,2.1s,mb5.4
KOLN Koldanda 34.31 288 *eP* **P 01 59 46.2 -0.2**
comp=Z,404nm,1.7s,mb6.1
WMQ Urumqi 35.28 317⇓ *i*P **P 01 59 54.7 0.0**
WMQ AP pP 02 00 05.2 -0.6
WMQ XP sP 02 00 09.0 -1.6
WMQ PP PP 02 01 14.2 -1.0
WMQ PPP 02 01 32.7
WMQ PCP PcP 02 02 25.2 +0.5
WMQ S **S 02 05 25.3 -0.5**
WMQ XS sS 02 05 42.7 -1.5
WMQ SCP ScP 02 06 07.2 0.0
WMQ AMB AMB
comp=Z,35nm,1.5s,mb5.1
WMQ AMB AMB
comp=Z,330nm,4.5s
WMQ LR LR
comp=N,1µm,19.1s,MS4.8
WMQ LR LR
comp=E,1µm,20.0s,MS4.8
WMQ LR LR
comp=Z,2µm,21.7s,MS4.8
VIS Vishakhapatnam 35.49 270 *eP* **P 01 59 57.6 +1.0**
VIS AMb AMB 01 59 60.0
comp=Z,91nm,1.4s,mb5.5
KAKA Kakadu 35.94 160 *eP* **P 01 59 59.5 -0.9**
comp=Z,25nm,0.9s,mb5.2
BOD Bodaibo 36.53 354 *eP* **P 02 00 03.3 -2.1**
BOD *e* 02 02 28.1
BOD pmax pmax
comp=Z,7.0nm,2.3s
NGP Nagpur 38.85 277 *eP* **P 02 00 24.2 -0.8**
DDI Dehra Dun 39.26 292 *eP* **P 02 00 28.0 -0.5**
FITZ Fitzroy Crossi 39.73 173 *eP* **P 02 00 31.3 -1.0**
comp=Z,12nm,1.1s,mb4.5
NDI New Delhi 39.96 289 *eP* **P 02 00 32.9 -1.4**
NDI *ex* x 02 00 42.5
HYB Hyderabad 40.00 272 *i* P **P 02 00 35.5 +0.9**
HYB *ep* pP 02 00 46.0 +0.1
MK31 Makanchi Array 40.02 318 P **P 02 00 35.0 +0.2**
MK31 pmax pmax
comp=Z,102nm,1.2s,mb5.4
MKAR Makanchi Array 40.02 318 P **P 02 00 35.0 +0.2**
comp=Z,19nm,0.7s,mb4.9,baz=112,slow=9.6,SNR=104
MKAR ScP ScP 02 06 26.9 +1.9
comp=Z,1.4nm,0.8s,baz=95,slow=6.5,SNR=4.1
MKAR Makanchi Array 40.02 318 P **P 02 00 35.0 +0.2**
MKAR ScP ScP 02 06 26.9 +1.9
SMLA Simla 40.06 293 *eP* **P 02 00 33.6 -1.5**
SMLA AMb AMB 02 00 35.8
comp=Z,173nm,1.7s,mb5.5
BHPL Bhopal 40.07 281 *eP* **P 02 00 35.3 +0.1**
PMG Port Moresby 40.20 137 P **P 02 00 35.6 -0.6**
comp=Z,7.0nm,0.7s,mb4.5,baz=340,slow=11,SNR=5.0
PMG LR LR 02 14 59.4
comp=Z,373nm,20.4s,MS4.2,baz=191,slow=33
PMG Port Moresby 40.20 137 *i* P **P 02 00 35.6 -0.6**
PMG Port Moresby 40.20 137 *eP* **P 02 00 35.5 -0.7**
comp=Z,35nm,1.1s,mb5.0
PMG pP pP 02 00 47.3 -0.2
PMG LR LR 02 14 59.4
AKL Akola 40.80 277 *ex* x 01 59 49.5
YAK Yakutsk 40.87 6*de*P **P 02 00 40.5 -1.3**
YAK *e**PP pP 02 00 51.7 -1.3
YAK *e*PPP 02 02 21.9
YAK *e* 02 02 41.4
YAK *e**SS sS 02 06 49.1 -20
YAK *i* 02 10 40.6
YAK pmax pmax
comp=Z,19nm,0.8s,mb4.8
YAK pmax pmax
comp=N,17nm,1.6s
YAK pmax pmax
comp=E,4.0nm,1.3s
YAK pmax pmax
comp=Z,6.0nm,0.9s
YAK MLR MLR
comp=Z,1µm,20.0s,MS4.7
YAK MLR MLR
comp=N,915nm,16.0s,MS4.8
YAK MLR MLR
comp=E,351nm,14.0s,MS4.8
YAK Yakutsk 40.87 6 *eP* **P 02 00 40.6 -1.2**
comp=E,37nm,0.6s,mb5.2
PALK Pallekele 41.26 256 *eP* **P 02 00 45.7 +0.7**
comp=E,7.9nm,0.8s,mb4.4
KSH Kashi 42.10 305 *eP* **P 02 00 53.1 +1.2**
KSH *e*AP pP 02 01 02.3 -0.9
KSH *e*XP sP 02 01 07.3 -0.6
KSH *e*PP PP 02 02 34.2 +4.4
KSH *e*PCP PcP 02 02 47.9 +1.9
KSH *e*PPP 02 03 05.1
KSH *e*SCP ScP 02 06 35.1 +1.8
KSH *e*PCS PcS 02 06 39.0 +1.3
KSH *eS* **S 02 07 08.8 +0.2**
KSH *e*XS sS 02 07 26.2 -1.1
KSH *e*SS SS 02 10 12.1 -5.0
KSH *e*SCS ScS 02 10 50.2 -0.7
KSH AMB AMB
comp=Z,400nm,2.8s,mb5.5
KSH LR LR
comp=N,931nm,13.6s,MS5.1
KSH LR LR
comp=E,1µm,11.0s,MS5.1
KSH LR LR
comp=Z,2µm,19.1s
ZAL Zalesovo 42.28 329 P **P 02 00 52.5 -0.8**
comp=Z,56nm,1.0s,mb5.1,baz=354,slow=7.8,SNR=185
ZAL LR LR 02 20 39.3
comp=Z,3µm,20.0s,MS5.1,baz=343,slow=39
ZAL Zalesovo 42.28 329 *i* P **P 02 00 53.2 -0.1**
ZAL pmax pmax
comp=Z,56nm,1.0s
AJM Ajmer 42.31 286 *eP* **P 02 00 53.8 +0.2**
AJM AMb AMB 02 00 55.8
comp=Z,85nm,1.1s,mb5.3
MBWA Marble Bar 42.50 182 *eP* **P 02 00 54.7 -0.4**
comp=Z,5.7nm,0.8s,mb4.3
MBWA *e*PcP PcP 02 02 47.5 +0.2
PET Petropavlovsk 42.63 33 *eP* **P 02 00 51.3 -4.9**
PET *eS* **S 02 07 09.1 -7.3**
PET pmax pmax
comp=Z,100nm,16.2s
PET smax
comp=N,300nm,34.0s
PET smax
comp=E,300nm,23.4s
PET MLR MLR
comp=Z,700nm,21.0s,MS4.5
WRAB Tennant Creek 43.33 161 P **P 02 01 01.6 -0.2**
comp=Z,250nm,1.5s,mb5.7,SNR=5.8
WRAB Tennant Creek 43.33 161⇓ *eP* **P 02 01 01.0 -0.8**
WRAB Tennant Creek 43.33 161 P **P 02 01 01.0 -0.8**
comp=Z,71nm,1.0s,mb5.3
WRAB pP pP 02 01 11.3 -1.8
WRA Warramunga Arr 43.33 161 P **P 02 01 01.3 -0.6**
comp=Z,6.9nm,0.8s,mb4.5,baz=343,slow=8.5,SNR=26
WRA S **S 02 07 23.0 -3.7**
comp=Z,5.7nm,1.1s,baz=340,slow=15,SNR=8.0
WB2 Warramunga Arr 43.34 161 *eP* **P 02 01 00.2 -1.7**
WB2 *ep*P pP 02 01 12.3 -0.9
WB2 *i* S **S 02 07 23.3 -3.5**
MA2 Magadan 43.49 22 *eP* **P 02 01 03.1 -0.1**
MA2 ⇑*eP* 02 01 03.2
MA2 *ep*P pP 02 01 12.9 -1.6
MA2 *eP*P PP 02 02 42.8 -1.9
MA2 *eP*cP PcP 02 02 51.0 +0.3
NVS Novosibirsk 43.54 329⇓ *i*P **P 02 01 02.3 -1.3**
NVS *i* S **S 02 07 30.1 +0.3**
NVS pmax pmax
comp=N,116nm,1.5s
NVS pmax pmax
comp=Z,164nm,1.5s,mb5.5
NVS pmax pmax
comp=E,105nm,1.4s
NVS pmax pmax
comp=Z,26nm,1.6s,mb4.7
NVS pmax pmax
comp=N,40nm,1.8s
NVS pmax pmax
comp=E,21nm,1.5s
NVS smax
comp=N,22nm,1.9s
NVS smax
comp=E,35nm,1.9s
FRU Bishkek 43.83 310 *eP* **P 02 01 06.0 +0.1**
FRU pmax pmax
comp=Z,80nm,2.2s,mb5.1
FRU MLR MLR
comp=Z,2µm,23.0s,MS4.9
AAK Ala-Archa 43.87 310 *eP* **P 02 01 06.5 +0.3**
AAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
AAK Ala-Archa 43.87 310 *eP* **P 02 01 06.5 +0.2**
comp=Z,6.9nm,0.8s,mb4.4
KURK Kurchatov 43.91 322 P **P 02 01 06.5 0.0**
comp=Z,403nm,1.5s,mb5.9,SNR=64
KURK Kurchatov 43.91 322 P **P 02 01 06.4 -0.1**
KURK pP pP 02 01 17.4 -0.4
KAD Karad 44.09 273 *eP* **P 02 01 07.9 -0.1**
TRD Trivandrum 44.18 260 *eP* **P 02 01 09.8 +1.1**
TRD AMb AMB 02 01 12.2
comp=Z,68nm,1.4s,mb5.2
BOM Bombay 45.02 276 *ex* x 02 00 10.3
ASAR Alice Springs 46.74 163 P **P 02 01 29.1 +0.2**
comp=Z,5.0nm,0.5s,mb4.7,baz=346,slow=7.1,SNR=114
ASAR PcP PcP 02 03 01.1 -0.8
comp=Z,2.5nm,0.6s,baz=344,slow=3.5,SNR=4.5
ASAR ScP ScP 02 06 54.5 +2.2
comp=Z,2.0nm,0.7s,baz=343,slow=3.5,SNR=12
ASAR S **S 02 08 15.9 -0.1**
comp=Z,2.6nm,1.2s,baz=353,slow=21,SNR=5.6
ASAR Alice Springs 46.74 163 P **P 02 01 29.2 +0.2**
ASAR 02 03 01.1
ASAR S **S 02 08 15.9 -0.2**
CTA Charters Tower 48.30 147 *eP* **P 02 01 32.4 -8.6**
comp=Z,3.7nm,0.6s,mb4.6
CTA *e*PCP PcP 02 03 08.9 +1.5
CTA Charters Tower 48.30 147 *eP* **P 02 01 32.4 -8.6**
CTA *e* 02 03 08.9
CTA pmax pmax
comp=Z,4.0nm,0.6s
CTAO Charters Tower 48.30 147 *eP* **P 02 01 42.1 +1.1**
CTAO *e**PP pP 02 01 53.3 +0.8
VOSK Vostochnaya 49.06 322 P **P 02 01 46.6 -0.3**
VOSK pmax pmax
comp=Z,121nm,2.0s,mb5.6
BVA0 Borovoye Array 49.50 322 *i* P **P 02 01 50.4 +0.1**
BVA0 pmax pmax
comp=Z,22nm,1.7s,mb4.9
BRVK Borovoye 49.57 322 P **P 02 01 51.9 +1.1**
comp=Z,326nm,1.2s,mb6.2,SNR=32
BRVK Borovoye 49.57 322 P **P 02 01 50.6 -0.2**
BRVK *ep*P pP 02 02 03.1 +0.8
BRVK pmax pmax
comp=Z,49nm,1.1s,mb5.5
BRVK Borovoye 49.57 322 P **P 02 01 50.6 -0.2**
comp=Z,49nm,1.1s,mb5.5
BRVK pP pP 02 02 03.1 +0.8
ZRNK Zerenda 50.27 322 *i* P **P 02 01 56.2 +0.1**
ZRNK pmax pmax
comp=Z,90nm,1.4s,mb5.6
ZRNK Zerenda 50.27 322 P **P 02 01 56.1 0.0**
ZRNK pP pP 02 02 07.8 +0.2
TIXI Tiksi 50.29 3 *eP* **P 02 01 53.1 -3.1**
TIXI *e* 02 03 11.0
TIXI *e* 02 03 48.4
TIXI *eS* **S 02 08 59.4 -6.6**
TIXI *e* 02 11 41.2
TIXI pmax pmax
comp=Z,18nm,1.1s,mb5.0
TIXI smax
comp=N,131nm,10.5s
TIXI smax
comp=E,109nm,11.6s
TIXI MLR MLR
comp=Z,1µm,15.0s,MS5.0
TIXI Tiksi 50.29 3 *i* Pr 02 01 54.8
FORT Forrest 52.53 172 *eP* **P 02 02 13.2 +0.2**
comp=Z,28nm,0.7s,mb5.3
BILL Bilibino 54.22 19 *i* P **P 02 02 24.9 -0.5**
BILL pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BILL MLR MLR
comp=Z,1µm,17.0s,MS5.0
BILL Bilibino 54.22 19 *eP* **P 02 02 25.0 -0.4**
comp=Z,18nm,1.1s,mb4.9
NWAO Narrogin (SRO) 54.32 184 P **P 02 02 20.7 -5.5**
NWAO pmax pmax
comp=Z,68nm,1.5s
NWAO Narrogin (SRO) 54.32 184 P **P 02 02 20.7 -5.5**
comp=Z,68nm,1.5s,mb5.3
ABKT Ailbek 55.87 302 P **P 02 02 38.6 +1.3**
comp=Z,333nm,1.0s,mb6.3,SNR=23
SVE Sverdlovsk 55.96 325⇓ *i*P **P 02 02 38.3 +0.3**
SVE *e* 02 04 42.0
SVE *eS* **S 02 10 20.0 -3.2**
SVE *e* 02 12 22.0
SVE pmax pmax
comp=Z,260nm,2.0s,mb5.9
SVE MLR MLR
comp=N,400nm,18.0s,MS5.0
SVE MLR MLR
comp=E,1µm,18.0s,MS5.0
SVE MLR MLR
comp=Z,2µm,18.0s,MS5.1
AKTO Aktyubinsk 56.43 317 LR LR 02 28 41.6
comp=Z,2µm,20.7s,MS5.1,baz=81,slow=38
STKA Stephens Creek 56.76 159 *eP* **P 02 02 41.8 -1.8**
comp=Z,10nm,0.6s,mb5.0
STKA *ep*P pP 02 02 53.8 -1.5
STKA Stephens Creek 56.76 159 P **P 02 02 42.1 -1.5**
comp=Z,12nm,0.6s,mb5.1,baz=341,slow=6.9,SNR=17
STKA LR LR 02 26 59.4
comp=Z,457nm,20.0s,MS4.6,baz=120,slow=36
STKA Stephens Creek 56.76 159 *eP* **P 02 02 41.7 -1.9**
STKA *ep*P pP 02 02 53.7 -1.6
ARU Arti 57.00 324 P **P 02 02 45.5 +0.1**
comp=Z,603nm,0.5s,SNR=33
ARU Arti 57.00 324*d* *i*P **P 02 02 45.1 -0.3**
ARU pmax pmax
comp=Z,27nm,0.4s,mb5.6
ARU MLR MLR
comp=Z,1µm,26.0s,MS4.9
ARU Arti 57.00 324 P **P 02 02 45.1 -0.3**
ARU pP pP 02 02 57.1 0.0
SMDO Samad 57.71 284⇓ P **P 02 02 51.7 +1.3**
HOQ Hoqain 58.27 285 P **P 02 02 55.7 +1.4**
SNR=7.6
ORR Orenburg 58.59 318⇓ *i*P **P 02 02 56.5 -0.1**
ORR pmax pmax
comp=Z,130nm,1.6s,mb5.7
ORR MLR MLR
comp=Z,1µm,16.0s,MS5.1
ASHO Ashiyiah 59.17 287 P **P 02 03 02.3 +1.8**
SNR=5.9
ARMA Armidale 59.57 149 *eP* **P 02 03 09.4 +6.1**
ARMA *ep*P pP 02 03 20.4 +5.3
DZM Mont Dzumac 62.13 131 P **P 02 03 21.5 +0.8**
comp=Z,7.3nm,1.0s,mb4.8,baz=289,slow=18,SNR=3.2
RBK Rabkut 62.52 279 P **P 02 03 24.3 +0.9**
SNR=7.5
CNB Canberra Magne 62.72 154 *eP* **P 02 03 26.1 +1.4**
comp=Z,106nm,1.6s,mb5.7
ABTO Aybut 63.40 279 P **P 02 03 29.8 +0.7**
SNR=7.4
MAK Makhachkala 63.63 308 *eP* **P 02 03 29.2 -1.5**
MAK *eS* **S 02 12 00.7 -1.1**
MAK pmax pmax
comp=Z,102nm,1.0s,mb5.8
PECR Pechory 65.01 323 *i* P **P 02 03 38.8 -0.9**
PECR pmax pmax
comp=Z,220nm,2.0s,mb5.8
PECR pmax pmax
comp=Z,300µm,2.4s
PECR MLR MLR
comp=Z,800nm,18.0s,MS5.0
DGRG David-gareji 65.38 307 P **P 02 03 42.3 +0.2**
UMR Umm Al-Rimmam 65.50 294 *eP* **P 02 03 42.8 -0.1**
KBD Kabd 65.59 293 *eP* **P 02 03 43.5 0.0**
KBD AMb AMB 02 03 44.2
comp=Z,136nm,0.7s,mb6.1
MIB Mutribah 65.77 294 *eP* **P 02 03 44.4 -0.2**
MIB AMb AMB 02 03 45.2
comp=Z,54nm,0.7s,mb5.7
RDF Al-Radifah 65.77 293 *eP* **P 02 03 44.6 0.0**
RDF AMb AMB 02 03 45.3
comp=Z,89nm,0.6s,mb6.0
MTA Mtatsminda 65.78 307 P **P 02 03 45.6 +0.9**
DUS Dusheti 65.79 308 P **P 02 03 45.7 +1.0**
TBLG Delisi 65.81 307 P **P 02 03 45.7 +0.8**
TBLG Delisi 65.81 307 P **P 02 03 45.6 +0.7**
NAY Al-Naaiem 65.96 293 *eP* **P 02 03 45.5 -0.4**
NAY AMb AMB 02 03 46.4
comp=Z,39nm,0.6s,mb5.6
ZEI Tsey 66.28 308 *eP* **P 02 03 49.0 +1.1**
ZEI pmax pmax
comp=Z,44nm,1.2s,mb5.4
GOF Gofitskoye 66.59 311 *eP* **P 02 03 49.4 -0.5**
GOF pmax pmax
comp=Z,20nm,0.6s,mb5.3
ONI Oni 66.64 308 P **P 02 03 52.9 +2.7**
BKR Bakuriani 66.72 307 P **P 02 03 50.8 +0.1**
AKH Akhalkalaki 66.78 307 P **P 02 03 52.9 +1.8**
VRHR Novokhopersk 66.82 318 *eP* **P 02 03 50.9 -0.5**
VRHR pmax pmax
comp=Z,60nm,0.8s,mb5.7
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=E,10.0nm,0.5s
AMRG 66.88 308 P **P 02 03 53.1 +1.4**
KIV Kislovodsk 66.99 310 P **P 02 03 53.4 +0.9**
comp=E,387nm,0.9s,mb6.4,SNR=15
KIV Kislovodsk 66.99 310 P **P 02 03 52.6 +0.1**
KIV *PP pP 02 04 04.2 -0.1
KIV Kislovodsk 66.99 310 P **P 02 03 52.6 +0.2**
KIV pP pP 02 04 04.2 -0.2
KLMR Klimovskoe 67.19 328*d* *i*P **P 02 03 52.8 -0.9**
KLMR pmax pmax
comp=Z,140nm,1.5s,mb5.8
KLMR pmax pmax
comp=Z,40nm,3.8s
KLMR MLR MLR
comp=Z,3µm,23.0s,MS5.4
TTA Tatalina 67.90 29 *eP* **P 02 03 58.9 +0.7**
TTA pmax pmax
comp=Z,44nm,1.3s,mb5.3
TTA Tatalina 67.90 29 *eP* **P 02 03 58.9 +0.7**
comp=Z,44nm,1.3s,mb5.3
MSL Mosul 67.98 302 *ex* x 02 04 00.0
SVW2 Sparrevohn 68.26 31 *eP* **P 02 04 01.4 +1.0**
MOS Moscow 68.67 323 *eP* **P 02 04 00.4 -2.6**
MOS *i* pP 02 04 12.5 -2.4
MOS *e* 02 06 31.1
MOS *eSS* SS 02 17 22.1 -5.9
MOS pmax pmax
comp=Z,400nm,2.0s,mb6.0
MOS pmax pmax
comp=Z,175nm,1.4s,mb5.8
MOS MLR MLR
comp=N,300nm,20.0s,MS5.1
MOS MLR MLR
comp=Z,900nm,20.0s,MS5.0
MOS MLR MLR
comp=E,1µm,21.0s,MS5.1
LVZ Lovozero 68.78 336*d* *i*P **P 02 04 03.2 -0.5**
LVZ pmax pmax
comp=Z,53nm,1.5s,mb5.2
LVZ MLR MLR
comp=Z,1µm,23.0s,MS5.1
LVZ Lovozero 68.78 336 *i* Pr 02 04 03.3
OBN Obninsk 69.35 322 P **P 02 04 06.3 -0.9**
comp=Z,422nm,1.4s,mb6.2,SNR=12
OBN Obninsk 69.35 322*d* *i*P **P 02 04 06.7 -0.5**
OBN *i* pP 02 04 18.0 -1.2
OBN *i* 02 04 29.1
OBN pmax pmax
comp=Z,145nm,1.5s,mb5.7
OBN MLR MLR
comp=Z,900nm,20.0s,MS5.0
OBN Obninsk 69.35 322 P **P 02 04 06.7 -0.6**
ANN Anapa 70.56 311 *eP* **P 02 04 13.5 -1.2**
ANN *e**PP pP 02 04 24.3 -2.3
ANN *e*PPP 02 08 30.4
ANN *eS* S 02 13 25.3 0.0
ANN pmax pmax
comp=Z,107nm,1.4s,mb5.6
ANN MLR MLR
comp=Z,165nm,20.0s,MS4.3
JOF Joensuu 70.81 331 *ep* **P 02 04 14.7 -1.5**
comp=Z,59nm,1.0s,mb5.5
MALT Malatya 71.19 305⇑ *i*P **P 02 04 20.0 +1.5**
MALT Malatya 71.19 305 P **P 02 04 19.9 +1.4**
comp=Z,58nm,1.3s,mb5.3
COLA College 71.23 27⇑ *eP* **P 02 04 18.7 0.0**
KEV Kevo 71.26 338 *ep* **P 02 04 18.1 -0.8**
comp=Z,26nm,1.0s,mb5.1
KEV Kevo 71.26 338 *eP* **P 02 04 18.1 -0.8**
KEV pmax pmax
comp=Z,26nm,1.0s,mb5.1
PMR Palmer 71.27 30 P **P 02 04 18.5 -0.4**
PMR pmax pmax
comp=Z,36nm,1.3s,mb5.1

PMR Palmer 71.27 30 P **P** **02 04 18.5 -0.4**
comp=Z,36nm,1.3s,mb5.2
ILAR Eielson Array 71.65 27 P **P** **02 04 19.9 -1.4**
comp=Z,2.8nm,0.8s,mb4.3,baz=272,slow=5.2,SNR=18
ILAR LR LR 02 38 02.8
comp=Z,203nm,20.1s,MS4.4,baz=348,slow=38
ARCES ARCESS Array B 71.82 338 P **P** **02 04 22.0 -0.3**
comp=Z,14nm,0.8s,mb4.9,baz=82,slow=8.7,SNR=34
ARE0 ARCESS Array S 71.82 338 P **P** **02 04 22.8 +0.5**
PUL Pulkovo 71.87 328⇑ *eP* **P** **02 04 23.0 +0.4**
GZT Gaziantep 72.08 304 *i* P **P** **02 04 25.5 +1.6**
BJO Bjornoya 72.44 344 AMS AMS 02 43 10.9
comp=Z,1μm,16.4s,MS5.2
KBS Kingsbay 72.50 349 AMS AMS 02 41 02.5
comp=Z,1μm,16.8s,MS5.3
KTK1 Kautokeino 72.73 338 *eP* **P** **02 04 27.5 -0.3**
KTK1 AMb AMB 02 04 31.0
comp=Z,70nm,1.8s,mb5.3
KAF Kangasniemi 73.25 331 *ep* **P** **02 04 29.0 -1.8**
comp=Z,42nm,1.0s,mb5.3,baz=73,slow=5.6
KAF Kangasniemi 73.25 331 *eP* **P** **02 04 29.0 -1.8**
KAF pmax pmax
comp=Z,42nm,1.0s,mb5.3
CTKT Corum 73.39 308 *i* P **P** **02 04 32.2 +0.6**
FINES FINESS Array B 73.53 330 P **P** **02 04 32.1 -0.3**
comp=Z,200nm,0.9s,mb5.1,baz=76,slow=8.0,SNR=117
FINES LR LR 02 41 01.6
comp=Z,912nm,18.1s,MS5.1,baz=77,slow=39
CDAG Cicekdag 73.95 307 *i* P **P** **02 04 33.2 -1.7**
VSU Vasula 73.97 327 *i* P **P** **02 04 34.9 -0.1**
VSU Vasula 73.97 327 *i* Pr 02 04 34.9
TRO Tromso 74.02 339 *eP* **P** **02 04 33.9 -1.4**
TRO AMb AMB 02 04 37.6
comp=Z,54nm,1.0s,mb5.4
TRO *eS* S 02 14 05.3 +0.4
TRO AMS AMS 02 44 50.6
comp=Z,880nm,17.1s,MS5.1
TRO Tromso 74.02 339 *eP* **P** **02 04 33.9 -1.4**
TRO pmax pmax
comp=Z,54nm,1.0s,mb5.4
TRO MLR MLR
comp=Z,880μm,17.1s
TRO Tromso 74.02 339 *eP* **P** **02 04 33.9 -1.4**
comp=Z,54nm,1.0s,mb5.4
TRO LR LR
comp=Z,880μm,17.1s
MNK Minsk 74.42 323 *eP* **P** **02 04 36.0 -1.7**
MNK pmax pmax
comp=Z,480nm,1.5s,mb6.2
BR131 Keskin Array S 74.47 307⇓ *iP* **P** **02 04 38.0 +0.1**
comp=Z,38nm,1.5s,mb5.1
BRTR Keskin Array B 74.47 307 P **P** **02 04 38.2 +0.3**
comp=Z,8.4nm,1.1s,mb4.6,baz=107,slow=4.1,SNR=32
AKASG Malin Array Be 74.60 319 P **P** **02 04 37.9 -0.8**
comp=Z,5.4nm,0.7s,mb4.6,baz=65,slow=5.2,SNR=54
AKASG Malin Array Be 74.60 319 *i* P **P** **02 04 37.9 -0.8**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 74.60 319 P **P** **02 04 37.9 -0.8**
ATD Arta Tunnel 74.80 277 LR LR 02 36 29.6
comp=Z,172nm,19.0s,MS4.4,baz=178,slow=35
DAWY Dawson 74.98 27 P **P** **02 04 41.1 +0.3**
ANTO Ankara 75.06 307⇓ *iP* **P** **02 04 41.8 +0.5**
ANTO Ankara 75.06 307 P **P** **02 04 42.0 +0.7**
ANTO Ankara 75.06 307⇓ P **P** **02 04 41.8 +0.5**
SGKT Sivrigoynuk 75.41 308 *i* P **P** **02 04 40.8 -2.5**
INK Inuvik 75.73 22 P **P** **02 04 46.2 +1.0**
INK pmax pmax
comp=Z,41nm,1.1s
INK Inuvik 75.73 22 P **P** **02 04 46.2 +1.0**
comp=Z,41nm,1.1s,mb5.3
ERMK Ermenek 75.86 304 *i* P **P** **02 04 45.6 -0.3**
KIS Kishinev 75.87 315 *eP* **P** **02 04 44.0 -2.0**
CSS Prodhromos 76.01 302⇓ *iP* **P** **02 04 47.2 +0.5**
comp=Z,61nm,1.4s,mb5.3
CSS *ep*P pP 02 04 58.3 -0.6
ALE Alert 76.08 0 P **P** **02 04 47.9 +0.7**
comp=Z,128nm,1.3s,mb5.7,SNR=11
HENT Hendek 76.18 309 *i* P **P** **02 04 46.6 -1.2**
EIL Elat 76.23 297 P **P** **02 04 48.9 +0.8**
EIL pP pP 02 05 01.7 +1.6
LOF Lofoten 76.38 338 *eP* **P** **02 04 49.7 +0.8**
LOF AMb AMB 02 04 52.9
comp=Z,70nm,1.4s,mb5.4
IAS Iasi 76.64 316 P **P** **02 04 50.1 -0.2**
MOR8 Moi Rana 76.85 336 *eP* **P** **02 04 50.0 -1.6**
MOR8 AMb AMB 02 04 53.2
comp=Z,66nm,1.4s,mb5.4
CFR Carcaliu 76.86 313⇑ *iP* **P** **02 04 51.9 +0.3**
CFR Carcaliu 76.86 313⇑ P **P** **02 04 51.9 +0.3**
TIRR Tirgusor 76.88 313⇑ *iP* **P** **02 04 51.7 0.0**
TIRR Tirgusor 76.88 313 P **P** **02 04 52.2 +0.5**
HARR Harsova 77.14 313⇑ *iP* **P** **02 04 53.9 +0.7**
HARR Harsova 77.14 313⇑ P **P** **02 04 53.9 +0.8**
SUW Suwalki 77.17 323 *ePd* **P** **02 04 52.9 -0.5**
ISP Isparta 77.34 306⇓ *iP* **P** **02 04 54.3 0.0**
ISP Isparta 77.34 306 P **P** **02 04 54.4 +0.1**
ISP Isparta 77.34 306 P **P** **02 04 54.0 -0.3**
comp=Z,80nm,1.5s,mb5.4
VRI Vrincioaia 77.59 314⇓ *iP* **P** **02 04 56.5 +0.8**
VRI Vrincioaia 77.59 314 P **P** **02 04 56.7 +1.0**
VRI Vrincioaia 77.59 314⇓ P **P** **02 04 56.5 +0.8**
BURAR Bucovina Array 78.02 317⇑ *iP* **P** **02 04 58.7 +0.6**
BURAR Bucovina Array 78.02 317⇑ P **P** **02 04 58.7 +0.6**
MLR Muntele Rosu 78.23 314 P **P** **02 04 59.9 +0.7**
comp=Z,8.1nm,0.9s,mb4.6,baz=11,slow=14
MLR LR LR 02 43 07.7
comp=Z,1μm,21.3s,MS5.2,baz=53,slow=38
MLR Muntele Rosu 78.23 314⇓ *iP* **P** **02 04 59.2 0.0**
MLR Muntele Rosu 78.23 314⇓ P **P** **02 04 59.2 0.0**
SKAG Skagway 78.40 30 *eP* **P** **02 05 01.1 +0.9**
comp=Z,50nm,1.4s,mb5.2
NSS Namsos 78.49 335 *eP* **P** **02 04 59.1 -1.5**
NSS AMS AMS 02 48 43.6
comp=Z,1μm,23.3s,MS5.1
BUC1 Bucharest 78.54 313 P **P** **02 05 02.4 +1.4**
JMB Yambol 78.77 311 *i* P **P** **02 05 03.3 +1.1**
DAG Danmarks Havn 78.87 351⇑ *iP* **P** **02 05 02.3 -0.5**
comp=Z,183nm,1.4s,mb5.8
DAG Danmarks Havn 78.87 351⇑ *iP* **P** **02 05 02.3 -0.5**
DAG pmax pmax
comp=Z,180nm,1.4s,mb5.8
MTUR Matau 78.90 314 P **P** **02 05 03.2 +0.2**
KWP Kalwaria 78.92 319 *ePd* **P** **02 05 03.4 +0.4**
KWP Kalwaria 78.92 319 *eP* **P** **02 05 03.2 +0.2**
comp=Z,8μm,2.5s
KOLS Kolonicke sedl 79.43 318 *e* **P** **02 05 09.5 +3.7**
KOLS *ep*P pP 02 05 19.4 +1.5
RPZ Rata Peaks 79.63 146 P **P** **02 05 07.1 +0.2**
comp=Z,18nm,0.8s,mb5.0,baz=8.8,slow=18,SNR=9.8
DIM Dimitrovgrad 79.64 311 *i* P **P** **02 05 07.2 +0.2**
KDZ Kurdzhali 79.86 311 *i* P **P** **02 05 09.3 +1.1**
STHS Stebnicka Huta 79.89 319 *eP* **P** **02 05 08.3 0.0**
STHS *e* 02 05 29.5
STHS Stebnicka Huta 79.89 319 *eP* **P** **02 05 08.4 +0.1**
DRGR 79.91 316⇓ *iP* **P** **02 05 08.9 +0.5**
DRGR 79.91 316 P **P** **02 05 09.0 +0.6**
DRGR 79.91 316⇓ P **P** **02 05 08.9 +0.5**
CRVS Cervenica-Dubn 79.94 319 *e* **P** **02 05 12.1 +3.5**
CRVS *e* 02 05 29.5
RZN Rozhen 80.34 311 *i* P **P** **02 05 11.5 +0.7**
NB2 NORSAR Subarra 80.37 332 P **P** **02 05 10.3 -0.6**
comp=Z,212nm,2.0s,mb5.7,baz=59,slow=5.6
NOA NORSAR Array B 80.37 332 P **P** **02 05 10.2 -0.7**
comp=Z,12nm,0.9s,mb4.8,baz=62,slow=5.3,SNR=39
NOA LR LR 02 44 48.7
comp=Z,2μm,19.1s,MS5.5,baz=45,slow=39
PGB Panagyurishte 80.42 312 *i* P **P** **02 05 12.2 +1.0**
NIE Niedzica 80.45 319 *eP* **P** **02 05 12.0 +0.6**
OJC Ojcow 80.46 320 *i* Pd **P** **02 05 11.7 +0.3**
OJC *ep*PP PP 02 08 14.4 -0.5
OJC *eS* S 02 15 11.6 -3.2
OJC L 02 41 31.9
comp=Z,2.1nm,21.3s
NAO01 NORSAR Array S 80.60 332 P **P** **02 05 11.7 -0.5**
KECS Kecovo 80.70 318 *eP* **P** **02 05 13.2 +0.5**
GKP Gorka Klasztor 80.74 324 *ePd* **P** **02 05 12.9 0.0**
BZS Buzias 81.04 315 P **P** **02 05 14.7 +0.2**
MMB Musomiste 81.06 311 *i* P **P** **02 05 15.3 +0.7**
VTS Vitosha 81.07 312 *i* P **P** **02 05 15.5 +0.8**
VTS Vitosha 81.07 312 P **P** **02 05 15.6 +0.9**
BSD Bornholm Skovb 81.22 326⇓ *iP* **P** **02 05 15.1 -0.4**
comp=Z,45nm,1.1s,mb5.3
BSD Bornholm Skovb 81.22 326⇓ *iP* **P** **02 05 15.1 -0.4**
BSD pmax pmax
comp=Z,45nm,1.1s,mb5.3
JMIC Jan Mayen 81.25 345 AMS AMS 02 45 12.0
comp=Z,633nm,20.5s,MS5.0
PSZ Piszkesteto 81.28 318 *i* P **P** **02 05 16.0 +0.2**
DLBC Dease Lake 81.33 30 P **P** **02 05 17.6 +1.6**
KKB Krupnik 81.42 312 *i* P **P** **02 05 17.0 +0.5**
RAC Raciborz 81.47 321 *eP* **P** **02 05 17.8 +1.0**
BOLS Boljevac 81.47 314⇑ *iP* **P** **02 05 17.2 +0.5**
OKC Ostrava-Krasne 81.59 320 *eP* **P** **02 05 17.7 +0.3**
OKC AMS AMS 02 45 30.0
comp=Z,800nm,17.8s
SANT Santorini 81.64 306 P **P** **02 05 17.5 -0.2**
VYHS Vyhne 81.71 319 *i* P **P** **02 05 18.6 +0.6**
KONO Kongsberg 81.73 331 *eP* **P** **02 05 20.6 +2.5**
KONO *ep*PP PP 02 08 20.8 -4.5
KONO Kongsberg 81.73 331 *i* P **P** **02 05 17.4 -0.8**
VAY Valandovo 81.97 311 *eP* **P** **02 05 17.5 -2.0**
MORC Moravsky Berou 81.97 320⇓ *iP* **P** **02 05 19.6 +0.2**
MORC Moravsky Berou 81.97 320 P **P** **02 05 19.6 +0.2**
MORC *P pP 02 05 30.4 -1.2
MORC pmax pmax
comp=Z,57nm,1.8s,mb5.2
MORC Moravsky Berou 81.97 320 P **P** **02 05 19.6 +0.2**
comp=Z,57nm,1.8s,mb5.2
MORC pP pP 02 05 30.4 -1.2
BUD Budapest 81.99 318 *i* P **P** **02 05 19.7 +0.2**
STIP Stip 82.10 312 *eP* **P** **02 05 17.9 -2.3**
KSP Ksiaz 82.27 322 *ePd* **P** **02 05 21.6 +0.6**
KSP Ksiaz 82.27 322⇓ *eP* **P** **02 05 21.4 +0.4**
KSP LR LR
comp=Z,1μm,22.9s,MS5.1
SRO2 Moca 82.27 318 *eP* **P** **02 05 21.3 +0.3**
SRO Srobarova 82.30 318 *eP* **P** **02 05 21.3 +0.2**
DPC Dobruska-Polom 82.45 321 *eP* **P** **02 05 22.6 +0.6**
DPC *ep*P pP 02 05 33.6 -0.5
DPC AMS AMS 02 47 20.0
comp=Z,800nm,17.8s
SKO Skopje 82.52 312 *eP* **P** **02 05 20.1 -2.2**
SMOL Smolenice 82.56 319 *eP* **P** **02 05 23.5 +1.0**
PKSM Moragy 82.73 317⇓ *iP* **P** **02 05 23.3 -0.1**
PKSM Moragy 82.73 317 P **P** **02 05 23.7 +0.3**
PKSM Moragy 82.73 317 *i* P **P** **02 05 23.5 +0.1**
VRAC Vranov 82.73 320 LR LR 02 46 45.0
comp=Z,593nm,20.8s,MS4.9,baz=73,slow=39
VRAC Vranov 82.73 320⇓ *iP* **P** **02 05 24.3 +0.9**
VRAC Vranov 82.73 320 P **P** **02 05 24.4 +1.0**
VRAC Vranov 82.73 320⇓ P **P** **02 05 24.2 +0.9**
ZST Bratislava 82.88 319 *i* P **P** **02 05 24.4 +0.2**
BIA Bitola 82.96 311 *eP* **P** **02 05 22.5 -2.1**
RUE Ruedersdorf 82.97 324 *eP* **P** **02 05 25.2 +0.5**
comp=Z,159nm,1.8s,mb5.8
BER Bergen 83.20 333 AMS AMS 02 46 52.5
comp=Z,2μm,18.1s,MS5.5
ASK Askoy 83.21 333 *eP* **P** **02 05 26.2 +0.4**
OHR Ohrid 83.29 311 *eP* **P** **02 05 24.3 -2.0**
TREC Trest 83.39 321 *eP* **P** **02 05 27.3 +0.5**
TREC *ep*P pP 02 05 38.2 -0.8
SOP Sopron 83.43 319 *i* P **P** **02 05 27.2 +0.2**
MUD Monsted U'grnd 83.49 329⇓ *iP* **P** **02 05 27.3 0.0**
comp=Z,15nm,0.8s,mb5.1
MUD Monsted U'grnd 83.49 329⇓ *iP* **P** **02 05 27.3 0.0**
MUD pmax pmax
comp=Z,15nm,0.8s,mb5.1
BRG Berggiesshubel 83.60 322 *eP* **P** **02 05 28.2 +0.3**
comp=Z,86nm,1.7s,mb5.6
BRG Berggiesshubel 83.60 322 *i* P **P** **02 05 28.1 +0.2**
comp=Z,51nm,1.7s,mb5.4
BRG S S 02 16 12.0 +25
BRG
comp=N,256nm,24.5s
BRG
comp=E,378nm,18.9s
BRG
comp=Z,422nm,18.8s
BRG Berggiesshubel 83.60 322 *i* P **P** **02 05 28.1 +0.2**
BRG pmax pmax
comp=Z,51nm,1.7s,mb5.4
BRG MLR MLR
comp=N,256nm,24.5s
BRG MLR MLR
comp=E,378nm,18.9s
BRG MLR MLR
comp=Z,422nm,18.8s
PRU Pruhonice 83.64 321 *eP* **P** **02 05 28.5 +0.4**
PRU *ep*P pP 02 05 40.1 -0.2
PRU AMS AMS 02 45 30.0
comp=Z,500nm,20.6s
PRA Prague 83.67 322 P **P** **02 05 29.0 +0.8**
PRA pP pP 02 05 42.0 +1.6
QSH Qafa e Shtames 83.75 312 *i* p **P** **02 05 30.0 +1.4**
CLL Collm 83.93 323 *eP* **P** **02 05 29.5 -0.1**
comp=Z,128nm,1.9s,mb5.7
CLL Collm 83.93 323⇓ *iP* **P** **02 05 29.5 -0.1**
comp=Z,128nm,1.9s,mb5.7
CLL *i* pP pP 02 05 40.6 -1.2
CLL *es*P sP 02 05 46.0 -0.3
CLL *eP*P PP 02 08 41.0 -2.4
CLL *ep*PP 02 08 54.0
CLL Collm 83.93 323⇓ *iP* **P** **02 05 29.5 -0.1**
comp=Z,128nm,1.9s,mb5.7
CLL *i* pP pP 02 05 40.6 -1.2
CLL LR LR
comp=Z,900nm,17.7s,MS5.2
KOGS Kog 84.14 318 *eP* **P** **02 05 30.7 +0.1**
BSEG Bad Segeberg 84.15 326 *eP* **P** **02 05 31.0 +0.3**
comp=Z,130nm,2.1s,mb5.7
BSEG Bad Segeberg 84.15 326 *eP* **P** **02 05 31.0 +0.3**
BSEG pmax pmax
comp=Z,130nm,2.1s,mb5.7
ARSA Arzberg 84.25 319⇓ *iP* **P** **02 05 31.1 -0.1**
comp=Z,134nm,2.4s,mb5.7,SNR=12
KMBO Kilima Mbogo 84.46 267 P **P** **02 05 33.1 +0.8**
comp=Z,12nm,0.9s,mb5.0,baz=37,slow=7.3,SNR=30
KMBO LR LR 02 41 38.8
comp=Z,442nm,20.1s,MS4.8,baz=93,slow=34
KMBO Kilima Mbogo 84.46 267⇑ *eP* **P** **02 05 33.5 +1.2**
SCO Scoresbysund 84.53 348 *i* P **P** **02 05 32.8 +0.2**
comp=Z,7.9nm,1.2s,mb4.7
SCO Scoresbysund 84.53 348 *i* P **P** **02 05 32.8 +0.2**
SCO pmax pmax
comp=Z,8.0nm,1.2s,mb4.7
KHC Kasperske Hory 84.59 321 *eP* **P** **02 05 33.1 +0.2**
KHC *ep*P pP 02 05 44.4 -0.7
KHC AMS AMS 02 48 30.0
comp=Z,1μm,16.7s
KHC Kasperske Hory 84.59 321 *diP* **P** **02 05 33.1 +0.2**
GEC2 GERESS Array S 84.64 321 *eP* **P** **02 05 33.6 +0.4**
comp=Z,128nm,2.1s,mb5.7
GEC2 GERESS Array S 84.64 321 *eP* **P** **02 05 33.6 +0.4**
GEC2 pmax pmax
comp=Z,128nm,2.1s,mb5.7
GERES GERESS Array B 84.64 321 P **P** **02 05 33.4 +0.2**
comp=Z,7.8nm,0.9s,mb4.8,baz=57,slow=4.9,SNR=45
GERES LR LR 02 49 42.7
comp=Z,552nm,18.3s,MS5.0,baz=186,slow=40
WERD Werda 84.72 323 *eP* **P** **02 05 33.8 +0.2**
comp=Z,62nm,1.7s,mb5.5
NKC Novy Kostel 84.74 322 *eP* **P** **02 05 33.9 +0.2**
NKC *ep*P pP 02 05 45.2 -0.7
NKC AMS AMS 02 46 40.0
comp=Z,600nm,18.9s
MOA Molln 84.75 320 *i* P **P** **02 05 34.3 +0.6**
comp=Z,164nm,2.0s,mb5.8,SNR=15
WET Wettzell 84.99 321 *eP* **P** **02 05 35.6 +0.7**
comp=Z,76nm,1.8s,mb5.5
WET Wettzell 84.99 321 *eP* **P** **02 05 35.6 +0.7**
WET pmax pmax
comp=Z,76nm,1.8s,mb5.5
MOX Moxa 85.02 323 *eP* **P** **02 05 35.3 +0.2**
comp=Z,68nm,1.7s,mb5.5
MOX Moxa 85.02 323 *eP* **P** **02 05 35.5 +0.4**
comp=Z,50nm,1.7s,mb5.4
MOX *e* pP 02 05 48.4 +1.1
MOX
comp=Z,800nm,20.0s
MOX Moxa 85.02 323 *eP* **P** **02 05 35.5 +0.4**
MOX *e* pP 02 05 48.4 +1.1
MOX pmax pmax
comp=Z,1.0nm,1.7s
MOX MLR MLR
comp=Z,50μm,20.0s
SUMG Summit 85.03 354 P **P** **02 05 35.1 -0.1**
MANZ Manzenberg 85.05 322 *eP* **P** **02 05 36.0 +0.8**
comp=Z,68nm,1.9s,mb5.5
ROTZ Rotzenmuhle 85.09 322 *eP* **P** **02 05 36.2 +0.8**
comp=Z,116nm,2.0s,mb5.7
CLZ Clausthal 85.13 324 *eP* **P** **02 05 36.3 +0.7**
comp=Z,42nm,1.2s,mb5.4
CLZ Clausthal 85.13 324 *eP* **P** **02 05 36.3 +0.7**
CLZ pmax pmax
comp=Z,42nm,1.2s,mb5.4
BOJS Bojanci 85.18 317 *eP* **P** **02 05 36.4 +0.6**
LJU Ljubljana 85.40 318⇓ *eP* **P** **02 05 37.1 +0.2**
comp=Z,199nm,2.2s,mb5.9
LJU Ljubljana 85.40 318⇓ *eP* **P** **02 05 37.2 +0.2**
LJU pmax pmax
comp=Z,199nm,2.2s,mb5.9
YKW3 Yellowknife Ar 85.42 23 P **P** **02 05 36.8 -0.3**
YKA Yellowknife Ar 85.47 23 P **P** **02 05 37.0 -0.3**
comp=Z,6.0nm,0.8s,mb4.8,baz=310,slow=4.6,SNR=99
YKA PKKPbc PKKPbc 02 23 38.0 -2.8
comp=Z,0.2nm,0.6s,baz=130,slow=2.4,SNR=7.3
YKA Yellowknife Ar 85.47 23⇓ *eP* **P** **02 05 37.0 -0.3**
YKA Yellowknife Ar 85.47 23 P **P** **02 05 37.0 -0.3**
YKA PKKPbc PKKPbc 02 23 38.0 -2.8
GTTG Gvttingen 85.50 324 *eP* **P** **02 05 37.8 +0.3**
comp=Z,137nm,2.2s,mb5.7
KBA Koelnbreinsper 85.66 319⇓ *iP* **P** **02 05 38.4 +0.1**
comp=Z,102nm,3.0s,mb5.5
KBA Koelnbreinsper 85.66 319⇓ *iP* **P** **02 05 38.4 +0.1**
KBA pmax pmax
comp=Z,102nm,3.0s
GRA1 Grafenberg Arr 85.69 322 *eP* **P** **02 05 39.2 +0.8**
comp=Z,116nm,1.9s,mb5.8
GRA1 *e*PP PP 02 08 59.2 +1.5
GRA1 LR LR
comp=Z,800nm,21.0s,MS5.1
GRF Grafenberg Arr 85.69 322 *eP* **P** **02 05 39.2 +0.8**
comp=Z,116nm,1.9s,mb5.8
GRF *e*PP PP 02 08 59.2 +1.5
GRF *eL* 02 47 33.6
comp=Z,785nm,21.0s
GRF Grafenberg Arr 85.69 322 *eP* **P** **02 05 39.2 +0.8**
GRF *e* 02 08 59.2
GRF pmax pmax
comp=Z,116nm,1.9s,mb5.8
GRF MLR MLR
comp=Z,800nm,21.0s,MS5.1
GRF Grafenberg Arr 85.69 322 *eP* **P** **02 05 39.2 +0.8**
GRF *e* 02 08 59.2
GRF pmax pmax
comp=Z,116nm,1.9s,mb5.8
GRF MLR MLR
comp=Z,800nm,21.0s,MS5.1
VOY Vojsko 85.80 318 *eP* **P** **02 05 38.7 -0.2**
CADS Cadrg 85.80 318 *eP* **P** **02 05 38.5 -0.5**
FVI Forni Avoltri 86.22 319 P **P** **02 05 40.7 -0.4**
FVI pmax pmax
comp=Z,28nm,1.5s,mb5.3
FVI Forni Avoltri 86.22 319 P **P** **02 05 40.7 -0.4**
comp=Z,28nm,1.5s,mb5.3
IBBN Ibbenburen 86.30 326 *eP* **P** **02 05 41.6 +0.2**
comp=Z,53nm,1.3s,mb5.6
FUR Furstenfeldbru 86.39 321 *eP* **P** **02 05 42.6 +0.7**
comp=Z,206nm,2.1s,mb6.0
FUR Furstenfeldbru 86.39 321 *eP* **P** **02 05 42.6 +0.7**
FUR pmax pmax
comp=Z,206nm,2.1s,mb6.0
WTTA Wattenberg 86.60 320⇓ *iP* **P** **02 05 42.9 -0.1**
comp=Z,113nm,2.0s,mb5.8
WTTA Wattenberg 86.60 320⇓ *iP* **P** **02 05 42.9 0.0**
WTTA pmax pmax
comp=Z,113nm,2.0s,mb5.8
SQTA Sankt Quirin 86.88 320⇓ *iP* **P** **02 05 44.2 -0.1**
comp=Z,32nm,1.4s,mb5.3
SQTA Sankt Quirin 86.88 320⇓ *iP* **P** **02 05 44.2 -0.1**
SQTA pmax pmax
comp=Z,32nm,1.4s,mb5.4
TIP Timpagrande 86.90 311 P **P** **02 05 45.1 +0.7**
TIP pP pP 02 05 56.3 -0.3
FG4 Candela 86.92 313 P **P** **02 05 45.1 +0.7**
FG4 pmax pmax
comp=Z,68nm,1.1s,mb5.8
FG4 Candela 86.92 313 P **P** **02 05 45.1 +0.7**
comp=Z,68nm,1.1s,mb5.8
TNS Taunus Mts 86.99 324 *eP* **P** **02 05 45.2 +0.4**
comp=Z,44nm,1.8s,mb5.4
TNS Taunus Mts 86.99 324 *eP* **P** **02 05 45.2 +0.4**
TNS pmax pmax
comp=Z,44nm,1.8s,mb5.4
BUG Bochum--Univer 87.00 325 *eP* **P** **02 05 44.9 0.0**
comp=Z,40nm,1.4s,mb5.5
CTI Castel Tesino 87.17 319 P **P** **02 05 45.8 +0.1**
CTI pmax pmax
comp=Z,100nm,2.4s,mb5.6
CTI Castel Tesino 87.17 319 P **P** **02 05 45.8 +0.1**
comp=Z,100nm,2.4s,mb5.6
STU Stuttgart 87.30 322 *eP* **P** **02 05 46.4 +0.1**
comp=Z,15nm,1.4s,mb5.0
SGO Sicignano 87.31 313 P **P** **02 05 46.5 +0.1**
SGO pmax pmax
comp=Z,15nm,1.2s,mb5.1
SGO Sicignano 87.31 313 P **P** **02 05 46.5 +0.1**
comp=Z,14nm,1.2s,mb5.1
ARV Arcevia 87.56 316 P **P** **02 05 48.4 +0.8**
ARV pmax pmax
comp=Z,75nm,1.9s,mb5.6
ARV Arcevia 87.56 316 P **P** **02 05 48.4 +0.8**
comp=Z,75nm,1.9s,mb5.6
SNTG Esanatoglia 87.67 316 P **P** **02 05 48.9 +0.8**
comp=Z,193nm,1.9s,mb6.0
BRMO Bormio 87.74 320 P **P** **02 05 48.8 +0.4**
comp=Z,39nm,1.8s,mb5.3
NRCA Norcia 87.75 315 P **P** **02 05 49.1 +0.6**
comp=Z,47nm,1.6s,mb5.5
AQU L'Aquila 87.78 315 P **P** **02 05 49.5 +0.9**
DAVOX Davos 87.89 320 LR LR 02 50 05.9
comp=Z,740nm,19.8s,MS5.1,baz=50,slow=39
CEL Celeste 87.91 310 P **P** **02 05 49.5 +0.3**
comp=Z,56nm,1.5s,mb5.6
PTQR Pietraquaria 87.94 315 P **P** **02 05 50.1 +0.7**
comp=Z,55nm,1.6s,mb5.5
CASY Casey 87.94 184 *eP* **P** **02 05 49.2 -0.2**
BFO Black Forest 88.02 322 *eP* **P** **02 05 49.5 -0.3**
comp=Z,14nm,1.6s,mb4.9
BFO Black Forest 88.02 322 *eP* **P** **02 05 49.5 -0.3**
BFO pmax pmax
comp=Z,14nm,1.6s,mb4.9
SFI Santa Sofia 88.07 317 P **P** **02 05 51.4 +1.4**
SFI pmax pmax
comp=Z,63nm,1.6s,mb5.6
SFI Santa Sofia 88.07 317 P **P** **02 05 51.4 +1.4**
comp=Z,63nm,1.6s,mb5.6
VMG Vicchio 88.23 317 P **P** **02 05 52.8 +2.0**
comp=Z,137nm,1.3s,mb6.0
SEI Scarperia 88.31 317 P **P** **02 05 53.4 +2.3**
comp=Z,26nm,0.6s,mb5.6
ZCCA Zocca 88.41 318 P **P** **02 05 53.6 +2.0**
comp=Z,102nm,1.6s,mb5.8
WLF Walferdange 88.55 324 *eP* **P** **02 05 52.7 +0.5**
comp=Z,38nm,1.4s,mb5.5
WLF Walferdange 88.55 324 P **P** **02 05 53.1 +0.9**
WLF pmax pmax
comp=Z,25nm,1.1s,mb5.5
WLF Walferdange 88.55 324 P **P** **02 05 53.1 +0.9**
comp=Z,25nm,1.1s,mb5.5
CDF Champ du Feu 88.58 322 *eP* **P** **02 05 51.6 -0.8**
comp=Z,81nm,1.8s,mb5.5
CDF Champ du Feu 88.58 322 *eP* **P** **02 05 51.6 -0.8**
CDF pmax pmax
comp=Z,40nm,1.8s,mb5.5
CDF Champ du Feu 88.58 322 *eP* **P** **02 05 51.6 -0.8**
comp=Z,40nm,1.8s,mb5.5
GIVF Givet 89.03 325 *eP* **P** **02 05 53.7 -0.8**
comp=Z,45nm,1.2s,mb5.4
GIVF Givet 89.03 325 *eP* **P** **02 05 53.7 -0.8**
GIVF pmax pmax
comp=Z,22nm,1.2s,mb5.4
GIVF Givet 89.03 325 *eP* **P** **02 05 53.7 -0.8**
comp=Z,22nm,1.2s,mb5.4
HINF Hinteralfeld 89.13 322 *eP* **P** **02 05 53.8 -1.2**
comp=Z,46nm,1.7s,mb5.2
HINF Hinteralfeld 89.13 322 *eP* **P** **02 05 53.8 -1.2**
HINF pmax pmax
comp=Z,23nm,1.7s,mb5.2
HINF Hinteralfeld 89.13 322 *eP* **P** **02 05 53.8 -1.2**
comp=Z,23nm,1.7s,mb5.2
HAU Haudompre 89.32 322 *eP* **P** **02 05 55.7 -0.2**
comp=Z,21nm,1.2s,mb5.0
HAU *eR*

comp=Z,1µm,20.0s
HAU Haudompre 89.32 322 *e*P **P 02 05 55.7 -0.2**
HAU pmax pmax
comp=Z,10.0nm,1.2s,mb5.0
HAU MLR MLR
comp=Z,1µm,20.0s,MS5.4
HAU Haudompre 89.32 322 *e*P **P 02 05 55.7 -0.2**
comp=Z,10nm,1.2s,mb5.0
HAU LR LR
comp=Z,1µm,20.0s,MS5.4
BAIF Baives 89.39 325 *e*P **P 02 05 55.4 -0.8**
comp=Z,39nm,1.4s,mb5.2
BAIF Baives 89.39 325 *e*P **P 02 05 55.4 -0.8**
BAIF pmax pmax
comp=Z,19nm,1.4s,mb5.2
BAIF Baives 89.39 325 *e*P **P 02 05 55.4 -0.8**
comp=Z,20nm,1.4s,mb5.2
MCGN Macugnaga 89.44 320 P **P 02 05 56.9 +0.5**
comp=Z,19nm,1.2s,mb5.3
MEZF Maizieres J'vi 89.78 323 *e*P **P 02 05 57.3 -0.7**
CABF La Chapelle 90.22 321 *e*P **P 02 05 59.4 -0.7**
comp=Z,16nm,1.2s,mb4.9
CABF La Chapelle 90.22 321 *e*P **P 02 05 59.4 -0.7**
CABF pmax pmax
comp=Z,8.0nm,1.2s,mb4.9
CABF La Chapelle 90.22 321 *e*P **P 02 05 59.4 -0.7**
comp=Z,8.0nm,1.2s,mb4.9
LPG La Plagne 90.42 320 *e*P **P 02 06 01.0 0.0**
comp=Z,57nm,1.3s,mb5.5
LPG La Plagne 90.42 320 *e*P **P 02 06 01.0 0.0**
LPG pmax pmax
comp=Z,29nm,1.3s,mb5.5
LPG La Plagne 90.42 320 *e*P **P 02 06 01.0 0.0**
comp=Z,29nm,1.3s,mb5.4
LPL La Plagne 90.42 320 *e*P **P 02 06 00.9 -0.1**
comp=Z,41nm,1.1s,mb5.4
LPL La Plagne 90.42 320 *e*P **P 02 06 00.9 -0.1**
LPL pmax pmax
comp=Z,21nm,1.1s,mb5.4
LPL La Plagne 90.42 320 *e*P **P 02 06 00.9 -0.1**
comp=Z,21nm,1.1s,mb5.4
PGF Pioggiola 90.55 317 *e*P **P 02 06 01.4 -0.2**
comp=Z,71nm,1.0s,mb5.6
PGF Pioggiola 90.55 317 *e*P **P 02 06 01.4 -0.2**
PGF pmax pmax
comp=Z,35nm,1.0s,mb5.6
PGF Pioggiola 90.55 317 *e*P **P 02 06 01.4 -0.2**
comp=Z,35nm,1.0s,mb5.7
GNW Green Mountain 90.59 37 P **P 02 06 04.2 +2.4**
MBDF Montbardon 90.81 319 *e*P **P 02 06 01.7 -1.1**
SBF Sospel 90.86 318 *e*P **P 02 06 02.2 -0.8**
comp=Z,31nm,1.0s,mb5.3
SBF Sospel 90.86 318 *e*P **P 02 06 02.2 -0.8**
SBF pmax pmax
comp=Z,16nm,1.0s,mb5.3
SBF Sospel 90.86 318 *e*P **P 02 06 02.2 -0.8**
comp=Z,16nm,1.0s,mb5.3
LOR Lormes 91.14 323 *e*P **P 02 06 03.2 -1.1**
comp=Z,46nm,1.4s,mb5.3
LOR *e*R
comp=Z,1µm,19.2s
LOR Lormes 91.14 323 *e*P **P 02 06 03.2 -1.1**
LOR pmax pmax
comp=Z,23nm,1.4s,mb5.3
LOR MLR MLR
comp=Z,1µm,19.3s,MS5.4
LOR Lormes 91.14 323 *e*P **P 02 06 03.2 -1.1**
comp=Z,23nm,1.4s,mb5.3
LOR LR LR
comp=Z,1µm,19.3s,MS5.4
ORIF Oris-en-Rattie 91.25 320 *e*P **P 02 06 04.4 -0.4**
comp=Z,67nm,1.6s,mb5.4
ORIF *e*R
comp=Z,849nm,19.5s
ORIF Oris-en-Rattie 91.25 320 *e*P **P 02 06 04.4 -0.4**
ORIF pmax pmax
comp=Z,34nm,1.6s,mb5.4
ORIF Oris-en-Rattie 91.25 320 *e*P **P 02 06 04.4 -0.4**
comp=Z,34nm,1.6s,mb5.4
SSF Saint Saulge 91.45 323 *e*P **P 02 06 05.0 -0.8**
comp=Z,18nm,1.1s,mb5.0
SSF Saint Saulge 91.45 323 *e*P **P 02 06 05.0 -0.8**
SSF pmax pmax
comp=Z,9.0nm,1.1s,mb5.0
SSF Saint Saulge 91.45 323 *e*P **P 02 06 05.0 -0.8**
comp=Z,9.1nm,1.1s,mb5.0
SMF Signal de Mont 91.49 322 *e*P **P 02 06 05.0 -1.0**
comp=Z,66nm,1.4s,mb5.5
SMF Signal de Mont 91.49 322 *e*P **P 02 06 05.0 -1.0**
SMF pmax pmax
comp=Z,33nm,1.4s,mb5.5
SMF Signal de Mont 91.49 322 *e*P **P 02 06 05.0 -1.0**
comp=Z,33nm,1.4s,mb5.5
FRF La Foret Royal 91.50 318 *e*P **P 02 06 05.3 -0.7**
comp=Z,51nm,1.4s,mb5.3
FRF La Foret Royal 91.50 318 *e*P **P 02 06 05.3 -0.7**
FRF pmax pmax
comp=Z,26nm,1.4s,mb5.4
FRF La Foret Royal 91.50 318 *e*P **P 02 06 05.3 -0.7**
comp=Z,26nm,1.4s,mb5.4
AVF Avril sur Loir 91.69 322 *e*P **P 02 06 06.0 -0.9**
comp=Z,44nm,1.3s,mb5.3
AVF Avril sur Loir 91.69 322 *e*P **P 02 06 06.0 -0.9**
AVF pmax pmax
comp=Z,22nm,1.3s,mb5.3
AVF Avril sur Loir 91.69 322 *e*P **P 02 06 06.0 -0.9**
comp=Z,22nm,1.3s,mb5.3
LMR La Mourre 91.71 318 *e*P **P 02 06 06.4 -0.6**
comp=Z,103nm,1.5s,mb5.6
LMR La Mourre 91.71 318 *e*P **P 02 06 06.4 -0.6**
LMR pmax pmax
comp=Z,52nm,1.5s,mb5.6
LMR La Mourre 91.71 318 *e*P **P 02 06 06.4 -0.6**
comp=Z,52nm,1.5s,mb5.6
HYF Humbligny 91.82 323 *e*P **P 02 06 07.2 -0.3**
VSL Villasalto 91.83 314 P **P 02 06 08.0 +0.5**
comp=Z,27nm,1.3s,mb5.4
SMRF Simiane la Rot 91.94 319 *e*P **P 02 06 07.7 -0.3**
comp=Z,50nm,1.6s,mb5.3
SMRF Simiane la Rot 91.94 319 *e*P **P 02 06 07.7 -0.3**
comp=Z,50nm,1.6s,mb5.6
VIVF Saint-Julien-l 92.00 320 *e*P **P 02 06 07.6 -0.7**
comp=Z,47nm,1.6s,mb5.3
VIVF Saint-Julien-l 92.00 320 *e*P **P 02 06 07.6 -0.7**
VIVF pmax pmax
comp=Z,23nm,1.6s,mb5.3
VIVF Saint-Julien-l 92.00 320 *e*P **P 02 06 07.6 -0.7**
comp=Z,24nm,1.6s,mb5.3
EDM Edmonton 92.01 29 P **P 02 06 09.5 +1.1**
BGF Bois d'Agland 92.11 322 *e*P **P 02 06 07.8 -1.0**
comp=Z,26nm,1.3s,mb5.1
BGF Bois d'Agland 92.11 322 *e*P **P 02 06 07.8 -1.0**
BGF pmax pmax
comp=Z,13nm,1.3s,mb5.1
BGF Bois d'Agland 92.11 322 *e*P **P 02 06 07.8 -1.0**
comp=Z,13nm,1.3s,mb5.1
TCF Toulx Ste Croi 92.62 322 *e*P **P 02 06 10.7 -0.5**
comp=Z,33nm,1.3s,mb5.3
TCF Toulx Ste Croi 92.62 322 *e*P **P 02 06 10.7 -0.5**
TCF pmax pmax
comp=Z,17nm,1.3s,mb5.3
TCF Toulx Ste Croi 92.62 322 *e*P **P 02 06 10.7 -0.5**
comp=Z,17nm,1.3s,mb5.3
HAWA Hanford 93.11 37 P **P 02 06 16.2 +2.7**
NEW Newport 93.30 35 P **P 02 06 15.1 +0.8**
NEW pmax pmax
comp=Z,18nm,1.2s
NEW Newport 93.30 35 P **P 02 06 15.1 +0.8**
comp=Z,18nm,1.2s,mb5.4
RJF Les Rejaudoux 93.59 322 *e*P **P 02 06 15.6 -0.1**
comp=Z,71nm,1.3s,mb5.6
RJF *e*R
comp=Z,985nm,19.5s
RJF Les Rejaudoux 93.59 322 *e*P **P 02 06 15.6 -0.1**
RJF pmax pmax
comp=Z,35nm,1.3s,mb5.6
RJF MLR MLR
comp=Z,980nm,19.5s,MS5.3
RJF Les Rejaudoux 93.59 322 *e*P **P 02 06 15.6 -0.1**
comp=Z,35nm,1.3s,mb5.6
RJF LR LR
comp=Z,980nm,19.5s,MS5.3
WALA Waterton Lakes 94.45 33 *e*P **P 02 06 20.6 +1.0**
comp=Z,21nm,1.2s,mb5.5
BSMT Bassoo Peak 94.78 34 P **P 02 06 23.4 +2.2**
FCC Fort Churchill 94.90 17 *e*P **P 02 06 20.8 -0.9**
FCC pmax pmax
comp=Z,13nm,1.2s,mb5.2
FCC Fort Churchill 94.90 17 *e*P **P 02 06 20.8 -0.9**
comp=Z,13nm,1.2s,mb5.2
BMO Blue Mountains 95.28 37 P **P 02 06 24.4 +1.0**
FFC Flin Flon 95.62 23 P **P 02 06 25.0 0.0**
FFC *PP pP 02 06 37.0 -0.3
MSO Missoula 95.88 34 P **P 02 06 27.3 +1.1**
HLID Hailey 97.71 37 P **P 02 06 36.0 +1.6**
MCMT McKenzie Canyo 97.76 35 *e*P **P 02 06 34.3 -0.4**
MCMT *e*pP pP 02 06 47.6 +0.6
NVAR Mina Array Bea 98.53 43 P **P 02 06 40.1 +2.0**
comp=Z,0.4nm,0.3s,mb4.4,baz=222,slow=2.7,SNR=4.2
VNDA Vanda 101.79 172 P Pdif 02 06 50.7 -2.0
comp=Z,0.7nm,0.9s,baz=318,slow=6.7,SNR=2.4
VNDA PP PP 02 11 02.5 -1.0
comp=Z,2.1nm,1.3s,baz=300,slow=5.5,SNR=3.0
VNDA Vanda 101.79 172 P Pdif 02 06 50.7 -2.0
VNDA PP PP 02 11 02.5 -1.0
TORD Torodi Ar. Bea 111.04 294 PKiKP PKiKP 02 11 33.5 +0.7
comp=Z,0.4nm,0.8s,baz=42,slow=1.5,SNR=5.5
TORD PP PP 02 12 09.4 -2.3
comp=Z,2.1nm,1.1s,baz=80,slow=6.8,SNR=5.7
TORD PKKPbc PKKPbc 02 22 29.8 +0.2
comp=Z,0.3nm,0.7s,baz=238,slow=1.9,SNR=8.7
TORD PKKPab PKKPab 02 22 39.9 +0.2
comp=Z,1.4nm,0.9s,baz=269,slow=2.8,SNR=5.9
TORD PKKP PKKPbc 02 22 48.8 +19
comp=Z,0.9nm,1.0s,baz=279,slow=3.1,SNR=2.4
VNA2 Neumayer--Watz 122.34 198 *e*PKPdf PKPdf 02 11 53.8 -0.7
baz=56,slow=1.2
VNA2 *e* 02 11 55.1
VNA2 *e* 02 11 56.8
VNA2 *e* 02 11 59.3
VNA2 *e* 02 12 06.1
VNA2 *e* 02 12 09.4
VNA2 *e* 02 12 11.9
VNA2 *e* 02 12 21.0
VNA2 *e* 02 12 29.5
VNA1 Neumayer--Stat 122.73 198 *e*PKPdf PKPdf 02 11 54.0 -1.2
VNA1 *e* 02 11 55.0
VNA1 *e* 02 12 09.1
VNA1 *e* 02 12 12.3
VNA1 *e* 02 12 20.6
VNA1 *e* 02 12 29.3
VNA3 Neumayer Olymp 122.81 197 *e*PKPdf PKPdf 02 11 54.1 -1.3
VNA3 *e* 02 11 55.0
VNA3 *e* 02 11 56.1
VNA3 *e* 02 11 59.6
VNA3 *e* 02 12 06.3
VNA3 *e* 02 12 09.8
SSV Crater Summit 145.24 3 *e*P PKPbc 02 12 38.3 +1.5
SVV Soufriere Volc 145.25 4 *e*P PKPbc 02 12 38.6 +1.8
SVB Belmont 145.29 4 *e*P PKPbc 02 12 38.1 +1.1
SDV Santo Domingo 147.68 22 *e*PKPdf PKPdf 02 12 42.3 +1.2
SDV *e*PKPbc PKPbc 02 12 45.1 +1.1
ROSC El Rosal 149.80 31 PKP PKPdf 02 12 46.7 +2.1
comp=Z,15nm,0.7s,baz=92,slow=22,SNR=7.4
ROSC PKPbc PKPbc 02 12 50.4 +1.0
comp=Z,15nm,0.7s,baz=102,slow=20,SNR=26
PLCA Paso Flores 158.60 156 PKP2 PKPab 02 13 34.0 +1.8
SAML Samul 166.84 18 PKPab PKPab 02 13 08.0 -0.3
LPAZ La Paz 170.00 60 PKP PKPdf 02 13 09.3 +2.2
comp=Z,11nm,1.4s,baz=0.1,slow=3.7,SNR=13
LPAZ PP PP 02 18 15.7 +3.5
comp=Z,0.7nm,0.9s,baz=198,slow=6.5,SNR=3.6
LPAZ La Paz 170.00 60 PKP PKPdf 02 13 09.3 +2.2
LPAZ PP PP 02 18 15.7 +3.5
CPUP Villa Florida 175.00 199 PKPab PKPab 02 14 43.7 -0.8
comp=Z,1.4nm,0.6s,baz=107,slow=4.9,SNR=7.3

*ISCJB **07** 01:56:06.2±0.4, 43.17N±002×0.19W±003, h4km, Error ellipse: s-maj=3.3km s-min=2.5km az=106.6*
*LDG **07** 01:56:07.6±0.0, 4305N×022W, h4km, Md1.8/3, Ml1.7/7, Error ellipse: s-maj=1.0km s-min=0.6km az=169.0*
*STR **07** 01:56:07.3±0.1, 4307N×021W, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **07** 01:56:08.1±0.2, 4306N×022W, h2km±10km, mbLg0.8/7, Error ellipse: s-maj=3.1km s-min=1.5km az=9.0, PRXIMO*
ISC 07 01:56:07.1±0.5, 4310N±003×021W±003, h11km±6km, n35, σ0§62/50, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
REYF	**Montagne du Re**	**0.14**	**256**	Pg	**Pg**	**01 56 10.6**	**+0.3**
REYF				Sg	**Sg**	**01 56 12.9**	**+0.3**
REYF	**Montagne du Re**	**0.14**	**256**	Pg	**Pg**	**01 56 10.6**	**+0.3**
REYF				Sg	**Sg**	**01 56 12.9**	**+0.3**
REYF	**Montagne du Re**	**0.14**	**256**	Pg	**Pg**	**01 56 10.6**	**+0.3**
REYF				Lg		01 56 13.0	
LABF	**Labassere**	**0.21**	**105**	Pg	**Pg**	**01 56 11.6**	**+0.1**
LABF				Sg	**Sg**	**01 56 15.2**	**+0.6**
LABF	**Labassere**	**0.21**	**105**	Pg	**Pg**	**01 56 11.6**	**+0.1**
LABF				Sg	**Sg**	**01 56 15.2**	**+0.6**
LABF	**Labassere**	**0.21**	**105**	Pg	**Pg**	**01 56 11.8**	**+0.2**
LABF				Lg		01 56 15.3	
VIEF	**Viey**	**0.28**	**142**	Pg	**Pg**	**01 56 12.7**	**0.0**
VIEF				Sg	**Sg**	**01 56 16.3**	**-0.2**
VIEF	**Viey**	**0.28**	**142**	Pg	**Pg**	**01 56 12.7**	**0.0**
VIEF				Sg	**Sg**	**01 56 16.3**	**-0.2**
VIEF	**Viey**	**0.28**	**142**	Pg	**Pg**	**01 56 12.7**	**0.0**
VIEF				Lg		01 56 16.3	
ETSF	**Etsaut**	**0.33**	**232**	*e*Pg	**Pg**	**01 56 13.4**	**-0.2**
ETSF				*e*Sg	**Sg**	**01 56 17.0**	**-1.1**
	9.0nm,0.2s						
ETSF	**Etsaut**	**0.33**	**232**	Pg	**Pg**	**01 56 13.4**	**-0.2**
ETSF				Lg		01 56 17.0	
	4.5nm,0.2s						
ATE	**Arette**	**0.36**	**267**	Pg	**Pg**	**01 56 14.4**	**+0.2**
ATE				Sg	**Sg**	**01 56 19.7**	**+0.6**
ATE	**Arette**	**0.36**	**267**	Pg	**Pg**	**01 56 14.4**	**+0.2**
ATE				Sg	**Sg**	**01 56 19.7**	**+0.6**
ATE	**Arette**	**0.36**	**267**	Pg	**Pg**	**01 56 14.5**	**+0.2**
ATE				Lg		01 56 19.7	
EPF	**Esparros**	**0.41**	**100**	*e*Pg	**Pg**	**01 56 15.5**	**+0.4**
EPF				*e*Sg	**Sg**	**01 56 21.0**	**+0.5**
	2.7nm,0.2s						
EPF	**Esparros**	**0.41**	**100**	Pg	**Pg**	**01 56 15.5**	**+0.4**
EPF				Lg		01 56 21.0	
	1.4nm,0.2s						
EBIE	**Bielsa**	**0.49**	**148**	Pg	**Pg**	**01 56 16.4**	**-0.2**
	0.3nm,0.0s,SNR=7.9						
EBIE				Lg		01 56 22.7	
	1.3nm,0.1s,SNR=10						
SJPF	**Ste Jean**	**0.75**	**271**	*e*Pg	**Pg**	**01 56 21.8**	**+0.3**
SJPF				*e*Sg	**Sg**	**01 56 31.4**	**+0.2**
	0.9nm,0.2s						
SJPF	**Ste Jean**	**0.75**	**271**	Pg	**Pg**	**01 56 21.8**	**+0.3**
SJPF				Lg		01 56 31.4	
	0.4nm,0.2s						
EALK	**Alkurruntz**	**0.96**	**277**	Lg		01 56 39.4	
	0.1nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.39**	**188**	Pg	**Pg**	**01 56 32.9**	**-0.9**
	2.7nm,0.3s,SNR=7.9						
ESAC				Lg		01 56 52.0	
	4.1nm,0.2s,SNR=6.6						
MTLF	**Montolieu**	**1.79**	**82**	*e*Pg	**Pg**	**01 56 41.1**	**-0.2**
MTLF				*e*Sg	**Sg**	**01 57 04.6**	**+0.1**
	0.4nm,0.3s						
MTLF	**Montolieu**	**1.79**	**82**	Pg	**Pg**	**01 56 41.1**	**-0.2**
MTLF				Lg		01 57 04.6	
	0.2nm,0.3s						
LFF	**La Frestale**	**1.96**	**20**	*e*Pg	**Pg**	**01 56 44.7**	**+0.1**
LFF				*e*Sg	**Sg**	**01 57 10.8**	**+0.8**
	2.9nm,0.4s						
LFF	**La Frestale**	**1.96**	**20**	Pg	**Pg**	**01 56 44.7**	**+0.1**
LFF				Lg		01 57 10.8	
	1.4nm,0.4s						
EJON	**La Jonquera**	**2.37**	**105**	Pn	**Pn**	**01 56 49.1**	**+3.2**
	0.3nm,0.1s,SNR=7.9						
CAF	**Calviac**	**2.45**	**41**	*e*Pg	**Pg**	**01 56 52.7**	**-1.3**
CAF				*e*Sg	**Sg**	**01 57 25.9**	**+0.1**
	0.7nm,0.2s						
CAF	**Calviac**	**2.45**	**41**	Pg	**Pg**	**01 56 52.7**	**-1.3**
CAF				Lg		01 57 25.9	
	0.3nm,0.2s						
RJF	**Les Rejaudoux**	**2.53**	**29**	*e*Pn	**Pn**	**01 56 48.3**	**+0.3**
RJF	**Les Rejaudoux**	**2.53**	**29**	*e*Pg	**Pg**	**01 56 55.5**	**0.0**
RJF				*e*Sg	**Sg**	**01 57 28.6**	**+0.4**
	0.8nm,0.3s						
RJF	**Les Rejaudoux**	**2.53**	**29**	Pn	**Pn**	**01 56 48.3**	**+0.3**
RJF				Pg	**Pg**	**01 56 55.5**	**0.0**
RJF				Lg		01 57 28.6	
	0.4nm,0.3s						
LASF	**Ste Croix**	**3.11**	**70**	*e*Sg	**Sg**	**01 57 46.0**	**-0.9**
	0.3nm,0.2s						
LASF	**Ste Croix**	**3.11**	**70**	Lg		01 57 46.0	
	0.2nm,0.2s						
MFF	**Saint Martin d**	**3.50**	**1**	*e*Pn	**Pn**	**01 57 01.6**	**+0.2**
MFF				*e*Sg	**Sg**	**01 57 58.5**	**-0.9**
	0.6nm,0.3s						
TCF	**Toulx Ste Croi**	**3.62**	**28**	*e*Sg	**Sg**	**01 58 02.7**	**-0.6**
	0.3nm,0.2s						

*ISCJB **07** 01:58:27.9±3.1, 390N±02×727E±02, h33km, Error ellipse: s-maj=32.2km s-min=14.3km az=37.7*
*NNC **07** 01:58:34.8±5.0, 3964N×7282E, h19km±13km, mb3.4, mpv3.2, Error ellipse: s-maj=78.7km s-min=24.4km az=65.0*
ISC 07 01:58:29.6±3.3, 390N±02×728E±02, h35km, n11, σ0§75/12, 1C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**3.21**	**13**	P	**Pn**	**01 59 17.5**	**+0.1**
	SNR=36						
UCH	**Uchtor**	**3.49**	**22**	P	**Pn**	**01 59 21.1**	**-0.3**
	SNR=33						
KZA	**Kyzart**	**3.61**	**31**	P	**Pn**	**01 59 22.5**	**-0.5**
	SNR=23						
EKS2	**Erkin-Say**	**3.74**	**12**	P	**Pn**	**01 59 25.4**	**+0.6**
	SNR=8.0						
AAK	**Ala-Archa**	**3.86**	**19**	P	**Pn**	**01 59 26.6**	**+0.2**
	SNR=24						
KBK	**Karagaybulak**	**4.01**	**24**	P	**Pn**	**01 59 28.7**	**+0.2**
	SNR=9.7						
CHMS	**Chumysh**	**4.27**	**20**	P	**Pn**	**01 59 31.8**	**-0.2**
	SNR=12						
KK31	**Karatay Array**	**4.44**	**338**	⇓Pn	**Pn**	**01 59 36.3**	**+2.0**
	1.7nm,0.3s,baz=138,slow=13,SNR=53						
KK31				⇓Sn	**Sn**	**02 00 24.4**	**-0.3**
	13nm,0.5s,baz=150,slow=23,SNR=6.9						
KK31				⇑Lg		02 00 38.2	
	7.6nm,0.4s,baz=156,slow=30						
USP	**Ospenovka**	**4.46**	**17**	P	**Pn**	**01 59 28.9**	**-5.8**
	SNR=8.7						
TKM2	**Tokmak 2**	**4.47**	**28**	P	**Pn**	**01 59 34.5**	**-0.2**
	SNR=12						
AB31	**Akbulak array**	**13.76**	**322**	P	**Pn**	**02 01 40.8**	**-1.3**
	0.2nm,0.4s,baz=132,slow=13,SNR=9.0						

*NEIC **07** 02:00:21.3, 2828S×7126W, h15km±4km, ML3.6(GUC), After GUC.*
GUC 07 02:00:21.3±0.6, 2828S×7126W, h15km±4km, MD3.8, ML3.6, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**0.88**	**146**	*e*P	Pb	02 00 36.5	-1.8
LCO				*i* S	Sb	02 00 47.5	-2.3
CDCH	**Caldera**	**1.26**	**18**	*e*P	Pn	02 00 41.3	-3.1
CDCH				*i* S	Sb	02 00 57.3	-3.6
LSCH	**La Serena**	**1.62**	**180**	*e*P	Pn	02 00 47.4	-1.9
LSCH				*i* S	Sn	02 01 07.3	-2.7
LSCH				AML	AML	02 01 12.4	
	comp=E,643nm,0.3s						
LSCH	**La Serena**	**1.62**	**180**	*e*P	Pn	02 00 47.4	-1.9
LSCH				*i* S	Sn	02 01 07.3	-2.7
TLL	**Tololo Astrono**	**1.92**	**168**	*e*P	Pn	02 00 52.6	-0.8
TLL				*i* S	Sn	02 01 16.8	-0.5
TLL				AML	AML	02 01 25.7	
	comp=E,991nm,0.4s						
TLL	**Tololo Astrono**	**1.92**	**168**	*e*P	Pn	02 00 52.6	-0.8
TLL				*i* S	Sn	02 01 16.8	-0.5
CRCH	**Chaqaral**	**2.01**	**17**	⇑*i*P	Pn	02 00 53.7	-1.0
CRCH				*i* S	Sn	02 01 18.0	-1.5
CRCH				AML	AML	02 01 27.5	
	comp=N,191nm,0.5s						
CRCH	**Chaqaral**	**2.01**	**17**	⇑*i*P	Pn	02 00 53.7	-1.0
CRCH				*i* S	Sn	02 01 18.0	-1.5
OVCH	**Ovalle**	**2.32**	**179**	AML	AML	02 01 35.9	
	comp=N,557nm,0.5s						
CMCH	**Combarbala**	**2.89**	**176**	AML	AML	02 01 55.6	
	comp=E,966nm,0.7s						

*LDG **07** 02:10:16.7±0.1, 4344N×104W, h5km, Md1.7/3, Ml1.1/1, Error ellipse: s-maj=1.2km s-min=0.5km az=160.0*
MDD 07 02:10:17.7±0.3, 4280N×135W, h0km, mbLg1.0/6, 1D, Error ellipse: s-maj=2.8km s-min=1.5km az=124.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPRE	**Itoiz**	**0.01**	**334**	⇓Pg	Pg	02 10 17.7	-0.2
	7.2nm,0.0s,SNR=18						
IPRE				Lg		02 10 18.1	
	27nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.12**	**249**	Pg	Pg	02 10 19.6	-0.3
	1.1nm,0.1s,SNR=7.9						
IUNC				Lg		02 10 22.6	
	17nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**0.17**	**262**	Pg	Pg	02 10 20.7	-0.2
	25nm,0.1s,SNR=18						
EARA				Lg		02 10 23.9	
	69nm,0.2s,SNR=5.9						
IUSE	**Utxeti**	**0.21**	**316**	Pg	Pg	02 10 21.1	-0.5
	0.2nm,0.0s,SNR=4.0						
IUSE				Lg		02 10 24.4	
	2.0nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**0.33**	**16**	*e*Pg	Pg	02 10 23.7	-0.3
SJPF				*e*Sg	Sg	02 10 28.3	+0.1
	5.1nm,0.3s						
SJPF	**Ste Jean**	**0.33**	**16**	Pg	Pg	02 10 23.7	-0.3
SJPF				Lg		02 10 28.3	
	2.5nm,0.3s						
ELIZ	**Elizondo**	**0.39**	**340**	Pg	Pg	02 10 24.4	-0.8
	0.6nm,0.2s,SNR=7.9						
ELIZ				Lg		02 10 31.3	
	0.5nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.44**	**345**	Pg	Pg	02 10 25.4	-0.7
	0.1nm,0.1s,SNR=4.0						
EALK				Lg		02 10 31.9	
	1.5nm,0.2s,SNR=6.6						
ETSF	**Etsaut**	**0.59**	**80**	*e*Pg	Pg	02 10 29.0	0.0
ETSF				*e*Sg	Sg	02 10 37.5	+0.8
	0.9nm,0.2s						
ETSF	**Etsaut**	**0.59**	**80**	Pg	Pg	02 10 29.0	0.0
ETSF				Lg		02 10 37.5	
	0.4nm,0.2s						
ECRI	**Cripan**	**0.88**	**258**	Pg	Pg	02 10 33.8	-0.6
	54nm,0.1s,SNR=7.9						
EPF	**Esparros**	**1.26**	**79**	*e*Pg	Pg	02 10 37.2	-4.7
EPF				*e*Sg	Sg	02 10 51.3	-7.0
	0.7nm,0.4s						

*ISCJB **07** 02:10:58.8±3.1, 55S±02×1455E±01, h120km±34km, mb3.8/10, Error ellipse: s-maj=30.4km s-min=16.8km az=124.4*
*NEIC **07** 02:10:59.5±2.3, 546S×14545E, h109km±26km, mb4.2/9, Error ellipse: s-maj=26.5km s-min=12.7km az=136.0*
*IDC **07** 02:11:03.3±4.7, 573S×14569E, h157km±55km, mb3.3/6, mb1 3.4/8, mb1mx3.4/16, mbtmp3.8/8, Error ellipse: s-maj=52.6km s-min=23.5km az=133.0*
ISC 07 02:11:00.8±2.9, 56S±02×1455E±01, h126km±33km, n21, σ0§63/21, mb3.8/10, 2C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.14**	**157**	P	**Pn**	**02 12 02.6**	**+0.3**
	16nm,0.3s,baz=29,slow=4.9,SNR=53						
PMG				S	**Sn**	**02 12 49.8**	**-0.2**
	24nm,0.3s,baz=158,slow=20,SNR=16						
CTA	**Charters Tower**	**14.45**	**177**	*e*P	**Pn**	**02 14 26.6**	**+7.3**
	9.8nm,0.6s						
CTA	**Charters Tower**	**14.45**	**177**	P	**Pn**	**02 14 26.2**	**+7.0**
	1.6nm,0.3s,baz=360,slow=14,SNR=23						
CTAO	**Charters Tower**	**14.45**	**177**	*e*P	**Pn**	**02 14 26.3**	**+7.0**
	9.7nm,0.6s						
KAKA	**Kakadu**	**14.74**	**240**	⇑*i*P	**Pn**	**02 14 22.0**	**-0.9**
	9.5nm,0.6s						
WRAB	**Tennant Creek**	**17.95**	**216**	*e*P	**Pn**	**02 15 02.8**	**+0.6**
	3.5nm,0.7s						
WB2	**Warramunga Arr**	**17.95**	**216**	⇑*i*P	**Pn**	**02 15 03.0**	**+0.7**
WRA	**Warramunga Arr**	**17.96**	**216**	P	**Pn**	**02 15 01.7**	**-0.7**

0.5nm,0.3s,baz=40,slow=11,SNR=8.5
ASAR Alice Springs 21.19 211 P **P 02 15 36.6 +0.5**
0.5nm,0.4s,mb3.2,baz=41,slow=7.4,SNR=13
FITZ Fitzroy Crossi 23.07 236 *e*P **P 02 15 54.5 -0.8**
7.1nm,0.7s,mb4.1
FITZ Fitzroy Crossi 23.07 236 P **P 02 15 55.0 -0.3**
3.9nm,0.7s,mb3.9,baz=57,slow=12,SNR=8.3
SONM Songino Array 63.33 332 P **P 02 21 17.8 +1.5**
0.2nm,0.5s,mb3.3,baz=130,slow=3.9,SNR=2.8
MA2 Magadan 65.07 3 *e*P **P 02 21 27.2 -0.5**
1.6nm,0.4s,mb4.2
MKAR Makanchi Array 76.24 321 P **P 02 22 36.0 +0.6**
0.4nm,0.3s,mb3.6,baz=108,slow=7.8,SNR=6.0
MKAR Makanchi Array 76.24 321 P **P 02 22 36.0 +0.6**
KURK Kurchatov 80.00 324 *e*P **P 02 22 56.0 -0.1**
1.3nm,0.3s,mb4.2
BVAR Borovoye Array 85.56 324 P **P 02 23 24.6 -0.3**
1.4nm,0.6s,mb4.1,baz=111,slow=6.4,SNR=10.0
BRVK Borovoye 85.64 324 *e*P **P 02 23 25.3 +0.1**
0.9nm,0.7s,mb3.8
ILAR Eielson Array 85.67 23 P **P 02 23 24.6 -0.8**
0.5nm,0.7s,mb3.6,baz=267,slow=5.3,SNR=5.6
ZRNK Zerenda 86.36 324 *e*P **P 02 23 28.5 -0.2**
0.5nm,0.4s,mb3.8
TORD Torodi Ar. Bea 143.57 285 PKP PKPdf 02 30 19.8 -0.7
0.4nm,0.3s,baz=83,slow=2.9,SNR=28

ATH ***07*** *02:29:12.6, 38.13N×2056E, h18km±1km, MD3.3/4*
NEIC ***07*** *02:29:12.6, 38.13N×2056E, h18km, MD3.3(ATH), After ATH.*
ISCJB ***07*** *02:29:14.3±0.6, 3825N±003×2064E±005, h10km, Error ellipse: s-maj=6.1km s-min=4.7km az=150.6*
CSEM ***07*** *02:29:15.1±0.2, 3823N×2066E, h2km, MD3.3, Error ellipse: s-maj=5.3km s-min=4.6km az=140.0*
THE ***07*** *02:29:19.1, 3847N×2081E, h1km*
ISC 07 02:29:14.7±0.6, 3824N±004×2065E±005, h10km, n16, σ1§15/24, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.07**	**216**	*e*PB	**Pg**	**02 29 16.2**	**-0.8**
VLS				*e*SB	**Sg**	**02 29 18.8**	**+0.2**
LKD	**Levkas**	**0.47**	**0**	*e*Pg	**Pg**	**02 29 24.2**	**+0.4**
LKD				*e*Sg	**Sg**	**02 29 27.9**	**-2.2**
LKD	**Levkas**	**0.47**	**0**	*e*Pg	**Pg**	**02 29 24.2**	**+0.3**
LKD				*e*Sg	**Sg**	**02 29 27.9**	**-2.2**
RLS	**Riolos of Patr**	**0.67**	**105**	*e*PB	**Pg**	**02 29 25.9**	**-1.8**
RLS				*e*SN	**Sg**	**02 29 37.1**	**+0.6**
EVR	**Evrytania**	**1.14**	**53**	*e*PN	**Pn**	**02 29 35.8**	**-0.9**
EVR				*e*SN	**Sn**	**02 29 53.5**	**+1.2**
IGT	**Igoumenitsa**	**1.31**	**349**	*e*Pg	**Pg**	**02 29 39.1**	**-0.9**
IGT				*e*Sg	**Sg**	**02 29 56.5**	**-0.5**
IGT	**Igoumenitsa**	**1.31**	**349**	*e*Pg	**Pg**	**02 29 39.2**	**-0.8**
IGT				*e*Sg	**Sg**	**02 29 56.5**	**-0.6**
JAN	**Janina**	**1.43**	**6**	*e*PN	**Pn**	**02 29 41.9**	**+1.2**
ITM	**Ithomi**	**1.47**	**136**	*e*PN	**Pn**	**02 29 39.8**	**-1.4**
AGG	**Agios Georgios**	**1.53**	**59**	*e*Pg	**Pg**	**02 29 44.0**	**-0.2**
AGG				*e*Sg	**Sg**	**02 30 02.2**	**-1.9**
LKR	**Lokris**	**1.89**	**77**	*e*PN	**Pn**	**02 29 47.5**	**+0.4**
NEO	**Neokhori**	**2.28**	**61**	*e*PN	**Pn**	**02 29 53.2**	**+0.8**
XOR	**Xorichti**	**2.29**	**60**	*e*Pn	**Pn**	**02 29 53.5**	**+1.0**
LIT	**Litokhoron**	**2.35**	**37**	*e*Pn	**Pn**	**02 29 54.8**	**+1.4**
FNA	**Florina**	**2.60**	**12**	*e*Pn	**Pn**	**02 29 58.3**	**+1.4**
GRG	**Griva**	**3.04**	**26**	*e*Pn	**Pn**	**02 30 04.3**	**+1.5**

IDC ***07*** *02:33:41.2±0.4, 2004S×17441W, h0km, mb5.1/23, mb1 5.2/25, mb1mx5.2/25, mbtmp5.1/25, ML4.3/2, MS5.0/16, Ms1 5.0/16, ms1mx4.8/21, Error ellipse: s-maj=17.6km s-min=11.2km az=139.0*
CSEM ***07*** *02:33:41.7, 2012S×17440W, h10km, mb5.5*
ISCJB ***07*** *02:33:45.6±0.1, 2018S±004×17433W±004, h40km, mb5.3/119, MS5.1/54, Error ellipse: s-maj=6.4km s-min=3.7km az=83.2*
SZGRF ***07*** *02:33:45.1, 2049S×17360W, h33km, mb5.4, Tonga Islands*
MOS ***07*** *02:33:45.5±1.0, 1993S×17434W, h29km, mb5.5/49, MS5.3/21, Error ellipse: s-maj=10.7km s-min=7.4km az=65.6*
CRAAG ***07*** *02:33:45.6, 2005S×17447W, Mb5.4*
BJI ***07*** *02:33:46.7, 1993S×17406W, h45km, mB5.7, mb5.3, Ms5.2, Msz5.0*
HRVD ***07*** *02:33:47.3±0.1, 2016S×17379W, h33km, MW5.6/102, Centroid moment Tensor Solution. LP body waves: s90,c164;Mantle waves: s102,c189; Half duration: 1s5 Moment tensor: Scale 10^{17}Nm; M_{rr}2.03±.05; $M_{\theta\theta}$-0.18±.04; $M_{\phi\phi}$-1.85±.04; $M_{r\theta}$0.94±.06; $M_{r\phi}$1.80±.03; $M_{\theta\phi}$0.74±.06; Best double couple: M_o2.90500×10^{17} NP1:ϕ_s119.00000°, δ52.00000°, λ47.00000°. NP2: ϕ_s356.00000°, δ55.00000°, λ132.00000°. Principal axes: T 2.8070, Plg57.0000°, Azm326.0000°; N 0.1930, Plg33.0000°, Azm149.0000°; P -3.0030, Plg1.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***07*** *02:33:47.3±0.1, 2010S×17441W, mb5.4/81 Error ellipse: s-maj=5.9km s-min=2.9km az=134.0*
BGS ***07*** *02:33:48.8±5.4, 2010S×17441W, h40km, mb5.4(NEIC)*
ISC 07 02:33:47.5±0.1, 2018S±004×17429W±004, h42km, h42km±1.6km:pP-P, n625, σ0§93/281, mb5.3/119, MS5.1/54, 123C-14D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.68**	**21**	Pn	**Pn**	**02 35 17.6**	**-5.4**
	38nm,0.3s,baz=321,slow=2.5,SNR=34						
AFI				Sn	**Sn**	**02 36 21.9**	**-16**
	58nm,0.3s,baz=182,slow=22,SNR=5.2						
AFI				LR	LR	02 37 31.0	
	comp=Z,12μm,20.4s,baz=183,slow=35						
AFI	**Afiamalu**	**6.68**	**21**	*e*P	**Pn**	**02 35 17.5**	**-5.6**
AFI				pmax	pmax		
	comp=Z,370nm,0.5s						
AFI	**Afiamalu**	**6.68**	**21**	*e*Pn	**Pn**	**02 35 17.5**	**-5.6**
	comp=Z,370nm,0.5s						
AFI				*e*Sn	**Sn**	**02 36 22.6**	**-15**
RAO	**Raoul Island**	**9.61**	**199**	Sn	**Sn**	**02 37 44.9**	**-5.0**
	comp=Z,152nm,0.3s,baz=86,slow=22,SNR=11						
RAR	**Rarotonga**	**13.62**	**97**	Pn	**Pn**	**02 36 49.7**	**-8.4**
	comp=Z,10.0nm,0.3s,baz=258,slow=7.2,SNR=78						
RAR				Sn	Sn	02 39 05.1	-23
	comp=Z,4.8nm,0.3s,baz=84,slow=19,SNR=4.4						
DZM	**Mont Dzumac**	**18.07**	**261**	P	**Pn**	**02 37 58.8**	**+3.4**
	comp=Z,7.0nm,0.3s,baz=78,slow=17,SNR=86						
WCZ	**Waipu Caves**	**18.61**	**210**	PN	**Pn**	**02 38 02.5**	**+0.7**
URZ	**Urewera**	**19.50**	**201**	P	**Pn**	**02 38 11.3**	**-1.2**
	comp=Z,7.7nm,0.3s,baz=335,slow=2.7,SNR=32						
URZ				S	**S**	**02 41 44.8**	**-4.3**
	comp=Z,3.2nm,0.3s,baz=284,slow=20,SNR=8.3						
URZ	**Urewera**	**19.50**	**201**	*e*PN	**Pn**	**02 38 11.0**	**-1.5**
URZ	**Urewera**	**19.50**	**201**	*e*P	**Pn**	**02 38 11.2**	**-1.3**
UTU	**Utuhina**	**19.74**	**203**	P	**Pn**	**02 38 19.4**	**+4.0**
SNZO	**South Karori**	**23.05**	**202**	*e*P	**P**	**02 38 48.1**	**-1.0**
	comp=Z,269nm,1.2s,mb5.5						
TBI	**Tubuai**	**23.27**	**102**	*e*LQ		02 43 18.4	
	comp=Z,19μm,28.5s						
TBI	**Tubuai**	**23.27**	**102**	*e*P	**P**	**02 38 47.4**	**-4.0**
	comp=Z,323nm,1.1s,mb5.7						
TBI				*e*LR	LR	02 44 15.8	
	comp=Z,8μm,27.8s,baz=276						
QRZ	**Quartz Range**	**23.45**	**206**	PN	**P**	**02 38 51.7**	**-1.4**
QRZ	**Quartz Range**	**23.45**	**206**	*e*P	**P**	**02 38 51.9**	**-1.3**
PAE	**Paea**	**23.50**	**88**	*e*P	**P**	**02 38 51.0**	**-2.7**
	comp=Z,284nm,1.3s,mb5.5						
PPT	**Papeete**	**23.52**	**88**	*e*P	**P**	**02 38 51.6**	**-2.2**
	comp=Z,144nm,1.2s,mb5.3						
PPT	**Papeete**	**23.52**	**88**	*e*LQ		02 43 19.8	
	comp=Z,21μm,27.0s						
PPT				*e*LR	LR	02 44 34.5	
	comp=Z,8μm,24.2s,baz=257						
PPT	**Papeete**	**23.52**	**88**	P	**P**	**02 38 54.0**	**+0.2**
	comp=Z,59nm,0.9s,mb5.0,baz=303,slow=7.2,SNR=5.7						
PPT				LR	LR	02 45 24.0	
	comp=Z,5μm,18.4s,MS5.0,baz=257,slow=30						
PPT	**Papeete**	**23.52**	**88**	P	**P**	**02 38 54.0**	**+0.2**
PPT				LR	LR	02 45 23.9	
TVO	**Taravao**	**23.79**	**88**	*e*P	**P**	**02 38 54.1**	**-2.2**
	comp=Z,282nm,1.4s,mb5.5						
THZ	**Tophouse**	**24.10**	**204**	PN	**P**	**02 38 57.5**	**-1.6**
THZ				*e*SN	**S**	**02 43 15.4**	**+1.5**
THZ	**Tophouse**	**24.10**	**204**	*e*P	**P**	**02 38 57.9**	**-1.2**
DSZ	**Denniston Nort**	**24.52**	**206**	*e*PN	**P**	**02 39 02.6**	**-0.3**
DSZ	**Denniston Nort**	**24.52**	**206**	*e*P	**P**	**02 39 03.5**	**+0.6**
LTZ	**Lake Taylor**	**25.22**	**204**	*e*PN	**P**	**02 39 08.8**	**-0.5**
LTZ	**Lake Taylor**	**25.22**	**204**	*e*P	**P**	**02 39 09.0**	**-0.3**
PMOR	**Pomariorio Ree**	**25.67**	**83**	*e*P	**P**	**02 39 12.4**	**-1.0**
	comp=Z,122nm,1.4s,mb5.2						
VAH	**Vaihoa**	**25.86**	**83**	*e*P	**P**	**02 39 14.0**	**-1.1**
	comp=Z,92nm,1.1s,mb5.2						
WVZ	**Waitaha Valley**	**26.06**	**206**	PN	**P**	**02 39 16.8**	**-0.2**
WVZ	**Waitaha Valley**	**26.06**	**206**	*e*P	**P**	**02 39 18.2**	**+1.3**
RPZ	**Rata Peaks**	**26.48**	**204**	P	**P**	**02 39 20.6**	**-0.1**
	comp=Z,154nm,0.6s,mb5.7,baz=268,slow=2.2,SNR=16						
RPZ				S	**S**	**02 44 09.2**	**+18**
	comp=Z,51nm,1.2s,baz=17,slow=22,SNR=3.1						
RPZ				LR	LR	02 47 46.0	
	comp=Z,1μm,18.6s,MS4.5,baz=25,slow=32						
RPZ	**Rata Peaks**	**26.48**	**204**	*e*PN	**P**	**02 39 19.6**	**-1.0**
FOZ	**Fox Glacier**	**26.90**	**206**	*e*PN	**P**	**02 39 22.2**	**-2.2**
FOZ	**Fox Glacier**	**26.90**	**206**	*e*P	**P**	**02 39 24.4**	**-0.1**
LBZ	**Lake Benmore**	**27.38**	**205**	*e*P	**P**	**02 39 29.0**	**+0.2**
JCZ	**Jackson Bay**	**27.70**	**207**	PN	**P**	**02 39 30.7**	**-1.0**
JCZ	**Jackson Bay**	**27.70**	**207**	*e*P	**P**	**02 39 30.2**	**-1.5**
ODZ	**Otahua Downs**	**27.76**	**203**	PN	**P**	**02 39 32.7**	**+0.5**
WKZ	**Wanaka**	**28.21**	**206**	*e*PN	**P**	**02 39 37.5**	**+1.3**
MLZ	**Mavora Lakes**	**28.98**	**206**	*e*PN	**P**	**02 39 42.4**	**-0.7**
ARMA	**Armidale**	**32.35**	**245**	*e*P	**P**	**02 40 13.2**	**+0.5**
TAOE	**Nuku Hiva Isla**	**34.84**	**76**	*e*LR	LR	02 49 44.8	
	comp=Z,13μm,22.7s						
CNB	**Canberra Magne**	**35.30**	**237**	*e*P	**P**	**02 40 38.5**	**+0.1**
	comp=Z,52nm,0.6s,mb5.6						
RKT	**Rikitea**	**36.59**	**102**	*e*LR	LR	02 50 27.3	
	comp=Z,5μm,27.2s,baz=266						
CTA	**Charters Tower**	**36.98**	**263**	*i*P	**P**	**02 40 52.3**	**-0.5**
	comp=Z,44nm,0.6s,mb5.5						
CTA	**Charters Tower**	**36.98**	**263**	P	**P**	**02 40 52.8**	**0.0**
	comp=Z,54nm,0.5s,mb5.6,baz=91,slow=10,SNR=134						
CTA				LR	LR	02 53 55.1	
	comp=Z,3μm,21.8s,MS5.1,baz=93,slow=33						
CTA	**Charters Tower**	**36.98**	**263**	*i*P	**P**	**02 40 52.3**	**-0.5**
CTA				pmax	pmax		
	comp=Z,44nm,0.6s						
CTAO	**Charters Tower**	**36.98**	**263**	*e*P	**P**	**02 40 52.7**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,48nm,0.6s,mb5.5						
CTAO	**Charters Tower**	**36.98**	**263**	*e*P	**P**	**02 40 52.7**	**-0.1**
	comp=Z,48nm,0.6s,mb5.5						
PMG	**Port Moresby**	**38.69**	**280**	P	**P**	**02 41 05.9**	**-1.3**
	comp=Z,48nm,1.0s,mb5.2,baz=85,slow=5.7,SNR=22						
PMG				LR	LR	02 54 14.8	
	comp=Z,2μm,21.5s,MS4.9,baz=288,slow=32						
PMG	**Port Moresby**	**38.69**	**280**	*i*P	**P**	**02 41 07.1**	**-0.1**
PMG	**Port Moresby**	**38.69**	**280**	*e*P	**P**	**02 41 06.6**	**-0.6**
	comp=Z,100nm,1.1s,mb5.5						
TOO	**Toolangi**	**38.91**	**235**	*e*P	**P**	**02 41 09.3**	**+0.3**
	comp=Z,31nm,0.6s,mb5.2						
TOO	**Toolangi**	**38.91**	**235**	*e*P	**P**	**02 41 09.3**	**+0.3**
TOO				pmax	pmax		
	comp=Z,31nm,0.6s,mb5.2						
TAU	**Tasmania Unive**	**39.32**	**226**	*e*P	**P**	**02 41 13.2**	**+0.7**
TAU				pmax	pmax		
	comp=Z,28nm,0.7s,mb5.1						
TAU	**Tasmania Unive**	**39.32**	**226**	*e*P	**P**	**02 41 13.2**	**+0.7**
	comp=Z,28nm,0.7s,mb5.1						
STKA	**Stephens Creek**	**41.06**	**244**	*e*P	**P**	**02 41 24.1**	**-2.8**
	comp=Z,38nm,0.8s,mb5.1						
STKA	**Stephens Creek**	**41.06**	**244**	P	**P**	**02 41 24.7**	**-2.2**
	comp=Z,32nm,0.6s,mb5.1,baz=90,slow=9.3,SNR=39						
STKA				PcP	PcP	02 43 25.0	-1.0
	comp=Z,6.4nm,0.6s,baz=88,slow=9.4,SNR=2.9						
STKA				LR	LR	02 57 08.3	
	comp=Z,3μm,18.6s,MS5.2,baz=74,slow=34						
KIP	**Kipapa**	**44.30**	**22**	*e*P	**P**	**02 41 52.7**	**-0.5**
KIP				pmax	pmax		
	comp=Z,70nm,1.0s,mb5.3						
KIP	**Kipapa**	**44.30**	**22**	*e*P	**P**	**02 41 52.7**	**-0.5**
	comp=Z,70nm,1.0s,mb5.3						
ASAR	**Alice Springs**	**47.98**	**256**	P	**P**	**02 42 20.9**	**-1.1**
	comp=Z,19nm,0.6s,mb5.3,baz=96,slow=7.5,SNR=130						
ASAR				PcP	PcP	02 43 50.7	+1.0
	comp=Z,8.2nm,0.6s,baz=105,slow=4.2,SNR=6.6						
ASAR				S	**S**	**02 49 12.2**	**-4.7**
	comp=Z,2.6nm,1.0s,baz=97,slow=15,SNR=5.5						
WB2	**Warramunga Arr**	**48.08**	**261**	*i*P	**P**	**02 42 21.2**	**-1.7**
WB2				*e*pP	pP	02 42 36.2	+1.5
WB2				*i* S	**S**	**02 49 13.8**	**-4.6**
WRAB	**Tennant Creek**	**48.08**	**261**	P	**P**	**02 42 21.8**	**-1.1**
	comp=Z,179nm,0.9s,mb6.1,SNR=15						
WRAB	**Tennant Creek**	**48.08**	**261**	*d*P	**P**	**02 42 22.1**	**-0.8**
WRAB	**Tennant Creek**	**48.08**	**261**	*e*P	**P**	**02 42 21.7**	**-1.2**
	comp=Z,54nm,0.9s,mb5.6						
WRA	**Warramunga Arr**	**48.09**	**261**	P	**P**	**02 42 21.4**	**-1.6**
	comp=Z,13nm,0.6s,mb5.2,baz=98,slow=8.8,SNR=65						
WRA				S	**S**	**02 49 18.0**	**-0.6**
	comp=Z,4.0nm,1.1s,baz=98,slow=14,SNR=3.8						
KAKA	**Kakadu**	**51.45**	**270**	*i*P	**P**	**02 42 47.3**	**-1.2**
	comp=Z,37nm,0.6s,mb5.5						
GUMO	**Guam**	**52.34**	**307**	LR	LR	03 03 41.9	
	comp=Z,769nm,18.8s,MS4.8,baz=148,slow=34						
FORT	**Forrest**	**52.61**	**246**	*i*P	**P**	**02 42 56.2**	**-0.9**
	comp=Z,38nm,0.5s,mb5.6						
FITZ	**Fitzroy Crossi**	**56.52**	**261**	*e*P	**P**	**02 43 24.8**	**-0.7**
	comp=Z,15nm,0.5s,mb5.3						
FITZ	**Fitzroy Crossi**	**56.52**	**261**	P	**P**	**02 43 25.2**	**-0.2**
	comp=Z,9.3nm,0.5s,mb5.1,baz=134,slow=7.2,SNR=51						
SBA	**Scott Base**	**58.44**	**185**	*e*P	**P**	**02 43 41.9**	**+2.9**
SBA				*e**PP	pP	02 43 57.6	+6.5
SBA				pmax	pmax		
	comp=Z,113nm,1.4s,mb5.7						
SBA	**Scott Base**	**58.44**	**185**	*e*P	**P**	**02 43 41.9**	**+2.9**
	comp=Z,113nm,1.4s,mb5.7						
SBA				*e*pP	pP	02 43 57.6	+6.5
VNDA	**Vanda**	**58.56**	**186**	P	**P**	**02 43 41.7**	**+1.9**
	comp=Z,8.3nm,0.8s,mb4.8,baz=5.4,slow=6.8,SNR=49						
VNDA				LR	LR	03 03 40.8	
	comp=Z,1μm,18.9s,MS5.0,baz=15,slow=31						
VNDA	**Vanda**	**58.56**	**186**	*e*P	**P**	**02 43 42.1**	**+2.3**
VNDA				*e**PP	pP	02 43 53.9	+2.0
VNDA				pmax	pmax		
	comp=Z,210nm,2.2s						
VNDA	**Vanda**	**58.56**	**186**	*e*P	**P**	**02 43 42.1**	**+2.3**
	comp=Z,210nm,2.2s,mb5.8						
VNDA				*e*pP	pP	02 43 53.9	+2.0
MBWA	**Marble Bar**	**61.32**	**256**	*e*P	**P**	**02 43 57.6**	**-1.2**
	comp=Z,22nm,0.7s,mb5.4						
KLBR	**Kellerberrin**	**61.34**	**244**	*e*P	**P**	**02 43 58.2**	**-0.7**
	comp=Z,31nm,0.7s,mb5.5						
NWAO	**Narrogin (SRO)**	**61.62**	**243**	P	**P**	**02 44 00.7**	**0.0**
	comp=Z,14nm,0.8s,mb5.2,baz=98,slow=7.8,SNR=9.6						
MUN	**Mundaring**	**62.59**	**244**	*e*P	**P**	**02 44 07.1**	**-0.2**
CASY	**Casey**	**65.74**	**205**	*e*P	**P**	**02 44 28.8**	**+0.9**
QSPA	**South Pole Qui**	**69.89**	**180**	*e*P	**P**	**02 44 55.4**	**+1.3**
	comp=Z,128nm,1.1s,mb5.8						
MJAR	**Matsushiro Arr**	**72.08**	**321**	P	**P**	**02 45 07.0**	**-0.3**
	comp=Z,18nm,0.7s,mb5.1,baz=154,slow=6.2,SNR=64						
MJAR				LR	LR	03 17 52.0	
	comp=Z,259nm,18.1s,MS4.5,baz=135,slow=37						
MAJO	**Matsushiro**	**72.08**	**321**	*e*P	**P**	**02 45 07.2**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.3						
MAJO	**Matsushiro**	**72.08**	**321**	*e*P	**P**	**02 45 07.2**	**-0.1**
	comp=Z,30nm,0.8s,mb5.3						
MAT	**Matsushiro**	**72.08**	**321**	P	**P**	**02 45 07.1**	**-0.2**
MAT				S	S	02 54 28.0	+1.8
MAT	**Matsushiro**	**72.08**	**321**	*e*P	**P**	**02 45 07.0**	**-0.3**
MAT				*e*S	S	02 54 28.0	+1.8
MAT				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.1						
MAT	**Matsushiro**	**72.08**	**321**	*e*P	**P**	**02 45 07.0**	**-0.3**
	comp=Z,25nm,1.0s,mb5.1						
MAT				*e*S	S	02 54 28.0	+1.8
MIR	**Mirnyy**	**72.75**	**205**	*e*P	**P**	**02 45 13.0**	**+1.7**
MIR				pmax	pmax		
	comp=Z,600nm,1.5s,mb6.3						
NACB	**Ninganchiao**	**76.41**	**302**	*e*P	**P**	**02 45 32.4**	**-0.2**
PET	**Petropavlovsk**	**76.58**	**344**	*e*P	**P**	**02 45 32.6**	**-0.9**
PET				*e*S	S	02 55 17.1	+0.4
PET				*e*		02 55 43.0	
PET				*e*PS		02 55 57.7	
PET				pmax	pmax		
	comp=Z,37nm,1.6s,mb5.1						
PET				pmax	pmax		
	comp=Z,600nm,5.2s						
PET				pmax	pmax		
	comp=Z,500nm,21.4s						
PET				smax			
	comp=N,300nm,21.8s						
PET				MLR	MLR		
	comp=Z,800nm,19.0s,MS5.0						
PET				MLR	MLR		
	comp=Z,800nm,19.0s						
PFO	**Pinyon Flat Ob**	**76.80**	**47**	*e*P	**P**	**02 45 34.5**	**-0.2**
PFO				*e**PP	pP	02 45 46.9	-0.3
PFO				pmax	pmax		
	comp=Z,43nm,1.4s,mb5.2						
PFO	**Pinyon Flat Ob**	**76.80**	**47**	*e*P	**P**	**02 45 34.5**	**-0.2**
	comp=Z,43nm,1.4s,mb5.2						
PFO				*e*pP	pP	02 45 46.9	-0.3
CMB	**Columbia Colle**	**76.90**	**41**	*e*P	**P**	**02 45 35.0**	**-0.3**
CMB				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.0						
CMB	**Columbia Colle**	**76.90**	**41**	*e*P	**P**	**02 45 35.0**	**-0.3**
	comp=Z,18nm,1.0s,mb5.0						
OHCM	**Honcut**	**77.06**	**39**	*e*P	**P**	**02 45 35.4**	**-0.8**
YSS	**Yuzh-Sakhalins**	**77.22**	**331**	*de*P	**P**	**02 45 37.0**	**-0.1**
YSS				*e*		02 45 45.3	
YSS				*e*S	S	02 55 26.0	+2.4
YSS				*e*PPS		02 56 14.0	
YSS				pmax	pmax		
	comp=E,70nm,1.2s						
YSS				pmax	pmax		
	comp=Z,60nm,1.2s,mb5.4						
YSS	**Yuzh-Sakhalins**	**77.22**	**331**	*e*P	**P**	**02 45 36.0**	**-1.1**
	comp=Z,104nm,1.3s,mb5.6						
WDC	**Whiskeytown Da**	**77.25**	**38**	*e*P	**P**	**02 45 37.0**	**-0.3**
WDC				pmax	pmax		
	comp=Z,33nm,1.3s,mb5.1						
WDC	**Whiskeytown Da**	**77.25**	**38**	*e*P	**P**	**02 45 37.0**	**-0.2**
	comp=Z,33nm,1.3s,mb5.1						
CHGN	**Chignik**	**77.35**	**9**	*e*P	**P**	**02 45 37.1**	**-0.8**
DAC	**Darwin (Calif)**	**77.60**	**44**	*e*P	**P**	**02 45 39.0**	**-0.2**
DAC				pmax	pmax		
	comp=Z,59nm,1.7s,mb5.2						
DAC	**Darwin (Calif)**	**77.60**	**44**	*e*P	**P**	**02 45 39.0**	**-0.2**
	comp=Z,59nm,1.7s,mb5.2						
YBH	**Yreka Blue Hor**	**77.91**	**37**	P	**P**	**02 45 41.5**	**+0.6**
	comp=Z,8.5nm,0.9s,mb4.7,baz=169,slow=3.6,SNR=14						
YBH	**Yreka Blue Hor**	**77.91**	**37**	*e*P	**P**	**02 45 40.7**	**-0.2**
	comp=Z,28nm,1.2s,mb5.1						
HUMO	**Hull Mountain**	**78.35**	**36**	*e*P	**P**	**02 45 43.9**	**+0.6**
	comp=Z,42nm,1.4s,mb5.2						
NVAR	**Mina Array Bea**	**78.44**	**42**	P	**P**	**02 45 44.4**	**+0.6**
	comp=Z,10nm,0.8s,mb4.8,baz=211,slow=6.7,SNR=47						
NVAR	**Mina Array Bea**	**78.44**	**42**	P	**P**	**02 45 44.4**	**+0.5**
PAHR	**Pah Rah Range**	**78.56**	**40**	*e*P	**P**	**02 45 44.6**	**+0.1**
	comp=Z,60nm,1.3s,mb5.4						
TPNV	**Topopah Spring**	**78.87**	**44**	*e*P	**P**	**02 45 46.6**	**+0.4**
TPNV				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.2						
TPNV	**Topopah Spring**	**78.87**	**44**	*e*P	**P**	**02 45 46.6**	**+0.3**
	comp=Z,29nm,0.9s,mb5.2						
TPH	**Tonopah**	**78.91**	**42**	*e*P	**P**	**02 45 46.6**	**+0.2**
TPH				pmax	pmax		
	comp=Z,64nm,1.2s,mb5.4						
TPH	**Tonopah**	**78.91**	**42**	*e*P	**P**	**02 45 46.5**	**+0.1**
	comp=Z,64nm,1.2s,mb5.4						
NEN	**Nelson**	**79.05**	**46**	*e*P	**P**	**02 45 47.5**	**+0.2**
NEN				*e*pP	pP	02 45 59.6	-0.2
MOD	**Modoc**	**79.39**	**38**	*e*P	**P**	**02 45 49.0**	**-0.1**
	comp=Z,16nm,0.9s,mb5.0						
VLA	**Vladivostok**	**80.07**	**323**	*e*P	**P**	**02 45 51.2**	**-1.6**
VLA				pmax	pmax		
	comp=Z,39nm,1.7s,mb5.1						
TUC	**Tucson**	**80.07**	**50**	*e*P	**P**	**02 45 53.2**	**+0.4**
TUC				pmax	pmax		
	comp=Z,44nm,1.4s,mb5.2						
TUC	**Tucson**	**80.07**	**50**	*e*P	**P**	**02 45 53.2**	**+0.4**
	comp=Z,44nm,1.4s,mb5.2						
SSE	**Sheshan**	**80.19**	**308**	P	**P**	**02 45 54.4**	**+1.0**
SSE				AP	pP	02 46 06.6	+0.6
SSE				XP	sP	02 46 11.9	+1.2
SSE				PP	PP	02 48 55.9	-0.2
SSE				S	S	02 55 54.7	-0.6
SSE				XS	sS	02 56 16.2	0.0
SSE				SS	SS	03 01 03.9	-2.7
SSE				AMB	AMB		
	comp=Z,33nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,301nm,7.5s						
SSE				LR	LR		
	comp=N,273nm,24.9s,MS4.8						
SSE				LR	LR		
	comp=E,412nm,25.0s,MS4.8						
SSE	

BMO	**Blue Mountains**	**82.93**	**37**	*e*P	**P**		**02 46 07.3**	**-0.6**
BMO				pmax	pmax				
	comp=Z,28nm,1.3s,mb5.1								
BMO	**Blue Mountains**	**82.93**	**37**	*e*P	**P**		**02 46 07.3**	**-0.6**
	comp=Z,28nm,1.3s,mb5.1								
MAW	**Mawson**	**83.02**	**199**	*e*P	**P**		**02 46 09.2**	**+0.8**
	comp=Z,12nm,0.9s,mb4.9								
MAW	**Mawson**	**83.02**	**199**	P	**P**		**02 46 09.1**	**+0.7**
	comp=Z,7.2nm,0.7s,mb4.8,baz=128,slow=8.6,SNR=18								
MAW				LR	LR		03 19 33.7		
	comp=Z,2µm,21.4s,MS5.5,baz=118,slow=33								
MAW	**Mawson**	**83.02**	**199**	*e*P	**P**		**02 46 09.2**	**+0.8**
MAW				pmax	pmax				
	comp=Z,12nm,0.9s								
NLU	**North Lily Min**	**83.27**	**43**	*e*P	**P**		**02 46 10.1**	**+0.5**
TMUT	**Trail Mountain**	**83.47**	**44**	*e*P	**P**		**02 46 11.6**	**+0.8**
MPU	**Maple Canyon**	**83.58**	**43**	*e*P	**P**		**02 46 11.3**	**0.0**
	comp=Z,24nm,1.2s,mb5.2								
OD2	**Odessa Site #2**	**83.73**	**34**	P	**P**		**02 46 12.4**	**+0.4**
MNTX	**Cornudas Mount**	**83.75**	**53**	⇑*i*P	**P**		**02 46 12.5**	**+0.4**
	comp=Z,42nm,1.3s,mb5.4								
LAZ	**Ladron**	**83.76**	**50**	*e*P	**P**		**02 46 13.4**	**+1.2**
LAZ				*e*pP	pP		02 46 25.0	+0.3	
SPUT	**South Promonto**	**83.77**	**42**	*e*P	**P**		**02 46 12.0**	**-0.2**
SRU	**San Rafael**	**83.82**	**45**	⇑*i*P	**P**		**02 46 13.1**	**+0.6**
SRU				pmax	pmax				
	comp=Z,66nm,1.2s,mb5.6								
SRU	**San Rafael**	**83.82**	**45**	⇑*i*P	**P**		**02 46 13.1**	**+0.6**
	comp=Z,66nm,1.2s,mb5.6								
HVU	**Hansel Valley**	**83.83**	**41**	⇑*i*P	**P**		**02 46 12.6**	**+0.1**
HVU				pmax	pmax				
	comp=Z,47nm,1.4s,mb5.4								
HVU	**Hansel Valley**	**83.83**	**41**	⇑*i*P	**P**		**02 46 12.6**	**0.0**
	comp=Z,47nm,1.4s,mb5.4								
HLID	**Hailey**	**83.84**	**39**	*e*P	**P**		**02 46 12.9**	**+0.3**
	comp=Z,46nm,1.2s,mb5.5								
CTU	**Camp Tracy**	**83.88**	**43**	*e*P	**P**		**02 46 12.7**	**-0.1**
	comp=Z,28nm,1.1s,mb5.3								
DL2	**Dalian**	**83.92**	**315**	⇑P	**P**		**02 46 14.1**	**+1.1**
DL2				S	S		02 56 36.3	+2.6	
DL2				AMB	AMB				
	comp=Z,20nm,1.0s,mb5.2								
DL2				AMB	AMB				
	comp=Z,410nm,5.5s								
DL2				LR	LR				
	comp=N,320nm,19.6s,MS4.8								
DL2				LR	LR				
	comp=E,190nm,17.8s,MS4.8								
DL2				LR	LR				
	comp=Z,530nm,17.8s,MS5.0								
QIZ	**Qiongzhong**	**83.92**	**293**	⇑P	**P**		**02 46 13.5**	**+0.5**
QIZ				AP	pP		02 46 24.3	-1.3	
QIZ				PP	PP		02 49 27.0	+0.1	
QIZ				S	S		02 56 32.4	-1.3	
QIZ				PS			02 57 20.7		
QIZ				SS	SS		03 02 04.8	+2.7	
QIZ				AMB	AMB				
	comp=Z,281nm,8.6s								
QIZ				LR	LR				
	comp=E,350nm,20.7s								
QIZ				LR	LR				
	comp=Z,401nm,19.5s,MS4.8								
PMR	**Palmer**	**83.95**	**12**	*e*P	**P**		**02 46 12.5**	**-0.6**
PMR				pmax	pmax				
	comp=Z,175nm,1.6s,mb5.9								
PMR				MLR	MLR				
	comp=Z,500nm,17.0s,MS5.0								
PMR	**Palmer**	**83.95**	**12**	*e*P	**P**		**02 46 12.5**	**-0.6**
	comp=Z,174nm,1.6s,mb5.9								
PMR				LR	LR				
	comp=Z,500nm,17.0s,MS5.0								
LTX	**Lajitas**	**83.97**	**56**	⇑*i*P	**P**		**02 46 13.9**	**+0.6**
LTX				pmax	pmax				
	comp=Z,51nm,1.4s,mb5.5								
LTX	**Lajitas**	**83.97**	**56**	⇑*i*P	**P**		**02 46 13.9**	**+0.6**
	comp=Z,51nm,1.4s,mb5.5								
BNM	**Barren Site**	**84.00**	**50**	*e*P	**P**		**02 46 14.5**	**+1.1**
DAU	**Daniels Canyon**	**84.04**	**43**	*e*P	**P**		**02 46 14.0**	**+0.4**
KLR	**Kul'dur**	**84.07**	**328**	*e*P	**P**		**02 46 10.8**	**-2.9**
KLR				*e*S			02 56 34.0		
KLR				pmax	pmax				
	comp=Z,78nm,1.8s,mb5.5								
LPM	**Los Pinos Moun**	**84.08**	**50**	*e*P	**P**		**02 46 14.6**	**+0.8**
LPM				*e*pP	pP		02 46 26.9	+0.5	
TTA	**Tatalina**	**84.08**	**8**	*e*P	**P**		**02 46 13.6**	**-0.2**
TTA				pmax	pmax				
	comp=Z,130nm,1.2s,mb5.9								
TTA	**Tatalina**	**84.08**	**8**	*e*P	**P**		**02 46 13.6**	**-0.3**
	comp=Z,130nm,1.2s,mb5.9								
MVCO	**Mesa Verde**	**84.20**	**47**	⇑*i*P	**P**		**02 46 14.9**	**+0.4**
MVCO				*e*pP	pP		02 46 26.5	-0.5	
CN2	**Changchun**	**84.21**	**321**	*e*P	**P**		**02 46 15.0**	**+0.5**
CN2				*e*S			02 56 35.3		
CN2				AMB	AMB				
	comp=Z,40nm,1.3s,mb5.4								
CN2				AMB	AMB				
	comp=Z,200nm,5.0s								
CN2				LR	LR				
	comp=N,400nm,19.0s,MS5.0								
CN2				LR	LR				
	comp=E,500nm,19.0s,MS5.0								
CN2				LR	LR				
	comp=Z,500nm,19.0s,MS4.9								
SNY	**Shenyang**	**84.24**	**318**	P	**P**		**02 46 15.0**	**+0.4**
SNY				S			02 56 41.6		
SNY				AMB	AMB				
	comp=Z,48nm,2.0s,mb5.3								
SNY				LR	LR				
	comp=N,313nm,17.4s,MS5.0								
SNY				LR	LR				
	comp=E,352nm,15.9s,MS5.0								
SNY				LR	LR				
	comp=Z,547nm,17.4s,MS5.0								
TCUT	**Toone Canyon**	**84.33**	**43**	⇑*i*P	**P**		**02 46 15.3**	**+0.2**
MA2	**Magadan**	**84.45**	**343**	*e*P	**P**		**02 46 14.3**	**-1.4**
MA2				pmax	pmax				
	comp=Z,26nm,1.1s,mb5.3								
MA2	**Magadan**	**84.45**	**343**	*e*P	**P**		**02 46 14.3**	**-1.3**
	comp=Z,26nm,1.1s,mb5.3								
PNT	**Penticton**	**84.48**	**32**	P	**P**		**02 46 15.8**	**0.0**
HWUT	**Hardware Ranch**	**84.49**	**42**	⇑*i*P	**P**		**02 46 15.6**	**-0.3**
	comp=Z,12nm,0.8s,mb5.1								
HWUT				*e*pP	pP		02 46 28.2	-0.3	
ANMO	**Albuquerque**	**84.51**	**50**	P	**P**		**02 46 16.7**	**+0.7**
	comp=Z,33nm,1.1s,mb5.4,baz=230,slow=5.3,SNR=66								
ANMO	**Albuquerque**	**84.51**	**50**	⇑*i*P	**P**		**02 46 16.8**	**+0.8**
ANMO				*e**PP	pP		02 46 29.4	+0.8	
ANMO				pmax	pmax				
	comp=Z,54nm,1.3s								
ANMO	**Albuquerque**	**84.51**	**50**	⇑*i*P	**P**		**02 46 16.8**	**+0.8**
	comp=Z,54nm,1.3s,mb5.5								
ANMO				*e*pP	pP		02 46 29.4	+0.8	
GDL2	**Guadalupe Moun**	**84.75**	**53**	*e*P	**P**		**02 46 18.1**	**+0.9**
WHN	**Wuhan**	**85.09**	**305**	*e*P	**P**		**02 46 20.0**	**+1.1**
NEW	**Newport**	**85.11**	**34**	*e*P	**P**		**02 46 18.1**	**-0.9**
NEW				pmax	pmax				
	comp=Z,10.0nm,0.9s								
NEW	**Newport**	**85.11**	**34**	*e*P	**P**		**02 46 18.1**	**-1.0**
	comp=Z,10nm,0.9s,mb5.0								
CLNB	**Carlsbad**	**85.14**	**53**	*e*P	**P**		**02 46 19.8**	**+0.6**
MCMT	**McKenzie Canyo**	**85.49**	**39**	*e*P	**P**		**02 46 21.3**	**+0.4**
CPRX	**Cap Rock**	**85.50**	**53**	*e*P	**P**		**02 46 21.6**	**+0.6**
SKAG	**Skagway**	**85.52**	**19**	*e*P	**P**		**02 46 21.6**	**+0.6**
	comp=Z,494nm,2.7s,mb6.3								
SKAG				LR	LR				
	comp=Z,1µm,21.0s,MS5.2								
REDW	**Red Top Meadow**	**85.89**	**41**	⇑*i*P	**P**		**02 46 22.8**	**-0.1**
	comp=Z,25nm,1.1s,mb5.4								
TPAW	**Teton Pass**	**85.89**	**41**	⇑*i*P	**P**		**02 46 23.3**	**+0.4**
	comp=Z,44nm,1.3s,mb5.5								
DLMT	**Dillon**	**85.94**	**38**	⇑*i*P	**P**		**02 46 23.4**	**+0.2**
	comp=Z,48nm,1.3s,mb5.6								
MSO	**Missoula**	**86.00**	**37**	⇑*i*P	**P**		**02 46 22.6**	**-0.8**
	comp=Z,13nm,1.3s,mb5.0								
IMW	**Indian Meadow**	**86.12**	**40**	*e*P	**P**		**02 46 24.4**	**+0.4**
	comp=Z,20nm,1.1s,mb5.2								
MOOW	**Moose Ponds**	**86.16**	**41**	*e*P	**P**		**02 46 24.3**	**+0.1**
	comp=Z,26nm,1.5s,mb5.2								
SMCO	**Snowmass**	**86.23**	**46**	*e*P	**P**		**02 46 25.1**	**+0.5**
	comp=Z,34nm,1.2s,mb5.5								
MENT	**Mentasta**	**86.28**	**13**	*e*P	**P**		**02 46 24.9**	**+0.1**
QLMT	**Earthquake Lak**	**86.33**	**39**	*e*P	**P**		**02 46 25.9**	**+0.8**
FLWY	**Flagg Ranch**	**86.37**	**40**	⇑*i*P	**P**		**02 46 25.6**	**+0.4**
	comp=Z,46nm,1.3s,mb5.5								
PDAR	**Pinedale Array**	**86.37**	**42**	P	**P**		**02 46 24.5**	**-0.8**
	comp=Z,6.5nm,1.1s,mb4.8,baz=205,slow=3.1,SNR=32								
PDAR				LR	LR		03 22 26.1		
	comp=Z,931nm,18.3s,MS5.2,baz=236,slow=34								
DLBC	**Dease Lake**	**86.44**	**22**	*e*P	**P**		**02 46 25.8**	**+0.2**
CHMT	**Chamberlain Mo**	**86.44**	**37**	*e*P	**P**		**02 46 24.4**	**-1.2**
YMR	**Madison River**	**86.52**	**40**	*e*P	**P**		**02 46 25.9**	**-0.2**
	comp=Z,14nm,0.4s,mb5.5								
LKWY	**Lake**	**86.81**	**40**	*e*P	**P**		**02 46 28.7**	**+1.3**
LKWY				pmax	pmax				
	comp=Z,18nm,1.1s,mb5.2								
LKWY	**Lake**	**86.81**	**40**	*e*P	**P**		**02 46 28.7**	**+1.3**
	comp=Z,18nm,1.1s,mb5.2								
PLCA	**Paso Flores**	**86.94**	**132**	*e*P	**P**		**02 46 28.5**	**+0.5**
PLCA				pmax	pmax				
	comp=Z,39nm,1.6s								
PLCA	**Paso Flores**	**86.94**	**132**	*e*P	**P**		**02 46 28.5**	**+0.5**
	comp=Z,39nm,1.6s,mb5.4								
HRY	**Holter Researc**	**87.13**	**38**	*e*P	**P**		**02 46 28.6**	**-0.4**
COLA	**College**	**87.19**	**11**	*c i*P	**P**		**02 46 28.4**	**-0.9**
COLA	**College**	**87.19**	**11**	⇑*i*P	**P**		**02 46 28.4**	**-0.8**
	comp=Z,186nm,1.1s,mb6.2								
ILAR	**Eielson Array**	**87.27**	**11**	P	**P**		**02 46 28.8**	**-0.9**
	comp=Z,39nm,1.0s,mb5.6,baz=230,slow=5.0,SNR=192								
ILAR				PP	PP		02 49 49.8	-4.2	
	comp=Z,10nm,1.2s,baz=219,slow=7.6,SNR=5.6								
ILAR				PKKPbc	PKKPbc		03 04 20.1	+0.1	
	comp=Z,0.7nm,0.6s,baz=339,slow=2.6,SNR=14								
ILAR				PKPPKP			03 12 40.8		
	comp=Z,0.5nm,0.8s,baz=324,slow=3.1,SNR=5.7								
ILAR				LR	LR		03 26 49.1		
	comp=Z,473nm,18.3s,MS4.9,baz=211,slow=37								
ILAR	**Eielson Array**	**87.27**	**11**	P	**P**		**02 46 28.8**	**-0.9**
ILAR				PP	PP		02 49 49.8		
RWWY	**Rawlins**	**87.32**	**44**	*e*P	**P**		**02 46 29.5**	**-0.4**
	comp=Z,44nm,1.3s,mb5.5								
ISCO	**Idaho Springs**	**87.45**	**46**	*e*P	**P**		**02 46 30.7**	**+0.2**
ISCO				pmax	pmax				
	comp=Z,12nm,1.3s,mb5.0								
ISCO	**Idaho Springs**	**87.45**	**46**	*e*P	**P**		**02 46 30.7**	**+0.2**
	comp=Z,12nm,1.3s,mb5.0								
JCT	**Junction City**	**87.49**	**56**	⇑*i*P	**P**		**02 46 30.2**	**-0.5**
JCT				pmax	pmax				
	comp=Z,19nm,1.1s,mb5.2								
JCT	**Junction City**	**87.49**	**56**	⇑*i*P	**P**		**02 46 30.2**	**-0.5**
	comp=Z,19nm,1.1s,mb5.2								
SYO	**Syowa Base**	**87.77**	**192**	⇓*e*P	**P**		**02 46 31.4**	**-0.6**
SYO	**Syowa Base**	**87.77**	**192**	⇓*e*PcP	PcP		02 46 32.5	-1.4	
SNG	**Songkhla**	**87.87**	**278**	P	**P**		**02 46 33.0**	**+0.5**
GCMT	**Greycliff**	**87.90**	**39**	*e*P	**P**		**02 46 32.6**	**0.0**
PSI	**Prapat**	**87.94**	**274**	P	**P**		**02 46 32.9**	**0.0**
	comp=Z,13nm,0.9s,mb5.2,baz=158,slow=6.4,SNR=15								
BJT	**Baijiatuan**	**88.14**	**314**	⇑*i*P	**P**		**02 46 34.8**	**+1.0**
BJT				pmax	pmax				
	comp=Z,231nm,1.9s								
BJT	**Baijiatuan**	**88.14**	**314**	⇑*i*P	**P**		**02 46 34.8**	**+1.0**
	comp=Z,231nm,1.9s,mb6.1								
BJI	**Beijing**	**88.14**	**314**	P	**P**		**02 46 34.9**	**+1.1**
BJI				AMB	AMB				
	comp=Z,56nm,1.9s,mb5.5								
BJI				AMB	AMB				
	comp=Z,876nm,4.3s								
BJI				LR	LR				
	comp=N,276nm,25.1s,MS4.9								
BJI				LR	LR				
	comp=E,506nm,22.6s,MS4.9								
BJI				LR	LR				
	comp=Z,628nm,26.7s,MS4.9								
VNA3	**Neumayer Olymp**	**88.20**	**175**	⇑*i*P	**P**		**02 46 33.9**	**-0.2**
VNA3				*e*			02 46 35.6		
VNA3				*e*			02 46 39.7		
VNA3				*e*			02 46 42.1		
VNA3				*e*	pP		02 46 47.0	+0.2	
VNA3				*e*			02 46 51.6		
VNA3				*e*			02 46 57.6		
VNA3				*e*			02 47 02.5		
VNA3				*e*			02 47 05.2		
VNA3				*e*			02 47 09.3		
VNA3				*e*			02 47 19.0		
VNA3				*e*			02 47 29.3		
VNA3				*e*			02 47 34.9		
VNA3				*e*			02 47 54.4		
SNAA	**Sanae**	**88.20**	**177**	P	**P**		**02 46 33.6**	**-0.5**
	comp=Z,1.5nm,0.6s,mb4.4,baz=194,slow=5.5,SNR=16								
SNAA	**Sanae**	**88.20**	**177**	⇑*i*P	**P**		**02 46 33.7**	**-0.4**
SNAA				*e*			02 46 35.5		
SNAA				*e*			02 46 40.4		
SNAA				*e*	pP		02 46 43.3	-3.5	
SNAA				*e*	pP		02 46 46.7	-0.1	
SNAA				*e*			02 46 50.9		
SNAA				*e*			02 46 58.6		
SNAA				*e*			02 47 03.1		
SNAA				*e*			02 47 05.0		
SNAA				*e*			02 47 08.0		
SNAA				*e*			02 47 13.5		
SNAA				*e*			02 47 24.7		
SNAA				*e*			02 47 31.4		
SNAA	**Sanae**	**88.20**	**177**	*e*P	**P**		**02 46 33.9**	**-0.2**
SNAA				pmax	pmax				
	comp=Z,28nm,1.1s								
SNAA	**Sanae**	**88.20**	**177**	*e*P	**P**		**02 46 33.9**	**-0.2**
	comp=Z,28nm,1.1s,mb5.4								
DAWY	**Dawson**	**88.24**	**15**	⇑*i*P	**P**		**02 46 34.1**	**-0.2**
VNA2	**Neumayer--Watz**	**88.68**	**176**	⇑*i*P	**P**		**02 46 37.0**	**+0.7**
	baz=201,slow=3.4								
VNA2				*e*			02 46 38.6		
VNA2				*e*			02 46 43.1		
VNA2				*e*			02 46 45.6		
VNA2				*e*	pP		02 46 49.8	+0.8	
VNA2				*e*			02 46 54.2		
VNA2				*e*			02 47 02.0		
VNA2				*e*			02 47 05.2		
VNA2				*e*			02 47 07.8		
VNA2				*e*			02 47 11.6		
VNA2				*e*			02 47 21.9		
VNA2				*e*			02 47 33.8		
VNA2				*e*			02 47 39.9		
VNA2				*e*			02 47 56.3		
VNA1	**Neumayer--Stat**	**88.88**	**175**	⇑*i*P	**P**		**02 46 37.8**	**+0.5**
VNA1				*e*			02 46 39.6		
VNA1				*e*			02 46 42.9		
VNA1				*e*			02 46 45.1		
VNA1				*e*	pP		02 46 49.6	-0.4	
VNA1				*e*			02 46 54.8		
VNA1				*e*			02 47 01.2		
VNA1				*e*			02 47 05.8		
VNA1				*e*			02 47 08.5		
VNA1				*e*			02 47 11.8		
VNA1				*e*			02 47 22.2		
VNA1				*e*			02 47 33.2		
VNA1				*e*			02 47 39.0		
VNA1				*e*			02 47 59.7		
EGMT	**Eagleton**	**89.03**	**37**	*e*P	**P**		**02 46 37.5**	**-0.4**
	comp=Z,11nm,1.2s,mb5.1								
BILL	**Bilibino**	**89.11**	**353**	⇑*i*P	**P**		**02 46 37.4**	**-1.0**
BILL				pmax	pmax				
	comp=Z,23nm,0.9s,mb5.5								
BILL	**Bilibino**	**89.11**	**353**	⇑*i*P	**P**		**02 46 37.4**	**-1.0**
	comp=Z,23nm,0.9s,mb5.5								
GYA	**Guiyang**	**89.54**	**298**	⇑*i*P	**P**		**02 46 42.1**	**+1.7**
GYA				AP	pP		02 46 52.6	-0.5	
GYA				XP	sP		02 46 56.5	-1.3	
GYA				PPP			02 52 01.9		
GYA				SKS			02 57 02.7		
GYA				PS	PS		02 58 17.3	-21	
GYA				AMB	AMB				
	comp=Z,20nm,1.6s,mb5.2								
GYA				AMB	AMB				
	comp=Z,300nm,6.0s								
GYA				LR	LR				
	comp=N,590nm,21.0s,MS5.2								
GYA				LR	LR				
	comp=E,640nm,21.8s,MS5.2								
GYA				LR	LR				
	comp=Z,580nm,22.0s,MS5.0								
EDM	**Edmonton**	**89.98**	**32**	*e*P	**P**		**02 46 41.6**	**-0.8**
WMOK	**Wichita Mounta**	**90.05**	**53**	⇑*i*P	**P**		**02 46 41.5**	**-1.3**
WMOK				*e**PP	pP		02 46 55.5	0.0	
WMOK				pmax	pmax				
	comp=Z,13nm,1.3s,mb5.1								
WMOK	**Wichita Mounta**	**90.05**	**53**	⇑*i*P	**P**		**02 46 41.5**	**-1.3**
	comp=Z,14nm,1.3s,mb5.1								
WMOK				*e*pP	pP		02 46 55.5	0.0	
HKT	**Hockley**	**90.41**	**58**	*e*P	**P**		**02 46 44.1**	**-0.4**
HKT				pmax	pmax				
	comp=Z,34nm,1.6s,mb5.4								
HKT	**Hockley**	**90.41**	**58**	*e*P	**P**		**02 46 44.1**	**-0.3**
	comp=Z,34nm,1.6s,mb5.4								
LAO	**LASA Array**	**90.41**	**40**	⇑*i*P	**P**		**02 46 44.9**	**+0.4**
	comp=Z,14nm,0.9s,mb5.3								
RSSD	**Black Hills**	**90.53**	**43**	⇑*i*P	**P**		**02 46 44.5**	**-0.5**
RSSD				pmax	pmax				
	comp=Z,23nm,1.1s,mb5.4								
RSSD	**Black Hills**	**90.53**	**43**	⇑*i*P	**P**		**02 46 44.5**	**-0.6**
	comp=Z,23nm,1.1s,mb5.4								
NNT	**Nongplab**	**90.57**	**283**	P	**P**		**02 46 48.1**	**+2.9**
XAN	**Xi'an**	**90.73**	**306**	P	**P**		**02 46 47.3**	**+1.4**
XAN				AP	pP		02 46 54.9	-3.8	
XAN				SKS			02 57 14.1		
XAN				S			02 57 46.0		
XAN				PS	PS		02 58 41.0	-11	
XAN				AMB	AMB				
	comp=Z,43nm,1.7s,mb5.5								
XAN				AMB	AMB				
	comp=Z,277nm,7.9s								
XAN				LR	LR				
	comp=E,348nm,25.5s								
XAN				LR	LR				
	comp=Z,511nm,21.3s,MS4.9								
HHC	**Hu-ho-hao-te**	**91.65**	**313**	*e*P	**P**		**02 46 50.5**	**+0.3**
HHC				AP	pP		02 47 04.1	+1.2	
HHC				XP	sP		02 47 09.0	+1.4	
HHC				PP	PP		02 50 33.2	+4.3	
HHC				SKS			02 57 19.5		
HHC				S			02 57 46.3		
HHC				XS	sS		02 58 07.7	-1.0	
HHC				PS	PS		02 59 07.6	+5.9	
HHC				AMB	AMB				
	comp=Z,33nm,1.5s,mb5.4								
HHC				AMB	AMB				
	comp=Z,453nm,5.5s								
HHC				LR	LR				
	comp=N,306nm,17.3s,MS5.0								
HHC				LR	LR				
	comp=E,447nm,18.4s,MS5.0								
HHC				LR	LR				
	comp=Z,619nm,21.0s,MS5.0								
NANT	**Nan**	**91.86**	**289**	⇑P	**P**		**02 46 50.0**	**-1.2**
	comp=Z,228nm,1.0s								
KMI	**Kunming**	**92.33**	**296**	P	**P**		**02 46 55.6**	**+2.3**
KMI				AP	pP		02 47 08.0	+2.0	
KMI				XP	sP		02 47 12.6	+1.9	
KMI				PP	PP		02 50 39.1	+4.9	
KMI				PPP			02 52 41.2		
KMI				SKS			02 57 24.1		
KMI				S			02 57 53.3		
KMI				XS	sS		02 58 13.6	-1.2	
KMI				PS	PS		02 59 13.6	+4.4	
KMI				SS	SS		03 04 08.7	+4.2	
KMI				SSS			03 07 47.2		
KMI				AMB	AMB				
	comp=Z,37nm,1.6s,mb5.5								
KMI				AMB	AMB				
	comp=Z,389nm,5.3s								
KMI				LR	LR				
	comp=N,349nm,18.9s,MS5.1								
KMI				LR	LR				
	comp=E,570nm,20.5s,MS5.1								
KMI				LR	LR				
	comp=Z,701nm,19.7s,MS5.1								
BTO	**Baotou**	**92.61**	**312**	*e*P	**P**		**02 46 55.2**	**+0.6**
JTS	**JuntasAbangare**	**92.88**	**80**	*e*P	**P**		**02 46 56.9**	**+1.0**
JTS				pmax	pmax				
	comp=Z,12nm,0.9s								
JTS	**JuntasAbangare**	**92.88**	**80**	*e*P	**P**		**02 46 56.9**	**+1.0**
	comp=Z,12nm,0.9s,mb5.3								
CHRT	**Chiangrai**	**93.04**	**290**	⇑P	**P**		**02 46 59.0**	**+2.4**
	comp=Z,229nm,0.9s								
INK	**Inuvik**	**93.09**	**14**	P	**P**		**02 46 56.0**	**-0.8**
	comp=Z,24nm,1.1s,mb5.5,baz=218,slow=5.0,SNR=78								
INK	**Inuvik**	**93.09**	**14**	⇑*i*P	**P**		**02 46 56.1**	**-0.7**
INK				pmax	pmax				
	comp=Z,80nm,1.4s								
INK	**Inuvik**	**93.09**	**14**	⇑*i*P	**P**		**02 46 56.0**	**-0.8**
	comp=Z,80nm,1.4s,mb6.0								
YAK	**Yakutsk**	**93.15**	**337**	*i* P	**P**		**02 46 56.1**	**-1.0**
YAK				MLR	MLR				
	comp=Z,300nm,15.0s,MS4.9								
CHG	**Chiang Mai**	**93.42**	**289**	⇑P	**P**		**02 47 00.3**	**+1.9**
	comp=Z,32nm,1.2s,mb5.6								
CD2	**Chengdu**	**93.57**	**301**	*e*P	**P**		**02 46 57.5**	**-1.6**
CD2				AP	pP		02 47 09.5	-2.3	
CD2				XP	sP		02 47 14.1	-2.4	
CD2				PP	PP		02 50 44.8	+0.8	
CD2				SKS			02 57 27.0		
CD2				S			02 57 59.5		
CD2				XS	sS		02 58 20.0	-5.8	
CD2				SS	SS		03 04 20.5	-1.8	
CD2				AMB	AMB				
	comp=Z,10.0nm,1.8s,mb4.9								
CD2				AMB	AMB				
	comp=Z,40nm,5.9s								
CD2				LR	LR				
	comp=N,230nm,19.2s								
CD2				LR	LR				
	comp=Z,210nm,21.6s,MS4.6								
MIAR	**Mount Ida**	**93.93**	**55**	*e*P	**P**		**02 47 00.1**	**-0.6**
MIAR				pmax	pmax				
	comp=Z,5.0nm,1.0s,mb4.9								
MIAR	**Mount Ida**	**93.93**	**55**	*e*P	**P**		**02 47 00.1**	**-0.6**
	comp=Z,5.0nm,1.0s,mb4.9								
YKA	**Yellowknife

comp=Z,5.0nm,1.1s,mb5.0
TIXI MLR MLR

comp=Z,578nm,19.0s,MS5.1
GTA Gaotai 99.48 308 *e*P **P** 02 47 26.6 +0.7
GTA AP pP 02 47 37.0 -1.6
GTA XP sP 02 47 40.1 -3.2
GTA PP PP 02 51 33.1 +3.5
GTA SKS 02 58 01.4
GTA S 02 58 53.1
GTA XS sS 02 59 10.6 -6.1
GTA PS PS 03 00 27.4 0.0
GTA SS SS 03 05 49.8 +3.9
GTA AMB AMB
comp=Z,5.0nm,1.9s,mb4.7
GTA AMB AMB
comp=Z,82nm,5.7s
GTA LR LR
comp=N,287nm,19.8s
GTA LR LR
comp=E,343nm,25.1s
GTA LR LR
comp=Z,665nm,26.6s
ZAK Zakamensk 100.61 320 *e*P Pdif 02 47 29.9 -1.0
ZAK pmax pmax
comp=Z,6.0nm,1.8s
ZAK pmax pmax
comp=Z,5.0nm,1.9s
WMQ Urumqi 109.36 311 PDIF Pdif 02 48 08.8 -0.9
WMQ PP PP 02 52 45.3 +2.3
WMQ S Sdif 03 00 12.8 -4.8
WMQ PP PP
comp=Z,142nm,6.2s
WMQ LR LR
comp=N,184nm,22.1s,MS5.0
WMQ LR LR
comp=E,453nm,26.3s,MS5.0
WMQ LR LR
comp=Z,502nm,25.2s,MS5.0
ZAL Zalesovo 112.44 321 PKiKP PKiKP 02 52 17.0 -2.0
comp=Z,2.1nm,0.6s,baz=60,slow=1.6,SNR=10.0
ZAL PP PP 02 53 01.8 -3.4
comp=Z,0.9nm,0.6s,baz=14,slow=5.6,SNR=4.1
MKAR Makanchi Array 113.51 313 Pdiff Pdif 02 48 29.9 +1.7
comp=Z,0.3nm,0.5s,baz=73,slow=6.3,SNR=2.8
MKAR PKiKP PKiKP 02 52 20.0 -1.0
comp=Z,2.5nm,0.7s,baz=118,slow=0.6,SNR=9.1
KURK Kurchatov 116.12 317 *e*PKiKP PKPdf 02 52 24.7 -1.3
KSH Kashi 117.56 305 *e*PKP PKPdf 02 52 29.0 +0.2
KSH *ex*PKP 02 52 43.0
KSH *e*PKS 02 56 02.3
KSH *e*PPP 02 56 06.0
KSH PP PP
comp=Z,100nm,3.9s
KSH LR LR
comp=N,130nm,5.1s
KSH LR LR
comp=E,125nm,5.4s
KSH LR LR
comp=Z,149nm,6.1s
AAK Ala-Archa 118.83 308 *e*PKiKP PKPdf 02 52 30.1 -1.1
BRVK Borovoye 121.12 320 *e*PKiKP PKPdf 02 52 34.6 -1.0
SFJD Kangerlussuaq 121.33 23 PKP PKPdf 02 52 34.4 -1.6
comp=Z,3.6nm,0.5s,baz=108,slow=9.6,SNR=3.7
ZRNK Zerenda 121.90 320 *e*PKiKP PKPdf 02 52 36.1 -1.0
SUR Sutherland 125.78 196 PKP PKPdf 02 52 45.8 +1.3
comp=Z,7.1nm,0.8s,baz=107,slow=9.4,SNR=7.8
ARU Arti 126.89 326 *i* PKiKP PKPdf 02 52 45.6 -1.1
ARU *e* 02 54 40.5
ARU *e* 02 59 47.6
ARU *e*PS PS 03 04 46.5 -2.4
ARU Arti 126.89 326 *e*PKPdf PKPdf 02 52 45.6 -1.1
KEV Kevo 128.77 351 *e*pkp PKPdf 02 52 48.5 -1.7
ARCES ARCESS Array B 129.19 351 PKP PKPdf 02 52 50.0 -1.1
comp=Z,16nm,0.5s,baz=20,slow=0.9,SNR=147
ARE0 ARCESS Array S 129.19 351 *e*PKPdf PKPdf 02 52 50.0 -1.1
APA Apatity 129.49 347⇑*i*PKiKP PKPdf 02 52 50.0 -1.6
APA *e* 03 05 00.0
APA pmax pmax
comp=Z,14nm,0.8s
APA MLR MLR
comp=Z,600nm,20.0s,MS5.3
LBTB Lobatse 131.09 204 PKP PKPdf 02 52 55.7 +1.1
comp=Z,2.1nm,0.6s,baz=232,slow=16,SNR=5.5
LBTB Lobatse 131.09 204 PKP PKPdf 02 52 55.7 +1.1
KLMR Klimovskoe 132.93 338 *i* PKiKP PKPdf 02 52 57.6 -0.5
KLMR pmax pmax
comp=Z,30nm,1.7s
JOF Joensuu 133.84 344 *e*pkp PKPdf 02 52 59.0 -0.8
PECR Pechory 134.04 331 *e*PKiKP PKPdf 02 53 00.0 -0.2
PECR pmax pmax
comp=Z,500nm,2.0s
KAF Kangasniemi 135.74 346 *e*pkp PKPdf 02 53 01.5 -1.9
FINES FINESS Array B 136.38 346 PKhKP 02 52 50.6
comp=Z,0.6nm,0.5s,baz=99,slow=6.0,SNR=3.9
FINES PKP PKPdf 02 53 04.3 -0.3
comp=Z,6.0nm,0.5s,baz=52,slow=2.7,SNR=31
OBN Obninsk 138.07 334⇑*i*PKiKP PKPdf 02 53 08.5 +0.8
OBN *e* 02 55 51.7
OBN pmax pmax
comp=Z,21nm,1.2s
OBN MLR MLR
comp=Z,500nm,20.0s,MS5.2
LSZ Lusaka 138.41 214 PKP PKPdf 02 53 09.9 +1.6
comp=Z,5.2nm,0.6s,baz=143,slow=1.7,SNR=12
LSZ Lusaka 138.41 214 *e*PKPdf PKPdf 02 53 10.2 +1.9
VSU Vasula 138.82 343 *i* PKiKP PKPdf 02 53 09.3 +0.2
NB2 NORSAR Subarra139.00 356 PKPd 02 53 00.6
comp=Z,18nm,1.4s,baz=6.6,slow=1.8
NB2 NORSAR Array B139.00 356 PKPd 02 53 00.6
baz=6.6,slow=1.8
NOA NORSAR Array B139.00 356 PKhKP 02 52 60.0
comp=Z,0.8nm,0.6s,baz=18,slow=4.2,SNR=7.1
NOA PKP PKPdf 02 53 10.2 +0.8
comp=Z,3.8nm,0.6s,baz=13,slow=3.9,SNR=20
NAO01 NORSAR Array S139.21 356 *e*PKPdf PKPdf 02 53 10.8 +1.0
ZEI Tsey 140.87 314 *e*PKiKP PKPdf 02 53 17.9 +5.1
KIV Kislovodsk 141.19 316 *i* PKiKP PKPdf 02 53 15.1 +1.7
KIV Kislovodsk 141.19 316 *i* PKP PKPdf 02 53 15.2 +1.8
MNK Minsk 141.83 339 *e*PKHKP 02 53 08.0
CLDR Caldiran 142.15 308 *e*P PKPdf 02 53 11.7 -3.4
KMBO Kilima Mbogo 142.53 239 PKhKP 02 53 12.2
comp=Z,2.3nm,0.5s,baz=81,slow=8.4,SNR=9.1
ARTV Artvin 142.84 312 *i* P 02 53 09.8
CUKT Cukurca 142.96 306 *e*P 02 53 09.4
MSL Mosul 143.62 304 *ex* x 02 53 16.0
SUW Suwalki 143.68 343 *e*PKPc PKPdf 02 53 14.3 -3.5
MUD Monsted U'grnd 143.69 357 *i* P PKPdf 02 53 14.9 -2.9
comp=Z,42nm,1.0s
MUD *i* 02 53 43.2
MUD *e* 02 56 54.2
MUD
comp=Z,480nm,21.0s
MUD Monsted U'grnd 143.69 357 *i* PKiKP PKPdf 02 53 14.9 -2.9
MUD pmax pmax
comp=Z,42nm,1.0s
MUD MLR MLR
comp=Z,490nm,21.0s,MS5.2
MUD Monsted U'grnd 143.69 357 *i* P PKPdf 02 53 14.9 -2.9
MUD *i* 02 53 43.2
MUD *e* 02 56 54.2
ERZM Erzurum 143.73 311 *i* P PKPdf 02 53 14.6 -3.3
EZM Erzurum 143.73 311 *e*P PKPdf 02 53 15.1 -2.8
GMK Mull of Kintyr 143.87 11 *e*P PKPdf 02 53 15.2 -3.0
ANN Anapa 144.06 320 *i* PKiKP PKPdf 02 53 16.4 -2.1
ANN pmax pmax
comp=Z,66nm,1.4s
COP Copenhagen 144.19 353 *i* P PKPdf 02 53 20.1 +1.4
COP
comp=Z,150nm,22.0s
COP Copenhagen 144.19 353 *e*P PKPdf 02 53 20.1 +1.4
COP LR LR
comp=Z,160nm,22.0s,MS4.8
BNGL BINGOL 144.24 309 *i* P PKPdf 02 53 18.4 -0.4
BTMT Batman 144.26 308 *e*P PKPdf 02 53 18.4 -0.4
AKASG Malin Array Be 144.33 334 PKP PKPdf 02 53 16.4 -2.5
comp=Z,40nm,0.7s,baz=40,slow=4.4,SNR=158
AKASG Malin Array Be 144.33 334 PKP PKPdf 02 53 16.4 -2.5
BWH Wardlaw 144.35 9⇑*e*P PKPdf 02 53 16.8 -2.1
MACK Trabzon 144.43 313 *i* P PKPdf 02 53 15.5 -3.6
BSD Bornholm Skovb 144.43 351⇑*i*P PKPdf 02 53 16.9 -2.2
comp=Z,14nm,0.8s
BSD Bornholm Skovb 144.43 351⇑*i*PKiKP PKPdf 02 53 16.9 -2.2
BSD pmax pmax
comp=Z,14nm,0.8s
GAL1 Galloway 144.48 10 *e*P PKPdf 02 53 16.9 -2.4

BHH Howats Hill 144.49 9⇑*e*P PKPdf 02 53 17.0 -2.2
GCD Castle Douglas 144.61 10 *e*P PKPdf 02 53 17.3 -2.1
BDL Dobcross Hall 144.81 9 *e*P PKPdf 02 53 18.4 -1.4
GMM Mts of Mourne 144.85 12 *e*P PKPdf 02 53 18.2 -1.6
CKE Keswick 145.00 9⇑*e*P PKPbc 02 53 18.4 -1.1
XDE Dent Fell 145.02 9⇑*e*P PKPbc 02 53 18.6 -1.0
XDE AMb AMB 02 53 21.2
comp=Z,166nm,1.7s
GIM North Isle of 145.07 10⇑*e*P PKPbc 02 53 18.4 -1.3
WIM Isle of Man 145.17 11⇑*e*P PKPbc 02 53 19.6 -0.5
WIM AMb AMB 02 53 21.9
comp=Z,120nm,2.1s
RGN Rugen 145.20 352 *e*PKPbc PKPbc 02 53 20.2 0.0
CDU1 Dunnerdale 145.23 9 *e*P PKPbc 02 53 19.1 -1.1
DCN Croghan 145.41 14⇑*i*P PKPdf 02 53 19.1 -1.7
LWH Whinny Nab 145.56 7⇑*e*P PKPdf 02 53 21.4 +0.3
DLF Lyons Farm 145.62 13⇑*i*P PKPdf 02 53 19.7 -1.5
DSB Dublin 145.70 13 *e*PKPbc PKPbc 02 53 21.0 -0.7
GKP Gorka Klasztor 145.79 348 *e*PKPc PKPbc 02 53 22.0 0.0
WAR Warsaw 145.85 343 *e*PKP PKPdf 02 53 22.7 +1.1
SIM Simferopol' 145.91 323 *e*PKP2 PKPab 02 53 23.1 +0.2
WCB1 Church Bay 145.93 11⇑*e*P PKPdf 02 53 21.7 0.0
WCB1 AMb AMB 02 53 24.3
comp=Z,196nm,1.8s
ELZG Elazig 145.98 310 *i* P PKPdf 02 53 24.0 +2.2
HLG Helgoland 146.01 358 *e*PKPbc PKPbc 02 53 23.0 +0.3
WLF1 Llynfaes 146.04 11⇑*e*P PKPdf 02 53 22.3 +0.4
WLF1 AMb AMB 02 53 24.6
comp=Z,88nm,1.8s
YRC Rhoscolyn 146.05 11⇑*e*P PKPdf 02 53 22.2 +0.3
YRC AMb AMB 02 53 24.7
comp=Z,155nm,1.6s
BSEG Bad Segeberg 146.12 355 *e*PKPbc PKPbc 02 53 23.2 +0.2
WPM1 Penmaenmawr 146.16 10⇑*e*P PKPdf 02 53 22.6 +0.5
WPM1 AMb AMB 02 53 25.3
comp=Z,267nm,1.6s
DESE Dese 146.17 260 *e*P PKPbc 02 53 25.1 +1.9
LHO Holmfirth 146.19 8⇑*e*P PKPdf 02 53 22.8 +0.7
YLL Llanberis 146.23 11⇑*e*P PKPdf 02 53 22.8 +0.6
YRE Yr Eifl 146.33 11⇑*e*P PKPdf 02 53 22.9 +0.5
YRE AMb AMB 02 53 26.7
comp=Z,145nm,1.8s
MYA Malataya 146.45 310 *e*P PKPdf 02 53 25.4 +2.8
MALT Malatya 146.45 310 *e*P PKPdf 02 53 23.4 +0.8
MALT Malatya 146.45 310⇑*i*P PKPbc 02 53 25.7 +1.7
MALT Malatya 146.45 310 *e*PKPdf PKPdf 02 53 23.2 +0.6
MALT *e*PKPbc PKPbc 02 53 25.3 +1.3
URFA Urfa 146.50 308 *e*P PKPdf 02 53 23.9 +1.2
SBD1 Bryn Du 146.60 10⇑*e*P PKPdf 02 53 24.0 +1.2
SVSK Karacayir 146.78 313 *e*P PKPdf 02 53 25.3 +2.2
ATAB Bozova 146.88 308 *i* P PKPdf 02 53 23.2 -0.1
HLM1 Long Mynd 147.04 10⇑*e*P PKPdf 02 53 25.2 +1.7
HLM1 AMb AMB 02 53 27.8
comp=Z,169nm,1.5s
SSP1 Stoney Pound 147.10 10⇑*e*P PKPdf 02 53 25.6 +1.9
RUE Ruedersdorf 147.16 351 *e*PKPdf PKPdf 02 53 24.1 +0.3
RUE *e*PKPbc PKPbc 02 53 26.1 +0.1
RUE Ruedersdorf 147.16 351 *e*PKPbc PKPbc 02 53 25.9 -0.1
KIS Kishinev 147.29 330*c* *i*PKHKP PKPdf 02 53 20.0 -4.0
KIS pmax pmax
comp=Z,800nm,10.0s
KIS pmax pmax
comp=Z,1μm,16.0s
KIS MLR MLR
comp=N,900nm,20.0s,MS5.6
KIS MLR MLR
comp=E,400nm,20.0s,MS5.6
KIS MLR MLR
comp=Z,1μm,20.0s,MS5.7
KIS MLR MLR
comp=Z,2μm,20.0s
WIT Witteveen 147.42 359⇑*i*PKiKP PKiKP 02 53 27.7 -1.2
comp=Z,516nm,1.5s
BOYT Boyabat 147.43 317 *i* P PKPbc 02 53 28.0 +1.2
MCH1 Michaelchurch 147.52 10⇑*e*P PKPdf 02 53 26.4 +2.0
HAE Alders End 147.56 10⇑*e*P PKPdf 02 53 26.0 +1.6
HAE AMb AMB 02 53 31.1
comp=Z,290nm,1.6s
KWP Kalwaria 147.64 339 *e*PKPc PKPbc 02 53 27.7 +0.4
KWP *e* 02 53 30.0
KWP Kalwaria 147.64 339 *e*PKPdf PKPdf 02 53 24.4 -0.2
KWP *e*PKPbc PKPbc 02 53 27.3 0.0
KWP ⇑*e*PKP PKPdf 02 53 27.7 +3.1
KWP *e* 02 53 30.0
IAS Iasi 147.72 332 PKP2 PKPab 02 53 28.0 -1.9
GAZ Gaziantep 147.79 308 *e*P PKPdf 02 53 28.8 +4.0
IBBN Ibbenburen 147.90 358 *e*PKPdf PKPdf 02 53 25.2 +0.2
IBBN *e*PKPbc PKPbc 02 53 28.1 +0.1
IBBN *e*PKPab PKPab 02 53 30.9 +0.3
HGH Gray Hill 147.90 10⇑*e*P PKPdf 02 53 27.4 +2.4
HGH AMb AMB 02 53 32.1
comp=Z,143nm,1.8s
OJC Ojcow 148.01 343 *e*PKPdf PKPdf 02 53 23.9 -1.3
OJC *e*PKPab PKPab 02 53 28.7 -2.4
SKP1 Kophill 148.11 8⇑*e*P PKPbc 02 53 27.8 -0.8
SWN1 Swindon 148.18 9⇑*e*P PKPbc 02 53 28.0 -0.7
CLZ Clausthal 148.19 355 *e*PKPdf PKPdf 02 53 25.5 0.0
CLZ *e*PKPbc PKPbc 02 53 29.2 +0.4
CLZ *e*PKPab PKPab 02 53 32.1 +0.3
WTSB Winterswijk 148.27 359⇑*i*PKiKP PKiKP 02 53 29.1 -1.6
comp=Z,132nm,1.9s
KSP Ksiaz 148.28 347 *e*PKPc PKPdf 02 53 26.2 +0.6
KSP *e* 02 53 29.8
KSP Ksiaz 148.28 347 *e*PKP PKPdf 02 53 25.9 +0.3
KSP *i*PKPdf PKPdf 02 53 29.8 +4.2
KSP LR LR
comp=Z,1μm,25.3s,MS5.6
STHS Stebnicka Huta 148.29 341 *e*PKP PKPdf 02 53 26.1 +0.4
STHS *i* 02 53 29.9
BALT Daday 148.33 318 *i* P PKPbc 02 53 29.9 +0.7
KOLS Kolonicke sedl 148.38 339 *e*PKP PKPbc 02 53 29.3 0.0
KOLS Kolonicke sedl 148.38 339 *e*PKP2 PKPbc 02 53 29.4 +0.1
BURAR Bucovina Array 148.39 334⇑*i*P PKPbc 02 53 30.3 +1.0
BURAR Bucovina Array 148.39 334⇑P PKPbc 02 53 30.3 +1.0
CLL Collm 148.41 351 *e*PKPdf PKPdf 02 53 25.3 -0.5
comp=Z,54nm,1.9s
CLL ⇑*i*PKPbc PKPbc 02 53 29.6 +0.2
comp=Z,475nm,2.0s
CLL *e*PKPab PKPab 02 53 32.2 -0.5
CLL *ep*PKPbc pPKPbc 02 53 42.7 +0.3
CLL *e*PP PP 02 56 53.9 -4.6
CLL *e*PPP 03 00 17.5
CLL *e*L 03 57 50.2
comp=Z,1μm,22.0s
CLL Collm 148.41 351 *e*PKPdf PKPdf 02 53 25.0 -0.8
comp=Z,25nm,1.5s
CLL ⇑*i*PKPbc PKPbc 02 53 29.7 +0.3
comp=Z,107nm,1.0s
CLL *i* PKPab PKPab 02 53 32.7 0.0
comp=Z,69nm,1.2s
CLL *i* pPKPbc pPKPbc 02 53 43.1 +0.7
CLL *ex* x 02 53 58.0
CLL *e*PP PP 02 56 55.0 -3.5
CLL *ex* x 03 00 09.0
CLL Collm 148.41 351⇑*e*PKIKP PKPdf 02 53 25.0 -0.8
CLL *i* 02 53 29.7
CLL *i* 02 53 32.7
CLL pmax pmax
comp=Z,25nm,1.5s
CLL pmax pmax
comp=Z,107nm,1.0s
CLL pmax pmax
comp=Z,69nm,1.2s
CLL MLR MLR
comp=Z,1μm,22.7s,MS5.6
CLL Collm 148.41 351 *e*PKP PKPdf 02 53 25.0 -0.8
CLL ⇑*i*PKP PKPdf 02 53 29.7 +3.9
SWK Warminster 148.47 10⇑*e*P PKPdf 02 53 28.4 +2.5
GTTG Gvttingen 148.52 355 *e*PKPdf PKPdf 02 53 25.9 -0.1
GTTG *e*PKPbc PKPbc 02 53 29.6 -0.1
GTTG *e*PKPab PKPab 02 53 33.1 0.0
RAC Raciborz 148.55 345 *e*PKIKP PKPdf 02 53 26.7 +0.6
RAC MLR MLR
comp=Z,900nm,23.9s,MS5.5
NIE Niedzica 148.58 342 *e*PKPdf PKPdf 02 53 26.9 +0.8
NIE *i* PKPab PKPab 02 53 30.7 -2.7
CRVS Cervenica-Dubn 148.68 340 *e*PKP PKPbc 02 53 31.9 +1.8
BRG Berggiesshubel 148.69 350 *e*PKPdf PKPdf 02 53 26.4 +0.1
BRG *e*PKPbc PKPbc 02 53 30.5 +0.4
BRG *e*PKPab PKPab 02 53 34.3 +0.5
BRG Berggiesshubel 148.69 350 *e*PKP PKPdf 02 53 26.5 +0.2
comp=Z,19nm,1.6s
BRG *i* 02 53 30.6

comp=Z,50nm,1.1s
BRG pmax pmax
comp=N,334nm,24.6s
BRG pmax pmax
comp=E,178nm,25.4s
BRG pmax pmax
comp=Z,399nm,26.6s
BRG Berggiesshubel 148.69 350 *e*PKIKP PKPdf 02 53 26.5 +0.2
BRG *i* 02 53 30.6
BRG pmax pmax
comp=Z,19nm,1.6s
BRG pmax pmax
comp=Z,50nm,1.1s
BRG MLR MLR
comp=N,334nm,24.6s,MS5.1
BRG MLR MLR
comp=E,178nm,25.5s,MS5.1
BRG MLR MLR
comp=Z,399nm,26.6s,MS5.1
DPC Dobruska-Polom 148.74 347 *e*PKPDF PKPdf 02 53 26.9 +0.5
DPC ⇑*e*PKPB PKPbc 02 53 31.2 +1.0
DPC *ex* x 02 53 51.8
DPC AMS AMS 03 52 40.0
comp=Z,700nm,25.9s
DPC Dobruska-Polom 148.74 347 *e*PKIKP PKPdf 02 53 26.9 +0.5
DPC *e* 02 53 31.2
DPC MLR MLR
comp=Z,700nm,25.9s,MS5.3
COBT Iskenderun 148.75 308 *i* P PKPbc 02 53 29.9 -0.3
AVNT Avonos 148.78 313 *i* P PKPdf 02 53 28.0 +1.5
BUG Bochum--Univer 148.78 358 *e*PKPdf PKPdf 02 53 26.6 +0.2
BUG *e*PKPbc PKPbc 02 53 30.3 0.0
OKC Ostrava-Krasne 148.79 344 *e*PKPDF PKPdf 02 53 26.6 +0.1
OKC ⇑*e*PKPB PKPbc 02 53 30.9 +0.5
OKC AMS AMS 03 55 30.0
comp=Z,2μm,22.6s
CFR Carcaliu 148.94 328⇓*i*P PKPbc 02 53 30.6 -0.1
MORC Moravsky Berou 149.00 345⇑*i*P PKPbc 02 53 31.5 +0.6
MORC Moravsky Berou 149.00 345 *e*PKPdf PKPdf 02 53 26.6 -0.2
MORC *e*PKPbc PKPbc 02 53 30.8 -0.1
VRI Vrincioaia 149.10 331⇑*i*P PKPbc 02 53 31.4 +0.3
VRI Vrincioaia 149.10 331⇑P PKPbc 02 53 31.4 +0.3
BR131 Keskin Array S 149.13 315 *e*PKPdf PKPdf 02 53 26.9 -0.1
BR131 *e*PKPbc PKPbc 02 53 31.6 +0.4
BRTR Keskin Array B 149.13 315 PKP PKPdf 02 53 26.9 -0.1
comp=Z,12nm,0.8s,baz=143,slow=2.1,SNR=16
BRTR PKPbc PKPbc 02 53 31.6 +0.4
comp=Z,9.1nm,0.6s,baz=121,slow=2.5,SNR=83
PLOR Plostina 149.14 331⇑*i*P PKPbc 02 53 31.7 +0.5
MOX Moxa 149.24 353 *e*PKPdf PKPdf 02 53 26.9 -0.3
MOX *e*PKPbc PKPbc 02 53 31.8 +0.3
MOX *e*PKPab PKPab 02 53 36.3 +0.2
MOX Moxa 149.24 353 *e*PKP PKPdf 02 53 27.4 +0.2
MOX *e* 02 53 31.7
comp=Z,208nm,1.8s
MOX
comp=Z,500nm,23.0s
MOX Moxa 149.24 353 *e*PKIKP PKPdf 02 53 27.4 +0.2
MOX *e* 02 53 31.7
MOX pmax pmax
comp=Z,1.0nm,1.8s
MOX MLR MLR
comp=Z,208μm,23.0s
TIRR Tirgusor 149.31 327⇑*i*P PKPbc 02 53 32.1 +0.4
TIRR Tirgusor 149.31 327 *e*PKPdf PKPdf 02 53 26.8 -0.5
TIRR *e*PKPbc PKPbc 02 53 31.6 -0.1
WERD Werda 149.35 352 *e*PKPdf PKPdf 02 53 27.4 0.0
WERD *e*PKPbc PKPbc 02 53 32.1 +0.3
WERD *e*PKPab PKPab 02 53 36.6 +0.1
KECS Kecovo 149.35 341 *i* PKP PKPbc 02 53 32.2 +0.4
KECS Kecovo 149.35 341 *i* PKP2 PKPbc 02 53 32.3 +0.5
PRA Prague 149.38 349⇑PKPB PKPbc 02 53 33.0 +1.2
HARR Harsova 149.39 328⇓*i*P PKPbc 02 53 32.9 +1.0
UCC Uccle 149.43 2 PKPbc PKPbc 02 53 32.1 +0.1
UCC PKPab PKPab 02 53 35.8 -1.1
UCC APKPbc 02 53 44.8
UCC XPKP 02 53 46.0
UCC XPKPab 02 53 52.3
PRU Pruhonice 149.44 349 *e*PKPDF PKPdf 02 53 27.8 +0.3
PRU ⇑*e*PKPB PKPbc 02 53 32.5 +0.5
PRU AMS AMS 03 56 30.0
comp=Z,800nm,19.9s
BEBN Eben Emael 149.45 0 PKPbc PKPbc 02 53 32.1 +0.1
FKH Fakeheh 149.46 304 *e*P PKPdf 02 53 33.6 +6.0
HGN Heimansgroeve 149.48 360⇑*i*PKiKP PKiKP 02 53 32.3 -0.9
comp=Z,89nm,2.2s
NKC Novy Kostel 149.54 351 *e*PKPDF PKPdf 02 53 27.7 0.0
NKC ⇑*e*PKPB PKPbc 02 53 32.9 +0.7
NKC *ep*PKP pPKPdf 02 53 53.4 +13
NKC AMS AMS 03 58 00.0
comp=Z,600nm,19.5s
NKC Novy Kostel 149.54 351 *e*PKHKP PKPdf 02 53 27.7 0.0
NKC *e* 02 53 32.9
NKC MLR MLR
comp=Z,600nm,19.5s,MS5.4
MENF Mencas 149.56 4 PKP PKPbc 02 53 32.3 0.0
ANTO Ankara 149.62 316⇑*i*P PKPbc 02 53 33.1 +0.7
ANTO Ankara 149.62 316 *e*PKPdf PKPdf 02 53 28.2 +0.4
ANTO *e*PKPbc PKPbc 02 53 32.6 +0.2
MEM Membach 149.63 360 PKP PKPdf 02 53 28.4 +0.5
MEM PKPbc PKPbc 02 53 32.4 0.0
MEM E 02 54 13.9
MEM E 02 54 39.4
VRAC Vranov 149.66 346⇑*i*P PKPbc 02 53 32.9 +0.4
VRAC Vranov 149.66 346⇑P PKPbc 02 53 32.9 +0.4
SGKT Sivrigoynuk 149.70 318 *i* P PKPdf 02 53 28.0 +0.1
SNF PKPbc PKPbc 02 53 32.9 +0.3
SNF PKPab PKPab 02 53 38.0 0.0
SNF Seneffe 149.72 2 PKP PKPdf 02 53 28.1 +0.1
MLR Muntele Rosu 149.74 331 PKP PKPdf 02 53 28.0 0.0
comp=Z,10nm,1.1s,baz=56,slow=3.6,SNR=11
MLR PKPbc PKPbc 02 53 32.9 +0.2
comp=Z,30nm,0.9s,baz=347,slow=2.0,SNR=56
MLR Muntele Rosu 149.74 331⇓*i*P PKPbc 02 53 33.3 +0.6
MANZ Manzenberg 149.83 352 *e*PKPdf PKPdf 02 53 28.5 +0.4
MANZ *e*PKPbc PKPbc 02 53 33.6 +0.7
VYHS Vyhne 149.84 343 *e*PKP PKPdf 02 53 28.1 0.0
VYHS *i* 02 53 33.5
TREC Trest 149.91 347 *e*PKPDF PKPdf 02 53 28.3 0.0
TREC ⇑*e*PKPB PKPbc 02 53 33.6 +0.5
TNS Taunus Mts 149.94 356 *e*PKPbc PKPbc 02 53 33.5 +0.3
TNS *e*PKPab PKPab 02 53 39.3 +0.4
ROTZ Rotzenmuhle 150.03 352 *e*PKPdf PKPdf 02 53 28.7 +0.3
ROTZ *e*PKPbc PKPbc 02 53 34.0 +0.6
PSZ Piszkesteto 150.04 341⇑*i*PKP/F PKPbc 02 53 33.9 +0.5
PSZ Piszkesteto 150.04 341⇓*i*P PKPbc 02 53 33.6 +0.2
PSZ Piszkesteto 150.04 341 *e*PKPdf PKPdf 02 53 28.2 -0.2
PSZ *e*PKPbc PKPbc 02 53 33.5 +0.1
PSZ *e*PKPab PKPab 02 53 38.9 -0.4
DRGR 150.04 336⇓*i*P PKPbc 02 53 33.6 +0.1
DRGR 150.04 336⇓*i*P PKPbc 02 53 34.1 +0.6
DRGR 150.04 336⇓P PKPbc 02 53 34.1 +0.6
GIVF Givet 150.13 1 *e*PKIKP PKPdf 02 53 28.6 0.0
DOU Dourbes 150.14 1 PKP PKPdf 02 53 29.1 +0.5
DOU PKPbc PKPbc 02 53 34.0 +0.3
DOU PKPab PKPab 02 53 39.7 -0.1
DOU APKP 02 53 41.2
DOU APKPab 02 53 49.6
BHL Bhannes 150.16 303 *e*P PKPbc 02 53 34.9 +1.1
BAIF Baives 150.16 2 *e*PKIKP PKPdf 02 53 28.9 +0.2
comp=Z,24nm,1.4s
VOIR 150.18 332⇓*i*P PKPbc 02 53 34.5 +0.7
SMOL Smolenice 150.20 344 *e*PKP PKPbc 02 53 34.8 +1.0
SMOL *e* 02 53 53.4
GRA1 Grafenberg Arr 150.23 353 *e*PKPdf PKPdf 02 53 29.2 +0.4
GRA1 *e*PKPbc PKPbc 02 53 34.5 +0.6
GRA1 *e*PKPab PKPab 02 53 40.7 +0.6
GRA1 LR LR
comp=Z,700nm,21.7s,MS5.4
GRF Grafenberg Arr 150.23 353 *e*PKPdf PKPdf 02 53 29.2 +0.4
GRF *e*PKPbc PKPbc 02 53 34.5 +0.6
GRF *e*PKPab PKPab 02 53 40.7 +0.6
GRF *e*L 03 59 21.0
comp=Z,713nm,21.7s
GRFO Grafenberg 150.23 353 *e*PKPdf PKPdf 02 53 29.2 +0.4
GRFO *e*PKPbc PKPbc 02 53 34.5 +0.6
GRFO *e*PKPab PKPab 02 53 40.7 +0.6
HENT Hendek 150.28 319 *i* P PKPbc 02 53 33.3 -0.7
JLP Les Platons 150.34 10⇑*e*P PKPbc 02 53 33.7 -0.4
MTUR Matau 150.34 332⇑*i*P PKPbc 02 53 34.9 +0.7
MTUR Matau 150.34 332 PKIKP PKPbc 02 53 34.7 +0.5
MTUR Matau 150.34 332⇑P PKPbc 02 53 34.9 +0.7

JVM Valle D.L. Mar 150.34 11⇑ eP PKPbc 02 53 34.0 -0.2
JSA Saint Aubin 150.38 10⇑ eP PKPbc 02 53 34.1 -0.1
JRS Jersey 150.39 10⇑ eP PKPbc 02 53 34.0 -0.3
KHC Kasperske Hory 150.43 350 ePKPDF PKPdf 02 53 29.1 0.0
KHC ⇑ ePKPB PKPbc 02 53 35.0 +0.6
KHC ep PKP pPKPdf 02 53 54.4 +12
KHC AMS AMS 03 56 10.0
comp=Z,1μm,23.0s
KHC Kasperske Hory 150.43 350 ePKIKP PKPdf 02 53 29.1 0.0
KHC e 02 53 35.0
KHC MLR MLR
comp=Z,1μm,23.0s,MS5.7
WET Wettzell 150.54 350 ePKPdf PKPdf 02 53 29.2 0.0
WET ePKPbc PKPbc 02 53 35.2 +0.6
ZST Bratislava 150.57 344 ePKP PKPbc 02 53 35.5 +0.8
WLF Walferdange 150.58 359 ePKPdf PKPdf 02 53 29.9 +0.6
WLF ePKPbc PKPbc 02 53 35.5 +0.8
WLF Walferdange 150.58 359 PKP PKPdf 02 53 30.2 +0.9
WLF PKPbc PKPbc 02 53 35.5 +0.8
WLF PKPab PKPab 02 53 41.5 0.0
WLF APKPbc 02 53 46.0
WLF Walferdange 150.58 359 ePKPbc PKPbc 02 53 34.8 0.0
WLF ePKPab PKPab 02 53 41.5 -0.1
SRO Srobarova 150.60 343 ePKP PKPbc 02 53 35.9 +1.1
SRO2 Moca 150.62 342 ePKP PKPbc 02 53 35.0 +0.2
SRO1 Iza 150.67 343 ePKP PKPbc 02 53 35.3 +0.3
GEC2 GERESS Array S 150.69 349 ePKPdf PKPdf 02 53 29.5 0.0
GEC2 ePKPbc PKPbc 02 53 35.4 +0.4
GERES GERESS Array B 150.69 349 PKP PKPdf 02 53 27.9 -1.5
comp=Z,1.5nm,0.9s,baz=164,slow=1.0,SNR=8.2
GERES PKPbc PKPbc 02 53 35.4 +0.4
comp=Z,16nm,0.7s,baz=14,slow=1.9,SNR=85
BUD Budapest 150.69 341⇑ iPKP/F PKPbc 02 53 35.4 +0.4
ROSF Rostrenen 150.99 12 ePKIKP PKPdf 02 53 29.7 -0.2
FLN La Foliniere 151.05 8 ePKIKP PKPdf 02 53 30.0 0.0
comp=Z,33nm,1.1s
FLN eR
comp=Z,1μm,21.8s
FLN La Foliniere 151.05 8 ePKPdf PKPdf 02 53 30.0 0.0
FLN LR LR
comp=Z,1μm,21.8s,MS5.6
ERMK Ermenek 151.13 310 i P PKPbc 02 53 35.7 -0.4
SOP Sopron 151.19 345⇑ ipPKP/F PKPbc 02 53 36.7 +0.5
SGMF Saint Gilles 151.21 12 ePKIKP PKPdf 02 53 29.9 -0.4
LANF Langenberg 151.22 357 PKP PKPbc 02 53 36.7 +0.5
LDF La Druitiere 151.27 8 ePKIKP PKPdf 02 53 30.2 -0.2
comp=Z,50nm,1.3s
STU Stuttgart 151.34 355 ePKPdf PKPdf 02 53 30.3 -0.2
STU ePKPbc PKPbc 02 53 36.8 +0.3
STU ePKPab PKPab 02 53 44.5 -0.2
STU Stuttgart 151.34 355 ePKPdf PKPdf 02 53 30.7 +0.2
STU ePKPbc PKPbc 02 53 36.7 +0.2
GRR Gorron 151.36 9 ePKIKP PKPdf 02 53 30.5 0.0
QUIF Quistinic 151.41 13 ePKIKP PKPdf 02 53 30.4 -0.2
SZH Strazhica 151.41 328 i P PKPbc 02 53 37.7 +1.0
BZS Buzias 151.44 336⇑ iP PKPbc 02 53 37.1 +0.3
BZS Buzias 151.44 336⇑ iP PKPbc 02 53 37.1 +0.4
MOA Molln 151.54 348 i P PKPbc 02 53 37.1 +0.1
comp=Z,163nm,2.8s,SNR=28
CSS Prodhromos 151.55 307 ePKPbc PKPbc 02 53 37.1 +0.1
STR Strasbourg 151.62 357 PKP PKPbc 02 53 37.8 +0.6
FUR Furstenfeldbru 151.72 352 ePKPdf PKPdf 02 53 31.1 +0.1
FUR ePKPbc PKPbc 02 53 37.5 +0.1
MEZF Maizieres J'vi 151.74 1 ePKIKP PKPdf 02 53 31.4 +0.3
comp=Z,49nm,1.4s
WLS Welschbruch 151.80 358 PKP PKPbc 02 53 37.8 +0.2
CDF Champ du Feu 151.81 358 ePKIKP PKPdf 02 53 31.1 -0.1
BFO Black Forest 151.84 356 ePKPdf PKPdf 02 53 31.0 -0.2
BFO ePKPbc PKPbc 02 53 37.8 +0.1
BFO ePKPab PKPab 02 53 46.8 0.0
BFO Black Forest 151.84 356 ePKPdf PKPdf 02 53 31.0 -0.2
BFO ePKPbc PKPbc 02 53 37.8 +0.1
ARSA Arzberg 151.84 346⇓ iP PKPbc 02 53 37.7 0.0
comp=Z,137nm,2.2s
EIL Elat 151.92 295 ePKPbc PKPbc 02 53 38.4 +0.6
PKSM Moragy 151.95 341⇓ iP PKPdf 02 53 31.4 0.0
PKSM Moragy 151.95 341 ⇓P PKPdf 02 53 31.4 0.0
ECH Echery 152.01 358 PKP PKPbc 02 53 38.0 0.0
THEF They Montfort 152.02 360 PKP PKPbc 02 53 38.2 +0.1
ISP Isparta 152.20 315⇑ iP PKPbc 02 53 38.7 +0.2
ISP Isparta 152.20 315 P PKPbc 02 53 38.6 +0.2
TKTP Tekketepe 152.22 315 i P PKPbc 02 53 36.4 -1.9
HAU Haudompre 152.24 359 ePKIKP PKPdf 02 53 32.8 +1.0
HAU eR
comp=Z,636nm,22.5s
HAU Haudompre 152.24 359 ePKPdf PKPdf 02 53 32.8 +1.0
HAU LR LR
comp=Z,640nm,22.5s,MS5.4
FELD Feldberg im Sc 152.31 357 eP PKPbc 02 53 39.1 +0.4
MOF Molkenrain 152.37 358 PKP PKPbc 02 53 38.9 0.0
KOGS Kog 152.41 344 ePKPdf PKPdf 02 53 31.3 -0.8
KOGS i PKPbc PKPbc 02 53 38.7 -0.2
KOGS i PKPab PKPab 02 53 48.9 -0.4
KBA Koelnbreinsper 152.46 349 i P PKPbc 02 53 38.9 -0.1
comp=Z,74nm,2.0s,SNR=10
WATA Walderalm 152.50 351 i P PKPbc 02 53 39.3 +0.2
comp=Z,30nm,1.3s,SNR=24
MOTA Moosalm 152.55 352 i P PKPbc 02 53 39.4 +0.1
comp=Z,84nm,1.6s,SNR=14
WTTA Wattenberg 152.56 351 i P PKPbc 02 53 39.6 +0.3
comp=Z,63nm,1.0s,SNR=77
SQTA Sankt Quirin 152.66 352⇓ iP PKPbc 02 53 39.7 +0.2
comp=Z,17nm,0.8s,SNR=22
DAVA Damuels 152.75 354⇑ i P PKPbc 02 53 40.0 +0.3
comp=Z,111nm,1.9s,SNR=15
OBKA Obir 152.76 347⇑ iP PKPbc 02 53 39.2 -0.5
comp=Z,16nm,0.7s,SNR=6.4
KDZ Kurdzhali 152.85 326 P PKPbc 02 53 40.3 +0.4
HYF Humbligny 152.86 5 ePKIKP PKPdf 02 53 33.1 +0.4
LOMF Lomont 152.88 358 PKP PKPbc 02 53 40.4 +0.4
LOR Lormes 152.94 3 ePKIKP PKPdf 02 53 33.0 +0.1
comp=Z,36nm,1.3s
LOR eR
comp=Z,2μm,21.5s
LOR Lormes 152.94 3 ePKPdf PKPdf 02 53 33.0 +0.1
LOR LR LR
comp=Z,2μm,21.5s,MS5.8
SSF Saint Saulge 153.13 3 ePKIKP PKPdf 02 53 33.3 +0.2
CADS Cadrg 153.20 348 ePKPdf PKPdf 02 53 32.2 -1.0
LJU Ljubljana 153.21 346 ePKPdf PKPdf 02 53 33.1 -0.2
LJU i PKPbc PKPbc 02 53 40.9 +0.2
MFF Saint Martin d 153.21 9 ePKIKP PKPdf 02 53 33.2 -0.1
VTS Vitosha 153.23 330 i P PKPbc 02 53 41.5 +0.7
VTS Vitosha 153.23 330⇑ iP PKPbc 02 53 41.4 +0.6
VTS Vitosha 153.23 330 PKIKP PKPbc 02 53 41.2 +0.4
SISC Sisak 153.28 343 i PKP PKPdf 02 53 31.4 -2.0
DIVS Divcibare 153.34 337⇑ iP PKPbc 02 53 40.8 -0.2
VOY Vojsko 153.35 347 ePKPdf PKPdf 02 53 33.2 -0.3
VOY ePKPbc PKPbc 02 53 40.6 -0.4
VOY e 02 54 02.1
VOY e 02 54 11.3
VOY e 02 54 23.3
AVF Avril sur Loir 153.39 4 ePKIKP PKPdf 02 53 33.1 -0.4
comp=Z,25nm,1.6s
BOJS Bojanci 153.54 345 ePKPdf PKPdf 02 53 33.9 +0.2
BOJS ePKPbc PKPbc 02 53 42.0 +0.6
SMF Signal de Mont 153.56 3 ePKIKP PKPdf 02 53 33.6 -0.2
BGF Bois d'Agland 153.59 4 ePKIKP PKPdf 02 53 33.8 0.0
CABF La Chapelle 153.64 359 ePKIKP PKPdf 02 53 34.6 +0.7
comp=Z,62nm,1.5s
MMB Musomiste 153.75 328 i P PKPbc 02 53 41.9 0.0
MMB Musomiste 153.75 328 i PKIKP PKPbc 02 53 41.8 -0.1
TCF Toulx Ste Croi 153.80 6 ePKIKP PKPdf 02 53 34.0 -0.1
AGO Saint Agoulin 154.11 4 PKP PKPbc 02 53 42.6 -0.1
PYM Petit Puy Mans 154.40 4 PKP PKPbc 02 53 43.3 0.0
STIP Stip 154.41 331 ePKP PKPdf 02 53 35.2 +0.3
VAY Valandovo 154.52 329 ePKP PKPdf 02 53 34.2 -0.9
SKO Skopje 154.52 332 ePKP PKPdf 02 53 35.5 +0.4
RJF Les Rejaudoux 154.71 7 ePKIKP PKPdf 02 53 35.4 0.0
RJF eR
comp=Z,1μm,19.5s
RJF Les Rejaudoux 154.71 7 ePKPdf PKPdf 02 53 35.4 0.0
RJF LR LR
comp=Z,1μm,19.5s,MS5.7
LPL La Plagne 154.72 358 ePKIKP PKPdf 02 53 36.1 +0.7
LPG La Plagne 154.74 358 ePKIKP PKPdf 02 53 36.2 +0.8
LBL Lubilhac 154.93 4 PKP PKPbc 02 53 45.4 +1.0
LFF La Frestale 154.97 8 ePKIKP PKPdf 02 53 35.7 0.0
CAF Calviac 155.14 6 ePKIKP PKPdf 02 53 36.3 +0.3
comp=Z,36nm,1.8s
EARI Arriondas 155.19 19 PKP PKPdf 02 53 34.9 -1.2
ORIF Oris-en-Rattie 155.33 360 ePKIKP PKPdf 02 53 36.9 +0.7
ORIF eR
comp=Z,1μm,22.0s
BIA Bitola 155.34 331 ePKP PKPdf 02 53 33.4 -2.9
VIVF Saint-Julien-l 155.38 2 ePKIKP PKPdf 02 53 36.8 +0.5
comp=Z,29nm,1.5s
OHR Ohrid 155.50 332 ePKP PKPdf 02 53 34.4 -2.0
MBDF Montbardon 155.51 358 ePKIKP PKPdf 02 53 37.0 +0.5
LASF Ste Croix 156.12 3 ePKIKP PKPdf 02 53 37.8 +0.5
comp=Z,51nm,1.8s
STOF St-Etienne Org 156.25 360 PKP PKPdf 02 53 48.0 +11
SMRF Simiane la Rot 156.27 0 ePKIKP PKPdf 02 53 38.3 +0.8
comp=Z,42nm,1.6s
SBF Sospel 156.34 357 ePKIKP PKPdf 02 53 37.3 -0.3
VILF Villemus 156.40 360 PKP PKPdf 02 53 48.2 +11
SJPF Ste Jean 156.40 13 ePKIKP PKPdf 02 53 38.1 +0.5
PRAF Pradon 156.44 1 PKP PKPdf 02 53 49.5 +12
TREF Trevaresse 156.62 1 PKP PKPdf 02 53 48.6 +11
TAVF Tavernes 156.63 359 PKP PKPdf 02 53 48.0 +10
FRF La Foret Royal 156.68 358 ePKIKP PKPdf 02 53 37.8 -0.2
comp=Z,68nm,1.9s
MTLF Montolieu 156.72 6 ePKIKP PKPdf 02 53 38.2 +0.1
comp=Z,45nm,1.9s
ETSF Etsaut 156.74 12 ePKIKP PKPdf 02 53 39.0 +0.9
comp=Z,17nm,1.1s
EPF Esparros 156.77 10 ePKIKP PKPdf 02 53 38.7 +0.6
comp=Z,18nm,1.1s
MTE Manteigas 156.88 26 ePKPdf PKPdf 02 53 38.3 +0.1
LMR La Mourre 156.91 359 ePKIKP PKPdf 02 53 38.2 -0.1
comp=Z,47nm,1.7s
AQU L'Aquila 156.96 345 ePKPdf PKPdf 02 53 36.7 -1.7
AQU ePKPab PKPab 02 54 08.4 -0.2
PGF Pioggiola 157.53 354 ePKIKP PKPdf 02 53 39.0 -0.1
EGRA Graus 157.58 11 PKP PKPdf 02 53 40.8 +1.6
ESAC San Caprasio 157.90 12 PKP PKPdf 02 53 39.8 +0.3
GUD Guadarrama 157.93 20 PKIKP PKPdf 02 53 41.3 +1.7
EVO Evora 158.20 30 ePKIKP PKPdf 02 53 40.0 +0.1
comp=Z,17nm,0.9s
EVO eR
comp=Z,594nm,22.5s
EBAD Badajoz 158.47 28 PKP PKPdf 02 53 39.2 -1.0
EPOB Poblet 158.53 10 PKP PKPdf 02 53 40.1 -0.2
TIP Timpagrande 158.81 336 ePKPdf PKPdf 02 53 41.0 +0.4
TIP ePKPab PKPab 02 54 16.8 +0.3
ESDC Sonseca Array 158.87 21 PKP PKPdf 02 53 41.3 +0.6
comp=Z,0.2nm,0.5s,baz=335,slow=1.8,SNR=6.8
ESDC PKPab PKPab 02 54 16.3 -0.5
comp=Z,1.1nm,0.7s,baz=333,slow=3.7,SNR=6.1
ESDC PP PP 02 57 53.3 -4.1
comp=Z,0.2nm,0.6s,baz=346,slow=5.3,SNR=4.4
ESDC Sonseca Array 158.87 21 PKP PKPdf 02 53 40.8 +0.1
EBR Ebro Roquetas 158.95 11 eTs 02 54 17.8
EMIN Mina Concepcio 159.43 29 PKP PKPdf 02 53 42.3 +1.0
EVIA Vianos 160.28 19 PKIKP PKPdf 02 53 43.2 +0.9
ETOB Tobarra 160.56 17 PKP PKPdf 02 53 43.4 +0.7
ELUQ Luque 160.63 25 PKIKP PKPdf 02 53 42.8 +0.1
EQES Quesada 160.85 22 PKP PKPdf 02 53 43.6 +0.6
EHUE Huescar 161.00 21 PKIKP PKPdf 02 53 42.5 -0.6
EJIF Jimena Fronter 161.06 29 PKIKP PKPdf 02 53 43.3 +0.1
ECCG Cogollos-Vega 161.14 23 PKIKP PKPdf 02 53 43.2 -0.1
EMIJ Mijas 161.27 27 PKP PKPdf 02 53 45.4 +2.0
EBNR Beni Rached 163.54 12 P PKPab 02 54 40.0 +2.8
EANR 'Ain N'Sour 163.78 13 P PKPab 02 54 39.3 +1.0
EMHD Djebel Mahouad 163.86 8 P PKPab 02 54 41.9 +3.3
ETRT Tiaret 164.36 13 P PKPab 02 54 39.9 -0.9
TORD Torodi Ar. Bea 172.02 151 PKP PKPdf 02 53 51.1 -0.4
comp=Z,1.9nm,0.9s,baz=1.5,slow=1.3,SNR=12
TORD PKPab PKPab 02 55 15.9 +1.2
comp=Z,2.3nm,0.9s,baz=200,slow=2.0,SNR=6.2
TORD PP PP 02 59 15.5 +10
comp=Z,2.4nm,1.0s,baz=187,slow=3.5,SNR=4.3

*IDC **07** 02:42:03.0±0.6, 1991S×17440W, h0km, mb4.4/13, mb1 4.6/14, mb1mx4.5/19, mbtmp4.4/14, ML2.7/1, MS4.5/1, Ms1 4.5/1, ms1mx3.6/21, Error ellipse: s-maj=29.8km s-min=15.9km az=135.0*

*ISCJB **07** 02:42:06.4±0.4, 2006S±009×174.35W±0.10, h33km, mb4.5/24, Error ellipse: s-maj=15.3km s-min=9.2km az=85.3*

*NEIC **07** 02:42:08.4±0.3, 2000S×174.36W, h35km, mb4.6/12, Error ellipse: s-maj=12.5km s-min=7.1km az=139.0*

*SZGRF **07** 02:42:08.0, 1974S×173.04W, h33km, Tonga Islands*

*MOS **07** 02:42:12.0±2.5, 1887S×174.87W, h33km, mb4.9/10, Error ellipse: s-maj=17.3km s-min=12.1km az=55.9*

ISC 07 02:42:08.3±0.4, **1999S**±008×**174 31W**±010, **h35km, n143,**
σ0**86/51, mb4.5/24, 13C-12D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.51**	**22**	Pn	**Pn**	**Pn**	**02 43 38.7**	**-2.9**
	8.7nm,0.3s,baz=284,slow=17,SNR=2.8							
AFI				Sn	**Sn**	**Sn**	**02 44 44.9**	**-10**
	21nm,0.3s,baz=35,slow=19,SNR=5.1							
RAO	**Raoul Island**	**9.79**	**199**	Sn	**Sn**	**Sn**	**02 46 08.4**	**-6.8**
	92nm,0.3s,baz=288,slow=20,SNR=3.2							
RAR	**Rarotonga**	**13.67**	**98**	Pn	**Pn**	**Pn**	**02 45 10.6**	**-9.1**
	2.1nm,0.3s,baz=253,slow=7.6,SNR=3.9							
DZM	**Mont Dzumac**	**18.08**	**260**	P	**Pn**	**Pn**	**02 46 18.7**	**+2.0**
	0.5nm,0.3s,baz=80,slow=19,SNR=6.0							
DZM				LR	LR		02 51 38.8	
	comp=Z,1μm,18.0s,baz=196,slow=32							
WVZ	**Waitaha Valley**	**26.23**	**205**	PN	**P**	**P**	**02 47 39.3**	**-0.6**
RPZ	**Rata Peaks**	**26.64**	**204**	P	**P**	**P**	**02 47 44.8**	**+1.2**
	14nm,0.7s,mb4.6,baz=262,slow=2.6,SNR=10.0							
CTA	**Charters Tower**	**36.99**	**263**	P	**P**		**02 49 14.0**	**-0.3**
	3.6nm,0.5s,mb4.5,baz=93,slow=9.6,SNR=9.2							
CTA	**Charters Tower**	**36.99**	**263**	P	**P**	**P**	**02 49 14.0**	**-0.3**
CTAO	**Charters Tower**	**36.99**	**263**	eP	**P**	**P**	**02 49 14.1**	**-0.2**
CTAO				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.5							
CTAO	**Charters Tower**	**36.99**	**263**	eP	**P**		**02 49 14.1**	**-0.2**
	comp=Z,4.6nm,0.6s,mb4.5							
PMG	**Port Moresby**	**38.63**	**280**	i P	**P**	**P**	**02 49 29.1**	**+0.9**
STKA	**Stephens Creek**	**41.13**	**244**	P	**P**	**P**	**02 49 46.0**	**-2.9**
	comp=Z,6.1nm,0.9s,mb4.2,baz=128,slow=16,SNR=4.1							
STKA	**Stephens Creek**	**41.13**	**244**	eP	**P**		**02 49 46.3**	**-2.6**
ASAR	**Alice Springs**	**48.00**	**256**	P	**P**	**P**	**02 50 42.3**	**-1.5**
	comp=Z,5.5nm,0.9s,mb4.2,baz=89,slow=7.9,SNR=6.7							
WRA	**Warramunga Arr**	**48.10**	**261**	P	**P**		**02 50 43.6**	**-0.9**
	comp=Z,1.0nm,0.5s,mb4.1,baz=96,slow=9.0,SNR=6.8							
SBA	**Scott Base**	**58.63**	**185**	eP	**P**		**02 52 02.2**	**+0.3**
SBA				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.3							
SBA	**Scott Base**	**58.63**	**185**	eP	**P**		**02 52 02.2**	**+0.3**
	comp=Z,3.3nm,0.9s,mb4.4							
VNDA	**Vanda**	**58.75**	**186**	P	**P**		**02 52 02.5**	**-0.3**
	comp=Z,1.3nm,0.9s,mb4.0,baz=51,slow=3.8,SNR=4.3							
VNDA	**Vanda**	**58.75**	**186**	eP	**P**		**02 52 02.5**	**-0.2**
VNDA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
VNDA	**Vanda**	**58.75**	**186**	eP	**P**		**02 52 02.5**	**-0.2**
	comp=Z,1.6nm,0.9s,mb4.0							
QSPA	**South Pole Qui**	**70.08**	**180**	eP	**P**		**02 53 16.2**	**-0.6**
	comp=Z,14nm,1.5s,mb4.7							
MJAR	**Matsushiro Arr**	**71.91**	**321**	P	**P**		**02 53 28.2**	**+0.3**
	comp=Z,2.8nm,0.6s,mb4.3,baz=158,slow=5.9,SNR=13							
MAJO	**Matsushiro**	**71.91**	**321**	P	**P**		**02 53 28.5**	**+0.6**
MAJO				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.5							
MAJO	**Matsushiro**	**71.91**	**321**	P	**P**		**02 53 28.5**	**+0.6**
	comp=Z,5.0nm,0.8s,mb4.5							
CMB	**Columbia Colle**	**76.77**	**41**	eP	**P**		**02 53 56.5**	**+0.3**
CMB				pmax	pmax			
	comp=Z,7.0nm,1.3s,mb4.4							
CMB	**Columbia Colle**	**76.77**	**41**	eP	**P**		**02 53 56.5**	**+0.3**
	comp=Z,6.6nm,1.3s,mb4.4							
YBH	**Yreka Blue Hor**	**77.76**	**37**	P	**P**		**02 54 02.0**	**+0.3**
	comp=Z,3.0nm,0.9s,mb4.2,baz=159,slow=5.2,SNR=4.9							
NVAR	**Mina Array Bea**	**78.31**	**42**	P	**P**		**02 54 05.3**	**+0.5**
	comp=Z,2.0nm,0.7s,mb4.2,baz=210,slow=7.1,SNR=11							
TPH	**Tonopah**	**78.78**	**42**	eP	**P**		**02 54 07.0**	**-0.3**
TPH				pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.6							
TPH	**Tonopah**	**78.78**	**42**	eP	**P**		**02 54 07.0**	**-0.3**
	comp=Z,8.2nm,1.0s,mb4.6							
WVOR	**Wild Horse Val**	**80.55**	**38**	eP	**P**		**02 54 17.2**	**+0.2**
WVOR				e			02 54 24.0	
WVOR				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.4							
WVOR	**Wild Horse Val**	**80.55**	**38**	eP	**P**		**02 54 17.2**	**+0.2**
	comp=Z,4.8nm,1.0s,mb4.4							
WVOR				ePcP	PcP		02 54 24.0	+0.2
MSU	**Marysvale**	**82.29**	**44**	eP	**P**		**02 54 26.9**	**+0.7**
TTA	**Tatalina**	**83.89**	**8**	eP	**P**		**02 54 35.1**	**+0.7**
TTA				pmax	pmax			
	comp=Z,30nm,1.5s,mb5.2							
TTA	**Tatalina**	**83.89**	**8**	eP	**P**		**02 54 35.1**	**+0.7**
	comp=Z,30nm,1.5s,mb5.2							
ANMO	**Albuquerque**	**84.40**	**50**	P	**P**		**02 54 37.6**	**+0.6**
	comp=Z,2.8nm,0.9s,mb4.4,baz=200,slow=5.6,SNR=6.9							
ANMO	**Albuquerque**	**84.40**	**50**	i P	**P**		**02 54 37.8**	**+0.7**
ANMO	**Albuquerque**	**84.40**	**50**	eP	**P**		**02 54 37.8**	**+0.7**
	comp=Z,6.4nm,1.2s,mb4.6							
PDAR	**Pinedale Array**	**86.24**	**42**	P	**P**		**02 54 46.3**	**+0.1**
	comp=Z,1.1nm,0.9s,mb4.1,baz=222,slow=2.0,SNR=5.3							
COLA	**College**	**87.00**	**11**	eP	**P**		**02 54 49.7**	**-0.3**
COLA				pmax	pmax			
	comp=Z,18nm,0.9s,mb5.3							
COLA	**College**	**87.00**	**11**	eP	**P**		**02 54 49.7**	**-0.3**
	comp=Z,18nm,0.9s,mb5.3							
COLA				ePcP	PcP		02 54 51.7	-0.4
ILAR	**Eielson Array**	**87.09**	**11**	P	**P**		**02 54 50.0**	**-0.4**
	comp=Z,3.5nm,0.8s,mb4.6,baz=232,slow=5.6,SNR=32							
ILAR				PP	PP		02 58 10.9	-3.1
	comp=Z,0.4nm,0.9s,baz=223,slow=8.0,SNR=4.1							
DAWY	**Dawson**	**88.05**	**15**	eP	**P**		**02 54 55.8**	**+0.8**
DAWY				ePcP	PcP		02 54 57.4	+0.6
BILL	**Bilibino**	**88.92**	**353**	i P	**P**		**02 54 58.6**	**-0.5**
BILL				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.7							
INK	**Inuvik**	**92.90**	**14**	P	**P**		**02 55 17.5**	**-0.1**
	comp=Z,2.4nm,0.8s,mb4.7,baz=238,slow=5.1,SNR=9.9							
INK	**Inuvik**	**92.90**	**14**	eP	**P**		**02 55 17.6**	**0.0**
INK				pmax	pmax			
	comp=Z,6.0nm,1.3s							
INK	**Inuvik**	**92.90**	**14**	eP	**P**		**02 55 17.6**	**0.0**
	comp=Z,6.0nm,1.3s,mb4.9							
YKA	**Yellowknife Ar**	**94.62**	**24**	P	**P**		**02 55 25.2**	**-0.3**
	comp=Z,0.9nm,0.9s,mb4.2,baz=235,slow=4.2,SNR=12							
YKA	**Yellowknife Ar**	**94.62**	**24**	P	**P**		**02 55 25.2**	**-0.3**
TIXI	**Tiksi**	**99.16**	**344**	i P	**P**		**02 55 45.5**	**-0.5**
TIXI				pmax	pmax			
	comp=Z,3.0nm,1.8s,mb4.5							
ARU	**Arti**	**126.72**	**326**	ePKIKP	PKPdf		03 01 03.2	-4.8
ARCES	**ARCESS Array B**	**128.99**	**351**	PKP	PKPdf		03 01 11.2	-1.2
	comp=Z,2.2nm,0.6s,baz=22,slow=2.1,SNR=21							
JOF	**Joensuu**	**133.65**	**344**	epkp	PKPdf		03 01 19.9	-1.2
KAF	**Kangasniemi**	**135.54**	**346**	epkp	PKPdf		03 01 17.8	-6.9
FINES	**FINESS Array B**	**136.18**	**346**	PKP	PKPdf		03 01 24.4	-1.5
	comp=Z,1.1nm,0.7s,baz=29,slow=3.8,SNR=10.0							
NOA	**NORSAR Array B**	**138.80**	**356**	PKP	PKPdf		03 01 30.2	-0.5
	comp=Z,0.8nm,0.7s,baz=13,slow=4.0,SNR=3.7							
AKASG	**Malin Array Be**	**144.15**	**334**	PKP	PKPdf		03 01 37.8	-2.5
	comp=Z,2.2nm,0.4s,baz=39,slow=4.4,SNR=34							
GKP	**Gorka Klasztor**	**145.60**	**348**	ePKP	PKPdf		03 01 43.5	+0.7
BSEG	**Bad Segeberg**	**145.92**	**355**	ePKPbc	PKPbc		03 01 44.2	+0.1
MALT	**Malatya**	**146.31**	**310**⇑ iP		PKPdf		03 01 47.0	+3.0
MALT	**Malatya**	**146.31**	**310**	ePKPbc	PKPbc		03 01 46.8	+1.5
RUE	**Ruedersdorf**	**146.96**	**351**	ePKPbc	PKPbc		03 01 47.4	+0.3
KWP	**Kalwaria**	**147.45**	**339**	ePKP	PKPdf		03 01 49.1	+3.2
OJC	**Ojcow**	**147.81**	**343**	ePKPbc	PKPbc		03 01 49.5	0.0
CLZ	**Clausthal**	**148.00**	**355**	ePKPbc	PKPbc		03 01 50.4	+0.5
STHS	**Stebnicka Huta**	**148.10**	**341**	ePKP	PKPbc		03 01 51.5	+1.3
STHS				e			03 01 54.9	
KOLS	**Kolonicke sedl**	**148.19**	**339**	ePKP	PKPab		03 01 58.9	+5.4
BURAR	**Bucovina Array**	**148.20**	**335**⇓ iP		PKPbc		03 01 51.7	+1.2
CLL	**Collm**	**148.22**	**351**	ePKPbc	PKPbc		03 01 50.8	+0.3
CLL	**Collm**	**148.22**	**351**⇑ iP		PKPbc		03 01 50.8	+0.3
	comp=Z,13nm,0.9s							
CLL				⇓ iP	PKPab		03 01 53.6	+0.1
	comp=Z,10.0nm,0.8s							
CLL				i (pPKPbc)			03 01 56.2	
CLL				es PKPbc			03 02 03.0	
CLL	**Collm**	**148.22**	**351**⇑ i		PKIKP	PKPdf	03 01 50.8	+3.6
CLL				i			03 01 53.6	
CLL				pmax	pmax			
	comp=Z,13nm,0.9s							
CLL				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CLL	**Collm**	**148.22**	**351**⇑ iP		PKP	PKPdf	03 01 50.8	+3.6
CLL				⇓ iP	KP	PKPbc	03 01 53.6	+3.1
BRG	**Berggiesshubel**	**148.49**	**350**	ePKPbc	PKPbc		03 01 51.7	+0.5
BRG	**Berggiesshubel**	**148.49**	**350**	ePKP	PKPdf		03 01 51.6	+4.0
	comp=Z,5.6nm,1.0s							
BRG	**Berggiesshubel**	**148.49**	**350**	ePKP2	PKPab		03 01 51.6	-3.1
BRG				pmax	pmax			
	comp=Z,6.0nm,1.0s							
DPC	**Dobruska-Polom**	**148.54**	**347**	ePKPbc	PKPbc		03 01 50.7	-0.7
DPC				ePKPab	PKPab		03 01 55.0	+0.1
OKC	**Ostrava-Krasne**	**148.60**	**344**	ePKPbc	PKPbc		03 01 52.1	+0.6
CFR	**Carcaliu**	**148.76**	**329**⇑ iP		PKPbc		03 01 52.7	+0.8
CFR	**Carcaliu**	**148.76**	**329**⇑ P		PKPbc		03 01 52.7	+0.8
MORC	**Moravsky Berou**	**148.81**	**345**	ePKIKP	PKPdf		03 01 52.1	+4.0
BR131	**Keskin Array S**	**148.98**	**315**	ePKPbc	PKPbc		03 01 52.7	+0.2
BRTR	**Keskin Array B**	**148.98**	**315**	PKPbc	PKPbc		03 01 52.9	+0.4
	comp=Z,1.6nm,0.7s,baz=131,slow=4.2,SNR=12							
MOX	**Moxa**	**149.05**	**353**	ePKPbc	PKPbc		03 01 53.1	+0.4
MOX	**Moxa**	**149.05**	**353**	eP	PKPbc		03 01 52.9	+0.2
	comp=Z,13nm,1.5s							
MOX	**Moxa**	**149.05**	**353**	ePKIKP	PKPbc		03 01 52.9	+0.2
MOX				pmax	pmax			
	comp=Z,1.0nm,1.5s							
WERD	**Werda**	**149.15**	**352**	ePKPbc	PKPbc		03 01 53.4	+0.5
KECS	**Kecovo**	**149.16**	**341**	ePKP	PKPbc		03 01 53.2	+0.2
PRU	**Pruhonice**	**149.24**	**349**	ePKPbc	PKPbc		03 01 53.4	+0.2
NKC	**Novy Kostel**	**149.34**	**351**	ePKPdf	PKPdf		03 01 46.8	-2.2
NKC				ePKPbc	PKPbc		03 01 53.7	+0.3
ANTO	**Ankara**	**

SQTA	**Sankt Quirin** comp=Z,1.7nm,0.8s	**152.46**	**352**	⇓*i*P		PKPbc	03 02 00.9	+0.2
LOR	**Lormes** comp=Z,7.1nm,0.8s	**152.75**	**3**	*e*PKP1		PKPbc	03 02 01.0	-0.4
SSF	**Saint Saulge** comp=Z,10.0nm,0.9s	**152.93**	**3**	*e*PKP1		PKPbc	03 02 01.5	-0.3
LJU	**Ljubljana**	**153.01**	**346**	*e*PKPbc		PKPbc	03 02 01.9	0.0
AVF	**Avril sur Loir**	**153.19**	**4**	*e*PKP1		PKPbc	03 02 01.6	-0.8
BOJS	**Bojanci**	**153.35**	**345**	*i* PKPbc		PKPbc	03 02 03.1	+0.4
SMF	**Signal de Mont**	**153.37**	**3**	*e*PKP1		PKPbc	03 02 02.3	-0.4
BGF	**Bois d'Agland** comp=Z,7.2nm,0.8s	**153.39**	**4**	*e*PKP1		PKPbc	03 02 02.3	-0.5
CABF	**La Chapelle** comp=Z,23nm,1.2s	**153.44**	**359**	*e*PKP1		PKPbc	03 02 02.9	0.0
TCF	**Toulx Ste Croi**	**153.61**	**5**	*e*PKP1		PKPbc	03 02 02.6	-0.7
ESDC	**Sonseca Array** comp=Z,0.3nm,0.6s,baz=340,slow=5.5,SNR=3.6	**158.69**	**21**	PKPab		PKPab	03 02 38.5	+0.8

IDC 07 02:55:56.5±7.1, 611S×14641E, h120km±72km, mb3.2/3, mb1 3.4/5, mb1mx3.2/15, mbtmp3.6/5, Error ellipse: s-maj=72.7km s-min=28.0km az=142.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby** 14nm,0.3s,baz=0.0,slow=6.1,SNR=41	**3.36**	**167**	P	Pn	02 56 48.3	+0.8
PMG				S	Sn	02 57 27.4	+0.4
	27nm,0.3s,baz=131,slow=22,SNR=18						
CTA	**Charters Tower** 1.2nm,0.3s,baz=352,slow=14,SNR=16	**13.90**	**181**	P	Pn	02 59 14.3	+6.0
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=39,slow=12,SNR=3.9	**18.08**	**219**	P	P	02 59 59.2	+0.5
ASAR	**Alice Springs** 1.0nm,0.6s,baz=47,slow=8.9,SNR=12	**21.20**	**213**	P	P	03 00 33.4	+0.8
FITZ	**Fitzroy Crossi** 3.2nm,1.1s,baz=54,slow=7.7,SNR=4.0	**23.52**	**238**	P	P	03 00 55.3	-0.3
ILAR	**Eielson Array** 0.1nm,0.5s,baz=260,slow=5.1,SNR=4.1	**85.81**	**23**	P	P	03 08 22.4	-0.1
TORD	**Torodi Ar. Bea** 0.5nm,0.9s,baz=64,slow=2.9,SNR=4.4	**144.55**	**284**	PKP	PKPdf	03 15 18.6	-0.1

IDC 07 03:02:16.5±4.7, 2020S×17348W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/15, mbtmp4.0/4, ML2.1/1, Error ellipse: s-maj=134.8km s-min=33.8km az=127.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu** 2.3nm,0.3s,baz=211,slow=12,SNR=3.3	**6.46**	**15**	Pn	Pn	03 03 51.4	-1.4
AFI				Sn	Sn	03 04 55.2	-12
	2.5nm,0.3s,baz=0.0,slow=20,SNR=2.6						
ASAR	**Alice Springs** 0.8nm,0.6s,baz=98,slow=7.5,SNR=12	**48.71**	**256**	P	P	03 11 02.8	+0.2
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=98,slow=6.8,SNR=4.9	**48.84**	**261**	P	P	03 11 03.4	-0.2
MJAR	**Matsushiro Arr** 1.0nm,0.6s,baz=154,slow=5.6,SNR=6.8	**72.56**	**321**	P	P	03 13 46.2	+0.8
AKASG	**Malin Array Be** 0.2nm,0.3s,baz=38,slow=3.9,SNR=4.1	**144.67**	**335**	PKP	PKPdf	03 21 54.8	-0.3

IDC 07 03:16:00.5±4.4, 2076S×17392W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/14, mbtmp3.5/3, Error ellipse: s-maj=227.8km s-min=34.0km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs** 0.4nm,0.6s,baz=97,slow=8.0,SNR=5.9	**48.18**	**256**	P	P	03 24 42.4	-0.2
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=94,slow=7.4,SNR=2.9	**48.35**	**261**	P	P	03 24 44.1	+0.3
ILAR	**Eielson Array** 0.4nm,0.6s,baz=213,slow=5.2,SNR=7.5	**87.77**	**11**	P	P	03 28 50.0	-1.4
ARCES	**ARCESS Array B** 1.5nm,0.8s,baz=358,slow=2.8,SNR=5.7	**129.81**	**351**	PKP	PKPdf	03 35 11.4	-0.4
FINES	**FINESS Array B** 0.8nm,1.0s,baz=101,slow=5.8,SNR=4.2	**137.02**	**346**	PKP	PKPdf	03 35 26.4	+1.1
AKASG	**Malin Array Be** 0.3nm,0.3s,baz=43,slow=4.2,SNR=5.2	**145.00**	**334**	PKPbc	PKPbc	03 35 38.0	-0.9
GERES	**GERESS Array B** 0.3nm,0.5s,baz=38,slow=5.0,SNR=3.2	**151.32**	**349**	PKPbc	PKPbc	03 35 56.6	+0.5

JMA 07 03:16:58.2±0.1, 2668N×12819E, h50km±1km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**0.17**	**26**	P	Pn	03 17 06.3	0.0
JOW				S	Sn	03 17 12.0	-0.1
JIH	**Iheya**	**0.41**	**331**	P	Pn	03 17 08.5	+0.1
JIH				S	Sn	03 17 15.7	+0.1
NAH1	**Naha**	**0.65**	**223**	P	Pn	03 17 11.3	0.0
NAH1				S	Sn	03 17 21.6	+0.8
JJT2	**Tamagusuku 2**	**0.67**	**216**	P	Pn	03 17 11.7	+0.2
JJT2				S	Sn	03 17 22.0	+0.8
JAGN	**Aguni-jima**	**0.85**	**264**	P	Pn	03 17 13.9	0.0
JAGN				S	Sn	03 17 25.4	0.0
JTK	**Tokunoshima**	**1.29**	**31**	P	Pn	03 17 20.5	+0.6
JTK				*e*S	Sn	03 17 36.4	+0.4
JKE	**Kume jima 2**	**1.31**	**255**	P	Pn	03 17 19.6	-0.4
JKE				*e*S	Sn	03 17 36.3	-0.1
JAM	**Amami Oshima**	**2.13**	**36**	P	Pn	03 17 31.9	+0.6
JAM				S	Sn	03 17 57.0	+0.4
JZK	**Kikaishima**	**2.27**	**44**	P	Pn	03 17 34.0	+0.8
JZK				*e*S	Sn	03 18 01.9	+1.9
JMZ	**Minamidaito 2**	**2.85**	**107**	P	Pn	03 17 39.3	-1.9
JMZ				*e*S	Sn	03 18 10.3	-4.0
JOGS	**Gusukube**	**3.16**	**233**	P	Pn	03 17 45.7	+0.3
JNN	**Nakanoshima**	**3.48**	**25**	P	Pn	03 17 51.8	+2.0
JTJ	**Tarama**	**3.75**	**238**	P	Pn	03 17 52.3	-1.1
JJJ	**Ishigaki jima**	**4.32**	**239**	P	Pn	03 17 59.2	-2.2
JKRS	**Kuro-shima**	**4.49**	**238**	P	Pn	03 18 02.0	-1.7
IRIF	**Iriomote-Funau**	**4.66**	**241**	P	Pn	03 18 03.9	-2.1

IDC 07 03:17:01.8±0.8, 1986S×17453W, h0km, mb4.1/8, mb1 4.3/10, mb1mx4.1/18, mbtmp4.1/10, ML3.2/2, MS3.5/1, Ms1 3.5/1, ms1mx2.9/20, Error ellipse: s-maj=39.2km s-min=17.4km az=134.0
ISCJB 07 03:17:05.8±0.8, 197S±02×17477W±0.2, h33km, mb4.0/10, Error ellipse: s-maj=34.0km s-min=12.9km az=90.7
NEIC 07 03:17:07.2±0.5, 1998S×17452W, h35km, mb4.5/2, Error ellipse: s-maj=24.8km s-min=11.7km az=130.0

ISC 07 03:17:07.7±0.8, 197S±02×1746W±02, h35km, n20, σ0§68/14, mb4.0/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu** 6.6nm,0.3s,baz=266,slow=15,SNR=4.2	**6.37**	**26**	Pn	**Pn**	**03 18 38.0**	**-1.0**
AFI				Sn	**Sn**	**03 19 43.8**	**-6.7**
	1.8nm,0.3s,baz=197,slow=20,SNR=1.9						
RAO	**Raoul Island** comp=Z,266nm,18.8s,baz=74,slow=29	**9.97**	**197**	LR	LR	03 21 45.3	
URZ	**Urewera** 0.4nm,0.3s,baz=32,slow=15,SNR=2.1	**19.84**	**199**	P	**Pn**	**03 21 31.0**	**-6.2**
RPZ	**Rata Peaks** 5.4nm,0.7s,mb4.2,baz=22,slow=5.4,SNR=3.6	**26.79**	**203**	P	**P**	**03 22 43.7**	**-0.7**
CTA	**Charters Tower** 1.3nm,0.3s,mb4.4,baz=88,slow=13,SNR=8.4	**36.74**	**263**	P	**P**	**03 24 12.5**	**+0.9**
ASAR	**Alice Springs** 0.6nm,0.4s,mb3.9,baz=93,slow=7.9,SNR=13	**47.80**	**256**	P	**P**	**03 25 41.2**	**-0.3**
ASAR				PcP	PcP	03 27 10.3	+0.2
	0.3nm,0.5s,baz=106,slow=4.1,SNR=5.6						
WRA	**Warramunga Arr** 0.8nm,0.4s,mb4.1,baz=97,slow=7.7,SNR=5.0	**47.86**	**261**	P	**P**	**03 25 41.7**	**-0.4**
NVAR	**Mina Array Bea** 0.4nm,0.5s,mb3.6,baz=239,slow=10,SNR=3.9	**78.28**	**42**	P	**P**	**03 29 04.7**	**+0.7**
ANMO	**Albuquerque** 2.8nm,1.1s,mb4.3	**84.44**	**50**	*e*P	**P**	**03 29 37.2**	**+0.5**
PDAR	**Pinedale Array** 0.3nm,0.7s,mb3.6,baz=284,slow=3.6,SNR=3.4	**86.22**	**42**	P	**P**	**03 29 46.0**	**+0.4**
COLA	**College** 2.2nm,0.5s,mb4.6	**86.78**	**11**	*e*P	**P**	**03 29 49.1**	**+0.8**
ILAR	**Eielson Array** 0.2nm,0.5s,mb3.6,baz=207,slow=5.1,SNR=5.1	**86.86**	**12**	P	**P**	**03 29 48.8**	**+0.1**
YKA	**Yellowknife Ar** 0.2nm,1.0s,mb3.5,baz=224,slow=4.6,SNR=5.3	**94.48**	**24**	P	**P**	**03 30 23.2**	**-1.1**
YKA	**Yellowknife Ar**	**94.48**	**24**	P	**P**	**03 30 23.2**	**-1.1**
ARCES	**ARCESS Array B**	**128.67**	**351**	PKP	PKPdf	03 36 10.6	-0.6
	1.1nm,0.5s,baz=11,slow=1.2,SNR=11						
ARCES	**ARCESS Array B**	**128.67**	**351**	PKP	PKPdf	03 36 10.6	-0.6
FINES	**FINESS Array B** 0.4nm,0.7s,baz=30,slow=4.0,SNR=6.1	**135.84**	**346**	PKP	PKPdf	03 36 25.4	+0.8
AKASG	**Malin Array Be** 0.7nm,0.4s,baz=40,slow=4.1,SNR=5.9	**143.77**	**334**	PKP	PKPdf	03 36 36.2	-2.8
CLL	**Collm** comp=Z,7.0nm,1.3s	**147.89**	**351**	*e*PKPbc	PKPbc	03 36 49.0	-0.1
CLL				*es*PKPbc		03 37 02.0	
GERES	**GERESS Array B** comp=Z,0.7nm,0.6s,baz=107,slow=1.4,SNR=7.5	**150.16**	**349**	PKPbc	PKPbc	03 36 55.2	+0.4

IDC 07 03:21:55.9±6.1, 1689S×17806W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.8/13, mbtmp3.7/4, Error ellipse: s-maj=303.0km s-min=31.6km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.5nm,0.6s,baz=93,slow=7.7,SNR=3.3	**45.16**	**258**	P	P	03 30 14.3	+0.1
ASAR	**Alice Springs** 3.8nm,0.7s,baz=89,slow=8.1,SNR=37	**45.40**	**253**	P	P	03 30 16.6	+0.5
ILAR	**Eielson Array** 0.2nm,0.6s,baz=216,slow=5.0,SNR=4.5	**84.82**	**13**	P	P	03 34 31.9	-0.3
YKA	**Yellowknife Ar** 0.2nm,0.7s,baz=243,slow=4.1,SNR=5.2	**93.27**	**25**	P	P	03 35 11.8	-0.5

ISCJB 07 04:04:18.6±1.0, 142N±02×1452E±03, h94km±10km, mb3.7/9, Error ellipse: s-maj=48.1km s-min=21.9km az=50.1
IDC 07 04:04:18.7±0.8, 1415N×14526E, h80km±9km, mb3.5/9, mb1 3.7/9, mb1mx3.5/22, mbtmp3.8/9, Error ellipse: s-maj=39.9km s-min=18.2km az=116.0

ISC 07 04:04:19.5±1.1, 142N±02×1452E±03, h86km±11km, n10, σ1§07/11, mb3.7/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam** 3µm,0.3s,baz=55,slow=1.3,SNR=980	**0.68**	**207**	P	**Pn**	**04 04 35.8**	**+0.4**
GUMO				S	**Sn**	**04 04 46.9**	**-0.3**
	482nm,0.3s,baz=0.8,slow=22,SNR=23						
WRA	**Warramunga Arr** 0.7nm,0.5s,mb3.8,baz=21,slow=9.0,SNR=5.5	**35.56**	**198**	P	**P**	**04 11 08.5**	**+0.1**
FITZ	**Fitzroy Crossi** 3.8nm,1.1s,mb4.2,baz=14,slow=19,SNR=5.0	**37.43**	**212**	P	**P**	**04 11 24.1**	**-0.2**
MKAR	**Makanchi Array** 0.2nm,0.3s,mb3.6,baz=89,slow=8.1,SNR=6.8	**61.27**	**316**	P	**P**	**04 14 27.5**	**+1.8**
KDAK	**Kodiak Island** 8.7nm,1.0s,mb4.6,baz=306,slow=14,SNR=3.9	**63.40**	**32**	P	**P**	**04 14 40.6**	**+0.7**
ILAR	**Eielson Array** 0.4nm,0.5s,mb3.5,baz=252,slow=5.8,SNR=21	**67.89**	**25**	P	**P**	**04 15 07.4**	**-1.4**
INK	**Inuvik** 0.6nm,0.8s,mb3.4,baz=297,slow=9.0,SNR=3.4	**73.69**	**23**	P	**P**	**04 15 43.6**	**-0.4**
YKA	**Yellowknife Ar** 0.2nm,0.4s,mb3.3,baz=285,slow=5.1,SNR=8.5	**82.19**	**27**	P	**P**	**04 16 30.4**	**-0.6**
NVAR	**Mina Array Bea** 0.4nm,0.5s,mb3.6,baz=258,slow=4.3,SNR=3.6	**86.31**	**51**	P	**P**	**04 16 53.8**	**+1.9**
FINES	**FINESS Array B** 0.2nm,0.5s,mb3.5,baz=84,slow=7.9,SNR=4.3	**90.75**	**335**	P	**P**	**04 17 11.1**	**-1.8**

MEX 07 04:07:30.3±0.7, 1694N×9441W, h33km±12km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OXX	**Oaxaca**	**2.22**	**274**	*i* P	Pn	04 08 03.5	-1.3
OXX				*i* S	Sn	04 08 28.7	-2.3
VHO	**Vista Hermosa**	**2.23**	**274**	*i* P	Pn	04 08 03.2	-1.7
VHO				*i* S	Sn	04 08 29.4	-1.8
CCIG	**Comitan**	**2.27**	**106**	*i* P	Pn	04 08 04.8	-0.7
CCIG				*i* S	Sn	04 08 29.9	-2.4
UTMO	**Huajuapan**	**3.36**	**286**	*e*P	Pn	04 08 18.1	-2.4
UTMO				*i* S	Sn	04 08 56.8	-2.4

ISK 07 04:21:46.8, 3725N×3474E, h16km, MD3.3
CSEM 07 04:21:46.3±0.1, 3729N×3469E, h5km, MD3.3, Error ellipse: s-maj=2.7km s-min=2.0km az=72.0
ISCJB 07 04:21:47.4±0.4, 3731N±002×3472E±004, h10km, Error ellipse: s-maj=4.1km s-min=2.8km az=153.6
NSSC 07 04:21:48.6, 3755N×3475E, h40km

ISC 07 04:21:48.1±0.4, 3729N±002×3472E±003, h10km, n28, σ0§96/47, 10D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARA	**Karaisali** KARA	**0.27**	**95**	*i* PG *i* SG	**Pg** **Sg**	**04 21 52.6** **04 21 57.1**	**-0.9** **0.0**
MERS	**Mersin** MERS	**0.45**	**201**	*i* PG *i* SG	**Pg** **Sg**	**04 21 55.3** **04 22 02.5**	**-1.5** **-0.3**
NIG	**Nigde**	**0.83**	**354**	PG	**Pg**	**04 22 03.9**	**-0.1**
MEST	**Erdemli** MEST	**0.84**	**214**	*i* P *i* S	**Pg** **Sg**	**04 22 02.1** **04 22 15.3**	**-2.1** **+0.2**
CEYT	**Ceyhan**	**0.86**	**108**	PG	**Pg**	**04 22 04.2**	**-0.5**
KOZT	**Kozan**	**0.90**	**77**	PG	**Pg**	**04 22 04.0**	**-1.4**
IKL	**Isikli**	**1.34**	**219**	PN	**Pn**	**04 22 11.0**	**-1.8**
COBT	**Iskenderun** COBT	**1.45**	**121**	*i* P *i* S	**Pn** **Sn**	**04 22 14.7** **04 22 33.4**	**+0.4** **0.0**
AVNT	**Avonos** AVNT	**1.49**	**4**	*i* P *i* S	**Pn** **Sn**	**04 22 14.4** **04 22 34.9**	**-0.5** **+0.4**
AVNT	**Avonos** AVNT	**1.49**	**4**	*i* P *i* S	**Pn** **Sn**	**04 22 14.4** **04 22 34.9**	**-0.6** **+0.4**
ERMK	**Ermenek** ERMK	**1.59**	**247**	*i* P *i* S	**Pn** **Sn**	**04 22 18.1** **04 22 42.1**	**+1.8** **+5.3**
DRWC	**Darouich** DRWC	**1.69**	**113**	⇑P ⇑S	**Pn** **Sn**	**04 22 17.3** **04 22 37.7**	**-0.3** **-1.7**
DRWC	**Darouich** DRWC	**1.69**	**113**	⇑*i*P ⇑*i*S	**Pn** **Sn**	**04 22 17.3** **04 22 37.7**	**-0.4** **-1.7**
ARNB	**Al Arnab** ARNB	**1.74**	**144**	⇓P ⇓S	**Pn** **Sn**	**04 22 18.9** **04 22 42.2**	**+0.5** **+1.6**
BNN	**Bunyan**	**1.80**	**29**	PN	**Pn**	**04 22 18.2**	**-0.9**
BTCH	**Batrach** BTCH	**1.87**	**131**	⇓P ⇓S	**Pn** **Sn**	**04 22 21.2** **04 22 43.4**	**+1.1** **-0.5**
BTCH	**Batrach** BTCH	**1.87**	**131**	⇓*i*P ⇓*i*S	**Pn** **Sn**	**04 22 21.2** **04 22 43.4**	**+1.1** **-0.4**
SLNF	**Slenfeh** SLNF	**2.08**	**144**	⇓P ⇓S	**Pn** **Sn**	**04 22 23.9** **04 22 50.5**	**+0.9** **+1.6**
SLNF	**Slenfeh** SLNF	**2.08**	**144**	⇓*i*P ⇓*i*S	**Pn** **Sn**	**04 22 23.9** **04 22 50.5**	**+0.9** **+1.6**
KAMT	**Kaman**	**2.23**	**339**	PN	**Pn**	**04 22 25.0**	**0.0**
WRDH	**Warideh** WRDH	**2.24**	**142**	⇑P ⇑S	**Pn** **Sn**	**04 22 26.5** **04 22 53.3**	**+1.3** **+0.5**
WRDH	**Warideh** WRDH	**2.24**	**142**	⇑*i*P ⇑*i*S	**Pn** **Sn**	**04 22 26.5** **04 22 53.3**	**+1.3** **+0.5**
GZT	**Gaziantep** GZT	**2.27**	**87**	*i* P *i* S	**Pn** **Sg**	**04 22 27.0** **04 23 00.1**	**+1.4** **-0.8**
CDAG	**Cicekdag** CDAG	**2.35**	**353**	*i* P *i* S	**Pg** **Sg**	**04 22 33.4** **04 23 04.0**	**+0.3** **+0.3**
YOZ	**Yozgat**	**2.40**	**11**	PN	**Pn**	**04 22 27.1**	**-0.3**
BIDA	**Albida**	**2.61**	**150**	⇑P	**Pn**	**04 22 30.5**	**+0.2**
BIDA	**Albida**	**2.61**	**150**	⇑*i*P	**Pn**	**04 22 30.5**	**+0.2**
CTKT	**Corum** CTKT	**3.33**	**1**	*i* P *i* S	**Pb** **Sg**	**04 22 47.2** **04 23 36.0**	**0.0** **+0.9**

IDC 07 04:31:53.1±5.5, 1778S×17620W, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/14, mbtmp3.6/4, ML1.9/1, Error ellipse: s-maj=264.8km s-min=23.5km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu** 2.1nm,0.3s,baz=163,slow=20,SNR=2.9	**5.73**	**49**	Pn	Pn	04 33 19.5	+0.1
AFI				Sn	Sn	04 34 24.6	-1.4
	3.2nm,0.3s,baz=251,slow=18,SNR=2.8						
WRA	**Warramunga Arr** 0.7nm,0.9s,baz=96,slow=7.5,SNR=2.6	**46.73**	**259**	P	P	04 40 23.1	-0.7
ASAR	**Alice Springs** 0.6nm,0.7s,baz=96,slow=7.8,SNR=5.5	**46.85**	**254**	P	P	04 40 26.0	+1.2
ILAR	**Eielson Array** 0.4nm,0.6s,baz=228,slow=6.4,SNR=11	**85.30**	**12**	P	P	04 44 32.0	+0.1

CSEM 07 04:57:56.1±0.6, 3863N×2859W, h16km±8km, ML1.5, Error ellipse: s-maj=4.6km s-min=3.1km az=61.0, After PDA
PDA 07 04:57:56.1±0.6, 3863N×2859W, h16km±8km, MD2.6, ML1.5, Error ellipse: s-maj=4.6km s-min=3.1km az=61.0

SVSA 07 04:57:56.1±0.6, 3863N×2859W, h16km±8km, MD2.6, ML1.5, Error ellipse: s-maj=4.6km s-min=3.1km az=61.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**0.08**	**269**	*e*P	Pg	04 57 58.7	-0.6
PCED				*e*S	Sg	04 58 00.8	-0.6
PCED							
	45nm,0.2s						
PCED	**Cedros**	**0.08**	**269**	*e*P	Pg	04 57 58.7	-0.6
PCED				*e*S	Sg	04 58 00.8	-0.6
CALA	**Caldeira**	**0.10**	**240**	*e*P	Pg	04 57 59.3	-0.1
CALA				*e*S	Sg	04 58 01.6	0.0
HOR	**Horta**	**0.11**	**195**	*e*S	Sg	04 58 01.1	-0.7
PICO	**Pico**	**0.18**	**134**	*e*P	Pg	04 58 00.0	-0.6
PICO				*e*S	Sg	04 58 03.1	-0.5
ROSA	**Rosais**	**0.29**	**72**	*e*P	Pg	04 58 01.4	-0.9
ROSA				*e*S	Sg	04 58 05.3	-1.2
PID	**Ribeirinha**	**0.42**	**117**	*erx*		04 58 03.6	

ISCJB 07 05:20:11.3±0.5, 5142N±003×16.17E±003, h0km, Error ellipse: s-maj=4.3km s-min=2.7km az=52.0
CSEM 07 05:20:14.2±0.2, 5141N×16.15E, h1km, ML3.0/3, Error ellipse: s-maj=3.1km s-min=1.6km az=20.0
IPEC 07 05:20:14.4±0.2, 5141N×16.18E, h9km±1km, ML2.1/2, Error ellipse: s-maj=1.6km s-min=0.8km az=46.0
VIE 07 05:20:14.7±0.9, 5130N×16.16E, h0km, mb2.0/3, ML2.7/4, Error ellipse: s-maj=5.4km s-min=5.1km az=172.0 63 km WNW of Breslau Suspected Mining induced.
PRU 07 05:20:15.1, 51.36N×16.11E, h0km
UPP 07 05:20:56.9, 5473N×1578E, h0km, ML2.3, Suspected Mining explosion.

ISC 07 05:20:12.7±0.5, 5144N±003×1617E±003, h0km, n30, σ0§81/54, 1C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.60**	**173**	*i* Pgd	**Pg**	**05 20 25.1**	**+0.9**
KSP				*e*Sg	**Sg**	**05 20 33.1**	**+1.1**
KSP	**Ksiaz**	**0.60**	**173**	*e*Pg	**Pg**	**05 20 25.1**	**+0.9**
KSP				*e*Sg	**Sg**	**05 20 32.9**	**+0.9**
DPC	**Dobruska-Polom**	**1.09**	**175**	*e*PG	**Pg**	**05 20 34.0**	**+0.3**
DPC				*e*SG	**Sg**	**05 20 48.3**	**+0.5**
	36nm,0.6s						
DPC	**Dobruska-Polom**	**1.09**	**175**	*e*Pg	**Pg**	**05 20 33.9**	**+0.2**
DPC				*e*Sg	**Sg**	**05 20 48.0**	**+0.2**
BRG	**Berggiesshubel**	**1.51**	**249**	PN	**Pn**	**05 20 40.3**	**-0.8**
BRG				PG	**Pg**	**05 20 41.9**	**+0.1**
BRG				SG	**Sg**	**05 21 02.4**	**+1.0**
	26nm,0.6s						
PRU	**Pruhonice**	**1.78**	**216**	*e*PG	**Pg**	**05 20 46.4**	**-0.5**
PRU				*e*SG	**Sg**	**05 21 09.9**	**-0.1**
	35nm,0.3s						
PRU	**Pruhonice**	**1.78**	**216**	*e*Pn	**Pn**	**05 20 45.9**	**+1.1**
PRU	**Pruhonice**	**1.78**	**216**	*e*Pg	**Pg**	**05 20 46.4**	**-0.5**
PRU				*e*Sg	**Sg**	**05 21 09.7**	**-0.3**
RUE	**Ruedersdorf**	**1.81**	**306**	*e*Sg	**Sg**	**05 21 12.3**	**+1.3**
MORC	**Moravsky Berou**	**1.88**	**152**	*e*Pn	**Pn**	**05 20 45.7**	**-0.4**
CLL	**Collm**	**1.99**	**268**	*e*Pn	**Pn**	**05 20 47.0**	**-0.6**
CLL				*i* Pg	**Pg**	**05 20 50.0**	**-0.9**
CLL				*e*Sg	**Sg**	**05 21 17.0**	**+0.3**
	comp=Z,15nm,0.4s						
OKC	**Ostrava-Krasne**	**2.04**	**141**	*e*PG	**Pg**	**05 20 51.8**	**+0.1**
OKC				*e*SG	**Sg**	**05 21 17.1**	**-1.0**
VRAC	**Vranov**	**2.15**	**173**	*e*Pn	**Pn**	**05 20 50.4**	**+0.6**
VRAC				*e*Sg	**Sg**	**05 21 21.4**	**-0.3**
	comp=Z,12nm,0.4s						
TREC	**Trest**	**2.19**	**192**	*e*PN	**Pn**	**05 20 50.8**	**+0.5**
TREC				*e*PG	**Pg**	**05 20 54.0**	**-0.7**
TREC	**Trest**	**2.19**	**192**	*e*Pn	**Pn**	**05 20 50.3**	**0.0**
TREC	**Trest**	**2.19**	**192**	*e*Pg	**Pg**	**05 20 54.0**	**-0.7**
TREC				*e*Sg	**Sg**	**05 21 22.7**	**-0.4**
KRUC	**Moravsky**	**2.38**	**176**	*e*Pn	**Pn**	**05 20 54.3**	**+1.3**
KRUC				*e*Sg	**Sg**	**05 21 28.0**	**-1.3**
	comp=Z,7.0nm,0.3s						
OJC	**Ojcow**	**2.60**	**117**	*e*Pg	**Pg**	**05 21 02.5**	**-0.1**
OJC				*e*Sg	**Sg**	**05 21 36.6**	**+0.3**
NKC	**Novy Kostel**	**2.65**	**244**	*e*PN	**Pn**	**05 20 57.1**	**+0.4**
NKC				*e*PG	**Pg**	**05 21 02.7**	**-0.8**
NKC				*e*SG	**Sg**	**05 21 37.8**	**-0.1**
	comp=Z,33nm,0.3s						
NKC	**Novy Kostel**	**2.65**	**244**	*e*Pn	**Pn**	**05 20 57.0**	**+0.3**
NKC	**Novy Kostel**	**2.65**	**244**	*e*Pg	**Pg**	**05 21 02.7**	**-0.8**
NKC				*e*Sg	**Sg**	**05 21 36.9**	**-1.0**
KHC	**Kasperske Hory**	**2.85**	**217**	*e*PN	**Pn**	**05 20 59.5**	**+0.1**
KHC				*e*PG	**Pg**	**05 21 05.9**	**-1.4**
KHC				*e*SG	**Sg**	**05 21 42.7**	**-1.5**
	comp=Z,10nm,0.3s						
KHC	**Kasperske Hory**	**2.85**	**217**	*e*Pn	**Pn**	**05 20 59.6**	**+0.2**
MOX	**Moxa**	**2.98**	**256**	*e*PG	**Pg**	**05 21 09.9**	**0.0**
MOX				*e*SG	**Sg**	**05 21 49.6**	**+1.0**
MOX	**Moxa**	**2.98**	**256**	*e*Sg	**Sg**	**05 21 48.1**	**-0.5**
WET	**Wettzell**	**3.12**	**224**	*e*Pn	**Pn**	**05 21 03.5**	**+0.4**
NIE	**Niedzica**	**3.33**	**126**	*e*P	**Pg**	**05

KAD	**Karad**	**7.03**	**166**	*e*S		**Sn**	**05 27 53.8**	**-1.4**
SMLA	**Simla**	**8.08**	**30**	*e*P		**Pn**	**05 26 50.5**	**+1.3**
SMLA				*e*S		**Sn**	**05 28 16.5**	**-4.5**
SMLA				*i* S		**Sn**	**05 28 17.3**	**-3.7**
SMLA				AML	AML		05 29 11.4	
	comp=N,142nm,0.4s							
SMLA				AML	AML		05 29 11.7	
	comp=E,182nm,0.7s							
LGTI	**Lohaghat**	**8.72**	**51**	*e*P		**Pn**	**05 26 57.5**	**-0.4**
GOA	**Goa**	**8.75**	**171**	*ex*		x	05 28 54.0	
PTH	**Pithoragarh**	**8.75**	**51**	*e*S		**Sn**	**05 28 35.2**	**-2.3**
HYB	**Hyderabad**	**8.83**	**139**	*i* Pn		**Pn**	**05 27 05.0**	**+5.6**
HYB				*e*			05 28 36.0	
HYB				*e*Sn		**Sn**	**05 28 42.0**	**+2.7**
DLH	**Dalhousie**	**8.88**	**20**	*e*S		**Sn**	**05 28 38.0**	**-2.6**
KOLN	**Koldanda**	**10.65**	**68**	*e*P		**Pn**	**05 27 25.1**	**+0.7**
	comp=E,15nm,0.3s							
GKN	**Gorkha**	**11.59**	**68**	*e*P		**Pn**	**05 27 37.9**	**+0.6**
	comp=E,21nm,0.4s							
DMN	**Daman**	**11.89**	**71**	*e*P		**Pn**	**05 27 41.2**	**-0.2**
	comp=E,36nm,0.5s							
VIS	**Vishakhapatnam**	**12.03**	**120**	*ex*		x	05 28 11.0	
VIS				*ex*		x	05 30 09.4	
KKN	**Kakani**	**12.09**	**70**	*e*P		**Pn**	**05 27 43.2**	**-0.9**
	comp=E,79nm,0.5s							
PKI	**Pulchoki**	**12.14**	**71**	*e*P		**Pn**	**05 27 43.9**	**-1.0**
	comp=E,48nm,0.5s							
GUN	**Gumba**	**12.63**	**70**	*e*P		**Pn**	**05 27 50.8**	**-0.7**
	comp=E,83nm,0.6s							
JIRN	**Jiri**	**12.84**	**71**	*e*P		**Pn**	**05 27 52.6**	**-1.8**
	comp=E,38nm,0.4s							

NEIC **07** *05:43:27.0, 38.19N×2660E, h13km, MD3.4(ISK), ML3.3(THE), ML3.7(ATH), After ISK.*
ISK **07** *05:43:28.9, 3821N×2666E, h19km, MD3.4*
THE **07** *05:43:29.6, 3818N×2673E, h10km, ML3.1*
ATH **07** *05:43:29.2, 3816N×2660E, h28km±2km, MD3.7/10, ML3.7*
ISCJB **07** *05:43:30.2±0.5, 3819N±002×2669E±003, h23km±5km, Error ellipse: s-maj=4.1km s-min=3.5km az=153.4*
CSEM **07** *05:43:30.0±0.1, 3821N×2676E, h21km±1km, ML3.7, Error ellipse: s-maj=1.9km s-min=1.5km az=93.0*

ISC 07 05:43:30.3±0.4, 3818N±002×2669E±003, h16km±3km, n59, σ0§82/75, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SMG	**Samos**	**0.48**	**166**	⇑*i*P	B	**Pg**	**05 43 39.6**	**-0.4**
SMG				*e*SB		**Sg**	**05 43 47.0**	**+0.4**
SMG	**Samos**	**0.48**	**166**	*i* Pbu		**Pg**	**05 43 39.6**	**-0.4**
SMG				*e*Sb		**Sg**	**05 43 47.0**	**+0.4**
IZM	**Izmir**	**0.50**	**64**	*i* PG		**Pg**	**05 43 40.0**	**-0.2**
IZM				*i* SG		**Sg**	**05 43 47.2**	**+0.3**
KDAG	**Bornova**	**0.50**	**64**	*i* P		**Pg**	**05 43 40.0**	**-0.3**
KDAG				*i* S		**Sg**	**05 43 47.6**	**+0.5**
CHOS	**Chios island**	**0.54**	**292**	*e*Pg		**Pg**	**05 43 40.7**	**-0.4**
CHOS				*e*Sg		**Sg**	**05 43 49.1**	**+0.8**
PRK	**Paraskevi**	**1.11**	**343**	*e*PN		**Pn**	**05 43 50.0**	**-0.6**
PRK				*e*SN		**Sn**	**05 44 06.0**	**-0.2**
PRK	**Paraskevi**	**1.11**	**343**	*e*Pn		**Pn**	**05 43 50.6**	**-0.6**
PRK				*e*Sn		**Sn**	**05 44 06.4**	**+0.2**
AKS	**Akhisar**	**1.12**	**51**	PN		**Pn**	**05 43 50.6**	**-0.7**
AYVA	**Ayvalik**	**1.13**	**360**	*i* P		**Pn**	**05 43 51.1**	**-0.3**
AYVA				*i* S		**Sb**	**05 44 09.9**	**+4.2**
BODT	**Bodrum**	**1.22**	**156**	PN		**Pn**	**05 43 52.2**	**-0.5**
MLSB	**Milas**	**1.23**	**136**	PN		**Pn**	**05 43 52.8**	**0.0**
BDRM	**Kayabasi**	**1.26**	**152**	*i* P		**Pn**	**05 43 53.6**	**+0.4**
BDRM				*i* S		**Sb**	**05 44 11.1**	**+1.4**
APE	**Apeiranthos**	**1.44**	**220**	PN		**Pn**	**05 43 54.5**	**-1.3**
APE				SN		**Sn**	**05 44 14.1**	**-0.3**
APE	**Apeiranthos**	**1.44**	**220**	*e*Pg		**Pn**	**05 43 54.9**	**-0.8**
APE				*e*Sg		**Sg**	**05 44 16.6**	**-0.3**
APE	**Apeiranthos**	**1.44**	**220**	*e*PN		**Pn**	**05 43 54.3**	**-1.5**
APE	**Apeiranthos**	**1.44**	**220**	*e*Pn		**Pn**	**05 43 53.9**	**-1.9**
APE	**Apeiranthos**	**1.44**	**220**	*e*Pg		**Pn**	**05 43 54.9**	**-0.9**
APE				*e*Sn		**Sn**	**05 44 14.1**	**-0.3**
APE				*e*Sg		**Sg**	**05 44 16.6**	**-0.3**
MANT	**Manisa**	**1.50**	**78**	*i* P		**Pn**	**05 43 58.6**	**+2.1**
MANT				*i* S		**Sn**	**05 44 17.7**	**+2.0**
DAT	**Datca**	**1.61**	**154**	PN		**Pn**	**05 43 57.5**	**-0.6**
YER	**Yerkesik**	**1.64**	**129**	PN		**Pn**	**05 43 58.0**	**-0.4**
EZN	**Ezine**	**1.67**	**350**	PN		**Pn**	**05 43 57.0**	**-1.8**
BALB	**Balikesir**	**1.73**	**32**	PN		**Pn**	**05 43 59.1**	**-0.5**
DENT	**Denizli**	**1.90**	**102**	PN		**Pn**	**05 44 01.6**	**-0.4**
THR3	**Thira Island,**	**2.05**	**211**	*e*Pn		**Pn**	**05 44 04.2**	**+0.2**
SANT	**Santorini**	**2.06**	**209**	*e*Pn		**Pn**	**05 44 04.1**	**-0.1**
THR1	**Thera Island**	**2.06**	**209**	*e*Pn		**Pn**	**05 44 04.8**	**+0.6**
DST	**Dursunbey**	**2.07**	**46**	*e*PN		**Pn**	**05 44 03.6**	**-0.8**
LIA	**Limnos Island**	**2.08**	**326**	*e*PN		**Pn**	**05 44 04.1**	**-0.4**
LOS	**Limnos**	**2.15**	**325**	*e*Pn		**Pn**	**05 44 05.8**	**+0.2**
ARG	**Arkhangelos**	**2.27**	**149**	*e*PN		**Pn**	**05 44 07.7**	**+0.6**
ARG	**Arkhangelos**	**2.27**	**149**	*e*Pn		**Pn**	**05 44 06.9**	**-0.2**
EDC	**Edincik**	**2.35**	**22**	*e*PN		**Pn**	**05 44 07.4**	**-0.8**
ATH	**Athens Observa**	**2.36**	**266**	*e*PN		**Pn**	**05 44 06.6**	**-1.7**
ATH	**Athens Observa**	**2.36**	**266**	*e*Pn		**Pn**	**05 44 06.5**	**-1.8**
GDZ	**Gediz**	**2.36**	**67**	*i* P		**Pg**	**05 44 17.0**	**+1.3**
GDZ				*i* S		**Sg**	**05 44 46.0**	**-0.3**
BNT	**Bandirma**	**2.37**	**23**	*e*PN		**Pn**	**05 44 07.8**	**-0.7**
AOS	**Alonnisos**	**2.41**	**295**	*e*Pn		**Pn**	**05 44 10.3**	**+1.2**
FETY	**Fethiye**	**2.45**	**128**	*e*PN		**Pn**	**05 44 09.0**	**-0.6**
MRMT	**Marmara Adasi**	**2.52**	**16**	*e*PN		**Pn**	**05 44 09.1**	**-1.4**
RKY	**Sarkoy-Tekirda**	**2.53**	**8**	*e*PN		**Pn**	**05 44 10.2**	**-0.5**
MFT	**Murefte**	**2.64**	**10**	*e*PN		**Pn**	**05 44 11.1**	**-1.1**
ALN	**Alexandroupoli**	**2.76**	**350**	*e*Pn		**Pn**	**05 44 13.7**	**-0.1**
ALN				*e*Sn		**Sn**	**05 44 48.6**	**+1.8**
ELL	**Elmali**	**2.93**	**118**	*e*PN		**Pn**	**05 44 15.6**	**-0.6**
LKR	**Lokris**	**2.94**	**280**	*e*PN		**Pn**	**05 44 16.4**	**+0.1**
XOR	**Xorichti**	**2.98**	**294**	*e*Pn		**Pn**	**05 44 18.1**	**+1.1**
XOR	**Xorichti**	**2.98**	**294**	*e*Pn		**Pn**	**05 44 18.0**	**+1.1**
OUR	**Ouranopolis**	**3.01**	**316**	*e*Pn		**Pn**	**05 44 17.9**	**+0.6**
ZKR	**Zakros**	**3.08**	**187**	*e*Pn		**Pn**	**05 44 18.6**	**+0.2**
RDO	**Rodhopi**	**3.09**	**344**	*e*PN		**Pn**	**05 44 18.2**	**-0.2**
YLV	**Yalova**	**3.16**	**40**	*e*PN		**Pn**	**05 44 19.5**	**+0.1**
VLI	**Veliai**	**3.33**	**245**	*e*PN		**Pn**	**05 44 21.8**	**+0.1**
AGG	**Agios Georgios**	**3.52**	**285**	*e*Pn		**Pn**	**05 44 25.7**	**+1.4**
KDZ	**Kurdzhali**	**3.60**	**345**	*i* P		**Pn**	**05 44 25.5**	**+0.1**
EDRB	**Edirne**	**3.66**	**1**	*e*PN		**Pn**	**05 44 26.1**	**-0.2**
RZN	**Rozhen**	**3.82**	**337**	*e*P		**Pn**	**05 44 21.2**	**-7.2**
NVR	**Nevrokopi**	**3.84**	**326**	*e*PN		**Pn**	**05 44 29.1**	**+0.3**
DIM	**Dimitrovgrad**	**3.97**	**347**	*i* P		**Pn**	**05 44 25.6**	**-4.8**
MMB	**Musomiste**	**4.10**	**327**	*i* P		**Pn**	**05 44 33.5**	**+1.2**
KNT	**Kendrikon**	**4.18**	**317**	*e*Pn		**Pn**	**05 44 34.0**	**+0.7**

IDC 07 05:45:44.7±5.4, 601N×9477E, h98km±41km, mb3.2/5, mb1 3.4/6, mb1mx3.1/21, mbtmp3.6/6, Error ellipse: s-maj=95.2km s-min=23.3km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**5.22**	**127**	P		Pn	05 47 01.5	+1.2
	4.1nm,0.3s,baz=325,slow=12,SNR=32							
FITZ	**Fitzroy Crossi**	**38.75**	**129**	P		P	05 52 59.0	-0.4
	0.8nm,0.6s,baz=65,slow=13,SNR=5.9							
SONM	**Songino Array**	**42.85**	**12**	P		P	05 53 33.3	+0.2
	0.3nm,0.6s,baz=193,slow=6.3,SNR=2.9							
WRA	**Warramunga Arr**	**46.68**	**125**	P		P	05 54 04.4	+0.9
	0.3nm,0.3s,baz=306,slow=8.7,SNR=5.6							
ASAR	**Alice Springs**	**48.25**	**129**	P		P	05 54 16.2	+0.6
	0.4nm,0.5s,baz=300,slow=8.0,SNR=8.0							
FINES	**FINESS Array B**	**74.65**	**332**	P		P	05 57 13.2	-0.2
	0.1nm,0.3s,baz=88,slow=3.9,SNR=3.8							

IDC **07** *06:07:37.4±1.9, 1413N×9179W, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.8/20, mbtmp3.8/7, ML3.4/1, MS3.8/1, Ms1 3.7/1, ms1mx2.7/18, Error ellipse: s-maj=100.3km s-min=19.3km az=46.0*
MEX **07** *06:07:39.0±1.0, 1355N×9239W, h15km, MD4.1*
NEIC **07** *06:07:42.6±1.4, 1385N×9201W, h52km±12km, mb4.0/7, MD4.1(MEX), Error ellipse: s-maj=18.9km s-min=10.9km az=222.0*
ISCJB **07** *06:07:43.4±1.0, 1397N±009×9204W±008, h68km±7km, mb3.9/11, Error ellipse: s-maj=14.9km s-min=12.0km az=43.5*
CASC **07** *06:07:43.3±3.2, 1403N×9223W, h32km±18km, MD4.3, mb5.1(NEIC)*

ISC 07 06:07:42.0±0.9, 1382N±007×9214W±005, h44km±8km, n41, σ1§34/40, mb4.0/11, 3D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAT	**Jato**	**0.70**	**45**	⇓*e*P		**Pn**	**06 07 57.5**	**+2.0**
JAT				*e*S		**Sn**	**06 08 04.6**	**-0.6**
FUG	**Fuego 3**	**1.41**	**63**	⇓*e*P		**Pn**	**06 08 06.3**	**+1.2**
IXG	**Ixpaco**	**1.68**	**78**	⇓*e*P		**Pn**	**06 08 09.0**	**+0.2**
RTR	**El Retiro**	**2.43**	**88**	*e*P		Px	06 08 22.0	
SBLS	**San Blas**	**2.45**	**89**	*e*P		Px	06 08 23.9	
CCIG	**Comitan**	**2.45**	**0**	*e*P		**Pn**	**06 08 20.5**	**+1.1**
CCIG				*i* S		**Sn**	**06 08 52.2**	**+4.0**
SNJE	**San Jose**	**2.47**	**89**	*e*P		Px	06 08 24.2	
SNJE				*e*S		Sx	06 08 55.5	
BOQS	**Boqueron**	**2.78**	**91**	*e*P		Px	06 08 28.3	
SCX	**San Cristobal**	**2.94**	**351**	*e*P		**Pn**	**06 08 28.5**	**+2.3**
LFRS	**El Faro**	**3.00**	**93**	*e*P		Px	06 08 30.1	
LCBS	**La Ceiba**	**3.08**	**93**	*e*P		Px	06 08 32.3	
LCBS				*e*S		Sx	06 09 09.0	
OXX	**Oaxaca**	**5.48**	**307**	*e*P		**Pn**	**06 09 01.5**	**+0.5**
VHO	**Vista Hermosa**	**5.48**	**307**	*e*P		**Pn**	**06 08 56.6**	**-4.4**
VHO				*i* S		**Sn**	**06 10 00.1**	**-2.7**
VHO	**Vista Hermosa**	**5.48**	**307**	*e*P		**Pn**	**06 08 56.6**	**-4.4**
VHO				*i* S		**Sn**	**06 10 01.8**	**-1.0**
UTMO	**Huajuapan**	**6.75**	**307**	*i* S		**Sn**	**06 10 32.3**	**-1.8**
TEIG	**Tepich**	**7.37**	**30**	*e*Pn		**Pn**	**06 09 27.9**	**+0.9**
TEIG				*e*Sn		**Sn**	**06 10 49.3**	**+0.1**
JTS	**JuntasAbangare**	**7.86**	**116**	Pn		**Pn**	**06 09 32.0**	**-1.7**
	0.6nm,0.3s,baz=299,slow=21,SNR=7.1							
JTS				Sn		**Sn**	**06 10 60.0**	**-1.3**
	0.2nm,0.3s,baz=311,slow=20,SNR=3.6							
JTS	**JuntasAbangare**	**7.86**	**116**	Pn		**Pn**	**06 09 31.6**	**-2.0**
JTS				*e*S		Sn	06 11 37.4	+36
LRAL	**Lakeview Retre**	**19.70**	**13**	*e*P		**Pn**	**06 12 07.9**	**-1.4**
	4.8nm,0.9s							
MIAR	**Mount Ida**	**20.68**	**357**	*e*P		**P**	**06 12 16.9**	**-1.2**
	4.8nm,0.9s							
GDL2	**Guadalupe Moun**	**21.45**	**331**	*e*P		**P**	**06 12 26.9**	**+0.4**
MNTX	**Cornudas Mount**	**21.55**	**328**	*e*P		**P**	**06 12 27.2**	**-0.3**
	5.4nm,1.0s,mb3.9							
WMOK	**Wichita Mounta**	**21.68**	**345**	*e*P		**P**	**06 12 27.5**	**-1.4**
	4.7nm,1.1s,mb3.8							
SWET	**Sewanee**	**22.03**	**14**	*e*P		**P**	**06 12 31.3**	**-1.4**
CPCT	**Cooper Cave**	**22.61**	**16**	*e*P		**P**	**06 12 36.3**	**-2.5**
AMTX	**Amarillo**	**22.68**	**339**	*e*P		**P**	**06 12 38.4**	**-1.2**
	8.4nm,0.6s,mb4.3							
BNM	**Barren Site**	**24.13**	**330**	*e*P		**P**	**06 12 55.4**	**+1.7**
LPM	**Los Pinos Moun**	**24.26**	**330**	*e*P		**P**	**06 12 55.2**	**+0.3**
LAZ	**Ladron**	**24.58**	**329**	*e*P		**P**	**06 12 56.6**	**-1.3**
ANMO	**Albuquerque**	**24.70**	**331**	P		**P**	**06 13 00.7**	**+1.8**
	1.5nm,0.7s,mb3.7,baz=138,slow=10,SNR=8.1							
WCI	**Wyandotte Cave**	**24.86**	**11**	*e*P		**P**	**06 12 58.2**	**-2.2**
	6.5nm,0.8s,mb4.2							
MVCO	**Mesa Verde**	**27.49**	**331**	*e*P		**P**	**06 13 25.2**	**+1.1**
PDAR	**Pinedale Array**	**32.53**	**336**	P		**P**	**06 14 09.5**	**+0.8**
	0.7nm,0.9s,mb3.6,baz=148,slow=8.6,SNR=4.9							
REDW	**Red Top Meadow**	**33.55**	**335**	*e*P		**P**	**06 14 18.4**	**+0.9**
	11nm,1.1s,mb4.7							
NVAR	**Mina Array Bea**	**33.73**	**321**	P		**P**	**06 14 20.8**	**+1.7**
	1.1nm,0.7s,mb3.9,baz=129,slow=9.8,SNR=9.5							
MCMT	**McKenzie Canyo**	**35.58**	**334**	*e*P		**P**	**06 14 37.0**	**+1.9**
SIV	**San Ignacio**	**42.67**	**133**	P		**P**	**06 15 35.6**	**+1.3**
	0.5nm,0.5s,mb3.5,baz=341,slow=14,SNR=3.4							
SCHQ	**Schefferville**	**45.44**	**20**	LR		LR	06 35 48.8	
	comp=Z,96nm,18.9s,baz=81,slow=38							
YKA	**Yellowknife Ar**	**51.17**	**347**	P		**P**	**06 16 39.9**	**-0.8**
	2.5nm,0.7s,mb4.3,baz=150,slow=7.4,SNR=61							
YKA				PcP		PcP	06 17 55.8	+0.1
	0.5nm,0.8s,baz=150,slow=3.2,SNR=9.8							
YKA	**Yellowknife Ar**	**51.17**	**347**	P		**P**	**06 16 39.9**	**-0.8**
YKA				PcP		PcP	06 17 55.8	+0.1
ILAR	**Eielson Array**	**62.95**	**337**	P		**P**	**06 18 04.1**	**+0.1**
	0.7nm,0.7s,mb3.9,baz=122,slow=5.0,SNR=12							

ISCJB **07** *06:11:23.2±0.7, 2832N±006×910E±02, h10km, mb3.7/6, Error ellipse: s-maj=22.8km s-min=7.9km az=168.3*
IDC **07** *06:11:23.2±0.9, 2822N×9094E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.6/20, mbtmp3.7/7, ML4.0/1, MS4.0/1, Ms1 4.1/1, ms1mx2.3/27, Error ellipse: s-maj=44.4km s-min=19.6km az=55.0*
NEIC **07** *06:11:24.9±0.8, 2836N×9108E, h10km, Error ellipse: s-maj=27.4km s-min=13.7km az=69.0*

ISC 07 06:11:25.3±0.7, 2841N±006×911E±02, h10km, n12, σ0§77/12, mb3.7/6, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LSA	**Lhasa**	**1.29**	**4**	*e*Pn		**Pn**	**06 11 47.9**	**-1.5**
LSA				*e*S		**Sb**	**06 12 06.6**	**+0.3**
SHL	**Shillong**	**2.92**	**165**	*e*PN		**Pn**	**06 12 11.5**	**-0.3**
SHL				*e*SN		**Sn**	**06 12 50.5**	**+3.6**
MKAR	**Makanchi Array**	**19.60**	**342**	P		**Pn**	**06 15 55.3**	**+0.3**
	0.4nm,0.3s,baz=165,slow=8.9,SNR=17							
SONM	**Songino Array**	**22.77**	**27**	P		**P**	**06 16 29.0**	**+1.3**
	0.3nm,0.5s,mb3.0,baz=206,slow=11,SNR=4.0							
FINES	**FINESS Array B**	**53.56**	**327**	P		**P**	**06 20 46.1**	**-0.1**
	0.5nm,0.5s,mb3.7,baz=111,slow=10,SNR=4.8							
NOA	**NORSAR Array B**	**60.73**	**327**	P		**P**	**06 21 36.8**	**-0.2**
	0.5nm,0.7s,mb3.8,baz=85,slow=6.7,SNR=3.1							
NOA				LR		LR	06 51 31.4	
	comp=Z,122nm,18.8s,baz=95,slow=40							
GERES	**GERESS Array B**	**61.14**	**313**	P		**P**	**06 21 40.4**	**+0.6**
	0.5nm,0.6s,mb3.8,baz=72,slow=7.4,SNR=3.7							
WRA	**Warramunga Arr**	**63.71**	**134**	P		**P**	**06 21 56.5**	**-0.4**
	1.0nm,0.6s,mb4.0,baz=324,slow=7.0,SNR=6.0							
WB2	**Warramunga Arr**	**63.72**	**134**	*e*P		**P**	**06 21 56.7**	**-0.3**
ASAR	**Alice Springs**	**66.21**	**137**	P		**P**	**06 22 13.1**	**-0.2**
	1.0nm,0.6s,mb4.0,baz=321,slow=6.8,SNR=11							
CPUP	**Villa Florida**	**151.89**	**267**	PKPbc		PKPbc	06 31 18.9	-1.5
	0.4nm,0.5s,baz=65,slow=4.5,SNR=4.3							
CPUP	**Villa Florida**	**151.89**	**267**	PKPbc		PKPbc	06 31 18.9	-1.5

ISCJB **07** *06:20:52.8±0.1, 3073N±002×5661E±002, h10km, mb4.7/139, MS4.3/46, Error ellipse: s-maj=2.8km s-min=2.2km az=51.6*
NEIC **07** *06:20:53.7, 3079N×5670E, h14km, mb4.8/75, MS4.1/9, ML4.7(THR), MN5.2(TEH), After THR.*
NEIC More than 70 people injured slightly and some buildings and roads damaged in the Zarand area.
IDC **07** *06:20:53.3±0.5, 3086N×5672E, h0km, mb4.5/30, mb1 4.7/33, mb1mx4.6/36, mbtmp4.6/33, ML4.4/3, MS4.3/18, Ms1 4.2/18, ms1mx3.9/29, Error ellipse: s-maj=12.6km s-min=9.9km az=95.0*
THR **07** *06:20:53.9±0.9, 3081N×5670E, h14km±6km, mb4.8*
HRVD **07** *06:20:53.7±0.6, 3079N×5669E, h12km, MW5.0/67, Centroid moment Tensor Solution. LP body waves: s18,c20;Mantle waves: s67,c101; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_rr0.18±.12; $M_{\theta\theta}$-2.96±.10; $M_{\phi\phi}$2.79±.09; $M_{r\theta}$1.96±.33; $M_{\theta\phi}$0.61±.10; $M_{\phi r}$-0.19±.30; Best double couple: M_o3.40800×10^{16} NP1:ϕ_s324.00000°, δ72.00000°, λ-162.00000°. NP2: ϕ_s228.00000°, δ73.00000°, λ-19.00000°. Principal axes: T 2.8550, Plg0.0000°, Azm276.0000°; N 1.1160, Plg65.0000°, Azm7.0000°; P -3.9620, Plg25.0000°, Azm186.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI **07** *06:20:54.4, 3082N×5604E, h46km, mB4.9, mb4.9, Ms4.8, Msz4.6*
MOS **07** *06:20:55.1±0.9, 3075N×5650E, h26km, mb5.0/61, MS4.1/21, Error ellipse: s-maj=6.3km s-min=3.4km az=123.3*
CSEM **07** *06:20:55.9±0.0, 3072N×5657E, h33km, mb4.7/74, Ms4.0, Mw5.0, Error ellipse: s-maj=1.8km s-min=1.3km az=45.0*
CRAAG **07** *06:20:55.6, 3073N×5666E, Mb5.5*
TEH **07** *06:20:56.7, 3081N×5667E, h8km, Mn5.2*
SZGRF **07** *06:20:59.6, 30.10N×55.40E, h33km, mb4.4, MS4.1, Northern and central Iran*

ISC 07 06:20:54.7±0.1, 3079N±002×5665E±002, h10km, n508, σ1§24/523, mb4.7/139, MS4.3/46, 49C-21D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRBR	**Kerman**	**0.81**	**173**	*e*PG		**Pg**	**06 21 09.1**	**-1.2**
KRBR	**Kerman**	**0.81**	**173**	Pg		**Pg**	**06 21 09.0**	**-1.4**
BNDS	**Bandar-Abbas**	**3.41**	**187**	*e*Pn		**Pn**	**06 21 50.0**	**+2.2**
ZHSF	**Zahedan**	**3.76**	**107**	*e*Pn		**Pn**	**06 21 53.0**	**+0.4**
ZHSF				*e*PG		**Pg**	**06 22 01.1**	**-5.6**
ZHSF				*e*Sg		**Sg**	**06 22 49.8**	**-5.7**
ZHSF	**Zahedan**	**3.76**	**107**	Pn		**Pn**	**06 21 52.0**	**-0.7**
NASN	**Na'in**	**3.83**	**302**	*e*PN		**Pn**	**06 21 54.9**	**+1.2**
NASN				*e*PG		**Pg**	**06 22 03.4**	**-4.7**
NASN				*e*Sg		**Sg**	**06 22 54.4**	**-3.4**
NASN				AML	AML		06 23 12.0	
	comp=N,2μm,0.6s							
NASN				AML	AML		06 23 15.6	
	comp=E,1μm,0.6s							
NASN	**Na'in**	**3.83**	**302**	Pn		**Pn**	**06 21 54.0**	**+0.3**
NASN				Sg		**Sg**	**06 22 54.0**	**-3.8**
GHIR	**Ghir-Karzin**	**4.05**	**233**	*e*PN		**Pn**	**06 21 58.5**	**+1.8**
GHIR				AML	AML		06 23 23.5	
	comp=N,1μm,0.7s							
GHIR	**Ghir-Karzin**	**4.05**	**233**	Pn		**Pn**	**06 21 58.0**	**+1.3**
BANOM	**Banah**	**4.86**	**184**	P		**Pn**	**06 22 09.5**	**+1.7**
	SNR=32							
ASHO	**Ashiyiah**	**6.11**	**185**	P		**Pn**	**06 22 26.4**	**+1.4**
	SNR=95							
DAMV	**Damavand**	**6.21**	**322**	*e*Pn		**Pn**	**06 22 27.9**	**+1.5**
DAMV				AML	AML		06 24 34.3	
	comp=N,392nm,0.6s							
ASAO	**Ashtian**	**6.72**	**306**	*e*PN		**Pn**	**06 22 35.4**	**+2.0**
ASAO	**Ashtian**	**6.72**	**306**	Pn		**Pn**	**06 22 35.0**	**+1.6**
SHGR	**Shooshtar-Gavs**	**6.83**	**283**	*e*PN		**Pn**	**06 22 36.2**	**+1.3**
MRVT	**Maraveh tapeh**	**6.86**	**356**	*e*PN		**Pn**	**06 22 36.6**	**+1.3**
CHTH	**Charan**	**6.88**	**319**	*e*PN		**Pn**	**06 22 37.1**	**+1.6**
HOQ	**Hoqain**	**7.21**	**175**	P		**Pn**	**06 22 40.4**	**+0.4**
	SNR=7.0							
VAN	**Vannovskaya**	**7.24**	**9**	*e*P		**Pn**	**06 22 41.2**	**+0.7**
BIDO	**Bidbid**	**7.36**	**169**	P		**Pn**	**06 22 42.6**	**+0.4**
	SNR=16							
ARQ	**Araqi**	**7.43**	**181**	⇓P		**Pn**	**06 22 45.0**	**+1.9**
	SNR=20							
WSAR	**Wadi Sarin**	**7.73**	**166**	Pn		**Pn**	**06 22 47.2**	**0.0**
	comp=N,7.5nm,0.3s,baz=332,slow=12,SNR=56							
WSAR				Sn		**Sn**	**06 24 12.6**	**-2.2**
	comp=N,1.8nm,0.3s,baz=30,slow=20,SNR=2.6							
SMDO	**Samad**	**7.80**	**170**	P		**Pn**	**06 22 49.2**	**+0.9**
	SNR=34							
UMR	**Umm Al-Rimmam**	**7.83**	**263**	*e*P		**Pn**	**06 22 48.1**	**-0.6**
UMR				AML	AML		06 24 19.9	
	comp=Z,103nm,0.4s							
KBD	**Kabd**	**7.93**	**261**	*e*P		**Pn**	**06 22 49.8**	**-0.2**
KBD				AML	AML		06 24 15.2	
	comp=Z,215nm,0.7s							
BSY	**Bisya**	**8.03**	**176**	⇑P		**Pn**	**06 22 53.3**	**+1.9**
	SNR=16							
BSYO	**Bisya**	**8.05**	**176**	P		**Pn**	**06 22 53.3**	**+1.7**
	SNR=16							
MIB	**Mutribah**	**8.11**	**265**	*e*P		**Pn**	**06 22 51.9**	**-0.6**
RDF	**Al-Radifah**	**8.12**	**259**	*e*P		**Pn**	**06 22 52.2**	**-0.3**
RDF				AML	AML		06 24 23.2	
	comp=Z,118nm,0.5s							
NAY	**Al-Naaiem**	**8.30**	**262**	*e*P		**Pn**	**06 22 54.8**	**-0.3**
WBK	**Wadi Bani Khal**	**8.41**	**165**	⇑P		**Pn**	**06 22 56.8**	**+0.3**
	SNR=5.7							
JMDO	**Jabal Madar**	**8.49**	**171**	P		**Pn**	**06 22 59.1**	**+1.5**
	SNR=17							
SNGE	**Sanandaj**	**8.91**	**301**	*e*PN		**Pn**	**06 23 05.2**	**+1.8**
BHD	**Baghdad**	**10.70**	**287**	*ex*		x	06 23 22.0	
BHD				*ex*		x

KOZT Kozan 18.46 297 P **Pn** **06 25 11.8 +1.2**
AAK Ala-Archa 18.51 45 P **Pn** **06 25 12.8 +1.6**
SNR=18
AB31 Akbulak array 18.61 7 P **Pn** **06 25 11.6 -0.7**
AB31 pmax pmax
comp=Z,14nm,0.9s
AB31 Akbulak array 18.61 7 P **Pn** **06 25 11.6 -0.7**
comp=Z,14nm,0.9s
FRU Bishkek 18.70 45 *e*P **Pn** **06 25 16.5 +3.1**
FRU pmax pmax
comp=Z,70nm,2.0s
FRU Bishkek 18.70 45 *e*P **Pn** **06 25 16.5 +3.1**
comp=Z,70nm,2.0s
EIL Elat 18.78 272 *e*P **Pn** **06 25 12.8 -1.7**
comp=Z,1µm,1.0s
EIL *e*pP pP 06 25 22.3 +5.4
EIL Elat 18.78 272 *e*P **Pn** **06 25 12.8 -1.7**
comp=Z,1µm,1.0s
EIL *e*pP pP 06 25 22.3 +5.5
KBK Karagaybulak 18.80 46 P **Pn** **06 25 20.3 +5.6**
SNR=12
KARA Karaisali 19.01 296 P **Pn** **06 25 18.9 +1.7**
MERS Mersin 19.34 294 P **Pn** **06 25 22.9 +1.7**
TKM2 Tokmak 2 19.35 46 P **Pn** **06 25 26.5 +5.2**
SNR=6.0
KVT Kavak 19.54 307 P **Pn** **06 25 22.4 -1.2**
RADA Ahram - Rada'a 19.56 216⇑ *e*P **Pn** **06 25 23.6 -0.3**
RADA Ahram - Rada'a 19.56 216⇓ *e*P **Pn** **06 25 23.5 -0.3**
MEST Erdemli 19.58 293 *i*P **Pn** **06 25 25.4 +1.4**
BDHA Al Bayda' 19.60 214⇓ *e*P **Pn** **06 25 23.6 -0.8**
BDHA Al Bayda' 19.60 214⇑ *e*P **Pn** **06 25 23.1 -1.2**
comp=Z,34nm,1.2s
AKTK Aktyubinsk 19.65 3 P **Pn** **06 25 23.9 -1.0**
AKTK S **Sn** **06 29 03.4 -2.1**
AKTK LR LR 06 34 26.4
AKTK Aktyubinsk 19.65 3 *i*P **Pn** **06 25 23.9 -1.0**
comp=Z,7.0nm,1.0s
AKTO Aktyubinsk 19.65 3 P **Pn** **06 25 23.9 -1.0**
comp=Z,1.4nm,0.3s,baz=186,slow=11,SNR=30
AKTO S **Sn** **06 29 03.4 -2.1**
comp=Z,0.1nm,0.3s,baz=210,slow=20,SNR=2.1
AKTO LR LR 06 34 26.4
comp=Z,3µm,18.1s,baz=0.0,slow=42
AKTO Aktyubinsk 19.65 3 *i*P **Pn** **06 25 23.9 -1.0**
AKTO pmax pmax
comp=Z,7.0nm,1.0s
DHBB Dhamar BB 19.69 218⇑ *e*P **Pn** **06 25 24.3 -1.1**
DHBB AMb AMB 06 25 26.2
comp=Z,240nm,2.0s
DHBB Dhamar BB 19.69 218⇓ *e*P **Pn** **06 25 24.4 -0.9**
comp=Z,180nm,2.0s
POO Poona 19.80 124 *e*P **Pn** **06 25 26.0 -0.7**
LBOS 19.85 214⇓ *e*P **Pn** **06 25 26.1 -1.1**
LBOS AMb AMB 06 25 27.2
comp=Z,99nm,2.0s
BHPL Bhopal 19.96 107 *e*P **Pn** **06 25 26.9 -1.7**
BHPL AMb AMB 06 25 42.9
comp=Z,105nm,1.6s
CSS Prodhromos 20.01 288 P **P** **06 25 28.9 +1.5**
comp=Z,2.6nm,1.2s
SMRH Sumara - IBB G 20.08 217⇑ *e*P **P** **06 25 28.8 +0.6**
MAMC Mammari 20.12 289 P **P** **06 25 30.8 +2.1**
CDAG Cicekdag 20.18 302 *i*P **P** **06 25 30.1 +0.8**
CTKT Corum 20.23 305 *i*P **P** **06 25 31.2 +1.3**
LGTI Lohaghat 20.45 88 *i*x **P** **06 25 34.0 +1.8**
BOYT Boyabat 20.47 307 *i*P **P** **06 25 33.3 +0.8**
ERMK Ermenek 20.57 293 *i*P **P** **06 25 36.5 +3.1**
ERMK Ermenek 20.57 293 *i*P **P** **06 25 36.5 +3.0**
ANN Anapa 20.57 318 *e*P **P** **06 25 35.2 +1.7**
ANN *e**PP 06 25 42.3
ANN *e*S **S** **06 29 26.3 +2.7**
ANN *e*SS 06 29 49.1
ANN pmax pmax
comp=Z,104nm,1.1s
ANN MLR MLR
comp=Z,183nm,21.0s,MS3.4
ANN Anapa 20.57 318 *e*P **P** **06 25 35.2 +1.7**
comp=Z,104nm,1.1s
KAMT Kaman 20.59 301 *e*P **P** **06 25 34.3 +0.6**
ALFC Alevga 20.63 289⇑ P **P** **06 25 35.3 +1.2**
comp=Z,2.3nm,1.0s
ALFC Alevga 20.63 289⇑ *e*P **P** **06 25 35.3 +1.2**
BR131 Keskin Array S 20.75 302 *e*P **P** **06 25 35.9 +0.4**
comp=Z,21nm,0.8s
BR131 Keskin Array S 20.75 302 *e*P **P** **06 25 35.9 +0.4**
comp=Z,21nm,0.8s
BRTR Keskin Array B 20.75 302 P **P** **06 25 35.9 +0.4**
comp=Z,14nm,1.0s,baz=119,slow=13,SNR=84
PPCY Paphos 20.81 288 P **P** **06 25 37.6 +1.5**
ORR Orenburg 20.85 357 P **P** **06 25 37.1 +0.5**
ORR pmax pmax
comp=Z,60nm,1.1s
ORR MLR MLR
comp=Z,870nm,13.0s,MS4.3
ORR Orenburg 20.85 357 P **P** **06 25 37.1 +0.5**
comp=Z,870nm,13.0s
KAD Karad 20.86 126 *e*P **P** **06 25 36.9 +0.3**
KAD AMb AMB 06 26 04.3
comp=Z,39nm,1.6s
TRBA At Turbah 20.96 216⇑ *e*P **P** **06 25 38.3 +0.6**
TRBA At Turbah 20.96 216⇓ *e*P **P** **06 25 38.1 +0.4**
ELDT Eldivan 21.16 304 *i*P **P** **06 25 40.5 +0.7**
ELDT Eldivan 21.16 304 *i*P **P** **06 25 40.5 +0.6**
KONT Konya--Tatoy 21.25 296 *e*P **P** **06 25 42.5 +1.7**
ANTO Ankara 21.42 302 P **P** **06 25 41.9 -0.8**
ANTO Ankara 21.42 302⇑ *i*P **P** **06 25 43.1 +0.4**
ANTO Ankara 21.42 302 *e*P **P** **06 25 41.5 -1.2**
ANTO pmax pmax
comp=Z,28nm,0.9s,mb4.6
ANTO Ankara 21.42 302 *e*P **P** **06 25 41.5 -1.2**
comp=Z,28nm,0.9s,mb4.6
ANTO Ankara 21.42 302 *e*P **P** **06 25 41.5 -1.2**
comp=Z,28nm,0.9s,mb4.6
BALT Daday 21.56 306 *i*P **P** **06 25 44.4 +0.2**
GOA Goa 21.89 130 *e*P **P** **06 25 47.0 -0.8**
JBP Jabalpur 22.11 104⇓ *i*P **P** **06 25 50.6 +0.5**
JBP *e*x x 06 25 55.9
comp=Z,111nm,1.3s
JBP *i*x x 06 30 02.9
SGKT Sivrigoynuk 22.17 303 *i*P **P** **06 25 52.1 +1.3**
NGP Nagpur 22.27 110 *e*P **P** **06 25 52.7 +0.9**
NGP AMb AMB 06 26 09.6
comp=Z,81nm,0.7s,mb5.3
SIM Simferopol' 22.62 315 *e*P **P** **06 25 56.4 +0.9**
ISP Isparta 22.66 295 P **P** **06 25 56.0 0.0**
ISP Isparta 22.66 295*c* *i*P **P** **06 25 56.1 +0.1**
ISP Isparta 22.66 295 *e*P **P** **06 25 56.1 +0.2**
comp=Z,47nm,0.9s,mb4.9
ISP *e*pP 06 26 05.8
ISP Isparta 22.66 295 *e*P **P** **06 25 56.1 +0.1**
comp=Z,47nm,0.9s,mb4.9
MDU Mudurnu 22.75 302 *e*P **P** **06 25 57.8 +0.9**
TKTP Tekketepe 22.84 296 *i*P **P** **06 25 57.3 -0.6**
ELL Elmali 22.97 292 *e*P **P** **06 25 58.7 -0.5**
ATD Arta Tunnel 23.05 217 P **P** **06 26 02.2 +2.2**
comp=Z,22nm,1.2s,mb4.5,baz=341,slow=12,SNR=5.5
ATD LR LR 06 34 50.8
comp=Z,526nm,18.6s,MS4.0,baz=28,slow=36
HENT Hendek 23.08 303 *i*P **P** **06 25 54.2 -6.3**
BORA Eskisehir 23.15 300 *i*P **P** **06 25 59.3 -1.8**
FETY Fethiye 23.62 292 *e*P **P** **06 26 03.6 -2.3**
KOLN Koldanda 23.68 91 *e*P **P** **06 26 06.7 +0.2**
comp=Z,141nm,1.2s,mb5.2
GDZ Gediz 23.70 298 *i*P **P** **06 26 06.0 -0.7**
ZRNK Zerenda 23.91 19 *i*P **P** **06 26 09.3 +0.7**
ZRNK pmax pmax
comp=Z,22nm,1.0s,mb4.5
ZRNK Zerenda 23.91 19 *e*P **P** **06 26 08.2 -0.4**
comp=Z,22nm,1.0s,mb4.5
ZRNK Zerenda 23.91 19 *e*P **P** **06 26 08.2 -0.4**
comp=Z,22nm,1.0s,mb4.5
HYB Hyderabad 23.96 119 *i*P **P** **06 26 10.5 +1.4**
HYB *e* 06 26 14.5
HYB *e*S **S** **06 30 30.0 +4.3**
HYB Hyderabad 23.96 119 *e*P **P** **06 26 11.0 +1.9**
ULDT Uludag 24.19 300 *i*P **P** **06 26 11.9 +0.7**
VOSK Vostochnaya 24.29 21 P **P** **06 26 12.1 0.0**
VOSK pmax pmax
comp=Z,107nm,2.3s,mb4.9
BRVK Borovoye 24.37 20 *e*P **P** **06 26 13.1 +0.3**
BRVK *e**PP 06 26 20.5
BRVK pmax pmax
comp=Z,18nm,1.1s,mb4.4
BRVK Borovoye 24.37 20 *e*P **P** **06 26 13.1 +0.3**
comp=Z,18nm,1.1s,mb4.4
BRVK *e*pP 06 26 20.4
BRVK Borovoye 24.37 20 *e*P **P** **06 26 13.1 +0.3**
comp=Z,18nm,1.1s,mb4.4
BRVK *e*pP 06 26 20.5
BVA0 Borovoye Array 24.37 20 *i*P **P** **06 26 13.3 +0.5**
BVA0 pmax pmax
comp=Z,8.0nm,1.4s,mb4.0
BVAR Borovoye Array 24.37 20 P **P** **06 26 13.0 +0.1**
comp=Z,6.6nm,0.6s,mb4.2,baz=201,slow=7.9,SNR=31
GKN Gorkha 24.52 89 *e*P **P** **06 26 14.6 +0.4**
comp=Z,227nm,1.6s,mb5.5
VOR Voronezh 24.57 333 *e*P **P** **06 26 14.5 -0.1**
VOR pmax pmax
comp=N,180nm,1.6s
VOR pmax pmax
comp=Z,130nm,1.6s,mb5.2
VOR pmax pmax
comp=E,130nm,1.5s
DMN Daman 25.01 90 *e*P **P** **06 26 18.7 0.0**
comp=E,120nm,1.3s,mb5.3
KKN Kakani 25.12 90 *e*P **P** **06 26 19.8 +0.1**
IZM Izmir 25.28 295 *e*P **P** **06 26 17.6 -3.5**
PKI Pulchoki 25.28 90 *e*P **P** **06 26 21.5 +0.4**
MK31 Makanchi Array 25.42 44 P **P** **06 26 23.1 +0.7**
MK31 pmax pmax
comp=Z,15nm,0.9s,mb4.5
MKAR Makanchi Array 25.42 44 P **P** **06 26 23.1 +0.6**
comp=Z,5.4nm,0.5s,mb4.3,baz=231,slow=8.8,SNR=52
MKAR Makanchi Array 25.42 44 P **P** **06 26 23.0 +0.6**
GUN Gumba 25.61 89 *e*P **P** **06 26 24.8 +0.7**
comp=Z,146nm,1.0s,mb5.5
ARU Arti 25.66 2⇓ *i*P **P** **06 26 26.0 +1.4**
ARU *e* 06 27 04.0
ARU *e*PPP 06 27 14.0
ARU *e*S **S** **06 30 54.7 +1.8**
ARU *e*SS 06 31 52.2
ARU pmax pmax
comp=Z,21nm,1.0s,mb4.6
ARU MLR MLR
comp=Z,600nm,18.0s,MS4.2
ARU MLR MLR
comp=N,400nm,17.0s
ARU MLR MLR
comp=E,500nm,24.0s
ARU Arti 25.66 2 *e*Pn **P** **06 26 26.2 +1.6**
comp=E,25nm,1.0s,mb4.7
ARU Arti 25.66 2 *e*Pn **P** **06 26 26.2 +1.6**
comp=E,25nm,1.0s,mb4.7
KURK Kurchatov 25.77 33*c* *i*P **P** **06 26 26.4 +0.9**
KURK Kurchatov 25.77 33 *e*P **P** **06 26 26.2 +0.6**
comp=E,11nm,0.8s,mb4.5
KURK LR LR
comp=Z,406nm,22.0s,MS3.9
KURK Kurchatov 25.77 33 *e*P **P** **06 26 26.2 +0.7**
comp=Z,11nm,0.8s,mb4.5
JIRN Jiri 25.93 89 *e*P **P** **06 26 27.3 +0.3**
comp=Z,200nm,1.3s,mb5.5
TIRR Tirgusor 26.04 309⇓ *i*P **P** **06 26 29.8 +1.8**
TIRR Tirgusor 26.04 309 *e*P **P** **06 26 27.7 -0.3**
HARR Harsova 26.45 310⇑ *i*P **P** **06 26 31.0 -0.7**
HARR Harsova 26.45 310⇑⇑ P **P** **06 26 31.0 -0.7**
CFR Carcaliu 26.50 311⇑ *i*P **P** **06 26 30.0 -2.2**
CFR Carcaliu 26.50 311⇑⇑ P **P** **06 26 30.0 -2.2**
KIS Kishinev 26.84 315 *e*P **P** **06 26 32.0 -3.2**
KIS *e*SS 06 32 40.0
KIS MLR MLR
comp=Z,500nm,13.0s,MS4.3
KIS MLR MLR
comp=Z,1µm,14.0s
BOK Bokaro 26.85 98 *e*P **P** **06 26 32.6 -2.7**
BOK AMb AMB 06 26 38.2
comp=Z,19nm,1.3s,mb4.5
IDI Anoyia 26.93 288 P **P** **06 26 38.6 +2.5**
comp=Z,13nm,0.7s,mb4.5,baz=147,slow=4.8,SNR=4.3
VRI Vrincioaia 27.68 311⇑ *i*P **P** **06 26 43.0 +0.2**
VRI Vrincioaia 27.68 311⇑⇑ P **P** **06 26 43.0 +0.2**
PLOR Plostina 27.73 311⇑ *i*P **P** **06 26 43.8 +0.6**
WMQ Urumqi 27.73 53⇑⇑ P **P** **06 26 42.2 -1.0**
WMQ PP 06 27 31.2
WMQ PPP 06 27 43.3
WMQ PCP PcP 06 29 58.5 -1.3
WMQ S **S** **06 31 23.0 -2.6**
WMQ SCP ScP 06 33 37.4 -3.2
WMQ AMB AMB
comp=Z,11nm,1.2s,mb4.4
WMQ AMB AMB
comp=Z,97nm,4.8s
WMQ LR LR
comp=N,308nm,25.0s,MS4.0
WMQ LR LR
comp=E,471nm,25.8s,MS4.0
WMQ LR LR
comp=Z,651nm,25.8s,MS4.1
MLR Muntele Rosu 28.05 310 P **P** **06 26 48.2 +2.1**
comp=Z,5.8nm,0.8s,mb4.3,baz=30,slow=2.8,SNR=17
MLR LR LR 06 40 15.9
comp=Z,344nm,18.3s,MS4.0,baz=120,slow=41
MLR Muntele Rosu 28.05 310⇑ *i*P **P** **06 26 47.3 +1.2**
MLR Muntele Rosu 28.05 310⇑⇑ P **P** **06 26 47.3 +1.2**
OBN Obninsk 28.20 335*d* *i*P **P** **06 26 48.4 +1.0**
OBN *i* 06 27 36.8
OBN *e*S **S** **06 31 35.3 +2.3**
OBN pmax pmax
comp=Z,85nm,1.7s,mb5.1
OBN MLR MLR
comp=Z,200nm,16.0s,MS3.8
OBN Obninsk 28.20 335 *e*P **P** **06 26 48.0 +0.6**
OBN Obninsk 28.20 335 *e*P **P** **06 26 48.0 +0.6**
AKASG Malin Array Be 28.50 322 P **P** **06 26 49.5 -0.5**
comp=Z,9.0nm,1.0s,mb4.4,baz=127,slow=7.9,SNR=37
BURAR Bucovina Array 29.32 314⇑ *i*P **P** **06 26 57.8 +0.4**
BURAR Bucovina Array 29.32 314⇑⇑ P **P** **06 26 57.8 +0.4**
NVS Novosibirsk 30.61 31 *i*P **P** **06 27 08.2 -0.6**
NVS *e*PPP 06 28 23.8
NVS *e*S **S** **06 32 04.2 -6.6**
NVS pmax pmax
comp=Z,21nm,1.9s,mb4.6
NVS pmax pmax
comp=N,12nm,1.7s
NVS smax
comp=N,15nm,1.9s
NVS smax
comp=E,18nm,2.0s
DRGR 30.61 311⇑ *i*P **P** **06 27 09.1 +0.3**
DRGR 30.61 311⇑⇑ P **P** **06 27 09.1 +0.3**
ZAL Zalesovo 30.75 33 P **P** **06 27 09.8 -0.2**
comp=E,12nm,0.8s,mb4.8,baz=234,slow=8.8,SNR=33
ZAL LR LR 06 41 54.5
comp=E,559nm,21.6s,MS4.2,baz=240,slow=41
ZAL Zalesovo 30.75 33 P **P** **06 27 09.8 -0.2**
ZAL LR LR 06 41 54.5
BZS Buzias 30.97 308⇑ *i*P **P** **06 27 10.5 -1.5**
MNK Minsk 31.40 327 *e*P **P** **06 27 14.0 -1.8**
KOLS Kolonicke sedl 31.65 315 *e*P **P** **06 27 19.1 +1.2**
KOLS Kolonicke sedl 31.65 315 *e*P **P** **06 27 19.2 +1.3**
CRVS Cervenica-Dubn 32.13 314 *e*pP pP **06 27 25.1 -0.2**
KLMR Klimovskoe 32.14 344 *e*P **P** **06 27 22.0 -0.2**
KLMR pmax pmax
comp=Z,40nm,1.8s,mb5.0
STHS Stebnicka Huta 32.45 315 *e*P **P** **06 27 26.0 +1.0**
STHS *e* 06 27 38.1
STHS *e* 06 27 50.1
STHS Stebnicka Huta 32.45 315 *e*P **P** **06 27 26.0 +1.0**
STHS *e* 06 27 38.1
KECS Kecovo 32.59 313 *e*P **P** **06 27 26.4 +0.2**
PSZ Piszkesteto 32.78 312⇓ *e*P **P** **06 27 27.6 -0.3**
PKSM Moragy 33.13 309⇑ *i*P **P** **06 27 30.1 -0.9**
PKSM Moragy 33.13 309⇓ *e*P **P** **06 27 30.9 -0.1**
SUW Suwalki 33.40 324 *e*P **P** **06 27 33.4 +0.1**
SUW pmax pmax
comp=Z,128nm,1.3s,mb5.7
SUW Suwalki 33.40 324 *e*P **P** **06 27 33.4 +0.2**
comp=Z,128nm,1.3s,mb5.7
SUW Suwalki 33.40 324 *e*P **P** **06 27 33.4 +0.1**
comp=Z,128nm,1.3s,mb5.7
TIP Timpagrande 33.52 295 *e*P **P** **06 27 33.4 -1.0**
TIP Timpagrande 33.52 295 *e*P **P** **06 27 33.3 -1.0**
OJC Ojcow 33.62 316 *e*P **P** **06 27 35.2 0.0**
VYHS Vyhne 33.64 313 *e*P **P** **06 27 35.0 -0.3**
SRO Srobarova 33.77 311 *e*P **P** **06 27 36.5 0.0**
VSU Vasula 34.37 332*c* *i*P **P** **06 27 41.2 -0.5**
OKC Ostrava-Krasne 34.49 315 *e*P **P** **06 27 41.9 -0.8**
OKC AMS AMS 06 45 50.0
comp=Z,600nm,12.4s
ZST Bratislava 34.66 311 *e*P **P** **06 27 44.2 0.0**
ZST *e*PP PP 06 29 08.5 +5.8
SGO Sicignano 34.70 298 P **P** **06 27 44.5 -0.1**
MORC Moravsky Berou 34.84 314⇑ *i*P **P** **06 27 44.0 -1.8**
MORC Moravsky Berou 34.84 314 *e*P **P** **06 27 45.2 -0.6**
comp=Z,3.0nm,0.8s,mb4.3
MORC Moravsky Berou 34.84 314 *e*P **P** **06 27 45.2 -0.6**
comp=Z,3.0nm,0.8s,mb4.3
SOP Sopron 34.88 310⇓ *e*P **P** **06 27 46.1 0.0**
VRAC Vranov 35.29 313 P **P** **06 27 49.8 +0.2**
comp=Z,2.1nm,0.5s,mb4.3,baz=297,slow=20,SNR=5.5
VRAC LR LR 06 44 35.4
comp=Z,189nm,20.3s,MS3.8,baz=109,slow=40
VRAC Vranov 35.29 313⇓ *i*P **P** **06 27 48.4 -1.3**
VRAC Vranov 35.29 313 ⇓P **P** **06 27 48.4 -1.3**
BOJS Bojanci 35.30 306 *e*P **P** **06 27 49.3 -0.5**
VAE Valguarnera 35.37 292 P **P** **06 27 51.7 +1.4**
comp=Z,7.7nm,0.6s,mb4.8,baz=90,slow=11,SNR=2.7
VAE LR LR 06 44 54.6
comp=Z,263nm,18.9s,MS4.0,baz=51,slow=41
CII Carovilli 35.52 300 P **P** **06 27 52.3 +0.6**
comp=Z,24nm,1.2s,mb5.0
PDKS Podkum 35.58 307 *e*P **P** **06 27 51.7 -0.5**
DPC Dobruska-Polom 35.77 315 *e*P **P** **06 27 53.5 -0.3**
DPC AMS AMS 06 47 00.0
comp=Z,300nm,25.0s
CEY Cerknica 35.91 307 *e*P **P** **06 27 54.2 -0.8**
JOF Joensuu 36.01 341 *e*p **P** **06 27 55.8 -0.1**
VVLD Villa Vallelon 36.04 300 P **P** **06 27 55.8 -0.3**
comp=Z,34nm,1.1s,mb5.2
GTA Gaotai 36.06 64 *e*P **P** **06 27 58.0 +1.7**
GTA PP PP 06 29 21.7 +3.5
GTA S **S** **06 33 38.0 +2.6**
GTA SS SS 06 36 02.9 -10
GTA AMB AMB
comp=Z,25nm,1.3s,mb5.0
GTA AMB AMB
comp=Z,102nm,6.1s
GTA LR LR
comp=N,661nm,14.5s,MS4.7
GTA LR LR
comp=E,763nm,16.0s,MS4.7
GTA LR LR
comp=Z,734nm,15.2s,MS4.6
PTQR Pietraquaria 36.22 300 P **P** **06 27 57.9 +0.3**
comp=Z,24nm,1.2s,mb5.0
AQU L'Aquila 36.24 301 *e*P **P** **06 27 57.7 -0.1**
AQU pmax pmax
comp=Z,22nm,1.1s,mb5.0
AQU L'Aquila 36.24 301 *e*P **P** **06 27 57.7 -0.2**
comp=Z,22nm,1.1s,mb5.0
AQU L'Aquila 36.24 301 *e*P **P** **06 27 57.7 -0.1**
comp=Z,22nm,1.1s,mb5.0
MOA Molln 36.42 310⇑ *i*P **P** **06 27 58.9 -0.5**
comp=Z,17nm,1.4s,mb4.8,SNR=5.6
FIAM Fiamignano 36.45 301 P **P** **06 27 59.5 -0.1**
comp=Z,11nm,1.0s,mb4.8
NRCA Norcia 36.49 302 P **P** **06 27 58.1 -1.8**
comp=Z,7.4nm,1.0s,mb4.6
FINES FINESS Array B 36.61 336 P **P** **06 28 01.3 +0.3**
comp=Z,4.2nm,0.6s,mb4.4,baz=120,slow=11,SNR=33
FINES FINESS Array B 36.61 336 P **P** **06 28 01.3 +0.3**
KMBO Kilima Mbogo 36.72 214 P **P** **06 28 04.4 +2.5**
comp=Z,4.6nm,0.8s,mb4.3,baz=41,slow=12,SNR=11
KMBO LR LR 06 43 08.8
comp=Z,652nm,19.3s,MS4.4,baz=275,slow=36
PRU Pruhonice 36.76 314 AMS AMS 06 46 20.0
comp=Z,200nm,17.4s
PRU Pruhonice 36.76 314 *e*P **P** **06 27 53.6 -8.7**
PRU MLR MLR
comp=Z,200nm,17.4s,MS4.0
PTCC Patocco-Chiusa 36.76 308 P **P** **06 28 01.7 -0.6**
KBA Koelnbreinsper 36.88 309⇑ *i*P **P** **06 28 02.7 -0.6**
comp=Z,9.6nm,0.8s,mb4.7
KBA Koelnbreinsper 36.88 309⇑ *i*P **P** **06 28 02.7 -0.6**
KBA pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
KAF Kangasniemi 36.99 337 *e*p **P** **06 28 04.8 +0.6**
GEC2 GERESS Array S 37.01 312 *e*P **P** **06 28 03.6 -0.8**
comp=Z,13nm,1.1s,mb4.7
GEC2 GERESS Array S 37.01 312 *e*P **P** **06 28 03.6 -0.8**
GEC2 pmax pmax
comp=Z,13nm,1.1s,mb4.7
GERES GERESS Array B 37.01 312 P **P** **06 28 03.7 -0.7**
comp=Z,5.2nm,0.9s,mb4.4,baz=108,slow=8.7,SNR=22
GERES LR LR 06 46 11.0
comp=Z,219nm,19.0s,MS4.0,baz=270,slow=41
KHC Kasperske Hory 37.16 312 *e*P **P** **06 28 04.9 -0.7**
KHC AMS AMS 06 45 40.0
comp=Z,300nm,21.4s
KHC Kasperske Hory 37.16 312*c* *i*P **P** **06 28 05.0 -0.6**
BADI Badiali 37.18 303 P **P** **06 28 06.9 +1.1**
comp=Z,25nm,1.1s,mb5.0
BRG Berggiesshubel 37.37 315 *e*P **P** **06 28 07.2 -0.2**
comp=Z,2.9nm,1.1s,mb4.0
BRG
comp=N,116nm,11.7s
BRG
comp=E,102nm,16.9s
BRG
comp=Z,137nm,14.7s
BRG Berggiesshubel 37.37 315 *e*P **P** **06 28 07.2 -0.2**
BRG pmax pmax
comp=Z,3.0nm,1.1s,mb4.0
BRG MLR MLR
comp=N,116nm,11.7s
BRG MLR MLR
comp=E,102nm,16.9s
BRG MLR MLR
comp=Z,137nm,14.7s,MS3.9
BRG Berggiesshubel 37.37 315 *e*P **P** **06 28 07.1 -0.3**
comp=Z,5.0nm,1.1s,mb4.3
SFI Santa Sofia 37.50 303 P **P** **06 28 09.0 +0.5**
WET Wettzell 37.60 312 *e*P **P** **06 28 08.4 -1.0**
comp=Z,7.0nm,1.0s,mb4.3
WET Wettzell 37.60 312 *e*P **P** **06 28 08.4 -1.0**
WET pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
VMG Vicchio 37.72 303 P **P** **06 28 11.3 +0.9**
comp=Z,134nm,1.0s,mb5.6
FNVD Fontana Vidola 38.04 304 P **P** **06 28 13.5 +0.4**
comp=Z,94nm,2.0s,mb5.2
CLL Collm 38.06 315⇑ *i*P **P** **06 28 13.3 +0.1**
comp=Z,13nm,1.1s,mb4.6
CLL *e*x x 06 28 37.0
CLL *e*PP PP 06 29 42.0 +1.8
CLL Collm 38.06 315⇑ *i*P **P** **06 28 13.3 +0.1**
CLL *e**PP pP 06 28 22.0 +5.7
CLL pmax pmax
comp=Z,13nm,1.1s,mb4.6
CLL MLR MLR
comp=Z,300nm,16.6s,MS4.2
CLL Collm 38.06 315⇑ *i*P **P** **06 28 13.3 +0.1**
comp=Z,13nm,1.1s,mb4.6
CLL *e*pP pP 06 28 22.0 +5.7
CLL LR LR
comp=Z,300nm,16.6s,MS4.2
CLL Collm 38.06 315 *e*P **P** **06 28 13.2 0.0**
comp=Z,13nm,1.1s,mb4.6
CLL *e*pP pP 06 28 22.0 +5.7
WTTA Wattenberg 38.06 309⇑ *i*P **P** **06 28 12.2 -1.2**
comp=Z,26nm,0.8s,mb5.0,SNR=14
WTTA Wattenberg 38.06 309⇑ *i*P **P** **06 28 12.2 -1.1**
WTTA pmax pmax
comp=Z,26nm,0.8s,mb5.0
WATA Walderalm 38.12 309⇓ *i*P **P** **06 28 12.5 -1.3**
comp=Z,28nm,1.2s,mb4.8
WATA Walderalm 38.12 309⇓ *i*P **P** **06 28 12.5 -1.3**
WATA pmax pmax
comp=Z,28nm,1.2s,mb4.9
NKC Novy Kostel 38.13 314 *e*P **P** **06 28 13.7 -0.1**
ROTZ Rotzenmuhle 38.17 313 *e*P **P** **06 28 13.8 -0.4**
comp=Z,12nm,1.3s,mb4.5
MANZ Manzenberg 38.28 313 *e*P **P** **06 28 15.1 0.0**
comp=Z,4.0nm,1.2s,mb4.0
SQTA Sankt Quirin 38.34 308⇑ *i*P **P** **06 28 14.4 -1.3**
comp=Z,7.8nm,0.8s,mb4.5,SNR=13
SQTA Sankt Quirin 38.34 308⇑ *i*P **P** **06 28 14.4 -1.3**
SQTA pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
MOTA Moosalm 38.44 309⇓ *i*P **P** **06 28 14.9 -1.6**
comp=Z,11nm,1.0s,mb4.5,SNR=8.8
MOTA Moosalm 38.44 309⇓ *i*P **P** **06 28 14.9 -1.5**
MOTA pmax pmax
comp=Z,11nm,1.0s,mb4.5

MOX Moxa 38.74 314 *e*P P **06 28 18.9 -0.1**
comp=Z,5.0nm,1.2s,mb4.1
MOX Moxa 38.74 314 *e*P P **06 28 18.7 -0.3**
MOX
comp=Z,200nm,20.0s
GRA1 Grafenberg Arr 38.78 312 *e*P P **06 28 18.8 -0.5**
comp=Z,20nm,1.0s,mb4.8
GRA1 LR LR
comp=Z,300nm,19.3s,MS4.1
GRF Grafenberg Arr 38.78 312 *e*P P **06 28 18.8 -0.5**
comp=Z,20nm,1.0s,mb4.8
GRF *e*L 06 49 15.5
comp=Z,260nm,19.3s
GRF Grafenberg Arr 38.78 312 *e*P P **06 28 18.8 -0.5**
GRF pmax pmax
comp=Z,20nm,1.0s,mb4.8
GRF MLR MLR
comp=Z,300nm,19.3s,MS4.1
BRMO Bormio 38.81 307 P P **06 28 19.2 -0.4**
DAVOX Davos 39.19 308 P P **06 28 21.8 -0.9**
comp=Z,8.8nm,0.5s,mb4.7,baz=120,slow=7.6,SNR=18
DAVOX LR LR 06 46 53.8
comp=Z,135nm,20.6s,MS3.8,baz=88,slow=40
VSL Villasalto 39.24 296 *e*P P **06 28 22.8 -0.5**
comp=Z,33nm,1.0s,mb5.0
VSL Villasalto 39.24 296 *e*P P **06 28 22.8 -0.4**
comp=Z,33nm,1.0s,mb5.0
DAVA Damuels 39.25 308 ⇓*i*P P **06 28 22.2 -1.1**
comp=Z,38nm,1.1s,mb5.1,SNR=14
APA Apatity 39.30 346 ⇑*i*P P **06 28 24.8 +1.1**
APA *e* 06 30 00.0
APA *e*S **S** **06 34 23.0 -1.5**
APA pmax pmax
comp=Z,32nm,1.2s,mb4.9
APA MLR MLR
comp=Z,1μm,13.0s,MS4.9
LVZ Lovozero 39.33 347 *d i*P P **06 28 24.9 +0.9**
LVZ pmax pmax
comp=Z,13nm,0.8s,mb4.7
LVZ MLR MLR
comp=Z,300nm,13.0s,MS4.3
LZH Lanzhou 39.43 69 *e*P P **06 28 26.9 +2.1**
LZH PP PP 06 30 01.4 +6.2
LZH *e*S **S** **06 34 29.9 +3.4**
LZH SS SS 06 37 17.0 -3.6
LZH AMB AMB
comp=Z,31nm,1.2s,mb4.9
LZH AMB AMB
comp=Z,90nm,4.2s
LZH LR LR
comp=E,677nm,12.0s
LZH LR LR
comp=Z,1μm,14.0s,MS4.8
PGF Pioggiola 39.50 301 *e*P P **06 28 21.4 -4.0**
comp=Z,33nm,1.2s,mb4.6
PGF Pioggiola 39.50 301 *e*P P **06 28 21.4 -4.0**
PGF pmax pmax
comp=Z,17nm,1.2s,mb4.7
PGF Pioggiola 39.50 301 *e*P P **06 28 21.4 -4.0**
comp=Z,16nm,1.2s,mb4.6
ZAK Zakamensk 39.68 47 *e*P P **06 28 25.7 -1.1**
ZAK pmax pmax
comp=Z,20nm,1.6s,mb4.6
CLZ Clausthal 39.78 316 *e*P P **06 28 27.4 -0.3**
comp=Z,11nm,1.0s,mb4.5
CLZ Clausthal 39.78 316 *e*P P **06 28 27.4 -0.3**
CLZ pmax pmax
comp=Z,11nm,1.0s,mb4.5
VAI Varese 39.85 306 P P **06 28 27.0 -1.3**
STU Stuttgart 39.92 311 *e*P P **06 28 27.5 -1.4**
comp=Z,7.0nm,0.8s,mb4.4
STU Stuttgart 39.92 311 *e*P P **06 28 27.5 -1.4**
STU pmax pmax
comp=Z,4.0nm,0.3s,mb4.6
STU Stuttgart 39.92 311 *e*P P **06 28 27.5 -1.4**
comp=Z,3.8nm,0.3s,mb4.6
GTTG Gvttingen 39.96 315 *e*P P **06 28 29.6 +0.4**
comp=Z,12nm,1.2s,mb4.5
CHG Chiang Mai 39.98 97 P P **06 28 29.1 -0.3**
TLY Talaya 40.18 45 *e*P P **06 28 33.2 +2.2**
TLY pmax pmax
comp=Z,4.0nm,1.7s,mb3.9
CD2 Chengdu 40.20 77 *e*P P **06 28 32.0 +0.8**
CD2 XP sP 06 28 45.8 +10
CD2 PP PP 06 30 08.8 +5.2
CD2 S **S** **06 34 35.2 -2.8**
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
CD2 LR LR
comp=E,100nm,9.6s
CD2 LR LR
comp=Z,60nm,9.6s
BSEG Bad Segeberg 40.35 319 *e*P P **06 28 32.6 +0.2**
comp=Z,7.0nm,1.0s,mb4.3
BSEG Bad Segeberg 40.35 319 *e*P P **06 28 32.6 +0.2**
BSEG pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
TNS Taunus Mts 40.64 313 *e*P P **06 28 34.2 -0.6**
comp=Z,39nm,1.5s,mb4.8
TNS Taunus Mts 40.64 313 *e*P P **06 28 34.2 -0.6**
TNS pmax pmax
comp=Z,39nm,1.5s,mb4.8
SBF Sospel 40.68 303 *e*P P **06 28 33.5 -1.7**
comp=Z,62nm,1.2s,mb4.8
SBF Sospel 40.68 303 *e*P P **06 28 33.5 -1.7**
SBF pmax pmax
comp=Z,31nm,1.2s,mb4.8
SBF Sospel 40.68 303 *e*P P **06 28 33.5 -1.7**
comp=Z,31nm,1.2s,mb4.8
HFS Hagfors 40.87 329 P P **06 28 36.9 +0.2**
comp=Z,13nm,0.8s,mb4.6,baz=120,slow=8.8,SNR=22
KMI Kunming 40.88 86 P P **06 28 37.4 +0.6**
KMI PP PP 06 30 13.5 +2.5
KMI PPP 06 30 39.4
KMI S **S** **06 34 42.7 -5.5**
KMI AMB AMB
comp=Z,15nm,0.9s,mb4.6
KMI AMB AMB
comp=Z,125nm,4.6s
KMI LR LR
comp=N,209nm,13.0s,MS4.4
KMI LR LR
comp=E,326nm,13.3s,MS4.4
KMI LR LR
comp=Z,272nm,13.9s,MS4.3
CDF Champ du Feu 41.13 310 *e*P P **06 28 36.0 -2.9**
comp=Z,8.7nm,1.0s,mb4.1
CDF Champ du Feu 41.13 310 *e*P P **06 28 36.0 -2.9**
CDF pmax pmax
comp=Z,4.0nm,1.0s,mb4.0
CDF Champ du Feu 41.13 310 *e*P P **06 28 36.0 -2.9**
comp=Z,4.3nm,1.0s,mb4.0
MBDF Montbardon 41.19 304 *e*P P **06 28 37.6 -1.7**
comp=Z,14nm,0.8s,mb4.3
MBDF Montbardon 41.19 304 *e*P P **06 28 37.6 -1.7**
MBDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
MBDF Montbardon 41.19 304 *e*P P **06 28 37.6 -1.7**
comp=Z,7.2nm,0.8s,mb4.3
LPG La Plagne 41.24 305 *e*P P **06 28 38.3 -1.5**
comp=Z,36nm,1.0s,mb4.6
LPG La Plagne 41.24 305 *e*P P **06 28 38.3 -1.5**
LPG pmax pmax
comp=Z,18nm,1.0s,mb4.7
LPG La Plagne 41.24 305 *e*P P **06 28 38.3 -1.5**
comp=Z,18nm,1.0s,mb4.6
FRF La Foret Royal 41.25 302 *e*P P **06 28 37.7 -2.1**
comp=Z,27nm,1.5s,mb4.4
FRF La Foret Royal 41.25 302 *e*P P **06 28 37.7 -2.1**
FRF pmax pmax
comp=Z,14nm,1.5s,mb4.4
FRF La Foret Royal 41.25 302 *e*P P **06 28 37.7 -2.1**
comp=Z,14nm,1.5s,mb4.4
LPL La Plagne 41.25 305 *e*P P **06 28 38.3 -1.6**
comp=Z,34nm,1.1s,mb4.6
LPL La Plagne 41.25 305 *e*P P **06 28 38.3 -1.6**
LPL pmax pmax
comp=Z,17nm,1.1s,mb4.6
LPL La Plagne 41.25 305 *e*P P **06 28 38.3 -1.6**
comp=Z,17nm,1.1s,mb4.6
SONM Songino Array 41.32 51 P P **06 28 41.3 +0.9**
comp=Z,2.3nm,0.9s,mb3.8,baz=269,slow=9.5,SNR=16
SONM LR LR 06 48 11.0
comp=Z,389nm,18.3s,MS4.3,baz=78,slow=40
LMR La Mourre 41.34 302 *e*P P **06 28 39.1 -1.5**
HINF Hinteralfeld 41.35 309 *e*P P **06 28 38.9 -1.8**
comp=Z,17nm,1.1s,mb4.3
HINF Hinteralfeld 41.35 309 *e*P P **06 28 38.9 -1.8**
HINF pmax pmax
comp=Z,9.0nm,1.1s,mb4.3
HINF Hinteralfeld 41.35 309 *e*P P **06 28 38.9 -1.8**
comp=Z,8.5nm,1.1s,mb4.3
NANT Nan 41.49 96 ⇑P P **06 28 40.0 -1.8**
comp=Z,98nm,1.0s,mb5.4
BUG Bochum–Univer 41.59 314 *e*P P **06 28 42.5 -0.1**
comp=Z,15nm,1.1s,mb4.5
HAU Haudompre 41.71 309 *e*P P **06 28 41.6 -2.0**
comp=Z,25nm,1.3s,mb4.4
HAU *e*R
comp=Z,144nm,21.2s
HAU Haudompre 41.71 309 *e*P P **06 28 41.6 -2.0**
HAU pmax pmax
comp=Z,13nm,1.3s,mb4.4
HAU MLR MLR
comp=Z,140nm,21.3s,MS3.8
HAU Haudompre 41.71 309 *e*P P **06 28 41.6 -2.0**
comp=Z,13nm,1.3s,mb4.4
HAU LR LR
comp=Z,140nm,21.3s,MS3.8
ULN Ulaanbaatar 41.76 51 *e*P P **06 28 46.0 +2.0**
ULN pmax pmax
comp=Z,33nm,1.8s,mb4.7
ULN MLR MLR
comp=Z,326nm,21.0s,MS4.2
ULN Ulaanbaatar 41.76 51 *e*P P **06 28 46.0 +1.9**
comp=Z,33nm,1.8s,mb4.7
ULN LR LR
comp=Z,326nm,21.0s,MS4.2
ULN Ulaanbaatar 41.76 51 *e*P P **06 28 46.0 +2.0**
comp=Z,33nm,1.8s,mb4.7
CABF La Chapelle 41.77 307 *e*P P **06 28 42.9 -1.2**
comp=Z,26nm,0.9s,mb4.5
CABF La Chapelle 41.77 307 *e*P P **06 28 42.9 -1.2**
CABF pmax pmax
comp=Z,13nm,0.9s,mb4.6
CABF La Chapelle 41.77 307 *e*P P **06 28 42.9 -1.2**
comp=Z,13nm,0.9s,mb4.5
ORIF Oris-en-Rattie 41.83 304 *e*P P **06 28 41.7 -2.9**
ORIF *e*R
comp=Z,289nm,22.2s
WLF Walferdange 42.02 311 P P **06 28 45.8 -0.4**
comp=Z,5.4nm,1.1s,mb4.1
SMRF Simiane la Rot 42.03 303 *e*P P **06 28 44.5 -1.7**
MEM Membach 42.24 313 P P **06 28 48.7 +0.7**
comp=Z,4.5nm,0.0s
NB2 NORSAR Subarra 42.36 329 P P **06 28 48.1 -0.9**
comp=Z,16nm,1.1s,mb4.5,baz=116,slow=8.6
NOA NORSAR Array B 42.36 329 P P **06 28 48.8 -0.2**
comp=Z,12nm,1.1s,mb4.5,baz=115,slow=8.0,SNR=15
NOA PP PP 06 30 23.6 -3.4
comp=Z,4.3nm,1.1s,baz=128,slow=11,SNR=3.6
NOA NORSAR Array B 42.36 329 PP PP 06 30 23.6 -3.4
NAO01 NORSAR Array S 42.43 329 *e*P P **06 28 48.8 -0.7**
comp=Z,12nm,1.0s,mb4.5
NAO01 NORSAR Array S 42.43 329 *e*P P **06 28 48.8 -0.7**
comp=Z,12nm,1.0s,mb4.5
KONO Kongsberg 42.56 327 *e*P P **06 28 49.9 -0.7**
KONO Kongsberg 42.56 327 *e*P P **06 28 50.3 -0.2**
comp=Z,40nm,1.4s,mb5.0
KONO Kongsberg 42.56 327 *e*P P **06 28 50.3 -0.3**
comp=Z,40nm,1.4s,mb5.0
ARCES ARCESS Array B 42.62 344 P P **06 28 51.5 +0.5**
comp=Z,4.8nm,0.9s,mb4.2,baz=104,slow=5.1,SNR=9.1
ARCES LR LR 06 50 29.7
comp=Z,271nm,20.1s,MS4.1,baz=148,slow=42
ARCES ARCESS Array B 42.62 344 P P **06 28 51.5 +0.5**
ARCES LR LR 06 50 29.7
VIVF Saint-Julien-l 42.69 304 *e*P P **06 28 49.5 -2.1**
comp=Z,14nm,1.0s,mb4.3
VIVF Saint-Julien-l 42.69 304 *e*P P **06 28 49.5 -2.1**
VIVF pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
VIVF Saint-Julien-l 42.69 304 *e*P P **06 28 49.5 -2.1**
comp=Z,7.1nm,1.0s,mb4.3
GIVF Givet 42.93 312 *e*P P **06 28 53.7 +0.2**
comp=Z,78nm,1.4s,mb5.0
GIVF Givet 42.93 312 *e*P P **06 28 53.7 +0.2**
GIVF pmax pmax
comp=Z,39nm,1.4s,mb4.9
GIVF Givet 42.93 312 *e*P P **06 28 53.7 +0.2**
comp=Z,39nm,1.4s,mb5.0
DOU Dourbes 43.07 312 P P **06 28 55.1 +0.4**
comp=Z,4.8nm,1.2s,mb4.1
LASF Ste Croix 43.27 303 *e*P P **06 28 54.3 -2.0**
comp=Z,11nm,1.2s,mb4.2
LASF Ste Croix 43.27 303 *e*P P **06 28 54.3 -2.0**
comp=Z,5.3nm,1.2s,mb4.2
SMF Signal de Mont 43.31 307 *e*P P **06 28 55.1 -1.6**
comp=Z,42nm,1.1s,mb4.8
SMF Signal de Mont 43.31 307 *e*P P **06 28 55.1 -1.6**
SMF pmax pmax
comp=Z,21nm,1.1s,mb4.8
SMF Signal de Mont 43.31 307 *e*P P **06 28 55.1 -1.6**
comp=Z,21nm,1.1s,mb4.8
BAIF Baives 43.32 312 *e*P P **06 28 57.0 +0.3**
comp=Z,78nm,1.3s,mb5.0
BAIF Baives 43.32 312 *e*P P **06 28 57.0 +0.3**
BAIF pmax pmax
comp=Z,39nm,1.3s,mb5.0
BAIF Baives 43.32 312 *e*P P **06 28 57.0 +0.3**
comp=Z,39nm,1.3s,mb5.0
SNF Seneffe 43.32 313 P P **06 28 55.9 -0.8**
SNF E 06 29 27.2
LOR Lormes 43.33 308 *e*P P **06 28 55.0 -1.8**
comp=Z,39nm,1.2s,mb4.7
LOR *e*R
comp=Z,219nm,22.0s
LOR Lormes 43.33 308 *e*P P **06 28 55.0 -1.8**
LOR pmax pmax
comp=Z,20nm,1.2s,mb4.7
LOR MLR MLR
comp=Z,220nm,22.0s,MS4.0
LOR Lormes 43.33 308 *e*P P **06 28 55.0 -1.8**
comp=Z,20nm,1.2s,mb4.7
LOR LR LR
comp=Z,220nm,22.0s,MS4.0
SSF Saint Saulge 43.56 307 *e*P P **06 28 57.2 -1.5**
comp=Z,56nm,1.3s,mb4.8
SSF Saint Saulge 43.56 307 *e*P P **06 28 57.2 -1.5**
SSF pmax pmax
comp=Z,28nm,1.3s,mb4.8
SSF Saint Saulge 43.56 307 *e*P P **06 28 57.2 -1.5**
comp=Z,28nm,1.3s,mb4.8
AVF Avril sur Loir 43.66 307 *e*P P **06 28 57.9 -1.5**
comp=Z,27nm,1.1s,mb4.6
AVF Avril sur Loir 43.66 307 *e*P P **06 28 57.9 -1.5**
AVF pmax pmax
comp=Z,13nm,1.1s,mb4.6
AVF Avril sur Loir 43.66 307 *e*P P **06 28 57.9 -1.5**
comp=Z,13nm,1.1s,mb4.6
BTO Baotou 43.85 62 *e*P P **06 29 02.3 +1.3**
XAN Xi'an 43.85 71 P P **06 29 01.6 +0.6**
XAN AMB AMB
comp=Z,13nm,1.2s,mb4.5
XAN LR LR
comp=N,313nm,14.8s,MS4.7
XAN LR LR
comp=E,575nm,15.6s,MS4.7
XAN LR LR
comp=Z,606nm,16.3s,MS4.6
BGF Bois d'Agland 44.00 307 *e*P P **06 29 00.6 -1.6**
comp=Z,28nm,1.1s,mb4.6
BGF Bois d'Agland 44.00 307 *e*P P **06 29 00.6 -1.6**
BGF pmax pmax
comp=Z,14nm,1.1s,mb4.6
BGF Bois d'Agland 44.00 307 *e*P P **06 29 00.6 -1.6**
comp=Z,14nm,1.1s,mb4.6
TCF Toulx Ste Croi 44.43 306 *e*P P **06 29 04.4 -1.3**
comp=Z,29nm,1.1s,mb4.6
TCF Toulx Ste Croi 44.43 306 *e*P P **06 29 04.4 -1.3**
TCF pmax pmax
comp=Z,14nm,1.1s,mb4.6
TCF Toulx Ste Croi 44.43 306 *e*P P **06 29 04.4 -1.3**
comp=Z,14nm,1.1s,mb4.6
MTLF Montolieu 44.48 302 *e*P P **06 29 04.5 -1.5**
comp=Z,34nm,1.7s,mb4.5
MTLF Montolieu 44.48 302 *e*P P **06 29 04.5 -1.5**
MTLF pmax pmax
comp=Z,17nm,1.7s,mb4.5
MTLF Montolieu 44.48 302 *e*P P **06 29 04.5 -1.5**
comp=Z,17nm,1.7s,mb4.5
CAF Calviac 44.54 304 *e*P P **06 29 05.2 -1.3**
comp=Z,21nm,1.1s,mb4.6
CAF Calviac 44.54 304 *e*P P **06 29 05.2 -1.3**
CAF pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
CAF Calviac 44.54 304 *e*P P **06 29 05.2 -1.3**
comp=Z,10nm,1.1s,mb4.6
EMHD Djebel Mahouad 44.63 292 P P **06 29 07.6 +0.3**
RJF Les Rejaudoux 44.92 305 *e*P P **06 29 08.5 -1.1**
comp=Z,44nm,1.2s,mb4.9
RJF *e*R
comp=Z,217nm,22.5s
RJF Les Rejaudoux 44.92 305 *e*P P **06 29 08.5 -1.1**
RJF pmax pmax
comp=Z,22nm,1.2s,mb4.9
RJF MLR MLR
comp=Z,220nm,22.5s,MS4.0
RJF Les Rejaudoux 44.92 305 *e*P P **06 29 08.5 -1.1**
comp=Z,22nm,1.2s,mb4.9
RJF LR LR
comp=Z,220nm,22.5s,MS4.0
HHC Hu-ho-hao-te 45.00 61 *e*P P **06 29 12.3 +2.1**
HHC PCP PcP 06 30 49.6 -1.6
HHC PP PP 06 30 59.1 +3.8
HHC SCP ScP 06 34 40.3 -3.4
HHC PCS PcS 06 34 43.1 -1.8
HHC S **S** **06 35 56.0 +7.4**
HHC SCS ScS 06 39 04.3 -3.3
HHC AMB AMB
comp=Z,21nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,74nm,5.3s
HHC LR LR
comp=N,738nm,18.0s,MS4.7
HHC LR LR
comp=E,497nm,17.8s,MS4.7
HHC LR LR
comp=Z,408nm,16.4s,MS4.4
LFF La Frestale 45.48 304 *e*P P **06 29 12.7 -1.3**
comp=Z,28nm,0.9s,mb4.8
LFF La Frestale 45.48 304 *e*P P **06 29 12.7 -1.3**
LFF pmax pmax
comp=Z,14nm,0.9s,mb4.8
LFF La Frestale 45.48 304 *e*P P **06 29 12.7 -1.3**
comp=Z,14nm,0.9s,mb4.8
EBNR Beni Rached 45.75 292 P P **06 29 14.7 -1.4**
ECHA Ech Chlef 45.91 292 P P **06 29 16.0 -1.4**
EBR Ebro Roquetas 45.94 299 *e*Ts 06 29 20.8
LDF La Druitiere 46.05 310 *e*P P **06 29 16.7 -1.8**
MFF Saint Martin d 46.06 307 *e*P P **06 29 16.8 -1.8**
comp=Z,29nm,1.2s,mb4.8
MFF Saint Martin d 46.06 307 *e*P P **06 29 16.8 -1.8**
MFF pmax pmax
comp=Z,15nm,1.2s,mb4.8
MFF Saint Martin d 46.06 307 *e*P P **06 29 16.8 -1.8**
comp=Z,15nm,1.2s,mb4.8
ETRT Tiaret 46.10 291 P P **06 29 19.6 +0.7**
EANR 'Ain N'Sour 46.15 292 P P **06 29 19.0 -0.3**
FLN La Foliniere 46.29 310 *e*P P **06 29 18.7 -1.7**
FLN *e*R
comp=Z,315nm,20.0s
FLN La Foliniere 46.29 310 *e*P P **06 29 18.7 -1.7**
FLN LR LR
comp=Z,320nm,20.0s,MS4.3
ETSF Etsaut 46.53 302 *e*P P **06 29 20.9 -1.4**
comp=Z,26nm,1.1s,mb4.8
ETSF Etsaut 46.53 302 *e*P P **06 29 20.9 -1.4**
ETSF pmax pmax
comp=Z,13nm,1.1s,mb4.8
ETSF Etsaut 46.53 302 *e*P P **06 29 20.9 -1.4**
comp=Z,13nm,1.1s,mb4.8
GRR Gorron 46.54 309 *e*P P **06 29 20.7 -1.6**
comp=Z,24nm,1.2s,mb4.7
GRR Gorron 46.54 309 *e*P P **06 29 20.7 -1.6**
GRR pmax pmax
comp=Z,12nm,1.2s,mb4.7
GRR Gorron 46.54 309 *e*P P **06 29 20.7 -1.6**
comp=Z,12nm,1.2s,mb4.7
SJPF Ste Jean 47.00 302 *e*P P **06 29 24.6 -1.4**
comp=Z,16nm,1.2s,mb4.5
SJPF Ste Jean 47.00 302 *e*P P **06 29 24.6 -1.4**
SJPF pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
SJPF Ste Jean 47.00 302 *e*P P **06 29 24.6 -1.4**
comp=Z,7.8nm,1.2s,mb4.5
ROSF Rostrenen 48.15 309 *e*P P **06 29 33.3 -1.6**
comp=Z,66nm,1.4s,mb5.2
ROSF Rostrenen 48.15 309 *e*P P **06 29 33.3 -1.6**
ROSF pmax pmax
comp=Z,33nm,1.4s,mb5.2
ROSF Rostrenen 48.15 309 *e*P P **06 29 33.3 -1.6**
comp=Z,33nm,1.4s,mb5.2
EKA Eskdalemuir Ar 48.29 319 P P **06 29 35.5 -0.5**
comp=Z,2.1nm,0.8s,mb4.2,baz=100,slow=7.0,SNR=8.2
ESDC Sonseca Array 49.47 298 P P **06 29 43.9 -1.2**
comp=Z,3.1nm,0.8s,mb4.4,baz=67,slow=8.0,SNR=20
ESLA Sonseca Array 49.47 298 *e*P P **06 29 44.1 -1.0**
comp=Z,1.2nm,1.0s,mb3.9
ESLA Sonseca Array 49.47 298 *e*P P **06 29 44.1 -0.9**
comp=Z,1.1nm,1.0s,mb3.8
OPO Ambohidratompo 49.92 192 P P **06 29 51.2 +2.7**
comp=Z,3.3nm,0.8s,mb4.4,baz=15,slow=11,SNR=4.8
OPO Ambohidratompo 49.92 192 P P **06 29 51.2 +2.7**
NJ2 Nanjing 52.43 71 *e*P P **06 30 08.5 +1.2**
NJ2 PP PP 06 32 08.8 +2.8
NJ2 S **S** **06 37 33.0 -0.3**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
NJ2 AMB AMB
comp=Z,60nm,9.6s
NJ2 LR LR
comp=Z,360nm,18.1s,MS4.5
EVO Evora 52.78 297 *e*P P **06 30 09.0 -0.9**
comp=Z,23nm,1.2s,mb4.7
EVO *e*R
comp=Z,147nm,21.8s
LSZ Lusaka 53.36 215 P P **06 30 15.3 +1.1**
comp=Z,3.1nm,0.8s,mb4.3,baz=54,slow=8.6,SNR=5.6
LSZ Lusaka 53.36 215 P P **06 30 15.3 +1.1**
TORD Torodi Ar. Bea 53.38 264 P P **06 30 14.0 -0.3**
comp=Z,25nm,0.8s,mb5.2,baz=59,slow=7.1,SNR=162
SSE Sheshan 54.61 72 P P **06 30 22.5 -0.8**
SSE PCP PcP 06 31 27.4 +1.1
SSE PP PP 06 32 24.5 -1.2
SSE S **S** **06 37 59.3 -3.6**
SSE SCS ScS 06 40 10.7 -2.0
SSE SS SS 06 41 42.3 -3.3
SSE AMB AMB
comp=Z,38nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,82nm,5.9s
SSE LR LR
comp=N,313nm,21.1s,MS4.4
SSE LR LR
comp=E,136nm,21.2s,MS4.4
SSE LR LR
comp=Z,213nm,21.3s,MS4.2
TIXI Tiksi 55.50 21 *e*P P **06 30 26.5 -3.2**
TIXI *e*S **S** **06 38 12.2 -2.7**
TIXI pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
TIXI smax
comp=N,27nm,9.2s
TIXI smax
comp=E,32nm,13.5s
TIXI MLR MLR
comp=Z,358nm,13.0s,MS4.6
DAG Danmarks Havn 56.91 345 ⇓*i*P P **06 30 39.2 -0.6**
comp=Z,4.2nm,0.9s,mb4.5
DAG Danmarks Havn 56.91 345 ⇓*e*P P **06 30 39.2 -0.6**
DAG pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
DAG Danmarks Havn 56.91 345 ⇓*e*P P **06 30 39.2 -0.6**
comp=Z,4.2nm,0.9s,mb4.5
MDJ Mudanjiang 57.53 54 P P **06 30 42.2 -2.0**
MDJ PP PP 06 32 49.5 -2.3
MDJ SCP ScP 06 35 35.5 -2.1
MDJ PCS PcS 06 35 36.8 -2.0
MDJ AMB AMB
comp=Z,3.0nm,0.8s,mb4.4
MDJ AMB AMB
comp=Z,48nm,3.8s
MDJ LR LR
comp=Z,312nm,14.7s,MS4.5
KLR Kul'dur 58.01 48 *e*P P **06 30 44.2 -3.4**
HABR Khabarovsk 60.31 49 P P **06 31 02.5 -1.0**
HABR *e*S **S** **06 39 15.4 -2.4**
JOW Kunigami 61.89 74 LR LR 06 59 49.6

comp=Z,248nm,20.4s,MS4.4,baz=296,slow=38
LBTB Lobatse 62.96 212 P **P** **06 31 22.7 +1.3**
comp=Z,6.8nm,0.9s,mb4.8,baz=4.5,slow=7.8,SNR=8.9
LBTB Lobatse 62.96 212 P **P** **06 31 22.7 +1.3**
YSS Yuzh-Sakhalins 65.72 49 *eP* **P** **06 31 40.5 +1.0**
YSS *e* 06 40 48.0
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
YSS MLR MLR
comp=Z,400nm,17.0s,MS4.7
YSS MLR MLR
comp=E,500nm,18.0s
YSS Yuzh-Sakhalins 65.72 49 P **P** **06 31 39.2 -0.2**
comp=E,15nm,0.8s,mb5.1
YSS Yuzh-Sakhalins 65.72 49 P **P** **06 31 39.2 -0.3**
comp=E,15nm,0.8s,mb5.1
MJAR Matsushiro Arr 66.19 61 LR LR 07 01 12.1
comp=E,258nm,21.0s,MS4.4,baz=340,slow=37
ASAJ Asahikawa 66.60 52 LR LR 07 02 31.0
comp=E,368nm,18.7s,MS4.6,baz=180,slow=38
BILL Bilibino 68.70 22 *eP* **P** **06 31 57.7 -0.7**
BILL Bilibino 68.70 22 *eP* **P** **06 31 58.9 +0.6**
comp=E,4.5nm,0.8s,mb4.5
BILL Bilibino 68.70 22 *eP* **P** **06 31 58.9 +0.5**
comp=E,4.5nm,0.8s,mb4.5
INK Inuvik 80.91 4 *eP* **P** **06 33 08.4 -0.7**
INK pmax pmax
comp=Z,4.0nm,0.9s
INK Inuvik 80.91 4 *eP* **P** **06 33 08.4 -0.7**
comp=Z,3.6nm,0.9s,mb4.3
INK Inuvik 80.91 4 *eP* **P** **06 33 08.4 -0.7**
comp=Z,3.6nm,0.9s,mb4.3
SCHQ Schefferville 81.91 331 P **P** **06 33 14.9 +0.5**
comp=Z,3.5nm,0.7s,mb4.4,baz=23,slow=4.2,SNR=9.8
FITZ Fitzroy Crossi 82.17 116 P **P** **06 33 15.0 -0.8**
comp=Z,11nm,1.0s,mb4.8,baz=316,slow=5.0,SNR=9.5
FITZ Fitzroy Crossi 82.17 116 *eP* **P** **06 33 15.3 -0.5**
comp=Z,18nm,1.0s,mb5.0
ILAR Eielson Array 82.98 10 P **P** **06 33 18.9 -1.1**
comp=Z,1.6nm,0.8s,mb4.1,baz=330,slow=4.3,SNR=16
ILAR LR LR 07 18 58.2
comp=Z,141nm,18.1s,MS4.4,baz=357,slow=42
KAKA Kakadu 84.56 108 *eP* **P** **06 33 29.0 +0.9**
comp=Z,18nm,0.9s,mb5.2
PMR Palmer 85.59 12 *eP* **P** **06 33 33.2 0.0**
PMR pmax pmax
comp=Z,15nm,1.2s,mb5.1
PMR MLR MLR
comp=Z,474nm,19.0s,MS4.9
PMR Palmer 85.59 12 *eP* **P** **06 33 33.2 0.0**
comp=Z,15nm,1.2s,mb5.1
PMR LR LR
comp=Z,474nm,19.0s,MS4.9
PMR Palmer 85.59 12 *eP* **P** **06 33 33.2 0.0**
comp=Z,15nm,1.2s,mb5.1
YKW3 Yellowknife Ar 86.71 356 *eP* **P** **06 33 39.0 +0.3**
YKW3 Yellowknife Ar 86.71 356 *eP* **P** **06 33 39.0 +0.3**
YKA Yellowknife Ar 86.77 356 P **P** **06 33 38.7 -0.3**
comp=Z,2.1nm,0.9s,mb4.4,baz=359,slow=5.4,SNR=29
YKA LR LR 07 18 26.8
comp=Z,188nm,18.6s,MS4.5,baz=340,slow=40
YKA Yellowknife Ar 86.77 356 P **P** **06 33 38.7 -0.3**
YKA LR LR 07 18 26.8
YKA Yellowknife Ar 86.77 356 P **P** **06 33 38.7 -0.4**
WRA Warramunga Arr 90.01 113 P **P** **06 33 53.7 -0.7**
comp=Z,3.7nm,0.9s,mb4.7,baz=315,slow=4.0,SNR=14
WB2 Warramunga Arr 90.02 113 *eP* **P** **06 33 54.4 -0.1**
ASAR Alice Springs 91.68 117 P **P** **06 34 01.6 -0.6**
comp=Z,6.2nm,0.9s,mb4.9,baz=301,slow=4.0,SNR=27
ULM Lac du Bonnet 95.71 343 LR LR 07 21 07.9
comp=Z,118nm,19.1s,MS4.4,baz=351,slow=38
MAW Mawson 98.20 178 LR LR 07 14 03.6
comp=Z,117nm,19.4s,MS4.4,baz=347,slow=32

*IDC **07** 07:05:05.6±0.9, 374N×12662E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/19, mbtmp3.8/8, MS3.1/1, Ms1 3.1/1, ms1mx2.6/33, Error ellipse: s-maj=69.5km s-min=16.5km az=74.0*
*ISCJB **07** 07:05:08.9±0.6, 37N±0.1×1265E±0.04, h33km, mb3.9/11, MS2.9/1, Error ellipse: s-maj=53.4km s-min=11.1km az=144.8*
*NEIC **07** 07:05:10.9±0.7, 373N×12673E, h35km, mb4.3/3, Error ellipse: s-maj=53.6km s-min=11.7km az=73.0*

ISC 07 07:05:10.9±0.6, 38N±01×126 7E±03, h35km, n15, σ1§04/14, mb3.9/11, MS2.9/1, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.74**	**183**	*eP*		**P**	**07 10 00.7**	**+1.5**
	2.7nm,0.6s,mb3.9							
FITZ	**Fitzroy Crossi**	**21.74**	**183**	P		**P**	**07 10 00.5**	**+1.3**
	1.6nm,0.6s,mb3.7,baz=88,slow=14,SNR=5.9							
JOW	**Kunigami**	**23.00**	**4**	LR		LR	07 18 11.5	
	comp=Z,48nm,20.6s,MS2.9,baz=300,slow=34							
WRAB	**Tennant Creek**	**24.70**	**163**	*eP*		**P**	**07 10 28.3**	**-0.4**
	8.6nm,0.8s,mb4.3							
WRA	**Warramunga Arr**	**24.71**	**163**	P		**P**	**07 10 28.4**	**-0.3**
	2.7nm,0.5s,mb4.0,baz=342,slow=10,SNR=12							
WB2	**Warramunga Arr**	**24.71**	**163**	*eP*		**P**	**07 10 28.6**	**-0.2**
ASAR	**Alice Springs**	**28.14**	**166**	P		**P**	**07 10 59.9**	**+0.2**
	0.3nm,0.4s,mb3.3,baz=340,slow=7.1,SNR=12							
STKA	**Stephens Creek**	**38.16**	**159**	P		**P**	**07 12 25.8**	**-1.1**
	2.8nm,0.4s,mb4.3,baz=340,slow=5.6,SNR=3.8							
SONM	**Songino Array**	**47.27**	**341**	P		**P**	**07 13 40.8**	**+0.1**
	0.2nm,0.5s,mb3.3,baz=139,slow=9.5,SNR=2.3							
SONM	**Songino Array**	**47.27**	**341**	P		**P**	**07 13 40.8**	**+0.1**
MKAR	**Makanchi Array**	**57.52**	**325**	P		**P**	**07 14 55.9**	**-0.9**
	0.4nm,0.3s,mb3.9,baz=119,slow=7.6,SNR=14							
KURK	**Kurchatov**	**61.71**	**328**	*eP*		**P**	**07 15 23.8**	**-1.8**
	1.7nm,0.6s,mb4.3							
BVAR	**Borovoye Array**	**67.29**	**327**	P		**P**	**07 16 04.7**	**+2.6**
	0.3nm,0.3s,mb3.8,baz=116,slow=10,SNR=3.6							
ILAR	**Eielson Array**	**85.09**	**25**	P		**P**	**07 17 44.2**	**+1.1**
	0.2nm,0.6s,mb3.5,baz=248,slow=6.1,SNR=4.8							
ARCES	**ARCESS Array B**	**90.42**	**340**	P		**P**	**07 18 08.9**	**+0.1**
	2.0nm,0.9s,mb4.4,baz=64,slow=5.1,SNR=3.9							

MEX 07 07:23:57.7±0.6, 1625N×9823W, h3km±6km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.18**	**36**	*i* P		Pg	07 24 00.9	-0.2
PNIG				*i* S		Sg	07 24 03.4	0.0
UTMO	**Huajuapan**	**1.62**	**15**	*i* P		Pn	07 24 24.4	-2.8
UTMO				*i* S		Sn	07 24 44.5	-4.1
VHO	**Vista Hermosa**	**1.66**	**60**	*eP*		Pn	07 24 23.6	-4.0
VHO				*i* S		Sn	07 24 45.0	-4.4
OXX	**Oaxaca**	**1.67**	**60**	*i* P		Pn	07 24 24.5	-3.3
MEIG	**Mezcala**	**2.13**	**322**	*i* P		Pn	07 24 30.5	-3.6
MEIG				*i* S		Sn	07 24 56.7	-4.4

*ISCJB **07** 07:35:51.6±0.7, 1977S±0.08×17420W±0.10, h33km, mb4.3/9, MS3.6/1, Error ellipse: s-maj=15.4km s-min=9.0km az=73.4*
*IDC **07** 07:35:51.2±1.1, 1989S×17458W, h0km, mb4.3/7, mb1 4.4/9, mb1mx4.1/18, mbtmp4.3/9, ML4.4/1, MS3.6/1, Ms1 3.6/1, ms1mx2.4/24, Error ellipse: s-maj=35.1km s-min=20.0km az=129.0*
*NEIC **07** 07:35:56.2±0.7, 1987S×17455W, h35km, mb4.5/2, Error ellipse: s-maj=22.4km s-min=11.3km az=125.0*

ISC 07 07:35:56.9±1.9, 201S±01×1741W±01, h66km±25km, n18, σ1§21/16, mb4.2/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**6.50**	**20**	Pn		**Pn**	**07 37 29.3**	**-0.5**
	2.9nm,0.3s,baz=163,slow=20,SNR=8.0							
AFI				Sn		**Sn**	**07 38 35.5**	**-7.0**
	13nm,0.3s,baz=329,slow=24,SNR=6.6							
RAR	**Rarotonga**	**13.41**	**97**	Pn		**Pn**	**07 39 04.4**	**+0.2**
	2.1nm,0.3s,baz=308,slow=10,SNR=11							
RAR				Sn		**Sn**	**07 41 19.9**	**-12**
	2.1nm,0.3s,baz=54,slow=16,SNR=5.7							
DZM	**Mont Dzumac**	**18.32**	**260**	P		**Pn**	**07 40 08.5**	**+2.2**
	0.8nm,0.3s,baz=72,slow=18,SNR=11							
URZ	**Urewera**	**19.68**	**201**	P		**Pn**	**07 40 22.3**	**-0.3**
	1.2nm,0.3s,baz=112,slow=22,SNR=6.2							
RPZ	**Rata Peaks**	**26.67**	**205**	P		**P**	**07 41 33.1**	**+3.5**
	5.0nm,0.6s,mb4.3,baz=270,slow=9.1,SNR=3.9							
PMG	**Port Moresby**	**38.89**	**280**	P		**P**	**07 43 14.2**	**-1.7**
	12nm,0.9s,mb4.7,baz=138,slow=3.6,SNR=6.6							
STKA	**Stephens Creek**	**41.32**	**244**	P		**P**	**07 43 34.2**	**-1.8**
	2.2nm,0.7s,mb4.1,baz=143,slow=17,SNR=4.7							
ASAR	**Alice Springs**	**48.22**	**256**	P		**P**	**07 44 30.8**	**-0.1**
	2.8nm,0.7s,mb4.2,baz=93,slow=7.8,SNR=38							
ASAR				PcP		PcP	07 45 59.6	+2.5
	0.6nm,0.6s,baz=98,slow=4.3,SNR=4.1							
WB2	**Warramunga Arr**	**48.32**	**261**	*eP*		**P**	**07 44 31.2**	**-0.4**
WRA	**Warramunga Arr**	**48.33**	**261**	P		**P**	**07 44 31.1**	**-0.6**
	1.6nm,0.4s,mb4.2,baz=97,slow=7.0,SNR=26							
KAKA	**Kakadu**	**51.68**	**269**	*eP*		**P**	**07 44 57.1**	**0.0**
	8.8nm,1.1s,mb4.7							
FITZ	**Fitzroy Crossi**	**56.76**	**261**	*eP*		**P**	**07 45 34.9**	**+0.9**
	2.6nm,0.6s,mb4.4							
FITZ	**Fitzroy Crossi**	**56.76**	**261**	LR		LR	08 06 40.6	
	comp=Z,52nm,20.3s,baz=284,slow=33							
MJAR	**Matsushiro Arr**	**72.13**	**321**	P		**P**	**07 47 16.3**	**+2.0**
	2.0nm,0.8s,mb4.0,baz=161,slow=6.4,SNR=7.2							
NVAR	**Mina Array Bea**	**78.20**	**42**	P		**P**	**07 47 53.9**	**+4.7**
	0.7nm,0.6s,mb3.5,baz=212,slow=8.0,SNR=6.3							
BVAR	**Borovoye Array**	**121.12**	**320**	PKP		PKPdf	07 54 43.9	+1.8
	0.4nm,0.5s,baz=93,slow=2.9,SNR=3.2							
AKASG	**Malin Array Be**	**144.33**	**334**	PKP		PKPdf	07 55 25.7	+0.3
	0.7nm,0.3s,baz=38,slow=4.6,SNR=5.7							
BRTR	**Keskin Array B**	**149.22**	**316**	PKPbc		PKPbc	07 55 40.2	+2.3
	0.4nm,0.6s,baz=46,slow=4.2,SNR=3.3							

*NEIC **07** 07:39:53.4, 1624N×9839W, h5km, MD3.7(MEX), After MEX.*

MEX 07 07:39:53.0±0.7, 1621N×9838W, h5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.31**	**53**	*i* P		Pg	07 39 58.4	-0.6
PNIG				*i* S		Sg	07 40 03.4	+0.4
ACX	**Acapulco**	**1.61**	**294**	*eP*		Pn	07 40 19.3	-2.8
ACX				*i* S		Sn	07 40 38.0	-5.3
UTMO	**Huajuapan**	**1.71**	**19**	*eP*		Pn	07 40 19.2	-4.2
UTMO				*i* S		Sn	07 40 41.5	-4.1
VHO	**Vista Hermosa**	**1.80**	**61**	*i* P		Pn	07 40 21.6	-3.1
VHO				*i* S		Sn	07 40 43.7	-4.2
OXX	**Oaxaca**	**1.81**	**61**	*i* P		Pn	07 40 22.8	-2.1
OXX				*i* S		Sn	07 40 45.5	-2.7
MEIG	**Mezcala**	**2.08**	**326**	*i* P		Pn	07 40 26.5	-2.0
MEIG				*i* S		Sn	07 40 49.2	-5.6
HUIG	**Huatulco**	**2.23**	**101**	*i* S		Sn	07 40 54.0	-4.5
PLIG	**Platanillo**	**2.42**	**334**	*i* P		Pn	07 40 32.2	-1.0
PLIG				*i* S		Sn	07 41 00.1	-3.2
PPM	**Popocatepetl**	**2.85**	**355**	*eP*		Pn	07 40 39.4	+0.2
PPM				*i* S		Sn	07 41 10.8	-3.1
PPM	**Popocatepetl**	**2.85**	**355**	*i* P		Pn	07 40 42.6	+3.4
PPM				*i* S		Sn	07 41 17.5	+3.5

*TEH **07** 07:51:00.6, 3183N×5600E, h10km, ML4.1*
*ISCJB **07** 07:51:36.5±0.4, 3184N±0.03×5597E±0.04, h10km, mb3.7/14, Error ellipse: s-maj=5.0km s-min=4.0km az=87.0*
*IDC **07** 07:51:36.0±1.9, 3167N×5579E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.7/23, mbtmp3.8/10, ML3.6/2, MS2.9/1, Ms1 2.9/1, ms1mx2.2/18, Error ellipse: s-maj=44.5km s-min=21.4km az=164.0*
*THR **07** 07:51:37.6±0.6, 3190N×5604E, h16km±5km, ML3.8*
*MOS **07** 07:51:39.9±1.1, 3179N×5561E, h33km, mb4.4/5, Error ellipse: s-maj=19.2km s-min=11.1km az=123.2*
*NEIC **07** 07:51:39.2, 3183N×5600E, h10km, mb4.0/6, ML3.8(THR), MN4.1(TEH), After TEH.*
*CSEM **07** 07:51:39.2±0.1, 3184N×5604E, h35km, mb3.9/7, Error ellipse: s-maj=1.5km s-min=1.1km az=37.0*

ISC 07 07:51:38.1±0.3, 3182N±003×5595E±004, h10km, n78, σ1§41/93, mb3.7/14, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IBAF	**Bafgh**	**0.40**	**235**	*e*Pg		**Pg**	**07 51 46.2**	**+0.2**
IMEH	**Mehriz**	**1.22**	**250**	*e*Pg		**Pg**	**07 52 01.8**	**+0.2**
ICHK	**Chekchek**	**1.38**	**288**	*e*Pn		**Pn**	**07 52 03.2**	**-0.2**
ICHK	**Chekchek**	**1.38**	**288**	Pn		**Pn**	**07 52 03.1**	**-0.3**
ISAD	**Sadrabad**	**1.93**	**273**	*e*Pn		**Pn**	**07 52 12.8**	**+1.8**
ISAD				*e*Sn		**Sn**	**07 52 37.0**	**+1.7**
KRBR	**Kerman**	**1.96**	**159**	*e*PG		**Pg**	**07 52 14.2**	**-1.6**
KRBR				*e*SG		**Sg**	**07 52 41.5**	**+0.3**
KRBR	**Kerman**	**1.96**	**159**	*e*Pg		**Pg**	**07 52 14.0**	**-1.8**
KRBR				*e*Sg		**Sg**	**07 52 40.0**	**-1.2**
KRBR	**Kerman**	**1.96**	**159**	*e*Pg		**Pg**	**07 52 14.2**	**-1.6**
	SNR=91							
KRBR				*e*Sg		**Sg**	**07 52 40.0**	**-1.2**
NASN	**Na'in**	**2.83**	**291**	*e*PN		**Pn**	**07 52 25.0**	**+1.6**
NASN				*e*Pg		**Pg**	**07 52 29.7**	**-2.8**
NASN				AML		AML	07 53 14.0	
	comp=N,365nm,0.5s							
NASN				AML		AML	07 53 17.4	
	comp=E,261nm,0.6s							
IZEF	**Zefreh**	**3.25**	**290**	*e*Pn		**Pn**	**07 52 30.9**	**+1.8**
IZEF				*e*Sn		**Sn**	**07 53 08.0**	**+0.2**
IZEF	**Zefreh**	**3.25**	**290**	*e*Pn		**Pn**	**07 52 30.9**	**+1.8**
IZEF				Sn		**Sn**	**07 53 07.9**	**+0.1**
IKLH	**Kalahroud**	**3.98**	**293**	*e*Pn		**Pn**	**07 52 40.5**	**+1.3**
IKLH				*e*Sn		**Sn**	**07 53 25.4**	**-0.5**
IKLH	**Kalahroud**	**3.98**	**293**	Pn		**Pn**	**07 52 40.4**	**+1.2**
IKLH				*e*Sn		**Sn**	**07 53 25.4**	**-0.5**
ISFB	**Sefidab**	**4.01**	**310**	*e*Pn		**Pn**	**07 52 40.5**	**+0.9**
ISFB				*e*Sn		**Sn**	**07 53 26.1**	**-0.6**
GHIR	**Ghir-Karzin**	**4.36**	**217**	*e*PN		**Pn**	**07 52 46.7**	**+2.3**
GHIR	**Ghir-Karzin**	**4.36**	**217**	*e*Pn		**Pn**	**07 52 46.0**	**+1.5**
IPIR	**Pirpir**	**4.37**	**283**	*e*Pn		**Pn**	**07 52 47.2**	**+2.6**
IPIR				*e*Sn		**Sn**	**07 53 34.7**	**-0.9**
IPIR	**Pirpir**	**4.37**	**283**	Pn		**Pn**	**07 52 47.1**	**+2.5**
IPIR				*e*Sn		**Sn**	**07 53 34.7**	**-0.9**
BNDS	**Bandar-Abbas**	**4.41**	**177**	*e*PN		**Pn**	**07 52 47.4**	**+2.2**
BNDS				AML		AML	07 54 09.3	
	comp=E,85nm,0.5s							
BNDS				AML		AML	07 54 12.8	
	comp=N,79nm,0.6s							
BNDS	**Bandar-Abbas**	**4.41**	**177**	*e*Pn		**Pn**	**07 52 47.0**	**+1.9**
IFIR	**Firoozkooh**	**4.65**	**326**	*e*Pn		**Pn**	**07 52 48.9**	**+0.5**
ZHSF	**Zahedan**	**4.70**	**117**	*e*PN		**Pn**	**07 52 49.8**	**+0.7**
ZHSF				AML		AML	07 54 11.7	
	comp=N,64nm,0.5s							
ZHSF				AML		AML	07 54 11.8	
	comp=E,65nm,0.6s							
ZHSF	**Zahedan**	**4.70**	**117**	*e*Pn		**Pn**	**07 52 49.0**	**-0.1**
IVRN	**Varamin**	**4.74**	**313**	*e*Pn		**Pn**	**07 52 50.4**	**+0.7**
IVRN				*e*Sn		**Sn**	**07 53 43.3**	**-1.4**
IDMV	**Damavand**	**4.97**	**320**	*e*Pn		**Pn**	**07 52 53.8**	**+1.0**
DAMV	**Damavand**	**5.04**	**320**	*e*PN		**Pn**	**07 52 54.7**	**+0.9**
DAMV	**Damavand**	**5.04**	**320**	*e*Pn		**Pn**	**07 52 54.0**	**+0.2**
IAFJ	**Afjeh**	**5.35**	**320**	*e*Pn		**Pn**	**07 52 59.2**	**+1.2**
IAFJ				*e*Sn		**Sn**	**07 53 57.5**	**-2.2**
IAFJ	**Afjeh**	**5.35**	**320**	Pn		**Pn**	**07 52 59.1**	**+1.1**
IAFJ				Sn		**Sn**	**07 53 57.4**	**-2.3**
ISFR	**Esferayen**	**5.47**	**17**	*e*Pn		**Pn**	**07 53 01.5**	**+0.5**
ASAO	**Ashtian**	**5.66**	**300**	*e*Pn		**Pn**	**07 53 04.4**	**+2.1**
ASAO	**Ashtian**	**5.66**	**300**	*e*Pn		**Pn**	**07 53 04.0**	**+1.7**
CHTH	**Charan**	**5.72**	**317**	*e*PN		**Pn**	**07 53 04.3**	**+1.3**
MRVT	**Maraveh tapeh**	**5.82**	**1**	*e*PN		**Pn**	**07 53 04.6**	**+0.1**
ISHV	**Shirvan**	**5.88**	**14**	*e*Pn		**Pn**	**07 53 05.5**	**+0.3**
IEMG	**Emamqoli**	**6.00**	**21**	*e*Pn		**Pn**	**07 53 06.4**	**-0.5**
IEMG	**Emamqoli**	**6.00**	**21**	Pn		**Pn**	**07 53 06.3**	**-0.6**
IRAZ	**Razeghan**	**6.16**	**307**	*e*Pn		**Pn**	**07 53 13.0**	**+3.8**
IGZV	**Gazvin**	**6.58**	**315**	*e*Pn		**Pn**	**07 53 16.5**	**+1.6**
IGZV	**Gazvin**	**6.58**	**315**	Pn		**Pn**	**07 53 16.4**	**+1.5**
AKTK	**Aktyubinsk**	**18.66**	**4**	P		**Pn**	**07 55 58.5**	**+2.0**
AKTK	**Aktyubinsk**	**18.66**	**4**	P		**Pn**	**07 55 58.5**	**+2.1**
AKTO	**Aktyubinsk**	**18.66**	**4**	P		**Pn**	**07 55 58.5**	**+2.0**
	comp=E,0.3nm,0.3s,baz=184,slow=12,SNR=5.0							
BRTR	**Keskin Array B**	**19.71**	**300**	P		**Pn**	**07 56 08.2**	**-0.9**
	comp=E,0.1nm,0.3s,baz=115,slow=14,SNR=10							
ZRNK	**Zerenda**	**23.14**	**20**	P		**P**	**07 56 43.0**	**-1.5**
ZRNK				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb3.5							
ZRNK	**Zerenda**	**23.14**	**20**	P		**P**	**07 56 43.0**	**-1.5**
	comp=Z,0.9nm,0.5s,mb3.5							
ZRNK	**Zerenda**	**23.14**	**20**	P		**P**	**07 56 43.0**	**-1.5**
	comp=Z,1.0nm,0.5s,mb3.5							
BVAR	**Borovoye Array**	**23.63**	**22**	P		**P**	**07 56 49.9**	**+0.4**
	comp=Z,1.2nm,0.6s,mb3.5,baz=201,slow=7.7,SNR=3.5							
MKAR	**Makanchi Array**	**25.12**	**46**	P		**P**	**07 57 05.5**	**+2.4**
	comp=Z,1.4nm,0.8s,mb3.5,baz=225,slow=6.7,SNR=6.5							
MKAR	**Makanchi Array**	**25.12**	**46**	P		**P**	**07 57 05.5**	**+2.4**
AKASG	**Malin Array Be**	**27.32**	**321**	P		**P**	**07 57 22.9**	**-0.2**
	comp=Z,2.9nm,0.8s,mb3.9,baz=124,slow=8.9,SNR=6.9							
GERES	**GERESS Array B**	**35.88**	**311**	P		**P**	**07 58 37.6**	**-0.7**
	comp=Z,1.6nm,0.7s,mb4.1,baz=106,slow=9.8,SNR=6.7							
LPG	**La Plagne**	**40.16**	**304**	*eP*		**P**	**07 59 12.9**	**-1.4**
	comp=Z,3.9nm,0.7s,mb3.9							
LPG	**La Plagne**	**40.16**	**304**	*eP*		**P**	**07 59 12.9**	**-1.4**
LPG				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.0							
LPG	**La Plagne**	**40.16**	**304**	*eP*		**P**	**07 59 12.9**	**-1.4**
	comp=Z,2.0nm,0.7s,mb4.0							
LPL	**La Plagne**	**40.18**	**304**	*eP*		**P**	**07 59 12.2**	**-2.3**
CABF	**La Chapelle**	**40.68**	**306**	*eP*		**P**	**07 59 16.7**	**-1.9**
	comp=Z,7.1nm,0.8s,mb4.0							
CABF	**La Chapelle**	**40.68**	**306**	*eP*		**P**	**07 59 16.7**	**-1.9**
CABF				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.1							
CABF	**La Chapelle**	**40.68**	**306**	*eP*		**P**	**07 59 16.7**	**-1.9**
	comp=Z,4.0nm,0.8s,mb4.1							
SONM	**Songino Array**	**41.15**	**52**	P		**P**	**07 59 23.8**	**+1.4**
	comp=Z,0.3nm,0.7s,mb3.0,baz=286,slow=6.0,SNR=4.3							
NB2	**NORSAR Subarra**	**41.17**	**329**	P		**P**	**07 59 21.4**	**-1.3**
	comp=Z,1.5nm,0.7s,mb3.7,baz=116,slow=8.6							
NOA	**NORSAR Array B**	**41.17**	**329**	P		**P**	**07 59 21.5**	**-1.2**
	comp=Z,1.2nm,0.7s,mb3.6,baz=115,slow=8.1,SNR=6.7							
SMF	**Signal de Mont**	**42.23**	**306**	*eP*		**P**	**07 59 28.9**	**-2.4**
	comp=Z,4.4nm,0.7s,mb3.9							
SMF	**Signal de Mont**	**42.23**	**306**	*eP*		**P**	**07 59 28.9**	**-2.4**
SMF				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb3.9							
SMF	**Signal de Mont**	**42.23**	**306**	*eP*		**P**	**07 59 28.9**	**-2.4**
	comp=Z,2.0nm,0.7s,mb3.9							
LOR	**Lormes**	**42.23**	**307**	*eP*		**P**	**07 59 29.2**	**-2.2**
	comp=Z,6.5nm,1.0s,mb3.9							
LOR	**Lormes**	**42.23**	**307**	*eP*		**P**	**07 59 29.2**	**-2.2**
LOR				pmax		pmax		
	comp=Z,3.0nm,1.0s,mb3.9							
LOR	**Lormes**	**42.23**	**307**	*eP*		**P**	**07 59 29.2**	**-2.2**
	comp=Z,3.0nm,1.0s,mb3.9							
SSF	**Saint Saulge**	**42.47**	**307**	*eP*		**P**	**07 59 30.8**	**-2.5**
	comp=Z,5.0nm,0.8s,mb3.9							
SSF	**Saint Saulge**	**42.47**	**307**	*eP*		**P**	**07 59 30.8**	**-2.5**
SSF				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.0							
SSF	**Saint Saulge**	**42.47**	**307**	*eP*		**P**	**07 59 30.8**	**-2.5**
	comp=Z,3.0nm,0.8s,mb4.0							
AVF	**Avril sur Loir**	**42.56**	**306**	*eP*		**P**	**07 59 32.8**	**-1.3**
LFF	**La Frestale**	**44.41**	**304**	*eP*		**P**	**07 59 48.0**	**-1.0**
ETSF	**Etsaut**	**45.49**	**301**	*eP*		**P**	**07 59 54.8**	**-2.7**
TORD	**Torodi Ar. Bea**	**52.92**	**262**	P		**P**	**08 00 53.3**	**-1.1**
	comp=Z,1.4nm,0.9s,mb3.9,baz=58,slow=7.1,SNR=9.0							
YKA	**Yellowknife Ar**	**85.71**	**356**	P		**P**	**08 04 15.7**	**-1.5**
	comp=Z,0.3nm,0.8s,mb3.6,baz=2.5,slow=5.1,SNR=6.8							
YKA	**Yellowknife Ar**	**85.71**	**356**	P		**P**	**08 04 15.7**	**-1.5**
YKA	**Yellowknife Ar**	**85.71**	**356**	P		**P**	**08 04 15.7**	**-1.6**

*NEIC **07** 09:47:28.6, 2990S×7134W, h45km, MG3.5(GUC), After GUC.*
NEIC Felt at Ovalle.

GUC 07 09:47:28.6±0.6, 2990S×7134W, h45km±1km, MD3.8, ML3.5, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LSCH	**La Serena**	**0.08**	**96**	*eP*		Pn	09 47 36.0	+0.2
LSCH				*eS*		Sn	09 47 41.0	+0.3
LSCH				AML		AML	09 47 41.8	
	comp=N,9μm,0.2s							
TLL	**Tololo Astrono**	**0.53**	**120**	*eP*		Pn	09 47 41.0	+1.1
TLL				*i* S		Sn	09 47 50.1	+2.0
TLL				AML		AML	09 47 50.8	
	comp=E,2μm,0.5s							
OVCH	**Ovalle**	**0.72**	**170**	*i* P		Pn	09 47 42.5	+0.1
OVCH				*i* S		Sn	09 47 53.0	+0.7
LCO	**Las Campanas**	**1.05**	**32**	*i* P		Pn	09 47 48.2	+1.4
LCO				*i* S		Sn	09 48 02.6	+2.4
CMCH	**Combarbala**	**1.30**	**167**	*i* P		Pn	09 47 51.2	+0.9
CMCH				*i* S		Sn	09 48 08.3	+1.8
CMCH				AML		AML	09 48 11.0	
	comp=N,1μm,0.6s							

SRDR	**Sredinnyy**	**1.48**	**302**	*i* P	Pn	10 32 14.2	+0.7
ESO	**Esso**	**1.89**	**283**	*e*P	Pn	10 32 19.3	+0.3
ESO				*e*S	Sn	10 32 42.4	+0.6
ESO				Smax			
	60nm,1.1s						
BKI	**Bering**	**2.31**	**97**	*i* P	Pn	10 32 24.9	+0.3
BKI				*i* S	Sn	10 32 51.1	-0.8
BKI				Smax			
	160nm,0.2s						
SPN	**Mys Shipunski**	**2.72**	**206**	*e*P	Pn	10 32 31.0	+0.7
SPN				*e*S	Sn	10 33 02.4	+0.4
NLC	**Nalytchevo**	**2.85**	**214**	*e*P	Pn	10 32 33.7	+1.7
NLC				*e*S	Sn	10 33 06.1	+1.0
SDLR	**Sedlovina**	**2.92**	**220**	*e*P	Pn	10 32 34.5	+1.5
SDLR				*e*S	Sn	10 33 07.8	+1.0
SMAR	**Somma**	**2.96**	**220**	*e*P	Pn	10 32 35.8	+2.3
AVH	**Avacha**	**2.98**	**221**	*e*P	Pn	10 32 35.9	+2.1
UGLR	**Uglovaya**	**2.99**	**219**	*i* P	Pn	10 32 35.9	+1.9
KOK	**Koryaka**	**3.00**	**222**	*i* P	Pn	10 32 36.5	+2.4
GNL	**Ganaly**	**3.00**	**233**	*e*P	Pn	10 32 36.0	+1.9
PET	**Petropavlovsk**	**3.20**	**219**	*i* P	Pn	10 32 38.7	+1.8
PET				*e*S	Sn	10 33 14.5	+0.7
KRMR	**Karymshinskiy**	**3.55**	**221**	*e*P	Pn	10 32 44.6	+3.0
RUS	**Russkaya**	**3.74**	**215**	*i* P	Pn	10 32 45.8	+1.6
RUS				*i* S	Sn	10 33 27.1	+0.1
OSSR	**Ossora**	**3.75**	**9**	P	Pn	10 32 49.2	+4.9
GRL	**Gorelyy**	**3.79**	**219**	*e*P	Pn	10 32 47.4	+2.5
APC	**Apacha**	**3.87**	**229**	P	Pn	10 32 48.7	+2.7
KAMR	**Kamenskoye**	**7.25**	**16**	*e*P	Pn	10 33 34.1	+1.8

IDC 07 10:32:51.3±1.3, 1960S×17455W, h0km, mb3.6/4, mb1 4.0/6, mb1mx3.8/16, mbtmp3.8/6, ML3.0/2, Error ellipse: s-maj=42.9km s-min=24.7km az=118.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.25**	**26**	Pn	Pn	10 34 24.2	-0.6
	2.3nm,0.3s,baz=212,slow=9.5,SNR=7.4						
AFI				Sn	Sn	10 35 30.7	-6.3
	3.3nm,0.3s,baz=120,slow=20,SNR=5.0						
URZ	**Urewera**	**19.95**	**200**	P	Pn	10 37 24.9	-1.6
	0.5nm,0.3s,baz=337,slow=12,SNR=2.6						
ASAR	**Alice Springs**	**47.88**	**255**	P	P	10 41 31.4	+0.4
	0.7nm,0.7s,baz=92,slow=8.1,SNR=9.0						
WRA	**Warramunga Arr**	**47.94**	**260**	P	P	10 41 31.9	+0.4
	0.5nm,0.7s,baz=96,slow=7.6,SNR=12						
VNDA	**Vanda**	**59.11**	**186**	P	P	10 42 52.8	-0.7
	0.9nm,0.8s,baz=3.4,slow=8.1,SNR=4.9						
ILAR	**Eielson Array**	**86.76**	**11**	P	P	10 45 37.3	0.0
	0.2nm,0.6s,baz=224,slow=6.2,SNR=7.2						

*IDC **07** 10:47:09.3±1.6, 2429S×6701W, h165km±15km, mb3.3/2, mb1 3.3/6, mb1mx3.3/15, mbtmp3.7/6, Error ellipse: s-maj=24.0km s-min=14.1km az=96.0*
*ISCJB **07** 10:47:10.3±1.0, 2421S±006×670W±01, h186km±15km, mb3.4/2, Error ellipse: s-maj=19.7km s-min=9.3km az=172.8*
*NEIC **07** 10:47:11.0±1.0, 2420S×6698W, h177km±11km, mb3.7/2, Error ellipse: s-maj=16.5km s-min=9.2km az=99.0*
ISC 07 10:47:11.0±0.9, 2421S±006×670W±01, h179km±14km, n15, σ0§88/15, mb3.4/2, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**7.45**	**188**	P	**Pn**	**10 48 55.8**	**-1.2**
	0.0nm,0.3s,baz=6.3,slow=9.5,SNR=6.9						
CFAA				S	**Sn**	**10 50 14.4**	**-6.4**
	0.1nm,0.3s,baz=131,slow=23,SNR=6.1						
LPAZ	**La Paz**	**7.95**	**352**	P	**Pn**	**10 49 05.2**	**+1.7**
	0.8nm,0.3s,baz=165,slow=7.5,SNR=29						
LPAZ				S	**Sn**	**10 50 32.3**	**-0.3**
	0.1nm,0.3s,baz=46,slow=24,SNR=4.0						
LPAZ	**La Paz**	**7.95**	**352**	P	**Pn**	**10 49 05.2**	**+1.7**
LPAZ				S	**Sn**	**10 50 32.3**	**-0.3**
CPUP	**Villa Florida**	**9.01**	**106**	P	**Pn**	**10 49 17.7**	**+0.2**
	0.2nm,0.3s,baz=252,slow=13,SNR=2.6						
CPUP	**Villa Florida**	**9.01**	**106**	P	**Pn**	**10 49 17.7**	**+0.2**
SIV	**San Ignacio**	**9.89**	**35**	P	**Pn**	**10 49 27.8**	**-1.1**
	0.3nm,0.3s,baz=222,slow=14,SNR=8.6						
TRQA	**Tornquist**	**14.46**	**164**	*e*P	**Pn**	**10 50 28.8**	**+1.5**
	1.6nm,0.4s						
PLCA	**Paso Flores**	**16.75**	**189**	P	**Pn**	**10 50 55.0**	**-0.2**
	1.7nm,0.6s						
BDFB	**Brasilia**	**19.76**	**68**	P	**P**	**10 51 27.3**	**+0.1**
	0.5nm,0.3s,baz=243,slow=12,SNR=6.9						
TORD	**Torodi Ar. Bea**	**76.64**	**69**	P	**P**	**10 58 41.8**	**-0.1**
	0.5nm,0.7s,mb3.3,baz=265,slow=5.7,SNR=8.7						
YKA	**Yellowknife Ar**	**94.31**	**340**	P	**P**	**11 00 09.7**	**-0.3**
	0.2nm,0.5s,mb3.5,baz=130,slow=4.5,SNR=11						
YKA	**Yellowknife Ar**	**94.31**	**340**	P	**P**	**11 00 09.7**	**-0.3**
ASAR	**Alice Springs**	**128.27**	**205**	PKP	PKPdf	11 05 56.6	+0.6
	0.3nm,0.7s,baz=146,slow=1.8,SNR=4.7						
WRA	**Warramunga Arr**	**131.44**	**207**	PKP	PKPdf	11 06 02.9	+0.9
	0.3nm,0.5s,baz=163,slow=1.7,SNR=12						
MKAR	**Makanchi Array**	**146.68**	**40**	PKPbc	PKPbc	11 06 31.9	+0.3
	0.6nm,0.6s,baz=295,slow=3.1,SNR=8.0						

*IDC **07** 10:51:39.8±6.8, 3148N×5037E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.3/20, mbtmp3.5/4, ML3.2/1, Error ellipse: s-maj=158.4km s-min=82.0km az=22.0*
*ISCJB **07** 10:51:42.5±0.6, 3178N±004×5033E±005, h14km, mb3.4/3, Error ellipse: s-maj=6.9km s-min=4.4km az=78.7*
*KISR **07** 10:51:44.2±1.1, 3179N×5013E, h33km, ML3.1*
*CSEM **07** 10:51:44.9±0.1, 3164N×5029E, h18km, ML3.2, Error ellipse: s-maj=3.5km s-min=2.3km az=130.0*
*NEIC **07** 10:51:45.5, 3171N×5030E, h14km, ML3.2(THR), After THR.*
*THR **07** 10:51:45.5±0.6, 3171N×5030E, h14km±5km, ML3.2*
ISC 07 10:51:44.6±1.2, 3174N±005×5030E±005, h13km±9km, n23, σ1§24/37, mb3.4/3, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.33**	**287**	*e*PG	**Pg**	**10 52 09.9**	**-0.2**
SHGR				AML	AML	10 52 34.7	
	comp=E,454nm,0.5s						
SHGR				AML	AML	10 52 36.9	
	comp=N,492nm,0.3s						
SHGR	**Shooshtar-Gavs**	**1.33**	**287**	Pg	**Pg**	**10 52 09.0**	**-1.1**
SHGR				Sg	**Sg**	**10 52 28.0**	**+0.6**
SHGR	**Shooshtar-Gavs**	**1.33**	**287**	*e*Pg	**Pg**	**10 52 09.9**	**-0.2**
	SNR=90						
SHGR				Sg	**Sg**	**10 52 28.0**	**+0.6**
NASN	**Na'in**	**2.38**	**63**	*e*PN	**Pn**	**10 52 26.3**	**+3.0**
NASN				*e*SG	**Sg**	**10 53 00.6**	**-0.4**
NASN	**Na'in**	**2.38**	**63**	Pn	**Pn**	**10 52 26.0**	**+2.7**
NASN				Sg	**Sg**	**10 53 00.0**	**-1.0**
NASN	**Na'in**	**2.38**	**63**	Pn	**Pn**	**10 52 26.0**	**+2.7**
NASN				*e*Sg	**Sg**	**10 53 00.6**	**-0.4**
	SNR=90						
ASAO	**Ashtian**	**2.81**	**355**	*e*PN	**Pn**	**10 52 32.5**	**+3.2**
ASAO				*e*SG	**Sg**	**10 53 14.3**	**-0.8**
ASAO				AML	AML	10 53 24.3	
	comp=N,64nm,0.6s						
ASAO	**Ashtian**	**2.81**	**355**	Pn	**Pn**	**10 52 32.0**	**+2.7**
ASAO				Sg	**Sg**	**10 53 14.0**	**-1.1**
ASAO	**Ashtian**	**2.81**	**355**	Pn	**Pn**	**10 52 32.0**	**+2.7**
ASAO				*e*Sg	**Sg**	**10 53 14.3**	**-0.8**
	SNR=90						
MIB	**Mutribah**	**3.19**	**234**	*e*P	**Pn**	**10 52 34.8**	**+0.2**
KBD	**Kabd**	**3.40**	**222**	*e*P	**Pn**	**10 52 37.1**	**-0.3**
KBD				*e*S	**Sn**	**10 53 18.1**	**+0.5**
KBD				AML	AML	10 53 19.3	
	comp=Z,65nm,0.3s						
KBD	**Kabd**	**3.40**	**222**	*e*P	**Pn**	**10 52 37.1**	**-0.3**
KBD				*e*S	**Sn**	**10 53 18.1**	**+0.5**
NAY	**Al-Naaiem**	**3.62**	**228**	*e*P	**Pn**	**10 52 40.4**	**0.0**
NAY				*e*S	**Sn**	**10 53 22.0**	**-1.0**
NAY				AML	AML	10 53 27.2	
	comp=Z,18nm,0.4s						
NAY	**Al-Naaiem**	**3.62**	**228**	*e*P	**Pn**	**10 52 40.4**	**0.0**
NAY				*e*S	**Sn**	**10 53 22.0**	**-1.0**
RDF	**Al-Radifah**	**3.67**	**221**	*e*P	**Pn**	**10 52 41.3**	**+0.2**
RDF				*e*S	**Sn**	**10 53 24.5**	**+0.2**
	comp=Z,45nm,0.4s						
RDF	**Al-Radifah**	**3.67**	**221**	*e*P	**Pn**	**10 52 41.3**	**+0.2**
RDF				*e*S	**Sn**	**10 53 24.5**	**+0.2**

SNGE	**Sanandaj**	**4.16**	**324**	*e*PN	**Pn**	**10 52 51.4**	**+3.6**
SNGE	**Sanandaj**	**4.16**	**324**	Pn	**Pn**	**10 52 51.0**	**+3.2**
CHTH	**Charan**	**4.22**	**9**	*e*PN	**Pn**	**10 52 52.4**	**+3.7**
BRTR	**Keskin Array B**	**15.69**	**305**	Pn	**Pn**	**10 55 25.2**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=114,slow=12,SNR=6.0						
FINES	**FINESS Array B**	**33.65**	**339**	P	**P**	**10 58 23.6**	**-1.4**
	comp=Z,0.3nm,0.5s,mb3.5,baz=140,slow=8.9,SNR=3.6						
ARCES	**ARCESS Array B**	**40.36**	**347**	P	**P**	**10 59 21.1**	**-0.9**
	comp=Z,0.9nm,0.6s,mb3.7,baz=150,slow=8.1,SNR=7.5						
YKA	**Yellowknife Ar**	**85.32**	**353**	P	**P**	**11 04 19.5**	**-1.8**
	comp=Z,0.1nm,0.6s,mb3.1,baz=15,slow=5.5,SNR=5.6						

IDC 07 10:56:03.3±1.9, 2144S×6787W, h128km±17km, mb3.4/2, mb1 3.5/4, mb1mx3.3/13, mbtmp3.8/4, Error ellipse: s-maj=38.1km s-min=15.8km az=89.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.13**	**357**	P	Pn	10 57 20.4	+2.3
	0.8nm,0.3s,baz=170,slow=6.6,SNR=15						
LPAZ				S	Sn	10 58 17.3	+1.0
	0.5nm,0.3s,baz=83,slow=23,SNR=4.2						
SIV	**San Ignacio**	**8.41**	**51**	P	Pn	10 58 02.0	-0.4
	2.2nm,0.3s,baz=245,slow=14,SNR=54						
SIV				S	Sn	10 59 30.9	-4.7
	0.1nm,0.3s,baz=310,slow=23,SNR=5.5						
CFAA	**Coronel Fontan**	**10.13**	**182**	P	Pn	10 58 25.1	-0.3
	0.0nm,0.3s,baz=153,slow=6.8,SNR=2.1						
CFAA				S	Sn	11 00 17.6	+0.6
	0.1nm,0.3s,baz=216,slow=12,SNR=4.0						
CPUP	**Villa Florida**	**10.80**	**119**	P	Pn	10 58 39.8	+5.5
	0.7nm,0.3s,baz=291,slow=12,SNR=3.1						
TORD	**Torodi Ar. Bea**	**76.42**	**70**	P	P	11 07 39.1	+0.5
	0.5nm,0.5s,baz=253,slow=5.3,SNR=9.3						
YKA	**Yellowknife Ar**	**91.46**	**340**	P	P	11 08 53.7	-1.3
	0.2nm,0.5s,baz=132,slow=4.4,SNR=7.8						
MKAR	**Makanchi Array**	**145.01**	**37**	PKPbc	PKPbc	11 15 25.4	+0.5
	0.3nm,0.4s,baz=305,slow=5.1,SNR=5.2						

*NIED **07** 11:09:00, 2690N×13000E, h11km, Mw4.8 Best double couple: Ms1.74000×10¹⁶ NP1:φ▷227.00000°, δ58.00000°, λ-91.00000°. NP2:φ▷48.00000°, δ32.00000°, λ-89.00000°.*
*ISCJB **07** 11:09:30.1±0.8, 2686N±002×12990E±002, h2km±5km, mb4.9/126, MS4.2/30, Error ellipse: s-maj=3.8km s-min=2.9km az=144.7*
*IDC **07** 11:09:31.1±0.5, 2692N×12991E, h0km, mb4.6/19, mb1 4.7/25, mb1mx4.7/28, mbtmp4.6/25, ML4.3/6, MS4.0/15, Ms1 4.0/15, ms1mx3.6/37, Error ellipse: s-maj=13.9km s-min=11.5km az=70.0*
*BJI **07** 11:09:31.8, 2683N×12999E, h24km, mB4.6, mb4.9, Ms4.5, Msz4.4*
*JMA **07** 11:09:33.9±0.1, 2691N×12996E, h45km, M4.7*
*HRVD **07** 11:09:34.2±0.4, 2686N×12993E, h16km±1km, MW4.9/54, Centroid moment Tensor Solution. LP body waves: s20,c22;Mantle waves: s54,c90; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.14±.16; Mθθ0.61±.09; Mφφ1.53±.11; Mrθ0.09±.29; Mθφ1.02±.06; Mφr1.72±.31; Best double couple: Mo2.76300×10¹⁶ NP1:φ▷48.00000°, δ30.00000°, λ-61.00000°. NP2: φ▷196.00000°, δ64.00000°, λ-105.00000°. Principal axes: T 2.6790, Plg18.0000°, Azm297.0000°; N 0.1690, Plg14.0000°, Azm202.0000°; P -2.8470, Plg67.0000°, Azm77.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **07** 11:09:34.2±0.2, 2688N×12990E, mb4.9/70, MW4.8(NIED) Error ellipse: s-maj=5.2km s-min=4.8km az=112.0*
*MOS **07** 11:09:34.9±1.3, 2696N×12996E, h33km, mb5.1/53, MS4.4/8, Error ellipse: s-maj=8.2km s-min=4.7km az=110.3*
*SZGRF **07** 11:09:54.7, 3002N×12845E, h33km, mb5.0, Northwest of Ryukyu Islands, Japan*
ISC 07 11:09:32.0±0.9, 2688N±002×12990E±002, h4km±5km, h18km±1.7km: pP-P, n327, σ1§16/351, mb4.9/126, MS4.2/30, 14C-24D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**1.23**	**317**	P	**Pb**	**11 09 55.6**	**-0.3**
JTK				S	**Sg**	**11 10 10.5**	**-1.2**
JZK	**Kikaishima**	**1.43**	**3**	P	**Pn**	**11 09 57.9**	**-0.8**
JZK				*e*S	**Sn**	**11 10 16.0**	**-2.0**
JOW	**Kunigami**	**1.45**	**268**	Pn	**Pn**	**11 09 59.6**	**+0.6**
	6μm,0.3s,baz=109,slow=14						
JOW				Sn	**Sn**	**11 10 17.8**	**-0.7**
	2μm,0.3s,baz=84,slow=27,SNR=14						
JOW	**Kunigami**	**1.45**	**268**	P	**Pn**	**11 09 59.5**	**+0.5**
JOW				*e*S	**Sn**	**11 10 17.3**	**-1.1**
JAM	**Amami Oshima**	**1.55**	**351**	P	**Pn**	**11 09 59.3**	**-1.1**
JAM				*e*S	**Sn**	**11 10 16.8**	**-4.1**
JMZ	**Minamidaito 2**	**1.59**	**131**	P	**Pn**	**11 09 59.8**	**-1.1**
JMZ				*e*S	**Sn**	**11 10 18.3**	**-3.6**
JIH	**Iheya**	**1.73**	**276**	P	**Pn**	**11 10 03.4**	**+0.6**
JIH				S	**Sn**	**11 10 24.2**	**-1.1**
JJT2	**Tamagusuku 2**	**2.06**	**249**	P	**Pn**	**11 10 08.1**	**+0.7**
JJT2				S	**Sn**	**11 10 32.9**	**-0.6**
NAH1	**Naha**	**2.09**	**252**	P	**Pn**	**11 10 08.5**	**+0.7**
NAH1				*e*S	**Sn**	**11 10 32.9**	**-1.3**
JAGN	**Aguni-jima**	**2.39**	**264**	P	**Pn**	**11 10 12.4**	**+0.5**
JAGN				*e*S	**Sn**	**11 10 40.6**	**-1.1**
JKE	**Kume jima 2**	**2.84**	**259**	P	**Pn**	**11 10 18.0**	**-0.1**
JKE				*e*S	**Sn**	**11 10 52.8**	**+0.1**
JNN	**Nakanoshima**	**2.95**	**360**	P	**Pn**	**11 10 18.5**	**-1.1**
JNN				*e*S	**Sn**	**11 10 51.7**	**-3.8**
JOGS	**Gusukube**	**4.56**	**243**	P	**Pn**	**11 10 42.2**	**+0.4**
JOGS				*e*S	**Sn**	**11 11 32.9**	**-2.4**
JMJ	**Miyako jima 2**	**4.63**	**245**	P	**Pn**	**11 10 43.1**	**+0.4**
JTJ	**Tarama**	**5.19**	**246**	P	**Pn**	**11 10 49.8**	**-0.6**
JTJ				*e*S	**Sn**	**11 11 45.6**	**-5.0**
JIJ	**Ishigaki jima**	**5.76**	**246**	P	**Pn**	**11 10 56.7**	**-1.6**
JKRS	**Kuro-shima**	**5.93**	**245**	P	**Pn**	**11 10 59.4**	**-1.2**
IRIF	**Iriomote-Funau**	**6.12**	**247**	P	**Pn**	**11 11 01.4**	**-1.7**
JNU	**Nakatsue**	**6.28**	**8**	Pn	**Pn**	**11 11 05.9**	**+0.5**
	14nm,0.3s,baz=265,slow=11,SNR=23						
JNU				Sn	**Sn**	**11 12 12.8**	**-4.8**
	3.1nm,0.3s,baz=229,slow=18,SNR=4.1						
YOJ	**Yonaguni jima**	**6.66**	**250**	P	**Pn**	**11 11 10.4**	**-0.2**
TATO	**Taipei**	**7.80**	**258**	*e*Pn	**Pn**	**11 11 27.5**	**+1.1**
	213nm,0.9s						
NACB	**Ninganchiao**	**7.97**	**252**	*e*Pn	**Pn**	**11 11 26.4**	**-2.2**
NACB				*e*Sn	**Sn**	**11 12 51.5**	**-7.6**
YHNB	**Yeheng**	**7.99**	**256**	*e*Pn	**Pn**	**11 11 29.2**	**+0.4**
SSE	**Sheshan**	**8.71**	**301**	P	**Pn**	**11 11 39.5**	**+0.8**
SSE				XP		11 11 47.3	
SSE				S	**Sn**	**11 13 18.4**	**+1.1**
SSE				AMB	AMB		
	comp=Z,46nm,0.8s						
SSE				AMB	AMB		
	comp=Z,137nm,7.7s						
SSE				LR	LR		
	comp=N,272nm,15.6s						
SSE				LR	LR		
	comp=E,639nm,15.6s						
SSE				LR	LR		
	comp=Z,844nm,16.1s						
QZH	**Quanzhou**	**10.36**	**262**	*e*P	**Pn**	**11 12 04.0**	**+2.7**
QZH				S	**Sn**	**11 14 00.0**	**+2.2**
QZH				LR	LR		
	comp=N,2μm,14.1s						
QZH				LR	LR		
	comp=E,1μm,11.9s						
QZH				LR	LR		
	comp=Z,2μm,12.0s						
JHJ	**Hachijo jima 2**	**10.59**	**52**	Pn	**Pn**	**11 12 04.5**	**+0.1**
	comp=Z,30nm,0.3s,baz=225,slow=21,SNR=12						
JHJ				LR	LR	11 15 26.0	
	comp=Z,505nm,18.5s,baz=97,slow=34						
KS15	**Wonju Array Si**	**10.67**	**351**	*e*Pn	**Pn**	**11 12 07.4**	**+1.8**
NJ2	**Nanjing**	**10.91**	**301**	*e*P	**Pn**	**11 12 11.1**	**+2.2**
NJ2				AP		11 12 14.5	
NJ2				XP		11 12 18.2	
NJ2				PP		11 12 20.1	
NJ2				S	**Sn**	**11 14 12.0**	**+0.5**
NJ2				XS		11 14 21.0	
NJ2				AMB	AMB		
	comp=Z,130nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,190nm,8.0s						
NJ2				LR	LR		
	comp=N,2μm,13.9s						
NJ2				LR	LR		
	comp=E,4μm,14.6s						
NJ2				LR	LR		
	comp=Z,2μm,14.2s						
CBIJ	**Chichi jima**	**10.96**	**86**	Pn	**Pn**	**11 12 07.9**	**-1.7**
	comp=Z,8.1nm,0.3s,baz=277,slow=16,SNR=5.0						
CBIJ				Sn	**Sn**	**11 14 03.5**	**-9.2**
	comp=Z,7.6nm,0.3s,baz=288,slow=19,SNR=4.1						
CBIJ				LR	LR	11 15 24.4	
	comp=Z,774nm,18.5s,baz=296,slow=32						
MAJO	**Matsushiro**	**11.95**	**34**	*e*P	**Pn**	**11 12 24.3**	**+1.2**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MAJO	**Matsushiro**	**11.95**	**34**	*e*Pn	**Pn**	**11 12 24.3**	**+1.2**
	comp=Z,7.5nm,0.6s						
MAT	**Matsushiro**	**11.95**	**34**	P	**Pn**	**11 12 20.7**	**-2.4**
MAT	**Matsushiro**	**11.95**	**34**	P	**Pn**	**11 12 27.0**	**+3.9**
MJAR	**Matsushiro Arr**	**11.95**	**34**	Pn	**Pn**	**11 12 23.7**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=238,slow=12,SNR=11						
MJAR				LR	LR	11 16 38.3	
	comp=Z,328nm,20.0s,baz=195,slow=36						
TIA	**Tai'an**	**14.31**	**314**	*e*P	**Pn**	**11 13 01.2**	**+5.8**
TIA				AMB	AMB		
	comp=Z,64nm,0.9s						
GZH	**Guangzhou**	**15.47**	**259**	P	**Pn**	**11 13 10.0**	**-1.0**
GZH				S	**Sn**	**11 15 58.7**	**-4.2**
GZH				LR	LR		
	comp=N,597nm,14.2s						
GZH				LR	LR		
	comp=E,461nm,16.3s						
GZH				LR	LR		
	comp=Z,763nm,14.5s						
SNY	**Shenyang**	**15.79**	**342**	⇑P	**Pn**	**11 13 16.1**	**+0.9**
SNY				AMB	AMB		
	comp=Z,32nm,1.2s						
SNY				LR	LR		
	comp=N,1μm,10.7s						
SNY				LR	LR		
	comp=Z,1μm,11.0s						
VLA	**Vladivostok**	**16.29**	**5**	*e*P	**Pn**	**11 13 30.0**	**+8.4**
VLA				pmax	pmax		
	comp=Z,50nm,1.0s						
VLA				MLR	MLR		
	comp=Z,600nm,15.0s						
CN2	**Changchun**	**17.26**	**349**	*e*P	**Pn**	**11 13 35.0**	**+1.1**
CN2				*e*S	**Sn**	**11 16 46.6**	**+0.2**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,700nm,11.0s						
CN2				LR	LR		
	comp=E,700nm,11.0s						
CN2				LR	LR		
	comp=Z,900nm,11.0s						
BJT	**Baijiatuan**	**17.38**	**322**	*e*P	**Pn**	**11 13 35.0**	**-0.3**
BJT				pmax	pmax		
	comp=Z,177nm,0.8s						
BJT	**Baijiatuan**	**17.38**	**322**	*e*P	**Pn**	**11 13 35.0**	**-0.3**
	comp=Z,177nm,0.8s						
BJI	**Beijing**	**17.39**	**322**	P	**Pn**	**11 13 37.8**	**+2.3**
BJI				S	**Sn**	**11 16 51.2**	**+1.9**
BJI				AMB	AMB		
	comp=Z,217nm,0.9s						
BJI				LR	LR		
	comp=N,860nm,12.9s						
BJI				LR	LR		
	comp=E,611nm,14.8s						
BJI				LR	LR		
	comp=Z,403nm,24.4s						
MDJ	**Mudanjiang**	**17.70**	**359**	P	**Pn**	**11 13 41.0**	**+1.6**
MDJ				AP	pP	11 13 44.6	+3.1
MDJ				XP	sP	11 13 46.1	+4.1
MDJ				S	**Sn**	**11 16 59.7**	**+2.8**
MDJ				SCP	ScP	11 21 53.6	0.0
MDJ				PCS	PcS	11 21 55.0	+0.9
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,56nm,5.9s						
MDJ				LR	LR		
	comp=N,442nm,13.1s						
MDJ				LR	LR		
	comp=E,152nm,11.5s						
MDJ				LR	LR		
	comp=Z,627nm,12.2s						
GUMO	**Guam**	**19.27**	**130**	P	**Pn**	**11 13 58.1**	**-0.3**
	comp=Z,1.9nm,0.3s,baz=311,slow=19,SNR=3.2						
GUMO				LR	LR	11 19 51.9	
	comp=Z,538nm,18.3s,baz=140,slow=32						
XAN	**Xi'an**	**19.42**	**297**	P	**Pn**	**11 13 59.1**	**-1.2**
XAN				AP	pP	11 14 06.5	+6.1
XAN				S	**Sn**	**11 17 35.4**	**-3.1**
XAN				AMB	AMB		
	comp=Z,173nm,0.6s						
XAN				AMB	AMB		
	comp=Z,208nm,11.6s						
XAN				LR	LR		
	comp=N,653nm,13.7s						
XAN				LR	LR		
	comp=E,844nm,15.7s						
XAN				LR	LR		
	comp=Z,1μm,15.0s						
ASAJ	**Asahikawa**	**20.03**	**28**	P	**P**	**11 14 04.5**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=207,slow=12,SNR=13						
ASAJ				LR	LR	11 21 49.0	
	comp=Z,365nm,20.8s,MS3.7,baz=195,slow=37						
ASAJ	**Asahikawa**	**20.03**	**28**	P	**P**	**11 14 04.5**	**-1.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,365nm,20.8s						
QIZ	**Qiongzhong**	**20.03**	**251**	⇑P	**P**	**11 14 07.1**	**+1.2**
QIZ				AP		11 14 10.8	
QIZ				S	**S**	**11 17 47.1**	**-4.4**
QIZ				XS	sS	11 17 57.4	+4.0
QIZ				AMB	AMB		
	comp=Z,46nm,1.1s						
QIZ				LR	LR		
	comp=N,334nm,14.7s,MS3.9						
QIZ				LR	LR		
	comp=E,274nm,14.7s,MS3.9						
QIZ				LR	LR		
	comp=Z,348nm,24.1s						
QIZ	**Qiongzhong**	**20.03**	**251**	*e*P	**P**	**11 14 09.9**	**+4.0**
	comp=Z,207nm,1.9s						
HHC	**Hu-ho-hao-te**	**20.58**	**317**	⇓P	**P**	**11 14 12.8**	**+0.9**
HHC				AP		11 14 18.1	
HHC				XP

KLR eS **S** 11 18 31.0 -6.4
KLR e 11 19 21.5
KLR MLR MLR
comp=E,500nm,13.0s
KLR MLR MLR
comp=Z,1µm,13.0s,MS4.4
YSS Yuzh-Sakhalins 22.46 24 eP **P** **11 14 31.0 -1.1**
YSS S **S** **11 18 40.0 +0.6**
YSS pmax pmax
comp=N,70nm,1.1s
YSS pmax pmax
comp=Z,80nm,1.1s,mb5.1
YSS MLR MLR
comp=Z,300nm,19.0s,MS3.7
YSS Yuzh-Sakhalins 22.46 24 eP **P** **11 14 31.4 -0.7**
comp=Z,100nm,1.2s,mb5.1
CD2 Chengdu 23.21 286⇓*i*P **P** **11 14 38.2 -1.8**
CD2 AP 11 14 43.7
CD2 XP sP 11 14 47.0 +5.3
CD2 PP 11 15 08.2
CD2 S **S** **11 18 44.9 -7.5**
CD2 XS sS 11 18 54.9 +0.5
CD2 SS 11 19 30.8
CD2 AMB AMB
comp=Z,50nm,0.6s,mb5.1
CD2 AMB AMB
comp=Z,60nm,5.6s
CD2 LR LR
comp=N,480nm,15.6s
CD2 LR LR
comp=Z,590nm,12.0s,MS4.3
HIA Hailar 23.69 343 eP **P** **11 14 44.8 -0.1**
LZH Lanzhou 23.98 299 eP **P** **11 14 47.6 +0.1**
LZH AP 11 14 52.8
LZH XP sP 11 14 55.5 +6.2
LZH PP 11 15 21.5
LZH S **S** **11 19 02.1 -2.7**
LZH SS 11 19 51.3
LZH AMB AMB
comp=Z,97nm,1.6s,mb5.0
LZH AMB AMB
comp=Z,230nm,4.4s
LZH LR LR
comp=E,1µm,14.0s
LZH LR LR
comp=Z,2µm,15.0s,MS4.7
KMI Kunming 24.45 272 P **P** **11 14 52.9 +1.0**
KMI AP 11 14 57.7
KMI XP sP 11 15 00.1 +6.5
KMI PP 11 15 27.4
KMI PPP 11 15 37.9
KMI S **S** **11 19 07.3 -5.2**
KMI SS 11 19 59.8
KMI SSS 11 20 15.7
KMI AMB AMB
comp=Z,118nm,1.0s,mb5.3
KMI AMB AMB
comp=Z,159nm,3.1s
KMI LR LR
comp=N,521nm,12.5s,MS4.6
KMI LR LR
comp=E,1µm,12.8s,MS4.6
KMI LR LR
comp=Z,1µm,15.3s,MS4.4
KKTK Khon Kaen 27.21 253 P **P** **11 15 22.5 +5.6**
ULN Ulaanbaatar 27.53 326 eP **P** **11 15 17.9 -1.9**
ULN pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
ULN Ulaanbaatar 27.53 326 eP **P** **11 15 17.9 -1.8**
comp=Z,5.1nm,0.6s,mb4.3
SONM Songino Array 27.85 325 P **P** **11 15 22.7 +0.1**
comp=Z,6.4nm,0.8s,mb4.3,baz=131,slow=10,SNR=16
SONM LR LR 11 28 01.6
comp=Z,277nm,18.1s,MS3.9,baz=78,slow=40
GTA Gaotai 27.98 304 P **P** **11 15 22.5 -1.2**
GTA AP pP 11 15 28.6 +3.6
GTA XP sP 11 15 31.3 +5.8
GTA PP 11 16 12.4
GTA PCP PcP 11 18 38.8 0.0
GTA S **S** **11 20 03.9 -4.5**
GTA SS 11 21 26.5
GTA AMB AMB
comp=Z,31nm,0.9s,mb4.9
GTA AMB AMB
comp=Z,80nm,4.6s
GTA LR LR
comp=N,817nm,14.4s,MS4.6
GTA LR LR
comp=E,866nm,14.8s,MS4.6
GTA LR LR
comp=Z,1µm,14.8s,MS4.6
NANT Nan 28.03 259⇑P **P** **11 15 22.0 -2.2**
comp=Z,331nm,1.0s,mb5.9
CHG Chiang Mai 29.57 261⇑P **P** **11 15 39.5 +1.6**
comp=Z,22nn,0.9s,mb4.9
CHTO Chiang Mai 29.57 261 eP **P** **11 15 39.4 +1.5**
CHTO *e* 11 18 43.9
CHTO pmax pmax
comp=Z,13nm,0.6s,mb4.8
CHTO Chiang Mai 29.57 261 eP **P** **11 15 39.4 +1.5**
comp=Z,13nn,0.6s,mb4.8
CHTO ePcP PcP 11 18 43.9 +1.1
ZAK Zakamensk 31.05 326 eP **P** **11 15 46.8 -4.2**
ZAK pmax pmax
comp=Z,3.0nm,1.5s,mb3.9
ZAK pmax pmax
comp=Z,6.0nm,1.8s,mb4.1
BOD Bodaibo 32.90 344 eP **P** **11 16 05.3 -1.9**
BOD pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
PET Petropavlovsk 33.76 32 eP **P** **11 16 15.7 +1.0**
PET eS **S** **11 21 42.9 +4.1**
PET smax
comp=E,100nm,14.9s
PET smax
comp=N,100nm,15.7s
PET MLR MLR
comp=Z,100nn,21.0s,MS3.5
PET Petropavlovsk 33.76 32 eP **P** **11 16 13.9 -0.8**
comp=Z,20nn,1.1s,mb5.0
PET epP pP 11 16 19.6 +3.6
SHL Shillong 34.04 276 eP **P** **11 16 17.0 -0.2**
LSA Lhasa 34.13 284 eP **P** **11 16 19.1 +1.2**
LSA pmax pmax
comp=Z,20nn,0.8s,mb5.1
LSA Lhasa 34.13 284 eP **P** **11 16 19.1 +1.2**
comp=Z,20nn,0.8s,mb5.1
YAK Yakutsk 35.15 360*d* *i*P **P** **11 16 24.9 -1.8**
YAK pmax pmax
comp=Z,27nn,1.0s,mb5.1
YAK Yakutsk 35.15 360 eP **P** **11 16 25.1 -1.7**
comp=Z,30nn,0.7s,mb5.3
WMQ Urumqi 37.89 308⇑P **P** **11 16 50.7 +0.6**
WMQ AP pP 11 16 55.5 +4.1
WMQ XP sP 11 16 58.2 +6.3
WMQ PP PP 11 18 19.9 +3.4
WMQ PPP 11 18 41.9
WMQ PCP PcP 11 19 07.2 +0.9
WMQ S **S** **11 22 41.3 -0.8**
WMQ SCP ScP 11 22 52.8 -1.8
WMQ AMB AMB
comp=Z,7.0nm,1.0s,mb4.3
WMQ AMB AMB
comp=Z,72nm,4.5s
WMQ LR LR
comp=N,251nm,23.1s,MS4.1
WMQ LR LR
comp=E,231nm,25.4s,MS4.1
WMQ LR LR
comp=Z,289nm,23.1s,MS4.0
PBA Port Blair 38.03 254 *ex* x 11 16 37.5
PBA *ex* x 11 16 46.1
JIRN Jiri 38.70 281 eP **P** **11 16 57.8 +0.8**
comp=Z,31nm,0.6s,mb5.2
GUN Gumba 38.94 282 eP **P** **11 16 59.8 +0.8**
comp=Z,158nm,1.0s,mb5.7
PKI Pulchoki 39.40 281 eP **P** **11 17 03.0 +0.1**
comp=Z,107nm,0.8s,mb5.7
KAKA Kakadu 39.43 176 eP **P** **11 17 02.3 -0.8**
comp=Z,6.7nm,0.6s,mb4.5
KKN Kakani 39.48 282 eP **P** **11 17 03.7 +0.2**
comp=Z,221nm,1.1s,mb5.8
DMN Daman 39.66 282 eP **P** **11 17 05.4 +0.4**
comp=Z,152nm,1.1s,mb5.6
BOK Bokaro 39.75 276 eP **P** **11 17 06.3 +0.6**

BOK *ex* x 11 17 09.5
PMG Port Moresby 39.77 153 LR LR 11 30 54.8
comp=Z,194nm,19.4s,MS4.0,baz=126,slow=32
PMG Port Moresby 39.77 153 eP **P** **11 17 04.9 -1.0**
PMG *e* 11 19 11.7
PMG pmax pmax
comp=Z,21nm,0.8s
PMG Port Moresby 39.77 153 eP **P** **11 17 04.8 -1.1**
comp=Z,21nn,0.8s,mb4.9
PMG ePcP PcP 11 19 11.7 -0.5
GKN Gorkha 40.01 282 eP **P** **11 17 08.1 +0.2**
comp=Z,158nn,0.7s,mb5.8
KOLN Koldanda 40.95 282 eP **P** **11 17 16.0 +0.3**
comp=Z,97nn,1.0s,mb5.4
MK31 Makanchi Array 42.23 311 P **P** **11 17 24.6 -1.5**
MK31 pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
MKAR Makanchi Array 42.23 311 P **P** **11 17 24.7 -1.5**
comp=Z,3.9nm,0.7s,mb4.2,baz=100,slow=9.7,SNR=22
MKAR PP PP 11 19 03.6 -0.1
comp=Z,1.2nm,0.7s,baz=96,slow=12,SNR=4.0
MKAR Makanchi Array 42.23 311 P **P** **11 17 24.7 -1.5**
MKAR PP PP 11 19 03.6 -0.1
ZAL Zalesovo 42.65 322 P **P** **11 17 27.0 -2.6**
comp=Z,2.4nm,0.6s,mb4.1,baz=9.1,slow=6.6,SNR=6.2
ZAL LR LR 11 38 00.7
comp=Z,254nn,18.3s,MS4.2,baz=151,slow=40
ZAL Zalesovo 42.65 322 P **P** **11 17 27.0 -2.6**
ZAL LR LR 11 38 00.7
NVS Novosibirsk 43.83 323 eP **P** **11 17 34.8 -4.3**
NVS pmax pmax
comp=Z,10.0nm,1.5s,mb4.3
VIS Vishakhapatnam 43.83 268 eP **P** **11 17 38.9 -0.2**
VIS AMb AMB 11 17 43.4
comp=Z,55nm,1.6s,mb5.0
TIXI Tiksi 44.81 360 eP **P** **11 17 45.2 -1.8**
TIXI *e* 11 19 34.9
TIXI eSS SS 11 27 34.6 -11
TIXI pmax pmax
comp=Z,13nm,1.2s,mb4.6
TIXI MLR MLR
comp=Z,195nn,13.0s,MS4.2
FITZ Fitzroy Crossi 44.90 186⇓*i*P **P** **11 17 48.5 +0.8**
comp=Z,10nn,0.6s,mb4.8
FITZ Fitzroy Crossi 44.90 186 P **P** **11 17 48.6 +0.9**
comp=Z,9.6nm,0.8s,mb4.7,baz=13,slow=9.4,SNR=28
KURK Kurchatov 45.38 316 eP **P** **11 17 49.8 -1.8**
KURK *e* 11 19 37.9
KURK pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
KURK Kurchatov 45.38 316 eP **P** **11 17 49.8 -1.7**
comp=Z,6.4nm,0.7s,mb4.6
KURK ePP PP 11 19 37.9 +0.2
SMLA Simla 45.96 288 eP **P** **11 17 55.0 -1.1**
NDI New Delhi 46.33 285 eP **P** **11 17 58.0 -1.0**
NDI eP pP 11 17 59.0 -1.3
HNR Honiara 46.40 137 LR LR 11 33 50.6
comp=Z,128nm,19.5s,MS3.9,baz=358,slow=31
NGP Nagpur 46.55 274 eP **P** **11 18 00.4 -0.4**
NGP AMb AMB 11 18 01.4
comp=Z,39nn,0.9s,mb5.3
BILL Bilibino 46.59 18*d* *i*P **P** **11 17 59.9 -1.2**
BILL pmax pmax
comp=Z,21nm,1.3s,mb4.9
BILL MLR MLR
comp=Z,200nn,21.0s,MS4.0
BILL Bilibino 46.59 18 eP **P** **11 18 00.1 -1.0**
comp=Z,6.5nm,0.7s,mb4.7
WRAB Tennant Creek 46.73 174 eP **P** **11 18 02.6 +0.4**
WRAB pmax pmax
comp=Z,47nm,0.9s,mb5.4
WRAB Tennant Creek 46.73 174 eP **P** **11 18 02.6 +0.4**
comp=Z,47nn,0.9s,mb5.4
WRA Warramunga Arr 46.74 174 P **P** **11 18 02.7 +0.4**
comp=Z,28nn,0.8s,mb5.3,baz=354,slow=8.5,SNR=112
WRA PcP PcP 11 19 35.7 +0.1
comp=Z,4.1nm,0.8s,baz=342,slow=3.7,SNR=5.0
WRA Warramunga Arr 46.74 174 *i* P **P** **11 18 02.7 +0.4**
WRA pmax pmax
comp=Z,28nn,0.8s
WB2 Warramunga Arr 46.74 174⇓*i*P **P** **11 18 02.5 +0.2**
AAK Ala-Archa 47.33 304 P **P** **11 18 06.2 -0.7**
AAK pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
AAK Ala-Archa 47.33 304 P **P** **11 18 06.2 -0.6**
comp=Z,2.6nm,0.7s,mb4.3
BHPL Bhopal 47.40 278 eP **P** **11 18 06.0 -1.3**
BHPL *ex* x 11 18 10.3
BHPL AMb AMB 11 18 10.6
comp=Z,38nn,0.9s,mb5.3
HYB Hyderabad 48.20 270 *i* P **P** **11 18 15.0 +1.4**
HYB *e* 11 18 49.0
HYB ePcP PcP 11 19 41.0 +0.1
MBWA Marble Bar 48.76 193 eP **P** **11 18 18.1 +0.2**
MBWA epP pP 11 18 25.2 +6.0
CTA Charters Tower 49.31 160 eP **P** **11 18 23.2 +1.1**
comp=Z,33nn,0.6s,mb5.5
CTA Charters Tower 49.31 160 LR LR 11 36 04.5
comp=Z,84nn,20.3s,MS3.7,baz=40,slow=32
CTA Charters Tower 49.31 160 eP **P** **11 18 23.2 +1.1**
CTA pmax pmax
comp=Z,33nn,0.6s
CTAO Charters Tower 49.31 160 eP **P** **11 18 22.3 +0.2**
CTAO *e**PP pP 11 18 28.3 +4.9
CTAO pmax pmax
comp=Z,52nn,0.9s,mb5.6
CTAO Charters Tower 49.31 160 eP **P** **11 18 22.3 +0.2**
comp=Z,52nn,0.9s,mb5.6
CTAO epP pP 11 18 28.3 +4.9
KK31 Karatay Array 50.26 305 *i* P **P** **11 18 29.5 +0.2**
KK31 pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
KKAR Karatay Array 50.26 305 eP **P** **11 18 29.5 +0.2**
KKAR pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
ASAR Alice Springs 50.40 175 P **P** **11 18 31.0 +0.6**
comp=Z,8.7nm,0.5s,mb5.0,baz=4.5,slow=14,SNR=197
ASAR PcP PcP 11 19 49.4 +0.5
comp=Z,4.6nm,0.9s,baz=2.4,slow=3.9,SNR=5.6
PALK Pallekele 50.53 257 eP **P** **11 18 31.8 +0.4**
comp=Z,12nn,0.8s,mb4.9
PALK ePcP PcP 11 19 48.1 -1.3
BVA0 Borovoye Array 50.79 318 *i* P **P** **11 18 32.3 -1.1**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
BVAR Borovoye Array 50.79 318 P **P** **11 18 32.5 -0.9**
comp=Z,4.0nm,0.5s,mb4.6,baz=87,slow=9.7,SNR=24
BVAR PcP PcP 11 19 49.8 -0.5
comp=Z,5.6nm,0.9s,baz=93,slow=3.4,SNR=2.7
BRVK Borovoye 50.86 318 eP **P** **11 18 32.7 -1.2**
BRVK pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BRVK Borovoye 50.86 318 eP **P** **11 18 32.7 -1.2**
comp=Z,4.8nm,0.7s,mb4.5
ZRNK Zerenda 51.62 318 eP **P** **11 18 38.3 -1.3**
ZRNK *e* 11 19 52.8
ZRNK pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
ZRNK Zerenda 51.62 318 eP **P** **11 18 38.3 -1.3**
comp=Z,7.7nm,0.6s,mb4.8
ZRNK ePcP PcP 11 19 52.8 -0.6
POO Poona 52.02 273 eP **P** **11 18 42.0 -0.6**
KAD Karad 52.15 272 eP **P** **11 18 43.3 -0.2**
KAD AMb AMB 11 18 51.3
comp=Z,23nn,1.6s,mb4.9
KAD *ex* x 11 18 51.7
TRD Trivandrum 53.23 260 eP **P** **11 18 53.5 +2.0**
TRD *ex* x 11 18 58.6
AB31 Akbulak array 57.29 313 *i* P **P** **11 19 20.7 -0.2**
AB31 pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
FORT Forrest 57.36 182 eP **P** **11 19 21.4 +0.1**
comp=Z,23nn,0.7s,mb5.3
ARU Arti 57.81 322⇑*i*P **P** **11 19 24.0 -0.5**
ARU *e* 11 21 33.9
ARU ePPP 11 22 50.0
ARU eS **S** **11 27 22.1 -2.3**
ARU eSS SS 11 31 11.7 -3.2
ARU pmax pmax
comp=Z,12nn,1.0s,mb4.9
ARU MLR MLR
comp=Z,300nn,16.0s,MS4.5
ARU MLR MLR
comp=N,100nn,18.0s,MS4.5

ARU MLR MLR
comp=E,300nn,16.5s,MS4.5
ARU Arti 57.81 322 eP **P** **11 19 23.9 -0.6**
comp=E,11nm,0.8s,mb4.9
AKTK Aktyubinsk 58.44 314 P **P** **11 19 28.7 -0.2**
AKTO Aktyubinsk 58.44 314 P **P** **11 19 28.7 -0.2**
baz=80,slow=13
STKA Stephens Creek 59.48 168 eP **P** **11 19 33.9 -2.3**
comp=E,3.8nm,0.4s,mb4.8
STKA Stephens Creek 59.48 168 P **P** **11 19 34.4 -1.8**
comp=E,4.4nm,0.5s,mb4.8,baz=347,slow=8.5,SNR=32
STKA LR LR 11 45 09.7
comp=E,123nn,19.1s,MS4.0,baz=25,slow=36
ORR Orenburg 60.37 316 P **P** **11 19 42.6 +0.3**
ORR pmax pmax
comp=Z,20nn,0.9s,mb5.2
ORR MLR MLR
comp=Z,380nn,20.0s,MS4.5
PMR Palmer 62.49 32 eP **P** **11 19 54.7 -1.9**
PMR pmax pmax
comp=Z,12nn,1.1s,mb4.9
PMR Palmer 62.49 32 eP **P** **11 19 54.7 -1.9**
comp=Z,12nn,1.1s,mb5.0
COLA College 62.74 28 eP **P** **11 19 57.0 -1.3**
COLA College 62.74 28 eP **P** **11 19 57.8 -0.5**
comp=Z,6.4nm,0.7s,mb4.9
ILAR Eielson Array 63.16 28 P **P** **11 19 59.4 -1.7**
comp=Z,2.3nm,0.7s,mb4.4,baz=262,slow=5.7,SNR=31
DAWY Dawson 66.48 29 eP **P** **11 20 21.8 -0.9**
MAK Makhachkala 66.91 308 eP **P** **11 20 28.5 +3.1**
KLMR Klimovskoe 67.09 328 eP **P** **11 20 26.2 -0.4**
KLMR pmax pmax
comp=Z,20nn,1.4s,mb5.0
INK Inuvik 67.70 24 eP **P** **11 20 29.3 -1.2**
INK pmax pmax
comp=Z,12nn,1.0s
INK Inuvik 67.70 24 eP **P** **11 20 29.3 -1.2**
comp=Z,12nn,1.0s,mb4.9
APA Apatity 67.88 336⇑*i*P **P** **11 20 33.0 +1.4**
APA *i* 11 20 43.7
APA pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
APA MLR MLR
comp=Z,600nn,19.0s,MS4.8
GOF Gofitskoye 69.40 311 eP **P** **11 20 40.7 -0.4**
GOF pmax pmax
comp=Z,30nn,0.7s,mb5.3
ZEI Tsey 69.50 308 eP **P** **11 20 43.0 +1.3**
ZEI *e**PP pP 11 20 54.3 +11
ZEI pmax pmax
comp=Z,20nn,0.9s,mb5.0
GNI Garni 69.72 305 eP **P** **11 20 42.2 -0.8**
GNI pmax pmax
comp=Z,8.0nm,0.5s
GNI Garni 69.72 305 eP **P** **11 20 42.2 -0.8**
comp=Z,8.0nm,0.5s,mb4.9
VOR Voronezh 69.79 318 eP **P** **11 20 42.0 -1.5**
VOR pmax pmax
comp=Z,50nn,1.2s,mb5.3
ARCES ARCESS Array B 69.95 339 P **P** **11 20 45.5 +1.0**
comp=Z,3.5nm,0.8s,mb4.3,baz=76,slow=6.4,SNR=9.0
ARCES LR LR 11 58 17.8
comp=Z,93nn,18.2s,MS4.1,baz=250,slow=42
ARCES ARCESS Array B 69.95 339 P **P** **11 20 45.5 +1.0**
ARCES LR LR 11 58 17.8
KIV Kislovodsk 69.97 310 eP **P** **11 20 45.1 +0.5**
KIV pmax pmax
comp=Z,51nn,1.3s,mb5.3
KIV Kislovodsk 69.97 310 eP **P** **11 20 45.1 +0.5**
comp=Z,51nn,1.3s,mb5.3
JOF Joensuu 70.19 331 ep **P** **11 20 45.9 -0.1**
comp=Z,11nn,0.7s,mb4.6
OBN Obninsk 70.23 322⇓*i*P **P** **11 20 46.5 +0.3**
OBN *i* 11 20 58.4
OBN pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
OBN MLR MLR
comp=Z,400nn,18.0s,MS4.7
DLBC Dease Lake 72.53 33 P **P** **11 20 59.1 -1.0**
KAF Kangasniemi 72.65 331 ep **P** **11 20 59.4 -1.4**
comp=Z,8.8nm,0.8s,mb4.7,baz=64,slow=5.6
KAF Kangasniemi 72.65 331 eP **P** **11 20 59.4 -1.4**
KAF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
FINES FINESS Array B 73.03 331 P **P** **11 21 02.8 -0.3**
comp=Z,5.1nm,0.6s,mb4.6,baz=69,slow=5.3,SNR=32
FINES LR LR 11 58 51.2
comp=Z,99nn,18.3s,MS4.1,baz=6.0,slow=40
FINES FINESS Array B 73.03 331 *i* P **P** **11 21 02.7 -0.4**
FINES pmax pmax
comp=Z,5.0nm,0.6s
ANN Anapa 73.23 312 eP **P** **11 21 10.5 +6.2**
ANN pmax pmax
comp=Z,63nn,1.6s,mb5.3
VSU Vasula 74.00 328 eP **P** **11 21 08.8 0.0**
RES Resolute Bay 74.63 11 eP **P** **11 21 11.2 -1.2**
RES pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
RES Resolute Bay 74.63 11 eP **P** **11 21 11.2 -1.3**
comp=Z,9.8nm,0.8s,mb4.8
DAG Danmarks Havn 74.80 353⇑*i*P **P** **11 21 11.9 -1.6**
comp=Z,4.2nm,0.5s,mb4.6
DAG Danmarks Havn 74.80 353⇑eP **P** **11 21 11.9 -1.6**
DAG pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
DAG Danmarks Havn 74.80 353⇑eP **P** **11 21 11.9 -1.6**
comp=Z,4.2nm,0.5s,mb4.6
MALT Malatya 74.95 305⇓*i*P **P** **11 21 16.0 +1.7**
MALT Malatya 74.95 305 eP **P** **11 21 13.7 -0.6**
MALT pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
MALT Malatya 74.95 305 eP **P** **11 21 13.7 -0.7**
comp=Z,8.5nm,0.9s,mb4.7
MNK Minsk 75.14 324 eP **P** **11 21 19.0 +3.6**
AKASG Malin Array Be 76.00 320 P **P** **11 21 20.1 -0.3**
comp=Z,5.8nm,0.7s,mb4.6,baz=57,slow=6.2,SNR=18
AKASG Malin Array Be 76.00 320 *i* P **P** **11 21 20.1 -0.2**
AKASG pmax pmax
comp=Z,6.0nm,0.7s
YKW3 Yellowknife Ar 77.26 25 eP **P** **11 21 26.3 -1.2**
YKA Yellowknife Ar 77.31 25 P **P** **11 21 26.8 -0.9**
comp=Z,3.3nm,0.7s,mb4.4,baz=301,slow=5.7,SNR=72
YKA PKKPbc PKKPbc 11 40 31.1 -2.0
comp=Z,0.1nm,0.8s,baz=125,slow=2.7,SNR=4.8
YKA Yellowknife Ar 77.31 25 P **P** **11 21 26.8 -0.9**
YKA PKKPbc PKKPbc 11 40 31.1 -2.1
SUW Suwalki 77.80 325 P **P** **11 21 29.5 -0.9**
BR131 Keskin Array S 77.81 308 eP **P** **11 21 31.0 +0.4**
comp=Z,4.2nm,0.6s,mb4.5
BRTR Keskin Array B 77.81 308 P **P** **11 21 31.1 +0.5**
comp=Z,2.2nm,0.6s,mb4.2,baz=102,slow=3.9,SNR=12
TIRR Tirgusor 79.25 314⇓*i*P **P** **11 21 40.8 +2.3**
TIRR Tirgusor 79.25 314 eP **P** **11 21 39.6 +1.1**
NB2 NORSAR Subarra 79.39 334 P **P** **11 21 37.5 -1.7**
comp=Z,5.2nm,0.7s,mb4.6,baz=52,slow=5.9
NOA NORSAR Array B 79.39 334 P **P** **11 21 38.1 -1.1**
comp=Z,5.8nm,0.7s,mb4.6,baz=51,slow=5.5,SNR=14
NOA LR LR 12 01 00.4
comp=Z,124nn,18.3s,MS4.3,baz=290,slow=39
HARR Harsova 79.45 315⇑*i*P **P** **11 21 41.3 +1.7**
HARR Harsova 79.45 315⇑P **P** **11 21 41.3 +1.7**
NAO01 NORSAR Array S 79.63 334 eP **P** **11 21 39.4 -1.2**
comp=Z,2.3nm,0.6s,mb4.3
VRI Vrincioaia 79.66 316⇓*i*P **P** **11 21 42.5 +1.8**
VRI Vrincioaia 79.66 316⇓P **P** **11 21 42.5 +1.8**
PLOR Plostina 79.71 316⇓*i*P **P** **11 21 43.0 +2.0**
BURAR Bucovina Array 79.75 318⇓*i*P **P** **11 21 42.1 +0.9**
BURAR Bucovina Array 79.75 318⇓P **P** **11 21 42.1 +0.9**
MLR Muntele Rosu 80.32 316⇓*i*P **P** **11 21 46.2 +1.9**
MLR Muntele Rosu 80.32 316⇓P **P** **11 21 46.2 +1.9**
SUMG Summit 80.49 356 eP **P** **11 21 45.1 0.0**
comp=Z,23nm,0.8s,mb5.2
KOLS Kolonicke sedl 80.81 320 epP pP 11 21 52.0 +3.8
KOLS *es*P sP 11 21 56.2 +7.5
STHS Stebnicka Huta 81.14 321 *e* **P** **11 21 52.1 +3.4**
STHS Stebnicka Huta 81.14 321 eP **P** **11 21 52.2 +3.5**
CRVS Cervenica-Dubn 81.28 321 eP **P** **11 21 51.4 +2.0**
OJC Ojcow 81.52 322 eP **P** **11 21 50.9 +0.2**
DRGR 81.64 318⇓*i*P **P** **11 21 53.5 +2.2**
DRGR 81.64 318⇓P **P** **11 21 53.5 +2.2**
KECS Kecovo 82.06 321 eP **P** **11 21 53.7 +0.2**
LIKS Likavka 82.53 322 *e* **P** **11 21 52.8 -3.2**
OKC Ostrava-Krasne 82.62 323 epP pP 11 22 04.3 +6.5
OKC AMS AMS 12 02 00.0
comp=Z,600nm,11.5s

PSZ Piszkesteto 82.69 320 eP P 11 21 56.3 -0.5
VYHS Vyhne 82.98 321 eP P 11 21 59.3 +1.0
VYHS epP pP 11 22 05.0 +5.3
MORC Moravsky Berou 82.98 323 ⇓iP P 11 21 59.5 +1.2
MORC Moravsky Berou 82.98 323 eP P 11 21 58.6 +0.3
MORC pmax pmax
comp=Z,11nm,1.3s,mb4.7
MORC Moravsky Berou 82.98 323 eP P 11 21 58.6 +0.3
comp=Z,11nm,1.3s,mb4.7
KSP Ksiaz 83.05 324 eP P 11 21 59.2 +0.5
EDM Edmonton 83.25 33 eP P 11 21 59.1 -0.6
DPC Dobruska-Polom 83.31 324 eP P 11 22 00.6 +0.5
RUE Ruedersdorf 83.38 326 eP P 11 22 01.2 +0.8
comp=Z,36nm,1.3s,mb5.2
VTS Vitosha 83.46 315 ⇓iP P 11 22 02.5 +1.7
VTS Vitosha 83.46 315 ⇓P P 11 22 02.5 +1.7
VRAC Vranov 83.76 323 ⇓iP P 11 22 03.3 +1.0
VRAC Vranov 83.76 323 ⇓P P 11 22 03.3 +1.0
ZST Bratislava 84.11 322 eP P 11 22 06.6 +2.5
ZST e pP 11 22 09.2 +3.7
ZST Bratislava 84.11 322 eP P 11 22 06.7 +2.6
BSEG Bad Segeberg 84.15 329 eP P 11 22 05.4 +1.1
comp=Z,17nm,1.2s,mb5.0
BSEG Bad Segeberg 84.15 329 eP P 11 22 05.4 +1.1
BSEG pmax pmax
comp=Z,17nm,1.2s,mb5.0
NEW Newport 84.17 38 eP P 11 22 04.1 -0.4
NEW pmax pmax
comp=Z,7.0nm,1.0s
NEW Newport 84.17 38 eP P 11 22 04.1 -0.3
comp=Z,7.0nm,1.0s,mb4.8
BRG Berggiesshubel 84.25 325 eP P 11 22 05.9 +1.1
comp=Z,11nm,1.4s,mb4.8
BRG Berggiesshubel 84.25 325 eP P 11 22 03.7 -1.1
comp=Z,1.1nm,0.7s,mb4.1
BRG e 11 22 19.3
comp=Z,5.4nm,1.3s
BRG
comp=N,75nm,17.9s
BRG
comp=E,109nm,14.9s
BRG
comp=Z,195nm,11.1s
BRG Berggiesshubel 84.25 325 eP P 11 22 03.7 -1.1
BRG e 11 22 19.3
BRG pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
BRG pmax pmax
comp=Z,5.0nm,1.3s,mb4.5
BRG MLR MLR
comp=N,75nm,17.9s,MS4.4
BRG MLR MLR
comp=E,109nm,15.0s,MS4.4
BRG MLR MLR
comp=Z,195nm,11.1s,MS4.7
PKSM Moragy 84.33 319 ⇓eP P 11 22 06.4 +1.1
TREC Trest 84.36 323 eP P 11 22 06.4 +1.0
PRU Pruhonice 84.46 324 eP P 11 22 07.0 +1.1
PRU AMS AMS 12 03 30.0
comp=Z,300nm,13.3s
CLL Collm 84.46 326 eP P 11 22 06.0 +0.1
comp=Z,13nm,1.1s,mb5.0
CLL Collm 84.46 326 eP P 11 22 05.0 -0.9
comp=Z,7.0nm,0.7s,mb4.9
CLL *i* pP pP 11 22 10.5 +3.2
CLL *i* x x 11 22 28.1
CLL Collm 84.46 326 eP P 11 22 05.0 -0.9
CLL *i* *PP pP 11 22 10.5 +3.2
CLL pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
CLL MLR MLR
comp=Z,500nm,15.2s,MS5.0
CLL Collm 84.46 326 eP P 11 22 05.0 -0.9
comp=Z,7.0nm,0.7s,mb4.9
CLL *i* pP pP 11 22 10.5 +3.2
CLL LR LR
comp=Z,500nm,15.2s,MS5.0
WERD Werda 85.33 325 eP P 11 22 11.3 +1.0
comp=Z,8.0nm,1.2s,mb4.7
NKC Novy Kostel 85.39 325 epP pP 11 22 15.8 +3.8
NKC AMS AMS 12 04 20.0
comp=Z,500nm,14.4s
CLZ Clausthal 85.43 327 eP P 11 22 11.4 +0.6
comp=Z,19nm,0.9s,mb5.2
CLZ Clausthal 85.43 327 eP P 11 22 11.4 +0.6
CLZ pmax pmax
comp=Z,19nm,0.9s,mb5.2
WALA Waterton Lakes 85.45 36 eP P 11 22 10.8 0.0
comp=Z,3.4nm,0.6s,mb4.7
KHC Kasperske Hory 85.47 324 eP P 11 22 11.9 +0.9
KHC AMS AMS 12 04 10.0
comp=Z,500nm,14.4s
MOX Moxa 85.56 326 eP P 11 22 12.4 +0.9
comp=Z,5.0nm,0.9s,mb4.7
MOX Moxa 85.56 326 eP P 11 22 12.5 +1.0
MOX
comp=Z,300nm,16.0s
GEC2 GERESS Array S 85.58 324 eP P 11 22 12.6 +1.1
comp=Z,6.0nm,0.9s,mb4.8
GEC2 GERESS Array S 85.58 324 eP P 11 22 12.6 +1.1
GEC2 pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
GERES GERESS Array B 85.58 324 P P 11 22 11.2 -0.3
comp=Z,4.0nm,0.8s,mb4.7,baz=46,slow=3.9,SNR=12
GERES LR LR 12 03 59.7
comp=Z,204nm,18.3s,MS4.6,baz=274,slow=38
MANZ Manzenberg 85.72 325 eP P 11 22 13.6 +1.4
comp=Z,9.0nm,1.2s,mb4.9
ROTZ Rotzenmuhle 85.80 325 eP P 11 22 14.2 +1.6
comp=Z,14nm,1.0s,mb5.2
GTTG Gvttingen 85.82 327 eP P 11 22 13.9 +1.2
comp=Z,25nm,1.2s,mb5.3
WET Wettzell 85.83 324 eP P 11 22 14.1 +1.3
comp=Z,44nm,2.7s,mb5.2
WET Wettzell 85.83 324 eP P 11 22 14.1 +1.3
WET pmax pmax
comp=Z,44nm,2.7s,mb5.2
GRA1 Grafenberg Arr 86.35 325 eP P 11 22 16.1 +0.7
comp=Z,39nm,1.4s,mb5.4
GRF Grafenberg Arr 86.35 325 eP P 11 22 16.1 +0.7
comp=Z,39nm,1.4s,mb5.4
GRF Grafenberg Arr 86.35 325 eP P 11 22 16.1 +0.7
GRF pmax pmax
comp=Z,39nm,1.4s,mb5.4
GRF Grafenberg Arr 86.35 325 eP P 11 22 16.1 +0.7
GRF pmax pmax
comp=Z,39nm,1.4s,mb5.4
IBBN Ibbenburen 86.38 329 eP P 11 22 16.3 +0.8
comp=Z,32nm,0.9s,mb5.5
SFJD Kangerlussuaq 86.42 0 *i* P P 11 22 14.2 -1.5
comp=Z,9.4nm,0.6s,mb5.2
SFJD Kangerlussuaq 86.42 0 *i* P P 11 22 14.2 -1.5
SFJD pmax pmax
comp=Z,9.0nm,0.6s,mb5.2
WVOR Wild Horse Val 86.54 44 eP P 11 22 16.4 +0.1
WVOR pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
WVOR Wild Horse Val 86.54 44 eP P 11 22 16.4 +0.1
comp=Z,5.6nm,1.0s,mb4.8
BUG Bochum--Univer 87.17 328 eP P 11 22 20.3 +0.9
comp=Z,17nm,1.4s,mb5.1
FCC Fort Churchill 87.20 21 eP P 11 22 18.1 -1.4
FCC pmax pmax
comp=Z,15nm,1.2s,mb5.1
FCC Fort Churchill 87.20 21 eP P 11 22 18.1 -1.4
comp=Z,15nm,1.2s,mb5.1
FUR Furstenfeldbru 87.27 324 eP P 11 22 21.5 +1.7
comp=Z,41nm,1.4s,mb5.5
FUR Furstenfeldbru 87.27 324 eP P 11 22 21.5 +1.7
FUR pmax pmax
comp=Z,41nm,1.4s,mb5.5
FFC Flin Flon 87.34 27 eP P 11 22 19.4 -0.8
FFC pmax pmax
comp=Z,27nm,1.4s,mb5.3
FFC Flin Flon 87.34 27 eP P 11 22 19.4 -0.8
comp=Z,27nm,1.4s,mb5.3
TNS Taunus Mts 87.40 327 eP P 11 22 21.8 +1.3
comp=Z,5.0nm,1.0s,mb4.7
TNS Taunus Mts 87.40 327 eP P 11 22 21.8 +1.3
TNS pmax pmax
comp=Z,5.0nm,1.0s,mb4.7
CMB Columbia Colle 87.83 48 eP P 11 22 22.4 -0.1
CMB pmax pmax
comp=Z,9.0nm,1.3s,mb4.8
CMB Columbia Colle 87.83 48 eP P 11 22 22.4 -0.2
comp=Z,8.8nm,1.3s,mb4.8

MOTA Moosalm 87.87 323 ⇑iP P 11 22 23.0 +0.3
comp=Z,4.7nm,0.9s,mb4.7
MOTA Moosalm 87.87 323 ⇑iP P 11 22 23.0 +0.3
MOTA pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
DLMT Dillon 88.39 39 eP P 11 22 25.1 -0.1
comp=Z,21nm,1.1s,mb5.3
HLID Hailey 88.43 41 eP P 11 22 26.3 +0.9
comp=Z,3.3nm,0.8s,mb4.6
BFO Black Forest 88.69 325 eP P 11 22 29.2 +2.6
comp=Z,10.0nm,1.5s,mb4.9
BFO Black Forest 88.69 325 eP P 11 22 29.2 +2.6
BFO pmax pmax
comp=Z,10.0nm,1.5s,mb4.9
DAVOX Davos 88.88 323 P P 11 22 29.6 +2.1
baz=6.3,slow=9.2
WLF Walferdange 88.89 327 eP P 11 22 27.2 -0.3
WLF pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
WLF Walferdange 88.89 327 eP P 11 22 27.2 -0.4
comp=Z,7.4nm,0.8s,mb5.1
NVAR Mina Array Bea 88.98 47 P P 11 22 28.9 +1.0
comp=Z,1.9nm,0.8s,mb4.5,baz=285,slow=4.7,SNR=13
QLMT Earthquake Lak 89.37 39 eP P 11 22 31.0 +1.2
QLMT epP pP 11 22 35.7 +4.5
IMW Indian Meadow 90.23 39 eP P 11 22 35.2 +1.4
comp=Z,7.4nm,1.0s,mb5.0
FLWY Flagg Ranch 90.25 39 eP P 11 22 35.1 +1.2
comp=Z,3.9nm,1.1s,mb5.2
MOOW Moose Ponds 90.43 39 eP P 11 22 35.4 +0.6
comp=Z,3.0nm,1.3s,mb4.5
TPAW Teton Pass 90.47 39 eP P 11 22 35.1 +0.2
comp=Z,5.7nm,0.8s,mb5.0
TPNV Topopah Spring 91.16 47 eP P 11 22 38.4 +0.2
TPNV e*PP pP 11 22 44.2 +4.7
TPNV pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
TPNV Topopah Spring 91.16 47 eP P 11 22 38.4 +0.3
comp=Z,4.5nm,1.0s,mb4.8
TPNV epP pP 11 22 44.2 +4.7
HWUT Hardware Ranch 91.29 41 eP P 11 22 39.6 +0.8
comp=Z,28nm,1.5s,mb5.4
HWUT epP pP 11 22 44.8 +4.6
LPL La Plagne 91.36 324 eP P 11 22 38.1 -1.0
comp=Z,4.7nm,0.7s,mb4.6
LPL La Plagne 91.36 324 eP P 11 22 38.1 -1.0
LPL pmax pmax
comp=Z,2.0nm,0.7s,mb4.6
LPL La Plagne 91.36 324 eP P 11 22 38.1 -1.0
comp=Z,3.3nm,0.7s,mb4.6
LPG La Plagne 91.36 324 eP P 11 22 37.8 -1.3
comp=Z,9.0nm,0.8s,mb4.8
LPG La Plagne 91.36 324 eP P 11 22 37.8 -1.3
LPG pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
LPG La Plagne 91.36 324 eP P 11 22 37.8 -1.3
comp=Z,4.5nm,0.8s,mb4.8
DUG Dugway 91.41 43 eP P 11 22 40.1 +0.8
DUG pmax pmax
comp=Z,15nm,1.4s,mb5.1
DUG Dugway 91.41 43 eP P 11 22 40.1 +0.7
comp=Z,14nm,1.4s,mb5.1
BW06 Boulder Array 91.72 39 eP P 11 22 40.6 -0.2
comp=Z,3.9nm,0.9s,mb4.7
PDAR Pinedale Array 91.72 39 P P 11 22 40.9 +0.1
comp=Z,3.3nm,0.9s,mb4.7,baz=327,slow=2.0,SNR=24
ORIF Oris-en-Rattie 92.21 324 eP P 11 22 41.3 -1.7
DAU Daniels Canyon 92.22 42 eP P 11 22 43.4 +0.4
MSU Marysvale 92.83 44 eP P 11 22 46.7 +0.8
NEN Nelson 92.84 48 eP P 11 22 46.2 +0.3
ULM Lac du Bonnet 93.16 27 P P 11 22 45.9 -1.5
comp=Z,3.6nm,0.9s,mb4.8,baz=359,slow=5.8,SNR=4.0
ULM Lac du Bonnet 93.16 27 P P 11 22 45.9 -1.5
RSSD Black Hills 93.83 36 eP P 11 22 50.4 -0.1
RSSD pmax pmax
comp=Z,2.0nm,0.5s,mb4.8
RSSD Black Hills 93.83 36 eP P 11 22 50.4 -0.1
comp=Z,1.7nm,0.5s,mb4.7
WUAZ Wupatki 95.17 46 eP P 11 22 56.6 0.0
comp=Z,5.3nm,1.1s,mb4.9
SMCO Snowmass 95.54 41 eP P 11 22 58.5 +0.2
comp=Z,27nm,1.1s,mb4.6
TORD Torodi Ar. Bea 115.88 302 PKP PKPdf 11 28 15.3 -0.6
comp=Z,0.6nm,0.7s,baz=15,slow=2.9,SNR=3.5
TORD PP PP 11 29 18.4 -1.0
comp=Z,0.9nm,0.9s,baz=41,slow=6.1,SNR=4.2
TORD PKKPbc PKKPbc 11 38 48.0 +1.0
comp=Z,1.3nm,1.0s,baz=229,slow=4.2,SNR=4.1
QSPA South Pole Qui 116.65 180 eP PKPdf 11 28 15.7 -1.7
SDV Santo Domingo 139.25 32 ePKPdf PKPdf 11 29 00.8 +0.5
NNA Nana 150.85 65 ePKPdf PKPdf 11 29 20.2 0.0
NNA ePKPbc PKPbc 11 29 26.0 +0.2
LPAZ La Paz 160.22 61 PKPab PKPab 11 30 13.6 +0.6
comp=Z,2.9nm,1.0s,baz=330,slow=6.6,SNR=6.6
LPAZ La Paz 160.22 61 PKP2 PKPab 11 30 13.6 +0.6
LPAZ pmax pmax
comp=Z,3.0nm,1.0s

IDC 07 11:19:43.5±11.0, 932S×12070E, h0km, mb4.1/1, mb1 3.7/4, mb1mx3.5/15, mbtmp3.6/4, ML3.3/3, Error ellipse: s-maj=186.3km s-min=142.3km az=72.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**9.96**	**152**	Pn	Pn	11 22 07.8	-0.1
	0.3nm,0.3s,baz=337,slow=13,SNR=17						
FITZ				Sn	Sn	11 23 45.1	-15
	0.2nm,0.3s,baz=176,slow=14,SNR=3.9						
WRA	**Warramunga Arr**	**16.89**	**130**	Pn	Pn	11 23 39.8	-1.6
	0.1nm,0.3s,baz=304,slow=13,SNR=7.9						
WRA				Sn	Sn	11 26 30.3	-19
	0.1nm,0.3s,baz=300,slow=19,SNR=5.9						
ASAR	**Alice Springs**	**19.05**	**140**	P	Pn	11 24 09.4	+1.4
	0.1nm,0.3s,baz=313,slow=10.0,SNR=9.6						
ASAR				S	Sn	11 27 26.9	-15
	0.1nm,0.3s,baz=315,slow=23,SNR=4.0						
STKA	**Stephens Creek**	**29.66**	**142**	P	P	11 25 50.6	-0.2
	2.5nm,0.9s,baz=313,slow=9.9,SNR=4.3						

*IDC **07** 11:41:26.8±0.9, 153N×9673E, h0km, mb4.1/15, mb1 4.2/15, mb1mx4.1/22, mbtmp4.1/15, ML3.0/1, Error ellipse: s-maj=32.3km s-min=15.1km az=42.0*
*ISCJB **07** 11:41:29.5±0.6, 161N×009×9680E±009, h29km, mb4.3/31, MS4.0/1, Error ellipse: s-maj=15.8km s-min=9.2km az=78.7*
*MOS **07** 11:41:30.6±0.6, 161N×9681E, h37km, mb4.6/14, Error ellipse: s-maj=12.6km s-min=8.9km az=100.9*
*BJI **07** 11:41:30.3, 160N×9680E, h28km, mB5.1, mb4.6, Ms4.3, Msz4.0*
*NEIC **07** 11:41:31.4±0.4, 157N×9677E, mb4.5/13, Error ellipse: s-maj=10.4km s-min=5.6km az=219.0*
ISC 07 11:41:32.0±0.6, 164N±010×9681E±009, h30km, h30km±.5km: pP-P, n54, σ0°73/54, mb4.3/31, MS4.0/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.41**	**61**	Pn	**Pn**	**11 42 08.5**	**-0.8**
	3.0nm,0.3s,baz=262,slow=9.3,SNR=15						
KKM	**Kota Kinabalu**	**19.85**	**77**	eP	**Pn**	**11 46 03.0**	**+0.9**
SHL	**Shillong**	**24.25**	**349**	eP	**P**	**11 46 46.5**	**+0.2**
CD2	**Chengdu**	**29.84**	**12**	P	**P**	**11 47 38.9**	**+2.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.4						
XAN	**Xi'an**	**34.16**	**18**	P	**P**	**11 48 12.9**	**-1.5**
XAN				AP	pP	11 48 21.9	-1.4
XAN				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
XAN				LR	LR		
	comp=Z,182nm,13.2s,MS4.0						
BJT	**Baijiatuau**	**42.06**	**22**	eP	**P**	**11 49 20.7**	**-0.2**
BJT				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BJT	**Baijiatuau**	**42.06**	**22**	eP	**P**	**11 49 20.7**	**-0.2**
	comp=Z,7.7nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**42.60**	**122**	P	**P**	**11 49 24.8**	**-0.4**
	comp=Z,0.8nm,0.6s,mb3.6,baz=302,slow=9.0,SNR=6.8						
WRAB	**Tennant Creek**	**42.60**	**122**	eP	**P**	**11 49 25.6**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.2						
WRAB	**Tennant Creek**	**42.60**	**122**	eP	**P**	**11 49 25.6**	**+0.2**
	comp=Z,1.9nm,0.4s,mb4.2						
ASAR	**Alice Springs**	**43.97**	**127**	P	**P**	**11 49 36.6**	**+0.2**
	comp=Z,1.2nm,0.7s,mb3.7,baz=298,slow=7.8,SNR=14						
AAK	**Ala-Archa**	**45.44**	**337**	eP	**P**	**11 49 49.2**	**+1.1**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
AAK	**Ala-Archa**	**45.44**	**337**	eP	**P**	**11 49 49.2**	**+1.2**
	comp=Z,2.4nm,0.8s,mb4.1						
MKAR	**Makanchi Array**	**46.72**	**346**	P	**P**	**11 49 59.0**	**+0.8**
	comp=Z,5.5nm,0.7s,mb4.6,baz=161,slow=7.6,SNR=54						
MKAR	**Makanchi Array**	**46.72**	**346**	P	**P**	**11 49 59.0**	**+0.8**
SONM	**Songino Array**	**46.76**	**9**	P	**P**	**11 49 59.0**	**+0.6**
	comp=Z,2.2nm,0.7s,mb4.2,baz=191,slow=8.2,SNR=9.9						
ULN	**Ulaanbaatar**	**46.89**	**9**	eP	**P**	**11 49 59.6**	**+0.1**
ULN				e*PP	pP	11 50 08.4	-0.2
TLY	**Talaya**	**50.19**	**6**	eP	**P**	**11 50 25.6**	**+0.7**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
TLY	**Talaya**	**50.19**	**6**	eP	**P**	**11 50 25.6**	**+0.7**
	comp=Z,1.7nm,0.7s,mb4.2						
KURK	**Kurchatov**	**51.27**	**345**	eP	**P**	**11 50 33.2**	**+0.2**
KURK				e*PP	pP	11 50 42.0	-0.2
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
KURK	**Kurchatov**	**51.27**	**345**	eP	**P**	**11 50 33.2**	**+0.2**
	comp=Z,3.4nm,0.7s,mb4.4						
KURK				epP	pP	11 50 42.0	-0.2
PMG	**Port Moresby**	**51.34**	**103**	P	**P**	**11 50 33.7**	**+0.2**
	comp=Z,2.3nm,0.7s,mb4.2,baz=217,slow=12,SNR=2.8						
HIA	**Hailar**	**51.35**	**19**	eP	**P**	**11 50 33.8**	**+0.2**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HIA	**Hailar**	**51.35**	**19**	eP	**P**	**11 50 33.8**	**+0.2**
	comp=Z,6.7nm,0.8s,mb4.6						
MJAR	**Matsushiro Arr**	**51.63**	**43**	P	**P**	**11 50 35.7**	**0.0**
	comp=Z,2.8nm,1.1s,mb4.1,baz=209,slow=6.2,SNR=5.4						
CTA	**Charters Tower**	**53.05**	**117**	P	**P**	**11 50 46.2**	**0.0**
	comp=Z,4.0nm,0.8s,mb4.4,baz=358,slow=3.0,SNR=4.5						
CTA	**Charters Tower**	**53.05**	**117**	P	**P**	**11 50 46.2**	**0.0**
CTAO	**Charters Tower**	**53.05**	**117**	eP	**P**	**11 50 46.5**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
CTAO	**Charters Tower**	**53.05**	**117**	eP	**P**	**11 50 46.5**	**+0.3**
	comp=Z,5.3nm,0.9s,mb4.5						
ZAL	**Zalesovo**	**53.05**	**351**	P	**P**	**11 50 46.6**	**+0.4**
	comp=Z,8.0nm,0.6s,mb4.8,baz=306,slow=5.7,SNR=48						
NVS	**Novosibirsk**	**54.18**	**350**	eP	**P**	**11 50 53.3**	**-1.2**
BVAR	**Borovoye Array**	**55.71**	**341**	P	**P**	**11 51 05.3**	**-0.2**
	comp=Z,2.5nm,0.7s,mb4.4,baz=141,slow=9.6,SNR=17						
BRVK	**Borovoye**	**55.77**	**341**	eP	**P**	**11 51 06.0**	**0.0**
BRVK				e*PP	pP	11 51 14.5	-0.8
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
BRVK	**Borovoye**	**55.77**	**341**	eP	**P**	**11 51 06.0**	**0.0**
	comp=Z,2.4nm,0.6s,mb4.4						
BRVK				epP	pP	11 51 14.5	-0.8
KLR	**Kul'dur**	**56.04**	**27**	eP	**P**	**11 51 04.4**	**-3.5**
ZRNK	**Zerenda**	**56.10**	**340**	eP	**P**	**11 51 08.1**	**-0.3**
ZRNK				e*PP	pP	11 51 16.7	-1.0
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
ZRNK	**Zerenda**	**56.10**	**340**	eP	**P**	**11 51 08.1**	**-0.3**
	comp=Z,1.0nm,0.5s,mb4.1						
ZRNK				epP	pP	11 51 16.7	-1.0
BOD	**Bodaibo**	**57.65**	**11**	eP	**P**	**11 51 19.5**	**+0.2**
BOD				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
YSS	**Yuzh-Sakhalins**	**60.21**	**35**	eP	**P**	**11 51 37.6**	**+0.5**
YSS				e*PP	pP	11 51 46.3	-0.1
YSS				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
YSS	**Yuzh-Sakhalins**	**60.21**	**35**	eP	**P**	**11 51 37.6**	**+0.5**
	comp=Z,5.1nm,0.5s,mb4.8						
YSS				epP	pP	11 51 46.3	-0.2
YAK	**Yakutsk**	**65.11**	**16**	eP	**P**	**11 52 09.1**	**-0.7**
YAK				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.1						
YAK	**Yakutsk**	**65.11**	**16**	eP	**P**	**11 52 09.1**	**-0.7**
	comp=Z,13nm,0.6s,mb5.2						
BRTR	**Keskin Array B**	**68.53**	**312**	P	**P**	**11 52 31.5**	**0.0**
	comp=Z,0.5nm,0.6s,mb3.6,baz=130,slow=5.8,SNR=3.4						
PET	**Petropavlovsk**	**72.09**	**34**	eP	**P**	**11 52 53.2**	**-0.1**
PET				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
PET	**Petropavlovsk**	**72.09**	**34**	eP	**P**	**11 52 53.2**	**-0.1**
	comp=Z,3.8nm,0.5s,mb4.6						
TIXI	**Tiksi**	**72.82**	**10**	eP	**P**	**11 52 55.9**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
AKASG	**Malin Array Be**	**74.67**	**322**	P	**P**	**11 53 07.9**	**-0.6**
	comp=Z,0.8nm,0.5s,mb3.9,baz=96,slow=5.0,SNR=9.8						
FINES	**FINESS Array B**	**79.43**	**333**	P	**P**	**11 53 35.0**	**-0.3**
	comp=Z,1.4nm,0.7s,mb4.0,baz=114,slow=4.8,SNR=8.1						
KAF	**Kangasniemi**	**79.51**	**333**	ep	**P**	**11 53 35.9**	**+0.2**
	comp=Z,2.9nm,0.6s,mb4.4,baz=103,slow=5.1						
KAF	**Kangasniemi**	**79.51**	**333**	eP	**P**	**11 53 35.9**	**+0.2**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ARCES	**ARCESS Array B**	**81.99**	**340**	P	**P**	**11 53 48.6**	**-0.4**
	comp=Z,2.2nm,0.8s,mb4.1,baz=101,slow=3.8,SNR=6.5						
GERES	**GERESS Array B**	**84.22**	**319**	P	**P**	**11 54 00.7**	**+0.2**
	comp=Z,0.7nm,0.6s,mb4.0,baz=102,slow=6.0,SNR=5.0						
NB2	**bDRSAR Subarra**	**86.43**	**331**	P	**P**	**11 54 11.5**	**0.0**
	comp=Z,0.6nm,0.6s,mb4.0,baz=98,slow=5.1						
NOA	**NORSAR Array B**	**86.43**	**331**	P	**P**	**11 54 11.5**	**0.0**
	comp=Z,1.0nm,0.7s,mb4.1,baz=95,slow=5.0,SNR=4.6						

*IDC **07** 11:51:58.0±1.7, 2124S×17406W, h0km, mb4.2/8, mb1 4.4/8, mb1mx4.2/14, mbtmp4.1/8, Error ellipse: s-maj=79.8km s-min=21.3km az=157.0*
*ISCJB **07** 11:52:02.8±0.5, 208S±01×1742W±01, h33km, mb4.2/18, Error ellipse: s-maj=17.5km s-min=11.4km az=106.7*
*NEIC **07** 11:52:06.4±0.4, 2077S×17420W, h50km, mb4.3/9, Error ellipse: s-maj=17.6km s-min=10.7km az=142.0*
ISC 07 11:52:04.7±0.5, 2076S±010×1741W±01, h35km, n30, σ1°25/27, mb4.2/18, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.17**	**19**	Pn	**Pn**	**11 53 43.9**	**-3.2**
	5.1nm,0.3s,baz=4.4,slow=15,SNR=12						
AFI				Sn	**Sn**	**11 55 02.5**	**-4.8**
	3.2nm,0.3s,baz=38,slow=21,SNR=3.8						
RAR	**Rarotonga**	**13.42**	**94**	Pn	**Pn**	**11 55 01.6**	**-11**
	2.9nm,0.3s,baz=220,slow=22,SNR=10						
DZM	**Mont Dzumac**	**18.14**	**262**	P	**Pn**	**11 56 15.2**	**+1.4**
	0.3nm,0.3s,baz=48,slow=12,SNR=4.5						
URZ	**Urewera**	**19.02**	**202**	P	**Pn**	**11 56 26.2**	**+1.8**
	0.4nm,0.3s,baz=344,slow=16,SNR=3.6						
PMG	**Port Moresby**	**38.94**	**281**	P	**P**	**11 59 27.2**	**0.0**
	4.7nm,0.8s,mb4.2,baz=52,slow=7.7,SNR=5.3						
PMG	**Port Moresby**	**38.94**	**281**	eP	**P**	**11 59 27.0**	**-0.2**
	4.9nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**40.95**	**245**	P	**P**	**11 59 37.9**	**-6.0**
	6.0nm,1.0s,mb4.2,baz=332,slow=0.5,SNR=3.6						
ASAR	**Alice Springs**	**47.99**	**256**	P	**P**	**12 00 38.2**	**-1.9**
	4.1nm,0.8s,mb4.5,baz=102,slow=7.6,SNR=57						
WRAB	**Tennant Creek**	**48.14**	**261**	eP	**P**	**12 00 41.6**	**+0.3**
	2.5nm,0.5s,mb4.5						
WRA	**Warramunga Arr**	**48.15**	**261**	P	**P**	**12 00 40.1**	**-1.3**
	1.7nm,0.7s,mb4.2,baz=96,slow=8.1,SNR=21						
SBA	**Scott Base**	**57.88**	**185**	eP	**P**	**12 01 52.0**	**-1.1**
	0.9nm,0.7s,mb3.9						
MBWA	**Marble Bar**	**61.33**	**257**	eP	**P**	**12 02 16.4**	**-0.4**
	3.8nm,0.7s,mb4.6						
QSPA	**South Pole Qui**	**69.31**	**180**	eP	**P**	**12 03 06.7**	**-1.8**
	4.9nm,1.1s,mb4.3						
MJAR	**Matsushiro Arr**	**72.62**	**321**	P	**P**	**12 03 29.6**	**+1.0**
	1.2nm,0.7s,mb4.0,baz=150,slow=4.7,SNR=4.9						
NVAR	**Mina Array Bea**	**78.77**	**41**	P	**P**	**12 04 05.0**	**+1.2**
	1.8nm,0.7s,mb4.1,baz=214,slow=6.7,SNR=16						
TPNV	**Topopah Spring**	**79.18**	**44**	eP	**P**	**12 04 06.8**	**+0.8**
	2.3nm,1.0s,mb4.1						
WVOR	**Wild Horse Val**	**81.05**	**38**	eP	**P**	**12 04 15.9**	**-0.1**
	3.5nm,0.9s,mb4.3						
BMO	**Blue Mountains**	**83.30**	**37**	eP	**P**	**12 04 27.9**	**+0.1**
	4.5nm,1.0s,mb4.5						
ANMO	**Albuquerque**	**84.77**	**50**	eP	**P**	**12 04 36.1**	**+0.8**
	1.5nm,0.9s,mb4.1						
PDAR	**Pinedale Array**	**86.70**	**42**	P	**P**	**12 04 44.7**	**-0.2**
	0.8nm,1.0s,mb3.9,baz=298,slow=1.9,SNR=3.4						
VNA3	**Neumayer Olymp**	**87.61**	**175**	e	**P**	**12 04 47.4**	**-1.9**
ILAR	**Eielson Array**	**87.81**	**11**	P	**P**	**12 04 53.5**	**+

baz=231,slow=2.4
VNA1 Neumayer--Stat 88.30 175 *e* **P 12 04 58.4 +5.8**
INK Inuvik 93.61 14 P **P 12 05 17.2 0.0**
0.6nm,0.7s,mb4.1,baz=217,slow=5.1
YKA Yellowknife Ar 95.26 24 P **P 12 05 24.7 -0.1**
0.3nm,0.7s,mb3.9,baz=238,slow=4.4,SNR=12
AKASG Malin Array Be 144.92 334 PKPbc PKPdf 12 11 37.4 -0.6
1.6nm,0.5s,baz=41,slow=4.1,SNR=14
BRG Berggiesshubel 149.28 350 *e*(P) PKPab 12 11 54.7 +0.4
2.0nm,0.9s
BRTR Keskin Array B 149.65 315 PKPbc PKPbc 12 11 51.4 +0.8
1.1nm,0.8s,baz=160,slow=3.9,SNR=7.5
GERES GERESS Array B 151.28 349 PKPbc PKPbc 12 11 54.5 +0.1
0.4nm,0.6s,baz=341,slow=2.8,SNR=3.4

IDC ***07*** *11:56:24.9±0.4, 21°07'S×174°20'W, h0km, mb4.8/22, mb1 4.9/23, mb1mx4.9/24, mbtmp4.7/23, ML5.3/2, MS4.6/13, Ms1 4.6/13, ms1mx4.2/30, Error ellipse: s-maj=18.6km s-min=11.9km az=141.0*
ORF ***07*** *11:56:28.8, 26°76'S×170°59'W, h30km, mb5.8*
ISCJB ***07*** *11:56:29.8±0.2, 21°22'S±005°×174°05'W±004, h43km, mb5.0/99, MS4.8/44, Error ellipse: s-maj=7.4km s-min=4.6km az=109.2*
SZGRF ***07*** *11:56:29.9, 21°04'S×173°01'W, h33km, Tonga Islands*
MOS ***07*** *11:56:29.1±1.0, 21°20'S×174°16'W, h38km, mb5.3/39, MS5.0/14, Error ellipse: s-maj=11.3km s-min=8.3km az=48.9*
NEIC ***07*** *11:56:30.9±0.1, 21°11'S×174°15'W, mb5.1/66, MS5.1/13, Error ellipse: s-maj=6.8km s-min=3.6km az=138.0*
HRVD ***07*** *11:56:30.9±0.2, 21°29'S×173°59'W, h13km, MW5.2/81, Centroid moment Tensor Solution. LP body waves: s45,c64;Mantle waves: s81,c140; Half duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr=4.11±.18; Mθθ 0.46±.11; Mϕϕ 3.65±.12; Mrθ 0.16±.28; Mrϕ 1.21±.08; Mθϕ 6.40±.56; Best double couple: M0 7.58900×10^16 NP1: ϕs 184.00000°, δ 74.00000°, λ -98.00000°. NP2: ϕs 84.00000°, δ 74.00000°, λ -9.00000°. Principal axes: T 7.4390, Plg 29.0000°, Azm 281.0000°; N 0.2960, Plg 7.0000°, Azm 187.0000°; P -7.7390, Plg 60.0000°, Azm 84.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***07*** *11:56:31.8, 21.10S×174.10W, h40km, mB5.4, mb4.9, Ms5.1, Msz4.8*
ISC 07 11:56:31.5±0.2, 21°26'S±004×173°99'W±004, h45km, h45km±1.3km; pP-P, n391, σ1s11/229, mb5.0/99, MS4.8/44, 30C-5D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.61**	**16**	Pn		**Pn**		**11 58 10.3**	**-9.5**
	22nm,0.3s,baz=207,slow=1.3,SNR=22								
AFI				Sn		**Sn**		**11 59 30.9**	**-14**
	27nm,0.3s,baz=135,slow=22,SNR=4.2								
AFI	**Afiamalu**	**7.61**	**16**	*e*Pn		**Pn**		**11 58 10.5**	**-9.3**
AFI				*e*Sn		Sn		11 59 22.3	-22
RAO	**Raoul Island**	**8.71**	**203**	Pn		**Pn**		**11 58 33.7**	**-1.3**
	88nm,0.3s,baz=278,slow=22,SNR=7.1								
RAO				Sn		**Sn**		**12 00 07.9**	**-3.9**
	71nm,0.3s,baz=262,slow=22,SNR=6.2								
RAR	**Rarotonga**	**13.26**	**92**	Pn		**Pn**		**11 59 28.4**	**-8.7**
	7.5nm,0.3s,baz=243,slow=8.1,SNR=22								
RAR				Sn		Sn		12 01 40.6	-22
	2.9nm,0.3s,baz=115,slow=14,SNR=4.0								
DZM	**Mont Dzumac**	**18.21**	**264**	P		**Pn**		**12 00 42.6**	**+1.8**
	1.2nm,0.3s,baz=89,slow=18,SNR=12								
URZ	**Urewera**	**18.60**	**202**	P		**Pn**		**12 00 46.7**	**+1.1**
	3.0nm,0.3s,baz=2.3,slow=6.7,SNR=12								
URZ				S		**S**		**12 03 59.1**	**-15**
	1.2nm,0.3s,baz=230,slow=18,SNR=7.7								
TBI	**Tubuai**	**22.78**	**100**	*e*LQ				12 05 48.4	
	1μm,26.2s								
TBI	**Tubuai**	**22.78**	**100**	*e*P		**P**		**12 01 29.8**	**-0.2**
	441nm,1.4s,mb5.7								
TBI				*e*LR		LR		12 06 47.7	
	4μm,26.5s,baz=275								
THZ	**Tophouse**	**23.24**	**205**	*e*PN		**P**		**12 01 34.2**	**-0.7**
THZ				SN		**S**		**12 05 41.4**	**-2.0**
THZ	**Tophouse**	**23.24**	**205**	*e*P		**P**		**12 01 34.2**	**-0.7**
THZ				S		**S**		**12 05 41.4**	**-2.0**
PAE	**Paea**	**23.28**	**85**	*e*P		**P**		**12 01 32.2**	**-3.1**
	67nm,1.1s,mb5.0								
PPT	**Papeete**	**23.31**	**85**	*e*P		**P**		**12 01 32.6**	**-3.0**
	76nm,1.2s,mb5.0								
PPT	**Papeete**	**23.31**	**85**	*e*LQ				12 05 59.1	
	2μm,24.5s								
PPT				*e*LR		LR		12 06 56.9	
	4μm,25.8s,baz=255								
PPT	**Papeete**	**23.31**	**85**	P		**P**		**12 01 36.6**	**+1.0**
	54nm,1.1s,mb4.9,baz=130,slow=7.0,SNR=6.0								
PPT				LR		LR		12 08 51.0	
	comp=Z,2μm,19.3s,MS4.5,baz=269,slow=32								
TVO	**Taravao**	**23.56**	**86**	*e*P		**P**		**12 01 35.2**	**-2.7**
	280nm,1.3s,mb5.5								
DSZ	**Denniston Nort**	**23.68**	**207**	*e*PN		**P**		**12 01 39.0**	**0.0**
DSZ	**Denniston Nort**	**23.68**	**207**	*e*P		**P**		**12 01 42.0**	**+3.0**
PMOR	**Pomariorio Ree**	**25.55**	**80**	*e*P		**P**		**12 01 53.9**	**-2.1**
	62nm,1.0s,mb5.1								
RPZ	**Rata Peaks**	**25.62**	**206**	P		**P**		**12 01 56.8**	**+0.2**
	32nm,0.8s,mb4.9,baz=317,slow=4.5,SNR=7.6								
VAH	**Vaihoa**	**25.72**	**81**	*e*P		**P**		**12 01 55.2**	**-2.3**
	70nm,1.2s,mb5.1								
FOZ	**Fox Glacier**	**26.07**	**208**	*e*PN		**P**		**12 01 58.6**	**-2.1**
FOZ	**Fox Glacier**	**26.07**	**208**	*e*P		**P**		**12 01 59.5**	**-1.2**
HNR	**Honiara**	**27.70**	**291**	P		**P**		**12 02 15.7**	**+0.4**
	35nm,0.8s,mb5.0,baz=108,slow=1.8,SNR=3.5								
HNR	**Honiara**	**27.70**	**291**	P		**P**		**12 02 15.7**	**+0.4**
TAOE	**Nuku Hiva Isla**	**34.84**	**74**	*e*LQ				12 10 32.6	
	1μm,24.3s								
TAOE				*e*LR		LR		12 12 16.3	
	5μm,27.1s								
RKT	**Rikitea**	**36.10**	**100**	*e*LR		LR		12 12 54.6	
	3μm,26.8s,baz=271								
CTA	**Charters Tower**	**37.15**	**264**	*e*P		**P**		**12 03 36.1**	**-1.8**
	6.9nm,0.6s,mb4.7								
CTA	**Charters Tower**	**37.15**	**264**	P		**P**		**12 03 35.5**	**-2.4**
	4.4nm,0.5s,mb4.5,baz=88,slow=12,SNR=8.4								
CTA	**Charters Tower**	**37.15**	**264**	*e*P		**P**		**12 03 36.1**	**-1.8**
CTA				pmax		pmax			
	comp=Z,7.0nm,0.6s								
CTAO	**Charters Tower**	**37.15**	**264**	*e*P		**P**		**12 03 36.4**	**-1.5**
CTAO				pmax		pmax			
	comp=Z,12nm,0.8s,mb4.8								
CTAO				MLR		MLR			
	comp=Z,2μm,20.0s,MS4.8								
CTAO	**Charters Tower**	**37.15**	**264**	*e*P		**P**		**12 03 36.4**	**-1.5**
	comp=Z,12nm,0.8s,mb4.8								
CTAO				LR		LR			
	comp=Z,2μm,20.0s,MS4.8								
PMG	**Port Moresby**	**39.17**	**281**	P		**P**		**12 03 53.2**	**-1.7**
	comp=Z,18nm,0.9s,mb4.8,baz=73,slow=5.3,SNR=11								
PMG	**Port Moresby**	**39.17**	**281**	*e*P		**P**		**12 03 51.7**	**-3.2**
PMG	**Port Moresby**	**39.17**	**281**	*e*P		**P**		**12 03 53.2**	**-1.7**
	comp=Z,23nm,0.8s,mb5.0								
STKA	**Stephens Creek**	**40.86**	**246**	*e*P		**P**		**12 04 07.1**	**-1.8**
	comp=Z,14nm,1.6s,mb4.3								
STKA	**Stephens Creek**	**40.86**	**246**	P		**P**		**12 04 06.0**	**-2.9**
	comp=Z,5.1nm,0.6s,mb4.3,baz=108,slow=10.0,SNR=13								
STKA				LR		LR		12 19 40.3	
	comp=Z,1μm,18.1s,MS4.8,baz=65,slow=34								
ASAR	**Alice Springs**	**48.00**	**257**	P		**P**		**12 05 04.6**	**-1.3**
	comp=Z,29nm,0.9s,mb5.3,baz=88,slow=6.8,SNR=53								
ASAR				S		**S**		**12 11 58.8**	**-1.9**
	comp=Z,1.3nm,1.1s,baz=89,slow=16,SNR=3.4								
WB2	**Warramunga Arr**	**48.20**	**262**	*e*P		**P**		**12 05 04.9**	**-2.5**
WRAB	**Tennant Creek**	**48.20**	**262**	P		**P**		**12 05 06.0**	**-1.5**
	comp=Z,133nm,0.9s,mb6.0,SNR=7.9								
WRAB	**Tennant Creek**	**48.20**	**262**	*e*P		**P**		**12 05 06.4**	**-1.1**
WRAB				pmax		pmax			
	comp=Z,34nm,0.9s,mb5.4								
WRAB				MLR		MLR			
	comp=Z,2μm,20.0s,MS5.0								
WRAB	**Tennant Creek**	**48.20**	**262**	*e*P		**P**		**12 05 06.4**	**-1.1**
	comp=Z,34nm,0.9s,mb5.4								
WRAB				*e*ScP		ScP		12 10 27.4	+2.5
WRAB				LR		LR			
	comp=Z,2μm,20.0s,MS5.0								
WRA	**Warramunga Arr**	**48.21**	**262**	P		**P**		**12 05 05.2**	**-2.3**
	comp=Z,8.2nm,0.9s,mb4.8,baz=93,slow=8.3,SNR=60								
WRA				S		**S**		**12 11 60.0**	**-3.6**
	comp=Z,1.6nm,1.2s,baz=96,slow=14,SNR=3.2								
KAKA	**Kakadu**	**51.74**	**270**	*e*P		**P**		**12 05 33.9**	**-0.4**
	comp=Z,50nm,1.4s,mb5.3								
FORT	**Forrest**	**52.45**	**247**	*e*P		**P**		**12 05 37.1**	**-2.4**
	comp=Z,24nm,0.6s,mb5.3								
GUMO	**Guam**	**53.21**	**307**	LR		LR		12 27 19.1	
	comp=Z,411nm,18.2s,MS4.5,baz=117,slow=35								
FITZ	**Fitzroy Crossi**	**56.64**	**262**	*e*P		**P**		**12 06 10.3**	**+0.3**
	comp=Z,18nm,1.5s,mb4.9								
FITZ	**Fitzroy Crossi**	**56.64**	**262**	P		**P**		**12 06 08.6**	**-1.3**
	comp=Z,5.0nm,0.8s,mb4.6,baz=89,slow=13,SNR=12								
SBA	**Scott Base**	**57.40**	**185**	*e*P		**P**		**12 06 17.1**	**+1.8**
SBA				pmax		pmax			
	comp=Z,10.0nm,0.8s,mb4.9								
SBA	**Scott Base**	**57.40**	**185**	*e*P		**P**		**12 06 17.1**	**+1.8**
	comp=Z,10nm,0.8s,mb4.9								
VNDA	**Vanda**	**57.52**	**186**	P		**P**		**12 06 16.0**	**-0.2**
	comp=Z,1.6nm,0.5s,mb4.3,baz=91,slow=7.0,SNR=13								
VNDA				LR		LR		12 26 49.3	
	comp=Z,660nm,19.1s,MS4.8,baz=13,slow=32								
VNDA	**Vanda**	**57.52**	**186**	*e*P		**P**		**12 06 15.6**	**-0.6**
VNDA				pmax		pmax			
	comp=Z,19nm,1.3s								
VNDA	**Vanda**	**57.52**	**186**	*e*P		**P**		**12 06 15.6**	**-0.6**
	comp=Z,19nm,1.3s,mb5.0								
KLBR	**Kellerberrin**	**61.13**	**245**	*e*P		**P**		**12 06 41.6**	**+0.5**
	comp=Z,50nm,0.9s,mb5.6								
MBWA	**Marble Bar**	**61.34**	**257**	*e*P		**P**		**12 06 41.5**	**-1.1**
	comp=Z,30nm,1.0s,mb5.4								
MUN	**Mundaring**	**62.38**	**244**	*e*P		**P**		**12 06 50.6**	**+1.1**
CBIJ	**Chichi jima**	**64.11**	**317**	LR		LR		12 34 05.7	
	comp=Z,429nm,18.6s,MS4.7,baz=142,slow=35								
CASY	**Casey**	**64.89**	**206**	*e*P		**P**		**12 07 07.7**	**+1.6**
QSPA	**South Pole Qui**	**68.81**	**180**	*e*P		**P**		**12 07 33.5**	**+2.5**
	comp=Z,25nm,1.1s,mb5.0								
MJAR	**Matsushiro Arr**	**73.09**	**321**	P		**P**		**12 07 56.2**	**-0.8**
	comp=Z,3.8nm,0.6s,mb4.5,baz=158,slow=6.0,SNR=13								
MJAR				LR		LR		12 39 57.8	
	comp=Z,207nm,18.1s,MS4.5,baz=130,slow=36								
MAJO	**Matsushiro**	**73.09**	**321**	*e*P		**P**		**12 07 56.0**	**-1.0**
MAJO				*e**PP		pP		12 08 08.3	-1.9
MAJO				pmax		pmax			
	comp=Z,9.0nm,0.9s,mb4.7								
MAJO				MLR		MLR			
	comp=Z,327nm,19.0s,MS4.6								
MAJO	**Matsushiro**	**73.09**	**321**	*e*P		**P**		**12 07 56.0**	**-0.9**
	comp=Z,9.1nm,0.9s,mb4.7								
MAJO				*e*pP		pP		12 08 08.3	-1.9
MAJO				LR		LR			
	comp=Z,327nm,19.0s,MS4.6								
MAT	**Matsushiro**	**73.09**	**321**	P		**P**		**12 07 56.6**	**-0.4**
MAT				S		S		12 17 22.0	+0.9
MAT	**Matsushiro**	**73.09**	**321**	*e*P		**P**		**12 07 57.0**	**0.0**
MAT				*e*S		S		12 17 22.0	+0.9
MAT				pmax		pmax			
	comp=Z,7.0nm,0.8s,mb4.6								
MAT	**Matsushiro**	**73.09**	**321**	*e*P		**P**		**12 07 57.0**	**0.0**
	comp=Z,7.5nm,0.8s,mb4.7								
MAT				*e*S		S		12 17 22.0	+0.9
JOW	**Kunigami**	**73.56**	**308**	LR		LR		12 33 39.9	
	comp=Z,355nm,21.9s,MS4.6,baz=142,slow=30								
FX1	**Attu Island--F**	**74.67**	**352**	*e*P		**P**		**12 08 05.1**	**-1.1**
ASAJ	**Asahikawa**	**76.23**	**329**	P		**P**		**12 08 18.9**	**+3.7**
	comp=Z,5.9nm,0.7s,mb4.6,baz=231,slow=7.2,SNR=4.9								
ASAJ	**Asahikawa**	**76.23**	**329**	P		**P**		**12 08 18.9**	**+3.7**
ASAJ				pmax		pmax			
	comp=Z,6.0nm,0.7s								
PFO	**Pinyon Flat Ob**	**77.33**	**46**	*e*P		**P**		**12 08 21.9**	**+0.5**
PFO				pmax		pmax			
	comp=Z,28nm,1.4s,mb5.0								
PFO	**Pinyon Flat Ob**	**77.33**	**46**	*e*P		**P**		**12 08 21.9**	**+0.5**
	comp=Z,28nm,1.4s,mb5.0								
CMB	**Columbia Colle**	**77.53**	**41**	*e*P		**P**		**12 08 22.4**	**-0.1**
CMB				pmax		pmax			
	comp=Z,35nm,1.3s,mb5.1								
CMB	**Columbia Colle**	**77.53**	**41**	*e*P		**P**		**12 08 22.4**	**-0.1**
	comp=Z,35nm,1.3s,mb5.1								
PET	**Petropavlovsk**	**77.69**	**343**	*e*P		**P**		**12 08 23.8**	**+0.4**
PET				*e*				12 08 44.5	
PET				*e*				12 11 17.8	
PET				*e*S		S		12 18 12.2	+0.2
PET				*e*PS				12 18 47.7	
PET				*e*PPS				12 19 08.8	
PET				*e*SS		SS		12 23 10.1	-2.4
PET				pmax		pmax			
	comp=Z,200nm,8.0s								
PET				smax					
	comp=E,400nm,11.6s								
PET				smax					
	comp=N,400nm,14.6s								
PET				MLR		MLR			
	comp=Z,600nm,19.0s,MS4.9								
OHCM	**Honcut**	**77.72**	**39**	*e*P		**P**		**12 08 23.2**	**-0.3**
WDC	**Whiskeytown Da**	**77.92**	**38**	*e*P		**P**		**12 08 24.4**	**-0.3**
WDC				pmax		pmax			
	comp=Z,37nm,1.4s,mb5.1								
WDC	**Whiskeytown Da**	**77.92**	**38**	*e*P		**P**		**12 08 24.4**	**-0.2**
	comp=Z,37nm,1.4s,mb5.1								
YSS	**Yuzh-Sakhalins**	**78.30**	**331**	*e*P		**P**		**12 08 27.5**	**+0.7**
YSS				*e**PP		pP		12 08 38.9	-1.2
YSS				*e**SP		sP		12 08 45.2	0.0
YSS				*e*S		S		12 18 22.0	+3.4
YSS				*e*PS				12 18 55.0	
YSS				MLR		MLR			
	comp=N,400nm,19.0s,MS4.9								
YSS				MLR		MLR			
	comp=Z,500nm,19.0s,MS4.9								
YSS				MLR		MLR			
	comp=E,400nm,20.0s,MS4.9								
YSS	**Yuzh-Sakhalins**	**78.30**	**331**	*e*P		**P**		**12 08 25.2**	**-1.6**
	comp=E,34nm,1.2s,mb5.2								
YSS				LR		LR			
	comp=Z,626nm,21.0s,MS4.9								
YBH	**Yreka Blue Hor**	**78.60**	**37**	P		**P**		**12 08 28.0**	**-0.4**
	comp=Z,5.5nm,0.9s,mb4.5,baz=240,slow=4.5,SNR=9.7								
YBH				LR		LR		12 33 52.8	
	comp=Z,177nm,21.6s,MS4.4,baz=229,slow=29								
YBH	**Yreka Blue Hor**	**78.60**	**37**	*e*P		**P**		**12 08 28.2**	**-0.2**
	comp=Z,27nm,1.5s,mb5.0								
HUMO	**Hull Mountain**	**79.05**	**36**	*e*P		**P**		**12 08 30.9**	**+0.1**
	comp=Z,17nm,1.3s,mb4.8								
NVAR	**Mina Array Bea**	**79.06**	**41**	P		**P**		**12 08 31.3**	**+0.4**
	comp=Z,7.0nm,0.6s,mb4.8,baz=214,slow=6.4,SNR=56								
MNV	**Mina**	**79.15**	**41**	*e*P		**P**		**12 08 31.7**	**+0.3**
MNV				pmax		pmax			
	comp=Z,47nm,1.1s,mb5.3								
MNV	**Mina**	**79.15**	**41**	*e*P		**P**		**12 08 31.7**	**+0.3**
	comp=Z,46nm,1.1s,mb5.3								
PAHR	**Pah Rah Range**	**79.20**	**40**	*e*P		**P**		**12 08 31.9**	**+0.2**
	comp=Z,21nm,1.0s,mb5.0								
TPNV	**Topopah Spring**	**79.45**	**44**	*e*P		**P**		**12 08 33.4**	**+0.4**
TPNV				pmax		pmax			
	comp=Z,12nm,1.0s,mb4.8								
TPNV				MLR		MLR			
	comp=Z,953nm,20.0s,MS5.1								
TPNV	**Topopah Spring**	**79.45**	**44**	*e*P		**P**		**12 08 33.4**	**+0.3**
	comp=Z,12nm,1.0s,mb4.8								
TPNV				LR		LR			
	comp=Z,953nm,20.0s,MS5.1								
TPH	**Tonopah**	**79.51**	**42**	*e*P		**P**		**12 08 33.9**	**+0.5**
TPH				pmax		pmax			
	comp=Z,56nm,1.4s,mb5.3								
TPH	**Tonopah**	**79.51**	**42**	*e*P		**P**		**12 08 33.9**	**+0.5**
	comp=Z,56nm,1.4s,mb5.3								
NEN	**Nelson**	**79.60**	**45**	*e*P		**P**		**12 08 34.1**	**+0.2**
QZH	**Quanzhou**	**79.98**	**302**	*e*P		**P**		**12 08 37.5**	**+1.6**
QZH				S		S		12 18 34.6	-1.8
QZH				AMB		AMB			
	comp=Z,490nm,9.4s								
QZH				LR		LR			
	comp=Z,760nm,26.6s,MS4.9								
MOD	**Modoc**	**80.06**	**38**	*e*P		**P**		**12 08 35.5**	**-0.9**
	comp=Z,18nm,0.8s,mb5.1								
TUC	**Tucson**	**80.54**	**50**	*e*P		**P**		**12 08 39.0**	**+0.1**
TUC				pmax		pmax			
	comp=Z,19nm,1.3s,mb4.9								
TUC	**Tucson**	**80.54**	**50**	*e*P		**P**		**12 08 39.0**	**0.0**
	comp=Z,19nm,1.3s,mb4.9								
BMN	**Battle Mountai**	**80.95**	**40**	*e*P		**P**		**12 08 40.9**	**-0.2**
BMN				pmax		pmax			
	comp=Z,34nm,1.4s,mb5.1								
BMN	**Battle Mountai**	**80.95**	**40**	*e*P		**P**		**12 08 40.9**	**-0.3**
	comp=Z,34nm,1.4s,mb5.1								
SSE	**Sheshan**	**81.08**	**308**	P		**P**		**12 08 41.1**	**-0.7**
SSE				AP		pP		12 08 55.7	+0.5
SSE				XP		sP		12 09 00.5	+0.2
SSE				S		S		12 18 44.0	-3.9
SSE				XS		sS		12 19 08.3	-2.0
SSE				AMB		AMB			
	comp=Z,13nm,0.8s,mb4.9								
SSE				AMB		AMB			
	comp=Z,148nm,8.7s								
SSE				LR		LR			
	comp=N,64nm,20.5s,MS4.2								
SSE				LR		LR			
	comp=E,106nm,20.5s,MS4.2								
SSE				LR		LR			
	comp=Z,185nm,21.5s,MS4.4								
VLA	**Vladivostok**	**81.10**	**323**	*e*P		**P**		**12 08 50.0**	**+8.1**
VLA				pmax		pmax			
	comp=Z,73nm,2.1s,mb5.2								
WVOR	**Wild Horse Val**	**81.36**	**38**	*e*P		**P**		**12 08 42.9**	**-0.4**
WVOR				pmax		pmax			
	comp=Z,16nm,1.0s,mb4.9								
WVOR				MLR		MLR			
	comp=Z,850nm,20.0s,MS5.1								
WVOR	**Wild Horse Val**	**81.36**	**38**	*e*P		**P**		**12 08 42.9**	**-0.4**
	comp=Z,16nm,1.0s,mb4.9								
WVOR				LR		LR			
	comp=Z,850nm,20.0s,MS5.1								
CCUT	**Cedar City**	**81.67**	**44**	*e*P		**P**		**12 08 45.8**	**+0.9**
ARUT	**Antelope Range**	**81.75**	**44**	*e*P		**P**		**12 08 46.0**	**+0.6**
WUAZ	**Wupatki**	**81.86**	**47**	*e*P		**P**		**12 08 46.1**	**+0.2**
	comp=Z,38nm,1.6s,mb5.1								
WUAZ				LR		LR			
	comp=Z,557nm,21.0s,MS4.9								
MAW	**Mawson**	**82.09**	**199**	*e*P		**P**		**12 08 48.5**	**+1.3**
	comp=Z,7.6nm,0.7s,mb4.7								
MAW	**Mawson**	**82.09**	**199**	P		**P**		**12 08 48.8**	**+1.7**
	comp=Z,10nm,0.8s,mb4.8,baz=148,slow=4.0,SNR=9.1								
MAW				LR		LR		12 43 35.4	
	comp=Z,834nm,19.1s,MS5.1,baz=108,slow=34								
MAW	**Mawson**	**82.09**	**199**	*e*P		**P**		**12 08 48.5**	**+1.3**
MAW				pmax		pmax			
	comp=Z,8.0nm,0.7s								
MSU	**Marysvale**	**82.98**	**44**	*e*P		**P**		**12 08 52.7**	**+0.9**
HABR	**Khabarovsk**	**83.00**	**329**	*e*P		**P**		**12 08 54.1**	**+2.2**
HABR				*e*S		S		12 19 09.5	+1.9
NJ2	**Nanjing**	**83.28**	**308**	*e*P		**P**		**12 08 54.1**	**+0.8**
NJ2				AP		pP		12 09 06.5	-0.3
NJ2				XP		sP		12 09 13.2	+1.4
NJ2				PP		PP		12 12 06.8	+1.6
NJ2				S		S		12 19 08.0	-2.4
NJ2				XS		sS		12 19 30.0	-2.9
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.7s,mb5.0								
NJ2				AMB		AMB			
	comp=Z,330nm,10.0s								
NJ2				LR		LR			
	comp=N,470nm,15.2s								
NJ2				LR		LR			
	comp=E,430nm,24.0s								
NJ2				LR		LR			
	comp=Z,360nm,29.8s								
MDJ	**Mudanjiang**	**83.33**	**323**	P		**P**		**12 08 53.6**	**0.0**
MDJ				AP		pP		12 09 05.8	-1.2
MDJ				XP		sP		12 09 10.6	-1.5
MDJ				PP		PP		12 12 08.0	+2.3
MDJ				S		S		12 19 15.3	+4.3
MDJ				AMB		AMB			
	comp=Z,7.0nm,1.1s,mb4.6								
MDJ				AMB		AMB			
	comp=Z,250nm,7.4s								
MDJ				LR		LR			
	comp=N,152nm,17.7s,MS4.7								
MDJ				LR		LR			
	comp=E,214nm,17.7s,MS4.7								
MDJ				LR		LR			
	comp=Z,397nm,20.7s,MS4.8								
GZH	**Guangzhou**	**83.38**	**298**	P		**P**		**12 08 53.5**	**-0.3**
GZH				S		S		12 19 06.2	-5.3
GZH				LR		LR			
	comp=N,143nm,15.1s,MS4.7								
GZH				LR		LR			
	comp=E,239nm,20.0s,MS4.7								
GZH				LR		LR			
	comp=Z,368nm,19.2s,MS4.8								
HAWA	**Hanford**	**83.39**	**35**	*e*P		**P**		**12 08 53.8**	**-0.1**
	comp=Z,4.8nm,1.4s,mb4.3								
DUG	**Dugway**	**83.53**	**42**	*e*P		**P**		**12 08 54.8**	**+0.2**
DUG				pmax		pmax			
	comp=Z,13nm,1.3s,mb4.9								
DUG	**Dugway**	**83.53**	**42**	*e*P		**P**		**12 08 54.8**	**+0.2**
	comp=Z,14nm,1.3s,mb4.9								
BMO	**Blue Mountains**	**83.62**	**37**	*e*P		**P**		**12 08 54.1**	**-1.0**
BMO				pmax		pmax			
	comp=Z,17nm,1.0s,mb5.1								
BMO	**Blue Mountains**	**83.62**	**37**	*e*P		**P**		**12 08 54.1**	**-1.0**
	comp=Z,17nm,1.0s,mb5.1								
ETW	**Entiat**	**83.76**	**33**	P		**P**		**12 08 55.6**	**-0.2**
NLU	**North Lily Min**	**83.86**	**43**	*e*P		**P**		**12 08 57.1**	**+0.8**
TMUT	**Trail Mountain**	**84.05**	**

KLR smax
comp=N,800nm,12.0s
KLR smax
comp=E,500nm,12.0s
GDL2 Guadalupe Moun 85.17 53 *e*P **P** **12 09 03.2 +0.2**
CN2 Changchun 85.22 321 *e*P **P** **12 09 06.3 +3.1**
CN2 *e*S 12 19 27.2
CN2 AMB AMB
comp=Z,20nm,1.2s,mb5.1
CN2 AMB AMB
comp=Z,400nm,9.0s
CN2 LR LR
comp=N,200nm,18.0s,MS4.8
CN2 LR LR
comp=E,300nm,18.0s,MS4.8
CN2 LR LR
comp=Z,200nm,21.0s,MS4.5
SNY Shenyang 85.23 318 PR **P** **12 09 06.9 +3.7**
SNY S 12 19 31.4
SNY AMB AMB
comp=Z,281nm,7.1s
SNY LR LR
comp=E,313nm,17.5s
SNY LR LR
comp=Z,373nm,14.9s,MS4.9
MA2 Magadan 85.56 343 P **P** **12 09 04.4 -0.5**
MA2 *e* 12 12 22.3
MA2 *e*S 12 19 31.9
MA2 *e*PS 12 20 37.4
MA2 MLR MLR
comp=Z,6µm,18.8s
NEW Newport 85.84 34 P **P** **12 09 05.7 -0.5**
comp=Z,3.0nm,0.8s,mb4.6,baz=224,slow=1.9,SNR=4.4
NEW Newport 85.84 34 *e*P **P** **12 09 05.3 -1.0**
NEW pmax pmax
comp=Z,41nm,1.8s
NEW Newport 85.84 34 *e*P **P** **12 09 05.3 -1.0**
comp=Z,41nm,1.8s,mb5.4
WHN Wuhan 85.94 305 *e*P **P** **12 09 08.0 +1.3**
CPRX Cap Rock 85.94 52 *e*P **P** **12 09 07.3 +0.6**
PLCA Paso Flores 86.01 132 *e*P **P** **12 09 07.9 +0.8**
PLCA pmax pmax
comp=Z,27nm,1.6s
PLCA Paso Flores 86.01 132 *e*P **P** **12 09 07.9 +0.8**
comp=Z,27nm,1.6s,mb5.2
MCMT McKenzie Canyo 86.15 39 *e*P **P** **12 09 07.6 -0.2**
SKAG Skagway 86.44 19 *e*P **P** **12 09 09.4 +0.1**
REDW Red Top Meadow 86.52 41 *e*P **P** **12 09 10.8 +1.2**
comp=Z,26nm,1.4s,mb5.3
TPAW Teton Pass 86.53 41 *e*P **P** **12 09 09.0 -0.6**
comp=Z,5.1nm,0.8s,mb4.8
TIA Tai'an 86.58 311 *e*P **P** **12 09 10.9 +1.0**
DLMT Dillon 86.61 38 *e*P **P** **12 09 09.6 -0.4**
comp=Z,24nm,1.4s,mb5.2
IMW Indian Meadow 86.76 40 *e*P **P** **12 09 10.6 -0.1**
comp=Z,6.2nm,1.0s,mb4.8
SMCO Snowmass 86.77 46 *e*P **P** **12 09 11.3 +0.4**
comp=Z,12nm,1.3s,mb5.0
SYO Syowa Base 86.78 192⇓ *e*P **P** **12 09 09.0 -1.8**
SYO Syowa Base 86.78 192⇓ *e*PcP PcP 12 09 11.5 -1.6
MOOW Moose Ponds 86.79 40 *e*P **P** **12 09 11.3 +0.4**
comp=Z,0.2nm,0.4s
QLMT Earthquake Lak 86.98 39 *e*P **P** **12 09 11.8 -0.1**
BW06 Boulder Array 86.99 42 *e*P **P** **12 09 10.9 -1.0**
comp=Z,6.1nm,1.1s,mb4.7
PDAR Pinedale Array 86.99 42 P **P** **12 09 11.0 -0.9**
comp=Z,2.9nm,0.9s,mb4.5,baz=206,slow=3.4,SNR=17
FLWY Flagg Ranch 87.00 40 *e*P **P** **12 09 11.7 -0.3**
comp=Z,15nm,1.2s,mb5.1
VNA3 Neumayer Olymp 87.10 175 *e*P **P** **12 09 13.5 +1.1**
VNA3 *e* 12 09 15.1
VNA3 *e* 12 09 17.6
VNA3 *e* pP 12 09 27.0 +1.0
VNA3 *e* 12 09 34.0
VNA3 *e* 12 09 39.4
VNA3 *e* 12 09 51.1
SNAA Sanae 87.11 177 *e*P **P** **12 09 12.7 +0.2**
SNAA *e* 12 09 14.9
SNAA *e* 12 09 17.5
SNAA *e* pP 12 09 26.5 +0.5
SNAA *e* 12 09 32.0
SNAA *e* 12 09 43.6
SNAA Sanae 87.11 177⇑ *e*P **P** **12 09 11.7 -0.8**
SNAA Sanae 87.11 177 *e*P **P** **12 09 13.7 +1.2**
comp=Z,13nm,0.9s,mb5.2
CHMT Chamberlain Mo 87.13 37 *e*P **P** **12 09 12.1 -0.5**
DLBC Dease Lake 87.33 21 P **P** **12 09 13.2 -0.4**
comp=Z,4.1nm,1.0s,mb4.6,baz=80,slow=25,SNR=3.3
VNA2 Neumayer--Watz 87.58 176 *e*P **P** **12 09 16.1 +1.3**
VNA2 *e* 12 09 18.1
VNA2 *e* 12 09 20.3
VNA2 *e* pP 12 09 30.3 +2.0
VNA2 *e* 12 09 36.6
VNA2 *e* 12 09 46.1
VNA2 *e* 12 10 04.7
VNA2 *e* 12 10 09.3
VNA1 Neumayer--Stat 87.79 175 *e*P **P** **12 09 18.0 +2.3**
VNA1 *e* 12 09 20.0
VNA1 *e* pP 12 09 31.3 +2.0
VNA1 *e* 12 09 37.9
HRY Holter Researc 87.81 38 *e*P **P** **12 09 16.4 +0.6**
JCT Junction City 87.85 56 *e*P **P** **12 09 16.3 +0.3**
JCT pmax pmax
comp=Z,17nm,1.4s,mb5.1
JCT Junction City 87.85 56 *e*P **P** **12 09 16.3 +0.3**
comp=Z,17nm,1.4s,mb5.1
COLA College 88.19 11 *e*P **P** **12 09 16.2 -1.5**
COLA *e**PP pP 12 09 28.4 -2.8
COLA pmax pmax
comp=Z,34nm,1.4s,mb5.4
COLA College 88.19 11 *e*P **P** **12 09 16.2 -1.5**
comp=Z,34nm,1.4s,mb5.4
COLA *e*pP pP 12 09 28.4 -2.9
ILAR Eielson Array 88.27 11 P **P** **12 09 17.1 -1.0**
comp=Z,5.5nm,1.0s,mb4.7,baz=221,slow=4.7,SNR=19
PSI Prapat 88.29 274 P **P** **12 09 19.4 +1.3**
comp=Z,16nm,1.1s,mb5.2,baz=172,slow=6.4,SNR=12
PSI Prapat 88.29 274 P **P** **12 09 19.4 +1.3**
SNG Songkhla 88.31 278 P **P** **12 09 19.0 +0.8**
AMTX Amarillo 88.41 52 *e*P **P** **12 09 19.2 +0.5**
BJT Baijiatuan 89.09 314 P **P** **12 09 20.1 -1.8**
BJT pmax pmax
comp=Z,244nm,2.1s
BJT Baijiatuan 89.09 314 P **P** **12 09 20.1 -1.7**
comp=Z,244nm,2.1s
BJI Beijing 89.09 314 P **P** **12 09 22.4 +0.5**
BJI AMB AMB
comp=Z,14nm,1.9s,mb5.0
BJI AMB AMB
comp=Z,281nm,4.0s
BJI LR LR
comp=N,189nm,17.8s,MS4.7
BJI LR LR
comp=E,196nm,22.8s,MS4.7
BJI LR LR
comp=Z,235nm,22.1s,MS4.6
DAWY Dawson 89.20 14 *e*P **P** **12 09 22.1 -0.4**
DAWY *e*pP pP 12 09 34.2 -1.8
BILL Bilibino 90.22 353 *e*P **P** **12 09 25.9 -1.3**
BILL pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
BILL Bilibino 90.22 353 *e*P **P** **12 09 26.1 -1.0**
comp=Z,4.7nm,0.9s,mb4.8
GYA Guiyang 90.30 298⇑ *i*P **P** **12 09 29.9 +2.4**
GYA AP pP 12 09 43.2 +2.1
GYA XP sP 12 09 48.5 +2.3
GYA PPP 12 14 50.4
GYA SKS 12 19 50.0
GYA PS PS 12 21 08.6 -22
GYA AMB AMB
comp=Z,20nm,1.6s,mb5.2
GYA AMB AMB
comp=Z,420nm,8.4s
GYA LR LR
comp=N,490nm,21.8s,MS5.0
GYA LR LR
comp=E,460nm,22.0s,MS5.0
GYA LR LR
comp=Z,540nm,21.6s,MS4.9
WMOK Wichita Mounta 90.48 53 *e*P **P** **12 09 27.0 -1.4**
WMOK pmax pmax
comp=Z,11nm,1.6s,mb4.9
WMOK Wichita Mounta 90.48 53 *e*P **P** **12 09 27.0 -1.3**
comp=Z,11nm,1.6s,mb5.0
HKT Hockley 90.74 58 *e*P **P** **12 09 30.4 +0.8**
HKT pmax pmax
comp=Z,12nm,1.4s,mb5.0
HKT Hockley 90.74 58 *e*P **P** **12 09 30.4 +0.8**
comp=Z,12nm,1.4s,mb5.0
EDM Edmonton 90.75 32 *e*P **P** **12 09 28.9 -0.7**
EDM *e**PP pP 12 09 44.2 +1.0
LAO LASA Array 91.06 40 *e*P **P** **12 09 31.2 +0.1**
comp=Z,45nm,1.6s,mb5.5
RSSD Black Hills 91.13 43 *e*P **P** **12 09 31.4 0.0**
RSSD pmax pmax
comp=Z,15nm,1.4s,mb5.1
RSSD Black Hills 91.13 43 *e*P **P** **12 09 31.4 0.0**
comp=Z,15nm,1.4s,mb5.1
XAN Xi'an 91.59 306 P **P** **12 09 36.1 +2.6**
XAN AP pP 12 09 44.4 -2.7
XAN XP sP 12 09 48.2 -4.0
XAN AMB AMB
comp=Z,12nm,1.4s,mb5.0
XAN AMB AMB
comp=Z,153nm,8.2s
XAN LR LR
comp=N,513nm,11.6s,MS5.4
XAN LR LR
comp=E,690nm,11.1s,MS5.4
XAN LR LR
comp=Z,196nm,12.1s,MS4.8
NANT Nan 92.48 289⇑ P **P** **12 09 38.0 +0.4**
comp=Z,81nm,1.0s,mb6.0
JTS JuntasAbangare 92.78 80 LR LR 12 45 55.9
comp=Z,276nm,18.3s,MS4.8,baz=275,slow=32
JTS JuntasAbangare 92.78 80 *e*P **P** **12 09 40.1 +1.1**
JTS pmax pmax
comp=Z,7.0nm,0.6s
JTS JuntasAbangare 92.78 80 *e*P **P** **12 09 40.1 +1.1**
comp=Z,7.0nm,0.6s,mb5.3
KMI Kunming 93.05 296 P **P** **12 09 41.6 +1.3**
KMI AP pP 12 09 56.6 +2.8
KMI XP sP 12 10 02.0 +3.1
KMI PP PP 12 13 28.0 +4.4
KMI PPP 12 15 30.9
KMI SKS 12 20 09.9
KMI S 12 20 41.8
KMI XS sS 12 21 06.4 +0.4
KMI PS PS 12 22 05.6 +4.6
KMI SS SS 12 27 01.9 +3.7
KMI SSS 12 30 41.7
KMI AMB AMB
comp=Z,14nm,1.1s,mb5.3
KMI AMB AMB
comp=Z,145nm,3.5s
KMI LR LR
comp=N,182nm,20.9s,MS4.8
KMI LR LR
comp=E,278nm,21.9s,MS4.8
KMI LR LR
comp=Z,417nm,20.9s,MS4.9
CHG Chiang Mai 94.03 288 P **P** **12 09 47.5 +2.7**
CHTO Chiang Mai 94.03 288 *e*P **P** **12 09 47.5 +2.7**
CHTO pmax pmax
comp=Z,44nm,1.6s,mb5.6
CHTO Chiang Mai 94.03 288 *e*P **P** **12 09 47.5 +2.7**
comp=Z,44nm,1.6s,mb5.6
INK Inuvik 94.06 14 P **P** **12 09 43.7 -1.3**
comp=Z,3.9nm,0.8s,mb4.9,baz=224,slow=4.4,SNR=23
INK Inuvik 94.06 14 P **P** **12 09 43.7 -1.2**
INK pmax pmax
comp=Z,4.0nm,0.8s
INK Inuvik 94.06 14 *e*P **P** **12 09 43.4 -1.6**
comp=Z,4.5nm,0.8s,mb5.0
YAK Yakutsk 94.25 337 *e*P **P** **12 09 44.6 -1.2**
YAK pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
CD2 Chengdu 94.37 301 *e*P **P** **12 09 45.0 -1.4**
CD2 AP pP 12 09 58.5 -1.4
CD2 XP sP 12 10 03.7 -1.3
CD2 PP PP 12 13 34.8 +0.9
CD2 SKS 12 20 14.7
CD2 S 12 20 49.6
CD2 XS sS 12 21 12.6 -5.1
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,110nm,10.8s
CD2 LR LR
comp=E,110nm,19.2s
CD2 LR LR
comp=Z,130nm,21.6s,MS4.4
YKA Yellowknife Ar 95.67 24 P **P** **12 09 51.1 -1.2**
comp=Z,1.4nm,0.7s,mb4.5,baz=236,slow=4.3,SNR=38
YKA PP PP 12 13 45.0 +1.0
comp=Z,0.2nm,0.8s,baz=241,slow=8.0,SNR=4.1
YKA PKKPbc PKKPbc 12 26 43.9 +1.6
comp=Z,0.2nm,0.7s,baz=37,slow=2.0,SNR=5.9
YKA LR LR 12 46 59.9
comp=Z,225nm,19.4s,MS4.7,baz=230,slow=32
YKA Yellowknife Ar 95.67 24 P **P** **12 09 51.1 -1.2**
YKA 12 13 45.0
YKA Yellowknife Ar 95.67 24 P **P** **12 09 51.1 -1.2**
YKA PP PP 12 13 45.0 +1.0
YKA PKKPbc PKKPbc 12 26 43.9 +1.6
YKA LR LR 12 46 59.9
YKW3 Yellowknife Ar 95.70 24 *e*P **P** **12 09 51.2 -1.2**
YKW3 *e*PP PP 12 13 42.6 -1.7
LZH Lanzhou 96.23 306 *e*P **P** **12 09 56.5 +1.7**
LZH AP pP 12 10 09.5 +1.1
LZH XP sP 12 10 14.8 +1.3
LZH PP PP 12 13 52.3 +4.0
LZH SKS 12 20 32.0
LZH *e*S 12 21 12.1
LZH XS sS 12 21 33.0 -0.8
LZH AMB AMB
comp=Z,15nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,90nm,5.0s
LZH LR LR
comp=N,450nm,15.0s
LZH LR LR
comp=Z,750nm,16.8s,MS5.2
LPAZ La Paz 98.30 111 P **P** **12 10 08.1 +3.9**
comp=Z,1.6nm,1.0s,mb4.5,baz=220,slow=3.0,SNR=4.9
LPAZ LR LR 12 44 41.4
comp=Z,425nm,21.6s,MS4.9,baz=317,slow=29
LPAZ La Paz 98.30 111 *e*P **P** **12 10 07.7 +3.5**
LPAZ pmax pmax
comp=Z,6.0nm,1.5s
LPAZ La Paz 98.30 111 *e*P **P** **12 10 07.7 +3.5**
comp=Z,6.4nm,1.5s,mb4.9
ULN Ulaanbaatar 98.41 318⇑ *e*P **P** **12 10 06.5 +1.8**
SONM Songino Array 98.81 318 P **P** **12 10 08.7 +2.2**
comp=Z,0.7nm,0.6s,mb4.3,baz=123,slow=5.5,SNR=4.2
SONM LR LR 12 51 39.5
comp=Z,194nm,20.7s,MS4.6,baz=76,slow=34
MKAR Makanchi Array 114.45 313 PKP PKiKP 12 15 06.5 +0.2
comp=Z,0.9nm,0.8s,baz=79,slow=3.1,SNR=6.0
KURK Kurchatov 117.10 317 *e*PKIKP PKPdf 12 15 10.6 -0.9
KSH Kashi 118.41 304 *e*PKP PKPdf 12 15 12.0 -2.0
KSH *e*PKS 12 18 47.3
KSH *e*PPP 12 18 49.0
KSH *e*SKS SKSdf 12 22 16.8 -5.5
KSH PP PP
comp=Z,148nm,3.8s
KSH LR LR
comp=N,386nm,11.0s
KSH LR LR
comp=E,283nm,9.0s
KSH LR LR
comp=Z,226nm,11.1s,MS5.0
BVAR Borovoye Array 122.07 320 PKP PKPdf 12 15 20.8 -0.2
comp=Z,2.3nm,0.7s,baz=101,slow=1.5,SNR=11
BRVK Borovoye 122.13 320 *e*PKIKP PKPdf 12 15 20.2 -0.9
ZRNK Zerenda 122.91 320 *e*PKIKP PKPdf 12 15 21.9 -0.7
ARU Arti 127.94 326 *e*PKIKP PKPdf 12 15 32.3 0.0
ARU *e* 12 15 45.0
ARU Arti 127.94 326 *e*PKPdf PKPdf 12 15 32.3 0.0
ARU *e*pPKPdf pPKPdf 12 15 45.0 -1.3
ARCES ARCESS Array B 130.29 351 PKP PKPdf 12 15 35.8 -1.0
comp=Z,2.5nm,0.8s,baz=5.7,slow=2.7,SNR=4.5
JOF Joensuu 134.95 344 *e*pkp PKPdf 12 15 44.6 -0.9
FINES FINESS Array B 137.49 346 PKhKP 12 15 37.9
comp=Z,0.8nm,0.7s,baz=66,slow=4.6,SNR=4.6
FINES PKP PKPdf 12 15 50.6 +0.4
comp=Z,0.5nm,0.4s,baz=68,slow=2.9,SNR=6.4
LSZ Lusaka 137.67 213 *e*PKIKP PKPdf 12 15 54.0 +3.4
MOS Moscow 138.29 334 *e*PKIKP PKPdf 12 15 47.0 -4.7
MOS pmax pmax
comp=Z,50nm,1.6s
OBN Obninsk 139.16 333 *i* PKIKP PKPdf 12 15 49.9 -3.4
OBN pmax pmax
comp=Z,5.0nm,0.9s
MAK Makhachkala 139.26 312 *e*PKHKP 12 15 41.7
MAK *e* 12 22 53.9
MAK pmax pmax
comp=Z,255nm,1.7s
MAK MLR MLR
comp=Z,374nm,19.0s,MS5.2
NB2 NORSAR Subarra1 140.09 356 PKPd 12 15 46.4
comp=Z,1.1nm,0.8s,baz=31,slow=1.9
NOA NORSAR Array B 140.09 356 PKP PKPdf 12 15 53.0 -2.0
comp=Z,1.0nm,0.7s,baz=34,slow=2.1,SNR=5.2
KMBO Kilima Mbogo 142.22 238 PKhKP 12 15 56.4
comp=Z,0.6nm,0.4s,baz=120,slow=2.4,SNR=2.7
KMBO Kilima Mbogo 142.22 238 PKP PKPdf 12 15 56.4 -2.4
BHD Baghdad 144.05 298 *ex* x 12 16 03.0
MSL Mosul 144.46 303 *ex* x 12 16 03.5
ERZM Erzurum 144.64 310 *i* P PKPdf 12 16 04.0 +0.9
MUD Monsted U'grnd 144.78 357 *i* P PKPdf 12 16 02.8 -0.5
comp=Z,67nm,1.2s
MUD *i* 12 16 32.6
MUD *e* 12 17 51.0
MUD Monsted U'grnd 144.78 357 *i* PKIKP PKPdf 12 16 02.8 -0.5
MUD pmax pmax
comp=Z,67nm,1.2s
SUW Suwalki 144.78 342 *e*PKP PKPdf 12 16 02.1 -1.2
ANN Anapa 145.07 320 *i* PKIKP PKPdf 12 16 03.3 -0.5
ANN *e**PP 12 16 20.5
ANN pmax pmax
comp=Z,40nm,0.8s
BNGL BINGOL 145.13 308 *i* P PKPbc 12 16 08.4 +4.9
COP Copenhagen 145.29 354 *i* P 12 16 28.7
COP Copenhagen 145.29 354 *e*P 12 16 28.7
ESK Eskdalemuir 145.30 9 *e*PKIKP PKPdf 12 16 03.5 -0.7
AKASG Malin Array Be 145.42 334 PKPbc PKPbc 12 16 03.7 -0.7
comp=Z,12nm,0.6s,baz=40,slow=4.1,SNR=28
AKASG Malin Array Be 145.42 334 PKPbc PKPbc 12 16 03.7 -0.7
BSD Bornholm Skovb 145.54 351 *i* P PKPdf 12 16 05.5 +0.9
comp=Z,55nm,0.9s
BSD *i* 12 16 16.6
BSD Bornholm Skovb 145.54 351 *i* PKIKP PKPdf 12 16 05.5 +0.9
BSD *i* 12 16 16.6
BSD pmax pmax
comp=Z,55nm,0.9s
DCN Croghan 146.39 14 *e*P PKPdf 12 16 07.6 +1.5
GRSN GIRESUNGRSN 146.40 313 *i* P PKPdf 12 16 08.0 +1.9
DLF Lyons Farm 146.60 14 *e*P PKPdf 12 16 07.4 +1.0
ELZG Elazig 146.88 309 *i* P PKPbc 12 16 10.3 +1.5
HLG Helgoland 147.10 358 *e*PKPbc PKPbc 12 16 09.6 +0.2
BSEG Bad Segeberg 147.21 355 *e*PKPbc PKPbc 12 16 09.7 -0.1
MALT Malatya 147.35 309⇑ *i*P PKPbc 12 16 12.9 +2.8
MALT Malatya 147.35 309 *e*PKPbc PKPbc 12 16 11.8 +1.6
ATAB Bozova 147.76 307 *i* P PKPbc 12 16 11.9 +0.6
RUE Ruedersdorf 148.26 351 *e*PKPbc PKPbc 12 16 12.4 -0.2
GZT Gaziantep 148.34 307 *i* P PKPbc 12 16 14.0 +1.2
KIS Kishinev 148.36 330 *e*PKIKP PKPdf 12 16 09.0 -0.3
KIS *e* 12 16 24.0
KIS *e* 12 19 50.0
KIS MLR MLR
comp=Z,600nm,20.0s,MS5.4
BOYT Boyabat 148.41 316 *i* P PKPbc 12 16 15.4 +2.5
CTKT Corum 148.88 315 *i* P PKPbc 12 16 15.3 +1.2
OJC Ojcow 149.12 343 *e*PKPdf PKPdf 12 16 10.5 -0.1
OJC *e*PKPbc PKPbc 12 16 14.7 -0.1
CLZ Clausthal 149.29 355 *e*PKPbc PKPbc 12 16 15.5 +0.3
BALT Daday 149.32 317 *i* P PKPbc 12 16 15.7 +0.4
KSP Ksiaz 149.39 347 *e*PKP PKPbc 12 16 16.4 +0.9
KSP Ksiaz 149.39 347 *e*PKP PKPbc 12 16 16.3 +0.8
KSP *e*SS SS 12 39 02.0 +4.2
KSP LR LR
comp=Z,800nm,21.5s,MS5.5
STHS Stebnicka Huta 149.40 340 *e*PKP PKPbc 12 16 16.4 +0.9
BURAR Bucovina Array 149.48 334⇑ *i*P PKPbc 12 16 17.4 +1.7
BURAR Bucovina Array 149.48 334⇑ P PKPbc 12 16 17.4 +1.7
KOLS Kolonicke sedl 149.49 339 *e*PKP PKPab 12 16 22.5 +1.8
KOLS *e* 12 16 38.1
CLL Collm 149.52 351 *e*PKPbc PKPbc 12 16 15.7 -0.1
CLL Collm 149.52 351⇑ *i*PKPbc PKPbc 12 16 15.9 +0.1
comp=Z,48nm,1.8s
CLL ⇓ *i*PKPab PKPab 12 16 20.9 +0.1
comp=Z,36nm,1.4s
CLL *i* pPKPbc pPKPbc 12 16 27.5 -2.2
CLL *i* x x 12 16 43.0
CLL LmV 13 34 00.0
comp=Z,300nm,18.6s
CLL Collm 149.52 351⇑ *i*PKP2 PKPbc 12 16 15.9 +0.1
CLL pmax pmax
comp=Z,48nm,1.8s
CLL pmax pmax
comp=Z,36nm,1.4s
CLL MLR MLR
comp=Z,300nm,18.6s,MS5.1
CLL Collm 149.52 351⇑ *i*PKP PKPbc 12 16 15.9 +0.1
CLL ⇓ *i*PKP PKPab 12 16 20.9 +0.1
CLL *i* pPKP pPKPdf 12 16 27.5 +2.2
CLL LR LR
comp=Z,300nm,18.6s,MS5.1
COBT Iskenderun 149.62 307 *i* P PKPbc 12 16 17.5 +1.5
CDAG Cicekdag 149.65 313 *i* P PKPab 12 16 28.0 +6.7
NIE Niedzica 149.69 341 *e*PKP PKPbc 12 16 17.5 +1.3
AVNT Avonos 149.71 312 *i* P PKPdf 12 16 15.4 +3.9
BRG Berggiesshubel 149.80 350 *e*PKPbc PKPbc 12 16 16.8 +0.3
BRG Berggiesshubel 149.80 350 *e*PKP PKPbc 12 16 17.4 +0.9
comp=Z,12nm,1.1s
BRG *i* 12 16 29.4
comp=Z,17nm,1.2s
BRG PP PP 12 20 00.0 +10
BRG SS SS 12 38 45.0 -17
BRG
comp=N,100nm,18.7s
BRG
comp=E,86nm,15.1s
BRG
comp=Z,205nm,16.0s
BRG Berggiesshubel 149.80 350 *e*PKP2 PKPbc 12 16 17.4 +0.9
BRG pmax pmax
comp=Z,12nm,1.1s
BRG pmax pmax
comp=Z,17nm,1.2s
BRG MLR MLR
comp=N,100nm,18.7s,MS4.8
BRG MLR MLR
comp=E,86nm,15.1s,MS4.8
BRG MLR MLR
comp=Z,205nm,16.0s,MS5.0
ELDT Eldivan 149.84 316 *i* P PKPbc 12 16 17.8 +1.2
DPC Dobruska-Polom 149.85 347 *e*PKPbc PKPbc 12 16 17.6 +1.0
DPC AMS AMS 13 22 40.0
comp=Z,400nm,19.7s
BUG Bochum--Univer 149.86 358 *e*PKPbc PKPbc 12 16 16.5 -0.1
OKC Ostrava-Krasne 149.90 344 *e*PKPbc PKPbc 12 16 17.4 +0.7
OKC AMS AMS 13 19 30.0
comp=Z,600nm,22.5s
CFR Carcaliu 150.00 328⇑ *i*P PKPbc 12 16 18.3 +1.4
CFR Carcaliu 150.00 328⇑ P PKPbc 12 16 18.2 +1.3
BR131 Keskin Array S 150.09 314 *e*PKPbc PKPbc 12 16 17.4 +0.3
BRTR Keskin Array B 150.09 314 PKPbc PKPbc 12 16 17.7 +0.5
comp=Z,5.9nm,0.8s,baz=136,slow=3.0,SNR=28
BRTR PP PP 12 19 59.3 +7.4
comp=Z,0.3nm,0.4s,baz=60,slow=3.0,SNR=4.2
MORC Moravsky Berou 150.11 345⇑ *i*P PKPbc 12 16 16.8 -0.4
MORC Moravsky Berou 150.11 345 *e*PKPbc PKPbc 12 16 16.8 -0.4
VRI Vrincioaia 150.17 330⇑ *i*P PKPbc 12 16 17.8 +0.4
VRI Vrincioaia 150.17 330⇑ P PKPbc 12 16 17.8 +0.4
PLOR Plostina 150.22 330⇑ *i*P PKPbc 12 16 17.7 +0.2
MOX Moxa 150.34 353 *e*PKPbc PKPbc 12 16 17.9 +0.1
MOX Moxa 150.34 353 *e*PKP PKPbc 12 16 17.5 -0.3
comp=Z,57nm,1.6s
MOX
comp=Z,300nm,19.0s
TIRR Tirgusor 150.36 327⇑ *i*P PKPbc 12 16 19.2 +1.4
TIRR Tirgusor 150.36 327⇑ P PKPbc 12 16 19.2 +1.4
TIRR *e*PKPab PKPab 12 16 23.9 -0.4
HARR Harsova 150.45 327⇑ *i*P PKPbc 12 16 18.3 +0.3
HARR Harsova 150.45 327⇑ P PKPbc 12 16 18.3 +0.3
WERD Werda 150.45 352 *e*PKPbc PKPbc 12 16 18.3 +0.3
KECS Kecovo 150.46 340 *e*PKP PKPbc 12 16 19.1 +1.0
KECS *e* 12 16 30.7
UCC Uccle 150.49 2 PKPbc PKPbc 12 16 18.8 +0.6
UCC PKPab PKPab 12 16 23.1 -1.7
UCC APKPbc 12 16 31.7

UCC					APKPab		12 16 36.0		
PRU	**Pruhonice**	**150.55**	**349**	*e*PKPbc	PKPbc	12 16 18.1	-0.2		
PRU				AMS	AMS	13 25 20.0			
	comp=Z,200nm,19.4s								
ANTO	**Ankara**	**150.58**	**315**	⇑*i*P	PKPbc	12 16 19.5	+1.2		
ANTO	**Ankara**	**150.58**	**315**	*e*PKPbc	PKPbc	12 16 19.3	+1.0		
NKC	**Novy Kostel**	**150.64**	**352**	*e*PKPbc	PKPbc	12 16 18.5	0.0		
NKC				AMS	AMS	13 31 00.0			
	comp=Z,300nm,21.0s								
SGKT	**Sivrigoynuk**	**150.68**	**317**	*i* P	PKPbc	12 16 18.7	+0.1		
MEM	**Membach**	**150.71**	**0**	PKPbc	PKPbc	12 16 18.7	+0.1		
MEM				PKiKP	PKiKP	12 16 22.1	+2.8		
MEM				APKPbc		12 16 31.0			
VRAC	**Vranov**	**150.77**	**346**	⇑*i*P	PKPab	12 16 27.2	+1.2		
VRAC	**Vranov**	**150.77**	**346**	⇑P	PKPab	12 16 27.2	+1.2		
SNF	**Seneffe**	**150.78**	**2**	PKPbc	PKPbc	12 16 19.8	+1.0		
SNF				PKiKP	PKiKP	12 16 22.5	+3.1		
SNF				APKP		12 16 24.0			
MLR	**Muntele Rosu**	**150.81**	**331**	⇑*i*P	PKPbc	12 16 20.0	+1.1		
MLR	**Muntele Rosu**	**150.81**	**331**	⇑P	PKPbc	12 16 19.9	+1.1		
MANZ	**Manzenberg**	**150.93**	**352**	*e*PKPbc	PKPbc	12 16 19.6	+0.4		
VYHS	**Vyhne**	**150.95**	**342**	*e*PKP	PKPbc	12 16 19.7	+0.5		
TNS	**Taunus Mts**	**151.03**	**357**	*e*PKPbc	PKPbc	12 16 19.5	+0.1		
ROTZ	**Rotzenmuhle**	**151.13**	**352**	*e*PKPbc	PKPbc	12 16 20.1	+0.5		
DRGR		**151.14**	**336**	⇑*i*P	PKPbc	12 16 20.6	+1.0		
DRGR		**151.14**	**336**	⇑P	PKPbc	12 16 20.6	+0.9		
PSZ	**Piszkesteto**	**151.15**	**340**	*e*pPKP/F	PKPbc	12 16 20.5	+0.8		
MEST	**Erdemli**	**151.16**	**308**	*i* P	PKPbc	12 16 20.1	+0.4		
DOU	**Dourbes**	**151.20**	**2**	PKPbc	PKPbc	12 16 19.8	0.0		
DOU				PKiKP	PKiKP	12 16 23.3	+3.0		
DOU				PKPab	PKPab	12 16 24.9	-2.8		
DOU				APKP		12 16 31.3			
DOU				APKPbc		12 16 34.1			
GIVF	**Givet**	**151.20**	**2**	*e*PKP1	PKPbc	12 16 20.0	+0.2		
	comp=Z,54nm,1.0s								
BAIF	**Baives**	**151.23**	**2**	*e*PKP1	PKPbc	12 16 20.1	+0.3		
	comp=Z,51nm,1.2s								
HENT	**Hendek**	**151.27**	**318**	*i* P	PKPbc	12 16 20.8	+0.8		
GRA1	**Grafenberg Arr**	**151.33**	**353**	*e*PKPbc	PKPbc	12 16 19.8	-0.3		
GRF	**Grafenberg Arr**	**151.33**	**353**	*e*PKPbc	PKPbc	12 16 19.8	-0.3		
KHC	**Kasperske Hory**	**151.54**	**350**	*e*PKPbc	PKPbc	12 16 19.2	-1.4		
KHC				AMS	AMS	13 28 30.0			
	comp=Z,400nm,20.8s								
WET	**Wettzell**	**151.64**	**350**	*e*PKPbc	PKPbc	12 16 21.0	+0.2		
WLF	**Walferdange**	**151.66**	**360**	*e*PKPbc	PKPbc	12 16 21.4	+0.6		
WLF	**Walferdange**	**151.66**	**360**	PKPbc	PKPbc	12 16 20.1	-0.7		
WLF				APKP		12 16 26.6			
WLF				APKPbc		12 16 30.0			
WLF	**Walferdange**	**151.66**	**360**	*e*PKPbc	PKPbc	12 16 20.6	-0.2		
WLF				*e*PKPab	PKPab	12 16 30.1	+0.4		
ZST	**Bratislava**	**151.69**	**344**	*e*	PKPdf	12 16 26.8	+12		
ZST	**Bratislava**	**151.69**	**344**	*e*PKP	PKPab	12 16 39.4	+10		
GEC2	**GERESS Array S**	**151.80**	**349**	*e*PKPbc	PKPbc	12 16 21.2	0.0		
GERES	**GERESS Array B**	**151.80**	**349**	*e*PKPbc	PKPbc	12 16 20.9	-0.2		
	comp=Z,2.9nm,0.9s,baz=5.7,slow=1.3,SNR=11								
ROSF	**Rostrenen**	**151.97**	**13**	*e*PKP1	PKPbc	12 16 21.0	-0.6		
ERMK	**Ermenek**	**152.04**	**309**	*i* P	PKPab	12 16 36.1	+4.8		
FLN	**La Foliniere**	**152.07**	**9**	*e*PKP1	PKPbc	12 16 21.4	-0.4		
	comp=Z,69nm,1.1s								
FLN				*e*R					
	comp=Z,318nm,20.0s								
FLN	**La Foliniere**	**152.07**	**9**	*e*PKP	PKPbc	12 16 21.4	-0.4		
FLN				LR	LR				
	comp=Z,320nm,20.0s,MS5.1								
SGMF	**Saint Gilles**	**152.20**	**12**	*e*PKP1	PKPbc	12 16 21.5	-0.6		
LDF	**La Druitiere**	**152.29**	**9**	*e*PKP1	PKPbc	12 16 21.8	-0.5		
	comp=Z,22nm,0.9s								
LANF	**Langenberg**	**152.30**	**357**	PKP	PKPbc	12 16 23.0	+0.7		
GRR	**Gorron**	**152.38**	**10**	*e*PKP1	PKPbc	12 16 22.3	-0.2		
	comp=Z,35nm,1.1s								
STU	**Stuttgart**	**152.43**	**355**	*e*PKPbc	PKPbc	12 16 22.7	+0.1		
ELBA	**Catalca**	**152.56**	**321**	*i* P	PKPab	12 16 31.4	-2.1		
ULDT	**Uludag**	**152.76**	**319**	*i* P	PKPbc	12 16 24.5	+1.2		
MEZF	**Maizieres J'vi**	**152.81**	**1**	*e*PKP1	PKPbc	12 16 23.8	+0.4		
FUR	**Furstenfeldbru**	**152.82**	**352**	*e*PKPbc	PKPbc	12 16 23.4	-0.1		
WLS	**Welschbruch**	**152.89**	**358**	PKP	PKPdf	12 16 23.4	+7.0		
CDF	**Champ du Feu**	**152.89**	**358**	*e*PKP1	PKPbc	12 16 23.8	+0.2		
	comp=Z,21nm,1.0s								
BFO	**Black Forest**	**152.93**	**357**	*e*PKPbc	PKPbc	12 16 23.6	-0.1		
PKSM	**Moragy**	**153.06**	**340**	⇑*i*P	PKPbc	12 16 23.5	-0.5		
PKSM	**Moragy**	**153.06**	**340**	*i*P	PKPbc	12 16 23.2	-0.8		
ECH	**Echery**	**153.09**	**358**	PKP	PKPbc	12 16 25.4	+1.3		
THEF	**They Montfort**	**153.10**	**0**	PKP	PKPbc	12 16 25.8	+1.7		
HAU	**Haudompre**	**153.32**	**359**	*e*PKP1	PKPbc	12 16 25.5	+1.0		
HAU				*e*R					
	comp=Z,349nm,20.2s								
HAU	**Haudompre**	**153.32**	**359**	*e*PKP	PKPbc	12 16 25.5	+1.0		
HAU				LR	LR				
	comp=Z,350nm,20.3s,MS5.2								
MOF	**Molkenrain**	**153.46**	**358**	PKP	PKPbc	12 16 26.3	+1.5		
HINF	**Hinteralfeld**	**153.50**	**359**	*e*PKP1	PKPbc	12 16 24.7	-0.2		
WTTA	**Wattenberg**	**153.66**	**351**	⇑*i*P	PKPbc	12 16 25.3	0.0		
	comp=Z,11nm,0.9s								
BTOK	**Tokak**	**153.66**	**319**	*i* P	PKPbc	12 16 29.4	+4.1		
LOR	**Lormes**	**154.00**	**3**	*e*PKP1	PKPbc	12 16 26.2	+0.2		
LOR				*e*R					
	comp=Z,388nm,19.8s								
LOR	**Lormes**	**154.00**	**3**	*e*PKP	PKPbc	12 16 26.2	+0.2		
LOR				LR	LR				
	comp=Z,390nm,19.8s,MS5.2								
SSF	**Saint Saulge**	**154.18**	**4**	*e*PKP1	PKPbc	12 16 26.6	+0.2		
	comp=Z,20nm,1.1s								
AVF	**Avril sur Loir**	**154.44**	**4**	*e*PKP1	PKPbc	12 16 26.7	-0.3		
SMF	**Signal de Mont**	**154.62**	**3**	*e*PKP1	PKPbc	12 16 27.4	+0.1		
BGF	**Bois d'Agland**	**154.63**	**5**	*e*PKP1	PKPbc	12 16 27.2	0.0		
CABF	**La Chapelle**	**154.71**	**360**	*e*PKP1	PKPbc	12 16 28.3	+0.8		
TCF	**Toulx Ste Croi**	**154.84**	**6**	*e*PKP1	PKPbc	12 16 27.6	-0.2		
	comp=Z,26nm,1.3s								
ESDC	**Sonseca Array**	**159.76**	**23**	PKPab	PKPab	12 17 04.5	+0.2		
	comp=Z,2.4nm,0.8s,baz=326,slow=3.6,SNR=11								
TORD	**Torodi Ar. Bea**	**170.94**	**152**	PKP	PKPdf	12 16 35.8	+1.2		
	comp=Z,1.8nm,1.2s,baz=41,slow=0.7,SNR=5.6								
TORD				PKPab	PKPab	12 17 54.8	+1.2		
	comp=Z,2.6nm,0.7s,baz=218,slow=2.9,SNR=7.3								
TORD				PP	PP	12 21 50.6	+6.6		
	comp=Z,2.2nm,1.1s,baz=196,slow=3.7,SNR=5.5								

*IDC **07** 12:01:14.4±1.7,2068S×17435W,h0km,mb4.1/9, mb1 4.3/10,mb1mx4.1/18,mbtmp4.1/10,Error ellipse: s-maj=86.3km s-min=19.5km az=150.0*
*ISCJB **07** 12:01:19.7±0.7,200S±0.1×1747W±0.2,h33km,mb4.1/10, Error ellipse: s-maj=27.9km s-min=9.1km az=84.4*
*NEIC **07** 12:01:20.6±0.7,2031S×17457W,h35km,mb4.5/2,Error ellipse: s-maj=31.0km s-min=10.4km az=148.0*

ISC 07 12:01:24.6±4.4,200S±03×1747W±02,h59km±33km,n21, σ0s82/22,mb4.1/10,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.64**	**26**	Pn		**Pn**	**Pn**	**12 03 00.4**	**+0.8**
	5.8nm,0.3s,baz=95,slow=16,SNR=5.0								
AFI				Sn		**Sn**	**Sn**	**12 04 13.4**	**-0.4**
	0.6nm,0.3s,baz=31,slow=23,SNR=1.8								
AFI	**Afiamalu**	**6.64**	**26**	*e*P		**Pn**	**P**	**12 02 59.4**	**-0.1**
AFI				Sn		**Sn**	**Sn**	**12 04 13.4**	**-0.4**
RAR	**Rarotonga**	**14.06**	**98**	Pn		**Pn**	**Pn**	**12 04 17.1**	**-24**
	2.0nm,0.3s,baz=293,slow=7.7,SNR=4.5								
DZM	**Mont Dzumac**	**17.71**	**260**	P			**Pn**	**12 05 30.8**	**+3.8**
	0.3nm,0.3s,baz=71,slow=22,SNR=3.4								
CTA	**Charters Tower**	**36.61**	**263**	P			**P**	**12 08 24.8**	**-0.1**
	1.6nm,0.8s,mb3.9,baz=89,slow=12,SNR=2.4								
ASAR	**Alice Springs**	**47.64**	**256**	P			**P**	**12 09 53.7**	**-1.0**
	3.2nm,0.8s,mb4.4,baz=101,slow=7.8,SNR=7.8								
WRA	**Warramunga Arr**	**47.72**	**261**	P			**P**	**12 09 53.9**	**-1.5**
	1.1nm,0.7s,mb4.0,baz=96,slow=8.0,SNR=5.6								
FITZ	**Fitzroy Crossi**	**56.15**	**261**	P			**P**	**12 10 59.9**	**+1.8**
	2.2nm,1.0s,mb4.1,baz=272,slow=23,SNR=2.9								
NVAR	**Mina Array Bea**	**78.55**	**42**	P			**P**	**12 13 19.8**	**+0.3**
	2.2nm,0.9s,mb4.1,baz=212,slow=6.7,SNR=8.5								
MNV	**Mina**	**78.64**	**42**	*e*P			**P**	**12 13 20.5**	**+0.4**
	4.5nm,1.1s,mb4.3								
MSU	**Marysvale**	**82.54**	**45**	*e*P			**P**	**12 13 41.0**	**+0.1**
HLID	**Hailey**	**83.93**	**39**	*e*P			**P**	**12 13 48.2**	**+0.1**
ANMO	**Albuquerque**	**84.68**	**50**	P			**P**	**12 13 51.5**	**-0.4**
	2.8nm,1.1s,mb4.3,baz=232,slow=8.8,SNR=4.1								
ANMO	**Albuquerque**	**84.68**	**50**	*e*P			**P**	**12 13 51.8**	**-0.1**
	5.1nm,1.3s,mb4.5								
GDL2	**Guadalupe Moun**	**84.94**	**53**	*e*P			**P**	**12 13 52.3**	**-0.9**
PDAR	**Pinedale Array**	**86.48**	**42**	P			**P**	**12 14 00.6**	**-0.2**
	0.5nm,0.9s,mb3.8,baz=158,slow=1.0,SNR=3.1								
INK	**Inuvik**	**92.97**	**14**	P			**P**	**12 14 31.7**	**+0.3**
	0.8nm,0.8s,mb4.2,baz=214,slow=5.2,SNR=3.9								
INK	**Inuvik**	**92.97**	**14**	P			**P**	**12 14 31.7**	**+0.3**
YKA	**Yellowknife Ar**	**94.76**	**24**	P			**P**	**12 14 40.3**	**+0.8**
	0.3nm,0.8s,mb3.8,baz=237,slow=4.2,SNR=5.2								
YKA	**Yellowknife Ar**	**94.76**	**24**	P			**P**	**12 14 40.3**	**+0.8**
AKASG	**Malin Array Be**	**143.96**	**334**	PKP		PKPdf		12 20 51.9	-1.3
	0.9nm,0.5s,baz=38,slow=4.3,SNR=4.3								

IDC 07 12:05:31.9±1.1,103N×12749E,h0km,mb3.8/5,mb1 4.1/5, mb1mx3.8/15,mbtmp3.9/5,Error ellipse: s-maj=68.8km s-min=20.0km az=76.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.90**	**162**	P		P	P	12 10 27.2	+0.6
	3.8nm,0.7s,baz=340,slow=11,SNR=12								
ASAR	**Alice Springs**	**25.33**	**166**	P		P	P	12 11 00.5	+0.1
	2.7nm,0.8s,baz=346,slow=11,SNR=12								
MJAR	**Matsushiro Arr**	**36.70**	**15**	P		P	P	12 12 40.1	-0.5
	2.0nm,0.8s,baz=185,slow=10,SNR=4.2								
SONM	**Songino Array**	**50.08**	**342**	P		P	P	12 14 29.6	+1.1
	1.2nm,0.7s,baz=142,slow=7.5,SNR=3.8								
MKAR	**Makanchi Array**	**60.19**	**326**	P		P	P	12 15 41.5	-0.1
	1.0nm,0.6s,baz=119,slow=7.6,SNR=6.0								

*IDC **07** 12:12:34.2±0.6,2111S×17416W,h0km,mb4.2/14, mb1 4.4/15,mb1mx4.3/20,mbtmp4.2/15,ML4.4/1,Error ellipse: s-maj=25.3km s-min=15.6km az=139.0*
*ISCJB **07** 12:12:37.8±0.4,2117S±0.009×17422W±0.09,h33km, mb4.2/18,Error ellipse: s-maj=15.1km s-min=10.1km az=93.3*
*NEIC **07** 12:12:41.6±4.3,2117S×17420W,h54km±39km,mb4.2/5, Error ellipse: s-maj=14.2km s-min=12.8km az=183.0*

ISC 07 12:12:39.6±0.4,2117S±0.009×17413W±0.09,h35km,n37, σ0s83/32,mb4.2/18,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.56**	**18**	Pn		**Pn**	**Pn**	**12 14 19.9**	**-7.3**
	5.0nm,0.3s,baz=222,slow=14,SNR=9.6								
AFI				Sn		**Sn**	**Sn**	**12 15 38.5**	**-13**
	3.4nm,0.3s,baz=283,slow=23,SNR=2.6								
AFI	**Afiamalu**	**7.56**	**18**	*e*P		**Pn**	**Pn**	**12 14 20.0**	**-7.2**
AFI				*e*S		**Sn**	**Sn**	**12 15 34.3**	**-17**
DZM	**Mont Dzumac**	**18.09**	**264**	P		**Pn**	**Pn**	**12 16 49.8**	**+1.8**
	0.2nm,0.3s,baz=73,slow=18,SNR=3.6								
URZ	**Urewera**	**18.64**	**202**	P			**Pn**	**12 16 54.5**	**-0.2**
	1.3nm,0.3s,baz=322,slow=5.0,SNR=7.4								
RPZ	**Rata Peaks**	**25.65**	**205**	P			**P**	**12 18 04.9**	**-1.0**
	9.2nm,0.8s,mb4.4,baz=272,slow=1.3,SNR=4.0								
CTAO	**Charters Tower**	**37.03**	**264**	*e*P			**P**	**12 19 46.1**	**+0.1**
PMG	**Port Moresby**	**39.02**	**281**	P			**P**	**12 20 02.3**	**-0.4**
	4.5nm,0.9s,mb4.2,baz=130,slow=6.1,SNR=4.3								
STKA	**Stephens Creek**	**40.78**	**245**	P			**P**	**12 20 16.8**	**-0.6**
	2.5nm,0.6s,mb4.0,baz=282,slow=13,SNR=4.7								
STKA	**Stephens Creek**	**40.78**	**245**	*e*P			**P**	**12 20 15.9**	**-1.5**
ASAR	**Alice Springs**	**47.89**	**257**	P			**P**	**12 21 14.2**	**0.0**
	5.3nm,0.8s,mb4.6,baz=92,slow=7.5,SNR=16								
ASAR				PcP		PcP	PcP	12 22 43.1	+0.8
	1.0nm,0.8s,baz=113,slow=3.8,SNR=4.5								
WRAB	**Tennant Creek**	**48.09**	**262**	*e*P			**P**	**12 21 15.1**	**-0.6**
	1.7nm,0.5s,mb4.3								
WRA	**Warramunga Arr**	**48.09**	**262**	P			**P**	**12 21 14.6**	**-1.2**
	2.8nm,0.8s,mb4.3,baz=94,slow=7.9,SNR=31								
WRA				PcP		PcP	PcP	12 22 44.5	+1.4
	1.0nm,0.8s,baz=91,slow=3.3,SNR=4.3								
FITZ	**Fitzroy Crossi**	**56.52**	**262**	P			**P**	**12 22 18.7**	**+0.4**
	1.3nm,0.7s,mb4.1,baz=78,slow=5.7,SNR=5.8								
SBA	**Scott Base**	**57.48**	**185**	P			**P**	**12 22 25.7**	**+0.6**
	0.6nm,0.6s,mb3.8								
VNDA	**Vanda**	**57.60**	**186**	P			**P**	**12 22 26.8**	**+0.9**
	0.9nm,0.9s,mb3.8,baz=344,slow=8.1,SNR=4.2								
VNDA	**Vanda**	**57.60**	**186**	P			**P**	**12 22 25.6**	**-0.3**
MJAR	**Matsushiro Arr**	**72.94**	**321**	P			**P**	**12 24 05.5**	**+0.2**
	1.8nm,0.8s,mb4.1,baz=162,slow=6.3,SNR=5.8								
NVAR	**Mina Array Bea**	**79.07**	**41**	P			**P**	**12 24 40.6**	**+0.4**
	3.3nm,0.9s,mb4.2,baz=212,slow=6.6,SNR=16								
MSU	**Marysvale**	**83.01**	**44**	*e*P			**P**	**12 25 02.8**	**+1.6**
HLID	**Hailey**	**84.51**	**39**	*e*P			**P**	**12 25 09.3**	**+0.4**
	2.6nm,0.9s,mb4.4								
ANMO	**Albuquerque**	**85.03**	**50**	P			**P**	**12 25 11.9**	**+0.4**
	2.8nm,1.1s,mb4.3,baz=207,slow=4.9,SNR=9.8								
ANMO	**Albuquerque**	**85.03**	**50**	*e*P			**P**	**12 25 12.2**	**+0.7**
	3.3nm,1.1s,mb4.4								
BW06	**Boulder Array**	**87.00**	**42**	*e*P			**P**	**12 25 20.4**	**-0.8**
	1.3nm,1.0s,mb4.1								
PDAR	**Pinedale Array**	**87.00**	**42**	P			**P**	**12 25 20.9**	**-0.4**
	0.7nm,0.8s,mb3.9,baz=211,slow=4.7,SNR=5.7								
VNA3	**Neumayer Olymp**	**87.20**	**175**	*e*			**P**	**12 25 22.2**	**0.0**
VNA2	**Neumayer--Watz**	**87.69**	**176**	*e*			**P**	**12 25 24.9**	**+0.4**
	baz=206,slow=2.9								
COLA	**College**	**88.13**	**11**	*e*P			**P**	**12 25 25.4**	**-1.2**
PSI	**Prapat**	**88.16**	**274**	P			**P**	**12 25 28.4**	**+1.6**
	2.2nm,0.8s,mb4.5,baz=254,slow=2.0,SNR=4.5								
INK	**Inuvik**	**94.00**	**14**	P			**P**	**12 25 53.1**	**-0.8**
	0.9nm,0.8s,mb4.3,baz=154,slow=5.8,SNR=6.2								
YKA	**Yellowknife Ar**	**95.63**	**24**	P			**P**	**12 26 00.8**	**-0.6**
	0.5nm,0.8s,mb4.0,baz=237,slow=4.6,SNR=14								
AKASG	**Malin Array Be**	**145.28**	**334**	PKPbc		PKPbc	PKPbc	12 32 12.3	-1.0
	2.6nm,0.5s,baz=40,slow=4.2,SNR=27								
AKASG	**Malin Array Be**	**145.28**	**334**	PKPbc		PKPbc	PKPbc	12 32 12.3	-1.0
CLL	**Collm**	**149.41**	**351**	*e*PKPab		PKPab	PKPab	12 32 29.0	-0.6
BRTR	**Keskin Array B**	**149.94**	**314**	PKPbc		PKPbc	PKPbc	12 32 26.9	+0.7
	1.7nm,0.8s,baz=147,slow=2.5,SNR=12								
GERES	**GERESS Array B**	**151.68**	**349**	PKPbc		PKPbc	PKPbc	12 32 30.7	+0.5
	0.6nm,0.7s,baz=358,slow=2.5,SNR=3.0								
ESDC	**Sonseca Array**	**159.72**	**22**	PKPab		PKPab	PKPab	12 33 12.8	-0.7
	0.2nm,0.4s,baz=308,slow=6.3,SNR=2.8								
TORD	**Torodi Ar. Bea**	**171.08**	**153**	PKPab		PKPab	PKPab	12 34 03.7	+0.2
	0.4nm,0.7s,baz=230,slow=3.5,SNR=3.1								

*IDC **07** 12:30:27.4±0.5,2001S×17424W,h0km,mb4.7/16, mb1 4.8/18,mb1mx4.8/21,mbtmp4.7/18,ML4.6/2,MS4.3/11, Ms1 4.3/11,ms1mx3.9/24,Error ellipse: s-maj=19.0km s-min=12.6km az=149.0*
*ISCJB **07** 12:30:27.9±0.2,2008S±0.005×174.14W±0.05,h10km, mb5.0/60,MS4.5/21,Error ellipse: s-maj=8.4km s-min=5.9km az=99.8*
*BJI **07** 12:30:28.3,2000S×17420W,h10km,mB5.5,mb5.2,Ms5.1, Msz4.7*
*NEIC **07** 12:30:29.3±0.2,2000S×174.18W,h10km,mb5.0/32,Error ellipse: s-maj=9.2km s-min=5.3km az=144.0*
*HRVD **07** 12:30:29.3±0.6,2008S×17321W,h34km±1km,MW5.0/36, Centroid moment Tensor Solution. LP body waves: s23,c29;Mantle waves: s36,c44; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.04±.26; Mθθ0.89±..20; Mφφ-2.94±.16; Mrθ1.35±.35; Mθφ-0.57±.14; Mrφ1.52±.20; Best double couple: M0:3.33200×10^16^ NP1:φs160.00000°, δ35.00000°,λ44.00000°. NP2:φs32.00000°,δ67.00000°, λ117.00000°. Principal axes: T 3.0990, Plg59.0000°, Azm340.0000°; N 0.4580, Plg24.0000°, Azm201.0000°; P -3.5650, Plg18.0000°, Azm103.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **07** 12:30:33.8, 1983S×17394W,h33km,mb5.2,Tonga Islands*
*MOS **07** 12:30:35.5±3.4, 1966S×17467W,h33km,mb5.3/19,Error ellipse: s-maj=11.6km s-min=11.3km az=59.3*

ISC 07 12:30:29.9±2.9,2010S±0.006×17408W±0.05,h13km±17km, h17km±1.5km;pP-P,n280,σ1s15/133,mb5.0/60,MS4.5/21, 31C-13D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.54**	**20**	Pn		**Pn**	**Pn**	**12 32 00.3**	**-5.4**
	60nm,0.3s,baz=56,slow=0.5,SNR=90								
AFI				Sn		**Sn**	**Sn**	**12 33 06.4**	**-14**
	55nm,0.3s,baz=192,slow=23,SNR=3.8								
AFI	**Afiamalu**	**6.54**	**20**	*e*Pn		**Pn**	**Pn**	**12 31 59.7**	**-6.1**
	252nm,0.4s								
RAO	**Raoul Island**	**9.76**	**200**	Sn			**Sn**	**12 34 33.0**	**-6.3**
	42nm,0.3s,baz=102,slow=22,SNR=3.0								
RAR	**Rarotonga**	**13.44**	**97**	Pn			**Pn**	**12 33 29.5**	**-11**
	32nm,0.3s,baz=260,slow=8.6,SNR=190								
RAR				Sn		Sn	Sn	12 35 43.4	-26
	4.8nm,0.3s,baz=319,slow=19,SNR=4.0								
DZM	**Mont Dzumac**	**18.28**	**260**	Pn			**Pn**	**12 34 43.1**	**-0.1**
	1.2nm,0.3s,baz=68,slow=16,SNR=21								
DZM				LR		LR	LR	12 39 30.1	
	comp=Z,324nm,18.9s,baz=84,slow=30								

URZ	**Urewera**	**19.64**	**201**	P			**Pn**	**12 34 59.0**	**-0.7**
	2.9nm,0.3s,baz=353,slow=2.4,SNR=17								
URZ				S			**Sn**	**12 38 24.7**	**-15**
	0.9nm,0.3s,baz=161,slow=20,SNR=3.5								
TBI	**Tubuai**	**23.09**	**103**	*e*LQ				12 39 45.3	
	676nm,26.2s								
TBI	**Tubuai**	**23.09**	**103**	*e*P			**P**	**12 35 31.9**	**-3.4**
	137nm,1.2s,mb5.2								
TBI				*e*LR		LR		12 41 05.2	
	2µm,27.8s,baz=276								
PAE	**Paea**	**23.31**	**88**	*e*P			**P**	**12 35 33.6**	**-4.0**
	62nm,1.1s,mb5.0								
PPT	**Papeete**	**23.32**	**88**	*e*P			**P**	**12 35 34.3**	**-3.5**
	40nm,1.2s,mb4.7								
PPT	**Papeete**	**23.32**	**88**	*e*LQ				12 40 03.8	
	670nm,23.8s								
PPT				*e*LR		LR		12 41 05.2	
	2µm,27.0s,baz=261								
PPT	**Papeete**	**23.32**	**88**	LR		LR		12 42 14.6	
	comp=Z,447nm,19.8s,MS3.9,baz=250,slow=30								
TVO	**Taravao**	**23.59**	**89**	*e*P			**P**	**12 35 36.6**	**-3.9**
	37nm,0.8s,mb4.9								
QRZ	**Quartz Range**	**23.61**	**206**	*e*P*			**P**	**12 35 41.5**	**+0.8**
THZ	**Tophouse**	**24.25**	**204**	*e*P*			**P**	**12 35 46.4**	**-0.2**
LTZ	**Lake Taylor**	**25.37**	**204**	*e*P*			**P**	**12 35 55.9**	**-0.8**
RPZ	**Rata Peaks**	**26.63**	**205**	P			**P**	**12 36 09.1**	**+1.0**
	6.9nm,0.5s,mb4.4,baz=237,slow=8.6,SNR=6.0								
HNR	**Honiara**	**27.22**	**289**	P			**P**	**12 36 12.5**	**-0.9**
	22nm,0.7s,mb4.8,baz=91,slow=3.1,SNR=2.5								
HNR				LR		LR		12 44 53.2	
	comp=Z,550nm,21.9s,MS4.1,baz=179,slow=32								
HNR	**Honiara**	**27.22**	**289**	P			**P**	**12 36 12.5**	**-0.9**
HNR				LR		LR		12 44 53.2	
ARMA	**Armidale**	**32.56**	**245**	*e*P			**P**	**12 37 01.2**	**+0.5**
TAOE	**Nuku Hiva Isla**	**34.63**	**76**	*e*S			**S**	**12 42 42.1**	**-5.7**
	903nm,32.0s								
TAOE				*e*LR		LR		12 46 10.5	
	3µm,29.3s								
RKT	**Rikitea**	**36.41**	**102**	*e*LR				12 47 12.3	
	1µm,27.8s								
CTA	**Charters Tower**	**37.19**	**263**	*e*P			**P**	**12 37 39.9**	**-0.8**
	8.8nm,0.4s,mb4.9								
CTA

MSU Marysvale 82.22 44 *e*P P **12 42 51.7 +1.0**
MDJ Mudanjiang 82.35 323 P P **12 42 52.7 +1.3**
MDJ AP pP 12 42 56.0 +0.2
MDJ XP sP 12 42 57.3 -0.1
MDJ PP PP 12 46 01.5 +1.3
MDJ S S 12 53 09.9 +2.8
MDJ AMB AMB
comp=Z,24nm,0.9s,mb5.1
MDJ AMB AMB
comp=Z,511nm,9.3s
MDJ LR LR
comp=N,88nm,29.7s
MDJ LR LR
comp=E,142nm,23.4s
MDJ LR LR
comp=Z,213nm,24.3s
NJ2 Nanjing 82.50 308 *e*P P **12 42 52.1 -0.1**
NJ2 AP pP 12 42 56.2 -0.4
NJ2 XP sP 12 42 59.3 +1.2
NJ2 PP PP 12 46 02.6 +1.3
NJ2 S S 12 53 07.0 -1.5
NJ2 XS sS 12 53 15.0 -0.8
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
NJ2 AMB AMB
comp=Z,60nm,11.6s
NJ2 LR LR
comp=N,540nm,27.6s,MS4.9
NJ2 LR LR
comp=E,390nm,27.8s,MS4.9
NJ2 LR LR
comp=Z,600nm,20.2s
MAW Mawson 83.16 199 P P **12 42 55.3 -0.3**
comp=Z,8.7nm,0.6s,mb4.9,baz=131,slow=7.8,SNR=16
MAW Mawson 83.16 199 *e*P P **12 42 55.2 -0.4**
MAW pmax pmax
comp=Z,13nm,1.0s
MAW Mawson 83.16 199 *e*P P **12 42 55.2 -0.4**
comp=Z,13nm,1.0s,mb4.9
TMUT Trail Mountain 83.28 44 *e*P P **12 42 57.8 +1.5**
LAZ Ladron 83.56 50 *e*P P **12 42 58.5 +0.8**
SRU San Rafael 83.63 45 *e*P P **12 42 58.6 +0.5**
SRU pmax pmax
comp=Z,14nm,1.1s,mb5.0
SRU San Rafael 83.63 45 *e*P P **12 42 58.6 +0.5**
comp=Z,14nm,1.1s,mb5.0
HLID Hailey 83.66 39 *e*P P **12 42 58.3 +0.1**
comp=Z,6.4nm,0.9s,mb4.8
BNM Barren Site 83.80 50 *e*P P **12 43 00.1 +1.1**
QIZ Qiongzhong 84.07 293 P P **12 43 02.2 +1.9**
KLR Kul'dur 84.11 328 *e*P P **12 42 57.7 -2.8**
CN2 Changchun 84.27 321 *e*P P **12 43 02.6 +1.3**
CN2 *e*S 12 53 23.9
CN2 AMB AMB
comp=Z,20nm,0.7s,mb5.4
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,200nm,16.0s,MS4.7
CN2 LR LR
comp=E,200nm,16.0s,MS4.7
CN2 LR LR
comp=Z,200nm,18.0s,MS4.5
ANMO Albuquerque 84.31 50 *e*P P **12 43 01.7 +0.2**
ANMO pmax pmax
comp=Z,6.0nm,1.0s
ANMO Albuquerque 84.31 50 *e*P P **12 43 01.7 +0.2**
comp=Z,5.5nm,1.0s,mb4.6
GDL2 Guadalupe Moun 84.55 53 *e*P P **12 43 02.9 +0.2**
MCMT McKenzie Canyo 85.31 39 *e*P P **12 43 06.6 +0.1**
TPAW Teton Pass 85.71 41 *e*P P **12 43 09.3 +0.7**
comp=Z,11nm,1.3s,mb4.9
IMW Indian Meadow 85.93 40 *e*P P **12 43 10.7 +1.0**
comp=Z,9.2nm,1.1s,mb4.9
SMCO Snowmass 86.03 46 *e*P P **12 43 09.2 -0.9**
comp=Z,3.9nm,0.8s,mb4.7
PDAR Pinedale Array 86.18 42 P P **12 43 10.5 -0.4**
comp=Z,0.8nm,0.8s,mb4.0,baz=224,slow=3.7,SNR=6.6
PDAR LR LR 13 20 10.4
comp=Z,123nm,18.3s,MS4.3,baz=263,slow=35
COLA College 87.07 11 *e*P P **12 43 13.3 -2.0**
COLA College 87.07 11 *e*P P **12 43 13.8 -1.5**
comp=Z,15nm,0.9s,mb5.2
ILAR Eielson Array 87.16 11 P P **12 43 14.3 -1.4**
comp=Z,2.8nm,0.7s,mb4.6,baz=230,slow=5.8,SNR=31
SYO Syowa Base 87.89 192⇑*e*P P **12 43 19.5 +0.3**
SNG Songkhla 88.05 278 P P **12 43 20.0 0.0**
DAWY Dawson 88.11 15 *e*P P **12 43 19.6 -0.7**
VNA3 Neumayer Olymp 88.26 175 *e*P P **12 43 20.8 -0.1**
VNA3 *e* 12 43 22.4
VNA3 *e* 12 43 33.0
VNA3 *e* 12 43 45.4
SNAA Sanae 88.27 177 *e*P P **12 43 20.5 -0.5**
SNAA *e* 12 43 22.0
SNAA *e* 12 43 31.0
SNAA *e* 12 43 37.6
SNAA Sanae 88.27 177⇑*e*P P **12 43 20.4 -0.6**
SNAA Sanae 88.27 177 *e*P P **12 43 20.2 -0.8**
comp=Z,6.7nm,0.9s,mb4.9
VNA2 Neumayer--Watz 88.74 176 *e*P P **12 43 23.0 -0.2**
baz=186,slow=4.3
VNA2 *e* 12 43 24.4
VNA2 *e* 12 43 29.9
VNA2 *e* 12 43 32.7
VNA2 *e* 12 43 34.5
VNA2 *e* 12 43 41.9
VNA2 *e* 12 43 46.9
BILL Bilibino 89.06 353 *e*P P **12 43 23.5 -1.2**
BILL pmax pmax
comp=Z,13nm,1.3s,mb5.1
BILL Bilibino 89.06 353 *e*P P **12 43 23.7 -1.0**
comp=Z,8.7nm,0.9s,mb5.1
KKTK Khon Kaen 89.26 288 P P **12 43 28.0 +2.4**
GYA Guiyang 89.67 298⇓*i*P P **12 43 28.0 +0.4**
GYA AP pP 12 43 34.5 +2.5
GYA XP sP 12 43 35.8 +2.2
GYA PP PP 12 47 01.8 +2.3
GYA PPP 12 49 01.4
GYA SKS 12 53 53.8
GYA S 12 54 15.5
GYA PS PS 12 55 18.9 -6.5
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.4
GYA AMB AMB
comp=Z,310nm,6.8s
GYA LR LR
comp=N,420nm,21.9s,MS5.0
GYA LR LR
comp=E,410nm,22.0s,MS5.0
GYA LR LR
comp=Z,450nm,22.4s,MS4.8
RSSD Black Hills 90.34 43 *e*P P **12 43 29.9 -0.8**
RSSD pmax pmax
comp=Z,1.0nm,0.5s,mb4.4
RSSD Black Hills 90.34 43 *e*P P **12 43 29.9 -0.8**
comp=Z,1.2nm,0.5s,mb4.5
XAN Xi'an 90.84 306 P P **12 43 34.5 +1.4**
XAN AP pP 12 43 42.2 +4.7
XAN XP sP 12 43 45.6 +6.6
XAN AMB AMB
comp=Z,18nm,1.0s,mb5.4
HHC Hu-ho-hao-te 91.74 313 *e*P P **12 43 38.7 +1.5**
HHC AP pP 12 43 44.6 +3.0
HHC XP sP 12 43 45.8 +2.6
HHC PP PP 12 47 22.6 +6.8
HHC SKS 12 54 08.5
HHC S 12 54 38.4
HHC XS sS 12 54 45.5 +0.6
HHC PS PS 12 55 52.4 +4.1
HHC SS SS 13 00 48.9 +4.1
HHC AMB AMB
comp=Z,29nm,1.2s,mb5.5
HHC AMB AMB
comp=Z,186nm,7.1s
HHC LR LR
comp=N,134nm,21.4s,MS4.5
HHC LR LR
comp=E,144nm,21.4s,MS4.5
HHC LR LR
comp=Z,175nm,21.4s,MS4.5
NANT Nan 92.02 289⇑P P **12 43 38.0 -0.5**
comp=Z,94nm,1.0s
KMI Kunming 92.47 296 P P **12 43 43.1 +2.5**
KMI AP pP 12 43 48.9 +3.9
KMI XP sP 12 43 51.0 +4.4
KMI AMB AMB
comp=Z,16nm,1.1s,mb5.3
KMI LR LR
comp=N,96nm,19.0s,MS4.7
KMI LR LR
comp=E,234nm,19.9s,MS4.7
KMI LR LR
comp=Z,257nm,22.2s,MS4.6
JTS JuntasAbangare 92.67 80 P P **12 43 41.6 +0.1**
comp=Z,3.6nm,0.7s,mb4.9,baz=40,slow=7.9,SNR=3.4
JTS JuntasAbangare 92.67 80 *e*P P **12 43 40.9 -0.6**
JTS JuntasAbangare 92.67 80 *e*P P **12 43 41.9 +0.4**
comp=Z,17nm,1.0s,mb5.4
INK Inuvik 92.96 14 *e*P P **12 43 41.1 -1.8**
INK pmax pmax
comp=Z,7.0nm,1.0s
INK Inuvik 92.96 14 *e*P P **12 43 41.1 -1.7**
comp=Z,6.7nm,1.0s,mb5.0
YAK Yakutsk 93.15 337⇑*e*P P **12 43 42.3 -1.4**
YAK pmax pmax
comp=Z,14nm,0.8s,mb5.4
CHG Chiang Mai 93.58 289 P P **12 43 47.7 +2.0**
CHTO Chiang Mai 93.58 289 *e*P P **12 43 47.9 +2.2**
CHTO pmax pmax
comp=Z,14nm,1.1s,mb5.3
CHTO Chiang Mai 93.58 289 *e*P P **12 43 47.9 +2.2**
comp=Z,14nm,1.1s,mb5.3
CD2 Chengdu 93.69 301 P P **12 43 45.5 -0.7**
CD2 AP pP 12 43 50.3 -0.3
CD2 XP sP 12 43 52.5 +0.3
CD2 PP PP 12 47 33.5 +2.3
CD2 S 12 54 51.3
CD2 SS SS 13 01 13.3 +0.4
CD2 AMB AMB
comp=Z,10.0nm,1.1s,mb5.2
CD2 AMB AMB
comp=Z,80nm,9.8s
CD2 LR LR
comp=E,80nm,15.6s
CD2 LR LR
comp=Z,120nm,18.0s,MS4.4
YKA Yellowknife Ar 94.64 24 P P **12 43 49.2 -1.4**
comp=Z,0.8nm,0.9s,mb4.2,baz=238,slow=4.3,SNR=14
YKA Yellowknife Ar 94.64 24 P P **12 43 49.2 -1.4**
LZH Lanzhou 95.47 306 *e*P P **12 43 57.0 +2.6**
LZH AP pP 12 44 01.2 +2.4
LZH XP sP 12 44 04.5 +4.1
LZH *e*SKS 12 54 32.0
LZH *e*S 12 55 10.0
LZH XS sS 12 55 18.3 +0.4
LZH SS SS 13 01 41.3 +3.1
LZH AMB AMB
comp=Z,13nm,1.0s,mb5.3
LZH AMB AMB
comp=Z,61nm,5.0s
LZH LR LR
comp=N,440nm,17.9s
LZH LR LR
comp=Z,680nm,19.0s,MS5.1
ULN Ulaanbaatar 97.49 318⇑*e*P P **12 44 04.0 +0.5**
SONM Songino Array 97.89 318 P P **12 44 04.6 -0.8**
comp=Z,1.8nm,1.0s,mb4.6,baz=127,slow=4.4,SNR=5.8
SONM LR LR 13 28 22.4
comp=Z,140nm,18.2s,MS4.5,baz=256,slow=36
LPAZ La Paz 98.79 111 LR LR 13 18 43.0
comp=Z,117nm,19.2s,MS4.4,baz=82,slow=29
TIXI Tiksi 99.33 344⇓*i*P P **12 44 09.5 -2.3**
TIXI *e* 12 54 44.7
TIXI pmax pmax
comp=Z,3.0nm,1.0s,mb4.8
GTA Gaotai 99.59 308 *e*P P **12 44 14.5 +1.6**
GTA AP pP 12 44 18.9 +1.6
GTA XP sP 12 44 21.8 +2.9
GTA PP PP 12 48 21.1 +4.4
GTA SKS 12 54 47.8
GTA S 12 55 39.5
GTA SS SS 13 02 35.9 -0.3
GTA AMB AMB
comp=Z,2.0nm,0.9s,mb4.5
GTA AMB AMB
comp=Z,39nm,5.3s
GTA LR LR
comp=N,118nm,19.0s,MS4.7
GTA LR LR
comp=E,192nm,19.8s,MS4.7
GTA LR LR
comp=Z,199nm,23.6s,MS4.5
WMQ Urumqi 109.45 311 PDIF Pdif 12 44 58.0 +1.2
WMQ PP PP 12 49 34.8 +4.8
WMQ S Sdif 12 57 02.0 -5.9
WMQ PP PP
comp=Z,101nm,4.1s
WMQ LR LR
comp=N,788nm,25.4s,MS5.2
WMQ LR LR
comp=E,453nm,26.2s,MS5.2
WMQ LR LR
comp=Z,119nm,21.6s,MS4.4
ZAL Zalesovo 112.50 321 PKiKP PKiKP 12 49 04.3 -1.5
comp=Z,1.0nm,0.5s,baz=60,slow=3.2,SNR=4.2
MKAR Makanchi Array 113.60 313 PKiKP PKiKP 12 49 06.5 -1.3
comp=Z,1.6nm,0.7s,baz=70,slow=2.3,SNR=14
KURK Kurchatov 116.19 317⇑*i*PKIKP PKPdf 12 49 11.9 -1.0
KSH Kashi 117.68 305 *e*PKP PKPdf 12 49 10.0 -5.7
KSH *e*XPKP 12 49 24.3
KSH PP PP
comp=Z,65nm,3.2s
KSH LR LR
comp=N,443nm,13.9s,MS5.4
KSH LR LR
comp=E,240nm,10.0s,MS5.4
KSH LR LR
comp=Z,210nm,5.4s
ZRNK Zerenda 121.97 321 *e*PKIKP PKPdf 12 49 23.0 -1.0
ARU Arti 126.93 326 *i* PKIKP PKPdf 12 49 33.1 -0.4
ARU *e* 12 51 29.2
ARU *e* 12 56 35.1
ARU *e*SS SS 13 08 36.1 -1.9
ARCES ARCESS Array B 129.14 351 PKP PKPdf 12 49 37.4 -0.3
comp=Z,2.8nm,0.7s,baz=2.6,slow=2.7,SNR=14
KAF Kangasniemi 135.70 346 *e*pkp PKPdf 12 49 47.3 -2.8
FINES FINESS Array B 136.35 346 PKP PKPdf 12 49 51.6 +0.4
comp=Z,2.0nm,0.7s,baz=90,slow=2.1,SNR=9.2
FINES FINESS Array B 136.35 346⇑*i*PKIKP PKPdf 12 49 51.9 +0.6
OBN Obninsk 138.09 334 *i* PKIKP PKPdf 12 49 54.4 -0.1
OBN pmax pmax
comp=Z,9.0nm,1.2s
KMBO Kilima Mbogo 142.74 239 PKhKP 12 50 00.4
comp=Z,2.6nm,0.8s,baz=42,slow=8.8,SNR=8.4
BHD Baghdad 143.42 299 *ex* x 12 50 06.5
ERZM Erzurum 143.83 311 *i* P PKPdf 12 49 56.0 -8.8
ANN Anapa 144.13 321 *i* PKHKP 12 50 00.8
ANN pmax pmax
comp=Z,58nm,1.6s
BNGL BINGOL 144.34 310 *i* P PKPdf 12 50 07.2 +1.5
AKASG Malin Array Be 144.34 334 PKP PKPdf 12 50 03.1 -2.6
comp=Z,14nm,0.7s,baz=43,slow=4.5,SNR=51
DCN Croghan 145.29 14 *e*P PKPbc 12 50 06.6 -0.5
DLF Lyons Farm 145.50 13 *e*P PKPdf 12 50 07.2 -0.5
GRSN GIRESUNGRSN 145.54 314 *i* P PKPdf 12 50 07.3 -0.5
BSEG Bad Segeberg 146.06 355 *e*PKPbc PKPbc 12 50 09.6 +0.1
ELZG Elazig 146.08 310 *i* P PKPbc 12 50 11.8 +2.2
MALT Malatya 146.55 310⇑*i*P PKPbc 12 50 13.0 +2.0
MALT Malatya 146.55 310 *e*PKPbc PKPbc 12 50 12.4 +1.5
RUE Ruedersdorf 147.11 351 *e*PKPbc PKPbc 12 50 12.5 -0.1
RUE Ruedersdorf 147.11 351 PKPbc PKPbc 12 50 11.9 -0.7
BOYT Boyabat 147.51 317 *i* P PKPbc 12 50 15.0 +1.3
GZT Gaziantep 147.56 309 *i* P PKPbc 12 50 15.0 +1.2
KWP Kalwaria 147.63 339 *e*PKP PKPbc 12 50 14.5 +0.5
OJC Ojcow 147.99 343 *e*PKPdf PKPdf 12 50 11.5 -0.4
OJC *e*PKPab PKPab 12 50 15.0 -2.6
CTKT Corum 148.00 316 *i* P PKPbc 12 50 16.3 +1.3
CLZ Clausthal 148.13 355 *e*PKPbc PKPbc 12 50 15.6 +0.2
KSP Ksiaz 148.25 347 *e*PKP PKPbc 12 50 16.2 +0.5
KSP Ksiaz 148.25 347 *e*PKP PKPdf 12 50 14.6 +2.3
KSP *e* 12 50 18.5
STHS Stebnicka Huta 148.28 341 *e*PKP PKPbc 12 50 16.5 +0.7
STHS *e* 12 50 19.7
CLL Collm 148.36 352 *e*PKPbc PKPbc 12 50 15.9 -0.1
CLL Collm 148.36 352⇓*i*PKPbc PKPbc 12 50 16.1 +0.1
CLL comp=Z,24nm,0.8s *i* PKPab PKPab 12 50 18.6 -0.5
comp=Z,26nm,1.2s
CLL *i* sPKPbc 12 50 21.7
CLL *i* x x 12 50 34.5
CLL Collm 148.36 352⇓*i*PKIKP PKPbc 12 50 16.1 +0.1
CLL *i* 12 50 18.6
CLL pmax pmax
CLL pmax pmax
comp=Z,24nm,0.8s
comp=Z,26nm,1.2s
CLL Collm 148.36 352⇓*i*PKP PKPbc 12 50 16.1 +0.1
CLL *i* PKP PKPab 12 50 18.6 -0.5
KOLS Kolonicke sedl 148.38 339 *e*PKP PKPbc 12 50 15.7 -0.3
KOLS *e* 12 50 26.9
BURAR Bucovina Array 148.40 335⇑*i*P PKPbc 12 50 17.1 +1.0
BURAR Bucovina Array 148.40 335⇑P PKPbc 12 50 17.1 +1.1
BALT Daday 148.40 319 *i* P PKPbc 12 50 17.1 +1.0
NIE Niedzica 148.56 342 *e*PKP PKPbc 12 50 17.1 +0.6
BRG Berggiesshubel 148.64 350 *e*PKP PKPbc 12 50 16.9 +0.2
comp=Z,8.2nm,0.8s
BRG Berggiesshubel 148.64 350 *e*PKIKP PKPbc 12 50 16.9 +0.2
BRG pmax pmax
comp=Z,8.0nm,0.8s
CRVS Cervenica-Dubn 148.67 340 *e*PKP PKPbc 12 50 18.2 +1.4
BUG Bochum--Univer 148.71 358 *e*PKPbc PKPbc 12 50 16.6 -0.2
DPC Dobruska-Polom 148.71 347 *e*PKPbc PKPbc 12 50 17.2 +0.3
OKC Ostrava-Krasne 148.77 345 *e*PKPbc PKPbc 12 50 17.2 +0.2
CDAG Cicekdag 148.78 315 *i* P PKPbc 12 50 17.7 +0.6
COBT Iskenderun 148.85 308 *i* P PKPbc 12 50 18.4 +1.1
ELDT Eldivan 148.95 317 *i* P PKPbc 12 50 18.0 +0.5
CFR Carcaliu 148.97 329⇑*i*P PKPbc 12 50 18.1 +0.6
CFR Carcaliu 148.97 329⇑P PKPbc 12 50 18.1 +0.6
MORC Moravsky Berou 148.97 345⇓*i*P PKPbc 12 50 18.3 +0.8
MORC Moravsky Berou 148.97 345 *e*PKPbc PKPbc 12 50 17.8 +0.2
VRI Vrincioaia 149.12 331⇑*i*P PKPbc 12 50 18.5 +0.6
VRI Vrincioaia 149.12 331 PKIKP PKPbc 12 50 18.3 +0.4
VRI Vrincioaia 149.12 331⇑P PKPbc 12 50 18.5 +0.6
PLOR Plostina 149.17 331⇑*i*P PKPbc 12 50 18.5 +0.5
MOX Moxa 149.19 353 *e*PKPbc PKPbc 12 50 18.2 +0.1
MOX Moxa 149.19 353 *e*PKP PKPbc 12 50 17.9 -0.2
comp=Z,16nm,1.4s
BR131 Keskin Array S 149.22 315 *e*PKPbc PKPbc 12 50 18.2 0.0
BRTR Keskin Array B 149.22 315 PKP PKPdf 12 50 13.5 -0.4
comp=Z,5.0nm,0.8s,baz=116,slow=2.9,SNR=6.5
BRTR PKPbc PKPbc 12 50 18.1 0.0
comp=Z,5.0nm,0.8s,baz=133,slow=3.4,SNR=32
WERD Werda 149.30 352 *e*PKPbc PKPbc 12 50 18.5 +0.2
KECS Kecovo 149.34 341 *e*PKP PKPbc 12 50 17.9 -0.6
KECS *e* 12 50 23.4
TIRR Tirgusor 149.35 327⇑*i*P PKPbc 12 50 19.1 +0.6
TIRR Tirgusor 149.35 327 *e*PKPbc PKPbc 12 50 18.8 +0.3
TIRR *e*PKPab PKPab 12 50 23.3 +0.1
PRU Pruhonice 149.40 349 *e*PKPbc PKPbc 12 50 18.6 0.0
PRU *e*PKPab PKPab 12 50 23.7 +0.4
HARR Harsova 149.42 328⇑*i*P PKPbc 12 50 19.5 +0.8
NKC Novy Kostel 149.49 352 *e*PKPbc PKPbc 12 50 19.4 +0.6
MEM Membach 149.56 360 PKPbc PKPbc 12 50 19.1 +0.2
MEM XPKiKP 12 50 27.8
SNF Seneffe 149.63 2 PKPbc PKPbc 12 50 19.5 +0.3
SNF APKPbc 12 50 24.9
SNF XPKPab 12 50 33.9
SNF E 12 50 42.9
ANTO Ankara 149.69 316⇓*i*P PKPbc 12 50 20.5 +1.2
ANTO Ankara 149.69 316 *e*PKPbc PKPbc 12 50 20.1 +0.7
ANTO *e*PKPab PKPab 12 50 26.1 +1.6
MLR Muntele Rosu 149.76 331⇑*i*P PKPbc 12 50 20.4 +0.9
MLR Muntele Rosu 149.76 331 PKIKP PKPbc 12 50 19.5 0.0
MLR Muntele Rosu 149.76 331⇑P PKPbc 12 50 20.4 +0.9
SGKT Sivrigoynuk 149.77 318 *i* P PKPbc 12 50 19.3 -0.2
MANZ Manzenberg 149.77 352 *e*PKPbc PKPbc 12 50 20.0 +0.5
VYHS Vyhne 149.82 343 *i* PKP PKPbc 12 50 19.9 +0.3
VYHS *e* 12 50 25.2
TNS Taunus Mts 149.88 357 *e*PKPbc PKPbc 12 50 21.6 +1.8
TREC Trest 149.88 347 *e*PKPbc PKPbc 12 50 20.1 +0.3
ROTZ Rotzenmuhle 149.98 352 *e*PKPbc PKPbc 12 50 20.5 +0.5
PSZ Piszkesteto 150.03 341⇓*e*pPKP/F PKPbc 12 50 20.7 +0.6
DRGR 150.05 337⇓*i*P PKPbc 12 50 20.8 +0.6
DRGR 150.05 337 PKHKP PKPbc 12 50 20.6 +0.4
DRGR 150.05 337 ⇓P PKPbc 12 50 20.8 +0.6
DOU Dourbes 150.05 2 PKPbc PKPbc 12 50 20.1 -0.1
DOU APKPbc 12 50 25.1
GIVF Givet 150.05 1 *e*PKP1 PKPbc 12 50 19.2 -1.0
comp=Z,68nm,1.2s
BAIF Baives 150.07 2 *e*PKP1 PKPbc 12 50 19.5 -0.8
comp=Z,39nm,1.1s
GRF Grafenberg Arr 150.17 353 *e*PKPbc PKPbc 12 50 20.4 -0.1
GRF *e*L 13 26 11.9
comp=Z,397nm,20.0s
VOIR 150.20 332⇑*i*P PKPbc 12 50 21.2 +0.6
HENT Hendek 150.34 320 *i* P PKPbc 12 50 20.4 -0.5
MEST Erdemli 150.37 310 *i* P PKPbc 12 50 21.5 +0.6
KHC Kasperske Hory 150.39 350 *e*PKPbc PKPbc 12 50 21.2 +0.2
KHC *e*PKPab PKPab 12 50 27.6 +0.2
WET Wettzell 150.49 351 *e*PKPbc PKPbc 12 50 21.6 +0.4
WLF Walferdange 150.50 360 *e*PKPbc PKPbc 12 50 21.9 +0.6
WLF Walferdange 150.50 360 PKPbc PKPbc 12 50 21.6 +0.4
WLF APKPbc 12 50 25.9
WLF PKPab PKPab 12 50 28.1 +0.3
WLF XPKPab 12 50 37.6
WLF Walferdange 150.50 360 *e*PKPbc PKPbc 12 50 21.8 +0.5
WLF *e*PKPab PKPab 12 50 28.4 +0.5
ZST Bratislava 150.55 345 *e*PKP PKPbc 12 50 21.2 -0.2
ZST *e* 12 50 28.9
SRO Srobarova 150.58 343 *e*PKP PKPdf 12 50 19.0 +2.9
GEC2 GERESS Array S 150.65 349 *e*PKPbc PKPbc 12 50 21.9 +0.3
GERES GERESS Array B 150.65 349 PKP PKPdf 12 50 15.2 -0.9
comp=Z,0.2nm,0.7s,baz=311,slow=3.8,SNR=3.5
GERES PKPbc PKPbc 12 50 21.7 0.0
comp=Z,4.6nm,0.8s,baz=301,slow=2.8,SNR=3.4
ROSF Rostrenen 150.87 13 *e*PKP1 PKPbc 12 50 20.3 -1.8
FLN La Foliniere 150.94 9 *e*PKP1 PKPbc 12 50 20.8 -1.5
comp=Z,58nm,1.2s
SGMF Saint Gilles 151.09 12 *e*PKP1 PKPbc 12 50 20.8 -1.9
comp=Z,28nm,1.0s
LDF La Druitiere 151.16 8 *e*PKP1 PKPbc 12 50 21.3 -1.5
comp=Z,42nm,1.2s
SOP Sopron 151.16 345⇓*e*pPKP/F PKPbc 12 50 23.4 +0.6
ERMK Ermenek 151.23 311 *i* P PKPbc 12 50 25.4 +2.4
GRR Gorron 151.25 9 *e*PKP1 PKPbc 12 50 21.6 -1.4
comp=Z,33nm,1.0s
STU Stuttgart 151.27 355 *e*PKPbc PKPbc 12 50 23.3 +0.2
BZS Buzias 151.45 337⇑*i*P PKPbc 12 50 23.4 -0.1
BZS Buzias 151.45 337⇑P PKPbc 12 50 23.4 -0.1
MOA Moln 151.50 348⇑*i*P PKPbc 12 50 23.6 0.0
comp=Z,5.4nm,0.7s
MEZF Maizieres J'vi 151.66 1 *e*PKP1 PKPbc 12 50 23.2 -0.8
comp=Z,33nm,1.1s
FUR Furstenfeldbru 151.67 352 *e*PKPbc PKPbc 12 50 24.0 0.0
CDF Champ du Feu 151.73 358 *e*PKP1 PKPbc 12 50 23.2 -0.9
comp=Z,14nm,0.8s
BFO Black Forest 151.77 357 *e*PKPbc PKPbc 12 50 24.2 0.0
ULDT Uludag 151.82 320 *i* P PKPbc 12 50 24.6 +0.2
PKSM Moragy 151.94 341⇑*i*P PKPbc 12 50 24.8 +0.2
PKSM Moragy 151.94 341⇓*e*P PKPbc 12 50 24.6 0.0
HAU Haudompre 152.16 359 *e*PKP1 PKPbc 12 50 24.9 -0.2
comp=Z,15nm,0.9s
TKTP Tekketepe 152.30 315 *i* P PKPbc 12 50 26.5 +1.1
HINF Hinteralfeld 152.34 359 *e*PKP1 PKPbc 12 50 24.1 -1.4
comp=Z,6.3nm,0.6s
KBA Koelnbreinsper 152.41 349⇑*i*P PKPbc 12 50 25.7 0.0
comp=Z,6.8nm,0.8s
WATA Walderalm 152.44 352⇑*i*P PKPbc 12 50 26.0 +0.2
comp=Z,4.9nm,1.1s
MOTA Moosalm 152.50 352⇓*i*P PKPbc 12 50 25.9 0.0
comp=Z,6.2nm,1.0s
WTTA Wattenberg 152.51 352⇑*i*P PKPbc 12 50 25.9 0.0
comp=Z,10nm,0.7s
SQTA Sankt Quirin 152.61 352⇑*i*P PKPbc 12 50 26.5 +0.4
comp=Z,5.4nm,1.0s
DAVA Damuels 152.69 354⇑*i*P PKPbc 12 50 26.4 +0.1
comp=Z,5.9nm,1.1s
LOR Lormes 152.85 3 *e*PKP1 PKPbc 12 50 25.6 -1.1
comp=Z,17nm,1.1s
SSF Saint Saulge 153.03 4 *e*PKP1 PKPbc 12 50 26.0 -1.1
comp=Z,22nm,0.9s
MFF Saint Martin d 153.10 9 *e*PKP1 PKPbc 12 50 25.8 -1.4
comp=Z,16nm,1.0s
LJU Ljubljana 153.17 347 *e*PKPbc PKPbc 12 50 27.0 -0.3
AVF Avril sur Loir 153.29 4 *e*PKP1 PKPbc 12 50 26.2 -1.4
comp=Z,12nm,0.9s
SMF Signal de Mont 153.47 3 *e*PKP1 PKPbc 12 50 26.7 -1.3
comp=Z,16nm,1.0s
BGF Bois d'Agland 153.49 5 *e*PKP1 PKPbc 12 50 26.9 -1.2
comp=Z,16nm,0.9s
BOJS Bojanci 153.52 345 *e*PKPbc PKPbc 12 50 28.1 0.0

CABF	**La Chapelle**	**153.56**	**360**	*e*PKP1	PKPbc	12 50 27.9	-0.3
	comp=Z,24nm,1.0s						
TCF	**Toulx Ste Croi**	**153.70**	**6**	*e*PKP1	PKPbc	12 50 27.3	-1.2
RJF	**Les Rejaudoux**	**154.60**	**7**	*e*PKP1	PKPbc	12 50 28.9	-1.5
ESDC	**Sonseca Array**	**158.72**	**21**	PKPab	PKPab	12 51 02.3	-0.5
	comp=Z,0.1nm,0.3s,baz=316,slow=4.1,SNR=5.4						
TORD	**Torodi Ar. Bea**	**171.99**	**149**	PKP	PKPdf	12 50 37.4	-1.0
	comp=Z,1.6nm,0.8s,baz=282,slow=1.1,SNR=9.1						
TORD				PKPab	PKPab	12 52 00.8	-0.4
	comp=Z,0.6nm,0.8s,baz=274,slow=2.3,SNR=3.2						

ISCJB ***07*** *12:39:03.1±1.3, 73N±0.1×752W±0.1, h33km, mb3.4/3, Error ellipse: s-maj=20.3km s-min=12.2km az=102.8*
IDC ***07*** *12:39:03.5±4.6, 721N×7528W, h22km±29km, mb3.5/3, mb1 3.7/4, mb1mx3.4/20, mbtmp3.7/4, ML4.2/1, Error ellipse: s-maj=33.3km s-min=24.3km az=80.0*
NEIC ***07*** *12:39:10.6±1.7, 729N×7494W, h87km±15km, mb3.6/1, Error ellipse: s-maj=25.2km s-min=13.2km az=96.0*
ISC 07 12:39:05.5±1.2, 73N±01×752W±01, h35km, n10, σ1§05/11, mb3.4/3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.56**	**159**	Pg	**Pn**	**12 39 49.6**	**+5.1**
	44nm,0.3s,baz=290,slow=4.8,SNR=69						
ROSC				Lg		12 40 24.7	
	62nm,0.3s,baz=82,slow=22,SNR=11						
SDV	**Santo Domingo**	**4.84**	**70**	Pn	**Pn**	**12 40 17.8**	**+2.0**
	10nm,0.3s,baz=208,slow=2.9,SNR=48						
SDV				Sn	**Sn**	**12 41 10.0**	**-0.6**
	19nm,0.3s,baz=118,slow=23,SNR=6.2						
SDV	**Santo Domingo**	**4.84**	**70**	*e*Pn	**Pn**	**12 40 17.3**	**+1.5**
SDV				*e*Sn	**Sn**	**12 41 09.7**	**-0.9**
SAML	**Samuel**	**20.09**	**143**	*e*P	**P**	**12 43 35.7**	**-0.3**
LPAZ	**La Paz**	**24.44**	**163**	P	**P**	**12 44 22.0**	**+1.1**
	1.3nm,0.5s,mb3.6,baz=351,slow=6.0,SNR=12						
LPAZ	**La Paz**	**24.44**	**163**	*e*P	**P**	**12 44 22.0**	**+1.2**
	1.3nm,0.5s,mb3.6						
SIV	**San Ignacio**	**27.03**	**149**	P	**P**	**12 44 43.1**	**-1.2**
	0.6nm,0.4s,mb3.5,baz=310,slow=10,SNR=6.0						
YKA	**Yellowknife Ar**	**62.14**	**341**	P	**P**	**12 49 22.5**	**-0.5**
	0.1nm,0.5s,mb3.2,baz=133,slow=6.7,SNR=6.8						
YKA				pP	pP	12 49 34.9	+1.2
	0.2nm,0.5s,baz=132,slow=6.9,SNR=11						
YKA	**Yellowknife Ar**	**62.14**	**341**	P	**P**	**12 49 22.6**	**-0.5**
YKA				pP	pP	12 49 34.9	+1.2
WRA	**Warramunga Arr**	**148.68**	**243**	PKPbc	PKPbc	12 58 49.6	+0.6
	0.8nm,1.1s,baz=104,slow=3.6,SNR=7.7						

ISCJB ***07*** *13:10:56.0±1.8, 45N±0.1×94.13E±0.09, h57km±17km, mb4.2/10, Error ellipse: s-maj=21.1km s-min=9.8km az=82.1*
IDC ***07*** *13:10:55.1±10.0, 433N×9384E, h40km±72km, mb4.0/7, mb1 4.1/8, mb1mx3.7/22, mbtmp4.2/8, ML4.3/1, MS3.9/1, Ms1 3.9/1, ms1mx2.4/37, Error ellipse: s-maj=131.4km s-min=19.7km az=62.0*
NEIC ***07*** *13:10:55.3±0.6, 452N×94.13E, h30km, mb4.6/3, Error ellipse: s-maj=18.0km s-min=9.5km az=48.0*
ISC 07 13:10:57.9±1.3, 45N±01×9412E±009, h54km±13km, n17, σ0§67/17, mb4.2/10, 2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.10**	**110**	P	**Pn**	**13 12 12.6**	**+0.9**
	9.2nm,0.3s,baz=295,slow=7.3,SNR=48						
PSI				S	**Sn**	**13 13 08.8**	**-0.4**
	6.3nm,0.3s,baz=247,slow=4.1,SNR=7.9						
PBA	**Port Blair**	**7.20**	**349**	*e*P	x	13 13 19.2	
PBA				*e*S	x	13 13 27.0	
PBA				*ex*	x	13 13 28.4	
	comp=N,126nm,0.3s						
PBA				*ex*	x	13 13 28.4	
	comp=E,101nm,0.4s						
PALK	**Pallekele**	**13.62**	**282**	Pn	**Pn**	**13 14 08.0**	**-0.1**
CHG	**Chiang Mai**	**14.95**	**18**	P	**Pn**	**13 14 25.4**	**-0.4**
CHTO	**Chiang Mai**	**14.95**	**18**	*e*Pn	**Pn**	**13 14 25.1**	**-0.7**
	comp=E,10nm,0.6s						
CHTO				*e*P		13 14 30.4	
LSA	**Lhasa**	**25.18**	**354**	P	**P**	**13 16 18.3**	**+0.1**
	comp=E,11nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**38.38**	**127**	P	**P**	**13 18 12.5**	**-1.2**
	comp=E,2.0nm,0.9s,mb3.8,baz=273,slow=3.9,SNR=7.9						
MKAR	**Makanchi Array**	**43.31**	**348**	P	**P**	**13 18 54.7**	**+0.3**
	comp=E,1.0nm,0.7s,mb3.6,baz=166,slow=8.5,SNR=7.2						
SONM	**Songino Array**	**44.40**	**12**	P	**P**	**13 19 03.3**	**+0.2**
	comp=E,2.4nm,0.7s,mb4.0,baz=185,slow=9.0,SNR=4.7						
WRA	**Warramunga Arr**	**46.42**	**123**	P	**P**	**13 19 19.6**	**+0.6**
	comp=E,7.6nm,0.8s,mb4.7,baz=300,slow=9.0,SNR=56						
WRAB	**Tennant Creek**	**46.42**	**123**	*e*P	**P**	**13 19 19.8**	**+0.7**
	comp=E,8.6nm,0.6s,mb4.9						
WB2	**Warramunga Arr**	**46.43**	**123**	*i*P	**P**	**13 19 19.6**	**+0.4**
KURK	**Kurchatov**	**47.82**	**347**	P	**P**	**13 19 29.9**	**-0.1**
	comp=E,3.8nm,1.0s,mb4.4						
KURK				*e*	pP	13 19 40.7	-3.5
ASAR	**Alice Springs**	**47.86**	**128**	P	**P**	**13 19 30.6**	**+0.2**
	comp=E,1.7nm,0.8s,mb4.2,baz=300,slow=8.1,SNR=21						
CTA	**Charters Tower**	**56.75**	**117**	P	**P**	**13 20 36.8**	**+0.5**
	comp=E,1.2nm,0.5s,mb4.2,baz=284,slow=7.3,SNR=3.6						
STKA	**Stephens Creek**	**57.87**	**132**	P	**P**	**13 20 42.4**	**-1.7**
	comp=E,2.9nm,0.9s,mb4.3,baz=324,slow=11,SNR=4.8						
STKA	**Stephens Creek**	**57.87**	**132**	P	**P**	**13 20 42.4**	**-1.7**

MAN ***07*** *13:27:37.9, 447N×12738E, h5km, mb4.6, ML5.4*
ISCJB ***07*** *13:27:42.6±0.4, 525N±007×1271E±0.1, h10km, mb4.4/27, Error ellipse: s-maj=20.7km s-min=5.8km az=131.6*
IDC ***07*** *13:27:42.5±0.7, 5.17N×12705E, h0km, mb4.0/14, mb1 4.1/14, mb1mx4.0/21, mbtmp4.0/14, MS3.5/2, Ms1 3.5/2, ms1mx2.6/36, Error ellipse: s-maj=56.4km s-min=13.8km az=71.0*
NEIC ***07*** *13:27:44.6±0.4, 529N×12707E, h10km, mb4.7/7, Error ellipse: s-maj=38.1km s-min=7.3km az=71.0*
MOS ***07*** *13:27:45.8±0.8, 5.12N×12684E, h33km, mb4.8/9, Error ellipse: s-maj=41.0km s-min=10.7km az=113.4*
ISC 07 13:27:44.5±0.4, 529N±007×1271E±01, h10km, n48, σ0§97/47, mb4.4/27, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.83**	**333**	*e*P	**Pg**	**13 28 21.5**	**+1.8**
KCP	**Kidapawan**	**2.61**	**311**	*e*P	**Pg**	**13 28 38.2**	**+3.6**
BIPH	**Bislig**	**2.96**	**346**	*e*P	**Pg**	**13 28 39.7**	**-1.5**
BUKP	**Musuan**	**3.26**	**322**	*e*P	**Pb**	**13 28 42.9**	**+0.5**
CGP	**Cagayan de Oro**	**3.93**	**323**	*i*P	**Pb**	**13 28 51.9**	**-2.1**
CGP				*e*S	**Sb**	**13 29 48.9**	**+7.3**
SCPH	**Surigao**	**4.73**	**341**	*e*P	**Pb**	**13 29 05.8**	**-1.8**
KAKA	**Kakadu**	**18.66**	**163**	*e*P	**Pn**	**13 32 04.0**	**+1.1**
	13nm,1.0s						
GUMO	**Guam**	**19.37**	**64**	LR	LR	13 37 58.3	
	comp=Z,70nm,19.1s,baz=245,slow=32						
FITZ	**Fitzroy Crossi**	**23.29**	**183**	*e*P	**P**	**13 32 54.5**	**+2.0**
	9.9nm,0.9s,mb4.2						
FITZ	**Fitzroy Crossi**	**23.29**	**183**	P	**P**	**13 32 52.0**	**-0.5**
	3.9nm,0.7s,mb4.0,baz=9.7,slow=16,SNR=5.9						
WRAB	**Tennant Creek**	**26.07**	**164**	*e*P	**P**	**13 33 17.7**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,21nm,0.8s,mb4.7						
WRAB	**Tennant Creek**	**26.07**	**164**	*e*P	**P**	**13 33 17.7**	**-0.4**
	comp=Z,21nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**26.07**	**164**	P	**P**	**13 33 17.2**	**-1.0**
	comp=Z,7.2nm,0.8s,mb4.2,baz=343,slow=9.9,SNR=18						
WRA				ScP	ScP	13 40 24.7	-0.7
	comp=Z,0.5nm,1.0s,baz=310,slow=5.0,SNR=5.5						
WB2	**Warramunga Arr**	**26.08**	**164**	*e*P	**P**	**13 33 17.7**	**-0.5**
ASAR	**Alice Springs**	**29.54**	**167**	P	**P**	**13 33 48.0**	**-1.2**
	comp=Z,1.1nm,0.8s,mb3.6,baz=356,slow=7.6,SNR=12						
ASAR				ScP	ScP	13 40 35.8	-0.3
	comp=Z,1.2nm,1.0s,baz=342,slow=2.8,SNR=4.6						
MJAR	**Matsushiro Arr**	**32.73**	**17**	LR	LR	13 47 47.0	
	comp=Z,155nm,18.5s,baz=235,slow=37						
STKA	**Stephens Creek**	**39.47**	**160**	*e*P	**P**	**13 35 16.2**	**+1.2**
	comp=Z,12nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**39.47**	**160**	P	**P**	**13 35 12.4**	**-2.5**
	comp=Z,13nm,0.8s,mb4.7,baz=320,slow=10,SNR=8.0						
JIRN	**Jiri**	**44.76**	**304**	*e*P	**P**	**13 35 57.7**	**-0.5**
	comp=Z,22nm,1.0s,mb5.0						
GUN	**Gumba**	**45.11**	**305**	*e*P	**P**	**13 36 01.2**	**+0.3**
	comp=Z,34nm,0.9s,mb5.2						
KKN	**Kakani**	**45.56**	**304**	*e*P	**P**	**13 36 04.0**	**-0.5**
DMN	**Daman**	**45.64**	**304**	*e*P	**P**	**13 36 04.1**	**-1.0**
ULN	**Ulaanbaatar**	**45.75**	**341**	*e*P	**P**	**13 36 06.3**	**+0.3**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
ULN	**Ulaanbaatar**	**45.75**	**341**	*e*P	**P**	**13 36 06.3**	**+0.3**
	comp=Z,6.1nm,1.0s,mb4.5						
SONM	**Songino Array**	**45.94**	**341**	P	**P**	**13 36 08.2**	**+0.7**
	comp=Z,0.4nm,0.4s,mb3.7,baz=171,slow=12,SNR=2.7						
GKN	**Gorkha**	**46.17**	**304**	*e*P	**P**	**13 36 08.8**	**-0.5**
KOLN	**Koldanda**	**46.94**	**303**	*e*P	**P**	**13 36 15.4**	**0.0**
	comp=Z,14nm,0.7s,mb5.0						
BOD	**Bodaibo**	**53.38**	**351**	*e*P	**P**	**13 37 04.9**	**+0.7**
BOD				*e*		13 37 16.2	
BOD				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
MKAR	**Makanchi Array**	**56.49**	**325**	P	**P**	**13 37 26.6**	**0.0**
	comp=Z,1.6nm,0.6s,mb4.2,baz=125,slow=7.7,SNR=15						
ZAL	**Zalesovo**	**59.37**	**332**	P	**P**	**13 37 47.4**	**+0.5**
	comp=Z,0.8nm,0.3s,mb4.3,baz=90,slow=2.8,SNR=2.7						
KURK	**Kurchatov**	**60.62**	**327**	*e*P	**P**	**13 37 55.5**	**0.0**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
KURK	**Kurchatov**	**60.62**	**327**	*e*P	**P**	**13 37 55.5**	**-0.1**
	comp=Z,5.8nm,0.8s,mb4.8						
NVS	**Novosibirsk**	**60.65**	**333**	*e*P	**P**	**13 37 55.0**	**-0.7**
NVS				pmax	pmax		
	comp=Z,17nm,2.0s,mb4.8						
NVS				pmax	pmax		
	comp=N,10.0nm,1.9s						
BVAR	**Borovoye Array**	**66.21**	**327**	P	**P**	**13 38 33.1**	**+0.6**
	comp=N,3.0nm,1.1s,mb4.2,baz=134,slow=8.6,SNR=9.9						
BRVK	**Borovoye**	**66.28**	**327**	*e*P	**P**	**13 38 33.8**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
BRVK	**Borovoye**	**66.28**	**327**	*e*P	**P**	**13 38 33.8**	**+0.8**
	comp=Z,7.5nm,1.1s,mb4.6						
TIXI	**Tiksi**	**66.28**	**1**	*e*P	**P**	**13 38 33.1**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
ZRNK	**Zerenda**	**66.95**	**326**	*e*P	**P**	**13 38 37.2**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
ZRNK	**Zerenda**	**66.95**	**326**	*e*P	**P**	**13 38 37.2**	**0.0**
	comp=Z,7.7nm,1.0s,mb4.7						
AKTK	**Aktyubinsk**	**72.66**	**321**	P	**P**	**13 39 12.8**	**+0.5**
AKTO	**Aktyubinsk**	**72.66**	**321**	P	**P**	**13 39 12.8**	**+0.5**
	comp=Z,1.7nm,0.5s,mb4.2,baz=95,slow=11,SNR=7.1						
ORR	**Orenburg**	**74.92**	**322**	*e*P	**P**	**13 39 27.8**	**+2.2**
ORR				pmax	pmax		
	comp=Z,10.0nm,2.6s,mb4.3						
ILAR	**Eielson Array**	**83.55**	**25**	P	**P**	**13 40 13.7**	**+0.9**
	comp=Z,0.2nm,0.5s,mb3.5,baz=258,slow=5.1,SNR=6.7						
VNDA	**Vanda**	**84.92**	**173**	P	**P**	**13 40 20.1**	**+0.3**
	comp=Z,0.6nm,0.9s,mb3.7,baz=286,slow=5.4,SNR=2.9						
OBN	**Obninsk**	**85.99**	**325**	*e*P	**P**	**13 40 26.0**	**+0.9**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb5.0						
ARCES	**ARCESS Array B**	**89.11**	**340**	P	**P**	**13 40 39.4**	**-0.7**
	comp=Z,0.7nm,0.8s,mb4.1,baz=67,slow=6.9,SNR=3.2						
BRTR	**Keskin Array B**	**89.30**	**310**	P	**P**	**13 40 40.4**	**-0.6**
	comp=Z,0.4nm,0.7s,mb3.8,baz=103,slow=5.6,SNR=4.1						
FINES	**FINESS Array B**	**90.63**	**332**	P	**P**	**13 40 46.4**	**-0.8**
	comp=Z,0.6nm,0.6s,mb4.1,baz=35,slow=7.0,SNR=3.6						

IDC ***07*** *13:35:32.7±1.8, 24.33S×6701W, h150km±19km, mb3.4/2, mb1 3.5/5, mb1mx3.3/14, mbtmp3.8/5, Error ellipse: s-maj=30.4km s-min=14.8km az=97.0*
ISCJB ***07*** *13:35:33.3±1.1, 24.29S±0.005×670W±0.2, h166km±17km, mb3.3/2, Error ellipse: s-maj=26.8km s-min=8.7km az=2.1*
NEIC ***07*** *13:35:35.2±1.6, 24.23S×6692W, h170km±17km, mb3.8/1, Error ellipse: s-maj=23.6km s-min=13.6km az=84.0*
ISC 07 13:35:34.1±0.9, 2429S±005×671W±02, h162km±16km, n10, σ0§96/12, mb3.3/2, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**7.36**	**188**	P	**Pn**	**13 37 15.2**	**-3.7**
	0.1nm,0.3s,baz=318,slow=17,SNR=3.8						
CFAA				S	**Sn**	**13 38 41.0**	**-0.4**
	0.1nm,0.3s,baz=225,slow=15,SNR=5.6						
LPAZ	**La Paz**	**8.02**	**353**	P	**Pn**	**13 37 29.4**	**+1.8**
	0.6nm,0.3s,baz=147,slow=9.9,SNR=17						
LPAZ				S	**Sn**	**13 38 56.8**	**-0.5**
	0.1nm,0.3s,baz=10.0,slow=17,SNR=3.3						
LPAZ	**La Paz**	**8.02**	**353**	*e*Pn	**Pn**	**13 37 29.4**	**+1.7**
LPAZ				S	**Sn**	**13 38 56.8**	**-0.4**
SIV	**San Ignacio**	**9.98**	**35**	P	**Pn**	**13 37 52.6**	**-1.0**
	0.1nm,0.3s,baz=263,slow=17,SNR=3.0						
TRQA	**Tornquist**	**14.39**	**164**	P	**Pn**	**13 38 51.4**	**+1.1**
	3.0nm,0.6s						
BDFB	**Brasilia**	**19.83**	**68**	P	**P**	**13 39 52.3**	**+0.1**
	0.9nm,0.3s,baz=249,slow=9.5,SNR=11						
TORD	**Torodi Ar. Bea**	**76.71**	**69**	P	**P**	**13 47 07.5**	**+0.2**
	0.4nm,0.4s,mb3.5,baz=259,slow=6.0,SNR=10						
YKA	**Yellowknife Ar**	**94.38**	**340**	P	**P**	**13 48 34.7**	**-0.7**
	0.1nm,0.5s,mb3.2,baz=130,slow=4.4,SNR=7.3						
YKA	**Yellowknife Ar**	**94.38**	**340**	P	**P**	**13 48 34.7**	**-0.7**
WRA	**Warramunga Arr**	**131.35**	**207**	PKP	PKPdf	13 54 28.2	+1.2
	0.3nm,0.9s,baz=174,slow=1.4,SNR=4.7						

IDC ***07*** *13:44:58.7±1.0, 59.32N×16387E, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.8/23, mbtmp3.9/8, ML4.1/1, Error ellipse: s-maj=24.3km s-min=16.9km az=60.0*
KRSC ***07*** *13:44:59.1±1.2, 5931N×16419E, h12km±2km, ML4.0*
ISCJB ***07*** *13:45:00.6±1.4, 5929N±003×1642E±0.1, h23km±11km, mb3.8/11, Error ellipse: s-maj=10.8km s-min=5.2km az=19.1*
MOS ***07*** *13:45:00.9±1.3, 59.15N×16402E, h33km, mb4.3/2, Error ellipse: s-maj=37.6km s-min=15.7km az=96.8*
NEIC ***07*** *13:45:03.5±1.6, 5911N×16401E, h35km±14km, mb4.2/3, Error ellipse: s-maj=16.8km s-min=13.0km az=64.0*
ISC 07 13:45:01.6±1.4, 5930N±003×1642E±01, h16km±9km, n46, σ1§22/51, mb3.8/11, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSSR	**Ossora**	**0.56**	**265**	*i*P	**Pg**	**13 45 11.5**	**-1.2**
OSSR				*e*S	**Sg**	**13 45 20.0**	**-0.2**
SMKR	**Semkarok**	**3.08**	**209**	*i*P	**Pn**	**13 45 49.0**	**-0.5**
SRKR	**Sorokina**	**3.10**	**212**	*e*P	**Pn**	**13 45 49.6**	**-0.1**
KBG	**Krutoberegovo**	**3.15**	**195**	*i*P	**Pn**	**13 45 49.1**	**-1.4**
KBG				Smax			
	180nm,1.3s						
BDR	**Baidarnaya**	**3.16**	**211**	*e*P	**Pn**	**13 45 50.0**	**-0.6**
KBTR	**Krutoberegovo**	**3.19**	**194**	*e*P	**Pn**	**13 45 49.1**	**-1.8**
KAMR	**Kamenskoye**	**3.32**	**17**	*i*P	**Pn**	**13 45 52.5**	**-0.3**
KAMR				*e*S	**Sn**	**13 46 32.4**	**+0.6**
KAMR				Smax			
	430nm,1.2s						
KLY	**Klyuchi**	**3.54**	**213**	*e*P	**Pn**	**13 45 54.2**	**-1.5**
EVNR	**Evensk**	**3.56**	**320**	*e*P	**Pn**	**13 45 55.7**	**-0.4**
KRSR	**Krestovskiy**	**3.64**	**213**	P	**Pn**	**13 45 58.9**	**+1.7**
CIRR	**Tsirk**	**3.68**	**211**	P	**Pn**	**13 45 58.5**	**+0.8**
LGNR	**Loginova**	**3.73**	**211**	P	**Pn**	**13 45 58.1**	**-0.2**
ZLN	**Zelenaya**	**3.75**	**210**	P	**Pn**	**13 46 00.9**	**+2.2**
SRDR	**Sredinnyy**	**3.82**	**220**	*e*P	**Pn**	**13 46 01.8**	**+2.2**
KPT	**Kopyto**	**3.96**	**214**	P	**Pn**	**13 46 03.2**	**+1.7**
KMNR	**Kamenistaya**	**4.13**	**212**	*e*P	**Pn**	**13 46 05.1**	**+1.1**
BKI	**Bering**	**4.23**	**166**	*e*P	**Pn**	**13 46 03.5**	**-1.7**
ESO	**Esso**	**4.48**	**223**	*e*P	**Pn**	**13 46 10.2**	**+1.5**
ESO				Smax			
	70nm,1.3s						
TUMR	**Tumrok**	**4.58**	**210**	P	**Pn**	**13 46 10.9**	**+0.8**
MKZ	**Mys Kozlova**	**4.94**	**197**	*e*P	**Pn**	**13 46 14.4**	**-0.6**
MKZ				*e*S	**Sn**	**13 47 08.5**	**-3.3**
GNL	**Ganaly**	**6.59**	**214**	*e*P	**Pn**	**13 46 38.7**	**+1.0**
SPN	**Mys Shipunski**	**6.63**	**202**	*i*P	**Pn**	**13 46 38.3**	**0.0**
SPN				*e*S	**Sn**	**13 47 51.3**	**-2.2**
SDLR	**Sedlovina**	**6.71**	**208**	*e*P	**Pn**	**13 46 41.4**	**+2.0**
SMAR	**Somma**	**6.75**	**208**	P	**Pn**	**13 46 41.2**	**+1.4**
AVH	**Avacha**	**6.76**	**209**	*e*P	**Pn**	**13 46 41.5**	**+1.5**
SEY	**Seymchan**	**6.76**	**308**	*e*P	**Pn**	**13 46 39.6**	**-0.5**
FX1	**Attu Island--F**	**8.17**	**138**	Pn	**Pn**	**13 46 58.1**	**-1.3**
FX1				Sn	**Sn**	**13 48 16.6**	**-15**
	7.8nm,0.3s,baz=300,slow=2.5,SNR=42						
	baz=263,slow=20,SNR=1.4						
FX1	**Attu Island--F**	**8.17**	**138**	PN	**Pn**	**13 46 58.1**	**-1.3**
FX1				pmax	pmax		
	comp=Z,8.0nm,0.3s						
FX1	**Attu Island--F**	**8.17**	**138**	*e*P	**Pn**	**13 46 57.5**	**-1.8**
BILL	**Bilibino**	**8.82**	**5**	PN	**Pn**	**13 47 11.9**	**+3.6**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BILL	**Bilibino**	**8.82**	**5**	Pn	**Pn**	**13 47 11.9**	**+3.6**
	comp=Z,1.8nm,0.4s						
BILL	**Bilibino**	**8.82**	**5**	*e*P	**Pn**	**13 47 09.1**	**+0.8**
TIXI	**Tiksi**	**18.77**	**325**	*e*P	**Pn**	**13 49 20.4**	**0.0**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BOD	**Bodaibo**	**25.70**	**289**	*e*P	**P**	**13 50 29.6**	**-1.3**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.7						
INK	**Inuvik**	**27.70**	**45**	P	**P**	**13 50 48.4**	**-0.5**
	comp=Z,1.5nm,0.9s,mb3.6,baz=298,slow=8.0,SNR=9.9						
INK	**Inuvik**	**27.70**	**45**	*e*P	**P**	**13 50 48.7**	**-0.2**
YKA	**Yellowknife Ar**	**37.20**	**49**	P	**P**	**13 52 11.6**	**-0.3**
	comp=Z,1.2nm,0.7s,mb3.8,baz=302,slow=8.3,SNR=20						
MKAR	**Makanchi Array**	**47.66**	**293**	P	**P**	**13 53 35.6**	**-1.3**
	comp=Z,0.2nm,0.6s,mb3.4,baz=46,slow=6.2,SNR=3.5						
NVAR	**Mina Array Bea**	**51.81**	**77**	P	**P**	**13 54 09.8**	**+1.2**
	comp=Z,0.6nm,0.8s,mb3.6,baz=327,slow=6.3,SNR=5.1						
BW06	**Boulder Array**	**52.76**	**67**	*e*P	**P**	**13 54 14.8**	**-0.8**
	comp=Z,2.2nm,0.9s,mb4.1						
PDAR	**Pinedale Array**	**52.76**	**67**	P	**P**	**13 54 16.1**	**+0.5**
	comp=Z,2.2nm,1.0s,mb4.0,baz=328,slow=5.3,SNR=13						
SMCO	**Snowmass**	**56.78**	**68**	*e*P	**P**	**13 54 46.4**	**+1.6**
	comp=Z,3.3nm,1.1s,mb4.3						
NOA	**NORSAR Array B**	**58.16**	**345**	P	**P**	**13 54 53.4**	**-1.1**
	comp=Z,1.0nm,0.8s,mb3.9,baz=16,slow=6.9,SNR=3.3						
WMOK	**Wichita Mounta**	**64.22**	**65**	*e*P	**P**	**13 55 36.1**	**+0.5**
WMOK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
WMOK	**Wichita Mounta**	**64.22**	**65**	*e*P	**P**	**13 55 36.1**	**+0.5**
	comp=Z,2.8nm,1.1s,mb4.2						
WRA	**Warramunga Arr**	**82.66**	**208**	P	**P**	**13 57 22.8**	**-1.3**
	comp=Z,0.4nm,0.9s,mb3.4,baz=16,slow=5.6,SNR=4.6						

ISCJB ***07*** *13:54:02.1±1.0, 68N±0.1×730W±0.2, h177km±11km, mb3.6/1, Error ellipse: s-maj=30.5km s-min=11.2km az=77.2*
IDC ***07*** *13:54:02.7±0.9, 670N×7292W, h166km±14km, mb3.2/1, mb1 3.5/3, mb1mx3.0/20, mbtmp3.8/3, Error ellipse: s-maj=58.5km s-min=8.0km az=132.0*
NEIC ***07*** *13:54:03.2±0.9, 680N×7304W, h169km±10km, mb3.7/1, Error ellipse: s-maj=24.1km s-min=14.8km az=118.0*
ISC 07 13:54:03.4±1.0, 68N±01×730W±01, h166km±11km, n8, σ0§41/13, mb3.6/1, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.34**	**214**	P	**Pn**	**13 54 43.9**	**+0.6**
	50nm,0.3s,baz=299,slow=6.5,SNR=87						
ROSC				S	**Sn**	**13 55 14.0**	**-0.3**
	60nm,0.3s,baz=100,slow=20,SNR=9.6						
ROSC	**El Rosal**	**2.34**	**214**	*e*Pn	**Pn**	**13 54 43.6**	**+0.3**
ROSC				*e*Sn	**Sn**	**13 55 10.5**	**-3.8**
ROSC				S	**Sn**	**13 55 14.0**	**-0.3**
SDV	**Santo Domingo**	**3.14**	**49**	P	**Pn**	**13 54 53.6**	**+0.4**
	5.4nm,0.3s,baz=217,slow=1.2,SNR=28						
SDV				S	**Sn**	**13 55 31.5**	**-0.4**
	7.5nm,0.3s,baz=282,slow=16,SNR=11						
SDV	**Santo Domingo**	**3.14**	**49**	*e*Pn	**Pn**	**13 54 53.4**	**+0.2**
SDV				Sn	**Sn**	**13 55 25.6**	**-6.2**
SDV				S	**Sn**	**13 55 31.5**	**-0.4**
SAML	**Samuel**	**18.48**	**148**	*e*P	**P**	**13 58 06.6**	**0.0**
	1.2nm,0.3s						
YKA	**Yellowknife Ar**	**63.30**	**340**	P	**P**	**14 04 14.2**	**-0.1**
	0.5nm,0.6s,mb3.6,baz=133,slow=6.5,SNR=23						
YKA	**Yellowknife Ar**	**63.30**	**340**	P	**P**	**14 04 14.2**	**-0.1**
ASAR	**Alice Springs**	**149.18**	**234**	PKPbc	PKPbc	14 13 32.0	0.0
	0.2nm,

0.3nm,0.3s,baz=106,slow=17,SNR=7.8
DZM LR LR 14 15 43.4
comp=Z,568nm,18.7s,baz=8.5,slow=34
PMG Port Moresby 14.00 269 Pn **Pn 14 11 19.2 -0.4**
0.2nm,0.3s,baz=306,slow=19,SNR=1.7
PMG LR LR 14 16 29.2
comp=Z,730nm,19.7s,baz=99,slow=36
PMG Port Moresby 14.00 269 *e*P **Pn 14 11 19.2 -0.4**
PMG pmax pmax
comp=Z,11nm,1.0s
PMG Port Moresby 14.00 269 *e*Pn **Pn 14 11 19.2 -0.4**
comp=Z,11nm,1.0s
PMG LR LR 14 16 29.1
CTA Charters Tower 18.00 232 *e*P **Pn 14 12 13.9 +2.8**
comp=Z,14nm,0.8s
CTA Charters Tower 18.00 232 P **Pn 14 12 13.3 +2.2**
comp=Z,0.2nm,0.3s,baz=52,slow=14,SNR=12
CTA LR LR 14 17 10.3
comp=Z,120nm,21.9s,baz=52,slow=30
CTA Charters Tower 18.00 232 *e*P **Pn 14 12 13.9 +2.8**
CTA pmax pmax
comp=Z,14nm,0.8s
CTAO Charters Tower 18.00 232 *e*P **Pn 14 12 13.7 +2.6**
CTAO pmax pmax
comp=Z,17nm,0.8s
CTAO Charters Tower 18.00 232 *e*P **Pn 14 12 13.7 +2.6**
comp=Z,17nm,0.8s
AFI Afiamalu 26.67 102 LR LR 14 21 44.5
comp=Z,186nm,19.5s,baz=279,slow=31
RAO Raoul Island 27.66 138 LR LR 14 23 06.8
comp=Z,234nm,18.5s,baz=28,slow=33
WRAB Tennant Creek 28.07 245 *e*P **P 14 13 51.3 -0.7**
WRAB pmax pmax
comp=Z,13nm,0.7s,mb4.7
WRAB Tennant Creek 28.07 245 *e*P **P 14 13 51.3 -0.7**
comp=Z,13nm,0.7s,mb4.7
WB2 Warramunga Arr 28.07 245 *e*P **P 14 13 51.5 -0.5**
WRA Warramunga Arr 28.08 245 P **P 14 13 51.8 -0.3**
comp=Z,3.4nm,0.5s,mb4.2,baz=75,slow=9.4,SNR=39
STKA Stephens Creek 28.86 217 P **P 14 13 57.2 -1.8**
comp=Z,2.9nm,0.7s,mb4.1,baz=42,slow=14,SNR=5.4
STKA Stephens Creek 28.86 217 *e*P **P 14 13 57.1 -1.9**
ASAR Alice Springs 29.78 238 P **P 14 14 04.9 -2.3**
comp=Z,0.7nm,0.4s,mb3.8,baz=347,slow=12,SNR=24
RPZ Rata Peaks 35.15 168 P **P 14 14 54.8 +0.6**
comp=Z,8.7nm,0.8s,mb4.7,baz=57,slow=6.8,SNR=3.8
FITZ Fitzroy Crossi 35.67 252 *e*P **P 14 14 57.2 -1.5**
comp=Z,6.5nm,0.4s,mb4.9
FITZ Fitzroy Crossi 35.67 252 P **P 14 14 58.3 -0.4**
comp=Z,3.4nm,0.6s,mb4.5,baz=80,slow=6.9,SNR=27
FITZ pP pP 14 15 08.1 +0.2
comp=Z,3.6nm,0.5s,baz=66,slow=8.5,SNR=5.5
MBWA Marble Bar 41.67 249 *e*P **P 14 15 48.5 -0.5**
comp=Z,4.9nm,0.6s,mb4.3
MJAR Matsushiro Arr 50.67 336 P **P 14 16 59.1 -0.6**
comp=Z,2.0nm,0.8s,mb4.1,baz=167,slow=8.7,SNR=6.1
KLR Kul'dur 63.96 339 *e*P **P 14 18 31.0 -2.5**
XAN Xi'an 65.89 314 P **P 14 18 46.1 0.0**
XAN AP pP 14 18 54.3 -1.6
XAN AMB AMB
comp=Z,7.0nm,0.8s,mb4.7
VNDA Vanda 68.03 180 P **P 14 18 59.7 0.0**
comp=Z,2.0nm,0.8s,mb4.2,baz=345,slow=6.7,SNR=12
VNDA pP pP 14 19 09.3 -0.2
comp=Z,2.4nm,0.7s,baz=346,slow=4.7,SNR=8.8
VNDA Vanda 68.03 180 *e*P **P 14 18 59.5 -0.2**
VNDA *PP pP 14 19 09.3 -0.2
VNDA pmax pmax
comp=Z,3.0nm,0.8s
VNDA Vanda 68.03 180 *e*P **P 14 18 59.5 -0.2**
comp=Z,2.9nm,0.8s,mb4.4
VNDA pP pP 14 19 09.3 -0.2
CD2 Chengdu 68.23 309 P **P 14 19 01.5 +0.6**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,40nm,6.2s
LZH Lanzhou 70.52 314 *e*P **P 14 19 17.5 +2.4**
LZH AP pP 14 19 26.0 +1.1
LZH XP sP 14 19 29.7 +1.1
LZH AMB AMB
comp=Z,16nm,1.2s,mb4.8
LZH AMB AMB
comp=Z,70nm,4.7s
CIT Chita 73.67 332 *e*P pP 14 19 44.3 +0.4
ULN Ulaanbaatar 74.52 325 *e*P **P 14 19 39.2 +0.3**
ULN *e* pA 14 19 49.8 +1.0
GTA Gaotai 74.87 315 *e*P **P 14 19 42.3 +1.4**
GTA AP pP 14 19 51.8 +0.9
GTA XP sP 14 19 55.8 +1.3
GTA AMB AMB
comp=Z,6.0nm,1.0s,mb4.5
SONM Songino Array 74.87 325 P **P 14 19 42.5 +1.6**
comp=Z,9.4nm,0.7s,mb4.8,baz=138,slow=5.6,SNR=45
SONM pP pP 14 19 51.7 +0.8
comp=Z,10nm,0.7s,baz=142,slow=5.4,SNR=22
YAK Yakutsk 75.42 345 *e*P **P 14 19 44.2 +0.1**
YAK pmax pmax
comp=Z,29nm,0.8s,mb5.3
YAK Yakutsk 75.42 345 *e*P **P 14 19 44.1 +0.1**
comp=Z,29nm,0.8s,mb5.2
BOD Bodaibo 77.31 336 *e*P **P 14 19 54.7 -0.1**
BOD *e* pP 14 20 04.0 -0.7
BOD pmax pmax
comp=Z,3.0nm,1.4s,mb4.0
BOD pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
BILL Bilibino 77.39 2 *e*P **P 14 19 54.1 -1.1**
BILL pmax pmax
comp=Z,13nm,1.1s,mb4.8
BILL Bilibino 77.39 2 *e*P **P 14 19 54.1 -1.1**
comp=Z,13nm,1.1s,mb4.8
ZAK Zakamensk 77.96 326⇑*i*P **P 14 19 59.2 +0.8**
ZAK *e* 14 30 32.4
ZAK pmax pmax
comp=Z,12nm,1.4s,mb4.6
SVW2 Sparrevohn 78.03 20 *e*P **P 14 19 59.3 +0.4**
QSPA South Pole Qui 80.53 180 *e*P **P 14 20 11.4 -1.1**
comp=Z,15nm,1.3s,mb4.8
COLA College 83.19 19 *e*P **P 14 20 26.7 +0.2**
COLA *e* pP 14 20 35.8 -0.7
COLA pmax pmax
comp=Z,12nm,0.8s,mb5.0
COLA College 83.19 19 *e*P **P 14 20 26.6 +0.2**
comp=Z,12nm,0.8s,mb5.0
COLA *e* pP 14 20 35.8 -0.7
ILAR Eielson Array 83.45 20 P **P 14 20 27.8 0.0**
comp=Z,2.4nm,0.5s,mb4.5,baz=249,slow=5.0,SNR=46
TIXI Tiksi 83.76 350 *e*P **P 14 20 27.7 -1.7**
TIXI pmax pmax
comp=Z,7.0nm,1.5s,mb4.6
DAWY Dawson 85.70 22 *e*P **P 14 20 40.8 +1.6**
MKAR Makanchi Array 89.43 318 P **P 14 20 57.3 +0.2**
comp=Z,5.7nm,0.8s,mb5.0,baz=103,slow=5.7,SNR=43
MKAR pP pP 14 21 06.8 -0.4
comp=Z,5.9nm,0.8s,baz=100,slow=6.3,SNR=15
MKAR Makanchi Array 89.43 318 P **P 14 20 57.3 +0.2**
MKAR pP pP 14 21 06.8 -0.4
ZAL Zalesovo 89.78 325 P **P 14 20 57.1 -1.6**
comp=Z,0.9nm,0.7s,mb4.2,baz=354,slow=3.4,SNR=5.6
KURK Kurchatov 92.68 321 *e*P **P 14 21 11.2 -1.0**
YKA Yellowknife Ar 95.58 28 P **P 14 21 25.8 +0.4**
comp=Z,0.7nm,0.6s,mb4.3,baz=260,slow=4.8,SNR=24
YKA Yellowknife Ar 95.58 28 P **P 14 21 25.8 +0.4**
PDAR Pinedale Array 95.68 48 P **P 14 21 28.2 +2.2**
comp=Z,0.8nm,0.9s,mb4.2,baz=166,slow=2.4,SNR=7.3
BRVK Borovoye 98.13 322 *e*P **P 14 21 35.3 -1.7**
BRVK pmax pmax
comp=Z,1.0nm,0.8s,mb4.4
BRVK Borovoye 98.13 322 *e*P **P 14 21 35.3 -1.7**
comp=Z,1.0nm,0.8s,mb4.4
ARCES ARCESS Array B 113.69 344 PKiKP PKiKP 14 26 38.2 -0.4
comp=Z,0.5nm,0.3s,baz=38,slow=1.0,SNR=16
JOF Joensuu 115.83 337 *e*p PKPdf 14 26 36.1 -6.6
KAF Kangasniemi 118.19 338 *e*p PKPdf 14 26 46.3 -1.0
FINES FINESS Array B 118.69 337 PKP PKPdf 14 26 47.1 -1.1
comp=Z,0.5nm,0.3s,baz=115,slow=4.4,SNR=7.2
AKASG Malin Array Be 123.16 326 PKP PKPdf 14 26 56.8 -0.1
comp=Z,2.2nm,0.8s,baz=66,slow=2.1,SNR=6.7
HFS Hagfors 123.96 341 PKP PKPdf 14 26 57.6 -0.7
comp=Z,2.4nm,0.6s,baz=100,slow=4.5,SNR=7.5
NB2 NORSAR Subarra123.99 343 PKPd PKPdf 14 26 58.1 -0.3
comp=Z,1.1nm,0.7s,baz=31,slow=1.9
NOA NORSAR Array B 123.99 343 PKP PKPdf 14 26 58.3 -0.2
comp=Z,2.0nm,0.7s,baz=36,slow=2.0,SNR=10.0
NOA pPKP pPKPdf 14 27 07.3 -1.5
comp=Z,1.6nm,0.8s,baz=36,slow=1.9,SNR=5.3
BRTR Keskin Array B 124.71 312 PKP PKPdf 14 26 59.5 -0.3
comp=Z,0.7nm,0.8s,baz=132,slow=1.8,SNR=3.7
GERES GERESS Array B 132.32 331 PKP PKPdf 14 27 14.9 +0.7
comp=Z,1.2nm,0.7s,baz=45,slow=2.1,SNR=9.8
GERES pPKP pPKPdf 14 27 24.6 -0.1
comp=Z,0.9nm,0.7s,baz=256,slow=0.6,SNR=5.0
GIVF Givet 135.05 339 *e*PKIKP PKPdf 14 27 20.5 +1.1
BAIF Baives 135.30 339 *e*PKIKP PKPdf 14 27 21.8 +1.9
CDF Champ du Feu 135.48 335 *e*PKIKP PKPdf 14 27 20.8 +0.6
DAVOX Davos 135.59 332 PKP PKPdf 14 27 21.6 +1.1
comp=Z,3.7nm,0.8s,baz=12,slow=1.6,SNR=5.6
MEZF Maizieres J'vi 136.29 337 *e*PKIKP PKPdf 14 27 22.0 +0.3
LOR Lormes 137.76 337 *e*PKIKP PKPdf 14 27 25.1 +0.7
FLN La Foliniere 137.97 342 *e*PKIKP PKPdf 14 27 25.0 +0.2
LPL La Plagne 137.98 333 *e*PKIKP PKPdf 14 27 26.8 +2.0
comp=Z,3.0nm,0.7s
LPG La Plagne 137.98 333 *e*PKIKP PKPdf 14 27 27.5 +2.7
comp=Z,6.1nm,1.0s
SSF Saint Sauige 138.06 337 *e*PKIKP PKPdf 14 27 25.7 +0.7
comp=Z,14nm,1.1s
GRR Gorron 138.41 342 *e*PKIKP PKPdf 14 27 25.4 -0.2
ORIF Oris-en-Rattie 138.82 333 *e*PKIKP PKPdf 14 27 26.3 -0.1
TCF Toulx Ste Croi 139.20 338 *e*PKIKP PKPdf 14 27 28.9 +1.8
SMRF Simiane la Rot 139.69 333 *e*PKIKP PKPdf 14 27 28.3 +0.3
LASF Ste Croix 140.37 334 *e*PKIKP PKPdf 14 27 31.5 +2.3
ETSF Etsaut 143.12 338 *e*PKIKP PKPdf 14 27 32.7 -1.4
ESDC Sonseca Array 147.19 339 PKPbc PKPbc 14 27 42.9 -0.5
comp=Z,1.9nm,0.9s,baz=27,slow=2.3,SNR=9.5
TORD Torodi Ar. Bea 159.72 282 PKPab PKPab 14 28 40.8 +3.1
comp=Z,0.6nm,0.9s,baz=94,slow=3.6,SNR=2.4
TORD pPKPab pPKPab 14 28 47.9 -0.1
comp=Z,0.4nm,0.5s,baz=93,slow=0.5,SNR=2.7

*IDC **07** 14:17:33.5±0.4,3673S×7855E,h0km,mb4.7/29, mb1 4.7/29,mb1mx4.7/30,mbtmp4.7/29,MS5.8/19, Ms1 5.8/19,ms1mx5.5/25,Error ellipse: s-maj=15.6km s-min=11.9km az=15.0*
*ISCJB **07** 14:17:33.5±0.2,3670S±004×7859E±006,h10km, mb5.2/93,MS5.7/84,Error ellipse: s-maj=6.9km s-min=5.4km az=179.2*
*BJI **07** 14:17:35.1,3680S×7850E,h10km,mB5.6,mb5.0,Ms5.8, Msz5.5*
*NEIC **07** 14:17:35.2±0.2,3681S×7855E,h10km,mb5.5/29, MS5.8/43,MW6.1,Error ellipse: s-maj=9.1km s-min=7.4km az=26.0,Moment Tensor Solution. s10 Moment tensor: Scale 10¹⁸Nm; Mrr0.26; Mθθ-1.70; Mϕϕ1.44; Mrθ-0.03; Mrϕ-1.09; Mθϕ0.15; Best double couple: M₀1.90000×10¹⁸ NP1:ϕs298.00000°,δ86.00000°,λ176.00000°. NP2: ϕs298.00000°,δ86.00000°,λ.00000°. Principal axes: T 1.7900, Plg6.0000°, Azm253.0000°; N 0.2500, Plg84.0000°, Azm68.0000°; P -2.0500, Plg0.0000°, Azm163.0000°;*
*HRVD **07** 14:17:35.2±0.1,3683S×7837E,h12km,MW6.1/109, Centroid moment Tensor Solution. LP body waves: s109,c251;Mantle waves: s104,c388; Half duration: 2≧7 Moment tensor: Scale 10¹⁸Nm; Mrr-0.04±.01; Mθθ-1.67±.01; Mϕϕ1.71±.01; Mrθ-0.12±.02; Mθϕ0.04±.01; Mrϕ0.42±.02; Best double couple: M₀1.74400×10¹⁸ NP1:ϕs46.00000°,δ78.00000°,λ6.00000°. NP2: ϕs315.00000°,δ84.00000°,λ168.00000°. Principal axes: T 1.8080, Plg13.0000°, Azm270.0000°; N -0.1310, Plg76.0000°, Azm110.0000°; P -1.6800, Plg4.0000°, Azm1.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*MOS **07** 14:17:35.2±1.4,3650S×7897E,h10km,mb5.6/31, MS5.7/11 Error ellipse: s-maj=13.8km s-min=8.4km az=92.6*

*CSEM **07** 14:17:37.6,3686S×7835E,h33km,mb5.5*
ISC 07 14:17:35.2±0.2,3673S±004×7857E±006,h10km, (h14km±1.2km:pP-P),n327,σ1§22/212,mb5.2/93,MS5.7/84, 14C-7D,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCO	**West Island**	**29.44**	**39**	PFAKE		14 23 50.0	+11
COCO				LR	LR		
	comp=Z,7μm,19.0s,MS5.3						
DGAR	**Diego Garcia**	**29.71**	**348**	PFAKE		14 23 50.0	+8.5
DGAR				LR	LR		
	comp=Z,20μm,19.0s,MS5.8						
MUN	**Mundaring**	**31.30**	**92**	*e*P	**P**	**14 23 57.8**	**+2.4**
NWAO	**Narrogin (SRO)**	**31.82**	**95**	P	**P**	**14 24 00.4**	**+0.4**
	comp=Z,14nm,1.1s,mb4.7,baz=295,slow=9.2,SNR=3.6						
NWAO				LR	LR	14 33 53.7	
	comp=Z,34μm,21.5s,MS6.0,baz=266,slow=31						
MAW	**Mawson**	**32.18**	**191**	*e*P	**P**	**14 24 00.1**	**-3.1**
	comp=Z,26nm,0.9s,mb5.0						
MAW				*e*S	**S**	**14 28 57.8**	**-18**
MAW	**Mawson**	**32.18**	**191**	P	**P**	**14 24 02.6**	**-0.5**
	comp=Z,31nm,0.9s,mb5.1,baz=353,slow=11,SNR=6.3						
MAW				LR	LR	14 34 50.9	
	comp=Z,58μm,18.0s,MS6.3,baz=20,slow=32						
MAW	**Mawson**	**32.18**	**191**	P	**P**	**14 24 02.4**	**-0.8**
MAW					pP	14 24 05.7	-0.5
MAW				pmax	pmax		
	comp=Z,46nm,1.0s						
OPO	**Ambohidratompo**	**32.96**	**295**	P	**P**	**14 24 10.9**	**+0.9**
	comp=Z,5.0nm,0.9s,mb4.4,baz=124,slow=11,SNR=6.2						
CASY	**Casey**	**34.88**	**158**	*e*P	**P**	**14 24 25.2**	**-1.5**
CASY				*e*S	**S**	**14 29 59.6**	**+1.7**
SYO	**Syowa Base**	**38.69**	**201**⇓	*e*P	**P**	**14 24 59.6**	**+0.4**
SYO	**Syowa Base**	**38.69**	**201**⇑	*e*sP	sP	14 25 03.6	+0.1
MBWA	**Marble Bar**	**38.90**	**78**	PFAKE		14 25 10.0	+9.1
MBWA				LR	LR		
	comp=Z,16μm,22.0s,MS5.8						
FORT	**Forrest**	**41.20**	**97**	*e*P	**P**	**14 25 21.1**	**+1.1**
	comp=Z,35nm,0.7s,mb5.1						
PSI	**Prapat**	**43.66**	**30**	P	**P**	**14 25 39.5**	**-0.5**
	comp=Z,9.9nm,0.9s,mb4.5,baz=200,slow=9.7,SNR=9.1						
PSI				LR	LR	14 39 54.2	
	comp=Z,17μm,21.9s,MS5.9,baz=200,slow=31						
PALK	**Pallekele**	**43.82**	**3**	PFAKE		14 25 50.0	+8.7
PALK				LR	LR		
	comp=Z,16μm,21.0s,MS5.9						
TRD	**Trivandrum**	**45.03**	**358**	*e*P	**P**	**14 25 50.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**45.22**	**79**	*e*P	**P**	**14 25 52.8**	**+0.3**
	comp=Z,20nm,1.0s,mb4.9						
FITZ				*e*S	**S**	**14 32 37.2**	**+4.7**
DRV	**Dumont d'Urvil**	**45.63**	**151**	P	**P**	**14 25 51.0**	**-4.8**
DRV				S	**S**	**14 32 37.0**	**-1.4**
DRV				SS	SS	14 36 00.0	-2.5
DRV				R		14 39 00.0	
LBTB	**Lobatse**	**46.42**	**269**	P	**P**	**14 26 01.3**	**-0.7**
	comp=Z,17nm,0.7s,mb5.1,baz=112,slow=9.1,SNR=10						
LBTB	**Lobatse**	**46.42**	**269**	*e*P	**P**	**14 26 00.7**	**-1.3**
LBTB				pmax	pmax		
	comp=Z,84nm,1.3s,mb5.5						
LBTB				MLR	MLR		
	comp=Z,34μm,20.0s,MS6.3						
LBTB	**Lobatse**	**46.42**	**269**	*e*P	**P**	**14 26 00.7**	**-1.3**
	comp=Z,84nm,1.3s,mb5.5						
LBTB				LR	LR		
	comp=Z,34μm,20.0s,MS6.3						
KULM	**Kulim**	**46.62**	**31**	P	**P**	**14 26 04.0**	**+0.4**
SUR	**Sutherland**	**47.16**	**257**	P	**P**	**14 26 07.9**	**+0.1**
	comp=Z,41nm,0.8s,mb5.4,baz=108,slow=8.5,SNR=24						
SUR	**Sutherland**	**47.16**	**257**	*e*P	**P**	**14 26 07.6**	**-0.1**
	comp=Z,56nm,0.9s,mb5.5						
SUR				LR	LR		
	comp=Z,25μm,20.0s,MS6.2						
NVL	**N'lazarevskaya**	**48.16**	**204**	*d i* P	**P**	**14 26 17.9**	**+2.3**
NVL				*i* S	**S**	**14 33 15.3**	**+0.7**
NVL				*e*SSS		14 38 09.6	
NVL				pmax	pmax		
	comp=Z,135nm,1.3s,mb5.8						
NVL				pmax	pmax		
	comp=N,39nm,1.0s						
NVL				pmax	pmax		
	comp=E,114nm,1.7s						
NVL				smax			
	comp=N,4μm,9.4s						
MAIT	**Maitri**	**48.20**	**204**	*e*P	**P**	**14 26 15.8**	**0.0**
ASAR	**Alice Springs**	**48.95**	**91**	P	**P**	**14 26 21.8**	**+0.1**
	comp=N,15nm,1.1s,mb4.9,baz=234,slow=6.5,SNR=40						
ASAR				PcP	PcP	14 27 49.6	+3.8
	comp=N,3.6nm,0.8s,baz=232,slow=2.8,SNR=5.8						
LSZ	**Lusaka**	**49.44**	**282**	P	**P**	**14 26 25.6**	**+0.3**
LSZ				*e*		14 26 25.7	
LSZ				pmax	pmax		
	comp=Z,72nm,1.0s,mb5.7						
LSZ	**Lusaka**	**49.44**	**282**	*e*P	**P**	**14 26 23.7**	**-1.7**
	comp=Z,72nm,1.0s,mb5.7						
LSZ				LR	LR		
	comp=Z,28μm,20.0s,MS6.2						
WRA	**Warramunga Arr**	**51.17**	**87**	P	**P**	**14 26 38.4**	**0.0**
	comp=Z,22nm,1.1s,mb5.0,baz=239,slow=6.9,SNR=24						
WB2	**Warramunga Arr**	**51.18**	**87**	*e*P	**P**	**14 26 38.3**	**-0.2**
WB2				*i* S	**S**	**14 34 10.7**	**+14**
WRAB	**Tennant Creek**	**51.18**	**87**	P	**P**	**14 26 39.0**	**+0.4**
	comp=Z,175nm,1.4s,mb5.8,SNR=6.3						
WRAB	**Tennant Creek**	**51.18**	**87**	*e*P	**P**	**14 26 38.1**	**-0.5**
WRAB	**Tennant Creek**	**51.18**	**87**	*e*P	**P**	**14 26 37.7**	**-0.9**
	comp=Z,104nm,1.2s,mb5.6						
WRAB				LR	LR		
	comp=Z,14μm,20.0s,MS6.0						
STKA	**Stephens Creek**	**51.47**	**104**	*e*P	**P**	**14 26 38.4**	**-2.3**
	comp=Z,14nm,0.8s,mb4.9						
STKA				*e*S	**S**	**14 34 02.9**	**+2.2**
STKA	**Stephens Creek**	**51.47**	**104**	P	**P**	**14 26 39.0**	**-1.7**
	comp=Z,4.7nm,0.8s,mb4.5,baz=218,slow=4.7,SNR=6.5						
STKA				LR	LR	14 44 03.0	
	comp=Z,15μm,21.8s,MS6.0,baz=243,slow=31						
TAU	**Tasmania Unive**	**51.84**	**119**	PFAKE		14 27 00.0	+17
TAU				LR	LR		
	comp=Z,9μm,19.0s,MS5.8						
KMBO	**Kilima Mbogo**	**52.06**	**303**	P	**P**	**14 26 43.9**	**-1.2**
	comp=Z,3.5nm,0.7s,mb4.4,baz=78,slow=5.4,SNR=10						
KMBO				LR	LR	14 43 50.5	
	comp=Z,5μm,21.0s,MS5.6,baz=132,slow=30						
KMBO	**Kilima Mbogo**	**52.06**	**303**	*i* P	**P**	**14 26 43.9**	**-1.2**
KMBO				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KMBO	**Kilima Mbogo**	**52.06**	**303**	P	**P**	**14 26 43.9**	**-1.2**
KMBO				LR	LR	14 43 50.5	
SNAA	**Sanae**	**52.92**	**203**	P	**P**	**14 26 50.7**	**-0.8**
	comp=Z,11nm,1.0s,mb4.7,baz=89,slow=6.1,SNR=14						
SNAA	**Sanae**	**52.92**	**203**⇓	*i*P	**P**	**14 26 51.3**	**-0.2**
SNAA				*e*	pP	14 26 53.6	-1.1
SNAA				*e*		14 26 57.2	
SNAA				*e*		14 27 02.9	
SNAA				*e*		14 27 11.8	
SNAA	**Sanae**	**52.92**	**203**	*e*P	**P**	**14 26 50.2**	**-1.3**
SNAA				pmax	pmax		
	comp=Z,88nm,1.1s						
SNAA	**Sanae**	**52.92**	**203**	*e*P	**P**	**14 26 50.2**	**-1.3**
	comp=Z,88nm,1.1s,mb5.6						
VNDA	**Vanda**	**53.01**	**164**	P	**P**	**14 26 51.1**	**-1.1**
	comp=Z,4.0nm,0.9s,mb4.4,baz=268,slow=8.5,SNR=11						
VNDA				LR	LR	14 47 20.4	
	comp=Z,19μm,18.2s,MS6.2,baz=268,slow=34						
VNDA	**Vanda**	**53.01**	**164**	P	**P**	**14 26 50.7**	**-1.5**
VNDA						14 26 50.8	
VNDA				pmax	pmax		
	comp=Z,33nm,1.2s						
VNDA	**Vanda**	**53.01**	**164**	*e*P	**P**	**14 26 50.2**	**-1.9**
	comp=Z,32nm,1.2s,mb5.1						
VNDA				LR	LR		
	comp=Z,19μm,20.0s,MS6.1						
QSPA	**South Pole Qui**	**53.42**	**180**	*e*P	**P**	**14 26 53.5**	**-1.7**
	comp=Z,118nm,1.2s,mb5.7						
KAKA	**Kakadu**	**53.67**	**78**	*e*P	**P**	**14 26 53.4**	**-3.6**
	comp=Z,16nm,0.8s,mb5.0						
HYB	**Hyderabad**	**53.86**	**360**	*i* P	**P**	**14 27 00.0**	**+1.6**
HYB				*e*S	**S**	**14 34 30.0**	**-3.4**
HYB				LR	LR	14 46 14.0	
	comp=Z,29nm,20.0s						
SBA	**Scott Base**	**54.03**	**165**	P	**P**	**14 26 59.3**	**-0.4**
SBA				pmax	pmax		
	comp=Z,84nm,1.5s,mb5.5						
SBA				MLR	MLR		
	comp=Z,11μm,20.0s,MS5.9						
SBA	**Scott Base**	**54.03**	**165**	P	**P**	**14 26 59.3**	**-0.3**
	comp=Z,84nm,1.5s,mb5.5						
SBA				LR	LR		
	comp=Z,11μm,20.0s,MS5.9						
VIS	**Vishakhapatnam**	**54.34**	**6**	*e*P	**P**	**14 27 02.7**	**+0.7**
VIS				AMb	AMB	14 27 28.7	
	comp=Z,58nm,1.6s,mb5.3						
VNA2	**Neumayer--Watz**	**54.48**	**204**⇑	*i*P	**P**	**14 27 03.8**	**+0.9**
	baz=85,slow=8.5						
VNA2				*e*	pP	14 27 06.2	+0.1
VNA2				*e*		14 27 08.9	
VNA2				*e*		14 27 15.5	
VNA2				*e*		14 27 22.9	
VNA2				*e*		14 27 25.9	
VNA1	**Neumayer--Stat**	**54.81**	**204**⇑	*i*P	**P**	**14 27 06.4**	**+1.0**
VNA1				*e*	pP	14 27 09.4	+0.8
VNA1				*e*		14 27 13.3	
VNA1				*e*		14 27 18.8	
VNA1				*e*		14 27 29.0	
POO	**Poona**	**55.14**	**355**	*e*P	**P**	**14 27 08.0**	**+0.2**
VNA3	**Neumayer Olymp**	**55.15**	**203**⇑	*i*P	**P**	**14 27 08.6**	**+0.8**
VNA3				*e*	pP	14 27 11.0	0.0
VNA3				*e*		14 27 13.8	
VNA3				*e*		14 27 21.4	
VNA3				*e*		14 27 31.1	
BOM	**Bombay**	**55.59**	**353**	*e*P	**P**	**14 27 14.1**	**+3.1**
BOM				*e*x	x	14 27 15.3	
	comp=Z,57nm,1.2s						
BOM				*e*S	**S**	**14 35 01.2**	**+4.4**
TSUM	**Tsumeb**	**55.74**	**271**	*e*P	**P**	**14 27 11.0**	**-1.1**
	comp=Z,44nm,1.0s,mb5.4						
TSUM				LR	LR		
	comp=Z,44μm,21.0s,MS6.5						
CHG	**Chiang Mai**	**58.50**	**23**	P	**P**	**14 27 31.5**	**-0.1**
CHTO	**Chiang Mai**	**58.50**	**23**	*e*P	**P**	**14 27 30.7**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.8						
CHTO				MLR	MLR		
	comp=Z,4μm,22.0s,MS5.5						
CHTO	**Chiang Mai**	**58.50**	**23**	*e*P	**P**	**14 27 30.7**	**-0.9**
	comp=Z,13nm,1.2s,mb4.8						
CHTO				LR	LR		
	comp=Z,4μm,22.0s,MS5.5						
ATD	**Arta Tunnel**	**58.60**	**318**	P	**P**	**14 27 33.0**	**+0.7**
	comp=Z,8.9nm,0.8s,mb4.8,baz=183,slow=4.0,SNR=3.0						
ATD				LR	LR	14 47 17.9	
	comp=Z,4μm,20.9s,MS5.5,baz=304,slow=30						
NANT	**Nan**	**59.06**	**25**	P	**P**	**14 27 35.0**	**-0.4**
JBP	**Jabalpur**	**59.59**	**2**⇑	*i*P	**P**	**14 27 40.7**	**+1.5**
JBP				*i* x	x	14 36 03.1	
BHPL	**Bhopal**	**59.66**	**359**	*e*P	**P**	**14 27 40.5**	**+0.9**
BHPL				AMb	AMB	14 28 19.1	
	comp=Z,55nm,2.0s,mb5.2						
BOK	**Bokaro**	**60.60**	**8**	*e*P	**P**	**14 27 46.5**	**+0.4**
BOK				*e*x	x	14 28 09.0	
CTA	**Charters Tower**	**60.66**	**94**	*e*P	**P**	**14 27 45.6**	**-0.8**
	comp=Z,16nm,0.9s,mb5.1						
CTA				*e*S	**S**	**14 36 09.9**	**+7.0**
CTA	**Charters Tower**	**60.66**	**94**	P	**P**	**14 27 47.1**	**+0.7**
	comp=Z,11nm,0.8s,mb5.0,baz=228,slow=6.8,SNR=6.2						
CTA				LR	LR	14 51 40.4	
	comp=Z,22μm,21.3s,MS6.3,baz=287,slow=34						
CTA	**Charters Tower**	**60.66**	**94**	*e*P	**P**	**14 27 45.6**	**-0.8**
CTA				*e*S	**S**	**14 36 09.9**	**+7.0**
CTA				pmax	pmax		
	comp=Z,16nm,0.9s						
CTAO	**Charters Tower**	**60.66**	**94**	*e*P	**P**	**14 27 46.3**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.3						
CTAO				MLR	MLR		
	comp=Z,21μm,21.0s,MS6.3						
CTAO	**Charters Tower**	**60.66**	**94**	*e*P	**P**	**14 27 46.3**	**-0.1**
	comp=Z,28nm,1.0s,mb5.3						
CTAO				LR	LR		
	comp=Z,21μm,21.0s,MS6.3						
WSAR	**Wadi Sarin**	**62.55**	**339**	P	**P**	**14 27 59.6**	**+0.4**
	comp=

QIZ LR LR
comp=Z,4μm,22.0s,MS5.5
AJM Ajmer 62.98 356 *e*P **P** **14 28 01.6 -0.5**
AJM AMb AMB 14 28 20.0
comp=Z,62nm,1.2s,mb5.6
AJM *ex* x 14 28 20.3
SHL Shillong 63.22 13 *e*P **P** **14 28 04.3 +0.6**
SHL AMb AMB 14 28 19.4
comp=Z,647nm,1.1s
SHL *e*S **S** **14 36 37.3 +2.0**
AGRA Agra 63.62 359 *e*P **P** **14 28 04.0 -2.3**
AGRA AMb AMB 14 28 09.9
comp=Z,67nm,0.5s,mb6.0
PKI Pulchoki 64.28 7 *e*P **P** **14 28 10.6 -0.1**
DMN Daman 64.30 6 *e*P **P** **14 28 10.4 -0.4**
comp=Z,110nm,1.1s,mb5.8
KOLN Koldanda 64.33 5 *e*P **P** **14 28 10.1 -0.9**
comp=Z,150nm,1.4s,mb5.8
TGY Tagaytay City 64.42 46 P **P** **14 28 11.8 +0.2**
comp=Z,69nm,0.3s,baz=94,slow=19,SNR=1.9
JIRN Jiri 64.45 7 *e*P **P** **14 28 11.6 -0.2**
comp=Z,79nm,1.1s,mb5.7
KKN Kakani 64.49 7 *e*P **P** **14 28 11.7 -0.4**
comp=Z,94nm,1.1s,mb5.7
KHET Khetri 64.52 357 *e*P **P** **14 28 11.6 -0.7**
KUDL Kundal 64.56 358 *e*P **P** **14 28 11.5 -1.0**
KUDL AMb AMB 14 28 22.1
comp=Z,25nm,1.3s,mb5.1
KUDL ⇑*ex* x 14 28 57.0
GKN Gorkha 64.64 6 *e*P **P** **14 28 12.2 -0.9**
comp=Z,90nm,1.1s,mb5.7
SONA Sohna 64.65 359 *e*P **P** **14 28 11.4 -1.7**
SONA AMb AMB 14 28 22.5
comp=Z,34nm,1.3s,mb5.2
GUN Gumba 64.67 7 *e*P **P** **14 28 13.1 -0.1**
comp=Z,327nm,1.4s,mb6.2
AYAN Aya Nagar 64.88 359 *e*P **P** **14 28 12.7 -1.9**
AYAN AMb AMB 14 28 48.4
comp=Z,33nm,1.0s,mb5.3
NDI New Delhi 65.08 359 *e*P **P** **14 28 14.5 -1.4**
NDI *e*P pP 14 28 16.5 -2.7
NDI AMb AMB 14 28 49.5
comp=Z,38nm,1.7s,mb5.2
KMI Kunming 65.61 24 P **P** **14 28 24.9 +5.6**
KMI AP pP 14 28 28.4 +5.8
KMI XP sP 14 28 29.6 +5.8
KMI PP PP 14 30 51.7 +8.1
KMI PPP 14 32 26.4
KMI S S 14 37 09.7 +4.9
KMI XS sS 14 37 15.6 +5.4
KMI PS 14 37 32.2
KMI SKS 14 38 16.7
KMI SS SS 14 41 26.1 +7.4
KMI SSS 14 44 19.9
KMI AMB AMB
comp=Z,14nm,1.3s,mb4.8
KMI AMB AMB
comp=Z,580nm,5.0s
KMI LR LR
comp=N,2μm,19.9s,MS5.5
KMI LR LR
comp=E,3μm,21.2s,MS5.5
KMI LR LR
comp=Z,3μm,19.9s,MS5.5
KKR Kurukshetra 66.36 358 *e*P **P** **14 28 23.4 -0.8**
KKR AMb AMB 14 28 26.6
comp=Z,137nm,0.3s
DDI Dehra Dun 66.70 360 *ex* **P** **14 28 25.0 -1.4**
JOSI Joshimath 66.94 1 *ex* x 14 28 17.2
JOSI AMb AMB 14 28 31.4
comp=Z,194nm,1.5s,mb5.9
LSA Lhasa 67.13 12 *e*P **P** **14 28 29.1 0.0**
LSA pmax pmax
comp=Z,38nm,1.1s,mb5.3
LSA MLR MLR
comp=Z,10μm,20.0s,MS6.0
LSA Lhasa 67.13 12 *e*P **P** **14 28 29.1 0.0**
comp=Z,38nm,1.1s,mb5.3
LSA LR LR
comp=Z,10μm,20.0s,MS6.0
PMG Port Moresby 67.29 85 P **P** **14 28 30.7 +0.6**
comp=Z,25nm,1.1s,mb5.2,baz=288,slow=5.2,SNR=10
PMG LR LR 14 55 40.4
comp=Z,10μm,21.1s,MS6.0,baz=236,slow=34
PMG Port Moresby 67.29 85 *e*P **P** **14 28 30.9 +0.8**
comp=Z,59nm,1.1s,mb5.5
PMG LR LR
comp=Z,11μm,22.0s,MS6.0
SMLA Simla 67.52 359 *e*P **P** **14 28 31.9 +0.4**
KLP Kalpa 67.91 360 *e*P **P** **14 28 34.4 +0.4**
KLP AMb AMB 14 28 37.8
comp=Z,36nm,1.4s,mb5.2
GZH Guangzhou 67.95 35 P **P** **14 28 36.1 +1.9**
GZH S S 14 37 40.7 +7.6
GZH LR LR
comp=N,2μm,24.7s,MS5.3
GZH LR LR
comp=E,1μm,25.9s,MS5.3
GZH LR LR
comp=Z,4μm,36.4s
GYA Guiyang 68.20 27 P **P** **14 28 36.0 +0.2**
GYA AP pP 14 28 40.5 +1.4
GYA XP sP 14 28 43.8 +3.5
GYA PP PP 14 31 11.2 +5.0
GYA PPP 14 32 50.4
GYA SCP 14 33 01.9
GYA S S 14 37 42.4 +6.3
GYA PS 14 38 07.7
GYA AMB AMB
comp=Z,60nm,1.3s,mb5.5
GYA AMB AMB
comp=Z,2μm,5.8s
GYA LR LR
comp=N,920nm,19.2s,MS5.2
GYA LR LR
comp=E,1μm,22.1s,MS5.2
GYA LR LR
comp=Z,2μm,18.8s,MS5.3
TRIS Tristan da Cun 69.67 239 PFAKE 14 29 00.0 +15
TRIS LR LR
comp=Z,10μm,21.0s,MS6.0
SNZO South Karori 70.92 128 PFAKE 14 29 00.0 +7.4
SNZO LR LR
comp=Z,4μm,20.0s,MS5.6
CD2 Chengdu 71.31 23 P **P** **14 28 55.0 0.0**
CD2 AP pP 14 28 59.7 +1.4
CD2 XP sP 14 29 02.0 +2.5
CD2 PP PP 14 31 35.8 +2.7
CD2 S S 14 38 12.6 -0.1
CD2 SS SS 14 42 49.7 +2.9
CD2 AMB AMB
comp=Z,10.0nm,1.4s,mb4.5
CD2 AMB AMB
comp=Z,460nm,9.3s
CD2 LR LR
comp=N,1μm,27.6s
CD2 LR LR
comp=Z,3μm,33.8s
QZH Quanzhou 72.02 38 *i* PR **P** **14 29 02.7 +3.5**
QZH S S 14 38 24.5 +3.7
QZH AMB AMB
comp=Z,840nm,8.3s
QZH LR LR
comp=N,3μm,19.4s,MS5.7
QZH LR LR
comp=E,2μm,21.8s,MS5.7
QZH LR LR
comp=Z,5μm,26.0s,MS5.7
TATO Taipei 73.51 40 PFAKE 14 29 20.0 +12
TATO LR LR
comp=Z,1μm,21.0s,MS5.2
HOPE Hope Point 73.57 214 PFAKE 14 29 20.0 +12
HOPE LR LR
comp=Z,4μm,19.0s,MS5.8
PMSA Palmer Station 74.66 196 PFAKE 14 29 30.0 +15
PMSA LR LR
comp=Z,8μm,20.0s,MS6.0
WHN Wuhan 74.86 32 *e*P **P** **14 29 22.1 +6.1**
WHN S S 14 38 55.0 +2.0
WHN LR LR
comp=Z,6μm,20.0s,MS5.8
DZM Mont Dzumac 75.52 107 LR LR 14 58 35.6
comp=Z,5μm,19.5s,MS5.9,baz=247,slow=33
XAN Xi'an 75.89 26 P **P** **14 29 21.4 -0.5**
XAN AP pP 14 29 30.3 +5.1
XAN PS 14 39 40.7
XAN AMB AMB
comp=Z,12nm,1.0s,mb4.8
XAN AMB AMB
comp=Z,229nm,7.5s
XAN LR LR
comp=E,4μm,31.1s
XAN LR LR
comp=Z,3μm,29.7s,MS5.4
KSH Kashi 75.91 358 *e*P **P** **14 29 23.5 +1.5**
KSH *e*AP pP 14 29 28.4 +3.1
KSH *e*XP sP 14 29 31.4 +4.9
KSH *e*PCP PcP 14 29 37.1 +2.6
KSH *e*PP PP 14 32 11.4 -0.9
KSH *e*PPP 14 33 56.0
KSH *e*S S 14 39 00.5 -4.2
KSH *e*SKS 14 39 24.1
KSH *e*PS 14 39 33.3
KSH *e*SCS ScS 14 39 37.3 +0.8
KSH AMB AMB
comp=Z,285nm,5.4s
KSH LR LR
comp=N,7μm,18.6s,MS6.1
KSH LR LR
comp=E,6μm,19.4s,MS6.1
KSH LR LR
comp=Z,7μm,19.3s,MS6.0
LZH Lanzhou 76.16 21 *e*P **P** **14 29 24.0 +0.6**
LZH AP pP 14 29 29.9 +3.2
LZH XP sP 14 29 32.2 +4.3
LZH PP PP 14 32 17.9 +3.5
LZH *e*S S 14 39 11.0 +3.6
LZH XS sS 14 39 19.0 +6.2
LZH SS SS 14 44 05.0 +4.3
LZH AMB AMB
comp=Z,69nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,230nm,4.7s
LZH LR LR
comp=N,6μm,17.2s
LZH LR LR
comp=Z,10μm,19.6s,MS6.2
BHD Baghdad 76.61 331 *ex* x 14 29 24.0
BHD *ex* x 14 29 32.0
BHD *ex* x 14 29 44.0
BHD *ex* x 14 32 16.5
BHD *ex* x 14 39 16.0
ABKT Ailbek 76.66 344 P **P** **14 29 27.5 +1.2**
comp=Z,84nm,1.3s,mb5.5,SNR=9.3
VAN Vannovskaya 76.68 343 *e*P **P** **14 29 27.0 +0.6**
HNR Honiara 77.54 93 P **P** **14 29 33.5 +2.3**
comp=Z,17nm,0.9s,mb5.0,baz=102,slow=6.5,SNR=3.9
HNR LR LR 15 00 43.0
comp=Z,7μm,20.8s,MS5.9,baz=176,slow=33
HNR Honiara 77.54 93 P **P** **14 29 30.0 -1.2**
HNR pmax pmax
comp=Z,200nm,1.4s,mb5.8
HNR Honiara 77.54 93 P **P** **14 29 30.0 -1.2**
comp=Z,200nm,1.4s,mb5.8
HNR LR LR 15 00 43.0
EIL Elat 77.71 322 P **P** **14 29 32.8 +0.6**
comp=Z,756nm,1.2s
NJ2 Nanjing 78.12 34 *e*P **P** **14 29 38.5 +4.1**
NJ2 AP pP 14 29 42.1 +4.4
NJ2 XP sP 14 29 45.3 +6.4
NJ2 PP PP 14 32 36.3 +5.5
NJ2 S S 14 39 31.0 +2.3
NJ2 XS sS 14 39 40.0 +5.8
NJ2 AMB AMB
comp=Z,20nm,1.1s,mb5.0
NJ2 AMB AMB
comp=Z,130nm,3.8s
NJ2 LR LR
comp=Z,3μm,24.3s,MS5.6
GTA Gaotai 78.26 17 *e*P **P** **14 29 35.2 0.0**
GTA AP pP 14 29 39.6 +1.1
GTA XP sP 14 29 42.1 +2.4
GTA PP PP 14 32 33.5 +1.5
GTA S S 14 39 26.8 -3.4
GTA SKS 14 39 43.5
GTA PS 14 40 09.7
GTA AMB AMB
comp=Z,3.0nm,1.6s
GTA AMB AMB
comp=Z,702nm,8.0s
GTA LR LR
comp=N,3μm,24.3s,MS5.6
GTA LR LR
comp=E,2μm,21.3s,MS5.6
GTA LR LR
comp=Z,4μm,23.6s,MS5.7
SSE Sheshan 78.40 36 P **P** **14 29 41.3 +5.3**
SSE XP sP 14 29 45.8 +5.3
SSE PCP PcP 14 29 50.8 +5.6
SSE PP PP 14 32 37.3 +4.1
SSE S S 14 39 35.7 +4.0
SSE XS sS 14 39 41.6 +4.4
SSE SS SS 14 44 38.7 +4.2
SSE AMB AMB
comp=Z,45nm,0.8s,mb5.5
SSE AMB AMB
comp=Z,145nm,4.5s
SSE LR LR
comp=N,2μm,25.6s,MS5.7
SSE LR LR
comp=E,4μm,25.5s,MS5.7
SSE LR LR
comp=Z,2μm,22.1s,MS5.5
AAK Ala-Archa 79.08 357 P **P** **14 29 39.0 -0.7**
comp=Z,90nm,1.3s,mb5.5,SNR=7.6
AAK Ala-Archa 79.08 357 *e*P **P** **14 29 38.8 -0.9**
AAK pmax pmax
comp=Z,67nm,1.4s,mb5.4
AAK Ala-Archa 79.08 357 *e*P **P** **14 29 38.8 -1.0**
comp=Z,67nm,1.4s,mb5.4
FRU Bishkek 79.27 357 *e*P **P** **14 29 41.0 +0.2**
FRU pmax pmax
comp=Z,80nm,2.0s,mb5.3
FRU pmax pmax
comp=Z,210nm,2.5s,mb5.6
AAA Alma-Ata 79.64 359 *d i*P **P** **14 29 48.0 +5.2**
AAA *i* S S 14 39 50.0 +5.0
AAA pmax pmax
comp=Z,900nm,5.2s
AAA smax
comp=N,2μm,10.5s
AAA MLR MLR
comp=Z,4μm,16.8s,MS5.8
MSL Mosul 79.77 332 *ex* x 14 29 47.0
MSL Mosul 79.77 332 *ex* x 14 39 47.5
MSL *ex* x 14 40 04.0
KK31 Karatay Array 79.80 354 *i* P **P** **14 29 43.7 0.0**
KK31 pmax pmax
comp=Z,331nm,1.9s,mb5.9
KKAR Karatay Array 79.80 354 *i* P **P** **14 29 43.7 0.0**
KKAR pmax pmax
comp=Z,646nm,2.0s,mb6.2
GUMO Guam 79.92 65 LR LR 15 02 25.6
comp=Z,318nm,21.2s,MS4.6,baz=227,slow=34
GUMO Guam 79.92 65 PFAKE 14 30 00.0 +16
GUMO LR LR
comp=Z,1.0nm,22.0s
MMAI Mount Meron Ar 80.25 324 P **P** **14 29 46.5 +0.3**
comp=Z,3.5nm,0.7s,mb4.4,baz=137,slow=10.0,SNR=5.7
WMQ Urumqi 80.61 7 P **P** **14 29 47.4 -0.6**
WMQ AP pP 14 29 52.1 +0.8
WMQ XP sP 14 29 54.4 +1.9
WMQ PP PP 14 32 53.0 +1.5
WMQ PPP 14 34 44.0
WMQ S S 14 39 52.6 -2.5
WMQ SKS 14 40 00.3
WMQ AMB AMB
comp=Z,30nm,1.6s,mb5.0
WMQ AMB AMB
comp=Z,245nm,4.4s
WMQ LR LR
comp=N,10μm,25.2s,MS6.1
WMQ LR LR
comp=E,4μm,27.5s,MS6.1
WMQ LR LR
comp=Z,9μm,27.5s,MS6.0
BHL Bhannes 80.87 325 *e*P **P** **14 29 52.8 +3.3**
TIA Tai'an 80.92 31 *e*P **P** **14 29 48.8 -0.9**
BTO Baotou 82.20 24 *e*P **P** **14 29 55.4 -1.1**
GNI Garni 82.58 335 P **P** **14 29 57.7 -0.7**
comp=Z,3.5nm,0.3s,mb4.8,baz=162,slow=19,SNR=2.9
GNI LR LR 15 03 20.5
comp=Z,1μm,21.3s,MS5.3,baz=333,slow=33
GNI Garni 82.58 335 P **P** **14 29 57.7 -0.8**
GNI pmax pmax
comp=Z,4.0nm,0.3s
GNI Garni 82.58 335 PFAKE 14 30 10.0 +12
GNI LR LR
comp=Z,2μm,20.0s,MS5.5
RAO Raoul Island 82.79 121 PFAKE 14 30 10.0 +10
RAO LR LR
comp=Z,4μm,19.0s,MS5.8
HHC Hu-ho-hao-te 82.93 25 *e*P **P** **14 30 00.9 +0.6**
HHC AP pP 14 30 05.9 +2.3
HHC XP sP 14 30 07.9 +3.1
HHC PP PP 14 33 13.8 +3.1
HHC SKS 14 40 17.8
HHC S S 14 40 19.3 +0.2
HHC SS SS 14 45 46.9 +4.8
HHC AMB AMB
comp=Z,14nm,1.2s,mb4.9
HHC AMB AMB
comp=Z,572nm,9.8s
HHC LR LR
comp=N,2μm,20.1s,MS5.6
HHC LR LR
comp=E,2μm,22.5s,MS5.6
HHC LR LR
comp=Z,3μm,23.7s,MS5.6
MK31 Makanchi Array 83.22 3 P **P** **14 30 00.5 -1.3**
MK31 pmax pmax
comp=Z,30nm,1.0s,mb5.3
MKAR Makanchi Array 83.22 3 P **P** **14 30 00.1 -1.6**
comp=Z,12nm,0.8s,mb5.0,baz=175,slow=4.9,SNR=29
MALT Malatya 83.37 329 ⇑*i*P **P** **14 30 06.3 +3.7**
MALT Malatya 83.37 329 P **P** **14 30 06.0 +3.4**
BJI Beijing 83.86 28 P **P** **14 30 05.3 +0.2**
BJI S S 14 40 25.3 -3.2
BJI AMB AMB
comp=Z,7.0nm,1.6s,mb4.5
BJI AMB AMB
comp=Z,310nm,4.7s
BJI LR LR
comp=N,1μm,27.9s,MS5.3
BJI LR LR
comp=E,1μm,26.5s,MS5.3
BJI LR LR
comp=Z,4μm,34.7s
TBLG Delisi 84.00 335 *e*P **P** **14 30 08.8 +3.0**
EFI East Falkland 84.13 205 P **P** **14 30 10.4 +4.0**
EFI East Falkland 84.13 205 PFAKE 14 30 20.0 +14
EFI LR LR
comp=Z,3μm,20.0s,MS5.7
MAK Makhachkala 84.22 338 *e*P **P** **14 30 06.6 -0.3**
MAK *e* pP 14 30 11.3 +1.1
MAK *i* 14 33 17.4
MAK *i* S 14 40 26.3
MAK *e*SSS 14 49 29.1
MAK pmax pmax
comp=Z,135nm,1.2s,mb6.0
MAK pmax pmax
comp=Z,66nm,0.3s,mb6.2
MAK Makhachkala 84.22 338 *e*P **P** **14 30 07.8 +0.9**
DL2 Dalian 85.09 32 P **P** **14 30 16.9 +5.6**
DL2 PP PP 14 33 35.9 +7.5
DL2 PPP 14 35 31.3
DL2 S 14 40 46.2
DL2 PS 14 41 44.3
DL2 SS SS 14 46 22.4 +8.2
DL2 SSS 14 49 53.0
DL2 AMB AMB
comp=Z,20nm,1.1s,mb5.2
DL2 AMB AMB
comp=Z,220nm,4.6s
DL2 LR LR
comp=N,1μm,23.4s,MS5.3
DL2 LR LR
comp=E,1μm,23.1s,MS5.3
DL2 LR LR
comp=Z,1μm,20.6s,MS5.3
ZEI Tsey 85.20 335 *e*P **P** **14 30 14.6 +2.7**
ISP Isparta 86.49 324 *e*P **P** **14 30 18.9 +0.7**
ISP Isparta 86.49 324 *e*P **P** **14 30 19.5 +1.3**
comp=Z,62nm,2.0s,mb5.5
BRTR Keskin Array B 86.59 327 P **P** **14 30 19.3 +0.6**
comp=Z,4.0nm,0.8s,mb4.7,baz=151,slow=6.7,SNR=22
BR131 Keskin Array S 86.59 327 *e*P **P** **14 30 17.8 -1.0**
comp=Z,14nm,1.0s,mb5.1
KIV Kislovodsk 86.67 335 *d i*P **P** **14 30 21.4 +2.3**
KIV pmax pmax
comp=Z,2μm,19.0s
KIV Kislovodsk 86.67 335 *i* Pr **P** **14 30 21.5 +2.4**
KIV LR LR
comp=Z,2μm,20.0s,MS5.4
KURK Kurchatov 87.08 0 P **P** **14 30 20.7 -0.4**
comp=Z,137nm,1.3s,mb6.0,SNR=8.8
KURK Kurchatov 87.08 0 *d i*P **P** **14 30 20.3 -0.8**
KURK Kurchatov 87.08 0 *e*P **P** **14 30 19.9 -1.2**
comp=Z,63nm,1.3s,mb5.7
KURK LR LR
comp=Z,8μm,19.0s,MS6.1
ANTO Ankara 87.08 326 *e*P **P** **14 30 23.2 +2.1**
ANTO pmax pmax
comp=Z,64nm,1.4s,mb5.7
ANTO MLR MLR
comp=Z,2μm,21.0s,MS5.4
ANTO Ankara 87.08 326 *e*P **P** **14 30 23.1 +2.0**
comp=Z,64nm,1.4s,mb5.7
ANTO LR LR
comp=Z,2μm,21.0s,MS5.4
AB31 Akbulak array 87.20 348 *i* P **P** **14 30 22.4 +0.7**
AB31 pmax pmax
comp=Z,27nm,1.3s,mb5.3
CBIJ Chichi jima 87.22 53 LR LR 15 07 02.8
comp=Z,403nm,21.5s,MS4.8,baz=209,slow=34
IDI Anoyia 87.32 319 LR LR 15 08 41.8
comp=Z,2μm,21.4s,MS5.5,baz=115,slow=35
SOC Sochi 87.39 333 *e*P **P** **14 30 23.0 +0.4**
GOF Gofitskoye 87.52 336 *e*P **P** **14 30 25.1 +1.8**
GOF pmax pmax
comp=Z,20nm,0.6s,mb5.5
TORD Torodi Ar. Bea 87.53 288 P **P** **14 30 23.1 -0.2**
comp=Z,3.2nm,0.7s,mb4.7,baz=108,slow=4.9,SNR=9.1
ASCN Ascension 87.65 262 PFAKE 14 30 40.0 +16
ASCN LR LR
comp=Z,7μm,20.0s,MS6.1
SONM Songino Array 87.79 18 P **P** **14 30 22.7 -1.9**
comp=Z,1.8nm,0.9s,mb4.3,baz=240,slow=2.9,SNR=10
SONM LR LR 15 07 55.4
comp=Z,4μm,21.8s,MS5.7,baz=194,slow=34
SONM Songino Array 87.79 18 P **P** **14 30 22.7 -1.9**
SONM LR LR 15 07 55.4
ULN Ulaanbaatar 87.98 19 P **P** **14 30 24.8 -0.7**
ULN pmax pmax
comp=Z,51nm,1.7s,mb5.5
SNY Shenyang 88.35 32 PR **P** **14 30 27.0 -0.2**
SNY PP PP 14 33 58.5 +3.8
SNY AMB AMB
comp=Z,127nm,4.5s
SNY LR LR
comp=N,2μm,25.0s,MS5.6
SNY LR LR
comp=E,2μm,24.1s,MS5.6
SNY LR LR
comp=Z,3μm,24.7s,MS5.6
AKTK Aktyubinsk 88.67 347 P **P** **14 30 26.3 -2.4**
AKTK LR LR 15 07 12.9
AKTO Aktyubinsk 88.67 347 P **P** **14 30 26.3 -2.4**
comp=Z,2.4nm,0.8s,mb4.6,baz=199,slow=18,SNR=5.9
AKTO LR LR 15 07 12.9
comp=Z,3μm,21.1s,MS5.7,baz=339,slow=34
AKTO Aktyubinsk 88.67 347 *i* P **P** **14 30 27.4 -1.3**
AKTO pmax pmax
comp=Z,4.0nm,1.4s,mb4.6
DBIC Dimbokro 88.70 279 LR LR 15 06 50.6
comp=Z,13μm,19.2s,MS6.4,baz=100,slow=33
ANN Anapa 89.28 332 *e*P **P** **14 30 33.5 +1.9**
ANN *e**PP pP 14 30 42.3 +7.4
ANN *e* 14 34 09.5
ANN *e*S 14 41 00.0
ANN *e*SS SS 14 47 25.2 +10
ANN pmax pmax
comp=Z,42nm,1.8s,mb5.5
BVA0 Borovoye Array 89.67 355 *i* P **P** **14 30 32.1 -1.3**
BVA0 pmax pmax

comp=Z,16nm,2.6s,mb4.9
BVAR Borovoye Array 89.67 355 P **P 14 30 32.3 -1.1**
comp=Z,1.4nm,0.6s,mb4.5,baz=152,slow=6.7,SNR=11
ZRNK Zerenda 89.70 354 P **P 14 30 29.4 -4.2**
ZRNK pP 14 30 33.5 -3.4
ZRNK Zerenda 89.70 354 P **P 14 30 29.7 -3.8**
BRVK Borovoye 89.71 355 P **P 14 30 31.9 -1.7**
BRVK Borovoye 89.71 355 PFAKE 14 30 40.0 +6.4
BRVK LR LR
comp=Z,4μm,20.0s,MS5.8
JHJ Hachijo jima 2 89.95 47 LR LR 15 09 46.5
comp=Z,563nm,21.1s,MS5.0,baz=40,slow=35
MOY Mondy 90.19 14 *e*P **P 14 30 38.8 +2.9**
MOY pmax pmax
comp=Z,49nm,3.1s
ZAL Zalesovo 90.46 4 P **P 14 30 36.6 -0.5**
comp=Z,1.3nm,0.7s,mb4.4,baz=316,slow=5.1,SNR=6.8
ZAL LR LR 15 09 25.1
comp=Z,6μm,20.8s,MS6.0,baz=285,slow=34
SIM Simferopol' 90.69 330 *e*P **P 14 30 40.5 +2.3**
TLY Talaya 90.74 15 PFAKE 14 30 50.0 +12
TLY LR LR
comp=Z,2μm,21.0s,MS5.6
CN2 Changchun 90.75 32 *e*P **P 14 30 43.5 +5.0**
CN2 SKS 14 41 14.9
CN2 *e*S 14 41 39.4
CN2 SS SS 14 47 43.7 +7.0
CN2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.4
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,2μm,22.0s,MS5.5
CN2 LR LR
comp=E,1μm,22.0s,MS5.5
CN2 LR LR
comp=Z,2μm,21.0s,MS5.6
NVS Novosibirsk 91.30 3 *i* P **P 14 30 38.5 -2.5**
NVS *e*S 14 41 40.3
NVS pmax pmax
comp=Z,66nm,2.1s,mb5.6
NVS pmax pmax
comp=N,30nm,1.8s
NVS smax
comp=N,62nm,2.4s
NVS smax
comp=E,56nm,2.3s
IRK Irkutsk 91.41 15 *e*P **P 14 30 41.8 +0.3**
IRK pmax pmax
comp=Z,39nm,2.2s,mb5.3
MAJO Matsushiro 91.49 44 P **P 14 30 43.4 +1.5**
MAJO pmax pmax
comp=Z,58nm,1.7s,mb5.6
MAJO MLR MLR
comp=Z,793nm,21.0s,MS5.1
MAJO Matsushiro 91.49 44 P **P 14 30 43.4 +1.5**
comp=Z,58nm,1.7s,mb5.6
MAJO LR LR
comp=Z,793nm,21.0s,MS5.1
MAT Matsushiro 91.49 44 P **P 14 30 42.6 +0.7**
MAT S 14 41 22.0
MAT Matsushiro 91.49 44 PFAKE 14 30 50.0 +8.1
MAT LR LR
comp=Z,1μm,22.0s,MS5.3
MJAR Matsushiro Arr 91.49 44 P **P 14 30 41.7 -0.2**
comp=Z,9.3nm,1.1s,mb5.0,baz=225,slow=5.5,SNR=7.4
MJAR PP PP 14 34 26.6 +7.0
comp=Z,1.9nm,0.9s,baz=207,slow=14,SNR=4.0
TIRR Tirgusor 92.70 327 ⇑*i*P **P 14 30 48.7 +1.2**
TIRR Tirgusor 92.70 327 *e*P **P 14 30 46.0 -1.5**
HIA Hailar 93.08 26 *e*P **P 14 30 50.1 +0.8**
HIA pmax pmax
comp=Z,24nm,1.1s
HIA Hailar 93.08 26 *e*P **P 14 30 50.1 +0.9**
comp=Z,24nm,1.1s,mb5.5
VLA Vladivostok 93.11 36 P **P 14 30 45.0 -4.4**
VLA *e* 14 41 18.0
VLA MLR MLR
comp=Z,2μm,20.6s,MS5.5
MDJ Mudanjiang 93.21 34 P **P 14 30 50.8 +1.0**
MDJ AP pP 14 30 54.1 +0.9
MDJ PP PP 14 34 34.9 +1.7
MDJ S 14 41 59.7
MDJ XS sS 14 42 04.8 +2.3
MDJ SP SP 14 43 14.0 +5.0
MDJ SS SS 14 48 15.0 +3.0
MDJ AMB AMB
comp=Z,5.0nm,1.0s,mb4.9
MDJ AMB AMB
comp=Z,149nm,6.4s
MDJ LR LR
comp=N,3μm,37.8s
MDJ LR LR
comp=E,3μm,30.3s
MDJ LR LR
comp=Z,3μm,26.5s
CFR Carcaliu 93.39 327 ⇑*i*P **P 14 30 53.8 +3.2**
CFR Carcaliu 93.39 327 ⇑⇑P **P 14 30 53.9 +3.2**
BIA Bitola 93.47 320 *e*P **P 14 30 48.6 -2.4**
CIT Chita 93.52 21 *e*P **P 14 30 50.4 -0.9**
CIT pmax pmax
comp=Z,59nm,2.5s,mb5.6
STIP Stip 93.53 321 *e*P **P 14 30 47.9 -3.4**
ARU Arti 94.35 349 ⇓*i*P **P 14 30 54.4 -0.7**
ARU *e* 14 34 41.9
ARU *e*PPP 14 36 42.5
ARU *e*S 14 41 26.6
ARU *e*SP SP 14 43 17.9 -3.7
ARU *e*PS PS 14 43 27.4 +4.4
ARU *e*SSS 14 52 03.5
ARU pmax pmax
comp=Z,22nm,1.3s,mb5.4
ARU MLR MLR
comp=N,3μm,20.0s,MS5.8
ARU MLR MLR
comp=E,2μm,20.0s,MS5.8
ARU MLR MLR
comp=Z,4μm,20.0s,MS5.9
ARU Arti 94.35 349 *e*P **P 14 30 52.7 -2.4**
comp=Z,29nm,1.3s,mb5.5
ARU LR LR
comp=Z,4μm,20.0s,MS5.9
VRI Vrincioaia 94.54 327 ⇑*i*P **P 14 30 59.3 +3.3**
VRI Vrincioaia 94.54 327 ⇑⇑P **P 14 30 59.3 +3.3**
PLOR Plostina 94.57 326 ⇑*i*P **P 14 30 59.3 +3.2**
MLR Muntele Rosu 94.60 326 P **P 14 30 55.8 -0.5**
comp=Z,8.7nm,1.1s,mb5.1,baz=183,slow=4.9,SNR=15
MLR Muntele Rosu 94.60 326 ⇑*i*P **P 14 30 58.9 +2.7**
AFI Afiamalu 96.90 113 PFAKE 14 31 20.0 +13
AFI LR LR
comp=Z,2μm,22.0s,MS5.5
TRQA Tornquist 97.13 210 PFAKE 14 31 20.0 +12
TRQA LR LR
comp=Z,3μm,19.0s,MS5.8
AKASG Malin Array Be 97.28 331 P **P 14 31 09.1 +0.7**
comp=Z,1.7nm,0.9s,mb4.5,baz=143,slow=4.0,SNR=5.5
AKASG PP PP 14 35 04.2 -0.6
comp=Z,0.7nm,0.5s,baz=141,slow=8.1,SNR=6.1
AKASG Malin Array Be 97.28 331 *i* P **P 14 31 09.1 +0.7**
AKASG pmax pmax
comp=Z,2.0nm,0.9s
KLR Kul'dur 97.70 32 *e*P **P 14 31 08.2 -2.1**
PLCA Paso Flores 97.87 203 P **P 14 31 11.0 -0.1**
PLCA pmax pmax
comp=Z,12nm,1.1s
PLCA MLR MLR
comp=Z,11μm,19.0s
PLCA Paso Flores 97.87 203 P **P 14 31 11.0 -0.1**
comp=Z,12nm,1.1s,mb5.3
PLCA LR LR
comp=Z,11μm,19.0s,MS6.4
OBN Obninsk 98.30 337 *e*P **P 14 31 13.9 +0.9**
OBN *e* 14 35 13.2
OBN *i*PS PS 14 44 14.4 +8.2
OBN *i*SS SS 14 49 32.5 +8.2
OBN pmax pmax
comp=Z,5.0nm,1.2s,mb4.9
OBN MLR MLR
comp=Z,2μm,21.0s,MS5.6
OBN Obninsk 98.30 337 *e*P **P 14 31 13.0 0.0**
OBN LR LR
comp=Z,2μm,21.0s,MS5.6
KOLS Kolonicke sedl 98.84 326 *e*PP PP 14 35 18.3 +1.5
VYHS Vyhne 100.10 324 *e*PP PP 14 35 28.8 +2.4
YSS Yuzh-Sakhalins 101.20 39 PFAKE 14 31 40.0 +14
YSS LR LR
comp=Z,771nm,21.0s,MS5.2
OKC Ostrava-Krasne 101.37 325 AMS AMS 15 29 40.0
comp=Z,2μm,21.0s
DPC Dobruska-Polom 102.57 324 *e*PP PP 14 35 56.6 +12
DPC AMS AMS 15 35 30.0
comp=Z,2μm,17.3s
GEC2 GERESS Array S 102.81 322 *e*SP SP 14 45 03.9 +11
GERES GERESS Array B 102.81 322 PKiKP PKiKP 14 35 54.6 +1.0
comp=Z,0.2nm,0.4s,baz=158,slow=3.9,SNR=4.2
KHC Kasperske Hory 103.06 322 AMS AMS 15 31 30.0
comp=Z,4μm,19.1s
PRU Pruhonice 103.17 323 *e*PP PP 14 35 51.0 +1.5
PRU AMS AMS 15 26 50.0
comp=Z,1μm,18.6s
WET Wettzell 103.41 322 *e*SP SP 14 45 06.2 +6.7
FUR Furstenfeldbru 103.58 321 *e*SP SP 14 45 15.7 +14
FUR *e*SP SP 14 45 38.0 +37
BRG Berggiesshubel 104.04 324 *e*SP SP 14 45 21.5 +15
ROTZ Rotzenmuhle 104.15 322 *e*SP SP 14 45 01.6 -5.6
MANZ Manzenberg 104.34 322 *e*SP SP 14 45 04.5 -4.8
GRF Grafenberg Arr 104.59 322 *e*Sdiff Sdif 14 43 28.4 -5.2
GRF *e*SP SP 14 45 06.1 -5.7
GRF *e*L 15 29 15.1
comp=Z,2μm,19.2s
GRFO Grafenberg 104.59 322 *e*SP SP 14 45 06.2 -5.6
CLL Collm 104.77 324 *e*SP SP 14 45 19.2 +5.4
CLL Collm 104.77 324 *e*Sdif Sdif 14 43 32.0 -3.1
CLL *e*SS SS 14 50 42.0 -12
CLL *e*SSS 14 54 54.0
CLL Lm 15 26 00.0
comp=N,800nm,20.5s
CLL Lm 15 26 00.0
comp=E,2μm,19.3s
CLL Lm 15 26 00.0
comp=Z,2μm,19.9s
CPUP Villa Florida 104.78 220 PFAKE 14 31 50.0 +8.2
CPUP LR LR
comp=Z,417nm,19.0s,MS5.0
MOX Moxa 105.01 323 *e*SP SP 14 45 12.9 -3.3
TBI Tubuai 105.01 135 *e*LR LR 14 31 16.7
comp=Z,144nm,28.2s,baz=295
TBI Tubuai 105.01 135 *e*LQ 15 01 40.5
comp=Z,7μm,37.0s
TBI Tubuai 105.01 135 *e*PS PS 14 45 17.7 +0.2
comp=Z,158nm,27.8s
TBI Tubuai 105.01 135 *e*SS SS 14 50 58.8 +1.4
comp=Z,2μm,31.5s
TBI *e*LR LR 15 06 26.5
comp=Z,5μm,31.0s,baz=217
STU Stuttgart 105.03 320 *e*SP SP 14 45 14.5 -1.9
RUE Ruedersdorf 105.18 325 *e*SP SP 14 45 02.9 -15
BFO Black Forest 105.20 319 *e*SP SP 14 45 29.7 +11
RCBR Riachuelo 105.73 250 PFAKE 14 36 10.0 +11
RCBR LR LR
comp=Z,5μm,20.0s,MS6.1
TNS Taunus Mts 106.32 321 *e*SP SP 14 45 30.0 +0.2
CLZ Clausthal 106.38 323 *e*SP SP 14 45 27.5 -2.9
FINES FINESS Array B 106.69 337 PP PP 14 36 22.3 +6.6
comp=Z,2.5nm,1.0s,baz=93,slow=7.6,SNR=4.7
YAK Yakutsk 106.70 23 PFAKE 14 36 10.0 +9.3
YAK LR LR
comp=Z,3μm,21.0s,MS5.8
RGN Rugen 106.74 326 *e*SP SP 14 45 19.1 -15
WLF Walferdange 107.16 320 *e*SP SP 14 45 41.9 +3.5
BUG Bochum--Univer 107.65 322 *e*SP SP 14 45 44.8 +1.3
BSEG Bad Segeberg 107.71 325 *e*SP SP 14 45 45.8 +1.6
IBBN Ibbenburen 107.94 322 *e*SP SP 14 45 47.9 +1.5
HLG Helgoland 109.00 324 *e*SP SP 14 45 51.4 -5.9
PPT Papeete 109.43 131 *e*LQ 15 03 08.4
comp=Z,11μm,35.2s
PPT Papeete 109.43 131 *e*PS PS 14 45 58.1 -4.8
comp=Z,254nm,24.8s
PPT Papeete 109.43 131 *e*LR LR 15 08 17.4
comp=Z,4μm,25.5s,baz=216
HFS Hagfors 110.17 331 PP PP 14 36 54.9 +14
comp=Z,3.0nm,1.1s,baz=198,slow=9.3,SNR=3.7
KONO Kongsberg 111.51 329 *e*SS SS 14 52 20.3 -4.8
KONO Kongsberg 111.51 329 PFAKE 14 36 20.0 +10
KONO LR LR
comp=Z,2μm,20.0s,MS5.6
RKT Rikitea 112.58 147 *e*LR LR 15 09 48.4
comp=Z,4μm,25.5s
BER Bergen 113.69 329 *e*SS SS 14 52 41.0 -13
BER AMS AMS 15 30 06.0
comp=Z,3μm,21.3s,MS5.8
TIXI Tiksi 113.72 15 *i* PKiKP PKiKP 14 36 10.3 -3.7
TIXI *e*PPP 14 39 26.7
TIXI *e* 14 42 53.8
TIXI *e*SP SP 14 46 35.8 -5.9
TIXI *e*SSS 14 57 02.6
TIXI pmax pmax
comp=Z,2.0nm,1.7s
TIXI MLR MLR
comp=Z,2μm,19.0s,MS5.8
TRO Tromso 114.56 341 *e*PP PP 14 37 09.7 -2.7
TRO *e* 14 46 53.5
TRO *e*SS SS 14 53 05.0 -0.6
BJO Bjornoya 117.62 345 AMS AMS 15 27 34.8
comp=Z,2μm,18.1s,MS5.9
KBS Kingsbay 121.51 348 AMS AMS 15 28 28.7
comp=Z,1μm,17.7s,MS5.5
TAOE Nuku Hiva Isla 121.89 133 *e*SS SS 14 54 42.3 +1.7
comp=Z,3μm,25.9s
TAOE *e*LQ 15 08 57.7
comp=Z,14μm,33.3s
TAOE *e*LR LR 15 14 06.6
comp=Z,7μm,25.1s,baz=219
BILL Bilibino 122.66 27 *i* PKiKP PKPdf 14 36 31.2 0.0
BILL MLR MLR
comp=Z,3μm,24.0s,MS5.9
BILL Bilibino 122.66 27 *e*PKP PKPdf 14 36 31.3 +0.1
COLA College 140.80 29 *i* PKiKP PKPdf 14 37 04.3 -1.0
ILAR Eielson Array 141.22 29 PKP PKPdf 14 37 03.5 -2.5
comp=Z,1.0nm,0.9s,baz=280,slow=3.7,SNR=6.5
RES Resolute Bay 141.83 357 PKiKP PKPdf 14 37 03.5 -3.6
INK Inuvik 143.69 19 PKP PKPdf 14 37 06.7 -3.7
comp=Z,6.0nm,1.0s,baz=262,slow=5.6,SNR=8.7
INK Inuvik 143.69 19 PKiKP PKPdf 14 37 06.9 -3.5
INK Inuvik 143.69 19 *e*PKPdf PKPdf 14 37 06.2 -4.2
SJG San Juan 143.87 249 *e*PKiKP PKPdf 14 37 11.4 +0.7
MPR Mayaguez 144.68 248 PKPdf PKPdf 14 37 12.1 -0.1
FRB Frobisher Bay 146.45 334 PKPbc PKPbc 14 37 15.7 -0.8
comp=Z,1.1nm,0.9s,baz=65,slow=3.4,SNR=7.6
SKAG Skagway 148.49 33 *e*PKPbc PKPbc 14 37 22.6 +0.5
SCHQ Schefferville 150.26 319 PKPbc PKPbc 14 37 26.9 +0.4
comp=Z,6.4nm,1.0s,baz=96,slow=5.9,SNR=4.5
SCHQ Schefferville 150.26 319 *e*PKPbc PKPbc 14 37 26.5 -0.1
DLBC Dease Lake 151.34 32 *e*PKPbc PKPbc 14 37 29.1 0.0
YKW3 Yellowknife Ar 152.89 13 *e*PKPbc PKPbc 14 37 30.9 -1.7
YKA Yellowknife Ar 152.95 13 PKP PKPdf 14 37 25.9 +0.4
comp=Z,1.8nm,1.0s,baz=345,slow=1.4,SNR=6.8
YKA PKPbc PKPbc 14 37 31.0 -1.7
comp=Z,3.0nm,0.9s,baz=325,slow=2.3,SNR=17
YKA PP PP 14 41 27.6 +11
comp=Z,0.4nm,0.9s,baz=315,slow=6.4,SNR=3.9
YKA Yellowknife Ar 152.95 13 PKiKP PKPdf 14 37 25.9 +0.4
YKA 14 37 31.1
HUMO Hull Mountain 162.44 64 *e*PKPdf PKPdf 14 37 37.2 0.0
ULM Lac du Bonnet 165.91 345 PKP PKPdf 14 37 39.2 -1.1
comp=Z,1.5nm,0.7s,baz=141,slow=6.5,SNR=2.0
NVAR Mina Array Bea 166.51 78 PKP PKPdf 14 37 41.9 +1.1
comp=Z,1.6nm,1.1s,baz=127,slow=0.7,SNR=3.9
NVAR PKPab PKPab 14 38 42.1 -0.7
comp=Z,0.6nm,0.7s,baz=266,slow=2.4,SNR=2.3
NVAR Mina Array Bea 166.51 78 PKP PKPdf 14 37 41.9 +1.1
NVAR PKPab PKPab 14 38 42.1 -0.7
HLID Hailey 167.96 52 PKPdf PKPdf 14 37 42.2 +0.4
TPNV Topopah Spring 168.12 85 PKiKP PKPdf 14 37 49.3 +7.3
GLA Glamis 168.40 105 *e*PKP2 PKPab 14 38 52.1 +1.0
PLAL Pickwick Lake 169.02 265 *e*PKPdf PKPdf 14 37 44.3 +1.8
WVT Waverly 169.03 271 *e*PKiKP PKPdf 14 37 43.4 +0.8
OXF Oxford 169.97 261 PKiKP PKPdf 14 37 43.9 +0.8
DUG Dugway 170.43 65 PKiKP PKPdf 14 37 44.6 +1.2
CCUT Cedar City 170.44 82 *e*PKPdf PKPdf 14 37 44.9 +1.5
HWUT Hardware Ranch 170.75 55 *e*PKPdf PKPdf 14 37 41.9 -1.7
FVM French Village 171.15 281 PKP2 PKPab 14 39 09.8 +6.5
MSU Marysvale 171.29 75 *e*PKiKP PKPdf 14 37 45.6 +1.8
PDAR Pinedale Array 171.31 44 PKP PKPdf 14 37 43.5 -0.4
comp=Z,0.5nm,0.8s,baz=320,slow=2.7,SNR=3.4
PDAR PKPab PKPab 14 39 05.0 +1.0
comp=Z,0.4nm,0.8s,baz=329,slow=6.8,SNR=2.1
PDAR PP PP 14 42 59.5 +4.8
comp=Z,0.6nm,1.1s,baz=34,slow=3.4,SNR=3.2
DAU Daniels Canyon 171.47 62 *e*PKiKP PKPdf 14 37 44.6 +0.7
HKT Hockley 171.78 216 PKP2 PKPab 14 39 12.8 +6.7
CCM Cathedral Cave 171.79 282 *e*PKiKP PKPdf 14 37 45.2 +1.1
RSSD Black Hills 172.36 14 PKiKP PKPdf 14 37 48.2 +3.9
SRU San Rafael 172.43 69 *e*PKiKP PKPdf 14 37 44.8 +0.4
MIAR Mount Ida 173.24 253 PKiKP PKPdf 14 37 54.6 +10
JCT Junction City 173.62 193 *e*PKPdf PKPdf 14 37 46.5 +1.7
JCT PKPab PKPab 14 39 21.4 +7.2
MNTX Cornudas Mount 174.00 146 *e*PKPdf PKPdf 14 37 46.0 +1.0
MNTX PKPab PKPab 14 39 22.6 +6.6
MVCO Mesa Verde 174.32 83 *e*PKPdf PKPdf 14 37 46.6 +1.5
ISCO Idaho Springs 175.50 46 *e*PKiKP PKPdf 14 37 47.7 +2.2
WMOK Wichita Mounta 177.07 228 *e*PKiKP PKPdf 14 37 47.1 +1.3

*ISCJB **07** 14:21:48.5±0.7, 3884N±002×2679E±003, h13km±4km, Error ellipse: s-maj=4.2km s-min=3.1km az=140.6*
*CSEM **07** 14:21:48.6±0.1, 3878N×2684E, h20km, MD3.5, Error ellipse: s-maj=1.7km s-min=1.2km az=66.0*
*ISK **07** 14:21:49.5, 3879N×2683E, h35km, MD3.4*
*ATH **07** 14:21:50.0, 3883N×2670E, h35km×2km, MD3.5/5*
*NEIC **07** 14:21:50.0, 3883N×2670E, h35km, MD3.4(ISK), MD3.5(ATH), After ATH.*

ISC 07 14:21:49.6±0.5, 3883N±002×2681E±003, h17km±3km, n49, σ1°03/67, 1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.49**	**349**	*i* P		**Pg**	**14 21 58.8**		**-0.7**
AYVA				*i* S		**Sg**	**14 22 06.3**		**+0.2**
KDAG	**Bornova**	**0.56**	**139**	*i* P		**Pg**	**14 22 01.0**		**+0.3**
KDAG				*i* S		**Sg**	**14 22 09.5**		**+1.3**
PRK	**Paraskevi**	**0.59**	**315**	⇓*i* PN		**Pn**	**14 22 01.1**		**-2.1**
PRK				SN		**Sg**	**14 22 10.2**		**+0.9**
AKS	**Akhisar**	**0.79**	**86**	*i* PG		**Pg**	**14 22 04.2**		**-0.8**
EZN	**Ezine**	**1.07**	**340**	PN		**Pn**	**14 22 09.8**		**0.0**
SMG	**Samos**	**1.11**	**179**	*e*PN		**Pn**	**14 22 10.7**		**+0.3**
SMG				*e*SN		**Sn**	**14 22 26.6**		**+1.2**
BALB	**Balikesir**	**1.17**	**45**	PN		**Pn**	**14 22 09.7**		**-1.4**
BALB				SN		**Sn**	**14 22 26.0**		**-0.6**
BOZC	**Bozcaada**	**1.17**	**330**	*i* P		**Pn**	**14 22 11.0**		**-0.2**
BOZC				*i* S		**Sb**	**14 22 28.8**		**+2.5**
BTOK	**Tokmak**	**1.33**	**45**	*i* P		**Pn**	**14 22 13.2**		**-0.3**
BTOK				*i* S		**Sn**	**14 22 30.7**		**0.0**
MANT	**Manisa**	**1.41**	**103**	*i* P		**Pn**	**14 22 15.9**		**+1.4**
MANT				*i* S		**Sn**	**14 22 34.1**		**+1.4**
DST	**Dursunbey**	**1.61**	**61**	*e*PN		**Pn**	**14 22 17.0**		**-0.3**
LIA	**Limnos Island**	**1.65**	**311**	*e*PB		**Pb**	**14 22 17.9**		**-1.7**
LIA				*e*SN		**Sn**	**14 22 37.0**		**-1.6**
MLSB	**Milas**	**1.71**	**153**	*e*PN		**Pn**	**14 22 17.2**		**-1.4**
EDC	**Edincik**	**1.73**	**28**	PN		**Pn**	**14 22 17.7**		**-1.1**
BNT	**Bandirma**	**1.75**	**29**	PN		**Pn**	**14 22 18.6**		**-0.6**
BODT	**Bodrum**	**1.81**	**167**	PN		**Pn**	**14 22 18.3**		**-1.6**
BDRM	**Kayabasi**	**1.83**	**164**	*i* P		**Pg**	**14 22 25.8**		**+1.0**
BDRM				*i* S		**Sg**	**14 22 53.1**		**+4.6**
KCT	**Karacabey**	**1.87**	**39**	PN		**Pn**	**14 22 20.1**		**-0.7**
RKY	**Sarkoy-Tekirda**	**1.88**	**9**	PN		**Pn**	**14 22 20.9**		**-0.1**
SART	**Tekirdag**	**1.88**	**9**	*i* P		**Pn**	**14 22 20.9**		**-0.1**
SART				*i* S		**Sn**	**14 22 45.4**		**+1.1**
MFT	**Murefte**	**1.99**	**10**	PN		**Pn**	**14 22 21.5**		**-1.0**
APE	**Apeiranthos**	**2.02**	**210**	*e*PN		**Pn**	**14 22 22.8**		**-0.1**
APE				*e*SN		**Sn**	**14 22 47.9**		**+0.1**
APE	**Apeiranthos**	**2.02**	**210**	*e*Pn		**Pn**	**14 22 21.7**		**-1.2**
APE				*e*Sn		**Sn**	**14 22 47.9**		**+0.1**
ORLT	**Orhaneli**	**2.03**	**52**	*e*PN		**Pn**	**14 22 21.6**		**-1.3**
DENT	**Denizli**	**2.05**	**121**	*e*PN		**Pn**	**14 22 22.8**		**-0.5**
YER	**Yerkesik**	**2.05**	**145**	*e*PN		**Pn**	**14 22 22.2**		**-1.1**
GDZ	**Gediz**	**2.10**	**82**	*i* P		**Pg**	**14 22 29.0**		**-1.0**
GDZ				*i* S		**Sg**	**14 22 55.0**		**-2.3**
DAT	**Datca**	**2.18**	**163**	*e*PN		**Pn**	**14 22 24.2**		**-0.9**
ULDT	**Uludag**	**2.23**	**53**	*i* P		**Pn**	**14 22 26.1**		**+0.3**
ULDT				*i* S		**Sn**	**14 22 53.5**		**+0.6**
RDO	**Rodhopi**	**2.52**	**338**	*e*PN		**Pn**	**14 22 30.4**		**+0.7**
RDO				*e*SN		**Sn**	**14 22 59.2**		**-0.7**
IZI	**Iznik**	**2.55**	**53**	*e*PN		**Pn**	**14 22 29.7**		**-0.5**
CTT	**Catalca**	**2.63**	**28**	*e*PN		**Pn**	**14 22 31.7**		**+0.4**
YLV	**Yalova**	**2.63**	**48**	*e*PN		**Pn**	**14 22 31.6**		**+0.3**
ISK	**Istanbul-Kandi**	**2.83**	**37**	*e*PN		**Pn**	**14 22 34.3**		**+0.3**
FETY	**Fethiye**	**2.83**	**140**	*e*PN		**Pn**	**14 22 33.9**		**-0.2**
TKTP	**Tekketepe**	**2.87**	**105**	*i* P		**Pn**	**14 22 35.5**		**+1.0**
TKTP				*i* S		**Sn**	**14 23 02.8**		**-5.9**
HRT	**Hereke**	**2.97**	**47**	*e*PN		**Pn**	**14 22 36.6**		**+0.6**
KDZ	**Kurdzhali**	**3.02**	**340**	*i* P		**Pn**	**14 22 37.0**		**+0.4**
EDRB	**Edirne**	**3.02**	**359**	*e*PN		**Pn**	**14 22 36.7**		**+0.1**
ISP	**Isparta**	**3.07**	**107**	*e*Pn		**Pn**	**14 22 38.5**		**+1.1**
RZN	**Rozhen**	**3.28**	**331**	*i* P		**Pn**	**14 22 41.2**		**+1.1**
NVR	**Nevrokopi**	**3.38**	**319**	*e*PN		**Pn**	**14 22 42.6**		**+1.0**
MMB	**Musomiste**	**3.63**	**320**	*e*P		**Pn**	**14 22 45.5**		**+0.5**
JMB	**Yambol**	**3.64**	**357**	*e*P		**Pn**	**14 22 46.0**		**+0.8**
HENT	**Hendek**	**3.73**	**56**	*i* P		**Pg**	**14 22 57.3**		**-3.8**
HENT				*i* S		**Sg**	**14 23 51.7**		**+2.3**
MDU	**Mudurnu**	**3.78**	**63**	*e*PN		**Pn**	**14 22 46.8**		**-0.2**
VTS	**Vitosha**	**4.65**	**325**	*e*P		**Pn**	**14 23 01.0**		**+2.0**
BR131	**Keskin Array S** 0.8nm,0.3s	**5.38**	**78**	Pn		**Pn**	**14 23 10.3**		**+1.2**
BR131	**Keskin Array S** 0.8nm,0.3s	**5.38**	**78**	Pn		**Pn**	**14 23 10.3**		**+1.3**

*ISCJB **07** 14:27:44.6±0.5, 6047N±007×1658E±0.1, h10km, mb4.0/23, Error ellipse: s-maj=10.8km s-min=7.1km az=40.1*
*IDC **07** 14:27:45.2±0.7, 6054N×16566E, h0km, mb4.0/19, mb1 4.2/20, mb1mx4.1/30, mbtmp4.0/20, ML3.6/1, Error ellipse: s-maj=18.7km s-min=12.3km az=48.0*
*MOS **07** 14:27:46.9±1.3, 6060N×16575E, h21km, mb4.3/4, Error ellipse: s-maj=20.6km s-min=9.4km az=97.0*
*NEIC **07** 14:27:48.6±1.9, 6054N×16571E, h23km±14km, mb4.2/4, Error ellipse: s-maj=7.6km s-min=5.2km az=185.0*

ISC 07 14:27:49.1±3.0, 6054N±007×1657E±01, h29km±22km, n42, σ0°72/44, mb4.0/23, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BILL	**Bilibino**	**7.54**	**2**	*e*PN		**Pn**	**14 29 36.8**		**-0.2**
BILL				pmax		pmax			
comp=Z,7.0nm,0.6s									
BILL	**Bilibino**	**7.54**	**2**	*e*P		**Pn**	**14 29 36.8**		**-0.3**
comp=Z,7.4nm,0.6s									
MA2	**Magadan**	**7.55**	**269**	*e*PN		**Pn**	**14 29 37.4**		**+0.3**
FX1	**Attu Island--F**	**8.69**	**149**	Pn		**Pn**	**14 29 50.9**		**-1.9**
comp=Z,2.2nm,0.3s,baz=17,slow=18,SNR=13									
FX1				Sn		**Sn**	**14 31 22.8**		**-7.0**
comp=Z,0.5nm,0.3s,baz=111,slow=15,SNR=2.3									
FX1	**Attu Island--F**	**8.69**	**149**	*e*P		**Pn**	**14 29 52.6**		**-0.3**
TIXI	**Tiksi**	**18.23**	**323**	*e*P		**Pn**	**14 32 01.7**		**+1.7**
TIXI				*e*S		**Sn**	**14 35 21.8**		**-0.8**
TIXI				pmax	pmax				
comp=Z,1.0nm,0.7s									
COLA	**College**	**21.33**	**58**	*e*P		**P**	**14 32 33.2**		**-0.5**
comp=Z,6.3nm,1.0s,mb3.9									
ILAR	**Eielson Array**	**21.75**	**58**	P		**P**	**14 32 38.5**		**+0.3**
comp=Z,2.2nm,0.6s,mb3.8,baz=272,slow=9.6,SNR=59									
DAWY	**Dawson**	**25.08**	**58**	*e*P		**P**	**14 33 11.4**		**+0.4**
BOD	**Bodaibo**	**26.08**	**287**	*e*P		**P**	**14 33 20.2**		**+0.1**
BOD				pmax		pmax			
comp=Z,3.0nm,1.7s,mb3.5									
INK	**Inuvik**	**26.27**	**47**	P		**P**	**14 33 22.8**		**+1.0**
comp=Z,5.3nm,0.6s,mb4.2,baz=298,slow=11,SNR=71									
INK	**Inuvik**	**26.27**	**47**	*e*P		**P**	**14 33 22.0**		**+0.1**
INK				pmax		pmax			
comp=Z,5.0nm,0.6s									
INK	**Inuvik**	**26.27**	**47**	*e*P		**P**	**14 33 22.0**		**+0.2**
comp=Z,4.9nm,0.6s,mb4.2									
ULN	**Ulaanbaatar**	**35.34**	**276**	P		**P**	**14 34 41.3**		**-0.5**
YKA	**Yellowknife Ar**	**35.81**	**51**	P		**P**	**14 34 45.5**		**-0.3**
comp=Z,0.2nm,0.5s,mb3.3,baz=304,slow=8.1,SNR=5.8									
YKA	**Yellowknife Ar**	**35.81**	**51**	P		**P**	**14 34 45.5**		**-0.3**
YBH	**Yreka Blue Hor**	**46.10**	**80**	P		**P**	**14 36 10.5**		**-0.1**
comp=Z,2.2nm,1.0s,mb4.0,baz=41,slow=3.4,SNR=4.4									
MKAR	**Makanchi Array**	**47.90**	**293**	P		**P**	**14 36 24.5**		**-0.1**
comp=Z,0.3nm,0.7s,mb3.5,baz=28,slow=6.3,SNR=5.3									
MKAR	**Makanchi Array**	**47.90**	**293**	P		**P**	**14 36 24.5**		**-0.1**
BVAR	**Borovoye Array**	**48.32**	**306**	P		**P**	**14 36 28.1**		**+0.2**
comp=Z,4.5nm,0.6s,mb4.7,baz=50,slow=7.9,SNR=7.4									
BRVK	**Borovoye**	**48.34**	**306**	P		**P**	**14 36 27.9**		**-0.1**
BRVK				pmax		pmax			
comp=Z,2.0nm,0.6s,mb4.3									
BRVK	**Borovoye**	**48.34**	**306**	P		**P**	**14 36 27.9**		**-0.1**
comp=Z,2.3nm,0.6s,mb4.4									
NVAR	**Mina Array Bea**	**50.79**	**80**	P		**P**	**14 36 46.7**		**0.0**
comp=Z,0.5nm,0.6s,mb3.6,baz=291,slow=7.6,SNR=3.7									

PDAR	**Pinedale Array**	**51.57**	**69**	P	**P**	**14 36 53.2**	**+0.7**
	comp=Z,1.5nm,0.7s,mb4.0,baz=315,slow=3.3,SNR=15						
ULM	**Lac du Bonnet**	**51.68**	**54**	P	**P**	**14 36 53.4**	**0.0**
	comp=Z,1.0nm,0.5s,mb4.0,baz=270,slow=9.1,SNR=2.1						
KAF	**Kangasniemi**	**53.80**	**338**	*ep*	**P**	**14 37 07.7**	**-1.3**
SRU	**San Rafael**	**53.99**	**73**	*eP*	**P**	**14 37 10.6**	**+0.2**
SRU				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
SRU	**San Rafael**	**53.99**	**73**	*eP*	**P**	**14 37 10.6**	**+0.2**
	comp=Z,2.1nm,0.9s,mb4.1						
FINES	**FINESS Array B**	**54.46**	**338**	P	**P**	**14 37 13.5**	**-0.3**
	comp=Z,0.7nm,0.5s,mb3.9,baz=20,slow=9.4,SNR=8.4						
FINES	**FINESS Array B**	**54.46**	**338**	P	**P**	**14 37 13.5**	**-0.3**
NB2	**NORSAR Subarra**	**57.17**	**346**	P	**P**	**14 37 32.9**	**-0.4**
	comp=Z,1.2nm,0.6s,mb4.1,baz=16,slow=7.4						
NOA	**NORSAR Array B**	**57.17**	**346**	P	**P**	**14 37 33.3**	**0.0**
	comp=Z,1.6nm,0.6s,mb4.2,baz=14,slow=7.2,SNR=6.8						
HFS	**Hagfors**	**57.73**	**344**	P	**P**	**14 37 36.8**	**-0.4**
	comp=Z,1.9nm,0.6s,mb4.3,baz=70,slow=1.7,SNR=7.4						
AKASG	**Malin Array Be**	**63.72**	**331**	P	**P**	**14 38 17.6**	**-0.3**
	comp=Z,2.7nm,0.6s,mb4.4,baz=25,slow=6.1,SNR=6.2						
EKA	**Eskdalemuir Ar**	**64.14**	**353**	P	**P**	**14 38 20.6**	**-0.1**
	comp=Z,1.0nm,0.7s,mb4.0,baz=12,slow=4.6,SNR=4.5						
STHS	**Stebnicka Huta**	**66.70**	**336**	*e*	**P**	**14 38 40.6**	**+3.3**
KECS	**Kecovo**	**67.75**	**336**	*eP*	**P**	**14 38 44.2**	**+0.3**
GERES	**GERESS Array B**	**68.65**	**341**	P	**P**	**14 38 49.4**	**-0.2**
	comp=Z,0.5nm,0.7s,mb3.6,baz=355,slow=2.8,SNR=4.0						
MLR	**Muntele Rosu**	**69.37**	**331**	P	**P**	**14 38 55.9**	**+1.8**
	comp=Z,2.4nm,0.9s,mb4.2,baz=36,slow=19,SNR=2.6						
IDI	**Anoyia**	**79.26**	**328**	P	**P**	**14 39 50.6**	**-1.1**
	comp=Z,4.7nm,0.8s,mb4.5,baz=297,slow=4.5,SNR=2.8						
ESDC	**Sonseca Array**	**79.79**	**352**	P	**P**	**14 39 54.3**	**-0.2**
	comp=Z,0.9nm,0.7s,mb3.8,baz=6.8,slow=6.3,SNR=6.9						
WRA	**Warramunga Arr**	**84.12**	**210**	P	**P**	**14 40 17.9**	**+0.6**
	comp=Z,0.9nm,0.9s,mb3.9,baz=22,slow=5.9,SNR=3.7						

*IDC **07** 14:40:33.7±1.0,3541N×2199E,h0km,mb3.7/8, mb1 3.6/12,mb1mx3.5/28,mbtmp3.6/12,ML3.2/4,Error ellipse: s-maj=22.1km s-min=15.4km az=162.0*
*ISCJB **07** 14:40:37.1±1.1,3552N±008×2197E±006,h37km±12km, mb3.6/7,Error ellipse: s-maj=14.4km s-min=8.0km az=22.8*
*ATH **07** 14:40:41.0,3606N×2319E,h149km±8km*
ISC 07 14:40:39.4±0.9,3535N±008×2202E±006,h47km±11km, n19,σ1º23/22,mb3.5/8,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.25**	**41**	*eP*	**Pn**	**14 41 00.5**	**+0.1**
KYTH				*eS*	**Sn**	**14 41 17.0**	**+1.0**
VLI	**Veliai**	**1.56**	**28**	*eP*	**Pn**	**14 41 06.0**	**+1.4**
VAM	**Vamos**	**1.78**	**87**	*eP*	**Pn**	**14 41 07.0**	**-0.7**
ITM	**Ithomi**	**1.83**	**358**	*eP*	**Pn**	**14 41 11.0**	**+2.6**
IDI	**Anoyia**	**2.35**	**91**	Pn	**Pn**	**14 41 15.8**	**+0.3**
	1.8nm,0.3s,baz=279,slow=15,SNR=15						
IDI				Sn	**Sn**	**14 41 43.7**	**+0.6**
	4.9nm,0.3s,baz=356,slow=19,SNR=5.4						
VAY	**Valandovo**	**5.98**	**4**	*eP*	**Pn**	**14 42 01.8**	**-3.5**
VAE	**Valguarnera**	**6.49**	**291**	Pn	**Pn**	**14 42 10.4**	**-2.0**
	1.5nm,0.3s,baz=218,slow=8.1,SNR=3.4						
VAE				Sn	**Sn**	**14 43 26.6**	**+1.5**
	3.8nm,0.3s,baz=360,slow=17,SNR=3.5						
GRUS	**Gruza**	**8.59**	**354**	*i* P	**Pn**	**14 42 36.9**	**-4.2**
DIVS	**Divcibare**	**8.88**	**350**	*i* P	**Pn**	**14 42 41.3**	**-3.8**
BRTR	**Keskin Array B**	**10.21**	**61**	Pn	**Pn**	**14 43 01.6**	**-1.7**
	0.1nm,0.3s,baz=221,slow=13,SNR=2.0						
AKASG	**Malin Array Be**	**16.21**	**17**	Pn	**Pn**	**14 44 19.4**	**-4.5**
	0.3nm,0.3s,baz=215,slow=12,SNR=2.7						
ESDC	**Sonseca Array**	**21.03**	**290**	P	**P**	**14 45 18.6**	**-0.5**
	0.3nm,0.5s,mb2.9,baz=92,slow=8.9,SNR=3.9						
HFS	**Hagfors**	**25.38**	**350**	P	**P**	**14 46 02.1**	**-0.1**
	0.9nm,0.7s,mb3.4,baz=189,slow=18,SNR=3.0						
EKA	**Eskdalemuir Ar**	**26.44**	**327**	P	**P**	**14 46 12.6**	**+0.8**
	1.3nm,0.9s,mb3.5,baz=131,slow=10,SNR=3.8						
TORD	**Torodi Ar. Bea**	**28.73**	**225**	P	**P**	**14 46 33.0**	**+0.7**
	0.9nm,0.7s,mb3.6,baz=34,slow=9.4,SNR=9.9						
ARCES	**ARCESS Array B**	**34.30**	**2**	P	**P**	**14 47 20.5**	**-0.7**
	1.2nm,0.6s,mb4.0,baz=191,slow=11,SNR=12						
DBIC	**Dimbokro**	**37.74**	**227**	P	**P**	**14 47 51.2**	**+0.5**
	2.5nm,0.9s,mb4.0,baz=20,slow=10,SNR=3.7						
BVAR	**Borovoye Array**	**38.09**	**47**	P	**P**	**14 47 54.0**	**+0.4**
	0.2nm,0.4s,mb3.2,baz=260,slow=7.2,SNR=2.6						
MKAR	**Makanchi Array**	**45.81**	**56**	P	**P**	**14 48 56.2**	**-0.4**
	0.6nm,0.5s,mb3.8,baz=268,slow=7.4,SNR=8.7						

*MOS **07** 14:46:36.6±1.1,194N×12728E,h33km,mb4.8/6,Error ellipse: s-maj=31.5km s-min=10.4km az=109.6*
*ISCJB **07** 14:46:45.4±1.0,183N±005×12739E±010,h118km±10km, mb4.5/27,Error ellipse: s-maj=17.2km s-min=6.9km az=141.0*
*BJI **07** 14:46:45.4,202N×12722E,h87km,mB5.1,mb4.6*
*IDC **07** 14:46:46.4±3.1,185N×12745E,h113km±29km,mb4.0/11, mb1 4.1/12,mb1mx3.9/20,mbtmp4.4/12,Error ellipse: s-maj=40.3km s-min=11.3km az=75.0*
*NEIC **07** 14:46:46.3±1.8,181N×12739E,h112km±17km,mb4.5/9, Error ellipse: s-maj=16.3km s-min=6.1km az=66.0*
ISC 07 14:46:46.3±0.9,181N±005×12742E±010,h110km±8km, n54,σ0º87/53,mb4.5/27,1C-1D,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**5.23**	**347**	*eP*	**Pn**	**14 48 02.8**	**+0.6**
BUKP	**Musuan**	**6.47**	**339**	*eP*	**Pn**	**14 48 20.0**	**+1.0**
PAGZ	**Pagadian**	**7.22**	**326**	*eP*	**Pn**	**14 48 28.3**	**-0.9**
IPIL	**Ipil**	**7.66**	**321**	*i*P	**Pn**	**14 48 33.4**	**-1.7**
IPIL	**Ipil**	**7.66**	**321**	*eP*	**Pn**	**14 48 33.4**	**-1.7**
KKM	**Kota Kinabalu**	**11.94**	**291**	*eP*	**Pn**	**14 49 32.4**	**-0.5**
KAKA	**Kakadu**	**15.26**	**161**	*eP*	**Pn**	**14 50 15.5**	**-0.3**
	42nm,1.2s						
KSM	**Kuching**	**17.11**	**269**	*eP*	**Pn**	**14 50 38.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**19.86**	**185**	*eP*	**P**	**14 51 08.4**	**-0.2**
	6.9nm,0.4s						
FITZ	**Fitzroy Crossi**	**19.86**	**185**	P	**P**	**14 51 09.3**	**+0.7**
	1.2nm,0.3s,baz=16,slow=11,SNR=50						
WRAB	**Tennant Creek**	**22.65**	**163**	*eP*	**P**	**14 51 38.8**	**+0.5**
WRAB				pmax	pmax		
	comp=Z,51nm,0.8s,mb4.9						
WRAB	**Tennant Creek**	**22.65**	**163**	*eP*	**P**	**14 51 38.8**	**+0.5**
	comp=Z,51nm,0.8s,mb4.9						
WRA	**Warramunga Arr**	**22.66**	**163**	P	**P**	**14 51 39.0**	**+0.6**
	comp=Z,18nm,0.7s,mb4.5,baz=340,slow=11,SNR=222						
WB2	**Warramunga Arr**	**22.66**	**163**	*iP*	**P**	**14 51 38.9**	**+0.5**
MBWA	**Marble Bar**	**24.04**	**198**	*eP*	**P**	**14 51 50.6**	**-0.4**
	comp=Z,23nm,1.1s,mb4.4						
ASAR	**Alice Springs**	**26.10**	**166**	P	**P**	**14 52 10.4**	**+0.7**
	comp=Z,2.2nm,0.3s,mb4.0,baz=341,slow=8.2,SNR=78						
ASAR				ScP	ScP	14 59 04.0	+0.1
	comp=Z,0.5nm,0.8s,baz=342,slow=2.9,SNR=4.9						
NWAO	**Narrogin (SRO)**	**35.87**	**195**	P	**P**	**14 53 35.6**	**+0.1**
	comp=Z,3.1nm,0.6s,mb4.4,baz=45,slow=7.1,SNR=4.7						
MJAR	**Matsushiro Arr**	**35.97**	**15**	P	**P**	**14 53 35.9**	**-0.5**
	comp=Z,1.6nm,0.7s,mb4.1,baz=181,slow=8.6,SNR=6.7						
STKA	**Stephens Creek**	**36.10**	**159**	*eP*	**P**	**14 53 36.8**	**-0.7**
	comp=Z,23nm,0.9s,mb5.1						
STKA	**Stephens Creek**	**36.10**	**159**	P	**P**	**14 53 37.2**	**-0.3**
	comp=Z,27nm,0.8s,mb5.2,baz=337,slow=7.6,SNR=36						
XAN	**Xi'an**	**36.43**	**334**	P	**P**	**14 53 40.9**	**+0.6**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
CD2	**Chengdu**	**36.59**	**325**	*eP*	**P**	**14 53 42.3**	**+0.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
LZH	**Lanzhou**	**40.50**	**330**	*eP*	**P**	**14 54 16.2**	**+1.9**
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,145nm,4.5s						
GTA	**Gaotai**	**45.09**	**330**	P	**P**	**14 54 52.5**	**+1.2**
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.3						
JIRN	**Jiri**	**47.06**	**307**	*eP*	**P**	**14 55 07.5**	**+0.7**
	comp=Z,10nm,0.7s,mb4.1						
GUN	**Gumba**	**47.42**	**307**	*eP*	**P**	**14 55 10.0**	**+0.4**
	comp=Z,26nm,0.9s,mb5.0						
PKI	**Pulchoki**	**47.65**	**306**	*eP*	**P**	**14 55 11.1**	**-0.2**
KKN	**Kakani**	**47.84**	**307**	*eP*	**P**	**14 55 12.8**	**-0.1**
DMN	**Daman**	**47.91**	**306**	*eP*	**P**	**14 55 13.9**	**+0.5**
GKN	**Gorkha**	**48.45**	**307**	*eP*	**P**	**14 55 17.3**	**-0.2**
	comp=Z,2.4nm,0.2s,mb4.7						
ULN	**Ulaanbaatar**	**49.15**	**342**	*eP*	**P**	**14 55 23.8**	**+1.0**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
ULN	**Ulaanbaatar**	**49.15**	**342**	*eP*	**P**	**14 55 23.8**	**+1.0**
	comp=Z,6.9nm,1.0s,mb4.5						
KOLN	**Koldanda**	**49.19**	**306**	*eP*	**P**	**14 55 23.8**	**+0.6**
	comp=Z,22nm,0.9s,mb5.1						
SONM	**Songino Array**	**49.33**	**341**	P	**P**	**14 55 24.9**	**+0.7**
	comp=Z,1.9nm,0.8s,mb4.1,baz=157,slow=8.7,SNR=8.5						
WMQ	**Urumqi**	**54.69**	**325**	*eP*	**P**	**14 56 05.2**	**+1.3**
BOD	**Bodaibo**	**56.85**	**351**	*eP*	**P**	**14 56 19.5**	**+0.1**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb4.1						
MKAR	**Makanchi Array**	**59.52**	**326**	P	**P**	**14 56 38.6**	**+0.7**
	comp=Z,3.6nm,0.3s,mb4.8,baz=116,slow=7.8,SNR=85						
ZAL	**Zalesovo**	**62.60**	**333**	P	**P**	**14 56 56.6**	**-2.1**
	comp=Z,0.8nm,0.4s,mb4.0,baz=302,slow=1.4,SNR=5.3						
KURK	**Kurchatov**	**63.72**	**328**	*eP*	**P**	**14 57 06.1**	**-0.1**
KURK				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.0						
KURK	**Kurchatov**	**63.72**	**328**	*eP*	**P**	**14 57 06.1**	**-0.1**
	comp=Z,22nm,0.9s,mb5.0						
NVS	**Novosibirsk**	**63.89**	**333**	*eP*	**P**	**14 57 05.5**	**-1.7**
BVAR	**Borovoye Array**	**69.30**	**327**	P	**P**	**14 57 41.5**	**-0.1**
	comp=Z,1.6nm,0.6s,mb4.0,baz=126,slow=7.5,SNR=12						
BRVK	**Borovoye**	**69.37**	**327**	*eP*	**P**	**14 57 42.0**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
BRVK	**Borovoye**	**69.37**	**327**	*eP*	**P**	**14 57 42.0**	**-0.1**
	comp=Z,4.2nm,0.9s,mb4.3						
TIXI	**Tiksi**	**69.74**	**0**	*eP*	**P**	**14 57 42.6**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.6						
ZRNK	**Zerenda**	**70.02**	**327**	*eP*	**P**	**14 57 45.5**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.7						
ZRNK	**Zerenda**	**70.02**	**327**	*eP*	**P**	**14 57 45.5**	**-0.5**
	comp=Z,4.6nm,0.4s,mb4.7						
AKTK	**Aktyubinsk**	**75.58**	**322**	P	**P**	**14 58 18.1**	**-0.8**
AKTO	**Aktyubinsk**	**75.58**	**322**	P	**P**	**14 58 18.1**	**-0.8**
	comp=Z,2.1nm,0.7s,mb4.0,baz=99,slow=7.5,SNR=8.4						
VNDA	**Vanda**	**81.45**	**173**	P	**P**	**14 58 50.9**	**-0.3**
	comp=Z,0.8nm,0.5s,mb3.8,baz=312,slow=6.4,SNR=5.7						
VNDA	**Vanda**	**81.45**	**173**	*eP*	**P**	**14 58 51.1**	**0.0**
VNDA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
VNDA	**Vanda**	**81.45**	**173**	*eP*	**P**	**14 58 51.1**	**0.0**
	comp=Z,2.8nm,1.0s,mb4.0						
QSPA	**South Pole Qui**	**91.73**	**180**	*eP*	**P**	**14 59 39.5**	**-1.9**
TORD	**Torodi Ar. Bea**	**124.16**	**287**	PKP	PKPdf	15 05 33.0	+1.1
	comp=Z,0.4nm,0.9s,baz=354,slow=2.6,SNR=3.8						

*CSEM **07** 14:47:06.7±0.4,4617N×1108E,h20km,ML2.5/4,Error ellipse: s-maj=7.5km s-min=5.6km az=42.0*
*ISCJB **07** 14:47:07.4±1.1,4620N±005×1108E±006,h8km,Error ellipse: s-maj=7.1km s-min=5.8km az=10.2*
*ROM **07** 14:47:07.4±0.2,4622N×1107E,h10km,Md2.4/4,Ml1.5/3, Error ellipse: s-maj=3.4km s-min=2.3km az=13.0*
*VIE **07** 14:47:08.0±0.7,4623N×1112E,h8km,mb1.5/1,ML2.0/4, Error ellipse: s-maj=4.2km s-min=2.5km az=149.0 14 km NW of Salurn*
ISC 07 14:47:07.7±1.5,4618N±005×1109E±006,h9km±38km,n11, σ0º44/20,2C-6D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APPI	**Appiano**	**0.31**	**17**	Pg	**Pg**	**14 47 13.8**	**-0.1**
APPI				Sg	**Sg**	**14 47 18.3**	**+0.2**
	102nm,0.3s						
CTI	**Castel Tesino**	**0.41**	**109**	Pg	**Pg**	**14 47 16.3**	**+0.6**
BRMO	**Bormio**	**0.58**	**301**	Pg	**Pg**	**14 47 18.7**	**-0.2**
BRMO				Sg	**Sg**	**14 47 26.0**	**-0.5**
	16nm,0.5s						
BRES	**Bressanone**	**0.68**	**40**	Pg	**Pg**	**14 47 20.7**	**-0.2**
	16nm,0.3s						
SQTA	**Sankt Quirin**	**1.04**	**4**	⇑*i*Pg	**Pg**	**14 47 27.0**	**-0.7**
SQTA				⇓*i*Sg	**Sg**	**14 47 41.3**	**0.0**
	7.5nm,0.3s						
SQTA	**Sankt Quirin**	**1.04**	**4**	Pg	**Pg**	**14 47 27.0**	**-0.8**
SQTA				Sg	**Sg**	**14 47 41.3**	**0.0**
	7.5nm,0.3s						
WTTA	**Wattenberg**	**1.15**	**19**	⇓*i*Pg	**Pg**	**14 47 29.6**	**-0.2**
WTTA				⇓*i*Sg	**Sg**	**14 47 44.3**	**-0.3**
	4.7nm,0.3s						
MOTA	**Moosalm**	**1.16**	**0**	⇓*i*Pg	**Pg**	**14 47 29.9**	**-0.1**
MOTA				⇓*i*Sg	**Sg**	**14 47 45.6**	**+0.4**
	5.8nm,0.5s						
MOTA	**Moosalm**	**1.16**	**0**	Pg	**Pg**	**14 47 29.9**	**-0.2**
MOTA				Sg	**Sg**	**14 47 45.6**	**+0.4**
	5.8nm,0.5s						
DAVA	**Damuels**	**1.39**	**323**	⇑*i*Pg	**Pg**	**14 47 34.6**	**+0.3**
DAVA				⇓*i*Sg	**Sg**	**14 47 53.3**	**+1.0**
	12nm,0.5s						
DAVA	**Damuels**	**1.39**	**323**	Pg	**Pg**	**14 47 34.6**	**+0.3**
DAVA				Sg	**Sg**	**14 47 53.3**	**+1.0**
	12nm,0.5s						

*ISCJB **07** 14:47:15.7±0.6,369S±01×782E±02,h10km,mb4.2/11, MS4.8/5,Error ellipse: s-maj=19.3km s-min=17.0km az=103.8*
*IDC **07** 14:47:15.5±0.9,3687S×7808E,h0km,mb4.0/8,mb1 4.1/8, mb1mx3.9/16,mbtmp4.0/8,MS4.8/5,Ms1 4.8/5, ms1mx4.2/28,Error ellipse: s-maj=29.7km s-min=24.9km az=45.0*
*MOS **07** 14:47:15.6±1.1,3695S×7816E,h10km,mb4.8/3,Error ellipse: s-maj=30.6km s-min=23.6km az=107.9*
*NEIC **07** 14:47:17.3±0.6,3688S×7817E,h10km,mb4.6/3,Error ellipse: s-maj=19.4km s-min=17.1km az=51.0*
*HRVD **07** 14:47:17.3±0.4,3694S×7825E,h12km,MW5.2/67, Centroid moment Tensor Solution. LP body waves: s15,c16;Mantle waves: s67,c100; Half duration: 1s0 Moment tensor: Scale 10¹⁷Nm; Mrr 0.22±.03; Mθθ -0.83±.03; Mφφ 0.61±.03; Mrθ 0.41±.10; Mrφ 0.02±.03; Mθφ -0.04±.08; Best double couple: M0 0.79500×10¹⁷ NP1 φb 223.00000°,δ71.00000°,λ-8.00000°. NP2: φs 316.00000°,δ82.00000°,λ-161.00000°. Principal axes: T 0.6170, Plg8.0000°, Azm88.0000°; N 0.3570, Plg69.0000°, Azm336.0000°; P -0.9730, Plg19.0000°, Azm181.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 07 14:47:17.4±0.6,369S±01×782E±02,h10km,n21,σ0º91/16, mb4.2/11,MS4.8/5,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**31.93**	**191**	LR	LR	15 04 34.2	
	comp=Z,1μm,20.3s,MS4.6,baz=292,slow=32						
NWAO	**Narrogin (SRO)**	**32.12**	**95**	LR	LR	15 03 34.8	
	comp=Z,3μm,19.6s,MS4.9,baz=225,slow=30						
PSI	**Prapat**	**43.98**	**31**	LR	LR	15 09 26.3	
	comp=Z,1μm,18.4s,MS4.9,baz=188,slow=30						
PALK	**Pallekele**	**44.02**	**4**	P	**P**	**14 55 24.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**45.57**	**79**	LR	LR	15 11 25.1	
	comp=Z,716nm,19.2s,MS4.6,baz=65,slow=32						
LSZ	**Lusaka**	**49.17**	**282**	*eP*	**P**	**14 56 06.9**	**+1.5**
LSZ				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
LSZ	**Lusaka**	**49.17**	**282**	*eP*	**P**	**14 56 06.8**	**+1.4**
	comp=Z,5.7nm,0.8s,mb4.7						
ASAR	**Alice Springs**	**49.27**	**91**	P	**P**	**14 56 05.8**	**-0.4**
	comp=Z,1.6nm,0.9s,mb4.0,baz=230,slow=6.2,SNR=7.4						
WRA	**Warramunga Arr**	**51.49**	**87**	P	**P**	**14 56 24.8**	**+1.8**
	comp=Z,3.8nm,0.9s,mb4.3,baz=237,slow=7.7,SNR=8.7						
KMBO	**Kilima Mbogo**	**51.90**	**304**	P	**P**	**14 56 25.7**	**-0.4**
	comp=Z,0.6nm,0.3s,mb4.0,baz=60,slow=16,SNR=3.2						
KMBO	**Kilima Mbogo**	**51.90**	**304**	P	**P**	**14 56 25.7**	**-0.4**
SNAA	**Sanae**	**52.63**	**203**	P	**P**	**14 56 31.1**	**-0.4**
	comp=Z,0.9nm,0.8s,mb3.7,baz=92,slow=4.3,SNR=4.3						
VNDA	**Vanda**	**52.91**	**164**	P	**P**	**14 56 33.2**	**-0.4**
	comp=Z,1.2nm,1.0s,mb3.8,baz=258,slow=9.4,SNR=3.7						
VNDA				LR	LR	15 16 58.1	
	comp=Z,1μm,20.3s,MS4.9,baz=275,slow=34						
MKAR	**Makanchi Array**	**83.42**	**3**	P	**P**	**14 59 44.9**	**-0.1**
	comp=Z,2.9nm,0.8s,mb4.4,baz=179,slow=6.2,SNR=14						
BRTR	**Keskin Array B**	**86.57**	**327**	P	**P**	**15 00 01.2**	**+0.5**
	comp=Z,1.0nm,1.0s,mb4.0,baz=179,slow=7.2,SNR=4.2						
KURK	**Kurchatov**	**87.26**	**0**	*eP*	**P**	**15 00 04.1**	**-0.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.5						
KURK	**Kurchatov**	**87.26**	**0**	*eP*	**P**	**15 00 04.1**	**-0.1**
	comp=Z,3.2nm,0.9s,mb4.5						
ULN	**Ulaanbaatar**	**88.26**	**19**	P	**P**	**15 00 08.7**	**-0.2**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.5						
ULN	**Ulaanbaatar**	**88.26**	**19**	P	**P**	**15 00 08.7**	**-0.3**
	comp=Z,3.6nm,1.3s,mb4.4						
BVAR	**Borovoye Array**	**89.83**	**355**	P	**P**	**15 00 13.2**	**-3.1**
	comp=Z,0.2nm,0.4s,mb3.8,baz=250,slow=8.6,SNR=2.7						
YKA	**Yellowknife Ar**	**153.20**	**13**	PKPbc	PKPbc	15 07 12.8	-2.6
	comp=Z,0.5nm,0.9s,baz=345,slow=2.5,SNR=5.7						

*ISCJB **07** 14:54:56.9±0.7,2314N±005×7040E±004,h38km±9km, mb3.7/7,Error ellipse: s-maj=8.2km s-min=6.3km az=36.3*
*IDC **07** 14:54:57.5±0.8,2314N×7024E,h26km±5km,mb3.6/7, mb1 3.7/8,mb1mx3.5/22,mbtmp3.8/8,ML3.4/1,Error ellipse: s-maj=22.6km s-min=19.2km az=33.0*
*NEIC **07** 14:54:57.6±0.7,2314N×7020E,mb4.0/1,Error ellipse: s-maj=17.7km s-min=11.6km az=176.0*
*NDI **07** 14:54:57.9±2.8,2309N×7035E,h5km,ML3.7*
ISC 07 14:54:58.1±1.0,2314N±005×7034E±005,h30km±10km, h28km±.6km:pP-P,n24,σ1º29/32,mb3.7/7,Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHJ	**Bhuj**	**0.64**	**280**	*eP*	**Pb**	**14 55 10.4**	**-0.3**
BHJ				*eS*	**Sb**	**14 55 20.0**	**+0.6**
BHJ				AML	AML	14 55 20.6	
	comp=E,7μm,0.2s						
BHJ				AML	AML	14 55 20.7	
	comp=N,10μm,0.3s						
BHV	**Bhavnagar**	**2.17**	**129**	*eP*	**Pn**	**14 55 33.0**	**+0.9**
BHV				*ex*	x	14 56 09.0	
BOM	**Bombay**	**4.81**	**151**	*eP*	**Pn**	**14 56 11.1**	**+2.6**
BOM				*eS*	**Sn**	**14 57 03.9**	**+0.6**
BOM				*ex*	x	14 57 19.3	
	comp=E,336nm,0.4s						
BOM				*ex*	x	14 57 20.2	
	comp=N,206nm,0.4s						
AJM	**Ajmer**	**5.13**	**49**	*eP*	**Pn**	**14 56 17.3**	**+4.5**
AJM				*eS*	**Sn**	**14 57 12.7**	**+1.6**
AJM				AML	AML	14 57 35.9	
	comp=E,202nm,0.7s						
AJM				AML	AML	14 57 37.6	
	comp=N,137nm,0.6s						
BHPL	**Bhopal**	**6.52**	**88**	*eP*	**Pn**	**14 56 32.8**	**+0.8**
BHPL				*eS*	**Sn**	**14 57 44.1**	**-1.1**
KAD	**Karad**	**6.83**	**147**	*eS*	**Sn**	**14 57 51.1**	**-1.9**
KAD				AML	AML	14 58 50.2	
	comp=E,32nm,0.5s						
KAD				AML	AML	14 58 50.9	
	comp=N,24nm,0.6s						
NDI	**New Delhi**	**8.29**	**47**	*eP*	**Pn**	**14 56 58.4**	**+2.1**
NDI				*ex*	x	14 58 31.2	
NDI				AML	AML	14 59 10.8	
	comp=E,46nm,0.6s						
NDI				AML	AML	14 59 14.4	
	comp=N,29nm,0.7s						
HYB	**Hyderabad**	**9.58**	**125**	*i* P	**Pn**	**14 57 14.0**	**+0.1**
HYB				*e*		14 57 24.5	
HYB				*eS*	**Sn**	**14 59 05.0**	**+4.4**
WSAR	**Wadi Sarin**	**10.77**	**273**	Pn	**Pn**	**14 57 28.8**	**-1.4**
	comp=N,0.3nm,0.3s,baz=292,slow=15,SNR=6.1						
WSAR				Sn	**Sn**	**14 59 19.5**	**-10**
	comp=N,0.1nm,0.3s,baz=314,slow=6.7,SNR=9.5						
WSAR	**Wadi Sarin**	**10.77**	**273**	Pn	**Pn**	**14 57 28.8**	**-1.4**
WSAR				Sn	**Sn**	**14 59 19.5**	**-10**
KOLN	**Koldanda**	**12.83**	**66**	*eP*	**Pn**	**14 57 56.4**	**-2.0**
	comp=N,11nm,0.5s						
KOLN				*eS*	**Sn**	**15 00 09.5**	**-11**
GKN	**Gorkha**	**13.78**	**66**	*eP*	**Pn**	**14 58 07.1**	**-4.2**
KKN	**Kakani**	**14.26**	**68**	*eP*	**Pn**	**14 58 15.0**	**-2.9**
	comp=N,26nm,0.7s						
PKI	**Pulchoki**	**14.32**	**69**	*eP*	**Pn**	**14 58 18.4**	**-0.3**
	comp=N,15nm,0.5s						
GUN	**Gumba**	**14.81**	**68**	*eP*	**Pn**	**14 58 22.0**	**-3.4**
	comp=N,63nm,1.0s						
JIRN	**Jiri**	**15.01**	**69**	*eP*	**Pn**	**14 58 26.5**	**-1.6**

Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.56**	**22**	Pn	**Pn**	**15 23 18.9**	**-0.3**
	16nm,0.3s,baz=4.9,slow=3.2,SNR=47						
AFI				Sn	**Sn**	**15 24 24.6**	**-10**
	117nm,0.3s,baz=40,slow=22,SNR=11						
AFI	**Afiamalu**	**6.56**	**22**	*e*P	**Pn**	**15 23 18.6**	**-0.5**
	157nm,0.4s						
RAR	**Rarotonga**	**13.65**	**97**	Pn	**Pn**	**15 24 53.3**	**-2.9**
	4.4nm,0.3s,baz=250,slow=7.2,SNR=34						
RAR				Sn	**Sn**	**15 27 10.0**	**-19**
	11nm,0.3s,baz=136,slow=21,SNR=7.2						
RAR				LR	LR	15 28 52.9	
	comp=Z,662nm,20.4s,baz=53,slow=31						
RAR	**Rarotonga**	**13.65**	**97**	Pn	**Pn**	**15 24 53.4**	**-2.9**
RAR				Sn	**Sn**	**15 27 10.0**	**-19**
DZM	**Mont Dzumac**	**18.08**	**260**	P	**Pn**	**15 25 57.6**	**+3.6**
	1.8nm,0.3s,baz=79,slow=15,SNR=30						
DZM				LR	LR	15 31 44.2	
	comp=Z,587nm,19.2s,baz=279,slow=33						
URZ	**Urewera**	**19.62**	**200**	P	**Pn**	**15 26 13.4**	**+0.7**
	1.0nm,0.3s,baz=52,slow=3.0,SNR=9.9						
URZ				S	**Sn**	**15 29 39.3**	**-14**
	1.1nm,0.3s,baz=21,slow=12,SNR=5.7						
TBI	**Tubuai**	**23.31**	**103**	*e*P	**P**	**15 26 50.1**	**-0.9**
	124nm,1.2s,mb5.3						
TBI				*e*LR	LR	15 31 57.0	
	1µm,33.5s						
PAE	**Paea**	**23.51**	**88**	*e*P	**P**	**15 26 52.7**	**-0.4**
	93nm,1.2s,mb5.2						
PPT	**Papeete**	**23.53**	**88**	*e*P	**P**	**15 26 53.1**	**-0.2**
	53nm,1.3s,mb4.9						
PPT	**Papeete**	**23.53**	**88**	P	**P**	**15 26 53.6**	**+0.2**
	47nm,1.1s,mb4.9,baz=153,slow=3.4,SNR=4.1						
PMOR	**Pomariorio Ree**	**25.66**	**83**	*e*P	**P**	**15 27 12.5**	**-0.4**
	110nm,1.2s,mb5.3						
RPZ	**Rata Peaks**	**26.59**	**204**	P	**P**	**15 27 22.8**	**+1.5**
	5.2nm,0.7s,mb4.4,baz=11,slow=18,SNR=3.0						
HNR	**Honiara**	**27.00**	**289**	P	**P**	**15 27 24.9**	**-0.1**
	44nm,1.0s,mb5.2,baz=90,slow=3.5,SNR=4.9						
HNR	**Honiara**	**27.00**	**289**	P	**P**	**15 27 24.9**	**-0.1**
HNR				pmax	pmax		
	comp=Z,45nm,1.0s,mb5.2						
HNR	**Honiara**	**27.00**	**289**	*e*P	**P**	**15 27 23.7**	**-1.3**
	comp=Z,71nm,1.2s,mb5.3						
RKT	**Rikitea**	**36.63**	**102**	*e*LR	LR	15 38 07.3	
	comp=Z,872nm,31.2s						
CTA	**Charters Tower**	**36.99**	**263**	⇓*i*P	**P**	**15 28 52.9**	**+0.4**
	comp=Z,16nm,0.4s,mb5.1						
CTA	**Charters Tower**	**36.99**	**263**	P	**P**	**15 28 53.0**	**+0.4**
	comp=Z,25nm,0.5s,mb5.2,baz=93,slow=10,SNR=79						
CTA				LR	LR	15 41 53.0	
	comp=Z,476nm,18.1s,MS4.3,baz=246,slow=33						
CTA	**Charters Tower**	**36.99**	**263**	⇓*i*P	**P**	**15 28 52.9**	**+0.4**
CTA				pmax	pmax		
	comp=Z,16nm,0.4s						
CTAO	**Charters Tower**	**36.99**	**263**	*e*P	**P**	**15 28 52.8**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,25nm,0.6s,mb5.1						
CTAO	**Charters Tower**	**36.99**	**263**	*e*P	**P**	**15 28 52.8**	**+0.3**
	comp=Z,25nm,0.6s,mb5.1						
PMG	**Port Moresby**	**38.65**	**280**	P	**P**	**15 29 07.0**	**+0.5**
	comp=Z,65nm,0.9s,mb5.3,baz=88,slow=5.2,SNR=46						
PMG	**Port Moresby**	**38.65**	**280**	⇑*e*P	**P**	**15 29 06.4**	**-0.2**
PMG	**Port Moresby**	**38.65**	**280**	*e*P	**P**	**15 29 06.5**	**0.0**
	comp=Z,66nm,0.9s,mb5.3						
STKA	**Stephens Creek**	**41.11**	**244**	*e*P	**P**	**15 29 24.6**	**-2.4**
	comp=Z,4.5nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**41.11**	**244**	P	**P**	**15 29 24.2**	**-2.8**
	comp=Z,8.8nm,1.0s,mb4.4,baz=86,slow=9.2,SNR=6.7						
KIP	**Kipapa**	**44.19**	**22**	*e*P	**P**	**15 29 50.9**	**-1.1**
ASAR	**Alice Springs**	**48.00**	**256**	P	**P**	**15 30 21.1**	**-0.9**
	comp=Z,15nm,0.7s,mb5.2,baz=94,slow=7.7,SNR=148						
WB2	**Warramunga Arr**	**48.09**	**261**	⇑*i*P	**P**	**15 30 21.4**	**-1.4**
WRAB	**Tennant Creek**	**48.09**	**261**	P	**P**	**15 30 22.0**	**-0.8**
	comp=Z,139nm,0.8s,mb6.1,SNR=9.1						
WRAB	**Tennant Creek**	**48.09**	**261**	*e*P	**P**	**15 30 21.7**	**-1.1**
WRAB	**Tennant Creek**	**48.09**	**261**	*e*P	**P**	**15 30 21.5**	**-1.3**
	comp=Z,24nm,0.8s,mb5.4						
WRA	**Warramunga Arr**	**48.10**	**261**	P	**P**	**15 30 21.5**	**-1.3**
	comp=Z,13nm,0.7s,mb5.2,baz=98,slow=8.5,SNR=78						
WRA				S	**S**	**15 37 19.6**	**-2.8**
	comp=Z,2.4nm,0.9s,baz=101,slow=14,SNR=4.0						
KAKA	**Kakadu**	**51.44**	**270**	⇑*i*P	**P**	**15 30 47.3**	**-1.0**
	comp=Z,18nm,0.6s,mb5.2						
FITZ	**Fitzroy Crossi**	**56.53**	**261**	⇑*i*P	**P**	**15 31 24.9**	**-0.6**
	comp=Z,17nm,0.9s,mb5.1						
FITZ	**Fitzroy Crossi**	**56.53**	**261**	P	**P**	**15 31 25.5**	**+0.1**
	comp=Z,12nm,0.9s,mb4.9,baz=105,slow=8.3,SNR=20						
SBA	**Scott Base**	**58.58**	**185**	*e*P	**P**	**15 31 41.0**	**+1.1**
SBA				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
SBA	**Scott Base**	**58.58**	**185**	*e*P	**P**	**15 31 41.0**	**+1.1**
	comp=Z,9.1nm,0.9s,mb4.8						
VNDA	**Vanda**	**58.69**	**186**	P	**P**	**15 31 42.0**	**+1.3**
	comp=Z,1.2nm,0.9s,baz=356,slow=6.1,SNR=6.1						
MBWA	**Marble Bar**	**61.34**	**256**	*e*P	**P**	**15 31 57.2**	**-1.7**
	comp=Z,22nm,1.1s,mb5.2						
KLBR	**Kellerberrin**	**61.38**	**244**	*e*P	**P**	**15 31 58.5**	**-0.7**
	comp=Z,26nm,1.0s,mb5.3						
MUN	**Mundaring**	**62.64**	**244**	*e*P	**P**	**15 32 08.3**	**+0.7**
CBIJ	**Chichi jima**	**63.03**	**316**	P	**P**	**15 32 10.1**	**-0.2**
	comp=Z,86nm,0.8s,mb5.9,baz=122,slow=5.6,SNR=3.9						
CBIJ				LR	LR	15 53 15.5	
	comp=Z,152nm,19.8s,MS4.2,baz=80,slow=30						
QSPA	**South Pole Qui**	**70.02**	**180**	*e*P	**P**	**15 32 55.4**	**+0.4**
	comp=Z,13nm,1.0s,mb5.0						
TSM	**Tawau**	**70.82**	**282**	P	**P**	**15 33 00.4**	**+0.5**
MJAR	**Matsushiro Arr**	**71.96**	**321**	P	**P**	**15 33 07.0**	**+0.3**
	comp=Z,24nm,0.8s,mb5.4,baz=158,slow=5.9,SNR=73						
MAJO	**Matsushiro**	**71.96**	**321**	*e*P	**P**	**15 33 06.9**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.5						
MAJO	**Matsushiro**	**71.96**	**321**	*e*P	**P**	**15 33 06.9**	**+0.1**
	comp=Z,30nm,0.8s,mb5.5						
MAT	**Matsushiro**	**71.96**	**321**	P	**P**	**15 33 06.7**	**0.0**
MAT	**Matsushiro**	**71.96**	**321**	*e*P	**P**	**15 33 07.0**	**+0.3**
MAT				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.4						
MAT	**Matsushiro**	**71.96**	**321**	*e*P	**P**	**15 33 07.0**	**+0.3**
	comp=Z,30nm,1.0s,mb5.4						
JOW	**Kunigami**	**72.58**	**308**	P	**P**	**15 33 10.7**	**+0.3**
	comp=Z,36nm,0.9s,mb5.5,baz=129,slow=7.5,SNR=5.7						
KKM	**Kota Kinabalu**	**73.02**	**283**	P	**P**	**15 33 13.5**	**+0.5**
KKM	**Kota Kinabalu**	**73.02**	**283**	*e*P	**P**	**15 33 13.2**	**+0.2**
ASAJ	**Asahikawa**	**75.05**	**329**	P	**P**	**15 33 25.9**	**+1.0**
NACB	**Ninganchiao**	**76.33**	**302**	*e*P	**P**	**15 33 32.6**	**+0.3**
KSM	**Kuching**	**76.80**	**276**	*e*P	**P**	**15 33 35.5**	**+0.6**
CMB	**Columbia Colle**	**76.81**	**41**	*e*P	**P**	**15 33 35.1**	**+0.1**
CMB				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.3						
CMB	**Columbia Colle**	**76.81**	**41**	*e*P	**P**	**15 33 35.0**	**+0.1**
	comp=Z,2.5nm,0.8s,mb4.4						
YSS	**Yuzh-Sakhalins**	**77.10**	**331**	*e*P	**P**	**15 33 36.7**	**+0.1**
YSS				*e*		15 33 44.6	
YSS				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.5						
YSS	**Yuzh-Sakhalins**	**77.10**	**331**	*e*P	**P**	**15 33 36.9**	**+0.3**
	comp=Z,39nm,0.9s,mb5.5						
YBH	**Yreka Blue Hor**	**77.81**	**37**	LR	LR	15 59 35.9	
	comp=Z,2µm,19.6s,MS5.5,baz=0.0,slow=29						
NVAR	**Mina Array Bea**	**78.34**	**42**	P	**P**	**15 33 44.2**	**+0.7**
	comp=Z,4.3nm,0.7s,mb4.7,baz=231,slow=11,SNR=32						
MNV	**Mina**	**78.44**	**42**	*e*P	**P**	**15 33 44.1**	**0.0**
MNV				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.7						
MNV	**Mina**	**78.44**	**42**	*e*P	**P**	**15 33 44.1**	**0.0**
	comp=Z,5.8nm,0.9s,mb4.7						
TPNV	**Topopah Spring**	**78.78**	**44**	P	**P**	**15 33 46.7**	**+0.8**
NEN	**Nelson**	**78.97**	**46**	*e*P	**P**	**15 33 47.4**	**+0.4**
SHPR	**Sheep Range**	**79.24**	**45**	P	**P**	**15 33 49.1**	**+0.6**
TUC	**Tucson**	**79.99**	**50**	*e*P	**P**	**15 33 51.9**	**-0.7**
TUC				*e*PP		15 34 05.6	
TUC				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
TUC	**Tucson**	**79.99**	**50**	*e*P	**P**	**15 33 51.9**	**-0.7**
	comp=Z,3.1nm,0.8s,mb4.3						
TUC				*e*pP		15 34 05.6	
SSE	**Sheshan**	**80.10**	**308**	P	**P**	**15 33 53.3**	**+0.2**
SSE				AMB	AMB		
	comp=Z,32nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,88nm,3.6s						
WUAZ	**Wupatki**	**81.26**	**47**	P	**P**	**15 34 00.6**	**+1.3**
HABR	**Khabarovsk**	**81.81**	**329**	⇑*i*P	**P**	**15 34 03.0**	**+0.7**
HABR				*e*S	S	15 44 19.4	+2.8
HABR				pmax	pmax		
	comp=Z,49nm,1.3s,mb5.5						
MDJ	**Mudanjiang**	**82.19**	**323**	P	**P**	**15 34 05.2**	**+1.0**
MDJ				AP		15 34 19.6	
MDJ				XP	sP	15 34 25.5	+21
MDJ				PP	PP	15 37 13.5	+1.2
MDJ				S	S	15 44 17.3	-3.1
MDJ				XS	sS	15 44 42.1	+22
MDJ				AMB	AMB		
	comp=Z,21nm,1.1s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,118nm,5.6s						
MDJ				LR	LR		
	comp=N,137nm,17.1s,MS4.7						
MDJ				LR	LR		
	comp=E,245nm,15.9s,MS4.7						
MDJ				LR	LR		
	comp=Z,295nm,14.1s,MS4.8						
NJ2	**Nanjing**	**82.30**	**308**	*e*P	**P**	**15 34 06.5**	**+1.7**
NJ2				AP		15 34 19.9	
NJ2				XP	sP	15 34 25.0	+20
NJ2				PP	PP	15 37 16.0	+2.7
NJ2				S	S	15 44 21.0	-0.6
NJ2				XS	sS	15 44 45.0	+23
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,180nm,7.9s						
NJ2				LR	LR		
	comp=N,1µm,17.0s						
NJ2				LR	LR		
	comp=E,840nm,23.9s						
NJ2				LR	LR		
	comp=Z,270nm,16.8s,MS4.7						
MSU	**Marysvale**	**82.33**	**44**	*e*P	**P**	**15 34 06.2**	**+1.2**
TMUT	**Trail Mountain**	**83.39**	**44**	P	**P**	**15 34 12.1**	**+1.6**
KGM	**Kluang**	**83.53**	**275**	P	**P**	**15 34 12.3**	**+1.1**
GAMB	**Gambell**	**83.57**	**1**	P	**P**	**15 34 12.0**	**+0.6**
MNTX	**Cornudas Mount**	**83.68**	**53**	P	**P**	**15 34 12.1**	**+0.1**
	comp=Z,7.1nm,1.2s,mb4.8						
SRU	**San Rafael**	**83.74**	**45**	*e*P	**P**	**15 34 12.5**	**+0.2**
BNM	**Barren Site**	**83.93**	**50**	*e*P	**P**	**15 34 14.2**	**+0.9**
KLR	**Kul'dur**	**83.95**	**328**	*e*P	**P**	**15 34 10.7**	**-2.7**
TTA	**Tatalina**	**83.95**	**8**	P	**P**	**15 34 12.8**	**-0.6**
LPM	**Los Pinos Moun**	**84.00**	**50**	P	**P**	**15 34 14.1**	**+0.4**
CN2	**Changchun**	**84.10**	**321**	*e*P	**P**	**15 34 14.7**	**+0.6**
CN2				*e*S		15 44 37.1	
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.3						
CN2				AMB	AMB		
	comp=Z,500nm,8.0s						
CN2				LR	LR		
	comp=N,500nm,16.0s,MS5.1						
CN2				LR	LR		
	comp=E,500nm,16.0s,MS5.1						
CN2				LR	LR		
	comp=Z,600nm,18.0s,MS5.0						
TCUT	**Toone Canyon**	**84.23**	**43**	*e*P	**P**	**15 34 15.1**	**+0.2**
MA2	**Magadan**	**84.32**	**343**	*e*P	**P**	**15 34 14.3**	**-1.0**
MA2				pmax	pmax		
	comp=Z,24nm,1.7s,mb5.2						
ANMO	**Albuquerque**	**84.44**	**50**	*d i*P	**P**	**15 34 16.1**	**+0.3**
ANMO	**Albuquerque**	**84.44**	**50**	*e*P	**P**	**15 34 16.1**	**+0.2**
	comp=Z,11nm,1.0s,mb5.0						
GDL2	**Guadalupe Moun**	**84.68**	**53**	*e*P	**P**	**15 34 18.0**	**+0.9**
WHN	**Wuhan**	**85.00**	**305**	P	**P**	**15 34 19.5**	**+0.8**
MCMT	**McKenzie Canyo**	**85.39**	**39**	*e*P	**P**	**15 34 20.6**	**0.0**
DLMT	**Dillon**	**85.84**	**38**	P	**P**	**15 34 24.0**	**+1.2**
	comp=Z,9.2nm,1.0s,mb4.9						
SMCO	**Snowmass**	**86.14**	**46**	P	**P**	**15 34 24.8**	**+0.4**
	comp=Z,5.7nm,1.0s,mb4.7						
PDAR	**Pinedale Array**	**86.28**	**42**	P	**P**	**15 34 24.6**	**-0.4**
	comp=Z,0.9nm,0.9s,mb3.9,baz=236,slow=2.7,SNR=6.6						
IPM	**Ipoh**	**86.53**	**276**	P	**P**	**15 34 27.3**	**+1.0**
COLA	**College**	**87.06**	**11**	*d i*P	**P**	**15 34 28.1**	**-0.8**
COLA	**College**	**87.06**	**11**	*e*P	**P**	**15 34 27.6**	**-1.3**
	comp=Z,15nm,0.8s,mb5.3						
ILAR	**Eielson Array**	**87.14**	**11**	P	**P**	**15 34 28.1**	**-1.1**
	comp=Z,3.0nm,0.8s,mb4.6,baz=230,slow=5.9,SNR=49						
SNG	**Songkhla**	**87.84**	**278**	P	**P**	**15 34 32.0**	**-0.6**
PSI	**Prapat**	**87.92**	**274**	P	**P**	**15 34 32.5**	**-0.5**
	comp=Z,16nm,0.9s,mb5.4,baz=188,slow=4.4,SNR=17						
DAWY	**Dawson**	**88.11**	**15**	*e*P	**P**	**15 34 33.0**	**-0.9**
VNA3	**Neumayer Olymp**	**88.33**	**175**	*e*P	**P**	**15 34 34.6**	**-0.4**
VNA3				*e*		15 34 41.9	
VNA3				*e*		15 34 50.3	
VNA3				*e*		15 34 54.4	
VNA3				*e*		15 34 57.4	
VNA3				*e*		15 35 07.5	
SNAA	**Sanae**	**88.33**	**177**	*i*P	**P**	**15 34 32.6**	**-2.4**
VNA2	**Neumayer--Watz**	**88.81**	**176**	*e*P	**P**	**15 34 37.4**	**+0.2**
	baz=199,slow=4.2						
VNA2				*e*		15 34 44.2	
VNA2				*e*		15 34 48.3	
VNA2				*e*		15 34 53.3	
VNA2				*e*		15 34 56.9	
VNA2				*e*		15 34 59.4	
VNA2				*e*		15 35 10.4	
BILL	**Bilibino**	**88.98**	**353**	*d i*P	**P**	**15 34 37.5**	**-0.5**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.8						
GYA	**Guiyang**	**89.47**	**298**	⇑*i*P	**P**	**15 34 41.7**	**+1.4**
GYA				AP		15 34 55.0	
GYA				XP	sP	15 35 01.2	+21
GYA				PPP		15 40 08.5	
GYA				SKS		15 45 03.7	
GYA				S		15 45 19.0	
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.3						
GYA				AMB	AMB		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=N,420nm,21.8s,MS5.0						
GYA				LR	LR		
	comp=E,410nm,22.0s,MS5.0						
GYA				LR	LR		
	comp=Z,450nm,21.6s,MS4.9						
RSSD	**Black Hills**	**90.44**	**43**	*e*P	**P**	**15 34 44.0**	**-0.9**
RSSD				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.7						
RSSD	**Black Hills**	**90.44**	**43**	*e*P	**P**	**15 34 44.0**	**-0.9**
	comp=Z,5.2nm,1.1s,mb4.7						
XAN	**Xi'an**	**90.64**	**306**	P	**P**	**15 34 46.8**	**+1.0**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb5.0						
HHC	**Hu-ho-hao-te**	**91.55**	**313**	*e*P	**P**	**15 34 50.9**	**+0.9**
HHC				AP		15 35 05.8	
HHC				XP	sP	15 35 10.7	+21
HHC				PP	PP	15 38 33.9	+6.0
HHC				SKS		15 45 18.1	
HHC				S		15 45 45.9	
HHC				PS	PS	15 47 02.8	+3.2
HHC				SS	SS	15 51 55.3	-1.7
HHC				AMB	AMB		
	comp=Z,18nm,1.1s,mb5.3						
HHC				LR	LR		
	comp=N,456nm,19.1s,MS5.0						
HHC				LR	LR		
	comp=E,274nm,18.6s,MS5.0						
HHC				LR	LR		
	comp=Z,329nm,19.6s,MS4.8						
NANT	**Nan**	**91.80**	**289**	⇓P	**P**	**15 34 49.0**	**-2.2**
	comp=Z,140nm,1.0s						
KMI	**Kunming**	**92.26**	**296**	P	**P**	**15 34 54.7**	**+1.4**
KMI				AP		15 35 08.4	
KMI				AMB	AMB		
	comp=Z,18nm,1.5s,mb5.2						
JTS	**JuntasAbangare**	**92.86**	**80**	*e*P	**P**	**15 34 54.3**	**-1.8**
YAK	**Yakutsk**	**93.02**	**337**	*e*P	**P**	**15 34 55.0**	**-1.8**
YAK				pmax	pmax		
	comp=Z,11nm,0.8s,mb5.3						
CHG	**Chiang Mai**	**93.37**	**289**	⇑P	**P**	**15 35 00.0**	**+1.6**
	comp=Z,19nm,0.9s,mb5.5						
CHTO	**Chiang Mai**	**93.37**	**289**	*e*P	**P**	**15 34 59.0**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.5						
CHTO	**Chiang Mai**	**93.37**	**289**	*e*P	**P**	**15 34 59.0**	**+0.6**
	comp=Z,23nm,1.1s,mb5.5						
CD2	**Chengdu**	**93.49**	**302**	P	**P**	**15 34 58.4**	**-0.6**
CD2				AP		15 35 11.9	
CD2				XP	sP	15 35 17.1	+18
CD2				PP	PP	15 38 46.3	+3.1
CD2				SKS		15 45 27.5	
CD2				S		15 46 00.6	
CD2				SS	SS	15 52 23.0	-1.8
CD2				AMB	AMB		
	comp=Z,10.0nm,1.7s,mb5.0						
CD2				AMB	AMB		
	comp=Z,60nm,5.3s						
CD2				LR	LR		
	comp=E,180nm,16.8s						
CD2				LR	LR		
	comp=Z,200nm,15.6s,MS4.7						
YKA	**Yellowknife Ar**	**94.68**	**24**	P	**P**	**15 35 03.8**	**-0.6**
	comp=Z,0.7nm,0.8s,mb4.2,baz=238,slow=4.2,SNR=20						
LZH	**Lanzhou**	**95.27**	**306**	*e*P	**P**	**15 35 09.1**	**+1.9**
LZH				AP		15 35 24.0	
LZH				XP	sP	15 35 31.0	+24
LZH				PP	PP	15 39 01.5	+4.4
LZH				SKS		15 45 40.5	
LZH				S		15 46 17.0	
LZH				*e*SS	SS	15 52 51.0	+0.7
LZH				AMB	AMB		
	comp=Z,16nm,1.2s,mb5.3						
LZH				AMB	AMB		
	comp=Z,72nm,5.0s						
LZH				LR	LR		
	comp=E,310nm,15.5s						
LZH				LR	LR		
	comp=Z,460nm,16.0s,MS5.0						
ULN	**Ulaanbaatar**	**97.31**	**318**	*e*P	**P**	**15 35 16.4**	**0.0**
SONM	**Songino Array**	**97.71**	**318**	P	**P**	**15 35 17.2**	**-1.0**
	comp=Z,1.5nm,0.9s,mb4.7,baz=123,slow=5.5,SNR=7.4						
SONM				PP	PP	15 39 16.2	+0.2
	comp=Z,0.5nm,0.5s,baz=114,slow=7.2,SNR=3.5						
TIXI	**Tiksi**	**99.22**	**344**	⇑*e*P	**P**	**15 35 23.0**	**-2.0**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.5s,mb4.9						
WMQ	**Urumqi**	**109.26**	**311**	PDIF	Pdif	15 36 09.0	-0.6
WMQ				PP	PP	15 40 45.2	+3.0
WMQ				PP	PP		
	comp=Z,291nm,6.2s						
WMQ				LR	LR		
	comp=N,224nm,23.5s,MS4.9						
WMQ				LR	LR		
	comp=E,313nm,19.5s,MS4.9						
WMQ				LR	LR		
	comp=Z,258nm,19.5s,MS4.8						
MKAR	**Makanchi Array**	**113.41**	**313**	PKiKP	PKiKP	15 40 19.7	-1.6
	comp=Z,0.9nm,0.8s,baz=66,slow=2.9,SNR=6.5						
MKAR	**Makanchi Array**	**113.41**	**313**	PKPdf	PKiKP	15 40 19.7	-1.6
KURK	**Kurchatov**	**116.01**	**317**	⇑*i*PKIKP	PKPdf	15 40 24.3	-2.0
KSH	**Kashi**	**117.48**	**305**	*e*PKP	PKPdf	15 40 27.0	-2.1
KSH				*e*PKS		15 44 02.0	
KSH				*e*PPP		15 44 04.0	
KSH				*e*SKS	SKSdf	15 47 34.2	-8.2
KSH				*e*SKKS	SKKSac	15 48 26.4	-16
KSH				PP	PP		
	comp=Z,249nm,8.6s						
KSH				LR	LR		
	comp=N,230nm,9.2s						
KSH				LR	LR		
	comp=E,231nm,8.8s						
KSH				LR	LR		
	comp=Z,268nm,13.8s,MS5.0						
BVAR	**Borovoye Array**	**120.95**	**320**	PKP	PKPdf	15 40 34.2	-1.5
	comp=Z,1.7nm,0.7s,baz=48,slow=2.2,SNR=7.6						
ARU	**Arti**	**126.77**	**326**	⇑*i*PKIKP	PKPdf	15 40 44.8	-2.1
AKTK	**Aktyubinsk**	**129.01**	**319**	PKP	PKPdf	15 40 49.4	-1.8
AKTO	**Aktyubinsk**	**129.01**	**319**	PKP	PKPdf	15 40 49.4	-1.8
	comp=Z,0.5nm,0.4s,baz=76,slow=8.6,SNR=3.7						
AKTO	**Aktyubinsk**	**129.01**	**319**	PKIKP	PKPdf	15 40 49.4	-1.8
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	**ARCESS Array B**	**129.06**	**351**	PKP	PKPdf	15 40 49.8	-1.5
	comp=Z,4.6nm,0.8s,baz=36,slow=1.1,SNR=18						
JOF	**Joensuu**	**133.71**	**344**	*e*p	PKPdf	15 40 57.4	-2.7
KAF	**Kangasniemi**	**135.60**	**346**	*e*p	PKPdf	15 41 02.0	-1.6
FINES	**FINESS Array B**	**136.25**	**346**	PKP	PKPdf	15 41 05.2	+0.3
	comp=Z,2.4nm,0.7s,baz=64,slow=4.4,SNR=12						
OBN	**Obninsk**	**137.95**	**334**	*i* PKIKP	PKPdf	15 41 06.0	-2.0
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NB2	**NORSAR Subarra**	**138.86**	**356**	PKPa		15 41 08.2	
	comp=Z,0.6nm,0.6s,baz=23,slow=2.6						
NOA	**NORSAR Array B**	**138.86**	**356**	PKP	PKPdf	15 41 10.5	+0.8
	comp=Z,0.6nm,0.8s,baz=14,slow=4.1,SNR=4.1						
KIV	**Kislovodsk**	**141.08**	**316**	*i* PKIKP	PKPdf	15 41 11.8	-1.9
BNGL	**BINGOL**	**144.15**	**309**	*i* P	PKPdf	15 41 17.6	-1.6
AKASG	**Malin Array Be**	**144.21**	**334**	PKP	PKPdf	15 41 15.8	-3.4
	comp=Z,4.4nm,0.7s,baz=37,slow=4.0,SNR=42						
AKASG	**Malin Array Be**	**144.21**	**334**	PKP	PKPdf	15 41 15.8	-3.4
DCN	**Croghan**	**145.29**	**14**	*e*P	PKPbc	15 41 20.0	-0.8
GRSN	**GIRESUNGRSN**	**145.36**	**314**	*i* P	PKPbc	15 41 19.7	-1.3
DLF	**Lyons Farm**	**145.49**	**13**	*e*P	PKPdf	15 41 19.6	-1.8
GKP	**Gorka Klasztor**	**145.66**	**348**	*e*PKP	PKPdf	15 41 21.5	-0.2
SIM	**Simferopol'**	**145.80**	**323**	*i* PKP2	PKPab	15 41 23.0	+0.2
ELZG	**

MOX					pmax	pmax		
	comp=Z,16nm,1.5s							
WERD	**Werda**	**149.21**	**352**	*e*PKPbc	PKPbc	15 41 31.2	-0.7
WERD				*e*PKPab	PKPab	15 41 35.5	-0.8
KECS	**Kecovo**	**149.22**	**341**	*e*PKP	PKPbc	15 41 31.6	-0.3
KECS				*e*		15 41 36.7	
HARR	**Harsova**	**149.27**	**328**	⇑*i*P	PKPbc	15 41 32.4	+0.4
HARR	**Harsova**	**149.27**	**328**	⇑P	PKPbc	15 41 32.4	+0.4
UCC	**Uccle**	**149.29**	**2**	PKPbc	PKPbc	15 41 31.8	-0.3
PRU	**Pruhonice**	**149.30**	**349**	*e*PKPbc	PKPbc	15 41 31.6	-0.5
PRU				*e*PKPab	PKPab	15 41 36.3	-0.4
NKC	**Novy Kostel**	**149.40**	**351**	*e*PKPbc	PKPbc	15 41 31.8	-0.5
MEM	**Membach**	**149.50**	**360**	PKPbc	PKPbc	15 41 32.0	-0.6
ANTO	**Ankara**	**149.51**	**316**	*e*PKHKP	PKPbc	15 41 32.2	-0.4
ANTO				*e*		15 41 38.1	
VRAC	**Vranov**	**149.53**	**346**	⇑*i*P	PKPbc	15 41 33.2	+0.6
SNF	**Seneffe**	**149.58**	**2**	PKPbc	PKPbc	15 41 32.8	0.0
SGKT	**Sivrigoynuk**	**149.59**	**318**	*i* P	PKPbc	15 41 31.8	-1.0
MLR	**Muntele Rosu**	**149.62**	**331**	⇑*i*P	PKPbc	15 41 33.0	+0.1
MLR	**Muntele Rosu**	**149.62**	**331**	⇑P	PKPbc	15 41 33.0	+0.2
MANZ	**Manzenberg**	**149.69**	**352**	*e*PKPbc	PKPbc	15 41 32.8	-0.3
VYHS	**Vyhne**	**149.71**	**343**	*i* PKP	PKPbc	15 41 32.9	-0.2
VYHS				*e*		15 41 53.0	
TREC	**Trest**	**149.78**	**347**	*e*PKPbc	PKPbc	15 41 32.9	-0.4
TNS	**Taunus Mts**	**149.81**	**356**	*e*PKPbc	PKPbc	15 41 32.6	-0.7
TNS				*e*PKPab	PKPab	15 41 38.0	-0.7
TNS	**Taunus Mts**	**149.81**	**356**	*e*PKP2	PKPab	15 41 38.0	-0.7
ROTZ	**Rotzenmuhle**	**149.89**	**352**	*e*PKPbc	PKPbc	15 41 33.2	-0.3
PSZ	**Piszkesteto**	**149.91**	**341**	*e*PKP/F	PKPbc	15 41 32.5	-1.1
DRGR		**149.91**	**336**	⇑*i*P	PKPbc	15 41 33.8	+0.2
DRGR		**149.91**	**336**	⇑P	PKPbc	15 41 33.8	+0.2
GIVF	**Givet**	**150.00**	**1**	*e*PKP1	PKPbc	15 41 33.3	-0.5
	comp=Z,35nm,1.0s						
DOU	**Dourbes**	**150.00**	**1**	PKP	PKPdf	15 41 28.7	-0.2
DOU				PKPbc	PKPbc	15 41 33.1	-0.7
DOU				PKPab	PKPab	15 41 37.9	-1.6
DOU				E		15 41 40.0	
DOU				APKP		15 41 46.3	
BAIF	**Baives**	**150.03**	**2**	*e*PKP1	PKPbc	15 41 33.6	-0.3
	comp=Z,30nm,1.0s						
VOIR		**150.06**	**332**	⇑*i*P	PKPbc	15 41 34.2	+0.3
VOIR		**150.06**	**332**	⇑P	PKPbc	15 41 34.2	+0.2
GRF	**Grafenberg Arr**	**150.09**	**353**	*e*PKPbc	PKPbc	15 41 33.3	-0.7
GRF				*e*PKPab	PKPab	15 41 39.6	-0.3
KHC	**Kasperske Hory**	**150.30**	**350**	*e*PKPbc	PKPbc	15 41 34.2	-0.3
KHC				*e*PKPab	PKPab	15 41 40.8	+0.1
WET	**Wettzell**	**150.40**	**350**	*e*PKPbc	PKPbc	15 41 34.4	-0.4
WET				*e*PKPab	PKPab	15 41 40.6	-0.6
ZST	**Bratislava**	**150.44**	**344**	*e*PKP	PKPbc	15 41 34.9	0.0
ZST				*e*		15 41 57.0	
WLF	**Walferdange**	**150.45**	**359**	*e*PKPbc	PKPbc	15 41 34.7	-0.2
WLF	**Walferdange**	**150.45**	**359**	PKPbc	PKPbc	15 41 34.3	-0.5
WLF				PKPab	PKPab	15 41 40.3	-1.0
WLF				APKP		15 41 47.7	
WLF	**Walferdange**	**150.45**	**359**	*e*PKPbc	PKPbc	15 41 34.8	-0.1
GEC2	**GERESS Array S**	**150.56**	**349**	*e*PKPbc	PKPbc	15 41 34.5	-0.6
GEC2				*e*PKPab	PKPab	15 41 41.2	-0.6
GERES	**GERESS Array B**	**150.56**	**349**	PKP	PKPdf	15 41 27.7	-2.1
	comp=Z,0.2nm,0.3s,baz=301,slow=13,SNR=2.7						
GERES				PKPbc	PKPbc	15 41 35.0	-0.1
	comp=Z,6.4nm,0.9s,baz=41,slow=2.6,SNR=22						
FLN	**La Foliniere**	**150.92**	**8**	*e*PKP1	PKPbc	15 41 35.1	-0.9
	comp=Z,56nm,1.1s						
LDF	**La Druitiere**	**151.14**	**8**	*e*PKP1	PKPbc	15 41 35.6	-0.9
	comp=Z,31nm,1.1s						
GRR	**Gorron**	**151.23**	**9**	*e*PKP1	PKPbc	15 41 35.9	-0.8
	comp=Z,26nm,1.0s						
BZS	**Buzias**	**151.31**	**336**	⇑*i*P	PKPbc	15 41 36.9	0.0
BZS	**Buzias**	**151.31**	**336**	⇑P	PKPbc	15 41 36.9	0.0
MOA	**Molln**	**151.41**	**348**	⇑*i*P	PKPbc	15 41 36.4	-0.7
	comp=Z,5.7nm,0.8s						
FUR	**Furstenfeldbru**	**151.59**	**352**	*e*PKPbc	PKPbc	15 41 36.7	-0.8
MEZF	**Maizieres J'vi**	**151.61**	**1**	*e*PKP1	PKPbc	15 41 37.2	-0.4
	comp=Z,28nm,1.0s						
CDF	**Champ du Feu**	**151.67**	**358**	*e*PKP1	PKPbc	15 41 37.3	-0.4
	comp=Z,14nm,0.8s						
BFO	**Black Forest**	**151.70**	**356**	*e*PKPbc	PKPbc	15 41 36.9	-0.9
ARSA	**Arzberg**	**151.71**	**346**	⇑*i*P	PKPbc	15 41 36.9	-1.0
	comp=Z,6.8nm,1.4s						
PKSM	**Moragy**	**151.82**	**341**	⇑*i*P	PKPbc	15 41 37.9	-0.2
PKSM	**Moragy**	**151.82**	**341**	⇓*e*P	PKPbc	15 41 37.6	-0.5
EIL	**Elat**	**151.85**	**296**	*e*PKPbc	PKPbc	15 41 38.3	+0.1
HAU	**Haudompre**	**152.10**	**359**	*e*PKP1	PKPbc	15 41 39.1	+0.4
	comp=Z,16nm,0.8s						
HINF	**Hinteralfeld**	**152.28**	**358**	*e*PKP1	PKPbc	15 41 38.2	-0.9
	comp=Z,6.7nm,0.7s						
PERS	**Pernice**	**152.38**	**346**	*e*PKPbc	PKPbc	15 41 38.1	-1.3
PERS				*e*		15 41 44.6	
PERS				*e*		15 41 49.2	
MOTA	**Moosalm**	**152.42**	**352**	⇓*i*P	PKPbc	15 41 38.9	-0.6
	comp=Z,4.1nm,0.9s						
WTTA	**Wattenberg**	**152.42**	**351**	⇑*i*P	PKPbc	15 41 38.9	-0.5
	comp=Z,15nm,0.6s						
SQTA	**Sankt Quirin**	**152.52**	**352**	⇑*i*P	PKPbc	15 41 39.4	-0.3
	comp=Z,4.3nm,0.8s						
DAVA	**Damuels**	**152.62**	**354**	⇑*i*P	PKPbc	15 41 38.2	-1.7
	comp=Z,12nm,1.0s						
LOR	**Lormes**	**152.81**	**3**	*e*PKP1	PKPbc	15 41 39.7	-0.6
	comp=Z,10nm,0.9s						
GCIS	**Gornji Cirnik**	**152.98**	**345**	*e*PKPbc	PKPbc	15 41 39.9	-0.8
SSF	**Saint Saulge**	**152.99**	**3**	*e*PKP1	PKPbc	15 41 40.2	-0.5
	comp=Z,20nm,1.0s						
LJU	**Ljubljana**	**153.07**	**346**	*e*PKPbc	PKPbc	15 41 39.9	-1.0
LJU				*e*		15 41 46.6	
AVF	**Avril sur Loir**	**153.25**	**4**	*e*PKP1	PKPbc	15 41 40.4	-0.9
	comp=Z,4.9nm,0.8s						
BGF	**Bois d'Agland**	**153.45**	**4**	*e*PKP1	PKPbc	15 41 41.1	-0.6
	comp=Z,12nm,0.7s						
CABF	**La Chapelle**	**153.50**	**359**	*e*PKP1	PKPbc	15 41 41.8	0.0
	comp=Z,20nm,1.0s						
TCF	**Toulx Ste Croi**	**153.67**	**5**	*e*PKP1	PKPbc	15 41 41.4	-0.8
	comp=Z,4.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**172.14**	**150**	PKPab	PKPab	15 43 15.2	-0.3
	comp=Z,1.1nm,1.1s,baz=224,slow=6.0,SNR=2.9						

*IDC **07** 15:27:59.9±1.0, 161S×13875E, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.1/15, mbtmp4.1/8, ML4.5/1, Error ellipse: s-maj=44.4km s-min=18.0km az=88.0*
*NEIC **07** 15:28:01.8±0.5, 160S×13860E, h10km, mb4.2/4, Error ellipse: s-maj=20.3km s-min=9.2km az=83.0*
*ISCJB **07** 15:28:11.7±4.0, 189S±009×1386E±02, h114km±40km, mb4.0/8, Error ellipse: s-maj=32.0km s-min=12.8km az=24.0*

ISC 07 15:28:07.3±3.3, 172S±009×1388E±02, h58km±32km, n17, σ0§71/19, mb4.1/8, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**18.61**	**193**	*e*P	**Pn**	**15 32 20.0**	**-0.6**
	10nm,0.6s						
WRA	**Warramunga Arr**	**18.62**	**193**	P	**Pn**	**15 32 19.7**	**-1.1**
	1.7nm,0.3s,baz=13,slow=12,SNR=14						
WRA				S	**S**	**15 35 37.2**	**-12**
	0.2nm,0.3s,baz=5.7,slow=22,SNR=5.3						
CTA	**Charters Tower**	**19.67**	**159**	*e*P	**Pn**	**15 32 34.2**	**+0.9**
	3.1nm,0.9s						
CTAO	**Charters Tower**	**19.67**	**159**	*e*P	**Pn**	**15 32 33.7**	**+0.4**
FITZ	**Fitzroy Crossi**	**20.76**	**218**	P	**P**	**15 32 44.7**	**+1.5**
	1.6nm,0.6s,baz=45,slow=10.0,SNR=2.5						
FITZ				S	**S**	**15 36 21.8**	**-10**
	6.1nm,0.7s,baz=187,slow=15,SNR=9.0						
ASAR	**Alice Springs**	**22.32**	**192**	P	**P**	**15 33 00.3**	**+0.4**
	11nm,0.8s,mb4.3,baz=23,slow=11,SNR=34						
ASAR				S	**S**	**15 37 01.8**	**-0.2**
	2.4nm,0.9s,baz=12,slow=24,SNR=7.2						
MBWA	**Marble Bar**	**26.78**	**222**	*e*P	**P**	**15 33 41.5**	**-0.2**
STKA	**Stephens Creek**	**30.11**	**175**	P	**P**	**15 34 11.3**	**-0.1**
	2.4nm,0.6s,mb4.1,baz=353,slow=10,SNR=8.4						
STKA	**Stephens Creek**	**30.11**	**175**	*e*P	**P**	**15 34 11.1**	**-0.3**
MKAR	**Makanchi Array**	**69.04**	**322**	P	**P**	**15 39 07.1**	**+0.3**
	1.4nm,0.7s,mb4.0,baz=110,slow=7.8,SNR=14						
MKAR	**Makanchi Array**	**69.04**	**322**	P	**P**	**15 39 07.1**	**+0.3**
ZAL	**Zalesovo**	**71.11**	**330**	P	**P**	**15 39 18.6**	**-0.9**
	0.7nm,0.3s,mb4.0,baz=346,slow=12,SNR=3.3						
KURK	**Kurchatov**	**72.94**	**325**	*e*P	**P**	**15 39 29.9**	**-0.5**
	1.5nm,0.7s,mb4.0						
BVAR	**Borovoye Array**	**78.53**	**325**	P	**P**	**15 40 02.9**	**+0.5**
	2.4nm,0.7s,mb4.3,baz=111,slow=7.6,SNR=15						
BRVK	**Borovoye**	**78.60**	**325**	*e*P	**P**	**15 40 03.1**	**+0.3**
	1.9nm,0.7s,mb4.1						
ILAR	**Eielson Array**	**84.92**	**24**	P	**P**	**15 40 36.1**	**+0.1**
	0.8nm,0.9s,mb3.8,baz=258,slow=5.1,SNR=6.9						
LPAZ	**La Paz**	**147.98**	**125**	PKPbc	PKPbc	15 47 50.3	+4.2
	0.6nm,0.5s,baz=240,slow=3.3,SNR=4.2						

*NDI **07** 16:01:00.2±3.2, 2872N×7661E, h4km±6km, ML4.2, mb4.3(NEIC)*
*ISCJB **07** 16:01:00.9±0.4, 2866N±003×7668E±003, h30km±4km, mb4.0/23, MS4.4/2, Error ellipse: s-maj=4.6km s-min=3.9km az=93.8*
*IDC **07** 16:01:01.0±1.0, 2906N×7648E, h0km, mb3.9/13, mb1 4.1/15, mb1mx3.9/24, mbtmp3.9/15, ML3.8/2, MS4.4/1, Ms1 4.4/1, ms1mx3.5/31, Error ellipse: s-maj=26.0km s-min=18.6km az=42.0*
*NEIC **07** 16:01:01.9±0.6, 2898N×7656E, h10km, mb4.3/5, Error ellipse: s-maj=12.6km s-min=9.5km az=197.0*
NEIC Felt [IV] at Jhajjar and [III] at Sonipat. Also felt [III] at Baghpat, Uttar Pradesh. Felt [II] by people in high-rise buildings at Faridabad and Gurgaon and in the Delhi area.
*BJI **07** 16:01:01.3, 2899N×7674E, h15km, mB4.8, mb4.3, ML4.5, Ms4.8, Msz4.4*
*MOS **07** 16:01:04.9±1.2, 2908N×7658E, h38km, mb4.0/5, Error ellipse: s-maj=16.6km s-min=7.3km az=101.5*

ISC 07 16:01:00.7±0.5, 2871N±002×7664E±003, h13km±4km, n96, σ1§12/122, mb4.0/23, MS4.4/2, 9C-2D, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTK	**Rohtak**	**0.38**	**329**	⇑*i*P	**Pg**	**16 01 06.2**	**-2.1**
AYAN	**Aya Nagar**	**0.49**	**118**	*e*P	**Pg**	**16 01 10.3**	**0.0**
AYAN				*e*S	**Sg**	**16 01 16.6**	**-0.1**
NDI	**New Delhi**	**0.51**	**93**	*e*P	**Pg**	**16 01 10.9**	**+0.2**
NDI				*e*S	**Sg**	**16 01 17.8**	**+0.3**
NDI				AML	AML	16 01 17.9	
	comp=E,5μm,0.5s						
NDI				AML	AML	16 01 19.5	
	comp=N,5μm,0.4s						
KUDL	**Kundal**	**0.58**	**193**	*e*P	**Pg**	**16 01 11.9**	**0.0**
KUDL				*e*S	**Sg**	**16 01 19.4**	**-0.2**
SONA	**Sohna**	**0.60**	**139**	*e*P	**Pg**	**16 01 12.6**	**+0.1**
SONA				*e*S	**Sg**	**16 01 19.4**	**-1.0**
BISR	**Bishrakh**	**0.72**	**101**	*e*P	**Pg**	**16 01 14.7**	**+0.1**
KHET	**Khetri**	**0.97**	**229**	*e*P	**Pb**	**16 01 19.2**	**-0.1**
KHET				*e*S	**Sb**	**16 01 31.5**	**-0.5**
KKR	**Kurukshetra**	**1.26**	**7**	*e*P	**Pn**	**16 01 24.4**	**+0.5**
AGRA	**Agra**	**1.87**	**142**	*e*P	**Pn**	**16 01 32.8**	**+0.4**
AGRA				*e*S	**Sn**	**16 01 59.0**	**+3.1**
AGRA				AML	AML	16 02 00.0	
	comp=N,4μm,0.6s						
AGRA				AML	AML	16 02 03.1	
	comp=E,5μm,0.3s						
KALG	**Kalgarh**	**2.02**	**66**	*e*P	**Pn**	**16 01 24.5**	**-10**
KALG				*e*S	**Sn**	**16 01 49.6**	**-10**
KALG				AML	AML	16 01 55.4	
	comp=E,6μm,0.6s						
DDI	**Dehra Dun**	**2.03**	**37**	*e*P	**Pn**	**16 01 34.9**	**+0.3**
DDI				*ex*	x	16 02 04.5	
SMLA	**Simla**	**2.45**	**11**	*e*P	**Pn**	**16 01 39.5**	**-0.9**
SMLA				*e*P		16 01 39.6	
SMLA				*e*S	**Sn**	**16 02 10.4**	**+0.2**
SMLA				*i* S	**Sn**	**16 02 10.7**	**+0.4**
SMLA				AML	AML	16 02 16.5	
	comp=N,3μm,0.7s						
SMLA				AML	AML	16 02 17.6	
	comp=E,2μm,0.4s						
BHK	**Bhakra**	**2.71**	**356**	*ex*	**Pn**	**16 01 39.9**	**-4.0**
BHK				*e*S	**Sn**	**16 02 15.9**	**-0.6**
SDNR	**Sundarnagar**	**2.80**	**6**	*e*P	**Pn**	**16 01 47.0**	**+1.9**
SDNR				*ex*	x	16 02 28.0	
AJM	**Ajmer**	**2.84**	**219**	*i* P	**Pn**	**16 01 47.0**	**+1.3**
AJM				*i* x	x	16 02 27.0	
JOSI	**Joshimath**	**3.14**	**53**	*e*P	**Pn**	**16 01 41.9**	**-8.0**
JOSI				*e*S	**Sn**	**16 02 19.1**	**-8.1**
KLP	**Kalpa**	**3.14**	**26**	*e*P	**Pn**	**16 01 51.9**	**+2.0**
PTH	**Pithoragarh**	**3.24**	**74**	*e*P	**Pn**	**16 01 53.0**	**+1.7**
PTH				*e*S	**Sn**	**16 02 32.1**	**+2.4**
LGTI	**Lohaghat**	**3.25**	**76**	*e*P	**Pn**	**16 01 51.0**	**-0.3**
LGTI				*e*S	**Sn**	**16 02 27.5**	**-2.3**
PONG	**Pong**	**3.29**	**350**	*e*P	**Pn**	**16 01 54.0**	**+2.1**
PONG				*ex*	x	16 02 42.3	
JHNI	**Jhansi**	**3.65**	**152**	*ex*	**Sn**	**16 02 28.0**	**-12**
JHNI				*ex*	x	16 03 26.0	
DLH	**Dalhousie**	**3.86**	**352**	*e*P	**Pn**	**16 02 01.0**	**+1.2**
DLH				*ex*	x	16 02 57.0	
JMU	**Jammu**	**4.26**	**340**	*ex*	**Sn**	**16 03 00.0**	**+5.0**
SARP	**Sargodha**	**4.69**	**314**	⇓P	**Pn**	**16 02 11.0**	**-0.2**
JASL	**Jaisalmer**	**5.38**	**252**	*e*P	**Pn**	**16 02 19.9**	**-0.8**
BHPL	**Bhopal**	**5.49**	**172**	*e*P	**Pn**	**16 02 23.9**	**+1.8**
BHPL				*ex*	x	16 03 20.0	
BHPL				AML	AML	16 03 57.9	
	comp=N,237nm,0.5s						
BHPL				AML	AML	16 04 01.3	
	comp=E,410nm,0.6s						
CHCP	**Chirah Chowk**	**5.72**	**330**	P	**Pn**	**16 02 25.4**	**+0.1**
THW	**Thamme Wali**	**5.86**	**315**	P	**Pn**	**16 02 27.4**	**+0.2**
KOLN	**Koldanda**	**6.21**	**97**	*e*Pn	**Pn**	**16 02 32.8**	**+0.7**
KOLN				*e*Sn	**Sn**	**16 03 39.1**	**-3.9**
JBP	**Jabalpur**	**6.29**	**151**	⇑*i*x	**Pn**	**16 02 41.5**	**+8.4**
JBP				*i* x	x	16 03 39.9	
CEP	**Cherat**	**6.51**	**323**	⇑P	**Pn**	**16 02 36.8**	**+0.7**
CEP				S	**Sn**	**16 03 47.0**	**-3.2**
GKN	**Gorkha**	**7.08**	**94**	*e*Pn	**Pn**	**16 02 44.0**	**-0.1**
GKN				*e*Sn	**Sn**	**16 03 57.7**	**-6.7**
	comp=E,218nm,0.3s						
DMN	**Daman**	**7.56**	**96**	*e*Pn	**Pn**	**16 02 50.5**	**0.0**
DMN				*e*Sn	**Sn**	**16 04 10.7**	**-5.3**
	comp=E,90nm,0.5s						
KKN	**Kakani**	**7.68**	**95**	*e*Pn	**Pn**	**16 02 51.9**	**-0.3**
KKN				*e*Sn	**Sn**	**16 04 12.4**	**-6.6**
	comp=E,170nm,0.6s						
PKI	**Pulchoki**	**7.83**	**96**	*e*Pn	**Pn**	**16 02 54.2**	**-0.1**
PKI				*e*Sn	**Sn**	**16 04 16.3**	**-6.4**
	comp=E,118nm,0.4s						
NGP	**Nagpur**	**7.84**	**163**	⇓*e*P	**Pn**	**16 02 53.4**	**-1.0**
NGP				*e*S	**Sn**	**16 04 17.2**	**-5.8**
BHV	**Bhavnagar**	**8.03**	**211**	*ex*	**Sn**	**16 04 30.0**	**+2.2**
GUN	**Gumba**	**8.19**	**93**	*e*Pn	**Pn**	**16 02 58.8**	**-0.4**
GUN				*e*Sn	**Sn**	**16 04 24.6**	**-6.9**
	comp=E,148nm,0.4s						
BLSP	**Bilaspur**	**8.22**	**142**	*ex*	**Sn**	**16 04 23.0**	**-9.4**
BLSP				*ex*	x	16 05 09.0	
JIRN	**Jiri**	**8.49**	**95**	*e*Pn	**Pn**	**16 03 02.9**	**-0.5**
JIRN				*e*Sn	**Sn**	**16 04 32.6**	**-6.5**
	comp=E,189nm,0.6s						
LATR	**Latur**	**10.25**	**180**	*e*P	**Pn**	**16 03 26.5**	**-0.9**
HYB	**Hyderabad**	**11.38**	**171**	*i* P	**Pn**	**16 03 41.5**	**-1.4**
HYB				*e*S	**Sn**	**16 05 39.5**	**-10**
HYB				*e*		16 06 01.5	
VIS	**Vishakhapatnam**	**12.54**	**149**	*ex*	**Pn**	**16 04 02.2**	**+3.3**
VIS				*ex*	x	16 07 26.8	
LSA	**Lhasa**	**12.72**	**82**	P	**Pn**	**16 04 02.0**	**+0.8**
LSA	**Lhasa**	**12.72**	**82**	*e*P	**Pn**	**16 04 01.2**	**0.0**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.4s						
LSA	**Lhasa**	**12.72**	**82**	*e*Pn	**Pn**	**16 04 01.2**	**-0.1**
	comp=Z,5.9nm,0.4s						
GOA	**Goa**	**13.41**	**192**	*ex*	**Sn**	**16 06 33.0**	**-6.5**
SHL	**Shillong**	**13.93**	**99**	*e*P	**Pn**	**16 04 18.3**	**+0.5**
AAK	**Ala-Archa**	**14.00**	**353**	*e*P	**Pn**	**16 04 16.5**	**-2.3**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
AAK	**Ala-Archa**	**14.00**	**353**	*e*Pn	**Pn**	**16 04 16.4**	**-2.3**
	comp=Z,8.8nm,1.0s						
KKAR	**Karatay Array**	**15.19**	**343**	*e*P	**Pn**	**16 04 32.0**	**-2.9**
KKAR				*e*S	**Sn**	**16 07 12.7**	**-10**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KKAR				smax			
	comp=Z,10.0nm,0.7s						
WSAR	**Wadi Sarin**	**17.08**	**256**	P	**Pn**	**16 04 59.1**	**0.0**
	comp=Z,0.2nm,0.3s,baz=18,slow=20,SNR=6.1						
WSAR				S	**Sn**	**16 07 53.2**	**-16**
	comp=Z,0.1nm,0.3s,baz=185,slow=12,SNR=3.9						
WSAR	**Wadi Sarin**	**17.08**	**256**	P	**Pn**	**16 04 59.1**	**0.0**
WSAR				S	**Sn**	**16 07 53.2**	**-16**
WMQ	**Urumqi**	**17.49**	**28**	*e*P	**Pn**	**16 05 06.2**	**+1.9**
MK31	**Makanchi Array**	**18.59**	**12**	P	**Pn**	**16 05 15.4**	**-2.4**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**18.59**	**12**	P	**Pn**	**16 05 15.4**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=203,slow=12,SNR=25						
GTA	**Gaotai**	**21.91**	**55**	P	**P**	**16 05 54.5**	**+0.9**
GTA				AP		16 05 58.5	
GTA				XP	sP	16 06 01.4	+2.5
GTA				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.2						
KURK	**Kurchatov**	**22.03**	**3**	*e*P	**P**	**16 05 54.2**	**-0.7**
KURK				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.6						
KURK	**Kurchatov**	**22.03**	**3**	*e*P	**P**	**16 05 54.2**	**-0.7**
	comp=Z,15nm,0.6s,mb4.6						
CHTO	**Chiang Mai**	**22.63**	**111**	*e*P	**P**	**16 06 04.2**	**+2.9**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.8						
CHTO	**Chiang Mai**	**22.63**	**111**	*e*P	**P**	**16 06 04.2**	**+2.9**
	comp=Z,2.6nm,0.7s,mb3.8						
KMI	**Kunming**	**23.53**	**93**	P	**P**	**16 06 13.6**	**+2.8**
KMI				AP		16 06 21.5	
KMI				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.1						
CD2	**Chengdu**	**23.62**	**78**	*e*P	**P**	**16 06 09.8**	**-1.7**
AB31	**Akbulak array**	**24.17**	**333**	P	**P**	**16 06 17.7**	**+1.1**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.4						
VOSK	**Vostochnaya**	**24.35**	**352**	P	**P**	**16 06 18.8**	**+0.5**
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.6						
BVA0	**Borovoye Array**	**24.73**	**351**	*i* P	**P**	**16 06 22.0**	**+0.3**
BVAR	**Borovoye Array**	**24.73**	**351**	P	**P**	**16 06 21.5**	**-0.2**
	comp=Z,2.3nm,0.5s,mb4.0,baz=171,slow=11,SNR=16						
ZRNK	**Zerenda**	**24.87**	**349**	*e*P	**P**	**16 06 23.5**	**+0.5**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.3						
ZRNK	**Zerenda**	**24.87**	**349**	*e*P	**P**	**16 06 23.5**	**+0.5**
	comp=Z,5.1nm,0.5s,mb4.3						
AKTK	**Aktyubinsk**	**25.88**	**332**	P	**P**	**16 06 32.1**	**0.0**
AKTO	**Aktyubinsk**	**25.88**	**332**	P	**P**	**16 06 32.1**	**0.0**
	comp=Z,3.3nm,0.5s,mb4.1,baz=126,slow=9.8,SNR=11						
AKTO	**Aktyubinsk**	**25.88**	**332**	P	**P**	**16 06 32.0**	**-0.1**
ZAL	**Zalesovo**	**25.91**	**11**	P	**P**	**16 06 32.3**	**-0.1**
	comp=Z,3.9nm,0.4s,mb4.2,baz=261,slow=7.3,SNR=18						
NVS	**Novosibirsk**	**26.55**	**9**	*e*P	**P**	**16 06 32.4**	**-5.8**
SONM	**Songino Array**	**29.90**	**42**	P	**P**	**16 07 09.6**	**+1.5**
	comp=Z,3.0nm,0.9s,mb4.0,baz=238,slow=9.6,SNR=11						
ULN	**Ulaanbaatar**	**30.30**	**43**	*e*P	**P**	**16 07 12.1**	**+0.4**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
ULN	**Ulaanbaatar**	**30.30**	**43**	*e*P	**P**	**16 07 12.1**	**+0.5**
	comp=Z,1.9nm,0.8s,mb3.9						
BRTR	**Keskin Array B**	**36.90**	**299**	P	**P**	**16 08 10.1**	**+1.0**
	comp=Z,0.6nm,0.6s,mb3.6,baz=124,slow=11,SNR=5.1						
AKASG	**Malin Array Be**	**41.68**	**315**	P	**P**	**16 08 48.7**	**-0.3**
	comp=Z,0.8nm,0.5s,mb3.6,baz=85,slow=6.3,SNR=4.5						
MDJ	**Mudanjiang**	**44.57**	**54**	P	**P**	**16 09 12.3**	**0.0**
MDJ				AP	pP	16 09 18.2	+1.9
MDJ				XP	sP	16 09 20.8	+2.9
MDJ				PP	PP	16 10 55.3	-1.0
MDJ				SCP	ScP	16 14 47.4	+0.3
MDJ				PCS	PcS	16 14 49.6	+0.9
MDJ				S	**S**	**16 15 45.3**	**-2.4**
MDJ				XS	sS	16 15 55.7	+1.4
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,176nm,11.0s						
MDJ				LR	LR		
	comp=N,307nm,20.3s,MS4.4						
MDJ				LR	LR		
	comp=E,259nm,17.3s,MS4.4						
MDJ				LR	LR		
	comp=Z,473nm,20.3s,M

TLL AML AML 16 16 36.7
comp=N,170nm,0.5s
TLL Tololo Astrono 3.37 178 *e*P Pn 16 15 35.8 +2.2
TLL *e*S Sn 16 16 15.2 +2.9

MOS ***07*** *16:27:39.8±0.8, 52.13N×159.07E, h23km, mb5.0/71, Error ellipse: s-maj=9.6km s-min=4.4km az=96.9*
BJI ***07*** *16:27:41.1, 52.48N×159.04E, h38km, mB4.8, mb4.8, Ms4.6, Msz4.1*
ISCJB ***07*** *16:27:43.0±0.2, 52.03N±0.002×159.15E±0.004, h52km, mb4.8/134, MS4.1/2, Error ellipse: s-maj=4.1km s-min=3.0km az=89.1*
KRSC ***07*** *16:27:44.3±1.1, 52.12N×159.25E, h40km±12km, ML5.0*
IDC ***07*** *16:27:44.1±0.8, 52.20N×158.96E, h43km±7km, mb4.3/23, mb1 4.5/23, mb1mx4.5/24, mbtmp4.6/23, Error ellipse: s-maj=15.1km s-min=11.7km az=139.0*
NEIC ***07*** *16:27:44.1±0.2, 52.16N×159.06E, mb4.8/87, Error ellipse: s-maj=4.6km s-min=3.4km az=171.0*
SZGRF ***07*** *16:27:49.3, 52.72N×158.03E, h62km, mb5.0, Near east coast of Kamchatka Peninsula, Russia*
ISC 07 16:27:45.0±0.2, 52.10N±0.003×159.07E±0.004, h54km, h54km±4.2km:pP-P, n435, σ0.94/443, mb4.8/134, MS4.1/2, 81C-24D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
RUS	**Russkaya**	**0.48**	**314**	*i* P		**Pn**	**16 27 55.7**	**-0.5**
GRL	**Gorelyy**	**0.76**	**307**	*i* P		**Pn**	**16 28 00.7**	**+1.1**
GRL				*i* S		**Sn**	**16 28 12.1**	**+1.8**
KRMR	**Karymshinskiy**	**0.93**	**322**	*i* P		**Pn**	**16 28 02.1**	**+0.3**
KRMR				*i* S		**Sn**	**16 28 15.8**	**+1.6**
PET	**Petropavlovsk**	**0.96**	**345**	P		**Pn**	**16 28 01.6**	**-0.6**
PET				S		**Sn**	**16 28 14.7**	**-0.2**
PET	**Petropavlovsk**	**0.96**	**345**	*e*P		**Pn**	**16 28 01.2**	**-1.1**
PET				*e*S		**Sn**	**16 28 14.4**	**-0.5**
PET	**Petropavlovsk**	**0.96**	**345**	*i* P		**Pn**	**16 28 01.6**	**-0.6**
NLC	**Nalytchevo**	**1.08**	**9**	*i* P		**Pn**	**16 28 01.9**	**-2.0**
UGLR	**Uglovaya**	**1.12**	**352**	*i* P		**Pn**	**16 28 03.8**	**-0.6**
SPN	**Mys Shipunski**	**1.15**	**30**	P		**Pn**	**16 28 03.5**	**-1.3**
SPN				S		**Sn**	**16 28 17.4**	**-2.2**
SPN	**Mys Shipunski**	**1.15**	**30**	*i* P		**Pn**	**16 28 03.4**	**-1.4**
SPN				*e*S		**Sn**	**16 28 17.4**	**-2.2**
SMAR	**Somma**	**1.17**	**352**	*i* P		**Pn**	**16 28 04.3**	**-0.8**
AVH	**Avacha**	**1.18**	**350**	*i* P		**Pn**	**16 28 04.9**	**-0.3**
SDLR	**Sedlovina**	**1.18**	**355**	*i* P		**Pn**	**16 28 04.2**	**-1.0**
KOK	**Koryaka**	**1.22**	**348**	*i* P		**Pn**	**16 28 05.6**	**-0.1**
APC	**Apacha**	**1.43**	**306**	*i* P		**Pn**	**16 28 10.4**	**+1.8**
APC				Smax				
	3μm,0.9s							
MIPR	**Malaya Ipel'ka**	**1.43**	**278**	*i* P		**Pn**	**16 28 10.4**	**+1.8**
PAU	**Pauzhetka**	**1.54**	**246**	*i* P		**Pn**	**16 28 10.7**	**+0.6**
PAU				Smax				
	6μm,0.6s							
GNL	**Ganaly**	**1.73**	**337**	*i* P		**Pn**	**16 28 13.5**	**+0.8**
KII	**Karymskiy**	**1.95**	**7**	*i* P		**Pn**	**16 28 16.2**	**+0.6**
SKR	**Severo-Kuril's**	**2.33**	**234**	⇓*i* PN		**Pn**	**16 28 16.9**	**-4.0**
SKR				*i* S		**Sn**	**16 28 45.2**	**-3.2**
SKR				pmax	pmax			
	comp=E,230nm,0.5s							
SKR				pmax	pmax			
	comp=Z,370nm,0.5s							
SKR				pmax	pmax			
	comp=N,200nm,0.3s							
SKR				smax				
	comp=E,1μm,0.4s							
SKR				smax				
	comp=Z,540nm,0.4s							
SKR				smax				
	comp=N,3μm,0.5s							
ALID	**Alaid**	**2.52**	**242**	*i* P		**Pn**	**16 28 24.8**	**+1.3**
MKZ	**Mys Kozlova**	**2.93**	**32**	P		**Pn**	**16 28 27.2**	**-1.9**
MKZ				S		**Sn**	**16 28 59.7**	**-3.3**
MKZ	**Mys Kozlova**	**2.93**	**32**	*i* P		**Pn**	**16 28 27.5**	**-1.6**
MKZ				*e*S		**Sn**	**16 28 59.9**	**-3.1**
TUMR	**Tumrok**	**3.25**	**11**	*e*P		**Pn**	**16 28 34.8**	**+1.4**
KMNR	**Kamenistaya**	**3.73**	**10**	*e*P		**Pn**	**16 28 41.7**	**+1.8**
ESO	**Esso**	**3.84**	**357**	*i* P		**Pn**	**16 28 42.9**	**+1.4**
ESO				Smax				
	comp=N,290nm,0.8s							
KPT	**Kopyto**	**3.93**	**9**	*e*P		**Pn**	**16 28 43.9**	**+1.1**
KOZ	**Kozyrevsk**	**3.99**	**6**	*e*P		**Pn**	**16 28 45.5**	**+1.9**
KOZR	**Kozyr**	**4.00**	**7**	PN		**Pn**	**16 28 45.5**	**+1.8**
ZLN	**Zelenaya**	**4.05**	**14**	*e*P		**Pn**	**16 28 46.1**	**+1.7**
LGNR	**Loginova**	**4.10**	**13**	*e*P		**Pn**	**16 28 46.9**	**+1.8**
CIRR	**Tsirk**	**4.14**	**13**	*i* P		**Pn**	**16 28 47.5**	**+1.9**
KRSR	**Krestovskiy**	**4.21**	**11**	*e*P		**Pn**	**16 28 47.8**	**+1.1**
SRDR	**Sredinnyy**	**4.24**	**5**	*i* P		**Pn**	**16 28 48.6**	**+1.6**
KLY	**Klyuchi**	**4.32**	**12**	P		**Pn**	**16 28 50.2**	**+2.1**
KLY	**Klyuchi**	**4.32**	**12**	*e*P		**Pn**	**16 28 50.1**	**+2.0**
BDR	**Baidarnaya**	**4.65**	**15**	*e*P		**Pn**	**16 28 54.4**	**+1.8**
KBTR	**Krutoberegovo**	**4.67**	**27**	*i* P		**Pn**	**16 28 52.7**	**-0.1**
KBG	**Krutoberegovo**	**4.68**	**26**	*e*P		**Pn**	**16 28 52.9**	**-0.1**
KBG				Smax				
	comp=N,3μm,0.8s							
SMKR	**Semkarok**	**4.70**	**16**	*e*P		**Pn**	**16 28 54.4**	**+1.1**
SRKR	**Sorokina**	**4.72**	**14**	*i* P		**Pn**	**16 28 55.1**	**+1.5**
BKI	**Bering**	**5.15**	**50**	*e*P		**Pn**	**16 28 56.7**	**-2.7**
BKI				*e*S		**Sn**	**16 29 49.0**	**-8.5**
BKI				Smax				
	comp=N,310nm,0.3s							
OSSR	**Ossora**	**7.51**	**16**	P		**Pn**	**16 29 33.2**	**+1.4**
FX1	**Attu Island--F**	**8.64**	**79**	P		**Pn**	**16 29 44.6**	**-2.6**
	comp=N,59nm,0.3s,baz=277,slow=4.0,SNR=508							
FX1				S		**Sn**	**16 31 13.1**	**-10**
	comp=N,43nm,0.3s,baz=187,slow=20,SNR=16							
FX1	**Attu Island--F**	**8.64**	**79**	PN		**Pn**	**16 29 44.6**	**-2.7**
FX1				pmax	pmax			
	comp=Z,59nm,0.3s							
FX1	**Attu Island--F**	**8.64**	**79**	*e*P		**Pn**	**16 29 44.5**	**-2.8**
FX1				*e*S		**Sn**	**16 31 12.2**	**-11**
KAMR	**Kamenskoye**	**11.07**	**18**	*i* P		**Pn**	**16 30 22.3**	**+1.8**
YSS	**Yuzh-Sakhalins**	**11.78**	**251**	*e*PN		**Pn**	**16 30 34.0**	**+3.8**
YSS				pmax	pmax			
	comp=Z,20nm,1.0s							
YSS				MLR	MLR			
	comp=N,400nm,19.0s							
YSS				MLR	MLR			
	comp=Z,500nm,19.0s							
ASAJ	**Asahikawa**	**13.58**	**240**	P		**Pn**	**16 30 56.7**	**+2.0**
	comp=Z,1.8nm,0.3s,baz=81,slow=12,SNR=16							
ASAJ	**Asahikawa**	**13.58**	**240**	P		**Pn**	**16 30 56.7**	**+2.0**
ASAJ				pmax	pmax			
	comp=Z,2.0nm,0.3s							
BILL	**Bilibino**	**16.36**	**10**	*e*P		**Pn**	**16 31 31.4**	**+0.4**
BILL	**Bilibino**	**16.36**	**10**	*e*P		**Pn**	**16 31 31.0**	**0.0**
	comp=Z,20nm,0.7s							
KLR	**Kul'dur**	**17.52**	**271**	*e*P		**Pn**	**16 31 45.0**	**-0.3**
YAK	**Yakutsk**	**18.64**	**314**	*e*P		**Pn**	**16 31 56.9**	**-2.2**
YAK				pmax	pmax			
	comp=Z,9.0nm,0.9s							
YAK	**Yakutsk**	**18.64**	**314**	P		**Pn**	**16 31 53.7**	**-5.4**
	comp=Z,18nm,0.6s							
CLNS	**Chul'man**	**20.28**	**297**	*e*P		**P**	**16 32 19.6**	**+3.6**
CLNS				pmax	pmax			
	comp=N,12nm,0.8s							
CLNS				pmax	pmax			
	comp=E,12nm,0.8s							
CLNS				pmax	pmax			
	comp=Z,18nm,0.8s							
MDJ	**Mudanjiang**	**20.86**	**261**	P		**P**	**16 32 22.6**	**+0.2**
MDJ				AP			16 32 32.5	
MDJ				XP		sP	16 32 37.1	-4.2
MDJ				S		**S**	**16 36 13.0**	**+1.0**
MDJ				SCP		ScP	16 40 03.4	+2.4
MDJ				PCS		PcS	16 40 08.1	+1.2
MDJ				SCS		ScS	16 43 46.9	+2.4
MDJ				AMB		AMB		
	comp=Z,7.0nm,1.0s							
MDJ				AMB		AMB		
	comp=Z,182nm,7.9s							
MDJ				LR		LR		
	comp=N,226nm,23.2s,MS3.8							
MDJ				LR		LR		
	comp=E,474nm,27.3s,MS3.8							
MDJ				LR		LR		
	comp=Z,557nm,24.5s,MS3.9							
MJAR	**Matsushiro Arr**	**21.44**	**232**	P		**P**	**16 32 29.6**	**+1.0**
	comp=Z,12nm,0.5s,mb4.5,baz=32,slow=7.5,SNR=77							
MAJO	**Matsushiro**	**21.44**	**232**	*e*P		**P**	**16 32 29.9**	**+1.3**
MAJO				pmax	pmax			
	comp=Z,17nm,0.6s,mb4.5							
MAJO	**Matsushiro**	**21.44**	**232**	*e*P		**P**	**16 32 29.9**	**+1.3**
	comp=Z,17nm,0.6s,mb4.5							
MAT	**Matsushiro**	**21.44**	**232**	P		**P**	**16 32 29.8**	**+1.2**
MAT	**Matsushiro**	**21.44**	**232**	*e*P		**P**	**16 32 30.0**	**+1.4**
MAT				pmax	pmax			
	comp=Z,28nm,0.9s,mb4.6							
MAT	**Matsushiro**	**21.44**	**232**	*e*P		**P**	**16 32 30.0**	**+1.4**
	comp=Z,28nm,0.9s,mb4.6							
TIXI	**Tiksi**	**23.73**	**337**	*e*P		**P**	**16 32 49.4**	**-2.7**
TIXI				*e*			16 33 18.5	
TIXI				pmax	pmax			
	comp=Z,16nm,0.6s,mb4.6							
CN2	**Changchun**	**23.82**	**263**	*e*P		**P**	**16 32 52.5**	**-0.4**
HIA	**Hailar**	**24.87**	**279**	*e*P		**P**	**16 33 00.9**	**-1.6**
HIA				pmax	pmax			
	comp=Z,10.0nm,0.6s							
HIA	**Hailar**	**24.87**	**279**	*e*P		**P**	**16 33 00.8**	**-1.6**
	comp=Z,10nm,0.6s,mb4.5							
BOD	**Bodaibo**	**26.10**	**301**	*e*P		**P**	**16 33 11.7**	**-1.9**
BOD				pmax	pmax			
	comp=Z,3.0nm,1.2s,mb3.7							
KS15	**Wonju Array Si**	**26.30**	**248**	*e*P		**P**	**16 33 16.1**	**+0.7**
KDAK	**Kodiak Island**	**27.84**	**59**	P		**P**	**16 33 30.1**	**+0.8**
	comp=Z,5.0nm,0.8s,mb4.2,baz=352,slow=3.7,SNR=2.7							
COLA	**College**	**29.55**	**44**	*e*P		**P**	**16 33 43.2**	**-1.2**
COLA	**College**	**29.55**	**44**	*e*P		**P**	**16 33 43.3**	**-1.1**
	comp=Z,6.7nm,1.0s,mb4.3							
ILAR	**Eielson Array**	**29.96**	**44**	P		**P**	**16 33 46.5**	**-1.5**
	comp=Z,3.8nm,0.8s,mb4.2,baz=262,slow=8.2,SNR=46							
ILAR				PcP		PcP	16 36 47.5	-2.0
	comp=Z,1.2nm,0.5s,baz=289,slow=3.5,SNR=13							
ULN	**Ulaanbaatar**	**33.12**	**284**	*e*P		**P**	**16 34 15.8**	**0.0**
DAWY	**Dawson**	**33.26**	**45**	*e*P		**P**	**16 34 16.4**	**-0.7**
SONM	**Songino Array**	**33.53**	**284**	P		**P**	**16 34 19.4**	**0.0**
	comp=Z,1.2nm,0.6s,mb4.0,baz=64,slow=8.7,SNR=7.8							
SONM				PcP		PcP	16 36 59.7	+0.6
	comp=Z,4.3nm,0.7s,baz=76,slow=2.1,SNR=18							
SSE	**Sheshan**	**34.70**	**248**	P		**P**	**16 34 26.5**	**-3.1**
SSE				AMB		AMB		
	comp=Z,45nm,0.7s,mb5.5							
SSE				AMB		AMB		
	comp=Z,90nm,6.1s							
MOY	**Mondy**	**35.02**	**293**	*e*P		**P**	**16 34 32.4**	**+0.1**
INK	**Inuvik**	**35.04**	**37**	P		**P**	**16 34 32.1**	**-0.4**
	comp=Z,11nm,0.6s,mb5.0,baz=293,slow=6.8,SNR=70							
INK				PcP		PcP	16 37 03.0	-0.5
	comp=Z,1.5nm,0.6s,baz=269,slow=4.5,SNR=3.8							
INK	**Inuvik**	**35.04**	**37**	P		**P**	**16 34 32.1**	**-0.4**
INK							16 37 03.0	
INK				pmax	pmax			
	comp=Z,11nm,0.6s							
INK	**Inuvik**	**35.04**	**37**	*e*P		**P**	**16 34 31.8**	**-0.7**
	comp=Z,11nm,0.6s,mb5.0							
NJ2	**Nanjing**	**35.35**	**251**	*e*P		**P**	**16 34 35.4**	**+0.3**
NJ2				AP		pP	16 34 50.9	+2.0
NJ2				PP		PP	16 35 56.1	0.0
NJ2				S		**S**	**16 40 02.0**	**-3.6**
NJ2				XS		sS	16 40 26.0	-3.0
NJ2				AMB		AMB		
	comp=Z,20nm,0.6s,mb5.2							
NJ2				AMB		AMB		
	comp=Z,360nm,10.0s							
NJ2				LR		LR		
	comp=N,1μm,23.5s,MS4.6							
NJ2				LR		LR		
	comp=E,550nm,23.5s,MS4.6							
NJ2				LR		LR		
	comp=Z,480nm,27.9s,MS4.1							
ZAL	**Zalesovo**	**42.81**	**303**	P		**P**	**16 35 35.9**	**-1.5**
	comp=Z,1.2nm,0.3s,mb4.1,baz=50,slow=4.7,SNR=6.3							
ZAL				PcP		PcP	16 37 27.5	-0.3
	comp=Z,1.3nm,0.6s,baz=94,slow=1.5,SNR=7.1							
ZAL	**Zalesovo**	**42.81**	**303**	P		**P**	**16 35 35.9**	**-1.5**
ZAL				PcP		PcP	16 37 27.5	-0.3
NVS	**Novosibirsk**	**43.17**	**305**	*i* P		**P**	**16 35 37.0**	**-3.3**
NVS				pmax	pmax			
	comp=Z,8.0nm,1.1s,mb4.4							
NVS				pmax	pmax			
	comp=E,4.0nm,0.7s							
YKW3	**Yellowknife Ar**	**44.28**	**41**	*e*P		**P**	**16 35 48.5**	**-0.8**
YKA	**Yellowknife Ar**	**44.32**	**42**	P		**P**	**16 35 49.0**	**-0.6**
	comp=E,2.6nm,0.8s,mb4.0,baz=298,slow=8.2,SNR=29							
YKA				pP		pP	16 36 00.8	-2.9
	comp=E,1.3nm,0.6s,baz=300,slow=8.2,SNR=6.9							
YKA	**Yellowknife Ar**	**44.32**	**42**	*i* P		**P**	**16 35 49.0**	**-0.6**
YKA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
YKA	**Yellowknife Ar**	**44.32**	**42**	P		**P**	**16 35 49.0**	**-0.6**
YKA				pP		pP	16 36 00.8	-2.9
RES	**Resolute Bay**	**44.48**	**21**	*e*P		**P**	**16 35 50.1**	**-0.7**
RES				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.3							
RES	**Resolute Bay**	**44.48**	**21**	*e*P		**P**	**16 35 50.1**	**-0.7**
	comp=Z,5.5nm,0.8s,mb4.3							
CD2	**Chengdu**	**45.25**	**264**	*e*P		**P**	**16 35 56.4**	**-0.6**
CD2				AP		pP	16 36 08.8	-2.3
CD2				XP		sP	16 36 14.1	-3.3
CD2				PP		PP	16 37 43.1	-0.4
CD2				S		**S**	**16 42 32.4**	**-0.8**
CD2				SS		SS	16 45 46.8	-10
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.7							
KURK	**Kurchatov**	**47.73**	**302**	*e*P		**P**	**16 36 14.6**	**-1.8**
KURK				pmax	pmax			
	comp=Z,8.0nm,0.6s,mb4.9							
KURK	**Kurchatov**	**47.73**	**302**	*e*P		**P**	**16 36 14.6**	**-1.8**
	comp=Z,8.1nm,0.6s,mb4.9							
MKAR	**Makanchi Array**	**48.02**	**296**	P		**P**	**16 36 16.7**	**-1.9**
	comp=Z,1.5nm,0.4s,mb4.3,baz=54,slow=6.3,SNR=50							
QIZ	**Qiongzhong**	**50.49**	**248**	P		**P**	**16 36 40.8**	**+3.3**
BRVK	**Borovoye**	**50.55**	**309**	*e*P		**P**	**16 36 35.3**	**-2.6**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.3							
BRVK	**Borovoye**	**50.55**	**309**	*e*P		**P**	**16 36 35.3**	**-2.7**
	comp=Z,2.1nm,0.5s,mb4.3							
DAG	**Danmarks Havn**	**51.39**	**359**	⇑*i*P		**P**	**16 36 43.2**	**-1.1**
	comp=Z,11nm,0.6s,mb5.0							
DAG	**Danmarks Havn**	**51.39**	**359**	⇑*i*P		**P**	**16 36 43.2**	**-1.1**
DAG				pmax	pmax			
	comp=Z,11nm,0.6s,mb5.0							
MOD	**Modoc**	**53.22**	**67**	*e*P		**P**	**16 36 58.7**	**+0.9**
	comp=Z,8.6nm,0.9s,mb4.7							
KEV	**Kevo**	**53.56**	**341**	*ep*		**P**	**16 36 58.0**	**-2.3**
ARU	**Arti**	**53.70**	**317**	*d*iP		**P**	**16 36 59.4**	**-2.0**
ARU				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.3							
ARU	**Arti**	**53.70**	**317**	*e*P		**P**	**16 36 59.1**	**-2.2**
	comp=Z,3.7nm,0.4s,mb4.7							
WVOR	**Wild Horse Val**	**53.82**	**65**	*e*P		**P**	**16 37 03.2**	**+1.0**
WVOR				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.4							
WVOR	**Wild Horse Val**	**53.82**	**65**	*e*P		**P**	**16 37 03.2**	**+1.0**
	comp=Z,4.9nm,0.9s,mb4.4							
LSA	**Lhasa**	**53.86**	**273**	*e*P		**P**	**16 37 03.7**	**+1.2**
LSA				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.4							
LSA	**Lhasa**	**53.86**	**273**	*e*P		**P**	**16 37 03.7**	**+1.2**
	comp=Z,2.5nm,0.6s,mb4.3							
ARCES	**ARCESS Array B**	**54.03**	**342**	P		**P**	**16 37 02.1**	**-1.7**
	comp=Z,3.1nm,0.5s,mb4.5,baz=39,slow=8.0,SNR=50							
ARCES				PcP		PcP	16 38 08.1	-0.1
	comp=Z,1.7nm,0.7s,baz=90,slow=2.7,SNR=3.6							
FCC	**Fort Churchill**	**54.65**	**38**	*e*P		**P**	**16 37 07.4**	**-0.8**
FCC				pmax	pmax			
	comp=Z,10.0nm,0.5s,mb5.1							
FCC	**Fort Churchill**	**54.65**	**38**	*e*P		**P**	**16 37 07.4**	**-0.9**
	comp=Z,10nm,0.5s,mb5.1							
SUMG	**Summit**	**55.02**	**6**	*e*P		**P**	**16 37 10.7**	**-0.3**
	comp=Z,7.8nm,0.6s,mb4.9							
NANT	**Nan**	**56.04**	**257**	P		**P**	**16 37 17.0**	**-1.3**
QLMT	**Earthquake Lak**	**56.16**	**59**	*e*P		**P**	**16 37 19.5**	**+0.4**
NVAR	**Mina Array Bea**	**56.68**	**69**	P		**P**	**16 37 23.8**	**+1.1**
	comp=Z,3.0nm,0.7s,mb4.4,baz=312,slow=5.6,SNR=24							
NVAR				pP		pP	16 37 35.5	-1.9
	comp=Z,2.2nm,0.7s,baz=300,slow=7.2,SNR=8.9							
FLWY	**Flagg Ranch**	**57.05**	**59**	P		**P**	**16 37 25.4**	**-0.1**
	comp=Z,1.5nm,0.5s,mb4.3							
CHG	**Chiang Mai**	**57.09**	**258**	⇑P		**P**	**16 37 27.0**	**+1.3**
	comp=Z,25nm,0.9s,mb5.2							
CHTO	**Chiang Mai**	**57.09**	**258**	*e*P		**P**	**16 37 26.6**	**+0.9**
CHTO				pmax	pmax			
	comp=Z,18nm,0.8s,mb5.2							
CHTO	**Chiang Mai**	**57.09**	**258**	*e*P		**P**	**16 37 26.6**	**+0.9**
	comp=Z,18nm,0.8s,mb5.2							
LOF	**Lofoten**	**57.37**	**345**	⇓*i*P		**P**	**16 37 28.2**	**+0.5**
JOF	**Joensuu**	**58.20**	**335**	*ep*		**P**	**16 37 31.7**	**-1.8**
HWUT	**Hardware Ranch**	**58.28**	**62**	*e*P		**P**	**16 37 34.6**	**+0.6**
	comp=Z,20nm,1.3s,mb5.0							
JIRN	**Jiri**	**58.36**	**275**	*e*P		**P**	**16 37 34.0**	**-0.6**
	comp=Z,21nm,0.8s,mb5.2							
GUN	**Gumba**	**58.38**	**276**	*e*P		**P**	**16 37 34.7**	**0.0**
	comp=Z,14nm,0.4s,mb5.4							
PDAR	**Pinedale Array**	**58.56**	**60**	P		**P**	**16 37 36.7**	**+0.7**
	comp=Z,6.8nm,0.8s,mb4.7,baz=317,slow=3.3,SNR=55							
PDAR				pP		pP	16 37 48.7	-2.0
	comp=Z,8.0nm,0.8s,baz=341,slow=3.1,SNR=12							
DUG	**Dugway**	**58.57**	**64**	*e*P		**P**	**16 37 36.8**	**+0.7**
DUG				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.8							
DUG	**Dugway**	**58.57**	**64**	*e*P		**P**	**16 37 36.8**	**+0.8**
	comp=Z,9.1nm,1.0s,mb4.8							
KKN	**Kakani**	**58.83**	**276**	*e*P		**P**	**16 37 37.7**	**-0.2**
	comp=Z,18nm,0.5s,mb5.4							
TPNV	**Topopah Spring**	**58.88**	**69**	*e*P		**P**	**16 37 38.5**	**+0.3**
TPNV				pmax	pmax			
	comp=Z,11nm,0.9s,mb4.9							
TPNV	**Topopah Spring**	**58.88**	**69**	*e*P		**P**	**16 37 38.5**	**+0.3**
	comp=Z,10nm,0.9s,mb4.9							
PKI	**Pulchoki**	**58.91**	**276**	*e*P		**P**	**16 37 38.1**	**-0.3**
	comp=Z,13nm,0.4s,mb5.3							
MOR8	**Moi Rana**	**59.01**	**344**	*e*P		**P**	**16 37 36.7**	**-2.5**
MOR8						AMb	AMB	16 37 37.3
	comp=Z,32nm,0.5s,mb5.6							
MOR8	**Moi Rana**	**59.01**	**344**	*e*P		**P**	**16 37 36.7**	**-2.5**
	comp=Z,32nm,0.5s,mb5.6							
DMN	**Daman**	**59.07**	**276**	*e*P		**P**	**16 37 39.4**	**-0.1**
	comp=Z,20nm,0.4s,mb5.5							
GKN	**Gorkha**	**59.07**	**277**	*e*P		**P**	**16 37 39.2**	**-0.4**
	comp=Z,16nm,0.6s,mb5.2							
KOLN	**Koldanda**	**59.87**	**277**	*e*P		**P**	**16 37 44.9**	**-0.2**
	comp=Z,11nm,0.3s,mb5.3							
ULM	**Lac du Bonnet**	**59.96**	**46**	P		**P**	**16 37 44.9**	**-0.8**
	comp=Z,2.1nm,0.6s,mb4.4,baz=288,slow=6.4,SNR=3.7							
TMUT	**Trail Mountain**	**60.08**	**64**	*e*P		**P**	**16 37 47.5**	**+1.0**
MSU	**Marysvale**	**60.09**	**65**	*e*P		**P**	**16 37 47.6**	**+1.0**
CCUT	**Cedar City**	**60.10**	**66**	*e*P		**P**	**16 37 47.2**	**+0.6**
KAF	**Kangasniemi**	**60.15**	**337**	*e*P		**P**	**16 37 45.6**	**-1.4**
RSSD	**Black Hills**	**60.48**	**55**	*e*P		**P**	**16 37 49.5**	**+0.3**
RSSD				pmax	pmax			
	comp=Z,26nm,0.9s,mb5.3							
RSSD	**Black Hills**	**60.48**	**55**	*e*P		**P**	**16 37 49.5**	**+0.2**
	comp=Z,26nm,0.9s,mb5.2							
SRU	**San Rafael**	**60.59**	**63**	*e*P		**P**	**16 37 50.6**	**+0.6**
SRU				pmax	pmax			
	comp=Z,18nm,0.8s,mb5.2							
SRU	**San Rafael**	**60.59**	**63**	*e*P		**P**	**16 37 50.6**	**+0.6**
	comp=Z,18nm,0.8s,mb5.3							
NEN	**Nelson**	**60.59**	**69**	*e*P		**P**	**16 37 50.6**	**+0.6**
FINES	**FINESS Array B**	**60.78**	**336**	P		**P**	**16 37 50.2**	**-1.1**
	comp=Z,4.5nm,0.6s,mb4.8,baz=37,slow=8.4,SNR=52							
FINES	**FINESS Array B**	**60.78**	**336**	*i* P		**P**	**16 37 50.2**	**-1.1**
FINES				pmax	pmax			
	comp=Z,5.0nm,0.6s							
NSS	**Namsos**	**60.94**	**344**	*e*P		**P**	**16 37 50.2**	**-2.2**
NSS						AMb	AMB	16 37 50.8
	comp=Z,24nm,0.7s,mb5.5							
NSS	**Namsos**	**60.94**	**344**	*e*P		**P**	**16 37 50.2**	**-2.2**
	comp=Z,24nm,0.6s,mb5.5							
PMG	**Port Moresby**	**62.11**	**193**	P		**P**	**16 38 00.9**	**+0.7**
	comp=Z,5.0nm,0.7s,mb4.8,baz=28,slow=8.0,SNR=4.4							
SMCO	**Snowmass**	**62.48**	**61**	*e*P		**P**	**16 38 03.3**	**+0.6**
	comp=Z,11nm,0.9s,mb5.0							
ISCO	**Idaho Springs**	**62.76**	**60**	*e*P		**P**	**16 38 05.7**	**+1.1**
ISCO				pmax	pmax			
	comp=Z,10.0nm,0.9s,mb5.0							
ISCO	**Idaho Springs**	**62.76**	**60**	*e*P		**P**	**16 38 05.7**	**+1.1**
	comp=Z,10nm,0.9s,mb5.0							
OBN	**Obninsk**	**63.01**	**327**	*d*iP		**P**	**16 38 05.1**	**-1.2**
OBN				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.6							
MVCO	**Mesa Verde**

comp=Z,21nm,0.8s,mb5.1
BRG Berggiesshubel 73.24 338 *e*P **P 16 39 09.9 -0.5**
comp=Z,10.0nm,1.2s,mb4.6
BRG Berggiesshubel 73.24 338 *e*P **P 16 39 09.6 -0.8**
comp=Z,6.2nm,1.3s,mb4.4
BRG Berggiesshubel 73.24 338 *e*P **P 16 39 09.6 -0.8**
BRG pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
MORC Moravsky Berou 73.37 335 ⇓*i*P **P 16 39 11.4 +0.3**
MORC Moravsky Berou 73.37 335 *e*P **P 16 39 10.6 -0.5**
comp=Z,27nm,1.2s,mb5.0
LIKS Likavka 73.62 334 *e*P **P 16 39 12.7 +0.1**
WTSB Winterswijk 73.71 343 *e*P **P 16 39 12.8 -0.2**
comp=Z,20nm,0.6s,mb5.2
KECS Kecovo 73.75 333 *i* P **P 16 39 12.8 -0.5**
PRU Pruhonice 73.92 337 *e*P **P 16 39 14.2 -0.2**
MOX Moxa 73.98 339 *e*P **P 16 39 14.6 -0.1**
comp=Z,11nm,1.1s,mb4.7
MOX Moxa 73.98 339 *e*P **P 16 39 14.4 -0.3**
comp=Z,14nm,1.1s,mb4.8
MOX Moxa 73.98 339 *e*P **P 16 39 14.4 -0.3**
MOX pmax pmax
comp=Z,15nm,1.1s,mb4.8
WERD Werda 74.02 339 *e*P **P 16 39 15.0 +0.1**
comp=Z,12nm,1.1s,mb4.7
VRAC Vranov 74.04 336 ⇓*i*P **P 16 39 15.6 +0.5**
VRAC Vranov 74.04 336 P **P 16 39 15.5 +0.4**
BUG Bochum--Univer 74.12 342 *e*P **P 16 39 15.5 0.0**
comp=Z,12nm,0.8s,mb4.9
VRI Vrincioaia 74.17 328 ⇓*i*P **P 16 39 15.6 -0.2**
VRI Vrincioaia 74.17 328 ⇓P **P 16 39 15.6 -0.2**
NKC Novy Kostel 74.19 338 *e*P **P 16 39 15.8 -0.1**
VYHS Vyhne 74.20 334 *i* P **P 16 39 16.0 0.0**
PLOR Plostina 74.21 328 ⇓*i*P **P 16 39 15.2 -0.8**
DLF Lyons Farm 74.28 351 *e*P **P 16 39 15.7 -0.8**
CFR Carcaliu 74.30 326 ⇓*i*P **P 16 39 16.0 -0.6**
CFR Carcaliu 74.30 326 ⇓P **P 16 39 16.0 -0.6**
DCN Croghan 74.31 352 *e*P **P 16 39 15.4 -1.2**
TREC Trest 74.34 336 *e*P **P 16 39 16.7 -0.1**
PSZ Piszkesteto 74.43 333 P **P 16 39 17.6 +0.3**
MANZ Manzenberg 74.49 339 *e*P **P 16 39 17.8 +0.1**
comp=Z,6.0nm,1.1s,mb4.4
SMOL Smolenice 74.56 335 *e*P **P 16 39 17.7 -0.3**
DRGR 74.62 331 ⇓*i*P **P 16 39 18.1 -0.3**
DRGR 74.62 331 ⇓P **P 16 39 18.1 -0.3**
ROTZ Rotzenmuhle 74.68 338 *e*P **P 16 39 19.2 +0.5**
comp=Z,11nm,1.2s,mb4.7
MLR Muntele Rosu 74.76 328 ⇓*i*P **P 16 39 20.0 +0.8**
MLR Muntele Rosu 74.76 328 P **P 16 39 19.5 +0.3**
TIRR Tirgusor 74.84 326 ⇓*i*P **P 16 39 19.4 -0.3**
TIRR Tirgusor 74.84 326 *e*P **P 16 39 18.9 -0.8**
WRAB Tennant Creek 74.91 204 *e*P **P 16 39 20.4 +0.3**
WB2 Warramunga Arr 74.92 204 *e*P **P 16 39 20.3 +0.2**
WRA Warramunga Arr 74.92 204 P **P 16 39 20.3 +0.2**
comp=Z,6.2nm,0.6s,mb4.7,baz=19,slow=6.0,SNR=44
WRA Warramunga Arr 74.92 204 *i* P **P 16 39 20.2 +0.1**
WRA pmax pmax
comp=Z,6.0nm,0.6s
ZST Bratislava 74.94 335 *e*P **P 16 39 21.0 +0.8**
ZST Bratislava 74.94 335 *e*P **P 16 39 21.1 +0.9**
KHC Kasperske Hory 74.95 337 *e*P **P 16 39 20.5 +0.2**
KHC *e*pP pP 16 39 37.0 +1.5
SRO Srobarova 74.96 334 *e*P **P 16 39 21.0 +0.6**
GRA1 Grafenberg Arr 74.97 339 *e*P **P 16 39 20.9 +0.5**
comp=Z,20nm,0.9s,mb5.0
GRF Grafenberg Arr 74.97 339 *e*P **P 16 39 20.9 +0.5**
comp=Z,20nm,0.9s,mb5.0
GRF Grafenberg Arr 74.97 339 *e*P **P 16 39 20.9 +0.5**
GRF pmax pmax
comp=Z,20nm,0.9s,mb5.0
GRF Grafenberg Arr 74.97 339 *e*P **P 16 39 20.9 +0.5**
GRF pmax pmax
comp=Z,20nm,0.9s,mb5.0
SRO2 Moca 74.99 334 *e*P **P 16 39 21.2 +0.7**
HGN Heimansgroeve 75.02 343 *e*P **P 16 39 20.4 -0.3**
comp=Z,21nm,1.3s,mb4.9
SRO1 Iza 75.03 334 *e*P **P 16 39 21.7 +0.9**
TNS Taunus Mts 75.05 341 *e*P **P 16 39 20.9 0.0**
comp=Z,9.0nm,0.8s,mb4.8
TNS Taunus Mts 75.05 341 *e*P **P 16 39 20.9 0.0**
TNS pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
VOIR 75.10 328 ⇓*i*P **P 16 39 21.6 +0.4**
VOIR 75.10 328 ⇓P **P 16 39 21.6 +0.4**
WET Wettzell 75.11 338 *e*P **P 16 39 21.6 +0.4**
comp=Z,17nm,1.0s,mb4.9
WET *e*pP pP 16 39 38.3 +1.9
WET Wettzell 75.11 338 *e*P **P 16 39 21.6 +0.4**
WET *e**PP pP 16 39 38.3 +1.9
WET pmax pmax
comp=Z,17nm,1.0s,mb4.9
MEM Membach 75.15 343 P **P 16 39 20.7 -0.8**
comp=Z,15nm,0.8s,mb5.0
MEM E 16 39 21.5
MEM AP pP 16 39 38.6 +1.9
MEM XP sP 16 39 43.7 +1.1
GEC2 GERESS Array S 75.19 337 *e*P **P 16 39 21.6 -0.1**
comp=Z,9.0nm,0.7s,mb4.8
GEC2 GERESS Array S 75.19 337 *e*P **P 16 39 21.6 -0.1**
GEC2 pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
GERES GERESS Array B 75.19 337 P **P 16 39 21.6 -0.1**
comp=Z,6.1nm,0.6s,mb4.7,baz=34,slow=5.3,SNR=82
UCC Uccle 75.26 344 P **P 16 39 21.4 -0.7**
ABH Alteburg 75.55 341 *e*P **P 16 39 23.5 -0.3**
SNF Seneffe 75.56 344 P **P 16 39 22.2 -1.6**
comp=Z,3.2nm,0.7s,mb4.4
SNF AP pP 16 39 33.4 -5.6
SNF XP sP 16 39 44.2 -0.8
TOD Tromm 75.56 341 *e*P **P 16 39 23.7 -0.1**
FITZ Fitzroy Crossi 75.73 213 *e*P **P 16 39 25.8 +1.0**
comp=Z,6.1nm,0.8s,mb4.6
RUP Ruppelstein 75.82 342 *e*P **P 16 39 25.0 -0.3**
GIVF Givet 75.85 343 *e*P **P 16 39 25.0 -0.5**
MENF Mencas 75.86 345 *e*P **P 16 39 25.4 -0.1**
DOU Dourbes 75.90 343 P **P 16 39 25.5 -0.3**
comp=Z,3.0nm,0.7s,mb4.3
MOA Molln 75.98 336 ⇑*i*P **P 16 39 26.3 +0.1**
comp=Z,5.3nm,1.0s,mb4.4
BAIF Baives 76.00 344 *e*P **P 16 39 25.6 -0.7**
comp=Z,17nm,0.8s,mb4.7
BAIF Baives 76.00 344 *e*P **P 16 39 25.6 -0.7**
BAIF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
BAIF Baives 76.00 344 *e*P **P 16 39 25.6 -0.7**
comp=Z,8.4nm,0.8s,mb4.7
BZS Buzias 76.01 331 ⇓*i*P **P 16 39 26.0 -0.4**
BZS Buzias 76.01 331 P **P 16 39 26.3 -0.1**
SWET Sewanee 76.21 50 *e*P **P 16 39 26.8 -0.7**
ARSA Arzberg 76.22 335 ⇑*i*P **P 16 39 28.0 +0.4**
comp=Z,11nm,1.2s,mb4.7,SNR=7.9
STU Stuttgart 76.27 340 *e*P **P 16 39 27.9 0.0**
comp=Z,9.0nm,0.6s,mb4.9
PKSM Moragy 76.34 333 ⇓*i*P **P 16 39 27.8 -0.4**
PKSM Moragy 76.34 333 ⇓P **P 16 39 27.8 -0.4**
LANF Langenberg 76.36 341 *e*P **P 16 39 28.3 -0.1**
FUR Furstenfeldbru 76.39 338 *e*P **P 16 39 28.8 +0.2**
comp=Z,10.0nm,0.9s,mb4.8
FUR Furstenfeldbru 76.39 338 *e*P **P 16 39 28.8 +0.2**
FUR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BFO Black Forest 76.88 340 *e*P **P 16 39 31.3 0.0**
comp=Z,6.0nm,0.9s,mb4.5
BFO Black Forest 76.88 340 *e*P **P 16 39 31.3 0.0**
BFO pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
PERS Pernice 76.89 335 *e*P **P 16 39 31.6 +0.2**
KBA Koelnbreinsper 76.93 337 *i* P **P 16 39 32.5 +1.0**
comp=Z,40nm,0.9s,mb5.3,SNR=64
KBA Koelnbreinsper 76.93 337 *i* P **P 16 39 32.5 +0.9**
KBA pmax pmax
comp=Z,40nm,0.9s,mb5.3
BR131 Keskin Array S 76.98 320 *e*P **P 16 39 31.9 0.0**
comp=Z,2.1nm,0.5s,mb4.3
BRTR Keskin Array B 76.98 320 P **P 16 39 31.8 -0.1**
comp=Z,2.9nm,0.6s,mb4.4,baz=50,slow=3.2,SNR=23
WLS Welschbruch 76.99 341 *e*P **P 16 39 31.9 0.0**
CDF Champ du Feu 77.01 341 ⇑*i*P **P 16 39 31.9 -0.1**
comp=Z,21nm,0.9s,mb4.8
CDF Champ du Feu 77.01 341 ⇑*i*P **P 16 39 31.9 -0.1**
CDF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CDF Champ du Feu 77.01 341 ⇑*i*P **P 16 39 31.9 -0.1**
comp=Z,10nm,0.9s,mb4.8
WATA Walderalm 77.11 338 ⇑*i*P **P 16 39 32.9 +0.4**
comp=Z,10nm,1.1s,mb4.7
WATA Walderalm 77.11 338 ⇑*i*P **P 16 39 32.9 +0.3**
WATA pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
OBKA Obir 77.16 336 ⇑*i*P **P 16 39 33.1 +0.3**
comp=Z,35nm,1.5s,mb5.1
WTTA Wattenberg 77.16 338 ⇑*i*P **P 16 39 33.5 +0.6**
comp=Z,44nm,1.4s,mb5.2
WTTA Wattenberg 77.16 338 ⇑*i*P **P 16 39 33.5 +0.6**
WTTA pmax pmax
comp=Z,44nm,1.4s,mb5.2
MOTA Moosalm 77.20 338 ⇑*i*P **P 16 39 33.3 +0.2**
comp=Z,14nm,1.1s,mb4.8,SNR=11
MOTA Moosalm 77.20 338 ⇑*i*P **P 16 39 33.3 +0.2**
MOTA pmax pmax
comp=Z,14nm,1.1s,mb4.8
ECH Echery 77.22 341 *e*P **P 16 39 33.0 -0.2**
SQTA Sankt Quirin 77.30 338 ⇑*i*P **P 16 39 34.2 +0.6**
comp=Z,12nm,1.0s,mb4.8,SNR=10
SQTA Sankt Quirin 77.30 338 ⇑*i*P **P 16 39 34.3 +0.6**
SQTA pmax pmax
comp=Z,12nm,1.0s,mb4.8
GOLS Golise 77.34 335 *e*P **P 16 39 33.8 -0.1**
MEZF Maizieres J'vi 77.35 343 ⇑*i*P **P 16 39 34.0 +0.1**
comp=Z,17nm,0.6s,mb4.8
MEZF Maizieres J'vi 77.35 343 ⇑*i*P **P 16 39 34.0 +0.1**
comp=Z,17nm,0.6s,mb5.1
FELD Feldberg im Sc 77.37 341 *e*P **P 16 39 33.9 -0.2**
THEF They Montfort 77.44 342 *e*P **P 16 39 34.1 -0.3**
DAVA Damuels 77.53 339 ⇑*i*P **P 16 39 35.5 +0.5**
comp=Z,12nm,1.2s,mb4.7
MOF Molkenrain 77.57 341 *e*P **P 16 39 34.8 -0.4**
HAU Haudompre 77.58 342 ⇑*i*P **P 16 39 35.9 +0.7**
comp=Z,13nm,0.7s,mb4.7
HAU Haudompre 77.58 342 ⇑*i*P **P 16 39 35.9 +0.7**
HAU pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
HAU Haudompre 77.58 342 ⇑*i*P **P 16 39 35.9 +0.7**
comp=Z,6.3nm,0.6s,mb4.7
HINF Hinalfeld 77.66 341 ⇑*i*P **P 16 39 35.1 -0.6**
comp=Z,7.0nm,0.6s,mb4.4
HINF Hinteralfeld 77.66 341 ⇑*i*P **P 16 39 35.1 -0.6**
HINF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
HINF Hinteralfeld 77.66 341 ⇑*i*P **P 16 39 35.1 -0.6**
comp=Z,3.5nm,0.6s,mb4.5
GRUS Gruza 77.85 331 *i* P **P 16 39 35.8 -1.0**
DIVS Divcibare 77.88 331 *i* P **P 16 39 36.2 -0.7**
BOJS Bojanci 77.91 335 *e*P **P 16 39 36.8 -0.2**
FLN La Foliniere 78.01 346 *e*P **P 16 39 37.1 -0.5**
comp=Z,5.8nm,0.5s,mb4.5
FLN La Foliniere 78.01 346 *e*P **P 16 39 37.1 -0.5**
FLN pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
FLN La Foliniere 78.01 346 *e*P **P 16 39 37.1 -0.5**
comp=Z,2.9nm,0.5s,mb4.5
LDF La Druitiere 78.12 346 *e*P **P 16 39 37.7 -0.5**
VTS Vitosha 78.24 328 ⇓*i*P **P 16 39 38.9 0.0**
VTS Vitosha 78.24 328 P **P 16 39 38.5 -0.4**
VTS Vitosha 78.24 328 ⇓P **P 16 39 38.9 0.0**
BBLS Bajina Basta - 78.26 331 *i* P **P 16 39 39.8 +0.8**
GRR Gorron 78.43 346 ⇑*i*P **P 16 39 39.7 -0.2**
comp=Z,13nm,0.7s,mb4.7
GRR Gorron 78.43 346 ⇑*i*P **P 16 39 39.7 -0.2**
GRR pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
GRR Gorron 78.43 346 ⇑*i*P **P 16 39 39.7 -0.2**
comp=Z,6.4nm,0.7s,mb4.7
ASAR Alice Springs 78.60 203 P **P 16 39 41.8 +0.9**
comp=Z,5.4nm,0.5s,mb4.7,baz=15,slow=5.0,SNR=176
LOR Lormes 78.76 343 ⇑*i*P **P 16 39 41.5 -0.2**
comp=Z,14nm,0.6s,mb4.8
LOR Lormes 78.76 343 ⇑*i*P **P 16 39 41.5 -0.2**
LOR pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
LOR Lormes 78.76 343 ⇑*i*P **P 16 39 41.5 -0.2**
comp=Z,6.8nm,0.6s,mb4.8
SGMF Saint Gilles 78.80 348 ⇑*i*P **P 16 39 41.7 -0.3**
comp=Z,22nm,0.8s,mb4.8
SGMF Saint Gilles 78.80 348 ⇑*i*P **P 16 39 41.7 -0.3**
SGMF pmax pmax
comp=Z,11nm,0.8s,mb4.8
SGMF Saint Gilles 78.80 348 ⇑*i*P **P 16 39 41.7 -0.3**
comp=Z,11nm,0.8s,mb4.8
ROSF Rostrenen 78.81 348 ⇑*i*P **P 16 39 41.7 -0.3**
comp=Z,25nm,1.0s,mb4.8
ROSF Rostrenen 78.81 348 ⇑*i*P **P 16 39 41.7 -0.3**
ROSF pmax pmax
comp=Z,13nm,1.0s,mb4.8
ROSF Rostrenen 78.81 348 ⇑*i*P **P 16 39 41.7 -0.3**
comp=Z,13nm,1.0s,mb4.8
CABF La Chapelle 78.97 341 ⇑*i*P **P 16 39 43.0 +0.1**
comp=Z,24nm,1.0s,mb4.8
CABF La Chapelle 78.97 341 ⇑*i*P **P 16 39 43.0 +0.1**
CABF pmax pmax
comp=Z,12nm,1.0s,mb4.8
CABF La Chapelle 78.97 341 ⇑*i*P **P 16 39 43.0 +0.1**
comp=Z,12nm,1.0s,mb4.8
HYF Humbligny 78.97 344 *e*P **P 16 39 43.1 +0.2**
MIB Mutribah 79.01 305 *e*P **P 16 39 41.8 -1.3**
MIB AMb AMB 16 39 43.3
comp=Z,28nm,0.6s,mb5.4
SSF Saint Saulge 79.02 343 ⇑*i*P **P 16 39 43.0 -0.2**
comp=Z,12nm,0.6s,mb4.7
SSF Saint Saulge 79.02 343 ⇑*i*P **P 16 39 43.0 -0.2**
SSF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
SSF Saint Saulge 79.02 343 ⇑*i*P **P 16 39 43.0 -0.2**
comp=Z,5.8nm,0.6s,mb4.7
QUIF Quistinic 79.21 348 *e*P **P 16 39 43.9 -0.3**
AVF Avril sur Loir 79.31 343 ⇑*i*P **P 16 39 44.7 -0.1**
comp=Z,17nm,0.6s,mb4.8
AVF Avril sur Loir 79.31 343 ⇑*i*P **P 16 39 44.7 -0.1**
AVF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
AVF Avril sur Loir 79.31 343 ⇑*i*P **P 16 39 44.7 -0.1**
comp=Z,8.4nm,0.6s,mb4.8
KBD Kabd 79.33 304 *e*P **P 16 39 43.6 -1.3**
SMF Signal de Mont 79.36 343 ⇑*i*P **P 16 39 44.9 -0.1**
comp=Z,8.4nm,0.6s,mb4.6
SMF Signal de Mont 79.36 343 ⇑*i*P **P 16 39 44.9 -0.1**
SMF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
SMF Signal de Mont 79.36 343 ⇑*i*P **P 16 39 44.9 -0.1**
comp=Z,4.2nm,0.6s,mb4.5
SKO Skopje 79.36 329 *e*P **P 16 39 40.9 -4.1**
STIP Stip 79.38 329 *e*P **P 16 39 40.5 -4.7**
NAY Al-Naaiem 79.50 304 *e*P **P 16 39 44.5 -1.4**
NAY AMb AMB 16 39 48.4
comp=Z,11nm,0.6s,mb5.0
VAY Valandovo 79.59 328 *e*P **P 16 39 42.3 -3.9**
BGF Bois d'Agland 79.62 344 ⇑*i*P **P 16 39 46.3 -0.2**
comp=Z,13nm,0.6s,mb4.8
BGF Bois d'Agland 79.62 344 ⇑*i*P **P 16 39 46.3 -0.2**
BGF pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
BGF Bois d'Agland 79.62 344 ⇑*i*P **P 16 39 46.3 -0.2**
comp=Z,6.5nm,0.6s,mb4.7
LPL La Plagne 79.89 341 ⇑*i*P **P 16 39 48.8 +0.9**
comp=Z,12nm,0.6s,mb4.7
LPL La Plagne 79.89 341 ⇑*i*P **P 16 39 48.8 +0.9**
LPL pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
LPL La Plagne 79.89 341 ⇑*i*P **P 16 39 48.8 +0.9**
comp=Z,5.9nm,0.6s,mb4.7
LPG La Plagne 79.90 341 ⇑*i*P **P 16 39 49.0 +1.0**
comp=Z,21nm,0.8s,mb4.8
LPG La Plagne 79.90 341 ⇑*i*P **P 16 39 49.0 +1.0**
LPG pmax pmax
comp=Z,11nm,0.8s,mb4.8
LPG La Plagne 79.90 341 ⇑*i*P **P 16 39 49.0 +1.0**
comp=Z,11nm,0.8s,mb4.8
TCF Toulx Ste Croi 79.99 344 ⇑*i*P **P 16 39 48.6 +0.1**
comp=Z,17nm,0.8s,mb4.7
TCF Toulx Ste Croi 79.99 344 ⇑*i*P **P 16 39 48.6 +0.1**
TCF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
TCF Toulx Ste Croi 79.99 344 ⇑*i*P **P 16 39 48.6 +0.1**
comp=Z,8.4nm,0.8s,mb4.7
PLDF La Plantade 80.05 343 *e*P **P 16 39 49.3 +0.5**
AGO Saint Agoulin 80.06 343 *e*P **P 16 39 50.0 +1.2**
MFF Saint Martin d 80.07 346 *e*P **P 16 39 49.1 +0.2**
comp=Z,12nm,0.8s,mb4.6
MFF Saint Martin d 80.07 346 *e*P **P 16 39 49.1 +0.2**
MFF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MFF Saint Martin d 80.07 346 *e*P **P 16 39 49.1 +0.2**
comp=Z,6.2nm,0.8s,mb4.6
BIA Bitola 80.26 329 *e*P **P 16 39 46.1 -3.8**
OHR Ohrid 80.34 329 *e*P **P 16 39 46.1 -4.2**
PYM Petit Puy Mans 80.38 343 *e*P **P 16 39 51.6 +1.1**
ORIF Oris-en-Rattie 80.63 341 ⇑*i*P **P 16 39 52.6 +0.7**
MBDF Montbardon 80.64 340 *e*P **P 16 39 52.5 +0.6**
comp=Z,2.9nm,0.6s,mb4.1
MBDF Montbardon 80.64 340 *e*P **P 16 39 52.5 +0.6**
MBDF pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
MBDF Montbardon 80.64 340 *e*P **P 16 39 52.5 +0.6**
comp=Z,1.5nm,0.6s,mb4.1
LBL Lubilhac 80.83 343 *e*P **P 16 39 53.7 +0.7**
VIVF Saint-Julien-l 80.93 342 ⇑*i*P **P 16 39 54.0 +0.5**
comp=Z,15nm,0.8s,mb4.7
VIVF Saint-Julien-l 80.93 342 ⇑*i*P **P 16 39 54.0 +0.5**
VIVF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
VIVF Saint-Julien-l 80.93 342 ⇑*i*P **P 16 39 54.0 +0.5**
comp=Z,7.7nm,0.8s,mb4.7
RJF Les Rejaudoux 81.06 344 *e*P **P 16 39 54.7 +0.5**
comp=Z,11nm,0.8s,mb4.6
RJF Les Rejaudoux 81.06 344 *e*P **P 16 39 54.7 +0.5**
RJF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
RJF Les Rejaudoux 81.06 344 *e*P **P 16 39 54.7 +0.5**
comp=Z,5.6nm,0.8s,mb4.5
SBF Sospel 81.32 340 *e*P **P 16 39 55.6 0.0**
AQU L'Aquila 81.33 335 *e*P **P 16 39 56.8 +1.2**
AQU pmax pmax
comp=Z,26nm,1.0s,mb5.1
AQU L'Aquila 81.33 335 *e*P **P 16 39 56.8 +1.2**
comp=Z,26nm,1.0s,mb5.1
CAF Calviac 81.34 344 ⇑*i*P **P 16 39 56.4 +0.7**
comp=Z,20nm,0.6s,mb4.9
CAF Calviac 81.34 344 ⇑*i*P **P 16 39 56.4 +0.7**
CAF pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
CAF Calviac 81.34 344 ⇑*i*P **P 16 39 56.4 +0.7**
comp=Z,9.8nm,0.6s,mb4.9
LFF La Frestale 81.55 345 *e*P **P 16 39 57.2 +0.4**
comp=Z,50nm,1.0s,mb5.1
LFF La Frestale 81.55 345 *e*P **P 16 39 57.2 +0.4**
LFF pmax pmax
comp=Z,25nm,1.0s,mb5.1
LFF La Frestale 81.55 345 *e*P **P 16 39 57.2 +0.4**
comp=Z,25nm,1.0s,mb5.1
SMRF Simiane la Rot 81.60 341 *e*P **P 16 39 57.6 +0.6**
LASF Ste Croix 81.84 342 *e*P **P 16 39 59.0 +0.7**
LMR La Mourre 82.02 340 *e*P **P 16 39 59.6 +0.3**
PGF Pioggiola 82.23 338 *e*P **P 16 40 00.5 +0.2**
comp=Z,9.6nm,0.8s,mb4.5
PGF Pioggiola 82.23 338 *e*P **P 16 40 00.5 +0.2**
PGF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
PGF Pioggiola 82.23 338 *e*P **P 16 40 00.5 +0.2**
comp=Z,4.8nm,0.8s,mb4.5
MTLF Montolieu 82.85 343 ⇑*i*P **P 16 40 04.3 +0.7**
comp=Z,9.2nm,0.8s,mb4.6
MTLF Montolieu 82.85 343 ⇑*i*P **P 16 40 04.3 +0.7**
MTLF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
MTLF Montolieu 82.85 343 ⇑*i*P **P 16 40 04.3 +0.7**
comp=Z,4.6nm,0.8s,mb4.6
TIP Timpagrande 83.35 331 *e*P **P 16 40 06.0 -0.2**
MLS Moulis 83.42 344 *e*P **P 16 40 07.5 +1.0**
EPF Esparros 83.47 344 ⇑*i*P **P 16 40 06.8 0.0**
comp=Z,11nm,0.8s,mb4.6
EPF Esparros 83.47 344 ⇑*i*P **P 16 40 06.8 0.0**
EPF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
EPF Esparros 83.47 344 ⇑*i*P **P 16 40 06.8 0.0**
comp=Z,5.4nm,0.8s,mb4.6
SJPF Ste Jean 83.64 346 ⇑*i*P **P 16 40 09.0 +1.3**
comp=Z,10nm,0.7s,mb4.8
SJPF Ste Jean 83.64 346 ⇑*i*P **P 16 40 09.0 +1.3**
SJPF pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
SJPF Ste Jean 83.64 346 ⇑*i*P **P 16 40 09.0 +1.3**
comp=Z,5.3nm,0.7s,mb4.8
ETSF Etsaut 83.75 345 *e*P **P 16 40 09.0 +0.8**
comp=Z,19nm,1.0s,mb4.9
ETSF Etsaut 83.75 345 *e*P **P 16 40 09.0 +0.8**
ETSF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
ETSF Etsaut 83.75 345 *e*P **P 16 40 09.0 +0.8**
comp=Z,9.4nm,1.0s,mb4.9
STKA Stephens Creek 85.01 195 P **P 16 40 13.0 -1.6**
comp=Z,4.9nm,1.0s,mb4.6,baz=318,slow=10,SNR=4.8
ESDC Sonseca Array 87.41 347 P **P 16 40 26.1 -0.3**
comp=Z,2.5nm,0.6s,mb4.6,baz=1.5,slow=4.1,SNR=21
TORD Torodi Ar. Bea 112.13 336 PP PP 16 46 51.9 -7.3
comp=Z,1.6nm,1.1s,baz=16,slow=7.4,SNR=5.0
DBIC Dimbokro 119.86 342 PKP PKPdf 16 46 28.9 -0.3
comp=Z,2.4nm,0.7s,baz=318,slow=2.6,SNR=6.5
LPAZ La Paz 128.45 64 PKP PKPdf 16 46 46.0 +0.4
comp=Z,1.1nm,0.7s,baz=322,slow=6.4,SNR=6.8
QSPA South Pole Qui 141.84 180 *e*PKPpre 16 47 02.5
PLCA Paso Flores 144.62 91 *e*PKIKP PKPdf 16 47 13.6 -1.8
CAM4 Nova Friburgo 145.94 38 *e*P PKPdf 16 47 18.5 +0.8
CAM4 *i* 16 47 19.5
CAM4 *i* 16 47 22.0
CAM4 *i* 16 47 36.3
TRQA Tornquist 148.25 80 *e*PKPdf PKPdf 16 47 21.4 -0.1
TRQA *e*PKPbc PKPbc 16 47 24.1 -0.9

ISCJB ***07*** *16:45:05.8±0.2,3681S±005×7859E±007,h10km, mb5.0/63,MS5.2/97,Error ellipse: s-maj=8.2km s-min=6.8km az=45.7*

MOS ***07*** *16:45:05.8±1.2,3684S×7864E,h10km,mb5.4/18, MS5.3/12,Error ellipse: s-maj=16.0km s-min=10.1km az=90.1*

IDC ***07*** *16:45:05.7±0.5,3679S×7852E,h0km,mb4.4/20, mb1 4.5/20,mb1mx4.5/21,mbtmp4.4/20,MS5.2/18, Ms1 5.2/18,ms1mx5.0/21,Error ellipse: s-maj=18.3km s-min=12.2km az=2.0*

HRVD ***07*** *16:45:08.2±0.1,3675S×7857E,h12km,MW5.5/98, Centroid moment Tensor Solution. LP body waves: s92,c152;Mantle waves: s98,c185; Half duration: 1s3 Moment tensor: Scale 10^17Nm; Mrr=0.05±.03; Mθθ=2.03±.02; Mφφ=2.09±.03; Mrθ=0.21±.06; Mrφ=0.10±.03; Mθφ=0.46±.06; Best double couple: M0=2.12000×10^17 NP1:s=316.00000°,d=78.00000°,l=176.00000°. NP2: s=47.00000°,d=86.00000°,l=12.00000°. Principal axes: T 2.1880, Plg12.0000°, Azm272.0000°; N -0.1280, Plg77.0000°, Azm65.0000°; P -2.0520, Plg6.0000°, Azm181.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***07*** *16:45:08.2,3680S×7860E,h16km,mB5.6,mb5.0,Ms5.3, Msz5.0*

NEIC ***07*** *16:45:08.2±7.2,3683S×7857E,h16km±43km,mb5.1/20, MS5.2/70,Error ellipse: s-maj=10.7km s-min=8.7km az=189.0*

ISC 07 16:45:07.5±0.2,3681S±005×7855E±007,h10km, (h14km±1.4km:pP-P),n268,σ1§01/122,mb5.0/63,MS5.2/96, 6C-13D,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCO	**West Island**	**29.52**	**39**	PFAKE		16 51 20.0	+8.1
COCO				LR	LR		
	comp=Z,3μm,22.0s,MS4.8						
DGAR	**Diego Garcia**	**29.79**	**348**	PFAKE		16 51 30.0	+16
DGAR				LR	LR		
	comp=Z,6μm,22.0s,MS5.2						
MIR	**Mirnyy**	**30.94**	**169**	*e*P	**P**	**16 51 31.0**	**+6.5**
MIR				pmax	pmax		
	comp=Z,120nm,1.0s,mb5.7						
NWAO	**Narrogin (SRO)**	**31.83**	**95**	LR	LR	17 01 37.3	
	comp=Z,9μm,19.3s,MS5.5,baz=325,slow=31						
NWAO	**Narrogin (SRO)**	**31.83**	**95**	PFAKE		16 51 40.0	+7.6
NWAO				LR	LR		
	comp=Z,7μm,20.0s,MS5.3						
MAW	**Mawson**	**32.10**	**191**	P	**P**	**16 51 34.5**	**-0.2**
	comp=Z,12nm,1.0s,mb4.7,baz=6.9,slow=14,SNR=4.1						
MAW				LR	LR	17 02 23.0	
	comp=Z,8μm,18.2s,MS5.4,baz=19,slow=32						
OPO	**Ambohidratompo**	**32.97**	**295**	P	**P**	**16 51 43.9**	**+1.5**
	comp=Z,5.2nm,1.2s,mb4.3,baz=136,slow=12,SNR=3.5						

CASY Casey 34.82 158 *e*P **P 16 51 56.1 -2.3**
comp=Z,74nm,1.8s,mb5.3
CASY LR LR
comp=Z,3µm,19.0s,MS5.0
SYO Syowa Base 38.61 201⇓ *e*P **P 16 52 30.5 -0.2**
SYO Syowa Base 38.61 201⇓ *e*pP pP 16 52 34.0 +0.2
MBWA Marble Bar 38.94 78 PFAKE 16 52 40.0 +6.5
MBWA LR LR
comp=Z,5µm,20.0s,MS5.3
FORT Forrest 41.22 97 *e*P **P 16 52 53.0 +0.6**
comp=Z,26nm,0.8s,mb4.9
PSI Prapat 43.74 30 P **P 16 52 13.9 -0.1**
comp=Z,1.7nm,0.4s,mb4.2,baz=164,slow=19,SNR=4.6
PSI LR LR 17 07 27.9
comp=Z,4µm,21.2s,MS5.3,baz=198,slow=31
PALK Pallekele 43.90 3 PFAKE 16 53 30.0 +16
PALK LR LR
comp=Z,3µm,20.0s,MS5.3
FITZ Fitzroy Crossi 45.26 79 *e*P **P 16 53 25.9 +0.8**
comp=Z,13nm,1.5s,mb4.5
FITZ Fitzroy Crossi 45.26 79 P **P 16 53 25.2 +0.1**
comp=Z,2.5nm,0.6s,mb4.2,baz=221,slow=7.8,SNR=6.7
FITZ LR LR 17 09 00.8
comp=Z,3µm,21.9s,MS5.1,baz=234,slow=32
LBTB Lobatse 46.40 269 P **P 16 53 33.5 -0.6**
comp=Z,14nm,0.9s,mb4.9,baz=138,slow=6.8,SNR=8.7
LBTB Lobatse 46.40 269 P **P 16 53 33.5 -0.6**
LBTB LR LR
comp=Z,4µm,20.0s,MS5.4
KULM Kulim 46.70 31 *e*P **P 16 53 36.3 -0.2**
SUR Sutherland 47.12 258 P **P 16 53 39.2 -0.5**
comp=Z,32nm,1.0s,mb5.2,baz=118,slow=4.7,SNR=10
SUR Sutherland 47.12 258 P **P 16 53 39.2 -0.5**
SUR LR LR
comp=Z,4µm,20.0s,MS5.4
NVL N'lazarevskaya 48.09 204⇑ *i*P **P 16 53 47.7 +0.5**
NVL *e* 16 55 21.3
NVL pmax pmax
comp=Z,56nm,1.8s,mb5.3
ASAR Alice Springs 48.97 91 P **P 16 53 53.9 -0.2**
comp=Z,11nm,1.2s,mb4.7,baz=238,slow=6.4,SNR=22
ASAR PcP PcP 16 55 21.2 +3.1
comp=Z,1.5nm,0.8s,baz=222,slow=3.7,SNR=2.6
LSZ Lusaka 49.43 282 P **P 16 53 57.7 +0.2**
comp=Z,9.4nm,0.9s,mb4.8,baz=122,slow=9.2,SNR=13
LSZ Lusaka 49.43 282 *e*P **P 16 53 57.4 -0.2**
LSZ pmax pmax
comp=Z,15nm,0.9s,mb5.0
LSZ MLR MLR
comp=Z,4µm,19.0s,MS5.4
LSZ Lusaka 49.43 282 *e*P **P 16 53 57.4 -0.2**
comp=Z,15nm,0.9s,mb5.0
LSZ LR LR
comp=Z,4µm,19.0s,MS5.4
WRA Warramunga Arr 51.19 87 P **P 16 54 10.5 -0.4**
comp=Z,11nm,1.0s,mb4.7,baz=238,slow=7.4,SNR=18
WB2 Warramunga Arr 51.20 87 *e*P **P 16 54 10.1 -0.9**
WRAB Tennant Creek 51.21 87 P **P 16 54 11.8 +0.8**
comp=Z,158nm,1.2s,mb5.8,SNR=5.3
WRAB Tennant Creek 51.21 87 *e*P **P 16 54 09.4 -1.6**
comp=Z,52nm,1.1s,mb5.4
WRAB LR LR
comp=Z,5µm,19.0s,MS5.5
STKA Stephens Creek 51.47 104 P **P 16 54 12.6 -0.4**
comp=Z,4.1nm,0.7s,mb4.5,baz=228,slow=3.8,SNR=5.6
STKA LR LR 17 11 37.2
comp=Z,4µm,20.0s,MS5.4,baz=239,slow=31
STKA Stephens Creek 51.47 104 P **P 16 54 13.4 +0.5**
TAU Tasmania Unive 51.82 119 PFAKE 16 54 30.0 +14
TAU LR LR
comp=Z,3µm,20.0s,MS5.3
KMBO Kilima Mbogo 52.08 303 P **P 16 54 17.1 -0.5**
comp=Z,6.6nm,1.2s,mb4.5,baz=111,slow=6.7,SNR=7.6
KMBO LR LR 17 11 20.9
comp=Z,931nm,20.8s,MS4.8,baz=101,slow=30
KMBO Kilima Mbogo 52.08 303 *i* P **P 16 54 17.1 -0.4**
KMBO pmax pmax
comp=Z,7.0nm,1.2s
SNAA Sanae 52.84 203 P **P 16 54 22.6 -0.6**
comp=Z,4.6nm,0.9s,mb4.4,baz=92,slow=5.1,SNR=17
SNAA Sanae 52.84 203 *e*P **P 16 54 23.0 -0.2**
SNAA *e* pP 16 54 25.9 -0.5
SNAA *e* 16 54 28.3
SNAA *e* 16 54 36.3
SNAA *e* 16 54 41.3
SNAA Sanae 52.84 203⇑ *e*P **P 16 54 23.6 +0.4**
SNAA Sanae 52.84 203 *e*P **P 16 54 23.4 +0.2**
comp=Z,18nm,1.1s,mb4.9
VNDA Vanda 52.94 164 P **P 16 54 23.3 -0.6**
comp=Z,2.7nm,0.9s,mb4.2,baz=257,slow=7.2,SNR=11
VNDA LR LR 17 15 07.9
comp=Z,4µm,18.0s,MS5.5,baz=269,slow=34
VNDA Vanda 52.94 164 *e*P **P 16 54 23.0 -0.9**
VNDA pmax pmax
comp=Z,30nm,1.5s
VNDA MLR MLR
comp=Z,3µm,19.0s
VNDA Vanda 52.94 164 *e*P **P 16 54 23.0 -0.9**
comp=Z,30nm,1.5s,mb5.0
VNDA LR LR
comp=Z,3µm,19.0s,MS5.4
QSPA South Pole Qui 53.34 180 *e*P **P 16 54 27.0 +0.1**
comp=Z,31nm,1.1s,mb5.2
HYB Hyderabad 53.93 0 *i* P **P 16 54 31.0 -0.2**
HYB *e* 16 54 44.0
HYB *e*S **S 17 02 16.0 +9.4**
HYB LR LR 17 14 32.0
comp=Z,6.8nm,18.0s
SBA Scott Base 53.96 165 PFAKE 16 54 40.0 +8.6
SBA LR LR
comp=Z,3µm,20.0s,MS5.3
VNA2 Neumayer--Watz 54.40 204 *e*P **P 16 54 34.6 0.0**
VNA2 *e* pP 16 54 37.5 -0.3
VNA2 *e* 16 54 39.9
VNA2 *e* 16 54 47.4
VNA2 *e* 16 54 50.7
VNA2 *e* 16 54 55.5
VNA1 Neumayer--Stat 54.73 204 *e*P **P 16 54 38.3 +1.3**
VNA1 *e* pP 16 54 41.4 +1.2
VNA1 *e* 16 54 50.3
VNA1 *e* 16 54 54.2
VNA1 *e* 16 54 58.9
VNA3 Neumayer Olymp 55.07 203 *e*P **P 16 54 39.8 +0.3**
VNA3 *e* pP 16 54 42.5 -0.1
VNA3 *e* 16 54 44.9
VNA3 *e* 16 54 52.1
VNA3 *e* 16 54 55.5
VNA3 *e* 16 55 00.6
POO Poona 55.22 355 *e*P **P 16 54 40.0 -0.5**
TSUM Tsumeb 55.72 271 P **P 16 54 44.6 +0.5**
comp=Z,9.1nm,0.9s,mb4.8,baz=126,slow=6.9,SNR=10
TSUM Tsumeb 55.72 271 *e*P **P 16 54 43.3 -0.9**
comp=Z,17nm,1.1s,mb5.0
CHTO Chiang Mai 58.58 23 PFAKE 16 55 20.0 +16
CHTO LR LR
comp=Z,952nm,19.0s,MS4.9
CTA Charters Tower 60.67 94 *e*P **P 16 55 19.4 +0.6**
comp=Z,5.1nm,0.8s,mb4.7
CTA Charters Tower 60.67 94 P **P 16 55 19.0 +0.2**
comp=Z,6.8nm,0.9s,mb4.8,baz=209,slow=4.9,SNR=6.7
CTA Charters Tower 60.67 94 *e*P **P 16 55 19.4 +0.6**
CTA pmax pmax
comp=Z,5.0nm,0.8s
CTAO Charters Tower 60.67 94 PFAKE 16 55 30.0 +11
CTAO LR LR
comp=Z,6µm,20.0s,MS5.8
QIZ Qiongzhong 62.91 34 *e*P **P 16 55 36.2 +2.3**
QIZ S **S 17 03 59.8 -3.9**
QIZ SS SS 17 08 12.6 +3.8
QIZ AMB AMB
comp=Z,12nm,2.0s,mb4.7
QIZ LR LR
comp=N,707nm,22.7s
QIZ LR LR
comp=Z,963nm,22.7s,MS4.9
QIZ Qiongzhong 62.91 34 PFAKE 16 55 50.0 +16
QIZ LR LR
comp=Z,1µm,22.0s,MS5.0
SHL Shillong 63.30 13 *e*P **P 16 55 36.2 -0.3**
PKI Pulchoki 64.36 7 *e*P **P 16 55 43.0 -0.5**
comp=Z,75nm,1.3s,mb5.5
DMN Daman 64.37 6 *e*P **P 16 55 42.5 -1.0**
comp=Z,54nm,1.0s,mb5.5
KOLN Koldanda 64.41 5 *e*P **P 16 55 43.0 -0.8**
comp=Z,138nm,1.7s,mb5.7

JIRN Jiri 64.53 8 *e*P **P 16 55 43.5 -1.1**
comp=Z,140nm,1.6s,mb5.8
KKN Kakani 64.57 7 *e*P **P 16 55 44.3 -0.5**
comp=Z,128nm,1.6s,mb5.7
GKN Gorkha 64.72 6 *e*P **P 16 55 44.7 -1.1**
comp=Z,144nm,1.6s,mb5.8
GUN Gumba 64.75 7 *e*P **P 16 55 45.3 -0.7**
comp=Z,419nm,1.6s
KMI Kunming 65.69 24 P **P 16 55 53.9 +1.8**
KMI PCP PcP 16 56 25.6 +2.2
KMI PP PP 16 58 19.9 +3.3
KMI PPP 16 59 54.1
KMI S S 17 04 37.0 -1.0
KMI PS 17 04 58.6
KMI SKS 17 05 45.6
KMI SS SS 17 08 52.0 -0.1
KMI SSS 17 11 44.8
KMI AMB AMB
comp=Z,13nm,1.5s,mb4.7
KMI LR LR
comp=N,664nm,17.7s,MS5.0
KMI LR LR
comp=E,652nm,18.2s,MS5.0
KMI LR LR
comp=Z,988nm,19.2s,MS5.0
LSA Lhasa 67.21 12 *e*P **P 16 56 00.7 -1.1**
LSA pmax pmax
comp=Z,39nm,1.4s,mb5.2
LSA MLR MLR
comp=Z,3µm,19.0s,MS5.5
LSA Lhasa 67.21 12 *e*P **P 16 56 00.7 -1.1**
comp=Z,39nm,1.4s,mb5.2
LSA LR LR
comp=Z,3µm,19.0s,MS5.5
PMG Port Moresby 67.32 85 P **P 16 56 04.0 +1.5**
comp=Z,9.5nm,1.0s,mb4.8,baz=228,slow=4.1,SNR=6.7
PMG LR LR 17 25 31.5
comp=Z,3µm,18.0s,MS5.6,baz=55,slow=36
PMG Port Moresby 67.32 85 *e*P **P 16 56 03.9 +1.4**
PMG Port Moresby 67.32 85 *e*P **P 16 56 02.5 0.0**
comp=Z,19nm,1.0s,mb5.1
PMG LR LR
comp=Z,3µm,19.0s,MS5.6
RPZ Rata Peaks 67.33 128 LR LR 17 19 13.0
comp=Z,1µm,18.1s,MS5.2,baz=234,slow=30
GYA Guiyang 68.28 27⇑ *i*P **P 16 56 08.7 +0.2**
GYA XP sP 16 56 16.7 +3.7
GYA PP PP 16 58 41.5 +2.4
GYA PPP 17 00 19.4
GYA SCP 17 00 36.4
GYA S S 17 05 07.1 -2.2
GYA SS SS 17 09 33.4 +1.1
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.3
GYA AMB AMB
comp=Z,180nm,4.8s
GYA LR LR
comp=N,1µm,20.9s,MS5.3
GYA LR LR
comp=E,1µm,21.0s,MS5.3
GYA LR LR
comp=Z,1µm,21.6s,MS5.1
SNZO South Karori 70.89 128 PFAKE 16 56 40.0 +15
SNZO LR LR
comp=Z,1µm,22.0s,MS5.0
CD2 Chengdu 71.39 23⇑ *i*P **P 16 56 27.3 -0.4**
CD2 AP pP 16 56 32.0 +1.0
CD2 PP PP 16 59 08.5 +2.5
CD2 S S 17 05 46.0 +0.2
CD2 XS sS 17 05 53.8 +2.6
CD2 SS SS 17 10 23.8 +3.6
CD2 AMB AMB
comp=Z,10.0nm,1.7s,mb4.5
CD2 AMB AMB
comp=Z,320nm,11.8s
CD2 LR LR
comp=E,320nm,21.6s
CD2 LR LR
comp=Z,430nm,19.2s,MS4.7
TATO Taipei 73.58 40 PFAKE 16 56 50.0 +9.2
TATO LR LR
comp=Z,363nm,19.0s,MS4.7
URZ Urewera 74.11 126 LR LR 17 24 39.1
comp=Z,1µm,18.9s,MS5.2,baz=276,slow=32
WHN Wuhan 74.94 32 *e*P **P 16 56 54.0 +5.3**
WHN S S 17 06 29.6 +3.5
WHN LR LR
comp=Z,2µm,19.2s,MS5.3
DZM Mont Dzumac 75.51 107 LR LR 17 27 43.8
comp=Z,2µm,18.8s,MS5.3,baz=282,slow=34
XAN Xi'an 75.96 26 P **P 16 56 53.5 -1.1**
XAN AP pP 16 57 02.0 +4.1
XAN XP sP 16 57 05.3 +6.2
XAN AMB AMB
comp=Z,7.0nm,1.6s,mb4.3
LZH Lanzhou 76.24 21 *e*P **P 16 56 56.6 +0.5**
LZH AP pP 16 57 02.3 +2.9
LZH XP sP 16 57 04.9 +4.3
LZH PP PP 16 59 50.0 +2.7
LZH *e*S S 17 06 42.1 +1.6
LZH XS sS 17 06 49.1 +3.1
LZH *e*SS SS 17 11 38.0 +3.9
LZH AMB AMB
comp=Z,31nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,135nm,4.9s
LZH LR LR
comp=N,1µm,18.5s
LZH LR LR
comp=Z,2µm,20.0s,MS5.5
BHD Baghdad 76.67 331 *ex* x 16 57 09.0
HNR Honiara 77.56 93 LR LR 17 28 26.4
comp=Z,2µm,19.4s,MS5.4,baz=181,slow=34
HNR Honiara 77.56 93 PFAKE 16 57 20.0 +16
HNR LR LR
comp=Z,2µm,20.0s,MS5.4
NJ2 Nanjing 78.19 34 *e*P **P 16 57 09.4 +2.3**
NJ2 AP pP 16 57 14.2 +3.8
NJ2 XP sP 16 57 16.0 +4.4
NJ2 PP PP 17 00 08.0 +4.3
NJ2 S S 17 07 02.0 +0.2
NJ2 XS sS 17 07 10.0 +2.8
NJ2 AMB AMB
comp=Z,120nm,0.7s,mb5.9
NJ2 AMB AMB
comp=Z,450nm,10.2s
NJ2 LR LR
comp=N,2µm,20.5s,MS5.3
NJ2 LR LR
comp=E,450nm,22.4s,MS5.3
NJ2 LR LR
comp=Z,440nm,17.4s,MS4.8
GTA Gaotai 78.34 17 *e*P **P 16 57 07.6 -0.3**
GTA AP pP 16 57 12.3 +1.1
GTA PP PP 17 00 06.5 +1.6
GTA S S 17 07 02.0 -1.3
GTA SKS 17 07 17.3
GTA PS 17 07 45.4
GTA SS SS 17 12 07.0 +1.2
GTA AMB AMB
comp=Z,5.0nm,1.8s,mb4.1
GTA AMB AMB
comp=Z,334nm,4.2s
GTA LR LR
comp=N,545nm,23.6s,MS4.9
GTA LR LR
comp=E,391nm,20.5s,MS4.9
GTA LR LR
comp=Z,690nm,25.1s,MS4.9
SSE Sheshan 78.47 36 P **P 16 57 10.3 +1.6**
SSE AP pP 16 57 13.6 +1.6
SSE PP PP 17 00 04.9 -1.1
SSE S S 17 07 06.3 +1.5
SSE XS sS 17 07 12.5 +2.3
SSE ScS ScS 17 07 30.8 +1.3
SSE SS SS 17 12 10.3 +2.5
SSE AMB AMB
comp=Z,19nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,178nm,7.2s
SSE LR LR
comp=N,321nm,18.4s,MS5.0
SSE LR LR
comp=E,611nm,18.3s,MS5.0
SSE LR LR
comp=Z,349nm,20.7s,MS4.7
AAK Ala-Archa 79.15 357 P **P 16 57 10.3 -2.1**
comp=Z,51nm,0.8s,mb5.5,SNR=5.6
AAK Ala-Archa 79.15 357 *e*P **P 16 57 10.7 -1.7**
AAK pmax pmax
comp=Z,21nm,1.3s,mb4.9
AAK MLR MLR
comp=Z,2µm,20.0s,MS5.5
AAK Ala-Archa 79.15 357 *e*P **P 16 57 10.7 -1.7**
comp=Z,21nm,1.3s,mb4.9
AAK LR LR
comp=Z,2µm,20.0s,MS5.5
FRU Bishkek 79.35 357⇓ *e*P **P 16 57 15.0 +1.5**
FRU pmax pmax
comp=Z,160nm,3.0s
FRU MLR MLR
comp=N,2µm,20.0s
FRU MLR MLR
comp=Z,2µm,20.0s,MS5.4
TIA Tai'an 81.00 31 *e*P **P 16 57 22.4 0.0**
BTO Baotou 82.28 24 *e*P **P 16 57 28.2 -0.9**
GNI Garni 82.64 335 *d* P **P 16 57 31.0 0.0**
GNI pmax pmax
comp=Z,20nm,1.8s
GNI Garni 82.64 335 *e*P **P 16 57 31.2 +0.2**
comp=Z,21nm,1.0s,mb5.1
GNI LR LR
comp=Z,836nm,20.0s,MS5.1
RAO Raoul Island 82.77 121 LR LR 17 25 53.8
comp=Z,721nm,18.9s,MS5.1,baz=335,slow=30
HHC Hu-ho-hao-te 83.00 25⇑ *i*P **P 16 57 34.9 +2.0**
HHC AP pP 16 57 39.5 +3.3
HHC XP sP 16 57 41.6 +4.2
HHC PP PP 17 00 48.1 +4.5
HHC SKS 17 07 52.4
HHC S S 17 07 54.3 +2.2
HHC XS sS 17 08 02.5 +4.9
HHC PS 17 08 49.7
HHC SS SS 17 13 22.6 +7.1
HHC AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
HHC AMB AMB
comp=Z,300nm,4.2s
HHC LR LR
comp=N,723nm,19.0s,MS5.1
HHC LR LR
comp=E,329nm,19.1s,MS5.1
HHC LR LR
comp=Z,609nm,19.2s,MS5.0
MKAR Makanchi Array 83.29 3 P **P 16 57 32.5 -1.9**
comp=Z,2.0nm,0.8s,mb4.2,baz=180,slow=4.7,SNR=19
BJT Baijiatuau 83.91 28 PFAKE 16 57 50.0 +12
BJT LR LR
comp=Z,647nm,21.0s,MS5.0
DL2 Dalian 85.17 32 P **P 16 57 48.9 +5.0**
DL2 S 17 08 21.8
DL2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.0
DL2 AMB AMB
comp=Z,120nm,5.9s
DL2 LR LR
comp=N,410nm,17.2s,MS4.9
DL2 LR LR
comp=E,230nm,17.8s,MS4.9
DL2 LR LR
comp=Z,560nm,18.3s,MS5.0
BR131 Keskin Array S 86.64 327 *e*P **P 16 57 49.9 -1.3**
comp=Z,6.5nm,1.0s,mb4.8
BR131 LR LR
comp=Z,304nm,19.0s,MS4.7
BRTR Keskin Array B 86.64 327 P **P 16 57 50.6 -0.6**
comp=Z,2.5nm,0.8s,mb4.5,baz=157,slow=6.6,SNR=17
KIV Kislovodsk 86.72 335 *e*P **P 16 57 51.7 +0.1**
KIV pmax pmax
comp=Z,12nm,1.7s,mb4.8
KIV MLR MLR
comp=Z,200nm,15.0s,MS4.6
KIV Kislovodsk 86.72 335 PFAKE 16 58 00.0 +8.4
KIV LR LR
comp=Z,324nm,20.0s,MS4.7
ANTO Ankara 87.13 326 PFAKE 16 58 00.0 +6.4
ANTO LR LR
comp=Z,316nm,19.0s,MS4.7
KURK Kurchatov 87.15 0 P **P 16 57 52.4 -1.3**
comp=Z,80nm,0.8s,mb6.0,SNR=8.1
KURK Kurchatov 87.15 0 *e*P **P 16 57 52.6 -1.1**
KURK pmax pmax
comp=Z,41nm,1.4s,mb5.5
KURK MLR MLR
comp=Z,2µm,19.0s,MS5.5
KURK Kurchatov 87.15 0 *e*P **P 16 57 52.6 -1.1**
comp=Z,41nm,1.4s,mb5.5
KURK LR LR
comp=Z,2µm,19.0s,MS5.5
TORD Torodi Ar. Bea 87.53 288 P **P 16 57 54.9 -0.7**
comp=Z,0.7nm,0.9s,mb3.9,baz=131,slow=3.0,SNR=3.8
GOF Gofitskoye 87.58 336 *e*P **P 16 57 56.2 +0.4**
ASCN Ascension 87.62 262 PFAKE 16 58 10.0 +14
ASCN LR LR
comp=Z,1µm,20.0s,MS5.4
SONM Songino Array 87.87 18 P **P 16 57 56.8 -0.3**
comp=Z,0.5nm,0.8s,baz=187,slow=10,SNR=9.5
SONM LR LR 17 39 36.8
comp=Z,969nm,18.2s,MS5.2,baz=355,slow=37
ULN Ulaanbaatar 88.06 19 *c i*P **P 16 57 56.4 -1.7**
ULN Ulaanbaatar 88.06 19 *e*P **P 16 57 58.7 +0.6**
comp=Z,42nm,2.0s,mb5.3
ULN LR LR
comp=Z,481nm,20.0s,MS4.9
APE Apeiranthos 88.39 320 *e*P **P 16 57 59.9 +0.3**
DBIC Imbokoro 88.69 279 LR LR 17 34 31.7
comp=Z,2µm,18.8s,MS5.5,baz=134,slow=33
ANN Anapa 89.34 332 *e*P **P 16 58 13.1 +9.0**
ANN pmax pmax
comp=Z,80nm,6.4s
ZAK Zakamensk 89.52 16 *e*P **P 16 58 04.9 -0.1**
ZAK pmax pmax
comp=Z,15nm,1.9s,mb5.0
ZRNK Zerenda 89.78 354 *e*P **P 16 58 07.3 +1.1**
ZRNK pmax pmax
comp=Z,3.0nm,0.9s,mb4.6
ZRNK Zerenda 89.78 354 *e*P **P 16 58 07.3 +1.1**
comp=Z,2.8nm,0.9s,mb4.6
BRVK Borovoye 89.79 355 *e*P **P 16 58 06.4 +0.2**
BRVK pmax pmax
comp=Z,5.0nm,1.1s,mb4.8
BRVK MLR MLR
comp=Z,837nm,20.0s,MS5.2
BRVK Borovoye 89.79 355 *e*P **P 16 58 06.4 +0.2**
comp=Z,5.1nm,1.1s,mb4.8
BRVK LR LR
comp=Z,837nm,20.0s,MS5.2
MOY Mondy 90.28 14 *e*P **P 16 58 09.8 +1.3**
MOY pmax pmax
comp=Z,29nm,2.8s,mb5.1
ZAL Zalesovo 90.54 4 P **P 16 58 13.2 +3.5**
comp=Z,0.9nm,0.4s,mb4.4,baz=213,slow=2.3,SNR=5.6
ZAL LR LR 17 36 39.7
comp=Z,1µm,21.9s,MS5.4,baz=285,slow=34
TLY Talaya 90.82 15 PFAKE 16 58 20.0 +9.0
TLY LR LR
comp=Z,595nm,20.0s,MS5.0
CN2 Changchun 90.83 32 *e*P **P 16 58 13.6 +2.5**
CN2 *e*S 17 09 08.6
CN2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.4
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,500nm,22.0s,MS5.0
CN2 LR LR
comp=E,400nm,22.0s,MS5.0
CN2 LR LR
comp=Z,500nm,22.0s,MS4.9
NVS Novosibirsk 91.37 3 *e*P **P 16 58 09.9 -3.7**
NVS *e*S 17 09 09.7
NVS pmax pmax
comp=Z,57nm,2.8s,mb5.4
NVS pmax pmax
comp=N,31nm,2.3s
NVS smax
comp=N,299nm,4.7s
IRK Irkutsk 91.48 15 *e*P **P 16 58 14.2 +0.1**
IRK pmax pmax
comp=Z,14nm,0.8s,mb5.3
MAJO Matsushiro 91.56 44 PFAKE 16 58 30.0 +16

MAJO LR LR
comp=Z,337nm,20.0s,MS4.8
MAT Matsushiro 91.56 44 P **P 16 58 12.4 -2.1**
MAT S 17 09 19.0
MAT Matsushiro 91.56 44 *e*P **P 16 58 12.0 -2.5**
MAT *e*S 17 09 19.0
MAT pmax pmax
comp=Z,16nm,1.2s,mb5.2
MAT Matsushiro 91.56 44 *e*P **P 16 58 12.0 -2.5**
comp=Z,16nm,1.2s,mb5.2
MAT *e*S 17 09 19.0
MJAR Matsushiro Arr 91.56 44 P **P 16 58 18.9 +4.5**
comp=Z,4.5nm,1.2s,mb4.7,baz=224,slow=6.3,SNR=6.3
MJAR LR LR 17 38 51.5
comp=Z,266nm,19.3s,MS4.7,baz=235,slow=35
TIRR Tirgusor 92.75 327 ⇓*i*P **P 16 58 20.9 +0.9**
TIRR Tirgusor 92.75 327 *e*P **P 16 58 19.6 -0.3**
HIA Hailar 93.16 26 PFAKE 16 58 30.0 +8.1
HIA LR LR
comp=Z,685nm,19.0s,MS5.1
MDJ Mudanjiang 93.28 34 P **P 16 58 23.4 +1.0**
MDJ AP pP 16 58 26.8 +1.0
MDJ PP PP 17 02 06.9 +0.9
MDJ S 17 09 31.8
MDJ XS sS 17 09 37.7 +2.3
MDJ SS SS 17 15 49.8 +4.4
MDJ AMB AMB
comp=Z,5.0nm,1.0s,mb4.9
MDJ AMB AMB
comp=Z,170nm,5.9s
MDJ LR LR
comp=N,389nm,31.3s,MS4.9
MDJ LR LR
comp=E,434nm,28.2s,MS4.9
MDJ LR LR
comp=Z,502nm,25.0s,MS4.9
MDJ Mudanjiang 93.28 34 PFAKE 16 58 30.0 +7.6
MDJ LR LR
comp=Z,410nm,19.0s,MS4.9
CFR Carcaliu 93.44 327 ⇓*i*P **P 16 58 23.8 +0.7**
CFR Carcaliu 93.44 327 ⇓P **P 16 58 23.8 +0.7**
CIT Chita 93.60 21 *e*P **P 16 58 23.3 -0.6**
CIT pmax pmax
comp=Z,34nm,2.6s,mb5.3
ARU Arti 94.42 349 ⇓*i*P **P 16 58 26.9 -0.7**
ARU *e* 17 02 15.8
ARU *e*S 17 08 59.5
ARU *e*SP SP 17 10 52.7 -2.0
ARU *e*PS PS 17 11 02.5 +6.5
ARU *e*SS SS 17 15 58.7 -2.9
ARU pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
ARU MLR MLR
comp=Z,900nm,19.0s,MS5.2
ARU MLR MLR
comp=N,600nm,20.0s,MS5.2
ARU MLR MLR
comp=E,500nm,19.0s,MS5.2
ARU Arti 94.42 349 PFAKE 16 58 40.0 +12
ARU LR LR
comp=Z,983nm,20.0s,MS5.3
VRI Vrincioaia 94.59 327 ⇓*i*P **P 16 58 29.5 +1.1**
VRI Vrincioaia 94.59 327 ⇓P **P 16 58 29.5 +1.1**
PLOR Plostina 94.62 327 ⇓*i*P **P 16 58 29.6 +1.1**
MLR Muntele Rosu 94.66 326 ⇓*i*P **P 16 58 28.6 -0.1**
MLR Muntele Rosu 94.66 326 ⇓P **P 16 58 28.6 -0.1**
VOR Voronezh 94.66 337 P **P 16 58 33.0 +4.3**
VOR pmax pmax
comp=Z,40nm,1.9s,mb5.5
AFI Afiamalu 96.89 113 LR LR 17 38 03.4
comp=Z,347nm,19.3s,MS4.8,baz=292,slow=33
TRQA Tornquist 97.05 210 PFAKE 16 58 50.0 +10
TRQA LR LR
comp=Z,549nm,21.0s,MS5.0
AKASG Malin Array Be 97.34 331 P **P 16 58 42.3 +1.4**
comp=Z,0.3nm,0.4s,mb4.1,baz=151,slow=4.2,SNR=3.9
PLCA Paso Flores 97.79 203 PFAKE 16 58 50.0 +7.0
PLCA LR LR
comp=Z,2μm,19.0s,MS5.6
OBN Obninsk 98.37 337 PFAKE 16 59 00.0 +14
OBN LR LR
comp=Z,517nm,19.0s,MS5.0
YSS Yuzh-Sakhalins 101.27 39 PFAKE 16 59 10.0 +12
YSS LR LR
comp=Z,273nm,21.0s,MS4.7
TBI Tubuai 104.97 135 *e*SS SS 17 18 28.4 -0.7
comp=Z,326nm,29.0s
TBI *e*LQ 17 29 06.3
comp=Z,1μm,36.5s
TBI *e*LR LR 17 33 59.5
comp=Z,695nm,32.5s,baz=218
RCBR Riachuelo 105.68 250 PFAKE 17 03 40.0 +8.9
RCBR LR LR
comp=Z,657nm,20.0s,MS5.2
YAK Yakutsk 106.78 23 PFAKE 17 03 40.0 +6.9
YAK LR LR
comp=Z,793nm,21.0s,MS5.2
ESLA Sonseca Array 107.37 307 PFAKE 17 03 50.0 +16
ESLA LR LR
comp=Z,4μm,19.0s,MS6.0
PPT Papeete 109.40 131 *e*LQ 17 30 37.1
comp=Z,2μm,34.0s
PPT *e*LR LR 17 35 40.5
comp=Z,589nm,25.2s,baz=222
LVZ Lovozero 109.47 344 PFAKE 17 03 50.0 +12
LVZ LR LR
comp=Z,458nm,19.0s,MS5.1
KONO Kongsberg 111.56 329 PFAKE 17 03 50.0 +7.9
KONO LR LR
comp=Z,417nm,20.0s,MS5.0
NAO01 NORSAR Array S 111.76 331 PFAKE 17 03 50.0 +7.5
NAO01 LR LR
comp=Z,757nm,20.0s,MS5.3
RKT Rikitea 112.53 147 *e*LR LR 17 37 27.8
comp=Z,509nm,26.5s
KEV Kevo 112.68 343 PFAKE 17 03 50.0 +5.8
KEV LR LR
comp=Z,502nm,20.0s,MS5.1
MA2 Magadan 112.88 32 PFAKE 17 04 00.0 +15
MA2 LR LR
comp=Z,338nm,20.0s,MS4.9
PET Petropavlovsk 113.09 40 PFAKE 17 04 00.0 +15
PET LR LR
comp=Z,329nm,21.0s,MS4.9
TIXI Tiksi 113.80 15 PFAKE 17 04 00.0 +14
TIXI LR LR
comp=Z,933nm,21.0s,MS5.4
ESK Eskdalemuir 115.07 321 PFAKE 17 04 00.0 +11
ESK LR LR
comp=Z,326nm,19.0s,MS5.0
LPAZ La Paz 118.54 217 PFAKE 17 04 10.0 +15
LPAZ LR LR
comp=Z,461nm,19.0s,MS5.1
SMY Shemya 121.39 45 PFAKE 17 04 10.0 +9.0
SMY LR LR
comp=Z,505nm,22.0s,MS5.1
KBS Kingsbay 121.58 348 PFAKE 17 04 10.0 +8.7
KBS LR LR
comp=Z,663nm,20.0s,MS5.3
TAOE Nuku Hiva Isla 121.86 133 *e*LQ 17 36 08.8
comp=Z,2μm,31.8s
TAOE *e*LR LR 17 41 35.6
comp=Z,1μm,26.3s
BILL Bilibino 122.74 27 PFAKE 17 04 10.0 +6.5
BILL LR LR
comp=Z,629nm,22.0s,MS5.2
NNA Nana 126.22 210 PFAKE 17 04 20.0 +10
NNA LR LR
comp=Z,411nm,19.0s,MS5.1
OTAV Otavalo 137.83 216 PFAKE 17 04 40.0 +7.9
OTAV LR LR
comp=Z,203nm,19.0s,MS4.9
SDV Santo Domingo 140.59 233 PFAKE 17 04 50.0 +13
SDV LR LR
comp=Z,928nm,21.0s,MS5.5
COLA College 140.88 29 PFAKE 17 04 50.0 +12
COLA LR LR
comp=Z,527nm,19.0s,MS5.3
PAYG Puerto Ayora 141.29 198 PFAKE 17 04 50.0 +12
PAYG LR LR
comp=Z,992nm,22.0s,MS5.5
ILAR Eielson Array 141.30 29 PKP PKPdf 17 04 34.8 -3.7
comp=Z,0.5nm,0.9s,baz=313,slow=4.3,SNR=4.8
PMR Palmer 141.48 35 PFAKE 17 04 50.0 +11
PMR LR LR
comp=Z,568nm,21.0s,MS5.3
INK Inuvik 143.77 20 PKP PKPdf 17 04 39.8 -3.0
comp=Z,2.5nm,1.1s,baz=293,slow=4.1,SNR=6.6
INK Inuvik 143.77 20 *e*PKPdf PKPdf 17 04 39.5 -3.3
SJG San Juan 143.83 249 PFAKE 17 04 50.0 +7.1
SJG LR LR
comp=Z,506nm,22.0s,MS5.2
DAWY Dawson 144.50 28 *e*PKPdf PKPdf 17 04 42.8 -1.3
FRB Frobisher Bay 146.51 334 PKPbc PKPbc 17 04 47.7 -1.2
comp=Z,13nm,1.1s,baz=57,slow=4.6,SNR=6.5
FRB Frobisher Bay 146.51 334 PKPbc PKPbc 17 04 47.7 -1.2
BBSR BB Station 149.54 273 PFAKE 17 05 00.0 +7.5
BBSR LR LR
comp=Z,489nm,21.0s,MS5.3
JTS JuntasAbangare 149.67 214 PFAKE
JTS LR LR 17 05 00.0 +7.3
comp=Z,732nm,20.0s,MS5.5
SCHQ Schefferville 150.31 318 PKPbc PKPbc 17 04 58.4 -0.5
comp=Z,4.1nm,0.8s,baz=82,slow=5.8,SNR=5.1
SCHQ Schefferville 150.31 318 PKPbc PKPbc 17 04 58.4 -0.5
SCHQ PKPab PKPab 17 05 03.3 -1.8
SCHQ LR LR
comp=Z,825nm,20.0s,MS5.5
YKW3 Yellowknife Ar 152.97 13 *e*PKPdf PKPdf 17 04 56.0 -1.7
YKA Yellowknife Ar 153.03 13 PKPbc PKPbc 17 05 03.5 -1.6
comp=Z,3.3nm,1.0s,baz=343,slow=2.4,SNR=8.6
YKA Yellowknife Ar 153.03 13 PKPbc PKPbc 17 05 03.5 -1.7
WES Weston 156.20 293 PFAKE 17 05 10.0 +7.8
WES LR LR
comp=Z,698nm,22.0s,MS5.4
HRV Harvard--Oak R 156.36 293 PFAKE 17 05 10.0 +7.6
HRV LR LR
comp=Z,851nm,21.0s,MS5.5
LBNH Lisbon 156.45 298 PFAKE 17 05 10.0 +7.5
LBNH LR LR
comp=Z,1μm,22.0s,MS5.7
NCB Newcomb 158.12 298 PFAKE 17 05 20.0 +15
NCB LR LR
comp=Z,1μm,21.0s,MS5.6
BINY Binghamton 159.66 293 PFAKE 17 05 20.0 +14
BINY LR LR
comp=Z,926nm,20.0s,MS5.6
OCWA Octopus Mounta 160.02 50 PFAKE 17 05 20.0 +13
OCWA LR LR
comp=Z,1μm,19.0s
CBN Corbin 160.85 281 PFAKE 17 05 20.0 +12
CBN LR LR
comp=Z,1μm,22.0s
DWPF Disney 161.03 249 PFAKE 17 05 20.0 +12
DWPF LR LR
comp=Z,547nm,20.0s
SSPA Standing Stone 161.23 289 PFAKE 17 05 20.0 +12
SSPA LR LR
comp=Z,1μm,20.0s
COR Corvallis 161.74 58 PFAKE 17 05 20.0 +11
COR LR LR
comp=Z,915nm,21.0s
FFC Flin Flon 162.08 1 PFAKE 17 05 20.0 +11
FFC LR LR
comp=Z,1μm,20.0s
NHSC New Hope 162.18 264 PFAKE 17 05 20.0 +11
NHSC LR LR
comp=Z,765nm,20.0s
HUMO Hull Mountain 162.49 64 PFAKE 17 05 20.0 +11
HUMO LR LR
comp=Z,572nm,20.0s
ERPA Erie 162.61 294 PFAKE 17 05 20.0 +10
ERPA LR LR
comp=Z,991nm,20.0s
MCWV Mont Chateau 162.79 286 PFAKE 17 05 20.0 +10
MCWV LR LR
comp=Z,773nm,20.0s
HOPS Hopland 162.80 76 PFAKE 17 05 20.0 +10
HOPS LR LR
comp=Z,777nm,19.0s
YBH Yreka Blue Hor 162.84 67 PFAKE 17 05 20.0 +10
YBH LR LR
comp=Z,584nm,20.0s
WDC Whiskeytown Da 163.12 71 PFAKE 17 05 20.0 +10
WDC LR LR
comp=Z,697nm,20.0s
BLA Blacksburg 163.19 278 PFAKE 17 05 20.0 +10
BLA LR LR
comp=Z,50nm,20.0s
HAWA Hanford 163.47 49 PFAKE 17 05 20.0 +10
HAWA LR LR
comp=Z,71nm,20.0s
NEW Newport 163.78 40 PFAKE 17 05 20.0 +9.3
NEW LR LR
comp=Z,1μm,21.0s
SAO San Andreas Ge 163.98 84 PFAKE 17 05 20.0 +9.1
SAO LR LR
comp=Z,991nm,19.0s
MOD Modoc 164.57 65 PFAKE 17 05 20.0 +8.6
MOD LR LR
comp=Z,707nm,19.0s
SNCC San Nicolas Is 164.78 98 PFAKE 17 05 20.0 +8.4
SNCC LR LR
comp=Z,997nm,20.0s
CMB Columbia Colle 164.91 80 PFAKE 17 05 20.0 +8.3
CMB LR LR
comp=Z,786nm,21.0s
ACSO Alum Creek Sta 165.14 289 PFAKE 17 05 20.0 +8.1
ACSO LR LR
comp=Z,426nm,20.0s
BMO Blue Mountains 165.58 51 PFAKE 17 05 20.0 +7.7
BMO LR LR
comp=Z,944nm,21.0s
WVOR Wild Horse Val 165.62 62 PFAKE 17 05 20.0 +7.7
WVOR LR LR
comp=Z,929nm,19.0s
MYNC Murphy 165.85 268 PFAKE 17 05 20.0 +7.5
MYNC LR LR
comp=Z,922nm,20.0s
ISA Isabella 166.21 90 PFAKE 17 05 20.0 +7.2
ISA LR LR
comp=Z,241nm,19.0s
MSO Missoula 166.35 39 PFAKE 17 05 20.0 +7.1
MSO LR LR
comp=Z,709nm,19.0s
NVAR Mina Array Bea 166.54 78 PKP PKPdf 17 05 12.7 -0.3
comp=Z,0.4nm,0.9s,baz=62,slow=19,SNR=2.5
NVAR PKPab PKPab 17 06 16.3 +1.1
comp=Z,1.0nm,0.8s,baz=243,slow=3.6,SNR=3.7
MNV Mina 166.66 78 PFAKE 17 05 20.0 +6.8
MNV LR LR
comp=Z,1μm,22.0s
EYMN Ely 166.67 330 PFAKE 17 05 20.0 +6.8
EYMN LR LR
comp=Z,1μm,21.0s
DAC Darwin (Calif) 167.01 88 PFAKE 17 05 20.0 +6.6
DAC LR LR
comp=Z,1μm,20.0s
BMN Battle Mountai 167.15 69 PFAKE 17 05 20.0 +6.5
BMN LR LR
comp=Z,832nm,22.0s
EGMT Eagleton 167.24 26 PFAKE 17 05 20.0 +6.4
EGMT LR LR
comp=Z,790nm,22.0s
PFO Pinyon Flat Ob 167.32 100 PFAKE 17 05 20.0 +6.3
PFO LR LR
comp=Z,1μm,22.0s
TPH Tonopah 167.40 80 PFAKE 17 05 20.0 +6.3
TPH LR LR
comp=Z,946nm,21.0s
LRAL Lakeview Retre 167.55 257 PFAKE 17 05 20.0 +6.2
LRAL LR LR
comp=Z,725nm,20.0s
WCI Wyandotte Cave 167.88 281 PFAKE 17 05 20.0 +6.0
WCI LR LR
comp=Z,695nm,22.0s
HLID Hailey 168.02 52 PFAKE 17 05 20.0 +5.9
HLID LR LR
comp=Z,1μm,22.0s
TPNV Topopah Spring 168.15 85 PFAKE 17 05 20.0 +5.8
TPNV LR LR
comp=Z,1μm,21.0s
PLAL Pickwick Lake 168.99 264 PFAKE 17 05 30.0 +15
PLAL LR LR
comp=Z,639nm,19.0s
WVT Waverly 169.00 271 PFAKE 17 05 30.0 +15
WVT LR LR
comp=Z,727nm,20.0s
YMR Madison River 169.35 40 PFAKE 17 05 30.0 +15
YMR LR LR
comp=Z,1μm,21.0s
LAO LASA Array 169.51 18 PFAKE 17 05 30.0 +15
LAO LR LR
comp=Z,766nm,21.0s
LKWY Lake 169.70 38 PFAKE 17 05 30.0 +15
LKWY LR LR
comp=Z,2μm,20.0s
OXF Oxford 169.93 260 PFAKE 17 05 30.0 +15
OXF LR LR
comp=Z,838nm,20.0s
DUG Dugway 170.48 66 PFAKE 17 05 30.0 +14
DUG LR LR
comp=Z,985nm,22.0s
AHID Auburn Hatcher 170.49 48 PFAKE 17 05 30.0 +14
AHID LR LR
comp=Z,836nm,22.0s
HWUT Hardware Ranch 170.81 56 PFAKE 17 05 30.0 +14
HWUT LR LR
comp=Z,2μm,22.0s
TUC Tucson 171.09 118 PFAKE 17 05 30.0 +14
TUC LR LR
comp=Z,697nm,19.0s
MVU Marysvale 171.30 76 PFAKE 17 05 30.0 +14
MVU LR LR
comp=Z,879nm,21.0s
MSU Marysvale 171.33 75 *e*PKIKP PKPdf 17 05 14.6 -1.5
BW06 Boulder Array 171.38 44 PFAKE 17 05 30.0 +14
BW06 LR LR
comp=Z,1μm,19.0s
PDAR Pinedale Array 171.38 44 PKP PKPdf 17 05 15.8 -0.3
comp=Z,0.5nm,0.8s,baz=55,slow=3.4,SNR=2.1
MPU Maple Canyon 171.40 65 PFAKE 17 05 30.0 +14
MPU LR LR
comp=Z,2μm,22.0s
HKT Hockley 171.70 216 PFAKE 17 05 30.0 +14
HKT LR LR
comp=Z,671nm,21.0s
CCM Cathedral Cave 171.78 282 PFAKE 17 05 30.0 +14
CCM LR LR
comp=Z,857nm,22.0s
WUAZ Wupatki 171.87 96 PFAKE 17 05 30.0 +14
WUAZ LR LR
comp=Z,1μm,21.0s
LTX Lajitas 172.32 165 PFAKE 17 05 30.0 +13
LTX LR LR
comp=Z,758nm,20.0s
RSSD Black Hills 172.44 14 PFAKE 17 05 30.0 +13
RSSD LR LR
comp=Z,2μm,21.0s
NATX Nacogdoches 172.45 230 PFAKE 17 05 30.0 +13
NATX LR LR
comp=Z,648nm,20.0s
SRU San Rafael 172.48 69 *e*PKIKP PKPdf 17 05 18.2 +1.6
MIAR Mount Ida 173.20 253 PFAKE 17 05 30.0 +13
MIAR LR LR
comp=Z,961nm,20.0s
JCT Junction City 173.54 193 PFAKE 17 05 30.0 +13
JCT LR LR
comp=Z,627nm,21.0s
MNTX Cornudas Mount 173.95 146 *e*PKPdf PKPdf 17 05 17.9 +0.7
MNTX LR LR
comp=Z,864nm,20.0s
ANMO Albuquerque 175.53 113 PFAKE 17 05 30.0 +12
ANMO LR LR
comp=Z,773nm,22.0s
ISCO Idaho Springs 175.57 46 PKPdf PKPdf 17 05 19.0 +1.3
ISCO LR LR
comp=Z,2μm,21.0s
WMOK Wichita Mounta 177.00 227 *e*PKPdf PKPdf 17 05 16.8 -1.3
WMOK *e*PKPab PKPab 17 07 02.2 +0.7
WMOK *e*PP PP 17 10 58.2 +3.7
WMOK LR LR
comp=Z,751nm,22.0s
CBKS Cedar Bluff 177.58 326 PFAKE 17 05 30.0 +12
CBKS LR LR
comp=Z,1μm,20.0s
AMTX Amarillo 178.07 174 PFAKE 17 05 30.0 +12
AMTX LR LR
comp=Z,876nm,21.0s

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*IDC **07** 16:47:20.5±1.2,571N×12608E,h0km,mb3.4/5,mb1 3.6/5, mb1mx3.4/19,mbtmp3.4/5,Error ellipse: s-maj=72.5km s-min=23.4km az=79.0*
*ISCJB **07** 16:47:32.8±1.3,55N±01×1262E±02,h110km±18km, mb3.1/5,Error ellipse: s-maj=31.8km s-min=18.1km az=161.3*

ISC 07 16:47:34.3±1.2,55N±01×1262E±02,h114km±15km,n10, σ1ŝ10/12,mb3.1/5,1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.41**	**3**	*e*P		**Pn**	**16 47 58.5**	**-1.8**
BUKP	**Musuan**	**2.59**	**335**	*e*P		**Pn**	**16 48 13.9**	**-1.0**
BUKP				*e*S		**Sn**	**16 48 47.0**	**+0.8**
BIPH	**Bislig**	**2.65**	**4**	⇑*i*P		**Pn**	**16 48 15.0**	**-0.8**
BIPH				*i*S		**Sn**	**16 48 48.5**	**+0.9**
BUTP	**Butuan**	**3.47**	**351**	*e*P		**Pn**	**16 48 26.8**	**+0.2**
MSLP	**Maasin**	**4.76**	**344**	*e*P		**Pn**	**16 48 46.0**	**+2.0**
FITZ	**Fitzroy Crossi**	**23.48**	**181**	P		**P**	**16 52 34.0**	**+0.3**
	1.1nm,0.4s,mb3.5,baz=358,slow=12,SNR=11							
WRA	**Warramunga Arr**	**26.55**	**163**	P		**P**	**16 53 02.9**	**+1.4**
	0.2nm,0.7s,mb2.8,baz=342,slow=10,SNR=2.4							
ASAR	**Alice Springs**	**29.98**	**166**	P		**P**	**16 53 31.6**	**-0.3**
	0.1nm,0.6s,mb2.6,baz=334,slow=8.2,SNR=3.4							
MKAR	**Makanchi Array**	**55.78**	**325**	P		**P**	**16 56 57.8**	**-1.6**
	0.3nm,0.5s,mb3.6,baz=124,slow=7.0,SNR=4.5							
ILAR	**Eielson Array**	**83.73**	**26**	P		**P**	**16 59 50.6**	**0.0**
	0.3nm,0.7s,mb3.2,baz=255,slow=4.5,SNR=4.3							

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*NEIC **07** 16:54:02.0,1796N×6847W,h84km,MD3.4(RSPR),After RSPR.*

RSPR 07 16:54:02.0,1796N×6847W,h84km±6km,MD3.4/9, MD3.4/9,21C-5D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**1.30**	**88**	⇑*e*P		Pn	16 54 23.6	-1.3
CRPR	**Cabo Rojo, PR**	**1.30**	**88**	*e*S		Sn	16 54 42.3	+0.2
CRPR	**Cabo Rojo, PR**	**1.30**	**88**	⇑*e*P		Pn	16 54 23.4	-1.5
CRPR	**Cabo Rojo, PR**	**1.30**	**88**	*e*S		Sn	16 54 42.2	+0.1
MGP	**Maguayo**	**1.32**	**88**	⇑*e*P		Pn	16 54 24.7	-0.4
MGP				*e*S		Sn	16 54 42.9	+0.3
MGP	**Maguayo**	**1.32**	**88**	⇑*e*P		Pn	16 54 25.3	+0.1
MGP				*e*S		Sn	16 54 42.3	-0.2
MGP	**Maguayo**	**1.32**	**88**	⇑*e*P		Pn	16 54 25.3	+0.1
MGP				*e*S		Sn	16 54 42.3	-0.2
MGP				*e*S		Sn	16 54 42.9	+0.3
LSP	**Las Mesas**	**1.34**	**81**	⇓*e*P		Pn	16 54 24.9	-0.5
LSP	**Las Mesas**	**1.34**	**81**	⇓*e*P		Pn	16 54 25.1	-0.3
LSP	**Las Mesas**	**1.34**	**81**	*e*S		Sn	16 54 43.3	+0.3
LSP	**Las Mesas**	**1.34**	**81**	⇓*e*P		Pn	16 54 25.1	-0.3
LSP				*e*S		Sn	16 54 43.3	+0.3
AGPR	**Aguadilla, PR**	**1.39**	**69**	⇑*e*P		Pn	16 54 25.4	-0.7
AGPR	**Aguadilla, PR**	**1.39**	**69**	*e*S		Sn	16 54 43.4	-0.8
AGPR	**Aguadilla, PR**	**1.39**	**69**	⇑*e*P		Pn	16 54 26.6	+0.5
AGPR	**Aguadilla, PR**	**1.39**	**69**	*e*S		Sn	16 54 44.5	+0.4
AGPR	**Aguadilla, PR**	**1.39**	**69**	⇑*e*P		Pn	16 54 26.6	+0.5
AGPR				*e*S		Sn	16 54 43.4	-0.8
AGPR				*e*S		Sn	16 54 44.5	+0.4
LRS	**Lares**	**1.58**	**78**	⇑*e*P		Pn	16 54 28.1	-0.4
LRS				*e*S		Sn	16 54 48.6	0.0
LRS	**Lares**	**1.58**	**78**	⇓*i*P		Pn	16 54 28.1	-0.5
LRS				*e*S		Sn	16 54 48.6	0.0
AOPR	**Arecibo Observ**	**1.68**	**77**	⇑*e*P		Pn	16 54 29.4	-0.5
AOPR	**Arecibo Observ**	**1.68**	**77**	⇓*i*P		Pn	16 54 29.3	-0.5
AOPR				*e*S		Sn	16 54 50.6	-0.3
AOPR				*e*S		Sn	16 54 51.2	+0.3
OBIP	**Obispado Ponce**	**1.78**	**87**	⇑*e*P		Pn	16 54 30.7	-0.4
OBIP				*e*S		Sn	16 54 53.2	0.0
CELP	**Cerrillos**	**1.81**	**86**	⇑*e*P		Pn	16 54 30.3	-1.2
CELP				*e*S		Sn	16 54 53.1	-0.6
CELP	**Cerrillos**	**1.81**	**86**	⇑*e*P		Pn	16 54 30.2	-1.3
ICM	**Isla Caja Muer**	**1.86**	**92**	⇑*e*P		Pn	16 54 30.7	-1.4
ICM	**Isla Caja Muer**	**1.86**	**92**	⇑*e*P		Pn	16 54 30.7	-1.5
ICM				*e*S		Sn	16 54 54.2	-0.8
SJG	**San Juan**	**2.21**	**86**	⇑*e*P		Pn	16 54 37.6	+0.7
SJG				*e*S		Sn	16 55 04.0	+0.5
SJG	**San Juan**	**2.21**	**86**	⇑*e*P		Pn	16 54 37.3	+0.4
SJG				*e*S		Sn	16 55 03.8	+0.3
SJG	**San Juan**	**2.21**	**86**	⇑*e*P		Pn	16 54 37.3	+0.4
SJG				*e*S		Sn	16 55 03.8	+0.3

SJG				*e*S	Sn	16 55 04.0	+0.5
HUMP	**Col San Antoni**	**2.50**	**86**⇑	*e*P	Pn	16 54 41.2	+0.5
HUMP	**Col San Antoni**	**2.50**	**86**⇑	*e*P	Pn	16 54 41.2	+0.5
HUMP				*e*S	Sn	16 55 09.5	-0.9
HUMP				*e*S	Sn	16 55 11.0	+0.6
CULB	**Culebra**	**3.01**	**83**⇑	*e*P	Pn	16 54 48.3	+0.8
CULB				*e*S	Sn	16 55 23.0	+0.4
CULB	**Culebra**	**3.01**	**83**	*e*S	Sn	16 55 23.9	+1.3

IDC 07 16:57:07.3±1.6, 984S×10993E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/14, mbtmp3.7/5, Error ellipse: s-maj=62.4km s-min=23.2km az=46.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.61**	**116**	P	P	17 02 38.2	-0.1
	0.8nm,1.0s,baz=286,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**26.70**	**124**	P	P	17 02 49.0	+0.9
	0.7nm,0.6s,baz=298,slow=9.4,SNR=18						
MJAR	**Matsushiro Arr**	**53.25**	**28**	P	P	17 06 27.7	0.0
	1.3nm,0.9s,baz=202,slow=6.2,SNR=4.1						
MKAR	**Makanchi Array**	**61.54**	**339**	P	P	17 07 26.5	+0.3
	0.7nm,0.5s,baz=144,slow=8.0,SNR=8.5						
BRTR	**Keskin Array B**	**85.86**	**311**	P	P	17 09 49.1	+0.2
	0.7nm,0.8s,baz=133,slow=6.3,SNR=5.2						

IDC 07 16:57:13.5±2.3, 500N×12764E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, Error ellipse: s-maj=186.5km s-min=23.8km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.64**	**165**	P	P	17 02 45.2	+0.4
	0.9nm,0.7s,baz=344,slow=9.6,SNR=10.0						
ASAR	**Alice Springs**	**29.14**	**168**	P	P	17 03 17.2	+1.0
	0.2nm,0.4s,baz=349,slow=7.0,SNR=8.6						
STKA	**Stephens Creek**	**39.01**	**165**	P	P	17 04 40.9	-0.8
	3.2nm,0.9s,baz=341,slow=12,SNR=4.6						
MKAR	**Makanchi Array**	**57.05**	**324**	P	P	17 07 01.4	+0.1
	0.2nm,0.3s,baz=116,slow=7.6,SNR=8.8						

*ISCJB **07** 16:57:54.9±1.2, 196S×0.1×174.1W×0.3, h33km, mb3.9/4, Error ellipse: s-maj=39.6km s-min=10.1km az=58.8*
*IDC **07** 16:57:54.4±2.9, 1946S×17453W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.8/14, mbtmp3.8/4, ML2.4/1, Error ellipse: s-maj=133.4km s-min=26.8km az=139.0*
*NEIC **07** 16:57:56.7±0.9, 1965S×17426W, h25km, mb4.2/1, Error ellipse: s-maj=37.9km s-min=15.8km az=124.0*

ISC 07 16:57:57.8±1.1, 196S±01×1742W±03, h35km, n11, σ0.599/8, mb3.9/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.08**	**22**	Pn	**Pn**	**16 59 26.3**	**+1.1**
	5.1nm,0.3s,baz=236,slow=22,SNR=13						
AFI				Sn	**Sn**	**17 00 32.4**	**-1.1**
	4.1nm,0.3s,baz=74,slow=21,SNR=2.9						
AFI	**Afiamalu**	**6.08**	**22**	*e*Pn	**Pn**	**16 59 25.9**	**+0.7**
AFI				Sn	**Sn**	**17 00 32.4**	**-1.1**
RAR	**Rarotonga**	**13.58**	**99**	Pn	Px	17 00 55.5	
	1.3nm,0.3s,baz=276,slow=12,SNR=9.7						
RAR				Sn	Sx	17 03 09.5	
	1.0nm,0.3s,baz=192,slow=20,SNR=3.2						
ASAR	**Alice Springs**	**48.20**	**255**	P	**P**	**17 06 35.0**	**-0.1**
	0.4nm,0.5s,mb3.7,baz=92,slow=7.6,SNR=10						
ASAR				PcP	PcP	17 08 03.2	+1.4
	0.4nm,0.6s,baz=95,slow=4.1,SNR=6.0						
WRA	**Warramunga Arr**	**48.32**	**260**	P	**P**	**17 06 35.3**	**-0.4**
	1.2nm,0.7s,mb4.0,baz=97,slow=6.7,SNR=12						
SBA	**Scott Base**	**59.05**	**185**	*e*P	**P**	**17 07 53.4**	**-0.9**
	2.1nm,1.0s,mb4.1						
ILAR	**Eielson Array**	**86.67**	**11**	P	**P**	**17 10 39.5**	**+1.7**
	0.4nm,0.8s,mb3.7,baz=218,slow=5.6,SNR=6.4						
AKASG	**Malin Array Be**	**143.85**	**335**	PKP	PKPdf	17 17 28.4	-0.8
	0.3nm,0.3s,baz=39,slow=4.7,SNR=5.6						
AKASG	**Malin Array Be**	**143.85**	**335**	PKP	PKPdf	17 17 28.4	-0.8
CLL	**Collm**	**147.84**	**352**	*es*PKPbc		17 17 50.0	
GERES	**GERESS Array B**	**150.13**	**350**	PKPbc	PKPbc	17 17 46.5	+1.7
	0.3nm,0.7s,baz=343,slow=1.3,SNR=3.3						

*IDC **07** 17:22:51.6±0.8, 2859S×17843W, h211km±7km, mb3.4/4, mb1 3.6/4, mb1mx3.5/11, mbtmp4.0/4, Error ellipse: s-maj=27.8km s-min=22.5km az=6.0*
*NEIC **07** 17:22:51.9±1.1, 2853S×17826W, h222km±9km, mb4.0/6, Error ellipse: s-maj=23.7km s-min=16.7km az=212.0*
*ISCJB **07** 17:22:52.9±0.7, 2935S±005×1788W±0.1, h206km±7km, mb3.8/9, Error ellipse: s-maj=20.4km s-min=7.9km az=26.4*

ISC 07 17:22:54.2±0.7, 2951S±006×1788W±0.1, h201km±7km, n33, σ1.916/33, mb3.8/9, 1C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.78**	**71**	P	**Pn**	**17 23 22.7**	**0.0**
	556nm,0.3s,baz=270,slow=21,SNR=38						
RAO				S	**Sn**	**17 23 44.6**	**-0.2**
	362nm,0.3s,baz=44,slow=22,SNR=5.7						
RAO	**Raoul Island**	**0.78**	**71**	⇑*i*P	**Pn**	**17 23 22.6**	**-0.1**
RAO				S	**Sn**	**17 23 44.6**	**-0.2**
PUZ	**Puketiti**	**8.90**	**195**	SN	**Sn**	**17 26 44.5**	**+5.7**
URZ	**Urewera**	**9.38**	**200**	S	**Sn**	**17 26 57.2**	**+6.9**
	1.6nm,0.3s,baz=137,slow=22,SNR=8.9						
BKZ	**Black Stump Fm**	**10.40**	**201**	*e*PN	**Pn**	**17 25 20.7**	**+2.2**
BFZ	**Birch Farm**	**11.87**	**199**	SN	**Sn**	**17 27 48.6**	**-1.1**
MRZ	**Mangatainoka R**	**12.05**	**201**	*e*PN	**Pn**	**17 25 38.3**	**-1.3**
TIWZ	**Tintock**	**12.06**	**200**	SN	**Sn**	**17 27 53.7**	**-0.6**
TCW	**Tory Channel**	**12.98**	**204**	*e*SN	**Sn**	**17 28 14.1**	**-2.0**
TUWZ	**Tuamarina**	**13.29**	**205**	*e*PN	**Pn**	**17 25 56.4**	**+1.2**
QRZ	**Quartz Range**	**13.34**	**210**	*e*PN	**Pn**	**17 25 57.6**	**+1.7**
QRZ				*e*SN	**Sn**	**17 28 27.8**	**+3.1**
THZ	**Tophouse**	**13.97**	**207**	*e*PN	**Pn**	**17 26 04.8**	**+1.1**
THZ				SN	**Sn**	**17 28 39.5**	**-0.2**
KHZ	**Kahutara**	**14.30**	**204**	*e*PN	**Pn**	**17 26 06.8**	**-0.9**
LTZ	**Lake Taylor**	**15.09**	**206**	*e*SN	**S**	**17 29 00.6**	**-4.2**
MQZ	**McQueen's Vall**	**15.74**	**204**	*e*SN	**S**	**17 29 14.8**	**-4.9**
CTAO	**Charters Tower**	**33.01**	**278**	*e*P	**P**	**17 29 10.6**	**+0.4**
	1.6nm,0.4s,mb3.9						
STKA	**Stephens Creek**	**34.04**	**256**	P	**P**	**17 29 19.2**	**0.0**
	2.3nm,0.6s,mb3.9,baz=176,slow=12,SNR=15						
STKA	**Stephens Creek**	**154.04**	**256**	*e*P	**P**	**17 29 19.5**	**+0.3**
ASAR	**Alice Springs**	**42.50**	**266**	P	**P**	**17 30 29.2**	**-0.4**
	0.7nm,0.3s,mb3.5,baz=101,slow=6.3,SNR=50						
WB2	**Warramunga Arr**	**43.39**	**272**	*e*P	**P**	**17 30 36.6**	**-0.2**
WRAB	**Tennant Creek**	**43.40**	**272**	*e*P	**P**	**17 30 36.3**	**-0.6**
	2.8nm,0.3s,mb4.2						
WRA	**Warramunga Arr**	**43.40**	**272**	P	**P**	**17 30 36.5**	**-0.4**
	1.4nm,0.4s,mb3.8,baz=109,slow=7.8,SNR=74						
SBA	**Scott Base**	**48.88**	**184**	*e*P	**P**	**17 31 23.8**	**+4.2**
	5.2nm,0.9s,mb3.9						
VNDA	**Vanda**	**48.92**	**185**	P	**P**	**17 31 23.1**	**+3.2**
	0.5nm,0.5s,mb3.1,baz=4.7,slow=5.3,SNR=8.9						
VNDA	**Vanda**	**48.92**	**185**	*e*P	**P**	**17 31 22.7**	**+2.9**
	0.5nm,0.6s,mb3.0						
FITZ	**Fitzroy Crossi**	**51.70**	**270**	*e*P	**P**	**17 31 40.3**	**-0.4**
	7.4nm,1.6s,mb3.9						
QSPA	**South Pole Qui**	**60.60**	**180**	*e*P	**P**	**17 32 44.8**	**+1.2**
	17nm,1.5s,mb4.5						
VNA3	**Neumayer Olymp**	**79.24**	**176**	*e*	**P**	**17 34 36.2**	**-0.8**
VNA3				*e*		17 34 38.1	
VNA2	**Neumayer--Watz**	**79.67**	**177**	*e*	**P**	**17 34 38.0**	**-1.3**
	baz=188,slow=5.5						
VNA2				*e*		17 34 40.0	
MKAR	**Makanchi Array**	**116.69**	**311**	PKP	PKPdf	17 41 09.0	-5.4
	0.2nm,0.4s,baz=233,slow=1.9,SNR=5.0						
FINES	**FINESS Array B**	**144.08**	**340**	PKP	PKPdf	17 41 57.3	-8.5
	0.9nm,0.5s,baz=71,slow=4.0,SNR=11						
NOA	**NORSAR Array B**	**147.77**	**351**	PKPbc	PKPbc	17 42 08.2	-6.9
	0.4nm,0.5s,baz=14,slow=4.4,SNR=3.2						
AKASG	**Malin Array Be**	**150.19**	**323**	PKPbc	PKPbc	17 42 15.2	-5.9
	1.1nm,0.3s,baz=45,slow=3.2,SNR=7.5						

IDC 07 17:34:04.3±2.1, 313S×12860E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.6/17, mbtmp3.6/4, ML3.4/2, Error ellipse: s-maj=103.5km s-min=19.0km az=71.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.16**	**191**	Pn	Pn	17 37 42.0	+2.3
	0.1nm,0.3s,baz=18,slow=19,SNR=2.4						
WRA	**Warramunga Arr**	**17.63**	**162**	P	Pn	17 38 12.3	+1.0
	0.2nm,0.3s,baz=340,slow=12,SNR=19						
ASAR	**Alice Springs**	**21.05**	**166**	P	P	17 38 51.4	+1.5
	3.8nm,0.7s,baz=346,slow=11,SNR=45						
ASAR				S	S	17 42 45.3	+0.3
	0.8nm,0.9s,baz=351,slow=22,SNR=4.2						
MKAR	**Makanchi Array**	**64.24**	**327**	P	P	17 44 41.2	+0.1
	0.3nm,0.7s,baz=119,slow=7.9,SNR=3.7						

*ISCJB **07** 17:47:29.4±1.7, 2198N±010×1430E±0.3, h258km±15km, mb3.3/8, Error ellipse: s-maj=41.7km s-min=15.6km az=179.2*
*IDC **07** 17:47:29.9±1.9, 2201N×14286E, h248km±17km, mb3.1/7, mb1 3.2/9, mb1mx3.1/21, mbtmp3.7/9, Error ellipse: s-maj=31.9km s-min=13.4km az=89.0*
*NEIC **07** 17:47:34.2±2.6, 2197N×14282E, h291km±26km, mb3.9/2, Error ellipse: s-maj=26.8km s-min=10.1km az=91.0*

ISC 07 17:47:30.4±1.6, 2202N±010×1430E±03, h254km±15km, n14, σ0.985/13, mb3.3/8, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.11**	**352**	P	**Pn**	**17 48 48.3**	**+0.7**
	6.9nm,0.3s,baz=330,slow=21,SNR=7.7						
CBIJ				S	**S**	**17 49 47.5**	**-1.7**
	14nm,0.3s,baz=302,slow=24,SNR=11						
MJAR	**Matsushiro Arr**	**15.06**	**345**	P	**Pn**	**17 50 51.9**	**+0.8**
	0.4nm,0.3s,baz=170,slow=9.8,SNR=5.4						
MAJO	**Matsushiro**	**15.06**	**345**	*e*P	**Pn**	**17 50 53.2**	**+2.1**
	2.0nm,0.3s						
SONM	**Songino Array**	**38.99**	**320**	P	**P**	**17 54 32.3**	**0.0**
	0.2nm,0.4s,mb3.0,baz=131,slow=7.4,SNR=6.2						
WRAB	**Tennant Creek**	**42.55**	**192**	*e*P	**P**	**17 55 01.4**	**+0.1**
WRA	**Warramunga Arr**	**42.56**	**192**	P	**P**	**17 55 01.4**	**0.0**
	0.8nm,0.6s,mb3.3,baz=9.1,slow=7.8,SNR=19						
ASAR	**Alice Springs**	**46.27**	**195**	P	**P**	**17 55 30.1**	**-0.5**
	0.3nm,0.8s,mb2.7,baz=12,slow=7.4,SNR=9.6						
MKAR	**Makanchi Array**	**54.36**	**312**	P	**P**	**17 56 31.0**	**0.0**
	0.2nm,0.5s,mb2.9,baz=86,slow=8.7,SNR=3.9						
INK	**Inuvik**	**67.34**	**24**	*e*P	**P**	**17 57 57.9**	**-0.3**
	1.0nm,0.4s,mb3.8						
YKA	**Yellowknife Ar**	**76.24**	**28**	P	**P**	**17 58 51.4**	**+0.4**
	0.3nm,0.5s,mb3.2,baz=292,slow=6.0,SNR=8.1						
ARCES	**ARCESS Array B**	**78.56**	**341**	P	**P**	**17 59 03.4**	**-0.4**
	1.7nm,0.8s,mb3.7,baz=35,slow=7.4,SNR=4.4						
FINES	**FINESS Array B**	**82.82**	**334**	P	**P**	**17 59 25.2**	**-1.1**
	0.7nm,0.3s,mb3.8,baz=61,slow=5.3,SNR=10						
LPAZ	**La Paz**	**150.07**	**85**	PKPbc	PKPbc	18 06 53.4	+2.6
	0.4nm,0.5s,baz=0.0,slow=3.0,SNR=4.4						
LPAZ	**La Paz**	**150.07**	**85**	PKPbc	PKPbc	18 06 53.4	+2.6

MAN 07 17:49:28.5, 1212N×12391E, h7km, mb3.0, ML4.4, MS1.7, 3C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.36**	**310**⇑	*e*P	Pg	17 49 36.3	+0.7
MMPH				*e*S	Sg	17 49 42.4	+2.0
OCLP	**Ormoc**	**1.27**	**147**	*e*P	Pn	17 49 51.7	-0.9
OCLP				*e*S	Sb	17 50 10.9	+1.7
RCP	**Roxas**	**1.27**	**244**⇑	*e*P	Pn	17 49 52.0	-0.7
RCP				*e*S	Sb	17 50 09.7	+0.4
PLP	**Palo**	**1.42**	**132**	*e*P	Pn	17 49 53.8	-0.9
PLP				*e*S	Sb	17 50 13.9	+0.4
PVCP	**Virac**	**1.48**	**9**	⇓*i*P	Pn	17 49 55.3	-0.3
PVCP	**Virac**	**1.48**	**9**	*e*P	Pn	17 49 54.5	-1.1
KALP	**Kalibo**	**1.60**	**254**⇑	*e*P	Sn	17 50 16.4	-1.7
AUQP	**San Andres**	**1.69**	**315**	*e*P	Pn	17 49 59.6	+1.2
LLP	**Lapu-Lapu**	**1.80**	**178**⇓	*e*P	Pn	17 49 59.5	-0.3
LLP				*e*S	Sn	17 50 24.0	+1.0
GUIM	**Jordan**	**1.97**	**221**	*e*P	Pn	17 50 02.5	+0.2
MSLP	**Maasin**	**2.19**	**155**	*e*P	Pn	17 50 07.4	+2.1

*ISCJB **07** 17:57:02.2±2.6, 45S±01×14305E±008, h130km±24km, mb4.1/5, Error ellipse: s-maj=22.9km s-min=13.2km az=155.7*
*NEIC **07** 17:57:02.3±2.1, 440S×14297E, h120km±18km, mb4.6/4, Error ellipse: s-maj=20.3km s-min=10.9km az=157.0*
*IDC **07** 17:57:03.5±4.3, 450S×14313E, h134km±44km, mb3.7/5, mb1 3.9/7, mb1mx3.7/14, mbtmp4.2/7, MS3.1/2, Ms1 3.1/2, ms1mx2.6/25, Error ellipse: s-maj=31.5km s-min=21.4km az=136.0*

ISC 07 17:57:02.9±2.4, 45S±01×14304E±009, h122km±22km, n23, σ1.907/21, mb4.2/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.37**	**140**	P	**Pn**	**17 58 35.9**	**+1.7**
	2.7nm,0.3s,baz=5.9,slow=6.1,SNR=27						
PMG				S	**Sn**	**17 59 44.1**	**-1.4**
	1.4nm,0.3s,baz=345,slow=7.0,SNR=2.6						
PMG				LR	LR	18 00 54.1	
	comp=Z,97nm,18.8s,baz=137,slow=36						
PMG	**Port Moresby**	**6.37**	**140**	*e*P	**Pn**	**17 58 35.8**	**+1.5**
PMG				S	**Sn**	**17 59 44.1**	**-1.4**
PMG				LR	LR	18 00 54.1	
KAKA	**Kakadu**	**13.28**	**231**	*e*P	**Pn**	**18 00 05.2**	**-1.3**
	24nm,0.5s						
HNR	**Honiara**	**17.48**	**107**	P	**Pn**	**18 01 00.1**	**+1.2**
	1.3nm,0.3s,baz=9.1,slow=1.2,SNR=2.7						
HNR	**Honiara**	**17.48**	**107**	P	**Pn**	**18 00 59.6**	**+0.6**
WRAB	**Tennant Creek**	**17.52**	**208**	*e*P	**Pn**	**18 00 59.5**	**0.0**
	20nm,0.8s						
WB2	**Warramunga Arr**	**17.53**	**208**	*e*P	**Pn**	**18 00 59.2**	**-0.4**
WRA	**Warramunga Arr**	**17.54**	**208**	P	**Pn**	**18 00 59.6**	**0.0**
	2.2nm,0.3s,baz=34,slow=10,SNR=122						
ASAR	**Alice Springs**	**21.00**	**204**	P	**P**	**18 01 37.4**	**+0.9**
	2.4nm,0.5s,baz=31,slow=12,SNR=59						
FITZ	**Fitzroy Crossi**	**21.74**	**230**	*e*P	**P**	**18 01 43.5**	**-0.8**
	8.4nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**21.74**	**230**	P	**P**	**18 01 44.0**	**-0.4**
	6.2nm,0.6s,mb4.1,baz=54,slow=12,SNR=24						
FITZ				LR	LR	18 10 11.9	
	comp=Z,71nm,20.0s,baz=34,slow=36						
STKA	**Stephens Creek**	**27.27**	**183**	*e*P	**P**	**18 02 35.0**	**-0.7**
	3.8nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**27.27**	**183**	P	**P**	**18 02 35.9**	**+0.3**
	5.0nm,0.7s,mb4.2,baz=330,slow=10,SNR=10						
STKA	**Stephens Creek**	**27.27**	**183**	*e*P	**P**	**18 02 35.0**	**-0.7**
KLBR	**Keerberrin**	**35.92**	**218**	*e*P	**P**	**18 03 52.3**	**+1.0**
	8.7nm,0.7s,mb4.8						
MUN	**Mundaring**	**37.15**	**219**	*e*P	**P**	**18 04 03.9**	**+2.2**
VNDA	**Vanda**	**73.66**	**176**	*e*P	**P**	**18 08 22.1**	**-0.9**
MKAR	**Makanchi Array**	**73.85**	**321**	P	**P**	**18 08 24.4**	**+0.3**
	1.1nm,0.7s,mb3.7,baz=112,slow=6.7,SNR=12						
ILAR	**Eielson Array**	**85.68**	**24**	P	**P**	**18 09 26.4**	**-1.6**
	1.2nm,0.6s,mb4.0,baz=256,slow=4.9,SNR=19						
TORD	**Torodi Ar. Bea**	**140.89**	**285**	PKhKP		18 16 12.4	
	0.2nm,0.5s,baz=76,slow=3.3,SNR=4.2						
LPAZ	**La Paz**	**142.90**	**125**	PKP	PKPdf	18 16 22.9	+1.0
	0.7nm,0.6s,baz=48,slow=4.3,SNR=6.2						
SDV	**Santo Domingo**	**146.29**	**81**	*e*PKPbc	PKPbc	18 16 29.7	+0.5
SAML	**Samuel**	**150.65**	**117**	*e*PKPbc	PKPbc	18 16 42.3	+1.9

*ISCJB **07** 17:57:05.0±0.6, 4150N±003×2289E±004, h10km, Error ellipse: s-maj=5.0km s-min=3.6km az=128.1*
*NEIC **07** 17:57:06.0, 4150N×2290E, h1km, ML2.7(THE), After THE.*
*CSEM **07** 17:57:05.3±0.1, 4154N×2290E, h10km, ML2.6, Error ellipse: s-maj=2.3km s-min=1.7km az=55.0*
*THE **07** 17:57:06.0, 4150N×2290E, h1km, ML2.6*
*SKO **07** 17:57:05.1, 4152N×2289E, h15km, ML1.8*

ISC 07 17:57:05.8±0.6, 4150N±003×2287E±004, h10km, n12, σ0.971/21, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.29**	**232**	*i* Pg	**Pg**	**17 57 11.7**	**0.0**
VAY	**Valandovo**	**0.29**	**232**	*i* Pg	**Pg**	**17 57 11.6**	**0.0**
KNT	**Kendrikon**	**0.34**	**177**	*e*Pg	**Pg**	**17 57 12.8**	**+0.3**
KNT				*e*Sg	**Sg**	**17 57 17.7**	**+0.6**
STIP	**Stip**	**0.55**	**291**	*i* Pg	**Pg**	**17 57 16.4**	**-0.1**
STIP				*e*Sg	**Sg**	**17 57 23.5**	**-0.2**
STIP				*e*Lg		17 57 24.8	
	comp=E,29nm,0.3s						
STIP				*e*Lg		17 57 25.0	
	comp=N,46nm,0.2s						
STIP	**Stip**	**0.55**	**291**	*i* Pg	**Pg**	**17 57 16.4**	**-0.1**
STIP				*e*Sg	**Sg**	**17 57 23.5**	**-0.2**
GRG	**Griva**	**0.65**	**213**	*e*Pg	**Pg**	**17 57 18.5**	**+0.2**
GRG				*e*Sg	**Sg**	**17 57 27.9**	**+1.0**
SRS	**Serrai**	**0.66**	**125**	*e*Pg	**Pg**	**17 57 18.0**	**-0.7**
SRS				*e*Sg	**Sg**	**17 57 27.6**	**+0.3**
SOH	**Sokhos**	**0.77**	**152**	*e*Pg	**Pg**	**17 57 20.4**	**-0.3**
SOH				*e*Sg	**Sg**	**17 57 30.9**	**+0.2**
THE	**Thessaloniki**	**0.87**	**175**	*e*Pg	**Pg**	**17 57 22.1**	**-0.5**
THE				*e*Sg	**Sg**	**17 57 34.3**	**+0.4**
VTS	**Vitosha**	**1.12**	**13**	*e*Pg	**Pg**	**17 57 26.7**	**-0.6**
VTS				*e*Sg	**Sg**	**17 57 43.3**	**+1.5**
LIT	**Litokhoron**	**1.43**	**192**	*e*Pg	**Pg**	**17 57 31.8**	**-1.4**
OUR	**Ouranopolis**	**1.44**	**144**	*e*Pg	**Pg**	**17 57 32.1**	**-1.3**
OUR				*e*Sg	**Sg**	**17 57 52.6**	**+0.6**

CASC 07 17:57:26.2±2.5, 834N×8296W, h5km, MD4.0, ML3.1, 4C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.38**	**327**⇑	*i*P	Pg	17 57 33.8	+0.4
ACR				*e*S	Sg	17 57 40.4	+2.1
CTCR	**Cotoan**	**0.59**	**20**⇑	*i*P	Pg	17 57 38.0	+0.4
CTCR				*e*S	Sg	17 57 48.7	+3.4
BUS	**Buena Vista**	**1.45**	**327**	*i* P	Pn	17 57 51.7	-1.3
BUS				*e*S	Sb	17 58 11.7	-0.5
URSC	**Urasca**	**1.69**	**332**	*e*P	Pn	17 57 55.4	-1.1
OCM	**Ochomogo**	**1.84**	**328**⇑	*i*P	Pn	17 57 58.2	-0.2
OCM				AML	AML	17 58 29.1	
	comp=N,471nm,0.4s						
ICR	**Volcan Irazu**	**1.85**	**332**	*e*P	Pn	17 58 00.3	+1.8
PRS1	**Puriscal**	**2.11**	**321**⇓	*e*P	Pn	17 58 02.0	-0.1
POA2	**Poas 2**	**2.23**	**325**	*e*P	Pn	17 58 04.6	+0.8
CGA2	**Cerro Gallo 2**	**2.23**	**319**	*e*P	Pn	17 58 06.9	+3.0
CGA2				*e*S	Sn	17 58 34.4	+2.6
CAO	**Cobano**	**2.51**	**303**⇑	*i*P	Pn	17 58 06.7	-1.0
JTS	**JuntasAbangare**	**2.76**	**315**⇓	*i*P	Pn	17 58 13.1	+2.0
JTS				*e*S	Sn	17 58 46.6	+1.7
JTS				AML	AML	17 58 56.2	
	comp=N,51nm,0.3s						

*IDC **07** 18:16:09.9±0.8, 5485N×16142E, h0km, mb3.6/9, mb1 3.8/9, mb1mx3.6/21, mbtmp3.6/9, ML4.5/1, MS3.8/1, Ms1 3.8/1, ms1mx2.3/34, Error ellipse: s-maj=23.7km s-min=15.0km az=13.0*
*MOS **07** 18:16:13.3±1.6, 5473N×16174E, h24km, mb4.0/3, Error ellipse: s-maj=18.3km s-min=7.5km az=78.0*
*ISCJB **07** 18:16:15.3±0.3, 5470N±002×16177E±005, h52km±4km, mb3.5/10, MS3.9/1, Error ellipse: s-maj=5.1km s-min=2.7km az=45.6*
*KRSC **07** 18:16:15.4±0.5, 5472N×16172E, h41km±2km, ML4.4*
*NEIC **07** 18:16:17.4±1.7, 5493N×16124E, h52km±18km, Error ellipse: s-maj=22.3km s-min=12.5km az=136.0*

ISC 07 18:16:16.3±0.3, 5472N±002×16176E±005, h49km±4km, n63, σ0.992/93, mb3.5/10, MS3.9/1, 1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.16**	**185**	*i* P	**Pn**	**18 16 23.0**	**-1.2**
MKZ				*i* S	**Sn**	**18 16 28.0**	**-1.8**
TUMR	**Tumrok**	**1.09**	**302**	*i* P	**Pn**	**18 16 34.4**	**-0.7**
TUMR				*e*S	**Sn**	**18 16 48.6**	**-0.5**
KMNR	**Kamenistaya**	**1.36**	**321**	*i* P	**Pn**	**18 16 38.5**	**-0.3**
KMNR				*e*S	**Sn**	**18 16 55.6**	**-0.1**
ZLN	**Zelenaya**	**1.41**	**338**	*i* P	**Pn**	**18 16 39.5**	**-0.1**
ZLN				*e*S	**Sn**	**18 16 57.1**	**+0.1**
LGNR	**Loginova**	**1.50**	**337**	*i* P	**Pn**	**18 16 41.1**	**+0.4**
LGNR				*e*S	**Sn**	**18 16 59.9**	**+0.8**
KII	**Karymskiy**	**1.51**	**244**	P	**Pn**	**18 16 40.6**	**-0.3**
KII				S	**Sn**	**18 16 58.8**	**-0.6**
KII	**Karymskiy**	**1.51**	**244**	*i* P	**Pn**	**18 16 40.7**	**-0.2**
KII				*i* S	**Sn**	**18 16 59.2**	**-0.2**
CIRR	**Tsirk**	**1.52**	**338**	*i* P	**Pn**	**18 16 41.0**	**0.0**
CIRR				*e*S	**Sn**	**18 16 59.6**	**+0.1**
KPT	**Kopyto**	**1.53**	**326**	*i* P	**Pn**	**18 16 40.9**	**-0.3**
KPT				*e*S	**Sn**	**18 16 59.6**	**-0.3**
KBTR	**Krutoberegovo**	**1.61**	**22**	P	**Pn**	**18 16 43.4**	**+1.1**
KBTR				S	**Sn**	**18 17 04.0**	**+2.1**
KBTR	**Krutoberegovo**	**1.61**	**22**	*i* P	**Pn**	**18 16 43.3**	**+1.0**
KBG	**Krutoberegovo**	**1.64**	**19**	*e*P	**Pn**	**18 16 42.8**	**+0.2**
KBG				Smax			
	2μm,0.6s						
KRSR	**Krestovsk

YKA	**Yellowknife Ar**	41.31	44	P		P	18 23 57.4	+0.4
MKAR	**Makanchi Array**	48.34	295	P		P	18 24 50.6	-2.4
	comp=Z,0.3nm,0.7s,mb3.4,baz=69,slow=7.9,SNR=3.2							
FINES	**FINESS Array B**	59.02	337	P		P	18 26 08.3	-2.7
	comp=Z,0.6nm,0.5s,mb3.9,baz=29,slow=8.7,SNR=5.4							
FINES				LR		LR	18 58 07.8	
	comp=Z,79nm,19.2s,MS3.9,baz=260,slow=43							
FINES	**FINESS Array B**	59.02	337	*i* P		P	18 26 09.8	-1.2
FINES				pmax		pmax		
	comp=Z,1.0nm,0.5s							
NOA	**NORSAR Array B**	62.25	344	P		P	18 26 31.6	-1.5
	comp=Z,0.4nm,0.4s,mb3.9,baz=20,slow=6.9,SNR=3.6							
AKASG	**Malin Array Be**	67.72	330	P		P	18 27 07.1	-1.5
	comp=Z,0.5nm,0.3s,mb4.0,baz=27,slow=7.0,SNR=4.0							
WRAB	**Tennant Creek**	77.96	206	*e*P		P	18 28 15.2	+6.0
WRA	**Warramunga Arr**	77.97	206	*i* P		PcP	18 28 19.6	+0.7
WRA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
ASAR	**Alice Springs**	81.64	206	P		P	18 28 29.9	+0.7
	comp=Z,0.2nm,0.7s,mb3.2,baz=13,slow=4.4,SNR=4.7							
ESDC	**Sonseca Array**	85.19	349	P		P	18 28 47.4	0.0
	comp=Z,0.3nm,0.5s,mb3.7,baz=360,slow=6.0,SNR=6.1							

*IDC **07** 18:29:19.9±1.1,3544N×2201E, h0km, mb3.6/9, mb1 3.6/13,mb1mx3.5/27, mbtmp3.5/13, ML3.4/4, MS3.0/1, Ms1 3.0/1, ms1mx1.9/27, Error ellipse: s-maj=24.4km s-min=16.5km az=165.0*

*THE **07** 18:29:20.2,3533N×2180E, h10km, ML4.0*

*ATH **07** 18:29:20.5,3528N×2187E, h13km±4km, MD3.8/5*

*MOS **07** 18:29:22.9±0.9, 3542N×2192E, h33km, mb3.6/1, Error ellipse: s-maj=14.5km s-min=7.4km az=82.1*

*ISCJB **07** 18:29:24.4±0.8, 3548N±006×2194E±006, h51km±9km, mb3.5/8, Error ellipse: s-maj=11.2km s-min=6.1km az=77.0*

*NEIC **07** 18:29:25.4±0.8, 3541N×2199E, h45km±8km, MG3.9(THE), Error ellipse: s-maj=10.2km s-min=5.7km az=208.0*

*CSEM **07** 18:29:25.2±0.1, 3553N×2208E, h60km, ML4.0, Error ellipse: s-maj=3.8km s-min=2.2km az=16.0*

ISC 07 18:29:25.8±0.7, 3546N±006×2198E±006, h48km±9km, n52, σ1§10/59, mb3.5/8, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	1.19	46	*e*PB	Pn	18 29 46.5	+0.6
VLI	**Veliai**	1.48	31	*e*PB	Pn	18 29 51.0	+1.1
VLI				*e*SB	Sn	18 30 14.5	+6.5
VLI	**Veliai**	1.48	31	*e*P	Pn	18 29 50.5	+0.6
KARN	**Karanos**	1.58	91	*e*Pb	Pn	18 29 50.4	-0.9
KARN				*e*Sb	Sn	18 30 15.5	+4.9
ITM	**Ithomi**	1.72	358	*e*PN	Pn	18 29 55.0	+1.8
ITM	**Ithomi**	1.72	358	*e*P	Pn	18 29 56.0	+2.8
VAM	**Vamos**	1.81	91	*e*PN	Pn	18 29 54.8	+0.3
VAM	**Vamos**	1.81	91	*e*P	Pn	18 29 54.0	-0.5
GVD	**Gavdhos**	1.83	109	*e*Pb	Pn	18 29 53.9	-0.8
GVD				*e*Sb	Sn	18 30 19.4	+2.6
IDI	**Anoyia**	2.38	93	Pn	Pn	18 30 01.7	-0.5
	3.5nm,0.3s,baz=268,slow=15,SNR=30						
IDI				Sn	Sn	18 30 34.1	+3.8
	7.0nm,0.3s,baz=259,slow=7.7,SNR=5.3						
LAST	**Lasithi**	2.87	95	*e*Pn	Pn	18 30 09.1	+0.1
SANT	**Santorini**	2.96	71	*e*Pn	Pn	18 30 09.4	-0.9
SANT	**Santorini**	2.96	71	*e*Pn	Pn	18 30 09.4	-0.9
THR1	**Thera Island**	2.96	71	*e*Pn	Pn	18 30 10.0	-0.3
NPS	**Neapolis**	2.97	93	*e*PN	Pn	18 30 11.1	+0.7
NPS	**Neapolis**	2.97	93	*e*P	Pn	18 30 11.0	-0.4
APE	**Apeiranthos**	3.29	60	*e*Pn	Pn	18 30 15.1	+0.4
APE				*e*Sn	Sn	18 30 58.4	+5.9
LKD	**Levkas**	3.42	342	*e*Pn	Pn	18 30 16.8	+0.3
LKD				*e*Sn	Sn	18 30 58.6	+2.9
AGG	**Agios Georgios**	3.57	4	*e*Pn	Pn	18 30 19.7	+1.1
XOR	**Xorichti**	4.02	13	*e*Pn	Pn	18 30 25.9	+1.1
IGT	**Igoumenitsa**	4.28	343	*e*Pn	Pn	18 30 27.3	-0.9
CHOS	**Chios island**	4.38	47	*e*Pn	Pn	18 30 30.2	+0.5
LIT	**Litokhoron**	4.65	5	*e*Pn	Pn	18 30 35.2	+1.8
FNA	**Florina**	5.34	355	*e*Pn	Pn	18 30 42.4	-0.5
GRG	**Griva**	5.50	3	*e*Pn	Pn	18 30 44.8	-0.3
BIA	**Bitola**	5.58	355	*e*Pn	Pn	18 30 44.1	-2.0
TIP	**Timpagrande**	5.58	313	*e*Pn	Pn	18 30 43.8	-2.4
TIP	**Timpagrande**	5.58	313	*e*Pn	Pn	18 30 43.8	-2.4
OHR	**Ohrid**	5.72	351	*e*Pn	Pn	18 30 42.4	-5.7
KNT	**Kendrikon**	5.74	7	*e*Pn	Pn	18 30 48.4	0.0
SRS	**Serrai**	5.79	12	*e*Pn	Pn	18 30 48.8	-0.3
VAY	**Valandovo**	5.87	4	*e*Pn	Pn	18 30 48.3	-1.9
VAY	**Valandovo**	5.87	4	*e*Pn	Pn	18 30 48.2	-2.0
STIP	**Stip**	6.23	1	*e*Pn	Pn	18 30 54.8	-0.3
VAE	**Valgurnera**	6.43	291	Pn	Pn	18 30 58.4	+0.6
	2.0nm,0.3s,baz=86,slow=16,SNR=5.7						
VAE				Sn	Sn	18 32 14.6	+4.8
	0.5nm,0.3s,baz=198,slow=20,SNR=2.5						
VAE				LR	LR	18 33 49.5	
	comp=Z,115nm,19.6s,baz=289,slow=42						
GRUS	**Gruza**	8.48	354	*i* Pn	Pn	18 31 22.3	-3.6
DIVS	**Divcibare**	8.77	351	*i* Pn	Pn	18 31 26.8	-3.1
BRTR	**Keskin Array B**	10.18	62	Pn	Pn	18 31 48.7	-0.5
	0.1nm,0.3s,baz=237,slow=13,SNR=4.1						
GERES	**GERESS Array B**	14.71	338	Pn	Pn	18 32 54.9	+4.1
	0.1nm,0.3s,baz=150,slow=10,SNR=3.1						
AKASG	**Malin Array Be**	16.12	17	Pn	Pn	18 33 08.4	-0.6
	0.5nm,0.3s,baz=213,slow=11,SNR=4.5						
ESDC	**Sonseca Array**	20.97	289	P	P	18 34 05.7	+0.9
	0.9nm,0.7s,baz=89,slow=12,SNR=5.3						
MDT	**Midelt**	22.15	271	P	P	18 34 18.2	+0.8
	2.9nm,0.9s,mb3.7,baz=230,slow=7.1,SNR=4.1						
HFS	**Hagfors**	25.27	350	P	P	18 34 47.1	-0.3
	0.7nm,0.4s,mb3.5,baz=173,slow=13,SNR=5.1						
FINES	**FINESS Array B**	26.14	4	P	P	18 34 55.2	-0.1
	0.4nm,0.7s,mb3.0,baz=180,slow=1.3,SNR=2.3						
FINES	**FINESS Array B**	26.14	4	P	P	18 34 55.2	-0.1
EKA	**Eskdalemuir Ar**	26.34	327	P	P	18 34 56.5	-0.6
	1.8nm,0.8s,mb3.6,baz=125,slow=9.5,SNR=5.2						
TORD	**Torodi Ar. Bea**	28.78	225	P	P	18 35 18.9	0.0
	0.6nm,0.5s,mb3.6,baz=36,slow=9.9,SNR=9.7						
ARCES	**ARCESS Array B**	34.19	2	P	P	18 36 06.1	-0.4
	1.2nm,0.6s,mb4.0,baz=192,slow=9.4,SNR=10.0						
ARCES	**ARCESS Array B**	34.19	2	P	P	18 36 06.1	-0.4
MKAR	**Makanchi Array**	45.78	56	P	P	18 37 42.0	-0.5
	0.7nm,0.6s,mb3.8,baz=271,slow=7.7,SNR=13						
YKA	**Yellowknife Ar**	76.34	341	P	P	18 41 11.3	+1.6
	0.1nm,0.4s,mb3.1,baz=29,slow=5.5,SNR=3.5						
YKA	**Yellowknife Ar**	76.34	341	P	P	18 41 11.3	+1.6

*NEIC **07** 18:34:23.9, 1609N×9837W, h4km, MD4.1(MEX), After MEX.*

MEX 07 18:34:23.9±0.7, 1609N×9837W, h4km±5km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	0.38	37	*i* P	Pg	18 34 30.9	-0.3
PNIG				*i* S	Sg	18 34 36.2	+0.2
ACX	**Acapulco**	1.68	298	*i* P	Pn	18 34 49.8	-4.2
ACX				*i* S	Sn	18 35 10.0	-5.9
UTMO	**Huajuapan**	1.81	17	*e*P	Pn	18 34 50.6	-5.2
UTMO				*e*S	Sn	18 35 14.6	-4.6
VHO	**Vista Hermosa**	1.84	58	*i* P	Pn	18 34 54.1	-2.2
VHO				*i* S	Sn	18 35 16.1	-3.9
OXX	**Oaxaca**	1.86	58	*i* P	Pn	18 34 52.5	-3.9
OXX				*i* S	Sn	18 35 17.5	-2.8
CAIG	**El Cayaco**	2.06	298	*i* P	Pn	18 34 57.2	-2.0
CAIG				*i* S	Sn	18 35 21.9	-3.4
MEIG	**Mezcala**	2.18	327	*i* P	Pn	18 34 57.9	-3.0
MEIG				*i* S	Sn	18 35 24.3	-4.0
HUIG	**Huatulco**	2.19	98	*i* P	Pn	18 34 57.6	-3.5
HUIG				*i* S	Sn	18 35 23.6	-5.0
PLIG	**Platanillo**	2.53	335	*i* P	Pn	18 35 04.1	-1.6
PLIG				*i* S	Sn	18 35 33.9	-3.1
PPM	**Popocatepetl**	2.97	355	*e*P	Pn	18 35 09.1	-2.7
PPM				*i* P		18 35 12.5	
PPM				*i* S	Sn	18 35 43.3	-4.5
PPM	**Popocatepetl**	2.97	355	*i* P	Pn	18 35 12.5	+0.8
PPM				*i* S	Sn	18 35 43.3	-4.5
CIVM	**Cilcuayo**	3.05	349	*i* S	Sn	18 35 48.2	-1.6
CCIG	**Comitan**	5.99	87	*i* S	Sn	18 37 01.3	-0.9

*ISCJB **07** 18:36:53.4±0.5, 5504N±005×165.17E±005, h44km±9km, mb3.4/3, Error ellipse: s-maj=8.8km s-min=4.8km az=174.1*

*KRSC **07** 18:36:53.8±0.8, 5505N×165.16E, h40km±14km, ML3.8*

*IDC **07** 18:37:00.2±4.3, 5596N×16696E, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.4/22, mbtmp3.5/4, ML2.7/1, Error ellipse: s-maj=75.6km s-min=18.5km az=65.0*

ISC 07 18:36:54.4±0.5, 5506N±005×16521E±005, h37km±11km, n23, σ0§93/35, mb3.4/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	0.46	72	*i* P	Pn	18 37 03.3	-1.3
BKI				*i* S	Sn	18 37 10.4	-1.2
BKI				Smax			
	8µm,0.3s						
KBG	**Krutoberegovo**	1.85	311	*e*P	Pn	18 37 23.7	0.0
KBG				Smax			
	150nm,0.6s						
MKZ	**Mys Kozlova**	2.07	257	*i* P	Pn	18 37 26.6	-0.1
MKZ				*i* S	Sn	18 37 50.0	-1.3
SMKR	**Semkarok**	2.60	307	*e*P	Pn	18 37 34.0	+0.1
ZLN	**Zelenaya**	2.68	293	*e*P	Pn	18 37 35.9	+0.9
ZLN				*e*S	Sn	18 38 06.2	0.0
BDR	**Baidarnaya**	2.71	305	*e*P	Pn	18 37 35.5	0.0
CIRR	**Tsirk**	2.74	295	*e*P	Pn	18 37 36.5	+0.6
CIRR				*e*S	Sn	18 38 07.4	-0.4
LGNR	**Loginova**	2.76	294	*e*P	Pn	18 37 36.8	+0.7
SRKR	**Sorokina**	2.78	307	*e*P	Pn	18 37 37.0	+0.6
KLY	**Klyuchi**	2.87	298	*i* P	Pn	18 37 37.0	-0.6
KLY				*e*S	Sn	18 38 08.3	-2.5
KRSR	**Krestovskiy**	2.87	296	*e*P	Pn	18 37 38.2	+0.5
KRSR				*e*S	Sn	18 38 10.1	-0.9
TUMR	**Tumrok**	2.91	276	*i* P	Pn	18 37 38.7	+0.5
TUMR				*e*S	Sn	18 38 11.2	-0.7
KMNR	**Kamenistaya**	2.92	286	*e*P	Pn	18 37 39.3	+1.0
KMNR				*e*S	Sn	18 38 12.3	+0.2
KPT	**Kopyto**	2.98	290	*i* P	Pn	18 37 40.0	+0.9
KPT				*e*S	Sn	18 38 13.5	0.0
KOZ	**Kozyrevsk**	3.19	290	*e*P	Pn	18 37 43.3	+1.3
SPN	**Mys Shipunski**	3.63	239	*i* P	Pn	18 37 48.5	+0.4
SPN				*e*S	Sn	18 38 28.5	-1.2
ESO	**Esso**	3.80	286	*e*P	Pn	18 37 51.1	+0.7
ESO				Smax			
	20nm,1.3s						
NLC	**Nalytchevo**	3.93	244	*i* P	Pn	18 37 52.7	+0.5
NLC				*i* S	Sn	18 38 36.7	-0.4
OSSR	**Ossora**	4.36	345	*e*P	Pn	18 37 58.7	+0.6
OSSR				Smax			
	50nm,0.4s						
FX1	**Attu Island--F**	5.18	112	Pn	Pn	18 38 11.5	+2.1
	1.2nm,0.3s,baz=312,slow=6.5,SNR=10						
FX1				Sn	Sn	18 39 04.1	-3.7
	0.5nm,0.3s,baz=156,slow=20,SNR=3.2						
ILAR	**Eielson Array**	25.27	48	P	P	18 42 15.7	-1.4
	1.8nm,0.9s,mb3.6,baz=262,slow=8.8,SNR=18						
YKA	**Yellowknife Ar**	39.65	46	P	P	18 44 21.7	-0.9
	0.2nm,0.4s,mb3.2,baz=299,slow=7.9,SNR=4.5						
PDAR	**Pinedale Array**	53.95	65	P	P	18 46 15.5	+1.2
	0.4nm,0.8s,mb3.4,baz=336,slow=3.3,SNR=2.6						

CASC 07 18:37:47.1±2.1, 1064N×8713W, h35km±27km, MD3.9, 1C-4D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	1.56	109	*e*P	Pn	18 38 10.7	-1.6
VCR				*e*S	Sn	18 38 30.2	-1.1
COPN	**Copaltepe**	1.62	19↓	*e*P	Pn	18 38 13.1	0.0
COPN				*e*S	Sn	18 38 33.3	+0.5
TICN	**Ticuantepe**	1.64	32	*e*P	Pn	18 38 14.0	+0.5
APON	**Apoyo**	1.64	39↓	*e*P	Pn	18 38 14.0	+0.6
APON				*e*S	Sn	18 38 35.9	+2.5
XAVN	**Gruta Xavier**	1.70	28	*e*P	Pn	18 38 14.5	+0.3
XAVN				*e*S	Sn	18 38 35.2	+0.5
TISN	**Laguna Tiscapa**	1.72	29	*e*P	Pn	18 38 15.0	+0.5
TISN				*e*S	Sn	18 38 36.6	+1.4
MGAN	**Managua**	1.73	30	*e*P	Pn	18 38 15.1	+0.5
MGAN				*e*S	Sn	18 38 37.0	+1.5
APYN	**Apoyeque**	1.76	26	*e*P	Pn	18 38 15.2	+0.1
APYN				*e*S	Sn	18 38 37.1	+0.9
LEON	**Leon**	1.78	7↓	*e*P	Pn	18 38 15.3	0.0
LEON				*e*S	Sn	18 38 36.7	-0.1
MIRN	**Miramar**	1.84	13	*e*P	Pn	18 38 16.3	+0.1
LIM1	**Limonal**	1.84	88	*i* P	Pn	18 38 15.4	-0.8
LIM1				*i* S	Sn	18 38 39.1	+0.9
MOMJ	**Momotombo**	1.85	18	*e*P	Pn	18 38 16.3	-0.1
MOMJ				*e*S	Sn	18 38 39.4	+0.9
CNGN	**Cerro Negro**	1.90	13	*e*P	Pn	18 38 17.4	+0.4
CNGN				*e*S	Sn	18 38 40.0	+0.3
TEL3	**Telica 3**	1.94	8	*i*P	Pn	18 38 17.6	0.0
CRIN	**San Cristobal**	2.05	2	*e*P	Pn	18 38 19.1	0.0
CGA2	**Cerro Gallo 2**	2.69	103	*e*P	Pn	18 38 29.6	+1.8
PRS1	**Puriscal**	2.85	103	*e*P	Pn	18 38 31.0	+1.0
PRS1				*e*S	Sn	18 39 02.5	-0.6
OCM	**Ochomogo**	3.20	103↓	*e*P	Pn	18 38 36.7	+1.8
OCM				*e*S	Sn	18 39 14.1	+2.3
URSC	**Urasca**	3.39	103	*e*P	Pn	18 38 39.5	+2.0
URSC				*e*S	Sn	18 39 17.4	+0.9
BUS	**Buena Vista**	3.49	108	*e*P	Pn	18 38 39.6	+0.7

*ISCJB **07** 18:38:06.4±1.6, 3685±02×783E±04, h10km, mb4.0/4, MS4.2/12, Error ellipse: s-maj=42.7km s-min=32.2km az=168.8*

*IDC **07** 18:38:06.6±1.9, 3673S×7826E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/13, mbtmp4.0/4, MS4.1/12, Ms1 4.1/12, ms1mx3.9/20, Error ellipse: s-maj=50.8km s-min=38.7km az=76.0*

*NEIC **07** 18:38:08.2±1.4, 3674S×7829E, h10km, Error ellipse: s-maj=39.5km s-min=29.5km az=84.0*

ISC 07 18:38:07.6±1.6, 3685±02×782E±04, h10km, n16, σ0§19/5, mb4.0/4, MS4.2/12, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	32.08	191	LR	LR	18 54 32.0	
	comp=Z,415nm,20.6s,MS4.1,baz=188,slow=31						
NWAO	**Narrogin (SRO)**	32.15	95	LR	LR	18 54 14.3	
	comp=Z,665nm,21.8s,MS4.3,baz=82,slow=30						
PSI	**Prapat**	43.87	31	LR	LR	19 00 36.0	
	comp=Z,278nm,20.6s,MS4.2,baz=2.2,slow=31						
FITZ	**Fitzroy Crossi**	45.56	79	LR	LR	19 05 26.1	
	comp=Z,128nm,18.6s,MS3.9,baz=72,slow=36						
ASAR	**Alice Springs**	49.29	91	P	P	18 46 56.5	-0.2
	1.4nm,0.9s,mb4.0,baz=235,slow=6.9,SNR=9.2						
WRA	**Warramunga Arr**	51.50	87	P	P	18 47 13.6	+0.2
	3.6nm,0.9s,mb4.3,baz=238,slow=7.3,SNR=11						
STKA	**Stephens Creek**	51.78	104	LR	LR	19 04 34.8	
	comp=Z,274nm,19.7s,MS4.3,baz=198,slow=31						
KMBO	**Kilima Mbogo**	51.80	304	LR	LR	19 04 10.1	
	comp=Z,100nm,20.8s,MS3.8,baz=87,slow=30						
SNAA	**Sanae**	52.76	203	LR	LR	19 06 25.1	
	comp=Z,37nm,18.8s,MS3.5,baz=1.5,slow=32						
VNDA	**Vanda**	53.07	164	P	P	18 47 25.0	0.0
	1.0nm,0.9s,mb3.7,baz=307,slow=5.5,SNR=4.4						
VNDA				LR	LR	19 06 47.4	
	comp=Z,173nm,19.2s,MS4.1,baz=260,slow=32						
CTA	**Charters Tower**	60.99	94	LR	LR	19 12 01.5	
	comp=Z,428nm,21.5s,MS4.6,baz=148,slow=33						
PMG	**Port Moresby**	67.63	85	LR	LR	19 18 29.7	
	comp=Z,267nm,18.3s,MS4.5,baz=105,slow=36						
MKAR	**Makanchi Array**	83.27	3	P	P	18 50 34.4	0.0
	1.2nm,0.8s,mb4.0,baz=188,slow=4.4,SNR=6.9						
MKAR	**Makanchi Array**	83.27	3	P	P	18 50 34.4	0.0
SONM	**Songino Array**	87.93	19	LR	LR	19 28 57.0	
	comp=Z,96nm,18.8s,MS4.2,baz=254,slow=35						
ZAL	**Zalesovo**	90.52	4	LR	LR	19 29 34.2	
	comp=Z,122nm,19.2s,MS4.3,baz=191,slow=34						

*IDC **07** 18:47:07.6±0.7, 2071S×174.12W, h0km, mb4.1/13, mb1 4.3/14, mb1mx4.2/19, mbtmp4.1/14, ML4.2/1, MS3.6/2, Ms1 3.6/2, ms1mx2.9/30, Error ellipse: s-maj=30.1km s-min=16.4km az=142.0*

*NEIC **07** 18:47:09.7±0.4, 2063S×174.06W, h15km, mb4.5/10, Error ellipse: s-maj=15.5km s-min=9.3km az=135.0*

*ISCJB **07** 18:47:10.8±0.5, 2059S±009×174.1W±0.1, h33km, mb4.3/18, MS4.0/1, Error ellipse: s-maj=16.3km s-min=9.3km az=82.5*

*SZGRF **07** 18:47:13.1, 2094S×174.12W, h33km, Tonga Islands*

*MOS **07** 18:47:14.7±2.7, 2083S×17462W, h33km, mb4.5/6, Error ellipse: s-maj=21.7km s-min=15.5km az=168.5*

ISC 07 18:47:12.8±0.5, 2060S±009×1741W±01, h35km, n84, σ1§03/41, mb4.3/18, MS4.0/1, 2C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	7.00	18	Pn	Pn	18 48 50.2	-2.5
	9.2nm,0.3s,baz=152,slow=5.4,SNR=13						
AFI				Sn	Sn	18 50 04.1	-7.0
	4.1nm,0.3s,baz=241,slow=20,SNR=2.4						
AFI				T		18 56 14.5	
	2.2nm,0.3s,baz=45,slow=20,SNR=6.6						
AFI	**Afiamalu**	7.00	18	*e*Pn	Pn	18 48 49.9	-2.8
AFI				*e*Sn	Sn	18 50 11.2	+0.1
RAR	**Rarotonga**	13.36	95	Pn	Pn	18 50 09.6	-10
	4.3nm,0.3s,baz=201,slow=2.7,SNR=12						
RAR				LR	LR	18 53 32.5	
	comp=Z,132nm,19.8s,baz=172,slow=29						
DZM	**Mont Dzumac**	18.23	262	P	Pn	18 51 24.2	+1.3
	0.4nm,0.3s,baz=66,slow=20,SNR=6.1						
URZ	**Urewera**	19.19	202	P	Pn	18 51 30.6	-3.9
	0.6nm,0.3s,baz=297,slow=2.3,SNR=3.4						
CTA	**Charters Tower**	37.16	264	*e*P	P	18 54 20.6	+0.4
	2.8nm,0.9s,mb4.1						
CTA	**Charters Tower**	37.16	264	P	P	18 54 19.4	-0.8
	1.8nm,0.5s,mb4.2,baz=84,slow=15,SNR=3.7						
CTA	**Charters Tower**	37.16	264	*e*P	P	18 54 20.6	+0.4
CTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CTAO	**Charters Tower**	37.16	264	*e*P	P	18 54 20.5	+0.3
CTAO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
CTAO	**Charters Tower**	37.16	264	*e*P	P	18 54 20.5	+0.3
	comp=Z,1.4nm,0.4s,mb4.1						
PMG	**Port Moresby**	38.98	281	P	P	18 54 37.1	+1.5
	comp=Z,2.8nm,0.5s,mb4.3,baz=105,slow=19,SNR=4.0						
PMG	**Port Moresby**	38.98	281	P	P	18 54 37.4	+1.8
PMG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
PMG	**Port Moresby**	38.98	281	P	P	18 54 37.4	+1.8
	comp=Z,2.5nm,0.5s,mb4.2						
STKA	**Stephens Creek**	41.09	245	*e*P	P	18 54 50.3	-2.7
	comp=Z,7.6nm,1.2s,mb4.2						
STKA	**Stephens Creek**	41.09	245	P	P	18 54 50.5	-2.6
	comp=Z,1.5nm,0.4s,mb3.9,baz=65,slow=14,SNR=8.2						
STKA	**Stephens Creek**	41.09	245	*e*P	P	18 54 50.3	-2.8
ASAR	**Alice Springs**	48.09	256	P	P	18 55 48.1	-0.8
	comp=Z,1.2nm,0.5s,mb4.2,baz=97,slow=7.9,SNR=57						
WB2	**Warramunga Arr**	48.23	261	*e*P	P	18 55 49.4	-0.6
WRAB	**Tennant Creek**	48.24	261	*e*P	P	18 55 49.1	-0.9
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
WRAB	**Tennant Creek**	48.24	261	*e*P	P	18 55 49.1	-1.0
	comp=Z,6.7nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	48.24	261	P	P	18 55 49.6	-0.6
	comp=Z,0.6nm,0.3s,mb4.1,baz=97,slow=7.4,SNR=33						
FITZ	**Fitzroy Crossi**	56.67	261	*e*P	P	18 56 53.1	+0.5
	comp=Z,7.4nm,1.6s,mb4.5						
FITZ	**Fitzroy Crossi**	56.67	261	P	P	18 56 52.8	+0.2
	comp=Z,0.6nm,0.4s,mb4.0,baz=123,slow=20,SNR=8.0						
SBA	**Scott Base**	58.05	185	*e*P	P	18 57 03.1	+0.9
SBA				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
SBA	**Scott Base**	58.05	185	*e*P	P	18 57 03.1	+0.9
	comp=Z,4.6nm,1.0s,mb4.5						
VNDA	**Vanda**	58.17	186	P	P	18 57 03.6	+0.5
	comp=Z,1.6nm,1.0s,mb4.0,baz=19,slow=7.2,SNR=5.6						
VNDA	**Vanda**	58.17	186	*e*P	P	18 57 03.2	+0.1
VNDA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
VNDA	**Vanda**	58.17	186	*e*P	P	18 57 03.2	+0.1
	comp=Z,4.5nm,1.3s,mb4.3						
KLBR	**Kellerberrin**	61.36	245	*e*P	P	18 57 24.8	-0.2
	comp=Z,22nm,1.2s,mb5.2						
MBWA	**Marble Bar**	61.43	257	*e*P	P	18 57 25.4	-0.2
NWAO	**Narrogin (SRO)**	61.62	243	P	P	18 57 26.8	0.0
	comp=Z,5.9nm,1.0s,mb4.7,baz=128,slow=12,SNR=4.2						
QSPA	**South Pole Qui**	69.47	180	*e*P	P	18 58 17.3	-0.2
	comp=Z,12nm,1.1s,mb4.8						
MJAR	**Matsushiro Arr**	72.54	321	P	P	18 58 37.2	+1.2
	comp=Z,1.0nm,0.5s,mb4.0,baz=145,slow=8.6,SNR=8.6						
LPIG	**La Paz**	76.31	58	LR	LR	19 24 19.0	
	comp=Z,64nm,18.9s,MS4.0,baz=336,slow=29						
NVAR	**Mina Array Bea**	78.60	41	P

*NEIC **07** 18:53:14.5±1.7, 3021S×6420W, h34km±14km, mb3.9/1, Error ellipse: s-maj=8.8km s-min=5.4km az=126.0*
NEIC Felt [IV] in the epicentral area and [III] at Cordoba.
*GUC **07** 18:53:16.4±1.6, 3017S×6439W, h34km*

ISC 07 18:53:15.0±0.5, 3020S±005×6422W±005, h35km, n35, σ0§82/40, mb3.8/4, MS3.7/2, 7C-4D, Cordoba Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**3.73**	**247**	Pn	**Pn**	**18 54 09.1**	**-0.9**
	2.2nm,0.3s,baz=68,slow=13,SNR=128						
CFAA				Sn	**Sn**	**18 54 49.8**	**-2.9**
	18nm,0.3s,baz=116,slow=18,SNR=7.8						
CFAA				Lg		18 55 05.5	
	37nm,0.3s,baz=331,slow=19,SNR=23						
TLL	**Tololo Astrono**	**5.70**	**269**	*i* P	**Pn**	**18 54 37.9**	**+0.7**
TLL				*i* S	**Sn**	**18 55 41.0**	**-0.3**
LCO	**Las Campanas**	**5.77**	**280**	*i* P	**Pn**	**18 54 38.3**	**+0.3**
LCO				*i* S	**Sn**	**18 55 42.7**	**-0.2**
CMCH	**Combarbala**	**5.92**	**259**	*i* P	**Pn**	**18 54 39.8**	**-0.3**
CMCH				*i* S	**Sn**	**18 55 46.0**	**-0.8**
FCH	**Farellones**	**6.04**	**237**	*e*P	**Pn**	**18 54 42.7**	**+1.0**
FCH				*i* S	**Sn**	**18 55 51.1**	**+1.5**
PEL	**Peldehue**	**6.25**	**240**	*i* P	**Pn**	**18 54 44.9**	**+0.3**
PEL				*i* S	**Sn**	**18 55 54.4**	**-0.3**
LMEL	**Las Melosas**	**6.25**	**233**	*i* P	**Pn**	**18 54 45.5**	**+0.9**
LMEL				*i* S	**Sn**	**18 55 55.7**	**+0.9**
CLCH	**Cerro Calan**	**6.25**	**238**	*i* P	**Pn**	**18 54 44.9**	**+0.2**
CLCH				*i* S	**Sn**	**18 55 55.0**	**+0.2**
PCH	**Pirque**	**6.35**	**236**	*i* P	**Pn**	**18 54 46.5**	**+0.6**
PCH				*i* S	**Sn**	**18 55 57.6**	**+0.4**
ROCH	**El Roble**	**6.42**	**243**	*i* P	**Pn**	**18 54 46.9**	**-0.1**
ROCH	**El Roble**	**6.42**	**243**	*i* P	**Pn**	**18 54 46.8**	**-0.2**
RCDM	**Rinconada Maip**	**6.49**	**238**	*i* P	**Pn**	**18 54 47.9**	**-0.1**
RCDM				*i* S	**Sn**	**18 56 01.0**	**+0.1**
SCR	**San Cristobal**	**6.64**	**239**	*i* P	**Pn**	**18 54 45.8**	**-4.2**
CICH	**Cipreses**	**6.67**	**230**	*i* P	**Pn**	**18 54 51.3**	**+0.9**
TACH	**Talagante**	**6.67**	**237**	*i* P	**Pn**	**18 54 50.2**	**-0.2**
TACH				*i* S	**Sn**	**18 56 04.3**	**-0.8**
CACH	**El Canelo**	**6.67**	**233**	*e*P	**Pn**	**18 54 51.0**	**+0.5**
CPUP	**Villa Florida**	**7.19**	**59**	Pn	**Pn**	**18 54 57.5**	**-0.1**
	15nm,0.3s,baz=222,slow=12,SNR=70						
CPUP				Lg		18 57 11.7	
	105nm,0.3s,baz=125,slow=20,SNR=3.4						
CPUP	**Villa Florida**	**7.19**	**59**	*e*Pn	**Pn**	**18 54 57.6**	**0.0**
CPUP				Lg		18 57 11.7	
SFDO	**San Fernando**	**7.24**	**231**	*e*P	**Pn**	**18 54 57.8**	**-0.4**
TRQA	**Tornquist**	**8.06**	**167**	*e*Pn	**Pn**	**18 55 07.8**	**-1.7**
	58nm,0.8s						
PLCA	**Paso Flores**	**11.71**	**204**	*e*Pn	**Pn**	**18 55 58.2**	**-1.2**
	39nm,1.6s						
LPAZ	**La Paz**	**14.30**	**345**	Pn	**Pn**	**18 56 35.3**	**+0.4**
	0.1nm,0.3s,baz=172,slow=9.8,SNR=9.6						
LPAZ	**La Paz**	**14.30**	**345**	*e*Pn	**Pn**	**18 56 34.9**	**0.0**
SIV	**San Ignacio**	**14.43**	**12**	Pn	**Pn**	**18 56 36.9**	**+0.3**
	1.0nm,0.3s,baz=193,slow=12,SNR=21						
SIV				Lg		19 00 56.3	
	0.8nm,0.3s,baz=143,slow=20,SNR=2.5						
BDFB	**Brasilia**	**20.76**	**49**	P	**P**	**18 57 53.8**	**+1.1**
	4.3nm,0.5s,baz=242,slow=10,SNR=8.8						
BDFB				LR	LR	19 06 06.8	
	comp=Z,216nm,20.2s,MS3.5,baz=231,slow=37						
SAML	**Samuel**	**21.16**	**3**	*e*P	**P**	**18 57 54.8**	**-2.2**
	1.9nm,0.3s,mb3.9						
ROSC	**El Rosal**	**36.17**	**343**	LR	LR	19 16 46.9	
	comp=Z,172nm,18.5s,MS3.9,baz=27,slow=39						
SNAA	**Sanae**	**52.70**	**160**	P	**P**	**19 02 26.1**	**+0.2**
	0.7nm,1.0s,mb3.6,baz=284,slow=2.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**76.64**	**66**	P	**P**	**19 05 02.5**	**+0.4**
	0.9nm,0.5s,mb3.9,baz=274,slow=6.6,SNR=24						
PDAR	**Pinedale Array**	**83.71**	**328**	P	**P**	**19 05 40.2**	**0.0**
	0.3nm,0.5s,mb3.7,baz=122,slow=11,SNR=3.8						
ASAR	**Alice Springs**	**123.69**	**200**	PKP	PKPdf	19 12 08.8	-0.1
	0.6nm,0.5s,baz=135,slow=1.6,SNR=20						
WRA	**Warramunga Arr**	**127.05**	**202**	PKP	PKPdf	19 12 15.7	+0.4
	1.4nm,0.5s,baz=173,slow=1.7,SNR=33						
ZAL	**Zalesovo**	**147.40**	**34**	PKPbc	PKPbc	19 12 54.5	-0.5
	0.8nm,0.3s,baz=180,slow=6.5,SNR=3.3						
ZAL	**Zalesovo**	**147.40**	**34**	PKPbc	PKPbc	19 12 54.5	-0.5
MKAR	**Makanchi Array**	**149.28**	**48**	PKPbc	PKPbc	19 12 59.3	-0.6
	0.7nm,0.6s,baz=300,slow=3.9,SNR=4.1						

*ATH **07** 18:56:23.8, 4053N×2007E, h7km, MD3.6/3*
*SKO **07** 18:56:24.3, 40.11N×1967E, h0km*
*ISCJB **07** 18:56:25.7±0.8, 4012N±004×1978E±007, h10km, Error ellipse: s-maj=8.5km s-min=5.7km az=139.8*
*CSEM **07** 18:56:28.5±0.8, 4029N×2018E, h0km±5km, MD3.6, Error ellipse: s-maj=10.7km s-min=7.8km az=11.0*

ISC 07 18:56:26.6±0.8, 4013N±004×1983E±008, h10km, n12, σ1§16/16, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.22**	**39**	*i* Pg	**Pg**	**18 56 29.7**	**-1.4**
TPE				*i* Sg	**Sg**	**18 56 34.0**	**-0.2**
SRN	**Sarande**	**0.28**	**152**	*i* Pg	**Pg**	**18 56 30.6**	**-1.6**
SRN				*i* Sg	**Sg**	**18 56 35.5**	**-0.5**
JAN	**Janina**	**0.91**	**121**	*e*PG	**Pg**	**18 56 43.5**	**-0.7**
JAN				*e*SB	**Sb**	**18 56 58.1**	**+1.3**
OHR	**Ohrid**	**1.23**	**37**	*e*Pn	**Pn**	**18 56 48.3**	**-1.5**
QSH	**Qafa e Shtames**	**1.40**	**2**	*i* Pn	**Pn**	**18 56 53.2**	**+1.1**
QSH				*i* Sn	**Sn**	**18 57 15.2**	**+4.6**
BIA	**Bitola**	**1.45**	**51**	*e*Pn	**Pn**	**18 56 51.9**	**-0.9**
EVR	**Evrytania**	**1.95**	**128**	*e*PN	**Pn**	**18 57 01.5**	**+1.8**
VLS	**Valsamata**	**2.03**	**163**	*e*PN	**Pn**	**18 57 05.8**	**+4.9**
STIP	**Stip**	**2.38**	**48**	*e*Pn	**Pn**	**18 57 06.5**	**+1.0**
VAY	**Valandovo**	**2.40**	**59**	*e*Pn	**Pn**	**18 57 07.4**	**+1.4**
VAY	**Valandovo**	**2.40**	**59**	*e*Pn	**Pn**	**18 57 07.3**	**+1.4**
SG1	**Sgolgore (BA)**	**2.51**	**288**	*e*Pn	**Pg**	**18 57 14.9**	**+0.2**

IDC 07 18:58:32.6±80.0, 2094S×17711E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/12, mbtmp4.0/3, Error ellipse: s-maj=1402.0km s-min=154.2km az=82.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**33.48**	**244**	P	P	19 05 12.2	-1.2
	5.6nm,1.1s,baz=96,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**39.95**	**258**	P	P	19 06 09.2	+0.7
	1.1nm,0.6s,baz=91,slow=7.8,SNR=25						
WRA	**Warramunga Arr**	**40.00**	**264**	P	P	19 06 09.8	+0.8
	1.0nm,0.7s,baz=95,slow=7.9,SNR=30						

IDC 07 19:01:19.2±4.6, 309N×9416E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.5/4, Error ellipse: s-maj=181.7km s-min=25.8km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**44.73**	**348**	P	P	19 09 34.2	0.0
	0.5nm,0.6s,baz=170,slow=8.0,SNR=6.6						
WRA	**Warramunga Arr**	**45.60**	**122**	P	P	19 09 41.4	+0.2
	0.4nm,0.7s,baz=301,slow=9.0,SNR=4.6						
SONM	**Songino Array**	**45.80**	**11**	P	P	19 09 42.9	+0.2
	0.2nm,0.4s,baz=201,slow=7.1,SNR=2.5						
ASAR	**Alice Springs**	**46.95**	**127**	P	P	19 09 52.3	+0.6
	0.6nm,0.8s,baz=294,slow=8.3,SNR=8.0						

IDC 07 19:02:05.8±7.0, 605S×14728E, h107km±74km, mb3.5/3, mb1 3.7/5, mb1mx3.4/15, mbtmp3.8/5, ML3.5/2, Error ellipse: s-maj=80.1km s-min=29.9km az=140.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.34**	**182**	P	Pn	19 02 57.4	+1.2
	17nm,0.3s,baz=287,slow=14,SNR=115						
PMG				S	Sn	19 03 35.2	+0.1
	5.5nm,0.3s,baz=38,slow=6.8,SNR=4.8						
WRA	**Warramunga Arr**	**18.68**	**221**	P	P	19 06 16.2	+0.6
	0.2nm,0.3s,baz=42,slow=12,SNR=14						
ASAR	**Alice Springs**	**21.74**	**215**	P	P	19 06 48.8	+0.3
	0.7nm,0.4s,baz=48,slow=9.3,SNR=24						
FITZ	**Fitzroy Crossi**	**24.28**	**239**	P	P	19 07 13.4	+0.4
	6.4nm,0.5s,baz=64,slow=8.8,SNR=59						
ILAR	**Eielson Array**	**85.42**	**23**	P	P	19 14 30.9	-0.5
	0.3nm,0.6s,baz=244,slow=4.6,SNR=5.8						

*NEIC **07** 19:16:37.5, 3262S×7172W, h9km, ML2.9(GUC), After GUC.*

GUC 07 19:16:37.5±0.7, 3262S×7172W, h9km±3km, MD3.5, ML2.9, 10C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.69**	**121**	*i* P	Pg	19 16 51.4	+0.6
ROCH				*i* S	Sg	19 17 01.8	+1.9
LCCH	**Las Cruces**	**0.86**	**172**	*i* P	Pg	19 16 53.2	-0.9
LCCH				*i* S	Sg	19 17 05.8	+0.5
JACH	**Jahuel**	**0.95**	**94**	*i* P	Pg	19 16 55.1	-0.7
JACH				*i* S	Sg	19 17 08.7	+0.5
PEL	**Peldehue**	**1.01**	**121**	*i* P	Pg	19 16 57.0	0.0
PEL				*i* S	Sg	19 17 11.3	+1.2
PEL				AML	AML	19 17 13.3	
	comp=E,1μm,0.3s						
PEL	**Peldehue**	**1.01**	**121**	*i* P	Pg	19 16 57.0	0.0
PEL				*i* S	Sg	19 17 11.3	+1.2
RCDM	**Rinconada Maip**	**1.16**	**139**	*i* P	Pb	19 16 58.5	-1.1
RCDM				*i* S	Sg	19 17 13.8	-0.9
TACH	**Talagante**	**1.22**	**148**	*i* P	Pn	19 16 59.7	-1.1
TACH				*i* S	Sb	19 17 15.7	-0.9
CLCH	**Cerro Calan**	**1.26**	**128**	*i* P	Pn	19 17 00.6	-0.6
CLCH				*i* S	Sb	19 17 17.8	+0.1
CLCH				AML	AML	19 17 21.9	
	comp=E,292nm,0.7s						
LNV	**Longovilo**	**1.36**	**169**	*i* P	Pn	19 17 01.5	-1.1
LNV				*i* S	Sb	19 17 19.5	-1.0
FCH	**Farellones**	**1.39**	**121**	*i* P	Pn	19 17 02.7	-0.4
FCH				*i* S	Sb	19 17 21.9	+0.4
FCH				AML	AML	19 17 22.6	
	comp=N,264nm,0.2s						
PCH	**Pirque**	**1.42**	**135**	*i* P	Pn	19 17 03.0	-0.5
PCH				*i* S	Sn	19 17 21.9	-0.4
CMCH	**Combarbala**	**1.57**	**23**	*i* P	Pn	19 17 04.0	-1.4
CMCH				*i* S	Sn	19 17 24.8	-1.0
CMCH				AML	AML	19 17 27.7	
	comp=E,535nm,0.8s						
CMCH	**Combarbala**	**1.57**	**23**	*i* P	Pn	19 17 04.0	-1.4
CMCH				*i* S	Sn	19 17 24.8	-1.0
CHCH	**Chadas Angostu**	**1.58**	**146**	*i* P	Pn	19 17 04.8	-1.0
CHCH				*i* S	Sn	19 17 26.6	+0.3
LMEL	**Las Melosas**	**1.76**	**134**	*i* P	Pn	19 17 08.5	+0.3
LMEL				*i* S	Sn	19 17 32.2	+1.4
LMEL				AML	AML	19 17 37.2	
	comp=N,167nm,0.1s						
LMEL	**Las Melosas**	**1.76**	**134**	*i* P	Pn	19 17 08.5	+0.3
LMEL				*i* S	Sn	19 17 32.2	+1.4
CICH	**Cipreses**	**2.01**	**148**	*i* P	Pn	19 17 12.1	+0.5
CICH				*i* S	Sn	19 17 38.8	+1.9
TLL	**Tololo Astrono**	**2.57**	**18**	*i* P	Pn	19 17 21.0	+1.8
TLL				*i* S	Sn	19 17 53.7	+3.1
TLL				AML	AML	19 18 08.1	
	comp=E,92nm,0.7s						
TLL	**Tololo Astrono**	**2.57**	**18**	*i* P	Pn	19 17 21.0	+1.8
TLL				*i* S	Sn	19 17 53.7	+3.1

*IDC **07** 19:33:48.6±0.9, 1731S×17521E, h0km, mb4.0/9, mb1 4.3/9, mb1mx4.2/13, mbtmp4.0/9, MS3.7/10, Ms1 3.7/10, ms1mx3.4/31, Error ellipse: s-maj=38.3km s-min=21.0km az=140.0*
*ISCJB **07** 19:33:52.0±0.7, 1755S±01×1753E±02, h33km, mb4.1/10, MS4.0/7, Error ellipse: s-maj=22.7km s-min=16.2km az=67.6*
*NEIC **07** 19:33:53.5±0.7, 1745S×17529E, h35km, mb4.8/2, Error ellipse: s-maj=24.1km s-min=17.1km az=117.0*

ISC 07 19:33:53.9±0.7, 1755S±01×1753E±02, h35km, n22, σ1§42/12, mb4.1/10, MS4.0/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.48**	**240**	LR	LR	19 37 59.5	
	comp=Z,181nm,21.5s,baz=171,slow=26						
AFI	**Afiamalu**	**12.96**	**76**	LR	LR	19 40 52.8	
	comp=Z,231nm,18.0s,baz=218,slow=33						
HNR	**Honiara**	**16.91**	**296**	LR	LR	19 41 42.6	
	comp=Z,46nm,21.9s,baz=179,slow=28						
URZ	**Urewera**	**20.76**	**176**	P	**P**	**19 38 32.9**	**+1.2**
	30nm,1.0s,baz=11,slow=7.5,SNR=7.0						
RPZ	**Rata Peaks**	**26.39**	**187**	LR	LR	19 47 55.2	
	comp=Z,195nm,18.1s,MS3.7,baz=355,slow=32						
PPT	**Papeete**	**33.49**	**96**	LR	LR	19 50 32.0	
	comp=Z,76nm,20.7s,MS3.4,baz=270,slow=30						
STKA	**Stephens Creek**	**33.63**	**238**	P	**P**	**19 40 29.9**	**-1.1**
	2.1nm,0.9s,mb4.1,baz=71,slow=7.4,SNR=2.2						
STKA	**Stephens Creek**	**33.63**	**238**	P	**P**	**19 40 31.1**	**+0.1**
WRA	**Warramunga Arr**	**38.78**	**260**	P	**P**	**19 41 15.1**	**0.0**
	2.3nm,0.8s,mb4.0,baz=91,slow=8.6,SNR=4.8						
ASAR	**Alice Springs**	**39.11**	**254**	P	**P**	**19 41 18.6**	**+0.8**
	6.2nm,0.9s,mb4.3,baz=85,slow=8.6,SNR=22						
SBA	**Scott Base**	**60.54**	**182**	*e*P	**P**	**19 43 57.9**	**-2.7**
	10nm,1.1s,mb4.9						
QSPA	**South Pole Qui**	**72.56**	**180**	*e*P	**P**	**19 45 17.1**	**-0.3**
	13nm,1.3s,mb4.7						
NVAR	**Mina Array Bea**	**83.40**	**46**	P	**P**	**19 46 19.1**	**+1.5**
	3.3nm,1.1s,mb4.3,baz=225,slow=7.0,SNR=7.0						
LPIG	**La Paz**	**83.51**	**62**	LR	LR	20 17 11.6	
	comp=Z,77nm,18.8s,MS4.1,baz=239,slow=31						
BBB	**Bella Bella**	**84.95**	**31**	LR	LR	20 19 34.1	
	comp=Z,110nm,18.0s,MS4.3,baz=4.7,slow=32						
ILAR	**Eielson Array**	**86.95**	**15**	P	**P**	**19 46 32.6**	**-2.6**
	0.7nm,0.9s,mb3.9,baz=236,slow=6.1,SNR=7.4						
DLBC	**Dease Lake**	**87.93**	**25**	LR	LR	20 21 12.6	
	comp=Z,99nm,18.6s,MS4.2,baz=198,slow=32						
NEW	**Newport**	**88.81**	**38**	LR	LR	20 17 59.8	
	comp=Z,106nm,19.5s,MS4.3,baz=108,slow=30						
SONM	**Songino Array**	**89.37**	**321**	P	**P**	**19 46 47.7**	**+0.9**
	0.3nm,0.6s,mb3.8,baz=104,slow=6.1,SNR=2.7						
PDAR	**Pinedale Array**	**91.27**	**45**	P	**P**	**19 46 56.8**	**+1.2**
	0.5nm,0.9s,mb3.8,baz=192,slow=1.8,SNR=3.6						
YKA	**Yellowknife Ar**	**96.54**	**26**	P	**P**	**19 47 17.4**	**-2.4**
	0.2nm,0.9s,mb3.6,baz=250,slow=4.4,SNR=2.7						
YKA				LR	LR	20 23 08.0	
	comp=Z,56nm,20.0s,MS4.0,baz=255,slow=31						
GERES	**GERESS Array B**	**145.32**	**338**	PKPbc	PKPbc	19 53 26.8	-1.0
	0.3nm,0.7s,baz=25,slow=4.4,SNR=4.0						

*ISCJB **07** 20:15:48.3±1.3, 6091N±004×166.1E±0.1, h5km±10km, mb3.8/8, Error ellipse: s-maj=11.8km s-min=5.5km az=38.5*
*IDC **07** 20:15:48.8±1.1, 6083N×16586E, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.5/25, mbtmp3.7/6, ML3.4/1, Error ellipse: s-maj=23.6km s-min=17.5km az=57.0*
*KRSC **07** 20:15:48.5±0.7, 6087N×166.12E, h5km±2km, ML3.8*
*MOS **07** 20:15:49.5±1.6, 6079N×166.07E, h22km, mb4.0/5, Error ellipse: s-maj=31.5km s-min=15.7km az=99.5*
*NEIC **07** 20:15:50.8±0.9, 6093N×165.77E, h10km, mb4.0/3, Error ellipse: s-maj=21.4km s-min=11.5km az=159.0*

ISC 07 20:15:49.2±1.5, 6091N±004×1661E±01, h2km±11km, n31, σ0§99/35, mb3.8/8, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.48**	**183**	*i* P	**Pg**	**20 15 57.4**	**-1.0**
TILR				*i* S	**Sg**	**20 16 04.2**	**-0.4**
TILR				Smax			
	12μm,0.7s						
KAMR	**Kamenskoye**	**1.56**	**2**	*i* P	**Pn**	**20 16 17.7**	**-0.3**
KAMR				*e*S	**Sn**	**20 16 38.5**	**-0.2**
KAMR				Smax			
	1μm,1.1s						
OSSR	**Ossora**	**2.26**	**224**	*e*P	**Pn**	**20 16 27.1**	**-0.5**
OSSR				*e*S	**Sn**	**20 16 55.8**	**-0.2**
OSSR				Smax			
	850nm,0.4s						
SMKR	**Semkarok**	**4.96**	**211**	*e*P	**Pn**	**20 17 05.4**	**+0.6**
SRKR	**Sorokina**	**4.98**	**213**	*e*P	**Pn**	**20 17 05.8**	**+0.8**
KBTR	**Krutoberegovo**	**5.02**	**202**	*e*P	**Pn**	**20 17 05.7**	**+0.2**
BDR	**Baidarnaya**	**5.04**	**213**	*e*P	**Pn**	**20 17 06.6**	**+0.7**
CIRR	**Tsirk**	**5.56**	**213**	*e*P	**Pn**	**20 17 13.9**	**+0.8**
BKI	**Bering**	**5.72**	**181**	*e*P	**Pn**	**20 17 16.8**	**+1.6**
KMNR	**Kamenistaya**	**6.02**	**213**	*e*P	**Pn**	**20 17 20.2**	**+0.9**
SEY	**Seymchan**	**6.79**	**293**	*e*P	**Pn**	**20 17 31.0**	**+1.1**
BILL	**Bilibino**	**7.16**	**0**	*e*PN	**Pn**	**20 17 34.7**	**-0.3**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BILL	**Bilibino**	**7.16**	**0**	*e*Pn	**Pn**	**20 17 34.7**	**-0.3**
	comp=Z,4.8nm,0.6s						
BILL				*e*Sn	**Sn**	**20 18 57.7**	**+0.7**
MA2	**Magadan**	**7.75**	**267**	*e*P	**Pn**	**20 17 43.7**	**+0.6**
FX1	**Attu Island--F**	**8.92**	**151**	Pn	**Pn**	**20 17 57.5**	**-1.5**
	comp=Z,1.3nm,0.3s,baz=56,slow=10,SNR=7.7						
FX1	**Attu Island--F**	**8.92**	**151**	PN	**Pn**	**20 17 57.5**	**-1.6**
FX1				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YAK	**Yakutsk**	**17.30**	**290**	*e*P	**Pn**	**20 19 53.5**	**+1.6**
YAK				pmax	pmax		
	comp=Z,10.0nm,1.4s						
ILAR	**Eielson Array**	**21.40**	**59**	P	**P**	**20 20 39.7**	**+1.5**
	comp=Z,1.9nm,0.7s,mb3.5,baz=270,slow=8.5,SNR=25						
INK	**Inuvik**	**25.88**	**48**	P	**P**	**20 21 23.2**	**+0.9**
	comp=Z,0.5nm,0.5s,mb3.3,baz=304,slow=6.7,SNR=8.0						
INK	**Inuvik**	**25.88**	**48**	P	**P**	**20 21 23.3**	**+0.9**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**25.88**	**48**	*e*P	**P**	**20 21 24.4**	**+2.0**
	comp=Z,0.5nm,0.5s,mb3.3						
BOD	**Bodaibo**	**26.15**	**287**	*e*P	**P**	**20 21 23.6**	**-1.3**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.7						
YKA	**Yellowknife Ar**	**35.43**	**52**	P	**P**	**20 22 46.3**	**-0.4**
	comp=Z,0.6nm,0.5s,mb3.8,baz=304,slow=8.3,SNR=15						
YKA	**Yellowknife Ar**	**35.43**	**52**	P	**P**	**20 22 46.3**	**-0.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**46.60**	**299**	*e*P	**P**	**20 24 17.7**	**-1.1**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
KURK	**Kurchatov**	**46.60**	**299**	*e*P	**P**	**20 24 17.7**	**-1.0**
	comp=Z,1.9nm,0.7s,mb4.1						
NACB	**Ninganchiao**	**47.66**	**240**	*e*P	**P**	**20 24 25.7**	**-1.2**
MKAR	**Makanchi Array**	**47.93**	**293**	P	**P**	**20 24 27.2**	**-1.8**
	comp=Z,0.3nm,0.7s,mb3.5,baz=43,slow=6.1,SNR=5.5						
BVAR	**Borovoye Array**	**48.25**	**306**	P	**P**	**20 24 30.7**	**-0.9**
	comp=Z,0.8nm,0.4s,mb4.1,baz=43,slow=6.8,SNR=8.6						
BRVK	**Borovoye**	**48.27**	**306**	*e*P	**P**	**20 24 30.5**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
BRVK	**Borovoye**	**48.27**	**306**	*e*P	**P**	**20 24 30.5**	**-1.2**
	comp=Z,0.7nm,0.4s,mb4.0						

CASC 07 20:34:21.4±2.5, 1072N×8634W, h5km, MD3.7, 4C-3D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIN3	**Volcan Rincon**	**0.95**	**86**	*e*P	Pg	20 34 39.2	-0.4
MADN	**Villa Maderas**	**1.05**	**49**	*e*P	Pg	20 34 40.9	-0.6
LIM1	**Limonal**	**1.07**	**91**	*i*P	Pg	20 34 40.6	-1.2
CONN	**Concepcion**	**1.09**	**40**	*e*P	Pg	20 34 41.6	-0.7
APON	**Apoyo**	**1.22**	**13**	*e*P	Pg	20 34 44.2	-0.5
TICN	**Ticuantepe**	**1.31**	**5**	*e*P	Pn	20 34 45.4	-1.0
TISN	**Laguna Tiscapa**	**1.41**	**3**	*e*P	Pn	20 34 47.1	-0.6
TISN				*e*S	Sb	20 35 07.0	+0.4
XAVN	**Gruta Xavier**	**1.42**	**1**	*e*P	Pn	20 34 46.8	-1.0
MGAN	**Managua**	**1.42**	**4**	*e*P	Pn	20 34 47.3	-0.5
MGAN				*e*S	Sb	20 35 07.1	+0.4
COPN	**Copaltepe**	**1.47**	**350**	*e*P	Pn	20 34 47.3	-1.2
COPN				*e*S	Sn	20 35 08.9	+0.8
APYN	**Apoyeque**	**1.50**	**360**	*e*P	Pn	20 34 48.2	-0.7
APYN				*e*S	Sn	20 35 09.7	+0.8
CAO	**Cobano**	**1.58**	**130**	*e*P	Pn	20 34 51.1	+1.0
CAO				*e*S	Sn	20 35 14.3	+3.3
MIRN	**Miramar**	**1.75**	**348**	*e*P	Pn	20 34 52.3	0.0
LEON	**Leon**	**1.77**	**342**	*e*P	Pn	20 34 51.2	-1.4
LEON				*e*S	Sn	20 35 15.1	-0.4
CNGN	**Cerro Negro**	**1.80**	**349**	*e*P	Pn	20 34 52.6	-0.5
EPA	**Esparza**	**1.86**	**113**	*e*P	Pn	20 34 55.0	+1.0
TEL3	**Telica 3**	**1.90**	**345**	*e*P	Pn	20 34 53.4	-1.1
CGA2	**Cerro Gallo 2**	**1.97**	**111**	*e*P	Pn	20 34 55.2	-0.3
PRS1	**Puriscal**	**2.13**	**110**	*e*P	Pn	20 34 56.1	-1.5
LAJ	**Bijagual**	**2.34**	**111**	*e*P	Pn	20 34 57.6	-3.0
URSC	**Urasca**	**2.67**	**109**	*e*P	Pn	20 35 04.3	-0.8
BUS	**Buena Vista**	**2.79**	**114**	*e*P	Pn	20 35 08.4	+1.7

*IGIL **07** 21:57:27.9, 3726N×9.18W, h2km, ML2.3*

MDD 07 21:57:28.5±1.5, 3716N×906W, h26km±5km, mbLg2.3/6, Error ellipse: s-maj=11.7km s-min=7.6km az=65.0, PRXIMO, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**0.36**	**65**	*e*P	Pb	21 57 35.5	-0.9
MORF				*e*S	Sb	21 57 41.2	-0.7
MORF				*e*S	Sb	21 57 41.2	-0.7
MORF				AML	AML

FITZ	**Fitzroy Crossi**	**27.14**	**239**	P		**P**		**22 03 55.1**	**+1.3**
	1.9nm,0.6s,mb3.8,baz=54,slow=13,SNR=5.1								
QIZ	**Qiongzhong**	**46.11**	**302**	*e*P		**P**		**22 06 33.9**	**-0.4**
	1.5nm,0.3s,mb4.2								
KULM	**Kulim**	**50.27**	**281**	*e*P		**P**		**22 07 07.3**	**+0.9**
KURK	**Kurchatov**	**82.12**	**323**	*e*P		**P**		**22 10 29.7**	**-0.4**
	0.4nm,0.4s,mb3.6								
ILAR	**Eielson Array**	**83.34**	**23**	P		**P**		**22 10 36.0**	**-0.5**
	0.5nm,0.6s,mb3.5,baz=251,slow=5.3,SNR=8.4								
ZRNK	**Zerenda**	**88.45**	**323**	P		**P**		**22 11 01.9**	**+0.2**

IDC ***07*** *22:06:19.7±0.7, 1993S×17422W, h0km, mb4.5/12, mb1 4.7/13, mb1mx4.6/17, mbtmp4.5/13, ML4.9/1, MS4.1/14, Ms1 4.1/14, ms1mx3.9/22, Error ellipse: s-maj=24.6km s-min=17.9km az=124.0*

ISCJB ***07*** *22:06:24.0±0.4, 2016S±006×174.18W±008, h34km, mb4.7/34, MS4.3/21, Error ellipse: s-maj=11.4km s-min=8.2km az=46.4*

HRVD ***07*** *22:06:26.6±0.4, 2016S×17330W, h19km±1km, MW5.0/58, Centroid moment Tensor Solution. LP body waves: s25,c38;Mantle waves: s58,c86; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.74±.20; Mθθ0.08±.13; Mφφ-2.82±.14; Mrθ0.92±.30; Mrφ-1.28±.10; Mθφ1.08±.28; Best double couple: M0 3.34700×10^16 NP1:φs189.00000°, δ34.00000°, λ72.00000°. NP2:φs31.00000°, δ58.00000°, λ102.00000°. Principal axes: T 3.1060, Plg74.0000°, Azm333.0000°; N 0.4790, Plg10.0000°, Azm204.0000°; P -3.5880, Plg12.0000°, Azm112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***07*** *22:06:26.1, 1979S×17337W, h56km, mB5.1, mb5.0, Ms4.9, Msz4.7*

NEIC ***07*** *22:06:26.6±0.4, 2013S×17433W, h35km, mb4.9/20, MS4.6/4, Error ellipse: s-maj=13.9km s-min=9.4km az=109.0*

SZGRF ***07*** *22:06:27.2, 1937S×17302W, h36km, Tonga Islands*

MOS ***07*** *22:06:27.6±2.5, 2005S×17478W, h33km, mb5.0/16, Error ellipse: s-maj=13.2km s-min=12.2km az=38.2*

ISC 07 22:06:25.7±0.4, 2019S±006×17405W±008, h36km, h36km±1.6km; pP-P, n197, σ1§40/89, mb4.7/34, MS4.3/21, 24C-2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.61**	**20**	Pn		**Pn**	**22 07 52.0**	**-8.3**
	20nm,0.3s,baz=75,slow=0.4,SNR=43							
AFI				Sn		**Sn**	**22 09 01.9**	**-12**
	12nm,0.3s,baz=135,slow=22,SNR=4.5							
AFI				LR		LR	22 09 52.0	
	comp=Z,709nm,20.0s,baz=197,slow=33							
AFI	**Afiamalu**	**6.61**	**20**	*e*Pn		**Pn**	**22 07 51.6**	**-8.6**
AFI				*e*Sn		**Sn**	**22 09 03.0**	**-11**
RAO	**Raoul Island**	**9.69**	**201**	Sn		**Sn**	**22 10 25.9**	**-4.1**
	50nm,0.3s,baz=227,slow=23,SNR=6.2							
RAO	**Raoul Island**	**9.69**	**201**	*e*Pn		**Pn**	**22 08 41.3**	**-1.2**
RAO				*e*Sn		**Sn**	**22 10 26.1**	**-3.9**
RAR	**Rarotonga**	**13.40**	**97**	Pn		**Pn**	**22 09 19.1**	**-14**
	4.3nm,0.3s,baz=258,slow=7.9,SNR=28							
RAR				Sn		Sn	22 11 34.4	-26
	1.0nm,0.3s,baz=94,slow=14,SNR=2.3							
RAR				LR		LR	22 14 05.2	
	comp=Z,420nm,18.9s,baz=316,slow=34							
DZM	**Mont Dzumac**	**18.29**	**261**	P		**Pn**	**22 10 38.7**	**+2.1**
	0.7nm,0.3s,baz=79,slow=17,SNR=9.4							
URZ	**Urewera**	**19.57**	**201**	P		**Pn**	**22 10 50.4**	**-1.6**
	3.1nm,0.3s,baz=145,slow=1.5,SNR=11							
URZ				S		**S**	**22 14 15.5**	**-14**
	0.9nm,0.3s,baz=297,slow=18,SNR=4.5							
TBI	**Tubuai**	**23.05**	**102**	*e*LQ			22 15 42.2	
	1μm,25.5s							
TBI	**Tubuai**	**23.05**	**102**	*e*LR		LR	22 16 31.8	
	808nm,32.2s,baz=284							
PPT	**Papeete**	**23.30**	**88**	*e*LQ			22 15 42.2	
	2μm,25.5s							
PPT				*e*LR		LR	22 16 49.3	
	951nm,27.5s,baz=261							
PPT	**Papeete**	**23.30**	**88**	LR		LR	22 17 29.8	
	comp=Z,511nm,21.1s,MS4.0,baz=260,slow=29							
RPZ	**Rata Peaks**	**26.56**	**205**	P		**P**	**22 12 02.2**	**+2.0**
	12nm,0.9s,mb4.4,baz=348,slow=9.3,SNR=2.5							
HNR	**Honiara**	**27.27**	**289**	LR		LR	22 21 10.8	
	comp=Z,376nm,20.9s,MS3.9,baz=178,slow=33							
HNR	**Honiara**	**27.27**	**289**	P		**P**	**22 12 05.3**	**-1.3**
RKT	**Rikitea**	**36.37**	**102**	*e*LR		LR	22 22 54.3	
	574nm,30.2s							
CTA	**Charters Tower**	**37.21**	**263**	*e*P		**P**	**22 13 33.3**	**-0.2**
	4.8nm,0.4s,mb4.7							
CTA	**Charters Tower**	**37.21**	**263**	P		**P**	**22 13 33.4**	**-0.1**
	6.8nm,0.4s,mb4.8,baz=98,slow=10,SNR=14							
CTA				LR		LR	22 25 56.6	
	comp=Z,172nm,21.6s,MS3.8,baz=90,slow=32							
CTA	**Charters Tower**	**37.21**	**263**	*e*P		**P**	**22 13 33.3**	**-0.2**
CTA				pmax		pmax		
	comp=Z,5.0nm,0.4s							
CTAO	**Charters Tower**	**37.21**	**263**	*e*P		**P**	**22 13 33.4**	**-0.1**
CTAO				pmax		pmax		
	comp=Z,33nm,1.4s,mb5.0							
CTAO	**Charters Tower**	**37.21**	**263**	*e*P		**P**	**22 13 33.4**	**0.0**
	comp=Z,33nm,1.4s,mb5.0							
PMG	**Port Moresby**	**38.91**	**280**	P		**P**	**22 13 44.9**	**-2.9**
	comp=Z,24nm,1.0s,mb4.9,baz=52,slow=3.9,SNR=9.6							
PMG				LR		LR	22 27 55.5	
	comp=Z,388nm,18.4s,MS4.3,baz=25,slow=34							
PMG	**Port Moresby**	**38.91**	**280**	*e*P		**P**	**22 13 46.2**	**-1.6**
PMG				*e*		pP	22 13 57.7	-0.5
PMG				pmax		pmax		
	comp=Z,27nm,1.0s							
PMG	**Port Moresby**	**38.91**	**280**	*e*P		**P**	**22 13 46.2**	**-1.6**
	comp=Z,27nm,1.0s,mb4.9							
PMG				*e*		pP	22 13 57.7	-0.5
TAU	**Tasmania Unive**	**39.48**	**226**	P		**P**	**22 13 53.1**	**+0.5**
STKA	**Stephens Creek**	**41.26**	**244**	*e*P		**P**	**22 14 04.2**	**-3.1**
	comp=Z,8.8nm,0.9s,mb4.4							
STKA	**Stephens Creek**	**41.26**	**244**	P		**P**	**22 14 04.6**	**-2.8**
	comp=Z,5.2nm,0.7s,mb4.3,baz=98,slow=9.0,SNR=15							
ASAR	**Alice Springs**	**48.19**	**256**	P		**P**	**22 15 00.8**	**-1.7**
	comp=Z,5.3nm,0.9s,mb4.5,baz=89,slow=8.3,SNR=32							
ASAR				PcP		PcP	22 16 29.8	+0.3
	comp=Z,1.9nm,0.7s,baz=105,slow=3.5,SNR=4.6							
WB2	**Warramunga Ar**	**48.30**	**261**	*e*P		**P**	**22 15 02.7**	**-0.7**
WRAB	**Tennant Creek**	**48.30**	**261**	*e*P		**P**	**22 15 03.6**	**+0.2**
WRAB				pmax		pmax		
	comp=Z,29nm,1.1s,mb5.2							
WRAB	**Tennant Creek**	**48.30**	**261**	*e*P		**P**	**22 15 03.6**	**+0.2**
	comp=Z,29nm,1.1s,mb5.2							
WRA	**Warramunga Ar**	**48.31**	**261**	P		**P**	**22 15 01.9**	**-1.6**
	comp=Z,2.6nm,0.6s,mb4.4,baz=95,slow=5.6,SNR=6.9							
FORT	**Forrest**	**52.82**	**246**	*e*P		**P**	**22 15 37.4**	**-0.1**
	comp=Z,14nm,0.7s,mb5.0							
FITZ	**Fitzroy Crossi**	**56.74**	**261**	P		**P**	**22 16 05.0**	**-0.8**
	comp=Z,2.8nm,0.8s,mb4.4,baz=180,slow=5.4,SNR=5.9							
FITZ				LR		LR	22 39 55.7	
	comp=Z,226nm,18.1s,MS4.3,baz=100,slow=36							
SBA	**Scott Base**	**58.46**	**185**	*e*P		**P**	**22 16 20.0**	**+2.1**
SBA				*e*		pP	22 16 30.8	+2.1
SBA				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.8							
SBA	**Scott Base**	**58.46**	**185**	*e*P		**P**	**22 16 20.0**	**+2.0**
	comp=Z,10nm,0.9s,mb4.9							
SBA				*e*		pP	22 16 30.8	+2.1
VNDA	**Vanda**	**58.58**	**186**	P		**P**	**22 16 20.3**	**+1.5**
	comp=Z,3.6nm,1.0s,mb4.4,baz=6.2,slow=6.0,SNR=14							
VNDA	**Vanda**	**58.58**	**186**	*e*P		**P**	**22 16 20.1**	**+1.3**
VNDA				*e*		pP	22 16 30.3	+0.8
VNDA				pmax		pmax		
	comp=Z,6.0nm,1.0s							
VNDA	**Vanda**	**58.58**	**186**	*e*P		**P**	**22 16 20.1**	**+1.3**
	comp=Z,6.2nm,1.0s,mb4.6							
VNDA				*e*		pP	22 16 30.3	+0.7
MBWA	**Marble Bar**	**61.53**	**256**	*e*P		**P**	**22 16 39.3**	**+0.2**
KLBR	**Kellerberrin**	**61.54**	**244**	*e*P		**P**	**22 16 38.9**	**-0.2**
	comp=Z,148nm,2.0s,mb5.8							
NWAO	**Narrogin (SRO)**	**61.81**	**243**	LR		LR	22 42 47.0	
	comp=Z,148nm,19.2s,MS4.2,baz=315,slow=35							
CASY	**Casey**	**65.83**	**205**	*e*P		**P**	**22 17 07.6**	**+0.3**
	comp=Z,5.3nm,0.9s,mb4.6							
QSPA	**South Pole Qui**	**69.88**	**180**	*e*P		pP	22 17 43.8	-0.1
	comp=Z,10nm,1.0s							
MJAR	**Matsushiro Arr**	**72.22**	**321**	P		**P**	**22 17 46.5**	**-0.6**
	comp=Z,14nm,0.8s,mb4.9,baz=157,slow=5.9,SNR=39							
MJAR				LR		LR	22 46 17.3	
	comp=Z,111nm,19.6s,MS4.1,baz=155,slow=33							
MJAR	**Matsushiro Arr**	**72.22**	**321**	P		**P**	**22 17 46.5**	**-0.6**
MJAR				LR		LR	22 46 17.3	
MAJO	**Matsushiro**	**72.22**	**321**	*e*P		**P**	**22 17 46.7**	**-0.3**
MAJO				pmax		pmax		
	comp=Z,11nm,0.8s,mb4.8							
MAJO	**Matsushiro**	**72.22**	**321**	*e*P		**P**	**22 17 46.7**	**-0.3**
	comp=Z,11nm,0.8s,mb4.8							
MAT	**Matsushiro**	**72.22**	**321**	P		**P**	**22 17 46.6**	**-0.4**
MAT	**Matsushiro**	**72.22**	**321**	*e*P		**P**	**22 17 47.0**	**0.0**
MAT				pmax		pmax		
	comp=Z,17nm,1.0s,mb4.9							
MAT	**Matsushiro**	**72.22**	**321**	*e*P		**P**	**22 17 47.0**	**0.0**
	comp=Z,17nm,1.0s,mb4.9							
YHNB	**Yeheng**	**77.02**	**303**	*e*P		**P**	**22 18 13.9**	**-1.0**
YSS	**Yuzh-Sakhalins**	**77.34**	**331**	⇑*e*P		**P**	**22 18 15.9**	**-0.7**
YSS				pmax		pmax		
	comp=Z,23nm,1.0s,mb5.1							
YSS	**Yuzh-Sakhalins**	**77.34**	**331**	*e*P		**P**	**22 18 16.7**	**+0.1**
	comp=Z,21nm,0.9s,mb5.1							
NVAR	**Mina Array Bea**	**78.29**	**42**	P		**P**	**22 18 21.0**	**-1.0**
	comp=Z,0.3nm,0.3s,mb3.7,baz=199,slow=6.2,SNR=4.5							
KS15	**Wonju Array Si**	**79.17**	**317**	*e*P		**P**	**22 18 28.2**	**+1.4**
TUC	**Tucson**	**79.90**	**50**	*e*P		**P**	**22 18 33.9**	**+3.1**
TUC				pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.3							
TUC	**Tucson**	**79.90**	**50**	*e*P		**P**	**22 18 33.9**	**+3.1**
	comp=Z,4.3nm,1.0s,mb4.3							
HABR	**Khabarovsk**	**82.06**	**329**	⇑*e*P		**P**	**22 18 42.9**	**+0.7**
HABR				*e*S		S	22 28 57.0	+2.9
MSU	**Marysvale**	**82.26**	**44**	*e*P		**P**	**22 18 42.9**	**-0.4**
MDJ	**Mudanjiang**	**82.44**	**323**	P		**P**	**22 18 45.8**	**+1.6**
MDJ				AP		pP	22 18 55.4	0.0
MDJ				PP		PP	22 21 53.9	+0.4
MDJ				S		S	22 29 01.5	+3.4
MDJ				AMB		AMB		
	comp=Z,14nm,0.8s,mb4.9							
MDJ				AMB		AMB		
	comp=Z,102nm,5.3s							
MDJ				LR		LR		
	comp=N,54nm,28.9s,MS3.9							
MDJ				LR		LR		
	comp=E,49nm,26.0s,MS3.9							
MDJ				LR		LR		
	comp=Z,96nm,26.0s,MS4.0							
NJ2	**Nanjing**	**82.57**	**308**	*e*P		**P**	**22 18 46.3**	**+1.4**
NJ2				PP		PP	22 21 56.9	+2.3
NJ2				S		S	22 28 58.0	-1.4
NJ2				AMB		AMB		
	comp=Z,20nm,0.8s,mb5.2							
NJ2				AMB		AMB		
	comp=Z,130nm,10.6s							
NJ2				LR		LR		
	comp=N,680nm,20.2s,MS5.1							
NJ2				LR		LR		
	comp=E,730nm,24.9s,MS5.1							
NJ2				LR		LR		
	comp=Z,470nm,26.0s,MS4.7							
MAW	**Mawson**	**83.09**	**199**	P		**P**	**22 18 47.9**	**+0.3**
	comp=Z,3.9nm,0.9s,mb4.5,baz=99,slow=7.0,SNR=4.5							
MAW	**Mawson**	**83.09**	**199**	*e*P		**P**	**22 18 47.9**	**+0.3**
MAW				pmax		pmax		
	comp=Z,4.0nm,0.7s							
MAW	**Mawson**	**83.09**	**199**	*e*P		**P**	**22 18 47.9**	**+0.3**
	comp=Z,4.0nm,0.7s,mb4.6							
KLR	**Kul'dur**	**84.19**	**328**	*e*P		**P**	**22 18 50.2**	**-3.1**
ANMO	**Albuquerque**	**84.34**	**50**	⇑*e*P		**P**	**22 18 51.3**	**-2.7**
ANMO	**Albuquerque**	**84.34**	**50**	*e*P		**P**	**22 18 52.7**	**-1.3**
	comp=Z,7.5nm,1.3s,mb4.7							
CN2	**Changchun**	**84.36**	**321**	*e*P		**P**	**22 18 54.9**	**+0.8**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb5.0							
PV01	**Paradox Valley**	**84.46**	**46**	*e*P		**P**	**22 18 53.5**	**-1.2**
COLA	**College**	**87.15**	**11**	*e*P		**P**	**22 19 07.5**	**-0.5**
COLA				pmax		pmax		
	comp=Z,12nm,0.8s,mb5.2							
COLA	**College**	**87.15**	**11**	*e*P		**P**	**22 19 07.5**	**-0.5**
	comp=Z,12nm,0.8s,mb5.2							
ILAR	**Eielson Array**	**87.23**	**11**	P		**P**	**22 19 05.8**	**-2.5**
	comp=Z,0.4nm,0.3s,mb4.1,baz=224,slow=6.3,SNR=8.9							
ILAR				LR		LR	22 50 06.9	
	comp=Z,80nm,20.3s,MS4.1,baz=359,slow=30							
KULM	**Kulim**	**87.41**	**277**	*e*P		**P**	**22 19 11.2**	**+2.0**
KULM				*e*		pP	22 19 20.9	+0.4
SNG	**Songkhla**	**88.09**	**278**	P		**P**	**22 19 14.0**	**+1.5**
VNA3	**Neumayer Olymp**	**88.17**	**175**	*e*P		**P**	**22 19 12.2**	**-0.6**
VNA3				*e*		pP	22 19 22.8	-1.3
VNA3				*e*			22 19 28.2	
SNAA	**Sanae**	**88.18**	**177**	*e*P		**P**	**22 19 12.8**	**-0.1**
SNAA				*e*		pP	22 19 23.0	-1.2
SNAA				*e*			22 19 28.5	
SNAA	**Sanae**	**88.18**	**177**	*e*P		**P**	**22 19 12.4**	**-0.5**
SNAA				pmax		pmax		
	comp=Z,4.0nm,0.8s							
SNAA	**Sanae**	**88.18**	**177**	*e*P		**P**	**22 19 12.4**	**-0.5**
	comp=Z,3.6nm,0.8s,mb4.7							
DAWY	**Dawson**	**88.19**	**14**	*e*P		**P**	**22 19 16.6**	**+3.7**
VNA2	**Neumayer--Watz**	**88.66**	**176**	*e*P		**P**	**22 19 16.2**	**+1.1**
VNA2				*e*		pP	22 19 27.8	+1.4
VNA2				*e*			22 19 31.2	
BILL	**Bilibino**	**89.15**	**353**	*e*P		**P**	**22 19 15.1**	**-2.3**
BILL				pmax		pmax		
	comp=Z,3.0nm,1.3s,mb4.5							
EDM	**Edmonton**	**89.87**	**32**	*e*P		**P**	**22 19 23.3**	**+2.5**
XAN	**Xi'an**	**90.92**	**306**	P		**P**	**22 19 27.2**	**+1.5**
XAN				AMB		AMB		
	comp=Z,8.0nm,1.1s,mb5.0							
HHC	**Hu-ho-hao-te**	**91.82**	**313**	⇓P		**P**	**22 19 31.8**	**+1.9**
HHC				AMB		AMB		
	comp=Z,16nm,1.0s,mb5.3							
HHC				AMB		AMB		
	comp=Z,90nm,4.9s							
NANT	**Nan**	**92.07**	**289**	P		**P**	**22 19 30.0**	**-1.1**
CHG	**Chiang Mai**	**93.64**	**289**	⇑P		**P**	**22 19 40.4**	**+2.1**
CHTO	**Chiang Mai**	**93.64**	**289**	*e*P		**P**	**22 19 40.3**	**+2.0**
CHTO				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb5.1							
CHTO	**Chiang Mai**	**93.64**	**289**	*e*P		**P**	**22 19 40.3**	**+2.0**
	comp=Z,6.9nm,0.9s,mb5.1							
CD2	**Chengdu**	**93.76**	**301**	*e*P		**P**	**22 19 39.0**	**+0.1**
CD2				PP		PP	22 23 26.8	+2.5
CD2				S			22 30 43.2	
CD2				SS		SS	22 37 06.3	+1.9
CD2				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb5.2							
CD2				AMB		AMB		
	comp=Z,40nm,9.2s							
CD2				LR		LR		
	comp=E,40nm,15.6s							
CD2				LR		LR		
	comp=Z,70nm,12.0s,MS4.3							
YKA	**Yellowknife Ar**	**94.71**	**24**	P		**P**	**22 19 44.7**	**+1.5**
	comp=Z,0.3nm,0.8s,mb3.8,baz=237,slow=4.3,SNR=8.2							
YKA				LR		LR	22 54 23.3	
	comp=Z,90nm,20.6s,MS4.2,baz=205,slow=30							
YKA	**Yellowknife Ar**	**94.71**	**24**	P		**P**	**22 19 44.7**	**+1.5**
YKA				LR		LR	22 54 23.3	
ULN	**Ulaanbaatar**	**97.57**	**318**	⇑*e*P		**P**	**22 19 58.6**	**+2.4**
SONM	**Songino Array**	**97.97**	**318**	LR		LR	23 04 27.2	
	comp=Z,85nm,18.6s,MS4.3,baz=256,slow=36							
ULM	**Lac du Bonnet**	**98.02**	**39**	LR		LR	22 59 33.0	
	comp=Z,152nm,19.0s,MS4.5,baz=245,slow=33							
LPAZ	**La Paz**	**98.73**	**111**	LR		LR	22 57 32.2	
	comp=Z,62nm,18.5s,MS4.1,baz=169,slow=31							
TIXI	**Tiksi**	**99.42**	**344**	*e*P		**P**	**22 20 01.6**	**-2.9**
TIXI				*e*			22 30 37.4	
TIXI				*e*PS		PS	22 33 01.2	-4.2
TIXI				*e*SS		SS	22 38 23.5	-0.8
TIXI				pmax		pmax		
	comp=Z,2.0nm,1.4s,mb4.5							
TIXI				MLR		MLR		
	comp=Z,79nm,18.0s,MS4.3							
ZAL	**Zalesovo**	**112.58**	**321**	PKiKP		PKiKP	22 24 56.1	-2.1
	comp=Z,0.7nm,0.2s,baz=328,slow=8.6,SNR=3.2							
MKAR	**Makanchi Array**	**113.68**	**313**	PKiKP		PKiKP	22 24 58.9	-1.4
	comp=Z,0.6nm,0.7s,baz=66,slow=3.0,SNR=7.6							
ZRNK	**Zerenda**	**122.05**	**320**	*e*PKiKP		PKPdf	22 25 15.2	-1.1
ARU	**Arti**	**127.02**	**326**	*i* PKiKP		PKPdf	22 25 23.9	-2.0
ARU				*e*			22 27 21.4	
ARU				*e*			22 32 26.3	
ARU				*e*SS		SS	22 44 27.4	-2.0
ARU				MLR		MLR		
	comp=Z,100nm,19.0s,MS4.5							
ARU				MLR		MLR		
	comp=N,30nm,18.0s,MS4.3							
ARU				MLR		MLR		
	comp=E,60nm,20.0s,MS4.3							
ARCES	**ARCESS Array B**	**129.23**	**351**	PKP		PKPdf	22 25 27.4	-2.7
	comp=E,4.5nm,1.0s,baz=336,slow=2.7,SNR=4.6							
FINES	**FINESS Array B**	**136.44**	**346**	PKP		PKPdf	22 25 42.8	-0.9
	comp=E,0.6nm,0.8s,baz=15,slow=5.8,SNR=3.7							
KMBO	**Kilima Mbogo**	**142.72**	**239**	PKiKP			22 25 52.7	
	comp=E,1.2nm,0.8s,baz=57,slow=17,SNR=3.5							
KMBO	**Kilima Mbogo**	**142.72**	**239**	PKP		PKPdf	22 25 52.7	-2.4
AKASG	**Malin Array Be**	**144.44**	**334**	PKP		PKPdf	22 25 55.2	-2.8
	comp=E,5.7nm,0.7s,baz=39,slow=4.3,SNR=21							
DCN	**Croghan**	**145.37**	**14**	*e*P		PKPdf	22 25 57.1	-2.6
DLF	**Lyons Farm**	**145.58**	**13**	*e*P		PKPdf	22 25 57.9	-2.1
GKP	**Gorka Klasztor**	**145.85**	**348**	*e*PKP		PKPdf	22 26 00.6	+0.1
BSEG	**Bad Segeberg**	**146.14**	**355**	*e*PKPbc		PKPbc	22 26 01.4	-0.6
MALT	**Malatya**	**146.63**	**310**	⇑*i*P		PKPbc	22 26 05.1	+1.7
RUE	**Ruedersdorf**	**147.20**	**351**	*e*PKPbc		PKPbc	22 26 04.3	-0.7
KWP	**Kalwaria**	**147.72**	**339**	*e*PKP		PKPbc	22 26 06.2	-0.3
IBBN	**Ibbenburen**	**147.91**	**358**	*e*PKPbc		PKPbc	22 26 06.4	-0.6
OJC	**Ojcow**	**148.08**	**343**	*e*PKPab		PKPbc	22 26 06.6	-0.8
CLZ	**Clausthal**	**148.22**	**355**	*e*PKPbc		PKPbc	22 26 07.4	-0.4
KSP	**Ksiaz**	**148.34**	**347**	*e*PKP		PKPbc	22 26 08.1	0.0
KSP	**Ksiaz**	**148.34**	**347**	*e*PKP		PKPbc	22 26 07.9	-0.2
STHS	**Stebnicka Huta**	**148.38**	**341**	*e*PKP		PKPbc	22 26 07.8	-0.4
CLL	**Collm**	**148.45**	**352**	*e*PKPbc		PKPbc	22 26 07.7	-0.7
CLL	**Collm**	**148.45**	**352**	*i* PKPbc		PKPbc	22 26 07.7	-0.7
	comp=Z,10.0nm,1.0s							
CLL				*i* PKPab		PKPab	22 26 10.7	-1.1
	comp=Z,12nm,1.1s							
CLL				*i* pPKPbc		pPKPbc	22 26 18.6	-1.4
CLL				*ep*PKPab		pPKPab	22 26 22.0	-1.2
CLL	**Collm**	**148.45**	**352**	*i* PKIKP		PKPbc	22 26 07.7	-0.7
CLL				*i*			22 26 10.7	
CLL				*i*			22 26 18.6	
CLL				pmax		pmax		
	comp=Z,10.0nm,1.0s							
CLL				pmax		pmax		
	comp=Z,12nm,1.1s							
KOLS	**Kolonicke sedl**	**148.47**	**339**	*e*PKP		PKPbc	22 26 08.5	0.0
BURAR	**Bucovina Array**	**148.49**	**335**	⇑*i*P		PKPbc	22 26 09.2	+0.7
BURAR	**Bucovina Array**	**148.49**	**335**	⇑P		PKPbc	22 26 09.2	+0.7
NIE	**Niedzica**	**148.65**	**342**	*e*PKP		PKPbc	22 26 08.4	-0.5
BRG	**Berggiesshubel**	**148.73**	**350**	*e*PKPbc		PKPbc	22 26 08.8	-0.3
BRG	**Berggiesshubel**	**148.73**	**350**	*e*PKP		PKPbc	22 26 08.6	-0.5
	comp=Z,4.4nm,1.1s							
BRG				*e*			22 26 18.9	
	comp=Z,7.6nm,1.1s							
BRG	**Berggiesshubel**	**148.73**	**350**	*e*PKIKP		PKPbc	22 26 08.6	-0.5
BRG				*e*			22 26 18.9	
BRG				pmax		pmax		
	comp=Z,4.0nm,1.2s							
BRG				pmax		pmax		
	comp=Z,8.0nm,1.1s							
CRVS	**Cervenica-Dubn**	**148.76**	**340**	*e*PKP		PKPbc	22 26 09.8	+0.6
BUG	**Bochum--Univer**	**148.79**	**358**	*e*PKPbc		PKPbc	22 26 08.5	-0.8
DPC	**Dobruska-Polom**	**148.80**	**347**	*e*PKPbc		PKPbc	22 26 09.2	-0.1
DPC				*ep*PKP		pPKPdf	22 26 18.9	+1.9
OKC	**Ostrava-Krasne**	**148.86**	**345**	*e*PKPab		PKPab	22 26 11.9	-1.5
OKC				*ep*PKP		pPKPdf	22 26 20.1	+3.0
CFR	**Carcaliu**	**149.06**	**329**	⇑*i*P		PKPbc	22 26 10.1	+0.1
CFR	**Carcaliu**	**149.06**	**329**	⇑P		PKPbc	22 26 10.1	+0.2
MORC	**Moravsky Berou**	**149.06**	**345**	⇑*i*P		PKPbc	22 26 10.3	+0.3
MORC	**Moravsky Berou**	**149.06**	**345**	⇑P		PKPbc	22 26 10.3	+0.3
VRI	**Vrincioaia**	**149.21**	**331**	⇑*i*P		PKPbc	22 26 10.4	+0.1
VRI	**Vrincioaia**	**149.21**	**331**	⇑P		PKPbc	22 26 10.4	+0.1
PLOR	**Plostina**	**149.26**	**331**	⇑*i*P		PKPbc	22 26 11.0	+0.5
MOX	**Moxa**	**149.28**	**353**	*e*PKPbc		PKPbc	22 26 10.1	-0.4
MOX	**Moxa**	**149.28**	**353**	*e*PKP		PKPbc	22 26 09.8	-0.7
	comp=Z,22nm,1.7s							
MOX	**Moxa**	**149.28**	**353**	*e*PKIKP		PKPbc	22 26 09.8	-0.7

RJF	**Les Rejaudoux**	**154.68**	**7**	*e*PKP	PKPbc	22 26 21.8	-1.0
RJF				LR	LR		
	comp=Z,110nm,19.5s,MS4.7						

*ISCJB **07** 22:21:24.5±0.6, 1069N±003×6245W±003, h83km±7km, Error ellipse: s-maj=6.1km s-min=4.0km az=110.2*
*FUNV **07** 22:21:24.1, 1080N×6230W, h80km, MW2.6*
*NEIC **07** 22:21:27.4, 1073N×6226W, h85km, MD2.5(TRN), After TRN.*
*TRN **07** 22:21:27.4, 1073N×6226W, h86km, MD2.5*
ISC 07 22:21:25.3±0.6, **1070N**±003×**6245W**±003, **h77km**±7km, **n19, σ1§15/38, 1C, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.23**	**103**	*e*P	**Pn**	**22 21 36.1**	**-0.8**
GUIV				*e*S	**Sn**	**22 21 44.0**	**-1.4**
GUNV	**Guanoco**	**0.72**	**222**	*e*P	**Pn**	**22 21 42.6**	**+1.6**
GUNV				*e*S	**Sn**	**22 21 55.0**	**+2.5**
CRUV	**Carupano**	**0.77**	**268**	*e*P	**Pn**	**22 21 42.1**	**+0.6**
CRUV				*e*S	**Sn**	**22 21 54.0**	**+0.5**
ITEV	**Isla Los Testi**	**0.93**	**314**	*e*P	**Pn**	**22 21 42.1**	**-1.3**
ITEV				*e*S	**Sn**	**22 21 56.0**	**-0.8**
TRN	**Trinidad (W)**	**1.03**	**93**	⇑*i*P	**Pn**	**22 21 45.0**	**+0.5**
TRN				*e*S	**Sn**	**22 21 57.4**	**-1.5**
TPP	**Pointe-a-Pierr**	**1.06**	**111**	*e*P	**Pn**	**22 21 46.0**	**+1.2**
TPP				*e*S	**Sn**	**22 22 00.6**	**+1.2**
TBH	**Brigand Hill**	**1.38**	**99**	*e*P	**Pn**	**22 21 49.8**	**+0.9**
TBH				*e*S	**Sn**	**22 22 06.1**	**-0.6**
GRW	**Mount Saint Ca**	**1.65**	**28**	*e*P	**Pn**	**22 21 53.2**	**+0.8**
GRW				*e*S	**Sn**	**22 22 13.4**	**+0.5**
GRHS	**Sauteurs**	**1.71**	**28**	*e*P	**Pn**	**22 21 55.4**	**+2.2**
GRHS				*e*S	**Sn**	**22 22 14.5**	**0.0**
TPR	**Prospect**	**1.72**	**73**	*e*P	**Pn**	**22 21 53.5**	**+0.2**
TPR				*e*S	**Sn**	**22 22 11.7**	**-2.8**
BOT	**Bacolet**	**1.77**	**75**	*e*P	**Pn**	**22 21 54.0**	**0.0**
BOT				*e*S	**Sn**	**22 22 14.2**	**-1.5**
GRSS	**Sisters**	**1.79**	**27**	*e*P	**Pn**	**22 21 55.2**	**+0.9**
GRSS				*e*S	**Sn**	**22 22 16.4**	**0.0**
GRIC	**Isle de Caille**	**1.79**	**28**	*e*P	**Pn**	**22 21 55.3**	**+1.0**
GRIC				*e*S	**Sn**	**22 22 16.5**	**+0.1**
ORIV	**Oritupano**	**1.87**	**210**	*e*P	**Pn**	**22 21 55.5**	**+0.1**
ORIV				*e*S	**Sn**	**22 22 19.4**	**+1.2**
GRCU	**Cariacou**	**2.02**	**29**	*e*P	**Pn**	**22 21 57.8**	**+0.5**
GRCU				*e*S	**Sn**	**22 22 21.0**	**-0.7**
MERV	**Las Mercedes**	**4.05**	**250**	*e*P	**Pn**	**22 22 25.4**	**+0.6**
MERV				*e*S	**Sn**	**22 23 09.8**	**-1.3**
LUEV	**Luepa**	**4.92**	**168**	*e*P	**Pn**	**22 22 35.4**	**-1.3**
LUEV				*e*S	**Sn**	**22 23 27.2**	**-5.1**
CAOV	**Caicara del Or**	**5.08**	**229**	*e*P	**Pn**	**22 22 39.4**	**+0.5**
CAOV				*e*S	**Sn**	**22 23 33.2**	**-3.1**
BAUV	**El Baul**	**5.78**	**253**	*e*P	**Pn**	**22 22 47.3**	**-1.0**
BAUV				*e*S	**Sn**	**22 23 50.6**	**-2.6**

IDC 07 22:23:51.1±12.0, **4944S×12536E, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.6/9, mbtmp3.5/2, MS3.3/1, Ms1 3.3/1, ms1mx3.1/13, Error ellipse: s-maj=775.0km s-min=31.8km az=92.0, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**26.59**	**18**	P	P	22 29 30.4	-0.5
	0.4nm,0.6s,baz=190,slow=8.6,SNR=4.3						
VNDA	**Vanda**	**31.40**	**166**	P	P	22 30 12.9	-0.9
	0.8nm,0.8s,baz=319,slow=7.9,SNR=4.8						
CTA	**Charters Tower**	**33.71**	**37**	LR	LR	22 42 03.8	
	comp=Z,54nm,20.1s,baz=136,slow=32						
YKA	**Yellowknife Ar**	**145.35**	**45**	PKPbc	PKPbc	22 43 29.3	-1.4
	0.8nm,1.0s,baz=277,slow=3.2,SNR=8.3						

*NEIC **07** 22:24:48.2±1.0, 843N×12695E, h35km, mb4.0/2, Error ellipse: s-maj=84.6km s-min=11.5km az=69.0*
*ISCJB **07** 22:24:57.1±0.6, 8.13N±006×12647E±009, h128km±5km, mb3.6/8, Error ellipse: s-maj=15.2km s-min=8.4km az=124.2*
*IDC **07** 22:24:57.6±13.0, 824N×12675E, h120km±121km, mb3.3/6, mb1 3.5/6, mb1mx3.3/20, mbtmp3.7/6, Error ellipse: s-maj=125.8km s-min=24.8km az=66.0*
ISC 07 22:24:58.4±0.6, **815N**±006×**12646E**±008, **h121km**±5km, **n20, σ0§80/24, mb3.6/8, 3C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.11**	**288**	⇑*i*P	**Pn**	**22 25 15.3**	**+0.3**
BIPH				*i* S	**Sn**	**22 25 26.4**	**-1.1**
BUTP	**Butuan**	**1.17**	**314**	*e*P	**Pn**	**22 25 23.4**	**+1.2**
MATI	**Mati**	**1.21**	**190**	*e*P	**Pn**	**22 25 23.2**	**+0.5**
BUKP	**Musuan**	**1.42**	**259**	*e*P	**Pn**	**22 25 25.4**	**+0.5**
BUKP				*e*S	**Sn**	**22 25 45.2**	**+0.1**
CGP	**Cagayan de Oro**	**1.78**	**280**	⇑*i*P	**Pn**	**22 25 28.5**	**-0.6**
CGP				*i* S	**Sn**	**22 25 50.8**	**-1.8**
SCPH	**Surigao**	**1.89**	**329**	*e*P	**Pn**	**22 25 31.3**	**+0.8**
SCPH				*e*S	**Sn**	**22 25 53.3**	**-1.7**
MSLP	**Maasin**	**2.53**	**321**	*e*P	**Pn**	**22 25 39.4**	**+0.8**
TBP	**Tagbilaran**	**2.99**	**301**	*e*P	**Pn**	**22 25 44.9**	**+0.2**
PAGZ	**Pagadian**	**3.07**	**265**	*e*P	**Pn**	**22 25 46.3**	**+0.7**
LLP	**Lapu-Lapu**	**3.27**	**311**	⇑*e*P	**Pn**	**22 25 49.1**	**+0.8**
LLP				*e*S	**Sn**	**22 26 27.7**	**+0.8**
FITZ	**Fitzroy Crossi**	**26.10**	**182**	P	**P**	**22 30 21.1**	**+0.3**
	2.5nm,0.9s,mb3.6,baz=2.5,slow=16,SNR=8.2						
WRAB	**Tennant Creek**	**28.97**	**165**	*e*P	**P**	**22 30 46.6**	**+0.2**
	1.9nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**28.97**	**165**	P	**P**	**22 30 46.4**	**0.0**
	0.3nm,0.4s,mb3.2,baz=340,slow=8.8,SNR=2.9						
ASAR	**Alice Springs**	**32.45**	**167**	P	**P**	**22 31 16.9**	**-0.1**
	0.2nm,0.3s,mb3.3,baz=351,slow=6.9,SNR=6.2						
STKA	**Stephens Creek**	**42.35**	**161**	P	**P**	**22 32 39.4**	**-1.0**
	0.6nm,0.3s,mb3.8,baz=334,slow=11,SNR=3.9						
STKA	**Stephens Creek**	**42.35**	**161**	*e*P	**P**	**22 32 39.1**	**-1.3**
MKAR	**Makanchi Array**	**53.83**	**324**	P	**P**	**22 34 08.8**	**+0.2**
	0.3nm,0.5s,mb3.6,baz=118,slow=8.0,SNR=7.8						
ZRNK	**Zerenda**	**64.26**	**326**	*e*P	**P**	**22 35 19.8**	**-0.7**
	0.7nm,0.4s,mb3.8						
FINES	**FINESS Array B**	**87.84**	**332**	P	**P**	**22 37 33.3**	**-0.7**
	1.0nm,1.0s,mb3.8,baz=89,slow=6.3,SNR=3.5						
TORD	**Torodi Ar. Bea**	**121.21**	**291**	PKP	PKPdf	22 43 37.9	+0.9
	0.4nm,1.0s,baz=46,slow=1.8,SNR=5.9						

*IDC **07** 22:28:42.4±4.2, 2013S×16864E, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/12, mbtmp3.7/3, ML3.1/1, Error ellipse: s-maj=116.6km s-min=35.4km az=128.0*
*ISCJB **07** 22:28:44.1±1.0, 201S±0.1×16876E±0.1, h33km, mb3.9/4, Error ellipse: s-maj=20.4km s-min=9.7km az=80.1*
*NEIC **07** 22:28:46.6±0.8, 2010S×16866E, h35km, mb4.0/3, Error ellipse: s-maj=23.4km s-min=11.5km az=160.0*
ISC 07 22:28:46.0±1.0, **201S**±01×**1687E**±01, **h35km, n9, σ0§53/9, mb3.9/4, 1C, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**2.44**	**349**	⇑*i*P	**Pn**	**22 29 22.9**	**-0.5**
DZM	**Mont Dzumac**	**2.92**	**227**	Pn	**Pn**	**22 29 29.5**	**-0.4**
	3.2nm,0.3s,baz=141,slow=19,SNR=69						
DZM				Sn	**Sn**	**22 30 03.3**	**-0.4**
	5.9nm,0.3s,baz=299,slow=24,SNR=7.4						
AFI	**Afiamalu**	**19.61**	**75**	*e*P	**Pn**	**22 33 12.8**	**-0.1**
	3.3nm,0.4s						
CTAO	**Charters Tower**	**21.11**	**266**	*e*P	**P**	**22 33 27.3**	**-0.3**
	3.3nm,0.7s,mb3.8						
PMG	**Port Moresby**	**23.38**	**294**	*e*P	**P**	**22 33 51.5**	**-0.1**
WRAB	**Tennant Creek**	**32.28**	**264**	*e*P	**P**	**22 35 11.5**	**+0.1**
	5.0nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**32.28**	**264**	P	**P**	**22 35 11.6**	**+0.2**
	0.5nm,0.6s,mb3.5,baz=99,slow=9.4,SNR=6.4						
ASAR	**Alice Springs**	**32.47**	**257**	P	**P**	**22 35 14.4**	**+1.4**
	1.3nm,0.4s,mb4.1,baz=86,slow=8.8,SNR=19						
GERES	**GERESS Array B**	**145.00**	**331**	PKPbc	PKPdf	22 48 20.1	+0.7
	0.4nm,0.6s,baz=46,slow=4.6,SNR=4.2						

*ATH **07** 22:52:35.2, 3952N×2049E, h22km, MD3.2/3*
*SKO **07** 22:52:36.6, 3932N×2049E, h6km*
*ISCJB **07** 22:52:37.0±0.6, 3945N±003×2057E±005, h10km, Error ellipse: s-maj=6.1km s-min=5.0km az=16.1*
*THE **07** 22:52:37.7, 3944N×2051E, h4km*
ISC 07 22:52:37.5±0.6, **3945N**±004×**2057E**±005, **h10km, n12, σ1§12/15, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.20**	**294**	*e*Pg	**Pg**	**22 52 40.8**	**-0.9**
IGT				*e*Sg	**Sg**	**22 52 43.7**	**-0.8**
JAN	**Janina**	**0.30**	**47**	*e*PB	**Pg**	**22 52 41.8**	**-1.6**
JAN				*e*SB	**Sg**	**22 52 47.3**	**-0.2**
LKD	**Levkas**	**0.75**	**175**	*e*Pg	**Pg**	**22 52 52.0**	**+0.1**
LKD				*e*Sg	**Sg**	**22 53 02.4**	**+0.8**
EVR	**Evrytania**	**1.10**	**119**	*e*PN	**Pn**	**22 52 57.9**	**-1.0**
VLS	**Valsamata**	**1.27**	**179**	*e*PN	**Pn**	**22 53 01.1**	**-0.2**
AGG	**Agios Georgios**	**1.43**	**107**	*e*Pg	**Pg**	**22 53 04.1**	**-0.8**
FNA	**Florina**	**1.47**	**25**	*e*Pg	**Pg**	**22 53 04.5**	**-1.1**
LIT	**Litokhoron**	**1.62**	**66**	*e*Pb	**Pb**	**22 53 06.7**	**-0.6**
OHR	**Ohrid**	**1.67**	**6**	*e*Pn	**Pn**	**22 53 08.3**	**+1.6**
BIA	**Bitola**	**1.67**	**20**	*e*Pn	**Pn**	**22 53 08.2**	**+1.5**
VAY	**Valandovo**	**2.41**	**39**	*e*Pn	**Pn**	**22 53 18.8**	**+1.8**
STIP	**Stip**	**2.56**	**28**	*e*Pn	**Pn**	**22 53 20.7**	**+1.8**

*ISCJB **07** 22:57:60.0±1.1, 2287S±007×661W±02, h255km±18km, mb3.7/1, Error ellipse: s-maj=24.8km s-min=12.1km az=5.9*
*IDC **07** 22:58:00.3±1.9, 2284S×6609W, h234km±20km, mb3.5/1, mb1 3.1/5, mb1mx3.0/15, mbtmp3.7/5, Error ellipse: s-maj=30.9km s-min=20.2km az=91.0*
*NEIC **07** 22:58:00.6±0.9, 2286S×6614W, h236km±13km, mb3.5/1, Error ellipse: s-maj=19.1km s-min=9.4km az=103.0*
ISC 07 22:58:00.7±1.1, **2286S**×007×**662W**±02, **h239km**±18km, **n9, σ0§50/11, mb3.7/1, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**6.79**	**344**	P	**Pn**	**22 59 39.6**	**+1.0**
	0.3nm,0.3s,baz=172,slow=9.9,SNR=11						
LPAZ				S	**S**	**23 00 56.4**	**-0.6**
	0.1nm,0.3s,baz=331,slow=16,SNR=5.6						
SIV	**San Ignacio**	**8.34**	**36**	P	**Pn**	**22 59 58.0**	**-0.2**
	1.2nm,0.3s,baz=221,slow=8.9,SNR=51						
CFAA	**Coronel Fontan**	**8.91**	**192**	P	**Pn**	**23 00 05.2**	**-0.3**
	0.1nm,0.3s,baz=28,slow=14,SNR=15						
CFAA				S	**S**	**23 01 38.7**	**-7.5**
	0.1nm,0.3s,baz=270,slow=19,SNR=6.1						
CFAA	**Coronel Fontan**	**8.91**	**192**	P	**Pn**	**23 00 05.2**	**-0.3**
CFAA				S	**S**	**23 01 38.7**	**-7.5**
PLCA	**Paso Flores**	**18.21**	**191**	*e*P	**P**	**23 01 56.3**	**+0.1**
	1.4nm,0.8s						
BDFB	**Brasilia**	**18.56**	**70**	P	**P**	**23 02 00.4**	**+0.4**
	0.1nm,0.3s,baz=241,slow=7.5,SNR=6.1						
SDV	**Santo Domingo**	**31.85**	**352**	P	**P**	**23 04 03.6**	**+0.2**
TORD	**Torodi Ar. Bea**	**75.43**	**69**	P	**P**	**23 09 17.7**	**-0.6**
	0.7nm,0.4s,mb3.7,baz=259,slow=5.8,SNR=38						
MKAR	**Makanchi Array**	**145.15**	**39**	PKPbc	PKPbc	23 17 10.1	+0.3
	1.0nm,0.7s,baz=305,slow=3.0,SNR=10.0						

IDC 07 23:17:35.4±8.6, **1706S×17469W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/13, mbtmp3.7/3, MS3.8/2, Ms1 3.8/2, ms1mx2.9/25, Error ellipse: s-maj=383.5km s-min=36.6km az=140.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**37.85**	**277**	LR	LR	23 35 40.4	
	comp=Z,47nm,20.7s,baz=191,slow=29						
WRA	**Warramunga Arr**	**48.27**	**258**	P	P	23 26 18.4	+0.2
	0.4nm,0.4s,baz=95,slow=7.6,SNR=2.4						
ASAR	**Alice Springs**	**48.43**	**253**	P	P	23 26 19.9	+0.5
	1.0nm,0.4s,baz=86,slow=8.2,SNR=15						
ILAR	**Eielson Array**	**84.31**	**12**	P	P	23 30 08.8	-0.4
	0.3nm,0.4s,baz=215,slow=4.9,SNR=8.2						
MAW	**Mawson**	**85.83**	**199**	LR	LR	00 10 53.4	
	comp=Z,158nm,18.1s,baz=71,slow=37						

*ISCJB **07** 23:27:34.9±2.0, 359S±02×1796E±04, h268km±14km, mb3.4/2, Error ellipse: s-maj=60.3km s-min=20.2km az=47.6*
*NEIC **07** 23:27:34.3, 3545S×17863E, h262km, MG3.8(WEL), After WEL.*
*WEL **07** 23:27:35.1±0.3, 3528S×179.11E, h204km±7km, ML3.6/6, Error ellipse: s-maj=9.6km s-min=4.5km az=90.0*
*IDC **07** 23:27:39.3±6.3, 3614S×17890E, h253km±77km, mb3.3/2, mb1 3.5/3, mb1mx3.2/11, mbtmp3.8/3, Error ellipse: s-maj=155.7km s-min=45.6km az=178.0*
ISC 07 23:27:36.7±2.0, **360S**±02×**1796E**±04, **h272km**±12km, **n18, σ0§90/23, mb3.4/2, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.82**	**213**	PN	**Pn**	**23 28 18.0**	**-1.5**
MXZ	**Matakaoa Point**	**1.82**	**213**	P	**Pn**	**23 28 17.1**	**-2.4**
PUZ	**Puketiti**	**2.28**	**207**	PN	**Pn**	**23 28 23.9**	**+0.4**
PUZ				SN	**S**	**23 29 01.7**	**+1.1**
PUZ	**Puketiti**	**2.28**	**207**	P	**Pn**	**23 28 23.9**	**+0.4**
PUZ				S	**S**	**23 29 01.7**	**+1.1**
MWZ	**Matawai**	**2.81**	**215**	PN	**Pn**	**23 28 29.0**	**+0.4**
MWZ				SN	**S**	**23 29 09.4**	**-0.4**
MWZ				SN	**S**	**23 29 11.0**	**+1.2**
MWZ	**Matawai**	**2.81**	**215**	P	**Pn**	**23 28 28.0**	**-0.6**
URZ	**Urewera**	**2.95**	**221**	P	**Pn**	**23 28 29.1**	**-1.0**
	2.6nm,0.3s,baz=295,slow=5.1,SNR=9.6						
URZ				S	**S**	**23 29 04.9**	**-7.6**
	1.7nm,0.3s,baz=87,slow=19,SNR=2.5						
URZ	**Urewera**	**2.95**	**221**	PN	**Pn**	**23 28 29.2**	**-0.9**
URZ				*e*SN	**S**	**23 29 12.4**	**-0.1**
URZ	**Urewera**	**2.95**	**221**	P	**Pn**	**23 28 29.2**	**-0.9**
TIWZ	**Tintock**	**5.54**	**210**	PN	**Pn**	**23 29 00.9**	**+1.3**
MRZ	**Mangatainoka R**	**5.57**	**213**	*e*PN	**Pn**	**23 29 00.4**	**+0.3**
MRZ	**Mangatainoka R**	**5.57**	**213**	*e*P	**Pn**	**23 29 00.4**	**+0.3**
KIW	**Kapiti Island**	**6.04**	**216**	*e*PN	**Pn**	**23 29 05.3**	**-0.4**
KIW	**Kapiti Island**	**6.04**	**216**	P	**Pn**	**23 29 04.7**	**-1.1**
MQZ	**McQueen's Vall**	**9.31**	**213**	*e*SN	**S**	**23 31 31.0**	**-0.8**
ASAR	**Alice Springs**	**41.12**	**275**	P	**P**	**23 34 55.2**	**+0.7**
	1.0nm,0.5s,mb3.3,baz=116,slow=8.0,SNR=13						
WRA	**Warramunga Arr**	**42.63**	**280**	P	**P**	**23 35 06.5**	**-0.1**
	1.4nm,0.5s,mb3.5,baz=118,slow=7.9,SNR=8.6						
FINES	**FINESS Array B**	**149.56**	**335**	PKPbc	PKPbc	23 46 56.5	+2.6
	0.5nm,0.9s,baz=59,slow=3.7,SNR=4.8						

*NNC **07** 23:42:07.6±2.0, 4076N×7715E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=41.8km s-min=15.7km az=90.0*
*ISCJB **07** 23:42:19.6±5.1, 415N±03×767E±03, h10km, Error ellipse: s-maj=53.6km s-min=16.1km az=113.5*
ISC 07 23:42:20.9±3.8, **416N**±02×**766E**±02, **h10km, n13, σ1§41/11, 4C-1D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**0.72**	**336**	P	**Pg**	**23 42 34.7**	**-0.1**
	SNR=40						
KZA	**Kyzart**	**1.15**	**295**	P	**Pb**	**23 42 40.8**	**-2.0**
	SNR=59						
TKM2	**Tokmak 2**	**1.54**	**330**	P	**Pn**	**23 42 47.2**	**-1.2**
	SNR=30						
KNDC	**Almaty**	**1.64**	**8**	⇑Pn	**Pn**	**23 42 49.2**	**-0.7**
	37nm,0.5s						
KNDC				⇑Lg		23 43 26.1	
	124nm,0.6s						
KBK	**Karagaybulak**	**1.65**	**311**	P	**Pn**	**23 42 51.4**	**+1.5**
	SNR=14						
UCH	**Uchtor**	**1.71**	**292**	P	**Pn**	**23 42 47.3**	**-3.5**
	SNR=24						
AAK	**Ala-Archa**	**1.91**	**304**	P	**Pn**	**23 42 55.2**	**+1.7**
	SNR=22						
CHMS	**Chumysh**	**1.98**	**316**	P	**Pn**	**23 42 57.0**	**+2.5**
	SNR=20						
AML	**Almayashu**	**2.27**	**285**	P	**Pn**	**23 42 58.1**	**-0.3**
	SNR=13						
USP	**Ospenovka**	**2.30**	**317**	P	**Pn**	**23 43 03.3**	**+4.4**
	SNR=13						
KK31	**Karatay Array**	**4.79**	**290**	Pg	**Pb**	**23 43 44.5**	**-0.4**
	0.4nm,0.4s,baz=110,slow=17,SNR=4.6						
KK31				⇑Lg		23 45 00.9	
	1.0nm,0.4s,baz=116,slow=30,SNR=2.6						
MK06	**Makanchi Array**	**6.59**	**36**	⇓Lg		23 45 47.1	
	2.5nm,0.8s						
KURK	**Kurchatov**	**9.23**	**8**	⇑Lg		23 47 20.8	
	2.7nm,1.5s						

*ISCJB **08** 00:33:14.0±0.7, 3600N±004×27.14E±006, h6km±9km, Error ellipse: s-maj=9.3km s-min=5.3km az=71.9*
*ATH **08** 00:33:14.2, 3602N×27.16E, h13km±3km, MD3.4/5*
*NEIC **08** 00:33:14.4, 3600N×27.18E, h16km, MD3.4(ATH), After ATH.*
*CSEM **08** 00:33:15.1±0.1, 3601N×2722E, h15km, MD3.4, Error ellipse: s-maj=3.5km s-min=1.7km az=114.0*
*ISK **08** 00:33:16.2, 3602N×2712E, h32km, MD3.3*
ISC 08 00:33:14.8±0.6, **3599N**±004×**2715E**±006, **h11km**±8km, **n12, σ0§82/15, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.44**	**179**	*e*PB	**Pg**	**00 33 23.8**	**+0.4**
KARP				*e*SB	**Sg**	**00 33 30.0**	**+0.8**
DAT	**Datca**	**0.82**	**25**	PG	**Pg**	**00 33 30.5**	**0.0**
DAT				SG	**Sg**	**00 33 42.4**	**+1.2**
ARG	**Arkhangelos**	**0.82**	**74**	*e*PB	**Pg**	**00 33 29.5**	**-1.1**
ARG				*e*SB	**Sg**	**00 33 41.0**	**-0.3**
BODT	**Bodrum**	**1.08**	**7**	PG	**Pg**	**00 33 35.8**	**+0.2**
MLSB	**Milas**	**1.40**	**21**	*e*PN	**Pn**	**00 33 39.7**	**-0.6**
NPS	**Neapolis**	**1.45**	**240**	*e*PG	**Pg**	**00 33 42.0**	**-0.6**
YER	**Yerkesik**	**1.46**	**38**	PN	**Pn**	**00 33 41.1**	**0.0**
XRY	**Khrisi**	**1.63**	**227**	*e*PG	**Pg**	**00 33 45.0**	**-1.0**
FETY	**Fethiye**	**1.69**	**67**	PN	**Pn**	**00 33 44.2**	**-0.1**
APE	**Apeiranthos**	**1.69**	**310**	*e*PN	**Pn**	**00 33 43.3**	**-1.0**
DENT	**Denizli**	**2.32**	**40**	*e*PN	**Pn**	**00 33 53.4**	**+0.5**
VAM	**Vamos**	**2.47**	**257**	*e*PN	**Pn**	**00 33 57.0**	**+2.0**

*ISCJB **08** 01:18:21.2±1.3, 3814N±004×2650E±006, h6km±7km, Error ellipse: s-maj=7.9km s-min=6.1km az=166.1*
*ISK **08** 01:18:21.6, 3811N×2657E, h16km, MD3.1*
*ATH **08** 01:18:22.5, 3817N×2646E, h27km±18km, MD3.2/3*
*CSEM **08** 01:18:22.6±0.1, 3827N×2658E, h5km, MD3.1, Error ellipse: s-maj=3.4km s-min=1.9km az=73.0*
ISC 08 01:18:22.2±1.1, **3822N**±003×**2648E**±006, **h4km**±7km, **n13, σ1§16/21, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMG	**Samos**	**0.59**	**151**	*e*PN	**Pg**	**01 18 33.7**	**+0.2**
SMG				*e*SN	**Sg**	**01 18 42.4**	**+1.3**
IZM	**Izmir**	**0.64**	**74**	PG	**Pg**	**01 18 34.0**	**-0.6**
IZM				SG	**Sg**	**01 18 43.4**	**+0.5**
KDAG	**Bornova**	**0.65**	**74**	*i* P	**Pg**	**01 18 34.4**	**-0.3**
KDAG				*i* S	**Sg**	**01 18 42.7**	**-0.3**
PRK	**Paraskevi**	**1.03**	**351**	*e*PN	**Pn**	**01 18 43.2**	**-0.3**
PRK				*e*SN	**Sn**	**01 18 58.5**	**+0.2**
AKS	**Akhisar**	**1.23**	**58**	*e*PN	**Pn**	**01 18 44.0**	**-2.2**
AKS				*e*SN	**Sn**	**01 19 02.2**	**-1.1**
APE	**Apeiranthos**	**1.38**	**213**	*e*PN	**Pn**	**01 18 46.4**	**-1.8**
APE	**Apeiranthos**	**1.38**	**213**	*e*PN	**Pn**	**01 18 47.4**	**-0.8**
MLSB	**Milas**	**1.38**	**132**	*e*PN	**Pn**	**01 18 44.8**	**-3.5**
BDRM	**Kayabasi**	**1.39**	**146**	*i* P	**Pn**	**01 18 49.0**	**+0.7**
BDRM				*i* S	**Sb**	**01 19 07.2**	**+0.4**
BOZC	**Bozcaada**	**1.65**	**349**	*i* P	**Pn**	**01 18 52.4**	**+0.5**
BOZC				*i* S	**Sn**	**01 19 15.9**	**+2.4**
MANT	**Manisa**	**1.66**	**80**	*i* P	**Pn**	**01 18 53.7**	**+1.7**
MANT				*i* S	**Sn**	**01 19 14.7**	**+1.0**
BALB	**Balikesir**	**1.79**	**37**	*e*PN	**Pn**	**01 18 53.6**	**-0.2**
YER	**Yerkesik**	**1.80**	**127**	*e*PN	**Pn**	**01 18 51.3**	**-2.7**

*NEIC **08** 01:19:22.2, 3814S×17625E, h186km, MG3.7(WEL), After WEL.*
WEL 08 01:19:25.6±0.2, **3810S×17629E, h145km**±2km, **ML3.3/9, Error ellipse: s-maj=3.1km s-min=2.3km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.67**	**104**	PN	**Pn**	**01 19 47.3**	**0.0**
URZ				SN	**Sn**	**01 20 03.8**	**-0.1**
MWZ	**Matawai**	**1.00**	**104**	PN	**Pn**	**01 19 50.2**	**+0.3**
MWZ				SN	**Sn**	**01 20 08.5**	**+0.1**
BKZ	**Black Stump Fm**	**1.07**	**172**	PN	**Pn**	**01 19 50.6**	**0.0**
BKZ				SN	**Sn**	**01 20 09.9**	**+0.4**
TUVZ	**Tukino**	**1.27**	**203**	PN	**Pn**	**01 19 52.8**	**+0.5**
WNVZ	**Wahianoa**	**1.34**	**204**	PN	**Pn**	**01 19 53.3**	**+0.3**
WNVZ	**Wahianoa**	**1.34**	**204**	P	**Pn**	**01 19 53.3**	**+0.2**
KNZ	**Kokohu**	**1.42**	**131**	SN	**Sn**	**01 20 15.2**	**-0.4**
MXZ	**Matakaoa Point**	**1.69**	**72**	*e*PN	**Pn**	**01 19 56.8**	**0.0**
MXZ				SN	**Sn**	**01 20 21.5**	**+0.8**
MXZ	**Matakaoa Point**	**1.69**	**72**	*e*P	**Pn**	**01 19 56.8**	**0.0**
TSZ	**Takapari Road**	**1.97**	**187**	*e*PN	**Pn**	**01 19 59.2**	**-0.9**
TSZ	**Takapari Road**	**1.97**	**187**	*e*P	**Pn**	**01 19 59.2**	**-0.9**
PXZ	**Pawanui**	**1.98**	**167**	*e*PN	**Pn**	**01 19 59.6**	**-0.6**
PXZ				SN	**Sn**	**01 20 25.3**	**-1.3**
MRZ	**Mangatain

comp=Z,25nm,1.3s,mb4.4
SJG San Juan 30.70 19 *e*P **P** **01 32 56.1 +0.1**
SJG pmax pmax
comp=Z,6.0nm,0.5s
SJG San Juan 30.70 19 *e*P **P** **01 32 56.1 +0.1**
comp=Z,6.3nm,0.5s,mb4.6
LRAL Lakeview Retre 45.15 347 *e*P **P** **01 34 56.0 -1.1**
comp=Z,12nm,0.9s,mb4.6
PLAL Pickwick Lake 47.27 347 *e*P **P** **01 35 11.7 -2.0**
comp=Z,5.5nm,0.8s,mb4.3
TZTN Tazewell 47.96 352 *e*P **P** **01 35 18.2 -0.8**
TZTN *ep*P pP 01 35 45.9 -1.2
LTX Lajitas 48.24 327 *e*P **P** **01 35 21.3 +0.1**
LTX pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
LTX Lajitas 48.24 327 *e*P **P** **01 35 21.3 +0.1**
comp=Z,7.0nm,0.8s,mb4.5
WMOK Wichita Mounta 50.45 336 *e*P **P** **01 35 37.6 -0.4**
WMOK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
WMOK Wichita Mounta 50.45 336 *e*P **P** **01 35 37.6 -0.3**
comp=Z,4.0nm,0.8s,mb4.4
GDL2 Guadalupe Moun 50.88 329 *e*P **P** **01 35 42.0 +0.8**
BLO Bloomington 51.00 350 *e*P **P** **01 35 41.0 -1.1**
BLO pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
BLO Bloomington 51.00 350 *e*P **P** **01 35 41.0 -1.1**
comp=Z,9.0nm,0.5s,mb5.1
CPRX Cap Rock 51.30 330 *e*P **P** **01 35 45.0 +0.7**
SSPA Standing Stone 51.56 358 *e*P **P** **01 35 46.5 +0.3**
comp=Z,13nm,1.1s,mb4.9
SSPA *ep*P pP 01 36 10.7 -4.0
SSPA *es*P sP 01 36 23.2 -5.0
LAZ Ladron 54.04 328 *e*P **P** **01 36 05.3 +0.8**
ANMO Albuquerque 54.12 329 *e*P **P** **01 36 05.3 +0.2**
ANMO pmax pmax
comp=Z,9.0nm,1.1s
ANMO Albuquerque 54.12 329 *e*P **P** **01 36 05.2 +0.2**
comp=Z,9.2nm,1.1s,mb4.7
TUC Tucson 54.46 324 *e*P **P** **01 36 07.8 +0.2**
TUC pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
TUC Tucson 54.46 324 *e*P **P** **01 36 07.8 +0.2**
comp=Z,5.2nm,1.2s,mb4.4
NCB Newcomb 54.89 2 *e*P **P** **01 36 10.7 +0.1**
comp=Z,5.2nm,0.6s,mb4.7
NCB *ep*P pP 01 36 39.3 -0.2
NCB *es*P sP 01 36 52.9 0.0
WUAZ Wupatki 57.14 326 *e*P **P** **01 36 27.2 +0.5**
comp=Z,11nm,0.9s,mb4.9
PV01 Paradox Valley 57.67 330 *e*P **P** **01 36 30.4 +0.1**
SMCO Snowmass 57.73 332 *e*P **P** **01 36 31.3 +0.5**
comp=Z,4.2nm,0.9s,mb4.5
SMCO *ep*P pP 01 37 00.2 +0.4
MSU Marysvale 59.79 328 *e*P **P** **01 36 45.3 +0.3**
DUG Dugway 61.37 329 *e*P **P** **01 36 56.6 +0.8**
DUG pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
DUG Dugway 61.37 329 *e*P **P** **01 36 56.6 +0.9**
comp=Z,2.4nm,0.7s,mb4.3
PDAR Pinedale Array 61.77 333 P **P** **01 36 58.0 -0.5**
comp=Z,1.3nm,0.6s,mb4.2,baz=121,slow=9.5,SNR=15
HWUT Hardware Ranch 61.81 330 *e*P **P** **01 36 58.7 0.0**
comp=Z,3.8nm,0.7s,mb4.5
HWUT *ep*P pP 01 37 28.9 +0.8
HWUT *e*PcP PcP 01 37 39.0 +0.4
REDW Red Top Meadow 62.83 332 P **P** **01 37 05.5 0.0**
comp=Z,10nm,0.5s,mb5.0
TPAW Teton Pass 62.97 332 *e*P **P** **01 37 06.6 +0.1**
comp=Z,7.8nm,0.5s,mb4.9
MOOW Moose Ponds 63.08 332 *e*P **P** **01 37 06.9 -0.2**
comp=Z,7.8nm,0.8s,mb4.7
NVAR Mina Array Bea 63.12 324 P **P** **01 37 07.8 +0.3**
comp=Z,1.0nm,0.6s,mb3.9,baz=155,slow=7.0,SNR=5.1
NVAR pP pP 01 37 37.5 +0.6
comp=Z,0.7nm,0.6s,baz=183,slow=6.8,SNR=2.9
ULM Lac du Bonnet 63.54 346 P **P** **01 37 08.5 -1.7**
comp=Z,6.3nm,0.7s,mb4.6,baz=154,slow=6.8,SNR=11
ULM pP pP 01 37 39.1 -0.6
comp=Z,5.8nm,0.7s,baz=148,slow=7.1,SNR=5.8
MCMT McKenzie Canyo 64.88 332 *e*P **P** **01 37 19.6 +0.7**
SCHQ Schefferville 66.20 6 P **P** **01 37 26.3 -1.1**
comp=Z,3.7nm,0.8s,mb4.3,baz=229,slow=11,SNR=4.3
SCHQ Schefferville 66.20 6 *e*P **P** **01 37 27.0 -0.4**
YKA Yellowknife Ar 79.26 343 P **P** **01 38 43.4 -1.1**
comp=Z,1.1nm,0.8s,mb3.8,baz=138,slow=6.3,SNR=26
YKA pP pP 01 39 14.8 -0.5
comp=Z,0.7nm,0.7s,baz=140,slow=5.9,SNR=4.3
YKA Yellowknife Ar 79.26 343 P **P** **01 38 43.4 -1.1**
YKA pP pP 01 39 14.8 -0.4
TORD Torodi Ar. Bea 80.89 75 P **P** **01 38 55.6 +2.2**
comp=Z,1.6nm,0.8s,mb3.9,baz=253,slow=3.6,SNR=14
TORD pP pP 01 39 25.2 +1.1
comp=Z,5.6nm,0.9s,baz=269,slow=5.6,SNR=12
ESDC Sonseca Array 83.70 48 P **P** **01 39 09.7 +1.8**
comp=Z,0.1nm,0.4s,baz=253,slow=4.8,SNR=4.2
ESDC pP pP 01 39 39.8 +0.9
comp=Z,1.6nm,0.8s,baz=264,slow=5.0,SNR=5.8
VNDA Vanda 85.73 191 P **P** **01 39 18.7 +0.6**
comp=Z,0.7nm,1.0s,mb3.6,baz=168,slow=5.6,SNR=3.5
SUMG Summit 87.09 11 *e*P **P** **01 39 25.1 +0.4**
comp=Z,15nm,1.3s,mb4.8
ILAR Eielson Array 92.02 336 P **P** **01 39 46.8 -1.0**
comp=Z,0.5nm,0.8s,mb3.8,baz=155,slow=3.6,SNR=5.2
ILAR pP pP 01 40 18.9 -0.3
comp=Z,0.2nm,0.7s,baz=152,slow=4.1,SNR=2.6
CD2 Chengdu 160.35 0 *e*PKP PKPdf 01 46 35.5 -2.3

LDG ***08*** *01:31:41.0±0.1, 44.97N×329E, h12km, Md1.9/3, Ml1.7/16, Error ellipse: s-maj=0.9km s-min=0.8km az=87.0*
STR 08 01:31:42.2±0.3, 4502N×332E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBL	**Lubilhac**	**0.22**	**346**	Pg	Pg	01 31 46.7	+0.2
LBL				Sg	Sg	01 31 50.5	+1.1
COLF	**Collangettes**	**0.56**	**28**	Pg	Pg	01 31 52.8	-0.2
COLF				Sg	Sg	01 32 01.0	+0.6
PYM	**Petit Puy Mans**	**0.76**	**343**	Pg	Pg	01 31 56.6	-0.2
CAF	**Calviac**	**0.90**	**264**	*e*Pg	Pg	01 31 57.2	-2.2
CAF	**Calviac**	**0.90**	**264**	*e*Pn	Pn	01 31 57.6	-3.8
CAF				*e*Sg	Sg	01 32 08.6	-2.4
	4.5nm,0.2s						
VIVF	**Saint-Julien-l**	**0.97**	**99**	*e*Pg	Pg	01 32 00.1	-0.8
VIVF				*e*Sg	Sg	01 32 12.5	-1.0
	2.0nm,0.2s						
LASF	**Ste Croix**	**1.02**	**158**	*e*Pg	Pg	01 31 59.6	-2.1
LASF	**Ste Croix**	**1.02**	**158**	*e*Pn	Pn	01 32 00.2	-2.9
LASF				*e*Sg	Sg	01 32 12.2	-2.8
	2.9nm,0.3s						
AGO	**Saint Agoulin**	**1.04**	**353**	Pg	Pg	01 32 02.0	-0.2
AGO				Sg	Sg	01 32 16.0	+0.3
RJF	**Les Rejaudoux**	**1.31**	**283**	*e*Pg	Pg	01 32 05.5	-1.8
RJF				*e*Sg	Sg	01 32 21.7	-2.5
	2.2nm,0.2s						
TCF	**Toulx Ste Croi**	**1.49**	**329**	*e*Pg	Pg	01 32 09.9	-0.8
TCF				*e*Sg	Sg	01 32 29.3	-0.7
	0.6nm,0.2s						
BGF	**Bois d'Agland**	**1.57**	**348**	*e*Pg	Pg	01 32 11.1	-1.3
BGF				*e*Sg	Sg	01 32 31.6	-1.2
	1.4nm,0.2s						
SMF	**Signal de Mont**	**1.67**	**12**	*e*Pg	Pg	01 32 13.2	-0.9
SMF				*e*Sg	Sg	01 32 34.8	-0.9
	1.1nm,0.2s						
AVF	**Avril sur Loir**	**1.77**	**1**	*e*Pg	Pg	01 32 15.0	-1.2
AVF				*e*Sg	Sg	01 32 37.7	-1.4
	0.9nm,0.3s						
LFF	**La Frestale**	**1.83**	**268**	*e*Pg	Pg	01 32 14.7	-2.6
LFF				*e*Sg	Sg	01 32 38.1	-3.0
	3.8nm,0.4s						
MTLF	**Montolieu**	**1.86**	**206**	*e*Pg	Pg	01 32 14.6	-3.2
MTLF				*e*Sg	Sg	01 32 37.7	-4.2
	1.4nm,0.3s						
SMRF	**Simiane la Rot**	**1.92**	**122**	*e*Pg	Pg	01 32 16.5	-2.5
SMRF				*e*Sg	Sg	01 32 41.6	-2.4
	0.6nm,0.4s						
SSF	**Saint Saulge**	**2.05**	**4**	*e*Pg	Pg	01 32 20.3	-1.1
SSF				*e*Sg	Sg	01 32 46.7	-1.2
	0.7nm,0.3s						
LOR	**Lormes**	**2.28**	**9**	*e*Pg	Pg	01 32 24.3	-1.6
LOR				*e*Sg	Sg	01 32 53.4	-2.0
	1.4nm,0.3s						
HYF	**Humbligny**	**2.30**	**348**	*e*Pg	Pg	01 32 24.4	-1.8
HYF				*e*Sg	Sg	01 32 54.4	-1.6
CABF	**La Chapelle**	**2.50**	**50**	*e*Pg	Pg	01 32 28.4	-1.8
CABF				*e*Sg	Sg	01 33 01.6	-1.1
	0.3nm,0.2s						
MFF	**Saint Martin d**	**2.90**	**304**	*e*Pg	Pg	01 32 33.9	-3.8
MFF				*e*Sg	Sg	01 33 12.0	-3.2
	0.9nm,0.3s						

IDC ***08*** *01:32:53.3±13.0, 771S×12793E, h131km±145km, mb3.1/1, mb1 3.3/4, mb1mx3.2/13, mbtmp3.6/4, ML3.6/3, Error ellipse: s-maj=94.8km s-min=57.2km az=31.0*
NEIC ***08*** *01:32:54.5±2.4, 798S×12780E, h155km±29km, mb4.1/5, Error ellipse: s-maj=21.4km s-min=13.1km az=187.0*
ISCJB ***08*** *01:32:56.4±2.0, 8.1S±0.1×1279E±0.1, h198km±23km, mb3.7/3, Error ellipse: s-maj=23.5km s-min=12.4km az=95.5*
ISC 08 01:32:54.2±2.1, 79S±01×1279E±01, h148km±23km, n14, σ0§87/20, mb3.9/3, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.57**	**137**	⇓*i*P	**Pn**	**01 34 28.1**	**-0.3**
	2.8nm,0.2s						
KAKA				*e*S	**Sn**	**01 35 36.6**	**-5.5**
FITZ	**Fitzroy Crossi**	**10.35**	**192**	*e*P	**Pn**	**01 35 22.5**	**+3.7**
	6.7nm,1.6s						
FITZ				*e*S	**Sn**	**01 37 17.3**	**+4.0**
FITZ	**Fitzroy Crossi**	**10.35**	**192**	P	**Pn**	**01 35 22.3**	**+3.4**
	0.5nm,0.3s,baz=13,slow=12,SNR=36						
FITZ				S	**Sn**	**01 37 17.2**	**+3.9**
	0.8nm,0.3s,baz=311,slow=22,SNR=3.7						
WRAB	**Tennant Creek**	**13.51**	**153**	*e*Pn	**Pn**	**01 35 59.5**	**-0.3**
WRAB				*e*Sn	**Sn**	**01 38 23.1**	**-6.2**
WRA	**Warramunga Arr**	**13.51**	**153**	P	**Pn**	**01 35 59.8**	**-0.1**
	0.3nm,0.3s,baz=326,slow=13,SNR=3.1						
WRA				S	**Sn**	**01 38 22.9**	**-6.4**
	1.2nm,0.3s,baz=334,slow=22,SNR=8.1						
WB2	**Warramunga Arr**	**13.52**	**153**	*e*P	**Pn**	**01 35 59.5**	**-0.4**
WB2				*e*S	**Sn**	**01 38 20.5**	**-9.0**
MBWA	**Marble Bar**	**15.33**	**210**	*e*Pn	**Pn**	**01 36 21.6**	**-1.1**
	9.1nm,0.9s						
ASAR	**Alice Springs**	**16.70**	**160**	P	**Pn**	**01 36 42.7**	**+3.2**
	0.3nm,0.3s,baz=341,slow=11,SNR=19						
ASAR				S	**S**	**01 39 45.0**	**-0.2**
	0.2nm,0.3s,baz=343,slow=25,SNR=6.1						
KULM	**Kulim**	**30.14**	**295**	*e*P	**P**	**01 38 50.4**	**+0.4**
HNR	**Honiara**	**31.76**	**95**	*e*P	**P**	**01 39 04.7**	**+0.5**
LSA	**Lhasa**	**51.42**	**318**	*e*P	**P**	**01 41 43.8**	**-0.1**
	4.1nm,0.3s,mb4.5						
MKAR	**Makanchi Array**	**67.84**	**328**	P	**P**	**01 43 36.5**	**+0.2**
	0.2nm,0.3s,mb3.3,baz=121,slow=6.9,SNR=3.3						
KURK	**Kurchatov**	**72.20**	**330**	*e*P	**P**	**01 44 02.5**	**-0.4**
	0.8nm,0.5s,mb3.7						
PV10	**Paradox Valley**	**120.66**	**50**	*e*PKPdf	PKPdf	01 51 32.3	+3.9

IDC ***08*** *01:33:03.7±1.2, 36.16N×142.00E, h0km, mb3.7/6, mb1 3.8/9, mb1mx3.7/22, mbtmp3.9/9, ML3.8/3, MS3.0/1, Ms1 3.0/1, ms1mx2.2/28, Error ellipse: s-maj=28.1km s-min=25.9km az=86.0*
ISCJB ***08*** *01:33:05.4±1.7, 36.17N±004×142.05E±0.08, h25km±11km, mb3.8/11, Error ellipse: s-maj=10.7km s-min=6.1km az=21.7*
MOS ***08*** *01:33:06.1±0.9, 36.05N×142.05E, h33km, mb4.3/5, Error ellipse: s-maj=22.1km s-min=11.8km az=35.3*
JMA ***08*** *01:33:06.7±0.3, 36.19N×141.93E, h69km, M3.4*
NEIC ***08*** *01:33:09.7±1.7, 36.08N×141.90E, h42km±13km, mb4.0/5, Error ellipse: s-maj=16.0km s-min=12.8km az=97.0*
ISC 08 01:33:05.3±1.4, 3616N±004×14201E±007, h12km±8km, n41, σ0§90/47, mb3.8/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.04**	**245**	P	**Pg**	**01 33 25.3**	**0.0**
CHOJ				*e*S	**Sg**	**01 33 39.2**	**+0.3**
JHO	**Hitachi**	**1.25**	**292**	P	**Pn**	**01 33 26.8**	**-1.7**
ONAJ	**Iwakimizuishiy**	**1.36**	**314**	P	**Pn**	**01 33 28.7**	**-1.3**
JFK	**Kawauchi**	**1.52**	**323**	P	**Pn**	**01 33 31.5**	**-0.7**
JFK				*e*S	**Sn**	**01 33 49.4**	**-2.4**
BSO1	**Boso 1**	**1.72**	**210**	P	**Pn**	**01 33 35.2**	**+0.2**
BSO1				*e*S	**Sn**	**01 33 57.8**	**+0.9**
BSO3	**Boso 3**	**1.82**	**223**	P	**Pn**	**01 33 36.8**	**+0.4**
BSO3				*e*S	**Sn**	**01 33 59.6**	**+0.1**
JFT	**Otama**	**1.91**	**316**	P	**Pn**	**01 33 37.7**	**+0.1**
JMM	**Marumori**	**1.97**	**331**	P	**Pn**	**01 33 38.6**	**+0.2**
JAG	**Ashikaga**	**2.08**	**278**	P	**Pn**	**01 33 39.3**	**-0.7**
JFY	**Yanaizu**	**2.23**	**305**	P	**Pn**	**01 33 42.8**	**+0.7**
JRY	**Ryogami san**	**2.52**	**268**	P	**Pn**	**01 33 45.5**	**-0.6**
JOD2	**Odawara 2**	**2.54**	**250**	P	**Pn**	**01 33 46.3**	**0.0**
JOD2				*e*S	**Sn**	**01 34 16.1**	**-1.1**
JIM2	**Oshima 3**	**2.55**	**236**	P	**Pn**	**01 33 45.8**	**-0.6**
MJAR	**Matsushiro Arr**	**3.10**	**278**	Pn	**Pn**	**01 33 54.8**	**+0.9**
	7.5nm,0.3s,baz=100,slow=8.9,SNR=85						
MAJO	**Matsushiro**	**3.10**	**278**	*e*P	**Pn**	**01 33 54.9**	**+1.0**
MAT	**Matsushiro**	**3.10**	**278**	P	**Pn**	**01 33 54.7**	**+0.8**
MAT				*e*S	**Sn**	**01 34 34.0**	**+3.1**
MAT	**Matsushiro**	**3.10**	**278**	*e*P	**Pn**	**01 33 55.0**	**+1.1**
MAT				*e*S	**Sn**	**01 34 34.0**	**+3.1**
JHJ	**Hachijo jima 2**	**3.54**	**212**	Pn	**Pn**	**01 33 59.9**	**-0.2**
	18nm,0.3s,baz=50,slow=20,SNR=3.2						
JHJ				Sn	**Sn**	**01 34 38.5**	**-3.4**
	61nm,0.3s,baz=277,slow=22,SNR=6.8						
ASAJ	**Asahikawa**	**7.96**	**3**	LR	LR	01 39 06.8	
	comp=Z,91nm,18.1s,baz=217,slow=46						
CBIJ	**Chichi jima**	**9.04**	**179**	Pn	**Pn**	**01 35 13.9**	**-1.5**
	5.0nm,0.3s,baz=270,slow=22,SNR=7.2						
YHNB	**Yeheng**	**21.12**	**243**	P	**P**	**01 37 50.1**	**+0.4**
ULN	**Ulaanbaatar**	**28.25**	**305**	*e*P	**P**	**01 38 58.9**	**+0.7**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
ULN	**Ulaanbaatar**	**28.25**	**305**	*e*P	**P**	**01 38 58.9**	**+0.8**
	comp=Z,0.8nm,0.4s,mb3.7						
SONM	**Songino Array**	**28.68**	**305**	P	**P**	**01 39 02.9**	**+0.9**
	comp=Z,1.0nm,0.5s,mb3.8,baz=100,slow=9.0,SNR=6.6						
TLY	**Talaya**	**31.27**	**312**	P	**P**	**01 39 25.6**	**+0.7**
ZAL	**Zalesovo**	**42.88**	**313**	P	**P**	**01 41 02.8**	**-0.6**
	baz=5.4,slow=6.4,SNR=5.3						
MKAR	**Makanchi Array**	**45.00**	**303**	P	**P**	**01 41 20.6**	**+0.1**
	comp=Z,1.0nm,0.6s,mb3.9,baz=92,slow=9.2,SNR=11						
KURK	**Kurchatov**	**46.85**	**309**	*e*P	**P**	**01 41 35.0**	**-0.1**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
KURK	**Kurchatov**	**46.85**	**309**	*e*P	**P**	**01 41 35.0**	**-0.1**
	comp=Z,1.9nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**52.35**	**313**	*e*P	**P**	**01 42 17.4**	**+0.4**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
ZRNK	**Zerenda**	**52.35**	**313**	*e*P	**P**	**01 42 17.4**	**+0.3**
	comp=Z,0.6nm,0.3s,mb4.0						
INK	**Inuvik**	**54.95**	**27**	*e*P	**P**	**01 42 37.7**	**+1.6**
	comp=Z,0.4nm,0.4s,mb3.8						
WRAB	**Tennant Creek**	**56.25**	**189**	*e*P	**P**	**01 42 44.9**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
WRAB	**Tennant Creek**	**56.25**	**189**	*e*P	**P**	**01 42 44.9**	**-0.6**
	comp=Z,5.6nm,0.9s,mb4.6						
YKA	**Yellowknife Ar**	**64.32**	**30**	P	**P**	**01 43 41.0**	**+0.3**
	comp=Z,0.1nm,0.8s,mb2.9,baz=302,slow=5.8,SNR=2.7						
YKA	**Yellowknife Ar**	**64.32**	**30**	P	**P**	**01 43 41.0**	**+0.3**
FINES	**FINESS Array B**	**69.81**	**333**	P	**P**	**01 44 15.6**	**+0.1**
	comp=Z,0.8nm,0.7s,mb3.8,baz=113,slow=2.5,SNR=3.8						
NB2	**NORSAR Subarra**	**75.18**	**338**	P	**P**	**01 44 47.6**	**+0.1**
	comp=Z,0.3nm,0.5s,mb3.5,baz=40,slow=5.9						
NOA	**NORSAR Array B**	**75.18**	**338**	P	**P**	**01 44 46.4**	**-1.1**
	comp=Z,0.6nm,0.8s,mb3.7,baz=39,slow=5.7,SNR=4.0						
AKASG	**Malin Array Be**	**75.29**	**323**	P	**P**	**01 44 48.2**	**0.0**
	comp=Z,0.5nm,0.4s,mb3.8,baz=45,slow=5.3,SNR=5.3						
LPAZ	**La Paz**	**146.70**	**61**	PKPbc	PKPbc	01 52 49.4	+2.4
	comp=Z,0.5nm,0.6s,baz=156,slow=4.3,SNR=5.9						

ISCJB ***08*** *01:43:40.0±0.2, 305N±003×97.19E±003, h19km, mb5.1/149, MS4.5/45, Error ellipse: s-maj=4.9km s-min=3.8km az=60.3*
IDC ***08*** *01:43:40.2±3.2, 305N×9722E, h15km±19km, mb4.5/21, mb1 4.5/21, mb1mx4.5/23, mbtmp4.5/21, MS4.4/13, Ms1 4.4/13, ms1mx4.1/18, Error ellipse: s-maj=19.1km s-min=11.4km az=40.0*
HRVD ***08*** *01:43:41.0±0.2, 306N×9724E, h23km±1km, MW5.2/75, Centroid moment Tensor Solution. LP body waves: s49,c73; Mantle waves: s75,c130; Half duration: 1§0 Moment tensor: Scale 10^17Nm; Mrr0.05±.02; Mθθ-0.80±.02; Mϕϕ0.75±.02; Mrθ-0.19±.03; Mrϕ0.04±.01; Mθϕ0.17±.03; Best double couple: M0.81700×10^17 NP1:ϕs46.00000°, δ72.00000°, λ0.00000°. NP2: ϕs316.00000°, δ90.00000°, λ162.00000°. Principal axes: T 0.7890, Plg13.0000°, Azm270.0000°; N 0.0570, Plg72.0000°, Azm136.0000°; P -0.8450, Plg13.0000°, Azm3.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***08*** *01:43:41.0±1.5, 3.17N×97.10E, h11km±9km, mb5.2/78, MS4.3/4 Error ellipse: s-maj=9.1km s-min=6.2km az=217.0*
NEIC Felt [III] at Meulaboh. Felt at Medan.
MOS ***08*** *01:43:41.9±1.0, 327N×97.47E, h33km, mb5.3/74, MS4.3/16, Error ellipse: s-maj=11.5km s-min=4.3km az=124.4*
BJI ***08*** *01:43:41.0, 330N×9673E, h10km, mB4.9, mb4.8, Ms5.0, Msz4.8*
CRAAG ***08*** *01:43:43.1, 3.10N×97.32E, Mb5.2*
SZGRF ***08*** *01:43:46.8, 352N×9693E, h21km, mb5.0, Northern Sumatera, Indonesia*
ISC 08 01:43:42.1±0.2, 307N±003×9721E±003, h20km, h20km±1.3km, §pP-P, n485, σ1§20/454, mb5.1/149, MS4.5/45, 30C-26D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.73**	**99**	Pn	**Pn**	**01 44 11.4**	**+0.4**
	493nm,0.3s,baz=303,slow=13,SNR=1046						
PSI				Lg		01 44 36.6	
	299nm,0.3s,baz=328,slow=22,SNR=6.1						
PSI				LR	LR	01 44 59.3	
	comp=Z,14μm,20.4s,baz=131,slow=46						
PSI	**Prapat**	**1.73**	**99**	P	**Pn**	**01 44 11.5**	**+0.4**
PSI						01 44 36.7	
BSI	**Banda Aceh**	**3.08**	**322**	P	**Pn**	**01 44 29.6**	**+0.1**
	4μm,0.8s						
IPM	**Ipoh**	**4.06**	**70**	P	**Pn**	**01 44 45.2**	**+2.2**
KULM	**Kulim**	**4.08**	**57**	*e*Pn	**Pn**	**01 44 45.0**	**+1.7**
KULM				*e*Sn	**Sn**	**01 45 40.5**	**+10**
PPI	**Padang Panjang**	**4.74**	**138**	P	**Pn**	**01 44 52.4**	**+0.1**
	584nm,1.2s						
SNG	**Songkhla**	**5.31**	**40**	P	**Pn**	**01 45 01.0**	**+0.8**
	1μm,1.0s						
KGM	**Kluang**	**6.19**	**100**	P	**Pn**	**01 45 15.4**	**+3.0**
KSI	**Kapahiang**	**8.57**	**141**	P	**Pn**	**01 45 45.8**	**+0.8**
	187nm,0.9s						
NNT	**Nongplab**	**9.79**	**15**	P	**Pn**	**01 46 06.0**	**+4.4**
KSM	**Kuching**	**13.19**	**97**	*e*Pn	**Pn**	**01 46 51.6**	**+3.5**
CHG	**Chiang Mai**	**15.74**	**6**	⇑P	**Pn**	**01 47 25.5**	**+2.9**
	84nm,0.9s						
CHG				S	**Sn**	**01 50 31.3**	**+15**
CHTO	**Chiang Mai**	**15.74**	**6**	*e*P	**Pn**	**01 47 23.3**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,60nm,0.8s						
CHTO	**Chiang Mai**	**15.74**	**6**	*e*Pn	**Pn**	**01 47 23.3**	**+0.7**
	comp=Z,60nm,0.8s						
NANT	**Nan**	**16.00**	**12**	⇑P	**Pn**	**01 47 28.0**	**+2.0**
	comp=Z,488nm,1.0s						
CHRT	**Chiangrai**	**16.89**	**8**	⇑P	**Pn**	**01 47 40.0**	**+2.8**
	comp=Z,408nm,0.8s						
PALK	**Pallekele**	**16.96**	**285**	P	**Pn**	**01 47 39.3**	**+1.2**
	comp=Z,856nm,1.1s,SNR=15						
PALK	**Pallekele**	**16.96**	**285**	Pn	**Pn**	**01 47 39.7**	**+1.6**
	comp=Z,181nm,1.1s						
KKM	**Kota Kinabalu**	**19.17**	**80**	P	**Pn**	**01 48 06.4**	**+1.1**
KKM	**Kota Kinabalu**	**19.17**	**80**	*e*P	**Pn**	**01 48 06.5**	**+1.2**
VIS	**Vishakhapatnam**	**19.93**	**318**	*e*P	**Pn**	**01 48 14.0**	**-0.4**
VIS				AMb	AMB	01 48 26.4	
	comp=Z,71nm,1.0s						
VIS				*ex*	x	01 51 50.7	
QIZ	**Qiongzhong**	**20.11**	**37**	P	**P**	**01 48 17.0**	**+2.5**
QIZ				S	**S**	**01 52 03.9**	**+4.4**
QIZ				XS	sS	01 52 09.7	+1.2
QIZ				LR	LR		
	comp=N,4μm,19.7s,MS4.9						
QIZ				LR	LR		
	comp=E,4μm,19.2s,MS4.9						
QIZ				LR	LR		
	comp=Z,3μm,12.1s						
QIZ	**Qiongzhong**	**20.11**	**37**	*e*P	**P**	**01 48 14.3**	**-0.2**
	comp=Z,48nm,1.1s						
QIZ				*e*		01 48 24.7	
TRD	**Trivandrum**	**20.85**	**286**	*e*P	**P**	**01 48 24.5**	**+1.9**
TRD				AMb	AMB	01 48 29.6	
	comp=Z,202nm,1.1s						
KMI	**Kunming**	**22.57**	**13**	P	**P**	**01 48 42.8**	**+1.8**
KMI				PP		01 49 11.9	
KMI				PPP		01 49 21.9	
KMI				PCP	PcP	01 52 37.3	+3.2
KMI				S	**S**	**01 52 41.8**	**-6.0**
KMI				SS		01 53 24.7	
KMI				SSS		01 53 40.0	
KMI				SCP	ScP	01 56 09.9	-0.7
KMI				PCS	PcS	01 56 14.7	+1.8
KMI				AMB	AMB		
	comp=Z,35nm,1.1s,mb4.7						
KMI				LR	LR		
	comp=N,1μm,14.6s,MS4.9						
KMI				LR	LR		
	comp=E,3μm,15.1s,MS4.9						
KMI				LR	LR		
	comp=Z,2μm,15.1s,MS4.6						
SHL	**Shillong**	**22.95**	**348**	*e*P	**P**	**01 48 45.6**	**+0.6**
HYB	**Hyderabad**	**23.20**	**309**	*i*P	**P**	**01 48 49.0**	**+1.3**
	comp=Z,125nm,1.0s,mb5.3						
HYB				*e*S	**S**	**01 52 57.0**	**-1.4**
HYB				LR	LR	01 58 40.0	
	comp=Z,2.7nm,18.0s						
BOK	**Bokaro**	**23.33**	**333**	*e*P	**P**	**01 48 48.9**	**-0.2**
BOK				AMb	AMB	01 49 01.9	
	comp=Z,48nm,0.7s,mb5.0						
BLSP	**Bilaspur**	**23.94**	**324**	*ex*	x	01 49 10.0	
MNGI	**Mangalore**	**24.21**	**295**	*e*P	**P**	**01 48 59.4**	**+2.0**
MNGI				AMb	AMB	01 49 02.6	
	comp=Z,134nm,1.8s,mb5.1						
GYA	**Guiyang**	**24.96**	**20**	⇑*i*P	**P**	**01 49 04.9**	**+0.7**
GYA				A

POO ex x 01 49 52.6
KOLN Koldanda 27.79 333 eP **P** **01 49 28.7 -1.0**
comp=Z,44nm,0.6s,mb5.3
CD2 Chengdu 28.38 12 P **P** **01 49 33.6 -1.3**
CD2 AP pP 01 49 37.9 -3.0
CD2 XP sP 01 49 40.6 -2.8
CD2 S **S** **01 54 18.5 -2.2**
CD2 XS sS 01 54 25.9 -4.7
CD2 SS 01 55 43.1
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.7
CD2 AMB AMB
comp=Z,70nm,9.0s
CD2 LR LR
comp=N,2μm,18.0s
CD2 LR LR
comp=Z,920nm,14.4s,MS4.5
QZH Quanzhou 29.95 42 eP **P** **01 49 55.0 +6.1**
QZH eS **S** **01 54 47.0 +1.5**
QZH LR LR
comp=Z,2μm,15.3s,MS4.9
NDI New Delhi 31.80 325 eP **P** **01 50 05.5 +0.3**
NDI AMb AMB 01 50 15.0
comp=Z,35nm,0.5s,mb5.4
DDI Dehra Dun 32.61 328 ex x 01 50 05.2
MBWA Marble Bar 32.66 139 eP **P** **01 50 15.8 +3.1**
XAN Xi'an 32.69 18 P **P** **01 50 10.9 -2.1**
XAN AP pP 01 50 16.6 -2.5
XAN XP sP 01 50 19.7 -1.8
XAN PPP 01 51 39.4
XAN S **S** **01 55 34.1 +5.8**
XAN AMB AMB
comp=Z,6.0nm,0.9s,mb4.5
XAN LR LR
comp=E,2μm,19.4s
XAN LR LR
comp=Z,2μm,14.0s
BHJ Bhuj 33.37 309 eP **P** **01 50 20.5 +1.5**
BHJ AMb AMB 01 50 29.8
comp=Z,81nm,1.4s,mb5.5
LZH Lanzhou 33.42 10 eP **P** **01 50 21.5 +2.1**
LZH AP pP 01 50 32.0 +6.5
LZH PP PP 01 51 33.0 -2.1
LZH eS **S** **01 55 39.0 -0.7**
LZH SS SS 01 57 40.0 -24
LZH AMB AMB
comp=Z,19nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,68nm,4.4s
LZH LR LR
comp=E,3μm,16.2s
LZH LR LR
comp=Z,4μm,17.5s,MS5.2
SMLA Simla 33.71 328 eP **P** **01 50 24.0 +2.1**
SMLA AMb AMB 01 50 40.4
comp=Z,97nm,1.9s,mb5.4
SWI Sorong 34.26 96 P **P** **01 50 27.5 +0.8**
comp=Z,79nm,1.4s,mb5.5
FITZ Fitzroy Crossi 35.03 128 eP **P** **01 50 31.0 -2.4**
comp=Z,23nm,0.6s,mb5.3
FITZ Fitzroy Crossi 35.03 128 P **P** **01 50 31.0 -2.3**
comp=Z,6.4nm,0.9s,mb4.6,baz=260,slow=7.2,SNR=4.5
NJ2 Nanjing 35.29 33 eP **P** **01 50 40.0 +4.4**
NJ2 AP pP 01 50 43.6 +2.0
NJ2 XP sP 01 50 47.1 +3.0
NJ2 PP PP 01 51 59.1 +3.4
NJ2 S **S** **01 56 11.0 +2.5**
NJ2 XS sS 01 56 21.0 +2.5
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
NJ2 AMB AMB
comp=Z,110nm,10.0s
NJ2 LR LR
comp=N,210nm,22.3s,MS4.1
NJ2 LR LR
comp=E,400nm,26.0s,MS4.1
NJ2 LR LR
comp=Z,220nm,25.4s,MS3.8
DLH Dalhousie 35.45 328 eP **P** **01 50 37.0 0.0**
SSE Sheshan 35.90 36 P **P** **01 50 40.9 +0.1**
SSE AP pP 01 50 54.0 +7.1
SSE PP PP 01 52 02.4 -0.1
SSE S **S** **01 56 13.7 -4.2**
SSE XS sS 01 56 35.5 +7.6
SSE AMB AMB
comp=Z,27nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,39nm,3.8s
SSE LR LR
comp=N,3μm,21.0s,MS5.2
SSE LR LR
comp=E,3μm,21.0s,MS5.2
SSE LR LR
comp=Z,1μm,15.1s
GTA Gaotai 36.25 3 eP **P** **01 50 43.5 -0.3**
GTA AP pP 01 50 56.1 +6.2
GTA PP PP 01 52 05.8 -0.6
GTA PCP PcP 01 53 11.5 +2.8
GTA S **S** **01 56 17.2 -6.0**
GTA XS sS 01 56 36.9 +3.7
GTA SCS ScS 02 00 58.5 -1.5
GTA AMB AMB
comp=Z,9.0nm,0.8s,mb4.8
GTA AMB AMB
comp=Z,72nm,4.6s
GTA LR LR
comp=N,457nm,19.4s,MS4.5
GTA LR LR
comp=E,646nm,18.6s,MS4.5
GTA LR LR
comp=Z,572nm,25.9s
JOW Kunigami 37.98 49 LR LR 02 06 25.6
comp=Z,247nm,18.6s,MS4.0,baz=310,slow=36
KAKA Kakadu 38.34 115 eP **P** **01 51 00.9 -0.7**
comp=Z,21nm,0.6s,mb5.0
MUN Mundaring 39.25 154 eP **P** **01 51 09.5 +0.3**
KLBR Kellerberrin 39.62 152 eP **P** **01 51 11.8 -0.5**
comp=Z,60nm,0.9s,mb5.3
HHC Hu-ho-hao-te 39.78 17 eP **P** **01 51 14.7 +1.1**
HHC AP pP 01 51 26.8 +7.1
HHC PP PP 01 52 52.6 +7.6
HHC PCP PcP 01 53 21.4 +1.8
HHC SCP ScP 01 57 06.6 -0.8
HHC PCS PcS 01 57 11.4 +1.7
HHC S **S** **01 57 15.6 -1.0**
HHC XS sS 01 57 34.9 +8.2
HHC SS SS 02 00 09.8 -2.9
HHC SCS ScS 02 01 15.9 -4.2
HHC AMB AMB
comp=Z,15nm,1.1s,mb4.6
HHC AMB AMB
comp=Z,77nm,4.2s
HHC LR LR
comp=N,1μm,13.9s,MS5.1
HHC LR LR
comp=E,2μm,18.0s,MS5.1
HHC LR LR
comp=Z,1μm,13.4s,MS4.8
NWAO Narrogin (SRO) 40.51 154 P **P** **01 51 19.1 -0.5**
comp=Z,25nm,0.7s,mb4.9,baz=323,slow=8.4,SNR=13
NWAO LR LR 02 05 50.2
comp=Z,677nm,21.7s,MS4.5,baz=326,slow=33
NWAO Narrogin (SRO) 40.51 154 P **P** **01 51 21.7 +2.1**
NWAO *e* pP 01 51 27.6 +1.8
NWAO pmax pmax
comp=Z,119nm,1.3s
NWAO Narrogin (SRO) 40.51 154 P **P** **01 51 21.7 +2.1**
comp=Z,119nm,1.3s,mb5.4
NWAO *e* pP 01 51 27.6 +1.8
BJT Baijiatuau 40.59 23 eP **P** **01 51 24.6 +4.3**
BJT pmax pmax
comp=Z,18nm,0.8s
BJT Baijiatuau 40.59 23 eP **P** **01 51 24.6 +4.3**
comp=Z,18nm,0.8s,mb4.8
BJI Beijing 40.62 23 eP **P** **01 51 25.3 +4.8**
BJI PCP PcP 01 53 19.7 -2.6
BJI S **S** **01 57 38.3 +9.1**
BJI AMB AMB
comp=Z,17nm,0.6s,mb4.8
BJI LR LR
comp=N,2μm,18.5s,MS5.0
BJI LR LR
comp=E,952nm,20.0s,MS5.0
BJI LR LR
comp=Z,581nm,21.9s,MS4.4

KSH Kashi 41.09 335 eP **P** **01 51 29.0 +4.6**
KSH ePCP PcP 01 53 27.4 +3.6
KSH ePPP 01 53 37.6
KSH eSCP ScP 01 57 11.1 -1.4
KSH ePCS PcS 01 57 15.3 +0.4
KSH eS **S** **01 57 38.5 +2.3**
KSH eSCS ScS 02 01 26.1 -1.8
KSH AMB AMB
comp=Z,114nm,4.7s
KSH LR LR
comp=N,226nm,6.1s
KSH LR LR
comp=E,262nm,5.8s
KSH LR LR
comp=Z,360nm,12.9s,MS4.4
WMQ Urumqi 41.45 350 P **P** **01 51 26.5 -0.9**
WMQ AP pP 01 51 38.5 +5.0
WMQ PP PP 01 53 05.3 +2.1
WMQ PCP PcP 01 53 26.5 +1.5
WMQ PPP 01 53 35.0
WMQ S **S** **01 57 36.1 -5.4**
WMQ AMB AMB
comp=Z,106nm,0.6s,mb5.7
WMQ AMB AMB
comp=Z,126nm,6.4s
WMQ LR LR
comp=N,365nm,28.0s,MS4.2
WMQ LR LR
comp=E,113nm,24.6s,MS4.2
WMQ LR LR
comp=Z,251nm,21.7s,MS4.0
DL2 Dalian 42.04 29 P **P** **01 51 36.9 +4.7**
DL2 eS **S** **01 57 58.2 +7.9**
DL2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
DL2 LR LR
comp=N,380nm,18.9s,MS4.8
DL2 LR LR
comp=E,1μm,19.8s,MS4.8
DL2 LR LR
comp=Z,600nm,16.6s,MS4.5
WRA Warramunga Arr 43.03 124 P **P** **01 51 38.4 -1.9**
comp=Z,20nm,0.8s,mb4.9,baz=303,slow=9.1,SNR=36
WRAB Tennant Creek 43.04 124 P **P** **01 51 39.0 -1.3**
comp=Z,364nm,0.6s,SNR=7.6
WRAB Tennant Creek 43.04 124 P **P** **01 51 39.0 -1.3**
WRAB *e* pP 01 51 44.7 -1.8
WB2 Warramunga Arr 43.04 124 ⇓ *i* P **P** **01 51 38.6 -1.8**
BSY Bisya 43.40 300 P **P** **01 51 45.4 +2.1**
SNR=7.6
KZA Kyzart 43.53 336 P **P** **01 51 44.9 +0.6**
SNR=7.5
UCH Uchtor 43.96 336 P **P** **01 51 47.7 0.0**
SNR=28
TKM2 Tokmak 2 44.11 337 P **P** **01 51 49.1 +0.2**
SNR=17
KBK Karagaybulak 44.14 336 P **P** **01 51 50.5 +1.2**
SNR=11
AML Almayashu 44.22 335 P **P** **01 51 49.9 0.0**
SNR=18
AAK Ala-Archa 44.30 336 P **P** **01 51 51.2 +0.6**
SNR=11
AAK Ala-Archa 44.30 336 P **P** **01 51 50.0 -0.5**
comp=Z,162nm,0.7s,mb5.9,SNR=12
AAK Ala-Archa 44.30 336 eP **P** **01 51 49.7 -0.8**
AAK eS **S** **01 58 21.6 -1.9**
AAK pmax pmax
comp=Z,31nm,1.0s,mb5.0
AAK Ala-Archa 44.30 336 eP **P** **01 51 49.7 -0.8**
comp=Z,31nm,1.0s,mb5.0
AAK eS **S** **01 58 21.6 -1.9**
FRU Bishkek 44.42 336 eP **P** **01 51 52.5 +1.0**
FRU *e* 01 58 27.5
FRU MLR MLR
comp=E,1μm,22.0s
FRU MLR MLR
comp=Z,900nm,22.0s,MS4.7
CHMS Chumysh 44.51 336 P **P** **01 51 51.5 -0.6**
SNR=9.4
ASAR Alice Springs 44.53 129 P **P** **01 51 50.7 -1.6**
comp=Z,3.7nm,0.6s,mb4.4,baz=302,slow=7.8,SNR=32
EKS2 Erkin-Say 44.62 335 P **P** **01 51 53.1 +0.1**
SNR=18
FORT Forrest 44.70 141 eP **P** **01 51 53.2 -0.5**
comp=Z,79nm,0.6s,mb5.7
USP Ospenovka 44.83 336 P **P** **01 51 54.1 -0.6**
SNR=25
WHFO Wadi Hawf 45.04 292 P **P** **01 51 57.9 +1.5**
SNR=8.5
ASHO Ashiyiah 45.08 302 P **P** **01 52 00.4 +3.7**
SNR=6.5
SONM Songino Array 45.30 9 P **P** **01 51 57.3 -1.1**
comp=Z,4.0nm,0.5s,mb4.5,baz=190,slow=8.6,SNR=21
SONM ScP ScP 01 57 30.2 +0.6
comp=Z,2.1nm,1.1s,baz=181,slow=6.8,SNR=3.3
ULN Ulaanbaatar 45.43 9 eP **P** **01 51 57.8 -1.7**
ULN Ulaanbaatar 45.43 9 P **P** **01 51 59.2 -0.3**
MK31 Makanchi Array 45.44 346 P **P** **01 51 58.1 -1.5**
MK31 pmax pmax
comp=Z,20nm,0.9s,mb5.0
MKAR Makanchi Array 45.44 346 P **P** **01 51 57.5 -2.1**
comp=Z,11nm,0.6s,mb4.9,baz=162,slow=7.6,SNR=85
KK31 Karatay Array 46.40 333 *i* P **P** **01 52 06.4 -0.7**
KK31 pmax pmax
comp=Z,12nm,0.8s,mb4.9
KKAR Karatay Array 46.40 333 *i* P **P** **01 52 06.4 -0.7**
KKAR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
ZAK Zakamensk 47.42 5 eP **P** **01 52 13.7 -1.4**
ZAK pmax pmax
comp=Z,13nm,1.7s,mb4.6
CN2 Changchun 47.65 28 eP **P** **01 52 20.3 +3.4**
CN2 eS **S** **01 59 11.5 -0.1**
CN2 SS SS 02 02 33.8 -6.0
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,600nm,14.0s,MS4.9
CN2 LR LR
comp=E,800nm,14.0s,MS4.9
CN2 LR LR
comp=Z,1μm,15.0s,MS5.0
GUMO Guam 48.21 75 LR LR 02 09 41.5
comp=Z,233nm,20.6s,MS4.2,baz=246,slow=32
MOY Mondy 48.53 3 eP **P** **01 52 23.3 -0.4**
MOY pmax pmax
comp=Z,16nm,3.1s
IRK Irkutsk 49.36 6 eP **P** **01 52 35.6 +5.5**
IRK *e* 01 53 57.2
IRK *e* 01 59 33.1
IRK pmax pmax
comp=Z,35nm,2.3s,mb5.0
ABKT Ailbek 49.80 319 P **P** **01 52 33.3 -0.1**
comp=Z,321nm,0.7s,SNR=12
VAN Vannovskaya 49.82 319 eP **P** **01 52 33.5 -0.1**
VAN eS **S** **01 59 41.7 -0.4**
KURK Kurchatov 50.00 345 P **P** **01 52 33.5 -1.5**
comp=Z,84nm,0.6s,mb6.0,SNR=13
KURK Kurchatov 50.00 345 *d* iP **P** **01 52 33.2 -1.8**
KURK Kurchatov 50.00 345 P **P** **01 52 33.9 -1.1**
comp=Z,22nm,1.0s,mb5.1
MDJ Mudanjiang 50.25 30 P **P** **01 52 40.0 +3.2**
MDJ AP pP 01 52 43.1 0.0
MDJ XP sP 01 52 44.4 -1.1
MDJ PP PP 01 54 34.7 +2.5
MDJ S **S** **01 59 52.9 +4.8**
MDJ SCS ScS 02 02 30.8 +3.8
MDJ AMB AMB
comp=Z,6.0nm,0.6s,mb4.8
MDJ AMB AMB
comp=Z,48nm,4.3s
MDJ LR LR
comp=N,444nm,22.5s,MS4.7
MDJ LR LR
comp=E,710nm,19.0s,MS4.7
MDJ LR LR
comp=Z,295nm,21.6s,MS4.3
MJAR Matsushiro Arr 50.32 43 P **P** **01 52 37.4 0.0**
comp=Z,1.2nm,0.3s,mb4.4,baz=224,slow=7.2,SNR=4.7
MJAR LR LR 02 14 35.5
comp=Z,396nm,18.2s,MS4.5,baz=300,slow=37
CIT Chita 50.66 13 eP **P** **01 52 39.7 -0.2**
CIT pmax pmax
comp=Z,17nm,1.4s,mb4.8

PMG Port Moresby 51.29 105 P **P** **01 52 43.7 -0.9**
comp=Z,25nm,0.6s,mb5.3,baz=317,slow=4.7,SNR=11
PMG Port Moresby 51.29 105 P **P** **01 52 43.4 -1.2**
PMG *e* pP 01 52 50.5 -0.4
ZAL Zalesovo 51.72 351 LR LR 02 19 52.3
comp=Z,268nm,18.2s,MS4.3,baz=291,slow=42
NVS Novosibirsk 52.85 350 eP **P** **01 52 54.1 -2.2**
NVS eS **S** **02 00 15.8 -8.2**
NVS pmax pmax
comp=Z,15nm,0.8s,mb5.0
NVS pmax pmax
comp=N,14nm,0.8s
NVS smax
comp=E,36nm,1.8s
NVS smax
comp=N,15nm,1.5s
QRN Al-Qurain 53.32 304 eP **P** **01 53 00.0 +0.3**
QRN AMb AMB 01 53 03.0
comp=Z,104nm,0.7s,mb5.9
CTA Charters Tower 53.34 118 eP **P** **01 53 05.1 +5.2**
comp=Z,10nm,0.9s,mb4.8
CTA Charters Tower 53.34 118 P **P** **01 52 59.0 -0.9**
comp=Z,4.8nm,0.9s,mb4.4,baz=209,slow=7.2,SNR=3.6
CTA Charters Tower 53.34 118 P **P** **01 52 59.0 -0.9**
CTA eP pP 01 53 05.1 -1.1
CTAO Charters Tower 53.34 118 P **P** **01 53 05.0 +5.1**
CTAO pmax pmax
comp=Z,34nm,1.3s,mb5.1
CTAO Charters Tower 53.34 118 P **P** **01 53 05.0 +5.1**
comp=Z,34nm,1.3s,mb5.1
KBD Kabd 53.65 304 eP **P** **01 53 02.6 +0.5**
KBD AMb AMB 01 53 11.1
comp=Z,416nm,0.7s
RDF Al-Radifah 53.68 304 eP **P** **01 53 03.0 +0.6**
RDF AMb AMB 01 53 11.4
comp=Z,201nm,0.8s,mb6.1
OPO Ambohidratompo 53.72 244 P **P** **01 53 03.5 +0.8**
comp=Z,2.5nm,0.7s,mb4.3,baz=19,slow=5.9,SNR=7.0
UMR Umm Al-Rimmam 53.75 305 eP **P** **01 53 03.1 +0.2**
UMR AMb AMB 01 53 11.7
comp=Z,104nm,0.5s,mb6.0
NAY Al-Naaiem 54.04 304 eP **P** **01 53 05.2 +0.2**
NAY AMb AMB 01 53 13.8
comp=Z,114nm,0.7s,mb5.9
MIB Mutribah 54.15 305 eP **P** **01 53 06.3 +0.5**
MIB AMb AMB 01 53 14.8
comp=Z,366nm,0.7s
BVA0 Borovoye Array 54.50 340 *i* P **P** **01 53 07.3 -1.1**
BVA0 pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
BRVK Borovoye 54.56 340 P **P** **01 53 07.1 -1.7**
comp=Z,100nm,0.6s,mb6.0,SNR=9.6
BRVK Borovoye 54.56 340 eP **P** **01 53 07.5 -1.3**
BRVK pmax pmax
comp=Z,12nm,0.8s,mb5.0
BRVK Borovoye 54.56 340 eP **P** **01 53 07.5 -1.4**
comp=Z,12nm,0.8s,mb5.0
BRVK P 01 53 08.0
KLR Kul'dur 54.59 27 eP **P** **01 53 06.0 -3.1**
KLR MLR MLR
comp=N,900nm,14.0s,MS5.2
KLR MLR MLR
comp=E,1μm,14.0s,MS5.2
KLR MLR MLR
comp=Z,1μm,14.0s,MS5.2
STKA Stephens Creek 54.61 133 ⇑ *i* P **P** **01 53 05.9 -3.2**
comp=Z,13nm,0.6s,mb5.1
STKA Stephens Creek 54.61 133 P **P** **01 53 06.2 -2.9**
comp=Z,8.7nm,0.6s,mb5.0,baz=315,slow=7.7,SNR=12
STKA LR LR 02 19 51.7
comp=Z,650nm,20.7s,MS4.7,baz=50,slow=40
ZRNK Zerenda 54.91 340 P **P** **01 53 09.9 -1.5**
ZRNK *e* 01 53 20.6
ZRNK pmax pmax
comp=Z,17nm,0.8s,mb5.1
ZRNK Zerenda 54.91 340 P **P** **01 53 09.9 -1.4**
comp=Z,17nm,0.8s,mb5.1
ZRNK *e* 01 53 20.6
HABR Khabarovsk 55.63 30 eP **P** **01 53 11.9 -4.7**
HABR eS **S** **02 00 54.5 -7.0**
AB31 Akbulak array 55.88 331 *i* P **P** **01 53 17.2 -1.2**
AB31 pmax pmax
comp=Z,69nm,1.3s,mb5.5
BHD Baghdad 57.69 308 ex x 01 53 27.0
YSS Yuzh-Sakhalins 58.81 35 eP **P** **01 53 37.2 -1.8**
YSS pmax pmax
comp=Z,11nm,1.3s,mb4.7
MAK Makhachkala 59.32 319 eP **P** **01 53 35.2 -7.4**
MAK pmax pmax
comp=Z,19nm,0.4s,mb5.5
ORR Orenburg 59.94 331 eP **P** **01 53 45.4 -1.4**
ORR pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
ORR MLR MLR
comp=Z,260nm,19.0s,MS4.4
GNI Garni 59.97 315 ⇑ eP **P** **01 53 47.4 +0.4**
GNI pmax pmax
comp=Z,22nm,1.3s
GNI Garni 59.97 315 P **P** **01 53 47.7 +0.7**
comp=Z,38nm,1.2s,mb5.3
KMBO Kilima Mbogo 60.08 267 P **P** **01 53 48.2 +0.5**
comp=Z,3.3nm,0.9s,mb4.3,baz=57,slow=11,SNR=5.5
KMBO LR LR 02 16 20.3
comp=Z,390nm,19.7s,MS4.5,baz=92,slow=33
ARU Arti 61.48 337 P **P** **01 53 55.4 -1.9**
comp=Z,103nm,0.8s,mb6.0,SNR=6.9
ARU Arti 61.48 337 ⇓ *i* P **P** **01 53 55.7 -1.6**
ARU *e* 01 56 11.2
ARU eS **S** **02 02 16.3 -1.3**
ARU eSS SS 02 06 18.2 -0.4
ARU pmax pmax
comp=Z,19nm,1.0s,mb5.2
ARU MLR MLR
comp=Z,400nm,21.0s,MS4.5
ARU MLR MLR
comp=N,200nm,22.0s,MS4.5
ARU MLR MLR
comp=E,300nm,20.0s,MS4.5
ARU Arti 61.48 337 P **P** **01 53 55.7 -1.6**
comp=E,39nm,1.1s,mb5.5
ZEI Tsey 61.62 318 eP **P** **01 53 59.1 +0.8**
ZEI *e**PP pP 01 54 07.4 +2.8
ZEI pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
ERZM Erzurum 62.27 314 *i* P **P** **01 54 02.5 -0.2**
KIV Kislovodsk 62.91 319 P **P** **01 54 06.8 -0.1**
KIV *e* 01 54 16.1
KIV Kislovodsk 62.91 319 P **P** **01 54 06.8 -0.1**
KIV *e* 01 54 16.1
ELZG Elazig 63.54 312 *i* P **P** **01 54 11.5 +0.4**
YAK Yakutsk 63.64 16 eP **P** **01 54 13.0 +1.3**
YAK pmax pmax
comp=Z,33nm,1.0s,mb5.3
HNR Honiara 63.73 102 eP **P** **01 54 12.0 -0.3**
HNR pmax pmax
comp=Z,43nm,0.8s,mb5.5
HNR Honiara 63.73 102 eP **P** **01 54 12.0 -0.3**
comp=Z,43nm,0.8s,mb5.5
MALT Malatya 63.90 311 ⇓ *i* P **P** **01 54 14.6 +1.2**
MALT Malatya 63.90 311 P **P** **01 54 14.3 +0.9**
MALT pmax pmax
comp=Z,17nm,1.0s,mb5.0
MALT Malatya 63.90 311 P **P** **01 54 14.3 +0.9**
comp=Z,17nm,1.0s,mb5.0
GZT Gaziantep 64.26 310 *i* P **P** **01 54 15.8 0.0**
EIL Elat 64.48 301 P **P** **01 54 18.3 +1.0**
GRSN GIRESUNGRSN 64.84 314 *i* P **P** **01 54 18.8 -0.8**
COBT Iskenderun 65.03 309 *i* P **P** **01 54 20.9 +0.1**
MEST Erdemli 66.69 309 *i* P **P** **01 54 30.8 -0.7**
AVNT Avonos 66.71 311 *i* P **P** **01 54 28.4 -3.3**
ANN Anapa 66.72 318 eP **P** **01 54 23.8 -7.9**
ANN pmax pmax
comp=Z,61nm,1.3s,mb5.5
CTKT Corum 67.27 313 *i* P **P** **01 54 31.2 -4.0**
CDAG Cicekdag 67.30 312 *i* P **P** **01 54 32.6 -2.8**
BOYT Boyabat 67.41 314 *i* P **P** **01 54 35.9 -0.3**
BR131 Keskin Array S 67.87 312 eP **P** **01 54 38.2 -0.8**
comp=Z,9.4nm,0.6s,mb5.0
BRTR Keskin Array B 67.87 312 P **P** **01 54 38.1 -0.9**
comp=Z,6.1nm,0.6s,mb4.8,baz=128,slow=7.2,SNR=31
ELDT Eldivan 68.23 313 *i* P **P** **01 54 40.9 -0.3**
VOR Voronezh 68.24 325 P **P** **01 54 40.0 -1.4**
VOR pmax pmax
comp=Z,40nm,1.7s,mb5.2
BALT Daday 68.54 314 *i* P **P** **01 54 42.8 -0.4**

ANTO Ankara 68.54 312 ⇑*i* P **P** **01 54 42.6 -0.6**
ANTO Ankara 68.54 312 *e* P **P** **01 54 42.9 -0.3**
comp=Z,14nm,0.7s,mb5.0
SIM Simferopol' 69.00 317 ⇓*e* P **P** **01 54 45.1 -1.0**
SIM S S 02 03 46.0 -3.9
SIM pmax pmax
comp=Z,28nm,0.8s,mb5.2
SIM MLR MLR
comp=Z,450nm,23.0s,MS4.6
SGKT Sivrigoynuk 69.26 312 *i* P **P** **01 54 46.5 -1.2**
ISP Isparta 69.81 309 P **P** **01 54 50.3 -0.8**
ISP pmax pmax
comp=Z,22nm,1.1s,mb5.0
ISP Isparta 69.81 309 P **P** **01 54 50.3 -0.7**
comp=Z,22nm,1.1s,mb5.0
CASY Casey 69.85 174 *e* P **P** **01 54 50.5 -0.8**
CASY *e* P pP 01 54 56.6 -1.1
TKTP Tekketepe 69.99 309 *i* P **P** **01 54 51.9 -0.4**
LSZ Lusaka 70.66 253 P **P** **01 55 00.0 +3.7**
OBN Obninsk 71.05 328 *e* P **P** **01 54 56.3 -2.3**
OBN *e* 01 55 15.4
OBN *e*S S 02 04 11.8 -2.0
OBN pmax pmax
comp=Z,27nm,1.2s,mb5.0
OBN MLR MLR
comp=Z,300nm,26.0s,MS4.4
ULDT Uludag 71.34 311 *i* P **P** **01 54 59.8 -0.6**
TIXI Tiksi 71.36 10 *e* P **P** **01 54 54.8 -5.7**
TIXI pmax pmax
comp=Z,11nm,0.9s,mb4.8
TIXI MLR MLR
comp=Z,566nm,15.0s,MS5.0
TIXI Tiksi 71.36 10 P **P** **01 54 58.0 -2.6**
KLMR Klimovskoe 72.08 334 *e* P **P** **01 55 03.3 -1.6**
KLMR pmax pmax
comp=Z,40nm,1.6s,mb5.1
KLMR MLR MLR
comp=Z,300nm,18.0s,MS4.6
BTOK Tokmak 72.09 311 *i* P **P** **01 55 04.3 -0.6**
KDAG Bornova 72.42 309 *i* P **P** **01 55 06.9 0.0**
TIRR Tirgusor 72.80 316 ⇑*i* P **P** **01 55 09.1 0.0**
TIRR Tirgusor 72.80 316 *e* P **P** **01 55 08.6 -0.6**
CFR Carcaliu 73.15 316 ⇓*i* P **P** **01 55 10.6 -0.6**
CFR Carcaliu 73.15 316 ⇓P **P** **01 55 10.6 -0.6**
HARR Harsova 73.18 316 ⇓*i* P **P** **01 55 12.0 +0.6**
HARR Harsova 73.18 316 ⇓P **P** **01 55 12.0 +0.6**
APE Apeiranthos 73.56 308 ⇑*i* P **P** **01 55 11.6 -2.1**
APE Apeiranthos 73.56 308 ⇑P **P** **01 55 11.6 -2.1**
AKASG Malin Array Be 73.80 322 P **P** **01 55 12.4 -2.6**
comp=Z,5.1nm,0.7s,mb4.6,baz=93,slow=5.3,SNR=30
AKASG Malin Array Be 73.80 322 *i* P **P** **01 55 13.6 -1.4**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
VRI Vrincioaia 74.27 317 ⇓*i* P **P** **01 55 19.3 +1.5**
VRI Vrincioaia 74.27 317 P **P** **01 55 18.7 +0.9**
VRI ⇓P 01 55 19.2
PLOR Plostina 74.32 317 ⇓*i* P **P** **01 55 19.4 +1.3**
MAW Mawson 74.52 193 LR LR 02 22 09.4
comp=Z,278nm,19.6s,MS4.6,baz=151,slow=31
LBTB Lobatse 74.72 243 P **P** **01 55 23.7 +3.3**
LBTB pmax pmax
comp=Z,24nm,1.1s,mb5.0
LBTB Lobatse 74.72 243 P **P** **01 55 23.7 +3.2**
comp=Z,24nm,1.1s,mb5.0
MLR Muntele Rosu 74.73 316 ⇑*i* P **P** **01 55 20.9 +0.4**
MLR Muntele Rosu 74.73 316 ⇑P **P** **01 55 20.9 +0.5**
MLR P 01 55 21.1
ZIMR 74.79 314 ⇑*i* P **P** **01 55 20.5 -0.3**
ZIMR 74.79 314 ⇑P **P** **01 55 20.5 -0.3**
VOIR 75.33 316 ⇓*i* P **P** **01 55 29.7 +5.7**
VOIR 75.33 316 ⇓P **P** **01 55 29.7 +5.7**
MNK Minsk 75.62 326 *e* P **P** **01 55 21.0 -4.6**
BURAR Bucovina Array 75.64 318 ⇑*i* P **P** **01 55 26.8 +1.1**
VTS Vitosha 76.17 313 ⇓*i* P **P** **01 55 27.0 -1.7**
VTS Vitosha 76.17 313 ⇓P **P** **01 55 27.0 -1.7**
VTS P 01 55 28.9
JOF Joensuu 76.47 335 *ep* P **P** **01 55 28.8 -1.7**
comp=Z,5.3nm,0.4s,mb4.8
LVV L'vov 76.84 320 *e* P **P** **01 55 32.2 -0.3**
LVV *e* 01 58 33.2
LVV *e*S S 02 05 16.2 -2.9
LVV *e* 02 05 38.8
LVV *i* PS 02 06 05.6
LVV MLR MLR
comp=Z,90nm,19.0s,MS4.1
LVV MLR MLR
comp=N,70nm,17.0s,MS4.1
LVV MLR MLR
comp=E,60nm,19.0s,MS4.1
LVZ Lovozero 77.09 340 P **P** **01 55 33.3 -0.7**
comp=E,152nm,0.6s,mb6.1,SNR=5.7
LVZ Lovozero 77.09 340 *e* P **P** **01 55 32.6 -1.4**
DRGR 77.17 317 ⇑*i* P **P** **01 55 35.2 +0.8**
DRGR 77.17 317 P **P** **01 55 34.8 +0.4**
DRGR ⇑P 01 55 35.2
KWP Kalwaria 77.65 320 *e* P **P** **01 55 37.1 0.0**
BZS Buzias 77.75 316 ⇓*i* P **P** **01 55 37.5 -0.1**
BZS Buzias 77.75 316 ⇓P **P** **01 55 37.5 -0.1**
BZS P 01 55 37.9
KOLS Kolonicke sedl 77.81 319 *e* P **P** **01 55 41.1 +3.1**
KOLS *e* 01 55 54.1
SUW Suwalki 78.17 325 *e* P **P** **01 55 38.0 -1.9**
CRVS Cervenica-Dubn 78.34 319 *ep* P pP 01 55 45.3 -2.1
CRVS *e* 01 55 51.9
FINES FINESS Array B 78.36 332 P **P** **01 55 39.9 -1.2**
comp=E,3.5nm,0.4s,mb4.6,baz=97,slow=6.0,SNR=89
FINES LR LR 02 34 24.4
comp=E,242nm,19.9s,MS4.5,baz=281,slow=39
FINES FINESS Array B 78.36 332 *i* P **P** **01 55 39.9 -1.1**
FINES pmax pmax
comp=Z,4.0nm,0.4s
KAF Kangasniemi 78.43 333 *ep* P **P** **01 55 39.0 -2.4**
comp=Z,3.5nm,0.4s,mb4.6
KAF Kangasniemi 78.43 333 *e* P **P** **01 55 39.0 -2.4**
KAF pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
STHS Stebnicka Huta 78.56 320 *e* P **P** **01 55 43.5 +1.4**
KECS Kecovo 78.91 319 *e* P **P** **01 55 46.4 +2.3**
KECS *e* 01 55 56.1
NIE Niedzica 79.16 320 *e* P **P** **01 55 46.3 +0.9**
PSZ Piszkesteto 79.23 318 ⇓*e* P **P** **01 55 46.0 +0.2**
PSZ Piszkesteto 79.23 318 ⇑*i* P **P** **01 55 46.4 +0.6**
BILL Bilibino 79.43 21 *e* P **P** **01 55 46.0 -0.9**
BILL pmax pmax
comp=Z,8.0nm,1.7s,mb4.4
BILL Bilibino 79.43 21 *e* P **P** **01 55 49.5 +2.6**
comp=Z,3.9nm,0.7s,mb4.5
OJC Ojcow 79.60 320 *e* P **P** **01 55 47.2 -0.6**
PKSM Moragy 79.88 316 ⇓*i* P **P** **01 55 49.4 +0.1**
PKSM Moragy 79.88 316 ⇓*e* P **P** **01 55 49.4 +0.1**
VYHS Vyhne 80.00 319 *i* P **P** **01 55 50.6 +0.6**
VYHS *e*sP pP 01 55 56.5 0.0
SRO2 Moca 80.22 318 *e* P **P** **01 55 50.6 -0.6**
SRO2 *e* 01 56 03.9
RHK1 Bakonya 80.26 316 *e* P **P** **01 55 51.2 -0.2**
SRO Srobarova 80.28 318 *e* P **P** **01 55 52.1 +0.6**
SRO1 Iza 80.32 318 *e* P **P** **01 55 54.4 +2.7**
KEV Kevo 80.35 341 *ep* P **P** **01 55 50.3 -1.6**
comp=Z,0.4nm,0.3s
OKC Ostrava-Krasne 80.61 320 *e* P **P** **01 55 54.8 +1.5**
OKC AMS AMS 02 39 50.0
TIP Timpagrande 80.66 309 P **P** **01 55 54.3 +0.8**
ARCES ARCESS Array B 80.79 340 P **P** **01 55 52.8 -1.4**
comp=Z,3.5nm,0.5s,mb4.5,baz=94,slow=4.3,SNR=31
ARE0 ARCESS Array S 80.79 340 *e* P **P** **01 55 56.2 +1.9**
GRI Girifalco 80.91 309 P **P** **01 55 56.0 +1.1**
GRI pmax pmax
comp=Z,45nm,1.0s,mb5.3
GRI Girifalco 80.91 309 P **P** **01 55 56.0 +1.1**
comp=Z,44nm,1.0s,mb5.3
MORC Moravsky Berou 80.99 320 ⇓*i* P **P** **01 55 57.6 +2.3**
MORC Moravsky Berou 80.99 320 P **P** **01 55 55.3 0.0**
ZST Bratislava 81.12 318 *e* P **P** **01 55 57.9 +1.9**
ZST *e* 01 56 08.6
PTRP Pietrapertosa 81.28 310 P **P** **01 55 58.2 +1.3**
comp=Z,110nm,3.6s
SISC Sisak 81.39 315 *i* P **P** **01 55 59.0 +1.6**
MTTG Motta San Giov 81.43 308 P **P** **01 55 58.9 +1.3**
KTK1 Kautokeino 81.44 340 *e* P **P** **01 55 56.7 -1.0**
FG4 Candela 81.73 311 P **P** **01 55 59.7 +0.5**
FG4 pmax pmax
comp=Z,74nm,1.0s,mb5.6
FG4 Candela 81.73 311 P **P** **01 55 59.7 +0.5**
comp=Z,74nm,1.0s,mb5.6
SYO Syowa Base 81.77 198 ⇑*e* P **P** **01 56 04.5 +5.1**
SYO Syowa Base 81.77 198 ⇑*e* PcP PcP 01 56 06.0 +0.9
DPC Dobruska-Polom 81.83 320 *e* P **P** **01 55 59.8 +0.1**
DPC AMS AMS 02 37 40.0
comp=Z,100nm,23.0s
SGO Sicignano 81.86 310 P **P** **01 56 00.3 +0.4**
SGO pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
SGO Sicignano 81.86 310 P **P** **01 56 00.3 +0.4**
comp=Z,8.2nm,0.8s,mb4.7
FG5 Orsara di Pugl 81.93 311 P **P** **01 56 00.2 -0.1**
ARSA Arzberg 82.11 317 ⇓*i* P **P** **01 56 03.0 +1.8**
comp=Z,18nm,1.2s,mb4.9
SLNA Salina 82.13 308 P **P** **01 56 01.2 -0.1**
comp=Z,16nm,0.4s,mb5.3
BOJS Bojanci 82.18 315 *e* P **P** **01 56 01.2 -0.4**
TREC Trest 82.28 319 *e* P **P** **01 56 03.9 +1.8**
TREC AMS AMS 02 35 10.0
comp=Z,100nm,17.9s
PERS Pernice 82.35 316 *e* P **P** **01 56 00.6 -1.9**
LJU Ljubljana 82.72 316 *e* P **P** **01 56 04.7 +0.3**
PRU Pruhonice 82.94 320 *e* P **P** **01 56 07.1 +1.5**
PRU AMS AMS 02 39 00.0
comp=Z,200nm,17.5s
SDI San Donato 83.04 311 P **P** **01 56 05.7 -0.4**
SDI pmax pmax
comp=Z,27nm,1.3s,mb5.1
SDI San Donato 83.04 311 P **P** **01 56 05.7 -0.4**
comp=Z,27nm,1.3s,mb5.1
TRO Tromso 83.06 340 *e* P **P** **01 56 10.6 +4.5**
VOY Vojsko 83.16 316 *e* P **P** **01 56 06.5 -0.2**
VOY *e* pP 01 56 13.8 +0.6
VOY *e* 01 56 20.6
VOY *e* 01 56 36.0
AQU L'Aquila 83.36 312 ⇑*i* P **P** **01 56 08.5 +0.8**
AQU L'Aquila 83.36 312 P **P** **01 56 08.2 +0.4**
BRG Berggiesshubel 83.38 321 *e* P **P** **01 56 08.3 +0.5**
comp=Z,16nm,1.4s,mb4.9
BRG Berggiesshubel 83.38 321 *e* P **P** **01 56 08.9 +1.1**
comp=Z,4.6nm,1.1s,mb4.4
BRG
comp=N,81nm,13.6s
BRG
comp=E,122nm,24.5s
BRG
comp=Z,140nm,27.9s
BRG Berggiesshubel 83.38 321 *e* P **P** **01 56 08.9 +1.1**
BRG pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
BRG MLR MLR
comp=N,81nm,13.6s
BRG MLR MLR
comp=E,122nm,24.5s
BRG MLR MLR
comp=Z,140nm,27.9s
GEC2 GERESS Array S 83.42 319 *e* P **P** **01 56 08.7 +0.6**
comp=Z,20nm,1.3s,mb5.0
GEC2 GERESS Array S 83.42 319 *e* P **P** **01 56 08.7 +0.6**
GEC2 pmax pmax
comp=Z,20nm,1.3s,mb5.0
GERES GERESS Array B 83.42 319 P **P** **01 56 07.7 -0.3**
comp=Z,3.1nm,0.9s,mb4.3,baz=91,slow=5.3,SNR=26
GERES LR LR 02 33 44.5
comp=Z,138nm,21.5s,MS4.3,baz=92,slow=36
ROBS Robic 83.44 316 *e* P **P** **01 56 05.7 -2.4**
KHC Kasperske Hory 83.52 319 *e* P **P** **01 56 10.0 +1.5**
KHC x x 01 56 20.0
KHC AMS AMS 02 38 00.0
comp=Z,200nm,24.9s
KHC Kasperske Hory 83.52 319 *e* P **P** **01 56 10.0 +1.5**
KHC *e* 01 56 20.0
KHC MLR MLR
comp=Z,200nm,24.9s,MS4.4
PTCC Patocco-Chiusa 83.55 316 P **P** **01 56 08.6 -0.1**
comp=Z,22nm,1.0s,mb5.2
RUE Ruedersdorf 83.57 322 *e* P **P** **01 56 09.1 +0.3**
comp=Z,46nm,1.1s,mb5.5
RUE Ruedersdorf 83.57 322 *e* P **P** **01 56 09.7 +0.9**
NRCA Norcia 83.59 313 P **P** **01 56 09.1 +0.2**
comp=Z,11nm,1.0s,mb4.9
GMNA Gemona 83.62 316 P **P** **01 56 09.1 0.0**
comp=Z,152nm,1.0s,mb6.1
SNTG Esanatoglia 83.73 313 P **P** **01 56 10.1 +0.5**
comp=Z,24nm,1.2s,mb5.2
ARV Arcevia 83.74 313 P **P** **01 56 10.1 +0.4**
ARV pmax pmax
comp=Z,44nm,1.2s,mb5.5
ARV Arcevia 83.74 313 P **P** **01 56 10.1 +0.4**
comp=Z,44nm,1.2s,mb5.5
ERC Erice 83.88 308 P **P** **01 56 10.7 +0.3**
comp=Z,77nm,0.9s,mb5.8
WET Wettzell 83.98 319 *e* P **P** **01 56 11.4 +0.5**
comp=Z,7.0nm,1.2s,mb4.7
WET Wettzell 83.98 319 *e* P **P** **01 56 11.4 +0.5**
WET pmax pmax
comp=Z,7.0nm,1.2s,mb4.7
CLL Collm 83.99 321 *e* P **P** **01 56 11.0 0.0**
comp=Z,4.0nm,0.8s,mb4.6
CLL *e*sP pP 01 56 17.0 -0.5
CLL *i* x x 01 56 28.7
CLL LmV 02 36 00.0
comp=Z,200nm,21.7s
CLL Collm 83.99 321 *e* P **P** **01 56 11.0 0.0**
CLL *e* pP 01 56 17.0 -0.5
CLL pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
CLL MLR MLR
comp=Z,200nm,21.7s,MS4.5
CLL Collm 83.99 321 *e* P **P** **01 56 11.0 0.0**
comp=Z,4.0nm,0.8s,mb4.6
CLL *e* pP 01 56 17.0 -0.5
CLL LR LR
comp=Z,200nm,21.7s,MS4.5
MOR8 Moi Rana 84.28 336 *e* P **P** **01 56 11.8 -0.6**
MOR8 *ep* pP 01 56 15.2 -3.8
MOR8 AMb AMB 01 56 20.3
comp=Z,26nm,1.0s,mb5.3
MOR8 Moi Rana 84.28 336 *e* P **P** **01 56 11.8 -0.6**
comp=Z,26nm,1.0s,mb5.3
NKC Novy Kostel 84.30 320 *e* P **P** **01 56 15.0 +2.5**
NKC AMS AMS 02 35 10.0
WERD Werda 84.40 320 *e* P **P** **01 56 13.4 +0.4**
comp=Z,8.0nm,1.3s,mb4.7
ROTZ Rotzenmuhle 84.44 320 *e* P **P** **01 56 14.2 +1.0**
comp=Z,17nm,1.5s,mb5.0
MANZ Manzenberg 84.51 320 *e* P **P** **01 56 14.7 +1.1**
comp=Z,12nm,1.2s,mb4.9
WTTA Wattenberg 84.75 317 ⇑*i* P **P** **01 56 13.8 -1.1**
comp=Z,19nm,1.3s,mb5.0
WTTA Wattenberg 84.75 317 ⇑*i* P **P** **01 56 13.8 -1.0**
WTTA pmax pmax
comp=Z,19nm,1.3s,mb5.1
LOF Lofoten 84.80 338 *e* P **P** **01 56 16.6 +1.5**
MOX Moxa 84.84 320 *e* P **P** **01 56 15.7 +0.4**
comp=Z,16nm,1.6s,mb4.9
MOX Moxa 84.84 320 *e* P **P** **01 56 16.9 +1.6**
comp=Z,21nm,1.9s,mb4.9
MOX
comp=Z,100nm,22.0s
MOX Moxa 84.84 320 *e* P **P** **01 56 16.9 +1.6**
MOX pmax pmax
comp=Z,21nm,1.9s,mb4.9
MOX MLR MLR
comp=Z,100nm,22.0s,MS4.2
SQTA Sankt Quirin 85.05 317 ⇑*i* P **P** **01 56 15.7 -0.6**
comp=Z,9.1nm,1.1s,mb4.8
SQTA Sankt Quirin 85.05 317 ⇑*i* P **P** **01 56 15.7 -0.6**
SQTA pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
GRA1 Grafenberg Arr 85.08 319 *e* P **P** **01 56 17.3 +0.9**
comp=Z,9.0nm,0.8s,mb5.0
GRA1 *ep*P pP 01 56 23.5 +0.5
GRF Grafenberg Arr 85.08 319 *e* P **P** **01 56 17.3 +0.9**
comp=Z,9.0nm,0.8s,mb5.0
GRF *ep*P pP 01 56 23.5 +0.5
GRF Grafenberg Arr 85.08 319 *e* P **P** **01 56 17.3 +0.9**
GRF *e**PP pP 01 56 23.5 +0.5
GRF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
MOTA Moosalm 85.12 317 ⇑*i* P **P** **01 56 15.7 -0.9**
comp=Z,9.9nm,1.1s,mb4.9,SNR=9.0
MOTA Moosalm 85.12 317 ⇑*i* P **P** **01 56 15.7 -1.0**
MOTA pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
NSS Namsos 85.20 334 *e* P **P** **01 56 15.3 -1.7**
NB2 NORSAR Subarra 85.39 331 P **P** **01 56 16.8 -1.2**
comp=Z,6.9nm,1.0s,mb4.7,baz=90,slow=5.9
NOA NORSAR Array B 85.39 331 P **P** **01 56 17.1 -0.9**
comp=Z,1.7nm,0.7s,mb4.3,baz=93,slow=6.1,SNR=8.7
NOA LR LR 02 38 02.7
comp=Z,168nm,21.4s,MS4.4,baz=45,slow=38
NOA NORSAR Array B 85.39 331 P **P** **01 56 17.1 -0.9**
NOA LR LR 02 38 02.7
CLZ Clausthal 85.65 322 *e* P **P** **01 56 19.8 +0.5**
comp=Z,12nm,1.0s,mb5.1
CLZ Clausthal 85.65 322 *e* P **P** **01 56 19.8 +0.5**
CLZ pmax pmax
comp=Z,12nm,1.0s,mb5.1
BSEG Bad Segeberg 85.70 324 *e* P **P** **01 56 20.1 +0.5**
comp=Z,16nm,1.1s,mb5.2
BSEG Bad Segeberg 85.70 324 *e* P **P** **01 56 20.1 +0.5**
BSEG pmax pmax
comp=Z,16nm,1.1s,mb5.2
DAVA Damuels 85.95 317 *i* P **P** **01 56 21.5 +0.7**
comp=Z,13nm,1.0s,mb5.1,SNR=6.8
KONO Kongsberg 86.16 329 ⇑*e* P **P** **01 56 20.9 -0.9**
MUD Monsted U'grnd 86.38 326 *i* P **P** **01 56 23.8 +0.9**
comp=Z,21nm,1.3s,mb5.2
MUD Monsted U'grnd 86.38 326 *e* P **P** **01 56 23.8 +0.9**
MUD pmax pmax
comp=Z,21nm,1.3s,mb5.2
MUD Monsted U'grnd 86.38 326 *e* P **P** **01 56 23.8 +0.9**
comp=Z,21nm,1.3s,mb5.2
VSL Villasalto 86.39 309 P **P** **01 56 22.6 -0.4**
STU Stuttgart 86.40 319 *e* P **P** **01 56 23.2 +0.2**
comp=Z,8.0nm,0.7s,mb5.1
PGF Pioggiola 86.62 312 *e* P **P** **01 56 23.6 -0.5**
comp=Z,21nm,1.1s,mb5.0
PGF Pioggiola 86.62 312 *e* P **P** **01 56 23.6 -0.5**
PGF pmax pmax
comp=Z,11nm,1.1s,mb5.0
PGF Pioggiola 86.62 312 *e* P **P** **01 56 23.6 -0.5**
comp=Z,11nm,1.1s,mb5.0
TNS Taunus Mts 86.87 320 *e* P **P** **01 56 26.0 +0.7**
comp=Z,7.0nm,1.0s,mb4.8
TNS Taunus Mts 86.87 320 *e* P **P** **01 56 26.0 +0.7**
TNS pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
BFO Black Forest 86.98 318 *e* P **P** **01 56 25.7 -0.2**
comp=Z,7.0nm,1.1s,mb4.8
BFO Black Forest 86.98 318 *e* P **P** **01 56 25.7 -0.2**
BFO pmax pmax
comp=Z,7.0nm,1.1s,mb4.8
IBBN Ibbenburen 87.26 322 *e* P **P** **01 56 27.9 +0.7**
comp=Z,21nm,1.0s,mb5.3
BUG Bochum--Univer 87.59 321 *e* P **P** **01 56 29.4 +0.6**
comp=Z,46nm,1.7s,mb5.4
VNDA Vanda 87.64 169 LR LR 02 32 51.4
comp=Z,223nm,20.1s,MS4.6,baz=314,slow=34
VNDA Vanda 87.64 169 P **P** **01 56 32.5 +3.4**
CDF Champ du Feu 87.68 318 *e* P **P** **01 56 28.3 -1.0**
comp=Z,10nm,1.0s,mb4.7
CDF Champ du Feu 87.68 318 *e* P **P** **01 56 28.3 -1.0**
CDF pmax pmax
comp=Z,5.0nm,1.0s,mb4.7
CDF Champ du Feu 87.68 318 *e* P **P** **01 56 28.3 -1.0**
comp=Z,5.2nm,1.0s,mb4.7
SBF Sospel 87.73 314 *e* P **P** **01 56 28.9 -0.6**
comp=Z,39nm,0.8s,mb5.4
SBF Sospel 87.73 314 *e* P **P** **01 56 28.9 -0.6**
SBF pmax pmax
comp=Z,20nm,0.8s,mb5.4
SBF Sospel 87.73 314 *e* P **P** **01 56 28.9 -0.6**
comp=Z,20nm,0.8s,mb5.4
HINF Hinteralfeld 87.99 318 *e* P **P** **01 56 30.0 -0.7**
LPG La Plagne 88.16 315 *e* P **P** **01 56 31.2 -0.3**
comp=Z,27nm,0.8s,mb5.2
LPG La Plagne 88.16 315 *e* P **P** **01 56 31.2 -0.3**
LPG pmax pmax
comp=Z,14nm,0.8s,mb5.2
LPG La Plagne 88.16 315 *e* P **P** **01 56 31.2 -0.3**
comp=Z,14nm,0.8s,mb5.2
LPL La Plagne 88.17 315 *e* P **P** **01 56 31.2 -0.4**
comp=Z,39nm,0.9s,mb5.3
LPL La Plagne 88.17 315 *e* P **P** **01 56 31.2 -0.4**
LPL pmax pmax
comp=Z,20nm,0.9s,mb5.3
LPL La Plagne 88.17 315 *e* P **P** **01 56 31.2 -0.4**
comp=Z,20nm,0.9s,mb5.3
MBDF Montbardon 88.17 315 *e* P **P** **01 56 30.5 -1.1**
comp=Z,9.0nm,0.7s,mb4.8
MBDF Montbardon 88.17 315 *e* P **P** **01 56 30.5 -1.1**
MBDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
MBDF Montbardon 88.17 315 *e* P **P** **01 56 30.5 -1.1**
comp=Z,4.5nm,0.7s,mb4.8
BNI Bardonecchia 88.23 315 *e* P **P** **01 56 34.4 +2.6**
BNI pmax pmax
comp=Z,12nm,0.9s,mb5.1
BNI Bardonecchia 88.23 315 *e* P **P** **01 56 34.4 +2.5**
comp=Z,12nm,0.9s,mb5.1
FRF La Foret Royal 88.32 313 *e* P **P** **01 56 31.8 -0.5**
comp=Z,20nm,0.9s,mb5.0
FRF La Foret Royal 88.32 313 *e* P **P** **01 56 31.8 -0.5**
FRF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
FRF La Foret Royal 88.32 313 *e* P **P** **01 56 31.8 -0.5**
comp=Z,10nm,0.9s,mb5.0
HAU Haudompre 88.32 318 *e* P **P** **01 56 32.3 0.0**
HAU *e*R
comp=Z,72nm,19.8s
HAU Haudompre 88.32 318 *e* P **P** **01 56 32.3 0.0**
HAU LR LR
comp=Z,70nm,19.8s,MS4.1
WLF Walferdange 88.37 319 *e* P **P** **01 56 33.6 +1.1**
comp=Z,23nm,1.4s,mb5.2
WLF Walferdange 88.37 319 P **P** **01 56 32.9 +0.4**
WLF E 01 56 58.9
MEM Membach 88.42 320 P **P** **01 56 34.4 +1.7**
MEM AP pP 01 56 39.4 +0.1
MEM XP sP 01 56 43.2 +1.6
LMR La Mourre 88.43 313 *e* P **P** **01 56 31.6 -1.2**
comp=Z,41nm,1.4s,mb5.2
LMR La Mourre 88.43 313 *e* P **P** **01 56 31.6 -1.2**
LMR pmax pmax
comp=Z,21nm,1.4s,mb5.2
LMR La Mourre 88.43 313 *e* P **P** **01 56 31.6 -1.2**
comp=Z,20nm,1.4s,mb5.2
CABF La Chapelle 88.56 316 *e* P **P** **01 56 33.0 -0.4**
comp=Z,23nm,1.1s,mb5.2
CABF La Chapelle 88.56 316 *e* P **P** **01 56 33.0 -0.4**
CABF pmax pmax
comp=Z,12nm,1.0s,mb5.2
CABF La Chapelle 88.56 316 *e* P **P** **01 56 33.0 -0.4**
comp=Z,12nm,1.0s,mb5.2
SBA Scott Base 88.74 169 P **P** **01 56 37.1 +2.8**
SBA pmax pmax
comp=Z,31nm,1.8s,mb5.3
SBA Scott Base 88.74 169 P **P** **01 56 37.1 +2.8**
comp=Z,31nm,1.8s,mb5.3
ORIF Oris-en-Rattie 88.80 315 *e* P **P** **01 56 34.3 -0.2**
comp=Z,12nm,0.8s,mb5.0
ORIF *e*R
comp=Z,118nm,22.8s
ORIF Oris-en-Rattie 88.80 315 *e* P **P** **01 56 34.3 -0.2**
ORIF pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
ORIF Oris-en-Rattie 88.80 315 *e* P **P** **01 56 34.3 -0.2**
comp=Z,6.2nm,0.8s,mb5.0
SMRF Simiane la Rot 89.07 314 *e* P **P** **01 56 35.3 -0.5**
comp=Z,34nm,1.2s,mb5.2
SMRF Simiane la Rot 89.07 314 *e* P **P** **01 56 35.3 -0.5**
comp=Z,34nm,1.2s,mb5.5
GIVF Givet 89.20 320 *e* P **P** **01 56 35.8 -0.6**
DOU Dourbes 89.35 320 AP pP 01 56 43.1 -0.6
SNF Seneffe 89.52 320 P **P** **01 56 40.3 +2.4**
SNF AP pP 01 56 45.3 +0.8
SNF XP sP 01 56 49.0 +2.1
BAIF Baives 89.60 320 *e* P **P** **01 56 38.1 -0.2**
comp=Z,33nm,0.9s,mb5.4
BAIF Baives 89.60 320 *e* P **P** **01 56 38.1 -0.2**
BAIF pmax pmax
comp=Z,17nm,0.9s,mb5.4
BAIF Baives 89.60 320 *e* P **P** **01 56 38.1 -0.2**
comp=Z,16nm,0.9s,mb5.4
VIVF Saint-Julien-l 89.66 315 *e* P **P** **01 56 38.1 -0.5**
comp=Z,38nm,1.2s,mb5.3
VIVF Saint-Julien-l 89.66 315 *e* P **P** **01 56 38.1 -0.5**
VIVF pmax pmax
comp=Z,19nm,1.2s,mb5.3
VIVF Saint-Julien-l 89.66 315 *e* P **P** **01 56 38.1 -0.5**

	comp=Z,19nm,1.2s,mb5.3							
LOR	**Lormes**	**90.05**	**317**	*e*P		**P**	**01 56 39.8**	**-0.6**
	comp=Z,40nm,1.3s,mb5.3							
LOR				*e*R				
	comp=Z,77nm,22.5s							
LOR	**Lormes**	**90.05**	**317**	*e*P		**P**	**01 56 39.8**	**-0.6**
LOR				pmax		pmax		
	comp=Z,20nm,1.3s,mb5.3							
LOR				MLR		MLR		
	comp=Z,80nm,22.5s,MS4.1							
LOR	**Lormes**	**90.05**	**317**	*e*P		**P**	**01 56 39.8**	**-0.6**
	comp=Z,20nm,1.3s,mb5.3							
LOR				LR		LR		
	comp=Z,80nm,22.5s,MS4.1							
SMF	**Signal de Mont**	**90.11**	**317**	*e*P		**P**	**01 56 40.0**	**-0.7**
SSF	**Saint Saulge**	**90.30**	**317**	*e*P		**P**	**01 56 41.0**	**-0.6**
AVF	**Avril sur Loir**	**90.43**	**317**	*e*P		**P**	**01 56 41.6**	**-0.6**
	comp=Z,33nm,1.3s,mb5.2							
AVF	**Avril sur Loir**	**90.43**	**317**	*e*P		**P**	**01 56 41.6**	**-0.6**
AVF				pmax		pmax		
	comp=Z,17nm,1.3s,mb5.2							
AVF	**Avril sur Loir**	**90.43**	**317**	*e*P		**P**	**01 56 41.6**	**-0.6**
	comp=Z,16nm,1.3s,mb5.2							
BGF	**Bois d'Agland**	**90.80**	**317**	*e*P		**P**	**01 56 42.5**	**-1.4**
TCF	**Toulx Ste Croi**	**91.26**	**316**	*e*P		**P**	**01 56 45.2**	**-0.8**
EMHD	**Djebel Mahouad**	**91.64**	**306**	P		**P**	**01 56 50.0**	**+2.2**
RJF	**Les Rejaudoux**	**91.85**	**315**	*e*P		**P**	**01 56 47.6**	**-1.1**
	comp=Z,44nm,1.4s,mb5.3							
RJF				*e*R				
	comp=Z,129nm,20.8s							
RJF	**Les Rejaudoux**	**91.85**	**315**	*e*P		**P**	**01 56 47.6**	**-1.1**
RJF				pmax		pmax		
	comp=Z,22nm,1.4s,mb5.3							
RJF				MLR		MLR		
	comp=Z,130nm,20.8s,MS4.3							
RJF	**Les Rejaudoux**	**91.85**	**315**	*e*P		**P**	**01 56 47.6**	**-1.1**
	comp=Z,22nm,1.4s,mb5.3							
RJF				LR		LR		
	comp=Z,130nm,20.8s,MS4.3							
LDF	**La Druitiere**	**92.57**	**319**	*e*P		**P**	**01 56 50.6**	**-1.5**
	comp=Z,15nm,0.9s,mb5.1							
LDF	**La Druitiere**	**92.57**	**319**	*e*P		**P**	**01 56 50.6**	**-1.5**
LDF				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb5.1							
LDF	**La Druitiere**	**92.57**	**319**	*e*P		**P**	**01 56 50.6**	**-1.5**
	comp=Z,7.4nm,0.9s,mb5.1							
FLN	**La Foliniere**	**92.78**	**319**	*e*P		**P**	**01 56 51.6**	**-1.5**
FLN				*e*R				
	comp=Z,199nm,23.0s							
FLN	**La Foliniere**	**92.78**	**319**	*e*P		**P**	**01 56 51.6**	**-1.5**
FLN				LR		LR		
	comp=Z,200nm,23.0s,MS4.5							
DAG	**Danmarks Havn**	**92.78**	**348**⇓	*i*P		**P**	**01 56 51.2**	**-1.9**
	comp=Z,2.5nm,0.9s,mb4.6							
DAG	**Danmarks Havn**	**92.78**	**348**⇓	*e*P		**P**	**01 56 51.2**	**-1.9**
DAG				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.7							
DAG	**Danmarks Havn**	**92.78**	**348**⇓	*e*P		**P**	**01 56 51.2**	**-1.9**
	comp=Z,2.5nm,0.9s,mb4.6							
MFF	**Saint Martin d**	**92.84**	**317**	*e*P		**P**	**01 56 52.3**	**-1.1**
ETRT	**Tiaret**	**93.06**	**306**	P		**P**	**01 56 57.0**	**+2.7**
EANR	**'Ain N'Sour**	**93.16**	**306**	P		**P**	**01 56 58.5**	**+3.7**
ETSF	**Etsaut**	**93.62**	**313**	*e*P		**P**	**01 56 55.6**	**-1.3**
	comp=Z,18nm,0.9s,mb5.2							
ETSF	**Etsaut**	**93.62**	**313**	*e*P		**P**	**01 56 55.6**	**-1.3**
ETSF				pmax		pmax		
	comp=Z,9.0nm,0.9s,mb5.2							
ETSF	**Etsaut**	**93.62**	**313**	*e*P		**P**	**01 56 55.6**	**-1.3**
	comp=Z,9.1nm,0.9s,mb5.2							
SJPF	**Ste Jean**	**94.07**	**313**	*e*P		**P**	**01 56 57.2**	**-1.8**
TORD	**Torodi Ar. Bea**	**94.67**	**283**	P		**P**	**01 57 01.2**	**-0.5**
	comp=Z,0.9nm,0.8s,mb4.2,baz=76,slow=1.4,SNR=8.2							
TORD				PKKP		PKKPbc	02 14 00.7	+1.6
	comp=Z,1.4nm,1.2s,baz=192,slow=2.4,SNR=4.2							
ESDC	**Sonseca Array**	**96.63**	**310**	P		**P**	**01 57 09.7**	**-1.0**
	comp=Z,0.4nm,0.5s,mb4.1,baz=63,slow=4.1,SNR=6.3							
ESDC				PP		PP	02 01 11.5	+6.3
	comp=Z,0.1nm,0.3s,baz=74,slow=8.3,SNR=4.7							
ILAR	**Eielson Array**	**97.99**	**23**	P		**P**	**01 57 17.3**	**+0.5**
	comp=Z,0.1nm,0.5s,baz=320,slow=33,SNR=3.5							
ILAR				PP		PP	02 01 19.1	+3.6
	comp=Z,0.6nm,0.8s,baz=300,slow=6.0,SNR=4.3							
ILAR				PKKPbc		PKKPbc	02 13 55.0	+4.9
	comp=Z,0.9nm,0.9s,baz=156,slow=2.3,SNR=7.3							
ILAR				LR		LR	02 42 51.6	
	comp=Z,175nm,19.6s,MS4.5,baz=158,slow=36							
ILAR	**Eielson Array**	**97.99**	**23**	P		**P**	**01 57 17.3**	**+0.5**
ILAR							02 01 19.2	
SUMG	**Summit**	**99.47**	**348**	P		pP	01 57 30.7	+0.7
INK	**Inuvik**	**100.70**	**17**	PKKPbc		PKKPbc	02 13 47.0	+4.6
	comp=Z,0.9nm,0.9s,baz=219,slow=8.7,SNR=3.6							
YKA	**Yellowknife Ar**	**110.30**	**15**	PP		PP	02 02 45.5	-1.7
	comp=Z,0.3nm,0.6s,baz=297,slow=2.2,SNR=5.2							
YKA				PKKPbc		PKKPbc	02 13 14.3	+1.2
	comp=Z,0.2nm,0.7s,baz=141,slow=3.1,SNR=4.3							
YKA	**Yellowknife Ar**	**110.30**	**15**⇑	*i*PKIKP		PKiKP	02 02 20.3	+7.7
TBI	**Tubuai**	**112.61**	**114**	*e*LR		LR	02 35 56.4	
	comp=Z,222nm,23.0s							
PPT	**Papeete**	**113.05**	**108**	*e*LR		LR	02 36 08.9	
	comp=Z,220nm,23.8s							
BSMT	**Bassoo Peak**	**122.08**	**25**	PKPdf		PKPdf	02 02 42.9	+7.7
MSO	**Missoula**	**123.24**	**25**	PKPdf		PKPdf	02 02 44.1	+6.7
MOD	**Modoc**	**123.78**	**33**	PKPdf		PKPdf	02 02 47.2	+8.7
DLMT	**Dillon**	**124.97**	**25**	PKPdf		PKPdf	02 02 45.6	+4.8
HLID	**Hailey**	**125.56**	**28**	PKPdf		PKPdf	02 02 50.6	+8.7
ULM	**Lac du Bonnet**	**125.71**	**10**	PKP		PKPdf	02 02 41.8	-0.4
	comp=Z,4.1nm,0.9s,baz=352,slow=1.2,SNR=3.4							
RKT	**Rikitea**	**125.76**	**116**	*e*LR		LR	02 42 02.0	
	comp=Z,339nm,31.5s							
LAO	**LASA Array**	**126.31**	**20**	PKPdf		PKPdf	02 02 44.6	+1.3
NVAR	**Mina Array Bea**	**127.27**	**35**	PKP		PKPdf	02 02 46.1	+1.0
	comp=Z,0.7nm,0.5s,baz=277,slow=3.5,SNR=4.1							
REDW	**Red Top Meadow**	**127.32**	**26**	PKPdf		PKPdf	02 02 53.9	+8.7
MNV	**Mina**	**127.35**	**35**	PKIKP		PKPdf	02 02 53.2	+7.9
BW06	**Boulder Array**	**128.36**	**25**	PKPdf		PKPdf	02 02 55.0	+7.8
PDAR	**Pinedale Array**	**128.36**	**25**	PKP		PKPdf	02 02 47.9	+0.7
	comp=Z,2.4nm,1.0s,baz=298,slow=3.2,SNR=4.6							
DUG	**Dugway**	**128.91**	**30**	PKIKP		PKPdf	02 02 50.0	+1.7
DAC	**Darwin (Calif)**	**129.14**	**36**	PKIKP		PKPdf	02 02 57.3	+8.6
RSSD	**Black Hills**	**129.31**	**20**	PKIKP		PKPdf	02 02 56.3	+7.3
GSC	**Goldstone**	**130.28**	**37**	PKIKP		PKPdf	02 02 59.8	+8.9
MSU	**Marysvale**	**130.51**	**30**	PKPdf		PKPdf	02 03 00.6	+9.3
MSU				*e*SKPab			02 06 14.9	
MSU				SKPbc		SKPbc	02 06 16.0	+2.3
SRU	**San Rafael**	**130.86**	**29**	PKIKP		PKPdf	02 03 01.4	+9.4
NEN	**Nelson**	**131.18**	**35**	PKPdf		PKPdf	02 03 00.6	+8.0
NEN				*e*SKPbc		SKPbc	02 06 16.6	+0.4
PFO	**Pinyon Flat Ob**	**131.63**	**38**	SKPbc		SKPbc	02 06 19.3	+1.5
SMCO	**Snowmass**	**132.42**	**26**	SKPbc		SKPbc	02 06 24.3	+3.7
ISCO	**Idaho Springs**	**132.47**	**24**	SKPbc		SKPbc	02 06 24.2	+3.4
ANMO	**Albuquerque**	**136.13**	**28**⇑	*i*PKIKP		PKPdf	02 02 59.5	-2.4
ANMO	**Albuquerque**	**136.13**	**28**	PKPdf		PKPdf	02 03 10.4	+8.5
ANMO				SKPbc		SKPbc	02 06 40.8	+8.0
KSU1	**Kansas State U**	**136.15**	**16**	PKPdf		PKPdf	02 03 09.8	+7.9
ACSO	**Alum Creek Sta**	**136.91**	**0**	PKPdf		PKPdf	02 03 11.0	+7.7
CBN	**Corbin**	**138.63**	**354**	SKPbc		SKPbc	02 06 37.7	-2.4
MNTX	**Cornudas Mount**	**139.30**	**30**	PKPdf		PKPdf	02 03 09.0	+1.3
CPCT	**Cooper Cave**	**141.65**	**2**	PKPdf		PKPdf	02 03 19.7	+7.7
LTX	**Lajitas**	**142.07**	**30**	PKIKP		PKPdf	02 03 24.4	+12
JCT	**Junction City**	**142.90**	**25**	PKIKP		PKPdf	02 03 10.5	-3.7
BDFB	**Brasilia**	**143.56**	**248**	PKP		PKPdf	02 03 15.2	-0.1
	comp=Z,1.2nm,0.6s,baz=144,slow=18,SNR=4.4							
LRAL	**Lakeview Retre**	**143.87**	**6**	PKPdf		PKPdf	02 03 19.9	+4.0
HKT	**Hockley**	**144.88**	**20**	PKIKP		PKPdf	02 03 29.0	+11
CPUP	**Villa Florida**	**146.36**	**224**	PKPbc		PKPbc	02 03 21.0	-0.4
	comp=Z,2.7nm,0.7s,baz=72,slow=3.3,SNR=8.8							
CPUP	**Villa Florida**	**146.36**	**224**	PKP2		PKPab	02 03 21.0	-1.3
CPUP				pmax		pmax		
	comp=Z,3.0nm,0.7s							
CPUP	**Villa Florida**	**146.36**	**224**	PKPdf		PKPdf	02 03 21.2	+1.1
LPAZ	**La Paz**	**160.49**	**227**	PKIKP		PKPdf	02 03 46.6	+6.3

*IDC **08** 01:55:34.7±3.5,3603N×14207E,h0km,mb3.8/2, mb1 3.9/5,mb1mx3.5/22,mbtmp4.0/5,ML3.6/3,MS2.5/1, Ms1 2.5/1,ms1mx2.0/24,Error ellipse: s-maj=62.9km s-min=26.2km az=83.0*

*ISCJB **08** 01:55:36.0±1.4,3615N±004×14203E±008,h24km±10km, mb4.0/4,Error ellipse: s-maj=11.5km s-min=6.1km az=34.5*

*JMA **08** 01:55:37.2±0.2,3621N×14193E,h63km,M3.4*

*NEIC **08** 01:55:42.9±11.0,3640N×14167E,h35km,mb4.4/2,Error ellipse: s-maj=219.0km s-min=17.9km az=148.0*

ISC 08 01:55:35.4±1.5,3614N±004×14203E±007,h11km±8km, n25,σ1ᵍ00/34,mb4.0/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.05**	**246**	P		P	**Pb**	**01 55 55.7**	**+0.3**
CHOJ						*e*S	**Sg**	**01 56 09.6**	**+0.5**
JHO	**Hitachi**	**1.27**	**292**	P		P	**Pn**	**01 55 57.4**	**-1.6**
ONAJ	**Iwakimizuishiy**	**1.38**	**315**	P		P	**Pn**	**01 55 58.9**	**-1.6**
JFK	**Kawauchi**	**1.54**	**323**	P		P	**Pn**	**01 56 01.6**	**-1.1**
BSO1	**Boso 1**	**1.71**	**210**	P		P	**Pn**	**01 56 05.6**	**+0.5**
BSO1						*e*S	**Sn**	**01 56 27.8**	**+0.9**
BSO3	**Boso 3**	**1.82**	**223**	P		P	**Pn**	**01 56 07.0**	**+0.4**
BSO3						*e*S	**Sn**	**01 56 29.9**	**+0.3**
JFT	**Otama**	**1.94**	**316**	P		P	**Pn**	**01 56 07.7**	**-0.4**
JMM	**Marumori**	**1.99**	**330**	P		P	**Pn**	**01 56 08.4**	**-0.5**
JAG	**Ashikaga**	**2.10**	**279**	P		P	**Pn**	**01 56 09.6**	**-0.8**
JFY	**Yanaizu**	**2.26**	**305**	P		P	**Pn**	**01 56 12.7**	**+0.1**
JRY	**Ryogami san**	**2.54**	**268**	P		P	**Pn**	**01 56 15.9**	**-0.5**
JRY						*e*S	**Sn**	**01 56 46.0**	**-1.3**
JOD2	**Odawara 2**	**2.55**	**251**	P		P	**Pn**	**01 56 16.5**	**-0.1**
JOD2						*e*S	**Sn**	**01 56 47.5**	**-0.1**
JIM2	**Oshima 3**	**2.55**	**237**	P		P	**Pn**	**01 56 16.2**	**-0.4**
JIM2						*e*S	**Sn**	**01 56 46.5**	**-1.1**
MJAR	**Matsushiro Arr**	**3.11**	**279**	Pn		P	**Pn**	**01 56 25.1**	**+0.8**
	5.8nm,0.3s,baz=99,slow=9.0,SNR=52								
MAJO	**Matsushiro**	**3.11**	**279**	*e*Pn			**Pn**	**01 56 25.1**	**+0.8**
MAT	**Matsushiro**	**3.11**	**279**	P		P	**Pn**	**01 56 25.0**	**+0.7**
MAT						S	**Sn**	**01 57 04.2**	**+2.7**
MAT	**Matsushiro**	**3.11**	**279**	*e*P		P	**Pn**	**01 56 25.0**	**+0.7**
MAT						*e*S	**Sn**	**01 57 04.0**	**+2.5**
JHJ	**Hachijo jima 2**	**3.54**	**212**	Pn		P	**Pn**	**01 56 31.1**	**+0.9**
	11nm,0.3s,baz=78,slow=23,SNR=3.8								
JHJ				Sn			**Sn**	**01 57 10.6**	**-1.3**
	42nm,0.3s,baz=100,slow=23,SNR=6.6								
ASAJ	**Asahikawa**	**7.98**	**3**	LR		LR		02 00 28.2	
	comp=Z,31nm,18.2s,baz=26,slow=36								
CBIJ	**Chichi jima**	**9.02**	**179**	Pn		P	**Pn**	**01 57 44.0**	**-1.4**
	3.0nm,0.3s,baz=139,slow=22,SNR=4.9								
CBIJ				Sn			**Sn**	**01 59 18.8**	**-8.0**
	4.0nm,0.3s,baz=292,slow=20,SNR=4.2								
YAK	**Yakutsk**	**27.05**	**347**	*e*P		P		**02 01 18.6**	**+1.0**
	8.5nm,0.4s,mb4.6								
SONM	**Songino Array**	**28.70**	**305**	P		P		**02 01 33.9**	**+1.6**
	0.7nm,0.4s,mb3.7,baz=97,slow=7.6,SNR=3.8								
MKAR	**Makanchi Array**	**45.02**	**303**	P		P		**02 03 52.7**	**+1.9**
	0.7nm,0.6s,mb3.6,baz=90,slow=9.4,SNR=6.6								
MKAR	**Makanchi Array**	**45.02**	**303**	P		P		**02 03 52.7**	**+1.9**
KURK	**Kurchatov**	**46.88**	**309**	*e*P		P		**02 04 05.4**	**-0.1**
	0.8nm,0.4s,mb4.0								

*NEIC **08** 02:10:18.9,27.11S×71.45W,h30km,ML3.3(GUC),After GUC.*

GUC 08 02:10:18.9±0.8,2711S×7145W,h30km±5km,MD3.7, ML3.3,2C-1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.55**	**87**⇓	*i*P			Pb	02 10 29.7	-0.4
CDCH						*i*S	Sb	02 10 37.9	+0.1
CRCH	**Chaqaral**	**1.06**	**44**⇑	*i*P			Pn	02 10 40.5	+2.9
CRCH						*i*S	Sn	02 10 54.9	+3.6
CRCH				AML		AML		02 10 59.9	
	comp=N,547nm,0.4s								
CRCH	**Chaqaral**	**1.06**	**44**⇑	*i*P			Pn	02 10 40.5	+2.9
CRCH						*i*S	Sn	02 10 54.9	+3.6
LCO	**Las Campanas**	**2.01**	**161**	*e*P			Pn	02 10 52.2	+1.5
LCO						*i*S	Sn	02 11 18.5	+3.8
CPN1	**Cerro Paranal**	**2.64**	**21**	*e*P			Pn	02 11 01.8	+2.4
CPN1						*i*S	Sn	02 11 33.7	+3.2
CPN1				AML		AML		02 11 53.2	
	comp=N,146nm,0.5s								
TLL	**Tololo Astrono**	**3.10**	**170**	*i*P			Pn	02 11 07.9	+2.2
TLL						*i*S	Sn	02 11 44.8	+3.1
TLL				AML		AML		02 12 00.9	
	comp=N,232nm,0.6s								
TLL	**Tololo Astrono**	**3.10**	**170**	*i*P			Pn	02 11 07.9	+2.2
TLL						*i*S	Sn	02 11 44.8	+3.1

CASC 08 02:14:33.0±2.5,839N×8289W,h6km±8km,MD4.3,7C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.38**	**314**⇑	*i*P			Pg	02 14 39.5	-0.9
ACR				*e*S			Sg	02 14 46.2	+0.9
DVD	**David**	**0.44**	**84**⇓	*i*P			Pg	02 14 41.8	+0.4
DVD				*i*P				02 14 41.9	
BUS	**Buena Vista**	**1.44**	**324**⇑	*i*P			Pn	02 14 57.9	-1.7
BUS				*e*S			Sb	02 15 17.2	-1.5
URSC	**Urasca**	**1.68**	**329**	*e*P			Pn	02 15 02.0	-0.9
ICR	**Volcan Irazu**	**1.83**	**330**⇑	*i*P			Pn	02 15 05.1	+0.1
ICR				*e*S			Sn	02 15 28.6	+0.1
PRS1	**Puriscal**	**2.12**	**319**⇑	*e*P			Pn	02 15 08.0	-0.9
PRS1				*e*S			Sn	02 15 34.6	-0.9
VPS2	**Volcan Poas 2**	**2.23**	**324**	*e*P			Pn	02 15 12.5	+2.1
CGA2	**Cerro Gallo 2**	**2.24**	**316**⇑	*e*P			Pn	02 15 10.7	+0.1
CGA2				*e*S			Sn	02 15 40.1	+1.5
AZU	**Azuero**	**2.66**	**103**	*e*P			Pn	02 15 15.3	-1.1
AZU				*e*S			Sn	02 15 48.6	-0.2
ZANG	**Zanguenga, Cho**	**3.04**	**79**⇑	*e*P			Pn	02 15 21.4	-0.2
ZANG				*e*S			Sn	02 15 57.9	-0.5
LIM1	**Limonal**	**3.27**	**315**	*i*P			Pn	02 15 25.1	+0.4
ACLA	**Agua Clara, Si**	**3.29**	**73**	*e*P			Pn	02 15 25.1	0.0
PTP	**Ponta Puerca**	**19.43**	**58**	*i*P				02 14 36.3	
PTP				⇑*i*P				02 14 36.3	

*ISCJB **08** 03:09:02.9±1.0,3748N±004×2079E±008,h10km,Error ellipse: s-maj=10.0km s-min=3.9km az=114.5*

*CSEM **08** 03:09:02.1±0.4,3739N×2075E,h2km,ML3.6,Error ellipse: s-maj=8.5km s-min=2.3km az=50.0*

*THE **08** 03:09:03.7,3752N×2076E,h3km,ML3.2*

*ATH **08** 03:09:03.8,3754N×2097E,h8km±2km,MD3.6/9,ML3.6*

*NEIC **08** 03:09:04.0,3757N×2099E,h7km,ML3.6(ATH),After ATH.*

ISC 08 03:09:04.6±0.9,3752N±004×2091E±007,h10km,n27, σ1ᵍ24/39,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.70**	**39**	*e*PG			**Pg**	**03 09 15.9**	**-2.2**
RLS				*e*SB			**Sg**	**03 09 24.8**	**-2.4**
VLS	**Valsamata**	**0.70**	**339**	*e*PG			**Pg**	**03 09 16.9**	**-1.3**
VLS				*e*SB			**Sg**	**03 09 27.9**	**+0.5**
ITM	**Ithomi**	**0.88**	**112**	*e*PG			**Pg**	**03 09 19.7**	**-1.9**
ITM				*e*SB			**Sb**	**03 09 31.9**	**-1.9**
ITM	**Ithomi**	**0.88**	**112**	*e*Pg			**Pg**	**03 09 19.7**	**-1.9**
ITM				*e*Sb			**Sb**	**03 09 32.4**	**-1.4**
LKD	**Levkas**	**1.20**	**350**	*e*Pg			**Pg**	**03 09 25.4**	**-2.3**
LKD				*e*Sg			**Sg**	**03 09 43.6**	**+0.2**
EVR	**Evrytania**	**1.57**	**27**	*e*PB			**Pb**	**03 09 32.5**	**-1.2**
EVR				*e*SB			**Sb**	**03 09 54.0**	**+0.5**
EVR	**Evrytania**	**1.57**	**27**	*e*Pg			**Pn**	**03 09 31.3**	**-1.2**
VLI	**Velíai**	**1.81**	**116**	*e*PG			**Pg**	**03 09 37.0**	**-2.3**
VLI				*e*SN			**Sn**	**03 10 00.8**	**+2.0**
AGG	**Agios Georgios**	**1.87**	**36**	*e*Pb			**Pb**	**03 09 37.2**	**-1.7**
AGG				*e*Sb			**Sb**	**03 10 02.6**	**+0.3**
MGER	**Gerania Oros**	**1.92**	**75**	*e*PN			**Pn**	**03 09 38.0**	**+0.6**
LKR	**Lokris**	**2.00**	**55**	*e*PN			**Pn**	**03 09 39.0**	**+0.5**
IGT	**Igoumenitsa**	**2.06**	**348**	*e*Pn			**Pn**	**03 09 38.7**	**-0.5**
IGT				*e*Sn			**Sn**	**03 10 05.3**	**+0.3**
KYTH	**Kithira**	**2.11**	**125**	*e*PN			**Pn**	**03 09 41.8**	**+1.9**
ATH	**Athens Observa**	**2.27**	**78**	*e*PN			**Pn**	**03 09 43.5**	**+1.3**
KVR	**Kavouri**	**2.29**	**81**	*e*PN			**Pn**	**03 09 43.5**	**+1.0**
PTL	**Penteli**	**2.40**	**76**	*e*PN			**Pn**	**03 09 45.0**	**+1.0**
XOR	**Xorichti**	**2.57**	**44**	*e*Pn			**Pn**	**03 09 47.4**	**+1.0**
XOR	**Xorichti**	**2.57**	**44**	*e*Pn			**Pn**	**03 09 47.3**	**+1.0**
LIT	**Litokhoron**	**2.86**	**25**	*e*Pn			**Pn**	**03 09 50.2**	**-0.1**
LIT				*e*Sn			**Sn**	**03 10 27.6**	**+2.9**
AOS	**Alonnisos**	**2.86**	**54**	*e*Pn			**Pn**	**03 09 51.2**	**+0.9**
FNA	**Florina**	**3.28**	**6**	*e*Pn			**Pn**	**03 09 56.2**	**+0.2**
FNA				*e*Sn			**Sn**	**03 10 35.6**	**+0.5**
GRG	**Griva**	**3.62**	**18**	*e*Pn			**Pn**	**03 10 00.4**	**-0.4**
GRG				*e*Sn			**Sn**	**03 10 45.3**	**+1.7**
OUR	**Ouranopolis**	**3.69**	**40**	*e*Pn			**Pn**	**03 10 02.2**	**+0.4**
SOH	**Sokhos**	**3.81**	**29**	*e*Pn			**Pn**	**03 10 04.0**	**+0.6**
KNT	**Kendrikon**	**3.95**	**22**	*e*Pn			**Pn**	**03 10 05.5**	**+0.2**
KNT	**Kendrikon**	**3.95**	**22**	*e*Pn			**Pn**	**03 10 05.4**	**+0.1**
SRS	**Serrai**	**4.15**	**29**	*e*Pn			**Pn**	**03 10 08.2**	**+0.1**

*NEIC **08** 03:14:12.8±0.9,29.30S×70.18W,h128km±28km, MG3.7(GUC),Error ellipse: s-maj=64.1km s-min=6.2km az=91.0*

GUC 08 03:14:12.6±0.8,2933S×7012W,h120km±7km,MD3.6, ML3.7,7C-3D,Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.60**	**302**	*e*P			Pn	03 14 32.0	+0.8
LCO						*i*S	Sn	03 14 46.5	+1.2
VACH	**Vallenar**	**0.94**	**323**⇑	*i*P			Pn	03 14 34.8	+0.7
VACH						*i*S	Sn	03 14 50.9	+0.6
TLL	**Tololo Astrono**	**1.03**	**215**⇑	*i*P			Pn	03 14 36.4	+1.4
TLL						*i*S	Sn	03 14 53.5	+1.6
TLL				AML		AML		03 14 55.4	
	comp=N,4μm,0.3s								
TLL	**Tololo Astrono**	**1.03**	**215**⇑	*i*P			Pn	03 14 36.4	+1.4
TLL						*i*S	Sn	03 14 53.5	+1.6
LSCH	**La Serena**	**1.14**	**239**⇑	*i*P			Pn	03 14 43.1	+7.0
LSCH						*i*S	Sn	03 15 00.6	+6.8
LSCH				AML		AML		03 15 02.8	
	comp=E,1μm,0.1s								
OVCH	**Ovalle**	**1.59**	**216**	*i*P			Pn	03 14 41.6	+0.6
OVCH						*i*S	Sn	03 15 03.0	+0.3
OVCH				AML		AML		03 15 04.3	
	comp=E,790nm,0.2s								
OVCH	**Ovalle**	**1.59**	**216**	*i*P			Pn	03 14 41.6	+0.6
OVCH						*i*S	Sn	03 15 03.0	+0.3
CMCH	**Combarbala**	**1.99**	**202**	*i*P			Pn	03 14 46.6	+0.7
CMCH						*i*S	Sn	03 15 12.1	+0.6
CMCH				AML		AML		03 15 55.6	
	comp=N,903nm,0.6s								
CMCH	**Combarbala**	**1.99**	**202**	*i*P			Pn	03 14 46.6	+0.7
CMCH						*i*S	Sn	03 15 12.1	+0.6
CDCH	**Caldera**	**2.33**	**344**	*e*P			Pn	03 14 50.3	+0.1
CDCH						*i*S	Sn	03 15 18.9	-0.2
CHNG	**Los Chungos**	**2.81**	**205**⇑	*i*P			Pn	03 14 56.8	+0.4
CHNG						*i*S	Sn	03 15 30.4	+0.2
CHNG				AML		AML		03 15 32.7	
	comp=E,113nm,0.6s								
CRCH	**Chaqaral**	**3.00**	**351**	*i*P			Pn	03 14 59.1	+0.2
CRCH						*i*S	Sn	03 15 34.7	+0.1
CRCH				AML		AML		03 15 36.9	
	comp=E,308nm,0.3s								
CRCH	**Chaqaral**	**3.00**	**351**	*i*P			Pn	03 14 59.1	+0.2
CRCH						*i*S	Sn	03 15 34.7	+0.1
JACH	**Jahuel**	**3.37**	**187**⇑	*i*P			Pn	03 15 04.8	+1.1
JACH						*i*S	Sn	03 15 44.4	+1.1
PEL	**Peldehue**	**3.84**	**187**⇑	*i*P			Pn	03 15 10.2	+0.3
PEL						*i*S	Sn	03 15 54.4	0.0
FCH	**Farellones**

comp=Z,20nm,0.7s,mb5.2
GKN Gorkha 49.58 307 *e*P **P** 03 30 56.3 -0.6
comp=Z,13nm,0.3s,mb5.4
KOLN Koldanda 50.31 307 *e*P **P** 03 31 02.6 +0.2
comp=Z,53nm,0.7s
ULN Ulaanbaatar 50.60 342 *e*P **P** 03 31 06.2 +1.6
ULN pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
ULN Ulaanbaatar 50.60 342 *e*P **P** 03 31 06.2 +1.6
comp=Z,1.3nm,0.5s,mb4.1
SONM Songino Array 50.78 342 P **P** 03 31 07.7 +1.8
comp=Z,1.0nm,0.6s,mb3.9,baz=156,slow=5.6,SNR=5.4
MK31 Makanchi Array 60.89 326 P **P** 03 32 18.3 0.0
MK31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.4
MKAR Makanchi Array 60.89 326 P **P** 03 32 18.6 +0.3
comp=Z,2.9nm,0.3s,mb4.9,baz=114,slow=8.1,SNR=63
TKM2 Tokmak 2 62.94 319 P **P** 03 32 32.4 +0.3
TKM2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
ZAL Zalesovo 64.03 333 P **P** 03 32 38.5 -0.8
comp=Z,1.0nm,0.4s,mb4.2,baz=7.3,slow=5.4,SNR=4.3
KURK Kurchatov 65.11 328 P **P** 03 32 46.0 -0.4
KURK pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
KURK Kurchatov 65.11 328 *e*P **P** 03 32 46.0 -0.4
comp=Z,5.1nm,0.6s,mb4.7
KKAR Karatay Array 66.38 318 *i* P **P** 03 32 53.8 -0.8
KKAR pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
VOSK Vostochnaya 70.22 327 P **P** 03 33 17.5 -1.1
VOSK pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
BVA0 Borovoye Array 70.68 327 *i* P **P** 03 33 20.6 -0.8
ZRNK Zerenda 71.40 327 *e*P **P** 03 33 24.9 -0.9
ZRNK pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
ZRNK Zerenda 71.40 327 *e*P **P** 03 33 24.9 -0.8
comp=Z,3.0nm,0.5s,mb4.5
AB31 Akbulak array 75.39 321 *i* P **P** 03 33 47.9 -1.4
TORD Torodi Ar. Bea 124.89 286 PKP PKPdf 03 41 04.2 -1.3
comp=Z,0.3nm,0.3s,baz=90,slow=2.2,SNR=10

*IDC **08** 03:24:47.6±1.7, 2024S×17342W, h0km, mb4.0/3, mb1 4.2/5, mb1mx3.9/16, mbtmp4.1/5, ML4.2/1, Error ellipse: s-maj=49.3km s-min=30.3km az=150.0*
*ISCJB **08** 03:24:49.5±0.9, 2015S±0.1×17331W±0.1, h33km, mb4.1/4, Error ellipse: s-maj=21.8km s-min=14.2km az=133.8*
*NEIC **08** 03:24:52.0±0.8, 20.14S×17336W, h35km, mb4.1/1, Error ellipse: s-maj=21.6km s-min=14.0km az=159.0*

ISC 08 03:24:52.1±0.8, 202S±01×1733W±01, h35km, n9, σ0s84/8, mb4.1/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**6.38**	**14**	Pn		**Pn**	**03 26 23.2**	**-0.4**
	1.2nm,0.3s,baz=348,slow=22,SNR=3.1							
AFI				T			03 32 54.2	
	3.3nm,0.3s,baz=52,slow=22,SNR=4.2							
AFI	**Afiamalu**	**6.38**	**14**	*e*Pn		**Pn**	**03 26 22.5**	**-1.1**
	10nm,0.6s							
RAR	**Rarotonga**	**12.74**	**97**	Pn		**Pn**	**03 27 50.9**	**+0.1**
	1.3nm,0.3s,baz=243,slow=16,SNR=6.5							
STKA	**Stephens Creek**	**41.88**	**244**	*e*P		**P**	**03 32 38.6**	**-0.3**
ASAR	**Alice Springs**	**48.85**	**256**	P		**P**	**03 33 34.3**	**+0.2**
	1.4nm,0.7s,mb4.1,baz=90,slow=8.0,SNR=14							
WRAB	**Tennant Creek**	**48.97**	**261**	P		**P**	**03 33 34.4**	**-0.6**
	1.0nm,0.5s,mb4.1							
WRA	**Warramunga Arr**	**48.98**	**261**	P		**P**	**03 33 34.9**	**-0.2**
	0.5nm,0.3s,mb4.0,baz=96,slow=6.8,SNR=5.6							
MJAR	**Matsushiro Arr**	**72.61**	**321**	P		**P**	**03 36 17.9**	**+2.1**
	1.7nm,0.7s,mb4.1,baz=171,slow=7.5,SNR=4.1							
AKASG	**Malin Array Be**	**144.68**	**335**	PKP		PKPdf	03 44 25.9	+0.8
	0.6nm,0.5s,baz=45,slow=4.4,SNR=4.8							

WEL 08 03:30:16.3±0.7, 3788S×17913E, h33km, ML3.6/19, 1C, Error ellipse: s-maj=6.9km s-min=2.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PUZ	**Puketiti**	**0.71**	**254**	PN		Pn	03 30 28.9	-1.2
PUZ				SN		Sn	03 30 39.0	-0.9
MXZ	**Matakaoa Point**	**0.73**	**296**	⇑PN		Pn	03 30 29.9	-0.3
MWZ	**Matawai**	**1.34**	**250**	PN		Pn	03 30 37.7	-1.0
MWZ				SN		Sn	03 30 54.9	-0.5
KNZ	**Kokohu**	**1.61**	**225**	PN		Pn	03 30 41.4	-1.0
URZ	**Urewera**	**1.64**	**256**	PN		Pn	03 30 42.7	0.0
TAZ	**Tarawera**	**2.10**	**260**	*e*PN		Pn	03 30 48.6	-0.5
BKZ	**Black Stump Fm**	**2.43**	**237**	PN		Pn	03 30 53.4	-0.3
BKZ				SN		Sn	03 31 22.1	-0.2
PXZ	**Pawanui**	**2.78**	**219**	*e*PN		Pn	03 30 55.9	-2.5
PXZ				SN		Sn	03 31 28.2	-2.7
KRVZ	**Karewarewa**	**2.99**	**245**	PN		Pn	03 31 00.9	-0.5
KRVZ				SN		Sn	03 31 34.5	-1.6
MOVZ	**Moawhango**	**3.05**	**239**	PN		Pn	03 31 01.4	-0.8
NGZ	**Ngauruhoe**	**3.05**	**244**	PN		Pn	03 31 01.7	-0.6
NGZ				SN		Sn	03 31 36.4	-1.2
TUVZ	**Tukino**	**3.05**	**242**	PN		Pn	03 31 02.0	-0.3
WNVZ	**Wahianoa**	**3.12**	**241**	PN		Pn	03 31 02.4	-0.7
FWVZ	**Far West T-bar**	**3.12**	**243**	PN		Pn	03 31 03.0	-0.2
TSZ	**Takapari Road**	**3.29**	**228**	PN		Pn	03 31 03.4	-2.1
BFZ	**Birch Farm**	**3.58**	**218**	PN		Pn	03 31 06.5	-3.0
BFZ				SN		Sn	03 31 46.9	-3.7
TIWZ	**Tintock**	**3.83**	**220**	*e*PN		Pn	03 31 09.4	-3.5
TIWZ				SN		Sn	03 31 53.6	-3.2
MRZ	**Mangatainoka R**	**3.91**	**224**	PN		Pn	03 31 11.1	-3.0
KIW	**Kapiti Island**	**4.42**	**226**	PN		Pn	03 31 17.8	-3.2
CAW	**Cannon Point**	**4.50**	**223**	PN		Pn	03 31 18.5	-3.6
TCW	**Tory Channel**	**5.01**	**227**	SN		Sn	03 32 20.7	-5.2
TUWZ	**Tuamarina**	**5.34**	**227**	SN		Sn	03 32 28.7	-5.4
NNZ	**Nelson**	**5.55**	**231**	PN		Pn	03 31 33.3	-3.3
THZ	**Tophouse**	**6.16**	**229**	*e*PN		Pn	03 31 40.3	-4.7
LTZ	**Lake Taylor**	**7.17**	**225**	*e*PN		Pn	03 31 55.1	-3.6
LTZ				SN		Sn	03 33 09.9	-9.1
MQZ	**McQueen's Vall**	**7.61**	**218**	SN		Sn	03 33 19.9	-10

*NIED **08** 03:45:00, 3400N×13350E, h8km, Mw3.8 Best double couple: M0=6.27000×10^14 NP1:φs=313.00000°, δ80.00000°, λ-42.00000°. NP2:φs52.00000°, δ48.00000°, λ-166.00000°.*
*ISCJB **08** 03:45:44.1±0.7, 3401N±006×13354E±005, h20km±7km, mb3.4/5, Error ellipse: s-maj=10.8km s-min=6.0km az=120.6*
*NEIC **08** 03:45:44.3, 3402N×13353E, h13km, MG4.2(JMA), After JMA.*
NEIC Felt at Marugame and Niihama, Shikoku. Recorded [2 JMA] in Kagawa and Ehime; [1 JMA] in Tokushima and Kochi Prefectures, Shikoku. Also recorded [2 JMA] in Hiroshima and [1 JMA] in Hyogo, Okayama and Shimane Prefectures, Honshu.
*JMA **08** 03:45:44.3, 3402N×13353E, h13km±1km, M4.2 Broadband fault plane solution: P waves. NP1: φs58.00000°, δ66.00000°, λ-157.00000°. NP2: φs318.00000°, δ69.00000°, λ-26.00000°. Principal axes: T Plg2.0000°, Azm8.0000°; N Plg57.0000°, Azm101.0000°; P Plg33.0000°, Azm277.0000°;*
JMA Felt II J1.
*IDC **08** 03:45:45.5±3.0, 3402N×13353E, h18km±20km, mb3.3/5, mb1 3.5/7, mb1mx3.4/23, mbtmp3.4/7, ML3.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.0/22 Error ellipse: s-maj=67.9km s-min=12.8km az=155.0*

ISC 08 03:45:44.0±0.7, 3406N±005×13354E±005, h5km±6km, n14, σ1s04/20, mb3.4/5, 3C, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JMN	**Monobe**	**0.43**	**139**	⇑P		**Pg**	**03 45 52.5**	**+0.2**
JMN				S		**Sg**	**03 45 58.0**	**0.0**
JJS	**Sakaide**	**0.45**	**46**	⇑P		**Pg**	**03 45 53.7**	**+1.0**
JJS				S		**Sg**	**03 46 00.3**	**+1.7**
JET	**Tanbara**	**0.49**	**236**	⇑P		**Pg**	**03 45 53.4**	**-0.1**
JET				S		**Sg**	**03 45 59.7**	**-0.2**
JNU	**Nakatsue**	**2.41**	**248**	Pn		**Pn**	**03 46 24.4**	**+0.3**
	21nm,0.3s,baz=33,slow=3.5,SNR=26							
JNU				Lg			03 47 00.8	
	51nm,0.3s,baz=228,slow=29,SNR=11							
MAJO	**Matsushiro**	**4.55**	**56**	*e*Pn		**Pn**	**03 46 54.1**	**+0.6**
MAJO				*e*Sg		**Sg**	**03 48 08.0**	**-2.2**
MAT	**Matsushiro**	**4.55**	**56**	P		**Pn**	**03 46 54.6**	**+1.1**
MAT				S		**Sn**	**03 47 47.5**	**+0.7**
MAT	**Matsushiro**	**4.55**	**56**	*e*P		**Pn**	**03 46 55.0**	**+1.5**
MAT				*e*S		**Sg**	**03 48 08.0**	**-2.2**
MJAR	**Matsushiro Arr**	**4.55**	**56**	Pn		**Pn**	**03 46 54.8**	**+1.2**
	2.5nm,0.3s,baz=242,slow=14,SNR=13							
MJAR				Pg		**Pg**	**03 47 10.5**	**-0.7**
	2.0nm,0.3s,baz=242,slow=16,SNR=18							
MJAR				Lg			03 48 10.9	
	2.2nm,0.3s,baz=232,slow=30,SNR=7.2							
ASAJ	**Asahikawa**	**12.25**	**32**	LR		LR	03 53 17.4	
	comp=Z,46nm,18.3s,baz=14,slow=37							
SONM	**Songino Array**	**24.54**	**312**	P		**P**	**03 51 05.2**	**+0.8**
	0.3nm,0.6s,mb3.0,baz=129,slow=12,SNR=2.3							
MKAR	**Makanchi Array**	**40.35**	**304**	P		**P**	**03 53 22.2**	**-0.4**
	0.5nm,0.7s,mb3.4,baz=91,slow=8.5,SNR=5.4							
ILAR	**Eielson Array**	**55.39**	**31**	P		**P**	**03 55 18.0**	**-1.1**
	0.3nm,0.8s,mb3.4,baz=282,slow=11,SNR=5.1							
FINES	**FINESS Array B**	**68.34**	**330**	P		**P**	**03 56 44.9**	**-1.4**
	1.2nm,0.8s,mb4.0,baz=78,slow=7.7,SNR=3.3							
YKA	**Yellowknife Ar**	**69.50**	**27**	P		**P**	**03 56 52.8**	**-0.7**
	0.2nm,0.7s,mb3.1,baz=301,slow=7.2,SNR=3.9							

*IDC **08** 03:59:08.0±1.4, 0.89N×12671E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/15, mbtmp4.0/4, Error ellipse: s-maj=148.1km s-min=21.1km az=69.0*
*ISCJB **08** 03:59:10.8±1.0, 10N±03×127.1E±06, h33km, mb4.1/7, Error ellipse: s-maj=97.6km s-min=13.7km az=137.5*
*NEIC **08** 03:59:13.0±0.9, 0.92N×12706E, h35km, mb4.5/3, Error ellipse: s-maj=87.3km s-min=11.9km az=69.0*

ISC 08 03:59:13.3±1.0, 09N±03×1269E±06, h35km, n8, σ0s83/8, mb4.1/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRAB	**Tennant Creek**	**21.92**	**161**	*e*P		**P**	**04 04 03.4**	**-0.2**
	6.0nm,0.7s,mb4.1							
WRA	**Warramunga Arr**	**21.92**	**161**	P		**P**	**04 04 02.9**	**-0.7**
	3.2nm,0.5s,mb4.0,baz=339,slow=11,SNR=9.9							
WB2	**Warramunga Arr**	**21.93**	**161**	*e*P		**P**	**04 04 03.3**	**-0.3**
ASAR	**Alice Springs**	**25.32**	**165**	P		**P**	**04 04 38.1**	**+1.5**
	2.4nm,0.6s,mb3.9,baz=346,slow=11,SNR=22							
SONM	**Songino Array**	**50.06**	**342**	P		**P**	**04 08 04.3**	**-0.2**
	0.9nm,0.8s,mb3.8,baz=142,slow=7.5,SNR=3.8							
MKAR	**Makanchi Array**	**60.01**	**326**	P		**P**	**04 09 15.3**	**-1.1**
	1.0nm,0.6s,mb4.0,baz=123,slow=8.8,SNR=8.9							
KURK	**Kurchatov**	**64.25**	**328**	*e*P		**P**	**04 09 46.1**	**+1.3**
	5.6nm,0.9s,mb4.6							
MAW	**Mawson**	**81.15**	**200**	*e*P		**P**	**04 11 25.0**	**-0.2**
	4.7nm,0.9s,mb4.4							

*NEIC **08** 04:05:11.8, 3632N×1278E, h10km, ML3.5(ROM), After ROM.*
*CSEM **08** 04:05:11.8±0.3, 3632N×1278E, h10km, MD3.3/7, ML3.7/4, Error ellipse: s-maj=5.0km s-min=2.6km az=22.0, After ROM*

ROM 08 04:05:11.8±0.3, 3632N×1278E, h10km, Md3.3/7, Ml3.5/13, Error ellipse: s-maj=5.0km s-min=2.6km az=22.0, Central Mediterraneran Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PTS	**Pantelleria**	**0.80**	**308**	Pg		Pg	04 05 27.3	+0.1
PTS				Sg		Sg	04 05 37.5	-0.1
	204nm,0.3s							
FAVR	**Favara**	**1.18**	**37**	Pg		Pg	04 05 35.3	+0.8
	215nm,0.4s							
CLTB	**Caltabellotta**	**1.30**	**15**	Pg		Pg	04 05 35.6	-1.2
CLTB				Sg		Sg	04 05 53.1	-0.6
	2µm,0.5s							
WDD	**Wield Dalam**	**1.48**	**107**	Pg		Pg	04 05 39.2	-1.1
WDD				Sg		Sg	04 05 57.9	-1.6
	790nm,0.8s							
CORL	**Corleone**	**1.62**	**15**	Pg		Pg	04 05 41.1	-1.9
	373nm,0.5s							
LVI	**Isola Levanzo**	**1.70**	**348**	Pg		Pg	04 05 40.9	-3.5
HMDC	**Modica**	**1.73**	**68**	Pg		Pg	04 05 42.0	-3.0
HMDC				Sg		Sg	04 06 03.2	-4.3
	262nm,0.3s							
HVZN	**Vizzini**	**1.77**	**61**	Pg		Pg	04 05 43.4	-2.4
HVZN				Sg		Sg	04 06 05.5	-3.3
	1µm,0.8s							
CSLB	**Castelbuono**	**1.91**	**32**	Pg		Pg	04 05 45.7	-2.7
	63nm,0.4s							
GIB	**Gibilmanna**	**1.94**	**31**	Pg		Pg	04 05 45.8	-3.2
	285nm,0.6s							
HAVL	**Avola**	**1.99**	**71**	Pg		Pg	04 05 45.0	-5.0
	373nm,0.3s							
SSY	**Sortino**	**2.02**	**65**	Pg		Pg	04 05 46.1	-4.4
	772nm,0.5s							
USI	**Ustica**	**2.40**	**7**	Pg		Pg	04 05 52.2	-5.7
	55nm,0.2s							
MMME	**Mongiuffi-Meli**	**2.55**	**50**	Pg		Pg	04 05 54.1	-6.6
	104nm,0.4s							
IFIL	**Filicudi I Eol**	**2.65**	**32**	Pg		Pg	04 05 54.7	-7.9
	406nm,0.4s							
LLI	**Lipari**	**2.73**	**39**	Pg		Pg	04 05 56.4	-7.8
	383nm,0.5s							
SOI	**Samo**	**3.15**	**55**	Pg		Pg	04 06 02.2	-10
	14nm,0.4s							
CEL	**Celeste**	**3.15**	**51**	Pg		Pg	04 06 02.9	-9.2
	36nm,0.5s							
VSL	**Villasalto**	**4.16**	**321**	Pg		Pg	04 06 15.4	-16
	7.0nm,0.4s							

IDC 08 04:07:25.3±1.5, 839N×7388W, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.2/19, mbtmp3.2/3, ML1.3/1, Error ellipse: s-maj=53.8km s-min=27.8km az=90.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ROSC	**El Rosal**	**3.54**	**187**	Pn		Pn	04 08 22.8	+1.2
	0.5nm,0.3s,baz=90,slow=20,SNR=5.0							
ROSC				Sn		Sn	04 09 04.4	+0.3
	2.2nm,0.3s,baz=227,slow=20,SNR=4.6							
YKA	**Yellowknife Ar**	**61.54**	**340**	P		P	04 17 43.9	-0.2
	0.1nm,0.6s,baz=132,slow=7.2,SNR=6.1							
TORD	**Torodi Ar. Bea**	**74.17**	**79**	P		P	04 19 04.5	+0.8
	0.4nm,1.1s,baz=287,slow=6.4,SNR=4.5							

*ISCJB **08** 04:13:19.3±0.2, 1725N±004×14592E±004, h101km, mb4.6/65, Error ellipse: s-maj=5.8km s-min=5.0km az=5.2*
*NEIC **08** 04:13:20.8±0.2, 1728N×14593E, mb4.7/38, Error ellipse: s-maj=9.6km s-min=4.9km az=118.0*
*MOS **08** 04:13:20.0±1.0, 1735N×14561E, h115km, mb4.8/21, Error ellipse: s-maj=17.0km s-min=8.2km az=76.9*
*BJI **08** 04:13:20.7, 1730N×14590E, h102km, mB4.7, mb4.6*
*IDC **08** 04:13:22.8±1.2, 1732N×14573E, h128km±10km, mb4.2/17, mb1 4.3/19, mb1mx4.2/25, mbtmp4.6/19, MS3.4/5, Ms1 3.4/5, ms1mx3.0/27, Error ellipse: s-maj=19.1km s-min=7.8km az=100.0*

ISC 08 04:13:21.4±0.2, 1730N±003×14599E±004, h103km, h103km±1.8km pP-P, n137, σ1s17/144, mb4.6/65, 2C-2D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**3.84**	**196**	P		**Pn**	**04 14 19.6**	**+1.2**
	65nm,0.3s,baz=158,slow=2.0,SNR=14							
GUMO				S		**Sn**	**04 15 04.3**	**+1.7**
	84nm,0.3s,baz=53,slow=20,SNR=3.9							
GUMO				LR		LR	04 15 31.7	
	comp=Z,341nm,18.4s,baz=264,slow=34							
GUMO	**Guam**	**3.84**	**196**	P		**Pn**	**04 14 19.6**	**+1.2**
GUMO				S		**Sn**	**04 15 04.4**	**+1.8**
CBIJ	**Chichi jima**	**10.37**	**341**	P		**Pn**	**04 15 45.9**	**-1.1**
	2.2nm,0.3s,baz=288,slow=20,SNR=3.0							
CBIJ				S		**Sn**	**04 17 40.0**	**-1.1**
	9.1nm,0.3s,baz=288,slow=20,SNR=4.2							
JHJ	**Hachijo jima 2**	**16.72**	**342**	LR		LR	04 21 51.1	
	comp=Z,40nm,21.3s,baz=325,slow=31							
JOW	**Kunigami**	**18.94**	**303**	P		**P**	**04 17 37.2**	**+2.9**
	1.7nm,0.3s,baz=125,slow=13,SNR=8.3							
JOW				LR		LR	04 23 33.8	
	comp=Z,221nm,19.5s,baz=281,slow=33							
MJAR	**Matsushiro Arr**	**20.37**	**342**	P		**P**	**04 17 49.1**	**-0.6**
	1.1nm,0.4s,baz=116,slow=11,SNR=4.1							
MSLP	**Maasin**	**21.71**	**254**	*e*P		**P**	**04 18 06.4**	**+2.4**
YHNB	**Yeheng**	**24.10**	**292**	*e*P		**P**	**04 18 26.5**	**-0.8**
SSE	**Sheshan**	**26.39**	**306**	P		**P**	**04 18 47.6**	**-0.4**
SSE				AP		pP	04 19 09.8	-1.0
SSE				XP		sP	04 19 21.5	-1.3
SSE				S		**S**	**04 23 11.1**	**-2.7**
SSE				XS		sS	04 23 50.6	-3.0
SSE				AMB		AMB		
	comp=Z,35nm,0.7s,mb4.9							
SSE				AMB		AMB		
	comp=Z,43nm,4.7s							
SSE				LR		LR		
	comp=N,56nm,19.1s							
SSE				LR		LR		
	comp=E,27nm,19.1s							
SSE				LR		LR		
	comp=Z,90nm,22.5s							
PMG	**Port Moresby**	**26.56**	**177**	P		**P**	**04 18 48.9**	**-0.6**
	comp=Z,48nm,0.8s,mb5.1,baz=7.2,slow=6.0,SNR=32							
PMG	**Port Moresby**	**26.56**	**177**	*e*P		**P**	**04 18 48.9**	**-0.7**
PMG				pmax		pmax		
	comp=Z,90nm,1.1s							
PMG	**Port Moresby**	**26.56**	**177**	*e*P		**P**	**04 18 48.9**	**-0.6**
	comp=Z,90nm,1.1s,mb5.2							
ASAJ	**Asahikawa**	**26.89**	**355**	P		**P**	**04 18 52.1**	**-0.4**
	comp=Z,12nm,0.8s,mb4.5,baz=82,slow=32,SNR=4.9							
ASAJ				LR		LR	04 28 40.8	
	comp=Z,73nm,21.9s,baz=154,slow=34							
NJ2	**Nanjing**	**28.60**	**306**	*e*P		**P**	**04 19 10.0**	**+2.3**
NJ2				AP		pP	04 19 32.1	+1.5
NJ2				XP		sP	04 19 43.8	+1.2
NJ2				PP		PP	04 20 06.9	-7.2
NJ2				S		**S**	**04 23 51.0**	**+2.5**
NJ2				XS		sS	04 24 29.0	+0.6
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.5							
NJ2				AMB		AMB		
	comp=Z,200nm,12.0s							
NJ2				LR		LR		
	comp=N,2µm,12.1s							
NJ2				LR		LR		
	comp=E,900nm,13.7s							
NJ2				LR		LR		
	comp=Z,820nm,17.8s							
MDJ	**Mudanjiang**	**30.53**	**337**	P		**P**	**04 19 25.9**	**+1.1**
MDJ				AP		pP	04 19 48.2	+0.4
MDJ				XP		sP	04 20 00.0	+0.2
MDJ				S		**S**	**04 24 21.9**	**+3.1**
MDJ				SCS		ScS	04 29 49.8	-1.0
MDJ				AMB		AMB		
	comp=Z,3.0nm,0.5s,mb4.3							
MDJ				AMB		AMB		
	comp=Z,26nm,5.6s							
MDJ				LR		LR		
	comp=N,92nm,38.6s							
MDJ				LR		LR		
	comp=E,44nm,31.6s							
MDJ				LR		LR		
	comp=Z,14nm,19.3s							
SNY	**Shenyang**	**31.09**	**327**	*e*P		**P**	**04 19 30.6**	**+0.9**
SNY				AP		pP	04 19 55.0	+2.2
SNY				XP		sP	04 20 08.6	+3.9
SNY				AMB		AMB		
	comp=Z,68nm,4.9s							
KKM	**Kota Kinabalu**	**31.17**	**253**	*e*P		**P**	**04 19 30.5**	**-0.1**
CN2	**Changchun**	**31.62**	**331**	*e*P		**P**	**04 19 37.1**	**+2.7**
KAKA	**Kakadu**	**32.68**	**205**	*e*P		**P**	**04 19 43.4**	**-0.3**
	comp=Z,7.1nm,0.6s,mb4.7							
KLR	**Kul'dur**	**33.88**	**343**	*e*P		**P**	**04 19 48.0**	**-6.2**
CTA	**Charters Tower**	**37.15**	**180**	*e*P		**P**	**04 20 22.6**	**+0.5**
	comp=Z,4.7nm,0.5s,mb4.7							
CTA	**Charters Tower**	**37.15**	**180**	P		**P**	**04 20 21.4**	**-0.7**
	comp=Z,9.4nm,0.7s,mb4.8,baz=355,slow=8.6,SNR=6.5							
CTA	**Charters Tower**	**37.15**	**180**	*e*P		**P**	**04 20 22.6**	**+0.5**
CTA				pmax		pmax		
	comp=Z,5.0nm,0.5s							
GYA	**Guiyang**	**37.49**	**291**	P		**P**	**04 20 26.6**	**+1.6**
GYA				AP		pP	04 20 51.8	+3.3
GYA				XP		sP	04 21 02.4	+2.1
GYA				PP		PP	04 21 59.2	+6.7
GYA				PCP		PcP	04 22 41.6	+0.4
GYA				S		**S**	**04 26 08.8**	**+2.7**
GYA				XS		sS	04 26 52.6	+5.8
GYA				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.8							
GYA				AMB		AMB		
	comp=Z,90nm,3.9s							
GYA				LR		LR		
	comp=N,340nm,16.8s							
GYA				LR		LR		
	comp=E,380nm,17.0s							
GYA				LR		LR		
	comp=Z,310nm,17.2s							
HHC	**Hu-ho-hao-te**	**37.78**	**316**	*e*P		**P**	**04 20 28.4**	**+0.9**
HHC				AP		pP	04 20 50.5	-0.5
HHC				XP		sP	04 21 03.3	+0.5
HHC				PP		PP	04 22 00.7	+5.0
HHC				PCP		PcP	04 22 44.2	+2.1
HHC				S		**S**	**04 26 12.2**	**+1.6**
HHC				SCP		ScP	04 26 21.5	+1.4
HHC				PCS		PcS	04 26 30.6	-0.4
HHC				XS		sS	04 26 51.3	+0.1
HHC				SS		SS	04 28 52.2	-8.3
HHC				SCS		ScS	04 30 31.4	+2.2
HHC				AMB		AMB		
	comp=Z,10.0nm,1.1s,mb4.6							
HHC				AMB		AMB		
	comp=Z,54nm,4.2s							
HHC				LR		LR		
	comp=N,80nm,14.8s							
HHC				LR		LR		
	comp=E,135nm,13.1s							
HHC				LR		LR		
	comp=Z,46nm,15.7s							
HIA	**Hailar**	**38.32**	**332**	*e*P		**P**	**04 20 31.7**	**-0.3**
WRAB	**Tennant Creek**	**38.72**	**198**	*e*P		**P**	**04 20 33.8**	**-1.5**
WRAB	**Tennant Creek**	**38.72**	**198**	*e*P		**P**	**04 20 33.5**	**-1.9**
	comp=Z,33nm,0.7s,mb5.3							
WB2	**Warramunga Arr**	**38.73**	**198**	⇑*i*P		**P**	**04 20 33.6**	**-1.8**
WRA	**Warramunga Arr**	**38.73**	**198**	P		**P**	**04 20 33.8**	**-1.6**
	comp=Z,15nm,0.7s,mb4.9,baz=18,slow=9.2,SNR=29							
FITZ	**Fitzroy Crossi**	**40.48**	**211**	⇑*i*P		**P**	**04 20 48.5**	**-1.4**
	comp=Z,18nm,0.6s,mb5.1							
FITZ	**Fitzroy Crossi**	**40.48**	**211**	P		**P**	**04 20 49.4**	**-0.5**
	comp=Z,8.3nm,0.6s,mb4.7,baz=23,slow=10.0,SNR=40							
CD2	**Chengdu**	**40.62**	**297**	*e*P		**P**	**04 20 49.6**	**-1.5**
CD2				AP		pP	04 21 12.3	-2.5
CD2				XP		sP	04 21 23.9	-2.7
CD2				PP		PP	04 22 28.0	+1.4
CD2				S	

STKA	**Stephens Creek**	**49.07**	**185**	*eP*	**P**	**04 21 54.5**	**-3.6**
	comp=Z,6.4nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**49.07**	**185**	P	**P**	**04 21 54.8**	**-3.3**
	comp=Z,6.1nm,0.6s,mb4.7,baz=358,slow=9.0,SNR=12						
FORT	**Forrest**	**50.81**	**200**	*eP*	**P**	**04 22 11.1**	**-0.1**
	comp=Z,18nm,0.6s,mb5.3						
AKUT	**Akutan**	**52.17**	**34**	*eP*	**P**	**04 22 21.1**	**-0.3**
BILL	**Bilibino**	**52.35**	**9**	*eP*	**P**	**04 22 21.5**	**-1.2**
BILL				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
BILL	**Bilibino**	**52.35**	**9**	*eP*	**P**	**04 22 21.5**	**-1.2**
	comp=Z,11nm,1.0s,mb4.8						
CNB	**Canberra Magne**	**52.42**	**177**	*eP*	**P**	**04 22 23.4**	**+0.2**
	comp=Z,56nm,1.0s,mb5.5						
TIXI	**Tiksi**	**55.29**	**353**	*eP*	**P**	**04 22 42.0**	**-2.1**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
WMQ	**Urumqi**	**55.44**	**312**	P	**P**	**04 22 45.0**	**-0.1**
WMQ				AP	pP	04 23 10.5	+0.4
WMQ				XP	sP	04 23 22.0	+0.5
WMQ				PCP	PcP	04 23 43.4	-0.8
WMQ				PP	PP	04 24 51.7	+1.8
WMQ				PPP		04 26 07.6	
WMQ				S	**S**	**04 30 20.0**	**-2.0**
WMQ				XS	sS	04 31 04.5	-0.3
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.4s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,68nm,4.8s						
WMQ				LR	LR		
	comp=N,57nm,26.8s						
WMQ				LR	LR		
	comp=E,47nm,22.9s						
WMQ				LR	LR		
	comp=Z,48nm,22.9s						
KLBR	**Kellerberrin**	**55.65**	**209**	*eP*	**P**	**04 22 46.4**	**-0.3**
	comp=Z,17nm,0.8s,mb5.1						
JIRN	**Jiri**	**55.76**	**292**	*eP*	**P**	**04 22 48.0**	**+0.6**
	comp=Z,8.7nm,0.5s,mb5.0						
GUN	**Gumba**	**56.02**	**292**	*eP*	**P**	**04 22 51.0**	**+1.7**
KKN	**Kakani**	**56.55**	**292**	*eP*	**P**	**04 22 52.2**	**-0.9**
MUN	**Mundaring**	**56.70**	**210**	*eP*	**P**	**04 22 52.7**	**-1.5**
NWAO	**Narrogin (SRO)**	**57.01**	**209**	P	**P**	**04 22 55.0**	**-1.3**
	comp=Z,16nm,0.7s,mb5.2,baz=40,slow=7.3,SNR=13						
GKN	**Gorkha**	**57.11**	**292**	*eP*	**P**	**04 22 56.8**	**-0.2**
KOLN	**Koldanda**	**58.04**	**292**	*eP*	**P**	**04 23 01.5**	**-2.1**
MKAR	**Makanchi Array**	**59.63**	**314**	P	**P**	**04 23 13.4**	**-1.2**
	comp=Z,0.7nm,0.7s,mb3.8,baz=93,slow=8.0,SNR=5.4						
MKAR				ScP	ScP	04 27 48.1	-3.9
	comp=Z,1.2nm,0.9s,baz=103,slow=4.6,SNR=4.7						
TTA	**Tatalina**	**60.37**	**27**	*eP*	**P**	**04 23 19.3**	**-0.3**
TTA				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.7						
TTA	**Tatalina**	**60.37**	**27**	*eP*	**P**	**04 23 19.3**	**-0.3**
	comp=Z,11nm,1.4s,mb4.7						
KDAK	**Kodiak Island**	**60.38**	**33**	P	**P**	**04 23 19.5**	**-0.1**
	comp=Z,18nm,0.8s,mb5.1,baz=0.6,slow=1.9,SNR=28						
KDAK	**Kodiak Island**	**60.38**	**33**	P	**P**	**04 23 19.5**	**-0.1**
KURK	**Kurchatov**	**62.50**	**319**	*eP*	**P**	**04 23 31.1**	**-2.8**
PMR	**Palmer**	**63.03**	**29**	*eP*	**P**	**04 23 35.6**	**-1.9**
PMR				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
PMR	**Palmer**	**63.03**	**29**	*eP*	**P**	**04 23 35.6**	**-1.9**
	comp=Z,13nm,1.2s,mb4.7						
COLA	**College**	**64.40**	**26**	*eP*	**P**	**04 23 46.6**	**+0.1**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
COLA	**College**	**64.40**	**26**	*eP*	**P**	**04 23 46.6**	**+0.2**
	comp=Z,5.4nm,0.9s,mb4.4						
ILAR	**Eielson Array**	**64.78**	**26**	P	**P**	**04 23 46.6**	**-2.3**
	comp=Z,7.7nm,0.8s,mb4.6,baz=258,slow=4.9,SNR=66						
ILAR				LR	LR	04 51 28.0	
	comp=Z,46nm,18.1s,baz=182,slow=35						
BVAR	**Borovoye Array**	**67.73**	**321**	P	**P**	**04 24 04.9**	**-2.8**
	comp=Z,2.4nm,0.6s,mb4.2,baz=100,slow=8.1,SNR=12						
INK	**Inuvik**	**70.55**	**23**	*eP*	**P**	**04 24 23.6**	**-1.6**
INK				pmax	pmax		
	comp=Z,12nm,0.8s						
INK	**Inuvik**	**70.55**	**23**	*eP*	**P**	**04 24 23.6**	**-1.6**
	comp=Z,12nm,0.8s,mb4.8						
ARU	**Arti**	**74.36**	**325**	*eP*	**P**	**04 24 43.4**	**-4.4**
ARU				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.8						
CMW	**Cultus Mountai**	**78.50**	**43**	P	**P**	**04 25 12.1**	**+1.0**
JCW	**Jim Creek**	**78.67**	**43**	P	**P**	**04 25 12.7**	**+0.6**
RPW	**Rockport**	**78.89**	**43**	P	**P**	**04 25 13.5**	**+0.3**
YKW3	**Yellowknife Ar**	**79.07**	**28**	*eP*	**P**	**04 25 12.7**	**-1.5**
YKW3				*e*PcP	PcP	04 25 21.2	-1.1
YKA	**Yellowknife Ar**	**79.09**	**28**	P	**P**	**04 25 13.0**	**-1.4**
	comp=Z,7.1nm,0.8s,mb4.5,baz=289,slow=5.5,SNR=81						
YKA	**Yellowknife Ar**	**79.09**	**28**	*i* P	**P**	**04 25 13.0**	**-1.4**
YKA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
YKA	**Yellowknife Ar**	**79.09**	**28**	P	**P**	**04 25 13.0**	**-1.4**
FMW	**Mount Fremont**	**79.14**	**44**	P	**P**	**04 25 15.3**	**+0.7**
HUMO	**Hull Mountain**	**79.26**	**49**	*eP*	**P**	**04 25 16.6**	**+1.3**
	comp=Z,3.8nm,0.6s,mb4.4						
VLL	**Laurance Lake**	**79.48**	**46**	P	**P**	**04 25 17.8**	**+1.3**
YBH	**Yreka Blue Hor**	**79.65**	**50**	*eP*	**P**	**04 25 18.1**	**+0.7**
YBH				pmax	pmax		
	comp=Z,11nm,1.2s						
YBH	**Yreka Blue Hor**	**79.65**	**50**	*eP*	**P**	**04 25 18.1**	**+0.7**
	comp=Z,11nm,1.2s,mb4.5						
OHCM	**Honcut**	**81.15**	**52**	*eP*	**P**	**04 25 21.1**	**-4.3**
NEW	**Newport**	**81.76**	**42**	*eP*	**P**	**04 25 28.2**	**-0.5**
NEW				*e**PP	pP	04 25 54.0	-1.3
NEW				*e**SP	sP	04 26 06.3	-0.1
NEW				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NEW	**Newport**	**81.76**	**42**	*eP*	**P**	**04 25 28.2**	**-0.5**
	comp=Z,7.9nm,0.9s,mb4.5						
NEW				*ep*P	pP	04 25 54.0	-1.3
NEW				*es*P	sP	04 26 06.2	-0.1
CMB	**Columbia Colle**	**82.32**	**53**	*eP*	**P**	**04 25 31.7**	**+0.1**
CMB				*e**PP	pP	04 26 00.7	+2.4
CMB				*e**SP	sP	04 26 09.4	+0.1
CMB				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
CMB	**Columbia Colle**	**82.32**	**53**	*eP*	**P**	**04 25 31.7**	**+0.1**
	comp=Z,7.0nm,0.8s,mb4.5						
CMB				*ep*P	pP	04 26 00.7	+2.4
CMB				*es*P	sP	04 26 09.4	+0.1
WVOR	**Wild Horse Val**	**82.39**	**48**	*eP*	**P**	**04 25 32.1**	**+0.1**
WVOR				*e**PP	pP	04 25 58.2	-0.4
WVOR				*e**SP	sP	04 26 09.5	-0.2
WVOR				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.5						
WVOR	**Wild Horse Val**	**82.39**	**48**	*eP*	**P**	**04 25 32.1**	**+0.1**
	comp=Z,9.3nm,1.1s,mb4.5						
WVOR				*ep*P	pP	04 25 58.2	-0.4
WVOR				*es*P	sP	04 26 09.5	-0.2
BMO	**Blue Mountains**	**82.63**	**45**	*eP*	**P**	**04 25 33.1**	**-0.1**
BMO				*e**PP	pP	04 25 58.8	-1.1
BMO				*e**SP	sP	04 26 10.5	-0.4
BMO				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.6						
BMO	**Blue Mountains**	**82.63**	**45**	*eP*	**P**	**04 25 33.1**	**-0.1**
	comp=Z,9.0nm,0.9s,mb4.6						
BMO				*ep*P	pP	04 25 58.8	-1.1
BMO				*es*P	sP	04 26 10.5	-0.4
NVAR	**Mina Array Bea**	**83.78**	**52**	P	**P**	**04 25 40.0**	**+0.8**
	comp=Z,4.1nm,0.7s,mb4.4,baz=265,slow=7.6,SNR=20						
MNV	**Mina**	**83.90**	**52**	*eP*	**P**	**04 25 40.4**	**+0.7**
MNV				*e**PP	pP	04 26 06.1	-0.4
MNV				*e**SP	sP	04 26 17.6	+0.1
MNV				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.5						
MNV	**Mina**	**83.90**	**52**	*eP*	**P**	**04 25 40.4**	**+0.7**
	comp=Z,8.2nm,1.0s,mb4.5						
MNV				*ep*P	pP	04 26 06.0	-0.4
MNV				*es*P	sP	04 26 17.6	+0.1
ARCES	**ARCESS Array B**	**83.91**	**342**	P	**P**	**04 25 35.9**	**-3.9**
	comp=Z,2.4nm,0.8s,mb4.1,baz=70,slow=7.8,SNR=4.3						
HLID	**Hailey**	**85.00**	**46**	*eP*	**P**	**04 25 45.1**	**-0.2**
	comp=Z,6.8nm,1.0s,mb4.5						
VRHR	**Novokhopersk**	**85.42**	**322**	*eP*	**P**	**04 25 49.0**	**+1.7**
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb5.1						
VRHR				pmax	pmax		
	comp=N,5.0nm,0.5s						
VRHR				pmax	pmax		
	comp=E,5.0nm,0.3s						
TPNV	**Topopah Spring**	**85.79**	**53**	*eP*	**P**	**04 25 49.4**	**+0.2**
TPNV				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
TPNV	**Topopah Spring**	**85.79**	**53**	*eP*	**P**	**04 25 49.4**	**+0.3**
	comp=Z,4.4nm,0.7s,mb4.5						
LCCM	**Lewis and Clar**	**85.94**	**43**	P	**P**	**04 25 50.1**	**+0.2**
HVU	**Hansel Valley**	**86.74**	**47**	*eP*	**P**	**04 25 53.7**	**-0.1**
HVU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
HVU	**Hansel Valley**	**86.74**	**47**	*eP*	**P**	**04 25 53.7**	**-0.1**
	comp=Z,6.1nm,0.8s,mb4.6						
YMR	**Madison River**	**86.95**	**44**	*eP*	**P**	**04 25 55.4**	**+0.5**
	comp=Z,17nm,0.8s,mb5.0						
YMR				*ep*P	pP	04 26 24.6	+2.8
YMR				*es*P	sP	04 26 34.2	+1.4
IMW	**Indian Meadow**	**87.25**	**45**	*eP*	**P**	**04 25 57.2**	**+0.9**
	comp=Z,8.4nm,0.8s,mb4.7						
IMW				*ep*P	pP	04 26 25.8	+2.6
IMW				*es*P	sP	04 26 35.4	+1.1
DUG	**Dugway**	**87.26**	**49**	*eP*	**P**	**04 25 56.4**	**0.0**
DUG				*e**PP	pP	04 26 22.4	-0.9
DUG				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
DUG	**Dugway**	**87.26**	**49**	*eP*	**P**	**04 25 56.4**	**0.0**
	comp=Z,9.4nm,0.7s,mb4.8						
DUG				*ep*P	pP	04 26 22.4	-0.9
NEN	**Nelson**	**87.28**	**54**	*eP*	**P**	**04 25 56.7**	**+0.2**
FLWY	**Flagg Ranch**	**87.34**	**45**	*eP*	**P**	**04 25 58.2**	**+1.4**
	comp=Z,7.6nm,0.7s,mb4.7						
LKWY	**Lake**	**87.37**	**44**	*eP*	**P**	**04 25 58.3**	**+1.4**
LKWY				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
LKWY	**Lake**	**87.37**	**44**	*eP*	**P**	**04 25 58.3**	**+1.4**
	comp=Z,2.9nm,0.6s,mb4.4						
TPAW	**Teton Pass**	**87.39**	**45**	*eP*	**P**	**04 25 56.5**	**-0.4**
	comp=Z,4.2nm,0.7s,mb4.5						
MOOW	**Moose Ponds**	**87.44**	**45**	*eP*	**P**	**04 25 57.8**	**+0.6**
	comp=Z,4.9nm,0.9s,mb4.4						
ARUT	**Antelope Range**	**87.63**	**51**	*eP*	**P**	**04 25 58.9**	**+0.8**
HWUT	**Hardware Ranch**	**87.65**	**47**	*eP*	**P**	**04 25 58.4**	**+0.2**
	comp=Z,12nm,0.8s,mb5.0						
CTU	**Camp Tracy**	**87.84**	**48**	*eP*	**P**	**04 25 59.4**	**+0.3**
	comp=Z,6.2nm,0.8s,mb4.7						
TCUT	**Toone Canyon**	**87.93**	**48**	*eP*	**P**	**04 25 59.6**	**+0.1**
FFC	**Flin Flon**	**88.12**	**33**	*eP*	**P**	**04 25 59.6**	**-0.9**
FFC				*e**PP	pP	04 26 26.6	-0.9
FFC				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
FFC	**Flin Flon**	**88.12**	**33**	*eP*	**P**	**04 25 59.6**	**-0.9**
	comp=Z,11nm,0.8s,mb4.9						
FFC				*ep*P	pP	04 26 26.6	-0.9
MPU	**Maple Canyon**	**88.17**	**49**	*eP*	**P**	**04 26 00.6**	**-0.1**
	comp=Z,4.8nm,0.7s,mb4.6						
FINES	**FINESS Array B**	**88.27**	**335**	P	**P**	**04 25 58.0**	**-3.1**
	comp=Z,0.3nm,0.3s,mb3.8,baz=74,slow=5.3,SNR=5.7						
DAU	**Daniels Canyon**	**88.30**	**48**	*eP*	**P**	**04 26 02.1**	**+0.8**
MSU	**Marysvale**	**88.31**	**50**	*eP*	**P**	**04 26 01.9**	**+0.6**
PDAR	**Pinedale Array**	**88.61**	**46**	P	**P**	**04 26 02.5**	**-0.2**
	comp=Z,1.3nm,0.7s,mb4.1,baz=264,slow=2.0,SNR=15						
TMUT	**Trail Mountain**	**88.73**	**49**	*eP*	**P**	**04 26 03.9**	**+0.6**
SRU	**San Rafael**	**89.30**	**49**	*eP*	**P**	**04 26 06.1**	**+0.1**
SRU				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.1						
SRU	**San Rafael**	**89.30**	**49**	*eP*	**P**	**04 26 06.1**	**+0.1**
	comp=Z,13nm,0.7s,mb5.1						
WUAZ	**Wupatki**	**89.98**	**53**	*eP*	**P**	**04 26 09.8**	**+0.6**
	comp=Z,2.9nm,0.7s,mb4.5						
PV10	**Paradox Valley**	**90.65**	**49**	*eP*	**P**	**04 26 12.6**	**+0.3**
PV10				*es*P	sP	04 26 50.7	+0.5
PV01	**Paradox Valley**	**91.08**	**49**	*eP*	**P**	**04 26 14.2**	**-0.1**
ISCO	**Idaho Springs**	**92.52**	**47**	*eP*	**P**	**04 26 21.7**	**+0.8**
ISCO				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.9						
ISCO	**Idaho Springs**	**92.52**	**47**	*eP*	**P**	**04 26 21.6**	**+0.7**
	comp=Z,5.6nm,0.9s,mb4.9						
TORD	**Torodi Ar. Bea**	**133.54**	**308**	PKP	PKPdf	04 32 23.1	-2.6
	comp=Z,0.1nm,0.4s,baz=233,slow=1.4,SNR=4.2						
TORD				SKPbc	SKPbc	04 35 40.0	-4.8
	comp=Z,2.0nm,0.9s,baz=36,slow=2.9,SNR=9.2						
LPAZ	**La Paz**	**147.34**	**93**	PKPbc	PKPbc	04 32 54.6	+1.7
	comp=Z,8.9nm,0.6s,baz=312,slow=2.4,SNR=63						
BDFB	**Brasilia**	**166.47**	**85**	PKPab	PKPab	04 34 17.9	+1.0
	comp=Z,2.7nm,0.8s,baz=248,slow=3.8,SNR=5.4						

*NEIC **08** 04:21:09.8, 3226S×7033W, h108km, MG3.0(GUC), After GUC.*

GUC 08 04:21:09.8±0.7, 3226S×7033W, h108km±3km, MD3.5, ML3.0, 12C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JACH	**Jahuel**	**0.47**	**208**	*i* P	Pn	04 21 26.3	+0.1
JACH				*i* S	Sn	04 21 39.2	+0.8
ROCH	**El Roble**	**0.91**	**219**	*i* P	Pn	04 21 30.4	+0.5
PEL	**Peldehue**	**0.93**	**199**	*i* P	Pn	04 21 30.3	+0.2
PEL				*i* S	Sn	04 21 45.6	+0.4
PEL				AML	AML	04 21 46.6	
	comp=E,512nm,0.7s						
PEL	**Peldehue**	**0.93**	**199**	*i* P	Pn	04 21 30.3	+0.2
PEL				*i* S	Sn	04 21 45.6	+0.4
CHNG	**Los Chungos**	**1.06**	**291**	*i* P	Pn	04 21 31.8	+0.4
CHNG				*i* S	Sn	04 21 47.8	0.0
FCH	**Farellones**	**1.06**	**178**	*i* P	Pn	04 21 32.3	+0.9
FCH				*i* S	Sn	04 21 49.9	+2.1
FCH				AML	AML	04 21 51.4	
	comp=E,297nm,0.2s						
CLCH	**Cerro Calan**	**1.14**	**189**	*i* P	Pn	04 21 32.8	+0.5
CLCH				*i* S	Sn	04 21 50.2	+0.9
CLCH				AML	AML	04 21 51.5	
	comp=N,203nm,0.6s						
DSCH	**Colegio Aleman**	**1.15**	**190**	*i* P	Pn	04 21 32.5	+0.1
DSCH				*i* S	Sn	04 21 50.2	+0.7
STL	**Santa Lucia**	**1.20**	**192**	*i* P	Pn	04 21 32.9	0.0
STL				*i* S	Sn	04 21 51.0	+0.6
CMCH	**Combarbala**	**1.23**	**332**	*i* P	Pn	04 21 33.8	+0.6
CMCH				*i* S	Sn	04 21 51.9	+1.0
CMCH				AML	AML	04 21 52.9	
	comp=N,718nm,0.5s						
CMCH	**Combarbala**	**1.23**	**332**	*i* P	Pn	04 21 33.8	+0.6
CMCH				*i* S	Sn	04 21 51.9	+1.0
RCDM	**Rinconada Maip**	**1.29**	**198**	*i* P	Pn	04 21 34.3	+0.4
RCDM				*i* S	Sn	04 21 53.0	+0.8
RCDM				AML	AML	04 21 53.7	
	comp=E,492nm,0.1s						
RCDM	**Rinconada Maip**	**1.29**	**198**	*i* P	Pn	04 21 34.3	+0.4
RCDM				*i* S	Sn	04 21 53.0	+0.8
PCH	**Pirque**	**1.36**	**186**	*i* P	Pn	04 21 35.4	+0.6
PCH				*i* S	Sn	04 21 55.0	+1.3
TACH	**Talagante**	**1.48**	**200**	*i* P	Pn	04 21 36.2	+0.1
TACH				*i* S	Sn	04 21 57.0	+0.8
LMEL	**Las Melosas**	**1.58**	**176**	*i* P	Pn	04 21 38.2	+0.8
LMEL				*i* S	Sn	04 21 59.6	+1.2
LMEL				AML	AML	04 22 03.7	
	comp=N,256nm,0.2s						
LMEL	**Las Melosas**	**1.58**	**176**	*i* P	Pn	04 21 38.2	+0.8
LMEL				*i* S	Sn	04 21 59.6	+1.2
LCCH	**Las Cruces**	**1.59**	**220**	*i* P	Pn	04 21 38.1	+0.5
LCCH				*i* S	Sn	04 21 59.3	+0.6
CHCH	**Chadas Angostu**	**1.69**	**189**	*i* P	Pn	04 21 39.2	+0.5
CHCH				*i* S	Sn	04 22 01.2	+0.5
CACH	**El Canelo**	**1.86**	**187**	*i* P	Pn	04 21 42.1	+1.2
CACH				*i* S	Sn	04 22 06.9	+2.2
LNV	**Longovilo**	**1.92**	**208**	*i* P	Pn	04 21 41.5	-0.1
LNV				*i* S	Sn	04 22 06.2	+0.4
TLL	**Tololo Astrono**	**2.13**	**349**	AML	AML	04 22 20.1	
	comp=E,85nm,0.6s						
SFDO	**San Fernando**	**2.41**	**193**	*i* P	Pn	04 21 48.2	+0.3

IDC 08 04:49:08.7±1.7, 326S×14008E, h0km, mb3.7/2, mb1 4.1/4, mb1mx3.8/13, mbtmp3.9/4, ML3.5/2, Error ellipse: s-maj=59.5km s-min=29.0km az=103.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**9.32**	**131**	Pn	Pn	04 51 24.7	+0.5
	1.2nm,0.3s,baz=297,slow=17,SNR=4.9						
WB2	**Warramunga Arr**	**17.50**	**198**	*eP*	Pn	04 53 16.5	+2.4
WRA	**Warramunga Arr**	**17.50**	**198**	P	Pn	04 53 15.5	+1.4
	0.3nm,0.3s,baz=23,slow=12,SNR=6.6						
ASAR	**Alice Springs**	**21.15**	**196**	P	P	04 53 54.9	-0.4
	2.3nm,0.8s,baz=30,slow=9.4,SNR=8.9						
ILAR	**Eielson Array**	**85.76**	**24**	P	P	05 01 49.6	-0.2
	1.0nm,0.6s,baz=262,slow=4.4,SNR=27						

*NEIC **08** 04:50:37.1, 3102S×7149W, h46km, MG3.8(GUC), After GUC.*

GUC 08 04:50:37.1±0.7, 3102S×7149W, h46km±3km, MD3.9, ML3.8, 6C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**0.44**	**110**	*i* P	Pn	04 50 47.7	+0.3
CMCH				*i* S	Sn	04 50 55.8	+1.1
CMCH				AML	AML	04 50 56.2	
	comp=E,18μm,0.6s						
CMCH	**Combarbala**	**0.44**	**110**	*i* P	Pn	04 50 47.7	+0.3
CMCH				*i* S	Sn	04 50 55.8	+1.1
OVCH	**Ovalle**	**0.48**	**31**	*i* P	Pn	04 50 48.3	+0.5
OVCH				*i* S	Sn	04 50 56.6	+1.1
OVCH				AML	AML	04 50 56.9	
	comp=E,17μm,0.3s						
CHNG	**Los Chungos**	**0.86**	**181**	*eP*	Pn	04 50 53.2	+0.4
CHNG				*i* S	Sn	04 51 05.8	+1.6
LSCH	**La Serena**	**1.13**	**11**	*i* P	Pn	04 51 03.7	+7.3
LSCH				*i* S	Sn	04 51 18.9	+8.1
LSCH				AML	AML	04 51 18.9	
	comp=N,2μm,0.5s						
JACH	**Jahuel**	**1.82**	**156**	*i* P	Pn	04 51 06.8	+0.8
JACH				*i* S	Sn	04 51 29.4	+1.7
ROCH	**El Roble**	**1.99**	**168**	*i* P	Pn	04 51 08.9	+0.7
ROCH				*i* S	Sn	04 51 34.0	+2.1
LCCH	**Las Cruces**	**2.45**	**182**	*i* P	Pn	04 51 14.6	+0.1
LCCH				*i* S	Sn	04 51 44.2	+1.0
STL	**Santa Lucia**	**2.51**	**164**	*i* P	Pn	04 51 15.5	+0.1
STL				*i* S	Sn	04 51 45.2	+0.4
SAN	**Santiago**	**2.52**	**164**	AML	AML	04 52 08.6	
	comp=N,337nm,0.5s						
RCDM	**Rinconada Maip**	**2.53**	**167**	*i* P	Pn	04 51 16.1	+0.5
RCDM				*i* S	Sn	04 51 46.2	+1.1
RCDM				AML	AML	04 51 49.8	
	comp=N,496nm,0.1s						
RCDM	**Rinconada Maip**	**2.53**	**167**	*i* P	Pn	04 51 16.1	+0.5
RCDM				*i* S	Sn	04 51 46.2	+1.1
FSR	**Penalolen**	**2.58**	**162**	AML	AML	04 52 04.2	
	comp=E,443nm,0.4s						
TACH	**Talagante**	**2.66**	**170**	*i* P	Pn	04 51 18.2	+0.7
TACH				*i* S	Sn	04 51 49.5	+0.9
PCH	**Pirque**	**2.72**	**163**	*i* P	Pn	04 51 18.8	+0.5
PCH				*i* S	Sn	04 51 50.9	+1.0
CHCH	**Chadas Angostu**	**2.99**	**167**	*i* P	Pn	04 51 22.8	+0.8
CHCH				*i* S	Sn	04 51 57.3	+0.8
LMEL	**Las Melosas**	**3.02**	**159**	AML	AML	04 52 04.2	
	comp=N,196nm,0.3s						
CICH	**Cipreses**	**3.41**	**165**	*i* P	Pn	04 51 28.8	+1.1
CICH				*i* S	Sn	04 52 08.1	+1.2
SFDO	**San Fernando**	**3.60**	**174**	*i* P	Pn	04 51 31.4	+1.0
SFDO				*i* S	Sn	04 52 12.4	+0.7

*NEIC **08** 04:53:34.9, 3000S×7162W, h36km, MG3.8(GUC), After GUC.*

GUC 08 04:53:34.9±1.0, 3000S×7162W, h36km±6km, MD4.1, ML3.8, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSCH	**La Serena**	**0.34**	**75**	*i* P	Pn	04 53 50.7	+7.3
LSCH				*i* S	Sn	04 53 56.6	+7.4
LSCH				AML	AML	04 53 57.2	
	comp=E,8μm,0.6s						
LSCH	**La Serena**	**0.34**	**75**	*i* P	Pn	04 53 50.7	+7.3
LSCH				*i* S	Sn	04 53 56.6	+7.4
OVCH	**Ovalle**	**0.71**	**149**	*eP*	Pn	04 53 48.7	+0.3
OVCH				*i* S	Sn	04 53 58.6	+0.5
OVCH				AML	AML	04 53 59.4	
	comp=E,4μm,0.2s						
OVCH	**Ovalle**	**0.71**	**149**	*eP*	Pn	04 53 48.7	+0.3
OVCH				*i* S	Sn	04 53 58.6	+0.5
CMCH	**Combarbala**	**1.29**	**156**	*i* P	Pn	04 53 57.0	+0.6
CMCH				*i* S	Sn	04 54 13.3	+0.9
CMCH				AML	AML	04 54 15.9	
	comp=E,4μm,0.4s						
CMCH	**Combarbala**	**1.29**	**156**	*i* P	Pn	04 53 57.0	+0.6
CMCH				S	Sn	04 54 13.3	+0.9
CHNG	**Los Chungos**	**1.88**	**177**	*eP*	Pn	04 54 04.9	+0.4
CHNG				*i* S	Sn	04 54 31.1	+4.0
JACH	**Jahuel**	**2.82**	**162**	*i* P	Pn	04 54 18.9	+1.5
PEL	**Peldehue**	**3.24**	**166**	*eP*	Pn	04 54 24.6	+1.5
PEL				*i* S	Sn	04 55 02.8	+2.3
PEL				AML	AML	04 55 16.6	
	comp=N,305nm,0.3s						
PEL	**Peldehue**	**3.24**	**166**	*eP*	Pn	04 54 24.6	+1

TCF Toulx Ste Croi 30.83 57 *eP* **P 05 00 59.6 +0.1**
TCF pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
TCF Toulx Ste Croi 30.83 57 *eP* **P 05 00 59.6 +0.1**
comp=Z,5.1nm,0.9s,mb4.3
SSF Saint Saulge 31.81 56 *eP* **P 05 01 08.2 +0.1**
LOR Lormes 32.08 56 *eP* **P 05 01 10.6 +0.2**
LOR *eR*
comp=Z,84nm,18.8s
LOR Lormes 32.08 56 *eP* **P 05 01 10.6 +0.2**
LOR LR LR
comp=Z,80nm,18.8s,MS3.4
SFJD Kangerlussuaq 32.73 350 LR LR 05 12 12.2
comp=Z,158nm,18.8s,MS3.7,baz=142,slow=32
BAIF Baives 32.74 51 *eP* **P 05 01 13.6 -2.7**
comp=Z,13nm,0.9s,mb4.5
BAIF Baives 32.74 51 *eP* **P 05 01 13.6 -2.7**
BAIF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BAIF Baives 32.74 51 *eP* **P 05 01 13.6 -2.7**
comp=Z,6.3nm,0.9s,mb4.5
MEZF Maizieres J'vi 33.03 54 *eP* **P 05 01 19.1 +0.3**
HAU Haudompre 33.83 55 *eP* **P 05 01 25.7 -0.1**
comp=Z,18nm,1.2s,mb4.6
HAU *eR*
comp=Z,152nm,17.5s
HAU Haudompre 33.83 55 *eP* **P 05 01 25.7 -0.1**
HAU pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
HAU MLR MLR
comp=Z,150nm,17.5s,MS3.8
HAU Haudompre 33.83 55 *eP* **P 05 01 25.7 -0.1**
comp=Z,9.1nm,1.2s,mb4.6
HAU LR LR
comp=Z,150nm,17.5s,MS3.8
LPL La Plagne 33.92 59 *eP* **P 05 01 27.1 +0.6**
comp=Z,24nm,1.4s,mb4.6
LPL La Plagne 33.92 59 *eP* **P 05 01 27.1 +0.6**
LPL pmax pmax
comp=Z,12nm,1.4s,mb4.6
LPL La Plagne 33.92 59 *eP* **P 05 01 27.1 +0.6**
comp=Z,12nm,1.4s,mb4.6
LPG La Plagne 33.94 59 *eP* **P 05 01 27.7 +1.0**
CDF Champ du Feu 34.49 54 *eP* **P 05 01 31.6 +0.1**
comp=Z,15nm,1.1s,mb4.5
CDF Champ du Feu 34.49 54 *eP* **P 05 01 31.6 +0.1**
CDF pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
CDF Champ du Feu 34.49 54 *eP* **P 05 01 31.6 +0.1**
comp=Z,7.4nm,1.1s,mb4.5
FRB Frobisher Bay 34.55 335 P **P 05 01 31.9 0.0**
comp=Z,8.0nm,0.8s,mb4.7,baz=148,slow=8.7,SNR=14
ACSO Alum Creek Sta 36.87 292 *eP* **P 05 01 52.5 +0.7**
comp=Z,9.9nm,1.0s,mb4.6
ACSO *e* 05 01 59.4
ACSO Alum Creek Sta 36.87 292 *eP* **P 05 01 52.5 +0.6**
CLZ Clausthal 36.88 49 *eP* **P 05 01 51.9 -0.1**
GRA1 Grafenberg Arr 37.19 52 *eP* **P 05 01 54.9 +0.3**
comp=Z,7.0nm,0.8s,mb4.5
GRA1 LR LR
comp=Z,200nm,18.6s,MS3.9
GRF Grafenberg Arr 37.19 52 *eP* **P 05 01 54.9 +0.3**
comp=Z,7.0nm,0.8s,mb4.5
GRF *eL* 05 15 22.3
comp=Z,206nm,18.6s
SUMG Summit 37.29 359 *eP* **P 05 01 55.9 +0.5**
comp=Z,16nm,1.0s,mb4.8
SUMG *e* 05 02 03.5
SUMG Summit 37.29 359 *eP* **P 05 01 55.9 +0.5**
MOX Moxa 37.52 51 *eP* **P 05 01 57.1 -0.3**
comp=Z,11nm,1.1s,mb4.5
MOX
comp=Z,300nm,19.0s
MOX Moxa 37.52 51 *eP* **P 05 01 57.1 -0.3**
MOX pmax pmax
comp=Z,11nm,1.1s,mb4.5
MOX MLR MLR
comp=Z,300nm,19.0s,MS4.1
MOX Moxa 37.52 51 *eP* **P 05 01 57.3 -0.1**
comp=Z,4.0nm,0.9s,mb4.2
MANZ Manzenberg 37.78 52 *eP* **P 05 01 59.7 0.0**
comp=Z,3.0nm,0.6s,mb4.2
WERD Werda 37.95 51 *eP* **P 05 02 01.3 +0.3**
comp=Z,3.0nm,0.9s,mb4.0
WERN Wernitzgruen 37.98 52 *eP* **P 05 02 00.7 -0.6**
comp=Z,4.0nm,0.8s,mb4.2
NKC Novy Kostel 38.02 52 AMS AMS 05 16 00.0
comp=Z,400nm,16.3s
TANN Tannenbergstha 38.04 51 *eP* **P 05 02 01.4 -0.4**
comp=Z,3.0nm,1.0s,mb4.0
WET Wettzell 38.24 53 *eP* **P 05 02 03.3 -0.2**
comp=Z,4.0nm,1.0s,mb4.1
WET Wettzell 38.24 53 *eP* **P 05 02 03.3 -0.2**
WET pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
CLL Collm 38.45 50 *i P* **P 05 02 05.5 +0.2**
comp=Z,6.0nm,0.9s,mb4.3
CLL *epP* pP 05 02 12.0 +3.6
CLL *eS* **S 05 07 59.0 -1.5**
CLL Collm 38.45 50 *i P* **P 05 02 05.5 +0.2**
CLL *e**PP pP 05 02 09.0 +0.6
CLL *eS* **S 05 07 59.0 -1.5**
CLL pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
CLL Collm 38.45 50 *i P* **P 05 02 05.5 +0.2**
comp=Z,6.0nm,0.9s,mb4.3
CLL *epP* pP 05 02 09.0 +0.6
CLL *eS* **S 05 07 59.0 -1.5**
CLL Collm 38.45 50 *eP* **P 05 02 05.5 +0.2**
CLL *epP* pP 05 02 09.0 +0.6
FBE Freiberg 38.64 51 *eP* **P 05 02 07.3 +0.4**
comp=Z,7.0nm,0.7s,mb4.5
KHC Kasperske Hory 38.70 53 *eP* **P 05 02 07.6 +0.2**
KHC Kasperske Hory 38.70 53 *eP* **P 05 02 05.6 -1.8**
GERES GERESS Array B 38.77 54 P **P 05 02 07.9 0.0**
comp=Z,1.2nm,0.8s,mb3.7,baz=260,slow=8.0,SNR=8.9
GERES LR LR 05 15 06.1
comp=Z,109nm,21.2s,MS3.6,baz=270,slow=32
BRG Berggiesshubel 39.01 51 *eP* **P 05 02 10.3 +0.3**
comp=Z,3.0nm,0.6s,mb4.2
BRG Berggiesshubel 39.01 51 *eP* **P 05 02 10.6 +0.6**
comp=Z,1.8nm,0.6s,mb4.0
BRG SS sS 05 08 17.0 +3.0
BRG
comp=N,74nm,13.4s
BRG
comp=E,171nm,16.5s
BRG
comp=Z,250nm,22.0s
PRU Pruhonice 39.35 52 *eP* **P 05 02 14.1 +1.3**
PRU MLR MLR
comp=Z,200nm,15.7s,MS4.0
PRU MLR MLR
comp=E,200nm,17.0s
NB2 NORSAR Subarra 39.46 34 P **P 05 02 13.2 -0.5**
comp=Z,7.8nm,1.0s,mb4.4,baz=252,slow=9.3
NOA NORSAR Array B 39.46 34 P **P 05 02 13.5 -0.2**
comp=Z,3.3nm,0.8s,mb4.1,baz=252,slow=8.7,SNR=9.4
TREC Trest 39.95 53 AMS AMS 05 18 00.0
SWET Sewanee 40.15 285 *eP* **P 05 02 19.6 0.0**
SWET *e* 05 02 27.2
SWET Sewanee 40.15 285 *eP* **P 05 02 19.5 0.0**
HFS Hagfors 40.37 36 P **P 05 02 21.4 +0.1**
comp=Z,2.6nm,0.8s,mb4.0,baz=282,slow=2.9,SNR=5.8
HFS LR LR 05 16 57.2
comp=Z,99nm,19.2s,MS3.7,baz=252,slow=33
DPC Dobruska-Polom 40.51 52 *eP* **P 05 02 22.5 +0.1**
DPC AMS AMS 05 17 30.0
comp=Z,200nm,13.7s
VRAC Vranov 40.68 53 P **P 05 02 23.8 -0.1**
comp=Z,3.4nm,0.9s,mb4.0,baz=258,slow=6.3,SNR=4.6
VRAC LR LR 05 18 15.1
comp=Z,108nm,18.7s,MS3.7,baz=266,slow=35
VRAC Vranov 40.68 53 ⇑*iP* **P 05 02 24.1 +0.3**
VRAC Vranov 40.68 53 ⇑P **P 05 02 24.1 +0.2**
TORD Torodi Ar. Bea 40.75 113 P **P 05 02 23.6 -0.8**
comp=Z,3.3nm,1.1s,mb3.9,baz=312,slow=5.0,SNR=9.9
SDV Santo Domingo 40.95 238 P **P 05 02 25.5 -0.6**
comp=Z,6.1nm,0.5s,mb4.5,baz=4.1,slow=15,SNR=5.2
MORC Moravsky Berou 41.29 52 ⇓*iP* **P 05 02 29.4 +0.5**
MORC Moravsky Berou 41.29 52 ⇓P **P 05 02 29.4 +0.5**
WVT Waverly 41.41 287 *eP* **P 05 02 30.1 +0.2**
WVT *e* 05 02 37.2
WVT pmax pmax
comp=Z,9.0nm,1.3s,mb4.2
WVT Waverly 41.41 287 *eP* **P 05 02 30.1 +0.2**
comp=Z,8.8nm,1.3s,mb4.2
WVT *e* 05 02 37.2
WVT Waverly 41.41 287 *eP* **P 05 02 30.1 +0.2**
LRAL Lakeview Retre 41.62 282 *eP* **P 05 02 32.3 +0.7**
comp=Z,7.3nm,0.9s,mb4.3
LRAL *epP* pP 05 02 38.6 +3.9
LRAL Lakeview Retre 41.62 282 *eP* **P 05 02 32.3 +0.7**
comp=Z,7.2nm,0.9s,mb4.3
LRAL *epP* pP 05 02 38.6 +3.9
OKC Ostrava-Krasne 41.68 52 AMS AMS 05 19 40.0
comp=Z,200nm,15.3s
PLAL Pickwick Lake 41.91 285 *eP* **P 05 02 34.2 +0.3**
comp=Z,6.5nm,0.9s,mb4.3
PLAL *epP* pP 05 02 41.2 +4.1
PLAL Pickwick Lake 41.91 285 *eP* **P 05 02 34.2 +0.2**
comp=Z,6.5nm,0.9s,mb4.3
PLAL *epP* pP 05 02 41.2 +4.1
VYHS Vyhne 42.18 54 *eP* **P 05 02 35.7 -0.5**
PKSM Moragy 42.21 58 ⇑*iP* **P 05 02 36.4 0.0**
PKSM Moragy 42.21 58 ⇑P **P 05 02 36.4 0.0**
OXF Oxford 43.10 285 *eP* **P 05 02 43.8 +0.2**
OXF *e**PP pP 05 02 50.8 +4.1
OXF pmax pmax
comp=Z,37nm,1.2s,mb5.0
OXF Oxford 43.10 285 *eP* **P 05 02 43.8 +0.2**
comp=Z,37nm,1.2s,mb5.0
OXF *epP* pP 05 02 50.8 +4.0
OXF Oxford 43.10 285 *eP* **P 05 02 43.8 +0.2**
comp=Z,37nm,1.2s,mb5.0
OXF *epP* pP 05 02 50.8 +4.1
DIVS Divcibare 43.42 61 *i P* **P 05 02 46.3 +0.1**
STHS Stebnicka Huta 43.71 53 *eP* **P 05 02 49.6 +1.0**
CRVS Cervenica-Dubn 43.89 54 *eP* **P 05 02 52.9 +2.9**
BZS Buzias 44.34 58 ⇑*iP* **P 05 02 54.7 +1.0**
BZS Buzias 44.34 58 ⇑P **P 05 02 54.7 +1.0**
KOLS Kolonicke sedl 44.42 54 *eP* **P 05 02 55.2 +0.9**
ULM Lac du Bonnet 44.96 308 P **P 05 02 57.7 -0.8**
comp=Z,3.5nm,0.9s,mb4.2,baz=94,slow=6.9,SNR=4.6
ULM LR LR 05 20 27.7
comp=Z,174nm,20.9s,MS4.0,baz=76,slow=34
ULM Lac du Bonnet 44.96 308 P **P 05 02 57.7 -0.8**
ULM LR LR 05 20 27.7
UALR University of 45.33 286 *eP* **P 05 03 00.8 -0.7**
comp=Z,6.7nm,0.8s,mb4.5
UALR *epP* pP 05 03 08.0 +3.4
UALR University of 45.33 286 *eP* **P 05 03 00.8 -0.7**
comp=Z,6.7nm,0.8s,mb4.5
UALR *epP* pP 05 03 08.0 +3.4
MIAR Mount Ida 46.36 286 *eP* **P 05 03 09.6 -0.1**
MIAR *e**PP pP 05 03 16.6 +3.8
MIAR pmax pmax
comp=Z,20nm,1.2s,mb4.9
MIAR Mount Ida 46.36 286 *eP* **P 05 03 09.6 -0.1**
comp=Z,20nm,1.2s,mb4.9
MIAR *epP* pP 05 03 16.6 +3.8
MIAR Mount Ida 46.36 286 *eP* **P 05 03 09.6 -0.1**
comp=Z,20nm,1.2s,mb4.9
MIAR *epP* pP 05 03 16.6 +3.8
ROSC El Rosal 46.38 238 LR LR 05 19 55.5
comp=Z,147nm,21.4s,MS3.9,baz=10,slow=33
BURAR Bucovina Array 46.52 55 ⇑*iP* **P 05 03 12.4 +1.5**
FINES FINESS Array B 46.57 36 P **P 05 03 10.7 -0.6**
comp=Z,2.6nm,0.9s,mb4.2,baz=258,slow=5.6,SNR=9.3
FINES LR LR 05 20 48.9
comp=Z,71nm,18.9s,MS3.6,baz=324,slow=34
FINES FINESS Array B 46.57 36 P **P 05 03 10.6 -0.7**
MLR Muntele Rosu 47.37 58 ⇑*iP* **P 05 03 18.6 +1.1**
MLR Muntele Rosu 47.37 58 ⇑P **P 05 03 18.6 +1.1**
KSU1 Kansas State U 47.39 293 *eP* **P 05 03 16.0 -1.7**
KSU1 *epP* pP 05 03 23.6 +2.8
KSU1 Kansas State U 47.39 293 *eP* **P 05 03 16.0 -1.7**
KSU1 *epP* pP 05 03 23.6 +2.8
AKASG Malin Array Be 48.70 50 P **P 05 03 27.0 -0.8**
comp=Z,6.1nm,0.8s,mb4.7,baz=274,slow=7.6,SNR=31
AKASG Malin Array Be 48.70 50 P **P 05 03 27.0 -0.8**
WMOK Wichita Mounta 50.36 288 *eP* **P 05 03 40.0 -0.5**
WMOK *e**PP pP 05 03 46.9 +3.2
WMOK *e* 05 04 58.7
WMOK pmax pmax
comp=Z,11nm,1.1s,mb4.8
WMOK Wichita Mounta 50.36 288 *eP* **P 05 03 40.0 -0.5**
comp=Z,11nm,1.1s,mb4.8
WMOK *epP* pP 05 03 46.9 +3.2
WMOK *ePcP* PcP 05 04 58.7 -0.3
WMOK Wichita Mounta 50.36 288 *eP* **P 05 03 40.0 -0.5**
comp=Z,11nm,1.1s,mb4.8
WMOK *epP* pP 05 03 46.9 +3.2
BDFB Brasilia 51.94 194 P **P 05 03 51.3 -1.0**
comp=Z,5.6nm,1.0s,mb4.4,baz=0.1,slow=11,SNR=4.9
BDFB LR LR 05 23 27.0
comp=Z,73nm,20.6s,MS3.7,baz=295,slow=33
OBN Obninsk 52.41 44 *eP* **P 05 03 53.7 -2.2**
OBN *e* 05 05 01.3
OBN *eSS* SS 05 14 56.4 -3.2
OBN pmax pmax
comp=Z,23nm,1.2s,mb5.0
AMTX Amarillo 52.55 290 *eP* **P 05 03 56.1 -0.8**
AMTX Amarillo 52.55 290 *eP* **P 05 03 56.1 -0.8**
JCT Junction City 52.72 284 *eP* **P 05 03 57.4 -0.8**
JCT *e**PP pP 05 04 05.0 +3.7
JCT pmax pmax
comp=Z,15nm,1.0s,mb4.9
JCT Junction City 52.72 284 *eP* **P 05 03 57.4 -0.7**
comp=Z,15nm,1.0s,mb4.9
JCT *epP* pP 05 04 05.0 +3.7
JCT Junction City 52.72 284 *eP* **P 05 03 57.4 -0.8**
comp=Z,15nm,1.0s,mb4.9
JCT *epP* pP 05 04 05.0 +3.7
ISCO Idaho Springs 53.85 297 *eP* **P 05 04 06.9 +0.4**
ISCO *e**PP pP 05 04 14.0 +4.3
ISCO pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ISCO Idaho Springs 53.85 297 *eP* **P 05 04 06.9 +0.5**
comp=Z,2.7nm,0.6s,mb4.3
ISCO *epP* pP 05 04 14.0 +4.3
ISCO *eSP* sP 05 04 17.2 +6.3
ISCO Idaho Springs 53.85 297 *eP* **P 05 04 06.9 +0.4**
comp=Z,2.7nm,0.6s,mb4.3
ISCO *epP* pP 05 04 14.0 +4.3
YKA Yellowknife Ar 54.03 326 P **P 05 04 07.6 -0.2**
comp=Z,1.4nm,0.8s,mb4.0,baz=82,slow=7.5,SNR=33
YKA *PcP* PcP 05 05 11.7 -1.0
comp=Z,1.2nm,0.8s,baz=77,slow=4.5,SNR=9.3
YKA LR LR 05 26 53.4
comp=Z,123nm,19.3s,MS4.0,baz=100,slow=36
YKA Yellowknife Ar 54.03 326 P **P 05 04 07.6 -0.2**
YKA 05 05 11.7
YKA Yellowknife Ar 54.03 326 P **P 05 04 07.6 -0.2**
YKA *PcP* PcP 05 05 11.7 -1.0
YKA LR LR 05 26 53.4
YKA Yellowknife Ar 54.03 326 PcP PcP 05 05 11.7 -1.1
BRTR Keskin Array B 54.34 63 P **P 05 04 10.1 +0.1**
comp=Z,1.8nm,1.0s,mb4.0,baz=270,slow=4.9,SNR=7.8
GCMT Greycliff 54.87 305 *eP* **P 05 04 14.0 +0.2**
GCMT Greycliff 54.87 305 *eP* **P 05 04 14.0 +0.1**
CPRX Cap Rock 54.92 288 *eP* **P 05 04 14.6 +0.3**
CPRX *epP* pP 05 04 21.3 +3.8
CPRX Cap Rock 54.92 288 *eP* **P 05 04 14.6 +0.3**
CPRX *epP* pP 05 04 21.3 +3.8
ANN Anapa 55.41 56 *eP* **P 05 04 17.5 -0.3**
ANN pmax pmax
comp=Z,62nm,1.0s,mb5.6
GDL2 Guadalupe Mon 55.63 288 *eP* **P 05 04 14.3 -5.1**
PDAR Pinedale Array 55.71 301 P **P 05 04 19.4 -0.5**
comp=Z,4.7nm,0.9s,mb4.5,baz=68,slow=6.7,SNR=27
PDAR LR LR 05 27 40.2
comp=Z,158nm,20.0s,MS4.1,baz=92,slow=36
YMR Madison River 56.08 304 *eP* **P 05 04 23.0 +0.4**
comp=Z,22nm,1.1s,mb5.1
YMR *epP* pP 05 04 30.4 +4.6
YMR Madison River 56.08 304 *eP* **P 05 04 23.0 +0.4**
comp=Z,22nm,1.1s,mb5.1
YMR *epP* pP 05 04 30.4 +4.6
FLWY Flagg Ranch 56.08 303 *eP* **P 05 04 22.9 +0.3**
comp=Z,7.1nm,0.8s,mb4.8
ANMO Albuquerque 56.18 292 *eP* **P 05 04 24.0 +0.7**
ANMO *e**PP pP 05 04 30.9 +4.4
ANMO pmax pmax
comp=Z,3.0nm,1.0s
ANMO Albuquerque 56.18 292 *eP* **P 05 04 24.0 +0.7**
comp=Z,3.3nm,1.0s,mb4.3
ANMO *epP* pP 05 04 30.9 +4.4
ANMO Albuquerque 56.18 292 *eP* **P 05 04 24.0 +0.7**
comp=Z,3.3nm,1.0s,mb4.3
ANMO *epP* pP 05 04 30.9 +4.4
LTX Lajitas 56.25 284 *eP* **P 05 04 24.0 +0.2**
LTX pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
LTX Lajitas 56.25 284 *eP* **P 05 04 24.0 +0.2**
comp=Z,8.0nm,1.1s,mb4.7
LTX Lajitas 56.25 284 *eP* **P 05 04 24.0 +0.2**
comp=Z,8.0nm,1.1s,mb4.7
IMW Indian Meadow 56.30 303 *eP* **P 05 04 24.5 +0.3**
comp=Z,14nm,1.0s,mb4.9
IMW Indian Meadow 56.30 303 *eP* **P 05 04 24.5 +0.3**
comp=Z,14nm,1.0s,mb4.9
REDW Red Top Meadow 56.42 302 *eP* **P 05 04 24.9 -0.1**
comp=Z,17nm,1.3s,mb4.9
REDW Red Top Meadow 56.42 302 *eP* **P 05 04 24.9 -0.1**
comp=Z,17nm,1.3s,mb4.9
TPAW Teton Pass 56.44 303 *eP* **P 05 04 25.3 +0.1**
comp=Z,4.8nm,0.9s,mb4.5
TPAW Teton Pass 56.44 303 *eP* **P 05 04 25.3 +0.1**
comp=Z,4.8nm,0.9s,mb4.5
LPM Los Pinos Moun 56.55 291 *eP* **P 05 04 26.1 +0.1**
LPM *epP* pP 05 04 34.0 +4.8
LPM Los Pinos Moun 56.55 291 *eP* **P 05 04 26.1 +0.1**
PV01 Paradox Valley 56.58 296 *eP* **P 05 04 27.7 +1.5**
PV01 Paradox Valley 56.58 296 *eP* **P 05 04 27.7 +1.5**
BNM Barren Site 56.62 291 *eP* **P 05 04 27.0 +0.6**
PV10 Paradox Valley 56.84 296 *eP* **P 05 04 29.4 +1.4**
PV10 *epP* pP 05 04 36.8 +5.5
PV10 Paradox Valley 56.84 296 *eP* **P 05 04 29.4 +1.4**
MVCO Mesa Verde 56.87 295 *eP* **P 05 04 29.2 +1.0**
MVCO *epP* pP 05 04 36.2 +4.8
MVCO Mesa Verde 56.87 295 *eP* **P 05 04 29.2 +1.0**
LAZ Ladron 56.91 291 *eP* **P 05 04 29.1 +0.6**
LAZ Ladron 56.91 291 *eP* **P 05 04 29.1 +0.6**
DLMT Dillon 56.95 305 *eP* **P 05 04 29.0 +0.1**
comp=Z,26nm,1.2s,mb5.1
DLMT *epP* pP 05 04 35.8 +3.7
DLMT Dillon 56.95 305 *eP* **P 05 04 29.0 +0.2**
comp=Z,26nm,1.2s,mb5.1
DLMT *epP* pP 05 04 35.8 +3.8
MCMT McKenzie Canyo 57.30 305 *eP* **P 05 04 31.6 +0.3**
MCMT McKenzie Canyo 57.30 305 *eP* **P 05 04 31.6 +0.3**
HWUT Hardware Ranch 57.51 301 *eP* **P 05 04 32.1 -0.6**
comp=Z,13nm,1.0s,mb4.9
HWUT *epP* pP 05 04 39.7 +3.8
HWUT Hardware Ranch 57.51 301 *eP* **P 05 04 32.1 -0.6**
comp=Z,13nm,1.0s,mb4.9
HWUT *epP* pP 05 04 39.7 +3.8
SRU San Rafael 57.65 298 *eP* **P 05 04 33.5 -0.3**
SRU *e**PP pP 05 04 41.0 +4.0
SRU pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
SRU San Rafael 57.65 298 *eP* **P 05 04 33.5 -0.3**
comp=Z,6.2nm,0.9s,mb4.6
SRU *epP* pP 05 04 41.0 +4.0
SRU San Rafael 57.65 298 *eP* **P 05 04 33.5 -0.3**
comp=Z,6.2nm,0.9s,mb4.6
SRU *epP* pP 05 04 41.0 +4.0
MALT Malatya 58.32 63 *eP* **P 05 04 38.7 +0.2**
MALT pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
MALT Malatya 58.32 63 *eP* **P 05 04 38.6 +0.2**
comp=Z,7.6nm,1.1s,mb4.6
MALT Malatya 58.32 63 *eP* **P 05 04 38.7 +0.2**
comp=Z,7.6nm,1.1s,mb4.6
DUG Dugway 58.90 300 *eP* **P 05 04 42.4 -0.1**
DUG *e**PP pP 05 04 49.9 +4.2
DUG pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
DUG Dugway 58.90 300 *eP* **P 05 04 42.4 -0.1**
comp=Z,10nm,1.1s,mb4.8
DUG *epP* pP 05 04 49.9 +4.2
DUG Dugway 58.90 300 *eP* **P 05 04 42.4 -0.1**
comp=Z,10nm,1.1s,mb4.8
DUG *epP* pP 05 04 49.9 +4.2
NEW Newport 58.94 310 *eP* **P 05 04 42.3 -0.5**
NEW *e**PP pP 05 04 49.4 +3.4
NEW pmax pmax
comp=Z,15nm,1.1s
NEW Newport 58.94 310 *eP* **P 05 04 42.3 -0.5**
comp=Z,15nm,1.1s,mb4.9
NEW *epP* pP 05 04 49.4 +3.5
NEW Newport 58.94 310 *eP* **P 05 04 42.3 -0.5**
comp=Z,15nm,1.1s,mb4.9
NEW *epP* pP 05 04 49.4 +3.4
MSU Marysvale 59.08 298 *eP* **P 05 04 44.5 +0.8**
LPAZ La Paz 59.59 216 P **P 05 04 47.9 +0.6**
comp=Z,4.9nm,1.0s,mb4.5,baz=7.4,slow=6.0,SNR=16
LPAZ LR LR 05 26 21.4
comp=Z,90nm,21.6s,MS3.9,baz=290,slow=32
WUAZ Wupatki 59.66 294 *eP* **P 05 04 48.8 +1.0**
comp=Z,11nm,1.1s,mb4.8
WUAZ *epP* pP 05 04 55.7 +4.7
WUAZ Wupatki 59.66 294 *eP* **P 05 04 48.8 +1.0**
comp=Z,11nm,1.1s,mb4.8
BMN Battle Mountai 61.91 301 *eP* **P 05 05 03.2 +0.1**
BMN pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
BMN Battle Mountai 61.91 301 *eP* **P 05 05 03.2 +0.1**
comp=Z,6.3nm,0.9s,mb4.8
BMN Battle Mountai 61.91 301 *eP* **P 05 05 03.2 +0.1**
comp=Z,6.3nm,0.9s,mb4.8
WVOR Wild Horse Val 62.08 304 *eP* **P 05 05 01.6 -2.6**
WVOR pmax pmax
comp=Z,22nm,1.3s,mb5.1
WVOR Wild Horse Val 62.08 304 *eP* **P 05 05 01.6 -2.6**
comp=Z,22nm,1.3s,mb5.1
WVOR *epP* pP 05 05 12.2 +4.7
NEN Nelson 62.18 296 *eP* **P 05 05 05.9 +1.1**
NEN *epP* pP 05 05 12.6 +4.5
NEN Nelson 62.18 296 *eP* **P 05 05 05.9 +1.0**
NEN *epP* pP 05 05 12.6 +4.5
MNV Mina 63.40 300 *eP* **P 05 05 12.6 -0.4**
MNV pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
MNV Mina 63.40 300 *eP* **P 05 05 12.6 -0.4**
comp=Z,6.3nm,0.9s,mb4.8
MNV *epP* pP 05 05 24.2 +8.0
MNV Mina 63.40 300 *eP* **P 05 05 12.6 -0.4**
comp=Z,6.3nm,0.9s,mb4.8
NVAR Mina Array Bea 63.51 300 P **P 05 05 13.4 -0.3**
comp=Z,2.3nm,0.8s,mb4.3,baz=73,slow=6.2,SNR=13
NVAR Mina Array Bea 63.51 300 P **P 05 05 13.4 -0.3**
ARU Arti 63.85 38 ⇑*iP* **P 05 05 12.3 -3.7**
ARU *e* 05 07 36.8
ARU *eS* **S 05 13 44.7 -6.6**
ARU pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
DAWY Dawson 64.13 332 *eP* **P 05 05 18.7 +0.9**
DAWY *epP* pP 05 05 26.0 +4.9
DAWY Dawson 64.13 332 *eP* **P 05 05 18.7 +0.9**
CPUP Villa Florida 64.51 201 LR LR 05 28 33.4
comp=Z,36nm,21.6s,MS3.5,baz=121,slow=32
OHCM Honcut 65.35 302 *eP* **P 05 05 25.4 -0.3**
ILAR Eielson Array 65.57 334 P **P 05 05 33.8 +0.1**
comp=Z,1.3nm,0.9s,mb4.0,baz=48,slow=5.2,SNR=14
ILAR LR LR 05 32 16.1
comp=Z,56nm,20.1s,MS3.8,baz=359,slow=34
TIXI Tiksi 72.75 5 ⇑*eP* **P 05 06 10.0 -1.8**
TIXI pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BILL Bilibino 75.51 351 *eP* **P 05 06 27.9 0.0**
BILL pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
NVS Novosibirsk 76.28 31 *eP* **P 05 06 30.7 -1.6**
KURK Kurchatov 76.94 36 ⇑*eP* **P 05 06 32.9 -3.1**
KMBO Kilima Mbogo 77.29 101 LR LR 05 37 30.7
comp=Z,86nm,21.3s,MS4.0,baz=272,slow=33
ZAL Zalesovo 77.57 31 LR LR 05 42 47.4
comp=Z,48nm,18.5s,MS3.9,baz=267,slow=37
AAK Ala-Archa 79.93 44 ⇑*eP* **P 05 06 51.7 -0.8**
AAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
MKAR Makanchi Array 81.37 38 P **P 05 06 59.5 -0.7**
comp=Z,2.8nm,0.9s,mb4.2,baz=320,slow=4.7,SNR=18
BOD Bodaibo 83.86 15 *eP* **P 05 07 11.6 -1.6**
BOD pmax pmax
comp=Z,13nm,0.9s,mb5.1
MOY Mondy 85.59 25 *eP* **P 05 07 22.2 +0.3**
WMQ Urumqi 86.16 37 P **P 05 07 24.7 -0.1**
WMQ PPP 05 12 21.2
WMQ SKS 05 17 47.2
WMQ *eS* 05 17 57.7
WMQ AMB AMB
comp=Z,3.0nm,0.5s,mb4.8

WMQ					AMB	AMB			
	comp=Z,150nm,6.3s								
WMQ					LR	LR			
	comp=N,77nm,22.8s,MS4.3								
WMQ					LR	LR			
	comp=E,97nm,20.8s,MS4.3								
WMQ					LR	LR			
	comp=Z,59nm,18.5s,MS4.0								
SONM	**Songino Array**	**90.69**	**24**	P	**P**		**05 07 46.0**	**-0.3**	
	comp=Z,0.2nm,0.3s,mb3.9,baz=258,slow=4.3,SNR=3.6								
GTA	**Gaotai**	**95.27**	**33**	*e*P	**P**		**05 08 07.8**	**+0.4**	
GTA				PP	PP		05 12 00.5	+3.0	
GTA				SKS			05 18 41.7		
GTA				S			05 19 18.9		
GTA				PS	PS		05 20 44.1	+2.9	
GTA				SS	SS		05 25 49.8	+0.2	
GTA				AMB	AMB				
	comp=E,6.0nm,1.1s,mb4.9								
GTA				AMB	AMB				
	comp=E,87nm,5.3s								
GTA				LR	LR				
	comp=E,99nm,15.2s,MS4.4								
HHC	**Hu-ho-hao-te**	**98.59**	**24**	*e*P	**P**		**05 08 21.0**	**-1.5**	
HHC				PP	PP		05 12 23.6	+0.5	
HHC				SKS			05 18 57.8		
HHC				S			05 19 46.6		
HHC				PS	PS		05 21 16.1	-1.4	
HHC				SS	SS		05 26 32.8	-3.8	
HHC				AMB	AMB				
	comp=Z,11nm,1.1s,mb5.3								
HHC				LR	LR				
	comp=N,130nm,23.8s								
HHC				LR	LR				
	comp=E,70nm,16.5s								
HHC				LR	LR				
	comp=Z,90nm,16.7s								
MDJ	**Mudanjiang**	**99.36**	**10**	P	**P**		**05 08 25.0**	**-0.9**	
MDJ				AMB	AMB				
	comp=Z,3.0nm,0.6s,mb5.0								
MDJ				AMB	AMB				
	comp=Z,33nm,7.5s								
CN2	**Changchun**	**99.46**	**13**	*e*P	**P**		**05 08 26.3**	**0.0**	
LZH	**Lanzhou**	**99.80**	**32**	*e*P	Pdif		05 08 27.1	-0.7	
NJ2	**Nanjing**	**108.99**	**22**	*e*PDIF	Pdif		05 09 07.0	-1.7	
NJ2				PP	PP		05 13 43.0	+2.4	
NJ2				PPP			05 16 02.0		
NJ2				LR	LR				
	comp=Z,230nm,37.4s,MS4.5								
SSE	**Sheshan**	**110.58**	**21**	PKP	PKiKP		05 13 16.5	+0.4	
WRA	**Warramunga Arr**	**162.55**	**31**	PKPab	PKPab		05 15 32.9	-0.6	
	comp=Z,1.3nm,0.9s,baz=348,slow=3.7,SNR=5.6								
ASAR	**Alice Springs**	**165.56**	**39**	PKPab	PKPab		05 15 46.2	-0.5	
	comp=Z,1.6nm,0.8s,baz=330,slow=4.4,SNR=11								

IDC 08 04:56:14.9±2.2, 085N×12715E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/16, mbtmp3.8/3, Error ellipse: s-maj=178.5km s-min=27.0km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.83**	**162**	P	P	05 01 08.3	-0.5
	1.9nm,0.5s,baz=340,slow=11,SNR=9.1						
ASAR	**Alice Springs**	**25.24**	**165**	P	P	05 01 43.4	+0.8
	2.1nm,0.7s,baz=346,slow=11,SNR=15						
MKAR	**Makanchi Array**	**60.15**	**326**	P	P	05 06 24.4	+0.1
	0.2nm,0.5s,baz=114,slow=9.6,SNR=4.0						

*THR **08** 05:05:45.7±0.6, 3086N×5704E, h14km±7km, ML3.0*
*CSEM **08** 05:05:45.9±0.1, 3084N×5702E, h16km, ML3.0, Error ellipse: s-maj=3.3km s-min=3.3km az=12.0*
*ISCJB **08** 05:05:46.1±1.1, 3083N±006×5702E±010, h10km, Error ellipse: s-maj=12.5km s-min=7.8km az=156.4*
*TEH **08** 05:05:46.3, 3076N×5701E, h7km, Mn3.5*

ISC 08 05:05:47.2±1.1, 3083N±006×570E±01, h10km, n8, σ0§64/12, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRBR	**Kerman**	**0.87**	**195**	*e*PG	**Pg**	**05 06 02.7**	**-1.3**
KRBR				*e*Sg	**Sg**	**05 06 15.8**	**+0.5**
KRBR				AML	AML	05 06 19.3	
	comp=N,504nm,0.4s						
KRBR				AML	AML	05 06 20.5	
	comp=E,505nm,0.2s						
KRBR	**Kerman**	**0.87**	**195**	*e*Pg	**Pg**	**05 06 02.7**	**-1.3**
	SNR=90						
KRBR				*e*Sg	**Sg**	**05 06 15.8**	**+0.5**
	SNR=90						
IMEH	**Mehriz**	**2.13**	**286**	*e*Pn	**Pn**	**05 06 22.4**	**-0.5**
ICHK	**Chekchek**	**2.64**	**303**	*e*Pn	**Pn**	**05 06 29.6**	**-0.2**
ZHSF	**Zahedan**	**3.47**	**109**	*e*PN	**Pn**	**05 06 41.6**	**+0.2**
ZHSF				AML	AML	05 07 39.7	
	comp=N,28nm,0.7s						
ZHSF				AML	AML	05 07 46.0	
	comp=E,25nm,0.7s						
NASN	**Na'in**	**4.08**	**300**	*e*PN	**Pn**	**05 06 50.1**	**+0.4**
NASN				*e*SG	**Sg**	**05 07 52.8**	**-5.5**
NASN				AML	AML	05 08 03.6	
	comp=E,23nm,0.5s						
NASN				AML	AML	05 08 08.3	
	comp=N,23nm,0.5s						
NASN	**Na'in**	**4.08**	**300**	*e*Pn	**Pn**	**05 06 50.2**	**+0.5**
	SNR=52						
NASN				*e*Sg	**Sg**	**05 07 52.8**	**-5.6**
	SNR=90						
GHIR	**Ghir-Karzin**	**4.33**	**235**	*e*PN	**Pn**	**05 06 53.8**	**+0.7**

GUC 08 05:16:17.7±0.7, 3436S×7009W, h4km±2km, MD3.5, ML1.8, 2C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CICH	**Cipreses**	**0.28**	**279**	⇓*i*P	Pg	05 16 23.7	+0.6
CICH				*i* S	Sg	05 16 28.3	+1.6
CACH	**El Canelo**	**0.49**	**300**	⇑*i*P	Pg	05 16 27.4	+0.3
CACH				*i* S	Sg	05 16 34.9	+1.4
LMEL	**Las Melosas**	**0.52**	**349**	*e*P	Pg	05 16 28.5	+0.8
LMEL				*i* S	Sg	05 16 36.8	+2.3
LMEL				AML	AML	05 16 39.5	
	comp=E,91nm,0.1s						
CHCH	**Chadas Angostu**	**0.63**	**312**	*e*P	Pg	05 16 30.4	+0.6
CHCH				*i* S	Sg	05 16 40.2	+2.1
SFDO	**San Fernando**	**0.81**	**252**	⇓*i*P	Pg	05 16 32.5	-0.6
SFDO				*i* S	Sg	05 16 42.6	-0.9
PCH	**Pirque**	**0.82**	**334**	⇓*i*P	Pg	05 16 34.0	+0.6
PCH				*i* S	Sg	05 16 46.2	+2.2
TACH	**Talagante**	**1.00**	**315**	*i* P	Pg	05 16 36.6	-0.3
TACH				*i* S	Sg	05 16 50.9	+1.1
FCH	**Farellones**	**1.04**	**351**	⇓*i*P	Pg	05 16 37.6	-0.2
FCH				*i* S	Sg	05 16 53.0	+1.7
RCDM	**Rinconada Maip**	**1.06**	**325**	*i* P	Pg	05 16 38.0	0.0
RCDM				*i* S	Sg	05 16 53.4	+1.8
RCDM				AML	AML	05 16 54.6	
	comp=E,71nm,0.2s						
LNV	**Longovilo**	**1.17**	**290**	⇑*i*P	Pg	05 16 39.3	-0.8
LNV				*i* S	Sg	05 16 55.4	+0.1
LCCH	**Las Cruces**	**1.52**	**305**	*i* P	Pn	05 16 45.7	+0.1
LCCH				*i* S	Sn	05 17 06.0	+0.1

WEL 08 05:17:45.0±0.5, 3673S×17711E, h12km, ML3.8/6, Error ellipse: s-maj=5.0km s-min=3.2km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.81**	**175**	P*	Pb	05 17 58.4	-2.5
WIZ				S*	Sb	05 18 08.9	-2.9
MYRZ	**Mayor Island**	**0.89**	**231**	P*	Pb	05 18 01.2	-1.2
KUZ	**Kuaotunu**	**1.11**	**268**	P*	Pb	05 18 04.7	-1.6
KUZ				S*	Sb	05 18 20.4	-0.3
MXZ	**Matakaoa Point**	**1.27**	**132**	P*	Pb	05 18 06.3	-2.6
MXZ				S*	Sb	05 18 21.3	-3.9
MXZ				S*	Sb	05 18 22.6	-2.6
PUZ	**Puketiti**	**1.63**	**146**	PN	Pn	05 18 13.5	0.0
MWZ	**Matawai**	**1.64**	**168**	*e*P*	Pb	05 18 11.4	-3.8
HIZ	**Hauiti**	**2.53**	**224**	PN	Pn	05 18 25.4	-0.5

WEL 08 05:22:22.6±0.4, 3673S×17711E, h12km, ML3.6/6, Error ellipse: s-maj=3.5km s-min=2.5km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.80**	**176**	P*	Pb	05 22 36.5	-1.9
WIZ				S*	Sb	05 22 46.3	-3.0
MYRZ	**Mayor Island**	**0.89**	**231**	P*	Pb	05 22 38.7	-1.2
KUZ	**Kuaotunu**	**1.12**	**269**	P*	Pb	05 22 42.4	-1.4
KUZ				S*	Sb	05 22 57.8	-0.5
MXZ	**Matakaoa Point**	**1.27**	**132**	P*	Pb	05 22 43.8	-2.6
MXZ				S*	Sb	05 22 59.7	-3.0
MARZ	**Manawahe**	**1.30**	**195**	P*	Pb	05 22 44.5	-2.5
URZ	**Urewera**	**1.53**	**180**	P*	Pb	05 22 47.6	-3.2
PUZ	**Puketiti**	**1.62**	**146**	*e*PN	Pn	05 22 50.8	-0.2
PUZ				SN	Sn	05 23 11.8	0.0
HIZ	**Hauiti**	**2.53**	**224**	PN	Pn	05 23 02.8	-0.6

IDC 08 05:35:49.8±8.0, 1814S×17595W, h0km, mb4.3/2, mb1 4.5/2, mb1mx3.8/13, mbtmp4.3/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/25, Error ellipse: s-maj=384.7km s-min=120.4km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.81**	**44**	LR	LR	05 39 21.3	
	comp=Z,111nm,20.9s,baz=143,slow=36						
WRA	**Warramunga Arr**	**46.89**	**259**	P	P	05 44 21.8	0.0
	0.6nm,0.4s,baz=97,slow=7.0,SNR=6.0						
ASAR	**Alice Springs**	**46.98**	**254**	P	P	05 44 23.1	+0.6
	7.3nm,0.6s,baz=89,slow=8.4,SNR=53						
AKASG	**Malin Array Be**	**141.82**	**334**	PKP	PKPdf	05 55 23.1	-0.3
	0.6nm,0.4s,baz=11,slow=5.9,SNR=5.3						

*IDC **08** 05:35:49.5±3.2, 3330S×17878W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.9/12, mbtmp3.9/3, ML3.7/1, Error ellipse: s-maj=73.2km s-min=36.6km az=114.0*
*ISCJB **08** 05:35:54.4±2.7, 3335S±0.10×179.1W±04, h33km, mb3.7/2, Error ellipse: s-maj=51.3km s-min=12.5km az=15.3*

ISC 08 05:35:55.7±2.7, 333S±01×1789W±04, h35km, n9, σ0§59/11, mb3.7/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.81**	**207**	*e*PN	**Pn**	**05 37 06.7**	**+1.2**
PUZ	**Puketiti**	**5.28**	**205**	*e*PN	**Pn**	**05 37 11.5**	**-0.5**
PUZ				SN	**Sn**	**05 38 11.3**	**-0.2**
MWZ	**Matawai**	**5.78**	**209**	*e*PN	**Pn**	**05 37 19.3**	**+0.3**
URZ	**Urewera**	**5.90**	**212**	Pn	**Pn**	**05 37 19.7**	**-0.9**
	2.1nm,0.3s,baz=60,slow=6.1,SNR=16						
URZ				Sn	**Sn**	**05 38 27.3**	**+0.5**
	1.1nm,0.3s,baz=258,slow=20,SNR=3.6						
URZ	**Urewera**	**5.90**	**212**	*e*PN	**Pn**	**05 37 19.5**	**-1.0**
URZ				SN	**Sn**	**05 38 26.8**	**0.0**
MRZ	**Mangatainoka R**	**8.55**	**209**	SN	**Sn**	**05 39 26.0**	**-6.2**
ASAR	**Alice Springs**	**42.27**	**271**	P	**P**	**05 43 45.5**	**-0.2**
	0.5nm,0.5s,mb3.4,baz=109,slow=7.2,SNR=5.8						
WRA	**Warramunga Arr**	**43.52**	**276**	P	**P**	**05 43 56.0**	**+0.2**
	1.1nm,0.4s,mb4.0,baz=116,slow=7.8,SNR=7.5						
FINES	**FINESS Array B**	**147.58**	**338**	PKPbc	PKPbc	05 55 34.0	-2.2
	0.7nm,0.5s,baz=57,slow=5.1,SNR=4.4						

*ISCJB **08** 05:40:44.9±1.2, 384N±0.1×750E±02, h185km±32km, Error ellipse: s-maj=34.9km s-min=8.0km az=104.5*
*NNC **08** 05:40:53.0±4.7, 3880N×7480E, h191km±64km, mb1.8, mpv2.7, Error ellipse: s-maj=52.7km s-min=27.6km az=7.0*

ISC 08 05:40:45.8±1.0, 385N±01×749E±02, h225km±26km, n9, σ1§04/12, 3C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**4.47**	**6**	⇑P	**Pn**	**05 41 56.2**	**+2.0**
	0.1nm,0.4s						
TKM2				⇑S	**S**	**05 42 47.4**	**-0.9**
	0.8nm,0.8s						
KK31	**Karatay Array**	**5.71**	**325**	P	**Pn**	**05 42 12.1**	**+2.3**
	2.1nm,0.3s,baz=134,slow=11,SNR=84						
KK31				⇓S	**S**	**05 43 15.2**	**-1.4**
	2.2nm,0.3s,baz=144,slow=28,SNR=4.6						
KOLN	**Koldanda**	**12.90**	**143**	*e*P	**Pn**	**05 43 40.7**	**-0.4**
	8.4nm,0.5s						
GKN	**Gorkha**	**13.22**	**139**	*e*P	**Pn**	**05 43 44.2**	**-0.8**
	7.1nm,0.3s						
KKN	**Kakani**	**13.72**	**138**	*e*P	**Pn**	**05 43 51.3**	**0.0**
	14nm,0.5s						
DMN	**Daman**	**13.78**	**139**	*e*P	**Pn**	**05 43 51.6**	**-0.3**
GUN	**Gumba**	**13.95**	**136**	*e*P	**Pn**	**05 43 54.4**	**+0.4**
JIRN	**Jiri**	**14.31**	**136**	*e*P	**Pn**	**05 43 58.7**	**+0.2**
	12nm,0.4s						
AB31	**Akbulak array**	**15.24**	**320**	⇓P	**Pn**	**05 44 17.2**	**+7.4**
	0.3nm,0.5s,baz=128,slow=14,SNR=4.8						
AB31				⇑S	**S**	**05 46 58.0**	**-0.2**
	0.5nm,0.6s						

*NEIC **08** 05:56:08.3, 3144S×6909W, h149km, mb3.5/3, After GUC.*

GUC 08 05:56:08.3±0.8, 3144S×6909W, h149km±14km, MD4.0, ML4.0, 2C-7D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**1.66**	**279**	⇓*i*P	Pn	05 56 40.2	+0.7
CMCH				*i* S	Sn	05 57 04.5	+1.1
CMCH				AML	AML	05 57 06.6	
	comp=E,6µm,0.7s						
CMCH	**Combarbala**	**1.66**	**279**	⇓*i*P	Pn	05 56 40.2	+0.7
CMCH				*i* S	Sn	05 57 04.5	+1.1
JACH	**Jahuel**	**1.78**	**226**	*i* P	Pn	05 56 41.4	+0.6
TLL	**Tololo Astrono**	**1.95**	**310**	*e*P	Pn	05 56 43.6	+0.9
TLL				*i* S	Sn	05 57 10.8	+1.7
TLL				AML	AML	05 57 12.9	
	comp=N,666nm,0.5s						
TLL	**Tololo Astrono**	**1.95**	**310**	*e*P	Pn	05 56 43.6	+0.9
TLL				*i* S	Sn	05 57 10.8	+1.7
OVCH	**Ovalle**	**2.00**	**294**	⇓*i*P	Pn	05 56 43.7	+0.4
OVCH				*i* S	Sn	05 57 10.2	+0.1
OVCH				AML	AML	05 57 14.0	
	comp=N,858nm,0.6s						
OVCH	**Ovalle**	**2.00**	**294**	⇓*i*P	Pn	05 56 43.7	+0.4
OVCH				*i* S	Sn	05 57 10.2	+0.1
CHNG	**Los Chungos**	**2.10**	**257**	⇑*i*P	Pn	05 56 45.1	+0.5
CHNG				*i* S	Sn	05 57 12.6	+0.1
FCH	**Farellones**	**2.14**	**208**	⇓*i*P	Pn	05 56 46.0	+1.1
FCH				*i* S	Sn	05 57 15.2	+2.0
PEL	**Peldehue**	**2.17**	**218**	*e*P	Pn	05 56 45.8	+0.5
PEL				*i* S	Sn	05 57 14.5	+0.7
PEL				AML	AML	05 57 16.4	
	comp=E,1µm,0.3s						
PEL	**Peldehue**	**2.17**	**218**	*e*P	Pn	05 56 45.8	+0.5
PEL				*i* S	Sn	05 57 14.5	+0.7
ROCH	**El Roble**	**2.23**	**226**	*i* P	Pn	05 56 46.5	+0.4
ROCH				*i* S	Sn	05 57 16.0	+0.8
CLCH	**Cerro Calan**	**2.30**	**212**	*e*P	Pn	05 56 47.6	+0.7
CLCH				*i* S	Sn	05 57 17.3	+0.6
CLCH				AML	AML	05 57 27.5	
	comp=E,440nm,0.5s						
LSCH	**La Serena**	**2.41**	**309**	⇓*i*P	Pn	05 56 56.6	+8.5
LSCH				*i* S	Sn	05 57 26.6	+7.7
PCH	**Pirque**	**2.48**	**209**	⇓*i*P	Pn	05 56 50.2	+1.1
RCDM	**Rinconada Maip**	**2.50**	**215**	*e*P	Pn	05 56 50.1	+0.7
RCDM				*i* S	Sn	05 57 22.0	+0.9
RCDM				AML	AML	05 57 25.1	
	comp=E,389nm,0.4s						
RCDM	**Rinconada Maip**	**2.50**	**215**	*e*P	Pn	05 56 50.1	+0.7
RCDM				*i* S	Sn	05 57 22.0	+0.9
LMEL	**Las Melosas**	**2.58**	**201**	*e*P	Pn	05 56 51.0	+0.7
LMEL				*i* S	Sn	05 57 23.4	+0.7
TACH	**Talagante**	**2.70**	**215**	*e*P	Pn	05 56 52.0	+0.1
CHCH	**Chadas Angostu**	**2.81**	**208**	*i* P	Pn	05 56 53.8	+0.6
LCCH	**Las Cruces**	**2.92**	**225**	*i* P	Pn	05 56 54.5	0.0
CACH	**El Canelo**	**2.96**	**205**	⇑*i*P	Pn	05 56 56.4	+1.4
CICH	**Cipreses**	**3.08**	**201**	*e*P	Pn	05 56 57.8	+1.2
LNV	**Longovilo**	**3.18**	**217**	*i* P	Pn	05 56 57.1	-0.8
TRQA	**Tornquist**	**8.81**	**140**	*e*Pn	Pn	05 58 09.8	-2.7
	comp=E,13nm,0.8s						
TRQA				*e*Sn	Sn	05 59 43.5	-6.8
PLCA	**Paso Flores**	**9.35**	**187**	Pn	Pn	05 58 19.9	+0.3
	comp=E,0.6nm,0.7s						
LPAZ	**La Paz**	**15.11**	**4**	*e*Pn	Pn	05 59 37.2	+3.1
	comp=E,4.1nm,0.9s						
SAML	**Samuel**	**23.05**	**15**	*e*P	P	06 00 59.5	-1.0
	comp=E,1.1nm,0.6s						

*MOS **08** 06:05:51.7±1.1, 544N×9323E, h33km, mb4.7/17, Error ellipse: s-maj=16.0km s-min=7.0km az=110.6*
*ISCJB **08** 06:05:52.4±0.4, 540N±005×9321E±004, h39km, mb4.5/61, MS3.8/16, Error ellipse: s-maj=7.2km s-min=5.1km az=57.0*
*BJI **08** 06:05:53.5, 541N×93.10E, h49km, mB4.5, mb4.7, Ms4.2, Msz3.8*
*IDC **08** 06:05:54.8±0.6, 551N×9336E, h41km±4km, mb3.9/16, mb1 4.1/17, mb1mx4.0/22, mbtmp4.2/17, ML4.0/1, MS3.8/6, Ms1 3.8/6, ms1mx3.4/16, Error ellipse: s-maj=28.0km s-min=10.8km az=49.0*
*NEIC **08** 06:05:54.4±0.3, 546N×9324E, mb4.6/10, Error ellipse: s-maj=9.8km s-min=5.6km az=214.0*

ISC 08 06:05:54.9±0.3, 547N±004×9323E±004, h41km, h41km±1.4km:pP-P, n124, σ1§07/130, mb4.5/61, MS3.8/16, 8C-2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.27**	**115**	P	**Pn**	**06 07 25.2**	**+0.4**
	3.6nm,0.3s,baz=320,slow=9.6,SNR=22						
PSI				S	**Sn**	**06 08 30.8**	**-4.4**
	17nm,0.3s,baz=241,slow=2.5,SNR=4.8						
PSI	**Prapat**	**6.27**	**115**	P	**Pn**	**06 07 25.2**	**+0.4**
PSI				S	**Sn**	**06 08 30.8**	**-4.4**
KULM	**Kulim**	**7.39**	**91**	*e*Pn	**Pn**	**06 07 39.4**	**-0.8**
KULM				*e*Sn	**Sn**	**06 08 50.9**	**-12**
PALK	**Pallekele**	**12.58**	**279**	*e*Pn	**Pn**	**06 08 50.3**	**-0.9**
	17nm,0.6s						
PALK				*e*Sn	**Sn**	**06 10 59.1**	**-11**
KKTK	**Khon Kaen**	**14.32**	**40**	P	**Pn**	**06 09 15.5**	**+0.5**
	648nm,0.5s						
CHG	**Chiang Mai**	**14.39**	**22**	P	**Pn**	**06 09 15.5**	**-0.4**
CHTO	**Chiang Mai**	**14.39**	**22**	*e*P	**Pn**	**06 09 14.6**	**-1.3**
CHTO				pmax	pmax		
	comp=Z,15nm,0.8s						
CHTO	**Chiang Mai**	**14.39**	**22**	*e*Pn	**Pn**	**06 09 14.6**	**-1.3**
	comp=Z,15nm,0.8s						
MDRS	**Chennai**	**14.86**	**301**	*ex*	x	06 11 52.4	
NANT	**Nan**	**15.12**	**28**	⇓P	**Pn**	**06 09 23.5**	**-2.1**
	comp=Z,100nm,1.0s						
VIS	**Vishakhapatnam**	**15.55**	**322**	*e*P	**Pn**	**06 09 31.1**	**-0.1**
VIS				AMb	AMB	06 09 33.3	
	comp=Z,162nm,0.1s						
VIS				*ex*	x	06 12 08.4	
HYB	**Hyderabad**	**18.63**	**311**	*i* P	**Pn**	**06 10 11.0**	**+1.5**
HYB				*e*		06 13 17.0	
HYB				*e*S	**S**	**06 13 35.0**	**-4.0**
BOK	**Bokaro**	**19.54**	**340**	*e*P	**Pn**	**06 10 19.3**	**-1.2**
BOK				AMb	AMB	06 10 28.5	
	comp=Z,142nm,0.7s						
BOK				*ex*	x	06 13 43.1	
SHL	**Shillong**	**20.02**	**356**	*e*P	**P**	**06 10 23.0**	**-1.2**
SHL				*e*S	**S**	**06 14 08.1**	**+1.1**
NGP	**Nagpur**	**20.78**	**320**	*e*P	**P**	**06 10 33.0**	**+0.5**
QIZ	**Qiongzhong**	**21.07**	**49**	⇑P	**P**	**06 10 36.1**	**+0.6**
QIZ				S	**S**	**06 14 26.2**	**-1.5**
QIZ				AMB	AMB		
	comp=Z,33nm,0.9s,mb4.7						
QIZ				LR	LR		
	comp=N,280nm,15.7s						
QIZ				LR	LR		
	comp=Z,232nm,19.8s,MS3.6						
QIZ	**Qiongzhong**	**21.07**	**49**	*e*P	**P**	**06 10 35.9**	**+0.4**
	comp=Z,37nm,0.9s,mb4.7						
KMI	**Kunming**	**21.57**	**24**	P	**P**	**06 10 44.1**	**+3.3**
KMI				AP		06 10 54.2	
KMI				XP	sP	06 10 58.5	+2.2
KMI				PP		06 11 10.5	
KMI				PPP		06 11 20.2	
KMI				S	**S**	**06 14 38.0**	**+0.6**
KMI				PCP	PcP	06 14 43.9	+2.1
KMI				XS	sS	06 14 54.8	+0.8
KMI				SS		06 15 16.5	
KMI				SSS		06 15 31.3	
KMI				SCP	ScP	06 18 16.8	+1.3
KMI				PCS	PcS	06 18 21.1	+1.0
KMI				AMB	AMB		
	comp=Z,21nm,1.0s,mb4.5						
KMI				AMB	AMB		
	comp=Z,84nm,4.6s						
KMI				LR	LR		
	comp=N,214nm,23.1s,MS3.6						
KMI				LR	LR		
	comp=E,219nm,21.8s,MS3.6						
KMI				LR	LR		
	comp=Z,207nm,18.7s,MS3.6						
SLGI	**Shiliguri**	**21.60**	**348**	*ex*	x	06 10 45.4	
JBP	**Jabalpur**	**21.74**	**325**	⇑*ix*	x	06 10 56.9	
JBP				*i* x	x	06 15 23.9	
KAD	**Karad**	**22.04**	**304**	*e*P	**P**	**06 10 45.6**	**-0.2**
KAD				AMb	AMB	06 10 48.7	
	comp=Z,30nm,0.8s,mb4.8						
KKM	**Kota Kinabalu**	**22.88**	**87**	*e*P	**P**	**06 10 55.6**	**+0.8**
POO	**Poona**	**22.93**	**306**	*e*P	**P**	**06 10 55.0**	**-0.4**
POO				*i* x	x	06 11 35.5	
POO				*ex*	x	06 14 46.0	
POO				*i* S	**S**	**06 15 04.0**	**+1.5**
JIRN	**Jiri**	**23.06**	**344**	*e*P	**P**	**06 10 56.9**	**+0.2**
PKI	**Pulchoki**	**23.20**	**342**	*e*P	**P**	**06 10 58.9**	**+0.7**
BHPL	**Bhopal**	**23.33**	**321**	*e*P	**P**	**06 10 59.2**	**-0.3**
BHPL				AMb	AMB	06 11 05.0	
	comp=Z,25nm,1.7s,mb4.4						
DMN	**Daman**	**23.33**	**342**	*e*P	**P**	**06 11 00.4**	**+0.8**
GUN	**Gumba**	**23.38**	**343**	*e*P	**P**	**06 11 00.0**	**0.0**
KKN	**Kakani**	**23.45**	**342**	*e*P	**P**	**06 11 01.3**	**+0.7**
GKN	**Gorkha**	**23.85**	**341**	*e*P	**P**	**06 11 04.7**	**+0.4**
KOLN	**Koldanda**	**23.99**	**339**	*e*P	**P**	**06 11 06.4**	**+0.8**
LSA	**Lhasa**	**24.18**	**356**	*e*P	**P**	**06 11 08.2**	**+0.9**
LSA				*e*S	**S**	**06 15 21.2**	**-1.5**
LSA				pmax	pmax		
	comp=Z,36nm,0.7s,mb4.9						
LSA	**Lhasa**	**24.18**	**356**	*e*P	**P**	**06 11 08.2**	**+0.9**
	comp=Z,36nm,0.7s,mb4.9						
LSA				*e*S	**S**	**06 15 21.2**	**-1.5**
GYA	**Guiyang**	**24.50**	**30**	⇑*i*P	**P**	**06 11 10.3**	**+0.1**
GYA				AP		06 11 19.6	
GYA				XP	sP	06 11 23.8	-2.5
GYA				PP		06 11 46.2	
GYA				S	**S**	**06 15 25.0**	**-2.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
GYA				AMB	AMB	

comp=Z,12nm,1.8s,mb4.2
DDI Dehra Dun 28.55 332 *ex* x 06 11 30.0
KLP Kalpa 29.48 333 *eP* **P** **06 11 54.8 -0.3**
KLP AMb AMB 06 12 10.6
comp=Z,14nm,1.2s,mb4.6
SMLA Simla 29.65 331 *eP* **P** **06 11 54.5 -1.9**
SMLA AMb AMB 06 12 32.9
comp=Z,29nm,1.9s,mb4.7
XAN Xi'an 31.94 25 P **P** **06 12 15.0 -1.6**
XAN S **S** **06 17 20.4 -4.6**
XAN AMB AMB
comp=Z,9.0nm,0.6s,mb4.8
XAN LR LR
comp=N,110nm,19.2s,MS3.9
XAN LR LR
comp=E,205nm,20.3s,MS3.9
XAN LR LR
comp=Z,231nm,22.4s,MS3.8
LZH Lanzhou 31.99 16 *eP* **P** **06 12 17.5 +0.4**
LZH AP pP 06 12 28.0 -0.4
LZH XP sP 06 12 32.0 -1.4
LZH AMB AMB
comp=Z,23nm,1.0s,mb5.0
GTA Gaotai 34.31 9 P **P** **06 12 37.5 +0.2**
GTA AP pP 06 12 50.3 +1.7
GTA XP sP 06 12 55.1 +1.5
GTA S **S** **06 18 04.0 +2.3**
GTA AMB AMB
comp=Z,6.0nm,0.6s,mb4.7
GTA AMB AMB
comp=Z,84nm,5.3s
GTA LR LR
comp=N,179nm,22.8s,MS4.0
GTA LR LR
comp=E,243nm,19.4s,MS4.0
GTA LR LR
comp=Z,167nm,18.6s,MS3.8
NJ2 Nanjing 35.69 39 *eP* **P** **06 12 52.6 +3.4**
NJ2 AP pP 06 13 02.5 +1.9
NJ2 XP sP 06 13 06.8 +1.3
NJ2 PP PP 06 14 14.1 +3.4
NJ2 S **S** **06 18 26.0 +3.0**
NJ2 XS sS 06 18 41.0 -0.9
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
NJ2 AMB AMB
comp=Z,50nm,10.8s
NJ2 LR LR
comp=N,420nm,16.6s
NJ2 LR LR
comp=E,370nm,22.4s
NJ2 LR LR
comp=Z,590nm,20.4s,MS4.3
WMQ Urumqi 38.50 354 ⇓P **P** **06 13 13.8 +0.7**
WMQ AP pP 06 13 23.8 -0.7
WMQ XP sP 06 13 27.8 -1.6
WMQ PP PP 06 14 45.8 +4.1
WMQ PPP 06 15 08.8
WMQ *e*S **S** **06 19 07.1 +1.3**
WMQ AMB AMB
comp=Z,17nm,1.1s,mb4.7
WMQ AMB AMB
comp=Z,16nm,7.0s
WMQ LR LR
comp=N,279nm,27.0s,MS3.9
WMQ LR LR
comp=E,54nm,29.0s,MS3.9
WMQ LR LR
comp=Z,96nm,25.2s,MS3.5
HHC Hu-ho-hao-te 38.87 22 *eP* **P** **06 13 18.1 +1.9**
HHC AP pP 06 13 27.7 +0.1
HHC XP sP 06 13 31.2 -1.3
HHC PP PP 06 14 54.5 +8.8
HHC PCP PcP 06 15 28.1 +1.6
HHC SCP ScP 06 19 12.6 +1.2
HHC S **S** **06 19 14.8 +3.5**
HHC PCS PcS 06 19 17.0 +1.0
HHC XS sS 06 19 30.1 -0.3
HHC SS SS 06 21 59.5 -4.2
HHC SCS ScS 06 23 23.1 +0.7
HHC AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
HHC AMB AMB
comp=Z,101nm,5.5s
HHC LR LR
comp=N,133nm,15.9s,MS4.1
HHC LR LR
comp=E,232nm,17.8s,MS4.1
HHC LR LR
comp=Z,159nm,17.1s,MS3.9
JOW Kunigami 39.58 54 LR LR 06 31 12.6
comp=Z,96nm,18.1s,MS3.7,baz=188,slow=38
FITZ Fitzroy Crossi 39.64 127 P **P** **06 13 22.0 -0.6**
comp=Z,1.1nm,0.6s,mb3.8,baz=249,slow=18,SNR=6.5
BJI Beijing 40.14 28 *eP* **P** **06 13 27.5 +0.8**
BJI S **S** **06 19 34.1 +3.7**
BJI AMB AMB
comp=Z,6.0nm,0.9s,mb4.3
BJI LR LR
comp=N,91nm,20.4s,MS3.9
BJI LR LR
comp=E,167nm,24.5s,MS3.9
BJI LR LR
comp=Z,120nm,21.6s,MS3.7
TKM2 Tokmak 2 40.43 340 *i* P **P** **06 13 29.4 +0.2**
TKM2 pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
AAK Ala-Archa 40.57 339 *eP* **P** **06 13 29.8 -0.5**
AAK *e**PP pP 06 13 40.9 -0.9
AAK pmax pmax
comp=Z,20nm,1.4s,mb4.5
AAK Ala-Archa 40.57 339 *eP* **P** **06 13 29.8 -0.5**
comp=Z,20nm,1.4s,mb4.6
AAK *ep*P pP 06 13 40.9 -0.9
FRU Bishkek 40.70 339 *eP* **P** **06 13 33.0 +1.7**
FRU *e* 06 15 07.0
MK31 Makanchi Array 42.24 349 P **P** **06 13 43.5 -0.5**
MK31 pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
MKAR Makanchi Array 42.24 349 P **P** **06 13 43.4 -0.5**
comp=Z,7.8nm,0.7s,mb4.4,baz=167,slow=8.6,SNR=71
MKAR Makanchi Array 42.24 349 P **P** **06 13 43.4 -0.5**
KK31 Karatay Array 42.52 335 *i* P **P** **06 13 45.9 -0.4**
KK31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.2
KKAR Karatay Array 42.52 335 *i* P **P** **06 13 45.9 -0.4**
KKAR pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
SONM Songino Array 43.69 13 P **P** **06 13 55.7 0.0**
comp=Z,1.7nm,0.6s,mb4.0,baz=196,slow=8.1,SNR=5.8
SONM LR LR 06 33 47.5
comp=Z,133nm,21.6s,MS3.8,baz=252,slow=38
ZAK Zakamensk 45.55 9 *eP* **P** **06 14 16.3 +5.8**
ZAK *e* 06 15 43.7
ZAK pmax pmax
comp=Z,5.0nm,1.8s,mb4.1
ZAK pmax pmax
comp=Z,5.0nm,1.9s,mb4.1
KURK Kurchatov 46.72 347 *eP* **P** **06 14 19.5 -0.3**
KURK *e**PP pP 06 14 29.4 -2.1
KURK pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
KURK Kurchatov 46.72 347 *eP* **P** **06 14 19.5 -0.2**
comp=Z,7.0nm,0.6s,mb4.8
KURK *ep*P pP 06 14 29.4 -2.1
TLY Talaya 46.87 9 *eP* **P** **06 14 22.5 +1.6**
TLY *e**PP pP 06 14 34.3 +1.7
TLY pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
TLY Talaya 46.87 9 *eP* **P** **06 14 22.5 +1.6**
comp=Z,4.0nm,0.8s,mb4.4
TLY *ep*P pP 06 14 34.3 +1.7
CN2 Changchun 47.53 32 *eP* **P** **06 14 30.1 +4.0**
CN2 *e*XP sP 06 14 43.9 +1.2
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
CN2 AMB AMB
comp=Z,200nm,3.0s
WRA Warramunga Arr 47.66 123 P **P** **06 14 27.0 -0.1**
comp=Z,5.6nm,0.6s,mb4.8,baz=302,slow=9.0,SNR=22
WRAB Tennant Creek 47.67 123 *eP* **P** **06 14 26.8 -0.3**
WRAB *e**PP pP 06 14 37.5 -1.3
WRAB pmax pmax
comp=Z,19nm,0.6s,mb5.3
WRAB Tennant Creek 47.67 123 *eP* **P** **06 14 26.8 -0.3**
comp=Z,18nm,0.6s,mb5.3
WRAB *ep*P pP 06 14 37.5 -1.4
ZAL Zalesovo 48.80 353 P **P** **06 14 36.0 +0.1**
comp=Z,5.4nm,0.4s,mb4.9,baz=296,slow=5.3,SNR=25
ZAL LR LR 06 39 15.7
comp=Z,80nm,21.9s,MS3.7,baz=99,slow=41
ASAR Alice Springs 49.12 128 P **P** **06 14 38.5 +0.1**
comp=Z,1.9nm,0.6s,mb4.3,baz=299,slow=8.0,SNR=19
ASAR pP pP 06 14 49.3 -0.8
comp=Z,1.5nm,0.4s,baz=309,slow=7.4,SNR=8.3
CIT Chita 49.36 16 *eP* **P** **06 14 34.2 -5.9**
CIT pmax pmax
comp=Z,26nm,1.2s,mb5.1
NVS Novosibirsk 49.88 352 *i* P **P** **06 14 42.1 -2.0**
NVS *e* pP 06 14 53.9 -2.0
NVS *eS* **S** **06 21 49.2 -2.0**
NVS pmax pmax
comp=Z,12nm,1.1s,mb4.8
NVS pmax pmax
comp=N,14nm,1.6s
NVS smax
comp=E,16nm,1.8s
MDJ Mudanjiang 50.30 33 P **P** **06 14 48.6 +1.3**
MDJ AP pP 06 14 57.8 -1.2
MDJ XP sP 06 15 01.4 -2.5
MDJ PP PP 06 16 44.4 +1.5
MDJ SCP ScP 06 19 59.8 +1.6
MDJ PCS PcS 06 20 03.6 +0.8
MDJ S **S** **06 22 00.9 +3.9**
MDJ XS sS 06 22 16.2 -0.4
MDJ AMB AMB
comp=Z,3.0nm,0.9s,mb4.3
MDJ AMB AMB
comp=Z,36nm,5.3s
MDJ LR LR
comp=N,75nm,39.9s
MDJ LR LR
comp=E,57nm,17.1s
MDJ LR LR
comp=Z,64nm,17.1s
BVA0 Borovoye Array 50.97 342 *i* P **P** **06 14 51.8 -0.6**
BVA0 pmax pmax
comp=Z,1.0nm,0.9s,mb3.8
BVAR Borovoye Array 50.97 342 P **P** **06 14 51.6 -0.8**
comp=Z,3.7nm,0.8s,mb4.4,baz=147,slow=8.3,SNR=24
BRVK Borovoye 51.03 342 *eP* **P** **06 14 51.8 -1.0**
BRVK *e**PP pP 06 15 03.2 -1.4
BRVK pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
BRVK Borovoye 51.03 342 *eP* **P** **06 14 51.8 -1.1**
comp=Z,2.7nm,0.7s,mb4.3
BRVK *ep*P pP 06 15 03.2 -1.4
ZRNK Zerenda 51.34 341 *eP* **P** **06 14 54.2 -0.9**
ZRNK *e**PP pP 06 15 04.2 -2.7
ZRNK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ZRNK Zerenda 51.34 341 *eP* **P** **06 14 54.2 -0.9**
comp=Z,2.8nm,0.6s,mb4.4
ZRNK *ep*P pP 06 15 04.2 -2.7
MJAR Matsushiro Arr 51.45 47 pP pP 06 15 07.7 0.0
comp=Z,2.0nm,0.6s,baz=254,slow=7.6,SNR=3.5
MJAR LR LR 06 36 00.1
comp=Z,133nm,20.1s,MS4.0,baz=235,slow=35
AB31 Akbulak array 51.92 333 *i* P **P** **06 14 59.1 -0.3**
AB31 pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
AB31 Akbulak array 51.92 333⇓ *eP* **P** **06 14 59.2 -0.2**
AKTK Aktyubinsk 53.63 333 P **P** **06 15 11.4 -0.7**
AKTK *ep* pP 06 15 24.6 +0.7
AKTO Aktyubinsk 53.63 333 P **P** **06 15 11.4 -0.7**
comp=Z,0.8nm,0.4s,mb4.0,baz=105,slow=6.0,SNR=4.1
AKTO pP pP 06 15 24.6 +0.7
comp=Z,1.7nm,0.5s,baz=73,slow=5.6,SNR=3.9
KLR Kul'dur 54.40 30 *eP* **P** **06 15 26.2 +8.5**
BOD Bodaibo 54.68 13 *eP* **P** **06 15 20.5 +0.8**
BOD *e* 06 15 36.8
BOD pmax pmax
comp=Z,13nm,1.0s,mb4.9
KMBO Kilima Mbogo 56.28 265 P **P** **06 15 33.4 +2.1**
comp=Z,0.6nm,0.3s,mb4.1,baz=54,slow=18,SNR=4.2
ARU Arti 57.75 338 *eP* **P** **06 15 42.4 +0.8**
ARU *e* 06 17 50.4
ARU *eS* **S** **06 23 35.0 -2.6**
ARU *eSS* SS 06 27 23.8 -4.6
ARU Arti 57.75 338⇓ *eP* **P** **06 15 42.2 +0.6**
KIV Kislovodsk 58.50 319 *eP* **P** **06 15 43.3 -3.6**
KIV pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
STKA Stephens Creek 59.14 132 P **P** **06 15 49.8 -1.6**
comp=Z,1.0nm,0.5s,mb4.1,baz=319,slow=16,SNR=4.0
STKA *ep* pP 06 16 02.0 -1.3
comp=Z,4.1nm,0.8s,baz=314,slow=7.3,SNR=3.9
STKA Stephens Creek 59.14 132 *eP* **P** **06 15 49.9 -1.5**
STKA *ep*P pP 06 16 01.9 -1.4
YSS Yuzh-Sakhalins 59.23 37⇓ *eP* pP 06 16 07.9 +4.0
YSS pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
BR131 Keskin Array S 63.32 312 *eP* **P** **06 16 21.8 +2.1**
comp=Z,1.0nm,0.6s,mb4.1
BR131 *ep*P pP 06 16 32.8 +1.1
BRTR Keskin Array B 63.32 312 P **P** **06 16 19.4 -0.2**
comp=Z,0.6nm,0.8s,mb3.8,baz=132,slow=8.5,SNR=4.0
BRTR pP pP 06 16 31.9 +0.1
comp=Z,1.8nm,0.7s,baz=127,slow=7.6,SNR=8.3
OBN Obninsk 66.93 329 *eP* **P** **06 16 41.4 -1.6**
OBN *e* 06 17 10.9
OBN pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
AKASG Malin Array Be 69.48 322 P **P** **06 16 59.4 +0.4**
comp=Z,0.1nm,0.3s,baz=95,slow=4.6,SNR=2.1
TIXI Tiksi 69.75 11⇑ *eP* **P** **06 17 07.1 +6.4**
LVV L'vov 72.47 321⇑ *eP* pP 06 17 31.8 +2.4
LVV *e* 06 20 03.0
JOF Joensuu 72.62 335 *ep* **P** **06 17 15.9 -2.1**
comp=Z,1.5nm,0.4s,mb4.3
FINES FINESS Array B 74.41 333 P **P** **06 17 27.8 -0.7**
comp=Z,1.1nm,0.5s,mb4.1,baz=101,slow=5.6,SNR=12
FINES pP pP 06 17 41.3 +0.4
comp=Z,3.1nm,0.7s,baz=104,slow=8.0,SNR=6.7
FINES FINESS Array B 74.41 333 P **P** **06 17 27.8 -0.8**
FINES pP pP 06 17 41.3 +0.4
KAF Kangasniemi 74.51 333 *ep* **P** **06 17 24.9 -4.2**
comp=Z,1.2nm,0.3s,mb4.3
KAF Kangasniemi 74.51 333 *eP* **P** **06 17 24.9 -4.2**
KAF pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
OKC Ostrava-Krasne 76.22 320 *ep*P pP 06 17 57.4 +6.1
KEV Kevo 76.79 341 *ep* **P** **06 17 45.2 +3.0**
comp=Z,6.0nm,0.9s,mb4.5
KEV Kevo 76.79 341 *eP* **P** **06 17 45.2 +3.0**
KEV pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
ARCES ARCESS Array B 77.21 341 P **P** **06 17 44.2 -0.3**
comp=Z,5.3nm,0.6s,mb4.6,baz=98,slow=5.9,SNR=25
DPC Dobruska-Polom 77.45 320 *ep*P pP 06 18 01.0 +2.7
PRU Pruhonice 78.56 320 *ep*P pP 06 18 07.0 +2.6
BILL Bilibino 78.64 22 *eP* pP 06 18 03.8 -1.1
BILL pmax pmax
comp=Z,6.0nm,1.7s,mb4.2
GERES GERESS Array B 79.01 319 P **P** **06 17 55.3 +0.8**
comp=Z,0.9nm,0.5s,mb4.0,baz=91,slow=6.7,SNR=7.7
GERES pP pP 06 18 08.3 +1.4
comp=Z,4.1nm,0.8s,baz=90,slow=5.3,SNR=8.9
KHC Kasperske Hory 79.11 319 *ep*P pP 06 18 09.6 +2.1
NKC Novy Kostel 79.92 320 *eP* **P** **06 18 02.8 +3.4**
NOA NORSAR Array B 81.37 331 P **P** **06 18 06.3 -0.9**
comp=Z,0.4nm,0.5s,mb3.6,baz=91,slow=5.8,SNR=3.3
NOA LR LR 06 55 52.6
comp=Z,30nm,18.1s,MS3.7,baz=210,slow=37
ILAR Eielson Array 97.30 22 LR LR 07 05 15.2
comp=Z,66nm,21.4s,MS4.1,baz=182,slow=37
VNA2 Neumayer--Watz 98.61 199 *eP* **P** **06 19 30.1 +0.6**
VNA2 *e* 06 19 32.7
VNA2 *e* 06 19 38.5
VNA2 *e* pP 06 19 40.7 -1.4
VNA2 *e* 06 19 45.4
VNA1 Neumayer--Stat 98.94 199 *eP* **P** **06 19 31.5 +0.6**
VNA1 *e* pP 06 19 42.3 -1.3
VNA1 *e* pP 06 19 46.5 +2.9
PDAR Pinedale Array 127.72 21 PKP PKPdf 06 24 56.8 +1.0
comp=Z,0.2nm,0.5s,baz=309,slow=4.5,SNR=3.2
CPUP Villa Florida 145.06 230 PKPbc PKPbc 06 25 28.8 +1.6
comp=Z,1.3nm,0.5s,baz=82,slow=2.8,SNR=7.9

IDC 08 06:06:19.2±8.0, 1416S×1406W, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.8/17, mbtmp4.1/5, MS3.6/5, Ms1 3.6/5, ms1mx3.4/16, Error ellipse: s-maj=321.8km s-min=108.2km az=142.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**31.30**	**31**	P	P	06 12 41.5	+0.6
	0.9nm,0.6s,baz=213,slow=8.9,SNR=8.1						
BDFB	**Brasilia**	**32.83**	**263**	LR	LR	06 23 17.0	
	comp=Z,52nm,21.1s,baz=114,slow=31						
LBTB	**Lobatse**	**38.76**	**112**	LR	LR	06 26 25.7	
	comp=Z,76nm,20.2s,baz=97,slow=31						
LSZ	**Lusaka**	**40.83**	**97**	LR	LR	06 28 14.4	
	comp=Z,110nm,18.3s,baz=340,slow=32						
CPUP	**Villa Florida**	**42.18**	**246**	LR	LR	06 28 02.2	
	comp=Z,87nm,20.8s,baz=148,slow=31						
LPG	**La Plagne**	**62.30**	**16**	*eP*	P	06 16 43.3	+0.2
	5.7nm,0.8s						
ROSC	**El Rosal**	**62.69**	**283**	LR	LR	06 40 54.8	
	comp=Z,81nm,18.1s,baz=182,slow=33						
GERES	**GERESS Array B**	**67.39**	**19**	P	P	06 17 16.0	-0.4
	0.9nm,0.6s,baz=207,slow=2.7,SNR=7.2						
AKASG	**Malin Array Be**	**74.85**	**27**	P	P	06 18 01.4	-0.2
	3.0nm,0.7s,baz=225,slow=6.2,SNR=13						
NB2	**NORSAR Subarra**	**77.61**	**12**	P	P	06 18 17.0	-0.3
	comp=Z,1.0nm,0.7s,baz=204,slow=6.2						
NOA	**NORSAR Array B**	**77.61**	**12**	P	P	06 18 17.4	+0.1
	comp=Z,1.5nm,0.8s,baz=205,slow=6.0,SNR=6.7						
FINES	**FINESS Array B**	**81.77**	**18**	P	P	06 18 39.8	-0.1
	comp=Z,0.9nm,0.6s,baz=193,slow=5.4,SNR=2.4						

WEL 08 06:16:03.8±0.3, 3901S×17535E, h177km±2km, ML3.5/16, Error ellipse: s-maj=4.0km s-min=2.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWVZ	**Taurewa**	**0.09**	**131**	PN	Pn	06 16 27.0	-0.2
TWVZ				SN	Sn	06 16 44.9	-0.3
WPVZ	**Whakapapa**	**0.25**	**142**	PN	Pn	06 16 27.5	+0.1
WPVZ				SN	Sn	06 16 45.7	+0.1
PKVZ	**Pokaka**	**0.28**	**180**	PN	Pn	06 16 27.4	-0.1
FWVZ	**Far West T-bar**	**0.29**	**147**	PN	Pn	06 16 27.8	+0.3
FWVZ				SN	Sn	06 16 45.4	-0.4
TRVZ	**Turoa**	**0.33**	**152**	PN	Pn	06 16 27.9	+0.3
WNVZ	**Wahianoa**	**0.37**	**149**	PN	Pn	06 16 28.1	+0.4
WNVZ				SN	Sn	06 16 46.4	+0.2
MOVZ	**Moawhango**	**0.51**	**142**	SN	Sn	06 16 46.1	-1.0
WAZ	**Wanganui**	**0.79**	**201**	PN	Pn	06 16 29.7	-0.1
BKZ	**Black Stump Fm**	**0.90**	**100**	PN	Pn	06 16 30.8	+0.3
BKZ				SN	Sn	06 16 51.0	-0.1
TSZ	**Takapari Road**	**1.15**	**156**	SN	Sn	06 16 54.2	-0.2
PXZ	**Pawanui**	**1.55**	**132**	SN	Sn	06 17 02.2	+1.3
URZ	**Urewera**	**1.57**	**62**	PN	Pn	06 16 35.5	-0.7
MRZ	**Mangatainoka R**	**1.66**	**174**	PN	Pn	06 16 36.7	-0.3
MRZ				SN	Sn	06 17 01.1	-1.6
BFZ	**Birch Farm**	**1.81**	**158**	SN	Sn	06 17 04.2	-1.2
KNZ	**Kokohu**	**1.81**	**91**	PN	Pn	06 16 39.0	+0.4
TIWZ	**Tintock**	**1.81**	**167**	PN	Pn	06 16 38.5	-0.1
MWZ	**Matawai**	**1.83**	**69**	PN	Pn	06 16 38.6	-0.2
KIW	**Kapiti Island**	**1.88**	**190**	PN	Pn	06 16 38.3	-1.0
DUWZ	**D'Urville Isla**	**2.10**	**211**	PN	Pn	06 16 39.8	-2.0
CAW	**Cannon Point**	**2.10**	**186**	PN	Pn	06 16 40.9	-0.9
MTW	**Mount Morrison**	**2.15**	**177**	PN	Pn	06 16 41.3	-0.9
MRW	**Makara Radio**	**2.27**	**192**	PN	Pn	06 16 42.3	-1.3
SNZO	**South Karori**	**2.35**	**192**	PN	Pn	06 16 43.0	-1.5
TCW	**Tory Channel**	**2.35**	**200**	PN	Pn	06 16 43.0	-1.5
PAWZ	**Paruwai Farm**	**2.37**	**179**	PN	Pn	06 16 43.4	-1.4
PUZ	**Puketiti**	**2.47**	**69**	PN	Pn	06 16 45.2	-0.7
TUWZ	**Tuamarina**	**2.65**	**204**	PN	Pn	06 16 45.8	-2.2
NNZ	**Nelson**	**2.67**	**214**	PN	Pn	06 16 45.7	-2.7
MXZ	**Matakaoa Point**	**2.74**	**59**	PN	Pn	06 16 48.3	-0.8
QRZ	**Quartz Range**	**2.83**	**229**	PN	Pn	06 16 46.4	-3.7
THZ	**Tophouse**	**3.32**	**213**	PN	Pn	06 16 52.8	-3.4
KHZ	**Kahutara**	**3.67**	**201**	PN	Pn	06 16 58.2	-2.4
DSZ	**Denniston Nort**	**3.85**	**224**	SN	Sn	06 17 42.0	-6.9
LTZ	**Lake Taylor**	**4.43**	**211**	PN	Pn	06 17 06.7	-3.5
MQZ	**McQueen's Vall**	**5.11**	**203**	SN	Sn	06 18 09.8	-8.3
WVZ	**Waitaha Valley**	**5.35**	**219**	SN	Sn	06 18 14.5	-9.3

*IDC **08** 06:31:15.6±4.1, 1410N×9226W, h0km, mb3.7/4, mb1 4.1/5, mb1mx3.7/18, mbtmp3.7/5, ML3.2/1, Error ellipse: s-maj=159.9km s-min=32.7km az=39.0*
*CASC **08** 06:31:17.0±1.6, 1366N×9273W, h93km±64km, MD4.0, mb4.0(NEIC)*
*ISCJB **08** 06:31:18.2±2.4, 137N±0.1×928W±0.1, h46km±20km, mb3.8/4, Error ellipse: s-maj=26.2km s-min=13.9km az=79.5*
*NEIC **08** 06:31:22.5±2.7, 1396N×9210W, h68km±20km, mb4.0/1, MD4.1(MEX), Error ellipse: s-maj=57.5km s-min=11.9km az=54.0*

ISC 08 06:31:16.7±3.5, 1361N±010×9276W±008, h21km±29km, n11, σ1$04/13, mb3.8/4, 1C-2D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**1.29**	**57**⇓	*eP*	**Pn**	**06 31 40.5**	**+1.0**
FUG	**Fuego 3**	**2.04**	**66**⇓	*eP*	**Pn**	**06 31 50.8**	**+1.0**
IXG	**Ixpaco**	**2.30**	**76**⇑	*eP*	**Pn**	**06 31 53.3**	**-0.2**
IXG				*eS*	**Sn**	**06 32 21.5**	**+0.4**
CCIG	**Comitan**	**2.72**	**13**	*iP*	**Pn**	**06 31 58.5**	**-0.6**
CCIG				*i* S	**Sn**	**06 32 30.9**	**-0.6**
SCX	**San Cristobal**	**3.11**	**2**	*eP*	**Pn**	**06 32 05.2**	**+0.7**
JTS	**JuntasAbangare**	**8.32**	**113**	Pn	**Pn**	**06 33 14.5**	**-1.5**
	0.3nm,0.3s,baz=266,slow=16,SNR=3.7						
MIAR	**Mount Ida**	**20.86**	**358**	*eP*	**P**	**06 35 54.7**	**-2.5**
	6.4nm,0.8s						
PDAR	**Pinedale Array**	**32.48**	**337**	P	**P**	**06 37 46.4**	**+0.8**
	0.6nm,1.0s,mb3.4,baz=143,slow=7.9,SNR=2.8						
NVAR	**Mina Array Bea**	**33.52**	**322**	P	**P**	**06 37 56.2**	**+1.4**
	0.6nm,0.7s,mb3.6,baz=124,slow=9.0,SNR=4.5						
YKA	**Yellowknife Ar**	**51.24**	**347**	P	**P**	**06 40 17.8**	**-1.0**
	2.4nm,0.7s,mb4.2,baz=149,slow=7.4,SNR=70						
ILAR	**Eielson Array**	**62.91**	**337**	P	**P**	**06 41 41.7**	**+0.3**
	0.6nm,0.6s,mb3.9,baz=108,slow=5.3,SNR=10						

*NEIC **08** 06:45:11.7, 2730S×7107W, h36km, MG3.9(GUC), After GUC.*

GUC 08 06:45:11.7±0.6, 2730S×7107W, h36km±6km, MD4.0, ML3.9, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.31**	**44**⇓	*iP*	Pn	06 45 19.3	-0.5
CDCH				*i* S	Sn	06 45 25.9	+0.5
CRCH	**Chaqaral**	**1.03**	**23**	*eP*	Pn	06 45 30.0	+0.4
CRCH				*i* S	Sn	06 45 44.1	+1.3
VACH	**Vallenar**	**1.30**	**168**	*eP*	Pn	06 45 35.6	+2.2
VACH				*i* S	Sn	06 45 52.9	+3.4
LCO	**Las Campanas**	**1.74**	**169**	*eP*	Pn	06 45 41.2	+1.8
LCO				*i* S	Sn	06 46 03.6	+3.4
TLL	**Tololo Astrono**	**2.87**	**175**	*eP*	Pn	06 45 57.2	+2.3
TLL				*i* S	Sn	06 46 31.4	+3.2
TLL				AML	AML	06 46 50.2	
	comp=N,388nm,0.4s						
TLL	**Tololo Astrono**	**2.87**	**175**	*eP*	Pn	06 45 57.2	+2.3
TLL				*i* S	Sn	06 46 31.4	+3.2

*IDC **08** 07:08:21.8±1.6, 1960S×17524W, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.8/15, mbtmp3.6/5, ML4.3/1, MS3.7/5, Ms1 3.7/5, ms1mx3.2/25, Error ellipse: s-maj=60.9km s-min=29.9km az=129.0*
*ISCJB **08** 07:08:22.1±1.0, 195S±02×1749W±02, h33km, mb3.7/4, MS3.7/4, Error ellipse: s-maj=34.6km s-min=15.1km az=64.2*

ISC 08 07:08:24.4±0.9, 196S±01×1748W±02, h35km, n12, σ1$20/8, mb3.7/4, MS3.7/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.39**	**27**	Pn	**Pn**	**07 09 54.7**	**-1.3**
	2.5nm,0.3s,baz=234,slow=17,SNR=4.4						
AFI				Sn	**Sn**	**07 10 57.9**	**-10**
	1.1nm,0.3s,baz=355,slow=23,SNR=3.1						
RAR	**Rarotonga**	**14.16**	**99**	LR	LR	07 15 59.3	
	comp=Z,186nm,19.2s,baz=269,slow=31						
URZ	**Urewera**	**19.84**	**199**	P	**Pn**	**07 12 52.9**	**-1.0**

0.8nm,0.3s,baz=62,slow=7.9,SNR=5.2
PPT Papeete 23.98 89 LR LR 07 20 08.5
comp=Z,153nm,20.0s,MS3.5,baz=106,slow=29
CTA Charters Tower 36.59 263 LR LR 07 28 04.6
comp=Z,112nm,19.0s,MS3.7,baz=306,slow=33
ASAR Alice Springs 47.66 256 P **P 07 16 57.0 -0.3**
0.3nm,0.6s,mb3.5,baz=99,slow=8.8,SNR=5.8
WRA Warramunga Arr 47.71 261 P **P 07 16 57.7 0.0**
0.8nm,0.8s,mb3.8,baz=93,slow=5.7,SNR=5.2
NWAO Narrogin (SRO) 61.45 243 LR LR 07 42 28.0
comp=Z,129nm,19.7s,MS4.1,baz=5.5,slow=34
CBIJ Chichi jima 62.43 317 LR LR 07 41 59.4
comp=Z,39nm,18.5s,MS3.6,baz=138,slow=32
ILAR Eielson Array 86.84 12 P **P 07 21 07.6 +2.3**
0.5nm,0.9s,mb3.8,baz=229,slow=6.5,SNR=5.7
VNA2 Neumayer--Watz 89.24 176 *e* **P 07 21 17.6 +0.9**
baz=144,slow=2.9
VNA2 *e* pP 07 21 25.2 -2.7
VNA2 *e* 07 21 40.7
YKA Yellowknife Ar 94.50 24 P **P 07 21 44.6 +3.6**
0.2nm,0.8s,mb3.6,baz=239,slow=3.8,SNR=3.9

IDC 08 07:24:44.9±2.1, 142N×12762E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/14, mbtmp3.5/3, Error ellipse: s-maj=160.0km s-min=26.1km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.23**	**163**	P	P	07 29 45.1	+2.1
0.8nm,0.4s,baz=343,slow=10.0,SNR=5.8							
ASAR	**Alice Springs**	**25.67**	**167**	P	P	07 30 15.2	-1.2
0.4nm,0.7s,baz=349,slow=9.5,SNR=5.7							
MKAR	**Makanchi Array**	**59.95**	**326**	P	P	07 34 53.2	+0.3
0.5nm,0.6s,baz=124,slow=8.7,SNR=6.3							

*IDC **08** 07:26:05.6±1.3, 751S×122.45E, h0km, mb3.8/3, mb1 4.1/6, mb1mx3.9/17, mbtmp3.9/6, ML3.7/2, MS3.3/2, Ms1 3.3/2, ms1mx2.6/23, Error ellipse: s-maj=73.3km s-min=22.0km az=54.0*
*ISCJB **08** 07:26:08.1±0.8, 77S±02×1224E±02, h33km, mb4.0/4, MS3.4/1, Error ellipse: s-maj=33.1km s-min=11.6km az=94.9*

ISC 08 07:26:11.1±3.6, 77S±02×1224E±02, h41km±43km, n10, σ0§37/10, mb4.0/4, MS3.4/1, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.83**	**163**	*e*P	**Pn**	**07 28 43.2**	**-0.3**
13nm,0.5s							
FITZ	**Fitzroy Crossi**	**10.83**	**163**	Pn	**Pn**	**07 28 43.5**	**0.0**
0.6nm,0.3s,baz=340,slow=11,SNR=10							
FITZ				Sn	**Sn**	**07 30 36.3**	**-7.0**
baz=168,slow=19,SNR=1.9							
FITZ				LR	LR	07 33 24.3	
comp=Z,84nm,18.5s,baz=126,slow=40							
KAKA	**Kakadu**	**11.09**	**118**	*e*P	**Pn**	**07 28 47.2**	**+0.2**
20nm,0.5s							
WRA	**Warramunga Arr**	**16.82**	**138**	Pn	**Pn**	**07 30 02.9**	**-0.6**
0.2nm,0.3s,baz=321,slow=13,SNR=5.1							
ASAR	**Alice Springs**	**19.36**	**146**	P	**Pn**	**07 30 35.0**	**+0.5**
0.3nm,0.3s,baz=321,slow=12,SNR=27							
FORT	**Forrest**	**23.58**	**168**	*e*P	**P**	**07 31 26.1**	**+8.0**
29nm,0.7s,mb4.8							
PSI	**Prapat**	**25.62**	**293**	P	**P**	**07 31 36.8**	**+0.2**
1.7nm,0.4s,mb3.9,baz=153,slow=9.0,SNR=4.5							
CTA	**Charters Tower**	**26.20**	**121**	LR	LR	07 43 20.5	
comp=Z,111nm,19.0s,MS3.4,baz=22,slow=40							
MKAR	**Makanchi Array**	**64.88**	**331**	P	**P**	**07 36 45.6**	**-0.5**
0.5nm,0.7s,mb3.6,baz=135,slow=7.5,SNR=5.6							
BVAR	**Borovoye Array**	**74.76**	**330**	P	**P**	**07 37 47.1**	**+0.3**
0.3nm,0.5s,mb3.5,baz=124,slow=2.6,SNR=2.2							

*BJI **08** 07:34:49.9, 3770N×2100E, h8km, mB4.9, mb4.7, Ms4.1, Msz4.1*
*ISCJB **08** 07:34:50.6±0.2, 3761N±002×2084E±002, h10km, mb4.4/52, MS3.7/6, Error ellipse: s-maj=2.9km s-min=1.9km az=78.7*
*IDC **08** 07:34:51.2±0.6, 3779N×2096E, h0km, mb4.2/19, mb1 4.2/25, mb1mx4.1/32, mbtmp4.1/25, ML4.0/6, MS3.0/5, Ms1 3.0/5, ms1mx2.5/32, Error ellipse: s-maj=14.8km s-min=12.7km az=21.0*
*THE **08** 07:34:52.6, 3764N×2083E, h10km, ML4.1*
*NEIC **08** 07:34:53.9, 3774N×2096E, h8km, mb4.2/13, MD4.1(PDG), ML4.1(ATH), ML4.2(THE), After ATH.*
*ATH **08** 07:34:53.5, 3769N×2086E, h12km±2km, MD4.2/11, ML4.2*
*MOS **08** 07:34:53.9±1.4, 3766N×2093E, h33km, mb4.4/14, Error ellipse: s-maj=6.0km s-min=3.5km az=90.7*
*CSEM **08** 07:34:54.2, 3740N×2081E, h67km, ML4.5*
*PDG **08** 07:34:54.1±0.1, 3786N×2015E, h10km±1km*
*HLW **08** 07:34:55.2, 3777N×2129E, h35km, Mb4.1*

ISC 08 07:34:52.7±0.2, 3767N±002×2086E±002, h10km, n286, σ1§37/298, mb4.4/52, MS3.7/6, 13C-25D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.55**	**338**	*e*PG	**Pg**	**07 35 03.8**	**+0.4**
VLS				*e*SB	**Sg**	**07 35 12.3**	**+1.7**
ITM	**Ithomi**	**0.98**	**119**	*e*PG	**Pg**	**07 35 12.0**	**+0.4**
ITM				*e*SB	**Sb**	**07 35 26.3**	**+1.5**
LKD	**Levkas**	**1.05**	**351**	*e*Pg	**Pg**	**07 35 12.2**	**-0.6**
LKD				*e*Sg	**Sg**	**07 35 28.3**	**+1.8**
EVR	**Evrytania**	**1.46**	**31**	*e*PG	**Pg**	**07 35 20.1**	**-0.5**
EVR				*e*SB	**Sg**	**07 35 40.9**	**+1.4**
EVR	**Evrytania**	**1.46**	**31**	*e*Pb	**Pb**	**07 35 19.6**	**-0.2**
AGG	**Agios Georgios**	**1.78**	**40**	*e*Pb	**Pb**	**07 35 24.7**	**-0.7**
comp=Z,15nm,0.7s							
AGG				*e*Sb	**Sb**	**07 35 49.3**	**+1.5**
IGT	**Igoumenitsa**	**1.91**	**348**	*e*Pb	**Pb**	**07 35 26.3**	**-1.3**
IGT				*e*Sb	**Sb**	**07 35 51.6**	**+0.3**
VLI	**Veliai**	**1.91**	**119**	*e*PN	**Pg**	**07 35 28.3**	**-1.1**
VLI				*e*SN	**Sg**	**07 35 54.2**	**0.0**
JAN	**Janina**	**1.99**	**360**	*e*PG	**Pg**	**07 35 29.4**	**-1.4**
KYTH	**Kithira**	**2.23**	**128**	*e*PN	**Pn**	**07 35 33.4**	**+3.8**
ATH	**Athens Observa**	**2.29**	**81**	*e*PB	**Pb**	**07 35 32.5**	**-1.5**
NEO	**Neokhori**	**2.48**	**48**	*e*PN	**Pn**	**07 35 35.5**	**+2.5**
LSK	**Leskovik**	**2.49**	**355**	*i* Pn	**Pn**	**07 35 36.7**	**+3.5**
LSK	**Leskovik**	**2.49**	**355**	*e*Pn	**Pn**	**07 35 36.7**	**+3.5**
XOR	**Xorichti**	**2.50**	**47**	*e*Pn	**Pn**	**07 35 34.6**	**+1.3**
comp=Z,9.0nm,0.5s							
KZN	**Kozani**	**2.73**	**15**	*e*PB	**Pb**	**07 35 38.9**	**-2.7**
LIT	**Litokhoron**	**2.75**	**27**	*e*Pn	**Pn**	**07 35 38.0**	**+1.3**
comp=Z,7.6nm,0.6s							
LIT	**Litokhoron**	**2.75**	**27**	*e*Pn	**Pn**	**07 35 38.0**	**+1.3**
7.6nm,0.6s							
AOS	**Alonnisos**	**2.81**	**57**	*e*Pn	**Pn**	**07 35 38.9**	**+1.3**
comp=Z,4.1nm,1.0s							
FNA	**Florina**	**3.14**	**7**	*e*Pn	**Pn**	**07 35 43.8**	**+1.7**
comp=Z,6.9nm,0.5s							
KARN	**Karanos**	**3.35**	**132**	*e*Pn	**Pn**	**07 35 46.8**	**+1.8**
BIA	**Bitola**	**3.37**	**6**	*e*Pn	**Pn**	**07 35 46.9**	**+1.6**
BIA	**Bitola**	**3.37**	**6**	*e*Pn	**Pn**	**07 35 46.8**	**+1.5**
PLG	**Polygyros**	**3.37**	**36**	*e*PN	**Pn**	**07 35 47.3**	**+1.9**
THE	**Thessaloniki**	**3.38**	**28**	*e*Pn	**Pn**	**07 35 46.9**	**+1.3**
OHR	**Ohrid**	**3.44**	**359**	*e*Pn	**Pn**	**07 35 47.0**	**+0.7**
GRG	**Griva**	**3.50**	**20**	*e*Pn	**Pn**	**07 35 47.9**	**+0.9**
TIP	**Timpagrande**	**3.55**	**296**	Pn	**Pn**	**07 35 48.8**	**+0.9**
TIP				Sn	**Sn**	**07 36 31.7**	**+1.8**
OUR	**Ouranopolis**	**3.61**	**41**	*e*Pn	**Pn**	**07 35 49.9**	**+1.3**
comp=Z,4.4nm,0.7s							
SOH	**Sokhos**	**3.70**	**31**	*e*Pn	**Pn**	**07 35 51.8**	**+1.9**
APE	**Apeiranthos**	**3.77**	**98**	P	**Pn**	**07 35 49.9**	**-1.0**
APE	**Apeiranthos**	**3.77**	**98**	*e*Pn	**Pn**	**07 35 51.9**	**+1.1**
APE	**Apeiranthos**	**3.77**	**98**	*e*PN	**Pn**	**07 35 53.5**	**+2.6**
APE	**Apeiranthos**	**3.77**	**98**	*e*Pn	**Pn**	**07 35 50.6**	**-0.3**
SOI	**Samo**	**3.82**	**278**	Pn	**Pn**	**07 35 52.0**	**+0.5**
SOI				Sn	**Sn**	**07 36 35.2**	**-1.3**
KNT	**Kendrikon**	**3.83**	**24**	*e*Pn	**Pn**	**07 35 52.9**	**+1.2**
comp=Z,11nm,1.0s							
GVD	**Gavdhos**	**3.85**	**136**	*e*Pg	**Pg**	**07 36 07.2**	**+0.9**
VAY	**Valandovo**	**3.88**	**19**	*e*Pn	**Pn**	**07 35 53.0**	**+0.6**
VAY	**Valandovo**	**3.88**	**19**	*e*Pn	**Pn**	**07 35 52.9**	**+0.5**
SANT	**Santorini**	**3.91**	**108**	*e*Pn	**Pn**	**07 35 53.9**	**+1.2**
SANT	**Santorini**	**3.91**	**108**	*e*Pn	**Pn**	**07 35 53.9**	**+1.2**
QSH	**Qafa e Shtames**	**3.92**	**350**	*i* Pn	**Pn**	**07 35 54.2**	**+1.3**
QSH				*i* Sn	**Sn**	**07 36 40.7**	**+1.8**
QSH	**Qafa e Shtames**	**3.92**	**350**	*e*Pn	**Pn**	**07 35 54.2**	**+1.3**
QSH				*i* Sn	**Sn**	**07 36 40.7**	**+1.8**
LOS	**Limnos**	**4.00**	**54**	*e*Pn	**Pn**	**07 35 55.9**	**+1.8**
IDI	**Anoyia**	**4.03**	**125**	Pn	**Pn**	**07 35 55.9**	**+1.5**
2.9nm,0.3s,baz=309,slow=16,SNR=14							
IDI				Sn	**Sn**	**07 36 42.1**	**+0.5**
16nm,0.3s,baz=245,slow=21,SNR=9.3							
IDI				LR	LR	07 37 32.4	
comp=Z,193nm,18.3s,baz=279,slow=40							
IDI	**Anoyia**	**4.03**	**125**	Pn	**Pn**	**07 35 55.9**	**+1.5**
IDI				Sn	**Sn**	**07 36 42.1**	**+0.5**
SRS	**Serrai**	**4.05**	**31**	*e*Pn	**Pn**	**07 35 55.8**	**+1.2**
SCLL	**Scilla**	**4.11**	**280**	Pn	**Pn**	**07 35 55.9**	**+0.5**
SCLL				Sn	**Sn**	**07 36 41.3**	**-2.2**
PE1	**Pezze di Greco**	**4.11**	**321**	*e*Pn	**Pn**	**07 35 56.7**	**+1.2**
SIVA	**Sivas**	**4.15**	**128**	*e*Pn	**Pn**	**07 35 57.0**	**+1.0**
STIP	**Stip**	**4.15**	**14**	*e*Pn	**Pn**	**07 35 57.3**	**+1.3**
CHOS	**Chios island**	**4.17**	**78**	*e*Pn	**Pn**	**07 35 57.3**	**+1.0**
SKO	**Skopje**	**4.32**	**6**	*e*Pn	**Pn**	**07 36 00.1**	**+1.7**
SKO	**Skopje**	**4.32**	**6**	*e*Pn	**Pn**	**07 35 59.8**	**+1.4**
ULC	**Ulcinj**	**4.46**	**344**	ǁ*i*Pn	**Pn**	**07 36 00.6**	**+0.2**
ULC				*e*Sn	**Sn**	**07 36 50.8**	**-1.6**
LAST	**Lasithi**	**4.49**	**122**	*e*Pn	**Pn**	**07 36 01.8**	**+1.1**
SG1	**Sgolgore (BA)**	**4.53**	**316**	*e*Pn	**Pn**	**07 36 03.0**	**+1.7**
BAI	**Bari**	**4.61**	**319**	*e*Pn	**Pn**	**07 36 04.4**	**+2.0**
HAVL	**Avola**	**4.62**	**263**	Pn	**Pn**	**07 36 02.1**	**-0.4**
MGR	**Morigerati**	**4.81**	**302**	Pn	**Pn**	**07 36 08.1**	**+2.9**
BUM	**Brajici-Budva**	**4.87**	**343**	ǁ*i*Pn	**Pn**	**07 36 05.6**	**-0.3**
BUM				*e*Sn	**Sn**	**07 36 59.5**	**-2.8**
HVZN	**Vizzini**	**4.91**	**266**	Pn	**Pn**	**07 36 05.7**	**-0.8**
HVZN				Sn	**Sn**	**07 36 59.8**	**-3.6**
TTG	**Podgorica**	**4.91**	**346**	ǁ*i*Pn	**Pn**	**07 36 06.2**	**-0.3**
TTG				*e*Sn	**Sn**	**07 37 01.4**	**-1.9**
CDT	**Castel del Mon**	**4.92**	**315**	*e*Pn	**Pn**	**07 36 07.4**	**+0.7**
PVY	**Plav**	**4.97**	**352**	ǁ*i*Pn	**Pn**	**07 36 08.2**	**+0.9**
PVY				*e*Sn	**Sn**	**07 37 04.2**	**-0.6**
PVY	**Plav**	**4.97**	**352**	ǁ*i*Pn	**Pn**	**07 36 08.1**	**+0.8**
PVY				*e*Sn	**Sn**	**07 37 04.2**	**-0.6**
ZKR	**Zakros**	**5.02**	**119**	*e*Pn	**Pn**	**07 36 09.4**	**+1.4**
ZKR	**Zakros**	**5.02**	**119**	*e*Pn	**Pn**	**07 36 09.4**	**+1.4**
HCY	**Herceg Novi**	**5.11**	**340**	ǁ*i*Pn	**Pn**	**07 36 08.5**	**-0.7**
HCY				*e*Sn	**Sn**	**07 37 04.9**	**-3.2**
IZM	**Izmir**	**5.11**	**80**	*e*P	**Pn**	**07 36 09.7**	**+0.4**
VAE	**Valguarnera**	**5.12**	**270**	Pn	**Pn**	**07 36 10.4**	**+1.0**
2.0nm,0.3s,baz=315,slow=10.0,SNR=3.2							
VAE				Sn	**Sn**	**07 37 07.6**	**-0.9**
4.6nm,0.3s,baz=33,slow=8.4,SNR=3.4							
BODT	**Bodrum**	**5.18**	**95**	*e*P	**Pn**	**07 36 10.3**	**+0.2**
VTS	**Vitosha**	**5.24**	**19**	*e*Pn	**Pn**	**07 36 13.2**	**+2.2**
IVA	**Berane**	**5.25**	**352**	ǁ*i*Pn	**Pn**	**07 36 12.0**	**+0.8**
IVA				*e*Sn	**Sn**	**07 37 11.5**	**-0.3**
NKY	**Niksic**	**5.33**	**345**	ǁ*i*Pn	**Pn**	**07 36 11.9**	**-0.4**
NKY				*e*Sn	**Sn**	**07 37 11.8**	**-1.9**
BRY	**Bratogost**	**5.52**	**342**	ǁ*i*Pn	**Pn**	**07 36 14.2**	**-0.7**
BRY				*e*Sn	**Sn**	**07 37 15.0**	**-3.3**
UPM	**Unac-Piva**	**5.72**	**346**	ǁ*i*Pn	**Pn**	**07 36 17.7**	**0.0**
UPM				*e*Sn	**Sn**	**07 37 21.4**	**-2.1**
PLE	**Pljevlja**	**5.76**	**349**	ǁ*i*Pn	**Pn**	**07 36 18.6**	**+0.4**
PLE				*e*Sn	**Sn**	**07 37 22.9**	**-1.5**
PLE	**Pljevlja**	**5.76**	**349**	ǁ*i*Pn	**Pn**	**07 36 18.6**	**+0.4**
PLE				*e*Sn	**Sn**	**07 37 22.9**	**-1.5**
MFT	**Murefte**	**5.88**	**56**	*e*P	**Pn**	**07 36 21.2**	**+1.3**
BTOK	**Tokmak**	**5.99**	**67**	*i* P	**Pn**	**07 36 24.0**	**+2.7**
MRMT	**Marmara Adasi**	**6.00**	**59**	*e*P	**Pn**	**07 36 24.2**	**+2.7**
MANT	**Manisa**	**6.13**	**80**	*i* P	**Pn**	**07 36 25.8**	**+2.5**
EDRB	**Edirne**	**6.17**	**46**	*e*P	**Pn**	**07 36 24.2**	**+0.4**
GRUS	**Gruza**	**6.22**	**359**	*i* Pn	**Pn**	**07 36 23.4**	**-1.0**
BBLS	**Bajina Basta -**	**6.29**	**350**	*i* Pn	**Pn**	**07 36 27.0**	**+1.6**
BBLS				Sg	**Sn**	**07 37 34.5**	**-2.9**
DIVS	**Divcibare**	**6.46**	**354**	*i* Pn	**Pn**	**07 36 27.3**	**-0.5**
DIVS				Sg	**Sn**	**07 37 37.4**	**-4.1**
FETY	**Fethiye**	**6.65**	**96**	*e*P	**Pn**	**07 36 20.8**	**-10**
ELBA	**Catalca**	**6.82**	**57**	*i* P	**Sb**	**07 38 08.8**	**-3.9**
GDZ	**Gediz**	**6.92**	**76**	*i* P	**Pn**	**07 36 34.9**	**+0.7**
SLUM		**7.13**	**148**	⇑P	**Pn**	**07 36 37.1**	**+0.1**
SLUM				S	**Sn**	**07 37 49.9**	**-8.1**
YLV	**Yalova**	**7.23**	**64**	*e*P	**Pn**	**07 36 38.4**	**0.0**
HMAT	**Matruh**	**8.34**	**140**	ǁP	**Pn**	**07 36 53.5**	**-0.1**
HENT	**Hendek**	**8.41**	**65**	*i* P	**Pn**	**07 36 55.4**	**+0.9**
MLR	**Muntele Rosu**	**8.70**	**24**	Pn	**Pn**	**07 37 01.1**	**+2.6**
0.2nm,0.3s,baz=146,slow=15,SNR=1.7							
SGKT	**Sivrigoynuk**	**9.18**	**68**	*i* P	**Pn**	**07 37 07.1**	**+2.0**
SWA2		**9.24**	**154**	⇑P	**Pn**	**07 37 06.2**	**+0.3**
SWA1		**9.31**	**153**	ǁP	**Pn**	**07 37 07.1**	**+0.2**
SWA1				S	**Sn**	**07 38 44.3**	**-7.3**
VOY	**Vojsko**	**9.84**	**330**	*e*(Pn)	**Pn**	**07 37 13.5**	**-0.6**
VOY				*e*		07 37 23.4	
VOY				*e*		07 37 38.2	
VOY				*e*		07 38 02.8	
VOY				*e*(Sn)	**Sn**	**07 38 59.3**	**-5.3**
OBKA	**Obir**	**10.00**	**334**	ǁ*i*	**Sn**	**07 39 04.0**	**-4.6**
OBKA				⇑*i*Sn	**Sn**	**07 39 04.3**	**-4.2**
OBKA	**Obir**	**10.00**	**334**		**Sn**	**07 39 04.0**	**-4.6**
OBKA	**Obir**	**10.00**	**334**	ǁ*i*Pn	**Pn**	**07 37 16.5**	**+0.2**
OBKA				*i*		07 39 04.0	
OBKA				*i* Sn	**Sn**	**07 39 04.3**	**-4.2**
HBRG	**Burj al 'Arab**	**10.27**	**131**	P	**Pn**	**07 37 19.4**	**-0.6**
PSZ	**Piszkesteto**	**10.27**	**356**	*e*Pn	**Pn**	**07 37 19.6**	**-0.4**
PGF	**Pioggiola**	**10.30**	**302**	*e*P	**Pn**	**07 37 20.3**	**-0.2**
12nm,1.0s							
PGF	**Pioggiola**	**10.30**	**302**	*e*P	**Pn**	**07 37 20.3**	**-0.2**
PGF				pmax	pmax		
comp=Z,6.0nm,1.0s							
PGF	**Pioggiola**	**10.30**	**302**	*e*P	**Pn**	**07 37 20.3**	**-0.2**
comp=Z,5.9nm,1.0s							
KBA	**Koelnbreinsper**	**10.92**	**332**	⇑*i*Sn	**Sn**	**07 39 26.8**	**-4.2**
KBA				ǁ*i*		07 39 28.5	
KBA	**Koelnbreinsper**	**10.92**	**332**	ǁ*i*Pn	**Pn**	**07 37 29.1**	**+0.2**
KBA				⇑*i*Sn	**Sn**	**07 39 26.8**	**-4.2**
KBA	**Koelnbreinsper**	**10.92**	**332**		**Sn**	**07 39 28.5**	**-2.6**
VYHS	**Vyhne**	**10.92**	**353**	*e*		07 37 45.0	
CRVS	**Cervenica-Dubn**	**11.24**	**2**	*e*		07 37 49.8	
SBF	**Sospel**	**11.90**	**306**	*e*P	**Pn**	**07 37 42.1**	**-0.3**
comp=Z,22nm,0.8s							
SBF	**Sospel**	**11.90**	**306**	*e*P	**Pn**	**07 37 42.1**	**-0.3**
SBF				pmax	pmax		
comp=Z,11nm,0.8s							
SBF	**Sospel**	**11.90**	**306**	*e*P	**Pn**	**07 37 42.1**	**-0.3**
comp=Z,11nm,0.8s							
GLL	**Jalalah**	**12.11**	**129**	⇑P	**Pn**	**07 37 44.2**	**-1.0**
HFRF	**Wahat Farafira**	**12.23**	**147**	P	**Pn**	**07 37 46.5**	**-0.4**
TREC	**Trest**	**12.25**	**343**	AMS	AMS	07 43 30.0	
comp=Z,200nm,11.8s							
GEC2	**GERESS Array S**	**12.32**	**337**	*e*P		07 38 03.8	
comp=Z,3.0nm,0.8s							
GERES	**GERESS Array B**	**12.32**	**337**	Pn	**Pn**	**07 37 46.5**	**-1.6**
comp=Z,0.2nm,0.3s,baz=162,slow=13,SNR=3.7							
GERES				LR	LR	07 42 24.9	
comp=Z,28nm,21.3s,baz=260,slow=37							
OKC	**Ostrava-Krasne**	**12.32**	**352**	AMS	AMS	07 43 10.0	
comp=Z,300nm,12.1s							
AMAG	**Maghara**	**12.39**	**121**	P	**Pn**	**07 37 47.1**	**-2.0**
HRSH	**Kfar Ka'horesh**	**12.56**	**118**	P	**Pn**	**07 37 50.2**	**-1.2**
RSH		**12.56**	**118**	P	**Pn**	**07 37 50.2**	**-1.2**
KHC	**Kasperske Hory**	**12.61**	**338**	*e*P	**Pn**	**07 37 51.7**	**-0.4**
KHC				*ex*	x	07 38 04.8	
KHC				AMS	AMS	07 43 40.0	
comp=Z,300nm,8.9s							
MBDF	**Montbardon**	**12.73**	**308**	*e*P	**Pn**	**07 37 54.5**	**+0.8**
comp=Z,12nm,1.0s							
MBDF	**Montbardon**	**12.73**	**308**	*e*P	**Pn**	**07 37 54.5**	**+0.8**
MBDF				pmax	pmax		
comp=Z,6.0nm,1.0s							
MBDF	**Montbardon**	**12.73**	**308**	*e*P	**Pn**	**07 37 54.5**	**+0.8**
comp=Z,5.8nm,1.0s							
MMAI	**Mount Meron Ar**	**12.75**	**107**	Pn	**Pn**	**07 37 54.0**	**+0.1**
comp=Z,1.4nm,0.3s,baz=359,slow=11,SNR=3.8							
WET	**Wettzell**	**12.84**	**336**	*e*P		07 38 08.2	
comp=Z,3.0nm,0.8s							
DPC	**Dobruska-Polom**	**13.09**	**347**	*e*P		07 38 12.2	
DPC				AMS	AMS	07 44 00.0	
comp=Z,300nm,10.8s							
PRU	**Pruhonice**	**13.13**	**342**	*ex*	x	07 38 11.4	
PRU				AMS	AMS	07 44 20.0	
comp=Z,200nm,9.1s							
LPG	**La Plagne**	**13.13**	**311**	*e*P	**Pn**	**07 38 00.8**	**+1.7**
comp=Z,6.7nm,0.8s							
LPG	**La Plagne**	**13.13**	**311**	*e*P	**Pn**	**07 38 00.8**	**+1.7**
LPG				pmax	pmax		
comp=Z,3.0nm,0.8s							
LPG	**La Plagne**	**13.13**	**311**	*e*P	**Pn**	**07 38 00.8**	**+1.7**
comp=Z,3.3nm,0.8s							
LPL	**La Plagne**	**13.15**	**311**	*e*P	**Pn**	**07 38 00.4**	**+1.0**
ROTZ	**Rotzenmuhle**	**13.60**	**336**	*e*P		07 38 16.3	
comp=Z,4.0nm,0.9s							
MANZ	**Manzenberg**	**13.82**	**336**	*e*P		07 38 18.8	
comp=Z,98nm,3.3s							
MALT	**Malatya**	**13.88**	**82**	*e*P	**Pn**	**07 38 11.1**	**+1.7**
MALT				pmax	pmax		
comp=Z,3.0nm,0.6s							
MALT	**Malatya**	**13.88**	**82**	*e*Pn	**Pn**	**07 38 11.1**	**+1.7**
comp=Z,3.3nm,0.6s							
MALT	**Malatya**	**13.88**	**82**	*e*P	**Pn**	**07 38 11.1**	**+1.7**
comp=Z,3.0nm,0.6s							
GRA3	**Grafenberg Arr**	**13.90**	**333**	*e*P		07 38 20.2	
NKC	**Novy Kostel**	**13.93**	**337**	AMS	AMS	07 44 30.0	
BFO	**Black Forest**	**14.04**	**323**	*e*P	**Pn**	**07 38 12.7**	**+1.2**
comp=Z,6.0nm,1.4s							
BFO	**Black Forest**	**14.04**	**323**	*e*P	**Pn**	**07 38 12.7**	**+1.2**
BFO				pmax	pmax		
comp=Z,6.0nm,1.4s							
TANN	**Tannenbergstha**	**14.09**	**337**	*e*P		07 38 22.4	
BRG	**Berggiesshubel**	**14.09**	**342**	*e*P		07 38 21.3	
comp=Z,2.0nm,0.8s							
CABF	**La Chapelle**	**14.12**	**314**	*e*P	**Pn**	**07 38 15.0**	**+2.3**
WERD	**Werda**	**14.16**	**337**	*e*P		07 38 22.5	
comp=Z,10.0nm,1.4s							
AKASG	**Malin Array Be**	**14.33**	**22**	Pn	**Pn**	**07 38 13.4**	**-2.2**
comp=Z,0.9nm,0.3s,baz=214,slow=10,SNR=5.9							
ANN	**Anapa**	**14.35**	**55**	*e*P	**Pn**	**07 38 08.0**	**-7.9**
ANN				pmax	pmax		
comp=Z,78nm,1.7s							
HINF	**Hinteralfeld**	**14.42**	**319**	*e*P	**Pn**	**07 38 19.2**	**+2.4**
comp=Z,9.0nm,0.8s							
HINF	**Hinteralfeld**	**14.42**	**319**	*e*P	**Pn**	**07 38 19.2**	**+2.4**
HINF				pmax	pmax		
comp=Z,5.0nm,0.8s							
HINF	**Hinteralfeld**	**14.42**	**319**	*e*P	**Pn**	**07 38 19.2**	**+2.4**
comp=Z,4.5nm,0.8s							
MOX	**Moxa**	**14.55**	**336**	*e*P	**Pn**	**07 38 27.4**	**+8.8**
comp=Z,5.0nm,0.7s							
CDF	**Champ du Feu**	**14.60**	**322**	*e*P	**Pn**	**07 38 24.3**	**+5.1**
comp=Z,9.0nm,0.9s							
CDF	**Champ du Feu**	**14.60**	**322**	*e*P	**Pn**	**07 38 24.3**	**+5.1**
CDF				pmax	pmax		
comp=Z,5.0nm,0.9s							
CDF	**Champ du Feu**	**14.60**	**322**	*e*P	**Pn**	**07 38 24.3**	**+5.1**
comp=Z,4.5nm,0.9s							
CLL	**Collm**	**14.73**	**340**	*e*P		07 38 29.0	
comp=Z,9.0nm,1.1s							
CLL	**Collm**	**14.73**	**340**	*i* PP		07 38 29.1	
comp=Z,22nm,1.7s							
CLL				*ex*	x	07 38 49.0	
CLL	**Collm**	**14.73**	**340**	*i* P	**Pn**	**07 38 17.4**	**-3.6**
CLL				pmax	pmax		
comp=Z,6.0nm,1.5s							
CLL	**Collm**	**14.73**	**340**	*i* P	**Pn**	**07 38 17.4**	**-3.6**
comp=Z,9.0nm,1.5s							
CLL				*i*		07 38 29.1	
HAU	**Haudompre**	**14.81**	**319**	*e*P	**Pn**	**07 38 24.2**	**+2.2**
comp=Z,13nm,0.7s							
HAU				*e*R			
comp=Z,89nm,22.0s							
HAU	**Haudompre**	**14.81**	**319**	*e*P	**Pn**	**07 38 24.2**	**+2.2**
HAU				pmax	pmax		
comp=Z,7.0nm,0.7s							
HAU	**Haudompre**	**14.81**	**319**	*e*P	**Pn**	**07 38 24.2**	**+2.2**
comp=Z,6.7nm,0.7s							
UBBA	**Unterbreizbach**	**15.25**	**333**	*e*P	**Pn**	**

FINES FINESS Array B 24.02 6 P **P** 07 40 06.2 -1.5
comp=Z,2.2nm,0.6s,mb3.8,baz=150,slow=8.1,SNR=9.3
NAO01 NORSAR Array S 24.04 348 *eP* **P** 07 40 06.4 -1.4
comp=Z,12nm,0.8s,mb4.4
NAO01 NORSAR Array S 24.04 348 *eP* **P** 07 40 06.4 -1.4
comp=Z,12nm,0.8s,mb4.4
NB2 NORSAR Subarra 24.17 349 P **P** 07 40 07.6 -1.4
comp=Z,5.9nm,0.8s,mb4.1,baz=161,slow=9.3
NOA NORSAR Array B 24.17 349 P **P** 07 40 08.2 -0.8
comp=Z,4.2nm,0.7s,mb4.0,baz=156,slow=8.8,SNR=23
KAF Kangasniemi 24.70 6 *ep* **P** 07 40 12.2 -1.7
comp=Z,1.2nm,0.4s,mb3.8
KAF Kangasniemi 24.70 6 *eP* **P** 07 40 12.2 -1.7
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb3.7
KLMR Klimovskoe 26.02 21 *eP* **P** 07 40 24.6 -1.2
KLMR pmax pmax
comp=Z,30nm,1.7s,mb4.5
JOF Joensuu 26.08 11 *ep* **P** 07 40 24.4 -2.0
comp=Z,4.0nm,0.5s,mb4.2
AKTK Aktyubinsk 29.28 52 P **P** 07 40 53.5 -1.5
AKTO Aktyubinsk 29.28 52 P **P** 07 40 53.5 -1.5
comp=Z,2.8nm,0.4s,mb4.3,baz=261,slow=9.8,SNR=12
AKTO Aktyubinsk 29.28 52 P **P** 07 40 53.5 -1.5
AKTO pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
TORD Torodi Ar. Bea 29.80 220 P **P** 07 41 00.8 +1.1
comp=Z,2.6nm,0.6s,mb4.1,baz=31,slow=9.3,SNR=21
AB31 Akbulak array 30.32 55 P **P** 07 41 02.8 -1.5
comp=Z,1.3nm,0.5s,mb4.0,baz=258,slow=10,SNR=26
ARU Arti 31.27 41 *eP* **P** 07 41 11.1 -1.5
ARU *e* 07 42 15.9
ARU Arti 31.27 41 *eP* **P** 07 41 10.9 -1.7
comp=Z,12nm,1.6s,mb4.5
ARU Arti 31.27 41 *eP* **P** 07 41 10.9 -1.7
comp=Z,12nm,1.6s,mb4.5
ARCES ARCESS Array B 32.03 3 P **P** 07 41 19.1 -0.2
comp=Z,0.9nm,0.3s,mb4.1,baz=193,slow=11,SNR=11
KEV Kevo 32.32 4 *ep* **P** 07 41 13.3 -8.6
comp=Z,0.6nm,0.3s,mb3.9
KEV Kevo 32.32 4 *eP* **P** 07 41 13.3 -8.6
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.1
WSAR Wadi Sarin 35.35 103 P **P** 07 41 48.8 +0.6
comp=Z,3.1nm,0.6s,mb4.4,baz=270,slow=8.1,SNR=6.9
ZRNK Zerenda 36.41 49 *eP* **P** 07 41 55.1 -2.2
ZRNK pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
ZRNK Zerenda 36.41 49 *eP* **P** 07 41 55.0 -2.2
comp=Z,2.3nm,0.6s,mb4.3
ZRNK Zerenda 36.41 49 *eP* **P** 07 41 55.0 -2.3
comp=Z,2.3nm,0.6s,mb4.3
BRVK Borovoye 37.19 49 *eP* **P** 07 42 02.0 -1.9
BRVK pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
BRVK Borovoye 37.19 49 *eP* **P** 07 42 02.0 -1.9
comp=Z,3.2nm,0.7s,mb4.3
BRVK Borovoye 37.19 49 *eP* **P** 07 42 02.0 -1.9
comp=Z,3.2nm,0.7s,mb4.3
BVAR Borovoye Array 37.25 49 P **P** 07 42 03.3 -1.1
comp=Z,2.5nm,0.5s,mb4.3,baz=260,slow=5.8,SNR=18
AAK Ala-Archa 40.73 66 *eP* **P** 07 42 30.0 -3.6
AAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
KURK Kurchatov 42.37 53 *iP* **P** 07 42 45.0 -2.0
KURK Kurchatov 42.37 53 *eP* **P** 07 42 44.9 -2.2
comp=Z,4.9nm,1.0s,mb4.1
KURK Kurchatov 42.37 53 *eP* **P** 07 42 44.9 -2.1
comp=Z,4.8nm,1.0s,mb4.1
NVS Novosibirsk 44.83 47 *eP* **P** 07 43 04.7 -2.2
NVS pmax pmax
comp=Z,13nm,0.8s,mb4.8
NVS pmax pmax
comp=E,6.0nm,0.8s
MKAR Makanchi Array 45.35 58 P **P** 07 43 09.2 -1.7
comp=E,2.7nm,0.4s,mb4.5,baz=271,slow=7.3,SNR=30
MKAR PcP PcP 07 44 50.2 -0.2
comp=E,1.4nm,0.6s,baz=276,slow=4.1,SNR=4.9
ZAL Zalesovo 45.83 48 P **P** 07 43 12.8 -2.0
comp=E,0.9nm,0.2s,mb4.3,baz=201,slow=8.6,SNR=1.5
WMQ Urumqi 49.78 61 P **P** 07 43 46.7 +1.3
WMQ PCP PcP 07 45 10.2 +4.0
WMQ PP PP 07 45 40.8 +0.8
WMQ *eS* **S** 07 50 47.2 -7.5
WMQ AMB AMB
comp=Z,4.0nm,0.4s,mb4.8
WMQ AMB AMB
comp=Z,87nm,5.1s
WMQ LR LR
comp=N,77nm,23.7s,MS3.7
WMQ LR LR
comp=E,62nm,23.7s,MS3.7
WMQ LR LR
comp=Z,29nm,21.2s,MS3.2
KOLN Koldanda 52.84 81 *eP* **P** 07 44 06.7 -1.7
comp=Z,13nm,0.7s,mb5.0
GKN Gorkha 53.55 80 *eP* **P** 07 44 11.8 -1.7
comp=Z,22nm,0.7s,mb5.2
DMN Daman 54.10 81 *eP* **P** 07 44 15.7 -1.9
comp=Z,18nm,0.6s,mb5.2
KKN Kakani 54.15 80 *eP* **P** 07 44 16.9 -1.1
comp=Z,15nm,0.5s,mb5.2
PKI Pulchoki 54.35 81 *eP* **P** 07 44 18.4 -1.0
comp=Z,11nm,0.6s,mb5.0
GUN Gumba 54.56 80 *eP* **P** 07 44 20.1 -0.9
comp=Z,18nm,0.5s,mb5.4
JIRN Jiri 54.92 80 *eP* **P** 07 44 22.4 -1.2
comp=Z,6.3nm,0.4s,mb5.0
TLY Talaya 57.44 47 *iP* **P** 07 44 40.7 -0.9
TLY pmax pmax
comp=Z,2.0nm,1.3s,mb4.0
TIXI Tiksi 60.04 20 *eP* **P** 07 44 57.3 -2.4
TIXI pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
TIXI MLR MLR
comp=Z,160nm,16.0s,MS4.2
SONM Songino Array 60.58 50 P **P** 07 45 01.7 -1.6
comp=Z,0.7nm,0.5s,mb4.0,baz=302,slow=6.8,SNR=4.6
BOD Bodaibo 60.61 38 *eP* **P** 07 45 01.0 -2.6
BOD pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
LZH Lanzhou 64.20 63 *eP* **P** 07 45 30.8 +3.2
LZH AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,50nm,5.1s
YAK Yakutsk 65.42 29 *eP* **P** 07 45 33.4 -2.2
YAK pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
CD2 Chengdu 66.72 68 *eP* **P** 07 45 43.3 -0.6
HHC Hu-ho-hao-te 67.11 55 *eP* **P** 07 45 45.3 -1.1
HHC PCP PcP 07 46 13.3 -1.2
HHC PP PP 07 48 14.4 +0.2
HHC SCP 07 50 12.8
HHC PCS 07 50 17.3
HHC S S 07 54 33.3 -7.2
HHC PS 07 55 03.1
HHC SCS ScS 07 55 34.4 -10
HHC SS SS 07 58 56.0 -3.4
HHC AMB AMB
comp=Z,5.0nm,1.1s,mb4.5
HHC AMB AMB
comp=Z,69nm,5.2s
HHC LR LR
comp=N,71nm,16.2s,MS4.1
HHC LR LR
comp=E,66nm,15.2s,MS4.1
HHC LR LR
comp=Z,102nm,15.5s,MS4.2
BILL Bilibino 71.45 13 *cP* **P** 07 46 12.3 -1.0
BILL pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
YKA Yellowknife Ar 73.96 340 P **P** 07 46 27.8 -0.4
comp=Z,1.0nm,0.7s,mb3.9,baz=35,slow=5.5,SNR=28
YKA Yellowknife Ar 73.96 340 P **P** 07 46 27.8 -0.4
YKA pmax pmax
comp=Z,1.0nm,0.7s
CN2 Changchun 74.04 47 *eP* **P** 07 46 27.9 -0.8
MDJ Mudanjiang 75.89 44 P **P** 07 46 35.8 -3.5
MDJ AP pP 07 46 50.0 +7.4
MDJ AMB AMB
comp=Z,5.0nm,0.6s,mb4.6
MDJ AMB AMB
comp=Z,37nm,4.8s
ULM Lac du Bonnet 76.27 324 P **P** 07 46 40.8 -0.7
comp=Z,3.5nm,0.8s,mb4.4,baz=33,slow=4.1,SNR=8.2
COLA College 77.41 355 *eP* **P** 07 46 48.5 +0.6
ILAR Eielson Array 77.44 355 P **P** 07 46 48.0 -0.1
comp=Z,0.6nm,0.6s,mb3.7,baz=351,slow=3.1,SNR=12
ILAR Eielson Array 77.44 355 P **P** 07 46 48.1 0.0
ILAR pmax pmax
comp=Z,1.0nm,0.6s
VLA Vladivostok 78.12 44 *eP* **P** 07 46 50.3 -1.6
PSI Prapat 78.85 95 P **P** 07 46 55.4 -0.5
comp=Z,5.0nm,0.6s,mb4.6,baz=316,slow=8.5,SNR=7.9
PSI Prapat 78.85 95 P **P** 07 46 55.4 -0.5
PSI pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
YSS Yuzh-Sakhalins 81.02 36 *eP* **P** 07 47 06.7 -1.0
YSS pmax pmax
comp=Z,20nm,2.5s,mb4.6
BDFB Brasilia 83.53 245 P **P** 07 47 23.4 +2.6
comp=Z,1.1nm,0.6s,mb4.2,baz=41,slow=11,SNR=2.7
BDFB Brasilia 83.53 245 P **P** 07 47 23.4 +2.6
BDFB pmax pmax
comp=Z,1.0nm,0.6s
PDAR Pinedale Array 88.12 326 P **P** 07 47 43.7 +0.2
comp=Z,0.5nm,0.7s,mb3.9,baz=57,slow=5.5,SNR=5.6
ANMO Albuquerque 92.76 319 *eP* **P** 07 48 11.7 +6.5
CPUP Villa Florida 97.04 242 LR LR 08 33 00.6
comp=Z,58nm,21.5s,MS4.0,baz=166,slow=36
WRA Warramunga Arr 120.25 93 PKP PKPdf 07 53 43.7 -0.2
comp=Z,0.4nm,0.7s,baz=317,slow=2.0,SNR=6.5
WRAB Tennant Creek 120.26 93 *i*PKIKP PKPdf 07 53 46.5 +2.5
ASAR Alice Springs 121.85 97 PKP PKPdf 07 53 46.7 -0.3
comp=Z,0.9nm,0.7s,baz=294,slow=1.6,SNR=14
ASAR Alice Springs 121.85 97 PKIKP PKPdf 07 53 46.7 -0.3
ASAR pmax pmax
comp=Z,1.0nm,0.7s

*IDC **08** 07:37:31.1±4.2,3662N×7337E,h0km,mb3.6/4,mb1 3.7/6, mb1mx3.5/20,mbtmp3.6/6,ML3.2/2,Error ellipse: s-maj=78.4km s-min=41.3km az=155.0*
*ISCJB **08** 07:37:43.6±3.9,376N∧02×730E∧02,h53km±30km, mb3.4/4,Error ellipse: s-maj=29.7km s-min=24.0km az=6.7*
*NNC **08** 07:37:47.6±4.4,3795N×7296E,h270km±66km,mb2.0, mpv2.9,Error ellipse: s-maj=57.1km s-min=25.9km az=6.0*

ISC 08 07:37:43.3±3.3,374N∧02×730E∧02,h48km±26km,n8, σ0$91/10,mb3.4/4,3C-1D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**5.86**	**19**	⇑P	**Pn**	**07 39 08.8**	**+1.2**
TKM2	0.7nm,0.8s						
	1.0nm,1.1s			⇑S	**Sn**	**07 40 13.6**	**+0.2**
KK31	**Karatay Array**	**6.00**	**342**	⇓P	**Pn**	**07 39 09.2**	**-0.2**
KK31	0.9nm,0.3s,baz=147,slow=11,SNR=31			⇑S	**Sn**	**07 40 16.0**	**-0.8**
MKAR	**Makanchi Array**	**11.64**	**33**	Pn	**Pn**	**07 40 24.9**	**-1.8**
	3.8nm,0.5s,baz=156,slow=24,SNR=4.3						
BVAR	**Borovoye Array**	**15.72**	**354**	Pn	**Pn**	**07 41 23.1**	**+1.7**
	0.1nm,0.3s,baz=212,slow=14,SNR=3.3						
FINES	**FINESS Array B**	**37.64**	**325**	P	**P**	**07 44 54.0**	**+0.4**
	0.2nm,0.3s,mb3.3,baz=108,slow=8.9,SNR=4.1						
HFS	**Hagfors**	**43.35**	**321**	P	**P**	**07 45 40.1**	**-0.5**
	1.0nm,0.5s,mb3.8,baz=88,slow=10,SNR=5.3						
NOA	**NORSAR Array B**	**44.62**	**322**	P	**P**	**07 45 50.9**	**0.0**
	0.3nm,0.5s,mb3.4,baz=112,slow=6.0,SNR=2.8						
YKA	**Yellowknife Ar**	**80.25**	**4**	P	**P**	**07 49 48.6**	**-0.3**
	0.2nm,0.6s,mb3.2,baz=350,slow=5.7,SNR=5.2						

IDC 08 07:40:46.7±1.6,068N×12456E,h0km,mb3.6/3,mb1 3.8/4, mb1mx3.6/16,mbtmp3.6/4,ML3.6/1,Error ellipse: s-maj=125.5km s-min=22.1km az=66.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.70**	**177**	P	Pn	07 45 04.7	-2.1
	0.1nm,0.3s,baz=1.7,slow=18,SNR=7.3						
WRA	**Warramunga Arr**	**22.63**	**155**	P	P	07 45 49.0	-0.1
	0.9nm,0.6s,baz=336,slow=10,SNR=7.2						
ASAR	**Alice Springs**	**25.85**	**160**	P	P	07 46 21.2	+1.4
	0.4nm,0.4s,baz=346,slow=12,SNR=9.6						
MKAR	**Makanchi Array**	**58.87**	**327**	P	P	07 50 47.5	+0.2
	0.9nm,0.5s,baz=121,slow=8.6,SNR=17						

*IDC **08** 07:40:47.4±4.2,3625N×7287E,h0km,mb3.5/3,mb1 3.6/5, mb1mx3.4/19,mbtmp3.5/5,ML3.6/2,Error ellipse: s-maj=87.1km s-min=34.5km az=18.0*
*ISCJB **08** 07:40:58.5±1.6,375N∧0.1×730E∧02,h33km,mb3.2/3, Error ellipse: s-maj=25.3km s-min=15.3km az=96.1*
*NNC **08** 07:41:02.0±2.9,3798N×7258E,h0km,mb3.5,mpv3.0, Error ellipse: s-maj=33.7km s-min=22.3km az=59.0*

ISC 08 07:40:59.4±1.6,374N∧01×729E∧02,h35km,n8,σ1$23/9, mb3.2/3,4C-1D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**5.92**	**20**	⇑Pn	**Pn**	**07 42 25.2**	**+0.7**
TKM2	0.8nm,0.8s						
	1.3nm,0.8s			⇑Lg		07 43 54.3	
KK31	**Karatay Array**	**6.01**	**343**	⇓Pn	**Pn**	**07 42 25.7**	**0.0**
KK31	1.6nm,0.5s,baz=146,slow=11,SNR=12			⇑Sn	**Sn**	**07 43 32.3**	**-0.9**
	3.4nm,0.5s,baz=157,slow=24,SNR=5.0						
AB31	**Akbulak array**	**15.13**	**326**	⇑P	**Pn**	**07 44 28.6**	**-1.8**
	1.0nm,0.6s,baz=131,slow=13,SNR=5.8						
BVAR	**Borovoye Array**	**15.75**	**354**	Pn	**Pn**	**07 44 41.1**	**+2.6**
	0.2nm,0.3s,baz=161,slow=9.9,SNR=4.5						
AKTO	**Aktyubinsk**	**16.85**	**326**	Pn	**Pn**	**07 44 54.1**	**+1.6**
	0.2nm,0.3s,baz=115,slow=16,SNR=4.1						
SONM	**Songino Array**	**26.59**	**56**	P	**P**	**07 46 33.2**	**-1.0**
	0.5nm,0.7s,mb3.2,baz=255,slow=10,SNR=2.5						
FINES	**FINESS Array B**	**37.62**	**325**	P	**P**	**07 48 11.1**	**+0.3**
	0.5nm,0.5s,mb3.5,baz=108,slow=12,SNR=2.8						
YKA	**Yellowknife Ar**	**80.30**	**4**	P	**P**	**07 53 06.1**	**-0.6**
	0.1nm,0.7s,mb2.9,baz=350,slow=4.9,SNR=3.8						

*ISCJB **08** 07:47:16.7±1.5,2387S∧007×680W∧02,h97km±19km, mb3.6/2,Error ellipse: s-maj=33.4km s-min=11.1km az=16.7*
*IDC **08** 07:47:18.0±2.2,2383S×6806W,h92km±20km,mb3.5/3, mb1 3.7/5,mb1mx3.5/14,mbtmp3.9/5,Error ellipse: s-maj=35.3km s-min=17.6km az=102.0*

ISC 08 07:47:18.4±1.2,2385S∧007×681W∧02,h99km±16km,n8, σ1$63/8,mb3.6/2,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**7.52**	**359**	P	**Pn**	**07 49 05.9**	**+0.7**
	0.6nm,0.3s,baz=178,slow=5.9,SNR=22						
CFAA	**Coronel Fontan**	**7.73**	**181**	P	**Pn**	**07 49 09.8**	**+1.7**
	0.1nm,0.3s,baz=343,slow=12,SNR=8.2						
CFAA				S	**Sn**	**07 50 32.9**	**-1.2**
	0.2nm,0.3s,baz=258,slow=21,SNR=9.4						
SIV	**San Ignacio**	**10.21**	**41**	P	**Pn**	**07 49 40.3**	**-1.5**
	1.5nm,0.3s,baz=248,slow=9.9,SNR=31						
SIV				S	**Sn**	**07 51 26.7**	**-7.6**
	0.2nm,0.3s,baz=223,slow=18,SNR=2.4						
BDFB	**Brasilia**	**20.54**	**70**	P	**P**	**07 51 49.6**	**+0.8**
	2.2nm,0.5s,baz=234,slow=12,SNR=7.7						
TORD	**Torodi Ar. Bea**	**77.42**	**69**	P	**P**	**07 59 03.4**	**+0.7**
	0.5nm,0.4s,mb3.6,baz=260,slow=5.5,SNR=11						
YKA	**Yellowknife Ar**	**93.65**	**340**	P	**P**	**08 00 22.5**	**-1.1**
	0.2nm,0.5s,mb3.7,baz=139,slow=4.5,SNR=13						
WRA	**Warramunga Arr**	**131.31**	**209**	PKP	PKPdf	08 06 20.2	+1.3
	0.2nm,0.5s,baz=157,slow=1.8,SNR=5.4						
MKAR	**Makanchi Array**	**147.02**	**39**	PKPbc	PKPbc	08 06 50.0	+0.4
	0.6nm,0.5s,baz=307,slow=2.3,SNR=7.4						

IDC 08 08:22:00.9±2.2,370N×12796E,h0km,mb3.5/3,mb1 3.6/3, mb1mx3.5/17,mbtmp3.5/3,Error ellipse: s-maj=163.4km s-min=25.4km az=67.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.32**	**165**	P	P	08 27 19.7	-0.4
	0.5nm,0.6s,baz=345,slow=10,SNR=12						
ASAR	**Alice Springs**	**27.81**	**168**	P	P	08 27 53.1	+1.4
	0.3nm,0.8s,baz=6.9,slow=12,SNR=3.9						
MKAR	**Makanchi Array**	**58.28**	**325**	P	P	08 31 57.5	+0.1
	0.8nm,0.4s,baz=119,slow=8.4,SNR=9.3						

IDC 08 08:26:14.2±3.7,763N×9341E,h0km,mb3.9/4,mb1 4.1/4, mb1mx3.7/18,mbtmp3.9/4,Error ellipse: s-maj=222.3km s-min=24.0km az=55.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**40.18**	**348**	P	P	08 33 52.0	-0.1
	0.4nm,0.4s,baz=170,slow=7.6,SNR=4.0						
WRA	**Warramunga Arr**	**48.71**	**125**	P	P	08 35 00.4	+0.2
	0.7nm,0.4s,baz=303,slow=8.9,SNR=33						
ASAR	**Alice Springs**	**50.31**	**129**	P	P	08 35 13.2	+0.7
	0.4nm,0.3s,baz=303,slow=7.7,SNR=12						
ARCES	**ARCESS Array B**	**75.25**	**340**	P	P	08 37 58.7	-0.1
	8.7nm,1.1s,baz=95,slow=5.5,SNR=5.4						

*ISCJB **08** 08:29:12.3±0.3,1750N∧003×94.39W∧002,h172km±2km, mb4.2/33,Error ellipse: s-maj=5.2km s-min=3.5km az=23.6*
*MEX **08** 08:29:13.6±1.2,1747N×9439W,h183km±9km,MD4.6*
*NEIC **08** 08:29:14.1,1746N×9441W,h179km,mb4.4/35, MD4.6(MEX),After MEX.*
*BJI **08** 08:29:15.1,1750N×9440W,h178km,mB4.6*
*IDC **08** 08:29:16.2±0.8,1769N×9411W,h188km±7km,mb3.8/17, mb1 4.0/18,mb1mx3.9/23,mbtmp4.3/18,Error ellipse: s-maj=21.2km s-min=8.5km az=60.0*

ISC 08 08:29:13.5±0.2,1753N∧003×9439W∧002,h166km±2km, h186km±3.5km:pP-P,n110,σ1$36/123,mb4.2/33,1C, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUIG	**Tuzandepetl**	**0.51**	**356**	*i*P	**Pn**	**08 29 37.7**	**+0.9**
TUIG				*i*S	**Sn**	**08 29 55.8**	**+1.2**
EVV	**El Vigia**	**1.30**	**315**	*i*P	**Pn**	**08 29 43.2**	**+0.8**
EVV				*i*S	**Sn**	**08 30 06.5**	**+1.9**
SCX	**San Cristobal**	**1.85**	**115**	*eP*	**Pn**	**08 29 49.5**	**+1.5**
SCX	**San Cristobal**	**1.85**	**115**	*i*P	**Pn**	**08 29 49.8**	**+1.8**
SCX				*i*S	**Sn**	**08 30 13.8**	**-0.8**
OXX	**Oaxaca**	**2.27**	**259**	*i*P	**Pn**	**08 29 53.1**	**+0.3**
OXX				*i*S	**Sn**	**08 30 20.8**	**-2.3**
VHO	**Vista Hermosa**	**2.29**	**259**	*i*P	**Pn**	**08 29 53.2**	**+0.3**
VHO				*i*S	**Sn**	**08 30 24.3**	**+0.9**
VHO	**Vista Hermosa**	**2.29**	**259**	*i*P	**Pn**	**08 29 53.1**	**+0.2**
VHO				*i*S	**Sn**	**08 30 24.3**	**+0.9**
HUIG	**Huatulco**	**2.40**	**224**	*i*P	**Pn**	**08 29 52.2**	**-2.1**
HUIG				*i*S	**Sn**	**08 30 24.9**	**-1.0**
CCIG	**Comitan**	**2.48**	**120**	*i*P	**Pn**	**08 29 56.5**	**+1.2**
CCIG				*i*S	**Sn**	**08 30 28.3**	**+0.8**
LVIG	**Laguna Verde**	**2.91**	**319**	*i*P	**Pn**	**08 29 59.6**	**-0.8**
LVIG				*i*S	**Sn**	**08 30 35.0**	**-1.8**
UTMO	**Huajuapan**	**3.27**	**276**	*eP*	**Pn**	**08 30 05.0**	**+0.1**
UTMO				*i*S	**Sn**	**08 30 43.2**	**-1.6**
SCIG		**3.36**	**64**	*i*P	**Pn**	**08 30 06.1**	**0.0**
SCIG				*i*S	**Sn**	**08 30 46.3**	**-0.6**
PNIG	**Pinotepa**	**3.75**	**253**	*i*P	**Pn**	**08 30 08.7**	**-2.3**
PNIG				*i*S	**Sn**	**08 30 54.1**	**-1.7**
JAT	**Jato**	**4.14**	**140**	⇑*eP*	**Pn**	**08 30 19.6**	**+3.6**
PPM	**Popocatepetl**	**4.31**	**291**	*i*P	**Pn**	**08 30 19.9**	**+1.7**
PPM				*eP*		08 30 20.2	
PPM				*i*S	**Sn**	**08 31 08.5**	**-0.1**
PPM	**Popocatepetl**	**4.31**	**291**	*eP*	**Pn**	**08 30 20.2**	**+2.0**
PPM				*i*S	**Sn**	**08 31 08.5**	**-0.1**
UNM	**Universidad Na**	**4.89**	**292**	*eP*	**Pn**	**08 30 27.0**	**+1.3**
PLIG	**Platanillo**	**4.95**	**281**	*i*P	**Pn**	**08 30 27.2**	**+0.7**
PLIG				*i*S	**Sn**	**08 31 22.6**	**-0.9**
MEIG	**Mezcala**	**5.00**	**275**	*i*P	**Pn**	**08 30 27.4**	**+0.2**
MEIG				*i*S	**Sn**	**08 31 23.9**	**-0.9**
IXG	**Ixpaco**	**5.04**	**131**	*eP*	**Pn**	**08 30 31.1**	**+3.4**
ACX	**Acapulco**	**5.33**	**264**	*i*P	**Pn**	**08 30 29.2**	**-2.3**
CAIG	**El Cayaco**	**5.64**	**266**	*i*P	**Pn**	**08 30 34.1**	**-1.4**
CAIG				*i*S	**Sn**	**08 31 37.5**	**-2.4**
ZIIG	**Zihuatanejo**	**6.75**	**272**	*i*P	**Pn**	**08 30 50.4**	**+0.2**
ZIIG				*i*S	**Sn**	**08 32 05.7**	**-0.7**
SFJM	**Santa Fe**	**8.70**	**291**	*i*P	**Pn**	**08 31 18.5**	**+2.5**
LNIG	**Linares**	**8.73**	**328**	*i*P	**Pn**	**08 31 17.7**	**+1.2**
LNIG				*i*S	**Sn**	**08 32 54.6**	**+0.9**
JTS	**JuntasAbangare**	**11.64**	**127**	P	**Pn**	**08 31 55.9**	**+1.3**
	5.9nm,0.3s,baz=320,slow=12,SNR=47						
JTS				S	**Sn**	**08 33 58.6**	**-5.0**
	0.4nm,0.3s,baz=300,slow=20,SNR=2.7						
JTS	**JuntasAbangare**	**11.64**	**127**	*ePn*	**Pn**	**08 31 56.0**	**+1.4**
	26nm,0.4s						
JTS				*e*Sn	**Sn**	**08 34 03.4**	**-0.2**
HKT	**Hockley**	**12.44**	**354**	*ePn*	**Pn**	**08 32 10.5**	**+5.6**
	8.2nm,0.8s						
NATX	**Nacogdoches**	**14.17**	**359**	*ePn*	**Pn**	**08 32 31.3**	**+4.4**
	50nm,0.9s						
LTX	**Lajitas**	**14.50**	**326**	*ePn*	**Pn**	**08 32 32.7**	**+1.7**
	6.3nm,0.8s						
DWPF	**Disney**	**15.91**	**46**	*eP*	**Pn**	**08 32 47.9**	**-0.4**
	44nm,0.8s						
CCCC	**Cccc**	**16.10**	**74**	*eP*	**Pn**	**08 32 55.2**	**+4.6**
LRAL	**Lakeview Retre**	**16.82**	**22**	*eP*	**Pn**	**08 32 58.7**	**-0.5**
	17nm,0.8s						
CLNB	**Carlsbad**	**17.00**	**331**	*eP*	**Pn**	**08 33 01.8**	**+0.4**
GDL2	**Guadalupe Moun**	**17.17**	**330**	*eP*	**Pn**	**08 33 05.2**	**+1.8**
MNTX	**Cornudas Mount**	**17.27**	**327**	*eP*	**Pn**	**08 33 04.9**	**+0.2**
	7.9nm,0.5s						
UALR	**University of**	**17.27**	**6**	*eP*	**Pn**	**08 33 03.9**	**-0.8**
	12nm,0.6s						
OXF	**Oxford**	**17.49**	**14**	*eP*	**Pn**	**08 33 05.5**	**-1.8**
	16nm,0.6s						
WMOK	**Wichita Mounta**	**17.59**	**348**	*eP*	**Pn**	**08 33 06.5**	**-1.9**
	13nm,0.9s						
CPRX	**Cap Rock**	**17.64**	**333**	*eP*	**Pn**	**08 33 09.2**	**+0.1**
PLAL	**Pickwick Lake**	**18.27**	**17**	*eP*	**P**	**08 33 13.5**	**-1.0**
	8.3nm,0.6s						
AMTX	**Amarillo**	**18.47**	**341**	*eP*	**P**	**08 33 17.5**	**+0.8**
	101nm,0.5s						
SWET	**Sewanee**	**19.16**	**22**	*eP*	**P**	**08 33 23.1**	**-1.1**
WVT	**Waverly**	**19.42**	**16**	*eP*	**P**	**08 33 25.6**	**-1.4**
	12nm,0.7s						
BNM	**Barren Site**	**19.86**	**329**	*eP*	**P**	**08 33 34.6**	**+3.0**
CPCT	**Cooper Cave**	**19.89**	**24**	*eP*	**P**	**08 33 31.2**	**-0.9**
LPM	**Los Pinos Moun**	**19.99**	**329**	*eP*	**P**	**08 33 35.7**	**+2.7**
LAZ	**Ladron**	**20.31**	**328**	*eP*	**P**	**08 33 39.4**	**+2.8**
JSC	**Jenkinsville**	**20.41**	**33**	*eP*	**P**	**08 33 36.5**	**-1.0**
ANMO	**Albuquerque**	**20.42**	**331**	P	**P**	**08 33 39.7**	**+2.0**
	4.9nm,0.5s,baz=154,slow=11,SNR=35						
ANMO	**Albuquerque**	**20.42**	**331**	*eP*	**P**	**08 33 39.7**	**+2.0**
	4.9nm,0.6s						
CCM	**Cathedral Cave**	**20.64**	**7**	*eP*	**P**	**08 33 38.8**	**-1.2**
	7.3nm,0.4s						
FVM	**French Village**	**20.68**	**9**	*eP*	**P**	**08 33 40.6**	**+0.2**
	4.6nm,0.6s						
TUC	**Tucson**	**20.88**	**318**	*eP*	**P**	**08 33 44.5**	**+1.9**
	12nm,1.3s						
TZTN	**Tazewell**	**21.23**	**25**	*eP*	**P**	**08 33 44.7**	**-1.5**
KSU1	**Kansas State U**	**21.58**	**355**	*eP*	**P**	**08 33 48.6**	**-1.5**
WCI	**Wyandotte Cave**	**21.81**	**17**	*eP*	**P**	**08 33 50.5**	**-1.9**
	31nm,0.7s,mb4.8						
BLO	**Bloomington**	**22.63**	**16**	*eP*	**P**	**08 33 59.3**	**-1.0**
	51nm,1.0s,mb4.9						
ELN	**Prospectdale**	**23.01**	**29**	*eP*	**P**	**08 34 02.8**	**-1.0**
MVCO	**Mesa Verde**	**23.22**	**330**	*eP*	**P**	**08 34 07.6**	**+2.0**
FWV	**Forest Hill**	**23.27**	**28**	*eP*	**P**	**08 34 04.6**	**-1.6**
WUAZ	**Wupatki**	**23.43**	**323**	*eP*	**P**	**08 34 09.8**	**+2.1**
	14nm,0.9s,mb4.4						

2.3nm,0.9s,baz=130,slow=9.4,SNR=4.3
NVAR PcP PcP 08 38 03.9 +0.7
0.8nm,0.8s,baz=130,slow=2.8,SNR=4.4
SADO Sadowa 30.02 22 P **P 08 35 04.5 -2.2**
3.2nm,0.3s,mb4.6,baz=240,slow=9.6,SNR=6.4
SADO Sadowa 30.02 22 P **P 08 35 04.5 -2.2**
HLID Hailey 31.00 331 *eP* **P 08 35 16.5 +1.3**
1.4nm,0.7s,mb3.8
MIV Mineville/With 31.77 29 *eP* **P 08 35 19.3 -2.7**
ULM Lac du Bonnet 32.67 358 P **P 08 35 28.1 -1.7**
5.4nm,0.6s,mb4.5,baz=190,slow=9.2,SNR=11
ULM PcP PcP 08 38 10.1 -1.6
0.8nm,0.5s,baz=101,slow=2.8,SNR=3.1
FFC Flin Flon 37.59 353 *eP* **P 08 36 11.6 -0.3**
7.7nm,0.4s,mb4.7
LPAZ La Paz 42.41 141 P **P 08 36 53.1 +1.5**
2.5nm,0.6s,mb4.0,baz=338,slow=8.1,SNR=21
LPAZ La Paz 42.41 141 *eP* **P 08 36 53.1 +1.5**
2.4nm,0.6s,mb4.0
SCHQ Schefferville 42.81 23 P **P 08 36 52.3 -2.5**
3.0nm,0.7s,mb4.0,baz=225,slow=4.3,SNR=3.7
SIV San Ignacio 46.77 134 P **P 08 37 26.6 +0.5**
7.1nm,0.6s,mb4.5,baz=305,slow=7.7,SNR=64
YKA Yellowknife Ar 47.09 347 P **P 08 37 28.0 -0.6**
1.2nm,0.5s,mb3.8,baz=151,slow=7.3,SNR=58
YKA pP pP 08 38 09.9 +4.3
1.3nm,0.8s,baz=148,slow=7.7,SNR=3.7
YKA PcP PcP 08 38 57.0 -0.7
0.5nm,0.7s,baz=151,slow=7.0,SNR=4.2
YKA PP PP 08 39 20.4 -0.5
1.6nm,0.9s,baz=147,slow=9.3,SNR=6.8
YKA Yellowknife Ar 47.09 347 P **P 08 37 28.0 -0.6**
YKA pP pP 08 38 09.9 +4.3
YKA PcP PcP 08 38 57.0 -0.7
YKA PP PP 08 39 20.4 -0.5
CFAA Coronel Fontan 54.92 153 P **P 08 38 28.2 +1.2**
0.5nm,0.6s,mb3.4,baz=333,slow=6.9,SNR=18
CFAA PcP PcP 08 39 27.8 +0.9
0.2nm,0.7s,baz=321,slow=4.9,SNR=3.6
CFAA Coronel Fontan 54.92 153 P **P 08 38 28.2 +1.2**
CFAA PcP PcP 08 39 27.8 +0.9
BDFB Brasilia 56.35 123 P **P 08 38 37.3 +0.1**
1.1nm,0.5s,mb4.0,baz=270,slow=2.0,SNR=2.8
INK Inuvik 56.42 344 *eP* **P 08 38 37.3 -0.4**
3.5nm,0.9s,mb4.2
CPUP Villa Florida 56.54 140 P **P 08 38 37.9 -0.6**
1.4nm,0.5s,mb4.0,baz=312,slow=9.2,SNR=7.0
CPUP Villa Florida 56.54 140 *eP* **P 08 38 37.6 -0.9**
16nm,1.0s,mb4.8
RES Resolute Bay 57.17 360 *eP* **P 08 38 41.4 -1.5**
2.5nm,0.6s,mb4.2
ILAR Eielson Array 58.71 337 P **P 08 38 53.5 -0.1**
0.9nm,0.5s,mb3.9,baz=134,slow=5.1,SNR=34
ILAR pP pP 08 39 37.3 +5.1
0.8nm,0.7s,baz=135,slow=1.4,SNR=3.5
TTA Tatalina 61.73 333 *eP* **P 08 39 13.4 -0.7**
6.4nm,1.1s,mb4.4
PLCA Paso Flores 62.05 160 *eP* **P 08 39 17.4 +1.1**
5.0nm,0.8s,mb4.4
TRQA Tornquist 63.12 152 *eP* **P 08 39 23.2 -0.1**
3.8nm,0.6s,mb4.4
SUMG Summit 63.48 16 *eP* **P 08 39 25.2 -0.6**
2.0nm,0.6s,mb4.1
ESDC Sonseca Array 79.35 52 P **P 08 41 00.8 0.0**
3.2nm,0.7s,mb4.0,baz=285,slow=5.5,SNR=10
ESDC pP pP 08 41 44.3 +2.8
1.7nm,0.8s,baz=292,slow=5.2,SNR=1.9
ESLA Sonseca Array 79.35 52 *eP* **P 08 41 00.8 0.0**
0.8nm,0.7s,mb3.5
NB2 NORSAR Subarra 82.15 28 P **P 08 41 15.9 +0.3**
comp=Z,4.8nm,0.8s,mb4.2,baz=292,slow=5.3
NOA NORSAR Array B 82.15 28 P **P 08 41 15.5 -0.1**
comp=Z,4.3nm,0.8s,mb4.1,baz=292,slow=5.2,SNR=17
ARCES ARCESS Array B 83.52 18 P **P 08 41 21.7 -1.0**
comp=Z,5.7nm,1.0s,mb4.3,baz=330,slow=1.7,SNR=4.2
TORD Torodi Ar. Bea 91.77 76 P **P 08 42 01.2 -1.1**
comp=Z,0.9nm,0.7s,mb3.9,baz=302,slow=6.9,SNR=7.8
HHC Hu-ho-hao-te 117.12 338 *e*PKP PKPdf 08 47 37.0 -1.7
HHC PP PP 08 48 53.1 +2.1
HHC PKS 08 51 12.1
HHC SKS SKSdf 08 54 31.2 -3.9
HHC SKKS SKKSac 08 55 28.0 -7.0
HHC SS SS 09 04 47.4 +0.9
HHC PP PP
comp=Z,38nm,10.6s
HHC LR LR
comp=N,103nm,22.6s
HHC LR LR
comp=E,69nm,20.6s
HHC LR LR
comp=Z,71nm,17.3s
WMQ Urumqi 118.93 358 PKP PKPdf 08 47 39.7 -2.5
WMQ PP PP 08 49 05.5 +2.0
WMQ PP PP
comp=Z,11nm,6.7s
NJ2 Nanjing 121.31 327 *e*PKP PKPdf 08 47 51.5 +4.8
LZH Lanzhou 123.96 342 *e*PKP PKPdf 08 47 53.4 +1.6
STKA Stephens Creek 127.69 243 PKP PKPdf 08 47 57.9 -1.1
comp=Z,1.9nm,0.7s,baz=185,slow=1.8,SNR=5.4
CD2 Chengdu 128.78 340 *e*PKP PKPdf 08 47 58.3 -2.7
WRA Warramunga Arr 133.92 259 PKP PKPdf 08 48 12.1 +1.4
comp=Z,2.0nm,0.6s,baz=78,slow=2.1,SNR=27
ASAR Alice Springs 134.55 254 PKhKP 08 48 01.0
comp=Z,0.4nm,0.8s,baz=72,slow=4.1,SNR=4.4
ASAR PKP PKPdf 08 48 12.9 +1.0
comp=Z,1.5nm,0.7s,baz=78,slow=1.8,SNR=17

IDC 08 08:54:43.9±1.7, 174N×12759E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/16, mbtmp3.8/5, ML3.5/1, Error ellipse: s-maj=103.4km s-min=22.0km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.81**	**185**	P	Pn	08 59 16.7	-0.7
	0.1nm,0.3s,baz=9.0,slow=19,SNR=4.1						
WRA	**Warramunga Arr**	**22.54**	**163**	P	P	08 59 47.0	+1.6
	1.6nm,0.5s,baz=341,slow=11,SNR=32						
ASAR	**Alice Springs**	**25.99**	**167**	P	P	09 00 18.5	+0.2
	0.6nm,0.5s,baz=350,slow=7.3,SNR=9.2						
STKA	**Stephens Creek**	**35.98**	**159**	P	P	09 01 45.0	-1.4
	1.8nm,1.0s,baz=325,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**59.67**	**326**	P	P	09 04 50.3	+0.3
	0.7nm,0.5s,baz=127,slow=8.8,SNR=10						

*ATH **08** 08:56:25.5, 4049N×2393E, h32km, MD3.2/3*
*ISCJB **08** 08:56:27.6±0.6, 4060N±004×2381E±004, h26km±7km, Error ellipse: s-maj=6.8km s-min=5.1km az=16.1*
*CSEM **08** 08:56:28.6±0.2, 4060N×2375E, h10km, ML2.4, Error ellipse: s-maj=3.3km s-min=2.9km az=19.0*
*THE **08** 08:56:28.4, 4060N×2375E, h12km, ML2.4*

ISC 08 08:56:27.7±0.5, 4061N±004×2381E±004, h25km±9km, n11, σ0s87/20, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.30**	**154**	*e*Pg	**Pb**	**08 56 35.1**	**+0.4**
OUR				*e*Sg	**Sb**	**08 56 39.6**	**+0.1**
PLG	**Polygyros**	**0.36**	**231**	*e*P	**Pb**	**08 56 34.3**	**-1.4**
PLG				*e*SB	**Sb**	**08 56 40.5**	**-0.6**
SOH	**Sokhos**	**0.41**	**302**	*e*Pg	**Pb**	**08 56 36.2**	**-0.3**
SOH				*e*Sg	**Sb**	**08 56 41.6**	**-0.8**
SRS	**Serrai**	**0.54**	**342**	*e*Pg	**Pb**	**08 56 38.6**	**+0.1**
SRS				*e*Sg	**Sb**	**08 56 46.4**	**+0.5**
THE	**Thessaloniki**	**0.65**	**273**	*e*Pg	**Pb**	**08 56 39.4**	**-0.9**
THE				*e*Sg	**Sb**	**08 56 48.6**	**-0.4**
NVR	**Nevrokopi**	**0.74**	**3**	*e*PN	**Pn**	**08 56 42.4**	**-0.3**
GRG	**Griva**	**1.13**	**289**	*e*Pg	**Pn**	**08 56 48.3**	**+0.4**
GRG				*e*Sg	**Sb**	**08 57 04.0**	**+1.3**
LIT	**Litokhoron**	**1.13**	**244**	*e*Pg	**Pn**	**08 56 48.4**	**+0.4**
LIT				*e*Sg	**Sb**	**08 57 04.5**	**+1.7**
LIT	**Litokhoron**	**1.13**	**244**	*e*Pg	**Pn**	**08 56 48.3**	**+0.4**
LIT				*e*Sg	**Sb**	**08 57 04.5**	**+1.7**
RDO	**Rodhopi**	**1.42**	**67**	*e*PN	**Pn**	**08 56 50.4**	**-1.5**
ALN	**Alexandroupoli**	**1.72**	**80**	*e*Pb	**Pb**	**08 56 58.1**	**-0.5**
ALN				*e*Sb	**Sb**	**08 57 21.2**	**+1.4**

*IDC **08** 09:00:11.2±1.3, 6081N×16668E, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.5/24, mbtmp3.7/6, ML3.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.2/40, Error ellipse: s-maj=28.6km s-min=18.5km az=78.0*
*KRSC **08** 09:00:11.8±0.5, 6085N×16675E, h9km±3km, ML3.8*

*ISCJB **08** 09:00:13.5±1.2, 6082N±005×1668E±01, h27km±10km, mb3.6/5, Error ellipse: s-maj=9.8km s-min=7.8km az=175.6*

ISC 08 09:00:13.4±1.5, 6084N±005×1668E±01, h12km±10km, n18, σ0s96/21, mb3.6/5, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.57**	**223**	*i* P	**Pg**	**09 00 23.4**	**-1.0**
TILR				*i* S	**Sg**	**09 00 32.0**	**+0.1**
TILR				Smax			
	11μm,1.0s						
KAMR	**Kamenskoye**	**1.65**	**350**	*i* P	**Pn**	**09 00 41.6**	**-0.5**
KAMR				*i* S	**Sn**	**09 01 03.2**	**0.0**
KAMR				Smax			
	2μm,1.3s						
EVNR	**Evensk**	**3.80**	**290**	*e*P	**Pn**	**09 01 11.2**	**-0.6**
EVNR				*e*S	**Sn**	**09 01 55.3**	**-1.1**
KBG	**Krutoberegovo**	**5.09**	**207**	*e*P	**Pn**	**09 01 29.6**	**+0.2**
KBTR	**Krutoberegovo**	**5.11**	**206**	*e*P	**Pn**	**09 01 29.5**	**-0.2**
SMKR	**Semkarok**	**5.11**	**216**	*e*P	**Pn**	**09 01 29.4**	**-0.3**
SRKR	**Sorokina**	**5.14**	**218**	*e*P	**Pn**	**09 01 31.0**	**+0.9**
BDR	**Baidarnaya**	**5.20**	**217**	*e*P	**Pn**	**09 01 31.3**	**+0.4**
BKI	**Bering**	**5.68**	**185**	*e*P	**Pn**	**09 01 39.1**	**+1.6**
SEY	**Seymchan**	**7.14**	**293**	*e*P	**Pn**	**09 01 58.6**	**+0.9**
BILL	**Bilibino**	**7.23**	**358**	*e*P	**Pn**	**09 02 00.0**	**+1.2**
MA2	**Magadan**	**8.11**	**268**	P	**Pn**	**09 02 12.5**	**+1.6**
FX1	**Attu Island--F**	**8.70**	**154**	Pn	**Pn**	**09 02 17.0**	**-1.9**
	0.7nm,0.3s,baz=333,slow=6.8,SNR=4.3						
ILAR	**Eielson Array**	**21.12**	**59**	P	**P**	**09 04 58.9**	**+0.9**
	1.9nm,0.8s,mb3.5,baz=272,slow=11,SNR=21						
INK	**Inuvik**	**25.66**	**48**	P	**P**	**09 05 43.8**	**+0.9**
	1.0nm,0.7s,mb3.4,baz=299,slow=8.8,SNR=8.8						
INK				LR	LR	09 18 26.3	
	comp=Z,42nm,18.1s,baz=172,slow=42						
YKA	**Yellowknife Ar**	**35.18**	**52**	P	**P**	**09 07 06.1**	**-1.1**
	0.5nm,0.8s,mb3.5,baz=300,slow=8.5,SNR=4.2						
BVAR	**Borovoye Array**	**48.58**	**307**	P	**P**	**09 08 55.4**	**-1.2**
	0.6nm,0.4s,mb3.9,baz=39,slow=9.3,SNR=3.4						
PDAR	**Pinedale Array**	**50.95**	**70**	P	**P**	**09 09 13.8**	**-0.8**
	0.5nm,0.7s,mb3.6,baz=322,slow=4.5,SNR=5.2						

IDC 08 09:02:44.6±2.0, 187N×9643E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.5/19, mbtmp3.5/5, ML3.0/1, Error ellipse: s-maj=55.4km s-min=24.3km az=56.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.66**	**70**	Pn	Pn	09 03 28.7	0.0
	2.6nm,0.3s,baz=260,slow=11,SNR=8.7						
WRA	**Warramunga Arr**	**43.04**	**122**	P	P	09 10 46.5	+0.5
	0.9nm,0.6s,baz=301,slow=9.1,SNR=8.0						
ASAR	**Alice Springs**	**44.41**	**127**	P	P	09 10 57.1	+0.1
	0.2nm,0.5s,baz=299,slow=7.8,SNR=5.2						
MKAR	**Makanchi Array**	**46.41**	**347**	P	P	09 11 12.9	+0.1
	0.9nm,0.6s,baz=169,slow=7.9,SNR=10						
SONM	**Songino Array**	**46.59**	**9**	P	P	09 11 14.3	0.0
	0.4nm,0.4s,baz=192,slow=8.4,SNR=3.9						

*NEIC **08** 09:07:54.5, 3237S×7147W, h46km, MG2.5(GUC), After GUC.*

GUC 08 09:07:54.5±0.6, 3237S×7147W, h46km±2km, MD3.7, ML2.5,5C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.49**	**357**	*i*P	Pn	09 08 05.9	+0.5
CHNG				*i* S	Sn	09 08 13.7	+0.5
ROCH	**El Roble**	**0.71**	**147**	*i*P	Pn	09 08 08.9	+0.7
ROCH				*i* S	Sn	09 08 18.7	+0.5
JACH	**Jahuel**	**0.81**	**113**	*i*P	Pn	09 08 10.6	+1.1
JACH				*i* S	Sn	09 08 22.3	+1.9
PEL	**Peldehue**	**1.01**	**139**	*e*P	Pn	09 08 13.2	+0.8
PEL				*i* S	Sn	09 08 27.1	+1.6
PEL				AML	AML	09 08 28.3	
	comp=N,256nm,0.3s						
PEL	**Peldehue**	**1.01**	**139**	*e*P	Pn	09 08 13.2	+0.8
PEL				*i* S	Sn	09 08 27.1	+1.6
LCCH	**Las Cruces**	**1.10**	**184**	*i*P	Pn	09 08 14.2	+0.7
LCCH				*i* S	Sn	09 08 28.8	+1.2
RCDM	**Rinconada Maip**	**1.25**	**153**	*e*P	Pn	09 08 16.2	+0.7
RCDM				*i* S	Sn	09 08 32.4	+1.3
RCDM				AML	AML	09 08 34.0	
	comp=E,158nm,0.1s						
RCDM	**Rinconada Maip**	**1.25**	**153**	*e*P	Pn	09 08 16.2	+0.7
RCDM				*i* S	Sn	09 08 32.4	+1.3
CMCH	**Combarbala**	**1.26**	**19**	*i*P	Pn	09 08 16.5	+0.8
CMCH				*i* S	Sn	09 08 33.1	+1.6
CMCH				AML	AML	09 08 35.4	
	comp=E,468nm,0.5s						
CMCH	**Combarbala**	**1.26**	**19**	*i*P	Pn	09 08 16.5	+0.8
CMCH				*i* S	Sn	09 08 33.1	+1.6
CLCH	**Cerro Calan**	**1.29**	**143**	*i*P	Pn	09 08 17.2	+1.2
CLCH				*i* S	Sn	09 08 33.7	+1.6
CLCH				AML	AML	09 08 35.7	
	comp=N,73nm,0.5s						
TACH	**Talagante**	**1.35**	**161**	*i* P	Pn	09 08 17.4	+0.4
TACH				*i* S	Sn	09 08 35.4	+1.7
FCH	**Farellones**	**1.38**	**134**	*i*P	Pn	09 08 18.6	+1.3
FCH				*i* S	Sn	09 08 36.9	+2.6
FCH				AML	AML	09 08 37.7	
	comp=E,144nm,0.3s						
PCH	**Pirque**	**1.48**	**147**	*i*P	Pn	09 08 19.5	+0.8
CHCH	**Chadas Angostu**	**1.70**	**156**	*i*P	Pn	09 08 22.5	+0.8
CHCH				*i* S	Sn	09 08 44.5	+2.3
LMEL	**Las Melosas**	**1.82**	**144**	*e*P	Pn	09 08 24.9	+1.6
LMEL				*i* S	Sn	09 08 47.6	+2.6
LMEL				AML	AML	09 08 50.2	
	comp=N,79nm,0.3s						
LMEL	**Las Melosas**	**1.82**	**144**	*e*P	Pn	09 08 24.9	+1.6
LMEL				*i* S	Sn	09 08 47.6	+2.6

*SZGRF **08** 09:16:55.3, 502S×10262E, h36km, mb6.1, MS5.6, Southern Sumatera, Indonesia*
*MOS **08** 09:16:55.6±1.0, 470S×10245E, h33km, mb6.0/71, MS5.6/50, Error ellipse: s-maj=8.6km s-min=4.0km az=119.9*
*ISCJB **08** 09:16:56.1±0.1, 486S±003×10234E±003, h41km, mb5.7/177, MS5.7/184, Error ellipse: s-maj=3.9km s-min=3.4km az=71.4*
*IDC **08** 09:16:57.2±0.4, 487S×10233E, h40km±3km, mb5.0/33, mb1 5.0/34, mb1mx5.0/34, mbtmp5.2/34, ML4.4/1, MS5.6/23, Ms1 5.6/23, ms1mx5.5/28, Error ellipse: s-maj=11.7km s-min=7.1km az=40.0*
*BJI **08** 09:16:57.8, 480S×10240E, h42km, mB5.9, mb5.5, Ms6.1, Msz5.9*
*HRVD **08** 09:16:57.9±0.1, 524S×10208E, h39km, MW5.9/99, Centroid moment Tensor Solution. LP body waves: s99,c210;Mantle waves: s97,c294; Half duration: 2s1 Moment tensor: Scale 10^17Nm; Mrr4.98±.07; Mθθ-4.10±.06; Mφφ-0.87±.07; Mrθ4.77±.09; Mrφ3.79±.05; Mθφ-2.09±.09; Best double couple: Mo7.80800×10^17 NP1:φs315.00000°, δ25.00000°, λ108.00000°. NP2: φs115.00000°, δ66.00000°, λ82.00000°. Principal axes: T 7.0530, Plg68.0000°, Azm10.0000°; N 1.5120, Plg8.0000°, Azm119.0000°; P -8.5630, Plg21.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **08** 09:16:57.1±0.1, 485S×10235E, h36km, mb5.8/79, ME5.5, MS5.7/124, MW5.8 Error ellipse: s-maj=5.4km s-min=3.7km az=46.0, Moment Tensor Solution. s25 Moment tensor: Scale 10^17Nm; Mrr3.93; Mθθ-1.98; Mφφ-1.95; Mrθ3.91; Mθφ1.50; Mφr-1.49; Best double couple: Mo5.60000×10^17 NP1:φs118.00000°, δ70.00000°, λ80.00000°. NP2:φs324.00000°, δ23.00000°, λ115.00000°. Principal axes: T 5.9300, Plg64.0000°, Azm12.0000°; N -0.7500, Plg9.0000°, Azm121.0000°; P -5.1800, Plg24.0000°, Azm215.0000°; Broadband fault plane solution: P waves. NP1:φs322.00000°, δ22.00000°, λ116.00000°. NP2:φs115.00000°, δ70.00000°, λ80.00000°. Principal axes: T Plg64.0000°, Azm9.0000°; N Plg0.0000°, Azm0.0000°; P Plg24.0000°, Azm213.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [III] at Bengkulu and [II] at Kapahiang.

ISC 08 09:16:58.2±0.1, 489S±003×10231E±002, h43km, h43km±6km: pP-P, n689, σ1s03/559, mb5.7/177, MS5.7/184, 118C-17D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGM	**Kluang**	**6.93**	**8**	P	**Pn**	**09 18 39.9**	**+2.8**
BJII	**Banjamegara**	**7.75**	**109**	P	**Pn**	**09 18 49.9**	**+1.5**
	226nm,1.6s						
PSI	**Prapat**	**8.35**	**336**	P	**Pn**	**09 18 53.0**	**-3.6**
	4.4nm,0.3s,baz=149,slow=11,SNR=34						
PSI				LR	LR	09 22 34.6	
	comp=Z,89μm,20.1s,baz=146,slow=41						
PSI	**Prapat**	**8.35**	**336**	P	**Pn**	**09 18 53.0**	**-3.6**
PSI				LR	LR	09 22 34.6	
COCO	**West Island**	**9.05**	**216**	Pn	**Pn**	**09 19 01.7**	**-4.5**
	10μm,0.5s,SNR=36						
COCO	**West Island**	**9.05**	**216**	*e*Pn	**Pn**	**09 19 00.3**	**-5.9**
	1μm,0.6s						
COCO				*e*Sn	**Sn**	**09 20 31.6**	**-15**
IPM	**Ipoh**	**9.39**	**352**	P	**Pn**	**09 19 12.1**	**+1.2**
KSM	**Kuching**	**10.19**	**52**	*e*Pn	**Pn**	**09 19 24.2**	**+2.4**
KULM	**Kulim**	**10.24**	**351**	*e*Pn	**Pn**	**09 19 21.2**	**-1.3**
SNG	**Songkhla**	**12.10**	**352**	P	**Pn**	**09 19 45.0**	**-2.9**
	650nm,1.0s						
TARAI	**Tarakan**	**17.30**	**62**	P	**Pn**	**09 20 59.0**	**+2.6**
	339nm,1.0s						
NNT	**Nongplab**	**17.55**	**352**	P	**Pn**	**09 20 59.5**	**0.0**
KKM	**Kota Kinabalu**	**17.63**	**52**	P	**Pn**	**09 21 02.1**	**+1.6**
KKM	**Kota Kinabalu**	**17.63**	**52**	*i*P	**Pn**	**09 21 01.9**	**+1.4**
PCI	**Palu**	**17.95**	**78**	P	**Pn**	**09 21 06.4**	**+2.0**
	1μm,1.5s						
TSM	**Tawau**	**18.03**	**60**	P	**Pn**	**09 21 07.1**	**+1.8**
PBA	**Port Blair**	**18.99**	**330**	*ex*	x	09 20 21.0	
PBA				*ex*	x	09 24 57.5	
KKTK	**Khon Kaen**	**21.09**	**1**	P	**P**	**09 21 39.0**	**+0.1**
	3μm,0.6s,mb6.8						
PPR	**Puerto Princes**	**21.91**	**48**	*i*P	**P**	**09 21 41.1**	**-6.5**
MBWA	**Marble Bar**	**23.40**	**135**	*e*P	**P**	**09 22 02.9**	**-0.4**
	300nm,1.6s,mb5.5						
MBWA				*e*PcP	PcP	09 25 58.5	+10
MBWA				*e*S	**S**	**09 26 16.1**	**+3.0**
MBWA				LR	LR		
	comp=Z,21μm,22.0s,MS5.5						
NANT	**Nan**	**23.59**	**356**	P	**P**	**09 22 02.0**	**-3.0**
	comp=Z,656nm,1.0s,mb6.0						
CHG	**Chiang Mai**	**23.78**	**352**	P	**P**	**09 22 05.0**	**-1.7**
	comp=Z,150nm,1.2s,mb5.3						
CHG				S	**S**	**09 26 21.7**	**+2.5**
CHTO	**Chiang Mai**	**23.78**	**352**	*i*P	**P**	**09 22 05.0**	**-1.7**
CHTO				pmax	pmax		
	comp=Z,204nm,1.1s,mb5.5						
CHTO				MLR	MLR		
	comp=Z,16μm,21.0s,MS5.5						
CHTO	**Chiang Mai**	**23.78**	**352**	*i*P	**P**	**09 22 05.0**	**-1.8**
	comp=Z,204nm,1.1s,mb5.5						
CHTO				LR	LR		
	comp=Z,16μm,21.0s,MS5.5						
CUYO	**Cuyo Island**	**24.32**	**50**	*e*P	**P**	**09 22 14.0**	**+2.4**
BUSP	**Coron**	**24.46**	**47**	*e*P	**P**	**09 22 15.4**	**+2.5**
PAGZ	**Pagadian**	**24.54**	**59**	*e*P	**P**	**09 22 16.4**	**+2.7**
PALK	**Pallekele**	**24.71**	**299**	*e*P	**P**	**09 22 16.9**	**+1.7**
	comp=Z,231nm,1.8s,mb5.4						
PALK				LR	LR		
	comp=Z,14μm,19.0s,MS5.5						
QIZ	**Qiongzhong**	**24.90**	**17**	*i*P	**P**	**09 22 17.4**	**+0.5**
QIZ				AP		09 22 29.8	
QIZ				XP	sP	09 22 33.8	+0.2
QIZ				S	**S**	**09 26 40.1**	**+3.0**
QIZ				AMB	AMB		
	comp=Z,286nm,1.1s,mb5.7						
QIZ				AMB	AMB		
	comp=Z,2μm,10.8s						
QIZ				LR	LR		
	comp=N,17μm,16.6s,MS5.7						
QIZ				LR	LR		
	comp=E,14μm,16.0s,MS5.7						
QIZ				LR	LR		
	comp=Z,22μm,17.1s,MS5.7						
QIZ	**Qiongzhong**	**24.90**	**17**	*e*P	**P**	**09 22 17.7**	**+0.8**
	comp=Z,396nm,1.1s,mb5.9						
QIZ				LR	LR		
	comp=Z,19μm,19.0s,MS5.6						
GUIM	**Jordan**	**25.40**	**53**	*e*P	**P**	**09 22 22.5**	**+1.0**
LUBP	**Lubang**	**25.68**	**44**	*e*P	**P**	**09 22 23.2**	**-0.8**
TBP	**Tagbilaran**	**25.90**	**56**	*e*P	**P**	**09 22 27.0**	**+0.9**
CGP	**Cagayan de Oro**	**25.96**	**59**	*e*P	**P**	**09 22 31.1**	**+4.5**
BUKP	**Musuan**	**26.00**	**61**	*e*P	**P**	**09 22 27.6**	**+0.7**
OTRP	**Odiongan**	**26.03**	**49**	*e*P	**P**	**09 22 30.6**	**+3.3**
RCP	**Roxas**	**26.09**	**51**	*e*P	**P**	**09 22 28.3**	**+0.6**
DAV	**Davao City (W)**	**26.09**	**63**	*e*P	**P**	**09 22 23.0**	**-4.7**
FITZ	**Fitzroy Crossi**	**26.32**	**122**	P	**P**	**09 22 29.6**	**-0.2**
	comp=Z,40nm,1.0s,mb4.9,baz=296,slow=7.0,SNR=18						
TGY	**Tagaytay City**	**26.41**	**44**	P	**P**	**09 22 31.2**	**+0.6**
	comp=Z,207nm,0.3s,baz=175,slow=1,SNR=16						
TGY				LR	LR	09 33 40.1	
	comp=Z,55nm,20.4s,baz=46,slow=38						
BIPH	**Bislig**	**27.28**	**62**	*i*P	**P**	**09 22 37.1**	**-1.4**
TRD	**Trivandrum**	**28.57**	**298**	*e*P	**P**	**09 22 51.6**	**+1.7**
TRD				AMb	AMB	09 23 09.0	
	comp=Z,128nm,1.4s,mb5.5						
VIS	**Vishakhapatnam**	**29.25**	**321**	*e*P	**P**	**09 22 57.4**	**+1.4**
VIS				AMb	AMB	09 23 10.5	
	comp=Z,161nm,1.4s,mb5.5						
VIS				*e*S	**S**	**09 27 47.3**	**+1.5**
PIP	**Pasuquin**	**29.29**	**38**	*e*P	**P**	**09 22 54.9**	**-1.5**
APYP	**Conner**	**29.33**	**39**	*e*P	**P**	**09 23 01.1**	**+4.4**
HKC	**Hong Kong**	**29.41**	**23**	P	**P**	**09 22 58.0**	**+0.6**
DGAR	**Diego Garcia**	**29.78**	**264**	PFAKE		09 23 10.0	+9.3
DGAR				LR	LR		
	comp=Z,13μm,21.0s,MS5.5						
GZH	**Guangzhou**	**29.82**	**21**	P	**P**	**09 23 04.6**	**+3.6**
GZH				S	**S**	**09 28 01.6**	**+6.8**
GZH				LR	LR		
	comp=N,11μm,20.4s,MS5.7						
GZH				LR	LR		
	comp=E,14μm,20.2s,MS5.7						
GZH				LR	LR		
	comp=Z,25μm,20.7s,MS5.8						
KMI	**Kunming**	**29.83**	**1**	P	**P**	**09 23 02.5**	**+1.4**
KMI				AP	pP	09 23 13.4	+0.6
KMI				XP	sP	09 23 17.7	-0.2
KMI				PP	PP	09 24 00.3	-8.7
KMI				PPP		09 24 14.5	
KMI				PCP	PcP	09 26 05.4	+1.8
KMI				S	**S**	**09 27 55.3**	**+0.4**
KMI				SS	sS	09 28 13.6	-0.8
KMI				SS	sS	09 29 31.5	-31
KMI				SCP	ScP	09 29 42.9	+0.8
KMI				PCS	PcS	09 29 47.4	+0.5
KMI				SSS		09 29 52.6	
KMI				SCS	ScS	09 33 36.6	-0.7
KMI				LR	LR		
	comp=N,19μm,18.2s,MS5.8						
KMI				LR	LR		
	comp=E,7μm,15.5s,MS5.8						
KMI				LR	LR		
	comp=Z,22μm,19.4s,MS5.8						
MUN	**Mundaring**	**29.94**	**156**	*e*P	**P**	**09 23 02.2**	**+0.1**
KLBR	**Kellerberrin**	**30.27**	**153**	*e*P	**P**	**09 23 05.5**	**+0.5**

GYA SCP ScP 09 29 43.6 -3.8
GYA SCS ScS 09 33 42.5 -2.6
GYA AMB AMB
comp=Z,50nm,0.7s,mb5.5
GYA AMB AMB
comp=Z,1μm,9.3s
GYA LR LR
comp=N,30μm,14.7s,MS6.2
GYA LR LR
comp=E,14μm,14.1s,MS6.2
GYA LR LR
comp=Z,34μm,14.1s,MS6.2
SHL Shillong 31.92 342 *i* P **P 09 23 19.0 -0.5**
HYB Hyderabad 32.27 314 *i* P **P 09 23 22.0 -0.6**
HYB *e* pP 09 23 30.5 -3.8
HYB *e*S **S 09 28 34.0 +0.9**
MNGI Mangalore 32.55 303 *e*P **P 09 23 25.6 +0.6**
MNGI AMb AMB 09 23 42.5
comp=Z,107nm,1.1s,mb5.7
BOK Bokaro 32.70 331 *e*P **P 09 23 27.1 +0.7**
BOK AMb AMB 09 23 29.5
comp=Z,176nm,0.7s,mb6.1
QZH Quanzhou 33.62 27⇑ *i*P **P 09 23 34.1 -0.3**
QZH AP pP 09 23 46.2 +0.1
QZH PP PP 09 24 51.0 +0.1
QZH S **S 09 28 52.0 -2.0**
QZH XS sS 09 29 13.6 +0.1
QZH AMB AMB
comp=Z,1μm,6.1s
QZH LR LR
comp=N,26μm,19.1s,MS6.1
QZH LR LR
comp=E,25μm,15.9s,MS6.1
QZH LR LR
comp=Z,23μm,17.5s,MS6.0
SLGI Shiliguri 34.16 338 *ex* x 09 23 38.0
NACB Ninganchiao 34.46 32 *e*P **P 09 23 43.1 +1.4**
NGP Nagpur 34.49 319 *e*P **P 09 23 41.2 -0.8**
NGP AMb AMB 09 23 59.0
comp=Z,335nm,1.5s,mb6.0
WRA Warramunga Arr 34.58 118 P **P 09 23 42.3 -0.4**
comp=Z,34nm,0.9s,mb5.3,baz=292,slow=9.9,SNR=23
WRA S **S 09 29 10.9 +2.0**
comp=Z,9.8nm,1.0s,baz=294,slow=15,SNR=4.7
WRAB Tennant Creek 34.58 118 P **P 09 23 43.0 +0.2**
comp=Z,326nm,0.9s,mb6.3,SNR=7.5
WRAB Tennant Creek 34.58 118*c* *i*P **P 09 23 42.5 -0.3**
WRAB Tennant Creek 34.58 118 *e*P **P 09 23 43.1 +0.4**
WRAB LR LR
comp=Z,11μm,21.0s,MS5.6
WB2 Warramunga Arr 34.59 118 *e*P **P 09 23 42.2 -0.6**
GOA Goa 34.72 306 *e*P **P 09 23 45.0 +1.1**
YHNB Yeheng 34.75 31 *e*P **P 09 23 43.9 -0.3**
YHNB *e*pP pP 09 23 56.3 +0.4
TATO Taipei 35.06 31 *e*P **P 09 23 47.2 +0.4**
comp=Z,42nm,0.8s,mb5.4
TATO LR LR
comp=Z,5μm,21.0s,MS5.2
FORT Forrest 35.37 140 *e*P **P 09 23 49.4 -0.1**
comp=Z,22nm,0.6s,mb5.3
JBP Jabalpur 35.39 323⇑ *e*P **P 09 23 50.4 +0.7**
JBP *ex* x 09 24 07.4
comp=Z,452nm,1.5s
JBP *i* S **S 09 29 22.4 +1.0**
KAD Karad 35.47 309 *e*P **P 09 23 50.1 -0.2**
CD2 Chengdu 35.62 2⇑ *i*P **P 09 23 51.0 -0.7**
CD2 PP PP 09 25 13.1 0.0
CD2 PPP 09 25 29.0
CD2 S **S 09 29 23.4 -1.5**
CD2 AMB AMB
comp=Z,60nm,0.9s,mb5.5
CD2 AMB AMB
comp=Z,640nm,6.6s
CD2 LR LR
comp=N,20μm,18.0s
CD2 LR LR
comp=Z,20μm,18.0s,MS5.9
ASAR Alice Springs 35.72 125 P **P 09 23 52.7 +0.2**
comp=Z,37nm,0.8s,mb5.4,baz=293,slow=7.2,SNR=59
ASAR S **S 09 29 25.9 -0.4**
comp=Z,17nm,1.1s,baz=286,slow=16,SNR=8.9
JIRN Jiri 35.90 335 *e*P **P 09 23 54.8 +0.7**
comp=Z,2μm,1.4s,mb6.8
LSA Lhasa 36.02 343 P **P 09 23 57.5 +2.4**
LSA PP PP 09 25 13.2 -4.3
LSA PCP PcP 09 26 25.8 +5.0
LSA S **S 09 29 22.4 -8.5**
LSA PCS PcS 09 30 11.9 +3.6
LSA SS SS 09 31 58.8 -10
LSA AMB AMB
comp=Z,110nm,2.0s,mb5.4
LSA LR LR
comp=N,3μm,24.2s,MS5.5
LSA LR LR
comp=E,8μm,24.2s,MS5.5
LSA LR LR
comp=Z,7μm,25.9s,MS5.3
LSA Lhasa 36.02 343⇑ *e*P **P 09 23 55.6 +0.5**
LSA *e**PP pP 09 24 08.0 +1.2
LSA *e*S **S 09 29 31.0 +0.1**
LSA pmax pmax
comp=Z,115nm,0.7s,mb5.9
LSA MLR MLR
comp=Z,8μm,21.0s,MS5.5
LSA Lhasa 36.02 343⇑ *e*P **P 09 23 55.5 +0.5**
comp=Z,115nm,0.7s,mb5.9
LSA *e*pP pP 09 24 08.0 +1.1
LSA *e*PcP PcP 09 26 36.0 +15
LSA *e*S **S 09 29 31.0 +0.1**
LSA LR LR
comp=Z,8μm,21.0s,MS5.5
PKI Pulchoki 36.16 334 *e*P **P 09 23 56.6 +0.3**
comp=Z,562nm,1.5s,mb6.3
PKI Pulchoki 36.16 334 *e*P **P 09 23 56.6 +0.3**
PKI pmax pmax
comp=Z,562nm,1.5s,mb6.3
GUN Gumba 36.25 335 *e*P **P 09 23 57.7 +0.6**
comp=Z,2μm,1.3s,mb6.8
DMN Daman 36.32 334 *e*P **P 09 23 58.2 +0.5**
comp=Z,139nm,0.7s,mb6.0
KKN Kakani 36.40 334 *e*P **P 09 23 58.6 +0.2**
comp=Z,1μm,1.7s,mb6.6
KKN Kakani 36.40 334 *e*P **P 09 23 58.6 +0.2**
KKN pmax pmax
comp=Z,1μm,1.7s,mb6.6
POO Poona 36.44 310⇓ *i*P **P 09 23 58.0 -0.7**
comp=Z,143nm,1.5s,mb5.7
POO *ex* x 09 24 32.8
POO AMb AMB 09 24 50.1
comp=Z,116nm,1.6s,mb5.6
POO *ex* x 09 34 36.5
POO *ex* x 09 34 36.5
GKN Gorkha 36.87 333 *e*P **P 09 24 02.6 +0.2**
comp=Z,2μm,1.7s,mb6.6
BHPL Bhopal 37.04 320 *e*P **P 09 24 04.0 +0.3**
BHPL AMb AMB 09 24 07.6
comp=Z,132nm,1.5s,mb5.5
WHN Wuhan 37.07 17 ⇑P **P 09 24 03.5 -0.5**
WHN PP PP 09 25 27.0 -2.0
WHN *e*S **S 09 29 40.1 -6.8**
WHN LR LR
comp=Z,46μm,18.6s,MS6.3
KOLN Koldanda 37.15 332 *e*P **P 09 24 05.2 +0.5**
comp=Z,303nm,0.9s,mb6.2
BOM Bombay 37.45 310 *e*P **P 09 24 07.7 +0.5**
BOM AMb AMB 09 24 23.8
comp=Z,184nm,2.2s,mb5.5
XAN Xi'an 39.22 9 P **P 09 24 21.2 -0.9**
XAN AP pP 09 24 29.5 -4.5
XAN PP PP 09 25 57.7 +5.1
XAN S **S 09 30 15.3 -4.1**
XAN AMB AMB
comp=Z,106nm,1.1s,mb5.5
XAN AMB AMB
comp=Z,1μm,7.6s
XAN LR LR
comp=N,17μm,15.4s,MS6.1
XAN LR LR
comp=E,10μm,13.8s,MS6.1
XAN LR LR
comp=Z,34μm,15.8s,MS6.3
NJ2 Nanjing 39.97 22 *e*P **P 09 24 30.2 +1.8**
NJ2 AP pP 09 24 42.1 +1.8
NJ2 XP sP 09 24 45.4 0.0
NJ2 PP PP 09 26 07.2 +6.4
NJ2 S **S 09 30 32.0 +1.3**
NJ2 XS sS 09 30 51.0 +0.5
NJ2 AMB AMB
comp=Z,60nm,1.2s,mb5.2
NJ2 AMB AMB
comp=Z,940nm,8.3s
NJ2 LR LR
comp=N,28μm,15.7s,MS6.3
NJ2 LR LR
comp=E,21μm,14.2s,MS6.3
NJ2 LR LR
comp=Z,15μm,15.2s,MS6.0
SSE Sheshan 40.07 26 P **P 09 24 29.7 +0.5**
SSE AP pP 09 24 42.5 +1.4
SSE XP sP 09 24 49.2 +3.0
SSE S **S 09 30 33.5 +1.3**
SSE XS sS 09 30 57.1 +5.1
SSE AMB AMB
comp=Z,57nm,1.0s,mb5.3
SSE AMB AMB
comp=Z,918nm,7.3s
SSE LR LR
comp=N,5μm,20.6s,MS5.5
SSE LR LR
comp=E,4μm,20.6s,MS5.5
SSE LR LR
comp=Z,6μm,18.8s,MS5.5
LGTI Lohaghat 40.18 329 *e*P **P 09 24 31.0 +0.9**
PTH Pithoragarh 40.27 330 *e*P **P 09 24 33.0 +2.1**
PTH *ex* x 09 30 31.0
JOW Kunigami 40.32 37 P **P 09 24 31.6 +0.3**
comp=Z,40nm,0.7s,mb5.3,baz=236,slow=8.0,SNR=13
JOW LR LR 09 41 30.8
comp=Z,5μm,19.7s,MS5.3,baz=229,slow=37
LZH Lanzhou 40.78 2⇑ P **P 09 24 35.2 +0.1**
LZH AP pP 09 24 47.2 +0.2
LZH XP sP 09 24 51.8 -0.3
LZH S **S 09 30 44.0 +1.1**
LZH SS SS 09 33 45.0 +0.1
LZH SCS ScS 09 34 36.0 -0.5
LZH AMB AMB
comp=Z,290nm,1.6s,mb5.7
LZH AMB AMB
comp=Z,1μm,4.5s
LZH LR LR
comp=E,20μm,14.6s
LZH LR LR
comp=Z,27μm,15.1s,MS6.2
AJM Ajmer 41.11 321 *i* P **P 09 24 37.0 -0.8**
AJM *e*P 09 24 38.5
NDI New Delhi 41.19 326 *e*P **P 09 24 38.8 +0.2**
NDI ⇑ *i*P 09 24 39.0
NDI AMb AMB 09 24 55.5
comp=Z,768nm,1.7s,mb6.0
NDI *e*S **S 09 30 49.0 0.0**
DDI Dehra Dun 42.01 328⇑ *ix* x 09 24 24.0
DDI *ex* x 09 30 45.0
BHJ Bhuj 42.41 313 *e*P **P 09 24 48.5 +0.1**
BHJ AMb AMB 09 25 06.1
comp=Z,310nm,1.9s,mb5.6
SMLA Simla 43.11 328 *e*P **P 09 24 51.4 -2.8**
SMLA *i* P 09 24 51.8
comp=Z,80nm,0.2s
SMLA AMb AMB 09 24 56.8
comp=Z,489nm,1.7s,mb6.0
SMLA *i* x x 09 31 14.6
TIA Tai'an 43.17 18 *e*P **P 09 24 52.9 -1.7**
TIA AMB AMB
comp=Z,509nm,6.0s
TIA LR LR
comp=N,27μm,18.0s,MS6.3
TIA LR LR
comp=E,18μm,17.0s,MS6.3
SDNR Sundarnagar 43.51 328 *e*P **P 09 24 57.4 +0.1**
GTA Gaotai 44.13 357⇑ *i*P **P 09 25 02.5 +0.1**
GTA AP pP 09 25 10.2 -4.1
GTA PP PP 09 26 46.8 +1.1
GTA PCP PcP 09 26 47.7 +0.9
GTA SCP ScP 09 30 36.2 +1.1
GTA S **S 09 31 33.9 +1.7**
GTA SS SS 09 34 44.8 -6.0
GTA SCS ScS 09 34 56.4 -0.8
GTA AMB AMB
comp=Z,110nm,1.1s,mb5.5
GTA AMB AMB
comp=Z,2μm,8.4s
GTA LR LR
comp=N,22μm,18.3s,MS6.1
GTA LR LR
comp=E,8μm,19.0s,MS6.1
GTA LR LR
comp=Z,28μm,18.3s,MS6.2
PONG Pong 44.40 327 *e*P **P 09 25 04.0 -0.5**
PMG Port Moresby 44.70 98 P **P 09 25 05.8 -1.1**
comp=Z,106nm,0.7s,mb5.8,baz=247,slow=3.9,SNR=30
PMG pP pP 09 25 18.7 -0.2
comp=Z,98nm,0.9s,baz=311,slow=8.6,SNR=5.8
PMG Port Moresby 44.70 98 P **P 09 25 05.8 -1.1**
PMG pP pP 09 25 18.7 -0.2
PMG LR LR
comp=Z,5μm,20.0s,MS5.4
DLH Dalhousie 44.85 328 *e*P **P 09 25 08.0 -0.1**
CTA Charters Tower 45.32 113 *e*P **P 09 25 12.4 +0.6**
comp=Z,52nm,0.9s,mb5.4
CTA *e*S **S 09 31 49.0 -0.4**
CTA Charters Tower 45.32 113 P **P 09 25 11.4 -0.4**
comp=Z,82nm,1.0s,mb5.5,baz=286,slow=8.9,SNR=26
CTA pP pP 09 25 24.2 +0.4
comp=Z,58nm,0.9s,baz=288,slow=9.2,SNR=9.0
CTA LR LR 09 45 43.4
comp=Z,8μm,19.8s,MS5.7,baz=284,slow=38
CTA Charters Tower 45.32 113 *e*P **P 09 25 12.4 +0.6**
CTA *e*S **S 09 31 49.0 -0.4**
CTA pmax pmax
comp=Z,52nm,0.9s
CTAO Charters Tower 45.32 113⇑ *e*P **P 09 25 12.0 +0.2**
CTAO *e**PP pP 09 25 25.7 +1.9
CTAO pmax pmax
comp=Z,422nm,1.6s,mb6.0
CTAO MLR MLR
comp=Z,7μm,20.0s,MS5.6
CTAO Charters Tower 45.32 113⇑ *e*P **P 09 25 12.0 +0.3**
comp=Z,422nm,1.6s,mb6.0
CTAO *e*pP pP 09 25 25.7 +1.9
CTAO LR LR
comp=Z,7μm,20.0s,MS5.6
STKA Stephens Creek 45.53 131 *e*P **P 09 25 12.1 -1.3**
comp=Z,82nm,0.6s,mb5.8
STKA *e*S **S 09 32 04.5 +12**
STKA Stephens Creek 45.53 131 P **P 09 25 12.7 -0.8**
comp=Z,16nm,0.5s,mb5.3,baz=310,slow=6.4,SNR=35
STKA LR LR 09 45 15.7
comp=Z,13μm,20.5s,MS5.8,baz=294,slow=37
BTO Baotou 45.82 8 *e*P **P 09 25 15.3 -0.4**
BTO AMB AMB
comp=Z,93nm,1.9s,mb5.4
GUMO Guam 46.06 66 P **P 09 25 15.8 -1.9**
comp=Z,38nm,0.3s,mb5.8,baz=220,slow=18,SNR=7.5
HHC Hu-ho-hao-te 46.30 10⇑ *i*P **P 09 25 20.0 +0.5**
HHC AP pP 09 25 32.7 +1.1
HHC XP sP 09 25 37.4 +0.8
HHC PCP PcP 09 26 54.3 0.0
HHC PP PP 09 27 09.4 +0.8
HHC SCP ScP 09 30 42.3 -1.8
HHC PCS PcS 09 30 47.6 -1.3
HHC S **S 09 32 04.5 +1.1**
HHC XS sS 09 32 25.7 +2.2
HHC SCS ScS 09 35 07.1 -4.0
HHC SS SS 09 35 21.9 -7.3
HHC AMB AMB
comp=Z,90nm,1.4s,mb5.5
HHC AMB AMB
comp=Z,2μm,6.3s
HHC LR LR
comp=N,14μm,17.6s,MS6.1
HHC LR LR
comp=E,12μm,17.8s,MS6.1
HHC LR LR
comp=Z,14μm,18.0s,MS6.0
BJT Baijiatuau 46.47 15⇑ *e*P **P 09 25 20.7 -0.2**
BJT *e**PP pP 09 25 33.5 +0.6
BJT pmax pmax
comp=Z,1μm,2.1s
BJT MLR MLR
comp=Z,31μm,19.0s
BJT Baijiatuau 46.47 15⇑ *e*P **P 09 25 20.7 -0.1**
comp=Z,1μm,2.1s,mb6.4
BJT *e*pP pP 09 25 33.5 +0.6
BJT LR LR
comp=Z,31μm,19.0s,MS6.3
BJI Beijing 46.49 15 *e*P **P 09 25 20.9 -0.1**
BJI AP pP 09 25 32.6 -0.5
BJI XP sP 09 25 37.1 -1.1
BJI PCP PcP 09 26 51.8 -3.2
BJI PP PP 09 27 12.0 +1.3
BJI S **S 09 32 06.8 +0.6**
BJI XS sS 09 32 30.4 +4.1
BJI SCS ScS 09 35 11.3 -1.1
BJI AMB AMB
comp=Z,70nm,1.6s,mb5.3
BJI AMB AMB
comp=Z,2μm,4.6s
BJI LR LR
comp=N,21μm,18.2s,MS6.2
BJI LR LR
comp=E,8μm,15.9s,MS6.2
BJI LR LR
comp=Z,21μm,18.2s,MS6.1
JNU Nakatsue 46.50 34 P **P 09 25 20.4 -0.7**
comp=Z,53nm,0.7s,mb5.6,baz=200,slow=9.8,SNR=6.2
DL2 Dalian 47.10 21⇑ *i*P **P 09 25 25.5 -0.3**
DL2 AP pP 09 25 37.5 -0.4
DL2 PP PP 09 27 20.1 +3.3
DL2 PPP 09 28 03.3
DL2 S **S 09 32 15.4 +0.5**
DL2 XS sS 09 32 30.4 -4.6
DL2 SSS 09 36 24.7
DL2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
DL2 AMB AMB
comp=Z,490nm,5.9s
DL2 LR LR
comp=N,5μm,16.1s,MS5.7
DL2 LR LR
comp=E,4μm,15.8s,MS5.7
DL2 LR LR
comp=Z,7μm,15.9s,MS5.7
NIL Nilore 47.16 326 P **P 09 25 26.8 +0.5**
comp=Z,203nm,0.8s,mb6.1,SNR=7.1
KS15 Wonju Array Si 48.38 27⇑ *e*P **P 09 25 35.5 -0.3**
KS15 *e*pP pP 09 25 48.1 +0.2
CBIJ Chichi jima 49.96 48 P **P 09 25 45.4 -2.4**
comp=Z,93nm,0.8s,mb5.8,baz=287,slow=6.0,SNR=13
CBIJ LR LR 09 47 01.4
comp=Z,2μm,20.9s,MS5.1,baz=239,slow=36
WMQ Urumqi 50.24 346⇑ *i*P **P 09 25 50.2 +0.3**
WMQ PCP PcP 09 27 09.4 +0.9
WMQ PP PP 09 27 46.4 +0.9
WMQ PPP 09 28 43.0
WMQ SCP ScP 09 31 02.2 +1.4
WMQ PCS PcS 09 31 05.2 -0.4
WMQ S **S 09 32 59.5 +0.3**
WMQ PS 09 33 10.7
WMQ SCS ScS 09 35 36.7 -0.7
WMQ SS SS 09 36 30.2 -2.7
WMQ AMB AMB
comp=Z,293nm,1.2s,mb6.2
WMQ AMB AMB
comp=Z,2μm,5.3s
WMQ LR LR
comp=N,5μm,19.6s,MS5.7
WMQ LR LR
comp=E,5μm,21.2s,MS5.7
WMQ LR LR
comp=Z,6μm,23.0s,MS5.6
SNY Shenyang 50.38 21⇑ P **P 09 25 49.4 -1.5**
SNY AP pP 09 25 59.3 -3.8
SNY XP sP 09 26 06.0 -2.1
SNY PCP PcP 09 27 07.6 -1.4
SNY PP PP 09 27 47.3 +0.6
SNY XS sS 09 33 19.2 -2.1
SNY SS SS 09 36 31.5 -3.5
SNY AMB AMB
comp=Z,40nm,2.3s,mb5.0
SNY LR LR
comp=N,3μm,13.2s,MS6.0
SNY LR LR
comp=E,11μm,14.7s,MS6.0
SNY LR LR
comp=Z,12μm,14.7s,MS6.0
WSAR Wadi Sarin 50.97 305 P **P 09 25 55.1 -0.3**
comp=Z,15nm,1.1s,mb4.8,baz=96,slow=6.7,SNR=6.2
WSAR pP pP 09 26 08.8 +1.2
comp=Z,16nm,1.0s,baz=111,slow=7.7,SNR=6.0
WSAR LR LR 09 46 59.4
comp=Z,9μm,18.6s,MS5.8,baz=306,slow=35
WSAR Wadi Sarin 50.97 305 P **P 09 25 55.1 -0.3**
WSAR pP pP 09 26 08.8 +1.2
WSAR LR LR 09 46 59.4
SONM Songino Array 52.62 3 P **P 09 26 07.7 0.0**
comp=Z,219nm,0.7s,mb6.2,baz=185,slow=9.3,SNR=292
SONM S **S 09 33 35.2 +3.3**
comp=Z,2.9nm,1.2s,baz=228,slow=3.8,SNR=3.5
SONM LR LR 09 53 39.7
comp=Z,10μm,18.9s,MS5.9,baz=185,slow=42
SONM Songino Array 52.62 3 P **P 09 26 07.7 0.0**
SONM S **S 09 33 35.2 +3.3**
CN2 Changchun 52.77 21⇑ P **P 09 26 07.6 -1.2**
CN2 *e*AP pP 09 26 20.2 -0.8
CN2 *e*XP sP 09 26 25.5 -0.5
CN2 *e*S **S 09 33 32.4 -1.5**
CN2 SS SS 09 37 11.1 -1.8
CN2 AMB AMB
comp=Z,90nm,1.2s,mb5.6
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,9μm,16.0s,MS6.0
CN2 LR LR
comp=E,6μm,16.0s,MS6.0
CN2 LR LR
comp=Z,5μm,19.0s,MS5.5
ARMA Armidale 52.87 125 *e*P **P 09 26 13.2 +3.7**
AAA Alma-Ata 53.14 337 *i* P **P 09 26 09.7 -1.8**
AAA *i* S **S 09 33 43.2 +4.2**
AAA pmax pmax
comp=Z,2μm,6.1s
AAA smax
comp=N,5μm,7.6s
AAA MLR MLR
comp=Z,3μm,18.9s,MS5.3
MAJO Matsushiro 53.14 36 *e*P **P 09 26 09.4 -2.1**
MAJO *e**PP pP 09 26 23.8 0.0
MAJO pmax pmax
comp=Z,165nm,1.3s,mb5.8
MAJO MLR MLR
comp=Z,3μm,20.0s,MS5.3
MAJO Matsushiro 53.14 36 *e*P **P 09 26 09.4 -2.2**
comp=Z,165nm,1.3s,mb5.8
MAJO *e*pP pP 09 26 23.8 0.0
MAJO LR LR
comp=Z,3μm,20.0s,MS5.3
MAT Matsushiro 53.14 36 P **P 09 26 09.8 -1.8**
MAT S **S 09 33 40.0 +1.0**
MAT Matsushiro 53.14 36 *e*P **P 09 26 10.0 -1.6**
MAT *e*S **S 09 33 40.0 +1.0**
MAT pmax pmax
comp=Z,98nm,1.2s,mb5.6
MAT MLR MLR
comp=Z,3μm,20.0s,MS5.3
MAT Matsushiro 53.14 36 *e*P **P 09 26 10.0 -1.6**
comp=Z,98nm,1.2s,mb5.6
MAT *e*S **S 09 33 40.0 +1.0**
MAT LR LR
comp=Z,3μm,20.0s,MS5.3
MJAR Matsushiro Arr 53.14 36 P **P 09 26 09.7 -1.9**
comp=Z,34nm,0.7s,mb5.4,baz=218,slow=7.1,SNR=61
MJAR pP pP 09 26 22.5 -1.3
comp=Z,8.7nm,0.9s,baz=255,slow=18,SNR=6.4
TKM2 Tokmak 2 53.38 336 *i* P **P 09 26 13.1 -0.2**
TKM2 pmax pmax
comp=Z,88nm,0.7s,mb5.8
TKM2 Tokmak 2 53.38 336 *i* P **P 09 26 13.1 -0.2**
comp=Z,88nm,0.7s,mb5.8
AAK Ala-Archa 53.61 335 P **P 09 26 14.3 -0.7**
comp=Z,245nm,1.0s,mb6.1,SNR=25
AAK Ala-Archa 53.61 335*c* *i*P **P 09 26 13.8 -1.2**
AAK pmax pmax
comp=Z,131nm,2.5s,mb5.4
AAK MLR MLR

comp=Z,6µm,20.0s,MS5.6
AAK Ala-Archa 53.61 335⇑ *i* P **P 09 26 13.8 -1.2**
comp=Z,131nm,2.5s,mb5.4
AAK LR LR
comp=Z,6µm,20.0s,MS5.6
FRU Bishkek 53.72 335 *αe* P **P 09 26 16.0 +0.2**
FRU *e* pP 09 26 29.0 +0.9
FRU *e*S **S 09 33 48.5 +1.6**
FRU *e* 09 34 06.0
FRU pmax pmax
comp=Z,320nm,2.1s,mb5.9
FRU MLR MLR
comp=Z,5µm,20.0s,MS5.6
MK31 Makanchi Array 54.42 343 P **P 09 26 19.8 -1.1**
MK31 pmax pmax
comp=Z,63nm,0.8s,mb5.6
MKAR Makanchi Array 54.42 343 P **P 09 26 20.2 -0.8**
comp=Z,87nm,0.8s,mb5.7,baz=148,slow=7.1,SNR=181
MKAR S **S 09 33 56.8 +0.4**
comp=Z,2.8nm,1.2s,baz=140,slow=14,SNR=3.6
MKAR Makanchi Array 54.42 343 P **P 09 26 20.2 -0.7**
MKAR S **S 09 33 56.8 +0.4**
VLA Vladivostok 54.77 26*d i* P **P 09 26 23.4 -0.1**
VLA *i* *PP pP 09 26 33.7 -2.0
VLA *i* 09 27 25.0
VLA *i* S **S 09 34 04.4 +3.4**
VLA pmax pmax
comp=Z,170nm,1.8s,mb5.8
VLA MLR MLR
comp=Z,4µm,17.0s,MS5.5
VLA Vladivostok 54.77 26 *i* P **P 09 26 23.5 +0.1**
VLA Vladivostok 54.77 26 *i* Pr 09 26 23.4
comp=Z,170nm,1.8s
VLA *i* pP pP 09 26 33.7 -2.0
VLA *i* 09 27 25.0
VLA *i* S **S 09 34 04.4 +3.4**
VLA LR LR
comp=Z,4µm,17.0s,MS5.5
TAU Tasmania Unive 54.91 141 PFAKE 09 26 30.0 +5.6
TAU LR LR
comp=Z,8µm,21.0s,MS5.8
MDJ Mudanjiang 55.02 24 P **P 09 26 24.9 -0.4**
MDJ AP pP 09 26 36.8 -0.8
MDJ XP sP 09 26 41.7 -0.9
MDJ PP PP 09 28 28.3 -0.4
MDJ SCP ScP 09 31 21.4 -0.2
MDJ PCS PcS 09 31 26.1 -0.3
MDJ S **S 09 34 04.6 +0.2**
MDJ XS sS 09 34 24.5 -0.4
MDJ SCS ScS 09 36 10.6 -0.3
MDJ AMB AMB
comp=Z,45nm,1.1s,mb5.4
MDJ AMB AMB
comp=Z,977nm,6.8s
MDJ LR LR
comp=N,3µm,13.3s,MS5.9
MDJ LR LR
comp=E,7µm,14.3s,MS5.9
MDJ LR LR
comp=Z,7µm,17.4s,MS5.8
MDJ Mudanjiang 55.02 24⇑ *e* P **P 09 26 24.6 -0.6**
comp=Z,101nm,1.4s,mb5.7
MDJ *e*pP pP 09 26 39.0 +1.4
MDJ LR LR
comp=Z,6µm,20.0s,MS5.7
ZAK Zakamensk 55.05 1 *e* P **P 09 26 25.6 +0.1**
ZAK pmax pmax
comp=Z,180nm,2.2s,mb5.7
OPO Ambohidratompo 55.44 251 P **P 09 26 28.9 +0.7**
comp=Z,3.9nm,0.7s,baz=83,slow=6.6,SNR=7.5
KK31 Karatay Array 55.76 332 *i* P **P 09 26 29.1 -1.5**
KK31 pmax pmax
comp=Z,131nm,1.7s,mb5.7
KK31 Karatay Array 55.76 332 *i* P **P 09 26 29.1 -1.5**
comp=Z,131nm,1.7s,mb5.7
KKAR Karatay Array 55.76 332 *i* P **P 09 26 29.1 -1.5**
KKAR pmax pmax
comp=Z,229nm,1.8s,mb5.9
HIA Hailar 56.03 14⇑ *e* P **P 09 26 31.3 -1.2**
HIA *e**PP pP 09 26 43.6 -1.2
HIA pmax pmax
comp=Z,139nm,1.2s
HIA MLR MLR
comp=Z,21µm,19.0s
HIA Hailar 56.03 14⇑ *e* P **P 09 26 31.3 -1.1**
comp=Z,139nm,1.2s,mb5.9
HIA *e*pP pP 09 26 43.6 -1.2
HIA LR LR
comp=Z,21µm,19.0s,MS6.2
MOY Mondy 56.34 359 *e* P **P 09 26 34.8 +0.1**
MOY pmax pmax
comp=Z,341nm,2.1s,mb6.0
TLY Talaya 56.36 1 P **P 09 26 35.0 +0.2**
comp=Z,610nm,0.7s,mb6.7,SNR=28
TLY Talaya 56.36 1⇑ *e* P **P 09 26 35.1 +0.3**
TLY *e**PP pP 09 26 47.7 +0.5
TLY pmax pmax
comp=Z,72nm,0.8s,mb5.8
TLY MLR MLR
comp=Z,5µm,20.0s,MS5.6
TLY Talaya 56.36 1⇑ *e* P **P 09 26 35.1 +0.3**
TLY *e*pP pP 09 26 47.7 +0.5
IRK Irkutsk 56.93 1⇑ *i* P **P 09 26 38.7 -0.2**
IRK *e*S **S 09 34 32.3 +2.5**
IRK *e* 09 34 43.7
IRK pmax pmax
comp=Z,433nm,2.5s,mb6.0
HNR Honiara 57.32 98 P **P 09 26 40.4 -1.3**
comp=Z,106nm,0.9s,mb5.9,baz=199,slow=0.2,SNR=11
HNR pP pP 09 26 52.9 -1.1
comp=Z,170nm,1.0s,baz=253,slow=1.1,SNR=5.4
CIT Chita 57.49 8 *e* P **P 09 26 43.3 +0.4**
CIT *e* pP 09 26 55.5 +0.3
CIT *e*S **S 09 34 36.3 -0.9**
CIT pmax pmax
comp=Z,364nm,2.3s,mb6.0
KURK Kurchatov 59.02 343 P **P 09 26 52.5 -1.0**
comp=Z,738nm,0.7s,mb6.8,SNR=38
KURK Kurchatov 59.02 343⇑ *e* P **P 09 26 52.5 -1.0**
KURK *e**PP pP 09 27 06.8 +0.9
KURK *e*S **S 09 34 56.3 -0.7**
KURK pmax pmax
comp=Z,75nm,0.7s,mb5.8
KURK MLR MLR
comp=Z,5µm,21.0s,MS5.6
KURK Kurchatov 59.02 343⇑ *e* P **P 09 26 52.5 -1.0**
KURK *e*pP pP 09 27 06.8 +0.9
KURK *e*S **S 09 34 56.3 -0.7**
ABKT Ailbek 59.12 320 P **P 09 26 54.0 -0.2**
comp=Z,503nm,0.7s,mb6.7,SNR=22
KLR Kul'dur 59.67 22⇓ *i* P **P 09 26 54.0 -4.0**
KLR *e* pP 09 27 05.2 -5.3
KLR *e*S **S 09 35 10.0 +4.5**
KLR pmax pmax
comp=N,700nm,9.0s
KLR pmax pmax
comp=Z,1µm,9.0s
KLR pmax pmax
comp=E,120nm,1.8s
KLR pmax pmax
comp=Z,1.0nm,1.8s
KLR MLR MLR
comp=E,5µm,15.0s
KLR MLR MLR
comp=Z,10µm,15.0s,MS6.1
HABR Khabarovsk 60.36 24⇑ *i* P **P 09 27 01.6 -1.1**
HABR *e* pP 09 27 13.8 -1.4
HABR *e*S **S 09 35 13.8 -0.5**
HABR pmax pmax
comp=Z,230nm,2.0s,mb5.9
HABR pmax pmax
comp=Z,448nm,2.0s,mb6.2
HABR MLR MLR
comp=Z,7µm,22.4s,MS5.7
ZAL Zalesovo 60.42 348 P **P 09 27 02.5 -0.7**
comp=Z,87nm,1.0s,mb5.8,baz=307,slow=7.1,SNR=169
ZAL S **S 09 35 12.3 -2.8**
comp=Z,3.5nm,1.1s,baz=175,slow=21,SNR=8.6
ZAL LR LR 09 57 15.9
comp=Z,13µm,21.3s,MS6.0,baz=313,slow=40
ZAL Zalesovo 60.42 348 P **P 09 27 02.5 -0.7**
ZAL S **S 09 35 12.4 -2.7**
ASAJ Asahikawa 60.74 32 LR LR 09 53 15.1
comp=Z,3µm,21.7s,MS5.4,baz=173,slow=36
ATD Arta Tunnel 61.35 286 P **P 09 27 09.7 +0.2**
comp=Z,4.6nm,0.4s,mb5.0,baz=166,slow=22,SNR=3.8
ATD LR LR 09 51 15.3
comp=Z,3µm,18.5s,MS5.5,baz=293,slow=34
ATD Arta Tunnel 61.35 286 P **P 09 27 09.7 +0.2**
ATD LR LR 09 51 15.3
CASY Casey 61.55 176 *e* P **P 09 27 11.3 +0.4**
NVS Novosibirsk 61.59 348⇑ *i* P **P 09 27 08.2 -2.9**
NVS pmax pmax
comp=Z,277nm,2.0s,mb6.0
NVS pmax pmax
comp=N,191nm,1.9s
MIR Mirnyy 61.90 184 *d i* P **P 09 27 20.5 +7.3**
MIR *i* 09 27 56.5
MIR *e* 09 35 38.0
MIR pmax pmax
comp=Z,180nm,2.0s,mb5.8
YSS Yuzh-Sakhalins 62.76 30 *e* P **P 09 27 17.9 -1.0**
YSS *e**PP pP 09 27 30.9 -0.5
YSS pmax pmax
comp=Z,246nm,1.1s,mb6.2
YSS MLR MLR
comp=Z,3µm,20.0s,MS5.5
YSS Yuzh-Sakhalins 62.76 30 *e* P **P 09 27 17.9 -1.0**
comp=Z,246nm,1.1s,mb6.2
YSS *e*pP pP 09 27 30.9 -0.5
YSS LR LR
comp=Z,3µm,20.0s,MS5.5
BOD Bodaibo 63.21 7⇓ *i* P **P 09 27 20.8 -1.1**
BOD pmax pmax
comp=Z,106nm,1.7s,mb5.7
VOSK Vostochnaya 63.22 339 P **P 09 27 20.4 -1.6**
VOSK pmax pmax
comp=Z,46nm,0.9s,mb5.6
BVA0 Borovoye Array 63.67 339 P **P 09 27 23.6 -1.4**
BVA0 pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
BVAR Borovoye Array 63.67 339 P **P 09 27 23.6 -1.4**
comp=Z,53nm,0.7s,mb5.7,baz=144,slow=8.5,SNR=130
BVAR Borovoye Array 63.67 339 P **P 09 27 23.6 -1.4**
BRVK Borovoye 63.74 339 P **P 09 27 24.6 -0.8**
comp=Z,364nm,0.8s,mb6.5,SNR=30
BRVK Borovoye 63.74 339⇑ *e* P **P 09 27 23.9 -1.5**
BRVK pmax pmax
comp=Z,27nm,0.8s,mb5.3
BRVK MLR MLR
comp=Z,2µm,20.0s,MS5.3
BRVK Borovoye 63.74 339⇑ *e* P **P 09 27 23.9 -1.5**
comp=Z,27nm,0.8s,mb5.3
BRVK LR LR
comp=Z,2µm,20.0s,MS5.3
ZRNK Zerenda 64.12 338 *i* P **P 09 27 26.4 -1.5**
ZRNK pmax pmax
comp=Z,50nm,1.0s,mb5.5
DZM Mont Dzumac 64.23 112 P **P 09 27 27.9 -0.8**
comp=Z,6.0nm,0.7s,mb4.7,baz=93,slow=1.0,SNR=4.7
DZM LR LR 09 57 44.4
comp=Z,2µm,18.7s,MS5.2,baz=315,slow=38
KMBO Kilima Mbogo 65.05 271 P **P 09 27 33.3 -0.7**
comp=Z,2.4nm,0.5s,baz=30,slow=22,SNR=7.5
KMBO pP pP 09 27 45.6 -0.9
comp=Z,3.0nm,0.5s,baz=70,slow=7.8,SNR=5.8
KMBO LR LR 09 50 16.9
comp=Z,3µm,21.8s,MS5.5,baz=87,slow=31
KMBO Kilima Mbogo 65.05 271 P **P 09 27 33.3 -0.7**
KMBO *PP pP 09 27 45.7 -0.8
AB31 Akbulak array 65.26 331 P **P 09 27 34.2 -1.2**
AB31 pmax pmax
comp=Z,66nm,0.8s,mb5.7
BHD Baghdad 66.60 309 *ex* x 09 27 42.0
BHD *ex* x 09 27 52.0
BHD *ex* x 09 28 08.5
BHD *ex* x 09 36 30.0
BHD *ex* x 09 36 52.0
DRV Dumont d'Urvil 66.94 165 P **P 09 27 43.0 -3.1**
DRV S S 09 36 36.0 -0.2
DRV SS SS 09 40 54.0 -1.1
DRV R 09 49 00.0
AKTK Aktyubinsk 66.98 331 P **P 09 27 45.0 -1.3**
AKTO Aktyubinsk 66.98 331 P **P 09 27 45.0 -1.3**
comp=Z,8.8nm,0.4s,mb5.1,baz=127,slow=7.1,SNR=48
MAW Mawson 68.10 195 *e* P **P 09 27 54.4 +1.0**
comp=Z,9.5nm,1.0s,mb4.8
MAW Mawson 68.10 195 P **P 09 27 52.7 -0.7**
comp=Z,6.8nm,0.7s,mb4.8,baz=306,slow=9.8,SNR=10
MAW LR LR 09 52 46.7
comp=Z,13µm,18.7s,MS6.2,baz=28,slow=32
MAW Mawson 68.10 195 *e* P **P 09 27 54.4 +1.0**
MAW pmax pmax
comp=Z,10.0nm,1.0s
MAK Makhachkala 68.64 320 *c i* P **P 09 27 56.9 +1.0**
MAK *e* pP 09 28 09.6 +0.1
MAK *e* 09 30 25.9
MAK *e*PPP 09 32 07.4
MAK *i* S S 09 36 56.6 +0.1
MAK *e*SS SS 09 41 19.9 -1.5
MAK pmax pmax
comp=Z,366nm,1.6s,mb6.1
MAK pmax pmax
comp=Z,4µm,9.4s
MAK smax
comp=N,3µm,5.7s
MAK smax
comp=E,4µm,10.5s
MSL Mosul 68.77 312 *ex* x 09 27 59.0
MSL *ex* x 09 28 09.0
MSL *ex* x 09 36 57.0
GNI Garni 69.19 316 P **P 09 28 00.6 +0.4**
comp=E,8.6nm,0.5s,mb4.9,baz=154,slow=18,SNR=13
GNI pP pP 09 28 12.7 -0.1
comp=E,11nm,0.5s,baz=330,slow=10.0,SNR=2.7
GNI Garni 69.19 316 P **P 09 28 00.7 +0.5**
GNI pP pP 09 28 12.8 -0.1
GNI LR LR
comp=Z,2µm,20.0s,MS5.2
ORR Orenburg 69.32 331 *c i* P **P 09 27 59.9 -1.2**
ORR pmax pmax
comp=Z,40nm,0.7s,mb5.5
DGRG David-gareji 69.33 318 P **P 09 28 02.1 +0.9**
SAMG Sameba 69.82 318 P **P 09 28 03.9 -0.2**
MTA Mtatsminda 69.83 318 P **P 09 28 04.9 +0.7**
TBLG Delisi 69.89 318 P **P 09 28 04.1 -0.5**
TBLG Delisi 69.89 318 *e* P **P 09 28 04.1 -0.4**
YAK Yakutsk 69.97 13⇑ *e* P **P 09 28 03.0 -2.0**
YAK *e**PP pP 09 28 16.1 -1.6
YAK pmax pmax
comp=Z,345nm,0.8s,mb6.3
YAK MLR MLR
comp=Z,8µm,20.0s,MS6.0
YAK Yakutsk 69.97 13⇑ *e* P **P 09 28 03.0 -2.0**
comp=Z,345nm,0.8s,mb6.3
YAK *e*pP pP 09 28 16.1 -1.6
YAK LR LR
comp=Z,8µm,20.0s,MS6.0
DUS Dusheti 70.07 318 P **P 09 28 07.0 +1.4**
DIGO Kars 70.25 316 *i* P **P 09 28 06.6 -0.2**
AKH Akhalkalaki 70.59 317 P **P 09 28 09.1 +0.3**
BKR Bakuriani 70.72 317 P **P 09 28 11.1 +1.5**
ARU Arti 70.76 336 P **P 09 28 09.0 -0.9**
comp=Z,576nm,1.0s,mb6.5,SNR=24
ARU Arti 70.76 336 *c i* P **P 09 28 08.8 -1.1**
ARU pmax pmax
comp=Z,222nm,1.7s,mb5.8
ARU MLR MLR
comp=Z,3µm,18.0s,MS5.6
ARU Arti 70.76 336⇑ *i* P **P 09 28 08.8 -1.1**
comp=Z,222nm,1.7s,mb5.8
ARU LR LR
comp=Z,3µm,18.0s,MS5.6
MARD Mardin 70.87 312 *i* P **P 09 28 10.5 -0.1**
ZEI Tsey 70.91 318 *e* P **P 09 28 12.3 +1.5**
ZEI *e* 09 30 55.2
ZEI pmax pmax
comp=Z,37nm,0.8s,mb5.4
ONI Oni 71.12 318 P **P 09 28 12.5 +0.4**
BNGL BINGOL 71.22 314 *i* P **P 09 28 12.6 -0.1**
AMRG 71.30 318 P **P 09 28 15.2 +2.0**
RPZ Rata Peaks 71.33 134 P **P 09 28 14.6 +1.2**
comp=Z,13nm,1.0s,mb4.8,baz=360,slow=19,SNR=2.6
RPZ LR LR 09 58 10.0
comp=Z,11µm,21.6s,MS6.1,baz=284,slow=35
ARTV Artvin 71.56 316 *i* P **P 09 28 14.5 -0.2**
SKR Severo-Kuril's 72.00 33 *e* P **P 09 28 12.0 -5.4**
SKR *e* pP 09 28 24.7 -5.4
SKR *e* pP 09 28 26.0 -4.1
SKR *e*PPP 09 32 44.0
SKR *e*S S 09 37 34.0 -1.7
SKR *e* 09 38 24.0
SKR *e*SSS 09 45 14.0
SKR pmax pmax
comp=Z,2µm,4.0s
SKR pmax pmax
comp=Z,360nm,1.1s,mb6.2
SKR pmax pmax
comp=N,220nm,1.0s
SKR pmax pmax
comp=E,220nm,1.0s
SKR smax
comp=N,2µm,12.0s
SKR smax
comp=E,2µm,12.0s
SKR smax
comp=Z,2µm,12.0s
SKR MLR MLR
comp=Z,4µm,18.0s,MS5.7
KIV Kislovodsk 72.22 319 P **P 09 28 18.5 -0.2**
comp=Z,365nm,1.0s,mb6.3,SNR=12
KIV Kislovodsk 72.22 319⇑ *e* P **P 09 28 18.2 -0.5**
KIV *e**PP pP 09 28 30.5 -0.9
KIV *e* 09 31 01.7
KIV pmax pmax
comp=Z,233nm,1.5s,mb5.9
KIV MLR MLR
comp=Z,1µm,21.0s,MS5.1
KIV Kislovodsk 72.22 319⇑ *e* P **P 09 28 18.2 -0.5**
comp=Z,233nm,1.5s,mb5.9
KIV *e*pP pP 09 28 30.5 -0.9
KIV *e* 09 31 01.7
KIV LR LR
comp=Z,1µm,21.0s,MS5.1
GOF Gofitskoye 72.47 320 *e* P **P 09 28 20.0 -0.2**
MALT Malatya 72.97 312 *i* P **P 09 28 23.6 +0.5**
MALT Malatya 72.97 312⇑ *e* P **P 09 28 23.3 +0.2**
MALT *e**PP pP 09 28 35.6 -0.3
MALT pmax pmax
comp=Z,370nm,2.1s,mb6.0
MALT Malatya 72.97 312⇑ *e* P **P 09 28 23.3 +0.1**
comp=Z,370nm,2.1s,mb6.0
MALT *e*pP pP 09 28 35.6 -0.3
EIL Elat 73.01 303⇑ *e* P **P 09 28 23.8 +0.4**
comp=Z,1µm,1.1s,mb6.7
EIL *e*pP pP 09 28 35.8 -0.3
GZT Gaziantep 73.28 311 *i* P **P 09 28 26.0 +1.0**
LSZ Lusaka 73.42 256 PFAKE 09 28 40.0 +14
LSZ LR LR
comp=Z,6µm,22.0s,MS5.8
SNZO South Karori 73.58 132 PFAKE 09 28 40.0 +13
SNZO LR LR
comp=Z,11µm,21.0s,MS6.1
BHL Bhannes 73.65 307 *e* P **P 09 28 27.9 +0.8**
SOC Sochi 74.03 318 *i* P **P 09 28 28.9 -0.4**
PET Petropavlovsk 74.57 31 *e* P **P 09 28 31.0 -1.5**
PET *e**PP pP 09 28 45.0 -0.3
PET pmax pmax
comp=Z,127nm,0.8s,mb5.9
PET MLR MLR
comp=Z,2µm,20.0s,MS5.5
PET Petropavlovsk 74.57 31 *e* P **P 09 28 31.0 -1.5**
comp=Z,127nm,0.8s,mb5.9
PET *e*pP pP 09 28 45.0 -0.3
PET LR LR
comp=Z,2µm,20.0s,MS5.5
MA2 Magadan 74.72 23 *e* P **P 09 28 32.6 -0.8**
MA2 *e**PP pP 09 28 45.9 -0.3
MA2 pmax pmax
comp=Z,90nm,0.8s,mb5.8
MA2 MLR MLR
comp=Z,3µm,21.0s,MS5.5
MA2 Magadan 74.72 23 *e* P **P 09 28 32.6 -0.8**
comp=Z,90nm,0.8s,mb5.8
MA2 *e*pP pP 09 28 45.9 -0.3
MA2 LR LR
comp=Z,3µm,21.0s,MS5.5
URZ Urewera 75.06 128 LR LR 10 03 59.8
comp=Z,6µm,19.0s,MS5.9,baz=93,slow=38
CSS Prodhromos 75.80 308⇑ *e* P **P 09 28 39.6 +0.1**
comp=Z,220nm,1.4s,mb5.9
CSS *e*pP pP 09 28 51.7 -0.7
LBTB Lobatse 75.91 246 P **P 09 28 40.5 +0.3**
LBTB *e* pP 09 28 52.9 -0.1
LBTB pmax pmax
comp=Z,6.0nm,0.8s
LBTB MLR MLR
comp=Z,10µm,22.0s,MS6.1
LBTB Lobatse 75.91 246 P **P 09 28 40.5 +0.3**
comp=Z,5.9nm,0.8s
LBTB *e* pP 09 28 52.9 -0.1
LBTB LR LR
comp=Z,10µm,22.0s,MS6.1
VRHR Novokhopersk 76.00 325 *e* P **P 09 28 39.6 -1.1**
VRHR pmax pmax
comp=Z,160nm,1.3s,mb5.8
VRHR pmax pmax
comp=N,70nm,0.9s
VRHR pmax pmax
comp=E,90nm,1.3s
ANN Anapa 76.01 318 *e* P **P 09 28 37.7 -3.1**
ANN *e* pP 09 28 51.5 -2.1
ANN *e* 09 31 31.6
ANN *e*PPP 09 33 23.0
ANN *e*S S 09 38 16.9 -3.8
ANN *e* 09 38 39.6
ANN pmax pmax
comp=Z,50nm,1.0s,mb5.4
CDAG Cicekdag 76.39 313 *i* P **P 09 28 42.0 -0.9**
PECR Pechory 77.17 331 *d i* P **P 09 28 46.4 -0.9**
PECR *e* pP 09 29 00.0 -0.1
PECR *e* 09 31 42.0
PECR *e*S S 09 38 31.0 -2.4
PECR *e* 09 38 46.0
PECR *e*PS 09 38 56.0
PECR pmax pmax
comp=Z,1µm,1.6s,mb6.5
PECR pmax pmax
comp=Z,1µm,8.0s
PECR smax
comp=N,900nm,9.0s
PECR smax
comp=E,500nm,8.0s
PECR MLR MLR
comp=Z,1µm,20.0s,MS5.2
PECR MLR MLR
comp=N,900nm,18.0s,MS5.4
PECR MLR MLR
comp=Z,3µm,20.0s
PECR MLR MLR
comp=E,2µm,18.0s,MS5.4
VORD Divnogorie 77.27 325 *e* P **P 09 28 46.4 -1.5**
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=Z,30nm,0.9s,mb5.2
VORD pmax pmax
comp=E,10.0nm,0.8s
ANTO Ankara 77.62 312⇓ *i* P **P 09 28 49.3 -0.6**
ANTO Ankara 77.62 312⇑ *i* P **P 09 28 49.4 -0.5**
ANTO *e**PP pP 09 29 01.4 -1.3
ANTO pmax pmax
comp=Z,207nm,1.4s,mb5.9
ANTO MLR MLR
comp=Z,3µm,19.0s,MS5.6
ANTO Ankara 77.62 312⇑ *i* P **P 09 28 49.4 -0.5**
comp=Z,207nm,1.4s,mb5.9
ANTO *e*pP pP 09 29 01.4 -1.3
ANTO LR LR
comp=Z,3µm,19.0s,MS5.6
VOR Voronezh 77.64 325 *e* P **P 09 28 48.5 -1.5**
VOR *e* pP 09 29 00.0 -2.8
VOR 09 31 42.0
VOR S S 09 38 35.0 -3.5
VOR pmax pmax
comp=E,100nm,1.8s
VOR pmax pmax
comp=Z,230nm,1.8s,mb5.8
VOR pmax pmax
comp=N,50nm,1.8s
VOR pmax pmax
comp=E,80nm,1.8s
VOR pmax pmax
comp=Z,70nm,1.8s,mb5.3
VOR smax

comp=N,70nm,2.0s
VOR smax
comp=E,220nm,2.0s
VOR smax
comp=Z,100nm,2.0s
SIM Simferopol' 78.27 318 *c*eP P **09 28 53.5 0.0**
SIM eS S 09 38 42.7 -2.6
SIM pmax pmax
comp=Z,270nm,11.0s
TIXI Tiksi 78.34 8 *e*P P **09 28 49.2 -4.7**
TIXI *e* 09 31 44.5
TIXI *e*PPP 09 33 35.6
TIXI pmax pmax
comp=Z,64nm,1.0s,mb5.5
TIXI pmax pmax
comp=N,21nm,1.3s
TIXI pmax pmax
comp=E,15nm,1.1s
TIXI pmax pmax
comp=Z,546nm,2.8s,mb6.0
TIXI pmax pmax
comp=Z,425nm,24.1s
TIXI pmax pmax
comp=N,184nm,23.7s
TIXI pmax pmax
comp=E,138nm,23.2s
TIXI MLR MLR
comp=Z,22µm,17.0s,MS6.5
TIXI MLR MLR
comp=N,13µm,18.0s,MS6.4
TIXI MLR MLR
comp=E,6µm,16.0s,MS6.4
TIXI Tiksi 78.34 8 *e*P P **09 28 49.2 -4.7**
comp=E,64nm,1.0s,mb5.5
TIXI *e* 09 31 44.5
TIXI *e*PPP 09 33 35.6
TIXI LR LR
comp=Z,22µm,17.0s,MS6.5
RAO Raoul Island 78.72 119 LR LR 10 05 46.2
comp=Z,4µm,20.0s,MS5.8,baz=78,slow=37
ISP Isparta 78.77 310 *c* iP P **09 28 54.9 -1.3**
VNDA Vanda 78.91 169 P P **09 28 55.1 -1.8**
comp=Z,2.1nm,0.6s,baz=294,slow=5.1,SNR=15
VNDA LR LR 10 01 02.6
comp=Z,4µm,19.4s,MS5.7,baz=306,slow=34
VNDA Vanda 78.91 169 *e*P P **09 28 56.1 -0.9**
VNDA pmax pmax
comp=Z,24nm,1.3s
VNDA MLR MLR
comp=Z,4µm,20.0s
VNDA Vanda 78.91 169 *e*P P **09 28 56.1 -0.9**
comp=Z,24nm,1.3s,mb5.0
VNDA LR LR
comp=Z,4µm,20.0s,MS5.7
BORA Eskisehir 79.35 312 *i* P P **09 28 58.8 -0.6**
GDZ Gediz 79.87 311 *i* P P **09 29 01.0 -1.2**
SBA Scott Base 80.00 169 *e*P P **09 29 02.7 -0.2**
SBA *e**PP pP 09 29 15.1 -0.7
SBA pmax pmax
comp=Z,41nm,1.3s,mb5.2
SBA MLR MLR
comp=Z,4µm,20.0s,MS5.7
SBA Scott Base 80.00 169 *e*P P **09 29 02.7 -0.2**
comp=Z,40nm,1.3s,mb5.2
SBA *e*pP pP 09 29 15.1 -0.6
SBA LR LR
comp=Z,4µm,20.0s,MS5.7
MOS Moscow 80.14 329 *e*P P **09 29 03.0 -0.7**
SUR Sutherland 80.22 238 P P **09 29 05.4 +1.3**
comp=Z,21nm,0.7s,mb5.2
SUR *e*pP pP 09 29 17.0 0.0
SUR LR LR
comp=Z,3µm,21.0s,MS5.6
ULDT Uludag 80.40 312 *i* P P **09 29 05.3 +0.3**
MANT Manisa 80.42 310 *i* P P **09 29 06.9 +1.7**
OBN Obninsk 80.44 328 P P **09 29 05.1 -0.2**
comp=Z,502nm,2.0s,mb6.1,SNR=11
OBN Obninsk 80.44 328 *i* P P **09 29 04.8 -0.5**
OBN *e* pP 09 29 18.2 0.0
OBN *e*S S 09 39 06.8 -1.6
OBN pmax pmax
comp=Z,288nm,1.9s,mb5.9
OBN Obninsk 80.44 328 *i* P P **09 29 04.8 -0.5**
comp=Z,288nm,1.9s,mb5.9
OBN *e* pP 09 29 18.2 0.0
OBN *e*S S 09 39 06.8 -1.6
ELBA Catalca 81.17 313 *i* P P **09 29 08.3 -0.9**
KLMR Klimovskoe 81.41 334 *c* iP P **09 29 09.6 -0.9**
KLMR *e* 09 32 17.3
KLMR *e*PPP 09 34 11.5
KLMR *e*S S 09 39 20.2 +1.7
KLMR *e*SS SS 09 44 43.5 +8.3
KLMR pmax pmax
comp=Z,380nm,1.6s,mb6.1
KLMR pmax pmax
comp=Z,550nm,8.3s
SMG Samos 81.56 309 *e*P P **09 29 12.0 +0.7**
XRY Khrisi 81.86 306 *e*P P **09 29 13.5 +0.7**
NPS Neapolis 82.01 306 *e*P P **09 29 15.5 +1.9**
TIRR Tirgusor 82.02 316⇑ *i*P P **09 29 13.3 -0.3**
TIRR Tirgusor 82.02 316⇑ *e*P P **09 29 12.8 -0.8**
TIRR *e*pP pP 09 29 25.3 -1.2
PRK Paraskevi 82.33 311 *e*P P **09 29 15.0 -0.3**
SANT Santorini 82.35 308⇑ *e*P P **09 29 15.1 -0.3**
comp=Z,81nm,1.1s,mb5.6
SANT *e*pP pP 09 29 26.8 -1.5
CFR Carcaliu 82.39 317⇑ *i*P P **09 29 15.9 +0.3**
CFR Carcaliu 82.39 317⇑ P P **09 29 15.8 +0.2**
KIS Kishinev 82.41 319 *c* iP P **09 29 14.0 -1.7**
KIS *i* pP 09 29 25.0 -3.6
KIS *e*S S 09 39 30.0 +1.3
KIS pmax pmax
comp=Z,1µm,8.0s
HARR Harsova 82.41 316⇓ *i*P P **09 29 16.9 +1.2**
HARR Harsova 82.41 316⇓ P P **09 29 16.9 +1.2**
APE Apeiranthos 82.44 308⇑ *i*P P **09 29 15.1 -0.8**
APE Apeiranthos 82.44 308 *e*P P **09 29 16.0 +0.1**
APE Apeiranthos 82.44 308 *c* iP P **09 29 14.9 -1.0**
APE Apeiranthos 82.44 308⇑ P P **09 29 15.1 -0.7**
FX1 Attu Island--F 82.49 35 P P **09 29 15.2 -0.9**
comp=Z,28nm,0.7s,mb5.3,baz=216,slow=6.1,SNR=8.9
FX1 Attu Island--F 82.49 35 *e*P P **09 29 13.3 -2.8**
JMB Yambol 82.82 314 *i*P P **09 29 18.3 +0.4**
SMY Shemya 82.98 36 PFAKE 09 29 30.0 +11
SMY LR LR
comp=Z,2µm,21.0s,MS5.5
AKASG Malin Array Be 83.16 322 P P **09 29 18.1 -1.5**
comp=Z,17nm,0.9s,mb5.1,baz=90,slow=4.8,SNR=56
AKASG pP pP 09 29 30.6 -2.0
comp=Z,12nm,0.7s,baz=91,slow=5.1,SNR=8.0
AKASG PP PP 09 32 29.6 -1.5
comp=Z,0.4nm,0.4s,baz=96,slow=6.3,SNR=4.9
AKASG Malin Array Be 83.16 322 P P **09 29 18.1 -1.5**
AKASG pP pP 09 29 30.6 -1.9
AKASG *e* 09 32 29.6
VAM Vamos 83.17 306 *e*P P **09 29 17.0 -2.6**
TSUM Tsumeb 83.44 251 PFAKE 09 29 30.0 +9.0
TSUM LR LR
comp=Z,5µm,21.0s,MS5.9
SZH Strazhica 83.47 314 *e*P P **09 29 23.6 +2.4**
KDZ Kurdzhali 83.49 313 *i* P P **09 29 21.0 -0.3**
DIM Dimitrovgrad 83.49 313 *i* P P **09 29 21.3 0.0**
VRI Vrincioaia 83.52 317⇑ *i*P P **09 29 21.9 +0.4**
VRI Vrincioaia 83.52 317⇑ P P **09 29 21.9 +0.5**
PLOR Plostina 83.57 317⇑ *i*P P **09 29 22.8 +1.1**
PVL Pavlikeni 83.89 314 *e*P P **09 29 24.1 +0.8**
PTL Penteli 83.93 309 *e*P P **09 29 24.0 +0.4**
MLR Muntele Rosu 83.97 317⇑ *i*P P **09 29 23.8 +0.1**
MLR Muntele Rosu 83.97 317⇑ P P **09 29 23.8 0.0**
RZN Rozhen 84.01 313 *i* P P **09 29 24.2 +0.2**
PLD Plovdiv 84.11 313 *i* P P **09 29 24.4 -0.1**
MGER Gerania Oros 84.39 309 *e*P P **09 29 29.5 +3.6**
PGB Panagyurishte 84.59 313 *i* P P **09 29 26.2 -0.7**
MMB Musomiste 84.72 312 *e*P P **09 29 27.7 +0.2**
AFI Afiamalu 84.89 103 P P **09 29 30.8 +2.4**
comp=Z,33nm,0.9s,mb5.4,baz=306,slow=14,SNR=3.7
AFI LR LR 10 02 36.1
comp=Z,1µm,22.0s,MS5.3,baz=156,slow=32
BURAR Bucovina Array 84.93 319⇑ *i*P P **09 29 29.5 +0.9**
BURAR Bucovina Array 84.93 319⇑ P P **09 29 29.5 +0.9**
MNK Minsk 85.02 326 *e*P P **09 29 27.0 -2.0**
MNK *e*S 09 39 48.0
MNK pmax pmax
comp=Z,340nm,1.4s,mb6.3

BILL Bilibino 85.06 20 *c* iP P **09 29 27.9 -1.4**
BILL pmax pmax
comp=Z,104nm,2.5s,mb5.5
BILL Bilibino 85.06 20⇑ *i*P P **09 29 27.9 -1.4**
comp=Z,104nm,2.5s,mb5.5
QSPA South Pole Qui 85.09 180 *e*P P **09 29 28.0 -1.5**
comp=Z,15nm,0.9s,mb5.1
QSPA LR LR
comp=Z,6µm,19.0s,MS6.0
PUL Pulkovo 85.24 331⇑ *e*P P **09 29 30.5 +0.3**
KKB Krupnik 85.24 313 *i* P P **09 29 29.9 -0.3**
VTS Vitosha 85.29 313 *i* P P **09 29 29.9 -0.5**
VTS Vitosha 85.29 313⇑ *i*P P **09 29 30.0 -0.4**
ITM Ithomi 85.29 308 *e*P P **09 29 28.5 -1.9**
VAY Valandovo 85.52 312⇑ *i*P P **09 29 29.8 -1.8**
EVR Evrytania 85.68 310 *e*P P **09 29 32.0 -0.3**
JOF Joensuu 85.80 334 *e*p P **09 29 32.6 -0.3**
comp=Z,20nm,0.7s,mb5.5
JOF Joensuu 85.80 334 *e*p pP 09 29 44.0 -1.9
comp=Z,359nm,2.0s
LVV L'vov 86.17 321 *e*P P **09 29 34.0 -0.8**
LVV *e*S 09 40 11.0
LVV MLR MLR
comp=N,500nm,19.0s
LVZ Lovozero 86.27 339⇓ *i*P P **09 29 33.9 -1.4**
LVZ pmax pmax
comp=Z,91nm,1.7s,mb5.7
BOLS Boljevac 86.42 314⇑ *i*P P **09 29 35.0 -1.0**
DRGR 86.44 317⇓ *i*P P **09 29 36.4 +0.3**
DRGR 86.44 317 P P **09 29 37.3 +1.2**
DRGR 86.44 317⇓ P P **09 29 36.4 +0.3**
SKO Skopje 86.47 312 *i* P P **09 29 33.9 -2.4**
JAN Janina 86.53 310 *e*P P **09 29 38.0 +1.4**
APA Apatity 86.59 339⇑ *i*P P **09 29 36.3 -0.5**
APA *i* pP 09 29 48.3 -1.5
APA *i* 09 33 07.2
APA *i*S 09 40 08.0
APA *e* 09 49 23.0
APA pmax pmax
comp=Z,290nm,2.0s,mb6.2
APA MLR MLR
comp=Z,800nm,15.0s,MS5.2
VSU Vasula 86.64 329 *c* iP P **09 29 36.9 -0.2**
OHR Ohrid 86.80 312 *i* P P **09 29 33.7 -4.2**
BZS Buzias 86.97 316⇑ *i*P P **09 29 38.8 +0.1**
BZS Buzias 86.97 316 P P **09 29 39.5 +0.8**
BZS Buzias 86.97 316⇑ P P **09 29 38.8 +0.1**
KWP Kalwaria 86.98 320 *e*P P **09 29 39.3 +0.6**
KWP *e*PcP PcP 09 29 41.2 +0.3
KWP *e*S 09 40 14.2
KWP *e*sS sS 09 40 37.9 +2.0
KWP L 10 17 19.5
comp=Z,1.7nm,23.2s
KWP Kalwaria 86.98 320 *e*P P **09 29 39.3 +0.6**
KWP *e*S 09 40 14.2
KWP Kalwaria 86.98 320 *e*P P **09 29 39.3 +0.6**
KWP *e*PcP PcP 09 29 41.2 +0.3
KWP *e*S 09 40 14.2
KWP *e*SS sS 09 40 37.9 +2.0
UZH Uzhgorod 87.06 319 *e*P P **09 29 37.0 -2.1**
UZH *e* 09 33 02.0
UZH *e*S 09 40 11.0
KOLS Kolonicke sedl 87.13 319 *e*P P **09 29 41.1 +1.6**
KOLS *e*pP pP 09 29 53.1 +0.6
KOLS *e*PP PP 09 33 03.7 +0.3
KOLS *e*S 09 40 14.0
SUW Suwalki 87.56 325 *e*P P **09 29 41.9 +0.4**
SUW *e*PcP PcP 09 29 43.9 +0.4
SUW *e*pP pP 09 29 53.5 -1.0
SUW *e*S 09 40 19.7
SUW L 10 16 20.1
comp=Z,3.0nm,20.0s
SUW Suwalki 87.56 325 *e*P P **09 29 41.9 +0.4**
SUW *e*PcP PcP 09 29 43.9 +0.4
SUW *e*pP pP 09 29 53.5 -1.0
SUW *e*S 09 40 19.7
BEO Belgrade 87.64 315⇑ *i*P P **09 29 42.4 +0.4**
CRVS Cervenica-Dubn 87.65 319 *e*P P **09 29 44.4 +2.4**
CRVS *e* pP 09 29 57.4 +2.4
CRVS Cervenica-Dubn 87.65 319 *e*S 09 40 20.1
FINES FINESS Array B 87.72 332 P P **09 29 41.9 -0.5**
comp=Z,13nm,0.8s,mb5.2,baz=104,slow=8.0,SNR=38
FINES pP pP 09 29 54.4 -1.0
comp=Z,13nm,0.7s,baz=119,slow=6.7,SNR=11
FINES LR LR 10 14 52.6
comp=Z,2µm,20.3s,MS5.5,baz=269,slow=40
FINES FINESS Array B 87.72 332 P P **09 29 41.9 -0.4**
FINES *PP pP 09 29 54.4 -0.9
KAF Kangasniemi 87.78 333 *e*p P **09 29 42.4 -0.2**
comp=Z,31nm,0.7s,mb5.6,baz=98,slow=4.2
KAF Kangasniemi 87.78 333 *e*p pP 09 29 53.9 -1.7
comp=Z,27nm,0.7s,baz=99,slow=4.2
KAF Kangasniemi 87.78 333 *e*P P **09 29 42.4 -0.2**
KAF pmax pmax
comp=Z,31nm,0.7s,mb5.7
DIVS Divcibare 87.86 314 *i* P P **09 29 43.2 +0.2**
STHS Stebnicka Huta 87.88 320 *i* P P **09 29 44.2 +1.1**
KECS Kecovo 88.21 319 *e*P P **09 29 45.0 +0.3**
KECS *e*pP pP 09 29 57.4 -0.3
BBLS Bajina Basta - 88.24 314 *i* P P **09 29 46.0 +1.3**
NIE Niedzica 88.48 320 *e*P P **09 29 47.1 +1.2**
NIE *e*pP pP 09 29 59.2 +0.3
WAR Warsaw 88.50 323 *e*P P **09 29 46.4 +0.4**
WAR *e*pP pP 09 29 59.1 0.0
WAR *e*SKS 09 40 13.5
WAR *e*S 09 40 29.4
WAR L 10 17 09.4
comp=Z,2.5nm,22.3s
PSZ Piszkesteto 88.52 318⇑ *e* P **09 29 46.5 +0.4**
PSZ Piszkesteto 88.52 318⇑ *i*P P **09 29 47.2 +1.1**
OJC Ojcow 88.93 320 *e*P P **09 29 48.3 +0.3**
OJC *e*pP pP 09 29 59.8 -1.3
OJC *e*PP PP 09 33 16.4 -1.5
OJC *e*S 09 40 31.6
OJC L 10 18 36.5
comp=Z,14nm,22.7s
BUD Budapest 89.03 318⇑ *e* P **09 29 48.9 +0.4**
PKSM Moragy 89.11 316⇓ *i*P P **09 29 48.8 -0.1**
PKSM Moragy 89.11 316⇓ *e*P P **09 29 49.1 +0.2**
PKS8 Sarbogard 89.18 317⇓ *e*P P **09 29 50.2 +1.0**
VYHS Vyhne 89.30 319 *i* P P **09 29 50.0 +0.2**
VYHS *e*pP pP 09 30 02.4 -0.4
VYHS *e*PP PP 09 33 22.6 +1.8
VYHS *e*S 09 40 36.1
STON Ston 89.34 313⇑ *i*P P **09 29 48.8 -1.1**
PKSG 89.44 317 *e*P P **09 29 51.2 +0.8**
BRT Bari-Castellan 89.46 311 P P **09 29 51.4 +0.9**
BRT pmax pmax
comp=Z,63nm,0.9s,mb6.0
BRT Bari-Castellan 89.46 311 P P **09 29 51.4 +0.9**
comp=Z,63nm,0.9s,mb6.0
RHK1 Bakonya 89.49 316 *e*P P **09 29 51.5 +0.8**
KEV Kevo 89.50 340 *e*p pP 09 30 01.9 -1.9
comp=Z,18nm,0.8s
KEV Kevo 89.50 340 *e*P P **09 29 47.1 -3.6**
KEV pmax pmax
comp=Z,12nm,0.8s,mb5.3
KEV MLR MLR
comp=Z,4µm,20.0s,MS5.9
KEV Kevo 89.50 340 *e*P P **09 29 47.1 -3.6**
comp=Z,12nm,0.8s,mb5.3
KEV LR LR
comp=Z,4µm,20.0s,MS5.9
SRO Srobarova 89.55 318 *e*P P **09 29 52.5 +1.5**
SRO *e*pP pP 09 30 04.3 +0.3
SRO Srobarova 89.55 318 *e*P P **09 29 52.6 +1.6**
SRO1 Iza 89.60 318 *e*P P **09 29 52.1 +0.9**
SRO1 *e*pP pP 09 30 04.1 -0.1
SRO1 Iza 89.60 318 *e*P P **09 29 52.2 +1.0**
SRO1 *e* pP 09 30 04.1 -0.1
OKC Ostrava-Krasne 89.93 320 *e*P P **09 29 53.7 +1.0**
OKC *e*pP pP 09 30 05.8 0.0
OKC *e*PP PP 09 33 26.8 +1.0
OKC *e*S 09 40 42.0
OKC AMS AMS 10 19 30.0
comp=Z,2µm,17.5s
RAC Raciborz 89.94 320 *e*P P **09 29 54.0 +1.3**
RAC MLR MLR
comp=Z,3µm,20.7s,MS5.7
ARCES ARCESS Array B 89.95 340 P P **09 29 52.7 -0.1**
comp=Z,22nm,1.0s,mb5.5,baz=83,slow=5.0,SNR=16
ARCES LR LR 10 15 08.0
comp=Z,5µm,21.5s,MS5.9,baz=111,slow=39

ARCES ARCESS Array B 89.95 340 P P **09 29 52.7 -0.1**
ARCES LR LR 10 15 08.0
SNAA Sanae 90.12 198 *e*P pP 09 30 06.4 -0.3
SNAA *e* 09 30 11.7
SNAA *e* 09 30 17.7
SNAA *e* 09 30 23.0
SNAA *e* 09 30 35.5
SNAA Sanae 90.12 198 *e*P P **09 29 53.3 -0.3**
SNAA *e*PP pP 09 30 05.9 -0.8
SNAA pmax pmax
comp=Z,29nm,1.3s
SNAA Sanae 90.12 198 *e*P P **09 29 53.3 -0.3**
comp=Z,30nm,1.3s,mb5.5
SNAA *e*pP pP 09 30 05.9 -0.8
MTTG Motta San Giov 90.31 308 P P **09 29 55.9 +1.4**
comp=Z,45nm,0.8s,mb5.8
MORC Moravsky Berou 90.31 320⇑ *i*P P **09 29 54.7 +0.2**
MORC Moravsky Berou 90.31 320⇑ P P **09 29 54.7 +0.2**
SCLL Scilla 90.32 308 P P **09 29 55.6 +1.1**
comp=Z,107nm,1.9s,mb5.8
ZST Bratislava 90.41 318 *e*P P **09 29 55.7 +0.8**
ZST *e*pP pP 09 30 07.0 -1.0
ZST Bratislava 90.41 318 *e*S 09 40 42.4
KTK1 Kautokeino 90.62 339 *e*P P **09 29 53.9 -2.0**
KTK1 AMb AMB 09 30 12.4
comp=Z,125nm,1.4s,mb6.0
KTK1 Kautokeino 90.62 339 *e*P P **09 29 53.9 -2.0**
comp=Z,125nm,1.4s,mb6.0
SOP Sopron 90.71 318⇑ *e* P **09 29 56.2 -0.2**
VRAC Vranov 90.87 319⇓ *i*P P **09 29 56.9 -0.2**
GKP Gorka Klasztor 90.93 323 *e*P P **09 29 57.7 +0.3**
GKP *e*pP pP 09 30 10.3 -0.1
GKP *e*S 09 40 48.9
GKP L 10 18 34.6
comp=Z,3.5nm,22.1s
DPC Dobruska-Polom 91.16 320 *e*P P **09 29 59.9 +1.5**
DPC *e*pP pP 09 30 11.6 +0.1
DPC *e*PP PP 09 33 37.2 +1.6
DPC *e*S 09 40 53.1
DPC AMS AMS 10 19 30.0
comp=Z,4µm,19.5s
KSP Ksiaz 91.23 321 *e*P P **09 30 00.4 +1.6**
KSP *e*pP pP 09 30 12.5 +0.7
KSP *e*SKS 09 40 28.8
KSP *e*S 09 40 47.1
KSP *e*PS PS 09 42 18.1 +10
KSP L 10 20 00.2
comp=Z,4.3nm,19.7s
KSP Ksiaz 91.23 321⇑ *e*P P **09 29 59.6 +0.8**
KSP *e*pP pP 09 30 11.0 -0.8
KSP *e*PP PP 09 33 36.0 -0.1
KSP *e*S 09 40 51.5
KSP *e*SP SP 09 42 07.0 +4.8
KSP LR LR
comp=Z,5µm,19.7s,MS6.0
ARSA Arzberg 91.37 317⇓ *i*P P **09 29 59.6 +0.3**
comp=Z,197nm,2.3s,mb6.0,SNR=13
BOJS Bojanci 91.38 315 *e*P P **09 29 59.6 +0.2**
BOJS *i* pP 09 30 11.8 -0.7
NVLJ Novalja 91.56 314⇑ *i*P P **09 29 59.4 -0.9**
PERS Pernice 91.58 316 *e*P P **09 30 01.0 +0.6**
PERS *i* pP 09 30 12.9 -0.6
TREC Trest 91.59 319 *e*P P **09 30 01.6 +1.2**
TREC *e*pP pP 09 30 13.4 -0.1
TREC *e*PP PP 09 33 39.0 0.0
TREC *e*S 09 40 57.1
TREC AMS AMS 10 19 50.0
comp=Z,2µm,20.4s
VNA2 Neumayer--Watz 91.75 198 *e*P P **09 30 01.2 0.0**
VNA2 *e* 09 30 02.4
VNA2 *e* 09 30 08.3
VNA2 *e* pP 09 30 13.9 -0.3
VNA2 *e* 09 30 19.4
VNA2 *e* 09 30 30.9
VNA2 *e* 09 30 35.5
VNA2 *e* 09 30 42.0
VNA2 *e* 09 30 47.2
LJU Ljubljana 91.94 316 *i* P P **09 30 02.7 +0.7**
LJU *e* pP 09 30 14.6 -0.5
OBKA Obir 91.96 316⇑ *i*P P **09 30 02.4 +0.2**
comp=Z,266nm,2.8s,mb6.1
VNA1 Neumayer--Stat 92.12 198 *e*P pP 09 30 11.9 -4.0
VNA1 *e* 09 30 16.1
VNA1 *e* 09 30 21.2
VNA1 *e* 09 30 28.8
VNA1 *e* 09 30 32.8
VNA1 *e* 09 30 44.8
VNA1 *e* 09 30 49.1
TRO Tromso 92.24 340 *e*PP PP 09 33 43.6 -0.5
TRO AMS AMS 10 14 46.4
comp=Z,2µm,22.7s,MS5.5
PRU Pruhonice 92.27 320 *e*P P **09 30 04.7 +1.1**
PRU *e*pP pP 09 30 16.3 -0.3
PRU *e*PP PP 09 33 42.9 -1.4
PRU *e*S 09 41 02.7
PRU AMS AMS 10 19 20.0
comp=Z,2µm,19.3s
MOA Molln 92.27 318⇑ *i*P P **09 30 03.2 -0.3**
comp=Z,371nm,5.0s
VNA3 Neumayer Olymp 92.33 197 *e*P P **09 30 03.6 -0.2**
VNA3 *e* 09 30 04.4
VNA3 *e* pP 09 30 16.8 -0.1
VNA3 *e* 09 30 21.4
VNA3 *e* 09 30 37.3
VNA3 *e* 09 30 43.8
VNA3 *e* 09 30 48.0
PRA Prague 92.34 320 P P **09 30 05.0 +1.1**
PRA pP pP 09 30 17.0 0.0
VOY Vojsko 92.38 316 *e*P P **09 30 04.3 +0.2**
VOY *e* pP 09 30 16.6 -0.5
AQU L'Aquila 92.44 312 P P **09 30 04.3 -0.1**
AQU *e**PP pP 09 30 16.5 -0.9
BSD Bornholm Skovb 92.47 325 *i* P pP 09 30 16.1 -1.5
BSD Bornholm Skovb 92.47 325 *e*P pP 09 30 16.1 -1.5
BSD MLR MLR
comp=Z,2µm,20.0s,MS5.4
ROBS Robic 92.66 316 *e*P P **09 30 05.1 -0.2**
ROBS *e* pP 09 30 17.2 -1.3
BRG Berggiesshubel 92.72 321 *e*P P **09 30 05.9 +0.3**
comp=Z,192nm,1.9s,mb6.2
BRG Berggiesshubel 92.72 321 *i* P P **09 30 06.2 +0.6**
comp=Z,57nm,2.0s,mb5.7
BRG *i* pP 09 30 18.3 -0.4
comp=Z,119nm,2.0s
BRG *i* 09 30 38.9
comp=Z,26nm,1.6s
BRG PP PP 09 33 41.0 -6.8
BRG *i* 09 34 00.8
comp=Z,41nm,1.8s
BRG SKS 09 40 37.0
BRG S 09 41 08.0
BRG PS PS 09 42 24.0 -0.1
BRG SS SS 09 47 18.0 -2.5
BRG
comp=N,972nm,21.2s
BRG
comp=E,362nm,19.9s
BRG
comp=Z,2µm,20.1s
BRG Berggiesshubel 92.72 321 *i* P P **09 30 06.2 +0.6**
BRG *i* pP 09 30 18.3 -0.4
BRG 09 40 37.0
BRG S 09 41 08.0
BRG PS PS 09 42 24.0 -0.1
BRG SS SS 09 47 18.0 -2.5
BRG pmax pmax
comp=Z,57nm,2.0s,mb5.7
BRG pmax pmax
comp=Z,119nm,2.0s,mb6.0
BRG pmax pmax
comp=Z,26nm,1.6s,mb5.4
BRG pmax pmax
comp=Z,41nm,1.8s,mb5.6
BRG MLR MLR
comp=N,900nm,21.1s,MS5.2
BRG MLR MLR
comp=E,400nm,19.9s,MS5.2
BRG MLR MLR
comp=Z,2µm,20.1s,MS5.5
GEC2 GERESS Array S 92.72 319 *e*P P **09 30 05.9 +0.2**
comp=Z,225nm,1.9s,mb6.3
GEC2 GERESS Array S 92.72 319 *e*P P **09 30 05.9 +0.2**
GEC2 pmax pmax

comp=Z,225nm,1.9s,mb6.3
GERES GERESS Array B 92.72 319 P **P** **09 30 06.1 +0.4**
comp=Z,5.5nm,0.7s,mb5.1,baz=100,slow=4.1,SNR=21
GERES pP pP 09 30 17.6 -1.1
comp=Z,4.9nm,0.6s,baz=90,slow=4.0,SNR=7.3
GERES PP PP 09 33 50.7 +2.8
comp=Z,0.5nm,0.2s,baz=104,slow=5.6,SNR=3.9
PTCC Patocco-Chiusa 92.78 316 P **P** **09 30 06.6 +0.7**
comp=Z,181nm,2.1s,mb6.1
KHC Kasperske Hory 92.82 319 *e*P **P** **09 30 06.6 +0.5**
KHC *e*pP pP 09 30 19.2 0.0
KHC *e*PP PP 09 33 44.3 -4.4
KHC *e*S 09 41 09.0
KHC AMS AMS 10 21 20.0
comp=Z,3μm,18.8s
KHC Kasperske Hory 92.82 319⇑ *i*P **P** **09 30 06.0 -0.1**
BJO Bjornoya 92.83 345 AMS AMS 10 20 40.6
comp=Z,6μm,16.9s,MS6.1
KBA Koelnbreinsper 92.83 317⇑ *i*P **P** **09 30 06.0 -0.1**
comp=Z,254nm,6.7s
KBA Koelnbreinsper 92.83 317⇑ *i*P **P** **09 30 06.0 -0.2**
KBA pmax pmax
comp=Z,254nm,6.7s
GMNA Gemona 92.85 316 P **P** **09 30 07.3 +1.0**
comp=Z,203nm,1.2s,mb6.4
ARV Arcevia 92.87 313 P **P** **09 30 07.4 +1.1**
ARV pmax pmax
comp=Z,97nm,1.8s,mb5.9
ARV Arcevia 92.87 313 P **P** **09 30 07.4 +1.1**
comp=Z,97nm,1.8s,mb5.9
RUE Ruedersdorf 92.94 322 *e*P **P** **09 30 06.7 0.0**
comp=Z,194nm,1.5s,mb6.3
WET Wettzell 93.28 319 *e*P **P** **09 30 08.4 +0.1**
comp=Z,215nm,2.2s,mb6.2
WET Wettzell 93.28 319 *e*P **P** **09 30 08.4 +0.1**
WET pmax pmax
comp=Z,215nm,2.2s,mb6.2
CLL Collm 93.34 321 *e*P **P** **09 30 07.7 -0.8**
comp=Z,83nm,2.2s,mb5.8
CLL *e*pP pP 09 30 20.6 -1.0
CLL *e*PP PP 09 33 53.3 +0.6
CLL *e*pPP 09 34 03.5
CLL *e*PPP 09 35 53.0
CLL *e*SKSac SKSac 09 40 37.0 -2.3
CLL *es*SKSac 09 40 56.1
CLL *e*S 09 41 11.2
CLL *es*S sS 09 41 32.9 -1.9
CLL *e*PS PS 09 42 35.9 +4.9
CLL *e*SS SS 09 47 28.4 -1.0
CLL *e*SSS 09 51 16.1
CLL *e*SSSS 09 54 23.2
CLL *e*LR LR 10 03 43.7
CLL *e*L 10 19 35.0
comp=Z,2μm,22.0s
CLL Collm 93.34 321⇑ *i*P **P** **09 30 08.6 +0.1**
comp=Z,80nm,2.2s,mb5.8
CLL LmV 09 19 00.0
comp=Z,2μm,20.0s
CLL *i* x x 09 30 14.3
CLL *i* sP sP 09 30 20.6 -5.8
CLL *e*PP PP 09 33 47.0 -5.7
CLL *i* sPP 09 34 02.5
CLL *e*PPP 09 35 59.0
CLL *e*SKSac SKSac 09 40 37.0 -2.3
CLL *es*SKSac 09 40 51.0
CLL *e*S 09 41 12.0
CLL *es*S sS 09 41 27.0 -7.8
CLL *e*PS PS 09 42 36.0 +5.0
CLL *e*SS SS 09 47 30.0 +0.6
CLL *e*SSS 09 51 18.0
CLL *e*SSSS 09 54 12.0
CLL Collm 93.34 321⇑ *i*P **P** **09 30 08.6 +0.1**
CLL *i* *SP sP 09 30 20.6 -5.8
CLL *e* 09 40 37.0
CLL *e*S 09 41 12.0
CLL pmax pmax
comp=Z,9.0nm,2.2s,mb4.8
CLL MLR MLR
comp=Z,2μm,20.0s,MS5.6
CLL Collm 93.34 321⇑ *i*P **P** **09 30 08.6 +0.1**
comp=Z,80nm,2.2s,mb5.8
CLL *i* sP sP 09 30 20.6 -5.8
CLL *e*SKS 09 40 37.0
CLL *e*S 09 41 12.0
CLL LR LR
comp=Z,2μm,20.0s,MS5.6
HFS Hagfors 93.51 330 PP PP 09 33 57.9 +3.9
comp=Z,4.4nm,0.8s,baz=116,slow=8.4,SNR=3.6
MOR8 Moi Rana 93.57 336 *e*P **P** **09 30 09.2 -0.4**
NKC Novy Kostel 93.63 320 *e*P **P** **09 30 10.8 +1.0**
NKC *e*pP pP 09 30 22.8 -0.1
NKC *e*PP PP 09 33 53.8 -1.2
NKC *e*S 09 41 16.5
NKC AMS AMS 10 18 00.0
comp=Z,2μm,20.5s
SFI Santa Sofia 93.68 314 P **P** **09 30 11.8 +1.7**
SFI pmax pmax
comp=Z,505nm,2.9s,mb6.4
SFI Santa Sofia 93.68 314 P **P** **09 30 11.8 +1.7**
comp=Z,505nm,2.9s,mb6.4
WERD Werda 93.73 320 *e*P **P** **09 30 10.3 0.0**
comp=Z,130nm,2.1s,mb6.0
ROTZ Rotzenmuhle 93.76 319 *e*P **P** **09 30 11.0 +0.6**
comp=Z,157nm,2.1s,mb6.1
MANZ Manzenberg 93.83 320 *e*P **P** **09 30 11.5 +0.7**
comp=Z,210nm,2.0s,mb6.2
COP Copenhagen 93.93 325 *i* P **P** **09 30 10.7 -0.5**
COP *i* 09 33 33.5
COP *e* 09 36 10.7
COP *i* S 09 40 39.6
COP *i* 09 41 18.9
COP
comp=Z,750nm,19.0s
CTI Castel Tesino 93.94 316 P **P** **09 30 12.4 +1.1**
CTI pmax pmax
comp=Z,118nm,1.6s,mb6.1
CTI Castel Tesino 93.94 316 P **P** **09 30 12.4 +1.1**
comp=Z,118nm,1.6s,mb6.1
WTTA Wattenberg 94.01 317⇑ *i*P **P** **09 30 11.3 -0.3**
comp=Z,104nm,2.5s,mb5.8
WTTA Wattenberg 94.01 317⇑ *i*P **P** **09 30 11.3 -0.3**
WTTA pmax pmax
comp=Z,104nm,2.5s,mb5.8
MOX Moxa 94.18 320 *e*P **P** **09 30 12.3 -0.1**
comp=Z,108nm,1.9s,mb6.0
MOX Moxa 94.18 320 *e*P **P** **09 30 13.2 +0.8**
MOX *e* pP 09 30 24.9 -0.5
comp=Z,91nm,2.0s
MOX
comp=Z,2μm,23.0s
MOX Moxa 94.18 320 *e*P **P** **09 30 13.2 +0.8**
MOX *e* pP 09 30 24.9 -0.5
MOX pmax pmax
comp=Z,91nm,2.0s,mb5.9
MOX MLR MLR
comp=Z,2μm,23.0s,MS5.4
FUR Furstenfeldbru 94.29 318 *e*P **P** **09 30 12.4 -0.5**
GRA1 Grafenberg Arr 94.39 319 *e*P **P** **09 30 13.7 +0.4**
comp=Z,198nm,1.9s,mb6.2
GRA1 *e*pP pP 09 30 24.3 -2.1
GRA1 *e*PP PP 09 34 01.5 +0.6
GRA1 *e*S 09 41 20.0
GRA1 LR LR
comp=Z,2μm,22.0s,MS5.6
GRF Grafenberg Arr 94.39 319 *e*P **P** **09 30 13.7 +0.4**
comp=Z,198nm,1.9s,mb6.2
GRF *e*pP pP 09 30 24.3 -2.1
GRF *e*PP PP 09 34 01.5 +0.6
GRF *e*S 09 41 20.0
GRF *e*L 10 20 38.8
comp=Z,2μm,22.0s
NSS Namsos 94.52 334 *e*P **P** **09 30 12.4 -1.5**
NSS AMS AMS 10 20 00.2
comp=Z,4μm,20.5s,MS5.9
GSCL Gusciola 94.61 314 P **P** **09 30 16.0 +1.7**
comp=Z,12nm,0.8s,mb5.4
NB2 NORSAR Subarra 94.77 331 P **P** **09 30 13.9 -1.2**
comp=Z,39nm,1.2s,mb5.7,baz=94,slow=4.6
NOA NORSAR Array B 94.77 331 P **P** **09 30 13.6 -1.5**
comp=Z,3.3nm,0.9s,mb4.8,baz=95,slow=5.0,SNR=9.4
NOA pP pP 09 30 26.0 -2.1
comp=Z,4.1nm,0.8s,baz=92,slow=4.6,SNR=7.8
NOA PP PP 09 33 59.8 -4.1
comp=Z,1.0nm,0.7s,baz=96,slow=7.8,SNR=4.5
NOA LR LR 10 17 12.3
comp=Z,2μm,21.9s,MS5.5,baz=45,slow=38
NOA NORSAR Array B 94.77 331 P **P** **09 30 13.6 -1.5**
NOA *PP pP 09 30 26.0 -2.1
NOA 09 33 59.8
NOA NORSAR Array B 94.77 331 P **P** **09 30 13.6 -1.5**
NOA pP pP 09 30 26.0 -2.1
NOA PP PP 09 33 59.8 -4.1
NOA LR LR 10 17 12.3
KBS Kingsbay 94.83 349 *e*P **P** **09 30 16.4 +1.0**
KBS *e*PP PP 09 34 06.8 +2.4
KBS *e*PP PP 09 34 07.7 +3.3
KBS AMS AMS 10 20 04.9
comp=Z,2μm,24.0s,MS5.4
KBS Kingsbay 94.83 349 *e*P **P** **09 30 16.4 +1.0**
KBS *e* 09 34 06.8
KBS LR LR
comp=Z,1648μm,24.0s
NAO01 NORSAR Array S 94.92 331 PFAKE 09 30 30.0 +14
NAO01 LR LR
comp=Z,2μm,20.0s,MS5.7
CLZ Clausthal 95.00 322 *e*P **P** **09 30 16.1 0.0**
comp=Z,56nm,1.6s,mb5.7
CLZ Clausthal 95.00 322 *e*P **P** **09 30 16.1 0.0**
CLZ pmax pmax
comp=Z,56nm,1.6s,mb5.7
BSEG Bad Segeberg 95.09 324 *e*P **P** **09 30 16.3 -0.2**
comp=Z,130nm,2.0s,mb6.0
BSEG Bad Segeberg 95.09 324 *e*P **P** **09 30 16.3 -0.2**
BSEG pmax pmax
comp=Z,130nm,2.0s,mb6.0
DAVA Damuels 95.20 317⇑ *i*P **P** **09 30 17.4 +0.3**
comp=Z,74nm,2.2s,mb5.7
UBBA Unterbreizbach 95.21 320 *e*P **P** **09 30 16.8 -0.3**
comp=Z,91nm,2.2s,mb5.8
KONO Kongsberg 95.55 329 *e*P **P** **09 30 18.1 -0.6**
KONO *e*SKSa 09 40 50.6
RAR Rarotonga 95.61 112 LR LR 10 12 43.0
comp=Z,2μm,20.6s,MS5.6,baz=299,slow=35
STU Stuttgart 95.69 318 *e*P **P** **09 30 19.0 -0.3**
comp=Z,158nm,2.1s,mb6.1
MUD Monsted U'grnd 95.77 326 *i* P **P** **09 30 21.4 +1.7**
MUD *i* 09 34 13.3
MUD *i* 09 36 18.4
MUD *i* S 09 40 48.4
MUD *i* 09 41 40.2
MUD *i* 09 42 52.0
MUD
comp=Z,2μm,19.0s
MUD Monsted U'grnd 95.77 326 *i* P **P** **09 30 21.4 +1.7**
MUD *i* 09 34 13.3
MUD *i* 09 36 18.4
MUD *i* S 09 40 48.4
MUD *i* 09 41 40.2
MUD MLR MLR
comp=Z,2μm,19.0s,MS5.5
MUD Monsted U'grnd 95.77 326 *i* P **P** **09 30 21.4 +1.7**
MUD *i* 09 34 13.3
MUD *i* 09 36 18.4
MUD *i* S 09 40 48.4
MUD *i* 09 41 40.2
MUD *i* 09 42 52.0
TNS Taunus Mts 96.19 320 *e*P **P** **09 30 21.5 -0.1**
comp=Z,89nm,1.8s,mb5.9
TNS Taunus Mts 96.19 320 *e*P **P** **09 30 21.5 -0.1**
TNS pmax pmax
comp=Z,89nm,1.8s,mb5.9
BFO Black Forest 96.27 318 *e*P **P** **09 30 21.3 -0.6**
comp=Z,83nm,2.1s,mb5.8
BFO Black Forest 96.27 318 *e*P **P** **09 30 21.3 -0.6**
BFO pmax pmax
comp=Z,83nm,2.1s,mb5.8
IBBN Ibbenburen 96.62 322 *e*P **P** **09 30 23.2 -0.3**
comp=Z,106nm,1.8s,mb6.0
BUG Bochum--Univer 96.94 321 *e*P **P** **09 30 24.6 -0.3**
comp=Z,174nm,2.5s,mb6.0
CDF Champ du Feu 96.97 318 *e*P **P** **09 30 24.7 -0.4**
comp=Z,81nm,1.7s,mb5.6
CDF Champ du Feu 96.97 318 *e*P **P** **09 30 24.7 -0.4**
CDF pmax pmax
comp=Z,41nm,1.7s,mb5.6
CDF Champ du Feu 96.97 318 *e*P **P** **09 30 24.7 -0.4**
comp=Z,40nm,1.7s,mb5.6
HINF Hinteralfeld 97.26 317 *e*P **P** **09 30 25.8 -0.6**
comp=Z,110nm,1.9s,mb5.7
HINF Hinteralfeld 97.26 317 *e*P **P** **09 30 25.8 -0.6**
HINF pmax pmax
comp=Z,55nm,1.9s,mb5.7
HINF Hinteralfeld 97.26 317 *e*P **P** **09 30 25.8 -0.6**
comp=Z,55nm,1.9s,mb5.7
MBDF Montbardon 97.34 314 *e*P **P** **09 30 25.5 -1.3**
LPG La Plagne 97.35 315 *e*P **P** **09 30 26.9 +0.1**
comp=Z,7.2nm,0.8s,mb4.8
LPG La Plagne 97.35 315 *e*P **P** **09 30 26.9 +0.1**
LPG pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
LPG La Plagne 97.35 315 *e*P **P** **09 30 26.9 +0.1**
comp=Z,3.6nm,0.8s,mb4.8
LPL La Plagne 97.37 315 *e*P **P** **09 30 26.8 -0.1**
HAU Haudompre 97.59 318 *e*P **P** **09 30 28.5 +0.6**
HAU *e*R
comp=Z,3μm,23.0s
HAU Haudompre 97.59 318 *e*P **P** **09 30 28.5 +0.6**
HAU LR LR
comp=Z,3μm,23.0s,MS5.7
BER Bergen 97.67 330 *e*P **P** **09 30 29.3 +1.1**
BER AMS AMS 10 21 48.7
comp=Z,2μm,16.5s,MS5.8
WLF Walferdange 97.68 319 *e*P **P** **09 30 28.4 +0.1**
comp=Z,49nm,1.4s,mb5.8
WLF Walferdange 97.68 319 P **P** **09 30 27.0 -1.3**
WLF AP pP 09 30 40.9 -0.5
CABF La Chapelle 97.80 316 *e*P **P** **09 30 29.1 +0.3**
ORIF Oris-en-Rattie 97.98 315 *e*P **P** **09 30 29.6 0.0**
comp=Z,25nm,1.3s,mb5.3
ORIF *e*R
comp=Z,3μm,19.5s
ORIF Oris-en-Rattie 97.98 315 *e*P **P** **09 30 29.6 0.0**
ORIF pmax pmax
comp=Z,12nm,1.3s,mb5.3
ORIF Oris-en-Rattie 97.98 315 *e*P **P** **09 30 29.6 0.0**
comp=Z,12nm,1.3s,mb5.3
MEZF Maizieres J'vi 98.44 318 *e*P **P** **09 30 31.7 0.0**
comp=Z,154nm,1.8s,mb5.9
MEZF Maizieres J'vi 98.44 318 *e*P **P** **09 30 31.7 0.0**
comp=Z,154nm,1.8s,mb6.2
GIVF Givet 98.53 320 *e*P **P** **09 30 32.0 -0.1**
DOU Dourbes 98.67 320 AP pP 09 30 45.7 -0.2
SNF Seneffe 98.85 320 P **P** **09 30 32.0 -1.5**
SNF AP pP 09 30 44.9 -1.7
BAIF Baives 98.93 320 *e*P **P** **09 30 34.1 +0.2**
comp=Z,58nm,1.4s,mb5.6
BAIF Baives 98.93 320 *e*P **P** **09 30 34.1 +0.2**
BAIF pmax pmax
comp=Z,29nm,1.4s,mb5.6
BAIF Baives 98.93 320 *e*P **P** **09 30 34.1 +0.2**
comp=Z,29nm,1.4s,mb5.6
LOR Lormes 99.30 317 *e*P **P** **09 30 35.3 -0.3**
LOR *e*R
comp=Z,2μm,23.0s
LOR Lormes 99.30 317 *e*P **P** **09 30 35.3 -0.3**
LOR LR LR
comp=Z,2μm,23.0s,MS5.6
SMF Signal de Mont 99.34 316 *e*P **P** **09 30 35.3 -0.5**
SSF Saint Saulge 99.55 317 *e*P Pdif 09 30 36.4 -0.3
comp=Z,50nm,1.7s
SSF Saint Saulge 99.55 317 *e*P Pdif 09 30 36.4 -0.3
SSF pmax pmax
comp=Z,25nm,1.7s,mb5.4
SSF Saint Saulge 99.55 317 *e*P Pdif 09 30 36.4 -0.3
comp=Z,25nm,1.7s
BGF Bois d'Agland 100.03 316 *e*P Pdif 09 30 39.0 +0.2
TCF Toulx Ste Croi 100.49 316 *e*P Pdif 09 30 41.3 +0.5
CAF Calviac 100.68 315 *e*P Pdif 09 30 41.9 +0.2
RJF Les Rejaudoux 101.05 315 *e*P Pdif 09 30 43.6 +0.3
RJF *e*R
comp=Z,2μm,23.0s
RJF Les Rejaudoux 101.05 315 *e*P Pdif 09 30 43.6 +0.3
RJF LR LR
comp=Z,2μm,23.0s,MS5.6
JMIC Jan Mayen 101.30 342 *e*P Pdif 09 30 44.2 -0.3
JMIC AMS AMS 10 24 16.6
comp=Z,3μm,23.8s,MS5.7
TORD Torodi Ar. Bea 101.41 282 P Pdif 09 30 44.6 -0.3
comp=Z,1.1nm,1.1s,baz=134,slow=4.2,SNR=3.0
TORD PP PP 09 34 53.9 -0.8
comp=Z,0.7nm,0.9s,baz=101,slow=7.8,SNR=2.7
DAG Danmarks Havn 101.56 348⇑ *i*P Pdif 09 30 44.0 -1.6
comp=Z,5.0nm,1.0s
DAG
comp=Z,5μm,18.0s
DAG Danmarks Havn 101.56 348⇑ *i*P Pdif 09 30 44.0 -1.6
DAG pmax pmax
comp=Z,5.0nm,1.0s
DAG MLR MLR
comp=N,2μm,18.0s,MS6.0
DAG MLR MLR
comp=Z,5μm,18.0s,MS6.1
DAG MLR MLR
comp=E,3μm,19.0s,MS6.0
LFF La Frestale 101.62 315 *e*P Pdif 09 30 46.3 +0.4
COLA College 102.76 24 PFAKE 09 31 00.0 +9.1
COLA LR LR
comp=Z,2μm,19.0s,MS5.7
ESK Eskdalemuir 102.81 326 PFAKE 09 31 00.0 +8.8
ESK LR LR
comp=Z,2μm,19.0s,MS5.6
PMR Palmer 103.06 28 PFAKE 09 31 00.0 +7.7
PMR LR LR
comp=Z,2μm,20.0s,MS5.7
ILAR Eielson Array 103.19 24 Pdiff Pdif 09 30 53.0 +0.2
comp=Z,0.4nm,0.6s,baz=286,slow=4.4,SNR=13
ILAR PKKPbc PKKPbc 09 46 48.0 +0.1
comp=Z,0.4nm,0.9s,baz=131,slow=1.9,SNR=4.6
TBI Tubuai 104.67 116 *e*PP PP 09 35 12.8 -6.3
comp=Z,198nm,27.0s
TBI Tubuai 104.67 116 *e*PS PS 09 44 30.5 -2.4
TBI Tubuai 104.67 116 *e*S Sdif 09 42 47.5 -1.4
comp=Z,1μm,30.0s
TBI *e*SS SS 09 50 16.1 +8.1
comp=Z,2μm,29.5s
TBI *e*LR LR 10 05 28.5
comp=Z,4μm,27.2s
ESLA Sonseca Array 105.62 310 PFAKE 09 35 30.0 +13
ESLA LR LR
comp=Z,8μm,21.0s,MS6.2
PPT Papeete 105.68 110 *e*PP PP 09 35 18.4 -8.2
comp=Z,254nm,26.2s
PPT Papeete 105.68 110 *e*S Sdif 09 42 56.1 -1.2
comp=Z,2μm,27.0s
PPT *e*SS SS 09 50 21.7 -0.1
comp=Z,1μm,25.0s
PPT *e*LR LR 10 05 57.3
comp=Z,4μm,23.5s
INK Inuvik 106.66 19 Pdiff Pdif 09 31 07.4 -0.9
comp=Z,1.1nm,1.0s,baz=345,slow=7.3,SNR=4.2
BORG Borgarnes 108.25 338 PFAKE 09 35 30.0 +8.5
BORG LR LR
comp=Z,2μm,19.0s,MS5.6
PMSA Palmer Station 109.79 186 PFAKE 09 35 30.0 +5.6
PMSA LR LR
comp=Z,8μm,21.0s,MS6.3
SIT Sitka 111.24 30 PFAKE 09 35 40.0 +13
SIT LR LR
comp=Z,3μm,21.0s,MS5.9
ASCN Ascension 115.55 259 PFAKE 09 35 50.0 +15
ASCN LR LR
comp=Z,3μm,20.0s,MS5.9
YKW3 Yellowknife Ar 116.36 18 *e*PKPdf PKPdf 09 35 36.5 -0.5
YKA Yellowknife Ar 116.41 18 PKP PKPdf 09 35 35.1 -2.0
comp=Z,2.9nm,1.0s,baz=319,slow=2.4,SNR=21
YKA PP PP 09 36 34.7 -9.0
comp=Z,1.5nm,1.0s,baz=326,slow=7.6,SNR=5.9
YKA PKKPbc PKKPbc 09 46 02.5 -2.8
comp=Z,0.1nm,0.6s,baz=133,slow=3.6,SNR=5.8
YKA Yellowknife Ar 116.41 18 PKP PKPdf 09 35 35.1 -2.0
YKA PP PP 09 36 34.7 -9.0
YKA PKKPbc PKKPbc 09 46 02.5 -2.8
RKT Rikitea 117.57 119 *e*PS PS 09 46 34.9 -1.8
comp=Z,570nm,26.8s
RKT Rikitea 117.57 119 *e*SS SS 09 53 19.3 +19
comp=Z,904nm,27.0s
RKT *e*LR LR 10 11 23.7
comp=Z,2μm,30.0s
PTCN Pitcairn Islan 121.04 123 PFAKE 09 36 00.0 +14
PTCN LR LR
comp=Z,6μm,20.0s,MS6.2
EFI East Falkland 121.21 194 PFAKE 09 36 00.0 +14
EFI LR LR
comp=Z,3μm,20.0s,MS5.9
OCWA Octopus Mounta 121.70 35 PFAKE 09 36 00.0 +13
OCWA LR LR
comp=Z,1μm,20.0s,MS5.6
COR Corvallis 123.87 38 PFAKE 09 36 00.0 +8.6
COR LR LR
comp=Z,382nm,19.0s,MS5.1
FCC Fort Churchill 124.78 10 *e*PKIKP PKPdf 09 35 52.2 -0.9
FCC *e* 09 36 03.2
FCC *e* 09 37 38.9
HUMO Hull Mountain 125.09 40 PFAKE 09 36 00.0 +6.3
HUMO LR LR
comp=Z,1μm,21.0s,MS5.5
HAWA Hanford 125.09 34 *e*PKPdf PKPdf 09 35 55.7 +2.0
HAWA *ep*PKPdf pPKPdf 09 36 08.0 +0.8
NEW Newport 125.25 31 PKP PKPdf 09 35 53.9 -0.1
comp=Z,4.3nm,0.9s,baz=316,slow=2.0,SNR=6.4
NEW Newport 125.25 31 PKP PKPdf 09 35 53.9 -0.1
NEW LR LR
comp=Z,2μm,22.0s,MS5.8
YBH Yreka Blue Hor 125.69 41 PKP PKPdf 09 35 55.8 +0.9
comp=Z,2.2nm,0.9s,baz=14,slow=8.3,SNR=3.0
YBH Yreka Blue Hor 125.69 41 PKP PKPdf 09 35 55.8 +0.9
YBH LR LR
comp=Z,1μm,21.0s,MS5.6
WDC Whiskeytown Da 126.36 42 *e*PKIKP PKPdf 09 35 57.4 +1.2
WDC MLR MLR
comp=Z,1μm,20.0s,MS5.6
FFC Flin Flon 126.57 17 PFAKE 09 36 10.0 +13
FFC LR LR
comp=Z,4μm,21.0s,MS6.0
HOPS Hopland 126.76 44 PFAKE 09 36 10.0 +13
HOPS LR LR
comp=Z,1μm,20.0s,MS5.6
MOD Modoc 127.14 39 PFAKE 09 36 10.0 +12
MOD LR LR
comp=Z,2μm,20.0s,MS5.7
BMO Blue Mountains 127.26 35 PFAKE 09 36 10.0 +12
BMO LR LR
comp=Z,1μm,20.0s,MS5.6
MSO Missoula 127.83 31 PFAKE 09 36 10.0 +11
MSO LR LR
comp=Z,2μm,19.0s,MS5.9
WVOR Wild Horse Val 127.89 38 PFAKE 09 36 10.0 +11
WVOR LR LR
comp=Z,2μm,20.0s,MS5.7
SAO San Andreas Ge 128.93 46 PFAKE 09 36 10.0 +8.9
SAO LR LR
comp=Z,1μm,22.0s,MS5.6
EGMT Eagleton 129.02 27 PFAKE 09 36 10.0 +8.8
EGMT LR LR
comp=Z,1μm,22.0s,MS5.5
CMB Columbia Colle 129.07 44 PFAKE 09 36 10.0 +8.7
CMB LR LR
comp=Z,1μm,21.0s,MS5.5
SCHQ Schefferville 129.43 352 PKP PKPdf 09 36 02.0 0.0
comp=Z,5.1nm,0.8s,baz=303,slow=0.7,SNR=11
SCHQ Schefferville 129.43 352 PKP PKPdf 09 36 02.0 0.0
SCHQ LR LR
comp=Z,5μm,21.0s,MS6.2
DLMT Dillon 129.50 32 *e*PKPdf PKPdf 09 36 03.6 +1.5
DLMT *ep*PKPdf pPKPdf 09 36 16.6 +1.0
DLMT *e*PP PP 09 38 14.0 +1.8
DLMT SKPdf SKPdf 09 39 39.1 +5.2
HLID Hailey 129.69 34 PFAKE 09 36 10.0 +7.5
HLID LR LR
comp=Z,3μm,21.0s,MS6.0
BMN Battle Mountai 129.89 39 PFAKE 09 36 10.0 +7.1
BMN LR LR
comp=Z,1μm,20.0s,MS5.6
NVAR Mina Array Bea 130.28 42 PKP PKPdf 09 36 05.2 +1.6
comp=Z,1.4nm,0.6s,baz=294,slow=1.8,SNR=11
NVAR pPKP pPKPdf 09 36 17.5 +0.4
comp=Z,2.2nm,0.7s,baz=233,slow=1.8,SNR=7.5
NVAR SKPbc SKPbc 09 39 25.0 +1.9
comp=Z,2.2nm,0.9s,baz=275,slow=3.4,SNR=6.1
NVAR Mina Array Bea 130.28 42 PKP PKPdf 09 36 05.2 +1.6
NVAR pPKP pPKPdf 09 36 17.5 +0.4
NVAR SKPbc SKPbc 09 39 25.0 +1.9
MNV Mina 130.38 42 *e*PKIKP PKPdf 09 36 05.0 +1.2
MNV *e* 09 36 18.5
MNV MLR MLR
comp=Z,980nm,21.0s,MS5.5

MNV	**Mina**	**130.38**	**42**	*e*PKPdf	PKPdf	09 36 05.0	+1.2		
MNV				*ep*PKPdf	pPKPdf	09 36 18.5	+1.3		
MNV				*e*SKPbc	SKPbc	09 39 25.8	+2.3		
MNV				LR	LR				
	comp=Z,980nm,21.0s,MS5.5								
QLMT	**Earthquake Lak**	**130.47**	**31**	*e*PKPdf	PKPdf	09 36 06.2	+2.2		
QLMT				*ep*PKPdf	pPKPdf	09 36 19.0	+1.5		
YMR	**Madison River**	**130.82**	**31**	PFAKE		09 36 20.0	+15		
YMR				LR	LR				
	comp=Z,998nm,22.0s,MS5.5								
LKWY	**Lake**	**131.19**	**31**	PFAKE		09 36 20.0	+15		
LKWY				LR	LR				
	comp=Z,4µm,19.0s,MS6.1								
TPH	**Tonopah**	**131.19**	**42**	PFAKE		09 36 20.0	+15		
TPH				LR	LR				
	comp=Z,955nm,21.0s,MS5.5								
LAO	**LASA Array**	**131.61**	**26**	PFAKE		09 36 20.0	+14		
LAO				LR	LR				
	comp=Z,2µm,19.0s,MS5.9								
DAC	**Darwin (Calif)**	**131.88**	**44**	PFAKE		09 36 20.0	+13		
DAC				LR	LR				
	comp=Z,1µm,21.0s,MS5.7								
SNCC	**San Nicolas Is**	**131.94**	**49**	PFAKE		09 36 20.0	+13		
SNCC				LR	LR				
	comp=Z,1µm,20.0s,MS5.6								
AHID	**Auburn Hatcher**	**132.05**	**33**	*e*PKPdf	PKPdf	09 36 07.9	+1.0		
AHID				*ep*PKPdf	pPKPdf	09 36 21.1	+0.7		
AHID				*e*PP	PP	09 38 36.8	+8.1		
AHID				*e*SKPbc	SKPbc	09 39 31.5	+1.9		
AHID				LR	LR				
	comp=Z,2µm,20.0s,MS5.8								
ULM	**Lac du Bonnet**	**132.27**	**16**	PKP	PKPdf	09 36 06.6	-0.8		
	comp=Z,7.2nm,0.8s,baz=359,slow=2.5,SNR=16								
ULM				SKPbc	SKPbc	09 39 29.6	-0.8		
	comp=Z,8.7nm,0.7s,baz=359,slow=4.3,SNR=8.3								
ULM	**Lac du Bonnet**	**132.27**	**16**	PKP	PKPdf	09 36 06.6	-0.8		
ULM				SKPbc	SKPbc	09 39 29.6	-0.8		
HWUT	**Hardware Ranch**	**132.56**	**35**	PFAKE		09 36 20.0	+12		
HWUT				LR	LR				
	comp=Z,3µm,22.0s,MS5.9								
DUG	**Dugway**	**132.74**	**37**	PFAKE		09 36 20.0	+12		
DUG				LR	LR				
	comp=Z,2µm,21.0s,MS5.8								
NOQ	**North Oquirrh**	**132.86**	**36**	*e*PKPdf	PKPdf	09 36 10.2	+1.7		
NOQ				*ep*PKPdf	pPKPdf	09 36 23.4	+1.4		
NOQ				*e*SKPbc	SKPbc	09 39 34.4	+1.9		
BW06	**Boulder Array**	**132.88**	**32**	PFAKE		09 36 20.0	+11		
BW06				LR	LR				
	comp=Z,1µm,19.0s,MS5.7								
PDAR	**Pinedale Array**	**132.88**	**32**	PKP	PKPdf	09 36 07.2	-1.3		
	comp=Z,0.7nm,0.7s,baz=122,slow=2.3,SNR=3.9								
PDAR				pPKP	pPKPdf	09 36 21.5	-0.5		
	comp=Z,2.8nm,1.0s,baz=34,slow=3.7,SNR=5.6								
PDAR				PP	PP	09 38 32.4	-1.6		
	comp=Z,2.7nm,1.0s,baz=325,slow=2.3,SNR=5.8								
PDAR				SKPbc	SKPbc	09 39 33.7	+1.2		
	comp=Z,1.5nm,1.1s,baz=147,slow=18,SNR=2.6								
PDAR	**Pinedale Array**	**132.88**	**32**	PKP	PKPdf	09 36 07.2	-1.3		
PDAR				pPKP	pPKPdf	09 36 21.5	-0.5		
PDAR				PP	PP	09 38 32.4	-1.6		
PDAR				SKPbc	SKPbc	09 39 33.7	+1.2		
TCUT	**Toone Canyon**	**132.97**	**35**	*e*PKPdf	PKPdf	09 36 10.1	+1.3		
TCUT				*ep*PKPdf	pPKPdf	09 36 23.5	+1.3		
TCUT				*e*PP	PP	09 38 50.1	+15		
TCUT				*e*SKPbc	SKPbc	09 39 35.0	+2.2		
TCUT				*e*SKPdf	SKPdf	09 39 42.0	+1.7		
MPU	**Maple Canyon**	**133.56**	**36**	*e*PKPdf	PKPdf	09 36 10.5	+0.7		
MPU				*ep*PKPdf	pPKPdf	09 36 24.6	+1.3		
MPU				LR	LR				
	comp=Z,2µm,20.0s,MS5.7								
PFO	**Pinyon Flat Ob**	**134.03**	**47**	PFAKE		09 36 20.0	+9.3		
PFO				LR	LR				
	comp=Z,1µm,20.0s,MS5.7								
PLCA	**Paso Flores**	**134.13**	**188**	PFAKE		09 36 20.0	+9.1		
PLCA				LR	LR				
	comp=Z,5µm,22.0s,MS6.2								
MVU	**Marysvale**	**134.16**	**38**	*e*PKPdf	PKPdf	09 36 13.0	+2.1		
MVU				*ep*PKPdf	pPKPdf	09 36 24.8	+0.3		
MVU				LR	LR				
	comp=Z,1µm,20.0s,MS5.7								
TMUT	**Trail Mountain**	**134.27**	**37**	*e*PKPdf	PKPdf	09 36 14.0	+2.9		
TMUT				*ep*PKPdf	pPKPdf	09 36 26.9	+2.3		
RSSD	**Black Hills**	**134.57**	**27**	*e*PKIKP	PKPdf	09 36 13.1	+1.4		
RSSD				*e*		09 38 44.2			
RSSD				MLR	MLR				
	comp=Z,473nm,19.0s,MS5.2								
RSSD	**Black Hills**	**134.57**	**27**	*e*PKPdf	PKPdf	09 36 13.1	+1.3		
RSSD				*e*PP	PP	09 38 44.2	-0.6		
RSSD				*e*SKPbc	SKPbc	09 39 39.3	+1.1		
RSSD				LR	LR				
	comp=Z,473nm,19.0s,MS5.2								
TRQA	**Tornquist**	**134.85**	**198**	PFAKE		09 36 20.0	+7.8		
TRQA				LR	LR				
	comp=Z,3µm,20.0s,MS6.0								
EYMN	**Ely**	**135.50**	**13**	PFAKE		09 36 20.0	+6.6		
EYMN				LR	LR				
	comp=Z,2µm,21.0s,MS5.8								
RPN	**Rapa Nui**	**135.86**	**138**	PFAKE		09 36 20.0	+5.9		
RPN				LR	LR				
	comp=Z,1µm,20.0s,MS5.7								
WUAZ	**Wupatki**	**136.50**	**41**	PFAKE		09 36 30.0	+15		
WUAZ				LR	LR				
	comp=Z,3µm,20.0s,MS6.0								
RCBR	**Riachuelo**	**136.93**	**256**	PFAKE		09 36 30.0	+14		
RCBR				LR	LR				
	comp=Z,3µm,19.0s,MS6.1								
ISCO	**Idaho Springs**	**137.07**	**32**	PFAKE		09 36 30.0	+14		
ISCO				LR	LR				
	comp=Z,3µm,21.0s,MS6.0								
TUC	**Tucson**	**138.76**	**45**	*e*PKHKP		09 36 13.2			
TUC				*e*		09 36 20.7			
TUC				MLR	MLR				
	comp=Z,1µm,19.0s,MS5.6								
TUC	**Tucson**	**138.76**	**45**	*e*PKP		09 36 13.2			
TUC				*e*PKPdf	PKPdf	09 36 20.7	+1.2		
TUC				*e*SKPdf	SKPdf	09 39 53.0	+2.2		
TUC				LR	LR				
	comp=Z,1µm,19.0s,MS5.6								
LAZ	**Ladron**	**139.91**	**39**	*e*PKPdf	PKPdf	09 36 23.9	+2.3		
LAZ				*ep*PKPdf	pPKPdf	09 36 36.2	+1.1		
ANMO	**Albuquerque**	**139.97**	**38**	PKhKP		09 36 17.6			
	comp=Z,1.7nm,0.7s,baz=315,slow=3.1,SNR=5.5								
ANMO				PKP	PKPdf	09 36 22.9	+1.2		
	comp=Z,4.3nm,0.8s,baz=247,slow=1.9,SNR=12								
ANMO	**Albuquerque**	**139.97**	**38**	PKP	PKPdf	09 36 17.6	-4.0		
ANMO				PKP	PKPdf	09 36 22.9	+1.2		
ANMO				LR	LR				
	comp=Z,2µm,22.0s,MS5.9								
FRNY	**Flat Rock**	**140.05**	**355**	*e*PKPdf	PKPdf	09 36 19.6	-2.2		
FRNY				*ep*PKPdf	pPKPdf	09 36 34.7	-0.6		
SADO	**Sadowa**	**140.26**	**2**	PKP	PKPdf	09 36 22.9	+0.6		
	comp=Z,5.7nm,0.6s,baz=15,slow=3.9,SNR=8.7								
SADO				PP	PP	09 39 16.2	-4.0		
	comp=Z,9.8nm,1.1s,baz=12,slow=4.0,SNR=6.4								
LPM	**Los Pinos Moun**	**140.29**	**39**	PKPdf	PKPdf	09 36 22.4	+0.2		
LBNH	**Lisbon**	**140.48**	**353**	PFAKE		09 36 30.0	+7.4		
LBNH				LR	LR				
	comp=Z,2µm,20.0s,MS5.8								
CBKS	**Cedar Bluff**	**140.75**	**28**	PFAKE		09 36 30.0	+6.9		
CBKS				LR	LR				
	comp=Z,2µm,19.0s,MS5.9								
NCB	**Newcomb**	**140.96**	**356**	PFAKE		09 36 30.0	+6.5		
NCB				LR	LR				
	comp=Z,2µm,19.0s,MS5.9								
HRV	**Harvard--Oak R**	**142.14**	**353**	PFAKE		09 36 40.0	+14		
HRV				LR	LR				
	comp=Z,2µm,19.0s,MS6.0								
WES	**Weston**	**142.23**	**352**	PFAKE		09 36 40.0	+14		
WES				LR	LR				
	comp=Z,2µm,19.0s,MS5.8								
QUA2	**Belchertown**	**142.46**	**353**	*e*PKPdf	PKPdf	09 36 27.7	+1.5		
MNTX	**Cornudas Mount**	**142.78**	**41**	PFAKE		09 36 40.0	+13		
MNTX				LR	LR				
	comp=Z,2µm,19.0s,MS5.9								
AMTX	**Amarillo**	**142.81**	**34**	PFAKE		09 36 40.0	+13		
AMTX				LR	LR				
	comp=Z,2µm,20.0s,MS5.8								
BINY	**Binghamton**	**142.81**	**358**	PFAKE		09 36 40.0	+13		
BINY				LR	LR				
	comp=Z,4µm,20.0s,MS6.2								
ERPA	**Erie**	**142.87**	**3**	PFAKE		09 36 40.0	+13		
ERPA				LR	LR				
	comp=Z,3µm,20.0s,MS6.1								
CPUP	**Villa Florida**	**143.23**	**211**	PKP	PKPdf	09 36 25.9	-1.6		
	comp=Z,1.3nm,0.6s,baz=62,slow=5.7,SNR=3.3								
CPUP	**Villa Florida**	**143.23**	**211**	*e*PKIKP	PKPdf	09 36 25.1	-2.4		
CPUP	**Villa Florida**	**143.23**	**211**	*e*PKPdf	PKPdf	09 36 26.1	-1.4		
CPUP				LR	LR				
	comp=Z,369nm,20.0s,MS5.1								
ALLY	**Alegheny Colle**	**143.33**	**3**	PKPdf	PKPdf	09 36 26.1	-1.6		
CLNB	**Carlsbad**	**143.37**	**39**	*e*PKPdf	PKPdf	09 36 27.6	-0.2		
CLNB				*ep*PKPdf	pPKPdf	09 36 40.3	-0.9		
PAL	**Palisades**	**143.88**	**355**	*e*PKHKP		09 36 24.5			
PAL	**Palisades**	**143.88**	**355**	*e*PKPdf	PKPdf	09 36 25.3	-3.3		
BDFB	**Brasilia**	**144.23**	**235**	PKP	PKPdf	09 36 29.0	-0.3		
	comp=Z,3.9nm,0.5s,baz=144,slow=2.9,SNR=5.8								
SSPA	**Standing Stone**	**144.41**	**0**	*e*PKPdf	PKPdf	09 36 27.9	-1.7		
SSPA				*ep*PKPdf	pPKPdf	09 36 39.9	-3.2		
SSPA				LR	LR				
	comp=Z,613nm,20.0s,MS5.4								
WMOK	**Wichita Mounta**	**144.45**	**31**	PFAKE		09 36 40.0	+10		
WMOK				LR	LR				
	comp=Z,2µm,19.0s,MS6.0								
ACSO	**Alum Creek Sta**	**144.49**	**7**	PFAKE		09 36 40.0	+10		
ACSO				LR	LR				
	comp=Z,1µm,22.0s,MS5.7								
CCM	**Cathedral Cave**	**144.75**	**19**	PFAKE		09 36 40.0	+10		
CCM				LR	LR				
	comp=Z,520nm,20.0s,MS5.3								
BLO	**Bloomington**	**144.94**	**12**	*e*PKIKP	PKPdf	09 36 29.9	-0.6		
FVM	**French Village**	**145.07**	**18**	*e*PKIKP	PKPdf	09 36 30.1	-0.6		
FVM				*e*		09 36 41.5			
MCWV	**Mont Chateau**	**145.33**	**3**	PFAKE		09 36 40.0	+8.9		
MCWV				LR	LR				
	comp=Z,3µm,20.0s,MS6.1								
LTX	**Lajitas**	**145.43**	**42**	*e*PKIKP	PKPdf	09 36 32.3	+1.0		
LTX				*e*		09 36 46.1			
LTX				MLR	MLR				
	comp=Z,2µm,21.0s,MS6.0								
SDMD	**Soldier's Deli**	**145.62**	**359**	*e*PKPdf	PKPdf	09 36 31.5	-0.2		
SDMD				*ep*PKPdf	pPKPdf	09 36 46.4	+1.2		
SIUC	**Southern Illin**	**145.67**	**16**	*e*PKPdf	PKPdf	09 36 32.5	+0.7		
WCI	**Wyandotte Cave**	**145.90**	**12**	PFAKE		09 36 40.0	+7.8		
WCI				LR	LR				
	comp=Z,746nm,22.0s,MS5.4								
CBN	**Corbin**	**146.84**	**360**	PFAKE		09 36 40.0	+6.3		
CBN				LR	LR				
	comp=Z,4µm,20.0s,MS6.2								
JCT	**Junction City**	**147.10**	**37**	PFAKE		09 36 40.0	+5.8		
JCT				LR	LR				
	comp=Z,3µm,21.0s,MS6.0								
WVT	**Waverly**	**147.54**	**15**	*e*PKIKP	PKPdf	09 36 34.6	-0.3		
WVT				*e*		09 36 37.8			
WVT				*e*		09 36 40.3			
WVT				*e*		09 36 49.6			
WVT				*e*		09 40 01.3			
WVT				MLR	MLR				
	comp=Z,3µm,22.0s,MS6.0								
ELN	**Prospectdale**	**147.69**	**5**	*e*PKPbc	PKPbc	09 36 37.6	-0.4		
PLAL	**Pickwick Lake**	**148.55**	**16**	*e*PKPdf	PKPdf	09 36 36.6	0.0		
PLAL				*e*PKPbc	PKPbc	09 36 40.6	+0.4		
PLAL				*e*PKPab	PKPab	09 36 44.2	+0.4		
PLAL				LR	LR				
	comp=Z,3µm,22.0s,MS6.1								
OXF	**Oxford**	**148.58**	**19**	PFAKE		09 36 50.0	+13		
OXF				LR	LR				
	comp=Z,3µm,19.0s,MS6.0								
SWET	**Sewanee**	**148.87**	**13**	*e*PKPdf	PKPdf	09 36 37.3	+0.2		
SWET				*e*PKPbc	PKPbc	09 36 41.2	+0.1		
NATX	**Nacogdoches**	**148.89**	**29**	*e*PKPdf	PKPdf	09 36 38.1	+1.0		
NATX				*e*PKPbc	PKPbc	09 36 42.5	+1.4		
NATX				LR	LR				
	comp=Z,3µm,21.0s,MS6.0								
HKT	**Hockley**	**149.75**	**32**	PFAKE		09 36 50.0	+11		
HKT				LR	LR				
	comp=Z,694nm,20.0s,MS5.5								
BBSR	**BB Station**	**150.07**	**338**	*e*PKPbc	PKPbc	09 36 44.4	+0.4		
BBSR				LR	LR				
	comp=Z,2µm,21.0s,MS5.8								
LRAL	**Lakeview Retre**	**150.68**	**16**	*e*PKPdf	PKPdf	09 36 41.1	+1.2		
LRAL				LR	LR				
	comp=Z,4µm,22.0s,MS6.2								
SFJM	**Santa Fe**	**150.89**	**56**	*e*P	PKPdf	09 36 42.5	+2.2		
NHSC	**New Hope**	**151.83**	**4**	PFAKE		09 36 50.0	+8.3		
NHSC				LR	LR				
	comp=Z,3µm,20.0s,MS6.1								
PPM	**Popocatepetl**	**155.19**	**54**	*e*PKIKP	PKPdf	09 36 48.2	+1.7		
DWPF	**Disney**	**156.63**	**8**	PFAKE		09 37 00.0	+12		
DWPF				LR	LR				
	comp=Z,722nm,19.0s,MS5.5								
LPAZ	**La Paz**	**156.93**	**204**	PKP	PKPdf	09 36 51.2	+2.4		
	comp=Z,2.3nm,1.0s,baz=48,slow=0.9,SNR=7.8								
SJG	**San Juan**	**162.68**	**320**	PFAKE		09 37 10.0	+15		
SJG				LR	LR				
	comp=Z,3µm,21.0s								
NNA	**Nana**	**163.22**	**183**	PFAKE		09 37 10.0	+14		
NNA				LR	LR				
	comp=Z,3µm,21.0s								
PAYG	**Puerto Ayora**	**166.26**	**113**	PFAKE		09 37 10.0	+12		
PAYG				LR	LR				
	comp=Z,3µm,20.0s								
JTS	**JuntasAbangare**	**171.02**	**53**	PFAKE		09 37 10.0	+8.4		
JTS				LR	LR				
	comp=Z,2µm,21.0s								
SDV	**Santo Domingo**	**171.94**	**300**	PFAKE		09 37 10.0	+8.0		
SDV				LR	LR				
	comp=Z,3µm,20.0s								
ROSC	**El Rosal**	**176.65**	**270**	PKP	PKPdf	09 37 04.4	+0.8		
	comp=Z,5.1nm,0.3s,baz=88,slow=20,SNR=5.3								
ROSC				PP	PP	09 42 47.6	+8.9		
	comp=Z,2.8nm,0.3s,baz=107,slow=20,SNR=3.8								

*IDC **08** 10:08:59.2±0.7, 2042S×17438W, h0km, mb4.4/11, mb1 4.6/13, mb1mx4.5/17, mbtmp4.4/13, ML5.2/1, MS4.2/2, Ms1 4.2/2, ms1mx3.5/25, Error ellipse: s-maj=29.2km s-min=15.5km az=125.0*

*NEIC **08** 10:09:00.9±0.3, 2042S×17439W, h10km, mb4.9/14, Error ellipse: s-maj=11.3km s-min=5.8km az=132.0*

*BJI **08** 10:09:01.4, 2097S×17429W, h33km, mB5.2, mb4.9, Ms5.0, Msz4.9*

*ISCJB **08** 10:09:02.8±0.4, 2048S±009×17445W±009, h33km, mb4.7/27, Error ellipse: s-maj=15.3km s-min=8.7km az=92.1*

*MOS **08** 10:09:02.9±0.8, 2036S×17442W, h33km, mb4.8/8, Error ellipse: s-maj=22.6km s-min=14.3km az=48.9*

ISC 08 10:09:04.7±0.4, 2048S±008×17435W±009, h35km, n54, σ0.986/52, mb4.7/27, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.98**	**21**	Pn	**Pn**	**10 10 42.3**	**-2.1**
	4.4nm,0.3s,baz=273,slow=7.8,SNR=9.1						
AFI				Sn	**Sn**	**10 11 51.2**	**-11**
	11nm,0.3s,baz=210,slow=20,SNR=4.3						
AFI				LR	LR	10 12 20.1	
	comp=Z,792nm,20.5s,baz=236,slow=29						
AFI	**Afiamalu**	**6.98**	**21**	*e*Pn	**Pn**	**10 10 42.7**	**-1.7**
RAO	**Raoul Island**	**9.32**	**200**	Sn	**Sn**	**10 12 54.7**	**-5.4**
	37nm,0.3s,baz=90,slow=20,SNR=5.2						
RAR	**Rarotonga**	**13.64**	**96**	Pn	**Pn**	**10 12 08.8**	**-6.9**
	2.5nm,0.3s,baz=257,slow=11,SNR=18						
RAR				Sn	**Sn**	**10 14 23.3**	**-23**
	6.9nm,0.3s,baz=82,slow=14,SNR=7.9						
RAR				T		10 26 38.9	
	5.8nm,0.3s,baz=254,slow=21,SNR=3.7						
RAR	**Rarotonga**	**13.64**	**96**	Pn	**Pn**	**10 12 08.8**	**-6.9**
RAR				Sn	**Sn**	**10 14 23.3**	**-23**
DZM	**Mont Dzumac**	**17.98**	**261**	P	**Pn**	**10 13 15.7**	**+3.9**
	1.0nm,0.3s,baz=359,slow=0.2,SNR=7.4						
URZ	**Urewera**	**19.20**	**201**	P	**Pn**	**10 13 25.4**	**-1.2**
	7.6nm,0.3s,baz=350,slow=3.3,SNR=43						
URZ				S	**S**	**10 16 44.9**	**-16**
	1.3nm,0.3s,baz=351,slow=20,SNR=7.6						
RPZ	**Rata Peaks**	**26.19**	**204**	P	**P**	**10 14 35.9**	**0.0**
	12nm,0.8s,mb4.5,baz=21,slow=2.8,SNR=3.9						
CNB	**Canberra Magne**	**35.10**	**237**	*e*P	**P**	**10 15 55.3**	**+0.7**
	12nm,1.0s,mb4.8						
CTA	**Charters Tower**	**36.90**	**264**	*e*P	**P**	**10 16 10.8**	**+0.8**
	7.5nm,0.4s,mb4.9						
CTAO	**Charters Tower**	**36.90**	**264**	*e*P	**P**	**10 16 10.6**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.8						
CTAO	**Charters Tower**	**36.90**	**264**	*e*P	**P**	**10 16 10.6**	**+0.6**
	comp=Z,14nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**40.89**	**245**	*e*P	**P**	**10 16 41.5**	**-1.9**
	comp=Z,8.7nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**40.89**	**245**	P	**P**	**10 16 41.8**	**-1.5**
	comp=Z,11nm,0.6s,mb4.7,baz=88,slow=9.2,SNR=37						
ASAR	**Alice Springs**	**47.86**	**256**	P	**P**	**10 17 38.9**	**-0.1**
	comp=Z,10nm,0.7s,mb5.0,baz=102,slow=7.3,SNR=123						
ASAR				PcP	PcP	10 19 08.3	+1.0
	comp=Z,1.8nm,0.6s,baz=114,slow=3.4,SNR=5.4						
WB2	**Warramunga Arr**	**47.98**	**261**	*e*P	**P**	**10 17 39.0**	**-1.0**
WRAB	**Tennant Creek**	**47.98**	**261**	*e*P	**P**	**10 17 39.4**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.0						
WRAB	**Tennant Creek**	**47.98**	**261**	*e*P	**P**	**10 17 39.4**	**-0.7**
	comp=Z,12nm,0.7s,mb5.0						
WRA	**Warramunga Arr**	**47.99**	**261**	P	**P**	**10 17 39.5**	**-0.7**
	comp=Z,7.3nm,0.7s,mb4.8,baz=96,slow=7.4,SNR=184						
WRA				PcP	PcP	10 19 08.7	+0.9
	comp=Z,1.3nm,0.5s,baz=98,slow=3.0,SNR=4.5						
KAKA	**Kakadu**	**51.40**	**270**	*e*P	**P**	**10 18 05.6**	**-0.4**
	comp=Z,21nm,0.4s,mb5.4						
FORT	**Forrest**	**52.45**	**246**	*e*P	**P**	**10 18 13.6**	**-0.2**
	comp=Z,25nm,0.7s,mb5.2						
FITZ	**Fitzroy Crossi**	**56.42**	**261**	*e*P	**P**	**10 18 42.9**	**+0.2**
	comp=Z,9.9nm,0.5s,mb5.1						
VNDA	**Vanda**	**58.26**	**186**	P	**P**	**10 18 56.6**	**+0.9**
	comp=Z,0.7nm,0.8s,mb3.8,baz=3.0,slow=7.7,SNR=4.8						
KLBR	**Kellerberrin**	**61.16**	**245**	*e*P	**P**	**10 19 16.0**	**+0.3**
	comp=Z,11nm,0.6s,mb5.2						
MBWA	**Marble Bar**	**61.20**	**257**	*e*P	**P**	**10 19 15.9**	**+0.1**
	comp=Z,16nm,0.3s,mb5.6						
MUN	**Mundaring**	**62.42**	**244**	*e*P	**P**	**10 19 25.1**	**+1.0**
CASY	**Casey**	**65.45**	**205**	*e*P	**P**	**10 19 44.1**	**+0.1**
	comp=Z,4.3nm,0.8s,mb4.5						
QSPA	**South Pole Qui**	**69.59**	**180**	*e*P	**P**	**10 20 10.6**	**+0.4**
	comp=Z,11nm,1.3s,mb4.6						
MJAR	**Matsushiro Arr**	**72.27**	**321**	P	**P**	**10 20 27.4**	**+0.9**
	comp=Z,4.1nm,0.5s,mb4.6,baz=152,slow=6.0,SNR=19						
MAJO	**Matsushiro**	**72.27**	**321**	*e*P	**P**	**10 20 27.6**	**+1.1**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
MAJO	**Matsushiro**	**72.27**	**321**	*e*P	**P**	**10 20 27.6**	**+1.2**
	comp=Z,3.8nm,0.5s,mb4.6						
ASAJ	**Asahikawa**	**75.39**	**329**	LR	LR	10 50 28.1	
	comp=Z,366nm,21.2s,baz=332,slow=33						
NVAR	**Mina Array Bea**	**78.69**	**42**	P	**P**	**10 21 03.6**	**+0.3**
	comp=Z,2.9nm,0.7s,mb4.3,baz=218,slow=7.2,SNR=23						
MNV	**Mina**	**78.79**	**42**	*e*P	**P**	**10 21 03.8**	**0.0**
MNV				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
MNV	**Mina**	**78.79**	**42**	*e*P	**P**	**10 21 03.8**	**0.0**
	comp=Z,6.5nm,1.0s,mb4.5						
ARUT	**Antelope Range**	**81.43**	**44**	*e*P	**P**	**10 21 17.4**	**-0.7**
MDJ	**Mudanjiang**	**82.51**	**323**	P	**P**	**10 21 25.7**	**+2.0**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,396nm,12.0s						
MAW	**Mawson**	**82.72**	**199**	P	**P**	**10 21 24.6**	**-0.2**
	comp=Z,2.5nm,0.7s,mb4.4,baz=231,slow=6.5,SNR=5.0						
SRU	**San Rafael**	**84.07**	**45**	*e*P	**P**	**10 21 32.4**	**+0.6**
SRU				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.8						
SRU	**San Rafael**	**84.07**	**45**	*e*P	**P**	**10 21 32.4**	**+0.6**
	comp=Z,9.0nm,1.1s,mb4.8						
TCUT	**Toone Canyon**	**84.58**	**43**	*e*P	**P**	**10 21 34.9**	**+0.5**
ANMO	**Albuquerque**	**84.74**	**50**	*e*P	**P**	**10 21 35.7**	**+0.5**
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ANMO	**Albuquerque**	**84.74**	**50**	*e*P	**P**	**10 21 35.6**	**+0.5**
	comp=Z,2.1nm,1.0s,mb4.3						
PV01	**Paradox Valley**	**84.86**	**46**	*e*P	**P**	**10 21 36.6**	**+0.8**
PDAR	**Pinedale Array**	**86.63**	**42**	P	**P**	**10 21 43.6**	**-0.9**
	comp=Z,1.1nm,0.8s,mb4.1,baz=203,slow=3.4,SNR=9.3						
ILAR	**Eielson Array**	**87.57**	**11**	P	**P**	**10 21 48.6**	**-0.5**
	comp=Z,0.5nm,0.6s,mb3.9,baz=224,slow=5.8,SNR=13						
CD2	**Chengdu**	**93.68**	**301**	*e*P	**P**	**10 22 16.8**	**-0.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
YKA	**Yellowknife Ar**	**95.08**	**24**	P	**P**	**

comp=Z,6.6nm,0.3s,baz=309,slow=8.1,SNR=61
FX1 **Attu Island--F** **9.03 158** PN **Pn** **11 01 34.4 -3.2**
FX1 pmax pmax
comp=Z,7.0nm,0.3s
FX1 **Attu Island--F** **9.03 158** *e*Pn **Pn** **11 01 34.8 -2.9**
SPN **Mys Shipunski** **9.26 210** *e*P **Pn** **11 01 41.9 +1.1**
TIXI **Tiksi** **18.15 320** *e*P **Pn** **11 03 39.6 +0.2**
TIXI pmax pmax
comp=Z,3.0nm,0.7s
TIXI MLR MLR
comp=Z,161nm,14.0s
COLA **College** **20.10 61** *e*P **P** **11 04 01.3 +0.3**
COLA pmax pmax
comp=Z,8.0nm,1.4s
COLA **College** **20.10 61** *e*P **P** **11 04 01.3 +0.3**
comp=Z,8.2nm,1.4s
KDAK **Kodiak Island** **20.24 82** P **P** **11 04 00.9 -1.6**
comp=Z,2.8nm,0.5s,baz=312,slow=4.7,SNR=4.6
ILAR **Eielson Array** **20.52 61** P **P** **11 04 06.0 +0.4**
comp=Z,3.5nm,0.8s,baz=275,slow=10,SNR=45
KLR **Kul'dur** **23.42 255** *e*P **P** **11 04 32.0 -4.5**
INK **Inuvik** **25.02 49** P **P** **11 04 51.6 +0.3**
comp=Z,11nm,0.8s,mb4.5,baz=294,slow=12,SNR=118
INK PcP PcP 11 08 23.9 -2.3
comp=Z,0.6nm,1.0s,baz=304,slow=3.9,SNR=3.2
INK **Inuvik** **25.02 49** *e*P **P** **11 04 51.3 0.0**
INK 11 08 23.9
INK pmax pmax
comp=Z,8.0nm,0.6s
INK **Inuvik** **25.02 49** *e*P **P** **11 04 51.2 -0.1**
comp=Z,7.6nm,0.6s,mb4.4
INK PcP PcP 11 08 23.9 -2.2
BOD **Bodaibo** **26.72 287** *e*P **P** **11 05 04.7 -2.0**
YKA **Yellowknife Ar** **34.56 53** P **P** **11 06 15.0 -0.9**
comp=Z,0.3nm,0.5s,mb3.5,baz=307,slow=8.2,SNR=12
YKA **Yellowknife Ar** **34.56 53** P **P** **11 06 15.0 -0.9**
SONM **Songino Array** **36.51 277** P **P** **11 06 32.2 -0.5**
comp=Z,0.3nm,0.3s,mb3.6,baz=45,slow=6.3,SNR=3.4
MKAR **Makanchi Array** **48.41 294** P **P** **11 08 06.9 -2.7**
comp=Z,0.4nm,0.4s,mb3.8,baz=39,slow=6.7,SNR=6.4
BVAR **Borovoye Array** **48.56 307** P **P** **11 08 09.1 -1.6**
comp=Z,2.1nm,0.5s,mb4.4,baz=48,slow=7.2,SNR=9.7
NVAR **Mina Array Bea** **49.74 82** P **P** **11 08 19.5 -0.2**
comp=Z,0.5nm,0.6s,mb3.7,baz=315,slow=6.9,SNR=4.8
NVAR **Mina Array Bea** **49.74 82** P **P** **11 08 19.5 -0.2**
BW06 **Boulder Array** **50.41 71** *e*P **P** **11 08 24.8 0.0**
comp=Z,1.2nm,0.6s,mb4.1
PDAR **Pinedale Array** **50.41 71** P **P** **11 08 24.6 -0.2**
comp=Z,1.5nm,0.7s,mb4.1,baz=327,slow=3.1,SNR=16
ULM **Lac du Bonnet** **50.44 56** P **P** **11 08 24.7 -0.3**
comp=Z,1.5nm,0.7s,mb4.1,baz=351,slow=7.6,SNR=3.8
MSU **Marysvale** **52.57 77** *e*P **P** **11 08 41.9 +0.9**
SRU **San Rafael** **52.87 75** *e*P **P** **11 08 43.5 +0.4**
SRU *e* 11 08 51.7
SRU pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
SRU **San Rafael** **52.87 75** *e*P **P** **11 08 43.5 +0.3**
comp=Z,2.2nm,0.5s,mb4.3
SRU *e* 11 08 51.7
PV10 **Paradox Valley** **54.15 74** *e*P **P** **11 08 53.7 +1.1**
PV01 **Paradox Valley** **54.56 74** *e*P **P** **11 08 55.8 +0.3**
NOA **NORSAR Array B** **56.58 347** P **P** **11 09 08.8 -1.3**
comp=Z,0.7nm,0.6s,mb3.9,baz=14,slow=7.2,SNR=2.2
ANMO **Albuquerque** **58.13 75** *e*P **P** **11 09 21.6 +0.6**
ANMO pmax pmax
comp=Z,1.0nm,0.6s
ANMO **Albuquerque** **58.13 75** *e*P **P** **11 09 21.6 +0.6**
comp=Z,1.0nm,0.6s,mb4.0
QSPA **South Pole Qui** **151.15 180** *e*PKPbc PKPbc 11 19 17.4 -3.2

IDC 08 10:59:45.5±2.3, 2004S×17468W, h0km, mb3.9/6, mb1 4.1/7, mb1mx4.0/16, mbtmp3.9/7, ML2.4/1, Error ellipse: s-maj=111.5km s-min=22.4km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.70**	**25**	Pn	Pn	11 01 24.3	-0.8
	4.1nm,0.3s,baz=270,slow=23,SNR=8.5						
AFI				Sn	Sn	11 02 31.6	-11
	1.8nm,0.3s,baz=184,slow=22,SNR=2.2						
RAR	**Rarotonga**	**14.00**	**97**	Pn	Pn	11 02 54.9	-10
	1.4nm,0.3s,baz=36,slow=9.6,SNR=8.7						
RAR				T		11 17 19.9	
	4.4nm,0.3s,baz=125,slow=9.1,SNR=4.5						
ASAR	**Alice Springs**	**47.66**	**256**	P	P	11 08 24.3	+0.8
	0.6nm,0.6s,baz=94,slow=8.5,SNR=13						
WRA	**Warramunga Arr**	**47.75**	**261**	P	P	11 08 24.4	+0.2
	0.4nm,0.5s,baz=95,slow=7.7,SNR=18						
NVAR	**Mina Array Bea**	**78.58**	**42**	P	P	11 11 49.5	+0.6
	0.7nm,0.7s,baz=218,slow=7.7,SNR=7.7						
ILAR	**Eielson Array**	**87.21**	**12**	P	P	11 12 33.8	+0.1
	0.8nm,0.8s,baz=224,slow=4.2,SNR=14						
INK	**Inuvik**	**93.04**	**14**	P	P	11 13 00.9	-0.1
	0.4nm,0.8s,baz=265,slow=4.0,SNR=5.1						
YKA	**Yellowknife Ar**	**94.82**	**24**	P	P	11 13 09.2	+0.1
	0.3nm,0.8s,baz=239,slow=4.2,SNR=6.6						
AKASG	**Malin Array Be**	**144.05**	**334**	PKP	PKPdf	11 19 20.3	-2.7
	1.4nm,0.5s,baz=40,slow=4.4,SNR=9.2						
GERES	**GERESS Array B**	**150.49**	**349**	PKPbc	PKPbc	11 19 37.8	-1.3
	0.3nm,0.4s,baz=184,slow=3.9,SNR=3.8						

*NEIC **08** 11:01:13.8, 16.10N×98.79W, h12km, MD4.0(MEX), After MEX.*

MEX 08 11:01:13.8±0.6, 16.10N×98.79W, h12km±17km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.70**	**65**	*e*P	Pg	11 01 25.0	-2.4
PNIG				*i* S	Sg	11 01 34.6	-2.0
ACX	**Acapulco**	**1.32**	**305**	*i* P	Pn	11 01 35.5	-2.6
UTMO	**Huajuapan**	**1.96**	**29**	*e*P	Pn	11 01 43.3	-3.6
UTMO				*i* S	Sn	11 02 08.0	-3.4
MEIG	**Mezcala**	**1.98**	**337**	*i* P	Pn	11 01 43.9	-3.3
MEIG				*i* S	Sn	11 02 07.3	-4.5
VHO	**Vista Hermosa**	**2.20**	**64**	*i* P	Pn	11 01 47.8	-2.3
VHO				*i* S	Sn	11 02 13.6	-3.6
OXX	**Oaxaca**	**2.21**	**63**	*i* P	Pn	11 01 47.7	-2.6
OXX				*i* S	Sn	11 02 14.0	-3.5
PLIG	**Platanillo**	**2.38**	**343**	*i* P	Pn	11 01 50.7	-1.9
PLIG				*i* S	Sn	11 02 18.0	-3.7
PLIG	**Platanillo**	**2.38**	**343**	*i* P	Pn	11 01 53.1	+0.5
PLIG				*i* S	Sn	11 02 18.0	-3.7
HUIG	**Huatulco**	**2.60**	**97**	*i* S	Sn	11 02 23.7	-3.4
PPM	**Popocatepetl**	**2.95**	**3**	*i* P	Pn	11 01 59.2	-1.4
PPM				*i* S	Sn	11 02 34.1	-1.7
PPM	**Popocatepetl**	**2.95**	**3**	*e*P	Pn	11 02 03.5	+3.0
PPM				*i* S	Sn	11 02 34.1	-1.7

IDC 08 11:02:35.0±1.3, 1992S×17399W, h0km, mb3.8/6, mb1 4.1/8, mb1mx3.9/16, mbtmp3.9/8, ML4.6/1, Error ellipse: s-maj=48.2km s-min=21.1km az=131.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.33**	**20**	Pn	Pn	11 04 08.1	-1.5
	4.5nm,0.3s,baz=121,slow=12,SNR=4.3						
AFI				Sn	Sn	11 05 11.0	-12
	2.5nm,0.3s,baz=233,slow=20,SNR=2.7						
AFI				T		11 10 37.2	
	5.2nm,0.3s,baz=58,slow=20,SNR=5.7						
RAR	**Rarotonga**	**13.38**	**98**	Pn	Pn	11 05 38.5	-7.6
	1.3nm,0.3s,baz=173,slow=6.5,SNR=7.9						
URZ	**Urewera**	**19.85**	**201**	P	Pn	11 07 08.6	-0.4
	1.7nm,0.3s,baz=351,slow=3.9,SNR=9.0						
STKA	**Stephens Creek**	**41.43**	**244**	P	P	11 10 21.6	-1.7
	1.3nm,0.8s,baz=64,slow=11,SNR=3.8						
ASAR	**Alice Springs**	**48.32**	**256**	P	P	11 11 18.9	+0.8
	0.8nm,0.7s,baz=101,slow=7.7,SNR=9.5						
WB2	**Warramunga Arr**	**48.40**	**261**	*e*P	P	11 11 19.5	+0.7
WRA	**Warramunga Arr**	**48.41**	**261**	P	P	11 11 19.2	+0.4
	0.6nm,0.4s,baz=97,slow=7.5,SNR=29						
MJAR	**Matsushiro Arr**	**72.05**	**321**	P	P	11 14 02.1	+1.3
	1.6nm,0.6s,baz=156,slow=6.6,SNR=5.6						
NVAR	**Mina Array Bea**	**78.05**	**42**	P	P	11 14 36.4	+0.9
	0.6nm,0.8s,baz=210,slow=10,SNR=3.7						
ILAR	**Eielson Array**	**86.96**	**11**	P	P	11 15 21.8	-0.2
	0.4nm,0.8s,baz=232,slow=6.1,SNR=4.6						
AKASG	**Malin Array Be**	**144.22**	**335**	PKP	PKPdf	11 22 11.1	-1.8
	0.6nm,0.5s,baz=39,slow=3.3,SNR=5.3						
GERES	**GERESS Array B**	**150.48**	**350**	PKPbc	PKPbc	11 22 27.5	-1.1
	0.4nm,0.4s,baz=318,slow=1.8,SNR=3.6						

*CSEM **08** 11:05:27.5±0.5, 3887N×2916W, h0km, ML1.9, Error ellipse: s-maj=6.3km s-min=3.7km az=53.0, After PDA*
*PDA **08** 11:05:27.5±0.5, 3887N×2916W, h0km, MD3.1, ML1.9, Error ellipse: s-maj=6.3km s-min=3.7km az=53.0*
SVSA 08 11:05:27.5±0.5, 3887N×2916W, h0km, MD3.1, ML1.9, Error ellipse: s-maj=6.3km s-min=3.7km az=53.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**0.43**	**124**	*e*P	Pg	11 05 35.4	-0.3
PCED				*e*S	Sg	11 05 41.2	0.0
PCED							
	30nm,0.3s						
PCED	**Cedros**	**0.43**	**124**	*e*P	Pg	11 05 35.4	-0.3
PCED				*e*S	Sg	11 05 41.2	0.0
CALA	**Caldeira**	**0.46**	**129**	*e*P	Pg	11 05 36.0	-0.2
HOR	**Horta**	**0.53**	**130**	*e*rx		11 05 44.0	
PICO	**Pico**	**0.68**	**122**	*i* P	Pg	11 05 39.2	-1.3
PICO				*e*S	Sg	11 05 48.5	-0.8
PICO	**Pico**	**0.68**	**122**	*e*S	Sg	11 05 48.5	-0.8
ROSA	**Rosais**	**0.73**	**101**	*e*P	Pg	11 05 40.1	-1.4
ROSA				*e*S	Sg	11 05 49.4	-1.5

IDC 08 11:10:54.5±2.0, 090N×12696E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/15, mbtmp3.6/3, Error ellipse: s-maj=165.3km s-min=25.1km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.94**	**161**	P	P	11 15 49.3	-0.3
	1.4nm,0.9s,baz=340,slow=11,SNR=8.6						
ASAR	**Alice Springs**	**25.33**	**165**	P	P	11 16 23.7	+0.7
	1.0nm,0.7s,baz=337,slow=8.5,SNR=12						
MKAR	**Makanchi Array**	**60.01**	**326**	P	P	11 21 03.0	+0.1
	0.6nm,0.7s,baz=118,slow=8.2,SNR=7.0						

*IDC **08** 11:32:50.0±6.4, 1431S×16731E, h150km±52km, mb3.8/9, mb1 4.0/10, mb1mx3.9/16, mbtmp4.3/10, MS3.4/1, Ms1 3.4/1, ms1mx2.6/25, Error ellipse: s-maj=50.8km s-min=18.5km az=123.0*
*ISCJB **08** 11:32:54.3±3.3, 1423S±01×16720E±02, h194km±29km, mb4.0/14, Error ellipse: s-maj=26.7km s-min=15.0km az=47.0*
*NEIC **08** 11:32:55.4±3.2, 1423S×16707E, h193km±26km, mb4.5/7, Error ellipse: s-maj=27.6km s-min=12.6km az=117.0*
*BJI **08** 11:33:02.2, 1336S×166.11E, h191km, mB4.6, mb4.4*
ISC 08 11:32:53.1±3.5, 142S±01×1672E±02, h174km±30km, n56, σ0s77/23, mb4.1/14, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**8.58**	**303**	P	Pn	**11 34 54.0**	**0.0**
	2.4nm,0.3s,baz=66,slow=1.3,SNR=4.0						
HNR	**Honiara**	**8.58**	**303**	*e*Pn	Pn	**11 34 54.4**	**+0.4**
	69nm,0.9s						
PMG	**Port Moresby**	**20.22**	**282**	*e*P	P	**11 37 14.9**	**+0.4**
	13nm,1.1s						
AFI	**Afiamalu**	**20.36**	**92**	LR	LR	11 43 11.8	
	comp=Z,118nm,19.9s,baz=51,slow=31						
STKA	**Stephens Creek**	**29.28**	**229**	*e*P	P	**11 38 38.7**	**-0.2**
	8.4nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**29.28**	**229**	P	P	**11 38 38.0**	**-0.9**
	9.2nm,0.5s,mb4.8,baz=46,slow=8.2,SNR=44						
WB2	**Warramunga Arr**	**31.90**	**255**	*e*P	P	**11 39 01.6**	**-0.3**
WRA	**Warramunga Arr**	**31.91**	**255**	P	P	**11 39 01.0**	**-1.0**
	0.8nm,0.5s,mb3.7,baz=83,slow=7.6,SNR=17						
ASAR	**Alice Springs**	**32.81**	**248**	P	P	**11 39 10.2**	**+0.3**
	2.2nm,0.4s,mb4.2,baz=76,slow=9.5,SNR=68						
KLBR	**Kellerberrin**	**48.31**	**240**	*e*P	P	**11 41 16.5**	**-0.2**
	50nm,1.7s,mb4.9						
NWAO	**Narrogin (SRO)**	**48.97**	**239**	P	P	**11 41 21.6**	**-0.1**
	7.0nm,0.6s,mb4.5,baz=115,slow=6.4,SNR=6.8						
MJAR	**Matsushiro Arr**	**57.46**	**332**	P	P	**11 42 22.8**	**-0.9**
	1.6nm,0.8s,mb3.9,baz=165,slow=9.4,SNR=4.1						
MDJ	**Mudanjiang**	**67.83**	**332**	P	P	**11 43 34.9**	**+2.6**
MDJ				AP	pP	11 44 14.5	+0.8
MDJ				XP	sP	11 44 34.8	+2.4
MDJ				PP	PP	11 46 05.9	+1.8
MDJ				XS	sS	11 53 31.5	+3.4
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,52nm,4.8s						
QSPA	**South Pole Qui**	**75.78**	**180**	*e*P	P	**11 44 19.9**	**+0.2**
	comp=Z,1.9nm,0.6s,mb3.9						
BILL	**Bilibino**	**82.06**	**360**	*e*P	P	**11 44 53.9**	**+0.1**
	comp=Z,5.6nm,0.8s,mb4.2						
COLA	**College**	**85.86**	**18**	*e*P	P	**11 45 13.3**	**+0.2**
	comp=Z,2.2nm,0.9s,mb3.9						
ILAR	**Eielson Array**	**86.08**	**18**	P	P	**11 45 13.3**	**-0.8**
	comp=Z,1.4nm,0.7s,mb3.8,baz=242,slow=4.6,SNR=21						
NVAR	**Mina Array Bea**	**86.98**	**49**	P	P	**11 45 18.7**	**+0.2**
	comp=Z,0.4nm,0.8s,mb3.3,baz=224,slow=5.0,SNR=3.0						
SNAA	**Sanae**	**94.03**	**183**	*e*	P	**11 45 51.8**	**+0.5**
SNAA				*e*		11 45 55.0	
VNA3	**Neumayer Olymp**	**94.70**	**181**	*e*	P	**11 45 54.8**	**+0.4**
VNA2	**Neumayer--Watz**	**94.97**	**182**	*e*	P	**11 45 55.4**	**-0.2**
	baz=178,slow=5.5						
VNA2				*e*		11 45 58.9	
VNA1	**Neumayer--Stat**	**95.27**	**182**	*e*	P	**11 45 57.7**	**+0.7**
VNA1				*e*		11 46 01.0	
MKAR	**Makanchi Array**	**96.83**	**316**	P	P	**11 46 04.9**	**+0.8**
	comp=Z,0.7nm,0.5s,mb4.3,baz=87,slow=6.6,SNR=9.5						
YKA	**Yellowknife Ar**	**97.13**	**27**	P	P	**11 46 03.6**	**-1.8**
	comp=Z,1.2nm,0.7s,mb3.6,baz=254,slow=4.4,SNR=4.2						
ARCES	**ARCESS Array B**	**119.77**	**345**	PKP	PKPdf	11 51 22.4	+0.1
	comp=Z,3.4nm,0.5s,baz=74,slow=1.9,SNR=20						
FINES	**FINESS Array B**	**125.26**	**338**	PKP	PKPdf	11 51 33.0	+0.1
	comp=Z,0.9nm,0.5s,baz=48,slow=2.8,SNR=6.9						
NOA	**NORSAR Array B**	**130.15**	**345**	PKP	PKPdf	11 51 42.6	+0.4
	comp=Z,0.3nm,0.5s,baz=20,slow=1.4,SNR=3.3						
FLN	**La Foliniere**	**144.12**	**346**	*e*PKP1	PKPdf	11 52 07.1	-0.8
LDF	**La Druitiere**	**144.19**	**346**	*e*PKP1	PKPdf	11 52 07.3	-0.7
	comp=Z,5.3nm,0.6s						
LOR	**Lormes**	**144.27**	**341**	*e*PKP1	PKPdf	11 52 08.9	+0.7
GRR	**Gorron**	**144.55**	**346**	*e*PKP1	PKPdf	11 52 08.6	-0.1
	comp=Z,19nm,0.8s						
SSF	**Saint Saulge**	**144.56**	**341**	*e*PKP1	PKPdf	11 52 09.0	+0.3
	comp=Z,13nm,0.9s						
LPL	**La Plagne**	**144.73**	**336**	*e*PKP1	PKPdf	11 52 09.9	+0.9
	comp=Z,7.6nm,0.8s						
LPG	**La Plagne**	**144.74**	**336**	*e*PKP1	PKPdf	11 52 10.1	+1.1
	comp=Z,7.6nm,0.7s						
SMF	**Signal de Mont**	**144.82**	**340**	*e*PKP1	PKPdf	11 52 09.7	+0.6
	comp=Z,11nm,0.8s						
AVF	**Avril sur Loir**	**144.85**	**341**	*e*PKP1	PKPdf	11 52 09.6	+0.4
	comp=Z,10nm,0.8s						
SGMF	**Saint Gilles**	**145.05**	**348**	*e*PKP1	PKPbc	11 52 10.1	+0.8
	comp=Z,20nm,0.5s						
ROSF	**Rostrenen**	**145.11**	**349**	*e*PKP1	PKPbc	11 52 10.3	+0.8
BGF	**Bois d'Agland**	**145.22**	**341**	*e*PKP1	PKPbc	11 52 11.0	+1.1
	comp=Z,20nm,0.8s						
MBDF	**Montbardon**	**145.37**	**335**	*e*PKP1	PKPbc	11 52 10.7	+0.4
	comp=Z,15nm,1.0s						
QUIF	**Quistinic**	**145.49**	**349**	*e*PKP1	PKPbc	11 52 10.9	+0.2
ORIF	**Oris-en-Rattie**	**145.57**	**336**	*e*PKP1	PKPbc	11 52 12.5	+1.6
	comp=Z,18nm,0.8s						
TCF	**Toulx Ste Croi**	**145.66**	**341**	*e*PKP1	PKPbc	11 52 12.5	+1.3
	comp=Z,41nm,1.4s						
SBF	**Sospel**	**145.79**	**334**	*e*PKP1	PKPbc	11 52 12.4	+0.8
	comp=Z,11nm,0.6s						
MFF	**Saint Martin d**	**146.04**	**344**	*e*PKP1	PKPbc	11 52 13.4	+1.0
	comp=Z,17nm,0.8s						
VIVF	**Saint-Julien-l**	**146.08**	**338**	*e*PKP1	PKPbc	11 52 14.5	+2.0
	comp=Z,7.8nm,0.7s						
PGF	**Pioggiola**	**146.11**	**331**	*e*PKP1	PKPbc	11 52 13.7	+1.1
	comp=Z,12nm,0.8s						
FRF	**La Foret Royal**	**146.37**	**334**	*e*PKP1	PKPbc	11 52 14.3	+1.0
	comp=Z,14nm,0.8s						
LMR	**La Mourre**	**146.62**	**334**	*e*PKP1	PKPbc	11 52 15.1	+1.1
RJF	**Les Rejaudoux**	**146.76**	**341**	*e*PKP1	PKPbc	11 52 15.7	+1.3
	comp=Z,14nm,0.9s						
LASF	**Ste Croix**	**147.05**	**338**	*e*PKP1	PKPbc	11 52 16.7	+1.5
	comp=Z,16nm,1.0s						
LFF	**La Frestale**	**147.32**	**342**	*e*PKP1	PKPbc	11 52 17.3	+1.3
	comp=Z,20nm,0.7s						
MTLF	**Montolieu**	**148.27**	**339**	*e*PKP1	PKPbc	11 52 20.0	+1.5
	comp=Z,9.0nm,0.7s						
EPF	**Esparros**	**149.17**	**341**	*e*PKP1	PKPbc	11 52 22.5	+1.7
	comp=Z,7.5nm,0.7s						
SJPF	**Ste Jean**	**149.56**	**343**	*e*PKP1	PKPbc	11 52 24.1	+2.4
ETSF	**Etsaut**	**149.57**	**342**	*e*PKP1	PKPbc	11 52 23.7	+1.9
	comp=Z,7.7nm,0.5s						

*IDC **08** 11:39:34.9±0.7, 2712N×4438W, h0km, mb4.0/15, mb1 4.2/15, mb1mx4.1/22, mbtmp4.0/15, MS4.1/17, Ms1 4.1/17, ms1mx3.9/25, Error ellipse: s-maj=21.5km s-min=16.5km az=116.0*
*ISCJB **08** 11:39:35.3±0.4, 2707N±008×4426W±006, h10km, mb4.3/32, MS4.1/17, Error ellipse: s-maj=11.4km s-min=7.5km az=134.2*
*MOS **08** 11:39:35.5±1.0, 2710N×4427W, h10km, mb4.8/10, Error ellipse: s-maj=17.6km s-min=9.1km az=57.2*
*NEIC **08** 11:39:37.0±0.4, 2707N×4425W, h10km, mb4.6/17, Error ellipse: s-maj=11.3km s-min=7.0km az=154.0*
ISC 08 11:39:37.1±0.4, 2710N±008×4425W±006, h10km, n71, σ0s94/62, mb4.3/32, MS4.1/17, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBSR	**BB Station**	**18.51**	**291**	*e*P	**Pn**	**11 43 54.7**	**+1.1**
SJG	**San Juan**	**22.08**	**251**	LR	LR	11 50 56.6	
	comp=Z,408nm,21.6s,MS3.8,baz=71,slow=31						
SJG	**San Juan**	**22.08**	**251**	*e*P	**P**	**11 44 33.4**	**+1.1**
	55nm,1.4s,mb4.8						
SCHQ	**Schefferville**	**32.24**	**335**	LR	LR	11 57 17.7	
	comp=Z,174nm,21.7s,MS3.7,baz=94,slow=33						
SADO	**Sadowa**	**32.98**	**312**	LR	LR	11 57 47.7	
	comp=Z,481nm,18.8s,MS4.2,baz=294,slow=33						
ROSC	**El Rosal**	**36.22**	**238**	LR	LR	11 59 37.7	
	comp=Z,94nm,21.3s,MS3.5,baz=189,slow=33						
MFF	**Saint Martin d**	**39.69**	**49**	*e*P	**P**	**11 47 09.8**	**+0.4**
	25nm,1.2s,mb4.5						
MFF	**Saint Martin d**	**39.69**	**49**	*e*P	**P**	**11 47 09.8**	**+0.4**
MFF				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.5						
MFF	**Saint Martin d**	**39.69**	**49**	*e*P	**P**	**11 47 09.8**	**+0.4**
	comp=Z,12nm,1.2s,mb4.5						
FRB	**Frobisher Bay**	**39.90**	**343**	LR	LR	12 02 22.2	
	comp=Z,301nm,18.6s,MS4.2,baz=173,slow=34						
LFF	**La Frestale**	**39.94**	**51**	*e*P	**P**	**11 47 12.7**	**+1.2**
	comp=Z,58nm,1.2s,mb4.9						
LFF	**La Frestale**	**39.94**	**51**	*e*P	**P**	**11 47 12.7**	**+1.2**
LFF				pmax	pmax		
	comp=Z,29nm,1.3s,mb4.8						
LFF	**La Frestale**	**39.94**	**51**	*e*P	**P**	**11 47 12.7**	**+1.2**
	comp=Z,29nm,1.3s,mb4.8						
LDF	**La Druitiere**	**40.21**	**46**	*e*P	**P**	**11 47 14.3**	**+0.5**
SAML	**Samuel**	**40.26**	**210**	*e*P	**P**	**11 47 13.1**	**-1.1**
	comp=Z,12nm,1.5s,mb4.4						
AVF	**Avril sur Loir**	**42.08**	**49**	*e*P	**P**	**11 47 29.3**	**+0.2**
SSF	**Saint Saulge**	**42.23**	**49**	*e*P	**P**	**11 47 30.7**	**+0.3**
SMF	**Signal de Mont**	**42.38**	**50**	*e*P	**P**	**11 47 32.1**	**+0.5**
	comp=Z,19nm,1.2s,mb4.3						
SMF	**Signal de Mont**	**42.38**	**50**	*e*P	**P**	**11 47 32.1**	**+0.5**
SMF				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.3						
SMF	**Signal de Mont**	**42.38**	**50**	*e*P	**P**	**11 47 32.1**	**+0.5**
	comp=Z,9.6nm,1.2s,mb4.3						
LOR	**Lormes**	**42.51**	**49**	*e*P	**P**	**11 47 32.5**	**-0.1**
LOR				*e*R			
	comp=Z,111nm,21.2s						
DBIC	**Dimbokro**	**42.56**	**111**	LR	LR	12 02 27.8	
	comp=Z,413nm,19.8s,MS4.3,baz=265,slow=32						
BDFB	**Brasilia**	**42.64**	**185**	P	**P**	**11 47 34.4**	**+0.7**
	comp=Z,1.4nm,0.4s,mb4.1,baz=43,slow=11,SNR=3.4						
BDFB				LR	LR	12 02 53.7	
	comp=Z,176nm,19.3s,MS4.0,baz=215,slow=33						
BAIF	**Baives**	**43.33**	**45**	*e*P	**P**	**11 47 39.4**	**+0.2**
MEZF	**Maizieres J'vi**	**43.53**	**47**	*e*P	**P**	**11 47 40.7**	**-0.2**
	comp=Z,7.5nm,0.6s,mb4.3						
MEZF	**Maizieres J'vi**	**43.53**	**47**	*e*P	**P**	**11 47 40.7**	**-0.2**
	comp=Z,7.5nm,0.6s,mb4.6						
MBDF	**Montbardon**	**44.15**	**53**	*e*P	**P**	**11 47 46.3**	**+0.4**
LPG	**La Plagne**	**44.22**	**52**	*e*P	**P**	**11 47 47.0**	**+0.6**
HAU	**Haudompre**	**44.30**	**48**	*e*P	**P**	**11 47 47.3**	**+0.2**
HAU				*e*R			
	comp=Z,120nm,22.0s						
TORD	**Torodi Ar. Bea**	**45.07**	**99**	P	**P**	**11 47 52.6**	**-0.6**
	comp=Z,1.3nm,1.0s,mb3.7,baz=302,slow=7.1,SNR=5.1						
ULM	**Lac du Bonnet**	**45.35**	**315**	P	**P**	**11 47 53.0**	**-2.4**
	comp=Z,0.9nm,0.5s,mb3.9,baz=103,slow=6.1,SNR=2.7						
ULM				LR	LR	12 04 14.0	
	comp=Z,171nm,19.9s,MS4.0,baz=84,slow=33						
PGF	**Pioggiola**	**45.62**	**56**	*e*P	**P**	**11 47 57.2**	**-0.4**
	comp=Z,21nm,1.2s,mb4.6						
PGF	**Pioggiola**	**45.62**	**56**	*e*P	**P**	**11 47 57.2**	**-0.4**
PGF				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
PGF	**Pioggiola**	**45.62**	**56**	*e*P	**P**	**11 47 57.2**	**-0.4**
	comp=Z,10nm,1.2s

COLA				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.5							
COLA	**College**	**71.32**	**334**	*eP*	**P**	**11 50 58.5**	**+1.5**	
	comp=Z,6.3nm,1.0s,mb4.5							
TIXI	**Tiksi**	**81.41**	**2**	*eP*	**P**	**11 51 53.4**	**-0.8**	
TIXI				pmax	pmax			
	comp=Z,7.0nm,1.4s,mb4.4							
LSZ	**Lusaka**	**81.90**	**112**	LR	LR	12 26 00.7		
	comp=Z,100nm,19.1s,MS4.2,baz=343,slow=34							
ATD	**Arta Tunnel**	**82.29**	**81**	LR	LR	12 28 04.7		
	comp=Z,97nm,18.7s,MS4.2,baz=29,slow=35							
BILL	**Bilibino**	**82.47**	**349**	*eP*	**P**	**11 51 59.3**	**-0.5**	
BILL				pmax	pmax			
	comp=Z,5.0nm,1.1s,mb4.4							
BILL	**Bilibino**	**82.47**	**349**	*eP*	**P**	**11 51 59.3**	**-0.6**	
	comp=Z,5.0nm,1.1s,mb4.4							
KMBO	**Kilima Mbogo**	**82.94**	**95**	LR	LR	12 27 49.2		
	comp=Z,196nm,18.5s,MS4.5,baz=299,slow=35							
ZAL	**Zalesovo**	**88.09**	**27**	P	**P**	**11 52 27.8**	**-0.1**	
	comp=Z,1.0nm,0.4s,mb4.4,baz=202,slow=8.4,SNR=4.5							
MKAR	**Makanchi Array**	**92.03**	**34**	P	**P**	**11 52 46.5**	**+0.2**	
	comp=Z,0.1nm,0.4s,mb3.5,baz=346,slow=2.5,SNR=3.8							

IDC 08 11:52:32.5±1.3, 086N×12706E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/14, mbtmp3.8/4, MS3.8/1, Ms1 3.8/1, ms1mx2.9/25, Error ellipse: s-maj=130.9km s-min=20.3km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
WRA	**Warramunga Arr**	**21.86**	**161**	P		P	P	11 57 27.2	+0.5
	2.4nm,0.6s,baz=340,slow=11,SNR=40								
PMG	**Port Moresby**	**22.46**	**117**	LR		LR	LR	12 05 35.2	
	comp=Z,236nm,20.3s,baz=284,slow=35								
ASAR	**Alice Springs**	**25.27**	**165**	P		P	P	11 58 00.5	+0.2
	3.8nm,1.0s,baz=343,slow=8.0,SNR=30								
SONM	**Songino Array**	**50.11**	**342**	P			P	12 01 29.2	-0.1
	0.3nm,0.4s,baz=153,slow=8.1,SNR=2.9								
MKAR	**Makanchi Array**	**60.10**	**326**	P		P	P	12 02 41.9	+0.4
	0.8nm,0.6s,baz=122,slow=7.9,SNR=12								

*ISCJB **08** 11:53:52.8±0.5, 3817N±002×822W±004, h7km±5km, Error ellipse: s-maj=5.8km s-min=4.2km az=179.9*
*MDD **08** 11:53:53.9±0.3, 3818N×826W, h4km±7km, mbLg2.1/11, Error ellipse: s-maj=3.5km s-min=2.3km az=64.0, PRXIMO*
*CSEM **08** 11:53:53.1±0.1, 3814N×834W, h10km, ML1.9, Error ellipse: s-maj=4.2km s-min=2.4km az=56.0*
*IGIL **08** 11:53:54.5, 3817N×825W, h0km, ML2.4*
*INMG **08** 11:53:54.1±1.0, 3817N×825W, h5km, ML1.9, Error ellipse: s-maj=1.9km s-min=1.2km az=67.0*

ISC 08 11:53:53.2±0.4, 3818N±002×824W±004, h12km±5km, n26, σ0§90/39, Portugal

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PBEJ	**Beja**	**0.33**	**117**	*eP*	**g**	**Pg**	**Pg**	**11 54 00.3**	**+0.5**
PBEJ				*eS*	**g**	**Sg**	**Sg**	**11 54 05.0**	**+0.7**
PBEJ									
	42nm,0.1s								
PBEJ	**Beja**	**0.33**	**117**	*eP*	**g**	**Pg**	**Pg**	**11 54 00.3**	**+0.5**
PBEJ				*eS*	**g**	**Sg**	**Sg**	**11 54 05.0**	**+0.7**
	42nm,0.1s								
MOE	**Montemor**	**0.36**	**346**	*eP*	**g**	**Pg**	**Pg**	**11 54 00.6**	**+0.2**
MOE				*eS*	**g**	**Sg**	**Sg**	**11 54 05.8**	**+0.6**
PTEO	**Sao Teotonio**	**0.74**	**212**	*eP*	**g**	**Pg**	**Pg**	**11 54 07.4**	**-0.1**
PTEO				*eS*	**g**	**Sg**	**Sg**	**11 54 17.2**	**0.0**
PTEO									
	45nm,0.3s								
PTEO	**Sao Teotonio**	**0.74**	**212**	*eP*	**g**	**Pg**	**Pg**	**11 54 07.4**	**-0.1**
PTEO				*eS*	**g**	**Sg**	**Sg**	**11 54 17.2**	**0.0**
	45nm,0.3s								
EGRO	**El Granado**	**0.88**	**137**	Pg		**Pg**	**Pg**	**11 54 09.8**	**-0.3**
	2.0nm,0.1s,SNR=30								
EGRO				Lg				11 54 22.3	
	25nm,0.2s,SNR=7.9								
EGRO	**El Granado**	**0.88**	**137**	Pg		**Pg**	**Pg**	**11 54 09.8**	**-0.3**
	2.0nm,0.1s,SNR=30								
MORF	**Marmelete**	**0.93**	**201**	*eP*		**Pg**	**Pg**	**11 54 11.0**	**-0.1**
MORF				*eS*		**Sg**	**Sg**	**11 54 23.0**	**-0.3**
MORF				*eS*		**Sg**	**Sg**	**11 54 23.0**	**-0.3**
MORF				AML		AML	AML	11 54 24.7	
	comp=N,98nm,0.1s								
MORF	**Marmelete**	**0.93**	**201**	*eP*		**Pg**	**Pg**	**11 54 11.0**	**-0.1**
MORF				*eS*		**Sg**	**Sg**	**11 54 23.0**	**-0.2**
PLOU	**Loures**	**1.01**	**315**	*eP*		**Pb**	**Pb**	**11 54 12.6**	**0.0**
PLOU				*eS*		**Sg**	**Sg**	**11 54 26.0**	**+0.2**
PLOU									
	comp=N,15nm,0.1s								
PLOU	**Loures**	**1.01**	**315**	*eP*		**Pb**	**Pb**	**11 54 12.6**	**0.0**
PLOU				*eS*		**Sg**	**Sg**	**11 54 26.0**	**+0.2**
	comp=N,15nm,0.1s								
EBAD	**Badajoz**	**1.12**	**59**	Pg		**Pg**	**Pg**	**11 54 15.2**	**+0.4**
	comp=N,3.2nm,0.1s,SNR=28								
EBAD				Lg				11 54 30.1	
	comp=N,24nm,0.2s,SNR=18								
EBAD	**Badajoz**	**1.12**	**59**	Pg		**Pg**	**Pg**	**11 54 15.2**	**+0.4**
	comp=N,3.2nm,0.1s,SNR=28								
EMIN	**Mina Concepcio**	**1.30**	**108**	Pg		**Pg**	**Pg**	**11 54 17.2**	**-1.0**
	comp=N,2.0nm,0.1s,SNR=30								
EMIN				Lg				11 54 35.4	
	comp=N,9.6nm,0.1s,SNR=5.0								
EMIN	**Mina Concepcio**	**1.30**	**108**	Pg		**Pg**	**Pg**	**11 54 17.2**	**-1.0**
	comp=N,2.0nm,0.1s,SNR=30								
PTOM	**Tomar**	**1.45**	**355**	*eP*		**Pn**	**Pn**	**11 54 20.2**	**+1.0**
PTOM				*eS*		**Sn**	**Sn**	**11 54 38.6**	**+0.5**
PTOM									
	comp=N,27nm,0.1s								
PTOM	**Tomar**	**1.45**	**355**	*eP*		**Pn**	**Pn**	**11 54 20.2**	**+1.0**
PTOM				*eS*		**Sn**	**Sn**	**11 54 38.6**	**+0.5**
	comp=N,27nm,0.1s								
PCBR	**Castelo Branco**	**1.76**	**19**	*eP*	**g**	**Pg**	**Pg**	**11 54 26.5**	**-0.6**
PCBR				*eS*	**n**	**Sn**	**Sn**	**11 54 46.6**	**+0.7**
PCBR									
	comp=N,8.9nm,0.3s								
MTE	**Manteigas**	**2.28**	**13**	*eS*	**n**	**Sn**	**Sn**	**11 54 59.6**	**+0.8**
ESPR	**Espera**	**2.30**	**124**	Pg		**Pg**	**Pg**	**11 54 36.3**	**-1.0**
	comp=N,0.8nm,0.1s,SNR=7.9								
ESPR				Lg				11 55 06.9	
	comp=N,4.1nm,0.2s,SNR=7.9								
ESPR	**Espera**	**2.30**	**124**	Pg		**Pg**	**Pg**	**11 54 36.3**	**-1.0**
	comp=N,0.8nm,0.1s,SNR=7.9								
PVIS	**Viseu**	**2.55**	**6**	*eS*	**g**	**Sg**	**Sg**	**11 55 14.3**	**-0.8**
EADA	**Adamuz**	**2.88**	**89**	Pn		**Pn**	**Pn**	**11 54 41.0**	**+2.1**
	comp=N,0.2nm,0.1s,SNR=7.9								
EADA				Lg				11 55 24.5	
	comp=N,2.2nm,0.2s,SNR=7.9								
EADA	**Adamuz**	**2.88**	**89**	Pn		**Pn**	**Pn**	**11 54 41.0**	**+2.0**
	comp=N,0.2nm,0.1s,SNR=7.9								
ELOB	**Lobios**	**3.69**	**2**	Sn		**Sn**	**Sn**	**11 55 30.9**	**-2.5**
	comp=N,2.2nm,1.0s,SNR=7.9								
ELOB				Lg				11 55 51.3	
	comp=N,1.4nm,0.2s,SNR=7.9								
ECAL	**Calabor**	**3.93**	**17**	Sn		**Sn**	**Sn**	**11 55 37.4**	**-2.0**
	comp=N,3.0nm,0.4s,SNR=7.9								
ECAL				Lg				11 55 59.9	
	comp=N,2.8nm,0.3s,SNR=7.9								

IDC 08 12:11:46.2±2.0, 084N×12716E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/16, mbtmp3.9/3, Error ellipse: s-maj=167.3km s-min=24.1km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
WRA	**Warramunga Arr**	**21.82**	**162**	P		P	P	12 16 40.6	+0.6
	3.1nm,1.1s,baz=340,slow=11,SNR=10								
ASAR	**Alice Springs**	**25.23**	**165**	P		P	P	12 17 13.9	+0.2
	2.6nm,0.8s,baz=343,slow=10,SNR=16								
MKAR	**Makanchi Array**	**60.16**	**326**	P		P	P	12 21 55.9	+0.2
	1.5nm,0.8s,baz=125,slow=7.7,SNR=11								

CSEM 08 12:17:21.0±0.5, 4292N×632W, h0km, mb3.5/1, Error ellipse: s-maj=4.7km s-min=3.8km az=155.0, After MDD, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
EPON	**Pontenova**	**0.73**	**304**	Pg		Pg	Pg	12 17 34.3	-0.8
	6.0nm,0.5s,SNR=13								
EPON				Lg				12 17 45.4	
	13nm,0.5s,SNR=6.1								
ERUA	**La Rua**	**0.81**	**229**	Pg		Pg	Pg	12 17 34.5	-2.0
	SNR=7.9								
ERUA				Lg				12 17 47.7	
	10nm,0.2s,SNR=16								
EARI	**Arriondas**	**0.90**	**64**	Pg		Pg	Pg	12 17 36.8	-1.4
	4.0nm,0.3s,SNR=37								
EARI				Lg				12 17 50.8	
	29nm,1.0s								
ECAL	**Calabor**	**1.03**	**198**	Pg		Pg	Pg	12 17 39.7	-1.0
	33nm,0.6s,SNR=26								
ECAL				Lg				12 17 55.6	
	25nm,0.4s,SNR=8.8								
ELOB	**Lobios**	**1.67**	**231**	Pg		Pg	Pg	12 17 50.9	-2.1
	4.0nm,0.4s,SNR=7.6								
ELOB				Lg				12 18 13.2	
	9.0nm,0.4s								
EMAZ	**Mazaricos**	**1.96**	**272**	Pn		Pn	Pn	12 17 54.2	-1.2
	8.7nm,0.7s,SNR=5.1								
EMAZ				Sn		Sn	Sn	12 18 16.2	-4.4
	SNR=7.9								
ELAN	**Lanestosa**	**2.13**	**81**	Pn		Pn	Pn	12 17 59.1	+1.2
	7.7nm,0.5s,SNR=5.6								
ELAN				Sn		Sn	Sn	12 18 24.6	-0.5
	16nm,0.6s,SNR=7.0								
GUD	**Guadarrama**	**2.79**	**144**	Pg		Pg	Pg	12 18 13.4	-1.1
	SNR=7.9								
GUD				Lg				12 18 50.5	
	5.1nm,0.4s,SNR=5.6								
ESBB	**Sonseca Array**	**3.69**	**151**	Sn		Sn	Sn	12 18 57.0	-6.6
	SNR=7.9								

CASC 08 12:21:54.7±3.9, 1301N×8923W, h65km±123km, MD3.5, 10C-5D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
LFRS	**El Faro**	**0.64**	**15**	*i*	*P*	Pn		12 22 21.4	+13
LFRS					*eS*	Sn		12 22 30.0	+11
LCBS	**La Ceiba**	**0.69**	**21**	*e*	*P*	Pn		12 22 21.9	+13
LCBS					*eS*	Sn		12 22 32.8	+13
SNVI	**San Vicente**	**0.71**	**32**	*e*	*P*	Pn		12 22 22.1	+13
SNVI					*eS*	Sn		12 22 34.6	+14
BOQS	**Boqueron**	**0.73**	**356**	*e*	*P*	Pn		12 22 23.3	+14
BOQS					*eS*	Sn		12 22 34.7	+14
LFU	**La Fuente**	**0.75**	**9**	*e*	*P*	Pn		12 22 23.2	+13
LFU					*eS*	Sn		12 22 34.8	+14
LBRS	**Las Brisas**	**0.75**	**14**	*i*	*P*	Pn		12 22 23.1	+13
LBRS					*eS*	Sn		12 22 37.6	+17
SBLS	**San Blas**	**0.91**	**335**	*e*	*P*	Pn		12 22 25.9	+14
SBLS					*eS*	Sn		12 22 39.9	+15
SNJE	**San Jose**	**0.93**	**337**	*e*	*P*	Pn		12 22 26.2	+14
SNJE					*eS*	Sn		12 22 39.9	+15
RTR	**El Retiro**	**0.97**	**336**	*e*	*P*	Pn		12 22 27.1	+14
RTR					*eS*	Sn		12 22 39.9	+14
VSM	**San Miguel**	**1.02**	**66**	*e*	*P*	Pn		12 22 26.4	+13
VSM					*eS*	Sn		12 22 40.6	+14
BLLM	**Bellamira**	**1.06**	**66**	*e*	*P*	Pn		12 22 26.8	+13
BLLM					*eS*	Sn		12 22 40.7	+13
RBDL	**Robledal**	**1.19**	**338**	*e*	*P*	Pn		12 22 23.0	+7.7
MTO2	**Montecristo 2**	**1.39**	**355**	*e*	*P*	Pn		12 22 31.8	+14
MTO2					*eS*	Sn		12 22 49.6	+14
IXG	**Ixpaco**	**1.66**	**314**	*i*	*P*	Pn		12 22 22.1	+0.4
IXG					*eS*	Sn		12 22 42.6	+0.6

*IDC **08** 12:56:50.1±1.0, 687N×12561E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/20, mbtmp3.7/5, Error ellipse: s-maj=61.9km s-min=21.4km az=77.0*
*ISCJB **08** 12:56:53.6±0.9, 68N±02×1255E±04, h33km, mb3.8/7, Error ellipse: s-maj=58.2km s-min=16.8km az=148.5*
*NEIC **08** 12:57:12.9±0.7, 658N×12540E, h200km, mb3.8/2, Error ellipse: s-maj=44.9km s-min=13.1km az=74.0*

ISC 08 12:56:55.7±0.9, 69N±02×1257E±04, h35km, n7, σ0§89/7, mb3.8/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
FITZ	**Fitzroy Crossi**	**24.80**	**180**	P		P	**P**	**13 02 14.5**	**+0.2**
	1.9nm,0.7s,mb3.7,baz=9.5,slow=12,SNR=8.1								
ASAR	**Alice Springs**	**31.39**	**165**	P		P	**P**	**13 03 13.2**	**0.0**
	0.2nm,0.4s,mb3.3,baz=338,slow=7.1,SNR=15								
MKAR	**Makanchi Array**	**54.41**	**325**	P		P	**P**	**13 06 20.2**	**+1.0**
	0.4nm,0.3s,mb3.6,baz=116,slow=7.2,SNR=13								
MKAR				PcP		PcP	PcP	13 07 20.8	-1.8
	0.4nm,0.6s,baz=123,slow=3.6,SNR=4.9								
KURK	**Kurchatov**	**58.56**	**327**	*eP*			**P**	**13 06 49.2**	**+0.5**
	1.0nm,0.4s,mb4.2								
BRVK	**Borovoye**	**64.22**	**327**	P		P	**P**	**13 07 26.6**	**-0.3**
	0.6nm,0.5s,mb3.9								
ILAR	**Eielson Array**	**82.75**	**26**	P		P	**P**	**13 09 16.4**	**+0.4**
	0.7nm,0.6s,mb3.8,baz=251,slow=4.5,SNR=17								
FINES	**FINESS Array B**	**88.59**	**332**	P		P	**P**	**13 09 42.8**	**-2.2**
	0.8nm,0.7s,mb4.1,baz=64,slow=8.7,SNR=5.0								

*TIR **08** 13:01:05.2, 4129N×2003E, h5km, Ml3.1*
*ISCJB **08** 13:01:05.6±0.2, 4121N±002×1997E±002, h5km, Error ellipse: s-maj=2.8km s-min=2.1km az=102.3*
*PDG **08** 13:01:06.9±0.7, 4124N×1984E, h3km±1km*
*NEIC **08** 13:01:06.9, 4124N×1984E, h3km, MD3.3(PDG), After PDG.*
*CSEM **08** 13:01:06.5±0.1, 4128N×2001E, h10km, MD3.3, Error ellipse: s-maj=1.7km s-min=1.4km az=65.0*
*THE **08** 13:01:07.6, 4127N×2009E, h5km, ML3.5*

ISC 08 13:01:06.3±0.4, 4120N±002×1999E±002, h2km±3km, n69, σ1§23/102, 4C-7D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
TIR	**Tirane**	**0.18**	**329**	*e*	**g**	**Pg**	**Pg**	**13 01 10.8**	**+1.2**
TIR					**g**	**Sg**	**Sg**	**13 01 14.3**	**+2.3**
QSH	**Qafa e Shtames**	**0.33**	**349**	*i*	**g**	**Pg**	**Pg**	**13 01 11.8**	**-0.8**
QSH				*i*	**g**	**Sg**	**Sg**	**13 01 19.1**	**+2.2**
QSH	**Qafa e Shtames**	**0.33**	**349**	*i*	**g**	**Sg**	**Sg**	**13 01 19.1**	**+2.2**
OHR	**Ohrid**	**0.62**	**98**	*i*	**g**	**Pg**	**Pg**	**13 01 15.7**	**-1.5**
KBN	**Korca**	**0.83**	**133**	*i*	**g**	**Pg**	**Pg**	**13 01 22.6**	**+0.3**
KBN				*i*	**g**	**Sg**	**Sg**	**13 01 35.8**	**+2.7**
KBN	**Korca**	**0.83**	**133**	*e*	**g**	**Pg**	**Pg**	**13 01 22.6**	**+0.3**
KBN				*i*	**g**	**Sg**	**Sg**	**13 01 35.8**	**+2.7**
TPE	**Tepelena**	**0.90**	**179**	*i*	**g**	**Pg**	**Pg**	**13 01 24.7**	**+1.2**
TPE	**Tepelena**	**0.90**	**179**	*e*	**g**	**Pg**	**Pg**	**13 01 24.7**	**+1.2**
SDA	**Shkodra**	**0.93**	**337**	*i*	**g**	**Pg**	**Pg**	**13 01 23.1**	**-1.0**
SDA				*i*	**g**	**Sg**	**Sg**	**13 01 39.9**	**+3.7**
SDA	**Shkodra**	**0.93**	**337**	*e*	**g**	**Pg**	**Pg**	**13 01 23.1**	**-1.0**
SDA				*i*	**g**	**Sg**	**Sg**	**13 01 39.9**	**+3.7**
KKS	**Kukesi**	**0.93**	**20**	*i*	**g**	**Pg**	**Pg**	**13 01 22.7**	**-1.5**
KKS				*i*	**g**	**Sg**	**Sg**	**13 01 36.0**	**-0.3**
KKS	**Kukesi**	**0.93**	**20**	*e*	**g**	**Pg**	**Pg**	**13 01 22.7**	**-1.5**
KKS				*i*	**g**	**Sg**	**Sg**	**13 01 36.0**	**-0.3**
ULC	**Ulcinj**	**0.94**	**324**	*i*	**g**	**Pg**	**Pg**	**13 01 23.1**	**-1.3**
ULC					**g**	**Sg**	**Sg**	**13 01 36.7**	**+0.1**
BIA	**Bitola**	**1.03**	**99**	*e*	**g**	**Pg**	**Pg**	**13 01 23.4**	**-2.6**
BIA	**Bitola**	**1.03**	**99**	*e*	**g**	**Pg**	**Pg**	**13 01 23.3**	**-2.6**
FNA	**Florina**	**1.13**	**111**	*e*	**g**	**Pg**	**Pg**	**13 01 27.7**	**-0.2**
FNA					**g**	**Sg**	**Sg**	**13 01 43.5**	**+1.0**
BCI	**Bajram Curri**	**1.17**	**3**	*i*	**n**	**Pn**	**Pn**	**13 01 27.2**	**-2.5**
BCI				*i*	**n**	**Sn**	**Sn**	**13 01 45.2**	**-1.0**
BCI	**Bajram Curri**	**1.17**	**3**	*e*	**n**	**Pn**	**Pn**	**13 01 27.2**	**-2.5**
BCI				*i*	**n**	**Sn**	**Sn**	**13 01 45.2**	**-1.0**
SRN	**Sarande**	**1.31**	**180**	*i*	**n**	**Pn**	**Pn**	**13 01 34.0**	**+2.4**
SKO	**Skopje**	**1.34**	**54**	*e*	**g**	**Pg**	**Pg**	**13 01 30.8**	**-1.1**
SKO					**g**	**Sg**	**Sg**	**13 01 48.9**	**-0.3**
SKO	**Skopje**	**1.34**	**54**	*e*	**g**	**Pg**	**Pg**	**13 01 30.5**	**-1.4**
SKO					**g**	**Sg**	**Sg**	**13 01 48.0**	**-1.2**
TTG	**Podgorica**	**1.35**	**336**	*i*	**g**	**Pg**	**Pg**	**13 01 30.2**	**-1.9**
TTG					**g**	**Sg**	**Sg**	**13 01 50.9**	**+1.4**
BUM	**Brajici-Budva**	**1.37**	**324**	*i*	**g**	**Pg**	**Pg**	**13 01 31.3**	**-1.2**
BUM					**g**	**Sg**	**Sg**	**13 01 50.7**	**+0.3**
PVY	**Plav**	**1.40**	**360**	*i*	**g**	**Pg**	**Pg**	**13 01 30.9**	**-2.2**
PVY					**g**	**Sg**	**Sg**	**13 01 53.7**	**+2.5**
LCI	**Lecce**	**1.66**	**239**		Pg	**Pg**	**Pg**	**13 01 37.2**	**-1.0**
LCI					Sg	**Sg**	**Sg**	**13 02 00.8**	**+1.1**
HCY	**Herceg Novi**	**1.67**	**319**	*i*	**g**	**Pg**	**Pg**	**13 01 36.1**	**-2.3**
HCY					**g**	**Sg**	**Sg**	**13 02 00.8**	**+0.7**
IVA	**Berane**	**1.68**	**358**	*i*	**g**	**Pn**	**Pn**	**13 01 36.8**	**+0.2**
IVA					**n**	**Sn**	**Sg**	**13 02 02.2**	**+2.1**
IGT	**Igoumenitsa**	**1.68**	**171**	*e*	**b**	**Pb**	**Pb**	**13 01 37.5**	**-0.4**
IGT					**b**	**Sb**	**Sb**	**13 02 00.9**	**+1.3**
IGT	**Igoumenitsa**	**1.68**	**171**	*e*	**b**	**Pb**	**Pb**	**13 01 37.5**	**-0.4**
STIP	**Stip**	**1.73**	**73**	*e*	**n**	**Pn**	**Pn**	**13 01 36.7**	**-0.6**
STIP					**n**	**Sn**	**Sn**	**13 01 55.4**	**-4.5**
STIP	**Stip**	**1.73**	**73**	*e*	**n**	**Pn**	**Pn**	**13 01 36.7**	**-0.6**
STIP					**n**	**Sn**	**Sn**	**13 01 55.3**	**-4.6**
NKY	**Niksic**	**1.77**	**336**	*i*	**n**	**Pn**	**Pn**	**13 01 38.3**	**+0.4**
NKY					**n**	**Sn**	**Sn**	**13 02 03.8**	**+2.7**
GRG	**Griva**	**1.84**	**97**	*e*	**b**	**Pn**	**Pn**	**13 01 38.3**	**-0.6**
TREB	**Trebinje**	**1.95**	**322**	P		Pn	**Pn**	**13 01 40.0**	**-0.4**
TREB					S	**Sn**	**Sn**	**13 02 06.3**	**+0.9**
VAY	**Valandovo**	**1.95**	**85**	*e*	**n**	**Pn**	**Pn**	**13 01 41.0**	**+0.6**
PE1	**Pezze di Greco**	**1.98**	**259**	*e*	**n**	**Pn**	**Pn**	**13 01 39.7**	**-1.1**
BRY	**Bratogost**	**2.01**	**328**	*e*	**n**	**Pn**	**Pn**	**13 01 42.5**	**+1.2**
BRY					**n**	**Sn**	**Sn**	**13 02 09.8**	**+2.8**
UPM	**Unac-Piva**	**2.16**	**339**	*e*	**n**	**Pn**	**Pn**	**13 01 44.6**	**+1.4**
UPM					**n**	**Sn**	**Sn**	**13 02 13.4**	**+2.8**
PLE	**Pljevlja**	**2.18**	**349**	*e*	**n**	**Pn**	**Pn**	**13 01 44.7**	**+1.2**
PLE					**n**	**Sn**	**Sn**	**13 02 13.9**	**+2.9**
LIT	**Litokhoron**	**2.20**	**119**	*e*	**n**	**Pn**	**Pn**	**13 01 43.8**	**0.0**
LIT					**n**	**Sn**	**Sn**	**13 02 11.5**	**0.0**
THE	**Thessaloniki**	**2.33**	**103**	*e*	**n**	**Pn**	**Pn**	**13 01 45.5**	**-0.1**
BAI	**Bari**	**2.35**	**269**	*e*	**n**	**Pn**	**Pn**	**13 01 44.9**	**-1.0**
STON	**Ston**	**2.39**	**315**	*i*	**n**	**Pn**	**Pn**	**13 01 45.6**	**-0.8**
STON					*i*	**Sn**	**Sn**	**13 02 14.9**	**-1.4**
SG1	**Sgolgore (BA)**	**2.53**	**263**	*e*	**n**	**Pn**	**Pn**	**13 01 49.0**	**+0.7**
LKD	**Levkas**	**2.54**	**168**	*e*	**n**	**Pn**	**Pn**	**13 01 48.5**	**+0.1**
LKD	**Levkas**	**2.54**	**168**	*e*	**n**	**Pn**	**Pn**	**13 01 48.5**	**0.0**
SOH	**Sokhos**	**2.58**	**97**	*e*	**n**	**Pn**	**Pn**	**13 01 48.6**	**-0.4**
GRUS	**Gruza**	**2.74**	**11**	*i*	**n**	**Pn**	**Pn**	**13 01 51.5**	**+0.2**
VTS	**Vitosha**	**2.78**	**59**	*e*	**n**	**Pn**	**Pn**	**13 01 51.1**	**-0.7**
CDT	**Castel del Mon**	**2.81**	**269**	*e*	**n**	**Pn**	**Pn**	**13 01 51.5**	**-0.7**
AGG	**Agios Georgios**	**2.82**	**140**	*e*	**n**	**Pn**	**Pn**	**13 01 53.9**	**+1.6**
DIVS	**Divcibare**	**2.90**	**0**	*i*	**n**	**Pn**	**Pn**	**13 01 54.1**	**+0.7**
DIVS	**Divcibare**	**2.90**	**0**	*e*	**n**	**Pn**	**Pn**	**13 01 53.7**	**+0.3**
XOR	**Xorichti**	**3.06**	**126**	*e*	**n**	**Pn**	**Pn**	**13 01 56.7**	**+1.0**
FGMS	**Monte Sant'Ang**	**3.07**	**281**	P		Pg	**Pn**	**13 01 54.9**	**-0.9**
FGMS						Sg	**Sn**	**13 02 32.2**	**-1.0**
OUR	**Ouranopolis**	**3.15**	**105**	*e*	**n**	**Pn**	**Pn**	**13 01 57.4**	**+0.4**
TIP	**Timpagrande**	**3.19**	**232**	*e*	**n**	**Pn**	**Pn**	**13 01 56.5**	**-0.9**
TIP	**Timpagrande**	**3.19**	**232**	*e*	**n**	**Pn**	**Pn**	**13 01 56.5**	**-0.9**
SVIS	**Svilajnac**	**3.23**	**16**	*i*	**n**	**Pn**	**Pn**	**13 01 57.9**	**0.0**
RGNG	**Rignano Grg**	**3.34**	**280**	Pg		Pn	**Pn**	**13 01 58.5**	**-1.0**
CUC	**Castrocucco**	**3.40**	**251**	Pg		Pn	**Pn**	**13 02 00.6**	**+0.3**
SGO	**Sicignano**	**3.60**	**261**	Pg		Pn	**Pn**	**13 02 03.1**	**0.0**
BZS	**Buzias**	**4.58**	**14**	*i*	**n**	**Pn**	**Pn**	**13 02 15.8**	**-0.7**
NVLJ	**Novalja**	**5.04**	**314**	*i*	**n**	**Pn**	**Pn**	**13 02 21.7**	**-1.3**
NVLJ				*i*	**n**	**Sn**	**Sn**	**13 03 18.4**	**-3.4**
NVLJ	**Novalja**	**5.04**	**314**	*i*	**n**	**Pn**	**Pn**	**13 02 21.6**	**-1.3**
NVLJ				*i*	**n**	**Sn**	**Sn**	**13 03 18.4**	**-3.4**
PKSM	**Moragy**	**5.11**	**349**	*i*	**n**	**Pn**	**Pn**	**13 02 23.5**	**-0.3**
LPG	**La Plagne**	**10.55**	**298**	*e*	**P**	**Pn**	**Pn**	**13 03 38.8**	**+0.3**
	2.0nm,0.3s

*NNC **08** 13:42:30.3±4.6,3704N×7103E,h193km±68km,mb2.2, mpv3.1,Error ellipse: s-maj=45.6km s-min=26.0km az=24.0*

ISC 08 13:42:24.3±1.4,3649N±009×710E±02,h200km,n16, σ1§28/19,3C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.02**	**20**	P	**Pn**	**13 43 51.4**	**-0.4**
	SNR=27						
UCH	**Uchtor**	**6.36**	**25**	P	**Pn**	**13 43 56.0**	**-0.2**
	SNR=11						
KZA	**Kyzart**	**6.50**	**30**	P	**Pn**	**13 43 60.0**	**+2.0**
	SNR=6.4						
EKS2	**Erkin-Say**	**6.54**	**19**	P	**Pn**	**13 43 58.5**	**0.0**
	SNR=5.1						
KK31	**Karatay Array**	**6.62**	**357**	P	**Pn**	**13 43 58.5**	**-1.0**
	0.7nm,0.3s,baz=172,slow=11,SNR=48						
KK31				⇑S	**Sn**	**13 45 08.4**	**-6.5**
	2.5nm,0.3s,baz=188,slow=23,SNR=14						
AAK	**Ala-Archa**	**6.72**	**23**	P	**Pn**	**13 44 00.6**	**-0.2**
	SNR=6.8						
KBK	**Karagaybulak**	**6.89**	**25**	P	**Pn**	**13 44 03.5**	**+0.5**
	SNR=5.9						
TKM2	**Tokmak 2**	**7.36**	**28**	P	**Pn**	**13 44 09.0**	**-0.1**
	SNR=14						
TKM2	**Tokmak 2**	**7.36**	**28**	⇓P	**Pn**	**13 44 08.3**	**-0.8**
	0.7nm,0.6s						
TKM2				⇓S	**Sn**	**13 45 26.8**	**-5.6**
	0.5nm,0.9s						
KOLN	**Koldanda**	**13.79**	**125**	*e*P	**Pn**	**13 45 32.1**	**+0.6**
GKN	**Gorkha**	**14.33**	**122**	*e*P	**Pn**	**13 45 36.3**	**-1.9**
KKN	**Kakani**	**14.91**	**122**	*e*P	**Pn**	**13 45 42.5**	**-2.8**
	6.0nm,0.4s						
AB31	**Akbulak array**	**15.07**	**331**	⇑P	**Pn**	**13 45 48.5**	**+1.2**
	0.3nm,0.5s,baz=139,slow=11,SNR=6.9						
AB31				⇑S	**S**	**13 48 30.6**	**-4.0**
	0.2nm,0.3s						
PKI	**Pulchoki**	**15.13**	**122**	*e*P	**Pn**	**13 45 45.0**	**-3.1**
GUN	**Gumba**	**15.25**	**120**	*e*P	**Pn**	**13 45 51.1**	**+1.7**
JIRN	**Jiri**	**15.62**	**120**	*e*P	**Pn**	**13 45 54.8**	**+0.9**

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*IDC **08** 13:43:11.8±0.5, 19.14N×121.10E, h0km, mb4.7/20, mb1 4.8/22,mb1mx4.7/24, mbtmp4.7/22,ML4.5/2, MS4.4/15, Ms1 4.4/15,ms1mx4.2/33,Error ellipse: s-maj=16.9km s-min=12.8km az=82.0*

*MOS **08** 13:43:15.6±0.8, 19.18N×121.15E,h33km,mb5.1/54, MS4.5/13,Error ellipse: s-maj=9.2km s-min=4.8km az=114.6*

*BJI **08** 13:43:15.8, 1937N×12097E,h20km, mB4.9,mb4.6,ML4.3, Ms4.7,Msz4.6*

*ISCJB **08** 13:43:16.8±0.2, 1932N±002×12108E±004, h36km, mb4.8/98, MS4.5/37, Error ellipse: s-maj=4.8km s-min=3.1km az=172.9*

*HRVD **08** 13:43:17.1±0.3, 1929N×12102E, h27km, MW5.0/64, Centroid moment Tensor Solution. LP body waves: s58,c80;Mantle waves: s64,c104; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.21±.15; $M_{\theta\theta}$1.87±.10; $M_{\phi\phi}$2.34±.12; $M_{r\theta}$-0.14±.15; $M_{\theta\phi}$-1.61±.06; $M_{\phi r}$-0.93±.19; Best double couple: M=4.07100×10^{16} NP1:ϕ_s131.00000°,δ41.00000°,λ-103.00000°. NP2: ϕ_s328.00000°,δ50.00000°,λ-79.00000°. Principal axes: T 3.7800, Plg4.0000°, Azm50.0000°; N 0.5830, Plg8.0000°, Azm141.0000°; P -4.3630, Plg81.0000°, Azm292.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **08** 13:43:17.1±1.6, 19.17N×121.13E,h34km±11km,mb4.9/48, MS4.5/2 Error ellipse: s-maj=6.0km s-min=4.1km az=91.0*

*SZGRF **08** 13:43:22.5, 1974N×120.18E,h33km,mb4.9,MS4.6, Philippine Islands region*

ISC 08 13:43:18.5±0.2,1931N±002×12114E±003,h38km, h38km±1.8km:pP-P,n280,σ1§07/296,mb4.8/98,MS4.5/37, 23C-34D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**1.10**	**207**	⇓*i*P	**Pn**	**13 43 33.7**	**-3.6**
PIP				*e*S	**Sn**	**13 43 48.9**	**-2.4**
CVP	**Callao Caves**	**1.72**	**158**	⇑*i*P	**Pn**	**13 43 45.5**	**-0.4**
CVP				*i* S	**Sn**	**13 44 07.0**	**+0.3**
PALP	**Palanan**	**2.54**	**151**	⇑*e*P	**Pn**	**13 43 58.9**	**+1.7**
PALP				*i* S	**Sn**	**13 44 36.5**	**+10**
BCPH	**Baguio City Da**	**2.96**	**191**	⇓*e*P	**Pn**	**13 44 04.5**	**+1.6**
BCPH				*e*S	**Sn**	**13 44 40.5**	**+3.3**
PCPH	**Palayan**	**3.73**	**181**	⇓*e*P	**Pn**	**13 44 15.3**	**+1.8**
NACB	**Ninganchiao**	**4.86**	**5**	*e*P	**Pn**	**13 44 28.5**	**-0.6**
NACB				*e*S	**Sn**	**13 45 20.6**	**-3.5**
TGY	**Tagaytay City**	**5.18**	**182**	Pn	**Pn**	**13 44 38.7**	**+5.2**
	132nm,0.3s,baz=59,slow=14,SNR=4.4						
TGY	**Tagaytay City**	**5.18**	**182**	⇓*e*P	**Pn**	**13 44 42.7**	**+9.2**
YHNB	**Yeheng**	**5.34**	**2**	*e*P	**Pn**	**13 44 36.4**	**+0.7**
YHNB				*e*S	**Sn**	**13 45 33.7**	**-2.2**
GQP	**Guinayangan**	**5.51**	**167**	⇑*e*P	**Pn**	**13 44 39.5**	**+1.5**
GQP				*e*S	**Sn**	**13 45 43.8**	**+3.6**
LUBP	**Lubang**	**5.61**	**189**	*e*P	**Pn**	**13 44 41.8**	**+2.5**
TATO	**Taipei**	**5.65**	**3**	*e*P	**Pn**	**13 44 41.2**	**+1.3**
	171nm,0.6s						
TATO				*e*S	**Sn**	**13 45 41.0**	**-2.5**
QZH	**Quanzhou**	**6.09**	**338**	*e*P	**Pn**	**13 44 43.2**	**-2.7**
QZH				S	**Sn**	**13 45 47.4**	**-6.9**
QZH				Smax			
	comp=N,180nm,0.8s						
QZH				Smax			
	comp=E,230nm,0.9s						
QZH				LR	LR		
	comp=N,10μm,14.8s						
QZH				LR	LR		
	comp=E,4μm,15.0s						
QZH				LR	LR		
	comp=Z,10μm,12.5s						
PVCP	**Virac**	**6.37**	**153**	⇑*e*P	**Pn**	**13 44 50.4**	**+0.5**
PVCP				*i* S	**Sn**	**13 46 11.9**	**+11**
JOW	**Kunigami**	**9.96**	**40**	Pn	**Pn**	**13 45 39.5**	**+0.5**
	comp=Z,8.6nm,0.3s,baz=230,slow=11,SNR=29						
JOW				Sn	**Sn**	**13 47 27.5**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=115,slow=26,SNR=2.4						
JOW				LR	LR	13 49 55.0	
	comp=Z,3μm,19.5s,baz=227,slow=40						
QIZ	**Qiongzhong**	**10.68**	**270**	⇑P	**Pn**	**13 45 44.6**	**-4.3**
QIZ				AMB	AMB		
	comp=Z,22nm,0.7s						
QIZ				LR	LR		
	comp=N,3μm,15.4s						
QIZ				LR	LR		
	comp=E,3μm,17.4s						
QIZ				LR	LR		
	comp=Z,4μm,14.7s						
QIZ	**Qiongzhong**	**10.68**	**270**	*e*P	**Pn**	**13 45 44.7**	**-4.2**
	comp=Z,73nm,1.0s						
QIZ				*e*S	**Sn**	**13 47 35.5**	**-12**
SSE	**Sheshan**	**11.74**	**0**	P	**Pn**	**13 46 04.0**	**+0.6**
SSE				XP		13 46 10.9	
SSE				S	**Sn**	**13 48 19.1**	**+6.1**
SSE				AMB	AMB		
	comp=Z,32nm,0.7s						
SSE				AMB	AMB		
	comp=Z,59nm,3.8s						
SSE				LR	LR		
	comp=N,1μm,16.0s						
SSE				LR	LR		
	comp=E,1μm,16.0s						
SSE				LR	LR		
	comp=Z,1μm,15.7s						
NJ2	**Nanjing**	**12.86**	**351**	*e*P	**Pn**	**13 46 24.3**	**+5.7**
NJ2				AP		13 46 27.6	
NJ2				XP		13 46 30.4	
NJ2				PP		13 46 34.8	
NJ2				S	**Sn**	**13 48 51.0**	**+11**
NJ2				AMB	AMB		
	comp=Z,540nm,10.0s						
NJ2				LR	LR		
	comp=N,2μm,15.5s						
NJ2				LR	LR		
	comp=E,1μm,18.0s						
NJ2				LR	LR		
	comp=Z,1μm,23.8s						
GYA	**Guiyang**	**15.12**	**301**	⇑*i*P	**Pn**	**13 46 46.7**	**-2.5**
GYA				PP		13 46 59.8	
GYA				PPP		13 47 03.6	
GYA				AMB	AMB		
	comp=Z,20nm,1.0s						
GYA				AMB	AMB		
	comp=Z,90nm,3.9s						
GYA				LR	LR		
	comp=N,1μm,14.2s						
GYA				LR	LR		
	comp=E,2μm,14.2s						
GYA				LR	LR		
	comp=Z,3μm,14.3s						
JNU	**Nakatsue**	**16.28**	**30**	Pn	**Pn**	**13 47 05.4**	**+1.2**
	comp=Z,1.2nm,0.3s,baz=258,slow=19,SNR=2.8						
TIA	**Tai'an**	**17.21**	**349**	*e*P	**Pn**	**13 47 17.8**	**+1.9**
TIA				AMB	AMB		
	comp=Z,16nm,1.0s						
TIA				LR	LR		
	comp=N,2μm,13.0s						
TIA				LR	LR		
	comp=E,795nm,13.0s						
KMI	**Kunming**	**17.99**	**292**	P	**Pn**	**13 47 26.8**	**+1.3**
KMI				AP	pP	13 47 29.9	-5.4
KMI				XP	sP	13 47 31.9	-8.3
KMI				PP		13 47 42.0	
KMI				PPP		13 47 50.4	
KMI				S	**S**	**13 50 44.0**	**-6.1**
KMI				XS	sS	13 50 48.9	-16
KMI				SS		13 51 06.7	
KMI				SSS		13 51 19.6	
KMI				PCP	PcP	13 52 03.7	+4.4
KMI				AMB	AMB		
	comp=Z,18nm,1.9s						
KMI				AMB	AMB		
	comp=Z,230nm,4.2s						
KMI				LR	LR		
	comp=N,1μm,13.5s						
KMI				LR	LR		
	comp=E,3μm,14.9s						
KMI				LR	LR		
	comp=Z,3μm,13.6s						
XAN	**Xi'an**	**18.27**	**326**	P	**Pn**	**13 47 28.4**	**-0.5**
XAN				AP	pP	13 47 38.5	+0.1
XAN				XP	sP	13 47 43.2	-0.1
XAN				S	**S**	**13 50 56.1**	**+0.4**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.6s						
XAN				AMB	AMB		
	comp=Z,367nm,7.9s						
XAN				LR	LR		
	comp=N,2μm,14.0s						
XAN				LR	LR		
	comp=E,752nm,13.3s						
XAN				LR	LR		
	comp=Z,2μm,14.7s						
KS15	**Wonju Array Si**	**19.00**	**17**	*e*P	**Pn**	**13 47 37.6**	**-0.2**
NANT	**Nan**	**19.33**	**272**	⇑P	**Pn**	**13 47 38.5**	**-3.3**
	comp=Z,141nm,1.0s						
CD2	**Chengdu**	**19.50**	**310**	P	**Pn**	**13 47 42.4**	**-1.3**
CD2				PP		13 47 59.0	
CD2				S	**S**	**13 51 11.8**	**-8.7**
CD2				SS		13 51 35.4	
CD2				AMB	AMB		
	comp=Z,40nm,1.1s						
CD2				AMB	AMB		
	comp=Z,220nm,6.0s						
CD2				LR	LR		
	comp=N,1μm,13.2s						
CD2				LR	LR		
	comp=Z,1μm,16.2s						
DL2	**Dalian**	**19.53**	**1**	*e*P	**Pn**	**13 47 44.0**	**-0.2**
DL2				S	**S**	**13 51 25.2**	**+4.0**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
DL2				AMB	AMB		
	comp=Z,220nm,6.5s						
DL2				LR	LR		
	comp=N,580nm,15.3s						
DL2				LR	LR		
	comp=E,540nm,14.2s						
DL2				LR	LR		
	comp=Z,730nm,16.5s						
CHRT	**Chiangrai**	**20.14**	**275**	⇓P	**P**	**13 47 50.5**	**+1.3**
	comp=Z,182nm,1.3s						
KSM	**Kuching**	**20.66**	**212**	*e*P	**P**	**13 47 53.7**	**-1.2**
CBIJ	**Chichi jima**	**20.82**	**64**	P	**P**	**13 47 56.0**	**-0.5**
	comp=Z,46nm,0.7s,baz=314,slow=20,SNR=9.0						
CBIJ				LR	LR	13 54 29.8	
	comp=Z,752nm,19.7s,MS4.1,baz=234,slow=32						
CHG	**Chiang Mai**	**20.99**	**272**	⇓P	**P**	**13 47 58.4**	**-0.1**
	comp=Z,41nm,1.0s						
CHG				S	**S**	**13 52 01.3**	**+11**
CHTO	**Chiang Mai**	**20.99**	**272**	*e*P	**P**	**13 47 57.8**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,112nm,1.6s						
CHTO	**Chiang Mai**	**20.99**	**272**	*e*P	**P**	**13 47 57.8**	**-0.7**
	comp=Z,112nm,1.6s						
BJT	**Baijiatuao**	**21.08**	**349**	*e*P	**P**	**13 48 00.2**	**+0.8**
BJT				pmax	pmax		
	comp=Z,94nm,0.9s						
BJT	**Baijiatuao**	**21.08**	**349**	*e*P	**P**	**13 48 00.2**	**+0.7**
	comp=Z,94nm,0.9s,mb5.1						
BJI	**Beijing**	**21.10**	**349**	*e*P	**P**	**13 48 00.4**	**+0.7**
BJI				S	**S**	**13 51 53.4**	**+1.1**
BJI				AMB	AMB		
	comp=Z,32nm,1.1s,mb4.6						
BJI				LR	LR		
	comp=N,1μm,16.3s,MS4.5						
BJI				LR	LR		
	comp=E,1μm,18.8s,MS4.5						
BJI				LR	LR		
	comp=Z,861nm,17.3s,MS4.2						
JHJ	**Hachijo jima 2**	**21.60**	**47**	P	**P**	**13 48 07.0**	**+1.9**
	comp=Z,93nm,0.8s,mb5.2,baz=240,slow=20,SNR=2.2						
JHJ				LR	LR	13 54 45.5	
	comp=Z,968nm,21.1s,MS4.2,baz=289,slow=32						
NNT	**Nongplab**	**21.63**	**255**	P	**P**	**13 48 06.0**	**+0.6**
SNY	**Shenyang**	**22.54**	**5**	⇑P	**P**	**13 48 14.6**	**-0.5**
SNY				AP		13 48 18.7	
SNY				XP	sP	13 48 21.5	-8.2
SNY				PP		13 48 46.5	
SNY				S	**S**	**13 52 18.6**	**-1.6**
SNY				XS	sS	13 52 28.2	-8.1
SNY				AMB	AMB		
	comp=Z,8.0nm,0.4s,mb4.5						
SNY				AMB	AMB		
	comp=Z,360nm,4.3s						
SNY				LR	LR		
	comp=N,958nm,16.0s,MS4.4						
SNY				LR	LR		
	comp=E,895nm,17.3s,MS4.4						
SNY				LR	LR		
	comp=Z,1μm,15.9s,MS4.5						
LZH	**Lanzhou**	**22.61**	**321**	⇓P	**P**	**13 48 16.8**	**+1.0**
LZH				AP		13 48 20.0	
LZH				XP	sP	13 48 21.6	-8.8
LZH				PP		13 48 45.4	
LZH				S	**S**	**13 52 20.0**	**-1.3**
LZH				SS		13 53 02.0	
LZH				AMB	AMB		
	comp=Z,69nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,210nm,4.5s						
LZH				LR	LR		
	comp=N,2μm,13.8s						
LZH				LR	LR		
	comp=Z,2μm,14.4s,MS4.7						
MAJO	**Matsushiro**	**22.79**	**38**	*e*P	**P**	**13 48 18.9**	**+1.2**
MAJO				pmax	pmax		
	comp=Z,33nm,1.1s,mb4.7						
MAJO	**Matsushiro**	**22.79**	**38**	*e*P	**P**	**13 48 18.9**	**+1.3**
	comp=Z,33nm,1.1s,mb4.7						
MAT	**Matsushiro**	**22.79**	**38**	P	**P**	**13 48 17.0**	**-0.7**
MAT				S	**S**	**13 52 20.0**	**-4.2**
MAT	**Matsushiro**	**22.79**	**38**	*e*P	**P**	**13 48 17.0**	**-0.7**
MAT				*e*S	**S**	**13 52 21.0**	**-3.2**
MAT				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.3						
MAT	**Matsushiro**	**22.79**	**38**	*e*P	**P**	**13 48 17.0**	**-0.7**
	comp=Z,13nm,1.1s,mb4.3						
MAT				*e*S	**S**	**13 52 21.0**	**-3.2**
MJAR	**Matsushiro Arr**	**22.79**	**38**	P	**P**	**13 48 18.3**	**+0.7**
	comp=Z,5.2nm,1.0s,mb3.9,baz=232,slow=11,SNR=9.4						
HHC	**Hu-ho-hao-te**	**22.98**	**341**	*e*P	**P**	**13 48 20.6**	**+0.9**
HHC				AP		13 48 24.7	
HHC				XP	sP	13 48 27.7	-6.7
HHC				PP		13 48 51.8	
HHC				PCP	PcP	13 52 10.7	+2.1
HHC				XS	sS	13 52 36.9	-7.9
HHC				SCP	ScP	13 55 46.0	+2.6
HHC				PCS	PcS	13 55 49.5	+1.8
HHC				AMB	AMB		
	comp=Z,26nm,1.3s,mb4.5						
HHC				AMB	AMB		
	comp=Z,378nm,7.7s						
HHC				LR	LR		
	comp=N,2μm,16.5s,MS4.8						
HHC				LR	LR		
	comp=E,2μm,16.1s,MS4.8						
HHC				LR	LR		
	comp=Z,2μm,16.2s,MS4.7						
BTO	**Baotou**	**23.27**	**338**	*e*P	**P**	**13 48 22.5**	**-0.3**
BTO				S	**S**	**13 52 23.3**	**-8.8**
BTO				LR	LR		
	comp=N,918nm,14.2s,MS4.7						
BTO				LR	LR		
	comp=E,2μm,15.4s,MS4.7						
GUMO	**Guam**	**23.44**	**100**	LR	LR	13 56 07.1	
	comp=E,724nm,18.9s,MS4.2,baz=269,slow=33						
KULM	**Kulim**	**24.35**	**238**	*e*P	**P**	**13 48 32.2**	**-0.5**
CN2	**Changchun**	**24.69**	**7**	*e*P	**P**	**13 48 38.7**	**+2.9**
CN2				*e*XP	sP	13 48 45.7	-5.3
CN2				*e*S	**S**	**13 52 59.4**	**+4.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,1μm,14.0s,MS4.6						
CN2				LR	LR		
	comp=E,600nm,14.0s,MS4.6						
CN2				LR	LR		
	comp=Z,1μm,16.0s,MS4.5						
VLA	**Vladivostok**	**25.41**	**19**	*e*P	**P**	**13 48 42.6**	**+0.2**
VLA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.3						
VLA				MLR	MLR		
	comp=Z,600nm,22.0s,MS4.1						
MDJ	**Mudanjiang**	**26.20**	**14**	P	**P**	**13 48 51.8**	**+2.3**
MDJ				AP	pP	13 48 54.9	-5.2
MDJ				S	**S**	**13 53 24.4**	**+5.4**
MDJ				SCP	ScP	13 55 56.3	+3.9
MDJ				PCS	PcS	13 55 57.9	+1.2
MDJ				SCS	ScS	13 59 46.9	+4.6
MDJ				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,141nm,6.8s						
MDJ				LR	LR		
	comp=N,886nm,16.1s,MS4.4						
MDJ				LR	LR		
	comp=E,265nm,14.2s,MS4.4						
MDJ				LR	LR		
	comp=Z,996nm,16.1s,MS4.5						
MDJ	**Mudanjiang**	**26.20**	**14**	P	**P**	**13 48 50.8**	**+1.3**
	comp=Z,9.0nm,0.8s,mb4.3						
GTA	**Gaotai**	**27.20**	**322**	*e*P	**P**	**13 48 59.7**	**+1.1**
GTA				AP	pP	13 49 03.7	-5.5
GTA				XP	sP	13 49 06.1	-7.7
GTA				PP		13 49 46.3	
GTA				PCP	PcP	13 52 19.2	+1.2
GTA				S	**S**	**13 53 37.9**	**+3.1**
GTA				XS	sS	13 53 45.1	-7.4
GTA				AMB	AMB		
	comp=Z,8.0nm,2.0s,mb3.9						
GTA				AMB	AMB		
	comp=Z,276nm,7.6s						
GTA				LR	LR		
	comp=N,332nm,15.6s,MS4.3						
GTA				LR	LR		
	comp=E,538nm,14.1s,MS4.3						
GTA				LR	LR		
	comp=Z,764nm,17.5s,MS4.3						
PSI	**Prapat**	**27.22**	**236**	P	**P**	**13 48 58.7**	**0.0**
	comp=Z,8.8nm,0.8s,mb4.4,baz=31,slow=3.1,SNR=11						
PSI				LR	LR	13 59 59.8	
	comp=Z,1μm,18.1s,MS4.5,baz=323,slow=37						
HIA	**Hailar**	**29.91**	**358**	*e*P	**P**	**13 49 22.2**	**-0.4**
HIA				pmax	pmax		
	comp=Z,17nm,1.0s						
HIA	**Hailar**	**29.91**	**358**	*e*P	**P**	**13 49 22.2**	**-0.5**
	comp=Z,17nm,1.0s,mb4.7						
SONM	**Songino Array**	**30.88**	**340**	P	**P**	**13 49 31.8**	**+0.6**
	comp=Z,7.8nm,0.8s,mb4.6,baz=158,slow=9.1,SNR=30						
SONM				LR	LR	14 03 23.6	
	comp=Z,1μm,18.2s,MS4.7,baz=103,slow=39						
KLR	**Kul'dur**	**31.05**	**14**	*e*P	**P**	**13 49 32.0**	**-0.7**
KLR				*e*S	**S**	**13 54 27.0**	**-8.2**
KLR				*e*		13 56 49.5	
KLR				MLR	MLR		
	comp=N,1μm,13.5s						
KLR				MLR	MLR		
	comp=Z,2μm,13.5s,MS4.8						
YSS	**Yuzh-Sakhalins**	**32.76**	**28**	⇑*e*P	**P**	**13 49 48.3**	**+0.6**
YSS				pmax	pmax		
	comp=Z,33nm,1.7s,mb5.0						
YSS	**Yuzh-Sakhalins**	**32.76**	**28**	*e*P	**P**	**13 49 53.0**	**+5.3**
	comp=Z,26nm,1.1s,mb5.1						
JIRN	**Jiri**	**33.03**	**291**	*e*P	**P**	**13 49 50.9**	**+0.8**
	comp=Z,39nm,0.9s,mb5.4						
CIT	**Chita**	**33.19**	**351**	*e*P	**P**	**13 49 52.8**	**+1.3**
CIT				pmax	pmax		
	comp=Z,25nm,2.9s,mb4.6						
GUN	**Gumba**	**33.34**	**292**	*e*P	**P**	**13 49 53.4**	**+0.6**
	comp=Z,142nm,1.2s,mb5.8						
PKI	**Pulchoki**	**33.71**	**291**	*e*P	**P**	**13 49 55.0**	**-1.0**
KKN	**Kakani**	**33.85**	**291**	*e*P	**P**	**13 49 57.2**	**0.0**
DMN	**Daman**	**33.98**	**291**	*e*P	**P**	**13 49 58.4**	**0.0**
ZAK	**Zakamensk**	**34.11**	**340**	⇓*i*P	**P**	**13 50 00.0**	**+0.5**
ZAK				*e*		13 52 35.9	
ZAK				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.9s,mb4.3						
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.9s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,6.0nm,2.0s,mb4.2						
GKN	**Gorkha**	**34.44**	**292**	*e*P	**P**	**13 50 01.8**	**-0.5**
	comp=Z,33nm,0.9s,mb5.3						
TLY	**Talaya**	**35.12**	**341**	*e*P	**P**	**13 50 08.9**	**+0.7**
TLY				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
TLY	**Talaya**	**35.12**	**341**	*e*P	**P**	**13 50 08.9**	**+0.7**
	comp=Z,20nm,1.2s,mb4.9						
KOLN	**Koldanda**	**35.33**	**291**	*e*P	**P**	**13 50 09.8**	**-0.2**
	comp=Z,52nm,1.0s,mb5.4						
IRK	**Irkutsk**	**35.42**	**342**	*e*P	**P**	**13 50 11.1**	**+0.3**
IRK				*e*		13 51 47.4	
IRK				pmax	pmax		
	comp=Z,27nm,3.0s						
IRK				pmax	pmax		
	comp=Z,90nm,0.2s						
MOY	**Mondy**	**35.97**	**339**	*e*P	**P**	**13 50 16.5**	**+1.0**
MOY				pmax	pmax		
	comp=Z,37nm,2.2s,mb4.9						
WMQ	**Urumqi**	**37.14**	**319**	⇓P	**P**	**13 50 26.4**	**+0.9**
WMQ				AP	pP	13 50 30.9	-5.4
WMQ				XP	sP	13 50 33.4	-7.4
WMQ				PP	PP	13 51 53.5	+3.0
WMQ				PPP		13 52 14.2	
WMQ				PCP	PcP	13 52 46.7	+1.6
WMQ				*e*S	**S**	**13 56 12.4**	**+3.1**
WMQ				XS	sS	13 56 19.4	-7.8
WMQ				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,27nm,6.1s						
WMQ				LR	LR		
	comp=N,5μm,15.6s						
WMQ				LR	LR		
	comp=Z,501nm,18.0s,MS4.3						
FITZ	**Fitzroy Crossi**	**37.44**	**173**	*e*P	**P**	**13 50 25.8**	**-2.2**
	comp=Z,12nm,1.1s,mb4.6						
BOD	**Bodaibo**	**38.82**	**354**	*e*P	**P**	**13 50 40.3**	**+0.7**
MBWA	**Marble Bar**	**40.24**	**182**	*e*P	**P**	**13 50 49.4**	**-2.1**
	comp=Z,15nm,1.0s,mb4.7						
HYB	**Hyderabad**	**40.40**	**274**	*i* P	**P**	**13 50 53.0**	**+0.2**
HYB				*e*	pP	13 51 03.0	-0.6
DDI	**Dehra Dun**	**40.40**	**294**	*ex*	x	13 50 51.0	
WRAB	**Tennant Creek**	**41.09**	**161**	*e*P	**P**	**13 50 55.8**	**-2.7**
WRAB				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.6						

WRAB Tennant Creek 41.09 161 *e*P **P 13 50 55.8 -2.7**
comp=Z,13nm,0.8s,mb4.6
WRA Warramunga Arr 41.09 161 P **P 13 50 55.8 -2.7**
comp=Z,4.3nm,0.7s,mb4.2,baz=342,slow=9.0,SNR=46
WRA PcP PcP 13 52 57.6 0.0
comp=Z,5.9nm,0.8s,baz=341,slow=3.3,SNR=11
WB2 Warramunga Arr 41.10 161 *e*P **P 13 50 56.0 -2.6**
MK31 Makanchi Array 41.91 320 P **P 13 51 06.0 +0.7**
MK31 pmax pmax
comp=Z,48nm,1.2s,mb5.0
MKAR Makanchi Array 41.91 320 P **P 13 51 06.2 +0.9**
comp=Z,17nm,0.8s,mb4.7,baz=114,slow=8.9,SNR=123
YAK Yakutsk 43.10 6⇓*e*P **P 13 51 14.1 -0.8**
YAK pmax pmax
comp=Z,22nm,0.8s,mb4.9
YAK MLR MLR
comp=Z,600nm,15.0s,MS4.6
YAK Yakutsk 43.10 6 *e*P **P 13 51 14.3 -0.5**
comp=Z,19nm,0.8s,mb4.9
ZAL Zalesovo 44.37 330 P **P 13 51 24.9 -0.1**
comp=Z,9.5nm,0.9s,mb4.5,baz=356,slow=7.3,SNR=58
ZAL LR LR 14 11 20.8
comp=Z,476nm,20.5s,MS4.4,baz=344,slow=38
ASAR Alice Springs 44.49 163 P **P 13 51 24.0 -2.0**
comp=Z,2.5nm,0.4s,mb4.3,baz=347,slow=6.7,SNR=104
ASAR PcP PcP 13 53 09.1 +0.1
comp=Z,5.5nm,1.1s,baz=348,slow=3.5,SNR=5.6
POO Poona 44.64 277 *ex* x 13 51 19.0
MA2 Magadan 45.51 21⇓*e*P **P 13 51 33.9 -0.3**
MA2 pmax pmax
comp=Z,11nm,1.7s,mb4.5
MA2 MLR MLR
comp=Z,400nm,23.0s,MS4.3
FRU Bishkek 45.52 312 *e*P **P 13 51 36.0 +1.7**
AAK Ala-Archa 45.55 311 *e*P **P 13 51 34.9 +0.4**
AAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
AAK Ala-Archa 45.55 311 *e*P **P 13 51 34.9 +0.4**
comp=Z,5.2nm,0.9s,mb4.5
NVS Novosibirsk 45.64 330 *e*P **P 13 51 32.8 -2.4**
NVS pmax pmax
comp=N,11nm,1.2s
NVS pmax pmax
comp=E,14nm,1.2s
NVS pmax pmax
comp=Z,19nm,1.2s,mb4.9
KURK Kurchatov 45.88 323 *e*P **P 13 51 36.8 -0.3**
KURK pmax pmax
comp=Z,36nm,0.9s,mb5.3
KURK Kurchatov 45.88 323 *e*P **P 13 51 36.8 -0.2**
comp=Z,36nm,0.9s,mb5.3
HNR Honiara 47.73 123 LR LR 14 11 05.9
comp=Z,304nm,18.1s,MS4.3,baz=359,slow=35
KK31 Karatay Array 48.51 311 *i* P **P 13 51 58.2 +0.7**
KK31 pmax pmax
comp=Z,17nm,0.9s,mb5.1
KKAR Karatay Array 48.51 311 *i* P **P 13 51 58.2 +0.7**
KKAR pmax pmax
comp=Z,16nm,1.0s,mb5.0
FORT Forrest 50.24 172 *e*P **P 13 52 09.9 -0.9**
comp=Z,24nm,0.7s,mb5.3
VOSK Vostochnaya 51.03 323 P **P 13 52 16.7 0.0**
VOSK pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BVA0 Borovoye Array 51.48 323 *i* P **P 13 52 20.2 +0.1**
BVA0 pmax pmax
comp=Z,5.0nm,1.6s,mb4.2
BRVK Borovoye 51.55 323 *e*P **P 13 52 21.1 +0.5**
BRVK pmax pmax
comp=Z,12nm,0.9s,mb4.8
BRVK Borovoye 51.55 323 *e*P **P 13 52 21.1 +0.5**
comp=Z,12nm,0.9s,mb4.8
NWAO Narrogin (SRO) 52.07 184 *e*P **P 13 52 23.6 -0.9**
NWAO pmax pmax
comp=Z,9.0nm,0.6s
NWAO Narrogin (SRO) 52.07 184 *e*P **P 13 52 23.6 -1.0**
comp=Z,9.3nm,0.6s,mb4.9
ZRNK Zerenda 52.24 323 *e*P **P 13 52 26.2 +0.5**
ZRNK pmax pmax
comp=Z,22nm,1.1s,mb5.0
ZRNK Zerenda 52.24 323 *e*P **P 13 52 26.1 +0.4**
comp=Z,22nm,1.1s,mb5.0
TIXI Tiksi 52.54 3 *e*P **P 13 52 24.3 -3.7**
TIXI *e*S **S 13 59 45.6 -6.5**
TIXI *e*SS SS 14 03 29.0 -1.5
TIXI pmax pmax
comp=Z,17nm,0.9s,mb5.0
TIXI MLR MLR
comp=Z,623nm,14.0s,MS4.8
STKA Stephens Creek 54.54 159 *e*P **P 13 52 39.4 -3.2**
comp=Z,3.2nm,0.8s,mb4.4
STKA Stephens Creek 54.54 159 P **P 13 52 39.2 -3.4**
comp=Z,2.6nm,0.5s,mb4.5,baz=336,slow=8.0,SNR=9.6
BILL Bilibino 56.28 19 *e*P **P 13 52 54.9 -0.2**
BILL pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
BILL Bilibino 56.28 19 *e*P **P 13 52 54.9 -0.3**
comp=Z,5.5nm,0.6s,mb4.8
AB31 Akbulak array 56.88 317 *i* P **P 13 53 00.0 +0.6**
AB31 pmax pmax
comp=Z,18nm,0.9s,mb5.1
ARU Arti 59.01 325⇓*i*P **P 13 53 13.9 -0.5**
ARU *e* 13 54 00.4
ARU *e* 13 55 20.4
ARU *e*S **S 14 01 21.2 +3.0**
ARU *e* 14 02 59.2
ARU *e*SS SS 14 05 14.3 +1.9
ARU pmax pmax
comp=Z,24nm,0.8s,mb5.3
ARU MLR MLR
comp=Z,500nm,17.0s,MS4.7
ARU MLR MLR
comp=N,80nm,14.0s,MS4.7
ARU MLR MLR
comp=E,400nm,17.0s,MS4.7
ARU Arti 59.01 325 *e*P **P 13 53 14.2 -0.2**
comp=E,24nm,0.9s,mb5.2
ORR Orenburg 60.48 319 *e*P **P 13 53 24.6 +0.2**
ORR *e* pP 13 53 36.3 +0.5
ORR pmax pmax
comp=Z,40nm,1.4s,mb5.3
ORR MLR MLR
comp=Z,330nm,25.0s,MS4.4
CNB Canberra Magne 60.56 154 *e*P **P 13 53 25.4 +0.4**
comp=Z,84nm,1.9s,mb5.5
GNI Garni 67.59 306 LR LR 14 27 27.8
comp=Z,144nm,18.2s,MS4.2,baz=346,slow=39
GNI Garni 67.59 306⇓*e*P **P 13 54 12.3 +1.2**
GNI pmax pmax
comp=Z,17nm,2.5s
GNI MLR MLR
comp=Z,200nm,21.0s
ZEI Tsey 67.92 309 *e*P **P 13 54 14.1 +0.9**
ZEI pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
KIV Kislovodsk 68.67 311 *d i*P **P 13 54 18.5 +0.6**
KIV pmax pmax
comp=Z,28nm,1.0s,mb5.2
KIV MLR MLR
comp=Z,300nm,16.0s,MS4.6
KIV Kislovodsk 68.67 311 *e*P **P 13 54 18.7 +0.8**
comp=Z,32nm,1.0s,mb5.2
KLMR Klimovskoe 69.27 329 *e*P **P 13 54 21.0 -0.7**
KLMR pmax pmax
comp=Z,60nm,1.4s,mb5.3
KLMR pmax pmax
comp=Z,80nm,5.4s
KLMR MLR MLR
comp=Z,930nm,15.0s,MS5.2
TTA Tatalina 69.75 29 *e*P **P 13 54 25.1 +0.5**
SVW2 Sparrevohn 70.06 31 *e*P **P 13 54 29.4 +2.9**
OBN Obninsk 71.32 323⇑*e*P **P 13 54 33.2 -1.0**
OBN *e* pP 13 54 43.4 -2.3
OBN *e* 13 57 12.6
OBN *e*SS SS 14 08 23.9 +0.1
OBN pmax pmax
comp=Z,39nm,2.5s,mb4.9
OBN MLR MLR
comp=Z,200nm,14.0s,MS4.5
OBN Obninsk 71.32 323 *e*P **P 13 54 33.5 -0.7**
ANN Anapa 72.28 312 *e*P **P 13 54 37.5 -2.4**
ANN *e*S S 14 03 58.6 -1.6
ANN pmax pmax
comp=Z,47nm,1.0s,mb5.4
MALT Malatya 72.72 305⇓*i*P **P 13 54 43.8 +1.3**
MALT Malatya 72.72 305 *e*P **P 13 54 43.3 +0.8**
MALT pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MALT Malatya 72.72 305 *e*P **P 13 54 43.3 +0.8**
comp=Z,7.4nm,0.8s,mb4.7
JOF Joensuu 72.93 331 *e*p **P 13 54 42.6 -1.2**
comp=Z,7.9nm,0.6s,mb4.8
PMR Palmer 73.09 30 *e*P **P 13 54 44.0 -0.8**
COLA College 73.14 26⇑*e*P **P 13 54 45.9 +0.9**
COLA College 73.14 26 *e*P **P 13 54 46.0 +0.9**
comp=Z,10.0nm,1.1s,mb4.7
KEV Kevo 73.48 339 *e*p **P 13 54 40.4 -6.6**
comp=Z,10nm,0.7s,mb4.9
KEV Kevo 73.48 339 *e*P **P 13 54 40.4 -6.6**
KEV pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
ILAR Eielson Array 73.56 27 P **P 13 54 46.3 -1.2**
comp=Z,1.6nm,0.7s,mb4.1,baz=269,slow=5.0,SNR=33
ILAR LR LR 14 33 02.1
comp=Z,133nm,18.6s,MS4.2,baz=351,slow=41
AFI Afiamalu 73.82 111 LR LR 14 21 33.3
comp=Z,86nm,21.7s,MS4.0,baz=105,slow=31
ARCES ARCESS Array B 74.04 339 P **P 13 54 50.0 -0.4**
comp=Z,12nm,0.9s,mb4.8,baz=71,slow=7.9,SNR=15
MENT Mentasta 75.31 28 *e*P **P 13 54 58.1 +0.4**
KAF Kangasniemi 75.37 331 *e*p **P 13 54 55.7 -2.3**
comp=Z,6.1nm,0.7s,mb4.6,baz=72,slow=5.3
KAF Kangasniemi 75.37 331 *e*P **P 13 54 55.7 -2.3**
KAF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
FINES FINESS Array B 75.63 330 P **P 13 54 58.6 -0.9**
comp=Z,7.0nm,0.8s,mb4.6,baz=86,slow=7.8,SNR=24
FINES LR LR 14 30 52.4
comp=Z,224nm,19.1s,MS4.5,baz=178,slow=38
FINES FINESS Array B 75.63 330 *i* P **P 13 54 59.4 -0.1**
FINES pmax pmax
comp=Z,7.0nm,0.8s
VSU Vasula 76.03 327 *de*P **P 13 55 01.3 -0.5**
RAO Raoul Island 76.05 128 LR LR 14 22 41.6
comp=Z,175nm,20.9s,MS4.3,baz=62,slow=31
BRTR Keskin Array B 76.06 307 P **P 13 55 01.7 -0.3**
comp=Z,1.6nm,0.6s,mb4.1,baz=126,slow=6.3,SNR=8.4
BRTR Keskin Array B 76.06 307 *i* P **P 13 55 02.2 +0.2**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 76.50 319 P **P 13 55 03.0 -1.4**
comp=Z,7.5nm,0.7s,mb4.7,baz=67,slow=5.3,SNR=7.1
AKASG Malin Array Be 76.50 319 *i* P **P 13 55 03.5 -0.9**
AKASG pmax pmax
comp=Z,8.0nm,0.7s
DAWY Dawson 76.89 26 *e*P **P 13 55 07.0 +0.4**
INK Inuvik 77.75 22 *e*P **P 13 55 10.8 -0.7**
INK pmax pmax
comp=Z,18nm,1.3s
INK Inuvik 77.75 22 *e*P **P 13 55 10.8 -0.6**
comp=Z,18nm,1.3s,mb4.8
CFR Carcaliu 78.62 314⇓*i*P **P 13 55 16.0 -0.3**
CFR Carcaliu 78.62 314 ⇓P **P 13 55 16.0 -0.3**
HARR Harsova 78.90 313⇓*i*P **P 13 55 18.1 +0.3**
HARR Harsova 78.90 313 ⇓P **P 13 55 18.1 +0.3**
SUW Suwalki 79.16 323 *e*P **P 13 55 18.7 -0.6**
VRI Vrincioaia 79.38 315⇓*i*P **P 13 55 21.0 +0.5**
VRI Vrincioaia 79.38 315 ⇓P **P 13 55 20.9 +0.5**
BURAR Bucovina Array 79.86 317⇓*i*P **P 13 55 23.4 +0.3**
BURAR Bucovina Array 79.86 317 ⇓P **P 13 55 23.4 +0.3**
MLR Muntele Rosu 80.01 315⇓*i*P **P 13 55 24.5 +0.6**
MLR Muntele Rosu 80.01 315 ⇓P **P 13 55 24.4 +0.5**
VOIR 80.63 315⇑*i*P **P 13 55 27.9 +0.7**
VOIR 80.63 315 ⇑P **P 13 55 27.9 +0.6**
KWP Kalwaria 80.82 319 *e*P **P 13 55 28.4 +0.2**
DAG Danmarks Havn 81.16 351⇑*i*P **P 13 55 28.9 -1.1**
comp=Z,3.4nm,0.7s,mb4.4
DAG Danmarks Havn 81.16 351⇑*e*P **P 13 55 28.9 -1.1**
DAG pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
DAG Danmarks Havn 81.16 351⇑*e*P **P 13 55 28.9 -1.1**
comp=Z,3.4nm,0.7s,mb4.4
KOLS Kolonicke sedl 81.31 319 *e* P **P 13 55 38.1 +7.2**
KOLS *e*sP sP 13 55 46.2 -0.8
DRGR 81.74 317⇑*i*P **P 13 55 33.3 +0.2**
DRGR 81.74 317 ⇑P **P 13 55 33.4 +0.2**
STHS Stebnicka Huta 81.79 319 *e*P **P 13 55 33.4 0.0**
STHS *e*pP pP 13 55 45.2 +0.1
CRVS Cervenica-Dubn 81.83 319 *e*P **P 13 55 35.1 +1.5**
NIE Niedzica 82.36 320 *e*P **P 13 55 37.3 +0.9**
OJC Ojcow 82.39 321 *e*Pd 13 55 36.4
NB2 NORSAR Subarra 82.51 333 P **P 13 55 35.9 -1.2**
comp=Z,4.9nm,0.8s,mb4.6,baz=64,slow=5.1
NOA NORSAR Array B 82.51 333 P **P 13 55 36.0 -1.2**
comp=Z,5.0nm,0.8s,mb4.6,baz=64,slow=5.1,SNR=16
NOA LR LR 14 35 27.4
comp=Z,527nm,18.7s,MS4.9,baz=55,slow=38
NOA NORSAR Array B 82.51 333 P **P 13 55 36.0 -1.2**
NOA LR LR 14 35 27.4
KECS Kecovo 82.58 319 *e*P **P 13 55 37.9 +0.4**
VTS Vitosha 82.80 313⇑*i*P **P 13 55 39.1 +0.4**
VTS Vitosha 82.80 313 ⇑P **P 13 55 39.1 +0.5**
LIKS Likavka 83.23 320 *e*P **P 13 55 41.5 +0.6**
RES Resolute Bay 83.46 9 *e*P **P 13 55 41.8 -0.3**
RES pmax pmax
comp=Z,13nm,1.1s,mb4.9
RES Resolute Bay 83.46 9 *e*P **P 13 55 41.8 -0.3**
comp=Z,13nm,1.1s,mb4.9
OKC Ostrava-Krasne 83.52 321 *e*P **P 13 55 42.3 -0.1**
OKC AMS AMS 14 36 50.0
comp=Z,200nm,19.5s
VYHS Vyhne 83.60 319 *e*P **P 13 55 42.9 +0.1**
VYHS *e*pP pP 13 55 54.8 +0.2
VAY Valandovo 83.68 311 *e*P **P 13 55 40.6 -2.5**
MORC Moravsky Berou 83.90 321⇓*i*P **P 13 55 44.5 +0.2**
MORC Moravsky Berou 83.90 321 *e*P **P 13 55 43.8 -0.5**
MORC pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
MORC Moravsky Berou 83.90 321 *e*P **P 13 55 43.8 -0.6**
comp=Z,6.2nm,1.0s,mb4.7
KSP Ksiaz 84.22 322 *e*P **P 13 55 46.2 +0.2**
KSP Ksiaz 84.22 322 *e*P **P 13 55 46.1 +0.1**
SKO Skopje 84.25 312 *e*P **P 13 55 45.5 -0.6**
DPC Dobruska-Polom 84.40 322 *e*P **P 13 55 47.0 +0.1**
DPC *e*pP pP 13 55 58.9 +0.2
DPC AMS AMS 14 36 30.0
comp=Z,300nm,15.8s
DIVS Divcibare 84.47 315 *i* P **P 13 55 47.0 -0.3**
PKSM Moragy 84.58 317⇓*i*P **P 13 55 47.6 -0.2**
PKSM Moragy 84.58 317⇓*e*P **P 13 55 47.5 -0.3**
KMBO Kilima Mbogo 84.60 267 P **P 13 55 48.5 +0.6**
comp=Z,7.3nm,1.0s,mb4.8,baz=41,slow=9.1,SNR=15
KMBO Kilima Mbogo 84.60 267 *i* P **P 13 55 48.5 +0.6**
KMBO pmax pmax
comp=Z,7.0nm,1.0s
VRAC Vranov 84.65 320⇓*i*P **P 13 55 48.8 +0.7**
VRAC Vranov 84.65 320 ⇓P **P 13 55 48.8 +0.6**
TREC Trest 85.32 321 *e*P **P 13 55 52.0 +0.5**
TREC AMS AMS 14 38 50.0
comp=Z,300nm,16.4s
BRG Berggiesshubel 85.57 323 *e*P **P 13 55 52.6 -0.1**
comp=Z,12nm,0.9s,mb5.1
BRG Berggiesshubel 85.57 323 *i* P **P 13 55 52.5 -0.2**
comp=Z,6.8nm,0.9s,mb4.9
BRG
comp=N,102nm,15.9s
BRG
comp=E,56nm,13.6s
BRG
comp=Z,157nm,15.6s
BRG Berggiesshubel 85.57 323 *i* P **P 13 55 52.5 -0.2**
BRG pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
BRG MLR MLR
comp=N,100nm,15.9s,MS4.4
BRG MLR MLR
comp=E,60nm,13.6s,MS4.4
BRG MLR MLR
comp=Z,200nm,15.6s,MS4.6
PRU Pruhonice 85.59 322 *e*P **P 13 55 52.9 +0.1**
PRU *e*pP pP 13 56 04.6 -0.1
PRU AMS AMS 14 37 10.0
comp=Z,200nm,18.2s
CLL Collm 85.91 323 *e*P **P 13 55 53.9 -0.5**
comp=Z,14nm,1.2s,mb5.1
CLL Collm 85.91 323⇓*i*P **P 13 55 53.7 -0.7**
comp=Z,14nm,1.2s,mb5.1
CLL *e*pP pP 13 56 05.0 -1.2
CLL Collm 85.91 323⇓*i*P **P 13 55 53.7 -0.7**
CLL *e* pP 13 56 05.0 -1.2
CLL pmax pmax
comp=Z,7.0nm,1.2s,mb4.8
CLL MLR MLR
comp=Z,400nm,15.1s,MS4.9
CLL Collm 85.91 323⇓*i*P **P 13 55 53.7 -0.7**
comp=Z,14nm,1.2s,mb5.1
CLL *e* pP 13 56 05.0 -1.2
CLL LR LR
comp=Z,400nm,15.1s,MS4.9
BSEG Bad Segeberg 86.19 326 *e*P **P 13 55 56.2 +0.4**
comp=Z,12nm,1.1s,mb5.0
BSEG Bad Segeberg 86.19 326 *e*P **P 13 55 56.2 +0.4**
BSEG pmax pmax
comp=Z,12nm,1.1s,mb5.0
KHC Kasperske Hory 86.53 321 *e*P **P 13 55 57.9 +0.4**
KHC *e*pP pP 13 56 08.6 -0.7
KHC AMS AMS 14 41 10.0
comp=Z,300nm,17.7s
GEC2 GERESS Array S 86.58 321 *e*P **P 13 55 58.2 +0.5**
comp=Z,5.0nm,0.9s,mb4.7
GEC2 GERESS Array S 86.58 321 *e*P **P 13 55 58.2 +0.5**
GEC2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
GERES GERESS Array B 86.58 321 P **P 13 55 57.3 -0.4**
comp=Z,4.2nm,0.9s,mb4.7,baz=57,slow=4.9,SNR=14
GERES LR LR 14 37 07.6
comp=Z,244nm,19.1s,MS4.6,baz=275,slow=37
MOA Molln 86.66 320⇑*i*P **P 13 55 59.0 +0.9**
comp=Z,4.9nm,0.7s,mb4.8
NKC Novy Kostel 86.70 322 AMS AMS 14 37 50.0
comp=Z,300nm,16.7s
ROTZ Rotzenmuhle 87.05 322 *e*P **P 13 55 59.9 -0.1**
comp=Z,4.0nm,0.9s,mb4.7
SUMG Summit 87.32 354 *e*P **P 13 56 01.1 -0.3**
comp=Z,15nm,1.0s,mb5.2
YKW3 Yellowknife Ar 87.42 23 *e*P **P 13 56 01.8 +0.1**
YKA Yellowknife Ar 87.46 23 P **P 13 56 02.1 +0.1**
comp=Z,15nm,0.7s,mb5.3,baz=313,slow=4.6,SNR=288
YKA PKKPbc PKKPbc 14 13 48.9 -2.1
comp=Z,0.4nm,0.8s,baz=132,slow=2.8,SNR=7.6
KBA Koelnbreinsper 87.56 319⇑*i*P **P 13 56 03.4 +1.0**
comp=Z,4.4nm,1.1s,mb4.6
KBA Koelnbreinsper 87.56 319⇑*i*P **P 13 56 03.4 +0.9**
KBA pmax pmax
comp=Z,4.0nm,1.1s,mb4.6
GRA1 Grafenberg Arr 87.66 322 *e*P **P 13 56 02.8 -0.1**
GRA1 LR LR
comp=Z,200nm,18.3s,MS4.6
GRF Grafenberg Arr 87.66 322 *e*P **P 13 56 02.8 -0.1**
GRF *e*L 14 40 32.8
comp=Z,212nm,18.3s
TNS Taunus Mts 88.98 324 *e*P **P 13 56 09.2 0.0**
comp=Z,6.0nm,1.0s,mb4.9
TNS Taunus Mts 88.98 324 *e*P **P 13 56 09.2 0.0**
TNS pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
WLF Walferdange 90.54 324 *e*P **P 13 56 17.0 +0.5**
comp=Z,14nm,0.9s,mb5.3
CDF Champ du Feu 90.55 322 *e*P **P 13 56 15.5 -1.0**
LPG La Plagne 92.33 320 *e*P **P 13 56 24.1 -0.7**
comp=Z,25nm,1.0s,mb5.2
LPG La Plagne 92.33 320 *e*P **P 13 56 24.1 -0.7**
LPG pmax pmax
comp=Z,12nm,1.0s,mb5.2
LPG La Plagne 92.33 320 *e*P **P 13 56 24.1 -0.7**
comp=Z,12nm,1.0s,mb5.2
LPL La Plagne 92.33 320 *e*P **P 13 56 24.9 +0.1**
comp=Z,26nm,1.0s,mb5.2
LPL La Plagne 92.33 320 *e*P **P 13 56 24.9 +0.1**
LPL pmax pmax
comp=Z,13nm,1.0s,mb5.2
LPL La Plagne 92.33 320 *e*P **P 13 56 24.9 +0.1**
comp=Z,13nm,1.0s,mb5.2
PGF Pioggiola 92.39 317 *e*P **P 13 56 24.0 -1.0**
comp=Z,32nm,0.9s,mb5.4
PGF Pioggiola 92.39 317 *e*P **P 13 56 24.0 -1.0**
PGF pmax pmax
comp=Z,16nm,0.9s,mb5.3
PGF Pioggiola 92.39 317 *e*P **P 13 56 24.0 -1.0**
comp=Z,16nm,0.9s,mb5.4
MBDF Montbardon 92.71 319 *e*P **P 13 56 26.7 +0.2**
comp=Z,16nm,1.1s,mb5.0
MBDF Montbardon 92.71 319 *e*P **P 13 56 26.7 +0.2**
MBDF pmax pmax
comp=Z,8.0nm,1.1s,mb5.1
MBDF Montbardon 92.71 319 *e*P **P 13 56 26.7 +0.2**
comp=Z,7.9nm,1.1s,mb5.1
SBF Sospel 92.74 318 *e*P **P 13 56 25.9 -0.8**
comp=Z,29nm,1.0s,mb5.4
SBF Sospel 92.74 318 *e*P **P 13 56 25.9 -0.8**
SBF pmax pmax
comp=Z,14nm,1.0s,mb5.3
SBF Sospel 92.74 318 *e*P **P 13 56 25.9 -0.8**
comp=Z,14nm,1.0s,mb5.4
LOR Lormes 93.11 323 *e*P **P 13 56 27.3 -1.1**
comp=Z,7.8nm,1.1s,mb4.8
LOR *e*R
comp=Z,166nm,19.5s
LOR Lormes 93.11 323 *e*P **P 13 56 27.3 -1.1**
LOR pmax pmax
comp=Z,4.0nm,1.1s,mb4.8
LOR MLR MLR
comp=Z,170nm,19.5s,MS4.5
LOR Lormes 93.11 323 *e*P **P 13 56 27.3 -1.1**
comp=Z,3.9nm,1.1s,mb4.8
LOR LR LR
comp=Z,170nm,19.5s,MS4.5
ORIF Oris-en-Rattie 93.16 320 *e*P **P 13 56 28.3 -0.3**
ORIF *e*R
comp=Z,362nm,21.0s
FRF La Foret Royal 93.38 318 *e*P **P 13 56 27.9 -1.7**
comp=Z,44nm,1.4s,mb5.4
FRF La Foret Royal 93.38 318 *e*P **P 13 56 27.9 -1.7**
FRF pmax pmax
comp=Z,22nm,1.4s,mb5.4
FRF La Foret Royal 93.38 318 *e*P **P 13 56 27.9 -1.7**
comp=Z,22nm,1.4s,mb5.4
SSF Saint Saulge 93.42 323 *e*P **P 13 56 29.1 -0.7**
comp=Z,6.6nm,0.9s,mb4.8
SSF Saint Saulge 93.42 323 *e*P **P 13 56 29.1 -0.7**
SSF pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
SSF Saint Saulge 93.42 323 *e*P **P 13 56 29.1 -0.7**
comp=Z,3.3nm,0.9s,mb4.8
SMF Signal de Mont 93.45 322 *e*P **P 13 56 29.0 -1.0**
AVF Avril sur Loir 93.66 322 *e*P **P 13 56 29.9 -1.0**
comp=Z,17nm,1.1s,mb5.1
AVF Avril sur Loir 93.66 322 *e*P **P 13 56 29.9 -1.0**
AVF pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
AVF Avril sur Loir 93.66 322 *e*P **P 13 56 29.9 -1.0**
comp=Z,8.5nm,1.1s,mb5.1
PPT Papeete 95.01 107 *e*LR LR 14 27 42.2
comp=Z,206nm,24.0s
NEW Newport 95.01 35 *e*P **P 13 56 38.7 +1.6**
NEW pmax pmax
comp=Z,8.0nm,1.3s
NEW Newport 95.01 35 *e*P **P 13 56 38.7 +1.6**
comp=Z,7.7nm,1.3s,mb5.0
TBI Tubuai 96.91 112 *e*LR LR 14 28 36.3
comp=Z,108nm,24.5s
LSZ Lusaka 97.65 257 *e*P **P 13 56 48.8 -0.3**
LSZ pmax pmax
comp=Z,3.0nm,0.9s,mb4.8
LSZ Lusaka 97.65 257 *e*P **P 13 56 48.8 -0.3**
comp=Z,3.5nm,0.9s,mb4.9
VNDA Vanda 99.50 172 P **P 13 56 56.9 -0.5**
comp=Z,1.9nm,1.0s,mb4.6,baz=299,slow=6.3,SNR=7.0
NVAR Mina Array Bea 100.00 43 P Pdif 13 57 01.6 +2.0
comp=Z,0.3nm,0.5s,baz=314,slow=5.0,SNR=3.9
RKT Rikitea 109.69 108 *e*LR LR 14 34 30.5
comp=Z,117nm,27.2s
TORD Torodi Ar. Bea 112.21 294 PKiKP PKiKP 14 01 49.4 -0.6
comp=Z,1.0nm,0.9s,baz=15,slow=1.8,SNR=4.5
VNA2 Neumayer--Watz 120.25 197 *e*PKPdf PKPdf 14 02 04.8 -0.6
baz=69,slow=0.7
VNA2 *e* 14 02 05.8
VNA2 *e* 14 02 07.2
VNA2 *e* 14 02 09.6
VNA2 *e* 14 02 16.4
VNA3 Neumayer Olymp 120.71 197 *e*PKPdf PKPdf 14 02 05.0 -1.3
VNA3 *e* 14 02 05.9
VNA3 *e* 14 02 11.2
SDV Santo Domingo 149.68 24 *e*PKPdf PKPdf 14 03 01.1 +1.7

*CSEM **08** 14:00:21.5±0.1, 36.07N×26.40E, h2km, ML3.6, Error*

ellipse: s-maj=4.7km s-min=2.4km az=130.0
*ISCJB **08** 14:00:22.5±0.8, 35.67N±0.05×26.5E±0.1, h33km, Error ellipse: s-maj=12.5km s-min=6.3km az=30.4*
*ATH **08** 14:00:23.7, 36.04N×26.37E, h39km, MD3.1/4*
*HLW **08** 14:00:24.5, 35.69N×26.57E, h33km, Mb3.6*

ISC 08 14:00:23.9±0.7, 35°79'N×005°26'49"E±009, h35km, n26, σ0§87/29, 2C-3D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.89**	**234**	*e*PN	**Pn**	**14 00 41.9**	**+2.1**
XRY	**Khrisi**	**1.12**	**216**	*e*PN	**Pn**	**14 00 47.0**	**+4.0**
DAT	**Datca**	**1.28**	**43**	*e*PN	**Pn**	**14 00 45.8**	**+0.5**
ARG	**Arkhangelos**	**1.39**	**72**	*e*PN	**Pn**	**14 00 48.9**	**+2.1**
BODT	**Bodrum**	**1.43**	**27**	*e*PN	**Pn**	**14 00 45.9**	**-1.3**
APE	**Apeiranthos**	**1.49**	**329**	*e*PN	**Pn**	**14 00 45.6**	**-2.5**
APE	**Apeiranthos**	**1.49**	**329**	*e*PN	**Pn**	**14 00 46.0**	**-2.1**
YER	**Yerkesik**	**1.97**	**47**	*e*PN	**Pn**	**14 00 55.3**	**+0.6**
SLUM		**4.42**	**194**	P	**Pn**	**14 01 28.2**	**-0.1**
SLUM				S	**Sn**	**14 02 14.4**	**-4.2**
HMAT	**Matruh**	**4.71**	**174**	P	**Pn**	**14 01 32.3**	**-0.1**
HMAT				S	**Sn**	**14 02 21.4**	**-4.4**
DABA	**Dabaa**	**5.00**	**162**	P	**Pn**	**14 01 37.0**	**+0.7**
HBRG	**Burj al 'Arab**	**5.91**	**151**	⇑P	**Pn**	**14 01 49.0**	**+0.1**
SWA1		**6.54**	**186**	P	**Pn**	**14 01 57.4**	**-0.1**
SWA1				S	**Sn**	**14 03 05.7**	**-5.2**
SWA2		**6.59**	**188**	⇓*e*P	**Pn**	**14 01 58.2**	**0.0**
HNAT	**Natroun**	**7.05**	**149**	P	**Pn**	**14 02 04.2**	**-0.4**
FYM	**Al Fayyum**	**7.19**	**147**	P	**Pn**	**14 02 06.0**	**-0.4**
KOT	**Kottamia**	**7.37**	**141**	P	**Pn**	**14 02 08.3**	**-0.7**
HSAF	**As Saff**	**7.49**	**144**	P	**Pn**	**14 02 10.4**	**-0.1**
HHAG	**Hagoal**	**7.49**	**139**	P	**Pn**	**14 02 10.3**	**-0.3**
GLL	**Jalalah**	**7.60**	**143**	⇓P	**Pn**	**14 02 11.8**	**-0.2**
AWBH		**7.72**	**164**	⇓P	**Pn**	**14 02 13.6**	**-0.1**
HRSH	**Kfar Ka'horesh**	**7.73**	**126**	P	**Pn**	**14 02 13.7**	**-0.2**
RSH		**7.73**	**126**	P	**Pn**	**14 02 13.6**	**-0.3**
SUZ		**7.98**	**136**	P	**Pn**	**14 02 17.1**	**-0.1**
ZAF		**8.26**	**140**	P	**Pn**	**14 02 21.5**	**+0.4**
HFRF	**Wahat Farafira**	**8.75**	**169**	⇑P	**Pn**	**14 02 28.0**	**+0.1**

*ISCJB **08** 14:04:30.0±0.9, 48.97N±0.05×80.8E±0.09, h0km, Error ellipse: s-maj=10.3km s-min=4.3km az=69.1*
*BGR **08** 14:04:32.4±0.5, 48.96N×8.82E, h0km, ML1.6/1, Error ellipse: s-maj=12.2km s-min=4.4km az=113.0, Mining explosion.*
*LDG **08** 14:04:33.2±0.2, 48.92N×8.77E, h2km, Md2.3/3, Ml2.1/4, Error ellipse: s-maj=2.9km s-min=1.6km az=91.0*

ISC 08 14:04:31.6±0.9, 48°96'N±0.05×8°80'E±0.09, h0km, n7, σ0§52/11, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFO	**Black Forest**	**0.70**	**206**	*e*Pg	**Pg**	**14 04 46.0**	**+0.9**
	SNR=1.9						
BFO				*e*Sg	**Sg**	**14 04 54.5**	**+0.4**
	SNR=3.3						
CDF	**Champ du Feu**	**1.15**	**242**	*e*Pg	**Pg**	**14 04 54.1**	**+0.6**
CDF				*e*Sg	**Sg**	**14 05 08.5**	**+0.1**
	8.1nm,0.3s						
TNS	**Taunus Mts**	**1.28**	**350**	*e*Sg	**Sg**	**14 05 13.3**	**+0.5**
	SNR=2.7						
HINF	**Hinteralfeld**	**1.73**	**229**	*e*Pg	**Pg**	**14 05 04.5**	**-0.2**
HINF				*e*Sg	**Sg**	**14 05 26.3**	**-0.8**
	3.1nm,0.3s						
HAU	**Haudompre**	**1.89**	**241**	*e*Pn	**Pn**	**14 05 04.4**	**-0.7**
HAU	**Haudompre**	**1.89**	**241**	*e*Pg	**Pg**	**14 05 07.7**	**-0.1**
HAU				*e*Sg	**Sg**	**14 05 31.9**	**-0.3**
	2.2nm,0.3s						
MOX	**Moxa**	**2.49**	**46**	*e*Sg	**Sg**	**14 05 51.0**	**-0.5**
	SNR=1.2						

*CSEM **08** 14:06:32.5±0.3, 38.67N×28.78W, h19km±3km, MD2.8, Error ellipse: s-maj=2.7km s-min=2.5km az=60.0, After PDA*
*PDA **08** 14:06:32.5±0.3, 38.67N×28.78W, h19km±3km, MD2.8, Error ellipse: s-maj=2.7km s-min=2.5km az=60.0*

SVSA 08 14:06:32.5±0.3, 38°67'N×28°78'W, h19km±3km, MD2.8, Error ellipse: s-maj=2.7km s-min=2.5km az=60.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.10**	**145**	*e*P	Pg	14 06 35.8	-0.5
CALA				*e*S	Sg	14 06 38.3	-0.5
PICO	**Pico**	**0.32**	**121**	*e*P	Pg	14 06 38.4	-1.0
PICO				*e*S	Sg	14 06 42.7	-1.4
ROSA	**Rosais**	**0.42**	**83**	*e*P	Pg	14 06 39.6	-1.6
ROSA				*e*S	Sg	14 06 44.9	-2.2
PMAN	**Manadas**	**0.54**	**93**	*e*rx		14 06 35.8	
PID	**Ribeirinha**	**0.56**	**113**	*e*S	Sg	14 06 48.4	-2.9

*BER **08** 14:09:54.0±2.7, 70.03N×14.63E, h17km±186km, MD1.8, ML2.0*
*HEL **08** 14:09:56.2±2.2, 69.07N×15.57E, h0km, ML2.5(UPP), Explosion*
*ISCJB **08** 14:09:59.4±1.1, 69.08N±0.01×16.4E±0.02, h0km, Error ellipse: s-maj=15.7km s-min=5.0km az=124.6*
*UPP **08** 14:09:59.1, 69.18N×16.41E, h0km, ML2.5, Suspected Mining explosion.*
*CSEM **08** 14:10:00.2±0.2, 69.02N×16.38E, h2km, ML2.0, Error ellipse: s-maj=8.7km s-min=2.9km az=154.0, Mining explosion.*

ISC 08 14:10:00.2±1.1, 69°04'N±0.01°×164°E±02, h0km, n23, σ1§20/31, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRO	**Tromso**	**1.07**	**55**	*e*P	**Pg**	**14 10 18.1**	**-2.6**
TRO				AML	AML	14 10 36.8	
	comp=Z,16nm,0.4s						
LOF	**Lofoten**	**1.40**	**230**	*e*P	**Pn**	**14 10 26.2**	**-0.8**
LOF				*e*S	**Sg**	**14 10 46.3**	**+1.2**
LOF				AML	AML	14 10 49.1	
	comp=Z,41nm,0.5s						
LOF	**Lofoten**	**1.40**	**230**	*e*P	**Pn**	**14 10 26.2**	**-0.7**
	SNR=55						
LOF				*e*S	**Sg**	**14 10 46.3**	**+1.2**
	comp=Z,41nm,0.5s,SNR=55						
NIKU	**Nikkaluokta**	**1.53**	**139**	*e*P	**Pn**	**14 10 29.2**	**+0.4**
KIF	**Kilpisjarvi**	**1.58**	**89**	*e*P	**Pn**	**14 10 29.9**	**+0.4**
KIF				*e*S	**Sn**	**14 10 52.0**	**+1.4**
KIF	**Kilpisjarvi**	**1.58**	**89**	P	**Pn**	**14 10 29.8**	**+0.3**
KIF				S	**Sn**	**14 10 51.9**	**+1.3**
KUA	**Kurravaara**	**1.81**	**125**	*e*P	**Pn**	**14 10 33.0**	**+0.3**
LANU	**Lannavaara**	**2.28**	**113**	*e*P	**Pn**	**14 10 39.0**	**-0.1**
KTK1	**Kautokeino**	**2.46**	**88**	*e*P	**Pn**	**14 10 42.2**	**+0.7**
KTK1				*e*S	**Sn**	**14 11 17.5**	**+5.3**
KTK1				AML	AML	14 11 19.8	
	comp=Z,11nm,0.5s						
DUNU	**Dundret**	**2.48**	**139**	*e*P	**Pn**	**14 10 42.4**	**+0.5**
MOR8	**Moi Rana**	**2.98**	**196**	*e*P	**Pn**	**14 10 48.4**	**-0.4**
MOR8				*e*S	**Sn**	**14 11 31.5**	**+6.3**
STOK	**Stokkvaagen**	**3.01**	**207**	*e*P	**Pn**	**14 10 49.7**	**+0.5**
ERTU	**Ertsjaerv**	**3.33**	**136**	*e*P	**Pn**	**14 10 54.0**	**+0.5**
KEV	**Kevo**	**3.81**	**74**	*e*P	**Pn**	**14 11 01.4**	**+1.2**
KEV				*e*S	**Sn**	**14 11 47.9**	**+2.2**
KEV	**Kevo**	**3.81**	**74**	P	**Pn**	**14 11 01.3**	**+1.1**
KEV				S	**Sn**	**14 11 47.8**	**+2.1**
SJUU	**Sjulsmark**	**4.08**	**148**	*e*P	**Pn**	**14 11 03.6**	**-0.2**
SGF	**Sodankyl**	**4.09**	**108**	*e*P	**Pn**	**14 11 03.1**	**-0.9**
SGF	**Sodankyl**	**4.09**	**108**	P	**Pn**	**14 11 03.1**	**-0.9**
OUL	**Oulu**	**5.43**	**132**	*e*P	**Pn**	**14 11 16.3**	**-3.1**
KU4	**Liikasenvaara**	**5.68**	**112**	*e*P	**Pn**	**14 11 23.7**	**-2.2**
MSF	**Maaselka**	**5.78**	**117**	*e*P	**Pn**	**14 11 25.3**	**-1.9**
VAF	**Ylistaro**	**6.54**	**154**	*e*P	**Pn**	**14 11 32.6**	**-5.0**
KJN	**Kajaani**	**6.71**	**132**	*e*P	**Pn**	**14 11 35.9**	**-4.0**

*IDC **08** 14:15:22.8±0.8, 3.27N×84.23W, h0km, mb4.4/12, mb1 4.5/13, mb1mx4.3/24, mbtmp4.4/13, ML4.8/2, MS4.1/14, Ms1 4.1/14, ms1mx3.9/27, Error ellipse: s-maj=29.4km s-min=13.8km az=58.0*
*ISCJB **08** 14:15:25.0±0.4, 3.28N±0.04×84.21W±0.06, h24km, mb4.5/36, MS4.2/14, Error ellipse: s-maj=8.7km s-min=6.0km az=150.9*
*MOS **08** 14:15:24.4±1.5, 3.08N×84.35W, h34km, mb4.8/13, Error ellipse: s-maj=27.8km s-min=9.3km az=106.7*
*NEIC **08** 14:15:26.6±0.4, 3.23N×84.25W, mb4.6/27, Error ellipse: s-maj=9.2km s-min=6.9km az=218.0*
*BJI **08** 14:15:26.5, 3.20N×84.20W, h24km, mB5.2, Ms5.0, Msz4.6*
*HRVD **08** 14:15:26.6±0.3, 3.09N×84.30W, h18km±1km, MW4.9/66, Centroid moment Tensor Solution. LP body waves: s25,c31;Mantle waves: s66,c97; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.94±.14; Mθθ 1.11±.12; Mφφ -0.16±.14; Mrθ -0.05±.26; Mθφ 2.90±.10; Mrφ 0.04±.30; Best double couple: Mo2.97100×10^16 NP1:φs 186.00000°, δ88.00000°, λ-179.00000°. NP2: φs 96.00000°, δ89.00000°, λ-2.00000°. Principal axes: T 3.4410, Plg0.0000°, Azm141.0000°; N -0.9410, Plg88.0000°, Azm237.0000°; P -2.5010, Plg2.0000°, Azm51.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 08 14:15:27.1±0.4, 32°3'N±0.04°×84°19'W±0.06, h26km±.5km: pP-P, n125, σ1§09/104, mb4.5/36, MS4.2/14, 3C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTCR	**Cotoan**	**5.81**	**14**	⇑*e*P	**Pn**	**14 16 50.7**	**-0.7**
BUS	**Buena Vista**	**6.30**	**4**	*e*P	**Pn**	**14 16 57.5**	**-0.7**
CAO	**Cobano**	**6.49**	**352**	*e*P	**Pn**	**14 16 59.7**	**-1.2**
URSC	**Urasca**	**6.58**	**4**	*e*P	**Pn**	**14 17 02.3**	**+0.3**
LAJ	**Bijagual**	**6.59**	**1**	*e*P	**Pn**	**14 16 59.0**	**-3.2**
OCM	**Ochomogo**	**6.63**	**2**	*e*P	**Pn**	**14 17 02.1**	**-0.6**
OCM				⇓*e*P		14 17 02.4	
SJS	**Escuela Geolog**	**6.67**	**1**	*e*P	**Pn**	**14 17 03.6**	**+0.3**
PRS1	**Puriscal**	**6.71**	**359**	⇑*e*P	**Pn**	**14 17 01.7**	**-2.2**
ICR	**Volcan Irazu**	**6.72**	**3**	*e*P	**Pn**	**14 17 05.0**	**+1.0**
EPA	**Espave**	**6.73**	**357**	*e*P	**Pn**	**14 17 03.1**	**-1.0**
CGA2	**Cerro Gallo 2**	**6.75**	**358**	*e*P	**Pn**	**14 17 04.1**	**-0.4**
VPS2	**Volcan Poas 2**	**6.92**	**360**	*e*P	**Pn**	**14 17 06.9**	**+0.2**
VCR	**Vista de Mar**	**7.00**	**348**	*e*P	**Pn**	**14 17 06.5**	**-1.4**
JTS	**JuntasAbangare**	**7.06**	**354**	Pn	**Pn**	**14 17 08.3**	**-0.4**
JTS	158nm,0.3s,baz=146,slow=6.2,SNR=308			Sn	**Sn**	**14 18 26.7**	**-1.3**
JTS	baz=316,slow=22,SNR=2.8			LR	LR	14 19 26.6	
JTS	comp=Z,2μm,21.8s,baz=173,slow=35			LR	LR	14 19 26.6	
JTS	**JuntasAbangare**	**7.06**	**354**	*e*S	**Sn**	**14 18 26.9**	**-1.1**
JTS	**JuntasAbangare**	**7.06**	**354**	*e*P	**Pn**	**14 17 07.9**	**-0.8**
JTS				*e*S	**Sn**	**14 18 24.9**	**-3.1**
JTS				pmax	pmax		
	comp=Z,505nm,0.4s						
JTS	**JuntasAbangare**	**7.06**	**354**	*e*P	**Pn**	**14 17 07.9**	**-0.7**
	comp=Z,505nm,0.4s						
JTS				*e*S	**Sn**	**14 18 24.9**	**-3.2**
VACR	**Volcan Arenal**	**7.21**	**356**	⇓*e*P	**Pn**	**14 17 13.0**	**+2.2**
PAYG	**Puerto Ayora**	**7.23**	**238**	*e*P	**Pn**	**14 17 09.8**	**-1.2**
	comp=Z,234nm,1.4s						
LIM1	**Limonal**	**7.50**	**352**	*i* P	**Pn**	**14 17 14.4**	**-0.3**
MADN	**Villa Maderas**	**8.24**	**351**	*e*P	**Pn**	**14 17 25.9**	**+1.0**
MADN				*i*		14 17 33.1	
	comp=Z,195nm,0.3s						
CONN	**Concepcion**	**8.40**	**350**	*e*P	**Pn**	**14 17 28.0**	**+0.8**
APYN	**Apoyeque**	**9.20**	**347**	*e*P	**Pn**	**14 17 38.0**	**0.0**
COPN	**Copaltepe**	**9.21**	**345**	*e*P	**Pn**	**14 17 39.6**	**+1.5**
MOMJ	**Momotombo**	**9.41**	**346**	*e*P	**Pn**	**14 17 42.1**	**+1.1**
MIRN	**Miramar**	**9.49**	**345**	*e*P	**Pn**	**14 17 43.0**	**+1.0**
LEON	**Leon**	**9.51**	**344**	*e*P	**Pn**	**14 17 43.4**	**+1.0**
CNGN	**Cerro Negro**	**9.54**	**345**	⇑*e*P	**Pn**	**14 17 45.0**	**+2.3**
TEL3	**Telica 3**	**9.65**	**344**	*e*P	**Pn**	**14 17 46.5**	**+2.3**
CRIN	**San Cristobal**	**9.83**	**343**	*e*P	**Pn**	**14 17 48.6**	**+1.9**
ROSC	**El Rosal**	**9.96**	**80**	Pn	**Pn**	**14 17 52.0**	**+3.5**
	comp=Z,1.3nm,0.3s,baz=104,slow=23,SNR=17						
SDV	**Santo Domingo**	**14.60**	**67**	Pn	**Pn**	**14 18 52.3**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=246,slow=14,SNR=6.7						
SDV				LR	LR	14 24 14.7	
	comp=Z,644nm,20.3s,baz=221,slow=36						
SDV	**Santo Domingo**	**14.60**	**67**	*e*P	**Pn**	**14 18 53.0**	**+1.1**
	comp=Z,57nm,1.0s						
CCIG	**Comitan**	**15.15**	**329**	*i* P	**Pn**	**14 19 06.0**	**+6.8**
SJG	**San Juan**	**23.04**	**49**	P	**P**	**14 20 30.3**	**+0.1**
	comp=Z,37nm,0.9s,mb4.8,baz=317,slow=3.6,SNR=7.6						
SJG				LR	LR	14 28 23.7	
	comp=Z,201nm,22.0s,MS3.5,baz=255,slow=34						
SJG	**San Juan**	**23.04**	**49**	P	**P**	**14 20 30.3**	**0.0**
SJG				pmax	pmax		
	comp=Z,37nm,0.9s						
SJG				MLR	MLR		
	comp=Z,201nm,22.0s						
SJG	**San Juan**	**23.04**	**49**	*e*P	**P**	**14 20 30.4**	**+0.1**
	comp=Z,101nm,1.4s,mb5.1						
LPAZ	**La Paz**	**25.06**	**141**	P	**P**	**14 20 49.7**	**+0.5**
	comp=Z,4.1nm,1.0s,mb3.9,baz=347,slow=9.1,SNR=9.1						
LPAZ	**La Paz**	**25.06**	**141**	*e*P	**P**	**14 20 49.0**	**-0.2**
LPAZ				pmax	pmax		
	comp=Z,19nm,1.5s						
LPAZ	**La Paz**	**25.06**	**141**	*e*P	**P**	**14 20 49.0**	**-0.3**
	comp=Z,19nm,1.5s,mb4.4						
SIV	**San Ignacio**	**29.79**	**131**	P	**P**	**14 21 31.0**	**-0.6**
	comp=Z,1.3nm,0.7s,mb3.8,baz=303,slow=11,SNR=6.7						
JCT	**Junction City**	**30.87**	**333**	*e*P	**P**	**14 21 40.0**	**-1.2**
JCT				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.7						
JCT	**Junction City**	**30.87**	**333**	*e*P	**P**	**14 21 40.0**	**-1.2**
	comp=Z,14nm,1.2s,mb4.7						
OXF	**Oxford**	**31.50**	**352**	*e*P	**P**	**14 21 46.3**	**-0.5**
OXF				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.9						
OXF	**Oxford**	**31.50**	**352**	*e*P	**P**	**14 21 46.3**	**-0.5**
	comp=Z,17nm,0.9s,mb4.9						
CPCT	**Cooper Cave**	**32.06**	**359**	*e*P	**P**	**14 21 50.9**	**-0.8**
MIAR	**Mount Ida**	**32.36**	**345**	*e*P	**P**	**14 21 53.3**	**-1.0**
MIAR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
MIAR	**Mount Ida**	**32.36**	**345**	*e*P	**P**	**14 21 53.3**	**-1.0**
	comp=Z,1.7nm,0.6s,mb4.0						
WVT	**Waverly**	**32.91**	**355**	*e*P	**P**	**14 21 58.0**	**-1.1**
WVT				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
WVT	**Waverly**	**32.91**	**355**	*e*P	**P**	**14 21 58.0**	**-1.1**
	comp=Z,3.5nm,0.6s,mb4.5						
WMOK	**Wichita Mounta**	**34.16**	**338**	*e*P	**P**	**14 22 08.9**	**-1.1**
WMOK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
WMOK	**Wichita Mounta**	**34.16**	**338**	*e*P	**P**	**14 22 08.8**	**-1.2**
	comp=Z,5.7nm,1.1s,mb4.4						
MNTX	**Cornudas Mount**	**34.64**	**327**	*e*P	**P**	**14 22 14.1**	**-0.1**
	comp=Z,5.9nm,0.8s,mb4.6						
MNTX				*e*pP	pP	14 22 21.1	-0.7
CCM	**Cathedral Cave**	**35.26**	**350**	*e*P	**P**	**14 22 18.9**	**-0.6**
CCM				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.1						
CCM	**Cathedral Cave**	**35.26**	**350**	*e*P	**P**	**14 22 18.9**	**-0.6**
	comp=Z,23nm,1.0s,mb5.0						
AMTX	**Amarillo**	**35.44**	**335**	*e*P	**P**	**14 22 21.2**	**+0.2**
	comp=Z,12nm,0.8s,mb4.9						
BNM	**Barren Site**	**37.20**	**328**	*e*P	**P**	**14 22 37.2**	**+1.2**
LAZ	**Ladron**	**37.66**	**328**	*e*P	**P**	**14 22 41.6**	**+1.6**
ANMO	**Albuquerque**	**37.73**	**329**	P	**P**	**14 22 41.3**	**+0.7**
	comp=Z,9.0nm,0.9s,mb4.5,baz=168,slow=7.0,SNR=12						
ANMO	**Albuquerque**	**37.73**	**329**	*e*P	**P**	**14 22 41.6**	**+1.0**
ANMO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ANMO	**Albuquerque**	**37.73**	**329**	*e*P	**P**	**14 22 41.6**	**+1.0**
	comp=Z,9.3nm,0.9s,mb4.5						
CFAA	**Coronel Fontan**	**37.82**	**158**	P	**P**	**14 22 42.9**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=341,slow=7.3,SNR=5.3						
CPUP	**Villa Florida**	**39.22**	**140**	LR	LR	14 40 51.3	
	comp=Z,311nm,19.9s,MS4.1,baz=304,slow=39						
BDFB	**Brasilia**	**40.40**	**119**	LR	LR	14 39 56.8	
	comp=Z,292nm,18.2s,MS4.2,baz=302,slow=36						
MVCO	**Mesa Verde**	**40.53**	**330**	*e*P	**P**	**14 23 04.7**	**+0.7**
WUAZ	**Wupatki**	**40.81**	**325**	*e*P	**P**	**14 23 07.2**	**+0.9**
	comp=Z,18nm,1.0s,mb4.7						
WUAZ				*e*pP	pP	14 23 14.9	+0.8
ISCO	**Idaho Springs**	**41.26**	**335**	*e*P	**P**	**14 23 10.7**	**+0.7**
ISCO				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
ISCO	**Idaho Springs**	**41.26**	**335**	*e*P	**P**	**14 23 10.7**	**+0.7**
	comp=Z,3.6nm,0.8s,mb4.0						
SMCO	**Snowmass**	**41.35**	**333**	*e*P	**P**	**14 23 11.9**	**+1.1**
	comp=Z,16nm,1.0s,mb4.6						
SADO	**Sadowa**	**41.61**	**5**	P	**P**	**14 23 11.4**	**-1.5**
	comp=Z,2.9nm,0.5s,mb4.2,baz=114,slow=20,SNR=4.0						
PV10	**Paradox Valley**	**41.70**	**330**	*e*P	**P**	**14 23 13.7**	**+0.1**
PV10				*e*pP	pP	14 23 21.2	-0.2
NEN	**Nelson**	**42.95**	**322**	*e*P	**P**	**14 23 24.2**	**+0.5**
NEN				*e*pP	pP	14 23 31.2	-0.4
CCUT	**Cedar City**	**43.38**	**326**	*e*P	**P**	**14 23 28.8**	**+1.5**
RSSD	**Black Hills**	**44.34**	**340**	*e*P	**P**	**14 23 36.1**	**+1.1**
RSSD				*e*PP	pP	14 23 43.1	+0.3
RSSD				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
RSSD	**Black Hills**	**44.34**	**340**	*e*P	**P**	**14 23 36.1**	**+1.1**
	comp=Z,7.1nm,0.9s,mb4.4						
RSSD				*e*pP	pP	14 23 43.0	+0.2
PDAR	**Pinedale Array**	**45.40**	**334**	P	**P**	**14 23 43.0**	**-0.4**
	comp=Z,4.5nm,0.9s,mb4.3,baz=134,slow=8.4,SNR=30						
PDAR				PcP	PcP	14 25 22.4	-0.1
	comp=Z,0.6nm,0.8s,baz=107,slow=4.8,SNR=3.2						
PDAR				LR	LR	14 43 41.7	
	comp=Z,399nm,18.7s,MS4.4,baz=204,slow=38						
HWUT	**Hardware Ranch**	**45.42**	**331**	*e*P	**P**	**14 23 43.5**	**-0.1**
HWUT				*e*pP	pP	14 23 51.0	-0.5
REDW	**Red Top Meadow**	**46.45**	**333**	*e*P	**P**	**14 23 52.0**	**+0.4**
	comp=Z,18nm,1.1s,mb4.9						
TPAW	**Teton Pass**	**46.59**	**333**	*e*P	**P**	**14 23 52.4**	**-0.5**
	comp=Z,1.1nm,1.0s,mb4.8						
MOOW	**Moose Ponds**	**46.70**	**334**	*e*P	**P**	**14 23 53.3**	**-0.4**
	comp=Z,2.8nm,0.9s,mb4.2						
NVAR	**Mina Array Bea**	**46.86**	**323**	P	**P**	**14 23 55.5**	**+0.6**
	comp=Z,3.3nm,0.7s,mb4.4,baz=130,slow=7.4,SNR=29						
IMW	**Indian Meadow**	**46.91**	**334**	*e*P	**P**	**14 23 54.1**	**-1.2**
	comp=Z,3.6nm,0.8s,mb4.3						
FLWY	**Flagg Ranch**	**46.95**	**334**	*e*P	**P**	**14 23 56.0**	**+0.4**
	comp=Z,8.5nm,0.9s,mb4.7						
LKWY	**Lake**	**47.20**	**335**	*e*P	**P**	**14 23 57.9**	**+0.3**
LKWY				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
LKWY	**Lake**	**47.20**	**335**	*e*P	**P**	**14 23 57.9**	**+0.3**
	comp=Z,6.8nm,0.9s,mb4.6						
QLMT	**Earthquake Lak**	**47.86**	**334**	*e*P	**P**	**14 24 04.0**	**+1.4**
ULM	**Lac du Bonnet**	**47.89**	**350**	P	**P**	**14 24 02.2**	**-0.7**
	comp=Z,24nm,0.9s,mb5.2,baz=166,slow=7.6,SNR=43						
ULM	**Lac du Bonnet**	**47.89**	**350**	P	**P**	**14 24 02.2**	**-0.7**
HLID	**Hailey**	**48.28**	**331**	*e*P	**P**	**14 24 04.5**	**-1.4**
	comp=Z,4.3nm,1.1s,mb4.4						
MCMT	**McKenzie Canyo**	**48.49**	**333**	*e*P	**P**	**14 24 07.7**	**+0.1**
WVOR	**Wild Horse Val**	**49.67**	**327**	*e*P	**P**	**14 24 15.9**	**-0.7**
WVOR				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.9						
WVOR	**Wild Horse Val**	**49.67**	**327**	*e*P	**P**	**14 24 15.9**	**-0.7**
	comp=Z,18nm,1.3s,mb4.9						
MSO	**Missoula**	**50.52**	**334**	P	**P**	**14 24 22.7**	**-0.3**
	comp=Z,5.2nm,1.1s,mb4.4						
YBH	**Yreka Blue Hor**	**51.56**	**323**	P	**P**	**14 24 29.1**	**-1.7**
	comp=Z,5.1nm,1.1s,mb4.3,baz=91,slow=0.9,SNR=5.9						
WALA	**Waterton Lakes**	**52.23**	**336**	*e*P	**P**	**14 24 36.1**	**+0.2**
	comp=Z,9.6nm,1.1s,mb4.6						
NEW	**Newport**	**53.02**	**333**	LR	LR	14 46 34.5	
	comp=Z,348nm,22.0s,MS4.4,baz=216,slow=35						
FCC	**Fort Churchill**	**55.92**	**354**	P	**P**	**14 25 02.1**	**-0.7**
FCC				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
FCC	**Fort Churchill**	**55.92**	**354**	P	**P**	**14 25 02.0**	**-0.7**
	comp=Z,15nm,1.0s,mb5.0						
RKT	**Rikitea**	**56.00**	**239**	*e*LR	LR	14 41 41.4	
	comp=Z,205nm,29.8s						
YKA	**Yellowknife Ar**	**63.30**	**345**	P	**P**	**14 25 51.8**	**-1.8**
	comp=Z,2.1nm,0.8s,mb4.3,baz=139,slow=6.5,SNR=45						
YKA				LR	LR	14 56 56.9	
	comp=Z,172nm,18.5s,MS4.3,baz=125,slow=39						
YKA	**Yellowknife Ar**	**63.30**	**345**	P	**P**	**14 25 51.8**	**-1.8**
YKA				LR	LR	14 56 56.9	
YKW3	**Yellowknife Ar**	**63.36**	**345**	*e*P	**P**	**14 25 52.4**	**-1.6**
PPT	**Papeete**	**67.68**	**250**	*e*LR	LR	14 47 08.1	
	comp=Z,309nm,26.0s,baz=72						
PPT	**Papeete**	**67.68**	**250**	LR	LR	14 48 20.3	
	comp=Z,143nm,20.9s,MS4.2,baz=143,slow=29						
TBI	**Tubuai**	**68.79**	**244**	*e*LR	LR	14 47 37.8	
	comp=Z,309nm,27.0s,baz=65						
SUMG	**Summit**	**74.73**	**13**	*e*P	**P**	**14 27 03.6**	**-1.0**
	comp=Z,8.6nm,0.8s,mb4.7						
ILAR	**Eielson Array**	**75.71**	**337**	P	**P**	**14 27 09.2**	**-1.0**
	comp=Z,2.5nm,0.8s,mb4.2,baz=124,slow=3.9,SNR=21	

GTA				AP		14 20 36.0	
GTA				XP		14 20 39.1	
GTA				AMB	AMB		
	comp=Z,13nm,0.9s						
MKAR	**Makanchi Array**	**16.64**	**332**	Pn	**Pn**	**14 22 11.4**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=135,slow=14,SNR=12						
AAK	**Ala-Archa**	**18.09**	**309**	*eP*	**Pn**	**14 22 32.6**	**+0.7**
	comp=Z,5.3nm,1.1s						
SONM	**Songino Array**	**18.19**	**29**	P	**Pn**	**14 22 33.1**	**0.0**
	comp=Z,0.2nm,0.3s,baz=219,slow=11,SNR=8.3						
KURK	**Kurchatov**	**21.25**	**333**	*eP*	**P**	**14 23 06.4**	**-0.5**
	comp=Z,5.8nm,0.7s,mb4.0						
BVAR	**Borovoye Array**	**26.40**	**328**	P	**P**	**14 23 59.5**	**+2.3**
	comp=Z,0.8nm,0.7s,mb3.3,baz=168,slow=8.7,SNR=6.0						
BRTR	**Keskin Array B**	**48.09**	**296**	P	**P**	**14 27 01.3**	**+0.8**
	comp=Z,0.9nm,0.7s,mb3.9,baz=82,slow=8.9,SNR=3.7						
FINES	**FINESS Array B**	**51.32**	**325**	P	**P**	**14 27 24.8**	**-0.2**
	comp=Z,1.3nm,0.9s,mb3.8,baz=89,slow=11,SNR=2.3						
WRAB	**Tennant Creek**	**65.17**	**137**	*eP*	**P**	**14 29 02.8**	**+0.8**
WRA	**Warramunga Arr**	**65.17**	**137**	P	**P**	**14 29 01.8**	**-0.2**
	comp=Z,1.2nm,0.8s,mb4.0,baz=332,slow=7.0,SNR=10.0						
ASAR	**Alice Springs**	**67.89**	**140**	P	**P**	**14 29 19.4**	**0.0**
	comp=Z,2.3nm,0.6s,mb4.4,baz=321,slow=6.2,SNR=51						
ILAR	**Eielson Array**	**72.31**	**23**	P	**P**	**14 29 46.2**	**-0.2**
	comp=Z,0.3nm,0.8s,mb3.3,baz=294,slow=4.9,SNR=4.5						
YKA	**Yellowknife Ar**	**82.68**	**13**	P	**P**	**14 30 44.0**	**-0.5**
	comp=Z,0.3nm,0.8s,mb3.4,baz=332,slow=5.1,SNR=5.1						
YKA	**Yellowknife Ar**	**82.68**	**13**	P	**P**	**14 30 44.0**	**-0.5**
TORD	**Torodi Ar. Bea**	**84.53**	**282**	P	**P**	**14 30 52.9**	**-1.1**
	comp=Z,0.9nm,0.7s,mb4.0,baz=45,slow=4.8,SNR=5.0						

IDC 08 14:50:49.7±18.0, 737S×12791E, h101km±196km, mb2.8/1, mb1 3.4/4, mb1mx3.2/14, mbtmp3.5/4, ML3.6/2, Error ellipse: s-maj=181.8km s-min=59.1km az=38.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.90**	**191**	P	Pn	14 53 22.7	+0.2
	0.5nm,0.3s,baz=37,slow=16,SNR=16						
FITZ				S	Sn	14 55 18.5	-3.9
	0.5nm,0.3s,baz=8.4,slow=22,SNR=6.3						
WRA	**Warramunga Arr**	**13.97**	**154**	P	Pn	14 54 02.8	-0.3
	0.2nm,0.3s,baz=330,slow=13,SNR=16						
WRA				S	Sn	14 56 26.2	-11
	0.6nm,0.3s,baz=331,slow=22,SNR=11						
ASAR	**Alice Springs**	**17.20**	**161**	P	Pn	14 54 43.9	+0.3
	0.2nm,0.3s,baz=336,slow=10,SNR=40						
ASAR				S	S	14 57 45.6	-10
	0.2nm,0.3s,baz=342,slow=24,SNR=5.0						
MKAR	**Makanchi Array**	**67.41**	**328**	P	P	15 01 34.5	+0.2
	0.1nm,0.6s,baz=126,slow=7.3,SNR=3.5						

*NEIC **08** 14:58:37.2±2.0, 5160N×16.14E, h4km±14km, ML2.6(CLL), ML3.0(SZGRF), Error ellipse: s-maj=18.6km s-min=11.4km az=195.0*
*BGR **08** 14:58:37.0±0.6, 5152N×16.18E, h1km, ML3.0/12, Error ellipse: s-maj=6.7km s-min=4.4km az=156.0*
*IPEC **08** 14:58:37.5±0.4, 5154N×16.18E, h2km±2km, ML2.2/3, Error ellipse: s-maj=2.8km s-min=0.9km az=26.0*
*ISCJB **08** 14:58:37.3±0.5, 5142N±003×1604E±002, h0km, Error ellipse: s-maj=3.9km s-min=2.0km az=27.3*
*CSEM **08** 14:58:39.3±0.2, 5146N×1611E, h2km, ML3.2/6, Error ellipse: s-maj=2.8km s-min=1.6km az=14.0*
*PRU **08** 14:58:39.6, 5145N×1602E, h0km*
*WAR **08** 14:58:39.1, 5149N×1606E, ML2.6, Mining Induced*
*VIE **08** 14:58:40.1±0.5, 5133N×1608E, h0km, mb2.4/5, ML2.8/5, Error ellipse: s-maj=3.4km s-min=3.1km az=148.0 70 km WNW of Breslau Suspected Mining induced.*

ISC 08 14:58:37.8±0.5, 5150N±003×1608E±003, h0km, n48, σ0≥90/97, 2C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.67**	**168**	*i* Pgd	**Pg**	**14 58 51.3**	**+0.7**
KSP				i		14 58 52.4	
KSP				*e*Sg	**Sg**	**14 58 58.9**	**-0.3**
KSP				e		14 59 00.2	
KSP	**Ksiaz**	**0.67**	**168**	⇓*i*Pg	**Pg**	**14 58 51.3**	**+0.7**
KSP				*i*		14 58 52.4	
KSP				*e*Sg	**Sg**	**14 58 58.9**	**-0.3**
KSP				*e*		14 59 00.2	
KSP	**Ksiaz**	**0.67**	**168**	⇓*i*Pg	**Pg**	**14 58 51.3**	**+0.7**
KSP				*e*Sg	**Sg**	**14 58 58.9**	**-0.3**
DPC	**Dobruska-Polom**	**1.16**	**172**	*e*PG	**Pg**	**14 59 00.6**	**0.0**
DPC				*e*SG	**Sg**	**14 59 14.7**	**-0.3**
	59nm,0.7s						
DPC	**Dobruska-Polom**	**1.16**	**172**	*e*Pg	**Pg**	**14 58 59.9**	**-0.1**
DPC				*e*Sg	**Sg**	**14 59 13.8**	**-1.2**
BRG	**Berggiesshubel**	**1.48**	**246**	*e*Pn	**Pn**	**14 59 04.9**	**-0.9**
BRG				*e*Sg	**Sg**	**14 59 26.5**	**+1.0**
BRG	**Berggiesshubel**	**1.48**	**246**	PN	**Pn**	**14 59 05.5**	**-0.2**
BRG				PG	**Pg**	**14 59 06.2**	**0.0**
BRG				SG	**Sg**	**14 59 26.2**	**+0.7**
	47nm,0.3s						
PRU	**Pruhonice**	**1.80**	**214**	*e*PN	**Pn**	**14 59 09.6**	**-0.5**
PRU				*e*PG	**Pg**	**14 59 11.4**	**-0.9**
PRU				*ex*	x	14 59 28.4	
PRU				*e*SG	**Sg**	**14 59 35.4**	**-0.2**
	20nm,0.3s						
PRU	**Pruhonice**	**1.80**	**214**	*e*Pn	**Pn**	**14 59 09.4**	**-0.7**
FBE	**Freiberg**	**1.81**	**253**	*e*Pn	**Pn**	**14 59 09.4**	**-0.8**
FBE				*e*Sg	**Sg**	**14 59 36.6**	**+0.6**
CLL	**Collm**	**1.94**	**266**	*e*Pn	**Pn**	**14 59 11.0**	**-1.0**
CLL				*e*Sg	**Sg**	**14 59 40.5**	**+0.4**
CLL	**Collm**	**1.94**	**266**	*e*Pn	**Pn**	**14 59 11.0**	**-1.0**
CLL				*e*Pg	**Pg**	**14 59 14.0**	**-1.0**
CLL				*i* Sg	**Sg**	**14 59 39.5**	**-0.6**
	comp=Z,23nm,0.4s						
CLL	**Collm**	**1.94**	**266**	*e*Pg	**Pg**	**14 59 14.0**	**-1.0**
CLL				Sg	**Sg**	**14 59 40.5**	**+0.4**
MORC	**Moravsky Berou**	**1.96**	**151**	*e*Pn	**Pn**	**14 59 11.3**	**-1.0**
MORC				*e*Sg	**Sg**	**14 59 39.1**	**-1.6**
MORC	**Moravsky Berou**	**1.96**	**151**	*e*Pn	**Pn**	**14 59 11.3**	**-0.9**
MORC				*e*Sg	**Sg**	**14 59 40.0**	**-0.7**
	comp=Z,22nm,0.2s						
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*PN	**Pn**	**14 59 13.8**	**-0.7**
OKC				*e*PG	**Pg**	**14 59 16.6**	**-1.8**
OKC				*e*SG	**Sg**	**14 59 44.3**	**-1.6**
	comp=Z,18nm,0.4s						
VRAC	**Vranov**	**2.21**	**171**	*e*Pn	**Pn**	**14 59 16.1**	**+0.3**
VRAC				*e*Sg	**Sg**	**14 59 47.6**	**-1.4**
	comp=Z,8.8nm,0.2s						
TREC	**Trest**	**2.24**	**190**	*e*Pn	**Pn**	**14 59 17.2**	**+1.1**
TREC				*e*Sg	**Sg**	**14 59 49.2**	**-0.5**
KRUC	**Moravsky**	**2.44**	**175**	*e*Pn	**Pn**	**14 59 18.8**	**-0.2**
KRUC				*e*Sg	**Sg**	**14 59 55.8**	**-0.6**
	comp=Z,10nm,0.3s						
TANN	**Tannenbergstha**	**2.53**	**246**	*e*Pn	**Pn**	**14 59 19.3**	**-0.8**
TANN				*e*Sg	**Sg**	**15 00 00.2**	**+1.0**
WERD	**Werda**	**2.61**	**248**	*e*Pn	**Pn**	**14 59 21.1**	**-0.1**
WERD				*e*Sg	**Sg**	**15 00 00.6**	**-0.9**
WERD	**Werda**	**2.61**	**248**	Pn	**Pn**	**14 59 21.1**	**-0.1**
WERD				Sg	**Sg**	**15 00 00.6**	**-1.0**
NKC	**Novy Kostel**	**2.63**	**243**	*e*PN	**Pn**	**14 59 21.9**	**+0.4**
NKC				*e*PG	**Pg**	**14 59 28.1**	**-0.1**
NKC				*e*SG	**Sg**	**15 00 04.2**	**+2.0**
	comp=Z,44nm,0.3s						
NKC	**Novy Kostel**	**2.63**	**243**	*e*Pn	**Pn**	**14 59 21.2**	**-0.3**
NKC	**Novy Kostel**	**2.63**	**243**	*e*Pg	**Pg**	**14 59 28.1**	**-0.1**
NKC				*e*Sg	**Sg**	**15 00 02.9**	**+0.7**
WERN	**Wernitzgruen**	**2.64**	**244**	*e*Pn	**Pn**	**14 59 22.0**	**+0.4**
WERN				*e*Sg	**Sg**	**15 00 03.4**	**+0.7**
OJC	**Ojcow**	**2.68**	**117**	*e*Pg	**Pg**	**14 59 29.3**	**+0.1**
OJC				*e*Sg	**Sg**	**15 00 05.3**	**+1.4**
KHC	**Kasperske Hory**	**2.86**	**215**	*e*PN	**Pn**	**14 59 24.7**	**0.0**
KHC				*e*PG	**Pg**	**14 59 30.4**	**-2.2**
KHC				*e*SN	**Sn**	**14 59 59.9**	**+0.1**
KHC				*e*Sg	**Sg**	**15 00 09.4**	**-0.3**
	comp=Z,13nm,0.6s						
KHC	**Kasperske Hory**	**2.86**	**215**	*e*Pn	**Pn**	**14 59 24.3**	**-0.4**
MANZ	**Manzenberg**	**2.94**	**241**	*e*Pn	**Pn**	**14 59 26.2**	**+0.4**
MANZ				*e*Sg	**Sg**	**15 00 12.9**	**+0.6**
MOX	**Moxa**	**2.94**	**255**	*e*Pn	**Pn**	**14 59 25.5**	**-0.3**
MOX				*e*Sg	**Sg**	**15 00 12.5**	**+0.2**
MOX	**Moxa**	**2.94**	**255**	*e*PN	**Pn**	**14 59 25.6**	**-0.2**
MOX				*e*PG	**Pg**	**14 59 33.4**	**-0.8**
MOX				*e*SG	**Sg**	**15 00 13.1**	**+0.7**
MOX	**Moxa**	**2.94**	**255**	*e*Pg	**Pg**	**14 59 33.4**	**-0.8**
MOX				*e*Sg	**Sg**	**15 00 12.1**	**-0.3**
ROTZ	**Rotzenmuhle**	**3.01**	**236**	*e*Pn	**Pn**	**14 59 27.2**	**+0.4**
ROTZ				*e*Sg	**Sg**	**15 00 14.1**	**-0.6**
GEC2	**GERESS Array S**	**3.06**	**211**	*e*Pn	**Pn**	**14 59 28.5**	**+1.0**
GEC2				*e*Sg	**Sg**	**15 00 15.2**	**-1.1**
GEC2	**GERESS Array S**	**3.06**	**211**	*e*Pn	**Pn**	**14 59 28.5**	**+1.0**
GEC2				*e*Sg	**Sg**	**15 00 15.2**	**-1.0**
SMOL	**Smolenice**	**3.11**	**163**	*e*PG	**Pg**	**14 59 37.4**	**0.0**
SMOL				*e*SG	**Sg**	**15 00 17.9**	**+0.2**
WET	**Wettzell**	**3.12**	**222**	*e*Pn	**Pn**	**14 59 28.5**	**+0.2**
WET				*e*Sg	**Sg**	**15 00 17.3**	**-0.9**
WET	**Wettzell**	**3.12**	**222**	*e*Pn	**Pn**	**14 59 28.5**	**+0.2**
WET				*e*Sg	**Sg**	**15 00 17.3**	**-0.9**
ZST	**Bratislava**	**3.37**	**168**	*e*SG	**Sg**	**15 00 28.2**	**+2.1**
GRA1	**Grafenberg Arr**	**3.58**	**242**	Sg	**Sg**	**15 00 33.8**	**+0.8**
GRF	**Grafenberg Arr**	**3.58**	**242**	*e*Sg	**Sg**	**15 00 33.8**	**+0.8**
MOA	**Molln**	**3.83**	**199**	⇑*i*Pn	**Pn**	**14 59 38.6**	**+0.5**
MOA				⇑*i*Sg	**Sg**	**15 00 42.3**	**+1.2**
	comp=Z,13nm,0.6s						
MOA	**Molln**	**3.83**	**199**	Pn	**Pn**	**14 59 38.6**	**+0.5**
MOA				*i* Sg	**Sg**	**15 00 42.2**	**+1.2**
STHS	**Stebnicka Huta**	**3.90**	**120**	*e*PG	**Pg**	**14 59 52.5**	**-0.1**
STHS				*e*SG	**Sg**	**15 00 48.3**	**+5.2**
KECS	**Kecovo**	**4.14**	**135**	*e*PG	**Pg**	**14 59 58.6**	**+1.4**
KECS				*e*SG	**Sg**	**15 00 53.5**	**+2.6**
CRVS	**Cervenica-Dubn**	**4.32**	**125**	*e*PG	**Pg**	**15 00 01.8**	**+1.1**
KBA	**Koelnbreinsper**	**4.77**	**203**	⇓*i*Pn	**Pn**	**14 59 51.8**	**+0.9**
KBA				⇓*i*Sg	**Sg**	**15 01 12.2**	**+1.1**
	comp=Z,4.7nm,0.6s						

*KNET **08** 15:02:13.2±0.3, 4260N×7554E, h18km±4km, ml1.3, Error ellipse: s-maj=3.0km s-min=1.9km az=35.0*
*ISCJB **08** 15:02:14.5±0.6, 4259N±003×7554E±004, h10km, Error ellipse: s-maj=4.9km s-min=3.8km az=165.7*
*NNC **08** 15:02:15.4±1.7, 4263N×7560E, h0km, mb3.0, mpv2.0, Error ellipse: s-maj=9.7km s-min=8.1km az=42.0*

ISC 08 15:02:14.7±0.6, 4260N±003×7553E±004, h10km, n10, σ0≥78/19, 8C-10D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**0.33**	**9**	⇓P	**Pg**	**15 02 21.0**	**-0.2**
	74nm,0.2s,SNR=121						
TKM2				⇑S	**Sg**	**15 02 25.6**	**+0.1**
	90nm,0.1s						
TKM2	**Tokmak 2**	**0.33**	**9**	⇓P	**Pg**	**15 02 20.9**	**-0.3**
	0.5nm,0.2s						
TKM2				⇑S	**Sg**	**15 02 25.4**	**-0.1**
	0.5nm,0.2s						
KBK	**Karagaybulak**	**0.43**	**278**	P	**Pg**	**15 02 23.1**	**-0.1**
	6.9nm,0.1s,SNR=36						
KBK				⇓S	**Sg**	**15 02 29.3**	**+0.4**
	41nm,0.2s						
KZA	**Kyzart**	**0.56**	**202**	⇓P	**Pg**	**15 02 25.5**	**-0.1**
	7.6nm,0.1s,SNR=27						
KZA				⇓S	**Sg**	**15 02 33.7**	**+0.8**
	16nm,0.2s						
ULHL	**Ulahol**	**0.63**	**123**	⇓P	**Pg**	**15 02 26.6**	**-0.3**
	3.9nm,0.1s,SNR=29						
ULHL				⇑S	**Sg**	**15 02 35.6**	**+0.3**
	12nm,0.1s						
AAK	**Ala-Archa**	**0.77**	**273**	⇓P	**Pg**	**15 02 28.8**	**-0.6**
	5.0nm,0.2s,SNR=9.5						
AAK				⇑S	**Sg**	**15 02 39.1**	**-0.4**
	22nm,0.3s						
UCH	**Uchtor**	**0.84**	**244**	⇓P	**Pg**	**15 02 30.0**	**-0.8**
	1.5nm,0.1s,SNR=11						
UCH				⇑S	**Sg**	**15 02 40.8**	**-1.0**
	5.8nm,0.2s						
KNDC	**Almaty**	**1.22**	**59**	⇑S	**Sb**	**15 02 54.0**	**+0.3**
	9.5nm,0.3s						
EKS2	**Erkin-Say**	**1.29**	**273**	⇓P	**Pn**	**15 02 39.1**	**+0.3**
	1.3nm,0.1s,SNR=11						
EKS2				⇑S	**Sb**	**15 02 56.7**	**+0.9**
	4.1nm,0.1s						
KK31	**Karatay Array**	**3.73**	**279**	⇓Pg	**Pg**	**15 03 24.7**	**-1.3**
	1.1nm,0.6s,baz=93,slow=15,SNR=9.9						
KK31				⇑Sn	**Sb**	**15 04 08.2**	**+2.5**
	0.6nm,0.4s,baz=94,slow=26						

*ISCJB **08** 15:07:38.5±0.4, 680N±003×7290W±002, h171km±3km, mb4.7/76, Error ellipse: s-maj=5.4km s-min=4.0km az=156.9*
*FUNV **08** 15:07:39.7, 685N×73.13W, h170km, MW4.9*
*IDC **08** 15:07:39.3±0.5, 677N×72.97W, h164km±4km, mb4.2/14, mb1 4.5/16, mb1mx4.4/19, mbtmp4.7/16, MS3.4/4, Ms1 3.3/4, ms1mx3.0/26, Error ellipse: s-maj=9.9km s-min=6.6km az=123.0*
*MOS **08** 15:07:39.5±1.0, 686N×7298W, h177km, mb4.8/32, Error ellipse: s-maj=10.9km s-min=6.1km az=118.3*
*BJI **08** 15:07:40.1, 670N×7300W, h172km, mB4.9*
*HRVD **08** 15:07:40.1±0.6, 702N×7324W, h168km±4km, MW4.9/38, Centroid moment Tensor Solution. LP body waves: s8,c8;Mantle waves: s38,c47; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.03±.17; $M_{\theta\theta}$1.63±.18; $M_{\phi\phi}$-1.66±.19; $M_{r\theta}$0.40±.14; $M_{r\phi}$-2.10±.18; $M_{\theta\phi}$-1.14±.14; Best double couple: M_o2.92900×10^{16} NP1:ϕ_s71.00000°, δ66.00000°, λ180.00000°. NP2:ϕ_s161.00000°, δ90.00000°, λ24.00000°. Principal axes: T 2.9200, Plg17.0000°, Azm29.0000°; N 0.0140, Plg66.0000°, Azm162.0000°; P -2.9370, Plg17.0000°, Azm293.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **08** 15:07:40.1±0.5, 670N×7300W, h172km±4km, mb4.8/66 Error ellipse: s-maj=4.5km s-min=3.8km az=204.0*
NEIC Felt at Bogota.
*CASC **08** 15:07:43.0±1.4, 788N×7335W, h98km±236km, MW4.4, mb4.8(NEIC)*

ISC 08 15:07:39.5±0.4, 678N±003×7289W±002, h163km±3km, h171km±1.7km; pP-P, n246, σ0≥96/253, mb4.7/76, 18C-10D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.22**	**28**	⇑*i*P	**Pn**	**15 08 08.4**	**+1.0**
CAPV				*e*S	**Sn**	**15 08 29.6**	**+0.9**
ROSC	**El Rosal**	**2.39**	**217**	P	**Pn**	**15 08 19.9**	**0.0**
	3µm,0.3s,baz=94,slow=21,SNR=861						
ROSC				S	**Sn**	**15 08 50.5**	**-0.6**
	3µm,0.3s,baz=75,slow=19,SNR=18						
ROSC				LR	LR	15 09 26.4	
	comp=Z,381nm,21.7s,baz=139,slow=46						
ROSC	**El Rosal**	**2.39**	**217**	⇑*i*P	**Pn**	**15 08 19.9**	**0.0**
ROSC				*e*S	**Sn**	**15 08 47.3**	**-3.8**
SOCV	**Socops**	**2.51**	**53**	*e*P	**Pn**	**15 08 23.2**	**+1.9**
SOCV				*e*S	**Sn**	**15 08 55.0**	**+1.3**
VIGV	**El Vigia**	**2.54**	**36**	⇑*i*P	**Pn**	**15 08 22.8**	**+1.1**
VIGV				*e*S	**Sn**	**15 08 54.1**	**-0.3**
SDV	**Santo Domingo**	**3.06**	**47**	P	**Pn**	**15 08 29.8**	**+1.6**
	302nm,0.3s,baz=251,slow=7.4,SNR=803						
SDV				S	**Sn**	**15 09 07.3**	**+1.5**
	1µm,0.3s,baz=75,slow=22,SNR=46						
SDV	**Santo Domingo**	**3.06**	**47**	⇑*i*P	**Pn**	**15 08 29.7**	**+1.5**
SDV				*e*S	**Sn**	**15 09 06.5**	**+0.6**
VIRV	**Villa del Rosa**	**3.73**	**7**	⇑*i*P	**Pn**	**15 08 35.1**	**-1.5**
VIRV				*e*S	**Sn**	**15 09 16.2**	**-4.8**
QARV	**Quebrada Arrib**	**4.13**	**34**	⇑*i*P	**Pn**	**15 08 42.7**	**+1.0**
QARV				*e*S	**Sn**	**15 09 28.2**	**-2.0**
SANV	**Sanarito**	**4.28**	**51**	*e*P	**Pn**	**15 08 44.7**	**+1.0**
SANV				*e*S	**Sn**	**15 09 33.0**	**-0.8**
CURV	**Curarigua**	**4.33**	**42**	⇑*i*P	**Pn**	**15 08 45.1**	**+0.8**
CURV				*e*S	**Sn**	**15 09 32.9**	**-1.9**
DABV	**Dabajuro**	**4.68**	**28**	*e*P	**Pn**	**15 08 49.2**	**+0.3**
TEPV	**Terepaima**	**4.84**	**49**	⇑*i*P	**Pn**	**15 08 51.9**	**+0.9**
TEPV				*e*S	**Sn**	**15 09 45.1**	**-1.7**
SIQV	**Siquisique**	**4.90**	**38**	⇑*i*P	**Pn**	**15 08 51.8**	**0.0**
SIQV				*e*S	**Sn**	**15 09 45.5**	**-2.8**
BAUV	**El Baul**	**5.26**	**66**	*e*S	**Sn**	**15 09 55.4**	**-1.4**
PAYV	**Puerto Ayacuch**	**5.38**	**104**	⇓*i*P	**Pn**	**15 08 59.1**	**+1.0**
JACV	**Jacura**	**5.87**	**43**	*e*P	**Pn**	**15 09 04.9**	**+0.4**
JACV				*e*S	**Sn**	**15 10 07.4**	**-3.7**
IMOV	**Isla Los Monje**	**5.88**	**19**	*e*P	**Pn**	**15 09 03.3**	**-1.3**
IMOV				*e*S	**Sn**	**15 10 04.5**	**-6.9**
MONV	**Montecano**	**5.89**	**29**	*i* P	**Pn**	**15 09 04.0**	**-0.8**
MONV				*e*S	**Sn**	**15 10 06.8**	**-4.9**
TURV	**Turiamo**	**6.18**	**54**	⇑*i*P	**Pn**	**15 09 08.7**	**0.0**
TURV				*e*S	**Sn**	**15 10 14.7**	**-4.0**
CAOV	**Caicara del Or**	**6.54**	**85**	*e*S	**Sn**	**15 10 24.7**	**-2.6**
UPA	**Univ. de Panam**	**6.93**	**289**	*i* P	**Pn**	**15 09 14.1**	**-4.6**
	baz=99,slow=7.9						
ACLA	**Agua Clara, Si**	**7.24**	**291**	⇑*i*P	**Pn**	**15 09 16.7**	**-5.7**
ZANG	**Zanguenga, Cho**	**7.24**	**288**	⇑*i*P	**Pn**	**15 09 17.1**	**-5.6**
PINA	**Piqa, Costa Ab**	**7.52**	**290**	⇑*i*P	**Pn**	**15 09 21.2**	**-5.1**
PINA				*e*S	**Sn**	**15 10 37.7**	**-13**
BUS	**Buena Vista**	**11.11**	**285**	⇓*e*P	**Pn**	**15 10 12.0**	**-1.7**
URSC	**Urasca**	**11.19**	**286**	*e*P	**Pn**	**15 10 12.0**	**-2.9**
PCJ	**Portland Cotta**	**11.66**	**339**	⇑*e*P	**Pn**	**15 10 20.6**	**-0.3**
PCJ				⇑*e*S	**Sn**	**15 12 17.1**	**-13**
VPS2	**Volcan Poas 2**	**11.72**	**288**	*e*P	**Pn**	**15 10 21.5**	**-0.2**
PRS1	**Puriscal**	**11.74**	**287**	*e*P	**Pn**	**15 10 21.2**	**-0.7**
CMJ	**Castle Mountai**	**11.79**	**344**	⇑*e*P	**Pn**	**15 10 22.6**	**+0.1**
STH	**Stony Hill**	**11.86**	**342**	⇑*e*P	**Pn**	**15 10 23.8**	**+0.3**
STH				*e*S	**Sn**	**15 12 22.5**	**-12**
CGA2	**Cerro Gallo 2**	**11.89**	**286**	*e*P	**Pn**	**15 10 24.4**	**+0.4**
MCJ	**Malvern**	**12.02**	**338**	⇓*e*P	**Pn**	**15 10 26.3**	**+0.7**
CVJ	**Coleyville**	**12.24**	**339**	⇓*i*P	**Pn**	**15 10 30.9**	**+2.4**
BBJ	**Bamboo Saint A**	**12.29**	**340**	⇑*e*P	**Pn**	**15 10 29.8**	**+0.7**
JTS	**JuntasAbangare**	**12.43**	**287**	P	**Pn**	**15 10 28.7**	**-2.2**
	6.1nm,0.3s,baz=76,slow=7.9,SNR=24						
JTS				LR	LR	15 15 39.6	
	comp=Z,116nm,18.4s,baz=26,slow=39						
JTS	**JuntasAbangare**	**12.43**	**287**	*e*P	**Pn**	**15 10 29.2**	**-1.6**
JTS				pmax	pmax		
	comp=Z,397nm,0.8s						
JTS	**JuntasAbangare**	**12.43**	**287**	*e*P	**Pn**	**15 10 29.2**	**-1.6**
	comp=Z,397nm,0.8s						
JTS				*e*		15 10 35.6	
LIM1	**Limonal**	**12.82**	**289**	*i* P	**Pn**	**15 10 33.3**	**-2.6**
VCR	**Vista de Mar**	**13.03**	**286**	*e*P	**Pn**	**15 10 38.7**	**+0.1**
SJG	**San Juan**	**13.04**	**30**	P	**Pn**	**15 10 36.9**	**-1.7**
	comp=Z,57nm,0.3s,baz=212,slow=11,SNR=38						
SJG	**San Juan**	**13.04**	**30**	*e*P	**Pn**	**15 10 35.7**	**-3.0**
SJG				pmax	pmax		
	comp=Z,152nm,0.4s						
SJG	**San Juan**	**13.04**	**30**	*e*P	**Pn**	**15 10 35.7**	**-2.9**
	comp=Z,152nm,0.4s						
MASC	**Masc**	**13.38**	**355**	*e*P	**Pn**	**15 10 43.8**	**+0.8**
RCC	**Rio Carpintero**	**13.41**	**349**	*e*P	**Pn**	**15 10 42.2**	**-1.2**
RCC				*e*S	**Sn**	**15 12 53.6**	**-19**
	comp=N,0.2nm,0.4s						
RCC				*e*			
	comp=E,0.4nm,0.3s						
LMGC	**Las Mercedes**	**13.79**	**344**	*e*P	**Pn**	**15 10 48.9**	**+0.7**
LMGC				*e*S	**Sn**	**15 13 06.0**	**-15**
	comp=N,90nm,0.4s						
LMGC				*e*			
	comp=E,138nm,0.6s						
MOAC	**Moa**	**13.94**	**352**	*e*P	**Pn**	**15 10 54.1**	**+4.0**
MOAC				*e*S	**Sn**	**15 13 17.1**	**-7.7**
	comp=N,7.6nm,0.6s						
MOAC				*e*			
	comp=E,7.3nm,0.7s						
TICN	**Ticuantepe**	**14.15**	**293**	*e*P	**Pn**	**15 10 53.4**	**+0.7**
APYN	**Apoyeque**	**14.33**	**293**	*e*P	**Pn**	**15 10 56.5**	**+1.5**
HLGC	**Holguin**	**14.36**	**348**	*e*P	**Pn**	**15 11 00.0**	**+4.7**
HLGC				*e*S	**Sn**	**15 13 20.0**	**-15**
COPN	**Copaltepe**	**14.54**	**293**	⇓*e*P	**Pn**	**15 10 59.3**	**+1.8**
MOMJ	**Momotombo**	**14.57**	**294**	⇓*e*P	**Pn**	**15 10 58.4**	**+0.4**
TEL3	**Telica 3**	**14.91**	**294**	*e*P	**Pn**	**15 11 01.3**	**-0.8**
CCCC	**Cccc**	**15.09**	**342**	*e*P	**Pn**	**15 11 03.0**	**-1.4**
SAML	**Samuel**	**18.38**	**148**	*e*P	**P**	**15 11 42.7**	**+0.8**
	comp=E,6.8nm,0.9s						
PAYG	**Puerto Ayora**	**18.87**	**248**	*e*P	**P**	**15 11 47.6**	**+0.4**
	comp=E,30nm,0.6s						
LPAZ	**La Paz**	**23.40**	**168**	P	**P**	**15 12 35.2**	**+1.6**
	comp=E,3.1nm,0.4s,mb4.1,baz=352,slow=8.1,SNR=16						
LPAZ				pP		15 13 06.5	
	comp=E,12nm,0.6s,baz=3.1,slow=16,SNR=7.4						
LPAZ	**La Paz**	**23.40**	**168**	*e*P	**P**	**15 12 34.6**	**+1.0**
LPAZ				pmax	pmax		
	comp=Z,5.0nm,0.6s						
LPAZ	**La Paz**	**

comp=Z,26nm,0.6s,mb5.0
HNH Hanover 36.78 1 *e*P P 15 14 32.6 +1.2
comp=Z,0.6nm,0.6s
NCB Newcomb 37.06 358 *e*P P 15 14 35.2 +1.5
comp=Z,16nm,0.4s,mb5.0
MIV Mineville/With 37.15 359 *e*P P 15 14 35.8 +1.3
LBNH Lisbon 37.32 1 *e*P P 15 14 37.1 +1.2
LBNH pmax pmax
comp=Z,43nm,0.8s,mb5.1
LBNH Lisbon 37.32 1 *e*P P 15 14 37.1 +1.2
comp=Z,43nm,0.8s,mb5.1
LONY Lake Ozonia 37.72 358 *e*P P 15 14 40.5 +1.2
FRNY Flat Rock 37.91 359 *e*P P 15 14 42.2 +1.3
CFAA Coronel Fontan 38.43 174 P P 15 14 44.5 -0.7
comp=Z,0.2nm,0.5s,baz=323,slow=15,SNR=3.7
AMTX Amarillo 38.53 321 *e*P P 15 14 44.9 -1.2
comp=Z,38nm,0.5s,mb5.3
KSU1 Kansas State U 38.63 330 *e*P P 15 14 45.3 -1.6
GDL2 Guadalupe Moun 38.71 315 *e*P P 15 14 47.2 -0.4
CPRX Cap Rock 38.84 316 *e*P P 15 14 48.1 -0.6
MNTX Comudas Mount 39.16 314 *e*P P 15 14 50.8 -0.5
comp=Z,40nm,0.7s,mb5.2
BNM Barren Site 41.37 316 *e*P P 15 15 09.4 -0.1
LENM Lemitar 41.62 316 *e*P P 15 15 11.5 0.0
ANMO Albuquerque 41.70 317 *e*P P 15 15 12.2 0.0
ANMO pmax pmax
comp=Z,6.0nm,0.6s
ANMO Albuquerque 41.70 317 *e*P P 15 15 12.2 +0.1
comp=Z,6.1nm,0.6s,mb4.4
LAZ Ladron 41.86 316 *e*P P 15 15 14.0 +0.5
TUC Tucson 43.45 311 *e*P P 15 15 26.2 0.0
TUC pmax pmax
comp=Z,17nm,0.8s,mb4.7
TUC Tucson 43.45 311 *e*P P 15 15 26.2 -0.1
comp=Z,17nm,0.8s,mb4.7
EYMN Ely 43.98 342 *e*P P 15 15 29.7 -0.8
comp=Z,32nm,0.5s,mb5.2
ISCO Idaho Springs 44.07 323 *e*P P 15 15 31.8 +0.6
ISCO pmax pmax
comp=Z,20nm,0.9s,mb4.8
ISCO Idaho Springs 44.07 323 *e*P P 15 15 31.8 +0.5
comp=Z,20nm,0.9s,mb4.8
PV01 Paradox Valley 44.91 319 *e*P P 15 15 38.3 +0.5
WUAZ Wupatki 45.41 315 *e*P P 15 15 42.0 +0.2
comp=Z,73nm,0.9s,mb5.3
RSSD Black Hills 46.09 329 *e*P P 15 15 46.8 -0.3
RSSD pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
RSSD Black Hills 46.09 329 *e*P P 15 15 46.8 -0.3
comp=Z,7.2nm,0.6s,mb4.5
SRU San Rafael 46.72 319 *e*P P 15 15 52.1 +0.1
SRU pmax pmax
comp=Z,30nm,0.9s,mb4.9
SRU San Rafael 46.72 319 *e*P P 15 15 52.0 0.0
comp=Z,30nm,0.9s,mb4.9
ULM Lac du Bonnet 47.40 340 P P 15 15 56.2 -1.1
comp=Z,19nm,0.4s,mb5.1,baz=140,slow=7.4,SNR=51
ULM LR LR 15 36 20.1
comp=Z,67nm,20.6s,baz=229,slow=36
MSU Marysvale 47.49 318 *e*P P 15 15 58.5 +0.5
CCUT Cedar City 47.81 316 *e*P P 15 16 00.7 +0.2
DAU Daniels Canyon 47.91 320 *e*P P 15 16 01.7 +0.5
MPU Maple Canyon 47.93 320 *e*P P 15 16 01.6 +0.2
comp=Z,11nm,0.6s,mb4.7
NEN Nelson 47.97 313 *e*P P 15 16 01.5 -0.1
ARUT Antelope Range 47.98 316 *e*P P 15 16 02.0 +0.3
SCHQ Schefferville 48.16 5 P P 15 16 04.0 +0.8
comp=Z,79nm,0.6s,mb5.5,baz=190,slow=6.2,SNR=102
SCHQ ScP ScP 15 21 07.6 +0.5
comp=Z,9.2nm,0.8s,baz=196,slow=3.5,SNR=9.6
SCHQ LR LR 15 34 19.4
comp=Z,57nm,18.2s,baz=276,slow=33
SCHQ Schefferville 48.16 5 *e*P P 15 16 03.4 +0.2
comp=Z,108nm,0.7s,mb5.6
PDAR Pinedale Array 48.24 324 P P 15 16 03.4 -0.4
comp=Z,8.8nm,0.5s,mb4.7,baz=128,slow=9.1,SNR=85
PDAR ScP ScP 15 21 07.2 -0.2
comp=Z,1.0nm,0.8s,baz=120,slow=5.4,SNR=4.9
CTU Camp Tracy 48.38 320 *e*P P 15 16 04.9 0.0
comp=Z,11nm,0.8s,mb4.5
TCUT Toone Canyon 48.40 321 *e*P P 15 16 05.0 0.0
HWUT Hardware Ranch 48.77 321 *e*P P 15 16 07.2 -0.6
comp=Z,17nm,0.6s,mb4.9
DUG Dugway 48.79 319 *e*P P 15 16 08.1 +0.1
DUG pmax pmax
comp=Z,13nm,0.7s,mb4.7
DUG Dugway 48.79 319 *e*P P 15 16 08.1 +0.1
comp=Z,13nm,0.7s,mb4.7
SPUT South Promonto 49.16 321 *e*P P 15 16 10.3 -0.5
REDW Red Top Meadow 49.36 324 *e*P P 15 16 12.1 -0.2
comp=Z,49nm,0.8s,mb5.2
TPAW Teton Pass 49.49 324 *e*P P 15 16 13.2 -0.2
comp=Z,20nm,0.6s,mb4.9
MOOW Moose Ponds 49.53 324 *e*P P 15 16 13.3 -0.2
comp=Z,16nm,0.8s,mb4.7
HVU Hansel Valley 49.62 321 *e*P P 15 16 13.4 -0.9
HVU pmax pmax
comp=Z,11nm,0.6s,mb4.7
HVU Hansel Valley 49.62 321 *e*P P 15 16 13.4 -0.9
comp=Z,11nm,0.6s,mb4.7
FLWY Flagg Ranch 49.70 325 *e*P P 15 16 15.1 +0.2
comp=Z,6.5nm,0.7s,mb4.4
IMW Indian Meadow 49.73 324 *e*P P 15 16 15.0 -0.1
comp=Z,22nm,0.6s,mb5.0
YMR Madison River 50.21 325 *e*P P 15 16 19.7 +1.0
comp=Z,8.5nm,0.4s,mb4.7
QLMT Earthquake Lak 50.57 325 *e*P P 15 16 22.5 +1.1
MCMT McKenzie Canyo 51.38 324 *e*P P 15 16 28.1 +0.6
DLMT Dillon 51.55 325 *e*P P 15 16 28.8 +0.1
comp=Z,7.3nm,0.8s,mb4.4
MNV Mina 51.57 315 *e*P P 15 16 28.9 +0.1
MNV pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
MNV Mina 51.57 315 *e*P P 15 16 28.9 0.0
comp=Z,5.6nm,0.8s,mb4.2
HLID Hailey 51.61 322 *e*P P 15 16 29.1 -0.1
comp=Z,11nm,0.6s,mb4.7
NVAR Mina Array Bea 51.67 315 P P 15 16 29.9 +0.2
comp=Z,7.2nm,0.7s,mb4.4,baz=117,slow=8.0,SNR=60
NVAR PcP PcP 15 17 41.9 +1.0
comp=Z,1.9nm,0.5s,baz=136,slow=4.6,SNR=4.7
BMN Battle Mountai 51.83 317 *e*P P 15 16 30.4 -0.4
BMN pmax pmax
comp=Z,22nm,1.0s,mb4.7
BMN Battle Mountai 51.83 317 *e*P P 15 16 30.4 -0.3
comp=Z,22nm,1.0s,mb4.7
HRY Holter Researc 51.93 327 *e*P P 15 16 31.4 -0.1
PAHR Pah Rah Range 52.98 316 *e*P P 15 16 39.2 -0.1
comp=Z,10nm,0.7s,mb4.7
FFC Flin Flon 53.20 339 *e*P P 15 16 39.6 -1.3
FFC pmax pmax
comp=Z,7.0nm,0.4s,mb4.7
FFC Flin Flon 53.20 339 *e*P P 15 16 39.5 -1.3
comp=Z,7.2nm,0.4s,mb4.8
WVOR Wild Horse Val 53.71 319 *e*P P 15 16 44.0 -0.6
WVOR pmax pmax
comp=Z,14nm,0.5s,mb5.0
WVOR Wild Horse Val 53.71 319 *e*P P 15 16 44.0 -0.6
comp=Z,14nm,0.5s,mb4.9
FCC Fort Churchill 54.36 347 *e*P P 15 16 48.3 -1.0
FCC pmax pmax
comp=Z,13nm,0.8s,mb4.7
FCC Fort Churchill 54.36 347 *e*P P 15 16 48.3 -1.0
comp=Z,13nm,0.8s,mb4.7
NEW Newport 55.75 326 *e*P P 15 16 58.5 -0.8
NEW pmax pmax
comp=Z,5.0nm,0.8s
NEW Newport 55.75 326 *e*P P 15 16 58.5 -0.8
comp=Z,5.2nm,0.8s,mb4.4
JBO Jordan Butte 55.91 322 P P 15 17 00.3 -0.1
BUOR Burton Butte 56.03 317 P P 15 17 01.1 -0.2
YBH Yreka Blue Hor 56.12 316 *e*P P 15 17 00.1 -1.8
YBH pmax pmax
comp=Z,9.0nm,0.5s
YBH Yreka Blue Hor 56.12 316 *e*P P 15 17 00.1 -1.8
comp=Z,8.7nm,0.5s,mb4.8
KHMM Horse Mountain 56.49 315 *e*P P 15 17 04.8 +0.3
HUOR Husband 56.56 319 P P 15 17 05.9 +0.9
HUMO Hull Mountain 56.65 317 *e*P P 15 17 03.8 -1.8
comp=Z,4.2nm,0.7s,mb4.4
HBO Huckleberry Mo 56.75 319 P P 15 17 06.1 -0.2
BROR Big Rock Looko 57.02 319 P P 15 17 07.7 -0.5
KEBM Edson Butte 57.69 317 *e*P P 15 17 13.3 +0.4
HDW Hoodsport 58.90 323 P P 15 17 20.7 -0.6
YKA Yellowknife Ar 63.38 340 P P 15 17 50.7 -0.7
comp=Z,11nm,0.5s,mb4.9,baz=133,slow=6.5,SNR=398
YKA Yellowknife Ar 63.38 340 P P 15 17 50.7 -0.8
YKW3 Yellowknife Ar 63.43 340 *e*P P 15 17 51.0 -0.7
DLBC Dease Lake 67.47 331 *e*P P 15 18 18.0 +0.3
DBIC Dimbokro 67.51 86 P P 15 18 18.9 +0.9
comp=Z,14nm,0.6s,mb4.8,baz=262,slow=5.6,SNR=33
DBIC pP pP 15 18 59.3 +2.5
comp=Z,8.9nm,0.7s,baz=289,slow=5.5,SNR=4.2
SUMG Summit 68.98 11 *e*P P 15 18 27.6 +0.4
comp=Z,82nm,0.7s,mb5.6
GRR Gorron 73.04 42 *e*P P 15 18 50.8 -0.8
comp=Z,4.6nm,0.3s,mb4.4
GRR Gorron 73.04 42 *e*P P 15 18 50.8 -0.8
GRR pmax pmax
comp=Z,2.0nm,0.3s,mb4.3
GRR Gorron 73.04 42 *e*P P 15 18 50.8 -0.8
comp=Z,2.3nm,0.3s,mb4.4
INK Inuvik 73.14 340 *e*P P 15 18 51.8 -0.4
INK pmax pmax
comp=Z,5.0nm,0.6s
INK Inuvik 73.14 340 *e*P P 15 18 51.8 -0.4
comp=Z,5.5nm,0.6s,mb4.5
EPF Esparros 73.15 47 *e*P P 15 18 51.9 -0.3
MFF Saint Martin d 73.26 43 *e*P P 15 18 52.2 -0.6
comp=Z,8.3nm,0.6s,mb4.4
MFF Saint Martin d 73.26 43 *e*P P 15 18 52.2 -0.6
MFF pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
MFF Saint Martin d 73.26 43 *e*P P 15 18 52.2 -0.6
comp=Z,4.2nm,0.6s,mb4.3
FLN La Foliniere 73.35 41 *e*P P 15 18 52.8 -0.6
comp=Z,3.5nm,0.3s,mb4.3
FLN La Foliniere 73.35 41 *e*P P 15 18 52.8 -0.6
FLN pmax pmax
comp=Z,2.0nm,0.3s,mb4.3
FLN La Foliniere 73.35 41 *e*P P 15 18 52.8 -0.6
comp=Z,1.8nm,0.3s,mb4.3
TORD Torodi Ar. Bea 73.52 78 P P 15 18 54.1 -0.3
comp=Z,1.5nm,0.4s,mb4.1,baz=286,slow=6.5,SNR=68
TORD pP pP 15 19 35.8 +2.0
comp=Z,1.4nm,0.5s,baz=284,slow=5.2,SNR=4.4
LDF La Druitiere 73.56 41 *e*P P 15 18 53.9 -0.7
comp=Z,3.6nm,0.5s,mb4.1
LDF La Druitiere 73.56 41 *e*P P 15 18 53.9 -0.7
LDF pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
LDF La Druitiere 73.56 41 *e*P P 15 18 53.9 -0.7
comp=Z,1.8nm,0.5s,mb4.1
CAF Calviac 74.59 45 *e*P P 15 18 59.9 -0.7
comp=Z,2.4nm,0.3s,mb4.0
CAF Calviac 74.59 45 *e*P P 15 18 59.9 -0.7
CAF pmax pmax
comp=Z,1.0nm,0.3s,mb3.9
CAF Calviac 74.59 45 *e*P P 15 18 59.9 -0.7
comp=Z,1.2nm,0.3s,mb4.0
TCF Toulx Ste Croi 74.84 44 *e*P P 15 19 01.6 -0.4
DAG Danmarks Havn 75.65 11⇓*i*P P 15 19 05.9 -0.7
comp=Z,13nm,0.7s,mb4.7
DAG Danmarks Havn 75.65 11⇓*e*P P 15 19 05.9 -0.7
DAG pmax pmax
comp=Z,13nm,0.7s,mb4.7
DAG Danmarks Havn 75.65 11⇓*e*P P 15 19 05.9 -0.7
comp=Z,13nm,0.7s,mb4.7
ILAR Eielson Array 77.09 335 P P 15 19 14.1 -0.7
comp=Z,1.2nm,0.4s,mb3.9,baz=110,slow=4.3,SNR=26
ILAR pP pP 15 19 54.5 0.0
comp=Z,1.9nm,0.6s,baz=104,slow=4.5,SNR=4.6
SLKM Skilak Lake 77.89 330 *e*P P 15 19 19.0 -0.2
SVW2 Sparrevohn 80.57 331 *e*P P 15 19 32.5 -1.2
TTA Tatalina 80.87 333 P P 15 19 34.6 -0.7
NB2 NORSAR Subarra 81.25 29 P P 15 19 37.4 +0.1
comp=Z,0.8nm,0.6s,baz=268,slow=5.3
NOA NORSAR Array B 81.25 29 P P 15 19 37.2 -0.1
comp=Z,5.4nm,0.6s,mb4.3,baz=268,slow=5.3,SNR=22
CLL Collm 82.19 39 *i*P P 15 19 42.8 +0.6
comp=Z,4.0nm,1.0s,mb4.0
CLL Collm 82.19 39 *i*P P 15 19 42.8 +0.6
CLL pmax pmax
comp=Z,14nm,1.0s,mb4.5
GERES GERESS Array B 82.70 42 P P 15 19 44.3 -0.5
comp=Z,2.2nm,0.7s,mb4.0,baz=252,slow=3.9,SNR=18
ARCES ARCESS Array B 86.63 20 P P 15 20 03.8 -0.7
comp=Z,5.9nm,0.7s,mb4.5,baz=275,slow=4.2,SNR=17
VNA3 Neumayer Olymp 88.07 163 *e*P P 15 20 10.2 -1.2
VNA3 *e* 15 20 11.1
VNA3 *e* 15 20 13.0
VNA1 Neumayer--Stat 88.21 162 *e*P P 15 20 12.0 -0.1
VNA1 *e* 15 20 12.7
VNA1 *e* 15 20 14.2
FINES FINESS Array B 88.37 28 P P 15 20 13.2 +0.3
comp=Z,1.5nm,0.6s,mb4.0,baz=292,slow=4.5,SNR=7.0
VNA2 Neumayer--Watz 88.59 163 *e*P P 15 20 12.7 -1.2
baz=293,slow=5.8
VNA2 *e* 15 20 13.8
VNA2 *e* 15 20 15.5
AKASG Malin Array Be 92.41 38 P P 15 20 32.8 +1.1
comp=Z,0.1nm,0.3s,baz=340,slow=7.9,SNR=2.9
ZAL Zalesovo 116.66 15 PKP PKPdf 15 26 03.8 -0.4
comp=Z,3.7nm,0.3s,baz=175,slow=1.8,SNR=14
MDJ Mudanjiang 124.98 341 PKP PKPdf 15 26 20.2 0.0
SONM Songino Array 125.62 1 PKP PKPdf 15 26 22.1 +0.6
comp=Z,1.5nm,0.6s,baz=314,slow=0.8,SNR=12
WMQ Urumqi 126.66 17 PKP PKPdf 15 26 23.7 +0.3
WMQ *e*PP PP 15 28 27.5 +5.6
WMQ PP PP
comp=Z,78nm,8.0s
WMQ LR LR
comp=N,40nm,19.0s
WMQ LR LR
comp=E,32nm,15.1s
WMQ LR LR
comp=Z,47nm,16.7s
CN2 Changchun 126.99 343 *e*PKP PKPdf 15 26 19.0 -5.0
SNY Shenyang 129.33 344 *e*PKP PKPdf 15 26 30.7 +2.2
HHC Hu-ho-hao-te 132.43 355 *e*PKP PKPdf 15 26 36.2 +1.8
HHC XPKP 15 27 35.7
HHC PP PP 15 29 05.5 +6.1
HHC PKS 15 30 11.2
HHC SKS SKSdf 15 33 29.7 -0.7
HHC SKKS SKKSac 15 35 37.7 -1.6
HHC PP PP
comp=Z,62nm,9.7s
HHC LR LR
comp=N,150nm,17.5s
HHC LR LR
comp=E,132nm,17.1s
HHC LR LR
comp=Z,174nm,19.2s
LZH Lanzhou 137.25 4 *e*PKP PKPdf 15 26 41.3 -2.1
LZH PP PP 15 29 32.0 +2.2
LZH SKKS SKKSac 15 36 03.0 -5.3
LZH *e*SS SS 15 47 20.0 -3.1
NJ2 Nanjing 139.79 344 *e*PKP PKPdf 15 26 49.5 +1.5
NJ2 XPKP 15 27 49.3
NJ2 PP PP 15 29 52.0 +6.5
NJ2 PKS 15 30 25.0
NJ2 PPP 15 32 57.0
NJ2 PP PP
comp=Z,50nm,8.7s
NJ2 LR LR
comp=N,790nm,35.6s
NJ2 LR LR
comp=E,490nm,38.0s
NJ2 LR LR
comp=Z,360nm,30.0s
SSE Sheshan 140.00 341 PKP PKPdf 15 26 42.3 -6.1
CD2 Chengdu 142.39 5 *e*PKP PKPdf 15 26 50.0 -2.7
CD2 PP PP 15 30 02.7 +1.4
CD2 PKS 15 30 24.3
CD2 SKS SKSdf 15 33 41.9 -5.3
CD2 SKKS SKKSac 15 36 35.2 -3.2
CD2 SS SS 15 48 21.6 -1.5
CD2 PP PP
comp=Z,60nm,8.5s
GYA Guiyang 146.96 1 PKP PKPdf 15 27 02.0 +1.4
GYA APKP 15 27 44.6
GYA XPKP 15 28 01.4
GYA PP PP 15 30 33.2 +4.7
GYA PP PP
comp=Z,110nm,8.4s
ASAR Alice Springs 149.27 234 PKP PKPdf 15 27 04.8 +0.5
comp=Z,8.2nm,0.5s,baz=109,slow=1.4,SNR=63
ASAR PKPbc PKPbc 15 27 08.7 -0.2
comp=Z,9.0nm,0.5s,baz=122,slow=3.4,SNR=188
WB2 Warramunga Arr 150.51 241⇓*i*P PKPdf 15 27 11.8 +5.5
WRAB Tennant Creek 150.51 241 *e*PKIKP PKPdf 15 27 11.6 +5.3
WRA Warramunga Arr 150.52 241 PKP PKPdf 15 27 07.4 +1.0
comp=Z,11nm,0.4s,baz=108,slow=2.5,SNR=10
WRA PKPbc PKPbc 15 27 11.8 -0.1
comp=Z,11nm,0.4s,baz=107,slow=2.6,SNR=75

*ISCJB **08** 15:10:12.6±0.6, 3937N±003×2091E±004, h10km, Error ellipse: s-maj=4.5km s-min=4.5km az=52.4*
*CSEM **08** 15:10:12.8±0.3, 3938N×2086E, h15km, MD3.0, Error ellipse: s-maj=5.9km s-min=5.5km az=6.0*
*ATH **08** 15:10:13.0, 3932N×2079E, h15km, MD3.0/3*
*THE **08** 15:10:13.3, 3937N×2090E, h10km*
ISC 08 15:10:13.1±0.6, 3935N±003×2089E±004, h10km, n9, σ1§28/15, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JAN	**Janina**	**0.30**	**354**	*e*PB	**Pg**	**Pg**	**15 10 19.4**	**+0.2**
JAN				*e*SB	**Sg**	**Sg**	**15 10 25.0**	**+1.7**
IGT	**Igoumenitsa**	**0.47**	**293**	*e*Pg	**Pg**	**Pg**	**15 10 21.5**	**-0.7**
IGT				*e*Sg	**Sg**	**Sg**	**15 10 29.7**	**+1.3**
LKD	**Levkas**	**0.67**	**196**	*e*Pg	**Pg**	**Pg**	**15 10 25.9**	**-0.3**
LKD				*e*Sg	**Sg**	**Sg**	**15 10 36.9**	**+1.9**
EVR	**Evrytania**	**0.84**	**121**	*e*PN	**Pn**	**Pn**	**15 10 30.0**	**-1.0**
KEK	**Kerkira**	**0.92**	**293**	*e*PN	**Pn**	**Pn**	**15 10 29.6**	**-2.5**
AGG	**Agios Georgios**	**1.17**	**106**	*e*Pg	**Pg**	**Pg**	**15 10 34.7**	**-0.9**
AGG				*e*Sg	**Sg**	**Sg**	**15 10 52.8**	**+2.0**
LIT	**Litokhoron**	**1.44**	**58**	*e*Pg	**Pg**	**Pg**	**15 10 40.1**	**-0.7**
LIT				*e*Sg	**Sg**	**Sg**	**15 11 00.5**	**+0.9**
FNA	**Florina**	**1.48**	**15**	*e*Pg	**Pg**	**Pg**	**15 10 39.6**	**-1.9**
FNA				*e*Sg	**Sg**	**Sg**	**15 11 01.3**	**+0.6**
XOR	**Xorichti**	**1.79**	**89**	*e*Pb	**Pb**	**Pb**	**15 10 45.1**	**-0.9**

*CSEM **08** 15:18:09.9±0.1, 4499N×9.17E, h10km, ML2.7/7, Error ellipse: s-maj=1.6km s-min=1.2km az=22.0*
*GEN **08** 15:18:10.9, 4500N×9.16E, h0km, ML2.0*
*ISCJB **08** 15:18:10.6±0.3, 4497N±002×9.10E±002, h10km, Error ellipse: s-maj=2.6km s-min=2.2km az=61.6*
*LDG **08** 15:18:11.6±0.2, 4499N×9.13E, h5km, Ml2.6/12, Error ellipse: s-maj=4.0km s-min=1.9km az=95.0*
*ROM **08** 15:18:12.1±0.2, 4493N×9.16E, h10km, Md2.5/5, Ml2.4/3, Error ellipse: s-maj=3.3km s-min=2.5km az=72.0*
*NEIC **08** 15:18:12.1, 4493N×9.16E, h10km, ML2.4(ROM), ML2.6(LDG), After ROM.*
ISC 08 15:18:10.9±0.3, 4496N±002×910E±002, h10km, n53, σ0§91/92, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BOB	**Bobbio (Coli)**	**0.31**	**128**	Pg	**Pg**	**Pg**	**15 18 17.3**	**+0.2**
BOB				Sg	**Sg**	**Sg**	**15 18 23.0**	**+1.7**
	711nm,0.3s							
GENL	**Genova Univers**	**0.56**	**190**	P	**Pg**	**Pg**	**15 18 22.9**	**+1.1**
PCP	**Pian Castagno**	**0.58**	**224**	P	**Pg**	**Pg**	**15 18 23.2**	**+1.1**
PCP				S	**Sg**	**Sg**	**15 18 31.6**	**+2.0**
SC2M	**Scurtabr**	**0.64**	**151**	P	**Pg**	**Pg**	**15 18 23.4**	**+0.2**
SC2M				S	**Sg**	**Sg**	**15 18 32.0**	**+0.5**
CODM		**0.78**	**137**	P	**Pg**	**Pg**	**15 18 25.8**	**-0.1**
CODM				S	**Sg**	**Sg**	**15 18 35.8**	**-0.3**
GRAM		**0.83**	**124**	P	**Pg**	**Pg**	**15 18 26.5**	**-0.4**
GRAM				S	**Sg**	**Sg**	**15 18 37.1**	**-0.7**
MDI	**Monti di Nese**	**0.92**	**28**	Pg	**Pg**	**Pg**	**15 18 30.1**	**+1.4**
MDI				Sg	**Sg**	**Sg**	**15 18 43.1**	**+2.4**
	52nm,0.3s							
MUGIO	**Muggio**	**0.96**	**358**	Pg	**Pg**	**Pg**	**15 18 30.4**	**+1.0**
MUGIO				Sg	**Sg**	**Sg**	**15 18 43.9**	**+2.0**
BACM		**0.97**	**134**	P	**Pg**	**Pg**	**15 18 29.2**	**-0.4**
BACM				S	**Sg**	**Sg**	**15 18 41.4**	**-0.9**
FIN	**Finale Ligure**	**0.98**	**221**	Pg	**Pg**	**Pg**	**15 18 31.0**	**+1.2**
FIN				Sg	**Sg**	**Sg**	**15 18 44.2**	**+1.5**
	14nm,0.2s							
FIN	**Finale Ligure**	**0.98**	**221**	P	**Pg**	**Pg**	**15 18 30.4**	**+0.6**
FIN	**Finale Ligure**	**0.98**	**221**	Pg	**Pg**	**Pg**	**15 18 31.0**	**+1.2**
FIN				S	**Sg**	**Sg**	**15 18 44.0**	**+1.3**
FIN				Sg	**Sg**	**Sg**	**15 18 44.2**	**+1.5**
	14nm,0.2s							
VALM		**1.02**	**126**	P	**Pg**	**Pg**	**15 18 29.8**	**-0.7**
ORX	**Oropa**	**1.04**	**311**	P	**Pg**	**Pg**	**15 18 30.5**	**-0.3**
ROB	**Roburent**	**1.10**	**233**	P	**Pb**	**Pb**	**15 18 32.6**	**+0.6**
ROB				S	**Sg**	**Sg**	**15 18 47.0**	**+0.6**
TRAV		**1.10**	**300**	P	**Pb**	**Pb**	**15 18 31.9**	**-0.2**
VINC	**Vinca**	**1.11**	**137**	P	**Pb**	**Pb**	**15 18 31.6**	**-0.6**
VINC				S	**Sg**	**Sg**	**15 18 45.8**	**-0.9**
RORO		**1.13**	**221**	P	**Pb**	**Pb**	**15 18 32.4**	**0.0**
RORO				S	**Sb**	**Sb**	**15 18 47.1**	**0.0**
SARO	**Sassorosso**	**1.21**	**129**	P	**Pn**	**Pn**	**15 18 33.3**	**-0.5**
SARO				S	**Sb**	**Sb**	**15 18 48.5**	**-1.1**
MONE	**Monesi**	**1.30**	**228**	P	**Pn**	**Pn**	**15 18 35.4**	**+0.3**
MONE				S	**Sb**	**Sb**	**15 18 52.4**	**+0.1**
RSP	**Reno Superiore**	**1.32**	**279**	P	**Pn**	**Pn**	**15 18 35.2**	**-0.2**
DOI	**San Damiano**	**1.40**	**252**	Pg	**Pg**	**Pg**	**15 18 37.9**	**+0.2**
	43nm,0.3s							
ENR	**Entracque**	**1.41**	**239**	P	**Pn**	**Pn**	**15 18 37.0**	**+0.5**
ENR				S	**Sn**	**Sn**	**15 18 55.0**	**-0.1**
FENE	**Fenestrelle**	**1.45**	**273**	P	**Pn**	**Pn**	**15 18 37.6**	**+0.5**
STV	**Sta Anna Valdi**	**1.46**	**241**	P	**Pn**	**Pn**	**15 18 37.5**	**+0.3**
PZZ	**Prazzo**	**1.50**	**253**	P	**Pn**	**Pn**	**15 18 37.6**	**-0.2**
NEGI	**Negi**	**1.50**	**222**	P	**Pn**	**Pn**	**15 18 37.6**	**-0.2**
SBF	**Sospel**	**1.62**	**228**	*e*Pn	**Pn**	**Pn**	**15 18 39.7**	**+0.2**
SBF				*e*Sn	**Sn**	**Sn**	**15 19 00.5**	**+0.1**
	36nm,0.3s							
SBF	**Sospel**	**1.62**	**228**	*e*Pn	**Pn**	**Pn**	**15 18 39.7**	**+0.2**
SBF				*e*Sn	**Sn**	**Sn**	**15 19 00.5**	**+0.1**
	18nm,0.3s							
RRL	**Cesana Torines**	**1.65**	**269**	P	**Pn**	**Pn**	**15 18 42.3**	**+2.5**
MBDF	**Montbardon**	**1.67**	**263**	*e*Pn	**Pn**	**Pn**	**15 18 40.2**	**0.0**
MBDF				*e*Sn	**Sn**	**Sn**	**15 19 01.2**	**-0.5**
	4.5nm,0.3s							
MBDF	**Montbardon**	**1.67**	**263**	*e*Pn	**Pn**	**Pn**	**15 18 40.2**	**0.0**
MBDF				*e*Sn	**Sn**	**Sn**	**15 19 01.2**	**-0.5**
	2.2nm,0.3s							
LPG	**La Plagne**	**1.75**	**289**	*e*Pn	**Pn**	**Pn**	**15 18 41.1**	**-0.1**
LPG				*e*Sn	**Sn**	**Sn**	**15 19 02.5**	**-1.0**
	12nm,0.5s							
LPL	**La Plagne**	**1.76**	**289**	*e*Pn	**Pn**	**Pn**	**15 18 41.3**	**-0.1**
LPL				*e*Sn	**Sn**	**Sn**	**15 19 03.2**	**-0.7**
	4.9nm,0.3s							
FRF	**La Foret Royal**	**2.25**	**232**	*e*Pn	**Pn**	**Pn**	**15 18 48.8**	**+0.6**
FRF				*e*Sn	**Sn**	**Sn**	**15 19 15.4**	**-0.6**
	10nm,0.4s							
FRF	**La Foret Royal**	**2.25**	**232**	*e*Pn	**Pn**	**Pn**	**15 18 48.8**	**+0.6**
FRF				*e*Sn	**Sn**	**Sn**	**15 19 15.4**	**-0.6**
	5.1nm,0.4s							
ORIF	**Oris-en-Rattie**	**2.29**	**270**	*e*Pn	**Pn**	**Pn**	**15 18 48.3**	**-0.4**
ORIF				*e*Sn	**Sn**	**Sn**	**15 19 16.1**	**-0.8**
	4.2nm,0.4s							
ORIF	**Oris-en-Rattie**	**2.29**	**270**	*e*Pn	**Pn**	**Pn**	**15 18 48.3**	**-0.4**
ORIF				*e*Sn	**Sn**	**Sn**	**15 19 16.1**	**-0.8**
	2.1nm,0.4s							
PGF	**Pioggiola**	**2.41**	**182**	*e*Pn	**Pn**	**Pn**	**15 18 49.8**	**-0.6**
PGF				*e*Sn	**Sn**	**Sn**	**15 19 18.9**	**-1.1**
	4.0nm,0.2s							
PGF	**Pioggiola**	**2.41**	**182**	*e*Pn	**Pn**	**Pn**	**15 18 49.8**	**-0.6**
PGF				*e*Sn	**Sn**	**Sn**	**15 19 18.9**	**-1.1**
	2.0nm,0.2s							
LMR	**La Mourre**	**2.48**	**230**	*e*Pn	**Pn**	**Pn**	**15 18 51.3**	**+0.1**
LMR				*e*Sn	**Sn**	**Sn**	**15 19 20.9**	**-0.6**
	3.9nm,0.3s							
LMR	**La Mourre**	**2.48**	**230**	*e*Pn	**Pn**	**Pn**	**15 18 51.3**	**+0.1**
LMR				*e*Sn	**Sn**	**Sn**	**15 19 20.9**	**-0.6**
	2.0nm,0.3s							
CABF	**La Chapelle**	**2.68**	**309**	*e*Pn	**Pn**	**Pn**	**15 18 53.4**	**-0.6**
SMRF	**Simiane la Rot**	**2.71**	**250**	*e*Pn	**Pn**	**Pn**	**15 18 54.7**	**+0.2**
SMRF				*e*Sn	**Sn**	**Sn**	**15 19 26.3**	**-1.0**
	4.9nm,0.6s							
SMRF	**Simiane la Rot**	**2.71**	**250**	*e*Pn	**Pn**	**Pn**	**15 18 54.7**	**+0.2**
SMRF				*e*Sn	**Sn**	**Sn**	**15 19 26.3**	**-1.0**
	2.5nm,0.6s							
HINF	**Hinteralfeld**	**3.25**	**332**	*e*Pn	**Pn**	**Pn**	**15 19 01.5**	**-0.4**
HINF				*e*Sn	**Sn**	**Sn**	**15 19 38.7**	**-2.0**
	3.4nm,0.3s							
HINF	**Hinteralfeld**	**3.25**	**332**	*e*Pn	**Pn**	**Pn**	**15 19 01.5**	**-0.4**
HINF				*e*Sn	**Sn**	**Sn**	**15 19 38.7**	**-2.0**
	1.7nm,0.3s							
HAU	**Haudompre**	**3.59**	**329**	*e*P	**Pn**	**Pn**	**15 19 08.7**	**+2.1**
HAU				*e*Sn	**Sn**	**Sn**	**15 19 46.9**	**-2.1**
	11nm,0.3s							
HAU	**Haudompre**	**3.59**	**329**	*e*P	**Pn**	**Pn**	**15 19 08.7**	**+2.1**
HAU				*e*Sn	**Sn**	**Sn**	**15

CDF	**Champ du Feu**	**3.67**	**341**	*e*Pn	**Pn**	**15 19 07.9 +0.2**
LOR	**Lormes**	**4.31**	**304**	*e*Pn	**Pn**	**15 19 15.9 -0.6**
LOR				*e*Sn	**Sn**	**15 20 04.1 -2.8**
	2.3nm,0.3s					
LOR	**Lormes**	**4.31**	**304**	*e*Pn	**Pn**	**15 19 15.9 -0.6**
LOR				*e*Sn	**Sn**	**15 20 04.1 -2.8**
	1.1nm,0.3s					
BGF	**Bois d'Agland**	**4.66**	**292**	*e*Pn	**Pn**	**15 19 20.9 -0.4**

NEIC ***08*** *15:24:01.6,27.18S×71.21W,h18km,ML3.6(GUC),After GUC.*

GUC 08 15:24:01.6±0.5,27.18S×71.21W,h18km±4km,MD3.6, ML3.6,1C-1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.35**	**73**	⇓*i*P	Pg	15 24 09.1	0.0
CDCH				*i* S	Sg	15 24 14.5	+0.4
CRCH	**Chaqaral**	**0.98**	**32**	⇑*i*P	Pb	15 24 18.7	-1.4
CRCH				*i* S	Sb	15 24 32.2	-0.4
LCO	**Las Campanas**	**1.88**	**166**	*e*P	Pn	15 24 34.0	+1.2
LCO				*i* S	Sn	15 24 58.3	+2.2
CPN1	**Cerro Paranal**	**2.64**	**16**	*e*P	Pn	15 24 41.3	-2.0
CPN1				*i* S	Sn	15 25 10.9	-4.0
CPN1				AML	AML	15 25 27.3	
	comp=N,214nm,0.5s						
TLL	**Tololo Astrono**	**3.00**	**173**	*e*P	Pn	15 24 49.8	+1.6
TLL				*i* S	Sn	15 25 26.6	+3.0
TLL				AML	AML	15 25 42.8	
	comp=N,221nm,0.6s						
TLL	**Tololo Astrono**	**3.00**	**173**	*e*P	Pn	15 24 49.8	+1.6
TLL				*i* S	Sn	15 25 26.6	+3.0

NIED ***08*** *16:03:00,20.10N×122.30E,h53km,Mw4.2 Best double couple: M0 2.34000×10^15 NP1:φs198.00000°,δ74.00000°, λ94.00000°. NP2:φs4.00000°,δ17.00000°,λ76.00000°.*

IDC ***08*** *16:03:39.0±0.9,2003N×121.29E,h0km,mb4.0/6, mb1 4.2/7,mb1mx3.9/21,mbtmp4.0/7,ML3.9/1,MS3.4/3, Ms1 3.4/3,ms1mx2.7/38,Error ellipse: s-maj=44.8km s-min=18.5km az=73.0*

NEIC ***08*** *16:03:40.1±6.8,2001N×121.30E,h7km±43km,mb4.4/3, Error ellipse: s-maj=23.8km s-min=8.7km az=65.0*

ISCJB ***08*** *16:03:43.5±0.8,2018N±004×121.45E±007,h45km±10km, mb4.0/9,MS3.3/3,Error ellipse: s-maj=11.2km s-min=6.4km az=10.3*

BJI ***08*** *16:03:45.4,2054N×121.04E,h15km,mB4.5,mb4.3,ML3.1, Ms3.7,Msz3.6*

ISC 08 16:03:45.1±0.7,2015N±004×12136E±008,h41km±10km, n21,σ1§18/23,mb4.0/9,MS3.3/3,2D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**1.95**	**201**	⇓*i*P	**Pn**	**16 04 14.3**	**-1.5**
PIP				*e*S	**Sn**	**16 04 37.2**	**-1.8**
CVP	**Callao Caves**	**2.48**	**170**	⇓*i*P	**Pn**	**16 04 24.0**	**+1.0**
CVP				*i* S	**Sn**	**16 04 54.0**	**+2.1**
NACB	**Ninganchiao**	**4.01**	**3**	*e*P	**Pn**	**16 04 43.9**	**-0.1**
YHNB	**Yeheng**	**4.50**	**0**	*e*P	**Pn**	**16 04 50.3**	**-0.4**
POLP	**Polilio Island**	**5.42**	**174**	*e*P	**Pn**	**16 05 06.1**	**+2.6**
JOW	**Kunigami**	**9.19**	**42**	Pn	**Pn**	**16 05 55.2**	**+0.1**
	2.8nm,0.3s,baz=200,slow=13,SNR=14						
JOW				Sn	**Sn**	**16 07 35.6**	**-1.5**
	0.7nm,0.3s,baz=279,slow=19,SNR=2.8						
CD2	**Chengdu**	**19.13**	**308**	*e*P	**Pn**	**16 08 04.7**	**-1.1**
CD2				PP		16 08 21.8	
CD2				S	**S**	**16 11 35.2**	**-4.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2				LR	LR		
	comp=E,60nm,8.2s						
CD2				LR	LR		
	comp=Z,70nm,7.2s						
BJT	**Baijiatuau**	**20.29**	**348**	*e*P	**P**	**16 08 18.2**	**+0.8**
	comp=Z,11nm,0.6s						
BJI	**Beijing**	**20.31**	**348**	*e*P	**P**	**16 08 18.1**	**+0.5**
BJI				AMB	AMB		
	comp=Z,14nm,1.1s						
LZH	**Lanzhou**	**22.09**	**320**	*e*P	**P**	**16 08 38.6**	**+1.9**
LZH				AMB	AMB		
	comp=Z,29nm,1.4s,mb4.5						
LZH				AMB	AMB		
	comp=Z,120nm,4.5s						
GUMO	**Guam**	**23.41**	**103**	LR	LR	16 15 19.0	
	comp=Z,81nm,20.8s,MS3.2,baz=277,slow=30						
SONM	**Songino Array**	**30.16**	**340**	P	**P**	**16 09 52.1**	**+0.9**
	comp=Z,0.5nm,0.6s,mb3.4,baz=157,slow=8.0,SNR=4.4						
SONM				LR	LR	16 23 16.7	
	comp=Z,66nm,20.8s,MS3.3,baz=262,slow=39						
PMG	**Port Moresby**	**38.83**	**137**	LR	LR	16 25 39.7	
	comp=Z,52nm,19.3s,MS3.4,baz=156,slow=34						
WRAB	**Tennant Creek**	**41.82**	**162**	*e*P	**P**	**16 11 29.4**	**-1.4**
	comp=Z,6.2nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**41.83**	**162**	P	**P**	**16 11 29.5**	**-1.4**
	comp=Z,4.1nm,0.6s,mb4.2,baz=343,slow=9.0,SNR=31						
ZAL	**Zalesovo**	**43.75**	**329**	P	**P**	**16 11 46.2**	**-0.3**
	comp=Z,1.0nm,0.6s,mb3.7,baz=339,slow=9.7,SNR=7.4						
ZAL	**Zalesovo**	**43.75**	**329**	P	**P**	**16 11 46.2**	**-0.3**
ASAR	**Alice Springs**	**45.24**	**164**	P	**P**	**16 11 58.0**	**-0.4**
	comp=Z,3.0nm,0.6s,mb4.3,baz=345,slow=6.8,SNR=83						
BVAR	**Borovoye Array**	**50.93**	**323**	P	**P**	**16 12 42.4**	**+0.1**
	comp=Z,0.8nm,0.7s,mb3.8,baz=103,slow=12,SNR=3.9						
ZRNK	**Zerenda**	**51.69**	**322**	*e*P	**P**	**16 12 48.7**	**+0.7**
	comp=Z,3.0nm,1.0s,mb4.2						
YKA	**Yellowknife Ar**	**86.61**	**23**	P	**P**	**16 16 24.5**	**+0.4**
	comp=Z,0.5nm,0.8s,mb3.8,baz=312,slow=4.6,SNR=9.8						

ISCJB ***08*** *16:07:32.8±0.2,45.15N±001×578E±002,h10km,Error ellipse: s-maj=1.9km s-min=1.6km az=55.3*

STR ***08*** *16:07:34.7±0.2,45.13N×586E,h5km±1km,Ml2.8,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG ***08*** *16:07:34.8±0.0,45.13N×585E,h2km,Md2.9/3,Ml2.8/27, Error ellipse: s-maj=0.9km s-min=0.8km az=108.0*

NEIC ***08*** *16:07:34.8,45.13N×585E,h2km,ML2.8(STR), ML2.8(LDG),After LDG.*

CSEM ***08*** *16:07:34.9±0.0,45.13N×589E,h8km,ML2.8/25,Error ellipse: s-maj=1.0km s-min=0.9km az=142.0*

GEN ***08*** *16:07:36.3,4506N×590E,h5km,ML2.0*

ISC 08 16:07:33.9±0.2,4514N±001×580E±002,h10km,n102, σ0§82/212,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRN	**Grenoble**	**0.11**	**339**	Pg	**Pg**	**16 07 37.5**	**+0.9**
GRN				Sg	**Sg**	**16 07 39.7**	**+1.2**
ORIF	**Oris-en-Rattie**	**0.23**	**166**	*e*Pg	**Pg**	**16 07 38.7**	**+0.2**
ORIF				*e*Sg	**Sg**	**16 07 41.5**	**-0.2**
	555nm,0.4s						
ORIF	**Oris-en-Rattie**	**0.23**	**166**	*e*Pg	**Pg**	**16 07 38.7**	**+0.2**
ORIF				*e*Sg	**Sg**	**16 07 41.5**	**-0.2**
	278nm,0.4s						
GDM	**Grand'Maison**	**0.23**	**74**	Pg	**Pg**	**16 07 38.9**	**+0.3**
GDM				Sg	**Sg**	**16 07 41.7**	**-0.1**
OCF	**Saint Nazaire**	**0.66**	**213**	Pg	**Pg**	**16 07 48.2**	**+1.5**
OG26	**St.-Nazaire-De**	**0.66**	**213**	Pg	**Pg**	**16 07 48.2**	**+1.5**
RRL	**Cesana Torines**	**0.73**	**107**	P	**Pg**	**16 07 48.8**	**+0.9**
RRL				S	**Sg**	**16 07 57.3**	**-0.2**
LPL	**La Plagne**	**0.76**	**60**	*e*Pg	**Pg**	**16 07 48.7**	**+0.2**
LPL				*e*Sg	**Sg**	**16 07 59.0**	**+0.7**
	24nm,0.2s						
LPL	**La Plagne**	**0.76**	**60**	*e*Pg	**Pg**	**16 07 48.7**	**+0.2**
LPL				*e*Sg	**Sg**	**16 07 59.0**	**+0.7**
	12nm,0.2s						
LPG	**La Plagne**	**0.76**	**61**	*e*Pg	**Pg**	**16 07 48.9**	**+0.4**
LPG				*e*Sg	**Sg**	**16 07 58.7**	**+0.3**
	52nm,0.3s						
LPG	**La Plagne**	**0.76**	**61**	*e*Pg	**Pg**	**16 07 48.9**	**+0.4**
LPG				*e*Sg	**Sg**	**16 07 58.7**	**+0.3**
	26nm,0.3s						
OG25	**Le Caire**	**0.79**	**166**	Pg	**Pg**	**16 07 49.1**	**0.0**
RSL	**Roselend**	**0.80**	**46**	Pg	**Pg**	**16 07 49.6**	**+0.3**
MBDF	**Montbardon**	**0.80**	**121**	*e*Pg	**Pg**	**16 07 49.6**	**+0.3**
MBDF				*e*Sg	**Sg**	**16 07 59.2**	**-0.6**
	44nm,0.4s						
MBDF	**Montbardon**	**0.80**	**121**	*e*Pg	**Pg**	**16 07 49.6**	**+0.3**
MBDF				*e*Sg	**Sg**	**16 07 59.2**	**-0.6**
	22nm,0.4s						
VIVF	**Saint-Julien-l**	**0.85**	**251**	*e*Pn	**Pn**	**16 07 52.6**	**+0.7**
VIVF				*e*Sg	**Sg**	**16 08 03.0**	**+1.7**
VIVF				*e*Sn	**Sn**	**16 08 05.0**	**+0.6**
	93nm,0.3s						
VIVF	**Saint-Julien-l**	**0.85**	**251**	*e*Pg	**Pg**	**16 07 51.5**	**+1.3**
VIVF				*e*Pn	**Pn**	**16 07 52.6**	**+0.7**
VIVF				*e*Sg	**Sg**	**16 08 03.0**	**+1.7**
VIVF				*e*Sn	**Sn**	**16 08 05.0**	**+0.6**
VIVF	**Saint-Julien-l**	**0.85**	**251**	*e*Pn	**Pn**	**16 07 52.6**	**+0.7**
VIVF				*e*Sg	**Sg**	**16 08 03.0**	**+1.7**
VIVF				*e*Sn	**Sn**	**16 08 05.0**	**+0.6**
	46nm,0.3s						
FENE	**Fenestrelle**	**0.90**	**97**	P	**Pg**	**16 07 51.2**	**0.0**
OG05	**Jujurieux**	**0.93**	**345**	Pg	**Pg**	**16 07 53.0**	**+1.2**
OG05				Sg	**Sg**	**16 08 07.3**	**+3.3**
SURF	**Saint Ours**	**0.97**	**132**	Pg	**Pg**	**16 07 52.8**	**+0.2**
RSP	**Reno Superiore**	**1.03**	**89**	P	**Pg**	**16 07 54.1**	**+0.4**
PZZ	**Prazzo**	**1.12**	**124**	P	**Pb**	**16 07 55.3**	**0.0**
SMRF	**Simiane la Rot**	**1.17**	**188**	*e*Pg	**Pg**	**16 07 57.7**	**+1.3**
SMRF				*e*Sg	**Sg**	**16 08 12.2**	**+0.5**
	32nm,0.5s						
SMRF	**Simiane la Rot**	**1.17**	**188**	*e*Pg	**Pg**	**16 07 57.7**	**+1.3**
SMRF				*e*Sg	**Sg**	**16 08 12.2**	**+0.5**
	16nm,0.5s						
DOI	**San Damiano**	**1.21**	**121**	Pg	**Pg**	**16 07 57.3**	**+0.2**
DOI				Sg	**Sg**	**16 08 12.8**	**+0.1**
OG01	**Vacheresse**	**1.34**	**27**	Pg	**Pg**	**16 07 59.9**	**+0.3**
STV	**Sta Anna Valdi**	**1.41**	**129**	P	**Pn**	**16 07 59.5**	**0.0**
ENR	**Entracque**	**1.47**	**128**	P	**Pn**	**16 08 00.3**	**-0.1**
CABF	**La Chapelle**	**1.49**	**8**	*e*Pg	**Pg**	**16 08 02.6**	**+0.2**
CABF				*e*Sg	**Sg**	**16 08 22.3**	**+0.6**
	24nm,0.3s						
CABF	**La Chapelle**	**1.49**	**8**	*e*Pn	**Pn**	**16 08 01.5**	**+0.9**
CABF				*e*Pg	**Pg**	**16 08 02.6**	**+0.2**
CABF				*e*Sg	**Sg**	**16 08 22.3**	**+0.6**
CABF	**La Chapelle**	**1.49**	**8**	*e*Pg	**Pg**	**16 08 02.6**	**+0.2**
CABF				*e*Sg	**Sg**	**16 08 22.3**	**+0.6**
	12nm,0.3s						
ORO	**Oropa**	**1.61**	**72**	Pg	**Pg**	**16 08 05.2**	**+0.4**
ORO				Sg	**Sg**	**16 08 25.5**	**-0.2**
ORX	**Oropa**	**1.61**	**71**	P	**Pn**	**16 08 03.6**	**+1.2**
FRF	**La Foret Royal**	**1.69**	**159**	*e*Pg	**Pg**	**16 08 04.8**	**-1.5**
FRF				*e*Sg	**Sg**	**16 08 27.0**	**-1.2**
	16nm,0.3s						
FRF	**La Foret Royal**	**1.69**	**159**	*e*Pg	**Pg**	**16 08 04.8**	**-1.5**
FRF				*e*Sg	**Sg**	**16 08 27.0**	**-1.2**
	7.9nm,0.3s						
ROB	**Roburent**	**1.70**	**119**	P	**Pn**	**16 08 04.3**	**+0.8**
SBF	**Sospel**	**1.73**	**137**	*e*Pg	**Pg**	**16 08 06.0**	**-1.0**
SBF				*e*Sg	**Sg**	**16 08 28.2**	**-1.3**
	37nm,0.4s						
SBF	**Sospel**	**1.73**	**137**	*e*Pg	**Pg**	**16 08 06.0**	**-1.0**
SBF				*e*Sg	**Sg**	**16 08 28.2**	**-1.3**
	18nm,0.4s						
MCGN	**Macugnaga**	**1.74**	**61**	Pg	**Pg**	**16 08 07.3**	**+0.1**
MCGN				Sg	**Sg**	**16 08 30.1**	**+0.3**
PLDF	**La Plantade**	**1.74**	**299**	Pn	**Pn**	**16 08 05.1**	**+0.9**
LASF	**Ste Croix**	**1.75**	**233**	*e*Pg	**Pg**	**16 08 07.8**	**+0.4**
LASF				*e*Sn	**Sn**	**16 08 26.3**	**-0.3**
LASF				*e*Sg	**Sg**	**16 08 30.4**	**+0.3**
	8.8nm,0.3s						
LASF	**Ste Croix**	**1.75**	**233**	*e*Pn	**Pn**	**16 08 04.9**	**+0.7**
LASF				*e*Pg	**Pg**	**16 08 07.8**	**+0.4**
LASF				*e*Sn	**Sn**	**16 08 26.3**	**-0.3**
LASF				*e*Sg	**Sg**	**16 08 30.4**	**+0.3**
LASF	**Ste Croix**	**1.75**	**233**	*e*Pg	**Pg**	**16 08 07.8**	**+0.4**
LASF				*e*Sn	**Sn**	**16 08 26.3**	**-0.3**
LASF				*e*Sg	**Sg**	**16 08 30.4**	**+0.3**
	4.4nm,0.3s						
MONE	**Monesi**	**1.75**	**127**	P	**Pn**	**16 08 04.8**	**+0.5**
LBL	**Lubilhac**	**1.81**	**274**	Pn	**Pn**	**16 08 05.9**	**+0.8**
LMR	**La Mourre**	**1.88**	**164**	*e*Pg	**Pg**	**16 08 08.8**	**-1.0**
LMR				*e*Sg	**Sg**	**16 08 33.1**	**-1.0**
	8.0nm,0.2s						
LMR	**La Mourre**	**1.88**	**164**	*e*Pg	**Pg**	**16 08 08.8**	**-1.0**
LMR				*e*Sg	**Sg**	**16 08 33.1**	**-1.0**
	4.0nm,0.2s						
NEGI	**Negi**	**1.88**	**133**	P	**Pn**	**16 08 05.7**	**-0.3**
FIN	**Finale Ligure**	**1.95**	**118**	P	**Pn**	**16 08 06.7**	**-0.3**
FIN	**Finale Ligure**	**1.95**	**118**	Pg	**Pg**	**16 08 10.7**	**-0.6**
SMF	**Signal de Mont**	**2.04**	**318**	*e*Pg	**Pg**	**16 08 12.8**	**-0.1**
SMF				*e*Sn	**Sn**	**16 08 33.9**	**+0.3**
SMF				*e*Sg	**Sg**	**16 08 38.7**	**-0.6**
	11nm,0.2s						
SMF	**Signal de Mont**	**2.04**	**318**	*e*Pn	**Pn**	**16 08 08.4**	**+0.2**
SMF				*e*Pg	**Pg**	**16 08 12.8**	**-0.1**
SMF				*e*Sn	**Sn**	**16 08 33.9**	**+0.3**
SMF				*e*Sg	**Sg**	**16 08 38.7**	**-0.6**
SMF	**Signal de Mont**	**2.04**	**318**	*e*Pg	**Pg**	**16 08 12.8**	**-0.1**
SMF				*e*Sn	**Sn**	**16 08 33.9**	**+0.3**
SMF				*e*Sg	**Sg**	**16 08 38.7**	**-0.6**
	5.5nm,0.2s						
PYM	**Petit Puy Mans**	**2.06**	**288**	Pn	**Pn**	**16 08 08.5**	**0.0**
AGO	**Saint Agoulin**	**2.09**	**297**	Pn	**Pn**	**16 08 08.9**	**0.0**
LOMF	**Lomont**	**2.32**	**17**	Pn	**Pn**	**16 08 18.0**	**+5.9**
AVF	**Avril sur Loir**	**2.38**	**315**	*e*Pg	**Pg**	**16 08 19.9**	**+0.5**
AVF				*e*Sn	**Sn**	**16 08 41.4**	**-0.7**
AVF				*e*Sg	**Sg**	**16 08 49.4**	**-0.8**
	3.5nm,0.2s						
AVF	**Avril sur Loir**	**2.38**	**315**	*e*Pn	**Pn**	**16 08 13.3**	**+0.4**
AVF				*e*Pg	**Pg**	**16 08 19.9**	**+0.5**
AVF				*e*Sn	**Sn**	**16 08 41.4**	**-0.7**
AVF				*e*Sg	**Sg**	**16 08 49.4**	**-0.8**
AVF	**Avril sur Loir**	**2.38**	**315**	*e*Pg	**Pg**	**16 08 19.9**	**+0.5**
AVF				*e*Sn	**Sn**	**16 08 41.4**	**-0.7**
AVF				*e*Sg	**Sg**	**16 08 49.4**	**-0.8**
	1.8nm,0.2s						
SSF	**Saint Saulge**	**2.50**	**321**	*e*Pn	**Pn**	**16 08 15.3**	**+0.7**
SSF				*e*Sg	**Sg**	**16 08 52.5**	**-1.7**
	9.1nm,0.3s						
SSF	**Saint Saulge**	**2.50**	**321**	*e*Pn	**Pn**	**16 08 15.3**	**+0.7**
SSF				*e*Sg	**Sg**	**16 08 52.5**	**-1.7**
	4.6nm,0.3s						
BGF	**Bois d'Agland**	**2.51**	**306**	*e*Pg	**Pg**	**16 08 22.4**	**+0.5**
BGF				*e*Sg	**Sg**	**16 08 54.5**	**+0.1**
	45nm,0.4s						
BGF	**Bois d'Agland**	**2.51**	**306**	*e*Pn	**Pn**	**16 08 15.5**	**+0.9**
BGF				*e*Pg	**Pg**	**16 08 22.4**	**+0.5**
BGF				*e*Sg	**Sg**	**16 08 54.5**	**+0.1**
BGF	**Bois d'Agland**	**2.51**	**306**	*e*Pg	**Pg**	**16 08 22.4**	**+0.5**
BGF				*e*Sg	**Sg**	**16 08 54.5**	**+0.1**
	22nm,0.4s						
LOR	**Lormes**	**2.52**	**328**	*e*Pg	**Pg**	**16 08 21.3**	**-0.9**
LOR				*e*Sn	**Sn**	**16 08 44.8**	**-0.8**
LOR				*e*Sg	**Sg**	**16 08 54.6**	**-0.3**
	8.7nm,0.3s						
LOR	**Lormes**	**2.52**	**328**	*e*Pn	**Pn**	**16 08 15.2**	**+0.3**
LOR				*e*Pg	**Pg**	**16 08 21.3**	**-0.9**
LOR				*e*Sn	**Sn**	**16 08 44.8**	**-0.8**
LOR				*e*Sg	**Sg**	**16 08 54.6**	**-0.3**
LOR	**Lormes**	**2.52**	**328**	*e*Pg	**Pg**	**16 08 21.3**	**-0.9**
LOR				*e*Sn	**Sn**	**16 08 44.8**	**-0.8**
LOR				*e*Sg	**Sg**	**16 08 54.6**	**-0.3**
	4.3nm,0.3s						
CAF	**Calviac**	**2.66**	**267**	*e*Pn	**Pn**	**16 08 17.5**	**+0.8**
CAF				*e*Sg	**Sg**	**16 08 58.9**	**-0.4**
	3.6nm,0.2s						
CAF	**Calviac**	**2.66**	**267**	*e*Pn	**Pn**	**16 08 17.5**	**+0.8**
CAF				*e*Sg	**Sg**	**16 08 58.9**	**-0.4**
	1.8nm,0.2s						
TCF	**Toulx Ste Croi**	**2.77**	**296**	*e*Pn	**Pn**	**16 08 20.0**	**+1.8**
TCF				*e*Sn	**Sn**	**16 08 51.2**	**-0.5**
TCF				*e*Sg	**Sg**	**16 09 02.7**	**0.0**
	4.9nm,0.3s						
TCF	**Toulx Ste Croi**	**2.77**	**296**	*e*Pn	**Pn**	**16 08 20.0**	**+1.8**
TCF				*e*Sn	**Sn**	**16 08 51.2**	**-0.5**
TCF				*e*Sg	**Sg**	**16 09 02.7**	**0.0**
	2.5nm,0.3s						
HINF	**Hinteralfeld**	**2.77**	**15**	*e*Pg	**Pg**	**16 08 26.1**	**-0.9**
HINF				*e*Sg	**Sg**	**16 09 01.4**	**-1.6**
	10nm,0.3s						
HINF	**Hinteralfeld**	**2.77**	**15**	*e*Pn	**Pn**	**16 08 18.0**	**-0.3**
HINF				*e*Pg	**Pg**	**16 08 26.1**	**-0.9**
HINF				*e*Sg	**Sg**	**16 09 01.4**	**-1.6**
HINF	**Hinteralfeld**	**2.77**	**15**	*e*Pg	**Pg**	**16 08 26.1**	**-0.9**
HINF				*e*Sg	**Sg**	**16 09 01.4**	**-1.6**
	5.1nm,0.3s						
HAU	**Haudompre**	**2.89**	**7**	*e*Pg	**Pg**	**16 08 29.1**	**-0.2**
HAU				*e*Sg	**Sg**	**16 09 06.3**	**-0.5**
	13nm,0.2s						
HAU	**Haudompre**	**2.89**	**7**	*e*Pn	**Pn**	**16 08 20.6**	**+0.7**
HAU				*e*Pg	**Pg**	**16 08 29.1**	**-0.2**
HAU				*e*Sg	**Sg**	**16 09 06.3**	**-0.5**
HAU	**Haudompre**	**2.89**	**7**	*e*Pg	**Pg**	**16 08 29.1**	**-0.2**
HAU				*e*Sg	**Sg**	**16 09 06.3**	**-0.5**
	6.6nm,0.2s						
RJF	**Les Rejaudoux**	**3.03**	**275**	*e*Pg	**Pg**	**16 08 31.9**	**-0.1**
RJF				*e*Sg	**Sg**	**16 09 10.4**	**-0.9**
	4.0nm,0.3s						
RJF	**Les Rejaudoux**	**3.03**	**275**	*e*Pn	**Pn**	**16 08 23.3**	**+1.4**
RJF				*e*Pg	**Pg**	**16 08 31.9**	**-0.1**
RJF				*e*Sg	**Sg**	**16 09 10.4**	**-0.9**
RJF	**Les Rejaudoux**	**3.03**	**275**	*e*Pg	**Pg**	**16 08 31.9**	**-0.1**
RJF				*e*Sg	**Sg**	**16 09 10.4**	**-0.9**
	2.0nm,0.3s						
HYF	**Humbligny**	**3.06**	**315**	*e*Pn	**Pn**	**16 08 22.8**	**+0.6**
HYF				*e*Sg	**Sg**	**16 09 11.7**	**-0.4**
THEF	**They Montfort**	**3.09**	**2**	Pn	**Pn**	**16 08 23.3**	**+0.6**
MTLF	**Montolieu**	**3.14**	**236**	*e*Pg	**Pg**	**16 08 33.0**	**-1.0**
MTLF				*e*Sn	**Sn**	**16 09 00.3**	**-0.6**
MTLF				*e*Sg	**Sg**	**16 09 14.3**	**-0.5**
	5.3nm,0.4s						
MTLF	**Montolieu**	**3.14**	**236**	*e*Pn	**Pn**	**16 08 23.6**	**+0.2**
MTLF				*e*Pg	**Pg**	**16 08 33.0**	**-1.0**
MTLF				*e*Sn	**Sn**	**16 09 00.3**	**-0.6**
MTLF				*e*Sg	**Sg**	**16 09 14.3**	**-0.5**
MTLF	**Montolieu**	**3.14**	**236**	*e*Pg	**Pg**	**16 08 33.0**	**-1.0**
MTLF				*e*Sn	**Sn**	**16 09 00.3**	**-0.6**
MTLF				*e*Sg	**Sg**	**16 09 14.3**	**-0.5**
	2.7nm,0.4s						
MEZF	**Maizieres J'vi**	**3.40**	**352**	*e*Pn	**Pn**	**16 08 26.8**	**-0.2**
MEZF				*e*Sg	**Sg**	**16 09 22.0**	**-1.2**
	11nm,0.6s						
MEZF	**Maizieres J'vi**	**3.40**	**352**	*e*Pn	**Pn**	**16 08 26.8**	**-0.2**
MEZF				*e*Sg	**Sg**	**16 09 22.0**	**-1.2**
	5.4nm,0.6s						
CDF	**Champ du Feu**	**3.43**	**17**	*e*Pg	**Pg**	**16 08 38.1**	**-1.4**
CDF				*e*Sg	**Sg**	**16 09 22.1**	**-1.8**
	3.9nm,0.3s						
CDF	**Champ du Feu**	**3.43**	**17**	*e*Pn	**Pn**	**16 08 26.3**	**-1.0**
CDF				*e*Pg	**Pg**	**16 08 38.1**	**-1.4**
CDF				*e*Sg	**Sg**	**16 09 22.1**	**-1.8**
CDF	**Champ du Feu**	**3.43**	**17**	*e*Pg	**Pg**	**16 08 38.1**	**-1.4**
CDF				*e*Sg	**Sg**	**16 09 22.1**	**-1.8**
	2.0nm,0.3s						
PGF	**Pioggiola**	**3.47**	**137**	*e*Pn	**Pn**	**16 08 28.7**	**+0.8**
PGF				*e*Sn	**Sn**	**16 09 07.4**	**-1.7**
	2.8nm,0.5s						
PGF	**Pioggiola**	**3.47**	**137**	*e*Pn	**Pn**	**16 08 28.7**	**+0.8**
PGF				*e*Sn	**Sn**	**16 09 07.4**	**-1.7**
	1.4nm,0.5s						
LFF	**La Frestale**	**3.59**	**269**	*e*Pn	**Pn**	**16 08 30.2**	**+0.6**
LFF				*e*Sg	**Sg**	**16 09 28.7**	**-0.6**
	4.0nm,0.3s						
LFF	**La Frestale**	**3.59**	**269**	*e*Pn	**Pn**	**16 08 30.2**	**+0.6**
LFF				*e*Sg	**Sg**	**16 09 28.7**	**-0.6**
	2.0nm,0.3s						
MFF	**Saint Martin d**	**4.41**	**292**	*e*Pn	**Pn**	**16 08 41.4**	**+0.7**
MFF				*e*Sg	**Sg**	**16 09 53.6**	**-1.7**
	1.9nm,0.4s						
MFF	**Saint Martin d**	**4.41**	**292**	*e*Pn	**Pn**	**16 08 41.4**	**+0.7**
MFF				*e*Sg	**Sg**	**16 09 53.6**	**-1.7**
	0.9nm,0.4s						
EPF	**Esparros**	**4.46**	**244**	*e*Pg	**Pg**	**16 08 57.8**	**-1.6**
EPF				*e*Sg	**Sg**	**16 09 54.6**	**-2.6**
	1.3nm,0.3s						
EPF	**Esparros**	**4.46**	**244**	*e*Pn	**Pn**	**16 08 41.6**	**0.0**
EPF				*e*Pg	**Pg**	**16 08 57.8**	**-1.6**
EPF				*e*Sg	**Sg**	**16 09 54.6**	**-2.6**
EPF	**Esparros**	**4.46**	**244**	*e*Pg	**Pg**	**16 08 57.8**	**-1.6**
EPF				*e*Sg	**Sg**	**16 09 54.6**	**-2.6**
	0.6nm,0.3s						
GIVF	**Givet**	**5.01**	**353**	*e*Pn	**Pn**	**16 08 48.9**	**-0.2**
BAIF	**Baives**	**5.04**	**348**	*e*Pn	**Pn**	**16 08 48.9**	**-0.6**

ISCJB ***08*** *16:09:29.6±2.2,63S±0.1×1284E±0.1,h350km±27km, mb3.8/2,Error ellipse: s-maj=24.3km s-min=15.8km az=139.0*

NEIC ***08*** *16:09:30.9±0.8,624S×128.36E,h350km,mb4.1/2,Error ellipse: s-maj=14.2km s-min=14.0km az=115.0*

IDC ***08*** *16:09:34.7±2.9,640S×128.36E,h398km±36km,mb3.4/2, mb1 3.7/6,mb1mx3.3/16,mbtmp4.5/6,Error ellipse: s-maj=28.9km s-min=13.3km az=68.0*

**ISC 08 16:09:33.7±1.9,64S±01×1284E±01,h384km±26

JAG Ashikaga 14.57 347 P **Pn** **16 26 53.0 -1.8**
JAG S **Sn** **16 29 24.7 -11**
JOW Kunigami 14.63 291 P **Pn** **16 26 59.2 +3.6**
2.2nm,0.3s,baz=130,slow=10,SNR=12
JOW LR LR 16 31 37.3
comp=Z,42nm,18.4s,baz=90,slow=33
MJAR Matsushiro Arr 14.98 343 P **Pn** **16 26 58.1 -1.9**
2.2nm,0.3s,baz=165,slow=11,SNR=27
MJAR S **Sn** **16 29 45.5 -0.3**
0.5nm,0.3s,baz=167,slow=15,SNR=5.2
MAJO Matsushiro 14.98 343 *e*P **Pn** **16 26 58.8 -1.2**
MAJO pmax pmax
comp=Z,38nm,0.6s
MAJO Matsushiro 14.98 343 *e*Pn **Pn** **16 26 58.8 -1.2**
comp=Z,38nm,0.6s
MAT Matsushiro 14.98 343 P **Pn** **16 26 58.2 -1.8**
MAT Matsushiro 14.98 343 *e*P **Pn** **16 26 58.0 -2.0**
MAT pmax pmax
comp=Z,25nm,1.0s
MAT Matsushiro 14.98 343 *e*P **Pn** **16 26 58.0 -2.0**
comp=Z,25nm,1.0s
JFK Kawauchi 15.24 352 *e*S **S** **16 29 44.3 -15**
JHS Saijyo 15.65 327 P **Pn** **16 27 11.8 +3.5**
JMK Ichinoseki 16.77 354 P **Pn** **16 27 23.0 +1.0**
JMK *e*S **S** **16 30 22.8 -6.0**
KS15 Wonju Array Si 20.30 322 *e*P **P** **16 27 59.7 -0.8**
ASAJ Asahikawa 21.82 358 P **P** **16 28 18.4 +1.6**
comp=Z,8.2nm,0.7s,mb4.3,baz=197,slow=11,SNR=11
TGY Tagaytay City 22.95 253 P **P** **16 28 29.8 +1.9**
comp=Z,83nm,0.3s,baz=315,slow=2.9,SNR=3.7
VLA Vladivostok 22.96 338*c i*P **P** **16 28 29.0 +0.9**
VLA pmax pmax
comp=Z,80nm,1.3s,mb5.0
NJ2 Nanjing 24.00 299 *e*P **P** **16 28 35.9 -1.7**
NJ2 AP 16 29 04.8
NJ2 PP 16 29 17.6
NJ2 XP sP 16 29 22.0 +2.1
NJ2 S **S** **16 32 38.0 -7.1**
NJ2 XS sS 16 33 27.0 -6.0
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.6
NJ2 AMB AMB
comp=Z,130nm,10.8s
NJ2 LR LR
comp=N,540nm,28.7s
NJ2 LR LR
comp=E,600nm,25.2s
NJ2 LR LR
comp=Z,250nm,33.0s
YSS Yuzh-Sakhalins 24.65 359|| *e*P **P** **16 28 44.5 +1.0**
YSS pmax pmax
comp=Z,31nm,2.1s,mb4.5
MDJ Mudanjiang 25.09 336 P **P** **16 28 48.5 +1.0**
MDJ AMB AMB
comp=Z,7.0nm,1.1s,mb4.1
MDJ AMB AMB
comp=Z,66nm,5.3s
KLR Kul'dur 28.50 344 *e*P **P** **16 29 16.0 -2.0**
KLR pmax pmax
comp=E,20nm,0.7s
KLR pmax pmax
comp=Z,44nm,0.7s,mb5.3
KKM Kota Kinabalu 30.93 243 P **P** **16 29 41.5 +2.0**
PMG Port Moresby 31.66 173 P **P** **16 29 44.1 -1.8**
comp=Z,5.9nm,0.5s,mb4.6,baz=79,slow=4.7,SNR=5.7
HNR Honiara 35.35 151 LR LR 16 42 56.4
comp=Z,52nm,20.4s,baz=178,slow=33
KAKA Kakadu 36.42 198 *e*P **P** **16 30 26.5 -0.4**
comp=Z,6.2nm,0.5s,mb4.5
CD2 Chengdu 36.47 292 P **P** **16 30 26.4 -1.0**
CD2 AP pP 16 30 54.4 -1.4
CD2 XP sP 16 31 09.1 -1.5
CD2 S **S** **16 35 57.9 -1.7**
CD2 XS sS 16 36 46.6 -2.6
CD2 SS SS 16 38 30.9 -13
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
CD2 AMB AMB
comp=Z,40nm,5.3s
CD2 LR LR
comp=E,90nm,11.2s
CD2 LR LR
comp=Z,80nm,12.2s
LZH Lanzhou 37.05 301 *e*P **P** **16 30 34.1 +1.8**
LZH AMB AMB
comp=Z,22nm,1.3s,mb4.6
MA2 Magadan 37.64 6|| *e*P **P** **16 30 37.9 +0.6**
MA2 pmax pmax
comp=Z,7.0nm,0.7s,mb4.4
MA2 Magadan 37.64 6 *e*P **P** **16 30 34.9 -2.3**
KSM Kuching 38.36 242 *e*P **P** **16 30 41.7 -1.6**
SONM Songino Array 39.13 320 P **P** **16 30 50.7 +0.9**
comp=Z,2.7nm,0.5s,mb4.1,baz=130,slow=7.3,SNR=26
SONM PcP PcP 16 32 56.8 0.0
comp=Z,1.5nm,0.6s,baz=97,slow=2.9,SNR=3.9
SONM LR LR 16 47 28.7
comp=Z,41nm,19.5s,baz=336,slow=37
SONM Songino Array 39.13 320 P **P** **16 30 50.7 +0.9**
SONM 16 32 56.8
GTA Gaotai 40.84 305 *e*P **P** **16 31 05.5 +1.7**
GTA AMB AMB
comp=Z,6.0nm,0.7s,mb4.3
YAK Yakutsk 40.88 350*de*P **P** **16 31 04.0 -0.2**
YAK pmax pmax
comp=Z,15nm,0.5s,mb4.9
BOD Bodaibo 41.47 337 *e*P **P** **16 31 06.4 -2.6**
ZAK Zakamensk 42.12 322 *e*P **P** **16 31 13.7 -0.6**
ZAK pmax pmax
comp=Z,6.0nm,1.3s,mb4.1
ZAK pmax pmax
comp=Z,8.0nm,1.9s,mb4.0
CTA Charters Tower 42.16 176 *e*P **P** **16 31 14.1 -0.5**
comp=Z,7.4nm,0.4s,mb4.7
CTA Charters Tower 42.16 176 LR LR 16 47 06.2
comp=Z,82nm,19.8s,baz=263,slow=34
CTA Charters Tower 42.16 176 *e*P **P** **16 31 14.1 -0.5**
CTA pmax pmax
comp=Z,7.0nm,0.4s
TLY Talaya 42.52 324|| *e*P **P** **16 31 17.3 -0.2**
TLY pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
WRAB Tennant Creek 42.88 193 *e*P **P** **16 31 19.7 -0.7**
WRAB pmax pmax
comp=Z,15nm,0.6s,mb4.8
WRAB Tennant Creek 42.88 193 *e*P **P** **16 31 19.6 -0.8**
comp=Z,15nm,0.6s,mb4.8
WB2 Warramunga Arr 42.89 193 *e*P **P** **16 31 19.5 -1.0**
WB2 *e* 16 33 09.5
WRA Warramunga Arr 42.89 193 P **P** **16 31 20.0 -0.6**
comp=Z,4.7nm,0.3s,mb4.7,baz=9.1,slow=7.8,SNR=154
WRA PcP PcP 16 33 09.2 +0.2
comp=Z,6.6nm,0.7s,baz=4.9,slow=3.3,SNR=15
WRA ScP ScP 16 36 47.0 -1.0
comp=Z,2.8nm,0.9s,baz=9.3,slow=4.0,SNR=9.3
WRA Warramunga Ar 42.89 193 P **P** **16 31 20.0 -0.5**
WRA 16 33 09.2
FITZ Fitzroy Crossi 43.77 205 *e*P **P** **16 31 26.8 -0.8**
comp=Z,14nm,0.3s,mb5.1
FITZ *e* 16 33 12.0
KULM Kulim 44.75 254 *e*P **P** **16 31 36.7 +1.4**
IPM Ipoh 44.78 253 P **P** **16 31 37.2 +1.6**
ASAR Alice Springs 46.60 192 P **P** **16 31 49.8 -0.1**
comp=Z,5.3nm,0.6s,mb4.4,baz=16,slow=11,SNR=109
ASAR PcP PcP 16 33 22.0 +0.2
comp=Z,3.3nm,0.8s,baz=15,slow=3.3,SNR=11
ASAR ScP ScP 16 37 01.4 -1.8
comp=Z,0.8nm,0.9s,baz=22,slow=6.1,SNR=4.8
ASAR Alice Springs 46.60 192 P **P** **16 31 49.8 -0.1**
ASAR 16 33 22.0
LSA Lhasa 47.36 290 *e*P **P** **16 31 57.8 +2.0**
LSA pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
LSA Lhasa 47.36 290 *e*P **P** **16 31 57.8 +2.0**
comp=Z,6.8nm,0.6s,mb4.5
PSI Prapat 47.41 252 P **P** **16 31 57.1 +0.9**
comp=Z,5.6nm,0.3s,mb4.6,baz=121,slow=4.1,SNR=10
BILL Bilibino 47.91 11|| *e*P **P** **16 32 01.1 +1.0**
BILL pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
BILL Bilibino 47.91 11 *e*P **P** **16 32 00.7 +0.6**
comp=Z,4.1nm,0.9s,mb4.1
KRAR Krasnoyarsk 50.12 326 *i*P **P** **16 32 16.7 -0.2**
JIRN Jiri 51.90 288 *e*P **P** **16 32 31.4 +1.2**
comp=Z,36nm,0.6s,mb5.2
GUN Gumba 52.14 289 *e*P **P** **16 32 33.3 +1.3**
comp=Z,16nm,0.4s,mb5.1
PKI Pulchoki 52.60 288 *e*P **P** **16 32 36.0 +0.6**
KKN Kakani 52.68 289 *e*P **P** **16 32 36.6 +0.6**
comp=Z,5.7nm,0.3s,mb4.8
DMN Daman 52.86 288 *e*P **P** **16 32 38.2 +0.9**
comp=Z,11nm,0.5s,mb4.9
GKN Gorkha 53.22 289 *e*P **P** **16 32 40.5 +0.6**
comp=Z,9.7nm,0.3s,mb5.0
STKA Stephens Creek 53.85 182 *e*P **P** **16 32 40.8 -3.7**
comp=Z,3.0nm,0.6s,mb4.2
STKA Stephens Creek 53.85 182 P **P** **16 32 41.0 -3.6**
comp=Z,2.6nm,0.3s,mb4.4,baz=1.6,slow=7.1,SNR=26
ZAL Zalesovo 54.00 321 P **P** **16 32 45.4 -0.2**
comp=Z,4.5nm,0.4s,mb4.6,baz=8.7,slow=5.2,SNR=16
ZAL pP pP 16 33 15.7 -0.2
comp=Z,2.0nm,0.7s,baz=4.4,slow=8.0,SNR=3.2
KOLN Koldanda 54.16 289 *e*P **P** **16 32 47.0 +0.2**
comp=Z,5.1nm,0.3s,mb4.8
MKAR Makanchi Array 54.58 312 P **P** **16 32 50.4 +0.6**
comp=Z,3.9nm,0.5s,mb4.4,baz=89,slow=8.6,SNR=77
MKAR pP pP 16 33 20.6 +0.4
comp=Z,1.6nm,0.5s,baz=92,slow=8.4,SNR=2.8
MKAR PcP PcP 16 33 51.1 -0.2
comp=Z,3.3nm,0.7s,baz=81,slow=7.5,SNR=5.3
MKAR S **S** **16 40 18.5 -0.7**
comp=Z,0.4nm,0.8s,baz=93,slow=21,SNR=4.4
FORT Forrest 54.79 196 *e*P **P** **16 32 51.1 -0.2**
comp=Z,25nm,0.7s,mb5.0
KURK Kurchatov 57.31 317*c i*P **P** **16 33 09.2 0.0**
KURK Kurchatov 57.31 317 *e*P **P** **16 33 08.9 -0.3**
comp=Z,7.9nm,0.8s,mb4.6
KLBR Kellerberrin 58.97 206 *e*P **P** **16 33 20.5 -0.3**
comp=Z,12nm,0.6s,mb4.9
KLBR *e* 16 34 07.7
MUN Mundaring 59.94 207 *e*P **P** **16 33 24.2 -3.2**
AAK Ala-Archa 60.10 307*ce*P **P** **16 33 28.3 -0.3**
AAK pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
AAK Ala-Archa 60.10 307 *e*P **P** **16 33 27.6 -0.9**
comp=Z,2.0nm,0.5s,mb4.2
NWAO Narrogin (SRO) 60.35 205 P **P** **16 33 30.4 +0.2**
comp=Z,9.9nm,0.6s,mb4.8,baz=46,slow=8.2,SNR=15
NWAO Narrogin (SRO) 60.35 205 P **P** **16 33 30.4 +0.2**
ILAR Eielson Array 61.39 27 P **P** **16 33 36.5 -0.8**
comp=Z,1.2nm,0.6s,mb3.9,baz=256,slow=5.9,SNR=15
ILAR pP pP 16 34 07.7 -0.6
comp=Z,2.5nm,0.8s,baz=257,slow=5.8,SNR=7.7
BVA0 Borovoye Array 62.48 319 *i*P **P** **16 33 44.5 0.0**
BVA0 pmax pmax
comp=Z,2.0nm,1.0s,mb3.9
BRVK Borovoye 62.54 319 *e*P **P** **16 33 45.0 +0.1**
BRVK pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
BRVK Borovoye 62.54 319 *e*P **P** **16 33 45.0 +0.1**
comp=Z,6.2nm,0.8s,mb4.5
KK31 Karatay Array 62.98 308 *i*P **P** **16 33 48.5 +0.6**
KK31 pmax pmax
comp=Z,2.0nm,0.3s,mb4.4
KKAR Karatay Array 62.98 308 *i*P **P** **16 33 48.5 +0.6**
KKAR pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
ZRNK Zerenda 63.31 319 *e*P **P** **16 33 49.8 -0.3**
ZRNK pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
ZRNK Zerenda 63.31 319 *e*P **P** **16 33 49.8 -0.3**
comp=Z,5.9nm,0.9s,mb4.4
INK Inuvik 66.92 24 *e*P **P** **16 34 14.0 +0.6**
INK pmax pmax
comp=Z,2.0nm,0.6s
INK Inuvik 66.92 24 *e*P **P** **16 34 14.0 +0.6**
comp=Z,1.7nm,0.6s,mb4.0
URZ Urewera 67.94 152 P **P** **16 34 19.3 -0.4**
comp=Z,2.3nm,0.3s,mb4.3,baz=299,slow=8.1,SNR=6.1
ARU Arti 69.02 324|| *i*P **P** **16 34 26.2 -0.3**
ARU *e* pP 16 34 57.8 -0.4
ARU *e* 16 36 59.6
ARU *e*PPP 16 38 40.9
ARU *e*S S 16 43 24.8 +3.8
ARU *e*SS SS 16 47 54.5 +5.3
ARU pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
ARU Arti 69.02 324 P **P** **16 34 24.9 -1.6**
comp=Z,3.9nm,0.5s,mb4.4
AB31 Akbulak array 69.39 316 *i*P **P** **16 34 28.5 -0.3**
AB31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.0
YKA Yellowknife Ar 75.81 28 P **P** **16 35 06.7 0.0**
comp=Z,1.5nm,0.5s,mb3.9,baz=293,slow=5.9,SNR=36
YKA pP pP 16 35 38.4 -0.5
comp=Z,0.8nm,0.5s,baz=292,slow=5.8,SNR=3.2
YKA Yellowknife Ar 75.81 28 P **P** **16 35 06.7 0.0**
YKA pP pP 16 35 38.4 -0.5
RES Resolute Bay 76.46 13 *e*P **P** **16 35 10.2 -0.2**
RES pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
RES Resolute Bay 76.46 13 *e*P **P** **16 35 10.2 -0.2**
comp=Z,3.0nm,0.7s,mb4.0
KEV Kevo 77.95 341 *e*P **P** **16 35 16.4 -2.3**
comp=Z,1.0nm,0.3s,mb3.9
KEV Kevo 77.95 341 *e*P **P** **16 35 16.4 -2.3**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb3.9
ARCES ARCESS Array B 78.51 342 P **P** **16 35 19.9 -1.8**
comp=Z,6.4nm,0.6s,mb4.4,baz=70,slow=8.1,SNR=22
CMB Columbia Colle 81.15 53 *e*P **P** **16 35 36.9 +0.9**
CMB pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
CMB Columbia Colle 81.15 53 *e*P **P** **16 35 36.9 +0.8**
comp=Z,5.6nm,0.6s,mb4.4
OBN Obninsk 81.22 326|| *e*P **P** **16 35 34.2 -2.2**
OBN *i* *PP pP 16 36 07.9 -1.1
OBN *e*S S 16 45 36.9 +1.0
OBN pmax pmax
comp=Z,24nm,2.7s,mb4.3
ZEI Tsey 81.93 313 *e*P **P** **16 35 40.0 -0.1**
KIV Kislovodsk 82.28 314|| *e*P **P** **16 35 42.2 +0.2**
KIV *i* *PP pP 16 36 11.0 -3.7
KIV pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
KIV Kislovodsk 82.28 314 *e*P **P** **16 35 42.7 +0.7**
comp=Z,9.5nm,0.8s,mb4.5
KAF Kangasniemi 82.37 335 *e*p **P** **16 35 40.3 -2.1**
comp=Z,0.8nm,0.3s,mb3.8,baz=54,slow=4.9
KAF Kangasniemi 82.37 335 *e*P **P** **16 35 40.3 -2.1**
KAF pmax pmax
comp=Z,1.0nm,0.3s,mb3.9
NVAR Mina Array Bea 82.53 52 P **P** **16 35 44.7 +1.5**
comp=Z,4.0nm,0.7s,mb4.3,baz=279,slow=3.7,SNR=25
NVAR pP pP 16 36 16.6 +0.7
comp=Z,2.1nm,0.7s,baz=300,slow=4.1,SNR=4.9
MNV Mina 82.64 52 *e*P **P** **16 35 44.1 +0.3**
MNV pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
MNV Mina 82.64 52 *e*P **P** **16 35 44.1 +0.3**
comp=Z,2.4nm,0.8s,mb4.0
FINES FINESS Array B 82.83 335 P **P** **16 35 43.4 -1.4**
comp=Z,3.8nm,0.3s,mb4.6,baz=64,slow=4.9,SNR=60
FINES pP pP 16 36 16.1 -1.4
comp=Z,1.3nm,0.4s,baz=72,slow=5.3,SNR=2.0
FINES FINESS Array B 82.83 335 *i*P **P** **16 35 43.4 -1.4**
FINES pmax pmax
comp=Z,4.0nm,0.3s
FINES FINESS Array B 82.83 335 P **P** **16 35 43.4 -1.4**
FINES pP pP 16 36 16.1 -1.4
HLID Hailey 83.21 46 *e*P **P** **16 35 47.4 +0.7**
comp=Z,2.4nm,1.0s,mb3.9
UMR Umm Al-Rimmam 84.11 299 *e*P **P** **16 35 51.6 +0.3**
UMR AMb AMB 16 35 52.6
comp=Z,30nm,0.5s,mb5.3
KBD Kabd 84.27 299 *e*P **P** **16 35 52.5 +0.3**
NAY Al-Naaiem 84.61 299 *e*P **P** **16 35 53.7 -0.2**
NAY AMb AMB 16 35 55.0
comp=Z,39nm,0.8s,mb5.2
FFC Flin Flon 85.18 32 *e*P **P** **16 35 57.1 +0.4**
FFC pmax pmax
comp=Z,12nm,1.1s,mb4.5
FFC Flin Flon 85.18 32 *e*P **P** **16 35 57.1 +0.4**
comp=Z,12nm,1.1s,mb4.5
IMW Indian Meadow 85.35 44 *e*P **P** **16 35 58.7 +1.1**
comp=Z,5.2nm,0.8s,mb4.3
FLWY Flagg Ranch 85.42 44 *e*P **P** **16 35 59.0 +1.1**
comp=Z,3.8nm,0.7s,mb4.2
DUG Dugway 85.71 48 *e*P **P** **16 36 00.3 +1.0**
DUG pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
DUG Dugway 85.71 48 *e*P **P** **16 36 00.3 +1.0**
comp=Z,3.4nm,0.5s,mb4.3
HWUT Hardware Ranch 85.95 47 *e*P **P** **16 36 01.6 +1.1**
comp=Z,13nm,1.2s,mb4.5
DAU Daniels Canyon 86.69 48 *e*P **P** **16 36 04.7 +0.6**
PDAR Pinedale Array 86.76 45 P **P** **16 36 04.1 -0.4**
comp=Z,0.9nm,0.8s,mb3.7,baz=255,slow=2.4,SNR=10
PDAR pP pP 16 36 38.9 +1.4
comp=Z,0.9nm,0.8s,baz=319,slow=4.3,SNR=3.3
AKASG Malin Array Be 87.26 325 P **P** **16 36 05.0 -1.9**
comp=Z,2.3nm,0.5s,mb4.3,baz=49,slow=5.2,SNR=12
AKASG Malin Array Be 87.26 325 *i*P **P** **16 36 05.4 -1.5**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
SRU San Rafael 87.78 48 *e*P **P** **16 36 10.1 +0.8**
SRU pmax pmax
comp=Z,5.0nm,0.5s,mb4.6
SRU San Rafael 87.78 48 *e*P **P** **16 36 10.1 +0.7**
comp=Z,4.7nm,0.5s,mb4.6
NB2 NORSAR Subarra 88.56 339 P **P** **16 36 10.9 -2.1**
comp=Z,1.9nm,0.7s,mb4.1,baz=45,slow=4.6
NOA NORSAR Array B 88.56 339 P **P** **16 36 11.2 -1.8**
comp=Z,1.6nm,0.8s,mb4.0,baz=46,slow=4.5,SNR=5.2
PV01 Paradox Valley 89.58 49 *e*P **P** **16 36 18.6 +0.8**
BRTR Keskin Array B 90.21 314 P **P** **16 36 19.3 -1.5**
comp=Z,1.2nm,0.8s,mb3.9,baz=104,slow=5.2,SNR=5.7
BRTR Keskin Array B 90.21 314|| *e*P **P** **16 36 19.8 -1.0**
ISCO Idaho Springs 90.79 46 *e*P **P** **16 36 24.8 +1.3**
ISCO pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
ISCO Idaho Springs 90.79 46 *e*P **P** **16 36 24.8 +1.3**
comp=Z,6.8nm,1.1s,mb4.6
ULM Lac du Bonnet 90.79 34 P **P** **16 36 22.9 -0.5**
comp=Z,1.0nm,0.6s,mb4.0,baz=342,slow=8.0,SNR=4.1
ANMO Albuquerque 92.60 51|| *e*P **P** **16 36 32.7 +0.9**
KHC Kasperske Hory 96.15 330*ce*P **P** **16 36 46.8 -1.3**
SNAA Sanae 126.96 193 *e*PKPdf PKPdf 16 42 21.7 -1.8
SNAA *e* 16 42 23.0
SNAA *e* 16 42 23.9
VNA2 Neumayer--Watz 128.45 192 *e*PKPdf PKPdf 16 42 25.0 -1.4
baz=144,slow=1.1
VNA2 *e* 16 42 26.5
VNA2 *e* 16 42 27.8
VNA3 Neumayer Olymp 128.60 191 *e*PKPdf PKPdf 16 42 25.3 -1.3
VNA3 *e* 16 42 26.7
VNA3 *e* 16 42 27.5
VNA3 *e* 16 42 28.4
TORD Torodi Ar. Bea 128.66 310 PKP PKPdf 16 42 26.9 +0.1
comp=Z,1.8nm,0.5s,baz=37,slow=1.1,SNR=47
PLCA Paso Flores 145.86 131 *e*PKP2 PKPab 16 42 59.2 -0.5
LPAZ La Paz 149.54 84 PKPbc PKPbc 16 43 10.8 +1.8
comp=Z,6.2nm,0.5s,baz=305,slow=2.2,SNR=31
LPAZ La Paz 149.54 84 *e*PKPbc PKPbc 16 43 10.5 +1.5
CFAA Coronel Fontan 150.25 115 PKPbc PKPbc 16 43 10.6 -0.1
comp=Z,2.5nm,0.8s,baz=264,slow=3.5,SNR=31
SAML Samuel 151.12 67 *e*PKPbc PKPbc 16 43 12.7 -0.1
SAML *e*PKPab PKPab 16 43 20.6 -0.3

*ISCJB **08** 16:29:05.3±0.8, 64N±0.1×732W±0.1, h138km±9km, mb3.6/3, Error ellipse: s-maj=29.7km s-min=9.5km az=78.4*
*IDC **08** 16:29:05.5±0.9, 6.52N×73.36W, h128km±12km, mb3.6/3, mb1 3.8/4, mb1mx3.3/20, mbtmp4.1/4, MS2.8/1, Ms1 2.8/1, ms1mx2.3/17, Error ellipse: s-maj=53.0km s-min=7.8km az=130.0*
*NEIC **08** 16:29:05.8±0.9, 6.45N×73.39W, h134km±9km, mb3.5/1, Error ellipse: s-maj=21.5km s-min=12.1km az=119.0*
ISC 08 16:29:06.2±0.8, **65N**±01×**733W**±01, **h133**km±9km, **n13,**
σ0§**54**/12, **mb3.6**/3, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.91**	**211**	P	P	**Pn**	**16 29 39.0**	**-0.2**
	60nm,0.3s,baz=78,slow=14,SNR=62							
ROSC				S		**Sn**	**16 30 04.6**	**+0.2**
	71nm,0.3s,baz=117,slow=18,SNR=13							
SDV	**Santo Domingo**	**3.58**	**48**	P	P	**Pn**	**16 30 00.7**	**+0.3**
	41nm,0.3s,baz=204,slow=3.4,SNR=120							
SDV				S		**Sn**	**16 30 41.7**	**-0.7**
	76nm,0.3s,baz=270,slow=21,SNR=51							
SDV	**Santo Domingo**	**3.58**	**48**	*e*Pn		**Pn**	**16 30 00.5**	**+0.1**
SDV				S		**Sn**	**16 30 41.7**	**-0.7**
SDV				*e*Sn		**Sn**	**16 30 43.2**	**+0.8**
JTS	**JuntasAbangare**	**12.10**	**289**	LR	LR		16 36 18.1	
	comp=Z,44nm,21.0s,baz=318,slow=36							
SAML	**Samuel**	**18.38**	**146**	*e*P	P		**16 33 10.3**	**-0.4**
	1.8nm,0.7s							
YKA	**Yellowknife Ar**	**63.49**	**340**	P	P		**16 39 21.2**	**-0.9**
	0.2nm,0.4s,mb3.3,baz=133,slow=6.7,SNR=8.3							
YKA				pP	pP		16 39 52.2	-1.8
	0.4nm,0.6s,baz=129,slow=7.2,SNR=4.3							
YKA	**Yellowknife Ar**	**63.49**	**340**	P	P		**16 39 21.2**	**-0.9**
YKA				pP	pP		16 39 52.2	-1.8
NOA	**NORSAR Array B**	**81.71**	**29**	P	P		**16 41 10.5**	**+0.7**
	0.5nm,0.6s,mb3.4,baz=266,slow=5.3,SNR=3.0							
ARCES	**ARCESS Array B**	**87.05**	**20**	P	P		**16 41 37.2**	**+0.5**
	5.1nm,1.1s,mb4.3,baz=286,slow=3.4,SNR=2.8							
MKAR	**Makanchi Array**	**122.70**	**20**	PKP	PKPdf		16 47 46.0	-0.2
	0.1nm,0.3s,baz=318,slow=2.7,SNR=4.2							
ASAR	**Alice Springs**	**148.75**	**234**	PKPbc	PKPbc		16 48 37.5	-0.3
	0.5nm,0.5s,baz=120,slow=3.7,SNR=16							
WRAB	**Tennant Creek**	**149.99**	**241**	*e*PKPbc	PKPbc		16 48 40.5	-0.4
WRA	**Warramunga Arr**	**150.00**	**241**	PKPbc	PKPbc		16 48 40.8	-0.1
	0.6nm,0.5s,baz=109,slow=2.7,SNR=21							

*ISCJB **08** 16:38:34.4±0.7, 3780N±004×2101E±005, h5km, Error ellipse: s-maj=7.2km s-min=4.0km az=91.9*
*NEIC **08** 16:38:34.8, 3782N×2108E, h5km, ML3.6(ATH), After ATH.*
*ATH **08** 16:38:35.3, 3785N×2108E, h5km±4km, MD3.6/8, ML3.6*
*THE **08** 16:38:35.9, 3782N×2091E, h5km, ML3.1*
*CSEM **08** 16:38:35.1±0.2, 3778N×2102E, h2km, ML3.6, Error ellipse: s-maj=5.3km s-min=1.8km az=50.0*
ISC 08 16:38:35.2±0.7, **3781N**±004×**2104E**±005, **h5**km, **n20,**
σ1§**20**/27, **Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.42**	**53**	*e*PB		**Pg**	**16 38 42.8**	**-0.4**
RLS				*e*SB		**Sg**	**16 38 48.8**	**+0.1**
VLS	**Valsamata**	**0.51**	**316**	*e*PG		**Pg**	**16 38 45.1**	**0.0**
VLS				*e*SB		**Sg**	**16 38 53.6**	**+1.9**
ITM	**Ithomi**	**0.94**	**132**	*e*PG		**Pg**	**16 38 52.9**	**-0.4**
ITM				*e*SB		**Sb**	**16 39 07.3**	**+0.5**
LKD	**Levkas**	**0.95**	**341**	*e*Pg		**Pg**	**16 38 52.5**	**-0.9**
LKD				*e*Sg		**Sg**	**16 39 06.3**	**+0.6**
EVR	**Evrytania**	**1.26**	**28**	*e*PN		**Pn**	**16 38 57.7**	**-1.7**
EVR				*e*SB		**Sb**	**16 39 14.6**	**-1.3**
AGG	**Agios Georgios**	**1.58**	**39**	*e*Pb		**Pb**	**16 39 04.9**	**+0.1**
AGG				*e*Sb		**Sb**	**16 39 26.8**	**+1.7**
MGER	**Gerania Oros**	**1.76**	**84**	*e*PN		**Pn**	**16 39 08.0**	**+1.7**
IGT	**Igoumenitsa**	**1.81**	**342**	*e*Pb		**Pb**	**16 39 06.6**	**-2.2**
IGT				*e*Sb		**Sb**	**16 39 29.8**	**-1.9**
JAN	**Janina**	**1.85**	**355**	*e*PN		**Pn**	**16 39 09.8**	**+2.2**
VLI	**Veliai**	**1.86**	**125**	*e*PN		**Pg**	**16 39 11.0**	**+0.1**
VLI	**Veliai**	**1.86**	**125**	*e*Pg		**Pg**	**16 39 09.4**	**-1.5**
ATH	**Athens Observa**	**2.12**	**85**	*e*PG		**Pg**	**16 39 14.0**	**-1.8**
ATH	**Athens Observa**	**2.12**	**85**	*e*Pb		**Pn**	**16 39 10.5**	**-0.8**
KEK	**Kerkira**	**2.14**	**333**	*e*PG		**Pg**	**16 39 14.8**	**-1.3**
XOR	**Xorichti**	**2.29**	**47**	*e*Pn		**Pn**	**16 39 15.0**	**+1.4**
LIT	**Litokhoron**	**2.55**	**26**	*e*Pn		**Pn**	**16 39 17.3**	**+0.1**
AOS	**Alonnisos**	**2.61**	**58**	*e*Pn		**Pn**	**16 39 18.9**	**+0.9**
FNA	**Florina**	**2.98**	**5**	*e*Pn		**Pn**	**16 39 23.9**	**+0.8**
GRG	**Griva**	**3.31**	**18**	*e*Pn		**Pn**	**16 39 28.1**	**+0.4**
KNT	**Kendrikon**	**3.64**	**23**	*e*Pn		**Pn**	**16 39 33.1**	**+0.9**

*NEIC **08** 16:40:34.5, 1897N×69.19W, h7km, MD3.5(RSPR), After RSPR.*
RSPR 08 16:40:34.5, 1897N×6919W, h7km±36km, **MD3.5**/10, **MD3.5**/10, **10C-2D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**2.04**	**104**||	*e*P	Pn	16 41 05.4	-3.8
AGPR					*e*S	Sn	16 41 28.6	-6.3
LSP	**Las Mesas**	**2.15**	**111**||	*e*P	Pn	16 41 07.3	-3.5
LSP					*e*S	Sn	16 41 33.0	-4.7
CRPR	**Cabo Rojo, PR**	**2.20**	**116**||	*e*P	Pn	16 41 07.8	-3.7
CRPR					*e*S	Sn	16 41 35.7	-3.2
MGP	**Maguayo**	**2.21**	**115**||	*e*P	Pn	16 41 08.4	-3.3
MGP					*e*S	Sn	16 41 35.6	-3.7

LRS	Lares	2.33	107⇑	*e*P	Pn	16 41 09.8	-3.4
LRS				*e*S	Sn	16 41 38.1	-4.0
AOPR	Arecibo Observ	2.40	105⇑	*e*P	Pn	16 41 10.9	-3.3
AOPR				*e*S	Sn	16 41 40.4	-3.4
OBIP	Obispado Ponce	2.62	110⇓	*e*P	Pn	16 41 15.1	-2.2
OBIP				*e*S	Sn	16 41 46.0	-3.4
CELP	Cerrillos	2.63	109⇑	*e*P	Pn	16 41 15.4	-2.1
CELP				*e*S	Sn	16 41 46.6	-3.0
ICM	Isla Caja Muer	2.75	113⇓	*e*P	Pn	16 41 17.8	-1.3
ICM				*e*S	Sn	16 41 48.9	-3.7
SJG	San Juan	3.01	106⇑	*e*P	Pn	16 41 21.0	-1.6
SJG				*e*S	Sn	16 41 55.2	-3.7
SJG	San Juan	3.01	106⇑	*e*P	Pn	16 41 19.9	-2.7
SJG				*e*S	Sn	16 41 56.3	-2.6
HUMP	Col San Antoni	3.28	104⇑	*e*P	Pn	16 41 24.6	-1.7
HUMP				*e*S	Sn	16 42 01.9	-3.6

LDG ***08*** *16:44:02.6±0.1, 4039N×1981E, h10km, Mb4.8/10, Ms2.7/5, Error ellipse: s-maj=8.4km s-min=3.6km az=24.0*
ISCJB ***08*** *16:44:03.4±0.4, 40.11N±001×1967E±002, h1km±3km, mb4.1/14, MS3.3/5, Error ellipse: s-maj=2.5km s-min=2.1km az=93.8*
ROM ***08*** *16:44:04.5±0.4, 3991N×1999E, h10km, Ml3.9/8, Error ellipse: s-maj=5.6km s-min=2.8km az=60.0*
IDC ***08*** *16:44:04.0±0.9, 4023N×1988E, h0km, mb3.9/12, mb1 4.0/18, mb1mx3.9/29, mbtmp3.9/18, ML4.0/6, MS3.3/5, Ms1 3.4/5, ms1mx3.0/26, Error ellipse: s-maj=14.2km s-min=12.6km az=59.0*
TIR ***08*** *16:44:04.9, 4012N×1989E, h15km, Ml3.7*
THE ***08*** *16:44:05.8, 4009N×1972E, h2km, ML4.0*
ATH ***08*** *16:44:05.7, 4008N×1977E, h21km±1km, MD4.2/16, ML4.4*
CSEM ***08*** *16:44:05.6±0.1, 4004N×1971E, h2km, Ms2.7, Error ellipse: s-maj=1.8km s-min=0.9km az=39.0*
NEIC ***08*** *16:44:05.8, 4004N×1975E, h21km, mb3.9/2, ML4.2(PDG), ML4.4(ATH), After ATH.*
MOS ***08*** *16:44:06.1±1.1, 4011N×1956E, h33km, mb4.3/6, Error ellipse: s-maj=5.4km s-min=3.4km az=107.5*
PDG ***08*** *16:44:07.3±0.9, 4024N×1970E, h14km±3km*
PRU ***08*** *16:44:09.6, 4049N×1965E, h0km*

ISC 08 16:44:05.3±0.4, 4012N±001×1970E±002, h4km±2km, n207, σ1§27/270, mb4.0/14, MS3.3/5, 22C-21D, Albania

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.30**	**53**	*i* Pg		**Pg**	**16 44 09.6**	**-1.4**
TPE				*i* Sg		**Sg**	**16 44 13.8**	**-1.1**
SRN	**Sarande**	**0.33**	**136**	*i* Pg		**Pg**	**16 44 10.7**	**-0.9**
SRN				*i* Sg		**Sg**	**16 44 15.7**	**-0.2**
VLO	**Vlora**	**0.39**	**336**	*i* Pg		**Pg**	**16 44 14.6**	**+1.9**
VLO				*i* Sg		**Sg**	**16 44 22.5**	**+4.7**
VLO	**Vlora**	**0.39**	**336**	*e*Pg		**Pg**	**16 44 14.6**	**+1.9**
VLO				*i* Sg		**Sg**	**16 44 22.5**	**+4.7**
KEK	**Kerkira**	**0.41**	**169**	*e*PB		**Pg**	**16 44 13.2**	**+0.1**
KEK				*e*SB		**Sg**	**16 44 19.9**	**+1.4**
LSK	**Leskovik**	**0.69**	**87**	*i* Pg		**Pg**	**16 44 16.1**	**-2.4**
LSK				*i* Sg		**Sg**	**16 44 26.1**	**-1.4**
IGT	**Igoumenitsa**	**0.76**	**140**	*e*Pg		**Pg**	**16 44 18.8**	**-1.0**
IGT				*e*Sg		**Sg**	**16 44 29.5**	**-0.2**
SCTE	**Santa Cesarea**	**0.95**	**268**	Pg		**Pg**	**16 44 25.6**	**+2.1**
SCTE	6µm,0.8s			Sg		**Sg**	**16 44 42.0**	**+6.2**
KBN	**Korca**	**0.97**	**58**	*i* Pg		**Pg**	**16 44 22.7**	**-1.2**
KBN				*i* Sg		**Sg**	**16 44 37.3**	**+0.8**
KBN	**Korca**	**0.97**	**58**	*e*Pg		**Pg**	**16 44 22.7**	**-1.2**
KBN				*i* Sg		**Sg**	**16 44 37.3**	**+0.8**
JAN	**Janina**	**1.00**	**117**	*e*PB		**Pb**	**16 44 22.9**	**-2.1**
JAN				*e*SN		**Sn**	**16 44 36.5**	**-3.9**
TIR	**Tirane**	**1.24**	**6**	Pg		**Pg**	**16 44 30.6**	**+1.6**
TIR	5µm,0.8s			Sg		**Sg**	**16 44 50.4**	**+5.4**
TIR	**Tirane**	**1.24**	**6**	*e*Pg		**Pg**	**16 44 29.8**	**+0.8**
TIR				*e*Sg		**Sg**	**16 44 48.1**	**+3.1**
OHR	**Ohrid**	**1.30**	**40**	*i* Pn		**Pn**	**16 44 28.5**	**-1.6**
QSH	**Qafa e Shtames**	**1.41**	**6**	*i* Pn		**Pn**	**16 44 31.8**	**+0.1**
QSH				*i* Sn		**Sn**	**16 44 51.1**	**+0.4**
FNA	**Florina**	**1.44**	**62**	*e*Pg		**Pg**	**16 44 31.0**	**-1.9**
FNA				*e*Sg		**Sg**	**16 44 51.8**	**+0.2**
LACI	**Lac**	**1.52**	**0**	*i* Pn		**Pn**	**16 44 33.7**	**+0.5**
LACI				*i* Sn		**Sn**	**16 44 55.0**	**+1.7**
LACI	**Lac**	**1.52**	**0**	*e*Pn		**Pn**	**16 44 33.7**	**+0.5**
LACI				*i* Sn		**Sn**	**16 44 55.0**	**+1.7**
BIA	**Bitola**	**1.53**	**53**	*i* Pn		**Pn**	**16 44 32.2**	**-1.1**
LKD	**Levkas**	**1.59**	**152**	*e*Pg		**Pg**	**16 44 34.0**	**-1.7**
LKD				*e*Sg		**Sg**	**16 44 55.9**	**-0.4**
KZN	**Kozani**	**1.60**	**82**	*e*PN		**Pn**	**16 44 34.5**	**+0.3**
KZN				*e*SN		**Sn**	**16 44 54.3**	**-0.9**
PE1	**Pezze di Greco**	**1.87**	**292**	*e*Pn		**Pn**	**16 44 38.7**	**+0.7**
ULC	**Ulcinj**	**1.88**	**350**	⇑*i*Pn		**Pn**	**16 44 37.9**	**-0.2**
ULC				*e*Sn		**Sn**	**16 45 03.4**	**+1.2**
EVR	**Evrytania**	**2.02**	**126**	*e*PN		**Pn**	**16 44 40.0**	**-0.1**
EVR				*e*SN		**Sn**	**16 45 05.2**	**-0.5**
KKS	**Kukesi**	**2.03**	**15**	*i* pn?		**Pn**	**16 44 45.3**	**+5.1**
BRT	**Bari-Castellan**	**2.05**	**293**	Pg		**Pg**	**16 44 45.2**	**+0.6**
BRT				Sg		**Sg**	**16 45 14.2**	**+3.0**
VLS	**Valsamata**	**2.06**	**160**	*e*PB		**Pb**	**16 44 40.2**	**-2.9**
VLS				*e*SN		**Sn**	**16 45 06.8**	**+0.3**
LIT	**Litokhoron** comp=Z,15nm,0.7s	**2.14**	**89**	*e*Pn		**Pn**	**16 44 41.8**	**+0.1**
GRG	**Griva**	**2.22**	**67**	*e*Pn		**Pn**	**16 44 43.7**	**+0.9**
GRG				*e*Sn		**Sn**	**16 45 12.7**	**+2.0**
BCI	**Bajram Curri**	**2.27**	**7**	*e*Pg		**Pg**	**16 44 44.8**	**-3.9**
BUM	**Brajici-Budva**	**2.27**	**345**	⇓*i*Pn		**Pn**	**16 44 43.5**	**0.0**
BUM				*e*Sn		**Sn**	**16 45 13.0**	**+1.2**
SKO	**Skopje**	**2.27**	**35**	*i* Pn		**Pn**	**16 44 44.6**	**+1.0**
SKO				*e*Sn		**Sn**	**16 45 13.9**	**+1.9**
SKO				*e*Sg		**Sg**	**16 45 19.8**	**+1.5**
SKO	**Skopje**	**2.27**	**35**	*e*Pn		**Pn**	**16 44 44.4**	**+0.9**
SKO				*e*Sn		**Sn**	**16 45 14.2**	**+2.3**
AGG	**Agios Georgios** comp=Z,10.0nm,0.7s	**2.31**	**117**	*e*Pn		**Pn**	**16 44 44.7**	**+0.7**
AGG				*e*Sn		**Sn**	**16 45 12.8**	**+0.1**
TTG	**Podgorica**	**2.34**	**352**	⇑*i*Pn		**Pn**	**16 44 44.4**	**0.0**
TTG				*e*Sn		**Sn**	**16 45 14.6**	**+1.1**
BAI	**Bari**	**2.37**	**296**	*e*Pn		**Pn**	**16 44 45.3**	**+0.5**
SG1	**Sgolgore (BA)**	**2.42**	**288**	*e*Pn		**Pn**	**16 44 46.0**	**+0.5**
STIP	**Stip**	**2.46**	**49**	*i* Pn		**Pn**	**16 44 46.5**	**+0.5**
STIP				*e*Sn		**Sn**	**16 45 15.2**	**-1.3**
STIP	**Stip**	**2.46**	**49**	*i* Pn		**Pn**	**16 44 46.5**	**+0.5**
STIP				*e*Sn		**Sn**	**16 45 15.1**	**-1.4**
TIP	**Timpagrande** 408nm,1.0s	**2.46**	**249**	Pg		**Pg**	**16 44 47.7**	**-4.7**
TIP	**Timpagrande**	**2.46**	**249**	*e*Pn		**Pn**	**16 44 45.9**	**-0.2**
TIP				Pg		**Pg**	**16 44 47.7**	**-4.7**
TIP	**Timpagrande**	**2.46**	**249**	*e*Pn		**Pn**	**16 44 45.9**	**-0.2**
TIP	**Timpagrande** 408nm,1.0s	**2.46**	**249**	Pg		**Pg**	**16 44 47.7**	**-4.7**
RLS	**Riolos of Patr**	**2.47**	**146**	*e*PN		**Pn**	**16 44 46.5**	**+0.3**
PVY	**Plav**	**2.49**	**5**	⇑*i*Pn		**Pn**	**16 44 47.7**	**+1.2**
PVY				*e*Sn		**Sn**	**16 45 18.2**	**+1.1**
PVY	**Plav**	**2.49**	**5**	⇑*i*Pn		**Pn**	**16 44 47.7**	**+1.3**
PVY				*e*Sn		**Sn**	**16 45 18.2**	**+1.0**
VAY	**Valandovo**	**2.49**	**60**	*e*Pn		**Pn**	**16 44 46.6**	**+0.1**
VAY	**Valandovo**	**2.49**	**60**	*e*Pn		**Pn**	**16 44 46.5**	**0.0**
HCY	**Herceg Novi**	**2.50**	**339**	⇓*i*Pn		**Pn**	**16 44 46.2**	**-0.5**
HCY				*e*Sn		**Sn**	**16 45 18.4**	**+0.9**
THE	**Thessaloniki** comp=Z,4.2nm,0.7s	**2.55**	**77**	*e*Pn		**Pn**	**16 44 47.8**	**+0.6**
SERS	**Sersale** 483nm,1.2s	**2.57**	**246**	Pg		**Pn**	**16 44 48.3**	**+0.8**
NKY	**Niksic**	**2.75**	**349**	⇓*i*Pn		**Pn**	**16 44 50.2**	**+0.2**
NKY				*e*Sn		**Sn**	**16 45 24.6**	**+1.0**
IVA	**Berane**	**2.76**	**3**	*e*Pn		**Pn**	**16 44 51.5**	**+1.3**
IVA				*e*Sn		**Sn**	**16 45 24.6**	**+0.7**
CDT	**Castel del Mon**	**2.78**	**291**	*e*Pn		**Pn**	**16 44 51.3**	**+0.8**
TREB	**Trebinje**	**2.79**	**339**	P		**Pn**	**16 44 50.4**	**-0.2**
TREB				S		**Sn**	**16 45 26.6**	**+1.9**
XOR	**Xorichti** comp=Z,5.8nm,1.0s	**2.79**	**104**	*e*Pn		**Pn**	**16 44 50.5**	**-0.2**
NEO	**Neokhori**	**2.83**	**105**	*e*PN		**Pn**	**16 44 51.5**	**+0.3**
SOH	**Sokhos**	**2.87**	**75**	*e*Pn		**Pn**	**16 44 52.1**	**+0.3**
SOH				*e*Sn		**Sn**	**16 45 28.4**	**+1.6**
PLG	**Polygyros**	**2.88**	**84**	*e*PN		**Pn**	**16 44 52.3**	**+0.5**
BRY	**Bratogost**	**2.92**	**343**	⇓*i*Pn		**Pn**	**16 44 52.0**	**-0.3**
BRY				*e*Sn		**Sn**	**16 45 28.8**	**+1.0**
BRY	**Bratogost**	**2.92**	**343**	⇓*i*Pn		**Pn**	**16 44 52.0**	**-0.4**
BRY				*e*S		**Sn**	**16 45 28.8**	**+1.0**
LKR	**Lokris**	**2.94**	**119**	*e*PN		**Pn**	**16 44 53.1**	**+0.3**
PLAC	**Placanica** 100nm,0.6s	**3.03**	**238**	Pg		**Pn**	**16 44 54.3**	**+0.4**
STON	**Ston**	**3.14**	**332**	*i* Pn		**Pn**	**16 44 55.7**	**+0.3**
STON				*i* Sn		**Sn**	**16 45 33.0**	**-0.3**
STON	**Ston**	**3.14**	**332**	*i* Pn		**Pn**	**16 44 55.6**	**+0.2**
STON				*i* Sn		**Sn**	**16 45 32.9**	**-0.4**
UPM	**Unac-Piva**	**3.14**	**349**	⇑*i*Pn		**Pn**	**16 44 56.6**	**+1.1**
UPM				*e*Sn		**Sn**	**16 45 34.2**	**+0.8**
SJES	**Sjenica**	**3.16**	**3**	Pn		**Pn**	**16 44 56.9**	**+1.2**
PLE	**Pljevlja**	**3.22**	**356**	⇑*i*Pn		**Pn**	**16 44 57.8**	**+1.2**
PLE				*e*Sn		**Sn**	**16 45 35.9**	**+0.5**
PLE	**Pljevlja**	**3.22**	**356**	⇑*i*Pn		**Pn**	**16 44 57.8**	**+1.3**
PLE				*e*Sn		**Sn**	**16 45 35.8**	**+0.5**
MS1	**Monte Sant'Ang**	**3.26**	**300**	*e*Pn		**Pn**	**16 44 57.6**	**+0.5**
OUR	**Ouranopolis** comp=Z,6.3nm,0.6s	**3.28**	**85**	*e*Pn		**Pn**	**16 44 57.8**	**+0.4**
AOS	**Alonnisos** comp=Z,2.3nm,1.0s	**3.36**	**105**	*e*Pn		**Pn**	**16 44 59.2**	**+0.7**
CMPR	**Campora** 302nm,0.8s	**3.37**	**275**	Pg		**Pn**	**16 45 00.3**	**+1.6**
CDRU	**Civita di Ruta** 228nm,0.8s	**3.38**	**278**	Pg		**Pn**	**16 45 02.1**	**+3.3**
SGO	**Sicignano** 94nm,0.4s	**3.39**	**279**	Pg		**Pg**	**16 45 01.9**	**-8.3**
NVR	**Nevrokopi**	**3.39**	**67**	*e*PN		**Pn**	**16 45 00.3**	**+1.4**
ITM	**Ithomi**	**3.41**	**149**	*e*PN		**Pn**	**16 44 59.0**	**-0.1**
CEL	**Celeste**	**3.49**	**239**	Pg		**Pn**	**16 45 01.0**	**+0.7**
CEL				Sg		**Sn**	**16 45 42.9**	**+0.9**
MGER	**Gerania Oros**	**3.49**	**126**	*e*PN		**Pn**	**16 45 00.0**	**-0.3**
SOI	**Samo** 125nm,0.5s	**3.50**	**235**	Pg		**Pn**	**16 45 01.0**	**+0.7**
SNAL	**S. Angelo Dei** 1µm,0.9s	**3.52**	**285**	Pg		**Pn**	**16 45 02.6**	**+1.9**
MCRV	**Calabrutti - M**	**3.52**	**282**	Pg		**Pn**	**16 45 03.6**	**+2.9**
SCLL	**Scilla** 14nm,0.3s	**3.61**	**240**	Pg		**Pn**	**16 45 02.2**	**+0.3**
VTS	**Vitosha**	**3.62**	**46**	*e*Pn		**Pn**	**16 45 02.6**	**+0.6**
VTS	**Vitosha**	**3.62**	**46**	⇑*i*P		**Pn**	**16 45 03.1**	**+1.1**
ATH	**Athens Observa**	**3.79**	**123**	*e*PN		**Pn**	**16 45 04.5**	**+0.1**
ATH	**Athens Observa**	**3.79**	**123**	*e*Pn		**Pn**	**16 45 00.5**	**-3.9**
PTL	**Penteli**	**3.84**	**121**	*e*PN		**Pn**	**16 45 05.0**	**-0.1**
KVR	**Kavouri**	**3.91**	**124**	*e*PN		**Pn**	**16 45 06.0**	**0.0**
DIVS	**Divcibare**	**3.99**	**3**	*i* Pn		**Pn**	**16 45 06.7**	**-0.4**
DIVS	**Divcibare**	**3.99**	**3**	*e*Pn		**Pn**	**16 45 06.5**	**-0.6**
DIVS				*e*Sn		**Sn**	**16 45 56.3**	**+2.1**
SVIS	**Svilajnac**	**4.33**	**15**	⇓*i*Pn		**Pn**	**16 45 11.8**	**0.0**
RDO	**Rodhopi**	**4.56**	**75**	*e*PN		**Pn**	**16 45 16.3**	**+1.4**
BEO	**Belgrade**	**4.74**	**7**	⇑*i*Pn		**Pn**	**16 45 13.4**	**-4.0**
ALN	**Alexandroupoli**	**4.90**	**79**	*e*Pn		**Pn**	**16 45 20.3**	**+0.7**
VAE	**Valguarnera** 0.9nm,0.3s,baz=276,slow=8.2,SNR=2.4	**4.90**	**239**	Pn		**Pn**	**16 45 22.1**	**+2.5**
VAE	2.1nm,0.3s,baz=89,slow=23,SNR=3.0			Lg			16 46 48.2	
CHOS	**Chios island**	**5.22**	**107**	*e*Pn		**Pn**	**16 45 24.9**	**+0.8**
AQU	**L'Aquila**	**5.25**	**297**	*e*P		**Pn**	**16 45 25.7**	**+1.3**
AQU	comp=Z,108nm,1.0s			pmax	pmax			
AQU	**L'Aquila** comp=Z,108nm,1.0s	**5.25**	**297**	*e*Pn		**Pn**	**16 45 25.7**	**+1.2**
AQU	**L'Aquila** comp=Z,108nm,1.0s	**5.25**	**297**	*e*Pn		**Pn**	**16 45 25.7**	**+1.3**
APE	**Apeiranthos**	**5.49**	**122**	*e*Pn		**Pn**	**16 45 27.4**	**-0.3**
BZS	**Buzias**	**5.68**	**14**	⇓*i*P		**Pn**	**16 45 29.4**	**-0.9**
NVLJ	**Novalja**	**5.71**	**323**	*i* Pn		**Pn**	**16 45 30.6**	**-0.1**
NVLJ				*i* Sn		**Sn**	**16 46 34.3**	**-2.3**
NVLJ	**Novalja**	**5.71**	**323**	*i* Pn		**Pn**	**16 45 30.5**	**-0.2**
NVLJ				*i* Sn		**Sn**	**16 46 34.3**	**-2.3**
THR3	**Thira Island,**	**5.81**	**128**	*e*Pn		**Pn**	**16 45 32.6**	**+0.5**
RHK1	**Bakonya**	**6.09**	**349**	⇑*e*P		**Pn**	**16 45 36.3**	**+0.3**
PKSM	**Moragy**	**6.14**	**353**	⇑*i*P		**Pn**	**16 45 35.9**	**-0.8**
PKSM	**Moragy**	**6.14**	**353**	⇓*e*P		**Pn**	**16 45 35.6**	**-1.1**
IDI	**Anoyia** comp=Z,1.0nm,0.3s,baz=312,slow=14,SNR=10	**6.33**	**138**	Pn		**Pn**	**16 45 37.2**	**-2.2**
IDI	comp=Z,5.9nm,0.3s,baz=313,slow=21,SNR=13			Sn		**Sn**	**16 46 43.2**	**-8.9**
VOIR		**6.61**	**35**	⇓*i*P		**Pn**	**16 45 45.1**	**+1.9**
DRGR		**7.02**	**17**	⇓*i*P		**Pn**	**16 45 51.3**	**+2.5**
LJU	**Ljubljana**	**7.03**	**329**	*e*Pn		**Pn**	**16 45 49.0**	**+0.1**
LJU				*e*Sn		**Sn**	**16 47 08.0**	**-1.3**
MLR	**Muntele Rosu** comp=Z,0.8nm,0.3s,baz=247,slow=8.4,SNR=8.0	**7.07**	**38**	Pn		**Pn**	**16 45 51.5**	**+2.1**
MLR	**Muntele Rosu**	**7.07**	**38**	⇓*i*P		**Pn**	**16 45 53.1**	**+3.7**
VOY	**Vojsko**	**7.28**	**326**	*e*Pn		**Pn**	**16 45 52.0**	**-0.3**
VOY				*e*Sn		**Sn**	**16 47 12.3**	**-3.1**
OBKA	**Obir**	**7.41**	**331**	⇑*i*Sn		**Sn**	**16 47 17.3**	**-1.3**
OBKA	**Obir**	**7.41**	**331**	⇓*i*Pn		**Pn**	**16 45 54.1**	**0.0**
OBKA				⇑*i*Sn		**Sn**	**16 47 17.3**	**-1.3**
VRI	**Vrincioaia**	**7.71**	**40**	⇑*i*P		**Pn**	**16 46 00.2**	**+1.9**
ARSA	**Arzberg** SNR=6.0	**7.75**	**338**	⇑*i*Pn		**Pn**	**16 45 58.7**	**0.0**
ARSA				⇑*i*Sn		**Sn**	**16 47 21.6**	**-5.2**
PSZ	**Piszkesteto**	**7.80**	**1**	*e*Pn		**Pn**	**16 45 57.3**	**-2.2**
KBA	**Koelnbreinsper** SNR=13	**8.35**	**329**	⇓*i*Pn		**Pn**	**16 46 06.6**	**-0.4**
KBA				⇓*i*Sn		**Sn**	**16 47 38.2**	**-3.4**
KECS	**Kecovo**	**8.38**	**4**	*e*PN		**Pn**	**16 46 10.0**	**+2.5**
KECS				*e*			16 47 26.9	
VYHS	**Vyhne**	**8.40**	**356**	*e*PN		**Pn**	**16 46 08.5**	**+0.8**
VYHS				*e*SN		**Sn**	**16 47 40.4**	**-2.5**
PGF	**Pioggiola** comp=Z,32nm,1.0s	**8.41**	**290**	*e*P		**Pn**	**16 46 08.8**	**+0.9**
PGF	**Pioggiola** comp=Z,16nm,1.0s	**8.41**	**290**	*e*P		**Pn**	**16 46 08.8**	**+0.9**
MOA	**Molln**	**8.67**	**335**	⇑*i*Pn		**Pn**	**16 46 11.2**	**-0.1**
MOA				⇓*i*Sn		**Sn**	**16 47 47.6**	**-1.9**
CRVS	**Cervenica-Dubn**	**8.88**	**8**	*e*PN		**Pn**	**16 46 17.0**	**+2.8**
KOLS	**Kolonicke sedl**	**9.01**	**11**	*e*		**Pn**	**16 46 21.2**	**+5.2**
WTTA	**Wattenberg** SNR=7.9	**9.22**	**323**	⇑*i*Pn		**Pn**	**16 46 19.2**	**+0.2**
WTTA				⇑*i*Sn		**Sn**	**16 48 01.2**	**-2.0**
WATA	**Walderalm** SNR=7.6	**9.31**	**324**	⇓*i*Pn		**Pn**	**16 46 20.5**	**+0.4**
WATA				⇓*i*Sn		**Sn**	**16 48 03.7**	**-1.5**
STHS	**Stebnicka Huta**	**9.37**	**6**	*e*PN		**Pn**	**16 46 19.7**	**-1.2**
SQTA	**Sankt Quirin** SNR=6.8	**9.39**	**322**	⇑*i*Pn		**Pn**	**16 46 21.7**	**+0.4**
SQTA				⇓*i*Sn		**Sn**	**16 48 06.1**	**-1.2**
VRAC	**Vranov** comp=Z,0.3nm,0.3s,baz=175,slow=7.8,SNR=3.8	**9.45**	**348**	Pn		**Pn**	**16 46 21.5**	**-0.6**
MOTA	**Moosalm** SNR=14	**9.53**	**322**	⇓*i*Pn		**Pn**	**16 46 22.8**	**-0.5**
MOTA				⇓*i*Sn		**Sn**	**16 48 08.4**	**-2.3**
TREC	**Trest** comp=Z,200nm,6.3s	**9.65**	**343**	AMS		AMS	16 50 40.0	
GEC2	**GERESS Array S**	**9.72**	**336**	*e*Pn		**Pn**	**16 46 24.5**	**-1.3**
GEC2				*e*Sn		**Sn**	**16 48 11.9**	**-3.5**
GERES	**GERESS Array B** comp=Z,0.9nm,0.3s,baz=160,slow=14,SNR=21	**9.72**	**336**	Pn		**Pn**	**16 46 24.6**	**-1.2**
GERES	comp=Z,0.7nm,0.3s,baz=168,slow=28,SNR=7.6			Sn		**Sn**	**16 48 13.0**	**-2.4**
DAVOX	**Davos** comp=Z,0.9nm,0.3s,baz=132,slow=20,SNR=8.7	**9.76**	**316**	Pn		**Pn**	**16 46 27.7**	**+1.3**
DAVOX	comp=Z,1.2nm,0.3s,baz=37,slow=22,SNR=6.6			Sn		**Sn**	**16 48 15.7**	**-0.7**
OKC	**Ostrava-Krasne** comp=Z,300nm,7.8s	**9.78**	**354**	AMS		AMS	16 51 30.0	
SBF	**Sospel**	**9.87**	**296**	*e*P		**Pn**	**16 46 27.2**	**-0.6**
KHC	**Kasperske Hory**	**10.01**	**336**	*e*P		**Pn**	**16 46 27.6**	**-2.2**
KHC				x		x	16 46 42.5	
KHC				*e*S		**Sn**	**16 48 19.1**	**-3.4**
KHC	comp=Z,200nm,12.2s			AMS		AMS	16 51 00.0	
WET	**Wettzell**	**10.25**	**334**	*e*Pn		**Pn**	**16 46 31.6**	**-1.4**
DPC	**Dobruska-Polom** comp=Z,300nm,6.9s	**10.51**	**348**	AMS		AMS	16 51 40.0	
PRU	**Pruhonice**	**10.52**	**341**	*e*P		**Pn**	**16 46 34.5**	**-2.3**
PRU	comp=Z,200nm,6.2s			AMS		AMS	16 51 40.0	
MBDF	**Montbardon** comp=Z,13nm,0.8s	**10.61**	**300**	*e*P		**Pn**	**16 46 37.9**	**-0.1**
MBDF	**Montbardon** comp=Z,7.0nm,0.8s	**10.61**	**300**	*e*P		**Pn**	**16 46 37.9**	**-0.1**
MBDF				pmax	pmax			
MBDF	**Montbardon** comp=Z,6.5nm,0.8s	**10.61**	**300**	*e*P		**Pn**	**16 46 37.9**	**-0.1**
BRTR	**Keskin Array B** comp=Z,0.1nm,0.3s,baz=267,slow=12,SNR=5.1	**10.71**	**88**	Pn		**Pn**	**16 46 42.0**	**+2.6**
LPG	**La Plagne** comp=Z,19nm,0.9s	**10.93**	**304**	*e*P		**Pn**	**16 46 41.5**	**-0.8**
LPG	**La Plagne** comp=Z,10.0nm,0.9s	**10.93**	**304**	*e*P		**Pn**	**16 46 41.5**	**-0.8**
LPG				pmax	pmax			
LPG	**La Plagne** comp=Z,9.6nm,0.9s	**10.93**	**304**	*e*P		**Pn**	**16 46 41.5**	**-0.8**
LPL	**La Plagne** comp=Z,9.4nm,0.5s	**10.95**	**304**	*e*P		**Pn**	**16 46 41.1**	**-1.5**
LPL	**La Plagne**	**10.95**	**304**	*e*P		**Pn**	**16 46 41.1**	**-1.5**
LPL	comp=Z,5.0nm,0.5s			pmax	pmax			
LPL	**La Plagne** comp=Z,4.7nm,0.5s	**10.95**	**304**	*e*P		**Pn**	**16 46 41.1**	**-1.5**
ORIF	**Oris-en-Rattie**	**11.27**	**300**	*e*P		**Pn**	**16 46 46.4**	**-0.6**
ORIF	comp=Z,108nm,20.5s			eR				
NKC	**Novy Kostel** comp=Z,300nm,6.4s	**11.33**	**336**	AMS		AMS	16 52 00.0	
CABF	**La Chapelle**	**11.84**	**308**	*e*P		**Pn**	**16 46 53.2**	**-1.6**
MOX	**Moxa**	**11.96**	**334**	*e*PN		**Pn**	**16 46 56.0**	**-0.4**
MOX	comp=Z,200nm,16.0s			*e*P		**Pn**	**16 46 56.0**	**-0.4**
MOX	**Moxa** comp=Z,200nm,16.0s	**11.96**	**334**					
HINF	**Hinteralfeld** comp=Z,6.5nm,0.5s	**12.03**	**314**	*e*P		**Pn**	**16 46 55.2**	**-2.2**
HINF	**Hinteralfeld**	**12.03**	**314**	*e*P		**Pn**	**16 46 55.2**	**-2.2**
HINF	comp=Z,3.0nm,0.5s			pmax	pmax			
HINF	**Hinteralfeld** comp=Z,3.2nm,0.5s	**12.03**	**314**	*e*P		**Pn**	**16 46 55.2**	**-2.2**
CLL	**Collm**	**12.13**	**340**	*ex*		x	16 47 19.0	
CDF	**Champ du Feu**	**12.16**	**317**	*e*P		**Pn**	**16 46 57.3**	**-1.9**
HAU	**Haudompre** comp=Z,6.8nm,0.4s	**12.42**	**314**	*e*P		**Pn**	**16 47 02.3**	**-0.4**
HAU	comp=Z,98nm,19.5s			eR				
HAU	**Haudompre**	**12.42**	**314**	*e*P		**Pn**	**16 47 02.3**	**-0.4**
HAU	comp=Z,3.0nm,0.4s			pmax	pmax			
HAU	**Haudompre** comp=Z,3.4nm,0.4s	**12.42**	**314**	*e*P		**Pn**	**16 47 02.3**	**-0.4**
AKASG	**Malin Array Be** comp=Z,0.2nm,0.3s,baz=215,slow=12,SNR=2.9	**12.51**	**29**	Pn		**Pn**	**16 47 04.5**	**+0.6**
SMF	**Signal de Mont**	**13.24**	**305**	*e*P		**Pn**	**16 47 11.6**	**-2.4**
LOR	**Lormes** comp=Z,3.9nm,0.4s	**13.50**	**307**	*e*P		**Pn**	**16 47 17.5**	**0.0**
LOR	comp=Z,79nm,21.2s			eR				
LOR	**Lormes**	**13.50**	**307**	*e*P		**Pn**	**16 47 17.5**	**0.0**
LOR	comp=Z,2.0nm,0.4s			pmax	pmax			
LOR	**Lormes** comp=Z,2.0nm,0.4s	**13.50**	**307**	*e*P		**Pn**	**16 47 17.5**	**0.0**
AVF	**Avril sur Loir** comp=Z,3.3nm,0.4s	**13.61**	**305**	*e*P		**Pn**	**16 47 17.4**	**-1.6**
AVF	**Avril sur Loir**	**13.61**	**305**	*e*P		**Pn**	**16 47 17.4**	**-1.6**
AVF	comp=Z,2.0nm,0.4s			pmax	pmax			
AVF	**Avril sur Loir** comp=Z,1.6nm,0.4s	**13.61**	**305**	*e*P		**Pn**	**16 47 17.4**	**-1.6**
SSF	**Saint Saulge**	**13.62**	**306**	*e*P		**Pn**	**16 47 17.6**

ellipse: s-maj=2.6km s-min=2.4km az=51.7
*THE **08** 16:53:39.7, 3798N×2763E, h10km*
ISC 08 16:53:38.7±0.2,3782N±002×2764E±002,h10km,n59,
σ1§21/81,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYDN	**Tasoluk**	**0.25**	**130**	*i* P	**Pg**	**16 53 43.5**	**-0.4**
AYDN				*i* S	**Sg**	**16 53 46.9**	**-0.3**
MLSB	**Milas**	**0.54**	**168**	*i* PG	**Pg**	**16 53 47.9**	**-1.3**
SMG	**Samos**	**0.65**	**260**	*e*PB	**Pg**	**16 53 50.2**	**-1.1**
SMG				*e*SB	**Sg**	**16 54 00.5**	**+0.8**
IZM	**Izmir**	**0.65**	**333**	PG	**Pg**	**16 53 50.0**	**-1.3**
KDAG	**Bornova**	**0.65**	**333**	*i* P	**Pg**	**16 53 50.4**	**-0.9**
KDAG				*i* S	**Sg**	**16 53 58.2**	**-1.6**
BDRM	**Kayabasi**	**0.77**	**192**	*i* P	**Pg**	**16 53 52.5**	**-1.1**
BDRM				*i* S	**Sg**	**16 54 04.2**	**+0.5**
BODT	**Bodrum**	**0.80**	**199**	PG	**Pg**	**16 53 52.5**	**-1.7**
BODT				SG	**Sg**	**16 54 05.3**	**+0.6**
YER	**Yerkesik**	**0.86**	**143**	PG	**Pg**	**16 53 54.5**	**-0.7**
MANT	**Manisa**	**0.98**	**47**	*i* P	**Pg**	**16 53 56.2**	**-1.4**
MANT				*i* S	**Sg**	**16 54 09.1**	**-1.4**
MANT	**Manisa**	**0.98**	**47**	*i* P	**Pg**	**16 53 56.2**	**-1.5**
MANT				*i* S	**Sg**	**16 54 09.1**	**-1.4**
AKS	**Akhisar**	**1.06**	**7**	PG	**Pg**	**16 53 57.7**	**-1.5**
DAT	**Datca**	**1.09**	**183**	PN	**Pn**	**16 53 58.6**	**-1.5**
DENT	**Denizli**	**1.11**	**93**	PN	**Pn**	**16 53 59.6**	**-0.7**
DALT	**Dalyan (Mudla)**	**1.32**	**143**	PN	**Pn**	**16 54 02.6**	**-0.6**
CHOS	**Chios island**	**1.37**	**295**	*e*Pg	**Pg**	**16 54 03.3**	**-1.7**
CHOS				*e*Sg	**Sg**	**16 54 22.8**	**-0.1**
KHL	**Karahalli**	**1.57**	**71**	PN	**Pn**	**16 54 06.1**	**-0.5**
ARG	**Arkhangelos**	**1.65**	**166**	*e*PG	**Pg**	**16 54 07.8**	**-2.6**
ARG				*e*SN	**Sn**	**16 54 32.3**	**+3.3**
FETY	**Fethiye**	**1.65**	**135**	PN	**Pn**	**16 54 08.1**	**+0.3**
AYVA	**Ayvalik**	**1.66**	**334**	*i* P	**Pn**	**16 54 09.4**	**+1.5**
AYVA				*i* S	**Sn**	**16 54 31.6**	**+2.4**
PRK	**Paraskevi**	**1.78**	**323**	*e*PG	**Pn**	**16 54 08.6**	**-1.0**
PRK				*e*SN	**Sn**	**16 54 33.8**	**+1.5**
BALB	**Balikesir**	**1.82**	**6**	PN	**Pn**	**16 54 09.2**	**-1.0**
APE	**Apeiranthos**	**1.84**	**247**	*e*Pb	**Pb**	**16 54 12.3**	**-0.2**
APE				*e*Sb	**Sb**	**16 54 37.4**	**+1.8**
APE	**Apeiranthos**	**1.84**	**247**	*e*PG	**Pb**	**16 54 12.3**	**-0.2**
APE				*e*SN	**Sn**	**16 54 37.6**	**+3.9**
APE	**Apeiranthos**	**1.84**	**247**	*e*Pn	**Pn**	**16 54 12.4**	**+2.0**
APE				*e*Sn	**Sg**	**16 54 40.4**	**+2.5**
APE	**Apeiranthos**	**1.84**	**247**	*e*Pn	**Pn**	**16 54 10.4**	**0.0**
APE	**Apeiranthos**	**1.84**	**247**	*e*Pb	**Pb**	**16 54 12.3**	**-0.2**
APE				*e*Sb	**Sb**	**16 54 37.4**	**+1.9**
GDZ	**Gediz**	**1.92**	**48**	*i* P	**Pn**	**16 54 14.1**	**+2.6**
GDZ				*i* S	**Sn**	**16 54 39.5**	**+3.8**
DST	**Dursunbey**	**1.94**	**23**	*e*PN	**Pn**	**16 54 12.3**	**+0.5**
ELL	**Elmali**	**2.10**	**120**	*e*PN	**Pn**	**16 54 15.0**	**+1.0**
TKTP	**Tekketepe**	**2.13**	**83**	*i* P	**Pg**	**16 54 19.0**	**-0.6**
TKTP				*i* S	**Sg**	**16 54 50.5**	**+3.2**
SANT	**Santorini**	**2.27**	**231**	*e*Pn	**Pn**	**16 54 18.6**	**+2.4**
SANT				*e*Sn	**Sn**	**16 54 49.6**	**+5.4**
SANT	**Santorini**	**2.27**	**231**	*e*Pn	**Pn**	**16 54 14.8**	**-1.4**
SANT				*e*Pg	**Pg**	**16 54 20.7**	**-1.5**
SANT				*e*Sg	**Sg**	**16 54 51.8**	**+0.3**
SANT	**Santorini**	**2.27**	**231**	*e*Pn	**Pn**	**16 54 14.9**	**-1.3**
SANT	**Santorini**	**2.27**	**231**	*e*Pg	**Pg**	**16 54 20.7**	**-1.5**
THR1	**Thera Island**	**2.27**	**231**	*e*Pn	**Pn**	**16 54 18.5**	**+2.3**
ISP	**Isparta**	**2.27**	**89**	*e*PN	**Pn**	**16 54 17.4**	**+1.1**
ALT	**Altintas**	**2.30**	**57**	*e*PN	**Pn**	**16 54 17.6**	**+0.9**
BCK	**Bucak**	**2.37**	**98**	*e*PN	**Pn**	**16 54 18.9**	**+1.3**
ORLT	**Orhaneli**	**2.43**	**23**	*e*PN	**Pn**	**16 54 18.6**	**+0.2**
KCT	**Karacabey**	**2.50**	**13**	*e*PN	**Pn**	**16 54 19.0**	**-0.5**
EDC	**Edincik**	**2.53**	**4**	*e*PN	**Pn**	**16 54 18.7**	**-1.1**
BNT	**Bandirma**	**2.54**	**5**	*e*PN	**Pn**	**16 54 18.9**	**-1.1**
ULDT	**Uludag**	**2.59**	**26**	*i* P	**Pb**	**16 54 25.7**	**+0.4**
ULDT				*i* S	**Sb**	**16 54 59.4**	**+2.1**
MRMT	**Marmara Adasi**	**2.78**	**359**	*e*PN	**Pn**	**16 54 22.6**	**-0.7**
RKY	**Sarkoy-Tekirda**	**2.88**	**353**	*e*PN	**Pn**	**16 54 25.0**	**+0.3**
IZI	**Iznik**	**2.89**	**29**	*e*PN	**Pn**	**16 54 25.1**	**+0.3**
MFT	**Murefte**	**2.97**	**355**	*e*PN	**Pn**	**16 54 26.1**	**+0.1**
YLV	**Yalova**	**3.05**	**26**	*e*PN	**Pn**	**16 54 27.7**	**+0.6**
GPA	**Golpazari**	**3.22**	**39**	*e*PN	**Pn**	**16 54 30.3**	**+0.9**
ALN	**Alexandroupoli**	**3.31**	**339**	*e*Pn	**Pn**	**16 54 29.5**	**-1.1**
ALN				*e*Sn	**Sn**	**16 55 09.0**	**-1.0**
CTT	**Catalca**	**3.38**	**10**	*e*PN	**Pn**	**16 54 32.7**	**+1.2**
HRT	**Hereke**	**3.38**	**27**	*e*PN	**Pn**	**16 54 32.3**	**+0.7**
ISK	**Istanbul-Kandi**	**3.42**	**18**	*e*PN	**Pn**	**16 54 33.4**	**+1.3**
RDO	**Rodhopi**	**3.70**	**335**	*e*PN	**Pn**	**16 54 35.2**	**-0.7**
OUR	**Ouranopolis**	**3.79**	**313**	*e*Pn	**Pn**	**16 54 36.9**	**-0.4**
OUR	**Ouranopolis**	**3.79**	**313**	*e*Pn	**Pn**	**16 54 36.8**	**-0.4**
MDU	**Mudurnu**	**3.83**	**45**	*e*PN	**Pn**	**16 54 39.4**	**+1.6**
EDRB	**Edirne**	**4.08**	**351**	*e*PN	**Pn**	**16 54 41.2**	**0.0**
GRG	**Griva**	**5.12**	**309**	*e*Pn	**Pn**	**16 54 55.6**	**+0.1**

*IDC **08** 16:57:11.8±0.7, 1992S×17454W, h0km, mb4.1/12, mb1 4.3/13, mb1mx4.2/19, mbtmp4.1/13, ML2.4/1, MS3.8/6, Ms1 3.8/6, ms1mx3.3/21, Error ellipse: s-maj=33.7km s-min=15.2km az=140.0*
*NEIC **08** 16:57:13.4±0.4, 1989S×17454W, h10km, mb4.7/4, Error ellipse: s-maj=17.3km s-min=9.0km az=132.0*
*ISCJB **08** 16:57:15.3±0.5, 200S±0.1×1746W±0.1, h33km, mb4.2/15, MS3.9/5, Error ellipse: s-maj=19.1km s-min=10.7km az=81.7*
*SZGRF **08** 16:57:18.4, 1992S×17599W, h33km, Tonga Islands*
*MOS **08** 16:57:18.9±3.0, 2010S×17490W, h33km, mb5.0/2, Error ellipse: s-maj=21.3km s-min=16.5km az=145.4*
ISC 08 16:57:17.2±0.5,1993S±01×1745W±01,h35km,n77,
σ0§95/27,mb4.2/15,MS3.9/5,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.53**	**24**	Pn	**Pn**	**16 58 49.1**	**-1.5**
	4.8nm,0.3s,baz=220,slow=21,SNR=5.7						
AFI				Sn	**Sn**	**16 59 54.3**	**-9.5**
	15nm,0.3s,baz=208,slow=21,SNR=5.6						
AFI				LR	LR	17 01 01.2	
	comp=Z,303nm,19.0s,baz=274,slow=35						
RAR	**Rarotonga**	**13.85**	**98**	Pn	**Pn**	**17 00 20.5**	**-10**
	2.1nm,0.3s,baz=283,slow=15,SNR=11						
RAR				T		17 14 24.7	
	4.8nm,0.3s,baz=224,slow=14,SNR=3.6						
PPT	**Papeete**	**23.71**	**88**	LR	LR	17 10 10.6	
	comp=Z,136nm,18.1s,MS3.5,baz=144,slow=33						
RPZ	**Rata Peaks**	**26.63**	**204**	P	**P**	**17 02 53.8**	**+1.5**
	6.3nm,0.7s,mb4.3,baz=51,slow=13,SNR=5.9						
CTA	**Charters Tower**	**36.83**	**263**	P	**P**	**17 04 22.9**	**+1.0**
	4.7nm,0.5s,mb4.6,baz=80,slow=9.3,SNR=9.3						
CTA				LR	LR	17 17 21.4	
	comp=Z,106nm,21.8s,MS3.6,baz=87,slow=33						
CTAO	**Charters Tower**	**36.83**	**263**	*e*P	**P**	**17 04 22.8**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.6						
CTAO	**Charters Tower**	**36.83**	**263**	*e*P	**P**	**17 04 22.8**	**+1.0**
	comp=Z,4.9nm,0.5s,mb4.6						
STKA	**Stephens Creek**	**41.00**	**244**	P	**P**	**17 04 54.7**	**-2.0**
	comp=Z,1.8nm,0.5s,mb4.0,baz=62,slow=14,SNR=10						
STKA				LR	LR	17 18 50.7	
	comp=Z,156nm,18.1s,MS3.9,baz=189,slow=32						
STKA	**Stephens Creek**	**41.00**	**244**	*e*P	**P**	**17 04 54.5**	**-2.2**
STKA				LR	LR	17 18 50.7	
ASAR	**Alice Springs**	**47.85**	**256**	P	**P**	**17 05 50.8**	**-0.7**
	comp=Z,1.1nm,0.5s,mb4.2,baz=96,slow=7.9,SNR=33						
WRAB	**Tennant Creek**	**47.93**	**261**	*e*P	**P**	**17 05 51.8**	**-0.3**
WRA	**Warramunga Arr**	**47.94**	**261**	P	**P**	**17 05 51.7**	**-0.5**
	comp=Z,1.0nm,0.5s,mb4.1,baz=94,slow=5.7,SNR=18						
FITZ	**Fitzroy Crossi**	**56.37**	**261**	P	**P**	**17 06 55.5**	**+0.7**
	comp=Z,0.9nm,0.5s,mb4.1,baz=129,slow=16,SNR=6.6						
SBA	**Scott Base**	**58.68**	**185**	*e*P	**P**	**17 07 11.4**	**+0.3**
VNDA	**Vanda**	**58.79**	**186**	P	**P**	**17 07 10.3**	**-1.5**
	comp=Z,0.6nm,0.7s,mb3.7,baz=27,slow=4.7,SNR=3.9						
VNDA	**Vanda**	**58.79**	**186**	*e*P	**P**	**17 07 11.4**	**-0.5**
QSPA	**South Pole Qui**	**70.14**	**180**	*e*P	**P**	**17 08 25.3**	**-0.7**
	comp=Z,8.5nm,1.2s,mb4.5						
SKR	**Severo-Kuril's**	**74.92**	**341**	*e*P	**P**	**17 08 56.5**	**+2.0**
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
NVAR	**Mina Array Bea**	**78.38**	**42**	P	**P**	**17 09 14.8**	**+0.8**
	comp=E,1.6nm,0.6s,mb4.1,baz=213,slow=7.3,SNR=12						
MAW	**Mawson**	**83.19**	**199**	LR	LR	17 45 10.6	
	comp=E,101nm,21.6s,MS4.2,baz=66,slow=35						
ANMO	**Albuquerque**	**84.50**	**50**	P	**P**	**17 09 47.1**	**+0.7**
	comp=E,1.2nm,0.5s,mb4.3,baz=203,slow=5.5,SNR=5.2						
BW06	**Boulder Array**	**86.31**	**42**	*e*P	**P**	**17 09 55.0**	**-0.4**
	comp=E,0.7nm,0.6s,mb4.1						
PDAR	**Pinedale Array**	**86.31**	**42**	P	**P**	**17 09 55.8**	**+0.3**
	comp=E,0.4nm,0.7s,mb3.7,baz=324,slow=15,SNR=4.1						
COLA	**College**	**86.98**	**11**	*e*P	**P**	**17 09 58.8**	**+0.1**
COLA				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb5.0						
COLA	**College**	**86.98**	**11**	*e*P	**P**	**17 09 58.8**	**0.0**
	comp=Z,7.2nm,0.7s,mb5.0						
ILAR	**Eielson Array**	**87.06**	**11**	P	**P**	**17 09 59.2**	**+0.1**
	comp=Z,1.9nm,0.8s,mb4.4,baz=234,slow=5.8,SNR=14						
YKA	**Yellowknife Ar**	**94.64**	**24**	P	**P**	**17 10 34.2**	**-0.2**
	comp=Z,0.5nm,0.8s,mb4.0,baz=234,slow=4.2,SNR=8.9						
YKA				LR	LR	17 52 15.9	
	comp=Z,70nm,18.1s,MS4.2,baz=250,slow=35						
YKA	**Yellowknife Ar**	**94.64**	**24**	P	**P**	**17 10 34.2**	**-0.2**
YKA				LR	LR	17 52 15.9	
KBS	**Kingsbay**	**120.88**	**359**	*e*PKIKP	PKPdf	17 16 04.4	-1.3
ARCES	**ARCESS Array B**	**128.91**	**351**	PKP	PKPdf	17 16 20.3	-0.8
	comp=Z,7.4nm,0.9s,baz=341,slow=2.6,SNR=7.5						
ARCES	**ARCESS Array B**	**128.91**	**351**	PKP	PKPdf	17 16 20.3	-0.8
FINES	**FINESS Array B**	**136.09**	**346**	PKP	PKPdf	17 16 35.0	+0.4
	comp=Z,1.2nm,0.9s,baz=31,slow=4.4,SNR=3.4						
AKASG	**Malin Array Be**	**144.02**	**334**	PKP	PKPdf	17 16 46.7	-2.3
	comp=Z,2.9nm,0.5s,baz=40,slow=4.5,SNR=21						
BSEG	**Bad Segeberg**	**145.85**	**355**	*e*PKPbc	PKPbc	17 16 53.3	+0.6
CLZ	**Clausthal**	**147.92**	**354**	*e*PKPbc	PKPbc	17 16 59.5	+0.9
CLL	**Collm**	**148.13**	**351**	*e*PKPbc	PKPbc	17 16 59.9	+0.7
CLL	**Collm**	**148.13**	**351**	*i* PKPbc	PKPbc	17 17 00.0	+0.8
	comp=Z,7.0nm,0.8s						
BRG	**Berggiesshubel**	**148.41**	**350**	*e*PKPbc	PKPbc	17 17 00.6	+0.7
BRG	**Berggiesshubel**	**148.41**	**350**	*e*P	PKPbc	17 17 00.7	+0.8
	comp=Z,3.0nm,0.7s						
BRG	**Berggiesshubel**	**148.41**	**350**	*e*PKIKP	PKPbc	17 17 00.7	+0.8
BRG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
DPC	**Dobruska-Polom**	**148.45**	**347**	*e*PKPbc	PKPbc	17 17 01.1	+1.1
FBE	**Freiberg**	**148.46**	**350**	*e*PKPbc	PKPbc	17 17 01.0	+1.0
BRTR	**Keskin Array B**	**148.82**	**315**	PKPbc	PKPbc	17 16 59.6	-1.3
	comp=Z,0.9nm,0.5s,baz=143,slow=5.5,SNR=5.0						
LIKS	**Likavka**	**148.96**	**343**	*e*		17 16 47.2	
LIKS	**Likavka**	**148.96**	**343**	*e*PKHKP		17 16 47.3	
MOX	**Moxa**	**148.97**	**352**	*e*PKPbc	PKPbc	17 17 01.8	+0.5
MOX	**Moxa**	**148.97**	**352**	*e*PKP	PKPbc	17 17 02.2	+0.9
	comp=Z,19nm,2.0s						
MOX	**Moxa**	**148.97**	**352**	*e*PKIKP	PKPbc	17 17 02.2	+0.9
MOX				pmax	pmax		
	comp=Z,19nm,2.0s						
WERD	**Werda**	**149.07**	**352**	*e*PKPbc	PKPbc	17 17 02.1	+0.5
TANN	**Tannenbergstha**	**149.08**	**351**	*e*PKPbc	PKPbc	17 17 02.4	+0.8
PRU	**Pruhonice**	**149.15**	**349**	*e*PKPbc	PKPbc	17 17 02.8	+1.0
WERN	**Wernitzgruen**	**149.22**	**351**	*e*PKPbc	PKPbc	17 17 03.3	+1.3
NKC	**Novy Kostel**	**149.26**	**351**	*e*PKPbc	PKPbc	17 17 03.1	+1.0
VYHS	**Vyhne**	**149.54**	**342**	*e*PKP	PKPbc	17 17 02.5	-0.3
MANZ	**Manzenberg**	**149.55**	**352**	*e*PKPbc	PKPbc	17 17 03.8	+1.0
TREC	**Trest**	**149.63**	**347**	*e*PKPbc	PKPbc	17 17 03.9	+0.9
TNS	**Taunus Mts**	**149.68**	**356**	*e*PKPbc	PKPbc	17 17 04.5	+1.4
ROTZ	**Rotzenmuhle**	**149.75**	**351**	*e*PKPbc	PKPbc	17 17 04.3	+1.0
GIVF	**Givet**	**149.89**	**1**	*e*PKP1	PKPbc	17 17 04.2	+0.6
	comp=Z,6.9nm,0.5s						
BAIF	**Baives**	**149.92**	**2**	*e*PKP1	PKPbc	17 17 04.4	+0.7
GRA1	**Grafenberg Arr**	**149.95**	**353**	*e*PKPbc	PKPbc	17 17 04.8	+1.0
GRF	**Grafenberg Arr**	**149.95**	**353**	*e*PKPbc	PKPbc	17 17 04.8	+1.0
KHC	**Kasperske Hory**	**150.15**	**349**	*e*PKPbc	PKPbc	17 17 04.9	+0.6
WLF	**Walferdange**	**150.33**	**359**	*e*PKPbc	PKPbc	17 17 06.1	+1.4
GEC2	**GERESS Array S**	**150.41**	**349**	*e*PKPbc	PKPbc	17 17 05.4	+0.5
GERES	**GERESS Array B**	**150.41**	**349**	PKPbc	PKPbc	17 17 05.8	+0.9
	comp=Z,1.7nm,0.6s,baz=9.5,slow=1.6,SNR=15						
FLN	**La Foliniere**	**150.83**	**8**	*e*PKP1	PKPbc	17 17 06.0	+0.1
	comp=Z,6.5nm,0.5s						
LDF	**La Druitiere**	**151.04**	**8**	*e*PKP1	PKPbc	17 17 06.4	0.0
GRR	**Gorron**	**151.15**	**9**	*e*PKP1	PKPbc	17 17 06.8	+0.2
	comp=Z,5.2nm,0.5s						
MEZF	**Maizieres J'vi**	**151.49**	**1**	*e*PKP1	PKPbc	17 17 08.1	+0.7
	comp=Z,4.5nm,0.6s						
CDF	**Champ du Feu**	**151.55**	**358**	*e*PKP1	PKPbc	17 17 08.2	+0.7
	comp=Z,6.2nm,0.7s						
HAU	**Haudompre**	**151.98**	**359**	*e*PKP1	PKPbc	17 17 10.0	+1.5
	comp=Z,8.5nm,0.6s						
HINF	**Hinteralfeld**	**152.16**	**358**	*e*PKP1	PKPbc	17 17 09.2	+0.3
	comp=Z,4.6nm,0.5s						
LOR	**Lormes**	**152.69**	**2**	*e*PKP1	PKPbc	17 17 10.6	+0.5
	comp=Z,3.9nm,0.7s						
SSF	**Saint Saulge**	**152.89**	**3**	*e*PKP1	PKPbc	17 17 11.2	+0.7
	comp=Z,8.7nm,0.9s						
MFF	**Saint Martin d**	**152.99**	**9**	*e*PKP1	PKPbc	17 17 10.8	0.0
TCF	**Toulx Ste Croi**	**153.57**	**5**	*e*PKP1	PKPbc	17 17 12.3	+0.3

*ISCJB **08** 16:59:09.9±0.6, 203S±0.1×17798W±0.10, h550km, mb4.1/17, Error ellipse: s-maj=16.1km s-min=12.0km az=156.0*
*IDC **08** 16:59:11.1±2.8, 2021S×17795W, h548km±32km, mb3.6/11, mb1 3.7/11, mb1mx3.6/16, mbtmp4.5/11, Error ellipse: s-maj=24.6km s-min=13.9km az=151.0*
*NEIC **08** 16:59:13.1±2.9, 2016S×17806W, h571km±32km, mb4.5/9, Error ellipse: s-maj=15.4km s-min=13.4km az=75.0*
*MOS **08** 16:59:13.4±0.6, 2022S×178.13W, h585km, mb4.7/3, Error ellipse: s-maj=28.4km s-min=16.5km az=167.0*
ISC 08 16:59:11.2±0.6,203S±01×1779W±01,h550km,n48,
σ0§85/41,mb4.1/17,2D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**17.53**	**190**	*e*PN	**P**	**17 02 51.6**	**+7.0**
URZ	**Urewera**	**18.43**	**192**	*e*PN	**P**	**17 03 02.3**	**+9.5**
BKZ	**Black Stump Fm**	**19.43**	**193**	*e*PN	**P**	**17 03 13.5**	**+12**
CTA	**Charters Tower**	**33.60**	**264**	*e*P	**P**	**17 05 06.3**	**+0.2**
	8.2nm,0.5s,mb4.5						
CTA	**Charters Tower**	**33.60**	**264**	P	**P**	**17 05 06.7**	**+0.5**
	9.5nm,0.4s,mb4.6,baz=91,slow=9.1,SNR=10						
CTA	**Charters Tower**	**33.60**	**264**	*e*P	**P**	**17 05 06.3**	**+0.2**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.5s						
CTAO	**Charters Tower**	**33.60**	**264**	*e*P	**P**	**17 05 06.4**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.6						
CTAO	**Charters Tower**	**33.60**	**264**	*e*P	**P**	**17 05 06.4**	**+0.3**
	comp=Z,11nm,0.6s,mb4.6						
PMG	**Port Moresby**	**35.38**	**283**	*e*P	**P**	**17 05 20.9**	**-0.1**
STKA	**Stephens Creek**	**37.96**	**244**	*e*P	**P**	**17 05 40.6**	**-1.6**
	comp=Z,3.4nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**37.96**	**244**	P	**P**	**17 05 40.8**	**-1.4**
	comp=Z,4.3nm,0.5s,mb4.2,baz=102,slow=10,SNR=16						
STKA	**Stephens Creek**	**37.96**	**244**	*e*P	**P**	**17 05 40.6**	**-1.6**
ASAR	**Alice Springs**	**44.66**	**256**	P	**P**	**17 06 35.5**	**+0.4**
	comp=Z,14nm,0.7s,mb4.6,baz=88,slow=8.7,SNR=55						
ASAR				PcP	PcP	17 08 06.3	+0.5
	comp=Z,2.2nm,0.6s,baz=111,slow=3.1,SNR=7.3						
ASAR				S	**S**	**17 12 32.4**	**+0.9**
	comp=Z,0.7nm,1.0s,baz=92,slow=16,SNR=5.2						
ASAR	**Alice Springs**	**44.66**	**256**	P	**P**	**17 06 35.5**	**+0.4**
ASAR				PcP	PcP	17 08 06.3	+0.5
ASAR				S	**S**	**17 12 32.4**	**+0.9**
WB2	**Warramunga Arr**	**44.71**	**262**	*e*P	**P**	**17 06 35.1**	**-0.4**
WRAB	**Tennant Creek**	**44.71**	**262**	*e*P	**P**	**17 06 35.5**	**0.0**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.5						
WRAB	**Tennant Creek**	**44.71**	**262**	*e*P	**P**	**17 06 35.5**	**0.0**
	comp=Z,10nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**44.72**	**262**	P	**P**	**17 06 35.3**	**-0.3**
	comp=Z,6.8nm,0.3s,mb4.6,baz=97,slow=7.6,SNR=90						
KAKA	**Kakadu**	**48.06**	**271**	*e*P	**P**	**17 07 00.9**	**0.0**
	comp=Z,7.5nm,0.3s,mb4.7						
FORT	**Forrest**	**49.46**	**246**	*e*P	**P**	**17 07 10.4**	**-0.8**
	comp=Z,20nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**53.15**	**262**	*e*P	**P**	**17 07 38.3**	**+0.4**
	comp=Z,5.7nm,0.4s,mb4.2						
FITZ	**Fitzroy Crossi**	**53.15**	**262**	P	**P**	**17 07 38.7**	**+0.9**
	comp=Z,3.4nm,0.5s,mb3.9,baz=110,slow=5.6,SNR=28						
SBA	**Scott Base**	**58.09**	**184**	*e*P	**P**	**17 08 13.9**	**+1.7**
	comp=Z,2.0nm,0.5s,mb3.6						
VNDA	**Vanda**	**58.13**	**185**	P	**P**	**17 08 13.2**	**+0.7**
	comp=Z,0.7nm,0.5s,mb3.2,baz=260,slow=3.2,SNR=5.5						
VNDA	**Vanda**	**58.13**	**185**	*e*P	**P**	**17 08 13.1**	**+0.7**
KLBR	**Kellerberrin**	**58.23**	**245**	*e*P	**P**	**17 08 12.8**	**-0.3**
	comp=Z,9.4nm,0.6s,mb4.2						
NWAO	**Narrogin (SRO)**	**58.55**	**243**	P	**P**	**17 08 15.3**	**+0.2**
	comp=Z,3.6nm,0.6s,mb3.8,baz=97,slow=6.7,SNR=5.9						
MUN	**Mundaring**	**59.50**	**244**	*e*P	**P**	**17 08 21.7**	**+0.1**
QSPA	**South Pole Qui**	**69.79**	**180**	*e*P	**P**	**17 09 26.9**	**+0.5**
	comp=Z,5.8nm,0.6s,mb4.3						
MJAR	**Matsushiro Arr**	**70.09**	**324**	P	**P**	**17 09 28.0**	**-0.2**
	comp=Z,3.3nm,0.5s,mb4.2,baz=153,slow=5.8,SNR=12						
MJAR	**Matsushiro Arr**	**70.09**	**324**	P	**P**	**17 09 28.0**	**-0.2**
KSM	**Kuching**	**73.47**	**278**	*e*P	**P**	**17 09 49.0**	**+1.0**
YBH	**Yreka Blue Hor**	**80.06**	**39**	P	**P**	**17 10 24.0**	**+0.1**
	comp=Z,3.0nm,0.8s,mb3.7,baz=161,slow=6.4,SNR=4.6						
NVAR	**Mina Array Bea**	**80.80**	**43**	P	**P**	**17 10 28.2**	**+0.4**
	comp=Z,0.4nm,0.5s,mb3.1,baz=238,slow=12,SNR=4.1						
NVAR	**Mina Array Bea**	**80.80**	**43**	P	**P**	**17 10 28.2**	**+0.4**
VNA3	**Neumayer Olymp**	**88.35**	**176**	*e*P	**P**	**17 11 01.8**	**-2.8**
VNA3				*e*		17 11 03.8	
VNA3				*e*		17 11 04.4	
VNA3				*e*		17 11 07.0	
PDAR	**Pinedale Array**	**88.74**	**43**	P	**P**	**17 11 06.2**	**-0.2**
	comp=Z,0.7nm,0.8s,mb3.5,baz=193,slow=4.6,SNR=4.2						
VNA2	**Neumayer--Watz**	**88.80**	**177**	*e*P	**P**	**17 11 04.5**	**-2.1**
	baz=319,slow=14						
VNA2				*e*		17 11 06.2	
VNA2				*e*		17 11 06.8	
VNA2				*e*		17 11 07.9	
VNA2				*e*		17 11 09.7	
VNA1	**Neumayer--Stat**	**89.02**	**177**	*e*P	**P**	**17 11 00.7**	**-7.0**
VNA1				*e*		17 11 02.8	
MKAR	**Makanchi Array**	**111.11**	**313**	PKiKP	PKiKP	17 16 40.4	-2.0
	comp=Z,0.4nm,0.6s,baz=122,slow=0.5,SNR=8.1						
MKAR	**Makanchi Array**	**111.11**	**313**	PKPdf	PKiKP	17 16 40.4	-2.0
FINES	**FINESS Array B**	**135.59**	**344**	PKP	PKPdf	17 17 28.7	-0.4
	comp=Z,1.1nm,0.9s,baz=128,slow=5.8,SNR=4.0						
AKASG	**Malin Array Be**	**142.87**	**331**	PKiKP		17 17 38.4	
	comp=Z,3.5nm,0.4s,baz=42,slow=4.5,SNR=5.5						
BR131	**Keskin Array S**	**146.76**	**313**	*e*PKPbc	PKPbc	17 17 51.7	0.0
BRTR	**Keskin Array B**	**146.76**	**313**	PKPbc	PKPbc	17 17 51.5	-0.1
	comp=Z,1.6nm,0.5s,baz=138,slow=4.4,SNR=6.9						
CLL	**Collm**	**147.87**	**347**	⇓*i* PKPbc	PKPbc	17 17 54.3	-0.3
	comp=Z,7.0nm,0.7s						
CLL	**Collm**	**147.87**	**347**	⇓*i* PKP2	PKPab	17 17 54.3	-4.8
CLL				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GERES	**G

QLMT	**Earthquake Lak**	**4.57**	**285**	*e*P		**Pn**	**18 05 26.1**	**+0.6**
SMCO	**Snowmass**	**4.79**	**196**	*e*Pg		**Pg**	**18 05 41.0**	**-5.9**
HWUT	**Hardware Ranch** 16nm,0.6s	**5.15**	**247**	*e*P		**Pn**	**18 05 33.0**	**-0.5**
TCUT	**Toone Canyon**	**5.29**	**242**	*e*P		**Pn**	**18 05 34.0**	**-1.5**
HRY	**Holter Researc**	**5.50**	**304**	P		**Pn**	**18 05 38.8**	**+0.5**
MCMT	**McKenzie Canyo**	**5.56**	**283**	*e*P		**Pn**	**18 05 39.0**	**-0.3**
DAU	**Daniels Canyon**	**5.61**	**235**	*e*P		**Pn**	**18 05 40.7**	**+0.9**
HVU	**Hansel Valley** 8.3nm,0.7s	**5.90**	**253**	*e*P		**Pn**	**18 05 43.8**	**0.0**
SRU	**San Rafael** 9.7nm,0.4s	**6.13**	**222**	*e*P		**Pn**	**18 05 46.6**	**-0.4**
PV01	**Paradox Valley**	**6.18**	**205**	*e*P		**Pn**	**18 05 48.3**	**+0.6**
TMUT	**Trail Mountain**	**6.34**	**227**	*e*P		**Pn**	**18 05 50.4**	**+0.5**
BGU	**Big Grassy Mou**	**6.45**	**246**	*e*P		**Pn**	**18 05 58.2**	**+6.9**
CHMT	**Chamberlain Mo**	**6.46**	**302**	*e*P		**Pn**	**18 05 52.3**	**+0.8**
CBKS	**Cedar Bluff** 32nm,0.7s	**6.46**	**138**	*e*Pg		**Pg**	**18 06 15.9**	**-3.1**
DUG	**Dugway** 5.3nm,0.5s	**6.69**	**240**	*e*P		**Pn**	**18 05 54.9**	**+0.2**
MVCO	**Mesa Verde**	**7.02**	**202**	*e*P		**Pn**	**18 06 01.9**	**+2.7**
MSU	**Marysvale**	**7.43**	**227**	*e*P		**Pn**	**18 06 05.0**	**+0.2**
ULM	**Lac du Bonnet** 1.0nm,0.3s,baz=230,slow=12,SNR=9.9	**9.09**	**41**	Pn		**Pn**	**18 06 27.6**	**+0.1**
ULM	0.8nm,0.3s,baz=235,slow=16,SNR=3.7			Pg		**Pn**	**18 07 02.8**	**+35**
ULM	0.5nm,0.3s,baz=309,slow=16,SNR=3.2			Lg			18 08 56.5	
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=48,slow=12,SNR=3.3	**11.22**	**246**	Pn		**Pn**	**18 06 55.7**	**-1.0**
YKA	**Yellowknife Ar**	**19.53**	**347**	P		**Pn**	**18 08 45.2**	**0.0**
YKA	**Yellowknife Ar** baz=9.5,slow=17,SNR=7.6	**19.53**	**347**	P		**Pn**	**18 08 45.2**	**0.0**
ARCES	**ARCESS Array B** 2.9nm,0.9s,mb4.4,baz=359,slow=6.7,SNR=6.2	**61.36**	**18**	P		**P**	**18 14 31.6**	**-1.2**
FINES	**FINESS Array B**	**67.98**	**23**	P		**P**	**18 15 15.8**	**-0.2**
FINES	**FINESS Array B** 1.0nm,0.9s,mb4.0,baz=328,slow=6.8,SNR=5.1	**67.98**	**23**	P		**P**	**18 15 15.8**	**-0.2**
AKASG	**Malin Array Be** 0.4nm,0.4s,mb3.9,baz=322,slow=5.3,SNR=4.9	**77.90**	**28**	P		**P**	**18 16 14.4**	**-0.4**
ZAL	**Zalesovo** 0.8nm,0.6s,mb4.0,baz=16,slow=1.6,SNR=4.0	**82.28**	**354**	P		**P**	**18 16 36.9**	**-1.6**
SONM	**Songino Array** 0.3nm,0.5s,mb3.8,baz=15,slow=4.9,SNR=3.8	**84.60**	**339**	P		**P**	**18 16 49.8**	**-0.7**
MKAR	**Makanchi Array** 0.4nm,0.6s,mb3.8,baz=7.6,slow=3.7,SNR=5.8	**89.56**	**355**	P		**P**	**18 17 14.7**	**+0.1**

FUNV 08 18:07:32.1, 691N×7320W, h163km, MW3.6, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.29**	**43**	↓*i*P		Pn	18 08 00.2	-0.4
CAPV				*e*S		Sn	18 08 20.9	-1.6
VIGV	**El Vigia**	**2.64**	**43**	*e*P		Pn	18 08 14.8	-0.7
VIGV				*e*S		Sn	18 08 46.2	-2.9
SOCV	**Socops**	**2.69**	**59**	*e*P		Pn	18 08 15.2	-1.0
SOCV				*e*S		Sn	18 08 47.0	-3.3
VIRV	**Villa del Rosa**	**3.66**	**12**	*e*P		Pn	18 08 26.8	-1.4

*ISCJB **08** 18:12:48.8±1.1, 209S±03×178.7W±02, h600km, mb4.1/12, Error ellipse: s-maj=42.1km s-min=15.5km az=119.5*
*IDC **08** 18:12:49.0±6.0, 21.14S×178.54W, h592km±67km, mb3.3/8, mb1 3.5/8, mb1mx3.3/15, mbtmp4.3/8, Error ellipse: s-maj=60.8km s-min=25.2km az=145.0*
*NEIC **08** 18:12:55.5±4.4, 2082S×178.85W, h670km±55km, mb4.2/6, Error ellipse: s-maj=44.4km s-min=22.5km az=131.0*
ISC 08 18:12:50.3±1.1, 208S±03×178.7W±02, h600km, n18, σ0.9 76/16, mb4.1/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower** 4.9nm,0.5s,mb4.4,baz=111,slow=10,SNR=6.6	**32.84**	**265**	P		**P**	**18 18 36.5**	**+0.5**
PMG	**Port Moresby** 13nm,0.7s,mb4.7,baz=349,slow=17,SNR=6.5	**34.82**	**284**	P		**P**	**18 18 53.5**	**+0.9**
STKA	**Stephens Creek** 2.0nm,0.5s,mb3.9	**37.08**	**244**	*e*P		**P**	**18 19 09.7**	**-1.5**
STKA	**Stephens Creek** 2.2nm,0.5s,mb4.0,baz=116,slow=12,SNR=14	**37.08**	**244**	P		**P**	**18 19 09.6**	**-1.6**
STKA	1.8nm,1.0s,baz=112,slow=11,SNR=3.2			PcP		PcP	18 21 15.1	+0.1
ASAR	**Alice Springs** 4.3nm,0.5s,mb4.2,baz=98,slow=7.7,SNR=16	**43.84**	**257**	P		**P**	**18 20 05.1**	**+0.4**
ASAR	0.6nm,0.6s,baz=96,slow=4.5,SNR=5.1			PcP		PcP	18 21 38.1	+0.8
WB2	**Warramunga Arr**	**43.93**	**263**	*e*P		**P**	**18 20 05.3**	**-0.1**
WRA	**Warramunga Arr** 1.7nm,0.3s,mb4.0,baz=93,slow=5.7,SNR=66	**43.94**	**263**	P		**P**	**18 20 04.9**	**-0.6**
KAKA	**Kakadu** 8.0nm,0.8s,mb4.3	**47.37**	**272**	*e*P		**P**	**18 20 31.8**	**+0.4**
FORT	**Forrest** 6.8nm,0.7s,mb4.2	**48.59**	**247**	*e*P		**P**	**18 20 40.4**	**-0.1**
FITZ	**Fitzroy Crossi** 2.6nm,0.4s,mb3.9	**52.37**	**263**	*e*P		**P**	**18 21 08.3**	**+0.4**
FITZ	**Fitzroy Crossi** 1.4nm,0.4s,mb3.7,baz=133,slow=13,SNR=16	**52.37**	**263**	P		**P**	**18 21 08.1**	**+0.2**
KLBR	**Kellerberrin** 79nm,1.9s,mb4.6	**57.35**	**245**	*e*P		**P**	**18 21 42.8**	**+0.3**
MUN	**Mundaring**	**58.62**	**245**	*e*P		**P**	**18 21 51.3**	**+0.2**
PET	**Petropavlovsk** 23nm,1.0s,mb4.6	**76.15**	**346**	*e*P		**P**	**18 23 35.9**	**-1.9**
NVAR	**Mina Array Bea** 0.5nm,0.5s,mb3.4,baz=233,slow=9.7,SNR=3.1	**81.70**	**44**	P		**P**	**18 24 08.0**	**+0.9**
PDAR	**Pinedale Array** 0.6nm,0.6s,mb3.6,baz=186,slow=3.0,SNR=5.2	**89.63**	**43**	P		**P**	**18 24 45.2**	**0.0**
AKASG	**Malin Array Be** 0.6nm,0.3s,baz=42,slow=4.5,SNR=20	**143.01**	**330**	PKP		PKPdf	18 31 13.8	-2.9
AKASG	**Malin Array Be**	**143.01**	**330**	PKP		PKPdf	18 31 13.8	-2.9

*NERS **08** 18:15:36.3, 61.79N×140.41E, h2km*
*ISCJB **08** 18:15:36.2±0.2, 61.99N±004×139.75E±005, h10km, mb4.4/47, MS3.9/20, Error ellipse: s-maj=5.9km s-min=3.1km az=157.3*
*MOS **08** 18:15:37.2±1.1, 61.94N×139.52E, h14km, mb4.5/14, Error ellipse: s-maj=12.8km s-min=7.8km az=83.5*
*IDC **08** 18:15:37.0±0.6, 61.87N×139.25E, h0km, mb4.0/18, mb1 4.2/19, mb1mx4.1/27, mbtmp4.0/19, ML3.8/1, MS3.6/14, Ms1 3.6/14, ms1mx3.3/45, Error ellipse: s-maj=17.0km s-min=13.7km az=153.0*
*NEIC **08** 18:15:37.9±3.8, 61.88N×139.39E, h6km±24km, mb4.5/14, Error ellipse: s-maj=9.1km s-min=6.2km az=157.0*
*BJI **08** 18:15:38.0, 61.92N×140.34E, h35km, mB4.6, mb4.6, Ms4.6, Msz4.3*
ISC 08 18:15:38.2±0.2, 61 94N±004×139 59E±005, h10km, (h34km±2.1km:pP-P), n106, σ1.9 39/118, mb4.4/47, MS3.9/20, 11C-6D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHTR	**Okhotsk**	**3.18**	**143**	*e*P		**Pn**	**18 16 30.8**	**+2.6**
OHTR				*e*Pg		**Pg**	**18 16 35.1**	**-4.0**
OHTR	390nm,0.4s			Pmax			18 16 35.5	
OHTR				*e*Sg		**Sg**	**18 17 13.7**	**-6.6**
OHTR	4μm,0.5s			Smax			18 17 16.8	
OHTR	2μm,0.5s			Smax			18 17 16.8	
OCHR	**Omchak**	**3.94**	**90**	↑*e*P		**Pn**	**18 16 40.6**	**+2.0**
OCHR				*e*Pg		**Pg**	**18 16 50.9**	**-2.7**
OCHR	90nm,0.3s			Pmax			18 16 54.3	
OCHR	90nm,0.3s			Pmax			18 16 54.3	
OCHR	280nm,0.3s			Pmax			18 16 54.3	
OCHR				*e*S		**Sn**	**18 17 24.9**	**0.0**
OCHR				*e*Sg		**Sg**	**18 17 42.0**	**-2.6**
OCHR	840nm,0.2s			Sgmax			18 17 46.3	
OCHR	590nm,0.2s			Sgmax			18 17 46.3	
SUUS	**Susuman**	**4.08**	**74**	*e*P		**Pn**	**18 16 42.8**	**+2.2**
SUUS				*e*Pg		**Pg**	**18 16 54.4**	**-2.0**
SUUS	200nm,0.3s			Pmax			18 17 00.8	
SUUS				*e*			18 17 33.8	
SUUS				*e*Sg		**Sg**	**18 17 49.2**	**-0.1**
SUUS				Sgmax			18 17 56.0	
	1μm,0.8s							
YAK	**Yakutsk**	**4.68**	**275**	*d i*P		**Pn**	**18 16 47.9**	**-0.9**
YAK	comp=Z,21nm,0.7s			pmax		pmax		
YAK	**Yakutsk**	**4.68**	**275**	*e*P		**Pn**	**18 16 48.2**	**-0.6**
MGD	**Magadan 1**	**5.74**	**104**	*e*P		**Pn**	**18 17 03.8**	**+0.3**
MGD				*e*Pg		**Pg**	**18 17 20.5**	**-7.7**
MGD	comp=Z,20nm,0.4s			Pgmax			18 17 28.8	
MGD	comp=Z,10.0nm,0.3s			Pgmax			18 17 28.8	
MGD				*e*			18 18 12.8	
MGD				*e*Sg		**Sg**	**18 18 34.6**	**-7.9**
MGD	comp=Z,400nm,0.8s			Sgmax			18 18 42.2	
MGD	comp=Z,180nm,0.8s			Sgmax			18 18 42.2	
MA2	**Magadan**	**5.97**	**108**	↑*i*P		**Pn**	**18 17 07.0**	**+0.4**
MA2				*e*			18 17 31.9	
MA2				*e*			18 18 14.6	
MA2				*e*Sg		**Sg**	**18 18 41.4**	**-8.4**
MA2	comp=Z,500nm,0.8s			Sgmax			18 18 50.9	
MA2	comp=Z,670nm,0.8s			Sgmax			18 18 50.9	
MA2	**Magadan**	**5.97**	**108**	*d i*P		**Pn**	**18 17 06.5**	**-0.1**
MA2	comp=Z,34nm,1.3s			pmax		pmax		
MA2	**Magadan**	**5.97**	**108**	*e*P		**Pn**	**18 17 06.3**	**-0.3**
	comp=Z,64nm,0.8s							
SEY	**Seymchan**	**6.02**	**75**	*e*P		**Pn**	**18 17 09.3**	**+2.0**
SEY				*e*Sg		**Sg**	**18 18 51.5**	**0.0**
SEY	comp=Z,440nm,0.8s			Sgmax			18 19 00.6	
SEY	comp=Z,360nm,0.8s			Sgmax			18 19 00.6	
OMS	**Omsukchan**	**7.58**	**79**	*e*		**Pn**	**18 17 26.8**	**-1.9**
OMS				*e*Pg		**Pg**	**18 17 56.6**	**-6.7**
OMS	comp=Z,40nm,0.7s			Pgmax			18 17 57.4	
OMS				*e*S		**Sn**	**18 18 41.5**	**-13**
OMS				*e*Sg		**Sg**	**18 19 37.6**	**-3.9**
OMS	comp=Z,480nm,1.0s			Sgmax			18 19 49.0	
OMS	comp=Z,250nm,1.2s			Sgmax			18 19 49.0	
NRGR	**Nerungri**	**9.26**	**242**	*e*P		**Pn**	**18 17 52.5**	**+0.8**
NRGR				S		**Sn**	**18 19 29.6**	**-6.3**
NRGR	comp=E,53nm,0.3s			smax				
EVNR	**Evensk**	**9.27**	**81**	*e*		Px	18 18 33.2	
EVNR				*e*			18 19 50.6	
EVNR				*e*Sg		Sx	18 20 30.1	
EVNR	comp=E,140nm,0.8s			Sgmax			18 20 46.6	
BILL	**Bilibino**	**12.74**	**50**	↑*e*P		**Pn**	**18 18 42.6**	**+3.2**
BILL	comp=Z,2.0nm,0.8s			pmax		pmax		
BILL	**Bilibino**	**12.74**	**50**	*e*P		**Pn**	**18 18 41.2**	**+1.8**
	comp=Z,4.1nm,0.8s							
BOD	**Bodaibo**	**13.45**	**264**	*e*P		**Pn**	**18 18 42.4**	**-6.6**
BOD	comp=Z,36nm,1.0s			pmax		pmax		
KLR	**Kul'dur**	**13.47**	**203**	*e*P		**Pn**	**18 18 51.8**	**+2.4**
KLR				*e*			18 21 17.2	
KLR	comp=N,700nm,10.0s			MLR		MLR		
KLR	comp=E,3μm,10.0s			MLR		MLR		
KLR	comp=N,2μm,7.0s			MLR		MLR		
KLR	comp=Z,2μm,7.0s			MLR		MLR		
HABR	**Khabarovsk**	**13.74**	**193**	*e*P		**Pn**	**18 18 59.2**	**+6.2**
YSS	**Yuzh-Sakhalins**	**15.13**	**172**	↑*e*P		**Pn**	**18 19 12.3**	**+0.4**
YSS	comp=Z,28nm,1.3s			pmax		pmax		
YSS	**Yuzh-Sakhalins**	**15.13**	**172**	*e*P		**Pn**	**18 19 12.3**	**+0.4**
HIA	**Hailar**	**16.84**	**230**	*e*P		**Pn**	**18 19 32.2**	**-1.8**
HIA	comp=Z,9.0nm,0.8s			pmax		pmax		
HIA	**Hailar**	**16.84**	**230**	*e*P		**Pn**	**18 19 32.1**	**-1.9**
	comp=Z,8.6nm,0.8s							
CIT	**Chita**	**17.20**	**247**	*e*P		**Pn**	**18 19 38.2**	**-0.2**
CIT	comp=Z,57nm,1.4s			pmax		pmax		
ASAJ	**Asahikawa**	**17.95**	**173**	P		**Pn**	**18 19 48.5**	**+0.8**
ASAJ	comp=Z,0.6nm,0.3s,baz=315,slow=12,SNR=9.3			LR		LR	18 27 34.6	
ASAJ	**Asahikawa**	**17.95**	**173**	P		**Pn**	**18 19 48.6**	**+0.8**
ASAJ	comp=Z,184nm,18.1s,baz=165,slow=40			pmax		pmax		
ASAJ	comp=Z,1.0nm,0.3s			MLR		MLR		
ASAJ	comp=Z,184nm,18.1s			MLR		MLR		
MDJ	**Mudanjiang**	**18.32**	**203**	P		**Pn**	**18 19 52.0**	**-0.3**
MDJ				AMB		AMB		
MDJ	comp=Z,12nm,1.3s			AMB		AMB		
MDJ	comp=Z,80nm,5.8s			AMB		AMB		
MDJ	**Mudanjiang**	**18.32**	**203**	*e*P		**Pn**	**18 19 50.7**	**-1.6**
	comp=Z,8.2nm,0.8s							
VLA	**Vladivostok**	**19.40**	**197**	↑*e*P		**Pn**	**18 20 05.6**	**+0.2**
VLA	comp=Z,9.0nm,0.7s			pmax		pmax		
CN2	**Changchun**	**19.99**	**211**	*e*P		**Pn**	**18 20 11.7**	**-0.8**
CN2	comp=Z,10.0nm,1.0s			AMB		AMB		
TLY	**Talaya**	**21.90**	**259**	*d i*P		**P**	**18 20 32.1**	**+0.7**
TLY	comp=Z,5.0nm,1.3s,mb3.8			pmax		pmax		
SNY	**Shenyang**	**22.32**	**213**	↑P		**P**	**18 20 38.0**	**+2.2**
SNY				AP			18 20 47.7	
SNY				XP		sP	18 20 52.0	+12
SNY				PP			18 21 08.4	
SNY				S		**S**	**18 24 37.4**	**-3.9**
SNY				XS		sS	18 24 51.8	+5.9
SNY	comp=Z,11nm,0.8s,mb4.3			AMB		AMB		
SNY	comp=Z,109nm,5.0s			AMB		AMB		
SNY	comp=N,549nm,13.1s			LR		LR		
SNY	comp=E,533nm,9.6s			LR		LR		
SNY	comp=Z,703nm,10.1s,MS4.4			LR		LR		
ZAK	**Zakamensk**	**22.95**	**256**	*e*P		**P**	**18 20 43.2**	**+0.6**
ZAK				*e*			18 25 36.1	
ZAK	comp=Z,17nm,1.7s,mb4.2			pmax		pmax		
ULN	**Ulaanbaatar**	**23.10**	**247**	*d i*P		**P**	**18 20 44.4**	**+0.3**
ULN	**Ulaanbaatar**	**23.10**	**247**	*e*P		**P**	**18 20 43.1**	**-0.9**
	comp=Z,39nm,1.2s,mb4.7							
MOY	**Mondy**	**23.14**	**261**	*e*P		**P**	**18 20 45.7**	**+1.1**
MOY	comp=Z,23nm,1.4s,mb4.4			pmax		pmax		
SONM	**Songino Array**	**23.41**	**248**	P		**P**	**18 20 47.3**	**-0.1**
SONM	comp=Z,12nm,0.8s,mb4.3,baz=46,slow=8.3,SNR=38			Lg			18 27 45.5	
SONM	comp=Z,14nm,0.9s,baz=30,slow=27,SNR=7.1			LR		LR	18 30 00.1	
KRAR	**Krasnoyarsk**	**24.34**	**277**	↑*e*P		**P**	**18 20 55.9**	**-0.2**
KRAR	comp=Z,286nm,18.6s,MS3.8,baz=259,slow=37			pmax		pmax		
MJAR	**Matsushiro Arr**	**25.44**	**183**	P		**P**	**18 21 04.5**	**-1.6**
MJAR	comp=Z,79nm,1.7s,mb4.9			LR		LR	18 30 09.6	
BJI	**Beijing**	**26.14**	**224**	*e*P		**P**	**18 21 13.6**	**+1.2**
BJI	comp=Z,1.3nm,0.6s,mb3.6,baz=353,slow=9.2,SNR=4.3			AMB		AMB		
BJI	comp=Z,136nm,18.8s,MS3.5,baz=5.0,slow=34			LR		LR		
BJI	comp=Z,14nm,0.8s,mb4.5			LR		LR		
BJI	comp=N,1μm,10.1s,MS4.9			LR		LR		
BJI	comp=E,1μm,10.3s,MS4.9			LR		LR		
BJT	**Baijiatuao**	**26.16**	**224**	*e*P		**P**	**18 21 11.0**	**-1.6**
HHC	**Hu-ho-hao-te**	**27.03**	**232**	*e*P		**P**	**18 21 22.4**	**+1.9**
HHC	comp=Z,134nm,22.1s			AP		pP	18 21 31.5	+8.0
HHC				XP		sP	18 21 36.2	+11
HHC				PP			18 22 04.6	
HHC				S		**S**	**18 25 46.6**	**-12**
HHC	comp=Z,8.0nm,1.4s,mb4.1			AMB		AMB		
HHC	comp=Z,143nm,6.3s			AMB		AMB		
HHC	comp=N,701nm,10.0s,MS4.8			LR		LR		
HHC	comp=E,1μm,11.5s,MS4.8			LR		LR		
HHC	comp=Z,700nm,10.0s,MS4.5			LR		LR		
ZAL	**Zalesovo**	**29.33**	**280**	P		**P**	**18 21 41.2**	**+0.2**
ZAL	comp=Z,1.1nm,0.5s,mb3.9,baz=108,slow=6.8,SNR=4.5			LR		LR	18 35 37.5	
NVS	**Novosibirsk**	**29.51**	**282**	*e*P		**P**	**18 21 42.3**	**-0.3**
NVS	comp=N,4.0nm,0.6s			pmax		pmax		
NVS	comp=E,4.0nm,0.6s			pmax		pmax		
NVS	comp=Z,7.0nm,0.6s,mb4.6			pmax		pmax		
COLA	**College**	**30.98**	**52**	↑*e*P		**P**	**18 21 56.9**	**+1.3**
ILAR	**Eielson Array**	**31.39**	**52**	P		**P**	**18 22 00.3**	**+1.1**
NJ2	comp=Z,2.2nm,0.8s,mb4.0,baz=293,slow=7.1,SNR=22 **Nanjing**	**32.77**	**214**	*e*P		**P**	**18 22 10.3**	**-1.0**
NJ2				AP		pP	18 22 21.1	+6.7
NJ2				XP		sP	18 22 23.5	+7.9
NJ2				PP		PP	18 23 19.1	-6.2
NJ2				S		**S**	**18 27 22.0**	**-6.1**
NJ2				XS		sS	18 27 40.0	+6.9
NJ2	comp=Z,10.0nm,0.6s,mb4.9			AMB		AMB		
NJ2	comp=Z,40nm,6.4s			AMB		AMB		
NJ2	comp=N,610nm,16.6s,MS4.7			LR		LR		
NJ2	comp=E,960nm,13.7s,MS4.7			LR		LR		
NJ2	comp=Z,120nm,14.6s,MS3.7			LR		LR		
GTA	**Gaotai**	**33.00**	**246**	*e*P		**P**	**18 22 15.6**	**+2.3**
GTA				AP		pP	18 22 23.4	+7.0
GTA				XP		sP	18 22 26.1	+8.5
GTA	comp=Z,6.0nm,0.7s,mb4.6			AMB		AMB		
SSE	**Sheshan**	**33.10**	**210**	P		**P**	**18 22 11.7**	**-2.5**
SSE				AP		pP	18 22 19.9	+2.6
SSE				XP		sP	18 22 24.3	+5.8
SSE				PP		PP	18 23 25.7	-3.3
SSE				S		**S**	**18 27 27.0**	**-6.2**
SSE	comp=Z,27nm,0.8s,mb5.2			AMB		AMB		
SSE	comp=Z,75nm,6.4s			AMB		AMB		
SSE	comp=N,107nm,15.6s,MS3.9			LR		LR		
SSE	comp=E,167nm,15.6s,MS3.9			LR		LR		
SSE	comp=Z,98nm,16.7s,MS3.6			LR		LR		
LZH	**Lanzhou**	**34.15**	**237**	*e*P		**P**	**18 22 25.8**	**+2.5**
LZH				AP		pP	18 22 36.5	+10
LZH				XP		sP	18 22 41.4	+14
LZH	comp=Z,20nm,1.0s,mb5.0			AMB		AMB		
LZH	comp=Z,98nm,4.5s			AMB		AMB		
LZH	comp=E,598nm,12.3s			LR		LR		
LZH	comp=Z,754nm,13.1s,MS4.6			LR		LR		
INK	**Inuvik**	**34.15**	**41**	P		**P**	**18 22 25.0**	**+1.7**
INK	comp=Z,0.9nm,0.6s,mb3.9,baz=317,slow=7.9,SNR=5.1 **Inuvik**	**34.15**	**41**	P		**P**	**18 22 25.0**	**+1.6**
KURK	**Kurchatov**	**34.31**	**280**	↑*e*P		**P**	**18 22 23.9**	**-0.8**
KURK	**Kurchatov**	**34.31**	**280**	*e*P		**P**	**18 22 23.1**	**-1.6**
WMQ	comp=Z,14nm,0.8s,mb5.0 **Urumqi**	**35.00**	**263**	*e*P		**P**	**18 22 30.2**	**-0.5**
MKAR	**Makanchi Array**	**35.34**	**272**	P		**P**	**18 22 32.5**	**-1.1**
BVAR	comp=Z,3.5nm,0.8s,mb4.4,baz=40,slow=6.0,SNR=31 **Borovoye Array**	**36.52**	**288**	P		**P**	**18 22 42.9**	**-0.8**
BRVK	comp=Z,3.9nm,0.7s,mb4.3,baz=62,slow=8.2,SNR=14 **Borovoye**	**36.55**	**289**	*e*P		**P**	**18 22 44.6**	**+0.6**
BRVK	comp=Z,2.0nm,0.5s,mb4.2			pmax		pmax		
BRVK	**Borovoye**	**36.55**	**289**	*e*P		**P**	**18 22 44.6**	**+0.6**
ZRNK	comp=Z,1.8nm,0.5s,mb4.2 **Zerenda**	**37.19**	**289**	*e*P		**P**	**18 22 48.0**	**-1.4**
ZRNK	comp=Z,4.0nm,0.6s,mb4.4			pmax		pmax		
ZRNK	**Zerenda**	**37.19**	**289**	*e*P		**P**	**18 22 48.0**	**-1.5**
CD2	comp=Z,4.3nm,0.6s,mb4.5 **Chengdu**	**38.75**	**234**	*e*P		**P**	**18 23 01.5**	**-1.1**
CD2	comp=Z,10.0nm,0.9s,mb4.5			AMB		AMB		
ARU	**Arti**	**39.32**	**300**	↓*e*P		**P**	**18 23 09.0**	**+1.6**
ARU	comp=Z,7.0nm,1.0s,mb4.3			pmax		pmax		
ARU	**Arti**	**39.32**	**300**	*e*P		**P**	**18 23 07.0**	**-0.3**
	comp=Z,3.9nm,0.7s,mb4.2							
ARCES	**ARCESS Array B**	**40.80**	**331**	LR		LR	18 44 30.0	
DLBC	comp=Z,104nm,18.9s,MS3.7,baz=9.4,slow=42 **Lease Lake**	**41.60**	**52**	P		**P**	**18 23 28.8**	**+2.5**
GYA	comp=Z,5.2nm,1.0s,mb4.1,baz=162,slow=21,SNR=4.4 **Guiyang**	**41.73**	**227**	P		**P**	**18 23 28.3**	**+1.0**
GYA	comp=Z,10.0nm,0.6s,mb4.6			AMB		AMB		
AAK	**Ala-Archa**	**42.14**	**274**	*e*P		**P**	**18 23 29.1**	**-1.5**
AAK	comp=Z,4.0nm,0.8s,mb4.1			pmax		pmax		
AAK	**Ala-Archa**	**42.14**	**274**	*e*P		**P**	**18 23 29.1**	**-1.5**
	comp=Z,3.5nm,0.8s,mb4.0							
YKA	**Yellowknife Ar**	**43.89**	**40**	P		**P**	**18 23 45.8**	**+1.0**
YKA	comp=Z,1.1nm,0.7s,mb3.7,baz=316,slow=7.8,SNR=18			LR		LR	18 44 08.0	
YKA	comp=Z,83nm,20.2s,MS3.6,baz=295,slow=39 **Yellowknife Ar**	**43.89**	**40**	*i* P		**P**	**18 23 48.5**	**+3.6**
YKA	comp=Z,1.0nm,0.7s			pmax		pmax		
JMIC	**Jan Mayen**	**45.50**	**346**	LR		LR	18 41 53.8	
KAF	comp=Z,43nm,20.6s,MS3.4,baz=77,slow=35 **Kangasniemi**	**46.39**	**323**	*ep*		**P**	**18 24 03.0**	**-1.7**
KAF	comp=Z,1.6nm,0.5s,mb4.2 **Kangasniemi**	**46.39**	**323**	*e*P		**P**	**18 24 03.0**	**-1.7**
KAF	comp=Z,2.0nm,0.5s,mb4.3			pmax		pmax		
FINES	**FINESS Array B**	**46.99**	**323**	P		**P**	**18 24 08.5**	**-0.9**
FINES	comp=Z,1.3nm,0.6s,mb4.1,baz=27,slow=8.9,SNR=10			LR		LR	18 46 05.0	
FINES	comp=Z,46nm,18.3s,MS3.5,baz=1.0,slow=39 **FINESS Array B**	**46.99**	**323**	*i* P		**P**	**18 24 08.5**	**-0.9**
FINES	comp=Z,1.0nm,0.6s			pmax		pmax		
OBN	**Obninsk**	**48.70**	**312**	↓*e*P		**P**	**18 24 22.0**	**-0.7**
OBN				*e*			18 26 14.3	
OBN				*e*S		**S**	**18 31 22.0**	**-3.1**
OBN	comp=Z,10.0nm,1.2s,mb4.7			pmax		pmax		
OBN	comp=Z,100nm,17.0s,MS3.9			MLR		MLR		
GUN	**Gumba**	**48.86**	**251**	*e*P		**P**	**18 24 25.4**	**+1.5**
JIRN	comp=Z,7.9nm,0.3s,mb5.2 **Jiri**	**48.93**	**251**	*e*P		**P**	**18 24 26.1**	**+1.6**
KKN	comp=Z,6.9nm,0.7s,mb4.8 **Kakani**	**49.23**	**252**	*e*P		**P**	**18 24 27.2**	**+0.5**
KKN	comp=Z,22nm,0.7s,mb5.3 **Kakani**	**49.23**	**252**	*e*P		**P**	**18 24 27.2**	**+0.5**
KKN	comp=Z,22nm,0.7s,mb5.3			pmax		pmax		
GKN	**Gorkha**	**49.34**	**253**	*e*P		**P**	**18 24 28.8**	**+1.3**
KOLN	comp=Z,22nm,0.6s,mb5.4 **Koldanda**	**50.01**	**254**	*e*P		**P**	**18 24 33.7**	**+1.1**
NB2	**NORSAR Subarra**	**51.18**	**331**	P		**P**	**18 24 40.3**	**-1.2**
NOA	comp=Z,1.5nm,0.8s,mb4.0,baz=28,slow=7.9 **NORSAR Array B**	**51.18**	**331**	P		**P**	**18 24 39.9**	**-1.6**
NOA	comp=Z,1.8nm,0

KIV pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
ANN Anapa 56.78 304 *e*P **P 18 25 20.3 -2.1**
ANN pmax pmax
comp=Z,103nm,1.7s
CLL Collm 59.40 324 *e*P **P 18 25 40.0 -0.8**
VRAC Vranov 60.16 321 LR LR 18 52 17.4
comp=Z,44nm,19.0s,MS3.6,baz=216,slow=37
MLR Muntele Rosu 60.47 312 LR LR 18 52 04.1
comp=Z,84nm,21.1s,MS3.9,baz=214,slow=36
KHC Kasperske Hory 61.20 323‖ *i*P **P 18 25 52.7 -0.4**
GERES GERESS Array B 61.42 322 P **P 18 25 53.3 -1.3**
comp=Z,0.2nm,0.3s,mb3.7,baz=15,slow=5.8,SNR=4.1
GERES LR LR 18 54 54.3
comp=Z,75nm,18.8s,MS3.9,baz=71,slow=38
PDAR Pinedale Array 61.82 51 P **P 18 25 59.2 +2.0**
comp=Z,0.4nm,0.3s,mb4.0,baz=87,slow=3.1,SNR=4.7
NVAR Mina Array Bea 62.12 60 P **P 18 26 01.4 +2.1**
comp=Z,0.4nm,0.3s,mb4.0,baz=316,slow=6.3,SNR=4.4
BRTR Keskin Array B 62.57 303 P **P 18 26 02.8 +0.5**
comp=Z,1.0nm,0.8s,mb4.0,baz=69,slow=7.9,SNR=2.7
DAVOX Davos 64.38 324 LR LR 18 55 05.5
comp=Z,52nm,18.6s,MS3.7,baz=239,slow=37
SMCO Snowmass 65.91 51 *e*P **P 18 26 26.1 +1.9**
comp=Z,6.0nm,1.0s,mb4.6
WMOK Wichita Mounta 72.81 47 *e*P **P 18 27 06.3 -0.6**
WMOK pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
WMOK Wichita Mounta 72.81 47 *e*P **P 18 27 06.2 -0.6**
comp=Z,3.0nm,0.7s,mb4.3
WRAB Tennant Creek 81.70 185 *i*P **P 18 27 56.1 -0.7**
WRA Warramunga Arr 81.71 185 P **P 18 27 56.6 -0.2**
comp=Z,0.8nm,0.8s,mb3.7,baz=360,slow=5.3,SNR=12
WRA Warramunga Arr 81.71 185 *i*P **P 18 27 56.0 -0.8**
WRA pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 85.43 185 P **P 18 28 14.1 -1.8**
comp=Z,1.0nm,0.6s,mb4.1,baz=0.0,slow=4.9,SNR=19
QSPA South Pole Qui 151.71 180 *e*P PKPdf 18 35 30.9 +4.3

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*ATH **08** 18:22:16.2, 40.18N×196.9E, h10km±2km, MD3.3/4*
*ISCJB **08** 18:22:17.1±1.6, 40.16N±0.006×197.1E±0.1, h10km, Error ellipse: s-maj=16.0km s-min=8.1km az=16.4*
*CSEM **08** 18:22:22.1, 39.80N×199.7E, h5km, MD3.3/3, After ATH*
*NEIC **08** 18:22:22.1, 39.80N×199.7E, h5km, MD4.4(ATH), After ATH.*
ISC 08 18:22:17.7±1.5**, 4016N**±0.06**×198E**±0.1**, h10**km**, n6**, σ0.9**96**/8**, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEK	**Kerkira**	**0.45**	**176**	*e*PB	**Pg**	**18 22 25.5**	**-1.0**
KEK				*e*SB	**Sg**	**18 22 32.1**	**-0.4**
JAN	**Janina**	**0.98**	**121**	*e*PG	**Pg**	**18 22 35.5**	**-1.1**
JAN				*e*SB	**Sb**	**18 22 49.9**	**+0.1**
OHR	**Ohrid**	**1.23**	**40**	*e*Pn	**Pn**	**18 22 40.3**	**-0.7**
BIA	**Bitola**	**1.47**	**54**	*e*Pn	**Pn**	**18 22 44.3**	**+0.1**
EVR	**Evrytania**	**2.02**	**127**	*e*PN	**Pn**	**18 22 53.0**	**+1.3**
VLS	**Valsamata**	**2.09**	**162**	*e*PN	**Pn**	**18 22 54.5**	**+1.8**

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*ISCJB **08** 18:24:29.3±4.2, 54S±0.1×1527E±0.2, h72km±34km, mb3.7/10, Error ellipse: s-maj=36.3km s-min=21.5km az=50.1*
*IDC **08** 18:24:32.9±5.8, 54.2S×152.65E, h86km±47km, mb3.6/8, mb1 3.7/9, mb1mx3.6/17, mbtmp3.9/9, ML2.9/1, Error ellipse: s-maj=41.2km s-min=25.3km az=99.0*
*NEIC **08** 18:24:32.5±2.8, 53.5S×152.57E, h85km±22km, mb4.3/3, Error ellipse: s-maj=27.2km s-min=14.9km az=109.0*
ISC 08 18:24:31.7±3.5**, 54S**±0.1**×1527E**±0.2**, h80**km±28**km, n14**, σ0.9**74/15**, mb3.7/10**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.82**	**234**	P	**Pn**	**18 26 08.8**	**-0.2**
	1.3nm,0.3s,baz=18,slow=7.8,SNR=7.8						
PMG				S	**Sn**	**18 27 25.9**	**+0.7**
	2.5nm,0.3s,baz=92,slow=15,SNR=5.6						
KAKA	**Kakadu**	**21.31**	**249**	*e*P	**P**	**18 29 10.6**	**-1.2**
	15nm,0.9s,mb4.3						
WRAB	**Tennant Creek**	**23.00**	**229**	*e*P	**P**	**18 29 28.5**	**-1.2**
WB2	**Warramunga Arr**	**23.01**	**229**	*e*P	**P**	**18 29 30.2**	**+0.5**
WRA	**Warramunga Arr**	**23.02**	**229**	P	**P**	**18 29 29.4**	**-0.4**
	1.8nm,0.4s,mb3.7,baz=55,slow=9.7,SNR=17						
ASAR	**Alice Springs**	**25.69**	**223**	P	**P**	**18 29 54.3**	**+0.2**
	1.2nm,0.7s,mb3.4,baz=57,slow=9.4,SNR=33						
STKA	**Stephens Creek**	**28.37**	**200**	P	**P**	**18 30 18.9**	**+0.8**
	1.1nm,0.5s,mb3.6,baz=0.0,slow=8.1,SNR=4.6						
FITZ	**Fitzroy Crossi**	**29.33**	**242**	*e*P	**P**	**18 30 26.4**	**-0.2**
	5.3nm,0.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**29.33**	**242**	P	**P**	**18 30 26.5**	**-0.2**
	1.9nm,0.5s,mb4.0,baz=35,slow=16,SNR=10						
VNDA	**Vanda**	**72.28**	**178**	P	**P**	**18 35 48.1**	**-0.3**
	0.8nm,0.7s,mb3.6,baz=304,slow=4.0,SNR=5.6						
BILL	**Bilibino**	**73.85**	**5**	*e*P	**P**	**18 35 56.5**	**-1.1**
	2.7nm,0.6s,mb4.2						
MKAR	**Makanchi Array**	**80.69**	**319**	P	**P**	**18 36 37.0**	**+1.2**
	0.1nm,0.4s,mb3.0,baz=98,slow=7.3,SNR=5.0						
ILAR	**Eielson Array**	**82.70**	**22**	P	**P**	**18 36 47.0**	**+0.5**
	0.4nm,0.8s,mb3.3,baz=234,slow=5.0,SNR=4.4						
BVAR	**Borovoye Array**	**89.64**	**323**	P	**P**	**18 37 21.1**	**+0.6**
	0.6nm,0.6s,mb3.9,baz=90,slow=10,SNR=4.1						

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*MOS **08** 18:36:49.9±0.8, 374S×14.136E, h33km, mb5.5/37, MS4.7/5, Error ellipse: s-maj=10.5km s-min=5.8km az=101.7*
*IDC **08** 18:36:56.7±0.6, 383S×14.133E, h80km±5km, mb5.0/22, mb1 5.0/24, mb1mx5.0/25, mbtmp5.3/24, MS4.3/20, Ms1 4.3/20, ms1mx4.2/27, Error ellipse: s-maj=14.1km s-min=9.2km az=82.0*
*BJI **08** 18:36:58.2, 395S×14.164E, h126km, mB5.1, mb5.2*
*ISCJB **08** 18:36:58.4±0.2, 389S±0.02×14.129E±0.03, h111km, mb5.2/108, Error ellipse: s-maj=4.9km s-min=3.0km az=131.2*
*NEIC **08** 18:37:00.0±0.1, 385S×14.127E, mb5.3/44, Error ellipse: s-maj=5.3km s-min=3.3km az=76.0*
*HRVD **08** 18:37:00.0±0.1, 383S×14.136E, h107km, MW5.4/106, Centroid moment Tensor Solution. LP body waves: s91,c158;Mantle waves: s106,c219; Half duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr 0.94±.02; Mθθ 1.45±.02; Mφφ 0.51±.02; Mrθ 0.46±.01; Mθφ 0.29±.02; Mφr -0.73±.02; Best double couple: Mo 1.56400×10^17 NP1: φs 247.00000°, δ 43.00000°, λ 37.00000°. NP2: φs 128.00000°, δ 66.00000°, λ 126.00000°. Principal axes: T 1.5030, Plg54.0000°, Azm83.0000°; N 0.1210, Plg32.0000°, Azm291.0000°; P -1.6250, Plg13.0000°, Azm192.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 08 18:37:00.5±0.2**, 388S**±0.03**×14136E**±0.03**, h113**km, **h113**km±1.5km**:pP,n322**, σ1**02**/271**, mb5.2**/108**, 23C-11D**, New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.96**	**134**	P	**Pn**	**18 38 53.8**	**+0.5**
	33nm,0.3s,baz=313,slow=8.7,SNR=196						
PMG				S	**Sn**	**18 40 21.4**	**-0.2**
	9.9nm,0.3s,baz=328,slow=23,SNR=9.2						
PMG	**Port Moresby**	**7.96**	**134**	*c i*P	**Pn**	**18 38 53.8**	**+0.5**
PMG	**Port Moresby**	**7.96**	**134**	*e*P	**Pn**	**18 38 53.7**	**+0.4**
	326nm,0.6s						
KAKA	**Kakadu**	**12.44**	**225**	‖ *i*P	**Pn**	**18 39 49.1**	**-4.4**
CTA	**Charters Tower**	**16.80**	**164**	*e*P	**Pn**	**18 40 49.1**	**+0.3**
	44nm,0.6s						
CTA				*e*S	**S**	**18 43 55.7**	**-0.5**
CTA	**Charters Tower**	**16.80**	**164**	P	**Pn**	**18 40 48.7**	**-0.1**
	7.5nm,0.3s,baz=346,slow=12,SNR=100						
CTA				S	**S**	**18 43 53.1**	**-3.1**
	1.3nm,0.3s,baz=282,slow=14,SNR=1.8						
CTA				LR	LR	18 47 07.2	
	comp=Z,585nm,20.3s,baz=344,slow=36						
CTA	**Charters Tower**	**16.80**	**164**	*e*P	**Pn**	**18 40 49.1**	**+0.3**
CTA				*e*S	**S**	**18 43 55.7**	**-0.5**
CTA				pmax	pmax		
	comp=Z,44nm,0.6s						
CTAO	**Charters Tower**	**16.80**	**164**	*e*P	**Pn**	**18 40 49.4**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,68nm,0.7s						
CTAO	**Charters Tower**	**16.80**	**164**	*e*P	**Pn**	**18 40 49.4**	**+0.6**
	comp=Z,68nm,0.7s						
WRAB	**Tennant Creek**	**17.36**	**203**	P	**Pn**	**18 40 54.0**	**-1.6**
	comp=Z,9μm,0.5s						
WRAB	**Tennant Creek**	**17.36**	**203**	*c i*P	**Pn**	**18 40 52.3**	**-3.3**
WRAB	**Tennant Creek**	**17.36**	**203**	*e*P	**Pn**	**18 40 52.6**	**-3.0**
	comp=Z,1μm,0.5s						
WB2	**Warramunga Arr**	**17.37**	**203**	*e*P	**Pn**	**18 40 52.1**	**-3.6**
WB2				*e*S	**S**	**18 43 55.0**	**-14**
WRA	**Warramunga Arr**	**17.37**	**203**	P	**Pn**	**18 40 53.8**	**-1.9**
	comp=Z,52nm,0.3s,baz=24,slow=11,SNR=371						
WRA				S	**S**	**18 44 00.7**	**-8.7**
	baz=12,slow=22,SNR=4.5						
MATI	**Mati**	**18.52**	**305**	*e*P	**P**	**18 41 07.2**	**-0.7**
BIPH	**Bislig**	**19.17**	**309**	‖ *i*P	**P**	**18 41 13.1**	**-1.9**
HNR	**Honiara**	**19.26**	**108**	P	**P**	**18 41 14.7**	**-1.3**
	comp=Z,47nm,0.3s,baz=268,slow=0.9,SNR=67						
HNR				S	**S**	**18 44 46.6**	**-1.4**
	baz=269,slow=22,SNR=2.7						
HNR	**Honiara**	**19.26**	**108**	P	**P**	**18 41 14.7**	**-1.3**
HNR				S	**S**	**18 44 46.6**	**-1.4**
HNR				pmax	pmax		
	comp=Z,47nm,0.3s						
HNR	**Honiara**	**19.26**	**108**	*e*P	**P**	**18 41 15.1**	**-0.9**
	comp=Z,592nm,0.8s						
CGP	**Cagayan de Oro**	**20.65**	**306**‖	*e*P	**P**	**18 41 24.9**	**-6.1**
SCPH	**Surigao**	**20.84**	**311**	*e*P	**P**	**18 41 34.4**	**+1.4**
SCPH				*e*S		18 42 01.4	
FITZ	**Fitzroy Crossi**	**20.90**	**226**	*e*P	**P**	**18 41 32.4**	**-1.3**
	comp=Z,300nm,0.6s						
FITZ				*e*S	**S**	**18 45 14.8**	**-5.5**
FITZ	**Fitzroy Crossi**	**20.90**	**226**	P	**P**	**18 41 32.5**	**-1.2**
	comp=Z,81nm,0.6s,baz=46,slow=12,SNR=129						
FITZ				S	**S**	**18 45 15.1**	**-5.2**
	comp=Z,107nm,0.9s,baz=142,slow=11,SNR=4.2						
FITZ				LR	LR	18 50 17.8	
	comp=Z,2μm,19.5s,baz=42,slow=38						
ASAR	**Alice Springs**	**20.95**	**199**	P	**P**	**18 41 34.0**	**-0.2**
	comp=Z,271nm,0.6s,baz=31,slow=7.6,SNR=649						
ASAR				S	**S**	**18 45 18.8**	**-2.5**
	comp=Z,26nm,0.9s,baz=15,slow=26,SNR=3.8						
ASAR	**Alice Springs**	**20.95**	**199**	P	**P**	**18 41 34.0**	**-0.2**
ASAR				S	**S**	**18 45 18.8**	**-2.5**
PAGZ	**Pagadian**	**21.39**	**303**	*e*P	**P**	**18 41 40.0**	**+1.1**
RCP	**Roxas**	**24.05**	**310**‖	*e*P	**P**	**18 42 06.8**	**+1.9**
TSM	**Tawau**	**24.83**	**289**	P	**P**	**18 42 12.4**	**+0.2**
CUYO	**Cuyo Island**	**24.98**	**306**	*e*P	**P**	**18 42 13.3**	**-0.2**
ENPP	**El Nido**	**26.48**	**305**	*e*P	**P**	**18 42 26.8**	**-0.2**
KKM	**Kota Kinabalu**	**26.98**	**291**	P	**P**	**18 42 31.4**	**0.0**
KKM	**Kota Kinabalu**	**26.98**	**291**	*e*P	**P**	**18 42 30.5**	**-0.9**
MBWA	**Marble Bar**	**27.15**	**229**	*e*P	**P**	**18 42 32.1**	**-0.9**
	comp=Z,2.8nm,0.4s,mb4.2						
MBWA				*e*S	S	18 47 35.1	+32
STKA	**Stephens Creek**	**27.85**	**180**	*e*P	**P**	**18 42 36.1**	**-3.1**
	comp=Z,19nm,0.5s,mb4.9						
STKA	**Stephens Creek**	**27.85**	**180**	P	**P**	**18 42 37.7**	**-1.5**
	comp=Z,21nm,0.5s,mb4.9,baz=352,slow=8.9,SNR=76						
STKA				LR	LR	18 53 24.4	
	comp=Z,417nm,19.5s,baz=4.7,slow=35						
ARMA	**Armidale**	**28.12**	**161**	*e*P	**P**	**18 42 43.7**	**+2.0**
CAUP	**Cauayan**	**28.30**	**318**	*e*P	**P**	**18 42 51.1**	**+7.9**
FORT	**Forrest**	**29.55**	**204**	*e*P	**P**	**18 42 54.7**	**+0.4**
	comp=Z,138nm,0.7s,mb5.7						
DZM	**Mont Dzumac**	**30.31**	**129**	P	**P**	**18 43 01.7**	**+0.7**
	comp=Z,11nm,0.8s,mb4.6,baz=87,slow=0.3,SNR=8.0						
DZM				LR	LR	18 53 45.5	
	comp=Z,410nm,20.6s,baz=135,slow=33						
CBIJ	**Chichi jima**	**30.80**	**1**	P	**P**	**18 43 05.0**	**-0.3**
	comp=Z,51nm,0.7s,mb5.4,baz=278,slow=14,SNR=9.2						
CBIJ				LR	LR	18 52 49.7	
	comp=Z,456nm,19.7s,baz=5.0,slow=31						
RIV	**Riverview**	**31.17**	**164**	*e*P	**P**	**18 43 10.8**	**+2.2**
KSM	**Kuching**	**31.49**	**279**	*e*P	**P**	**18 43 10.4**	**-1.0**
CNB	**Canberra Magne**	**32.15**	**168**	*e*P	**P**	**18 43 19.0**	**+1.9**
	comp=Z,54nm,1.0s,mb5.2						
JOW	**Kunigami**	**33.05**	**338**	P	**P**	**18 43 25.9**	**+0.9**
	comp=Z,29nm,0.9s,mb5.1,baz=173,slow=9.2,SNR=8.8						
JOW				LR	LR	18 54 49.7	
	comp=Z,614nm,19.9s,baz=149,slow=32						
TOO	**Toolangi**	**33.74**	**174**	*e*P	**P**	**18 43 33.1**	**+2.0**
	comp=Z,72nm,1.2s,mb5.4						
TOO	**Toolangi**	**33.74**	**174**	*e*P	**P**	**18 43 33.1**	**+2.0**
TOO				pmax	pmax		
	comp=Z,72nm,1.2s,mb5.4						
NACB	**Ninganchiao**	**33.88**	**326**	*e*P	**P**	**18 43 31.4**	**-0.9**
YHNB	**Yeheng**	**34.39**	**327**	*e*P	**P**	**18 43 36.5**	**-0.2**
TATO	**Taipei**	**34.58**	**327**	*e*P	**P**	**18 43 38.3**	**0.0**
	comp=Z,46nm,0.8s,mb5.4						
KLBR	**Kellerberrin**	**35.39**	**216**	*e*P	**P**	**18 43 45.1**	**-0.1**
	comp=Z,122nm,1.0s,mb5.7						
QZH	**Quanzhou**	**36.20**	**323**‖	*i*P	**P**	**18 43 53.1**	**+1.0**
QZH				S	**S**	**18 49 24.0**	**+0.2**
QZH				AMB	AMB		
	comp=Z,70nm,0.8s,mb5.6						
MUN	**Mundaring**	**36.59**	**217**	*e*P	**P**	**18 43 55.4**	**-0.1**
MUN				*e*S	**S**	**18 49 32.8**	**+3.0**
NWAO	**Narrogin (SRO)**	**36.66**	**215**	P	**P**	**18 43 56.5**	**+0.4**
	comp=Z,58nm,0.8s,mb5.5,baz=42,slow=9.8,SNR=37						
NWAO				LR	LR	18 59 58.2	
	comp=Z,449nm,18.8s,baz=43,slow=38						
NWAO	**Narrogin (SRO)**	**36.66**	**215**	*e*P	**P**	**18 43 55.5**	**-0.6**
NWAO				pmax	pmax		
	comp=Z,135nm,1.3s						
NWAO	**Narrogin (SRO)**	**36.66**	**215**	*e*P	**P**	**18 43 55.5**	**-0.6**
	comp=Z,135nm,1.3s,mb5.7						
JNU	**Nakatsue**	**38.12**	**346**	P	**P**	**18 44 07.5**	**-0.8**
	comp=Z,50nm,0.7s,mb5.5,baz=189,slow=3.1,SNR=11						
GZH	**Guangzhou**	**38.29**	**316**	P	**P**	**18 44 08.4**	**-1.4**
GZH				S	**S**	**18 49 57.4**	**+1.9**
GZH				LR	LR		
	comp=N,219nm,14.3s						
GZH				LR	LR		
	comp=E,207nm,16.2s						
GZH				LR	LR		
	comp=Z,367nm,21.1s						
QIZ	**Qiongzhong**	**38.48**	**307**	P	**P**	**18 44 10.8**	**-0.6**
QIZ				AP	pP	18 44 36.5	-0.4
QIZ				PPP		18 46 04.7	
QIZ				S	**S**	**18 49 55.8**	**-2.5**
QIZ				SCS	ScS	18 54 05.0	-5.1
QIZ				AMB	AMB		
	comp=Z,19nm,1.9s,mb4.6						
SSE	**Sheshan**	**39.75**	**332**	P	**P**	**18 44 22.5**	**+0.6**
SSE				AP	pP	18 44 49.3	+1.7
SSE				XP	sP	18 45 03.5	+3.0
SSE				PP	PP	18 45 54.8	-0.6
SSE				S	**S**	**18 50 17.8**	**+0.4**
SSE				XS	sS	18 51 05.6	+3.8
SSE				AMB	AMB		
	comp=Z,38nm,1.2s,mb5.1						
SSE				AMB	AMB		
	comp=Z,58nm,4.7s						
SSE				LR	LR		
	comp=N,86nm,22.3s						
SSE				LR	LR		
	comp=E,357nm,22.3s						
SSE				LR	LR		
	comp=Z,317nm,22.4s						
MJAR	**Matsushiro Arr**	**40.32**	**356**	P	**P**	**18 44 25.0**	**-1.6**
	comp=Z,9.9nm,0.7s,mb4.8,baz=170,slow=9.3,SNR=28						
MJAR				LR	LR	18 58 31.7	
	comp=Z,257nm,19.4s,baz=160,slow=32						
MJAR	**Matsushiro Arr**	**40.32**	**356**	P	**P**	**18 44 25.0**	**-1.6**
MJAR				LR	LR	18 58 31.7	
MAJO	**Matsushiro**	**40.32**	**356**	*e*P	**P**	**18 44 25.2**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,24nm,0.7s,mb5.1						
MAJO	**Matsushiro**	**40.32**	**356**	*e*P	**P**	**18 44 25.2**	**-1.5**
	comp=Z,24nm,0.7s,mb5.1						
MAT	**Matsushiro**	**40.32**	**356**	P	**P**	**18 44 24.7**	**-1.9**
MAT				S	**S**	**18 50 27.0**	**+1.1**
MAT	**Matsushiro**	**40.32**	**356**	*e*P	**P**	**18 44 25.0**	**-1.6**
MAT				*e*S	**S**	**18 50 28.0**	**+2.1**
MAT				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.0						
MAT	**Matsushiro**	**40.32**	**356**	*e*P	**P**	**18 44 25.0**	**-1.6**
	comp=Z,16nm,0.7s,mb5.0						
MAT				*e*S	**S**	**18 50 28.0**	**+2.1**
NJ2	**Nanjing**	**41.65**	**331**	*e*P	**P**	**18 44 39.3**	**+1.8**
NJ2				AP	pP	18 45 04.5	+1.1
NJ2				XP	sP	18 45 16.9	+0.6
NJ2				PP	PP	18 46 21.1	+5.1
NJ2				S	**S**	**18 50 45.0**	**-0.6**
NJ2				XS	sS	18 51 31.0	+0.7
NJ2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,130nm,5.5s						
NJ2				LR	LR		
	comp=N,770nm,27.8s						
NJ2				LR	LR		
	comp=E,660nm,26.8s						
NJ2				LR	LR		
	comp=Z,480nm,27.1s						
KULM	**Kulim**	**41.67**	**282**	P	**P**	**18 44 36.4**	**-1.3**
SNG	**Songkhla**	**42.12**	**285**	P	pP	18 45 07.0	-0.3
	comp=Z,278nm,0.9s						
WHN	**Wuhan**	**42.87**	**325**	‖ P	**P**	**18 44 48.0**	**+0.6**
PSI	**Prapat**	**42.93**	**278**	P	**P**	**18 44 46.7**	**-1.2**
	comp=Z,24nm,0.9s,mb4.9,baz=112,slow=1.0,SNR=18						
PSI				pP	pP	18 45 07.4	-6.5
	comp=Z,105nm,0.9s,baz=114,slow=5.8,SNR=18						
PSI	**Prapat**	**42.93**	**278**	P	**P**	**18 44 46.7**	**-1.2**
PSI				pP	pP	18 45 07.4	-6.5
KS15	**Wonju Array Si**	**42.98**	**344**	*e*P	**P**	**18 44 48.2**	**-0.2**
INCN	**Inchon**	**43.37**	**343**	*e*P	**P**	**18 44 52.2**	**+0.7**
	comp=Z,16nm,0.8s,mb4.8						
GYA	**Guiyang**	**45.12**	**314**‖	*i*P	**P**	**18 45 07.0**	**+1.6**
GYA				AP	pP	18 45 32.0	+0.4
GYA				XP	sP	18 45 45.7	+1.3
GYA				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
GYA				AMB	AMB		
	comp=Z,180nm,4.0s						
GYA				LR	LR		
	comp=N,690nm,18.9s						
GYA				LR	LR		
	comp=E,870nm,18.6s						
GYA				LR	LR		
	comp=Z,930nm,19.0s						
TIA	**Tai'an**	**45.87**	**332**	*e*P	**P**	**18 45 11.2**	**-0.1**
NANT	**Nan**	**45.94**	**301**	⇑P	**P**	**18 45 11.0**	**-0.8**
	comp=Z,125nm,1.0s,mb5.6						
HIZ	**Hauiti**	**46.02**	**143**	*e*PN	**P**	**18 45 14.6**	**+2.1**
	comp=Z,110nm,0.6s,mb5.8						
HIZ	**Hauiti**	**46.02**	**143**	*e*P	**P**	**18 45 14.6**	**+2.1**
QRZ	**Quartz Range**	**46.24**	**147**	PN	**P**	**18 45 16.0**	**+1.8**
	comp=Z,79nm,0.6s,mb5.6						
QRZ	**Quartz Range**	**46.24**	**147**	P	**P**	**18 45 16.0**	**+1.8**
DL2	**Dalian**	**46.31**	**339**	P	**P**	**18 45 15.6**	**+0.8**
DL2				S	**S**	**18 51 55.1**	**+1.8**
DL2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
WVZ	**Waitaha Valley**	**46.94**	**151**	PN	**P**	**18 45 20.1**	**+0.5**
	comp=Z,35nm,0.6s,mb5.3						
CHRT	**Chiangrai**	**47.18**	**302**	‖ P	**P**	**18 45 22.0**	**+0.5**
URZ	**Urewera**	**47.24**	**141**	LR	LR	19 02 57.2	
	comp=Z,281nm,19.1s,baz=336,slow=33						
URZ	**Urewera**	**47.24**	**141**	*e*PN	**P**	**18 45 22.9**	**+0.8**
URZ	**Urewera**	**47.24**	**141**	*e*P	**P**	**18 45 22.9**	**+0.9**
AFI	**Afiamalu**	**47.27**	**105**	P	**P**	**18 45 23.5**	**+1.2**
	comp=Z,47nm,1.0s,mb5.2,baz=97,slow=24,SNR=5.0						
AFI				LR	LR	19 02 10.0	
	comp=Z,242nm,21.7s,baz=258,slow=32						
KMI	**Kunming**	**47.29**	**310**	P	**P**	**18 45 23.6**	**+1.2**
KMI				AP	pP	18 45 52.3	+3.5
KMI				XP	sP	18 46 05.4	+3.9
KMI				PCP	PcP	18 46 51.4	-0.3
KMI				PP	PP	18 47 16.0	+1.6
KMI				PPP		18 48 08.8	
KMI				SCP	ScP	18 50 32.9	-2.3
KMI				PCS	PcS	18 50 45.6	-1.5
KMI				S	**S**	**18 52 09.0**	**+1.8**
KMI				XS	sS	18 52 59.0	+6.3
KMI				SCS	ScS	18 55 01.8	-3.1
KMI				SS	SS	18 55 33.4	-2.6
KMI				SSS		18 56 55.0	
KMI				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.5						
KMI				AMB	AMB		
	comp=Z,110nm,8.7s						
KMI				LR	LR		
	comp=N,188nm,22.3s						
KMI				LR	LR		
	comp=E,239nm,15.5s						
KMI				LR	LR		
	comp=Z,407nm,27.8s						
BKZ	**Black Stump Fm**	**47.42**	**143**	*e*PN	**P**	**18 45 24.2**	**+0.8**
	comp=Z,97nm,0.6s,mb5.7						
BKZ	**Black Stump Fm**	**47.42**	**143**	*e*P	**P**	**18 45 24.2**	**+0.8**
CHG	**Chiang Mai**	**47.45**	**300**	P	**P**	**18 45 23.8**	**+0.1**
CHTO	**Chiang Mai**	**47.45**	**300**	*e*P	**P**	**18 45 23.1**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.7						
CHTO	**Chiang Mai**	**47.45**	**300**	*e*P	**P**	**18 45 23.1**	**-0.6**
	comp=Z,19nm,1.1s,mb4.7						
LTZ	**Lake Taylor**	**47.49**	**149**	*e*PN	**P**	**18 45 25.1**	**+1.2**
LTZ	**Lake Taylor**	**47.49**	**149**	*e*P	**P**	**18 45 25.1**	**+1.2**
VLA	**Vladivostok**	**47.56**	**351**	*de*P	**P**	**18 45 24.0**	**-0.5**
VLA				*e*S	**S**	**18 52 10.8**	**-0.2**
VLA				pmax	pmax		
	comp=Z,82nm,1.4s,mb5.4						
RPZ	**Rata Peaks**	**47.57**	**151**	LR	LR	19 04 11.2	
	comp=Z,488nm,19.1s,baz=336,slow=34						
RPZ	**Rata Peaks**	**47.57**	**151**	*e*PN	**P**	**18 45 24.9**	**+0.4**
RPZ	**Rata Peaks**	**47.57**	**151**	*e*P	**P**	**18 45 24.9**	**+0.4**
TSZ	**Takapari Road**	**47.67**	**144**	PN	**P**	**18 45 26.1**	**+0.8**
TSZ	**Takapari Road**	**47.67**	**144**	P	**P**	**18 45 26.1**	**+0.8**
SNZO	**South Karori**	**47.77**	**146**	*e*P	**P**	**18 45 26.0**	**-0.1**
	comp=Z,49nm,0.6s,mb5.5						
ASAJ	**Asahikawa**	**47.79**	**1**	P	**P**	**18 45 26.2**	**0.0**
	comp=Z,31nm,0.8s,mb5.2,baz=228,slow=8.6,SNR=24						
ASAJ	**Asahikawa**	**47.79**	**1**	P	**P**	**18 45 26.3**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,31nm,0.8s						
MRZ	**Mangatainoka R**

BJI XP sP 18 46 18.7 +0.5
BJI S **S** **18 52 38.0 +0.4**
BJI XS sS 18 53 32.3 +8.9
BJI AMB AMB
comp=Z,33nm,0.8s,mb5.3
BJI AMB AMB
comp=Z,361nm,4.6s
CN2 Changchun 49.58 345 *e*P **P** **18 45 39.7 -0.2**
CN2 *e*XP sP 18 46 18.5 -0.7
CN2 *e*S **S** **18 52 39.3 -0.1**
CN2 AMB AMB
comp=Z,30nm,1.5s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,19.0s
CN2 LR LR
comp=E,300nm,19.0s
CN2 LR LR
comp=Z,300nm,19.0s
CD2 Chengdu 49.83 317 P **P** **18 45 42.6 +0.8**
CD2 AP pP 18 46 07.6 -0.9
CD2 XP sP 18 46 25.6 +4.5
CD2 PP PP 18 47 41.0 +3.5
CD2 S **S** **18 52 41.8 -1.1**
CD2 SS SS 18 56 12.0 -4.8
CD2 AMB AMB
comp=Z,40nm,0.7s,mb5.5
CD2 AMB AMB
comp=Z,90nm,6.1s
CD2 LR LR
comp=N,150nm,14.4s
CD2 LR LR
comp=Z,170nm,15.6s
YSS Yuzh-Sakhalins 50.63 1*ce*P **P** **18 45 47.5 -0.4**
YSS pmax pmax
comp=Z,45nm,0.7s,mb5.6
YSS Yuzh-Sakhalins 50.63 1 *e*P **P** **18 45 46.8 -1.1**
comp=Z,38nm,0.7s,mb5.5
HHC Hu-ho-hao-te 52.19 332 *e*P **P** **18 46 00.1 +0.6**
HHC AP pP 18 46 26.5 +0.2
HHC PCP PcP 18 47 11.1 +1.5
HHC PP PP 18 48 01.2 +2.3
HHC SCP ScP 18 50 55.2 -0.9
HHC PCS PcS 18 51 08.8 +0.8
HHC S **S** **18 53 17.4 +2.0**
HHC XS sS 18 54 04.7 +3.1
HHC SCS ScS 18 55 35.4 -2.8
HHC SS SS 18 56 53.7 -0.4
HHC AMB AMB
comp=Z,21nm,1.0s,mb5.1
HHC AMB AMB
comp=Z,92nm,7.1s
HHC LR LR
comp=N,301nm,15.7s
HHC LR LR
comp=E,224nm,17.7s
HHC LR LR
comp=Z,363nm,17.8s
HABR Khabarovsk 52.43 355⇑ *i*P **P** **18 46 01.5 +0.3**
HABR *e*S **S** **18 53 19.4 +0.8**
HABR pmax pmax
comp=Z,45nm,1.2s,mb5.4
BTO Baotou 52.75 330 *e*P **P** **18 46 03.5 -0.2**
LZH Lanzhou 53.01 322 *e*P **P** **18 46 07.0 +1.4**
LZH AP pP 18 46 34.9 +2.4
LZH XP sP 18 46 48.5 +3.4
LZH PCP PcP 18 47 13.5 +0.8
LZH PP PP 18 48 10.1 +3.8
LZH S **S** **18 53 28.2 +1.6**
LZH XS sS 18 54 15.0 +2.1
LZH SS SS 18 57 09.0 +1.9
LZH AMB AMB
comp=Z,55nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,210nm,4.4s
KLR Kul'dur 53.55 352⇓ *i*P **P** **18 46 06.5 -3.0**
KLR pmax pmax
comp=E,40nm,1.8s
KLR pmax pmax
comp=Z,200nm,1.8s,mb5.8
HIA Hailar 56.16 343 *e*P **P** **18 46 27.8 -0.5**
HIA pmax pmax
comp=Z,19nm,0.6s
HIA Hailar 56.16 343 *e*P **P** **18 46 27.8 -0.5**
comp=Z,19nm,0.6s,mb5.3
HIA *e*pP pP 18 46 55.1 -0.4
SHL Shillong 56.17 304 *e*P **P** **18 46 27.5 -0.9**
GTA Gaotai 57.59 323 P **P** **18 46 39.5 +1.1**
GTA AP pP 18 47 06.3 +0.6
GTA XP sP 18 47 18.9 +0.7
GTA PCP PcP 18 47 29.4 -1.0
GTA PP PP 18 48 50.7 +3.5
GTA S **S** **18 54 30.6 +3.1**
GTA XS sS 18 55 16.3 +1.8
GTA SCS ScS 18 56 16.2 -0.6
GTA AMB AMB
comp=Z,31nm,0.9s,mb5.3
GTA AMB AMB
comp=Z,167nm,7.6s
GTA LR LR
comp=N,128nm,17.5s
GTA LR LR
comp=E,138nm,18.2s
GTA LR LR
comp=Z,256nm,16.7s
LSA Lhasa 58.51 308 P **P** **18 46 47.0 +2.2**
LSA Lhasa 58.51 308 *e*P **P** **18 46 46.5 +1.7**
LSA pmax pmax
comp=Z,43nm,1.2s,mb5.3
LSA Lhasa 58.51 308 *e*P **P** **18 46 46.5 +1.7**
comp=Z,43nm,1.2s,mb5.3
PET Petropavlovsk 58.54 12⇓ *e*P **P** **18 46 43.1 -1.9**
PET pmax pmax
comp=Z,63nm,1.7s,mb5.4
RAR Rarotonga 59.63 112 LR LR 19 08 04.8
comp=Z,306nm,18.8s,baz=224,slow=31
ULN Ulaanbaatar 59.65 334*c i*P **P** **18 46 53.6 +0.9**
ULN Ulaanbaatar 59.65 334 *e*P **P** **18 46 53.5 +0.8**
comp=Z,19nm,0.8s,mb5.2
ULN *e*pP pP 18 47 21.6 +1.5
SONM Songino Array 59.92 333 P **P** **18 46 54.8 +0.3**
comp=Z,5.6nm,0.6s,mb4.8,baz=159,slow=6.0,SNR=32
SONM sP sP 18 47 23.4 -11
comp=Z,4.3nm,0.5s,baz=159,slow=6.3,SNR=2.6
SONM LR LR 19 13 09.7
comp=Z,462nm,18.5s,baz=343,slow=36
CIT Chita 60.49 341 *e*P **P** **18 46 57.7 -0.7**
CIT *e* 18 55 08.1
CIT pmax pmax
comp=Z,143nm,1.9s,mb5.7
BOK Bokaro 60.59 300 *e*P **P** **18 46 59.3 +0.2**
VIS Vishakhapatnam 61.11 293 *e*P **P** **18 47 02.2 -0.3**
FX1 Attu Island--F 62.58 21 *e*P **P** **18 47 12.7 +0.2**
DRV Dumont d'Urvil 62.68 181 S **S** **18 55 34.0 +1.4**
SMY Shemya 62.80 22 *e*P **P** **18 47 14.0 +0.1**
SMY pmax pmax
comp=Z,294nm,1.0s,mb6.2
SMY Shemya 62.80 22 *e*P **P** **18 47 14.0 +0.1**
comp=Z,294nm,1.0s,mb6.2
ZAK Zakamensk 63.18 334 *e*P **P** **18 47 16.6 +0.2**
ZAK pmax pmax
comp=Z,58nm,1.4s,mb5.3
ZAK pmax pmax
comp=Z,50nm,1.2s,mb5.3
ZAK pmax pmax
comp=Z,17nm,1.7s,mb4.7
MA2 Magadan 63.70 5*c i*P **P** **18 47 19.5 -0.3**
MA2 pmax pmax
comp=Z,141nm,2.5s,mb5.3
MA2 Magadan 63.70 5 *e*P **P** **18 47 19.6 -0.2**
comp=Z,88nm,1.3s,mb5.4
TLY Talaya 63.97 335*c i*P **P** **18 47 22.3 +0.7**
TLY *i* *PP pP 18 47 49.9 +0.5
TLY pmax pmax
comp=Z,21nm,0.6s,mb5.1
TLY Talaya 63.97 335 *e*P **P** **18 47 22.3 +0.7**
comp=Z,16nm,0.7s,mb5.0
TLY *e*pP pP 18 47 49.8 +0.4
IRK Irkutsk 64.13 336 *e*P **P** **18 47 23.3 +0.7**
IRK pmax pmax
comp=Z,61nm,2.7s,mb5.0
MOY Mondy 65.11 334 *e*P **P** **18 47 29.8 +0.8**
MOY pmax pmax
comp=Z,78nm,2.9s,mb5.0

BOD Bodaibo 65.33 344 *e*P **P** **18 47 29.7 -0.7**
BOD pmax pmax
comp=Z,20nm,1.2s,mb4.8
BOD pmax pmax
comp=Z,22nm,1.0s,mb4.9
HYB Hyderabad 65.46 291 *i* P **P** **18 47 31.0 -0.3**
HYB *e* pP 18 47 54.5 -4.7
HYB *e*PcP PcP 18 48 02.0 -0.3
HYB *e* 18 48 16.5
NGP Nagpur 65.88 295 *e*P **P** **18 47 33.1 -0.9**
CASY Casey 65.92 193 *e*P **P** **18 47 34.4 +0.2**
comp=Z,36nm,1.0s,mb5.2
YAK Yakutsk 66.33 354*c i*P **P** **18 47 36.5 -0.4**
YAK pmax pmax
comp=Z,125nm,1.7s,mb5.5
YAK Yakutsk 66.33 354 *e*P **P** **18 47 36.4 -0.5**
comp=Z,104nm,1.2s,mb5.5
AKL Akola 67.62 294 *ex* x 18 47 10.6
BHPL Bhopal 67.86 297 *e*P **P** **18 47 47.0 +0.4**
AGRA Agra 68.47 301 *e*P **P** **18 47 48.6 -1.7**
AGRA AMb AMB 18 47 50.9
comp=Z,74nm,0.2s,mb6.1
PPT Papeete 68.88 107 *e*LR LR 19 09 06.6
comp=Z,528nm,33.0s
PPT Papeete 68.88 107 LR LR 19 11 60.0
comp=Z,192nm,21.1s,baz=312,slow=30
DDI Dehra Dun 69.28 304 *e*P **P** **18 47 56.0 +0.7**
TBI Tubuai 69.36 113 *e*LR LR 19 09 11.2
comp=Z,308nm,39.2s
SONA Sohna 69.49 302 *e*P **P** **18 47 56.3 -0.3**
SONA AMb AMB 18 48 24.9
comp=Z,37nm,0.8s,mb5.3
KLP Kalpa 69.49 306 *e*P **P** **18 47 57.4 +0.8**
KLP AMb AMB 18 48 00.4
comp=Z,32nm,1.1s,mb5.0
NDI New Delhi 69.50 302 *e*P **P** **18 47 56.0 -0.7**
NDI *e*P 18 47 56.5
NDI AMb AMB 18 48 44.5
comp=Z,54nm,0.9s,mb5.4
AYAN Aya Nagar 69.52 302 *e*P **P** **18 47 56.3 -0.5**
AYAN AMb AMB 18 47 57.5
comp=Z,19nm,0.7s,mb5.0
KAD Karad 69.52 290 *e*P **P** **18 47 56.4 -0.4**
KAD AMb AMB 18 47 59.5
comp=Z,28nm,1.5s,mb4.9
KUDL Kundal 69.96 302 *e*P **P** **18 47 58.8 -0.8**
KUDL AMb AMB 18 48 27.6
comp=Z,38nm,1.0s,mb5.2
POO Poona 70.07 291 *ex* x 18 48 35.1
POO AMb AMB 18 48 36.9
comp=Z,31nm,1.0s,mb5.1
SMLA Simla 70.25 305 *e*P **P** **18 47 59.6 -1.7**
SMLA *e*P 18 48 00.3
SMLA AMb AMB 18 48 28.4
comp=Z,68nm,1.2s,mb5.3
KHET Khetri 70.53 301 *e*P **P** **18 48 02.8 -0.2**
MIR Mirnyy 70.92 198*c i*P **P** **18 48 06.5 +1.2**
MIR pmax pmax
comp=Z,310nm,2.2s,mb5.8
AJM Ajmer 71.12 300 *e*P **P** **18 48 07.0 +0.5**
MK31 Makanchi Array 72.33 322 P **P** **18 48 14.1 +0.3**
MK31 pmax pmax
comp=Z,51nm,1.1s,mb5.3
MKAR Makanchi Array 72.33 322 P **P** **18 48 14.2 +0.4**
comp=Z,18nm,0.7s,mb5.0,baz=108,slow=7.7,SNR=183
MKAR sP sP 18 48 42.6 -12
comp=Z,21nm,0.8s,baz=106,slow=8.9,SNR=3.4
AKUT Akutan 72.54 29 *e*P **P** **18 48 14.5 -0.5**
comp=Z,306nm,0.7s,mb6.2
KSH Kashi 73.81 313 *e*P **P** **18 48 23.1 +0.6**
KSH *e*PCP PcP 18 48 39.3 +1.8
KSH *e*AP pP 18 48 52.0 +1.0
KSH *e*XP sP 18 49 04.2 +1.0
KSH *e*PP PP 18 51 11.1 +2.6
KSH *e*PPP 18 52 57.6
KSH *e*S S 18 57 40.4 -4.3
KSH *e*SKS 18 58 15.4
KSH *e*SCS ScS 18 58 19.3 -2.5
KSH *e*PS 18 58 34.0
KSH AMB AMB
comp=Z,137nm,2.6s,mb5.2
KSH LR LR
comp=N,186nm,5.4s
KSH LR LR
comp=E,205nm,5.8s
KSH LR LR
comp=Z,226nm,5.4s
BILL Bilibino 73.85 9*c i*P **P** **18 48 22.1 -0.6**
BILL pmax pmax
comp=Z,43nm,0.8s,mb5.2
BILL Bilibino 73.85 9 *e*P **P** **18 48 22.1 -0.6**
comp=Z,35nm,0.8s,mb5.1
ZAL Zalesovo 74.28 329 P **P** **18 48 24.3 -1.0**
comp=Z,6.4nm,0.7s,mb4.4,baz=359,slow=6.3,SNR=34
ZAL LR LR 19 22 00.8
comp=Z,265nm,20.8s,baz=348,slow=36
VNDA Vanda 74.40 175 P **P** **18 48 26.2 +0.3**
comp=Z,9.3nm,0.6s,mb4.7,baz=327,slow=6.6,SNR=94
VNDA LR LR 19 18 23.3
comp=Z,234nm,20.2s,baz=352,slow=33
VNDA Vanda 74.40 175 *e*P **P** **18 48 25.4 -0.5**
VNDA pmax pmax
comp=Z,10.0nm,0.7s
VNDA Vanda 74.40 175 *e*P **P** **18 48 25.4 -0.6**
comp=Z,10nm,0.7s,mb4.7
KZA Kyzart 75.17 315 P **P** **18 48 32.3 +2.0**
SNR=59
TKM2 Tokmak 2 75.21 316 P **P** **18 48 31.0 +0.4**
SNR=15
NVS Novosibirsk 75.53 330 *e*P **P** **18 48 30.5 -1.9**
NVS pmax pmax
comp=N,27nm,1.4s
NVS pmax pmax
comp=E,45nm,1.4s
NVS pmax pmax
comp=Z,69nm,1.4s,mb5.2
KBK Karagaybulak 75.57 316 P **P** **18 48 33.5 +0.8**
SNR=9.9
UCH Uchtor 75.74 315 P **P** **18 48 35.3 +1.7**
SNR=36
SDPT Sand Point 75.79 30 *e*P **P** **18 48 33.2 -0.7**
comp=Z,308nm,0.5s,mb6.3
CHMS Chumysh 75.82 316 P **P** **18 48 35.4 +1.3**
SNR=10
FRU Bishkek 75.86 316 *e*P **P** **18 48 36.0 +1.7**
FRU pmax pmax
comp=Z,50nm,2.1s,mb4.9
AAK Ala-Archa 75.88 316 P **P** **18 48 36.2 +1.8**
SNR=11
AAK Ala-Archa 75.88 316 P **P** **18 48 34.2 -0.2**
comp=Z,64nm,0.9s,mb5.3,SNR=9.0
AAK Ala-Archa 75.88 316 *e*P **P** **18 48 34.0 -0.4**
AAK pmax pmax
comp=Z,12nm,1.0s,mb4.6
AAK Ala-Archa 75.88 316 *e*P **P** **18 48 34.0 -0.4**
comp=Z,12nm,1.0s,mb4.6
USP Ospenovka 76.08 316 P **P** **18 48 36.2 +0.6**
SNR=15
KURK Kurchatov 76.19 324 P **P** **18 48 36.1 -0.1**
comp=Z,186nm,1.0s,mb5.8,SNR=22
KURK Kurchatov 76.19 324 *e*P **P** **18 48 35.7 -0.5**
KURK pmax pmax
comp=Z,67nm,1.3s,mb5.2
KURK Kurchatov 76.19 324 *e*P **P** **18 48 35.7 -0.5**
comp=Z,67nm,1.3s,mb5.2
KURK *e*pP pP 18 49 04.6 -0.2
AML Almayashu 76.28 315 P **P** **18 48 37.9 +1.2**
SNR=35
EKS2 Erkin-Say 76.39 315 P **P** **18 48 38.2 +0.9**
SNR=24
CHGN Chignik 77.27 30 *e*P **P** **18 48 41.8 -0.4**
KK31 Karatay Array 78.82 315 *i* P **P** **18 48 50.9 +0.1**
KK31 pmax pmax
comp=Z,8.0nm,0.5s,mb4.8
KKAR Karatay Array 78.82 315 *i* P **P** **18 48 50.9 +0.1**
KKAR pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
SVW2 Sparrevohn 80.74 26 *e*P **P** **18 49 01.7 +0.5**
KDAK Kodiak Island 80.78 30 P **P** **18 49 01.0 -0.4**
comp=Z,794nm,0.5s,SNR=51
KDAK Kodiak Island 80.78 30 P **P** **18 49 01.4 0.0**
comp=Z,102nm,0.6s,mb5.8,baz=242,slow=3.2,SNR=134
VOSK Vostochnaya 81.35 325 P **P** **18 49 03.7 -0.7**
VOSK pmax pmax
comp=Z,21nm,1.0s,mb4.9
TTA Tatalina 81.36 24 *e*P **P** **18 49 04.5 0.0**

BVA0 Borovoye Array 81.78 325 *i* P **P** **18 49 06.6 -0.1**
BVA0 pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
BVAR Borovoye Array 81.78 325 P **P** **18 49 06.8 +0.1**
comp=Z,60nm,0.7s,mb5.5,baz=113,slow=6.7,SNR=204
BVAR sP sP 18 49 36.4 -11
comp=Z,29nm,0.8s,baz=107,slow=7.5,SNR=3.1
BRVK Borovoye 81.85 325 P **P** **18 49 07.1 +0.1**
comp=Z,380nm,0.8s,mb6.3,SNR=47
BRVK Borovoye 81.85 325⇑ *e*P **P** **18 49 07.0 0.0**
BRVK pmax pmax
comp=Z,29nm,0.8s,mb5.2
BRVK Borovoye 81.85 325⇑ *e*P **P** **18 49 07.0 0.0**
comp=Z,29nm,0.8s,mb5.2
BRVK *e*pP pP 18 49 35.4 -0.7
MAW Mawson 82.05 202 P **P** **18 49 08.8 +0.8**
comp=Z,16nm,0.9s,mb4.8,baz=83,slow=7.4,SNR=14
MAW LR LR 19 23 11.3
comp=Z,266nm,21.1s,baz=65,slow=34
MAW Mawson 82.05 202 *e*P **P** **18 49 08.4 +0.3**
MAW pmax pmax
comp=Z,33nm,1.1s
MAW Mawson 82.05 202 *e*P **P** **18 49 08.4 +0.3**
comp=Z,33nm,1.1s,mb5.1
ZRNK Zerenda 82.56 324⇑ *i*P **P** **18 49 10.6 -0.1**
ZRNK pmax pmax
comp=Z,39nm,0.8s,mb5.3
ZRNK Zerenda 82.56 324⇑ *i*P **P** **18 49 10.6 -0.2**
comp=Z,39nm,0.8s,mb5.3
ZRNK *e*pP pP 18 49 39.6 -0.2
RKT Rikitea 82.67 113 *e*LR LR 19 15 26.9
comp=Z,355nm,37.2s
SLKM Skilak Lake 82.92 28 *e*P **P** **18 49 11.4 -1.2**
PMR Palmer 83.80 27 *e*P **P** **18 49 15.7 -1.4**
WSAR Wadi Sarin 84.85 294 LR LR 19 27 20.4
comp=Z,74nm,20.3s,baz=352,slow=36
COLA College 85.44 24*c i*P **P** **18 49 23.5 -1.9**
COLA College 85.44 24 *e*P **P** **18 49 23.2 -2.2**
comp=Z,46nm,0.8s,mb5.5
ILAR Eielson Array 85.80 24 P **P** **18 49 25.3 -1.8**
comp=Z,49nm,0.7s,mb5.5,baz=261,slow=4.4,SNR=494
ILAR LR LR 19 24 15.7
comp=Z,105nm,19.1s,baz=187,slow=33
QSPA South Pole Qui 86.08 180⇑ *i*P **P** **18 49 28.2 -0.3**
comp=Z,34nm,0.6s,mb5.5
MENT Mentasta 86.62 26 *e*P **P** **18 49 30.7 -0.4**
ABKT Ailbek 87.04 308 P **P** **18 49 34.0 +0.8**
comp=Z,143nm,0.8s,mb6.0,SNR=12
AB31 Akbulak array 87.32 320 *i* P **P** **18 49 33.2 -1.3**
AB31 pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
AKTK Aktyubinsk 88.72 321 P **P** **18 49 40.1 -1.0**
AKTO Aktyubinsk 88.72 321 P **P** **18 49 40.1 -1.0**
comp=Z,5.6nm,0.7s,mb4.7,baz=95,slow=6.4,SNR=21
AKTO Aktyubinsk 88.72 321 *i* P **P** **18 49 39.7 -1.5**
AKTO pmax pmax
comp=Z,1.0nm,0.8s
DAWY Dawson 88.77 26 *e*P **P** **18 49 41.4 0.0**
ARU Arti 89.22 327 P **P** **18 49 41.1 -2.4**
comp=Z,193nm,0.8s,mb6.2,SNR=11
ARU Arti 89.22 327⇑ *i*P **P** **18 49 41.8 -1.7**
ARU *e* 18 53 14.7
ARU *e*SS SS 19 06 17.9 -1.9
ARU pmax pmax
comp=Z,27nm,0.8s,mb5.3
ARU Arti 89.22 327 *e*P **P** **18 49 41.5 -2.0**
comp=Z,24nm,0.8s,mb5.3
ARU *e*pP pP 18 50 11.8 -1.1
SKAG Skagway 89.91 30 *e*P **P** **18 49 47.0 +0.3**
comp=Z,44nm,1.1s,mb5.5
ORR Orenburg 90.90 322 *e*P **P** **18 49 50.5 -0.8**
ORR pmax pmax
comp=Z,30nm,1.4s,mb5.2
INK Inuvik 91.77 22 *e*P **P** **18 49 54.1 -1.2**
INK pmax pmax
comp=Z,7.0nm,1.0s
INK Inuvik 91.77 22 *e*P **P** **18 49 54.1 -1.2**
comp=Z,7.2nm,1.0s,mb4.9
HUMO Hull Mountain 96.79 48 *e*P **P** **18 50 19.2 +0.8**
comp=Z,14nm,0.8s,mb5.4
ZEI Tsey 98.10 312 *e*P **P** **18 50 23.4 -0.8**
ZEI pmax pmax
comp=Z,5.0nm,0.7s,mb5.2
MOD Modoc 98.78 48 *e*P **P** **18 50 27.0 -0.3**
comp=Z,10nm,0.7s,mb5.5
VRHR Novokhopersk 99.12 321 *e*P **P** **18 50 27.7 -1.1**
VRHR pmax pmax
comp=Z,10.0nm,0.7s,mb5.5
VRHR pmax pmax
comp=N,9.0nm,0.8s
VRHR pmax pmax
comp=E,30nm,0.9s
YKW3 Yellowknife Ar 99.88 27 *e*P Pdif 18 50 30.3 -1.9
YKA Yellowknife Ar 99.89 27 P Pdif 18 50 31.0 -1.3
comp=E,3.5nm,0.7s,baz=283,slow=4.8,SNR=52
YKA PP PP 18 54 37.2 -1.1
comp=E,0.9nm,0.8s,baz=274,slow=7.7,SNR=4.9
YKA PKKPbc PKKPbc 19 06 50.4 -0.9
comp=E,0.3nm,0.6s,baz=107,slow=2.8,SNR=5.9
YKA LR LR 19 31 02.6
comp=E,182nm,20.7s,baz=0.0,slow=32
YKA Yellowknife Ar 99.89 27 P Pdif 18 50 31.0 -1.3
YKA 18 54 37.2
YKA Yellowknife Ar 99.89 27 P Pdif 18 50 31.0 -1.3
YKA PP PP 18 54 37.2 -1.1
YKA PKKPbc PKKPbc 19 06 50.4 -0.9
YKA LR LR 19 31 02.6
WVOR Wild Horse Val 99.99 48 *e*P Pdif 18 50 33.6 +0.9
WVOR pmax pmax
comp=Z,10.0nm,0.9s,mb5.5
WVOR Wild Horse Val 99.99 48 *e*P Pdif 18 50 33.5 +0.9
comp=Z,9.9nm,0.9s
NVAR Mina Array Bea 100.50 52 P Pdif 18 50 36.6 +1.6
comp=Z,1.6nm,0.7s,baz=262,slow=3.6,SNR=9.4
OBN Obninsk 101.62 325⇓ *e*P Pdif 18 50 39.0 -0.9
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN MLR MLR
comp=Z,200nm,17.0s
ARCES ARCESS Array B 102.47 341 P Pdif 18 50 42.0 -1.7
comp=Z,14nm,0.7s,baz=76,slow=5.1,SNR=21
FINES FINESS Array B 105.29 333 Pdiff Pdif 18 50 54.5 -1.7
comp=Z,1.0nm,0.5s,baz=92,slow=5.7,SNR=8.2
FINES PP PP 18 55 09.4 -9.3
comp=Z,1.8nm,0.8s,baz=90,slow=6.5,SNR=5.2
BRTR Keskin Array B 106.08 310 Pdiff Pdif 18 50 58.6 -1.1
comp=Z,0.8nm,0.7s,baz=101,slow=3.9,SNR=4.6
PDAR Pinedale Array 106.60 47 Pdiff Pdif 18 51 03.0 +1.0
comp=Z,0.8nm,0.7s,baz=257,slow=2.2,SNR=8.7
ANMO Albuquerque 110.35 54⇑ *i*PKIKP PKiKP 18 55 17.2 -1.9
NOA NORSAR Array B 111.83 336 Pdiff Pdif 18 51 23.8 -1.5
comp=Z,0.5nm,0.7s,baz=52,slow=5.0,SNR=3.2
NOA PKKPbc PKKPbc 19 06 15.3 +0.6
comp=Z,0.7nm,0.7s,baz=54,slow=3.2,SNR=3.3
BRG Berggiesshubel 115.86 326 *e*(P) PKPdf 18 55 30.0 +0.4
comp=Z,1.3nm,0.6s
BRG
comp=N,73nm,19.1s
BRG
comp=E,66nm,14.1s
BRG
comp=Z,180nm,18.3s
CLL Collm 116.17 327 *e*PKiKP PKiKP 18 55 31.0 +0.7
JCT Junction City 116.70 58 *e*PKIKP PKPdf 18 55 31.2 -0.1
KHC Kasperske Hory 116.89 324 *e*PKPDF PKPdf 18 55 32.0 +0.4
GERES GERESS Array B 116.95 324 PKP PKPdf 18 55 31.6 -0.1
comp=Z,1.9nm,0.6s,baz=80,slow=1.5,SNR=18
GERES PKKPab PKKPab 19 06 02.7 +1.0
comp=Z,0.4nm,0.7s,baz=226,slow=11,SNR=3.6
MOTA Moosalm 119.19 324⇑ *i*P PKPdf 18 55 36.0 -0.1
comp=Z,3.7nm,1.0s
DAVA Damuels 119.94 324⇑ *i*P PKPdf 18 55 37.9 +0.4
comp=Z,8.4nm,0.7s
DAVOX Davos 120.20 323 PKP PKPdf 18 55 38.3 +0.3
comp=Z,3.0nm,0.6s,baz=117,slow=10,SNR=4.1
MIAR Mount Ida 120.74 52 *e*PKIKP PKPdf 18 55 39.4 +0.4
GIVF Givet 121.18 329 *e*PKIKP PKPdf 18 55 39.9 0.0
comp=Z,23nm,1.0s
EKA Eskdalemuir Ar 121.29 337 PKP PKPdf 18 55 40.1 0.0
comp=Z,3.0nm,0.6s,baz=22,slow=3.5,SNR=9.8
CCM Cathedral Cave 121.30 47 *e*PKIKP PKPdf 18 55 38.5 -1.6
HINF Hinteralfeld 121.40 326 *e*PKIKP PKPdf 18 55 39.7 -0.6
comp=Z,8.3nm,0.6s
BAIF Baives 121.53 329 *e*PKIKP PKPdf 18 55 40.5 -0.1
comp=Z,11nm,0.9s
HAU Haudompre 121.58 326 *e*PKIKP PKPdf 18 55 41.2 +0.5

comp=Z,16nm,0.7s
HAU *e*R
comp=Z,181nm,23.0s
HAU Haudompre 121.58 326 *e*PKPdf PKPdf 18 55 41.2 +0.5
HAU LR LR
comp=Z,180nm,23.0s
CABF La Chapelle 122.50 325 *e*PKIKP PKPdf 18 55 42.7 +0.3
comp=Z,26nm,0.9s
LPG La Plagne 122.72 323 *e*PKIKP PKPdf 18 55 43.1 +0.2
comp=Z,12nm,0.8s
LPL La Plagne 122.72 324 *e*PKIKP PKPdf 18 55 43.0 +0.1
comp=Z,8.9nm,0.7s
PGF Pioggiola 122.83 319 *e*PKIKP PKPdf 18 55 42.8 -0.3
comp=Z,14nm,0.9s
MBDF Montbardon 123.12 323 *e*PKIKP PKPdf 18 55 43.8 +0.2
comp=Z,7.5nm,0.7s
SBF Sospel 123.17 322 *e*PKIKP PKPdf 18 55 43.3 -0.4
comp=Z,18nm,0.7s
LOR Lormes 123.38 327 *e*PKIKP PKPdf 18 55 43.9 -0.2
comp=Z,4.7nm,0.7s
LOR *e*R
comp=Z,179nm,22.5s
LOR Lormes 123.38 327 *e*PKPdf PKPdf 18 55 43.9 -0.2
LOR LR LR
comp=Z,180nm,22.5s
ORIF Oris-en-Rattie 123.56 323 *e*PKIKP PKPdf 18 55 44.3 -0.2
comp=Z,12nm,0.8s
ORIF *e*R
comp=Z,160nm,20.8s
SSF Saint Saulge 123.70 327 *e*PKIKP PKPdf 18 55 44.7 0.0
comp=Z,14nm,0.9s
SMF Signal de Mont 123.76 326 *e*PKIKP PKPdf 18 55 44.6 -0.2
comp=Z,10nm,0.9s
FRF La Foret Royal 123.81 322 *e*PKIKP PKPdf 18 55 44.8 -0.1
comp=Z,14nm,0.9s
AVF Avril sur Loir 123.94 326 *e*PKIKP PKPdf 18 55 44.8 -0.4
comp=Z,5.3nm,0.7s
LMR La Mourre 124.02 321 *e*PKIKP PKPdf 18 55 45.0 -0.3
SMRF Simiane la Rot 124.25 322 *e*PKIKP PKPdf 18 55 46.2 +0.4
comp=Z,15nm,0.7s
VIVF Saint-Julien-l 124.31 324 *e*PKIKP PKPdf 18 55 45.9 0.0
comp=Z,8.3nm,0.7s
BGF Bois d'Agland 124.36 326 *e*PKIKP PKPdf 18 55 46.1 +0.1
comp=Z,18nm,0.7s
LDF La Druitiere 124.65 330 *e*PKIKP PKPdf 18 55 46.2 -0.4
comp=Z,20nm,1.0s
FLN La Foliniere 124.72 330 *e*PKIKP PKPdf 18 55 46.4 -0.3
comp=Z,24nm,0.9s
FLN *e*R
comp=Z,253nm,20.0s
FLN La Foliniere 124.72 330 *e*PKPdf PKPdf 18 55 46.4 -0.3
FLN LR LR
comp=Z,250nm,20.0s
TCF Toulx Ste Croi 124.88 326 *e*PKIKP PKPdf 18 55 47.1 +0.1
comp=Z,19nm,0.7s
GRR Gorron 125.15 330 *e*PKIKP PKPdf 18 55 47.4 -0.1
comp=Z,36nm,1.1s
CAF Calviac 125.78 325 *e*PKIKP PKPdf 18 55 49.2 +0.5
comp=Z,6.9nm,0.7s
MFF Saint Martin d 125.95 328 *e*PKIKP PKPdf 18 55 49.0 0.0
comp=Z,15nm,0.9s
SGMF Saint Gilles 126.08 331 *e*PKIKP PKPdf 18 55 49.0 -0.3
comp=Z,40nm,0.9s
LFF La Frestale 126.52 326 *e*PKIKP PKPdf 18 55 49.9 -0.2
MTLF Montolieu 126.62 324 *e*PKIKP PKPdf 18 55 50.2 -0.1
comp=Z,14nm,1.0s
ETSF Etsaut 128.51 325 *e*PKIKP PKPdf 18 55 55.0 +1.1
comp=Z,16nm,1.0s
SJPF Ste Jean 128.76 325 *e*PKIKP PKPdf 18 55 53.9 -0.5
comp=Z,19nm,0.9s
PVRL Vila Real 133.58 328 *e*PKPdf PKPdf 18 56 06.1 +2.6
MTE Manteigas 134.10 327 *e*PKPdf PKPdf 18 56 04.3 -0.2
TORD Torodi Ar. Bea 139.12 286 PKhKP 18 56 05.0
comp=Z,0.5nm,0.6s,baz=86,slow=2.8,SNR=4.9
TORD PKP PKPdf 18 56 14.8 +1.0
comp=Z,4.0nm,0.7s,baz=56,slow=2.1,SNR=19
ROSC El Rosal 144.40 87 PKP PKPdf 18 56 23.6 +0.3
comp=Z,24nm,0.6s,baz=277,slow=23,SNR=15
LPAZ La Paz 144.62 125 PKP PKPdf 18 56 25.4 +1.8
comp=Z,45nm,0.7s,baz=255,slow=3.6,SNR=193
LPAZ La Paz 144.62 125 *e*PKPdf PKPdf 18 56 25.3 +1.7
CPUP Villa Florida 144.94 150 PKPbc PKPdf 18 56 24.4 +0.2
comp=Z,17nm,0.7s,baz=207,slow=2.2,SNR=57
CPUP Villa Florida 144.94 150 *e*PKPdf PKPdf 18 56 24.1 -0.1
SDV Santo Domingo 147.83 80 PKPbc PKPbc 18 56 32.7 +0.6
comp=Z,58nm,0.7s,baz=294,slow=4.4,SNR=54
SDV Santo Domingo 147.83 80 PKPbc PKPbc 18 56 32.5 +0.4
SJG San Juan 149.58 60 PKPbc PKPbc 18 56 37.0 +0.4
comp=Z,24nm,0.4s,baz=269,slow=16,SNR=11
SJG San Juan 149.58 60 PKPbc PKPbc 18 56 35.7 -0.9
SIV San Ignacio 150.30 132 PKPbc PKPbc 18 56 39.5 +1.2
comp=Z,23nm,0.7s,baz=241,slow=3.4,SNR=16
SAML Samuel 152.41 118 *e*PKPbc PKPbc 18 56 42.9 -0.2
BDFB Brasilia 158.50 155 PKP PKPdf 18 56 45.7 +1.3
comp=Z,3.5nm,0.7s,baz=23,slow=4.5,SNR=5.0
BDFB PKPab PKPab 18 57 21.2 +1.4
comp=Z,9.0nm,0.6s,baz=213,slow=1.7,SNR=9.1

*IDC **08** 18:52:48.9±7.5,2104S×17831W,h484km±82km,mb3.6/9, mb1 3.8/9,mb1mx3.6/15,mbtmp4.4/9,Error ellipse: s-maj=64.4km s-min=26.9km az=146.0*
*ISCJB **08** 18:52:49.2±1.4,211S±04×1784W±02,h500km,mb4.0/10, Error ellipse: s-maj=62.6km s-min=15.5km az=129.0*
*NEIC **08** 18:52:52.0±6.5,2109S×17839W,h523km±72km,mb4.2/2, Error ellipse: s-maj=53.3km s-min=27.1km az=146.0*
ISC 08 18:52:50.3±1.4,210S±04×1783W±02,h500km,n17, σ0°74/14,mb4.0/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CTA	**Charters Tower**	**33.12**	**265**	P		**P**	**18 58 45.1**	**+0.9**
	4.3nm,0.4s,mb4.2,baz=83,slow=5.4,SNR=8.0							
CTAO	**Charters Tower**	**33.12**	**265**	*e*P		**P**	**18 58 45.0**	**+0.7**
PMG	**Port Moresby**	**35.16**	**284**	P		**P**	**18 59 01.5**	**+0.1**
	20nm,1.0s,mb4.5,baz=120,slow=14,SNR=3.0							
STKA	**Stephens Creek**	**37.27**	**245**	P		**P**	**18 59 17.9**	**-0.9**
	6.5nm,0.9s,mb4.0,baz=92,slow=12,SNR=7.6							
STKA	**Stephens Creek**	**37.27**	**245**	P		**P**	**18 59 17.9**	**-0.9**
ASAR	**Alice Springs**	**44.09**	**257**	P		**P**	**19 00 13.7**	**+0.4**
	4.7nm,0.6s,mb4.1,baz=91,slow=8.4,SNR=62							
ASAR				PcP		PcP	19 01 48.9	+1.1
	0.6nm,0.7s,baz=117,slow=3.7,SNR=4.4							
WB2	**Warramunga Arr**	**44.20**	**263**	*e*P		**P**	**19 00 13.9**	**-0.3**
WRAB	**Tennant Creek**	**44.20**	**263**	*e*P		**P**	**19 00 14.0**	**-0.2**
	18nm,1.2s,mb4.4							
WRA	**Warramunga Arr**	**44.21**	**263**	P		**P**	**19 00 14.2**	**-0.1**
	2.3nm,0.3s,mb4.1,baz=97,slow=7.2,SNR=89							
FITZ	**Fitzroy Crossi**	**52.64**	**263**	*e*P		**P**	**19 01 17.7**	**+0.5**
	12nm,1.8s,mb3.9							
FITZ	**Fitzroy Crossi**	**52.64**	**263**	P		**P**	**19 01 17.7**	**+0.5**
	0.9nm,0.4s,mb3.4,baz=295,slow=23,SNR=9.5							
NVAR	**Mina Array Bea**	**81.64**	**40**	P		**P**	**19 04 16.6**	**+1.0**
	0.7nm,0.4s,mb3.5,baz=208,slow=7.3,SNR=7.3							
ILAR	**Eielson Array**	**88.91**	**13**	P		**P**	**19 04 49.2**	**-1.7**
	1.6nm,0.6s,mb4.0,baz=220,slow=5.8,SNR=16							
PDAR	**Pinedale Array**	**89.57**	**43**	P		**P**	**19 04 54.3**	**+0.3**
	1.4nm,0.7s,mb3.9,baz=210,slow=2.2,SNR=12							
AKASG	**Malin Array Be**	**143.33**	**330**	PKhKP			19 11 24.1	
	0.2nm,0.3s,baz=40,slow=4.0,SNR=6.1							
CLL	**Collm**	**148.52**	**346**	*e*PKPbc		PKPbc	19 11 40.0	-0.3
GERES	**GERESS Array B**	**150.63**	**344**	PKPbc		PKPbc	19 11 45.4	0.0
	0.5nm,0.6s,baz=270,slow=2.1,SNR=4.0							

*ISCJB **08** 19:03:22.3±0.4,4771N±002×774E±003,h6km±4km,Error ellipse: s-maj=3.8km s-min=3.0km az=148.0*
*STR **08** 19:03:22.8±0.2,4768N×775E,h10km±1km,MI1.7,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ZUR **08** 19:03:23.0,4764N×781E,h27km±9km,ML1.7/5*
*LDG **08** 19:03:23.7±0.1,4771N×772E,h3km,Md2.0/3,MI2.0/5, Error ellipse: s-maj=1.6km s-min=1.4km az=125.0*
*LEDBW **08** 19:03:23.2±0.1,4769N×776E,h17km±2km,ML1.5,Error ellipse: s-maj=1.8km s-min=0.6km az=119.0*
ISC 08 19:03:22.8±0.4,4770N±002×775E±003,h17km±4km,n28, σ0°72/44,3C-4D,Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
FELD	**Feldberg im Sc**	**0.25**	**44**	⇓*i*	*i*P*	**Pg**	**19 03 28.9**	**+0.6**
FELD					*e*S*	**Sg**	**19 03 33.1**	**+1.0**
KIZ	**Kirchzarten**	**0.28**	**24**	⇑*i*	*i*P*	**Pg**	**19 03 29.4**	**+0.5**
KIZ					*i* S*	**Sg**	**19 03 33.8**	**+0.8**
KIZ	**Kirchzarten**	**0.28**	**24**	⇑*i*	*i*P*	**Pg**	**19 03 29.4**	**+0.5**
KIZ					*i* S	**Sg**	**19 03 33.8**	**+0.8**
BBS	**Basel-Blauen**	**0.29**	**214**	⇓*i*	*i*P*	**Pg**	**19 03 29.4**	**+0.4**
SULZ	**Sulz-Cheisache**	**0.30**	**125**	*i*	Sg	**Pg**	**19 03 29.3**	**0.0**
	159nm,0.2s							
SULZ	**Sulz-Cheisache**	**0.30**	**125**	⇓*i*	*i*Pg	**Sg**	**19 03 33.8**	**+0.2**
	159nm,0.2s							
FBB	**Freiburg im Br**	**0.31**	**13**		S*	**Sg**	**19 03 34.7**	**+0.9**
BALST	**Balsthal**	**0.37**	**186**	⇓*i*	*i*Pg	**Pg**	**19 03 30.4**	**0.0**
	388nm,0.2s							
MOF	**Molkenrain**	**0.44**	**290**		Pg	**Pg**	**19 03 32.2**	**+0.5**
MOF					Sg	**Sb**	**19 03 38.9**	**+0.4**
MOF	**Molkenrain**	**0.44**	**290**	*e*P*		**Pb**	**19 03 32.4**	**+0.2**
MOF				*i*	S*	**Sb**	**19 03 38.9**	**+0.4**
MOF					SmS		19 03 41.5	
MOF	**Molkenrain**	**0.44**	**290**	*e*P		**Pb**	**19 03 32.4**	**+0.2**
MOF				*i*	S	**Sb**	**19 03 38.9**	**+0.4**
BOURR	**Bourrignon**	**0.47**	**229**	⇑*i*	*i*Pg	**Pg**	**19 03 32.5**	**+0.3**
	54nm,0.4s							
SLE	**Schleitheim**	**0.51**	**82**	⇑*i*	*i*P	**Pg**	**19 03 32.7**	**-0.2**
	397nm,0.2s							
HINF	**Hinteralfeld**	**0.61**	**281**	*e*	Pg	**Pg**	**19 03 34.8**	**-0.1**
HINF				*e*	Sg	**Sg**	**19 03 42.9**	**-0.2**
	10.0nm,0.1s							
ECH	**Echery**	**0.65**	**323**		Pg	**Pg**	**19 03 35.3**	**-0.3**
ECH					Sg	**Sg**	**19 03 44.8**	**+0.6**
ECH	**Echery**	**0.65**	**323**	*i*	P*	**Pb**	**19 03 35.8**	**+0.1**
ECH					eS*	**Sb**	**19 03 44.8**	**+0.3**
LOMF	**Lomont**	**0.71**	**241**		Pg	**Pg**	**19 03 35.9**	**-0.9**
LOMF					Sg	**Sg**	**19 03 46.1**	**-0.2**
BFO	**Black Forest**	**0.74**	**32**	*e*	Pg	**Pg**	**19 03 36.8**	**-0.5**
BFO				*e*	Sg	**Sg**	**19 03 45.4**	**-1.7**
WLS	**Welschbruch**	**0.76**	**340**		Pg	**Pg**	**19 03 36.9**	**-0.8**
WLS	**Welschbruch**	**0.76**	**340**	*e*	Sg	**Sg**	**19 03 48.1**	**+0.4**
CDF	**Champ du Feu**	**0.78**	**336**	*e*	Pg	**Pg**	**19 03 37.9**	**-0.1**
CDF				*e*	Sg	**Sg**	**19 03 48.3**	**0.0**
	4.8nm,0.4s							
HAU	**Haudompre**	**0.99**	**288**	*e*	Pg	**Pg**	**19 03 41.8**	**-0.2**
HAU				*e*	Sg	**Sg**	**19 03 54.9**	**-0.1**
	7.4nm,0.3s							
GUT	**Gutenstein**	**0.99**	**68**		Pg	**Pg**	**19 03 39.5**	**-2.5**
GUT					Sg	**Sg**	**19 03 53.9**	**-1.1**
LBG	**Lerchenberg**	**1.19**	**36**		Pg	**Pg**	**19 03 47.3**	**+1.5**
LBG					Sg	**Sb**	**19 04 00.1**	**-0.1**
LBG	**Lerchenberg**	**1.19**	**36**		S	**Sb**	**19 04 00.1**	**-0.1**
CABF	**La Chapelle**	**1.57**	**227**	*e*	Pn	**Pn**	**19 03 51.0**	**+1.0**
CABF				*e*	Sn	**Sn**	**19 04 10.5**	**+0.5**
	1.3nm,0.4s							
SFTF	**Sexfontaines**	**1.89**	**286**	*e*	Sg	**Sg**	**19 04 22.6**	**-1.1**
	2.4nm,0.2s							
MEZF	**Maizieres J'vi**	**1.98**	**295**	*e*	Sg	**Sg**	**19 04 25.6**	**-0.8**
	2.4nm,0.3s							

*ISCJB **08** 19:16:14.6±0.3,3493N±002×7322E±004,h10km,mb3.6/7, Error ellipse: s-maj=5.4km s-min=3.2km az=150.4*
*NDI **08** 19:16:14.6±2.4,3499N×7283E,h10km,ML3.4, mb3.5(NEIC)*
*IDC **08** 19:16:15.0±1.0,3486N×7289E,h0km,mb3.8/8, mb1 3.9/11,mb1mx3.7/22,mbtmp3.8/11,ML3.8/3,Error ellipse: s-maj=28.3km s-min=21.3km az=59.0*
*NEIC **08** 19:16:17.3±0.9,3495N×7301E,h10km,mb3.5/1,Error ellipse: s-maj=18.8km s-min=10.8km az=55.0*
*BJI **08** 19:16:17.3,3458N×7331E,h10km,ML3.7*
*MOS **08** 19:16:19.5±1.1,3505N×7310E,h33km,mb3.7/1,Error ellipse: s-maj=24.6km s-min=10.4km az=95.1*
*NNC **08** 19:16:23.8±3.5,3550N×7269E,h0km,mb3.4,mpv3.2, Error ellipse: s-maj=33.2km s-min=24.4km az=51.0*
ISC 08 19:16:16.4±0.3,3490N±002×7311E±005,h10km,n54, σ1°44/65,mb3.6/7,7C-4D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CHCP	**Chirah Chowk**	**1.24**	**174**	⇑P		**Pn**	**19 16 38.5**	**-1.3**
CEP	**Cherat**	**1.46**	**223**	P		**Pn**	**19 16 41.4**	**-1.4**
CEP				S		**Sn**	**19 17 02.0**	**0.0**
THW	**Thamme Wali**	**2.38**	**209**	P		**Pn**	**19 16 56.2**	**+0.6**
SARP	**Sargodha**	**2.99**	**187**	P		**Pn**	**19 17 04.7**	**+0.8**
SARP				S		**Sn**	**19 17 41.0**	**+1.2**
DLH	**Dalhousie**	**3.35**	**134**	*e*P		**Pn**	**19 17 10.0**	**+1.2**
DLH				*e*S		**Sn**	**19 17 51.0**	**+2.4**
PONG	**Pong**	**3.78**	**140**	*e*P		**Pn**	**19 17 17.0**	**+2.3**
PONG				*e*x		x	19 18 16.0	
DRP	**Derazinda**	**3.97**	**219**	P		**Pn**	**19 17 18.2**	**+0.8**
BHK	**Bhakra**	**4.44**	**140**	*e*x		x	19 17 31.6	
SDNR	**Sundarnagar**	**4.69**	**135**	*e*P		**Pn**	**19 17 28.2**	**+1.0**
SDNR				*e*x		x	19 18 27.4	
SMLA	**Simla**	**5.07**	**137**	*e*P		**Pn**	**19 17 31.7**	**-0.8**
SMLA				*e*S		**Sn**	**19 18 31.5**	**+0.4**
	473nm,0.4s							
KSH	**Kashi**	**5.15**	**26**	*e*P		**Pn**	**19 17 42.3**	**+8.8**
KSH				S		**Sn**	**19 18 38.3**	**+5.3**
KSH				Smax				
	comp=N,63nm,0.9s							
KSH				Smax				
	comp=E,39nm,0.6s							
KLP	**Kalpa**	**5.46**	**126**	*e*P		**Pn**	**19 17 39.6**	**+1.8**
KLP				*e*S		**Sn**	**19 18 40.8**	**+0.1**
KLP				AML		AML	19 19 13.5	
	comp=E,244nm,0.7s							
KLP				AML		AML	19 19 13.8	
	comp=N,232nm,0.7s							
DDI	**Dehra Dun**	**6.18**	**136**	*ex*		x	19 17 55.5	
DDI				*ex*		x	19 19 32.5	
NDI	**New Delhi**	**7.11**	**149**	*ex*		x	19 19 30.0	
KHET	**Khetri**	**7.18**	**161**	*e*P		**Pn**	**19 18 02.0**	**+0.5**
KHET				*e*S		**Sn**	**19 19 18.6**	**-4.5**
KHET				AML		AML	19 20 18.4	
	comp=E,14nm,0.3s							
KHET				AML		AML	19 20 20.7	
	comp=N,9.9nm,0.2s							
AYAN	**Aya Nagar**	**7.25**	**151**	*e*P		**Pn**	**19 18 03.2**	**+0.7**
AYAN				*e*S		**Sn**	**19 19 22.1**	**-2.7**
AYAN				AML		AML	19 20 15.5	
	comp=Z,14nm,0.5s							
KUDL	**Kundal**	**7.32**	**156**	*e*P		**Pn**	**19 18 04.0**	**+0.6**
KUDL				*e*S		**Sn**	**19 19 22.3**	**-4.3**
KUDL				AML		AML	19 20 17.4	
	comp=N,18nm,0.5s							
KUDL				AML		AML	19 20 19.1	
	comp=E,16nm,0.8s							
SONA	**Sohna**	**7.44**	**152**	*e*P		**Pn**	**19 18 04.4**	**-0.6**
SONA				*e*S		**Sn**	**19 19 26.6**	**-2.9**
SONA				AML		AML	19 20 23.7	
	comp=E,25nm,0.7s							
SONA				AML		AML	19 20 27.6	
	comp=N,14nm,0.4s							
AAK	**Ala-Archa**	**7.80**	**8**	*e*P		**Pn**	**19 18 08.9**	**-1.1**
AAK				pmax		pmax		
	comp=Z,3.0nm,0.4s							
AAK	**Ala-Archa**	**7.80**	**8**	*e*P		**Pn**	**19 18 08.9**	**-1.1**
	comp=Z,2.6nm,0.4s							
TKM2	**Tokmak 2**	**8.24**	**13**	⇑P	n	**Pn**	**19 18 18.6**	**+2.5**
	comp=Z,0.1nm,0.5s							
TKM2				⇑S	n	**Sn**	**19 19 49.4**	**+0.2**
	comp=Z,0.5nm,0.6s							
KK31	**Karatay Array**	**8.44**	**347**	Pn		**Pn**	**19 18 21.5**	**+2.7**
	comp=Z,2.3nm,0.3s,baz=161,slow=11,SNR=168							
KK31				⇓S	n	**Sn**	**19 19 52.8**	**-1.3**
	comp=Z,2.7nm,0.4s,baz=171,slow=21,SNR=7.4							
KOLN	**Koldanda**	**11.44**	**126**	*e*P		**Pn**	**19 18 58.1**	**-1.7**
	comp=Z,6.8nm,0.3s							
GKN	**Gorkha**	**12.00**	**122**	*e*P		**Pn**	**19 19 05.1**	**-2.4**
	comp=Z,37nm,0.5s							
DMN	**Daman**	**12.57**	**122**	*e*P		**Pn**	**19 19 13.2**	**-2.1**
	comp=Z,9.4nm,0.3s							
KKN	**Kakani**	**12.58**	**121**	*e*P		**Pn**	**19 19 12.3**	**-3.1**
	comp=Z,13nm,0.4s							
PKI	**Pulchoki**	**12.80**	**121**	*e*P		**Pn**	**19 19 15.9**	**-2.6**
GUN	**Gumba**	**12.94**	**119**	*e*P		**Pn**	**19 19 17.9**	**-2.4**
JIRN	**Jiri**	**13.30**	**119**	*e*P		**Pn**	**19 19 22.7**	**-2.6**
	comp=Z,29nm,0.4s							
MKAR	**Makanchi Array**	**13.76**	**27**	Pn		**Pn**	**19 19 32.7**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=199,slow=14,SNR=5.1							
MKAR	**Makanchi Array**	**13.76**	**27**	Pn		**Pn**	**19 19 32.7**	**+1.2**
LSA	**Lhasa**	**16.11**	**104**	*e*P		**Pn**	**19 20 05.9**	**+3.0**
AB31	**Akbulak array**	**17.32**	**330**	⇓P		**Pn**	**19 20 18.0**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=156,slow=12,SNR=30							
AB31				⇓S		**Sn**	**19 23 20.0**	**-11**
	comp=Z,1.8nm,0.9s							
VOSK	**Vostochnaya**	**17.89**	**356**	⇑P		**Pn**	**19 20 23.0**	**-2.3**
	comp=Z,1.4nm,0.8s							
BVA0	**Borovoye Array**	**18.23**	**355**	⇑P		**Pn**	**19 20 30.8**	**+1.3**
	comp=Z,0.5nm,1.1s,baz=158,slow=9.8,SNR=13							
BVAR	**Borovoye Array**	**18.23**	**355**	P		**Pn**	**19 20 30.7**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=155,slow=9.6,SNR=14							
BRVK	**Borovoye**	**18.27**	**355**	*e*P		**Pn**	**19 20 30.7**	**+0.7**
ZRNK	**Zerenda**	**18.28**	**352**	⇑P		**Pn**	**19 20 29.6**	**-0.6**
	comp=Z,1.6nm,0.6s							
ZRNK	**Zerenda**	**18.28**	**352**	*e*P		**Pn**	**19 20 31.3**	**+1.1**
ZRNK				pmax		pmax		
	comp=Z,2.0nm,0.5s							
ZRNK	**Zerenda**	**18.28**	**352**	*e*P		**Pn**	**19 20 31.3**	**+1.1**
	comp=Z,2.0nm,0.5s							
AKTK	**Aktyubinsk**	**19.03**	**329**	P		**Pn**	**19 20 39.3**	**+0.1**
AKTO	**Aktyubinsk**	**19.03**	**329**	⇓P		**Pn**	**19 20 37.3**	**-1.9**
	comp=Z,0.3nm,1.3s							
AKTO				⇑S		**Sn**	**19 24 07.3**	**-5.0**
	comp=Z,0.1nm,1.6s							
AKTO	**Aktyubinsk**	**19.03**	**329**	P		**Pn**	**19 20 39.3**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=132,slow=11,SNR=28							
AKTO	**Aktyubinsk**	**19.03**	**329**	P		**Pn**	**19 20 39.3**	**+0.1**
AKTO				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ZAL	**Zalesovo**	**20.74**	**20**	P		**P**	**19 20 56.6**	**-0.5**
	comp=Z,2.1nm,0.4s,baz=265,slow=7.5,SNR=5.7							
FINES	**FINESS Array B**	**39.77**	**327**	P		**P**	**19 23 49.2**	**-0.2**
	comp=Z,1.1nm,0.8s,mb3.6,baz=103,slow=8.4,SNR=5.6							
FINES	**FINESS Array B**	**39.77**	**327**	P		**P**	**19 23 49.2**	**-0.2**
ARCES	**ARCESS Array B**	**43.28**	**338**	P		**P**	**19 24 18.3**	**+0.2**
	comp=Z,5.8nm,0.9s,mb4.3,baz=119,slow=9.4,SNR=5.5							
NOA	**NORSAR Array B**	**46.69**	**324**	P		**P**	**19 24 43.6**	**-1.7**
	comp=Z,0.5nm,0.5s,mb3.7,baz=96,slow=7.7,SNR=3.6							
TORD	**Torodi Ar. Bea**	**67.42**	**271**	P		**P**	**19 27 10.9**	**-1.2**
	comp=Z,1.4nm,0.6s,mb4.2,baz=47,slow=5.6,SNR=35							
WRA	**Warramunga Arr**	**79.68**	**123**	P		**P**	**19 28 25.4**	**+1.1**
	comp=Z,0.3nm,0.7s,mb3.3,baz=322,slow=4.9,SNR=6.3							
ASAR	**Alice Springs**	**81.93**	**126**	P		**P**	**19 28 38.6**	**+2.4**
	comp=Z,0.2nm,0.7s,mb3.2,baz=296,slow=5.9,SNR=4.4							
YKA	**Yellowknife Ar**	**82.75**	**4**	P		**P**	**19 28 39.9**	**-0.6**
	comp=Z,0.1nm,0.4s,mb3.2,baz=348,slow=5.3,SNR=4.9							
YKA	**Yellowknife Ar**	**82.75**	**4**	P		**P**	**19 28 39.9**	**-0.6**

JMA 08 19:57:31.2±0.3,4398N×14817E,h0km,M3.9,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
NEM2	**Nemuro 2**	**1.86**	**252**	P		**Pn**	**19 58 04.7**	**+0.3**
NEM2				S		**Sn**	**19 58 29.3**	**+0.7**
JRA	**Rausu**	**2.20**	**270**	P		**Pn**	**19 58 09.6**	**+0.6**
JRA				*e*S		**Sn**	**19 58 38.1**	**+1.2**
JNK	**Nakash**	**2.53**	**262**	P		**Pn**	**19 58 14.4**	**+0.9**
JNK				*e*S		**Sn**	**19 58 46.6**	**+1.6**
JAK	**Akkeshi**	**2.71**	**250**	P		**Pn**	**19 58 17.0**	**+1.0**
JAK				*e*S		**Sn**	**19 58 50.5**	**+1.0**
JTKR	**Abashiri--Toko**	**3.08**	**271**	P		**Pn**	**19 58 23.4**	**+2.4**
JAR	**Ashorobuto**	**3.27**	**259**	P		**Pn**	**19 58 25.4**	**+1.8**
JAR				*e*S		**Sn**	**19 59 05.3**	**+2.1**
JCH	**Churui**	**3.77**	**250**	P		**Pn**	**19 58 32.5**	**+2.0**
JCH				*e*S		**Sn**	**19 59 18.0**	**+2.5**
JKK2	**Kamakawa 2**	**3.92**	**270**	P		**Pn**	**19 58 35.3**	**+2.7**
JNBK	**Urakawa-nobuka**	**4.31**	**249**	P		**Pn**	**19 58 39.9**	**+1.9**
JNBK				*e*S		**Sn**	**19 59 31.1**	**+2.1**
JKB	**Kayabe**	**5.64**	**251**	P		**Pn**	**19 58 58.1**	**+1.8**
JKB				*e*S		**Sn**	**20 00 02.5**	**+0.7**
JOT	**Ohata**	**5.86**	**246**	P		**Pn**	**19 59 01.0**	**+1.8**
JOT				*e*S		**Sn**	**20 00 07.8**	**+0.7**
JANG	**Nango**	**6.12**	**236**	*e*S		**Sn**	**20 00 12.6**	**-0.9**

*LDG **08** 20:11:32.6±0.1,4622N×751E,h13km,Md2.3/3,Ml2.3/17, Error ellipse: s-maj=2.6km s-min=1.2km az=95.0*
*ROM **08** 20:11:33.1±0.3,4622N×751E,h11km,Md2.0/5,Ml1.9/1, Error ellipse: s-maj=4.5km s-min=1.8km az=3.0*
*STR **08** 20:11:36.6±0.7,4638N×756E,h10km±1km,Ml1.9,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ZUR 08 20:11:33.0,4625N×752E,h7km±4km,ML1.5/8,4C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
LKBD	**Leukerbad**	**0.16**	**29**	⇑*i*	*i*Pg	**Pg**	**20 11 36.6**	**+0.4**
	152nm,0.6s							
LKBD					*e*Sg	**Sg**	**20 11 39.3**	**+0.9**
	152nm,0.6s							
DIX	**Grande Dixence**	**0.18**	**204**		Pg	**Pg**	**20 11 37.1**	**+0.4**
DIX					Sg	**Sg**	**20 11 40.0**	**+0.7**
DIX	**Grande Dixence**	**0.18**	**204**	⇑*i*	*i*Pg	**Pg**	**20 11 37.0**	**+0.3**
	482nm,0.2s							
DIX					*i* Sg	**Sg**	**20 11 39.8**	**+0.5**
	482nm,0.2s							
SENIN	**Lac Senin**	**0.19**	**307**	*e*	Sg	**Pg**	**20 11 37.1**	**+0.3**
	268nm,0.3s							
SENIN	**Lac Senin**	**0.19**	**307**	*e*	Pg	**Sg**	**20 11 40.2**	**+0.8**
	268nm,0.3s							
GRYON	**Gryon**	**0.28**	**270**	⇓*i*	*i*Pg	**Pg**	**20 11

AVF				*e*Sg	Sg	20 13 04.6	-2.4
	0.7nm,0.3s						
BGF	**Bois d'Agland**	**3.25**	**277**	*e*P	Pn	20 12 24.7	+0.4
LASF	**Ste Croix**	**3.38**	**231**	*e*Pn	Pn	20 12 22.9	-3.3
LASF				*e*Sg	Sg	20 13 17.8	-3.8
	6.0nm,0.6s						
TCF	**Toulx Ste Croi**	**3.68**	**273**	*e*Sg	Sg	20 13 28.4	-2.8
	0.9nm,0.3s						

BJI ***08*** *20:12:59.6, 644S×151 24E, h56km, mB5.0, mb4.7, Ms4.4, Msz4.4*

MOS ***08*** *20:13:02.6±1.0, 586S×150 67E, h33km, mb4.7/4, Error ellipse: s-maj=12.9km s-min=9.1km az=75.1*

IDC ***08*** *20:13:03.6±3.4, 590S×150 78E, h33km±24km, mb4.3/16, mb1 4.5/18, mb1mx4.5/20, mbtmp4.5/18, ML3.4/1, MS4.4/14, Ms1 4.4/14, ms1mx4.2/23, Error ellipse: s-maj=20.1km s-min=13.4km az=102.0*

ISCJB ***08*** *20:13:04.7±1.2, 598S±005×150 66E±004, h55km±11km, mb4.6/34, MS4.4/19, Error ellipse: s-maj=8.5km s-min=7.2km az=23.9*

HRVD ***08*** *20:13:06.4±0.2, 632S×150 84E, h32km, MW5.2/79, Centroid moment Tensor Solution. LP body waves: s66,c114;Mantle waves: s79,c130; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}5.12±.19; M_{θθ}-5.91±.12; M_{φφ}0.78±.13; M_{rθ}3.42±.20; M_{θφ}-0.96±.12; M_{φr}0.25±.21; Best double couple: M_o6.55300×1016 NP1:φ=259.00000°, δ29.00000°, λ85.00000°. NP2: φ=84.00000°, δ61.00000°, λ93.00000°. Principal axes: T 6.0940, Plg74.0000°, Azm1.0000°; N 0.9100, Plg2.0000°, Azm263.0000°; P -7.0110, Plg16.0000°, Azm172.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***08*** *20:13:06.4±1.1, 595S×150 67E, h57km±10km, mb4.9/13 Error ellipse: s-maj=9.2km s-min=7.7km az=127.0*

ISC 08 20:13:07.7±0.9, 600S±005×150 66E±004, h64km±9km, n90, σ1§16/80, mb4.6/34, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.84**	**225**	Pn	**Pn**	**20 14 17.5**	**-0.5**
	10nm,0.3s,baz=56,slow=4.7,SNR=40						
PMG				Sn	**Sn**	**20 15 12.4**	**-0.4**
	55nm,0.3s,baz=107,slow=15,SNR=9.8						
PMG				LR	LR	20 15 36.7	
	comp=Z,1μm,18.9s,baz=22,slow=31						
PMG	**Port Moresby**	**4.84**	**225**	P	**Pn**	**20 14 17.5**	**-0.5**
PMG						20 15 12.4	
HNR	**Honiara**	**9.81**	**111**	Pn	**Pn**	**20 15 26.4**	**+0.4**
	6.4nm,0.3s,baz=264,slow=6.1,SNR=4.0						
HNR				Sn	**Sn**	**20 17 16.3**	**+1.7**
	baz=97,slow=3.3,SNR=5.2						
HNR				LR	LR	20 18 41.9	
	comp=Z,1μm,20.9s,baz=357,slow=35						
HNR	**Honiara**	**9.81**	**111**	P	**Pn**	**20 15 26.4**	**+0.4**
HNR						20 17 16.3	
HNR	**Honiara**	**9.81**	**111**	Pn	**Pn**	**20 15 26.4**	**+0.4**
HNR				Sn	**Sn**	**20 17 16.3**	**+1.7**
HNR				LR	LR	20 18 41.9	
CTA	**Charters Tower**	**14.64**	**197**	*e*P	**Pn**	**20 16 29.8**	**-1.4**
	24nm,1.1s						
CTA	**Charters Tower**	**14.64**	**197**	Pn	**Pn**	**20 16 30.0**	**-1.2**
	0.5nm,0.3s,baz=29,slow=14,SNR=8.1						
CTA				LR	LR	20 21 35.6	
	comp=Z,1μm,21.6s,baz=17,slow=35						
CTA	**Charters Tower**	**14.64**	**197**	*e*P	**Pn**	**20 16 29.8**	**-1.4**
CTA				pmax	pmax		
	comp=Z,24nm,1.1s						
CTAO	**Charters Tower**	**14.64**	**197**	*e*P	**Pn**	**20 16 31.5**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,154nm,1.6s						
CTAO	**Charters Tower**	**14.64**	**197**	*e*P	**Pn**	**20 16 31.5**	**+0.2**
	comp=Z,154nm,1.6s						
KAKA	**Kakadu**	**19.16**	**248**	*e*P	**Pn**	**20 17 25.3**	**-2.0**
	comp=Z,38nm,0.5s						
GUMO	**Guam**	**20.29**	**344**	P	**P**	**20 17 36.7**	**-1.4**
	comp=Z,30nm,0.6s,baz=24,slow=21,SNR=1.9						
GUMO				LR	LR	20 23 55.4	
	comp=Z,1μm,21.5s,baz=324,slow=32						
WRAB	**Tennant Creek**	**21.05**	**227**	*e*P	**P**	**20 17 46.3**	**0.0**
WRAB				pmax	pmax		
	comp=Z,88nm,0.7s,mb5.2						
WRAB	**Tennant Creek**	**21.05**	**227**	*e*P	**P**	**20 17 46.3**	**0.0**
	comp=Z,88nm,0.7s,mb5.2						
WB2	**Warramunga Arr**	**21.05**	**227**	*e*P	**P**	**20 17 46.4**	**+0.1**
WB2				*e*S	**S**	**20 21 37.8**	**+0.7**
WRA	**Warramunga Arr**	**21.06**	**227**	P	**P**	**20 17 46.7**	**+0.3**
	comp=Z,18nm,0.7s,mb4.5,baz=50,slow=9.9,SNR=86						
WRA				S	**S**	**20 21 37.7**	**+0.4**
	comp=Z,4.2nm,1.0s,baz=52,slow=19,SNR=10						
WRA				PcP	PcP	20 21 52.3	+1.5
	comp=Z,6.9nm,0.8s,baz=42,slow=1.7,SNR=8.8						
DZM	**Mont Dzumac**	**22.09**	**138**	P	**P**	**20 17 56.5**	**-0.9**
	comp=Z,16nm,0.7s,mb4.5,baz=93,slow=0.4,SNR=10.0						
DZM				LR	LR	20 25 42.3	
	comp=Z,925nm,18.3s,baz=315,slow=34						
ASAR	**Alice Springs**	**23.84**	**221**	P	**P**	**20 18 16.2**	**+1.3**
	comp=Z,14nm,0.9s,mb4.4,baz=58,slow=8.5,SNR=96						
ASAR				S	**S**	**20 22 35.5**	**+9.3**
	comp=Z,4.5nm,0.9s,baz=37,slow=21,SNR=6.6						
ASAR				ScP	ScP	20 25 33.0	+3.8
	comp=Z,1.0nm,0.7s,baz=48,slow=2.7,SNR=5.4						
ASAR	**Alice Springs**	**23.84**	**221**	P	**P**	**20 18 16.2**	**+1.3**
ASAR				S	**S**	**20 22 35.5**	**+9.4**
ARMA	**Armidale**	**24.31**	**178**	*e*P	**P**	**20 18 23.6**	**+4.5**
STKA	**Stephens Creek**	**27.10**	**197**	*e*P	**P**	**20 18 42.5**	**-1.9**
	comp=Z,28nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**27.10**	**197**	P	**P**	**20 18 43.1**	**-1.3**
	comp=Z,17nm,0.9s,mb4.5,baz=9.6,slow=8.4,SNR=16						
STKA				LR	LR	20 29 14.2	
	comp=Z,1μm,20.8s,baz=304,slow=36						
FITZ	**Fitzroy Crossi**	**27.22**	**242**	*e*P	**P**	**20 18 45.5**	**+0.1**
	comp=Z,51nm,0.9s,mb5.0						
FITZ	**Fitzroy Crossi**	**27.22**	**242**	P	**P**	**20 18 45.7**	**+0.3**
	comp=Z,7.3nm,0.5s,mb4.5,baz=60,slow=7.4,SNR=23						
FITZ				LR	LR	20 30 55.3	
	comp=Z,616nm,20.8s,baz=269,slow=39						
FORT	**Forrest**	**32.52**	**218**	*e*P	**P**	**20 19 32.5**	**+0.1**
	comp=Z,32nm,0.8s,mb5.3						
MBWA	**Marble Bar**	**33.53**	**240**	*e*P	**P**	**20 19 41.0**	**-0.1**
	comp=Z,41nm,1.0s,mb5.3						
KLBR	**Kellerberrin**	**39.94**	**226**	*e*P	**P**	**20 20 35.7**	**+0.1**
	comp=Z,19nm,0.7s,mb4.9						
MUN	**Mundaring**	**41.26**	**227**	*e*P	**P**	**20 20 47.2**	**+0.7**
YHNB	**Yeheng**	**41.74**	**318**	*e*P	**P**	**20 20 50.0**	**-0.5**
QZH	**Quanzhou**	**43.81**	**316**	*e*P	**P**	**20 21 06.4**	**-0.8**
QZH				LR	LR		
	comp=Z,880nm,20.3s						
MJAR	**Matsushiro Arr**	**43.90**	**346**	P	**P**	**20 21 07.8**	**-0.1**
	comp=Z,1.5nm,0.6s,mb3.9,baz=174,slow=5.9,SNR=4.8						
MJAR				LR	LR	20 38 58.3	
	comp=Z,416nm,18.7s,baz=160,slow=36						
SSE	**Sheshan**	**46.41**	**324**	P	**P**	**20 21 29.1**	**+1.3**
SSE				PP	PP	20 23 19.8	+2.1
SSE				S	**S**	**20 28 20.2**	**+9.3**
SSE				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.9						
SSE				AMB	AMB		
	comp=Z,145nm,5.4s						
SSE				LR	LR		
	comp=N,237nm,23.3s						
SSE				LR	LR		
	comp=E,225nm,23.4s						
SSE				LR	LR		
	comp=Z,380nm,19.5s						
KS15	**Wonju Array Si**	**48.16**	**336**	*e*P	**P**	**20 21 43.6**	**+2.2**
VLA	**Vladivostok**	**51.77**	**343**	*i* P	**P**	**20 22 18.0**	**+9.3**
BJI	**Beijing**	**55.75**	**328**	*e*P	**P**	**20 22 38.0**	**+0.2**
BJI				PP	PP	20 24 45.3	+2.6
BJI				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.7						
BJI				LR	LR		
	comp=N,311nm,24.4s						
BJI				LR	LR		
	comp=E,225nm,25.0s						
BJI				LR	LR		
	comp=Z,272nm,23.9s						
KMI	**Kunming**	**55.92**	**306**	P	**P**	**20 22 35.9**	**-3.1**
KMI				PP	PP	20 24 46.8	+2.6
KMI				PPP		20 26 08.7	
KMI				SCP	ScP	20 27 23.0	-7.4
KMI				SCS	ScS	20 32 18.8	-3.5
KMI				LR	LR		
	comp=N,165nm,19.8s						
KMI				LR	LR		
	comp=E,162nm,21.0s						
KMI				LR	LR		
	comp=Z,211nm,19.8s						
XAN	**Xi'an**	**56.05**	**318**	P	**P**	**20 22 40.4**	**+0.4**
XAN				AMB	AMB		
	comp=Z,5.0nm,2.3s,mb4.1						
XAN				LR	LR		
	comp=N,222nm,19.8s						
XAN				LR	LR		
	comp=Z,525nm,19.1s						
CD2	**Chengdu**	**57.93**	**312**	*e*P	**P**	**20 22 53.3**	**+0.1**
CD2				AP	pP	20 23 09.3	-0.8
CD2				XP	sP	20 23 16.3	-1.0
CD2				PCP	PcP	20 23 44.5	-0.3
CD2				PP	PP	20 25 04.0	+1.9
CD2				S	**S**	**20 30 47.4**	**-1.0**
CD2				XS	sS	20 31 14.7	-2.2
CD2				SCS	ScS	20 32 33.6	-3.4
CD2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
CD2				AMB	AMB		
	comp=Z,60nm,5.9s						
CD2				LR	LR		
	comp=E,180nm,21.5s						
CD2				LR	LR		
	comp=Z,300nm,20.4s						
PPT	**Papeete**	**59.41**	**107**	*e*S	**S**	**20 31 07.6**	**-0.1**
	comp=Z,72nm,25.2s						
PPT				*e*LR	LR	20 40 13.6	
	comp=Z,119nm,25.8s						
TBI	**Tubuai**	**60.02**	**113**	*e*S	**S**	**20 31 15.2**	**-0.4**
	comp=Z,236nm,26.8s						
TBI				*e*LQ		20 38 14.9	
	comp=Z,761nm,31.2s						
TBI				*e*LR	LR	20 40 47.6	
	comp=Z,230nm,28.8s						
LZH	**Lanzhou**	**60.63**	**317**	*e*P	**P**	**20 23 15.0**	**+3.1**
LZH				AMB	AMB		
	comp=Z,22nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,76nm,4.0s						
LZH				LR	LR		
	comp=N,529nm,16.0s						
LZH				LR	LR		
	comp=Z,738nm,16.9s						
HIA	**Hailar**	**61.28**	**337**	*e*P	**P**	**20 23 17.6**	**+1.3**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HIA	**Hailar**	**61.28**	**337**	*e*P	**P**	**20 23 17.6**	**+1.3**
	comp=Z,7.3nm,0.8s,mb4.9						
FX1	**Attu Island--F**	**61.69**	**15**	LR	LR	20 48 16.6	
	comp=Z,13nm,18.5s,baz=257,slow=34						
CIT	**Chita**	**65.89**	**336**	*e*P	**P**	**20 23 47.6**	**+1.0**
ULN	**Ulaanbaatar**	**65.91**	**329**	*e*P	**P**	**20 23 47.0**	**+0.2**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
ULN	**Ulaanbaatar**	**65.91**	**329**	*e*P	**P**	**20 23 47.0**	**+0.2**
	comp=Z,5.3nm,1.1s,mb4.5						
SONM	**Songino Array**	**66.22**	**329**	P	**P**	**20 23 49.3**	**+0.5**
	comp=Z,1.7nm,0.5s,mb4.3,baz=143,slow=3.2,SNR=13						
SONM				LR	LR	20 51 44.8	
	comp=Z,317nm,21.6s,baz=322,slow=35						
SONM	**Songino Array**	**66.22**	**329**	P	**P**	**20 23 49.3**	**+0.5**
SONM				LR	LR	20 51 44.8	
LSA	**Lhasa**	**67.18**	**306**	*e*P	**P**	**20 23 56.3**	**+1.4**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
LSA	**Lhasa**	**67.18**	**306**	*e*P	**P**	**20 23 56.3**	**+1.4**
	comp=Z,3.7nm,0.6s,mb4.6						
ZAK	**Zakamensk**	**69.43**	**330**	*e*P	**P**	**20 24 08.8**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,12nm,1.8s,mb4.5						
TLY	**Talaya**	**70.07**	**331↑**	*e*P	**P**	**20 24 17.3**	**+4.5**
BOD	**Bodaibo**	**70.17**	**340**	*e*P	**P**	**20 24 11.7**	**-1.8**
JIRN	**Jiri**	**70.59**	**302**	*e*P	**P**	**20 24 17.6**	**+1.5**
GUN	**Gumba**	**70.93**	**302**	*e*P	**P**	**20 24 19.8**	**+1.7**
KKN	**Kakani**	**71.40**	**302**	*e*P	**P**	**20 24 22.1**	**+1.1**
DMN	**Daman**	**71.49**	**302**	*e*P	**P**	**20 24 22.9**	**+1.4**
	comp=Z,8.5nm,0.6s,mb4.8						
VNDA	**Vanda**	**71.72**	**177**	P	**P**	**20 24 22.8**	**-0.1**
	comp=Z,3.1nm,0.8s,mb4.3,baz=321,slow=7.4,SNR=12						
GKN	**Gorkha**	**72.01**	**302**	*e*P	**P**	**20 24 25.3**	**+0.7**
	comp=Z,2.7nm,0.3s,mb4.6						
KOLN	**Koldanda**	**72.82**	**301**	*e*P	**P**	**20 24 30.3**	**+0.9**
	comp=Z,4.6nm,0.5s,mb4.7						
RKT	**Rikitea**	**73.31**	**112**	*e*LR	LR	20 46 54.5	
	comp=Z,153nm,30.8s						
MKAR	**Makanchi Array**	**79.84**	**320**	P	**P**	**20 25 07.9**	**-1.3**
	comp=Z,0.6nm,0.6s,mb3.7,baz=97,slow=6.1,SNR=7.7						
ZAL	**Zalesovo**	**80.98**	**327**	P	**P**	**20 25 12.9**	**-2.4**
	comp=Z,1.2nm,0.5s,mb4.1,baz=52,slow=1.2,SNR=4.1						
ZAL				LR	LR	21 01 57.8	
	comp=Z,268nm,18.9s,baz=357,slow=36						
KURK	**Kurchatov**	**83.41**	**322**	*e*P	**P**	**20 25 27.1**	**-0.9**
	comp=Z,3.6nm,0.8s,mb4.5						
MAW	**Mawson**	**83.65**	**203**	LR	LR	21 00 07.1	
	comp=Z,337nm,20.8s,baz=72,slow=34						
AAK	**Ala-Archa**	**83.95**	**314**	*e*P	**P**	**20 25 27.4**	**-3.4**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
AAK	**Ala-Archa**	**83.95**	**314**	*e*P	**P**	**20 25 27.4**	**-3.3**
	comp=Z,2.0nm,0.6s,mb4.4						
QSPA	**South Pole Qui**	**83.97**	**180**	*e*P	**P**	**20 25 31.2**	**+0.3**
	comp=Z,14nm,0.9s,mb5.1						
ILAR	**Eielson Array**	**84.07**	**22**	P	**P**	**20 25 28.6**	**-2.8**
	comp=Z,2.8nm,0.7s,mb4.5,baz=250,slow=5.3,SNR=32						
INK	**Inuvik**	**90.33**	**21**	P	**P**	**20 25 59.1**	**-2.5**
	comp=Z,0.6nm,0.5s,mb4.2,baz=242,slow=4.4,SNR=3.3						
YBH	**Yreka Blue Hor**	**91.44**	**48**	P	**P**	**20 26 05.7**	**-1.1**
	comp=Z,1.6nm,0.6s,mb4.5,baz=304,slow=3.4,SNR=4.4						
YBH				LR	LR	21 03 56.4	
	comp=Z,424nm,18.3s,baz=301,slow=33						
NVAR	**Mina Array Bea**	**94.50**	**52**	P	**P**	**20 26 20.9**	**-0.1**
	comp=Z,3.9nm,0.7s,mb5.0,baz=252,slow=8.3,SNR=21						
NEW	**Newport**	**95.91**	**42**	LR	LR	21 05 26.1	
	comp=Z,254nm,18.1s,baz=59,slow=33						
YKA	**Yellowknife Ar**	**97.48**	**28**	P	**P**	**20 26 33.1**	**-1.4**
	comp=Z,0.6nm,0.6s,mb4.2,baz=271,slow=4.7,SNR=16						
YKA				PKiKP	PKiKP	20 31 08.9	0.0
	comp=Z,0.4nm,0.7s,baz=282,slow=1.4,SNR=7.4						
YKA				LR	LR	21 12 49.7	
	comp=Z,136nm,18.3s,baz=290,slow=37						
PDAR	**Pinedale Array**	**101.23**	**48**	P	Pdif	20 26 50.5	-0.7
	comp=Z,0.9nm,0.8s,baz=298,slow=3.2,SNR=7.3						
PDAR				PKiKP	PKiKP	20 31 17.5	+1.9
	comp=Z,0.5nm,0.7s,baz=280,slow=0.9,SNR=5.1						
ULM	**Lac du Bonnet**	**109.51**	**39**	PKiKP	PKiKP	20 31 30.5	-0.4
	comp=Z,0.9nm,0.3s,baz=293,slow=2.9,SNR=3.0						
BRTR	**Keskin Array B**	**114.49**	**311**	PKP	PKiKP	20 31 40.5	+0.1
	comp=Z,0.9nm,0.8s,baz=16,slow=0.9,SNR=4.6						
NOA	**NORSAR Array B**	**117.29**	**339**	PKP	PKPdf	20 31 45.2	-0.5
	comp=Z,0.3nm,0.6s,baz=345,slow=1.5,SNR=3.3						
NOA	**NORSAR Array B**	**117.29**	**339**	PKP	PKPdf	20 31 45.2	-0.5
IDI	**Anoyia**	**122.37**	**308**	PKP	PKPdf	20 31 57.3	+1.9
	comp=Z,10nm,1.1s,baz=13,slow=10.0,SNR=3.7						
KHC	**Kasperske Hory**	**123.83**	**327**	*e*PKPdf	PKPdf	20 32 01.5	+3.2
GERES	**GERESS Array B**	**123.93**	**327**	PKP	PKPdf	20 31 58.0	-0.5
	comp=Z,0.6nm,0.7s,baz=90,slow=4.3,SNR=6.0						
LPAZ	**La Paz**	**135.69**	**121**	PKP	PKPdf	20 32 24.8	+4.0
	comp=Z,1.3nm,0.6s,baz=305,slow=4.3,SNR=8.0						
LPAZ	**La Paz**	**135.69**	**121**	PKP	PKPdf	20 32 24.8	+4.0
CPUP	**Villa Florida**	**137.93**	**141**	PKP	PKPdf	20 32 26.3	+1.4
	comp=Z,0.4nm,0.3s,baz=286,slow=0.4,SNR=4.3						
CPUP	**Villa Florida**	**137.93**	**141**	PKP	PKPdf	20 32 26.3	+1.4
MDT	**Midelt**	**144.76**	**322**	PKP	PKPdf	20 32 37.3	+0.1
	comp=Z,1.5nm,0.8s,baz=30,slow=4.9,SNR=3.6						
TORD	**Torodi Ar. Bea**	**148.61**	**285**	PKPbc	PKPbc	20 32 48.2	+0.8
	comp=Z,32nm,0.7s,baz=38,slow=3.1,SNR=219						
BDFB	**Brasilia**	**151.64**	**140**	PKPbc	PKPbc	20 32 56.1	+1.4
	comp=Z,13nm,0.7s,baz=218,slow=2.1,SNR=18						

IDC 08 20:46:16.0±64.0, 2301S×17802W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.7/12, mbtmp3.9/3, Error ellipse: s-maj=1175.0km s-min=159.4km az=87.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.74**	**247**	P	P	20 53 24.1	-0.9
	1.6nm,0.5s,baz=100,slow=13,SNR=8.1						
ASAR	**Alice Springs**	**43.98**	**259**	P	P	20 54 25.8	+0.8
	0.4nm,0.5s,baz=90,slow=6.6,SNR=8.6						
WRA	**Warramunga Arr**	**44.29**	**265**	P	P	20 54 28.3	+0.8
	0.4nm,0.3s,baz=97,slow=8.2,SNR=12						

IDC 08 20:48:57.1±1.8, 1968S×17331W, h0km, mb4.1/3, mb1 4.4/5, mb1mx4.0/16, mbtmp4.3/5, ML3.6/2, Error ellipse: s-maj=52.2km s-min=29.9km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.92**	**15**	Pn	Pn	20 50 25.4	-0.5
	11nm,0.3s,baz=56,slow=3.4,SNR=6.6						
AFI				Sn	Sn	20 51 24.6	-10
	29nm,0.3s,baz=6.4,slow=12,SNR=8.3						
RAR	**Rarotonga**	**12.78**	**99**	Pn	Pn	20 52 00.9	+0.9
	3.2nm,0.3s,baz=72,slow=11,SNR=5.9						
STKA	**Stephens Creek**	**42.12**	**244**	P	P	20 56 49.6	-1.3
	1.9nm,0.8s,baz=97,slow=12,SNR=5.7						
ASAR	**Alice Springs**	**49.00**	**255**	P	P	20 57 46.5	+1.1
	3.7nm,0.7s,baz=98,slow=8.2,SNR=38						
WRA	**Warramunga Arr**	**49.09**	**260**	P	P	20 57 46.9	+0.8
	1.5nm,0.4s,baz=98,slow=5.9,SNR=21						

MEX 08 20:54:52.3±0.9, 1709N×9978W, h25km±16km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.26**	**210**	*i* P	Pb	20 54 57.3	-1.4
ACX				*i* S	Sb	20 55 02.1	-1.0
CAIG	**El Cayaco**	**0.47**	**265**	*i* P	Pb	20 55 00.0	-2.0
CAIG				*i* S	Sb	20 55 07.0	-1.5
MEIG	**Mezcala**	**0.84**	**10**	*i* P	Pb	20 55 05.3	-2.9
MEIG				*i* S	Sb	20 55 16.8	-2.4
YAIG	**Yautepec**	**1.89**	**21**	*i* P	Pn	20 55 21.4	-1.6
YAIG				*i* S	Sn	20 55 42.8	-3.1
UTMO	**Huajuapan**	**2.03**	**68**	*e*P	Pn	20 55 24.8	0.0
PPM	**Popocatepetl**	**2.25**	**29**	*e*P	Pn	20 55 28.0	0.0

IDC ***08*** *21:09:27.1±0.7, 661S×155.13E, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.1/15, mbtmp4.0/8, ML4.2/1, MS3.2/3, Ms1 3.2/3, ms1mx2.9/19, Error ellipse: s-maj=30.3km s-min=21.5km az=104.0*

ISCJB ***08*** *21:09:33.8±3.2, 67S±0.1×155.17E±009, h59km±27km, mb4.3/12, Error ellipse: s-maj=21.2km s-min=15.1km az=27.2*

NEIC ***08*** *21:09:37.4±1.5, 664S×155 03E, h81km±14km, mb4.4/1, Error ellipse: s-maj=16.6km s-min=11.6km az=173.0*

ISC 08 21:09:36.0±2.6, 68S±01×155 24E±010, h64km±22km, n26, σ0§71/25, mb4.3/12, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.36**	**120**	Pn	**Pn**	**21 10 59.1**	**+5.8**
	6.4nm,0.3s,baz=271,slow=6.4,SNR=3.1						
HNR				LR	LR	21 12 41.6	
	comp=Z,171nm,18.6s,baz=358,slow=35						
HNR	**Honiara**	**5.36**	**120**	Pn	**Pn**	**21 10 59.1**	**+5.8**
HNR				LR	LR	21 12 41.6	
PMG	**Port Moresby**	**8.42**	**251**	Pn	**Pn**	**21 11 34.7**	**-0.5**
	1.4nm,0.3s,baz=98,slow=5.6,SNR=4.8						
PMG				Sn	**Sn**	**21 13 09.2**	**+0.6**
	2.5nm,0.3s,baz=343,slow=16,SNR=4.1						
PMG				LR	LR	21 14 35.4	
	comp=Z,230nm,19.5s,baz=244,slow=37						
PMG	**Port Moresby**	**8.42**	**251**	*e*P	**Pn**	**21 11 34.1**	**-1.0**
	34nm,1.0s						
PMG				Pn	**Pn**	**21 11 34.7**	**-0.5**
PMG				Sn	**Sn**	**21 13 09.2**	**+0.6**
PMG				LR	LR	21 14 35.4	
CTA	**Charters Tower**	**15.85**	**212**	LR	LR	21 18 24.2	
	comp=Z,76nm,18.8s,baz=188,slow=34						
DZM	**Mont Dzumac**	**18.67**	**146**	P	**Pn**	**21 13 50.6**	**+0.8**
	0.7nm,0.3s,baz=61,slow=0.1,SNR=2.5						
WRAB	**Tennant Creek**	**24.13**	**235**	*e*P	**P**	**21 14 45.3**	**-0.5**
WB2	**Warramunga Arr**	**24.13**	**235**	*e*P	**P**	**21 14 45.1**	**-0.7**
WRA	**Warramunga Arr**	**24.14**	**235**	P	**P**	**21 14 45.6**	**-0.3**
	2.4nm,0.7s,mb3.7,baz=57,slow=9.3,SNR=16						
WRA				PcP	PcP	21 18 26.0	+0.6
	0.7nm,0.5s,baz=52,slow=2.2,SNR=9.4						
ASAR	**Alice Springs**	**26.50**	**228**	P	**P**	**21 15 06.5**	**-0.9**
	0.9nm,0.7s,mb3.4,baz=63,slow=8.9,SNR=10						
ASAR				PcP	PcP	21 18 30.9	+0.1
	0.6nm,0.8s,baz=45,slow=3.7,SNR=4.3						
SONM	**Songino Array**	**69.27**	**327**	P	**P**	**21 20 36.0**	**-0.3**
	1.2nm,0.8s,mb3.9,baz=137,slow=5.1,SNR=11						
VNDA	**Vanda**	**70.80**	**178**	P	**P**	**21 20 46.0**	**+0.4**
	0.8nm,0.9s,mb3.6,baz=330,slow=6.2,SNR=3.7						
JIRN	**Jiri**	**74.87**	**301**	*e*P	**P**	**21 21 10.6**	**+0.9**
BILL	**Bilibino**	**75.04**	**4**	*e*P	**P**	**21 21 06.4**	**-4.3**
	2.1nm,0.4s,mb4.4						
GUN	**Gumba**	**75.21**	**301**	*e*P	**P**	**21 21 12.4**	**+0.7**
	22nm,0.7s,mb5.2						
PKI	**Pulchoki**	**75.52**	**301**	*e*P	**P**	**21 21 13.8**	**+0.4**
KKN	**Kakani**	**75.68**	**301**	*e*P	**P**	**21 21 14.9**	**+0.5**
	9.2nm,0.6s,mb4.9						
DMN	**Daman**	**75.78**	**301**	*e*P	**P**	**21 21 15.8**	**+0.8**
	17nm,0.7s,mb5.1						
GKN	**Gorkha**	**76.29**	**301**	*e*P	**P**	**21 21 18.2**	**+0.4**

MQZ	**McQueen's Vall**	**4.02**	**71**	PN	Pn	21 24 02.7	-2.5
MQZ	**McQueen's Vall**	**4.02**	**71**	P	Pn	21 24 02.8	-2.4
LTZ	**Lake Taylor**	**4.22**	**58**	PN	Pn	21 24 04.4	-3.4
LTZ	**Lake Taylor**	**4.22**	**58**	*e*P	Pn	21 24 04.5	-3.4
DSZ	**Denniston Nort**	**4.65**	**45**	PN	Pn	21 24 10.4	-3.2
KHZ	**Kahutara**	**5.20**	**61**	PN	Pn	21 24 18.8	-2.2
KHZ	**Kahutara**	**5.20**	**61**	*e*P	Pn	21 24 18.8	-2.2
THZ	**Tophouse**	**5.22**	**52**	PN	Pn	21 24 17.5	-3.8
THZ	**Tophouse**	**5.22**	**52**	*e*P	Pn	21 24 17.9	-3.4
QRZ	**Quartz Range**	**5.70**	**43**	PN	Pn	21 24 24.5	-3.3
QRZ	**Quartz Range**	**5.70**	**43**	*e*P	Pn	21 24 24.6	-3.1
KIW	**Kapiti Island**	**6.96**	**55**	P	Pn	21 24 39.4	-5.2

*ISCJB **08** 21:47:54.5±0.1, 4290N±001×2.13E±001, h9km, Error ellipse: s-maj=1.7km s-min=1.2km az=118.4*
*NEIC **08** 21:47:56.4, 4285N×209E, h5km, ML3.6(LDG), ML3.6(STR), MN3.1(MDD), After STR.*
*STR **08** 21:47:56.4±0.1, 4285N×209E, h5km±1km, Ml3.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **08** 21:47:57.2±0.1, 4281N×2.12E, h2km, Md3.6/3, Ml3.6/36, Error ellipse: s-maj=1.1km s-min=0.9km az=137.0*
*CSEM **08** 21:47:57.1±0.0, 4281N×2.11E, h10km, ML3.7/32, Error ellipse: s-maj=0.8km s-min=0.6km az=140.0*
*MDD **08** 21:47:57.4±0.2, 4280N×2.10E, h9km±1km, mbLg3.1/25, Error ellipse: s-maj=1.4km s-min=1.4km az=82.0, PRXIMO*
ISC 08 21:47:55.8±0.2, **4287N**±001×**212E**±001, **h5**km±2km, **n239,** σ1§**10**/440, **1C-5D, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARF	**Carcanieres**	**0.15**	**184**	Pg	**Pg**	**21 48 00.0**	**+1.1**
CARF				Sg	**Sg**	**21 48 02.7**	**+1.7**
CARF	**Carcanieres**	**0.15**	**184**	Pg	**Pg**	**21 48 00.0**	**+1.2**
CARF				Lg		21 48 02.3	
LPEF	**Le Peyrat**	**0.17**	**297**	Pg	**Pg**	**21 48 01.8**	**+2.6**
LPEF				Lg		21 48 05.4	
LRDF	**Laroque-de-Fa**	**0.32**	**77**	Pg	**Pg**	**21 48 04.0**	**+2.1**
LRDF				Sg	**Sg**	**21 48 07.7**	**+1.6**
LRDF	**Laroque-de-Fa**	**0.32**	**77**	Pg	**Pg**	**21 48 04.1**	**+2.2**
LRDF				Lg		21 48 08.9	
CLLI	**Llivia**	**0.41**	**195**	Pg	**Pg**	**21 48 03.6**	**0.0**
CLLI				Lg		21 48 08.3	
	513nm,0.1s						
GRBF	**Gourbit**	**0.43**	**266**	Pg	**Pg**	**21 48 05.0**	**+0.9**
GRBF				Lg		21 48 10.3	
FILF	**Fillols**	**0.45**	**133**	Pg	**Pg**	**21 48 03.5**	**-0.9**
FILF				Sg	**Sg**	**21 48 10.2**	**-0.1**
FILF	**Fillols**	**0.45**	**133**	Pg	**Pg**	**21 48 03.6**	**-0.8**
FILF				Lg		21 48 08.4	
VALF	**Valcebollere**	**0.47**	**189**	Pg	**Pg**	**21 48 04.9**	**0.0**
VALF				Sg	**Sg**	**21 48 10.9**	**-0.2**
VALF	**Valcebollere**	**0.47**	**189**	Pg	**Pg**	**21 48 05.0**	**+0.1**
VALF				Lg		21 48 10.4	
MTLF	**Montolieu**	**0.48**	**9**	*e*Pg	**Pg**	**21 48 07.4**	**+2.4**
MTLF				*e*Sg	**Sg**	**21 48 14.7**	**+3.5**
	567nm,0.2s						
MTLF	**Montolieu**	**0.48**	**9**	*e*Pg	**Pg**	**21 48 07.4**	**+2.4**
MTLF				*e*Sg	**Sg**	**21 48 14.7**	**+3.5**
	283nm,0.2s						
PAND	**Andorre**	**0.55**	**231**	Pg	**Pg**	**21 48 06.4**	**+0.1**
PAND				Lg		21 48 12.7	
CBRU	**Bruguera**	**0.59**	**176**	Pg	**Pg**	**21 48 07.0**	**0.0**
CBRU				Lg		21 48 14.0	
	683nm,0.2s						
SJAF	**Saint Jean de**	**0.68**	**124**	Pg	**Pg**	**21 48 09.1**	**+0.2**
SJAF				Sg	**Sg**	**21 48 17.9**	**+0.2**
SJAF	**Saint Jean de**	**0.68**	**124**	Pg	**Pg**	**21 48 08.9**	**0.0**
SJAF				Lg		21 48 17.9	
SALF	**Salau**	**0.69**	**261**	Pg	**Pg**	**21 48 09.3**	**+0.2**
SALF				Sg	**Sg**	**21 48 18.4**	**+0.3**
SALF	**Salau**	**0.69**	**261**	Pg	**Pg**	**21 48 09.3**	**+0.2**
SALF				Lg		21 48 18.3	
MLS	**Moulis**	**0.76**	**277**	Pg	**Pg**	**21 48 11.1**	**+0.8**
MLS				Sg	**Sg**	**21 48 21.1**	**+0.9**
MLS	**Moulis**	**0.76**	**277**	Pg	**Pg**	**21 48 11.0**	**+0.7**
MLS				Lg		21 48 21.5	
CORG	**Organya**	**0.87**	**223**	Pg	**Pg**	**21 48 12.2**	**-0.3**
CORG				Lg		21 48 23.4	
	214nm,0.2s						
CSOR	**Sort**	**0.88**	**236**	Pg	**Pg**	**21 48 12.4**	**-0.2**
CSOR				Lg		21 48 23.2	
	384nm,0.2s						
MELF	**Melles**	**1.00**	**271**	Pg	**Pg**	**21 48 15.0**	**+0.1**
MELF				Lg		21 48 28.1	
EMIR	**Miracle**	**1.05**	**205**	⇓Pg	**Pg**	**21 48 15.7**	**-0.3**
	9.0nm,0.1s,SNR=18						
EMIR				Lg		21 48 28.8	
	552nm,0.1s,SNR=21						
EMIR	**Miracle**	**1.05**	**205**	Pg	**Pg**	**21 48 15.7**	**-0.2**
	9.0nm,0.1s,SNR=18						
CFON	**Fontmartina**	**1.13**	**168**	Pg	**Pg**	**21 48 16.9**	**-0.6**
CFON				Lg		21 48 31.0	
	337nm,0.3s						
RESF	**Ens**	**1.31**	**268**	Pg	**Pg**	**21 48 20.8**	**-0.1**
RESF				Lg		21 48 37.5	
EPF	**Esparros**	**1.32**	**278**	*e*Pg	**Pg**	**21 48 22.1**	**+1.1**
EPF				*e*Sg	**Sg**	**21 48 38.2**	**+0.1**
	176nm,0.3s						
EPF	**Esparros**	**1.32**	**278**	Pn	**Pn**	**21 48 20.4**	**-0.3**
EPF				Pg	**Pg**	**21 48 22.1**	**+1.1**
EPF				Lg		21 48 38.2	
	88nm,0.3s						
EPF	**Esparros**	**1.32**	**278**	*e*Pn	**Pn**	**21 48 20.4**	**-0.3**
EPF				*e*Pg	**Pg**	**21 48 22.1**	**+1.1**
EPF				*e*Sg	**Sg**	**21 48 38.2**	**+0.1**
EPF	**Esparros**	**1.32**	**278**	*e*Pg	**Pg**	**21 48 22.1**	**+1.1**
EPF				*e*Sg	**Sg**	**21 48 38.2**	**+0.1**
	88nm,0.3s						
CAVN	**Les Avellanes**	**1.41**	**226**	Pg	**Pg**	**21 48 22.5**	**-0.4**
CAVN				Lg		21 48 39.7	
	375nm,0.4s						
EBIE	**Bielsa**	**1.47**	**263**	⇓Pn	**Pn**	**21 48 23.0**	**+0.2**
	0.6nm,0.1s,SNR=18						
EBIE				Lg		21 48 45.7	
	105nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**1.47**	**263**	⇓Pn	**Pn**	**21 48 23.0**	**+0.2**
EBIE				Lg		21 48 45.7	
EBIE	**Bielsa**	**1.47**	**263**	Pn	**Pn**	**21 48 23.0**	**+0.2**
	0.6nm,0.1s,SNR=18						
EGRA	**Graus**	**1.49**	**244**	Pg	**Pg**	**21 48 24.0**	**-0.5**
	1.6nm,0.2s,SNR=18						
EGRA				Lg		21 48 44.7	
	51nm,0.3s,SNR=31						
EGRA	**Graus**	**1.49**	**244**	Pg	**Pg**	**21 48 23.9**	**-0.5**
EGRA				Lg		21 48 44.7	
LABF	**Labassere**	**1.51**	**277**	Pg	**Pg**	**21 48 24.9**	**+0.1**
LABF				Sg	**Sg**	**21 48 44.7**	**+0.3**
LABF	**Labassere**	**1.51**	**277**	Pn	**Pn**	**21 48 24.9**	**+1.4**
LABF				Sn	**Sn**	**21 48 44.6**	**+1.1**
VIEF	**Viey**	**1.54**	**271**	Pg	**Pg**	**21 48 24.9**	**-0.4**
VIEF				Sg	**Sg**	**21 48 45.4**	**+0.1**
VIEF	**Viey**	**1.54**	**271**	Pn	**Pn**	**21 48 25.0**	**+1.2**
VIEF				Sn	**Sn**	**21 48 44.5**	**+0.3**
EPOB	**Poblet**	**1.70**	**207**	⇑Pn	**Pn**	**21 48 25.6**	**-0.4**
	SNR=18						
EPOB				Pg	**Pg**	**21 48 26.9**	**-1.5**
	2.9nm,0.1s,SNR=302						
EPOB				Lg		21 48 48.1	
	188nm,0.2s,SNR=19						
EPOB	**Poblet**	**1.70**	**207**	Pn	**Pn**	**21 48 25.6**	**-0.5**
	SNR=18						
EPOB	**Poblet**	**1.70**	**207**	Pg	**Pg**	**21 48 26.9**	**-1.5**
	2.9nm,0.1s,SNR=302						
CGAR	**Garraf**	**1.74**	**205**	Pn	**Pn**	**21 48 23.7**	**-2.8**
CGAR				Sn	**Sn**	**21 48 43.3**	**-5.7**
	134nm,0.3s						
LASF	**Ste Croix**	**1.75**	**46**	*e*Pg	**Pg**	**21 48 30.6**	**+1.3**
LASF				*e*Sg	**Sg**	**21 48 53.2**	**+1.3**
	293nm,0.3s						
LASF	**Ste Croix**	**1.75**	**46**	Pn	**Pn**	**21 48 26.2**	**-0.5**
LASF				Pg	**Pg**	**21 48 30.6**	**+1.3**
LASF				Lg		21 48 53.2	
	146nm,0.3s						
LASF	**Ste Croix**	**1.75**	**46**	*e*Pn	**Pn**	**21 48 26.2**	**-0.5**
LASF				*e*Pg	**Pg**	**21 48 30.6**	**+1.3**
LASF				*e*Sg	**Sg**	**21 48 53.2**	**+1.3**
LASF	**Ste Croix**	**1.75**	**46**	*e*Pg	**Pg**	**21 48 30.6**	**+1.3**
LASF				*e*Sg	**Sg**	**21 48 53.2**	**+1.3**
	146nm,0.3s						
REYF	**Montagne du Re**	**1.85**	**277**	Pg	**Pg**	**21 48 31.2**	**-0.1**
REYF				Sg	**Sg**	**21 48 56.4**	**+1.0**
REYF	**Montagne du Re**	**1.85**	**277**	Pg	**Pg**	**21 48 31.3**	**0.0**
REYF				Lg		21 48 55.5	
ETSF	**Etsaut**	**1.97**	**272**	*e*P	**Pn**	**21 48 32.3**	**+2.6**
ETSF				*e*Sg	**Sg**	**21 48 59.2**	**+0.2**
	87nm,0.3s						
ETSF	**Etsaut**	**1.97**	**272**	*e*P	**Pn**	**21 48 32.3**	**+2.6**
ETSF				*e*Sg	**Sg**	**21 48 59.2**	**+0.2**
	44nm,0.3s						
FDAF	**Les Forges d'A**	**1.98**	**269**	Pg	**Pg**	**21 48 32.8**	**-0.8**
FDAF				Lg		21 48 59.0	
CAF	**Calviac**	**2.06**	**359**	*e*Pn	**Pn**	**21 48 31.0**	**+0.1**
CAF	**Calviac**	**2.06**	**359**	*e*Pg	**Pg**	**21 48 36.3**	**+1.1**
CAF				*e*Sg	**Sg**	**21 49 03.7**	**+1.9**
	142nm,0.3s						
CAF	**Calviac**	**2.06**	**359**	Pn	**Pn**	**21 48 31.0**	**+0.1**
CAF				Pg	**Pg**	**21 48 36.3**	**+1.1**
CAF				Lg		21 49 03.7	
	71nm,0.3s						
CAF	**Calviac**	**2.06**	**359**	*e*Pg	**Pg**	**21 48 36.3**	**+1.1**
CAF				*e*Sg	**Sg**	**21 49 03.7**	**+1.9**
	71nm,0.3s						
ATE	**Arette**	**2.08**	**277**	Pg	**Pg**	**21 48 34.7**	**-0.9**
ATE				Sg	**Sg**	**21 49 03.1**	**+0.5**
ATE	**Arette**	**2.08**	**277**	Pg	**Pg**	**21 48 34.7**	**-0.9**
ESAC	**San Caprasio**	**2.24**	**240**	⇓Pn	**Pn**	**21 48 33.9**	**+0.5**
	0.7nm,0.1s,SNR=18						
ESAC				Pg	**Pg**	**21 48 37.6**	**-1.0**
	110nm,0.2s,SNR=7.9						
ESAC				Sn	**Sn**	**21 49 00.7**	**-0.6**
	218nm,0.3s,SNR=12						
ESAC				Lg		21 49 06.7	
	427nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**2.24**	**240**	Pn	**Pn**	**21 48 33.9**	**+0.5**
	0.7nm,0.1s,SNR=18						
ESAC	**San Caprasio**	**2.24**	**240**	Pg	**Pg**	**21 48 37.6**	**-1.0**
	110nm,0.2s,SNR=7.9						
ESAC				Sn	**Sn**	**21 49 00.7**	**-0.7**
	218nm,0.3s,SNR=12						
LARF	**Larrau**	**2.29**	**275**	Pg	**Pg**	**21 48 38.2**	**-1.4**
LARF	**Larrau**	**2.29**	**275**	Pg	**Pg**	**21 48 38.6**	**-1.0**
LARF				Lg		21 49 11.0	
LFF	**La Frestale**	**2.30**	**335**	*e*Pg	**Pg**	**21 48 40.0**	**+0.2**
LFF				*e*Sg	**Sg**	**21 49 10.8**	**+1.2**
	349nm,0.4s						
LFF	**La Frestale**	**2.30**	**335**	Pn	**Pn**	**21 48 34.7**	**+0.5**
LFF				Pg	**Pg**	**21 48 40.0**	**+0.2**
LFF				Lg		21 49 10.8	
	175nm,0.4s						
LFF	**La Frestale**	**2.30**	**335**	*e*Pn	**Pn**	**21 48 34.7**	**+0.5**
LFF				*e*Pg	**Pg**	**21 48 40.0**	**+0.2**
LFF				*e*Sg	**Sg**	**21 49 10.8**	**+1.2**
LFF	**La Frestale**	**2.30**	**335**	*e*Pg	**Pg**	**21 48 40.0**	**+0.2**
LFF				*e*Sg	**Sg**	**21 49 10.8**	**+1.2**
	175nm,0.4s						
ERTA	**Horta de San J**	**2.33**	**215**	Pn	**Pn**	**21 48 34.5**	**-0.2**
	2.2nm,0.2s,SNR=16						
ERTA				Pg	**Pg**	**21 48 39.8**	**-0.6**
	42nm,0.2s,SNR=7.9						
ERTA				Lg		21 49 08.6	
	38nm,0.2s,SNR=13						
ERTA	**Horta de San J**	**2.33**	**215**	Pn	**Pn**	**21 48 34.5**	**-0.2**
	2.2nm,0.2s,SNR=16						
ERTA	**Horta de San J**	**2.33**	**215**	Pg	**Pg**	**21 48 39.8**	**-0.6**
	42nm,0.2s,SNR=7.9						
EBR	**Ebro Roquetas**	**2.38**	**211**	*e*P*	**Pb**	**21 48 39.2**	**+0.1**
EBR				*e*S*	**Sb**	**21 49 09.8**	**+1.1**
PRAF	**Pradon**	**2.41**	**66**	Pn	**Pn**	**21 48 35.8**	**0.0**
PRAF				Sg	**Sg**	**21 49 15.0**	**+1.7**
SJPF	**Ste Jean**	**2.46**	**277**	*e*Pg	**Pg**	**21 48 43.2**	**+0.2**
SJPF				*e*Sg	**Sg**	**21 49 14.9**	**-0.1**
	30nm,0.3s						
SJPF	**Ste Jean**	**2.46**	**277**	*e*P	**Pn**	**21 48 38.9**	**+2.3**
SJPF				*e*Pg	**Pg**	**21 48 43.2**	**+0.2**
SJPF				*e*Sg	**Sg**	**21 49 14.9**	**-0.1**
SJPF	**Ste Jean**	**2.46**	**277**	*e*Pg	**Pg**	**21 48 43.2**	**+0.2**
SJPF				*e*Sg	**Sg**	**21 49 14.9**	**-0.1**
	15nm,0.3s						
RJF	**Les Rejaudoux**	**2.47**	**350**	*e*Pn	**Pn**	**21 48 37.3**	**+0.6**
RJF	**Les Rejaudoux**	**2.47**	**350**	*e*Pg	**Pg**	**21 48 43.7**	**+0.5**
RJF				*e*Sg	**Sg**	**21 49 16.1**	**+0.9**
	54nm,0.2s						
RJF	**Les Rejaudoux**	**2.47**	**350**	Pn	**Pn**	**21 48 37.3**	**+0.6**
RJF				Pg	**Pg**	**21 48 43.7**	**+0.5**
RJF	**Les Rejaudoux**	**2.47**	**350**	*e*Pg	**Pg**	**21 48 43.7**	**+0.5**
RJF				*e*Sg	**Sg**	**21 49 16.1**	**+0.9**
	27nm,0.2s						
GELF	**Grande-Etoile**	**2.48**	**77**	Pn	**Pn**	**21 48 35.8**	**-0.9**
GELF				Pg	**Pg**	**21 48 45.4**	**+2.2**
LBL	**Lubilhac**	**2.50**	**19**	Pg	**Pg**	**21 48 45.1**	**+1.4**
LBL				Sg	**Sg**	**21 49 19.0**	**+3.0**
LBL	**Lubilhac**	**2.50**	**19**	Pn	**Pn**	**21 48 36.8**	**-0.2**
LBL				Pg	**Pg**	**21 48 45.1**	**+1.4**
LBL				Sg	**Sg**	**21 49 19.0**	**+3.0**
LBL	**Lubilhac**	**2.50**	**19**	Pg	**Pg**	**21 48 45.1**	**+1.4**
LBL				Sg	**Sg**	**21 49 19.0**	**+3.0**
TREF	**Trevaresse**	**2.50**	**71**	Pg	**Pg**	**21 48 45.0**	**+1.3**
TREF	**Trevaresse**	**2.50**	**71**	Pn	**Pn**	**21 48 36.9**	**-0.2**
TREF				Pg	**Pg**	**21 48 45.0**	**+1.3**
TREF	**Trevaresse**	**2.50**	**71**	Pg	**Pg**	**21 48 45.0**	**+1.3**
FRNF	**Fournols**	**2.54**	**7**	Pg	**Pg**	**21 48 45.6**	**+1.2**
IPRE	**Itoiz**	**2.56**	**270**	Pn	**Pn**	**21 48 39.2**	**+1.4**
	4.9nm,0.3s,SNR=6.8						
IPRE				Pg	**Pg**	**21 48 42.4**	**-2.4**
	7.1nm,0.4s,SNR=7.9						
IPRE				Lg		21 49 16.9	
	7.6nm,0.2s,SNR=8.6						
IPRE	**Itoiz**	**2.56**	**270**	Pn	**Pn**	**21 48 39.2**	**+1.4**
	4.9nm,0.3s,SNR=6.8						
IPRE	**Itoiz**	**2.56**	**270**	Pg	**Pg**	**21 48 42.4**	**-2.4**
	7.1nm,0.4s,SNR=7.9						
IUNC	**Unciti**	**2.66**	**269**	Pg	**Pg**	**21 48 47.5**	**+0.6**
	2.2nm,0.1s,SNR=7.9						
IUNC				Lg		21 49 22.7	
	9.4nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**2.66**	**269**	Pg	**Pg**	**21 48 47.5**	**+0.7**
	2.2nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**2.68**	**279**	Pn	**Pn**	**21 48 41.2**	**+1.7**
	17nm,0.7s,SNR=4.0						
EALK				Pg	**Pg**	**21 48 46.7**	**-0.5**
	9.5nm,0.3s,SNR=4.0						
EALK				Lg		21 49 24.6	
	26nm,0.3s,SNR=6.8						
ELIZ	**Elizondo**	**2.69**	**278**	Pn	**Pn**	**21 48 39.8**	**+0.2**
	0.3nm,0.2s,SNR=7.9						
ELIZ				Pg	**Pg**	**21 48 46.5**	**-0.9**
	8.3nm,0.3s,SNR=21						
ELIZ				Lg		21 49 24.2	
	4.5nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**2.69**	**278**	Pn	**Pn**	**21 48 42.4**	**+2.7**
ELIZ				Pg	**Pg**	**21 48 46.5**	**-0.9**
ELIZ				Lg		21 49 24.2	
ELIZ	**Elizondo**	**2.69**	**278**	Pn	**Pn**	**21 48 42.4**	**+2.7**
	SNR=7.9						
PUYF	**Puyloubier**	**2.70**	**75**	Pn	**Pn**	**21 48 39.5**	**-0.3**
PUYF				Sg	**Sg**	**21 49 24.4**	**+1.8**
VIVF	**Saint-Julien-l**	**2.71**	**42**	*e*Pg	**Pg**	**21 48 48.0**	**+0.2**
VIVF				*e*Sg	**Sg**	**21 49 23.5**	**+0.6**
	96nm,0.2s						
VIVF	**Saint-Julien-l**	**2.71**	**42**	Pn	**Pn**	**21 48 39.8**	**-0.1**
VIVF				Pg	**Pg**	**21 48 48.0**	**+0.2**
VIVF	**Saint-Julien-l**	**2.71**	**42**	*e*Pn	**Pn**	**21 48 39.8**	**-0.1**
VIVF				*e*Pg	**Pg**	**21 48 48.0**	**+0.2**
VIVF				*e*Sg	**Sg**	**21 49 23.5**	**+0.6**
VIVF	**Saint-Julien-l**	**2.71**	**42**	*e*Pg	**Pg**	**21 48 48.0**	**+0.2**
VIVF				*e*Sg	**Sg**	**21 49 23.5**	**+0.6**
	48nm,0.2s						
EARA	**Aranguren**	**2.72**	**269**	Pg	**Pg**	**21 48 47.1**	**-0.8**
	0.3nm,0.2s,SNR=4.0						
EARA				Lg		21 49 24.1	
	38nm,0.4s,SNR=7.9						
SMRF	**Simiane la Rot**	**2.75**	**65**	*e*Pg	**Pg**	**21 48 49.2**	**+0.7**
SMRF				*e*Sg	**Sg**	**21 49 24.3**	**+0.2**
	53nm,0.4s						
SMRF	**Simiane la Rot**	**2.75**	**65**	Pn	**Pn**	**21 48 40.5**	**0.0**
SMRF				Pg	**Pg**	**21 48 49.2**	**+0.7**
SMRF	**Simiane la Rot**	**2.75**	**65**	*e*Pn	**Pn**	**21 48 40.5**	**0.0**
SMRF				*e*Pg	**Pg**	**21 48 49.2**	**+0.7**
SMRF				*e*Sg	**Sg**	**21 49 24.3**	**+0.2**
SMRF	**Simiane la Rot**	**2.75**	**65**	*e*Pg	**Pg**	**21 48 49.2**	**+0.7**
SMRF				*e*Sg	**Sg**	**21 49 24.3**	**+0.2**
	27nm,0.4s						
COLF	**Collangettes**	**2.88**	**23**	Pg	**Pg**	**21 48 51.3**	**+0.3**
VERF	**Verneugheol**	**2.89**	**5**	Pg	**Pg**	**21 48 51.6**	**+0.4**
PYM	**Petit Puy Mans**	**2.95**	**12**	Pg	**Pg**	**21 48 53.6**	**+1.3**
PYM				Sg	**Sg**	**21 49 32.7**	**+2.2**
PYM	**Petit Puy Mans**	**2.95**	**12**	Pn	**Pn**	**21 48 44.5**	**+1.3**
PYM				Pg	**Pg**	**21 48 53.6**	**+1.3**
PYM				Sg	**Sg**	**21 49 32.7**	**+2.2**
PYM	**Petit Puy Mans**	**2.95**	**12**	Pg	**Pg**	**21 48 53.6**	**+1.3**
PYM				Sg	**Sg**	**21 49 32.7**	**+2.2**
TAVF	**Tavernes**	**2.97**	**74**	Pn	**Pn**	**21 48 43.2**	**-0.3**
TAVF				Pg	**Pg**	**21 48 53.5**	**+0.7**
TAVF				Sg	**Sg**	**21 49 32.1**	**+0.8**
STOF	**St-Etienne Org**	**2.98**	**66**	Pg	**Pg**	**21 48 52.9**	**0.0**
STOF				Sg	**Sg**	**21 49 31.2**	**-0.4**
STOF	**St-Etienne Org**	**2.98**	**66**	Pn	**Pn**	**21 48 43.1**	**-0.6**
STOF				Pg	**Pg**	**21 48 52.9**	**0.0**
STOF				Sg	**Sg**	**21 49 31.2**	**-0.4**
STOF	**St-Etienne Org**	**2.98**	**66**	Pg	**Pg**	**21 48 52.9**	**0.0**
STOF				Sg	**Sg**	**21 49 31.2**	**-0.4**
ETOS	**Mallorca**	**3.14**	**170**	Pn	**Pn**	**21 48 45.0**	**-0.9**
	2.2nm,0.2s,SNR=7.9						
ETOS				Sn	**Sn**	**21 49 19.6**	**-4.1**
	1.8nm,0.1s,SNR=6.6						
ETOS	**Mallorca**	**3.14**	**170**	Pn	**Pn**	**21 48 45.0**	**-0.9**
	SNR=7.9						
ETOS				Sn	**Sn**	**21 49 19.6**	**-4.2**
	1.8nm,0.1s,SNR=6.6						
EMOS	**Mosqueruela**	**3.17**	**219**	Pn	**Pn**	**21 48 47.2**	**+0.9**
	14nm,1.1s,SNR=12						
EMOS				Pg	**Pg**	**21 48 55.3**	**-1.2**
	4.4nm,0.2s,SNR=7.9						
EMOS				Lg		21 49 36.6	
	24nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**3.17**	**219**	Pn	**Pn**	**21 48 47.1**	**+0.9**
EMOS				Pg	**Pg**	**21 48 56.0**	**-0.5**
EMOS				Lg		21 49 36.6	
EMOS	**Mosqueruela**	**3.17**	**219**	Pn	**Pn**	**21 48 47.2**	**+1.0**
	14nm,1.1s,SNR=12						
EMOS	**Mosqueruela**	**3.17**	**219**	Pg	**Pg**	**21 48 56.0**	**-0.5**
	SNR=7.9						
LMR	**La Mourre**	**3.25**	**80**	*e*Pg	**Pg**	**21 48 57.5**	**-0.5**
LMR				*e*Sn	**Sn**	**21 49 24.2**	**-2.1**
LMR				*e*Sg	**Sg**	**21 49 39.3**	**-0.8**
	26nm,0.3s						
LMR	**La Mourre**	**3.25**	**80**	Pn	**Pn**	**21 48 45.9**	**-1.4**
LMR				Pg	**Pg**	**21 48 57.5**	**-0.5**
LMR				Sn	**Sn**	**21 49 24.2**	**-2.1**
LMR	**La Mourre**	**3.25**	**80**	*e*Pn	**Pn**	**21 48 45.9**	**-1.4**
LMR				*e*Pg	**Pg**	**21 48 57.5**	**-0.5**
LMR				*e*Sn	**Sn**	**21 49 24.2**	**-2.1**
LMR				*e*Sg	**Sg**	**21 49 39.3**	**-0.8**
LMR	**La Mourre**	**3.25**	**80**	*e*Pg	**Pg**	**21 48 57.5**	**-0.5**
LMR				*e*Sn	**Sn**	**21 49 24.2**	**-2.1**
LMR				*e*Sg	**Sg**	**21 49 39.3**	**-0.8**
	13nm,0.3s						
AGO	**Saint Agoulin**	**3.26**	**12**	Pg	**Pg**	**21 48 58.9**	**+0.6**
AGO				Sg	**Sg**	**21 49 42.3**	**+1.7**
AGO	**Saint Agoulin**	**3.26**	**12**	Pn	**Pn**	**21 48 49.8**	**+2.3**
AGO				Pg	**Pg**	**21 48 58.9**	**+0.6**
AGO				Sg	**Sg**	**21 49 42.3**	**+1.7**
AGO	**Saint Agoulin**	**3.26**	**12**	Pg	**Pg**	**21 48 58.9**	**+0.6**
AGO				Sg	**Sg**	**21 49 42.3**	**+1.7**
PLDF	**La Plantade**	**3.28**	**19**	Pn	**Pn**	**21 48 48.5**	**+0.7**
PLDF				Sg	**Sg**	**21 49 42.4**	**+1.2**
FRF	**La Foret Royal**	**3.38**	**77**	*e*Pg	**Pg**	**21 48 59.7**	**-0.9**
FRF				*e*Sg	**Sg**	**21 49 42.7**	**-1.7**
	56nm,0.4s						
FRF	**La Foret Royal**	**3.38**	**77**	Pn	**Pn**	**21 48 48.6**	**-0.6**
FRF				Pg	**Pg**	**21 48 59.7**	**-0.9**
FRF	**La Foret Royal**	**3.38**	**77**	*e*Pn	**Pn**	**21 48 48.6**	**-0.6**
FRF				*e*Pg	**Pg**	**21 48 59.7**	**-0.9**
FRF				*e*Sg	**Sg**	**21 49 42.7**	**-1.7**
FRF	**La Foret Royal**	**3.38**	**77**	*e*Pg	**Pg**	**21 48 59.7**	**-0.9**
FRF				*e*Sg	**Sg**	**21 49 42.7**	**-1.7**
	28nm,0.4s						
ORIF	**Oris-en-Rattie**	**3.40**	**52**	*e*Pn	**Pn**	**21 48 49.8**	**+0.3**
ORIF				*e*Sg	**Sg**	**21 49 44.3**	**-0.8**
	25nm,0.6s						
ORIF	**Oris-en-Rattie**	**3.40**	**52**	*e*Pn	**Pn**	**21 48 49.8**	**+0.3**
ORIF				*e*Sg	**Sg**	**21 49 44.

LPL	**La Plagne**	**4.24**	**50**	*e*Pn	**Pn**	**21 49 01.9**	**+0.9**
LPL				*e*Sg	**Sg**	**21 50 11.6**	**-0.5**
	12nm,0.5s						
LPL	**La Plagne**	**4.24**	**50**	*e*Pn	**Pn**	**21 49 01.9**	**+0.9**
LPL				*e*Sg	**Sg**	**21 50 11.6**	**-0.5**
	5.8nm,0.5s						
MONE	**Monesi**	**4.28**	**72**	P	**Pn**	**21 49 01.7**	**+0.2**
SSF	**Saint Saulge**	**4.30**	**13**	*e*Pg	**Pg**	**21 49 17.8**	**-0.5**
SSF				*e*Sg	**Sg**	**21 50 12.7**	**-1.4**
	24nm,0.4s						
SSF	**Saint Saulge**	**4.30**	**13**	*e*Pg	**Pg**	**21 49 17.8**	**-0.5**
SSF				*e*Sg	**Sg**	**21 50 12.7**	**-1.4**
	12nm,0.4s						
RSP	**Reno Superiore**	**4.35**	**57**	P	**Pn**	**21 49 02.5**	**0.0**
HYF	**Humbligny**	**4.41**	**5**	*e*Pg	**Pg**	**21 49 20.1**	**-0.2**
HYF				*e*Sg	**Sg**	**21 50 17.1**	**-0.4**
ROB	**Roburent**	**4.42**	**69**	P	**Pn**	**21 49 03.9**	**+0.5**
RORO		**4.50**	**72**	P	**Pn**	**21 49 04.6**	**0.0**
EBEN	**Beniarda**	**4.53**	**204**	Pn	**Pn**	**21 49 04.7**	**-0.2**
	8.9nm,0.9s,SNR=8.2						
EBEN	**Beniarda**	**4.53**	**204**	Pn	**Pn**	**21 49 04.7**	**-0.2**
	8.9nm,0.9s,SNR=8.2						
LOR	**Lormes**	**4.57**	**15**	*e*Pg	**Pg**	**21 49 22.7**	**-0.6**
LOR				*e*Sg	**Sg**	**21 50 22.0**	**-0.5**
	28nm,0.4s						
LOR	**Lormes**	**4.57**	**15**	*e*Pg	**Pg**	**21 49 22.7**	**-0.6**
LOR				*e*Sg	**Sg**	**21 50 22.0**	**-0.5**
	14nm,0.4s						
FIN	**Finale Ligure**	**4.62**	**71**	P	**Pn**	**21 49 06.4**	**+0.1**
CABF	**La Chapelle**	**4.69**	**36**	*e*Pg	**Pg**	**21 49 25.3**	**-0.3**
CABF				*e*Sg	**Sg**	**21 50 25.5**	**-0.9**
	68nm,0.6s						
CABF	**La Chapelle**	**4.69**	**36**	Pn	**Pn**	**21 49 07.5**	**+0.4**
CABF				Pg	**Pg**	**21 49 25.3**	**-0.3**
CABF	**La Chapelle**	**4.69**	**36**	*e*Pn	**Pn**	**21 49 07.5**	**+0.4**
CABF				*e*Pg	**Pg**	**21 49 25.3**	**-0.3**
CABF				*e*Sg	**Sg**	**21 50 25.5**	**-0.9**
CABF	**La Chapelle**	**4.69**	**36**	*e*Pg	**Pg**	**21 49 25.3**	**-0.3**
CABF				*e*Sg	**Sg**	**21 50 25.5**	**-0.9**
	34nm,0.6s						
ETOB	**Tobarra**	**5.06**	**215**	Pn	**Pn**	**21 49 11.8**	**-0.4**
	3.2nm,0.4s,SNR=14						
ETOB				Sn	**Sn**	**21 50 07.4**	**-3.6**
	1.5nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**5.06**	**215**	Pn	**Pn**	**21 49 11.8**	**-0.4**
ETOB				Sn	**Sn**	**21 50 08.6**	**-2.4**
ETOB	**Tobarra**	**5.06**	**215**	Pn	**Pn**	**21 49 11.8**	**-0.4**
	3.2nm,0.4s,SNR=14						
ETOB				Sn	**Sn**	**21 50 08.6**	**-2.3**
	SNR=7.9						
PGF	**Pioggiola**	**5.08**	**91**	*e*Pn	**Pn**	**21 49 10.1**	**-2.4**
PGF				*e*Sn	**Sn**	**21 50 05.2**	**-6.3**
	5.5nm,0.3s						
PGF	**Pioggiola**	**5.08**	**91**	*e*Pn	**Pn**	**21 49 10.1**	**-2.4**
PGF				*e*Sn	**Sn**	**21 50 05.2**	**-6.3**
	2.8nm,0.3s						
EARI	**Arriondas**	**5.38**	**277**	Pn	**Pn**	**21 49 17.8**	**+1.1**
	13nm,1.2s,SNR=7.9						
EARI				Sn	**Sn**	**21 50 16.1**	**-2.9**
	11nm,0.9s,SNR=7.9						
EARI	**Arriondas**	**5.38**	**277**	Pn	**Pn**	**21 49 17.8**	**+1.1**
EARI				Sn	**Sn**	**21 50 19.1**	**0.0**
EARI	**Arriondas**	**5.38**	**277**	Pn	**Pn**	**21 49 17.8**	**+1.1**
	13nm,1.2s,SNR=7.9						
OSPF	**L'Ospedale**	**5.38**	**101**	Pn	**Pn**	**21 49 14.2**	**-2.5**
ESDC	**Sonseca Array**	**5.58**	**237**	Pn	**Pn**	**21 49 18.8**	**-0.7**
	1.1nm,0.2s,baz=56,slow=14,SNR=32						
ESDC				Sn	**Sn**	**21 50 19.4**	**-4.6**
	3.3nm,0.2s,baz=54,slow=24,SNR=7.9						
ESDC				Lg		21 50 51.3	
	9.3nm,0.7s,baz=60,slow=29,SNR=7.9						
ESDC	**Sonseca Array**	**5.58**	**237**	Pn	**Pn**	**21 49 18.8**	**-0.7**
ESDC				Sn	**Sn**	**21 50 19.4**	**-4.6**
ESDC				Lg		21 50 51.3	
ESDC	**Sonseca Array**	**5.58**	**237**	Pn	**Pn**	**21 49 18.8**	**-0.6**
	1.1nm,0.2s,SNR=32						
ESDC				Sn	**Sn**	**21 50 19.4**	**-4.5**
	3.3nm,0.2s,SNR=7.9						
GRR	**Gorron**	**5.90**	**340**	*e*Pg	**Pg**	**21 49 47.0**	**-1.8**
GRR				*e*Sn	**Sn**	**21 50 28.2**	**-3.5**
GRR				*e*Sg	**Sg**	**21 51 03.2**	**-2.0**
	13nm,0.4s						
GRR	**Gorron**	**5.90**	**340**	Pn	**Pn**	**21 49 24.1**	**+0.3**
GRR				Pg	**Pg**	**21 49 47.0**	**-1.8**
GRR				Sn	**Sn**	**21 50 28.2**	**-3.5**
GRR	**Gorron**	**5.90**	**340**	*e*Pn	**Pn**	**21 49 24.1**	**+0.3**
GRR				*e*Pg	**Pg**	**21 49 47.0**	**-1.8**
GRR				*e*Sn	**Sn**	**21 50 28.2**	**-3.5**
GRR				*e*Sg	**Sg**	**21 51 03.2**	**-2.0**
GRR	**Gorron**	**5.90**	**340**	*e*Pg	**Pg**	**21 49 47.0**	**-1.8**
GRR				*e*Sn	**Sn**	**21 50 28.2**	**-3.5**
GRR				*e*Sg	**Sg**	**21 51 03.2**	**-2.0**
	6.6nm,0.4s						
HAU	**Haudompre**	**5.94**	**29**	*e*Pn	**Pn**	**21 49 24.7**	**+0.5**
HAU				*e*Sg	**Sg**	**21 51 04.8**	**-1.5**
	10nm,0.3s						
HAU	**Haudompre**	**5.94**	**29**	*e*Pn	**Pn**	**21 49 24.7**	**+0.5**
HAU				*e*Sg	**Sg**	**21 51 04.8**	**-1.5**
	5.1nm,0.3s						
LDF	**La Druitiere**	**5.94**	**345**	*e*Pg	**Pg**	**21 49 48.2**	**-1.3**
LDF				*e*Sg	**Sg**	**21 51 05.0**	**-1.4**
	11nm,0.5s						
LDF	**La Druitiere**	**5.94**	**345**	*e*Pn	**Pn**	**21 49 25.0**	**+0.7**
LDF				*e*Pg	**Pg**	**21 49 48.2**	**-1.3**
LDF				*e*Sg	**Sg**	**21 51 05.0**	**-1.4**
LDF	**La Druitiere**	**5.94**	**345**	*e*Pg	**Pg**	**21 49 48.2**	**-1.3**
LDF				*e*Sg	**Sg**	**21 51 05.0**	**-1.4**
	5.7nm,0.5s						
HINF	**Hinteralfeld**	**5.97**	**32**	*e*Pn	**Pn**	**21 49 25.1**	**+0.4**
HINF				*e*Sg	**Sg**	**21 51 05.6**	**-1.7**
	12nm,0.4s						
HINF	**Hinteralfeld**	**5.97**	**32**	*e*Pn	**Pn**	**21 49 25.1**	**+0.4**
HINF				*e*Sg	**Sg**	**21 51 05.6**	**-1.7**
	6.1nm,0.4s						
MEZF	**Maizieres J'vi**	**6.00**	**19**	*e*Pg	**Pg**	**21 49 49.2**	**-1.4**
MEZF				*e*Sg	**Sg**	**21 51 06.5**	**-1.8**
	38nm,0.7s						
MEZF	**Maizieres J'vi**	**6.00**	**19**	*e*Pg	**Pg**	**21 49 49.2**	**-1.4**
MEZF				*e*Sg	**Sg**	**21 51 06.5**	**-1.8**
	19nm,0.7s						
FLN	**La Foliniere**	**6.17**	**344**	*e*Pg	**Pg**	**21 49 52.3**	**-1.6**
FLN				*e*Sn	**Sn**	**21 50 34.5**	**-3.8**
FLN				*e*Sg	**Sg**	**21 51 11.7**	**-2.1**
	16nm,0.5s						
FLN	**La Foliniere**	**6.17**	**344**	Pn	**Pn**	**21 49 27.7**	**+0.3**
FLN				Pg	**Pg**	**21 49 52.3**	**-1.6**
FLN				Sn	**Sn**	**21 50 34.5**	**-3.8**
FLN	**La Foliniere**	**6.17**	**344**	*e*Pn	**Pn**	**21 49 27.7**	**+0.3**
FLN				*e*Pg	**Pg**	**21 49 52.3**	**-1.6**
FLN				*e*Sn	**Sn**	**21 50 34.5**	**-3.8**
FLN				*e*Sg	**Sg**	**21 51 11.7**	**-2.1**
FLN	**La Foliniere**	**6.17**	**344**	*e*Pg	**Pg**	**21 49 52.3**	**-1.6**
FLN				*e*Sn	**Sn**	**21 50 34.5**	**-3.8**
FLN				*e*Sg	**Sg**	**21 51 11.7**	**-2.1**
	8.2nm,0.5s						
QUIF	**Quistinic**	**6.27**	**325**	*e*Pn	**Pn**	**21 49 28.7**	**-0.1**
QUIF	**Quistinic**	**6.27**	**325**	*e*Pg	**Pg**	**21 49 53.5**	**-2.4**
QUIF				*e*Sg	**Sg**	**21 51 14.2**	**-2.9**
	10.0nm,0.5s						
QUIF	**Quistinic**	**6.27**	**325**	Pn	**Pn**	**21 49 28.7**	**-0.1**
QUIF				Pg	**Pg**	**21 49 53.5**	**-2.4**
QUIF	**Quistinic**	**6.27**	**325**	*e*Pg	**Pg**	**21 49 53.5**	**-2.4**
QUIF				*e*Sg	**Sg**	**21 51 14.2**	**-2.9**
	5.0nm,0.5s						
SGMF	**Saint Gilles**	**6.30**	**330**	*e*Pn	**Pn**	**21 49 29.6**	**+0.3**
SGMF	**Saint Gilles**	**6.30**	**330**	*e*Pg	**Pg**	**21 49 54.8**	**-1.7**
SGMF				*e*Sg	**Sg**	**21 51 16.4**	**-1.8**
	11nm,0.5s						
SGMF	**Saint Gilles**	**6.30**	**330**	Pn	**Pn**	**21 49 29.6**	**+0.3**
SGMF				Pg	**Pg**	**21 49 54.8**	**-1.7**
SGMF	**Saint Gilles**	**6.30**	**330**	*e*Pg	**Pg**	**21 49 54.8**	**-1.7**
SGMF				*e*Sg	**Sg**	**21 51 16.4**	**-1.8**
	5.7nm,0.5s						
EQES	**Quesada**	**6.43**	**220**	Pn	**Pn**	**21 49 31.0**	**-0.1**
	2.3nm,0.4s,SNR=5.8						
EQES				Lg		21 51 18.3	
	7.7nm,0.7s,SNR=7.9						
EQES	**Quesada**	**6.43**	**220**	Pn	**Pn**	**21 49 31.0**	**0.0**
	2.3nm,0.4s,SNR=5.8						
CDF	**Champ du Feu**	**6.62**	**31**	*e*Pg	**Pg**	**21 50 00.0**	**-2.5**
CDF				*e*Sg	**Sg**	**21 51 25.5**	**-2.7**
	9.0nm,0.5s						
CDF	**Champ du Feu**	**6.62**	**31**	*e*Pg	**Pg**	**21 50 00.0**	**-2.5**
CDF				*e*Sg	**Sg**	**21 51 25.5**	**-2.7**
	4.5nm,0.5s						
ECAL	**Calabor**	**6.62**	**265**	Pn	**Pn**	**21 49 33.9**	**+0.2**
	SNR=4.0						
ECAL				Sn	**Sn**	**21 50 46.8**	**-2.6**
	1.3nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**6.62**	**265**	Pn	**Pn**	**21 49 36.0**	**+2.4**
ECAL				Sn	**Sn**	**21 50 48.5**	**-1.0**
ECAL	**Calabor**	**6.62**	**265**	Pn	**Pn**	**21 49 36.0**	**+2.3**
ECAL				Sn	**Sn**	**21 50 48.5**	**-1.0**
ROSF	**Rostrenen**	**6.65**	**327**	*e*Pn	**Pn**	**21 49 34.7**	**+0.7**
ROSF	**Rostrenen**	**6.65**	**327**	*e*Pg	**Pg**	**21 50 00.8**	**-2.3**
ROSF				*e*Sn	**Sn**	**21 50 46.4**	**-3.7**
ROSF				*e*Sg	**Sg**	**21 51 26.9**	**-2.3**
	2.5nm,0.2s						
ROSF	**Rostrenen**	**6.65**	**327**	Pn	**Pn**	**21 49 34.7**	**+0.7**
ROSF				Pg	**Pg**	**21 50 00.8**	**-2.3**
ROSF				Sn	**Sn**	**21 50 46.4**	**-3.7**
ROSF	**Rostrenen**	**6.65**	**327**	*e*Pg	**Pg**	**21 50 00.8**	**-2.3**
ROSF				*e*Sn	**Sn**	**21 50 46.4**	**-3.7**
ROSF				*e*Sg	**Sg**	**21 51 26.9**	**-2.3**
	1.2nm,0.2s						
EADA	**Adamuz**	**6.93**	**230**	Pn	**Pn**	**21 49 37.3**	**-0.6**
	0.9nm,0.4s,SNR=4.6						
EADA				Sn	**Sn**	**21 50 51.6**	**-5.6**
	0.8nm,0.2s,SNR=7.9						
EADA				Lg		21 51 34.5	
	SNR=7.9						
EADA	**Adamuz**	**6.93**	**230**	Pn	**Pn**	**21 49 37.3**	**-0.7**
EADA				Sn	**Sn**	**21 50 51.6**	**-5.6**

*BJI **08** 21:49:08.4, 1125S×12182E, h25km, mB5.0, mb4.8, Ms4.5, Msz4.2*
*MOS **08** 21:49:15.6±0.8, 1042S×12149E, h33km, mb4.7/9, Error ellipse: s-maj=23.5km s-min=8.9km az=124.9*
*ISCJB **08** 21:49:16.8±1.0, 1058S±005×12143E±006, h50km±10km, mb4.6/37, MS3.8/6, Error ellipse: s-maj=11.3km s-min=6.6km az=93.9*
*IDC **08** 21:49:16.4±4.3, 1043S×12140E, h22km±27km, mb4.3/11, mb1 4.4/14, mb1mx4.4/18, mbtmp4.5/14, ML4.2/2, MS3.8/6, Ms1 3.8/6, ms1mx3.4/18, Error ellipse: s-maj=28.9km s-min=13.6km az=59.0*
*NEIC **08** 21:49:17.2±0.4, 1044S×12131E, h25km, mb4.6/11, Error ellipse: s-maj=15.4km s-min=7.5km az=57.0*

ISC 08 21:49:18.2±1.0, 1054S±006×12140E±006, h38km±10km, h36km±8.2km:pP-P, n70, σ0.99/73, mb4.6/37, MS3.8/6, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.39**	**308**	P	**Pn**	**21 49 41.7**	**+0.6**
	3µm,0.9s						
FITZ	**Fitzroy Crossi**	**8.57**	**152**	*e*P	**Pn**	**21 51 20.2**	**+0.5**
	23nm,0.4s						
FITZ				*e*S	**Sn**	**21 52 48.3**	**-6.8**
FITZ	**Fitzroy Crossi**	**8.57**	**152**	Pn	**Pn**	**21 51 19.2**	**-0.5**
	1.7nm,0.3s,baz=343,slow=9.8,SNR=71						
FITZ				Sn	**Sn**	**21 52 48.3**	**-6.7**
	8.6nm,0.3s,baz=217,slow=18,SNR=12						
MBWA	**Marble Bar**	**10.68**	**188**	*e*P	**Pn**	**21 51 47.1**	**-1.6**
	32nm,0.7s						
KAKA	**Kakadu**	**11.03**	**102**	*e*P	**Pn**	**21 51 55.4**	**+2.0**
	29nm,0.6s						
KAKA				*e*S	**Sn**	**21 53 54.7**	**-0.7**
TLE	**Tual**	**12.23**	**67**	P	**Pn**	**21 52 12.4**	**+2.5**
	166nm,0.9s						
WRA	**Warramunga Arr**	**15.59**	**128**	Pn	**Pn**	**21 52 53.8**	**-1.3**
	1.9nm,0.3s,baz=304,slow=13,SNR=101						
WRA				Sn	**Sn**	**21 55 35.7**	**-11**
	2.9nm,0.3s,baz=296,slow=24,SNR=12						
WRAB	**Tennant Creek**	**15.59**	**128**	*e*P	**Pn**	**21 52 52.8**	**-2.3**
WRAB				pmax	pmax		
	comp=Z,27nm,0.7s						
WRAB	**Tennant Creek**	**15.59**	**128**	*e*P	**Pn**	**21 52 52.8**	**-2.4**
	comp=Z,27nm,0.7s						
WRAB				*e*S	S	21 55 33.3	-28
WB2	**Warramunga Arr**	**15.60**	**128**	*e*P	**Pn**	**21 52 53.7**	**-1.5**
WB2				*e*S	S	21 55 33.4	-28
KSM	**Kuching**	**16.25**	**317**	*e*P	**Pn**	**21 52 59.7**	**-4.0**
ASAR	**Alice Springs**	**17.68**	**139**	P	**Pn**	**21 53 21.6**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=318,slow=12,SNR=87						
ASAR				S	**S**	**21 56 28.2**	**-15**
	comp=Z,1.1nm,0.3s,baz=314,slow=22,SNR=10						
ASAR				ScP	ScP	22 01 32.5	+1.9
	comp=Z,0.0nm,0.3s,baz=295,slow=1.5,SNR=4.5						
ASAR	**Alice Springs**	**17.68**	**139**	P	**Pn**	**21 53 21.6**	**+0.1**
ASAR				S	**S**	**21 56 28.3**	**-15**
FORT	**Forrest**	**21.07**	**164**	*e*P	**P**	**21 54 01.1**	**+2.0**
	comp=Z,23nm,0.6s,mb4.7						
KLBR	**Kellerberrin**	**21.22**	**189**	*e*P	**P**	**21 54 03.7**	**+3.0**
	comp=Z,16nm,0.8s,mb4.4						
KLBR				*e*S	**S**	**21 57 41.6**	**-13**
MUN	**Mundaring**	**21.87**	**192**	*e*P	**P**	**21 54 14.5**	**+6.8**
MUN				*e*S	**S**	**21 57 58.6**	**-8.5**
NWAO	**Narrogin (SRO)**	**22.61**	**189**	LR	LR	22 03 42.8	
	comp=Z,227nm,19.3s,MS3.6,baz=166,slow=38						
NWAO	**Narrogin (SRO)**	**22.61**	**189**	*e*P	**P**	**21 54 23.7**	**+8.2**
NWAO				pmax	pmax		
	comp=Z,13nm,0.8s						
NWAO	**Narrogin (SRO)**	**22.61**	**189**	*e*P	**P**	**21 54 23.7**	**+8.2**
	comp=Z,13nm,0.8s,mb4.4						
CTA	**Charters Tower**	**25.75**	**115**	P	**P**	**21 54 46.7**	**+1.5**
	comp=Z,4.5nm,0.7s,mb4.1,baz=294,slow=16,SNR=3.6						
CTA	**Charters Tower**	**25.75**	**115**	P	**P**	**21 54 46.7**	**+1.5**
CTAO	**Charters Tower**	**25.75**	**115**	*e*P	**P**	**21 54 49.2**	**+4.0**
PSI	**Prapat**	**26.00**	**299**	P	**P**	**21 54 47.0**	**-0.5**
	comp=Z,7.1nm,1.0s,mb4.1,baz=195,slow=13,SNR=10						
PSI				LR	LR	22 06 45.0	
	comp=Z,352nm,21.4s,MS3.9,baz=254,slow=40						
PSI	**Prapat**	**26.00**	**299**	P	**P**	**21 54 47.0**	**-0.5**
PSI				LR	LR	22 06 45.0	
STKA	**Stephens Creek**	**28.28**	**142**	*e*P	**P**	**21 55 08.5**	**+0.6**
	comp=Z,7.1nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**28.28**	**142**	P	**P**	**21 55 08.9**	**+1.0**
	comp=Z,12nm,0.8s,mb4.6,baz=315,slow=10.0,SNR=20						
STKA				LR	LR	22 08 58.8	
	comp=Z,211nm,19.1s,MS3.8,baz=20,slow=42						
KMI	**Kunming**	**39.84**	**333**	P	**P**	**21 56 49.5**	**+1.6**
KMI				AP	pP	21 56 56.0	-2.8
KMI				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.5						
CD2	**Chengdu**	**44.55**	**338**	*e*P	**P**	**21 57 26.6**	**+0.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
XAN	**Xi'an**	**45.89**	**346**	P	**P**	**21 57 36.1**	**-0.8**
XAN				XP	sP	21 57 48.3	-4.2
XAN				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
LZH	**Lanzhou**	**49.24**	**341**	*e*P	**P**	**21 58 03.6**	**+0.7**
LZH				AP	pP	21 58 16.9	+2.9
LZH				XP	sP	21 58 20.5	+2.0
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,50nm,4.0s						
MJAR	**Matsushiro Arr**	**49.43**	**18**	P	**P**	**21 58 04.2**	**-0.1**
	comp=Z,5.0nm,0.7s,mb4.7,baz=190,slow=9.2,SNR=10						
MJAR				LR	LR	22 19 37.6	
	comp=Z,64nm,20.7s,MS3.6,baz=235,slow=37						
LSA	**Lhasa**	**49.49**	**325**	P	**P**	**21 58 06.0**	**+1.2**
LSA	**Lhasa**	**49.49**	**325**	*e*P	**P**	**21 58 05.4**	**+0.6**
LSA				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
LSA	**Lhasa**	**49.49**	**325**	*e*P	**P**	**21 58 05.4**	**+0.6**
	comp=Z,13nm,1.0s,mb4.9						
BJT	**Baijiatuau**	**50.53**	**355**	*e*P	**P**	**21 58 11.7**	**-1.0**
BJT				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BJT	**Baijiatuau**	**50.53**	**355**	*e*P	**P**	**21 58 11.7**	**-0.9**
	comp=Z,8.1nm,0.6s,mb4.8						
BJI	**Beijing**	**50.55**	**355**	*e*P	**P**	**21 58 11.7**	**-1.1**
BJI				AMB	AMB		
	comp=Z,13nm,0.6s,mb5.0						
HYB	**Hyderabad**	**50.63**	**303**	*i* P	**P**	**21 58 13.5**	**0.0**
HYB				*e*sP	sP	21 58 26.0	-3.2
JIRN	**Jiri**	**51.04**	**319**	*e*P	**P**	**21 58 16.5**	**0.0**
	comp=Z,20nm,0.6s,mb5.2						
GUN	**Gumba**	**51.41**	**319**	*e*P	**P**	**21 58 19.4**	**+0.1**
	comp=Z,37nm,0.7s,mb5.5						
PKI	**Pulchoki**	**51.49**	**318**	*e*P	**P**	**21 58 19.5**	**-0.4**
DMN	**Daman**	**51.71**	**318**	*e*P	**P**	**21 58 21.2**	**-0.4**
	comp=Z,20nm,0.9s,mb5.0						
KKN	**Kakani**	**51.72**	**318**	*e*P	**P**	**21 58 21.2**	**-0.4**
	comp=Z,13nm,0.8s,mb4.9						
HHC	**Hu-ho-hao-te**	**51.93**	**351**	*e*P	**P**	**21 58 28.8**	**+5.6**
HHC				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
HHC				AMB	AMB		
	comp=Z,81nm,8.0s						
GKN	**Gorkha**	**52.28**	**318**	*e*P	**P**	**21 58 25.3**	**-0.5**
	comp=Z,27nm,0.9s,mb5.2						
KOLN	**Koldanda**	**52.82**	**317**	*e*P	**P**	**21 58 29.4**	**-0.4**
	comp=Z,13nm,0.8s,mb4.9						
GTA	**Gaotai**	**53.59**	**339**	P	**P**	**21 58 36.5**	**+1.1**
GTA				AP	pP	21 58 44.2	-2.5
GTA				XP	sP	21 58 47.4	-3.8
GTA				AMB	AMB		
	comp=Z,16nm,0.9s,mb5.0						
ULN	**Ulaanbaatar**	**59.52**	**349**	*e*P	**P**	**21 59 17.9**	**+0.3**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
ULN	**Ulaanbaatar**	**59.52**	**349**	*e*P	**P**	**21 59 17.9**	**+0.2**
	comp=Z,6.9nm,1.0s,mb4.6						
SONM	**Songino Array**	**59.62**	**348**	P	**P**	**21 59 18.2**	**-0.1**
	comp=Z,4.3nm,0.7s,mb4.6,baz=164,slow=8.4,SNR=42						
ZAK	**Zakamensk**	**62.69**	**347**	*e*P	**P**	**21 59 38.8**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.6						
MK31	**Makanchi Array**	**66.91**	**332**	P	**P**	**22 00 06.2**	**-0.3**
MK31				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
MKAR	**Makanchi Array**	**66.91**	**332**	P	**P**	**22 00 06.5**	**0.0**
	comp=Z,4.6nm,0.8s,mb4.5,baz=140,slow=6.9,SNR=40						
AAK	**Ala-Archa**	**68.09**	**324**	*e*P	**P**	**22 00 13.0**	**-1.0**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**68.09**	**324**	*e*P	**P**	**22 00 13.0**	**-1.0**
	comp=Z,2.1nm,0.8s,mb4.2						
BOD	**Bodaibo**	**68.38**	**356**	*e*P	**P**	**22 00 14.9**	**-0.9**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
MAW	**Mawson**	**68.62**	**201**	P	**P**	**22 00 18.2**	**+0.9**
	comp=Z,1.8nm,0.8s,mb4.0,baz=63,slow=8.5,SNR=4.2						
MAW				LR	LR	22 25 30.6	
	comp=Z,121nm,18.6s,MS4.2,baz=59,slow=32						
WSAR	**Wadi Sarin**	**69.96**	**299**	P	**P**	**22 00 26.6**	**+1.0**
	comp=Z,3.3nm,0.8s,mb4.3,baz=157,slow=7.7,SNR=3.5						
VNDA	**Vanda**	**70.12**	**171**	P	**P**	**22 00 27.9**	**+1.3**
	comp=Z,1.4nm,1.0s,mb3.9,baz=320,slow=6.1,SNR=6.1						
ZAL	**Zalesovo**	**71.32**	**338**	P	**P**	**22 00 32.8**	**-1.1**
	comp=Z,6.9nm,1.1s,mb4.5,baz=314,slow=5.2,SNR=18						
KURK	**Kurchatov**	**71.42**	**333**	*e*P	**P**	**22 00 34.7**	**+0.2**
KURK				*e*	pP	22 00 47.6	+1.5
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
KURK	**Kurchatov**	**71.42**	**333**	*e*P	**P**	**22 00 34.6**	**+0.1**
	comp=Z,8.5nm,0.8s,mb4.7						
KURK				*e*	pP	22 00 47.6	+1.5
BVAR	**Borovoye Array**	**76.77**	**331**	P	**P**	**22 01 05.5**	**-0.1**
	comp=Z,1.3nm,0.6s,mb4.0,baz=108,slow=4.8,SNR=6.5						
ZRNK	**Zerenda**	**77.38**	**331**	*e*P	**P**	**22 01 08.7**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**77.38**	**331**	*e*P	**P**	**22 01 08.7**	**-0.4**
	comp=Z,2.5nm,0.8s,mb4.2						
AB31	**Akbulak array**	**80.18**	**324**	*i* P	**P**	**22 01 24.6**	**+0.1**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
SNAA	**Sanae**	**90.16**	**195**	LR	LR	22 37 38.8	
	comp=Z,38nm,19.4s,MS3.8,baz=151,slow=32						
YKA	**Yellowknife Ar**	**114.59**	**25**	PKP	PKiKP	22 07 55.6	+1.4
	comp=Z,0.2nm,0.6s,baz=302,slow=1.9,SNR=4.3						
TORD	**Torodi Ar. Bea**	**121.05**	**279**	PKP	PKPdf	22 08 08.8	+2.2
	comp=Z,0.3nm,0.7s,baz=106,slow=3.1,SNR=3.1						
ELN	**Prospectdale**	**146.76**	**33**	*e*P	PKPdf	22 08 58.7	+4.4

*ISCJB **08** 22:04:27.6±0.2, 4290N×001×216E±002, h7km±3km, Error ellipse: s-maj=2.5km s-min=1.9km az=82.4*
*MDD **08** 22:04:30.9±0.2, 4279N×2.10E, h10km±1km, mbLg2.2/16, Error ellipse: s-maj=2.0km s-min=1.6km az=26.0, PRXIMO*
*NEIC **08** 22:04:30.3, 4280N×2.10E, h5km, ML2.7(LDG), ML2.8(STR), MN2.3(MDD), After STR.*
*LDG **08

4.6nm,0.2s
CAVN Les Avellanes 1.40 227 Pg Pg 22 04 56.0 -0.3
CAVN Lg 22 05 14.3
28nm,0.2s
EBIE Bielsa 1.47 264 Pg Pg 22 04 57.2 -0.4
1.0nm,0.1s,SNR=11
EBIE Lg 22 05 17.2
6.2nm,0.2s,SNR=16
EBIE Bielsa 1.47 264 Pg Pg 22 04 57.2 -0.4
1.0nm,0.1s,SNR=11
EGRA Graus 1.49 245 Pg Pg 22 04 57.9 -0.1
2.2nm,0.2s,SNR=17
EGRA Lg 22 05 17.4
9.5nm,0.2s,SNR=30
LABF Labassere 1.52 278 Pg Pg 22 04 58.6 0.0
LABF Labassere 1.52 278 Pg Pg 22 04 58.9 +0.3
LABF Lg 22 05 18.3
VIEF Viey 1.55 272 Lg 22 05 19.1
EPOB Poblet 1.68 208 Pg Pg 22 05 00.3 -1.4
2.8nm,0.1s,SNR=41
EPOB Lg 22 05 21.5
8.8nm,0.1s,SNR=19
EPOB Poblet 1.68 208 Pg Pg 22 05 00.3 -1.4
2.8nm,0.1s,SNR=41
LASF Ste Croix 1.76 45 *e*Pg Pg 22 05 03.9 +0.8
LASF *e*Sg **Sg 22 05 27.4 +1.4**
17nm,0.2s
LASF Ste Croix 1.76 45 *e*Pn Pn 22 05 00.2 +0.5
LASF *e*Pg **Pg 22 05 03.9 +0.8**
LASF *e*Sg **Sg 22 05 27.4 +1.4**
LASF Ste Croix 1.76 45 *e*Pg Pg 22 05 03.9 +0.8
LASF *e*Sg **Sg 22 05 27.4 +1.4**
8.4nm,0.2s
ETSF Etsaut 1.98 272 *e*Pg Pg 22 05 07.0 -0.3
ETSF *e*Sg **Sg 22 05 32.6 -0.3**
8.6nm,0.2s
ETSF Etsaut 1.98 272 *e*Pg Pg 22 05 07.0 -0.3
ETSF *e*Sg **Sg 22 05 32.6 -0.3**
4.3nm,0.2s
CAF Calviac 2.08 359 *e*Pg Pg 22 05 09.6 +0.3
CAF *e*Sg **Sg 22 05 37.4 +1.1**
8.7nm,0.2s
CAF Calviac 2.08 359 *e*Pg Pg 22 05 09.6 +0.3
CAF *e*Sg **Sg 22 05 37.4 +1.1**
4.3nm,0.2s
ESAC San Caprasio 2.23 241 Pn Pn 22 05 07.8 +1.7
1.3nm,0.1s,SNR=7.9
ESAC Pg **Pg 22 05 11.4 -0.7**
3.7nm,0.1s,SNR=7.9
ESAC Sn **Sn 22 05 34.2 +0.6**
12nm,0.3s,SNR=5.5
ESAC Lg 22 05 40.1
45nm,0.3s,SNR=9.4
ESAC San Caprasio 2.23 241 Pn Pn 22 05 07.8 +1.7
1.3nm,0.1s,SNR=7.9
ESAC San Caprasio 2.23 241 Pg Pg 22 05 11.4 -0.7
3.7nm,0.1s,SNR=7.9
ESAC Sn **Sn 22 05 34.2 +0.6**
12nm,0.3s,SNR=5.5
ERTA Horta de San J 2.31 216 Pn Pn 22 05 08.1 +0.8
0.3nm,0.1s,SNR=7.9
ERTA Pg **Pg 22 05 12.2 -1.5**
0.4nm,0.1s,SNR=15
ERTA Sn **Sn 22 05 35.4 -0.2**
5.2nm,0.7s,SNR=7.9
ERTA Lg 22 05 41.9
5.0nm,0.1s,SNR=10
ERTA Horta de San J 2.31 216 Pn Pn 22 05 08.1 +0.8
ERTA Pg **Pg 22 05 12.2 -1.5**
ERTA Lg 22 05 41.0
ERTA Horta de San J 2.31 216 Pn Pn 22 05 08.1 +0.8
0.3nm,0.1s,SNR=7.9
ERTA Horta de San J 2.31 216 Pg Pg 22 05 12.2 -1.5
0.4nm,0.1s,SNR=15
LFF La Frestale 2.32 335 *e*Pg Pg 22 05 14.0 +0.1
LFF *e*Sg **Sg 22 05 44.6 +0.6**
40nm,0.4s
LFF La Frestale 2.32 335 *e*Pg Pg 22 05 14.0 +0.1
LFF *e*Sg **Sg 22 05 44.6 +0.6**
20nm,0.4s
RJF Les Rejaudoux 2.50 350 *e*Pg Pg 22 05 16.7 -0.6
RJF *e*Sg **Sg 22 05 49.7 +0.1**
6.2nm,0.2s
RJF Les Rejaudoux 2.50 350 *e*Pg Pg 22 05 16.7 -0.6
RJF *e*Sg **Sg 22 05 49.7 +0.1**
3.1nm,0.2s
LBL Lubilhac 2.52 18 Pg Pg 22 05 18.8 +1.1
IUNC Unciti 2.67 269 Lg 22 05 56.6
3.9nm,0.6s,SNR=7.9
EALK Alkurruntz 2.69 279 Pn Pn 22 05 14.3 +1.9
0.0nm,0.1s,SNR=4.0
EALK Pg **Pg 22 05 20.9 0.0**
0.1nm,0.1s,SNR=7.9
EALK Lg 22 05 58.5
3.9nm,0.3s,SNR=4.0
EALK Alkurruntz 2.69 279 Pn Pn 22 05 15.6 +3.1
EALK Pg **Pg 22 05 20.9 0.0**
EALK Lg 22 05 58.5
EALK Alkurruntz 2.69 279 Pn Pn 22 05 15.6 +3.1
SNR=4.0
ELIZ Elizondo 2.70 278 Pn Pn 22 05 13.5 +0.9
0.6nm,0.3s,SNR=7.9
ELIZ Pg **Pg 22 05 21.1 -0.1**
2.0nm,0.3s,SNR=7.9
ELIZ Elizondo 2.70 278 Pn Pn 22 05 15.8 +3.2
ELIZ Pg **Pg 22 05 21.1 -0.1**
ELIZ Elizondo 2.70 278 Pn Pn 22 05 15.8 +3.2
0.6nm,0.3s,SNR=7.9
VIVF Saint-Julien-l 2.73 42 *e*Pg Pg 22 05 22.0 +0.4
VIVF *e*Sg **Sg 22 05 57.8 +0.9**
8.9nm,0.2s
VIVF Saint-Julien-l 2.73 42 *e*Pg Pg 22 05 22.0 +0.4
VIVF *e*Sg **Sg 22 05 57.8 +0.9**
4.4nm,0.2s
SMRF Simiane la Rot 2.75 65 *e*Pg Pg 22 05 22.5 +0.3
SMRF *e*Sn **Sn 22 05 46.9 +0.4**
SMRF *e*Sg **Sg 22 05 59.1 +1.2**
5.2nm,0.4s
SMRF Simiane la Rot 2.75 65 *e*Pn Pn 22 05 14.6 +1.3
SMRF *e*Pg **Pg 22 05 22.5 +0.3**
SMRF *e*Sn **Sn 22 05 46.9 +0.4**
SMRF *e*Sg **Sg 22 05 59.1 +1.2**
SMRF Simiane la Rot 2.75 65 *e*Pg Pg 22 05 22.5 +0.3
SMRF *e*Sn **Sn 22 05 46.9 +0.4**
SMRF *e*Sg **Sg 22 05 59.1 +1.2**
2.6nm,0.4s
PYM Petit Puy Mans 2.97 12 Pg Pg 22 05 27.5 +1.2
EMOS Mosqueruela 3.15 219 Pn Pn 22 05 20.3 +1.5
0.2nm,0.1s,SNR=7.9
EMOS Pg **Pg 22 05 29.3 -0.5**
0.1nm,0.1s,SNR=7.9
EMOS Sn **Sn 22 05 55.3 -1.1**
0.1nm,0.1s,SNR=4.0
EMOS Lg 22 06 08.3
2.0nm,0.3s,SNR=4.0
EMOS Mosqueruela 3.15 219 Pn Pn 22 05 20.3 +1.5
EMOS Pg **Pg 22 05 29.3 -0.5**
EMOS Sn **Sn 22 05 56.8 +0.4**
EMOS Lg 22 06 08.3
EMOS Mosqueruela 3.15 219 Pn Pn 22 05 20.3 +1.5
0.2nm,0.1s,SNR=7.9
EMOS Mosqueruela 3.15 219 Pg Pg 22 05 29.3 -0.5
0.1nm,0.1s,SNR=7.9
EMOS Sn **Sn 22 05 56.8 +0.4**
0.1nm,0.1s,SNR=4.0
LMR La Mourre 3.25 80 *e*Pg Pg 22 05 30.7 -0.9
LMR *e*Sn **Sn 22 05 58.0 -0.7**
LMR *e*Sg **Sg 22 06 13.5 -0.1**
3.8nm,0.4s
LMR La Mourre 3.25 80 *e*Pn Pn 22 05 20.3 +0.2
LMR *e*Pg **Pg 22 05 30.7 -0.9**
LMR *e*Sn **Sn 22 05 58.0 -0.7**
LMR *e*Sg **Sg 22 06 13.5 -0.1**
LMR La Mourre 3.25 80 *e*Pg Pg 22 05 30.7 -0.9
LMR *e*Sn **Sn 22 05 58.0 -0.7**
LMR *e*Sg **Sg 22 06 13.5 -0.1**
1.9nm,0.4s
FRF La Foret Royal 3.38 76 *e*Pg Pg 22 05 33.3 -0.8
FRF *e*Sg **Sg 22 06 16.9 -1.0**
2.0nm,0.3s
FRF La Foret Royal 3.38 76 *e*Pn Pn 22 05 22.3 +0.4
FRF *e*Pg **Pg 22 05 33.3 -0.8**
FRF *e*Sg **Sg 22 06 16.9 -1.0**
FRF La Foret Royal 3.38 76 *e*Pg Pg 22 05 33.3 -0.8
FRF *e*Sg **Sg 22 06 16.9 -1.0**

1.0nm,0.3s
TCF Toulx Ste Croi 3.44 1 *e*Pg Pg 22 05 35.1 -0.2
TCF *e*Sg **Sg 22 06 19.9 0.0**
3.8nm,0.3s
TCF Toulx Ste Croi 3.44 1 *e*Pg Pg 22 05 35.1 -0.2
TCF *e*Sg **Sg 22 06 19.9 0.0**
1.9nm,0.3s
BGF Bois d'Agland 3.75 8 *e*Pg Pg 22 05 40.7 -0.5
BGF *e*Sg **Sg 22 06 29.5 -0.2**
11nm,0.4s
BGF Bois d'Agland 3.75 8 *e*Pg Pg 22 05 40.7 -0.5
BGF *e*Sg **Sg 22 06 29.5 -0.2**
5.5nm,0.4s
SMF Signal de Mont 3.99 17 *e*Pg Pg 22 05 44.9 -0.9
SMF *e*Sg **Sg 22 06 37.4 -0.1**
4.4nm,0.4s
SMF Signal de Mont 3.99 17 *e*Pg Pg 22 05 44.9 -0.9
SMF *e*Sg **Sg 22 06 37.4 -0.1**
2.2nm,0.4s
SBF Sospel 4.00 73 *e*Pg Pg 22 05 44.7 -1.3
SBF *e*Sg **Sg 22 06 37.1 -0.8**
3.8nm,0.3s
SBF Sospel 4.00 73 *e*Pn Pn 22 05 31.5 +1.0
SBF *e*Pg **Pg 22 05 44.7 -1.3**
SBF *e*Sg **Sg 22 06 37.1 -0.8**
SBF Sospel 4.00 73 *e*Pg Pg 22 05 44.7 -1.3
SBF *e*Sg **Sg 22 06 37.1 -0.8**
1.9nm,0.3s
AVF Avril sur Loir 4.04 12 *e*Pg Pg 22 05 46.3 -0.5
AVF *e*Sg **Sg 22 06 38.9 -0.2**
2.2nm,0.3s
AVF Avril sur Loir 4.04 12 *e*Pg Pg 22 05 46.3 -0.5
AVF *e*Sg **Sg 22 06 38.9 -0.2**
1.1nm,0.3s
MFF Saint Martin d 4.09 337 *e*Pg Pg 22 05 46.9 -0.8
MFF *e*Sg **Sg 22 06 38.7 -2.0**
2.6nm,0.3s
MFF Saint Martin d 4.09 337 *e*Pg Pg 22 05 46.9 -0.8
MFF *e*Sg **Sg 22 06 38.7 -2.0**
1.3nm,0.3s
SSF Saint Saulge 4.33 13 *e*Pg Pg 22 05 51.6 -0.7
SSF *e*Sg **Sg 22 06 48.0 -0.3**
2.8nm,0.4s
SSF Saint Saulge 4.33 13 *e*Pg Pg 22 05 51.6 -0.7
SSF *e*Sg **Sg 22 06 48.0 -0.3**
1.4nm,0.4s
HYF Humbligny 4.44 5 *e*Sn Sn 22 06 27.3 -0.8
LOR Lormes 4.59 15 *e*Pg Pg 22 05 56.4 -0.9
LOR *e*Sg **Sg 22 06 55.9 -0.8**
1.8nm,0.3s
LOR Lormes 4.59 15 *e*Pn Pn 22 05 39.7 +1.1
LOR *e*Pg **Pg 22 05 56.4 -0.9**
LOR *e*Sg **Sg 22 06 55.9 -0.8**
LOR Lormes 4.59 15 *e*Pg Pg 22 05 56.4 -0.9
LOR *e*Sg **Sg 22 06 55.9 -0.8**
0.9nm,0.3s
CABF La Chapelle 4.71 35 *e*Pg Pg 22 05 58.5 -1.0
CABF *e*Sg **Sg 22 06 59.4 -1.0**
8.0nm,0.7s
CABF La Chapelle 4.71 35 *e*Pg Pg 22 05 58.5 -1.0
CABF *e*Sg **Sg 22 06 59.4 -1.0**
4.0nm,0.7s
PGF Pioggiola 5.07 91 *e*Pn Pn 22 05 43.9 -1.3
PGF *e*Sn **Sn 22 06 40.7 -3.0**
0.9nm,0.3s
PGF Pioggiola 5.07 91 *e*Pn Pn 22 05 43.9 -1.3
PGF *e*Sn **Sn 22 06 40.7 -3.0**
0.4nm,0.3s
LDF La Druitiere 5.96 345 *e*Sg Sg 22 07 38.5 -2.2
0.5nm,0.2s
LDF La Druitiere 5.96 345 *e*Sg Sg 22 07 38.5 -2.2
0.2nm,0.2s
FLN La Foliniere 6.19 344 *e*Sg Sg 22 07 45.7 -2.4
0.9nm,0.3s
FLN La Foliniere 6.19 344 *e*Sg Sg 22 07 45.7 -2.4
0.4nm,0.3s
ROSF Rostrenen 6.67 327 *e*Pn Pn 22 06 08.0 +0.8
ROSF *e*Sn **Sn 22 07 19.7 -3.4**
0.4nm,0.3s
ROSF Rostrenen 6.67 327 *e*Pn Pn 22 06 08.0 +0.8
ROSF *e*Sn **Sn 22 07 19.7 -3.4**
0.2nm,0.3s

*ISCJB **08** 22:18:53.0±0.8, 77S±0.1×310E±02, h10km, mb3.8/4, Error ellipse: s-maj=27.1km s-min=7.3km az=63.9*
*IDC **08** 22:18:56.2±3.5, 768S×311.7E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.9/4, ML4.0/1, Error ellipse: s-maj=80.5km s-min=26.6km az=157.0*
*NEIC **08** 22:18:57.2±0.7, 748S×3084E, h10km, mb3.7/2, Error ellipse: s-maj=32.3km s-min=9.8km az=112.0*
ISC 08 22:18:57.0±0.8, 76S±01×309E±02, h10km, n9, σ1s21/13, mb3.8/4, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
LSZ	**Lusaka**	**8.09**	**199**	*e*Pn		**Pn**	**22 20 55.9**	**+1.4**
	9.4nm,0.5s							
LSZ				*e*Sn		**Sn**	**22 22 23.6**	**-2.4**
KMBO	**Kilima Mbogo**	**9.01**	**45**	Pn		**Pn**	**22 21 07.0**	**-0.2**
	1.6nm,0.3s,baz=223,slow=16,SNR=22							
KMBO				Sn		**Sn**	**22 22 48.2**	**-0.4**
	5.2nm,0.3s,baz=288,slow=23,SNR=11							
KMBO				Lg			22 23 41.0	
	6.0nm,0.3s,baz=272,slow=22,SNR=4.2							
KMBO	**Kilima Mbogo**	**9.01**	**45**	Pn		**Pn**	**22 21 07.0**	**-0.2**
KMBO				Sn		**Sn**	**22 22 48.2**	**-0.4**
KMBO				Lg			22 23 41.0	
TSUM	**Tsumeb**	**17.34**	**227**	*e*Pn		**Pn**	**22 22 54.4**	**-4.6**
	4.7nm,0.7s							
TSUM				*e*Sn		**Sn**	**22 25 55.4**	**-17**
LBTB	**Lobatse**	**18.06**	**196**	*e*Pn		**Pn**	**22 23 09.5**	**+1.6**
	2.9nm,0.6s							
TORD	**Torodi Ar. Bea**	**35.59**	**305**	P		**P**	**22 25 58.6**	**+4.1**
	1.4nm,0.7s,mb4.0,baz=106,slow=6.7,SNR=8.5							
BRTR	**Keskin Array B**	**47.14**	**3**	P		**P**	**22 27 29.6**	**+0.2**
	1.2nm,0.9s,mb3.8,baz=183,slow=9.1,SNR=5.6							
GERES	**GERESS Array B**	**58.19**	**347**	P		**P**	**22 28 50.0**	**-1.1**
	0.4nm,0.6s,mb3.6,baz=171,slow=6.8,SNR=4.2							
MKAR	**Makanchi Array**	**70.75**	**35**	P		**P**	**22 30 14.0**	**+0.7**
	0.8nm,0.8s,mb3.7,baz=242,slow=6.4,SNR=8.8							

*ISCJB **08** 22:26:20.6±0.7, 562S±0.1×1392W±02, h10km, mb4.2/4, MS3.9/12, Error ellipse: s-maj=19.3km s-min=13.4km az=22.9*
*IDC **08** 22:26:21.1±1.0, 5626S×1392.2W, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.9/13, mbtmp3.8/5, MS3.9/12, Ms1 3.9/12, ms1mx3.8/16, Error ellipse: s-maj=44.5km s-min=25.8km az=178.0*
*NEIC **08** 22:26:22.6±0.5, 5617S×1392.8W, h10km, mb4.8/4, Error ellipse: s-maj=18.2km s-min=12.2km az=183.0*
ISC 08 22:26:22.4±0.7, 562S±01×1393W±02, h10km, (h8km±2.2km); pP-P), n35, σ0s77/18, mb4.2/4, MS3.9/12, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
VNDA	**Vanda**	**29.26**	**202**	LR		LR	22 42 14.3	
	comp=Z,198nm,18.7s,MS3.8,baz=83,slow=33							
VNDA	**Vanda**	**29.26**	**202**	P		**P**	**22 32 23.9**	**-0.6**
RKT	**Rikitea**	**33.22**	**7**	*e*LR		LR	22 41 32.1	
	429nm,28.0s,baz=164							
RKT	**Rikitea**	**33.22**	**7**	*e*T			23 07 49.2	
	2.4nm,0.3s							
RPZ	**Rata Peaks**	**33.56**	**270**	LR		LR	22 43 23.9	
	comp=Z,87nm,21.3s,MS3.4,baz=310,slow=30							
TBI	**Tubuai**	**33.69**	**343**	*e*LR		LR	22 41 51.4	
	751nm,28.8s,baz=173							
URZ	**Urewera**	**33.92**	**283**	LR		LR	22 42 10.4	
	comp=Z,163nm,20.9s,MS3.7,baz=164,slow=28							
QSPA	**South Pole Qui**	**33.93**	**180**	*e*P		**P**	**22 33 07.7**	**+2.0**
	129nm,2.5s							
RAO	**Raoul Island**	**38.34**	**298**	P		**P**	**22 33 42.8**	**-0.5**
PPT	**Papeete**	**39.38**	**344**	*e*LR		LR	22 44 29.7	
	722nm,25.8s							
PPT	**Papeete**	**39.38**	**344**	LR		LR	22 46 52.0	
	comp=Z,207nm,18.6s,MS4.0,baz=177,slow=31							
TAU	**Tasmania Unive**	**47.17**	**254**	*e*P		**P**	**22 34 55.1**	**+0.1**
VNA3	**Neumayer Olymp**	**47.95**	**160**	*e*		**P**	**22 35 00.2**	**-0.9**
VNA3				*e*			22 35 05.7	
VNA3				*e*			22 35 14.3	
VNA2	**Neumayer--Watz**	**48.63**	**161**	*e*		**P**	**22 35 05.9**	**-0.5**
	baz=219,slow=7.8							
VNA2				*e*		pP	22 35 07.2	-2.3
VNA2				*e*		pP	22 35 09.7	+0.2
VNA2				*e*			22 35 11.9	
VNA2				*e*			22 35 14.7	
VNA2				*e*			22 35 19.8	
VNA1	**Neumayer--Stat**	**48.70**	**160**	*e*		**P**	**22 35 07.2**	**+0.3**
VNA1				*e*		pP	22 35 09.3	-0.7
VNA1				*e*			22 35 12.3	
SNAA	**Sanae**	**48.78**	**163**	P		**P**	**22 35 07.1**	**-0.4**
	1.5nm,0.7s,mb4.2,baz=233,slow=6.3,SNR=15							
SNAA	**Sanae**	**48.78**	**163**	*e*		**P**	**22 35 07.1**	**-0.4**
SNAA				*e*		pP	22 35 09.4	-1.3
SNAA				*e*			22 35 12.5	
SNAA	**Sanae**	**48.78**	**163**	*e*P		**P**	**22 35 07.0**	**-0.5**
	12nm,1.0s,mb4.9							
TRQA	**Tornquist**	**52.68**	**104**	P		**P**	**22 35 36.8**	**-0.1**
CFAA	**Coronel Fontan**	**54.02**	**94**	P		**P**	**22 35 46.6**	**-0.1**
	0.2nm,0.9s,baz=235,slow=8.0,SNR=4.0							
MAW	**Mawson**	**55.39**	**190**	LR		LR	22 56 03.5	
	comp=Z,137nm,21.4s,MS4.0,baz=54,slow=32							
CPUP	**Villa Florida**	**64.13**	**99**	P		**P**	**22 36 56.1**	**-0.7**
	1.2nm,0.7s,mb4.0,baz=221,slow=12,SNR=3.3							
CPUP				LR		LR	23 01 47.1	
	comp=Z,72nm,21.3s,MS3.8,baz=305,slow=33							
CPUP	**Villa Florida**	**64.13**	**99**	*e*P		**P**	**22 36 56.1**	**-0.8**
	3.2nm,0.5s,mb4.6							
LPAZ	**La Paz**	**66.13**	**84**	P		**P**	**22 37 10.7**	**+0.8**
	1.4nm,0.9s,mb4.0,baz=187,slow=4.0,SNR=6.3							
LPAZ				LR		LR	22 59 10.9	
	comp=Z,92nm,19.6s,MS4.0,baz=22,slow=30							
LPAZ	**La Paz**	**66.13**	**84**	*e*P		**P**	**22 37 11.7**	**+1.9**
	0.9nm,0.5s,mb4.1							
ASAR	**Alice Springs**	**68.94**	**259**	P		**P**	**22 37 28.0**	**+0.4**
	1.2nm,0.7s,mb4.0,baz=142,slow=6.6,SNR=7.9							
WRAB	**Tennant Creek**	**71.69**	**262**	P		**P**	**22 37 44.5**	**+0.2**
BDFB	**Brasilia**	**77.85**	**100**	LR		LR	23 12 06.3	
	comp=Z,94nm,18.4s,MS4.2,baz=288,slow=35							
JTS	**JuntasAbangare**	**80.01**	**54**	LR		LR	23 05 26.1	
	comp=Z,146nm,20.9s,MS4.3,baz=57,slow=29							
ROSC	**El Rosal**	**80.44**	**66**	LR		LR	23 07 34.5	
	comp=Z,60nm,20.4s,MS3.9,baz=191,slow=31							
LPIG	**La Paz**	**83.70**	**26**	LR		LR	23 06 55.8	
	comp=Z,82nm,19.6s,MS4.1,baz=200,slow=29							
SDV	**Santo Domingo**	**85.77**	**67**	LR		LR	23 11 34.5	
	comp=Z,52nm,18.2s,MS4.0,baz=128,slow=32							
ILAR	**Eielson Array**	**120.81**	**356**	PKP		PKPdf	22 45 14.8	0.0
	0.6nm,1.0s,baz=197,slow=2.8,SNR=4.1							
ESDC	**Sonseca Array**	**146.50**	**100**	PKPbc		PKPbc	22 46 03.4	-0.4
	0.8nm,0.6s,baz=217,slow=2.4,SNR=4.8							
MKAR	**Makanchi Array**	**152.86**	**267**	PKPbc		PKPbc	22 46 17.6	-2.1
	0.6nm,0.8s,baz=104,slow=4.1,SNR=3.6							

*IDC **08** 22:33:15.8±1.1, 144S×120.41E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/18, mbtmp3.9/7, MS3.7/3, Ms1 3.8/3, ms1mx3.2/17, Error ellipse: s-maj=56.8km s-min=19.3km az=63.0*
*ISCJB **08** 22:33:18.9±0.5, 14S±0.1×1204E±0.1, h33km, mb4.1/14, MS4.1/2, Error ellipse: s-maj=25.3km s-min=7.0km az=113.7*
*NEIC **08** 22:33:20.8±0.5, 142S×12042E, h35km, mb4.4/6, Error ellipse: s-maj=27.9km s-min=9.1km az=56.0*
*BJI **08** 22:33:20.6, 121S×121.11E, h35km, mb4.3*
ISC 08 22:33:21.1±0.5, 15S±01×1204E±01, h35km, n28, σ1s26/26, mb4.1/14, MS4.1/2, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KKM	**Kota Kinabalu**	**8.57**	**331**	*e*Pn		**Pn**	**22 35 20.6**	**-1.9**
KKM				*e*Sn		**Sn**	**22 36 59.6**	**+1.6**
FITZ	**Fitzroy Crossi**	**17.30**	**163**	LR		LR	22 45 01.6	
	comp=Z,82nm,19.3s,baz=350,slow=41							
WRAB	**Tennant Creek**	**22.85**	**144**	*e*P		**P**	**22 38 20.4**	**-0.8**
	26nm,1.2s,mb4.5							
WRA	**Warramunga Arr**	**22.85**	**144**	P		**P**	**22 38 20.2**	**-1.0**
	13nm,1.2s,mb4.2,baz=330,slow=9.5,SNR=11							
ASAR	**Alice Springs**	**25.64**	**150**	P		**P**	**22 38 48.1**	**+0.7**
	1.1nm,0.8s,mb3.4,baz=319,slow=5.5,SNR=5.2							
CTAO	**Charters Tower**	**31.30**	**128**	P		**P**	**22 39 38.2**	**+0.3**
NWAO	**Narrogin (SRO)**	**31.43**	**185**	P		**P**	**22 39 44.4**	**+5.5**
STKA	**Stephens Creek**	**36.24**	**149**	*e*P		**P**	**22 40 23.1**	**+2.3**
XAN	**Xi'an**	**36.94**	**344**	P		**P**	**22 40 28.6**	**+1.9**
XAN				AP		pP	22 40 36.6	-0.3
XAN				XP		sP	22 40 40.7	-0.4
XAN				AMB		AMB		
	comp=Z,3.0nm,1.1s,mb4.0							
HNR	**Honiara**	**40.10**	**103**	*e*P		**P**	**22 40 53.2**	**0.0**
MJAR	**Matsushiro Arr**	**41.28**	**22**	P		**P**	**22 41 02.2**	**-0.8**
	comp=Z,3.9nm,0.9s,mb4.0,baz=196,slow=9.6,SNR=6.8							
LSA	**Lhasa**	**41.74**	**320**	*e*P		**P**	**22 41 05.1**	**-1.6**
	comp=Z,3.1nm,0.6s,mb4.1							
ULN	**Ulaanbaatar**	**50.50**	**348**	*e*P		**P**	**22 42 17.3**	**+1.6**
	comp=Z,2.9nm,0.8s,mb4.3							
SONM	**Songino Array**	**50.61**	**348**	P		**P**	**22 42 17.8**	**+1.3**
	comp=Z,2.3nm,0.7s,mb4.2,baz=163,slow=8.2,SNR=28							
WMQ	**Sumqi**	**53.76**	**331**	*e*P		**P**	**22 42 44.0**	**+4.1**
MKAR	**Makanchi Array**	**58.55**	**330**	P		**P**	**22 43 14.4**	**+0.3**
	comp=Z,1.1nm,0.6s,mb4.1,baz=129,slow=9.5,SNR=8.8							
AAK	**Ala-Archa**	**60.27**	**322**	*e*P		**P**	**22 43 26.7**	**+0.7**
KURK	**Kurchatov**	**63.00**	**332**	*e*P		**P**	**22 43 43.3**	**-1.0**
	comp=Z,9.3nm,1.1s,mb4.8							
BVAR	**Borovoye Array**	**68.44**	**330**	P		**P**	**22 44 19.0**	**-0.4**
	comp=Z,0.5nm,0.4s,mb3.9,baz=174,slow=6.7,SNR=4.2							
BRVK	**Borovoye**	**68.51**	**330**	*e*P		**P**	**22 44 19.6**	**-0.3**
	comp=Z,1.3nm,0.5s,mb4.1							
ZRNK	**Zerenda**	**69.09**	**330**	*e*P		**P**	**22 44 20.5**	**-3.0**
	comp=Z,3.7nm,1.0s,mb4.3							
AKTK	**Aktyubinsk**	**73.95**	**324**	P		**P**	**22 44 51.2**	**-1.5**
AKTO	**Aktyubinsk**	**73.95**	**324**	P		**P**	**22 44 51.2**	**-1.5**
	comp=Z,0.6nm,0.6s,mb3.7,baz=129,slow=12,SNR=2.5							
MALT	**Malatya**	**84.62**	**309**	*e*P		**P**	**22 45 51.2**	**+0.3**
OBN	**Obninsk**	**87.67**	**325**	P		**P**	**22 46 05.7**	**-0.3**
ILAR	**Eielson Array**	**92.48**	**25**	LR		LR	23 29 03.2	
	comp=Z,78nm,18.1s,MS4.2,baz=2.3,slow=36							
LBTB	**Lobatse**	**93.76**	**245**	P		**P**	**22 46 36.0**	**+1.6**
SNAA	**Sanae**	**98.58**	**196**	LR		LR	23 26 09.7	
	comp=Z,48nm,19.2s,MS4.0,baz=189,slow=32							

*IDC **08** 22:36:28.8±3.4, 1002N×9199E, h0km, mb4.1/6, mb1 4.3/6, mb1mx3.9/19, mbtmp4.1/6, Error ellipse: s-maj=138.9km s-min=22.4km az=66.0*
*ISCJB **08** 22:36:32.5±0.9, 10.1N±0.1×922E±0.2, h33km, mb4.2/8, Error ellipse: s-maj=29.7km s-min=11.7km az=137.0*
*NEIC **08** 22:36:33.8±0.6, 1008N×9209E, h30km, mb4.4/2, Error ellipse: s-maj=19.2km s-min=7.6km az=69.0*
ISC 08 22:36:34.7±0.9, 101N±01×921E±02, h35km, n14, σ0s31/14, mb4.2/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KULM	**Kulim**	**9.74**	**119**	*e*P		**Pn**	**22 38 47.7**	**-4.6**
CHTO	**Chiang Mai**	**10.91**	**37**	P		**Pn**	**22 39 08.2**	**0.0**
	3.8nm,0.8s							
MKAR	**Makanchi Array**	**37.50**	**349**	P		**P**	**22 43 44.9**	**-0.2**
	1.3nm,0.8s,mb3.7,baz=160,slow=7.8,SNR=3.9							
SONM	**Songino Array**	**39.50**	**15**	P		**P**	**22 44 02.2**	**+0.4**
	0.8nm,0.8s,mb3.5,baz=194,slow=5.5,SNR=3.8							
MBWA	**Marble Bar**	**41.27**	**139**	*e*P		**P**	**22 44 16.9**	**+0.5**
FITZ	**Fitzroy Crossi**	**43.39**	**130**	P		**P**	**22 44 33.9**	**+0.2**
	6.6nm,0.8s,mb4.4,baz=301,slow=6.6,SNR=8.7							
BRVK	**Borovoye**	**46.31**	**342**	*e*P		**P**	**22 44 57.1**	**+0.2**
	1.2nm,0.7s,mb3.9							
ZRNK	**Zerenda**	**46.62**	**341**	*e*P		**P**	**22 44 59.2**	**-0.2**
WRA	**Warramunga Arr**	**51.20**	**126**	P		**P**	**22 45 34.2**	**-0.3**
	4.5nm,0.6s,mb4.6,baz=306,slow=8.6,SNR=27							
WRAB	**Tennant Creek**	**51.20**	**126**	*e*P		**P**	**22 45 34.4**	**-0.1**
	6.9nm,0.5s,mb4.8							
WB2	**Warramunga Arr**	**51.21**	**126**	*e*P		**P**	**22 45 34.4**	**-0.2**
ASAR	**Alice Springs**	**52.89**	**130**	P		**P**	**22 45 47.4**	**+0.3**
	2.0nm,0.6s,mb4.3,baz=303,slow=6.8,SNR=24							
**STKA

mb1 3.8/7, mb1mx3.5/19, mbtmp4.2/7, Error ellipse: s-maj=46.8km s-min=26.3km az=51.0
*UCR **08** 22:59:27.2, 1130N×88.15W, h197km, MD4.6*
*CASC **08** 22:59:27.3±3.4, 1209N×8791W, h29km±10km, MD4.1, ML4.0, mb4.0(NEIC)*
*INET **08** 22:59:28.5, 1278N×8735W, h115km, ML4.0*
*SSS **08** 22:59:45.1, 1226N×8776W, h84km, MD3.8*

ISC 08 22:59:25.1±0.6, 1280N±009×875W±01, h141km±4km, n50, σ1§08/54, mb3.9/9, 14C-8D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.47**	**102**	*e*P	**Pn**	**22 59 45.4**	**+0.1**
CRIN				*e*S	**Sn**	**23 00 02.5**	**+1.9**
CNCH	**Conchagua**	**0.56**	**327**	*e*P	Px	23 00 04.9	
CNCH				*e*S	Sx	23 00 20.3	
TEL3	**Telica 3**	**0.70**	**109**	*e*P	**Pn**	**22 59 46.1**	**-0.5**
TEL3				*e*S	**Sn**	**23 00 02.4**	**-0.7**
TELN	**Telica**	**0.70**	**106**	*e*P	**Pn**	**22 59 45.9**	**-0.7**
LEON	**Leon**	**0.72**	**122**	*e*P	**Pn**	**22 59 46.0**	**-0.8**
CNGN	**Cerro Negro**	**0.86**	**110**	*e*P	**Pn**	**22 59 47.1**	**-0.7**
CNGN				*e*S	**Sn**	**23 00 05.8**	**+0.8**
MIRN	**Miramar**	**0.87**	**114**	*i*P	**Pn**	**22 59 47.5**	**-0.4**
MIRN				*e*S	**Sn**	**23 00 06.0**	**+0.7**
BLLM	**Bellamira**	**0.95**	**312**	*e*P	Px	23 00 07.7	
BLLM				*e*S	Sx	23 00 26.2	
MOMJ	**Momotombo**	**1.03**	**112**	*e*P	**Pn**	**22 59 48.6**	**-0.7**
COPN	**Copaltepe**	**1.10**	**124**	*e*P	**Pn**	**22 59 49.3**	**-0.6**
COPN				*e*S	**Sn**	**23 00 06.0**	**-2.8**
APYN	**Apoyeque**	**1.27**	**116**	*e*P	**Pn**	**22 59 51.4**	**-0.3**
APYN				*e*S	**Sn**	**23 00 11.9**	**+0.1**
XAVN	**Gruta Xavier**	**1.33**	**119**	*e*P	**Pn**	**22 59 51.9**	**-0.3**
XAVN				*e*S	**Sn**	**23 00 15.3**	**+2.3**
TISN	**Laguna Tiscapa**	**1.39**	**118**	*e*P	**Pn**	**22 59 52.3**	**-0.4**
TISN				*e*S	**Sn**	**23 00 12.7**	**-1.2**
MGAN	**Managua**	**1.40**	**117**	*e*P	**Pn**	**22 59 52.5**	**-0.5**
MGAN				*e*S	**Sn**	**23 00 14.6**	**+0.3**
MGAN				*i*		23 00 17.4	
	comp=E,2μm,0.4s						
TICN	**Ticuantepe**	**1.47**	**121**	*e*P	**Pn**	**22 59 53.7**	**0.0**
TICN				*e*S	**Sn**	**23 00 15.8**	**+0.3**
SNVI	**San Vicente**	**1.52**	**302**	*e*P	Px	23 00 13.8	
SNVI				*e*S	Sx	23 00 36.0	
LCBS	**La Ceiba**	**1.65**	**301**	*e*P	Px	23 00 15.2	
LCBS				*e*S	Sx	23 00 41.0	
APON	**Apoyo**	**1.67**	**122**	*e*P	**Pn**	**22 59 56.1**	**+0.3**
APON				*e*S	**Sn**	**23 00 20.2**	**+0.8**
LFRS	**El Faro**	**1.71**	**299**	*e*P	Px	23 00 15.8	
LFRS				*e*S	Sx	23 00 39.3	
LBRS	**Las Brisas**	**1.75**	**302**	*e*P	Px	23 00 16.8	
LBRS				*e*S	Sx	23 00 42.0	
BOQS	**Boqueron**	**1.95**	**299**	*e*P	Px	23 00 19.9	
BOQS				*e*S	Sx	23 00 46.7	
SSNN	**San Juan del S**	**2.22**	**132**	*e*S	**Sn**	**23 00 29.5**	**-1.5**
CONN	**Concepcion**	**2.22**	**123**	*e*P	**Pn**	**23 00 02.5**	**+0.1**
SNJE	**San Jose**	**2.29**	**298**	*e*P	Px	23 00 23.6	
SNJE				*e*S	Sx	23 00 53.5	
SBLS	**San Blas**	**2.29**	**297**	*e*P	Px	23 00 23.9	
SBLS				*e*S	Sx	23 00 54.0	
RTR	**El Retiro**	**2.34**	**298**	*e*P	Px	23 00 24.8	
RTR				*e*S	Sx	23 00 55.4	
VCR	**Vista de Mar**	**3.24**	**145**	*e*P	**Pn**	**23 00 15.8**	**+0.6**
VCR				*e*S	**Sn**	**23 00 49.0**	**-4.9**
JTS	**JuntasAbangare**	**3.54**	**134**	P	**Pn**	**23 00 20.0**	**+0.9**
	comp=E,25nm,0.3s,baz=326,slow=14,SNR=50						
JTS				S	**Sn**	**23 00 57.9**	**-3.1**
	comp=E,19nm,0.3s,baz=304,slow=19,SNR=6.2						
CAO	**Cobano**	**3.89**	**142**	*e*P	**Pn**	**23 00 24.2**	**+0.6**
CAO				*e*S	**Sn**	**23 01 04.0**	**-5.0**
CGA2	**Cerro Gallo 2**	**4.08**	**132**	*e*P	**Pn**	**23 00 28.9**	**+2.8**
CGA2				*e*S	**Sn**	**23 01 12.0**	**-1.5**
PRS1	**Puriscal**	**4.21**	**131**	*e*P	**Pn**	**23 00 29.3**	**+1.4**
URSC	**Urasca**	**4.71**	**128**	*e*P	**Pn**	**23 00 37.8**	**+3.3**
BUS	**Buena Vista**	**4.90**	**131**	*e*P	**Pn**	**23 00 39.0**	**+1.9**
SDV	**Santo Domingo**	**17.03**	**102**	P	**Pn**	**23 03 15.0**	**+0.2**
	comp=E,0.7nm,0.3s,baz=15,slow=4.6,SNR=7.4						
SDV	**Santo Domingo**	**17.03**	**102**	*e*P	**Pn**	**23 03 15.7**	**+0.9**
	comp=E,5.1nm,0.6s						
NATX	**Nacogdoches**	**19.98**	**342**	*e*P	**P**	**23 03 46.5**	**+0.1**
	comp=E,14nm,0.4s						
LTX	**Lajitas**	**22.26**	**320**	*e*P	**P**	**23 04 11.8**	**+1.2**
	comp=E,1.4nm,0.5s,mb3.6						
MIAR	**Mount Ida**	**22.34**	**347**	*e*P	**P**	**23 04 11.6**	**+0.2**
	comp=E,5.5nm,0.7s,mb4.1						
CPCT	**Cooper Cave**	**22.71**	**6**	*e*P	**P**	**23 04 16.8**	**+1.8**
TZTN	**Tazewell**	**23.91**	**8**	*e*P	**P**	**23 04 26.4**	**+0.6**
WMOK	**Wichita Mounta**	**24.11**	**337**	*e*P	**P**	**23 04 27.5**	**-0.2**
	comp=E,4.7nm,0.8s,mb4.1						
TUC	**Tucson**	**28.84**	**316**	*e*P	**P**	**23 05 09.2**	**-0.9**
	comp=E,0.7nm,0.3s,mb3.9						
SADO	**Sadowa**	**32.66**	**11**	P	**P**	**23 05 42.9**	**-0.7**
	comp=E,2.0nm,0.5s,mb4.2,baz=197,slow=9.1,SNR=4.3						
PDAR	**Pinedale Array**	**35.43**	**332**	P	**P**	**23 06 08.6**	**+1.0**
	comp=E,0.8nm,0.6s,mb3.6,baz=122,slow=10,SNR=8.7						
ULM	**Lac du Bonnet**	**37.97**	**351**	P	**P**	**23 06 27.3**	**-1.7**
	comp=E,1.8nm,0.3s,mb4.2,baz=173,slow=8.7,SNR=5.5						
SCHQ	**Schefferville**	**44.97**	**17**	P	**P**	**23 07 24.9**	**-1.1**
	comp=E,4.2nm,0.6s,mb4.3,baz=217,slow=7.3,SNR=10						
SCHQ	**Schefferville**	**44.97**	**17**	P	**P**	**23 07 24.9**	**-1.1**
YKA	**Yellowknife Ar**	**53.26**	**345**	P	**P**	**23 08 27.8**	**-1.3**
	comp=E,0.6nm,0.6s,mb3.5,baz=142,slow=6.9,SNR=19						
YKA				ScP	ScP	23 13 17.1	-2.2
	comp=E,0.3nm,0.6s,baz=147,slow=4.6,SNR=9.4						
YKA	**Yellowknife Ar**	**53.26**	**345**	P	**P**	**23 08 27.8**	**-1.3**
YKA				ScP	ScP	23 13 17.1	-2.2
WRA	**Warramunga Arr**	**139.30**	**254**	PKP	PKPdf	23 18 38.0	+2.7
	comp=E,0.6nm,0.8s,baz=90,slow=2.7,SNR=4.7						

*CSEM **08** 23:06:05.6±0.1, 3782N×2769E, h14km±1km, MD3.1, Error ellipse: s-maj=3.6km s-min=2.5km az=86.0*
*ISCJB **08** 23:06:06.5±0.5, 3779N±003×2763E±004, h10km±5km, Error ellipse: s-maj=6.2km s-min=4.2km az=129.6*
*ISK **08** 23:06:06.0, 3777N×2751E, h24km, MD3.1*
*ATH **08** 23:06:14.9, 3787N×2672E, h10km, MD3.2/3*

ISC 08 23:06:06.8±0.4, 3779N±003×2764E±005, h13km±5km, n20, σ1§15/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYDN	**Tasoluk**	**0.23**	**124**	*i* P	**Pg**	**23 06 11.9**	**+0.1**
AYDN				*i* S	**Sg**	**23 06 15.2**	**+0.1**
MLSB	**Milas**	**0.51**	**168**	PG	**Pg**	**23 06 16.7**	**-0.1**
SMG	**Samos**	**0.64**	**263**	*e*PG	**Pg**	**23 06 18.8**	**-0.5**
IZM	**Izmir**	**0.68**	**334**	PG	**Pg**	**23 06 18.7**	**-1.3**
IZM				SG	**Sg**	**23 06 29.8**	**+0.9**
KDAG	**Bornova**	**0.68**	**334**	*i* P	**Pg**	**23 06 18.9**	**-1.1**
KDAG				*i* S	**Sg**	**23 06 29.9**	**+0.9**
BDRM	**Kayabasi**	**0.74**	**192**	*i* P	**Pg**	**23 06 21.0**	**-0.2**
BDRM				*i* S	**Sg**	**23 06 33.2**	**+2.3**
BODT	**Bodrum**	**0.77**	**200**	PG	**Pg**	**23 06 21.3**	**-0.5**
YER	**Yerkesik**	**0.83**	**142**	PG	**Pg**	**23 06 23.3**	**+0.4**
MANT	**Manisa**	**1.00**	**46**	*i* P	**Pb**	**23 06 24.9**	**-1.1**
MANT				*i* S	**Sb**	**23 06 38.6**	**-0.6**
AKS	**Akhisar**	**1.09**	**7**	PN	**Pn**	**23 06 26.4**	**-1.4**
DENT	**Denizli**	**1.10**	**91**	PN	**Pn**	**23 06 27.6**	**-0.3**
DALT	**Dalyan (Mudla)**	**1.29**	**142**	*e*PN	**Pn**	**23 06 30.3**	**-0.2**
KHL	**Karahalli**	**1.58**	**70**	*e*PN	**Pn**	**23 06 35.4**	**+0.9**
AYVA	**Ayvalik**	**1.69**	**334**	*i* P	**Pn**	**23 06 33.1**	**-2.9**
AYVA				*i* S	**Sn**	**23 06 59.9**	**+2.4**
PRK	**Paraskevi**	**1.81**	**324**	*e*PB	**Pb**	**23 06 41.6**	**+1.9**
APE	**Apeiranthos**	**1.83**	**247**	*e*PB	**Pb**	**23 06 38.2**	**-1.9**
GDZ	**Gediz**	**1.94**	**48**	*i* P	**Pn**	**23 06 42.9**	**+3.4**
GDZ				*i* S	**Sn**	**23 07 12.1**	**+8.4**
DST	**Dursunbey**	**1.97**	**23**	*e*PN	**Pn**	**23 06 40.4**	**+0.6**
ALT	**Altintas**	**2.31**	**56**	*e*PN	**Pn**	**23 06 45.3**	**+0.7**
KCT	**Karacabey**	**2.53**	**12**	*e*PN	**Pn**	**23 06 47.2**	**-0.4**

*ISCJB **08** 23:19:08.5±0.5, 5159N±003×693E±005, h0km, Error ellipse: s-maj=5.1km s-min=3.3km az=90.3*
*LDG **08** 23:19:09.5±0.3, 5169N×694E, h1km, Ml2.6/2, Error ellipse: s-maj=7.3km s-min=3.8km az=179.0, Suspected Mining induced.*
*NEIC **08** 23:19:09.5, 5169N×694E, h1km, ML2.6(LDG), After LDG.*
*BNS **08** 23:19:09.7±0.5, 5167N×700E, h1km, ML1.6*
*BGR **08** 23:19:10.7±0.7, 5157N×698E, h1km, ML1.8/2, Error ellipse: s-maj=11.1km s-min=4.4km az=115.0*
*CSEM **08** 23:19:10.3±0.1, 5163N×688E, h1km, ML1.8/2, Error ellipse: s-maj=2.4km s-min=1.4km az=94.0*

ISC 08 23:19:09.4±0.5, 5162N±003×694E±005, h0km, n38, σ1§25/56, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAUG	**Laupendahl**	**0.27**	**179**	*e*Pg	**Pg**	**23 19 15.6**	**+1.0**
BUG	**Bochum--Univer**	**0.28**	**131**	*e*Pg	**Pg**	**23 19 15.5**	**+0.8**
	SNR=8.3						
WTSB	**Winterswijk**	**0.36**	**346**	*e*Pg	**Pg**	**23 19 17.8**	**+1.6**
WTSB	**Winterswijk**	**0.36**	**346**	*e*Pg	**Pg**	**23 19 17.8**	**+1.6**
BNS	**Bensberg**	**0.68**	**167**	*e*Pg	**Pg**	**23 19 23.3**	**+0.9**
IBBN	**Ibbenburen**	**0.85**	**36**	*e*Pg	**Pg**	**23 19 27.4**	**+1.6**
	SNR=2.0						
IBBN				*e*Sg	**Sg**	**23 19 38.4**	**+1.6**
	SNR=1.5						
STB	**Steinbach**	**1.03**	**183**	*e*Pg	**Pg**	**23 19 30.0**	**+0.8**
STB				*e*Sg	**Sg**	**23 19 45.0**	**+2.4**
	15nm,0.3s						
KLL	**Kalltalsperre**	**1.05**	**202**	*e*Pg	**Pg**	**23 19 30.6**	**+1.0**
KLL	**Kalltalsperre**	**1.05**	**202**	Pg	**Pg**	**23 19 30.5**	**+0.9**
HGN	**Heimansgroeve**	**1.07**	**217**	*e*Pn	**Pn**	**23 19 30.9**	**-0.7**
HGN				*e*Pg	**Pg**	**23 19 31.5**	**+1.7**
HGN				*e*Sg	**Sg**	**23 19 45.8**	**+2.1**
BEBN	**Eben Emael**	**1.15**	**224**	P	**Pg**	**23 19 32.2**	**+0.9**
BEBN				S	**Sg**	**23 19 48.3**	**+2.1**
	comp=E,11nm,0.0s						
MEM	**Membach**	**1.17**	**210**	P	**Pg**	**23 19 32.4**	**+0.6**
MEM				E		23 19 32.8	
MEM				S	**Sg**	**23 19 48.8**	**+1.7**
	comp=E,13nm,0.0s						
MEM	**Membach**	**1.17**	**210**	P	**Pg**	**23 19 32.4**	**+0.5**
MEM				S	**Sg**	**23 19 48.7**	**+1.6**
BGG	**Burgeitz**	**1.44**	**170**	*e*Pg	**Pg**	**23 19 35.8**	**-1.2**
TNS	**Taunus Mts**	**1.70**	**145**	*e*Pg	**Pg**	**23 19 41.1**	**-0.8**
	SNR=2.0						
TNS				*e*Sg	**Sg**	**23 20 04.1**	**+0.2**
	SNR=1.7						
WLF	**Walferdange**	**2.02**	**195**	*e*Sg	**Sg**	**23 20 13.1**	**-1.3**
	SNR=1.5						
WLF	**Walferdange**	**2.02**	**195**	P	**Pn**	**23 19 46.2**	**+1.5**
WLF				S	**Sn**	**23 20 12.8**	**+2.1**
	comp=Z,4.2nm,0.0s						
GIVF	**Givet**	**2.03**	**222**	*e*Pg	**Pg**	**23 19 48.5**	**+0.2**
GIVF				*e*Sg	**Sg**	**23 20 14.8**	**+0.2**
	comp=Z,9.7nm,0.2s						
GIVF	**Givet**	**2.03**	**222**	*e*Pn	**Pn**	**23 19 43.5**	**-1.3**
GIVF				*e*Pg	**Pg**	**23 19 48.5**	**+0.2**
GIVF				*e*Sg	**Sg**	**23 20 14.8**	**+0.2**
GIVF	**Givet**	**2.03**	**222**	*e*Pg	**Pg**	**23 19 48.5**	**+0.2**
GIVF				*e*Sg	**Sg**	**23 20 14.8**	**+0.2**
DOU	**Dourbes**	**2.13**	**225**	P	**Pn**	**23 19 46.7**	**+0.5**
	comp=Z,2.7nm,0.0s						
DOU				S	**Sn**	**23 20 09.9**	**-3.5**
CLZ	**Clausthal**	**2.15**	**83**	*e*Sg	**Sg**	**23 20 17.8**	**-0.6**
	SNR=2.8						
BAIF	**Baives**	**2.33**	**229**	*e*Pg	**Pg**	**23 19 53.4**	**-0.7**
BAIF				*e*Sg	**Sg**	**23 20 24.4**	**0.0**
	comp=Z,2.7nm,0.2s						
BAIF	**Baives**	**2.33**	**229**	*e*Pn	**Pn**	**23 19 47.7**	**-1.3**
BAIF				*e*Pg	**Pg**	**23 19 53.4**	**-0.7**
BAIF				*e*Sg	**Sg**	**23 20 24.4**	**0.0**
BAIF	**Baives**	**2.33**	**229**	*e*Pg	**Pg**	**23 19 53.4**	**-0.7**
BAIF				*e*Sg	**Sg**	**23 20 24.4**	**0.0**
CDF	**Champ du Feu**	**3.22**	**176**	*e*Pn	**Pn**	**23 20 00.6**	**-0.6**
MEZF	**Maizieres J'vi**	**3.35**	**202**	*e*Pn	**Pn**	**23 20 01.6**	**-1.4**
BFO	**Black Forest**	**3.42**	**164**	*e*Pn	**Pn**	**23 20 03.4**	**-0.5**
	SNR=3.1						
HAU	**Haudompre**	**3.64**	**186**	*e*Pn	**Pn**	**23 20 06.1**	**-0.9**
HINF	**Hinteralfeld**	**3.81**	**181**	*e*Pn	**Pn**	**23 20 08.2**	**-1.1**
LOR	**Lormes**	**4.80**	**206**	*e*Pn	**Pn**	**23 20 21.8**	**-1.1**
SSF	**Saint Saulge**	**5.09**	**208**	*e*Pn	**Pn**	**23 20 25.7**	**-1.1**
HYF	**Humbligny**	**5.18**	**214**	*e*Pn	**Pn**	**23 20 27.3**	**-0.9**
AVF	**Avril sur Loir**	**5.38**	**207**	*e*Pn	**Pn**	**23 20 29.0**	**-1.8**
SMF	**Signal de Mont**	**5.38**	**203**	*e*Pn	**Pn**	**23 20 29.4**	**-1.5**
FLN	**La Foliniere**	**5.56**	**242**	*e*Pn	**Pn**	**23 20 32.3**	**-1.0**
BGF	**Bois d'Agland**	**5.74**	**210**	*e*Pn	**Pn**	**23 20 34.2**	**-1.6**
MFF	**Saint Martin d**	**6.84**	**226**	*e*Pn	**Pn**	**23 20 49.2**	**-1.8**

*IDC **08** 23:27:45.3±2.6, 3167S×17853W, h0km, mb4.0/2, mb1 4.3/4, mb1mx3.9/14, mbtmp4.1/4, ML4.0/2, Error ellipse: s-maj=67.0km s-min=23.6km az=120.0*
*NEIC **08** 23:27:45.7±1.0, 3174S×17835W, h10km, mb4.2/2, Error ellipse: s-maj=28.2km s-min=11.6km az=111.0*
*ISCJB **08** 23:27:46.8±1.2, 3190S±007×1784W±03, h33km, mb4.0/4, Error ellipse: s-maj=32.3km s-min=5.8km az=30.1*

ISC 08 23:27:49.1±1.2, 3185S±007×1783W±03, h35km, n20, σ0§89/21, mb4.0/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.62**	**8**	Pn	**Pn**	**23 28 27.6**	**-1.2**
	51nm,0.3s,baz=63,slow=21,SNR=3.1						
RAO				Sn	**Sn**	**23 28 58.9**	**-0.4**
	61nm,0.3s,baz=54,slow=22,SNR=5.0						
RAO	**Raoul Island**	**2.62**	**8**	Pn	**Pn**	**23 28 27.6**	**-1.2**
RAO				Sn	**Sn**	**23 28 58.9**	**-0.4**
MIKZ	**Matakaoa Point**	**6.34**	**205**	*e*PN	**Pn**	**23 29 20.4**	**+0.5**
PUZ	**Puketiti**	**6.81**	**203**	*e*PN	**Pn**	**23 29 26.5**	**0.0**
PUZ				SN	**Sn**	**23 30 41.4**	**-1.3**
MWZ	**Matawai**	**7.31**	**207**	*e*PN	**Pn**	**23 29 34.7**	**+1.5**
URZ	**Urewera**	**7.41**	**209**	Pn	**Pn**	**23 29 36.0**	**+1.4**
	1.5nm,0.3s,baz=45,slow=4.3,SNR=8.1						
URZ				Sn	**Sn**	**23 30 55.8**	**-1.6**
	1.0nm,0.3s,baz=287,slow=19,SNR=6.6						
URZ	**Urewera**	**7.41**	**209**	*e*PN	**Pn**	**23 29 34.1**	**-0.5**
TIWZ	**Tintock**	**10.05**	**206**	SN	**Sn**	**23 31 55.8**	**-6.6**
KIW	**Kapiti Island**	**10.51**	**209**	SN	**Sn**	**23 32 06.4**	**-7.2**
TCW	**Tory Channel**	**11.07**	**210**	SN	**Sn**	**23 32 19.8**	**-7.5**
LTZ	**Lake Taylor**	**13.22**	**212**	SN	**Sn**	**23 33 08.0**	**-12**
MQZ	**McQueen's Vall**	**13.81**	**208**	SN	**Sn**	**23 33 20.6**	**-14**
ASAR	**Alice Springs**	**42.78**	**269**	P	**P**	**23 35 43.5**	**+0.3**
	0.5nm,0.8s,mb3.7,baz=106,slow=7.6,SNR=9.9						
WRAB	**Tennant Creek**	**43.89**	**274**	*e*P	**P**	**23 35 52.4**	**+0.3**
	3.0nm,0.4s,mb4.4						
WRA	**Warramunga Arr**	**43.90**	**274**	P	**P**	**23 35 52.3**	**+0.1**
	2.0nm,0.5s,mb4.2,baz=113,slow=7.8,SNR=9.8						
CASY	**Casey**	**53.73**	**208**	*e*P	**P**	**23 37 08.4**	**+0.8**
	0.9nm,0.5s,mb4.0						
MBWA	**Marble Bar**	**55.80**	**265**	P	**P**	**23 37 23.2**	**+0.5**
KEV	**Kevo**	**139.47**	**347**	*e*pkp	PKPdf	23 47 17.7	+5.0
	6.4nm,0.8s						
KAF	**Kangasniemi**	**145.82**	**340**	*e*pkp	PKPdf	23 47 22.3	-1.6
	0.4nm,0.3s,baz=35,slow=3.0						
FINES	**FINESS Array B**	**146.41**	**339**	PKPbc	PKPbc	23 47 25.4	-0.9
	0.5nm,0.5s,baz=48,slow=3.3,SNR=7.9						

*ISCJB **08** 23:36:33.9±0.6, 1790S±007×16747E±009, h10km, mb4.3/10, MS3.3/3, Error ellipse: s-maj=13.4km s-min=8.8km az=50.8*
*IDC **08** 23:36:33.2±1.3, 1778S×16755E, h0km, mb4.2/6, mb1 4.3/7, mb1mx4.1/14, mbtmp4.1/7, ML3.3/1, MS3.4/5, Ms1 3.4/5, ms1mx3.0/20, Error ellipse: s-maj=33.0km s-min=25.9km az=107.0*
*NEIC **08** 23:36:40.5±0.6, 1799S×16730E, h35km, mb4.4/3, Error ellipse: s-maj=20.7km s-min=13.5km az=94.0*

ISC 08 23:36:35.3±2.6, 1788S±007×1675E±01, h10km±18km, n21, σ0§97/13, mb4.3/10, MS3.3/3, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**0.70**	**73**	*i*P	**Pg**	**23 36 48.5**	**-0.3**
DZM	**Mont Dzumac**	**4.30**	**194**	Pn	**Pn**	**23 37 41.4**	**+0.7**
	1.4nm,0.3s,baz=48,slow=0.2,SNR=4.6						
DZM				Sn	**Sn**	**23 38 29.9**	**-1.0**
	4.5nm,0.3s,baz=56,slow=0.1,SNR=10						
DZM				LR	LR	23 39 06.7	
	comp=Z,547nm,19.3s,baz=315,slow=35						
HNR	**Honiara**	**11.18**	**318**	LR	LR	23 42 57.8	
	comp=Z,104nm,20.9s,baz=358,slow=35						
CTA	**Charters Tower**	**20.25**	**260**	LR	LR	23 47 04.8	
	comp=Z,148nm,21.2s,MS3.3,baz=51,slow=31						
PMG	**Port Moresby**	**21.51**	**290**	LR	LR	23 47 53.9	
	comp=Z,68nm,19.4s,MS3.1,baz=207,slow=32						
URZ	**Urewera**	**21.96**	**160**	P	**P**	**23 41 30.4**	**+1.1**
	11nm,0.8s,mb4.3,baz=340,slow=8.8,SNR=4.0						
STKA	**Stephens Creek**	**27.27**	**234**	P	**P**	**23 42 18.6**	**-1.1**
	5.5nm,1.0s,mb4.1,baz=64,slow=11,SNR=4.7						
STKA				LR	LR	23 52 17.3	
	comp=Z,116nm,21.9s,MS3.4,baz=26,slow=35						
WRA	**Warramunga Arr**	**31.45**	**261**	P	**P**	**23 42 56.7**	**-0.2**
	1.2nm,0.8s,mb3.8,baz=91,slow=8.9,SNR=5.7						
ASAR	**Alice Springs**	**31.93**	**254**	P	**P**	**23 43 01.5**	**+0.4**
	2.0nm,0.8s,mb4.0,baz=78,slow=9.2,SNR=18						
NWAO	**Narrogin (SRO)**	**47.42**	**242**	*e*P	**P**	**23 45 09.8**	**-0.1**
	1.4nm,0.6s,mb4.1						
QSPA	**South Pole Qui**	**72.17**	**180**	*e*P	**P**	**23 48 01.0**	**+0.8**
	6.2nm,1.0s,mb4.5						
ULN	**Ulaanbaatar**	**84.82**	**324**	*e*P	**P**	**23 49 11.5**	**+1.5**
	3.1nm,1.0s,mb4.4						
SONM	**Songino Array**	**85.17**	**324**	P	**P**	**23 49 12.4**	**+0.6**
	1.9nm,0.9s,mb4.2,baz=128,slow=4.4,SNR=12						
BILL	**Bilibino**	**85.68**	**360**	*e*P	**P**	**23 49 13.8**	**-0.6**
	19nm,1.2s,mb5.2						
ILAR	**Eielson Array**	**89.43**	**18**	P	**P**	**23 49 29.9**	**-2.5**
	0.9nm,0.7s,mb4.2,baz=236,slow=5.2,SNR=9.6						
BAIF	**Baives**	**145.22**	**341**	*e*PKP1	PKPbc	23 56 13.2	+0.4
	36nm,1.4s						
BFO	**Black Forest**	**145.23**	**335**	*e*PKPbc	PKPbc	23 56 13.5	+0.6
CDF	**Champ du Feu**	**145.57**	**337**	*e*PKP1	PKPbc	23 56 14.6	+0.7
	26nm,1.2s						
FLN	**La Foliniere**	**147.69**	**345**	*e*PKP1	PKPbc	23 56 20.1	0.0
LOR	**Lormes**	**147.77**	**339**	*e*PKP1	PKPbc	23 56 20.8	+0.5
	17nm,1.1s						
SSF	**Saint Saulge**	**148.06**	**339**	*e*PKP1	PKPbc	23 56 21.6	+0.5
	9.2nm,0.9s						

BJI 08 23:40:56.3, 3233N×10163E, h20km, ML3.6, Ms3.4, Msz3.3, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.30**	**127**	P	Pn	23 41 31.0	-2.1
CD2				PG	Pn	23 41 38.2	+5.1
CD2				SG	Sn	23 42 09.8	+9.0
CD2				Smax			
	comp=N,464nm,1.0s						
CD2				Smax			
	comp=E,921nm,1.2s						
LZH	**Lanzhou**	**4.17**	**25**	P	Pn	23 42 01.9	+3.1
LZH				PG	Pn	23 42 12.9	+14
LZH				S	Sn	23 42 58.1	+11
LZH				SG	Sn	23 43 10.0	+23
LZH				Smax			
	comp=N,93nm,0.9s						
LZH				Smax			
	comp=E,102nm,0.8s						
LZH				LR	LR		
	comp=E,498nm,5.6s						
LZH				LR	LR		
	comp=Z,468nm,6.2s						
XAN	**Xi'an**	**6.35**	**72**	P	Pn	23 42 29.9	+1.2

*ISCJB **09** 00:12:40.9±0.9, 365S±006×101.18E±006, h41km±7km, mb4.6/51, MS3.8/9, Error ellipse: s-maj=11.8km s-min=6.7km az=81.9*
*NEIC **09** 00:12:41.7±0.4, 362S×101.25E, h30km, mb4.8/13, Error ellipse: s-maj=15.8km s-min=6.5km az=49.0*
NEIC Felt [III] at Argamakmur.
*MOS **09** 00:12:41.4±1.3, 333S×101.46E, h33km, mb4.8/18, Error ellipse: s-maj=16.4km s-min=7.0km az=112.8*
*BJI **09** 00:12:41.7, 360S×101.30E, h30km, mB5.1, mb4.8, Ms4.3, Msz3.9*
*IDC **09** 00:12:44.0±0.7, 337S×101.56E, h44km±6km, mb4.3/14, mb1 4.4/15, mb1mx4.2/20, mbtmp4.5/15, ML4.0/1, MS3.7/6, Ms1 3.7/6, ms1mx3.2/26, Error ellipse: s-maj=30.6km s-min=10.1km az=51.0*

ISC 09 00:12:43.5±0.9, 362S±006×10122E±006, h43km±7km, h43km±2.3km:pP-P, n94, σ1§28/93, mb4.6/51, MS3.8/9, 7C-5D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.37**	**91**	P	**Pn**	**00 13 05.5**	**-0.7**
	2μm,0.8s						
PPI	**Padang Panjang**	**3.25**	**345**	P	**Pn**	**00 13 32.4**	**+0.5**
	294nm,1.0s						
PSI	**Prapat**	**6.78**	**340**	P	**Pn**	**00 14 19.9**	**-0.5**
	3.3nm,0.3s,baz=150,slow=13,SNR=19						
PSI				S	**Sn**	**00 15 45.8**	**+10**
	1.2nm,0.3s,baz=170,slow=17,SNR=3.2						
PSI				LR	LR	00

comp=N,51nm,22.0s,MS3.4
SSE LR LR

comp=E,26nm,22.0s,MS3.4
SSE LR LR

comp=Z,47nm,21.0s,MS3.3
GTA Gaotai 42.84 358 P **P** **00 20 38.0 +0.8**
GTA AP pP 00 20 45.1 -4.1
GTA XP sP 00 20 48.0 -6.3
GTA AMB AMB

comp=Z,5.0nm,0.6s,mb4.4
CTA Charters Tower 46.82 114⇑ *i*P **P** **00 21 09.3 +0.4**
comp=Z,16nm,0.7s,mb5.0
CTA Charters Tower 46.82 114 P **P** **00 21 09.6 +0.7**
comp=Z,20nm,0.7s,mb5.2,baz=292,slow=9.4,SNR=12
CTA Charters Tower 46.82 114⇑ *i*P **P** **00 21 09.3 +0.4**
CTA pmax pmax

comp=Z,16nm,0.7s
CTAO Charters Tower 46.82 114 *e*P **P** **00 21 09.5 +0.6**
CTAO pmax pmax

comp=Z,17nm,0.6s,mb5.2
CTAO Charters Tower 46.82 114 *e*P **P** **00 21 09.4 +0.5**
comp=Z,17nm,0.6s,mb5.1
STKA Stephens Creek 47.17 131 *e*P **P** **00 21 10.9 -0.8**
comp=Z,7.6nm,0.6s,mb4.8
STKA Stephens Creek 47.17 131 P **P** **00 21 11.2 -0.5**
comp=Z,2.8nm,0.3s,mb4.6,baz=301,slow=6.6,SNR=11
STKA LR LR 00 41 11.4

comp=Z,107nm,18.6s,MS3.8,baz=0.0,slow=36
WMQ Urumqi 48.77 347 P **P** **00 21 24.5 +0.5**
SONM Songino Array 51.44 4 P **P** **00 21 44.3 +0.1**
comp=Z,7.3nm,0.7s,mb4.7,baz=187,slow=9.4,SNR=79
ULN Ulaanbaatar 51.52 5*c i*P **P** **00 21 44.6 -0.3**
CN2 Changchun 51.99 22 *e*P **P** **00 21 46.7 -1.7**
CN2 AMB AMB

comp=Z,20nm,0.7s,mb5.2
AAK Ala-Archa 52.01 335⇑ *e*P **P** **00 21 47.3 -1.2**
AAK pmax pmax

comp=Z,1.0nm,0.5s,mb4.0
MJAR Matsushiro Arr 52.78 37 P **P** **00 21 52.5 -1.7**
comp=Z,2.6nm,0.6s,mb4.3,baz=220,slow=7.9,SNR=5.1
MK31 Makanchi Array 52.91 344 P **P** **00 21 54.5 -0.6**
MK31 pmax pmax

comp=Z,9.0nm,0.9s,mb4.7
MKAR Makanchi Array 52.91 344 P **P** **00 21 54.9 -0.3**
comp=Z,4.1nm,0.6s,mb4.5,baz=145,slow=7.8,SNR=53
MKAR pP pP 00 22 06.5 -0.9

comp=Z,4.4nm,0.5s,baz=148,slow=7.6,SNR=13
ZAK Zakamensk 53.81 2 *e*P **P** **00 22 01.0 -0.8**
ZAK pmax pmax

comp=Z,5.0nm,1.5s,mb4.2
KK31 Karatay Array 54.14 333 *i*P **P** **00 22 06.4 +2.2**
KK31 pmax pmax

comp=Z,1.0nm,0.4s,mb4.1
KKAR Karatay Array 54.14 333 P **P** **00 22 06.4 +2.2**
MDJ Mudanjiang 54.32 25 P **P** **00 22 07.7 +2.2**
MDJ AP pP 00 22 16.9 -0.9
MDJ XP sP 00 22 20.6 -2.2
MDJ PP PP 00 24 09.0 +1.4
MDJ SCP ScP 00 27 08.8 +5.1
MDJ PCS PcS 00 27 12.3 +3.7
MDJ S **S** **00 29 41.1 +0.9**
MDJ AMB AMB

comp=Z,5.0nm,0.5s,mb4.7
MDJ AMB AMB

comp=Z,44nm,3.9s
MDJ LR LR

comp=N,28nm,24.4s,MS3.4
MDJ LR LR

comp=E,25nm,24.4s,MS3.4
MDJ LR LR

comp=Z,49nm,24.4s,MS3.5
KURK Kurchatov 57.49 343 *e*P **P** **00 22 27.6 -0.6**
KURK *e* pP 00 22 38.8 -1.8
KURK pmax pmax

comp=Z,12nm,1.0s,mb4.9
KURK Kurchatov 57.49 343 *e*P **P** **00 22 27.6 -0.6**
comp=Z,12nm,1.0s,mb4.9
KURK *e* pP 00 22 38.8 -1.9
KLR Kul'dur 58.92 23 *e*P **P** **00 22 34.0 -4.2**
ZAL Zalesovo 58.97 349 P **P** **00 22 37.1 -1.4**
comp=Z,3.7nm,0.3s,mb4.9,baz=338,slow=2.7,SNR=13
ZAL LR LR 00 50 59.3

comp=Z,54nm,18.6s,MS3.7,baz=208,slow=39
KRAR Krasnoyarsk 59.82 355⇑ *e*P **P** **00 22 43.6 -0.8**
KRAR pmax pmax

comp=Z,17nm,0.6s,mb5.2
NVS Novosibirsk 60.13 348 *e*P pP 00 22 58.3 -0.7
NVS pmax pmax

comp=N,5.0nm,1.0s
NVS pmax pmax

comp=E,3.0nm,1.0s
NVS pmax pmax

comp=Z,7.0nm,1.0s,mb4.7
RDF Al-Radifah 60.78 306 *e*P **P** **00 22 51.8 +0.8**
RDF AMb AMB 00 23 09.2

comp=Z,10nm,0.6s,mb5.1
UMR Umm Al-Rimmam 60.89 307 *e*P **P** **00 22 53.0 +1.3**
UMR AMb AMB 00 23 10.0

comp=Z,12nm,0.5s,mb5.2
NAY Al-Naaiem 61.15 306 *e*P **P** **00 22 54.4 +0.9**
NAY AMb AMB 00 23 05.1

comp=Z,3.5nm,0.4s,mb4.8
MIB Mutribah 61.29 307 *e*P **P** **00 22 55.7 +1.3**
MIB AMb AMB 00 22 56.4

comp=Z,10.0nm,0.7s,mb5.1
VOSK Vostochnaya 61.66 340 P **P** **00 22 55.1 -1.8**
VOSK pmax pmax

comp=Z,1.0nm,0.5s,mb4.2
BOD Bodaibo 62.10 8 *e*P **P** **00 22 56.9 -2.9**
BOD *e* pP 00 23 10.6 -1.8
BOD pmax pmax

comp=Z,3.0nm,1.0s,mb4.4
BOD pmax pmax

comp=Z,4.0nm,0.8s,mb4.6
BVA0 Borovoye Array 62.11 339 *i*P **P** **00 22 58.8 -1.1**
BVA0 pmax pmax

comp=Z,1.0nm,1.0s,mb3.9
BVAR Borovoye Array 62.11 339 P **P** **00 22 58.8 -1.1**
comp=Z,2.2nm,0.5s,mb4.6,baz=141,slow=9.4,SNR=22
BVAR pP pP 00 23 11.4 -1.0

comp=Z,2.1nm,0.6s,baz=142,slow=9.2,SNR=8.3
BRVK Borovoye 62.18 339 *e*P **P** **00 22 58.9 -1.5**
BRVK pmax pmax

comp=Z,2.0nm,0.6s,mb4.4
BRVK Borovoye 62.18 339 *e*P **P** **00 22 58.9 -1.4**
comp=Z,1.5nm,0.6s,mb4.3
YSS Yuzh-Sakhalins 62.22 31⇑ *e*P **P** **00 22 59.4 -1.2**
YSS pmax pmax

comp=Z,25nm,1.7s,mb5.1
ZRNK Zerenda 62.55 339 *e*P **P** **00 23 01.6 -1.2**
ZRNK pmax pmax

comp=Z,2.0nm,0.4s,mb4.6
ZRNK Zerenda 62.55 339 *e*P **P** **00 23 01.6 -1.2**
comp=Z,1.6nm,0.4s,mb4.5
AB31 Akbulak array 63.63 331 *e*P **P** **00 23 09.4 -0.6**
AB31 pmax pmax

comp=Z,10.0nm,0.9s,mb4.8
AKTO Aktyubinsk 65.35 331 LR LR 00 55 43.0

comp=Z,50nm,20.7s,MS3.7,baz=146,slow=40
AKTO Aktyubinsk 65.35 331 *i*P **P** **00 23 21.4 +0.1**
AKTO pmax pmax

comp=Z,1.0nm,1.5s,mb3.6
GNI Garni 67.53 316 *e*P **P** **00 23 36.0 +0.8**
GNI pmax pmax

comp=Z,2.0nm,0.7s
GNI Garni 67.53 316 *e*P **P** **00 23 36.0 +0.9**
comp=Z,1.8nm,0.7s,mb4.2
SVE Sverdlovsk 68.63 337 *e*P **P** **00 23 44.8 +2.7**
SVE *e* 00 24 06.0
YAK Yakutsk 69.00 14*d i*P **P** **00 23 42.4 -2.0**
YAK pmax pmax

comp=Z,10.0nm,0.8s,mb4.8
ARU Arti 69.17 336⇓ *i*P **P** **00 23 45.6 +0.2**
ARU *e* 00 24 07.2
ARU *e* 00 26 15.4
ARU *e*PPP 00 27 55.5
ARU *e*S S 00 32 50.2 +2.2
ARU *e*SS SS 00 37 19.5 +4.7
ARU pmax pmax

comp=Z,3.0nm,1.1s,mb4.1
ARU Arti 69.17 336 *e*P **P** **00 23 44.3 -1.1**
ARU *e* pP 00 23 57.1 -1.1
KIV Kislovodsk 70.55 319 *e*P **P** **00 23 53.7 -0.2**
KIV Kislovodsk 70.55 319 *e*P **P** **00 23 53.7 -0.3**
MALT Malatya 71.32 312 *e*P **P** **00 24 00.8 +2.2**
MALT *e**PP pP 00 24 11.6 +0.3
SOC Sochi 72.36 318 *e*P **P** **00 24 02.1 -2.7**
SOC *e**PP pP 00 24 11.1 -6.5
SOC *e* 00 24 21.8
SOC *e* 00 26 42.0
SOC *e*S S 00 33 24.9 -0.2
SOC *e**SS sS 00 33 49.9 +3.5
SOC pmax pmax

comp=Z,10.0nm,1.1s,mb4.7
RPZ Rata Peaks 72.98 135 LR LR 00 53 18.7

comp=Z,194nm,21.6s,MS4.3,baz=192,slow=33
PET Petropavlovsk 74.06 32⇑ *e*P **P** **00 24 15.8 +0.9**
PET pmax pmax

comp=Z,26nm,1.7s,mb4.9
VRHR Novokhopersk 74.34 326 *e*P **P** **00 24 16.6 +0.1**
VRHR pmax pmax

comp=Z,9.0nm,0.7s,mb4.8
VRHR pmax pmax

comp=N,4.0nm,1.1s
VRHR pmax pmax

comp=E,6.0nm,0.7s
ANN Anapa 74.34 318 *e*P **P** **00 24 14.4 -2.1**
BR131 Keskin Array S 75.31 313 *e*P **P** **00 24 22.3 +0.3**
comp=E,0.9nm,0.5s,mb4.0
BR131 *e* pP 00 24 36.3 +1.4
BRTR Keskin Array B 75.31 313 P **P** **00 24 21.9 -0.2**
comp=E,1.0nm,0.6s,mb4.0,baz=128,slow=7.0,SNR=7.3
BRTR pP pP 00 24 36.1 +1.3

comp=E,1.8nm,0.6s,baz=138,slow=7.8,SNR=7.9
OBN Obninsk 78.80 328⇓ *e*P **P** **00 24 42.5 +0.8**
OBN *e* pP 00 24 55.8 +1.2
OBN 00 27 46.0
OBN pmax pmax

comp=Z,14nm,1.7s,mb4.6
OBN MLR MLR

comp=Z,100nm,18.0s,MS4.2
OBN Obninsk 78.80 328 *e*P **P** **00 24 42.7 +1.0**
comp=Z,3.4nm,0.5s,mb4.5
VNDA Vanda 80.35 169 P **P** **00 24 52.8 +2.7**
comp=Z,0.6nm,0.9s,baz=302,slow=7.4,SNR=2.6
BILL Bilibino 84.25 20⇓ *e*P **P** **00 25 10.2 -0.3**
BILL pmax pmax

comp=Z,7.0nm,2.5s,mb4.3
SUW Suwalki 85.90 325 *e*P **P** **00 25 19.1 +0.3**
SUW pmax pmax

comp=Z,4.0nm,0.5s,mb4.9
SUW Suwalki 85.90 325 *e*P **P** **00 25 19.1 +0.3**
comp=Z,3.6nm,0.5s,mb4.9
FINES FINESS Array B 86.10 332 P **P** **00 25 19.9 +0.1**
comp=Z,0.5nm,0.5s,mb4.0,baz=108,slow=6.2,SNR=4.7
FINES pP pP 00 25 33.8 +1.0

comp=Z,1.8nm,0.8s,baz=96,slow=7.7,SNR=3.6
ARCES ARCESS Array B 88.40 340 P **P** **00 25 29.7 -1.1**
comp=Z,3.4nm,0.8s,mb4.6,baz=91,slow=4.9,SNR=6.5
CPUP Villa Florida 143.70 214 PKP PKPdf 00 32 13.8 +0.1
comp=Z,0.2nm,0.3s,baz=142,slow=4.3,SNR=3.2
CPUP pPKP pPKPdf 00 32 28.8 +1.6
comp=Z,2.4nm,0.8s,baz=78,slow=1.9,SNR=3.5
LTX Lajitas 145.20 40 *e*PKIKP PKPdf 00 32 17.2 +0.9
MIAR Mount Ida 146.30 22 *e*PKP2 PKPab 00 32 19.4 -0.8
WVT Waverly 146.59 13 *e*PKP2 PKPab 00 32 19.6 -1.7
JCT Junction City 146.71 34 *e*PKP2 PKPab 00 32 20.7 -1.1

*NEIC **09** 00:13:36.0, 3263N×11733W, h13km, ML3.6(PAS), After PAS.*
NEIC Felt [IV] at San Diego and [III] at Coronado. Also felt at La Jolla and National City.

ECX 09 00:13:37.3±0.5, 3264N×11734W, h8km, MD3.5, ML3.8, 8C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BAR	**Barrett**	**0.56**	**86**		*i*P	Pg		00 13 47.2	-1.0
BAR	**Barrett**	**0.56**	**86**		Pn	Pg		00 13 47.1	-1.1
BAR					Sn	Sg		00 13 54.7	-0.9
CBX	**Cerro Bola**	**0.66**	**120**⇑		*i*P	Pg		00 13 48.9	-1.1
CBX					*e*S	Sg		00 13 58.4	-0.3
CBX					*e*			00 14 02.3	
	comp=E,7μm,0.2s								
CBX				⇑	*e*			00 14 06.1	
	comp=N,6μm,0.4s								
ENX	**Ensenada**	**0.95**	**143**⇑		*e*P	Pg		00 13 53.8	-1.7
ENX					*e*S	Sg		00 14 07.0	-0.9
ENX				⇑	*e*			00 14 07.8	
	comp=N,4μm,0.4s								
PBX	**Punta Banda**	**1.04**	**150**⇑		*e*P	Pg		00 13 55.0	-2.2
PBX					*e*S	Sg		00 14 09.4	-1.3
RMX	**La Rumorosa**	**1.07**	**92**		*e*P	Pg		00 13 55.9	-1.9
RMX					*e*S	Sg		00 14 10.3	-1.3
RMX				⇑	*e*			00 14 12.7	
	comp=E,2μm,0.6s								
ECNX	**Esteban Cantu**	**1.17**	**147**		*e*P	Pg		00 13 57.7	-2.0
ECNX				⇑	*e*P			00 13 54.1	
ECNX					*e*S	Sg		00 14 07.1	-7.8
ECNX					*e*S	Sg		00 14 13.2	-1.7
PFO	**Pinyon Flat Ob**	**1.22**	**37**		Pn	Pn		00 13 58.8	-1.8
PFO					Sn	Sn		00 14 14.8	-2.5
RDX	**Rancho Dowling**	**1.38**	**121**		*e*P	Pn		00 14 01.3	-1.5
RDX					*e*S	Sb		00 14 19.7	-1.2
RDX				⇓	*e*			00 14 22.0	
	comp=N,2μm,0.7s								
SNCC	**San Nicolas Is**	**1.93**	**289**		*e*Pn	Pn		00 14 08.9	-1.5
SNCC					*e*Sn	Sn		00 14 33.8	-1.2
GLA	**Glamis**	**2.15**	**78**		Pn	Pn		00 14 12.6	-0.9
GLA					Sn	Sn		00 14 37.8	-2.6
SPX	**San Pedro Mart**	**2.25**	**134**		*e*P	Pn		00 14 15.2	+0.3
SPX					*e*S	Sn		00 14 45.1	+2.3
GSC	**Goldstone**	**2.69**	**9**		Pn	Pn		00 14 21.8	+0.9
GSC					Sn	Sn		00 15 00.3	+6.7
ISA	**Isabella**	**3.16**	**343**		Pn	Pn		00 14 28.8	+1.5
ISA					Sn	Sn		00 15 14.9	+10
DAC	**Darwin (Calif)**	**3.63**	**357**		Pn	Pn		00 14 34.1	+0.3
DAC					Sn	Sn		00 15 31.6	+15
NEN	**Nelson**	**3.65**	**34**		Pn	Pn		00 14 34.5	+0.5
NEN					Sn	Sn		00 15 28.1	+11
SHPR	**Sheep Range**	**4.25**	**24**		Pn	Pn		00 14 43.8	+1.4
SHPR					Sn	Sn		00 15 49.6	+17
TPNV	**Topopah Spring**	**4.39**	**11**		Pn	Pn		00 14 45.6	+1.4
TPNV					Sn	Sn		00 15 51.3	+16
ELK	**Elko**	**8.26**	**11**		Pn	Pn		00 15 40.0	+2.6

*ROM **09** 00:23:30.5±0.6, 4526N×646E, h10km, Md2.5/5, Ml2.1/1, Error ellipse: s-maj=9.3km s-min=3.3km az=101.0*
*ISCJB **09** 00:23:31.3±0.2, 4530N±001×674E±002, h13km±3km, Error ellipse: s-maj=2.9km s-min=2.0km az=159.0*
*GEN **09** 00:23:32.3, 4527N×679E, h10km, ML2.0*
*CSEM **09** 00:23:32.2±0.1, 4526N×685E, h5km, ML2.8/16, Error ellipse: s-maj=2.6km s-min=1.8km az=70.0*
*NEIC **09** 00:23:33.7, 4528N×676E, h3km, ML2.7(STR), ML2.7(LDG), After LDG.*
*STR **09** 00:23:33.2±0.7, 4530N×676E, h5km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **09** 00:23:33.7±0.1, 4528N×676E, h3km, Md2.9/3, Ml2.7/17, Error ellipse: s-maj=2.5km s-min=1.7km az=108.0*

ISC 09 00:23:32.3±0.2, 4529N±001×680E±002, h9km±3km, n82, σ1s08/143, 2C, France

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPG	**La Plagne**	**0.21**	**351**		*e*Pg		**Pg**	**00 23 36.6**	**0.0**
LPG					*e*Sg		**Sg**	**00 23 39.7**	**+0.2**
	244nm,0.2s								
LPG	**La Plagne**	**0.21**	**351**		*e*Pg		**Pg**	**00 23 36.6**	**0.0**
LPG					*e*Sg		**Sg**	**00 23 39.7**	**+0.2**
	122nm,0.2s								
LPL	**La Plagne**	**0.23**	**349**		*e*Pg		**Pg**	**00 23 37.0**	**+0.1**
LPL					*e*Sg		**Sg**	**00 23 40.5**	**+0.4**
	283nm,0.3s								
LPL	**La Plagne**	**0.23**	**349**		*e*Pg		**Pg**	**00 23 37.0**	**+0.1**
LPL					*e*Sg		**Sg**	**00 23 40.5**	**+0.4**
	141nm,0.3s								
FENE	**Fenestrelle**	**0.32**	**144**		P		**Pg**	**00 23 38.5**	**-0.1**
RSP	**Reno Superiore**	**0.35**	**113**		P		**Pg**	**00 23 39.5**	**+0.3**
RRL	**Cesana Torines**	**0.37**	**181**		P		**Pg**	**00 23 39.4**	**-0.1**
RSL	**Roselend**	**0.42**	**343**		Pg		**Pg**	**00 23 40.4**	**0.0**
RSL					Sg		**Sg**	**00 23 45.9**	**0.0**
MBDF	**Montbardon**	**0.56**	**182**		*e*Pg		**Pg**	**00 23 42.9**	**-0.2**
MBDF					*e*Sg		**Sg**	**00 23 51.5**	**+1.0**
	83nm,0.5s								
MBDF	**Montbardon**	**0.56**	**182**		*e*Pg		**Pg**	**00 23 42.9**	**-0.2**
MBDF					*e*Sg		**Sg**	**00 23 51.5**	**+1.0**
	42nm,0.5s								
TRAV		**0.71**	**71**		P		**Pg**	**00 23 45.7**	**-0.2**
TRAV					S		**Sg**	**00 23 54.8**	**-0.3**
GRN	**Grenoble**	**0.74**	**267**		Pg		**Pg**	**00 23 46.9**	**+0.3**
ORIF	**Oris-en-Rattie**	**0.75**	**241**		*e*Pg		**Pg**	**00 23 46.5**	**-0.2**
ORIF					*e*Sg		**Sg**	**00 23 56.3**	**-0.1**
	42nm,0.3s								
ORIF	**Oris-en-Rattie**	**0.75**	**241**		*e*Pg		**Pg**	**00 23 46.5**	**-0.2**
ORIF					*e*Sg		**Sg**	**00 23 56.3**	**-0.1**
	21nm,0.3s								
EMV	**Vieux Emosson**	**0.78**	**5**		Pg		**Pg**	**00 23 47.3**	**+0.1**
EMV					Sg		**Sg**	**00 23 59.3**	**+1.9**
SURF	**Saint Ours**	**0.81**	**179**		Pg		**Pg**	**00 23 47.3**	**-0.5**
SURF					Sg		**Sg**	**00 24 00.8**	**+2.5**
PZZ	**Prazzo**	**0.81**	**164**		P		**Pg**	**00 23 47.3**	**-0.6**
PZZ					S		**Sg**	**00 23 57.3**	**-1.2**
MONC	**Moncucco Torin**	**0.83**	**105**		Pg		**Pg**	**00 23 50.3**	**+2.1**
MONC					Sg		**Sg**	**00 24 04.8**	**+5.8**
	43nm,0.5s								
DOI	**San Damiano**	**0.85**	**158**		Pg		**Pg**	**00 23 48.3**	**-0.3**
DOI					Sg		**Sg**	**00 24 00.8**	**+1.2**
DIX	**Grande Dixence**	**0.90**	**28**		Pg		**Pg**	**00 23 49.4**	**-0.2**
ORX	**Oropa**	**0.90**	**67**		P		**Pg**	**00 23 49.1**	**-0.5**
OG25	**Le Caire**	**1.05**	**209**		Pg		**Pg**	**00 23 52.4**	**-0.1**
OG25					Sg		**Sg**	**00 24 07.7**	**+1.5**
MCGN	**Macugnaga**	**1.07**	**51**		Pg		**Pg**	**00 23 53.0**	**+0.2**
	27nm,0.5s								
STV	**Sta Anna Valdi**	**1.11**	**160**		P		**Pg**	**00 23 51.9**	**-1.7**
ENR	**Entracque**	**1.15**	**157**		P		**Pg**	**00 23 52.4**	**-2.0**
OG05	**Jujurieux**	**1.20**	**309**		Pg		**Pg**	**00 23 55.9**	**+0.6**
ROB	**Roburent**	**1.25**	**142**		P		**Pn**	**00 23 54.6**	**-1.4**
MONE	**Monesi**	**1.39**	**150**		P		**Pn**	**00 23 56.2**	**-1.7**
CABF	**La Chapelle**	**1.41**	**340**		*e*Pg		**Pg**	**00 24 00.4**	**+1.1**
CABF					*e*Sg		**Sg**	**00 24 20.2**	**+2.5**
	44nm,0.5s								
CABF	**La Chapelle**	**1.41**	**340**		*e*Pg		**Pg**	**00 24 00.4**	**+1.1**
CABF					*e*Sg		**Sg**	**00 24 20.2**	**+2.5**
	22nm,0.5s								
PCP	**Pian Castagno**	**1.45**	**120**		P		**Pn**	**00 23 57.6**	**-1.1**
FIN	**Finale Ligure**	**1.48**	**137**		P		**Pn**	**00 23 56.9**	**-2.2**
RORO		**1.48**	**142**		P		**Pn**	**00 23 57.2**	**-2.0**
SBF	**Sospel**	**1.50**	**162**		*e*Pg		**Pg**	**00 24 01.8**	**+0.8**
SBF					*e*Sg		**Sg**	**00 24 22.7**	**+2.3**
	108nm,0.7s								
SBF	**Sospel**	**1.50**	**162**		*e*Pg		**Pg**	**00 24 01.8**	**+0.8**
SBF					*e*Sg		**Sg**	**00 24 22.7**	**+2.3**
	54nm,0.7s								
VIVF	**Saint-Julien-l**	**1.56**	**255**		*e*Pg		**Pg**	**00 24 02.4**	**+0.1**
VIVF					*e*Sg		**Sg**	**00 24 23.8**	**+1.2**
	21nm,0.4s								
VIVF	**Saint-Julien-l**	**1.56**	**255**		*e*Pg		**Pg**	**00 24 02.4**	**+0.1**
VIVF					*e*Sg		**Sg**	**00 24 23.8**	**+1.2**
	10nm,0.4s								
SMRF	**Simiane la Rot**	**1.58**	**214**		*e*Pg		**Pg**	**00 24 02.1**	**-0.4**
SMRF					*e*Sg		**Sg**	**00 24 24.6**	**+1.7**
	12nm,0.5s								
NEGI	**Negi**	**1.58**	**155**		P		**Pn**	**00 23 58.3**	**-2.2**
FRF	**La Foret Royal**	**1.73**	**184**		*e*Pg		**Pg**	**00 24 05.5**	**0.0**
FRF					*e*Sg		**Sg**	**00 24 30.2**	**+2.3**
	80nm,0.6s								
FRF	**La Foret Royal**	**1.73**	**184**		*e*Pg		**Pg**	**00 24 05.5**	**0.0**
FRF					*e*Sg		**Sg**	**00 24 30.2**	**+2.3**
	40nm,0.6s								
LMR	**La Mourre**	**1.97**	**186**		*e*Pg		**Pg**	**00 24 09.1**	**-0.8**
LMR					*e*Sg		**Sg**	**00 24 35.2**	**-0.2**
	30nm,0.6s								
LMR	**La Mourre**	**1.97**	**186**		*e*Pg		**Pg**	**00 24 09.1**	**-0.8**
LMR					*e*Sg		**Sg**	**00 24 35.2**	**-0.2**
	15nm,0.6s								
PLDF	**La Plantade**	**2.33**	**288**		Pn		**Pn**	**00 24 12.8**	**+2.0**
PLDF					Sg		**Sg**	**00 24 46.6**	**-0.5**
LASF	**Ste Croix**	**2.42**	**241**		*e*Pg		**Pg**	**00 24 12.8**	**+0.9**
LASF	**Ste Croix**	**2.42**	**241**		*e*Pn		**Pn**	**00 24 12.8**	**+0.7**
LASF					*e*Pg		**Pg**	**00 24 17.8**	**-0.9**
LASF	**Ste Croix**	**2.42**	**241**		*e*Pg		**Pg**	**00 24 17.8**	**-0.9**
SMF	**Signal de Mont**	**2.47**	**304**		*e*Pg		**Pg**	**00 24 19.2**	**-0.3**
SMF					*e*Sg		**Sg**	**00 24 51.4**	**-0.1**
	9.1nm,0.4s								
SMF	**Signal de Mont**	**2.47**	**304**		*e*Pn		**Pn**	**00 24 12.8**	**+0.1**
SMF					*e*Pg		**Pg**	**00 24 19.2**	**-0.3**
SMF					*e*Sg		**Sg**	**00 24 51.4**	**-0.1**
SMF	**Signal de Mont**	**2.47**	**304**		*e*Pg		**Pg**	**00 24 19.2**	**-0.3**
SMF					*e*Sg		**Sg**	**00 24 51.4**	**-0.1**
	4.6nm,0.4s								
LBL	**Lubilhac**	**2.51**	**270**		Pn		**Pn**	**00 24 14.4**	**+1.2**
HINF	**Hinteralfeld**	**2.53**	**1**		*e*Pg		**Pg**	**00 24 21.0**	**+0.3**
HINF					*e*Sg		**Sg**	**00 24 53.1**	**-0.4**
	11nm,0.6s								
HINF	**Hinteralfeld**	**2.53**	**1**		*e*Pn		**Pn**	**00 24 14.2**	**+0.7**
HINF					*e*Pg		**Pg**	**00 24 21.0**	**+0.3**
HINF					*e*Sg		**Sg**	**00 24 53.1**	**-0.4**
HINF	**Hinteralfeld**	**2.53**	**1**		*e*Pg		**Pg**	**00 24 21.0**	**+0.3**
HINF					*e*Sg		**Sg**	**00 24 53.1**	**-0.4**
	5.3nm,0.6s								
AGO	**Saint Agoulin**	**2.68**	**288**		Pg		**Pg**	**00 24 23.5**	**-0.1**
HAU	**Haudompre**	**2.73**	**354**		*e*Pg		**Pg**	**00 24 23.9**	**-0.8**
HAU					*e*Sg		**Sg**	**00 25 00.7**	**+0.6**
	12nm,0.5s								
HAU	**Haudompre**	**2.73**	**354**		*e*Pn		**Pn**	**00 24 16.7**	**+0.3**
HAU					*e*Pg		**Pg**	**00 24 23.9**	**-0.8**
HAU					*e*Sg		**Sg**	**00 25 00.7**	**+0.6**
HAU	**Haudompre**	**2.73**	**354**		*e*Pg		**Pg**	**00 24 23.9**	**-0.8**
HAU					*e*Sg		**Sg**	**00 25 00.7**	**+0.6**
	5.9nm,0.5s								
AVF	**Avril sur Loir**	**2.83**	**303**		*e*Pg		**Pg**	**00 24 26.5**	**0.0**
AVF					*e*Sg		**Sg**	**00 25 02.4**	**-0.8**
	8.4nm,0.5s								
AVF	**Avril sur Loir**	**2.83**	**303**		*e*Pn		**Pn**	**00 24 19.1**	**+1.4**
AVF					*e*Pg		**Pg**	**00 24 26.5**	**0.0**
AVF					*e*Sg		**Sg**	**00 25 02.4**	**-0.8**
AVF	**Avril sur Loir**	**2.83**	**303**		*e*Pg		**Pg**	**00 24 26.5**	**0.0**
AVF					*e*Sg		**Sg**	**00 25 02.4**	**-0.8**
	4.2nm,0.5s								
LOR	**Lormes**	**2.84**	**315**		*e*Pg		**Pg**	**00 24 26.0**	**-0.7**
SSF	**Saint Saulge**	**2.89**	**309**		*e*Pg		**Pg**	**00 24 27.4**	**-0.3**
DAVA	**Damuels**	**2.93**	**46**⇑		*i*Pn		**Pn**	**00 24 27.6**	**+8.6**
DAVA				⇑	*i*Sn		**Sn**	**00 25 00.8**	**+6.5**
BGF	**Bois d'Agland**	**3.04**	**296**		*e*Pg		**Pg**	**00 24 28.4**	**-2.0**
BGF					*e*Sg		**Sg**	**00 25 08.7**	**-1.0**
	16nm,0.4s								
BGF	**Bois d'Agland**	**3.04**	**296**		*e*Pn		**Pn**	**00 24 21.6**	**+1.1**
BGF					*e*Pg		**Pg**	**00 24 28.4**	**-2.0**
BGF					*e*Sg		**Sg**	**00 25 08.7**	**-1.0**
BGF	**Bois d'Agland**	**3.04**	**296**		*e*Pg		**Pg**	**00 24 28.4**	**-2.0**
BGF					*e*Sg		**Sg**	**00 25 08.7**	**-1.0**
	7.8nm,0.4s								
CDF	**Champ du Feu**	**3.14**	**6**		*e*Pg		**Pg**	**00 24 32.4**	**-0.1**
CDF					*e*Sg		**Sg**	**00 25 13.2**	**0.0**
	3.5nm,0.5s								
CDF	**Champ du Feu**	**3.14**	**6**		*e*Pn		**Pn**	**00 24 22.5**	**+0.5**
CDF					*e*Pg		**Pg**	**00 24 32.4**	**-0.1**
CDF					*e*Sg		**Sg**	**00 25 13.2**	**0.0**
CDF	**Champ du Feu**	**3.14**	**6**		*e*Pg		**Pg**	**00 24 32.4**	**-0.1**
CDF					*e*Sg		**Sg**	**00 25 13.2**	**0.0**
	1.8nm,0.5s								
TCF	**Toulx Ste Croi**	**3.36**	**289**		*e*Pg		**Pg**	**00 24 35.4**	**-1.2**
TCF					*e*Sg		**Sg**	**00 25 18.4**	**-1.8**
	5.4nm,0.5s								
TCF	**Toulx Ste Croi**	**3.36**	**289**		*e*Pg		**Pg**	**00 24 35.4**	**-1.2**
TCF					*e*Sg		**Sg**	**00 25 18.4**	**-1.

*NEIC **09** 00:40:19.7, 34.70S×70.20W, h11km, ML2.7(GUC), After GUC.*

GUC 09 00:40:19.5±2.1, 34.69S×70.23W, h0km±6km, MD3.6, ML2.7, 7C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CICH	**Cipreses**	**0.40**	**337**	*i*	*P*	00 40 28.1	+0.9
CICH				*i*	S	00 40 34.3	+2.0
CACH	**El Canelo**	**0.65**	**332**	*e*	*P*	00 40 32.1	+0.2
CACH				*i*	S	00 40 41.5	+1.2
SFDO	**San Fernando**	**0.65**	**276**	*e*	*P*	00 40 32.5	+0.5
SFDO				*i*	S	00 40 42.0	+1.6
CHCH	**Chadas Angostu**	**0.83**	**335**	*i*	*P*	00 40 35.7	+0.3
CHCH				*i*	S	00 40 47.6	+1.5
LMEL	**Las Melosas**	**0.84**	**2**	*i*	*P*	00 40 35.7	+0.1
LMEL				*i*	S	00 40 47.5	+1.1
LMEL					AML	00 40 48.8	
	comp=N,364nm,0.2s						
LMEL	**Las Melosas**	**0.84**	**2**	*i*	*P*	00 40 35.7	+0.1
LMEL				*i*	S	00 40 47.5	+1.1
PCH	**Pirque**	**1.09**	**347**	*e*	*P*	00 40 40.1	-0.3
PCH				*i*	S	00 40 55.8	+1.2
TACH	**Talagante**	**1.19**	**330**	*e*	*P*	00 40 41.9	-0.3
TACH				*i*	S	00 40 58.7	+1.0
LNV	**Longovilo**	**1.22**	**306**	*i*	*P*	00 40 42.5	-0.4
LNV				*i*	S	00 40 59.4	+0.8
RCDM	**Rinconada Maip**	**1.29**	**338**	*i*	*P*	00 40 43.5	-0.6
RCDM				*i*	S	00 41 01.8	+0.9
RCDM					AML	00 41 02.6	
	comp=E,414nm,0.1s						
RCDM	**Rinconada Maip**	**1.29**	**338**	*i*	*P*	00 40 43.5	-0.6
RCDM				*i*	S	00 41 01.8	+0.9
CLCH	**Cerro Calan**	**1.31**	**349**	*i*	*P*	00 40 44.5	-0.2
CLCH				*i*	S	00 41 03.2	+1.5
CLCH					AML	00 41 07.5	
	comp=E,219nm,0.5s						
FCH	**Farellones**	**1.36**	**358**	*i*	*P*	00 40 45.1	-0.4
FCH				*i*	S	00 41 04.2	+1.0
FCH					AML	00 41 07.5	
	comp=N,138nm,0.2s						
PEL	**Peldehue**	**1.59**	**346**	*i*	*P*	00 40 49.2	+0.3
PEL				*i*	S	00 41 11.5	+1.4
PEL					AML	00 41 12.4	
	comp=N,253nm,0.3s						
PEL	**Peldehue**	**1.59**	**346**	*i*	*P*	00 40 49.2	+0.3
PEL				*i*	S	00 41 11.5	+1.4
LCCH	**Las Cruces**	**1.64**	**317**	*e*	*P*	00 40 49.7	+0.1
LCCH				*i*	S	00 41 12.5	+1.1
RCH	**El Roble**	**1.83**	**339**	*e*	*P*	00 40 53.1	+0.9
JACH	**Jahuel**	**2.02**	**351**	*e*	*P*	00 40 56.3	+1.4
JACH				*i*	S	00 41 23.7	+2.9

IDC 09 00:44:16.3±65.0, 21.70S×178.96W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.9/12, mbtmp4.3/3, Error ellipse: s-maj=1174.0km s-min=155.0km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.47**	**245**	P	P	00 51 21.3	-1.6
	1.7nm,0.8s,baz=100,slow=9.8,SNR=6.4						
ASAR	**Alice Springs**	**43.38**	**258**	P	P	00 52 21.1	+0.8
	3.8nm,0.8s,baz=95,slow=8.0,SNR=31						
WB2	**Warramunga Arr**	**43.55**	**263**	*e*	P	00 52 22.6	+0.9
WRA	**Warramunga Arr**	**43.56**	**263**	P	P	00 52 23.1	+1.3
	1.6nm,0.3s,baz=93,slow=8.3,SNR=17						

*NSSP **09** 00:44:16.2, 39.32N×44.23E, h15km, ML3.8*
*ISK **09** 00:44:21.4, 39.33N×44.30E, h9km, MD4.1, ML4.3*
*ISCJB **09** 00:44:22.9±0.2, 39.31N±0.02×44.24E±0.02, h10km, mb3.8/13, MS3.1/4, Error ellipse: s-maj=2.9km s-min=2.3km az=84.8*
*IDC **09** 00:44:22.2±1.4, 39.36N×44.16E, h0km, mb3.5/7, mb1 3.6/10, mb1mx3.5/21, mbtmp3.5/10, ML3.1/3, MS3.1/3, Ms1 3.1/3, ms1mx2.6/29, Error ellipse: s-maj=26.3km s-min=10.0km az=138.0*
*CSEM **09** 00:44:22.5±0.1, 39.36N×44.21E, h15km, ML4.0, Error ellipse: s-maj=1.7km s-min=1.1km az=30.0*
*TEH **09** 00:44:24.0, 39.38N×44.29E, h0km, Mn4.0*
*THR **09** 00:44:24.5±0.5, 39.43N×44.36E, h15km±5km, ML4.0*
*NEIC **09** 00:44:25.0, 39.40N×44.40E, h14km, mb4.1/6, ML3.9(THR), MN4.0(TEH), After THR.*
*MOS **09** 00:44:25.9±1.3, 39.58N×44.39E, h15km, mb4.4/6, Error ellipse: s-maj=10.6km s-min=6.5km az=72.3*

ISC 09 00:44:24.1±0.2, 3933N±002×4425E±002, h10km, n130, σ1♀36/222, mb3.8/13, MS3.1/4, 3C-4D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLDR	**Caldiran**	**0.32**	**233**	*i*	PG	**Pg**	**00 44 28.4**	**-2.0**
CLDR				*i*	SG	**Sg**	**00 44 33.8**	**-0.9**
MAKU	**Maku**	**0.34**	**86**	*e*	PG	**Pg**	**00 44 30.4**	**-0.5**
MAKU					AML	AML	00 44 37.6	
	comp=E,18μm,0.2s							
MAKU					AML	AML	00 44 38.5	
	comp=N,30μm,0.3s							
GNI	**Garni**	**0.90**	**25**		Pg	**Pg**	**00 44 39.6**	**-1.9**
	comp=N,204nm,0.3s,baz=253,slow=2.1,SNR=1035							
GNI					Lg		00 44 53.4	
	comp=N,1μm,0.3s,baz=297,slow=18,SNR=29							
GNI	**Garni**	**0.90**	**25**	*e*	Pg	**Pg**	**00 44 39.7**	**-1.7**
GNI				*e*	Sg	**Sg**	**00 44 52.7**	**-0.4**
GNI	**Garni**	**0.90**	**25**	*e*	Pg	**Pg**	**00 44 39.7**	**-1.7**
GNI				*e*	Sg	**Sg**	**00 44 52.7**	**-0.5**
TVAN	**Van**	**1.04**	**219**	*i*	P	**Pg**	**00 44 43.1**	**-1.0**
TVAN				*i*	S	**Sg**	**00 44 51.5**	**-6.0**
VANT	**Van**	**1.11**	**217**		PN	**Pn**	**00 44 45.6**	**-0.1**
VANT					SN	**Sn**	**00 45 03.2**	**+2.1**
DIGO	**Kars**	**1.27**	**328**	*i*	P	**Pn**	**00 44 45.9**	**-2.0**
DIGO				*i*	S	**Sb**	**00 45 06.1**	**+1.6**
IMRD	**Marand**	**1.29**	**118**	*e*	Pg	**Pg**	**00 44 47.2**	**-1.7**
IMRD				*e*	Pg	**Pg**	**00 44 48.0**	**-0.9**
IMRD				*e*	Pg	**Pg**	**00 44 48.2**	**-0.7**
IMRD				*e*	Sg	**Sg**	**00 45 04.5**	**-1.2**
IMRD				*e*	Sg	**Sg**	**00 45 04.5**	**-1.2**
IMRD	**Marand**	**1.29**	**118**		Pg	**Pg**	**00 44 47.2**	**-1.7**
IMRD					Sg	**Sg**	**00 45 04.4**	**-1.4**
ISHB	**Shabestar**	**1.50**	**134**	*e*	Pg	**Pg**	**00 44 50.8**	**-2.1**
ISHB				*e*	Sg	**Sg**	**00 45 11.6**	**-0.7**
ISHB				*e*	Sg	**Sg**	**00 45 12.2**	**-0.1**
ISHB	**Shabestar**	**1.50**	**134**		Pg	**Pg**	**00 44 50.7**	**-2.2**
ISHB					Sg	**Sg**	**00 45 11.5**	**-0.8**
ISHB					Sg	**Sg**	**00 45 12.1**	**-0.2**
KARS	**Kars**	**1.55**	**326**		PN	**Pn**	**00 44 50.6**	**-1.2**
ITBZ	**Tabriz**	**1.85**	**126**	*e*	Pn	**Pn**	**00 44 56.5**	**+0.7**
ITBZ				*e*	Pn	**Pn**	**00 44 56.6**	**+0.8**
ITBZ				*e*	Pn	**Pn**	**00 44 57.1**	**+1.3**
ITBZ				*e*	Sn	**Sn**	**00 45 20.6**	**+1.3**
ITBZ				*e*	Sn	**Sn**	**00 45 20.7**	**+1.4**
ITBZ	**Tabriz**	**1.85**	**126**		Pn	**Pn**	**00 44 56.5**	**+0.7**
ITBZ					Pn	**Pn**	**00 44 57.1**	**+1.3**
ITBZ					Sn	**Sn**	**00 45 20.5**	**+1.2**
IAZR	**Azarshahr**	**2.14**	**140**	*e*	Pn	**Pn**	**00 45 01.0**	**+1.1**
IAZR				*e*	Pn	**Pn**	**00 45 02.3**	**+2.4**
IAZR				*e*	Pn	**Pn**	**00 45 03.1**	**+3.2**
IAZR				*e*	Sn	**Sn**	**00 45 27.8**	**+1.3**
IAZR				*e*	Sn	**Sn**	**00 45 27.9**	**+1.4**
IAZR	**Azarshahr**	**2.14**	**140**		Pn	**Pn**	**00 45 00.9**	**+1.0**
IAZR					Pn	**Pn**	**00 45 02.2**	**+2.3**
IAZR					Pn	**Pn**	**00 45 03.0**	**+3.1**
IAZR					Sn	**Sn**	**00 45 27.8**	**+1.3**
IAZR	**Azarshahr**	**2.14**	**140**		Pn	**Pn**	**00 45 00.9**	**+1.0**
IAZR					eSn	**Sn**	**00 45 27.8**	**+1.3**
DGRG	**David-gareji**	**2.28**	**22**		P	**Pn**	**00 45 03.2**	**+1.4**
DGRG					S	**Sn**	**00 45 37.8**	**+7.8**
ERZM	**Erzurum**	**2.30**	**285**	*i*	P	**Pn**	**00 45 02.0**	**0.0**
ERZM				*i*	S	**Sn**	**00 45 32.6**	**+2.3**
EZM	**Erzurum**	**2.30**	**285**		PN	**Pn**	**00 45 01.7**	**-0.3**
MTA	**Mtatsminda**	**2.39**	**10**		P	**Pn**	**00 45 03.2**	**-0.1**
MTA					S	**Sn**	**00 45 39.0**	**+6.2**
MTA	**Mtatsminda**	**2.39**	**10**		Pn	**Pn**	**00 45 03.4**	**0.0**
SAMG	**Sameba**	**2.40**	**10**		P	**Sb**	**00 45 37.4**	**+0.4**
TBLG	**Delisi**	**2.42**	**9**		P	**Pn**	**00 45 04.2**	**+0.5**
TBLG					S	**Sn**	**00 45 38.4**	**+5.0**
TBLG	**Delisi**	**2.42**	**9**		PN	**Pn**	**00 45 04.3**	**+0.5**
TBLG					S	**Sn**	**00 45 38.0**	**+4.5**
BNGL	**BINGOL**	**2.44**	**262**	*i*	P	**Pn**	**00 45 04.0**	**+0.1**
BNGL				*i*	S	**Sn**	**00 45 37.3**	**+3.5**
BTMT	**Batman**	**2.44**	**243**		PN	**Pn**	**00 45 04.6**	**+0.6**
BKR	**Bakuriani**	**2.46**	**347**		P	**Pn**	**00 45 06.4**	**+2.1**
IHSH	**Hashtroud**	**2.57**	**113**	*e*	Pn	**Pg**	**00 45 14.8**	**+1.4**
IHSH				*e*	Pn	**Pg**	**00 45 15.2**	**+1.8**
IHSH				*e*	Pn	**Pg**	**00 45 15.3**	**+1.9**
IHSH				*e*	Sn	**Sg**	**00 45 50.7**	**+4.0**
IHSH				*e*	Sn	**Sg**	**00 45 50.8**	**+4.1**
IHSH	**Hashtroud**	**2.57**	**113**		Pn	**Pg**	**00 45 14.7**	**+1.3**
IHSH					Sn	**Sg**	**00 45 50.7**	**+4.0**
IBST	**Bostanabad**	**2.64**	**127**	*e*	Pn	**Pn**	**00 45 07.3**	**+0.6**
IBST				*e*	Pn	**Pn**	**00 45 08.5**	**+1.8**
IBST				*e*	Pn	**Pn**	**00 45 08.8**	**+2.1**
IBST				*e*	Sn	**Sn**	**00 45 39.2**	**+0.4**
IBST				*e*	Sn	**Sn**	**00 45 39.8**	**+1.0**
IBST	**Bostanabad**	**2.64**	**127**		Pn	**Pn**	**00 45 07.2**	**+0.5**
IBST					Pn	**Pn**	**00 45 08.4**	**+1.7**
IBST					Pn	**Pn**	**00 45 08.7**	**+2.0**
IBST					Sn	**Sn**	**00 45 39.2**	**+0.4**
IBST					Sn	**Sn**	**00 45 39.7**	**+0.9**
IBST	**Bostanabad**	**2.64**	**127**		Pn	**Pn**	**00 45 07.2**	**+0.5**
IBST				*e*	Sn	**Sn**	**00 45 39.2**	**+0.4**
BEST	**Besiri**	**2.74**	**239**	*i*	P	**Pn**	**00 45 12.7**	**+4.6**
BEST				*i*	S	**Sn**	**00 45 48.5**	**+7.3**
DUS	**Dusheti**	**2.77**	**7**		P	**Pn**	**00 45 09.4**	**+0.8**
GRMI	**Germi**	**2.89**	**99**	*e*	Pn	**Pn**	**00 45 11.4**	**+1.3**
GRMI				*e*	SG	**Sg**	**00 45 52.4**	**-4.4**
GRMI					AML	AML	00 46 00.4	
	comp=E,417nm,0.6s							
GRMI	**Germi**	**2.89**	**99**	*e*	Pn	**Pn**	**00 45 11.4**	**+1.3**
	SNR=52							
GRMI				*e*	Sg	**Sg**	**00 45 52.4**	**-4.5**
	SNR=90							
MSL	**Mosul**	**3.17**	**197**	*e*	x	x	00 45 15.0	
MSL				*i*	x	x	00 45 22.5	
MSL				*i*	x	x	00 45 56.5	
MSL				*i*	x	x	00 46 14.0	
AMRG		**3.29**	**346**		P	**Pn**	**00 45 21.3**	**+5.7**
ONI	**Oni**	**3.30**	**350**		P	**Pn**	**00 45 22.6**	**+6.8**
MARD	**Mardin**	**3.39**	**235**	*i*	P	**Pn**	**00 45 23.8**	**+6.7**
MARD				*i*	S	**Sg**	**00 46 09.4**	**-3.6**
ZEI	**Tsey**	**3.44**	**356**	*e*	PN	**Pn**	**00 45 21.9**	**+4.1**
ZEI				*e*			00 45 28.3	
ZEI				*e*			00 46 13.5	
ZEI					pmax	pmax		
	comp=Z,13nm,0.2s							
ZEI					pmax	pmax		
	comp=Z,95nm,0.5s							
ZEI					smax			
	comp=E,230nm,0.8s							
ZEI	**Tsey**	**3.44**	**356**	*e*	Pg	**Pg**	**00 45 28.3**	**-1.8**
	comp=E,95nm,0.5s							
ZEI				*e*	Sg	**Sg**	**00 46 13.5**	**-1.2**
DIY	**Diyarbakir**	**3.46**	**247**		PN	**Pn**	**00 45 17.2**	**-0.8**
GUMT	**Gumushane**	**3.83**	**289**		PN	**Pn**	**00 45 23.5**	**+0.3**
MAK	**Makhachkala**	**4.38**	**33**	*e*	PN	**Pn**	**00 45 34.2**	**+3.5**
MYA	**Malataya**	**4.66**	**259**	*e*	PN	**Pn**	**00 45 34.2**	**-0.2**
MALT	**Malatya**	**4.66**	**259**	*e*	PN	**Pn**	**00 45 38.1**	**+3.6**
MALT				*e*	S	**Sn**	**00 46 35.3**	**+6.7**
URFA	**Urfa**	**4.66**	**248**	*e*	PN	**Pn**	**00 45 34.6**	**+0.1**
KIV	**Kislovodsk**	**4.76**	**346**	*i*	ePN	**Pn**	**00 45 40.0**	**+4.1**
KIV	**Kislovodsk**	**4.76**	**346**	*e*	Pn	**Pn**	**00 45 35.7**	**-0.2**
KIV	**Kislovodsk**	**4.76**	**346**	*e*	Pn	**Pn**	**00 45 35.7**	**-0.2**
SNGE	**Sanandaj**	**4.90**	**149**	*e*	PN	**Pn**	**00 45 40.3**	**+2.4**
SNGE				*e*	Sg	**Sg**	**00 46 57.6**	**-3.9**
ILIN	**Laeen**	**4.91**	**153**	*e*	Pn	**Pn**	**00 45 38.6**	**+0.6**
ILIN				*e*	Sn	**Sn**	**00 46 34.4**	**-0.5**
ILIN				*e*	Sn	**Sn**	**00 46 34.8**	**-0.1**
ILIN	**Laeen**	**4.91**	**153**		Pn	**Pn**	**00 45 38.5**	**+0.5**
ILIN					Sn	**Sn**	**00 46 34.7**	**-0.6**
ILIN					Sn	**Sn**	**00 46 34.7**	**-0.2**
ILIN	**Laeen**	**4.91**	**153**		Pn	**Pn**	**00 45 38.5**	**+0.5**
ILIN					Sn	**Sn**	**00 46 34.3**	**-0.6**
IDHR	**Dehrash**	**4.93**	**159**	*e*	Pn	**Pn**	**00 45 37.0**	**-1.2**
IDHR				*e*	Pn	**Pn**	**00 45 38.7**	**+0.5**
IDHR				*e*	Pn	**Pn**	**00 45 41.2**	**+3.0**
IDHR				*e*	Sn	**Sn**	**00 46 34.3**	**-1.1**
IDHR				*e*	Sn	**Sn**	**00 46 34.3**	**-1.1**
IDHR	**Dehrash**	**4.93**	**159**		Pn	**Pn**	**00 45 36.9**	**-1.3**
IDHR	**Dehrash**	**4.93**	**159**	*e*	Pn	**Pn**	**00 45 38.7**	**+0.5**
IDHR				*e*	Sn	**Sn**	**00 46 34.3**	**-1.1**
SOC	**Sochi**	**5.44**	**323**	*e*	PN	**Pn**	**00 45 52.0**	**+6.8**
SOC				*e*			00 45 56.8	
SOC				*e*			00 47 11.4	
SOC					pmax	pmax		
	comp=Z,9.0nm,0.8s							
SOC					MLR	MLR		
	comp=Z,565nm,14.0s							
SOC	**Sochi**	**5.44**	**323**	*e*	Sg	**Sg**	**00 47 11.4**	**-7.4**
IGZV	**Gazvin**	**5.57**	**120**	*e*	Pn	**Pn**	**00 45 47.9**	**+0.9**
IGZV				*e*	Pn	**Pn**	**00 45 48.3**	**+1.3**
IGZV				*e*	Pn	**Pn**	**00 45 49.7**	**+2.7**
IGZV				*e*	Sn	**Sn**	**00 46 48.8**	**-2.2**
IGZV				*e*	Sn	**Sn**	**00 46 48.8**	**-2.2**
IGZV	**Gazvin**	**5.57**	**120**		Pn	**Pn**	**00 45 48.2**	**+1.2**
SVSK	**Karacayir**	**5.63**	**278**	*e*	PN	**Pn**	**00 45 48.9**	**+1.1**
GOF	**Gofitskoye**	**5.79**	**351**	*e*	P	**Pb**	**00 46 02.9**	**-2.3**
GAZ	**Gaziantep**	**5.94**	**251**	*e*	PN	**Pn**	**00 45 53.1**	**+1.0**
IRAZ	**Razeghan**	**5.99**	**129**	*e*	Pn	**Pb**	**00 46 06.7**	**-1.8**
IRAZ	**Razeghan**	**5.99**	**129**		Pn	**Pb**	**00 46 06.6**	**-1.9**
BHD	**Baghdad**	**6.05**	**179**	*ex*		x	00 45 55.5	
BHD				*ex*		x	00 46 19.0	
BHD				*ex*		x	00 47 04.0	
CHTH	**Charan**	**6.44**	**120**	*e*	PN	**Pn**	**00 46 00.9**	**+1.9**
ASAO	**Ashtian**	**6.65**	**134**	*e*	PN	**Pn**	**00 46 04.0**	**+2.1**
KOZT	**Kozan**	**6.87**	**257**	*e*	PN	**Pn**	**00 46 05.7**	**+0.9**
IAFJ	**Afjeh**	**6.87**	**118**	*e*	Pn	**Pn**	**00 46 04.0**	**-0.9**
IAFJ				*e*	Pn	**Pn**	**00 46 04.7**	**-0.2**
IAFJ				*e*	Pn	**Pn**	**00 46 05.1**	**+0.2**
IAFJ				*e*	Sn	**Sn**	**00 47 19.2**	**-3.9**
IAFJ				*e*	Sn	**Sn**	**00 47 19.5**	**-3.6**
IAFJ	**Afjeh**	**6.87**	**118**		Pn	**Pn**	**00 46 04.0**	**-0.9**
IAFJ					Pn	**Pn**	**00 46 04.6**	**-0.3**
IAFJ					Pn	**Pn**	**00 46 05.1**	**+0.2**
IAFJ					Sn	**Sn**	**00 47 19.2**	**-3.9**
IAFJ					Sn	**Sn**	**00 47 19.5**	**-3.6**
IAFJ	**Afjeh**	**6.87**	**118**	*e*	Pn	**Pn**	**00 46 05.1**	**+0.2**
IAFJ				*e*	Sn	**Sn**	**00 47 19.5**	**-3.6**
IPRN	**Paran-Amol**	**7.04**	**113**	*e*	Pn	**Pn**	**00 46 07.0**	**-0.3**
IPRN				*e*	Pn	**Pn**	**00 46 07.5**	**+0.2**
IPRN				*e*	Pn	**Pn**	**00 46 07.8**	**+0.5**
IPRN				*e*	Sn	**Sn**	**00 47 22.8**	**-4.6**
IPRN				*e*	Sn	**Sn**	**00 47 23.6**	**-3.8**
IPRN	**Paran-Amol**	**7.04**	**113**		Pn	**Pn**	**00 46 07.0**	**-0.3**
IPRN					Pn	**Pn**	**00 46 07.5**	**+0.2**
IPRN					Pn	**Pn**	**00 46 07.8**	**+0.5**
IPRN					Sn	**Sn**	**00 47 22.7**	**-4.7**
IDMV	**Damavand**	**7.24**	**119**	*e*	Pn	**Pn**	**00 46 10.3**	**+0.4**
IDMV				*e*	Pn	**Pn**	**00 46 10.4**	**+0.5**
IDMV				*e*	Pn	**Pn**	**00 46 10.8**	**+0.9**
IDMV				*e*	Sn	**Sn**	**00 47 28.4**	**-3.8**
IDMV				*e*	Sn	**Sn**	**00 47 28.5**	**-3.7**
IDMV	**Damavand**	**7.24**	**119**		Pn	**Pn**	**00 46 10.2**	**+0.3**
IDMV					Pn	**Pn**	**00 46 10.4**	**+0.5**
IDMV					Pn	**Pn**	**00 46 10.8**	**+0.9**
IDMV					Sn	**Sn**	**00 47 28.3**	**-3.9**
IDMV					Sn	**Sn**	**00 47 28.5**	**-3.7**
IDMV	**Damavand**	**7.24**	**119**	*e*	Pn	**Pn**	**00 46 10.4**	**+0.5**
IDMV				*e*	Sn	**Sn**	**00 47 28.5**	**-3.7**
BR131	**Keskin Array S**	**8.21**	**276**	*e*	Pn	**Pn**	**00 46 24.2**	**+1.0**
	comp=Z,3.1nm,0.9s							
BRTR	**Keskin Array B**	**8.21**	**276**		Pn	**Pn**	**00 46 23.8**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=98,slow=11,SNR=14							
ASF	**Jabal al Asfar**	**9.31**	**222**		Pn	**Pn**	**00 46 42.6**	**+4.3**
	comp=Z,0.1nm,0.3s,baz=101,slow=16,SNR=2.2							
ASF					Lg		00 49 26.4	
	comp=Z,0.1nm,0.3s,baz=342,slow=20,SNR=3.1							
MIB	**Mutribah**	**9.84**	**164**	*e*	P	**Pn**	**00 46 45.0**	**-0.6**
MIB					AML	AML	00 48 55.1	
	comp=Z,2.7nm,0.7s							
UMR	**Umm Al-Rimmam**	**10.17**	**163**	*e*	P	**Pn**	**00 46 49.5**	**-0.6**
UMR					AML	AML	00 48 49.6	
	comp=Z,4.7nm,0.5s							
NAY	**Al-Naaiem**	**10.36**	**165**	*e*	P	**Pn**	**00 46 51.5**	**-1.2**
RDF	**Al-Radifah**	**10.73**	**164**	*e*	P	**Pn**	**00 46 57.0**	**-0.9**
AKTK	**Aktyubinsk**	**14.75**	**37**		Pn	**Pn**	**00 47 50.6**	**-2.1**
AKTK	**Aktyubinsk**	**14.75**	**37**		P	**Pn**	**00 47 50.6**	**-2.1**
AKTO	**Aktyubinsk**	**14.75**	**37**		Pn	**Pn**	**00 47 50.6**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=234,slow=11,SNR=7.1							
AKTO	**Aktyubinsk**	**14.75**	**37**		P	**Pn**	**00 47 50.6**	**-2.1**
AKASG	**Malin Array Be**	**15.52**	**322**		Pn	**Pn**	**00 48 00.4**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=129,slow=11,SNR=2.9							
OBN	**Obninsk**	**16.61**	**344**	*i*	eP	**Pn**	**00 48 14.5**	**-2.5**
OBN					pmax	pmax		
	comp=Z,7.0nm,1.0s							
OBN					pmax	pmax		
	comp=Z,15nm,1.1s							
OBN					MLR	MLR		
	comp=Z,100nm,14.0s							
OBN	**Obninsk**	**16.61**	**344**	*e*	P	**Pn**	**00 48 14.5**	**-2.5**
	comp=Z,100nm,14.0s							
MOS	**Moscow**	**17.00**	**347**	*e*	P	**Pn**	**00 48 21.7**	**-0.2**
MOS					pmax	pmax		
	comp=Z,62nm,1.3s							
MOS	**Moscow**	**17.00**	**347**	*e*	P	**Pn**	**00 48 21.7**	**-0.2**
	comp=Z,62nm,1.3s							
ARU	**Arti**	**19.55**	**24**	*i*	P	**Pn**	**00 48 54.6**	**+1.5**
ARU				*e*	S	**Sn**	**00 52 33.2**	**+0.7**
ARU					pmax	pmax		
	comp=Z,14nm,1.5s							
ARU	**Arti**	**19.55**	**24**	*e*	P	**Pn**	**00 48 51.7**	**-1.4**
	comp=Z,12nm,1.1s							
ARU	**Arti**	**19.55**	**24**	*e*	P	**Pn**	**00 48 51.7**	**-1.4**
	comp=Z,12nm,1.1s							
SUW	**Suwalki**	**20.49**	**323**	*e*	P	**P**	**00 49 02.1**	**0.0**
SUW					pmax	pmax		
	comp=Z,14nm,0.9s							
SUW	**Suwalki**	**20.49**	**323**	*e*	P	**P**	**00 49 02.1**	**0.0**
	comp=Z,14nm,0.9s							
SUW	**Suwalki**	**20.49**	**323**	*e*	P	**P**	**00 49 02.1**	**0.0**
	comp=Z,14nm,0.9s							
SVE	**Sverdlovsk**	**20.55**	**26**	*e*	P	**P**	**00 49 04.0**	**+1.2**
SVE				*e*			00 49 09.5	
KLMR	**Klimovskoe**	**21.75**	**354**	*e*	P	**P**	**00 49 17.8**	**+2.1**
KLMR					pmax	pmax		
	comp=Z,30nm,1.5s,mb4.5							
ZRNK	**Zerenda**	**21.76**	**43**	*e*	P	**P**	**00 49 16.0**	**+0.2**
ZRNK					pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.0							
ZRNK	**Zerenda**	**21.76**	**43**	*e*	P	**P**	**00 49 16.0**	**+0.2**
	comp=Z,6.5nm,1.0s,mb4.0							
VSU	**Vasula**	**22.21**	**335**	*i*	P	**P**	**00 49 25.8**	**+5.2**
BRVK	**Borovoye**	**22.49**	**44**	*e*	P	**P**	**00 49 26.1**	**+2.5**
BRVK					pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.7							
BRVK	**Borovoye**	**22.49**	**44**	*e*	P	**P**	**00 49 26.1**	**+2.4**
	comp=Z,2.6nm,0.9s,mb3.7							
BVAR	**Borovoye Array**	**22.54**	**44**		P	**P**	**00 49 25.3**	**+1.2**
	comp=Z,0.8nm,0.6s,mb3.3,baz=224,slow=10,SNR=7.3							
AAK	**Ala-Archa**	**23.01**	**72**	*d*	iP	**P**	**00 49 32.8**	**+3.7**
AAK					pmax	pmax		
	comp=Z,11nm,1.7s,mb4.0							
AAK					MLR	MLR		
	comp=Z,100nm,20.0s,MS3.3							
AAK	**Ala-Archa**	**23.01**	**72**	*e*	P	**P**	**00 49 34.0**	**+4.9**
	comp=Z,5.4nm,1.0s,mb3.9							
FRU	**Bishkek**	**23.10**	**71**	*e*	P	**P**	**00 49 35.0**	**+5.0**
FRU					pmax	pmax		
	comp=Z,38nm,1.8s,mb4.5							
AQU	**L'Aquila**	**23.46**	**287**	*e*	P	**P**	**00 49 33.5**	**-0.4**
AQU					pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.2							
AQU	**L'Aquila**	**23.46**	**287**	*e*	P	**P**	**00 49 33.5**	**-0.4**
	comp=Z,9.5nm,0.9s,mb4.2							
GERES	**GERESS Array B**	**23.77**	**304**		P	**P**	**00 49 35.9**	**-0.9**
	comp=Z,1.4nm,0.6s,mb3.5,baz=106,slow=9.0,SNR=14							
FINES	**FINESS Array B**	**24.81**	**339**		P	**P**	**00 49 44.7**	**-1.6**
	comp=Z,4.1nm,1.0s,mb3.9,baz=142,slow=9.6,SNR=7.0							
FINES					LR	LR	01 00 32.9	
	comp=Z,38nm,18.2s,MS2.9,baz=335,slow=39							
FINES	**FINESS Array B**	**24.81**	**339**		P	**P**	**00 49 44.7**	**-1.6**
FINES					LR	LR	01 00 33.0	
GRA1	**Grafenberg Arr**	**25.53**

STKA Stephens Creek 27.99 213 P P 01 08 21.9 -1.4
comp=Z,5.7nm,0.4s,mb4.4,baz=31,slow=10.0,SNR=20
STKA ScP ScP 01 15 09.5 -1.2
comp=Z,2.2nm,0.5s,baz=18,slow=3.9,SNR=4.3
ASAR Alice Springs 28.10 235 P P 01 08 23.6 -0.6
comp=Z,4.5nm,0.7s,mb4.1,baz=66,slow=9.1,SNR=34
AFI Afiamalu 29.14 103 LR LR 01 17 50.8
comp=Z,321nm,21.8s,baz=150,slow=31
URZ Urewera 33.54 154 P P 01 09 13.5 +1.3
comp=Z,12nm,0.5s,mb5.0,baz=337,slow=5.2
URZ LR LR 01 20 31.1
comp=Z,323nm,20.3s,baz=313,slow=32
FITZ Fitzroy Crossi 33.59 251 *eP* **P 01 09 11.7 -1.0**
comp=Z,25nm,1.3s,mb4.9
FITZ Fitzroy Crossi 33.59 251 P P **01 09 11.9 -0.8**
comp=Z,4.6nm,0.4s,mb4.6,baz=76,slow=8.7,SNR=5.0
RPZ Rata Peaks 36.30 165 P P **01 09 36.6 +0.7**
comp=Z,12nm,0.5s,mb5.1,baz=74,slow=1.9,SNR=6.7
CBIJ Chichi jima 39.26 336 LR LR 01 25 21.3
comp=Z,188nm,20.1s,baz=122,slow=35
MBWA Marble Bar 39.66 248 *eP* **P 01 10 03.5 -0.8**
comp=Z,52nm,1.3s,mb5.2
MBWA *e*pP pP 01 10 21.4 -1.1
RAR Rarotonga 41.60 112 LR LR 01 24 10.7
comp=Z,314nm,21.6s,baz=299,slow=31
KKM Kota Kinabalu 45.08 288 *eP* **P 01 10 48.0 -0.2**
KKM *e*pP pP 01 11 07.1 +0.2
JOW Kunigami 46.30 321 P P **01 10 59.1 +1.4**
comp=Z,23nm,0.6s,mb5.1,baz=148,slow=8.2,SNR=16
JOW LR LR 01 27 29.5
comp=Z,42nm,19.0s,baz=200,slow=32
MJAR Matsushiro Arr 49.18 338 P P **01 11 19.4 -0.7**
comp=Z,11nm,0.7s,mb4.9,baz=166,slow=8.6,SNR=18
MAJO Matsushiro 49.18 338 P P **01 11 19.6 -0.5**
MAJO pmax pmax
comp=Z,24nm,0.9s,mb5.1
MAJO Matsushiro 49.18 338 P P **01 11 19.6 -0.5**
comp=Z,24nm,0.9s,mb5.1
MAT Matsushiro 49.18 338 P P **01 11 19.5 -0.6**
MAT Matsushiro 49.18 338 *eP* P **01 11 20.0 -0.1**
MAT pmax pmax
comp=Z,12nm,0.7s,mb4.9
MAT Matsushiro 49.18 338 *eP* P **01 11 20.0 -0.1**
comp=Z,12nm,0.7s,mb4.9
YHNB Yeheng 49.51 313 *eP* P **01 11 22.0 -0.6**
KSM Kuching 49.52 280 *eP* P **01 11 22.4 -0.2**
KSM *e*pP pP 01 11 41.2 -0.3
PPT Papeete 50.74 105 *eS* Sx 01 19 20.5
comp=Z,143nm,23.5s
PPT *e*LR LR 01 26 39.6
comp=Z,358nm,25.5s
PPT Papeete 50.74 105 LR LR 01 28 08.7
comp=Z,252nm,20.1s,baz=296,slow=30
TBI Tubuai 51.37 113 *e*LR LR 01 26 56.6
comp=Z,584nm,30.8s
SSE Sheshan 53.72 319 P P **01 11 54.9 +0.9**
SSE XP sP 01 12 23.9 +2.3
SSE PP PP 01 13 57.4 +1.9
SSE SCP ScP 01 16 48.6 -1.7
SSE S S **01 19 26.7 +4.3**
SSE AMB AMB
comp=Z,28nm,0.9s,mb5.3
SSE AMB AMB
comp=Z,77nm,3.4s
SSE LR LR
comp=Z,59nm,22.8s
KS15 Wonju Array Si 54.46 330 P P **01 12 00.0 +0.7**
ASAJ Asahikawa 54.77 346 P P **01 12 02.5 +1.0**
comp=Z,8.8nm,0.6s,mb5.0,baz=243,slow=18
ASAJ Asahikawa 54.77 346 P P **01 12 02.6 +1.0**
ASAJ pmax pmax
comp=Z,9.0nm,0.6s
QIZ Qiongzhong 55.76 300 ⇑P P **01 12 07.9 -0.8**
QIZ S S **01 19 53.9 +4.2**
QIZ AMB AMB
comp=Z,21nm,2.1s,mb4.8
QIZ LR LR
comp=E,147nm,27.2s
QIZ LR LR
comp=Z,240nm,23.4s
NJ2 Nanjing 55.85 319 *eP* P **01 12 10.1 +0.7**
NJ2 AP pP 01 12 28.8 +0.2
NJ2 XP sP 01 12 38.6 +1.5
NJ2 PP PP 01 14 17.3 +2.7
NJ2 S S **01 19 53.0 +2.0**
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
NJ2 AMB AMB
comp=Z,90nm,10.0s
NJ2 LR LR
comp=N,530nm,24.7s
NJ2 LR LR
comp=E,360nm,30.7s
NJ2 LR LR
comp=Z,260nm,31.4s
YSS Yuzh-Sakhalins 57.41 347 *d iP* **P 01 12 21.1 +0.7**
YSS pmax pmax
comp=Z,22nm,0.8s,mb5.2
YSS Yuzh-Sakhalins 57.41 347 P P **01 12 20.5 +0.2**
WHN Wuhan 58.00 314 ⇓P P **01 12 24.5 -0.1**
MDJ Mudanjiang 59.46 336 P P **01 12 35.5 +0.8**
MDJ AP pP 01 12 53.6 -0.5
MDJ XP sP 01 13 01.2 -1.4
MDJ PP PP 01 14 46.9 +0.3
MDJ SCP ScP 01 17 16.6 +1.0
MDJ PCS PcS 01 17 24.3 +0.6
MDJ S S **01 20 43.1 +4.9**
MDJ XS sS 01 21 11.5 +0.3
MDJ AMB AMB
comp=Z,11nm,0.9s,mb4.9
MDJ AMB AMB
comp=Z,89nm,5.6s
MDJ LR LR
comp=N,91nm,24.3s
MDJ LR LR
comp=E,58nm,25.2s
MDJ LR LR
comp=Z,154nm,24.3s
CN2 Changchun 60.58 333 *eP* P **01 12 42.3 0.0**
CN2 *e*AP pP 01 13 01.7 -0.1
CN2 *e*XP sP 01 13 10.4 +0.1
CN2 *e*S S **01 20 52.0 -0.5**
CN2 AMB AMB
comp=Z,30nm,1.1s,mb5.2
CN2 AMB AMB
comp=Z,200nm,3.0s
HABR Khabarovsk 60.85 342 *eP* P **01 12 44.5 +0.3**
HABR S S **01 20 57.8 +1.9**
HABR pmax pmax
comp=Z,43nm,1.0s,mb5.4
PSI Prapat 60.92 278 P P **01 12 42.6 -2.0**
comp=Z,4.1nm,0.5s,mb4.7,baz=323,slow=21,SNR=4.7
PET Petropavlovsk 61.64 360⇑ *eP* P **01 12 49.1 -0.4**
PET pmax pmax
comp=Z,20nm,1.7s,mb4.9
GYA Guiyang 61.68 306⇑ *iP* P **01 12 49.9 +0.1**
GYA AP pP 01 13 09.4 +0.1
GYA XP sP 01 13 18.0 +0.2
GYA PP PP 01 15 08.6 +2.3
GYA S S **01 21 02.4 -4.1**
GYA XS sS 01 21 36.7 -3.1
GYA SS SS 01 25 06.5 -2.6
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.2
GYA AMB AMB
comp=Z,110nm,4.2s
GYA LR LR
comp=N,490nm,19.4s
GYA LR LR
comp=E,470nm,18.8s
GYA LR LR
comp=Z,410nm,19.0s
KLR Kul'dur 62.57 340 *eP* P **01 12 52.4 -3.3**
KLR *e* pP 01 13 10.0 -5.3
KLR pmax pmax
comp=E,22nm,1.6s
KLR pmax pmax
comp=Z,50nm,1.6s,mb5.2
BJI Beijing 62.67 324 P P **01 12 52.7 -3.7**
FX1 Attu Island--F 62.69 10 *eP* P **01 12 58.0 +1.4**
XAN Xi'an 63.76 315 P P **01 13 03.2 -0.4**
XAN AMB AMB
comp=Z,34nm,0.7s,mb5.3
KMI Kunming 64.28 303 P P **01 13 09.9 +2.9**
KMI S S **01 21 37.4 -1.6**
KMI AMB AMB
comp=Z,12nm,0.8s,mb4.8
RKT Rikitea 64.64 111 *e*LR LR 01 33 05.6
comp=Z,327nm,32.2s
CHTO Chiang Mai 65.21 295 *eP* P **01 13 12.5 -0.6**
CHTO *e**PP pP 01 13 31.3 -1.5
CHTO pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
CHTO Chiang Mai 65.21 295 *eP* P **01 13 12.5 -0.6**
comp=Z,6.9nm,0.9s,mb4.5
CHTO *e*pP pP 01 13 31.3 -1.5
HHC Hu-ho-hao-te 65.92 322 *eP* P **01 13 18.3 +0.7**
HHC AP pP 01 13 38.2 +0.8
HHC XP sP 01 13 45.6 -0.2
HHC PCP PcP 01 13 48.5 +0.6
HHC SCP 01 17 42.4
HHC PCS 01 17 53.1
HHC S S 01 22 00.1 +1.1
HHC PS 01 22 32.6
HHC XS sS 01 22 35.5 +2.9
HHC SCS ScS 01 23 03.3 -3.5
HHC SS SS 01 26 17.4 +2.3
HHC AMB AMB
comp=Z,18nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,62nm,6.8s
HHC LR LR
comp=N,129nm,18.6s
HHC LR LR
comp=E,230nm,17.1s
HHC LR LR
comp=Z,138nm,16.6s
CD2 Chengdu 65.99 309 *eP* P **01 13 17.7 -0.4**
CD2 AP pP 01 13 37.4 -0.4
CD2 XP sP 01 13 46.0 -0.2
CD2 PP PP 01 15 46.2 +2.1
CD2 S S 01 21 58.6 -1.3
CD2 XS sS 01 22 32.3 -1.2
CD2 SS SS 01 26 16.7 +0.4
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
CD2 AMB AMB
comp=Z,80nm,5.9s
CD2 LR LR
comp=E,60nm,13.2s
CD2 LR LR
comp=Z,110nm,15.6s
CASY Casey 66.08 199 *eP* P **01 13 18.1 -0.6**
HIA Hailar 67.29 333 *eP* P **01 13 26.8 +0.5**
HIA *e**PP pP 01 13 45.6 -0.6
HIA pmax pmax
comp=Z,11nm,0.8s
HIA Hailar 67.29 333 *eP* P **01 13 26.8 +0.4**
comp=Z,11nm,0.8s,mb4.7
HIA *e*pP pP 01 13 45.6 -0.6
LZH Lanzhou 68.38 314 *eP* P **01 13 34.2 +1.0**
LZH AP pP 01 13 54.4 +1.3
LZH XP sP 01 14 02.4 +1.0
LZH PP PP 01 16 08.0 +3.1
LZH *e*S S 01 22 28.3 -0.3
LZH XS sS 01 23 02.0 -0.4
LZH *e*SS SS 01 26 55.0 +1.7
LZH AMB AMB
comp=Z,80nm,1.2s,mb5.4
LZH AMB AMB
comp=Z,250nm,4.2s
LZH LR LR
comp=E,1μm,14.0s
MA2 Magadan 68.52 356‖ *eP* P **01 13 32.0 -2.1**
MA2 pmax pmax
comp=Z,46nm,1.7s,mb5.0
VNDA Vanda 68.65 179 P P **01 13 35.4 +0.5**
comp=Z,4.3nm,0.6s,mb4.4,baz=338,slow=6.7,SNR=24
VNDA LR LR 01 39 00.3
comp=Z,54nm,20.6s,baz=15,slow=32
SBA Scott Base 69.09 178 P P **01 13 39.2 +1.6**
SBA *PP pP 01 14 00.0 +2.5
CIT Chita 72.02 332 *eP* P **01 13 56.0 +0.5**
CIT *e* pP 01 14 14.9 -0.6
CIT pmax pmax
comp=Z,20nm,1.9s,mb4.6
ULN Ulaanbaatar 72.68 326 P P **01 14 00.2 +0.8**
ULN pmax pmax
comp=Z,19nm,1.0s,mb4.9
ULN Ulaanbaatar 72.68 326 P P **01 14 00.2 +0.9**
comp=Z,19nm,1.0s,mb4.9
GTA Gaotai 72.77 316 P P **01 14 00.9 +1.0**
GTA PCP PcP 01 14 16.9 +0.1
GTA AP pP 01 14 19.8 -0.1
GTA XP sP 01 14 28.2 -0.1
GTA PP PP 01 16 47.2 +4.6
GTA PPP 01 18 31.1
GTA S S 01 23 21.6 +2.0
GTA XS sS 01 23 56.8 +3.1
GTA SCS ScS 01 23 59.4 -1.3
GTA PS 01 24 05.2
GTA AMB AMB
comp=Z,14nm,0.8s,mb4.8
GTA AMB AMB
comp=Z,90nm,12.8s
GTA LR LR
comp=N,86nm,21.8s
GTA LR LR
comp=E,215nm,25.2s
GTA LR LR
comp=Z,178nm,22.5s
SONM Songino Array 73.03 326 P P **01 14 02.1 +0.7**
comp=Z,13nm,0.8s,mb4.8,baz=138,slow=5.4,SNR=101
SONM LR LR 01 46 19.8
comp=Z,82nm,18.1s,baz=86,slow=36
YAK Yakutsk 74.24 346‖ *c iP* P **01 14 08.0 -0.5**
YAK *i* *PP pP 01 14 26.8 -1.9
YAK pmax pmax
comp=Z,54nm,0.8s,mb5.3
YAK Yakutsk 74.24 346 P P **01 14 08.2 -0.3**
YAK pP pP 01 14 27.0 -1.7
BOD Bodaibo 75.81 337 *eP* P **01 14 16.0 -1.5**
BOD *e* pP 01 14 35.4 -2.3
BOD pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
BOD pmax pmax
comp=Z,5.0nm,1.2s,mb4.1
ZAK Zakamensk 76.15 327 *eP* P **01 14 18.3 -1.2**
ZAK pmax pmax
comp=Z,11nm,1.5s,mb4.4
TLY Talaya 76.66 328 P P **01 14 22.3 -0.1**
TLY pP pP 01 14 43.5 +0.8
BILL Bilibino 76.89 3 *eP* P **01 14 23.5 -0.2**
BILL *e**PP pP 01 14 41.3 -2.6
BILL pmax pmax
comp=Z,26nm,1.1s,mb4.9
BILL Bilibino 76.89 3 *eP* P **01 14 23.5 -0.2**
comp=Z,26nm,1.1s,mb4.9
BILL *e*pP pP 01 14 41.2 -2.6
TTA Tatalina 79.44 19 P P **01 14 38.4 +0.6**
TTA pP pP 01 14 58.7 +0.6
QSPA South Pole Qui 81.12 180⇓ *iP* P **01 14 47.0 +0.2**
comp=Z,25nm,1.1s,mb5.0
WMQ Urumqi 82.84 316 ⇑P P **01 14 55.6 -0.2**
WMQ AP pP 01 15 16.1 -0.2
WMQ XP sP 01 15 24.4 -0.1
WMQ PP PP 01 18 08.6 +1.7
WMQ PPP 01 20 01.6
WMQ *e*S S 01 25 06.1 -2.0
WMQ AMB AMB
comp=Z,9.0nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,138nm,4.1s
WMQ LR LR
comp=N,31nm,20.7s
WMQ LR LR
comp=E,47nm,19.7s
WMQ LR LR
comp=Z,54nm,24.8s
COLA College 83.44 20 *eP* P **01 14 58.0 -0.9**
COLA pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
COLA College 83.44 20 *eP* P **01 14 58.0 -0.9**
comp=Z,8.5nm,0.8s,mb4.6
ILAR Eielson Array 83.71 20 P P **01 14 58.9 -1.4**
comp=Z,3.4nm,0.5s,mb4.5,baz=251,slow=4.9,SNR=66
MAW Mawson 84.18 203 P P **01 15 02.3 -0.4**
comp=Z,5.7nm,1.1s,mb4.3,baz=44,slow=6.7,SNR=8.0
KRAR Krasnoyarsk 84.34 329⇑ *eP* P **01 14 59.2 -4.3**
KRAR pmax pmax
comp=Z,23nm,0.5s,mb5.3
DAWY Dawson 86.06 23 P P **01 15 13.0 +0.9**
DAWY pP pP 01 15 34.8 +2.1
MKAR Makanchi Array 87.38 318 P P **01 15 18.1 -0.4**
comp=Z,4.3nm,0.5s,mb4.6,baz=100,slow=5.8,SNR=30
ZAL Zalesovo 87.92 325 P P **01 15 19.0 -2.0**
comp=Z,1.0nm,0.5s,mb4.2,baz=342,slow=9.1,SNR=4.4
NVAR Mina Array Bea 89.83 51 P P **01 15 31.2 +1.2**
comp=Z,3.4nm,1.0s,mb4.5,baz=230,slow=5.1,SNR=11
DAC Darwin (Calif) 89.97 53 P P **01 15 32.5 +1.8**
DAC pmax pmax
comp=Z,8.0nm,1.3s,mb4.7
DAC Darwin (Calif) 89.97 53 P P **01 15 32.5 +1.8**
comp=Z,8.4nm,1.3s,mb4.7
DAC pP pP 01 15 54.5 +3.1
KURK Kurchatov 90.71 321⇑ *eP* P **01 15 32.2 -1.9**
TPNV Topopah Spring 91.16 53 P P **01 15 37.9 +1.7**
TPNV pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
TPNV Topopah Spring 91.16 53 P P **01 15 37.9 +1.7**
comp=Z,4.7nm,0.9s,mb4.6
TPNV pP pP 01 16 00.6 +3.7
BMO Blue Mountains 91.79 45 P P **01 15 40.1 +0.9**
BMO pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
BMO Blue Mountains 91.79 45 P P **01 15 40.1 +0.9**
comp=Z,5.4nm,0.8s,mb4.8
AAK Ala-Archa 91.86 313⇓ *iP* P **01 15 38.4 -1.1**
AAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.4
BVAR Borovoye Array 96.13 323 P P **01 15 57.3 -1.8**
comp=Z,1.3nm,0.7s,mb4.5,baz=104,slow=6.1,SNR=3.5
YKA Yellowknife Ar 96.16 28 P P **01 15 58.1 -1.1**
comp=Z,0.7nm,0.7s,mb4.2,baz=261,slow=4.8,SNR=24
YKA PKKPbc PKKPbc 01 32 44.2 -1.2
comp=Z,0.4nm,0.9s,baz=78,slow=3.0,SNR=6.5
YKA Yellowknife Ar 96.16 28 P P **01 15 58.1 -1.1**
YKA PKKPbc PKKPbc 01 32 44.2 -1.2
PDAR Pinedale Array 97.05 48 P P **01 16 03.8 +0.6**
comp=Z,0.9nm,0.7s,mb4.3,baz=260,slow=1.6,SNR=9.6
SNAA Sanae 98.73 186 *i* P P **01 16 07.1 -3.7**
VNA3 Neumayer Olymp 99.70 184 *e*Pdiff Pdif 01 16 15.1 0.0
VNA3 *e* 01 16 17.3
VNA3 *e* 01 16 33.3
VNA3 *e* 01 17 07.5
VNA2 Neumayer--Watz 99.85 185 *e*Pdiff Pdif 01 16 15.7 -0.1
VNA2 *e* 01 16 19.0
VNA2 *e* 01 16 25.5
VNA2 *e* 01 16 36.0
VNA2 *e* 01 17 09.3
ARCES ARCESS Array B 112.47 344 PKKPbc PKKPbc 01 31 55.3 -1.2
comp=Z,3.0nm,0.8s,baz=251,slow=3.7,SNR=5.2
LPAZ La Paz 127.15 118 PKP PKPdf 01 21 36.6 +1.4
comp=Z,0.5nm,0.5s,baz=258,slow=6.3,SNR=5.7
CLL Collm 129.27 333 *e*PKIKP PKPdf 01 21 41.0 +1.7
CLL *e* 01 21 56.0
BDFB Brasilia 143.88 132 PKP PKPdf 01 22 04.7 -1.5
comp=Z,1.0nm,0.4s,baz=180,slow=2.0,SNR=2.8
TORD Torodi Ar. Bea 157.25 283 PKP PKPdf 01 22 28.0 +1.2
comp=Z,0.7nm,1.0s,baz=82,slow=2.4,SNR=4.1
TORD PKPab PKPab 01 22 58.3 +0.2
comp=Z,1.6nm,0.8s,baz=81,slow=4.3,SNR=11

IDC ***09*** *01:09:40.0±2.3, 102N×13509E, h0km, mb4.2/5, mb1 4.4/5, mb1mx4.0/19, mbtmp4.2/5, MS3.9/3, Ms1 3.9/3, ms1mx3.0/21, Error ellipse: s-maj=100.6km s-min=21.3km az=81.0*
ISCJB ***09*** *01:09:43.2±0.8, 096N±009×1350E±02, h33km, mb4.0/7, MS3.9/3, Error ellipse: s-maj=28.2km s-min=10.0km az=142.2*
NEIC ***09*** *01:09:44.7±0.6, 103N×135.16E, h35km, mb4.1/3, Error ellipse: s-maj=18.9km s-min=7.9km az=75.0*
ISC 09 01:09:45.4±0.8, 099N±009×1350E±02, h35km, n18, σ0°69/15, mb4.0/7, MS3.9/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**19.42**	**285**	*eP*	**Pn**	**01 14 09.3**	**-0.6**
WRAB	**Tennant Creek**	**20.80**	**182**	*eP*	**P**	**01 14 23.0**	**-0.6**
WB2	**Warramunga Arr**	**20.81**	**182**	*eP*	**P**	**01 14 22.7**	**-0.9**
WRA	**Warramunga Arr**	**20.81**	**182**	P	**P**	**01 14 23.3**	**-0.3**
	22nm,0.8s,baz=1.7,slow=11,SNR=21						
FITZ	**Fitzroy Crossi**	**21.09**	**206**	P	**P**	**01 14 26.5**	**-0.2**
	3.6nm,1.0s,mb3.7,baz=32,slow=13,SNR=2.5						
CTAO	**Charters Tower**	**23.66**	**153**	*eP*	**P**	**01 14 54.1**	**+0.4**
ASAR	**Alice Springs**	**24.53**	**182**	P	**P**	**01 15 02.3**	**+0.8**
	9.8nm,0.7s,mb4.4,baz=8.6,slow=11,SNR=49						
MBWA	**Marble Bar**	**26.61**	**213**	P	**P**	**01 15 22.5**	**+2.1**
HNR	**Honiara**	**26.90**	**113**	LR	LR	01 24 58.0	
	comp=Z,110nm,20.5s,MS3.4,baz=357,slow=34						
STKA	**Stephens Creek**	**33.27**	**170**	*eP*	**P**	**01 16 19.0**	**-0.4**
LSA	**Lhasa**	**50.54**	**309**	P	**P**	**01 18 40.4**	**+0.2**
MKAR	**Makanchi Array**	**64.63**	**323**	P	**P**	**01 20 19.9**	**+0.6**
	1.1nm,0.6s,mb4.0,baz=110,slow=7.0,SNR=5.9						
KURK	**Kurchatov**	**68.59**	**325**	*eP*	**P**	**01 20 44.2**	**-0.5**
	0.7nm,0.5s,mb3.9						
BVAR	**Borovoye Array**	**74.19**	**325**	P	**P**	**01 21 18.5**	**+0.1**
	1.6nm,0.8s,mb4.0,baz=116,slow=6.8,SNR=8.3						
BRVK	**Borovoye**	**74.27**	**325**	*eP*	**P**	**01 21 18.8**	**-0.1**
	1.7nm,0.8s,mb4.0						
ZRNK	**Zerenda**	**74.96**	**325**	*eP*	**P**	**01 21 22.8**	**-0.2**
	2.5nm,1.3s,mb4.0						
ARCES	**ARCESS Array B**	**95.82**	**341**	LR	LR	02 10 16.5	
	comp=Z,96nm,18.0s,MS4.3,baz=274,slow=38						
FINES	**FINESS Array B**	**98.10**	**333**	LR	LR	02 09 43.7	
	comp=Z,49nm,18.3s,MS4.0,baz=186,slow=37						

IDC 09 01:09:47.1±1.0, 1525S×173‡4W, h0km, mb3.9/5, mb1 4.2/5, mb1mx4.0/15, mbtmp3.9/5, Error ellipse: s-maj=52.2km s-min=27.3km az=122.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.87**	**45**	Pn	Pn	01 10 14.4	-5.9
	25nm,0.3s,baz=23,slow=11,SNR=12						
AFI				Sn	Sn	01 10 33.7	-11
	118nm,0.3s,baz=233,slow=20,SNR=17						
ASAR	**Alice Springs**	**50.40**	**252**	P	P	01 18 45.5	-0.5
	1.8nm,0.6s,baz=87,slow=8.1,SNR=11						
VNDA	**Vanda**	**63.55**	**186**	P	P	01 20 19.2	-0.1
	1.5nm,0.9s,baz=18,slow=7.5,SNR=6.1						
PDAR	**Pinedale Array**	**81.98**	**42**	P	P	01 22 08.2	-0.6
	0.5nm,0.8s,baz=224,slow=2.5,SNR=3.5						
ILAR	**Eielson Array**	**82.25**	**11**	P	P	01 22 09.7	-0.5
	0.6nm,1.0s,baz=202,slow=6.8,SNR=5.4						
YKA	**Yellowknife Ar**	**89.86**	**23**	P	P	01 22 47.1	-0.7
	0.8nm,0.9s,baz=236,slow=4.1,SNR=12						
KHC	**Kasperske Hory**	**145.76**	**352**	*eP*	PKPdf	01 29 29.0	+1.4
GERES	**GERESS Array B**	**146.03**	**352**	PKPbc	PKPbc	01 29 29.1	+0.3
	0.3nm,0.5s,baz=52,slow=3.8,SNR=4.1						
BRTR	**Keskin Array B**	**146.20**	**321**	PKPbc	PKPbc	01 29 30.9	+1.5
	2.1nm,1.0s,baz=97,slow=3.8,SNR=6.8						

ISCJB ***09*** *01:44:56.3±0.9, 3756N±004×2095E±006, h6km, Error ellipse: s-maj=8.4km s-min=4.1km az=108.5*
ATH ***09*** *01:44:56.8, 3754N×2097E, h6km±3km, MD3.5/10, ML3.6*
CSEM ***09*** *01:44:56.5±0.4, 3751N×2085E, h2km, ML3.6, Error ellipse: s-maj=9.9km s-min=5.5km az=54.0*
NEIC ***09*** *01:44:56.1, 3753N×2096E, h5km, ML3.6(ATH), After ATH.*
THE ***09*** *01:44:58.8, 3764N×2097E, h5km*
ISC 09 01:44:56.5±0.9, 3755N±004×2097E±006, h1km±6km, n23, σ1°27/35, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.65**	**38**	*e*PG	**Pg**	**01 45 08.9**	**+0.1**
RLS				*e*SB	**Sg**	**01 45 18.5**	**+1.3**
VLS	**Valsamata**	**0.70**	**335**	*e*PG	**Pg**	**01 45 10.1**	**+0.3**
VLS				*e*SB	**Sg**	**01 45 21.1**	**+2.2**
ITM	**Ithomi**	**0.85**	**115**	*e*PG	**Pg**	**01 45 12.4**	**-0.3**
ITM				*e*SB	**Sb**	**01 45 25.1**	**-0.7**
LKD	**Levkas**	**1.19**	**348**	*e*Pg	**Pg**	**01 45 18.7**	**-0.5**
LKD				*e*Sg	**Sg**	**01 45 35.6**	**+1.0**
EVR	**Evrytania**	**1.52**	**26**	*e*PB	**Pb**	**01 45 25.4**	**0.0**
VLI	**Veliai**	**1.78**	**117**	*e*PG	**Pg**	**01 45 29.8**	**-0.7**
AGG	**Agios Georgios**	**1.82**	**36**	*e*Pb	**Pb**	**01 45 29.7**	**-0.9**
AGG				*e*Sb	**Sb**	**01 45 51.8**	**-2.1**
MGER	**Gerania Oros**	**1.87**	**76**	*e*PB	**Pb**	**01 45 30.0**	**-1.4**

IGT	**Igoumenitsa**	**2.04**	**346**	*e*Pb	**Pb**	**01 45 32.1**	**-2.3**
IGT				*e*Sb	**Sb**	**01 45 57.7**	**-2.7**
KYTH	**Kithira**	**2.08**	**127**	*e*PN	**Pn**	**01 45 34.5**	**+2.0**
ATH	**Athens Observa**	**2.22**	**78**	*e*PN	**Pn**	**01 45 37.0**	**+2.6**
ATH	**Athens Observa**	**2.22**	**78**	*e*Pg	**Pg**	**01 45 37.4**	**-1.6**
PTL	**Penteli**	**2.35**	**77**	*e*PN	**Pn**	**01 45 38.0**	**+1.8**
NEO	**Neokhori**	**2.49**	**45**	*e*PN	**Pn**	**01 45 40.3**	**+2.1**
LIT	**Litokhoron**	**2.81**	**25**	*e*Pn	**Pn**	**01 45 42.7**	**+0.1**
LIT				*e*Sn	**Sn**	**01 46 17.5**	**+0.4**
FNA	**Florina**	**3.25**	**5**	*e*Pn	**Pn**	**01 45 48.2**	**-0.4**
GRG	**Griva**	**3.58**	**18**	*e*Pn	**Pn**	**01 45 53.4**	**+0.2**
GRG				*e*Sn	**Sn**	**01 46 35.7**	**-0.4**
GRG	**Griva**	**3.58**	**18**	*e*Pn	**Pn**	**01 45 53.3**	**+0.1**
GRG				*e*Sn	**Sn**	**01 46 35.7**	**-0.4**
OUR	**Ouranopolis**	**3.64**	**39**	*e*Pn	**Pn**	**01 45 54.2**	**+0.3**
SOH	**Sokhos**	**3.76**	**29**	*e*Pn	**Pn**	**01 45 56.5**	**+0.9**
SOH				*e*Sn	**Sn**	**01 46 40.9**	**+0.4**
SOH	**Sokhos**	**3.76**	**29**	*e*Pn	**Pn**	**01 45 56.5**	**+0.9**
SOH				*e*Sn	**Sn**	**01 46 40.8**	**+0.3**
SRS	**Serrai**	**4.11**	**29**	*e*Pn	**Pn**	**01 46 01.1**	**+0.7**
STON	**Ston**	**5.88**	**336**	*i* Pn	**Pn**	**01 46 22.7**	**-2.0**
STON				*i* Sn	**Sn**	**01 47 27.4**	**-5.3**

BJI ***09*** *01:57:10.8, 581S×12556E, h597km, mB5.0, mb5.5*
CSEM ***09*** *01:57:11.3, 571S×12538E, h561km, mb5.6*
MOS ***09*** *01:57:11.4±0.9, 558S×12532E, h569km, mb5.4/46, Error ellipse: s-maj=9.5km s-min=5.2km az=115.1*
ISCJB ***09*** *01:57:11.8±0.3, 570S-002×12537E±003, h586km±4km, mb5.4/133, Error ellipse: s-maj=5.0km s-min=3.1km az=134.5*
NEIC ***09*** *01:57:12.3±0.3, 568S×12531E, h573km±3km, mb5.5/40, Error ellipse: s-maj=4.3km s-min=2.8km az=65.0*
IDC ***09*** *01:57:12.8±0.7, 569S×12535E, h578km±7km, mb4.7/30, mb1 4.7/32, mb1mx4.7/33, mbtmp5.7/32, Error ellipse: s-maj=7.9km s-min=5.1km az=64.0*
HRVD ***09*** *01:57:12.3±0.3, 560S×12571E, h579km±2km, MW5.2/71, Centroid moment Tensor Solution. LP body waves: s71,c95; Half duration: 1s0 Moment tensor: Scale 10¹⁷ Nm; Mrr0.70±.03; Mθθ-0.68±.04; Mϕϕ-0.01±.06; Mrθ0.47±.04; Mθϕ-0.04±.05; Mϕr0.24±.06; Best double couple: M₀0.86900×10¹⁷ NP1:φ₁278.00000°, δ28.00000°, λ112.00000°. NP2:φ₂73.00000°, δ64.00000°, λ79.00000°. Principal axes: T 0.8960, Plg69.0000°, Azm320.0000°; N -0.0540, Plg10.0000°, Azm78.0000°; P -0.8420, Plg18.0000°, Azm172.0000°; nsta1 refers to body waves, cutoff=40s.*

ISC 09 01:57:12.4±0.3, 572S±002×12539E±003, h575km±4km, h577km±5.3km: pP-P, n568, σ1s03/355, mb5.4/129, 109C-35D, Bandar Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.45**	**54**	P	**P**	**01 58 30.6**	**-1.5**
	2μm,1.0s						
TLE	**Tual**	**7.31**	**90**	P	**P**	**01 59 03.9**	**-0.3**
	5μm,0.9s						
PCI	**Palu**	**7.32**	**311**	P	**P**	**01 59 04.6**	**+0.4**
	3μm,0.9s						
SWI	**Sorong**	**7.59**	**51**	P	**P**	**01 59 06.9**	**+0.1**
	1μm,0.6s						
KAKA	**Kakadu**	**9.83**	**135**	⇓*i*P	**P**	**01 59 28.5**	**-0.4**
	501nm,0.6s						
KAKA				*e*S	**S**	**02 01 17.6**	**-3.4**
KAKA				*e*SCP	ScP	02 07 19.9	+0.2
TARAI	**Tarakan**	**11.90**	**319**	P	**P**	**01 59 48.8**	**-1.1**
	1μm,0.8s						
FITZ	**Fitzroy Crossi**	**12.31**	**179**	⇓*i*P	**P**	**01 59 53.7**	**-0.3**
	496nm,0.5s						
FITZ				*e*S	**S**	**02 02 05.7**	**-1.3**
FITZ	**Fitzroy Crossi**	**12.31**	**179**	P	**P**	**01 59 53.8**	**-0.2**
	43nm,0.3s,baz=12,slow=9.0,SNR=1256						
FITZ				S	**S**	**02 02 05.2**	**-1.8**
	1.9nm,0.3s,baz=6.2,slow=21,SNR=2.6						
TSM	**Tawau**	**12.46**	**323**	P	**P**	**01 59 55.1**	**-0.5**
DAV	**Davao City (W)**	**12.71**	**1**	⇓*e*P	**P**	**01 59 58.0**	**-0.1**
DAV	**Davao City (W)**	**12.71**	**1**	*e*P	**P**	**01 59 58.4**	**+0.3**
	1μm,0.6s						
BUKP	**Musuan**	**13.51**	**359**	*e*P	**P**	**02 00 06.4**	**+0.1**
PAGZ	**Pagadian**	**13.62**	**352**	*e*P	**P**	**02 00 08.0**	**+0.6**
BIPH	**Bislig**	**13.85**	**4**	⇓*i*P	**P**	**02 00 08.6**	**-1.1**
CGP	**Cagayan de Oro**	**14.10**	**357**	*e*P	**P**	**02 00 11.9**	**-0.3**
KKM	**Kota Kinabalu**	**14.85**	**322**	P	**P**	**02 00 19.1**	**-0.7**
KKM	**Kota Kinabalu**	**14.85**	**322**	*e*P	**P**	**02 00 19.0**	**-0.9**
KKM				*e*S	**S**	**02 02 51.1**	**-2.3**
TBP	**Tagbilaran**	**15.38**	**354**	*e*P	**P**	**02 00 25.3**	**+0.3**
SCPH	**Surigao**	**15.40**	**0**	*e*P	**P**	**02 00 25.3**	**+0.2**
BJII	**Banjamegara**	**15.66**	**263**	P	**P**	**02 00 25.4**	**-2.1**
	404nm,0.8s						
BATP	**Bataraza**	**16.28**	**332**	*e*P	**P**	**02 00 34.9**	**+1.7**
MBWA	**Marble Bar**	**16.30**	**199**	*e*P	**P**	**02 00 33.6**	**+0.2**
	590nm,0.8s						
MBWA				S	**S**	**02 03 16.8**	**-0.5**
GUIM	**Jordan**	**16.47**	**350**	*e*P	**P**	**02 00 35.0**	**0.0**
WRAB	**Tennant Creek**	**16.60**	**149**	P	**P**	**02 00 36.0**	**-0.2**
	11μm,0.6s						
WRAB	**Tennant Creek**	**16.60**	**149**	P	**P**	**02 00 36.5**	**+0.3**
WRAB				S	**S**	**02 03 20.6**	**-1.7**
WRA	**Warramunga Arr**	**16.60**	**149**	P	**P**	**02 00 36.5**	**+0.3**
	130nm,0.3s,baz=325,slow=10,SNR=814						
WRA				S	**S**	**02 03 20.3**	**-2.1**
	5.0nm,0.3s,baz=329,slow=16,SNR=22						
WRA				ScP	ScP	02 07 31.0	+0.2
	1.1nm,0.3s,baz=326,slow=1.8,SNR=5.0						
WRA	**Warramunga Arr**	**16.60**	**149**	P	**P**	**02 00 36.5**	**+0.3**
WRA				S	**S**	**02 03 20.3**	**-2.0**
WB2	**Warramunga Arr**	**16.61**	**149**	⇓*i*P	**P**	**02 00 36.4**	**+0.1**
WB2				*e*S	**S**	**02 03 19.7**	**-2.7**
KSM	**Kuching**	**16.67**	**295**	*e*P	**P**	**02 00 37.5**	**+0.7**
PPR	**Puerto Princes**	**16.76**	**337**	⇓*e*P	**P**	**02 00 39.4**	**+1.7**
CUYO	**Cuyo Island**	**17.02**	**345**	*e*P	**P**	**02 00 41.9**	**+1.9**
JCJI	**Jatiwangi**	**17.04**	**267**	P	**P**	**02 00 39.6**	**-0.6**
	996nm,1.6s						
ASAR	**Alice Springs**	**19.64**	**156**	P	**P**	**02 01 04.9**	**+1.1**
	93nm,0.3s,baz=343,slow=15,SNR=2627						
ASAR				S	**S**	**02 04 10.2**	**-1.2**
	3.3nm,0.3s,baz=351,slow=24,SNR=13						
ASAR				ScP	ScP	02 07 37.8	+0.3
	6.2nm,0.3s,baz=341,slow=2.0,SNR=22						
ASAR	**Alice Springs**	**19.64**	**156**	P	**P**	**02 01 04.9**	**+1.0**
ASAR				S	**S**	**02 04 10.2**	**-1.2**
LUBP	**Lubang**	**19.99**	**345**	*e*P	**P**	**02 01 06.8**	**-0.2**
TGY	**Tagaytay City**	**20.18**	**347**	S	**S**	**02 04 17.9**	**-2.1**
	187nm,0.3s,baz=167,slow=6.6,SNR=1.1						
BALP	**Baler**	**21.65**	**350**	*e*P	**P**	**02 01 22.2**	**+0.2**
PMG	**Port Moresby**	**21.89**	**101**	P	**P**	**02 01 25.0**	**+0.9**
	44nm,0.9s,mb5.1,baz=293,slow=5.6,SNR=8.9						
PMG				ScP	ScP	02 07 45.3	+2.3
	31nm,0.8s,baz=319,slow=2.3,SNR=6.3						
PMG	**Port Moresby**	**21.89**	**101**	P	**P**	**02 01 25.0**	**+0.9**
PMG				pmax	pmax		
	comp=Z,44nm,0.9s						
PMG				pmax	pmax		
	comp=N,31nm,0.8s						
PMG	**Port Moresby**	**21.89**	**101**	P	**P**	**02 01 25.3**	**+1.2**
	comp=N,71nm,1.1s,mb5.2						
KSI	**Kapahiang**	**22.81**	**274**	P	**P**	**02 01 34.2**	**+1.9**
	comp=N,70nm,1.1s,mb5.2						
KGM	**Kluang**	**23.34**	**289**	P	**P**	**02 01 38.0**	**+1.0**
CTA	**Charters Tower**	**24.80**	**127**	⇓*i*P	**P**	**02 01 51.1**	**+1.1**
	comp=N,88nm,0.9s,mb5.4						
CTA				*e*PCP	PcP	02 05 04.6	-1.4
CTA				*e*SCP	ScP	02 07 51.8	+0.8
CTA	**Charters Tower**	**24.80**	**127**	P	**P**	**02 01 51.1**	**+1.2**
	comp=N,107nm,0.8s,mb5.5,baz=306,slow=11,SNR=69						
CTA				ScP	ScP	02 07 51.8	+0.8
	comp=N,57nm,0.9s,baz=310,slow=3.9,SNR=10						
CTA	**Charters Tower**	**24.80**	**127**	⇓*i*P	**P**	**02 01 51.1**	**+1.1**
CTA				*e*		02 05 04.6	
CTA				pmax	pmax		
	comp=Z,88nm,0.9s						
CTAO	**Charters Tower**	**24.80**	**127**	P	**P**	**02 01 51.2**	**+1.2**
CTAO				pmax	pmax		
	comp=Z,121nm,0.8s,mb5.6						
CTAO	**Charters Tower**	**24.80**	**127**	P	**P**	**02 01 51.2**	**+1.3**
	comp=Z,121nm,0.8s,mb5.6						
FORT	**Forrest**	**25.05**	**175**	⇓*i*P	**P**	**02 01 52.5**	**+0.3**
	comp=Z,1μm,0.6s						
FORT				*e*S	**S**	**02 05 35.6**	**-1.1**
FORT				*e*SCP	ScP	02 07 51.6	-0.1
PPI	**Padang Panjang**	**25.49**	**281**	P	**P**	**02 01 54.5**	**-1.5**
	comp=Z,323nm,1.1s,mb5.9						
IPM	**Ipoh**	**26.35**	**292**	P	**P**	**02 02 03.8**	**+0.1**
KLBR	**Kellerberrin**	**26.71**	**195**	⇓*i*P	**P**	**02 02 06.7**	**-0.1**
	comp=Z,256nm,0.7s,mb6.0						
KLBR				*e*PCP	PcP	02 05 10.8	+0.2
KLBR				*e*S	**S**	**02 06 00.8**	**-1.9**
KLBR				*e*SCP	ScP	02 07 56.3	-0.3
KULM	**Kulim**	**27.01**	**293**	*e*P	**P**	**02 02 09.4**	**0.0**
GUMO	**Guam**	**27.24**	**45**	P	**P**	**02 02 11.3**	**-0.1**
	comp=Z,55nm,0.3s,mb5.6,baz=329,slow=5.4,SNR=5.9						
MUN	**Mundaring**	**27.50**	**197**	⇓*i*P	**P**	**02 02 13.7**	**+0.1**
MUN				*e*S	**S**	**02 06 14.1**	**-0.8**
MUN				*e*SCP	ScP	02 07 57.3	-1.7
MUN	**Mundaring**	**27.50**	**197**	⇓*i*P	**P**	**02 02 13.7**	**+0.1**
MUN				*e*S	**S**	**02 06 14.1**	**-0.8**
PSI	**Prapat**	**27.75**	**287**	P	**P**	**02 02 15.5**	**-0.4**
	comp=Z,311nm,0.8s,mb6.0,baz=119,slow=5.8,SNR=307						
PSI				PcP	PcP	02 05 13.4	+0.3
	comp=Z,15nm,0.7s,baz=161,slow=2.0,SNR=9.9						
PSI				S	**S**	**02 06 17.2**	**-1.6**
	comp=Z,3.7nm,0.2s,baz=290,slow=21,SNR=2.2						
PSI				ScP	ScP	02 07 59.5	-0.3
	comp=Z,21nm,1.0s,baz=191,slow=10,SNR=6.2						
PSI	**Prapat**	**27.75**	**287**	P	**P**	**02 02 15.5**	**-0.4**
PSI						02 05 13.4	
PSI				S	**S**	**02 06 17.3**	**-1.5**
SNG	**Songkhla**	**27.84**	**297**	P	**P**	**02 02 15.0**	**-1.6**
	comp=Z,216nm,1.0s,mb5.7						
NWAO	**Narrogin (SRO)**	**28.12**	**195**	P	**P**	**02 02 19.3**	**+0.3**
	comp=Z,172nm,0.5s,mb5.9,baz=20,slow=8.4,SNR=176						
NWAO				S	**S**	**02 06 24.1**	**-0.4**
	comp=Z,18nm,0.6s,baz=9.5,slow=9.3,SNR=3.2						
NWAO				ScP	ScP	02 08 00.7	-0.3
	comp=Z,48nm,0.8s,baz=44,slow=2.7,SNR=8.6						
NWAO	**Narrogin (SRO)**	**28.12**	**195**	P	**P**	**02 02 19.3**	**+0.3**
NWAO				S	**S**	**02 06 24.1**	**-0.4**
NWAO				pmax	pmax		
	comp=Z,172nm,0.5s						
NWAO				smax			
	comp=N,18nm,0.6s						
NWAO				pmax	pmax		
	comp=N,48nm,0.8s						
NWAO	**Narrogin (SRO)**	**28.12**	**195**	P	**P**	**02 02 19.1**	**0.0**
	comp=N,160nm,0.7s,mb5.8						
QIZ	**Qiongzhong**	**28.97**	**328**	⇑P	**P**	**02 02 26.3**	**-0.1**
QIZ				S	**S**	**02 06 35.0**	**-2.7**
QIZ				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.1						
QIZ	**Qiongzhong**	**28.97**	**328**	*e*P	**P**	**02 02 26.4**	**0.0**
	comp=Z,20nm,0.7s,mb4.9						
NACB	**Ninganchiao**	**29.94**	**353**	*e*P	**P**	**02 02 33.9**	**-0.9**
STKA	**Stephens Creek**	**30.12**	**152**	⇓*i*P	**P**	**02 02 35.2**	**-1.1**
	comp=Z,510nm,0.9s,mb6.2						
STKA				*e*S	**S**	**02 06 52.8**	**-2.6**
STKA				*e*SCP	ScP	02 08 04.7	-2.7
STKA				*e*SCS	ScS	02 11 58.7	-5.8
STKA	**Stephens Creek**	**30.12**	**152**	P	**P**	**02 02 35.4**	**-0.9**
	comp=Z,214nm,0.5s,mb6.1,baz=327,slow=8.3,SNR=761						
STKA				S	**S**	**02 06 52.9**	**-2.5**
	comp=Z,28nm,0.7s,baz=113,slow=15,SNR=5.0						
STKA				ScP	ScP	02 08 04.7	-2.7
	comp=Z,36nm,0.6s,baz=348,slow=5.7,SNR=5.7						
YHNB	**Yeheng**	**30.46**	**353**	*e*P	**P**	**02 02 37.9**	**-1.3**
YHNB				*e*pP		02 04 10.1	
YHNB				*e*sP	sP	02 05 17.4	-1.8
GZH	**Guangzhou**	**30.95**	**338**	P	**P**	**02 02 41.8**	**-1.7**
GZH				S	**S**	**02 07 10.9**	**+2.7**
QZH	**Quanzhou**	**31.19**	**348**	⇑*i*P	**P**	**02 02 44.8**	**-0.7**
QZH				S	**S**	**02 07 03.7**	**-8.0**
QZH				AMB	AMB		
	comp=Z,80nm,0.8s,mb5.4						
NNT	**Nongplab**	**31.32**	**306**	P	**P**	**02 02 47.1**	**+0.5**
BSI	**Banda Aceh**	**32.04**	**290**	P	**P**	**02 02 49.0**	**-3.7**
	comp=Z,193nm,1.4s,mb5.5						
JOW	**Kunigami**	**32.48**	**5**	P	**P**	**02 02 56.9**	**+0.4**
	comp=Z,26nm,0.7s,mb5.0,baz=219,slow=7.7,SNR=14						
JOW				ScP	ScP	02 08 16.5	+1.1
	comp=Z,2.9nm,0.2s,baz=153,slow=6.9,SNR=4.5						
HNR	**Honiara**	**34.44**	**98**	P	**P**	**02 03 13.8**	**+0.9**
	comp=Z,87nm,0.6s,mb5.6,baz=146,slow=0.6,SNR=7.9						
HNR				PcP	PcP	02 05 33.2	+1.7
	comp=Z,58nm,0.3s,baz=171,slow=3.3,SNR=4.4						
HNR				S	**S**	**02 08 02.0**	**+0.9**
	comp=Z,32nm,0.4s,baz=246,slow=3.9,SNR=1.4						
ARMA	**Armidale**	**34.83**	**138**	⇓*i*P	**P**	**02 03 18.3**	**+2.2**
ARMA				*e*SCP	ScP	02 08 24.9	+1.1
CHG	**Chiang Mai**	**35.69**	**314**	⇑P	**P**	**02 03 23.7**	**+0.5**
	comp=Z,115nm,0.7s,mb5.5						
CHTO	**Chiang Mai**	**35.69**	**314**	*e*P	**P**	**02 03 23.6**	**+0.4**
CHTO				*e**PP		02 05 00.3	
CHTO				*e*		02 05 36.6	
CHTO				pmax	pmax		
	comp=Z,81nm,0.7s,mb5.4						
CHTO	**Chiang Mai**	**35.69**	**314**	*e*P	**P**	**02 03 23.6**	**+0.4**
	comp=Z,81nm,0.7s,mb5.4						
CHTO				*e*pP		02 05 00.3	
CHTO				*e*PcP	PcP	02 05 36.6	+1.4
CHRT	**Chiangrai**	**35.79**	**316**	⇑P	**P**	**02 03 25.0**	**+0.9**
	comp=Z,1μm,0.8s,mb6.5						
CBIJ	**Chichi jima**	**36.45**	**26**	P	**P**	**02 03 28.6**	**-0.8**
	comp=Z,225nm,0.5s,mb6.0,baz=167,slow=3.8,SNR=18						
CBIJ				S	**S**	**02 08 27.6**	**-3.4**
	comp=Z,133nm,0.8s,baz=80,slow=24,SNR=3.8						
TOO	**Toolangi**	**36.62**	**153**	⇓*i*P	**P**	**02 03 32.9**	**+2.0**
	comp=Z,99nm,0.6s,mb5.5						
TOO				*e*SCP	ScP	02 08 30.4	-0.1
TOO	**Toolangi**	**36.62**	**153**	⇓*i*P	**P**	**02 03 32.9**	**+2.0**
TOO				*e*		02 08 30.4	
TOO				pmax	pmax		
	comp=Z,99nm,0.6s,mb5.5						
GYA	**Guiyang**	**36.78**	**331**	⇑*i*P	**P**	**02 03 32.7**	**+0.5**
GYA				PCP	PcP	02 05 39.8	+1.3
GYA				XP	sP	02 06 21.4	+6.5
GYA				S	**S**	**02 08 33.8**	**-2.1**
GYA				XS	sS	02 11 35.6	+0.6
GYA				SCS	ScS	02 12 38.2	-2.0
GYA				AMB	AMB		
	comp=Z,110nm,0.8s,mb5.4						
GYA				AMB	AMB		
	comp=Z,870nm,3.9s						
RIV	**Riverview**	**36.79**	**143**	*e*P	**P**	**02 03 34.0**	**+1.7**
RIV				*e*PCP	PcP	02 05 15.0	-24
CNB	**Canberra Magne**	**36.82**	**146**	⇓*i*P	**P**	**02 03 34.0**	**+1.5**
	comp=Z,133nm,0.8s,mb5.5						
SSE	**Sheshan**	**36.83**	**354**	P	**P**	**02 03 32.9**	**+0.3**
SSE				PP	PP	02 05 17.8	+1.6
SSE				XP	sP	02 06 14.5	-0.8
SSE				S	**S**	**02 08 34.7**	**-1.9**
SSE				XS	sS	02 11 33.4	-2.3
SSE				AMB	AMB		
	comp=Z,70nm,0.9s,mb5.2						
WHN	**Wuhan**	**37.57**	**344**	⇑P	**P**	**02 03 39.5**	**+0.8**
WHN				AMB	AMB		
	comp=Z,280nm,0.8s,mb5.8						
KMI	**Kunming**	**37.75**	**325**	P	**P**	**02 03 41.9**	**+1.8**
KMI				PP	PP	02 05 26.2	+0.5
KMI				PCP	PcP	02 05 43.6	+2.1
KMI				PPP		02 06 04.4	
KMI				XP	sP	02 06 25.9	+2.6
KMI				S	**S**	**02 08 51.5**	**+1.2**
KMI				XS	sS	02 11 49.3	-0.9
KMI				SS	SS	02 12 00.7	-9.1
KMI				SCS	ScS	02 12 47.2	+1.4
KMI				SSS		02 12 59.4	
KMI				AMB	AMB		
	comp=Z,103nm,0.9s,mb5.4						
KMI				AMB	AMB		
	comp=Z,174nm,3.1s						
NJ2	**Nanjing**	**38.07**	**351**	*e*P	**P**	**02 03 41.0**	**-1.7**
NJ2				PP	PP	02 05 27.1	-1.8
NJ2				XP	sP	02 06 31.1	+5.0
NJ2				S	**S**	**02 08 53.0**	**-2.0**
NJ2				AMB	AMB		
	comp=Z,350nm,0.9s,mb5.9						
NJ2				AMB	AMB		
	comp=Z,500nm,4.9s						
ENH	**Enshi**	**38.90**	**338**	*e*P	**P**	**02 03 49.2**	**-0.2**
TAU	**Tasmania Unive**	**41.81**	**156**	*e*P	**P**	**02 04 14.2**	**+1.6**
TAU				pmax	pmax		
	comp=Z,42nm,0.6s,mb5.2						
TAU	**Tasmania Unive**	**41.81**	**156**	*e*P	**P**	**02 04 14.2**	**+1.6**
	comp=Z,42nm,0.6s,mb5.2						
CD2	**Chengdu**	**41.89**	**332**	⇑*i*P	**P**	**02 04 12.8**	**-0.4**
CD2				AP	pP	02 05 55.1	+1.3
CD2				PP	PP	02 06 01.7	-2.6
CD2				S	**S**	**02 09 45.4**	**-5.0**
CD2				AMB	AMB		
	comp=Z,150nm,0.6s,mb5.7						
CD2				AMB	AMB		
	comp=Z,70nm,7.2s						
TIA	**Tai'an**	**42.42**	**350**	⇑P	**P**	**02 04 16.7**	**-0.7**
TIA				AMB	AMB		
	comp=Z,51nm,0.8s,mb5.1						
XAN	**Xi'an**	**42.50**	**340**	P	**P**	**02 04 17.3**	**-0.7**
XAN				AMB	AMB		
	comp=Z,194nm,0.9s,mb5.6						
DZM	**Mont Dzumac**	**42.86**	**116**	P	**P**	**02 04 22.2**	**+1.5**
	comp=Z,18nm,0.7s,mb4.8,baz=68,slow=0.3,SNR=16						
INCN	**Inchon**	**42.99**	**1**	*e*P	**P**	**02 04 22.1**	**+0.3**
	comp=Z,60nm,0.8s,mb5.2						
KS15	**Wonju Array Si**	**43.00**	**3**	*e*P	**P**	**02 04 22.2**	**+0.3**
KS15				PcP	PcP	02 05 59.8	+1.0
MJAR	**Matsushiro Arr**	**43.72**	**15**	P	**P**	**02 04 27.2**	**-0.3**
	comp=Z,75nm,0.7s,mb5.3,baz=191,slow=8.7,SNR=128						
MJAR				PcP	PcP	02 06 01.6	+0.3
	comp=Z,14nm,0.8s,baz=184,slow=3.9,SNR=10						
MJAR				ScP	ScP	02 08 58.6	+0.1
	comp=Z,4.7nm,0.8s,baz=188,slow=4.7,SNR=4.9						
MJAR	**Matsushiro Arr**	**43.72**	**15**	P	**P**	**02 04 27.2**	**-0.2**
MJAR						02 06 01.7	
MJAR	**Matsushiro Arr**	**43.72**	**15**	P	**P**	**02 04 27.2**	**-0.3**
MJAR				PcP	PcP	02 06 01.6	+0.3
MJAR				ScP	ScP	02 08 58.6	+0.1
MAJO	**Matsushiro**	**43.72**	**15**	P	**P**	**02 04 26.9**	**-0.5**
MAJO						02 06 02.3	
MAJO				pmax	pmax		
	comp=Z,77nm,0.8s,mb5.3						
MAJO	**Matsushiro**	**43.72**	**15**	P	**P**	**02 04 26.9**	**-0.5**
	comp=Z,77nm,0.8s,mb5.3						
MAJO				PcP	PcP	02 06 02.3	+0.9
MAT	**Matsushiro**	**43.72**	**15**	P	**P**	**02 04 27.2**	**-0.2**
MAT				*e*S	**S**	**02 10 14.0**	**-2.5**
MAT	**Matsushiro**	**43.72**	**15**	*e*P	**P**	**02 04 27.0**	**-0.4**
MAT				S	**S**	**02 10 15.0**	**-1.5**
MAT				pmax	pmax		
	comp=Z,45nm,0.6s,mb5.2						
MAT	**Matsushiro**	**43.72**	**15**	*e*P	**P**	**02 04 27.0**	**-0.4**
	comp=Z,45nm,0.6s,mb5.2						
MAT				S	**S**	**02 10 15.0**	**-1.5**
DL2	**Dalian**	**44.53**	**356**	⇑P	**P**	**02 04 33.7**	**0.0**
DL2				*e*S	**S**	**02 10 30.2**	**+2.2**
DL2				AMB	AMB		
	comp=Z,80nm,0.7s,mb5.4						
DL2				AMB	AMB		
	comp=Z,120nm,3.6s						
SHL	**Shillong**	**45.01**	**315**	*i* P	**P**	**02 04 37.0**	**-0.4**
SHL				AMb	AMB	02 04 43.1	
	comp=Z,2μm,0.8s						
SHL				*e*S	**S**	**02 10 32.1**	**-2.5**
LZH	**Lanzhou**	**46.24**	**336**	⇑*i*P	**P**	**02 04 47.7**	**+1.0**
LZH				PCP	PcP	02 06 11.8	+1.6
LZH				AP	pP	02 06 29.4	-0.9
LZH				PP	PP	02 06 48.0	+4.2
LZH				SCP	ScP	02 09 08.0	-1.0
LZH				S	**S**	**02 10 49.7**	**-2.1**
LZH				XS	sS	02 14 03.0	+3.4
LZH				*e*SS	SS	02 14 25.0	-2.0
LZH				AMB	AMB		
	comp=Z,110nm,1.3s,mb5.2						
LZH				AMB	AMB		
	comp=Z,410nm,4.4s						
BJT	**Baijiatuao**	**46.30**	**350**	*e*P	**P**	**02 04 42.7**	**-4.4**
BJT				*e*		02 06 11.1	
BJT				*e**PP	pP	02 06 29.5	-1.2
BJT				*e*		02 06 41.8	
BJT				pmax	pmax		
	comp=Z,78nm,0.6s						
BJT	**Baijiatuao**	**46.30**	**350**	*e*P	**P**	**02 04 42.7**	**-4.4**
	comp=Z,78nm,0.6s,mb5.4						
BJT				*e*PcP	PcP	02 06 11.1	+0.7
BJT				*e*pP	pP	02 06 29.5	-1.2
BJT				*e*PP	PP	02 06 41.8	-2.6
BJI	**Beijing**	**46.32**	**350**	P	**P**	**02 04 46.5**	**-0.8**
PALK	**Pallekele**	**46.42**	**286**	P	**P**	**02 04 48.6**	**+0.6**
	comp=Z,534nm,0.8s,mb6.1,SNR=15						
PALK	**Pallekele**	**46.42**	**286**	P	**P**	**02 04 47.9**	**-0.1**
	comp=Z,58nm,0.7s,mb5.2						
PALK				PcP	PcP	02 06 12.7	+1.9
VIS	**Vishakhapatnam**	**47.60**	**300**	*e*P	**P**	**02 04 57.2**	**+0.3**
HHC	**Hu-ho-hao-te**	**48.05**	**346**	⇑*i*P	**P**	**02 05 00.4**	**+0.2**
HHC				PCP	PcP	02 06 17.4	+0.7
HHC				PCS	PcS	02 10 13.3	-0.3
HHC				S	**S**	**02 11 18.6**	**+1.9**
HHC				SS	SS	02 14 58.6	+3.0
HHC				AMB	AMB		
	comp=Z,56nm,1.0s,mb5.0						
HHC				AMB	AMB		
	comp=Z,128nm,6.0s						
LSA	**Lhasa**	**48.17**	**319**	P	**P

KOLN Koldanda 52.30 312⇑ *i*P **P** **02 05 31.9 +0.7**
comp=Z,896nm,0.8s,mb6.2
DGAR Diego Garcia 52.59 265 P **P** **02 05 33.7 +0.4**
DGAR pmax pmax
comp=Z,276nm,0.8s,mb5.6
DGAR Diego Garcia 52.59 265 P **P** **02 05 33.7 +0.4**
comp=Z,276nm,0.8s,mb5.6
NGP Nagpur 52.72 302⇑ *e*P **P** **02 05 33.0 -1.2**
MNGI Mangaiore 53.55 291 *e*P **P** **02 05 39.6 -0.5**
MNGI AMb AMB 02 05 41.5
comp=Z,161nm,0.9s,mb5.3
AKL Akola 54.26 300 *ex* x 02 05 08.5
AKL AMb AMB 02 05 11.4
comp=Z,194nm,0.7s,mb5.6
HABR Khabarovsk 54.62 8⇑ *i*P **P** **02 05 48.4 +0.8**
HABR *e*S **S** **02 12 46.2 +1.6**
HABR pmax pmax
comp=Z,144nm,1.1s,mb5.2
YSS Yuzh-Sakhalins 54.66 15 P **P** **02 05 48.2 +0.4**
BHPL Bhopal 54.97 303 *e*P **P** **02 05 48.7 -1.4**
HIA Hailar 54.98 355*c* *i*P **P** **02 05 50.6 +0.5**
HIA Hailar 54.98 355 *e*P **P** **02 05 50.6 +0.5**
comp=Z,98nm,0.9s,mb5.1
KLR Kul'dur 55.00 5⇓ *i*P **P** **02 05 47.0 -3.3**
KLR *e* 02 06 39.8
KLR pmax pmax
comp=E,30nm,1.6s
KLR pmax pmax
comp=Z,85nm,1.6s,mb4.8
RPZ Rata Peaks 55.08 141 P **P** **02 05 51.7 +0.9**
comp=Z,311nm,0.8s,mb5.7,baz=286,slow=1.9,SNR=115
KAD Karad 55.51 295 *e*P **P** **02 05 52.7 -1.1**
KAD AMb AMB 02 05 53.8
comp=Z,152nm,0.8s,mb5.3
ULN Ulaanbaatar 55.75 345*c* *i*P **P** **02 05 56.1 +0.7**
ULN Ulaanbaatar 55.75 345 *e*P **P** **02 05 56.1 +0.7**
ULN *e*PcP PcP 02 06 46.6 +0.7
SONM Songino Array 55.89 345 P **P** **02 05 56.9 +0.5**
comp=Z,67nm,0.8s,mb4.9,baz=156,slow=7.5,SNR=551
SONM PcP PcP 02 06 46.6 +0.1
comp=Z,28nm,0.8s,baz=159,slow=4.3,SNR=11
SONM S **S** **02 13 00.4 -0.6**
comp=Z,0.5nm,0.7s,baz=183,slow=12,SNR=1.9
SONM PKPPKP 02 35 33.3
comp=Z,0.7nm,0.8s,baz=339,slow=3.1,SNR=5.9
SONM Songino Array 55.89 345 P **P** **02 05 56.9 +0.5**
SONM 02 06 46.6
SONM S **S** **02 13 00.4 -0.6**
POO Poona 56.22 297⇑ *i*P **P** **02 05 57.0 -1.7**
comp=Z,480nm,1.0s,mb5.7
SNZO South Karori 56.37 137 P **P** **02 05 59.5 -0.3**
URZ Urewera 56.88 132 P **P** **02 06 03.3 0.0**
comp=Z,31nm,0.4s,mb4.9,baz=269,slow=3.6,SNR=35
BOM Bombay 57.27 297 *e*P **P** **02 06 05.6 -0.2**
NDI New Delhi 57.60 309 *e*P **P** **02 06 06.0 -2.1**
RAO Raoul Island 58.29 121 *e*P **P** **02 06 14.9 +2.1**
CIT Chita 58.40 351 *e*P **P** **02 06 14.2 +0.7**
CIT *e* 02 06 57.1
CIT pmax pmax
comp=Z,110nm,1.6s,mb4.7
AJM Ajmer 58.64 306 *i*P **P** **02 06 14.0 -1.1**
AJM *e*P 02 06 14.3
AJM AMb AMB 02 06 15.2
comp=Z,139nm,0.8s,mb5.2
SMLA Simla 58.83 312 *e*P **P** **02 06 14.2 -2.2**
SMLA ⇑*i*P 02 06 14.6
SMLA AMb AMB 02 06 15.3
comp=Z,441nm,0.4s,mb6.0
SMLA *i*x x 02 13 33.4
ZAK Zakamensk 59.06 344⇓ *i*P **P** **02 06 17.9 0.0**
ZAK *e* 02 06 59.4
ZAK pmax pmax
comp=Z,58nm,1.1s,mb4.6
ZAK pmax pmax
comp=Z,43nm,1.0s,mb4.5
SDNR Sundarnagar 59.16 312 *e*P **P** **02 06 18.8 +0.2**
SDNR *e*S **S** **02 13 42.0 -0.6**
WMQ Urumqi 59.89 329⇑ *i*P **P** **02 06 24.0 +0.6**
WMQ AP pP 02 08 17.0 +1.6
WMQ PP PP 02 08 46.5 +1.5
WMQ SCP ScP 02 10 10.1 +1.7
WMQ PPP 02 10 21.3
WMQ PCS PcS 02 11 04.8 -0.8
WMQ AMB AMB
comp=Z,193nm,0.8s,mb5.4
TLY Talaya 60.13 345 P **P** **02 06 25.2 +0.2**
comp=Z,512nm,0.6s,mb5.9,SNR=29
TLY Talaya 60.13 345*c* *i*P **P** **02 06 25.6 +0.6**
TLY pmax pmax
comp=Z,71nm,1.0s,mb4.8
TLY Talaya 60.13 345 P **P** **02 06 25.6 +0.6**
PONG Pong 60.14 312 *e*P **P** **02 06 24.0 -1.1**
DLH Dalhousie 60.41 312 *e*P **P** **02 06 25.0 -1.9**
IRK Irkutsk 60.48 345 *e*P **P** **02 06 27.2 -0.1**
IRK *e* 02 07 04.8
IRK pmax pmax
comp=Z,116nm,1.7s,mb4.8
MOY Mondy 60.86 343 *e*P **P** **02 06 30.6 +0.8**
MOY pmax pmax
comp=Z,97nm,1.8s,mb4.7
CASY Casey 61.34 187⇓ *i*P **P** **02 06 32.7 -0.3**
BHJ Bhuj 61.55 300 *ex* x 02 05 49.1
SKR Severo-Kuril's 62.11 22 *e*P **P** **02 06 33.4 -4.6**
SKR pmax pmax
comp=Z,80nm,0.6s,mb5.1
SKR pmax pmax
comp=N,70nm,0.8s
CLNS Chul'man 62.34 360 *e*P **P** **02 06 36.6 -2.9**
CLNS pmax pmax
comp=N,28nm,0.7s
CLNS pmax pmax
comp=Z,70nm,0.7s,mb5.0
CLNS pmax pmax
comp=E,18nm,0.8s
NIL Nilore 62.94 312 P **P** **02 06 43.0 -0.3**
comp=E,554nm,0.5s,mb6.1,SNR=12
BOD Bodaibo 63.99 353⇓ *i*P **P** **02 06 50.1 +0.1**
BOD pmax pmax
comp=Z,151nm,0.8s,mb5.4
KSH Kashi 64.02 319⇑ *i*P **P** **02 06 51.2 +1.0**
KSH *e*PCP PcP 02 07 21.3 +1.9
KSH *e*PP PP 02 09 20.0 -0.9
KSH *e*PPP 02 11 00.8
KSH *e*PCS 02 11 24.0
KSH *e*S **S** **02 14 35.8 -6.5**
KSH *e*SCS ScS 02 15 47.2 -0.5
KSH AMB AMB
comp=Z,232nm,0.6s,mb5.7
MK31 Makanchi Array 64.70 329 P **P** **02 06 54.7 +0.2**
MK31 pmax pmax
comp=Z,174nm,0.8s,mb5.5
MKAR Makanchi Array 64.70 329 P **P** **02 06 54.7 +0.2**
comp=Z,245nm,0.7s,mb5.7,baz=126,slow=7.1,SNR=880
MKAR S **S** **02 14 49.0 -1.4**
comp=Z,3.3nm,1.0s,baz=135,slow=12,SNR=7.3
PET Petropavlovsk 64.93 21 P **P** **02 06 56.7 +0.8**
PET pmax pmax
comp=Z,62nm,0.6s,mb5.2
PET Petropavlovsk 64.93 21 P **P** **02 06 56.7 +0.8**
comp=Z,62nm,0.6s,mb5.2
ULHL Ulahol 65.35 322 P **P** **02 06 59.4 +0.8**
SNR=71
KZA Kyzart 65.88 321 P **P** **02 07 03.2 +1.4**
SNR=129
TKM2 Tokmak 2 66.13 322 P **P** **02 07 04.1 +0.7**
SNR=11
KBK Karagaybulak 66.38 322 P **P** **02 07 05.5 +0.6**
SNR=42
UCH Uchtor 66.42 321 P **P** **02 07 06.5 +1.3**
SNR=136
AAK Ala-Archa 66.65 321 P **P** **02 07 07.7 +1.0**
SNR=24
AAK Ala-Archa 66.65 321 P **P** **02 07 06.7 +0.1**
comp=Z,1μm,0.6s,mb6.5
AAK Ala-Archa 66.65 321 *e*P **P** **02 07 06.6 0.0**
AAK *e* 02 07 30.4
AAK *e*S S 02 15 13.9 +0.4
AAK pmax pmax
comp=Z,125nm,0.7s,mb5.5
AAK Ala-Archa 66.65 321 *e*P **P** **02 07 06.6 0.0**
comp=Z,125nm,0.7s,mb5.5
AAK *e*PcP PcP 02 07 30.4 0.0
AAK *e*S S 02 15 13.9 +0.5
FRU Bishkek 66.68 322⇑ *i*P **P** **02 07 07.5 +0.7**
FRU pmax pmax
comp=Z,83nm,1.8s,mb4.9
CHMS Chumysh 66.69 322 P **P** **02 07 07.0 +0.2**
SNR=33
AML Almayashu 66.88 321 P **P** **02 07 09.2 +1.2**
SNR=13
USP Ospenovka 66.99 322 P **P** **02 07 09.2 +0.5**
SNR=139
KRAR Krasnoyarsk 67.08 341*c* *i*P **P** **02 07 08.6 -0.7**
KRAR pmax pmax
comp=Z,88nm,1.3s,mb5.0
EKS2 Erkin-Say 67.11 321 P **P** **02 07 10.4 +1.0**
SNR=110
YAK Yakutsk 67.63 2 P **P** **02 07 12.6 -0.1**
MA2 Magadan 68.14 14*c* *i*P **P** **02 07 16.4 +0.7**
MA2 pmax pmax
comp=Z,230nm,1.3s,mb5.5
MA2 Magadan 68.14 14 P **P** **02 07 16.4 +0.7**
comp=Z,130nm,0.7s,mb5.5
ZAL Zalesovo 68.47 336 P **P** **02 07 16.6 -1.1**
comp=Z,81nm,0.4s,mb5.5,baz=346,slow=4.8,SNR=288
ZAL S S 02 15 29.6 -5.1
comp=Z,3.1nm,0.8s,baz=267,slow=24,SNR=7.2
KURK Kurchatov 69.09 330 P **P** **02 07 21.7 +0.3**
comp=Z,1μm,0.4s
KURK Kurchatov 69.09 330 P **P** **02 07 21.4 0.0**
KURK pmax pmax
comp=Z,23nm,0.5s,mb4.9
KURK Kurchatov 69.09 330 P **P** **02 07 21.4 0.0**
comp=Z,186nm,0.8s,mb5.6
KKAR Karatay Array 69.39 320 *i*P **P** **02 07 22.9 -0.4**
KKAR pmax pmax
comp=Z,29nm,1.0s,mb4.7
NVS Novosibirsk 69.76 336 *e*P **P** **02 07 22.6 -2.8**
NVS *e*S S 02 15 39.8 -10
NVS pmax pmax
comp=N,72nm,1.1s
NVS pmax pmax
comp=E,75nm,1.1s
NVS pmax pmax
comp=Z,143nm,1.1s,mb5.3
NVS smax
comp=N,48nm,1.8s
NVS smax
comp=E,62nm,1.6s
WBK Wadi Bani Khal 70.73 296 P **P** **02 07 31.7 +0.5**
SNR=7.6
FX1 Attu Island--F 70.94 28 *e*P **P** **02 07 33.0 +0.6**
WSAR Wadi Sarin 71.19 297 P **P** **02 07 34.3 +0.4**
comp=E,29nm,0.6s,mb5.0,baz=101,slow=6.0,SNR=36
SMY Shemya 71.29 29 P **P** **02 07 33.5 -1.0**
SMY pmax pmax
comp=Z,212nm,1.0s,mb5.6
SMY Shemya 71.29 29 P **P** **02 07 33.5 -0.9**
comp=Z,212nm,1.0s,mb5.6
JMDO Jabal Madar 71.44 296 P **P** **02 07 35.7 +0.3**
SNR=14
SMDO Samad 71.67 296 P **P** **02 07 37.1 +0.5**
SNR=11
BIDO Bidbid 71.71 297 P **P** **02 07 37.5 +0.6**
SNR=32
BSY Bisya 72.35 296 P **P** **02 07 40.8 +0.3**
SNR=6.0
HOQ Hoqain 72.45 297 P **P** **02 07 41.9 +0.7**
SNR=15
SHAO Shalim 72.72 291 P **P** **02 07 43.3 +0.6**
SNR=8.6
ARQ Araqi 73.09 296 P **P** **02 07 45.2 +0.3**
SNR=9.5
ASHO Ashiyiah 73.83 298 P **P** **02 07 49.7 +0.6**
SNR=19
BANOM Banah 73.93 299 ⇑P **P** **02 07 50.3 +0.7**
SNR=11
RBK Rabkut 73.94 290 P **P** **02 07 50.0 +0.3**
SNR=10
VOSK Vostochnaya 74.12 329 P **P** **02 07 50.3 -0.3**
VOSK pmax pmax
comp=Z,117nm,0.8s,mb5.5
VNDA Vanda 74.29 172 P **P** **02 07 51.2 -0.4**
comp=Z,8.4nm,0.7s,mb4.4,baz=318,slow=6.3,SNR=69
WHFO Wadi Hawf 74.42 290 ⇓P **P** **02 07 52.3 -0.1**
SNR=22
MAW Mawson 74.49 201 P **P** **02 07 53.1 +0.3**
comp=Z,12nm,1.3s,baz=327,slow=18,SNR=5.9
BVA0 Borovoye Array 74.58 329 *i*P **P** **02 07 53.1 -0.2**
BVA0 pmax pmax
comp=Z,54nm,1.4s,mb4.9
BVAR Borovoye Array 74.58 329 P **P** **02 07 53.2 0.0**
comp=Z,116nm,0.8s,mb5.5,baz=133,slow=6.5,SNR=599
BRVK Borovoye 74.65 329 P **P** **02 07 53.9 +0.2**
comp=Z,1μm,1.0s,mb6.4
BRVK Borovoye 74.65 329 P **P** **02 07 53.4 -0.3**
BRVK pmax pmax
comp=Z,92nm,0.8s,mb5.4
BRVK Borovoye 74.65 329 P **P** **02 07 53.4 -0.3**
comp=Z,92nm,0.8s,mb5.4
ABTO Aybut 74.76 290 ⇓P **P** **02 07 54.6 +0.4**
SNR=12
SBA Scott Base 75.23 172 P **P** **02 07 57.4 +0.5**
ZRNK Zerenda 75.25 329 P **P** **02 07 57.0 0.0**
ZRNK pmax pmax
comp=Z,86nm,0.6s,mb5.5
ZRNK Zerenda 75.25 329 P **P** **02 07 57.0 0.0**
ABKT Ailbek 75.91 311 P **P** **02 08 01.3 +0.7**
comp=Z,530nm,1.0s,mb5.9,SNR=44
OPO Ambohidratompo 77.03 252 P **P** **02 08 07.8 +1.0**
comp=Z,32nm,0.6s,mb4.9,baz=81,slow=4.5,SNR=95
MUKL Al Mukalla 78.30 286⇑ *e*P **P** **02 08 15.0 +1.4**
AB31 Akbulak array 78.69 323 *i*P **P** **02 08 15.3 -0.4**
AB31 pmax pmax
comp=Z,57nm,0.7s,mb5.0
BILL Bilibino 78.97 15 *e*P **P** **02 08 16.7 -0.5**
BILL *e* 02 08 22.3
BILL pmax pmax
comp=Z,18nm,0.8s,mb4.5
BILL Bilibino 78.97 15 *e*P **P** **02 08 16.6 -0.5**
comp=Z,18nm,0.8s,mb4.4
BILL *e*PcP PcP 02 08 22.3 -1.0
AKTK Aktyubinsk 80.28 323 P **P** **02 08 24.0 0.0**
AKTK S S 02 17 41.0 -1.8
AKTK PKKPbc PKKPbc 02 27 02.1 +1.0
AKTO Aktyubinsk 80.28 323 P **P** **02 08 24.0 0.0**
comp=Z,105nm,0.8s,mb5.2,baz=108,slow=7.4,SNR=335
AKTO S S 02 17 41.0 -1.8
comp=Z,0.5nm,0.7s,baz=343,slow=23,SNR=1.5
AKTO PKKPbc PKKPbc 02 27 02.1 +1.0
comp=Z,0.9nm,0.6s,baz=324,slow=3.9,SNR=6.3
AKTO Aktyubinsk 80.28 323 P **P** **02 08 24.0 -0.1**
AKTO S S 02 17 41.1 -1.8
AKTO pmax pmax
comp=Z,105nm,0.8s,mb5.2
AKTO smax
comp=N,1.0nm,0.7s
AKTO pmax pmax
comp=Z,1.0nm,0.6s
SVE Sverdlovsk 81.33 330⇑ *i*P **P** **02 08 29.2 -0.3**
SVE pmax pmax
comp=Z,160nm,1.0s,mb5.4
QRN Al-Qurain 81.82 300 *e*P **P** **02 08 32.2 +0.2**
QRN AMb AMB 02 08 33.2
comp=Z,222nm,0.7s,mb5.8
LBOS 81.84 285⇑ *e*P **P** **02 08 34.2 +2.1**
KBD Kabd 82.10 300 *e*P **P** **02 08 33.5 +0.1**
UMR Umm Al-Rimmam 82.15 301 *e*P **P** **02 08 33.7 0.0**
UMR AMb AMB 02 08 35.1
comp=Z,214nm,0.8s,mb5.8
RDF Al-Radifah 82.18 300 *e*P **P** **02 08 33.9 +0.2**
RDF AMb AMB 02 08 36.3
comp=Z,215nm,0.6s,mb5.9
ARU Arti 82.23 329 P **P** **02 08 33.8 -0.2**
comp=Z,799nm,0.5s,mb6.5,SNR=14
ARU Arti 82.23 329⇑ *i*P **P** **02 08 33.4 -0.6**
ARU *e* 02 11 52.1
ARU *e*PPP 02 13 47.2
ARU *e*S S 02 17 57.8 -4.6
ARU *e*SS SS 02 23 37.4 -2.0
ARU pmax pmax
comp=Z,79nm,0.8s,mb5.3
ARU Arti 82.23 329 *e*P **P** **02 08 33.5 -0.5**
comp=Z,62nm,0.5s,mb5.4
AKUT Akutan 82.45 34 *e*P **P** **02 08 34.9 -0.2**
comp=Z,178nm,0.6s,mb5.8
NAY Al-Naaiem 82.50 300 *e*P **P** **02 08 35.4 0.0**
NAY AMb AMB 02 08 36.6
comp=Z,169nm,0.8s,mb5.6
MIB Mutribah 82.52 301 *e*P **P** **02 08 35.7 +0.2**
MIB AMb AMB 02 08 37.0
comp=Z,325nm,0.9s,mb5.9
ORR Orenburg 82.63 324 *e*P **P** **02 08 36.0 0.0**
ORR pmax pmax
comp=Z,140nm,1.0s,mb5.5
GAMB Gambell 83.53 23 P **P** **02 08 41.0 +0.5**
ATD Arta Tunnel 83.86 282 P **P** **02 08 44.6 +2.4**
comp=Z,42nm,0.9s,mb5.0,baz=89,slow=2.0,SNR=28
QSPA South Pole Qui 84.25 180 *e*P **P** **02 08 43.9 -0.2**
comp=Z,4.7nm,0.8s
SDPT Sand Point 85.75 33 *e*P **P** **02 08 50.9 -0.4**
DGRG David-gareji 86.31 312 P **P** **02 08 55.8 +1.8**
GNI Garni 86.54 311 P **P** **02 08 56.4 +1.4**
comp=Z,9.1nm,0.8s,mb4.6,baz=137,slow=5.4,SNR=16
GNI Garni 86.54 311*c* *i*P **P** **02 08 55.9 +0.9**
GNI pmax pmax
comp=Z,37nm,1.3s
SAMG Sameba 86.76 312 P **P** **02 08 57.4 +1.3**
MTA Mtatsminda 86.78 312 P **P** **02 08 57.0 +0.9**
TBLG Delisi 86.83 312 P **P** **02 08 57.4 +1.0**
DUS Dusheti 86.92 313 P **P** **02 08 57.4 +0.5**
CHGN Chignik 87.12 33 *e*P **P** **02 08 56.9 -0.9**
GOR Gori 87.33 312 P **P** **02 08 55.1 -3.7**
ZEI Tsey 87.62 313 *e*P **P** **02 09 01.2 +1.1**
ZEI *e**PP pP 02 11 04.9 +0.4
ZEI *e* 02 12 34.3
ZEI pmax pmax
comp=Z,40nm,0.7s,mb5.3
AKH Akhalkalaki 87.69 312 P **P** **02 09 01.9 +1.4**
BKR Bakuriani 87.74 312 P **P** **02 09 02.4 +1.8**
KMBO Kilima Mbogo 88.03 269 P **P** **02 09 02.6 +0.6**
comp=Z,10.0nm,0.7s,mb4.7,baz=61,slow=8.1,SNR=30
KMBO Kilima Mbogo 88.03 269⇑ *e*P **P** **02 09 02.5 +0.4**
AMRG 88.14 313 P **P** **02 09 03.8 +1.3**
GOF Gofitskoye 88.62 315 *e*P **P** **02 08 58.0 -6.8**
KIV Kislovodsk 88.69 314 P **P** **02 09 05.8 +0.7**
comp=Z,110nm,0.9s,mb5.7,SNR=5.3
KIV Kislovodsk 88.69 314*c* *i*P **P** **02 09 04.7 -0.4**
KIV *i* *PP pP 02 11 08.6 -1.2
KIV pmax pmax
comp=Z,20nm,1.0s,mb4.9
KIV Kislovodsk 88.69 314 P **P** **02 09 05.3 +0.2**
SVW2 Sparrevohn 89.69 28 *e*P **P** **02 09 09.7 0.0**
TTA Tatalina 89.89 27 *e*P **P** **02 09 10.5 -0.2**
VRHR Novokhopersk 90.50 321 *e*P **P** **02 09 12.3 -1.2**
VRHR pmax pmax
comp=Z,80nm,0.5s,mb5.8
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.5s
SOC Sochi 90.77 314⇑ *i*P **P** **02 09 13.2 -1.5**
SOC *e*SSS 02 29 31.3
SOC pmax pmax
comp=Z,13nm,0.8s,mb4.9
MALT Malatya 91.12 308⇓ *i*P **P** **02 09 17.4 +1.0**
MALT Malatya 91.12 308 *e*P **P** **02 09 16.8 +0.4**
MALT *e* pP 02 11 26.2 +4.7
MALT *e*PP PP 02 12 58.1 -5.4
VOR Voronezh 92.08 322 *e*P **P** **02 09 18.5 -2.3**
VOR pmax pmax
comp=Z,90nm,1.4s,mb5.6
SLKM Skilak Lake 92.17 30 *e*P **P** **02 09 20.0 -1.2**
ANN Anapa 92.53 315 *e*P **P** **02 09 21.9 -0.9**
ANN *e*SS SS 02 26 07.8 +0.2
ANN *e*SSS 02 29 58.1
ANN pmax pmax
comp=Z,80nm,1.7s,mb5.5
PMR Palmer 92.83 29 P **P** **02 09 23.0 -1.2**
PMR pmax pmax
comp=Z,17nm,0.8s,mb5.1
PMR Palmer 92.83 29 P **P** **02 09 23.0 -1.2**
comp=Z,17nm,0.8s,mb5.1
KLMR Klimovskoe 92.94 331*c* *i*P **P** **02 09 22.4 -2.3**
KLMR *e**PP pP 02 11 25.4 -4.6
KLMR *e* 02 13 12.4
KLMR pmax pmax
comp=Z,60nm,1.3s,mb5.5
KLMR pmax pmax
comp=Z,70nm,5.6s
EIL Elat 93.17 299 P **P** **02 09 25.9 +0.2**
COLA College 93.76 25 *e*P **P** **02 09 26.7 -1.7**
COLA pmax pmax
comp=Z,11nm,0.7s,mb5.1
COLA College 93.76 25 *e*P **P** **02 09 26.7 -1.7**
comp=Z,11nm,0.7s,mb5.1
OBN Obninsk 93.97 325*ox*e*P **P** **02 09 28.1 -1.3**
OBN pmax pmax
comp=Z,63nm,1.0s,mb5.7
OBN Obninsk 93.97 325 P **P** **02 09 28.1 -1.3**
ILAR Eielson Array 94.16 25 P **P** **02 09 27.8 -2.4**
comp=Z,10.0nm,0.6s,mb5.2,baz=237,slow=5.3,SNR=145
ILAR PP PP 02 13 25.4 -1.4
comp=Z,2.1nm,1.1s,baz=269,slow=7.0,SNR=5.0
ILAR PKiKP PKiKP 02 14 08.8 -1.4
comp=Z,1.0nm,0.9s,baz=276,slow=3.5,SNR=3.4
ILAR PKKPbc PKKPbc 02 26 28.1 0.0
comp=Z,1.5nm,0.7s,baz=64,slow=1.5,SNR=14
ILAR Eielson Array 94.16 25 P **P** **02 09 27.8 -2.4**
ILAR PP PP 02 13 25.4 -1.4
SIM Simferopol' 94.90 315 P **P** **02 09 32.3 -1.3**
SIM pmax pmax
comp=Z,21μm,0.9s
BR131 Keskin Array S 94.96 309 *e*P **P** **02 09 32.9 -1.0**
comp=Z,12nm,0.8s,mb5.1
BRTR Keskin Array B 94.96 309 P **P** **02 09 32.9 -1.0**
comp=Z,12nm,0.8s,mb5.1,baz=131,slow=5.0,SNR=68
BRTR PP PP 02 13 31.9 -1.0
comp=Z,2.3nm,0.9s,baz=116,slow=8.4,SNR=3.7
BRTR Keskin Array B 94.96 309⇑ *e*P **P** **02 09 32.9 -1.0**
LSZ Lusaka 95.42 254 *e*P **P** **02 09 36.2 +0.2**
LSZ pmax pmax
comp=Z,21nm,0.8s,mb5.3
LSZ Lusaka 95.42 254 *e*P **P** **02 09 36.2 +0.3**
comp=Z,22nm,0.8s,mb5.3
LVZ Lovozero 95.54 338 *e*P **P** **02 09 33.8 -2.7**
LVZ pmax pmax
comp=Z,36nm,1.1s,mb5.5
LVZ pmax pmax
comp=E,9.0nm,0.9s
LBTB Lobatse 96.43 244 *e*P **P** **02 09 40.7 +0.2**
JOF Joensuu 96.91 333 *e*p **P** **02 09 39.6 -3.1**
comp=E,26nm,0.7s,mb5.6
JOF Joensuu 96.91 333 *e*P **P** **02 09 39.6 -3.1**
JOF pmax pmax
comp=Z,26nm,0.7s,mb5.6
DAWY Dawson 97.40 26 P **P** **02 09 44.6 -0.2**
KEV Kevo 98.24 340 *e*p Pdif 02 09 45.6 -3.0
comp=Z,36nm,1.3s
KEV Kevo 98.24 340 *e*p PKiKP 02 14 16.8 -0.6
KEV Kevo 98.24 340 *e*P Pdif 02 09 45.6 -3.0
KEV pmax pmax
comp=Z,36nm,1.3s,mb5.5
AKASG Malin Array Be 98.30 320 P Pdif 02 09 47.3 -1.5
comp=Z,8.4nm,0.6s,baz=80,slow=4.5,SNR=43
AKASG PP PP 02 13 58.0 -0.2
comp=Z,1.9nm,0.6s,baz=81,slow=6.6,SNR=4.4
AKASG PKiKP PKiKP 02 14 16.9 -0.6
comp=Z,1.7nm,0.5s,baz=85,slow=2.0,SNR=7.3
AKASG Malin Array Be 98.30 320 P Pdif 02 09 47.3 -1.5
AKASG 02 13 58.0
AKASG Malin Array Be 98.30 320 P Pdif 02 09 47.3 -1.5
AKASG PP PP 02 13 58.0 -0.2
ARCES ARCESS Array B 98.78 339 P Pdif 02 09 49.1 -1.8
comp=Z,8.8nm,0.7s,baz=81,slow=6.1,SNR=51
ARCES PKiKP PKiKP 02 14 18.0 -0.4
comp=Z,4.1nm,0.8s,baz=106,slow=1.3,SNR=14
ARCES PKKPbc PKKPbc 02 26 15.4 -0.3
comp=Z,4.1nm,0.9s,baz=252,slow=2.8,SNR=6.4
KAF Kangasniemi 99.28 332 *e*p Pdif 02 09 50.7 -2.5
baz=87,slow=4.5
KAF Kangasniemi 99.28 332 *e*p PKiKP 02 14 18.3 -0.9
comp=Z,12nm,1.5s
VSU Vasula 99.38 328⇓ *i*P Pdif 02 09 52.3 -1.3
INK Inuvik 99.39 22 PKKPbc PKKPbc 02 26 14.2 +0.2
comp=Z,1.6nm,0.6s,baz=113,slow=5.2,SNR=6.8
INK Inuvik 99.39 22 P Pdif 02 09 52.6 -1.1
INK pmax pmax
comp=Z,17nm,1.4s
INK Inuvik 99.39 22 Pdif Pdif 02 09 52.6 -1.0
comp=Z,17nm,1.4s
FINES FINESS Array B 99.45 331 P Pdif 02 09 51.8 -2.1
comp=Z,3.5nm,0.7s,baz=68,slow=4.8,SNR=17
FINES PKiKP PKiKP 02 14 19.1 -0.4
comp=Z,1.8nm,0.5s,baz=104,slow=4.4,SNR=11
FINES FINESS Array B 99.45 331⇑ *e*P Pdif 02 09 52.2 -1.7

FINES FINESS Array B 99.45 331 P Pdif 02 09 51.8 -2.1
VRI Vrincioaia 100.11 315 ⇓ *i*P Pdif 02 09 57.1 +0.2
PLOR Plostina 100.16 315 ⇑ *i*P Pdif 02 09 57.2 +0.1
MLR Muntele Rosu 100.67 315 ⇑ *i*P Pdif 02 09 59.1 -0.3
BURAR Bucovina Array 101.06 317 ⇓ *i*P Pdif 02 10 01.7 +0.6
LVV L'vov 101.67 320 *e*P Pdif 02 10 03.1 -0.7
SUW Suwalki 101.78 324 *e*P Pdif 02 10 02.9 -1.4
KOLS Kolonicke sedl 102.90 319 *e*PDIFF Pdif 02 10 08.4 -0.9
KOLS *e*PP PP 02 14 31.7 -0.7
KOLS Kolonicke sedl 102.90 319 *e*Pdif Pdif 02 10 08.5 -0.8
KOLS *e*PP PP 02 14 31.7 -0.7
CRVS Cervenica-Dubn 103.44 319 *e*PDIFF Pdif 02 10 09.7 -2.0
CRVS *e*PP PP 02 14 34.6 -1.7
STHS Stebnicka Huta 103.52 319 *e*PDIFF Pdif 02 10 12.2 +0.2
STHS Stebnicka Huta 103.52 319 *e*PKP PKiKP 02 14 27.5 +0.6
KECS Kecovo 104.13 318 *e*PP PP 02 14 42.1 +0.7
GRUS Gruza 104.52 314 *i* P PKiKP 02 14 30.5 +1.7
DIVS Divcibare 105.01 314 *i* P PKiKP 02 14 29.9 +0.2
VYHS Vyhne 105.22 319 *e*PP PP 02 14 46.9 -2.4
DAG Danmarks Havn 106.37 352 ⇑ *i*P Pdif 02 10 23.9 -0.8
comp=Z,2.7nm,0.6s
DAG Danmarks Havn 106.37 352 ⇑ *i*P Pdif 02 10 23.9 -0.8
DAG pmax pmax
comp=Z,3.0nm,0.6s
DPC Dobruska-Polom 106.51 321 *e*PKP PKiKP 02 14 32.7 +0.2
DPC *e*PP PP 02 15 02.5 +3.8
NB2 NORSAR Subarra 106.55 332 P Pdif 02 10 23.3 -2.2
comp=Z,3.3nm,0.6s,baz=74,slow=4.4
NOA NORSAR Array B 106.55 332 Pdiff Pdif 02 10 23.5 -2.0
comp=Z,4.0nm,0.8s,baz=72,slow=4.5,SNR=18
NOA PKiKP PKiKP 02 14 31.8 -0.7
comp=Z,1.4nm,0.6s,baz=256,slow=3.6,SNR=8.4
RES Resolute Bay 107.29 10 P Pdif 02 10 29.2 +0.4
PRU Pruhonice 107.71 321 *e*PKP PKiKP 02 14 34.6 -0.1
PRU *e*PP PP 02 15 11.1 +3.8
BRG Berggiesshubel 107.88 322 *e*PKiKP PKiKP 02 14 35.1 +0.1
BRG Berggiesshubel 107.88 322 *e*P PKiKP 02 14 35.2 +0.2
comp=Z,3.1nm,0.9s
BRG *e* 02 15 17.8
comp=Z,3.1nm,0.9s
CRES Cresnjev 107.94 316 *e*PP PP 02 15 11.1 +2.2
LEGS Legarje 108.01 316 *e*Pdiff Pdif 02 10 31.6 -0.4
LEGS *i* PKiKP PKiKP 02 14 35.3 0.0
LEGS *e*PP PP 02 15 11.2 +1.8
PERS Pernice 108.02 317 *i* PKiKP PKiKP 02 14 35.0 -0.2
PERS *e*PP PP 02 15 13.4 +3.9
CLL Collm 108.36 322 *e*PKiKP PKiKP 02 14 35.6 -0.3
CLL Collm 108.36 322 ⇑ *i*PKiKP PKiKP 02 14 35.5 -0.4
comp=Z,6.0nm,0.6s
CLL *i* x x 02 14 58.4
CLL *e*PP PP 02 15 15.0 +3.1
CLL Collm 108.36 322 ⇑ *i*PKP PKiKP 02 14 35.5 -0.4
GEC2 GERESS Array S 108.50 320 *e*PKiKP PKiKP 02 14 35.9 -0.3
GERES GERESS Array B 108.50 320 Pdiff Pdif 02 10 34.0 -0.1
comp=Z,0.6nm,0.8s,baz=97,slow=4.3,SNR=5.1
GERES PKiKP PKiKP 02 14 36.1 -0.1
comp=Z,5.6nm,0.6s,baz=67,slow=1.6,SNR=44
GERES PP PP 02 15 13.8 +0.9
comp=Z,1.7nm,0.8s,baz=74,slow=4.9,SNR=4.6
KHC Kasperske Hory 108.51 320 *e*PKP PKiKP 02 14 36.2 0.0
KHC *e*PP PP 02 15 11.5 -1.5
YKA Yellowknife Ar 108.59 25 Pdiff Pdif 02 10 34.9 +0.4
comp=Z,0.8nm,0.5s,baz=294,slow=4.8,SNR=15
YKA PKiKP PKiKP 02 14 35.5 -0.8
comp=Z,3.1nm,0.5s,baz=293,slow=1.9,SNR=108
YKA PKKPbc PKKPbc 02 25 45.3 -1.6
comp=Z,1.3nm,0.7s,baz=115,slow=3.6,SNR=4.1
YKA SKKPbc 02 28 33.5
comp=Z,0.3nm,0.5s,baz=120,slow=3.3,SNR=7.9
YKA Yellowknife Ar 108.59 25 Pdif Pdif 02 10 34.9 +0.4
YKA PKPdf PKiKP 02 14 35.5 -0.8
YKA PKKPbc PKKPbc 02 25 45.3 -1.6
YKA SKKPbc 02 28 33.5
GORS Gorjuse 108.84 317 *e*PKiKP PKiKP 02 14 36.5 -0.3
JAVS Javornik 108.88 317 *e*PP PP 02 15 17.4 +1.8
WET Wettzell 108.95 320 *e*PKiKP PKiKP 02 14 37.1 +0.1
NKC Novy Kostel 108.96 321 *e*PKP PKiKP 02 14 37.2 +0.2
VOJS Vojsko 108.97 317 *i* PKiKP PKiKP 02 14 36.7 -0.3
VOJS *e*PP PP 02 15 17.8 +1.5
WERD Werda 109.00 322 *e*PKiKP PKiKP 02 14 37.0 -0.1
MOX Moxa 109.37 322 *e*P PKiKP 02 14 37.3 -0.5
CLZ Clausthal 109.80 323 *e*PKiKP PKiKP 02 14 38.8 +0.2
GRA1 Grafenberg Arr 109.87 321 *e*PKPdf PKiKP 02 14 38.9 +0.2
GRF Grafenberg Arr 109.87 321 *e*PKiKP PKiKP 02 14 38.9 +0.2
WTTA Wattenberg 110.21 318 ⇑ *i*P PKiKP 02 14 39.5 +0.1
comp=Z,27nm,0.4s
FUR Furstenfeldbru 110.22 319 *e*PKiKP PKiKP 02 14 39.3 -0.1
FUR Furstenfeldbru 110.22 319 *i* PKiKP PKiKP 02 14 39.3 -0.1
SQTA Sankt Quirin 110.50 318 ⇑ *i*P PKiKP 02 14 40.0 0.0
comp=Z,2.0nm,0.7s
MOTA Moosalm 110.54 319 ⇑ *i*P PKiKP 02 14 39.8 -0.2
comp=Z,3.6nm,0.8s
DAVA Damuels 111.36 319 ⇑ *i*P PKiKP 02 14 41.7 +0.1
comp=Z,16nm,0.4s
STU Stuttgart 111.40 320 *e*PKiKP PKiKP 02 14 41.7 +0.1
TOD Tromm 111.40 321 PKiKP PKiKP 02 14 41.2 -0.5
TNS Taunus Mts 111.44 322 *e*PKiKP PKiKP 02 14 41.7 0.0
TNS Taunus Mts 111.44 322 *i* PKiKP PKiKP 02 14 41.7 0.0
SPAK Spaichingen-Ko 111.85 320 PKP PKiKP 02 14 41.9 -0.6
BFO Black Forest 112.07 320 *e*PKiKP PKiKP 02 14 42.3 -0.6
BFO Black Forest 112.07 320 *i* PKiKP PKiKP 02 14 42.3 -0.6
ABH Alteburg 112.09 322 PKP PKiKP 02 14 43.3 0.0
LANF Langenberg 112.21 321 PKP PKiKP 02 14 43.3 +0.1
FELD Feldberg im Sc 112.42 320 PKP PKiKP 02 14 42.9 -0.7
RUP Ruppelstein 112.45 322 PKIKP PKiKP 02 14 43.7 +0.1
CDF Champ du Feu 112.72 320 ⇑ *i*PKIKP PKiKP 02 14 43.6 -0.6
comp=Z,5.5nm,0.6s
MEM Membach 112.79 323 E 02 14 44.2
MEM PKP PKiKP 02 14 45.9 +1.6
WVOR Wild Horse Val 112.90 46 *e*PKIKP PKiKP 02 14 45.8 +1.3
WVOR *e* 02 15 43.2
PAHR Pah Rah Range 112.97 49 *e*PKiKP PKiKP 02 14 45.9 +1.3
MOF Molkenrain 112.98 320 PKP PKiKP 02 14 43.6 -1.1
WLF Walferdange 113.02 322 PKP PKiKP 02 14 46.3 +1.6
HINF Hinteralfeld 113.17 320 ⇑ *i*PKIKP PKiKP 02 14 44.6 -0.4
comp=Z,31nm,0.6s
PGF Pioggiola 113.17 314 ⇑ *i*PKIKP PKiKP 02 14 45.2 +0.2
comp=Z,18nm,0.5s
LOMF Lomont 113.33 319 PKP PKiKP 02 14 45.0 -0.3
HAU Haudompre 113.44 320 ⇑ *i*PKIKP PKiKP 02 14 46.3 +0.8
comp=Z,28nm,0.9s
THEF They Montfort 113.59 321 PKP PKiKP 02 14 45.7 -0.1
GIVF Givet 113.68 323 ⇑ *i*PKIKP PKiKP 02 14 46.2 +0.2
comp=Z,23nm,0.8s
DOU Dourbes 113.82 323 PKP PKiKP 02 14 46.4 +0.1
SNF Seneffe 113.86 323 PKP PKiKP 02 14 46.5 +0.2
SBF Sospel 113.94 316 ⇑ *i*PKIKP PKiKP 02 14 46.5 0.0
comp=Z,36nm,0.7s
LPG La Plagne 113.94 318 ⇑ *i*PKIKP PKiKP 02 14 47.0 +0.5
comp=Z,26nm,0.6s
LPL La Plagne 113.95 318 ⇑ *i*PKIKP PKiKP 02 14 47.0 +0.5
comp=Z,32nm,0.5s
CABF La Chapelle 114.04 319 ⇑ *i*PKIKP PKiKP 02 14 47.1 +0.4
comp=Z,48nm,0.6s
NVAR Mina Array Bea 114.06 50 PKiKP PKiKP 02 14 48.4 +1.7
comp=Z,3.0nm,0.7s,baz=218,slow=0.3,SNR=13
NVAR PP PP 02 15 51.4 -0.7
comp=Z,1.7nm,0.8s,baz=286,slow=6.6,SNR=6.3
NVAR PKKPbc PKKPbc 02 25 30.4 +1.1
comp=Z,0.2nm,0.3s,baz=80,slow=16,SNR=3.7
NVAR PKKPab PKKPab 02 25 38.3 +0.2
comp=Z,1.3nm,0.8s,baz=120,slow=7.1,SNR=5.4
NVAR Mina Array Bea 114.06 50 PKPdf PKiKP 02 14 48.4 +1.7
NVAR PP PP 02 15 51.4 -0.7
NVAR PKKPbc PKKPbc 02 25 30.4 +1.1
NVAR PKKPab PKKPab 02 25 38.3 +0.2
BAIF Baives 114.06 323 ⇑ *i*PKIKP PKiKP 02 14 47.0 +0.3
comp=Z,19nm,0.8s
MBDF Montbardon 114.15 317 ⇑ *i*PKIKP PKiKP 02 14 46.7 -0.2
comp=Z,21nm,0.7s
FRF La Foret Royal 114.57 316 ⇑ *i*PKIKP PKPdf 02 14 47.8 +0.1
comp=Z,25nm,0.8s
ORIF Oris-en-Rattie 114.70 317 ⇑ *i*PKIKP PKPdf 02 14 48.1 +0.1
comp=Z,27nm,0.5s
LMR La Mourre 114.73 315 ⇑ *i*PKIKP PKPdf 02 14 48.0 0.0
comp=Z,14nm,0.8s
SMRF Simiane la Rot 115.19 316 ⇑ *i*PKIKP PKPdf 02 14 49.5 +0.6
comp=Z,29nm,0.7s
LOR Lormes 115.27 320 ⇑ *i*PKIKP PKPdf 02 14 49.1 0.0
comp=Z,27nm,0.8s
CHMT Chamberlain Mo 115.28 40 *e*P PKPdf 02 14 49.0 -0.1
SMF Signal de Mont 115.50 319 ⇑ *i*PKIKP PKPdf 02 14 49.3 -0.2
comp=Z,7.5nm,0.4s
VIVF Saint-Julien-l 115.54 317 ⇑ *i*PKIKP PKPdf 02 14 49.7 +0.1
comp=Z,18nm,0.6s
SSF Saint Saulge 115.57 320 ⇑ *i*PKIKP PKPdf 02 14 49.8 +0.2
comp=Z,47nm,0.7s
HLID Hailey 115.58 44 *e*P PKPdf 02 14 51.3 +1.6
HLID *e*SKPdf SKPdf 02 17 31.8 +0.9
AVF Avril sur Loir 115.76 320 ⇑ *i*PKIKP PKPdf 02 14 49.8 -0.2
comp=Z,33nm,0.8s
ELK Elko 115.80 47 *e*PKIKP PKPdf 02 14 51.3 +1.2
PLDF La Plantade 115.87 319 PKP PKPdf 02 14 50.4 +0.2
HYF Humbligny 116.05 320 *e*PKIKP PKPdf 02 14 51.0 +0.4
AGO Saint Agoulin 116.16 319 PKP PKPdf 02 14 51.2 +0.4
BGF Bois d'Agland 116.17 320 ⇑ *i*PKIKP PKPdf 02 14 51.1 +0.3
comp=Z,84nm,0.6s
LASF Ste Croix 116.34 317 ⇑ *i*PKIKP PKPdf 02 14 51.3 +0.2
comp=Z,8.4nm,0.5s
PYM Petit Puy Mans 116.35 319 PKP PKPdf 02 14 51.2 +0.1
LBL Lubilhac 116.37 318 PKP PKPdf 02 14 51.6 +0.4
PFO Pinyon Flat Ob 116.51 55 *e*PKIKP PKPdf 02 14 53.0 +1.5
TCF Toulx Ste Croi 116.68 319 ⇑ *i*PKIKP PKPdf 02 14 52.0 +0.2
comp=Z,31nm,0.7s
LDF La Druitiere 117.24 323 ⇑ *i*PKIKP PKPdf 02 14 52.7 -0.2
comp=Z,25nm,0.8s
CAF Calviac 117.26 318 ⇑ *i*PKIKP PKPdf 02 14 53.5 +0.6
comp=Z,32nm,0.6s
BGU Big Grassy Mou 117.35 47 *e*PKPdf PKPdf 02 14 57.4 +4.3
NEN Nelson 117.38 53 *e*PKPdf PKPdf 02 14 54.8 +1.7
FLN La Foliniere 117.39 323 ⇑ *i*PKIKP PKPdf 02 14 53.1 0.0
comp=Z,25nm,0.8s
RJF Les Rejaudoux 117.49 319 ⇑ *i*PKIKP PKPdf 02 14 53.7 +0.4
comp=Z,7.6nm,0.5s
MTLF Montolieu 117.70 316 ⇑ *i*PKIKP PKPdf 02 14 53.9 +0.2
comp=Z,30nm,0.8s
DUG Dugway 117.73 47 *e*PKIKP PKPdf 02 14 55.1 +1.3
YFT Old Faithful 117.73 42 *e*PKPdf PKPdf 02 14 56.6 +2.8
GRR Gorron 117.77 323 ⇑ *i*PKIKP PKPdf 02 14 53.8 -0.1
comp=Z,15nm,0.5s
IMW Indian Meadow 117.86 43 *e*PKPdf PKPdf 02 14 55.2 +1.2
FLWY Flagg Ranch 117.95 43 *e*PKPdf PKPdf 02 14 55.8 +1.6
TPAW Teton Pass 117.99 43 *e*PKPdf PKPdf 02 14 55.2 +0.9
TPAW *e*PP PP 02 16 16.6 -2.5
GCMT Greycliff 118.00 41 *e*P PKPdf 02 14 55.5 +1.2
MOOW Moose Ponds 118.04 43 *e*PKPdf PKPdf 02 14 55.7 +1.3
MOOW *e*PP PP 02 16 19.1 -0.3
MFF Saint Martin d 118.06 321 ⇑ *i*PKIKP PKPdf 02 14 54.5 +0.1
comp=Z,59nm,0.6s
REDW Red Top Meadow 118.10 43 *e*PKPdf PKPdf 02 14 55.8 +1.3
REDW *e*PP PP 02 16 19.1 -0.8
LFF La Frestale 118.13 319 ⇑ *i*PKIKP PKPdf 02 14 55.2 +0.6
comp=Z,41nm,0.6s
FFC Flin Flon 118.14 29 *e*PKIKP PKPdf 02 14 54.1 -0.5
HWUT Hardware Ranch 118.19 45 *e*PKPdf PKPdf 02 14 55.2 +0.5
TCUT Toone Canyon 118.46 46 *e*PKPdf PKPdf 02 14 55.8 +0.6
MPU Maple Canyon 118.64 47 *e*PKPdf PKPdf 02 14 55.8 +0.3
EMIR Miracle 118.67 315 ⇑ PKP PKPdf 02 14 56.0 +0.4
MSU Marysvale 118.69 49 *e*PKIKP PKPdf 02 14 57.6 +2.0
SFJD Kangerlussuaq 118.76 358 PKP PKPdf 02 14 54.9 -0.9
comp=Z,16nm,0.6s,baz=34,slow=1.0,SNR=16
SGMF Saint Gilles 118.85 323 ⇑ *i*PKIKP PKPdf 02 14 55.8 -0.2
comp=Z,35nm,0.7s
FCC Fort Churchill 119.00 22 *e*PKIKP PKPdf 02 14 55.1 -1.1
EPF Esparros 119.10 317 ⇑ *i*PKIKP PKPdf 02 14 56.6 +0.2
comp=Z,20nm,0.5s
EPOB Poblet 119.17 315 ⇑ PKP PKPdf 02 14 56.6 0.0
TMUT Trail Mountain 119.18 48 *e*PKPdf PKPdf 02 14 58.3 +1.7
PDAR Pinedale Array 119.20 44 PKP PKPdf 02 14 57.1 +0.5
comp=Z,2.6nm,0.4s,baz=232,slow=1.7,SNR=36
PDAR PKKPbc PKKPbc 02 25 13.6 +2.0
comp=Z,2.6nm,0.6s,baz=121,slow=2.6,SNR=12
ROSF Rostrenen 119.24 323 ⇑ *i*PKIKP PKPdf 02 14 56.5 -0.2
comp=Z,22nm,0.6s
EBIE Bielsa 119.36 316 ⇑ PKP PKPdf 02 14 57.8 +0.9
QUIF Quistinic 119.37 323 ⇑ *i*PKIKP PKPdf 02 14 56.8 -0.1
comp=Z,25nm,0.5s
EGRA Graus 119.42 316 ⇑ PKP PKPdf 02 14 57.7 +0.6
SRU San Rafael 119.74 48 *e*PKIKP PKPdf 02 14 58.7 +1.0
ETSF Etsaut 119.76 317 ⇑ *i*PKIKP PKPdf 02 14 58.6 +0.9
comp=Z,32nm,0.6s
LAO LASA Array 119.81 38 *e*PKPdf PKPdf 02 14 58.9 +1.1
ERTA Horta de San J 119.84 314 ⇑ PKP PKPdf 02 14 58.2 +0.4
ESAC San Caprasio 120.13 315 ⇑ PKP PKPdf 02 14 58.8 +0.3
SJPF Ste Jean 120.13 317 ⇑ *i*PKIKP PKPdf 02 14 59.6 +1.2
comp=Z,26nm,0.5s
WUAZ Wupatki 120.15 52 *e*PKPdf PKPdf 02 14 59.9 +1.5
EMOS Mosqueruela 120.62 314 ⇑ PKP PKPdf 02 15 00.7 +1.3
PV10 Paradox Valley 121.08 48 *e*PKPdf PKPdf 02 15 01.9 +1.7
RWWY Rawlins 121.22 44 *e*PKPdf PKPdf 02 15 01.4 +0.9
ECHE Chera 121.24 313 ⇓ PKIKP PKPdf 02 15 01.7 +1.2
TUC Tucson 121.45 56 *e*PKIKP PKPdf 02 15 02.1 +1.2
PV01 Paradox Valley 121.50 48 *e*PKPdf PKPdf 02 15 02.6 +1.5
ELAN Lanestosa 121.57 318 ⇑ PKP PKPdf 02 15 01.8 +0.6
MVCO Mesa Verde 121.86 49 *e*PKPdf PKPdf 02 15 03.1 +1.4
MVCO *e*PP PP 02 16 46.4 +1.2
ETOB Tobarra 121.99 312 ⇑ PKP PKPdf 02 15 02.6 +0.6
SMCO Snowmass 122.32 47 *e*PKPdf PKPdf 02 15 04.4 +1.8
RSCD Black Hills 122.33 48 *e*PKIKP PKPdf 02 15 02.5 -0.1
PHWY Pilot Hill 122.58 44 *e*PKPdf PKPdf 02 15 03.8 +0.7
EVIA Vianos 122.69 313 ⇓ PKIKP PKPdf 02 15 04.4 +1.1
EHUE Huescar 123.05 312 ⇑ PKIKP PKPdf 02 15 04.2 +0.2
ENIJ Nijar 123.06 311 ⇓ PKIKP PKPdf 02 15 04.7 +0.7
ISCO Idaho Springs 123.06 46 *e*PKIKP PKPdf 02 15 05.3 +1.3
GUD Guadarrama 123.11 316 ⇑ PKIKP PKPdf 02 15 05.4 +1.3
ESDC Sonseca Array 123.36 314 PKP PKPdf 02 15 05.2 +0.6
comp=Z,2.4nm,0.5s,baz=25,slow=2.9,SNR=24
ESDC PP PP 02 16 53.7 -1.5
comp=Z,3.4nm,0.8s,baz=64,slow=7.7,SNR=7.9
ESLA Sonseca Array 123.36 314 *e*PKPdf PKPdf 02 15 05.4 +0.8
ESLA *e*PP PP 02 16 51.3 -3.9
EQES Quesada 123.41 312 ⇑ PKP PKPdf 02 15 04.8 +0.1
ULM Lac du Bonnet 123.79 31 PKP PKPdf 02 15 05.1 -0.3
comp=Z,16nm,0.5s,baz=306,slow=2.2,SNR=51
ULM SKP 02 17 46.5
comp=Z,3.3nm,0.6s,baz=311,slow=6.0,SNR=3.8
LAZ Ladron 123.80 52 *e*PKPdf PKPdf 02 15 07.5 +2.0
ECOG Cogollos-Vega 123.97 312 ⇑ PKIKP PKPdf 02 15 05.5 -0.3
LENM Lemitar 124.00 52 *e*PKPdf PKPdf 02 15 07.8 +2.0
TORD Torodi Ar. Bea 124.06 282 PKP PKPdf 02 15 06.6 +0.6
comp=Z,30nm,0.7s,baz=71,slow=2.0,SNR=141
TORD SKPbc 02 17 27.3
comp=Z,5.9nm,0.9s,baz=71,slow=2.2,SNR=6.7
TORD PKKPbc PKKPbc 02 24 53.9 +0.3
comp=Z,0.5nm,0.6s,baz=294,slow=3.7,SNR=14
EGUA Guajares 124.13 311 PKIKP PKPdf 02 15 06.1 0.0
ANMO Albuquerque 124.15 51 *c i*PKIKP PKPdf 02 15 07.9 +1.8
ANMO Albuquerque 124.15 51 *e*PKPdf PKPdf 02 15 07.7 +1.5
LPM Los Pinos Moun 124.22 52 *e*PKPdf PKPdf 02 15 08.1 +1.8
ERON Agron 124.24 311 PKP PKPdf 02 15 05.6 -0.7
BNM Barren Site 124.28 52 *e*PKPdf PKPdf 02 15 08.1 +1.7
ECAL Calabor 124.33 318 PKP PKPdf 02 15 07.3 +0.9
ELUQ Luque 124.38 312 PKIKP PKPdf 02 15 07.0 +0.4
ERUA La Rua 124.39 319 PKIKP PKPdf 02 15 07.5 +0.9
PBRG Braganca 124.39 318 *e*PKPdf PKPdf 02 15 07.2 +0.6
ELOJ Sierra Loja 124.45 312 ⇓ PKIKP PKPdf 02 15 06.7 0.0
STS Santiago 125.07 320 ⇓ PKIKP PKPdf 02 15 09.0 +1.1
EMIJ Mijas 125.13 311 PKP PKPdf 02 15 07.4 -0.6
ELOB Lobios 125.24 318 ⇑ PKP PKPdf 02 15 09.2 +1.0
PVRL Vila Real 125.28 318 *e*PKPdf PKPdf 02 15 09.3 +1.0
PCAB Cabril 125.29 318 *e*PKPdf PKPdf 02 15 09.1 +0.8
MTE Manteigas 125.56 317 *e*PKPdf PKPdf 02 15 09.9 +1.1
MTE Manteigas 125.56 317 *e*PKPdf PKPdf 02 15 09.7 +0.8
PVIS Viseu 125.66 317 *e*PKPdf PKPdf 02 15 09.9 +0.9
EJIF Jimena Fronter 125.69 311 ⇓ PKIKP PKPdf 02 15 09.9 +0.8
PCBR Castelo Branco 125.76 316 *e*PKPdf PKPdf 02 15 10.2 +1.0
ESPR Espera 125.82 312 ⇑ PKP PKPdf 02 15 10.1 +0.7
EBAD Badajoz 125.90 315 ⇓ PKP PKPdf 02 15 10.5 +1.0
PTO Porto 125.94 318 *e*PKPdf PKPdf 02 15 10.5 +1.0
MNTX Cornudas Mount 126.03 55 *e*PKPdf PKPdf 02 15 11.0 +1.3
EMIN Mina Concepcio 126.06 313 PKP PKPdf 02 15 11.1 +1.3
PTOM Tomar 126.50 316 *e*PKPdf PKPdf 02 15 11.7 +1.1
GDL2 Guadalupe Moun 126.70 54 *e*PKPdf PKPdf 02 15 13.0 +2.0
EVO Evora 126.70 315 *e*PKIKP PKPdf 02 15 12.2 +1.2
comp=Z,38nm,0.9s
PBEJ Beja 126.81 314 *e*PKPdf PKPdf 02 15 12.3 +1.1
MOE Montemor 126.94 315 *e*PKPdf PKPdf 02 15 13.0 +1.5
PLOU Loures 127.35 316 *e*PKPdf PKPdf 02 15 13.3 +1.1
EYMN Ely 127.47 31 *e*PKPdf PKPdf 02 15 12.2 -0.3
PTEO Sao Teotonio 127.63 314 *e*PKPdf PKPdf 02 15 14.5 +1.7
AMTX Amarillo 127.85 50 *e*PKPdf PKPdf 02 15 13.6 +0.4
LTX Lajitas 128.15 57 *e*PKIKP PKPdf 02 15 14.8 +1.1
KSU1 Kansas State U 129.61 43 *e*PKPdf PKPdf 02 15 16.9 +0.3
SCHQ Schefferville 130.05 9 PKP PKPdf 02 15 17.3 0.0
comp=Z,15nm,0.4s,baz=315,slow=2.5,SNR=63
SCHQ SKPbc SKPbc 02 17 46.5 -0.5
comp=Z,55nm,0.9s,baz=2.2,slow=3.8,SNR=37
JCT Junction City 130.95 54 *e*PKIKP PKPdf 02 15 20.3 +1.2
CCM Cathedral Cave 133.72 41 *e*PKIKP PKPdf 02 15 24.6 +0.3
MIAR Mount Ida 133.99 46 *e*PKHKP 02 15 13.4
FVM French Village 134.29 40 *e*PKIKP PKPdf 02 15 25.6 +0.3
BLO Bloomington 135.96 36 *e*PKIKP PKPdf 02 15 28.6 +0.1
ERPA Erie 137.31 28 *e*PKPdf PKPdf 02 15 31.1 +0.2
FRNY Flat Rock 137.65 20 *e*PKPdf PKPdf 02 15 31.2 -0.4
LBNH Lisbon 138.73 19 *e*PKIKP PKPdf 02 15 33.8 +0.2
HNH Hanover 139.09 20 *e*PKPdf PKPdf 02 15 34.8 +0.6
MVL Millersville 140.66 27 *e*PKPdf PKPdf 02 15 31.5 -5.5
CFAA Coronel Fontan 140.67 162 PKhKP 02 15 32.5
comp=Z,1.5nm,0.6s,baz=203,slow=5.1,SNR=13
CFAA PKP PKPdf 02 15 37.0 0.0
comp=Z,1.5nm,0.6s,baz=203,slow=4.3,SNR=18
CFAA SKPbc SKPbc 02 18 20.0 +0.2
comp=Z,2.1nm,0.5s,baz=210,slow=3.3,SNR=8.1
CFAA Coronel Fontan 140.67 162 PKP PKPdf 02 15 32.5 -4.5
CFAA PKP PKPdf 02 15 37.0 0.0
CFAA SKPbc SKPbc 02 18 20.0 +0.2
PAL Palisades 140.85 23 *e*PKHKP 02 15 32.0
JSC Jenkinsville 142.37 37 *e*PKHKP 02 15 37.4
COW Cow Castle Cre 143.32 38 *e*PKPdf PKPdf 02 15 41.4 -0.4
PAYG Puerto Ayora 143.82 99 *e*PKP PKPdf 02 15 44.1 +1.5
NHSC New Hope 143.83 38 *e*PKPdf PKPdf 02 15 42.9 +0.3
DWPF Disney 146.19 46 *e*PKPdf PKPdf 02 15 47.0 +0.3
CPUP Villa Florida 148.03 175 PKP PKPdf 02 15 50.8 +1.1
comp=Z,13nm,0.7s,baz=164,slow=1.2,SNR=12
CPUP PKPbc PKPbc 02 15 54.8 +1.1
comp=Z,13nm,0.7s,baz=183,slow=1.8,SNR=36
CPUP SKPbc SKPbc 02 18 37.6 +0.7
comp=Z,2.8nm,0.6s,baz=109,slow=3.6,SNR=4.3
LVC Limon Verde 148.56 154 PKP PKPdf 02 15 53.3 +2.8
comp=Z,21nm,0.7s,baz=232,slow=5.7,SNR=5.4
LVC PKPbc PKPbc 02 15 57.7 +2.7
comp=Z,21nm,0.7s,baz=328,slow=0.6,SNR=25
JTS JuntasAbangare 149.62 79 *e*PKPdf PKPdf 02 15 53.0 +0.8
JTS *e*PKPbc PKPbc 02 15 59.2 +1.6
CAM4 Nova Friburgo 149.71 203 ⇑ *i*P PKPbc 02 15 59.9 +2.1
CAM4 *i* 02 16 02.4
CAM4 *i* 02 16 07.4
CAM3 Guarapari 150.30 207 ⇑ *i*P PKPbc 02 16 00.7 +1.6
CAM3 *i* 02 16 01.9
CAM3 *i* 02 16 03.9
MGV Manicaragua 150.56 54 *e*P PKPdf 02 15 56.0 +2.3
LPAZ La Paz 154.37 149 PKP PKPdf 02 16 01.9 +2.7
comp=Z,3.6nm,0.9s,baz=103,slow=1.1,SNR=17
LPAZ PKPbc PKPbc 02 16 10.4 +2.4
comp=Z,2.8nm,0.4s,baz=222,slow=19,SNR=25
SIV San Ignacio 157.50 164 PKP PKPdf 02 16 04.8 +1.5
comp=Z,2.5nm,0.7s,baz=208,slow=3.4,SNR=17
BDFB Brasilia 157.79 197 PKP PKPdf 02 16 05.4 +1.7
comp=Z,2.5nm,0.7s,baz=303,slow=4.2,SNR=4.9
BDFB PKPab PKPab 02 16 41.2 +1.0
comp=Z,1.6nm,0.6s,baz=68,slow=2.1,SNR=4.0
ROSC El Rosal 160.35 92 PKP PKPdf 02 16 08.8 +2.3
comp=Z,4.4nm,0.4s,baz=102,slow=20,SNR=5.7
ROSC PKPab PKPab 02 16 54.8 +3.4
comp=Z,9.7nm,0.6s,baz=290,slow=23,SNR=4.8
SAML Samuel 163.11 150 *e*PKPdf PKPdf 02 16 10.5 +1.2
SDV Santo Domingo 163.80 78 PKP PKPdf 02 16 11.4 +1.4
comp=Z,13nm,1.0s,baz=320,slow=17,SNR=5.3
SDV PKPab PKPab 02 17 09.1 +2.6
comp=Z,25nm,0.8s,baz=304,slow=3.2,SNR=15
SDV Santo Domingo 163.80 78 PKP PKPdf 02 16 11.4 +1.4
SDV PKPab PKPab 02 17 09.1 +2.5

*CSEM **09** 02:10:19.1±0.2, 37.10N×1372W, h10km, ML3.2/4, Error ellipse: s-maj=5.9km s-min=4.5km az=118.0*
*NEIC **09** 02:10:26.7, 37.28N×1326W, h0km, MG3.4(MDD), After MDD.*
*INMG **09** 02:10:26.8±0.7, 36.98N×1370W, h10km, ML2.2, Error ellipse: s-maj=5.0km s-min=2.2km az=127.0*
MDD 09 02:10:26.0±2.3, 37.17N×1328W, h0km, mb3.5/8, Error ellipse: s-maj=20.9km s-min=17.4km az=33.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	**3.65**	**83**	*e*Pn	Pn	02 11 22.5	-1.2
PTEO				*e*Sn	Sn	02 12 02.5	-4.9
PTEO							
	1.7nm,0.1s						
PTEO	**Sao Teotonio**	**3.65**	**83**	*e*Pn	Pn	02 11 22.5	-1.2
PTEO				*e*Sn	Sn	02 12 02.5	-4.9
	1.7nm,0.1s						
PLOU	**Loures**	**3.68**	**61**	*e*Sn	Sn	02 12 05.5	-2.7
PLOU							
	4.8nm,0.2s						
PLOU	**Loures**	**3.68**	**61**	*e*Sn	Sn	02 12 05.5	-2.7
	4.8nm,0.2s						
MOE	**Montemor**	**4.13**	**69**	*e*Pn	Pn	02 11 29.4	-0.9
MOE				*e*Sn	Sn	02 12 14.7	-4.5
PBEJ	**Beja**	**4.38**	**77**	*e*Pn	Pn	02 11 32.5	-1.3
PBEJ				*e*Sn	Sn	02 12 21.6	-3.9
PBEJ							
	2.3nm,0.2s						
PBEJ	**Beja**	**4.38**	**77**	*e*Pn	Pn	02 11 32.5	-1.3
PBEJ				*e*Sn	Sn	02 12 21.6	-3.9
	2.3nm,0.2s						
PTOM	**Tomar**	**4.54**	**56**	*e*Pn	Pn	02 11 34.8	-1.1
PTOM				*e*Sn	Sn	02 12 26.0	-3.4
EGRO	**El Granado**	**4.63**	**84**	P	Pn	02 11 35.9	-1.3
	0.2nm,0.1s,SNR=7.9						
EGRO				S	Sn	02 12 27.4	-4.3
	0.6nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.63**	**84**	P	Pn	02 11 35.9	-1.3
	0.2nm,0.1s,SNR=7.9						
EGRO				S	Sn	02 12 27.4	-4.3
	0.6nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**5.20**	**70**	P	Pn	02 11 43.5	-1.5
	0.4nm,0.1s,SNR=7.9						
EBAD				S	Sn	02 12 39.5	-6.1
	1.7nm,0.1s,SNR=6.5						
EBAD	**Badajoz**	**5.20**	**70**	P	Pn	02 11 43.5	-1.5
	0.4nm

EMAZ	**Mazaricos**	**6.64**	**28**	P	Pn	02 12 03.9	-0.9
	0.8nm,0.1s,SNR=7.9							
EMAZ				S	Sn	02 13 12.2	-9.1
	2.5nm,0.2s,SNR=7.9							
EMAZ	**Mazaricos**	**6.64**	**28**	P	Pn	02 12 02.7	-2.1
EMAZ				S	Sn	02 13 13.0	-8.3
EMAZ	**Mazaricos**	**6.64**	**28**	P	Pn	02 12 02.7	-2.2
	0.8nm,0.1s,SNR=7.9							
EMAZ				S	Sn	02 13 13.0	-8.3
	2.5nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**6.94**	**45**	P	Pn	02 12 07.3	-1.6
ECAL	**Calabor**	**6.94**	**45**	P	Pn	02 12 07.3	-1.7
	0.3nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**6.97**	**79**	P	Pn	02 12 09.1	-0.3
EADA				S	Sn	02 13 23.5	-5.9
EADA	**Adamuz**	**6.97**	**79**	P	Pn	02 12 09.1	-0.3
	0.2nm,0.2s,SNR=4.0							
EADA				S	Sn	02 13 23.5	-5.9
	1.5nm,0.1s,SNR=7.9							
ESDC	**Sonseca Array**	**7.73**	**68**	P	Pn	02 12 18.7	-1.1
	0.1nm,0.1s,baz=255,slow=14,SNR=4.0							
ESDC				S	Sn	02 13 42.7	-5.3
	0.0nm,0.1s,SNR=7.9							
ESDC	**Sonseca Array**	**7.73**	**68**	P	Pn	02 12 18.7	-1.0
	0.1nm,0.3s,SNR=4.0							

*NEIC **09** 02:26:23.9, 3289S×7030W, h104km, MG2.7(GUC), After GUC.*

GUC 09 02:26:23.9±0.8, 3289S×7030W, h104km±3km, MD3.6, ML2.7, 12C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**0.33**	**310**	⇓*i*P	Pn	02 26 39.5	+0.5
JACH				*i*S	Sn	02 26 51.6	+1.3
PEL	**Peldehue**	**0.41**	**232**	⇑*i*P	Pn	02 26 39.6	+0.1
PEL				*i*S	Sn	02 26 51.7	+0.6
PEL				AML	AML	02 26 53.0	
	comp=E,1μm,0.4s						
PEL	**Peldehue**	**0.41**	**232**	⇑*i*P	Pn	02 26 39.6	+0.1
PEL				*i*S	Sn	02 26 51.7	+0.6
FCH	**Farellones**	**0.43**	**179**	⇓*i*P	Pn	02 26 40.3	+0.7
FCH				*i*S	Sn	02 26 52.8	+1.5
FCH				AML	AML	02 26 53.4	
	comp=E,417nm,0.4s						
CLCH	**Cerro Calan**	**0.54**	**202**	⇑*i*P	Pn	02 26 40.7	+0.4
CLCH				*i*S	Sn	02 26 53.4	+0.7
CLCH				AML	AML	02 26 55.2	
	comp=E,294nm,0.7s						
DSCH	**Colegio Aleman**	**0.55**	**204**	⇑*i*P	Pn	02 26 40.5	+0.1
DSCH				*i*S	Sn	02 26 53.3	+0.5
ROCH	**El Roble**	**0.60**	**262**	*e*P	Pn	02 26 41.5	+0.7
ROCH				*i*S	Sn	02 26 55.0	+1.5
STL	**Santa Lucia**	**0.61**	**208**	*i*P	Pn	02 26 40.9	0.0
STL				*i*S	Sn	02 26 53.9	+0.3
STL				AML	AML	02 26 54.3	
	comp=E,191nm,0.3s						
SAN	**Santiago**	**0.64**	**209**	*i*S	Sn	02 26 54.8	+0.8
SAN				AML	AML	02 26 55.5	
	comp=N,383nm,0.3s						
RCDM	**Rinconada Maip**	**0.73**	**215**	⇑*i*P	Pn	02 26 42.3	+0.4
RCDM				*i*S	Sn	02 26 56.4	+1.0
RCDM				AML	AML	02 26 58.0	
	comp=E,858nm,0.1s						
RCDM	**Rinconada Maip**	**0.73**	**215**	⇑*i*P	Pn	02 26 42.3	+0.4
RCDM				*i*S	Sn	02 26 56.4	+1.0
PCH	**Pirque**	**0.75**	**194**	⇑*i*P	Pn	02 26 42.6	+0.6
PCH				*i*S	Sn	02 26 56.9	+1.2
TACH	**Talagante**	**0.93**	**215**	⇓*i*P	Pn	02 26 44.1	+0.3
TACH				*i*S	Sn	02 26 59.7	+0.9
LMEL	**Las Melosas**	**0.95**	**175**	⇑*i*P	Pn	02 26 45.3	+1.2
LMEL				*i*S	Sn	02 27 01.1	+1.8
LMEL				AML	AML	02 27 05.1	
	comp=N,184nm,0.1s						
LMEL	**Las Melosas**	**0.95**	**175**	⇑*i*P	Pn	02 26 45.3	+1.2
LMEL				*i*S	Sn	02 27 01.1	+1.8
CHCH	**Chadas Angostu**	**1.08**	**196**	⇑*i*P	Pn	02 26 45.8	+0.4
CHCH				*i*S	Sn	02 27 02.8	+1.1
LCCH	**Las Cruces**	**1.21**	**241**	⇑*i*P	Pn	02 26 47.3	+0.4
CACH	**El Canelo**	**1.25**	**192**	*i*P	Pn	02 26 48.0	+0.7
CACH				*i*S	Sn	02 27 06.7	+1.7
LNV	**Longovilo**	**1.41**	**221**	⇑*i*P	Pn	02 26 49.0	-0.2
CHNG	**Los Chungos**	**1.43**	**314**	*e*P	Pn	02 26 50.1	+0.7
CHNG				*i*S	Sn	02 27 09.5	+0.6
CHNG				AML	AML	02 27 18.8	
	comp=E,51nm,0.7s						
CMCH	**Combarbala**	**1.82**	**341**	*i*S	Sn	02 27 18.2	+0.8
CMCH				AML	AML	02 27 21.0	
	comp=E,178nm,0.6s						

IDC 09 02:27:48.7±8.9, 601S×15036E, h70km±66km, mb3.2/3, mb1 3.4/4, mb1mx3.2/15, mbtmp3.5/4, ML2.5/1, Error ellipse: s-maj=125.0km s-min=59.3km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.63**	**223**	P	Pn	02 28 56.8	+0.6
	1.5nm,0.3s,baz=354,slow=9.2,SNR=4.0						
PMG				S	Sn	02 29 48.8	+0.2
	2.0nm,0.3s,baz=169,slow=19,SNR=2.9						
WRA	**Warramunga Arr**	**20.84**	**227**	P	P	02 32 25.1	+0.5
	0.9nm,0.5s,baz=54,slow=9.5,SNR=8.6						
ASAR	**Alice Springs**	**23.64**	**220**	P	P	02 32 55.5	+1.9
	0.2nm,0.3s,baz=47,slow=8.5,SNR=4.0						
FITZ	**Fitzroy Crossi**	**26.95**	**241**	P	P	02 33 23.4	-0.2
	1.5nm,0.8s,baz=37,slow=20,SNR=2.7						
TORD	**Torodi Ar. Bea**	**148.33**	**285**	PKPbc	PKPbc	02 47 27.1	+0.2
	1.7nm,0.7s,baz=73,slow=3.2,SNR=32						

*ISCJB **09** 02:49:16.6±1.1, 98N±0.1×1046W±02, h10km, mb4.2/15, MS3.7/14, Error ellipse: s-maj=35.3km s-min=11.2km az=115.0*
*NEIC **09** 02:49:18.6±0.9, 984N×10453W, h10km, mb4.4/10, Error ellipse: s-maj=29.8km s-min=9.4km az=58.0*
*IDC **09** 02:49:21.0±1.3, 1058N×10352W, h0km, mb3.9/7, mb1 4.2/7, mb1mx4.0/17, mbtmp3.9/7, MS3.8/16, Ms1 3.8/16, ms1mx3.6/29, Error ellipse: s-maj=70.4km s-min=18.8km az=60.0*

ISC 09 02:49:18.9±1.1, 99N±01×1046W±02, h10km, n38, σ0°90/22, mb4.1/14, MS3.7/14, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**15.18**	**340**	LR	LR	02 57 15.3	
	comp=Z,1μm,18.7s,baz=24,slow=32						
JTS	**JuntasAbangare**	**19.33**	**87**	LR	LR	02 59 03.9	
	comp=Z,253nm,20.3s,baz=269,slow=32						
LTX	**Lajitas**	**19.39**	**2**	*e*P	**Pn**	**02 53 46.8**	**+0.8**
	22nm,1.5s						
JCT	**Junction City**	**20.99**	**12**	*e*P	**P**	**02 54 02.8**	**+0.4**
	29nm,1.2s						
MNTX	**Cornudas Mount**	**21.74**	**358**	*e*P	**P**	**02 54 10.1**	**-0.3**
	16nm,1.2s,mb4.3						
GDL2	**Guadalupe Moun**	**22.23**	**0**	*e*P	**P**	**02 54 16.3**	**+0.7**
ANMO	**Albuquerque**	**25.03**	**356**	P	**P**	**02 54 42.9**	**-0.1**
	2.2nm,1.0s,mb3.6,baz=174,slow=8.5,SNR=4.9						
ANMO	**Albuquerque**	**25.03**	**356**	P	**P**	**02 54 42.9**	**-0.2**
AMTX	**Amarillo**	**25.05**	**6**	*e*P	**P**	**02 54 43.0**	**-0.2**
	9.9nm,0.8s,mb4.4						
WUAZ	**Wupatki**	**26.28**	**347**	*e*P	**P**	**02 54 55.0**	**+0.6**
	3.5nm,0.9s,mb3.9						
ROSC	**El Rosal**	**30.40**	**97**	LR	LR	03 05 09.7	
	comp=Z,61nm,20.0s,MS3.2,baz=25,slow=32						
NVAR	**Mina Array Bea**	**31.00**	**339**	P	**P**	**02 55 38.6**	**+2.2**
	0.2nm,0.3s,mb3.4,baz=171,slow=7.9,SNR=3.0						
PDAR	**Pinedale Array**	**33.07**	**353**	P	**P**	**02 55 54.4**	**-0.2**
	1.0nm,0.8s,mb3.8,baz=166,slow=9.3,SNR=9.2						
PDAR				LR	LR	03 08 27.3	
	comp=Z,67nm,21.6s,MS3.3,baz=188,slow=35						
SDV	**Santo Domingo**	**33.50**	**89**	*e*P	**P**	**02 55 58.1**	**-0.3**
	4.4nm,0.7s,mb4.5						
YBH	**Yreka Blue Hor**	**35.53**	**336**	LR	LR	03 08 55.1	
	comp=Z,138nm,21.6s,MS3.7,baz=152,slow=33						
NEW	**Newport**	**39.71**	**347**	LR	LR	03 12 49.3	
	comp=Z,132nm,19.1s,MS3.8,baz=164,slow=36						
NEW	**Newport**	**39.71**	**347**	*e*P	**P**	**02 56 51.5**	**+0.2**
	5.1nm,1.0s,mb4.2						
ULM	**Lac du Bonnet**	**40.91**	**9**	LR	LR	03 13 19.5	
	comp=Z,92nm,18.6s,MS3.7,baz=199,slow=36						
SADO	**Sadowa**	**41.12**	**28**	LR	LR	03 14 10.6	
	comp=Z,88nm,18.7s,MS3.6,baz=125,slow=37						
EDM	**Edmonton**	**43.82**	**352**	P	**P**	**02 57 23.8**	**-1.1**
RKT	**Rikitea**	**44.27**	**222**	*e*LR	LR	03 09 53.4	
	193nm,25.5s						
LPAZ	**La Paz**	**44.45**	**125**	P	**P**	**02 57 31.9**	**+1.9**
	4.9nm,1.0s,mb4.2,baz=313,slow=8.1,SNR=18						
LPAZ				LR	LR	03 14 15.7	
	comp=Z,112nm,21.1s,MS3.8,baz=266,slow=34						
LPAZ	**La Paz**	**44.45**	**125**	P	**P**	**02 57 31.9**	**+1.9**
LPAZ				LR	LR	03 14 15.7	
SAML	**Samuel**	**45.25**	**113**	*e*P	**P**	**02 57 35.0**	**-1.4**
	3.4nm,0.9s,mb4.2						
BBB	**Bella Bella**	**46.34**	**340**	LR	LR	03 14 42.6	
	comp=Z,182nm,20.7s,MS4.0,baz=88,slow=33						
PPT	**Papeete**	**52.14**	**239**	*e*LR	LR	03 13 33.9	
	142nm,26.8s						
YKA	**Yellowknife Ar**	**53.04**	**354**	P	**P**	**02 58 34.6**	**-1.5**
	1.1nm,0.8s,mb3.9,baz=165,slow=7.0,SNR=18						
YKA				LR	LR	03 21 25.6	
	comp=Z,101nm,19.6s,MS3.9,baz=180,slow=37						
SCHQ	**Schefferville**	**53.87**	**26**	LR	LR	03 22 23.3	
	comp=Z,64nm,21.8s,MS3.6,baz=94,slow=38						
TBI	**Tubuai**	**54.92**	**232**	*e*LR	LR	03 14 50.8	
	183nm,26.8s						
CPUP	**Villa Florida**	**58.32**	**129**	P	**P**	**02 59 14.5**	**+0.6**
	0.6nm,0.5s,mb3.9,baz=297,slow=2.3,SNR=3.6						
CPUP				LR	LR	03 23 09.9	
	comp=Z,101nm,21.3s,MS3.9,baz=260,slow=35						
CPUP	**Villa Florida**	**58.32**	**129**	*e*P	**P**	**02 59 14.1**	**+0.2**
	5.7nm,0.7s,mb4.7						
CPUP				LR	LR	03 23 09.9	
DAWY	**Dawson**	**59.43**	**343**	*e*P	**P**	**02 59 21.4**	**-0.2**
FRB	**Frobisher Bay**	**59.55**	**18**	LR	LR	03 25 55.3	
	comp=Z,62nm,21.6s,MS3.7,baz=203,slow=38						
INK	**Inuvik**	**61.41**	**348**	*e*P	**P**	**02 59 34.4**	**-0.8**
	5.6nm,0.9s,mb4.7						
BDFB	**Brasilia**	**61.48**	**114**	LR	LR	03 24 25.3	
	comp=Z,274nm,18.9s,MS4.4,baz=291,slow=35						
ILAR	**Eielson Array**	**62.22**	**341**	P	**P**	**02 59 40.2**	**-0.5**
	2.8nm,0.8s,mb4.5,baz=150,slow=5.1,SNR=28						
NOA	**NORSAR Array B**	**93.44**	**26**	LR	LR	03 42 31.3	
	comp=Z,18nm,19.5s,MS3.5,baz=0.0,slow=35						
WRA	**Warramunga Arr**	**122.43**	**253**	PKP	PKPdf	03 08 22.4	+8.1
	0.6nm,0.7s,baz=95,slow=2.6,SNR=3.7						

BER 09 03:02:15.7±0.3, 7122N×726W, h14km±2km, MD3.6, ML3.0, 4C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.41**	**236**	⇑*i*P	Pg	03 02 23.1	-0.7
JNE				AML	AML	03 02 33.5	
	comp=Z,2μm,0.4s						
JNW	**Jan Mayen West**	**0.42**	**244**	⇑*i*P	Pg	03 02 23.5	-0.7
JNW				AML	AML	03 02 34.3	
	comp=Z,1μm,0.6s						
JMI	**Jan Mayen**	**0.56**	**239**	⇑*i*P	Pg	03 02 25.6	-1.1
JMI				*e*S	Sg	03 02 32.9	-1.3
JMI				AML	AML	03 02 33.6	
	comp=Z,389nm,0.3s						
JMI	**Jan Mayen**	**0.56**	**239**	⇑*i*P	Pg	03 02 25.6	-1.1
	SNR=53						
JMI				*e*S	Sg	03 02 32.9	-1.3
	comp=Z,389nm,0.3s,SNR=53						

*ISCJB **09** 03:06:21.2±0.3, 4721N±003×10.12E±002, h3km, Error ellipse: s-maj=4.3km s-min=1.9km az=2.2*
*VIE **09** 03:06:21.6±0.2, 4720N×1012E, h3km±7km, mb0.9/2, ML2.1/5, Error ellipse: s-maj=1.4km s-min=0.6km az=0.0 2 km SW of Lech felt 2-3EMS98 at Lech / VORARLBERG*
*ZUR **09** 03:06:21.1, 4722N×1016E, h2km±3km, ML1.7/3*
*PRU **09** 03:06:22.1, 4736N×993E, h0km*
*BGR **09** 03:06:23.2±0.3, 4724N×1013E, h5km, ML1.9/3, Error ellipse: s-maj=5.6km s-min=2.2km az=171.0*
*LDG **09** 03:06:25.4±0.3, 4730N×1004E, h10km, Ml2.4/5, Error ellipse: s-maj=6.2km s-min=4.9km az=18.0*

ISC 09 03:06:22.2±0.4, 4724N±003×1014E±002, h12km±6km, n34, σ1°00/53, 7C-5D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAVA	**Damuels**	**0.18**	**286**	⇑*i*Pg	**Pg**	**03 06 25.3**	**-0.9**
	comp=Z,18nm,0.1s						
DAVA				⇑*i*Sg	**Sg**	**03 06 28.0**	**-1.0**
	comp=E,104nm,0.1s						
DAVA	**Damuels**	**0.18**	**286**	*e*Pg	**Pg**	**03 06 25.3**	**-1.0**
DAVA				*e*Sg	**Sg**	**03 06 28.0**	**-1.0**
OBER	**Oberstdorf**	**0.20**	**32**	*e*Pg	**Pg**	**03 06 26.8**	**+0.2**
OBER				*e*Sg	**Sg**	**03 06 30.6**	**+1.0**
LIENZ	**Alp Oberkamor**	**0.44**	**278**	*e*Pg	**Pg**	**03 06 30.6**	**-0.3**
	SNR=16						
LIENZ				*e*Sg	**Sg**	**03 06 37.3**	**+0.5**
LIENZ	**Alp Oberkamor**	**0.44**	**278**	*e*Pg	**Pg**	**03 06 28.1**	**-2.8**
	79nm,0.3s						
DAVOX	**Davos**	**0.49**	**201**	⇑*i*Pg	**Pg**	**03 06 30.5**	**-1.3**
	79nm,0.6s						
DAVOX				*e*Sg	**Sg**	**03 06 37.6**	**-0.7**
	79nm,0.6s						
FUORN	**Ofenpass**	**0.62**	**172**	⇓*i*Pg	**Pg**	**03 06 30.5**	**-3.8**
	27nm,0.6s						
MOTA	**Moosalm**	**0.67**	**80**	⇑*i*Pg	**Pg**	**03 06 34.5**	**-0.6**
	0.9nm,0.1s						
MOTA				⇓*i*Sg	**Sg**	**03 06 44.8**	**+0.8**
	4.0nm,0.1s						
SQTA	**Sankt Quirin**	**0.73**	**91**	⇑*i*Pg	**Pg**	**03 06 35.1**	**-1.3**
	2.0nm,0.2s						
SQTA				⇑*i*Sg	**Sg**	**03 06 46.2**	**+0.2**
	12nm,0.2s						
WILA	**Wila**	**0.85**	**282**	*e*Pg	**Pg**	**03 06 40.5**	**+1.8**
	SNR=4.8						
WILA				*e*Sg	**Sg**	**03 06 51.0**	**+1.1**
WATA	**Walderalm**	**0.98**	**84**	⇓*i*Pg	**Pg**	**03 06 41.5**	**+0.3**
	2.6nm,0.2s						
WATA				⇓*i*Sg	**Sg**	**03 06 54.9**	**+0.9**
	7.0nm,0.2s						
WTTA	**Wattenberg**	**1.02**	**88**	⇑*i*Pg	**Pg**	**03 06 41.9**	**+0.1**
	2.2nm,0.2s						
WTTA				⇓*i*Sg	**Sg**	**03 06 56.1**	**+0.9**
	4.4nm,0.2s						
WTTA	**Wattenberg**	**1.02**	**88**	*e*Pg	**Pg**	**03 06 42.3**	**+0.4**
	SNR=5.2						
WTTA				*e*Sg	**Sg**	**03 06 56.9**	**+1.7**
ZUR	**Zurich**	**1.07**	**278**	*e*Sg	**Sg**	**03 06 57.8**	**+1.2**
FUR	**Furstenfeldbru**	**1.21**	**39**	*e*Pg	**Pg**	**03 06 46.1**	**+0.8**
	SNR=2.5						
FUR				*e*Sg	**Sg**	**03 07 03.2**	**+2.2**
SLE	**Schleitheim**	**1.23**	**296**	*e*Pg	**Pg**	**03 06 46.2**	**+0.3**
	SNR=5.6						
SLE				*e*Sg	**Sg**	**03 07 03.2**	**+1.2**
SULZ	**Sulz-Cheisache**	**1.40**	**283**	*e*Pg	**Pg**	**03 06 49.3**	**+0.1**
	SNR=1.9						
SULZ				*e*Sg	**Sg**	**03 07 08.7**	**+1.3**
BFO	**Black Forest**	**1.64**	**313**	*e*Sg	**Sg**	**03 07 15.2**	**+0.4**
BALST	**Balsthal**	**1.67**	**274**	*e*Pg	**Pg**	**03 06 53.6**	**-0.6**
	SNR=2.3						
BALST				*e*Sg	**Sg**	**03 07 16.2**	**+0.5**
BOURR	**Bourrignon**	**1.98**	**276**	*e*Sg	**Sg**	**03 07 25.6**	**-0.3**
KBA	**Koelnbreinsper**	**2.19**	**93**	*e*Sg	**Sg**	**03 07 33.2**	**+0.5**
CDF	**Champ du Feu**	**2.26**	**302**	*e*Pn	**Pn**	**03 07 00.2**	**+0.9**
CDF	**Champ du Feu**	**2.26**	**302**	*e*Pg	**Pg**	**03 07 05.6**	**+0.1**
CDF				*e*Sg	**Sg**	**03 07 34.3**	**-0.4**
	5.3nm,0.4s						
HINF	**Hinteralfeld**	**2.30**	**286**	*e*Pg	**Pg**	**03 07 06.7**	**+0.4**
HINF				*e*Sg	**Sg**	**03 07 35.5**	**-0.6**
	3.1nm,0.3s						
WET	**Wettzell**	**2.65**	**43**	*e*Sg	**Sg**	**03 07 45.7**	**-1.5**
HAU	**Haudompre**	**2.67**	**288**	*e*Pn	**Pn**	**03 07 05.3**	**+0.3**
HAU	**Haudompre**	**2.67**	**288**	*e*Pg	**Pg**	**03 07 13.8**	**+0.3**
HAU				*e*Sg	**Sg**	**03 07 46.5**	**-1.6**
	6.2nm,0.4s						
CABF	**La Chapelle**	**2.84**	**259**	*e*Pg	**Pg**	**03 07 17.4**	**+0.7**
KHC	**Kasperske Hory**	**2.98**	**49**	*e*PG	**Pg**	**03 07 17.9**	**-1.4**
KHC				x	x	03 07 45.0	
KHC				*e*SG	**Sg**	**03 07 57.7**	**-0.3**
NKC	**Novy Kostel**	**3.37**	**26**	*e*SG	**Sg**	**03 08 08.8**	**-1.5**
	2.8nm,0.3s						
WERD	**Werda**	**3.52**	**23**	*e*Sg	**Sg**	**03 08 14.4**	**-0.8**
TANN	**Tannenbergstha**	**3.53**	**25**	*e*Sg	**Sg**	**03 08 14.5**	**-1.1**
PRU	**Pruhonice**	**4.01**	**45**	*e*SG	**Sg**	**03 08 30.4**	**-0.7**
LOR	**Lormes**	**4.28**	**273**	*e*Sg	**Sg**	**03 08 37.0**	**-2.5**
	0.8nm,0.3s						

*IDC **09** 03:14:24.9×4.1, 505S×102.17E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/16, mbtmp4.0/4, Error ellipse: s-maj=168.5km s-min=22.2km az=55.0*
*ISCJB **09** 03:14:26.5±2.4, 52S±04×1019E±06, h33km, mb4.1/7, Error ellipse: s-maj=98.7km s-min=14.7km az=111.5*
*NEIC **09** 03:14:28.4±1.8, 5.17S×10199E, h30km, mb4.2/3, Error ellipse: s-maj=76.1km s-min=11.2km az=55.0*

ISC 09 03:14:29.1±2.4, 52S±04×1019E±06, h35km, n9, σ0°44/8, mb4.1/7, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.76**	**118**	P	**P**	**03 21 15.4**	**-0.7**
	0.6nm,0.7s,mb3.6,baz=300,slow=10,SNR=4.1						
WRAB	**Tennant Creek**	**34.77**	**118**	P	**P**	**03 21 16.3**	**+0.2**
	3.5nm,0.8s,mb4.3						
ASAR	**Alice Springs**	**35.85**	**124**	P	**P**	**03 21 26.2**	**+0.8**
	1.3nm,0.5s,mb4.2,baz=294,slow=7.6,SNR=21						
STKA	**Stephens Creek**	**45.61**	**131**	P	**P**	**03 22 45.7**	**-0.3**
SONM	**Songino Array**	**52.94**	**4**	P	**P**	**03 23 42.3**	**+0.4**
	2.9nm,0.8s,mb4.3,baz=186,slow=8.7,SNR=31						
ULN	**Ulaanbaatar**	**53.02**	**4**	*e*P	**P**	**03 23 42.2**	**-0.3**
	3.1nm,1.0s,mb4.2						
ULN				*e*pP	pP	03 23 54.4	+1.3
MKAR	**Makanchi Array**	**54.61**	**344**	P	**P**	**03 23 54.3**	**+0.2**
	0.8nm,0.4s,mb4.1,baz=148,slow=8.9,SNR=15						
KURK	**Kurchatov**	**59.20**	**343**	P	**P**	**03 24 26.4**	**-0.2**
	1.4nm,0.8s,mb4.0						
HOPE	**Hope Point**	**111.35**	**205**	*e*P	Pdif	03 29 02.3	+1.3

*NEIC **09** 03:15:03.6, 4999N×6629W, h18km, MN3.0(OTT), After OTT.*
NEIC Felt at Sept-Iles.

OTT 09 03:15:03.6±0.2, 4999N×6629W, h18km, MN3.0/21, 1C, Gaspe Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMQ	**Clarke City**	**0.35**	**312**	⇑PG	Pg	03 15 10.7	-0.3
SMQ				SG	Sg	03 15 15.8	-0.2
ICQ	**Pointe Anglais**	**0.79**	**234**	PG	Pg	03 15 18.3	-0.7
ICQ				SG	Sg	03 15 29.6	+0.1
ICQ				Trac		03 15 31.1	
	comp=Z,79nm,0.1s						
ICQ	**Pointe Anglais**	**0.79**	**234**	Pg	Pg	03 15 18.3	-0.7
ICQ				Sg	Sg	03 15 29.6	+0.1
GASG	**Gaspe, Quebec**	**1.05**	**174**	PG	Pg	03 15 24.4	+0.5
GSQ	**Grosses Roches**	**1.20**	**207**	PG	Pg	03 15 26.1	-0.7
GSQ				SG	Sg	03 15 43.4	+0.8
GSQ				Trac		03 15 44.5	
	comp=Z,131nm,0.2s						
GSQ	**Grosses Roches**	**1.20**	**207**	Pg	Pg	03 15 26.1	-0.7
GSQ				Sg	Sg	03 15 43.5	+0.9
CNQ	**Baie Comeau**	**1.35**	**240**	PG	Pg	03 15 27.0	-2.6
CNQ				SG	Sg	03 15 44.9	-2.2
CNQ				Trac		03 15 47.6	
	comp=Z,82nm,0.1s						
CNQ	**Baie Comeau**	**1.35**	**240**	Pg	Pg	03 15 27.0	-2.6
CNQ				Sg	Sg	03 15 44.9	-2.2
MNQ	**Manicouagan**	**1.68**	**290**	PN	Pn	03 15 30.2	-1.8
MNQ				SN	Sn	03 15 52.1	-1.0
MNQ				Trac		03 15 54.0	
	comp=Z,67nm,0.1s						
MNQ	**Manicouagan**	**1.68**	**290**	Pn	Pn	03 15 30.2	-1.8
MNQ				Sn	Sn	03 15 52.1	-1.0
NATG	**Natashquan Que**	**2.26**	**81**	PN	Pn	03 15 39.7	-0.4
NATG				PG	Pg	03 15 42.8	-4.2
NATG				SN	Sn	03 16 08.7	+1.3
NATG				Trac		03 16 19.6	
	comp=Z,21nm,0.1s						
NATG	**Natashquan Que**	**2.26**	**81**	Pg	Pg	03 15 42.8	-4.2
NATG				Pn	Pn	03 15 54.0	+14
NATG				Sn	Sn	03 16 08.7	+1.3
BATG	**Bathurst New B**	**2.72**	**177**	PN	Pn	03 15 46.4	+0.1
BATG				SN	Sn	03 16 17.9	-0.9
A21	**Saint Andre**	**3.20**	**226**	PN	Pn	03 15 52.1	-0.8
A21				SN	Sn	03 16 28.2	-2.5
A21				LG		03 16 41.5	
A21				Trac		03 16 45.0	
	comp=Z,15nm,0.2s						
A21	**Saint Andre**	**3.20**	**226**	Pn	Pn	03 15 52.1	-0.8
A21				Sn	Sn	03 16 28.2	-2.5
A64	**Saint Simeon**	**3.21**	**229**	PN	Pn	03 15 53.7	+0.6
A64				SN	Sn	03 16 29.6	-1.3
A64				Trac		03 16 47.3	
	comp=Z,5.0nm,0.1s						
A64	**Saint Simeon**	**3.21**	**229**	Pn	Pn	03 15 53.7	+0.6
A64				Sn	Sn	03 16 29.6	-1.3
A61	**Sainte Mathild**	**3.40**	**229**	PN	Pn	03 15 54.6	-1.1
A61				SN	Sn	03 16 34.1	-1.5
A61				LG		03 16 50.8	
A61				Trac		03 16 53.1	
	comp=Z,6.8nm,0.1s						
A61	**Sainte Mathild**	**3.40**	**229**	Pn	Pn	03 15 54.6	-1.1
A61				Sn	Sn	03 16 34.1	-1.5
LMQ	**La Malbaie**	**3.62**	**229**	PN	Pn	03 15 58.5	-0.1
LMQ				SN	Sn	03 16 40.0	-0.9
LMQ				LG		03 16 54.3	
LMQ				Trac		03 16 55.0	
	comp=Z,9.8nm,0.1s						
LMQ	**La Malbaie**	**3.62**	**229**	Pn	Pn	03 15 58.5	-0.1

comp=Z,3.2nm,0.2s
LG4Q La Grande 4 6.06 310 Pn Pn 03 16 29.3 -2.9
LG4Q Sn Sn 03 17 32.5 -8.6
MRHQ Morin Heights 6.72 235 PN Pn 03 16 36.5 -4.7
MRHQ SN Sn 03 17 51.7 -5.6
MRHQ LG 03 18 28.1
MRHQ Morin Heights 6.72 235 Pn Pn 03 16 36.5 -4.7
MRHQ Sn Sn 03 17 51.7 -5.6
GRQ Grand Remous 7.22 246 SN Sn 03 18 03.2 -6.6
GRQ LG 03 18 46.8
GRQ Trac 03 18 57.8
comp=Z,3.2nm,0.3s
GAC Glen Almond 7.52 239 PN Pn 03 16 50.3 -1.9
GAC SN Sn 03 18 10.6 -6.4
GAC LG 03 18 55.8
GAC Trac 03 18 58.1
comp=Z,2.1nm,0.2s
GAC Glen Almond 7.52 239 Pn Pn 03 16 50.3 -1.9
GAC Sn Sn 03 18 10.6 -6.4
CRLO Chalk River 8.42 246 PN Pn 03 17 02.0 -2.6
CRLO SN Sn 03 18 28.7 -10
CRLO LG 03 19 26.1
CRLO Trac 03 19 30.4
comp=Z,1.9nm,0.2s
CRLO Chalk River 8.42 246 Pn Pn 03 17 02.0 -2.6
CRLO Sn Sn 03 18 28.7 -10
EEO Eldee 9.15 253 SN Sn 03 18 45.6 -12
EEO LG 03 19 43.5
EEO Trac 03 19 48.8
comp=Z,1.3nm,0.2s
SADO Sadowa 10.15 244 SN Sn 03 19 11.1 -11
SADO LG 03 20 13.7

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*ISCJB **09** 03:25:22.6E0.3, 129N0.05×97.15E0.04, h26km, mb4.8/77, MS4.5/21, Error ellipse: s-maj=7.4km s-min=5.4km az=58.0*
*BJI **09** 03:25:22.0, 134N×97.38E, h19km, mB5.1, mb4.9, Ms4.7, Msz4.6*
*IDC **09** 03:25:23.8±0.6, 123N×97.05E, h22km±3km, mb4.2/16, mb1 4.3/17, mb1mx4.2/23, mbtmp4.4/17, ML3.9/1, MS4.2/6, Ms1 4.2/6, ms1mx3.6/26, Error ellipse: s-maj=25.0km s-min=11.1km az=48.0*
*MOS **09** 03:25:23.7±0.9, 133N×97.11E, h33km, mb5.1/23, Error ellipse: s-maj=12.3km s-min=6.1km az=101.2*
*NEIC **09** 03:25:24.2±0.3, 130N×97.16E, mb4.8/20, Error ellipse: s-maj=7.3km s-min=5.2km az=222.0*
*HRVD **09** 03:25:24.2±0.9, 102N×97.05E, h24km±2km, MW4.8/37, Centroid moment Tensor Solution. LP body waves: s16,c17;Mantle waves: s37,c39; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr 1.84±.21; Mθθ -0.85±.12; Mφφ -0.98±.14; Mre 1.44±.21; Mθφ 0.68±.06; Mφr -0.56±.18; Best double couple: Mo 2.29900×10^16^ NP1:φs122.00000°, δ66.00000°, λ79.00000°. NP2: φs122.00000°, δ66.00000°, λ79.00000°. Principal axes: T 2.4820, Plg67.0000°, Azm11.0000°; N -0.3660, Plg10.0000°, Azm126.0000°; P -2.1160, Plg20.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **09** 03:25:28.0, 159N×96.79E, h33km, mb4.6, Off west coast of northern Sumatera, Indonesia*

ISC 09 03:25:25.0±0.3, 131N±005×9717E±004, h28km, h28km±1.5km; pP-P, n141, σ0698/136, mb4.8/77, MS4.5/21, 17C-7D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.29**	**50**	Pn	**Pn**	**03 26 01.1**	**+0.1**
	27nm,0.3s,baz=237,slow=4.8,SNR=131						
TSI	**Tuntungan**	**2.58**	**33**	P	**Pn**	**03 26 05.5**	**+0.5**
	957nm,1.2s						
PPI	**Padang Panjang**	**3.68**	**119**	P	**Pn**	**03 26 21.7**	**+1.7**
	148nm,1.0s						
BSI	**Banda Aceh**	**4.56**	**336**	P	**Pn**	**03 26 28.8**	**-3.3**
	76nm,0.5s						
KULM	**Kulim**	**5.26**	**41**	⇑iPn	**Pn**	**03 26 42.1**	**+0.3**
KSI	**Kapahiang**	**7.33**	**132**	P	**Pn**	**03 27 21.9**	**+12**
	84nm,0.9s						
PBA	**Port Blair**	**11.18**	**337**	*ex*	x	03 28 28.9	
PBA				*ex*	x	03 31 29.8	
PALK	**Pallekele**	**17.45**	**290**	*e*Pn	**Pn**	**03 29 27.6**	**+1.3**
	10nm,1.0s						
CHG	**Chiang Mai**	**17.48**	**6**	⇑P	**Pn**	**03 29 25.1**	**-1.6**
	14nm,0.8s						
CHTO	**Chiang Mai**	**17.48**	**6**	*e*P	**Pn**	**03 29 25.0**	**-1.7**
CHTO				pmax	pmax		
	comp=Z,12nm,0.9s						
CHTO	**Chiang Mai**	**17.48**	**6**	*e*Pn	**Pn**	**03 29 25.0**	**-1.8**
	comp=Z,12nm,0.9s						
NANT	**Nan**	**17.72**	**11**	⇓P	**Pn**	**03 29 31.5**	**+1.8**
	comp=Z,188nm,0.4s						
KKM	**Kota Kinabalu**	**19.57**	**76**	*e*Pn	**Pn**	**03 29 51.6**	**-0.6**
VIS	**Vishakhapatnam**	**21.23**	**321**	*e*P	**P**	**03 30 10.6**	**+1.9**
VIS				AMb	AMB	03 30 21.4	
	comp=Z,101nm,1.2s,mb5.0						
TRD	**Trivandrum**	**21.35**	**290**	*e*P	**P**	**03 30 11.1**	**+1.1**
QIZ	**Qiongzhong**	**21.55**	**34**	⇑P	**P**	**03 30 11.6**	**-0.5**
QIZ				AMB	AMB		
	comp=Z,32nm,1.6s,mb4.5						
QIZ				LR	LR		
	comp=N,549nm,13.0s,MS4.3						
QIZ				LR	LR		
	comp=E,558nm,14.8s,MS4.3						
QIZ				LR	LR		
	comp=Z,693nm,16.2s,MS4.1						
QIZ	**Qiongzhong**	**21.55**	**34**	*e*P	**P**	**03 30 11.6**	**-0.5**
	comp=Z,12nm,0.8s,mb4.4						
KMI	**Kunming**	**24.28**	**12**	P	**P**	**03 30 40.9**	**+1.1**
KMI				AP		03 30 48.1	
KMI				XP	sP	03 30 50.9	-0.4
KMI				AMB	AMB		
	comp=Z,81nm,1.2s,mb5.0						
KMI				AMB	AMB		
	comp=Z,363nm,4.5s						
KMI				LR	LR		
	comp=N,2μm,16.7s,MS4.8						
KMI				LR	LR		
	comp=E,1μm,14.7s,MS4.8						
KMI				LR	LR		
	comp=Z,2μm,15.3s,MS4.8						
HYB	**Hyderabad**	**24.31**	**312**	*i* P	**P**	**03 30 42.0**	**+1.8**
HYB				*e*		03 30 50.0	
BOK	**Bokaro**	**24.88**	**335**	*e*P	**P**	**03 30 46.7**	**+1.3**
BOK				AMb	AMB	03 30 50.0	
	comp=Z,79nm,1.7s,mb5.0						
NGP	**Nagpur**	**26.48**	**319**	*e*P	**P**	**03 30 59.1**	**-0.7**
NGP				AMb	AMB	03 31 22.8	
	comp=Z,24nm,1.0s,mb4.7						
GZH	**Guangzhou**	**26.74**	**35**	P	**P**	**03 31 04.2**	**+2.0**
GZH				S	**S**	**03 35 39.0**	**+2.8**
GZH				LR	LR		
	comp=N,530nm,14.9s,MS4.4						
GZH				LR	LR		
	comp=E,609nm,13.7s,MS4.4						
GZH				LR	LR		
	comp=Z,1μm,14.3s,MS4.6						
AKL	**Akola**	**27.54**	**316**	*e*P	**P**	**03 31 10.2**	**+0.8**
AKL				AMb	AMB	03 31 18.9	
	comp=Z,25nm,1.4s,mb4.7						
JIRN	**Jiri**	**28.23**	**339**	*e*P	**P**	**03 31 17.1**	**+1.6**
	comp=Z,167nm,1.0s,mb5.6						
PKI	**Pulchoki**	**28.44**	**338**	*e*P	**P**	**03 31 18.6**	**+1.2**
	comp=Z,46nm,0.9s,mb5.1						
GUN	**Gumba**	**28.57**	**339**	*e*P	**P**	**03 31 20.2**	**+1.6**
	comp=Z,162nm,1.1s,mb5.7						
DMN	**Daman**	**28.59**	**337**	*e*P	**P**	**03 31 19.8**	**+1.1**
	comp=Z,50nm,0.8s,mb5.3						
KKN	**Kakani**	**28.68**	**338**	*e*P	**P**	**03 31 20.6**	**+1.0**
	comp=Z,120nm,1.2s,mb5.5						
LSA	**Lhasa**	**28.81**	**349**	P	**P**	**03 31 20.8**	**+0.1**
LSA	**Lhasa**	**28.81**	**349**	*e*P	**P**	**03 31 22.1**	**+1.4**
LSA				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.8						
LSA	**Lhasa**	**28.81**	**349**	*e*P	**P**	**03 31 22.1**	**+1.5**
	comp=Z,18nm,0.8s,mb4.8						
BHPL	**Bhopal**	**29.02**	**320**	*e*P	**P**	**03 31 22.6**	**0.0**
BHPL				AMb	AMB	03 31 25.3	
	comp=Z,5.9nm,0.3s,mb4.8						
GKN	**Gorkha**	**29.12**	**337**	*e*P	**P**	**03 31 24.7**	**+1.2**
	comp=Z,102nm,0.9s,mb5.6						
KOLN	**Koldanda**	**29.34**	**335**	*e*P	**P**	**03 31 26.8**	**+1.4**
	comp=Z,63nm,0.8s,mb5.4						
CD2	**Chengdu**	**30.09**	**11**	P	**P**	**03 31 31.5**	**-0.6**
CD2				XP	sP	03 31 43.8	+0.2
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
CD2				AMB	AMB		
	comp=Z,150nm,6.6s						
CD2				LR	LR		
	comp=N,830nm,14.4s						
CD2				LR	LR		
	comp=Z,750nm,16.2s,MS4.4						
ENH	**Enshi**	**31.09**	**21**	*e*P	**P**	**03 31 37.8**	**-3.1**
	comp=Z,18nm,0.3s,mb5.4						
MBWA	**Marble Bar**	**31.40**	**137**	*e*P	**P**	**03 31 44.7**	**+1.1**
	comp=Z,33nm,1.4s,mb5.0						
AJM	**Ajmer**	**33.09**	**321**	*ex*	x	03 30 21.4	
AJM				AMb	AMB	03 30 24.4	
	comp=Z,8.2nm,0.4s,mb5.0						
NDI	**New Delhi**	**33.22**	**327**	*e*P	**P**	**03 31 58.5**	**-1.0**
NDI				AMb	AMB	03 32 04.9	
	comp=Z,21nm,1.0s,mb5.0						
WHN	**Wuhan**	**33.33**	**28**	*e*P	**P**	**03 31 55.5**	**-5.0**
FITZ	**Fitzroy Crossi**	**34.02**	**126**	P	**P**	**03 32 06.0**	**-0.5**
	comp=Z,3.7nm,0.9s,mb4.3,baz=222,slow=17,SNR=4.8						
XAN	**Xi'an**	**34.37**	**17**	P	**P**	**03 32 08.6**	**-0.9**
XAN				AP	pP	03 32 19.5	+1.8
XAN				S	**S**	**03 37 40.0**	**+4.5**
XAN				AMB	AMB		
	comp=Z,47nm,1.1s,mb5.3						
XAN				LR	LR		
	comp=N,659nm,15.1s,MS4.6						
XAN				LR	LR		
	comp=E,619nm,15.6s,MS4.6						
XAN				LR	LR		
	comp=Z,1μm,14.0s,MS4.8						
BHJ	**Bhuj**	**34.47**	**311**	*ex*	x	03 31 51.3	
LZH	**Lanzhou**	**35.15**	**9**	P	**P**	**03 32 15.8**	**-0.5**
LZH				AP	pP	03 32 22.7	-1.8
LZH				XP	sP	03 32 27.2	-0.6
LZH				AMB	AMB		
	comp=Z,70nm,1.2s,mb5.5						
LZH				AMB	AMB		
	comp=Z,220nm,5.0s						
LZH				LR	LR		
	comp=N,2μm,17.4s						
LZH				LR	LR		
	comp=Z,2μm,19.0s,MS4.8						
SMLA	**Simla**	**35.18**	**329**	*e*P	**P**	**03 32 15.2**	**-1.4**
SMLA				AMb	AMB	03 32 17.9	
	comp=Z,24nm,1.2s,mb5.0						
NJ2	**Nanjing**	**36.79**	**32**	*e*P	**P**	**03 32 29.6**	**-0.7**
NJ2				AP	pP	03 32 36.5	-2.0
NJ2				XP	sP	03 32 39.4	-2.5
NJ2				PP	PP	03 33 54.0	-0.3
NJ2				S	**S**	**03 38 12.0**	**-0.6**
NJ2				XS	sS	03 38 22.0	-4.1
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,140nm,9.0s						
NJ2				LR	LR		
	comp=N,1μm,13.3s,MS5.0						
NJ2				LR	LR		
	comp=E,890nm,14.2s,MS5.0						
NJ2				LR	LR		
	comp=Z,580nm,13.2s,MS4.5						
SSE	**Sheshan**	**37.34**	**35**	P	**P**	**03 32 33.8**	**-1.2**
SSE				XP	sP	03 32 46.5	-0.1
SSE				PP	PP	03 33 59.3	-1.1
SSE				PCP	PcP	03 34 51.8	-2.0
SSE				S	**S**	**03 38 20.9**	**-0.1**
SSE				XS	sS	03 38 35.8	+1.2
SSE				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,83nm,4.2s						
SSE				LR	LR		
	comp=N,250nm,17.8s,MS4.1						
SSE				LR	LR		
	comp=E,142nm,18.1s,MS4.1						
SSE				LR	LR		
	comp=Z,281nm,17.9s,MS4.1						
KAKA	**Kakadu**	**37.67**	**113**	*e*P	**P**	**03 32 37.6**	**-0.2**
	comp=Z,7.2nm,0.7s,mb4.5						
GTA	**Gaotai**	**37.99**	**3**	⇑P	**P**	**03 32 40.6**	**+0.1**
GTA				AP	pP	03 32 48.6	-0.2
GTA				XP	sP	03 32 51.8	-0.3
GTA				AMB	AMB		
	comp=Z,16nm,0.9s,mb4.8						
GTA				AMB	AMB		
	comp=Z,122nm,9.1s						
GTA				LR	LR		
	comp=N,479nm,13.3s,MS4.6						
GTA				LR	LR		
	comp=E,326nm,13.3s,MS4.6						
GTA				LR	LR		
	comp=Z,551nm,13.7s,MS4.5						
BTO	**Baotou**	**40.81**	**15**	*e*P	**P**	**03 33 02.8**	**-1.2**
HHC	**Hu-ho-hao-te**	**41.46**	**17**	*e*P	**P**	**03 33 09.9**	**+0.5**
HHC				AP	pP	03 33 19.9	+2.2
HHC				XP	sP	03 33 23.9	+2.9
HHC				PP	PP	03 34 49.1	+3.8
HHC				PCP	PcP	03 35 08.5	+1.7
HHC				SCP	ScP	03 38 53.1	-1.8
HHC				PCS	PcS	03 38 57.6	-0.5
HHC				S	**S**	**03 39 23.7**	**+0.8**
HHC				XS	sS	03 39 40.9	+4.4
HHC				SS	SS	03 42 26.0	-1.7
HHC				SCS	ScS	03 43 08.7	-2.4
HHC				AMB	AMB		
	comp=Z,17nm,1.4s,mb4.5						
HHC				AMB	AMB		
	comp=Z,193nm,4.5s						
HHC				LR	LR		
	comp=N,904nm,16.1s,MS4.8						
HHC				LR	LR		
	comp=E,628nm,16.7s,MS4.8						
HHC				LR	LR		
	comp=Z,953nm,16.7s,MS4.7						
WRA	**Warramunga Arr**	**42.12**	**122**	P	**P**	**03 33 14.8**	**0.0**
	comp=Z,2.7nm,0.6s,mb4.1,baz=302,slow=9.1,SNR=21						
WRA				pP	pP	03 33 22.2	-0.8
	comp=Z,1.8nm,0.3s,baz=306,slow=9.1,SNR=9.2						
WRAB	**Tennant Creek**	**42.13**	**122**	⇓eP	pP	03 33 23.2	+0.1
WRAB	**Tennant Creek**	**42.13**	**122**	*e*P	**P**	**03 33 15.0**	**+0.2**
	comp=Z,4.6nm,0.4s,mb4.5						
WB2	**Warramunga Arr**	**42.13**	**122**	*e*P	**P**	**03 33 15.2**	**+0.3**
BJT	**Baijiatuan**	**42.23**	**22**	*e*P	**P**	**03 33 16.1**	**+0.5**
BJT				*e**PP	pP	03 33 27.6	+3.7
BJT				pmax	pmax		
	comp=Z,17nm,0.6s						
BJT	**Baijiatuan**	**42.23**	**22**	*e*P	**P**	**03 33 16.1**	**+0.5**
	comp=Z,17nm,0.6s,mb4.8						
BJT				*e*pP	pP	03 33 27.6	+3.7
BJI	**Beijing**	**42.25**	**22**	P	**P**	**03 33 16.4**	**+0.6**
BJI				S	**S**	**03 39 42.2**	**+7.7**
BJI				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.0						
BJI				LR	LR		
	comp=N,171nm,22.6s,MS4.1						
BJI				LR	LR		
	comp=E,229nm,20.5s,MS4.1						
BJI				LR	LR		
	comp=Z,209nm,24.6s,MS3.9						
WMQ	**Urumqi**	**43.16**	**350**	*e*P	**P**	**03 33 24.7**	**+1.5**
ASAR	**Alice Springs**	**43.49**	**127**	P	**P**	**03 33 26.4**	**+0.5**
	comp=Z,1.5nm,0.6s,mb3.9,baz=296,slow=7.4,SNR=4.4						
ASAR				pP	pP	03 33 33.2	-1.0
	comp=Z,1.0nm,0.4s,baz=295,slow=7.7,SNR=6.4						
KS15	**Wonju Array Si**	**45.74**	**35**	*e*P	**P**	**03 33 44.1**	**+0.3**
AAK	**Ala-Archa**	**45.88**	**337**	⇓eP	**P**	**03 33 45.3**	**+0.3**
AAK				pmax	pmax		
	comp=Z,11nm,2.5s,mb4.3						
AAK	**Ala-Archa**	**45.88**	**337**	*e*P	**P**	**03 33 45.4**	**+0.4**
	comp=Z,6.8nm,0.9s,mb4.6						
FRU	**Bishkek**	**46.01**	**337**	*e*P	**P**	**03 33 48.0**	**+2.1**
SONM	**Songino Array**	**47.02**	**8**	P	**P**	**03 33 54.4**	**+0.5**
	comp=Z,14nm,0.8s,mb5.0,baz=189,slow=9.5,SNR=111						
SONM				pP	pP	03 34 01.2	-1.1
	comp=Z,5.9nm,0.7s,baz=191,slow=8.3,SNR=12						
SONM				PcP	PcP	03 35 26.2	+0.4
	comp=Z,1.8nm,0.7s,baz=192,slow=4.3,SNR=4.4						
MK31	**Makanchi Array**	**47.12**	**346**	P	**P**	**03 33 55.0**	**+0.3**
MK31				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.9						
MKAR	**Makanchi Array**	**47.12**	**346**	P	**P**	**03 33 54.9**	**+0.2**
	comp=Z,9.3nm,0.8s,mb4.8,baz=153,slow=8.2,SNR=83						
ULN	**Ulaanbaatar**	**47.16**	**9**	*e*P	**P**	**03 33 55.2**	**+0.3**
ULN				*e**PP	pP	03 34 05.5	+2.2
ULN				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.9						
ULN	**Ulaanbaatar**	**47.16**	**9**	*e*P	**P**	**03 33 55.2**	**+0.3**
	comp=Z,19nm,1.3s,mb4.9						
ULN				*e*pP	pP	03 34 05.5	+2.2
KKAR	**Karatay Array**	**47.94**	**334**	*i* P	**P**	**03 34 01.5**	**+0.5**
ZAK	**Zakamensk**	**49.16**	**5**	*e*P	**P**	**03 34 10.6**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,13nm,1.6s,mb4.7						
CN2	**Changchun**	**49.22**	**27**	*e*P	**P**	**03 34 10.4**	**-0.5**
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.1						
TLY	**Talaya**	**50.48**	**5**	⇑*e*P	**P**	**03 34 21.1**	**+0.6**
TLY				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
IRK	**Irkutsk**	**51.10**	**6**	*e*P	**P**	**03 34 24.8**	**-0.3**
HIA	**Hailar**	**51.55**	**19**	*c i*P	**P**	**03 34 28.4**	**-0.1**
HIA	**Hailar**	**51.55**	**19**	*e*P	**P**	**03 34 28.6**	**+0.2**
	comp=Z,4.5nm,0.4s,mb4.8						
MJAR	**Matsushiro Arr**	**51.63**	**42**	P	**P**	**03 34 29.6**	**+0.5**
	comp=Z,2.3nm,0.7s,mb4.2,baz=222,slow=6.3,SNR=6.9						
KURK	**Kurchatov**	**51.68**	**345**	*c i*P	**P**	**03 34 29.5**	**+0.1**
KURK	**Kurchatov**	**51.68**	**345**	*e*P	**P**	**03 34 29.7**	**+0.3**
	comp=Z,12nm,0.9s,mb4.8						
MDJ	**Mudanjiang**	**51.78**	**29**	P	**P**	**03 34 30.9**	**+0.7**
MDJ				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,124nm,5.4s						
MDJ				LR	LR		
	comp=N,256nm,16.4s,MS4.5						
MDJ				LR	LR		
	comp=E,241nm,12.3s,MS4.5						
MDJ				LR	LR		
	comp=Z,519nm,16.4s,MS4.7						
VLA	**Vladivostok**	**51.89**	**32**	*de*P	**P**	**03 34 31.1**	**+0.1**
VLA				pmax	pmax		
	comp=Z,50nm,1.3s,mb5.3						
CIT	**Chita**	**52.37**	**13**	*e*P	**P**	**03 34 34.8**	**+0.2**
CIT				*e*	pP	03 34 42.5	-0.6
CIT				pmax	pmax		
	comp=Z,45nm,1.5s,mb5.2						
ZAL	**Zalesovo**	**53.44**	**351**	P	**P**	**03 34 42.2**	**-0.2**
	comp=Z,11nm,0.4s,mb5.1,baz=310,slow=5.4,SNR=39						
ZAL				LR	LR	04 03 42.8	
	comp=Z,205nm,18.8s,MS4.2,baz=306,slow=43						
STKA	**Stephens Creek**	**53.45**	**132**	P	**P**	**03 34 42.4**	**-0.2**
	comp=Z,5.3nm,0.8s,mb4.5,baz=306,slow=7.2,SNR=6.7						
STKA				pP	pP	03 34 49.1	-2.0
	comp=Z,4.5nm,0.7s,baz=311,slow=7.2,SNR=3.8						
STKA				LR	LR	03 59 16.7	
	comp=Z,283nm,20.1s,MS4.3,baz=25,slow=38						
STKA	**Stephens Creek**	**53.45**	**132**	*e*P	**P**	**03 34 41.8**	**-0.8**
STKA				pP	pP	03 34 49.1	-2.0
STKA				LR	LR	03 59 16.7	
NVS	**Novosibirsk**	**54.56**	**350**	*e*P	**P**	**03 34 48.7**	**-2.0**
NVS				*e*S	**S**	**03 42 27.1**	**-1.2**
NVS				pmax	pmax		
	comp=N,13nm,1.0s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.0						
NVS				smax			
	comp=N,13nm,1.7s						
NVS				smax			
	comp=E,12nm,1.7s						
KRAR	**Krasnoyarsk**	**54.64**	**357**	⇓*e*P	**P**	**03 34 51.5**	**+0.3**
KRAR				pmax	pmax		
	comp=Z,26nm,0.5s,mb5.5						
VOSK	**Vostochnaya**	**55.69**	**341**	P	**P**	**03 34 58.0**	**-0.8**
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
BVA0	**Borovoye Array**	**56.13**	**341**	P	**P**	**03 35 01.3**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
BVAR	**Borovoye Array**	**56.13**	**341**	P	**P**	**03 35 01.5**	**-0.5**
	comp=Z,7.8nm,0.8s,mb4.8,baz=141,slow=7.4,SNR=9.9						
KLR	**Kul'dur**	**56.17**	**27**	*e*P	**P**	**03 35 00.0**	**-2.2**
KLR				MLR	MLR		
	comp=N,600nm,15.0s,MS5.0						
KLR				MLR	MLR		
	comp=E,500nm,13.0s,MS5.0						
KLR				MLR	MLR		
	comp=Z,700nm,13.0s,MS4.9						
ZRNK	**Zerenda**	**56.54**	**340**	*e*P	**P**	**03 35 04.2**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
ZRNK	**Zerenda**	**56.54**	**340**	*e*P	**P**	**03 35 04.2**	**-0.7**
	comp=Z,8.7nm,1.0s,mb4.7						
AB31	**Akbulak array**	**57.40**	**332**	P	**P**	**03 35 10.5**	**-0.5**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
BOD	**Bodaibo**	**57.91**	**11**	*e*P	**P**	**03 35 14.1**	**-0.4**
BOD				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
AKTK	**Aktyubinsk**	**59.12**	**332**	P	**P**	**03 35 22.1**	**-0.9**
AKTO	**Aktyubinsk**	**59.12**	**332**	P	**P**	**03 35 22.1**	**-0.9**
	comp=Z,5.3nm,0.8s,mb4.6,baz=163,slow=8.0						
KMBO	**Kilima Mbogo**	**59.96**	**268**	LR	LR	03 58 37.1	
	comp=Z,111nm,18.2s,MS4.0,baz=101,slow=33						
YSS	**Yuzh-Sakhalins**	**60.27**	**34**	⇑*e*P	**P**	**03 35 31.5**	**+0.5**
YSS				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.2						
YSS	**Yuzh-Sakhalins**	**60.27**	**34**	*e*P	**P**	**03 35 31.5**	**+0.6**
	comp=Z,23nm,1.0s,mb5.2						
GNI	**Garni**	**61.19**	**316**	⇓*e*P	**P**	**03 35 38.2**	**+1.0**
GNI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SVE	**Sverdlovsk**	**62.57**	**338**	⇑*e*P	**P**	**03 35 45.6**	**-0.9**
SVE				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.3						
SVE				MLR	MLR		
	comp=N,200nm,12.0s,MS4.7						
SVE				MLR	MLR		
	comp=E,200nm,12.0s,MS4.7						
SVE				MLR	MLR		
	comp=Z,400nm,12.0s,MS4.8						
ZEI	**Tsey**	**62.89**	**318**	*e*P	**P**	**03 35 49.2**	**+0.6**
ZEI				*e**PP	pP	03 35 57.1	-0.1
ARU	**Arti**	**63.07**	**337**	⇑*i*P	**P**	**03 35 48.8**	**-1.0**
ARU				*e*		03 38 05.0	
ARU				*e*PPP		03 39 35.2	
ARU				*e*S	**S**	**03 44 15.6**	**-3.2**
ARU				*e*SS	SS	03 48 25.9	+1.2
ARU				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.9						
ARU	**Arti**	**63.07**	**337**	*e*P	**P**	**03 35 48.9**	**-0.9**
	comp=Z,13nm,1.1s,mb5.0						
KIV	**Kislovodsk**	**64.20**	**319**	⇑*e*P	**P**	**03 35 57.3**	**0.0**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
GOF	**Gofitskoye**	**64.46**	**320**	*e*P	**P**	**03 35 57.9**	**-1.0**
MALT	**Malatya**	**65.03**	**312**	*e*P	**P**	**03 36 02.7**	**0.0**
MALT				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
MALT	**Malatya**	**65.03**	**312**	*e*P	**P**	**03 36 02.7**	**+0.1**
	comp=Z,5.3nm,1.0s,mb4.5						
YAK	**Yakutsk**	**65.32**	**16**	*c i*P	**P**	**03 36 03.6**	**-1.0**
YAK				pmax	pmax		
	comp=Z,61nm,1.0s,mb5.6						
YAK	**Yakutsk**	**65.32**	**16**	*e*P	**P**	**03 36 03.9**	**-0.7**
	comp=Z,62nm,1.1s,mb5.5						
ANN	**Anapa**	**67.99**	**318**	*e*P	**P**	**03 36 18.5**	**-3.1**
ANN				*e*S	S	03 45 10.5	-8.5
ANN				pmax	pmax		
	comp=Z,105nm,1.3s,mb5.7						
BRTR	**Ke

comp=Z,100nm,19.0s,MS4.1
MAW Mawson 72.81 193 LR LR 04 03 11.2
comp=Z,208nm,18.2s,MS4.5,baz=241,slow=31
KLMR Klimovskoe 73.64 334 *e*P **P** **03 36 54.0 -1.9**
KLMR pmax pmax
comp=Z,40nm,2.4s,mb4.9
AKASG Malin Array Be 75.15 322 P **P** **03 37 03.7 -1.0**
comp=Z,0.5nm,0.3s,mb3.9,baz=90,slow=5.0,SNR=12
AKASG pP pP 03 37 11.2 -2.4
comp=Z,1.0nm,0.5s,baz=91,slow=4.5,SNR=4.4
JOF Joensuu 78.03 335 *e*p **P** **03 37 20.3 -0.7**
VSU Vasula 78.74 330‖ *e*P **P** **03 37 23.4 -1.5**
FINES FINESS Array B 79.89 332 P **P** **03 37 30.6 -0.6**
comp=Z,1.0nm,0.5s,mb4.0,baz=106,slow=5.7,SNR=7.5
FINES pP pP 03 37 38.2 -1.8
comp=Z,1.2nm,0.6s,baz=113,slow=8.9,SNR=3.6
FINES FINESS Array B 79.89 332‖ *e*P **P** **03 37 30.6 -0.6**
KAF Kangasniemi 79.97 333 *e*p **P** **03 37 31.1 -0.5**
comp=Z,6.6nm,0.9s,mb4.6
KAF Kangasniemi 79.97 333 *e*P **P** **03 37 31.1 -0.5**
KAF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
ARCES ARCESS Array B 82.42 340 P **P** **03 37 44.6 -0.1**
comp=Z,1.8nm,0.7s,mb4.1,baz=100,slow=5.3,SNR=6.7
ARCES pP pP 03 37 51.9 -1.6
comp=Z,1.7nm,0.7s,baz=105,slow=7.4,SNR=1.2
ARCES LR LR 04 18 38.0
comp=Z,164nm,18.3s,MS4.4,baz=312,slow=39
ARCES ARCESS Array B 82.42 340 P **P** **03 37 44.6 -0.1**
ARCES *PP pP 03 37 51.9 -1.6
GERES GERESS Array B 84.71 319 P **P** **03 37 56.5 +0.1**
comp=Z,1.2nm,0.8s,mb4.1,baz=101,slow=5.6,SNR=10
GERES pP pP 03 38 03.9 -1.4
comp=Z,1.4nm,0.9s,baz=92,slow=4.0,SNR=5.2
KHC Kasperske Hory 84.81 319‖ *e*P **P** **03 37 56.0 -0.9**
VNDA Vanda 85.94 169 pP pP 03 38 09.9 -1.6
comp=Z,3.1nm,1.2s,baz=320,slow=5.9,SNR=6.9
GRA1 Grafenberg Arr 86.38 320 *e*P **P** **03 38 05.0 +0.3**
comp=Z,7.0nm,1.5s,mb4.7
GRF Grafenberg Arr 86.38 320 *e*P **P** **03 38 05.0 +0.3**
comp=Z,7.0nm,1.5s,mb4.7
GRF Grafenberg Arr 86.38 320 *e*P **P** **03 38 05.0 +0.3**
GRF pmax pmax
comp=Z,7.0nm,1.5s,mb4.7
NB2 NORSAR Subarra 86.89 331 P **P** **03 38 06.6 -0.6**
comp=Z,3.1nm,1.0s,mb4.5,baz=90,slow=5.3
NOA NORSAR Array B 86.89 331 P **P** **03 38 06.2 -1.0**
comp=Z,1.5nm,0.9s,mb4.2,baz=96,slow=4.9,SNR=4.5
NOA LR LR 04 22 52.8
comp=Z,66nm,19.4s,MS4.0,baz=45,slow=40
KONO Kongsberg 87.64 329‖ *e*P **P** **03 38 10.6 -0.3**
TORD Torodi Ar. Bea 95.03 283 pP pP 03 38 53.4 -0.8
comp=Z,1.3nm,1.0s,baz=71,slow=4.1,SNR=6.1
YKA Yellowknife Ar 111.99 15 PP PP 03 44 37.5 -3.7
comp=Z,0.4nm,0.7s,baz=330,slow=7.2,SNR=5.5
NVAR Mina Array Bea 128.71 36 PKP PKPdf 03 44 31.7 +2.1
comp=Z,0.2nm,0.3s,baz=307,slow=3.0,SNR=3.6
MIAR Mount Ida 142.93 15 *e*PKIKP PKPdf 03 44 53.0 -3.0
JCT Junction City 144.49 26 *e*PKIKP PKPdf 03 44 58.0 -0.7
CPUP Villa Florida 145.07 222 PKP PKPdf 03 45 00.5 +0.8
comp=Z,0.8nm,0.4s,baz=66,slow=1.2,SNR=6.9
CPUP pPKP pPKPdf 03 45 07.6 -1.3
comp=Z,2.1nm,0.5s,baz=81,slow=2.8,SNR=10.0

*NEIC **09** 03:30:58.1, 1841N×6843W, h174km, MD3.7(RSPR), After RSPR.*
RSPR 09 03:30:58.1, 1841N×6843W, h174km±3km, MD3.7/12, MD3.7/12, 13C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.25**	**87**↑	*e*P	Pn	03 31 27.1	-0.2
AGPR				*e*S	Sn	03 31 50.8	+1.1
LSP	**Las Mesas**	**1.30**	**100**↑	*e*P	Pn	03 31 27.6	0.0
LSP				*e*S	Sn	03 31 51.0	+0.6
CRPR	**Cabo Rojo, PR**	**1.32**	**108**↑	*e*P	Pn	03 31 27.0	-0.9
CRPR				*e*S	Sn	03 31 50.9	+0.1
MGP	**Maguayo**	**1.34**	**107**↑	*e*P	Pn	03 31 27.4	-0.6
MGP				*e*S	Sn	03 31 50.5	-0.6
LRS	**Lares**	**1.51**	**94**↑	*e*P	Pn	03 31 29.2	-0.4
LRS				*e*S	Sn	03 31 54.0	0.0
AOPR	**Arecibo Observ**	**1.60**	**92**↑	*e*P	Pn	03 31 29.9	-0.6
AOPR				*e*S	Sn	03 31 56.0	+0.6
OBIP	**Obispado Ponce**	**1.77**	**102**↑	*e*P	Pn	03 31 32.7	+0.5
OBIP				*e*S	Sn	03 32 00.0	+1.4
CELP	**Cerrillos**	**1.79**	**100**↑	*e*P	Pn	03 31 33.2	+0.8
CELP				*e*S	Sn	03 32 00.2	+1.2
ICM	**Isla Caja Muer**	**1.89**	**106**↑	*e*P	Pn	03 31 33.4	-0.1
ICM				*e*S	Sn	03 32 02.0	+1.1
SJG	**San Juan**	**2.19**	**97**↑	*e*P	Pn	03 31 38.0	+1.2
SJG				*e*S	Sn	03 32 06.7	-0.1
SJG	**San Juan**	**2.19**	**97**↑	*e*P	Pn	03 31 37.6	+0.9
SJG				*e*S	Sn	03 32 08.2	+1.4
HUMP	**Col San Antoni**	**2.47**	**96**↓	*e*P	Pn	03 31 40.5	+0.5
HUMP				*e*S	Sn	03 32 13.4	+0.9
CULB	**Culebra**	**2.95**	**91**↑	*e*P	Pn	03 31 47.4	+1.7
CULB	**Culebra**	**2.95**	**91**	*e*S	Sn	03 32 23.9	+1.1
TBVI	**Tortola**	**3.63**	**89**↑	*e*P	Pn	03 31 56.9	+2.7
TBVI				*e*S	Sn	03 32 38.6	+0.6

*ISCJB **09** 03:31:38.5±0.3, 6085N±003×16555E±007, h10km, mb4.1/15, MS3.6/5, Error ellipse: s-maj=5.0km s-min=3.5km az=44.5*
*KRSC **09** 03:31:38.0±0.6, 6083N×16584E, h9km±2km, ML4.4*
*IDC **09** 03:31:39.3±0.8, 6116N×16552E, h0km, mb3.9/9, mb1 4.2/10, mb1mx4.0/25, mbtmp4.0/10, ML3.6/1, MS3.6/5, Ms1 3.6/5, ms1mx3.1/34, Error ellipse: s-maj=19.6km s-min=15.1km az=26.0*
*MOS **09** 03:31:39.8±1.1, 6089N×16539E, h22km, mb4.4/4, Error ellipse: s-maj=20.9km s-min=8.1km az=79.4*
*NEIC **09** 03:31:40.9±0.6, 6105N×16541E, h10km, mb4.5/5, Error ellipse: s-maj=17.4km s-min=7.2km az=175.0*
ISC 09 03:31:40.3±0.3, 6091N±003×16554E±008, h10km, n64, σ1s05/70, mb4.1/15, MS3.6/5, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.54**	**152**	*i* P	**Pg**	**03 31 46.7**	**-4.1**
TILR				*i* S	**Sg**	**03 31 53.6**	**-4.3**
KAMR	**Kamenskoye**	**1.59**	**11**	*i* P	**Pn**	**03 32 07.3**	**-1.1**
KAMR				*i* S	**Sn**	**03 32 28.7**	**-0.3**
KAMR				Smax			
	9μm,0.9s						
OSSR	**Ossora**	**2.08**	**218**	*e*P	**Pn**	**03 32 13.6**	**-1.6**
EVNR	**Evensk**	**3.18**	**291**	*e*P	**Pn**	**03 32 31.3**	**+0.9**
SMKR	**Semkarok**	**4.83**	**208**	*e*P	**Pn**	**03 32 52.9**	**-0.1**
SRKR	**Sorokina**	**4.83**	**210**	*e*P	**Pn**	**03 32 53.5**	**+0.4**
KBG	**Krutoberegovo**	**4.90**	**199**	*e*P	**Pn**	**03 32 53.1**	**-0.8**
BDR	**Baidarnaya**	**4.90**	**209**	*e*P	**Pn**	**03 32 54.0**	**0.0**
KBTR	**Krutoberegovo**	**4.92**	**198**	P	**Pn**	**03 32 52.9**	**-1.4**
KBTR				S	**Sn**	**03 33 47.6**	**-3.7**
KBTR	**Krutoberegovo**	**4.92**	**198**	*e*P	**Pn**	**03 32 54.0**	**-0.3**
KBTR				*e*S	**Sn**	**03 33 49.4**	**-1.9**
KLY	**Klyuchi**	**5.27**	**211**	P	**Pn**	**03 32 58.7**	**-0.3**
KLY	**Klyuchi**	**5.27**	**211**	*e*P	**Pn**	**03 32 58.5**	**-0.5**
KRSR	**Krestovskiy**	**5.38**	**211**	*e*P	**Pn**	**03 33 00.8**	**+0.3**
CIRR	**Tsirk**	**5.42**	**210**	*e*P	**Pn**	**03 33 00.9**	**-0.3**
SRDR	**Sredinnyy**	**5.52**	**216**	P	**Pn**	**03 33 02.6**	**+0.1**
BKI	**Bering**	**5.72**	**178**	*e*P	**Pn**	**03 33 04.5**	**-0.8**
KMNR	**Kamenistaya**	**5.87**	**211**	*e*P	**Pn**	**03 33 07.4**	**+0.1**
ESO	**Esso**	**6.15**	**219**	*e*P	**Pn**	**03 33 11.5**	**+0.3**
TUMR	**Tumrok**	**6.32**	**209**	*e*P	**Pn**	**03 33 13.7**	**+0.2**
SEY	**Seymchan**	**6.54**	**294**	*e*P	**Pn**	**03 33 18.1**	**+1.6**
MKZ	**Mys Kozlova**	**6.69**	**199**	P	**Pn**	**03 33 18.3**	**-0.2**
MKZ				S	**Sn**	**03 34 34.4**	**-0.4**
MKZ	**Mys Kozlova**	**6.69**	**199**	*e*P	**Pn**	**03 33 19.1**	**+0.6**
BILL	**Bilibino**	**7.17**	**2**	*e*PN	**Pn**	**03 33 24.9**	**-0.3**
BILL				pmax	pmax		
	comp=Z,16nm,0.6s						
BILL	**Bilibino**	**7.17**	**2**	*e*Pn	**Pn**	**03 33 24.9**	**-0.3**
	comp=Z,16nm,0.6s						
BILL				*e*Sn	**Sn**	**03 34 42.2**	**-4.5**
BILL	**Bilibino**	**7.17**	**2**	*e*P	**Pn**	**03 33 26.5**	**+1.3**
BILL				*e*S	**Sn**	**03 34 45.8**	**-0.8**
BILL				Smax			
	comp=Z,280nm,1.0s						
MA2	**Magadan**	**7.47**	**266**	*e*PN	**Pn**	**03 33 28.9**	**-0.4**
MA2				*e*S	**Sn**	**03 34 55.6**	**+1.5**
MA2				pmax	pmax		
	comp=Z,20nm,0.6s						
MA2				MLR	MLR		
	comp=N,3μm,7.4s						
MA2	**Magadan**	**7.47**	**266**	*e*Pn	**Pn**	**03 33 28.7**	**-0.6**
	comp=N,25nm,0.6s						
MA2	**Magadan**	**7.47**	**266**	*i* P	**Pn**	**03 33 30.9**	**+1.6**
MA2				Smax			
	comp=N,30nm,1.2s						
GNL	**Ganaly**	**8.31**	**213**	*e*P	**Pn**	**03 33 42.1**	**+1.2**
SPN	**Mys Shipunski**	**8.38**	**203**	P	**Pn**	**03 33 40.1**	**-1.7**
SPN				S	**Sn**	**03 35 11.2**	**-5.4**
NLC	**Nalytchevo**	**8.46**	**206**	P	**Pn**	**03 33 43.1**	**+0.3**
NLC	**Nalytchevo**	**8.46**	**206**	*e*P	**Pn**	**03 33 43.9**	**+1.1**
AVH	**Avacha**	**8.51**	**209**	*e*P	**Pn**	**03 33 44.0**	**+0.5**
PET	**Petropavlovsk**	**8.75**	**208**	*e*PN	**Pn**	**03 33 48.2**	**+1.4**
PET				pmax	pmax		
	comp=Z,11nm,0.7s						
PET				MLR	MLR		
	comp=Z,300nm,17.0s						
FX1	**Attu Island--F**	**9.05**	**149**	Pn	**Pn**	**03 33 52.8**	**+1.8**
	comp=Z,1.9nm,0.3s,baz=242,slow=4.8,SNR=6.9						
FX1	**Attu Island--F**	**9.05**	**149**	PN	**Pn**	**03 33 52.8**	**+1.8**
FX1				pmax	pmax		
	comp=Z,2.0nm,0.3s						
COLA	**College**	**21.21**	**59**	*e*P	**P**	**03 36 26.2**	**+0.1**
COLA				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.3						
COLA	**College**	**21.21**	**59**	*e*P	**P**	**03 36 26.1**	**+0.1**
	comp=Z,16nm,1.0s,mb4.3						
ILAR	**Eielson Array**	**21.63**	**59**	P	**P**	**03 36 31.2**	**+0.6**
	comp=Z,6.5nm,0.6s,mb4.2,baz=276,slow=8.5,SNR=62						
ILAR				LR	LR		
	comp=Z,100nm,18.3s,MS3.2,baz=174,slow=38						
ASAJ	**Asahikawa**	**21.66**	**230**	LR	LR	03 44 53.1	
	comp=Z,80nm,19.3s,MS3.1,baz=207,slow=36						
BOD	**Bodaibo**	**25.89**	**286**	*e*P	**P**	**03 37 11.1**	**-1.1**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
INK	**Inuvik**	**26.08**	**48**	P	**P**	**03 37 12.3**	**-1.8**
	comp=Z,2.4nm,0.6s,mb3.9,baz=294,slow=8.6,SNR=21						
INK				LR	LR	03 48 25.5	
	comp=Z,109nm,20.0s,MS3.4,baz=125,slow=39						
INK	**Inuvik**	**26.08**	**48**	P	**P**	**03 37 12.3**	**-1.8**
INK				LR	LR	03 48 25.6	
SONM	**Songino Array**	**35.55**	**276**	P	**P**	**03 38 38.8**	**+1.2**
	comp=Z,0.8nm,1.0s,mb3.6,baz=56,slow=6.6,SNR=3.7						
YKA	**Yellowknife Ar**	**35.64**	**52**	P	**P**	**03 38 36.5**	**-1.8**
	comp=Z,1.1nm,0.6s,mb4.0,baz=306,slow=8.1,SNR=40						
YKA				PcP	PcP	03 41 06.1	-0.7
	comp=Z,0.2nm,0.7s,baz=307,slow=3.5,SNR=4.9						
YKA	**Yellowknife Ar**	**35.64**	**52**	P	**P**	**03 38 36.5**	**-1.8**
YKA				PcP	PcP	03 41 06.1	-0.7
EDM	**Edmonton**	**42.05**	**62**	*e*P	**P**	**03 39 32.3**	**+0.2**
KURK	**Kurchatov**	**46.36**	**299**	*e*P	**P**	**03 40 05.9**	**-0.7**
KURK				*e*		03 41 52.2	
KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
KURK	**Kurchatov**	**46.36**	**299**	*e*P	**P**	**03 40 05.9**	**-0.6**
	comp=Z,6.6nm,0.9s,mb4.6						
KURK				*e*PP	PP	03 41 52.2	-3.1
MKAR	**Makanchi Array**	**47.67**	**293**	P	**P**	**03 40 15.2**	**-1.6**
	comp=Z,1.3nm,0.5s,mb4.2,baz=44,slow=7.5,SNR=16						
BVAR	**Borovoye Array**	**48.03**	**306**	P	**P**	**03 40 18.5**	**-1.1**
	comp=Z,2.9nm,0.7s,mb4.4,baz=49,slow=6.7,SNR=14						
GCMT	**Greycliff**	**49.13**	**67**	*e*P	**P**	**03 40 28.3**	**+0.2**
YMR	**Madison River**	**49.40**	**69**	*e*P	**P**	**03 40 31.6**	**+1.5**
	comp=Z,5.5nm,0.8s,mb4.6						
LKWY	**Lake**	**49.74**	**69**	*e*P	**P**	**03 40 33.6**	**+0.9**
FLWY	**Flagg Ranch**	**49.98**	**69**	*e*P	**P**	**03 40 35.7**	**+1.2**
	comp=Z,4.7nm,0.8s,mb4.6						
ELK	**Elko**	**50.45**	**75**	*e*P	**P**	**03 40 39.5**	**+1.3**
	comp=Z,0.5nm,0.3s,mb4.0						
ELK				*e*pP	pP	03 40 46.8	+5.5
NVAR	**Mina Array Bea**	**50.81**	**80**	P	**P**	**03 40 41.5**	**+0.7**
	comp=Z,0.2nm,0.3s,mb3.5,baz=292,slow=4.6,SNR=4.1						
PDAR	**Pinedale Array**	**51.52**	**70**	P	**P**	**03 40 45.6**	**-0.5**
	comp=Z,2.2nm,1.0s,mb4.1,baz=318,slow=4.0,SNR=14						
NB2	**NORSAR Subarra**	**56.79**	**345**	P	**P**	**03 41 22.5**	**-2.1**
	comp=Z,1.0nm,0.6s,mb4.0,baz=14,slow=7.4						
NOA	**NORSAR Array B**	**56.79**	**345**	P	**P**	**03 41 22.5**	**-2.1**
	comp=Z,1.2nm,0.7s,mb4.0,baz=14,slow=7.3,SNR=3.8						
GLA	**Glamis**	**56.81**	**81**	*e*P	**P**	**03 41 26.2**	**+1.5**
SWET	**Sewanee**	**68.06**	**57**	*e*P	**P**	**03 42 40.0**	**+0.1**
WSAR	**Wadi Sarin**	**77.79**	**296**	LR	LR	04 23 51.6	
	comp=Z,71nm,18.8s,MS4.0,baz=224,slow=40						
ATD	**Arta Tunnel**	**94.90**	**304**	LR	LR	04 36 17.3	
	comp=Z,47nm,18.3s,MS4.0,baz=173,slow=41						

*NEIC **09** 03:43:56.3, 4409N×771W, h19km, MN2.5(MDD), After MDD.*
*INMG **09** 03:43:56.9±1.1, 4406N×768W, h24km±6km, ML2.1, Error ellipse: s-maj=4.2km s-min=4.0km az=178.0*
*CSEM **09** 03:43:56.0±0.1, 4410N×772W, h20km, ML3.1/4, Error ellipse: s-maj=3.2km s-min=1.9km az=155.0*
MDD 09 03:43:56.0±1.5, 4410N×773W, h16km±8km, mbLg2.4/13, 4C-3D, Error ellipse: s-maj=11.4km s-min=6.0km az=171.0, PRXIMO, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPON	**Pontenova**	**0.88**	**151**	‖Pg	Pg	03 44 11.4	-1.7
	SNR=18						
EPON				Lg		03 44 23.1	
	47nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**0.88**	**151**	Pg	Pg	03 44 11.4	-1.7
	7.6nm,0.3s,SNR=18						
STS	**Santiago**	**1.36**	**207**	Pn	Pn	03 44 18.3	-1.9
	SNR=7.9						
STS				‖Pg	Pg	03 44 20.0	-2.1
	6.9nm,0.2s,SNR=18						
STS				Lg		03 44 37.6	
	55nm,0.2s,SNR=31						
STS	**Santiago**	**1.36**	**207**	Pn	Pn	03 44 18.3	-1.9
STS				‖Pb	Pb	03 44 20.0	-1.0
STS				Lg		03 44 37.6	
STS	**Santiago**	**1.36**	**207**	Pb	Pb	03 44 20.0	-1.0
	SNR=18						
EMAZ	**Mazaricos**	**1.47**	**219**	↑Pn	Pn	03 44 20.5	-1.2
	6.3nm,0.3s,SNR=18						
EMAZ				Pg	Pg	03 44 21.8	-2.4
	SNR=7.9						
EMAZ				Lg		03 44 41.4	
	59nm,0.2s,SNR=7.6						
EMAZ	**Mazaricos**	**1.47**	**219**	↑Pn	Pn	03 44 20.6	-1.2
EMAZ				Pb	Pb	03 44 21.8	-1.1
EMAZ				Lg		03 44 41.4	
EMAZ	**Mazaricos**	**1.47**	**219**	Pn	Pn	03 44 20.5	-1.3
	6.3nm,0.3s,SNR=18						
EMAZ	**Mazaricos**	**1.47**	**219**	Pb	Pb	03 44 21.8	-1.1
	SNR=7.9						
ERUA	**La Rua**	**1.76**	**166**	Pg	Pg	03 44 29.0	-0.9
	SNR=4.0						
ERUA				Lg		03 44 51.2	
	20nm,0.4s,SNR=7.9						
EARI	**Arriondas**	**1.99**	**113**	Pn	Pn	03 44 27.6	-1.3
	7.1nm,1.0s,SNR=9.1						
EARI				Lg		03 44 59.0	
	3.4nm,0.2s,SNR=6.6						
EARI	**Arriondas**	**1.99**	**113**	Pn	Pn	03 44 27.6	-1.4
	7.1nm,1.0s,SNR=9.1						
EZAM	**Zamans**	**2.08**	**200**	Pn	Pn	03 44 28.8	-1.3
	SNR=7.9						
EZAM				↑Pg	Pg	03 44 33.7	-2.1
	SNR=18						
EZAM				Lg		03 45 00.0	
	9.7nm,0.2s,SNR=9.4						
ELOB	**Lobios**	**2.25**	**186**	Pn	Pn	03 44 31.8	-0.7
	0.3nm,0.1s,SNR=11						
ELOB				Pg	Pg	03 44 35.8	-3.4
	1.8nm,0.2s,SNR=7.9						
ELOB				Lg		03 45 05.9	
	6.3nm,0.1s,SNR=12						
ELOB	**Lobios**	**2.25**	**186**	Pn	Pn	03 44 31.8	-0.7
	0.3nm,0.1s,SNR=11						
ELOB	**Lobios**	**2.25**	**186**	Pg	Pg	03 44 35.8	-3.3
	1.8nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**2.28**	**161**	Pn	Pn	03 44 32.9	0.0
	4.3nm,0.7s,SNR=5.8						
ECAL				Pg	Pg	03 44 37.0	-2.7
	3.3nm,0.4s,SNR=4.0						
ECAL				Lg		03 45 06.3	
	18nm,0.2s,SNR=8.9						
ECAL	**Calabor**	**2.28**	**161**	Pn	Pn	03 44 32.9	0.0
ECAL				Pg	Pg	03 44 37.0	-2.8
ECAL				Lg		03 45 06.3	
ECAL	**Calabor**	**2.28**	**161**	Pn	Pn	03 44 32.9	0.0
	4.3nm,0.7s,SNR=5.8						
ECAL	**Calabor**	**2.28**	**161**	Pg	Pg	03 44 37.0	-2.7
	3.3nm,0.4s,SNR=4.0						
PCAB	**Cabril**	**2.40**	**185**	*e*Pn	Pn	03 44 38.5	-3.6
PCAB				*e*Sg	Sg	03 45 09.9	-3.3
PCAB							
	12nm,0.3s						
PCAB	**Cabril**	**2.40**	**185**	*e*Pg	Pg	03 44 38.5	-3.6
PCAB				*e*Sg	Sg	03 45 09.9	-3.3
	12nm,0.3s						
PBRG	**Braganca**	**2.41**	**162**	*e*Pn	Pn	03 44 34.6	-0.1
PBRG	**Braganca**	**2.41**	**162**	*e*Pg	Pg	03 44 38.4	-3.8
PBRG				*e*Sg	Sg	03 45 09.9	-3.5
PBRG							
	7.7nm,0.2s						
PBRG	**Braganca**	**2.41**	**162**	Pn	Pn	03 44 34.6	-0.1
PBRG				Pg	Pg	03 44 38.4	-3.8
PBRG				Lg		03 45 09.9	
	3.8nm,0.2s						
PBRG	**Braganca**	**2.41**	**162**	*e*Pg	Pg	03 44 38.4	-3.8
PBRG				*e*Sg	Sg	03 45 09.9	-3.5
	7.7nm,0.2s						
ELAN	**Lanestosa**	**3.23**	**104**	⇑Pn	Pn	03 44 44.8	-1.2
	1.3nm,0.4s,SNR=18						
ELAN				Sn	Sn	03 45 20.9	-3.3
	3.4nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**3.23**	**104**	Pn	Pn	03 44 44.8	-1.2
	1.3nm,0.4s,SNR=18						
ELAN				Sn	Sn	03 45 20.9	-3.3
	3.4nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**3.39**	**182**	*e*Pn	Pn	03 44 46.9	-1.2
PVIS				*e*Sg	Sg	03 45 39.7	-5.1
PVIS							
	4.8nm,0.2s						
PVIS	**Viseu**	**3.39**	**182**	*e*Pn	Pn	03 44 46.9	-1.2
PVIS				*e*Sg	Sg	03 45 39.7	-5.1
	4.8nm,0.2s						
MTE	**Manteigas**	**3.70**	**178**	*e*Sg	Sg	03 45 49.1	-5.8
MTE							
	6.5nm,0.6s						
MTE	**Manteigas**	**3.70**	**178**	Lg		03 45 49.1	
	3.2nm,0.6s						
PCBR	**Castelo Branco**	**4.26**	**177**	*e*Sn	Sn	03 45 46.4	-3.2
PCBR				*e*Sg	Sg	03 46 06.1	-6.8
PCBR							
	2.6nm,0.3s						
EALK	**Alkurruntz**	**4.60**	**99**	Pn	Pn	03 45 03.0	-1.8
	2.5nm,0.3s,SNR=6.9						
EALK				Sn	Sn	03 45 53.7	-4.1
	0.6nm,0.1s,SNR=7.9						

*ROM **09** 03:48:23.0±0.9, 4636N×1354E, h11km±3km, Md2.4/3, Error ellipse: s-maj=10.9km s-min=8.3km az=102.0*
*VIE **09** 03:48:25.0±0.8, 4614N×1302E, h7km, mb1.4/1, ML1.8/1, Error ellipse: s-maj=4.7km s-min=3.4km az=98.0 9 km ENE of Spilimbergo*
*ISCJB **09** 03:48:27.8±0.5, 4640N±003×1321E±004, h7km, Error ellipse: s-maj=5.9km s-min=2.9km az=80.2*
*CSEM **09** 03:48:27.2±0.2, 4640N×1319E, h5km, MD2.4/3, Error ellipse: s-maj=5.2km s-min=2.5km az=40.0*
ISC 09 03:48:27.3±1.2, 4641N±004×1319E±006, h14km±9km, n15, σ0s74/28, 2C-2D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCC	**Patocco-Chiusa**	**0.11**	**91**	Pg	**Pg**	**03 48 26.3**	**-4.3**
PTCC				Sg	**Pg**	**03 48 30.0**	**-0.6**
PTCC	**Patocco-Chiusa**	**0.11**	**91**	Sg	**Pg**	**03 48 30.0**	**-0.6**
GMNA	**Gemona**	**0.14**	**167**	Pg	**Pg**	**03 48 29.7**	**-1.2**
GMNA				Sg	**Sg**	**03 48 33.7**	**+0.2**
	193nm,0.5s						
PLRO	**Paularo**	**0.15**	**348**‖	*e*Pg	**Pg**	**03 48 30.6**	**-0.5**
PLRO				*e*Sg	**Sg**	**03 48 33.3**	**-0.4**
ZOU	**Zoufplan**	**0.21**	**315**↑	*e*Pg	**Pg**	**03 48 32.0**	**-0.1**
ZOU				*e*Sg	**Sg**	**03 48 36.2**	**+0.8**
LSR	**Lussari**	**0.24**	**73**	*e*Pg	**Pg**	**03 48 31.8**	**-0.8**
LSR				*e*Sg	**Sg**	**03 48 36.2**	**0.0**
ROBS	**Robic**	**0.27**	**126**	*e*Pg	**Pg**	**03 48 32.4**	**-0.7**
ROBS				*i* Sg	**Sg**	**03 48 37.7**	**+0.7**
ROBS							
	comp=Z,14nm,0.3s						
ROBS	**Robic**	**0.27**	**126**	Pg	**Pg**	**03 48 32.4**	**-0.7**
ROBS				*i* Sg	**Sg**	**03 48 37.7**	**+0.7**
	comp=Z,14nm,0.3s						
FVI	**Forni Avoltri**	**0.34**	**304**	Pg	**Pg**	**03 48 34.5**	**+0.2**
FVI				Sg	**Sg**	**03 48 42.3**	**+3.3**
	comp=Z,9.0nm,0.3s						
DRE	**Drenchia**	**0.39**	**127**	*e*Pg	**Pg**	**03 48 34.8**	**-0.4**
DRE				*e*Sg	**Sg**	**03 48 40.9**	**+0.4**
CADS	**Cadrg**	**0.42**	**115**	*i* Pg	**Pg**	**03 48 35.1**	**-0.5**
CADS				*e*Sg	**Sg**	**03 48 42.0**	**+0.7**
CADS							
	comp=Z,14nm,0.3s						
CADS	**Cadrg**	**0.42**	**115**	*i* Pg	**Pg**	**03 48 35.2**	**-0.5**
CADS				*e*Sg	**Sg**	**03 48 42.0**	**+0.7**
	comp=Z,14nm,0.3s						
GORS	**Gorjuse**	**0.56**	**99**	*e*Sg	**Sg**	**03 48 46.0**	**+0.1**
VOJS	**Vojsko**	**0.61**	**128**	*i* Pg	**Pg**	**03 48 38.5**	**-0.7**
VOJS				*e*Sg	**Sg**	**03 48 48.3**	**+0.9**
OBKA	**Obir**	**0.94**	**83**↑	*i* Pg	**Pg**	**03 48 46.2**	**+0.7**
OBKA				↓*i* Sg	**Sg**	**03 49 02.1**	**+4.1**
	comp=Z,6.4nm,0.3s						

**WEL 09 04:03:45.7±0.2, 4011S×17430E, h118km±2km, ML3.5/9, Error ellip

WVZ	**Waitaha Valley**	**3.99**	**221**	PN	Pn	04 04 43.3	-1.7

*CSEM **09** 04:12:07.2±0.2, 3768N×2928E, h0km±1km, MD3.4, Error ellipse: s-maj=2.0km s-min=1.4km az=5.0*
*ISCJB **09** 04:12:08.8±0.7, 3767N±003×2928E±003, h5km±6km, mb3.7/2, Error ellipse: s-maj=4.7km s-min=3.9km az=158.7*
*ISK **09** 04:12:08.4, 3771N×2925E, h4km, MD3.4*
*IDC **09** 04:12:13.5±3.4, 3771N×2928E, h35km±39km, mb3.6/2, mb1 3.6/7, mb1mx3.3/24, mbtmp3.6/7, ML3.5/4, Error ellipse: s-maj=25.0km s-min=20.6km az=97.0*
*NEIC **09** 04:12:13.3±1.0, 3764N×2943E, h35km, Error ellipse: s-maj=17.4km s-min=10.3km az=169.0*

ISC 09 04:12:09.2±0.6, 3765N±003×2927E±003, h3km±4km, n45, σ1$00/56, mb3.7/2, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DENT	**Denizli**	**0.21**	**298**	*i* P	G	**Pg**	**04 12 12.9**	**-0.4**
KHL	**Karahalli**	**0.70**	**17**	P	G	**Pg**	**04 12 21.0**	**-1.6**
KHL				S	G	**Sg**	**04 12 31.4**	**-0.3**
TKTP	**Tekketepe**	**0.92**	**65**	*i* P		**Pg**	**04 12 26.3**	**-0.5**
TKTP				*i* S		**Sg**	**04 12 40.9**	**+2.2**
YER	**Yerkesik**	**0.94**	**237**	PG		**Pg**	**04 12 27.5**	**+0.3**
ISP	**Isparta**	**1.00**	**79**	*e*P		**Pg**	**04 12 27.6**	**-0.8**
ISP				*e*S		**Sg**	**04 12 43.5**	**+2.1**
ISP	**Isparta**	**1.00**	**79**	*e*P		**Pg**	**04 12 27.6**	**-0.8**
ISP				*e*S		**Sg**	**04 12 43.5**	**+2.1**
MANT	**Manisa**	**1.01**	**326**	*i* P		**Pg**	**04 12 27.2**	**-1.3**
MANT				*i* S		**Sg**	**04 12 43.1**	**+1.6**
DALT	**Dalyan (Mudla)**	**1.02**	**210**	PN		**Pn**	**04 12 29.3**	**-1.0**
FETY	**Fethiye**	**1.03**	**188**	PN		**Pn**	**04 12 29.2**	**-1.3**
ELL	**Elmali**	**1.04**	**150**	PN		**Pn**	**04 12 29.8**	**-0.8**
BCK	**Bucak**	**1.07**	**100**	PN		**Pn**	**04 12 30.2**	**-0.8**
AYDN	**Tasoluk**	**1.10**	**271**	*i* P		**Pg**	**04 12 30.3**	**-0.1**
AYDN				*i* S		**Sg**	**04 12 45.9**	**+1.2**
MLSB	**Milas**	**1.24**	**254**	PN		**Pn**	**04 12 33.1**	**-0.3**
ANTB	**Antalya**	**1.34**	**124**	PN		**Pn**	**04 12 35.2**	**+0.5**
GDZ	**Gediz**	**1.44**	**7**	*i* P		**Pn**	**04 12 34.7**	**-1.5**
GDZ				*i* S		**Sb**	**04 13 01.2**	**+5.7**
ALT	**Altintas**	**1.55**	**25**	PN		**Pn**	**04 12 36.5**	**-1.2**
BDRM	**Kayabasi**	**1.57**	**249**	*i* P		**Pn**	**04 12 38.6**	**+0.6**
BDRM				*i* S		**Sn**	**04 13 02.6**	**+3.9**
BODT	**Bodrum**	**1.67**	**250**	PN		**Pn**	**04 12 39.7**	**+0.4**
AKS	**Akhisar**	**1.68**	**317**	PN		**Pn**	**04 12 38.4**	**-1.0**
KDAG	**Bornova**	**1.75**	**296**	*i* P		**Pn**	**04 12 39.1**	**-1.3**
KDAG				*i* S		**Sn**	**04 13 05.7**	**+2.5**
IZM	**Izmir**	**1.75**	**296**	*e*PN		**Pn**	**04 12 39.7**	**-0.7**
DST	**Dursunbey**	**2.01**	**346**	*e*PN		**Pn**	**04 12 42.7**	**-1.4**
BALB	**Balikesir**	**2.26**	**332**	*e*PN		**Pn**	**04 12 47.2**	**-0.3**
KIZT	**Kizilcal**	**2.39**	**58**	*e*PN		**Pn**	**04 12 49.1**	**-0.2**
ORLT	**Orhaneli**	**2.41**	**353**	*e*PN		**Pn**	**04 12 48.9**	**-0.6**
IZI	**Iznik**	**2.69**	**3**	*e*PN		**Pn**	**04 12 53.2**	**-0.1**
KCT	**Karacabey**	**2.70**	**345**	*e*PN		**Pn**	**04 12 53.7**	**+0.1**
BNT	**Bandirma**	**2.90**	**339**	*e*PN		**Pn**	**04 12 56.2**	**0.0**
EDC	**Edincik**	**2.90**	**338**	*e*PN		**Pn**	**04 12 56.0**	**-0.3**
YLV	**Yalova**	**2.91**	**2**	*e*PN		**Pn**	**04 12 56.7**	**+0.3**
HRT	**Hereke**	**3.18**	**5**	*e*PN		**Pn**	**04 13 00.5**	**+0.4**
MDU	**Mudurnu**	**3.19**	**28**	*e*PN		**Pn**	**04 13 01.1**	**+0.8**
MRMT	**Marmara Adasi**	**3.22**	**337**	*e*PN		**Pn**	**04 13 00.9**	**+0.2**
ISK	**Istanbul-Kandi**	**3.41**	**357**	*e*PN		**Pn**	**04 13 03.6**	**+0.3**
MFT	**Murefte**	**3.49**	**334**	*e*PN		**Pn**	**04 13 03.5**	**-0.9**
CTT	**Catalca**	**3.55**	**350**	*e*PN		**Pn**	**04 13 05.4**	**+0.2**
BR131	**Keskin Array S**	**4.00**	**57**	*e*Pn		**Pn**	**04 13 11.6**	**+0.2**
BR131				*e*Sn		**Sn**	**04 13 59.7**	**+1.0**
BR131	**Keskin Array S**	**4.00**	**57**	*e*Pn		**Pn**	**04 13 11.6**	**+0.3**
BRTR	**Keskin Array B**	**4.00**	**57**	Pn		**Pn**	**04 13 11.7**	**+0.4**
	0.7nm,0.3s,baz=238,slow=16,SNR=32							
BRTR				Sn		**Sn**	**04 13 59.1**	**+0.4**
	0.5nm,0.3s,baz=334,slow=14,SNR=5.6							
IDI	**Anoyia**	**4.25**	**238**	P		**Pn**	**04 13 17.3**	**+2.5**
	1.3nm,0.3s,baz=53,slow=14,SNR=12							
MMAI	**Mount Meron Ar**	**6.82**	**131**	Pn		**Pn**	**04 13 51.3**	**+1.2**
	6.1nm,0.3s,baz=321,slow=12,SNR=14							
MLR	**Muntele Rosu**	**8.22**	**343**	Pn		**Pn**	**04 14 10.7**	**+1.4**
	0.2nm,0.3s,baz=141,slow=13,SNR=2.8							
GERES	**GERESS Array B**	**15.89**	**320**	Pn		**Pn**	**04 15 55.0**	**+1.1**
	baz=122,slow=13,SNR=5.4							
HFS	**Hagfors**	**24.59**	**341**	P		**P**	**04 17 30.1**	**-0.3**
	1.9nm,0.8s,mb3.7,baz=177,slow=5.9,SNR=4.7							
TORD	**Torodi Ar. Bea**	**34.63**	**233**	P		**P**	**04 18 59.5**	**-0.1**
	0.6nm,0.5s,mb3.8,baz=34,slow=8.7,SNR=24							

IDC 09 04:16:49.0±7.3, 1875S×17644W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/13, mbtmp3.7/2, MS2.7/1, Ms1 2.7/1, ms1mx2.5/15, Error ellipse: s-maj=304.8km s-min=117.4km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**6.57**	**44**	LR		LR	04 19 45.4	
	comp=Z,62nm,21.4s,baz=192,slow=27							
WRA	**Warramunga Ar**	**46.33**	**260**	P		P	04 25 17.1	+0.5
	0.4nm,0.3s,baz=97,slow=7.4,SNR=11							
ASAR	**Alice Springs**	**46.37**	**255**	P		P	04 25 17.1	+0.2
	0.5nm,0.5s,baz=93,slow=7.7,SNR=7.2							
AKASG	**Malin Array Be**	**142.16**	**333**	PKP		PKPdf	04 36 22.4	-0.7
	0.8nm,0.4s,baz=44,slow=2.4,SNR=6.2							

*PRU **09** 04:44:45.6, 5027N×1885E, h0km*

WAR 09 04:44:45.5, 5024N×1896E, ML2.6, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OJC	**Ojcow**	**0.54**	**92**	*e*Pgd		Pg	04 44 55.8	-0.1
OJC				*e*Sg		Sg	04 45 03.8	+0.9
OKC	**Ostrava-Krasne**	**0.66**	**232**	*e*PG		Pg	04 44 57.8	-0.4
OKC				*e*SG		Sg	04 45 07.3	+0.5
	94nm,1.5s							
NIE	**Niedzica**	**1.21**	**133**	*e*Pg		Pg	04 45 08.2	-0.4
NIE				*e*Sg		Sg	04 45 25.6	+1.4
DPC	**Dobruska-Polom**	**1.69**	**275**	*e*PG		Pg	04 45 14.9	-3.1
DPC				*e*SG		Sg	04 45 37.6	-2.3
	29nm,0.5s							
STHS	**Stebnicka Huta**	**1.70**	**118**	*e*PN		Pn	04 45 17.6	+1.3
STHS				*e*SN		Sn	04 45 42.9	+4.2
VYHS	**Vyhne**	**1.75**	**183**	*e*PN		Pn	04 45 15.7	-1.4
VYHS				*e*SN		Sn	04 45 38.8	-1.4
KSP	**Ksiaz**	**1.80**	**290**	*e*Pg		Pg	04 45 18.7	-1.4
KSP				*e*Sg		Sg	04 45 42.8	-0.6
KECS	**Kecovo**	**2.03**	**150**	*e*PN		Pn	04 45 19.8	-1.1
KECS				*e*SN		Sn	04 45 49.0	+2.1
CRVS	**Cervenica-Dubn**	**2.11**	**129**	*e*PG		Pg	04 45 24.6	-1.4
KOLS	**Kolonicke sedl**	**2.52**	**120**	*e*PG		Pg	04 45 34.9	+1.0
PRU	**Pruhonice**	**2.85**	**267**	*e*PG		Pg	04 45 35.6	-4.6
PRU				*e*SG		Sg	04 46 13.9	-3.3
	5.3nm,0.5s							
KHC	**Kasperske Hory**	**3.67**	**254**	*e*PG		Pg	04 45 49.6	-6.2
KHC				*e*SG		Sg	04 46 40.0	-3.3
	7.0nm,0.5s							
CLL	**Collm**	**3.93**	**288**	*e*Sg		Sg	04 46 52.0	+0.3

*IDC **09** 05:04:08.9±9.6, 2377S×17899W, h358km±88km, mb3.9/3, mb1 4.0/3, mb1mx3.4/12, mbtmp4.7/3, Error ellipse: s-maj=52.2km s-min=36.4km az=64.0*
*ISCJB **09** 05:04:11.4±2.5, 2355S±009×1794W±0.1, h372km±32km, mb4.0/11, Error ellipse: s-maj=20.0km s-min=13.6km az=8.3*
*NEIC **09** 05:04:24.1±5.3, 2351S×17974W, h498km±60km, mb4.2/8, Error ellipse: s-maj=28.4km s-min=20.9km az=87.0*

ISC 09 05:04:13.4±3.4, 2365S±009×1794W±01, h382km±41km, n18, σ1$17/17, mb4.0/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**12.06**	**38**	P		**P**	**05 06 53.8**	**-0.5**
URZ	**Urewera**	**14.87**	**191**	P		**P**	**05 07 20.5**	**-4.6**
	0.6nm,0.3s,baz=217,slow=23,SNR=6.4							
URZ				S		**S**	**05 10 03.8**	**-0.1**
	0.2nm,0.3s,baz=321,slow=22,SNR=4.3							
CTAO	**Charters Tower**	**32.06**	**270**	*e*P		**P**	**05 10 07.7**	**+1.5**
	17nm,0.6s,mb4.5							
PMG	**Port Moresby**	**34.97**	**288**	P		**P**	**05 10 32.3**	**+1.3**
	6.8nm,0.7s,mb4.0,baz=125,slow=9.8,SNR=3.6							
STKA	**Stephens Creek**	**35.35**	**248**	*e*P		**P**	**05 10 33.3**	**-1.0**
ASAR	**Alice Springs**	**42.65**	**260**	P		**P**	**05 11 34.4**	**+0.4**
	5.0nm,0.8s,mb3.7,baz=95,slow=7.9,SNR=40							
WRAB	**Tennant Creek**	**43.00**	**266**	*e*P		**P**	**05 11 36.4**	**-0.3**
	7.9nm,0.4s,mb4.2							
WRA	**Warramunga Arr**	**43.00**	**266**	P		**P**	**05 11 36.6**	**-0.2**
	6.4nm,0.5s,mb4.0,baz=102,slow=8.3,SNR=107							
KIP	**Kipapa**	**49.39**	**27**	*e*P		**P**	**05 12 26.2**	**+0.3**
	34nm,0.5s,mb4.8							
KIP				*e*PcP		PcP	05 13 42.8	+1.0
SBA	**Scott Base**	**54.66**	**184**	*e*P		**P**	**05 13 07.5**	**+3.2**
	1.9nm,0.8s,mb3.5							
VNDA	**Vanda**	**54.67**	**185**	*e*P		**P**	**05 13 07.0**	**+2.6**
	1.3nm,1.0s,mb3.2							
NWAO	**Narrogin (SRO)**	**55.87**	**245**	*e*P		**P**	**05 13 09.6**	**-3.2**
	41nm,1.5s,mb4.5							
MBWA	**Marble Bar**	**55.99**	**260**	*e*P		**P**	**05 13 12.2**	**-1.4**
	4.0nm,0.4s,mb4.1							
MBWA				*e*PcP		PcP	05 14 08.1	+1.2
MBWA				*e*pP		pP	05 14 54.1	+21
MBWA				*e*sP		sP	05 15 46.7	+32
CASY	**Casey**	**60.59**	**206**	*e*P		**P**	**05 13 44.9**	**-0.2**
MJAR	**Matsushiro Ar**	**72.02**	**325**	P		**P**	**05 14 56.8**	**0.0**
	295nm,0.4s,baz=156,slow=6.5,SNR=3.0							
SNAA	**Sanae**	**84.90**	**179**	*e*P		**P**	**05 16 05.5**	**-0.9**
	0.9nm,0.7s,mb3.7							
AKASG	**Malin Array Be**	**145.07**	**328**	PKPbc		PKPbc	05 23 03.9	-2.3
	2.1nm,0.5s,baz=41,slow=4.0,SNR=10.0							
BRTR	**Keskin Array B**	**147.89**	**308**	PKPbc		PKPbc	05 23 12.8	-1.3
	1.2nm,0.6s,baz=48,slow=2.1,SNR=6.1							

*ISCJB **09** 05:05:27.8±1.1, 3607N±006×2868E±006, h54km±12km, Error ellipse: s-maj=10.7km s-min=8.5km az=148.3*
*ATH **09** 05:05:27.1, 3584N×2869E, h5km, MD2.9/3*
*ISK **09** 05:05:27.6, 3606N×2865E, h30km, MD3.1*
*CSEM **09** 05:05:27.9±0.2, 3611N×2866E, h27km±1km, MD3.1, Error ellipse: s-maj=4.0km s-min=3.2km az=151.0*

ISC 09 05:05:28.2±1.1, 3605N±006×2869E±006, h48km±15km, n13, σ0$56/20, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ARG	**Arkhangelos**	**0.49**	**290**	*e*PB		**Pn**	**05 05 39.0**	**-0.2**
ARG				*e*SB		**Sn**	**05 05 46.8**	**-0.2**
FETY	**Fethiye**	**0.66**	**28**	PG		**Pn**	**05 05 40.8**	**-0.6**
FETY				SG		**Sn**	**05 05 51.3**	**+0.4**
DALT	**Dalyan (Mudla)**	**0.72**	**356**	PG		**Pn**	**05 05 41.8**	**-0.3**
DALT				SG		**Sn**	**05 05 52.2**	**+0.1**
KSL	**Kastellorizon**	**0.73**	**82**	*e*PB		**Pn**	**05 05 42.0**	**-0.2**
YER	**Yerkesik**	**1.13**	**343**	PN		**Pn**	**05 05 48.1**	**+0.5**
ELL	**Elmali**	**1.20**	**54**	PN		**Pn**	**05 05 49.2**	**+0.6**
KARP	**Karpathos**	**1.34**	**248**	*e*PB		**Pn**	**05 05 51.2**	**+0.7**
BDRM	**Kayabasi**	**1.43**	**316**	*i* P		**Pn**	**05 05 50.9**	**-0.7**
BDRM				*i* S		**Sn**	**05 06 09.0**	**-0.2**
MLSB	**Milas**	**1.44**	**330**	*e*PN		**Pn**	**05 05 52.1**	**+0.2**
BODT	**Bodrum**	**1.50**	**313**	PN		**Pn**	**05 05 52.3**	**-0.4**
AYDN	**Tasoluk**	**1.73**	**338**	*i* P		**Pn**	**05 05 56.1**	**+0.3**
AYDN				*i* S		**Sn**	**05 06 18.2**	**+1.4**
MANT	**Manisa**	**2.44**	**358**	*i* P		**Pn**	**05 06 04.8**	**-0.6**
MANT				*i* S		**Sn**	**05 06 33.2**	**-0.8**
MANT	**Manisa**	**2.44**	**358**	*i* P		**Pn**	**05 06 04.8**	**-0.7**
MANT				*i* S		**Sn**	**05 06 33.2**	**-0.9**

*BJI **09** 05:18:44.0, 2074S×16985E, h10km, mB5.3, mb4.7*
*IDC **09** 05:18:47.5±1.8, 2054S×16914E, h0km, mb4.4/7, mb1 4.6/8, mb1mx4.4/13, mbtmp4.3/8, ML3.8/1, MS4.0/13, Ms1 4.0/13, ms1mx3.8/21, Error ellipse: s-maj=78.5km s-min=21.3km az=147.0*
*NEIC **09** 05:18:49.5±0.6, 2056S×16913E, h10km, mb4.7/9, Error ellipse: s-maj=24.5km s-min=12.4km az=144.0*
*ISCJB **09** 05:18:52.0±0.6, 2039S±006×16890E±008, h33km, mb4.5/19, MS4.1/9, Error ellipse: s-maj=12.2km s-min=7.3km az=62.2*
*SZGRF **09** 05:18:54.3, 2070S×16882E, h33km, Loyalty Islands*
*MOS **09** 05:18:58.0±3.0, 1933S×16817E, h33km, mb4.7/4, Error ellipse: s-maj=24.1km s-min=14.3km az=176.5*

ISC 09 05:18:53.9±0.6, 2038S±006×16893E±008, h35km, n66, σ1$26/35, mb4.5/19, MS4.1/9, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BKM	**Butte a Klehm**	**2.77**	**346**	*i* P		**Pn**	**05 19 28.2**	**-7.5**
BKM				S		**Sn**	**05 20 06.7**	**-1.2**
DZM	**Mont Dzumac**	**2.87**	**234**	Pn		**Pn**	**05 19 35.6**	**-1.4**
	15nm,0.3s,baz=142,slow=0.0,SNR=44							
DZM				Sn		**Sn**	**05 20 08.4**	**-1.9**
	29nm,0.3s,baz=256,slow=0.0,SNR=12							
DZM				LR		LR	05 20 36.2	
	comp=Z,1μm,18.7s,baz=315,slow=37							
RAO	**Raoul Island**	**14.84**	**129**	LR		LR	05 25 36.2	
	comp=Z,95nm,20.8s,baz=283,slow=28							
URZ	**Urewera**	**19.18**	**160**	LR		LR	05 29 23.7	
	comp=Z,440nm,20.2s,baz=15,slow=34							
AFI	**Afiamalu**	**19.52**	**74**	LR		LR	05 29 18.5	
	comp=Z,640nm,18.1s,baz=259,slow=33							
CTA	**Charters Tower**	**21.28**	**267**	*e*P		**P**	**05 23 42.3**	**+5.1**
	13nm,0.9s,mb4.3							
CTA	**Charters Tower**	**21.28**	**267**	P		**P**	**05 23 40.8**	**+3.6**
	9.0nm,0.9s,mb4.1,baz=86,slow=14,SNR=2.9							
CTA				LR		LR	05 31 20.0	
	comp=Z,356nm,18.4s,MS3.8,baz=314,slow=35							
CTA	**Charters Tower**	**21.28**	**267**	*e*P		**P**	**05 23 42.3**	**+5.1**
CTA				pmax		pmax		
	comp=Z,13nm,0.9s							
CTAO	**Charters Tower**	**21.28**	**267**	*e*P		**P**	**05 23 40.7**	**+3.5**
CTAO				pmax		pmax		
	comp=Z,20nm,0.9s,mb4.5							
CTAO	**Charters Tower**	**21.28**	**267**	*e*P		**P**	**05 23 40.7**	**+3.5**
	comp=Z,20nm,0.9s,mb4.4							
STKA	**Stephens Creek**	**27.00**	**239**	*e*P		**P**	**05 24 32.3**	**-0.1**
	comp=Z,7.2nm,0.8s,mb4.2							
STKA	**Stephens Creek**	**27.00**	**239**	P		**P**	**05 24 32.2**	**-0.2**
	comp=Z,10nm,1.1s,mb4.3,baz=93,slow=13,SNR=4.5							
STKA				LR		LR	05 34 46.3	
	comp=Z,368nm,18.2s,MS4.0,baz=269,slow=35							
WRAB	**Tennant Creek**	**32.43**	**265**	*e*P		**P**	**05 25 21.3**	**+0.8**
WRAB				pmax		pmax		
	comp=Z,15nm,1.1s,mb4.7							
WRAB	**Tennant Creek**	**32.43**	**265**	*e*P		**P**	**05 25 21.3**	**+0.8**
	comp=Z,15nm,1.1s,mb4.8							
WRA	**Warramunga Arr**	**32.44**	**265**	P		**P**	**05 25 20.3**	**-0.3**
	comp=Z,4.6nm,0.9s,mb4.3,baz=93,slow=8.9,SNR=13							
ASAR	**Alice Springs**	**32.59**	**258**	P		**P**	**05 25 22.1**	**+0.3**
	comp=Z,9.3nm,0.9s,mb4.7,baz=81,slow=8.9,SNR=42							
TBI	**Tubuai**	**38.64**	**102**	*e*LQ			05 35 12.6	
	comp=Z,550nm,29.8s							
TBI				*e*LR		LR	05 36 38.5	
	comp=Z,186nm,24.0s							
PPT	**Papeete**	**39.27**	**93**	*e*S		**S**	**05 32 17.0**	**-0.4**
	comp=Z,127nm,24.0s							
PPT				*e*LR		LR	05 36 57.4	
	comp=Z,332nm,25.0s							
PPT	**Papeete**	**39.27**	**93**	LR		LR	05 39 04.7	
	comp=Z,284nm,18.0s,MS4.1,baz=129,slow=31							
FITZ	**Fitzroy Crossi**	**40.85**	**266**	*e*P		**P**	**05 26 33.4**	**+1.2**
	comp=Z,26nm,0.9s,mb4.9							
FITZ	**Fitzroy Crossi**	**40.85**	**266**	P		**P**	**05 26 33.3**	**+1.1**
	comp=Z,20nm,1.2s,mb4.6,baz=117,slow=11,SNR=5.0							
FITZ				LR		LR	05 42 57.4	
	comp=Z,234nm,20.6s,MS4.0,baz=266,slow=35							
MBWA	**Marble Bar**	**45.86**	**260**	*e*P		**P**	**05 27 14.5**	**+1.9**
	comp=Z,34nm,1.2s,mb5.2							
NWAO	**Narrogin (SRO)**	**47.44**	**244**	*e*P		**P**	**05 27 24.9**	**-0.1**
TAOE	**Nuku Hiva Isla**	**50.40**	**85**	*e*LR		LR	05 42 04.6	
	comp=Z,863nm,33.2s							
VNDA	**Vanda**	**57.29**	**182**	LR		LR	05 49 46.1	
	comp=Z,165nm,18.4s,MS4.2,baz=289,slow=32							
CASY	**Casey**	**58.97**	**204**	P		**P**	**05 28 46.1**	**-3.6**
	comp=Z,1.9nm,0.5s,mb4.4							
QSPA	**South Pole Qui**	**69.68**	**180**	*e*P		**P**	**05 30 00.2**	**+0.3**
	comp=Z,9.9nm,1.2s,mb4.6							
CN2	**Changchun**	**75.28**	**329**	*e*P		**P**	**05 30 33.9**	**+0.7**
CN2				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.7							
KLR	**Kul'dur**	**76.78**	**336**	*e*P		**P**	**05 30 39.5**	**-2.3**
MAW	**Mawson**	**77.27**	**202**	LR		LR	05 58 21.5	
	comp=Z,148nm,18.7s,MS4.3,baz=245,slow=31							
CD2	**Chengdu**	**80.70**	**308**	*e*P		**P**	**05 31 04.4**	**+1.1**
CD2				AMB		AMB		
	comp=Z,10.0nm,1.2s,mb4.6							
HHC	**Hu-ho-hao-te**	**80.89**	**320**	*e*P		**P**	**05 31 05.8**	**+1.4**
HHC				AMB		AMB		
	comp=Z,10.0nm,1.2s,mb4.6							
HHC				AMB		AMB		
	comp=Z,72nm,4.4s							
LZH	**Lanzhou**	**83.27**	**312**	*e*P		**P**	**05 31 18.5**	**+1.7**
LZH				AMB		AMB		
	comp=Z,20nm,1.5s,mb4.9							
ULN	**Ulaanbaatar**	**87.60**	**324**	*e*P		**P**	**05 31 38.9**	**+0.5**
ULN				pmax		pmax		
	comp=Z,8.0nm,1.1s,mb4.9							
ULN	**Ulaanbaatar**	**87.60**	**324**	*e*P		**P**	**05 31 38.9**	**+0.5**
	comp=Z,8.0nm,1.1s,mb4.9							
GTA	**Gaotai**	**87.69**	**314**	P		**P**	**05 31 39.9**	**+1.1**
GTA				AP		pP	05 31 47.7	-2.3
GTA				XP		sP	05 31 51.1	-2.9
GTA				AMB		AMB		
	comp=Z,2.0nm,1.0s,mb4.3							
SONM	**Songino Array**	**87.95**	**323**	P		**P**	**05 31 40.9**	**+0.8**
	comp=Z,2.4nm,1.0s,mb4.4,baz=132,slow=4.6,SNR=17							
SONM				LR		LR	06 08 57.8	
	comp=Z,54nm,20.6s,MS4.0,baz=113,slow=34							
NVAR	**Mina Array Bea**	**89.77**	**49**	P		**P**	**05 31 48.0**	**-0.6**
	comp=Z,1.5nm,1.0s,mb4.3,baz=240,slow=7.1,SNR=4.6							
BOD	**Bodaibo**	**90.22**	**334**	*e*P		**P**	**05 31 49.3**	**-1.4**
ZAK	**Zakamensk**	**91.05**	**324**	*e*P		**P**	**05 31 51.6**	**-3.0**
ZAK				pmax		pmax		
	comp=Z,9.0nm,1.6s,mb4.8							
ILAR	**Eielson Array**	**91.40**	**17**	P		**P**	**05 31 54.7**	**-1.5**
	comp=Z,0.4nm,1.0s,mb3.7,baz=230,slow=5.6,SNR=3.3							
ILAR				LR		LR	06 11 16.0	
	comp=Z,112nm,18.2s,MS4.3,baz=180,slow=34							
PDAR	**Pinedale Array**	**97.60**	**47**	LR		LR	06 07 14.1	
	comp=Z,74nm,19.8s,MS4.2,baz=70,slow=30							
WERD	**Werda**	**144.76**	**334**	*e*PKPbc		PKPdf	05 38 26.0	-0.9
MOX	**Moxa**	**144.89**	**335**	*e*PKPbc		PKPdf	05 38 26.4	-0.7
MOX	**Moxa**	**144.89**	**335**	*e*PKP		PKPdf	05 38 27.5	+0.4
IBBN	**Ibbenburen**	**144.93**	**340**	*e*PKPbc		PKPdf	05 38 26.9	-0.3
KHC	**Kasperske Hory**	**145.19**	**331**	*e*PKP		PKPdf	05 38 25.5	+0.8
ROTZ	**Rotzenmuhle**	**145.32**	**333**	*e*PKPbc		PKPbc	05 38 28.6	+0.9
GEC2	**GERESS Array S**	**145.35**	**331**	*e*PKPbc		PKPbc	05 38 27.8	0.0
GERES	**GERESS Array B**	**145.35**	**331**	PKPbc		PKPbc	05 38 27.4	-0.4
	comp=Z,1.0nm,0.8s,baz=57,slow=5.1,SNR=6.8							
UBBA	**Unterbreizbach**	**145.38**	**336**	*e*PKPbc		PKPbc	05 38 28.3	+0.4
WET	**Wettzell**	**145.50**	**332**	*e*PKPbc		PKPbc	05 38 28.2	-0.1
GRA1	**Grafenberg Arr**	**145.79**	**334**	*e*PKPbc		PKPbc	05 38 30.2	+1.0
GRF	**Grafenberg Arr**	**145.79**	**334**	*e*PKPbc		PKPbc	05 38 30.2	+1.0
BUG	**Bochum-Univer**	**145.83**	**339**	*e*PKPbc		PKPbc	05 38 29.6	+0.3
TNS	**Taunus Mts**	**146.44**	**337**	*e*PKPbc		PKPbc	05 38 31.4	+0.2
WLF	**Walferdange**	**147.72**	**339**	*e*PKPbc		PKPbc	05 38 36.3	+1.6
GIVF	**Givet**	**147.77**	**341**	*e*PKP1		PKPbc	05 38 34.9	0.0
BAIF	**Baives**	**147.99**	**341**	*e*PKP1		PKPbc	05 38 35.8	+0.3
BFO	**Black Forest**	**148.03**	**335**	*e*PKPbc		PKPbc	05 38 35.5	-0.1
CDF	**Champ du Feu**	**148.37**	**336**	*e*PKP1		PKPbc	05 38 34.1	-2.4
	comp=Z,21nm,1.1s							
CABF	**La Chapelle**	**150.31**	**336**	*e*PKP1		PKPbc	05 38 42.1	+0.8
LOR	**Lormes**	**150.56**	**339**	*e*PKP1		PKPbc	05 38 43.3	+1.4
SSF	**Saint Saulge**	**150.85**	**339**	*e*PKP1		PKPbc	05 38 44.3	+1.7
SMF	**Signal de Mont**	**151.10**	**338**	*e*PKP1		PKPbc	05 38 44.3	+1.1
	comp=Z,20nm,1.1s							
TCF	**Toulx Ste Croi**	**151.96**	**340**	*e*PKP1		PKPbc	05 38 46.4	+1.3

*NIED **09** 06:13:00, 2470N×122.10E, h29km, Mw3.8 Best double couple: M0 5.77000×10^14

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.79**	**277**	*e*P	**Pn**	**07 13 23.9**	**+1.0**
MATI				*e*S	**Sn**	**07 13 33.0**	**-0.6**
FITZ	**Fitzroy Crossi**	**24.83**	**183**	P	**P**	**07 18 27.0**	**-0.2**
	1.9nm,0.9s,mb3.6,baz=356,slow=14,SNR=3.4						
WRA	**Warramunga Arr**	**27.57**	**165**	P	**P**	**07 18 52.0**	**+0.1**
	0.2nm,0.3s,mb3.2,baz=343,slow=11,SNR=7.1						
MKAR	**Makanchi Array**	**55.21**	**324**	P	**P**	**07 22 37.8**	**+0.1**
	0.5nm,0.5s,mb3.6,baz=114,slow=8.6,SNR=8.1						
ILAR	**Eielson Array**	**82.17**	**26**	P	**P**	**07 25 25.1**	**-0.4**
	0.4nm,0.9s,mb3.4,baz=250,slow=5.1,SNR=5.8						

LDG ***09*** *07:16:40.6±0.3,5186N×707E,h1km,Ml2.8/4,Error ellipse: s-maj=6.7km s-min=5.0km az=23.0,Suspected Mining induced.*

NEIC ***09*** *07:16:40.6,5186N×707E,h1km,ML2.8(LDG),After LDG.*

ISCJB ***09*** *07:16:41.2±0.4,5160N±002×710E±004,h0km,Error ellipse: s-maj=3.4km s-min=3.3km az=166.5*

BUG ***09*** *07:16:42.8,5162N×698E,h1km,ML1.4*

CSEM ***09*** *07:16:42.9±0.2,5167N×705E,h1km,ML2.2/2,Error ellipse: s-maj=4.6km s-min=2.5km az=81.0*

BGR ***09*** *07:16:43.3±0.7,5162N×706E,h1km,ML2.2/2,Error ellipse: s-maj=8.9km s-min=5.6km az=125.0*

BNS ***09*** *07:16:43.0±0.6,5165N×701E,h1km,ML2.0*

ISC 09 07:16:42.1±0.4,5164N±002×706E±004,h0km,n37,σ1§11/57,2D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZER	**Hlnxe**	**0.12**	**263**	Pg	**Pg**	**07 16 45.1**	**+0.7**
BZER				Sg	**Sg**	**07 16 47.3**	**+1.4**
BUG	**Bochum--Univer**	**0.24**	**146**	⇓*i*Pg	**Pg**	**07 16 48.6**	**+2.0**
LAUG	**Laupendahl**	**0.29**	**194**	*e*Pg	**Pg**	**07 16 48.8**	**+1.1**
WTSB	**Winterswijk**	**0.37**	**334**	*e*Pg	**Pg**	**07 16 50.6**	**+1.4**
	17nm,0.5s						
WTSB				*i* Sg	**Sg**	**07 16 55.3**	**+1.4**
HOBG	**Hohbusch**	**0.68**	**165**	*e*Pg	**Pg**	**07 16 56.4**	**+1.3**
BNS	**Bensberg**	**0.68**	**174**	*e*Pg	**Pg**	**07 16 56.0**	**+0.9**
IBBN	**Ibbenburen**	**0.80**	**32**	*e*Pg	**Pg**	**07 16 58.5**	**+1.1**
	SNR=1.6						
STB	**Steinbach**	**1.05**	**188**	*e*Pg	**Pg**	**07 17 03.0**	**+0.8**
STB				*e*Sg	**Sg**	**07 17 17.9**	**+2.0**
	38nm,0.4s						
KLL	**Kalltalsperre**	**1.10**	**206**	*e*Pg	**Pg**	**07 17 03.5**	**+0.4**
KLL				*e*Sg	**Sg**	**07 17 18.9**	**+1.6**
HGN	**Heimansgroeve**	**1.12**	**220**	*e*Pn	**Pn**	**07 17 03.9**	**-1.2**
	16nm,0.4s						
HGN				⇓*i*Pg	**Pg**	**07 17 04.5**	**+0.9**
	16nm,0.2s						
HGN				*e*Sg	**Sg**	**07 17 19.3**	**+1.1**
BEBN	**Eben Emael**	**1.21**	**226**	P	**Pg**	**07 17 05.4**	**+0.1**
BEBN				S	**Sg**	**07 17 22.5**	**+1.6**
	comp=E,22nm,0.0s						
MEM	**Membach**	**1.22**	**213**	P	**Pg**	**07 17 05.2**	**-0.3**
MEM				S	**Sg**	**07 17 22.9**	**+1.5**
	comp=E,29nm,0.0s						
BGG	**Burgeitz**	**1.44**	**173**	*e*Pg	**Pg**	**07 17 09.8**	**0.0**
BGG				*e*Sg	**Sg**	**07 17 28.2**	**-0.3**
TNS	**Taunus Mts**	**1.67**	**148**	*e*Pg	**Pg**	**07 17 14.0**	**0.0**
	SNR=1.2						
TNS				*e*Sg	**Sg**	**07 17 35.9**	**+0.3**
	SNR=3.7						
UBBA	**Unterbreizbach**	**2.02**	**113**	*e*Sg	**Sg**	**07 17 47.2**	**+0.1**
	SNR=1.7						
WLF	**Walferdange**	**2.06**	**197**	*e*Sg	**Sg**	**07 17 47.3**	**-0.9**
	SNR=1.9						
CLZ	**Clausthal**	**2.07**	**83**	*e*Sg	**Sg**	**07 17 48.4**	**-0.3**
	SNR=2.4						
GIVF	**Givet**	**2.09**	**224**	*e*Pg	**Pg**	**07 17 22.4**	**+0.3**
GIVF				*e*Sn	**Sn**	**07 17 43.8**	**-1.2**
	comp=E,13nm,0.3s						
GIVF	**Givet**	**2.09**	**224**	*e*Pn	**Pn**	**07 17 17.1**	**-1.2**
GIVF				*e*Pg	**Pg**	**07 17 22.4**	**+0.3**
GIVF				*e*Sn	**Sn**	**07 17 43.8**	**-1.2**
GIVF	**Givet**	**2.09**	**224**	*e*Pg	**Pg**	**07 17 22.4**	**+0.3**
GIVF				*e*Sn	**Sn**	**07 17 43.8**	**-1.2**
BAIF	**Baives**	**2.40**	**230**	*e*Pg	**Pg**	**07 17 28.2**	**+0.1**
BAIF				*e*Sg	**Sg**	**07 17 58.5**	**-0.7**
	comp=E,6.3nm,0.3s						
BAIF	**Baives**	**2.40**	**230**	*e*Pn	**Pn**	**07 17 21.5**	**-1.1**
BAIF				*e*Pg	**Pg**	**07 17 28.2**	**+0.1**
BAIF				*e*Sg	**Sg**	**07 17 58.5**	**-0.7**
BAIF	**Baives**	**2.40**	**230**	*e*Pg	**Pg**	**07 17 28.2**	**+0.1**
BAIF				*e*Sg	**Sg**	**07 17 58.5**	**-0.7**
CDF	**Champ du Feu**	**3.23**	**177**	*e*Pn	**Pn**	**07 17 33.8**	**-0.2**
BFO	**Black Forest**	**3.41**	**166**	*e*Pn	**Pn**	**07 17 36.6**	**+0.1**
SFTF	**Sexfontaines**	**3.67**	**202**	*e*Pn	**Pn**	**07 17 38.7**	**-1.4**
LOR	**Lormes**	**4.84**	**207**	*e*Pn	**Pn**	**07 17 55.1**	**-1.1**
LOR				*e*Sn	**Sn**	**07 18 51.7**	**-1.3**
	comp=E,2.5nm,0.4s						
LOR				*e*Sg	**Sg**	**07 19 18.3**	**+0.6**
	comp=E,3.0nm,0.4s						
CABF	**La Chapelle**	**5.07**	**188**	*e*Pn	**Pn**	**07 17 58.8**	**-0.5**
SSF	**Saint Saulge**	**5.13**	**208**	*e*Pn	**Pn**	**07 17 58.9**	**-1.3**
HYF	**Humbligny**	**5.23**	**215**	*e*Pn	**Pn**	**07 18 00.9**	**-0.7**
AVF	**Avril sur Loir**	**5.42**	**208**	*e*Pn	**Pn**	**07 18 02.6**	**-1.6**
SMF	**Signal de Mont**	**5.42**	**204**	*e*Pn	**Pn**	**07 18 03.1**	**-1.1**
FLN	**La Foliniere**	**5.63**	**242**	*e*Pn	**Pn**	**07 18 04.5**	**-2.5**
GRR	**Gorron**	**6.05**	**241**	*e*Pn	**Pn**	**07 18 10.3**	**-2.5**
TCF	**Toulx Ste Croi**	**6.23**	**213**	*e*Pn	**Pn**	**07 18 13.9**	**-1.4**
MFF	**Saint Martin d**	**6.91**	**226**	*e*Pn	**Pn**	**07 18 21.0**	**-3.5**
CAF	**Calviac**	**7.49**	**208**	*e*Pn	**Pn**	**07 18 32.1**	**-0.5**

NEIC ***09*** *07:23:46.3,3489S×7132W,h20km,ML3.2(GUC),After GUC.*

NEIC Felt [II] at Curico, Los Quenes and Talca.

GUC 09 07:23:46.3±0.9,3489S×7132W,h20km±2km,MD3.6, ML3.2,13C-11D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.13**	**148**	⇓*i*P	Pb	07 23 50.6	0.0
NICH				*i* S	Sb	07 23 52.7	-0.9
SFDO	**San Fernando**	**0.37**	**42**	⇓*i*P	Pb	07 23 54.5	+0.3
SFDO				*i* S	Sb	07 23 59.1	-0.4
TALC	**Talca**	**0.57**	**207**	⇑*i*P	Pb	07 23 56.7	-0.9
TALC				*i* S	Sb	07 24 05.0	-0.2
TALC				AML	AML	07 24 05.5	
	comp=E,5μm,0.1s						
CICH	**Cipreses**	**0.93**	**53**	*i* P	Pb	07 24 04.1	+0.3
CICH				*i* S	Sb	07 24 16.3	+0.6
LNV	**Longovilo**	**0.93**	**355**	⇑*i*P	Pb	07 24 03.5	-0.3
CACH	**El Canelo**	**0.97**	**38**	⇓*i*P	Pb	07 24 04.7	+0.3
CACH				*i* S	Sb	07 24 18.1	+1.3
LNCH	**Linares**	**0.98**	**194**	⇓*i*P	Pb	07 24 04.4	-0.2
LNCH				*i* S	Sb	07 24 17.8	+0.7
LNCH				AML	AML	07 24 19.8	
	comp=E,1μm,0.7s						
LNCH	**Linares**	**0.98**	**194**	⇓*i*P	Pb	07 24 04.4	-0.2
LNCH				*i* S	Sb	07 24 17.8	+0.7
CHCH	**Chadas Angostu**	**1.10**	**30**	⇑*i*P	Pn	07 24 06.7	+0.1
CHCH				*i* S	Sb	07 24 21.5	+1.0
TACH	**Talagante**	**1.27**	**14**	⇓*i*P	Pn	07 24 09.5	+0.6
TACH				*i* S	Sn	07 24 26.4	+1.0
CNCO	**Chanco**	**1.30**	**229**	⇑*i*P	Pn	07 24 09.9	+0.6
CNCO				*i* S	Sn	07 24 27.2	+1.1
CNCO				AML	AML	07 24 27.8	
	comp=E,471nm,0.2s						
LMEL	**Las Melosas**	**1.39**	**42**	⇑*i*P	Pn	07 24 11.7	+1.3
LMEL				*i* S	Sn	07 24 30.3	+2.1
LCCH	**Las Cruces**	**1.43**	**351**	⇓*i*P	Pn	07 24 11.6	+0.6
LCCH				*i* S	Sn	07 24 30.7	+1.6
PCH	**Pirque**	**1.43**	**28**	⇓*i*P	Pn	07 24 12.2	+1.2
PCH				*i* S	Sn	07 24 31.5	+2.3
RCDM	**Rinconada Maip**	**1.46**	**17**	⇑*i*P	Pn	07 24 12.4	+0.9
RCDM				*i* S	Sn	07 24 32.0	+2.0
RCDM				AML	AML	07 24 32.2	
	comp=E,864nm,0.1s						
RCDM	**Rinconada Maip**	**1.46**	**17**	⇑*i*P	Pn	07 24 12.4	+0.9
RCDM				*i* S	Sn	07 24 32.0	+2.0
SAN	**Santiago**	**1.53**	**21**	*i* S	Sn	07 24 34.4	+2.7
FSR	**Penalolen**	**1.55**	**25**	⇑*i*P	Pn	07 24 14.6	+1.9
FSR				*i* S	Sn	07 24 35.4	+3.2
FSR				AML	AML	07 24 36.3	
	comp=N,324nm,0.2s						
FSR	**Penalolen**	**1.55**	**25**	⇑*i*P	Pn	07 24 14.6	+1.9
FSR				*i* S	Sn	07 24 35.4	+3.2
STL	**Santa Lucia**	**1.55**	**21**	⇑*i*P	Pn	07 24 14.0	+1.2
STL				*i* S	Sn	07 24 34.6	+2.4
CLCH	**Cerro Calan**	**1.62**	**24**	*e*P	Pn	07 24 15.4	+1.7
CLCH				*i* S	Sn	07 24 37.3	+3.2
CLCH				AML	AML	07 24 39.6	
	comp=E,551nm,0.4s						
FCH	**Farellones**	**1.77**	**29**	⇑*i*P	Pn	07 24 17.9	+2.1
CCHI	**Chillan**	**1.82**	**200**	⇑*i*P	Pn	07 24 18.7	+2.3
CCHI				*i* S	Sn	07 24 42.9	+4.1
CCHI				AML	AML	07 24 45.1	
	comp=E,242nm,0.3s						
CCHI				AML	AML	07 24 45.4	
	comp=E,451nm,0.4s						
CCHI	**Chillan**	**1.82**	**200**	⇑*i*P	Pn	07 24 18.7	+2.3
CCHI				*i* S	Sn	07 24 42.9	+4.1
PEL	**Peldehue**	**1.82**	**17**	⇓*i*P	Pn	07 24 18.7	+2.3
PEL				*i* S	Sn	07 24 42.8	+4.0
PEL				AML	AML	07 24 43.8	
	comp=N,416nm,0.5s						
PEL	**Peldehue**	**1.82**	**17**	⇓*i*P	Pn	07 24 18.7	+2.3
PEL				*i* S	Sn	07 24 42.8	+4.0
ROCH	**El Roble**	**1.93**	**8**	⇓*i*P	Pn	07 24 20.4	+2.5

NEIC ***09*** *07:27:50.1,3127S×6873W,h150km,mb4.2/3,After GUC.*

GUC 09 07:27:50.1±0.8,3127S×6873W,h150km,ML4.0,15C-5D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.95**	**272**	⇓*i*P	Pn	07 28 25.1	+0.5
CMCH				*i* S	Sn	07 28 52.1	+1.0
CMCH				AML	AML	07 28 54.2	
	comp=E,4μm,0.7s						
CMCH	**Combarbala**	**1.95**	**272**	⇓*i*P	Pn	07 28 25.1	+0.5
CMCH				*i* S	Sn	07 28 52.1	+1.0
TLL	**Tololo Astrono**	**2.10**	**301**	⇑*i*P	Pn	07 28 27.7	+1.3
TLL				*i* S	Sn	07 28 55.9	+1.7
TLL				AML	AML	07 28 59.3	
	comp=N,1μm,0.5s						
TLL	**Tololo Astrono**	**2.10**	**301**	⇑*i*P	Pn	07 28 27.7	+1.3
TLL				*i* S	Sn	07 28 55.9	+1.7
JACH	**Jahuel**	**2.12**	**228**	⇑*i*P	Pn	07 28 27.6	+1.0
JACH				*i* S	Sn	07 28 56.5	+1.9
OVCH	**Ovalle**	**2.23**	**287**	⇑*i*P	Pn	07 28 28.5	+0.6
OVCH				*i* S	Sn	07 28 57.1	+0.2
OVCH				AML	AML	07 28 59.8	
	comp=E,686nm,0.5s						
OVCH	**Ovalle**	**2.23**	**287**	⇑*i*P	Pn	07 28 28.5	+0.6
OVCH				*i* S	Sn	07 28 57.1	+0.2
FCH	**Farellones**	**2.44**	**212**	⇑*i*P	Pn	07 28 31.5	+1.1
FCH				*i* S	Sn	07 29 03.6	+2.1
FCH				AML	AML	07 29 10.2	
	comp=N,265nm,0.3s						
CHNG	**Los Chungos**	**2.44**	**255**	*e*P	Pn	07 28 30.9	+0.5
CHNG				*i* S	Sn	07 29 01.5	-0.1
CHNG				AML	AML	07 29 09.3	
	comp=N,196nm,0.3s						
PEL	**Peldehue**	**2.50**	**221**	⇑*i*P	Pn	07 28 31.7	+0.6
PEL				*i* S	Sn	07 29 03.4	+0.6
PEL				AML	AML	07 29 06.0	
	comp=E,1μm,0.4s						
PEL	**Peldehue**	**2.50**	**221**	⇑*i*P	Pn	07 28 31.7	+0.6
PEL				*i* S	Sn	07 29 03.4	+0.6
ROCH	**El Roble**	**2.57**	**228**	⇑*i*P	Pn	07 28 32.8	+0.7
CLCH	**Cerro Calan**	**2.61**	**215**	⇑*i*P	Pn	07 28 33.2	+0.7
CLCH				*i* S	Sn	07 29 06.2	+0.8
CLCH				AML	AML	07 29 14.3	
	comp=E,980nm,0.5s						
STL	**Santa Lucia**	**2.70**	**216**	⇑*i*P	Pn	07 28 34.0	+0.4
STL				*i* S	Sn	07 29 08.0	+0.8
STL				AML	AML	07 29 09.9	
	comp=E,166nm,0.4s						
PCH	**Pirque**	**2.79**	**212**	*e*P	Pn	07 28 35.9	+1.2
RCDM	**Rinconada Maip**	**2.82**	**218**	⇓*i*P	Pn	07 28 36.0	+0.8
RCDM				*i* S	Sn	07 29 11.4	+1.4
RCDM				AML	AML	07 29 12.8	
	comp=E,603nm,0.2s						
RCDM	**Rinconada Maip**	**2.82**	**218**	⇓*i*P	Pn	07 28 36.0	+0.8
RCDM				*i* S	Sn	07 29 11.4	+1.4
LMEL	**Las Melosas**	**2.85**	**205**	*e*P	Pn	07 28 36.3	+0.7
LMEL				AML	AML	07 29 24.5	
	comp=N,216nm,0.2s						
TACH	**Talagante**	**3.02**	**218**	⇑*i*P	Pn	07 28 37.9	+0.2
TACH				*i* S	Sn	07 29 14.6	+0.1
CHCH	**Chadas Angostu**	**3.11**	**211**	⇑*i*P	Pn	07 28 39.6	+0.7
CHCH				*i* S	Sn	07 29 17.5	+0.9
CACH	**El Canelo**	**3.25**	**209**	⇓*i*P	Pn	07 28 41.6	+1.1
LCCH	**Las Cruces**	**3.26**	**227**	*e*P	Pn	07 28 40.9	+0.2
CICH	**Cipreses**	**3.36**	**205**	⇑*i*P	Pn	07 28 43.2	+1.2
SFDO	**San Fernando**	**3.85**	**209**	⇑*i*P	Pn	07 28 48.1	-0.2
SFDO				*i* S	Sn	07 29 34.0	+0.5
LVC	**Limon Verde**	**8.63**	**359**	*e*Pn	Pn	07 29 50.2	-1.6
	comp=N,6.7nm,0.5s						
TRQA	**Tornquist**	**8.76**	**142**	*e*Pn	Pn	07 29 52.1	-1.4
	comp=N,3.8nm,0.6s						
TRQA				*e*Sn	Sn	07 31 22.6	-8.1
LPAZ	**La Paz**	**14.93**	**2**	*e*Pn	Pn	07 31 17.1	+3.6
	comp=N,2.4nm,0.7s						

NEIC ***09*** *07:31:09.4,3861N×1462E,h20km,ML3.6(ROM),After ROM.*

NEIC Felt on Alicudi and Filicudi.

CSEM ***09*** *07:31:09.4±0.2,3861N×1462E,h20km±2km,MD3.1/8, ML3.8/4,Error ellipse: s-maj=3.3km s-min=1.8km az=14.0, After ROM*

ROM 09 07:31:09.4±0.2,3861N×1462E,h20km±2km,Md3.1/8, Ml3.6/12,Error ellipse: s-maj=3.3km s-min=1.8km az=14.0,Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IFIL	**Filicudi I Eol**	**0.06**	**219**	Pg	Pg	07 31 13.3	+0.2
IFIL				Sg	Sg	07 31 15.1	-0.4
SLNA	**Salina**	**0.18**	**106**	Pg	Pg	07 31 15.1	+0.9
LLI	**Lipari**	**0.31**	**123**	Pg	Pg	07 31 16.6	+0.4
	32μm,0.7s						
VPL	**Vulcano Piano**	**0.37**	**129**	Pg	Pg	07 31 17.3	0.0
	12μm,1.0s						
MNO	**Monte Soro**	**0.68**	**175**	Pg	Pg	07 31 22.7	-0.2
	297nm,0.3s						
GIB	**Gibilmanna**	**0.78**	**217**	Pg	Pg	07 31 24.4	-0.3
GIB				Sg	Sg	07 31 35.1	+0.1
	8μm,0.5s						
MSRU	**Castanea**	**0.78**	**116**	Pg	Pg	07 31 24.3	-0.5
MSRU				Sg	Sg	07 31 35.7	+0.5
	2μm,0.6s						
MSI	**Messina ING**	**0.84**	**119**	Pg	Pg	07 31 26.1	+0.2
MMME	**Mongiuffi-Meli**	**0.84**	**143**	Pg	Pg	07 31 25.2	-0.7
MMME				Sg	Sg	07 31 36.8	-0.3
	3μm,0.8s						
SCLL	**Scilla**	**0.93**	**112**	Pg	Pg	07 31 26.6	-1.0
	96nm,0.4s						
ESLN	**Serra La Nave**	**0.96**	**163**	Pg	Pg	07 31 28.6	+0.5
	3μm,1.1s						
MTTG	**Motta San Giov**	**1.04**	**125**	Pg	Pg	07 31 28.3	-1.4
MTTG				Sg	Sg	07 31 43.3	-0.2
	473nm,0.5s						
CEL	**Celeste**	**1.06**	**109**	Pg	Pg	07 31 28.6	-1.5
	796nm,0.7s						
USI	**Ustica**	**1.13**	**275**	Pg	Pg	07 31 30.3	-1.0
USI				Sg	Sg	07 31 45.4	-0.7
	1μm,0.3s						
SOI	**Samo**	**1.25**	**115**	Pg	Pg	07 31 31.6	-2.1
	380nm,0.6s						
GRI	**Girifalco**	**1.43**	**81**	Pg	Pg	07 31 35.2	-1.8
	388nm,0.5s						
HVZN	**Vizzini**	**1.44**	**177**	Pg	Pg	07 31 34.8	-2.3
	1μm,0.5s						
AGST	**Augusta-Monte**	**1.44**	**160**	Pg	Pg	07 31 34.7	-2.5
	247nm,0.5s						
PLAC	**Placanica**	**1.44**	**96**	Pg	Pg	07 31 34.9	-2.3
	173nm,0.7s						

NEIC ***09*** *07:36:25.0,3816S×17638E,h157km,MG4.0(WEL),After WEL.*

WEL 09 07:36:25.1±0.2,3808S×17630E,h149km±2km,ML3.9/19, 1C,Error ellipse: s-maj=3.0km s-min=2.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.66**	**106**	PN	Pn	07 36 47.2	0.0
URZ				SN	Sn	07 37 03.7	-0.3
URZ	**Urewera**	**0.66**	**106**	*e*P	Pn	07 36 47.3	+0.1
MWZ	**Matawai**	**1.00**	**105**	PN	Pn	07 36 50.0	+0.3
MWZ				SN	Sn	07 37 08.6	+0.1
MWZ	**Matawai**	**1.00**	**105**	P	Pn	07 36 50.0	+0.3
MWZ				S	Sn	07 37 08.6	+0.1
BKZ	**Black Stump Fm**	**1.10**	**172**	⇑PN	Pn	07 36 50.6	0.0
BKZ	**Black Stump Fm**	**1.10**	**172**	P	Pn	07 36 50.6	0.0
BKZ				S	Sn	07 37 09.7	-0.3
KRVZ	**Karewarewa**	**1.14**	**207**	PN	Pn	07 36 51.2	+0.3
WTVZ	**West Tongariro**	**1.18**	**208**	PN	Pn	07 36 51.5	+0.2
WTVZ	**West Tongariro**	**1.18**	**208**	P	Pn	07 36 51.6	+0.3
OTVZ	**Oturere**	**1.20**	**205**	PN	Pn	07 36 52.0	+0.5
WPVZ	**Whakapapa**	**1.27**	**208**	PN	Pn	07 36 52.3	+0.1
WPVZ	**Whakapapa**	**1.27**	**208**	P	Pn	07 36 52.6	+0.4
TUVZ	**Tukino**	**1.29**	**203**	PN	Pn	07 36 52.7	+0.3
TUVZ	**Tukino**	**1.29**	**203**	P	Pn	07 36 52.8	+0.4
FWVZ	**Far West T-bar**	**1.32**	**206**	PN	Pn	07 36 52.4	-0.2
TRVZ	**Turoa**	**1.36**	**206**	PN	Pn	07 36 53.2	+0.2
WNVZ	**Wahianoa**	**1.37**	**204**	PN	Pn	07 36 53.3	+0.1
WNVZ	**Wahianoa**	**1.37**	**204**	P	Pn	07 36 53.3	+0.2
MOVZ	**Moawhango**	**1.40**	**198**	PN	Pn	07 36 53.1	-0.4
MOVZ	**Moawhango**	**1.40**	**198**	P	Pn	07 36 53.1	-0.4
KNZ	**Kokohu**	**1.43**	**132**	PN	Pn	07 36 54.0	+0.3
MTVZ	**Mangateitei**	**1.46**	**206**	PN	Pn	07 36 54.0	-0.1
PUZ	**Puketiti**	**1.54**	**90**	PN	Pn	07 36 54.6	-0.3
PUZ				SN	Sn	07 37 17.6	-0.2
PUZ	**Puketiti**	**1.54**	**90**	*e*P	Pn	07 36 54.8	-0.1
MXZ	**Matakaoa Point**	**1.67**	**73**	PN	Pn	07 36 56.4	+0.1
MXZ				SN	Sn	07 37 21.3	+1.0
MXZ	**Matakaoa Point**	**1.67**	**73**	P	Pn	07 36 56.6	+0.2
WAZ	**Wanganui**	**1.97**	**211**	PN	Pn	07 36 59.2	+0.5
WAZ	**Wanganui**	**1.97**	**211**	P	Pn	07 36 59.3	-0.4
TSZ	**Takapari Road**	**2.00**	**188**	PN	Pn	07 36 59.1	-1.0
PXZ	**Pawanui**	**2.00**	**168**	PN	Pn	07 36 59.5	-0.6
BFZ	**Birch Farm**	**2.60**	**181**	PN	Pn	07 37 05.7	-1.7
BFZ	**Birch Farm**	**2.60**	**181**	P	Pn	07 37 05.7	-1.7
MRZ	**Mangatainoka R**	**2.64**	**192**	PN	Pn	07 37 05.8	-2.0
MRZ	**Mangatainoka R**	**2.64**	**192**	P	Pn	07 37 05.9	-2.0
TIWZ	**Tintock**	**2.72**	**187**	PN	Pn	07 37 06.8	-1.9
KIW	**Kapiti Island**	**2.98**	**201**	PN	Pn	07 37 09.4	-2.8
KIW	**Kapiti Island**	**2.98**	**201**	P	Pn	07 37 08.5	-3.6
MTW	**Mount Morrison**	**3.14**	**191**	PN	Pn	07 37 11.0	-3.1
MTW	**Mount Morrison**	**3.14**	**191**	P	Pn	07 37 11.1	-3.0
CAW	**Cannon Point**	**3.17**	**197**	PN	Pn	07 37 11.7	-2.9
CAW	**Cannon Point**	**3.17**	**197**	P	Pn	07 37 11.9	-2.7
TRWZ	**Traveller**	**3.35**	**188**	PN	Pn	07 37 13.9	-2.9
PAWZ	**Paruwai Farm**	**3.37**	**191**	PN	Pn	07 37 13.9	-3.2
PAWZ	**Paruwai Farm**	**3.37**	**191**	P	Pn	07 37 14.0	-3.1
MRW	**Makara Radio**	**3.38**	**201**	PN	Pn	07 37 14.1	-3.2
MRW	**Makara Radio**	**3.38**	**201**	P	Pn	07 37 13.3	-4.0
WEL	**Wellington**	**3.42**	**200**	P	Pn	07 37 14.7	-3.0
MSWZ	**Moikau Station**	**3.43**	**193**	PN	Pn	07 37 14.5	-3.3
MSWZ	**Moikau Station**	**3.43**	**193**	P	Pn	07 37 14.6	-3.3
SNZO	**South Karori**	**3.46**	**200**	PN	Pn	07 37 14.6	-3.6
SNZO	**South Karori**	**3.46**	**200**	P	Pn	07 37 14.7	-3.5
TCW	**Tory Channel**	**3.50**	**206**	PN	Pn	07 37 15.5	-3.3
TCW	**Tory Channel**	**3.50**	**206**	P	Pn	07 37 14.6	-4.2
BHW	**Baring Head**	**3.51**	**198**	PN	Pn	07 37 15.3	-3.5
BHW	**Baring Head**	**3.51**	**198**	P	Pn	07 37 14.4	-4.4
TUWZ	**Tuamarina**	**3.81**	**208**	PN	Pn	07 37 19.3	-3.5
NNZ	**Nelson**	**3.87**	**215**	PN	Pn	07 37 20.1	-3.4
QRZ	**Quartz Range**	**4.01**	**226**	PN	Pn	07 37 21.5	-3.8
QRZ	**Quartz Range**	**4.01**	**226**	*e*P	Pn	07 37 21.6	-3.8
THZ	**Tophouse**	**4.52**	**214**	PN	Pn	07 37 28.2	-3.8
THZ	**Tophouse**	**4.52**	**214**	*e*P	Pn	07 37 28.2	-3.8
KHZ	**Kahutara**	**4.82**	**205**	PN	Pn	07 37 32.1	-4.0
KHZ	**Kahutara**	**4.82**	**205**	*e*P	Pn	07 37 32.1	-4.0
LTZ	**Lake Taylor**	**5.62**	**212**	*e*P	Pn	07 37 41.6	-5.0

PGC ***09*** *08:09:51.9,5892N×13680W,h1km,ML3.4/4,92km southwest of Haines, Ak Glacier Bay, Alaska.*

NEIC 09 08:09:51.9,5892N×13680W,h1km,ML3.2(AEIC), **ML3.4**(PGC),**1D,After PGC.,Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLBC	**Pleasant Camp**	**0.58**	**22**	P	Pg	08 10 07.7	-0.4
PLBC				*e*S	Sg	08 10 10.3	-0.4
SKAG	**Skagway**	**0.93**	**54**	P	Pg	08 10 08.8	-0.9
SKAG				S	Sg	08 10 21.1	-0.7
BESE	**Bessie Mountai**	**1.07**	**108**	P	Pg	08 10 11.0	-1.4

12nm,0.4s
CTA Charters Tower 30.52 271 P P 08 17 02.4 +0.3
16nm,0.4s,baz=97,slow=10,SNR=26
STKA Stephens Creek 33.78 248 *eP* P 08 17 30.1 +0.6
4.4nm,0.6s
STKA Stephens Creek 33.78 248 P P 08 17 29.6 +0.1
6.3nm,0.6s,baz=90,slow=9.4,SNR=18
ASAR Alice Springs 41.07 261 P P 08 18 29.4 +1.0
8.2nm,0.8s,baz=93,slow=8.0,SNR=58
WB2 Warramunga Arr 41.43 267 *eP* P 08 18 31.4 +0.3
WRA Warramunga Arr 41.45 267 P P 08 18 31.5 +0.3
2.9nm,0.3s,baz=96,slow=8.4,SNR=263
KAKA Kakadu 45.37 276 *eP* P 08 19 00.9 -0.5
2.6nm,0.3s
NVAR Mina Array Bea 85.52 44 P P 08 23 10.2 +0.6
0.4nm,0.6s,baz=209,slow=6.2,SNR=4.1
ILAR Eielson Array 92.39 14 P P 08 23 41.2 -0.3
0.3nm,0.6s,baz=234,slow=5.7,SNR=7.6
PDAR Pinedale Array 93.45 44 P P 08 23 46.6 +0.3
0.4nm,0.9s,baz=201,slow=2.5,SNR=3.6
NOA NORSAR Array B 142.06 350 PKP PKPdf 08 29 55.1 -3.0
0.8nm,0.7s,baz=16,slow=4.8,SNR=3.5
AKASG Malin Array Be 144.57 326 PKP PKPdf 08 30 02.8 +0.3
0.9nm,0.4s,baz=46,slow=3.9,SNR=7.0

IDC 09 08:16:14.2±6.1, 2692S×7536E, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.4/17, mbtmp3.7/2, Error ellipse: s-maj=366.0km s-min=90.0km az=22.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**52.63**	**100**	P	P	08 25 29.8	-0.1
	0.5nm,0.6s,baz=252,slow=6.8,SNR=5.9						
WRA	**Warramunga Arr**	**54.15**	**96**	P	P	08 25 41.9	+0.8
	0.7nm,1.0s,baz=253,slow=7.2,SNR=6.0						
YKA	**Yellowknife Ar**	**143.82**	**8**	PKP	PKPdf	08 35 50.3	-1.0
	0.3nm,1.0s,baz=343,slow=3.9,SNR=4.5						

IDC 09 08:18:59.3±14.0, 931N×10294W, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.7/17, mbtmp3.5/3, MS3.3/1, Ms1 3.3/1, ms1mx2.5/20, Error ellipse: s-maj=350.4km s-min=175.4km az=124.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDAR	**Pinedale Array**	**33.83**	**351**	P	P	08 25 43.6	+0.4
	0.4nm,0.8s,baz=169,slow=6.4,SNR=4.5						
YBH	**Yreka Blue Hor**	**36.70**	**335**	LR	LR	08 39 48.1	
	comp=Z,47nm,20.5s,baz=42,slow=34						
YKA	**Yellowknife Ar**	**53.77**	**353**	P	P	08 28 23.6	+0.2
	0.4nm,0.7s,baz=165,slow=7.4,SNR=9.1						
ILAR	**Eielson Array**	**63.27**	**341**	P	P	08 29 29.1	-0.6
	1.0nm,0.8s,baz=152,slow=5.1,SNR=13						

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*NEIC **09** 08:25:40.4±0.9, 1755S×6920W, h150km±12km, mb4.2/3, Error ellipse: s-maj=14.5km s-min=11.5km az=94.0*
*ISCJB **09** 08:25:41.4±0.9, 1770S±006×690W±0.1, h162km±7km, mb3.9/4, Error ellipse: s-maj=16.7km s-min=8.7km az=44.9*
*IDC **09** 08:25:41.5±1.2, 1772S×6906W, h153km±8km, mb3.9/4, mb1 3.8/7, mb1mx3.5/17, mbtmp4.3/7, Error ellipse: s-maj=22.7km s-min=10.3km az=102.0*
ISC 09 08:25:42.4±0.9, 1772S±006×690W±01, h155km±7km, n13, σ0§90/17, mb3.9/4, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.65**	**31**	P	**Pn**	**08 26 14.4**	**+0.5**
	120nm,0.3s,baz=237,slow=7.0,SNR=4842						
LPAZ				S	**Sn**	**08 26 38.6**	**+0.4**
	16nm,0.3s,baz=78,slow=21,SNR=6.9						
LVC	**Limon Verde**	**4.87**	**179**	P	**Pn**	**08 26 54.7**	**+0.6**
	16nm,0.3s,baz=346,slow=8.9,SNR=108						
LVC				S	**Sn**	**08 27 49.0**	**-1.1**
	5.5nm,0.3s,baz=112,slow=19,SNR=7.7						
LVC	**Limon Verde**	**4.87**	**179**	*e*Pn	**Pn**	**08 26 54.5**	**+0.4**
LVC				*e*Sn	**Sn**	**08 27 48.5**	**-1.6**
SIV	**San Ignacio**	**7.79**	**78**	P	**Pn**	**08 27 32.3**	**-0.7**
	6.3nm,0.3s,baz=272,slow=10,SNR=91						
SIV				S	**Sn**	**08 28 59.5**	**-0.5**
	0.7nm,0.3s,baz=338,slow=19,SNR=4.2						
NNA	**Nana**	**9.47**	**306**	*e*Pn	**Pn**	**08 27 49.0**	**-6.2**
	9.2nm,0.6s						
SAML	**Samuel**	**10.40**	**34**	*e*Pn	**Pn**	**08 28 03.9**	**-3.6**
	7.6nm,1.3s						
CPUP	**Villa Florida**	**13.81**	**130**	P	**Pn**	**08 28 51.8**	**+0.3**
	0.1nm,0.3s,baz=302,slow=16,SNR=2.2						
CFAA	**Coronel Fontan**	**13.84**	**177**	P	**Pn**	**08 28 52.5**	**+0.5**
	0.1nm,0.3s,baz=350,slow=13,SNR=10						
BDFB	**Brasilia**	**20.22**	**87**	P	**P**	**08 30 06.2**	**+1.0**
	9.2nm,0.4s,baz=265,slow=8.9,SNR=23						
PLCA	**Paso Flores**	**22.97**	**183**	*e*P	**P**	**08 30 34.4**	**+1.1**
	2.3nm,0.8s,mb3.7						
DBIC	**Dimbokro**	**67.80**	**75**	P	**P**	**08 36 23.7**	**+0.2**
	9.2nm,1.0s,mb4.5,baz=236,slow=6.9,SNR=5.1						
TORD	**Torodi Ar. Bea**	**76.21**	**71**	P	**P**	**08 37 13.7**	**+0.2**
	4.4nm,0.5s,mb4.3,baz=262,slow=4.9,SNR=80						
YKA	**Yellowknife Ar**	**87.61**	**341**	P	**P**	**08 38 11.3**	**-1.7**
	0.1nm,0.4s,mb3.0,baz=134,slow=4.8,SNR=10						

IDC 09 08:51:05.8±1.8, 436S×15113E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.8/15, mbtmp3.8/5, ML2.9/1, Error ellipse: s-maj=104.8km s-min=24.5km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.38**	**218**	Pn	Pn	08 52 42.0	+1.0
	1.7nm,0.3s,baz=33,slow=7.7,SNR=5.5						
PMG				Sn	Sn	08 53 51.2	-3.3
	2.3nm,0.3s,baz=282,slow=20,SNR=3.5						
WRA	**Warramunga Arr**	**22.53**	**225**	P	P	08 56 07.1	-0.1
	1.9nm,0.8s,baz=50,slow=10,SNR=10						
ASAR	**Alice Springs**	**25.39**	**219**	P	P	08 56 34.3	-0.5
	1.6nm,0.8s,baz=54,slow=9.2,SNR=16						
FITZ	**Fitzroy Crossi**	**28.43**	**239**	P	P	08 57 03.7	+1.6
	1.5nm,0.7s,baz=58,slow=15,SNR=3.8						
ILAR	**Eielson Array**	**82.38**	**22**	P	P	09 03 29.6	0.0
	0.9nm,0.7s,baz=256,slow=4.9,SNR=6.1						
TORD	**Torodi Ar. Bea**	**148.59**	**288**	PKPbc	PKPbc	09 10 55.2	+0.5
	0.4nm,0.5s,baz=87,slow=2.1,SNR=5.1						

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*MOS **09** 09:02:19.4±0.8, 3238S×6960W, h71km, mb5.4/37, Error ellipse: s-maj=15.6km s-min=7.3km az=105.3*
*ISCJB **09** 09:02:25.2±0.2, 3250S±002×6975W±004, h126km, mb5.1/93, Error ellipse: s-maj=4.9km s-min=2.7km az=28.6*
*GUC **09** 09:02:25.3±0.7, 3244S×6984W, h120km±6km, ML5.4*
*HRVD **09** 09:02:26.5±0.3, 3285S×7004W, h126km±2km, MW5.0/66, Centroid moment Tensor Solution. LP body waves: s30,c42;Mantle waves: s66,c91; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.25±.13; Mθθ2.11±.16; Mθφ0.14±.21; Mrθ-0.53±.10; Mφφ3.14±.15; Mrφ-2.51±.13; Best double couple: M₀4.55200×10^16 NP1:ϕs22.00000°, δ70.00000°, λ-130.00000°. Principal axes: T 4.9540, Plg16.0000°, Azm140.0000°; N -0.8030, Plg37.0000°, Azm37.0000°; P -4.1500, Plg48.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **09** 09:02:26.5±0.1, 3244S×6941W, mb5.1/84 Error ellipse: s-maj=5.9km s-min=3.7km az=65.0*
NEIC Felt [III] at Mendoza and Uspallata. Felt [IV] at Santiago; [III] at Los Andes and Petorca; [II] at Valparaiso and Vina del Mar, Chile.
*BJI **09** 09:02:26.5, 3240S×6940W, h125km, mB4.9*
*IDC **09** 09:02:26.2±0.4, 3245S×6959W, h123km±2km, mb4.7/20, mb1 4.7/22, mb1mx4.7/22, mbtmp5.0/22, MS3.8/4, Ms1 3.8/4, ms1mx3.4/12, Error ellipse: s-maj=10.5km s-min=7.2km az=135.0*
ISC 09 09:02:26.8±0.2, 3255S±002×6988W±005, h128km, h128km±.5km; pP-P, n328, σ1§05/280, mb5.1/93, 19C-100D, Mendoza Province

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

JACH	**Jahuel**	**0.61**	**257**	*i*P	**Pn**	**09 02 45.1**	**-1.1**
FCH	**Farellones**	**0.85**	**204**	*i*P	**Pn**	**09 02 47.8**	**-0.3**
FCH				*i* S	**Sn**	**09 03 05.1**	**+0.9**
FCH				AML	AML	09 03 05.9	
	comp=N,47μm,0.3s						
PEL	**Peldehue**	**0.90**	**229**	*i*P	**Pn**	**09 02 47.6**	**-1.0**
PEL				*i* S	**Sn**	**09 03 04.5**	**-0.5**
PEL				AML	AML	09 03 05.3	
	comp=N,105μm,0.4s						
CLCH	**Cerro Calan**	**1.01**	**213**	*i*P	**Pn**	**09 02 49.1**	**-0.4**
CLCH				*i* S	**Sn**	**09 03 07.2**	**+0.4**
CLCH				AML	AML	09 03 11.5	
	comp=E,84μm,0.6s						
DSCH	**Colegio Aleman**	**1.02**	**214**	*i*P	**Pn**	**09 02 48.5**	**-1.2**
DSCH				*i* S	**Sn**	**09 03 07.0**	**0.0**
ROCH	**El Roble**	**1.04**	**246**	*i*P	**Pn**	**09 02 49.1**	**-0.8**
FSR	**Penalolen**	**1.07**	**210**	*i*P	**Pn**	**09 02 49.9**	**-0.3**
FSR				*i* S	**Sn**	**09 03 09.0**	**+1.1**
FSR				AML	AML	09 03 11.0	
	comp=N,34μm,0.7s						
STL	**Santa Lucia**	**1.09**	**216**	*i*P	**Pn**	**09 02 49.1**	**-1.2**
STL				*i* S	**Sn**	**09 03 07.8**	**-0.4**
SAN	**Santiago**	**1.11**	**216**	*i*P	**Pn**	**09 02 50.1**	**-0.5**
SAN				*i* S	**Sn**	**09 03 09.0**	**+0.4**
YECH	**El Yeso**	**1.12**	**189**	*i*P	**Pn**	**09 02 50.6**	**-0.1**
PCH	**Pirque**	**1.19**	**206**	*i*P	**Pn**	**09 02 51.1**	**-0.3**
RCDM	**Rinconada Maip**	**1.22**	**219**	*i*P	**Pn**	**09 02 51.1**	**-0.5**
RCDM				*i* S	**Sn**	**09 03 11.0**	**+0.5**
RCDM				AML	AML	09 03 14.1	
	comp=E,35μm,0.4s						
TACH	**Talagante**	**1.41**	**219**	*i*P	**Pn**	**09 02 53.1**	**-0.6**
CHCH	**Chadas Angostu**	**1.52**	**205**	*i*P	**Pn**	**09 02 54.7**	**-0.3**
CHNG	**Los Chungos**	**1.52**	**295**	*i*P	**Pn**	**09 02 53.4**	**-1.6**
CHNG				*i* S	**Sn**	**09 03 14.1**	**-2.3**
CHNG				AML	AML	09 03 19.8	
	comp=E,23μm,0.4s						
IHA	**Instituto Hidr**	**1.56**	**252**	*i*P	**Pn**	**09 02 53.8**	**-1.5**
IHA				*i* S	**Sn**	**09 03 15.8**	**-1.3**
CMCH	**Combarbala**	**1.67**	**325**	*i*P	**Pn**	**09 02 54.6**	**-2.0**
CMCH				*i* S	**Sn**	**09 03 16.6**	**-2.8**
CMCH				AML	AML	09 03 21.2	
	comp=E,124μm,0.7s						
CACH	**El Canelo**	**1.67**	**201**	*i*P	**Pn**	**09 02 57.0**	**+0.3**
CFAA	**Coronel Fontan**	**1.69**	**56**	P	**Pn**	**09 02 52.7**	**-4.2**
	comp=E,194nm,0.3s,baz=228,slow=12						
CFAA				S	**Sn**	**09 03 13.4**	**-6.3**
	comp=E,671nm,0.3s,baz=345,slow=19,SNR=65						
CFAA	**Coronel Fontan**	**1.69**	**56**	P	**Pn**	**09 02 52.7**	**-4.2**
CFAA				S	**Sn**	**09 03 13.4**	**-6.3**
LCCH	**Las Cruces**	**1.69**	**236**	*e*P	**Pn**	**09 02 56.1**	**-0.8**
CICH	**Cipreses**	**1.82**	**194**	*i*P	**Pn**	**09 02 58.7**	**+0.2**
LNV	**Longovilo**	**1.90**	**222**	*i*P	**Pn**	**09 02 58.0**	**-1.4**
OVCH	**Ovalle**	**2.24**	**329**	*e*P	**Pn**	**09 03 01.0**	**-2.6**
OVCH				*i* S	**Sn**	**09 03 30.1**	**-1.7**
OVCH				AML	AML	09 03 32.1	
	comp=E,21μm,1.0s						
SFDO	**San Fernando**	**2.27**	**204**	*i*P	**Pn**	**09 03 03.1**	**-0.8**
TLL	**Tololo Astrono**	**2.50**	**341**	*i*P	**Pn**	**09 03 05.2**	**-1.8**
TLL				*i* S	**Sn**	**09 03 34.8**	**-3.0**
TLL				AML	AML	09 03 42.5	
	comp=N,34μm,0.5s						
LSCH	**La Serena**	**2.88**	**336**	*i*P	Px	09 03 36.0	
LSCH				*i* S	Sx	09 04 09.4	
LSCH				AML	AML	09 04 11.8	
	comp=N,23μm,0.6s						
TALC	**Talca**	**3.19**	**207**	*e*P	**Pn**	**09 03 13.6**	**-2.2**
LNCH	**Linares**	**3.58**	**203**	*i*P	**Pn**	**09 03 19.2**	**-1.7**
CNCO	**Chanco**	**3.86**	**214**	*e*P	**Pn**	**09 03 22.2**	**-2.4**
VACH	**Vallenar**	**4.03**	**349**	*i*P	**Pn**	**09 03 24.9**	**-2.0**
VACH				*i* S	**Sn**	**09 04 09.2**	**-4.3**
CDCH	**Caldera**	**5.52**	**351**	*e*P	**Pn**	**09 03 41.9**	**-4.9**
CRCH	**Chaqaral**	**6.22**	**354**	*i*P	**Pn**	**09 03 51.5**	**-4.7**
VLCH	**Valdivia**	**7.73**	**200**	*e*P	**Pn**	**09 04 11.8**	**-4.8**
CPN1	**Cerro Paranal**	**7.91**	**357**	*e*P	**Pn**	**09 04 12.4**	**-6.6**
PLCA	**Paso Flores**	**8.18**	**184**	*e*P	**Pn**	**09 04 20.5**	**-2.2**
PLCA				pmax	pmax		
	comp=Z,45nm,0.6s						
PLCA	**Paso Flores**	**8.18**	**184**	*e*Pn	**Pn**	**09 04 20.5**	**-2.2**
	comp=Z,45nm,0.6s						
TRQA	**Tornquist**	**8.48**	**133**	*e*Pn	**Pn**	**09 04 22.9**	**-3.8**
	comp=Z,185nm,0.6s						
LVC	**Limon Verde**	**9.94**	**5**	P	**Pn**	**09 04 39.3**	**-7.0**
	comp=Z,5.9nm,0.3s,baz=158,slow=9.1,SNR=24						
LVC				S	**Sn**	**09 06 25.0**	**-11**
	comp=Z,7.9nm,0.3s,baz=249,slow=17,SNR=2.0						
LVC	**Limon Verde**	**9.94**	**5**	*e*Pn	**Pn**	**09 04 39.5**	**-6.8**
	comp=Z,61nm,0.6s						
CPUP	**Villa Florida**	**12.57**	**64**	P	**Pn**	**09 05 13.0**	**-8.1**
	comp=Z,3.3nm,0.3s,baz=223,slow=12,SNR=28						
CPUP				LR	LR	09 10 42.8	
	comp=Z,150nm,20.1s,baz=225,slow=40						
CPUP	**Villa Florida**	**12.57**	**64**	*e*P	**Pn**	**09 05 13.2**	**-7.9**
CPUP				pmax	pmax		
	comp=Z,2.0nm,1.3s						
CPUP	**Villa Florida**	**12.57**	**64**	*e*Pn	**Pn**	**09 05 13.2**	**-7.9**
	comp=Z,1.7nm,1.3s						
LPAZ	**La Paz**	**16.27**	**6**	P	**Pn**	**09 06 07.2**	**-0.7**
	comp=Z,4.4nm,0.3s,baz=176,slow=9.9,SNR=115						
LPAZ	**La Paz**	**16.27**	**6**	*e*P	**Pn**	**09 06 07.0**	**-0.9**
LPAZ				pmax	pmax		
	comp=Z,45nm,0.7s						
LPAZ	**La Paz**	**16.27**	**6**	*e*P	**Pn**	**09 06 07.0**	**-0.9**
	comp=Z,45nm,0.7s						
SIV	**San Ignacio**	**18.32**	**28**	P	**P**	**09 06 29.0**	**-2.1**
	comp=Z,2.7nm,0.3s,baz=214,slow=12,SNR=128						
EFI	**East Falkland**	**20.98**	**159**	P	**P**	**09 06 57.3**	**-2.5**
	comp=Z,1μm,0.6s,SNR=21						
EFI	**East Falkland**	**20.98**	**159**	*i*P	**P**	**09 06 57.6**	**-2.2**
EFI	**East Falkland**	**20.98**	**159**	*e*P	**P**	**09 06 57.7**	**-2.1**
	comp=Z,134nm,0.7s						
NNA	**Nana**	**21.44**	**341**	*e*P	**P**	**09 07 04.7**	**0.0**
	comp=Z,62nm,0.8s,mb5.0						
USHA	**Ushuaia**	**22.30**	**178**	P	**P**	**09 07 14.5**	**+0.8**
	comp=Z,329nm,0.8s,mb5.7,baz=339,slow=7.0,SNR=74						
BDFB	**Brasilia**	**26.03**	**55**	P	**P**	**09 07 45.7**	**-2.2**
	comp=Z,10nm,0.7s,mb4.4,baz=232,slow=8.4,SNR=15						
BDFB				LR	LR	09 18 48.7	
	comp=Z,203nm,18.2s,baz=130,slow=38						
CAM4	**Nova Friburgo**	**26.21**	**74**	(P)	**P**	**09 07 48.1**	**-1.5**
CAM4				*i*		09 07 51.0	
CAM4				*i*	pP	09 08 13.1	-3.7
PAYG	**Puerto Ayora**	**37.08**	**325**	*e*P	**P**	**09 09 26.6**	**+2.0**
	comp=Z,23nm,0.8s,mb5.2						
ROSC	**El Rosal**	**37.44**	**353**	P	**P**	**09 09 28.8**	**+1.2**
	comp=Z,16nm,0.5s,mb5.2,baz=293,slow=2.2,SNR=10						
SDV	**Santo Domingo**	**41.21**	**359**	P	**P**	**09 09 57.7**	**-1.2**
	comp=Z,26nm,0.7s,mb5.2,baz=207,slow=7.2,SNR=27						
SDV				*e*pP	pP	09 10 25.2	-2.3
	comp=Z,16nm,0.8s,baz=309,slow=8.9,SNR=4.2						
SDV	**Santo Domingo**	**41.21**	**359**	*e*P	**P**	**09 09 57.5**	**-1.3**
	comp=Z,32nm,0.9s,mb5.1						
SDV				*e*pP	pP	09 10 28.0	+0.5
JTS	**JuntasAbangare**	**44.97**	**339**	P	**P**	**09 10 30.5**	**+1.4**
	comp=Z,7.2nm,0.7s,mb4.5,baz=131,slow=2.9,SNR=9.8						
JTS				*e*pP	pP	09 10 58.5	+0.3
	comp=Z,4.4nm,0.8s,baz=341,slow=7.7,SNR=1.8						
JTS	**JuntasAbangare**	**44.97**	**339**	*e*P	**P**	**09 10 30.2**	**+1.1**
JTS				*e**PP	pP	09 10 59.2	+1.1
JTS				pmax	pmax		
	comp=Z,28nm,1.2s						
JTS	**JuntasAbangare**	**44.97**	**339**	*e*P	**P**	**09 10 30.1**	**+1.1**
	comp=Z,28nm,1.2s,mb4.9						
JTS				*e*pP	pP	09 10 59.2	+1.0
JTS				*es*P	sP	09 11 13.8	+1.3
VNA3	**Neumayer Olymp**	**50.03**	**159**	⇑*i*P	**P**	**09 11 08.3**	**+0.1**
VNA3				*e*		09 11 10.5	
VNA3				*e*		09 11 12.8	
VNA3				*e*		09 11 15.2	
VNA3				*e*		09 11 16.6	
VNA3				*e*		09 11 19.3	
VNA3				*e*		09 11 27.5	
VNA3				*e*	pP	09 11 38.0	+0.2
VNA3				*e*		09 11 51.4	
VNA3				*e*		09 12 01.3	
VNA3				*e*		09 12 10.5	
VNA3				*e*		09 12 16.4	
VNA3				*e*		09 12 25.9	
VNA3				*e*		09 12 31.0	
VNA3				*e*		09 12 34.4	
VNA3				*e*		09 12 42.4	
VNA3				*e*		09 13 05.4	
VNA3				*e*		09 13 14.3	
VNA3				*e*		09 13 36.7	
VNA3				*e*		09 13 43.6	
VNA3				*e*		09 13 51.3	
VNA3				*e*		09 14 14.2	
VNA3				*e*		09 14 38.7	
VNA3				*e*		09 16 09.5	
VNA3				*e*		09 16 13.5	
VNA3				*e*		09 16 22.5	
VNA3				*e*		09 19 09.9	
VNA3				*e*		09 19 48.7	
VNA3				*e*		09 22 30.2	
VNA3				*e*		09 22 40.0	
VNA1	**Neumayer--Stat**	**50.31**	**158**	⇑*i*P	**P**	**09 11 10.7**	**+0.4**
VNA1				*e*		09 11 12.9	
VNA1				*e*		09 11 15.3	
VNA1				*e*		09 11 18.2	
VNA1				*e*		09 11 19.5	
VNA1				*e*		09 11 21.9	
VNA1				*e*		09 11 29.5	
VNA1				*e*	pP	09 11 40.6	+0.7
VNA1				*e*		09 11 53.6	
VNA1				*e*		09 12 03.3	
VNA1				*e*		09 12 10.7	
VNA1				*e*		09 12 16.4	
VNA1				*e*		09 12 27.1	
VNA1				*e*		09 12 32.1	
VNA1				*e*		09 12 36.1	
VNA1				*e*		09 12 44.0	
VNA1				*e*		09 13 05.3	
VNA1				*e*		09 13 13.2	
VNA1				*e*		09 16 11.1	
VNA1				*e*		09 16 14.4	
VNA1				*e*		09 16 23.0	
VNA1				*e*		09 19 10.0	
VNA1				*e*		09 19 52.8	
VNA1				*e*		09 19 59.6	
VNA1				*e*		09 22 30.3	
VNA1				*e*		09 22 38.9	
VNA1				*e*		09 33 36.4	
VNA1				*e*		09 33 52.0	
SJG	**San Juan**	**50.50**	**5**	P	**P**	**09 11 10.2**	**-1.6**
	comp=Z,62nm,0.8s,mb5.6,baz=174,slow=2.8,SNR=18						
SJG				*e*pP	pP	09 11 39.4	-1.9
	comp=Z,19nm,0.5s,baz=183,slow=6.5,SNR=2.0						
SJG	**San Juan**	**50.50**	**5**	*e*P	**P**	**09 11 09.6**	**-2.2**
SJG				pmax	pmax		
	comp=Z,50nm,0.8s						
SJG	**San Juan**	**50.50**	**5**	*e*P	**P**	**09 11 09.6**	**-2.1**
	comp=Z,50nm,0.8s,mb5.5						
SJG				*e*pP	pP	09 11 41.5	+0.2
SJG				*es*P	sP	09 11 56.5	+1.0
VNA2	**Neumayer--Watz**	**50.66**	**158**	⇑*i*P	**P**	**09 11 13.1**	**+0.2**
VNA2				*e*		09 11 15.6	
VNA2				*e*		09 11 17.4	
VNA2				*e*		09 11 20.0	
VNA2				*e*		09 11 21.5	
VNA2				*e*		09 11 24.0	
VNA2				*e*		09 11 32.2	
VNA2				*e*	pP	09 11 42.9	+0.3
VNA2				*e*		09 11 54.0	
VNA2				*e*		09 12 03.8	
VNA2				*e*		09 12 12.3	
VNA2				*e*		09 12 18.8	
VNA2				*e*		09 12 28.3	
VNA2				*e*		09 12 33.8	
VNA2				*e*		09 12 36.9	
VNA2				*e*		09 12 48.5	
VNA2				*e*		09 13 07.2	
VNA2				*e*		09 13 16.9	
VNA2				*e*		09 13 40.5	
VNA2				*e*		09 13 47.3	
VNA2				*e*		09 13 54.6	
VNA2				*e*		09 14 17.8	
VNA2				*e*		09 14 43.8	
VNA2				*e*		09 16 12.5	
VNA2				*e*		09 16 15.6	
VNA2				*e*		09 16 24.0	
VNA2				*e*		09 19 11.0	
VNA2				*e*		09 19 49.2	
VNA2				*e*		09 19 59.9	
VNA2				*e*		09 22 28.7	
VNA2				*e*		09 22 37.0	
VNA2				*e*		09 33 35.7	
VNA2				*e*		09 33 52.6	
VNA2				*e*		09 36 53.5	
VNA2				*e*		09 37 09.8	
SNAA	**Sanae**	**52.25**	**158**	P	**P**	**09 11 24.9**	**+0.1**
	comp=Z,7.9nm,0.8s,mb4.8,baz=284,slow=7.0,SNR=50						
SNAA				*e*pP	pP	09 11 53.7	-0.9
	comp=Z,18nm,1.1s,baz=256,slow=8.9,SNR=3.5						
SNAA	**Sanae**	**52.25**	**158**	⇑*i*P	**P**	**09 11 24.3**	**-0.5**
SNAA				*e*		09 11 29.4	
SNAA				*e*		09 11 31.9	
SNAA				*e*		09 11 33.1	
SNAA				*e*		09 11 35.4	
SNAA				*e*		09 11 39.8	
SNAA				*e*		09 11 43.6	
SNAA				*e*	pP	09 11 54.4	-0.2
SNAA				*e*		09 12 09.2	
SNAA				*e*		09 12 17.5	
SNAA				*e*		09 12 24.6	
SNAA				*e*		09 12 33.9	
SNAA				*e*		09 12 39.1	
SNAA				*e*		09 12 43.1	
SNAA				*e*		09 12 50.2	
SNAA				*e*		09 13 12.9	
SNAA				*e*		09 13 22.0	
SNAA				*e*		09 16 17.6	
SNAA				*e*		09 16 30.6	
SNAA	**Sanae**	**52.25**	**158**	P	**P**	**09 11 24.9**	**+0.1**
SNAA				*PP	pP	09 11 53.7	-0.9
SNAA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SNAA				pmax	pmax		
	comp=Z,18nm,1.1s						
SNAA	**Sanae**	**52.25**	**158**	*e*P	**P**	**09 11 24.8**	**0.0**
	comp=Z,48nm,0.6s,mb5.7						
SNAA				*e*pP	pP	09 11 53.8	-0.8
QSPA	**South Pole Qui**	**57.68**	**180**	*e*P	**P**	**09 12 05.1**	**+1.2**
	comp=Z,13nm,0.6s,mb5.1						
VNDA	**Vanda**	**65.87**	**191**	P	**P**	**09 12 59.8**	**+1.1**
	comp=Z,1.7nm,0.6s,mb4.0,baz=121,slow=5.5,SNR=17						
VNDA	**Vanda**	**65.87**	**191**	*e*P	**P**	**09 13 00.3**	**+1.6**
VNDA				*e*PP	pP	09 13 29.5	-0.2
VNDA				pmax	pmax		
	comp=Z,16nm,1.4s						
VNDA	**Vanda**	**65.87**	**191**	*e*P	**P**	**09 13 00.3**	**+1.6**
	comp=Z,16nm,1.4s,mb4.7						
VNDA				*e*pP	pP	09 13 29.4	-0.2
COW	**Cow Castle Cre**	**66.37**	**350**	*e*P	**P**	**09 13 01.4**	**-0.4**
COW

CPCT esP sP 09 14 02.1 -1.5
SWET Sewanee 69.07 346↓ *e*P **P** **09 13 18.4 -0.4**
SWET epP pP 09 13 49.5 -0.6
SWET esP sP 09 14 02.4 -1.5
OXF Oxford 69.19 343↓ *e*P **P** **09 13 18.7 -0.8**
OXF *e**PP pP 09 13 49.8 -1.0
OXF pmax pmax
comp=Z,111nm,1.1s,mb5.6
OXF Oxford 69.19 343↓ *e*P **P** **09 13 18.7 -0.8**
comp=Z,111nm,1.1s,mb5.6
OXF epP pP 09 13 49.8 -1.1
OXF esP sP 09 14 03.0 -1.6
PLAL Pickwick Lake 69.31 344 *e*P **P** **09 13 19.1 -1.2**
comp=Z,36nm,1.0s,mb5.2
PLAL epP pP 09 13 51.6 -0.1
PLAL esP sP 09 14 03.8 -1.6
LTX Lajitas 69.39 329↓ *e*P **P** **09 13 21.5 +0.7**
LTX *e* 09 13 44.0
LTX pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
LTX Lajitas 69.39 329↓ *e*P **P** **09 13 21.5 +0.7**
comp=Z,8.4nm,0.6s,mb4.8
LTX *e*PcP PcP 09 13 44.0 +0.6
LTX epP pP 09 13 53.5 +1.4
LTX esP sP 09 14 06.0 +0.2
TZTN Tazewell 69.91 348 *e*P **P** **09 13 22.6 -1.4**
TZTN epP pP 09 13 54.6 -0.8
TZTN esP sP 09 14 05.2 -3.9
ELN Prospectdale 70.16 351 *e*P **P** **09 13 25.1 -0.4**
ELN epP pP 09 13 57.1 +0.3
ELN esP sP 09 14 09.1 -1.5
MIAR Mount Ida 70.36 339↓ *e*P **P** **09 13 26.5 -0.2**
MIAR pmax pmax
comp=Z,34nm,1.3s,mb5.0
MIAR Mount Ida 70.36 339↓ *e*P **P** **09 13 26.4 -0.2**
comp=Z,34nm,1.3s,mb5.0
WVT Waverly 70.36 345↓ *e*P **P** **09 13 26.0 -0.7**
WVT *e**PP pP 09 13 57.7 -0.4
WVT pmax pmax
comp=Z,113nm,0.8s,mb5.8
WVT Waverly 70.36 345↓ *e*P **P** **09 13 26.0 -0.7**
comp=Z,113nm,0.8s,mb5.8
WVT epP pP 09 13 57.6 -0.4
WVT esP sP 09 14 10.1 -1.8
HBAR Harrisburg 70.49 342 P **P** **09 13 26.9 -0.6**
FWV Forest Hill 70.51 351 *e*P **P** **09 13 26.8 -0.8**
FWV epP pP 09 13 59.0 0.0
PARMO Parma 71.32 343↓ *e*P **P** **09 13 32.5 0.0**
PARMO epP pP 09 14 03.1 -0.8
VAH Vaihoa 71.77 263 *e*P **P** **09 13 37.4 +2.2**
comp=Z,53nm,0.9s,mb5.4
TVO Taravao 71.88 260 *e*P **P** **09 13 38.5 +2.6**
comp=Z,186nm,1.1s,mb5.8
CLNB Carlsbad 72.02 330 *e*P **P** **09 13 37.5 +0.8**
CLNB epP pP 09 14 09.0 +0.8
WCI Wyandotte Cave 72.06 346↓ *e*P **P** **09 13 35.5 -1.4**
WCI *e**PP pP 09 14 06.0 -2.4
WCI pmax pmax
comp=Z,29nm,1.0s,mb5.1
WCI Wyandotte Cave 72.06 346↓ *e*P **P** **09 13 35.5 -1.4**
comp=Z,29nm,1.0s,mb5.1
WCI epP pP 09 14 06.0 -2.5
USIN University of 72.08 345 *e*P **P** **09 13 35.7 -1.3**
USIN epP pP 09 14 08.2 -0.4
USIN esP sP 09 14 20.2 -2.2
GDL2 Guadalupe Moun 72.17 330 *e*P **P** **09 13 38.5 +0.9**
GDL2 epP pP 09 14 09.8 +0.7
MNTX Cornudas Mount 72.17 329↓ *e*P **P** **09 13 37.1 -0.5**
comp=Z,22nm,0.6s,mb5.2
MNTX epP pP 09 14 08.6 -0.6
SIUC Southern Illin 72.19 344 *e*P **P** **09 13 36.8 -0.9**
comp=Z,42nm,1.1s,mb5.2
SIUC epP pP 09 14 08.4 -0.8
SIUC esP sP 09 14 21.4 -1.6
PAE Paea 72.21 260 *e*P **P** **09 13 40.3 +2.5**
comp=Z,71nm,0.9s,mb5.5
WMOK Wichita Mounta 72.23 335↓ *e*P **P** **09 13 37.2 -0.7**
WMOK *i* 09 13 56.2
WMOK pmax pmax
comp=Z,12nm,0.8s,mb4.8
WMOK Wichita Mounta 72.23 335↓ *e*P **P** **09 13 37.2 -0.7**
comp=Z,12nm,0.8s,mb4.8
WMOK *i* PcP PcP 09 13 56.2 +0.8
WMOK epP pP 09 14 10.3 +0.8
WMOK esP sP 09 14 22.1 -1.1
PPT Papeete 72.25 260 *e*P **P** **09 13 40.6 +2.5**
comp=Z,95nm,1.2s,mb5.5
PPT Papeete 72.25 260 P **P** **09 13 40.6 +2.5**
comp=Z,70nm,0.7s,mb5.6,baz=86,slow=9.7,SNR=9.5
MCWV Mont Chateau 72.44 352 *e*P **P** **09 13 38.4 -0.8**
comp=Z,28nm,1.0s,mb5.0
MCWV *e*PcP PcP 09 13 56.0 -0.3
MCWV epP pP 09 14 09.8 -0.9
MCWV esP sP 09 14 22.8 -1.7
CPRX Cap Rock 72.67 331 *e*P **P** **09 13 41.1 +0.5**
CPRX epP pP 09 14 13.2 +1.1
CPRX esP sP 09 14 26.8 +0.9
FVM French Village 72.74 343↓ *e*P **P** **09 13 40.3 -0.7**
FVM *e**PP pP 09 14 11.8 -0.7
FVM pmax pmax
comp=Z,78nm,1.2s,mb5.4
FVM French Village 72.74 343↓ *e*P **P** **09 13 40.2 -0.7**
comp=Z,78nm,1.2s,mb5.4
FVM epP pP 09 14 11.8 -0.7
FVM esP sP 09 14 24.7 -1.5
DBIC Dimbokro 73.00 70 P **P** **09 13 41.8 -0.7**
comp=Z,7.9nm,0.6s,mb4.7,baz=207,slow=8.7,SNR=21
DBIC pP pP 09 14 11.2 -2.9
comp=Z,14nm,0.7s,baz=208,slow=5.5,SNR=5.1
DBIC LR LR 09 41 37.0
comp=Z,60nm,18.7s,baz=203,slow=32
DBIC Dimbokro 73.00 70 P **P** **09 13 41.8 -0.7**
DBIC *PP pP 09 14 11.2 -2.9
DBIC pmax pmax
comp=Z,8.0nm,0.6s
DBIC pmax pmax
comp=Z,14nm,0.7s
DBIC Dimbokro 73.00 70 *e*P **P** **09 13 41.0 -1.5**
comp=Z,8.9nm,0.6s,mb4.8
DBIC epP pP 09 14 11.2 -2.9
CCM Cathedral Cave 73.01 343↓ *e*P **P** **09 13 42.1 -0.5**
CCM *e* 09 13 58.6
CCM *e**PP pP 09 14 13.6 -0.6
CCM pmax pmax
comp=Z,52nm,0.9s,mb5.4
CCM Cathedral Cave 73.01 343↓ *e*P **P** **09 13 42.0 -0.5**
comp=Z,52nm,0.9s,mb5.4
CCM *e*PcP PcP 09 13 58.6 -0.2
CCM epP pP 09 14 13.6 -0.6
CCM esP sP 09 14 26.3 -1.5
BLO Bloomington 73.01 347↓ *e*P **P** **09 13 41.2 -1.4**
BLO *e**PP pP 09 14 12.3 -1.9
BLO pmax pmax
comp=Z,28nm,0.8s,mb5.1
BLO Bloomington 73.01 347↓ *e*P **P** **09 13 41.2 -1.3**
comp=Z,28nm,0.8s,mb5.2
BLO epP pP 09 14 12.3 -1.9
SSPA Standing Stone 73.20 354↓ *e*P **P** **09 13 43.2 -0.4**
comp=Z,19nm,1.1s,mb4.8
SLM Saint Louis 73.31 343 *e*P **P** **09 13 43.2 -1.1**
SLM *e**PP pP 09 14 15.1 -0.8
SLM Saint Louis 73.31 343 *e*P **P** **09 13 43.2 -1.1**
SLM epP pP 09 14 15.1 -0.9
SLM esP sP 09 14 27.9 -1.7
ACSO Alum Creek Sta 73.42 350↓ *e*P **P** **09 13 44.0 -1.0**
comp=Z,40nm,0.8s,mb5.3
ACSO epP pP 09 14 14.6 -2.0
ACSO esP sP 09 14 28.4 -1.9
AMTX Amarillo 73.42 333↓ *e*P **P** **09 13 44.9 -0.1**
comp=Z,36nm,1.0s,mb5.2
AMTX epP pP 09 14 17.1 +0.5
SUR Sutherland 73.94 118 *e*P **P** **09 13 48.9 +0.9**
comp=Z,10nm,0.6s,mb4.7
SUR epP pP 09 14 18.9 -0.8
MAW Mawson 74.05 163 P **P** **09 13 48.1 -0.6**
comp=Z,5.7nm,0.8s,mb4.4,baz=226,slow=10,SNR=9.6
MAW LR LR 09 45 26.6
comp=Z,189nm,21.8s,baz=74,slow=35
MAW Mawson 74.05 163 *e*P **P** **09 13 48.9 +0.3**
MAW *e* 09 14 01.5
MAW pmax pmax
comp=Z,20nm,0.7s
MAW Mawson 74.05 163 *e*P **P** **09 13 48.9 +0.3**
comp=Z,20nm,0.7s,mb5.0
MAW *e*PcP PcP 09 14 01.5 -1.7
BNM Barren Site 74.81 329 *e*P **P** **09 13 54.2 +1.2**
BNM epP pP 09 14 26.1 +1.4
ERPA Erie 74.88 352 *e*P **P** **09 13 52.8 -0.6**
comp=Z,56nm,1.0s,mb5.2
ERPA epP pP 09 14 23.8 -1.4
ERPA esP sP 09 14 37.3 -1.6
LPM Los Pinos Moun 74.95 329 *e*P **P** **09 13 55.1 +1.2**
LPM epP pP 09 14 26.8 +1.2
LENM Lemitar 74.97 329 *e*P **P** **09 13 54.1 +0.2**
TUC Tucson 75.18 325 *e*P **P** **09 13 55.4 +0.2**
TUC pmax pmax
comp=Z,15nm,1.4s,mb4.5
TUC Tucson 75.18 325 *e*P **P** **09 13 55.4 +0.2**
comp=Z,15nm,1.4s,mb4.5
TUC epP pP 09 14 28.3 +1.3
TUC esP sP 09 14 42.1 +1.5
LAZ Ladron 75.25 329 *e*P **P** **09 13 56.8 +1.3**
LAZ epP pP 09 14 29.1 +1.8
ANMO Albuquerque 75.42 330 *e*P **P** **09 13 57.3 +0.8**
ANMO pmax pmax
comp=Z,23nm,0.9s
ANMO Albuquerque 75.42 330 *e*P **P** **09 13 57.3 +0.8**
comp=Z,23nm,0.9s,mb4.9
ANMO epP pP 09 14 29.4 +1.1
KSU1 Kansas State U 75.49 339↓ *e*P **P** **09 13 56.1 -0.8**
KSU1 epP pP 09 14 27.9 -0.8
FFD Franklin Falls 75.67 359 *e*P **P** **09 13 58.3 +0.3**
comp=Z,92nm,1.1s,mb5.4
FFD epP pP 09 14 29.6 -0.2
HNH Hanover 75.92 358 *e*P **P** **09 13 59.8 +0.4**
comp=Z,2.8nm,1.0s,mb4.0
HNH epP pP 09 14 32.0 +0.8
CBKS Cedar Bluff 76.23 336↓ *e*P **P** **09 14 01.5 +0.4**
CBKS *e**PP pP 09 14 33.0 0.0
CBKS pmax pmax
comp=Z,103nm,1.2s,mb5.4
CBKS Cedar Bluff 76.23 336↓ *e*P **P** **09 14 01.5 +0.3**
comp=Z,103nm,1.2s,mb5.4
CBKS epP pP 09 14 33.0 0.0
MIV Mineville/With 76.33 357 *e*P **P** **09 14 00.7 -1.0**
MIV epP pP 09 14 33.1 -0.4
LONY Lake Ozonia 76.92 357 *e*P **P** **09 14 04.7 -0.3**
LONY epP pP 09 14 37.0 +0.1
FRNY Flat Rock 77.09 357↓ *e*P **P** **09 14 05.3 -0.6**
FRNY epP pP 09 14 36.9 -1.0
MSNY Massena 77.31 356 *e*P **P** **09 14 07.3 +0.1**
MSNY epP pP 09 14 39.2 +0.1
GLA Glamis 77.80 323↓ *i*P **P** **09 14 11.2 +1.3**
GLA *e**PP pP 09 14 43.3 +1.4
TSUM Tsumeb 77.86 105 P **P** **09 14 10.3 0.0**
comp=Z,11nm,1.4s,mb4.4
TSUM epP pP 09 14 40.0 -2.2
WUAZ Wupatki 78.09 326↓ *e*P **P** **09 14 12.8 +1.3**
comp=Z,34nm,1.0s,mb5.0
MVCO Mesa Verde 78.20 329↓ *e*P **P** **09 14 13.3 +1.2**
MVCO epP pP 09 14 45.5 +1.3
PV01 Paradox Valley 79.01 330 *e*P **P** **09 14 17.9 +1.3**
PV01 epP pP 09 14 49.4 +0.8
PV01 esP sP 09 15 04.9 +2.7
PFO Pinyon Flat Ob 79.08 322 P **P** **09 14 18.0 +1.1**
comp=Z,163nm,1.2s,mb5.7,SNR=11
PFO Pinyon Flat Ob 79.08 322↓ *e*P **P** **09 14 18.8 +1.9**
PFO *e**PP pP 09 14 50.8 +1.8
PFO pmax pmax
comp=Z,32nm,1.0s,mb5.1
PFO Pinyon Flat Ob 79.08 322↓ *e*P **P** **09 14 18.8 +1.8**
comp=Z,32nm,1.0s,mb5.1
PFO epP pP 09 14 50.8 +1.8
ISCO Idaho Springs 79.23 333↓ *e*P **P** **09 14 18.7 +0.9**
ISCO *e**PP pP 09 14 50.1 +0.3
ISCO pmax pmax
comp=Z,22nm,0.9s,mb5.0
ISCO Idaho Springs 79.23 333↓ *e*P **P** **09 14 18.7 +0.9**
comp=Z,22nm,0.9s,mb5.0
ISCO epP pP 09 14 50.1 +0.3
SMCO Snowmass 79.24 332 *e*P **P** **09 14 19.5 +1.7**
comp=Z,57nm,1.1s,mb5.3
SMCO epP pP 09 14 51.0 +1.2
PV10 Paradox Valley 79.42 330 *e*P **P** **09 14 19.3 +0.5**
PV10 epP pP 09 14 51.5 +0.7
NEN Nelson 79.86 324 *e*P **P** **09 14 22.0 +0.8**
NEN epP pP 09 14 54.1 +0.8
PHWY Pilot Hill 80.47 334↓ *e*P **P** **09 14 25.1 +0.6**
PHWY epP pP 09 14 57.1 +0.5
GSC Goldstone 80.58 323↑ *e*P **P** **09 14 26.7 +1.7**
GSC *e**PP pP 09 14 58.5 +1.4
SRU San Rafael 80.67 329↓ *e*P **P** **09 14 26.2 +0.7**
SRU pmax pmax
comp=Z,30nm,0.8s,mb5.2
SRU San Rafael 80.67 329↓ *e*P **P** **09 14 26.2 +0.7**
comp=Z,30nm,0.8s,mb5.2
CCUT Cedar City 80.67 326↓ *e*P **P** **09 14 27.6 +2.1**
CCUT epP pP 09 14 59.5 +1.9
CCUT esP sP 09 15 13.6 +2.3
CCUT ePP PP 09 17 34.1 +3.2
ARUT Antelope Range 80.90 326 *e*P **P** **09 14 28.3 +1.6**
ARUT *e**PP pP 09 15 00.6 +1.7
MSU Marysvale 80.91 328 *e*P **P** **09 14 28.1 +1.3**
MSU *e**PP pP 09 15 00.1 +1.2
MSU Marysvale 80.91 328 *e*P **P** **09 14 28.1 +1.3**
MSU epP pP 09 15 00.1 +1.1
MSU esP sP 09 15 14.2 +1.7
TMUT Trail Mountain 81.12 329 *e*P **P** **09 14 28.8 +0.9**
LBTB Lobatse 81.26 114 *e*P **P** **09 14 28.2 -0.4**
LBTB *e**PP pP 09 14 58.5 -2.3
LBTB pmax pmax
comp=Z,8.0nm,0.5s,mb4.8
LBTB Lobatse 81.26 114 *e*P **P** **09 14 28.2 -0.4**
comp=Z,8.2nm,0.5s,mb4.8
LBTB epP pP 09 14 58.5 -2.3
TPNV Topopah Spring 81.58 324 *e*P **P** **09 14 31.8 +1.5**
TPNV pmax pmax
comp=Z,25nm,1.0s,mb5.0
TPNV Topopah Spring 81.58 324 *e*P **P** **09 14 31.8 +1.5**
comp=Z,25nm,1.0s,mb5.0
ISA Isabella 81.72 322↓ *e*P **P** **09 14 32.7 +1.7**
ISA *e**PP pP 09 15 03.6 +0.3
ISA pmax pmax
comp=Z,20nm,0.7s,mb5.1
ISA Isabella 81.72 322↓ *e*P **P** **09 14 32.7 +1.7**
comp=Z,20nm,0.7s,mb5.0
ISA epP pP 09 15 03.6 +0.4
DAC Darwin (Calif) 81.73 323↓ *e*P **P** **09 14 32.4 +1.3**
DAC *e**PP pP 09 15 04.7 +1.3
DAC pmax pmax
comp=Z,32nm,0.9s,mb5.2
DAC Darwin (Calif) 81.73 323↓ *e*P **P** **09 14 32.4 +1.3**
comp=Z,32nm,0.9s,mb5.2
DAC epP pP 09 15 04.7 +1.3
MPU Maple Canyon 81.90 329↓ *e*P **P** **09 14 32.6 +0.6**
comp=Z,22nm,1.0s,mb5.0
MPU epP pP 09 15 04.2 0.0
TORD Torodi Ar. Bea 82.01 69 P **P** **09 14 31.9 -0.6**
comp=Z,8.1nm,0.6s,mb4.8,baz=284,slow=6.5,SNR=96
TORD pP pP 09 15 02.4 -2.4
comp=Z,58nm,0.8s,baz=250,slow=4.9,SNR=32
DAU Daniels Canyon 82.06 329 *e*P **P** **09 14 33.6 +0.8**
DAU epP pP 09 15 06.4 +1.3
DAU esP sP 09 15 20.1 +1.5
RSSD Black Hills 82.42 336↓ *e*P **P** **09 14 35.1 +0.4**
RSSD *e**PP pP 09 15 06.6 -0.4
RSSD pmax pmax
comp=Z,42nm,0.9s,mb5.3
RSSD Black Hills 82.42 336↓ *e*P **P** **09 14 35.1 +0.4**
comp=Z,42nm,0.9s,mb5.3
RSSD epP pP 09 15 06.6 -0.4
EYMN Ely 82.44 346↓ *e*P **P** **09 14 33.6 -1.2**
comp=Z,34nm,1.1s,mb5.1
EYMN epP pP 09 15 05.2 -1.9
EYMN esP sP 09 15 18.3 -2.4
CTU Camp Tracy 82.50 329 *e*P **P** **09 14 35.3 +0.2**
comp=Z,10nm,0.8s,mb4.7
DUG Dugway 82.56 328 *e*P **P** **09 14 36.1 +0.6**
DUG *e**PP pP 09 15 08.2 +0.5
DUG pmax pmax
comp=Z,15nm,0.8s,mb4.9
DUG Dugway 82.56 328 *e*P **P** **09 14 36.1 +0.7**
comp=Z,15nm,0.8s,mb4.9
DUG epP pP 09 15 08.2 +0.5
PTRM Twissleman Ran 82.62 321 *e*P **P** **09 14 35.6 -0.1**
TCUT Toone Canyon 82.71 330↓ *e*P **P** **09 14 36.7 +0.5**
TPH Tonopah 82.94 324↓ *e*P **P** **09 14 38.7 +1.3**
TPH pmax pmax
comp=Z,59nm,1.3s,mb5.3
TPH Tonopah 82.94 324↓ *e*P **P** **09 14 38.7 +1.3**
comp=Z,59nm,1.3s,mb5.3
HWUT Hardware Ranch 83.18 330↓ *e*P **P** **09 14 38.9 +0.3**
comp=Z,24nm,0.8s,mb5.1
BGU Big Grassy Mou 83.25 329 *e*P **P** **09 14 45.9 +6.9**
PDAR Pinedale Array 83.31 332 P **P** **09 14 39.1 -0.2**
comp=Z,9.4nm,0.7s,mb4.7,baz=133,slow=6.2,SNR=67
PDAR pP pP 09 15 10.8 -0.9
comp=Z,1.8nm,0.6s,baz=120,slow=8.8,SNR=2.5
MNV Mina 83.68 324↓ *e*P **P** **09 14 42.2 +1.0**
MNV pmax pmax
comp=Z,16nm,1.0s,mb4.8
MNV Mina 83.68 324↓ *e*P **P** **09 14 42.2 +1.0**
comp=Z,16nm,1.0s,mb4.8
NVAR Mina Array Bea 83.75 324 P **P** **09 14 42.5 +1.0**
comp=Z,18nm,0.8s,mb5.0,baz=145,slow=6.2,SNR=100
NVAR pP pP 09 15 13.7 -0.2
comp=Z,5.3nm,0.9s,baz=136,slow=6.6,SNR=3.6
NVAR PKKPbc PKKPbc 09 32 57.7 +0.6
comp=Z,0.4nm,0.6s,baz=222,slow=1.2,SNR=3.6
NVAR Mina Array Bea 83.75 324 P **P** **09 14 42.5 +1.0**
NVAR pP pP 09 15 13.7 -0.2
NVAR PKKPbc PKKPbc 09 32 57.7 +0.6
HVU Hansel Valley 83.84 329↓ *e*P **P** **09 14 42.2 +0.2**
HVU *e**PP pP 09 15 14.3 -0.1
HVU pmax pmax
comp=Z,31nm,0.8s,mb5.2
HVU Hansel Valley 83.84 329↓ *e*P **P** **09 14 42.2 +0.2**
comp=Z,31nm,0.8s,mb5.2
HVU epP pP 09 15 14.3 -0.1
AHID Auburn Hatcher 83.94 331↓ *e*P **P** **09 14 42.8 +0.3**
ELK Elko 84.10 327↓ *e*P **P** **09 14 43.9 +0.6**
ELK *e**PP pP 09 15 15.2 -0.5
ELK pmax pmax
comp=Z,24nm,0.9s
ELK Elko 84.10 327↓ *e*P **P** **09 14 43.9 +0.6**
comp=Z,24nm,0.9s,mb5.0
ELK epP pP 09 15 15.2 -0.5
TPAW Teton Pass 84.48 331 *e*P **P** **09 14 45.7 +0.4**
comp=Z,29nm,1.0s,mb5.1
CMB Columbia Colle 84.51 322 *e*P **P** **09 14 45.6 +0.2**
CMB *e**PP pP 09 15 17.2 -0.6
CMB pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CMB Columbia Colle 84.51 322 *e*P **P** **09 14 45.6 +0.2**
comp=Z,8.6nm,0.8s,mb4.7
CMB epP pP 09 15 17.2 -0.6
MOOW Moose Ponds 84.61 332 *e*P **P** **09 14 45.9 0.0**
comp=Z,5.9nm,0.9s,mb4.5
DCID1 Drake Creek 84.66 331 *e*P **P** **09 14 46.9 +0.7**
BMN Battle Mountai 84.78 326 *e*P **P** **09 14 46.3 -0.5**
BMN pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BMN Battle Mountai 84.78 326 *e*P **P** **09 14 46.3 -0.4**
comp=Z,7.2nm,0.9s,mb4.6
IMW Indian Meadow 84.81 332↓ *e*P **P** **09 14 47.4 +0.5**
comp=Z,64nm,1.2s,mb5.4
FLWY Flagg Ranch 84.87 332↓ *e*P **P** **09 14 48.0 +0.8**
comp=Z,48nm,1.1s,mb5.3
LKWY Lake 85.15 332 *e*P **P** **09 14 50.0 +1.4**
LKWY pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
LKWY Lake 85.15 332 *e*P **P** **09 14 50.0 +1.4**
comp=Z,8.3nm,0.8s,mb4.7
YFT Old Faithful 85.23 332↓ *e*P **P** **09 14 50.6 +1.6**
PAHR Pah Rah Range 85.27 324↓ *e*P **P** **09 14 50.6 +1.4**
comp=Z,34nm,0.9s,mb5.3
PAHR epP pP 09 15 22.1 +0.4
LAO LASA Array 85.42 336↓ *e*P **P** **09 14 49.8 -0.1**
comp=Z,44nm,1.1s,mb5.3
YMR Madison River 85.46 332↓ *e*P **P** **09 14 51.2 +1.0**
comp=Z,73nm,0.9s,mb5.6
ULM Lac du Bonnet 85.59 344 P **P** **09 14 49.7 -1.1**
comp=Z,18nm,0.8s,mb5.0,baz=156,slow=4.1,SNR=44
ULM pP pP 09 15 21.6 -1.7
comp=Z,12nm,0.8s,baz=164,slow=5.3,SNR=6.3
QLMT Earthquake Lak 85.78 332 *e*P **P** **09 14 52.9 +1.2**
GCMT Greycliff 85.90 333 *e*P **P** **09 14 52.2 -0.1**
RPZ Rata Peaks 85.91 219 P **P** **09 14 53.5 +1.2**
comp=Z,29nm,1.0s,mb5.2,baz=71,slow=2.7,SNR=4.5
HLID Hailey 85.99 329↓ *e*P **P** **09 14 53.8 +1.1**
comp=Z,28nm,0.9s,mb5.2
HLID epP pP 09 15 25.3 +0.1
OHCM Honcut 86.06 322 *e*P **P** **09 14 54.0 +1.0**
OHCM epP pP 09 15 25.8 +0.3
MCMT McKenzie Canyo 86.36 331 *e*P **P** **09 14 55.5 +1.0**
MCMT epP pP 09 15 27.8 +0.7
DLMT Dillon 86.69 331↓ *e*P **P** **09 14 56.9 +0.7**
comp=Z,24nm,0.9s,mb5.1
WVOR Wild Horse Val 87.00 326 *e*P **P** **09 14 57.8 +0.1**
WVOR pmax pmax
comp=Z,32nm,1.2s,mb5.1
WVOR Wild Horse Val 87.00 326 *e*P **P** **09 14 57.8 +0.1**
comp=Z,32nm,1.2s,mb5.1
SCHQ Schefferville 87.06 2 P **P** **09 14 56.3 -1.7**
comp=Z,8.8nm,0.6s,mb4.8,baz=173,slow=4.3,SNR=28
SCHQ pP pP 09 15 28.0 -2.5
comp=Z,3.2nm,0.5s,baz=169,slow=4.8,SNR=2.5
SCHQ Schefferville 87.06 2 *e*P **P** **09 14 56.2 -1.8**
comp=Z,80nm,1.4s,mb5.5
SCHQ epP pP 09 15 28.5 -2.1
SCHQ esP sP 09 15 41.5 -2.6
MOD Modoc 87.40 325↓ *e*P **P** **09 15 00.6 +1.0**
comp=Z,28nm,0.7s,mb5.3
HRY Holter Researc 87.50 333 *e*P **P** **09 15 00.5 +0.4**
WDC Whiskeytown Da 87.52 323 *e*P **P** **09 14 59.9 -0.3**
WDC pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
WDC Whiskeytown Da 87.52 323 *e*P **P** **09 14 59.9 -0.3**
comp=Z,10nm,0.6s,mb5.0
EGMT Eagleton 87.81 334↓ *e*P **P** **09 15 01.0 -0.5**
comp=Z,30nm,1.1s,mb5.2
CHMT Chamberlain Mo 88.22 332 *e*P **P** **09 15 03.8 +0.3**
BMO Blue Mountains 88.28 328↓ *e*P **P** **09 15 03.7 -0.1**
BMO pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
BMO Blue Mountains 88.28 328↓ *e*P **P** **09 15 03.7 -0.1**
comp=Z,5.0nm,0.6s,mb4.7
HOG Hogback Mounta 88.34 324 P **P** **09 15 05.1 +1.0**
MSO Missoula 88.43 331 *e*P **P** **09 15 04.9 +0.4**
comp=Z,21nm,1.5s,mb5.0
YBH Yreka Blue Hor 88.46 323 P **P** **09 15 04.5 -0.2**
comp=Z,6.0nm,0.7s,mb4.7,baz=92,slow=4.3,SNR=14
YBH Yreka Blue Hor 88.46 323 P **P** **09 15 04.5 -0.1**
YBH pmax pmax
comp=Z,6.0nm,0.7s
YBH Yreka Blue Hor 88.46 323 *e*P **P** **09 15 04.2 -0.5**
comp=Z,15nm,1.3s,mb4.9
IRO Indian Ridge 89.92 325 P **P** **09 15 12.2 +0.7**
BROR Big Rock Looko 90.21 325 P **P** **09 15 13.2 +0.4**
WALA Waterton Lakes 90.22 333↓ *e*P **P** **09 15 13.0 +0.1**
comp=Z,22nm,0.9s,mb5.3
WALA epP pP 09 15 44.6 -1.0
REDWA Red Mountain 90.34 328 P **P** **09 15 14.3 +0.8**
H2OWA Water 90.41 328 P **P** **09 15 14.5 +0.7**
OD2 Odessa Site #2 90.86 329 P **P** **09 15 16.0 +0.1**
NEW Newport 90.87 331 P **P** **09 15 15.2 -0.6**
comp=Z,5.7nm,1.0s,mb4.7,baz=108,slow=4.3,SNR=8.4
NEW Newport 90.87 331 P **P** **09 15 15.3 -0.6**
NEW pmax pmax
comp=Z,6.0nm,1.0s
NEW Newport 90.87 331 *e*P **P** **09 15 14.7 -1.2**
comp=Z,5.7nm,1.0s,mb4.7
TBM Table Mountain 91.53 328 P **P** **09 15 19.6 +0.7**
WTV Waterville 91.64 329 P **P** **09 15 19.5 +0.1**
ETW Entiat 91.74 329 P **P** **09 15 20.4 +0.5**
JCW Jim Creek 92.89 328 P **P** **09 15 24.9 -0.3**
CMW Cultus Mountai 93.14 328 P **P** **09 15 26.2 -0.1**
FCC Fort Churchill 93.18 348↓ *e*P **P** **09 15 25.7 -0.9**
FCC *e**PP pP 09 15 57.9 -1.4
FCC pmax pmax
comp=Z,27nm,0.7s,mb5.7
FCC Fort Churchill 93.18 348↓ *e*P **P** **09 15 25.7 -0.8**
comp=Z,27nm,0.7s,mb5.7
FCC epP pP 09 15 57.9 -1.4
ESDC Sonseca Array 94.27 45 P **P** **09 15 29.8 -1.7**
comp=Z,0.2nm,0.3s,mb4.0,baz=193,slow=2.0,SNR=5.2
YKA Yellowknife Ar 101.28 341 P Pdif 09 16 01.7 -1.4
comp=Z,1.7nm,0.7s,baz=142,slow=4.7,SNR=58
YKA pP 09 16 33.6
comp=Z,0.4nm,0.5s,baz=144,slow=4.7,SNR=2.8
YKA PP PP 09 20 08.3 -5.3
comp=Z,0.4nm,0.8s,baz=138,slow=7.4,SNR=4.2

YKA				PKiKP	PKiKP	09 20 26.6	-0.4	
	comp=Z,0.1nm,0.4s,baz=152,slow=1.6,SNR=6.2							
YKA	**Yellowknife Ar**	**101.28**	**341**	P	Pdif	09 16 01.7	-1.4	
YKA				pP		09 16 33.6		
YKA				PP	PP	09 20 08.3	-5.3	
DLBC	**Dease Lake**	**103.55**	**332**	Pdiff	Pdif	09 16 12.9	-0.2	
	comp=Z,2.2nm,0.9s,baz=146,slow=7.3,SNR=5.0							
ILAR	**Eielson Array**	**113.73**	**333**	PKiKP	PKiKP	09 20 48.2	-2.0	
	comp=Z,1.3nm,0.8s,baz=182,slow=0.9,SNR=15							
ILAR				pPKiKP		09 21 23.1		
	comp=Z,1.0nm,0.9s,baz=219,slow=0.8,SNR=4.2							
NOA	**NORSAR Array B**	**113.84**	**32**	PKKPbc	PKKPbc	09 31 36.8	+4.1	
	comp=Z,1.1nm,0.8s,baz=66,slow=4.6,SNR=3.8							
BRTR	**Keskin Array B**	**119.55**	**60**	PKP	PKPdf	09 21 00.6	-0.8	
	comp=Z,1.2nm,0.7s,baz=217,slow=0.5,SNR=6.5							
BRTR				pPKP	pPKPdf	09 21 33.7	-1.9	
	comp=Z,1.9nm,0.7s,baz=187,slow=3.4,SNR=7.0							
ASAR	**Alice Springs**	**119.66**	**205**	PKP	PKPdf	09 21 01.4	-0.1	
	comp=Z,2.6nm,0.7s,baz=142,slow=2.0,SNR=35							
ASAR				pPKP	pPKPdf	09 21 34.3	-1.5	
	comp=Z,1.4nm,0.7s,baz=180,slow=1.7,SNR=5.1							
ASAR				PKKPbc	PKKPbc	09 31 11.9	-0.3	
	comp=Z,1.3nm,0.5s,baz=340,slow=3.1,SNR=25							
ASAR				PKKP	PKKPbc	09 31 43.3	+31	
	comp=Z,0.4nm,0.5s,baz=340,slow=3.1,SNR=7.1							
AKASG	**Malin Array Be**	**119.89**	**46**	PKP	PKPdf	09 21 00.3	-1.7	
	comp=Z,1.9nm,0.5s,baz=258,slow=2.9,SNR=20							
AKASG				pPKP	pPKPdf	09 21 33.0	-3.2	
	comp=Z,2.5nm,0.6s,baz=256,slow=2.9,SNR=6.8							
AKASG	**Malin Array Be**	**119.89**	**46**	PKP	PKPdf	09 21 00.3	-1.7	
AKASG				pPKP	pPKPdf	09 21 33.0	-3.2	
FINES	**FINESS Array B**	**120.78**	**34**	PKP	PKPdf	09 21 01.8	-2.0	
	comp=Z,1.8nm,0.7s,baz=300,slow=4.2,SNR=4.2							
ARCES	**ARCESS Array B**	**121.95**	**24**	PKP	PKPdf	09 21 04.3	-1.7	
	comp=Z,3.2nm,0.8s,baz=221,slow=2.4,SNR=12							
ARCES				pPKP	pPKPdf	09 21 37.2	-3.0	
	comp=Z,3.8nm,0.9s,baz=270,slow=1.2,SNR=2.1							
ARCES	**ARCESS Array B**	**121.95**	**24**	PKP	PKPdf	09 21 04.3	-1.7	
ARCES				pPKP	pPKPdf	09 21 37.2	-3.0	
WB2	**Warramunga Arr**	**122.89**	**207**	*e*P	PKPdf	09 21 07.9	+0.1	
WRA	**Warramunga Arr**	**122.89**	**207**	PKP	PKPdf	09 21 06.6	-1.2	
	comp=Z,7.5nm,0.7s,baz=168,slow=1.6,SNR=88							
WRA				pPKP	pPKPdf	09 21 42.2	+0.2	
	comp=Z,2.8nm,0.5s,baz=166,slow=1.7,SNR=5.8							
WRA				PKKPbc	PKKPbc	09 30 59.8	-0.3	
	comp=Z,1.0nm,0.6s,baz=342,slow=4.3,SNR=8.9							
WRA				PKKP	PKKPbc	09 31 30.8	+31	
	comp=Z,0.5nm,0.7s,baz=343,slow=4.7,SNR=5.4							
OBN	**Obninsk**	**125.15**	**42**	⇑*i*PKIKP	PKPdf	09 21 11.2	-0.9	
OBN				*e*		09 34 33.9		
OBN				SS	SS	09 40 28.0	+38	
OBN				pmax	pmax			
	comp=Z,16nm,1.1s							
PMG	**Port Moresby**	**125.33**	**227**	⇑*i*PKIKP	PKPdf	09 21 06.2	-6.2	
KLMR	**Klimovskoe**	**127.17**	**35**	*e*PKIKP	PKPdf	09 21 15.1	-0.9	
KLMR				pmax	pmax			
	comp=Z,20nm,1.2s							
KIV	**Kislovodsk**	**127.19**	**57**	⇑*i*PKIKP	PKPdf	09 21 15.3	-0.7	
FITZ	**Fitzroy Crossi**	**127.49**	**199**	*e*P	PKPdf	09 21 17.1	+0.5	
	comp=Z,9.1nm,0.8s							
BILL	**Bilibino**	**132.31**	**335**	*e*PKIKP	PKPdf	09 21 25.5	-0.2	
BILL	**Bilibino**	**132.31**	**335**	*e*PKPdf	PKPdf	09 21 25.5	-0.2	
BILL				*ep*PKPdf	pPKPdf	09 22 00.2	+0.3	
BILL				*e*SKPab		09 24 41.1		
ARU	**Arti**	**137.47**	**40**	*i* PKIKP	PKPdf	09 21 34.9	-0.5	
ARU				*e*		09 24 18.8		
ARU				*e*SS	SS	09 42 14.6	-5.2	
AKTO	**Aktyubinsk**	**138.02**	**49**	PKIKP	PKPdf	09 21 35.5	-0.9	
AKTO				pmax	pmax			
	comp=Z,20nm,2.5s							
AB31	**Akbulak array**	**139.37**	**51**	*i* PKIKP	PKPdf	09 21 38.0	-0.8	
AB31				pmax	pmax			
	comp=Z,5.0nm,0.7s							
ZRNK	**Zerenda**	**144.23**	**43**	*e*PKPdf	PKPdf	09 21 45.6	-2.0	
ZRNK				*ep*PKPdf	pPKPdf	09 22 20.9	-0.9	
ZRNK				*e*SKPbc	SKPbc	09 25 15.2	+0.5	
BRVK	**Borovoye**	**144.92**	**42**	*e*PKPdf	PKPdf	09 21 47.6	-1.1	
BRVK				*ep*PKPdf	pPKPdf	09 22 20.8	-2.2	
BVA0	**Borovoye Array**	**144.99**	**42**	*i* PKIKP	PKPdf	09 21 47.6	-1.2	
BVA0				pmax	pmax			
	comp=Z,2.0nm,0.7s							
VOSK	**Vostochnaya**	**145.43**	**43**	PKIKP	PKPdf	09 21 48.5	-1.1	
VOSK				pmax	pmax			
	comp=Z,20nm,0.8s							
KKAR	**Karatay Array**	**147.26**	**60**	*i* PKIKP	PKPdf	09 21 52.8	+0.1	
KKAR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
HYB	**Hyderabad**	**147.81**	**110**	*i* PKP	PKPdf	09 21 57.0	+3.4	
HYB				*e*		09 22 29.0		
HYB	**Hyderabad**	**147.81**	**110**	*e*P	PKPdf	09 21 57.0	+3.4	
YAK	**Yakutsk**	**147.93**	**343**	⇑*i*PKIKP	PKPdf	09 21 53.6	-0.2	
YAK	**Yakutsk**	**147.93**	**343**	*e*PKPdf	PKPdf	09 21 53.5	-0.2	
YAK				*e*PKPbc	PKPbc	09 21 56.1	-0.8	
YAK				*e*PKPab	PKPab	09 21 59.2	-0.7	
YAK				*ep*PKPdf	pPKPdf	09 22 28.4	+0.3	
KSM	**Kuching**	**149.09**	**180**	*e*PKPbc	PKPbc	09 22 00.7	+0.8	
KSM				*e*PKPab	PKPab	09 22 06.3	+1.7	
KSM				*ep*PKPdf	pPKPdf	09 22 33.5	+3.5	
AAK	**Ala-Archa**	**150.22**	**60**	*e*PKPdf	PKPdf	09 21 57.3	-0.2	
AAK				*e*PKPbc	PKPbc	09 22 02.1	-0.6	
AAK				*ep*PKPdf	pPKPdf	09 22 34.9	+3.1	
FRU	**Bishkek**	**150.28**	**60**	⇓*i*PKP2	PKPab	09 22 03.5	-6.0	
FRU				pmax	pmax			
	comp=Z,57nm,1.5s							
KURK	**Kurchatov**	**150.59**	**43**	*e*PKPdf	PKPdf	09 21 58.0	-0.1	
KURK				*ep*PKPbc	PKPbc	09 22 03.3	-0.3	
KURK				*ep*PKPdf	pPKPdf	09 22 36.2	+3.9	
NVS	**Novosibirsk**	**150.75**	**32**	⇓*i*PKIKP	PKPdf	09 22 02.4	+4.1	
NVS				pmax	pmax			
	comp=Z,82nm,1.0s							
NVS				pmax	pmax			
	comp=N,6.0nm,0.7s							
NVS				pmax	pmax			
	comp=E,17nm,1.0s							
YSS	**Yuzh-Sakhalins**	**151.32**	**310**	*e*PKIKP	PKPdf	09 22 05.0	+5.8	
YSS				*e*		09 22 14.1		
KULM	**Kulim**	**151.47**	**160**	*e*PKPbc	PKPbc	09 22 06.0	+0.3	
KULM				*ep*PKPdf	pPKPdf	09 22 39.3	+5.6	
JBP	**Jabalpur**	**151.84**	**102**	⇓*i*P	PKPdf	09 22 06.8	+6.8	
JBP				*i* S	pPKPdf	09 22 40.2	+6.0	
ZAL	**Zalesovo**	**152.03**	**33**	PKP	PKPdf	09 21 59.1	-1.1	
	comp=E,2.1nm,0.6s,baz=152,slow=2.5,SNR=12							
ZAL				PKPbc	PKPbc	09 22 05.9	-1.0	
	comp=E,37nm,0.6s,baz=155,slow=2.9,SNR=107							
ZAL				pPKPbc	pPKPbc	09 22 38.6	-2.4	
	comp=E,37nm,0.6s,baz=150,slow=2.9,SNR=13							
DDI	**Dehra Dun**	**152.61**	**86**	*e*P	PKPdf	09 22 08.8	+7.7	
DDI				*e*S	pPKPdf	09 22 40.0	+4.6	
MK31	**Makanchi Array**	**154.45**	**48**	PKIKP	PKPdf	09 22 03.3	-0.4	
MK31				pmax	pmax			
	comp=Z,3.0nm,0.8s							
MKAR	**Makanchi Array**	**154.45**	**48**	PKP	PKPdf	09 22 03.3	-0.4	
	comp=Z,1.5nm,0.9s,baz=303,slow=1.0,SNR=14							
MKAR				PKPbc	PKPbc	09 22 11.2	-0.9	
	comp=Z,4.1nm,0.8s,baz=0.0,slow=1.3,SNR=15							
MKAR				PKPab	PKPab	09 22 25.6	-1.5	
	comp=Z,6.7nm,0.6s,baz=305,slow=3.9,SNR=22							
MKAR				pPKPbc	pPKPbc	09 22 43.7	-2.6	
	comp=Z,3.8nm,0.7s,baz=302,slow=1.8,SNR=5.0							
MKAR				pPKPab	pPKPab	09 22 56.6	-3.4	
	comp=Z,7.0nm,0.8s,baz=294,slow=3.6,SNR=6.1							
MKAR	**Makanchi Array**	**154.45**	**48**	PKIKP	PKPdf	09 22 03.3	-0.4	
MKAR						09 22 25.6		
BOD	**Bodaibo**	**154.59**	**355**	*e*PKP2	PKPab	09 22 24.7	-2.9	
BOD				pmax	pmax			
	comp=Z,17nm,0.9s							
MJAR	**Matsushiro Arr**	**156.56**	**288**	PKPbc	PKPdf	09 22 16.4	+10	
	comp=Z,0.8nm,0.6s,baz=91,slow=3.9,SNR=2.8							
MJAR				PKPab	PKPab	09 22 37.1	+1.0	
	comp=Z,10nm,0.8s,baz=104,slow=2.4,SNR=18							
MJAR	**Matsushiro Arr**	**156.56**	**288**	PKIKP	PKPdf	09 22 16.4	+10	
MJAR						09 22 37.1		
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
MJAR				pmax	pmax			
	comp=Z,10.0nm,0.8s							
MAT	**Matsushiro**	**156.56**	**288**	PKP2	PKPab	09 22 37.0	+0.9	
KLR	**Kul'dur**	**156.78**	**322**	*e*PKIKP	PKPdf	09 22 03.0	-3.8	
WMQ	**Urumqi**	**159.16**	**51**	PKP	PKPdf	09 22 08.1	-1.6	
WMQ				APKP		09 22 41.1		
WMQ				PKP2	PKPab	09 22 46.1	-1.2	
WMQ				XPKP		09 22 54.1		
WMQ				PP	PP	09 26 27.6	-1.0	
WMQ				PP	PP			
	comp=Z,140nm,6.4s							
WMQ				LR	LR			
	comp=N,79nm,20.0s							
WMQ				LR	LR			
	comp=Z,32nm,19.0s							
MDJ	**Mudanjiang**	**160.64**	**314**	PKP	PKPdf	09 22 10.8	-0.6	
CN2	**Changchun**	**163.55**	**317**	*e*PKP	PKPdf	09 22 10.3	-4.0	
SONM	**Songino Array**	**164.47**	**9**	PKPab	PKPab	09 23 09.2	-1.4	
	comp=Z,4.0nm,0.7s,baz=333,slow=3.4,SNR=5.9							
SONM	**Songino Array**	**164.47**	**9**	PKP2	PKPab	09 23 09.2	-1.4	
SONM				pmax	pmax			
	comp=Z,4.0nm,0.7s							
GTA	**Gaotai**	**169.21**	**48**	PKP	PKPdf	09 22 19.3	+0.6	
GTA				APKP		09 22 52.9		
GTA				XPKP		09 23 06.2		
GTA				PKP2	PKPab	09 23 31.0	-0.5	
GTA				PP	PP	09 27 23.3	+2.1	
GTA				SKS	SKSdf	09 29 11.6	+1.1	
GTA				PPP		09 31 27.3		
GTA				SKKS	SKKSac	09 33 58.3	+2.2	
GTA				LR	LR			
	comp=N,126nm,33.6s							
GTA				LR	LR			
	comp=E,145nm,29.8s							
GTA				LR	LR			
	comp=Z,106nm,29.4s							
KMI	**Kunming**	**170.18**	**137**	PKP	PKPdf	09 22 19.6	+0.3	
SSE	**Sheshan**	**170.47**	**264**	PKP	PKPdf	09 22 25.2	+5.7	
HHC	**Hu-ho-hao-te**	**171.64**	**352**	*e*PKP	PKPdf	09 22 18.9	-1.2	
HHC				PKP2	PKPab	09 23 42.7	+0.4	
HHC				PKS		09 25 50.3		
HHC				PP	PP	09 27 34.7	+1.4	
HHC				SKS	SKSdf	09 29 12.0	+0.4	
HHC				SKKS	SKKSac	09 34 08.7	+0.8	
HHC				PP	PP			
	comp=Z,96nm,8.0s							
HHC				LR	LR			
	comp=N,104nm,24.1s							
HHC				LR	LR			
	comp=E,229nm,24.1s							
HHC				LR	LR			
	comp=Z,72nm,19.6s							
NJ2	**Nanjing**	**172.59**	**268**	*e*PKP	PKPdf	09 22 22.8	+2.3	
NJ2				APKP		09 22 50.2		
NJ2				PKP2	PKPab	09 23 53.6	+7.1	
NJ2				PKS		09 25 50.0		
NJ2				PP	PP	09 27 47.0	+9.0	
NJ2				PP	PP			
	comp=Z,80nm,8.0s							
NJ2				LR	LR			
	comp=N,640nm,28.2s							
NJ2				LR	LR			
	comp=E,490nm,22.2s							
NJ2				LR	LR			
	comp=Z,260nm,36.1s							
GYA	**Guiyang**	**173.22**	**153**	*e*PKP	PKPdf	09 22 19.8	-1.0	
GYA				PP	PP			
	comp=Z,120nm,8.9s							
LZH	**Lanzhou**	**173.72**	**54**	*e*PKP	PKPdf	09 22 23.5	+2.6	
LZH				APKP		09 22 50.5		
LZH				LR	LR			
	comp=E,236nm,19.6s							
LZH				LR	LR			
	comp=Z,563nm,20.6s							
CD2	**Chengdu**	**174.34**	**105**	*e*PKP	PKPdf	09 22 17.8	-3.4	
CD2				APKP		09 22 52.3		
CD2				XPKP		09 23 06.3		
CD2				PP	PP	09 27 44.8	-1.7	
CD2				SKS	SKSdf	09 29 06.3	-6.1	
CD2				SKKS	SKKSac	09 34 15.9	-4.9	
CD2				SS	SS	09 48 48.6	-7.5	
CD2				PP	PP			
	comp=Z,40nm,9.2s							
CD2				LR	LR			
	comp=N,100nm,22.8s							
CD2				LR	LR			
	comp=Z,50nm,24.0s							

PRU ***09*** *09:16:10.2, 50.19N×1901E, h0km*

WAR 09 09:16:10.6, 5010N×1915E, ML2.6, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.43**	**74**	*e*Pg	Pg	09 16 18.6	-0.3
OJC				*e*Sg	Sg	09 16 24.8	+0.3
OKC	**Ostrava-Krasne**	**0.70**	**248**	*e*PG	Pg	09 16 23.9	-0.1
OKC				*e*SG	Sg	09 16 32.6	-0.5
	34nm,0.7s						
NIE	**Niedzica**	**1.01**	**132**	*e*Pg	Pg	09 16 30.0	-0.1
NIE				*e*Sg	Sg	09 16 46.1	+2.9
STHS	**Stebnicka Huta**	**1.52**	**116**	*e*PN	Pn	09 16 39.5	+0.5
STHS				*e*SN	Sn	09 17 01.8	+2.3
VYHS	**Vyhne**	**1.62**	**187**	*e*PN	Pn	09 16 39.6	-0.8
VYHS				*e*SN	Sn	09 16 59.8	-2.2
DPC	**Dobruska-Polom**	**1.84**	**279**	*e*PG	Pg	09 16 42.5	-3.3
DPC				*e*SG	Sg	09 17 05.8	-3.8
	30nm,0.5s						
KECS	**Kecovo**	**1.84**	**151**	*e*PN	Pn	09 16 43.2	-0.2
KECS				*e*SN	Sn	09 17 07.8	+0.4
CRVS	**Cervenica-Dubn**	**1.92**	**128**	*e*PN	Pn	09 16 46.8	+2.2
CRVS				*e*SN	Sn	09 17 12.3	+2.8
KSP	**Ksiaz**	**1.97**	**293**	*e*Pg	Pg	09 16 46.5	-1.9
KSP				*e*Sg	Sg	09 17 11.8	-2.2
PRU	**Pruhonice**	**2.98**	**270**	*e*SG	Sg	09 17 41.3	-4.9
	12nm,0.8s						
BRG	**Berggiesshubel**	**3.42**	**285**	SG	Sg	09 17 57.5	-2.9
	3.7nm,0.8s						
KHC	**Kasperske Hory**	**3.75**	**257**	*e*SG	Sg	09 18 07.7	-3.5
	5.6nm,0.5s						
NKC	**Novy Kostel**	**4.31**	**274**	*e*SG	Sg	09 18 22.7	-6.5

NIED ***09*** *09:43:00, 4020N×145.10E, h8km, Mw3.5 Best double couple: M₀2.20000×10¹⁴ NP1:φs223.00000°,δ73.00000°, λ-81.00000°. NP2:φs16.00000°,δ19.00000°, λ-116.00000°.*

JMA 09 09:43:46.3±0.3, 4015N×14510E, h46km, M3.9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**2.37**	**322**	P	Pn	09 44 23.9	+1.2
JEM				S	Sn	09 44 52.0	+1.4
JTH	**Tanohata**	**2.49**	**266**	P	Pn	09 44 25.3	+0.9
JTH				*e*S	Sn	09 44 54.6	+1.1
MIYJ	**Miyakonagasawa**	**2.59**	**258**	P	Pn	09 44 27.3	+1.6
MIYJ				S	Sn	09 44 57.1	+1.2
JANG	**Nango**	**2.75**	**276**	P	Pn	09 44 29.3	+1.4
JANG				S	Sn	09 45 01.2	+1.3
JNBK	**Urakawa-nobuka**	**2.77**	**321**	P	Pn	09 44 29.9	+1.8
JNBK				*e*S	Sn	09 45 03.0	+2.7
JCH	**Churui**	**2.79**	**333**	P	Pn	09 44 29.2	+0.8
JCH				S	Sn	09 45 01.8	+1.0
JAK	**Akkeshi**	**2.86**	**354**	P	Pn	09 44 28.2	-1.2
JAK				S	Sn	09 45 00.5	-2.1
JOM	**Ohasama**	**3.01**	**258**	P	Pn	09 44 33.5	+2.1
JOM				S	Sn	09 45 08.1	+1.9
JMK	**Ichinoseki**	**3.23**	**249**	P	Pn	09 44 35.9	+1.4
JMK				*e*S	Sn	09 45 13.1	+1.4
NEM2	**Nemuro 2**	**3.25**	**8**	P	Pn	09 44 32.9	-1.8
NEM2				S	Sn	09 45 07.5	-4.6
JOT	**Ohata**	**3.31**	**293**	P	Pn	09 44 37.6	+2.0
JOT				S	Sn	09 45 15.7	+2.0
JKB	**Kayabe**	**3.53**	**301**	P	Pn	09 44 40.6	+2.0
JKB				*e*S	Sn	09 45 22.1	+3.0
JTKR	**Abashiri--Toko**	**3.92**	**347**	P	Pn	09 44 44.1	+0.2
JTKR				S	Sn	09 45 28.6	-0.1

MEX 09 09:44:34.7±0.6, 1575N×9660W, h18km±67km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.47**	**87**	*i* P	Pg	09 44 42.6	-1.7
HUIG				*i* S	Sg	09 44 49.2	-1.5
VHO	**Vista Hermosa**	**1.32**	**354**	*i* P	Pg	09 44 55.0	-3.3
VHO				*i* S	Sn	09 45 10.5	-5.0
VHO				*i* S	Sn	09 45 10.8	-4.6
OXX	**Oaxaca**	**1.33**	**355**	*i* P	Pn	09 44 55.5	-2.9
OXX				*i* S	Sn	09 45 11.7	-4.0
UTMO	**Huajuapan**	**2.37**	**331**	*e*P	Pn	09 45 11.7	-1.0
PPM	**Popocatepetl**	**3.83**	**330**	*i* P	Pn	09 45 30.9	-1.8
PPM				*i* S	Sn	09 46 14.8	-2.5

MAN 09 09:45:55.0, 1630N×12061E, h1km, MS5.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BCPH	**Baguio City Da**	**0.08**	**342**	⇑*i*P	Pg	09 45 57.0	+0.5
BCPH				*i* S	Sg	09 45 58.8	+1.2
BOLP	**Bolinao**	**0.67**	**277**	*e*P	Pg	09 46 07.9	+0.1
BALP	**Baler**	**1.09**	**121**	*e*P	Pg	09 46 16.7	+0.9
BALP				*e*S	Sg	09 46 33.1	+3.3

NEIC ***09*** *09:58:54.0, 1551N×9229W, h187km, MD4.1(MEX), After MEX.*

MEX 09 09:58:53.5±0.5, 1528N×9219W, h175km±8km, MD4.1, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**1.00**	**3**	*i* P	Pn	09 59 19.4	-1.2
CCIG				*i* S	Sn	09 59 40.1	-1.4
SCX	**San Cristobal**	**1.51**	**344**	*i* P	Pn	09 59 24.0	-1.1
HUIG	**Huatulco**	**3.81**	**278**	*i* P	Pn	09 59 51.0	-1.0
HUIG				*i* S	Sn	10 00 35.3	-2.3
HUIG	**Huatulco**	**3.81**	**278**	*i* P	Pn	09 59 51.0	-1.0
HUIG				*i* S	Sn	10 00 33.5	-4.1
OXX	**Oaxaca**	**4.71**	**293**	*i* P	Pn	10 00 05.5	+1.9
VHO	**Vista Hermosa**	**4.72**	**293**	*i* P	Pn	10 00 05.0	+1.4
VHO				*i* S	Sn	10 00 56.3	-2.3
VHO	**Vista Hermosa**	**4.72**	**293**	*i* P	Pn	10 00 05.0	+1.4
VHO				*i* S	Sn	10 00 55.3	-3.3
UTMO	**Huajuapan**	**5.95**	**296**	*i* P	Pn	10 00 21.4	+1.6
PPM	**Popocatepetl**	**7.21**	**302**	*e*P	Pn	10 00 39.1	+2.7
PPM	**Popocatepetl**	**7.21**	**302**	*e*P	Pn	10 00 39.2	+2.8
PLIG	**Platanillo**	**7.66**	**295**	*e*P	Pn	10 00 42.4	+0.2

MEX 09 10:00:18.1±0.8, 1699N×10021W, h11km±9km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.08**	**315**	*i* P	Pg	10 00 19.8	-0.8
CAIG				*i* S	Sg	10 00 21.7	-0.7
ACX	**Acapulco**	**0.30**	**114**	*i* P	Pg	10 00 23.5	-0.7
ACX				*i* S	Sg	10 00 28.5	+0.2
MEIG	**Mezcala**	**1.09**	**31**	*i* P	Pb	10 00 36.0	-2.9
MEIG				*i* S	Sb	10 00 48.7	-4.5

NAO ***09*** *10:15:27.0±1.5, 7167N×668W*

ISCJB ***09*** *10:15:28.7±0.2, 7176N±002×701W±007, h10km, mb4.5/110, MS3.6/25, Error ellipse: s-maj=3.4km s-min=2.9km az=163.4*

IDC ***09*** *10:15:28.5±0.5, 7164N×708W, h0km, mb4.1/16, mb1 4.3/20, mb1mx4.3/24, mbtmp4.2/20, ML4.0/4, MS3.5/17, Ms1 3.5/17, ms1mx3.3/33, Error ellipse: s-maj=13.7km s-min=11.3km az=41.0*

BJI ***09*** *10:15:30.3, 7180N×670W, h21km, mB5.0, mb4.6, Ms4.7, Msz4.5*

BGS ***09*** *10:15:30.0±2.7, 7179N×683W, h22km, mb4.9*

BER ***09*** *10:15:30.1±1.0, 7144N×609W, h10km±999km, MD4.8, ML3.5*

HRVD ***09*** *10:15:32.3±0.5, 7178N×701W, h17km±1km, MW4.6/45, Centroid moment Tensor Solution. LP body waves: s9,c9;Mantle waves: s45,c64; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.24±.14; Mθθ-1.01±.09; Mφφ-0.22±.07; Mrθ0.01±.19; Mθφ0.01±.05; Mφr-0.14±.29; Best double couple: M₀1.13100×10¹⁶ NP1:φs265.00000°, δ45.00000°, λ83.00000°. NP2:φs96.00000°, δ46.00000°, λ97.00000°. Principal axes: T 1.2530, Plg85.0000°, Azm86.0000°; N -0.2400, Plg5.0000°, Azm270.0000°; P -1.0100, Plg0.0000°, Azm180.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***09*** *10:15:32.3±0.2, 7181N×671W, mb4.6/68 Error ellipse: s-maj=5.3km s-min=3.3km az=49.0*

MOS ***09*** *10:15:32.1±1.2, 7182N×688W, h33km, mb4.8/61, Error ellipse: s-maj=17.4km s-min=3.8km az=98.0*

CSEM ***09*** *10:15:34.6, 7193N×679W, h60km, mb4.7*

SZGRF ***09*** *10:15:48.0, 7068N×278W, h10km, mb4.5, Jan Mayen Island region*

ISC 09 10:15:30.1±0.2, 7176N±002×678W±008, h10km, (h23km±7km:pP-P), n340, σ1°16/346, mb4.5/110, MS3.6/25, 8C-11D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNW	**Jan Mayen West**	**0.91**	**216**	⇓*i*P	**Pg**	**10 15 44.7**	**-2.8**
JNW				*e*S	**Sg**	**10 15 55.3**	**-4.0**
JNE	**Jan Mayen East**	**0.92**	**213**	⇓*i*P	**Pg**	**10 15 44.8**	**-2.9**
JNE				*e*S	**Sg**	**10 15 55.0**	**-4.7**
JNE				AML	AML	10 15 56.3	
	comp=Z,3μm,0.3s						
JNE	**Jan Mayen East**	**0.92**	**213**	⇓*i*P	**Pg**	**10 15 44.8**	**-2.9**
	SNR=53						
JNE				*e*S	**Sg**	**10 15 55.0**	**-4.6**
	comp=Z,3μm,0.3s,SNR=53						
JMIC	**Jan Mayen**	**0.96**	**216**	Pg	**Pg**	**10 15 45.2**	**-3.3**
JMIC				Lg		10 15 56.3	
JMIC	**Jan Mayen**	**0.96**	**216**	Pn	**Pn**	**10 15 45.1**	**-4.4**
	comp=Z,148nm,0.3s,baz=38,slow=2.7,SNR=154						
JMIC				Sn	**Sn**	**

comp=Z,0.2nm,0.3s,baz=295,slow=12,SNR=8.0
ARCES LR LR 10 21 27.4
comp=Z,120nm,19.1s,baz=111,slow=33
ARCES ARCESS Array B 10.85 86 Pn **Pn 10 18 04.0 -1.5**
ARCES LR LR 10 21 27.4
WAL1 Walls 11.74 167 *e*P **Pn 10 18 14.6 -3.0**
LRW Lerwick 11.89 166 *e*P **Pn 10 18 16.9 -2.7**
NOA NORSAR Array B 12.87 138 Pn **Pn 10 18 34.2 +1.2**
comp=Z,0.2nm,0.3s,baz=321,slow=13,SNR=4.3
NOA NORSAR Array B 12.87 138 Pn **Pn 10 18 34.2 +1.2**
ORE Reay 13.33 173 *e*P **Pn 10 18 38.1 -1.1**
OTO Tongue 13.36 175 *e*P **Pn 10 18 38.0 -1.7**
MLA1 Latheron 13.59 172 *e*P **Pn 10 18 41.5 -1.3**
KONO Kongsberg 13.82 143 *e*P **Pn 10 18 43.1 -2.9**
KONO pmax pmax
comp=Z,8.0nm,0.9s
KONO Kongsberg 13.82 143 *e*Pn **Pn 10 18 43.1 -2.9**
comp=Z,8.5nm,0.9s
HFS Hagfors 14.22 135 Pn **Pn 10 18 48.5 -3.1**
baz=338,slow=16
HFS Hagfors 14.22 135 Pn **Pn 10 18 48.6 -3.0**
comp=Z,0.2nm,0.3s,baz=341,slow=16,SNR=5.6
HFS LR LR 10 24 11.3
comp=Z,320nm,18.7s,baz=326,slow=37
MCD Coleburn Disti 14.31 172 *e*P **Pn 10 18 51.0 -1.7**
SFJD Kangerlussuaq 15.84 274 Pn **Pn 10 19 11.5 -1.6**
comp=Z,0.4nm,0.3s,baz=52,slow=6.3,SNR=3.8
SFJD LR LR 10 23 47.9
comp=Z,31nm,21.4s,baz=106,slow=32
KAF Kangasniemi 15.91 111 *e*p **Pn 10 19 17.2 +3.2**
comp=Z,17nm,0.8s
KAF Kangasniemi 15.91 111 *e*P **Pn 10 19 17.2 +3.2**
KAF pmax pmax
comp=Z,17nm,0.8s
FIA0 FINESS Array S 16.37 112 P **Pn 10 19 22.1 +2.3**
baz=334,slow=12
FIA0 FINESS Array S 16.37 112 P **Pn 10 19 22.1 +2.2**
FINES FINESS Array B 16.37 112 Pn **Pn 10 19 20.8 +0.9**
comp=Z,0.7nm,0.3s,baz=332,slow=11,SNR=31
FINES LR LR 10 24 58.7
comp=Z,68nm,20.9s,baz=24,slow=35
FINES FINESS Array B 16.37 112 *e*P **Pn 10 19 21.8 +1.9**
EKA Eskdalemuir Ar 16.57 173 Pn **Pn 10 19 21.6 -0.9**
comp=Z,0.6nm,0.3s,baz=356,slow=12,SNR=23
ESK Eskdalemuir 16.58 173 *e*P **Pn 10 19 21.9 -0.7**
ESK pmax pmax
comp=Z,37nm,1.2s
ESK Eskdalemuir 16.58 173 *e*P **Pn 10 19 21.9 -0.7**
comp=Z,37nm,1.2s
ESK Eskdalemuir 16.58 173 *e*P **Pn 10 19 21.9 -0.7**
comp=Z,37nm,1.2s
CKE Keswick 17.31 173 *e*P **Pn 10 19 31.7 -0.1**
XDE Dent Fell 17.38 174 *e*P **Pn 10 19 32.5 -0.2**
XDE AMb AMB 10 19 36.5
comp=Z,82nm,1.7s
CDU1 Dunnerdale 17.56 173 *e*P **Pn 10 19 34.3 -0.6**
GMM Mts of Mourne 17.59 178 *e*P **Pn 10 19 34.8 -0.5**
LHO Holmfirth 18.41 171 *e*P **Pn 10 19 44.0 -1.4**
SBD1 Bryn Du 18.99 173 *e*P **Pn 10 19 50.9 -1.5**
VSU Vasula 19.02 117 *c i*P **Pn 10 19 52.6 -0.1**
VSU Vasula 19.02 117 *i* P **Pn 10 19 52.6 -0.1**
SSP1 Stoney Pound 19.48 173 *e*P **Pn 10 19 54.8 -3.5**
WTSB Winterswijk 20.77 156 *e*P **P 10 20 11.7 +0.6**
comp=Z,30nm,0.8s
WTSB *ex* x 10 20 16.0
comp=Z,61nm,1.5s
KLMR Klimovskoe 20.91 97 *e*P **P 10 20 11.9 -0.8**
KLMR pmax pmax
comp=Z,100nm,1.5s
IZAR Zarasai 21.23 122 *e*P **P 10 20 14.0 -2.1**
BUG Bochum--Univer 21.34 155 *e*P **P 10 20 18.0 +0.7**
comp=Z,56nm,1.4s,mb4.7
ISAL Salakas 21.36 122 *e*P **P 10 20 16.0 -1.5**
ISAL AMb AMB 10 20 22.9
comp=Z,11nm,1.0s,mb4.1
ISAL Salakas 21.36 122 *e*P **P 10 20 16.0 -1.5**
comp=Z,11nm,1.0s,mb4.1,SNR=40
CLZ Clausthal 21.40 150 *e*P **P 10 20 18.3 +0.4**
CLZ pmax pmax
comp=Z,30nm,1.1s,mb4.5
CLZ Clausthal 21.40 150 *e*P **P 10 20 18.3 +0.4**
comp=Z,30nm,1.1s,mb4.5
IIGN Ignalina 21.58 122 *e*P **P 10 20 17.2 -2.6**
IIGN AMb AMB 10 20 33.8
comp=Z,12nm,1.2s,mb4.2
IIGN Ignalina 21.58 122 *e*P **P 10 20 17.2 -2.6**
comp=Z,12nm,1.2s,mb4.2,SNR=35
MENF Mencas 21.66 164 *e*P **P 10 20 20.1 -0.6**
IDID Didziasalis 21.75 122 *e*P **P 10 20 20.3 -1.3**
IDID AMb AMB 10 20 24.6
comp=Z,8.8nm,1.2s,mb4.1
IDID Didziasalis 21.75 122 *e*P **P 10 20 20.3 -1.4**
comp=Z,8.8nm,1.2s,mb4.1,SNR=35
BEBN Eben Emael 21.78 158 E 10 20 26.8
HGN Heimansgroeve 21.84 158 *e*P **P 10 20 22.3 -0.3**
comp=Z,28nm,1.1s,mb4.6
HGN *i* x x 10 20 27.4
comp=Z,92nm,1.2s
HGN *i* S **S 10 24 32.0 +8.1**
SNF Seneffe 21.91 161 P **P 10 20 23.1 -0.2**
SUW Suwalki 22.00 128 *e*P **P 10 20 27.5 +3.2**
MEM Membach 22.00 158 P **P 10 20 23.2 -1.1**
MEM E 10 20 25.2
MEM E 10 20 29.3
UBBA Unterbreizbach 22.34 151 *e*P **P 10 20 28.7 +0.8**
comp=Z,55nm,1.8s,mb4.7
BAIF Baives 22.34 161 *e*P **P 10 20 27.5 -0.5**
comp=Z,81nm,1.2s,mb4.8
BAIF Baives 22.34 161 *e*P **P 10 20 27.5 -0.5**
BAIF pmax pmax
comp=Z,41nm,1.2s,mb4.7
BAIF Baives 22.34 161 *e*P **P 10 20 27.5 -0.5**
comp=Z,41nm,1.2s,mb4.8
DOU Dourbes 22.35 160 P **P 10 20 29.2 +1.2**
DOU XP sP 10 20 42.6 +10
CLL Collm 22.36 146 *e*P **P 10 20 29.0 +0.9**
comp=Z,9.0nm,1.0s,mb4.2
CLL *i* x x 10 20 33.1
CLL *i* pP 10 20 34.8
CLL *e*S **S 10 24 41.0 +7.0**
CLL Collm 22.36 146 *e*P **P 10 20 29.0 +0.9**
CLL *i* *PP 10 20 33.1
CLL pmax pmax
comp=Z,6.0nm,1.0s,mb4.0
CLL Collm 22.36 146 *e*P **P 10 20 29.0 +0.9**
comp=Z,9.0nm,1.0s,mb4.2
CLL *i* pP 10 20 33.1
CLL *e*S **S 10 24 41.0 +7.0**
CLL Collm 22.36 146 *e*P **P 10 20 27.9 -0.2**
comp=Z,18nm,0.8s,mb4.5
GIVF Givet 22.37 160 *e*P **P 10 20 27.8 -0.5**
comp=Z,138nm,1.4s,mb4.9
GIVF Givet 22.37 160 *e*P **P 10 20 27.8 -0.5**
GIVF pmax pmax
comp=Z,69nm,1.4s,mb4.9
GIVF Givet 22.37 160 *e*P **P 10 20 27.8 -0.5**
comp=Z,69nm,1.4s,mb4.9
TNS Taunus Mts 22.69 154 *e*P **P 10 20 32.2 +0.5**
TNS pmax pmax
comp=Z,18nm,1.1s,mb4.4
TNS Taunus Mts 22.69 154 *e*P **P 10 20 32.2 +0.5**
comp=Z,18nm,1.1s,mb4.4
MOX Moxa 22.76 149 *e*P **P 10 20 32.8 +0.4**
comp=Z,40nm,1.0s,mb4.8
MNK Minsk 22.77 121 *e*P **P 10 20 31.0 -1.5**
MNK pmax pmax
comp=Z,270nm,1.0s
MNK Minsk 22.77 121 *e*P **P 10 20 31.0 -1.5**
comp=Z,270nm,1.0s
ABH Alteburg 22.91 156 *e*P **P 10 20 35.0 +1.0**
BRG Berggiesshubel 22.94 145 *e*P **P 10 20 34.3 0.0**
comp=Z,3.8nm,1.0s,mb3.8
BRG *i* 10 20 39.6
comp=Z,13nm,1.0s
BRG *i* 10 20 52.1
comp=Z,9.5nm,1.0s
BRG Berggiesshubel 22.94 145 *e*P **P 10 20 34.3 -0.1**
BRG *i* 10 20 39.6
BRG *i* 10 20 52.1
BRG pmax pmax
comp=Z,4.0nm,1.0s,mb3.8
BRG pmax pmax
comp=Z,13nm,1.0s,mb4.3
BRG pmax pmax
comp=Z,10.0nm,1.0s,mb4.2
BRG Berggiesshubel 22.94 145 *e*P **P 10 20 32.8 -1.6**
comp=Z,22nm,1.0s,mb4.5
WLF Walferdange 22.95 158 P **P 10 20 35.2 +0.8**
RUP Ruppelstein 23.02 157 *e*P **P 10 20 37.5 +2.3**
WERD Werda 23.07 148 *e*P **P 10 20 35.7 0.0**
comp=Z,40nm,1.0s,mb4.8
FLN La Foliniere 23.26 169 *e*P **P 10 20 36.2 -1.5**
FLN *e*R
comp=Z,148nm,22.8s
FLN La Foliniere 23.26 169 *e*P **P 10 20 36.2 -1.5**
FLN LR LR
comp=Z,150nm,22.8s,MS3.4
NKC Novy Kostel 23.30 148 *e*P **P 10 20 39.1 +1.0**
NKC *e*pP 10 20 43.4
TOD Tromm 23.34 154 *e*P **P 10 20 41.2 +2.6**
RES Resolute Bay 23.40 318 *e*P **P 10 20 40.6 +1.4**
RES pmax pmax
comp=Z,6.0nm,1.0s,mb4.0
RES Resolute Bay 23.40 318 *e*P **P 10 20 40.6 +1.4**
comp=Z,6.5nm,1.0s,mb4.0
KSP Ksiaz 23.41 141 *e*P **P 10 20 39.6 +0.3**
KSP Ksiaz 23.41 141 *e*P **P 10 20 39.9 +0.6**
KSP *e* 10 20 55.8
LDF La Druitiere 23.45 169 *e*P **P 10 20 38.7 -1.0**
comp=Z,49nm,1.2s,mb4.5
LDF La Druitiere 23.45 169 *e*P **P 10 20 38.7 -1.0**
LDF pmax pmax
comp=Z,24nm,1.2s,mb4.5
LDF La Druitiere 23.45 169 *e*P **P 10 20 38.7 -1.0**
comp=Z,24nm,1.2s,mb4.5
ROSF Rostrenen 23.56 174 *e*P **P 10 20 40.8 0.0**
comp=Z,38nm,1.2s,mb4.4
ROSF Rostrenen 23.56 174 *e*P **P 10 20 40.8 0.0**
ROSF pmax pmax
comp=Z,19nm,1.2s,mb4.4
ROSF Rostrenen 23.56 174 *e*P **P 10 20 40.8 0.0**
comp=Z,19nm,1.2s,mb4.4
GRR Gorron 23.61 170 *e*P **P 10 20 41.0 -0.3**
comp=Z,48nm,1.2s,mb4.5
GRR Gorron 23.61 170 *e*P **P 10 20 41.0 -0.3**
GRR pmax pmax
comp=Z,24nm,1.2s,mb4.5
GRR Gorron 23.61 170 *e*P **P 10 20 41.0 -0.3**
comp=Z,24nm,1.2s,mb4.5
GRA1 Grafenberg Arr 23.62 150 *e*P **P 10 20 42.4 +1.0**
comp=Z,28nm,1.0s,mb4.7
GRA1 LR LR
comp=Z,2μm,21.7s,MS4.5
GRF Grafenberg Arr 23.62 150 *e*P **P 10 20 42.4 +1.0**
comp=Z,28nm,1.0s,mb4.7
GRF Grafenberg Arr 23.62 150 *e*P **P 10 20 42.4 +1.0**
GRF pmax pmax
comp=Z,28nm,1.0s,mb4.7
SGMF Saint Gilles 23.67 173 *e*P **P 10 20 41.6 -0.2**
comp=Z,90nm,1.7s,mb4.6
SGMF Saint Gilles 23.67 173 *e*P **P 10 20 41.6 -0.2**
SGMF pmax pmax
comp=Z,45nm,1.7s,mb4.6
SGMF Saint Gilles 23.67 173 *e*P **P 10 20 41.6 -0.2**
comp=Z,45nm,1.7s,mb4.6
UPC Upice 23.68 142 *e*P **P 10 20 45.3 +3.4**
ROTZ Rotzenmuhle 23.71 148 *e*P **P 10 20 42.9 +0.7**
comp=Z,16nm,1.0s,mb4.4
DPC Dobruska-Polom 23.89 142 *e*P **P 10 20 44.1 +0.2**
DPC *e*pP 10 20 47.8
PRU Pruhonice 23.90 145 *e*P **P 10 20 45.9 +2.0**
PRU *e*pP 10 20 49.8
MEZF Maizieres J'vi 23.97 160 *e*P **P 10 20 45.1 +0.5**
comp=Z,74nm,1.2s,mb4.7
MEZF Maizieres J'vi 23.97 160 *e*P **P 10 20 45.1 +0.5**
comp=Z,37nm,1.2s,mb4.7
QUIF Quistinic 23.98 174 *e*P **P 10 20 44.4 -0.3**
comp=Z,88nm,1.6s,mb4.6
QUIF Quistinic 23.98 174 *e*P **P 10 20 44.4 -0.3**
QUIF pmax pmax
comp=Z,44nm,1.6s,mb4.6
QUIF Quistinic 23.98 174 *e*P **P 10 20 44.4 -0.3**
comp=Z,44nm,1.6s,mb4.6
CDF Champ du Feu 24.32 157 *e*P **P 10 20 49.0 +1.3**
comp=Z,83nm,1.6s,mb4.6
CDF Champ du Feu 24.32 157 *e*P **P 10 20 49.0 +1.3**
CDF pmax pmax
comp=Z,41nm,1.6s,mb4.6
CDF Champ du Feu 24.32 157 *e*P **P 10 20 49.0 +1.3**
comp=Z,41nm,1.6s,mb4.6
WLS Welschbruch 24.32 157 *e*P **P 10 20 52.8 +5.0**
THEF They Montfort 24.35 159 *e*P **P 10 20 53.4 +5.4**
WET Wettzell 24.42 148 *e*P **P 10 20 49.2 +0.5**
WET pmax pmax
comp=Z,32nm,1.8s,mb4.5
WET Wettzell 24.42 148 *e*P **P 10 20 49.2 +0.5**
comp=Z,32nm,1.8s,mb4.5
ECH Echery 24.49 157 *e*P **P 10 20 55.4 +6.0**
MOS Moscow 24.50 107 *e*P **P 10 20 47.5 -1.9**
BFO Black Forest 24.53 155 *e*P **P 10 20 51.2 +1.5**
BFO pmax pmax
comp=Z,23nm,1.1s,mb4.6
BFO Black Forest 24.53 155 *e*P **P 10 20 51.2 +1.5**
comp=Z,23nm,1.1s,mb4.6
KHC Kasperske Hory 24.55 147 *e*P **P 10 20 51.7 +1.8**
KHC *e*pP 10 20 55.4
HAU Haudompre 24.61 159 *e*P **P 10 20 52.6 +2.2**
comp=Z,46nm,1.2s,mb4.6
HAU *e*R
comp=Z,164nm,19.8s
HAU Haudompre 24.61 159 *e*P **P 10 20 52.6 +2.2**
HAU pmax pmax
comp=Z,23nm,1.2s,mb4.6
HAU MLR MLR
comp=Z,160nm,19.8s,MS3.5
HAU Haudompre 24.61 159 *e*P **P 10 20 52.6 +2.2**
comp=Z,23nm,1.2s,mb4.6
HAU LR LR
comp=Z,160nm,19.8s,MS3.5
MORC Moravsky Berou 24.68 140 *e*P **P 10 20 50.0 -1.0**
MORC pmax pmax
comp=Z,9.0nm,0.9s,mb4.3
MORC Moravsky Berou 24.68 140 *e*P **P 10 20 50.0 -1.1**
comp=Z,9.4nm,0.9s,mb4.3
MORC Moravsky Berou 24.68 140 *e*P **P 10 20 52.8 +1.8**
OBN Obninsk 24.72 109 *ke*P **P 10 20 50.4 -1.0**
OBN pmax pmax
comp=Z,20nm,1.0s,mb4.6
OBN MLR MLR
comp=Z,100nm,15.0s,MS3.4
OJC Ojcow 24.73 137 *e*P **P 10 20 51.0 -0.5**
TREC Trest 24.74 144 *e*P **P 10 20 53.7 +2.1**
TREC *e*pP 10 20 58.8
OKC Ostrava-Krasne 24.74 139 *e*P **P 10 20 58.2 +6.6**
HINF Hinteralfeld 24.85 158 *e*P **P 10 20 52.7 +0.1**
comp=Z,44nm,1.3s,mb4.5
HINF Hinteralfeld 24.85 158 *e*P **P 10 20 52.7 +0.1**
HINF pmax pmax
comp=Z,22nm,1.3s,mb4.5
HINF Hinteralfeld 24.85 158 *e*P **P 10 20 52.7 +0.1**
comp=Z,22nm,1.3s,mb4.5
MOF Molkenrain 24.85 157 *e*P **P 10 20 54.5 +1.9**
GEC2 GERESS Array S 24.85 147 *e*P **P 10 20 54.8 +2.2**
GEC2 pmax pmax
comp=Z,28nm,1.1s,mb4.7
GEC2 GERESS Array S 24.85 147 *e*P **P 10 20 54.8 +2.2**
comp=Z,28nm,1.1s,mb4.7
GERES GERESS Array B 24.85 147 P **P 10 20 52.3 -0.3**
comp=Z,12nm,0.9s,mb4.4,baz=357,slow=11,SNR=17
GERES LR LR 10 30 10.4
comp=Z,44nm,18.9s,MS3.0,baz=270,slow=36
FELD Feldberg im Sc 24.93 156 *e*P **P 10 20 59.4 +6.0**
VRAC Vranov 24.94 142 P **P 10 20 53.9 +0.5**
comp=Z,5.0nm,0.7s,mb4.2,baz=322,slow=13,SNR=4.0
VRAC LR LR 10 29 40.4
comp=Z,79nm,20.9s,MS3.2,baz=47,slow=34
VRAC Vranov 24.94 142 *e*P **P 10 20 55.2 +1.8**
LOR Lormes 25.07 163 *e*P **P 10 20 55.4 +0.7**
comp=Z,85nm,1.2s,mb4.8
LOR *e*R
comp=Z,109nm,20.5s
LOR Lormes 25.07 163 *e*P **P 10 20 55.4 +0.7**
LOR pmax pmax
comp=Z,43nm,1.2s,mb4.8
LOR MLR MLR
comp=Z,110nm,20.5s,MS3.4
LOR Lormes 25.07 163 *e*P **P 10 20 55.4 +0.7**
comp=Z,43nm,1.2s,mb4.8
LOR LR LR
comp=Z,110nm,20.5s,MS3.4
SSF Saint Saulge 25.25 163 *e*P **P 10 20 56.8 +0.6**
comp=Z,30nm,1.1s,mb4.4
SSF Saint Saulge 25.25 163 *e*P **P 10 20 56.8 +0.6**
SSF pmax pmax
comp=Z,15nm,1.1s,mb4.4
SSF Saint Saulge 25.25 163 *e*P **P 10 20 56.8 +0.6**
comp=Z,15nm,1.1s,mb4.4
BBS Basel-Blauen 25.28 157 *e*P **P 10 21 00.5 +4.0**
LOMF Lomont 25.31 158 *e*P **P 10 20 58.8 +2.0**
MFF Saint Martin d 25.43 169 *e*P **P 10 20 58.4 +0.5**
comp=Z,29nm,1.1s,mb4.4
MFF Saint Martin d 25.43 169 *e*P **P 10 20 58.4 +0.5**
MFF pmax pmax
comp=Z,15nm,1.1s,mb4.4
MFF Saint Martin d 25.43 169 *e*P **P 10 20 58.4 +0.5**
comp=Z,14nm,1.1s,mb4.4
AVF Avril sur Loir 25.50 164 *e*P **P 10 20 58.1 -0.4**
comp=Z,24nm,1.1s,mb4.3
AVF Avril sur Loir 25.50 164 *e*P **P 10 20 58.1 -0.4**
AVF pmax pmax
comp=Z,12nm,1.1s,mb4.3
AVF Avril sur Loir 25.50 164 *e*P **P 10 20 58.1 -0.4**
comp=Z,12nm,1.1s,mb4.3
NIE Niedzica 25.60 136 *e*P **P 10 21 00.3 +0.9**
BGF Bois d'Agland 25.69 165 *e*P **P 10 20 59.6 -0.6**
comp=Z,80nm,1.5s,mb4.7
BGF Bois d'Agland 25.69 165 *e*P **P 10 20 59.6 -0.6**
BGF pmax pmax
comp=Z,40nm,1.5s,mb4.7
BGF Bois d'Agland 25.69 165 *e*P **P 10 20 59.6 -0.6**
comp=Z,40nm,1.5s,mb4.7
SMF Signal de Mont 25.69 163 *e*P **P 10 21 01.3 +1.1**
comp=Z,123nm,1.2s,mb5.0
SMF Signal de Mont 25.69 163 *e*P **P 10 21 01.3 +1.1**
SMF pmax pmax
comp=Z,62nm,1.2s,mb5.0
SMF Signal de Mont 25.69 163 *e*P **P 10 21 01.3 +1.1**
comp=Z,62nm,1.2s,mb5.0
STHS Stebnicka Huta 25.80 135 *e*P **P 10 21 02.2 +0.9**
STHS *e*pP pP 10 21 08.0 +3.7
STHS Stebnicka Huta 25.80 135 *e*P **P 10 21 02.2 +0.9**
comp=Z,8.8nm,0.8s,mb4.3
STHS *e* 10 21 08.0
TCF Toulx Ste Croi 25.91 166 *e*P **P 10 21 01.7 -0.5**
comp=Z,36nm,1.2s,mb4.5
TCF Toulx Ste Croi 25.91 166 *e*P **P 10 21 01.7 -0.5**
TCF pmax pmax
comp=Z,18nm,1.2s,mb4.5
TCF Toulx Ste Croi 25.91 166 *e*P **P 10 21 01.7 -0.5**
comp=Z,18nm,1.2s,mb4.5
CABF La Chapelle 25.95 159 *e*P **P 10 21 03.8 +1.2**
comp=Z,91nm,1.3s,mb4.8
CABF La Chapelle 25.95 159 *e*P **P 10 21 03.8 +1.2**
CABF pmax pmax
comp=Z,46nm,1.3s,mb4.8
CABF La Chapelle 25.95 159 *e*P **P 10 21 03.8 +1.2**
comp=Z,46nm,1.3s,mb4.8
PECR Pechory 25.99 99 *e*P **P 10 21 01.4 -1.6**
LVV L'vov 26.07 131 *e*P **P 10 20 59.5 -4.2**
ZST Bratislava 26.10 142 *e*P **P 10 21 09.7 +5.7**
VYHS Vyhne 26.16 139 *e*P **P 10 21 08.7 +4.2**
comp=Z,9.2nm,1.3s,mb4.2
AGO Saint Agoulin 26.21 164 *e*P **P 10 21 05.7 +0.7**
DAVOX Davos 26.26 154 LR LR 10 32 12.8
comp=Z,98nm,18.3s,MS3.4,baz=86,slow=38
CRVS Cervenica-Dubn 26.34 135 *e*pP pP 10 21 13.5 +4.4
PLDF La Plantade 26.34 164 *e*P **P 10 21 09.5 +3.4**
KOLS Kolonicke sedl 26.49 134 *e*pP pP 10 21 14.0 +3.5
KOLS *e*sP sP 10 21 16.8 +5.0
PYM Petit Puy Mans 26.50 165 *e*P **P 10 21 07.4 -0.2**
AKASG Malin Array Be 26.56 123 P **P 10 21 06.6 -1.5**
comp=Z,4.6nm,0.6s,mb4.2,baz=333,slow=9.8,SNR=16
AKASG PcP PcP 10 24 30.9 -1.5
comp=Z,1.3nm,0.6s,baz=330,slow=2.4,SNR=5.0
RJF Les Rejaudoux 26.83 167 *e*P **P 10 21 11.7 +1.1**
comp=Z,38nm,1.2s,mb4.5
RJF *e*R
comp=Z,140nm,21.5s
RJF Les Rejaudoux 26.83 167 *e*P **P 10 21 11.7 +1.1**
RJF pmax pmax
comp=Z,19nm,1.2s,mb4.5
RJF MLR MLR
comp=Z,140nm,21.5s,MS3.5
RJF Les Rejaudoux 26.83 167 *e*P **P 10 21 11.7 +1.1**
comp=Z,19nm,1.2s,mb4.5
RJF LR LR
comp=Z,140nm,21.5s,MS3.5
PSZ Piszkesteto 26.93 138 *e*P **P 10 21 12.7 +1.3**
LBL Lubilhac 27.04 164 *e*P **P 10 21 12.0 -0.4**
LPL La Plagne 27.10 159 *e*P **P 10 21 14.3 +1.3**
comp=Z,26nm,1.1s,mb4.4
LPL La Plagne 27.10 159 *e*P **P 10 21 14.3 +1.3**
LPL pmax pmax
comp=Z,13nm,1.1s,mb4.4
LPL La Plagne 27.10 159 *e*P **P 10 21 14.3 +1.3**
comp=Z,13nm,1.1s,mb4.4
LPG La Plagne 27.12 159 *e*P **P 10 21 14.5 +1.3**
comp=Z,29nm,1.3s,mb4.4
LPG La Plagne 27.12 159 *e*P **P 10 21 14.5 +1.3**
LPG pmax pmax
comp=Z,15nm,1.3s,mb4.4
LPG La Plagne 27.12 159 *e*P **P 10 21 14.5 +1.3**
comp=Z,15nm,1.3s,mb4.4
CAF Calviac 27.25 166 *e*P **P 10 21 16.4 +2.1**
comp=Z,44nm,1.3s,mb4.5
CAF Calviac 27.25 166 *e*P **P 10 21 16.4 +2.1**
CAF pmax pmax
comp=Z,22nm,1.3s,mb4.5
CAF Calviac 27.25 166 *e*P **P 10 21 16.4 +2.1**
comp=Z,22nm,1.3s,mb4.5
VIVF Saint-Julien-l 27.54 162 *e*P **P 10 21 18.7 +1.8**
comp=Z,45nm,1.4s,mb4.6
VIVF Saint-Julien-l 27.54 162 *e*P **P 10 21 18.7 +1.8**
VIVF pmax pmax
comp=Z,23nm,1.4s,mb4.6
VIVF Saint-Julien-l 27.54 162 *e*P **P 10 21 18.7 +1.8**
comp=Z,23nm,1.4s,mb4.6
MTLF Montolieu 28.84 166 *e*P **P 10 21 30.3 +1.8**
comp=Z,18nm,1.1s,mb4.4
MTLF Montolieu 28.84 166 *e*P **P 10 21 30.3 +1.8**
MTLF pmax pmax
comp=Z,9.0nm,1.1s,mb4.4
MTLF Montolieu 28.84 166 *e*P **P 10 21 30.3 +1.8**
comp=Z,8.9nm,1.1s,mb4.4
EPF Esparros 29.02 169 *e*P **P 10 21 31.3 +1.2**
comp=Z,22nm,1.0s,mb4.5
EPF Esparros 29.02 169 *e*P **P 10 21 31.3 +1.2**
EPF pmax pmax
comp=Z,11nm,1.0s,mb4.5
EPF Esparros 29.02 169 *e*P **P 10 21 31.3 +1.2**
comp=Z,11nm,1.0s,mb4.5
ETSF Etsaut 29.10 171 *e*P **P 10 21 32.6 +1.7**
SCHQ Schefferville 30.11 268 P **P 10 21 39.0 -0.7**
comp=Z,1.9nm,0.7s,mb4.0,baz=67,slow=7.9,SNR=5.2
SCHQ Schefferville 30.11 268 *e*P **P 10 21 39.3 -0.5**
comp=Z,2.3nm,0.6s,mb4.1
ARU Arti 30.44 85 *e*P **P 10 21 42.8 +0.1**
ARU pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
ARU MLR MLR
comp=Z,100nm,17.0s,MS3.5
ESDC Sonseca Array 32.19 176 P **P 10 21 57.8 -0.3**
comp=Z,0.4nm,0.3s,mb3.8,baz=341,slow=9.1,SNR=3.0
ORR Orenburg 33.32 94 ↓ *iP* **P 10 22 07.4 -0.6**
ORR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
ANN Anapa 34.19 118 *e*P **P 10 22 09.7 -5.9**
ANN *e*S **S 10 27 28.5 -13**
ANN pmax pmax
comp=Z,56nm,1.0s,mb5.5
INK Inuvik 35.80 329 LR LR 10 37 59.7
comp=Z,142nm,18.9s,MS3.8,baz=28,slow=38
INK Inuvik 35.80 329 *e*P **P 10 22 28.6 -0.9**
INK pmax pmax
comp=Z,7.0nm,1.1s
INK Inuvik 35.80 329 *e*P **P 10 22 28.6 -0.9**
comp=Z,7.2nm,1.1s,mb4.5
SOC Sochi 35.95 116 *e*P **P 10 22 31.5 +0.7**
SOC *e*S **S 10 28 11.3 +2.2**
SOC pmax pmax
comp=Z,18nm,1.1s,mb4.9
SOC MLR MLR
comp=Z,128nm,10.0s,MS4.0
KIV Kislovodsk 36.46 113 *e*P **P 10 22 33.5 -1.6**
KIV pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
ZRNK Zerenda 36.64 79 *e*P **P 10 22 36.3 -0.3**

ZRNK e*PP pP 10 22 42.5 +2.8
ZRNK pmax pmax
comp=Z,7.0nm,1.1s,mb4.4
ZRNK Zerenda 36.64 79 *e*P **P 10 22 36.3 -0.3**
comp=Z,7.1nm,1.1s,mb4.4
ZRNK epP pP 10 22 42.5 +2.8
BRVK Borovoye 36.94 78 *e*P **P 10 22 39.3 +0.1**
BRVK e*PP pP 10 22 45.3 +3.0
BRVK pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
BRVK Borovoye 36.94 78 *e*P **P 10 22 39.3 +0.1**
comp=Z,5.4nm,1.0s,mb4.3
BRVK epP pP 10 22 45.3 +3.0
YKW3 Yellowknife Ar 37.21 313 *e*P **P 10 22 41.1 -0.3**
YKW3 epP pP 10 22 48.6 +4.1
YKA Yellowknife Ar 37.26 313 P **P 10 22 41.7 -0.2**
comp=Z,6.1nm,1.0s,mb4.4,baz=29,slow=9.1,SNR=57
YKA PcP PcP 10 25 00.5 -0.9
comp=Z,1.0nm,0.8s,baz=25,slow=2.9,SNR=13
YKA LR LR 10 37 32.6
comp=Z,58nm,20.2s,MS3.4,baz=50,slow=36
YKA Yellowknife Ar 37.26 313 P **P 10 22 41.7 -0.2**
YKA 10 25 00.6
YKA Yellowknife Ar 37.26 313 P **P 10 22 41.7 -0.2**
YKA PcP PcP 10 25 00.6 -0.9
YKA LR LR 10 37 32.6
BRTR Keskin Array B 37.90 126 P **P 10 22 48.0 +0.6**
comp=Z,1.2nm,0.6s,mb3.8,baz=354,slow=6.6,SNR=5.4
MDT Midelt 39.02 177 LR LR 10 39 16.0
comp=Z,68nm,18.2s,MS3.5,baz=345,slow=37
NVS Novosibirsk 39.27 66 *e*P **P 10 22 58.2 -0.7**
BILL Bilibino 40.37 4⇓*i*P **P 10 23 08.4 +0.4**
BILL pmax pmax
comp=Z,11nm,1.7s,mb4.3
BILL MLR MLR
comp=Z,100nm,22.0s,MS3.6
BILL Bilibino 40.37 4 *e*P **P 10 23 08.3 +0.3**
comp=Z,7.1nm,1.1s,mb4.3
MALT Malatya 40.49 121 *e*P **P 10 23 09.8 +0.8**
MALT e*PP pP 10 23 16.2 +4.1
MALT pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
MALT Malatya 40.49 121 *e*P **P 10 23 09.8 +0.7**
comp=Z,4.0nm,0.8s,mb4.2
MALT epP pP 10 23 16.2 +4.0
ZAL Zalesovo 40.51 65 P **P 10 23 09.4 +0.3**
comp=Z,1.8nm,0.4s,mb4.1,baz=114,slow=19,SNR=6.7
ZAL LR LR 10 41 44.4
comp=Z,75nm,19.6s,MS3.5,baz=358,slow=39
GNI Garni 40.56 113 *e*P **P 10 23 09.5 -0.1**
GNI pmax pmax
comp=Z,19nm,1.7s
DAWY Dawson 40.65 330 *e*P **P 10 23 10.4 +0.1**
ILAR Eielson Array 41.06 335 P **P 10 23 14.5 +0.8**
comp=Z,3.3nm,0.9s,mb4.0,baz=12,slow=7.1,SNR=32
ILAR PcP PcP 10 25 13.5 +0.1
comp=Z,1.2nm,1.1s,baz=352,slow=4.7,SNR=4.4
ILAR LR LR 10 40 12.8
comp=Z,72nm,20.0s,MS3.5,baz=180,slow=36
ILAR Eielson Array 41.06 335 P **P 10 23 14.5 +0.8**
ILAR 10 25 13.5
COLA College 41.09 336 *e*P **P 10 23 13.8 -0.1**
COLA pmax pmax
comp=Z,13nm,1.3s,mb4.4
COLA College 41.09 336 *e*P **P 10 23 13.8 -0.2**
comp=Z,13nm,1.3s,mb4.4
KURK Kurchatov 41.52 73 *e*P **P 10 23 16.6 -0.9**
KURK e*PP pP 10 23 22.9 +2.3
KURK *e* 10 24 52.3
KURK pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
KURK Kurchatov 41.52 73 *e*P **P 10 23 16.6 -0.9**
comp=Z,7.5nm,0.9s,mb4.3
KURK epP pP 10 23 22.9 +2.3
KURK ePP PP 10 24 52.3 -1.1
ULM Lac du Bonnet 43.04 290 P **P 10 23 30.0 +0.1**
comp=Z,4.9nm,0.8s,mb4.3,baz=28,slow=8.1,SNR=11
YAK Yakutsk 43.16 28*d i*P **P 10 23 30.5 -0.4**
YAK pmax pmax
comp=Z,11nm,0.8s,mb4.6
EYMN Ely 43.77 285 *e*P **P 10 23 36.0 +0.2**
comp=Z,16nm,1.0s,mb4.7
DLBC Dease Lake 44.24 321 LR LR 10 41 26.4
comp=Z,81nm,20.3s,MS3.6,baz=114,slow=35
BOD Bodaibo 44.31 41 *e*P **P 10 23 30.7 -9.4**
BOD *e* 10 25 21.3
BOD pmax pmax
comp=Z,3.0nm,1.4s,mb3.8
BOD pmax pmax
comp=Z,3.0nm,1.5s,mb3.8
MKAR Makanchi Array 46.12 72 P **P 10 23 54.4 -0.1**
comp=Z,3.4nm,0.8s,mb4.3,baz=335,slow=5.8,SNR=35
MKAR Makanchi Array 46.12 72 P **P 10 23 54.4 -0.1**
MOY Mondy 46.94 54 *e*P **P 10 24 02.3 +1.4**
MOY pmax pmax
comp=Z,24nm,1.6s,mb4.9
IRK Irkutsk 47.24 51 *e*P **P 10 24 02.1 -1.1**
IRK pmax pmax
comp=Z,26nm,0.9s,mb5.2
AAK Ala-Archa 47.49 82⇑*e*P **P 10 24 05.7 +0.5**
AAK Ala-Archa 47.49 82 *e*P **P 10 24 05.1 -0.1**
comp=Z,1.7nm,0.3s,mb4.5
ZAK Zakamensk 48.70 53 *e*P **P 10 24 15.0 +0.4**
ZAK pmax pmax
comp=Z,6.0nm,1.9s,mb4.3
EGMT Eagleton 49.00 300 *e*P **P 10 24 16.9 0.0**
comp=Z,34nm,1.6s,mb5.1
WALA Waterton Lakes 49.17 304 *e*P **P 10 24 17.7 -0.4**
comp=Z,3.1nm,0.8s,mb4.4
BBB Bella Bella 49.68 316 LR LR 10 45 30.6
comp=Z,81nm,21.1s,MS3.7,baz=330,slow=36
WMQ Urumqi 50.42 69⇑P **P 10 24 29.7 +2.0**
WMQ AP pP 10 24 36.7 +5.8
WMQ XP sP 10 24 40.2 +8.1
WMQ PP PP 10 26 26.2 +2.9
WMQ PPP 10 27 23.7
WMQ *e*S **S 10 31 40.2 -0.9**
WMQ AMB AMB
comp=Z,5.0nm,0.8s,mb4.6
WMQ AMB AMB
comp=Z,11nm,3.2s
NEW Newport 50.73 306 LR LR 10 45 13.1
comp=Z,96nm,19.0s,MS3.8,baz=305,slow=35
RSSD Black Hills 50.96 293 *e*P **P 10 24 32.4 +0.6**
RSSD pmax pmax
comp=Z,11nm,1.2s,mb4.7
RSSD Black Hills 50.96 293 *e*P **P 10 24 32.4 +0.6**
comp=Z,11nm,1.2s,mb4.7
CHMT Chamberlain Mo 50.97 302 *e*P **P 10 24 31.6 -0.2**
SONM Songino Array 51.84 52 P **P 10 24 38.9 +0.5**
comp=Z,1.1nm,0.9s,mb3.8,baz=333,slow=4.3,SNR=7.4
SONM LR LR 10 50 17.7
comp=Z,63nm,19.5s,MS3.6,baz=182,slow=40
ULN Ulaanbaatar 51.97 51 *e*P **P 10 24 40.2 +0.9**
ULN e*PP pP 10 24 47.6 +5.1
ULN pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
ULN Ulaanbaatar 51.97 51 *e*P **P 10 24 40.2 +0.9**
comp=Z,3.0nm,1.0s,mb4.2
ULN epP pP 10 24 47.6 +5.1
KSU1 Kansas State U 53.35 284 *e*P **P 10 24 48.8 -0.8**
PDAR Pinedale Array 53.78 297 P **P 10 24 52.1 -0.6**
comp=Z,1.9nm,1.0s,mb4.0,baz=28,slow=6.7,SNR=16
HLID Hailey 54.38 302 *e*P **P 10 24 57.3 +0.2**
comp=Z,5.0nm,1.4s,mb4.2
CBKS Cedar Bluff 54.56 287 *e*P **P 10 24 57.9 -0.5**
CBKS pmax pmax
comp=Z,13nm,0.9s,mb5.0
CBKS Cedar Bluff 54.56 287 *e*P **P 10 24 57.9 -0.5**
comp=Z,13nm,0.9s,mb5.0
ISCO Idaho Springs 55.40 292 *e*P **P 10 25 04.9 +0.5**
ISCO e*PP pP 10 25 12.8 +5.2
ISCO pmax pmax
comp=Z,15nm,1.4s,mb4.8
ISCO Idaho Springs 55.40 292 *e*P **P 10 25 04.9 +0.5**
comp=Z,15nm,1.4s,mb4.8
ISCO epP pP 10 25 12.8 +5.1
HWUT Hardware Ranch 55.42 298 *e*P **P 10 25 04.7 +0.1**
comp=Z,25nm,1.9s,mb4.9
SMCO Snowmass 56.37 293 *e*P **P 10 25 12.1 +0.7**
comp=Z,16nm,1.1s,mb5.0
MIAR Mount Ida 56.61 279 *e*P **P 10 25 12.5 -0.6**
MIAR pmax pmax
comp=Z,16nm,1.5s,mb4.8
MIAR Mount Ida 56.61 279 *e*P **P 10 25 12.5 -0.6**
comp=Z,16nm,1.5s,mb4.8
HABR Khabarovsk 57.06 29 *e*P **P 10 25 16.4 +0.1**
HABR *e*S **S 10 33 11.3 +0.2**
DUG Dugway 57.08 299 *e*P **P 10 25 16.9 +0.5**
DUG pmax pmax
comp=Z,12nm,1.5s,mb4.7
DUG Dugway 57.08 299 *e*P **P 10 25 16.9 +0.5**
comp=Z,12nm,1.5s,mb4.7
SRU San Rafael 57.45 296 *e*P **P 10 25 19.3 +0.3**
SRU pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
SRU San Rafael 57.45 296 *e*P **P 10 25 19.3 +0.2**
comp=Z,7.9nm,1.1s,mb4.7
TMUT Trail Mountain 57.47 297 *e*P **P 10 25 22.3 +3.1**
PV10 Paradox Valley 57.71 295 *e*P **P 10 25 22.3 +1.5**
PV01 Paradox Valley 57.80 294 *e*P **P 10 25 22.3 +0.8**
GTA Gaotai 57.96 61 P **P 10 25 23.1 +0.4**
GTA AP pP 10 25 29.4 +3.5
GTA XP sP 10 25 33.1 +6.0
GTA AMB AMB
comp=Z,5.0nm,1.3s,mb4.4
WMOK Wichita Mounta 58.04 284 *e*P **P 10 25 22.7 -0.5**
WMOK pmax pmax
comp=Z,14nm,1.3s,mb4.8
WMOK Wichita Mounta 58.04 284 *e*P **P 10 25 22.7 -0.5**
comp=Z,14nm,1.3s,mb4.8
MSU Marysvale 58.47 297 *e*P **P 10 25 27.6 +1.4**
MVCO Mesa Verde 58.64 294 *e*P **P 10 25 28.4 +1.1**
MVCO epP pP 10 25 34.5 +3.9
TORD Torodi Ar. Bea 58.81 170 P **P 10 25 27.8 -0.7**
comp=Z,4.1nm,0.7s,mb4.6,baz=354,slow=6.9,SNR=28
HHC Hu-ho-hao-te 59.67 51 *e*P **P 10 25 35.1 +0.6**
HHC AP pP 10 25 41.3 +3.6
HHC XP sP 10 25 44.1 +5.1
HHC PCP PcP 10 26 22.9 +1.4
HHC PP PP 10 27 48.9 +2.7
HHC SCP ScP 10 30 21.7 -0.8
HHC PCS PcS 10 30 23.5 -0.2
HHC S **S 10 33 43.0 -2.1**
HHC PS 10 33 58.4
HHC SCS ScS 10 35 20.7 -4.3
HHC SS SS 10 37 37.8 -2.8
HHC AMB AMB
comp=Z,13nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,90nm,6.8s
HHC LR LR
comp=N,106nm,16.7s,MS4.3
HHC LR LR
comp=E,152nm,16.7s,MS4.3
HHC LR LR
comp=Z,141nm,15.1s,MS4.2
MDJ Mudanjiang 59.90 35 P **P 10 25 35.9 -0.2**
MDJ AMB AMB
comp=Z,7.0nm,0.8s,mb4.7
MDJ AMB AMB
comp=Z,42nm,5.0s
MDJ LR LR
comp=N,58nm,23.1s,MS3.7
MDJ LR LR
comp=E,27nm,20.5s,MS3.7
MDJ LR LR
comp=Z,54nm,24.8s,MS3.6
CN2 Changchun 59.91 38 *e*P **P 10 25 36.2 0.0**
CN2 *e*S **S 10 33 43.1 -5.0**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CN2 AMB AMB
comp=Z,200nm,3.0s
ANMO Albuquerque 60.15 291⇑*e*P **P 10 25 38.5 +0.7**
ANMO Albuquerque 60.15 291 *e*P **P 10 25 38.4 +0.5**
comp=Z,3.9nm,0.9s,mb4.4
NVAR Mina Array Bea 60.21 303 P **P 10 25 37.3 -1.0**
comp=Z,0.9nm,0.8s,mb3.9,baz=279,slow=2.3,SNR=5.4
BNM Barren Site 60.94 291 *e*P **P 10 25 44.5 +1.2**
BNM epP pP 10 25 51.9 +5.5
BNM *e*sP sP 10 25 54.3 +6.6
TPNV Topopah Spring 61.05 300 *e*P **P 10 25 44.2 +0.2**
TPNV pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
TPNV Topopah Spring 61.05 300 *e*P **P 10 25 44.2 +0.2**
comp=Z,6.2nm,0.8s,mb4.8
LZH Lanzhou 62.18 59 *e*P **P 10 25 52.6 +1.0**
LZH AP pP 10 26 00.6 +5.8
LZH XP sP 10 26 03.5 +7.5
LZH PP PP 10 28 10.9 +2.6
LZH AMB AMB
comp=Z,22nm,1.4s,mb5.1
JCT Junction City 62.31 283 *e*P **P 10 25 52.5 0.0**
JCT pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
JCT Junction City 62.31 283 *e*P **P 10 25 52.5 0.0**
comp=Z,10nm,1.1s,mb4.9
KOLN Koldanda 64.02 80 *e*P **P 10 26 03.2 -0.6**
comp=Z,22nm,1.0s,mb5.1
GKN Gorkha 64.13 79 *e*P **P 10 26 04.0 -0.5**
KKN Kakani 64.52 79 *e*P **P 10 26 06.9 -0.2**
GUN Gumba 64.59 78 *e*P **P 10 26 07.9 +0.3**
DMN Daman 64.64 79 *e*P **P 10 26 07.3 -0.6**
JIRN Jiri 64.92 78 *e*P **P 10 26 10.4 +0.7**
comp=Z,20nm,0.7s,mb5.2
DBIC Dimbokro 65.03 178 P **P 10 26 09.2 -1.3**
comp=Z,4.9nm,1.0s,mb4.5,baz=225,slow=7.7,SNR=4.3
DBIC LR LR 10 53 12.4
comp=Z,68nm,19.3s,MS3.9,baz=341,slow=35
MJAR Matsushiro Arr 69.21 30 P **P 10 26 36.3 -0.7**
comp=Z,1.5nm,0.7s,mb4.1,baz=347,slow=5.1,SNR=5.6
NJ2 Nanjing 69.79 47 *e*P **P 10 26 44.8 +4.2**
NJ2 AP pP 10 26 51.2 +7.4
NJ2 XP sP 10 26 54.4 +9.4
NJ2 S S 10 35 53.0 +3.2
NJ2 XS sS 10 36 05.0 +10
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
NJ2 AMB AMB
comp=Z,590nm,8.0s
NJ2 LR LR
comp=N,480nm,27.7s,MS4.7
NJ2 LR LR
comp=E,400nm,26.8s,MS4.7
NJ2 LR LR
comp=Z,320nm,22.6s,MS4.5
WHN Wuhan 70.16 52 *e*P **P 10 26 48.0 +5.2**
SSE Sheshan 71.24 46 P **P 10 26 48.4 -1.0**
SSE AMB AMB
comp=Z,19nm,0.9s,mb5.0
SSE AMB AMB
comp=Z,80nm,4.0s
CHTO Chiang Mai 77.09 69 *e*P **P 10 27 23.4 -0.2**
CHTO e*PP pP 10 27 29.5 +2.6
CHTO pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
CHTO Chiang Mai 77.09 69 *e*P **P 10 27 23.4 -0.1**
comp=Z,6.8nm,1.0s,mb4.5
CHTO epP pP 10 27 29.5 +2.6
WRA Warramunga Arr 123.53 45 PKP PKPdf 10 34 26.1 -1.6
comp=Z,1.0nm,0.7s,baz=325,slow=2.4,SNR=12
WRA Warramunga Arr 123.53 45 PKIKP PKPdf 10 34 26.1 -1.6
WRA pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 127.03 47 PKP PKPdf 10 34 32.9 -1.5
comp=Z,1.0nm,0.7s,baz=352,slow=2.0,SNR=14
ASAR Alice Springs 127.03 47 PKIKP PKPdf 10 34 32.9 -1.5
ASAR pmax pmax
comp=Z,1.0nm,0.7s
MAW Mawson 146.59 139 PKPbc PKPbc 10 35 10.4 -1.4
comp=Z,5.9nm,0.9s,baz=311,slow=11,SNR=7.1
MAW Mawson 146.59 139 PKP2 PKPab 10 35 10.4 -2.4
MAW pmax pmax
comp=Z,6.0nm,0.9s

*IDC **09** 10:27:49.7±0.6, 1974S×17468W, h0km, mb4.4/17, mb1 4.6/18, mb1mx4.5/21, mbtmp4.4/18, ML4.5/1, MS4.5/6, Ms1 4.5/6, ms1mx4.0/22, Error ellipse: s-maj=23.3km s-min=13.9km az=133.0*
*ISCJB **09** 10:27:53.0±0.2, 1988S±006×17461W±007, h27km, mb4.7/52, MS4.6/7, Error ellipse: s-maj=10.4km s-min=6.0km az=80.5*
*MOS **09** 10:27:54.3±2.0, 1983S×17472W, h33km, mb5.1/13, Error ellipse: s-maj=15.1km s-min=11.3km az=138.3*
*HRVD **09** 10:27:54.6±0.2, 1987S×17400W, h12km, MW5.1/74, Centroid moment Tensor Solution. LP body waves: s46,c67;Mantle waves: s74,c115; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.28±.14; $M_{\theta\theta}$2.61±.15; $M_{\theta\phi}$-2.33±.14; $M_{r\theta}$1.14±.34; $M_{r\phi}$4.39±.11; $M_{\phi\phi}$-0.19±.36; Best double couple: M_w5.16700×10^{16} NP1:ϕ_s15.00000°,δ77.00000°,λ180.00000°. NP2: ϕ_s105.00000°,δ90.00000°,λ13.00000°. Principal axes: T 5.3190, Plg9.0000°, Azm330.0000°; N -0.3030, Plg77.0000°, Azm105.0000°; P -5.0150, Plg9.0000°, Azm239.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **09** 10:27:54.5, 1980S×17460W, h27km, mB5.2, mb4.9, Ms5.3, Msz5.0*
*NEIC **09** 10:27:54.6±0.3, 1978S×17461W, mb4.9/30, Error ellipse: s-maj=15.6km s-min=7.6km az=140.0*
*SZGRF **09** 10:27:58.5, 1941S×17339W, h49km, mb5.8, Tonga Islands*

ISC 09 10:27:54.9±0.2, 1987S±007×17456W±007, h28km, h28km±.9km: pP-P, n182, σ1≥29/110, mb4.7/52, MS4.6/7, 3C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.49**	**25**	Pn	**Pn**	**10 29 20.7**	**-7.8**
	9.6nm,0.3s,baz=19,slow=1.8,SNR=16						
AFI				Sn	**Sn**	**10 30 28.1**	**-14**
	22nm,0.3s,baz=294,slow=20,SNR=3.6						
AFI	**Afiamalu**	**6.49**	**25**	P	**Pn**	**10 29 20.7**	**-7.9**
AFI				pmax	pmax		
	comp=Z,10.0nm,0.3s						
AFI	**Afiamalu**	**6.49**	**25**	*e*Pn	**Pn**	**10 29 21.1**	**-7.4**
	comp=Z,125nm,0.6s						
RAO	**Raoul Island**	**9.83**	**197**	Sn	**Sn**	**10 31 56.0**	**-7.8**
	comp=Z,33nm,0.3s,baz=82,slow=21,SNR=3.5						
RAO				LR	LR	10 33 31.4	
	comp=Z,2μm,20.4s,baz=24,slow=34						
RAR	**Rarotonga**	**13.91**	**98**	Pn	**Pn**	**10 30 58.9**	**-11**
	comp=Z,7.6nm,0.3s,baz=269,slow=8.8,SNR=13						
RAR				Sn	Sn	10 33 17.4	-26
	comp=Z,7.6nm,0.3s,baz=90,slow=20,SNR=5.1						
DZM	**Mont Dzumac**	**17.88**	**260**	P	**Pn**	**10 32 06.3**	**+4.8**
	comp=Z,0.4nm,0.3s,baz=272,slow=0.8,SNR=3.0						
DZM				LR	LR	10 37 03.3	
	comp=Z,2μm,18.1s,baz=135,slow=31						
URZ	**Urewera**	**19.71**	**200**	P	**Pn**	**10 32 20.1**	**-3.5**
	comp=Z,1.3nm,0.3s,baz=345,slow=5.1,SNR=6.4						
URZ				S	**Sn**	**10 35 57.4**	**-6.7**
	comp=Z,0.6nm,0.3s,baz=32,slow=22,SNR=4.3						
TBI	**Tubuai**	**23.58**	**103**	*e*LQ		10 37 27.7	
	comp=Z,6μm,27.5s						
TBI				*e*LR	LR	10 38 28.0	
	comp=Z,438nm,25.5s						
PPT	**Papeete**	**23.76**	**89**	*e*LQ		10 37 30.4	
	comp=Z,6μm,26.8s						
PPT				*e*LR	LR	10 38 29.7	
	comp=Z,2μm,28.0s,baz=254						
PPT	**Papeete**	**23.76**	**89**	LR	LR	10 40 09.6	
	comp=Z,460nm,20.8s,MS3.9,baz=265,slow=31						
RPZ	**Rata Peaks**	**26.66**	**204**	P	**P**	**10 33 32.0**	**+0.6**
	comp=Z,13nm,0.7s,mb4.5,baz=32,slow=18,SNR=4.4						
TAOE	**Nuku Hiva Isla**	**35.01**	**77**	*e*LR	LR	10 43 38.3	
	comp=Z,4μm,28.1s						
CTA	**Charters Tower**	**36.78**	**263**	*e*P	**P**	**10 35 00.4**	**+0.3**
	comp=Z,6.1nm,0.4s,mb4.8						
CTA	**Charters Tower**	**36.78**	**263**	P	**P**	**10 34 59.2**	**-0.8**
	comp=Z,9.7nm,0.6s,mb4.8,baz=96,slow=10,SNR=12						
CTA	**Charters Tower**	**36.78**	**263**	P	**P**	**10 34 59.2**	**-0.9**
CTA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CTAO	**Charters Tower**	**36.78**	**263**	*e*P	**P**	**10 35 00.2**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.9						
CTAO	**Charters Tower**	**36.78**	**263**	*e*P	**P**	**10 35 00.2**	**+0.2**
	comp=Z,18nm,0.9s,mb4.9						
RKT	**Rikitea**	**36.90**	**102**	*e*LR	LR	10 44 40.5	
	comp=Z,405nm,27.0s						
PMG	**Port Moresby**	**38.39**	**280**	P	**P**	**10 35 12.7**	**-1.0**
	comp=Z,15nm,0.8s,mb4.8,baz=109,slow=6.2,SNR=4.3						
STKA	**Stephens Creek**	**40.98**	**244**	*e*P	**P**	**10 35 31.9**	**-3.3**
	comp=Z,6.4nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**40.98**	**244**	P	**P**	**10 35 32.1**	**-3.2**
	comp=Z,8.1nm,0.9s,mb4.4,baz=125,slow=14,SNR=5.1						
STKA				LR	LR	10 50 45.0	
	comp=Z,1μm,18.1s,MS4.9,baz=276,slow=34						
ASAR	**Alice Springs**	**47.81**	**256**	P	**P**	**10 36 27.9**	**-2.0**
	comp=Z,3.9nm,0.8s,mb4.5,baz=88,slow=8.3,SNR=17						
ASAR				PcP	PcP	10 37 59.2	+0.8
	comp=Z,4.4nm,0.7s,baz=105,slow=4.2,SNR=6.8						
WB2	**Warramunga Arr**	**47.88**	**261**	*e*P	**P**	**10 36 29.1**	**-1.3**
WRAB	**Tennant Creek**	**47.89**	**261**	*e*P	**P**	**10 36 28.4**	**-2.1**
WRAB	**Tennant Creek**	**47.89**	**261**	*e*P	**P**	**10 36 30.9**	**+0.4**
	comp=Z,10nm,0.6s,mb5.0						
WRA	**Warramunga Arr**	**47.89**	**261**	P	**P**	**10 36 29.2**	**-1.4**
	comp=Z,3.3nm,0.5s,mb4.6,baz=97,slow=7.4,SNR=68						
FORT	**Forrest**	**52.51**	**246**	*e*P	**P**	**10 37 06.0**	**+0.5**
	comp=Z,10nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**56.32**	**261**	*e*P	**P**	**10 37 35.4**	**+2.2**
	comp=Z,5.0nm,0.9s,mb4.5						
SBA	**Scott Base**	**58.73**	**185**	*e*P	**P**	**10 37 51.6**	**+1.4**
SBA				pmax	pmax		
	comp=Z,47nm,1.4s,mb5.3						
SBA	**Scott Base**	**58.73**	**185**	*e*P	**P**	**10 37 51.6**	**+1.4**
	comp=Z,47nm,1.4s,mb5.3						
VNDA	**Vanda**	**58.84**	**186**	P	**P**	**10 37 50.5**	**-0.5**
	comp=Z,3.3nm,1.0s,mb4.3,baz=358,slow=7.5,SNR=10						
VNDA				LR	LR	10 57 43.9	
	comp=Z,403nm,21.6s,MS4.5,baz=27,slow=30						
VNDA	**Vanda**	**58.84**	**186**	*e*P	**P**	**10 37 51.5**	**+0.6**
	comp=Z,7.5nm,1.1s,mb4.6						
MBWA	**Marble Bar**	**61.15**	**256**	*e*P	**P**	**10 38 09.0**	**+2.3**
	comp=Z,6.8nm,0.7s,mb4.9						
KLBR	**Kellerberrin**	**61.25**	**244**	*e*P	**P**	**10 38 08.5**	**+1.1**
	comp=Z,10nm,0.7s,mb5.1						
MUN	**Mundaring**	**62.51**	**244**	*e*P	**P**	**10 38 14.7**	**-1.2**
QSPA	**South Pole Qui**	**70.20**	**180**	*e*P	**P**	**10 39 05.4**	**+0.2**
	comp=Z,18nm,1.0s,mb5.0						
MJAR	**Matsushiro Arr**	**71.67**	**321**	P	**P**	**10 39 12.0**	**-2.1**
	comp=Z,2.5nm,0.7s,mb4.2,baz=145,slow=6.0,SNR=6.4						
MJAR	**Matsushiro Arr**	**71.67**	**321**	P	**P**	**10 39 12.0**	**-2.1**
MAT	**Matsushiro**	**71.68**	**321**	P	**P**	**10 39 17.2**	**+3.1**
MAT	**Matsushiro**	**71.68**	**321**	*e*P	**P**	**10 39 17.0**	**+2.9**
PTRM	**Twissleman Ran**	**75.47**	**43**	*e*P	**P**	**10 39 38.8**	**+2.3**
PTRM				epP	pP	10 39 45.3	-0.1
YBH	**Yreka Blue Hor**	**77.81**	**37**	P	**P**	**10 39 49.2**	**-0.4**
	comp=Z,1.2nm,0.6s,mb4.0,baz=276,slow=9.2,SNR=3.5						
NVAR	**Mina Array Bea**	**78.37**	**42**	P	**P**	**10 39 51.9**	**-0.8**
	comp=Z,3.9nm,0.9s,mb4.3,baz=228,slow=9.1,SNR=12						
MNV	**Mina**	**78.47**	**42**	*e*P	**P**	**10 39 52.4**	**-0.9**
MNV				*e*PP	pP	10 40 02.0	-0.2
MNV				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
MNV	**Mina**	**78.47**	**42**	*e*P	**P**	**10 39 52.4**	**-0.8**
	comp=Z,12nm,1.0s,mb4.8						
MNV				epP	pP	10 40 02.0	-0.2
TPNV	**Topopah Spring**	**78.81**	**44**	*e*P	**P**	**10 39 54.6**	**-0.6**
TPNV				*e*PP	pP	10 40 04.1	-0.1
TPNV				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
TPNV	**Topopah Spring**	**78.81**	**44**	*e*P	**P**	**10 39 54.6**	**-0.6**
	comp=Z,7.9nm,0.9s,mb4.6						
TPNV				epP	pP	10 40 04.1	-0.1
NEN	**Nelson**	**79.01**	**46**	*e*P	**P**	**10 39 55.8**	**-0.4**
NEN				epP	pP	10 40 04.9	-0.4
SSE	**Sheshan**	**79.80**	**308**	P	**P**	**10 40 01.1**	**+0.5**
SSE				XP	sP	10 40 14.2	+1.4
SSE				PP	PP	10 43 02.7	+0.8
SSE				S	S	10 50 03.7	+2.0
SSE				XS	sS	10 50 19.7	+3.2
SSE				SS	SS	10 55 13.9	+3.0
SSE				AMB	AMB		
	comp=Z,26nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,92nm,4.1s						
SSE				LR	LR		
	comp=N,82nm,28.8s,MS4.2						
SSE				LR	LR		
	comp=E,124nm,29.2s,MS4.2						
SSE				LR	LR		
	comp=Z,191nm,30.9s,MS4.2						
TUC	**Tucson**	**80.06**	**50**	*e*P	**P**	**10 40 00.1**	**-1.9**
TUC				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
TUC	**Tucson**	**80.06**	**50**	*e*P	**P**	**10 40 00.1**	**-1.9**
	comp=Z,13nm,1.3s,mb4.7						
WVOR	**Wild Horse Val**	**80.60**	**38**	*e*P	**P**	**10 40 06.1**	**+1.2**

WVOR pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
WVOR Wild Horse Val 80.60 38 *e*P **P 10 40 06.1 +1.2**
comp=Z,8.3nm,1.1s,mb4.6
WUAZ Wupatki 81.31 47 *e*P **P 10 40 11.9 +3.3**
comp=Z,13nm,1.3s,mb4.7
MDJ Mudanjiang 81.90 323 P **P 10 40 14.4 +2.6**
MDJ AMB AMB
comp=Z,9.0nm,1.1s,mb4.6
MDJ AMB AMB
comp=Z,59nm,4.5s
NJ2 Nanjing 82.00 308 *e*P **P 10 40 14.4 +2.1**
NJ2 AP pP 10 40 22.9 +1.6
NJ2 XP sP 10 40 25.2 +0.6
NJ2 PP PP 10 43 23.0 +2.9
NJ2 S S 10 50 25.0 +0.3
NJ2 XS sS 10 50 38.0 -1.5
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
NJ2 AMB AMB
comp=Z,110nm,10.0s
NJ2 LR LR
comp=N,740nm,27.4s,MS5.0
NJ2 LR LR
comp=E,620nm,29.9s,MS5.0
NJ2 LR LR
comp=Z,530nm,25.6s,MS4.8
MSU Marysvale 82.36 45 *e*P **P 10 40 17.5 +3.3**
MAW Mawson 83.23 199 P **P 10 40 17.8 -0.9**
comp=Z,2.7nm,0.7s,mb4.4,baz=159,slow=3.7,SNR=4.5
MAW LR LR 11 14 49.3
comp=Z,519nm,20.1s,MS4.9,baz=338,slow=34
TMUT Trail Mountain 83.42 44 *e*P **P 10 40 21.9 +2.2**
LAZ Ladron 83.75 50 *e*P **P 10 40 21.8 +0.5**
HLID Hailey 83.76 39 *e*P **P 10 40 20.1 -1.3**
comp=Z,8.9nm,1.1s,mb4.8
MNTX Cornudas Mount 83.76 53 *e*P **P 10 40 20.9 -0.5**
comp=Z,9.5nm,1.2s,mb4.8
SRU San Rafael 83.78 45 *e*P **P 10 40 21.3 -0.2**
SRU pmax pmax
comp=Z,16nm,1.1s,mb5.1
SRU San Rafael 83.78 45 *e*P **P 10 40 21.3 -0.2**
comp=Z,16nm,1.1s,mb5.0
TTA Tatalina 83.81 8 *e*P **P 10 40 23.2 +1.5**
TTA pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
TTA Tatalina 83.81 8 *e*P **P 10 40 23.2 +1.6**
comp=Z,4.5nm,0.8s,mb4.7
CN2 Changchun 83.81 321 *e*P **P 10 40 24.6 +2.9**
CN2 *e*XP sP 10 40 35.7 +1.7
CN2 *e*S S 10 50 45.8 +2.7
CN2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.8
CN2 AMB AMB
comp=Z,200nm,3.0s
BNM Barren Site 84.00 51 *e*P **P 10 40 24.0 +1.4**
LTX Lajitas 84.00 56 *e*P **P 10 40 24.0 +1.3**
LTX pmax pmax
comp=Z,24nm,1.5s,mb5.1
LTX Lajitas 84.00 56 *e*P **P 10 40 24.0 +1.3**
comp=Z,24nm,1.5s,mb5.1
LPM Los Pinos Moun 84.07 50 *e*P **P 10 40 22.9 -0.2**
TCUT Toone Canyon 84.26 43 *e*P **P 10 40 22.8 -1.2**
PV10 Paradox Valley 84.39 46 *e*P **P 10 40 24.5 -0.1**
HWUT Hardware Ranch 84.43 42 *e*P **P 10 40 23.6 -1.2**
comp=Z,7.2nm,1.1s,mb4.7
ANMO Albuquerque 84.50 50 *e*P **P 10 40 24.7 -0.5**
ANMO pmax pmax
comp=Z,16nm,1.3s
ANMO Albuquerque 84.50 50 *e*P **P 10 40 24.7 -0.5**
comp=Z,16nm,1.3s,mb5.0
PV01 Paradox Valley 84.59 46 *e*P **P 10 40 25.3 -0.3**
GDL2 Guadalupe Moun 84.76 53 *e*P **P 10 40 27.4 +0.9**
NEW Newport 85.00 34 P **P 10 40 28.4 +0.7**
comp=Z,1.5nm,0.6s,mb4.3,baz=215,slow=3.1,SNR=4.4
MCMT McKenzie Canyo 85.40 39 *e*P **P 10 40 28.9 -0.8**
MCMT *e*pP pP 10 40 38.4 -0.4
CPRX Cap Rock 85.51 53 *e*P **P 10 40 30.0 -0.2**
TPAW Teton Pass 85.82 41 *e*P **P 10 40 32.1 +0.3**
comp=Z,8.0nm,1.1s,mb4.9
TPAW *e*pP pP 10 40 41.1 +0.3
DLMT Dillon 85.85 39 *e*P **P 10 40 32.7 +0.7**
comp=Z,13nm,1.3s,mb5.0
SMCO Snowmass 86.19 46 *e*P **P 10 40 33.3 -0.3**
comp=Z,15nm,1.4s,mb5.0
DLBC Dease Lake 86.24 22 P **P 10 40 33.0 -0.9**
comp=Z,0.8nm,0.7s,mb4.0,baz=257,slow=14,SNR=3.4
DLBC Dease Lake 86.24 22 P **P 10 40 33.0 -0.9**
QLMT Earthquake Lak 86.25 40 *e*P **P 10 40 35.0 +1.0**
QLMT *e*pP pP 10 40 42.1 -0.9
FLWY Flagg Ranch 86.29 40 *e*P **P 10 40 35.6 +1.5**
comp=Z,10nm,1.0s,mb5.0
FLWY *e*pP pP 10 40 43.3 +0.2
PDAR Pinedale Array 86.31 42 P **P 10 40 33.4 -0.8**
comp=Z,0.8nm,0.6s,mb4.1,baz=193,slow=4.6,SNR=6.3
COLA College 86.93 11 *i* P **P 10 40 34.4 -2.9**
COLA College 86.93 11 *e*P **P 10 40 34.9 -2.4**
comp=Z,16nm,0.8s,mb5.3
ILAR Eielson Array 87.02 11 P **P 10 40 34.9 -2.8**
comp=Z,5.2nm,1.1s,mb4.7,baz=229,slow=4.4,SNR=28
DAWY Dawson 88.00 15 *e*P **P 10 40 40.9 -1.4**
SNAA Sanae 88.52 177 *e*P **P 10 40 45.6 +0.7**
SNAA *e* 10 40 47.2
SNAA *e* 10 40 56.3
SNAA *e* 10 40 58.9
SNAA *e* 10 41 01.8
SNAA *e* 10 41 04.0
SNAA Sanae 88.52 177 *i* P **P 10 40 44.3 -0.6**
VNA3 Neumayer Olymp 88.53 175 *e*P **P 10 40 45.4 +0.5**
VNA3 *e* 10 40 47.2
VNA3 *e* 10 40 49.7
VNA3 *e* pP 10 40 53.5 -0.5
VNA3 *e* 10 40 58.2
VNA3 *e* 10 41 00.6
VNA3 *e* 10 41 03.7
VNA3 *e* 10 41 06.8
VNA3 *e* 10 41 10.7
VNA3 *e* 10 41 16.7
VNA3 *e* 10 41 24.7
VNA3 *e* 10 41 46.0
BILL Bilibino 88.77 353⇑ *e*P **P 10 40 44.3 -1.8**
BILL pmax pmax
comp=Z,9.0nm,1.4s,mb4.9
BILL Bilibino 88.77 353 *e*P **P 10 40 46.1 0.0**
comp=Z,5.3nm,0.9s,mb4.9
VNA2 Neumayer--Watz 89.01 176 *e*P **P 10 40 46.4 -0.8**
VNA2 *e* 10 40 47.9
VNA2 *e* 10 40 50.2
VNA2 *e* pP 10 40 55.4 -0.8
VNA2 *e* 10 40 59.0
VNA2 *e* 10 41 01.2
VNA2 *e* 10 41 04.6
VNA2 *e* 10 41 06.3
VNA2 *e* 10 41 08.9
VNA2 *e* 10 41 13.0
VNA2 *e* 10 41 18.0
VNA2 *e* 10 41 28.1
VNA2 *e* 10 41 33.5
VNA2 *e* 10 41 46.7
VNA1 Neumayer--Stat 89.22 175 *e*P **P 10 40 48.3 +0.2**
VNA1 *e* 10 40 49.9
VNA1 *e* 10 40 52.7
VNA1 *e* pP 10 40 56.2 -1.0
VNA1 *e* pP 10 40 58.8 +1.6
VNA1 *e* 10 41 00.9
VNA1 *e* 10 41 04.3
VNA1 *e* 10 41 06.6
VNA1 *e* 10 41 09.1
VNA1 *e* 10 41 18.0
VNA1 *e* 10 41 25.2
VNA1 *e* 11 27 32.3
VNA1 *e* 11 27 34.9
VNA1 *e* 11 27 37.8
VNA1 *e* 11 27 44.3
XAN Xi'an 90.35 306 P **P 10 40 54.0 +0.6**
XAN AP pP 10 41 02.1 -0.4
XAN XP sP 10 41 06.1 +0.3
XAN AMB AMB
comp=Z,4.0nm,1.2s,mb4.6
HHC Hu-ho-hao-te 91.25 313 *e*P **P 10 40 58.8 +1.2**
HHC AP pP 10 41 07.6 +0.9
HHC XP sP 10 41 10.9 +0.9
HHC PP PP 10 44 38.2 +3.4
HHC SKS 10 51 28.0
HHC S 10 51 54.3
HHC XS sS 10 52 08.4 -1.0
HHC PS PS 10 53 10.5 +4.4
HHC SS SS 10 58 04.2 +4.9
HHC AMB AMB
comp=Z,13nm,1.0s,mb5.2
HHC AMB AMB
comp=Z,89nm,6.3s
HHC LR LR
comp=N,238nm,16.1s,MS4.8
HHC LR LR
comp=E,273nm,20.2s,MS4.8
HHC LR LR
comp=Z,368nm,19.8s,MS4.8
KMI Kunming 91.97 296 P **P 10 41 04.9 +4.0**
KMI AMB AMB
comp=Z,6.0nm,0.9s,mb4.9
INK Inuvik 92.84 14 P **P 10 41 02.8 -2.2**
comp=Z,3.1nm,1.2s,mb4.6,baz=224,slow=6.1,SNR=6.8
INK Inuvik 92.84 14 *e*P **P 10 41 03.0 -2.0**
INK pmax pmax
comp=Z,12nm,1.1s
INK Inuvik 92.84 14 *e*P **P 10 41 03.0 -2.0**
comp=Z,12nm,1.1s,mb5.2
JTS JuntasAbangare 93.07 80 *i* P **P 10 41 06.9 +0.9**
JTS JuntasAbangare 93.07 80 *e*P pP 10 41 16.6 +1.5
comp=Z,10nm,0.4s
JTS *e*pP sP 10 41 26.3 +7.9
CD2 Chengdu 93.19 302 *e*P **P 10 41 06.1 -0.5**
CD2 AP pP 10 41 14.1 -1.6
CD2 XP sP 10 41 17.3 -1.6
CD2 PP PP 10 44 52.4 +2.3
CD2 SKS 10 51 36.9
CD2 S 10 52 08.7
CD2 XS sS 10 52 22.2 -4.7
CD2 SS SS 10 58 28.4 +1.2
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.3
CD2 AMB AMB
comp=Z,40nm,9.2s
YKA Yellowknife Ar 94.61 24 P **P 10 41 10.9 -2.2**
comp=Z,0.4nm,0.8s,mb3.9,baz=238,slow=4.5,SNR=9.8
YKA Yellowknife Ar 94.61 24 P **P 10 41 10.9 -2.2**
LZH Lanzhou 94.98 306 *e*P **P 10 41 15.7 +0.9**
LZH AP pP 10 41 23.7 -0.2
LZH XP sP 10 41 26.9 -0.2
LZH PP PP 10 45 07.5 +3.5
LZH AMB AMB
comp=Z,23nm,1.4s,mb5.4
ULN Ulaanbaatar 97.02 318 *i* P **P 10 41 24.2 +0.1**
SONM Songino Array 97.42 318 P **P 10 41 25.9 0.0**
comp=Z,0.3nm,0.7s,mb3.8,baz=134,slow=4.2,SNR=2.5
TLY Talaya 100.41 321 *e*P Pdif 10 41 38.1 -1.2
WMQ Urumqi 108.96 311 *e*PDIF Pdif 10 42 20.4 +3.1
WMQ PP PP 10 46 55.9 +6.6
WMQ PP PP
comp=Z,101nm,5.2s
ARCES ARCESS Array B 128.84 351 PKP PKPdf 10 46 57.5 -2.3
comp=Z,1.8nm,0.9s,baz=54,slow=2.1,SNR=7.1
AKASG Malin Array Be 143.94 334 PKP PKPdf 10 47 26.6 -1.0
comp=Z,1.3nm,0.6s,baz=31,slow=3.2,SNR=6.0
SIM Simferopol' 145.51 323⇓ *e*PKIKP PKPdf 10 47 37.6 +7.3
SIM *i* 10 47 43.9
SIM pmax pmax
comp=Z,26nm,0.8s
BSEG Bad Segeberg 145.79 355 *e*PKPbc PKPbc 10 47 29.9 -1.4
MALT Malatya 146.06 310 *e*PKP PKPdf 10 47 33.0 +1.7
MALT *e*PKPdf PKPdf 10 47 39.2 +8.0
RUE Ruedersdorf 146.81 351 *e*PKPbc PKPbc 10 47 33.0 -1.3
IBBN Ibbenburen 147.57 357 *e*PKPbc PKPbc 10 47 35.1 -1.4
CLZ Clausthal 147.86 354 *e*PKPbc PKPbc 10 47 36.2 -1.0
CLZ Clausthal 147.86 354 *e*PKPbc PKPbc 10 47 36.2 -1.0
STHS Stebnicka Huta 147.92 340 *e*PKP PKPab 10 47 43.5 +3.5
STHS *e* 10 47 53.1
CLL Collm 148.06 351 *e*PKPbc PKPbc 10 47 36.4 -1.4
CLL Collm 148.06 351 *i* PKPbc PKPbc 10 47 36.9 -0.9
comp=Z,6.0nm,0.7s
CLL *i* PKPab PKPab 10 47 39.9 -0.7
comp=Z,7.0nm,0.8s
CLL *e*pPKPbc pPKPbc 10 47 45.0 -2.1
CLL *i* sPKPab 10 47 52.9
CLL Collm 148.06 351 *i* PKP2 PKPbc 10 47 36.9 -0.9
CLL pmax pmax
comp=Z,9.0nm,0.7s
CLL pmax pmax
comp=Z,6.0nm,0.8s
UPC Upice 148.30 347 *e*pPKP pPKPdf 10 47 53.8 +9.4
UPC *e*x x 10 48 00.3
BRG Berggiesshubel 148.34 350 *e*PKPbc PKPbc 10 47 37.5 -1.0
BRG Berggiesshubel 148.34 350 *e*PKP PKPbc 10 47 39.6 +1.0
comp=Z,3.1nm,0.9s
BRG *e* 10 47 50.9
comp=Z,5.1nm,1.0s
BRG Berggiesshubel 148.34 350 *e*PKP2 PKPab 10 47 39.6 -2.1
BRG 10 54 37.8
BRG pmax pmax
comp=Z,3.0nm,0.9s
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG smax
comp=N,3.0nm,0.4s
DPC Dobruska-Polom 148.38 347⇑ *e*PKPB PKPbc 10 47 38.3 -0.3
DPC *e*pPKP pPKPdf 10 47 45.4 +0.9
BUG Bochum--Univer 148.46 358 *e*PKPbc PKPbc 10 47 37.3 -1.6
MORC Moravsky Berou 148.63 345 *e*PKP2 PKPab 10 47 42.9 0.0
BR131 Keskin Array S 148.74 315 *e*PKPdf PKPdf 10 47 37.0 +1.3
BRTR Keskin Array B 148.74 315 PKPbc PKPbc 10 47 39.2 -0.4
comp=N,4.7nm,1.0s,baz=20,slow=1.3,SNR=6.9
BRTR Keskin Array B 148.74 315 PKP2 PKPbc 10 47 39.2 -0.4
BRTR pmax pmax
comp=Z,5.0nm,1.0s
MOX Moxa 148.90 352 *e*PKPbc PKPbc 10 47 38.9 -1.1
MOX Moxa 148.90 352 *e*PKP PKPab 10 47 44.4 +0.4
WERD Werda 149.00 351 *e*PKPbc PKPbc 10 47 39.3 -0.9
PRU Pruhonice 149.08 349 *e*PKPAB PKPab 10 47 46.7 +2.0
PRU *e*pPKP pPKPdf 10 47 54.0 +8.4
NKC Novy Kostel 149.19 351 *e*PKPAB PKPab 10 47 45.2 0.0
NKC *e*pPKP pPKPdf 10 47 54.7 +8.9
VYHS Vyhne 149.46 342 *e*PKP PKPbc 10 47 42.8 +1.4
VYHS *e* 10 47 55.6
TNS Taunus Mts 149.62 356 *e*PKPbc PKPbc 10 47 40.7 -1.1
TNS Taunus Mts 149.62 356 *e*PKPbc PKPbc 10 47 40.7 -1.1
PSZ Piszkesteto 149.66 341⇑ *e*pPKP/F PKPab 10 47 46.7 -0.4
ROTZ Rotzenmuhle 149.68 351 *e*PKPbc PKPbc 10 47 41.1 -0.8
GIVF Givet 149.83 1 *e*PKP1 PKPab 10 47 48.0 +0.2
BAIF Baives 149.86 2 *e*PKP1 PKPab 10 47 48.2 +0.3
comp=Z,99nm,1.7s
GRA1 *e*pPKPbc pPKPbc 10 47 56.5 +4.8
GRA1 Grafenberg Arr 149.88 353 *e*PKPbc PKPbc 10 47 41.8 -0.6
GRF Grafenberg Arr 149.88 353 *e*PKPbc PKPbc 10 47 41.8 -0.6
GRF *e*pPKPbc pPKPbc 10 47 56.5 +4.8
KHC Kasperske Hory 150.08 349 *e*PKPAB PKPab 10 47 49.1 +0.3
KHC *e*pPKP pPKPdf 10 47 57.2 +10
WET Wettzell 150.19 350 *e*PKPbc PKPbc 10 47 42.3 -0.8
WET Wettzell 150.19 350 *e*PKPbc PKPbc 10 47 42.3 -0.8
WLF Walferdange 150.26 359 *e*PKPbc PKPbc 10 47 42.6 -0.7
GEC2 GERESS Array S 150.34 349 *e*PKPbc PKPbc 10 47 42.5 -1.0
GEC2 GERESS Array S 150.34 349 *e*PKPbc PKPbc 10 47 42.5 -1.0
GERES GERESS Array B 150.34 349 PKPbc PKPbc 10 47 42.3 -1.2
comp=Z,0.9nm,0.6s,baz=222,slow=1.3,SNR=3.2
GERES GERESS Array B 150.34 349 PKIKP PKPdf 10 47 42.3 +4.0
GERES pmax pmax
comp=Z,1.0nm,0.6s
ROSF Rostrenen 150.74 12 *e*PKP1 PKPbc 10 47 48.1 +3.7
FLN La Foliniere 150.78 8 *e*PKP1 PKPbc 10 47 47.8 +3.3
comp=Z,72nm,1.3s
SGMF Saint Gilles 150.95 11 *e*PKP1 PKPbc 10 47 48.7 +3.8
LDF La Druitiere 150.99 8 *e*PKP1 PKPbc 10 47 48.9 +3.9
comp=Z,40nm,1.1s
STU Stuttgart 151.00 355 *e*PKPbc PKPbc 10 47 43.9 -1.2
GRR Gorron 151.09 9 *e*PKP1 PKPbc 10 47 49.1 +3.8
FUR Furstenfeldbru 151.38 352 *e*PKPbc PKPbc 10 47 44.7 -1.2
MEZF Maizieres J'vi 151.43 1 *e*PKP1 PKPbc 10 47 52.1 +6.0
comp=Z,57nm,1.2s
CDF Champ du Feu 151.48 357 *e*PKP1 PKPbc 10 47 51.8 +5.6
comp=Z,20nm,1.1s
BFO Black Forest 151.51 356 *e*PKPbc PKPbc 10 47 45.0 -1.2
BFO Black Forest 151.51 356 *e*PKPbc PKPbc 10 47 45.0 -1.2
HAU Haudompre 151.92 359 *e*PKP1 PKPbc 10 47 53.7 +6.5
HINF Hinteralfeld 152.09 358 *e*PKP1 PKPbc 10 47 53.0 +5.4
LOR Lormes 152.64 2 *e*PKP1 PKPbc 10 47 54.5 +5.7
SSF Saint Saulge 152.83 3 *e*PKP1 PKPbc 10 47 55.0 +5.8
comp=Z,52nm,1.4s
AVF Avril sur Loir 153.09 3 *e*PKP1 PKPbc 10 47 55.1 +5.3
comp=Z,21nm,1.3s
SMF Signal de Mont 153.26 2 *e*PKP1 PKPbc 10 47 55.6 +5.4
BGF Bois d'Agland 153.29 4 *e*PKP1 PKPbc 10 47 55.7 +5.5
CABF La Chapelle 153.32 359 *e*PKP1 PKPbc 10 47 56.6 +6.3
comp=Z,33nm,1.1s
TCF Toulx Ste Croi 153.51 5 *e*PKP1 PKPbc 10 47 55.9 +5.2
TORD Torodi Ar. Bea 172.41 151 PKPab PKPab 10 49 27.2 +1.5
comp=Z,0.8nm,0.8s,baz=210,slow=4.8,SNR=3.0

SZGRF ***09*** *11:02:17.0, 60.12N×165.71E, h9km, mb5.9, MS5.3, Eastern Siberia, Russia*
BGS ***09*** *11:02:17.7, 6003N×164.80E, h10km, mb5.6*
BJI ***09*** *11:02:19.4, 6090N×166.07E, h15km, mB5.5, mb5.5, Ms6.2, Msz6.0*
ISCJB ***09*** *11:02:20.8±0.1, 6077N±001×165.87E±0.03, h12km, mb5.6/357, MS5.6/188, Error ellipse: s-maj=2.2km s-min=1.8km az=104.5*
KRSC ***09*** *11:02:20.1±0.9, 6074N×166.03E, h5km±2km, ML5.8*
NEIC ***09*** *11:02:21.3±0.1, 6076N×165.85E, h5km, mb5.7/238, ME5.8, MS5.5/112, MW5.8, MW5.8(MOS), Error ellipse: s-maj=3.2km s-min=2.0km az=187.0, Moment Tensor Solution. s14 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.26; $M_{\theta\theta}$-1.37; $M_{\phi\phi}$ 1.63; $M_{r\theta}$0.09; $M_{\theta\phi}$5.73; $M_{r\phi}$1.25; Best double couple: $M_0$6.10000×10^{17} NP1:ϕ_s353.00000°, δ89.00000°, λ168.00000°. NP2:ϕ_s83.00000°, δ78.00000°, λ1.00000°. Principal axes: T 6.2200, Plg9.0000°, Azm307.0000°; N -0.3400, Plg78.0000°, Azm166.0000°; P -5.8800, Plg7.0000°, Azm38.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s8.00000°, δ81.00000°, λ-160.00000°. NP2:ϕ_s275.00000°, δ70.00000°, λ-10.00000°. Principal axes: T Plg7.0000°, Azm140.0000°; N Plg0.0000°, Azm0.0000°; P Plg21.0000°, Azm233.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
IDC ***09*** *11:02:21.6±1.9, 6073N×165.89E, h10km±11km, mb5.2/27, mb1 5.3/28, mb1mx5.3/30, mbtmp5.3/28, ML5.0/1, MS5.4/24, Ms1 5.4/24, ms1mx5.2/29 Error ellipse: s-maj=8.8km s-min=6.6km az=142.0*
MOS ***09*** *11:02:21.9±0.8, 6074N×165.84E, h20km, mb5.8/143, MS5.5/91, Error ellipse: s-maj=7.5km s-min=3.1km az=94.3 Broadband fault plane solution: P waves. $M_0$7.20000×10^{18} NP1:ϕ_s183.00000°, δ61.00000°, λ147.00000°. NP2:ϕ_s290.00000°, δ61.00000°, λ33.00000°. Principal axes: T Plg43.0000°, Azm146.0000°; N Plg47.0000°, Azm326.0000°; P Plg0.0000°, Azm236.0000°;*
HRVD ***09*** *11:02:22.2±0.1, 6077N×165.97E, h12km, MW5.7/108, Centroid moment Tensor Solution. LP body waves: s98,c192;Mantle waves: s108,c328; Half duration: 1s7 Moment tensor: Scale 10^{17}Nm; M_{rr}0.83±.04; $M_{\theta\theta}$-1.05±.04; $M_{\phi\phi}$0.21±.04; $M_{r\theta}$0.62±.10; $M_{\theta\phi}$4.07±.03; $M_{r\phi}$-1.55±.10; Best double couple: $M_0$4.41700×10^{17} NP1:ϕ_s265.00000°, δ69.00000°, λ1.00000°. NP2: ϕ_s175.00000°, δ89.00000°, λ159.00000°. Principal axes: T 3.9150, Plg15.0000°, Azm128.0000°; N 1.0040, Plg69.0000°, Azm353.0000°; P -4.9200, Plg15.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 09 11:02:22.5±0.1, 6082N±001×16587E±003, h12km, h12km±1.2km:pP-P,n1070,σ0s90/1064, mb5.6/357, MS5.6/188, 150C-47D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TILR	**Tilichiki**	**0.40**	**166**	*i* P	**Pg**	**11 02 26.9**	**-3.6**
TILR				*i* S	**Sg**	**11 02 32.4**	**-3.5**
KAMR	**Kamenskoye**	**1.65**	**6**	*i* P	**Pn**	**11 02 52.0**	**+0.8**
KAMR				*i* S	**Sn**	**11 03 14.6**	**+2.3**
KAMR				Smax			
	163μm,1.1s						
OSSR	**Ossora**	**2.12**	**223**	*e*P	**Pn**	**11 02 55.7**	**-1.9**
EVNR	**Evensk**	**3.36**	**292**	*i* P	**Pn**	**11 03 15.8**	**+1.0**
SMKR	**Semkarok**	**4.83**	**210**	*i* P	**Pn**	**11 03 34.8**	**-0.2**
SRKR	**Sorokina**	**4.84**	**212**	*i* P	**Pn**	**11 03 34.7**	**-0.4**
KBG	**Krutoberegovo**	**4.87**	**201**	*e*P	**Pn**	**11 03 34.4**	**-1.1**
KBTR	**Krutoberegovo**	**4.90**	**200**	P	**Pn**	**11 03 34.0**	**-1.8**
KBTR				S	**Sn**	**11 04 27.9**	**-4.5**
KBTR	**Krutoberegovo**	**4.90**	**200**	*e*P	**Pn**	**11 03 35.2**	**-0.6**
KBTR				*e*S	**Sn**	**11 04 30.5**	**-1.9**
BDR	**Baidarnaya**	**4.91**	**212**	*e*P	**Pn**	**11 03 36.1**	**+0.1**
KLY	**Klyuchi**	**5.28**	**213**	P	**Pn**	**11 03 41.0**	**-0.1**
KLY	**Klyuchi**	**5.28**	**213**	*e*P	**Pn**	**11 03 40.4**	**-0.7**
KRSR	**Krestovskiy**	**5.39**	**213**	*e*P	**Pn**	**11 03 42.1**	**-0.5**
CIRR	**Tsirk**	**5.43**	**212**	*e*P	**Pn**	**11 03 43.5**	**+0.3**
LGNR	**Loginova**	**5.47**	**212**	*i* P	**Pn**	**11 03 44.7**	**+0.9**
ZLN	**Zelenaya**	**5.50**	**211**	*e*P	**Pn**	**11 03 44.7**	**+0.5**
SRDR	**Srednimyy**	**5.54**	**218**	*i* P	**Pn**	**11 03 44.9**	**+0.1**
BKI	**Bering**	**5.63**	**179**	*i* P	**Pn**	**11 03 46.2**	**+0.2**
BKI				Smax			
	500nm,1.5s						
KPT	**Kopyto**	**5.70**	**214**	*e*P	**Pn**	**11 03 47.1**	**+0.2**
KOZ	**Kozyrevsk**	**5.72**	**216**	*e*P	**Pn**	**11 03 47.9**	**+0.7**
KMNR	**Kamenistaya**	**5.88**	**213**	*e*P	**Pn**	**11 03 49.9**	**+0.5**
ESO	**Esso**	**6.19**	**221**	*e*P	**Pn**	**11 03 53.8**	**+0.2**
ESO				Smax			
	5μm,1.1s						
TUMR	**Tumrok**	**6.33**	**211**	*e*P	**Pn**	**11 03 56.7**	**+1.2**
MKZ	**Mys Kozlova**	**6.66**	**201**	P	**Pn**	**11 03 58.9**	**-1.2**
MKZ				S	**Sn**	**11 05 11.4**	**-4.5**
MKZ	**Mys Kozlova**	**6.66**	**201**	*e*P	**Pn**	**11 04 00.9**	**+0.8**
SEY	**Seymchan**	**6.72**	**294**	*i* P	**Pn**	**11 04 02.3**	**+1.4**
BILL	**Bilibino**	**7.25**	**1**	*d* iPN	**Pn**	**11 04 08.8**	**+0.6**
BILL	**Bilibino**	**7.25**	**1**	*i* Pnr	**Pn**	**11 04 08.8**	**+0.6**
BILL	**Bilibino**	**7.25**	**1**	*i* P	**Pn**	**11 04 10.0**	**+1.8**
BILL				*e*S	**Sn**	**11 05 30.4**	**0.0**
BILL				Smax			
	8μm,1.0s						
MA2	**Magadan**	**7.63**	**267**	*i* PN	**Pn**	**11 04 12.6**	**-0.8**
MA2				pmax	pmax		
	comp=N,200nm,0.7s						
MA2				pmax	pmax		
	comp=Z,900nm,0.7s						
MA2				pmax	pmax		
	comp=E,800nm,0.8s						
MA2				MLR	MLR		
	comp=N,437μm,9.2s						
MA2	**Magadan**	**7.63**	**267**	*i* P	**Pn**	**11 04 14.7**	**+1.3**
MA2				Smax			
	comp=N,3μm,1.0s						
KII	**Karymskiy**	**7.63**	**210**	*e*P	**Pn**	**11 04 14.5**	**+1.1**
GNL	**Ganaly**	**8.33**	**214**	*e*P	**Pn**	**11 04 24.6**	**+1.6**
SPN	**Mys Shipunski**	**8.37**	**205**	P	**Pn**	**11 04 22.5**	**-1.1**
SPN				S	**Sn**	**11 05 52.3**	**-5.7**
SPN	**Mys Shipunski**	**8.37**	**205**	*i* P	**Pn**	**11 04 24.2**	**+0.6**
NLC	**Nalytchevo**	**8.45**	**208**	P	**Pn**	**11 04 25.4**	**+0.7**
NLC	**Nalytchevo**	**8.45**	**208**	*e*P	**Pn**	**11 04 25.2**	**+0.5**
SDLR	**Sedlovina**	**8.46**	**210**	*e*P	**Pn**	**11 04 26.3**	**+1.5**
SMAR	**Somma**	**8.50**	**210**	*e*P	**Pn**	**11 04 26.1**	**+0.8**
AVH	**Avacha**	**8.51**	**210**	*e*P	**Pn**	**11 04 27.1**	**+1.6**
KOK	**Koryaka**	**8.51**	**211**	*e*P	**Pn**	**11 04 27.2**	**+1.7**
UGLR	**Uglovaya**	**8.54**	**210**	*e*P	**Pn**	**11 04 27.1**	**+1.2**
PET	**Petropavlovsk**	**8.75**	**210**	P	**Pn**	**11 04 29.9**	**+1.1**
PET	**Petropavlovsk**	**8.75**	**210**	*d* iPN	**Pn**	**11 04 29.9**	**+1.1**
PET				pmax	pmax		
	comp=Z,1μm,2.0s						
PET				MLR	MLR		
	comp=Z,58μm,14.0s						
PET	**Petropavlovsk**	**8.75**	**210**	*i* Pnr		11 04 29.9	
	comp=Z,1μm,2.0s						
FX1	**Attu Island--F**	**8.90**	**150**	Pn	**Pn**	**11 04 28.2**	**-2.6**
	comp=Z,56nm,0.3s,baz=7.6,slow=10,SNR=492						
FX1				Sn	**Sn**	**11 06 04.3**	**-6.7**
	comp=Z,13nm,0.3s,baz=97,slow=22,SNR=2.9						
FX1				LR	LR	11 07 32.8	
	comp=Z,845nm,18.6s,baz=169,slow=35						
FX1	**Attu Island--F**	**8.90**	**150**	*e*Pn	**Pn**	**11 04 28.5**	**-2.3**
KRMR	**Karymshinskiy**	**9.06**	**211**	*e*P	**Pn**	**11 04 34.3**	**+1.3**
APC	**Apacha**	**9.23**	**215**	*e*P	**Pn**	**11 04 36.2**	**+0.8**
SMY	**Shemya**	**9.28**	**147**	*e*PN	**Pn**	**11 04 32.1**	**-3.9**
SMY				pmax	pmax		
	comp=Z,890nm,1.3s						
SMY	**Shemya**	**9.28**	**147**	*e*P	**Pn**	**11 04 32.1**	**-3.9**

comp=Z,890nm,1.3s
GRL Gorelyy 9.33 211 *e*P **Pn** **11 04 37.6 +0.9**
RUS Russkaya 9.33 209 *e*P **Pn** **11 04 37.6 +0.9**
MIPR Malaya Ipel'ka 9.92 214 *e*P **Pn** **11 04 46.2 +1.4**
PAU Pauzhetka 10.64 212 *e*P **Pn** **11 04 55.5 +0.9**
ALID Alaid 11.52 215 *e*P **Pn** **11 05 08.1 +1.4**
SKR Severo-Kuril's 11.54 213 *e*PN **Pn** **11 05 03.0 -3.9**
SKR pmax pmax
comp=N,140nm,0.8s
SKR pmax pmax
comp=E,120nm,0.8s
SKR pmax pmax
comp=Z,290nm,0.8s
SKR pmax pmax
comp=Z,5μm,8.0s
SKR pmax pmax
comp=N,3μm,6.0s
SKR pmax pmax
comp=E,2μm,6.0s
SKR MLR MLR
comp=Z,38μm,22.0s
AKUT Akutan 16.56 101 *e*P **Pn** **11 06 14.7 +0.3**
comp=Z,672nm,1.4s
YAK Yakutsk 17.21 290*d i*P **Pn** **11 06 23.8 +1.1**
YAK pmax pmax
comp=Z,2μm,1.9s
YAK MLR MLR
comp=Z,17μm,22.0s
YAK Yakutsk 17.21 290 *i* Pr 11 06 23.8
comp=Z,2μm,1.9s
TTA Tatalina 17.92 67 *e*P **Pn** **11 06 33.8 +2.4**
TTA pmax pmax
comp=Z,530nm,1.6s
TTA Tatalina 17.92 67 *e*P **Pn** **11 06 34.1 +2.7**
SDPT Sand Point 18.47 92 *e*P **Pn** **11 06 39.2 +1.0**
comp=Z,2μm,2.0s
SVW2 Sparrevohn 18.54 72 *e*P **Pn** **11 06 40.7 +1.7**
CHGN Chignik 19.01 88 *e*P **Pn** **11 06 44.2 -0.5**
YSS Yuzh-Sakhalins 19.30 234*d i*P **Pn** **11 06 47.6 -0.6**
YSS pmax pmax
comp=Z,203nm,1.5s
YSS MLR MLR
comp=Z,18μm,17.0s
YSS Yuzh-Sakhalins 19.30 234 *i* Pr 11 06 47.6
comp=Z,203nm,1.5s
COLA College 21.12 59 P **P** **11 07 07.8 +0.9**
COLA S **S** **11 11 05.2 +3.6**
COLA College 21.12 59 *e*P **P** **11 07 07.5 +0.6**
COLA pmax pmax
comp=Z,190nm,1.1s,mb5.3
COLA MLR MLR
comp=Z,20μm,20.0s,MS5.5
COLA College 21.12 59 *e*P **P** **11 07 07.5 +0.6**
comp=Z,190nm,1.1s,mb5.3
COLA LR LR
comp=Z,20μm,20.0s,MS5.5
KDAK Kodiak Island 21.17 80 P **P** **11 07 08.0 +0.5**
comp=Z,34nm,0.8s,mb4.7,baz=23,slow=9.8,SNR=10
KDAK S **S** **11 11 00.9 -1.7**
comp=Z,12nm,1.0s,baz=320,slow=7.9,SNR=1.8
KDAK LR LR 11 16 00.8
comp=Z,11μm,19.4s,MS5.2,baz=297,slow=39
SLKM Skilak Lake 21.22 71 *e*P **P** **11 07 10.4 +2.3**
CLNS Chul'man 21.32 278 *e*P **P** **11 07 09.7 +0.6**
CLNS *e*PPP 11 07 32.2
CLNS *e*S **S** **11 10 59.1 -6.5**
CLNS *e* 11 11 12.2
CLNS pmax pmax
comp=Z,373nm,1.8s,mb5.4
CLNS pmax pmax
comp=N,61nm,1.3s
CLNS pmax pmax
comp=E,317nm,1.7s
CLNS smax
comp=E,5μm,14.2s
CLNS smax
comp=Z,2μm,13.3s
CLNS smax
comp=N,1μm,12.0s
CLNS MLR MLR
comp=Z,21μm,10.0s,MS5.8
CLNS MLR MLR
comp=N,4μm,8.0s
CLNS MLR MLR
comp=E,16μm,11.0s
PMR Palmer 21.37 68 *e*P **P** **11 07 10.6 +1.0**
PMR Palmer 21.37 68 *e*P **P** **11 07 08.6 -1.0**
comp=E,123nm,1.3s,mb5.1
HABR Khabarovsk 21.45 249⇓ *i*P **P** **11 07 12.2 +1.6**
HABR *e*S **S** **11 11 09.7 +1.5**
HABR pmax pmax
comp=Z,966nm,1.9s,mb5.8
HABR pmax pmax
comp=Z,1μm,2.0s,mb6.0
HABR MLR MLR
comp=Z,16μm,17.5s,MS5.5
NRGR Nerungri 21.48 277 *e*P **P** **11 07 12.2 +1.3**
NRGR S **S** **11 11 07.5 -1.4**
NRGR smax
comp=N,69nm,0.5s
ILAR Eielson Array 21.54 59 P **P** **11 07 11.9 +0.4**
comp=N,95nm,0.9s,mb5.2,baz=272,slow=8.9,SNR=176
ILAR S **S** **11 11 11.3 +1.3**
comp=N,3.2nm,1.0s,baz=306,slow=11,SNR=2.0
ILAR LR LR 11 16 23.0
comp=N,14μm,20.8s,MS5.3,baz=294,slow=39
ILAR Eielson Array 21.54 59 P **P** **11 07 11.9 +0.4**
ILAR S **S** **11 11 11.3 +1.3**
ASAJ Asahikawa 21.73 230 P **P** **11 07 12.9 -0.6**
comp=N,27nm,0.6s,mb4.8,baz=50,slow=6.1,SNR=25
ASAJ S **S** **11 11 12.7 -1.0**
comp=N,12nm,0.9s,baz=242,slow=2.7,SNR=5.1
ASAJ LR LR 11 15 43.5
comp=N,15μm,18.6s,MS5.4,baz=49,slow=37
ASAJ Asahikawa 21.73 230 P **P** **11 07 13.0 -0.5**
ASAJ S **S** **11 11 12.7 -1.0**
ASAJ pmax pmax
comp=Z,27nm,0.6s
ASAJ smax
comp=N,12nm,0.9s
ASAJ MLR MLR
comp=Z,15μm,18.6s
KLR Kul'dur 22.45 254⇑ *e*P **P** **11 07 17.5 -3.7**
KLR *e* 11 07 50.5
KLR *e*S **S** **11 11 25.0 -2.6**
KLR pmax pmax
comp=N,900nm,6.0s
KLR pmax pmax
comp=E,700nm,6.0s
KLR pmax pmax
comp=Z,2μm,6.0s
KLR pmax pmax
comp=E,200nm,1.6s
KLR pmax pmax
comp=Z,420nm,1.6s,mb5.6
KLR smax
comp=N,9μm,11.0s
KLR smax
comp=E,7μm,11.0s
EYAK Cordova Ski Ar 23.27 69 *e*P **P** **11 07 29.7 -0.2**
MENT Mentasta 23.36 63 *e*P **P** **11 07 29.8 -1.1**
DAWY Dawson 24.87 59 *e*P **P** **11 07 44.0 -0.8**
INK Inuvik 26.02 48 P **P** **11 07 55.2 -0.1**
comp=E,128nm,0.9s,mb5.5,baz=286,slow=9.2,SNR=75
INK PcP PcP 11 11 21.8 -1.5
comp=E,25nm,0.9s,baz=288,slow=4.4,SNR=4.6
INK S **S** **11 12 26.9 +1.0**
comp=E,4.2nm,0.9s,baz=138,slow=19,SNR=1.3
INK LR LR 11 19 19.3
comp=E,14μm,20.2s,MS5.5,baz=282,slow=39
INK Inuvik 26.02 48 *e*P **P** **11 07 55.2 -0.1**
INK *e* 11 11 22.4
INK pmax pmax
comp=Z,207nm,1.0s
INK Inuvik 26.02 48 *e*P **P** **11 07 55.2 -0.1**
comp=Z,7μm,1.0s
INK *e*PcP PcP 11 11 22.4 -0.9
INK *e*ScP ScP 11 15 03.5 +0.8
BOD Bodaibo 26.06 287 *e*P **P** **11 07 54.9 -0.8**
BOD pmax pmax
comp=Z,397nm,1.5s,mb5.7
MDJ Mudanjiang 26.84 249 P **P** **11 08 02.4 -0.3**
MDJ AP pP 11 08 05.4 -1.0
MDJ S **S** **11 12 39.8 +1.1**
MDJ XS sS 11 12 45.0 0.0
MDJ SCP ScP 11 15 04.6 -0.4
MDJ PCS PcS 11 15 05.8 -0.7
MDJ SCS ScS 11 18 55.6 -0.2
MDJ AMB AMB
comp=Z,29nm,1.3s,mb4.7
MDJ AMB AMB
comp=Z,608nm,7.8s
MDJ LR LR
comp=N,28μm,15.3s,MS6.0
MDJ LR LR
comp=E,15μm,13.1s,MS6.0
MDJ LR LR
comp=Z,25μm,13.1s,MS6.0
MDJ Mudanjiang 26.84 249 *e*P **P** **11 08 03.1 +0.4**
comp=Z,114nm,1.4s,mb5.2
MDJ LR LR
comp=Z,14μm,20.0s,MS5.5
VLA Vladivostok 26.97 244 *e*P **P** **11 08 02.8 -1.1**
VLA *e* 11 08 50.2
VLA *e*S **S** **11 12 37.7 -3.1**
VLA pmax pmax
comp=Z,109nm,1.8s,mb5.1
VLA MLR MLR
comp=Z,31μm,19.5s,MS5.9
HIA Hailar 28.22 267⇓ *e*P **P** **11 08 15.8 +0.7**
HIA pmax pmax
comp=Z,212nm,1.5s
HIA MLR MLR
comp=Z,11μm,19.0s
HIA Hailar 28.22 267⇓ *e*P **P** **11 08 15.8 +0.7**
comp=Z,212nm,1.5s,mb5.5
HIA LR LR
comp=Z,11μm,19.0s,MS5.5
SKAG Skagway 28.47 66 *e*P **P** **11 08 18.4 +1.1**
comp=Z,181nm,1.8s,mb5.4
SKAG LR LR
comp=Z,16μm,17.0s,MS5.7
CN2 Changchun 29.38 253 *e*P **P** **11 08 25.2 -0.2**
CN2 *e*XP sP 11 08 32.2 +1.5
CN2 *e*S **S** **11 13 16.0 -2.8**
CN2 AMB AMB
comp=Z,90nm,1.2s,mb5.4
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,28μm,16.0s,MS6.1
CN2 LR LR
comp=E,19μm,16.0s,MS6.1
CN2 LR LR
comp=Z,27μm,15.0s,MS6.0
CIT Chita 29.49 277 *e*P **P** **11 08 26.5 +0.2**
CIT pmax pmax
comp=Z,426nm,1.9s,mb5.8
SIT Sitka 29.69 71 *e*P **P** **11 08 29.6 +1.5**
SIT pmax pmax
comp=Z,405nm,2.0s,mb5.8
SIT MLR MLR
comp=Z,14μm,17.0s,MS5.7
SIT Sitka 29.69 71 *e*P **P** **11 08 29.6 +1.5**
comp=Z,405nm,2.0s,mb5.8
SIT LR LR
comp=Z,14μm,17.0s,MS5.7
MAJO Matsushiro 29.97 228 *e*P **P** **11 08 31.7 +1.1**
MAJO pmax pmax
comp=Z,174nm,1.6s,mb5.5
MAJO MLR MLR
comp=Z,8μm,22.0s,MS5.3
MAJO Matsushiro 29.97 228 *e*P **P** **11 08 31.7 +1.2**
comp=Z,179nm,1.6s,mb5.5
MAJO LR LR
comp=Z,9μm,22.0s,MS5.3
MAT Matsushiro 29.97 228 P **P** **11 08 30.2 -0.4**
MAT S **S** **11 13 23.0 -5.0**
MAT Matsushiro 29.97 228 *e*P **P** **11 08 30.0 -0.6**
MAT *e*S **S** **11 13 24.0 -4.0**
MAT pmax pmax
comp=Z,139nm,1.5s,mb5.5
MAT MLR MLR
comp=Z,8μm,21.0s,MS5.3
MAT Matsushiro 29.97 228 *e*P **P** **11 08 30.0 -0.6**
comp=Z,139nm,1.5s,mb5.5
MAT *e*S **S** **11 13 24.0 -4.0**
MAT LR LR
comp=Z,8μm,21.0s,MS5.3
MJAR Matsushiro Arr 29.97 228 P **P** **11 08 30.1 -0.4**
comp=Z,21nm,1.0s,mb4.8,baz=13,slow=7.1,SNR=37
MJAR S **S** **11 13 29.5 +1.5**
comp=Z,0.4nm,0.4s,baz=21,slow=10,SNR=2.1
MJAR LR LR 11 20 39.8
comp=Z,9μm,21.5s,MS5.3,baz=30,slow=37
MJAR Matsushiro Arr 29.97 228 P **P** **11 08 30.2 -0.4**
MJAR S **S** **11 13 29.5 +1.5**
DLBC Dease Lake 31.36 65 *e*P **P** **11 08 44.3 +1.4**
DLBC *e*PcP PcP 11 11 36.2 -0.3
CRAG Craig 31.59 72 P **P** **11 08 46.0 +1.1**
comp=Z,16nm,0.9s,mb4.8
KS15 Wonju Array Si 33.37 243⇑ *e*P **P** **11 09 01.4 +0.9**
KS15 *e*PcP PcP 11 11 40.6 -1.4
IRK Irkutsk 33.82 284⇓ *i*P **P** **11 09 06.1 +1.7**
IRK *e* 11 10 20.0
IRK *e* 11 14 28.8
IRK pmax pmax
comp=Z,431nm,1.9s,mb6.1
TLY Talaya 34.48 283 P **P** **11 09 11.2 +1.1**
comp=Z,296nm,1.9s,mb5.9,SNR=29
TLY Talaya 34.48 283⇓ *e*P **P** **11 09 11.7 +1.6**
TLY pmax pmax
comp=Z,210nm,1.7s,mb5.8
MIDW Midway 34.51 153 PFAKE 11 09 20.0 +10
MIDW LR LR
comp=Z,3μm,20.0s,MS5.0
ALE Alert 34.79 10 P **P** **11 09 13.9 +1.1**
comp=Z,457nm,0.8s,mb6.5,SNR=24
RES Resolute Bay 34.97 27 *e*P **P** **11 09 14.6 +0.2**
RES *e* 11 11 45.5
RES pmax pmax
comp=Z,20nm,0.8s,mb5.1
RES Resolute Bay 34.97 27 *e*P **P** **11 09 14.6 +0.3**
comp=Z,640nm,0.8s,mb6.6
RES *e*PcP PcP 11 11 45.5 -1.1
RES *e*ScP ScP 11 15 32.2 +0.3
DL2 Dalian 35.00 252 P **P** **11 09 13.7 -0.9**
DL2 PCP PcP 11 11 48.7 +2.0
DL2 S **S** **11 14 45.0 -1.3**
DL2 SS SS 11 17 04.1 -14
DL2 AMB AMB
comp=Z,40nm,1.0s,mb5.3
DL2 AMB AMB
comp=Z,200nm,6.2s
DL2 LR LR
comp=N,8μm,14.6s,MS5.8
DL2 LR LR
comp=E,8μm,14.4s,MS5.8
DL2 LR LR
comp=Z,10μm,13.6s,MS5.7
ULN Ulaanbaatar 35.38 276 *e*P **P** **11 09 18.3 +0.4**
comp=Z,240nm,1.6s,mb5.9
ULN *e*PcP PcP 11 11 47.6 -0.2
ULN LR LR
comp=Z,3μm,20.0s,MS5.1
YKW3 Yellowknife Ar 35.53 52 *e*P **P** **11 09 18.6 -0.6**
YKW3 *e*PcP PcP 11 11 45.7 -2.6
YKA Yellowknife Ar 35.57 52 P **P** **11 09 18.6 -0.9**
comp=Z,28nm,0.8s,mb5.2,baz=303,slow=8.2,SNR=173
YKA PcP PcP 11 11 47.0 -1.4
comp=Z,14nm,0.7s,baz=312,slow=3.6,SNR=19
YKA ScP ScP 11 15 32.6 -1.5
comp=Z,3.9nm,1.1s,baz=308,slow=2.8,SNR=5.6
YKA PKiKP PKiKP 11 19 05.7 -3.4
comp=Z,0.4nm,0.8s,baz=315,slow=1.7,SNR=3.8
YKA LR LR 11 26 21.2
comp=Z,11μm,18.3s,MS5.6,baz=295,slow=40
YKA Yellowknife Ar 35.57 52 *i* P **P** **11 09 18.6 -1.0**
YKA pmax pmax
comp=Z,28nm,0.8s
YKA Yellowknife Ar 35.57 52 P **P** **11 09 18.6 -0.9**
YKA PcP PcP 11 11 47.0 -1.4
YKA ScP ScP 11 15 32.6 -1.5
SONM Songino Array 35.72 276 P **P** **11 09 21.4 +0.6**
comp=Z,20nm,0.7s,mb5.1,baz=46,slow=6.6,SNR=117
SONM PcP PcP 11 11 48.1 -0.7
comp=Z,10.0nm,0.8s,baz=43,slow=1.2,SNR=6.0
SONM LR LR 11 24 05.3
comp=Z,7μm,19.3s,MS5.4,baz=48,slow=36
SONM Songino Array 35.72 276 P **P** **11 09 21.4 +0.6**
SONM 11 11 48.1
MOY Mondy 35.75 285 *e*P **P** **11 09 22.3 +1.2**
MOY pmax pmax
comp=Z,653nm,2.0s,mb6.2
BJI Beijing 36.68 259 P **P** **11 09 29.1 0.0**
BJI S **S** **11 15 11.9 -0.2**
BJI AMB AMB
comp=Z,335nm,1.7s,mb5.9
BJI LR LR
comp=N,17μm,13.5s,MS6.1
BJI LR LR
comp=E,11μm,15.3s,MS6.1
BJI LR LR
comp=Z,6μm,14.5s,MS5.5
KRAR Krasnoyarsk 36.70 296⇓ *i*P **P** **11 09 29.2 0.0**
KRAR pmax pmax
comp=Z,360nm,1.4s,mb6.0
KRAR MLR MLR
comp=Z,9μm,15.0s,MS5.7
BJT Baijiatuau 36.70 258⇑ *e*P **P** **11 09 29.3 0.0**
BJT pmax pmax
comp=Z,1μm,1.7s
BJT MLR MLR
comp=Z,2μm,20.0s
BJT Baijiatuau 36.70 258⇑ *e*P **P** **11 09 29.3 0.0**
comp=Z,1μm,1.7s,mb6.5
BJT LR LR
comp=Z,2μm,20.0s,MS5.0
HHC Hu-ho-hao-te 38.29 264 *e*P **P** **11 09 43.7 +1.0**
HHC AP pP 11 09 48.4 +1.9
HHC XP sP 11 09 50.7 +2.6
HHC PP PP 11 11 15.6 +5.4
HHC PCP PcP 11 12 00.3 +3.7
HHC S **S** **11 15 38.0 +1.5**
HHC XS sS 11 15 44.4 +1.5
HHC PCS PcS 11 15 48.1 +2.4
HHC SS SS 11 18 14.6 -10
HHC SCS ScS 11 19 53.0 -1.0
HHC AMB AMB
comp=Z,88nm,1.6s,mb5.2
HHC AMB AMB
comp=Z,255nm,7.3s
HHC LR LR
comp=N,10μm,15.2s,MS6.0
HHC LR LR
comp=E,15μm,14.2s,MS6.0
HHC LR LR
comp=Z,18μm,13.5s,MS6.0
BTO Baotou 39.23 265 *e*P **P** **11 09 50.7 +0.1**
BTO AMB AMB
comp=Z,138nm,1.5s,mb5.5
TIA Tai'an 39.28 254 P **P** **11 09 52.3 +1.3**
TIA S **S** **11 15 50.5 -1.0**
TIA AMB AMB
comp=Z,51nm,1.8s,mb5.0
TIA LR LR
comp=N,18μm,14.0s,MS6.1
TIA LR LR
comp=E,8μm,14.0s,MS6.1
KBS Kingsbay 39.63 352 *e*ScP ScP 11 15 50.1 +0.8
KBS AMS AMS 11 29 14.2
comp=Z,2μm,18.2s,MS4.9
KBS Kingsbay 39.63 352⇑ *e*P **P** **11 09 53.6 -0.3**
KBS MLR MLR
comp=Z,3μm,20.0s,MS5.1
PGC Sidney 40.54 74⇑ *e*P **P** **11 10 01.7 +0.2**
comp=Z,308nm,1.5s,mb5.7
VGZ Gonzales 40.77 74 P **P** **11 10 03.5 +0.1**
WAKE Wake Island 41.50 179 PFAKE 11 10 20.0 +11
WAKE LR LR
comp=Z,3μm,22.0s,MS5.0
JCW Jim Creek 41.58 74 P **P** **11 10 10.8 +0.7**
ZAL Zalesovo 41.58 298 P **P** **11 10 09.4 -0.6**
comp=Z,8.0nm,0.5s,mb4.6,baz=65,slow=8.1,SNR=22
ZAL LR LR 11 29 46.7
comp=Z,16μm,18.4s,MS5.9,baz=65,slow=40
ZAL Zalesovo 41.58 298 P **P** **11 10 09.4 -0.6**
NVS Novosibirsk 41.63 300 *i* P **P** **11 10 09.0 -1.5**
NVS *i* 11 11 44.8
NVS *i* S **S** **11 16 24.3 -2.3**
NVS pmax pmax
comp=E,244nm,1.3s
NVS pmax pmax
comp=Z,298nm,1.3s,mb5.8
NVS pmax pmax
comp=N,288nm,1.6s
NVS pmax pmax
comp=N,268nm,2.0s
NVS pmax pmax
comp=Z,221nm,2.0s,mb5.4
NVS pmax pmax
comp=E,124nm,1.7s
NVS smax
comp=N,66nm,1.9s
NVS smax
comp=E,36nm,1.3s
SSE Sheshan 41.68 245 P **P** **11 10 12.4 +1.6**
SSE XP sP 11 10 21.3 +5.1
SSE PP PP 11 11 48.7 +1.5
SSE PCP PcP 11 12 09.8 +2.4
SSE S **S** **11 16 27.7 +0.5**
SSE XS sS 11 16 39.8 +6.2
SSE AMB AMB
comp=Z,53nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,315nm,4.7s
SSE LR LR
comp=N,7μm,15.2s,MS5.8
SSE LR LR
comp=E,8μm,15.2s,MS5.8
SSE LR LR
comp=Z,12μm,16.8s,MS5.8
NJ2 Nanjing 41.92 248 *e*P **P** **11 10 13.6 +0.8**
NJ2 AP pP 11 10 17.9 +1.2
NJ2 XP sP 11 10 21.5 +3.3
NJ2 PP PP 11 11 53.2 +3.4
NJ2 S **S** **11 16 32.0 +1.2**
NJ2 XS sS 11 16 41.0 +3.8
NJ2 AMB AMB
comp=Z,90nm,1.0s,mb5.3
NJ2 AMB AMB
comp=Z,430nm,7.6s
NJ2 LR LR
comp=Z,18μm,15.2s,MS6.1
EDM Edmonton 41.95 63 P **P** **11 10 13.6 +0.5**
DAG Danmarks Havn 42.63 2⇓ *i*P **P** **11 10 18.2 -0.4**
comp=Z,45nm,0.9s,mb5.2
DAG Danmarks Havn 42.63 2⇓ *e*P **P** **11 10 18.2 -0.4**
DAG pmax pmax
comp=Z,45nm,0.9s,mb5.2
DAG Danmarks Havn 42.63 2⇓ *e*P **P** **11 10 18.2 -0.4**
comp=Z,45nm,0.9s,mb5.2
WTV Waterville 42.86 73 P **P** **11 10 21.1 +0.6**
TBM Table Mountain 42.94 74 P **P** **11 10 21.5 +0.4**
MTMW Mount Mitchell 43.01 76 P **P** **11 10 22.4 +0.7**
EBG Ellensburg 43.15 74 P **P** **11 10 23.4 +0.6**
BJO Bjornoya 43.15 348 *e*S **S** **11 16 51.4 +2.5**
BJO *i* 11 20 19.8
BJO AMS AMS 11 37 06.9
comp=Z,2μm,10.1s,MS5.3
MXC Moxie City 43.52 74 P **P** **11 10 26.6 +0.9**
COR Corvallis 43.55 78 *e*P **P** **11 10 26.6 +0.6**
COR pmax pmax
comp=Z,78nm,1.0s,mb5.4
COR Corvallis 43.55 78 *e*P **P** **11 10 26.6 +0.6**
comp=Z,78nm,1.0s,mb5.4
OD2 Odessa Site #2 43.67 72 P **P** **11 10 27.2 +0.3**
TDH Tom, Dick, Har 43.75 77 P **P** **11 10 27.9 +0.3**
NEW Newport 43.77 70 *e*P **P** **11 10 27.8 0.0**
NEW *e* 11 12 14.0
NEW pmax pmax
comp=Z,122nm,1.5s
NEW Newport 43.77 70 *e*P **P** **11 10 27.8 0.0**
comp=Z,119nm,1.5s,mb5.4
NEW *e*PcP PcP 11 12 13.9 -0.5
HAWA Hanford 44.01 74⇑ *e*P **P** **11 10 29.8 0.0**
comp=Z,112nm,1.4s,mb5.4
BROR Big Rock Looko 44.19 78 P **P** **11 10 32.1 +0.9**
WALA Waterton Lakes 44.66 67⇑ *e*P **P** **11 10 35.3 +0.4**
comp=Z,218nm,1.4s,mb5.8
WALA *e*PcP PcP 11 12 17.6 +0.2
XAN Xi'an 44.96 260 P **P** **11 10 37.6 +0.3**
XAN AP pP 11 10 48.1 +6.9
XAN S **S** **11 17 13.8 -1.5**
XAN SS SS 11 20 32.2 -4.6
XAN AMB AMB
comp=Z,57nm,1.7s,mb5.1

XAN AMB AMB
comp=Z,276nm,7.1s
XAN LR LR
comp=N,9μm,14.1s,MS6.1
XAN LR LR
comp=E,12μm,14.8s,MS6.1
XAN LR LR
comp=Z,12μm,14.8s,MS6.0
GTA Gaotai 45.15 273 ⇑P **P 11 10 38.8 0.0**
GTA AP pP 11 10 42.8 +0.1
GTA XP sP 11 10 45.5 +1.3
GTA PCP PcP 11 12 19.0 -0.1
GTA PP PP 11 12 26.0 +1.6
GTA PPP 11 13 06.1
GTA SCP ScP 11 16 09.4 -2.1
GTA PCS PcS 11 16 11.5 -1.4
GTA S **S 11 17 18.3 +0.3**
GTA XS sS 11 17 26.0 +1.6
GTA SCS ScS 11 20 32.4 -3.3
GTA AMB AMB
comp=Z,98nm,1.9s,mb5.3
GTA AMB AMB
comp=Z,930nm,12.6s
GTA LR LR
comp=N,14μm,19.9s,MS6.1
GTA LR LR
comp=E,16μm,18.3s,MS6.1
GTA LR LR
comp=Z,17μm,17.6s,MS6.0
HUMO Hull Mountain 45.20 80 *e*P **P 11 10 39.4 +0.2**
comp=Z,33nm,1.1s,mb5.1
HUMO *e*PcP PcP 11 12 20.0 +0.7
HUMO LR LR
comp=Z,4μm,22.0s,MS5.3
WHN Wuhan 45.26 252 ⇑P **P 11 10 41.0 +1.3**
WHN S **S 11 17 19.0 -0.7**
WHN AMB AMB
comp=Z,137nm,1.6s,mb5.5
WHN LR LR
comp=Z,27μm,13.8s,MS6.3
FCC Fort Churchill 45.62 46 *e*P **P 11 10 41.6 -1.0**
FCC *e* 11 12 19.4
FCC pmax pmax
comp=Z,120nm,1.0s,mb5.8
FCC Fort Churchill 45.62 46⇑*e*P **P 11 10 41.5 -1.0**
comp=Z,123nm,0.9s,mb5.8
FCC *e*PcP PcP 11 12 19.4 -1.4
FCC *e*ScP ScP 11 16 13.4 0.0
FFC Flin Flon 45.62 54 P **P 11 10 42.3 -0.3**
comp=Z,220nm,1.2s,mb6.0,SNR=16
LZH Lanzhou 45.78 266 P **P 11 10 44.1 +0.3**
LZH AP pP 11 10 52.4 +4.7
LZH XP sP 11 10 57.1 +7.8
LZH PP PP 11 12 32.0 +0.9
LZH S **S 11 17 23.3 -3.9**
LZH XS sS 11 17 35.0 +1.4
LZH SS SS 11 20 39.0 -13
LZH AMB AMB
comp=Z,630nm,1.3s,mb6.4
LZH AMB AMB
comp=Z,2μm,4.2s
LZH LR LR
comp=E,15μm,12.5s
LZH LR LR
comp=Z,20μm,13.8s,MS6.2
SUMG Summit 45.84 10 *e*P **P 11 10 44.9 +0.6**
comp=Z,216nm,1.2s,mb6.0
YBH Yreka Blue Hor 45.98 81⇑*e*P **P 11 10 46.0 +0.6**
YBH pmax pmax
comp=Z,70nm,1.2s
YBH MLR MLR
comp=Z,4μm,20.0s
YBH Yreka Blue Hor 45.98 81⇑*e*P **P 11 10 46.0 +0.6**
comp=Z,70nm,1.2s,mb5.5
YBH LR LR
comp=Z,4μm,20.0s,MS5.4
KHMM Horse Mountain 46.14 82⇑*e*P **P 11 10 47.6 +0.9**
BMO Blue Mountains 46.20 74⇑*e*P **P 11 10 47.2 +0.1**
comp=Z,117nm,1.4s,mb5.6
LHEM Herd Peak 46.30 80 P **P 11 10 48.5 +0.6**
KEV Kevo 46.47 342 *e*P **P 11 10 49.4 +0.1**
KEV *e* 11 12 24.4
KEV pmax pmax
comp=Z,43nm,1.0s,mb5.3
KEV MLR MLR
comp=Z,4μm,19.0s,MS5.4
KEV Kevo 46.47 342 *e*P **P 11 10 49.4 +0.1**
comp=Z,43nm,1.0s,mb5.3
KEV *e*PcP PcP 11 12 24.4 +0.6
KEV LR LR
comp=Z,4μm,19.0s,MS5.4
CHMT Chamberlain Mo 46.54 69 *e*P **P 11 10 49.6 -0.2**
CHMT *e*ScP ScP 11 16 17.9 +0.6
KURK Kurchatov 46.54 299 P **P 11 10 49.4 -0.4**
comp=Z,2μm,1.0s
KURK Kurchatov 46.54 299⇑*e*P **P 11 10 49.3 -0.5**
KURK *e* 11 12 40.0
KURK pmax pmax
comp=Z,624nm,1.3s,mb6.4
KURK MLR MLR
comp=Z,11μm,20.0s,MS5.8
KURK Kurchatov 46.54 299⇑*e*P **P 11 10 49.3 -0.5**
KURK *e* 11 12 40.0
KIP Kipapa 46.74 131 *e*P **P 11 10 51.0 -0.4**
KIP pmax pmax
comp=Z,496nm,1.8s,mb6.1
KIP MLR MLR
comp=Z,5μm,20.0s,MS5.5
KIP Kipapa 46.74 131 *e*P **P 11 10 51.0 -0.3**
comp=Z,497nm,1.8s,mb6.1
KIP LR LR
comp=Z,5μm,20.0s,MS5.5
LVZ Lovozero 46.79 337 *e*P **P 11 10 52.4 +0.6**
LVZ *e*S **S 11 17 44.2 +2.6**
LVZ *e*SS SS 11 21 03.1 -4.9
LVZ pmax pmax
comp=Z,113nm,1.4s,mb5.6
LVZ pmax pmax
comp=N,39nm,1.3s
LVZ pmax pmax
comp=E,34nm,1.5s
LVZ smax
comp=E,1μm,7.9s
LVZ MLR MLR
comp=Z,4μm,16.0s,MS5.5
LVZ MLR MLR
comp=N,4μm,19.0s,MS5.5
LVZ MLR MLR
comp=E,2μm,15.0s,MS5.5
LVZ Lovozero 46.79 337 *e*P **P 11 10 52.4 +0.6**
LVZ *e*S **S 11 17 44.2 +2.6**
LVZ *e*SS SS 11 21 03.1 -4.9
TATO Taipei 46.85 240⇑*e*P **P 11 10 54.8 +2.5**
comp=E,394nm,1.4s,mb6.2
TATO LR LR
comp=Z,5μm,19.0s,MS5.5
ARCES ARCESS Array B 46.90 342 P **P 11 10 52.2 -0.4**
comp=Z,20nm,0.8s,mb5.1,baz=34,slow=7.7,SNR=37
ARCES PcP PcP 11 12 23.9 -1.3
comp=Z,21nm,0.9s,baz=28,slow=5.5,SNR=6.0
ARCES LR LR 11 33 51.0
comp=Z,4μm,19.4s,MS5.4,baz=19,slow=40
ARCES ARCESS Array B 46.90 342 P **P 11 10 52.3 -0.3**
ARCES 11 12 23.9
ARCES ARCESS Array B 46.90 342 P **P 11 10 52.2 -0.4**
ARCES PcP PcP 11 12 23.9 -1.3
ARCES LR LR 11 33 51.0
ARE0 ARCESS Array S 46.90 342 *e*P **P 11 10 52.1 -0.5**
ARE0 *e*PcP PcP 11 12 24.5 -0.7
WDC Whiskeytown Da 46.95 82 *e*P **P 11 10 53.7 +0.7**
WDC pmax pmax
comp=Z,79nm,1.4s,mb5.5
WDC MLR MLR
comp=Z,4μm,22.0s,MS5.3
WDC Whiskeytown Da 46.95 82 *e*P **P 11 10 53.7 +0.7**
comp=Z,80nm,1.4s,mb5.5
WDC LR LR
comp=Z,4μm,22.0s,MS5.3
MOD Modoc 47.01 79⇑*e*P **P 11 10 53.7 +0.2**
comp=Z,148nm,1.5s,mb5.7
MOD *e*PcP PcP 11 12 26.4 +0.8
MOD LR LR
comp=Z,3μm,21.0s,MS5.2
KIPM Iron Peak 47.09 83 *e*P **P 11 10 54.4 +0.3**
YHNB Yeheng 47.17 240 *e*P **P 11 10 54.1 -0.6**

APA Apatity 47.31 337⇓*i*P **P 11 10 57.0 +1.1**
APA *i* 11 11 03.5
APA *i* 11 11 08.2
APA *i* 11 12 26.6
APA *i* S **S 11 17 51.0 +1.9**
APA *e*SS SS 11 20 41.0 -36
APA pmax pmax
comp=Z,170nm,1.8s,mb5.7
HRY Holter Researc 47.34 68 *e*P **P 11 10 56.4 +0.3**
WVOR Wild Horse Val 47.40 77⇑*e*P **P 11 10 56.7 +0.2**
WVOR *e* 11 12 27.1
WVOR pmax pmax
comp=Z,42nm,1.0s,mb5.3
WVOR MLR MLR
comp=Z,7μm,20.0s,MS5.7
WVOR Wild Horse Val 47.40 77⇑*e*P **P 11 10 56.7 +0.2**
comp=Z,38nm,1.0s,mb5.3
WVOR *e*PcP PcP 11 12 27.1 +0.1
WVOR *e*ScP ScP 11 16 22.8 +1.9
WVOR LR LR
comp=Z,6μm,20.0s,MS5.5
NACB Ninganchiao 47.51 240 *e*P **P 11 10 59.0 +1.5**
WMQ Urumqi 47.61 286⇓*i*P **P 11 10 59.2 +1.0**
WMQ AP pP 11 11 03.7 +1.6
WMQ XP sP 11 11 06.2 +2.6
WMQ PCP PcP 11 12 29.2 +1.4
WMQ PP PP 11 12 50.2 +0.5
WMQ PPP 11 13 39.4
WMQ SCP ScP 11 16 21.6 -0.1
WMQ PCS PcS 11 16 23.2 0.0
WMQ S **S 11 17 53.2 -0.1**
WMQ XS sS 11 18 01.2 +1.4
WMQ AMB AMB
comp=Z,235nm,1.6s,mb6.0
WMQ AMB AMB
comp=Z,67nm,6.7s
WMQ LR LR
comp=N,23μm,17.6s,MS6.2
WMQ LR LR
comp=E,16μm,20.3s,MS6.2
WMQ LR LR
comp=Z,7μm,20.6s,MS5.6
TRO Tromso 47.72 345 *e*P **P 11 10 58.8 -0.3**
TRO *e*S **S 11 17 55.6 +0.7**
TRO *e*SS SS 11 21 25.8 +2.7
TRO AMS AMS 11 40 01.9
comp=Z,1μm,13.2s,MS5.0
TRO Tromso 47.72 345 *e*P **P 11 10 58.8 -0.3**
TRO *e* 11 17 57.9
TRO LR LR
comp=Z,1168μm,13.2s
MK31 Makanchi Array 47.85 293 P **P 11 10 58.1 -2.0**
MK31 pmax pmax
comp=Z,58nm,1.0s,mb5.6
MKAR Makanchi Array 47.85 293 P **P 11 10 58.7 -1.4**
comp=Z,24nm,0.6s,mb5.4,baz=38,slow=6.4,SNR=72
MKAR PP PP 11 12 50.2 -1.7
comp=Z,12nm,1.0s,baz=34,slow=11,SNR=3.0
MKAR Makanchi Array 47.85 293 P **P 11 10 58.7 -1.4**
MKAR *e* 11 12 50.2
HOPS Hopland 47.92 83 PFAKE 11 11 10.0 +9.4
HOPS LR LR
comp=Z,3μm,20.0s,MS5.3
DLMT Dillon 48.01 70⇑*e*P **P 11 11 01.4 +0.1**
comp=Z,80nm,1.2s,mb5.6
DLMT *e*PcP PcP 11 12 31.1 +1.9
QZH Quanzhou 48.13 244 P **P 11 11 02.0 -0.2**
QZH S **S 11 17 58.9 -1.9**
QZH LR LR
comp=N,13μm,12.8s,MS6.2
QZH LR LR
comp=E,9μm,12.7s,MS6.2
QZH LR LR
comp=Z,15μm,12.2s,MS6.2
VOSK Vostochnaya 48.20 306 P **P 11 11 01.8 -0.9**
VOSK pmax pmax
comp=Z,156nm,1.1s,mb6.0
BVA0 Borovoye Array 48.21 306 *i* P **P 11 11 02.3 -0.5**
BVA0 pmax pmax
comp=Z,64nm,1.0s,mb5.6
BRVK Borovoye 48.22 306 P **P 11 11 02.3 -0.6**
comp=Z,1μm,1.1s
BRVK Borovoye 48.22 306 *e*P **P 11 11 02.7 -0.2**
BRVK *e* 11 12 55.8
BRVK pmax pmax
comp=Z,314nm,1.3s,mb6.2
BRVK MLR MLR
comp=Z,8μm,19.0s,MS5.7
BRVK Borovoye 48.22 306 *e*P **P 11 11 02.7 -0.2**
comp=Z,314nm,1.3s,mb6.2
BRVK *e* 11 12 55.8
BRVK LR LR
comp=Z,8μm,19.0s,MS5.7
MCMT McKenzie Canyo 48.30 70 *e*P **P 11 11 03.3 -0.1**
MCMT *e*PcP PcP 11 12 30.8 +0.6
MCMT *e*ScP ScP 11 16 27.1 +2.5
JMIC Jan Mayen 48.41 358 *e*S **S 11 18 06.5 +1.8**
JMIC AMS AMS 11 34 11.0
comp=Z,978nm,14.1s,MS4.9
JMIC Jan Mayen 48.41 358 LR LR 11 29 05.0
comp=Z,1μm,20.0s,MS4.9,baz=4.2,slow=33
OHCM Honcut 48.42 82 *e*P **P 11 11 03.6 -0.8**
HLID Hailey 48.53 73⇑*e*P **P 11 11 05.4 +0.1**
comp=Z,18nm,0.9s,mb5.1
HLID *e*PcP PcP 11 12 32.1 +1.0
HLID *e*ScP ScP 11 16 28.2 +2.6
ZRNK Zerenda 48.81 307 *i* P **P 11 11 06.8 -0.6**
ZRNK pmax pmax
comp=Z,286nm,1.3s,mb6.1
SVE Sverdlovsk 48.90 315⇑*i*P **P 11 11 08.0 -0.1**
SVE *e* 11 12 32.0
SVE *e* 11 13 02.7
SVE *e*S **S 11 18 12.0 +0.4**
SVE *e*SSS 11 23 04.0
SVE pmax pmax
comp=Z,120nm,1.3s,mb5.8
SVE pmax pmax
comp=N,500nm,3.0s
SVE pmax pmax
comp=E,400nm,3.0s
SVE pmax pmax
comp=Z,1μm,3.0s
SVE MLR MLR
comp=N,9μm,14.0s,MS6.0
SVE MLR MLR
comp=E,8μm,14.0s,MS6.0
SVE MLR MLR
comp=Z,14μm,14.0s,MS6.1
QLMT Earthquake Lak 48.95 69 *e*P **P 11 11 08.8 +0.3**
GCMT Greycliff 49.02 67 *e*P **P 11 11 09.9 +0.9**
PAHR Pah Rah Range 49.15 80⇑*e*P **P 11 11 09.9 -0.1**
comp=Z,162nm,1.6s,mb5.8
PAHR *e*PP PP 11 13 09.9 +6.2
PAHR *e*ScP ScP 11 16 30.8 +2.6
POHA Pohakuloa 49.19 129 PFAKE 11 11 20.0 +10
POHA LR LR
comp=Z,5μm,21.0s,MS5.5
YMR Madison River 49.28 69⇑*e*P **P 11 11 11.6 +0.5**
comp=Z,89nm,1.2s,mb5.7
YMR *e*PcP PcP 11 12 34.8 +1.0
YMR LR LR
comp=Z,7μm,22.0s,MS5.6
YFT Old Faithful 49.51 69⇑*e*P **P 11 11 14.6 +1.8**
YFT *e*PcP PcP 11 12 36.8 +2.1
BMN Battle Mountai 49.62 77⇑*e*P **P 11 11 14.0 +0.3**
BMN *e* 11 12 35.6
BMN pmax pmax
comp=Z,84nm,1.6s,mb5.5
BMN MLR MLR
comp=Z,5μm,20.0s,MS5.5
BMN Battle Mountai 49.62 77⇑*e*P **P 11 11 14.0 +0.4**
comp=Z,84nm,1.6s,mb5.5
BMN *e*PcP PcP 11 12 35.6 +0.5
BMN LR LR
comp=Z,5μm,20.0s,MS5.5
LKWY Lake 49.62 69⇑*e*P **P 11 11 15.5 +1.8**
LKWY *e* 11 12 36.6
LKWY pmax pmax
comp=Z,56nm,0.9s,mb5.6
LKWY MLR MLR
comp=Z,13μm,20.0s,MS5.9
LKWY Lake 49.62 69⇑*e*P **P 11 11 15.5 +1.8**
comp=Z,43nm,0.9s,mb5.5
LKWY *e*PcP PcP 11 12 36.6 +1.6
LKWY LR LR
comp=Z,10μm,20.0s,MS5.8
SFJD Kangerlussuaq 49.71 18 *e*P **P 11 11 13.9 -0.4**
comp=Z,255nm,2.0s,mb5.9
FLWY Flagg Ranch 49.86 69⇑*e*P **P 11 11 16.6 +1.2**
comp=Z,89nm,0.9s,mb5.8
IMW Indian Meadow 49.89 70⇑*e*P **P 11 11 16.3 +0.6**
comp=Z,184nm,1.5s,mb5.9
IMW *e*PcP PcP 11 12 36.9 +0.9
ARU Arti 49.92 316 P **P 11 11 16.8 +0.9**
comp=Z,917nm,1.5s,mb6.6,SNR=32
ARU Arti 49.92 316⇑*i*P **P 11 11 15.8 -0.1**
ARU *e* 11 12 34.1
ARU *e* 11 13 11.7
ARU *e*PPP 11 14 07.0
ARU *e*S **S 11 18 24.8 -1.1**
ARU *e* 11 21 05.8
ARU *e*SS SS 11 21 55.3 -3.3
ARU *e*SSS 11 23 21.2
ARU pmax pmax
comp=Z,201nm,1.3s,mb6.0
ARU MLR MLR
comp=Z,6μm,18.0s,MS5.6
ARU MLR MLR
comp=N,1μm,17.0s,MS5.5
ARU MLR MLR
comp=E,4μm,17.0s,MS5.5
ARU Arti 49.92 316⇑*i*P **P 11 11 15.8 -0.1**
comp=E,201nm,1.3s,mb6.0
ARU *e* 11 12 34.1
ARU *e* 11 13 11.7
ARU *e*PPP 11 14 07.0
ARU *e*S **S 11 18 24.8 -1.1**
ARU *e* 11 21 05.8
ARU *e*SS SS 11 21 55.3 -3.3
ARU *e*SSS 11 23 21.2
ARU LR LR
comp=Z,6μm,18.0s,MS5.6
CMB Columbia Colle 49.97 82 *e*P **P 11 11 16.2 -0.1**
CMB *e* 11 12 35.0
CMB pmax pmax
comp=Z,100nm,1.7s,mb5.6
CMB MLR MLR
comp=Z,3μm,19.0s,MS5.4
CMB Columbia Colle 49.97 82 *e*P **P 11 11 16.2 -0.1**
comp=Z,100nm,1.7s,mb5.6
CMB *e*PcP PcP 11 12 35.0 -1.3
CMB LR LR
comp=Z,3μm,19.0s,MS5.4
DCID1 Drake Creek 50.01 70⇑*e*P **P 11 11 17.5 +0.9**
CD2 Chengdu 50.01 262 P **P 11 11 16.0 -0.6**
CD2 XP sP 11 11 23.8 +1.7
CD2 PCP PcP 11 12 34.8 -1.7
CD2 PP PP 11 13 12.8 +1.2
CD2 S **S 11 18 25.7 -1.5**
CD2 SS SS 11 21 56.2 -3.9
CD2 AMB AMB
comp=Z,50nm,1.6s,mb5.3
CD2 AMB AMB
comp=Z,230nm,4.3s
CD2 LR LR
comp=N,11μm,13.8s
CD2 LR LR
comp=Z,5μm,13.8s,MS5.7
MOOW Moose Ponds 50.09 70⇑*e*P **P 11 11 17.7 +0.5**
comp=Z,20nm,1.0s,mb5.1
TPAW Teton Pass 50.20 70⇑*e*P **P 11 11 18.9 +0.9**
comp=Z,44nm,0.9s,mb5.5
TPAW *e*PP PP 11 13 15.5 +2.2
REDW Red Top Meadow 50.34 70⇑*e*P **P 11 11 19.6 +0.5**
comp=Z,90nm,1.4s,mb5.6
REDW *e*PcP PcP 11 12 39.0 +1.3
SAO San Andreas Ge 50.46 84 *e*P **P 11 11 20.5 +0.5**
SAO pmax pmax
comp=Z,39nm,1.0s,mb5.4
SAO MLR MLR
comp=Z,4μm,19.0s,MS5.4
SAO San Andreas Ge 50.46 84 *e*P **P 11 11 20.5 +0.4**
comp=Z,40nm,1.0s,mb5.4
SAO LR LR
comp=Z,4μm,19.0s,MS5.4
NVAR Mina Array Bea 50.67 80 P **P 11 11 22.1 +0.5**
comp=Z,16nm,1.0s,mb4.9,baz=322,slow=5.6,SNR=70
NVAR PcP PcP 11 12 38.8 -0.1
comp=Z,6.3nm,0.9s,baz=347,slow=1.2,SNR=3.9
AHID Auburn Hatcher 50.69 71 *e*P **P 11 11 21.8 +0.1**
comp=Z,54nm,1.6s,mb5.2
AHID LR LR
comp=Z,6μm,22.0s,MS5.5
MNV Mina 50.74 80⇑*e*P **P 11 11 22.4 +0.3**
MNV pmax pmax
comp=Z,61nm,1.3s,mb5.4
MNV MLR MLR
comp=Z,5μm,21.0s,MS5.5
MNV Mina 50.74 80⇑*e*P **P 11 11 22.4 +0.3**
comp=Z,61nm,1.3s,mb5.4
MNV LR LR
comp=Z,5μm,21.0s,MS5.5
SPUT South Promonto 51.20 73⇑*e*P **P 11 11 26.0 +0.4**
BGU Big Grassy Mou 51.23 74 *e*P **P 11 11 32.2 +6.4**
HWUT Hardware Ranch 51.38 72⇑*e*P **P 11 11 27.4 +0.5**
comp=Z,64nm,1.2s,mb5.4
HWUT *e*PcP PcP 11 12 41.5 0.0
HWUT LR LR
comp=Z,6μm,19.0s,MS5.7
PDAR Pinedale Array 51.40 70 P **P 11 11 27.0 -0.1**
comp=Z,37nm,0.9s,mb5.3,baz=321,slow=2.7,SNR=148
PDAR LR LR 11 35 12.6
comp=Z,5μm,18.2s,MS5.6,baz=80,slow=38
ULM Lac du Bonnet 51.45 54 P **P 11 11 27.4 -0.1**
comp=Z,29nm,1.1s,mb5.1,baz=318,slow=8.8,SNR=26
ULM PcP PcP 11 12 40.6 -1.2
comp=Z,24nm,0.8s,baz=296,slow=4.3,SNR=4.3
ULM LR LR 11 37 01.4
comp=Z,4μm,18.3s,MS5.4,baz=318,slow=40
TPH Tonopah 51.47 79⇑*e*P **P 11 11 27.7 +0.1**
TPH *e* 11 12 42.4
TPH pmax pmax
comp=Z,61nm,1.2s,mb5.4
TPH MLR MLR
comp=Z,3μm,20.0s,MS5.3
TPH Tonopah 51.47 79⇑*e*P **P 11 11 27.7 +0.1**
comp=Z,61nm,1.2s,mb5.4
TPH *e*PcP PcP 11 12 42.4 +0.5
TPH LR LR
comp=Z,3μm,20.0s,MS5.3
MOR8 Moi Rana 51.56 346 *e*P **P 11 11 26.4 -1.9**
MOR8 AMb AMB 11 11 31.2
comp=Z,47nm,1.8s,mb5.1
MOR8 Moi Rana 51.56 346 *e*P **P 11 11 26.4 -1.9**
comp=Z,47nm,1.8s,mb5.1
KLMR Klimovskoe 51.84 330*c i*P **P 11 11 30.0 -0.3**
KLMR *e*S **S 11 18 52.8 +0.4**
KLMR *e*SS SS 11 22 32.3 +3.3
KLMR pmax pmax
comp=Z,290nm,1.7s,mb5.9
KLMR pmax pmax
comp=Z,180nm,5.2s
KLMR MLR MLR
comp=Z,9μm,18.0s,MS5.8
TCUT Toone Canyon 51.84 72⇑*e*P **P 11 11 30.6 +0.3**
TCUT *e*PcP PcP 11 12 42.8 -0.4
TCUT *e*PP PP 11 13 28.4 +0.2
TCUT *e*ScP ScP 11 16 39.5 -0.3
JOF Joensuu 51.85 335 *e*p **P 11 11 28.9 -1.6**
comp=Z,68nm,1.2s,mb5.5
JOF Joensuu 51.85 335 *e*P **P 11 11 28.9 -1.6**
JOF pmax pmax
comp=Z,68nm,1.2s,mb5.5
NOQ North Oquirrh 51.87 73⇑*e*P **P 11 11 30.7 +0.1**
comp=Z,167nm,1.6s,mb5.7
NOQ *e*PcP PcP 11 12 43.9 +0.6
DUG Dugway 51.90 74⇑*e*P **P 11 11 31.1 +0.3**
DUG *e* 11 12 44.4
DUG pmax pmax
comp=Z,98nm,1.6s,mb5.5
DUG MLR MLR
comp=Z,6μm,19.0s,MS5.6
DUG Dugway 51.90 74⇑*e*P **P 11 11 31.1 +0.3**
comp=Z,98nm,1.6s,mb5.5
DUG *e*PcP PcP 11 12 44.4 +1.0
DUG LR LR
comp=Z,6μm,19.0s,MS5.6
PTRM Twissleman Ran 51.95 84 *e*P **P 11 11 32.1 +0.9**
CTU Camp Tracy 52.01 73⇑*e*P **P 11 11 31.7 +0.1**
comp=Z,26nm,1.0s,mb5.1
GZH Guangzhou 52.09 248 P **P 11 11 27.6 -4.6**

GZH S **S** **11 18 45.6 -10**
GZH SS SS 11 22 25.9 -7.2
GZH LR LR
comp=N,12μm,18.2s,MS6.3
GZH LR LR
comp=E,22μm,17.6s,MS6.3
GZH LR LR
comp=Z,13μm,15.7s,MS6.1
GYA Guiyang 52.32 257⇑ *i*P **P** **11 11 36.0 +2.0**
GYA AP pP 11 11 40.8 +2.9
GYA XP sP 11 11 43.6 +4.2
GYA PP PP 11 13 34.5 +2.0
GYA PPP 11 14 37.2
GYA SCP ScP 11 16 44.0 +2.1
GYA S **S** **11 18 55.5 -3.6**
GYA SS SS 11 22 30.7 -6.0
GYA AMB AMB
comp=Z,90nm,1.0s,mb5.7
GYA LR LR
comp=N,12μm,15.3s,MS6.2
GYA LR LR
comp=E,10μm,14.7s,MS6.2
GYA LR LR
comp=Z,3μm,15.0s,MS5.5
DAU Daniels Canyon 52.46 73 P **P** **11 11 35.8 +0.8**
DAU Daniels Canyon 52.46 73 *e*P **P** **11 11 35.7 +0.7**
MPU Maple Canyon 52.60 73⇑ *e*P **P** **11 11 36.5 +0.5**
comp=Z,160nm,1.7s,mb5.7
MPU LR LR
comp=Z,7μm,19.0s,MS5.7
DAC Darwin (Calif) 52.72 81⇑ *e*P **P** **11 11 37.3 +0.4**
DAC *e* 11 12 47.1
DAC pmax pmax
comp=Z,72nm,1.4s,mb5.4
DAC MLR MLR
comp=Z,3μm,20.0s,MS5.3
DAC Darwin (Calif) 52.72 81⇑ *e*P **P** **11 11 37.3 +0.3**
comp=Z,72nm,1.4s,mb5.4
DAC *e*PcP PcP 11 12 47.1 +0.6
DAC LR LR
comp=Z,3μm,20.0s,MS5.3
ISA Isabella 52.79 82⇑ *e*P **P** **11 11 37.0 -0.4**
RSSD Black Hills 52.83 65⇑ *e*P **P** **11 11 37.8 0.0**
RSSD *e* 11 12 46.7
RSSD pmax pmax
comp=Z,79nm,1.1s,mb5.6
RSSD MLR MLR
comp=Z,5μm,21.0s,MS5.5
RSSD Black Hills 52.83 65⇑ *e*P **P** **11 11 37.8 0.0**
comp=Z,71nm,1.1s,mb5.5
RSSD *e*PcP PcP 11 12 46.7 -0.2
RSSD *e*ScP ScP 11 16 46.6 +2.4
RSSD LR LR
comp=Z,4μm,21.0s,MS5.5
AAA Alma-Ata 52.98 294 *i*P **P** **11 11 40.9 +2.1**
AAA *i*S **S** **11 19 07.4 -0.7**
AAA pmax pmax
comp=Z,982nm,5.4s
AAA smax
comp=N,687nm,14.1s
AAA MLR MLR
comp=Z,13μm,15.5s,MS6.1
RWWY Rawlins 53.33 69⇑ *e*P **P** **11 11 41.2 -0.2**
comp=Z,21nm,0.7s,mb5.2
TMUT Trail Mountain 53.37 74⇑ *e*P **P** **11 11 42.2 +0.5**
NSS Namsos 53.44 346 *e*P **P** **11 11 42.2 0.0**
NSS *e*S **S** **11 19 15.6 +1.3**
NSS AMS AMS 11 38 05.4
comp=Z,2μm,18.3s,MS5.3
ARUT Antelope Range 53.51 77 *e*P **P** **11 11 43.0 +0.3**
ARUT *e*ScP ScP 11 16 34.8 -12
MVU Marysvale 53.52 75 PFAKE 11 11 50.0 +7.2
MVU LR LR
comp=Z,6μm,21.0s,MS5.6
MSU Marysvale 53.53 75 *e*P **P** **11 11 43.9 +1.0**
MSU *e* 11 12 50.5
KAF Kangasniemi 53.56 338 *e*p **P** **11 11 41.5 -1.6**
comp=Z,90nm,1.2s,mb5.6
KAF Kangasniemi 53.56 338 *e*P **P** **11 11 41.5 -1.6**
KAF pmax pmax
comp=Z,90nm,1.2s,mb5.6
CCUT Cedar City 53.74 77 *e*P **P** **11 11 45.0 +0.6**
CCUT *e*PP PP 11 13 47.9 +2.6
SRU San Rafael 53.84 73⇑ *e*P **P** **11 11 45.7 +0.6**
SRU pmax pmax
comp=Z,66nm,1.0s,mb5.5
SRU San Rafael 53.84 73⇑ *e*P **P** **11 11 45.7 +0.5**
comp=Z,66nm,1.0s,mb5.5
FINES FINESS Array B 54.22 338 P **P** **11 11 46.7 -1.3**
comp=Z,16nm,0.7s,mb5.0,baz=43,slow=8.6,SNR=34
FINES PcP PcP 11 12 50.5 -1.7
comp=Z,23nm,1.1s,baz=51,slow=6.1,SNR=6.8
FINES LR LR 11 38 14.7
comp=Z,2μm,18.1s,MS5.2,baz=185,slow=40
FINES FINESS Array B 54.22 338 P **P** **11 11 46.7 -1.2**
FINES 11 12 50.6
FINES FINESS Array B 54.22 338 P **P** **11 11 46.7 -1.3**
FINES PcP PcP 11 12 50.5 -1.7
FINES LR LR 11 38 14.7
SNCC San Nicolas Is 54.22 85 PFAKE 11 12 00.0 +12
SNCC LR LR
comp=Z,2μm,20.0s,MS5.3
FRU Bishkek 54.36 295 *e*P **P** **11 11 49.5 +0.5**
FRU *i* pP 11 11 51.5 -1.4
FRU *i* 11 13 53.8
FRU *e* 11 19 24.0
FRU pmax pmax
comp=Z,652nm,2.0s,mb6.2
FRU MLR MLR
comp=Z,11μm,16.0s,MS6.0
PHWY Pilot Hill 54.43 68 *e*P **P** **11 11 49.3 -0.2**
PHWY *e*PcP PcP 11 12 52.8 -0.2
PECR Pechory 54.55 324 *e*P **P** **11 11 50.0 -0.3**
PECR *e* 11 12 47.0
PECR *e* 11 13 59.0
PECR *i*S **S** **11 19 32.0 +2.7**
PECR *e*PS 11 19 44.0
PECR pmax pmax
comp=Z,570nm,2.0s,mb6.2
PECR pmax pmax
comp=Z,1μm,2.8s,mb6.3
PECR smax
comp=N,1μm,9.6s
PECR smax
comp=E,1μm,9.6s
PECR MLR MLR
comp=Z,6μm,18.0s,MS5.7
PECR MLR MLR
comp=N,6μm,17.0s,MS5.9
PECR MLR MLR
comp=E,7μm,15.0s,MS5.9
NEN Nelson 54.55 79 *e*P **P** **11 11 51.0 +0.7**
AAK Ala-Archa 54.58 295 P **P** **11 11 49.6 -0.9**
comp=E,506nm,0.9s,mb6.5,SNR=50
AAK Ala-Archa 54.58 295 *e*P **P** **11 11 49.6 -0.9**
AAK *e* 11 13 53.2
AAK pmax pmax
comp=Z,281nm,1.5s,mb6.1
AAK MLR MLR
comp=Z,7μm,21.0s,MS5.7
AAK Ala-Archa 54.58 295 *e*P **P** **11 11 49.6 -0.9**
comp=Z,281nm,1.5s,mb6.1
AAK *e* 11 13 53.2
AAK LR LR
comp=Z,7μm,21.0s,MS5.7
BORG Borgarnes 54.63 4 LR LR 11 37 18.4
comp=Z,3μm,18.3s,MS5.3,baz=350,slow=38
BORG Borgarnes 54.63 4 PFAKE 11 12 00.0 +9.1
BORG LR LR
comp=Z,2μm,20.0s,MS5.3
PUL Pulkovo 54.91 334 P **P** **11 11 51.8 -1.2**
PUL MLR MLR
comp=Z,7μm,19.0s,MS5.7
PUL MLR MLR
comp=N,3μm,14.0s,MS5.8
PUL MLR MLR
comp=E,5μm,16.0s,MS5.8
AKTK Aktyubinsk 54.96 312 *i*P **P** **11 11 53.1 -0.2**
AKTO Aktyubinsk 54.96 312 LR LR 11 38 17.5
comp=E,9μm,18.2s,MS5.9,baz=0.0,slow=39
AKTO Aktyubinsk 54.96 312 *i*P **P** **11 11 53.0 -0.3**
AKTO pmax pmax
comp=Z,96nm,2.0s,mb5.5
PV10 Paradox Valley 55.12 73 *e*P **P** **11 11 55.3 +0.9**
ORR Orenburg 55.15 315*c i*P **P** **11 11 54.3 -0.3**
ORR pmax pmax
comp=Z,490nm,1.5s,mb6.3
ORR MLR MLR
comp=Z,10μm,15.0s,MS6.0
AB31 Akbulak array 55.22 310 *i*P **P** **11 11 54.6 -0.6**
AB31 pmax pmax
comp=Z,74nm,0.8s,mb5.8
KMI Kunming 55.33 259 P **P** **11 11 57.4 +1.4**
KMI AP pP 11 12 00.4 +0.5
KMI XP sP 11 12 01.6 +0.1
KMI PCP PcP 11 12 58.6 +2.1
KMI PP PP 11 14 02.4 +2.8
KMI PPP 11 15 15.1
KMI SCP ScP 11 16 55.8 +0.8
KMI PCS PcS 11 16 56.9 +0.4
KMI S **S** **11 19 38.7 -1.1**
KMI PS 11 19 47.6
KMI SCS ScS 11 21 43.3 -1.7
KMI SS SS 11 23 23.0 -1.2
KMI SSS 11 25 23.8
KMI AMB AMB
comp=Z,75nm,1.7s,mb5.4
KMI AMB AMB
comp=Z,638nm,4.2s
KMI LR LR
comp=N,9μm,17.8s,MS6.1
KMI LR LR
comp=E,9μm,16.2s,MS6.1
KMI LR LR
comp=Z,8μm,14.4s,MS5.9
PFO Pinyon Flat Ob 55.42 82 P **P** **11 11 56.0 -0.6**
comp=Z,306nm,1.2s,mb6.2,SNR=26
PFO Pinyon Flat Ob 55.42 82⇑ *e*P **P** **11 11 56.8 +0.2**
PFO pmax pmax
comp=Z,78nm,1.2s,mb5.6
PFO MLR MLR
comp=Z,4μm,20.0s,MS5.5
PFO Pinyon Flat Ob 55.42 82⇑ *e*P **P** **11 11 56.8 +0.1**
comp=Z,76nm,1.2s,mb5.6
PFO LR LR
comp=Z,4μm,20.0s,MS5.5
SMCO Snowmass 55.44 71⇑ *e*P **P** **11 11 57.5 +0.8**
comp=Z,28nm,0.9s,mb5.3
PV01 Paradox Valley 55.53 72 *e*P **P** **11 11 57.8 +0.3**
ISCO Idaho Springs 55.56 69⇑ *e*P **P** **11 11 58.6 +0.9**
ISCO pmax pmax
comp=Z,20nm,0.9s,mb5.2
ISCO Idaho Springs 55.56 69⇑ *e*P **P** **11 11 58.6 +0.9**
comp=Z,18nm,0.9s,mb5.1
KK31 Karatay Array 55.94 298 *i*P **P** **11 11 59.3 -1.1**
KK31 pmax pmax
comp=Z,265nm,1.3s,mb6.1
KK31 Karatay Array 55.94 298 *i*P **P** **11 11 59.3 -1.1**
comp=Z,265nm,1.3s,mb6.1
KKAR Karatay Array 55.94 298 *i*P **P** **11 11 59.3 -1.1**
KKAR pmax pmax
comp=Z,344nm,1.3s,mb6.2
MVCO Mesa Verde 56.31 73 *e*P **P** **11 12 03.2 +0.2**
comp=Z,16nm,0.8s,mb5.1
WUAZ Wupatki 56.32 77⇑ *e*P **P** **11 12 04.0 +0.9**
comp=Z,111nm,1.4s,mb5.7
WUAZ LR LR
comp=Z,3μm,21.0s,MS5.4
KSH Kashi 56.42 292⇑ *i*P **P** **11 12 04.1 +0.3**
KSH *e*AP pP 11 12 09.1 +1.4
KSH *e*XP sP 11 12 11.4 +2.2
KSH *e*PCP PcP 11 13 02.1 +1.4
KSH *e*PP PP 11 14 10.4 +1.1
KSH *e*PPP 11 15 30.4
KSH *e*SCP ScP 11 16 59.6 -0.2
KSH *e*PCS PcS 11 17 01.5 +0.2
KSH *e*S **S** **11 19 50.8 -3.5**
KSH *e*PS 11 20 03.1
KSH *e*SCS ScS 11 21 49.4 -3.5
KSH *e*SS SS 11 23 36.0 -5.3
KSH AMB AMB
comp=Z,97nm,1.1s,mb5.8
KSH LR LR
comp=N,12μm,11.4s,MS6.3
KSH LR LR
comp=E,8μm,12.5s,MS6.3
KSH LR LR
comp=Z,9μm,19.8s
TGY Tagaytay City 56.79 235 P **P** **11 12 06.7 +0.2**
comp=Z,118nm,0.4s,baz=138,slow=16,SNR=5.3
MOS Moscow 56.81 328 *e*P **P** **11 12 06.2 -0.4**
MOS *e* 11 12 59.0
MOS *e* 11 14 11.5
MOS *e*PPP 11 15 33.4
MOS *e*S **S** **11 20 01.9 +2.3**
MOS pmax pmax
comp=Z,226nm,1.5s,mb6.0
MOS pmax pmax
comp=Z,1μm,3.0s
MOS pmax pmax
comp=N,800nm,3.2s
MOS smax
comp=E,1μm,4.4s
MOS MLR MLR
comp=Z,9μm,15.5s,MS6.0
MOS MLR MLR
comp=N,7μm,14.7s,MS6.0
MOS MLR MLR
comp=E,5μm,14.7s,MS6.0
NB2 NORSAR Subarra 56.91 346 P **P** **11 12 06.7 -0.6**
comp=Z,105nm,1.0s,mb5.8,baz=15,slow=7.4
NOA NORSAR Array B 56.91 346 P **P** **11 12 06.5 -0.7**
comp=Z,36nm,0.7s,mb5.5,baz=14,slow=7.3,SNR=56
NOA PcP PcP 11 13 02.3 -0.4
comp=Z,15nm,0.8s,baz=16,slow=2.9,SNR=5.9
NOA LR LR 11 39 08.3
comp=Z,2μm,20.2s,MS5.2,baz=50,slow=39
NOA NORSAR Array B 56.91 346 P **P** **11 12 06.5 -0.8**
NOA 11 13 02.3
NAO01 NORSAR Array S 57.14 346 *e*P **P** **11 12 07.8 -1.1**
comp=Z,111nm,1.3s,mb5.7
NAO01 *e*PcP PcP 11 13 02.9 -0.6
NAO01 LR LR
comp=Z,2μm,20.0s,MS5.2
LSA Lhasa 57.17 273 P **P** **11 12 09.6 +0.5**
LSA Lhasa 57.17 273 *e*P **P** **11 12 09.4 +0.3**
LSA pmax pmax
comp=Z,185nm,1.4s,mb5.9
LSA MLR MLR
comp=Z,4μm,20.0s,MS5.5
LSA Lhasa 57.17 273 *e*P **P** **11 12 09.4 +0.2**
comp=Z,185nm,1.4s,mb5.9
LSA LR LR
comp=Z,4μm,20.0s,MS5.5
QIZ Qiongzhong 57.21 249 *i*PR **P** **11 12 11.0 +1.6**
QIZ PP PP 11 14 18.6 +2.2
QIZ S **S** **11 20 05.1 +0.3**
QIZ XS sS 11 20 14.9 +3.6
QIZ PS 11 20 21.1
QIZ SS SS 11 23 56.8 +3.0
QIZ AMB AMB
comp=Z,52nm,1.9s,mb5.2
QIZ AMB AMB
comp=Z,636nm,3.8s
QIZ LR LR
comp=N,7μm,18.1s,MS6.1
QIZ LR LR
comp=E,10μm,16.0s,MS6.1
QIZ LR LR
comp=Z,8μm,15.3s,MS5.9
QIZ Qiongzhong 57.21 249 *e*P **P** **11 12 11.0 +1.6**
comp=Z,446nm,2.3s,mb6.1
QIZ LR LR
comp=Z,6μm,19.0s,MS5.7
HYA Hoyanger 57.34 348 *e*P **P** **11 12 13.4 +3.1**
HYA AMb AMB 11 12 16.9
comp=Z,158nm,1.8s,mb5.8
HYA Hoyanger 57.34 348 *e*P **P** **11 12 13.4 +3.1**
comp=Z,158nm,1.8s,mb5.7
SCHQ Schefferville 57.37 33 P **P** **11 12 09.4 -1.2**
comp=Z,58nm,0.8s,mb5.6,baz=1.8,slow=6.9,SNR=42
SCHQ LR LR 11 40 56.2
comp=Z,4μm,19.5s,MS5.5,baz=335,slow=40
SCHQ Schefferville 57.37 33⇑ *e*P **P** **11 12 09.3 -1.2**
comp=Z,99nm,1.0s,mb5.8
SCHQ LR LR
comp=Z,6μm,20.0s,MS5.7
OBN Obninsk 57.65 328 P **P** **11 12 12.7 +0.2**
comp=Z,517nm,0.9s,mb6.6,SNR=10
OBN Obninsk 57.65 328*c e*P **P** **11 12 11.8 -0.7**
OBN *e* 11 12 19.2
OBN *e* 11 12 23.9
OBN *e* 11 14 17.9
OBN *i*S **S** **11 20 13.4 +2.9**
OBN *e*SS SS 11 24 05.8 +5.1
OBN pmax pmax
comp=Z,228nm,1.7s,mb5.9
OBN MLR MLR
comp=Z,10μm,18.0s,MS6.0
OBN Obninsk 57.65 328⇑ *e*P **P** **11 12 11.8 -0.7**
comp=Z,228nm,1.7s,mb5.9
OBN *e* 11 12 19.2
OBN *e* 11 12 23.9
OBN *e* 11 14 17.9
OBN *i*S **S** **11 20 13.4 +2.9**
OBN *e*SS SS 11 24 05.8 +5.1
OBN LR LR
comp=Z,10μm,18.0s,MS6.0
BER Bergen 58.19 349 *e*P **P** **11 12 16.1 -0.2**
BER *e*S **S** **11 20 19.4 +1.7**
BER AMS AMS 11 45 36.0
comp=Z,2μm,19.2s,MS5.2
KONO Kongsberg 58.46 346 *e*P **P** **11 12 17.9 -0.3**
KONO *e*S **S** **11 20 22.4 +1.2**
KONO Kongsberg 58.46 346*c i*P **P** **11 12 17.5 -0.7**
KONO Kongsberg 58.46 346 *e*P **P** **11 12 18.1 -0.1**
WAL1 Walls 58.87 353 *e*P **P** **11 12 19.8 -1.2**
LRW Lerwick 58.96 352 *e*P **P** **11 12 21.4 -0.2**
CBKS Cedar Bluff 59.02 65⇑ *e*P **P** **11 12 21.8 -0.2**
CBKS pmax pmax
comp=Z,131nm,1.1s,mb5.9
CBKS MLR MLR
comp=Z,10μm,21.0s,MS5.9
CBKS Cedar Bluff 59.02 65⇑ *e*P **P** **11 12 21.8 -0.3**
comp=Z,131nm,1.1s,mb5.9
CBKS LR LR
comp=Z,10μm,21.0s,MS5.9
BLS5 Blasjo 59.02 348⇓ *i*P **P** **11 12 22.1 0.0**
BLS5 AMb AMB 11 12 25.2
comp=Z,28nm,1.6s,mb5.0
BLS5 Blasjo 59.02 348 *e*P **P** **11 12 22.1 0.0**
comp=Z,28nm,1.6s,mb5.0
ANMO Albuquerque 59.11 73 *e*P **P** **11 12 23.1 +0.4**
ANMO *e* 11 13 12.2
ANMO pmax pmax
comp=Z,33nm,1.0s
ANMO MLR MLR
comp=Z,4μm,20.0s
ANMO Albuquerque 59.11 73 *e*P **P** **11 12 23.1 +0.5**
comp=Z,33nm,1.0s,mb5.3
ANMO *e*PcP PcP 11 13 12.2 +0.9
ANMO LR LR
comp=Z,4μm,20.0s,MS5.5
TUC Tucson 59.22 78⇑ *e*P **P** **11 12 24.1 +0.6**
TUC pmax pmax
comp=Z,79nm,1.6s,mb5.5
TUC MLR MLR
comp=Z,3μm,20.0s,MS5.4
TUC Tucson 59.22 78⇑ *e*P **P** **11 12 24.1 +0.6**
comp=Z,79nm,1.6s,mb5.5
TUC LR LR
comp=Z,3μm,20.0s,MS5.4
LAZ Ladron 59.24 74 *e*P **P** **11 12 24.5 +0.9**
LENM Lemitar 59.51 74 *e*P **P** **11 12 26.2 +0.8**
LENM *e*PcP PcP 11 13 14.4 +1.5
LPM Los Pinos Moun 59.55 74 *e*P **P** **11 12 26.7 +1.0**
LPM *e*PcP PcP 11 13 13.1 +0.1
BNM Barren Site 59.68 74 *e*P **P** **11 12 27.7 +1.0**
BNM *e*PcP PcP 11 13 14.0 +0.4
VRHR Novokhopersk 59.82 323 *e*P **P** **11 12 26.8 -0.8**
VRHR *e**PP pP 11 12 32.1 +0.5
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=Z,30nm,0.6s,mb5.5
VRHR pmax pmax
comp=E,20nm,0.7s
VRHR MLR MLR
comp=Z,8μm,16.0s,MS5.9
VRHR MLR MLR
comp=N,5μm,15.0s,MS5.9
VRHR MLR MLR
comp=E,5μm,15.0s,MS5.9
VOR Voronezh 59.96 325 *e*P **P** **11 12 27.0 -1.6**
VOR *e* 11 12 37.0
VOR *e* 11 16 05.5
VOR pmax pmax
comp=Z,350nm,2.0s,mb6.0
VOR pmax pmax
comp=N,290nm,1.8s
VOR pmax pmax
comp=E,120nm,1.8s
KSU1 Kansas State U 60.16 63⇑ *e*P **P** **11 12 29.1 -0.8**
comp=E,9.4nm,0.8s,mb4.9
ORE Reay 60.69 354 *e*P **P** **11 12 33.1 -0.5**
OTO Tongue 60.78 354 *e*P **P** **11 12 34.4 +0.3**
CHRT Chiangrai 61.22 259 ⇑P **P** **11 12 37.0 -0.1**
comp=E,145nm,0.9s,mb6.1
GUN Gumba 61.23 276 *e*P **P** **11 12 36.1 -1.1**
comp=E,238nm,0.9s,mb6.3
JIRN Jiri 61.29 276 *e*P **P** **11 12 36.7 -0.9**
comp=E,504nm,1.7s,mb6.4
AMTX Amarillo 61.38 69⇑ *e*P **P** **11 12 38.1 -0.1**
comp=E,34nm,0.7s,mb5.6
AMTX LR LR
comp=Z,5μm,20.0s,MS5.7
KKN Kakani 61.62 277 *e*P **P** **11 12 39.4 -0.5**
MUD Monsted U'grnd 61.63 346 *i*P **P** **11 12 39.8 -0.1**
comp=Z,87nm,1.3s,mb5.7
MUD *i* 11 13 24.5
MUD *i* 11 14 59.6
MUD *i*S **S** **11 21 05.3 +3.4**
MUD *i* 11 21 09.3
MUD
comp=Z,2μm,18.0s
MUD Monsted U'grnd 61.63 346 *i*P **P** **11 12 39.8 -0.1**
MUD *i* 11 13 24.5
MUD *i* 11 14 59.6
MUD *i*S **S** **11 21 05.3 +3.4**
MUD pmax pmax
comp=Z,87nm,1.3s,mb5.7
MUD MLR MLR
comp=Z,2μm,18.0s,MS5.4
MUD Monsted U'grnd 61.63 346 *i*P **P** **11 12 39.8 -0.1**
comp=Z,87nm,1.3s,mb5.7
MUD *i* 11 13 24.5
MUD *i* 11 14 59.6
MUD *i*S **S** **11 21 05.3 +3.4**
MUD *i* 11 21 09.3
NANT Nan 61.69 258 ⇑P **P** **11 12 40.0 -0.4**
comp=Z,812nm,0.7s
SUW Suwalki 61.73 336 *e*P **P** **11 12 39.4 -1.2**
SUW *e*pP pP 11 12 42.4 -2.2
SUW *e*PcP PcP 11 13 20.9 -0.9
SUW *e*S **S** **11 21 01.3 -1.8**
SUW L 11 39 43.7
comp=Z,4.6nm,23.2s
SUW Suwalki 61.73 336 *e*P **P** **11 12 39.4 -1.2**
SUW *e*pP pP 11 12 42.4 -2.2
SUW *e*PcP PcP 11 13 20.9 -0.9
SUW *e*S **S** **11 21 01.3 -1.8**
PKI Pulchoki 61.74 276 *e*P **P** **11 12 40.0 -0.7**
comp=Z,210nm,1.4s,mb6.1
GKN Gorkha 61.76 277 *e*P **P** **11 12 39.6 -1.2**
comp=Z,803nm,1.8s,mb6.5
DMN Daman 61.86 277 *e*P **P** **11 12 40.6 -0.9**
comp=Z,311nm,1.6s,mb6.2
CPRX Cap Rock 61.90 72 *e*P **P** **11 12 42.0 +0.3**
COP Copenhagen 61.95 343⇑ *i*P **P** **11 12 44.1 +2.0**
comp=Z,35nm,1.3s,mb5.3
COP *i*S **S** **11 21 10.5 +4.5**
COP *i* 11 25 30.6
COP
comp=Z,910nm,16.0s
COP Copenhagen 61.95 343⇑ *i*P **P** **11 12 44.1 +2.0**
COP *i*S **S** **11 21 10.5 +4.5**
COP pmax pmax
comp=Z,35nm,1.3s,mb5.3
COP MLR MLR
comp=Z,920nm,16.0s,MS5.0
BSD Bornholm Skovb 62.14 342 *i*P **P** **11 12 44.3 +1.0**
comp=Z,64nm,1.4s,mb5.6
BSD *i*S **S** **11 21 11.4 +3.1**
BSD
comp=Z,1μm,20.0s
BSD Bornholm Skovb 62.14 342 *e*P **P** **11 12 44.3 +1.0**

BSD *i* S **S** **11 21 11.4 +3.1**
BSD pmax pmax
comp=Z,64nm,1.4s,mb5.6
BSD MLR MLR
comp=Z,1μm,20.0s,MS5.1
BSD Bornholm Skovb 62.14 342 *e*P **P** **11 12 44.3 +1.0**
comp=Z,64nm,1.4s,mb5.6
BSD *i* S **S** **11 21 11.4 +3.1**
MNTX Cornudas Mount 62.30 74⇑ *e*P **P** **11 12 44.8 +0.4**
comp=Z,141nm,1.5s,mb5.9
MNTX LR LR
comp=Z,4μm,20.0s,MS5.6
GDL2 Guadalupe Moun 62.36 73 *e*P **P** **11 12 45.6 +0.7**
KOLN Koldanda 62.45 278 *e*P **P** **11 12 44.5 -1.0**
comp=Z,416nm,1.7s,mb6.3
NIL Nilore 62.48 290 P **P** **11 12 46.2 +0.6**
comp=Z,172nm,1.2s,mb6.1,SNR=5.7
CHG Chiang Mai 62.52 259 ⇑P **P** **11 12 45.0 -0.9**
comp=Z,60nm,1.4s,mb5.5
CHTO Chiang Mai 62.52 259 *e*P **P** **11 12 44.9 -1.0**
CHTO pmax pmax
comp=Z,224nm,1.8s,mb6.0
CHTO MLR MLR
comp=Z,5μm,20.0s,MS5.7
CHTO Chiang Mai 62.52 259 *e*P **P** **11 12 44.9 -1.0**
comp=Z,228nm,1.8s,mb6.0
CHTO LR LR
comp=Z,5μm,20.0s,MS5.7
CLNB Carlsbad 62.53 73 *e*P **P** **11 12 45.8 -0.2**
CLNB *e*PcP PcP 11 13 24.7 -0.4
SMLA Simla 62.74 285 *e*P **P** **11 12 46.4 -1.0**
SMLA AMb AMB 11 12 49.7
comp=Z,159nm,1.8s,mb5.9
KKTK Khon Kaen 62.81 254 P **P** **11 12 48.0 +0.2**
WMOK Wichita Mounta 62.82 67⇑ *e*P **P** **11 12 47.5 -0.4**
RGN Rugen 62.93 342 *e*P **P** **11 12 48.4 -0.2**
comp=Z,213nm,1.1s,mb6.2
DDI Dehra Dun 62.99 284 *e*P **P** **11 12 48.0 -1.1**
EAB Aberfoyle 63.08 354⇑ *e*P **P** **11 12 49.0 -0.6**
EAB AMb AMB 11 12 53.2
comp=Z,96nm,1.6s,mb5.7
ESY Stoneypath 63.25 353 *e*P **P** **11 12 50.0 -0.8**
ESY AMb AMB 11 12 54.0
comp=Z,94nm,1.6s,mb5.7
EDI Edinburgh 63.28 353 *e*P **P** **11 12 49.8 -1.1**
EAU Auchinoon 63.37 353 *e*P **P** **11 12 51.8 +0.2**
EAU AMb AMB 11 12 57.9
comp=Z,144nm,1.4s,mb5.9
EBL Broad Law 63.42 353 *e*P **P** **11 12 51.4 -0.5**
EBL AMb AMB 11 12 54.1
comp=Z,73nm,1.4s,mb5.6
AKASG Malin Array Be 63.50 331 P **P** **11 12 51.6 -0.9**
comp=Z,38nm,0.9s,mb5.4,baz=23,slow=6.3,SNR=86
AKASG PKPPKP 11 41 37.5
comp=Z,0.1nm,0.2s,baz=126,slow=1.3,SNR=4.5
GKP Gorka Klasztor 63.53 340 *e*P **P** **11 12 53.0 +0.3**
GKP *e*pP pP 11 12 55.1 -1.6
GKP *e*S **S** **11 21 24.8 -1.1**
GKP L 11 41 48.4
comp=Z,4.4nm,22.8s
MSNY Massena 63.62 44 *e*P **P** **11 12 51.8 -1.4**
FVM French Village 63.74 59⇑ *e*P **P** **11 12 52.7 -1.3**
FVM pmax pmax
comp=Z,114nm,1.1s,mb5.8
FVM French Village 63.74 59⇑ *e*P **P** **11 12 52.7 -1.3**
comp=Z,125nm,1.1s,mb5.9
WAR Warsaw 63.83 337 *e*P **P** **11 12 57.1 +2.5**
WAR *e*S **S** **11 21 24.9 -4.6**
WAR L 11 43 18.4
comp=Z,3.5nm,20.7s
ESK Eskdalemuir 63.88 353⇑ *e*P **P** **11 12 54.2 -0.7**
ESK Eskdalemuir 63.88 353 *e*P **P** **11 12 55.9 +1.0**
ESK pmax pmax
comp=Z,96nm,1.3s,mb5.7
ESK MLR MLR
comp=Z,2μm,21.0s,MS5.2
ESK Eskdalemuir 63.88 353 *e*P **P** **11 12 55.9 +0.9**
comp=Z,96nm,1.3s,mb5.7
ESK LR LR
comp=Z,2μm,21.0s,MS5.2
BSEG Bad Segeberg 63.95 344 *e*P **P** **11 12 55.1 -0.3**
comp=Z,172nm,1.9s,mb5.8
BSEG Bad Segeberg 63.95 344 *e*P **P** **11 12 55.1 -0.3**
BSEG pmax pmax
comp=Z,172nm,1.9s,mb5.8
ECK Cauldkaine Hil 64.01 353⇑ *e*P **P** **11 12 55.4 -0.4**
LONY Lake Ozonia 64.05 44⇑ *e*P **P** **11 12 54.2 -1.9**
comp=Z,70nm,1.0s,mb5.7
FRNY Flat Rock 64.19 43 *e*P **P** **11 12 55.3 -1.7**
ERPA Erie 64.32 49 *e*P **P** **11 12 56.0 -1.9**
comp=Z,142nm,1.0s,mb6.0
ERPA LR LR
comp=Z,4μm,21.0s,MS5.6
BLO Bloomington 64.33 55 *e*P **P** **11 12 56.1 -1.8**
BLO pmax pmax
comp=Z,40nm,1.1s,mb5.4
BLO Bloomington 64.33 55 *e*P **P** **11 12 56.1 -1.8**
comp=Z,40nm,1.1s,mb5.4
GAL1 Galloway 64.42 354 *e*P **P** **11 12 58.3 -0.2**
CKE Keswick 64.60 353 *e*P **P** **11 12 59.3 -0.4**
NST Nakhon Sawan 64.66 256 P **P** **11 13 00.0 0.0**
ALLY Alegheny Colle 64.67 49 *e*P **P** **11 12 58.6 -1.5**
BOK Bokaro 64.67 274 *e*P **P** **11 12 60.0 -0.2**
BOK AMb AMB 11 13 04.5
comp=Z,58nm,1.2s,mb5.5
NCB Newcomb 64.74 44 *e*P **P** **11 12 58.9 -1.6**
comp=Z,46nm,1.0s,mb5.5
NCB LR LR
comp=Z,4μm,20.0s,MS5.6
GOF Gofitskoye 64.75 319⇓ *i*P **P** **11 13 00.9 +0.3**
GOF pmax pmax
comp=Z,269nm,0.8s,mb6.3
NDI New Delhi 64.76 284 *e*P **P** **11 12 59.5 -1.2**
NDI AMb AMB 11 13 03.2
comp=Z,114nm,1.6s,mb5.7
ACSO Alum Creek Sta 64.82 52⇑ *e*P **P** **11 12 59.5 -1.6**
comp=Z,73nm,1.1s,mb5.6
ACSO LR LR
comp=Z,5μm,19.0s,MS5.7
RUE Ruedersdorf 64.86 342 *e*P **P** **11 13 00.7 -0.7**
comp=Z,219nm,1.8s,mb5.9
MIV Mineville/With 64.88 43 *e*P **P** **11 12 59.9 -1.6**
USIN University of 64.90 57 *e*P **P** **11 13 00.4 -1.2**
comp=Z,43nm,0.8s,mb5.5
LTX Lajitas 65.08 74⇑ *e*P **P** **11 13 03.1 +0.3**
LTX pmax pmax
comp=Z,149nm,1.5s,mb5.8
LTX Lajitas 65.08 74⇑ *e*P **P** **11 13 03.0 +0.3**
comp=Z,149nm,1.5s,mb5.8
MAK Makhachkala 65.10 315 *i* P **P** **11 13 03.8 +0.9**
MAK *e* 11 13 38.6
MAK *e* 11 15 25.5
MAK *e*PPP 11 16 57.8
MAK *e*S S 11 21 46.9 +1.7
MAK *e*SS SS 11 25 53.7 -3.7
MAK pmax pmax
comp=Z,110nm,1.4s,mb5.7
MAK pmax pmax
comp=Z,930nm,2.1s,mb6.5
MAK MLR MLR
comp=Z,8μm,16.0s,MS6.0
GMM Mts of Mourne 65.10 355 *e*P **P** **11 13 01.8 -1.2**
PARMO Parma 65.14 59⇑ *e*P **P** **11 13 02.4 -0.8**
WCI Wyandotte Cave 65.23 56⇑ *e*P **P** **11 13 02.3 -1.5**
WCI pmax pmax
comp=Z,38nm,1.1s,mb5.3
WCI MLR MLR
comp=Z,892nm,20.0s,MS5.0
WCI Wyandotte Cave 65.23 56⇑ *e*P **P** **11 13 02.3 -1.4**
comp=Z,38nm,1.1s,mb5.3
WCI LR LR
comp=Z,892nm,20.0s,MS5.0
MIAR Mount Ida 65.30 63⇑ *e*P **P** **11 13 03.5 -0.7**
MIAR *e* 11 13 35.1
MIAR pmax pmax
comp=Z,101nm,1.3s,mb5.7
MIAR MLR MLR
comp=Z,9μm,21.0s,MS6.0
MIAR Mount Ida 65.30 63⇑ *e*P **P** **11 13 03.5 -0.7**
comp=Z,101nm,1.3s,mb5.7
MIAR *e*PcP PcP 11 13 35.1 -1.4
MIAR LR LR
comp=Z,9μm,21.0s,MS6.0
ACCN Adirondack Com 65.45 44 *e*P **P** **11 13 04.0 -1.2**
ABKT Ailbek 65.45 304 P **P** **11 13 05.0 -0.2**
comp=Z,603nm,1.1s,mb6.5,SNR=27

WIT Witteveen 65.50 346 *e*P **P** **11 13 06.3 +0.8**
comp=Z,166nm,0.3s,mb6.5
WIT *e*x x 11 13 08.7
comp=Z,377nm,0.9s
LVV L'vov 65.51 334 *e*P **P** **11 13 04.9 -0.7**
LVV *e*PPP 11 17 11.9
LVV *e*S S 11 21 49.1 -1.1
LVV *e*PS 11 22 16.5
LVV *e*SS SS 11 26 08.1 +4.3
LVV *e*SSS 11 29 04.9
LVV MLR MLR
comp=N,2μm,15.0s,MS5.6
LVV MLR MLR
comp=E,2μm,15.0s,MS5.6
LVV MLR MLR
comp=Z,2μm,15.0s,MS5.5
LHO Holmfirth 65.56 352 *e*P **P** **11 13 04.9 -1.0**
HNH Hanover 65.63 43 *e*P **P** **11 13 05.6 -0.7**
comp=Z,8.1nm,1.0s,mb4.7
UALR University of 65.64 62⇑ *e*P **P** **11 13 05.3 -1.1**
comp=Z,30nm,0.9s,mb5.3
BINY Binghamton 65.69 46 *e*P **P** **11 13 04.9 -1.9**
comp=Z,74nm,0.9s,mb5.7
HBAR Harrisburg 65.70 60 *e*P **P** **11 13 06.8 0.0**
UTMT University of 65.79 59 *e*P **P** **11 13 06.9 -0.5**
comp=Z,130nm,0.8s,mb6.0
KBI1 Birley Grange 65.83 352 *e*P **P** **11 13 07.2 -0.4**
KIV Kislovodsk 65.84 319 P **P** **11 13 08.4 +0.7**
comp=Z,446nm,0.9s,mb6.5,SNR=31
KIV Kislovodsk 65.84 319 *c i*P **P** **11 13 08.5 +0.8**
KIV pmax pmax
comp=Z,229nm,2.0s,mb5.9
KIV MLR MLR
comp=Z,3μm,19.0s,MS5.5
KIV Kislovodsk 65.84 319⇑ *i*P **P** **11 13 08.5 +0.8**
comp=Z,229nm,2.0s,mb5.9
KIV LR LR
comp=Z,3μm,19.0s,MS5.5
IBBN Ibbenburen 65.87 345 *e*P **P** **11 13 07.5 -0.4**
comp=Z,143nm,1.2s,mb5.9
JCT Junction City 65.92 71⇑ *e*P **P** **11 13 07.7 -0.5**
JCT pmax pmax
comp=Z,61nm,1.0s,mb5.6
JCT MLR MLR
comp=Z,2μm,19.0s,MS5.4
JCT Junction City 65.92 71⇑ *e*P **P** **11 13 07.7 -0.6**
comp=Z,61nm,1.0s,mb5.6
JCT LR LR
comp=Z,2μm,19.0s,MS5.4
HALT Halls 65.96 59 *e*P **P** **11 13 07.3 -1.2**
KWP Kalwaria 65.97 335 *e*P **P** **11 13 08.9 +0.4**
KWP *e*pP pP 11 13 12.0 -0.5
KWP *e*S S 11 22 02.6 +6.8
KWP L 11 41 27.9
comp=Z,4.4nm,24.7s
KWP Kalwaria 65.97 335 *e*P **P** **11 13 08.9 +0.4**
KWP *e*pP pP 11 13 12.0 -0.5
KWP *e*S S 11 22 02.6 +6.8
CLZ Clausthal 65.98 344 *e*P **P** **11 13 08.4 -0.2**
comp=Z,140nm,1.4s,mb5.8
CLZ Clausthal 65.98 344 *e*P **P** **11 13 08.4 -0.2**
CLZ pmax pmax
comp=Z,140nm,1.4s,mb5.8
OJC Ojcow 65.99 337 *e*P **P** **11 13 08.6 -0.1**
OJC *e*S S 11 21 56.5 +0.4
OJC *e*SS SS 11 26 13.1 +1.8
OJC L 11 44 42.1
comp=Z,21nm,19.4s
KKM Kota Kinabalu 66.00 236 P **P** **11 13 08.7 -0.1**
KKM Kota Kinabalu 66.00 236 *e*P **P** **11 13 09.7 +0.9**
KSP Ksiaz 66.03 339 *e*P **P** **11 13 08.9 0.0**
KSP *e*pP pP 11 13 11.3 -1.7
KSP *e*PcP PcP 11 13 40.2 +0.7
KSP *e*S S 11 22 00.6 +4.0
KSP *e*SKS 11 23 11.9
KSP *e*SS SS 11 26 18.4 +6.5
KSP L 11 43 16.6
comp=Z,6.0nm,21.5s
KSP Ksiaz 66.03 339 *e*P **P** **11 13 08.6 -0.3**
KSP *e*PcP PcP 11 13 39.4 -0.1
KSP *e*S S 11 21 52.0 -4.6
KSP LR LR
comp=Z,7μm,21.5s,MS5.8
FFD Franklin Falls 66.05 42 *e*P **P** **11 13 08.7 -0.3**
comp=Z,79nm,0.9s,mb5.7
DCN Croghan 66.05 356 *e*P **P** **11 13 06.9 -2.2**
DCN Croghan 66.05 356 *e*P **P** **11 13 06.9 -2.2**
DLF Lyons Farm 66.07 355 *e*P **P** **11 13 07.0 -2.2**
DLF Lyons Farm 66.07 355 *e*P **P** **11 13 07.0 -2.2**
KWE Weaver Farm 66.09 352 *e*P **P** **11 13 08.6 -0.7**
DSB Dublin 66.11 355 *e*P **P** **11 13 09.4 -0.1**
comp=Z,89nm,1.4s,mb5.6
CLL Collm 66.12 342 *e*P **P** **11 13 08.7 -0.8**
comp=Z,88nm,1.3s,mb5.6
CLL *e*PcP PcP 11 13 39.2 -0.6
CLL *e*PP PP 11 15 41.6 +6.6
CLL *e*S S 11 22 00.1 +2.4
CLL *e*ScS ScS 11 23 09.5 +3.9
CLL *e*SS SS 11 26 24.4 +11
CLL *e*SSS 11 29 23.1
CLL *e*LR LR 11 33 31.3
CLL *e*L 11 41 50.8
comp=Z,2μm,22.0s
CLL Collm 66.12 342⇓ *i*P **P** **11 13 09.0 -0.5**
comp=Z,86nm,1.3s,mb5.6
CLL *e*PcP PcP 11 13 39.0 -0.8
comp=Z,63nm,1.6s
CLL *i* PP PP 11 15 41.9 +6.9
CLL *e*S S 11 21 58.0 +0.3
CLL *e*ScS ScS 11 23 09.0 +3.4
CLL *e*SS SS 11 26 24.0 +11
CLL *e*SSS 11 29 31.0
CLL Collm 66.12 342⇓ *i*P **P** **11 13 09.0 -0.5**
CLL *e* 11 13 39.0
CLL *e*S S 11 21 58.0 +0.3
CLL *e* 11 23 09.0
CLL pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
CLL MLR MLR
comp=Z,4μm,13.7s,MS5.8
CLL Collm 66.12 342⇓ *i*P **P** **11 13 09.0 -0.5**
comp=Z,86nm,1.3s,mb5.6
CLL *e*PcP PcP 11 13 39.0 -0.8
CLL *e*S S 11 21 58.0 +0.3
CLL *e*ScS ScS 11 23 09.0 +3.4
CLL LR LR
comp=Z,4μm,13.7s,MS5.8
SBD1 Bryn Du 66.29 353⇑ *e*P **P** **11 13 09.5 -1.1**
WTSB Winterswijk 66.32 346⇑ *e*P **P** **11 13 10.5 -0.2**
comp=Z,29nm,0.9s,mb5.3
WTSB *i* x x 11 13 12.8
comp=Z,85nm,1.5s
BRG Berggiesshubel 66.39 341 *e*P **P** **11 13 10.2 -1.0**
comp=Z,92nm,1.7s,mb5.5
BRG Berggiesshubel 66.39 341 *i* P **P** **11 13 10.5 -0.8**
comp=Z,56nm,1.7s,mb5.3
BRG *i* PCP PcP 11 13 37.9 -3.0
comp=Z,9.2nm,0.7s
BRG *e* 11 15 56.7
comp=Z,3.5nm,0.7s
BRG *e*PKPPKP 11 41 44.6
comp=Z,5.1nm,1.1s
BRG Berggiesshubel 66.39 341 *i* P **P** **11 13 10.5 -0.7**
BRG *i* 11 13 37.9
BRG pmax pmax
comp=Z,57nm,1.7s,mb5.3
UPC Upice 66.40 340 *e*P **P** **11 13 11.1 -0.2**
RAC Raciborz 66.42 338 *e*P **P** **11 13 11.9 +0.5**
RAC MLR MLR
comp=Z,6μm,17.2s,MS5.9
STHS Stebnicka Huta 66.47 336 *e*P **P** **11 13 12.2 +0.4**
STHS Stebnicka Huta 66.47 336 *e*P **P** **11 13 12.3 +0.5**
comp=Z,51nm,1.1s,mb5.5
ZEI Tsey 66.50 317 *e*P **P** **11 13 12.5 +0.6**
ZEI pmax pmax
comp=Z,179nm,1.5s,mb5.9
DPC Dobruska-Polom 66.50 339 *e*P **P** **11 13 12.2 +0.3**
DPC *e*S S 11 22 07.0 +4.7
DPC *e*SS SS 11 26 17.3 -1.9
DPC *ex* x 11 29 40.9
DPC AMS AMS 11 48 20.0
comp=Z,4μm,15.4s
DPC Dobruska-Polom 66.50 339 *e*P **P** **11 13 12.2 +0.3**
DPC *e*S S 11 22 07.0 +4.7
DPC *e*SS SS 11 26 17.3 -1.9
DPC MLR MLR
comp=Z,4μm,15.4s,MS5.7
HLM1 Long Mynd 66.65 353⇑ *e*P **P** **11 13 12.4 -0.5**
HLM1 AMb AMB 11 13 15.9
comp=Z,96nm,1.3s,mb5.7
NIE Niedzica 66.66 336 *e*P **P** **11 13 13.3 +0.4**
OKC Ostrava-Krasne 66.67 338 *e*P **P** **11 13 13.8 +0.8**
OKC *e*S S 11 22 09.5 +5.2
OKC *e*SS SS 11 26 19.3 -2.5
OKC *ex* x 11 29 48.6
OKC AMS AMS 11 45 30.0
comp=Z,4μm,18.0s
OKC Ostrava-Krasne 66.67 338 *e*P **P** **11 13 13.8 +0.8**
OKC *e*S S 11 22 09.5 +5.2
OKC *e*SS SS 11 26 19.3 -2.5
OKC MLR MLR
comp=Z,4μm,18.0s,MS5.7
ANN Anapa 66.72 323 *e*P **P** **11 13 14.6 +1.3**
ANN *e*S S 11 22 08.7 +3.8
ANN pmax pmax
comp=Z,232nm,1.8s,mb5.9
ANN MLR MLR
comp=N,8μm,15.0s,MS6.1
ANN MLR MLR
comp=E,4μm,15.0s,MS6.1
ANN MLR MLR
comp=Z,945nm,15.0s,MS5.1
KOLS Kolonicke sedl 66.72 335 *e*P **P** **11 13 15.9 +2.6**
KOLS *e* 11 22 02.8
KOLS Kolonicke sedl 66.72 335 *e*SG S 11 22 13.9 +8.9
KOLS Kolonicke sedl 66.72 335 *e*P **P** **11 13 15.9 +2.6**
comp=Z,70nm,1.7s,mb5.4
KOLS *e* 11 22 02.8
KOLS *e*Sg S 11 22 13.9 +8.9
KOLS LR LR
comp=Z,4μm,38.7s,MS5.4
SSP1 Stoney Pound 66.77 353 *e*P **P** **11 13 13.1 -0.6**
BUG Bochum--Univer 66.78 346 *e*P **P** **11 13 13.0 -0.7**
comp=Z,129nm,1.4s,mb5.8
DUS Dusheti 66.83 316 P **P** **11 13 14.2 +0.1**
MORC Moravsky Berou 66.84 338⇓ *i*P **P** **11 13 14.5 +0.4**
MORC Moravsky Berou 66.84 338⇑ *e*P **P** **11 13 13.4 -0.7**
MORC pmax pmax
comp=Z,111nm,1.4s,mb5.7
MORC Moravsky Berou 66.84 338⇑ *e*P **P** **11 13 13.4 -0.7**
comp=Z,111nm,1.4s,mb5.7
CRVS Cervenica-Dubn 66.92 335 *e*sP sP 11 13 19.8 -0.3
TSM Tawau 66.93 234 P **P** **11 13 14.0 -0.7**
HRV Harvard--Oak R 66.94 43 *e*P **P** **11 13 13.9 -0.8**
HRV pmax pmax
comp=Z,80nm,1.0s,mb5.7
HRV MLR MLR
comp=Z,3μm,20.0s,MS5.5
HRV Harvard--Oak R 66.94 43 *e*P **P** **11 13 13.9 -0.9**
comp=Z,80nm,1.0s,mb5.7
HRV LR LR
comp=Z,3μm,20.0s,MS5.5
MOX Moxa 66.97 343 *e*P **P** **11 13 14.2 -0.7**
comp=Z,134nm,1.7s,mb5.7
MOX Moxa 66.97 343 *e*P **P** **11 13 14.8 -0.1**
MOX pmax pmax
comp=Z,146nm,2.0s,mb5.7
MOX MLR MLR
comp=Z,2μm,18.0s,MS5.3
MOX Moxa 66.97 343 *e*P **P** **11 13 14.8 -0.1**
comp=Z,146nm,2.0s,mb5.7
MOX *e*S S 11 22 13.0 +5.0
MOX LR LR
comp=Z,2μm,18.0s,MS5.3
AMRG 66.98 317 P **P** **11 13 15.6 +0.6**
UZH Uzhgorod 67.00 335 *e*P **P** **11 13 15.0 -0.1**
UZH *e*S S 11 22 08.0 -0.4
UZH MLR MLR
comp=Z,6μm,15.0s,MS5.9
UBBA Unterbreizbach 67.03 344 *e*P **P** **11 13 14.7 -0.6**
comp=Z,80nm,1.6s,mb5.5
KIS Kishinev 67.05 330 *e*P **P** **11 13 14.0 -1.4**
KIS *e* 11 13 37.0
KIS *e* 11 15 44.0
KIS *e*S S 11 22 02.0 -6.9
KIS pmax pmax
comp=N,700nm,2.0s
KIS MLR MLR
comp=Z,18μm,16.0s,MS6.4
KIS MLR MLR
comp=N,7μm,17.0s,MS6.0
KIS MLR MLR
comp=E,4μm,18.0s,MS6.0
KIS MLR MLR
comp=Z,2μm,16.0s
WERD Werda 67.06 342 *e*P **P** **11 13 15.0 -0.5**
comp=Z,83nm,1.4s,mb5.6
PRA Prague 67.09 340 P **P** **11 13 17.0 +1.3**
HAE Alders End 67.11 352 *e*P **P** **11 13 15.0 -0.9**
HAE AMb AMB 11 13 19.4
comp=Z,99nm,1.7s,mb5.6
SOC Sochi 67.12 320 *c i*P **P** **11 13 15.9 0.0**
SOC *e**PP pP 11 13 26.1 +6.2
SOC *e* 11 13 43.1
SOC *e* 11 15 47.4
SOC *i* S S 11 22 10.5 +0.7
SOC *e**SS sS 11 22 26.4 +10
SOC *e* 11 23 11.6
SOC *e*SS SS 11 26 28.0 -0.8
SOC pmax pmax
comp=Z,187nm,1.5s,mb5.9
SOC MLR MLR
comp=Z,5μm,19.0s,MS5.7
WES Weston 67.12 43 *e*P **P** **11 13 14.9 -1.0**
WES pmax pmax
comp=Z,124nm,0.9s,mb5.9
WES MLR MLR
comp=Z,2μm,22.0s,MS5.3
WES Weston 67.12 43 *e*P **P** **11 13 14.9 -1.0**
comp=Z,124nm,0.9s,mb5.9
WES LR LR
comp=Z,2μm,22.0s,MS5.3
TBLG Delisi 67.14 316 P **P** **11 13 16.8 +0.7**
TBLG Delisi 67.14 316 *e*P **P** **11 13 16.8 +0.8**
SAMG Sameba 67.15 316 P **P** **11 13 16.6 +0.5**
PRU Pruhonice 67.15 340 *e*P **P** **11 13 16.4 +0.3**
PRU *e*S S 11 22 14.8 +4.6
PRU *e*SS SS 11 26 31.6 +2.3
PRU *ex* x 11 29 54.8
PRU AMS AMS 11 48 50.0
comp=Z,5μm,14.5s
PRU Pruhonice 67.15 340 *e*P **P** **11 13 16.4 +0.3**
PRU *e*S S 11 22 14.8 +4.6
PRU *e*SS SS 11 26 31.6 +2.3
PRU MLR MLR
comp=Z,5μm,14.5s,MS5.8
MTA Mtatsminda 67.16 316 P **P** **11 13 16.7 +0.6**
MTA S S 11 22 12.3 +2.0
IAS Iasi 67.17 331 P **P** **11 13 17.2 +1.0**
DGRG David-gareji 67.17 315 P **P** **11 13 18.3 +2.1**
DGRG S S 11 22 49.0 +39
NATX Nacogdoches 67.18 66 *e*P **P** **11 13 16.1 -0.1**
comp=Z,168nm,1.3s,mb5.9
NATX LR LR
comp=Z,6μm,19.0s,MS5.8
MCH1 Michaelchurch 67.18 353⇑ *e*P **P** **11 13 15.2 -1.0**
LIKS Likavka 67.24 337 *e*P **P** **11 13 17.5 +0.8**
NKC Novy Kostel 67.25 342 *e*P **P** **11 13 16.5 -0.2**
NKC AMS AMS 11 49 20.0
comp=Z,5μm,13.9s
PLAL Pickwick Lake 67.28 59⇑ *e*P **P** **11 13 15.4 -1.6**
comp=Z,41nm,0.9s,mb5.5
PLAL *e*PP PP 11 15 45.5 +0.4
PLAL LR LR
comp=Z,7μm,20.0s,MS5.8
BURAR Bucovina Array 67.32 332⇓ *i*P **P** **11 13 17.5 +0.3**
BURAR Bucovina Array 67.32 332⇓ P **P** **11 13 17.5 +0.3**
VRAC Vranov 67.46 339⇓ *i*P **P** **11 13 18.4 +0.4**
VRAC Vranov 67.46 339 P **P** **11 13 18.4 +0.3**
PAL Palisades 67.48 45 P **P** **11 13 16.9 -1.2**
PAL pmax pmax
comp=Z,68nm,0.9s,mb5.7
PAL Palisades 67.48 45 *e*P **P** **11 13 16.2 -1.9**
comp=Z,68nm,0.9s,mb5.7
MVL Millersville 67.50 47 *e*P **P** **11 13 17.2 -1.1**
NNT Nongplab 67.52 255 P **P** **11 13 18.4 0.0**
HGH Gray Hill 67.52 352⇑ *e*P **P** **11 13 18.0 -0.5**
HGH AMb AMB 11 13 22.1

comp=Z,171nm,1.5s,mb5.9
SIM Simferopol' 67.54 325 *e*P **P** **11 13 19.4 +0.9**
SIM PPP 11 17 27.0
SIM *e*S S 11 22 20.0 +5.2
SIM *e*SS SS 11 26 33.0 -2.3
SIM *e*SSS 11 29 37.0
SIM pmax pmax
comp=Z,200nm,1.5s,mb5.9
SIM MLR MLR
comp=Z,3µm,16.6s,MS5.6
BKR Bakuriani 67.56 317 P **P** **11 13 20.1 +1.4**
BEBN Eben Emael 67.60 347 AP pP 11 13 18.8 -4.1
HGN Heimansgroeve 67.60 346⇑ *e*P **P** **11 13 18.5 -0.4**
comp=Z,20nm,1.4s,mb5.0
HGN *i* x x 11 13 21.0
comp=Z,98nm,2.2s
HGN *e*x x 11 13 35.1
HGN *e*x x 11 13 45.4
HGN *i* S S 11 22 22.5 +6.9
HGN *e*ScS ScS 11 23 19.9 +2.7
HGN *e*SSS 11 29 50.0
CPNY Central Park 67.65 45 *e*P **P** **11 13 18.1 -1.1**
TREC Trest 67.67 340 *e*P **P** **11 13 21.5 +2.2**
TREC *e*S S 11 22 21.5 +5.2
TREC MLR MLR
comp=Z,4µm,13.1s,MS5.8
ROTZ Rotzenmuhle 67.74 342 *e*P **P** **11 13 19.5 -0.3**
comp=Z,97nm,1.6s,mb5.6
UCC Uccle 67.74 347 AP pP 11 13 20.2 -3.7
MEM Membach 67.75 346 AP pP 11 13 19.7 -4.2
TZTN Tazewell 67.79 55⇑ *e*P **P** **11 13 19.2 -0.9**
comp=Z,74nm,1.0s,mb5.7
TNS Taunus Mts 67.83 345 *e*P **P** **11 13 19.8 -0.5**
comp=Z,71nm,1.5s,mb5.5
TNS Taunus Mts 67.83 345 *e*P **P** **11 13 19.8 -0.5**
TNS pmax pmax
comp=Z,71nm,1.5s,mb5.5
VYHS Vyhne 67.83 337 *i* P **P** **11 13 20.5 +0.1**
VYHS *e*PP PP 11 15 46.5 -3.4
VYHS Vyhne 67.83 337 *i* P **P** **11 13 20.5 +0.1**
comp=Z,71nm,1.5s,mb5.5
VYHS *e*PP PP 11 15 46.5 -3.4
VYHS LR LR
comp=Z,1µm,20.3s,MS5.2
AJM Ajmer 67.84 285 *i* P **P** **11 13 21.0 +0.6**
SDMD Soldier's Deli 67.84 48 *e*P **P** **11 13 18.7 -1.8**
GRA1 Grafenberg Arr 67.96 343 *e*P **P** **11 13 21.0 -0.2**
comp=Z,234nm,1.8s,mb5.9
GRA1 *e*pP pP 11 13 23.5 -1.7
GRA1 *e*S S 11 22 24.1 +4.2
GRA1 LR LR
comp=Z,2µm,21.7s,MS5.3
GRF Grafenberg Arr 67.96 343 *e*P **P** **11 13 21.0 -0.2**
comp=Z,234nm,1.8s,mb5.9
GRF *e*pP pP 11 13 23.5 -1.7
GRF *e*S S 11 22 24.1 +4.2
GRF *e*L 11 47 18.3
comp=Z,2µm,21.7s
GRF Grafenberg Arr 67.96 343 *e*P **P** **11 13 21.0 -0.2**
GRF *e**PP pP 11 13 23.5 -1.7
GRF *e*S S 11 22 24.1 +4.2
GRF pmax pmax
comp=Z,234nm,1.8s,mb5.9
GRF MLR MLR
comp=Z,2µm,21.7s,MS5.3
FWV Forest Hill 67.96 52 *e*P **P** **11 13 20.2 -1.0**
SWET Sewanee 67.97 57⇑ *e*P **P** **11 13 19.4 -1.9**
SNF Seneffe 68.04 347 AP pP 11 13 22.0 -3.7
SMOL Smolenice 68.07 338 *e*P **P** **11 13 21.6 -0.3**
JBP Jabalpur 68.08 278⇓ *i*P **P** **11 13 22.3 +0.4**
JBP *e*x x 11 13 26.2
comp=Z,109nm,1.6s
JBP *i* S S 11 22 20.5 -0.8
KHC Kasperske Hory 68.14 341 *e*P **P** **11 13 22.8 +0.5**
KHC *e*S S 11 22 25.7 +3.7
KHC *e*SS SS 11 26 48.0 +3.4
KHC *e*x x 11 29 52.3
KHC AMS AMS 11 49 30.0
comp=Z,4µm,15.2s
KHC Kasperske Hory 68.14 341⇑ *i*P **P** **11 13 22.3 0.0**
PSZ Piszkesteto 68.17 336⇓ *e*P **P** **11 13 23.6 +1.1**
PSZ Piszkesteto 68.17 336⇓ *i*P **P** **11 13 23.6 +1.1**
PSZ Piszkesteto 68.17 336 P **P** **11 13 22.7 +0.2**
PSZ pmax pmax
comp=Z,210nm,1.7s,mb5.9
HKT Hockley 68.19 68⇑ *e*P **P** **11 13 22.2 -0.4**
HKT pmax pmax
comp=Z,117nm,1.5s,mb5.7
HKT MLR MLR
comp=Z,2µm,20.0s,MS5.3
HKT Hockley 68.19 68⇑ *e*P **P** **11 13 22.2 -0.4**
comp=Z,117nm,1.5s,mb5.7
HKT LR LR
comp=Z,2µm,20.0s,MS5.3
MENF Mencas 68.20 349 *e*P **P** **11 13 22.3 -0.4**
WET Wettzell 68.24 341 *e*P **P** **11 13 22.7 -0.2**
comp=Z,103nm,1.5s,mb5.6
WET Wettzell 68.24 341 *e*P **P** **11 13 22.7 -0.2**
WET pmax pmax
comp=Z,103nm,1.5s,mb5.6
ABH Alteburg 68.27 345 *e*P **P** **11 13 23.0 -0.2**
ELN Prospectdale 68.29 52 *e*P **P** **11 13 21.3 -2.0**
CPCT Cooper Cave 68.34 56⇑ *e*P **P** **11 13 22.1 -1.5**
GIVF Givet 68.38 347 *e*P **P** **11 13 23.3 -0.5**
comp=Z,163nm,1.6s,mb5.5
GIVF Givet 68.38 347 *e*P **P** **11 13 23.3 -0.5**
GIVF pmax pmax
comp=Z,82nm,1.6s,mb5.5
GIVF Givet 68.38 347 *e*P **P** **11 13 23.3 -0.5**
comp=Z,82nm,1.6s,mb5.5
TOD Tromm 68.38 344 *e*P **P** **11 13 23.7 -0.1**
GEC2 GERESS Array S 68.40 341 *e*P **P** **11 13 23.4 -0.5**
comp=Z,103nm,1.8s,mb5.6
GEC2 GERESS Array S 68.40 341 *e*P **P** **11 13 23.4 -0.5**
GEC2 pmax pmax
comp=Z,103nm,1.8s,mb5.6
GERES GERESS Array B 68.40 341 P **P** **11 13 23.9 0.0**
comp=Z,7.7nm,0.7s,mb4.8,baz=40,slow=4.4,SNR=24
GERES LR LR 11 46 48.8
comp=Z,3µm,19.8s,MS5.5,baz=14,slow=39
DOU Dourbes 68.41 347 P **P** **11 13 20.8 -3.2**
DOU AP pP 11 13 23.4 -4.6
DOU XP sP 11 13 25.7 -3.9
DOU E 11 13 30.4
BLA Blacksburg 68.43 52 P **P** **11 13 23.4 -0.8**
BLA pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
BLA Blacksburg 68.43 52 *e*P **P** **11 13 23.0 -1.1**
comp=Z,130nm,1.0s,mb5.9
ZST Bratislava 68.44 338 *e*P **P** **11 13 25.0 +0.8**
comp=Z,81nm,1.4s,mb5.6
ZST LR LR
comp=Z,870nm,18.1s,MS5.0
BAIF Baives 68.49 347 *e*P **P** **11 13 24.3 -0.2**
comp=Z,188nm,1.5s,mb5.6
BAIF Baives 68.49 347 *e*P **P** **11 13 24.3 -0.2**
BAIF pmax pmax
comp=Z,94nm,1.5s,mb5.6
BAIF Baives 68.49 347 *e*P **P** **11 13 24.3 -0.2**
comp=Z,94nm,1.5s,mb5.6
RUP Ruppelstein 68.51 345 *e*P **P** **11 13 23.2 -1.5**
GNI Garni 68.55 315 LR LR 11 44 31.0
comp=Z,2µm,20.9s,MS5.2,baz=23,slow=37
GNI Garni 68.55 315 *e*P **P** **11 13 26.5 +1.6**
GNI pmax pmax
comp=Z,277nm,1.3s
GNI Garni 68.55 315 *e*P **P** **11 13 26.5 +1.6**
comp=Z,277nm,1.3s,mb6.0
ARTV Artvin 68.57 318 *i* P **P** **11 13 25.7 +0.7**
SRO Srobarova 68.58 337 *e*P **P** **11 13 26.9 +1.8**
VRI Vrincioaia 68.61 331⇓ *i*P **P** **11 13 27.0 +1.7**
VRI Vrincioaia 68.61 331 P **P** **11 13 26.7 +1.4**
VRI Vrincioaia 68.61 331⇓ P **P** **11 13 26.9 +1.7**
SRO1 Iza 68.64 337 *e*P **P** **11 13 26.5 +1.0**
PLOR Plostina 68.65 331⇓ *i*P **P** **11 13 26.5 +1.0**
WLF Walferdange 68.66 346 *e*P **P** **11 13 25.1 -0.5**
comp=Z,103nm,1.6s,mb5.5
WLF Walferdange 68.66 346 AP pP 11 13 25.8 -3.8
DRGR 68.66 334 *i*P **P** **11 13 25.9 +0.3**
DRGR 68.66 334 P **P** **11 13 25.9 +0.3**
BUD Budapest 68.76 337⇓ *e*P **P** **11 13 27.4 +1.2**
DIGO Kars 68.78 316 *i* P **P** **11 13 27.6 +1.3**
CFR Carcaliu 68.92 329⇑ *i*P **P** **11 13 27.8 +0.6**
CFR Carcaliu 68.92 329⇑ P **P** **11 13 27.8 +0.6**
SOP Sopron 69.03 338⇓ *e*P **P** **11 13 28.9 +1.0**
LANF Langenberg 69.13 345 *e*P **P** **11 13 28.3 -0.2**
STU Stuttgart 69.15 344 *e*P **P** **11 13 27.7 -0.9**
MLR Muntele Rosu 69.16 331⇑ *i*P **P** **11 13 30.5 +1.8**
MLR Muntele Rosu 69.16 331 P **P** **11 13 30.5 +1.8**
BHPL Bhopal 69.25 281 *e*P **P** **11 13 29.1 -0.1**
BHPL AMb AMB 11 13 33.1
comp=Z,138nm,1.4s,mb5.7
MOA Molln 69.27 340⇑ *i*P **P** **11 13 29.2 -0.1**
comp=Z,169nm,1.8s,mb5.7,SNR=19
LRAL Lakeview Retre 69.41 59⇑ *e*P **P** **11 13 28.4 -1.8**
comp=Z,37nm,0.9s,mb5.3
LRAL LR LR
comp=Z,6µm,19.0s,MS5.9
VOIR 69.42 332⇓ *i*P **P** **11 13 31.5 +1.2**
VOIR 69.42 332⇓ P **P** **11 13 31.5 +1.2**
HARR Harsova 69.42 329⇑ *i*P **P** **11 13 29.4 -0.9**
FUR Furstenfeldbru 69.44 342 *e*P **P** **11 13 29.8 -0.6**
comp=Z,139nm,1.5s,mb5.7
FUR Furstenfeldbru 69.44 342 *e*P **P** **11 13 29.8 -0.6**
FUR pmax pmax
comp=Z,139nm,1.5s,mb5.7
MACK Trabzon 69.49 319 *i* P **P** **11 13 29.5 -1.3**
TIRR Tirgusor 69.52 329⇑ *i*P **P** **11 13 31.2 +0.3**
TIRR Tirgusor 69.52 329 *e*P **P** **11 13 31.2 +0.3**
comp=Z,186nm,1.4s,mb5.8
MTUR Matau 69.61 332⇑ *i*P **P** **11 13 35.8 +4.3**
MTUR Matau 69.61 332⇑ P **P** **11 13 35.8 +4.3**
ARSA Arzberg 69.63 339⇑ *i*P **P** **11 13 31.8 +0.2**
comp=Z,261nm,2.2s,mb5.8
BFO Black Forest 69.70 344 *e*P **P** **11 13 31.0 -1.0**
comp=Z,78nm,1.6s,mb5.4
BFO Black Forest 69.70 344 *e*P **P** **11 13 31.0 -1.0**
BFO pmax pmax
comp=Z,78nm,1.6s,mb5.4
WLS Welschbruch 69.74 345 *e*P **P** **11 13 32.2 -0.1**
CDF Champ du Feu 69.75 345 *e*P **P** **11 13 32.0 -0.3**
comp=Z,78nm,1.2s,mb5.2
CDF Champ du Feu 69.75 345 *e*P **P** **11 13 32.0 -0.3**
CDF pmax pmax
comp=Z,39nm,1.2s,mb5.2
CDF Champ du Feu 69.75 345 *e*P **P** **11 13 32.0 -0.3**
comp=Z,39nm,1.2s,mb5.2
ERZM Erzurum 69.91 318 *i* P **P** **11 13 34.7 +1.4**
EZM Erzurum 69.91 318 *e*P **P** **11 13 35.2 +1.8**
MEZF Maizieres J'vi 69.93 347 *e*P **P** **11 13 33.4 -0.1**
ECH Echery 69.96 345 *e*P **P** **11 13 33.3 -0.3**
GRSN GIRESUNGRSN 69.98 320 *i* P **P** **11 13 33.7 -0.1**
BZS Buzias 70.01 334⇓ *i*P **P** **11 13 34.3 +0.3**
BZS Buzias 70.01 334 P **P** **11 13 34.2 +0.3**
GUMT Gumushane 70.02 319 *e*P **P** **11 13 34.7 +0.7**
PKSM Moragy 70.05 336⇓ *i*P **P** **11 13 34.2 0.0**
PKSM Moragy 70.05 336⇓ *e*P **P** **11 13 34.4 +0.2**
THEF They Montfort 70.09 346 *e*P **P** **11 13 34.2 -0.2**
KBA Koelnbreinsper 70.17 340⇑ *i*P **P** **11 13 35.5 +0.6**
comp=Z,380nm,2.0s,mb6.0,SNR=9.6
KBA Koelnbreinsper 70.17 340⇑ *i*P **P** **11 13 35.6 +0.7**
KBA pmax pmax
comp=Z,381nm,2.0s,mb6.0
FELD Feldberg im Sc 70.18 344 *e*P **P** **11 13 34.3 -0.7**
HNR Honiara 70.18 186 P **P** **11 13 31.8 -3.2**
comp=Z,41nm,0.5s,mb5.6,baz=110,slow=4.2,SNR=2.8
HNR Honiara 70.18 186 P **P** **11 13 31.8 -3.2**
HNR LR LR
comp=Z,3µm,22.0s,MS5.5
BUC1 Bucharest 70.21 331⇑ *i*P **P** **11 13 36.2 +1.0**
BUC1 Bucharest 70.21 331 P **P** **11 13 36.2 +1.0**
FLN La Foliniere 70.22 350 *e*P **P** **11 13 34.4 -0.8**
comp=Z,245nm,1.5s,mb5.6
FLN *e*R
comp=Z,2µm,17.5s
FLN La Foliniere 70.22 350 *e*P **P** **11 13 34.4 -0.8**
FLN pmax pmax
comp=Z,123nm,1.5s,mb5.6
FLN MLR MLR
comp=Z,2µm,17.5s,MS5.5
FLN La Foliniere 70.22 350 *e*P **P** **11 13 34.4 -0.8**
comp=Z,122nm,1.5s,mb5.6
FLN LR LR
comp=Z,2µm,17.5s,MS5.5
NGP Nagpur 70.24 278 *e*P **P** **11 13 34.7 -0.7**
NGP AMb AMB 11 13 38.5
comp=Z,121nm,1.5s,mb5.6
WTTA Wattenberg 70.26 342⇓ *i*P **P** **11 13 35.7 +0.2**
comp=Z,337nm,2.2s,mb5.9,SNR=7.7
WTTA Wattenberg 70.26 342⇓ *i*P **P** **11 13 35.7 +0.2**
WTTA pmax pmax
comp=Z,337nm,2.2s,mb5.9
HAU Haudompre 70.27 346 *e*P **P** **11 13 36.0 +0.5**
comp=Z,155nm,1.5s,mb5.4
HAU *e*R
comp=Z,3µm,19.0s
HAU Haudompre 70.27 346 *e*P **P** **11 13 36.0 +0.5**
HAU pmax pmax
comp=Z,78nm,1.5s,mb5.4
HAU MLR MLR
comp=Z,3µm,19.0s,MS5.6
HAU Haudompre 70.27 346 *e*P **P** **11 13 36.0 +0.5**
comp=Z,78nm,1.5s,mb5.4
HAU LR LR
comp=Z,3µm,19.0s,MS5.6
KOGS Kog 70.28 338 *e*P **P** **11 13 35.1 -0.5**
PERS Pernice 70.30 339 *e*P **P** **11 13 35.6 -0.1**
PERS *e*S S 11 22 52.1 +4.6
PERS *e* 11 23 40.1
MOF Molkenrain 70.32 345 *e*P **P** **11 13 35.5 -0.3**
LDF La Druitiere 70.35 350 *e*P **P** **11 13 35.2 -0.8**
comp=Z,182nm,1.4s,mb5.5
LDF La Druitiere 70.35 350 *e*P **P** **11 13 35.2 -0.8**
LDF pmax pmax
comp=Z,91nm,1.4s,mb5.5
LDF La Druitiere 70.35 350 *e*P **P** **11 13 35.2 -0.8**
comp=Z,91nm,1.4s,mb5.5
SQTA Sankt Quirin 70.37 342⇑ *i*P **P** **11 13 36.0 -0.1**
comp=Z,70nm,1.3s,mb5.4
SQTA Sankt Quirin 70.37 342⇑ *i*P **P** **11 13 36.0 -0.1**
SQTA pmax pmax
comp=Z,70nm,1.3s,mb5.4
HINF Hinteralfeld 70.39 345 *e*P **P** **11 13 35.5 -0.8**
comp=Z,78nm,1.4s,mb5.2
HINF Hinteralfeld 70.39 345 *e*P **P** **11 13 35.5 -0.8**
HINF pmax pmax
comp=Z,39nm,1.4s,mb5.1
HINF Hinteralfeld 70.39 345 *e*P **P** **11 13 35.5 -0.8**
comp=Z,39nm,1.4s,mb5.2
TVAN Van 70.46 315 *i* P **P** **11 13 37.0 +0.4**
OBKA Obir 70.52 339⇓ *i*P **P** **11 13 37.4 +0.4**
comp=Z,417nm,1.8s,mb6.1,SNR=18
KVT Kavak 70.53 322 *e*P **P** **11 13 37.6 +0.5**
BOYT Boyabat 70.55 323 *i* P **P** **11 13 38.5 +1.3**
GRR Gorron 70.62 351 *e*P **P** **11 13 37.1 -0.5**
comp=Z,144nm,1.1s,mb5.5
GRR Gorron 70.62 351 *e*P **P** **11 13 37.1 -0.5**
GRR pmax pmax
comp=Z,72nm,1.1s,mb5.5
GRR Gorron 70.62 351 *e*P **P** **11 13 37.1 -0.5**
comp=Z,72nm,1.1s,mb5.5
BBS Basel-Blauen 70.65 345 *e*P **P** **11 13 37.5 -0.4**
BNGL BINGOL 70.84 317 *i* P **P** **11 13 41.1 +2.1**
ROSF Rostrenen 70.84 352 *e*P **P** **11 13 38.6 -0.4**
comp=Z,190nm,1.5s,mb5.5
ROSF Rostrenen 70.84 352 *e*P **P** **11 13 38.6 -0.4**
ROSF pmax pmax
comp=Z,95nm,1.5s,mb5.5
ROSF Rostrenen 70.84 352 *e*P **P** **11 13 38.6 -0.4**
comp=Z,95nm,1.5s,mb5.5
LOMF Lomont 70.85 345 *e*P **P** **11 13 40.1 +1.0**
SGMF Saint Gilles 70.88 352 *e*P **P** **11 13 38.7 -0.5**
comp=Z,141nm,1.4s,mb5.4
SGMF Saint Gilles 70.88 352 *e*P **P** **11 13 38.7 -0.5**
SGMF pmax pmax
comp=Z,70nm,1.4s,mb5.4
SGMF Saint Gilles 70.88 352 *e*P **P** **11 13 38.7 -0.5**
comp=Z,70nm,1.4s,mb5.4
BALT Daday 70.89 324 *i* P **P** **11 13 40.3 +1.0**
BEO Belgrade 71.02 335 *i* P **P** **11 13 40.9 +0.8**
CRES Cresnjev 71.02 339 *e*P **P** **11 13 39.8 -0.3**
VIS Vishakhapatnam 71.07 272 *e*P **P** **11 13 40.9 +0.4**
VIS AMb AMB 11 13 45.1
comp=Z,94nm,1.4s,mb5.5
APPI Appiano 71.09 342 P **P** **11 13 42.0 +1.5**
VOJS Vojsko 71.10 340 *e*P **P** **11 13 39.7 -0.8**
BRMO Bormio 71.22 342 P **P** **11 13 41.9 +0.6**
QUIF Quistinic 71.25 352 *e*P **P** **11 13 40.9 -0.6**
comp=Z,60nm,1.3s,mb5.1
QUIF Quistinic 71.25 352 *e*P **P** **11 13 40.9 -0.6**
QUIF pmax pmax
comp=Z,30nm,1.3s,mb5.1
QUIF Quistinic 71.25 352 *e*P **P** **11 13 40.9 -0.6**
comp=Z,30nm,1.3s,mb5.1
LOR Lormes 71.28 347 *e*P **P** **11 13 41.1 -0.6**
comp=Z,332nm,1.6s,mb5.7
LOR *e*R
comp=Z,2µm,18.2s
LOR Lormes 71.28 347 *e*P **P** **11 13 41.1 -0.6**
LOR pmax pmax
comp=Z,166nm,1.6s,mb5.7
LOR MLR MLR
comp=Z,2µm,18.3s,MS5.5
LOR Lormes 71.28 347 *e*P **P** **11 13 41.1 -0.6**
comp=Z,166nm,1.6s,mb5.7
LOR LR LR
comp=Z,2µm,18.3s,MS5.5
SVSK Karacayir 71.30 321 *e*P **P** **11 13 43.2 +1.4**
CTKT Corum 71.32 323 *i* P **P** **11 13 43.0 +1.1**
SVIS Svilajnac 71.36 334⇓ *i*P **P** **11 13 42.6 +0.5**
TUE Stuetta 71.38 343 P **P** **11 13 43.9 +1.6**
HYF Humbligny 71.41 348 *e*P **P** **11 13 42.3 -0.2**
PVL Pavlikeni 71.44 331 *i* P **P** **11 13 43.0 +0.3**
SSF Saint Saulge 71.53 347 *e*P **P** **11 13 42.7 -0.5**
comp=Z,177nm,1.5s,mb5.5
SSF Saint Saulge 71.53 347 *e*P **P** **11 13 42.7 -0.5**
SSF pmax pmax
comp=Z,89nm,1.5s,mb5.5
SSF Saint Saulge 71.53 347 *e*P **P** **11 13 42.7 -0.5**
comp=Z,89nm,1.5s,mb5.5
PMG Port Moresby 71.55 199 P **P** **11 13 41.6 -1.7**
comp=Z,44nm,0.9s,mb5.4,baz=18,slow=4.6,SNR=8.8
PMG Port Moresby 71.55 199⇑ *e*P **P** **11 13 42.3 -1.0**
PMG pmax pmax
comp=Z,57nm,1.0s
PMG MLR MLR
comp=Z,1µm,22.0s
PMG Port Moresby 71.55 199⇑ *e*P **P** **11 13 42.3 -1.0**
comp=Z,57nm,1.0s,mb5.5
PMG LR LR
comp=Z,1µm,22.0s,MS5.2
AKL Akola 71.61 279 *ex* x 11 13 08.5
AKL AMb AMB 11 13 14.3
comp=Z,113nm,1.7s,mb5.5
BOLS Boljevac 71.64 333⇓ *i*P **P** **11 13 43.7 -0.1**
CABF La Chapelle 71.67 345 *e*P **P** **11 13 43.8 -0.2**
comp=Z,149nm,1.5s,mb5.4
CABF La Chapelle 71.67 345 *e*P **P** **11 13 43.8 -0.2**
CABF pmax pmax
comp=Z,75nm,1.5s,mb5.4
CABF La Chapelle 71.67 345 *e*P **P** **11 13 43.8 -0.2**
comp=Z,75nm,1.5s,mb5.4
PBA Port Blair 71.68 261 *ex* x 11 12 46.4
COW Cow Castle Cre 71.68 54 *e*P **P** **11 13 43.3 -0.8**
DIVS Divcibare 71.81 335 *i* P **P** **11 13 44.7 -0.2**
DIVS Divcibare 71.81 335 *e*P **P** **11 13 44.2 -0.6**
AVF Avril sur Loir 71.81 347 *e*P **P** **11 13 44.3 -0.6**
comp=Z,132nm,1.2s,mb5.5
AVF Avril sur Loir 71.81 347 *e*P **P** **11 13 44.3 -0.6**
AVF pmax pmax
comp=Z,66nm,1.2s,mb5.4
AVF Avril sur Loir 71.81 347 *e*P **P** **11 13 44.3 -0.6**
comp=Z,66nm,1.2s,mb5.4
SNG Songkhla 71.83 252 P **P** **11 13 44.0 -1.0**
ELDT Eldivan 71.84 324 *i* P **P** **11 13 45.5 +0.4**
JMB Yambol 71.85 329 *e*P **P** **11 13 45.4 +0.3**
GRUS Gruza 71.85 334 *i* P **P** **11 13 44.8 -0.3**
SMF Signal de Mont 71.90 347 *e*P **P** **11 13 44.7 -0.7**
comp=Z,181nm,1.5s,mb5.5
SMF Signal de Mont 71.90 347 *e*P **P** **11 13 44.7 -0.7**
SMF pmax pmax
comp=Z,91nm,1.5s,mb5.5
SMF Signal de Mont 71.90 347 *e*P **P** **11 13 44.7 -0.7**
comp=Z,91nm,1.5s,mb5.5
ELZG Elazig 71.96 319 *i* P **P** **11 13 47.3 +1.5**
MCGN Macugnaga 72.07 344 P **P** **11 13 46.9 +0.5**
BGF Bois d'Agland 72.09 348 *e*P **P** **11 13 46.1 -0.5**
comp=Z,97nm,1.3s,mb5.3
BGF Bois d'Agland 72.09 348 *e*P **P** **11 13 46.1 -0.5**
BGF pmax pmax
comp=Z,48nm,1.3s,mb5.3
BGF Bois d'Agland 72.09 348 *e*P **P** **11 13 46.1 -0.5**
comp=Z,48nm,1.3s,mb5.3
BBLS Bajina Basta - 72.15 335 *i* P **P** **11 13 48.1 +1.2**
SGKT Sivrigoynuk 72.16 325 *i* P **P** **11 13 47.7 +0.8**
HENT Hendek 72.25 326 *i* P **P** **11 13 47.5 0.0**
MALT Malatya 72.31 319⇓ *i*P **P** **11 13 49.6 +1.7**
MALT Malatya 72.31 319 *e*P **P** **11 13 48.9 +1.0**
MALT pmax pmax
comp=Z,172nm,1.4s,mb5.8
MALT Malatya 72.31 319 *e*P **P** **11 13 48.9 +1.0**
comp=Z,172nm,1.4s,mb5.8
MFF Saint Martin d 72.33 350 *e*P **P** **11 13 47.7 -0.3**
comp=Z,178nm,1.5s,mb5.5
MFF Saint Martin d 72.33 350 *e*P **P** **11 13 47.7 -0.3**
MFF pmax pmax
comp=Z,89nm,1.5s,mb5.5
MFF Saint Martin d 72.33 350 *e*P **P** **11 13 47.7 -0.3**
comp=Z,89nm,1.5s,mb5.5
CDAG Cicekdag 72.37 323 *i* P **P** **11 13 48.6 +0.4**
EDRB Edirne 72.39 329 *e*P **P** **11 13 48.7 +0.3**
TCF Toulx Ste Croi 72.42 348 *e*P **P** **11 13 48.1 -0.4**
comp=Z,200nm,1.6s,mb5.5
TCF Toulx Ste Croi 72.42 348 *e*P **P** **11 13 48.1 -0.4**
TCF pmax pmax
comp=Z,100nm,1.6s,mb5.5
TCF Toulx Ste Croi 72.42 348 *e*P **P** **11 13 48.1 -0.4**
comp=Z,100nm,1.6s,mb5.5
MARD Mardin 72.45 317 *i* P **P** **11 13 49.5 +0.8**
BR131 Keskin Array S 72.49 323 *e*P **P** **11 13 49.3 +0.4**
comp=Z,46nm,0.9s,mb5.4
BR131 LR LR
comp=Z,1µm,20.0s,MS5.2
BRTR Keskin Array B 72.49 323 P **P** **11 13 48.8 -0.1**
comp=Z,32nm,0.9s,mb5.3,baz=46,slow=3.6,SNR=56
MDU Mudurnu 72.50 325 *e*P **P** **11 13 49.5 +0.5**
VTS Vitosha 72.54 332 *i* P **P** **11 13 48.0 -1.2**
VTS Vitosha 72.54 332 *e*P **P** **11 13 48.8 -0.5**
VTS Vitosha 72.54 332⇑ *i*P **P** **11 13 48.9 -0.3**
AGO Saint Agoulin 72.56 347 *e*P **P** **11 13 49.1 -0.3**
MSL Mosul 72.58 315 *ex* x 11 13 51.0
MSL *ex* x 11 16 34.0
MSL *ex* x 11 23 16.0
KSM Kuching 72.58 240 *e*P **P** **11 13 49.5 0.0**
KSM *e*PcP PcP 11 14 07.3 +0.2
HRT Hereke 72.59 327 *e*P **P** **11 13 49.2 -0.4**
PLDF La Plantade 72.59 347 *e*P **P** **11 13 49.4 -0.1**
ANTO Ankara 72.60 324⇓ *i*P **P** **11 13 50.8 +1.2**
ANTO Ankara 72.60 324 *e*P **P** **11 13 50.4 +0.8**
ANTO pmax pmax
comp=Z,177nm,1.4s,mb5.8
ANTO MLR MLR
comp=Z,2µm,21.0s,MS5.4
ANTO Ankara 72.60 324 *e*P **P** **11 13 50.4 +0.8**
comp=Z,177nm,1.4s,mb5.8
ANTO LR LR
comp=Z,2µm,21.0s,MS5.4
ELBA Catalca 72.61 328 *i* P **P** **11 13 49.9 +0.2**
BNN Bunyan 72.63 321 *e*P **P** **11 13 49.9 +0.1**
LPL La Plagne 72.67 345 *e*P **P** **11 13 50.4 +0.4**
comp=Z,116nm,1.5s,mb5.3
LPL La Plagne 72.67 345 *e*P **P** **11 13 50.4 +0.4**
LPL pmax pmax
comp=Z,58nm,1.5s,mb5.3
LPL La Plagne 72.67 345 *e*P **P** **11 13 50.4 +0.4**
comp=Z,58nm,1.5s,mb5.3
LPG La Plagne 72.68 345 *e*P **P** **11 13 50.7 +0.6**
comp=Z,171nm,1.4s,mb5.5
LPG La Plagne 72.68 345 *e*P **P** **11 13 50.7 +0.6**
LPG pmax pmax
comp=Z,85nm,1.4s,mb5.5
LPG La Plagne 72.68 345 *e*P **P** **11 13 50.7 +0.6**
comp=Z,85nm,1.4s,mb5.5
SFJM Santa Fe 72.87 79 *i* P **P** **11 13 52.0 +0.8**
PYM Petit Puy Mans 72.87 348 *e*P **P** **11 13 51.1 -0.1**
KDZ Kurdzhali 72.90 330 *i* P **P** **11 13 52.0 +0.6**
YLV Yalova 72.91 327 *e*P **P** **11 13 49.9 -1.5**
VERF Verneugheol 72.93 348 *e*P **P** **11 13 51.4 -0.2**
BHJ Bhuj 72.94 287 *e*P **P** **11 13 51.1 -0.5**

BHJ AMb AMB 11 13 56.8
comp=Z,113nm,1.0s,mb5.7
AVNT Avonos 73.00 322 *i* P **P 11 13 49.6 -2.3**
COLF Collangettes 73.03 347 *eP* **P 11 13 52.3 +0.2**
IZI Iznik 73.09 327 *eP* **P 11 13 53.1 +0.6**
ATAB Bozova 73.12 319 *i* P **P 11 13 54.2 +1.5**
BNI Bardonecchia 73.13 345 *eP* **P 11 13 53.0 +0.3**
BNI pmax pmax
comp=Z,84nm,1.5s,mb5.5
BNI Bardonecchia 73.13 345 *eP* **P 11 13 53.0 +0.2**
comp=Z,84nm,1.5s,mb5.5
MFT Murefte 73.25 328 *eP* **P 11 13 52.5 -1.0**
BORA Eskisehir 73.25 326 *i* P **P 11 13 53.8 +0.3**
MRMT Marmara Adasi 73.34 328 *eP* **P 11 13 52.5 -1.5**
RDO Rodhopi 73.35 330 *eP* **P 11 13 54.5 +0.5**
LBL Lubilhac 73.36 347 *eP* **P 11 13 54.0 -0.1**
ORIF Oris-en-Rattie 73.36 345 *eP* **P 11 13 54.3 +0.2**
comp=Z,152nm,1.6s,mb5.4
ORIF *e*R
comp=Z,2µm,20.0s
ORIF Oris-en-Rattie 73.36 345 *eP* **P 11 13 54.3 +0.2**
ORIF pmax pmax
comp=Z,76nm,1.6s,mb5.4
ORIF Oris-en-Rattie 73.36 345 *eP* **P 11 13 54.3 +0.2**
comp=Z,76nm,1.6s,mb5.4
MMB Musomiste 73.37 331 *i* P **P 11 13 54.0 -0.1**
ULDT Uludag 73.37 327 *i* P **P 11 13 54.7 +0.5**
SART Tekirdag 73.37 328 *i* P **P 11 13 53.6 -0.5**
MBDF Montbardon 73.44 345 *eP* **P 11 13 54.5 -0.1**
comp=Z,42nm,0.9s,mb5.1
MBDF Montbardon 73.44 345 *eP* **P 11 13 54.5 -0.1**
MBDF pmax pmax
comp=Z,21nm,0.9s,mb5.1
MBDF Montbardon 73.44 345 *eP* **P 11 13 54.5 -0.1**
comp=Z,21nm,0.9s,mb5.1
ALN Alexandroupoli 73.46 329 *eP* **P 11 13 54.5 -0.2**
GZT Gaziantep 73.46 319 *i* P **P 11 13 55.8 +1.1**
RJF Les Rejaudoux 73.47 349 *eP* **P 11 13 54.3 -0.4**
comp=Z,203nm,1.7s,mb5.5
RJF *e*R
comp=Z,2µm,19.0s
RJF Les Rejaudoux 73.47 349 *eP* **P 11 13 54.3 -0.4**
RJF pmax pmax
comp=Z,102nm,1.7s,mb5.5
RJF MLR MLR
comp=Z,2µm,19.0s,MS5.5
RJF Les Rejaudoux 73.47 349 *eP* **P 11 13 54.3 -0.4**
comp=Z,102nm,1.7s,mb5.5
RJF LR LR
comp=Z,2µm,19.0s,MS5.5
KULM Kulim 73.48 251 *eP* **P 11 13 53.5 -1.3**
SFI Santa Sofia 73.50 341 P **P 11 13 55.9 +1.0**
SKO Skopje 73.53 333 *eP* **P 11 13 52.8 -2.2**
SKO Skopje 73.53 333 *eP* **P 11 13 55.2 +0.1**
VIVF Saint-Julien-l 73.57 346 *eP* **P 11 13 55.2 -0.1**
comp=Z,120nm,1.6s,mb5.3
VIVF Saint-Julien-l 73.57 346 *eP* **P 11 13 55.2 -0.1**
VIVF pmax pmax
comp=Z,60nm,1.6s,mb5.3
VIVF Saint-Julien-l 73.57 346 *eP* **P 11 13 55.2 -0.1**
comp=Z,60nm,1.6s,mb5.3
STIP Stip 73.62 332 *eP* **P 11 13 55.1 -0.5**
HYB Hyderabad 73.67 276 *i* P **P 11 13 54.5 -1.4**
HYB *e*S S 11 23 16.0 -10
HYB LR LR 11 47 32.0
comp=Z,5.4nm,14.0s
HYB Hyderabad 73.67 276 *eP* **P 11 13 54.5 -1.4**
HYB *e*S S 11 23 16.0 -10
ARV Arcevia 73.72 340 P **P 11 13 56.7 +0.5**
comp=Z,292nm,2.6s,mb5.8
GAZ Gaziantep 73.74 319 *eP* **P 11 13 57.4 +1.0**
KIZT Kizilcal 73.78 324 *eP* **P 11 13 55.1 -1.5**
CAF Calviac 73.79 348 *eP* **P 11 13 56.7 +0.1**
comp=Z,252nm,1.6s,mb5.6
CAF Calviac 73.79 348 *eP* **P 11 13 56.7 +0.1**
CAF pmax pmax
comp=Z,126nm,1.6s,mb5.6
CAF Calviac 73.79 348 *eP* **P 11 13 56.7 +0.1**
comp=Z,126nm,1.6s,mb5.6
BADI Badiali 73.82 340 P **P 11 13 59.6 +2.8**
OG25 Le Caire 73.88 345 *eP* **P 11 13 56.7 -0.5**
VAY Valandovo 73.89 332 *eP* **P 11 13 57.0 -0.2**
LFF La Frestale 73.90 349 *eP* **P 11 13 57.2 -0.1**
comp=Z,72nm,0.9s,mb5.3
LFF La Frestale 73.90 349 *eP* **P 11 13 57.2 -0.1**
LFF pmax pmax
comp=Z,36nm,0.9s,mb5.3
LFF La Frestale 73.90 349 *eP* **P 11 13 57.2 -0.1**
comp=Z,36nm,0.9s,mb5.3
SNTG Esanatoglia 73.95 340 P **P 11 13 58.1 +0.5**
CSNT Castellina Chi 74.01 341 P **P 11 13 58.1 +0.2**
BTOK Tokmak 74.02 327 *i* P **P 11 13 58.1 +0.2**
IPM Ipoh 74.02 250 P **P 11 13 57.0 -1.0**
BALB Balikesir 74.17 328 *eP* **P 11 13 58.7 -0.2**
SOH Sokhos 74.18 331 *eP* **P 11 13 59.0 0.0**
SBF Sospel 74.20 344 *eP* **P 11 13 58.6 -0.4**
comp=Z,285nm,1.5s,mb5.7
SBF Sospel 74.20 344 *eP* **P 11 13 58.6 -0.4**
SBF pmax pmax
comp=Z,142nm,1.5s,mb5.7
SBF Sospel 74.20 344 *eP* **P 11 13 58.6 -0.4**
comp=Z,142nm,1.5s,mb5.3
GDZ Gediz 74.26 326 *i* P **P 11 13 59.2 -0.2**
GRG Griva 74.28 332 *eP* **P 11 14 00.1 +0.6**
QSH Qafa e Shtames 74.29 334 *i* p **P 11 14 01.5 +1.9**
SMRF Simiane la Rot 74.33 345 *eP* **P 11 14 00.2 +0.4**
comp=Z,53nm,1.2s,mb5.0
SMRF Simiane la Rot 74.33 345 *eP* **P 11 14 00.2 +0.4**
comp=Z,53nm,1.2s,mb5.3
NRCA Norcia 74.33 340 P **P 11 14 00.7 +0.9**
comp=Z,137nm,1.3s,mb5.7
KARA Karaisali 74.34 321 *eP* **P 11 13 59.1 -0.8**
CEYT Ceyhan 74.35 321 *eP* **P 11 13 58.4 -1.5**
LASF Ste Croix 74.44 347 *eP* **P 11 14 00.8 +0.4**
comp=Z,131nm,1.6s,mb5.3
THE Thessaloniki 74.45 332 *eP* **P 11 14 00.1 -0.4**
BIA Bitola 74.46 333 *eP* **P 11 13 59.6 -0.9**
TIR Tirane 74.47 334 *eP* **P 11 13 60.0 -0.6**
OHR Ohrid 74.49 333 *eP* **P 11 13 59.9 -0.9**
OUR Ouranopolis 74.50 331 *eP* **P 11 14 01.0 +0.3**
FRF La Foret Royal 74.60 344 *eP* **P 11 14 01.6 +0.2**
LOS Limnos 74.61 330 *eP* **P 11 14 01.4 0.0**
COBT Iskenderun 74.64 320 *i* P **P 11 14 02.6 +1.0**
FNA Florina 74.67 333 *eP* **P 11 14 01.8 0.0**
AQU L'Aquila 74.75 339⇑ *i*P **P 11 14 04.6 +2.4**
AQU L'Aquila 74.75 339 *eP* **P 11 14 03.7 +1.5**
AQU pmax pmax
comp=Z,59nm,1.2s,mb5.4
AQU L'Aquila 74.75 339 *eP* **P 11 14 03.7 +1.5**
comp=Z,60nm,1.2s,mb5.4
BHD Baghdad 74.84 312 *i* x x 11 14 01.0
BHD *ex* x 11 23 42.0
LMR La Mourre 74.84 345 *eP* **P 11 14 02.3 -0.5**
comp=Z,150nm,1.6s,mb5.4
LMR La Mourre 74.84 345 *eP* **P 11 14 02.3 -0.5**
LMR pmax pmax
comp=Z,75nm,1.6s,mb5.4
LMR La Mourre 74.84 345 *eP* **P 11 14 02.3 -0.5**
comp=Z,75nm,1.6s,mb5.4
PAIG Paliouri 74.96 331 *eP* **P 11 14 03.3 -0.1**
POO Poona 74.99 281⇓ *i*P **P 11 14 02.0 -1.6**
comp=Z,70nm,1.0s,mb5.5
TKTP Tekketepe 75.01 325 *i* P **P 11 14 03.5 -0.2**
LIT Litokhoron 75.07 332 *eP* **P 11 14 03.4 -0.7**
ISP Isparta 75.14 325⇑ *i*P **P 11 14 05.2 +0.7**
CIGN Sant'Elia a Pi 75.16 338 P **P 11 14 05.5 +0.9**
comp=Z,271nm,2.1s,mb5.8
MEST Erdemli 75.24 322 *i* P **P 11 14 04.8 -0.2**
SDI San Donato 75.31 339 P **P 11 14 05.4 0.0**
MTLF Montolieu 75.34 348 *eP* **P 11 14 05.8 +0.2**
comp=Z,153nm,1.5s,mb5.4
MTLF Montolieu 75.34 348 *eP* **P 11 14 05.8 +0.2**
MTLF pmax pmax
comp=Z,76nm,1.5s,mb5.4
MTLF Montolieu 75.34 348 *eP* **P 11 14 05.8 +0.2**
comp=Z,76nm,1.5s,mb5.4
ERMK Ermenek 75.56 323 *i* P **P 11 14 06.8 -0.1**
XOR Xorichti 75.61 331 *eP* **P 11 14 06.2 -0.9**
AOS Alonnisos 75.63 330 *eP* **P 11 14 07.3 0.0**
EALK Alkurruntz 75.80 351 P **P 11 14 08.8 +0.5**
comp=Z,15nm,1.2s,mb4.8
CHOS Chios Island 75.83 328 *eP* **P 11 14 08.2 -0.2**
EPF Esparros 75.83 349 *eP* **P 11 14 07.9 -0.5**
comp=Z,149nm,1.3s,mb5.5
EPF Esparros 75.83 349 *eP* **P 11 14 07.9 -0.5**
EPF pmax pmax
comp=Z,75nm,1.3s,mb5.5
EPF Esparros 75.83 349 *eP* **P 11 14 07.9 -0.5**
comp=Z,75nm,1.3s,mb5.5
ELIZ Elizondo 75.86 351 P **P 11 14 09.1 +0.5**
ELIZ pmax pmax
comp=Z,41nm,1.3s,mb5.2
ELIZ Elizondo 75.86 351 P **P 11 14 09.1 +0.5**
comp=Z,41nm,1.3s,mb5.2
KAD Karad 75.88 280 *eP* **P 11 14 08.0 -0.7**
KAD AMb AMB 11 14 13.2
comp=Z,187nm,1.3s,mb5.9
SJPF Ste Jean 75.89 350 *eP* **P 11 14 08.4 -0.4**
comp=Z,22nm,1.2s,mb4.7
SJPF Ste Jean 75.89 350 *eP* **P 11 14 08.4 -0.4**
SJPF pmax pmax
comp=Z,11nm,1.2s,mb4.7
SJPF Ste Jean 75.89 350 *eP* **P 11 14 08.4 -0.4**
comp=Z,11nm,1.2s,mb4.7
ELAN Lanestosa 75.94 352 P **P 11 14 09.3 +0.2**
comp=Z,15nm,0.9s,mb4.9
EARI Arriondas 75.98 353 P **P 11 14 09.3 0.0**
comp=Z,19nm,0.9s,mb5.0
DWPF Disney 76.02 57 PFAKE 11 14 20.0 +10
DWPF LR LR
comp=Z,1µm,22.0s,MS5.2
AYDN Tasoluk 76.03 327 *i* P **P 11 14 09.8 +0.2**
ETSF Etsaut 76.04 350 *eP* **P 11 14 10.1 +0.4**
comp=Z,188nm,1.5s,mb5.5
ETSF Etsaut 76.04 350 *eP* **P 11 14 10.1 +0.4**
ETSF pmax pmax
comp=Z,94nm,1.5s,mb5.5
ETSF Etsaut 76.04 350 *eP* **P 11 14 10.1 +0.4**
comp=Z,94nm,1.5s,mb5.5
EPON Pontenova 76.05 355 P **P 11 14 09.9 +0.2**
comp=Z,122nm,1.6s,mb5.6
IGT Igoumenitsa 76.10 333 *eP* **P 11 14 09.7 -0.3**
AGG Agios Georgios 76.14 332 *eP* **P 11 14 09.2 -1.0**
EBIE Bielsa 76.19 349 P **P 11 14 11.5 +1.0**
comp=Z,64nm,1.1s,mb5.5
EVR Evrytania 76.36 332 *eP* **P 11 14 11.5 +0.1**
EMAZ Mazaricos 76.50 356 P **P 11 14 12.9 +0.6**
comp=Z,49nm,1.2s,mb5.3
STS Santiago 76.55 356 P **P 11 14 12.2 -0.3**
STS pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
STS Santiago 76.55 356 P **P 11 14 12.2 -0.3**
comp=Z,7.5nm,0.6s,mb4.8
AFI Afiamalu 76.59 158 *eP* **P 11 14 11.5 -1.3**
AFI pmax pmax
comp=Z,47nm,1.0s,mb5.4
AFI MLR MLR
comp=Z,1µm,22.0s,MS5.2
AFI Afiamalu 76.59 158 *eP* **P 11 14 11.5 -1.3**
comp=Z,47nm,1.0s,mb5.4
AFI LR LR
comp=Z,1µm,22.0s,MS5.2
BANOM Banah 76.63 299 P **P 11 14 12.3 -0.6**
SNR=8.0
EGRA Graus 76.66 349 P **P 11 14 13.9 +0.7**
comp=Z,66nm,1.2s,mb5.4
PTL Penteli 76.69 330 *eP* **P 11 14 12.6 -0.7**
PTL Penteli 76.69 330 *eP* **P 11 14 16.5 +3.2**
LKD Levkas 76.82 333 *eP* **P 11 14 13.8 -0.3**
EMIR Miracle 76.82 348 P **P 11 14 14.9 +0.8**
comp=Z,99nm,1.4s,mb5.5
MIB Mutribah 76.84 308 *eP* **P 11 14 13.7 -0.5**
MIB AMb AMB 11 14 17.6
comp=Z,262nm,1.5s,mb6.0
UMR Umm Al-Rimmam 76.92 308 *eP* **P 11 14 14.0 -0.6**
UMR AMb AMB 11 14 18.1
comp=Z,152nm,1.1s,mb5.9
ERUA La Rua 76.98 355 P **P 11 14 14.9 -0.1**
ERUA pmax pmax
comp=Z,33nm,1.3s,mb5.1
ERUA La Rua 76.98 355 P **P 11 14 14.9 -0.1**
comp=Z,33nm,1.3s,mb5.1
CSS Prodhromos 76.99 322⇑ *e*P **P 11 14 14.5 -0.5**
comp=Z,227nm,1.6s,mb5.8
TIP Timpagrande 77.20 336 *eP* **P 11 14 16.6 +0.5**
ESAC San Cagrasio 77.20 350 P **P 11 14 17.0 +0.8**
comp=Z,58nm,1.0s,mb5.5
APE Apeiranthos 77.20 328 *eP* **P 11 14 14.2 -2.0**
APE Apeiranthos 77.20 328⇑ *i*P **P 11 14 15.0 -1.2**
BHL Bhannes 77.24 319 *eP* **P 11 14 16.6 +0.2**
KBD Kabd 77.27 308 *eP* **P 11 14 16.0 -0.6**
KBD AMb AMB 11 14 21.6
comp=Z,430nm,1.2s,mb6.2
EZAM Zamans 77.29 356 P **P 11 14 17.2 +0.5**
EZAM pmax pmax
comp=Z,16nm,0.8s,mb5.0
EZAM Zamans 77.29 356 P **P 11 14 17.2 +0.5**
comp=Z,16nm,0.8s,mb5.0
NAY Al-Naaiem 77.37 308 *eP* **P 11 14 16.2 -0.9**
NAY AMb AMB 11 14 20.5
comp=Z,150nm,1.3s,mb5.8
ECAL Calabor 77.42 354 P **P 11 14 17.1 -0.3**
comp=Z,10nm,0.9s,mb4.8
EPOB Poblet 77.42 348 P **P 11 14 17.6 +0.1**
comp=Z,24nm,0.9s,mb5.1
RDF Al-Radifah 77.54 308 *eP* **P 11 14 17.6 -0.5**
RDF AMb AMB 11 14 21.8
comp=Z,332nm,1.4s,mb6.1
ELOB Lobios 77.55 355 P **P 11 14 18.1 -0.1**
comp=Z,13nm,0.9s,mb4.9
PBRG Braganca 77.55 354 *eP* **P 11 14 18.1 -0.1**
comp=Z,21nm,1.2s,mb5.0
GOA Goa 77.61 279 *eP* **P 11 14 20.0 +1.5**
PCAB Cabril 77.70 355 *eP* **P 11 14 19.2 +0.2**
comp=Z,37nm,1.3s,mb5.2
ASHO Ashiyiah 77.82 299 P **P 11 14 18.9 -0.8**
SNR=12
ERTA Horta de San J 77.89 349 P **P 11 14 20.1 +0.1**
comp=Z,67nm,1.4s,mb5.4
KAKA Kakadu 77.97 213 *eP* **P 11 14 19.3 -1.2**
comp=Z,124nm,1.2s,mb5.7
ITM Ithomi 77.99 331 *eP* **P 11 14 20.0 -0.6**
EBR Ebro Roquetas 78.01 349 *eP* **P 11 14 21.5 +0.8**
PVRL Vila Real 78.12 355 *eP* **P 11 14 21.5 +0.2**
comp=Z,55nm,1.3s,mb5.3
HOQ Hoqain 78.25 297 P **P 11 14 21.1 -1.0**
SNR=7.9
WBK Wadi Bani Khal 78.37 295⇓ P **P 11 14 22.3 -0.4**
SNR=5.5
SMDO Samad 78.38 296 P **P 11 14 22.3 -0.5**
SNR=7.1
BBSR BB Station 78.40 42 *eP* **P 11 14 21.5 -1.4**
comp=Z,77nm,0.9s,mb5.6
BBSR LR LR
comp=Z,2µm,21.0s,MS5.5
EMOS Mosqueruela 78.55 349 P **P 11 14 23.9 +0.2**
comp=Z,103nm,1.4s,mb5.6
GUD Guadarrama 78.56 352 P **P 11 14 23.7 -0.1**
GUD pmax pmax
comp=Z,82nm,1.4s,mb5.5
GUD Guadarrama 78.56 352 P **P 11 14 23.7 0.0**
comp=Z,82nm,1.4s,mb5.5
PVIS Viseu 78.69 355 *eP* **P 11 14 24.4 -0.1**
comp=Z,34nm,1.2s,mb5.2
ARQ Araqi 78.80 298 P **P 11 14 24.4 -0.8**
SNR=9.5
JMDO Jabal Madar 78.96 296 P **P 11 14 25.4 -0.6**
SNR=15
MTE Manteigas 78.99 355 *eP* **P 11 14 26.1 0.0**
comp=Z,82nm,1.5s,mb5.4
MTE *e*S S 11 24 25.8 +1.1
MTE Manteigas 78.99 355 *e*LQ 11 35 28.8
MTE *e*LR LR 11 41 05.7
comp=Z,1µm,14.1s
MTE Manteigas 78.99 355⇑ *eP* **P 11 14 25.8 -0.3**
comp=Z,75nm,1.3s,mb5.5
BSY Bisya 79.03 297 P **P 11 14 25.9 -0.5**
SNR=12
ECHE Chera 79.36 350 P **P 11 14 28.6 +0.4**
ECHE pmax pmax
comp=Z,17nm,0.9s,mb5.0
ECHE Chera 79.36 350 P **P 11 14 28.6 +0.5**
comp=Z,17nm,0.9s,mb5.0
ESDC Sonseca Array 79.51 352 P **P 11 14 28.6 -0.4**
comp=Z,18nm,0.9s,mb5.0,baz=3.2,slow=5.8,SNR=45
ESDC Sonseca Array 79.51 352 P **P 11 14 29.2 +0.2**
comp=Z,15nm,0.8s,mb5.0
ESLA Sonseca Array 79.51 352⇑ *eP* **P 11 14 28.6 -0.4**
comp=Z,22nm,1.3s,mb4.9
ESLA LR LR
comp=Z,6µm,19.0s,MS6.0
PCBR Castelo Branco 79.54 355 *eP* **P 11 14 29.1 -0.1**
comp=Z,46nm,1.3s,mb5.2
PAB San Pablo 79.67 352 P **P 11 14 29.5 -0.3**
GVD Gavdhos 79.69 329 *eP* **P 11 14 30.6 +0.7**
comp=Z,191nm,1.3s,mb5.9
PTOM Tomar 79.80 356 *eP* **P 11 14 30.0 -0.6**
comp=Z,46nm,1.1s,mb5.3
SOR Soroa 80.05 61 *eP* **P 11 14 31.7 -0.2**
EBEN Beniarda 80.17 349 P **P 11 14 33.1 +0.6**
comp=Z,165nm,2.1s,mb5.6
ETOB Tobarra 80.35 350 P **P 11 14 33.7 +0.1**
comp=Z,14nm,0.8s,mb5.0
EVIA Vianos 80.44 351 P **P 11 14 33.8 -0.2**
EVIA pmax pmax
comp=Z,32nm,1.0s,mb5.2
EVIA Vianos 80.44 351 P **P 11 14 33.8 -0.2**
comp=Z,32nm,1.0s,mb5.2
EBAD Badajoz 80.60 354 P **P 11 14 34.1 -0.8**
comp=Z,71nm,1.1s,mb5.5
EADA Adamuz 81.05 352 P **P 11 14 37.0 -0.3**
comp=Z,78nm,1.3s,mb5.5
EHUE Huescar 81.26 351 P **P 11 14 39.0 +0.6**
EHUE pmax pmax
comp=Z,53nm,1.3s,mb5.3
EHUE Huescar 81.26 351 P **P 11 14 39.0 +0.6**
comp=Z,53nm,1.3s,mb5.3
TAOE Nuku Hiva Isla 81.29 126 *e*LR LR 11 40 03.1
comp=Z,14µm,24.4s
EQES Quesada 81.31 351 P **P 11 14 39.5 +0.8**
comp=Z,44nm,1.2s,mb5.3
PDA Ponta Delgada 81.33 9 *e* 11 47 40.0
PALK Pallekele 81.34 269 P **P 11 14 38.2 -0.6**
comp=Z,326nm,0.9s,mb6.3,SNR=11
PALK Pallekele 81.34 269⇑ *eP* **P 11 14 38.0 -0.8**
comp=Z,216nm,1.6s,mb5.8
PALK LR LR
comp=Z,2µm,19.0s,MS5.5
PBEJ Beja 81.37 355 *eP* **P 11 14 38.9 -0.1**
comp=Z,25nm,1.2s,mb5.0
EIL Elat 81.37 318 *eP* **P 11 14 38.8 -0.2**
comp=Z,2µm,1.4s
EMIN Mina Concepcio 81.57 354 P **P 11 14 39.8 -0.2**
comp=Z,21nm,1.0s,mb5.0
EGRO El Granado 81.84 355 P **P 11 14 40.8 -0.6**
comp=Z,8.0nm,0.8s,mb4.7
ECOG Cogollos-Vega 81.87 352 P **P 11 14 42.0 +0.4**
ECOG pmax pmax
comp=Z,42nm,1.2s,mb5.2
ECOG Cogollos-Vega 81.87 352 P **P 11 14 42.0 +0.4**
comp=Z,42nm,1.2s,mb5.2
MGV Manicaragua 81.94 59 *eP* **P 11 14 43.1 +1.1**
ELOJ Sierra Loja 82.04 352 P **P 11 14 42.8 +0.3**
ELOJ pmax pmax
comp=Z,42nm,1.1s,mb5.3
ELOJ Sierra Loja 82.04 352 P **P 11 14 42.8 +0.3**
comp=Z,42nm,1.1s,mb5.3
TRD Trivandrum 82.11 273 *eP* **P 11 14 42.0 -0.9**
TRD AMb AMB 11 14 47.3
comp=Z,117nm,1.3s,mb5.7
ERON Agron 82.14 352 P **P 11 14 43.5 +0.5**
comp=Z,3.6nm,0.5s,mb4.6
CTA Charters Tower 82.17 199 *eP* **P 11 14 41.7 -1.5**
comp=Z,43nm,1.1s,mb5.3
CTA Charters Tower 82.17 199 P **P 11 14 41.9 -1.3**
comp=Z,58nm,1.1s,mb5.4,baz=6.9,slow=6.7,SNR=13
CTA LR LR 11 51 22.8
comp=Z,789nm,19.1s,MS5.1,baz=9.5,slow=36
CTA Charters Tower 82.17 199 P **P 11 14 41.9 -1.3**
CTA pmax pmax
comp=Z,58nm,1.1s
CTA MLR MLR
comp=Z,789nm,19.1s
CTAO Charters Tower 82.17 199⇑ *eP* **P 11 14 42.0 -1.2**
CTAO pmax pmax
comp=Z,97nm,1.2s,mb5.6
CTAO MLR MLR
comp=Z,886nm,19.0s,MS5.2
CTAO Charters Tower 82.17 199⇑ *eP* **P 11 14 42.0 -1.2**
comp=Z,97nm,1.2s,mb5.6
CTAO LR LR
comp=Z,886nm,19.0s,MS5.2
ESPR Espera 82.42 353 P **P 11 14 44.0 -0.5**
comp=Z,86nm,1.3s,mb5.5
EMIJ Mijas 82.66 352 P **P 11 14 46.3 +0.5**
comp=Z,13nm,0.8s,mb5.0
EJIF Jimena Fronter 82.81 353 P **P 11 14 47.0 +0.5**
EJIF pmax pmax
comp=Z,36nm,1.0s,mb5.4
EJIF Jimena Fronter 82.81 353 P **P 11 14 47.0 +0.5**
comp=Z,36nm,1.0s,mb5.4
CCCC Cccc 83.67 57 *eP* **P 11 14 53.6 +2.7**
PMOR Pomariorio Ree 84.07 135 *eP* **P 11 14 52.2 -0.8**
comp=Z,140nm,1.3s,mb5.9
WRAB Tennant Creek 84.40 210 P **P 11 14 53.5 -1.2**
comp=Z,271nm,1.7s,mb6.1,SNR=16
WRAB Tennant Creek 84.40 210 P **P 11 14 53.2 -1.5**
WRAB pmax pmax
comp=Z,270nm,1.6s,mb6.1
WRAB Tennant Creek 84.40 210⇑ *eP* **P 11 14 53.0 -1.6**
comp=Z,188nm,1.6s,mb6.0
WRAB LR LR
comp=Z,1µm,21.0s,MS5.2
WB2 Warramunga Arr 84.41 210 *eP* **P 11 14 53.2 -1.5**
WRA Warramunga Arr 84.41 210 P **P 11 14 53.2 -1.5**
comp=Z,21nm,0.9s,mb5.2,baz=15,slow=5.1,SNR=62
WRA PKKPbc PKKPbc 11 33 04.4 -1.8
comp=Z,1.3nm,0.8s,baz=216,slow=2.2,SNR=8.0
WRA PKPPKP 11 41 07.1
comp=Z,1.2nm,1.0s,baz=199,slow=2.3,SNR=4.9
WHFO Wadi Hawf 84.78 298 P **P 11 14 55.3 -1.2**
SNR=11
FITZ Fitzroy Crossi 85.03 218⇑ *i*P **P 11 14 56.4 -1.5**
comp=Z,52nm,1.0s,mb5.6
FITZ Fitzroy Crossi 85.03 218 P **P 11 14 56.6 -1.3**
comp=Z,27nm,0.9s,mb5.3,baz=17,slow=7.5,SNR=25
FITZ LR LR 11 57 17.6
comp=Z,328nm,18.7s,MS4.8,baz=12,slow=39
ABTO Aybut 85.48 298 P **P 11 14 59.5 -0.7**
SNR=8.1
RCC Rio Carpintero 85.59 56 *eP* **P 11 15 03.5 +2.8**
PPT Papeete 85.90 138 *eP* **P 11 15 01.8 -0.4**
comp=Z,109nm,1.6s,mb5.8
PPT Papeete 85.90 138 *e*S 11 25 29.5
comp=Z,341nm,25.5s
PPT *e*SS SS 11 31 04.8 -7.8
comp=Z,354nm,26.0s
PPT *e*LQ 11 38 17.6
comp=Z,2µm,24.2s
PPT *e*LR LR 11 42 14.2
comp=Z,3µm,25.2s,baz=344
PPT Papeete 85.90 138 LR LR 11 49 47.7
comp=Z,1µm,18.1s,MS5.3,baz=323,slow=33
PAE Paea 85.98 138 *eP* **P 11 15 02.0 -0.6**
comp=Z,263nm,1.3s,mb6.3
ASAR Alice Springs 86.09 209 P **P 11 15 10.5 -2.4**
comp=Z,9.3nm,1.0s,mb5.0,baz=12,slow=1.4,SNR=4.2
ASAR PKKPbc PKKPbc 11 32 55.9 -1.5
comp=Z,0.8nm,0.8s,baz=180,slow=1.8,SNR=7.7
ASAR PKPPKP 11 41 00.1
comp=Z,0.3nm,0.9s,baz=230,slow=39,SNR=3.3
MBWA Marble Bar 89.76 222 *eP* **P 11 15 18.9 -1.9**
comp=Z,14nm,0.9s,mb5.3
MBWA LR LR
comp=Z,816nm,21.0s,MS5.1
JTS JuntasAbangare 90.21 68 PFAKE 11 15 30.0 +7.2
JTS LR LR
comp=Z,3µm,22.0s,MS5.6
COCO West Island 90.65 246 PFAKE 11 15 30.0 +5.1
COCO LR LR
comp=Z,1µm,19.0s,MS5.4
RAO Raoul Island 90.72 166 PFAKE 11 15 30.0 +4.8
RAO LR LR
comp=Z,1µm,20.0s,MS5.3
SJG San Juan 91.00 49 PFAKE 11 15 40.0 +14
SJG LR LR
comp=Z,2µm,20.0s,MS5.5
TBI Tubuai 91.33 140 *e*SS SS 11 32 30.3 -1.4
comp=Z,522nm,26.5s
TBI *e*LQ 11 40 24.7
comp=Z,1µm,34.5s
TBI *e*LR LR 11 44 14.8
comp=Z,3µm,31.8s,baz=336
ARMA Armidale 91.65 192 *eP* **P 11 15 29.3 -0.2**
STKA Stephens Creek 94.48 201 *eP* **P 11 15 39.0 -3.5**
comp=Z,9.8nm,1.1s,mb5.2
STKA Stephens Creek 94.48 201 P **P 11 15 39.2 -3.3**
comp=Z,14nm,1.1s,mb5.3,baz=338,slow=6.8,SNR=6.4

STKA					LR	LR	11 57 56.5		
	comp=Z,837nm,21.0s,MS5.2,baz=5.0,slow=35								
RKT	**Rikitea**	**96.26**	**127**	*e*SS		SS	11 33 42.7	+0.5	
	comp=Z,636nm,27.2s								
RKT				*e*LR		LR	11 46 48.4		
	comp=Z,3μm,26.2s,baz=333								
PAYG	**Puerto Ayora**	**97.32**	**78**	PFAKE			11 16 10.0	+15	
PAYG				LR		LR			
	comp=Z,1μm,22.0s,MS5.4								
SDV	**Santo Domingo**	**97.67**	**56**	*e*P		**P**	**11 15 56.4**	**-0.6**	
	comp=Z,32nm,1.5s,mb5.6								
SDV				LR		LR			
	comp=Z,1μm,19.0s,MS5.5								
DGAR	**Diego Garcia**	**98.08**	**269**	PFAKE			11 16 10.0	+11	
DGAR				LR		LR			
	comp=Z,2μm,22.0s,MS5.6								
ROSC	**El Rosal**	**99.75**	**61**	LR		LR	12 04 41.8		
	comp=Z,1μm,21.2s,MS5.3,baz=2.9,slow=38								
PTCN	**Pitcairn Islan**	**99.95**	**124**	PFAKE			11 16 20.0	+13	
PTCN				LR		LR			
	comp=Z,3μm,20.0s,MS5.8								
NWAO	**Narrogin (SRO)**	**101.49**	**220**	PFAKE			11 16 20.0	+5.9	
NWAO				LR		LR			
	comp=Z,806nm,21.0s,MS5.2								
SNZO	**South Karori**	**102.03**	**173**	PFAKE			11 16 30.0	+14	
SNZO				LR		LR			
	comp=Z,1μm,21.0s,MS5.4								
TORD	**Torodi Ar. Bea**	**105.20**	**344**	Pdiff		Pdif	11 16 28.6	-2.0	
	comp=Z,1.9nm,1.1s,baz=10,slow=3.8,SNR=5.8								
TORD				PKiKP		PKiKP	11 20 43.6	-1.2	
	comp=Z,1.3nm,0.9s,baz=5.7,slow=1.4,SNR=3.1								
TORD				PKKPbc		PKKPbc	11 32 07.3	-3.5	
	comp=Z,2.0nm,1.0s,baz=198,slow=2.0,SNR=6.8								
DBIC	**Dimbokro**	**112.32**	**350**	PKKPbc		PKKPbc	11 31 45.3	-2.9	
	comp=Z,3.2nm,0.9s,baz=112,slow=14,SNR=3.0								
DBIC	**Dimbokro**	**112.32**	**350**	PFAKE			11 21 10.0	+12	
DBIC				LR		LR			
	comp=Z,1μm,19.0s,MS5.5								
NNA	**Nana**	**113.56**	**72**	PFAKE			11 21 10.0	+9.5	
NNA				LR		LR			
	comp=Z,421nm,20.0s,MS5.0								
LPAZ	**La Paz**	**121.31**	**65**	PKP		PKPdf	11 21 14.3	-1.1	
	comp=Z,1.5nm,0.8s,baz=341,slow=3.3,SNR=5.9								
LPAZ	**La Paz**	**121.31**	**65**	*e*PKPdf		PKPdf	11 21 14.6	-0.8	
LPAZ				*e*PP		PP	11 22 45.3	-0.8	
LPAZ				LR		LR			
	comp=Z,1μm,20.0s,MS5.5								
RCBR	**Riachuelo**	**122.73**	**26**	PFAKE			11 21 30.0	+12	
RCBR				LR		LR			
	comp=Z,2μm,22.0s,MS5.6								
LSZ	**Lusaka**	**125.30**	**307**	PFAKE			11 21 30.0	+6.9	
LSZ				LR		LR			
	comp=Z,2μm,22.0s,MS5.8								
LVC	**Limon Verde**	**126.47**	**70**	*e*PKPdf		PKPdf	11 21 25.4	+0.1	
LVC				LR		LR			
	comp=Z,960nm,22.0s,MS5.4								
BDFB	**Brasilia**	**128.72**	**44**	PKP		PKPdf	11 21 29.1	-0.5	
	comp=Z,12nm,0.9s,baz=267,slow=1.0,SNR=12								
TSUM	**Tsumeb**	**132.76**	**317**	PFAKE			11 21 50.0	+13	
TSUM				LR		LR			
	comp=Z,2μm,21.0s,MS5.7								
CPUP	**Villa Florida**	**134.84**	**60**	PKhKP			11 21 35.3		
	comp=Z,1.9nm,0.6s,baz=262,slow=3.4,SNR=3.5								
CPUP				PKP		PKPdf	11 21 40.2	-0.9	
	comp=Z,3.1nm,0.7s,baz=295,slow=2.6,SNR=7.5								
CPUP	**Villa Florida**	**134.84**	**60**	*i* PKIKP			11 21 35.3		
CPUP							11 21 40.3		
CPUP				pmax		pmax			
	comp=Z,2.0nm,0.6s								
CPUP	**Villa Florida**	**134.84**	**60**	*e*PKPdf		PKPdf	11 21 40.2	-1.0	
LBTB	**Lobatse**	**135.11**	**305**	PKhKP			11 21 35.2		
	comp=Z,5.5nm,1.1s,baz=216,slow=8.7,SNR=3.1								
LBTB				PKP		PKPdf	11 21 42.1	+0.5	
	comp=Z,3.0nm,0.7s,baz=301,slow=1.4,SNR=4.9								
LBTB	**Lobatse**	**135.11**	**305**	*i* PKIKP			11 21 35.2		
LBTB							11 21 42.2		
LBTB				pmax		pmax			
	comp=Z,6.0nm,1.1s								
LBTB	**Lobatse**	**135.11**	**305**	PKP		PKPdf	11 21 42.1	+0.5	
LBTB				LR		LR			
	comp=Z,2μm,21.0s,MS5.8								
MIR	**Mirnyy**	**137.82**	**215**	*e*PKIKP		PKPdf	11 21 42.0	-4.7	
MIR				pmax		pmax			
	comp=Z,210nm,1.3s								
VNDA	**Vanda**	**138.12**	**181**	PKhKP			11 21 40.4		
	comp=Z,2.7nm,0.9s,baz=349,slow=7.7,SNR=8.2								
VNDA				PKP		PKPdf	11 21 45.5	-1.8	
	comp=Z,2.8nm,0.7s,baz=318,slow=5.0,SNR=8.7								
VNDA	**Vanda**	**138.12**	**181**	PKP			11 21 40.4		
VNDA				PKP		PKPdf	11 21 45.5	-1.8	
VNDA				LR		LR			
	comp=Z,828nm,19.0s,MS5.5								
SBA	**Scott Base**	**138.43**	**180**	*e*PKHKP			11 21 37.7		
SBA				*e*			11 21 44.6		
SBA				*e*			11 24 36.5		
PLCA	**Paso Flores**	**140.59**	**86**	PFAKE			11 22 00.0	+8.3	
PLCA				LR		LR			
	comp=Z,826nm,20.0s,MS5.5								
TRQA	**Tornquist**	**142.63**	**75**	*e*PKPdf		PKPdf	11 21 55.0	-0.4	
TRQA				LR		LR			
	comp=Z,1μm,20.0s,MS5.7								
SUR	**Sutherland**	**143.56**	**305**	PKPbc		PKPdf	11 21 56.5	-0.5	
	comp=Z,20nm,1.2s,baz=131,slow=4.6,SNR=6.0								
SUR	**Sutherland**	**143.56**	**305**	PFAKE			11 22 10.0	+13	
SUR				LR		LR			
	comp=Z,2μm,19.0s,MS5.8								
MAW	**Mawson**	**147.93**	**225**	*e*P		PKPdf	11 22 03.2	-1.3	
	comp=Z,50nm,1.1s								
MAW	**Mawson**	**147.93**	**225**	PKPbc		PKPdf	11 22 02.2	-2.3	
	comp=Z,47nm,1.0s,baz=72,slow=2.2,SNR=22								
MAW	**Mawson**	**147.93**	**225**	PKIKP		PKPdf	11 22 02.2	-2.3	
MAW				pmax		pmax			
	comp=Z,47nm,1.0s								
QSPA	**South Pole Qui**	**150.59**	**180**	*e*PKPdf		PKPdf	11 22 05.9	-2.9	
QSPA				*e*PKPbc		PKPbc	11 22 11.5	-2.7	
QSPA				LR		LR			
	comp=Z,1μm,21.0s,MS5.7								
USHA	**Ushuaia**	**151.22**	**103**	PKPbc		PKPbc	11 22 11.9	-3.7	
	comp=Z,17nm,0.8s,baz=200,slow=2.2,SNR=5.1								
EFI	**East Falkland**	**154.40**	**89**	PFAKE			11 22 20.0	+5.6	
EFI				LR		LR			
	comp=Z,2μm,19.0s,MS6.0								
SNAA	**Sanae**	**168.23**	**198**	PKPab		PKPab	11 23 33.1	-4.1	
	comp=Z,6.0nm,1.1s,baz=150,slow=4.0,SNR=12								
SNAA	**Sanae**	**168.23**	**198**	*e*PKPdf		PKPdf	11 22 24.8	-4.1	
SNAA				*e*			11 22 28.6		
SNAA				*e*			11 22 30.9		
SNAA				*e*			11 23 33.8		
SNAA				*e*			11 23 36.5		
SNAA				*e*			11 23 37.7		
SNAA				*e*			11 23 48.1		
SNAA				*e*			11 27 20.8		
SNAA				*e*			11 27 23.3		
SNAA				*e*			11 27 25.6		
SNAA				*e*			11 27 27.7		
SNAA				*e*			11 27 33.6		
SNAA	**Sanae**	**168.23**	**198**	*e*PKPdf		PKPdf	11 22 27.8	-1.1	
VNA3	**Neumayer Olymp**	**169.38**	**188**	*e*PKPdf		PKPdf	11 22 27.5	-2.1	
VNA3				*e*			11 22 29.3		
VNA3				*e*			11 22 30.4		
VNA3				*e*			11 22 32.4		
VNA3				*e*			11 22 37.5		
VNA3				*e*			11 23 39.4		
VNA3				*e*			11 23 42.2		
VNA3				*e*			11 23 43.8		
VNA3				*e*			11 23 50.0		
VNA3				*e*			11 23 58.1		
VNA3				*e*			11 24 02.3		
VNA3				*e*			11 24 12.8		
VNA3				*e*			11 24 21.6		
VNA3				*e*			11 24 34.9		
VNA3				*e*			11 27 28.8		
VNA3				*e*			11 27 31.5		
VNA3				*e*			11 27 33.4		
VNA3				*e*			11 27 35.9		
VNA3				*e*			11 27 42.0		
VNA2	**Neumayer--Watz**	**169.50**	**192**	*e*PKPdf		PKPdf	11 22 28.0	-1.7	
VNA2				*e*			11 22 30.5		
VNA2				*e*			11 22 32.5		
VNA2				*e*			11 22 34.3		
VNA2				*e*			11 22 39.4		
VNA2				*e*			11 22 54.6		
VNA2				*e*			11 23 39.0		
VNA2				*e*			11 23 42.2		
VNA2				*e*			11 23 43.4		
VNA2				*e*			11 23 49.0		
VNA2				*e*			11 23 57.2		
VNA2				*e*			11 24 00.6		
VNA2				*e*			11 24 12.0		
VNA2				*e*			11 24 21.2		
VNA2				*e*			11 24 34.3		
VNA2				*e*			11 27 28.5		
VNA2				*e*			11 27 31.8		
VNA2				*e*			11 27 33.5		
VNA2				*e*			11 27 35.8		
VNA2				*e*			11 27 42.2		

*ISCJB **09** 11:18:49.3±0.8, 6057N±007×1672E±02, h10km, mb3.4/6, Error ellipse: s-maj=17.8km s-min=9.0km az=150.0*
*MOS **09** 11:18:49.4±2.0, 6068N×16700E, h10km, mb3.7/2, Error ellipse: s-maj=49.1km s-min=17.5km az=87.7*
*IDC **09** 11:18:50.3±1.0, 6085N×16690E, h0km, mb3.4/5, mb1 3.7/6, mb1mx3.5/23, mbtmp3.5/6, ML3.4/1, Error ellipse: s-maj=23.0km s-min=16.1km az=79.0*

ISC 09 11:18:51.1±0.8, 6065N±007×1671E±02, h10km, n10, σ1§65/11, mb3.4/6, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BILL	**Bilibino**	**7.43**	**358**	*e*PN		**Pn**	**11 20 42.8**	**+3.2**
BILL				pmax		pmax		
	comp=Z,8.0nm,0.9s							
BILL				pmax		pmax		
	comp=N,16nm,0.8s							
FX1	**Attu Island--F**	**8.46**	**154**	Pn		**Pn**	**11 20 55.7**	**+1.9**
	comp=N,1.5nm,0.3s,baz=102,slow=23,SNR=11							
FX1				Sn		**Sn**	**11 22 27.9**	**-1.4**
	comp=N,0.5nm,0.3s,baz=283,slow=19,SNR=2.1							
ILAR	**Eielson Array**	**21.11**	**59**	P		**P**	**11 23 36.8**	**+0.9**
	comp=N,0.6nm,0.6s,mb3.1,baz=276,slow=9.1,SNR=13							
ILAR	**Eielson Array**	**21.11**	**59**	P		**P**	**11 23 36.8**	**+0.9**
ILAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
INK	**Inuvik**	**25.69**	**48**	P		**P**	**11 24 21.7**	**+0.3**
	comp=Z,0.3nm,0.5s,mb3.1,baz=278,slow=16,SNR=5.9							
MJAR	**Matsushiro Arr**	**30.31**	**230**	P		**P**	**11 25 04.6**	**+1.9**
	comp=Z,0.4nm,0.4s,mb3.5,baz=26,slow=11,SNR=4.2							
YKA	**Yellowknife Ar**	**35.20**	**52**	P		**P**	**11 25 44.2**	**-1.2**
	comp=Z,0.3nm,0.6s,mb3.4,baz=304,slow=8.2,SNR=6.8							
BVAR	**Borovoye Array**	**48.80**	**307**	P		**P**	**11 27 34.3**	**-2.1**
	comp=Z,0.4nm,0.5s,mb3.7,baz=39,slow=8.4,SNR=4.4							
NOA	**NORSAR Array B**	**57.23**	**346**	P		**P**	**11 28 36.8**	**-1.8**
	comp=Z,0.6nm,0.6s,mb3.8,baz=14,slow=7.3,SNR=2.3							
NOA	**NORSAR Array B**	**57.23**	**346**	P		**P**	**11 28 36.8**	**-1.8**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.6s							

*ISCJB **09** 11:19:24.3±0.7, 5937N±004×2677E±0.1, h0km, Error ellipse: s-maj=9.1km s-min=5.1km az=11.6*
*NAO **09** 11:19:26.8±1.1, 5931N×2693E, ML2.2*
*HEL **09** 11:19:26.9±0.1, 5932N×2715E, h0km, ML1.8, ML2.2(NAO), Explosion*
*IDC **09** 11:19:27.9±2.0, 5936N×2708E, h0km, mb1 3.1/4, mb1mx3.0/21, mbtmp3.1/4, ML2.9/4, Error ellipse: s-maj=17.4km s-min=10.5km az=126.0*
*BER **09** 11:19:27.2±2.6, 5932N×2712E, h0km, ML2.2(NAO), Suspected explosion*

ISC 09 11:19:26.0±0.7, 5936N±003×2673E±008, h0km, n16, σ1§46/24, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
VSU	**Vasula**	**0.90**	**180**	*e*P		**Pg**	**11 19 42.7**	**-0.5**
VSU				*e*S		**Sg**	**11 19 54.2**	**-0.6**
VSU	**Vasula**	**0.90**	**180**	Pg		**Pg**	**11 19 43.7**	**+0.5**
VSU				Lg			11 19 54.3	
VJF	**Virojoki**	**1.26**	**19**	*e*P		**Pg**	**11 19 49.1**	**-1.0**
VJF				*e*S		**Sg**	**11 20 05.6**	**-0.8**
MEF	**Metsahovi**	**1.46**	**307**	*e*P		**Pn**	**11 19 56.7**	**+3.0**
MEF				*e*S		**Sg**	**11 20 17.1**	**+4.1**
FIA0	**FINESS Array S**	**2.12**	**351**	*e*P		**Pn**	**11 20 04.3**	**+1.6**
FIA0				*e*S		**Sn**	**11 20 32.3**	**+2.5**
FIA0				MSG			11 20 36.8	
	comp=Z,3.7nm,0.2s							
FIA0	**FINESS Array S**	**2.12**	**351**	Pn		**Pn**	**11 20 04.5**	**+1.8**
	baz=164,slow=18							
FIA0				Lg			11 20 35.2	
	baz=161,slow=37							
FINES	**FINESS Array B**	**2.12**	**351**	Pn		**Pn**	**11 20 04.5**	**+1.7**
	comp=Z,1.7nm,0.3s,baz=165,slow=16,SNR=32							
FINES				Pg		**Pg**	**11 20 05.7**	**-1.0**
	comp=Z,1.7nm,0.3s,baz=164,slow=16,SNR=33							
FINES				Lg			11 20 35.4	
	comp=Z,2.6nm,0.3s,baz=165,slow=30,SNR=32							
KAF	**Kangasniemi**	**2.77**	**356**	MSG			11 20 58.5	
	comp=Z,3.2nm,0.3s							
HFS	**Hagfors**	**6.64**	**282**	*e*S		**Sn**	**11 22 20.6**	**-0.5**
HFS				*e*SG		**Sg**	**11 22 57.9**	**-1.3**
HFS	**Hagfors**	**6.64**	**282**	Sn		**Sn**	**11 22 20.6**	**-0.5**
	baz=79,slow=22							
HFS				Lg			11 22 57.9	
	baz=101,slow=37							
HFS	**Hagfors**	**6.64**	**282**	Pn		**Pn**	**11 21 06.9**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=92,slow=19,SNR=3.1							
HFS				Sn		**Sn**	**11 22 22.2**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=82,slow=22,SNR=3.7							
HFS				Lg			11 23 01.1	
	comp=Z,0.6nm,0.3s,baz=92,slow=30,SNR=5.5							
NB2	**NORSAR Subarra**	**7.91**	**289**	*e*P		**Pn**	**11 21 24.1**	**+1.7**
NB2				*e*SG		**Sg**	**11 23 37.9**	**-2.2**
NOA	**NORSAR Array B**	**7.91**	**289**	Pn		**Pn**	**11 21 23.1**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=175,slow=12,SNR=2.4							
NOA				Lg			11 23 39.8	
	comp=Z,0.5nm,0.3s,baz=150,slow=19,SNR=3.5							
ARA0	**ARCESS Array S**	**10.23**	**358**	Pn		**Pn**	**11 21 53.1**	**-1.1**
	baz=173,slow=14							
ARA0	**ARCESS Array S**	**10.23**	**358**	*e*P		**Pn**	**11 21 53.1**	**-1.1**
ARCES	**ARCESS Array B**	**10.23**	**358**	Pn		**Pn**	**11 21 53.4**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=174,slow=13,SNR=7.2							
ARCES				Sn		**Sn**	**11 23 44.8**	**-4.8**
	comp=Z,0.2nm,0.3s,baz=175,slow=23,SNR=4.1							

IDC 09 11:19:36.8±3.5, 4585N×15289E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/15, mbtmp3.8/3, Error ellipse: s-maj=133.3km s-min=48.3km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.66**	**228**	P		P	11 24 50.3	+0.4
	2.3nm,0.5s,baz=54,slow=10.0,SNR=44							
ASAR	**Alice Springs**	**26.37**	**222**	P		P	11 25 15.2	+0.6
	0.2nm,0.6s,baz=54,slow=8.8,SNR=4.2							
FITZ	**Fitzroy Crossi**	**29.84**	**241**	P		P	11 25 45.6	-0.1
	1.6nm,0.8s,baz=58,slow=12,SNR=6.2							
TORD	**Torodi Ar. Bea**	**150.32**	**289**	PKPbc		PKPbc	11 39 30.8	+0.9
	0.4nm,0.6s,baz=92,slow=1.9,SNR=4.7							

*NEIC **09** 11:30:21.2, 1600N×9762W, h23km, MD4.0(MEX), After MEX.*

MEX 09 11:30:21.2±0.7, 1600N×9762W, h23km±20km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.62**	**309**	*i* P		Pb	11 30 31.6	-1.8
PNIG				*i* S		Sb	11 30 39.4	-2.4
VHO	**Vista Hermosa**	**1.37**	**38**	*e*P		Pn	11 30 42.1	-2.8
VHO				*i* S		Sn	11 30 58.1	-4.3
OXX	**Oaxaca**	**1.38**	**38**	*i* P		Pn	11 30 42.7	-2.4
OXX				*i* S		Sn	11 30 59.2	-3.5
HUIG	**Huatulco**	**1.48**	**99**	*i* P		Pn	11 30 44.1	-2.2
HUIG				*i* S		Sn	11 31 00.2	-4.8
UTMO	**Huajuapan**	**1.83**	**355**	*i* P		Pn	11 30 49.6	-1.7
UTMO				*i* S		Sn	11 31 12.2	-1.6
ACX	**Acapulco**	**2.37**	**292**	*e*P		Pn	11 31 02.5	+3.9
MEIG	**Mezcala**	**2.71**	**315**	*e*P		Pn	11 31 00.3	-3.0
MEIG				*i* S		Sn	11 31 32.8	-2.6
CAIG	**El Cayaco**	**2.74**	**293**	*i* P		Pn	11 31 00.7	-3.1
CAIG				*i* S		Sn	11 31 32.9	-3.3
PLIG	**Platanillo**	**2.98**	**323**	*i* P		Pn	11 31 05.9	-1.2
PLIG				*i* S		Sn	11 31 38.6	-3.6
PPM	**Popocatepetl**	**3.20**	**343**	*i* P		Pn	11 31 10.1	0.0
PPM				*i* S		Sn	11 31 45.8	-1.7
UNM	**Universidad Na**	**3.63**	**336**	*i* S		Sn	11 31 55.5	-2.7

*NEIC **09** 11:30:46.2, 4025N×1973E, h5km, MD3.4(ATH), After ATH.*
*ATH **09** 11:30:46.0, 4025N×1972E, h5km, MD3.4/4*
*ISCJB **09** 11:30:47.3±0.8, 4014N±002×1975E±007, h5km, Error ellipse: s-maj=8.0km s-min=3.5km az=175.2*
*CSEM **09** 11:30:47.6±0.3, 4016N×1969E, h5km, ML3.1, Error ellipse: s-maj=6.5km s-min=2.7km az=86.0*
*THE **09** 11:30:47.9, 4016N×1978E, h10km, ML3.1*

ISC 09 11:30:48.0±0.9, 4014N±003×1974E±008, h5km±6km, n21, σ1§08/30, 1D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SRN	**Sarande**	**0.33**	**143**	*i* Pg		**Pg**	**11 30 53.6**	**-0.7**
SRN				*i* Sg		**Sg**	**11 30 59.4**	**+0.8**
SRN	**Sarande**	**0.33**	**143**	*e*Pg		**Pg**	**11 30 53.6**	**-0.7**
SRN				*i* Sg		**Sg**	**11 30 59.4**	**+0.8**
KEK	**Kerkira**	**0.43**	**174**	↓*i* PG		**Pg**	**11 30 56.3**	**0.0**
KEK				*e*SB		**Sg**	**11 31 04.7**	**+2.8**
IGT	**Igoumenitsa**	**0.76**	**143**	*e*Pg		**Pg**	**11 31 02.2**	**-0.3**
IGT				*e*Sg		**Sg**	**11 31 13.8**	**+1.4**
JAN	**Janina**	**0.98**	**119**	*e*PB		**Pb**	**11 31 06.0**	**-1.4**
TIR	**Tirane**	**1.21**	**4**	*e*Pg		**Pg**	**11 31 09.8**	**-1.4**
TIR				*e*Sg		**Sg**	**11 31 27.9**	**+1.0**
OHR	**Ohrid**	**1.26**	**39**	*e*Pn		**Pn**	**11 31 13.4**	**+1.2**
QSH	**Qafa e Shtames**	**1.39**	**5**	*i* Pn		**Pn**	**11 31 15.5**	**+1.5**
QSH				*i* Sn		**Sn**	**11 31 37.5**	**+4.8**
QSH	**Qafa e Shtames**	**1.39**	**5**	*e*Pn		**Pn**	**11 31 15.5**	**+1.5**
FNA	**Florina**	**1.40**	**62**	*e*Pg		**Pg**	**11 31 13.7**	**-1.2**
	comp=Z,4.0nm,0.7s							
FNA				*e*Sg		**Sg**	**11 31 33.8**	**+0.8**
BIA	**Bitola**	**1.49**	**53**	*e*Pn		**Pn**	**11 31 15.2**	**-0.2**
LKD	**Levkas**	**1.59**	**154**	*e*Pg		**Pg**	**11 31 17.3**	**-1.3**
LKD				*e*Sg		**Sg**	**11 31 39.3**	**0.0**
EVR	**Evrytania**	**2.01**	**127**	*e*PN		**Pn**	**11 31 24.5**	**+1.9**
VLS	**Valsamata**	**2.07**	**161**	*e*PG		**Pg**	**11 31 27.0**	**-0.6**
LIT	**Litokhoron**	**2.11**	**90**	*e*Pn		**Pn**	**11 31 23.5**	**-0.4**
LIT				*e*Sn		**Sn**	**11 31 50.7**	**+0.2**
GRG	**Griva**	**2.18**	**67**	*e*Pn		**Pn**	**11 31 25.1**	**+0.1**
AGG	**Agios Georgios**	**2.29**	**118**	*e*Pn		**Pn**	**11 31 25.2**	**-1.2**
VAY	**Valandovo**	**2.45**	**60**	*e*Pn		**Pn**	**11 31 23.5**	**-5.1**
VAY	**Valandovo**	**2.45**	**60**	*e*Pn		**Pn**	**11 31 23.4**	**-5.2**
XOR	**Xorichti**	**2.77**	**105**	*e*Pn		**Pn**	**11 31 31.4**	**-1.6**
PAIG	**Paliouri**	**3.03**	**93**	*e*Pn		**Pn**	**11 31 36.6**	**+0.1**

*NEIC **09** 11:45:53.6, 1813N×10295W, h15km, MD4.1(MEX), After MEX.*

MEX 09 11:45:52.5±0.8, 1814N×10292W, h4km±14km, MD4.1, Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**1.49**	**111**	*i* P		Pn	11 46 15.8	-4.2
ZIIG				*i* S		Sn	11 46 36.3	-3.6
MOIG	**Morelia**	**2.25**	**47**	*i* P		Pn	11 46 27.6	-2.8
MOIG				*i* S		Sn	11 46 54.9	-3.7
SFJM	**Santa Fe**	**2.34**	**357**	*i* P		Pn	11 46 28.2	-3.5
SFJM				*i* S		Sn	11 47 03.5	+2.6
CJM	**Chamela**	**2.42**	**304**	*i* P		Pn	11 46 30.1	-2.7
CJM				*i* S		Sn	11 46 58.6	-4.4
CAIG	**El Cayaco**	**2.76**	**113**	*i* P		Pn	11 46 35.8	-1.7
CAIG				*i* S		Sn	11 47 08.2	-3.0
ACX	**Acapulco**	**3.14**	**113**	*e*P		Pn	11 46 39.0	-3.7
MEIG	**Mezcala**	**3.15**	**93**	*i* P		Pn	11 46 40.2	-2.7
MEIG				*i* S		Sn	11 47 15.8	-5.2
PLIG	**Platanillo**	**3.26**	**85**	*e*P		Pn	11 46 41.8	-2.7
PLIG				*i* S		Sn	11 47 18.1	-5.6
PPM	**Popocatepetl**	**4.18**	**77**	*e*P		Pn	11 46 54.8	-2.3
PPM				*i* S		Sn	11 47 41.8	-4.5
UTMO	**Huajuapan**	**4.88**	**93**	*i* S		Sn	11 47 59.2	-4.5

*NEIC **09** 11:55:45.2, 1754N×10348W, h17km, MD3.9(MEX), After MEX.*

MEX 09 11:55:45.2±0.8, 1754N×10348W, h17km±46km, MD3.9, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**1.93**	**88**	*i* P		Pn	11 56 14.9	-2.3
ZIIG				*i* S		Sn	11 56 36.0	-5.0
SFJM	**Santa Fe**	**2.96**	**8**	*i* P		Pn	11 56 28.2	-3.2
SFJM				*i* S		Sn	11 57 03.5	-3.0
CAIG	**El Cayaco**	**3.11**	**99**	*i* P		Pn	11 56 30.5	-3.0
CAIG				*i* S		Sn	11 57 05.6	-4.7
MEIG	**Mezcala**	**3.70**	**84**	*e*P		Pn	11 56 40.6	-1.0
MEIG				*i* S		Sn	11 57 22.2	-2.6
PLIG	**Platanillo**	**3.88**	**77**	*i* P		Pn	11 56 42.4	-1.7
PLIG				*i* S		Sn	11 57 27.4	-1.9
PPM	**Popocatepetl**	**4.86**	**71**	*i* S		Sn	11 57 53.2	-0.1
UTMO	**Huajuapan**	**5.42**	**86**	*i* S		Sn	11 58 03.6	-3.6

*NEIC **09** 13:26:28.6, 4615S×16590E

ISC 09 13:30:22.9±0.3, 3272N±002×7663E±003, h36km±4km, n130, σ1§16/162, mb4.3/40, MS3.7/6, 11C-9D,
Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**0.59**	**252**	*e*P	**Pn**	**13 30 29.0**	**-5.8**
PONG	**Pong**	**0.96**	**217**	*e*P	**Pn**	**13 30 39.0**	**-0.9**
PONG				*ex*	x	13 31 06.0	
SDNR	**Sundarnagar**	**1.25**	**167**	*e*P	**Pn**	**13 30 44.0**	**+0.1**
SDNR				*e*S	**Sn**	**13 31 00.2**	**+0.7**
BHK	**Bhakra**	**1.31**	**188**	*e*P	**Pn**	**13 30 51.8**	**+7.0**
BHK				*e*S	**Sn**	**13 31 10.1**	**+9.0**
JMU	**Jammu**	**1.46**	**270**	*e*P	**Pn**	**13 30 48.9**	**+2.1**
JMU				*ex*	x	13 31 11.0	
SMLA	**Simla**	**1.65**	**164**	*e*P	**Pn**	**13 30 49.8**	**+0.4**
SMLA				*e*P		13 30 49.9	
SMLA				*e*S	**Sn**	**13 31 12.0**	**+2.6**
SMLA				*e*S	**Sn**	**13 31 12.7**	**+3.3**
SMLA	comp=E,3μm,0.5s			AML	AML	13 31 13.9	
SMLA	comp=N,3μm,0.6s			AML	AML	13 31 14.5	
KLP	**Kalpa**	**1.81**	**130**	*e*P	**Pn**	**13 30 54.5**	**+2.8**
KLP				*e*S	**Sn**	**13 31 18.6**	**+5.2**
KLP	comp=N,4μm,0.7s			AML	AML	13 31 27.2	
KLP	comp=E,7μm,0.6s			AML	AML	13 31 27.3	
DDI	**Dehra Dun**	**2.68**	**153**	*e*P	**Pn**	**13 31 06.0**	**+2.4**
DDI				*ex*	x	13 31 48.0	
CHCP	**Chirah Chowk**	**2.98**	**289**	⇑P	**Pn**	**13 31 09.1**	**+1.5**
JOSI	**Joshimath**	**3.30**	**130**	*ex*	**Pn**	**13 31 06.2**	**-5.8**
JOSI				*ex*	x	13 31 56.9	
JOSI	comp=N,2μm,0.3s			AML	AML	13 32 02.7	
JOSI	comp=E,1μm,0.5s			AML	AML	13 32 06.6	
SARP	**Sargodha**	**3.45**	**258**	P	**Pn**	**13 31 13.9**	**-0.2**
NDI	**New Delhi**	**4.06**	**173**	*e*P	**Pn**	**13 31 22.4**	**-0.1**
NDI				*e*S	**Sn**	**13 32 08.7**	**-0.1**
CEP	**Cherat**	**4.11**	**287**	P	**Pn**	**13 31 23.3**	**+0.2**
CEP				S	**Sn**	**13 32 11.0**	**+1.1**
THW	**Thamme Wali**	**4.12**	**272**	P	**Pn**	**13 31 23.0**	**-0.3**
AYAN	**Aya Nagar**	**4.25**	**174**	*e*P	**Pn**	**13 31 26.2**	**+1.1**
AYAN				*e*S	**Sn**	**13 32 14.0**	**+0.6**
PTH	**Pithoragarh**	**4.41**	**135**	*ex*	**Pn**	**13 31 32.5**	**+5.2**
PTH				*ex*	x	13 32 41.2	
SONA	**Sohna**	**4.47**	**175**	*e*P	**Pn**	**13 31 29.3**	**+1.1**
SONA				*e*S	**Sn**	**13 32 16.5**	**-2.5**
LGTI	**Lohaghat**	**4.50**	**136**	*e*P	**Pn**	**13 31 30.0**	**+1.5**
LGTI				*ex*	x	13 32 22.5	
KUDL	**Kundal**	**4.56**	**182**	*e*P	**Pn**	**13 31 30.1**	**+0.6**
KUDL				*e*S	**Sn**	**13 32 19.8**	**-1.5**
KHET	**Khetri**	**4.69**	**189**	*e*P	**Pn**	**13 31 31.6**	**+0.5**
KHET				*e*S	**Sn**	**13 32 22.1**	**-2.2**
DRP	**Derazinda**	**5.54**	**262**	P	**Pn**	**13 31 42.7**	**-0.1**
AJM	**Ajmer**	**6.46**	**196**	*e*P	**Pn**	**13 31 55.7**	**+0.2**
AJM				*i* P		13 31 56.0	
AJM				*ex*	x	13 33 01.8	
KSH	**Kashi**	**6.80**	**356**	P	**Pn**	**13 32 03.3**	**+3.1**
KSH				S	**Sn**	**13 33 05.5**	**-11**
KSH	comp=N,113nm,0.5s			Smax			
KSH	comp=E,177nm,0.6s			Smax			
KOLN	**Koldanda**	**7.79**	**128**	*e*Pn	**Pn**	**13 32 14.5**	**+0.8**
KOLN				*e*Sn	**Sn**	**13 33 40.1**	**-0.5**
GKN	**Gorkha**	**8.36**	**122**	*e*Pn	**Pn**	**13 32 23.1**	**+1.5**
GKN				*e*Sn	**Sn**	**13 33 54.1**	**-0.6**
DMN	**Daman**	**8.93**	**123**	*e*Pn	**Pn**	**13 32 29.8**	**+0.5**
DMN				*e*Sn	**Sn**	**13 34 08.1**	**-0.5**
KKN	**Kakani**	**8.95**	**121**	*e*Pn	**Pn**	**13 32 30.4**	**+0.8**
KKN				*e*Sn	**Sn**	**13 34 08.6**	**-0.5**
PKI	**Pulchoki**	**9.17**	**122**	*e*Pn	**Pn**	**13 32 33.9**	**+1.3**
PKI				*e*Sn	**Sn**	**13 34 12.8**	**-1.7**
GUN	**Gumba**	**9.32**	**119**	*e*Pn	**Pn**	**13 32 35.9**	**+1.2**
BHPL	**Bhopal**	**9.47**	**176**	*e*P	**Pn**	**13 32 36.1**	**-0.7**
BHPL				*e*S	**Sn**	**13 34 13.9**	**-8.1**
JIRN	**Jiri**	**9.69**	**119**	*e*Pn	**Pn**	**13 32 39.9**	**+0.2**
JIRN				*e*Sn	**Sn**	**13 34 22.4**	**-4.8**
JBP	**Jabalpur**	**9.97**	**162**	⇓*i*P	**Pn**	**13 32 43.6**	**0.0**
JBP				*i* x	x	13 34 32.5	
AAK	**Ala-Archa**	**10.04**	**351**	*e*P	**Pn**	**13 32 44.3**	**-0.2**
AAK				*e*		13 34 38.4	
AAK	comp=Z,22nm,0.6s			pmax	pmax		
AAK	**Ala-Archa**	**10.04**	**351**	*e*Pn	**Pn**	**13 32 44.3**	**-0.2**
AAK	comp=Z,22nm,0.6s			*e*Sn	**Sn**	**13 34 38.4**	**+2.6**
TKM2	**Tokmak 2**	**10.21**	**356**	⇑P	**Pn**	**13 32 46.7**	**-0.3**
TKM2	comp=E,1.2nm,0.6s			⇑S	**Sn**	**13 34 35.4**	**-4.8**
TKM2	**Tokmak 2**	**10.21**	**356**	P	**Pn**	**13 32 47.8**	**+0.9**
TKM2				S	**Sn**	**13 34 38.0**	**-2.2**
TKM2	comp=Z,8.0nm,0.6s			pmax	pmax		
TKM2	comp=Z,25nm,1.4s			smax			
BHJ	**Bhuj**	**11.27**	**215**	*ex*	**Sn**	**13 35 05.5**	**-0.4**
KK31	**Karatay Array**	**11.43**	**337**	⇑P	**Pn**	**13 33 02.0**	**-1.6**
KK31	comp=Z,3.5nm,0.3s,baz=148,slow=12,SNR=8.0			⇓S	**Sn**	**13 35 03.7**	**-6.3**
KKAR	**Karatay Array**	**11.43**	**337**	P	**Pn**	**13 33 01.9**	**-1.7**
KKAR	comp=Z,18nm,0.5s,baz=166,slow=23,SNR=14			pmax	pmax		
NGP	**Nagpur**	**11.73**	**169**	*e*P	**Pn**	**13 33 05.5**	**-2.2**
NGP	comp=Z,2.0nm,0.3s			*e*S	**Sn**	**13 35 08.8**	**-8.4**
BOK	**Bokaro**	**12.06**	**135**	*ex*	**Pn**	**13 33 10.1**	**-2.2**
BOK				*e*S	**Sn**	**13 35 17.8**	**-7.6**
WMQ	**Urumqi**	**14.06**	**35**	*e*P	**Pn**	**13 33 36.2**	**-1.4**
POO	**Poona**	**14.35**	**191**	*e*P	**Pn**	**13 33 42.5**	**-1.0**
POO				*e*PP		13 33 53.5	
MK09	**Makanchi Array**	**14.68**	**15**	⇑P	**Pn**	**13 33 45.3**	**-2.7**
MKAR	**Makanchi Array**	**14.70**	**15**	Pn	**Pn**	**13 33 45.9**	**-2.4**
MKAR	comp=Z,1.1nm,0.3s,baz=196,slow=12,SNR=33			Sn	**Sn**	**13 36 25.4**	**-4.6**
SHL	**Shillong**	**15.10**	**114**	*e*P	**Pn**	**13 33 54.4**	**+0.8**
HYB	**Hyderabad**	**15.34**	**173**	*i* P	**Pn**	**13 33 52.5**	**-4.1**
HYB				*e*S	**S**	**13 36 43.0**	**-18**
HYB	**Hyderabad**	**15.34**	**173**	*e*P	**Pn**	**13 33 52.5**	**-4.1**
KAD	**Karad**	**15.51**	**189**	*ex*	**Pn**	**13 33 56.6**	**-2.2**
KAD				*ex*	S	**13 36 57.6**	**-6.6**
KURK	**Kurchatov**	**18.04**	**4**	⇑P	**Pn**	**13 34 28.5**	**-2.2**
KURK	**Kurchatov**	**18.04**	**4**	*d i*P	**Pn**	**13 34 28.5**	**-2.2**
KURK	**Kurchatov**	**18.04**	**4**	*e*Pn	**Pn**	**13 34 27.8**	**-2.9**
WSAR	**Wadi Sarin**	**18.47**	**244**	P	**Pn**	**13 34 34.3**	**-1.7**
GTA	**Gaotai**	**19.86**	**64**	⇓P	**Pn**	**13 34 52.6**	**0.0**
GTA				AP	pP	13 34 59.4	-0.8
GTA				XP	sP	13 35 02.9	-1.9
GTA	comp=Z,6.0nm,0.6s			AMB	AMB		
VOSK	**Vostochnaya**	**20.40**	**350**	⇓P	**P**	**13 34 56.7**	**0.0**
VOSK	**Vostochnaya**	**20.40**	**350**	P	**P**	**13 34 56.6**	**-0.1**
VOSK	comp=Z,1.0nm,0.5s			pmax	pmax		
AB31	**Akbulak array**	**20.70**	**328**	⇑P	**P**	**13 34 59.4**	**-0.5**
AB31	**Akbulak array**	**20.70**	**328**	*i* P	**P**	**13 34 59.0**	**-0.9**
AB31				S	**S**	**13 38 36.9**	**-12**
AB31	comp=Z,3.0nm,0.5s			pmax	pmax		
AB31	comp=Z,1.0nm,0.7s			smax			
BVA0	**Borovoye Array**	**20.79**	**349**	⇑P	**P**	**13 35 00.4**	**-0.4**
BVA0	comp=Z,1.6nm,0.7s,baz=160,slow=12,SNR=47			*i* P	**P**	**13 35 00.0**	**-0.8**
BVA0	comp=Z,1.0nm,0.7s			pmax	pmax		
BVAR	**Borovoye Array**	**20.79**	**349**	P	**P**	**13 35 00.8**	**0.0**
BRVK	**Borovoye**	**20.83**	**349**	*e*P	**P**	**13 35 00.9**	**-0.5**
BRVK	comp=Z,8.0nm,0.6s			pmax	pmax		
BRVK	**Borovoye**	**20.83**	**349**	*e*P	**P**	**13 35 00.9**	**-0.5**
ZRNK	**Zerenda**	**20.95**	**347**	⇑P	**P**	**13 35 01.9**	**-0.7**
ZRNK	**Zerenda**	**20.95**	**347**	*e*P	**P**	**13 35 02.0**	**-0.7**
ZRNK	comp=Z,8.0nm,0.6s			pmax	pmax		
ZRNK	**Zerenda**	**20.95**	**347**	*e*P	**P**	**13 35 02.0**	**-0.7**
ZAL	**Zalesovo**	**21.99**	**13**	P	**P**	**13 35 13.1**	**-0.8**
ZAL	comp=Z,4.5nm,0.4s,mb4.2,baz=263,slow=11,SNR=12			LR	LR	13 45 10.7	
AKTK	**Aktyubinsk**	**22.41**	**328**	P	**P**	**13 35 18.2**	**0.0**
AKTO	**Aktyubinsk**	**22.41**	**328**	⇑P	**P**	**13 35 17.9**	**-0.4**
AKTO	**Aktyubinsk**	**22.41**	**328**	P	**P**	**13 35 18.2**	**0.0**
AKTO	**Aktyubinsk**	**22.41**	**328**	P	**P**	**13 35 18.3**	**0.0**
AKTO	comp=Z,21nm,0.7s,mb4.7			pmax	pmax		
NVS	**Novosibirsk**	**22.60**	**10**	*e*P	**P**	**13 35 18.7**	**-1.6**
NVS				*e*S	**S**	**13 39 25.8**	**-0.1**
NVS	comp=N,13nm,1.2s			pmax	pmax		
NVS	comp=Z,13nm,1.2s,mb4.2			pmax	pmax		
NVS	comp=N,5.0nm,1.0s			smax			
NVS	comp=E,3.0nm,0.8s			smax			
LZH	**Lanzhou**	**22.67**	**74**	*e*P	**P**	**13 35 23.1**	**+2.1**
LZH				AP		13 35 30.2	
LZH				XP	sP	13 35 33.4	-1.6
LZH	comp=Z,21nm,1.3s,mb4.4			AMB	AMB		
CD2	**Chengdu**	**23.10**	**87**	P	**P**	**13 35 27.0**	**+1.4**
CD2	comp=Z,10.0nm,0.8s,mb4.3			AMB	AMB		
KMI	**Kunming**	**24.03**	**102**	P	**P**	**13 35 34.9**	**+0.4**
KMI	comp=Z,10.0nm,0.7s,mb4.3			AMB	AMB		
CHTO	**Chiang Mai**	**24.34**	**119**	*e*P	**P**	**13 35 36.1**	**-1.1**
CHTO	comp=Z,5.0nm,0.8s,mb4.0			pmax	pmax		
CHTO	**Chiang Mai**	**24.34**	**119**	*e*P	**P**	**13 35 36.0**	**-1.2**
ORR	**Orenburg**	**24.73**	**326**	*e*P	**P**	**13 35 41.7**	**+0.9**
ORR	comp=Z,10.0nm,0.9s,mb4.3			pmax	pmax		
KBD	**Kabd**	**25.04**	**270**	*e*P	**P**	**13 35 44.5**	**+0.9**
KBD	comp=Z,80nm,0.4s			AMb	AMB	13 35 46.1	
MIB	**Mutribah**	**25.18**	**271**	*e*P	**P**	**13 35 45.1**	**+0.2**
MIB	comp=Z,28nm,0.6s,mb5.0			AMb	AMB	13 35 55.3	
NAY	**Al-Naaiem**	**25.40**	**270**	*e*P	**P**	**13 35 47.7**	**+0.8**
NAY	comp=Z,7.5nm,0.7s,mb4.4			AMb	AMB	13 35 53.5	
PALK	**Pallekele**	**25.60**	**171**	*e*P	**P**	**13 35 47.6**	**-1.1**
PALK				*ep*P	pP	13 35 51.5	-7.4
ZAK	**Zakamensk**	**26.41**	**40**	*e*P	**P**	**13 35 57.1**	**+1.1**
ZAK	comp=Z,5.0nm,0.7s,mb4.2			pmax	pmax		
GNI	**Garni**	**26.61**	**295**	P	**P**	**13 35 59.0**	**+1.2**
XAN	**Xi'an**	**26.94**	**78**	P	**P**	**13 36 00.8**	**0.0**
XAN	comp=Z,4.0nm,1.0s,mb3.9			AMB	AMB		
SONM	**Songino Array**	**27.05**	**47**	P	**P**	**13 36 03.8**	**+2.0**
TLY	**Talaya**	**27.30**	**38**	*e*P	**P**	**13 36 04.7**	**+0.6**
TLY				*ep*P	pP	13 36 08.9	-5.3
ULN	**Ulaanbaatar**	**27.47**	**48**	*d i*P	**P**	**13 36 07.2**	**+1.6**
ULN	**Ulaanbaatar**	**27.47**	**48**	*e*P	**P**	**13 36 06.6**	**+1.0**
KIV	**Kislovodsk**	**28.70**	**303**	*e*P	**P**	**13 36 19.0**	**+2.4**
KIV	comp=Z,3.0nm,0.7s,mb4.1			pmax	pmax		
KIV	comp=Z,100nm,16.0s,MS3.5			MLR	MLR		
BR131	**Keskin Array S**	**35.12**	**294**	*e*P	**P**	**13 37 13.0**	**+0.2**
BRTR	**Keskin Array B**	**35.12**	**294**	P	**P**	**13 37 14.1**	**+1.3**
BRTR	comp=Z,1.7nm,0.7s,mb4.1			pmax	pmax		
OBN	**Obninsk**	**35.81**	**321**	⇓*e*P	**P**	**13 37 18.8**	**0.0**
OBN	comp=Z,16nm,0.6s,mb5.1			pmax	pmax		
SSE	**Sheshan**	**37.65**	**80**	P	**P**	**13 37 36.9**	**+2.5**
SSE	comp=Z,30nm,0.8s,mb5.1			AMB	AMB		
SSE	comp=Z,49nm,3.6s			AMB	AMB		
AKASG	**Malin Array Be**	**38.92**	**312**	P	**P**	**13 37 44.5**	**-0.7**
AKASG	**Malin Array Be**	**38.92**	**312**	*i* P	**P**	**13 37 45.7**	**+0.5**
AKASG	**Malin Array Be**	**38.92**	**312**	P	**P**	**13 37 44.5**	**-0.7**
JOF	**Joensuu**	**41.44**	**331**	*ep*	**P**	**13 38 05.6**	**-0.4**
JOF	comp=Z,16nm,0.5s,mb4.9			pmax	pmax		
JOF	**Joensuu**	**41.44**	**331**	*e*P	**P**	**13 38 05.6**	**-0.4**
JOF	comp=Z,16nm,0.5s,mb4.9			pmax	pmax		
MDJ	**Mudanjiang**	**42.34**	**58**	P	**P**	**13 38 10.6**	**-2.7**
MDJ				SCP	ScP	13 43 56.3	+2.1
MDJ				PCS	PcS	13 43 57.6	-0.7
MDJ				S	**S**	**13 44 29.8**	**-2.1**
MDJ	comp=Z,5.0nm,0.9s,mb4.1			AMB	AMB		
MDJ	comp=Z,62nm,6.8s			AMB	AMB		
MDJ	comp=N,43nm,21.9s,MS3.3			LR	LR		
MDJ	comp=E,12nm,20.2s,MS3.3			LR	LR		
MDJ	comp=Z,65nm,21.9s,MS3.5			LR	LR		
KWP	**Kalwaria**	**42.99**	**310**	*e*P	**P**	**13 38 19.1**	**+0.5**
KWP	comp=Z,7.0nm,0.9s,mb4.4			pmax	pmax		
KWP	**Kalwaria**	**42.99**	**310**	*e*P	**P**	**13 38 19.1**	**+0.4**
KWP	comp=Z,7.0nm,0.9s,mb4.4			pmax	pmax		
FINES	**FINESS Array B**	**43.19**	**327**	P	**P**	**13 38 20.5**	**+0.3**
FINES	**FINESS Array B**	**43.19**	**327**	*i* P	**P**	**13 38 20.5**	**+0.3**
FINES	comp=Z,5.0nm,0.6s			pmax	pmax		
KAF	**Kangasniemi**	**43.29**	**328**	*ep*	**P**	**13 38 21.1**	**0.0**
KAF	**Kangasniemi**	**43.29**	**328**	*e*P	**P**	**13 38 21.1**	**0.0**
KAF	comp=Z,3.0nm,0.4s,mb4.4			pmax	pmax		
YAK	**Yakutsk**	**44.49**	**33**	⇓*i*P	**P**	**13 38 30.4**	**-0.3**
YAK	comp=Z,9.0nm,0.8s,mb4.5			pmax	pmax		
YAK	comp=Z,100nm,19.0s,MS3.8			MLR	MLR		
YAK	**Yakutsk**	**44.49**	**33**	*e*P	**P**	**13 38 30.6**	**-0.1**
ARCES	**ARCESS Array B**	**46.40**	**338**	P	**P**	**13 38 46.0**	**+0.3**
MAJO	**Matsushiro**	**50.05**	**67**	*e*P	**P**	**13 39 12.2**	**-1.8**
MAJO	comp=Z,4.0nm,0.7s,mb4.6			pmax	pmax		
MAJO	**Matsushiro**	**50.05**	**67**	*e*P	**P**	**13 39 12.2**	**-1.8**
MJAR	**Matsushiro Arr**	**50.05**	**67**	P	**P**	**13 39 14.2**	**+0.2**
NB2	**NORSAR Subarra**	**50.16**	**325**	P	**P**	**13 39 14.3**	**-0.5**
NOA	**NORSAR Array B**	**50.16**	**325**	P	**P**	**13 39 14.7**	**-0.1**
BILL	**Bilibino**	**59.97**	**26**	⇓*i*P	**P**	**13 40 26.4**	**+0.8**
BILL	comp=Z,6.0nm,1.0s,mb4.6			pmax	pmax		
TORD	**Torodi Ar. Bea**	**70.43**	**273**	P	**P**	**13 41 32.4**	**-1.1**
WRA	**Warramunga Arr**	**76.04**	**125**	P	**P**	**13 42 06.4**	**-0.1**
WRAB	**Tennant Creek**	**76.04**	**125**	*e*P	**P**	**13 42 06.8**	**+0.3**
WRAB	comp=Z,13nm,1.2s,mb4.7			pmax	pmax		
WRAB	**Tennant Creek**	**76.04**	**125**	*e*P	**P**	**13 42 06.8**	**+0.3**
WB2	**Warramunga Arr**	**76.05**	**125**	*e*P	**P**	**13 42 06.8**	**+0.2**
COLA	**College**	**76.72**	**18**	⇑*i*P	**P**	**13 42 10.8**	**+0.4**
INK	**Inuvik**	**76.80**	**11**	*e*P	**P**	**13 42 10.1**	**-0.7**
INK	comp=Z,3.0nm,0.8s			pmax	pmax		
INK	**Inuvik**	**76.80**	**11**	*e*P	**P**	**13 42 10.1**	**-0.7**
ILAR	**Eielson Array**	**77.05**	**18**	P	**P**	**13 42 11.9**	**-0.3**
ILAR				LR	LR	14 21 30.1	
ASAR	**Alice Springs**	**78.28**	**128**	P	**P**	**13 42 19.1**	**0.0**
YKA	**Yellowknife Ar**	**84.69**	**5**	P	**P**	**13 42 52.8**	**-0.1**
YKA	**Yellowknife Ar**	**84.69**	**5**	*i* P	**P**	**13 42 52.7**	**-0.3**
YKA	comp=Z,2.0nm,0.6s			pmax	pmax		
SCHQ	**Schefferville**	**87.31**	**340**	P	**P**	**13 43 06.6**	**+0.7**

*ISCJB **09** 13:55:46.1±0.4, 41.19N±002×2303E±004, h15km±4km,*
Error ellipse: s-maj=5.0km s-min=3.7km az=135.2
*SKO **09** 13:55:46.0, 41.10N×2304E, h15km, ML2.2*
*CSEM **09** 13:55:47.4±0.1, 4120N×2303E, h5km, ML2.9*
*THE **09** 13:55:47.9, 41.15N×2302E, h7km, ML2.9*
*ATH **09** 13:55:51.0, 4099N×2350E, h10km, MD3.2/3*

ISC 09 13:55:46.8±0.4, 4118N±002×2302E±003, h17km±4km, n18,
σ0§81/32, 2C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.10**	**260**	*e*Pg	**Pg**	**13 55 49.8**	**-0.5**
KNT				*e*Sg	**Sg**	**13 55 51.7**	**-0.9**
VAY	**Valandovo**	**0.37**	**293**	⇑*i*Pg	**Pg**	**13 55 54.4**	**-0.1**
VAY	**Valandovo**	**0.37**	**293**	⇑*i*Pg	**Pg**	**13 55 54.3**	**-0.2**
SOH	**Sokhos**	**0.44**	**145**	*e*Pg	**Pg**	**13 55 55.5**	**-0.2**
SOH				*e*Sg	**Sg**	**13 56 01.4**	**-0.2**
GRG	**Griva**	**0.52**	**245**	*e*Pg	**Pg**	**13 55 57.7**	**+0.5**
GRG				*e*Sg	**Sg**	**13 56 05.0**	**+0.8**
THE	**Thessaloniki**	**0.55**	**185**	*e*Pg	**Pg**	**13 55 57.8**	**+0.1**
THE				*e*Sg	**Sg**	**13 56 05.3**	**+0.2**
NVR	**Nevrokopi**	**0.66**	**75**	*e*Pn	**Pn**	**13 55 59.8**	**-1.5**
NVR				*e*Sn	**Sg**	**13 56 09.0**	**+0.5**
STIP	**Stip**	**0.81**	**310**	*e*Pg	**Pg**	**13 56 02.8**	**+0.1**
STIP				*e*Sg	**Sg**	**13 56 13.6**	**+0.2**
STIP	comp=E,0.0nm,0.2s			*e*Lg		13 56 14.8	
STIP	comp=N,0.0nm,0.3s			*e*Lg		13 56 15.3	
STIP	**Stip**	**0.81**	**310**	*e*Pg	**Pg**	**13 56 02.7**	**0.0**
STIP				*e*Sg	**Sg**	**13 56 13.5**	**+0.1**
PLG	**Polygyros**	**0.86**	**158**	*e*PB	**Pb**	**13 56 02.3**	**-1.1**
OUR	**Ouranopolis**	**1.11**	**139**	*e*Pg	**Pg**	**13 56 08.5**	**+0.1**
OUR				*e*Sg	**Sg**	**13 56 24.3**	**+1.3**
LIT	**Litokhoron**	**1.15**	**201**	*e*Pg	**Pg**	**13 56 08.4**	**-0.7**
LIT				*e*Sg	**Sg**	**13 56 25.4**	**+1.3**
FNA	**Florina**	**1.31**	**253**	*e*Pg	**Pg**	**13 56 11.9**	**-0.2**
FNA				*e*Sg	**Sg**	**13 56 29.5**	**+0.4**
PAIG	**Paliouri**	**1.35**	**158**	*e*Pg	**Pg**	**13 56 12.0**	**-0.8**
PAIG				*e*Sg	**Sg**	**13 56 30.4**	**0.0**
VTS	**Vitosha**	**1.42**	**6**	*e*Pg	**Pg**	**13 56 14.4**	**+0.2**
VTS				*e*Sg	**Sg**	**13 56 33.1**	**+0.4**
XOR	**Xorichti**	**1.81**	**176**	*e*Pb	**Pb**	**13 56 18.5**	**-1.1**
XOR				*e*Sb	**Sb**	**13 56 41.6**	**-0.4**
RDO	**Rodhopi**	**1.90**	**90**	*e*PB	**Pb**	**13 56 20.1**	**-0.9**
ALN	**Alexandroupoli**	**2.31**	**96**	*e*Pn	**Pn**	**13 56 25.7**	**+1.7**
ALN				*e*Sn	**Sn**	**13 56 55.4**	**+3.5**

*ISCJB **09** 14:02:40.5±0.5, 5959N±005×2244E±005, h0km, Error ellipse: s-maj=6.9km s-min=3.5km az=149.5*
*IDC **09** 14:02:41.6±2.0, 5960N×2256E, h0km, mb1 3.0/4, mb1mx2.8/21, mbtmp2.9/4, ML2.9/3, Error ellipse: s-maj=26.2km s-min=7.2km az=155.0*
*HEL **09** 14:02:41.8±0.2, 5957N×2239E, h0km, ML2.2, ML2.3(UPP), ML2.1(NAO), Explosion*
*NAO **09** 14:02:42.1±1.3, 5965N×2256E, ML2.1*
*BER **09** 14:02:43.3±4.2, 5968N×2254E, h0km, ML2.1(NAO), Suspected explosion*

ISC 09 14:02:41.3±0.5, 5958N±005×2244E±005, h0km, n34,
σ1§22/42, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**1.17**	**56**	*e*P	**Pg**	**14 03 03.0**	**-0.7**
MEF				*e*S	**Sg**	**14 03 18.5**	**-0.5**
AAL	**Aland**	**1.37**	**297**	*e*P	**Pg**	**14 03 05.3**	**-2.3**
NRTU	**Norrtaelje**	**1.94**	**274**	*e*P	**Pn**	**14 03 15.2**	**-0.3**
GRAU	**Graesoe**	**2.10**	**293**	*e*P	**Pn**	**14 03 16.9**	**-0.8**
FORU	**Forsmark**	**2.29**	**292**	*e*P	**Pn**	**14 03 20.2**	**-0.1**
NYNU	**Nynaeshamn**	**2.35**	**258**	*e*P	**Pn**	**14 03 22.9**	**+1.8**
FLYU	**Flymyra**	**2.37**	**285**	*e*P	**Pn**	**14 03 21.0**	**-0.3**
VSU	**Vasula**	**2.49**	**115**	Lg		14 03 59.8	
VSU	**Vasula**	**2.49**	**115**	*e*P	**Pn**	**14 03 22.6**	**-0.4**
VSU				*e*S	**Sn**	**14 03 52.3**	**-1.8**
VSU	**Vasula**	**2.49**	**115**	Lg		14 03 59.8	
FIA0	**FINESS Array S**	**2.59**	**42**	*e*P	**Pn**	**14 03 26.2**	**+1.7**
FIA0				*e*S	**Sn**	**14 03 57.2**	**+0.6**
FIA0	comp=Z,12nm,0.2s			MSG		14 04 03.1	
FIA0	**FINESS Array S**	**2.59**	**42**	Pn	**Pn**	**14 03 25.7**	**+1.3**
FIA0	baz=229,slow=14			Lg		14 03 59.5	
FINES	**FINESS Array B**	**2.59**	**42**	Pn	**Pn**	**14 03 25.7**	**+1.3**
FINES	comp=Z,1.0nm,0.3s,baz=235,slow=13,SNR=20			Lg		14 03 59.5	
VJF	**Virojoki**	**2.74**	**67**	*e*P	**Pn**	**14 03 27.4**	**+1.0**
VJF				*e*S	**Sn**	**14 03 59.7**	**-0.5**
VJF	comp=Z,9.8nm,0.2s			MSG		14 04 11.8	
OSTU	**Oestervaala**	**2.75**	**286**	*e*P	**Pn**	**14 03 26.6**	**-0.1**
GOTU	**Gotland**	**2.78**	**228**	*e*P	**Pn**	**14 03 28.6**	**+1.6**
IGGU	**Iggoen**	**2.87**	**299**	*e*P	**Pn**	**14 03 27.9**	**-0.3**
ESKU	**Eskilstuna**	**3.11**	**266**	*e*P	**Pn**	**14 03 32.0**	**+0.4**
KAF	**Kangasniemi**	**3.17**	**35**	*e*P	**Pn**	**14 03 34.6**	**+2.3**
KAF				*e*S	**Sn**	**14 04 11.5**	**+0.7**
KAF	comp=Z,5.0nm,0.2s			MSG		14 04 23.9	
ARNU	**Arnoeviken**	**3.27**	**312**	*e*P	**Pn**	**14 03 33.7**	**-0.1**
FALU	**Falun**	**3.44**	**288**	*e*P	**Pn**	**14 03 36.4**	**+0.2**
VAF	**Ylistaro**	**3.47**	**2**	*e*P	**Pn**	**14 03 40.0**	**+3.4**
VAF				*e*S	**Sn**	**14 04 19.8**	**+1.4**
VAF	comp=Z,3.8nm,0.2s			MSG		14 04 35.4	
VSTU	**Vaestervik**	**3.64**	**241**	*e*P	**Pn**	**14 03 40.4**	**+1.5**
HASU	**Hassela**	**3.84**	**315**	*e*P	**Pn**	**14 03 41.8**	**+0.2**
HFS	**Hagfors**	**4.45**	**281**	Pn	**Pn**	**14 03 49.8**	**-0.1**
HFS	baz=110,slow=14			Sn	**Sn**	**14 04 42.9**	**+0.5**
HFS	baz=101,slow=37						
HFS	**Hagfors**	**4.45**	**281**	*e*P	**Pn**	**14 03 49.8**	**-0.1**
HFS				*e*S	**Sn**	**14 04 42.9**	**+0.5**
HFS	**Hagfors**	**4.45**	**281**	Pn	**Pn**	**14 03 49.8**	**-0.2**
HFS	comp=Z,0.1nm,0.3s,baz=115,slow=12,SNR=17			Sn	**Sn**	**14 04 41.8**	**-0.6**
HFS	comp=Z,0.3nm,0.3s,baz=113,slow=33,SNR=3.4			Lg		14 04 53.9	
NB2	**NORSAR Subarra**	**5.77**	**289**	Pn	**Pn**	**14 04 06.2**	**-2.0**
NB2	**NORSAR Subarra**	**5.77**	**289**	*e*P	**Pn**

comp=Z,0.3nm,0.3s,baz=268,slow=5.8,SNR=2.3
NOA Lg 14 05 37.8
comp=Z,0.5nm,0.3s,baz=100,slow=19,SNR=3.7
AKASG Malin Array Be 9.71 154 Lg 14 07 45.3
comp=Z,0.5nm,0.3s,baz=71,slow=28,SNR=4.7
ARA0 ARCESS Array S 10.08 6 Pn **Pn 14 05 04.4 -2.9**
baz=193,slow=12
ARA0 ARCESS Array S 10.08 6 *eP* **Pn 14 05 04.4 -2.9**
ARCES ARCESS Array B 10.08 6 Pn **Pn 14 05 04.5 -2.7**
comp=Z,0.1nm,0.3s,baz=180,slow=13,SNR=14
ARCES Sn **Sn 14 06 53.9 -7.1**
comp=Z,0.1nm,0.3s,baz=190,slow=24,SNR=2.8

*ISCJB **09** 14:07:53.8±0.5, 3758S×004×17679E×007, h255km±3km, mb4.0/10, Error ellipse: s-maj=9.5km s-min=6.3km az=174.8*
*IDC **09** 14:07:53.9±0.9, 3777S×17684E, h245km±8km, mb3.9/5, mb1 4.0/6, mb1mx3.8/13, mbtmp4.5/6, Error ellipse: s-maj=33.8km s-min=20.9km az=137.0*
*NEIC **09** 14:07:55.1, 3744S×17684E, h243km, mb4.3/5, After WEL.*
*WEL **09** 14:07:55.6±0.3, 3742S×17683E, h238km±2km, ML5.0/22, Error ellipse: s-maj=1.9km s-min=1.9km az=90.0*

ISC 09 14:07:54.8±0.5, 3759S×004×17679E×007, h249km±3km, n146, σ1$09/154, mb4.1/10, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MARZ	**Manawahe**	**0.40**	**193**	P		**Pn**	**14 08 27.3**	**0.0**
MARZ				SN		**S**	**14 08 52.0**	**-0.8**
MARZ	**Manawahe**	**0.40**	**193**	P		**Pn**	**14 08 27.4**	**+0.1**
TGRZ	**Tauranga**	**0.45**	**252**	PN		**Pn**	**14 08 27.2**	**-0.2**
TGRZ				SN		**S**	**14 08 52.1**	**-1.0**
TGRZ	**Tauranga**	**0.45**	**252**	P		**Pn**	**14 08 27.2**	**-0.2**
TGRZ				S		**S**	**14 08 52.6**	**-0.4**
EDRZ	**Edgecumbe**	**0.52**	**185**	PN		**Pn**	**14 08 27.9**	**+0.3**
MYRZ	**Mayor Island**	**0.54**	**305**	PN		**Pn**	**14 08 27.0**	**-0.6**
TAZ	**Tarawera**	**0.68**	**199**	PN		**Pn**	**14 08 28.8**	**+0.6**
TAZ	**Tarawera**	**0.68**	**199**	P		**Pn**	**14 08 28.9**	**+0.7**
URZ	**Urewera**	**0.71**	**159**	P		**Pn**	**14 08 28.1**	**-0.2**
	681nm,0.3s,baz=274,slow=2.4,SNR=4410							
URZ				S		**S**	**14 08 52.5**	**-2.2**
	605nm,0.3s,baz=109,slow=19,SNR=62							
URZ	**Urewera**	**0.71**	**159**	PN		**Pn**	**14 08 28.2**	**-0.1**
URZ				SN		**S**	**14 08 52.5**	**-2.1**
URZ	**Urewera**	**0.71**	**159**	P		**Pn**	**14 08 28.2**	**-0.1**
UTU	**Utuhina**	**0.75**	**219**	PN		**Pn**	**14 08 29.1**	**+0.7**
UTU	**Utuhina**	**0.75**	**219**	P		**Pn**	**14 08 29.3**	**+0.8**
PATZ	**Paeroa**	**0.89**	**208**	PN		**Pn**	**14 08 30.0**	**+0.9**
PATZ	**Paeroa**	**0.89**	**208**	P		**Pn**	**14 08 30.1**	**+1.0**
MWZ	**Matawai**	**0.94**	**142**	PN		**Pn**	**14 08 29.6**	**+0.3**
MWZ				SN		**S**	**14 08 55.4**	**-1.2**
MWZ	**Matawai**	**0.94**	**142**	P		**Pn**	**14 08 29.7**	**+0.3**
TOZ	**Tahuroa Road**	**1.03**	**262**	PN		**Pn**	**14 08 30.1**	**+0.2**
TOZ	**Tahuroa Road**	**1.03**	**262**	P		**Pn**	**14 08 30.1**	**+0.2**
KUZ	**Kuaotunu**	**1.20**	**314**	PN		**Pn**	**14 08 29.4**	**-1.5**
MXZ	**Matakaoa Point**	**1.20**	**89**	PN		**Pn**	**14 08 30.4**	**-0.5**
MXZ				SN		**S**	**14 08 57.1**	**-2.3**
MXZ	**Matakaoa Point**	**1.20**	**89**	P		**Pn**	**14 08 30.5**	**-0.4**
PUZ	**Puketiti**	**1.25**	**113**	PN		**Pn**	**14 08 31.5**	**+0.3**
PUZ				SN		**S**	**14 08 57.9**	**-2.0**
PUZ	**Puketiti**	**1.25**	**113**	P		**Pn**	**14 08 31.6**	**+0.4**
PUZ				S		**S**	**14 08 58.3**	**-1.6**
WHTZ	**Whakaora**	**1.26**	**211**	PN		**Pn**	**14 08 32.2**	**+1.0**
WHTZ	**Whakaora**	**1.26**	**211**	P		**Pn**	**14 08 31.9**	**+0.6**
MKAZ	**Moumakai**	**1.38**	**290**	PN		**Pn**	**14 08 31.6**	**-0.5**
MKAZ	**Moumakai**	**1.38**	**290**	P		**Pn**	**14 08 31.7**	**-0.4**
WATZ	**Wairara**	**1.39**	**217**	PN		**Pn**	**14 08 33.1**	**+0.9**
WATZ	**Wairara**	**1.39**	**217**	P		**Pn**	**14 08 33.3**	**+1.1**
HATZ	**Hinemaiaia**	**1.41**	**203**	PN		**Pn**	**14 08 33.0**	**+0.7**
HATZ	**Hinemaiaia**	**1.41**	**203**	P		**Pn**	**14 08 33.2**	**+0.9**
RATZ	**Rangitukua**	**1.51**	**212**	PN		**Pn**	**14 08 34.0**	**+0.9**
RATZ	**Rangitukua**	**1.51**	**212**	P		**Pn**	**14 08 34.0**	**+1.0**
RITZ	**Rihia Road**	**1.57**	**208**	PN		**Pn**	**14 08 34.7**	**+1.2**
RITZ	**Rihia Road**	**1.57**	**208**	P		**Pn**	**14 08 34.8**	**+1.3**
KNZ	**Kokohu**	**1.59**	**154**	PN		**Pn**	**14 08 34.7**	**+1.1**
KNZ				SN		**S**	**14 09 04.3**	**0.0**
KNZ	**Kokohu**	**1.59**	**154**	P		**Pn**	**14 08 34.8**	**+1.2**
BKZ	**Black Stump Fm**	**1.59**	**188**	PN		**Pn**	**14 08 34.5**	**+0.9**
BKZ	**Black Stump Fm**	**1.59**	**188**	P		**Pn**	**14 08 34.6**	**+0.9**
KATZ	**Kakaramea**	**1.63**	**212**	PN		**Pn**	**14 08 35.0**	**+1.0**
KATZ	**Kakaramea**	**1.63**	**212**	P		**Pn**	**14 08 35.0**	**+1.0**
MTAZ	**Motutapu**	**1.71**	**298**	PN		**Pn**	**14 08 33.9**	**-0.7**
MTAZ	**Motutapu**	**1.71**	**298**	P		**Pn**	**14 08 33.9**	**-0.7**
KRVZ	**Karewarewa**	**1.75**	**211**	PN		**Pn**	**14 08 36.0**	**+1.0**
HIZ	**Hauiti**	**1.79**	**238**	PN		**Pn**	**14 08 36.7**	**+1.4**
HIZ	**Hauiti**	**1.79**	**238**	P		**Pn**	**14 08 36.7**	**+1.4**
WTVZ	**West Tongariro**	**1.79**	**212**	PN		**Pn**	**14 08 36.3**	**+1.0**
OTVZ	**Oturere**	**1.80**	**209**	PN		**Pn**	**14 08 36.6**	**+1.2**
TWVZ	**Taurewa**	**1.82**	**215**	PN		**Pn**	**14 08 36.6**	**+1.0**
TWVZ	**Taurewa**	**1.82**	**215**	P		**Pn**	**14 08 36.6**	**+1.0**
KAAZ	**Kauri Point**	**1.84**	**294**	PN		**Pn**	**14 08 35.0**	**-0.7**
KAAZ	**Kauri Point**	**1.84**	**294**	P		**Pn**	**14 08 35.0**	**-0.7**
NGZ	**Ngauruhoe**	**1.84**	**210**	PN		**Pn**	**14 08 36.7**	**+1.0**
NGZ	**Ngauruhoe**	**1.84**	**210**	P		**Pn**	**14 08 36.7**	**+1.0**
WPVZ	**Whakapapa**	**1.89**	**211**	PN		**Pn**	**14 08 37.1**	**+1.0**
WPVZ	**Whakapapa**	**1.89**	**211**	P		**Pn**	**14 08 37.1**	**+1.0**
WTAZ	**Waiatarua**	**1.89**	**290**	PN		**Pn**	**14 08 35.7**	**-0.5**
WTAZ	**Waiatarua**	**1.89**	**290**	P		**Pn**	**14 08 35.7**	**-0.5**
TUVZ	**Tukino**	**1.90**	**208**	PN		**Pn**	**14 08 37.5**	**+1.2**
TUVZ	**Tukino**	**1.90**	**208**	P		**Pn**	**14 08 37.5**	**+1.3**
FWVZ	**Far West T-bar**	**1.93**	**210**	PN		**Pn**	**14 08 37.3**	**+0.9**
DRZ	**Dome Shelter**	**1.94**	**209**	P		**Pn**	**14 08 38.1**	**+1.5**
TRVZ	**Turoa**	**1.96**	**209**	PN		**Pn**	**14 08 38.2**	**+1.3**
WNVZ	**Wahianoa**	**1.97**	**208**	PN		**Pn**	**14 08 38.0**	**+1.1**
WNVZ	**Wahianoa**	**1.97**	**208**	P		**Pn**	**14 08 38.0**	**+1.1**
MOVZ	**Moawhango**	**1.99**	**204**	PN		**Pn**	**14 08 37.7**	**+0.7**
MOVZ	**Moawhango**	**1.99**	**204**	P		**Pn**	**14 08 37.7**	**+0.7**
PKVZ	**Pokaka**	**2.04**	**213**	PN		**Pn**	**14 08 38.5**	**+1.0**
MTVZ	**Mangateitei**	**2.07**	**210**	PN		**Pn**	**14 08 38.8**	**+1.0**
VRZ	**Vera Road**	**2.21**	**226**	PN		**Pn**	**14 08 40.5**	**+1.4**
VRZ	**Vera Road**	**2.21**	**226**	P		**Pn**	**14 08 40.5**	**+1.4**
PXZ	**Pawanui**	**2.44**	**179**	PN		**Pn**	**14 08 42.2**	**+0.9**
RAZ	**Rainy Point**	**2.53**	**227**	P		**Pn**	**14 08 43.9**	**+1.6**
TSZ	**Takapari Road**	**2.55**	**195**	PN		**Pn**	**14 08 43.1**	**+0.7**
TSZ	**Takapari Road**	**2.55**	**195**	P		**Pn**	**14 08 43.1**	**+0.7**
WCZ	**Waipu Caves**	**2.57**	**309**	PN		**Pn**	**14 08 41.2**	**-1.4**
WCZ	**Waipu Caves**	**2.57**	**309**	P		**Pn**	**14 08 41.2**	**-1.4**
WAZ	**Wanganui**	**2.58**	**213**	PN		**Pn**	**14 08 43.5**	**+0.7**
WAZ	**Wanganui**	**2.58**	**213**	P		**Pn**	**14 08 43.6**	**+0.8**
NEZ	**North Egmont**	**2.70**	**231**	PN		**Pn**	**14 08 45.9**	**+1.9**
NEZ	**North Egmont**	**2.70**	**231**	P		**Pn**	**14 08 45.9**	**+1.9**
PKE	**Pukeiti**	**2.72**	**233**	PN		**Pn**	**14 08 45.9**	**+1.6**
PKE	**Pukeiti**	**2.72**	**233**	P		**Pn**	**14 08 45.9**	**+1.7**
NRZ	**Ngariki Road**	**2.84**	**231**	P		**Pn**	**14 08 46.8**	**+1.3**
NWEZ	**Newall Road**	**2.85**	**233**	PN		**Pn**	**14 08 47.0**	**+1.4**
NWEZ	**Newall Road**	**2.85**	**233**	P		**Pn**	**14 08 47.1**	**+1.6**
BFZ	**Birch Farm**	**3.11**	**188**	PN		**Pn**	**14 08 48.9**	**+0.5**
BFZ	**Birch Farm**	**3.11**	**188**	P		**Pn**	**14 08 49.0**	**+0.6**
MRZ	**Mangatainoka R**	**3.21**	**197**	PN		**Pn**	**14 08 49.4**	**0.0**
MRZ	**Mangatainoka R**	**3.21**	**197**	P		**Pn**	**14 08 49.6**	**+0.2**
TIWZ	**Tintock**	**3.26**	**192**	PN		**Pn**	**14 08 50.3**	**+0.3**
OUZ	**Omahuta**	**3.50**	**312**	PN		**Pn**	**14 08 50.5**	**-2.2**
OUZ	**Omahuta**	**3.50**	**312**	P		**Pn**	**14 08 50.5**	**-2.2**
KIW	**Kapiti Island**	**3.58**	**204**	PN		**Pn**	**14 08 53.3**	**-0.3**
KIW	**Kapiti Island**	**3.58**	**204**	P		**Pn**	**14 08 52.5**	**-1.1**
MTW	**Mount Morrison**	**3.70**	**195**	P		**Pn**	**14 08 54.6**	**-0.4**
CAW	**Cannon Point**	**3.76**	**200**	P		**Pn**	**14 08 55.4**	**-0.3**
PAWZ	**Paruwai Farm**	**3.93**	**195**	P		**Pn**	**14 08 57.3**	**-0.4**
MRW	**Makara Radio**	**3.98**	**203**	P		**Pn**	**14 08 56.8**	**-1.4**
MSWZ	**Moikau Station**	**4.00**	**197**	SN		**S**	**14 09 47.6**	**-1.5**
MSWZ	**Moikau Station**	**4.00**	**197**	P		**Pn**	**14 08 58.0**	**-0.5**
MSWZ				S		**S**	**14 09 47.6**	**-1.5**
WEL	**Wellington**	**4.01**	**202**	P		**Pn**	**14 08 58.3**	**-0.3**
SNZO	**South Karori**	**4.05**	**203**	P		**Pn**	**14 08 58.5**	**-0.6**
BHW	**Baring Head**	**4.09**	**201**	P		**Pn**	**14 08 58.1**	**-1.5**
TCW	**Tory Channel**	**4.11**	**208**	P		**Pn**	**14 08 58.3**	**-1.5**
NNZ	**Nelson**	**4.48**	**215**	*eP*		**Pn**	**14 09 03.2**	**-1.0**
CMWZ	**Cape Campbell**	**4.60**	**205**	P		**Pn**	**14 09 06.1**	**+0.4**
QRZ	**Quartz Range**	**4.63**	**224**	*eP*		**Pn**	**14 09 04.2**	**-1.8**
BSWZ	**Blackbirch Sta**	**4.69**	**208**	P		**Pn**	**14 09 06.3**	**-0.5**
THZ	**Tophouse**	**5.13**	**215**	*eP*		**Pn**	**14 09 10.7**	**-1.4**
KHZ	**Kahutara**	**5.43**	**206**	*eP*		**Pn**	**14 09 15.5**	**-0.2**
DSZ	**Denniston Nort**	**5.66**	**221**	*eP*		**Pn**	**14 09 16.4**	**-2.2**
LTZ	**Lake Taylor**	**6.23**	**212**	*eP*		**Pn**	**14 09 23.9**	**-1.9**
CRLZ	**Canterbury Las**	**6.77**	**207**	*eP*		**Pn**	**14 09 31.3**	**-1.2**
MQZ	**McQueen's Vall**	**6.87**	**206**	*eP*		**Pn**	**14 09 32.2**	**-1.6**
WVZ	**Waitaha Valley**	**7.17**	**218**	*eP*		**Pn**	**14 09 36.2**	**-1.3**
RPZ	**Rata Peaks**	**7.51**	**214**	P		**Pn**	**14 09 40.8**	**-1.1**
	4.2nm,0.3s,baz=42,slow=1.9,SNR=54							
RPZ				S		**S**	**14 11 02.1**	**-5.9**
	8.2nm,0.3s,baz=301,slow=4.7,SNR=17							
RPZ	**Rata Peaks**	**7.51**	**214**	*eP*		**Pn**	**14 09 40.8**	**-1.0**
FOZ	**Fox Glacier**	**8.05**	**220**	*eP*		**Pn**	**14 09 45.9**	**-2.7**
LBZ	**Lake Benmore**	**8.43**	**214**	*eP*		**Pn**	**14 09 52.5**	**-0.9**
ODZ	**Otahua Downs**	**8.76**	**210**	*eP*		**Pn**	**14 09 57.8**	**+0.1**
JCZ	**Jackson Bay**	**8.88**	**221**	*eP*		**Pn**	**14 09 57.3**	**-1.9**
WKZ	**Wanaka**	**9.30**	**217**	*eP*		**Pn**	**14 10 02.9**	**-1.6**
STKA	**Stephens Creek**	**29.37**	**271**	P		**P**	**14 13 34.8**	**0.0**
	4.3nm,0.6s,mb4.3,baz=113,slow=8.7,SNR=7.7							
STKA	**Stephens Creek**	**29.37**	**271**	*eP*		**P**	**14 13 34.3**	**-0.4**
CTA	**Charters Tower**	**31.74**	**295**	*eP*		**P**	**14 13 56.1**	**+0.6**
	2.4nm,0.5s,mb4.0,baz=172,slow=7.1,SNR=4.5							
CTAO	**Charters Tower**	**31.74**	**295**	*eP*		**P**	**14 13 56.3**	**+0.7**
ASAR	**Alice Springs**	**39.10**	**278**	P		**P**	**14 14 58.4**	**+0.4**
	5.7nm,0.7s,mb4.2,baz=125,slow=8.0,SNR=194							
FORT	**Forrest**	**40.52**	**265**	*eP*		**P**	**14 15 10.3**	**+0.6**
	6.7nm,0.4s,mb4.5							
VNDA	**Vanda**	**40.55**	**185**	P		**P**	**14 15 14.9**	**+4.9**
SBA	**Scott Base**	**40.59**	**183**	*eP*		**P**	**14 15 15.5**	**+5.2**
	1.0nm,0.6s,mb3.4							
WB2	**Warramunga Arr**	**40.76**	**283**	*eP*		**P**	**14 15 11.4**	**-0.3**
WRAB	**Tennant Creek**	**40.77**	**284**	*eP*		**P**	**14 15 11.2**	**-0.5**
	5.2nm,0.5s,mb4.2							
WRA	**Warramunga Arr**	**40.77**	**283**	P		**P**	**14 15 11.5**	**-0.2**
	3.2nm,0.5s,mb4.0,baz=121,slow=7.7,SNR=85							
KLBR	**Kellerberrin**	**48.29**	**259**	*eP*		**P**	**14 16 11.2**	**+0.2**
	28nm,1.3s,mb4.4							
FITZ	**Fitzroy Crossi**	**48.59**	**279**	*eP*		**P**	**14 16 13.6**	**+0.4**
	8.4nm,0.8s,mb4.1							
FITZ	**Fitzroy Crossi**	**48.59**	**279**	P		**P**	**14 16 13.8**	**+0.5**
	4.0nm,0.5s,mb4.0,baz=167,slow=8.2,SNR=32							
QSPA	**South Pole Qui**	**52.53**	**180**	*eP*		**P**	**14 16 46.6**	**+4.0**
	5.3nm,0.6s,mb4.2							
VNA3	**Neumayer Olymp**	**71.37**	**178**	*e*		**P**	**14 18 48.7**	**+1.0**
VNA3				*e*			14 18 50.4	
VNA3				*e*			14 18 53.1	
VNA2	**Neumayer--Watz**	**71.75**	**179**	*e*		**P**	**14 18 51.3**	**+1.4**
	baz=185,slow=5.4							
VNA2				*e*			14 18 53.0	
VNA2				*e*			14 18 55.7	
VNA1	**Neumayer--Stat**	**72.00**	**178**	*e*		**P**	**14 18 46.1**	**-5.3**
VNA1				*e*			14 18 48.0	
VNA1				*e*			14 18 51.3	
ARCES	**ARCESS Array B**	**144.46**	**343**	PKP		PKPdf	14 26 57.7	-3.6
	2.1nm,0.9s,baz=44,slow=3.7,SNR=8.0							
ARCES	**ARCESS Array B**	**144.46**	**343**	PKP		PKPdf	14 26 57.7	-3.6
FINES	**FINESS Array B**	**149.96**	**332**	PKPbc		PKPbc	14 27 14.3	-1.2
	0.6nm,0.4s,baz=72,slow=4.5,SNR=2.8							
FINES	**FINESS Array B**	**149.96**	**332**	PKPbc		PKPbc	14 27 14.3	-1.2

*ISCJB **09** 14:12:27.7±0.9, 5951N±008×2245E±008, h0km, Error ellipse: s-maj=12.3km s-min=4.1km az=141.2*
*HEL **09** 14:12:29.1±0.5, 5951N×2239E, h0km, ML1.7, ML2.0(UPP), Explosion*
*IDC **09** 14:12:31.5±2.0, 5986N×2234E, h0km, mb1 2.8/4, mb1mx2.7/21, mbtmp2.7/4, ML2.5/4, Error ellipse: s-maj=28.2km s-min=6.5km az=161.0*

ISC 09 14:12:28.3±0.9, 5948N±008×2245E±008, h0km, n19, σ1$21/27, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MEF	**Metsahovi**	**1.23**	**52**	*eP*		**Pg**	**14 12 50.7**	**-1.2**
MEF				*eS*		**Sg**	**14 13 06.5**	**-1.3**
AAL	**Aland**	**1.43**	**300**	*eP*		**Pn**	**14 12 52.6**	**-2.8**
NRTU	**Norrtaelje**	**1.96**	**277**	*eP*		**Pn**	**14 13 02.5**	**-0.2**
GRAU	**Graesoe**	**2.15**	**295**	*eP*		**Pn**	**14 13 04.8**	**-0.7**
NYNU	**Nynaeshamn**	**2.33**	**260**	*eP*		**Pn**	**14 13 09.3**	**+1.4**
FLYU	**Flymyra**	**2.40**	**288**	*eP*		**Pn**	**14 13 09.6**	**+0.8**
FIA0	**FINESS Array S**	**2.67**	**41**	*eP*		**Pn**	**14 13 13.8**	**+1.3**
FIA0				*eS*		**Sn**	**14 13 46.0**	**+0.5**
FIA0				MSG			14 13 50.0	
	comp=Z,2.4nm,0.1s							
FINES	**FINESS Array B**	**2.67**	**41**	Pn		**Pn**	**14 13 13.7**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=232,slow=13,SNR=17							
FINES				Lg			14 13 46.9	
	comp=Z,1.5nm,0.3s,baz=230,slow=24,SNR=17							
BACU	**Backbrunna**	**2.74**	**280**	*eP*		**Pn**	**14 13 15.2**	**+1.6**
VJF	**Virojoki**	**2.77**	**65**	*eP*		**Pn**	**14 13 14.2**	**+0.2**
VJF				*eS*		**Sn**	**14 13 47.7**	**-0.5**
VJF				MSG			14 13 53.4	
	comp=Z,2.4nm,0.2s							
OSTU	**Oestervaala**	**2.79**	**288**	*eP*		**Pn**	**14 13 14.2**	**0.0**
IGGU	**Iggoen**	**2.92**	**301**	*eP*		**Pn**	**14 13 15.4**	**-0.7**
KAF	**Kangasniemi**	**3.25**	**34**	*eP*		**Pn**	**14 13 22.1**	**+1.6**
KAF				*eS*		**Sn**	**14 14 00.6**	**+0.7**
KAF				MSG			14 14 04.5	
	comp=Z,1.4nm,0.2s							
ARNU	**Arnoeviken**	**3.34**	**314**	*eP*		**Pn**	**14 13 21.1**	**-0.7**
VAF	**Ylistaro**	**3.58**	**2**	*eP*		**Pn**	**14 13 26.9**	**+1.8**
VAF				*eS*		**Sn**	**14 14 09.3**	**+1.4**
VAF				MSG			14 14 18.5	
	comp=Z,1.1nm,0.2s							
HFS	**Hagfors**	**4.47**	**282**	Pn		**Pn**	**14 13 38.3**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=109,slow=17,SNR=4.2							
HFS				Sn		**Sn**	**14 14 28.0**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=77,slow=19,SNR=3.0							
HFS				Lg			14 14 44.7	
	comp=Z,0.3nm,0.3s,baz=95,slow=31,SNR=3.9							
JOF	**Joensuu**	**5.50**	**47**	*eP*		**Pn**	**14 13 51.6**	**+0.2**
JOF				*eS*		**Sn**	**14 14 53.7**	**-1.7**
JOF				MSG			14 15 17.7	
	comp=Z,0.6nm,0.2s							
NOA	**NORSAR Array B**	**5.81**	**290**	Pn		**Pn**	**14 13 54.4**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=185,slow=11,SNR=2.1							
NOA				Sn		**Sn**	**14 14 57.9**	**-5.1**
	comp=Z,0.1nm,0.3s,baz=138,slow=7.8,SNR=2.1							
ARCES	**ARCESS Array B**	**10.18**	**6**	Pn		**Pn**	**14 14 52.0**	**-3.7**
	comp=Z,0.1nm,0.3s,baz=184,slow=14,SNR=8.9							

*MOS **09** 14:14:16.0±0.9, 174N×12720E, h36km, mb4.6/10, Error ellipse: s-maj=29.0km s-min=9.0km az=107.4*
*ISCJB **09** 14:14:22.9±1.7, 164N±005×12736E±009, h100km±16km, mb4.4/32, Error ellipse: s-maj=15.5km s-min=6.7km az=138.6*
*IDC **09** 14:14:24.9±2.0, 157N×12737E, h103km±17km, mb4.1/14, mb1 4.1/15, mb1mx4.0/21, mbtmp4.4/15, Error ellipse: s-maj=29.1km s-min=8.5km az=78.0*
*NEIC **09** 14:14:24.8±1.6, 159N×12735E, h102km±15km, mb4.5/12, Error ellipse: s-maj=12.9km s-min=5.6km az=69.0*
*BJI **09** 14:14:24.7, 160N×12730E, h102km, mB5.0, mb4.6*

ISC 09 14:14:25.1±1.4, 160N±005×12739E±009, h105km±13km, n66, σ0$93/71, mb4.4/32, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KKM	**Kota Kinabalu**	**11.99**	**292**	*eP*		**Pn**	**14 17 12.6**	**+0.1**
KAKA	**Kakadu**	**15.07**	**161**	*eP*		**Pn**	**14 17 51.8**	**-0.7**
	7.1nm,0.6s							
KSM	**Kuching**	**17.07**	**270**	*eP*		**Pn**	**14 18 16.0**	**-1.2**
FITZ	**Fitzroy Crossi**	**19.65**	**185**	*eP*		**P**	**14 18 45.4**	**-0.1**
	5.6nm,0.3s							
FITZ	**Fitzroy Crossi**	**19.65**	**185**	P		**P**	**14 18 45.4**	**-0.1**
	1.3nm,0.3s,baz=27,slow=9.8,SNR=28							
WRAB	**Tennant Creek**	**22.46**	**163**	*eP*		**P**	**14 19 15.6**	**0.0**
WRAB				pmax		pmax		
	comp=Z,22nm,0.7s,mb4.6							
WRAB	**Tennant Creek**	**22.46**	**163**	*eP*		**P**	**14 19 15.6**	**0.0**
	comp=Z,22nm,0.7s,mb4.6							
WRA	**Warramunga Arr**	**22.47**	**163**	P		**P**	**14 19 15.7**	**0.0**
	comp=Z,10nm,0.5s,mb4.5,baz=340,slow=11,SNR=68							
WRA				S		**S**	**14 23 14.0**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=334,slow=21,SNR=4.8							
WRA				ScP		ScP	14 26 36.5	+2.5
	comp=Z,1.0nm,0.7s,baz=336,slow=3.0,SNR=7.9							
WRA	**Warramunga Arr**	**22.47**	**163**	P		**P**	**14 19 15.7**	**+0.1**
WRA				S		**S**	**14 23 14.0**	**-0.5**
WB2	**Warramunga Arr**	**22.47**	**163**	*eP*		**P**	**14 19 15.5**	**-0.2**
WB2				*eS*		**S**	**14 23 14.7**	**+0.1**
MBWA	**Marble Bar**	**23.82**	**198**	*eP*		**P**	**14 19 28.0**	**-0.4**
	comp=Z,2.6nm,0.3s,mb4.0							
JOW	**Kunigami**	**25.11**	**2**	P		**P**	**14 19 41.2**	**+1.2**
	comp=Z,8.3nm,0.7s,mb4.3,baz=172,slow=12,SNR=5.1							
ASAR	**Alice Springs**	**25.90**	**166**	P		**P**	**14 19 48.5**	**+1.3**
	comp=Z,2.5nm,0.4s,mb4.0,baz=343,slow=9.4,SNR=70							
ASAR				S		**S**	**14 24 09.5**	**0.0**
	comp=Z,0.5nm,0.9s,baz=348,slow=23,SNR=2.9							
ASAR				ScP		ScP	14 26 46.1	+2.7
	comp=Z,0.8nm,0.6s,baz=346,slow=2.9,SNR=11							
ASAR	**Alice Springs**	**25.90**	**166**	P		**P**	**14 19 48.5**	**+1.3**
ASAR				S		**S**	**14 24 09.5**	**0.0**
KLBR	**Kellerberrin**	**34.25**	**195**	*eP*		**P**	**14 21 01.2**	**+0.3**
	comp=Z,26nm,1.4s,mb4.9							
MUN	**Mundaring**	**35.03**	**197**	*eP*		**P**	**14 21 08.6**	**+0.9**
NWAO	**Narrogin (SRO)**	**35.65**	**195**	P		**P**	**14 21 13.4**	**+0.5**
	comp=Z,3.8nm,0.4s,mb4.7,baz=28,slow=11,SNR=9.6							
NWAO	**Narrogin (SRO)**	**35.65**	**195**	*eP*		**P**	**14 21 13.7**	**+0.7**
NWAO				pmax		pmax		
	comp=Z,4.0nm,0.4s							
NWAO	**Narrogin (SRO)**	**35.65**	**195**	*eP*		**P**	**14 21 13.7**	**+0.8**
	comp=Z,3.6nm,0.4s,mb4.7							
STKA	**Stephens Creek**	**35.91**	**159**	*eP*		**P**	**14 21 14.3**	**-0.9**
	comp=Z,5.8nm,0.7s,mb4.6							
STKA	**Stephens Creek**	**35.91**	**159**	P		**P**	**14 21 14.3**	**-0.9**
	comp=Z,4.2nm,0.4s,mb4.8,baz=340,slow=11,SNR=4.5							
MJAR	**Matsushiro Arr**	**36.18**	**15**	P		**P**	**14 21 16.9**	**-0.5**
	comp=Z,3.5nm,0.7s,mb4.4,baz=184,slow=9.2,SNR=9.3							
CD2	**Chengdu**	**36.75**	**325**	*eP*		**P**	**14 21 22.3**	**0.0**
CD2				AP		pP	14 21 44.8	-1.2
CD2				XP		sP	14 21 56.4	-1.6
CD2				PP		PP	14 22 50.6	+2.7
CD2				S		**S**	**14 26 58.5**	**+0.2**
CD2				XS		sS	14 27 37.6	-1.8
CD2				SS		SS	14 29 31.8	-10
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.8							
CD2				AMB		AMB		
	comp=Z,40nm,5.2s							
CD2				LR		LR		
	comp=E,90nm,13.2s							
CD2				LR		LR		
	comp=Z,70nm,12.0s							
HHC	**Hu-ho-hao-te**	**41.62**	**342**	*eP*		**P**	**14 22 07.6**	**+4.8**
HHC				AMB		AMB		
	comp=Z,13nm,1.2s,mb4.5							
HHC				AMB		AMB		
	comp=Z,77nm,5.9s							
ASAJ	**Asahikaw

ISC 09 14:24:16.0±1.9, 3615N±004×14202E±009, h17km±15km, n19, σ1§94/27, mb3.4/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.04**	**245**	P	**Pb**	**14 24 35.6**	**+0.1**
CHOJ				*eS*	**Sb**	**14 24 50.2**	**+1.3**
JHO	**Hitachi**	**1.26**	**292**	P	**Pn**	**14 24 37.6**	**-1.1**
ONAJ	**Iwakimizuishiy**	**1.37**	**315**	P	**Pn**	**14 24 39.3**	**-1.0**
JFK	**Kawauchi**	**1.52**	**323**	P	**Pn**	**14 24 41.9**	**-0.5**
BSO1	**Boso 1**	**1.72**	**210**	P	**Pn**	**14 24 45.3**	**+0.2**
BSO1				*eS*	**Sn**	**14 25 07.6**	**+1.0**
BSO3	**Boso 3**	**1.82**	**223**	P	**Pn**	**14 24 46.2**	**-0.3**
BSO3				*eS*	**Sn**	**14 25 08.1**	**-1.1**
JFT	**Otama**	**1.92**	**316**	P	**Pn**	**14 24 48.4**	**+0.5**
JMM	**Marumori**	**1.98**	**331**	P	**Pn**	**14 24 48.1**	**-0.5**
JAG	**Ashikaga**	**2.09**	**278**	P	**Pn**	**14 24 49.7**	**-0.5**
JRY	**Ryogami san**	**2.53**	**268**	P	**Pn**	**14 24 56.0**	**-0.2**
JRY				*eS*	**Sn**	**14 25 26.8**	**+0.2**
JOD2	**Odawara 2**	**2.54**	**251**	P	**Pn**	**14 24 56.0**	**-0.4**
JIM2	**Oshima 3**	**2.55**	**237**	P	**Pn**	**14 24 55.2**	**-1.3**
JIM2				*eS*	**Sn**	**14 25 26.8**	**-0.3**
JMK	**Ichinoseki**	**2.87**	**347**	P	**Pn**	**14 25 00.6**	**-0.3**
JYN	**Shimod**	**2.90**	**258**	P	**Pn**	**14 25 02.1**	**+0.8**
MJAR	**Matsushiro Arr**	**3.10**	**278**	Pn	**Pn**	**14 25 04.4**	**+0.3**
	2.6nm,0.3s,baz=99,slow=8.6,SNR=33						
MJAR				Sn	**Sn**	**14 25 41.4**	**+0.7**
	0.8nm,0.3s,baz=218,slow=43,SNR=3.9						
MAT	**Matsushiro**	**3.10**	**278**	P	**Pn**	**14 25 05.2**	**+1.1**
MAT				*eS*	**Sn**	**14 25 39.7**	**-1.1**
JHJ	**Hachijo jima 2**	**3.54**	**212**	Pn	**Pn**	**14 25 10.8**	**+0.6**
	7.6nm,0.3s,baz=252,slow=20,SNR=3.7						
JHJ				Sn	**Sn**	**14 25 50.4**	**-1.2**
	14nm,0.3s,baz=81,slow=13,SNR=4.0						
SONM	**Songino Array**	**28.69**	**305**	P	**P**	**14 30 14.7**	**+2.7**
	0.5nm,0.6s,mb3.4,baz=106,slow=7.1,SNR=5.3						
MKAR	**Makanchi Array**	**45.00**	**303**	P	**P**	**14 32 33.2**	**+2.8**
	0.3nm,0.6s,mb3.3,baz=96,slow=8.8,SNR=3.7						

IDC 09 14:25:07.4±5.3, 1961S×6852E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/19, mbtmp3.4/3, MS3.7/5, Ms1 3.7/5, ms1mx3.3/12, Error ellipse: s-maj=173.0km s-min=41.2km az=57.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**35.69**	**297**	LR	LR	14 43 42.4	
	comp=Z,110nm,18.9s,baz=91,slow=31						
MATP	**Matopo**	**37.54**	**262**	LR	LR	14 46 07.9	
	comp=Z,59nm,18.9s,baz=105,slow=34						
WSAR	**Wadi Sarin**	**43.66**	**347**	LR	LR	14 46 41.8	
	comp=Z,63nm,21.1s,baz=108,slow=30						
NWAO	**Narrogin (SRO)**	**45.29**	**117**	LR	LR	14 48 17.2	
	comp=Z,139nm,21.0s,baz=335,slow=31						
MAW	**Mawson**	**48.12**	**183**	LR	LR	14 48 55.0	
	comp=Z,148nm,19.7s,baz=241,slow=30						
ASAR	**Alice Springs**	**60.45**	**107**	P	P	14 35 19.1	+0.2
	0.3nm,0.7s,baz=267,slow=6.3,SNR=6.7						
MKAR	**Makanchi Array**	**67.25**	**10**	P	P	14 36 02.4	-1.2
	0.1nm,0.4s,baz=210,slow=5.0,SNR=3.3						
SONM	**Songino Array**	**75.24**	**25**	P	P	14 36 53.3	+1.4
	0.3nm,0.8s,baz=224,slow=4.0,SNR=2.2						
YKA	**Yellowknife Ar**	**137.10**	**2**	PKP	PKPdf	14 44 32.4	0.0
	0.1nm,0.8s,baz=349,slow=2.8,SNR=3.6						

*ISCJB **09** 14:28:15.7±0.8, 5959N±008×22.36E±007, h0km, Error ellipse: s-maj=12.1km s-min=3.7km az=146.1*
*HEL **09** 14:28:17.5±0.3, 5965N×2230E, h0km, ML1.9, ML2.0(UPP), Explosion*
*IDC **09** 14:28:18.5±2.1, 5975N×2254E, h0km, mb1 2.8/4, mb1mx2.7/21, mbtmp2.7/4, ML2.9/2, Error ellipse: s-maj=29.7km s-min=7.2km az=159.0*

ISC 09 14:28:16.9±0.8, 5963N±009×2237E±007, h0km, n23, σ1§08/31, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**1.18**	**59**	*eP*	**Pg**	**14 28 38.4**	**-1.0**
MEF				*eS*	**Sg**	**14 28 54.0**	**-0.6**
AAL	**Aland**	**1.32**	**296**	*eP*	**Pg**	**14 28 39.8**	**-2.3**
NRTU	**Norrtaelje**	**1.90**	**273**	*eP*	**Pn**	**14 28 49.7**	**-0.8**
GRAU	**Graesoe**	**2.05**	**292**	*eP*	**Pn**	**14 28 51.9**	**-0.7**
FLYU	**Flymyra**	**2.32**	**284**	*eP*	**Pn**	**14 28 56.3**	**+0.1**
NYNU	**Nynaeshamn**	**2.33**	**256**	*eP*	**Pn**	**14 28 57.3**	**+0.9**
FIA0	**FINESS Array S**	**2.58**	**44**	*eP*	**Pn**	**14 29 01.5**	**+1.6**
FIA0				*eS*	**Sn**	**14 29 33.7**	**+1.7**
FIA0				MSG		14 29 36.9	
	comp=Z,9.2nm,0.2s						
FINES	**FINESS Array B**	**2.58**	**44**	Pn	**Pn**	**14 29 01.1**	**+1.2**
	comp=Z,0.9nm,0.3s,baz=228,slow=12,SNR=55						
FINES				Lg		14 29 34.3	
	comp=Z,4.9nm,0.3s,baz=231,slow=25,SNR=44						
BACU	**Backbrunna**	**2.67**	**277**	*eP*	**Pn**	**14 29 01.4**	**+0.3**
OSTU	**Oestervaala**	**2.71**	**285**	*eP*	**Pn**	**14 29 01.7**	**+0.1**
VJF	**Virojoki**	**2.75**	**68**	*eP*	**Pn**	**14 29 02.2**	**0.0**
VJF				*eS*	**Sn**	**14 29 34.2**	**-1.9**
VJF				MSG		14 29 47.1	
	comp=Z,5.0nm,0.2s						
IGGU	**Iggoen**	**2.81**	**298**	*eP*	**Pn**	**14 29 02.6**	**-0.4**
ESKU	**Eskilstuna**	**3.08**	**265**	*eP*	**Pn**	**14 29 07.5**	**+0.8**
KAF	**Kangasniemi**	**3.15**	**36**	*eP*	**Pn**	**14 29 09.1**	**+1.4**
KAF				*eS*	**Sn**	**14 29 47.4**	**+1.5**
KAF				MSG		14 29 56.5	
	comp=Z,2.5nm,0.2s						
ARNU	**Arnoeviken**	**3.21**	**312**	*eP*	**Pn**	**14 29 08.2**	**-0.4**
FALU	**Falun**	**3.39**	**288**	*eP*	**Pn**	**14 29 11.3**	**+0.3**
VAF	**Ylistaro**	**3.43**	**2**	*eP*	**Pn**	**14 29 15.6**	**+4.1**
VAF				*eS*	**Sn**	**14 29 57.0**	**+4.2**
VAF				MSG		14 30 11.8	
	comp=Z,2.2nm,0.2s						
HASU	**Hassela**	**3.78**	**314**	*eP*	**Pn**	**14 29 16.7**	**+0.3**
HFS	**Hagfors**	**4.40**	**280**	Pn	**Pn**	**14 29 25.6**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=111,slow=12,SNR=8.0						
HFS				Sn	**Sn**	**14 30 16.8**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=76,slow=25,SNR=4.3						
HFS				Lg		14 30 31.0	
	comp=Z,0.4nm,0.3s,baz=82,slow=31,SNR=5.1						
BREU	**Bredtraesk**	**4.64**	**339**	*eP*	**Pn**	**14 29 29.4**	**+1.2**
JOF	**Joensuu**	**5.43**	**49**	*eP*	**Pn**	**14 29 39.7**	**+0.7**
JOF				*eS*	**Sn**	**14 30 40.4**	**-1.8**
JOF				MSG		14 31 06.3	
	comp=Z,1.2nm,0.2s						
NOA	**NORSAR Array B**	**5.72**	**289**	Pn	**Pn**	**14 29 43.0**	**0.0**
	comp=Z,0.3nm,0.3s,baz=68,slow=9.2,SNR=2.7						
NOA				Sn	**Sn**	**14 30 48.8**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=136,slow=26,SNR=2.1						
ARCES	**ARCESS Array B**	**10.03**	**6**	Pn	**Pn**	**14 30 39.7**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=191,slow=13,SNR=6.9						

*ISCJB **09** 14:28:30.7±0.7, 2422S±005×6703W±009, h173km±11km, mb3.5/4, Error ellipse: s-maj=14.0km s-min=8.1km az=23.8*
*IDC **09** 14:28:31.9±1.1, 2415S×6706W, h170km±13km, mb3.3/4, mb1 3.5/9, mb1mx3.4/18, mbtmp3.9/9, Error ellipse: s-maj=17.2km s-min=14.4km az=125.0*
*NEIC **09** 14:28:31.7±0.7, 2423S×6706W, h171km±9km, mb4.0/1, Error ellipse: s-maj=13.8km s-min=9.5km az=94.0*

ISC 09 14:28:31.5±0.7, 2422S±005×6701W±009, h164km±11km, n22, σ1§05/27, mb3.5/4, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.37**	**312**	P	**Pn**	**14 29 13.1**	**+1.4**
	62nm,0.3s,baz=138,slow=6.2,SNR=263						
LVC				S		14 29 43.1	+0.2
	192nm,0.3s,baz=198,slow=20,SNR=47						
LVC	**Limon Verde**	**2.37**	**312**	↑*i*Pn	**Pn**	**14 29 12.8**	**+1.1**
LVC				*e*Sn	**Sn**	**14 29 38.2**	**-4.7**
LVC				S	**Sn**	**14 29 43.1**	**+0.2**
CFAA	**Coronel Fontan**	**7.44**	**188**	P	**Pn**	**14 30 16.9**	**-0.4**
	0.1nm,0.3s,baz=13,slow=13,SNR=4.2						
CFAA				S	**Sn**	**14 31 36.0**	**-4.7**
	0.2nm,0.3s,baz=236,slow=18,SNR=6.9						
LPAZ	**La Paz**	**7.96**	**352**	P	**Pn**	**14 30 25.1**	**+0.8**
	2.1nm,0.3s,baz=158,slow=6.7,SNR=57						
LPAZ				S	**Sn**	**14 31 52.5**	**-0.7**
	0.2nm,0.3s,baz=235,slow=25,SNR=6.8						
LPAZ	**La Paz**	**7.96**	**352**	*e*Pn	**Pn**	**14 30 24.8**	**+0.5**
LPAZ				*e*Sn	**Sn**	**14 31 50.9**	**-2.3**
LPAZ				S	**Sn**	**14 31 52.5**	**-0.7**
CPUP	**Villa Florida**	**9.01**	**106**	P	**Pn**	**14 30 40.0**	**+1.8**
	0.4nm,0.3s,baz=250,slow=15,SNR=3.1						
CPUP	**Villa Florida**	**9.01**	**106**	P	**Pn**	**14 30 40.0**	**+1.8**
SIV	**San Ignacio**	**9.90**	**35**	P	**Pn**	**14 30 49.5**	**-0.4**
	2.1nm,0.3s,baz=252,slow=12,SNR=17						
SIV				S	**Sn**	**14 32 38.5**	**-1.3**
	baz=270,slow=20,SNR=4.6						
TRQA	**Tornquist**	**14.45**	**164**	*e*Pn	**Pn**	**14 31 47.2**	**-1.1**
PLCA	**Paso Flores**	**16.73**	**189**	*e*P	**Pn**	**14 32 15.8**	**-0.6**
	4.2nm,0.6s						
PLCA				*e*		14 32 22.7	
BDFB	**Brasilia**	**19.77**	**68**	P	**P**	**14 32 50.4**	**+1.4**
	1.0nm,0.3s,baz=248,slow=9.7,SNR=11						
VNA3	**Neumayer Olymp**	**56.95**	**161**	*e*	**P**	**14 37 50.3**	**-9.3**
VNA3				*e*		14 37 56.8	
VNA2	**Neumayer--Watz**	**57.51**	**160**	*e*	**P**	**14 38 03.9**	**+0.3**
	baz=284,slow=7.2						
VNA2				*e*		14 38 08.8	
SNAA	**Sanae**	**59.15**	**161**	P	**P**	**14 38 14.8**	**-0.1**
	0.4nm,0.9s,mb3.2,baz=299,slow=13,SNR=5.5						
SNAA				PcP	PcP	14 39 01.1	-0.6
	0.3nm,0.6s,baz=286,slow=7.4,SNR=2.9						
SNAA	**Sanae**	**59.15**	**161**	*e*P	**P**	**14 38 12.6**	**-2.3**
SNAA				PcP	PcP	14 39 01.1	-0.6
VNDA	**Vanda**	**74.48**	**190**	P	**P**	**14 39 52.7**	**+0.9**
	0.5nm,0.7s,mb3.4,baz=203,slow=3.8,SNR=3.5						
VNDA	**Vanda**	**74.48**	**190**	P	**P**	**14 39 52.7**	**+0.8**
TORD	**Torodi Ar. Bea**	**76.65**	**69**	P	**P**	**14 40 04.8**	**+0.7**
	0.5nm,0.4s,mb3.5,baz=259,slow=5.7,SNR=9.7						
MAW	**Mawson**	**81.23**	**163**	P	**P**	**14 40 28.5**	**-0.6**
	1.3nm,0.7s,mb3.7,baz=198,slow=6.4,SNR=4.4						
ASAR	**Alice Springs**	**128.26**	**205**	PKP	PKPdf	14 47 18.1	-0.3
	0.5nm,0.7s,baz=138,slow=1.6,SNR=9.4						
WRA	**Warramunga Arr**	**131.43**	**207**	PKP	PKPdf	14 47 24.5	+0.1
	0.6nm,0.6s,baz=164,slow=1.7,SNR=13						
MKAR	**Makanchi Array**	**146.70**	**40**	PKPbc	PKPbc	14 47 52.8	-1.2
	0.3nm,0.6s,baz=287,slow=4.0,SNR=6.2						

*ISCJB **09** 14:41:03.4±0.5, 809N±008×7538W±007, h40km, mb4.1/16, MS3.5/3, Error ellipse: s-maj=12.8km s-min=8.3km az=51.5*
*IDC **09** 14:41:05.3±0.7, 8.13N×7535W, h38km±4km, mb3.9/14, mb1 4.1/15, mb1mx4.0/21, mbtmp4.2/15, ML4.4/1, MS3.4/6, Ms1 3.4/6, ms1mx3.0/25, Error ellipse: s-maj=21.8km s-min=13.1km az=47.0*
*NEIC **09** 14:41:05.1±0.3, 808N×7540W, mb4.1/3, Error ellipse: s-maj=11.6km s-min=6.4km az=53.0*

ISC 09 14:41:05.7±0.5, 813N±008×7539W±007, h42km, h42km±.3km:pP-P, n33, σ0§79/31, mb4.1/16, MS3.5/3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**3.42**	**162**	Pn	**Pn**	**14 42 01.5**	**+5.1**
	2.3nm,0.3s,baz=72,slow=20,SNR=6.8						
ROSC				Sn	**Sn**	**14 42 46.1**	**+10**
	20nm,0.3s,baz=276,slow=24,SNR=5.0						
ROSC				LR	LR	14 43 31.6	
	comp=Z,359nm,19.2s,baz=180,slow=43						
ROSC	**El Rosal**	**3.42**	**162**	*e*Pn	**Pn**	**14 42 02.3**	**+5.9**
ROSC				Sn	**Sn**	**14 42 46.1**	**+10**
ROSC				LR	LR	14 43 31.6	
SDV	**Santo Domingo**	**4.77**	**81**	Pn	**Pn**	**14 42 16.3**	**+1.3**
	18nm,0.3s,baz=275,slow=9.2,SNR=106						
SDV				Sn	**Sn**	**14 43 09.2**	**+0.2**
	73nm,0.3s,baz=89,slow=21,SNR=8.7						
SDV				LR	LR	14 44 22.4	
	comp=Z,585nm,20.2s,baz=124,slow=42						
SDV	**Santo Domingo**	**4.77**	**81**	*e*P	**Pn**	**14 42 15.6**	**+0.7**
SDV				*e*S	**Sn**	**14 43 08.2**	**-0.7**
SDV				LR	LR	14 44 22.4	
SJG	**San Juan**	**13.39**	**41**	LR	LR	14 49 15.1	
	comp=Z,84nm,19.7s,baz=104,slow=37						
SAML	**Samuel**	**20.87**	**144**	*e*P	**P**	**14 45 43.5**	**-0.6**
	12nm,1.2s						
LPAZ	**La Paz**	**25.30**	**164**	P	**P**	**14 46 29.8**	**+1.6**
	2.4nm,0.8s,mb3.8,baz=359,slow=5.6,SNR=7.1						
LPAZ	**La Paz**	**25.30**	**164**	*e*P	**P**	**14 46 29.0**	**+0.8**
SIV	**San Ignacio**	**27.84**	**149**	P	**P**	**14 46 50.6**	**-0.5**
	0.8nm,0.4s,mb3.8,baz=313,slow=11,SNR=6.0						
BDFB	**Brasilia**	**35.96**	**131**	P	**P**	**14 48 00.8**	**-1.4**
	2.4nm,0.5s,mb4.4,baz=322,slow=6.7,SNR=3.9						
BDFB				LR	LR	15 03 57.2	
	comp=Z,116nm,20.0s,MS3.6,baz=34,slow=38						
CPUP	**Villa Florida**	**38.48**	**153**	LR	LR	15 07 52.1	
	comp=Z,43nm,20.9s,MS3.2,baz=325,slow=42						
ULM	**Lac du Bonnet**	**45.32**	**342**	P	**P**	**14 49 18.9**	**-0.5**
	1.0nm,0.4s,mb4.0,baz=162,slow=8.1,SNR=4.7						
ULM	**Lac du Bonnet**	**45.32**	**342**	P	**P**	**14 49 18.9**	**-0.6**
BW06	**Boulder Array**	**45.71**	**325**	*e*P	**P**	**14 49 22.9**	**+0.3**
	2.5nm,1.0s,mb4.1						
PDAR	**Pinedale Array**	**45.71**	**325**	P	**P**	**14 49 23.2**	**+0.7**
	2.6nm,1.1s,mb4.1,baz=126,slow=7.5,SNR=12						
PDAR				PcP	PcP	14 50 59.9	0.0
	1.4nm,0.6s,baz=128,slow=5.0,SNR=12						
SCHQ	**Schefferville**	**47.08**	**7**	P	**P**	**14 49 33.3**	**0.0**
	2.6nm,0.6s,mb4.4,baz=149,slow=5.9,SNR=7.1						
NVAR	**Mina Array Bea**	**48.97**	**315**	P	**P**	**14 49 49.3**	**+1.4**
	0.9nm,0.8s,mb3.8,baz=119,slow=7.5,SNR=4.5						
NVAR				PcP	PcP	14 51 13.0	+1.5
	1.3nm,0.7s,baz=150,slow=4.8,SNR=6.9						
YKA	**Yellowknife Ar**	**61.28**	**340**	P	**P**	**14 51 15.7**	**-0.9**
	5.7nm,0.7s,mb4.8,baz=132,slow=6.9,SNR=4.8						
YKA				pP	pP	14 51 27.5	-1.3
	3.5nm,0.7s,baz=132,slow=7.1,SNR=16						
YKA	**Yellowknife Ar**	**61.28**	**340**	P	**P**	**14 51 15.7**	**-0.9**
YKA				pP	pP	14 51 27.6	-1.3
YKW3	**Yellowknife Ar**	**61.33**	**340**	*e*P	**P**	**14 51 16.3**	**-0.7**
YKW3				*e*pP	pP	14 51 28.1	-1.1
DBIC	**Dimbokro**	**69.88**	**86**	P	**P**	**14 52 12.8**	**+0.6**
	3.0nm,0.8s,mb4.3,baz=355,slow=7.2,SNR=6.4						
DBIC				pP	pP	14 52 24.7	+0.1
	3.7nm,0.9s,baz=301,slow=8.0,SNR=2.5						
DBIC	**Dimbokro**	**69.88**	**86**	P	**P**	**14 52 12.8**	**+0.6**
DBIC				pP	pP	14 52 24.7	+0.1
INK	**Inuvik**	**71.05**	**340**	*e*P	**P**	**14 52 18.6**	**-0.7**
	1.9nm,0.6s,mb4.2						
INK				*e*pP	pP	14 52 30.3	-1.4
ILAR	**Eielson Array**	**74.84**	**335**	P	**P**	**14 52 41.1**	**-0.6**
	1.5nm,0.8s,mb4.0,baz=110,slow=4.2,SNR=17						
ILAR				pP	pP	14 52 53.1	-1.0
	1.0nm,0.9s,baz=112,slow=3.5,SNR=5.7						
TORD	**Torodi Ar. Bea**	**75.68**	**78**	P	**P**	**14 52 47.0**	**+0.5**
	0.9nm,0.8s,mb3.8,baz=279,slow=6.7,SNR=8.6						
TORD				sP	sP	14 53 03.5	-0.4
	1.5nm,0.6s,baz=288,slow=5.4,SNR=7.2						
NB2	**NORSAR Subarra**	**81.30**	**29**	P	**P**	**14 53 17.7**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=272,slow=5.6						
NOA	**NORSAR Array B**	**81.30**	**29**	P	**P**	**14 53 17.6**	**+0.1**
	comp=Z,1.4nm,0.8s,mb3.9,baz=274,slow=5.4,SNR=4.5						
HFS	**Hagfors**	**82.56**	**30**	LR	LR	15 24 18.1	
	comp=Z,40nm,21.3s,MS3.8,baz=282,slow=31						
GERES	**GERESS Array B**	**83.35**	**42**	P	**P**	**14 53 28.3**	**0.0**
	comp=Z,0.9nm,0.6s,mb4.0,baz=255,slow=9.4,SNR=5.6						
ARCES	**ARCESS Array B**	**86.24**	**20**	P	**P**	**14 53 42.9**	**+0.1**
	comp=Z,2.8nm,0.9s,mb4.5,baz=287,slow=4.2,SNR=4.4						
SONM	**Songino Array**	**124.26**	**359**	PKP	PKPdf	15 00 00.7	+0.9
	comp=Z,0.4nm,0.6s,baz=8.5,slow=1.0,SNR=5.1						
ASAR	**Alice Springs**	**147.97**	**238**	PKPbc	PKPbc	15 00 47.2	+0.9
	comp=Z,2.6nm,0.7s,baz=119,slow=3.8,SNR=49						
WRA	**Warramunga Arr**	**148.92**	**245**	PKPbc	PKPbc	15 00 49.9	+1.0
	comp=Z,2.2nm,0.6s,baz=105,slow=2.8,SNR=26						

*ISCJB **09** 15:01:31.1±0.8, 201S±01×1740W±02, h10km, mb4.0/8, Error ellipse: s-maj=27.2km s-min=15.2km az=75.7*
*IDC **09** 15:01:33.2±2.0, 1966S×17427W, h0km, mb4.0/5, mb1 4.2/6, mb1mx4.0/16, mbtmp4.0/6, ML1.7/1, Error ellipse: s-maj=81.5km s-min=20.9km az=142.0*
*NEIC **09** 15:01:33.2±0.6, 2020S×17395W, h10km, mb4.1/3, Error ellipse: s-maj=22.9km s-min=14.9km az=149.0*

ISC 09 15:01:34.5±6.9, 198S±01×1741W±02, h14km±43km, n12, σ1§19/13, mb4.0/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.25**	**21**	Pn	**Pn**	**15 03 06.6**	**+0.4**
	1.0nm,0.3s,baz=216,slow=19,SNR=4.0						
AFI				Sn	**Sn**	**15 04 16.3**	**-1.1**
	1.5nm,0.3s,baz=113,slow=13,SNR=3.1						
AFI	**Afiamalu**	**6.25**	**21**	*e*Pn	**Pn**	**15 03 05.3**	**-0.9**
AFI				*e*Sn	**Sn**	**15 04 16.8**	**-0.7**
CTA	**Charters Tower**	**37.24**	**263**	P	**P**	**15 08 46.6**	**+1.1**
	4.7nm,0.9s,mb4.3,baz=88,slow=13,SNR=3.5						
CTAO	**Charters Tower**	**37.24**	**263**	*e*P	**P**	**15 08 46.8**	**+1.3**
ASAR	**Alice Springs**	**48.27**	**256**	P	**P**	**15 10 14.8**	**-0.2**
	1.4nm,0.6s,mb4.2,baz=96,slow=8.2,SNR=8.4						
WRA	**Warramunga Arr**	**48.36**	**261**	P	**P**	**15 10 14.7**	**-1.0**
	1.6nm,1.0s,mb4.0,baz=96,slow=7.2,SNR=4.6						
SBA	**Scott Base**	**58.84**	**185**	*e*P	**P**	**15 11 29.7**	**-2.8**
	2.7nm,0.8s,mb4.3						
VNDA	**Vanda**	**58.96**	**186**	*e*P	**P**	**15 11 28.9**	**-4.4**
	0.9nm,0.8s,mb3.9						
NVAR	**Mina Array Bea**	**78.01**	**42**	P	**P**	**15 13 34.0**	**+1.6**
	1.2nm,0.7s,mb3.9,baz=225,slow=11,SNR=7.0						
MNTX	**Cornudas Mount**	**83.36**	**53**	*e*P	**P**	**15 14 01.6**	**+0.5**
	0.9nm,0.7s,mb3.9						
ILAR	**Eielson Array**	**86.86**	**11**	P	**P**	**15 14 19.4**	**+0.8**
	0.4nm,0.8s,mb3.7,baz=221,slow=5.6,SNR=4.1						
AKASG	**Malin Array Be**	**144.08**	**335**	PKP	PKPdf	15 21 09.1	-0.6
	1.6nm,0.6s,baz=40,slow=4.2,SNR=9.3						

*ISCJB **09** 15:02:02.4±0.8, 1666S±008×6949W±007, h188km±7km, mb3.7/5, Error ellipse: s-maj=13.4km s-min=11.6km az=5.0*
*NEIC **09** 15:02:02.9±0.8, 1669S×6954W, h178km±8km, mb4.4/3, Error ellipse: s-maj=13.3km s-min=10.7km az=52.0*
*IDC **09** 15:02:04.0±1.1, 1673S×6939W, h184km±7km, mb3.6/5, mb1 3.6/9, mb1mx3.4/19, mbtmp4.0/9, Error ellipse: s-maj=19.6km s-min=19.4km az=0.0*

ISC 09 15:02:03.3±0.8, 1669S±008×6949W±008, h182km±7km, n17, σ1§06/20, mb3.7/5, 1D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.36**	**73**	P	**Pn**	**15 02 35.9**	**+1.7**
	28nm,0.3s,baz=281,slow=7.6,SNR=382						
LPAZ				S	**Sn**	**15 02 59.0**	**+1.0**
	13nm,0.3s,baz=15,slow=22,SNR=17						
LPAZ	**La Paz**	**1.36**	**73**	↓*i*Pn	**Pn**	**15 02 35.9**	**+1.7**
LPAZ				*e*Sn	**Sn**	**15 02 58.3**	**+0.3**
LPAZ				S	**Sn**	**15 02 59.0**	**+1.0**
LVC	**Limon Verde**	**5.92**	**175**	P	**Pn**	**15 03 28.8**	**-0.5**
	20nm,0.3s,baz=328,slow=11,SNR=35						
LVC				S	**Sn**	**15 04 32.4**	**-4.5**
	15nm,0.3s,baz=158,slow=22,SNR=8.8						
SIV	**San Ignacio**	**8.11**	**86**	P	**Pn**	**15 03 56.7**	**-1.4**
	2.6nm,0.3s,baz=268,slow=12,SNR=30						
SIV				S	**Sn**	**15 05 26.8**	**-2.2**
	0.3nm,0.3s,baz=344,slow=21,SNR=5.0						
NNA	**Nana**	**8.52**	**302**	*e*Pn	**Pn**	**15 04 01.9**	**-1.5**
	13nm,0.3s						
CPUP	**Villa Florida**	**14.83**	**132**	P	**Pn**	**15 05 25.5**	**+1.4**
	baz=308,slow=17,SNR=3.3						
CFAA	**Coronel Fontan**	**14.89**	**176**	P	**Pn**	**15 05 24.6**	**-0.3**
	0.1nm,0.3s,baz=357,slow=14,SNR=11						
BDFB	**Brasilia**	**20.66**	**90**	P	**P**	**15 06 29.5**	**+0.6**
	3.5nm,0.4s,baz=257,slow=10.0,SNR=7.0						
TRQA	**Tornquist**	**22.29**	**164**	*e*P	**P**	**15 06 45.9**	**+0.3**
	2.3nm,0.7s,mb3.7						
DBIC	**Dimbokro**	**67.98**	**76**	P	**P**	**15 12 43.0**	**+0.3**
	4.0nm,0.8s,mb4.2,baz=227,slow=1.1,SNR=4.3						
DBIC	**Dimbokro**	**67.98**	**76**	*e*P	**P**	**15 12 42.6**	**0.0**
	6.6nm,0.9s,mb4.4						
PDAR	**Pinedale Array**	**69.69**	**330**	P	**P**	**15 12 53.4**	**+0.1**
	0.3nm,0.6s,mb3.2,baz=120,slow=8.8,SNR=3.7						
TORD	**Torodi Ar. Bea**	**76.32**	**72**	P	**P**	**15 13 32.5**	**+0.5**
	3.1nm,0.6s,mb4.1,baz=271,slow=5.0,SNR=43						
YKA	**Yellowknife Ar**	**86.49**	**341**	P	**P**	**15 14 25.7**	**+0.2**
	0.5nm,0.7s,mb3.4,baz=134,slow=4.7,SNR=17						
YKA	**Yellowknife Ar**	**86.49**	**341**	P	**P**	**15 14

az=34.2
*JMA **09** 15:29:13.3±0.2, 43.39N×147.53E, h15km±4km, M3.6*
ISC 09 15:29:14.6±1.8, 435N±01×1477E±01, h43km±20km, n14, σ0§81/18, mb3.4/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.42**	**265**	P		**Pn**	**15 29 36.9**	**-1.1**
NEM2				*e*S		**Sn**	**15 29 53.8**	**-1.6**
JRA	**Rausu**	**1.91**	**284**	P		**Pn**	**15 29 44.6**	**0.0**
JRA				*e*S		**Sn**	**15 30 07.5**	**+0.1**
JNK	**Nakash**	**2.16**	**273**	P		**Pn**	**15 29 47.6**	**-0.5**
JNK				*e*S		**Sn**	**15 30 13.0**	**-0.6**
JAK	**Akkeshi**	**2.24**	**258**	P		**Pn**	**15 29 48.7**	**-0.5**
JTKR	**Abashiri--Toko**	**2.77**	**281**	P		**Pn**	**15 29 57.2**	**+0.7**
JTKR				*e*S		**Sn**	**15 30 30.4**	**+1.6**
JAR	**Ashorobuto**	**2.86**	**267**	P		**Pn**	**15 29 57.9**	**+0.2**
JAR				*e*S		**Sn**	**15 30 31.0**	**+0.1**
JOB	**Onbets**	**2.88**	**259**	P		**Pn**	**15 29 58.2**	**+0.2**
JCH	**Churui**	**3.29**	**256**	P		**Pn**	**15 30 03.6**	**0.0**
JFR	**Furan**	**3.73**	**266**	P		**Pn**	**15 30 11.3**	**+1.6**
JNBK	**Urakawa-nobuka**	**3.83**	**253**	P		**Pn**	**15 30 11.1**	**+0.1**
JHJ	**Hachijo jima 2**	**12.08**	**213**	LR		LR	15 36 07.0	
	comp=Z,40nm,22.0s,baz=83,slow=35							
YKA	**Yellowknife Ar**	**55.79**	**34**	P		**P**	**15 38 47.0**	**-0.2**
	0.1nm,0.5s,mb3.1,baz=300,slow=6.9,SNR=3.3							
FINES	**FINESS Array B**	**65.27**	**333**	P		**P**	**15 39 50.9**	**-1.0**
	0.5nm,0.6s,mb3.8,baz=46,slow=8.2,SNR=4.9							
ASAR	**Alice Springs**	**68.03**	**194**	P		**P**	**15 40 10.3**	**+0.9**
	0.2nm,0.6s,mb3.3,baz=6.0,slow=5.7,SNR=4.1							

IDC 09 15:38:51.3±1.6, 282N×12822E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=94.7km s-min=22.2km az=71.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.94**	**187**	P		P	15 43 36.8	+1.1
	1.4nm,0.8s,baz=90,slow=14,SNR=4.6							
WRA	**Warramunga Arr**	**23.40**	**165**	P		P	15 44 02.5	+0.6
	0.7nm,0.4s,baz=343,slow=10,SNR=16							
ASAR	**Alice Springs**	**26.90**	**168**	P		P	15 44 34.0	0.0
	0.1nm,0.5s,baz=344,slow=7.4,SNR=5.3							
ASAR				PcP		PcP	15 47 54.5	-1.7
	0.3nm,0.4s,baz=353,slow=2.2,SNR=8.4							
MKAR	**Makanchi Array**	**59.15**	**325**	P		P	15 48 54.8	+1.0
	0.7nm,0.4s,baz=115,slow=8.2,SNR=18							

*ISCJB **09** 15:46:45.9±0.6, 5967N±006×2234E±006, h0km, Error ellipse: s-maj=9.0km s-min=3.5km az=148.8*
*IDC **09** 15:46:46.3±2.2, 5961N×2248E, h0km, mb1 2.9/3, mb1mx2.8/19, mbtmp2.8/3, ML2.9/3, Error ellipse: s-maj=25.9km s-min=9.0km az=158.0*
*NAO **09** 15:46:46.9±1.1, 5966N×2244E, ML2.0*
*CSEM **09** 15:46:46.8±0.1, 5969N×2228E, h1km, ML2.2, Error ellipse: s-maj=3.5km s-min=1.4km az=147.0, Mining explosion.*
*BER **09** 15:46:47.9±4.0, 5969N×2242E, h0km, ML2.0(NAO), Suspected explosion*
*HEL **09** 15:46:47.0±0.1, 5964N×2234E, h0km, ML2.2, ML2.6(UPP), ML2.0(NAO), Explosion*
*UPP **09** 15:46:48.3, 5970N×2212E, h0km, ML2.6, Mining explosion.*
ISC 09 15:46:46.8±0.6, 5968N±006×2234E±006, h0km, n32, σ1§05/52, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MEF	**Metsahovi**	**1.17**	**62**	*e*P		**Pg**	**15 47 08.3**	**-0.9**
MEF				*e*S		**Sg**	**15 47 22.7**	**-1.7**
AAL	**Aland**	**1.28**	**294**	*e*P		**Pg**	**15 47 10.1**	**-1.3**
NRTU	**Norrtaelje**	**1.88**	**272**	*e*P		**Pn**	**15 47 20.0**	**-0.2**
GRAU	**Graesoe**	**2.02**	**291**	*e*P		**Pn**	**15 47 21.6**	**-0.4**
FORU	**Forsmark**	**2.20**	**291**	*e*P		**Pn**	**15 47 25.1**	**+0.5**
FLYU	**Flymyra**	**2.29**	**283**	*e*P		**Pn**	**15 47 26.0**	**+0.2**
NYNU	**Nynaeshamn**	**2.32**	**255**	*e*P		**Pn**	**15 47 27.4**	**+1.2**
FIA0	**FINESS Array S**	**2.56**	**45**	*e*P		**Pn**	**15 47 31.2**	**+1.7**
FIA0				*e*S		**Sn**	**15 48 02.8**	**+1.5**
FIA0				MSG			15 48 08.7	
	comp=Z,9.8nm,0.1s							
FIA0	**FINESS Array S**	**2.56**	**45**	Pn		**Pn**	**15 47 31.0**	**+1.5**
	baz=228,slow=14							
FIA0				Lg			15 48 04.7	
	baz=227,slow=28							
FIA0	**FINESS Array S**	**2.56**	**45**	P		**Pn**	**15 47 31.2**	**+1.7**
FIA0				S		**Sn**	**15 48 02.8**	**+1.5**
	comp=Z,9.8nm,0.1s							
FINES	**FINESS Array B**	**2.56**	**45**	Pn		**Pn**	**15 47 31.1**	**+1.6**
	comp=Z,1.3nm,0.3s,baz=230,slow=13,SNR=38							
FINES				Lg			15 48 04.5	
	comp=Z,3.0nm,0.3s,baz=228,slow=25,SNR=28							
VSU	**Vasula**	**2.58**	**116**	*e*P		**Pn**	**15 47 29.6**	**-0.1**
VSU				*e*SG		**Sg**	**15 48 05.1**	**-4.6**
BACU	**Backbrunna**	**2.65**	**276**	*e*P		**Pn**	**15 47 31.2**	**+0.4**
OSTU	**Oestervaala**	**2.67**	**284**	*e*P		**Pn**	**15 47 31.4**	**+0.3**
VJF	**Virojoki**	**2.75**	**70**	*e*P		**Pn**	**15 47 32.0**	**-0.1**
VJF				*e*S		**Sn**	**15 48 05.0**	**-1.1**
VJF				MSG			15 48 15.8	
	comp=Z,10nm,0.2s							
VJF	**Virojoki**	**2.75**	**70**	P		**Pn**	**15 47 32.0**	**-0.1**
VJF				S		**Sn**	**15 48 04.9**	**-1.2**
	comp=Z,10nm,0.2s							
IGGU	**Iggoen**	**2.77**	**298**	*e*P		**Pn**	**15 47 32.7**	**+0.2**
GOTU	**Gotland**	**2.81**	**226**	*e*P		**Pn**	**15 47 33.2**	**+0.3**
ESKU	**Eskilstuna**	**3.07**	**264**	*e*P		**Pn**	**15 47 36.9**	**+0.4**
KAF	**Kangasniemi**	**3.12**	**37**	*e*P		**Pn**	**15 47 38.4**	**+1.2**
KAF				*e*S		**Sn**	**15 48 16.8**	**+1.7**
KAF				MSG			15 48 22.9	
	comp=Z,6.2nm,0.2s							
KAF	**Kangasniemi**	**3.12**	**37**	P		**Pn**	**15 47 38.3**	**+1.1**
KAF				S		**Sn**	**15 48 16.7**	**+1.6**
	comp=Z,6.2nm,0.2s							
ARNU	**Arnoeviken**	**3.17**	**312**	*e*P		**Pn**	**15 47 38.5**	**+0.6**
FALU	**Falun**	**3.36**	**287**	*e*P		**Pn**	**15 47 40.9**	**+0.4**
VAF	**Ylistaro**	**3.38**	**3**	*e*P		**Pn**	**15 47 43.9**	**+3.1**
VAF				*e*S		**Sn**	**15 48 25.1**	**+3.6**
VAF				MSG			15 48 33.0	
	comp=Z,3.4nm,0.1s							
HFS	**Hagfors**	**4.38**	**280**	*e*P		**Pn**	**15 47 54.7**	**+0.2**
HFS				*e*PG		**Pg**	**15 48 04.4**	**-6.2**
HFS				*e*S		**Sn**	**15 48 45.7**	**-0.5**
HFS				*e*SG		**Sg**	**15 49 01.1**	**-6.3**
HFS	**Hagfors**	**4.38**	**280**	Pn		**Pn**	**15 47 54.7**	**+0.2**
	baz=94,slow=16							
HFS				Pg		**Pg**	**15 48 04.4**	**-6.2**
	baz=99,slow=18							
HFS				Sn		**Sn**	**15 48 45.7**	**-0.5**
	baz=81,slow=28							
HFS				Lg			15 49 01.1	
	baz=81,slow=28							
NB2	**NORSAR Subarra**	**5.69**	**289**	Pn		**Pn**	**15 48 11.4**	**-1.1**
	baz=96,slow=14							
NB2				Sn		**Sn**	**15 49 17.6**	**-0.9**
	baz=86,slow=22							
NB2	**NORSAR Subarra**	**5.69**	**289**	*e*P		**Pn**	**15 48 11.4**	**-1.1**
NB2				*e*S		**Sn**	**15 49 17.6**	**-0.9**
NOA	**NORSAR Array B**	**5.69**	**289**	Pn		**Pn**	**15 48 09.2**	**-3.3**
	comp=Z,0.2nm,0.3s,baz=177,slow=15,SNR=2.1							
NOA				Sn		**Sn**	**15 49 16.8**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=162,slow=6.1,SNR=2.1							
ARA0	**ARCESS Array S**	**9.99**	**6**	Pn		**Pn**	**15 49 09.6**	**-1.9**
	baz=182,slow=16							
ARA0				Sn		**Sn**	**15 50 57.3**	**-7.0**
	baz=190,slow=28							
ARA0	**ARCESS Array S**	**9.99**	**6**	*e*P		**Pn**	**15 49 09.6**	**-1.9**
ARA0				*e*S		**Sn**	**15 50 57.3**	**-7.0**
ARCES	**ARCESS Array B**	**9.99**	**6**	Pn		**Pn**	**15 49 10.1**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=182,slow=14,SNR=10.0							
ARCES				Sn		**Sn**	**15 50 58.2**	**-6.0**
	comp=Z,0.1nm,0.3s,baz=191,slow=27,SNR=2.7							

IDC 09 16:01:19.8±2.6, 457S×13034E, h0km, mb3.3/1, mb1 4.0/4, mb1mx3.8/14, mbtmp3.8/4, ML3.9/3, Error ellipse: s-maj=133.3km s-min=28.4km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**14.22**	**198**	Pn		Pn	16 04 42.6	+0.2
	0.4nm,0.3s,baz=342,slow=22,SNR=23							
FITZ				Sn		Sn	16 07 06.5	-14
	0.2nm,0.3s,baz=300,slow=20,SNR=3.6							
WRA	**Warramunga Arr**	**15.77**	**166**	Pn		Pn	16 05 04.1	+0.8
	0.4nm,0.3s,baz=338,slow=14,SNR=18							
WRA				Sn		Sn	16 07 47.6	-11
	0.3nm,0.3s,baz=334,slow=23,SNR=5.7							
ASAR	**Alice Springs**	**19.30**	**170**	P		Pn	16 05 46.3	-0.9
	0.8nm,0.3s,baz=348,slow=11,SNR=92							
ASAR				S		Sn	16 09 13.2	-11
	0.1nm,0.3s,baz=359,slow=22,SNR=6.6							
MKAR	**Makanchi Array**	**66.39**	**326**	P		P	16 12 10.8	+0.2
	0.2nm,0.5s,baz=116,slow=6.2,SNR=4.5							

*ISCJB **09** 16:03:58.7±0.3, 4935N±001×684E±003, h0km, Error ellipse: s-maj=2.6km s-min=1.9km az=168.0*
*NEIC **09** 16:04:00.4, 4939N×691E, h1km, ML2.5(STR), ML2.9(LDG), After LDG.*
*BGR **09** 16:04:00.8±0.5, 4935N×686E, h1km, ML2.0, Error ellipse: s-maj=6.7km s-min=4.4km az=34.0*
*CSEM **09** 16:04:00.2±0.1, 4939N×691E, h2km, ML2.9/12, Error ellipse: s-maj=1.2km s-min=1.1km az=72.0*
*LDG **09** 16:04:00.4±0.1, 4939N×691E, h1km, Md3.0/1, Ml2.9/13, Error ellipse: s-maj=2.2km s-min=2.0km az=89.0, Suspected Mining induced.*
*STR **09** 16:04:00.4±0.2, 4936N×692E, h1km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*BNS **09** 16:04:01.6±0.4, 4943N×686E, h1km, ML1.8*
ISC 09 16:03:59.7±0.3, 4936N±001×685E±003, h0km, n53, σ0§85/94, Germany

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RUP	**Ruppelstein**	**0.37**	**22**	Pg		**Pg**	**16 04 06.9**	**+0.2**
RUP				Sg		**Sg**	**16 04 12.2**	**+0.8**
RUP	**Ruppelstein**	**0.37**	**22**	Pg		**Pg**	**16 04 06.8**	**+0.1**
RUP				Sg		**Sg**	**16 04 12.1**	**+0.7**
WLF	**Walferdange**	**0.54**	**304**	*e*Pg		**Pg**	**16 04 11.3**	**+1.2**
WLF				*e*Sg		**Sg**	**16 04 18.1**	**+1.0**
WLF	**Walferdange**	**0.54**	**304**	P		**Pg**	**16 04 11.2**	**+1.1**
WLF				S		**Sg**	**16 04 17.1**	**0.0**
	comp=E,22nm,0.0s							
WLF	**Walferdange**	**0.54**	**304**	*e*Pg		**Pg**	**16 04 10.9**	**+0.8**
LANF	**Langenberg**	**0.74**	**121**	Pg		**Pg**	**16 04 13.7**	**-0.1**
LANF				Sg		**Sg**	**16 04 23.0**	**-0.3**
BGG	**Burgeitz**	**0.90**	**20**	*e*Pg		**Pg**	**16 04 17.6**	**+0.6**
CDF	**Champ du Feu**	**0.99**	**163**	*e*Pg		**Pg**	**16 04 19.9**	**+1.2**
CDF				*e*Sg		**Sg**	**16 04 32.1**	**+0.5**
	comp=E,28nm,0.3s							
CDF	**Champ du Feu**	**0.99**	**163**	*e*Pg		**Pg**	**16 04 19.9**	**+1.2**
CDF				*e*Sg		**Sg**	**16 04 32.1**	**+0.5**
	comp=E,14nm,0.3s							
WLS	**Welschbruch**	**1.01**	**160**	Pg		**Pg**	**16 04 19.7**	**+0.7**
WLS				Sg		**Sg**	**16 04 32.1**	**0.0**
WLS	**Welschbruch**	**1.01**	**160**	Pg		**Pg**	**16 04 20.1**	**+1.1**
WLS				Sg		**Sg**	**16 04 34.2**	**+2.1**
RFYF	**Reffroy**	**1.17**	**231**	*e*Pg		**Pg**	**16 04 23.3**	**+1.3**
RFYF				*e*Sg		**Sg**	**16 04 39.7**	**+2.6**
	comp=E,30nm,0.3s							
RFYF	**Reffroy**	**1.17**	**231**	*e*Pg		**Pg**	**16 04 23.3**	**+1.3**
RFYF				*e*Sg		**Sg**	**16 04 39.7**	**+2.6**
	comp=E,15nm,0.3s							
ECH	**Echery**	**1.17**	**170**	Pn		**Pn**	**16 04 22.0**	**-1.2**
ECH				Sg		**Sg**	**16 04 37.7**	**+0.5**
ECH	**Echery**	**1.17**	**170**	Pg		**Pg**	**16 04 22.3**	**+0.3**
ECH				Sg		**Sg**	**16 04 37.7**	**+0.5**
STB	**Steinbach**	**1.23**	**360**	*e*Pg		**Pg**	**16 04 23.5**	**+0.2**
STB				*e*Sg		**Sg**	**16 04 39.2**	**-0.1**
	comp=E,26nm,0.7s							
THEF	**They Montfort**	**1.27**	**207**	Pg		**Pg**	**16 04 24.4**	**+0.4**
THEF	**They Montfort**	**1.27**	**207**	Pn		**Pn**	**16 04 22.9**	**-1.8**
THEF	**They Montfort**	**1.27**	**207**	Pg		**Pg**	**16 04 24.4**	**+0.4**
TOD	**Tromm**	**1.30**	**78**	Pg		**Pg**	**16 04 23.8**	**-0.8**
TOD	**Tromm**	**1.30**	**78**	Pg		**Pg**	**16 04 23.9**	**-0.7**
KLL	**Kalltalsperre**	**1.33**	**345**	*e*Pg		**Pg**	**16 04 24.6**	**-0.6**
KLL				*e*Sg		**Sg**	**16 04 42.2**	**-0.2**
TNS	**Taunus Mts**	**1.35**	**50**	*e*Pg		**Pg**	**16 04 24.9**	**-0.6**
TNS				*e*Sg		**Sg**	**16 04 43.4**	**+0.4**
MEM	**Membach**	**1.36**	**337**	P		**Pg**	**16 04 25.3**	**-0.4**
MEM				S		**Sg**	**16 04 44.5**	**+1.1**
	comp=N,16nm,0.0s							
HAU	**Haudompre**	**1.40**	**194**	*e*Pg		**Pg**	**16 04 27.9**	**+1.4**
HAU				*e*Sg		**Sg**	**16 04 45.4**	**+0.8**
	comp=N,31nm,0.2s							
HAU	**Haudompre**	**1.40**	**194**	*e*Pg		**Pg**	**16 04 27.9**	**+1.4**
HAU				*e*Sg		**Sg**	**16 04 45.4**	**+0.8**
	comp=N,16nm,0.2s							
BFO	**Black Forest**	**1.42**	**136**	*e*Pg		**Pg**	**16 04 25.9**	**-1.1**
BFO				*e*Sg		**Sg**	**16 04 45.6**	**+0.1**
MEZF	**Maizieres J'vi**	**1.46**	**235**	*e*Pg		**Pg**	**16 04 28.5**	**+0.8**
MEZF				*e*Sg		**Sg**	**16 04 48.1**	**+1.4**
	comp=N,23nm,0.4s							
MEZF	**Maizieres J'vi**	**1.46**	**235**	*e*Pg		**Pg**	**16 04 28.5**	**+0.8**
MEZF				*e*Sg		**Sg**	**16 04 48.1**	**+1.4**
	comp=N,12nm,0.4s							
GIVF	**Givet**	**1.51**	**300**	*e*Pg		**Pg**	**16 04 28.3**	**-0.3**
GIVF				*e*Sg		**Sg**	**16 04 48.2**	**+0.1**
	comp=N,37nm,0.5s							
GIVF	**Givet**	**1.51**	**300**	*e*Pg		**Pg**	**16 04 28.3**	**-0.3**
GIVF				*e*Sg		**Sg**	**16 04 48.2**	**+0.1**
	comp=N,18nm,0.5s							
MOF	**Molkenrain**	**1.52**	**173**	Pn		**Pn**	**16 04 28.4**	**+0.2**
MOF				Sg		**Sg**	**16 04 49.4**	**+0.7**
MOF	**Molkenrain**	**1.52**	**173**	Pg		**Pg**	**16 04 29.0**	**+0.1**
MOF				Sg		**Sg**	**16 04 49.4**	**+0.7**
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pg		**Pg**	**16 04 29.6**	**+0.3**
HINF				*e*Sg		**Sg**	**16 04 50.0**	**+0.6**
	comp=N,82nm,0.2s							
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pg		**Pg**	**16 04 29.6**	**+0.3**
HINF				*e*Sg		**Sg**	**16 04 50.0**	**+0.6**
	comp=N,41nm,0.2s							
DOU	**Dourbes**	**1.64**	**298**	P		**Pn**	**16 04 28.9**	**-0.8**
DOU				S		**Sn**	**16 04 52.0**	**+0.6**
	comp=E,12nm,0.0s							
SFTF	**Sexfontaines**	**1.67**	**227**	*e*Pg		**Pg**	**16 04 30.9**	**-0.7**
SFTF				*e*Sn		**Sn**	**16 04 50.9**	**-1.3**
	comp=E,18nm,0.4s							
SFTF	**Sexfontaines**	**1.67**	**227**	*e*Pg		**Pg**	**16 04 30.9**	**-0.7**
SFTF				*e*Sn		**Sn**	**16 04 50.9**	**-1.3**
	comp=E,9.1nm,0.4s							
FELD	**Feldberg im Sc**	**1.68**	**152**	Pg		**Pg**	**16 04 31.6**	**-0.2**
BAIF	**Baives**	**1.85**	**293**	*e*Pg		**Pg**	**16 04 35.6**	**+0.5**
CABF	**La Chapelle**	**2.80**	**191**	*e*Pn		**Pn**	**16 04 45.1**	**-0.6**
CABF				*e*Sg		**Sg**	**16 05 29.1**	**-0.6**
	comp=E,17nm,0.7s							
CABF	**La Chapelle**	**2.80**	**191**	*e*Pn		**Pn**	**16 04 45.1**	**-0.6**
CABF				*e*Sg		**Sg**	**16 05 29.1**	**-0.6**
	comp=E,8.7nm,0.7s							
LOR	**Lormes**	**2.89**	**225**	*e*Pn		**Pn**	**16 04 45.8**	**-1.2**
LOR				*e*Sn		**Sn**	**16 05 21.3**	**-1.2**
	comp=E,14nm,0.5s							
LOR	**Lormes**	**2.89**	**225**	*e*Pn		**Pn**	**16 04 45.8**	**-1.2**
LOR				*e*Sn		**Sn**	**16 05 21.3**	**-1.2**
	comp=E,6.8nm,0.5s							
SSF	**Saint Saulge**	**3.21**	**225**	*e*Pn		**Pn**	**16 04 50.2**	**-1.1**
SSF				*e*Sn		**Sn**	**16 05 28.8**	**-1.4**
	comp=E,2.9nm,0.3s							
SSF	**Saint Saulge**	**3.21**	**225**	*e*Pn		**Pn**	**16 04 50.2**	**-1.1**
SSF				*e*Sn		**Sn**	**16 05 28.8**	**-1.4**
	comp=E,1.5nm,0.3s							
SMF	**Signal de Mont**	**3.39**	**218**	*e*Pn		**Pn**	**16 04 53.0**	**-0.8**
SMF				*e*Sg		**Sg**	**16 05 48.5**	**0.0**
	comp=E,7.1nm,0.3s							
SMF	**Signal de Mont**	**3.39**	**218**	*e*Pn		**Pn**	**16 04 53.0**	**-0.8**
SMF				*e*Sg		**Sg**	**16 05 48.5**	**0.0**
	comp=E,3.5nm,0.3s							
AVF	**Avril sur Loir**	**3.48**	**224**	*e*Pn		**Pn**	**16 04 53.6**	**-1.4**
AVF				*e*Sn		**Sn**	**16 05 35.5**	**-1.4**
	comp=E,2.8nm,0.3s							
AVF	**Avril sur Loir**	**3.48**	**224**	*e*Pn		**Pn**	**16 04 53.6**	**-1.4**
AVF				*e*Sn		**Sn**	**16 05 35.5**	**-1.4**
	comp=E,1.4nm,0.3s							
BGF	**Bois d'Agland**	**3.89**	**225**	*e*Pn		**Pn**	**16 05 00.3**	**-0.3**
WET	**Wettzell**	**3.96**	**91**	*e*Pn		**Pn**	**16 05 01.7**	**+0.1**
	SNR=1.9							
GEC2	**GERESS Array S**	**4.53**	**94**	*e*Pn		**Pn**	**16 05 09.4**	**-0.1**
	SNR=6.7							

*ISCJB **09** 16:04:29.5±0.9, 2220S±006×6376W±009, h10km, mb3.8/1, Error ellipse: s-maj=12.3km s-min=8.3km az=154.1*
*IDC **09** 16:04:31.5±1.8, 2220S×6382W, h0km, mb3.9/1, mb1 3.6/5, mb1mx3.5/18, mbtmp3.5/5, ML4.0/3, Error ellipse: s-maj=29.9km s-min=19.9km az=69.0*
*NEIC **09** 16:04:34.6±0.9, 2222S×6374W, h35km, Error ellipse: s-maj=18.9km s-min=11.3km az=83.0*
ISC 09 16:04:31.6±2.5, 2219S±007×6375W±009, h4km±19km, n8, σ1§09/12, mb3.8/1, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIV	**San Ignacio**	**6.67**	**23**	Pn		**Pn**	**16 06 11.0**	**+0.6**
	1.1nm,0.3s,baz=213,slow=12,SNR=17							
SIV				Sn		**Sn**	**16 07 26.0**	**-0.8**
	1.3nm,0.3s,baz=131,slow=20,SNR=2.4							
SIV				Lg			16 08 02.9	
	1.6nm,0.3s,baz=288,slow=20,SNR=3.4							
CPUP	**Villa Florida**	**7.16**	**126**	Pn		**Pn**	**16 06 17.1**	**0.0**
	2.3nm,0.3s,baz=296,slow=10,SNR=10							
CPUP				Lg			16 08 22.2	
	2.7nm,0.3s,baz=216,slow=19,SNR=3.0							
CPUP	**Villa Florida**	**7.16**	**126**	*e*Pn		**Pn**	**16 06 16.8**	**-0.3**
CPUP				Pg		**Pg**	**16 06 48.5**	**-0.2**
CPUP				Lg			16 08 22.2	
LPAZ	**La Paz**	**7.19**	**324**	Pn		**Pn**	**16 06 19.7**	**+2.2**
	0.3nm,0.3s,baz=140,slow=11,SNR=9.2							
LPAZ				Sn		**Sn**	**16 07 39.0**	**-0.6**
	0.4nm,0.3s,baz=91,slow=17,SNR=3.7							
LPAZ	**La Paz**	**7.19**	**324**	*e*Pn		**Pn**	**16 06 19.2**	**+1.7**
LPAZ				Sn		**Sn**	**16 07 39.0**	**-0.6**
CFAA	**Coronel Fontan**	**10.19**	**202**	Pn		**Pn**	**16 06 57.7**	**-1.0**
	0.1nm,0.3s,baz=28,slow=7.6,SNR=4.7							
SAML	**Samuel**	**13.18**	**2**	*e*Pn		**Pn**	**16 07 38.3**	**-1.2**
	4.5nm,0.5s							
TORD	**Torodi Ar. Bea**	**73.12**	**68**	P		**P**	**16 16 05.1**	**+1.9**
	0.7nm,0.5s,mb3.8,baz=258,slow=6.4,SNR=6.5							

*NEIC **09** 16:21:47.4, 3096S×7155W, h31km, ML2.7(GUC), After GUC.*
GUC 09 16:21:47.4±0.6, 3096S×7155W, h31km±3km, MD3.5, ML2.7, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OVCH	**Ovalle**	**0.46**	**41**	↓*i*P		Pb	16 21 57.3	0.0
OVCH				*i* S		Sb	16 22 04.7	+0.7
OVCH				AML		AML	16 22 05.8	
	comp=N,790nm,0.3s							
OVCH	**Ovalle**	**0.46**	**41**	↓*i*P		Pb	16 21 57.3	0.0
OVCH				*i* S		Sb	16 22 04.7	+0.7
CMCH	**Combarbala**	**0.52**	**115**	↑*i*P		Pb	16 21 58.0	-0.2
CMCH				*i* S		Sb	16 22 06.1	+0.5
CMCH				AML		AML	16 22 06.4	
	comp=N,2µm,0.2s							
CHNG	**Los Chungos**	**0.93**	**177**	*e*P		Pn	16 22 03.7	-0.5
CHNG				*i* S		Sn	16 22 16.8	+0.3
CHNG				AML		AML	16 22 18.4	
	comp=E,263nm,0.3s							
TLL	**Tololo Astrono**	**1.02**	**40**	↑*i*P		Pn	16 22 06.1	+0.5
TLL				*i* S		Sn	16 22 20.0	+1.3
TLL				AML		AML	16 22 24.9	
	comp=E,213nm,0.4s							
TLL	**Tololo Astrono**	**1.02**	**40**	↑*i*P		Pn	16 22 06.1	+0.5
TLL				*i* S		Sn	16 22 20.0	+1.3
PEL	**Peldehue**	**2.30**	**162**	*e*P		Pn	16 22 24.6	+1.4
PEL				AML		AML	16 23 02.8	
	comp=E,108nm,0.3s							
FCH	**Farellones**	**2.60**	**156**	*e*P		Pn	16 22 29.4	+2.2
FCH				*i* S		Sn	16 23 01.4	+3.7
FCH				AML		AML	16 23 14.0	
	comp=E,46nm,0.2s							

*ISCJB **09** 16:23:04.5±0.6, 4144N±003×2263E±004, h3km±11km, Error ellipse: s-maj=5.8km s-min=4.3km az=135.3*
*SKO **09** 16:23:04.1, 4146N×2263E, h15km, ML2.2*
*CSEM **09** 16:23:04.8±0.1, 4148N×2264E, h2km, ML2.8, Error ellipse: s-maj=2.2km s-min=1.1km az=35.0*
*THE **09** 16:23:05.4, 4143N×2262E, h1km, ML2.8*
ISC 09 16:23:05.1±0.6, 4143N±003×2262E±005, h11km±9km, n15, σ0§70/26, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VAY	**Valandovo**	**0.12**	**199**	*i* Pg		**Pg**	**16 23 07.7**	**-0.3**
KNT	**Kendrikon**	**0.34**	**142**	*e*Pg		**Pg**	**16 23 11.9**	**0.0**
KNT				*e*Sg		**Sg**	**16 23 16.7**	**+0.2**
STIP	**Stip**	**0.42**	**309**	*e*Pg		**Pg**	**16 23 12.9**	**-0.5**
STIP				*e*Lg			16 23 19.1	
	comp=N,134nm,0.4s							
STIP

1.5nm,0.5s,mb4.0,baz=34,slow=7.3,SNR=9.2
SONM Songino Array 66.38 328 P **P** 17 01 22.0 +0.4
0.3nm,0.5s,mb3.6,baz=142,slow=5.6,SNR=5.9
MKAR Makanchi Array 80.22 319 P **P** 17 02 43.3 +0.1
0.4nm,0.7s,mb3.5,baz=101,slow=6.3,SNR=5.7
ILAR Eielson Array 82.97 22 P **P** 17 02 56.4 -1.3
1.4nm,0.7s,mb4.1,baz=247,slow=5.5,SNR=16
NVAR Mina Array Bea 93.05 52 P **P** 17 03 47.6 +1.4
0.2nm,0.3s,mb4.0,baz=248,slow=8.7,SNR=2.8
YKA Yellowknife Ar 96.29 28 P **P** 17 04 00.7 -0.3
0.2nm,0.7s,mb3.7,baz=272,slow=5.1,SNR=5.5
YKA Yellowknife Ar 96.29 28 P **P** 17 04 00.7 -0.3
TORD Torodi Ar. Bea 149.72 287 PKPbc PKPbc 17 10 22.4 +0.2
1.3nm,0.8s,baz=88,slow=2.7,SNR=14

IDC 09 16:52:47.5±17.0, 1697S×17491W, h0km, mb4.2/5, mb1 4.3/5, mb1mx4.0/15, mbtmp4.2/5, Error ellipse: s-maj=322.8km s-min=156.1km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.90**	**259**	P	P	16 59 58.7	+0.8
	4.3nm,0.7s,baz=96,slow=10,SNR=3.5						
STKA	**Stephens Creek**	**42.01**	**241**	P	P	17 00 41.1	+0.6
	2.3nm,0.8s,baz=92,slow=12,SNR=3.8						
WRA	**Warramunga Arr**	**48.09**	**258**	P	P	17 01 28.4	-0.5
	0.9nm,0.5s,baz=96,slow=7.3,SNR=25						
ASAR	**Alice Springs**	**48.26**	**253**	P	P	17 01 30.6	+0.3
	9.5nm,0.6s,baz=90,slow=7.9,SNR=308						
FITZ	**Fitzroy Crossi**	**56.48**	**259**	P	P	17 02 32.1	+0.8
	1.0nm,0.8s,baz=127,slow=16,SNR=4.2						

*ISCJB **09** 17:18:28.7±6.8, 126S±03×1674E±04, h171km±52km, mb3.9/8, Error ellipse: s-maj=79.1km s-min=22.5km az=73.4*
*NEIC **09** 17:18:30.4±4.5, 1245S×16741E, h180km±34km, mb4.2/1, Error ellipse: s-maj=48.8km s-min=13.6km az=124.0*
*IDC **09** 17:18:35.6±11.0, 1261S×16732E, h223km±106km, mb3.6/8, mb1 3.7/8, mb1mx3.5/15, mbtmp4.1/8, MS2.8/1, Ms1 2.8/1, ms1mx2.6/16, Error ellipse: s-maj=69.7km s-min=39.8km az=138.0*

ISC 09 17:18:29.6±6.3, 125S±03×1674E±04, h168km±48km, n28, σ0§47/12, mb3.9/8, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.95**	**292**	LR	LR	17 22 30.8	
	comp=Z,61nm,18.0s,baz=358,slow=30						
HNR	**Honiara**	**7.95**	**292**	P	**Pn**	17 20 22.0	**-0.1**
CTA	**Charters Tower**	**21.68**	**247**	P	**P**	17 23 07.9	**+0.9**
	8.5nm,1.0s,mb4.1,baz=92,slow=14,SNR=4.9						
CTAO	**Charters Tower**	**21.68**	**247**	*e*P	**P**	17 23 07.9	**+0.9**
	7.7nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**30.62**	**227**	P	**P**	17 24 27.8	**0.0**
	2.5nm,0.9s,mb3.9,baz=152,slow=10,SNR=4.8						
STKA	**Stephens Creek**	**30.62**	**227**	*e*P	**P**	17 24 27.6	**-0.2**
WRA	**Warramunga Arr**	**32.59**	**252**	P	**P**	17 24 44.5	**-0.6**
	0.7nm,0.5s,mb3.6,baz=84,slow=8.9,SNR=8.0						
ASAR	**Alice Springs**	**33.68**	**246**	P	**P**	17 24 54.0	**-0.6**
	0.4nm,0.6s,mb3.4,baz=69,slow=9.6,SNR=11						
FITZ	**Fitzroy Crossi**	**40.64**	**257**	P	**P**	17 25 53.5	**+0.4**
	1.9nm,0.9s,mb3.7,baz=67,slow=15,SNR=6.8						
ILAR	**Eielson Array**	**84.33**	**18**	P	**P**	17 30 43.2	**+0.5**
	2.3nm,0.6s,mb4.1,baz=238,slow=5.0,SNR=30						
YKA	**Yellowknife Ar**	**95.47**	**27**	P	**P**	17 31 34.8	**-0.3**
	0.3nm,0.6s,mb3.7,baz=257,slow=4.9,SNR=7.1						
MKAR	**Makanchi Array**	**95.68**	**317**	P	**P**	17 31 36.2	**0.0**
	1.3nm,0.7s,mb4.4,baz=93,slow=6.8,SNR=16						
MKAR	**Makanchi Array**	**95.68**	**317**	P	**P**	17 31 36.2	**0.0**
ARCES	**ARCESS Array B**	**118.11**	**346**	PKP	PKPdf	17 36 55.5	-1.0
	0.9nm,0.4s,baz=70,slow=1.5,SNR=16						
ARCES	**ARCESS Array B**	**118.11**	**346**	PKP	PKPdf	17 36 55.5	-1.0
FINES	**FINESS Array B**	**123.69**	**339**	PKP	PKPdf	17 37 06.3	-0.9
	1.0nm,0.7s,baz=64,slow=4.4,SNR=6.1						
CABF	**La Chapelle**	**142.50**	**339**	*e*PKP1	PKPdf	17 37 41.5	-0.9
LPG	**La Plagne**	**143.20**	**337**	*e*PKP1	PKPdf	17 37 43.6	0.0
MBDF	**Montbardon**	**143.84**	**336**	*e*PKP1	PKPdf	17 37 42.9	-1.8
	8.1nm,0.7s						
ORIF	**Oris-en-Rattie**	**144.02**	**338**	*e*PKP1	PKPdf	17 37 44.0	-1.1
	9.9nm,0.7s						
TCF	**Toulx Ste Croi**	**144.04**	**342**	*e*PKP1	PKPdf	17 37 43.8	-1.3
	9.8nm,0.9s						
SBF	**Sospel**	**144.29**	**335**	*e*PKP1	PKPdf	17 37 44.1	-1.4
	47nm,0.9s						
MFF	**Saint Martin d**	**144.39**	**345**	*e*PKP1	PKPdf	17 37 44.9	-0.8
VIVF	**Saint-Julien-l**	**144.51**	**339**	*e*PKP1	PKPdf	17 37 45.6	-0.3
FRF	**La Foret Royal**	**144.86**	**335**	*e*PKP1	PKPdf	17 37 46.1	-0.4
	19nm,0.9s						
LMR	**La Mourre**	**145.10**	**335**	*e*PKP1	PKPbc	17 37 46.9	+0.1
LASF	**Ste Croix**	**145.48**	**339**	*e*PKP1	PKPbc	17 37 48.6	+0.6
	7.7nm,0.7s						
MTLF	**Montolieu**	**146.69**	**340**	*e*PKP1	PKPbc	17 37 52.1	+0.6

*BJI **09** 17:23:50.5, 300S×130.10E, h20km, mB5.0, mb4.7*
*ISCJB **09** 17:23:52.3±0.5, 306S±006×1301E±01, h33km, mb4.4/17, Error ellipse: s-maj=20.2km s-min=6.0km az=142.9*
*NEIC **09** 17:23:52.6±0.4, 304S×13008E, mb4.5/10, Error ellipse: s-maj=15.6km s-min=6.4km az=69.0*
*MOS **09** 17:23:52.2±0.9, 307S×12985E, h31km, mb4.9/6, Error ellipse: s-maj=43.0km s-min=11.2km az=113.8*
*IDC **09** 17:23:54.6±4.8, 311S×13001E, h34km±38km, mb4.1/6, mb1 4.3/8, mb1mx4.1/17, mbtmp4.3/8, ML4.1/2, MS3.2/1, Ms1 3.2/1, ms1mx2.7/23, Error ellipse: s-maj=64.2km s-min=11.9km az=73.0*

ISC 09 17:23:54.6±0.5, 305S±006×1302E±01, h35km, (h17km±4.5km: pP-P), n40, σ0§80/42, mb4.4/17, 1C-2D, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.86**	**167**	*e*P	**Pn**	**17 26 13.4**	**-0.4**
	10nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.60**	**196**	*e*P	**Pn**	17 27 30.1	**-1.7**
	14nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.60**	**196**	Pn	**Pn**	17 27 30.4	**-1.4**
	0.3nm,0.3s,baz=345,slow=17,SNR=7.9						
FITZ				LR	LR	17 33 55.5	
	comp=Z,83nm,20.5s,baz=180,slow=39						
WRAB	**Tennant Creek**	**17.27**	**167**	*e*P	**Pn**	**17 27 51.7**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,18nm,0.5s						
WRAB	**Tennant Creek**	**17.27**	**167**	*e*P	**Pn**	**17 27 51.7**	**-1.2**
	comp=Z,18nm,0.5s						
WRA	**Warramunga Arr**	**17.28**	**167**	P	**Pn**	**17 27 54.0**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=348,slow=11,SNR=23						
WRA				S	**S**	**17 31 03.0**	**-9.2**
	comp=Z,0.2nm,0.3s,baz=332,slow=23,SNR=2.8						
WB2	**Warramunga Arr**	**17.28**	**167**	*e*P	**Pn**	**17 27 46.6**	**-6.5**
KSM	**Kuching**	**20.34**	**282**	*e*P	**P**	**17 28 29.0**	**+1.2**
MBWA	**Marble Bar**	**20.66**	**209**	*e*P	**P**	**17 28 31.2**	**-0.1**
ASAR	**Alice Springs**	**20.81**	**170**	P	**P**	**17 28 34.0**	**+1.1**
	comp=Z,42nm,0.7s,baz=351,slow=10,SNR=490						
ASAR				S	**S**	**17 32 23.9**	**+0.7**
	comp=Z,2.9nm,0.8s,baz=347,slow=20,SNR=7.6						
CTA	**Charters Tower**	**23.10**	**138**	*e*P	**P**	**17 28 58.9**	**+1.6**
	comp=Z,7.8nm,1.0s,mb4.1						
CTA	**Charters Tower**	**23.10**	**138**	P	**P**	**17 28 58.7**	**+1.4**
	comp=Z,6.9nm,1.0s,mb4.0,baz=311,slow=13,SNR=5.0						
CTA	**Charters Tower**	**23.10**	**138**	*e*P	**P**	**17 28 58.9**	**+1.6**
CTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CTAO	**Charters Tower**	**23.10**	**138**	*e*P	**P**	**17 28 59.4**	**+2.1**
FORT	**Forrest**	**27.65**	**184**	*e*P	**P**	**17 29 39.1**	**+0.1**
	comp=Z,9.6nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**30.63**	**161**	*e*P	**P**	**17 30 04.5**	**-0.9**
	comp=Z,4.2nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**30.63**	**161**	P	**P**	**17 30 04.3**	**-1.1**
	comp=Z,4.1nm,0.7s,mb4.4,baz=339,slow=8.5,SNR=7.2						
NANT	**Nan**	**36.22**	**308**	⇓P	**P**	**17 30 55.0**	**+0.9**
	comp=Z,88nm,0.9s						
CHG	**Chiang Mai**	**37.62**	**306**	⇑P	**P**	**17 31 06.9**	**+0.9**
	comp=Z,10.0nm,1.0s,mb4.5						
CHTO	**Chiang Mai**	**37.62**	**306**	*e*P	**P**	**17 31 05.3**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.5						
CHTO	**Chiang Mai**	**37.62**	**306**	*e*P	**P**	**17 31 05.3**	**-0.7**
	comp=Z,12nm,1.1s,mb4.5						
CD2	**Chengdu**	**42.12**	**325**	P	**P**	**17 31 43.8**	**+0.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
LZH	**Lanzhou**	**46.05**	**330**	*e*P	**P**	**17 32 14.5**	**-0.3**
LZH				XP	sP	17 32 29.0	-0.4
LZH				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.8						
HHC	**Hu-ho-hao-te**	**46.88**	**341**	*e*P	**P**	**17 32 26.4**	**+5.1**
HHC				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,71nm,8.1s						
GTA	**Gaotai**	**50.64**	**330**	⇓P	**P**	**17 32 50.5**	**+0.3**
GTA				AP	pP	17 32 56.5	-4.2
GTA				XP	sP	17 33 00.0	-4.8
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.5						
ULN	**Ulaanbaatar**	**54.59**	**341**	*e*P	**P**	**17 33 19.0**	**-0.5**
ULN				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
ULN	**Ulaanbaatar**	**54.59**	**341**	*e*P	**P**	**17 33 19.0**	**-0.4**
	comp=Z,12nm,1.1s,mb4.8						
SONM	**Songino Array**	**54.78**	**341**	P	**P**	**17 33 20.9**	**+0.1**
	comp=Z,2.4nm,0.9s,mb4.2,baz=147,slow=9.3,SNR=17						
ZAK	**Zakamensk**	**58.02**	**340**	*e*P	**P**	**17 33 39.0**	**-4.9**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.3						
YAK	**Yakutsk**	**64.90**	**360**	*e*P	**P**	**17 34 29.8**	**-0.6**
YAK				*e*PP	pP	17 34 35.5	-5.6
YAK				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0						
YAK	**Yakutsk**	**64.90**	**360**	*e*P	**P**	**17 34 29.8**	**-0.5**
	comp=Z,14nm,0.8s,mb5.0						
YAK				*e*pP	pP	17 34 35.5	-5.7
MKAR	**Makanchi Array**	**65.05**	**326**	P	**P**	**17 34 31.4**	**+0.1**
	comp=Z,2.8nm,1.0s,mb4.3,baz=120,slow=7.9,SNR=19						
MKAR	**Makanchi Array**	**65.05**	**326**	P	**P**	**17 34 31.4**	**+0.1**
KURK	**Kurchatov**	**69.26**	**328**	*e*P	**P**	**17 34 57.2**	**-0.9**
KURK				*e*PP	pP	17 35 04.1	-4.8
KURK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
KURK	**Kurchatov**	**69.26**	**328**	*e*P	**P**	**17 34 57.2**	**-0.9**
	comp=Z,12nm,0.9s,mb4.8						
KURK				*e*pP	pP	17 35 04.1	-4.8
BRVK	**Borovoye**	**74.91**	**327**	*e*P	**P**	**17 35 31.6**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
BRVK	**Borovoye**	**74.91**	**327**	*e*P	**P**	**17 35 31.6**	**-0.3**
	comp=Z,1.0nm,0.7s,mb3.9						
ZRNK	**Zerenda**	**75.55**	**327**	*e*P	**P**	**17 35 35.1**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
ZRNK	**Zerenda**	**75.55**	**327**	*e*P	**P**	**17 35 35.1**	**-0.5**
	comp=Z,2.0nm,0.7s,mb4.2						
VNDA	**Vanda**	**76.33**	**173**	P	**P**	**17 35 40.1**	**+0.2**
	comp=Z,0.5nm,0.6s,mb3.7,baz=343,slow=4.2,SNR=2.8						

IDC 09 17:43:24.2±8.1, 2179S×17081E, h82km±53km, mb3.7/3, mb1 3.9/4, mb1mx3.6/13, mbtmp4.1/4, ML4.0/1, MS3.4/6, Ms1 3.4/6, ms1mx3.2/21, Error ellipse: s-maj=129.0km s-min=50.2km az=163.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.07**	**265**	P	Pn	17 44 24.1	0.0
	10nm,0.3s,baz=43,slow=0.1,SNR=31						
DZM				S	Sn	17 45 11.2	+0.8
	21nm,0.3s,baz=230,slow=0.1,SNR=11						
RAO	**Raoul Island**	**12.59**	**128**	LR	LR	17 49 41.7	
	comp=Z,267nm,19.5s,baz=155,slow=30						
HNR	**Honiara**	**16.13**	**318**	LR	LR	17 52 38.6	
	comp=Z,100nm,20.2s,baz=178,slow=34						
URZ	**Urewera**	**17.29**	**163**	LR	LR	17 53 05.2	
	comp=Z,140nm,19.2s,baz=3.0,slow=34						
RPZ	**Rata Peaks**	**21.86**	**180**	LR	LR	17 55 06.4	
	comp=Z,165nm,18.3s,baz=313,slow=32						
CTA	**Charters Tower**	**23.00**	**270**	P	P	17 48 24.1	+2.0
	6.5nm,1.1s,baz=92,slow=13,SNR=4.1						
CTA				LR	LR	17 56 37.9	
	comp=Z,82nm,20.4s,baz=284,slow=34						
ASAR	**Alice Springs**	**34.04**	**260**	P	P	17 50 00.2	-0.2
	2.4nm,0.7s,baz=76,slow=9.2,SNR=33						
WRA	**Warramunga Arr**	**34.09**	**266**	P	P	17 50 00.2	-0.6
	0.5nm,0.3s,baz=98,slow=8.5,SNR=8.9						
GUMO	**Guam**	**43.41**	**322**	LR	LR	18 06 59.6	
	comp=Z,25nm,20.8s,baz=85,slow=33						
GERES	**GERESS Array B**	**147.43**	**331**	PKPbc	PKPbc	18 02 58.2	-0.4
	0.2nm,0.2s,baz=11,slow=2.0,SNR=5.2						

*BER **09** 18:09:36.5±4.9, 5769N×2257E, h0km±22km, ML2.0(NAO)*
*IDC **09** 18:09:36.2±3.0, 5770N×2264E, h0km, mb1 3.0/3, mb1mx2.9/18, mbtmp2.9/3, ML2.7/3, Error ellipse: s-maj=31.1km s-min=12.0km az=157.0*
*NAO **09** 18:09:37.5±2.2, 5785N×2251E, ML2.0*
HEL 09 18:09:36.6±0.3, 5775N×2250E, h0km, ML1.9, ML2.2(UPP), ML2.0(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**2.36**	**71**	Lg		18 10 48.4	
VSU	**Vasula**	**2.36**	**71**	*e*P	Pn	18 10 16.6	0.0
VSU				*e*S	Sn	18 10 46.2	-0.1
VSU	**Vasula**	**2.36**	**71**	Lg		18 10 48.4	
MEF	**Metsahovi**	**2.67**	**21**	*e*P	Pn	18 10 21.1	+0.3
MEF				*e*S	Sn	18 10 53.6	-0.2
MEF				MSG		18 10 57.2	
	comp=Z,8.7nm,0.1s						
NYNU	**Nynaeshamn**	**2.68**	**300**	*e*P	Pn	18 10 21.3	+0.3
AAL	**Aland**	**2.76**	**333**	*e*P	Pn	18 10 21.1	-1.0
NRTU	**Norrtaelje**	**2.80**	**315**	*e*P	Pn	18 10 22.6	0.0
FLYU	**Flymyra**	**3.38**	**317**	*e*P	Pn	18 10 30.8	+0.2
BACU	**Backbrunna**	**3.51**	**309**	*e*P	Pn	18 10 32.4	0.0
ESKU	**Eskilstuna**	**3.53**	**298**	*e*P	Pn	18 10 33.2	+0.5
OSTU	**Oestervaala**	**3.73**	**314**	*e*P	Pn	18 10 35.2	-0.2
VJF	**Virojoki**	**3.83**	**41**	*e*P	Pn	18 10 36.1	-0.6
VJF				*e*S	Sn	18 11 20.1	-2.3
VJF				MSG		18 11 40.3	
	comp=Z,2.6nm,0.1s						
FIA0	**FINESS Array S**	**4.13**	**25**	*e*P	Pn	18 10 40.5	-0.4
FIA0				*e*S	Sn	18 11 28.4	-1.5
FIA0				MSG		18 11 49.8	
	comp=Z,1.4nm,0.1s						
FIA0	**FINESS Array S**	**4.13**	**25**	Pn	Pn	18 10 40.9	0.0
	baz=205,slow=12						
FIA0				Pg	Pg	18 10 50.4	-5.4
	baz=206,slow=16						
FIA0				Sn	Sn	18 11 27.8	-2.1
FIA0				Lg		18 11 44.0	
	baz=206,slow=28						
FINES	**FINESS Array B**	**4.13**	**25**	Pn	Pn	18 10 40.9	-0.1
	comp=Z,0.1nm,0.3s,baz=208,slow=11,SNR=7.0						
FINES				Pg	Pg	18 10 50.0	-5.7
	comp=Z,0.8nm,0.3s,baz=206,slow=15,SNR=25						
FINES				Sn	Sn	18 11 29.9	-0.1
	comp=Z,0.3nm,0.3s,baz=205,slow=22,SNR=3.0						
FINES				Lg		18 11 45.7	
	comp=Z,1.4nm,0.3s,baz=202,slow=25,SNR=9.8						
KAF	**Kangasniemi**	**4.78**	**22**	*e*P	Pn	18 10 49.5	-0.4
KAF				*e*S	Sn	18 11 44.1	-1.8
KAF				MSG		18 12 05.7	
	comp=Z,1.2nm,0.1s						
HFS	**Hagfors**	**5.15**	**301**	Pn	Pn	18 10 54.6	-0.3
	baz=136,slow=12						
HFS				Sn	Sn	18 11 53.5	-1.5
	baz=132,slow=28						
HFS				Lg		18 12 14.7	
	baz=115,slow=37						
HFS	**Hagfors**	**5.15**	**301**	*e*P	Pn	18 10 54.6	-0.3
HFS				*e*S	Sn	18 11 53.5	-1.5
HFS				*e*SG	Sg	18 12 14.7	-7.3
VAF	**Ylistaro**	**5.32**	**1**	*e*P	Pn	18 10 57.6	+0.4
VAF				*e*S	Sn	18 11 55.3	-3.8
VAF				MSG		18 12 18.3	
	comp=Z,1.0nm,0.2s						
NB2	**NORSAR Subarra**	**6.64**	**305**	*e*P	Pn	18 11 14.5	-0.9
NB2				*e*SG	Sg	18 13 04.0	-5.8
NB2	**NORSAR Subarra**	**6.64**	**305**	Pn	Pn	18 11 14.5	-0.9
	baz=118,slow=12						
NB2				Lg		18 13 04.0	
	baz=116,slow=28						
NOA	**NORSAR Array B**	**6.64**	**305**	Pn	Pn	18 11 14.2	-1.2
	comp=Z,0.3nm,0.3s,baz=108,slow=14,SNR=2.9						
NOA				Sn	Sn	18 12 28.7	-3.1
	comp=Z,0.1nm,0.3s,baz=67,slow=12,SNR=2.0						
NOA				Lg		18 13 04.1	
	comp=Z,0.5nm,0.3s,baz=103,slow=9.9,SNR=5.0						
JOF	**Joensuu**	**6.78**	**36**	*e*P	Pn	18 11 16.7	-0.6
JOF				*e*S	Sn	18 12 32.0	-3.3
JOF				MSG		18 13 07.0	
	comp=Z,0.7nm,0.2s						
ARA0	**ARCESS Array S**	**11.91**	**5**	Pn	Pn	18 12 22.5	-5.1
	baz=186,slow=14						
ARA0	**ARCESS Array S**	**11.91**	**5**	*e*P	Pn	18 12 22.5	-5.1
ARCES	**ARCESS Array B**	**11.91**	**5**	Pn	Pn	18 12 23.3	-4.3
	comp=Z,0.1nm,0.3s,baz=184,slow=14,SNR=7.5						

*ISCJB **09** 18:24:45.6±0.5, 5160N±003×689E±006, h0km, Error ellipse: s-maj=5.6km s-min=3.7km az=69.7*
*BGR **09** 18:24:47.6±0.6, 5160N×699E, h1km, ML1.8/2, Error ellipse: s-maj=8.9km s-min=4.4km az=110.0*
*BNS **09** 18:24:47.0±0.6, 5166N×701E, h1km, ML1.6*
*CSEM **09** 18:24:47.8±0.1, 5164N×687E, h2km, ML2.7/3, Error ellipse: s-maj=3.9km s-min=1.5km az=113.0*
*NEIC **09** 18:24:49.1, 5153N×695E, h1km, ML2.6(LDG), After LDG.*
*LDG **09** 18:24:49.1±0.2, 5153N×695E, h1km, Ml2.6/2, Error ellipse: s-maj=5.1km s-min=3.6km az=20.0, Suspected Mining induced.*

ISC 09 18:24:46.7±0.5, 5161N±003×695E±005, h0km, n29, σ1§03/37, 2D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAUG	**Laupendahl**	**0.26**	**180**	*e*Pg	**Pg**	**18 24 52.7**	**+1.0**
BUG	**Bochum--Univer**	**0.27**	**130**	*e*Pg	**Pg**	**18 24 52.8**	**+1.0**
	SNR=2.9						
WTSB	**Winterswijk**	**0.37**	**346**	*e*Pg	**Pg**	**18 24 54.4**	**+0.7**
	32nm,0.6s						
HOBG	**Hohbusch**	**0.68**	**159**	*e*Pg	**Pg**	**18 25 00.3**	**+0.7**
IBBN	**Ibbenburen**	**0.86**	**35**	*e*Pg	**Pg**	**18 25 04.1**	**+0.9**
	SNR=1.3						
IBBN				*e*Sg	**Sg**	**18 25 15.0**	**+0.7**
	SNR=1.5						
STB	**Steinbach**	**1.02**	**184**	*e*Pg	**Pg**	**18 25 07.4**	**+1.2**
STB				*e*Sg	**Sg**	**18 25 21.9**	**+2.4**
	15nm,0.3s						
KLL	**Kalltalsperre**	**1.05**	**203**	*e*Pg	**Pg**	**18 25 07.5**	**+0.8**
HGN	**Heimansgroeve**	**1.06**	**217**	*e*Pn	**Pn**	**18 25 08.1**	**-0.8**
	7.8nm,0.4s						
HGN				⇓*i*Pg	**Pg**	**18 25 08.7**	**+1.7**
	10nm,0.1s						
HGN				*e*Sg	**Sg**	**18 25 22.3**	**+1.5**
HGN	**Heimansgroeve**	**1.06**	**217**	⇓*i*Pg	**Pg**	**18 25 08.7**	**+1.6**
	10nm,0.1s						
HGN				*e*Sg	**Sg**	**18 25 22.3**	**+1.5**
BGG	**Burgeitz**	**1.43**	**170**	*e*Pg	**Pg**	**18 25 12.7**	**-1.4**
TNS	**Taunus Mts**	**1.69**	**145**	*e*Pg	**Pg**	**18 25 18.2**	**-0.8**
	SNR=2.4						
TNS				*e*Sg	**Sg**	**18 25 40.9**	**0.0**
	SNR=1.6						
WLF	**Walferdange**	**2.02**	**195**	*e*Sg	**Sg**	**18 25 50.9**	**-0.5**
	SNR=2.2						
WLF	**Walferdange**	**2.02**	**195**	P	**Pn**	**18 25 24.4**	**+2.5**
WLF	**Walferdange**	**2.02**	**195**	P	**Pn**	**18 25 24.4**	**+2.5**
GIVF	**Givet**	**2.02**	**222**	*e*Pg	**Pg**	**18 25 25.2**	**-0.3**
GIVF				*e*Sg	**Sg**	**18 25 51.8**	**+0.1**
	10nm,0.2s						
GIVF	**Givet**	**2.02**	**222**	*e*Pg	**Pg**	**18 25 25.2**	**-0.3**
GIVF				*e*Sg	**Sg**	**18 25 51.8**	**+0.1**
	5.2nm,0.2s						
CLZ	**Clausthal**	**2.14**	**83**	*e*Sg	**Sg**	**18 25 54.2**	**-1.4**
	SNR=1.5						
BAIF	**Baives**	**2.33**	**229**	*e*Sg	**Sg**	**18 26 00.3**	**-1.3**
	3.8nm,0.3s						
BAIF	**Baives**	**2.33**	**229**	*e*Sg	**Sg**	**18 26 00.3**	**-1.3**
	1.9nm,0.3s						
CDF	**Champ du Feu**	**3.21**	**176**	*e*Pn	**Pn**	**18 25 37.9**	**-0.5**
BFO	**Black Forest**	**3.41**	**164**	*e*Pn	**Pn**	**18 25 40.3**	**-0.8**
	SNR=1.3						
SFTF	**Sexfontaines**	**3.63**	**201**	*e*Pn	**Pn**	**18 25 43.2**	**-0.9**
LOR	**Lormes**	**4.79**	**206**	*e*Pn	**Pn**	**18 25 59.3**	**-0.8**
CABF	**La Chapelle**	**5.04**	**187**	*e*Pn	**Pn**	**18 26 02.6**	**-0.9**
SSF	**Saint Saulge**	**5.08**	**208**	*e*Pn	**Pn**	**18 26 02.8**	**-1.2**
SMF	**Signal de Mont**	**5.37**	**203**	*e*Pn	**Pn**	**18 26 07.4**	**-0.7**
FLN	**La Foliniere**	**5.56**	**242**	*e*Pn	**Pn**	**18 26 10.3**	**-0.3**
BGF	**Bois d'Agland**	**5.73**	**210**	*e*Pn	**Pn**	**18 26 12.1**	**-0.9**
GRR	**Gorron**	**5.98**	**240**	*e*Pn	**Pn**	**18 26 16.0**	**-0.4**

*NEIC **09** 18:25:39.8, 2691S×7098W, h32km, ML3.6(GUC), After GUC.*

GUC 09 18:25:39.8±0.8, 2691S×7098W, h32km±4km, MD3.8, ML3.6, 4C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.21**	**140**	⇓*i*P	Pb	18 25 46.3	-0.2
CDCH				*i* S	Sb	18 25 51.2	+0.2
CDCH				AML	AML	18 25 51.4	
	comp=N,5μm,0.2s						
CRCH	**Chaqaral**	**0.65**	**30**	⇑*i*P	Pn	18 25 52.5	-0.2
CRCH				*i* S	Sb	18 26 01.3	-0.1
C

*CSEM **09** 18:43:48.2, 3756N×2091E, h5km, MD3.6/8, After ATH*
*NEIC **09** 18:43:48.2, 3756N×2091E, h5km, MD3.6(ATH), After ATH.*

ATH 09 18:43:49.0, 3758N×2092E, h7km±3km, MD3.6/8, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.64**	**42**	*e*PB	Pb	18 44 00.8	-1.8
RLS				*e*SB	Sb	18 44 10.7	-1.1
VLS	**Valsamata**	**0.65**	**336**	*e*PB	Pb	18 44 01.4	-1.3
VLS				*e*SB	Sb	18 44 11.3	-0.6
ITM	**Ithomi**	**0.90**	**116**	*e*PG	Pg	18 44 05.5	-0.7
ITM				*e*SB	Sb	18 44 19.0	0.0
ITM	**Ithomi**	**0.90**	**116**	*e*Pb	Pb	18 44 05.3	-1.6
EVR	**Evrytania**	**1.51**	**27**	*e*PB	Pb	18 44 17.5	+0.2
EVR				*e*SB	Sb	18 44 37.4	+0.8
VLI	**Veliai**	**1.83**	**117**	*e*PN	Pn	18 44 22.7	+1.9
LKR	**Lokris**	**1.96**	**56**	*e*PN	Pn	18 44 24.5	+1.9
KYTH	**Kithira**	**2.13**	**127**	*e*PN	Pn	18 44 27.5	+2.5
KVR	**Kavouri**	**2.27**	**83**	*e*PN	Pn	18 44 30.0	+3.1

*NEIC **09** 19:22:02.6, 3064S×7170W, h51km, MG3.4(GUC), After GUC.*

GUC 09 19:22:02.6±0.7, 3064S×7170W, h51km±7km, MD3.9, ML3.4, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.43**	**86**	*e*P	Pn	19 22 13.3	+0.2
OVCH				*i* S	Sn	19 22 21.2	+0.7
OVCH				AML	AML	19 22 25.2	
	comp=E,2μm,0.5s						
OVCH	**Ovalle**	**0.43**	**86**	*e*P	Pn	19 22 13.3	+0.2
OVCH				*i* S	Sn	19 22 21.2	+0.7
CMCH	**Combarbala**	**0.80**	**132**	⇑*i*P	Pn	19 22 18.2	+0.5
CMCH				*i* S	Sn	19 22 30.1	+1.5
CMCH				AML	AML	19 22 31.0	
	comp=N,5μm,0.7s						
CMCH	**Combarbala**	**0.80**	**132**	⇑*i*P	Pn	19 22 18.2	+0.5
CMCH				*i* S	Sn	19 22 30.1	+1.5
TLL	**Tololo Astrono**	**0.90**	**59**	⇓*i*P	Pn	19 22 20.0	+1.0
TLL				*i* S	Sn	19 22 33.1	+2.1
TLL				AML	AML	19 22 33.7	
	comp=E,3μm,0.2s						
TLL	**Tololo Astrono**	**0.90**	**59**	⇓*i*P	Pn	19 22 20.0	+1.0
TLL				*i* S	Sn	19 22 33.1	+2.1
CHNG	**Los Chungos**	**1.25**	**172**	*e*P	Pn	19 22 23.0	-0.7
CHNG				AML	AML	19 22 39.7	
	comp=E,190nm,0.2s						
JACH	**Jahuel**	**2.24**	**156**	*e*P	Pn	19 22 38.3	+1.0
JACH				*i* S	Sn	19 23 05.1	+1.4
PEL	**Peldehue**	**2.64**	**161**	*e*P	Pn	19 22 43.0	+0.3
PEL				*i* S	Sn	19 23 14.8	+1.3
PEL				AML	AML	19 23 29.2	
	comp=E,297nm,0.7s						
PEL	**Peldehue**	**2.64**	**161**	*e*P	Pn	19 22 43.0	+0.3
PEL				*i* S	Sn	19 23 14.8	+1.3
FCH	**Farellones**	**2.94**	**156**	*e*P	Pn	19 22 48.1	+1.4
FCH				*i* S	Sn	19 23 22.3	+1.5
FCH				AML	AML	19 23 27.4	
	comp=E,104nm,0.3s						
RCDM	**Rinconada Maip**	**2.94**	**165**	*e*P	Pn	19 22 47.4	+0.5
RCDM				*i* S	Sn	19 23 21.3	+0.4
RCDM				AML	AML	19 23 23.4	
	comp=E,264nm,0.1s						
RCDM	**Rinconada Maip**	**2.94**	**165**	*e*P	Pn	19 22 47.4	+0.5
RCDM				*i* S	Sn	19 23 21.3	+0.4
CHCH	**Chadas Angostu**	**3.40**	**165**	*i* P	Pn	19 22 53.9	+0.8
LMEL	**Las Melosas**	**3.44**	**159**	*e*P	Pn	19 22 54.6	+0.9

MAN 09 19:33:13.3, 1109N×12563E, h26km, mb2.3, ML3.9, MS4.2, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.54**	**340**	*e*P	Pb	19 33 25.1	+0.9
PLP	**Palo**	**0.64**	**277**	*i* P	Pb	19 33 25.8	0.0
PLP				*i* S	Sb	19 33 36.3	+1.9
OCLP	**Ormoc**	**1.00**	**268**	*e*P	Pn	19 33 31.3	-0.2
MSLP	**Maasin**	**1.21**	**219**	*e*P	Pn	19 33 35.6	+1.1
SCPH	**Surigao**	**1.30**	**186**	*e*P	Pn	19 33 34.9	-0.9
SCPH				*e*S	Sn	19 33 53.2	+0.9

*IDC **09** 20:07:23.0±2.5, 4343N×10530W, h0km, mb4.2/1, mb1 3.8/4, mb1mx3.5/22, mbtmp3.6/4, Error ellipse: s-maj=59.2km s-min=8.4km az=153.0*
*ISCJB **09** 20:07:24.3±0.6, 4384N±004×10523W±007, h0km, mb4.4/1, Error ellipse: s-maj=7.5km s-min=6.0km az=35.2*
*NEIC **09** 20:07:26.0±0.5, 4379N×10522W, h0km, ML3.2, Error ellipse: s-maj=7.7km s-min=5.8km az=147.0, Suspected Mining explosion.*
NEIC 60 km [40 miles] SSE of Gillette.

ISC 09 20:07:25.9±0.6, 4382N±004×10523W±007, h0km, n28, σ1§11/31, mb4.4/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.91**	**70**	*e*Pg	**Pg**	**20 07 44.8**	**+1.4**
PHWY	**Pilot Hill**	**2.52**	**184**	*e*Pn	**Pn**	**20 08 07.8**	**-0.3**
PHWY				*e*Sn	**Sn**	**20 08 40.5**	**+1.1**
RWWY	**Rawlins**	**2.58**	**215**	*e*Pn	**Pn**	**20 08 09.0**	**+0.2**
RWWY				*e*Sn	**Sn**	**20 08 40.2**	**-0.7**
PDAR	**Pinedale Array**	**3.33**	**253**	Pn	**Pn**	**20 08 18.9**	**-0.2**
	5.8nm,0.3s,baz=72,slow=16,SNR=36						
PDAR				Pg	**Pg**	**20 08 22.1**	**-7.6**
	7.6nm,0.3s,baz=72,slow=17,SNR=47						
PDAR				Lg		20 09 04.1	
	7.6nm,0.3s,baz=66,slow=30,SNR=6.8						
GCMT	**Greycliff**	**3.73**	**304**	*e*Pn	**Pn**	**20 08 25.7**	**+1.1**
LKWY	**Lake**	**3.79**	**283**	*e*P	**Pn**	**20 08 28.1**	**+2.5**
FLWY	**Flagg Ranch**	**3.96**	**276**	*e*Pn	**Pn**	**20 08 27.8**	**0.0**
MOOW	**Moose Ponds**	**3.99**	**271**	*e*Pn	**Pn**	**20 08 29.0**	**+0.6**
ISCO	**Idaho Springs**	**4.02**	**184**	*e*Pn	**Pn**	**20 08 28.7**	**-0.1**
REDW	**Red Top Meadow**	**4.11**	**266**	*e*Pn	**Pn**	**20 08 31.6**	**+1.6**
IMW	**Indian Meadow**	**4.13**	**273**	*e*Pn	**Pn**	**20 08 30.1**	**-0.1**
TPAW	**Teton Pass**	**4.16**	**267**	*e*Pn	**Pn**	**20 08 29.0**	**-1.7**
AHID	**Auburn Hatcher**	**4.41**	**258**	*e*Pn	**Pn**	**20 08 34.7**	**+0.6**
QLMT	**Earthquake Lak**	**4.56**	**285**	Pn	**Pn**	**20 08 32.0**	**-4.1**
SMCO	**Snowmass**	**4.81**	**196**	*e*Pn	**Pn**	**20 08 44.8**	**+5.2**
HWUT	**Hardware Ranch**	**5.16**	**247**	*e*Pn	**Pn**	**20 08 43.6**	**-0.8**
	12nm,0.5s						
HRY	**Holter Researc**	**5.49**	**304**	*e*Pn	**Pn**	**20 08 49.3**	**+0.4**
DAU	**Daniels Canyon**	**5.62**	**235**	*e*Pn	**Pn**	**20 08 52.0**	**+1.3**
HVU	**Hansel Valley**	**5.91**	**252**	*e*Pn	**Pn**	**20 08 54.8**	**+0.1**
	4.8nm,0.5s						
PV10	**Paradox Valley**	**6.15**	**209**	*e*Pn	**Pn**	**20 08 57.6**	**-0.3**
SRU	**San Rafael**	**6.16**	**222**	*e*Pn	**Pn**	**20 08 54.6**	**-3.4**
	13nm,0.6s						
TMUT	**Trail Mountain**	**6.36**	**227**	*e*Pn	**Pn**	**20 08 57.4**	**-3.5**
CBKS	**Cedar Bluff**	**6.48**	**139**	*e*Pg	**Pg**	**20 09 24.2**	**-5.9**
	16nm,0.6s						
DUG	**Dugway**	**6.71**	**240**	*e*P	**Pn**	**20 09 05.0**	**-0.6**
	3.3nm,0.4s						
ULM	**Lac du Bonnet**	**9.06**	**41**	Pn	**Pn**	**20 09 37.6**	**-0.3**
	0.4nm,0.3s,baz=234,slow=14,SNR=4.1						
ULM				Pg	Pg	20 10 12.9	-6.6
	1.0nm,0.3s,baz=222,slow=16,SNR=5.3						
ULM				Lg		20 12 12.7	
	0.4nm,0.3s,baz=314,slow=22,SNR=3.1						
YKA	**Yellowknife Ar**	**19.50**	**347**	P	**Pn**	**20 11 53.8**	**-1.9**
YKA	**Yellowknife Ar**	**19.50**	**347**	P	**Pn**	**20 11 53.8**	**-1.9**
	baz=158,slow=12,SNR=6.1						
ARCES	**ARCESS Array B**	**61.34**	**18**	P	**P**	**20 17 41.8**	**-1.5**
	3.0nm,0.9s,mb4.4,baz=338,slow=6.8,SNR=4.5						

IDC 09 20:07:40.7±33.0, 1928S×17587W, h390km±285km, mb2.8/3, mb1 3.1/3, mb1mx2.9/13, mbtmp3.6/3, MS3.3/1, Ms1 3.3/1, ms1mx2.7/18, Error ellipse: s-maj=312.5km s-min=67.9km az=133.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**25.36**	**289**	LR	LR	20 20 20.6	
	comp=Z,68nm,18.2s,baz=180,slow=30						
ASAR	**Alice Springs**	**46.76**	**255**	P	P	20 15 32.7	+0.1
	0.5nm,0.6s,baz=90,slow=8.4,SNR=12						
WRA	**Warramunga Arr**	**46.76**	**260**	P	P	20 15 33.3	+0.6
	0.3nm,0.3s,baz=96,slow=7.6,SNR=7.9						
ILAR	**Eielson Array**	**86.70**	**12**	P	P	20 19 41.0	-0.5
	0.2nm,0.6s,baz=207,slow=3.7,SNR=4.2						
AKASG	**Malin Array Be**	**142.87**	**333**	PKP	PKPdf	20 26 26.1	-2.3
	0.4nm,0.4s,baz=44,slow=3.5,SNR=4.7						
GERES	**GERESS Array B**	**149.51**	**347**	PKPbc	PKPbc	20 26 45.0	+0.5
	0.3nm,0.6s,baz=84,slow=5.0,SNR=4.3						

*LDG **09** 20:09:59.9±1.4, 1521S×16681E, h87km±13km, Mb3.9/2, Error ellipse: s-maj=53.6km s-min=27.4km az=80.0*
*ISCJB **09** 20:10:00.5±2.0, 155S±0.1×1675E±0.2, h127km±16km, mb3.9/5, Error ellipse: s-maj=25.5km s-min=21.6km az=13.2*
*IDC **09** 20:10:02.9±5.1, 1556S×16743E, h131km±42km, mb3.6/5, mb1 3.8/6, mb1mx3.6/15, mbtmp4.1/6, Error ellipse: s-maj=36.7km s-min=29.8km az=46.0*

ISC 09 20:10:01.8±2.0, 155S±01×1676E±02, h131km±15km, n28, σ0§45/12, mb3.8/5, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**2.20**	**165**	⇑*i*P	**Pn**	**20 10 37.9**	**-0.4**
BKM				S	**Sn**	**20 11 06.0**	**-0.2**
DZM	**Mont Dzumac**	**6.59**	**190**	P	**Pn**	**20 11 36.9**	**+0.6**
	7.8nm,0.3s,baz=83,slow=0.1,SNR=19						
DZM				S	**Sn**	**20 12 50.5**	**+0.3**
	7.3nm,0.3s,baz=99,slow=0.2,SNR=8.7						
STKA	**Stephens Creek**	**28.75**	**231**	P	**P**	**20 15 46.5**	**-0.5**
	1.7nm,0.6s,mb4.0,baz=62,slow=8.5,SNR=4.9						
WRA	**Warramunga Arr**	**31.97**	**257**	P	**P**	**20 16 15.1**	**-0.3**
	0.4nm,0.3s,mb3.6,baz=80,slow=5.9,SNR=6.9						
ASAR	**Alice Springs**	**32.72**	**250**	P	**P**	**20 16 21.8**	**-0.1**
	2.1nm,0.6s,mb4.1,baz=78,slow=8.9,SNR=18						
VNDA	**Vanda**	**62.07**	**181**	P	**P**	**20 20 09.1**	**+0.6**
	0.6nm,0.5s,mb3.7,baz=347,slow=7.4,SNR=6.5						
SONM	**Songino Array**	**83.35**	**324**	P	**P**	**20 22 15.0**	**+0.8**
	1.1nm,0.8s,mb3.6,baz=144,slow=5.6,SNR=9.6						
SNAA	**Sanae**	**92.77**	**183**	*e*	**P**	**20 22 59.0**	**-0.3**
SNAA				*e*		20 23 01.1	
VNA3	**Neumayer Olymp**	**93.42**	**181**	*e*	**P**	**20 23 01.8**	**-0.5**
VNA3				*e*		20 23 04.7	
VNA2	**Neumayer--Watz**	**93.69**	**182**	*e*	**P**	**20 23 03.6**	**0.0**
	baz=189,slow=5.8						
VNA2				*e*		20 23 04.8	
VNA2				*e*		20 23 07.0	
ARCES	**ARCESS Array B**	**121.12**	**345**	PKP	PKPdf	20 28 39.0	-0.1
	1.1nm,0.5s,baz=78,slow=1.7,SNR=12						
CABF	**La Chapelle**	**145.40**	**337**	*e*PKP1	PKPbc	20 29 25.3	+0.9
	9.4nm,0.7s						
FLN	**La Foliniere**	**145.46**	**346**	*e*PKP1	PKPbc	20 29 25.2	+0.6
	14nm,0.7s						
LDF	**La Druitiere**	**145.53**	**346**	*e*PKP1	PKPbc	20 29 25.4	+0.6
	12nm,0.8s						
LOR	**Lormes**	**145.61**	**340**	*e*PKP1	PKPbc	20 29 26.2	+1.1
	15nm,1.0s						
GRR	**Gorron**	**145.90**	**346**	*e*PKP1	PKPbc	20 29 26.8	+0.9
	8.5nm,0.7s						
SSF	**Saint Saulge**	**145.91**	**341**	*e*PKP1	PKPbc	20 29 27.2	+1.2
	8.3nm,0.6s						
LPL	**La Plagne**	**146.07**	**336**	*e*PKP1	PKPbc	20 29 28.8	+2.4
	8.7nm,0.9s						
LPG	**La Plagne**	**146.07**	**336**	*e*PKP1	PKPbc	20 29 28.9	+2.4
	4.7nm,0.7s						
SMF	**Signal de Mont**	**146.16**	**340**	*e*PKP1	PKPbc	20 29 27.9	+1.2
AVF	**Avril sur Loir**	**146.19**	**340**	*e*PKP1	PKPbc	20 29 27.6	+0.8
	4.0nm,0.8s						
SGMF	**Saint Gilles**	**146.39**	**348**	*e*PKP1	PKPbc	20 29 28.2	+0.8
	4.1nm,0.5s						
ROSF	**Rostrenen**	**146.44**	**349**	*e*PKP1	PKPbc	20 29 28.4	+0.9
	21nm,1.1s						
BGF	**Bois d'Agland**	**146.56**	**341**	*e*PKP1	PKPbc	20 29 28.9	+1.0
	9.0nm,0.8s						
ORIF	**Oris-en-Rattie**	**146.90**	**336**	*e*PKP1	PKPbc	20 29 30.9	+2.1
TCF	**Toulx Ste Croi**	**147.00**	**341**	*e*PKP1	PKPbc	20 29 30.3	+1.2
	4.8nm,0.7s						
MFF	**Saint Martin d**	**147.39**	**344**	*e*PKP1	PKPbc	20 29 31.2	+1.0
	7.2nm,0.5s						
CAF	**Calviac**	**148.26**	**340**	*e*PKP1	PKPbc	20 29 34.2	+1.7

*ISCJB **09** 20:58:30.3±2.0, 457S±007×1452E±0.1, h113km±20km, mb4.0/12, Error ellipse: s-maj=19.4km s-min=9.8km az=47.6*
*NEIC **09** 20:58:36.6±1.8, 470S×145.13E, h157km±20km, mb4.1/7, Error ellipse: s-maj=18.9km s-min=11.4km az=130.0*
*IDC **09** 20:58:37.4±2.0, 482S×14530E, h170km±22km, mb3.6/8, mb1 3.8/10, mb1mx3.7/16, mbtmp4.1/10, Error ellipse: s-maj=27.7km s-min=9.8km az=107.0*

ISC 09 20:58:36.4±1.4, 475S±007×1453E±01, h159km±15km, n20, σ0§91/23, mb3.9/12, 1C, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.99**	**158**	P	**Pn**	**20 59 51.3**	**+1.5**
	5.8nm,0.3s,baz=334,slow=6.8,SNR=17						
PMG				S	**Sn**	**21 00 45.7**	**-1.4**
	12nm,0.3s,baz=328,slow=21,SNR=13						
KAKA	**Kakadu**	**14.93**	**237**	*e*P	**Pn**	**21 01 58.5**	**-0.9**
	6.7nm,0.6s						
WRAB	**Tennant Creek**	**18.45**	**214**	*e*Pn	**Pn**	**21 02 41.1**	**-0.8**
WB2	**Warramunga Arr**	**18.46**	**214**	⇑*i*P	**P**	**21 02 41.3**	**+1.3**
WB2				*e*S	**S**	**21 06 03.2**	**+0.9**
WRA	**Warramunga Arr**	**18.47**	**214**	P	**P**	**21 02 41.4**	**+1.3**
	0.9nm,0.3s,baz=33,slow=11,SNR=56						
WRA				S	**S**	**21 06 01.1**	**-1.4**
	0.1nm,0.3s,baz=32,slow=23,SNR=3.5						
ASAR	**Alice Springs**	**21.76**	**209**	P	**P**	**21 03 16.8**	**+1.4**
	2.5nm,0.6s,mb3.9,baz=38,slow=8.5,SNR=42						
ASAR				S	**S**	**21 07 05.9**	**+0.5**
	2.7nm,0.9s,baz=29,slow=19,SNR=11						
FITZ	**Fitzroy Crossi**	**23.32**	**234**	*e*P	**P**	**21 03 29.8**	**-0.4**
	8.0nm,0.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**23.32**	**234**	P	**P**	**21 03 30.0**	**-0.2**
	5.3nm,0.7s,mb4.1,baz=194,slow=21,SNR=37						
STKA	**Stephens Creek**	**27.20**	**187**	*e*P	**P**	**21 04 05.1**	**-0.1**
	4.3nm,1.8s,mb3.8						
STKA	**Stephens Creek**	**27.20**	**187**	P	**P**	**21 04 05.2**	**0.0**
	2.2nm,0.8s,mb3.8,baz=286,slow=11,SNR=4.9						
MBWA	**Marble Bar**	**29.66**	**234**	*e*P	**P**	**21 04 26.2**	**-0.8**
	6.9nm,0.9s,mb4.4						
ULN	**Ulaanbaatar**	**62.19**	**332**	*e*P	**P**	**21 08 41.3**	**+0.4**
	1.8nm,0.8s,mb4.0						
SONM	**Songino Array**	**62.48**	**332**	P	**P**	**21 08 43.3**	**+0.5**
	1.0nm,0.6s,mb3.8,baz=158,slow=6.2,SNR=11						
MKAR	**Makanchi Array**	**75.44**	**321**	P	**P**	**21 10 03.3**	**+0.5**
	0.5nm,0.4s,mb3.5,baz=98,slow=8.3,SNR=12						
ZAL	**Zalesovo**	**77.05**	**328**	P	**P**	**21 10 10.9**	**-1.0**
	0.8nm,0.5s,mb3.6,baz=357,slow=8.3,SNR=4.7						
KURK	**Kurchatov**	**79.18**	**324**	*e*P	**P**	**21 10 22.9**	**-0.7**
	2.2nm,1.0s,mb3.7						
ILAR	**Eielson Array**	**85.03**	**23**	P	**P**	**21 10 53.7**	**-0.4**
	2.4nm,0.7s,mb4.0,baz=255,slow=5.3,SNR=24						
ZRNK	**Zerenda**	**85.54**	**324**	*e*P	**P**	**21 10 56.4**	**-0.2**
	0.8nm,0.5s,mb3.7						
INK	**Inuvik**	**91.14**	**22**	P	**P**	**21 11 23.2**	**+0.1**
	0.8nm,0.6s,mb3.9,baz=255,slow=7.0,SNR=3.7						
TORD	**Torodi Ar. Bea**	**143.10**	**286**	PKP	PKPdf	21 17 49.5	-1.9
	0.2nm,0.3s,baz=62,slow=4.0,SNR=7.1						

*IDC **09** 21:13:40.7±1.2, 5486S×14609E, h0km, mb3.7/3, mb1 4.1/4, mb1mx4.0/10, mbtmp3.9/4, ML3.6/1, Error ellipse: s-maj=48.0km s-min=24.5km az=75.0*
*ISCJB **09** 21:13:41.1±1.0, 547S±0.1×1463E±03, h10km, mb4.0/4, Error ellipse: s-maj=27.0km s-min=17.8km az=131.2*
*NEIC **09** 21:13:42.2±0.8, 5485S×14608E, h10km, mb4.6/1, Error ellipse: s-maj=23.8km s-min=14.8km az=70.0*

ISC 09 21:13:42.2±1.0, 548S±01×1463E±03, h10km, n8, σ0§51/7, mb4.0/4, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**19.50**	**65**	P	**Pn**	**21 18 10.6**	**0.0**
	0.2nm,0.3s,baz=192,slow=14,SNR=3.0						
VNDA	**Vanda**	**23.46**	**172**	P	**P**	**21 18 51.9**	**0.0**
	0.7nm,0.2s,mb3.6,baz=350,slow=10,SNR=13						
VNDA	**Vanda**	**23.46**	**172**	P	**P**	**21 18 51.9**	**0.0**
ASAR	**Alice Springs**	**32.47**	**338**	P	**P**	**21 20 13.6**	**+0.9**
	0.7nm,0.9s,mb3.5,baz=169,slow=9.2,SNR=4.5						
ASAR				PcP	PcP	21 22 57.5	-2.1
	0.2nm,0.4s,baz=186,slow=1.9,SNR=2.9						
WB2	**Warramunga Arr**	**36.00**	**341**	*e*P	**P**	**21 20 43.1**	**-0.2**
WRA	**Warramunga Arr**	**36.00**	**341**	P	**P**	**21 20 43.3**	**+0.1**
	1.3nm,0.6s,mb4.0,baz=166,slow=7.7,SNR=14						
WRAB	**Tennant Creek**	**36.01**	**341**	*e*P	**P**	**21 20 42.5**	**-0.8**
	8.9nm,0.9s,mb4.7						
FINES	**FINESS Array B**	**148.79**	**307**	PKPbc	PKPbc	21 33 27.0	-2.9
	0.6nm,0.7s,baz=58,slow=3.4,SNR=4.9						

*LDG **09** 21:23:30.6±0.6, 4277N×027W, h2km, Md2.0/2, Ml1.6/1, Error ellipse: s-maj=23.5km s-min=2.8km az=5.0*

MDD 09 21:23:31.5±0.2, 4285N×025W, h0km, mbLg1.1/5, 1C, Error ellipse: s-maj=2.7km s-min=1.3km az=25.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIEF	**Viey**	**0.20**	**81**	Pg	Pg	21 23 35.1	-0.2
VIEF				Lg		21 23 38.0	
ETSF	**Etsaut**	**0.24**	**281**	*e*Pg	Pg	21 23 35.4	-0.6
ETSF				*e*Sg	Sg	21 23 38.7	-0.4
	14nm,0.2s						
ETSF	**Etsaut**	**0.24**	**281**	Pg	Pg	21 23 35.4	-0.6
ETSF				Lg		21 23 38.7	
	7.2nm,0.2s						
REYF	**Montagne du Re**	**0.24**	**334**	Pg	Pg	21 23 35.9	-0.2
REYF				Lg		21 23 39.5	
LABF	**Labassere**	**0.30**	**50**	Pg	Pg	21 23 37.3	0.0
LABF				Lg		21 23 41.6	
EBIE	**Bielsa**	**0.33**	**120**	⇑Pg	Pg	21 23 37.5	-0.4
	0.9nm,0.1s,SNR=18						
EBIE				Lg		21 23 41.8	
	6.5nm,0.1s,SNR=7.9						
ATE	**Arette**	**0.41**	**305**	Pg	Pg	21 23 38.7	-0.6
ATE				Lg		21 23 43.9	
LARF	**Larrau**	**0.58**	**289**	Pg	Pg	21 23 42.1	-0.5
LARF				Lg		21 23 49.7	
SJPF	**Ste Jean**	**0.77**	**290**	*e*Pg	Pg	21 23 45.4	-0.8
SJPF				*e*Sg	Sg	21 23 56.2	+0.1
	3.9nm,0.3s						
SJPF	**Ste Jean**	**0.77**	**290**	Pg	Pg	21 23 45.4	-0.8
SJPF				Lg		21 23 56.2	
	1.9nm,0.3s						
EGRA	**Graus**	**0.78**	**148**	Pg	Pg	21 23 46.5	+0.1
	0.3nm,0.2s,SNR=7.9						
EGRA				Lg		21 23 58.1	
	0.4nm,0.1s,SNR=4.0						
ELIZ	**Elizondo**	**0.99**	**289**	Pg	Pg	21 23 51.0	+0.5
	0.2nm,0.2s,SNR=4.0						
ELIZ				Lg		21 24 04.4	
	0.8nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.99**	**292**	Pg	Pg	21 23 51.6	+1.1
	0.2nm,0.1s,SNR=7.9						
EALK				Lg		21 24 03.9	
	2.3nm,0.3s,SNR=8.3						
ESAC	**San Caprasio**	**1.14**	**188**	Pg	Pg	21 23 54.3	+1.0
	2.0nm,0.2s,SNR=4.0						
ESAC				Lg		21 24 10.1	
	7.5nm,0.2s,SNR=12						
EMIR	**Miracle**	**1.61**	**125**	Lg		21 24 23.2	
	0.7nm,0.2s,SNR=4.0						
EPOB	**Poblet**	**1.79**	**146**	Lg		21 24 28.0	
	0.5nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**1.87**	**74**	*e*Pg	Pg	21 24 06.1	-1.2
MTLF				*e*Sg	Sg	21 24 30.9	-0.6
	0.9nm,0.3s						
MTLF	**Montolieu**	**1.87**	**74**	Pg	Pg	21 24 06.1	-1.2
MTLF				Lg		21 24 30.9	
	0.4nm,0.3s						

*ISK **09** 21:30:39.4, 3477N×2664E, h77km, MD3.9*
*ISCJB **09** 21:30:41.3±0.2, 3496N±002×2702E±003, h10km, mb3.7/15, MS2.9/1, Error ellipse: s-maj=3.0km s-min=2.8km az=8.1*
*CSEM **09** 21:30:42.1±0.1, 3506N×2689E, h12km, mb3.9/6*
*ATH **09** 21:30:43.8, 35.18N×2700E, h25km±1km, MD3.8/12*
*MOS **09** 21:30:44.5±1.2, 35.10N×2692E, h27km, mb4.0/9, Error ellipse: s-maj=10.4km s-min=5.7km az=113.7*
*IDC **09** 21:30:47.0±3.5, 3521N×2697E, h28km±25km, mb3.6/9, mb1 3.6/14, mb1mx3.6/25, mbtmp3.7/14, ML3.6/5, MS2.8/3, Ms1 2.8/3, ms1mx2.4/29, Error ellipse: s-maj=23.2km s-min=14.8km az=161.0*
*NEIC **09** 21:30:47.0±0.8, 3513N×2697E, h36km±8km, mb3.8/13, MD3.8(ATH), Error ellipse: s-maj=11.1km s-min=5.7km az=161.0*
*HLW **09** 21:30:47.4, 3495N×2745E, h33km, Mb3.4*

ISC 09 21:30:43.2±0.2, 3500N±002×2699E±002, h10km, n135, σ1§33/153, mb3.7/15, MS2.9/1, 4C-7D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.56**	**15**	*e*PB	**Pg**	**21 30 51.7**	**-2.4**
KARP				*e*SB	**Sg**	**21 30 58.8**	**-2.7**
XRY	**Khrisi**	**1.07**	**264**	⇓*i*PN	**Pn**	**21 31 04.5**	**+0.2**
XRY				*e*SN	**Sn**	**21 31 21.0**	**+1.8**
NPS	**Neapolis**	**1.16**	**283**	*e*PN	**Pn**	**21 31 05.0**	**-0.4**
NPS				*e*SN	**Sn**	**21 31 21.5**	**+0.2**
ARG	**Arkhangelos**	**1.53**	**37**	*e*PN	**Pn**	**21 31 10.0**	**-0.5**
NISR	**Nisiros**	**1.61**	**4**	*e*PB	**Pn**	**21 31 09.5**	**-2.2**
IDI	**Anoyia**	**1.74**	**280**	Pn	**Pn**	**21 31 16.2**	**+2.7**
	19nm,0.3s,baz=77,slow=13,SNR=186

KIZT	**Kizilcal**	**5.51**	**44**	PN		**Pn**	**21 32 04.8**	**-0.5**
IKL	**Isikli**	**5.59**	**75**	*e*PN		**Pn**	**21 32 05.3**	**-1.2**
MFT	**Murefte**	**5.78**	**2**	*e*PN		**Pn**	**21 32 07.3**	**-1.7**
SWA1		**5.82**	**191**⇓	*e*P		**Pn**	**21 32 12.6**	**+2.9**
SWA1				S		**Sn**	**21 33 14.3**	**-2.2**
SWA2		**5.89**	**193**	⇓P		**Pn**	**21 32 13.2**	**+2.7**
SWA2		**5.89**	**193**	P		**Pn**	**21 32 13.1**	**+2.6**
MEST	**Erdemli**	**6.03**	**73**	*i* P		**Pn**	**21 32 13.6**	**+1.2**
MEST				*i* S		**Sn**	**21 33 17.5**	**-4.0**
MERS	**Mersin**	**6.39**	**71**	*e*PN		**Pn**	**21 32 17.0**	**-0.4**
HSAF	**As Saff**	**6.61**	**143**⇓	*e*P		**Pn**	**21 32 18.5**	**-2.0**
GLL	**Jalalah**	**6.72**	**142**⇑	*e*P		**Pn**	**21 32 20.6**	**-1.4**
AMAG	**Maghara**	**6.80**	**128**⇓	*e*P		**Pn**	**21 32 20.9**	**-2.1**
EDRB	**Edirne**	**6.84**	**358**	*e*PN		**Pn**	**21 32 21.1**	**-2.4**
AWBH		**6.86**	**166**	⇑P		**Pn**	**21 32 24.0**	**+0.2**
KARA	**Karaisali**	**6.91**	**69**	*e*PN		**Pn**	**21 32 23.7**	**-0.8**
BRTR	**Keskin Array B**	**7.09**	**46**	Pn		**Pn**	**21 32 27.1**	**+0.1**
	0.3nm,0.3s,baz=226,slow=12,SNR=6.7							
SUZ		**7.13**	**135**⇓	*e*P		**Pn**	**21 32 25.7**	**-1.9**
MMAI	**Mount Meron Ar**	**7.26**	**103**	Pn		**Pn**	**21 32 30.6**	**+1.2**
	1.5nm,0.3s,baz=310,slow=12,SNR=7.4							
MMAI				Sn		**Sn**	**21 33 52.0**	**0.0**
	2.5nm,0.3s,baz=297,slow=25,SNR=6.2							
KOZT	**Kozan**	**7.56**	**68**	*e*PN		**Pn**	**21 32 32.2**	**-1.2**
HFRF	**Wahat Farafira**	**7.91**	**171**	P		**Pn**	**21 32 39.1**	**+0.9**
EIL	**Elat**	**8.58**	**126**	*e*Pn		**Pn**	**21 32 46.4**	**-1.1**
EIL				*e*Sn		**Sn**	**21 34 21.5**	**-2.8**
ASF	**Jabal al Asfar**	**8.74**	**106**	Sn		**Sn**	**21 34 33.7**	**+5.5**
	0.1nm,0.3s,baz=46,slow=19,SNR=2.2							
HKAT	**Jabal Katrina**	**8.79**	**135**	*e*P		**Pn**	**21 32 48.8**	**-1.5**
TIP	**Timpagrande**	**9.17**	**300**	*e*Pn		**Pn**	**21 32 54.8**	**-0.8**
TIP				*e*Sn		**Sn**	**21 34 31.9**	**-6.9**
TIP	**Timpagrande**	**9.17**	**300**	*e*Pn		**Pn**	**21 32 54.8**	**-0.8**
TIP				*e*Sn		**Sn**	**21 34 31.9**	**-6.9**
TIRR	**Tirgusor**	**9.51**	**6**	*e*Pn		**Pn**	**21 33 01.5**	**+1.3**
MLR	**Muntele Rosu**	**10.51**	**356**	Pn		**Pn**	**21 33 14.6**	**+0.8**
	0.1nm,0.3s,baz=172,slow=14,SNR=1.9							
MLR				LR		LR	21 37 17.5	
	comp=Z,38nm,19.4s,baz=74,slow=38							
GNI	**Garni**	**14.98**	**65**	LR		LR	21 40 12.6	
	comp=Z,32nm,20.9s,baz=350,slow=38							
KIV	**Kislovodsk**	**15.04**	**49**	*e*P		**Pn**	**21 34 22.9**	**+7.1**
KIV				pmax		pmax		
	comp=Z,5.0nm,0.7s							
KIV	**Kislovodsk**	**15.04**	**49**	*e*P		**Pn**	**21 34 22.9**	**+7.1**
	comp=Z,4.9nm,0.7s							
AKASG	**Malin Array Be**	**15.78**	**5**	Pn		**Pn**	**21 34 24.6**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=193,slow=12,SNR=3.6							
MORC	**Moravsky Berou**	**16.31**	**338**	*e*P		**Pn**	**21 34 33.3**	**+1.0**
MORC				pmax		pmax		
	comp=Z,2.0nm,0.8s							
MORC	**Moravsky Berou**	**16.31**	**338**	*e*P		**Pn**	**21 34 33.2**	**+1.0**
	comp=Z,1.9nm,0.8s							
MORC	**Moravsky Berou**	**16.31**	**338**	*e*P		**Pn**	**21 34 33.2**	**+0.9**
	comp=Z,1.9nm,0.8s							
GERES	**GERESS Array B**	**16.96**	**329**	Pn		**Pn**	**21 34 41.8**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=138,slow=12,SNR=10.0							
DPC	**Dobruska-Polom**	**17.20**	**336**	*e*P		**Pn**	**21 34 48.4**	**+4.9**
KHC	**Kasperske Hory**	**17.24**	**329**	*e*P		**Pn**	**21 34 45.4**	**+1.4**
SBF	**Sospel**	**17.47**	**306**	*e*P		**Pn**	**21 34 44.1**	**-2.9**
	comp=Z,29nm,0.8s							
SBF	**Sospel**	**17.47**	**306**	*e*P		**Pn**	**21 34 44.1**	**-2.9**
SBF				pmax		pmax		
	comp=Z,14nm,0.8s							
SBF	**Sospel**	**17.47**	**306**	*e*P		**Pn**	**21 34 44.1**	**-2.9**
	comp=Z,14nm,0.8s							
MBDF	**Montbardon**	**18.27**	**308**	*e*P		**Pn**	**21 34 56.1**	**-0.6**
	comp=Z,16nm,0.9s							
MBDF	**Montbardon**	**18.27**	**308**	*e*P		**Pn**	**21 34 56.1**	**-0.6**
MBDF				pmax		pmax		
	comp=Z,8.0nm,0.9s							
MBDF	**Montbardon**	**18.27**	**308**	*e*P		**Pn**	**21 34 56.1**	**-0.6**
	comp=Z,8.1nm,0.9s							
LPG	**La Plagne**	**18.62**	**310**	*e*P		**Pn**	**21 35 01.0**	**0.0**
	comp=Z,7.0nm,0.7s							
LPG	**La Plagne**	**18.62**	**310**	*e*P		**Pn**	**21 35 01.0**	**0.0**
LPG				pmax		pmax		
	comp=Z,4.0nm,0.7s							
LPG	**La Plagne**	**18.62**	**310**	*e*P		**Pn**	**21 35 01.0**	**0.0**
	comp=Z,3.5nm,0.7s							
LPL	**La Plagne**	**18.64**	**310**	*e*P		**Pn**	**21 35 01.6**	**+0.3**
	comp=Z,3.6nm,0.5s							
LPL	**La Plagne**	**18.64**	**310**	*e*P		**Pn**	**21 35 01.6**	**+0.3**
LPL				pmax		pmax		
	comp=Z,2.0nm,0.5s							
LPL	**La Plagne**	**18.64**	**310**	*e*P		**Pn**	**21 35 01.6**	**+0.3**
	comp=Z,1.8nm,0.5s							
SUW	**Suwalki**	**19.20**	**353**	P		**Pn**	**21 35 10.4**	**+2.4**
SUW				pmax		pmax		
	comp=Z,8.0nm,0.6s							
SUW	**Suwalki**	**19.20**	**353**	P		**Pn**	**21 35 10.4**	**+2.4**
	comp=Z,7.6nm,0.6s							
CABF	**La Chapelle**	**19.55**	**313**	*e*P		**Pn**	**21 35 11.4**	**-0.9**
	comp=Z,20nm,0.9s							
CABF	**La Chapelle**	**19.55**	**313**	*e*P		**Pn**	**21 35 11.4**	**-0.9**
CABF				pmax		pmax		
	comp=Z,10.0nm,0.9s							
CABF	**La Chapelle**	**19.55**	**313**	*e*P		**Pn**	**21 35 11.4**	**-0.9**
	comp=Z,10nm,0.9s							
HAU	**Haudompre**	**20.11**	**316**	*e*P		**P**	**21 35 17.2**	**+0.1**
SMF	**Signal de Mont**	**20.94**	**311**	*e*P		**P**	**21 35 26.2**	**+0.1**
	comp=Z,3.1nm,0.4s							
SMF	**Signal de Mont**	**20.94**	**311**	*e*P		**P**	**21 35 26.2**	**+0.1**
SMF				pmax		pmax		
	comp=Z,2.0nm,0.4s							
SMF	**Signal de Mont**	**20.94**	**311**	*e*P		**P**	**21 35 26.2**	**+0.1**
	comp=Z,1.5nm,0.4s							
OBN	**Obninsk**	**21.18**	**15**	P		**P**	**21 35 35.0**	**+6.3**
OBN							21 35 54.0	
OBN				pmax		pmax		
	comp=Z,8.0nm,1.0s,mb4.0							
LOR	**Lormes**	**21.21**	**312**	*e*P		**P**	**21 35 28.6**	**-0.4**
	comp=Z,7.9nm,0.8s,mb3.8							
LOR	**Lormes**	**21.21**	**312**	*e*P		**P**	**21 35 28.6**	**-0.4**
LOR				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb3.8							
LOR	**Lormes**	**21.21**	**312**	*e*P		**P**	**21 35 28.6**	**-0.4**
	comp=Z,4.0nm,0.8s,mb3.8							
AVF	**Avril sur Loir**	**21.31**	**311**	*e*P		**P**	**21 35 28.9**	**-1.2**
	comp=Z,5.1nm,0.7s,mb3.7							
AVF	**Avril sur Loir**	**21.31**	**311**	*e*P		**P**	**21 35 28.9**	**-1.2**
AVF				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb3.7							
AVF	**Avril sur Loir**	**21.31**	**311**	*e*P		**P**	**21 35 28.9**	**-1.2**
	comp=Z,2.5nm,0.7s,mb3.6							
SSF	**Saint Saulge**	**21.33**	**312**	*e*P		**P**	**21 35 28.8**	**-1.5**
	comp=Z,20nm,1.0s,mb4.1							
SSF	**Saint Saulge**	**21.33**	**312**	*e*P		**P**	**21 35 28.8**	**-1.5**
SSF				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.1							
SSF	**Saint Saulge**	**21.33**	**312**	*e*P		**P**	**21 35 28.8**	**-1.5**
	comp=Z,10nm,1.0s,mb4.1							
BGF	**Bois d'Agland**	**21.53**	**310**	*e*P		**P**	**21 35 31.8**	**-0.7**
TCF	**Toulx Ste Croi**	**21.83**	**309**	*e*P		**P**	**21 35 35.6**	**-0.1**
BAIF	**Baives**	**22.42**	**319**	*e*P		**P**	**21 35 40.8**	**-1.1**
ESDC	**Sonseca Array**	**24.98**	**290**	P		**P**	**21 36 07.1**	**+0.2**
	comp=Z,0.9nm,0.5s,mb3.5,baz=83,slow=9.5,SNR=6.4							
ESLA	**Sonseca Array**	**24.98**	**290**	P		**P**	**21 36 07.0**	**0.0**
	comp=Z,0.6nm,0.8s,mb3.2							
MDT	**Midelt**	**26.26**	**274**	LR		LR	21 47 01.4	
	comp=Z,40nm,21.6s,MS2.9,baz=15,slow=37							
FINES	**FINESS Array B**	**26.47**	**359**	P		**P**	**21 36 18.5**	**-1.9**
	comp=Z,0.3nm,0.5s,mb3.1,baz=162,slow=14,SNR=4.5							
HFS	**Hagfors**	**26.59**	**345**	P		**P**	**21 36 18.9**	**-2.6**
	comp=Z,1.0nm,0.5s,mb3.6,baz=150,slow=14,SNR=3.2							
EKA	**Eskdalemuir Ar**	**29.04**	**324**	P		**P**	**21 36 43.5**	**0.0**
	comp=Z,0.5nm,0.5s,mb3.5,baz=116,slow=9.6,SNR=3.2							
EKA	**Eskdalemuir Ar**	**29.04**	**324**	P		**P**	**21 36 43.5**	**0.0**
EKA				pmax		pmax		
	comp=Z,1.0nm,0.5s							
TORD	**Torodi Ar. Bea**	**31.56**	**233**	P		**P**	**21 37 08.1**	**+2.3**
	comp=Z,1.3nm,0.6s,mb4.0,baz=32,slow=8.9,SNR=29							
ZRNK	**Zerenda**	**34.55**	**46**	P		**P**	**21 37 33.8**	**+2.0**
ZRNK				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb3.9							
ZRNK	**Zerenda**	**34.55**	**46**	P		**P**	**21 37 33.8**	**+2.0**
	comp=Z,0.9nm,0.6s,mb3.9							
MKAR	**Makanchi Array**	**42.61**	**57**	P		**P**	**21 38 40.1**	**+0.6**
	comp=Z,1.5nm,0.5s,mb4.0,baz=268,slow=8.4,SNR=38							
MKAR	**Makanchi Array**	**42.61**	**57**	P		**P**	**21 38 40.1**	**+0.6**
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.5s							
SONM	**Songino Array**	**58.42**	**51**	P		**P**	**21 40 39.8**	**+0.8**
	comp=Z,0.6nm,0.6s,mb3.8,baz=291,slow=7.8,SNR=6.1							
SONM	**Songino Array**	**58.42**	**51**	P		**P**	**21 40 39.8**	**+0.8**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.6s							
SCHQ	**Schefferville**	**64.27**	**320**	P		**P**	**21 41 18.7**	**+0.1**
	comp=Z,0.8nm,0.5s,mb4.0,baz=56,slow=11,SNR=3.3							
YKA	**Yellowknife Ar**	**78.05**	**343**	P		**P**	**21 42 40.8**	**-1.3**
	comp=Z,0.4nm,0.6s,mb3.5,baz=30,slow=5.5,SNR=8.0							

IDC 09 21:31:16.4±1.5, 206S×13943E, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.7/12, mbtmp3.7/4, ML3.9/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/19, Error ellipse: s-maj=66.8km s-min=25.4km az=96.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**18.46**	**195**	*e*P		Pn		21 35 33.6	0.0
WRA	**Warramunga Arr**	**18.46**	**195**	P		Pn		21 35 33.5	-0.1
	0.4nm,0.3s,baz=19,slow=12,SNR=16								
FITZ	**Fitzroy Crossi**	**20.91**	**219**	LR		LR		21 44 51.2	
	comp=Z,83nm,19.3s,baz=271,slow=39								
ASAR	**Alice Springs**	**22.14**	**194**	P		P		21 36 13.5	-0.1
	1.0nm,0.5s,baz=16,slow=10,SNR=19								
MKAR	**Makanchi Array**	**69.72**	**322**	P		P		21 42 28.3	+0.3
	0.4nm,0.6s,baz=105,slow=8.6,SNR=3.8								
ILAR	**Eielson Array**	**84.94**	**24**	P		P		21 43 53.5	+0.1
	0.7nm,0.7s,baz=265,slow=4.3,SNR=7.0								

ISC 09 21:33:44.3±0.6, 3942N±004×3468E±005, h10km, n9, σ1°22/16, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CDAG	**Cicekdag**	**0.31**	**310**	*i* P		**Pg**		**21 33 49.7**	**-0.8**
CDAG				*i* S		**Sg**		**21 33 54.0**	**-0.7**
YOZ	**Yozgat**	**0.54**	**66**	*i* PG		**Pg**		**21 33 54.0**	**-0.8**
YOZ				*i* SG		**Sg**		**21 34 00.6**	**-1.3**
AVNT	**Avonos**	**0.66**	**168**	*i* P		**Pg**		**21 33 55.6**	**-1.4**
AVNT				*i* S		**Sg**		**21 34 06.5**	**+0.8**
KAMT	**Kaman**	**0.75**	**266**	*i* PG		**Pg**		**21 33 58.3**	**-0.6**
CTKT	**Corum**	**1.20**	**4**	*i* P		**Pb**		**21 34 06.1**	**-1.0**
CTKT				*i* S		**Sb**		**21 34 21.6**	**-1.1**
ELDT	**Eldivan**	**1.44**	**318**	*i* P		**Pn**		**21 34 10.6**	**+0.2**
ELDT				*i* S		**Sn**		**21 34 30.7**	**+1.4**
SVST	**Sivas**	**1.79**	**78**	*i* P		**Pn**		**21 34 16.6**	**+1.4**
SVST				*i* S		**Sn**		**21 34 41.7**	**+3.7**
SVSK	**Karacayir**	**1.85**	**74**	PN		**Pn**		**21 34 16.3**	**+0.2**
BOYT	**Boyabat**	**2.00**	**5**	*i* P		**Pn**		**21 34 20.0**	**+1.9**
BOYT				*i* S		**Sn**		**21 34 46.1**	**+2.8**

MEX 09 22:04:15.7±0.3, 1584N×9552W, h16km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.57**	**263**	*i* P		Pg		22 04 25.1	-1.8
HUIG				*i* S		Sg		22 04 32.5	-2.0
VHO	**Vista Hermosa**	**1.69**	**317**	*e*P		Pn		22 04 41.4	-3.1
VHO				*i* S		Sn		22 05 00.7	-5.2
UTMO	**Huajuapan**	**2.95**	**313**	*i* P		Pn		22 05 00.2	-1.6
UTMO				*i* S		Sn		22 05 34.3	-2.6

*ISCJB **09** 22:19:14.1±0.4, 4589N±002×264E±004, h5km, Error ellipse: s-maj=4.3km s-min=2.9km az=83.0*
*STR **09** 22:19:15.6±0.2, 4587N×270E, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **09** 22:19:15.4±0.1, 4587N×267E, h3km, Md1.7/2, Ml1.8/7, Error ellipse: s-maj=1.9km s-min=0.9km az=126.0*

ISC 09 22:19:14.7±0.6, 4588N±003×266E±004, h15km±11km, n14, σ0°46/23, France

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PYM	**Petit Puy Mans**	**0.27**	**118**	Pg		**Pg**		**22 19 20.9**	**+0.3**
AGO	**Saint Agoulin**	**0.37**	**62**	Pg		**Pg**		**22 19 22.8**	**+0.5**
AGO				Sg		**Sg**		**22 19 27.6**	**+0.2**
TCF	**Toulx Ste Croi**	**0.52**	**323**	*e*Pg		**Pg**		**22 19 25.4**	**+0.4**
TCF				*e*Sg		**Sg**		**22 19 32.5**	**+0.6**
	1.2nm,0.2s								
PLDF	**La Plantade**	**0.68**	**82**	Pg		**Pg**		**22 19 27.8**	**-0.1**
PLDF				Sg		**Sg**		**22 19 37.1**	**+0.2**
BGF	**Bois d'Agland**	**0.69**	**11**	*e*Pg		**Pg**		**22 19 28.7**	**+0.4**
BGF				*e*Sg		**Sg**		**22 19 38.1**	**+0.7**
	7.8nm,0.3s								
LBL	**Lubilhac**	**0.77**	**147**	Pg		**Pg**		**22 19 29.7**	**+0.1**
RJF	**Les Rejaudoux**	**0.99**	**235**	*e*Pg		**Pg**		**22 19 34.0**	**+0.1**
RJF				*e*Sg		**Sg**		**22 19 46.6**	**-0.2**
	1.3nm,0.2s								
AVF	**Avril sur Loir**	**1.03**	**27**	*e*Pg		**Pg**		**22 19 34.7**	**0.0**
AVF				*e*Sg		**Sg**		**22 19 47.7**	**-0.5**
	2.1nm,0.3s								
CAF	**Calviac**	**1.04**	**204**	*e*Pg		**Pg**		**22 19 34.1**	**-0.8**
CAF	**Calviac**	**1.04**	**204**	*e*Pn		**Pn**		**22 19 35.3**	**+0.6**
CAF				*e*Sg		**Sg**		**22 19 48.2**	**-0.3**
	3.4nm,0.2s								
SMF	**Signal de Mont**	**1.12**	**46**	*e*Pg		**Pg**		**22 19 36.6**	**+0.2**
SMF				*e*Sg		**Sg**		**22 19 50.3**	**-0.7**
	1.7nm,0.2s								
SSF	**Saint Saulge**	**1.32**	**26**	*e*Pg		**Pg**		**22 19 40.3**	**+0.1**
SSF				*e*Sg		**Sg**		**22 19 56.7**	**-0.7**
	2.0nm,0.3s								
LOR	**Lormes**	**1.62**	**30**	*e*Sg		**Sg**		**22 20 06.1**	**-0.7**
	1.2nm,0.2s								
MFF	**Saint Martin d**	**2.08**	**291**	*e*Sg		**Sg**		**22 20 21.0**	**-0.6**
	0.6nm,0.2s								

*ISCJB **09** 22:24:10.0±0.6, 5161N±003×685E±005, h0km, Error ellipse: s-maj=5.2km s-min=4.6km az=97.6*
*BNS **09** 22:24:11.8±0.4, 5165N×696E, h1km, ML1.7*
*NEIC **09** 22:24:11.8±4.5, 5155N×690E, h5km, ML2.6(LDG), Error ellipse: s-maj=51.5km s-min=9.5km az=213.0*
*BGR **09** 22:24:12.2±0.8, 5159N×691E, h1km, ML1.9/2, Error ellipse: s-maj=12.2km s-min=6.7km az=105.0*
*LDG **09** 22:24:12.8±0.2, 5159N×697E, h1km, Ml2.6/4, Error ellipse: s-maj=5.6km s-min=3.1km az=11.0, Suspected Mining induced.*
*CSEM **09** 22:24:12.4±0.2, 5162N×696E, h1km, ML2.7/5, Error ellipse: s-maj=3.6km s-min=2.2km az=15.0*

ISC 09 22:24:10.8±0.6, 5164N±003×690E±005, h0km, n33, σ1°09/49, 2D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LAUG	**Laupendahl**	**0.29**	**175**	*e*Pg		**Pg**		**22 24 17.5**	**+1.0**
BUG	**Bochum--Univer**	**0.30**	**131**	*e*Pg		**Pg**		**22 24 17.3**	**+0.6**
	SNR=6.1								
WTSB	**Winterswijk**	**0.33**	**349**	*e*Pg		**Pg**		**22 24 18.8**	**+1.6**
	8.3nm,0.5s								
HOBG	**Hohbusch**	**0.71**	**158**	*e*Pg		**Pg**		**22 24 25.3**	**+0.8**
IBBN	**Ibbenburen**	**0.85**	**38**	*e*Pg		**Pg**		**22 24 29.1**	**+2.0**
	SNR=2.9								
STB	**Steinbach**	**1.05**	**182**	*e*Pg		**Pg**		**22 24 31.8**	**+0.9**
STB				*e*Sg		**Sg**		**22 24 46.5**	**+1.9**
	18nm,0.3s								
KLL	**Kalltalsperre**	**1.06**	**201**	*e*Pg		**Pg**		**22 24 32.0**	**+0.8**
KLL				*e*Sg		**Sg**		**22 24 47.2**	**+2.2**
HGN	**Heimansgroeve**	**1.07**	**215**	*e*Pn		**Pn**		**22 24 32.3**	**-0.7**
	9.2nm,0.4s								
HGN				⇓*e*Pg		**Pg**		**22 24 33.2**	**+1.8**
	10nm,0.2s								
HGN				*e*Sg		**Sg**		**22 24 47.0**	**+1.7**
HGN	**Heimansgroeve**	**1.07**	**215**⇓	*e*Pg		**Pg**		**22 24 33.2**	**+1.8**
	10nm,0.2s								
HGN				*e*Sg		**Sg**		**22 24 47.0**	**+1.8**
BGG	**Burgeitz**	**1.46**	**169**	*e*Pg		**Pg**		**22 24 37.9**	**-1.0**
TNS	**Taunus Mts**	**1.73**	**145**	*e*Pg		**Pg**		**22 24 42.8**	**-1.1**
	SNR=2.2								
TNS				*e*Sg		**Sg**		**22 25 05.9**	**-0.4**
	SNR=1.7								
GIVF	**Givet**	**2.03**	**221**	*e*Pn		**Pn**		**22 24 45.7**	**-0.5**
GIVF				*e*Sg		**Sg**		**22 25 16.5**	**+0.5**
	8.1nm,0.2s								
GIVF	**Givet**	**2.03**	**221**	*e*Pn		**Pn**		**22 24 45.7**	**-0.5**
GIVF				*e*Sg		**Sg**		**22 25 16.5**	**+0.5**
	4.1nm,0.2s								
WLF	**Walferdange**	**2.04**	**194**	*e*Sg		**Sg**		**22 25 15.2**	**-1.1**
	SNR=1.6								
BAIF	**Baives**	**2.33**	**228**	*e*Pg		**Pg**		**22 24 56.9**	**+1.4**
BAIF				*e*Sg		**Sg**		**22 25 26.1**	**+0.4**
	2.4nm,0.2s								
BAIF	**Baives**	**2.33**	**228**	*e*Pn		**Pn**		**22 24 50.4**	**0.0**
BAIF				*e*Pg		**Pg**		**22 24 56.9**	**+1.4**
BAIF				*e*Sg		**Sg**		**22 25 26.1**	**+0.4**
	1.2nm,0.2s								
CDF	**Champ du Feu**	**3.24**	**176**	*e*Pn		**Pn**		**22 25 02.4**	**-0.5**
BFO	**Black Forest**	**3.44**	**164**	*e*Pn		**Pn**		**22 25 05.1**	**-0.5**
	SNR=1.7								
LOR	**Lormes**	**4.81**	**206**	*e*Pn		**Pn**		**22 25 23.7**	**-0.8**
CABF	**La Chapelle**	**5.06**	**186**	*e*Pn		**Pn**		**22 25 27.3**	**-0.7**
SSF	**Saint Saulge**	**5.09**	**207**	*e*Pn		**Pn**		**22 25 27.5**	**-0.9**
AVF	**Avril sur Loir**	**5.38**	**207**	*e*Pn		**Pn**		**22 25 31.4**	**-1.0**
SMF	**Signal de Mont**	**5.39**	**203**	*e*Pn		**Pn**		**22 25 31.7**	**-0.8**
LDF	**La Druitiere**	**5.45**	**239**	*e*Pn		**Pn**		**22 25 33.0**	**-0.3**
LDF				*e*Sn		**Sn**		**22 26 34.5**	**-2.2**
	0.8nm,0.3s								
LDF	**La Druitiere**	**5.45**	**239**	*e*Pn		**Pn**		**22 25 33.0**	**-0.3**
LDF				*e*Sn		**Sn**		**22 26 34.5**	**-2.2**
	0.4nm,0.3s								
FLN	**La Foliniere**	**5.55**	**242**	*e*Pn		**Pn**		**22 25 34.8**	**+0.2**
BGF	**Bois d'Agland**	**5.74**	**209**	*e*Pn		**Pn**		**22 25 36.6**	**-0.7**
GRR	**Gorron**	**5.97**	**240**	*e*Pn		**Pn**		**22 25 40.4**	**0.0**
GRR				*e*Sn		**Sn**		**22 26 45.2**	**-4.3**
	1.8nm,0.2s								
GRR	**Gorron**	**5.97**	**240**	*e*Pn		**Pn**		**22 25 40.4**	**0.0**
GRR				*e*Sn		**Sn**		**22 26 45.2**	**-4.3**
	0.9nm,0.2s								
TCF	**Toulx Ste Croi**	**6.18**	**212**	*e*Pn		**Pn**		**22 25 42.4**	**-1.0**
QUIF	**Quistinic**	**7.51**	**244**	*e*Pn		**Pn**		**22 26 00.3**	**-1.3**
SMRF	**Simiane la Rot**	**7.72**	**187**	*e*Pn		**Pn**		**22 26 03.2**	**-1.3**

IDC 09 22:26:41.7±2.1, 671S×12960E, h0km, mb3.5/1, mb1 3.9/4, mb1mx3.6/14, mbtmp3.7/4, ML3.9/3, Error ellipse: s-maj=79.8km s-min=28.3km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.97**	**198**	Pn		Pn		22 29 34.1	+0.6
	0.3nm,0.3s,baz=37,slow=13,SNR=25								
FITZ				Sn		Sn		22 31 36.2	-12
	0.9nm,0.3s,baz=72,slow=23,SNR=7.9								
WRA	**Warramunga Arr**	**13.94**	**161**	Pn		Pn		22 30 00.4	0.0
	0.9nm,0.3s,baz=340,slow=14,SNR=24								
WRA				Sn		Sn		22 32 23.4	-12
	0.4nm,0.3s,baz=344,slow=20,SNR=5.4								
ASAR	**Alice Springs**	**17.36**	**167**	P		Pn		22 30 45.5	+0.1
	0.4nm,0.3s,baz=336,slow=9.1,SNR=17								
MKAR	**Makanchi Array**	**67.77**	**327**	P		P		22 37 41.4	+0.2
	0.2nm,0.4s,baz=111,slow=7.9,SNR=5.4								

*ISCJB **09** 22:50:19.1±1.2, 8.17N±006×8302W±005, h7km±6km, mb4.3/16, MS3.3/3, Error ellipse: s-maj=12.1km s-min=5.3km az=69.7*
*IDC **09** 22:50:19.7±1.3, 839N×8292W, h0km, mb4.1/9, mb1 4.4/11, mb1mx4.1/20, mbtmp4.2/11, ML4.2/1, MS3.3/3, Ms1 3.3/3, ms1mx3.0/15, Error ellipse: s-maj=41.5km s-min=15.2km az=40.0*
*NEIC **09** 22:50:20.6±2.6, 828N×8297W, h5km±13km, mb4.7/7, MD4.4(CASC), Error ellipse: s-maj=20.9km s-min=9.7km az=199.0*
NEIC Felt at Ciudad Neily, Costa Rica.
*CASC **09** 22:50:21.8±2.7, 840N×8296W, h0km±7km, MD4.3, MW4.4, mb4.7(NEIC)*
*MOS **09** 22:50:22.3±1.2, 824N×8292W, h32km, mb4.8/5, Error ellipse: s-maj=18.9km s-min=11.8km az=114.9*

ISC 09 22:50:20.3±1.4, 823N±007×8303W±005, h1km±7km, n57, σ1°18/62, mb4.4/16, MS3.3/3, 6C-4D, Costa Rica

| Code | Station Name | Δ° | A

GERES	**GERESS Array B**	**88.27**	**41**	LR	LR	23 37 00.3		
	comp=Z,22nm,19.2s,MS3.6,baz=180,slow=32							
ARCES	**ARCESS Array B**	**88.71**	**19**	P	**P**	**23 03 12.6**	**-2.9**	
	comp=Z,1.6nm,0.8s,mb4.3,baz=348,slow=4.0,SNR=6.7							
ARCES	**ARCESS Array B**	**88.71**	**19**	P	**P**	**23 03 12.6**	**-2.9**	
BILL	**Bilibino**	**89.99**	**339**	*e*P	**P**	**23 03 19.8**	**-1.6**	
BILL				pmax	pmax			
	comp=Z,6.0nm,1.5s,mb4.6							
BILL	**Bilibino**	**89.99**	**339**	*e*P	**P**	**23 03 21.4**	**-0.1**	
	comp=Z,11nm,1.4s,mb4.9							
ASAR	**Alice Springs**	**141.46**	**242**	PKhKP		23 09 49.9		
	comp=Z,0.8nm,0.7s,baz=104,slow=2.9,SNR=7.4							
ASAR				PKP	PKPdf	23 09 54.0	+0.9	
	comp=Z,0.9nm,0.8s,baz=108,slow=3.0,SNR=7.2							

IDC 09 23:08:35.7±2.2, 006N×12628E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, Error ellipse: s-maj=213.1km s-min=26.6km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.39**	**159**	P	P	23 13 23.9	-0.9
	1.7nm,0.8s,baz=337,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**24.72**	**163**	P	P	23 13 59.6	+1.1
	1.2nm,0.8s,baz=343,slow=11,SNR=9.4						
MKAR	**Makanchi Array**	**60.33**	**327**	P	P	23 18 46.4	+0.1
	0.2nm,0.4s,baz=112,slow=8.2,SNR=5.5						

*CSEM **09** 23:13:09.0±1.2, 3885N×2888W, h3km±18km, ML1.8, Error ellipse: s-maj=23.7km s-min=4.3km az=99.0, After PDA*
*PDA **09** 23:13:09.0±1.2, 3885N×2888W, h3km±18km, MD2.9, ML1.8, Error ellipse: s-maj=23.7km s-min=4.3km az=99.0*
SVSA 09 23:13:09.0±1.2, 3885N×2888W, h3km±18km, MD2.9, ML1.8, Error ellipse: s-maj=23.7km s-min=4.3km az=99.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**0.26**	**147**	*i* P	Pg	23 13 13.9	-0.2
PCED				*i* S	Sg	23 13 17.8	+0.3
PCED							
	92nm,0.1s						
PCED	**Cedros**	**0.26**	**147**	*i* S	Sg	23 13 17.8	+0.3
PTCA	**Ponta do Capel**	**0.28**	**166**	*e*P	Pg	23 13 14.6	+0.3
PTCA				*i* S	Sg	23 13 18.4	+0.5
PTCA							
	85nm,0.2s						
PTCA	**Ponta do Capel**	**0.28**	**166**	*e*P	Pg	23 13 14.6	+0.3
PTCA				*i* S	Sg	23 13 18.4	+0.5
CALA	**Caldeira**	**0.30**	**152**	*e*P	Pg	23 13 14.5	-0.3
CALA				*e*S	Sg	23 13 18.4	-0.4
HOR	**Horta**	**0.38**	**148**	*e*P	Pg	23 13 15.6	-0.7
HOR				*e*S	Sg	23 13 20.9	-0.3
PICO	**Pico**	**0.50**	**134**	*e*P	Pg	23 13 18.3	-0.3
PICO				*e*S	Sg	23 13 24.8	-0.3
PCND	**Candelaria**	**0.50**	**139**	*e*P	Pg	23 13 19.6	+0.9
PCND				*e*S	Sg	23 13 26.0	+0.8
PCND							
	23nm,0.1s						
ROSA	**Rosais**	**0.52**	**104**	*e*P	Pg	23 13 18.2	-0.7
ROSA				*e*S	Sg	23 13 24.7	-1.0
PTEI	**Pico do Teixo**	**0.54**	**131**	*e*S	Sg	23 13 27.4	+0.9
PTEI							
	19nm,0.1s						
PBOI	**Pico dos Bois**	**0.57**	**136**	*e*S	Sg	23 13 28.3	+0.8
PBOI							
	14nm,0.1s						
PID	**Ribeirinha**	**0.72**	**124**	*e*P	Pg	23 13 21.1	-1.8
PID				*e*S	Sg	23 13 30.1	-2.2

*ISCJB **09** 23:15:13.6±1.0, 552S±02×294W±05, h10km, mb3.9/4, Error ellipse: s-maj=41.0km s-min=20.5km az=138.7*
*IDC **09** 23:15:14.0±1.9, 5516S×2938W, h0km, mb4.1/3, mb1 4.3/3, mb1mx4.0/11, mbtmp4.1/3, Error ellipse: s-maj=71.1km s-min=33.8km az=13.0*
*NEIC **09** 23:15:15.8±1.4, 5520S×2786W, h10km, mb3.7/3, Error ellipse: s-maj=89.7km s-min=19.6km az=60.0*
ISC 09 23:15:15.2±1.0, 552S±02×295W±05, h10km, n12, σ0°37/8, mb3.9/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**20.01**	**156**	*e*P	**P**	**23 19 43.7**	**-4.3**
	2.3nm,0.6s						
CPUP	**Villa Florida**	**35.32**	**313**	P	**P**	**23 22 10.8**	**+0.3**
	0.8nm,0.6s,mb3.9,baz=313,slow=19,SNR=2.2						
CPUP	**Villa Florida**	**35.32**	**313**	P	**P**	**23 22 10.8**	**+0.3**
VNDA	**Vanda**	**47.32**	**183**	*e*P	**P**	**23 23 49.0**	**0.0**
	0.3nm,0.6s,mb3.4						
LPAZ	**La Paz**	**48.87**	**307**	P	**P**	**23 24 00.3**	**-0.6**
	2.4nm,0.3s,mb4.7,baz=292,slow=8.7,SNR=23						
LPAZ	**La Paz**	**48.87**	**307**	*e*P	**P**	**23 24 08.0**	**+7.0**
	1.5nm,0.6s,mb4.2						
CASY	**Casey**	**55.09**	**162**	*e*P	**P**	**23 24 47.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**73.01**	**32**	P	**P**	**23 26 45.1**	**0.0**
	0.8nm,0.5s,mb3.9,baz=203,slow=6.5,SNR=23						
WRAB	**Tennant Creek**	**103.86**	**164**	*e*P	Pdif	23 29 17.4	-0.4
	3.9nm,0.8s						
YKA	**Yellowknife Ar**	**134.72**	**319**	PKP	PKPdf	23 34 33.4	-0.7
	0.3nm,0.8s,baz=120,slow=2.4,SNR=4.3						
ILAR	**Eielson Array**	**148.62**	**313**	PKPbc	PKPbc	23 35 02.8	+0.3
	1.6nm,0.8s,baz=134,slow=1.3,SNR=16						
SONM	**Songino Array**	**151.96**	**87**	PKPbc	PKPbc	23 35 08.2	-2.3
	0.2nm,0.4s,baz=186,slow=5.8,SNR=4.7						

*MOS **09** 23:17:31.4±1.6, 2599N×9584E, h33km, mb4.5/5, Error ellipse: s-maj=12.3km s-min=8.4km az=122.4*
*ISCJB **09** 23:17:38.7±0.4, 2594N±004×9545E±002, h104km±4km, mb4.2/31, Error ellipse: s-maj=6.5km s-min=3.6km az=15.6*
*BJI **09** 23:17:39.9, 2610N×9580E, h94km, mB4.9, mb4.7*
*IDC **09** 23:17:40.2±0.8, 2597N×9575E, h101km±6km, mb3.5/13, mb1 3.7/13, mb1mx3.6/19, mbtmp3.8/13, MS3.3/1, Ms1 3.3/1, ms1mx2.2/17, Error ellipse: s-maj=28.7km s-min=12.6km az=55.0*
*NEIC **09** 23:17:41.0±0.3, 2603N×9576E, mb4.6/13, Error ellipse: s-maj=10.0km s-min=5.5km az=56.0*
ISC 09 23:17:40.1±0.4, 2599N±004×9548E±003, h98km±4km, h105km±2.9km; pP-P, n93, σ1°33/105, mb4.2/31, 7C-2D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKP	**Lekhapani**	**1.44**	**21**	*e*P	**Pn**	**23 18 05.0**	**-0.4**
LKP				*e*S	**Sn**	**23 18 25.0**	**+0.4**
SHL	**Shillong**	**3.27**	**263**	*e*P	**Pn**	**23 18 27.4**	**-1.9**
SHL				*e*S	**Sn**	**23 19 05.7**	**-1.6**
LSA	**Lhasa**	**5.32**	**315**	P	**Pn**	**23 19 01.0**	**+3.9**
LSA				S	**Sn**	**23 20 02.0**	**+4.9**
LSA				Smax			
	comp=N,130nm,0.8s						
LSA				Smax			
	comp=E,290nm,0.7s						
LSA	**Lhasa**	**5.32**	**315↑**	*e*P	**Pn**	**23 19 00.1**	**+3.0**
LSA				*e*		23 20 00.7	
LSA				pmax	pmax		
	comp=Z,127nm,0.3s						
LSA	**Lhasa**	**5.32**	**315↑**	*e*Pn	**Pn**	**23 19 00.1**	**+3.0**
	comp=Z,127nm,0.3s						
LSA				*e*Sn	**Sn**	**23 20 00.7**	**+3.6**
SLGI	**Shiliguri**	**6.37**	**278**	*ex*	x	23 19 31.3	
KMI	**Kunming**	**6.62**	**96**	P	**Pn**	**23 19 15.5**	**+0.8**
KMI				S	**Sn**	**23 20 28.7**	**+0.1**
KMI				Smax			
	comp=N,27nm,1.2s						
KMI				Smax			
	comp=E,17nm,0.8s						
KMI				LR	LR		
	comp=N,217nm,5.0s						
KMI				LR	LR		
	comp=E,127nm,4.2s						
KMI				LR	LR		
	comp=Z,130nm,7.4s						
SHBG	**Sahibganj**	**7.09**	**265**	*e*P	**Pn**	**23 19 21.8**	**+0.6**
SHBG				*e*S	**Sn**	**23 20 37.0**	**-3.2**
CHRT	**Chiangrai**	**7.27**	**146**	↓P	**Pn**	**23 19 25.0**	**+1.5**
	comp=Z,158nm,0.6s						
CHG	**Chiang Mai**	**7.83**	**155**	↑P	**Pn**	**23 19 32.7**	**+1.5**
	comp=Z,26nm,0.9s						
CHTO	**Chiang Mai**	**7.83**	**155↑**	*e*P	**Pn**	**23 19 32.6**	**+1.4**
CHTO				pmax	pmax		
	comp=Z,22nm,0.9s						
CHTO	**Chiang Mai**	**7.83**	**155↑**	*e*Pn	**Pn**	**23 19 32.6**	**+1.4**
	comp=Z,22nm,0.9s						
JIRN	**Jiri**	**8.46**	**283**	*e*Pn	**Pn**	**23 19 41.1**	**+1.3**
JIRN				*e*Sn	**Sn**	**23 21 13.5**	**0.0**
	comp=Z,520nm,0.4s						
NANT	**Nan**	**8.63**	**145**	↑P	**Pn**	**23 19 43.5**	**+1.4**
	comp=Z,150nm,0.6s						
GUN	**Gumba**	**8.78**	**285**	*e*Pn	**Pn**	**23 19 45.4**	**+1.4**
GUN				*e*Sn	**Sn**	**23 21 20.8**	**-0.4**
	comp=Z,577nm,0.6s						
CD2	**Chengdu**	**8.78**	**54**	*e*P	**Pn**	**23 19 41.8**	**-2.3**
CD2				XP		23 20 09.1	
CD2				S	**Sn**	**23 21 17.7**	**-3.6**
CD2				AMB	AMB		
	comp=Z,20nm,0.6s						
CD2				LR	LR		
	comp=E,80nm,8.4s						
CD2				LR	LR		
	comp=Z,60nm,9.6s						
BOK	**Bokaro**	**8.98**	**258**	*e*P	**Pn**	**23 19 45.5**	**-1.3**
BOK				*e*S	**Sn**	**23 21 17.3**	**-8.8**
PKI	**Pulchoki**	**9.13**	**282**	*e*Pn	**Pn**	**23 19 49.6**	**+0.7**
PKI				*e*Sn	**Sn**	**23 21 29.5**	**-0.4**
	comp=Z,180nm,0.5s						
KKN	**Kakani**	**9.28**	**283**	*e*Pn	**Pn**	**23 19 51.9**	**+1.0**
KKN				*e*Sn	**Sn**	**23 21 32.5**	**-0.9**
	comp=Z,409nm,0.6s						
DMN	**Daman**	**9.40**	**282**	*e*Pn	**Pn**	**23 19 53.1**	**+0.5**
DMN				*e*Sn	**Sn**	**23 21 34.5**	**-2.0**
	comp=Z,185nm,0.5s						
GKN	**Gorkha**	**9.87**	**284**	*e*Pn	**Pn**	**23 19 59.3**	**+0.3**
GKN				*e*Sn	**Sn**	**23 21 46.6**	**-1.3**
	comp=Z,231nm,0.3s						
KOLN	**Koldanda**	**10.75**	**282**	*e*Pn	**Pn**	**23 20 10.8**	**-0.1**
KOLN				*e*Sn	**Sn**	**23 22 07.1**	**-2.1**
	comp=Z,130nm,0.4s						
LZH	**Lanzhou**	**12.35**	**33**	*e*P	**Pn**	**23 20 29.0**	**-3.4**
LZH				AMB	AMB		
	comp=Z,30nm,1.5s						
LZH				AMB	AMB		
	comp=Z,142nm,4.6s						
GTA	**Gaotai**	**13.87**	**14**	P	**Pn**	**23 20 53.9**	**+1.6**
GTA				AP		23 21 05.4	
GTA				AMB	AMB		
	comp=Z,4.0nm,0.5s						
XAN	**Xi'an**	**14.13**	**52**	P	**Pn**	**23 20 50.3**	**-5.4**
XAN				AMB	AMB		
	comp=Z,7.0nm,1.0s						
JBP	**Jabalpur**	**14.37**	**262↑**	*i*P	**Pn**	**23 21 00.2**	**+1.5**
JBP				*i* S	**Sn**	**23 23 36.7**	**-0.4**
NGP	**Nagpur**	**15.81**	**256**	*e*P	**Pn**	**23 21 18.7**	**+1.8**
NGP				AMb	AMB	23 21 30.6	
	comp=Z,44nm,2.3s						
DDI	**Dehra Dun**	**15.96**	**290**	*ex*	Sx	23 24 01.5	
KLP	**Kalpa**	**16.08**	**294**	*e*P	**Pn**	**23 21 18.9**	**-1.5**
KLP				AMb	AMB	23 21 20.6	
	comp=Z,6.8nm,0.4s						
KLP				*ex*	**S**	**23 24 09.4**	**-16**
NDI	**New Delhi**	**16.45**	**283**	*ex*	**S**	**23 24 14.0**	**-19**
SONA	**Sohna**	**16.53**	**282**	*ex*	**S**	**23 24 20.6**	**-14**
BHPL	**Bhopal**	**16.64**	**264**	*e*P	**Pn**	**23 21 26.9**	**-0.3**
BHPL				AMb	AMB	23 21 28.5	
	comp=Z,23nm,0.8s						
BHPL				*ex*	**S**	**23 24 23.8**	**-13**
SMLA	**Simla**	**16.88**	**292**	*ex*	**Pn**	**23 21 24.5**	**-5.6**
SMLA				AMb	AMB	23 21 27.0	
	comp=Z,24nm,1.7s						
KUDL	**Kundal**	**17.05**	**281**	*ex*	x	23 24 28.1	
KHET	**Khetri**	**17.65**	**281**	*ex*	**S**	**23 24 48.2**	**-8.2**
HYB	**Hyderabad**	**17.88**	**245**	*i* P	**Pn**	**23 21 45.5**	**+3.2**
HYB	**Hyderabad**	**17.88**	**245**	*e*P	**Pn**	**23 21 45.5**	**+3.2**
WMQ	**Urumqi**	**18.88**	**342**	*e*P	**Pn**	**23 21 56.0**	**+1.7**
KAD	**Karad**	**21.57**	**251**	*e*P	**P**	**23 22 22.6**	**+1.0**
KAD				AMb	AMB	23 22 26.9	
	comp=Z,16nm,0.9s,mb4.3						
MKAR	**Makanchi Array**	**23.25**	**337**	P	**P**	**23 22 41.7**	**+2.9**
	comp=Z,2.1nm,0.6s,mb3.6,baz=144,slow=9.1,SNR=14						
MKAR				PcP	PcP	23 26 23.8	+0.4
	comp=Z,0.6nm,0.4s,baz=222,slow=3.0,SNR=11						
MKAR				ScP	ScP	23 29 51.6	-0.9
	comp=Z,0.6nm,0.6s,baz=116,slow=2.9,SNR=7.1						
MKAR	**Makanchi Array**	**23.25**	**337**	P	**P**	**23 22 41.7**	**+2.9**
MKAR						23 26 23.8	
YHNB	**Yeheng**	**23.44**	**88**	*e*P	**P**	**23 22 38.3**	**-2.1**
SONM	**Songino Array**	**23.44**	**19**	P	**P**	**23 22 40.6**	**+0.1**
	comp=Z,0.6nm,0.4s,mb3.3,baz=200,slow=9.1,SNR=9.2						
SONM				ScP	ScP	23 29 52.0	-0.9
	comp=Z,0.1nm,0.5s,baz=194,slow=5.5,SNR=4.8						
ULN	**Ulaanbaatar**	**23.66**	**20**	P	**P**	**23 22 42.0**	**-0.5**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.3						
ULN	**Ulaanbaatar**	**23.66**	**20**	P	**P**	**23 22 42.0**	**-0.5**
	comp=Z,0.9nm,0.6s,mb3.3						
AAK	**Ala-Archa**	**23.90**	**319**	*e*P	**P**	**23 22 45.4**	**+0.8**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.0						
AAK	**Ala-Archa**	**23.90**	**319**	*e*P	**P**	**23 22 45.4**	**+0.8**
	comp=Z,8.9nm,1.2s,mb4.0						
KURK	**Kurchatov**	**27.87**	**337**	*e*P	**P**	**23 23 19.6**	**-0.8**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.1						
KURK	**Kurchatov**	**27.87**	**337**	*e*P	**P**	**23 23 19.6**	**-0.9**
	comp=Z,5.7nm,0.9s,mb4.1						
JOW	**Kunigami**	**29.34**	**81**	LR	LR	23 35 51.8	
	comp=Z,59nm,21.5s,baz=147,slow=38						
HIA	**Hailar**	**29.91**	**33**	*e*P	**P**	**23 23 38.4**	**-0.2**
BVAR	**Borovoye Array**	**32.89**	**332**	P	**P**	**23 24 07.2**	**+2.5**
	comp=Z,0.4nm,0.5s,mb3.5,baz=148,slow=8.5,SNR=3.1						
BVAR				PcP	PcP	23 26 47.5	+0.4
	comp=Z,1.4nm,0.6s,baz=154,slow=4.3,SNR=9.5						
BRVK	**Borovoye**	**32.96**	**332**	P	**P**	**23 24 06.4**	**+1.1**
ZRNK	**Zerenda**	**33.44**	**331**	P	**P**	**23 24 11.0**	**+1.5**
MAJO	**Matsushiro**	**37.74**	**63**	*e*P	**P**	**23 24 44.2**	**-2.1**
MAJO				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.4						
MAJO	**Matsushiro**	**37.74**	**63**	*e*P	**P**	**23 24 44.2**	**-2.0**
	comp=Z,2.1nm,0.3s,mb4.5						
RDF	**Al-Radifah**	**42.41**	**285**	*e*P	**P**	**23 25 27.3**	**+2.4**
RDF				AMb	AMB	23 25 27.8	
	comp=Z,25nm,0.4s,mb5.3						
MIB	**Mutribah**	**42.48**	**287**	*e*P	**P**	**23 25 27.9**	**+2.5**
MIB				AMb	AMB	23 25 29.2	
	comp=Z,17nm,0.6s,mb4.9						
NAY	**Al-Naaiem**	**42.63**	**286**	*e*P	**P**	**23 25 29.0**	**+2.4**
NAY				AMb	AMB	23 25 30.4	
	comp=Z,11nm,0.7s,mb4.7						
YAK	**Yakutsk**	**42.67**	**23**	*e*P	**P**	**23 25 24.8**	**-2.1**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb4.9						
YAK	**Yakutsk**	**42.67**	**23**	*e*P	**P**	**23 25 24.8**	**-2.1**
	comp=Z,10nm,0.4s,mb4.9						
MALT	**Malatya**	**49.14**	**299**	*e*P	**P**	**23 26 21.0**	**+3.2**
MALT				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
MALT	**Malatya**	**49.14**	**299**	*e*P	**P**	**23 26 21.0**	**+3.2**
	comp=Z,0.7nm,0.4s,mb3.9						
SKR	**Severo-Kuril's**	**51.90**	**45**	*e*P	**P**	**23 26 47.5**	**+8.9**
MBWA	**Marble Bar**	**52.45**	**151**	*e*P	**P**	**23 26 42.4**	**-0.2**
KAKA	**Kakadu**	**52.67**	**132**	*e*P	**P**	**23 26 42.4**	**-1.8**
	comp=Z,11nm,1.1s,mb4.8						
FITZ	**Fitzroy Crossi**	**52.73**	**143**	*e*P	**P**	**23 26 43.2**	**-1.5**
	comp=Z,5.1nm,1.1s,mb4.5						
BRTR	**Keskin Array B**	**52.77**	**301**	P	**P**	**23 26 46.7**	**+1.8**
	comp=Z,0.5nm,0.6s,mb3.7,baz=110,slow=6.6,SNR=4.5						
AKASG	**Malin Array Be**	**55.47**	**315**	P	**P**	**23 27 04.6**	**0.0**
	comp=Z,0.4nm,0.4s,mb3.9,baz=80,slow=6.8,SNR=4.0						
AKASG				pP		23 27 29.9	+1.5
	comp=Z,0.5nm,0.4s,baz=80,slow=6.7,SNR=3.0						
FINES	**FINESS Array B**	**57.70**	**328**	P	**P**	**23 27 20.1**	**-0.2**
	comp=Z,1.9nm,1.1s,mb4.0,baz=258,slow=5.5,SNR=3.2						
ARCES	**ARCESS Array B**	**58.91**	**337**	P	**P**	**23 27 28.8**	**0.0**
	comp=Z,2.2nm,0.9s,mb4.2,baz=61,slow=7.3,SNR=4.0						
WRA	**Warramunga Arr**	**59.23**	**137**	P	**P**	**23 27 30.6**	**-0.5**
	comp=Z,17nm,0.5s,mb5.3,baz=324,slow=7.4,SNR=85						
WRAB	**Tennant Creek**	**59.23**	**137**	*e*P	**P**	**23 27 30.8**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.2						
WRAB	**Tennant Creek**	**59.23**	**137**	*e*P	**P**	**23 27 30.8**	**-0.3**
	comp=Z,16nm,0.6s,mb5.2						
WB2	**Warramunga Arr**	**59.24**	**137**	*e*P	**P**	**23 27 30.6**	**-0.5**
KWP	**Kalwaria**	**59.70**	**314**	*e*P	**P**	**23 27 35.5**	**+1.2**
MUN	**Mundaring**	**60.94**	**160**	*e*P	**P**	**23 27 42.5**	**-0.2**
KLBR	**Kellerberrin**	**61.08**	**158↓**	*i*P	**P**	**23 27 43.2**	**-0.5**
	comp=Z,3.2nm,0.4s,mb4.7						
ASAR	**Alice Springs**	**61.80**	**140**	P	**P**	**23 27 48.3**	**-0.2**
	comp=Z,7.0nm,0.4s,mb5.0,baz=322,slow=6.6,SNR=111						
FORT	**Forrest**	**64.48**	**149**	*e*P	**P**	**23 28 06.3**	**+0.1**
	comp=Z,16nm,0.7s,mb5.0						
NOA	**NORSAR Array B**	**64.88**	**328**	P	**P**	**23 28 08.4**	**-0.4**
	comp=Z,0.4nm,0.6s,mb3.4,baz=109,slow=3.6,SNR=2.8						
GERES	**GERESS Array B**	**65.65**	**314**	P	**P**	**23 28 13.5**	**-0.3**
	comp=Z,0.4nm,0.7s,mb3.4,baz=106,slow=2.9,SNR=3.6						
GERES				pP	pP	23 28 40.6	+2.2
	comp=Z,1.1nm,0.7s,baz=72,slow=5.7,SNR=6.8						
CTAO	**Charters Tower**	**67.29**	**128**	*e*P	**P**	**23 28 24.0**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
CTAO	**Charters Tower**	**67.29**	**128**	*e*P	**P**	**23 28 23.9**	**-0.2**
	comp=Z,4.3nm,0.6s,mb4.5						
STU	**Stuttgart**	**68.56**	**315**	*e*P	**P**	**23 28 32.6**	**+0.4**
STKA	**Stephens Creek**	**72.44**	**140**	*e*P	**P**	**23 28 52.7**	**-3.1**
	comp=Z,3.6nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**72.44**	**140**	P	**P**	**23 28 53.1**	**-2.6**
	comp=Z,4.5nm,0.6s,mb4.5,baz=294,slow=7.9,SNR=11						
ILAR	**Eielson Array**	**77.59**	**23**	P	**P**	**23 29 23.5**	**-1.9**
	comp=Z,1.3nm,0.7s,mb3.8,baz=302,slow=4.9,SNR=15						
INK	**Inuvik**	**79.34**	**17**	*e*P	**P**	**23 29 34.1**	**-0.9**
TORD	**Torodi Ar. Bea**	**87.67**	**283**	P	**P**	**23 30 19.7**	**+2.1**
	comp=Z,0.4nm,0.5s,mb3.7,baz=70,slow=4.5,SNR=4.7						
TORD				pP	pP	23 30 45.6	+2.3
	comp=Z,1.1nm,0.7s,baz=65,slow=3.9,SNR=6.4						
YKA	**Yellowknife Ar**	**88.60**	**13**	P	**P**	**23 30 21.0**	**-0.9**
	comp=Z,0.5nm,0.6s,mb3.7,baz=326,slow=4.5,SNR=11						
BDFB	**Brasilia**	**144.46**	**280**	PKP	PKPdf	23 37 05.7	+0.8
	comp=Z,3.7nm,0.6s,baz=165,slow=4.5,SNR=7.6						
BDFB				pPKP	pPKPdf	23 37 32.4	+0.5
	comp=Z,2.4nm,0.7s,baz=191,slow=5.2,SNR=2.3						
ROSC	**El Rosal**	**147.78**	**341**	PKPbc	PKPbc	23 37 16.1	+2.6
	comp=Z,9.7nm,0.5s,baz=101,slow=22,SNR=6.7						

*ISCJB **09** 23:20:09.4±0.5, 4238N±003×215E±004, h0km, Error ellipse: s-maj=4.3km s-min=3.1km az=80.1*
*STR **09** 23:20:10.9±0.3, 4279N×257E, h10km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **09** 23:20:11.2±0.2, 4233N×216E, h0km, mbLg1.6/14, Error ellipse: s-maj=1.8km s-min=1.6km az=85.0, PRXIMO*
*LDG **09** 23:20:11.2±0.2, 4235N×219E, h2km, Ml2.1/5, Error ellipse: s-maj=3.5km s-min=1.8km az=155.0*
ISC 09 23:20:10.1±0.5, 4234N±002×218E±004, h0km, n32, σ0°82/43, 1C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBRU	**Bruguera**	**0.06**	**178**	Pg	**Pg**	**23 20 11.8**	**+0.6**
CBRU				Lg		23 20 12.9	
	183nm,0.2s						
VALF	**Valcebollere**	**0.13**	**296**	Pg	**Pg**	**23 20 13.2**	**+0.6**
VALF				Lg		23 20 15.0	
CLLI	**Llivia**	**0.20**	**312**	Pg	**Pg**	**23 20 14.6**	**+0.6**
CLLI				Lg		23 20 17.4	
	18nm,0.2s						
FILF	**Fillols**	**0.36**	**52**	Pg	**Pg**	**23 20 16.5**	**-0.4**
FILF				Sg	**Sg**	**23 20 20.9**	**-0.7**
FILF	**Fillols**	**0.36**	**52**	Pg	**Pg**	**23 20 16.6**	**-0.3**
FILF				Lg		23 20 20.8	
CARF	**Carcanieres**	**0.38**	**352**	Pg	**Pg**	**23 20 18.2**	**+0.9**
CARF				Sg	**Sg**	**23 20 23.5**	**+1.3**
CARF	**Carcanieres**	**0.38**	**352**	Pg	**Pg**	**23 20 18.3**	**+1.0**
CARF				Lg		23 20 23.5	
EJON	**La Jonquera**	**0.54**	**78**	Pg	**Pg**	**23 20 21.8**	**+1.4**
	0.7nm,0.1s,SNR=7.9						
EJON				Lg		23 20 29.3	
	12nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**0.61**	**162**	Pg	**Pg**	**23 20 22.0**	**+0.2**
CFON				Lg		23 20 30.1	
	19nm,0.2s						
EMIR	**Miracle**	**0.65**	**229**	⇑Pg	**Pg**	**23 20 22.5**	**0.0**
	1.5nm,0.1s,SNR=18						
EMIR				Lg		23 20 31.7	
	8.8nm,0.1s,SNR=32						
CORG	**Organya**	**0.65**	**260**	Pg	**Pg**	**23 20 22.5**	**0.0**
CSOR	**Sort**	**0.77**	**273**	Pg	**Pg**	**23 20 25.0**	**+0.1**
CSOR				Lg		23 20 35.6	
	3.1nm,0.3s						
SALF	**Salau**	**0.84**	**300**	Pg	**Pg**	**23 20 26.8**	**+0.6**
SALF				Lg		23 20 37.6	
MTLF	**Montolieu**	**1.00**	**2**	*e*Pg	**Pg**	**23 20 29.7**	**+0.5**
MTLF				*e*Sg	**Sg**	**23 20 43.6**	**+1.4**
	4.2nm,0.2s						
MTLF	**Montolieu**	**1.00**	**2**	Pg	**Pg**	**23 20 29.7**	**+0.5**
MTLF				Lg		23 20 43.6	
	2.1nm,0.2s						
CAVN	**Les Avellanes**	**1.16**	**247**	Pg	**Pg**	**23 20 31.8**	**-0.5**
CAVN				Lg		23 20 47.9	
	11nm,0.2s						
EPOB	**Poblet**	**1.29**	**220**	Pg	**Pg**	**23 20 34.3**	**-0.4**

CPN1				*i* S	Sn	00 24 45.1	+1.6		
CPN1				AML	AML	00 24 45.9			
	comp=N,574nm,0.5s								
ANCH	**Antofagasta**	**1.16**	**60**	*e*P	Pn	00 24 32.3	+2.9		
ANCH				*i* S	Sn	00 24 49.4	+3.8		
ANCH				AML	AML	00 24 51.9			
	comp=N,807nm,0.1s								
ANCH	**Antofagasta**	**1.16**	**60**	*e*P	Pn	00 24 32.3	+2.9		
ANCH				*i* S	Sn	00 24 49.4	+3.8		
CEN1	**Los Morros**	**1.49**	**54**	*e*P	Pn	00 24 31.5	-1.8		
CEN1				*i* S	Sn	00 24 49.3	-3.4		
CEN1				AML	AML	00 24 54.1			
	comp=N,388nm,0.3s								
CRCH	**Chaqaral**	**2.21**	**159**	*e*P	Pn	00 24 43.6	+0.9		
CRCH				*i* S	Sn	00 25 11.1	+1.7		
CDCH	**Caldera**	**2.85**	**168**	*e*P	Pn	00 24 51.2	0.0		
CDCH				*i* S	Sn	00 25 25.4	+0.7		
LVC	**Limon Verde**	**2.90**	**56**	*e*Pn	Pn	00 24 37.9	-14		
LVC				*e*Sn	Sn	00 24 58.0	-28		

IDC 10 00:27:11.2±2.5, 5383N×16145E, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.4/20, mbtmp3.6/4, ML3.1/1, Error ellipse: s-maj=70.1km s-min=15.6km az=14.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FX1	**Attu Island--F**	**7.08**	**93**	Pn	Pn	00 28 54.1	-2.0
	1.3nm,0.3s,baz=300,slow=14,SNR=11						
FX1				Sn	Sn	00 30 14.8	-2.4
	baz=279,slow=21,SNR=2.0						
ILAR	**Eielson Array**	**27.72**	**46**	P	P	00 32 59.6	-1.7
	0.4nm,0.6s,baz=273,slow=9.5,SNR=5.4						
YKA	**Yellowknife Ar**	**42.07**	**44**	P	P	00 35 05.4	+0.6
	0.1nm,0.5s,baz=305,slow=8.1,SNR=4.5						
ZAL	**Zalesovo**	**43.08**	**303**	P	P	00 35 12.8	-0.2
	1.3nm,0.5s,baz=141,slow=16,SNR=8.3						

*NEIC **10** 00:27:19.0±0.8, 526N×9470E, h30km, mb4.1/2, Error ellipse: s-maj=20.7km s-min=9.3km az=221.0*
*ISCJB **10** 00:27:23.0±2.9, 54N±0.1×950E±02, h79km±24km, mb3.6/10, Error ellipse: s-maj=34.6km s-min=16.8km az=115.7*
*IDC **10** 00:27:22.7±5.8, 527N×9484E, h63km±50km, mb3.5/8, mb1 3.6/9, mb1mx3.5/19, mbtmp3.7/9, ML3.3/1, Error ellipse: s-maj=72.8km s-min=20.7km az=58.0*

ISC 10 00:27:24.5±2.7, 54N±0.1×950E±02, h74km±23km, n14, σ0§46/14, mb3.6/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**4.71**	**123**	P	**Pn**	**00 28 32.8**	**-0.3**
	1.3nm,0.3s,baz=332,slow=15,SNR=5.1						
KULM	**Kulim**	**5.64**	**91**	*e*Pn	**Pn**	**00 28 46.2**	**+0.5**
QIZ	**Qiongzhong**	**19.81**	**46**	P	**Pn**	**00 31 50.2**	**-1.0**
KKM	**Kota Kinabalu**	**21.13**	**87**	*e*P	**P**	**00 32 03.3**	**+0.1**
MKAR	**Makanchi Array**	**42.65**	**347**	P	**P**	**00 35 13.9**	**+0.2**
	0.5nm,0.4s,mb3.6,baz=168,slow=8.3,SNR=10						
SONM	**Songino Array**	**43.37**	**11**	P	**P**	**00 35 20.3**	**+0.8**
	0.4nm,0.6s,mb3.4,baz=195,slow=7.8,SNR=4.5						
WRA	**Warramunga Arr**	**46.18**	**124**	P	**P**	**00 35 41.3**	**-0.5**
	1.1nm,0.7s,mb3.7,baz=301,slow=9.7,SNR=4.0						
WRAB	**Tennant Creek**	**46.18**	**124**	*e*P	**P**	**00 35 42.2**	**+0.4**
	2.1nm,0.6s,mb4.0						
ASAR	**Alice Springs**	**47.72**	**129**	P	**P**	**00 35 54.0**	**+0.2**
	0.4nm,0.3s,mb3.7,baz=292,slow=7.8,SNR=5.4						
ZAL	**Zalesovo**	**49.07**	**352**	P	**P**	**00 36 04.3**	**+0.1**
	1.6nm,0.5s,mb4.2,baz=331,slow=5.9,SNR=7.2						
BRVK	**Borovoye**	**51.63**	**341**	*e*P	**P**	**00 36 23.7**	**+0.2**
	0.5nm,0.4s,mb3.9						
FINES	**FINESS Array B**	**75.26**	**332**	P	**P**	**00 38 58.8**	**-0.6**
	0.3nm,0.6s,mb3.2,baz=106,slow=6.0,SNR=3.2						
ARCES	**ARCESS Array B**	**77.84**	**340**	P	**P**	**00 39 14.0**	**0.0**
	1.7nm,0.9s,mb3.8,baz=86,slow=4.0,SNR=5.0						
GERES	**GERESS Array B**	**80.21**	**318**	P	**P**	**00 39 26.7**	**-0.2**
	0.1nm,0.3s,mb3.1,baz=96,slow=4.0,SNR=4.2						

*ISCJB **10** 00:31:29.8±1.0, 606N±0.1×1655E±03, h10km, mb3.5/5, Error ellipse: s-maj=21.3km s-min=14.4km az=134.4*
*MOS **10** 00:31:29.1±1.4, 6064N×16531E, h10km, mb3.8/3, Error ellipse: s-maj=53.6km s-min=19.9km az=89.3*
*IDC **10** 00:31:31.0±1.2, 6070N×16555E, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.5/22, mbtmp3.6/6, ML3.2/1, Error ellipse: s-maj=28.0km s-min=12.9km az=67.0*

ISC 10 00:31:30.5±1.0, 6048N±009×1655E±03, h10km, n12, σ1§03/13, mb3.5/5, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BILL	**Bilibino**	**7.60**	**2**	*e*PN	**Pn**	**00 33 20.9**	**-0.3**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BILL				pmax	pmax		
	comp=Z,47nm,1.2s						
FX1	**Attu Island--F**	**8.69**	**148**	Pn	**Pn**	**00 33 40.5**	**+4.4**
	comp=Z,1.0nm,0.3s,baz=330,slow=8.1,SNR=9.7						
FX1				Sn	**Sn**	**00 35 13.8**	**-0.3**
	baz=18,slow=20,SNR=1.9						
FX1	**Attu Island--F**	**8.69**	**148**	PN	**Pn**	**00 33 40.5**	**+4.3**
FX1				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ILAR	**Eielson Array**	**21.86**	**58**	P	**P**	**00 36 24.4**	**+1.1**
	comp=Z,1.0nm,0.6s,mb3.4,baz=274,slow=9.0,SNR=14						
ILAR	**Eielson Array**	**21.86**	**58**	P	**P**	**00 36 24.4**	**+1.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**26.38**	**47**	P	**P**	**00 37 07.8**	**+0.9**
	comp=Z,1.7nm,1.1s,mb3.5,baz=270,slow=6.1,SNR=3.1						
INK	**Inuvik**	**26.38**	**47**	P	**P**	**00 37 07.8**	**+0.9**
INK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
YKA	**Yellowknife Ar**	**35.91**	**51**	P	**P**	**00 38 29.1**	**-1.7**
	comp=Z,0.1nm,0.4s,mb3.1,baz=305,slow=8.2,SNR=4.2						
YKA	**Yellowknife Ar**	**35.91**	**51**	P	**P**	**00 38 29.1**	**-1.7**
MKAR	**Makanchi Array**	**47.84**	**293**	P	**P**	**00 40 08.9**	**+0.6**
	comp=Z,0.5nm,0.7s,mb3.7,baz=49,slow=8.2,SNR=4.1						
MKAR	**Makanchi Array**	**47.84**	**293**	P	**P**	**00 40 09.0**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**57.20**	**345**	P	**P**	**00 41 17.0**	**-0.7**
	comp=Z,0.4nm,0.5s,mb3.7,baz=14,slow=7.4,SNR=2.2						

*NEIC **10** 00:44:33.8, 4023N×1931E, h5km, mb4.5/13, ML4.5(PDG), ML4.7(ATH), After ATH,*
*BJI **10** 00:44:33.8, 4020N×1930E, h5km, mB5.1, mb4.9, Ms4.7, Msz4.1*
*SKO **10** 00:44:36.8, 3989N×1969E, h0km*
*LDG **10** 00:44:37.1±0.3, 4029N×1966E, h10km, Mb5.2/16, Ms3.2/5, Error ellipse: s-maj=16.9km s-min=7.0km az=20.0*
*SZGRF **10** 00:44:37.1, 3981N×1965E, h10km, mb3.7, Greece-Albania border region*
*THE **10** 00:44:38.2, 4017N×1948E, h10km, ML4.4*
*ATH **10** 00:44:38.9, 4011N×1960E, h16km, MD4.4/18, ML4.7*
*ISCJB **10** 00:44:39.3±0.1, 4017N±001×1966E±001, h10km, mb4.5/39, MS3.8/18, Error ellipse: s-maj=1.7km s-min=1.3km az=62.5*
*PDG **10** 00:44:39.3±0.7, 4011N×1951E, h7km±2km*
*CSEM **10** 00:44:39.7±0.1, 4021N×1957E, h10km, mb4.6/8, Ms3.6, Error ellipse: s-maj=1.7km s-min=1.1km az=35.0*
*ROM **10** 00:44:40.2±0.2, 4010N×1976E, h10km, Ml4.3/32, Error ellipse: s-maj=3.3km s-min=2.0km az=111.0*
*TIR **10** 00:44:40.2, 4020N×1980E, h0km, Ml4.2*
*HLW **10** 00:44:40.6, 4014N×2050E, h33km, Mb4.4*
*MOS **10** 00:44:41.2±1.3, 4016N×1954E, h33km, mb4.7/11, Error ellipse: s-maj=4.1km s-min=2.5km az=102.5*
*IDC **10** 00:44:41.4±4.2, 4016N×1971E, h18km±26km, mb4.1/16, mb1 4.2/24, mb1mx4.2/30, mbtmp4.2/24, ML4.1/6, MS3.7/18, Ms1 3.7/18, ms1mx3.5/38, Error ellipse: s-maj=12.8km s-min=10.8km az=48.0*
*VIE **10** 00:44:44.0±0.7, 4034N×1945E, h10km, mb3.9/7, Ms3.9/7, Error ellipse: s-maj=8.6km s-min=4.8km az=70.0 106 km S of Durres*

ISC 10 00:44:40.9±0.3, 4016N±001×1968E±001, h11km±2km, n493, σ1§41/569, mb4.5/39, MS3.8/18, 24C-41D, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TPE	**Tepelena**	**0.29**	**62**	*i* Pg	**Pg**	**00 44 44.1**	**-2.7**
TPE				*i* Sg	**Sg**	**00 44 48.9**	**-1.8**
SRN	**Sarande**	**0.37**	**138**	*i* Pg	**Pg**	**00 44 46.5**	**-1.8**
SRN				*i* Sg	**Sg**	**00 44 53.5**	**+0.2**
KEK	**Kerkira**	**0.45**	**168**	Pg	**Pg**	**00 44 48.3**	**-1.5**
KEK				Sg	**Sg**	**00 44 55.1**	**-0.7**
	24μm,1.0s						
KEK	**Kerkira**	**0.45**	**168**	⇑*i* PB	**Pg**	**00 44 48.0**	**-1.8**
KEK				*e*SB	**Sg**	**00 44 54.0**	**-1.8**
KEK	**Kerkira**	**0.45**	**168**	⇑*i* Pb	**Pg**	**00 44 47.2**	**-2.6**
KEK	**Kerkira**	**0.45**	**168**	Pg	**Pg**	**00 44 48.3**	**-1.5**
KEK				Sg	**Sg**	**00 44 55.1**	**-0.7**
	24μm,1.0s						
LSK	**Leskovik**	**0.71**	**90**	*i* Pg	**Pg**	**00 44 52.3**	**-2.3**
LSK				*i* Sg	**Sg**	**00 45 04.9**	**+1.0**
IGT	**Igoumenitsa**	**0.80**	**141**	*e*Pg	**Pg**	**00 44 54.2**	**-2.3**
IGT				*e*Sg	**Sg**	**00 45 08.8**	**+1.9**
SCTE	**Santa Cesarea**	**0.93**	**265**	Pg	**Pg**	**00 44 59.7**	**+0.8**
SCTE				Sg	**Sg**	**00 45 13.4**	**+2.4**
	29μm,1.2s						
KBN	**Korca**	**0.97**	**61**	*i* Pg	**Pg**	**00 44 57.9**	**-1.7**
KBN				*i* Sg	**Sg**	**00 45 11.2**	**-1.0**
KBN	**Korca**	**0.97**	**61**	*e*Pg	**Pg**	**00 44 57.9**	**-1.7**
KBN				*i* Sg	**Sg**	**00 45 11.2**	**-1.0**
JAN	**Janina**	**1.03**	**119**	⇑*i* PB	**Pb**	**00 44 58.5**	**-2.3**
JAN				*e*SN	**Sn**	**00 45 13.7**	**-2.1**
JAN	**Janina**	**1.03**	**119**	⇑*i* Pg	**Pg**	**00 44 58.2**	**-2.6**
TIR	**Tirane**	**1.20**	**7**	Pg	**Pg**	**00 45 03.8**	**-0.2**
	12μm,1.0s						
LCI	**Lecce**	**1.21**	**279**	Pg	**Pg**	**00 45 03.5**	**-0.7**
OHR	**Ohrid**	**1.28**	**41**	*e*Pn	**Pn**	**00 45 03.0**	**-1.8**
QSH	**Qafa e Shtames**	**1.37**	**7**	*i* Pn	**Pn**	**00 45 05.0**	**-1.1**
QSH				*i* Sn	**Sn**	**00 45 24.0**	**-0.3**
QSH	**Qafa e Shtames**	**1.37**	**7**	*e*Pn	**Pn**	**00 45 05.0**	**-1.1**
QSH				*i* Sn	**Sn**	**00 45 24.0**	**-0.3**
FNA	**Florina**	**1.44**	**64**	*e*Pg	**Pg**	**00 45 06.6**	**-2.0**
FNA				*e*Sg	**Sg**	**00 45 28.9**	**+1.7**
BIA	**Bitola**	**1.52**	**55**	*i* Pn	**Pn**	**00 45 06.7**	**-1.4**
KZN	**Kozani**	**1.61**	**84**	*e*PN	**Pn**	**00 45 10.0**	**+0.7**
KZN				*e*SN	**Sn**	**00 45 32.9**	**+2.8**
KZN	**Kozani**	**1.61**	**84**	*e*Pn	**Pn**	**00 45 10.2**	**+0.9**
LKD	**Levkas**	**1.63**	**152**	*e*Pb	**Pb**	**00 45 08.9**	**-2.2**
LKD				*e*Sb	**Sb**	**00 45 33.1**	**+1.4**
ULC	**Ulcinj**	**1.83**	**350**	⇓*i* Pn	**Pn**	**00 45 12.4**	**0.0**
ULC				*e*Sn	**Sg**	**00 45 39.4**	**-0.5**
ULC	**Ulcinj**	**1.83**	**350**	⇓*i* Pn	**Pn**	**00 45 12.4**	**0.0**
ULC				*e*Sn	**Sg**	**00 45 39.3**	**-0.6**
SDA	**Shkodra**	**1.90**	**356**	*i* Pn	**Pg**	**00 45 17.4**	**+0.1**
SDA				*i* Sn	**Sg**	**00 45 44.1**	**+2.1**
SDA	**Shkodra**	**1.90**	**356**	*e*Pn	**Pg**	**00 45 17.4**	**+0.1**
KKS	**Kukesi**	**2.00**	**16**	*i* Pn	**Pn**	**00 45 16.6**	**+2.0**
KKS	**Kukesi**	**2.00**	**16**	*e*Pn	**Pn**	**00 45 16.6**	**+2.0**
BRT	**Bari-Castellan**	**2.02**	**292**	Pg	**Pg**	**00 45 15.7**	**-4.0**
EVR	**Evrytania**	**2.06**	**126**	⇑*i* PN	**Pn**	**00 45 16.7**	**+1.1**
EVR				*e*SN	**Sn**	**00 45 42.6**	**+1.3**
EVR	**Evrytania**	**2.06**	**126**	*e*Pg	**Pn**	**00 45 16.7**	**+1.1**
NOCI	**Noci**	**2.09**	**288**	Pg	**Pn**	**00 45 16.1**	**+0.1**
VLS	**Valsamata**	**2.10**	**160**	⇑*i* PN	**Pn**	**00 45 14.7**	**-0.8**
VLS				*e*SN	**Sn**	**00 45 42.6**	**+0.4**
VLS	**Valsamata**	**2.10**	**160**	⇓*i* Pn	**Pn**	**00 45 14.7**	**-1.4**
LIT	**Litokhoron**	**2.16**	**91**	*e*Pn	**Pn**	**00 45 17.2**	**+0.3**
BUM	**Brajici-Budva**	**2.22**	**345**	⇓*i* Pn	**Pn**	**00 45 18.1**	**+0.3**
BUM				*e*Sn	**Sn**	**00 45 48.2**	**+3.0**
GRG	**Griva**	**2.22**	**68**	*e*Pn	**Pn**	**00 45 17.9**	**+0.1**
BCI	**Bajram Curri**	**2.23**	**7**	*i* Pn	**Pn**	**00 45 19.8**	**+2.0**
BCI				*i* Sn	**Sg**	**00 45 54.4**	**+1.9**
BCI	**Bajram Curri**	**2.23**	**7**	*e*Pn	**Pn**	**00 45 19.8**	**+2.0**
SKO	**Skopje**	**2.25**	**36**	*i* Pn	**Pn**	**00 45 19.3**	**+1.2**
SKO				*e*Sn	**Sn**	**00 45 49.7**	**+3.8**
SKO	**Skopje**	**2.25**	**36**	*i* Pn	**Pn**	**00 45 19.2**	**+1.1**
TTG	**Podgorica**	**2.29**	**352**	⇓*i* Pn	**Pn**	**00 45 19.1**	**+0.4**
TTG				*e*Sn	**Sn**	**00 45 50.4**	**+3.5**
BAI	**Bari**	**2.33**	**295**	*e*Pn	**Pn**	**00 45 20.0**	**+0.7**
AGG	**Agios Georgios**	**2.34**	**118**	*e*Pn	**Pn**	**00 45 20.3**	**+0.9**
	comp=Z,31nm,0.5s						
AGG				*e*Sn	**Sn**	**00 45 52.0**	**+3.8**
SG1	**Sgolgore (BA)**	**2.39**	**288**	*e*Pn	**Pn**	**00 45 20.0**	**0.0**
STIP	**Stip**	**2.44**	**50**	*i* Pn	**Pn**	**00 45 21.2**	**+0.5**
STIP				*e*Sn	**Sn**	**00 45 52.9**	**+2.3**
STIP	**Stip**	**2.44**	**50**	*i* Pn	**Pn**	**00 45 21.2**	**+0.4**
STIP				*e*Sn	**Sn**	**00 45 52.9**	**+2.2**
PVY	**Plav**	**2.45**	**5**	⇓*i* Pn	**Pn**	**00 45 22.2**	**+1.4**
PVY				*e*Sn	**Sn**	**00 45 55.0**	**+4.3**
HCY	**Herceg Novi**	**2.45**	**339**	⇓*i* Pn	**Pn**	**00 45 21.2**	**+0.3**
HCY				*e*Sn	**Sn**	**00 45 53.7**	**+2.8**
TIP	**Timpagrande**	**2.46**	**247**	*e*Pn	**Pn**	**00 45 21.6**	**+0.6**
TIP				*e*Sn	**Sg**	**00 46 06.8**	**+6.9**
TIP	**Timpagrande**	**2.46**	**247**	*e*Pn	**Pn**	**00 45 21.6**	**+0.6**
AMUR	**Altamura**	**2.46**	**289**	Pg	**Pn**	**00 45 21.4**	**+0.4**
	1μm,1.2s						
VAY	**Valandovo**	**2.49**	**61**	*i* Pn	**Pn**	**00 45 20.5**	**-0.9**
VAY	**Valandovo**	**2.49**	**61**	*i* Pn	**Pn**	**00 45 20.4**	**-1.0**
RLS	**Riolos of Patr**	**2.52**	**146**	⇑*i* PN	**Pn**	**00 45 21.6**	**-0.2**
RLS				*e*SN	**Sn**	**00 45 52.5**	**0.0**
RLS	**Riolos of Patr**	**2.52**	**146**	*e*Pn	**Pn**	**00 45 21.7**	**-0.1**
THE	**Thessaloniki**	**2.56**	**78**	*e*Pn	**Pn**	**00 45 22.4**	**+0.1**
	comp=Z,8.6nm,1.0s						
SERS	**Sersale**	**2.57**	**245**	Pg	**Pn**	**00 45 22.5**	**0.0**
	791nm,0.8s						
KNT	**Kendrikon**	**2.65**	**67**	*e*Pn	**Pn**	**00 45 25.0**	**+1.4**
	comp=Z,60nm,1.0s						
NKY	**Niksic**	**2.70**	**349**	⇓*i* Pn	**Pn**	**00 45 24.8**	**+0.4**
NKY				*e*Sn	**Sn**	**00 46 00.5**	**+3.4**
IVA	**Berane**	**2.72**	**3**	*e*Pn	**Pn**	**00 45 25.8**	**+1.2**
IVA				*e*Sn	**Sn**	**00 46 00.9**	**+3.5**
TREB	**Trebinje**	**2.75**	**339**	P	**Pn**	**00 45 25.5**	**+0.5**
TREB				S	**Sn**	**00 46 00.8**	**+2.7**
CDT	**Castel del Mon**	**2.75**	**291**	*e*Pn	**Pn**	**00 45 25.1**	**+0.1**
SCHR	**S. Chirico Rap**	**2.76**	**272**	Pg	**Pn**	**00 45 25.4**	**+0.2**
	1μm,1.1s						
PTRP	**Pietrapertosa**	**2.79**	**279**	Pg	**Pn**	**00 45 26.0**	**+0.5**
	364nm,5.7s						
XOR	**Xorichti**	**2.82**	**105**	*e*Pn	**Pn**	**00 45 26.2**	**+0.2**
	comp=Z,11nm,1.0s						
XOR	**Xorichti**	**2.82**	**105**	*e*Pn	**Pn**	**00 45 26.2**	**+0.2**
	11nm,1.0s						
GRI	**Girifalco**	**2.85**	**243**	Pg	**Pn**	**00 45 27.6**	**+1.2**
	2μm,1.7s						
NEO	**Neokhori**	**2.86**	**106**	*e*PN	**Pn**	**00 45 26.7**	**+0.1**
NEO				*e*SN	**Sn**	**00 46 02.0**	**+1.0**
NEO	**Neokhori**	**2.86**	**106**	*e*Pb	**Pn**	**00 45 27.0**	**+0.4**
BRY	**Bratogost**	**2.87**	**343**	⇓*i* Pn	**Pn**	**00 45 27.0**	**+0.3**
BRY				*e*Sn	**Sn**	**00 46 03.9**	**+2.7**
SOH	**Sokhos**	**2.88**	**76**	*e*Pn	**Pn**	**00 45 26.7**	**-0.1**
PLG	**Polygyros**	**2.89**	**84**	*e*PN	**Pn**	**00 45 27.5**	**+0.5**
PLG				*e*SN	**Sn**	**00 46 02.2**	**+0.5**
CUC	**Castrocucco**	**2.97**	**268**	Pg	**Pn**	**00 45 29.5**	**+1.5**
	2μm,0.9s						
LKR	**Lokris**	**2.98**	**119**	*e*PN	**Pn**	**00 45 28.8**	**+0.6**
LKR				*e*SN	**Sn**	**00 46 05.0**	**+1.0**
LKR	**Lokris**	**2.98**	**119**	*e*Pn	**Pn**	**00 45 28.9**	**+0.7**
PLAC	**Placanica**	**3.04**	**237**	Pg	**Pn**	**00 45 28.5**	**-0.5**
PLAC				Sg	**Sn**	**00 46 05.1**	**-0.2**
	307nm,0.7s						
PAIG	**Paliouri**	**3.08**	**93**	*e*Pn	**Pn**	**00 45 29.0**	**-0.6**
STON	**Ston**	**3.09**	**332**	*i* Pn	**Pn**	**00 45 29.2**	**-0.5**
STON				*i* Sn	**Sn**	**00 46 06.0**	**-0.6**
UPM	**Unac-Piva**	**3.10**	**350**	*e*Pn	**Pn**	**00 45 30.8**	**+1.0**
UPM				*e*Sn	**Sn**	**00 46 09.6**	**+2.8**
SLCN	**Sala Consilina**	**3.10**	**276**	Pg	**Pn**	**00 45 31.1**	**+1.2**
	2μm,0.8s						
SRS	**Serrai**	**3.13**	**71**	*e*Pn	**Pn**	**00 45 30.6**	**+0.4**
MGR	**Morigerati**	**3.16**	**271**	Pg	**Pn**	**00 45 31.5**	**+0.8**
	4μm,1.9s						
PLE	**Pljevlja**	**3.18**	**356**	*e*Pn	**Pn**	**00 45 31.4**	**+0.5**
PLE				*e*Sn	**Sn**	**00 46 11.6**	**+2.8**
FGMS	**Monte Sant'Ang**	**3.22**	**300**	Pg	**Pn**	**00 45 31.8**	**+0.3**
	249nm,0.4s						
MS1	**Monte Sant'Ang**	**3.23**	**300**	*e*Pn	**Pn**	**00 45 32.1**	**+0.5**
MRLC	**Muro Lucano**	**3.25**	**282**	Pg	**Pn**	**00 45 32.0**	**+0.1**
	1μm,0.9s						
OUR	**Ouranopolis**	**3.30**	**86**	*e*Pn	**Pn**	**00 45 33.0**	**+0.5**
	comp=Z,16nm,1.0s						
CMPR	**Campora**	**3.35**	**274**	Pg	**Pn**	**00 45 34.2**	**+0.9**
	4μm,2.4s						
CDRU	**Civita di Ruta**	**3.36**	**277**	Pg	**Pn**	**00 45 33.9**	**+0.5**
SGO	**Sicignano**	**3.36**	**278**	Pg	**Pn**	**00 45 33.7**	**+0.2**
	157nm,0.5s						
AOS	**Alonnisos**	**3.39**	**106**	*e*Pn	**Pn**	**00 45 34.3**	**+0.4**
	comp=Z,3.4nm,1.1s						
NVR	**Nevrokopi**	**3.39**	**68**	*e*PN	**Pn**	**00 45 35.4**	**+1.5**
NVR				*e*SN	**Sn**	**00 46 15.7**	**+1.6**
SGTA	**Sant Agata di**	**3.42**	**288**	Pg	**Pn**	**00 45 35.1**	**+0.8**
	2μm,0.9s						
RGNG	**Rignano Grg**	**3.45**	**297**	Pg	**Pn**	**00 45 34.7**	**0.0**
ITM	**Ithomi**	**3.46**	**149**	*e*PN	**Pn**	**00 45 35.0**	**+0.3**
ITM				*e*SN	**Sn**	**00 46 15.1**	**-0.6**
ITM	**Ithomi**	**3.46**	**149**	*e*Pb	**Pn**	**00 45 35.2**	**+0.5**
CEL	**Celeste**	**3.50**	**238**	Pg	**Pn**	**00 45 35.1**	**-0.2**
	761nm,0.8s						
SOI	**Samo**	**3.50**	**235**	Pg	**Pn**	**00 45 35.1**	**-0.3**
	547nm,0.6s						
MGER	**Gerania Oros**	**3.53**	**127**	*e*PN	**Pn**	**00 45 35.5**	**-0.3**
FG5	**Orsara di Pugl**	**3.54**	**290**	Pg	**Pn**	**00 45 37.0**	**+1.2**
	2μm,1.2s						
VTS	**Vitosha**	**3.60**	**46**	⇓*i* P	**Pn**	**00 45 38.4**	**+1.7**
VTS	**Vitosha**	**3.60**	**46**	⇓P	**Pn**	**00 45 38.4**	**+1.7**
MSRU	**Castanea**	**3.75**	**241**	Pg	**Pn**	**00 45 38.3**	**-0.5**
	587nm,0.6s						
ATH	**Athens Observa**	**3.83**	**123**	*e*PN	**Pn**	**00 45 39.8**	**0.0**
ATH				*e*SN	**Sn**	**00 46 25.5**	**+0.7**
ATH	**Athens Observa**	**3.83**	**123**	*e*Pn	**Pn**	**00 45 40.0**	**+0.2**
PTL	**Penteli**	**3.88**	**122**	*e*PN	**Pn**	**00 45 40.5**	**0.0**
DIVS	**Divcibare**	**3.94**	**3**	*i* Pn	**Pn**	**00 45 40.3**	**-1.2**
KVR	**Kavouri**	**3.95**	**125**	*e*PN	**Pn**	**00 45 42.0**	**+0.5**
SACR	**S. Croce Del S**	**3.97**	**290**	Pg	**Pn**	**00 45 43.5**	**+1.7**
	519nm,1.0s						
BOLS	**Boljevac**	**4.04**	**24**	⇑*i* Pn	**Pn**	**00 45 42.8**	**-0.1**
BOLS				Sn	**Sn**	**00 46 34.0**	**+3.8**
BSSO	**Busso**	**4.10**	**291**	Pg	**Pn**	**00 45 45.0**	**+1.4**
	548nm,0.9s						
LOS	**Limnos**	**4.15**	**91**	*e*Pn	**Pn**	**00 45 44.3**	**0.0**
FRES	**Fresagrandinar**	**4.20**	**297**	Pg	**Pn**	**00 45 46.7**	**+1.8**
	2μm,1.2s						
TRIV	**Trivento**	**4.20**	**294**	Pg	**Pn**	**00 45 46.2**	**+1.2**
	625nm,0.8s						
SGG	**Gregorio Mates**	**4.21**	**289**	Pg	**Pn**	**00 45 47.2**	**+2.1**
	493nm,0.9s						
VLI	**Veliai**	**4.28**	**142**	*e*PN	**Pn**	**00 45 45.9**	**-0.2**
VLI	**Veliai**	**4.28**	**142**	*e*Pn	**Pn**	**00 45 46.1**	**0.0**
SVIS	**Svilajnac**	**4.29**	**15**	⇑*i* Pn	**Pn**	**00 45 45.7**	**-0.5**
SVIS				Sn	**Sn**	**00 46 35.2**	**-1.0**
VAGA	**Valle Agricola**	**4.32**	**289**	Pg	**Pn**	**00 45 47.8**	**+1.2**
	437nm,0.9s						
CII	**Carovilli**	**4.36**	**293**	Pg	**Pn**	**00 45 48.7**	**+1.6**
	127nm,0.4s						
MOCO	**Biccari - m.te**	**4.36**	**288**	Pg	**Pn**	**00 45 38.4**	**-8.8**
MIDA	**Miranda**	**4.37**	**292**	Pg	**Pn**	**00 45 48.8**	**+1.5**
	603nm,1.3s						
RNI2	**Rionero Sannit**	**4.46**	**292**	Pg	**Pn**	**00 45 51.1**	**+2.6**
	720nm,1.1s						
AGST	**Augusta-Monte**	**4.53**	**232**	Pg	**Pn**	**00 45 46.6**	**-2.9**
	462nm,0.9s						
RDO	**Rodhopi**	**4.56**	**76**	*e*PN	**Pn**	**00 45 51.0**	**+1.0**
RDO	**Rodhopi**	**4.56**	**76**	*e*Pn	**Pn**	**00 45 50.0**	**0.0**
KYTH	**Kithira**	**4.69**	**145**	*e*PN	**Pn**	**00 45 52.5**	**+0.8**
SSY	**Sortino**	**4.69**	**232**	Pg	**Pn**	**00 45 49.6**	**-2.1**
	545nm,0.4s						
INTR	**Introdacqua**	**4.74**	**295**	Pg	**Pn**	**00 45 52.4**	**0.0**
	628nm,0.8s						
VVLD	**Villa Vallelon**	**4.89**	**292**	Pg	**Pn**	**00 45 55.6**	**+1.1**
	541nm,0.8s						
VAE	**Valguarnera**	**4.91**	**239**

ARSA ⇓*i*Sn **Sn** **00 47 59.5 -0.8**
ARSA Arzberg 7.70 338 ⇓*i*Pn **Pn** **00 46 33.5 +0.4**
ARSA *i* Sn **Sn** **00 47 59.5 -0.8**
ARG Arkhangelos 7.73 118 *e*PN **Pn** **00 46 35.7 +2.3**
PSZ Piszkesteto 7.76 1 *e*Pn **Pn** **00 46 33.8 -0.1**
TIRR Tirgusor 7.77 54 ⇓*i*P **Pn** **00 46 35.6 +1.6**
TIRR Tirgusor 7.77 54 *e*Pn **Pn** **00 46 35.1 +1.1**
TIRR *e*Sn **Sn** **00 47 59.9 -2.0**
TIRR Tirgusor 7.77 54 *e*Pn **Pn** **00 46 35.1 +1.1**
TIRR *e*Sn **Sn** **00 47 59.9 -2.0**
SOP Sopron 7.85 344 *e*Pn **Pn** **00 46 32.0 -3.1**
CFR Carcaliu 8.00 48 ⇓*i*P **Pn** **00 46 38.8 +1.7**
CFR Carcaliu 8.00 48 ⇓P **Pn** **00 46 38.8 +1.7**
BORA Eskisehir 8.28 88 *i* P **Pn** **00 46 41.6 +0.7**
KBA Koelnbreinsper 8.30 329 ⇓*i*Pn **Pn** **00 46 40.9 -0.4**
KBA ⇓*i*Sn **Sn** **00 48 13.3 -1.8**
KECS Kecovo 8.34 4 *e*Pn **Pn** **00 46 43.7 +1.8**
VYHS Vyhne 8.36 356 *e* **Pn** **00 46 43.8 +1.8**
PGF Pioggiola 8.38 290 *e*P **Pn** **00 46 42.5 +0.1**
comp=N,174nm,1.2s
BURAR Bucovina Array 8.46 26 ⇓*i*P **Pn** **00 46 46.4 +3.0**
TKTP Tekketepe 8.54 101 *i* P **Pn** **00 46 46.6 +2.1**
HENT Hendek 8.58 82 *i* P **Pn** **00 46 46.0 +0.9**
MOA Molln 8.62 335 *i* Pn **Pn** **00 46 45.7 0.0**
SNR=35
MOA ⇑*i*Sn **Sn** **00 48 21.5 -1.3**
UZH Uzhgorod 8.68 12 *e*P **Pn** **00 46 48.0 +1.6**
UZH *e*S **Sn** **00 48 21.0 -3.3**
UZH MLR MLR
comp=Z,150nm,1.3s
UZH Uzhgorod 8.68 12 *e*P **Pn** **00 46 48.0 +1.6**
comp=Z,150nm,1.3s
CRVS Cervenica-Dubn 8.84 8 *e* **Pn** **00 46 50.1 +1.5**
IAS Iasi 9.06 36 P **Pn** **00 46 55.2 +3.6**
WTTA Wattenberg 9.18 323 ⇓*i*Pn **Pn** **00 46 53.0 -0.3**
SNR=18
WTTA ⇓*i*Sn **Sn** **00 48 32.9 -3.8**
WATA Walderalm 9.26 323 ⇓*i*Pn **Pn** **00 46 54.5 0.0**
SNR=38
WATA ⇓*i*Sn **Sn** **00 48 35.7 -2.9**
NIE Niedzica 9.27 3 *e*P **Pn** **00 46 56.8 +2.2**
STHS Stebnicka Huta 9.32 6 *e* **Pn** **00 46 58.9 +3.6**
SQTA Sankt Quirin 9.35 322 ⇑*i*Pn **Pn** **00 46 56.1 +0.5**
SNR=31
SQTA ⇓*i*Sn **Sn** **00 48 38.7 -2.1**
VRAC Vranov 9.41 348 Pn **Pn** **00 46 57.9 +1.4**
baz=152,slow=13,SNR=4.0
SGKT Sivrigoynuk 9.46 83 *i* P **Pn** **00 46 55.6 -1.6**
MOTA Moosalm 9.49 322 ⇓*i*Pn **Pn** **00 46 57.4 -0.1**
SNR=57
MOTA ⇓*i*Sn **Sn** **00 48 42.7 -1.4**
MOTA Moosalm 9.49 322 Pn **Pn** **00 46 57.4 -0.1**
SNR=57
MOTA Sn **Sn** **00 48 42.7 -1.5**
KIS Kishinev 9.52 41 *e*P **Pn** **00 47 00.0 +2.0**
KIS *e*S **Sn** **00 48 51.0 +6.0**
KIS MLR MLR
comp=N,1μm,13.0s
KIS MLR MLR
comp=Z,800nm,13.0s
TREC Trest 9.61 343 AMS AMS 00 51 30.0
comp=Z,900nm,17.1s
GEC2 GERESS Array S 9.68 336 *e*Pn **Pn** **00 46 58.6 -1.5**
GERES GERESS Array B 9.68 336 Pn **Pn** **00 46 59.1 -1.0**
comp=Z,1.1nm,0.3s,baz=158,slow=13,SNR=46
GERES Sn **Sn** **00 48 46.7 -2.1**
comp=Z,1.2nm,0.3s,baz=153,slow=24,SNR=5.8
GERES LR LR 00 51 26.1
comp=Z,379nm,19.8s,baz=145,slow=42
GERES GERESS Array B 9.68 336 P **Pn** **00 46 59.1 -1.0**
GERES 00 48 46.7
KWP Kalwaria 9.71 12 *e*P **Pn** **00 47 03.6 +3.0**
DAVOX Davos 9.72 316 Pn **Pn** **00 47 01.8 +1.0**
comp=Z,1.6nm,0.3s,baz=132,slow=17,SNR=15
DAVOX Sn **Sn** **00 48 51.5 +1.6**
comp=Z,1.6nm,0.3s,baz=10,slow=20,SNR=4.4
DAVOX LR LR 00 51 27.4
comp=Z,456nm,19.6s,baz=124,slow=42
MORC Moravsky Berou 9.74 352 *e*P **Pn** **00 46 57.8 -3.2**
MORC pmax pmax
comp=Z,5.0nm,1.0s
MORC Moravsky Berou 9.74 352 *e*Pn **Pn** **00 46 57.8 -3.2**
comp=Z,4.7nm,1.0s
MORC Moravsky Berou 9.74 352 *e*Pn **Pn** **00 46 57.8 -3.2**
comp=Z,4.7nm,1.0s
OKC Ostrava-Krasne 9.74 354 AMS AMS 00 52 10.0
comp=Z,800nm,14.6s
SLUM 9.74 151 P **Pn** **00 46 56.8 -4.3**
SBF Sospel 9.84 296 *e*P **Pn** **00 47 00.9 -1.4**
comp=Z,46nm,0.8s
KHC Kasperske Hory 9.96 336 *e*P **Pn** **00 47 02.7 -1.4**
KHC *e*S **Sn** **00 48 51.2 -4.7**
KHC AMS AMS 00 51 40.0
comp=Z,1μm,10.3s
FUR Furstenfeldbru 10.02 326 *e*Pn **Pn** **00 47 04.6 -0.2**
DAVA Damuels 10.05 318 ⇑*i*Pn **Pn** **00 47 05.4 +0.2**
DAVA ⇑*i*Sn **Sn** **00 48 56.0 -1.9**
OJC Ojcow 10.06 0 *e*P **Pn** **00 47 07.2 +1.8**
LVV L'vov 10.14 16 *e*P **Pn** **00 47 10.3 +3.8**
LVV *e*S **Sn** **00 49 06.9 +6.7**
LVV MLR MLR
comp=N,130nm,10.0s
LVV MLR MLR
comp=E,90nm,10.0s
LVV MLR MLR
comp=Z,120nm,10.0s
WET Wettzell 10.20 334 *e*Pn **Pn** **00 47 05.7 -1.6**
FRF La Foret Royal 10.30 294 *e*P **Pn** **00 47 06.9 -1.8**
comp=Z,20nm,0.7s
FRF La Foret Royal 10.30 294 *e*P **Pn** **00 47 06.9 -1.8**
FRF pmax pmax
comp=Z,10.0nm,0.7s
FRF La Foret Royal 10.30 294 *e*P **Pn** **00 47 06.9 -1.8**
comp=Z,9.8nm,0.7s
DPC Dobruska-Polom 10.46 348 *e*P **Pn** **00 47 13.9 +3.0**
DPC AMS AMS 00 52 10.0
comp=Z,900nm,17.0s
DPC Dobruska-Polom 10.46 348 *e*P **Pn** **00 47 13.9 +3.0**
comp=Z,900nm,17.0s
PRU Pruhonice 10.48 341 *e*P **Pn** **00 47 11.2 +0.1**
PRU AMS AMS 00 52 00.0
comp=Z,1μm,20.5s
BALT Daday 10.48 78 *i* P **Pn** **00 47 13.9 +2.7**
MBDF Montbardon 10.57 300 *e*P **Pn** **00 47 12.2 -0.2**
comp=Z,36nm,0.9s
MBDF Montbardon 10.57 300 *e*P **Pn** **00 47 12.2 -0.2**
MBDF pmax pmax
comp=Z,18nm,0.9s
MBDF Montbardon 10.57 300 *e*P **Pn** **00 47 12.2 -0.2**
comp=Z,18nm,0.9s
BNI Bardonecchia 10.76 301 *e*Pn **Pn** **00 47 19.0 +4.1**
BNI *e*Sn **Sn** **00 49 14.7 -0.6**
BNI Bardonecchia 10.76 301 *e*Pn **Pn** **00 47 19.0 +4.1**
HMAT Matruh 10.87 144 P **Pn** **00 47 11.3 -5.2**
HMAT S **Sn** **00 48 58.9 -19**
LPG La Plagne 10.89 304 *e*P **Pn** **00 47 15.0 -1.7**
comp=Z,43nm,0.7s
LPG La Plagne 10.89 304 *e*P **Pn** **00 47 15.0 -1.7**
LPG pmax pmax
comp=Z,22nm,0.7s
LPG La Plagne 10.89 304 *e*P **Pn** **00 47 15.0 -1.7**
comp=Z,22nm,0.7s
LPL La Plagne 10.91 304 *e*P **Pn** **00 47 14.8 -2.2**
comp=Z,31nm,0.7s
LPL La Plagne 10.91 304 *e*P **Pn** **00 47 14.8 -2.2**
LPL pmax pmax
comp=Z,15nm,0.7s
LPL La Plagne 10.91 304 *e*P **Pn** **00 47 14.8 -2.2**
comp=Z,15nm,0.7s
ERMK Ermenek 10.96 104 *i* P **Pn** **00 47 18.0 +0.3**
ROTZ Rotzenmuhle 10.96 334 *e*Pn **Pn** **00 47 16.1 -1.7**
MANZ Manzenberg 11.18 334 *e*Pn **Pn** **00 47 19.2 -1.6**
ORIF Oris-en-Rattie 11.23 300 *e*P **Pn** **00 47 19.8 -1.7**
comp=Z,15nm,0.7s
ORIF *e*R
comp=Z,677nm,19.5s
ORIF Oris-en-Rattie 11.23 300 *e*P **Pn** **00 47 19.8 -1.7**
ORIF pmax pmax
comp=Z,8.0nm,0.7s
ORIF Oris-en-Rattie 11.23 300 *e*P **Pn** **00 47 19.8 -1.7**
comp=Z,7.6nm,0.7s
GRA1 Grafenberg Arr 11.25 331 *e*Pn **Pn** **00 47 20.0 -1.7**
GRF Grafenberg Arr 11.25 331 *e*Pn **Pn** **00 47 20.0 -1.7**
GRF *e*L 00 52 56.8
comp=Z,638nm,14.4s
NKC Novy Kostel 11.29 336 *e*P **Pn** **00 47 21.3 -0.9**
NKC AMS AMS 00 52 30.0
comp=Z,1μm,9.2s
FELD Feldberg im Sc 11.40 316 *e*P **Pn** **00 47 23.7 0.0**
STU Stuttgart 11.40 322 *e*Pn **Pn** **00 47 21.7 -2.1**
BBS Basel-Blauen 11.42 314 *e*P **Pn** **00 47 22.9 -1.1**
BRG Berggiesshubel 11.44 341 *e*P **Pn** **00 47 24.7 +0.4**
comp=Z,3.3nm,1.0s
BRG *e* 00 49 46.0
comp=Z,4.7nm,1.4s
BRG
comp=N,507nm,16.9s
BRG
comp=E,494nm,21.1s
BRG
comp=Z,726nm,13.1s
BRG Berggiesshubel 11.44 341 *e*P **Pn** **00 47 24.7 +0.4**
BRG pmax pmax
comp=Z,3.0nm,1.0s
BRG pmax pmax
comp=Z,5.0nm,1.4s
BRG MLR MLR
comp=N,507nm,17.0s
BRG MLR MLR
comp=E,494nm,21.1s
BRG MLR MLR
comp=Z,726nm,13.1s
BRG Berggiesshubel 11.44 341 *e*Pn **Pn** **00 47 24.2 -0.1**
DABA Dabaa 11.50 140 P **Pn** **00 47 17.4 -7.6**
BFO Black Forest 11.52 319 *e*Pn **Pn** **00 47 23.7 -1.7**
CABF La Chapelle 11.80 308 *e*P **Pn** **00 47 26.8 -2.4**
comp=Z,28nm,0.8s
CABF La Chapelle 11.80 308 *e*P **Pn** **00 47 26.8 -2.4**
CABF pmax pmax
comp=Z,14nm,0.8s
CABF La Chapelle 11.80 308 *e*P **Pn** **00 47 26.8 -2.4**
comp=Z,14nm,0.8s
MOF Molkenrain 11.85 315 *e*P **Pn** **00 47 28.5 -1.4**
SWA2 11.88 155 *e*P **Pn** **00 47 25.1 -5.2**
MOX Moxa 11.91 334 *e*PN **Pn** **00 47 30.0 -0.7**
comp=Z,23nm,0.9s
MOX
comp=Z,400nm,18.0s
MOX Moxa 11.91 334 *e*P **Pn** **00 47 30.0 -0.7**
MOX pmax pmax
comp=Z,23nm,0.9s
MOX MLR MLR
comp=Z,400nm,18.0s
MOX Moxa 11.91 334 *e*Pn **Pn** **00 47 28.7 -2.0**
SWA1 11.94 154 ⇓*e*P **Pn** **00 47 26.4 -4.8**
SWA1 S **Sn** **00 49 27.5 -17**
HINF Hinteralfeld 11.99 314 *e*P **Pn** **00 47 29.1 -2.7**
VIVF Saint-Julien-l 12.03 298 *e*P **Pn** **00 47 30.0 -2.3**
ECH Echery 12.06 316 *e*P **Pn** **00 47 33.2 +0.5**
WLS Welschbruch 12.08 317 *e*P **Pn** **00 47 32.2 -0.8**
CLL Collm 12.08 340 *e*(PP) 00 47 36.0
CLL *ex* x 00 47 48.0
CLL *ex* x 00 49 35.0
CLL Collm 12.08 340 *e*P **Pn** **00 47 36.0 +3.0**
CLL MLR MLR
comp=Z,1μm,12.9s
CLL Collm 12.08 340 *e*Pn **Pn** **00 47 36.0 +3.0**
CLL *e*Sn **Sn** **00 49 35.0 -13**
CLL *e*Sg Sx 00 51 00.0
CLL Collm 12.08 340 *e*P **Pn** **00 47 36.0 +3.0**
comp=Z,1μm,12.9s
CLL *e*Sn **Sn** **00 49 35.0 -13**
CDF Champ du Feu 12.12 317 *e*P **Pn** **00 47 31.1 -2.4**
comp=Z,9.9nm,0.5s
CDF Champ du Feu 12.12 317 *e*P **Pn** **00 47 31.1 -2.4**
CDF pmax pmax
comp=Z,5.0nm,0.5s
CDF Champ du Feu 12.12 317 *e*P **Pn** **00 47 31.1 -2.4**
comp=Z,4.9nm,0.5s
HAU Haudompre 12.37 314 *e*P **Pn** **00 47 35.9 -1.1**
comp=Z,32nm,0.8s
HAU *e*R
comp=Z,157nm,21.2s
HAU Haudompre 12.37 314 *e*P **Pn** **00 47 35.9 -1.1**
HAU pmax pmax
comp=Z,16nm,0.8s
HAU Haudompre 12.37 314 *e*P **Pn** **00 47 35.9 -1.1**
comp=Z,16nm,0.8s
LASF Ste Croix 12.38 294 *e*P **Pn** **00 47 38.3 +1.1**
comp=Z,46nm,1.2s
LASF Ste Croix 12.38 294 *e*P **Pn** **00 47 38.3 +1.1**
comp=Z,23nm,1.2s
AKASG Malin Array Be 12.48 29 Pn **Pn** **00 47 40.5 +2.0**
comp=Z,0.6nm,0.3s,baz=211,slow=13,SNR=12
AKASG Malin Array Be 12.48 29 *e*P **Pn** **00 47 41.7 +3.2**
AKASG pmax pmax
comp=Z,12nm,1.1s
AKASG Malin Array Be 12.48 29 *e*P **Pn** **00 47 41.7 +3.2**
comp=Z,12nm,1.1s
HBRG Burj al 'Arab 12.65 136 P **Pn** **00 47 32.3 -8.5**
TNS Taunus Mts 12.79 326 *e*Pn **Pn** **00 47 41.8 -1.0**
ETOS Mallorca 12.95 274 P **Pn** **00 47 53.5 +8.6**
RUP Ruppelstein 13.06 321 *e*P **Pn** **00 47 47.0 +0.6**
SMF Signal de Mont 13.21 305 *e*P **Pn** **00 47 45.4 -3.0**
GKP Gorka Klasztor 13.22 354 *e*P **Pn** **00 47 58.6 +10**
CLZ Clausthal 13.34 334 *e*Pn **Pn** **00 47 48.1 -2.2**
LOR Lormes 13.46 307 *e*P **Pn** **00 47 49.7 -2.1**
LOR *e*R
comp=Z,240nm,20.0s
WLF Walferdange 13.48 319 *e*Pn **Pn** **00 47 48.4 -3.8**
WLF Walferdange 13.48 319 *e*Pn **Pn** **00 47 53.9 +1.7**
WLF Walferdange 13.48 319 *e*Pn **Pn** **00 47 53.9 +1.7**
AVF Avril sur Loir 13.57 305 *e*P **Pn** **00 47 51.1 -2.3**
SSF Saint Saulge 13.59 306 *e*P **Pn** **00 47 51.3 -2.3**
EMIR Miracle 13.82 283 P **Pn** **00 48 04.1 +7.3**
AWBH 14.05 144 P **Pn** **00 47 53.6 -6.3**
SUW Suwalki 14.06 9 *e*P **Pn** **00 47 59.9 -0.2**
SUW Suwalki 14.06 9 *e*P **Pn** **00 48 00.1 0.0**
SUW pmax pmax
comp=Z,31nm,0.8s
SUW Suwalki 14.06 9 *e*Pn **Pn** **00 48 00.1 -0.1**
comp=Z,30nm,0.8s
SUW Suwalki 14.06 9 *e*Pn **Pn** **00 48 00.1 0.0**
comp=Z,30nm,0.8s
KOT Kottamia 14.24 132 P **Pn** **00 47 56.1 -6.4**
HSAF As Saff 14.32 134 P **Pn** **00 47 56.6 -7.0**
HHAG Hasgal 14.38 131 P **Pn** **00 47 57.0 -7.4**
GLL Jalalah 14.44 133 P **Pn** **00 47 57.9 -7.4**
MMAI Mount Meron Ar 14.49 115 Pn **Pn** **00 48 02.6 -3.4**
comp=Z,4.4nm,0.3s,baz=304,slow=12,SNR=17
AMAG Maghara 14.54 127 P **Pn** **00 47 59.2 -7.4**
MALT Malatya 14.65 91 *e*P **Pn** **00 48 10.8 +2.7**
MALT pmax pmax
comp=Z,5.0nm,0.8s
MALT Malatya 14.65 91 *e*Pn **Pn** **00 48 10.8 +2.6**
comp=Z,4.6nm,0.8s
EGRA Graus 14.72 284 P **Pn** **00 48 16.2 +7.1**
ERTA Horta de San J 14.73 279 P **Pn** **00 48 16.6 +7.4**
WTSB Winterswijk 14.78 327 *e*P **Pn** **00 48 17.7 +7.7**
comp=Z,21nm,1.3s
EBIE Bielsa 14.87 286 P **Pn** **00 48 18.0 +6.8**
SUZ 14.89 130 *e*P **Pn** **00 48 04.2 -7.1**
SUZ 14.89 130 P **Pn** **00 48 04.2 -7.2**
MACK Trabzon 15.30 81 *i* P **Pn** **00 48 17.8 +1.0**
ESAC San Caprasio 15.31 282 P **Pn** **00 48 23.2 +6.2**
MNK Minsk 15.36 18 *e*P **Pn** **00 48 17.0 -0.7**
EMOS Mosqueruela 15.39 277 P **Pn** **00 48 24.1 +6.1**
EBEN Beniarda 15.45 271 P **Pn** **00 48 25.7 +6.8**
ECHE Chera 15.86 275 P **Pn** **00 48 30.9 +6.7**
ASF Jabal al Asfar 16.01 114 Pn **Pn** **00 48 24.2 -1.9**
comp=Z,0.3nm,0.3s,baz=342,slow=3.2,SNR=3.2
EIL Elat 16.30 125 *e*Pn **Pn** **00 48 27.4 -2.4**
comp=Z,147nm,0.8s
EIL *e*Sn **Sn** **00 51 22.5 -8.1**
EIL Elat 16.30 125 *e*Pn **Pn** **00 48 27.4 -2.4**
comp=Z,147nm,0.8s
LDF La Druitiere 16.44 307 *e*P **Pn** **00 48 30.0 -1.7**
comp=Z,117nm,1.3s
LDF La Druitiere 16.44 307 *e*P **Pn** **00 48 30.0 -1.7**
LDF pmax pmax
comp=Z,58nm,1.3s
LDF La Druitiere 16.44 307 *e*P **Pn** **00 48 30.0 -1.7**
comp=Z,58nm,1.3s
HKAT Jabal Katrina 16.54 130 P **Pn** **00 48 27.4 -5.5**
ERZM Erzurum 16.61 84 *i* P **Pn** **00 48 35.7 +1.9**
FLN La Foliniere 16.73 308 *e*P **Pn** **00 48 31.9 -3.4**
comp=Z,157nm,1.5s
FLN *e*R
comp=Z,181nm,21.2s
FLN La Foliniere 16.73 308 *e*P **Pn** **00 48 31.9 -3.4**
FLN pmax pmax
comp=Z,79nm,1.5s
FLN La Foliniere 16.73 308 *e*P **Pn** **00 48 31.9 -3.4**
comp=Z,79nm,1.5s
HHRG Al Ghardaqah 17.30 134 P **Pn** **00 48 37.5 -5.0**
EHUE Huescar 17.47 269 P **Pn** **00 48 49.8 +5.3**
KIV Kislovodsk 17.49 70 *e*P **Pn** **00 48 45.7 +0.9**
KIV *e*S **Sn** **00 52 01.6 +2.1**
KIV pmax pmax
comp=Z,16nm,1.2s
KIV MLR MLR
comp=Z,114nm,13.0s
KIV Kislovodsk 17.49 70 *e*Pn **Pn** **00 48 41.7 -3.1**
comp=Z,9.3nm,0.9s
KIV Kislovodsk 17.49 70 *e*P **Pn** **00 48 45.7 +0.9**
comp=Z,16nm,1.2s
ELAN Lanestosa 17.52 288 P **Pn** **00 48 47.9 +2.7**
VOR Voronezh 17.78 43 *e*P **Pn** **00 48 48.0 -0.4**
VOR pmax pmax
comp=Z,30nm,1.7s
VOR Voronezh 17.78 43 *e*P **Pn** **00 48 48.0 -0.4**
comp=Z,30nm,1.7s
EQES Quesada 17.84 270 P **Pn** **00 48 53.9 +4.8**
GOF Gofitskoye 17.86 66 *e*P **Pn** **00 48 48.5 -0.8**
GOF pmax pmax
comp=Z,40nm,1.2s
GOF Gofitskoye 17.86 66 *e*P **Pn** **00 48 48.5 -0.8**
comp=Z,40nm,1.2s
ESDC Sonseca Array 18.14 276 P **Pn** **00 48 53.9 +1.1**
comp=Z,0.2nm,0.3s,baz=77,slow=11,SNR=14
ESDC Sonseca Array 18.14 276 P **Pn** **00 48 56.2 +3.4**
GUD Guadarrama 18.15 279 P **Pn** **00 48 55.5 +2.5**
EBAN Banos Encina 18.30 271 P **Pn** **00 48 56.8 +2.0**
ZEI Tsey 18.33 74 *e*P **Pn** **00 48 55.8 +0.7**
ECOG Cogollos-Vega 18.36 268 P **Pn** **00 48 57.0 +1.5**
OBN Obninsk 18.72 31 *e*P **Pn** **00 48 58.8 -1.2**
OBN pmax pmax
comp=Z,28nm,0.9s
OBN MLR MLR
comp=Z,100nm,15.0s
OBN Obninsk 18.72 31 *e*P **Pn** **00 48 54.4 -5.5**
comp=Z,40nm,1.0s
OBN Obninsk 18.72 31 *e*P **Pn** **00 48 58.8 -1.2**
comp=Z,100nm,15.0s
VRHR Novokhopersk 18.77 47 *e*P **Pn** **00 49 00.8 +0.2**
VRHR pmax pmax
comp=Z,30nm,0.6s
VRHR pmax pmax
comp=N,20nm,0.5s
VRHR pmax pmax
comp=E,50nm,0.8s
VRHR Novokhopersk 18.77 47 *e*P **Pn** **00 49 00.8 +0.2**
comp=E,20nm,0.5s
MSL Mosul 18.78 94 *ex* x 00 48 56.5
ELUQ Luque 18.82 270 P **Pn** **00 49 03.4 +2.3**
EARI Arriondas 18.82 288 P **Pn** **00 49 05.2 +4.1**
EADA Adamuz 18.90 272 P **Pn** **00 49 04.5 +2.4**
EADA Adamuz 18.90 272 P **Pn** **00 49 04.5 +2.4**
GNI Garni 19.15 82 P **Pn** **00 49 03.8 -1.2**
comp=E,0.3nm,0.3s,baz=296,slow=7.1,SNR=7.7
GNI LR LR 00 56 49.6
comp=E,137nm,18.8s,baz=144,slow=38
EMIJ Mijas 19.49 267 P **Pn** **00 49 08.6 -0.6**
EMIJ Mijas 19.49 267 P **Pn** **00 49 08.6 -0.6**
MOS Moscow 19.59 31 *e*P **Pn** **00 49 07.2 -3.2**
MOS pmax pmax
comp=Z,75nm,1.3s
MOS Moscow 19.59 31 *e*P **Pn** **00 49 07.2 -3.2**
comp=Z,75nm,1.3s
ECAL Calabor 19.98 284 P **Pn** **00 49 17.0 +1.9**
PBRG Braganca 19.99 283 *e*P **Pn** **00 49 15.1 -0.1**
comp=Z,21nm,1.3s
EJIF Jimena Fronter 20.06 267 P **P** **00 49 14.7 +0.5**
EJIF pmax pmax
comp=Z,14nm,1.0s
EJIF Jimena Fronter 20.06 267 P **P** **00 49 14.7 +0.5**
comp=Z,14nm,1.0s
EJIF Jimena Fronter 20.06 267 P **P** **00 49 14.7 +0.5**
comp=Z,14nm,1.0s
ESPR Espera 20.23 269 P **P** **00 49 16.4 +0.4**
comp=Z,7.0nm,0.7s
ESPR Espera 20.23 269 P **P** **00 49 16.4 +0.4**
comp=Z,7.0nm,0.7s
HFS Hagfors 20.35 351 P **P** **00 49 16.6 -0.7**
comp=Z,11nm,0.8s,baz=169,slow=11,SNR=27
HFS LR LR 00 58 04.3
comp=Z,251nm,18.9s,MS3.6,baz=170,slow=40
EMIN Mina Concepcio 20.61 272 P **P** **00 49 20.7 +0.6**
EMIN Mina Concepcio 20.61 272 P **P** **00 49 20.7 +0.6**
EBAD Badajoz 20.64 275 P **P** **00 49 22.5 +2.1**
EBAD Badajoz 20.64 275 P **P** **00 49 22.5 +2.1**
MTE Manteigas 20.75 280 *e*P **P** **00 49 22.1 +0.5**
comp=Z,19nm,1.5s
MTE *e*LQ 00 53 10.0
MTE
comp=Z,164nm,17.9s
PCBR Castelo Branco 20.78 278 *e*P **P** **00 49 23.8 +1.8**
comp=Z,5.6nm,1.1s
MDT Midelt 20.82 257 P **P** **00 49 22.1 -0.3**
comp=Z,3.9nm,0.8s,baz=70,slow=7.1,SNR=9.5
MDT LR LR 00 56 57.1
comp=Z,126nm,21.0s,MS3.3,baz=237,slow=35
BHD Baghdad 20.92 101 *ex* x 00 49 28.5
BHD *ex* x 00 53 31.0
PCAB Cabril 20.96 283 *e*P **P** **00 49 24.3 +0.4**
comp=Z,22nm,1.5s
ELOB Lobios 20.97 284 P **P** **00 49 26.1 +2.1**
ELOB Lobios 20.97 284 P **P** **00 49 26.1 +2.0**
EGRO El Granado 21.29 272 P **P** **00 49 28.4 +0.9**
EGRO El Granado 21.29 272 P **P** **00 49 28.4 +0.9**
NAO01 NORSAR Array S 21.41 348 *e*P **P** **00 49 27.8 -1.1**
comp=Z,26nm,0.9s,mb4.6
EKA Eskdalemuir Ar 21.45 323 P **P** **00 49 29.7 +0.5**
comp=Z,20nm,1.1s,mb4.4,baz=124,slow=10,SNR=32
PBEJ Beja 21.45 273 *e*P **P** **00 49 30.5 +1.2**
comp=Z,15nm,1.6s,mb4.1
ESK Eskdalemuir 21.46 323 *e*P **P** **00 49 29.7 +0.4**
ESK pmax pmax
comp=Z,49nm,1.2s,mb4.7
ESK Eskdalemuir 21.46 323 *e*P **P** **00 49 29.6 +0.3**
comp=Z,49nm,1.2s,mb4.7
ESK Eskdalemuir 21.46 323 *e*P **P** **00 49 29.6 +0.3**
comp=Z,49nm,1.2s,mb4.7
PTOM Tomar 21.53 278 *e*P **P** **00 49 31.1 +1.0**
comp=Z,30nm,1.3s,mb4.6
NB2 NORSAR Subarra 21.55 349 P **P** **00 49 29.5 -0.8**
comp=Z,12nm,0.8s,mb4.4,baz=160,slow=12
NOA NORSAR Array B 21.55 349 P **P** **00 49 29.6 -0.8**
comp=Z,14nm,0.9s,mb4.4,baz=160,slow=9.4,SNR=30
NOA LR LR 00 59 18.6
comp=Z,210nm,18.7s,MS3.6,baz=175,slow=41
EMAZ Mazaricos 21.58 287 P **P** **00 49 32.2 +1.5**
EMAZ Mazaricos 21.58 287 P **P** **00 49 32.2 +1.5**
FINES FINESS Array B 21.67 8 P **P** **00 49 29.9 -1.7**
comp=Z,9.8nm,0.8s,mb4.3,baz=163,slow=10.0,SNR=30
FINES PcP PcP 00 53 29.6 -3.1
comp=Z,1.2nm,0.8s,baz=150,slow=1.1,SNR=4.0
FINES FINESS Array B 21.67 8 PcP PcP 00 53 29.6 -3.1
DLF Lyons Farm 22.10 315 *e*P **P** **00 49 37.8 +1.6**
KAF Kangasniemi 22.35 8 *e*p **P** **00 49 36.7 -2.2**
comp=Z,20nm,0.9s,mb4.5
KAF Kangasniemi 22.35 8 *e*P **P** **00 49 36.7 -2.2**
KAF pmax pmax
comp=Z,20nm,0.9s,mb4.5
DCN Croghan 22.53 315 *e*P **P** **00 49 41.1 +0.3**
KLMR Klimovskoe 24.07 24 *d*iP **P** **00 49 54.1 -2.2**
KLMR pmax pmax
comp=Z,30nm,1.0s,mb4.7
KLMR Klimovskoe 24.07 24 *i* P **P** **00 49 54.1 -2.2**
comp=Z,30nm,1.0s,mb4.7
MIB Mutribah 24.82 106 *e*P **P** **00 50 01.0 -2.1**
MIB AMb AMB 00 50 04.1
comp=Z,41nm,0.8s,mb5.0
NAY Al-Naaiem 25.04 107 *e*P **P** **00 50 03.3 -1.9**
NAY AMb AMB 00 50 06.0
comp=Z,9.1nm,0.8s,mb4.4
UMR Umm Al-Rimmam 25.23 106 *e*P **P** **00 50 05.1 -1.7**
UMR AMb AMB 00 50 07.9
comp=Z,32nm,0.9s,mb4.9
ORR Orenburg 26.71 53 *e*P **P** **00 50 18.9 -1.4**
ORR pmax pmax
comp=Z,20nm,1.0s,mb4.6
ORR Orenburg 26.71 53 *e*P **P** **00 50 18.9 -1.4**
comp=Z,20nm,1.0s,mb4.6
AKTK Aktyubinsk 28.57 56 P **P** **00 50 35.1 -1.7**

AKTK LR LR 01 03 50.0
AKTK Aktyubinsk 28.57 56 P P 00 50 35.2 -1.7
comp=Z,108nm,18.1s
AKTO Aktyubinsk 28.57 56 P P 00 50 35.1 -1.7
comp=Z,2.1nm,0.5s,mb4.2,baz=258,slow=8.4,SNR=14
AKTO LR LR 01 03 50.0
comp=Z,108nm,18.1s,MS3.5,baz=0.0,slow=40
AKTO Aktyubinsk 28.57 56 P P 00 50 35.2 -1.7
AKTO pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
AKTO MLR MLR
comp=Z,108nm,18.1s,MS3.5
ARCES ARCESS Array B 29.60 4 P P 00 50 44.5 -1.6
comp=Z,5.3nm,0.7s,mb4.4,baz=188,slow=8.7,SNR=26
ARCES LR LR 01 04 15.6
comp=Z,145nm,19.6s,MS3.6,baz=187,slow=40
ARU Arti 30.06 44 ⇑*i* P **P 00 50 47.9 -2.2**
ARU *e* 00 51 46.6
ARU *e*S **S 00 55 47.0 -1.3**
ARU *e*SS SS 00 57 24.8 -31
ARU pmax pmax
comp=Z,8.0nm,1.5s,mb4.2
ARU MLR MLR
comp=Z,100nm,16.0s,MS3.5
ARU MLR MLR
comp=N,50nm,14.0s,MS3.6
ARU MLR MLR
comp=E,100nm,17.0s,MS3.6
ARU Arti 30.06 44 *i* P **P 00 50 47.9 -2.2**
comp=E,8.0nm,1.5s,mb4.2
TORD Torodi Ar. Bea 31.21 215 P **P 00 51 00.1 -0.1**
comp=E,1.3nm,0.7s,mb3.9,baz=15,slow=8.0,SNR=14
TORD PcP PcP 00 53 54.3 -0.6
comp=E,1.6nm,1.2s,baz=50,slow=1.2,SNR=4.3
SVE Sverdlovsk 31.27 44 *e*P **P 00 51 00.0 -0.8**
SVE MLR MLR
comp=N,100nm,11.0s,MS4.2
SVE MLR MLR
comp=E,300nm,11.0s,MS4.2
SVE MLR MLR
comp=Z,300nm,11.0s,MS4.2
ZRNK Zerenda 35.55 52 *e*P **P 00 51 32.8 -5.3**
ZRNK pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
ZRNK Zerenda 35.55 52 *e*P **P 00 51 32.8 -5.3**
comp=Z,2.1nm,0.4s,mb4.4
BRVK Borovoye 36.32 52 *e*P **P 00 51 42.7 -2.0**
BRVK pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BRVK Borovoye 36.32 52 *e*P **P 00 51 42.7 -2.0**
comp=Z,6.8nm,0.9s,mb4.6
AAK Ala-Archa 40.59 68 *e*P **P 00 52 18.6 -2.0**
AAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
AAK Ala-Archa 40.59 68 *e*P **P 00 52 18.6 -2.0**
comp=Z,7.0nm,1.0s,mb4.2
NVS Novosibirsk 43.83 48 *e*P **P 00 52 42.7 -4.3**
NVS pmax pmax
comp=Z,13nm,1.5s,mb4.4
NVS pmax pmax
comp=N,3.0nm,1.0s
NVS pmax pmax
comp=E,6.0nm,1.0s
KMBO Kilima Mbogo 44.11 154 LR LR 01 11 37.7
comp=E,67nm,19.4s,MS3.6,baz=91,slow=37
MKAR Makanchi Array 44.85 60 P **P 00 52 53.6 -1.6**
comp=E,9.3nm,0.6s,mb4.8,baz=280,slow=6.7,SNR=54
ZAL Zalesovo 44.87 49 LR LR 01 13 33.3
comp=E,66nm,18.6s,MS3.7,baz=208,slow=39
WMQ Urumqi 49.39 62 *e*P **P 00 53 26.5 -4.2**
KOLN Koldanda 53.40 82 *e*P **P 00 53 57.3 -3.4**
comp=E,29nm,1.3s,mb5.0
GKN Gorkha 54.07 82 *e*P **P 00 54 02.2 -3.4**
DMN Daman 54.62 82 *e*P **P 00 54 07.2 -2.4**
KKN Kakani 54.66 82 *e*P **P 00 54 07.6 -2.3**
GUN Gumba 55.05 81 *e*P **P 00 54 10.6 -2.1**
JIRN Jiri 55.42 81 *e*P **P 00 54 14.6 -0.8**
SCHQ Schefferville 56.57 316 P **P 00 54 23.1 -0.5**
comp=E,1.8nm,0.5s,mb4.3,baz=61,slow=5.5,SNR=6.9
SCHQ LR LR 01 17 58.1
comp=E,54nm,19.3s,MS3.7,baz=98,slow=35
SCHQ Schefferville 56.57 316 P **P 00 54 23.1 -0.5**
BOD Bodaibo 59.22 38 *e*P **P 00 54 40.1 -2.1**
BOD pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
BOD Bodaibo 59.22 38 *e*P **P 00 54 40.1 -2.1**
comp=Z,3.0nm,1.1s,mb4.2
GTA Gaotai 59.48 62 P **P 00 54 42.8 -1.2**
GTA AMB AMB
comp=Z,4.0nm,1.1s,mb4.4
SONM Songino Array 59.72 51 P **P 00 54 44.9 -0.7**
comp=Z,3.0nm,0.9s,mb4.3,baz=292,slow=8.4,SNR=20
LZH Lanzhou 63.91 64 *e*P **P 00 55 11.6 -2.3**
LZH AP pP 00 55 23.1 +5.8
LZH AMB AMB
comp=Z,21nm,1.4s,mb5.0
CD2 Chengdu 66.66 69 *e*P **P 00 55 26.8 -4.9**
INK Inuvik 70.00 350 P **P 00 55 51.3 -1.3**
comp=Z,0.4nm,0.4s,mb3.7,baz=12,slow=5.0,SNR=6.9
YKW3 Yellowknife Ar 71.26 340 *e*P **P 00 55 55.5 -4.7**
YKA Yellowknife Ar 71.31 339 P **P 00 56 00.2 -0.4**
comp=Z,0.6nm,0.6s,mb3.7,baz=36,slow=5.8,SNR=17
YKA LR LR 01 28 27.2
comp=Z,57nm,19.6s,MS3.8,baz=95,slow=37
YKA Yellowknife Ar 71.31 339 P **P 00 56 00.2 -0.4**
YKA LR LR 01 28 27.2
CN2 Changchun 73.01 47 *e*P **P 00 56 10.0 -0.8**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
ULM Lac du Bonnet 73.72 323 P **P 00 56 14.2 -0.8**
comp=Z,5.0nm,1.0s,mb4.4,baz=62,slow=4.1,SNR=3.4
ULM LR LR 01 26 54.0
comp=Z,41nm,18.7s,MS3.7,baz=317,slow=34
ILAR Eielson Array 74.88 354 P **P 00 56 20.9 -0.8**
comp=Z,0.6nm,0.7s,mb3.6,baz=356,slow=4.3,SNR=6.4
ILAR LR LR 01 26 41.6
comp=Z,41nm,20.2s,MS3.7,baz=2.0,slow=34
NJ2 Nanjing 76.38 60 *e*P **P 00 56 27.5 -2.8**
NJ2 AP pP 00 56 38.1 +4.3
NJ2 XP sP 00 56 41.1 +6.0
NJ2 PP PP 00 59 22.1 +0.2
NJ2 S S 01 06 10.0 -5.4
NJ2 XS sS 01 06 26.0 +4.8
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
NJ2 AMB AMB
comp=Z,110nm,4.2s
NJ2 LR LR
comp=N,180nm,22.4s,MS4.5
NJ2 LR LR
comp=E,190nm,24.5s,MS4.5
NJ2 LR LR
comp=Z,80nm,15.1s
SSE Sheshan 78.53 59 P **P 00 56 37.3 -5.0**
SSE AMB AMB
comp=Z,27nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,72nm,4.0s
YSS Yuzh-Sakhalins 79.55 36 ⇓*i* P **P 00 56 47.0 -0.9**
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.2
YSS Yuzh-Sakhalins 79.55 36 *i* P **P 00 56 47.0 -0.9**
comp=Z,30nm,1.0s,mb5.2
ASAJ Asahikawa 81.63 38 LR LR 01 40 22.0
comp=Z,72nm,19.5s,MS4.0,baz=160,slow=41
BDFB Brasilia 83.79 244 P **P 00 57 11.0 +0.7**
comp=Z,1.4nm,0.5s,mb4.3,baz=94,slow=9.0,SNR=3.4
BDFB LR LR 01 34 07.4
comp=Z,64nm,18.7s,MS4.0,baz=166,slow=35
MJAR Matsushiro Arr 85.07 45 P **P 00 57 16.3 -0.5**
comp=Z,1.7nm,0.4s,mb4.6,baz=318,slow=4.4,SNR=6.9
PDAR Pinedale Array 85.55 325 LR LR 01 37 13.7
comp=Z,43nm,19.8s,MS3.9,baz=252,slow=37
WMOK Wichita Mounta 86.36 313 *e*P **P 00 57 14.2 -9.0**
comp=Z,4.4nm,1.0s,mb4.6
CPUP Villa Florida 97.40 242 LR LR 01 42 45.0
comp=Z,74nm,19.8s,MS4.2,baz=47,slow=36
WRA Warramunga Arr 121.24 91 PKP PKPdf 01 03 32.7 -1.3
comp=Z,0.4nm,0.5s,baz=317,slow=1.9,SNR=3.0
ASAR Alice Springs 123.01 94 PKP PKPdf 01 03 36.2 -1.2
comp=Z,1.3nm,0.7s,baz=324,slow=1.7,SNR=12

NEIC ***10*** *00:52:09.2±1.4,3567N×14161E,h35km,mb3.9/3, Error ellipse: s-maj=37.2km s-min=12.0km az=49.0*
ISCJB ***10*** *00:52:10.3±0.7,3533N±004×14091E±009,h43km±6km, mb3.8/6, Error ellipse: s-maj=12.1km s-min=6.1km az=154.8*
JMA ***10*** *00:52:10.9±0.1,3536N×14082E,h35km±2km,M3.2*
IDC ***10*** *00:52:15.7±1.3,3439N×13835E,h0km,mb3.7/3, mb1 3.9/4,mb1mx3.5/19,mbtmp3.7/4,ML2.9/1,Error ellipse: s-maj=43.4km s-min=19.7km az=62.0*
ISC 10 00:52:11.3±0.6,3533N±003×14081E±008,h32km±4km, n22,σ1§18/29,mb3.8/6,1C-3D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
CHOJ	**Chosi**	**0.38**	**6**	⇓P		**Pb**	**00 52 19.1**	**-0.8**
CHOJ				S		**Sb**	**00 52 25.3**	**-0.5**
KTR	**Katsuura**	**0.44**	**246**	P		**Pb**	**00 52 20.7**	**-0.2**
JCN	**Nagara**	**0.51**	**280**	P		**Pb**	**00 52 21.9**	**0.0**
BSO4	**Boso 4**	**0.51**	**229**	⇓P		**Pb**	**00 52 22.3**	**+0.3**
BSO2	**Boso 2**	**0.58**	**185**	S		**Sb**	**00 52 33.2**	**+2.1**
BSO3	**Boso 3**	**0.58**	**205**	⇓P		**Pb**	**00 52 23.0**	**-0.1**
BSO1	**Boso 1**	**0.69**	**168**	⇑P		**Pb**	**00 52 23.8**	**-1.1**
BSO1				S		**Sb**	**00 52 35.0**	**+0.9**
JYT	**Yasato**	**1.03**	**331**	P		**Pn**	**00 52 29.0**	**-0.5**
JIM2	**Oshima 2**	**1.28**	**242**	P		**Pn**	**00 52 31.9**	**-1.1**
JIM2				S		**Sn**	**00 52 47.6**	**-1.5**
JOD2	**Odawara 2**	**1.41**	**268**	P		**Pn**	**00 52 34.3**	**-0.4**
JHJ	**Hachijo jima 2**	**2.36**	**201**	Pn		**Pn**	**00 52 47.7**	**-0.1**
	10nm,0.3s,baz=245,slow=14,SNR=4.5							
JHJ				Sn		**Sn**	**00 53 13.1**	**-2.6**
	82nm,0.3s,baz=63,slow=20,SNR=9.7							
MJAR	**Matsushiro Arr**	**2.43**	**301**	Pn		**Pn**	**00 52 51.9**	**+3.1**
	3.7nm,0.3s,baz=144,slow=10,SNR=18							
MAJO	**Matsushiro**	**2.44**	**301**	*e*Pn		**Pn**	**00 52 53.6**	**+4.8**
MAJO				*e*Sn		**Sn**	**00 53 21.0**	**+3.5**
MAT	**Matsushiro**	**2.44**	**301**	P		**Pn**	**00 52 52.8**	**+4.0**
MAT				*e*S		**Sn**	**00 53 24.6**	**+7.1**
MAT	**Matsushiro**	**2.44**	**301**	P		**Pn**	**00 52 53.0**	**+4.2**
MAT				*e*S		**Sn**	**00 53 25.0**	**+7.5**
CBIJ	**Chichi jima**	**8.29**	**171**	Pn		**Pn**	**00 54 08.8**	**-0.5**
	6.6nm,0.3s,baz=279,slow=22,SNR=5.2							
ULN	**Ulaanbaatar**	**27.95**	**307**	*e*P		**P**	**00 57 58.2**	**-0.6**
	0.5nm,0.3s,mb3.6							
MKAR	**Makanchi Array**	**44.63**	**303**	P		**P**	**01 00 21.4**	**+0.6**
	0.3nm,0.4s,mb3.5,baz=85,slow=6.2,SNR=2.9							
ZRNK	**Zerenda**	**52.21**	**313**	*e*P		**P**	**01 01 18.8**	**-0.2**
	0.3nm,0.3s,mb3.7							
WRAB	**Tennant Creek**	**55.30**	**187**	*e*P		**P**	**01 01 41.9**	**+0.2**
	3.2nm,0.8s,mb4.4							
WRA	**Warramunga Arr**	**55.31**	**187**	P		**P**	**01 01 41.7**	**-0.1**
	1.4nm,0.8s,mb4.0,baz=4.7,slow=7.7,SNR=5.7							
ASAR	**Alice Springs**	**59.04**	**187**	P		**P**	**01 02 09.8**	**+1.7**
	0.3nm,0.7s,mb3.4,baz=12,slow=14,SNR=4.1							

MOS ***10*** *01:17:56.4±1.3,891S×12031E,h33km,mb5.2/23, Error ellipse: s-maj=13.2km s-min=6.5km az=120.3*
BJI ***10*** *01:18:01.2,9.10S×12040E,h80km,mB5.0,mb5.1,Ms4.6, Msz4.1*
ISCJB ***10*** *01:18:01.2±0.2,9.11S±004×12035E±005,h82km, mb5.0/72, Error ellipse: s-maj=7.4km s-min=3.9km az=115.6*
NEIC ***10*** *01:18:03.3±0.2,9.06S×12035E,mb5.0/13, Error ellipse: s-maj=10.8km s-min=5.8km az=52.0*
NEIC Felt [III] at Waingapu and [II] at Bima and Labuhanbajo.
HRVD ***10*** *01:18:03.3±0.2,9.12S×12049E,h98km±2km,MW5.0/83, Centroid moment Tensor Solution. LP body waves: s42,c56;Mantle waves: s83,c133; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=1.77±.15; Mθθ3.26±.15; Mϕϕ-1.50±.19; Mrθ2.33±.09; Mϕθ0.80±.14; Mϕr1.97±.10; Best double couple: Mo=4.19100×10¹⁶ NP1:φs117.00000°,δ33.00000°,λ-29.00000°. NP2: φs232.00000°,δ74.00000°,λ-120.00000°. Principal axes: T 4.5490, Plg24.0000°, Azm344.0000°; N -0.7250, Plg28.0000°, Azm240.0000°; P -3.8340, Plg51.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***10*** *01:18:03.2±0.5,892S×12029E,h79km±4km,mb4.6/19, mb1 4.6/20,mb1mx4.6/23,mbtmp4.9/20,MS3.9/10, Ms1 3.9/10,ms1mx3.6/21 Error ellipse: s-maj=16.6km s-min=9.9km az=64.0*
ISC 10 01:18:03.1±0.2,918S±004×12033E±005,h84km, h84km±1.9km:pP-P,n185,σ1§37/162,mb5.0/70,8C-7D, Sumba region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
WSI	**Waingapu**	**0.48**	**184**	P		**Pn**	**01 18 16.9**	**-0.3**
	78μm,1.1s							
PCI	**Palu**	**8.24**	**357**	P		**Pn**	**01 20 04.4**	**+4.6**
	1μm,1.5s							
FITZ	**Fitzroy Crossi**	**10.26**	**150**	*e*P		**Pn**	**01 20 24.9**	**-2.4**
	76nm,0.6s							
FITZ				*e*S		**Sn**	**01 22 11.2**	**-9.3**
FITZ	**Fitzroy Crossi**	**10.26**	**150**	P		**Pn**	**01 20 25.3**	**-2.1**
	6.4nm,0.3s,baz=326,slow=13,SNR=123							
FITZ				S		**Sn**	**01 22 11.3**	**-9.2**
	20nm,0.3s,baz=193,slow=20,SNR=12							
FITZ				LR		LR	01 25 25.3	
	comp=Z,194nm,18.4s,baz=332,slow=42							
BJII	**Banjamegara**	**10.67**	**279**	P		**Pn**	**01 20 35.2**	**+2.2**
	117nm,0.6s							
MBWA	**Marble Bar**	**11.92**	**183**	Pn		**Pn**	**01 20 47.6**	**-2.4**
MBWA				Sn		**Sn**	**01 22 47.1**	**-14**
KAKA	**Kakadu**	**12.40**	**108**	*e*P		**Pn**	**01 20 54.8**	**-1.6**
	66nm,0.6s							
KAKA				*e*S		**Sn**	**01 23 01.6**	**-11**
TLE	**Tual**	**12.80**	**75**	P		**Pn**	**01 21 03.7**	**+1.9**
	108nm,0.7s							
TSM	**Tawau**	**13.61**	**350**	P		**Pn**	**01 21 16.8**	**+4.3**
SWI	**Sorong**	**13.66**	**53**	P		**Pn**	**01 21 18.0**	**+4.8**
	92nm,0.7s							
KSM	**Kuching**	**14.55**	**316**	*e*P		**Pn**	**01 21 30.9**	**+6.1**
KKM	**Kota Kinabalu**	**15.67**	**345**	P		**Pn**	**01 21 41.0**	**+2.0**
KKM	**Kota Kinabalu**	**15.67**	**345**	*e*Pn		**Pn**	**01 21 40.4**	**+1.4**
WRA	**Warramunga Arr**	**17.25**	**130**	P		**Pn**	**01 21 58.2**	**-0.4**
	6.5nm,0.3s,baz=300,slow=13,SNR=66							
WRA				S		**S**	**01 24 57.3**	**-17**
	6.9nm,0.3s,baz=306,slow=25,SNR=11							
WRAB	**Tennant Creek**	**17.26**	**130**	Pn		**Pn**	**01 21 58.0**	**-0.6**
	391nm,0.6s,SNR=24							
WRAB	**Tennant Creek**	**17.26**	**130**	P		**Pn**	**01 21 58.2**	**-0.4**
WRAB				pmax	pmax			
	comp=Z,57nm,0.6s							
WRAB	**Tennant Creek**	**17.26**	**130**	Pn		**Pn**	**01 21 58.2**	**-0.4**
	comp=Z,57nm,0.6s							
WB2	**Warramunga Arr**	**17.26**	**130**	*e*P		**Pn**	**01 21 57.8**	**-0.9**
WB2				*e*S		**S**	**01 24 54.1**	**-20**
KSI	**Kapahiang**	**18.46**	**286**	P		**Pn**	**01 22 11.4**	**-1.7**
	comp=Z,285nm,0.8s							
PPR	**Puerto Princes**	**18.90**	**355**	⇑*e*P		**Pn**	**01 22 19.2**	**+0.7**
	comp=Z,143μm,1.0s							
ASAR	**Alice Springs**	**19.39**	**140**	P		**Pn**	**01 22 24.1**	**-0.1**
	comp=Z,8.8nm,0.3s,baz=327,slow=12,SNR=131							
ASAR				S		**S**	**01 25 53.4**	**-3.6**
	comp=Z,1.9nm,0.3s,baz=309,slow=23,SNR=8.3							
ASAR				ScP	ScP		01 30 10.0	+1.0
	comp=Z,0.0nm,0.3s,baz=352,slow=2.5,SNR=4.9							
ASAR	**Alice Springs**	**19.39**	**140**	P		**Pn**	**01 22 24.1**	**-0.1**
ASAR				S		**S**	**01 25 53.4**	**-3.6**
KGM	**Kluang**	**20.27**	**302**	P		**P**	**01 22 34.3**	**+2.4**
PPI	**Padang Panjang**	**21.65**	**293**	P		**P**	**01 22 45.9**	**-0.7**
	comp=Z,38nm,1.0s,mb4.7							
KLBR	**Kellerberrin**	**22.43**	**186**	*e*P		**P**	**01 22 55.2**	**+0.4**
	comp=Z,91nm,1.2s,mb5.0							
KLBR				*e*S		**S**	**01 26 51.6**	**-3.6**
MUN	**Mundaring**	**23.00**	**189**	*e*P		**P**	**01 23 01.0**	**+0.2**
MUN				*e*S		**S**	**01 27 09.1**	**+4.5**
TGY	**Tagaytay City**	**23.14**	**1**	P		**P**	**01 23 00.9**	**-1.2**
	comp=Z,348nm,0.5s,baz=219,slow=1.9,SNR=16							
IPM	**Ipoh**	**23.55**	**304**	P		**P**	**01 23 05.6**	**-0.2**
NWAO	**Narrogin (SRO)**	**23.80**	**186**	P		**P**	**01 23 09.7**	**+1.6**
	comp=Z,51nm,1.0s,mb4.8,baz=13,slow=9.2,SNR=14							
NWAO				LR		LR	01 32 08.8	
	comp=Z,445nm,21.5s,baz=171,slow=35							
NWAO	**Narrogin (SRO)**	**23.80**	**186**	P		**P**	**01 23 09.8**	**+1.7**
NWAO				*e*			01 23 37.7	
NWAO				pmax	pmax			
	comp=Z,74nm,1.2s							
NWAO	**Narrogin (SRO)**	**23.80**	**186**	P		**P**	**01 23 09.8**	**+1.7**
	comp=Z,74nm,1.2s,mb4.9							
NWAO				*e*			01 23 37.7	
KULM	**Kulim**	**24.32**	**305**	*e*P		**P**	**01 23 12.4**	**-0.5**
KULM				*e*ScP	ScP		01 30 22.7	+1.3
PSI	**Prapat**	**24.43**	**298**	P		**P**	**01 23 13.1**	**-0.7**
	comp=Z,126nm,0.9s,mb5.3,baz=133,slow=7.4,SNR=97							
PMG	**Port Moresby**	**26.48**	**93**	*e*P		**P**	**01 23 33.1**	**+0.8**
PMG				pmax	pmax			
	comp=Z,36nm,1.2s							
PMG	**Port Moresby**	**26.48**	**93**	*e*P		**P**	**01 23 33.1**	**+0.8**
	comp=Z,36nm,1.2s,mb4.7							
CTA	**Charters Tower**	**27.28**	**116**	*e*P		**P**	**01 23 40.9**	**+1.3**
	comp=Z,10nm,0.6s,mb4.5							
CTA	**Charters Tower**	**27.28**	**116**	P		**P**	**01 23 41.1**	**+1.6**
	comp=Z,11nm,0.6s,mb4.6,baz=287,slow=13,SNR=19							
CTA				pP	pP		01 24 00.9	+2.1
	comp=Z,7.9nm,0.7s,baz=298,slow=11,SNR=3.1							
CTA				LR	LR		01 35 22.6	
	comp=Z,308nm,21.9s,baz=264,slow=38							
CTA	**Charters Tower**	**27.28**	**116**	P		**P**	**01 23 41.2**	**+1.6**
CTA				pmax	pmax			
	comp=Z,11nm,0.6s							
CTA				pmax	pmax			
	comp=Z,8.0nm,0.7s							
CTA				MLR	MLR			
	comp=Z,308nm,21.9s							
CTAO	**Charters Tower**	**27.28**	**116**	P		**P**	**01 23 41.3**	**+1.7**
QIZ	**Qiongzhong**	**29.88**	**340**	P		**P**	**01 24 04.1**	**+1.5**
QIZ				S		**S**	**01 28 53.0**	**-0.6**
QIZ				AMB	AMB			
	comp=Z,17nm,1.5s,mb4.5							
QIZ				LR	LR			
	comp=N,188nm,15.2s							
QIZ				LR	LR			
	comp=Z,341nm,33.9s							
STKA	**Stephens Creek**	**29.99**	**142**	*e*P		**P**	**01 24 03.1**	**-0.5**
	comp=Z,26nm,0.8s,mb4.9							
STKA	**Stephens Creek**	**29.99**	**142**	P		**P**	**01 24 03.6**	**0.0**
	comp=Z,30nm,0.5s,mb5.2,baz=316,slow=8.7,SNR=53							
STKA				LR	LR		01 37 05.3	
	comp=Z,268nm,18.9s,baz=260,slow=38							
NST	**Nakhon Sawan**	**31.78**	**321**	P		**P**	**01 24 20.0**	**+0.6**
	comp=Z,67nm,0.7s,mb5.5							
GZH	**Guangzhou**	**32.79**	**348**	P		**P**	**01 24 29.9**	**+1.7**
GZH				LR	LR			
	comp=N,193nm,13.6s							
GZH				LR	LR			
	comp=E,144nm,13.5s							
GZH				LR	LR			
	comp=Z,255nm,22.7s							
GUMO	**Guam**	**33.24**	**47**	LR		LR	01 36 44.1	
	comp=Z,70nm,18.7s,baz=67,slow=34							
CHG	**Chiang Mai**	**34.91**	**323**	⇑P		**P**	**01 24 47.2**	**+0.6**
	comp=Z,34nm,0.7s,mb5.3							
CHTO	**Chiang Mai**	**34.91**	**323**	*e*P		**P**	**01 24 46.7**	**+0.1**
CHTO				pmax	pmax			
	comp=Z,36nm,1.0s,mb5.2							
CHTO	**Chiang Mai**	**34.91**	**323**	*e*P		**P**	**01 24 46.7**	**+0.1**
	comp=Z,36nm,1.0s,mb5.2							
CHRT	**Chiangrai**	**35.25**	**325**	⇑P		**P**	**01 24 51.0**	**+1.5**
	comp=Z,310nm,0.8s							
GYA	**Guiyang**	**37.83**	**340**	⇑*i*P		**P**	**01 25 11.2**	**-0.3**
GYA				PP	PP		01 26 40.2	+0.8
GYA				S		**S**	**01 30 58.1**	**+1.7**
GYA				SCP	ScP		01 31 06.1	-0.1
GYA				SCS	ScS		01 35 14.7	-0.6
GYA				AMB	AMB			
	comp=Z,20nm,0.8s,mb5.0							
GYA				AMB	AMB			
	comp=Z,110nm,4.0s							
GYA				LR	LR			
	comp=N,670nm,16.8s							
GYA				LR	LR			
	comp=E,540nm,17.0s							
GYA				LR	LR			
	comp=Z,480nm,16.6s							
KMI	**Kunming**	**38.16**	**334**	P		**P**	**01 25 16.4**	**+2.1**
KMI				PP	PP		01 26 49.9	+6.9
KMI				PPP			01 27 10.7	
KMI				PCP	PcP		01 27 31.7	+4.4
KMI				S		**S**	**01 31 09.1**	**+7.7**
KMI				PCS	PcS		01 31 20.0	+3.6
KMI				SS	SS		01 33 46.6	-5.6
KMI				SSS			01 34 19.8	
KMI				AMB	AMB			
	comp=Z,57nm,1.3s,mb5.2							
KMI				AMB	AMB			
	comp=Z,132nm,3.1s							
KMI				LR	LR			
	comp=N,163nm,17.7s							
KMI				LR	LR			
	comp=E,160nm,17.7s							
KMI				LR	LR			
	comp=Z,315nm,29.1s							
WHN	**Wuhan**	**39.91**	**352**	P		**P**	**01 25 30.0**	**+1.2**
WHN				AP	pP		01 25 50.0	+1.2
SSE	**Sheshan**	**40.06**	**1**	P		**P**	**01 25 30.9**	**+0.9**
SSE				AP	pP		01 25 43.7	-6.3
SSE				PP	PP		01 27 03.4	-0.2
SSE				PCP	PcP		01 27 35.1	+1.8
SSE				S		**S**	**01 31 35.6**	**+5.9**
SSE				AMB	AMB			
	comp=Z,16nm,0.7s,mb5.0							
SSE				AMB	AMB			
	comp=Z,34nm,3.1s							
SSE				LR	LR			
	comp=N,119nm,33.6s							
SSE				LR	LR			
	comp=E,41nm,34.0s							
SSE				LR	LR			
	comp=Z,158nm,27.7s							
NJ2	**Nanjing**	**41.02**	**358**	*e*P		**P**	**01 25 39.8**	**+1.8**
NJ2				AP	pP		01 25 52.6	-5.5
NJ2				PP	PP		01 27 18.6	+4.5
NJ2				S		**S**	**01 31 47.0**	**+2.8**
NJ2				AMB	AMB			
	comp=Z,30nm,0.5s,mb5.4							
NJ2				AMB	AMB			
	comp=Z,90nm,9.3s							
NJ2				LR	LR			
	comp=N,660nm,34.1s							
NJ2				LR	LR			
	comp=E,380nm,25.8s							
NJ2				LR	LR			
	comp=Z,180nm,21.1s							
CD2	**Chengdu**	**42.92**	**339**	P		**P**	**01 25 53.9**	**+0.5**
CD2				PP	PP		01 27 35.0	+0.5
CD2				PCP	PcP		01 27 44.1	+1.4
CD2				S		**S**	**01 32 17.0**	**+5.0**
CD2				SS	SS		01 35 21.0	-5.5
CD2				AMB	AMB			
	comp=Z,40nm,1.1s,mb5.1							
CD2				AMB	AMB			
	comp=Z,90nm,6.1s							
CD2				LR	LR			
	comp=N,110nm,7.9s							
CD2				LR	LR			
	comp=Z,140nm,8.3s							
XAN	**Xi'an**	**44.33**	**346**	P		**P**	**01 26 04.4**	**-0.3**
XAN				S		**S**	**01 32 25.6**	**-7.0**
XAN				AMB	AMB			
	comp=Z,27nm,0.9s,mb5.0							
XAN				LR	LR			
	comp=E,167nm,21.7s							
XAN				LR	LR			
	comp=Z,201nm,29.4s							
LZH	**Lanzhou**	**47.63**	**342**	P		**P**	**01 26 31.5**	**+0.8**
LZH				PP	PP		01 28 22.5	-0.3
LZH				*e*S		**S**	**01 33 24.5**	**+4.6**
LZH				*e*SS		SS	01 36 46.5	-2.5
LZH				AMB	AMB			
	comp=Z,50nm,1.4s,mb5.2							
LZH				AMB	AMB			
	comp=Z,246nm,5.3s							
LZH				LR	LR			
	comp=N,2μm,14.6s							
LSA	**Lhasa**	**47.79**	**325**	P		**P**	**01 26 32.0**	**+0.1**
LSA	**Lhasa**	**47.79**	**325**	*e*P		**P**	**01 26 32.9**	**+1.0**
LSA				*e*PP		pP	01 26 41.6	-11
LSA				pmax	pmax			
	comp=Z,67nm,1.1s,mb5.4							
LSA	**Lhasa**	**47.79**	**325**	*e*P		**P**	**01 26 32.9**	**+1.0**
	comp=Z,67nm,1.1s,mb5.4							
LSA				*e*pP		pP	01 26 41.6	-11
MJAR	**Matsushiro Arr**	**48.49**	**19**	LR		LR	01 46 35.4	
	comp=Z,73nm,18.4s,baz=295,slow=36							
HYB	**Hyderabad**	**49.02**	**303**	*i* P		**P**	**01 26 40.0**	**-1

BJI Beijing 49.12 356 *e*P **P** **01 26 41.4 -0.7**
BJI AMB AMB
comp=Z,17nm,0.7s,mb5.1
BJI LR LR
comp=Z,193nm,39.2s
JIRN Jiri 49.33 319 *e*P **P** **01 26 43.5 -0.2**
comp=Z,51nm,0.7s,mb5.6
GUN Gumba 49.70 319 *e*P **P** **01 26 46.2 -0.4**
comp=Z,78nm,0.6s,mb5.8
PKI Pulchoki 49.78 318 *e*P **P** **01 26 46.5 -0.7**
comp=Z,24nm,0.4s,mb5.5
DMN Daman 50.01 318 *e*P **P** **01 26 48.4 -0.5**
comp=Z,75nm,1.0s,mb5.6
KKN Kakani 50.02 318 *e*P **P** **01 26 48.2 -0.7**
comp=Z,65nm,1.0s,mb5.5
HHC Hu-ho-hao-te 50.43 351 *e*P **P** **01 26 54.0 +1.9**
HHC AP pP 01 27 07.4 -5.4
HHC PCP PcP 01 28 11.8 +2.6
HHC PP PP 01 28 50.0 +1.6
HHC PCS PcS 01 32 08.9 +2.4
HHC S **S** **01 34 04.3 +5.1**
HHC AMB AMB
comp=Z,19nm,1.2s,mb4.9
HHC AMB AMB
comp=Z,62nm,5.5s
HHC LR LR
comp=N,105nm,18.4s
HHC LR LR
comp=E,192nm,18.8s
HHC LR LR
comp=Z,102nm,16.7s
GKN Gorkha 50.58 318 *e*P **P** **01 26 52.6 -0.6**
comp=Z,57nm,0.7s,mb5.7
JBP Jabalpur 50.91 310⇑ *e*P **P** **01 26 54.8 -0.9**
JBP *ex* x 01 26 56.5
comp=Z,35nm,0.9s
KOLN Koldanda 51.12 317 *e*P **P** **01 26 56.2 -1.0**
comp=Z,53nm,0.8s,mb5.6
GTA Gaotai 51.96 340 P **P** **01 27 04.2 +0.7**
GTA PCP PcP 01 28 17.2 +2.3
GTA PP PP 01 29 05.7 +3.5
GTA PPP 01 30 08.4
GTA SCP ScP 01 32 04.2 0.0
GTA S **S** **01 34 26.2 +5.9**
GTA SCS ScS 01 36 47.4 +1.9
GTA AMB AMB
comp=Z,45nm,0.9s,mb5.5
GTA AMB AMB
comp=Z,120nm,8.0s
GTA LR LR
comp=N,75nm,20.5s
GTA LR LR
comp=E,113nm,19.0s
GTA LR LR
comp=Z,163nm,19.0s
CN2 Changchun 52.94 5 *e*P **P** **01 27 14.2 +3.5**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
POO Poona 53.49 301 *ex* x 01 27 13.0
MDJ Mudanjiang 54.20 8 P **P** **01 27 22.2 +2.3**
MDJ PP PP 01 29 24.2 +1.8
MDJ PCS PcS 01 32 25.2 +2.3
MDJ AMB AMB
comp=Z,7.0nm,1.0s,mb4.7
MDJ AMB AMB
comp=Z,61nm,5.7s
MDJ LR LR
comp=N,83nm,31.6s
MDJ LR LR
comp=E,58nm,29.8s
MDJ LR LR
comp=Z,97nm,24.6s
RPZ Rata Peaks 55.78 137 P **P** **01 27 33.0 +1.7**
comp=Z,71nm,0.9s,mb5.7,baz=269,slow=3.5,SNR=24
SNZO South Karori 57.48 133 *e*P **P** **01 27 44.6 +1.2**
ULN Ulaanbaatar 58.00 349 P **P** **01 27 46.3 -0.7**
ULN pmax pmax
comp=Z,15nm,0.9s,mb5.0
ULN Ulaanbaatar 58.00 349 P **P** **01 27 46.3 -0.8**
comp=Z,15nm,0.9s,mb5.0
ULN *e* pP 01 28 09.7 +1.5
SONM Songino Array 58.10 349 P **P** **01 27 47.1 -0.6**
comp=Z,20nm,0.8s,mb5.2,baz=168,slow=8.0,SNR=108
SONM ScP ScP 01 32 29.7 -1.3
comp=Z,1.6nm,0.8s,baz=180,slow=3.6,SNR=5.4
KLR Kul'dur 59.02 9 *e*P pP 01 28 13.2 -2.1
MIR Mirnyy 60.24 192 *e*P **P** **01 28 02.5 0.0**
MIR pmax pmax
comp=Z,100nm,1.0s,mb5.8
WMQ Urumqi 60.50 333 ⇑P **P** **01 28 04.3 +0.1**
WMQ PCP PcP 01 28 48.7 +0.6
WMQ PP PP 01 30 19.5 +1.1
WMQ *e*S **S** **01 36 15.3 +2.1**
WMQ AMB AMB
comp=Z,23nm,0.9s,mb5.2
WMQ LR LR
comp=N,80nm,20.0s
WMQ LR LR
comp=E,23nm,27.5s
WMQ LR LR
comp=Z,87nm,22.5s
ZAK Zakamensk 61.15 348⇓ *i*P **P** **01 28 07.7 -0.9**
ZAK pmax pmax
comp=Z,24nm,1.4s,mb5.0
TLY Talaya 62.30 348 P **P** **01 28 16.3 -0.1**
comp=Z,123nm,0.9s,mb5.9,SNR=6.4
TLY Talaya 62.30 348 P **P** **01 28 16.2 -0.2**
IRK Irkutsk 62.72 349 *e*P **P** **01 28 18.1 -1.1**
IRK *e* 01 28 56.3
IRK pmax pmax
comp=Z,36nm,1.4s,mb5.1
KSH Kashi 63.54 323 *e*P **P** **01 28 24.2 -0.4**
KSH *e*PCP PcP 01 29 02.3 +1.8
KSH *e*SCP 01 33 00.0
KSH *e*PCS 01 33 04.0
KSH *e*S **S** **01 36 49.1 -2.4**
KSH *e*PS 01 37 15.2
KSH *e*SCS ScS 01 38 11.2 +1.1
KSH *e*SS SS 01 41 00.9 +0.9
KSH AMB AMB
comp=Z,129nm,2.6s,mb5.3
KSH LR LR
comp=N,158nm,3.4s
KSH LR LR
comp=E,204nm,5.8s
KSH LR LR
comp=Z,188nm,5.1s
MK31 Makanchi Array 65.22 332 P **P** **01 28 34.4 -1.2**
MK31 pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
MKAR Makanchi Array 65.22 332 P **P** **01 28 35.0 -0.5**
comp=Z,18nm,0.6s,mb5.1,baz=140,slow=7.7,SNR=108
MKAR pP pP 01 28 55.0 -2.1
comp=Z,6.3nm,0.6s,baz=141,slow=7.1,SNR=4.7
MKAR sP sP 01 29 03.7 -2.7
comp=Z,6.3nm,0.7s,baz=138,slow=7.7,SNR=3.1
AAK Ala-Archa 66.38 325⇑ *i*P **P** **01 28 41.9 -1.1**
AAK pmax pmax
comp=Z,14nm,1.5s,mb4.6
AAK MLR MLR
comp=Z,100nm,17.0s
AAK Ala-Archa 66.38 325 P **P** **01 28 42.3 -0.7**
BOD Bodaibo 66.97 356 *e*P **P** **01 28 44.6 -2.1**
BOD pmax pmax
comp=Z,7.0nm,1.1s,mb4.4
WSAR Wadi Sarin 68.38 299 P **P** **01 28 55.2 -0.5**
comp=Z,7.4nm,0.6s,mb4.7,baz=103,slow=4.6,SNR=9.4
WSAR pP pP 01 29 16.9 -0.5
comp=Z,28nm,1.0s,baz=99,slow=6.3,SNR=7.5
WSAR Wadi Sarin 68.38 299 P **P** **01 28 55.2 -0.5**
WSAR pP pP 01 29 16.9 -0.5
MAW Mawson 69.52 200 *e*P **P** **01 29 04.8 +2.1**
comp=Z,17nm,1.1s,mb4.8
MAW Mawson 69.52 200 P **P** **01 29 04.7 +2.1**
comp=Z,19nm,1.0s,mb4.9,baz=48,slow=8.7,SNR=17
MAW LR LR 01 52 08.5
comp=Z,212nm,21.7s,baz=250,slow=29
MAW Mawson 69.52 200 *e*P **P** **01 29 04.8 +2.1**
MAW pmax pmax
comp=Z,17nm,1.1s
ZAL Zalesovo 69.68 339 P **P** **01 29 02.0 -1.6**
comp=Z,22nm,0.6s,mb5.1,baz=335,slow=5.1,SNR=98
KURK Kurchatov 69.75 333 P **P** **01 29 03.2 -0.9**
comp=Z,159nm,0.9s,mb5.8,SNR=13
KURK Kurchatov 69.75 333 *e*P **P** **01 29 02.7 -1.4**
KURK pmax pmax
comp=Z,31nm,1.0s,mb5.1
KURK Kurchatov 69.75 333 *e*P **P** **01 29 02.7 -1.4**
comp=Z,31nm,1.0s,mb5.1
NVS Novosibirsk 70.96 338 *i* P **P** **01 29 09.0 -2.5**
NVS *i* pP 01 29 30.4 -2.9
NVS pmax pmax
comp=N,32nm,1.2s
NVS pmax pmax
comp=Z,47nm,1.2s,mb5.2
NVS pmax pmax
comp=E,21nm,1.3s
OPO Ambohidratompo 71.23 253 P **P** **01 29 15.0 +1.9**
comp=E,3.1nm,0.9s,mb4.1,baz=121,slow=5.9,SNR=3.0
VNDA Vanda 71.61 171 P **P** **01 29 17.0 +1.6**
comp=E,3.5nm,1.0s,mb4.2,baz=309,slow=7.1,SNR=15
VNDA LR LR 01 57 18.5
comp=E,196nm,21.1s,baz=328,slow=33
ABKT Ailbek 74.52 313 P **P** **01 29 32.9 +0.4**
comp=E,73nm,1.0s,mb5.4,SNR=6.3
VOSK Vostochnaya 74.61 331 P **P** **01 29 31.9 -1.2**
VOSK pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
BVA0 Borovoye Array 75.08 331 *i* P **P** **01 29 33.0 -2.8**
BVA0 pmax pmax
comp=Z,6.0nm,1.2s,mb4.2
BVAR Borovoye Array 75.08 331 P **P** **01 29 34.3 -1.5**
comp=Z,6.6nm,0.7s,mb4.5,baz=132,slow=6.2,SNR=41
BVAR pP pP 01 29 56.0 -1.8
comp=Z,3.5nm,0.9s,baz=145,slow=5.4,SNR=3.4
BRVK Borovoye 75.15 331 P **P** **01 29 35.1 -1.1**
comp=Z,64nm,0.8s,mb5.4,SNR=7.2
BRVK Borovoye 75.15 331 P **P** **01 29 35.8 -0.4**
ZRNK Zerenda 75.69 331 P **P** **01 29 38.5 -0.8**
ZRNK pmax pmax
comp=Z,11nm,0.6s,mb4.8
ZRNK Zerenda 75.69 331 P **P** **01 29 38.5 -0.9**
comp=Z,11nm,0.6s,mb4.8
FX1 Attu Island--F 76.39 30 P **P** **01 29 43.2 0.0**
comp=Z,7.8nm,0.8s,mb4.5,baz=288,slow=6.4,SNR=4.8
FX1 Attu Island--F 76.39 30 P **P** **01 29 43.2 0.0**
FX1 pmax pmax
comp=Z,8.0nm,0.8s
AB31 Akbulak array 78.47 324 *i* P **P** **01 29 53.5 -1.4**
AB31 pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
AKTK Aktyubinsk 80.12 325 P **P** **01 30 02.4 -1.5**
AKTO Aktyubinsk 80.12 325 P **P** **01 30 02.4 -1.5**
comp=Z,8.7nm,0.6s,mb4.8,baz=101,slow=7.1,SNR=49
AKTO Aktyubinsk 80.12 325 P **P** **01 30 02.4 -1.5**
AKTO pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
QSPA South Pole Qui 80.81 180 *e*P **P** **01 30 09.4 +1.9**
comp=Z,27nm,0.9s,mb5.1
TIXI Tiksi 80.86 3 P **P** **01 30 05.9 -1.9**
SVE Sverdlovsk 81.87 331⇓ *e*P **P** **01 30 11.8 -1.3**
SVE pmax pmax
comp=Z,40nm,2.0s,mb4.9
ARU Arti 82.67 330⇑ *i*P **P** **01 30 15.2 -2.1**
ARU *e* 01 33 25.1
ARU *e*PPP 01 35 14.6
ARU *e*S S 01 40 28.4 +0.4
ARU pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
KMBO Kilima Mbogo 82.99 270 P **P** **01 30 20.6 +1.6**
comp=Z,5.4nm,0.9s,mb4.4,baz=56,slow=7.7,SNR=7.8
KMBO pP pP 01 30 42.9 +1.5
comp=Z,7.8nm,1.0s,baz=54,slow=5.2,SNR=4.3
KMBO LR LR 02 04 28.4
comp=Z,51nm,19.8s,baz=93,slow=34
BILL Bilibino 83.61 16⇓ *i*P **P** **01 30 18.9 -3.2**
BILL pmax pmax
comp=Z,3μm,1.3s
GNI Garni 85.03 312 P **P** **01 30 32.0 +2.6**
KIV Kislovodsk 87.54 315 *e*P **P** **01 30 41.2 -0.4**
KIV *e* 01 41 04.2
KIV pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
KIV MLR MLR
comp=Z,20nm,16.0s
GOF Gofitskoye 87.59 316 *e*P **P** **01 30 40.3 -1.6**
GOF pmax pmax
comp=Z,30nm,0.8s,mb5.4
MALT Malatya 89.34 309 P **P** **01 30 51.1 +1.0**
LSZ Lusaka 89.66 255 P **P** **01 30 54.8 +3.2**
LSZ pmax pmax
comp=Z,17nm,1.3s,mb5.0
LSZ Lusaka 89.66 255 P **P** **01 30 54.8 +3.2**
comp=Z,17nm,1.3s,mb5.0
LSZ *e* pP 01 31 16.6 +2.3
SNAA Sanae 91.17 195 P **P** **01 31 00.8 +2.1**
comp=Z,7.0nm,0.8s,mb4.8,baz=114,slow=6.2,SNR=98
SNAA Sanae 91.17 195⇓ *i*P **P** **01 31 00.8 +2.1**
SNAA *e* 01 31 01.5
SNAA *e* 01 31 06.6
SNAA *e* pP 01 31 24.1 +2.8
SNAA *e* pP 01 31 27.1 +5.8
SNAA *e* 01 31 34.0
SNAA Sanae 91.17 195 P **P** **01 31 00.8 +2.1**
SNAA pmax pmax
comp=Z,7.0nm,0.8s
SNAA Sanae 91.17 195 P **P** **01 31 00.6 +2.0**
ANN Anapa 91.40 315 *e*P **P** **01 31 01.0 +1.3**
ANN *i* 01 34 41.5
ANN *e* 01 41 28.2
ANN *e*SS SS 01 48 11.6 +12
ANN pmax pmax
comp=Z,34nm,1.1s,mb5.4
VNA2 Neumayer--Watz 92.80 195⇓ *i*P **P** **01 31 08.2 +2.0**
baz=130,slow=4.5
VNA2 *e* 01 31 08.9
VNA2 *e* 01 31 15.8
VNA2 *e* 01 31 20.5
VNA2 *e* 01 31 23.4
VNA2 *e* pP 01 31 29.5 +0.6
VNA2 *e* pP 01 31 31.9 +3.0
VNA2 *e* 01 31 52.6
VNA2 *e* 01 31 55.7
VNA3 Neumayer Olymp 93.17 194⇓ *i*P **P** **01 31 09.8 +1.9**
VNA3 *e* 01 31 10.5
VNA3 *e* 01 31 16.5
VNA3 *e* 01 31 21.1
VNA3 *e* 01 31 25.5
VNA3 *e* pP 01 31 31.0 +0.4
VNA3 *e* pP 01 31 33.1 +2.5
VNA3 *e* 01 31 56.1
VNA1 Neumayer--Stat 93.20 195⇓ *i*P **P** **01 31 10.3 +2.3**
VNA1 *e* 01 31 10.8
VNA1 *e* 01 31 16.5
VNA1 *e* 01 31 20.5
VNA1 *e* 01 31 25.1
VNA1 *e* pP 01 31 31.2 +0.5
OBN Obninsk 93.91 325 *e*P **P** **01 31 11.8 +0.5**
OBN pmax pmax
comp=Z,3.0nm,0.4s,mb5.0
AKASG Malin Array Be 97.73 320 P **P** **01 31 26.9 -1.7**
comp=Z,0.9nm,0.6s,mb4.5,baz=86,slow=4.6,SNR=4.6
AKASG pP pP 01 31 48.2 -3.1
comp=Z,1.0nm,0.6s,baz=76,slow=5.5,SNR=3.6
AKASG Malin Array Be 97.73 320 P **P** **01 31 26.9 -1.7**
AKASG pP pP 01 31 48.2 -3.1
ILAR Eielson Array 99.43 26 P Pdif 01 31 34.0 -2.2
comp=Z,0.3nm,0.6s,baz=284,slow=4.8,SNR=4.4
ILAR PKKPbc PKKPbc 01 48 01.0 +2.2
comp=Z,0.3nm,0.8s,baz=94,slow=2.9,SNR=4.2
FINES FINESS Array B 100.03 331 P Pdif 01 31 38.1 -0.9
comp=Z,0.7nm,0.6s,baz=103,slow=4.4,SNR=2.9
ARCES ARCESS Array B 100.23 339 LR LR 02 21 12.0
comp=Z,62nm,18.1s,baz=88,slow=38
YKA Yellowknife Ar 113.82 25 PKiKP PKiKP 01 36 31.4 -0.6
comp=Z,0.7nm,0.5s,baz=303,slow=1.7,SNR=23
YKA PKKPbc PKKPbc 01 47 16.8 +2.5
comp=Z,0.5nm,1.0s,baz=111,slow=2.5,SNR=6.5
YKA Yellowknife Ar 113.82 25 PKPdf PKiKP 01 36 31.4 -0.6
YKA PKKPbc PKKPbc 01 47 16.8 +2.5
PAHR Pah Rah Range 119.01 50 PKPdf PKPdf 01 36 46.1 +4.1
TORD Torodi Ar. Bea 119.78 280 PKP PKPdf 01 36 45.0 +1.6
comp=Z,1.9nm,0.6s,baz=51,slow=1.9,SNR=28
TORD pPKP pPKPdf 01 37 07.0 -0.1
comp=Z,3.4nm,0.8s,baz=66,slow=2.0,SNR=8.5
TORD PKKPbc PKKPbc 01 46 56.0 +2.8
comp=Z,0.5nm,1.0s,baz=202,slow=5.0,SNR=4.3
NVAR Mina Array Bea 120.12 51 PKP PKPdf 01 36 45.8 +1.7
comp=Z,0.3nm,0.3s,baz=245,slow=1.9,SNR=9.8
CHMT Chamberlain Mo 121.15 40 PKPdf PKPdf 01 36 47.2 +1.1
HLID Hailey 121.55 44 *e*PKPdf PKPdf 01 36 49.1 +2.3
ESDC Sonseca Array 122.02 311 PKP PKPdf 01 36 49.5 +1.8
comp=Z,0.4nm,0.6s,baz=32,slow=3.2,SNR=3.2
NEN Nelson 123.45 53 *e*PKPdf PKPdf 01 36 52.1 +1.6
NEN PKPdf PKPdf 01 36 53.6 +3.1
SPUT South Promonto 123.66 46 PKPdf PKPdf 01 36 53.6 +2.7
DUG Dugway 123.75 47 *e*PKIKP PKPdf 01 36 53.4 +2.3
TPAW Teton Pass 123.93 43 PKPdf PKPdf 01 36 54.2 +2.8
FCC Fort Churchill 124.04 21 PKIKP PKPdf 01 36 51.9 +0.3
MSU Marysvale 124.73 49 *e*PKPdf PKPdf 01 36 55.7 +2.8
MSU PKPdf PKPdf 01 36 56.1 +3.1
PDAR Pinedale Array 125.15 44 PKP PKPdf 01 36 54.9 +1.1
comp=Z,1.3nm,0.9s,baz=270,slow=1.2,SNR=7.9
SRU San Rafael 125.77 48 PKIKP PKPdf 01 36 57.6 +2.7
WUAZ Wupatki 126.22 53 *e*PKPdf PKPdf 01 36 58.2 +2.4
PV10 Paradox Valley 127.11 48 *e*PKPdf PKPdf 01 37 00.6 +3.0
PV01 Paradox Valley 127.54 49 *e*PKPdf PKPdf 01 37 00.3 +1.9
MVCO Mesa Verde 127.91 50 *e*PKPdf PKPdf 01 37 02.0 +3.0
ULM Lac du Bonnet 129.28 29 PKP PKPdf 01 37 02.4 +0.7
comp=Z,1.5nm,0.5s,baz=247,slow=0.6,SNR=3.5
MNTX Cornudas Mount 132.11 55 *e*PKPdf PKPdf 01 37 09.6 +2.6
SCHQ Schefferville 134.12 6 PKP PKPdf 01 37 12.6 +1.8
comp=Z,2.7nm,0.8s,baz=335,slow=3.6,SNR=5.3
SCHQ Schefferville 134.12 6 PKP PKPdf 01 37 12.6 +1.8
MIAR Mount Ida 139.99 46 *e*PKIKP PKPdf 01 37 23.3 +1.7
PLAL Pickwick Lake 143.48 41 *e*PKPdf PKPdf 01 37 28.4 +0.5
CPUP Villa Florida 144.63 184 PKP PKPdf 01 37 31.4 +1.6
comp=Z,4.0nm,0.6s,baz=146,slow=1.7,SNR=17
CPUP pPKP pPKPdf 01 37 53.5 0.0
comp=Z,12nm,0.8s,baz=170,slow=2.5,SNR=7.0
TZTN Tazewell 145.19 35 *e*PKPdf PKPdf 01 37 31.0 +0.1
LRAL Lakeview Retre 145.37 43 *e*PKP PKPdf 01 37 31.5 +0.3
FWV Forest Hill 145.88 31 *e*PKPdf PKPdf 01 37 33.2 +1.1
ELN Prospectdale 146.19 31 *e*PKPdf PKPdf 01 37 34.4 +1.8
SDMD Soldier's Deli 146.21 24 *e*PKPdf PKPdf 01 37 33.6 +1.1
BLA Blacksburg 146.37 31 *e*PKP2 PKPab 01 37 34.2 -1.0
LVC Limon Verde 147.13 164 *e*PKPdf PKPdf 01 37 38.5 +4.4
JSC Jenkinsville 148.11 35 *e*PKIKP PKPdf 01 37 37.6 +1.8
BDFB Brasilia 152.77 205 PKP PKPdf 01 37 46.0 +3.0
comp=Z,2.9nm,0.8s,baz=169,slow=2.4,SNR=4.3
BDFB PKPbc PKPbc 01 37 52.8 +2.6
comp=Z,9.7nm,1.1s,baz=104,slow=3.9,SNR=5.5
BDFB PKPab PKPab 01 38 04.5 +3.2
comp=Z,6.4nm,1.0s,baz=99,slow=1.3,SNR=4.9
LPAZ La Paz 153.34 162 PKP PKPdf 01 37 47.8 +3.9
comp=Z,1.4nm,0.9s,baz=3.5,slow=5.7,SNR=4.4
LPAZ PKPbc PKPbc 01 37 55.2 +3.8
comp=Z,1.4nm,0.7s,baz=212,slow=9.8,SNR=5.2
LPAZ PKPab PKPab 01 38 07.5 +3.8
comp=Z,9.3nm,0.9s,baz=181,slow=5.1,SNR=19
LPAZ La Paz 153.34 162 PKP PKPdf 01 37 47.8 +3.9
LPAZ PKPbc PKPbc 01 37 55.2 +3.8
LPAZ PKPab PKPab 01 38 07.5 +3.8

KISR ***10*** *01:21:57.3±0.4,3148N×5201E,h0km±999km, ML4.0*
ISCJB ***10*** *01:22:27.8±0.7,3087N±005×4982E±008,h10km, Error ellipse: s-maj=9.7km s-min=6.8km az=20.4*
THR ***10*** *01:22:27.8±0.9,3080N×4987E,h18km±7km, ML3.7*
CSEM ***10*** *01:22:28.2±0.1,3081N×4989E,h16km, ML3.7, Error ellipse: s-maj=2.9km s-min=2.0km az=126.0*

ISC 10 01:22:28.8±0.7,3084N±005×4985E±007,h10km,n16, σ0s93/19,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
SHGR	**Shooshtar-Gavs**	**1.55**	**325**	*e*PG	**Pg**	**01 22 57.3**	**-1.2**
SHGR				AML	AML	01 23 22.0	
	comp=N,3μm,0.2s						
SHGR				AML	AML	01 23 23.2	
	comp=E,2μm,0.5s						
MIB	**Mutribah**	**2.40**	**245**	*e*P	**Pn**	**01 23 09.2**	**+1.0**
MIB				AML	AML	01 23 58.1	
	comp=Z,352nm,0.7s						
KBD	**Kabd**	**2.50**	**229**	*e*P	**Pn**	**01 23 09.3**	**-0.1**
KBD				AML	AML	01 23 51.6	
	comp=Z,301nm,0.3s						
QRN	**Al-Qurain**	**2.68**	**219**	*e*P	**Pn**	**01 23 10.7**	**-1.2**
QRN				AML	AML	01 23 56.1	
	comp=Z,99nm,0.3s						
NAY	**Al-Naaiem**	**2.76**	**236**	*e*P	**Pn**	**01 23 13.8**	**+0.7**
NAY	**Al-Naaiem**	**2.76**	**236**	*e*P	**Pn**	**01 23 13.1**	**0.0**
RDF	**Al-Radifah**	**2.76**	**227**	*e*P	**Pn**	**01 23 13.1**	**0.0**
RDF				AML	AML	01 23 58.1	
	comp=Z,58nm,0.3s						
RDF	**Al-Radifah**	**2.76**	**227**	*e*P	**Pn**	**01 23 12.9**	**-0.2**
NASN	**Na'in**	**3.19**	**51**	*e*PN	**Pn**	**01 23 19.9**	**+0.9**
NASN				*e*SG	**Sg**	**01 24 07.8**	**-3.5**
NASN				AML	AML	01 24 15.0	
	comp=N,23nm,0.7s						
NASN	**Na'in** SNR=52	**3.19**	**51**	*e*Pn	**Pn**	**01 23 19.9**	**+0.9**
NASN	SNR=91			*e*Sg	**Sg**	**01 24 07.8**	**-3.5**
GHIR	**Ghir-Karzin**	**3.74**	**132**	*e*PN	**Pn**	**01 23 26.2**	**-0.3**
SNGE	**Sanandaj**	**4.73**	**334**	*e*PN	**Pn**	**01 23 40.6**	**+0.4**
SNGE				Sn	**Sn**	**01 24 34.9**	**-0.2**
SNGE				AML	AML	01 24 59.5	
	comp=N,52nm,0.9s						
SNGE				AML	AML	01 24 59.6	
	comp=E,53nm,0.8s						
SNGE	**Sanandaj** SNR=52	**4.73**	**334**	*e*Pn	**Pn**	**01 23 40.6**	**+0.4**
SNGE	SNR=52			Sn	**Sn**	**01 24 34.9**	**-0.2**
DAMV	**Damavand**	**5.10**	**20**	*e*Pn	**Pn**	**01 23 46.5**	**+1.3**
DAMV	**Damavand** SNR=52	**5.10**	**20**	*e*Pn	**Pn**	**01 23 46.5**	**+1.3**
BHD	**Baghdad**	**5.23**	**299**	*ex*	x	01 24 18.0	
BHD				*ex*	x	01 25 30.0	

NIED ***10*** *01:23:00,36.10N×13990E,h56km,Mw4.1 Best double couple: M0 1.88000×10^15 NP1:ϕs68.00000°,δ71.00000°, λ83.00000°. NP2:ϕs269.00000°,δ20.00000°,λ109.00000°.*
MOS ***10*** *01:23:09.7±1.3,3514N×14011E,h33km,mb4.8/3, Error ellipse: s-maj=27.6km s-min=12.7km az=122.6*
NEIC ***10*** *01:23:11.6±1.8,3496N×13971E,h39km±14km,mb4.6/3, MW4.1(NIED), Error ellipse: s-maj=21.5km s-min=12.7km az=110.0*
NEIC Recorded [2 JMA] in Gumma, Ibaraki, Saitama and Tochigi; [1 JMA] in Chiba and Tokyo Prefectures.
ISCJB ***10*** *01:23:17.9±0.4,3605N±003×13990E±005,h57km±3km, mb4.0/11, Error ellipse: s-maj=6.9km s-min=5.3km az=153.4*
JMA ***10*** *01:23:18.9±0.1,3607N×13988E,h47km±1km, M4.2 Broadband fault plane solution: P waves. NP1: ϕs219.00000°,δ30.00000°,λ80.00000°. NP2:ϕs50.00000°, δ60.00000°,λ96.00000°. Principal axes: T Plg74.0000°, Azm335.0000°; N Plg5.0000°, Azm227.0000°; P Plg15.0000°, Azm136.0000°;*
JMA Felt II J1.
IDC ***10*** *01:23:21.0±1.4,3593N×13966E,h75km±16km,mb3.5/10, mb1 3.8/11,mb1mx3.6/21,mbtmp3.8/11,MS2.9/2, Ms1 2.9/2,ms1mx2.3/21 Error ellipse: s-maj=26.3km s-min=7.9km az=65.0*

ISC 10 01:23:18.8±0.4,3605N±003×13989E±005,h51km±4km, n36,σ0s73/46,mb4.0/11,1C-5D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
JYT	**Yasato**	**0.30**	**55**	⇑P	**Pn**	**01 23 27.8**	**-0.2**
JYT				S	**Sn**	**01 23 34.1**	**-0.4**
TOK	**Tokyo**	**0.38**	**196**	P	**Pn**	**01 23 29.1**	**+0.3**
JAG	**Ashikaga**	**0.51**	**317**	⇓P	**Pn**	**01 23 30.1**	**-0.1**
JAG				S	**Sn**	**01 23 37.6**	**-0.8**
JHU	**Hanno**	**0.53**	**248**	P	**Pn**	**01 23 30.1**	**-0.4**
JHU				S	**Sn**	**01 23 38.5**	**-0.3**
JRY	**Ryogami san**	**0.80**	**268**	⇓P	**Pn**	**01 23 33.7**	**-0.2**
JRY				S	**Sn**	**01 23 44.4**	**-0.5**
JKT	**Katashina**	**0.88**	**324**	⇓P	**Pn**	**01 23 34.7**	**-0.2**
JKT				S	**Sn**	**01 23 46.7**	**0.0**
JOD2	**Odawara 2**	**1.02**	**220**	P	**Pn**	**01 23 37.1**	**+0.3**
JYN	**Shimodo**	**1.23**	**244**	P	**Pn**	**01 23 40.8**	**+1.2**
BSO3	**Boso 3**	**1.35**	**158**	P	**Pn**	**01 23 41.2**	**0.0**
JFY	**Yanaizu**	**1.36**	**354**	⇓P	**Pn**	**01 23 41.8**	**+0.4**
JHK	**Hiroka**	**1.38**	**330**	⇓P	**Pn**	**01 23 42.0**	**+0.3**
JIM2	**Oshima 3**	**1.38**	**196**	P	**Pn**	**01 23 41.7**	**0.0**
JIM2				S	**Sn**	**01 23 58.5**	**-0.4**
MJAR	**Matsushiro Arr**	**1.44**	**290**	P	**Pn**	**01 23 42.6**	**+0.1**
	49nm,0.3s,baz=84,slow=13,SNR=86						

MJAR S **Sn** **01 24 00.5 +0.2**
66nm,0.3s,baz=146,slow=15,SNR=14
MAJO **Matsushiro** **1.44 290** *e*Pn **Pn** **01 23 43.2 +0.6**
MAJO *e*Sn **Sn** **01 23 56.4 -4.0**
MAT **Matsushiro** **1.44 290** P **Pn** **01 23 43.1 +0.6**
MAT S **Sn** **01 24 02.1 +1.7**
MAT **Matsushiro** **1.44 290** *e*P **Pn** **01 23 43.0 +0.5**
MAT *e*S **Sn** **01 24 02.0 +1.6**
JHJ **Hachijo jima 2** **2.93 182** P **Pn** **01 24 03.1 +0.3**
74nm,0.3s,baz=86,slow=19,SNR=23
JHJ S **Sn** **01 24 36.6 -0.2**
44nm,0.3s,baz=63,slow=24,SNR=6.8
JHJ LR LR 01 24 39.5
comp=Z,214nm,21.7s,baz=354,slow=28
ASAJ **Asahikawa** **8.32 14** LR LR 01 28 39.4
comp=Z,92nm,22.0s,baz=158,slow=38
LSA **Lhasa** **41.08 276** P **P** **01 30 57.0 -0.5**
LSA pmax pmax
comp=Z,5.0nm,0.3s,mb4.6
LSA **Lhasa** **41.08 276** P **P** **01 30 57.0 -0.4**
comp=Z,5.2nm,0.3s,mb4.6
KURK **Kurchatov** **45.58 309** *e*P **P** **01 31 32.9 -0.8**
KURK pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
KURK **Kurchatov** **45.58 309** *e*P **P** **01 31 32.9 -0.9**
comp=Z,5.6nm,0.6s,mb4.7
ILAR **Eielson Array** **50.98 32** P **P** **01 32 16.2 +0.9**
comp=Z,1.1nm,0.8s,mb3.9,baz=269,slow=6.4,SNR=9.6
ZRNK **Zerenda** **51.17 313** P **P** **01 32 09.7 -7.1**
INK **Inuvik** **55.82 27** P **P** **01 32 51.1 +0.3**
comp=Z,1.1nm,0.8s,mb3.9,baz=298,slow=7.3,SNR=9.4
WRA **Warramunga Arr** **55.94 186** P **P** **01 32 51.5 -0.2**
comp=Z,0.7nm,0.5s,mb4.0,baz=1.1,slow=7.4,SNR=4.6
ARCES **ARCESS Array B** **64.48 339** P **P** **01 33 49.7 -0.4**
comp=Z,2.0nm,0.9s,mb4.2,baz=53,slow=8.1,SNR=4.8
ARCES **ARCESS Array B** **64.48 339** P **P** **01 33 49.7 -0.4**
YKA **Yellowknife Ar** **65.27 30** P **P** **01 33 55.5 +0.3**
comp=Z,0.4nm,0.8s,mb3.5,baz=302,slow=6.7,SNR=8.6
YKA **Yellowknife Ar** **65.27 30** P **P** **01 33 55.5 +0.3**
FINES **FINESS Array B** **69.11 332** P **P** **01 34 17.9 -1.6**
comp=Z,2.0nm,0.9s,mb4.1,baz=58,slow=6.1,SNR=6.3
AKASG **Malin Array Be** **74.32 322** P **P** **01 34 49.8 -1.1**
comp=Z,0.2nm,0.3s,mb3.5,baz=49,slow=5.9,SNR=4.2
NB2 **NORSAR Subarra** **74.61 337** P **P** **01 34 51.1 -1.5**
comp=Z,0.6nm,0.5s,mb3.8,baz=40,slow=5.9
NOA **NORSAR Array B** **74.61 337** P **P** **01 34 51.5 -1.0**
comp=Z,0.7nm,0.6s,mb3.8,baz=41,slow=6.0,SNR=4.1
NVAR **Mina Array Bea** **76.56 52** P **P** **01 35 06.0 +2.3**
comp=Z,0.5nm,0.6s,mb3.6,baz=305,slow=3.2,SNR=4.3
PDAR **Pinedale Array** **79.23 45** P **P** **01 35 19.1 +0.6**
comp=Z,0.2nm,0.6s,baz=306,slow=5.3,SNR=3.7

NIED ***10*** *01:25:00.29 80N× 13060E, h26 km, Mw3.8 Best double couple: M0 6.54000×10 14 NP1:*ϕ_s*38.00000°,* δ*74.00000°,* λ*96.00000°. NP2:*ϕ_s*198.00000°,* δ*17.00000°,* λ*71.00000°.*

ISCJB ***10*** *01:25:16.0*$\pm$*0.7, 2978N*$\pm$*006×1306E*$\pm$*01, h60 km*$\pm$*6 km, mb3.9/7, Error ellipse: s-maj=16.5km s-min=7.0km az=49.8*

JMA ***10*** *01:25:16.1*$\pm$*0.1, 2978N×13064E, h41 km*$\pm$*3 km, M3.5*

IDC ***10*** *01:25:17.6*$\pm$*6.2, 2975N×13053E, h57 km*$\pm$*72 km, mb3.7/7, mb1 3.7/8, mb1mx3.5/22, mbtmp3.9/8, ML3.2/1, Error ellipse: s-maj=47.8km s-min=31.8km az=174.0*

ISC 10 01:25:16.9$\pm$**0.7, 2979N**$\pm$**006×1306E**$\pm$**01, h51**km$\pm$**7km, n18, σ0§52/20, mb3.9/7, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.60**	**275**	P	**Pn**	**01 25 29.0**	**-0.4**
JNN				*e*S	**Sn**	**01 25 38.9**	**+0.4**
JKC	**Kuchinoerabu**	**0.74**	**334**	P	**Pn**	**01 25 30.8**	**-0.4**
JTN	**Tanegashima 3**	**0.93**	**22**	P	**Pn**	**01 25 32.9**	**-0.8**
JTSR	**Tashiro 2**	**1.40**	**12**	P	**Pn**	**01 25 40.3**	**+0.2**
JZK	**Kikaishima**	**1.56**	**200**	P	**Pn**	**01 25 42.1**	**-0.1**
JAM	**Amami Oshima**	**1.61**	**212**	P	**Pn**	**01 25 43.3**	**+0.4**
JSU	**Suzuyama**	**1.71**	**357**	P	**Pn**	**01 25 44.1**	**-0.2**
JNAR	**Kushima--Naru**	**1.83**	**19**	P	**Pn**	**01 25 46.7**	**+0.8**
JSJ	**Shimokoshiki**	**2.02**	**339**	P	**Pn**	**01 25 48.5**	**0.0**
JTZ	**Takazaki**	**2.15**	**12**	P	**Pn**	**01 25 50.4**	**+0.1**
JOW	**Kunigami**	**3.58**	**215**	P	**Pn**	**01 26 09.8**	**+0.1**
	4.3nm,0.3s,baz=61,slow=13,SNR=9.7						
JOW				S	**Sn**	**01 26 50.5**	**-0.2**
	8.7nm,0.3s,baz=197,slow=28,SNR=7.7						
SONM	**Songino Array**	**25.89**	**321**	P	**P**	**01 30 43.3**	**-0.6**
	1.2nm,0.5s,mb3.7,baz=135,slow=9.5,SNR=4.5						
MKAR	**Makanchi Array**	**40.83**	**308**	P	**P**	**01 32 54.5**	**+1.0**
	1.3nm,0.5s,mb3.8,baz=91,slow=10,SNR=6.6						
BVAR	**Borovoye Array**	**49.08**	**316**	P	**P**	**01 33 59.7**	**+0.7**
	5.5nm,0.5s,mb4.8,baz=94,slow=9.4,SNR=28						
ILAR	**Eielson Array**	**60.33**	**29**	P	**P**	**01 35 20.6**	**+0.2**
	1.6nm,1.2s,mb3.9,baz=284,slow=6.6,SNR=6.2						
INK	**Inuvik**	**64.81**	**24**	P	**P**	**01 35 50.6**	**+0.3**
	0.5nm,0.6s,mb3.8,baz=308,slow=6.2,SNR=4.7						
FINES	**FINESS Array B**	**70.79**	**330**	P	**P**	**01 36 27.2**	**-0.7**
	0.5nm,0.5s,mb3.7,baz=59,slow=5.8,SNR=6.2						
AKASG	**Malin Array Be**	**74.17**	**320**	P	**P**	**01 36 47.1**	**-0.9**
	0.4nm,0.4s,mb3.7,baz=59,slow=6.4,SNR=4.4						

ISCJB ***10*** *01:31:47.9*$\pm$*0.4, 4743N*$\pm$*002×697E*$\pm$*004, h9 km*$\pm$*4 km, Error ellipse: s-maj=4.5km s-min=3.4km az=47.2*

LDG ***10*** *01:31:47.6*$\pm$*0.2, 4740N×713E, h2 km, Ml2.2/3, Error ellipse: s-maj=5.0km s-min=2.3km az=110.0*

ZUR ***10*** *01:31:48.4, 4740N×697E, h15 km*$\pm$*2 km, ML1.6/4*

STR ***10*** *01:31:48.1*$\pm$*0.1, 4742N×694E, h10 km*$\pm$*1 km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 10 01:31:48.3$\pm$**0.4, 4742N**$\pm$**002×698E**$\pm$**004, h11**km$\pm$**4 km, n22, σ0§76/33, 4C, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOMF	**Lomont**	**0.13**	**235**	Pg	**Pg**	**01 31 51.6**	**+0.2**
LOMF				Sg	**Sg**	**01 31 53.7**	**+0.1**
BOURR	**Bourrignon**	**0.17**	**100** ⇑	*i*Pg	**Pg**	**01 31 52.9**	**+0.8**
	138nm,0.3s						
HINF	**Hinteralfeld**	**0.40**	**348**	*e*Pg	**Pg**	**01 31 56.3**	**0.0**
HINF				*e*Sg	**Sg**	**01 32 01.7**	**0.0**
	6.3nm,0.3s						
MOF	**Molkenrain**	**0.44**	**13**	Pg	**Pg**	**01 31 57.4**	**+0.4**
MOF				Sg	**Sg**	**01 32 03.6**	**+0.7**
BALST	**Balsthal**	**0.49**	**100** ⇑	*i*Pg	**Pg**	**01 31 58.5**	**+0.5**
	40nm,0.6s						
BALST				*i* Sg	**Sg**	**01 32 05.6**	**+1.1**
	40nm,0.6s						
BRANT	**Les Verrieres**	**0.60**	**216**	*e*Sg	**Pg**	**01 32 00.0**	**+0.1**
	47nm,0.6s						
BRANT	**Les Verrieres**	**0.60**	**216**	*e*Pg	**Sg**	**01 32 08.1**	**+0.3**
	47nm,0.6s						
HAU	**Haudompre**	**0.72**	**324**	*e*Pg	**Pg**	**01 32 03.3**	**+1.0**
HAU				*e*Sg	**Sg**	**01 32 12.7**	**+0.9**
	5.6nm,0.2s						
SULZ	**Sulz-Cheisache**	**0.78**	**82** ⇑	*i*Pg	**Pg**	**01 32 03.6**	**+0.3**
ECH	**Echery**	**0.80**	**8**	Pg	**Pg**	**01 32 03.6**	**-0.2**
ECH				Sg	**Sg**	**01 32 14.6**	**+0.3**
CDF	**Champ du Feu**	**1.01**	**11**	*e*Pg	**Pg**	**01 32 06.6**	**-1.2**
CDF	**Champ du Feu**	**1.01**	**11**	*e*Pn	**Pn**	**01 32 07.6**	**-0.8**
CDF				*e*Sg	**Sg**	**01 32 19.9**	**-1.0**
	4.7nm,0.2s						
CABF	**La Chapelle**	**1.02**	**217**	*e*Pg	**Pg**	**01 32 07.7**	**-0.2**
CABF				*e*Sg	**Sg**	**01 32 21.0**	**-0.1**
	4.0nm,0.3s						
WLS	**Welschbruch**	**1.02**	**14**	Pg	**Pg**	**01 32 08.0**	**0.0**
WLS				Sg	**Sg**	**01 32 21.6**	**+0.3**
THEF	**They Montfort**	**1.05**	**321**	Pg	**Pg**	**01 32 08.0**	**-0.5**
THEF				Sg	**Sg**	**01 32 21.9**	**-0.2**
SLE	**Schleitheim**	**1.08**	**71** ⇑	*i*P	**Pb**	**01 32 07.7**	**-1.3**
	27nm,0.3s						
BFO	**Black Forest**	**1.28**	**44**	*e*Sg	**Sg**	**01 32 26.6**	**-3.1**
SFTF	**Sexfontaines**	**1.53**	**302**	*e*Pn	**Pn**	**01 32 16.2**	**+0.7**
SFTF				*e*Sn	**Sn**	**01 32 36.0**	**+0.7**
RFYF	**Reffroy**	**1.57**	**321**	*e*Sn	**Sn**	**01 32 37.6**	**+1.1**
	4.4nm,0.2s						
MEZF	**Maizieres J'vi**	**1.69**	**310**	*e*Sn	**Sn**	**01 32 39.3**	**0.0**
LOR	**Lormes**	**2.13**	**267**	*e*Pg	**Pg**	**01 32 27.9**	**-1.3**
TCF	**Toulx Ste Croi**	**3.46**	**253**	*e*Pg	**Pg**	**01 32 53.3**	**-1.4**

STR ***10*** *01:34:28.0*$\pm$*0.6, 4395N×762E, h2 km*$\pm$*1 km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 10 01:34:27.1$\pm$**0.3, 4394N×766E, h2**km**, Md2.0/2, Ml2.1/3, Error ellipse: s-maj=4.9km s-min=2.1km az=100.0, Near south coast of France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUTN	**L'Aution**	**0.18**	**288**	Pg	Pg	01 34 31.2	+0.7
AUTN				Sg	Sg	01 34 33.7	+0.9
SBF	**Sospel**	**0.18**	**245**	*e*Pg	Pg	01 34 31.2	+0.6
SBF				*e*Sg	Sg	01 34 33.7	+0.8
	21nm,0.3s						
REVF	**Revere**	**0.29**	**227**	Pg	Pg	01 34 33.4	+0.7
REVF				Sg	Sg	01 34 37.8	+1.3
MVIF	**Mont Vial**	**0.37**	**263**	Pg	Pg	01 34 34.3	+0.1
MVIF				Sg	Sg	01 34 39.2	+0.2
FRF	**La Foret Royal**	**0.83**	**243**	*e*Pg	Pg	01 34 42.7	-0.3
FRF	**La Foret Royal**	**0.83**	**243**	*e*Pn	Pn	01 34 43.8	-1.9
FRF				*e*Sg	Sg	01 34 53.1	-0.6
	9.7nm,0.2s						
MBDF	**Montbardon**	**1.01**	**321**	*e*Pg	Pg	01 34 46.4	-0.1
MBDF				*e*Sg	Sg	01 34 59.4	-0.2
	2.7nm,0.2s						
LMR	**La Mourre**	**1.03**	**234**	*e*Pg	Pg	01 34 46.5	-0.4
LMR				*e*Sg	Sg	01 34 59.6	-0.7
	5.8nm,0.2s						
SMRF	**Simiane la Rot**	**1.51**	**272**	*e*Pg	Pg	01 34 55.0	-1.0
SMRF				*e*Sg	Sg	01 35 14.6	-0.9
	2.2nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.61**	**308**	*e*Pg	Pg	01 34 57.1	-0.8

MAN 10 01:39:57.6, 1900N×12121E, h1km**, mb2.3, ML3.9, MS7.3, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**1.41**	**156**	*e*P	Pn	01 40 24.0	-0.5
CVP				*i* S	Sg	01 40 45.0	+2.0

MAN ***10*** *02:02:19.3, 1113N×12464E, h1 km, mb4.6, ML5.4, MS2.1*

ISCJB ***10*** *02:02:20.6*$\pm$*0.6, 1111N*$\pm$*003×12471E*$\pm$*004, h24 km*$\pm$*5 km, mb4.5/35, MS3.9/10, Error ellipse: s-maj=6.7km s-min=5.5km az=152.7*

MOS ***10*** *02:02:21.6*$\pm$*1.0, 1100N×12459E, h33 km, mb4.6/10, Error ellipse: s-maj=31.8km s-min=11.1km az=114.0*

IDC ***10*** *02:02:29.4*$\pm$*5.7, 1095N×12454E, h87 km*$\pm$*53 km, mb3.9/15, mb1 4.1/16, mb1mx4.0/20, mbtmp4.2/16, ML4.0/1, MS4.0/7, Ms1 4.0/7, ms1mx3.5/38, Error ellipse: s-maj=44.7km s-min=13.0km az=74.0*

NEIC ***10*** *02:02:32.3*$\pm$*2.3, 1098N×12457E, h116 km*$\pm$*22 km, mb4.3/5, Error ellipse: s-maj=17.2km s-min=8.3km az=81.0*

NEIC Felt [IV PIVS] at Tungonan; [III PIVS] at Ormoc; [II PIVS] at Capoocan, Jaro and Pastrana; [I PIVS] at Alangalang and Carigara.

BJI ***10*** *02:02:36.8, 1172N×12432E, h116 km, mB4.7, mb4.6*

ISC 10 02:02:21.0$\pm$**0.9, 1108N**$\pm$**003×12471E**$\pm$**004, h14**km$\pm$**5km, n73, σ1§08/75, mb4.5/35, MS3.9/10, 3C-2D, Leyte**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.28**	**71**	*e*P	**Pg**	**02 02 26.0**	**-0.8**
PLP				*e*S	**Sg**	**02 02 31.2**	**+0.3**
LLP	**Lapu-Lapu**	**1.05**	**224** ⇑	*e*P	**Pb**	**02 02 38.8**	**-2.1**
LLP				*e*S	**Sb**	**02 02 54.3**	**-0.1**
SCPH	**Surigao**	**1.50**	**149**	*e*P	**Pn**	**02 02 49.0**	**+1.7**
SCPH				*e*S	**Sn**	**02 03 06.0**	**-0.6**
MMPH	**Masbate**	**1.66**	**320**	*e*P	**Pn**	**02 02 48.2**	**-1.4**
MMPH				*e*S	**Sn**	**02 03 07.0**	**-3.6**
RCP	**Roxas**	**1.99**	**284** ⇑	*e*P	**Pn**	**02 02 53.4**	**-0.7**
RCP				*e*S	**Sn**	**02 03 20.9**	**+2.3**
SNPH	**Sibulan**	**2.25**	**220**	*e*P	**Pn**	**02 02 58.0**	**+0.3**
KALP	**Kalibo**	**2.40**	**285**	*e*P	**Pg**	**02 03 14.1**	**+7.1**
CGP	**Cagayan de Oro**	**2.60**	**180** ⇓	*i*P	**Pn**	**02 03 33.3**	**+0.7**
CGP				*i* S	**Sn**	**02 03 40.1**	**+6.2**
BIPH	**Bislig**	**3.30**	**150** ⇑	*e*P	**Pn**	**02 03 13.9**	**+1.7**
JOW	**Kunigami**	**16.03**	**12**	P	**Pn**	**02 06 12.9**	**+7.0**
	1.0nm,0.3s,baz=196,slow=9.1,SNR=5.9						
JOW				LR	LR	02 11 31.5	
	comp=Z,479nm,20.5s,baz=199,slow=34						
KSM	**Kuching**	**17.19**	**237**	*e*P	**Pn**	**02 06 23.9**	**+3.4**
NJ2	**Nanjing**	**21.56**	**346**	*e*P	**P**	**02 07 12.4**	**+2.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.7						
NJ2				LR	LR		
	comp=N,500nm,19.2s,MS4.2						
NJ2				LR	LR		
	comp=E,610nm,14.3s,MS4.2						
NJ2				LR	LR		
	comp=Z,290nm,22.0s						
CBIJ	**Chichi jima**	**22.90**	**43**	LR	LR	02 14 42.8	
	comp=Z,184nm,19.4s,MS3.5,baz=82,slow=32						
JHJ	**Hachijo jima 2**	**25.94**	**30**	LR	LR	02 16 12.4	
	comp=Z,272nm,21.0s,MS3.8,baz=290,slow=32						
XAN	**Xi'an**	**27.04**	**330**	P	**P**	**02 08 02.1**	**-0.5**
XAN				AMB	AMB		
	comp=Z,7.0nm,1.4s,mb4.0						
XAN				LR	LR		
	comp=N,210nm,16.4s,MS4.0						
XAN				LR	LR		
	comp=E,233nm,17.1s,MS4.0						
XAN				LR	LR		
	comp=Z,374nm,16.4s,MS4.0						
CD2	**Chengdu**	**27.69**	**319**	*e*P	**P**	**02 08 09.2**	**+0.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
MJAR	**Matsushiro Arr**	**28.14**	**23**	LR	LR	02 17 13.5	
	comp=Z,336nm,21.7s,MS3.9,baz=220,slow=31						
FITZ	**Fitzroy Crossi**	**29.00**	**178**	P	**P**	**02 08 20.2**	**0.0**
	comp=Z,4.2nm,0.9s,mb4.2,baz=4.6,slow=14,SNR=4.0						
BJI	**Beijing**	**29.82**	**347**	*e*P	**P**	**02 08 29.3**	**+1.8**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
BJI				LR	LR		
	comp=N,190nm,20.7s,MS3.9						
BJI				LR	LR		
	comp=E,182nm,19.3s,MS3.9						
BJI				LR	LR		
	comp=Z,196nm,22.0s,MS3.7						
LZH	**Lanzhou**	**31.25**	**326**	*e*P	**P**	**02 08 43.5**	**+3.4**
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.0						
WRA	**Warramunga Arr**	**32.25**	**163**	P	**P**	**02 08 48.5**	**-0.3**
	comp=Z,7nm,0.9s,mb4.1,baz=340,slow=9.7,SNR=8.7						
ASAR	**Alice Springs**	**35.68**	**165**	P	**P**	**02 09 19.2**	**+0.6**
	comp=Z,5.4nm,0.8s,mb4.6,baz=348,slow=7.7,SNR=39						
GTA	**Gaotai**	**35.86**	**326**	P	**P**	**02 09 21.0**	**+0.8**
GTA				AMB	AMB		
	comp=Z,9.0nm,1.7s,mb4.4						
GTA				AMB	AMB		
	comp=Z,118nm,9.5s						
GTA				LR	LR		
	comp=N,192nm,16.4s,MS4.2						
GTA				LR	LR		
	comp=E,281nm,15.2s,MS4.2						
GTA				LR	LR		
	comp=Z,445nm,19.0s,MS4.2						
ASAJ	**Asahikawa**	**36.37**	**22**	LR	LR	02 24 07.1	
	comp=Z,152nm,18.8s,MS3.8,baz=146,slow=36						
HABR	**Khabarovsk**	**38.27**	**11**	*e*P	**P**	**02 09 42.1**	**+1.4**
ULN	**Ulaanbaatar**	**39.56**	**341**	*e*P	**P**	**02 09 51.9**	**+0.4**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
ULN	**Ulaanbaatar**	**39.56**	**341**	*e*P	**P**	**02 09 51.9**	**+0.4**
	comp=Z,4.2nm,0.6s,mb4.3						
JIRN	**Jiri**	**39.70**	**300**	*e*P	**P**	**02 09 53.4**	**+0.7**
	comp=Z,101nm,1.4s,mb5.4						
SONM	**Songino Array**	**39.74**	**341**	P	**P**	**02 09 53.0**	**0.0**
	comp=Z,2.9nm,0.8s,mb4.1,baz=160,slow=8.5,SNR=13						
SONM				LR	LR	02 26 54.8	
	comp=Z,205nm,20.9s,MS4.0,baz=122,slow=37						
GUN	**Gumba**	**40.04**	**300**	*e*P	**P**	**02 09 56.2**	**+0.7**
	comp=Z,63nm,1.0s,mb5.3						
PKI	**Pulchoki**	**40.34**	**300**	*e*P	**P**	**02 09 58.1**	**+0.1**
KKN	**Kakani**	**40.51**	**300**	*e*P	**P**	**02 09 59.6**	**+0.2**
DMN	**Daman**	**40.61**	**300**	*e*P	**P**	**02 10 00.4**	**+0.2**
GKN	**Gorkha**	**41.12**	**300**	*e*P	**P**	**02 10 04.3**	**-0.1**
KOLN	**Koldanda**	**41.94**	**299**	*e*P	**P**	**02 10 09.7**	**-1.4**
	comp=Z,58nm,1.4s,mb5.0						
ZAK	**Zakamensk**	**42.98**	**340**	*e*P	**P**	**02 10 20.8**	**+1.2**
ZAK				pmax	pmax		
	comp=Z,11nm,1.8s,mb4.3						
WMQ	**Urumqi**	**45.65**	**322**	*e*P	**P**	**02 10 42.0**	**+1.0**
STKA	**Stephens Creek**	**45.67**	**160**	P	**P**	**02 10 40.4**	**-0.7**
	comp=Z,2.7nm,0.8s,mb4.2,baz=325,slow=11,SNR=3.5						
STKA	**Stephens Creek**	**45.67**	**160**	*e*P	**P**	**02 10 41.0**	**-0.1**
BOD	**Bodaibo**	**47.36**	**352**	*e*P	**P**	**02 10 53.9**	**-0.5**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.3						
MKAR	**Makanchi Array**	**50.46**	**323**	P	**P**	**02 11 18.4**	**+0.3**
	comp=Z,2.0nm,0.7s,mb4.2,baz=125,slow=8.6,SNR=12						
ZAL	**Zalesovo**	**53.19**	**332**	P	**P**	**02 11 40.1**	**+1.6**
	comp=Z,0.7nm,0.4s,mb3.9,baz=21,slow=8.6,SNR=5.5						
ZAL				LR	LR	02 36 10.1	
	comp=Z,242nm,18.2s,MS4.3,baz=326,slow=38						
NVS	**Novosibirsk**	**54.47**	**332**	*i* P	**P**	**02 11 48.2**	**+0.3**
KURK	**Kurchatov**	**54.54**	**326**	*e*P	**P**	**02 11 47.9**	**-0.5**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
KURK	**Kurchatov**	**54.54**	**326**	*e*P	**P**	**02 11 47.9**	**-0.5**
	comp=Z,2.7nm,0.6s,mb4.5						
BRVK	**Borovoye**	**60.21**	**326**	*e*P	**P**	**02 12 27.9**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
BRVK	**Borovoye**	**60.21**	**326**	*e*P	**P**	**02 12 27.9**	**-0.5**
	comp=Z,1.4nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**60.88**	**325**	*e*P	**P**	**02 12 32.6**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.5						
ZRNK	**Zerenda**	**60.88**	**325**	*e*P	**P**	**02 12 32.5**	**-0.5**
	comp=Z,1.9nm,0.5s,mb4.5						
BILL	**Bilibino**	**63.06**	**16**	*e*P	**P**	**02 12 47.7**	**+0.1**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.5						
SVE	**Sverdlovsk**	**66.71**	**327**	*e*P	**P**	**02 13 10.2**	**-1.2**
SVE				*e*		02 13 46.0	
ARU	**Arti**	**67.72**	**327** ⇓	*i*P	**P**	**02 13 16.3**	**-1.5**
ARU				*e*		02 15 45.0	
ARU				*e*PPP		02 17 28.4	
ARU				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
KIV	**Kislovodsk**	**76.68**	**313**	*e*P	**P**	**02 14 10.6**	**-0.8**
KIV				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
KLMR	**Klimovskoe**	**78.07**	**330**	*e*P	**P**	**02 14 19.1**	**-0.1**
KLMR				pmax	pmax		
	comp=Z,30nm,1.5s,mb5.0						
MOS	**Moscow**	**79.30**	**325**	*e*P	**P**	**02 14 26.9**	**+0.9**
ILAR	**Eielson Array**	**79.39**	**26**	P	**P**	**02 14 27.2**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=245,slow=6.1,SNR=4.0						
OBN	**Obninsk**	**79.95**	**324**	*e*P	**P**	**02 14 28.8**	**-0.7**
OBN				pmax	pmax		
	comp=Z,28nm,1.5s,mb5.0						
JOF	**Joensuu**	**81.78**	**333**	*e*p	**P**	**02 14 36.8**	**-2.4**
ARCES	**ARCESS Array B**	**82.91**	**340**	P	**P**	**02 14 44.5**	**-0.7**
	comp=Z,4.9nm,0.7s,mb4.7,baz=75,slow=4.5,SNR=20						
ARCES	**ARCESS Array B**	**82.91**	**340**	P	**P**	**02 14 44.5**	**-0.7**
INK	**Inuvik**	**84.11**	**21**	*e*P	**P**	**02 14 50.7**	**-0.6**
INK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
INK	**Inuvik**	**84.11**	**21**	*e*P	**P**	**02 14 50.7**	**-0.6**
	comp=Z,4.8nm,1.4s,mb4.4						
KAF	**Kangasniemi**	**84.20**	**332**	*e*p	**P**	**02 14 48.3**	**-3.5**
FINES	**FINESS Array B**	**84.46**	**331**	P	**P**	**02 14 52.2**	**-0.9**
	comp=Z,4.5nm,1.0s,mb4.6,baz=90,slow=6.9,SNR=11						
FINES	**FINESS Array B**	**84.46**	**331**	P	**P**	**02 14 52.2**	**-0.9**
AKASG	**Malin Array Be**	**84.97**	**321**	P	**P**	**02 14 54.8**	**-0.9**
	comp=Z,2.8nm,0.8s,mb4.5,baz=68,slow=4.5,SNR=12						
VNDA	**Vanda**	**90.92**	**172**	P	**P**	**02 15 23.1**	**-1.1**
	comp=Z,1.2nm,1.0s,mb4.2,baz=326,slow=6.6,SNR=3.8						
NB2	**NORSAR Subarra**	**91.36**	**333**	P	**P**	**02 15 23.9**	**-2.4**
	comp=Z,1.4nm,0.8s,mb4.3,baz=68,slow=4.4						
NOA	**NORSAR Array B**	**91.36**	**333**	P	**P**	**02 15 24.3**	**-2.0**
	comp=Z,0.8nm,0.7s,mb4.2,baz=65,slow=4.8,SNR=5.8						
NOA	**NORSAR Array B**	**91.36**	**333**	P	**P**	**02 15 24.3**	**-2.0**
YKA	**Yellowknife Ar**	**93.64**	**24**	P	**P**	**02 15 36.2**	**-0.6**
	comp=Z,0.5nm,1.0s,mb3.9,baz=306,slow=4.2,SNR=5.9						
YKA	**Yellowknife Ar**	**93.64**	**24**	P	**P**	**02 15 36.2**	**-0.6**
GERES	**GERESS Array B**	**95.12**	**322**	P	**P**	**02 15 43.8**	**+0.2**
	comp=Z,0.5nm,0.7s,mb4.1,baz=72,slow=4.3,SNR=6.0						

ISCJB ***10*** *02:06:40.5*$\pm$*0.6, 389S*$\pm$*005×13880E*$\pm$*007, h100 km, mb4.1/7, Error ellipse: s-maj=10.0km s-min=7.4km az=13.7*

NEIC ***10*** *02:06:42.1*$\pm$*2.1, 375S×13879E, h98 km*$\pm$*22 km, mb4.2/6, Error ellipse: s-maj=19.0km s-min=14.8km az=131.0*

IDC ***10*** *02:06:45.3*$\pm$*3.3, 376S×13903E, h127 km*$\pm$*31 km, mb3.7/4, mb1 3.9/6, mb1mx3.7/11, mbtmp4.2/6, Error ellipse: s-maj=25.3km s-min=13.1km az=20.7*

ISC 10 02:06:42.1$\pm$**0.6, 393S**$\pm$**006×13875E**$\pm$**007, h100**km**, n17, σ1§53/23, mb4.1/7, Irian Jaya**

| Code | Station Name | Δ° | AZ° | Phase

ISC 10 02:16:30.0±0.2,2136S±005×17451W±005,h33km, h33km±1.9km:pP-P,n393,σ1º02/192,mb5.2/87,MS5.0/11, 43C-13D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.85**	**20**	Pn	**Pn**	**02 18 15.2**	**-6.7**
	44nm,0.3s,baz=96,slow=1.7,SNR=44						
AFI				Sn	**Sn**	**02 19 38.6**	**-11**
	36nm,0.3s,baz=196,slow=22,SNR=5.8						
AFI	**Afiamalu**	**7.85**	**20**	P	**Pn**	**02 18 15.2**	**-6.6**
AFI						02 19 38.6	
AFI				pmax	pmax		
	comp=Z,44nm,0.3s						
AFI				smax			
	comp=N,36nm,0.3s						
AFI	**Afiamalu**	**7.85**	**20**	*e*Pn	**Pn**	**02 18 14.9**	**-6.9**
	comp=N,133nm,0.6s						
RAO	**Raoul Island**	**8.44**	**201**	Pn	**Pn**	**02 18 28.2**	**-1.7**
	comp=N,86nm,0.3s,baz=74,slow=18,SNR=5.2						
RAO				Sn	**Sn**	**02 20 00.7**	**-3.3**
	comp=N,14nm,0.3s,baz=267,slow=22,SNR=3.0						
RAO	**Raoul Island**	**8.44**	**201**	Pn	**Pn**	**02 18 28.2**	**-1.7**
RAO				Sn	**Sn**	**02 20 00.7**	**-3.3**
RAR	**Rarotonga**	**13.74**	**92**	LR	LR	02 24 17.8	
	comp=N,3µm,18.4s,baz=255,slow=34						
DZM	**Mont Dzumac**	**17.71**	**264**	P	**Pn**	**02 20 39.2**	**+5.2**
	comp=N,0.8nm,0.3s,baz=29,slow=0.2,SNR=13						
DZM				LR	LR	02 25 26.9	
	comp=N,2µm,18.4s,baz=315,slow=31						
URZ	**Urewera**	**18.33**	**201**	P	**Pn**	**02 20 42.4**	**+0.9**
	comp=N,2.8nm,0.3s,baz=32,slow=6.0,SNR=7.6						
URZ				S	**Sn**	**02 23 54.5**	**-11**
	comp=N,0.7nm,0.3s,baz=305,slow=20,SNR=3.9						
QRZ	**Quartz Range**	**22.31**	**207**	*e*PN	**P**	**02 21 27.7**	**+3.2**
THZ	**Tophouse**	**22.95**	**205**	*e*PN	**P**	**02 21 31.8**	**+0.5**
TBI	**Tubuai**	**23.24**	**100**	*e*LQ		02 25 46.7	
	comp=N,2µm,24.0s						
TBI	**Tubuai**	**23.24**	**100**	*e*P	**P**	**02 21 29.5**	**-4.9**
	comp=N,353nm,1.1s,mb5.7						
TBI				*e*LR	LR	02 27 00.8	
	comp=N,3µm,27.2s						
PAE	**Paea**	**23.77**	**85**	*e*P	**P**	**02 21 31.6**	**-7.9**
	comp=N,126nm,1.1s,mb5.3						
PPT	**Papeete**	**23.80**	**85**	*e*P	**P**	**02 21 32.0**	**-7.7**
	comp=N,100nm,1.4s,mb5.1						
PPT	**Papeete**	**23.80**	**85**	*e*LQ		02 25 57.2	
	comp=N,2µm,25.2s						
PPT				*e*LR	LR	02 27 12.8	
	comp=N,2µm,24.0s						
PPT	**Papeete**	**23.80**	**85**	P	**P**	**02 21 35.5**	**-4.2**
	comp=N,67nm,1.0s,mb5.0,baz=266,slow=8.5,SNR=5.1						
PPT				LR	LR	02 29 33.2	
	comp=N,2µm,18.4s,MS4.7,baz=256,slow=33						
TVO	**Taravao**	**24.05**	**86**	*e*P	**P**	**02 21 34.7**	**-7.3**
	comp=N,103nm,1.1s,mb5.2						
LTZ	**Lake Taylor**	**24.06**	**204**	*e*PN	**P**	**02 21 44.7**	**+2.6**
WVZ	**Waitaha Valley**	**24.92**	**206**	PN	**P**	**02 21 50.2**	**+0.3**
RPZ	**Rata Peaks**	**25.32**	**205**	P	**P**	**02 21 53.4**	**-0.2**
	comp=N,27nm,0.8s,mb4.8,baz=310,slow=3.2,SNR=7.7						
FOZ	**Fox Glacier**	**25.76**	**207**	*e*PN	**P**	**02 21 57.0**	**-0.5**
HNR	**Honiara**	**27.28**	**292**	LR	LR	02 31 34.6	
	comp=N,1µm,19.2s,MS4.4,baz=177,slow=34						
ARMA	**Armidale**	**31.68**	**246**	*e*P	**P**	**02 22 50.3**	**+0.1**
TAOE	**Nuku Hiva Isla**	**35.33**	**75**	*e*LR	LR	02 32 28.4	
	comp=N,3µm,25.8s						
RKT	**Rikitea**	**36.56**	**100**	*e*LR	LR	02 33 10.0	
	comp=N,2µm,27.8s						
CTA	**Charters Tower**	**36.66**	**265**	*e*P	**P**	**02 23 34.3**	**+0.9**
	comp=N,9.2nm,0.6s,mb4.8						
CTA	**Charters Tower**	**36.66**	**265**	P	**P**	**02 23 33.5**	**+0.1**
	comp=N,7.7nm,0.6s,mb4.7,baz=98,slow=10,SNR=11						
CTA	**Charters Tower**	**36.66**	**265**	P	**P**	**02 23 33.5**	**+0.1**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
PMG	**Port Moresby**	**38.71**	**282**	P	**P**	**02 23 50.2**	**-0.6**
	comp=Z,21nm,0.8s,mb4.9,baz=92,slow=9.2,SNR=6.5						
PMG				LR	LR	02 38 25.6	
	comp=Z,2µm,18.1s,MS4.9,baz=34,slow=34						
PMG	**Port Moresby**	**38.71**	**282**	*e*P	**P**	**02 23 50.3**	**-0.5**
PMG				pmax	pmax		
	comp=Z,25nm,0.8s						
PMG	**Port Moresby**	**38.71**	**282**	*e*P	**P**	**02 23 50.3**	**-0.5**
	comp=Z,25nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**40.38**	**246**	*e*P	**P**	**02 24 01.8**	**-2.9**
	comp=Z,21nm,1.0s,mb4.8						
STKA	**Stephens Creek**	**40.38**	**246**	P	**P**	**02 24 02.2**	**-2.5**
	comp=Z,13nm,0.8s,mb4.7,baz=86,slow=7.8,SNR=13						
STKA				LR	LR	02 39 59.4	
	comp=Z,1µm,18.2s,MS4.8,baz=335,slow=35						
ASAR	**Alice Springs**	**47.50**	**257**	P	**P**	**02 25 00.8**	**-1.1**
	comp=Z,16nm,0.8s,mb5.1,baz=96,slow=7.8,SNR=70						
WB2	**Warramunga Arr**	**47.70**	**262**	*e*P	**P**	**02 25 01.6**	**-1.8**
WRAB	**Tennant Creek**	**47.71**	**262**	P	**P**	**02 25 01.1**	**-2.3**
	comp=Z,232nm,1.1s,mb6.1,SNR=7.4						
WRAB	**Tennant Creek**	**47.71**	**262**	*e*P	**P**	**02 25 02.0**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,94nm,1.3s,mb5.7						
WRAB	**Tennant Creek**	**47.71**	**262**	*e*P	**P**	**02 25 02.0**	**-1.4**
	comp=Z,94nm,1.3s,mb5.7						
WRA	**Warramunga Arr**	**47.72**	**262**	P	**P**	**02 25 02.4**	**-1.1**
	comp=Z,12nm,0.8s,mb5.0,baz=99,slow=7.0,SNR=23						
FORT	**Forrest**	**51.96**	**247**	⇑*i*P	**P**	**02 25 34.1**	**-1.6**
	comp=Z,33nm,0.6s,mb5.4						
FITZ	**Fitzroy Crossi**	**56.15**	**262**	*e*P	**P**	**02 26 05.6**	**-0.7**
	comp=Z,25nm,1.4s,mb5.0						
FITZ	**Fitzroy Crossi**	**56.15**	**262**	P	**P**	**02 26 05.9**	**-0.3**
	comp=Z,6.2nm,0.7s,mb4.7,baz=106,slow=13,SNR=12						
SBA	**Scott Base**	**57.26**	**185**	*e*P	**P**	**02 26 16.0**	**+1.8**
SBA				pmax	pmax		
	comp=Z,43nm,1.2s,mb5.3						
SBA	**Scott Base**	**57.26**	**185**	*e*P	**P**	**02 26 16.0**	**+1.9**
	comp=Z,43nm,1.2s,mb5.4						
VNDA	**Vanda**	**57.37**	**186**	P	**P**	**02 26 16.1**	**+1.2**
	comp=Z,10nm,0.8s,mb4.9,baz=15,slow=7.8,SNR=26						
VNDA	**Vanda**	**57.37**	**186**	*e*P	**P**	**02 26 15.9**	**+0.9**
VNDA				pmax	pmax		
	comp=Z,18nm,1.0s						
VNDA	**Vanda**	**57.37**	**186**	*e*P	**P**	**02 26 15.9**	**+0.9**
	comp=Z,18nm,1.0s,mb5.0						
KLBR	**Kellerberrin**	**60.65**	**245**	⇑*i*P	**P**	**02 26 37.1**	**-0.6**
	comp=Z,28nm,0.9s,mb5.4						
MBWA	**Marble Bar**	**60.85**	**257**	*e*P	**P**	**02 26 38.3**	**-0.8**
	comp=Z,49nm,1.3s,mb5.5						
MUN	**Mundaring**	**61.90**	**244**	*e*P	**P**	**02 26 45.1**	**-1.0**
CASY	**Casey**	**64.59**	**206**	*e*P	**P**	**02 27 04.8**	**+0.8**
	comp=Z,50nm,1.0s,mb5.5						
QSPA	**South Pole Qui**	**68.72**	**180**	⇑*i*P	**P**	**02 27 30.2**	**-0.1**
	comp=Z,28nm,1.1s,mb5.1						
MIR	**Mirnyy**	**71.60**	**205**	*e*P	**P**	**02 27 51.5**	**+3.6**
MIR				*e*		02 28 07.0	
MIR				pmax	pmax		
	comp=Z,285nm,1.0s,mb6.2						
MJAR	**Matsushiro Arr**	**72.87**	**322**	P	**P**	**02 27 55.6**	**+0.1**
	comp=Z,26nm,0.5s,mb5.4,baz=158,slow=6.3,SNR=7.5						
MAJO	**Matsushiro**	**72.87**	**322**	*e*P	**P**	**02 27 55.6**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
MAJO	**Matsushiro**	**72.87**	**322**	*e*P	**P**	**02 27 55.6**	**+0.1**
	comp=Z,16nm,0.8s,mb5.0						
MAT	**Matsushiro**	**72.87**	**322**	P	**P**	**02 27 54.7**	**-0.8**
MAT				*e*S	S	02 37 18.2	-1.3
MAT	**Matsushiro**	**72.87**	**322**	*e*P	**P**	**02 27 55.0**	**-0.5**
MAT				S	S	02 37 18.0	-1.5
MAT				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
MAT	**Matsushiro**	**72.87**	**322**	*e*P	**P**	**02 27 55.0**	**-0.5**
	comp=Z,10nm,0.7s,mb4.9						
MAT				S	S	02 37 18.0	-1.5
KKM	**Kota Kinabalu**	**73.13**	**284**	P	**P**	**02 28 01.2**	**+4.1**
KSM	**Kuching**	**76.76**	**277**	*e*P	**P**	**02 28 18.9**	**+0.9**
PFO	**Pinyon Flat Ob**	**77.75**	**46**	*e*P	**P**	**02 28 23.8**	**+0.2**
PFO				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.8						
PFO	**Pinyon Flat Ob**	**77.75**	**46**	*e*P	**P**	**02 28 23.8**	**+0.2**
	comp=Z,16nm,1.3s,mb4.8						
CMB	**Columbia Colle**	**77.92**	**41**	*e*P	**P**	**02 28 24.4**	**-0.2**
CMB				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.0						
CMB	**Columbia Colle**	**77.92**	**41**	*e*P	**P**	**02 28 24.4**	**-0.2**
	comp=Z,23nm,1.1s,mb5.0						
OHCM	**Honcut**	**78.10**	**39**	*e*P	**P**	**02 28 25.4**	**-0.2**
YSS	**Yuzh-Sakhalins**	**78.16**	**332**	*ae*P	**P**	**02 28 26.0**	**+0.1**
YSS				*e*	pP	02 28 33.5	-2.8
YSS				S	S	02 38 22.0	+4.0
YSS				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.2						
YSS				pmax	pmax		
	comp=Z,400nm,7.0s						
YSS	**Yuzh-Sakhalins**	**78.16**	**332**	*e*P	**P**	**02 28 25.9**	**+0.1**
	comp=Z,57nm,1.1s,mb5.4						
WDC	**Whiskeytown Da**	**78.30**	**38**	*e*P	**P**	**02 28 26.1**	**-0.5**
WDC				pmax	pmax		
	comp=Z,64nm,1.4s,mb5.4						
WDC	**Whiskeytown Da**	**78.30**	**38**	*e*P	**P**	**02 28 26.1**	**-0.6**
	comp=Z,64nm,1.4s,mb5.4						
CHGN	**Chignik**	**78.55**	**9**	*e*P	**P**	**02 28 27.4**	**-0.6**
DAC	**Darwin (Calif)**	**78.59**	**44**	*e*P	**P**	**02 28 28.4**	**+0.2**
DAC				pmax	pmax		
	comp=Z,26nm,1.5s,mb4.9						
DAC	**Darwin (Calif)**	**78.59**	**44**	*e*P	**P**	**02 28 28.4**	**+0.2**
	comp=Z,26nm,1.5s,mb4.9						
YBH	**Yreka Blue Hor**	**78.97**	**37**	*e*P	**P**	**02 28 30.9**	**+0.6**
YBH				pmax	pmax		
	comp=Z,20nm,1.0s						
YBH	**Yreka Blue Hor**	**78.97**	**37**	*e*P	**P**	**02 28 30.9**	**+0.5**
	comp=Z,20nm,1.0s,mb5.0						
HUMO	**Hull Mountain**	**79.42**	**36**	*e*P	**P**	**02 28 32.5**	**-0.3**
	comp=Z,23nm,1.2s,mb5.0						
NVAR	**Mina Array Bea**	**79.45**	**42**	P	**P**	**02 28 32.8**	**-0.2**
	comp=Z,14nm,0.9s,mb4.9,baz=224,slow=7.7,SNR=3.4						
MNV	**Mina**	**79.54**	**42**	*e*P	**P**	**02 28 33.1**	**-0.4**
MNV				pmax	pmax		
	comp=Z,50nm,1.3s,mb5.3						
MNV	**Mina**	**79.54**	**42**	*e*P	**P**	**02 28 33.1**	**-0.3**
	comp=Z,50nm,1.3s,mb5.3						
PAHR	**Pah Rah Range**	**79.58**	**40**	*e*P	**P**	**02 28 33.1**	**-0.6**
	comp=Z,27nm,1.1s,mb5.1						
QZH	**Quanzhou**	**79.62**	**302**	⇑*i*P	**P**	**02 28 34.4**	**+0.5**
QZH				S	S	02 38 38.0	+4.4
QZH				PS		02 39 12.9	
QZH				AMB	AMB		
	comp=Z,450nm,9.4s						
KS15	**Wonju Array Si**	**79.73**	**317**	*e*P	**P**	**02 28 37.0**	**+2.5**
TPH	**Tonopah**	**79.91**	**42**	*e*P	**P**	**02 28 35.6**	**+0.2**
TPH				pmax	pmax		
	comp=Z,43nm,1.4s,mb5.2						
TPH	**Tonopah**	**79.91**	**42**	*e*P	**P**	**02 28 35.6**	**+0.1**
	comp=Z,43nm,1.4s,mb5.2						
NEN	**Nelson**	**80.02**	**46**	*e*P	**P**	**02 28 37.6**	**+1.5**
SSE	**Sheshan**	**80.76**	**308**	P	**P**	**02 28 39.6**	**-0.4**
SSE				XP	sP	02 28 52.5	-1.8
SSE				PP	PP	02 31 43.9	-0.3
SSE				S	S	02 38 46.8	+1.2
SSE				XS	sS	02 39 03.3	+0.4
SSE				SS	SS	02 44 02.9	+3.8
SSE				AMB	AMB		
	comp=Z,24nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,156nm,5.1s						
TUC	**Tucson**	**80.98**	**50**	*e*P	**P**	**02 28 40.6**	**-0.6**
TUC				pmax	pmax		
	comp=Z,26nm,1.6s,mb4.9						
TUC	**Tucson**	**80.98**	**50**	*e*P	**P**	**02 28 40.6**	**-0.5**
	comp=Z,26nm,1.6s,mb4.9						
BMN	**Battle Mountai**	**81.34**	**41**	P	**P**	**02 28 44.5**	**+1.4**
BMN				pmax	pmax		
	comp=Z,34nm,1.5s,mb5.1						
BMN	**Battle Mountai**	**81.34**	**41**	P	**P**	**02 28 44.5**	**+1.4**
	comp=Z,34nm,1.5s,mb5.0						
WVOR	**Wild Horse Val**	**81.73**	**38**	*e*P	**P**	**02 28 45.0**	**-0.2**
WVOR				pmax	pmax		
	comp=Z,45nm,1.4s,mb5.2						
WVOR	**Wild Horse Val**	**81.73**	**38**	*e*P	**P**	**02 28 45.0**	**-0.2**
	comp=Z,45nm,1.4s,mb5.2						
MAW	**Mawson**	**81.84**	**199**	*e*P	**P**	**02 28 45.6**	**-0.2**
	comp=Z,15nm,1.0s,mb4.9						
MAW	**Mawson**	**81.84**	**199**	P	**P**	**02 28 46.2**	**+0.4**
	comp=Z,6.1nm,0.7s,mb4.7,baz=130,slow=5.0,SNR=16						
MAW	**Mawson**	**81.84**	**199**	*e*P	**P**	**02 28 45.6**	**-0.2**
MAW				pmax	pmax		
	comp=Z,15nm,1.0s						
CCUT	**Cedar City**	**82.08**	**45**	*e*P	**P**	**02 28 47.5**	**+0.4**
ARUT	**Antelope Range**	**82.16**	**44**	*e*P	**P**	**02 28 47.6**	**+0.1**
WUAZ	**Wupatki**	**82.29**	**47**	*e*P	**P**	**02 28 48.0**	**-0.1**
	comp=Z,19nm,1.3s,mb4.9						
ELK	**Elko**	**82.73**	**41**	*e*P	**P**	**02 28 49.3**	**-1.1**
ELK				pmax	pmax		
	comp=Z,24nm,1.4s						
ELK	**Elko**	**82.73**	**41**	*e*P	**P**	**02 28 49.3**	**-1.1**
	comp=Z,24nm,1.4s,mb5.0						
HABR	**Khabarovsk**	**82.83**	**329**	*e*P	**P**	**02 28 51.5**	**+0.6**
NJ2	**Nanjing**	**82.95**	**308**	*e*P	**P**	**02 28 52.8**	**+1.2**
NJ2				AP	pP	02 29 04.0	+1.9
NJ2				XP	sP	02 29 06.3	+0.4
NJ2				PP	PP	02 32 05.1	+2.8
NJ2				S	S	02 39 06.0	-2.2
NJ2				XS	sS	02 39 21.0	-4.6
NJ2				AMB	AMB		
	comp=Z,190nm,1.1s,mb6.0						
NJ2				AMB	AMB		
	comp=Z,290nm,7.2s						
NJ2				LR	LR		
	comp=N,3µm,19.2s,MS5.7						
NJ2				LR	LR		
	comp=E,3µm,23.4s,MS5.7						
NJ2				LR	LR		
	comp=Z,1µm,16.4s						
MDJ	**Mudanjiang**	**83.12**	**323**	P	**P**	**02 28 53.5**	**+1.1**
MDJ				AP	pP	02 29 02.8	-0.2
MDJ				XP	sP	02 29 06.8	0.0
MDJ				PP	PP	02 32 04.3	+0.6
MDJ				S	S	02 39 12.2	+2.3
MDJ				XS	sS	02 39 28.7	+1.4
MDJ				AMB	AMB		
	comp=Z,19nm,1.3s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,399nm,5.5s						
MDJ				LR	LR		
	comp=Z,144nm,13.3s,MS4.5						
PGC	**Sidney**	**83.25**	**31**	*e*P	**P**	**02 28 52.8**	**-0.4**
	comp=Z,66nm,1.0s,mb5.6						
MSU	**Marysvale**	**83.39**	**44**	*e*P	**P**	**02 28 54.3**	**+0.5**
TWW	**Teanaway**	**83.53**	**34**	P	**P**	**02 28 55.4**	**+0.9**
SVW2	**Sparrevohn**	**83.58**	**9**	*e*P	**P**	**02 28 54.2**	**-0.6**
TBM	**Table Mountain**	**83.69**	**34**	P	**P**	**02 28 55.8**	**+0.4**
HAWA	**Hanford**	**83.75**	**35**	*e*P	**P**	**02 28 55.5**	**-0.2**
	comp=Z,4.9nm,1.4s,mb4.4						
DUG	**Dugway**	**83.93**	**43**	*e*P	**P**	**02 28 55.9**	**-0.7**
DUG				pmax	pmax		
	comp=Z,20nm,1.5s,mb5.0						
DUG	**Dugway**	**83.93**	**43**	*e*P	**P**	**02 28 55.9**	**-0.7**
	comp=Z,20nm,1.5s,mb5.0						
SLKM	**Skilak Lake**	**83.93**	**12**	*e*P	**P**	**02 28 55.6**	**-1.0**
QIZ	**Qiongzhong**	**84.19**	**293**	P	**P**	**02 28 59.7**	**+1.8**
QIZ				S		02 39 25.1	
QIZ				XS	sS	02 39 37.8	-0.3
QIZ				AMB	AMB		
	comp=Z,188nm,9.2s						
QIZ				LR	LR		
	comp=Z,167nm,15.4s,MS4.5						
WTV	**Waterville**	**84.37**	**34**	P	**P**	**02 28 58.8**	**0.0**
TMUT	**Trail Mountain**	**84.46**	**44**	*e*P	**P**	**02 28 59.6**	**+0.3**
MNTX	**Cornudas Mount**	**84.62**	**53**	*e*P	**P**	**02 28 59.6**	**-0.5**
	comp=Z,28nm,1.7s,mb5.1						
LAZ	**Ladron**	**84.67**	**50**	*e*P	**P**	**02 29 00.4**	**+0.1**
SPUT	**South Promonto**	**84.78**	**42**	*e*P	**P**	**02 29 00.5**	**-0.4**
LTX	**Lajitas**	**84.80**	**56**	*e*P	**P**	**02 29 00.4**	**-0.6**
LTX				pmax	pmax		
	comp=Z,33nm,1.6s,mb5.2						
LTX	**Lajitas**	**84.80**	**56**	*e*P	**P**	**02 29 00.4**	**-0.6**
	comp=Z,33nm,1.6s,mb5.2						
SRU	**San Rafael**	**84.80**	**45**	*e*P	**P**	**02 29 00.8**	**-0.2**
SRU				pmax	pmax		
	comp=Z,39nm,1.4s,mb5.3						
SRU	**San Rafael**	**84.80**	**45**	*e*P	**P**	**02 29 00.8**	**-0.2**
	comp=Z,39nm,1.4s,mb5.3						
CTU	**Camp Tracy**	**84.88**	**43**	*e*P	**P**	**02 29 02.0**	**+0.6**
	comp=Z,25nm,1.3s,mb5.2						
HLID	**Hailey**	**84.88**	**39**	*e*P	**P**	**02 29 00.6**	**-0.8**
	comp=Z,15nm,1.0s,mb5.1						
BNM	**Barren Site**	**84.91**	**50**	*e*P	**P**	**02 29 03.1**	**+1.5**
KLR	**Kul'dur**	**84.95**	**328**	*e*P	**P**	**02 29 03.8**	**+2.0**
KLR				*e*S		02 39 27.5	
KLR				pmax	pmax		
	comp=Z,40nm,1.6s,mb5.3						
KLR				smax			
	comp=N,800nm,15.0s						
KLR				smax			
	comp=E,500nm,15.0s						
LPM	**Los Pinos Moun**	**84.98**	**50**	*e*P	**P**	**02 29 01.2**	**-0.7**
CN2	**Changchun**	**84.99**	**321**	⇑P	**P**	**02 29 02.7**	**+0.7**
CN2				*e*XP	sP	02 29 18.7	+2.4
CN2				*e*S		02 39 28.4	
CN2				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.4						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=Z,13µm,19.0s						
DAU	**Daniels Canyon**	**85.04**	**43**	*e*P	**P**	**02 29 03.7**	**+1.5**
PMR	**Palmer**	**85.14**	**12**	*e*P	**P**	**02 29 01.2**	**-1.5**
PMR				pmax	pmax		
	comp=Z,93nm,1.7s,mb5.6						
PMR	**Palmer**	**85.14**	**12**	*e*P	**P**	**02 29 01.2**	**-1.5**
	comp=Z,92nm,1.7s,mb5.6						
TTA	**Tatalina**	**85.27**	**8**	*e*P	**P**	**02 29 02.3**	**-1.0**
TCUT	**Toone Canyon**	**85.33**	**43**	*e*P	**P**	**02 29 03.1**	**-0.6**
PV10	**Paradox Valley**	**85.39**	**46**	*e*P	**P**	**02 29 06.3**	**+2.3**
ANMO	**Albuquerque**	**85.42**	**50**	*e*P	**P**	**02 29 04.0**	**-0.1**
ANMO				pmax	pmax		
	comp=Z,27nm,1.3s						
ANMO	**Albuquerque**	**85.42**	**50**	*e*P	**P**	**02 29 04.0**	**-0.2**
	comp=Z,27nm,1.3s,mb5.2						
HWUT	**Hardware Ranch**	**85.50**	**42**	P	**P**	**02 29 04.7**	**+0.2**
	comp=Z,18nm,1.5s,mb5.1						
PV01	**Paradox Valley**	**85.58**	**46**	*e*P	**P**	**02 29 04.5**	**-0.5**
WHN	**Wuhan**	**85.59**	**305**	⇑P	**P**	**02 29 06.0**	**+1.0**
GDL2	**Guadalupe Moun**	**85.62**	**53**	*e*P	**P**	**02 29 04.2**	**-0.9**
PLCA	**Paso Flores**	**86.30**	**132**	*e*P	**P**	**02 29 08.8**	**+0.3**
PLCA				pmax	pmax		
	comp=Z,38nm,1.6s						
PLCA	**Paso Flores**	**86.30**	**132**	*e*P	**P**	**02 29 08.8**	**+0.4**
	comp=Z,38nm,1.6s,mb5.4						
CPRX	**Cap Rock**	**86.38**	**53**	*e*P	**P**	**02 29 07.7**	**-1.2**
MCMT	**McKenzie Canyo**	**86.53**	**39**	*e*P	**P**	**02 29 09.4**	**-0.2**
SYO	**Syowa Base**	**86.58**	**192**	⇑*i*SP	sP	02 29 24.5	+0.3
SKAG	**Skagway**	**86.69**	**19**	*e*P	**P**	**02 29 10.9**	**+0.5**
	comp=Z,90nm,1.8s,mb5.7						
REDW	**Red Top Meadow**	**86.91**	**41**	*e*P	**P**	**02 29 12.2**	**+0.7**
	comp=Z,20nm,1.5s,mb5.1						
TPAW	**Teton Pass**	**86.92**	**41**	*e*P	**P**	**02 29 11.1**	**-0.4**
	comp=Z,4.6nm,0.8s,mb4.8						
DLMT	**Dillon**	**86.98**	**39**	*e*P	**P**	**02 29 11.3**	**-0.5**
	comp=Z,24nm,1.6s,mb5.2						
SNAA	**Sanae**	**87.04**	**177**	*e*P	**P**	**02 29 11.2**	**-0.9**
SNAA				*e*		02 29 13.3	
SNAA				*e*		02 29 16.5	
SNAA				*e*	pP	02 29 18.7	-3.9
SNAA				*e*	pP	02 29 22.4	-0.2
SNAA				*e*		02 29 26.7	
SNAA				*e*		02 29 31.7	
SNAA				*e*		02 29 34.8	
SNAA				*e*		02 29 47.5	
SNAA	**Sanae**	**87.04**	**177**	*e*P	**P**	**02 29 11.2**	**-0.9**
SNAA				pmax	pmax		
	comp=Z,32nm,1.3s						
SNAA	**Sanae**	**87.04**	**177**	*e*P	**P**	**02 29 11.2**	**-0.9**
	comp=Z,32nm,1.3s,mb5.4						
VNA3	**Neumayer Olymp**	**87.05**	**175**	*e*P	**P**	**02 29 11.2**	**-0.9**
VNA3				*e*		02 29 13.5	
VNA3				*e*		02 29 17.0	
VNA3				*e*	pP	02 29 19.7	-3.0
VNA3				*e*	pP	02 29 22.4	-0.3
VNA3				*e*		02 29 26.3	
VNA3				*e*		02 29 31.7	
VNA3				*e*		02 29 34.3	
VNA3				*e*		02 29 46.9	
VNA3				*e*		02 29 53.7	
VNA3				*e*		02 29 59.9	
VNA3				*e*		02 30 28.7	
VNA3				*e*		02 31 07.8	
KULM	**Kulim**	**87.12**	**277**	*e*P	**P**	**02 29 12.8**	**+0.3**
IMW	**Indian Meadow**	**87.15**	**40**	*e*P	**P**	**02 29 12.8**	**+0.2**
	comp=Z,12nm,1.2s,mb5.0						
MOOW	**Moose Ponds**	**87.18**	**41**	*e*P	**P**	**02 29 11.8**	**-1.0**
	comp=Z,139nm,3.0s						
SMCO	**Snowmass**	**87.19**	**46**	*e*P	**P**	**02 29 12.7**	**-0.1**
	comp=Z,8.4nm,1.1s,mb4.9						
QLMT	**Earthquake Lak**	**87.37**	**39**	P	**P**	**02 29 15.6**	**+1.9**
BW06	**Boulder Array**	**87.38**	**42**	*e*P	**P**	**02 29 11.8**	**-1.9**
	comp=Z,3.5nm,0.9s,mb4.6						
PDAR	**Pinedale Array**	**87.38**	**42**	P	**P**	**02 29 12.9**	**-0.8**
	comp=Z,2.8nm,0.9s,mb4.5,baz=208,slow=3.0,SNR=14						
FLWY	**Flagg Ranch**	**87.39**	**40**	*e*P	**P**	**02 29 13.8**	**0.0**
	comp=Z,9.2nm,1.0s,mb5.0						
CHMT	**Chamberlain Mo**	**87.50**	**37**	*e*P	**P**	**02 29 16.2**	**+2.0**
VNA2	**Neumayer--Watz**	**87.52**	**176**	*e*P	**P**	**02

RSSD	**Black Hills**	**91.53**	**43**	*e*P		**P**		**02 29 32.2**	**-1.0**		
RSSD				pmax		pmax					
	comp=Z,14nm,1.4s,mb5.1										
RSSD	**Black Hills**	**91.53**	**43**	*e*P		**P**		**02 29 32.2**	**-1.1**		
	comp=Z,14nm,1.4s,mb5.1										
CFAA	**Coronel Fontan**	**91.95**	**125**	LR		LR		03 02 15.4			
	comp=Z,34nm,18.7s,baz=325,slow=30										
HHC	**Hu-ho-hao-te**	**92.30**	**313**	⇑P		**P**		**02 29 38.0**	**+1.2**		
HHC				AP		pP		02 29 48.7	+1.3		
HHC				XP		sP		02 29 52.6	+1.4		
HHC				PP		PP		02 33 22.4	+4.9		
HHC				SKS				02 40 09.4			
HHC				S				02 40 36.7			
HHC				XS		sS		02 40 55.1	-0.1		
HHC				PS		PS		02 41 57.7	+5.5		
HHC				SS		SS		02 46 51.7	+3.4		
HHC				AMB		AMB					
	comp=Z,19nm,1.3s,mb5.3										
HHC				AMB		AMB					
	comp=Z,153nm,6.3s										
HHC				LR		LR					
	comp=N,2μm,21.4s,MS5.6										
HHC				LR		LR					
	comp=E,2μm,19.6s,MS5.6										
HHC				LR		LR					
	comp=Z,1μm,21.4s,MS5.4										
KMI	**Kunming**	**92.65**	**296**	P		**P**		**02 29 40.1**	**+1.7**		
KMI				AP		pP		02 29 50.7	+1.7		
KMI				XP		sP		02 29 54.6	+1.8		
KMI				PP		PP		02 33 23.9	+3.7		
KMI				PPP				02 35 26.2			
KMI				SKS				02 40 08.8			
KMI				S				02 40 39.8			
KMI				XS		sS		02 40 56.9	-1.5		
KMI				PS		PS		02 41 59.2	+3.2		
KMI				SS		SS		02 46 56.5	+3.2		
KMI				SSS				02 50 34.4			
KMI				AMB		AMB					
	comp=Z,21nm,1.2s,mb5.4										
KMI				AMB		AMB					
	comp=Z,252nm,4.6s										
KMI				LR		LR					
	comp=N,2μm,23.1s										
KMI				LR		LR					
	comp=E,3μm,29.3s										
KMI				LR		LR					
	comp=Z,4μm,26.2s,MS5.7										
CHTO	**Chiang Mai**	**93.61**	**289**	*e*P		**P**		**02 29 44.7**	**+1.9**		
CHTO				pmax		pmax					
	comp=Z,23nm,1.1s,mb5.5										
CHTO	**Chiang Mai**	**93.61**	**289**	*e*P		**P**		**02 29 44.7**	**+1.9**		
	comp=Z,23nm,1.1s,mb5.5										
CD2	**Chengdu**	**94.01**	**301**	*e*P		**P**		**02 29 43.8**	**-0.8**		
CD2				AP		pP		02 29 54.4	-0.9		
CD2				XP		sP		02 29 58.6	-0.5		
CD2				PP		PP		02 33 33.0	+2.1		
CD2				SKS				02 40 14.5			
CD2				S				02 40 48.8			
CD2				XS		sS		02 41 06.6	-3.7		
CD2				SS		SS		02 47 13.0	+0.3		
CD2				AMB		AMB					
	comp=Z,10.0nm,0.9s,mb5.2										
CD2				AMB		AMB					
	comp=Z,40nm,9.5s										
CD2				LR		LR					
	comp=E,150nm,15.6s										
CD2				LR		LR					
	comp=Z,140nm,16.2s,MS4.5										
INK	**Inuvik**	**94.28**	**14**	*e*P		**P**		**02 29 44.5**	**-1.4**		
INK				pmax		pmax					
	comp=Z,27nm,1.6s										
INK	**Inuvik**	**94.28**	**14**	*e*P		**P**		**02 29 44.5**	**-1.3**		
	comp=Z,27nm,1.6s,mb5.4										
LVC	**Limon Verde**	**95.34**	**117**	*e*P		**P**		**02 29 52.3**	**+1.5**		
	comp=Z,43nm,1.6s,mb5.6										
LZH	**Lanzhou**	**95.89**	**306**	*e*P		**P**		**02 29 54.0**	**+0.7**		
LZH				AP		pP		02 30 02.0	-1.9		
LZH				XP		sP		02 30 08.5	+0.8		
LZH				AMB		AMB					
	comp=Z,30nm,1.5s,mb5.5										
YKA	**Yellowknife Ar**	**95.95**	**24**	P		**P**		**02 29 52.3**	**-1.2**		
	comp=Z,2.2nm,1.0s,mb4.5,baz=237,slow=4.5,SNR=32										
YKA				PKiKP		PKiKP		02 34 30.8	-1.5		
	comp=Z,0.1nm,0.6s,baz=261,slow=1.5,SNR=5.2										
YKA				PKKPbc		PKKPbc		02 46 42.4	+0.9		
	comp=Z,0.2nm,0.7s,baz=20,slow=2.3,SNR=5.3										
YKA	**Yellowknife Ar**	**95.95**	**24**	P		**P**		**02 29 52.3**	**-1.2**		
YKW3	**Yellowknife Ar**	**95.99**	**24**	P		**P**		**02 29 52.1**	**-1.6**		
SONM	**Songino Array**	**98.56**	**318**	P		**P**		**02 30 05.2**	**-0.1**		
	comp=Z,0.4nm,0.8s,baz=163,slow=5.6,SNR=4.3										
ULM	**Lac du Bonnet**	**99.19**	**40**	P		**P**		**02 30 09.9**	**+1.8**		
	comp=Z,1.7nm,0.9s,mb4.6,baz=240,slow=4.1,SNR=3.0										
GTA	**Gaotai**	**100.05**	**308**	P		Pdif		02 30 14.5	+2.6		
GTA				AP				02 30 23.9			
GTA				XP				02 30 27.8			
GTA				AMB		AMB					
	comp=Z,3.0nm,1.4s										
WMQ	**Urumqi**	**109.96**	**310**	PDIF		Pdif		02 30 55.3	-0.7		
WMQ				PP		PP		02 35 33.8	+3.0		
WMQ				PP		PP					
	comp=Z,105nm,5.3s										
MKAR	**Makanchi Array**	**114.16**	**313**	PKP		PKiKP		02 35 04.9	-0.9		
	comp=Z,0.2nm,0.5s,baz=81,slow=2.7,SNR=3.8										
KURK	**Kurchatov**	**116.84**	**317**	*e*PKIKP		PKPdf		02 35 10.6	-0.4		
BRVK	**Borovoye**	**121.89**	**320**	*e*PKIKP		PKPdf		02 35 19.9	-0.8		
ZRNK	**Zerenda**	**122.67**	**320**	*e*PKIKP		PKPdf		02 35 20.6	-1.6		
ARU	**Arti**	**127.75**	**326**	*i* PKIKP		PKPdf		02 35 30.5	-1.4		
ARU				*e*				02 42 32.4			
ARCES	**ARCESS Array B**	**130.32**	**351**	PKP		PKPdf		02 35 36.1	-0.7		
	comp=Z,2.4nm,0.6s,baz=80,slow=1.4,SNR=15										
FINES	**FINESS Array B**	**137.47**	**346**	PKhKP				02 35 43.8			
	comp=Z,0.9nm,0.8s,baz=22,slow=1.8,SNR=3.9										
FINES				PKP		PKPdf		02 35 50.0	-0.2		
	comp=Z,1.1nm,0.6s,baz=29,slow=4.4,SNR=5.8										
OBN	**Obninsk**	**139.03**	**333**	*i* PKIKP		PKPdf		02 35 55.5	+2.4		
OBN				*e*				02 38 47.6			
OBN				pmax		pmax					
	comp=Z,38nm,1.8s										
NB2	**NORSAR Subarra**	**140.15**	**356**	PKPa				02 35 47.8			
	comp=Z,5.2nm,1.4s,baz=16,slow=3.2										
NOA	**NORSAR Array B**	**140.15**	**356**	PKhKP				02 35 47.6			
	comp=Z,1.1nm,0.9s,baz=15,slow=4.3,SNR=3.9										
NOA				PKP		PKPdf		02 35 53.5	-1.6		
	comp=Z,1.2nm,0.8s,baz=16,slow=4.6,SNR=4.6										
NOA	**NORSAR Array B**	**140.15**	**356**	PKP				02 35 47.6			
NOA				PKP		PKPdf		02 35 53.5	-1.7		
KMBO	**Kilima Mbogo**	**141.75**	**238**	PKP		PKPdf		02 35 59.1	+1.1		
	comp=Z,1.3nm,0.4s,baz=138,slow=2.6,SNR=3.3										
KIV	**Kislovodsk**	**141.88**	**315**	*e*PKIKP		PKPdf		02 36 01.4	+3.2		
KIV				pmax		pmax					
	comp=Z,8.0nm,1.0s										
BHD	**Baghdad**	**143.66**	**297**	*ex*		x		02 35 56.5			
SOC	**Sochi**	**143.98**	**316**	*i* PKHKP				02 35 54.1			
MSL	**Mosul**	**144.10**	**303**	*ex*		x		02 36 02.0			
ERZM	**Erzurum**	**144.33**	**309**	*i* P		PKPdf		02 36 02.2	-0.3		
SUW	**Suwalki**	**144.73**	**342**	*e*PKP		PKPdf		02 36 01.5	-1.8		
BNGL	**BINGOL**	**144.81**	**308**	*i* P		PKPdf		02 36 03.8	+0.4		
MUD	**Monsted U'grnd**	**144.85**	**356**	⇑*i*P		PKPdf		02 36 01.7	-1.8		
	comp=Z,67nm,1.1s										
MUD	**Monsted U'grnd**	**144.85**	**356**	⇑*i*PKIKP		PKPdf		02 36 01.7	-1.8		
MUD				pmax		pmax					
	comp=Z,67nm,1.1s										
MACK	**Trabzon**	**145.07**	**312**	*i* P		PKPbc		02 36 03.3	0.0		
AKASG	**Malin Array Be**	**145.29**	**333**	PKPbc		PKPbc		02 36 03.0	-1.1		
	comp=Z,7.4nm,0.7s,baz=36,slow=3.1,SNR=79										
AKASG	**Malin Array Be**	**145.29**	**333**	PKPbc		PKPbc		02 36 03.0	-1.1		
COP	**Copenhagen**	**145.33**	**353**	⇑*i*P		PKPbc		02 36 03.1	-1.1		
	comp=Z,35nm,1.2s										
COP	**Copenhagen**	**145.33**	**353**	⇑*e*PKP2		PKPab		02 36 03.1	-1.2		
COP				pmax		pmax					
	comp=Z,35nm,1.2s										
BSD	**Bornholm Skovb**	**145.56**	**350**	⇑*i*P		PKPdf		02 36 03.5	-1.2		
	comp=Z,72nm,0.9s										
BSD	**Bornholm Skovb**	**145.56**	**350**	⇑*i*PKP2		PKPab		02 36 03.5	-1.6		
BSD				pmax		pmax					
	comp=Z,72nm,0.9s										
MARD	**Mardin**	**145.61**	**305**	*i* P		PKPdf		02 36 05.6	+0.8		
DESE	**Dese**	**145.75**	**258**	*e*P		PKPdf		02 36 06.4	+1.4		
GRSN	**GIRESUNGRSN**	**146.12**	**313**	*i* P		PKPdf		02 35 58.3	-7.3		
ELZG	**Elazig**	**146.56**	**308**	*i* P		PKPab		02 36 09.4	+0.5		
DCN	**Croghan**	**146.60**	**14**	*e*P		PKPdf		02 36 05.1	-1.4		
SIM	**Simferopol'**	**146.72**	**322**	*c i* PKP2		PKPab		02 36 09.1	-0.5		
SIM				pmax		pmax					
	comp=Z,80nm,17.9s										
DLF	**Lyons Farm**	**146.81**	**13**	*e*P		PKPdf		02 36 05.7	-1.1		
GKP	**Gorka Klasztor**	**146.89**	**347**	*e*PKP		PKPdf		02 36 08.1	+1.2		
MALT	**Malatya**	**147.03**	**308**	⇓*i*P		PKPbc		02 36 10.6	+1.3		
MALT	**Malatya**	**147.03**	**308**	*e*PKPbc		PKPbc		02 36 10.5	+1.2		
BSEG	**Bad Segeberg**	**147.27**	**355**	*e*PKPbc		PKPbc		02 36 08.6	-1.3		
ATAB	**Bozova**	**147.43**	**307**	*i* P		PKPdf		02 36 10.2	+2.4		
SVST	**Sivas**	**147.51**	**312**	*i* P		PKPbc		02 36 11.4	+0.8		
GZT	**Gaziantep**	**148.01**	**307**	*i* P		PKPbc		02 36 12.3	+0.4		
LVV	**L'vov**	**148.03**	**337**	*i* PKP2		PKPbc		02 36 11.1	-0.9		
BOYT	**Boyabat**	**148.14**	**316**	*i* P		PKPbc		02 36 12.7	+0.4		
KIS	**Kishinev**	**148.20**	**329**	*e*PKIKP		PKPdf		02 36 11.0	+1.9		
KIS				*e*				02 39 44.0			
KIS				pmax		pmax					
	comp=Z,600nm,8.0s										
KIS				pmax		pmax					
	comp=Z,700nm,14.0s										
RUE	**Ruedersdorf**	**148.28**	**350**	*e*PKPbc		PKPbc		02 36 11.3	-1.3		
WIT	**Witteveen**	**148.59**	**359**	*e*P		PKPab		02 36 17.4	+0.4		
	comp=Z,277nm,1.3s										
CTKT	**Corum**	**148.60**	**314**	*i* P		PKPbc		02 36 14.0	+0.5		
IAS	**Iasi**	**148.64**	**330**	PKP2		PKPbc		02 36 13.9	+0.3		
KWP	**Kalwaria**	**148.66**	**338**	*e*PKP		PKPbc		02 36 13.4	-0.2		
IBBN	**Ibbenburen**	**149.06**	**357**	*e*PKPbc		PKPbc		02 36 13.9	-0.7		
BALT	**Daday**	**149.06**	**317**	*i* P		PKPbc		02 36 15.8	+1.2		
OJC	**Ojcow**	**149.06**	**342**	*e*PKiKP		PKiKP		02 36 14.2	-1.7		
OJC	**Ojcow**	**149.06**	**342**	*i* PKP2		PKPbc		02 36 14.2	-0.4		
COBT	**Iskenderun**	**149.29**	**306**	*i* P		PKPbc		02 36 15.7	+0.5		
STHS	**Stebnicka Huta**	**149.33**	**340**	*e*PKP		PKPbc		02 36 15.8	+0.5		
STHS				*e*				02 36 20.3			
CLZ	**Clausthal**	**149.34**	**354**	*e*PKPbc		PKPbc		02 36 14.4	-0.9		
BURAR	**Bucovina Array**	**149.35**	**333**	⇑*i*P		PKPbc		02 36 15.1	-0.3		
BURAR	**Bucovina Array**	**149.35**	**333**	⇑P		PKPbc		02 36 15.1	-0.3		
CDAG	**Cicekdag**	**149.36**	**313**	*i* P		PKPbc		02 36 14.4	-1.0		
KSP	**Ksiaz**	**149.38**	**347**	*e*PKP		PKPbc		02 36 15.5	+0.1		
KSP	**Ksiaz**	**149.38**	**347**	*i* PKP2		PKPbc		02 36 15.5	+0.1		
KSP	**Ksiaz**	**149.38**	**347**	*e*PKPdf		PKPdf		02 36 11.7	+0.7		
KSP				*e*PKPdf		PKPdf		02 36 15.5	+4.5		
KSP				*e*PKPab		PKPab		02 36 19.8	-0.4		
KOLS	**Kolonicke sedl**	**149.40**	**338**	*e*PKP		PKPbc		02 36 18.0	+2.5		
KOLS				*e*				02 36 24.2			
AVNT	**Avonos**	**149.41**	**311**	*i* P		PKPdf		02 36 12.5	+1.4		
WTSB	**Winterswijk**	**149.43**	**358**	⇑*i*P		PKPdf		02 36 14.8	+3.7		
	comp=Z,54nm,1.3s										
WTSB				*ex*		x		02 36 19.5			
	comp=Z,68nm,1.5s										
CLL	**Collm**	**149.54**	**351**	*e*PKPbc		PKPbc		02 36 14.6	-1.2		
CLL	**Collm**	**149.54**	**351**	*e*PKPdf		PKPdf		02 36 12.0	+0.7		
CLL				⇑*i*PKPbc		PKPbc		02 36 15.3	-0.5		
	comp=Z,39nm,1.1s										
CLL				*i* PKPab		PKPab		02 36 20.4	-0.4		
	comp=Z,42nm,1.1s										
CLL				*es*PKPbc				02 36 30.0			
CLL				*i* sPKPab				02 36 36.3			
CLL				*e*SS		SS		02 59 12.0	+12		
CLL	**Collm**	**149.54**	**351**	⇑*e*PKHKP				02 36 12.0			
CLL				*i*				02 36 20.4			
CLL				pmax		pmax					
	comp=Z,63nm,1.1s										
CLL				pmax		pmax					
	comp=Z,39nm,1.1s										
CLL	**Collm**	**149.54**	**351**	*e*PKP		PKPdf		02 36 12.0	+0.7		
CLL				⇑*i*PKP		PKPdf		02 36 15.3	+4.0		
CLL				*i* PKP		PKPdf		02 36 20.4	+9.1		
CLL				*ep*PKP		pPKPdf		02 36 30.0	+7.8		
ELDT	**Eldivan**	**149.57**	**315**	*i* P		PKPbc		02 36 16.8	+0.9		
NIE	**Niedzica**	**149.62**	**341**	*e*PKP		PKPbc		02 36 16.2	+0.2		
CRVS	**Cervenica-Dubn**	**149.70**	**339**	*e*		PKPab		02 36 24.8	+3.3		
UPC	**Upice**	**149.75**	**347**	⇑*e*PKPB		PKPbc		02 36 17.6	+1.2		
UPC				*e*PKPAB		PKPab		02 36 22.2	+0.5		
BRG	**Berggiesshubel**	**149.81**	**349**	*e*PKPbc		PKPbc		02 36 15.6	-0.9		
BRG	**Berggiesshubel**	**149.81**	**349**	*e*PKP		PKPdf		02 36 11.3	-0.4		
	comp=Z,6.1nm,1.4s										
BRG				*i*				02 36 16.0			
	comp=Z,24nm,1.4s										
BRG				*i*				02 36 19.5			
	comp=Z,64nm,1.6s										
BRG				*e*				02 38 21.6			
	comp=Z,2.4nm,1.1s										
BRG	**Berggiesshubel**	**149.81**	**349**	*e*PKHKP				02 36 11.3			
BRG				*i*				02 36 19.5			
BRG				pmax		pmax					
	comp=Z,6.0nm,1.4s										
BRG				pmax		pmax					
	comp=Z,24nm,1.4s										
BRG				pmax		pmax					
	comp=Z,64nm,1.7s										
BRG				pmax		pmax					
	comp=Z,2.0nm,1.1s										
CFR	**Carcaliu**	**149.82**	**327**	⇑*i*P		PKPbc		02 36 17.0	+0.5		
CFR	**Carcaliu**	**149.82**	**327**	⇑P		PKPbc		02 36 17.0	+0.4		
DPC	**Dobruska-Polom**	**149.83**	**346**	⇑*e*PKPB		PKPbc		02 36 17.4	+0.9		
DPC				*e*PKPAB		PKPab		02 36 22.6	+0.5		
OKC	**Ostrava-Krasne**	**149.86**	**344**	⇑*e*PKPB		PKPbc		02 36 17.8	+1.2		
BUG	**Bochum--Univer**	**149.94**	**358**	*e*PKPbc		PKPbc		02 36 15.5	-1.3		
VRI	**Vrincioaia**	**150.01**	**330**	⇑*i*P		PKPbc		02 36 18.2	+1.2		
VRI	**Vrincioaia**	**150.01**	**330**	⇑P		PKPbc		02 36 18.2	+1.2		
PLOR	**Plostina**	**150.06**	**330**	⇓*i*P		PKPbc		02 36 16.9	-0.2		
MORC	**Moravsky Berou**	**150.08**	**344**	⇓*i*P		PKPbc		02 36 15.5	-1.6		
MORC	**Moravsky Berou**	**150.08**	**344**	*e*PKPbc		PKPbc		02 36 16.6	-0.5		
TIRR	**Tirgusor**	**150.18**	**326**	⇓*i*P		PKPdf		02 36 13.6	+1.3		
TIRR	**Tirgusor**	**150.18**	**326**	⇓P		PKPdf		02 36 13.6	+1.4		
TIRR				*e*PKPbc		PKPbc		02 36 17.9	+0.5		
HARR	**Harsova**	**150.26**	**327**	⇓*i*P		PKPbc		02 36 22.1	+4.5		
HARR	**Harsova**	**150.26**	**327**	⇓P		PKPbc		02 36 22.1	+4.5		
ANTO	**Ankara**	**150.31**	**315**	⇑*i*P		PKPbc		02 36 17.8	+0.1		
ANTO	**Ankara**	**150.31**	**315**	*e*PKPbc		PKPbc		02 36 17.3	-0.4		
MOX	**Moxa**	**150.38**	**352**	*e*PKPbc		PKPbc		02 36 16.1	-1.2		
MOX	**Moxa**	**150.38**	**352**	*e*PKP		PKPdf		02 36 15.1	+2.5		
	comp=Z,55nm,1.6s										
MOX	**Moxa**	**150.38**	**352**	*e*PKIKP		PKPdf		02 36 15.1	+2.5		
MOX				pmax		pmax					
	comp=Z,55nm,1.6s										
KECS	**Kecovo**	**150.39**	**340**	*e*PKP		PKPbc		02 36 16.8	-1.1		
SGKT	**Sivrigoynuk**	**150.42**	**316**	*i* P		PKPbc		02 36 15.7	-2.3		
WERD	**Werda**	**150.48**	**351**	*e*PKPbc		PKPbc		02 36 17.1	-1.0		
PRA	**Prague**	**150.49**	**348**	PKPAB		PKPbc		02 36 21.0	+2.9		
PRU	**Pruhonice**	**150.55**	**348**	⇑*e*PKPB		PKPbc		02 36 18.5	+0.2		
PRU				*e*PKPAB		PKPab		02 36 21.9	-3.1		
UCC	**Uccle**	**150.61**	**1**	PKPbc		PKPbc		02 36 18.3	-0.1		
UCC				APKPbc				02 36 28.2			
BHL	**Bhannes**	**150.62**	**302**	*e*P		PKPbc		02 36 17.1	-1.3		
HGN	**Heimansgroeve**	**150.65**	**359**	*e*P		PKPbc		02 36 18.2	-0.3		
	comp=Z,16nm,1.3s										
MLR	**Muntele Rosu**	**150.66**	**330**	⇓*i*P		PKPbc		02 36 17.8	-0.7		
MLR	**Muntele Rosu**	**150.66**	**330**	⇓P		PKPbc		02 36 17.8	-0.8		
NKC	**Novy Kostel**	**150.67**	**351**	⇑*e*PKPB		PKPbc		02 36 18.5	0.0		
VRAC	**Vranov**	**150.74**	**345**	⇑*i*P		PKPbc		02 36 19.8	+1.1		
VRAC	**Vranov**	**150.74**	**345**	PKIKP		PKPbc		02 36 19.0	+0.3		
VRAC	**Vranov**	**150.74**	**345**	⇑P		PKPbc		02 36 19.8	+1.1		
MEM	**Membach**	**150.81**	**359**	PKPbc		PKPbc		02 36 17.0	-1.9		
MEM				PKiKP		PKiKP		02 36 21.5	+2.0		
VYHS	**Vyhne**	**150.89**	**342**	*e*PKP		PKPdf		02 36 13.0	-0.4		
VYHS				*e*				02 36 18.4			
SNF	**Seneffe**	**150.89**	**2**	PKiKP		PKPbc		02 36 24.2	+5.1		
MANZ	**Manzenberg**	**150.96**	**351**	*e*PKPbc		PKPbc		02 36 18.5	-0.7		
SNX	**Sinaia**	**150.96**	**330**	⇓*i*P		PKPbc		02 36 20.0	+2.8		
SNX	**Sinaia**	**150.96**	**330**	⇓P		PKPbc		02 36 22.0	+2.8		
TREC	**Trest**	**151.01**	**346**	⇑*e*PKPB		PKPbc		02 36 18.9	-0.5		
TREC				*e*PKPAB		PKPab		02 36 24.1	-2.8		
HENT	**Hendek**	**151.02**	**318**	*i* P		PKPbc		02 36 18.3	-1.1		
DRGR		**151.03**	**335**	PKIKP		PKPbc		02 36 19.5	+0.1		
PSZ	**Piszkesteto**	**151.07**	**340**	⇑*es*PKP/p		PKPbc		02 36 20.8	+1.3		
PSZ	**Piszkesteto**	**151.07**	**340**	PKIKP		PKPbc		02 36 19.6	+0.1		
TNS	**Taunus Mts**	**151.10**	**356**	*e*PKPbc		PKPbc		02 36 18.4	-1.2		
VOIR		**151.11**	**331**	⇑*i*P		PKPbc		02 36 19.5	-0.1		
VOIR		**151.11**	**331**	⇑P		PKPbc		02 36 19.5	-0.1		
ROTZ	**Rotzenmuhle**	**151.16**	**351**	*e*PKPbc		PKPbc		02 36 18.9	-0.8		
GIVF	**Givet**	**151.31**	**1**	*e*PKIKP		PKPdf		02 36 12.6	-1.4		
DOU	**Dourbes**	**151.31**	**1**	PKPbc		PKPbc		02 36 20.0	-0.1		
DOU				PKiKP		PKiKP		02 36 23.0	+2.4		
DOU				APKP				02 36 25.9			
DOU				XPKP				02 36 29.5			
DOU				XPKPab				02 36 40.5			
GRA1	**Grafenberg Arr**	**151.36**	**352**	*e*PKPbc		PKPbc		02 36 18.2	-2.0		
GRA1				*ep*PKPbc		pPKPbc		02 36 24.2	-6.9		
GRF	**Grafenberg Arr**	**151.36**	**352**	*e*PKPbc		PKPbc		02 36 18.2	-2.0		
GRF				*ep*PKPbc		pPKPbc		02 36 24.2	-6.9		
KHC	**Kasperske Hory**	**151.55**	**349**	*e*PKPDF		PKPdf		02 36 15.0	+0.6		
KHC				⇑*e*PKPB				02 36 20.1			
KHC	**Kasperske Hory**	**151.55**	**349**	*e*PKIKP		PKPbc		02 36 20.1	-0.5		
ZST	**Bratislava**	**151.65**	**344**	*e*PKP		PKPbc		02 36 20.2	-0.6		
WET	**Wettzell**	**151.66**	**350**	*e*PKPbc		PKPbc		02 36 19.2	-1.7		
ERMK	**Ermenek**	**151.72**	**309**	*i* P		PKPbc		02 36 21.3	+0.3		
WLF	**Walferdange**	**151.75**	**359**	*e*PKPbc		PKPbc		02 36 20.3	-0.8		
WLF	**Walferdange**	**151.75**	**359**	PKPbc		PKPbc		02 36 21.7	+0.6		
WLF				APKP				02 36 24.8			
WLF				XPKiKP				02 36 35.3			
WLF	**Walferdange**	**151.75**	**359**	*e*PKPbc		PKPbc		02 36 20.7	-0.3		
GEC2	**GERESS Array S**	**151.80**	**348**	*e*PKPbc		PKPbc		02 36 20.2	-1.0		
GERES	**GERESS Array B**	**151.80**	**348**	PKP		PKPdf		02 36 13.6	-1.1		
	comp=Z,1.0nm,0.9s,baz=37,slow=0.7,SNR=7.3										
GERES				PKPbc		PKPbc		02 36 20.9	-0.3		
	comp=Z,6.4nm,1.1s,baz=12,slow=1.4,SNR=19										
BORA	**Eskisehir**	**151.83**	**317**	*i* P		PKPbc		02 36 19.5	-1.7		
ROSF	**Rostrenen**	**152.18**	**13**	*e*PKIKP		PKPdf		02 36 12.9	-2.4		
	comp=Z,88nm,1.5s										
EIL	**Elat**	**152.21**	**293**	*e*PKPbc		PKPbc		02 36 22.7	+0.6		
FLN	**La Foliniere**	**152.24**	**9**	*e*PKIKP		PKPdf		02 36 14.0	-1.4		
	comp=Z,96nm,1.3s										
SOP	**Sopron**	**152.26**	**344**	*es*PKP/p		PKPdf		02 36 17.3	+1.8		
LANF	**Langenberg**	**152.38**	**357**	PKP		PKPbc		02 36 20.4	-2.1		
SGMF	**Saint Gilles**	**152.40**	**12**	*e*PKIKP		PKPdf		02 36 13.7	-2.0		
	comp=Z,23nm,1.2s										
BZS	**Buzias**	**152.43**	**335**	⇓*i*P		PKPdf		02 36 18.3	+2.6		
BZS	**Buzias**	**152.43**	**335**	⇓P		PKPdf		02 36 18.2	+2.5		
LDF	**La Druitiere**	**152.46**	**8**	*e*PKIKP		PKPd

comp=Z,0.5nm,0.8s,mb3.5,baz=57,slow=8.0,SNR=3.7
MKAR Makanchi Array 47.86 293 P **P** **02 39 10.3 -1.5**
comp=Z,0.7nm,0.5s,mb3.9,baz=44,slow=7.2,SNR=6.0
ZRNK Zerenda 48.83 307 *e*P **P** **02 39 18.2 -1.1**
ZRNK pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
ZRNK Zerenda 48.83 307 *e*P **P** **02 39 18.2 -1.1**
comp=Z,2.3nm,0.7s,mb4.3
MOOW Moose Ponds 50.13 70 *e*P **P** **02 39 30.8 +1.6**
comp=Z,0.4nm,0.5s,mb3.7
PDAR Pinedale Array 51.44 70 P **P** **02 39 41.2 +2.1**
comp=Z,0.2nm,0.4s,mb3.4,baz=340,slow=5.0,SNR=2.8
NOA NORSAR Array B 56.96 346 P **P** **02 40 17.3 -2.0**
comp=Z,0.9nm,0.7s,mb3.9,baz=14,slow=7.2,SNR=3.0

KRSC 10 02:38:03.5±0.9, 6078N×16608E, h10km±2km, ML3.9, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TILR	**Tilichiki**	**0.35**	**182**	*i* P	Pg	02 38 10.9	+0.5
TILR				*i* S	Sg	02 38 17.0	+1.9
TILR				Smax			
	10μm,1.0s						
KAMR	**Kamenskoye**	**1.68**	**2**	*i* P	Pn	02 38 33.6	+0.6
KAMR				*i* S	Sn	02 38 55.3	+0.7
KAMR				Smax			
	830nm,1.1s						
OSSR	**Ossora**	**2.16**	**226**	*i* P	Pn	02 38 40.4	+0.9
OSSR				*e*S	Sn	02 39 07.0	+0.7
EVNR	**Evensk**	**3.48**	**292**	*i* P	Pn	02 38 58.3	+0.7
SMKR	**Semkarok**	**4.85**	**212**	*e*P	Pn	02 39 18.8	+2.3
SRKR	**Sorokina**	**4.87**	**214**	*e*P	Pn	02 39 19.5	+2.8
KBTR	**Krutoberegovo**	**4.89**	**202**	*e*P	Pn	02 39 19.5	+2.4
ZLN	**Zelenaya**	**5.52**	**212**	*e*P	Pn	02 39 29.3	+3.5
SEY	**Seymchan**	**6.83**	**294**	*i* P	Pn	02 39 45.3	+1.6
BILL	**Bilibino**	**7.29**	**1**	*i* P	Pn	02 39 53.1	+3.1
MA2	**Magadan**	**7.73**	**268**	*e*P	Pn	02 39 58.8	+2.7

BJI ***10*** *02:42:47.4, 5278N×169.48W, h6km, mB6.4, mb6.0, Ms6.6, Msz6.4*
IDC ***10*** *02:42:50.8±1.6, 5255N×169.19W, h16km±9km, mb5.6/28, mb1 5.6/30, mb1mx5.6/31, mbtmp5.6/30, ML4.6/2, MS6.1/24, Ms1 6.1/24, ms1mx5.9/33, Error ellipse: s-maj=13.6km s-min=9.1km az=161.0*
NEIC ***10*** *02:42:51.0±0.1, 5252N×169.26W, h18km, mb6.1/243, ME6.1, MS6.2/125, MW6.3, ML5.6(AEIC), Error ellipse: s-maj=3.7km s-min=2.1km az=189.0, Moment Tensor Solution. s21 Moment tensor: Scale 10¹⁸Nm; Mrr 2.46; Mθθ -2.17; Mϕϕ -0.29; Mrθ 1.95; Mϕθ -0.83; Mϕr 0.50; Best double couple: M₀ 3.20000×10¹⁸ NP1:ϕ=73.00000°, δ65.00000°, λ93.00000°. NP2:ϕ=245.00000°, δ26.00000°, λ83.00000°. Principal axes: T 3.1800, Plg70.0000°, Azm350.0000°; N 0.0100, Plg3.0000°, Azm252.0000°; P -3.1900, Plg20.0000°, Azm161.0000°; Broadband fault plane solution: P waves. NP1:ϕ=240.00000°, δ20.00000°, λ90.00000°. NP2:ϕ=60.00000°, δ70.00000°, λ90.00000°. Principal axes: T Plg65.0000°, Azm330.0000°; N Plg0.0000°, Azm0.0000°; P Plg25.0000°, Azm150.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [V] at Nikolski. Also felt at Dutch Harbor and Unalaska.
MOS ***10*** *02:42:51.6±0.9, 5251N×169.28W, h33km, mb6.3/144, MS6.3/86 Error ellipse: s-maj=6.7km s-min=3.4km az=92.7*
HRVD ***10*** *02:42:51.0±0.1, 5221N×169.19W, h30km, MW6.4/116, Centroid moment Tensor Solution. LP body waves: s116,c298;Mantle waves: s116,c505; Half duration: 3s9 Moment tensor: Scale 10¹⁸Nm; Mrr 3.78±.02; Mθθ -3.30±.02; Mϕϕ -0.47±.01; Mrθ 3.25±.04; Mϕθ -1.47±.01; Mϕr 1.26±.03; Best double couple: M₀ 5.19600×10¹⁸ NP1:ϕ=246.00000°, δ24.00000°, λ88.00000°. NP2: ϕ=68.00000°, δ66.00000°, λ91.00000°. Principal axes: T 5.1240, Plg69.0000°, Azm340.0000°; N 0.1470, Plg1.0000°, Azm248.0000°; P -5.2680, Plg21.0000°, Azm157.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
SZGRF ***10*** *02:42:52.4, 5253N×169.33W, h33km, mb6.2, MS6.1, Fox Islands, Aleutian Islands, United States*
ISCJB ***10*** *02:42:54.0±0.1, 5250N±003×169.19W±002, h53km, mb6.1/433, MS6.2/204, Error ellipse: s-maj=3.6km s-min=1.9km az=1.8*
CRAAG ***10*** *02:42:54.7, 5254N×169.19W, Mw6.4*
IGIL ***10*** *02:42:56.5, 5271N×169.24W, h56km, MS6.4*
BGS ***10*** *02:43:00.1±1.0, 5325N×168.68W, h55km, mb5.9*
ISC 10 02:42:55.7±0.1, 5260N±003×16922W±002, h55km, h55km±2.0km:pP-P, n1359, s0s94/1309, mb6.0/433, MS6.2/203, 330C-36D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKO	**Nikolski**	**0.43**	**30**	P	**Pn**	**02 43 03.2**	**-3.3**
NIKO				S	**Sn**	**02 43 12.7**	**-1.6**
OKCE	**Okmok Cone E**	**1.04**	**37**	P	**Pn**	**02 43 12.2**	**-1.9**
OKCD	**Okmok Cone D**	**1.06**	**38**	P	**Pn**	**02 43 12.6**	**-1.8**
OKCD				S	**Sn**	**02 43 28.9**	**+0.6**
UNV	**Unalaska Valle**	**2.05**	**52**	P	**Pn**	**02 43 25.4**	**-2.4**
UNV				S	**Sn**	**02 43 53.7**	**+1.5**
AKLV	**Akutan Long Va**	**2.50**	**50**	P	**Pn**	**02 43 33.1**	**-0.8**
AKUT	**Akutan**	**2.57**	**52**	P	**Pn**	**02 43 33.6**	**-1.3**
AKUT				S	**Sn**	**02 44 06.7**	**+1.7**
ATKA	**Atka Island**	**3.08**	**264**	P	**Pn**	**02 43 39.4**	**-2.4**
SDPT	**Sand Point**	**5.84**	**58**	P	**Pn**	**02 44 18.7**	**-1.0**
AMKA	**Amchitka**	**7.20**	**265**	P	**Pn**	**02 44 37.1**	**-1.2**
CHGN	**Chignik**	**7.30**	**55**	*e*P	**Pn**	**02 44 40.0**	**+0.2**
SMY	**Shemya**	**10.14**	**277**	*e*P	**Pn**	**02 45 18.2**	**-0.4**
SMY				pmax	pmax		
	comp=Z,1μm,1.1s						
SMY	**Shemya**	**10.14**	**277**	P	**Pn**	**02 45 20.0**	**+1.4**
FX1	**Attu Island--F**	**10.69**	**278**	Pn	**Pn**	**02 45 25.2**	**-0.9**
	comp=Z,10nm,0.3s,baz=225,slow=4.6,SNR=83						
FX1				Sn	**Sn**	**02 47 28.4**	**+4.2**
	comp=Z,13nm,0.3s,baz=182,slow=14,SNR=2.0						
FX1				LR	LR	02 49 20.2	
	comp=Z,6μm,19.6s,baz=16,slow=36						
FX1	**Attu Island--F**	**10.69**	**278**	P	**Pn**	**02 45 25.2**	**-0.9**
FX1						02 47 28.4	
FX1				pmax	pmax		
	comp=Z,11nm,0.3s						
FX1				smax			
	comp=N,13nm,0.3s						
FX1				MLR	MLR		
	comp=Z,6μm,19.6s						
FX1	**Attu Island--F**	**10.69**	**278**	*e*Pn	**Pn**	**02 45 25.6**	**-0.4**
KDAK	**Kodiak Island**	**10.82**	**55**	Pn	**Pn**	**02 45 26.0**	**-1.8**
	comp=Z,2μm,0.4s,SNR=31						
KDAK	**Kodiak Island**	**10.82**	**55**	Pn	**Pn**	**02 45 25.7**	**-2.1**
	comp=Z,16nm,0.3s,baz=254,slow=7.9,SNR=42						
KDAK	**Kodiak Island**	**10.82**	**55**	P	**Pn**	**02 45 25.4**	**-2.4**
SVW2	**Sparrevohn**	**11.30**	**36**	*e*P	**Pn**	**02 45 36.9**	**+2.5**
TTA	**Tatalina**	**12.49**	**29**	P	**Pn**	**02 45 41.3**	**-9.4**
TTA				pmax	pmax		
	comp=Z,640nm,1.3s						
TTA	**Tatalina**	**12.49**	**29**	*e*P	**Pn**	**02 45 52.2**	**+1.5**
SLKM	**Skilak Lake**	**13.09**	**45**	*e*Pn	**Pn**	**02 45 57.0**	**-1.9**
SLKM				*e*ScP	ScP	02 54 58.7	+2.7
PMR	**Palmer**	**14.09**	**42**	*e*Pn	**Pn**	**02 46 08.2**	**-4.2**
PMR				*e*S	**Sn**	**02 49 02.4**	**+15**
EYAK	**Cordova Ski Ar**	**15.11**	**49**	*e*Pn	**Pn**	**02 46 22.3**	**-3.5**
COLA	**College**	**16.44**	**33**	*e*P	**Pn**	**02 46 41.6**	**-1.1**
COLA				pmax	pmax		
	comp=Z,192nm,0.9s						
COLA	**College**	**16.44**	**33**	*e*Pn	**Pn**	**02 46 41.6**	**-1.1**
	comp=Z,192nm,0.9s						
ILAR	**Eielson Array**	**16.71**	**35**	Pn	**Pn**	**02 46 43.1**	**-2.9**
	comp=Z,1.6nm,0.3s,baz=230,slow=11,SNR=82						
ILAR				LR	LR	02 53 50.8	
	comp=Z,71μm,19.2s,baz=254,slow=39						
ILAR				ScP	ScP	02 55 05.7	+3.2
	comp=Z,0.1nm,0.3s,baz=286,slow=2.5,SNR=5.2						
MENT	**Mentasta**	**16.96**	**42**	*e*P	**Pn**	**02 46 47.5**	**-1.7**
DAWY	**Dawson**	**19.19**	**42**	*e*P	**Pn**	**02 47 13.3**	**-3.0**
PET	**Petropavlovsk**	**19.34**	**284**	*c* *i*P	**Pn**	**02 47 15.6**	**-2.5**
PET				*i* S	**S**	**02 50 52.5**	**0.0**
PET				pmax	pmax		
PET	comp=Z,475nm,1.2s			pmax	pmax		
PET	comp=Z,29μm,17.8s			pmax	pmax		
PET	comp=Z,28μm,12.8s			pmax	pmax		
PET	comp=Z,371nm,0.9s			smax			
PET	comp=N,31μm,12.5s			smax			
PET	comp=E,40μm,34.0s			smax			
PET	comp=N,127μm,34.9s			MLR	MLR		
PET	comp=Z,81μm,20.0s			MLR	MLR		
	comp=Z,63μm,20.0s						
PET	**Petropavlovsk**	**19.34**	**284**	*e*P	**Pn**	**02 47 16.4**	**-1.7**
	comp=Z,872nm,1.3s						
BILL	**Bilibino**	**19.44**	**332**	*i*P	**Pn**	**02 47 19.2**	**0.0**
BILL				*i* S	**S**	**02 50 54.8**	**+0.4**
BILL				pmax	pmax		
	comp=Z,295μm,1.0s						
BILL				MLR	MLR		
	comp=Z,66μm,13.0s						
BILL	**Bilibino**	**19.44**	**332**	*e*P	**Pn**	**02 47 19.2**	**0.0**
	comp=Z,606nm,1.1s						
SIT	**Sitka**	**19.89**	**64**	P	**Pn**	**02 47 23.6**	**-1.0**
SIT				pmax	pmax		
	comp=Z,480nm,1.1s						
SIT	**Sitka**	**19.89**	**64**	*e*P	**Pn**	**02 47 23.3**	**-1.3**
	comp=Z,481nm,1.1s						
SKAG	**Skagway**	**19.96**	**57**	*e*P	**Pn**	**02 47 23.8**	**-1.7**
	comp=Z,906nm,1.1s						
SKAG				LR	LR		
	comp=Z,62μm,20.0s						
CRAG	**Craig**	**21.24**	**68**	*e*P	**P**	**02 47 38.4**	**+1.2**
SKR	**Severo-Kuril's**	**21.48**	**279**	*e*P	**P**	**02 47 33.0**	**-6.7**
SKR				*e*		02 48 05.0	
SKR				*e*S	**S**	**02 51 34.0**	**-0.8**
SKR				pmax	pmax		
	comp=N,5μm,14.0s						
SKR				pmax	pmax		
	comp=Z,14nm,14.0s						
SKR				smax			
	comp=N,12nm,16.0s						
SKR				MLR	MLR		
	comp=Z,47nm,18.0s,MS5.9						
MA2	**Magadan**	**23.09**	**303**	*c* *i*P	**P**	**02 47 56.1**	**-0.7**
MA2				*e*		02 48 09.8	
MA2				*e*S	**S**	**02 52 01.6**	**-2.0**
MA2				pmax	pmax		
	comp=E,300nm,1.1s						
MA2				pmax	pmax		
	comp=Z,500nm,1.1s,mb5.9						
MA2				MLR	MLR		
	comp=Z,79μm,19.2s,MS6.2						
MA2	**Magadan**	**23.09**	**303**	*e*P	**P**	**02 47 56.6**	**-0.2**
	comp=Z,309nm,0.9s,mb5.7						
MA2				*e*PcP	PcP	02 51 45.2	+1.1
MA2				LR	LR		
	comp=Z,61μm,21.0s,MS6.0						
INK	**Inuvik**	**23.10**	**34**	P	**P**	**02 47 54.5**	**-2.4**
	comp=Z,71nm,0.9s,mb5.1,baz=230,slow=11,SNR=108						
INK				PcP	PcP	02 51 46.1	+2.0
	comp=Z,40nm,0.8s,baz=209,slow=3.6,SNR=3.4						
INK				ScP	ScP	02 55 20.8	+3.4
	comp=Z,9.5nm,0.9s,baz=60,slow=32,SNR=3.5						
INK				LR	LR	02 58 04.3	
	comp=Z,91μm,18.7s,MS6.2,baz=241,slow=40						
INK	**Inuvik**	**23.10**	**34**	P	**P**	**02 47 54.5**	**-2.4**
INK						02 51 46.1	
INK				pmax	pmax		
	comp=Z,71nm,0.9s						
INK				pmax	pmax		
	comp=Z,41nm,0.8s						
INK				pmax	pmax		
	comp=N,10.0nm,0.9s						
INK				MLR	MLR		
	comp=Z,91μm,18.7s						
INK	**Inuvik**	**23.10**	**34**	*e*P	**P**	**02 47 54.6**	**-2.3**
	comp=Z,0.9nm,1.2s						
INK				*e*PcP	PcP	02 51 45.8	+1.7
INK				*e*ScP	ScP	02 55 17.2	-0.2
BBB	**Bella Bella**	**24.85**	**74**	P	**P**	**02 48 13.5**	**+0.5**
	comp=Z,42nm,1.0s,baz=271,slow=11,SNR=9.4						
BBB				PP		02 48 50.4	
	comp=Z,76nm,1.1s,baz=321,slow=13,SNR=4.9						
BBB				LR	LR	02 56 07.5	
	comp=Z,28μm,20.8s,MS5.8,baz=298,slow=32						
BBB	**Bella Bella**	**24.85**	**74**	P	**P**	**02 48 13.5**	**+0.5**
BBB				PP		02 48 50.4	
BBB				LR	LR	02 56 07.5	
MIDW	**Midway**	**25.11**	**197**	PFAKE		02 48 30.0	+15
MIDW				LR	LR		
	comp=Z,54μm,21.0s,MS6.0						
KUR	**Kuril'sk**	**28.79**	**273**	*i*P	**P**	**02 48 45.0**	**-3.4**
KUR				pmax	pmax		
	comp=Z,280nm,1.0s,mb6.0						
KUR				pmax	pmax		
	comp=N,5μm,6.0s						
KUR				pmax	pmax		
	comp=E,6μm,6.0s						
KUR				pmax	pmax		
	comp=Z,8μm,6.0s						
KUR				MLR	MLR		
	comp=N,28μm,17.0s,MS6.0						
KUR				MLR	MLR		
	comp=E,11μm,17.0s,MS6.0						
KUR				MLR	MLR		
	comp=Z,36μm,17.0s,MS6.0						
OBC	**Olympics--Boni**	**28.81**	**81**	P	**P**	**02 48 50.8**	**+2.2**
OOW	**Octopus West**	**28.88**	**81**	P	**P**	**02 48 51.7**	**+2.6**
PGC	**Sidney**	**28.92**	**79**	*e*P	**P**	**02 48 49.5**	**0.0**
	comp=Z,331nm,1.6s,mb5.8						
PGC				*e*ScP	ScP	02 55 33.1	-1.1
YKW3	**Yellowknife Ar**	**30.01**	**49**	*e*P	**P**	**02 48 58.4**	**-0.8**
YKA	**Yellowknife Ar**	**30.02**	**49**	P	**P**	**02 48 58.7**	**-0.6**
	comp=Z,14nm,0.5s,mb5.0,baz=275,slow=9.5,SNR=212						
YKA				PcP	PcP	02 51 60.0	-0.3
	comp=Z,14nm,0.8s,baz=271,slow=1.8,SNR=4.6						
YKA				ScP	ScP	02 55 42.6	+4.8
	comp=Z,7.1nm,1.0s,baz=282,slow=3.3,SNR=5.6						
YKA				PKPPKP		03 22 47.1	
	comp=Z,1.0nm,1.0s,baz=160,slow=2.3,SNR=4.3						
YKA	**Yellowknife Ar**	**30.02**	**49**	P	**P**	**02 48 58.7**	**-0.6**
YKA						02 52 00.0	
YKA	**Yellowknife Ar**	**30.02**	**49**	P	**P**	**02 48 58.7**	**-0.6**
YKA				PcP	PcP	02 51 60.0	-0.3
YKA				ScP	ScP	02 55 42.6	+4.9
YUK	**Yuzh-Kuril'sk**	**30.64**	**272**	*e*P	**P**	**02 49 03.0**	**-1.8**
YUK				*i*	pP	02 49 14.0	-4.6
YUK				*e*PPP		02 50 19.0	
YUK				*e*		02 51 56.0	
YUK				*e*S	**S**	**02 54 03.0**	**-0.2**
YUK				*e*SS	SS	02 55 52.0	-24
YUK				pmax	pmax		
	comp=N,2μm,4.0s						
YUK				pmax	pmax		
	comp=E,5μm,4.0s						
YUK				pmax	pmax		
	comp=Z,7μm,4.0s						
YUK				smax			
	comp=N,5μm,11.0s						
YUK				smax			
	comp=E,8μm,11.0s						
YUK				MLR	MLR		
	comp=N,18μm,18.0s,MS6.0						
YUK				MLR	MLR		
	comp=E,24μm,18.0s,MS6.0						
YUK				MLR	MLR		
	comp=Z,38μm,18.0s,MS6.1						
COR	**Corvallis**	**30.95**	**86**	P	**P**	**02 49 08.7**	**+1.2**
COR				pmax	pmax		
	comp=Z,230nm,1.0s,mb6.0						
COR				MLR	MLR		
	comp=Z,43μm,21.0s,MS6.1						
COR	**Corvallis**	**30.95**	**86**	P	**P**	**02 49 08.7**	**+1.2**
	comp=Z,230nm,1.0s,mb6.0						
COR				LR	LR		
	comp=Z,43μm,21.0s,MS6.1						
YSS	**Yuzh-Sakhalins**	**31.05**	**279**	*j* *e*P	**P**	**02 49 07.0**	**-1.4**
YSS				*e**SP	sP	02 49 23.4	-5.2
YSS				*e*PPP		02 50 26.0	
YSS				*e*		02 52 02.7	
YSS				*e*S	**S**	**02 54 09.0**	**-0.6**
YSS				pmax	pmax		
YSS	comp=N,50nm,1.2s			pmax	pmax		
YSS	comp=E,130nm,1.2s			pmax	pmax		
YSS	comp=Z,180nm,1.2s,mb5.8			pmax	pmax		
YSS	comp=Z,4μm,15.0s			pmax	pmax		
YSS	comp=N,2μm,18.0s			pmax	pmax		
YSS	comp=E,3μm,19.0s			MLR	MLR		
YSS	comp=Z,26μm,18.0s,MS5.9			MLR	MLR		
YSS	comp=N,13μm,17.0s,MS6.0			MLR	MLR		
	comp=E,24μm,17.0s,MS6.0						
YSS	**Yuzh-Sakhalins**	**31.05**	**279**	*e*P	**P**	**02 49 07.3**	**-1.1**
	comp=E,214nm,1.3s,mb5.8						
YSS				*e*PcP	PcP	02 52 02.6	-0.3
YSS				LR	LR		
	comp=Z,39μm,22.0s,MS6.0						
TWW	**Teanaway**	**31.15**	**80**	P	**P**	**02 49 11.3**	**+2.0**
KEBM	**Edson Butte**	**31.25**	**90**	P	**P**	**02 49 14.5**	**+4.3**
TBM	**Table Mountain**	**31.30**	**80**	P	**P**	**02 49 11.7**	**+1.1**
EBG	**Ellensburg**	**31.44**	**81**	P	**P**	**02 49 12.9**	**+1.0**
KBO	**Bosley Butte**	**31.69**	**91**	P	**P**	**02 49 13.4**	**-0.6**
HUMO	**Hull Mountain**	**32.24**	**89**	*e*P	**P**	**02 49 19.0**	**+0.2**
	comp=Z,60nm,1.2s,mb5.3						
HUMO				*e*PcP	PcP	02 52 05.8	-0.4
HUMO				*e*ScP	ScP	02 55 46.4	+1.2
HUMO				LR	LR		
	comp=Z,54μm,22.0s,MS6.2						
KIP	**Kipapa**	**32.30**	**160**	PFAKE		02 49 30.0	+11
KIP				LR	LR		
	comp=Z,54μm,20.0s,MS6.2						
HAWA	**Hanford**	**32.32**	**81**	*e*P	**P**	**02 49 20.0**	**+0.5**
	comp=Z,27nm,1.0s,mb5.0						
HAWA				*e*pP	pP	02 49 33.8	+0.4
HAWA				LR	LR		
	comp=Z,2μm,20.0s						
OD2	**Odessa Site #2**	**32.33**	**79**	P	**P**	**02 49 20.1**	**+0.5**
ASAJ	**Asahikawa**	**32.58**	**275**	P	**P**	**02 49 20.6**	**-1.3**
	comp=Z,190nm,1.0s,mb6.0,baz=29,slow=5.0,SNR=39						
ASAJ				ScP	ScP	02 55 50.5	+4.1
	comp=Z,21nm,0.9s,baz=305,slow=13,SNR=4.5						
ASAJ				LR	LR	03 01 19.1	
	comp=Z,64μm,21.4s,MS6.3,baz=80,slow=34						
ASAJ	**Asahikawa**	**32.58**	**275**	P	**P**	**02 49 20.6**	**-1.3**
ASAJ				pmax	pmax		
	comp=Z,190nm,1.0s						
ASAJ				pmax	pmax		
	comp=N,21nm,0.9s						
ASAJ				MLR	MLR		
	comp=Z,64μm,21.4s						
TIXI	**Tiksi**	**32.58**	**329**	*i*P	**P**	**02 49 21.7**	**-0.2**
TIXI				MLR	MLR		
	comp=Z,57μm,21.0s,MS6.2						
KHMM	**Horse Mountain**	**32.77**	**93**	*e*P	**P**	**02 49 24.3**	**+0.8**
NEW	**Newport**	**32.86**	**76**	*e*P	**P**	**02 49 23.3**	**-1.0**
NEW				pmax	pmax		
	comp=Z,169nm,0.9s						
NEW	**Newport**	**32.86**	**76**	*e*P	**P**	**02 49 23.3**	**-1.0**
	comp=Z,169nm,0.9s,mb6.0						
YBH	**Yreka Blue Hor**	**32.89**	**90**	*e*P	**P**	**02 49 24.7**	**+0.2**
YBH				pmax	pmax		
	comp=Z,43nm,1.0s						
YBH				MLR	MLR		
	comp=Z,49μm,21.0s						
YBH	**Yreka Blue Hor**	**32.89**	**90**	*e*P	**P**	**02 49 24.7**	**+0.2**
	comp=Z,43nm,1.0s,mb5.3						
YBH				*e*ScP	ScP	02 55 48.4	+0.9
YBH				LR	LR		
	comp=Z,49μm,21.0s,MS6.2						
EDM	**Edmonton**	**32.97**	**66**	*e*P	**P**	**02 49 25.2**	**0.0**
YAK	**Yakutsk**	**33.09**	**311**	*c* *i*P	**P**	**02 49 25.2**	**-1.1**
YAK				*e*		02 50 38.3	
YAK				*e*		02 52 09.9	
YAK				*e*SS	SS	02 57 06.6	+0.9
YAK				pmax	pmax		
	comp=Z,140nm,0.9s,mb5.9						
YAK				pmax	pmax		
	comp=N,6.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,109nm,0.9s						
YAK				pmax	pmax		
	comp=Z,71nm,1.0s,mb5.5						
YAK				pmax	pmax		
	comp=N,57nm,1.2s						
YAK				pmax	pmax		
	comp=E,34nm,1.0s						
YAK				MLR	MLR		
	comp=N,30μm,17.0s,MS6.4						
YAK				MLR	MLR		
	comp=E,62μm,17.0s,MS6.4						
YAK				MLR	MLR		
	comp=Z,75μm,17.0s,MS6.5						
YAK	**Yakutsk**	**33.09**	**311**	*e*P	**P**	**02 49 25.1**	**-1.1**
	comp=Z,366nm,1.0s,mb6.3						
YAK				*e*PcP	PcP	02 52 09.2	+0.6
YAK				*e*ScP	ScP	02 55 49.8	+1.7
YAK				LR	LR		
	comp=Z,74μm,20.0s,MS6.4						
ERM	**Erimo**	**33.41**	**271**	P	**P**	**02 49 28.4**	**-0.7**
	comp=Z,887nm,0.6s,mb6.9,SNR=12						
KIPM	**Iron Peak**	**33.56**	**94**	*e*P	**P**	**02 49 30.6**	**+0.2**
WDC	**Whiskeytown Da**	**33.67**	**92**	*e*P	**P**	**02 49 31.7**	**+0.4**
WDC				pmax	pmax		
	comp=Z,98nm,1.2s,mb5.6						
WDC				MLR	MLR		
	comp=Z,30μm,21.0s,MS6.0						
WDC	**Whiskeytown Da**	**33.67**	**92**	*e*P	**P**	**02 49 31.6**	**+0.3**
	comp=Z,98nm,1.2s,mb5.6						
WDC				LR	LR		
	comp=Z,30μm,21.0s,MS6.0						
MOD	**Modoc**	**34.26**	**88**	*e*P	**P**	**02 49 36.9**	**+0.5**
	comp=Z,201nm,1.4s,mb5.9						
MOD				*e*ScP	ScP	02 55 53.8	+1.6
MOD				LR	LR		
	comp=Z,49μm,21.0s,MS6.2						
HOPS	**Hopland**	**34.32**	**95**	*e*P	**P**	**02 49 36.6**	**-0.3**
	comp=Z,62nm,1.2s,mb5.4						
HOPS				LR	LR		
	comp=Z,45μm,21.0s,MS6.2						
WALA	**Waterton Lakes**	**34.39**	**73**	*e*P	**P**	**02 49 37.3**	**-0.3**
	comp=Z,199nm,1.0s,mb6.0						
HABR	**Khabarovsk**	**34.91**	**286**	*i*P	**P**	**02 49 40.6**	**-1.5**
HABR				*e*		02 50 57.7	
HABR				*e*		02 52 13.0	
HABR				*e*S	**S**	**02 55 10.2**	**+0.6**
HABR				*e*SS	SS	02 57 25.9	-17
HABR				pmax	pmax		
	comp=Z,517nm,1.1s,mb6.4						
HABR				pmax	pmax		
	comp=Z,5μm,8.1s						
WVOR	**Wild Horse Val**	**34.97**	**86**	*e*P	**P**	**02 49 43.2**	**+0.6**
WVOR				pmax	pmax		
	comp=Z,212nm,1.1s,mb6.0						
WVOR				MLR	MLR		
	comp=Z,54μm,22.0s,MS6.2						
WVOR	**Wild Horse Val**	**34.97**	**86**	*e*P	**P**	**02 49 43.2**	**+0.7**
	comp=Z,212nm,1.1s,mb6.0						
WVOR				LR	LR		
	comp=Z,54μm,22.0s,MS6.2						
OHCM	**Honcut**	**35.07**	**93**	*e*P	**P**	**02 49 42.6**	**-0.9**
CHMT	**Chamberlain Mo**	**35.81**	**76**	*e*P	**P**	**02 49 48.7**	**-1.1**
RES	**Resolute Bay**	**36.12**	**26**	*e*P	**P**	**02 49 51.6**	**-0.9**
	comp=Z,0.2nm,0.3s						
PAHR	**Pah Rah Range**	**36.12**	**91**	*e*P	**P**	**02 49 51.9**	**-0.6**
	comp=Z,158nm,1.1s,mb5.9						
KLR	**Kul'dur**	**36.47**	**289**	*e*P	**P**	**02 49 50.0**	**-5.4**
KLR				*e*		02 51 20.5	
KLR				pmax	pmax		
	comp=E,120nm,1.6s						
KLR				pmax	pmax		
	comp=Z,300nm,1.6s,mb6.0						
KLR				pmax	pmax		
	comp=N,1μm,11.0s						
KLR				pmax	pmax		
	comp=E,2μm,11.0s						
KLR				pmax	pmax		
	comp=Z,4μm,11.0s						
KLR				MLR	MLR		
	comp=E,39μm,16.0s						
KLR				MLR	MLR		

comp=Z,51µm,16.0s,MS6.4
CMB Columbia Colle 36.56 94 *e*P **P 02 49 57.7 +1.5**
CMB pmax pmax
comp=Z,37nm,1.0s,mb5.2
CMB MLR MLR
comp=Z,42µm,22.0s,MS6.2
CMB Columbia Colle 36.56 94 *e*P **P 02 49 57.7 +1.6**
comp=Z,37nm,1.0s,mb5.2
CMB *e*ScP ScP 02 55 59.6 -0.9
CMB LR LR
comp=Z,42µm,22.0s,MS6.2
SAO San Andreas Ge 36.73 96 P **P 02 49 58.9 +1.2**
SAO *e**PP pP 02 50 10.9 -0.7
SAO pmax pmax
comp=Z,46nm,0.9s,mb5.3
SAO MLR MLR
comp=Z,46µm,21.0s,MS6.2
SAO San Andreas Ge 36.73 96 P **P 02 49 58.9 +1.3**
comp=Z,46nm,0.9s,mb5.3
SAO *e*pP pP 02 50 10.9 -0.8
SAO LR LR
comp=Z,46µm,21.0s,MS6.2
HRY Holter Researc 36.75 76 *e*P **P 02 49 58.1 +0.2**
HLID Hailey 36.89 82 *e*P **P 02 49 58.5 -0.5**
comp=Z,189nm,1.3s,mb5.8
HLID *e*pP pP 02 50 12.8 -0.2
HLID *e*PcP PcP 02 52 22.6 +2.9
HLID LR LR
comp=Z,28µm,20.0s,MS6.0
CLNS Chul'man 36.97 303 *e*P **P 02 49 59.4 -0.3**
CLNS *e*PPP 02 51 28.5
CLNS pmax pmax
comp=Z,96nm,0.7s,mb5.7
CLNS pmax pmax
comp=N,106nm,0.9s
CLNS pmax pmax
comp=E,79nm,0.9s
CLNS pmax pmax
comp=Z,38nm,1.1s,mb5.1
CLNS pmax pmax
comp=N,61nm,0.9s
CLNS pmax pmax
comp=E,81nm,1.1s
CLNS MLR MLR
comp=Z,17µm,19.0s,MS5.8
CLNS MLR MLR
comp=N,4µm,15.0s,MS5.8
CLNS MLR MLR
comp=E,14µm,18.0s,MS5.8
BMN Battle Mountai 37.00 88 *e*P **P 02 50 00.1 +0.1**
BMN pmax pmax
comp=Z,109nm,1.3s,mb5.5
BMN Battle Mountai 37.00 88 *e*P **P 02 50 00.1 +0.1**
comp=Z,109nm,1.3s,mb5.5
DLMT Dillon 37.00 78 *e*P **P 02 50 00.1 +0.2**
comp=Z,274nm,1.3s,mb5.9
DLMT *e*PcP PcP 02 52 20.7 +0.7
NRGR Nerungri 37.12 303 *e*P **P 02 50 00.8 -0.2**
NRGR S **S 02 55 41.3 -2.1**
NRGR pmax pmax
comp=Z,172nm,0.5s,mb6.1
NRGR smax
comp=E,13nm,0.3s
MCMT McKenzie Canyo 37.14 79 *e*P **P 02 50 00.5 -0.6**
EGMT Eagleton 37.31 73 *e*P **P 02 50 02.3 -0.3**
comp=E,420nm,0.9s,mb6.3
EGMT LR LR
comp=Z,15µm,21.0s,MS5.8
NVAR Mina Array Bea 37.58 91 P **P 02 50 05.4 +0.6**
comp=Z,3.4nm,0.8s,baz=297,slow=6.8,SNR=5.0
NVAR PcP PcP 02 52 23.9 +2.2
comp=Z,4.1nm,0.6s,baz=271,slow=3.9,SNR=4.7
NVAR ScP ScP 02 56 07.1 +2.7
comp=Z,9.6nm,1.1s,baz=285,slow=3.2,SNR=7.3
NVAR LR LR 03 02 22.1
comp=Z,22µm,21.3s,MS5.9,baz=255,slow=31
NVAR Mina Array Bea 37.58 91 P **P 02 50 05.4 +0.6**
NVAR PcP PcP 02 52 23.9 +2.2
NVAR ScP ScP 02 56 07.1 +2.7
NVAR LR LR 03 02 22.1
MNV Mina 37.66 91 *e*P **P 02 50 05.9 +0.3**
MNV pmax pmax
comp=Z,48nm,1.1s,mb5.1
MNV MLR MLR
comp=Z,29µm,22.0s,MS6.0
MNV Mina 37.66 91 *e*P **P 02 50 05.9 +0.3**
comp=Z,48nm,1.1s,mb5.1
MNV *e*ScP ScP 02 56 06.2 +1.5
MNV LR LR
comp=Z,29µm,22.0s,MS6.0
QLMT Earthquake Lak 37.99 78 *e*P **P 02 50 08.8 +0.5**
ELK Elko 38.02 86 PFAKE 02 50 20.0 +11
ELK LR LR
comp=Z,43µm,20.0s,MS6.3
WAKE Wake Island 38.20 219 PFAKE 02 50 20.0 +10
WAKE LR LR
comp=Z,39µm,22.0s,MS6.2
PTRM Twissleman Ran 38.21 96 *e*P **P 02 50 11.2 +1.0**
YMR Madison River 38.35 78 *e*P **P 02 50 11.2 -0.1**
comp=Z,472nm,1.1s,mb6.1
YMR *e*pP pP 02 50 25.5 +0.1
TPH Tonopah 38.46 91 *e*P **P 02 50 12.9 +0.7**
TPH *e* 02 56 08.5
TPH pmax pmax
comp=Z,69nm,1.0s,mb5.3
TPH Tonopah 38.46 91 *e*P **P 02 50 12.9 +0.7**
comp=Z,69nm,1.0s,mb5.3
TPH *e*ScP ScP 02 56 08.5 +0.7
GCMT Greycliff 38.51 76 *e*P **P 02 50 12.7 0.0**
FFC Flin Flon 38.52 59 P **P 02 50 12.6 -0.2**
comp=Z,509nm,1.0s,mb6.2,SNR=37
FFC Flin Flon 38.52 59 *e*P **P 02 50 11.6 -1.2**
comp=Z,110nm,1.1s,mb5.5
FFC LR LR
comp=Z,32µm,20.0s,MS6.1
YFT Old Faithful 38.55 78 *e*P **P 02 50 13.3 +0.3**
YFT *e*PcP PcP 02 52 27.0 +2.2
LKWY Lake 38.75 78 *e*P **P 02 50 15.5 +0.8**
LKWY *e**PP pP 02 50 29.3 +0.6
LKWY pmax pmax
comp=Z,219nm,0.9s,mb5.9
LKWY MLR MLR
comp=Z,21µm,20.0s,MS6.0
LKWY Lake 38.75 78 *e*P **P 02 50 15.5 +0.9**
comp=Z,219nm,0.9s,mb5.9
LKWY *e*pP pP 02 50 29.3 +0.6
LKWY LR LR
comp=Z,21µm,20.0s,MS6.0
IMW Indian Meadow 38.80 79 *e*P **P 02 50 15.2 +0.1**
comp=Z,210nm,0.9s,mb5.9
IMW *e*pP pP 02 50 29.6 +0.4
DCID1 Drake Creek 38.82 80 *e*P **P 02 50 16.5 +1.2**
FLWY Flagg Ranch 38.84 79 *e*P **P 02 50 16.1 +0.6**
comp=Z,200nm,1.0s,mb5.8
HVU Hansel Valley 38.91 83 *e*P **P 02 50 16.3 +0.3**
HVU *e**PP pP 02 50 30.9 +0.8
HVU pmax pmax
comp=Z,163nm,1.0s,mb5.7
HVU Hansel Valley 38.91 83 *e*P **P 02 50 16.3 +0.3**
comp=Z,163nm,1.0s,mb5.7
HVU *e*pP pP 02 50 30.9 +0.8
MOOW Moose Ponds 39.00 79 *e*P **P 02 50 16.9 +0.2**
comp=Z,9µm,1.6s
TPAW Teton Pass 39.02 79 *e*P **P 02 50 17.7 +0.7**
comp=Z,198nm,1.2s,mb5.7
REDW Red Top Meadow 39.15 80 *e*P **P 02 50 18.9 +0.9**
comp=Z,327nm,1.3s,mb5.9
REDW *e*pP pP 02 50 32.5 +0.4
AHID Auburn Hatcher 39.34 81 *e*P **P 02 50 19.5 -0.1**
comp=Z,201nm,1.1s,mb5.8
AHID LR LR
comp=Z,26µm,20.0s,MS6.1
SPUT South Promonto 39.38 83 *e*P **P 02 50 20.1 +0.2**
DAC Darwin (Calif) 39.39 93 *e*P **P 02 50 19.4 -0.7**
DAC *e* 02 56 13.0
DAC pmax pmax
comp=Z,50nm,1.1s,mb5.2
DAC Darwin (Calif) 39.39 93 *e*P **P 02 50 19.4 -0.7**
comp=Z,50nm,1.1s,mb5.2
DAC *e*ScP ScP 02 56 13.0 +1.7
VLA Vladivostok 39.60 280 *de*P **P 02 50 20.1 -1.7**
VLA *e* 02 52 28.2
VLA *i* S **S 02 56 22.3 +1.5**
VLA *i* 03 00 24.0
VLA pmax pmax
comp=Z,321nm,1.2s,mb5.9
VLA MLR MLR
comp=Z,28µm,16.7s,MS6.2
VLA Vladivostok 39.60 280 *i* Pr **P 02 50 21.3 -0.5**
HWUT Hardware Ranch 39.74 82 *e*P **P 02 50 22.6 -0.3**
comp=Z,78nm,0.9s,mb5.4
HWUT LR LR
comp=Z,17µm,21.0s,MS5.9
MJAR Matsushiro Arr 39.80 268 P **P 02 50 23.4 0.0**
comp=Z,127nm,1.0s,mb5.6,baz=51,slow=7.7,SNR=27
MJAR PcP PcP 02 52 30.2 +1.6
comp=Z,48nm,0.4s,baz=80,slow=1.4,SNR=11
MJAR ScP ScP 02 56 22.4 +10
comp=Z,35nm,0.4s,baz=263,slow=18,SNR=3.0
MJAR LR LR 03 04 50.1
comp=Z,34µm,21.3s,MS6.2,baz=60,slow=33
MJAR PKPPKP 03 23 09.7
comp=Z,18nm,0.3s,baz=60,slow=6.0,SNR=7.6
MJAR Matsushiro Arr 39.80 268 P **P 02 50 23.4 0.0**
MJAR 02 52 30.2
MJAR 02 56 22.4
MAJO Matsushiro 39.80 268 P **P 02 50 22.5 -1.0**
MAJO PcS PcS 02 56 25.4 +6.6
MAJO Matsushiro 39.80 268 *e*P **P 02 50 22.4 -1.0**
MAJO *e* 02 52 29.1
MAJO *e* 02 56 16.2
MAJO pmax pmax
comp=Z,389nm,1.0s,mb6.1
MAJO MLR MLR
comp=Z,16µm,21.0s,MS5.8
MAJO Matsushiro 39.80 268 *e*P **P 02 50 22.4 -1.0**
comp=Z,389nm,1.0s,mb6.1
MAJO *e*PcP PcP 02 52 29.1 +0.4
MAJO *e*ScP ScP 02 56 16.1 +3.2
MAJO LR LR
comp=Z,16µm,21.0s,MS5.8
MAT Matsushiro 39.80 268 P **P 02 50 22.3 -1.1**
MAT *S* **S 02 56 24.0 +0.2**
MAT Matsushiro 39.80 268 *e*P **P 02 50 22.0 -1.4**
MAT *e*S **S 02 56 25.0 +1.2**
MAT pmax pmax
comp=Z,360nm,1.0s,mb6.1
MAT Matsushiro 39.80 268 *e*P **P 02 50 22.0 -1.4**
comp=Z,360nm,1.0s,mb6.1
MAT *e*S **S 02 56 25.0 +1.2**
DUG Dugway 39.83 85 *e*P **P 02 50 23.2 -0.5**
DUG pmax pmax
comp=Z,337nm,1.1s,mb6.0
DUG MLR MLR
comp=Z,30µm,21.0s,MS6.1
DUG Dugway 39.83 85 *e*P **P 02 50 23.2 -0.5**
comp=Z,337nm,1.1s,mb6.0
DUG LR LR
comp=Z,30µm,21.0s,MS6.1
NOQ North Oquirrh 39.97 84 *e*P **P 02 50 25.5 +0.6**
comp=Z,259nm,1.1s,mb5.9
TCUT Toone Canyon 40.12 83 *e*P **P 02 50 26.1 0.0**
MDJ Mudanjiang 40.13 284 P **P 02 50 24.8 -1.4**
MDJ AP pP 02 50 27.8 -12
MDJ XP sP 02 50 29.2 -17
MDJ PP PP 02 51 56.4 -2.9
MDJ SCP ScP 02 56 19.0 +4.8
MDJ PCS PcS 02 56 20.6 +0.5
MDJ S **S 02 56 31.8 +3.1**
MDJ AMB AMB
comp=Z,58nm,1.1s,mb5.2
MDJ AMB AMB
comp=Z,3µm,11.4s
MDJ LR LR
comp=N,8µm,19.9s,MS6.2
MDJ LR LR
comp=E,31µm,15.9s,MS6.2
MDJ LR LR
comp=Z,40µm,17.9s,MS6.3
MDJ Mudanjiang 40.13 284 *e*P **P 02 50 24.4 -1.8**
comp=Z,70nm,1.1s,mb5.3
MDJ LR LR
comp=Z,42µm,20.0s,MS6.3
CTU Camp Tracy 40.17 84 *e*P **P 02 50 26.7 +0.2**
comp=Z,129nm,1.1s,mb5.6
SNCC San Nicolas Is 40.27 99 PFAKE 02 50 40.0 +13
SNCC LR LR
comp=Z,15µm,20.0s,MS5.8
PDAR Pinedale Array 40.27 79 P **P 02 50 26.5 -0.8**
comp=Z,38nm,0.9s,mb5.2,baz=316,slow=4.1,SNR=96
PDAR LR LR 03 04 35.8
comp=Z,22µm,21.8s,MS6.0,baz=314,slow=32
ALE Alert 40.33 11 P **P 02 50 27.7 -0.1**
comp=Z,374nm,0.9s,mb6.1,SNR=18
NLU North Lily Min 40.42 85 *e*P **P 02 50 29.3 +0.7**
GSC Goldstone 40.52 94 *e*P **P 02 50 28.1 -1.3**
DAU Daniels Canyon 40.64 84 *e*P **P 02 50 30.7 +0.3**
MPU Maple Canyon 40.66 84 *e*P **P 02 50 31.2 +0.6**
comp=Z,127nm,1.0s,mb5.5
MPU *e*pP pP 02 50 45.3 +0.6
FCC Fort Churchill 40.72 51 *e*P **P 02 50 30.2 -0.9**
FCC pmax pmax
comp=Z,841nm,1.3s,mb6.2
FCC Fort Churchill 40.72 51 *e*P **P 02 50 30.2 -0.8**
comp=Z,841nm,1.3s,mb6.2
ARUT Antelope Range 40.95 88 *e*P **P 02 50 33.3 +0.4**
JHJ Hachijo jima 2 41.14 262 P **P 02 50 39.1 +4.6**
comp=Z,86nm,0.3s,mb5.8,baz=78,slow=12,SNR=4.8
JHJ LR LR 03 06 31.4
comp=Z,12µm,19.8s,MS5.8,baz=51,slow=34
CCUT Cedar City 41.15 89 *e*P **P 02 50 34.5 0.0**
MSU Marysvale 41.26 87 *e*P **P 02 50 35.3 -0.2**
MSU *e*ScP ScP 02 56 20.9 +2.3
TMUT Trail Mountain 41.36 85 *e*P **P 02 50 36.6 +0.3**
NEN Nelson 41.48 92 *e*P **P 02 50 36.8 -0.5**
PFO Pinyon Flat Ob 41.87 96 P **P 02 50 43.8 +3.3**
comp=Z,135nm,1.1s,mb5.5,SNR=6.5
PFO Pinyon Flat Ob 41.87 96 *e*P **P 02 50 40.1 -0.4**
PFO pmax pmax
comp=Z,78nm,1.1s,mb5.2
PFO MLR MLR
comp=Z,42µm,21.0s,MS6.3
PFO Pinyon Flat Ob 41.87 96 *e*P **P 02 50 40.1 -0.4**
comp=Z,78nm,1.1s,mb5.2
PFO *e*ScP ScP 02 56 20.9 -0.1
PFO LR LR
comp=Z,42µm,21.0s,MS6.3
SRU San Rafael 41.89 85 *e*P **P 02 50 40.2 -0.4**
SRU pmax pmax
comp=Z,291nm,1.0s,mb5.9
SRU San Rafael 41.89 85 *e*P **P 02 50 40.2 -0.4**
comp=Z,291nm,1.0s,mb5.9
BOD Bodaibo 41.92 309 *e*P **P 02 50 37.7 -3.2**
BOD pmax pmax
comp=Z,213nm,1.1s,mb5.7
RWWY Rawlins 42.31 79 *e*P **P 02 50 43.7 -0.4**
comp=Z,456nm,1.4s,mb5.9
RSSD Black Hills 42.76 74 *e*P **P 02 50 46.5 -1.3**
RSSD pmax pmax
comp=Z,83nm,0.9s,mb5.5
RSSD MLR MLR
comp=Z,18µm,20.0s,MS6.0
RSSD Black Hills 42.76 74 *e*P **P 02 50 46.5 -1.2**
comp=Z,83nm,0.9s,mb5.5
RSSD LR LR
comp=Z,18µm,20.0s,MS6.0
CN2 Changchun 43.04 285 ⇑P **P 02 50 48.6 -1.4**
CN2 *e*XP sP 02 50 55.6 -15
CN2 *e*S **S 02 57 12.6 +0.8**
CN2 AMB AMB
comp=Z,90nm,1.1s,mb5.4
CN2 LR LR
comp=N,27µm,18.0s,MS6.3
CN2 LR LR
comp=E,29µm,18.0s,MS6.3
CN2 LR LR
comp=Z,43µm,16.0s,MS6.4
HIA Hailar 43.23 295 *e*P **P 02 50 50.4 -1.2**
HIA *e* 02 52 39.7
HIA pmax pmax
comp=Z,413nm,1.3s
HIA MLR MLR
comp=Z,72µm,20.0s
HIA Hailar 43.23 295 *e*P **P 02 50 50.4 -1.1**
comp=Z,413nm,1.3s,mb6.0
HIA *e*PcP PcP 02 52 39.7 -0.3
HIA LR LR
comp=Z,72µm,20.0s,MS6.6
PV10 Paradox Valley 43.25 84 *e*P **P 02 50 51.8 +0.1**
PHWY Pilot Hill 43.59 79 *e*P **P 02 50 53.9 -0.6**
WUAZ Wupatki 43.69 89 *e*P **P 02 50 54.9 -0.3**
comp=Z,264nm,1.2s,mb5.8
WUAZ LR LR
comp=Z,56µm,20.0s,MS6.5
PV01 Paradox Valley 43.69 84 *e*P **P 02 50 54.7 -0.5**
ULM Lac du Bonnet 43.96 62 P **P 02 50 56.0 -1.4**
comp=Z,89nm,1.2s,mb5.3,baz=297,slow=8.2,SNR=23
ULM Lac du Bonnet 43.96 62 P **P 02 50 56.0 -1.4**
SMCO Snowmass 44.00 82 *e*P **P 02 50 57.6 -0.1**
comp=Z,145nm,1.3s,mb5.5
CBIJ Chichi jima 44.06 254 LR LR 03 06 12.3
comp=Z,23µm,22.0s,MS6.1,baz=26,slow=32
MVCO Mesa Verde 44.33 85 *e*P **P 02 51 00.1 -0.2**
ISCO Idaho Springs 44.43 80 *e*P **P 02 51 01.2 +0.1**
ISCO pmax pmax
comp=Z,94nm,1.2s,mb5.4
ISCO MLR MLR
comp=Z,38µm,21.0s,MS6.3
ISCO Idaho Springs 44.43 80 *e*P **P 02 51 01.2 +0.1**
comp=Z,94nm,1.2s,mb5.4
ISCO LR LR
comp=Z,38µm,21.0s,MS6.3
CIT Chita 45.06 302 *e*P **P 02 51 06.1 -0.1**
CIT *e* 02 52 47.2
CIT *e* 03 01 00.8
CIT pmax pmax
comp=Z,321nm,1.5s,mb5.9
KS15 Wonju Array Si 45.50 277 *e*P **P 02 51 09.3 -0.3**
TUC Tucson 46.22 92 *e*P **P 02 51 14.5 -0.8**
TUC pmax pmax
comp=Z,59nm,0.9s,mb5.5
TUC MLR MLR
comp=Z,17µm,20.0s,MS6.0
TUC Tucson 46.22 92 *e*P **P 02 51 14.5 -0.8**
comp=Z,58nm,0.9s,mb5.5
TUC LR LR
comp=Z,17µm,20.0s,MS6.0
LAZ Ladron 47.01 87 *e*P **P 02 51 21.4 -0.2**
ANMO Albuquerque 47.06 86 *e*P **P 02 51 21.8 -0.1**
ANMO *e**PP pP 02 51 35.9 -0.4
ANMO pmax pmax
comp=Z,103nm,1.3s
ANMO MLR MLR
comp=Z,25µm,20.0s
ANMO Albuquerque 47.06 86 *e*P **P 02 51 21.8 -0.1**
comp=Z,103nm,1.3s,mb5.6
ANMO *e*pP pP 02 51 35.9 -0.4
ANMO LR LR
comp=Z,25µm,20.0s,MS6.2
LENM Lemitar 47.27 87 *e*P **P 02 51 22.7 -0.8**
LPM Los Pinos Moun 47.38 87 *e*P **P 02 51 24.2 -0.2**
BNM Barren Site 47.49 87 *e*P **P 02 51 24.5 -0.7**
DL2 Dalian 48.32 282 ⇑*i*P **P 02 51 30.3 -1.3**
DL2 PCP PcP 02 53 03.0 +5.3
DL2 PP PP 02 53 24.4 -0.1
DL2 S **S 02 58 26.2 -1.5**
DL2 SCS ScS 03 01 18.9 -0.7
DL2 AMB AMB
comp=Z,70nm,1.0s,mb5.7
DL2 AMB AMB
comp=Z,2µm,7.9s
DL2 LR LR
comp=N,14µm,16.3s,MS6.0
DL2 LR LR
comp=E,6µm,16.2s,MS6.0
DL2 LR LR
comp=Z,14µm,18.6s,MS6.0
CBKS Cedar Bluff 48.57 77 *e*P **P 02 51 32.6 -1.0**
CBKS *e**PP pP 02 51 48.0 0.0
CBKS pmax pmax
comp=Z,494nm,1.0s,mb6.5
CBKS MLR MLR
comp=Z,8µm,19.0s,MS5.7
CBKS Cedar Bluff 48.57 77 *e*P **P 02 51 32.6 -0.9**
comp=Z,494nm,1.0s,mb6.5
CBKS *e*pP pP 02 51 48.0 -0.1
CBKS LR LR
comp=Z,8µm,19.0s,MS5.7
KBS Kingsbay 48.73 360 ⇑*i*P **P 02 51 35.9 +1.1**
KBS AMb AMB 02 51 41.0
comp=Z,145nm,1.4s,mb5.8
KBS *e*S **S 02 58 33.8 +0.3**
KBS AMS AMS 03 13 27.0
comp=Z,20µm,17.9s,MS6.2
KBS Kingsbay 48.73 360 *e*P **P 02 51 35.9 +1.1**
comp=Z,145nm,1.4s,mb5.8
KBS LR LR
comp=Z,19834µm,17.9s
DAG Danmarks Havn 49.55 9*j iP* **P 02 51 39.9 -1.1**
comp=Z,212nm,1.1s,mb6.1
DAG
comp=Z,34µm,17.0s
DAG Danmarks Havn 49.55 9*j e*P **P 02 51 39.9 -1.1**
DAG pmax pmax
comp=Z,210nm,1.1s,mb6.1
DAG MLR MLR
comp=N,24µm,17.0s,MS6.3
DAG MLR MLR
comp=Z,34µm,17.0s,MS6.4
DAG MLR MLR
comp=E,19µm,19.0s,MS6.3
DAG Danmarks Havn 49.55 9 *e*Pdu **P 02 51 39.9 -1.1**
comp=E,213nm,1.1s,mb6.1
DAG LR LR
comp=Z,34µm,17.0s,MS6.4
IRK Irkutsk 49.63 306 *e*P **P 02 51 40.9 -0.8**
IRK *e* 02 54 31.0
IRK *e* 03 01 33.6
IRK pmax pmax
comp=Z,43nm,1.1s,mb5.4
MNTX Cornudas Mount 49.94 88 *e*P **P 02 51 43.3 -0.7**
comp=Z,138nm,0.9s,mb6.0
MNTX LR LR
comp=Z,18µm,21.0s,MS6.1
CPRX Cap Rock 49.94 86 *e*P **P 02 51 43.2 -0.8**
AMTX Amarillo 50.00 83 *e*P **P 02 51 43.3 -1.2**
comp=Z,93nm,0.8s,mb5.9
AMTX *e*pP pP 02 51 58.6 -0.4
AMTX LR LR
comp=Z,11µm,20.0s,MS5.8
GDL2 Guadalupe Moun 50.21 87 *e*P **P 02 51 45.2 -0.8**
GDL2 *e*pP pP 02 52 00.2 -0.4
KSU1 Kansas State U 50.24 75 *e*P **P 02 51 43.9 -2.3**
KSU1 *e*pP pP 02 51 58.3 -2.5
TLY Talaya 50.28 306 P **P 02 51 46.3 -0.3**
comp=Z,2µm,1.0s,mb7.0,SNR=66
TLY Talaya 50.28 306 *e*P **P 02 51 46.1 -0.5**
TLY pmax pmax
comp=Z,344nm,1.0s,mb6.3
TLY MLR MLR
comp=Z,31µm,20.0s,MS6.3
TLY Talaya 50.28 306 *e*P **P 02 51 46.0 -0.5**
comp=Z,344nm,1.0s,mb6.3
TLY LR LR
comp=Z,31µm,20.0s,MS6.3
HSP Hornsund 50.62 359 *e*P **P 02 51 49.5 +0.3**
BJI Beijing 50.80 287 *e*P **P 02 51 50.0 -0.5**
BJI PCP PcP 02 53 08.8 +2.1
BJI PP PP 02 53 44.0 -3.0
BJI PCS PcS 02 57 02.3 -1.9
BJI S **S 02 59 02.3 0.0**
BJI SCS ScS 03 01 39.2 +2.8
BJI AMB AMB
comp=Z,127nm,1.0s,mb5.8
BJI AMB AMB
comp=Z,6µm,7.7s
BJI LR LR
comp=N,25µm,19.8s,MS6.4
BJI LR LR
comp=E,31µm,19.4s,MS6.4
BJI LR LR
comp=Z,33µm,24.8s
BJT Baijiatuau 50.81 287 *e*P **P 02 51 48.7 -1.9**
BJT pmax pmax
comp=Z,61nm,0.6s
BJT MLR MLR
comp=Z,48µm,19.0s
BJT Baijiatuau 50.81 287 *e*P **P 02 51 48.7 -1.9**
comp=Z,61nm,0.6s,mb5.7
BJT LR LR
comp=Z,48µm,19.0s,MS6.5
ULN Ulaanbaatar 50.90 300 *e*P **P 02 51 50.6 -0.7**
ULN pmax pmax
comp=Z,178nm,1.1s,mb5.9
ULN MLR MLR
comp=Z,40µm,19.0s,MS6.5
ULN Ulaanbaatar 50.90 300 *e*P **P 02 51 50.6 -0.6**
comp=Z,178nm,1.1s,mb5.9

ULN LR LR
comp=Z,40µm,19.0s,MS6.5
SONM Songino Array 51.26 301 P **P 02 51 53.7 -0.3**
comp=Z,167nm,1.1s,mb5.9,baz=56,slow=6.6,SNR=179
SONM PcP PcP 02 53 10.1 +1.6
comp=Z,71nm,1.0s,baz=30,slow=3.6,SNR=5.0
SONM ScP ScP 02 57 03.6 +3.3
comp=Z,20nm,1.2s,baz=66,slow=3.6,SNR=4.6
SONM LR LR 03 15 17.4
comp=Z,39µm,20.1s,MS6.4,baz=53,slow=38
SONM PKP2bc 03 22 28.6
comp=Z,1.7nm,1.1s,baz=210,slow=1.9,SNR=6.5
SONM Songino Array 51.26 301 P **P 02 51 53.7 -0.3**
SONM 02 53 10.1
SONM Songino Array 51.26 301 P **P 02 51 53.7 -0.3**
SONM PcP PcP 02 53 10.1 +1.6
SONM ScP ScP 02 57 03.6 +3.3
SONM LR LR 03 15 17.4
SONM ⇑*e* 03 22 28.6
ZAK Zakamensk 51.26 305⇓*i* P **P 02 51 54.5 +0.5**
ZAK *e* 02 53 10.4
ZAK pmax pmax
comp=Z,314nm,1.5s,mb6.0
ZAK pmax pmax
comp=Z,128nm,1.3s,mb5.7
ZAK pmax pmax
comp=Z,42nm,1.8s,mb5.1
MOY Mondy 51.58 307 *e*P **P 02 51 55.9 -0.5**
MOY pmax pmax
comp=Z,272nm,1.4s,mb6.0
SFJD Kangerlussuaq 52.12 26 *e*P **P 02 51 59.5 -0.9**
SFJD *e*ScP ScP 02 57 09.3 +5.3
JOW Kunigami 52.60 266 LR LR 03 13 33.5
comp=Z,13µm,21.1s,MS5.9,baz=42,slow=35
LTX Lajitas 52.65 89 *e*P **P 02 52 03.4 -0.9**
LTX pmax pmax
comp=Z,176nm,0.9s,mb6.0
LTX Lajitas 52.65 89 *e*P **P 02 52 03.4 -0.9**
comp=Z,176nm,0.9s,mb6.0
HHC Hu-ho-hao-te 52.92 291⇑*i* P **P 02 52 06.4 +0.1**
HHC AP pP 02 52 12.6 -8.3
HHC XP sP 02 52 15.0 -12
HHC PcP PcP 02 53 16.8 +2.1
HHC PP PP 02 54 06.7 +0.4
HHC ScP ScP 02 57 12.2 +4.7
HHC PcS PcS 02 57 13.8 +0.4
HHC S **S** **02 59 30.5 -1.0**
HHC PS 02 59 43.3
HHC ScS ScS 03 01 54.7 +3.6
HHC SS SS 03 03 07.4 -3.6
HHC AMB AMB
comp=Z,215nm,1.2s,mb6.0
HHC AMB AMB
comp=Z,5µm,8.2s
HHC LR LR
comp=N,22µm,17.5s,MS6.4
HHC LR LR
comp=E,25µm,21.4s,MS6.4
HHC LR LR
comp=Z,43µm,19.2s,MS6.5
BJO Bjornoya 53.05 357 *e*P **P 02 52 05.3 -2.0**
BJO AMb AMB 02 52 12.8
comp=Z,386nm,2.2s,mb6.0
BJO AMS AMS 03 16 22.4
comp=Z,18µm,18.2s,MS6.2
BJO1 Bjornoya 53.06 357 *e*P **P 02 52 05.3 -2.1**
comp=Z,386nm,2.2s,mb5.9
BJO1 LR LR
comp=Z,18270µm,18.2s
GUMO Guam 53.30 241 LR LR 03 13 33.8
comp=Z,9µm,20.0s,MS5.8,baz=36,slow=35
SSE Sheshan 53.87 275 P **P 02 52 13.1 -0.2**
SSE XP sP 02 52 22.0 -12
SSE PP PP 02 54 14.1 -0.7
SSE SCP ScP 02 57 15.6 +4.0
SSE S **S** **02 59 46.6 +2.3**
SSE XS sS 02 59 57.6 -11
SSE SS SS 03 03 28.6 +2.7
SSE AMB AMB
comp=Z,1µm,1.2s,mb6.7
SSE AMB AMB
comp=Z,5µm,5.7s
SSE LR LR
comp=N,15µm,23.0s,MS6.1
SSE LR LR
comp=E,9µm,23.0s,MS6.1
SSE LR LR
comp=Z,20µm,23.1s,MS6.1
BTO Baotou 53.96 292 *e*P **P 02 52 13.1 -0.9**
BTO S **S** **02 59 39.4 -6.2**
BTO AMB AMB
comp=Z,412nm,1.1s,mb6.3
JCT Junction City 54.19 85 *e*P **P 02 52 14.5 -1.1**
JCT pmax pmax
comp=Z,148nm,0.8s,mb6.0
JCT MLR MLR
comp=Z,24µm,20.0s,MS6.2
JCT Junction City 54.19 85 *e*P **P 02 52 14.5 -1.1**
comp=Z,148nm,0.8s,mb6.0
JCT LR LR
comp=Z,24µm,20.0s,MS6.2
SLM Saint Louis 54.26 71 *e*P **P 02 52 15.4 -0.7**
SLM pmax pmax
comp=Z,145nm,1.0s,mb5.9
SLM Saint Louis 54.26 71 *e*P **P 02 52 15.4 -0.7**
comp=Z,145nm,1.0s,mb5.9
FVM French Village 54.59 72 P **P 02 52 16.1 -2.4**
FVM pmax pmax
comp=Z,120nm,1.0s,mb5.9
FVM French Village 54.59 72 *e*P **P 02 52 16.3 -2.2**
FVM pmax pmax
comp=Z,117nm,0.9s,mb5.9
FVM French Village 54.59 72 *e*P **P 02 52 16.3 -2.3**
comp=Z,117nm,0.9s,mb5.9
NJ2 Nanjing 54.61 278 *e*P **P 02 52 18.2 -0.4**
NJ2 AP pP 02 52 23.1 -10
NJ2 XP sP 02 52 26.4 -13
NJ2 PP PP 02 54 25.8 +4.4
NJ2 AMB AMB
comp=Z,160nm,0.6s,mb6.2
NJ2 AMB AMB
comp=Z,3µm,4.8s
NJ2 LR LR
comp=Z,6µm,15.1s,MS5.8
MIAR Mount Ida 55.10 77 *e*P **P 02 52 20.3 -1.9**
MIAR pmax pmax
comp=Z,6.0nm,0.7s
MIAR MLR MLR
comp=Z,9µm,20.0s,MS5.8
MIAR Mount Ida 55.10 77 *e*P **P 02 52 20.3 -1.9**
comp=Z,5.7nm,0.7s
MIAR LR LR
comp=Z,9µm,20.0s,MS5.8
SCHQ Schefferville 55.20 43 P **P 02 52 22.2 -0.7**
comp=Z,111nm,0.8s,mb5.9,baz=321,slow=7.6,SNR=100
SCHQ LR LR 03 18 03.1
comp=Z,18µm,18.7s,MS6.2,baz=318,slow=38
SCHQ Schefferville 55.20 43 *e*P **P 02 52 22.0 -0.9**
comp=Z,253nm,1.0s,mb6.2
UALR University of 55.67 76 *e*P **P 02 52 26.6 +0.3**
comp=Z,75nm,1.1s,mb5.6
PARMO Parma 55.89 73 *e*P **P 02 52 25.8 -2.1**
JMIC Jan Mayen 55.94 8 *e*P **P 02 52 29.5 +1.3**
JMIC *e*S **S** **03 00 16.2 +4.1**
JMIC AMS AMS 03 15 12.8
comp=Z,17µm,23.1s,MS6.1
BLO Bloomington 56.03 68 *e*P **P 02 52 26.5 -2.3**
BLO pmax pmax
comp=Z,210nm,1.1s,mb6.1
BLO Bloomington 56.03 68 *e*P **P 02 52 26.5 -2.4**
comp=Z,210nm,1.1s,mb6.1
HBAR Harrisburg 56.12 74 *e*P **P 02 52 30.4 +0.8**
USIN University of 56.20 70 *e*P **P 02 52 28.1 -2.0**
NATX Nacogdoches 56.40 80 *e*P **P 02 52 31.4 -0.1**
comp=Z,215nm,1.1s,mb6.1
NATX LR LR
comp=Z,23µm,19.0s,MS6.3
GLAT Glass 56.43 73 *e*P **P 02 52 31.2 -0.5**
UTMT University of 56.63 72 *e*P **P 02 52 31.8 -1.3**
comp=Z,226nm,0.9s,mb6.2
HALT Halls 56.65 73 *e*P **P 02 52 33.4 +0.1**
WCI Wyandotte Cave 56.80 69 *e*P **P 02 52 32.3 -2.1**
WCI *e**PP pP 02 52 47.6 -1.5
WCI pmax pmax
comp=Z,133nm,1.0s,mb5.9
WCI MLR MLR
comp=Z,18µm,20.0s,MS6.2
WCI Wyandotte Cave 56.80 69 *e*P **P 02 52 32.3 -2.0**
comp=Z,133nm,1.0s,mb5.9
WCI *e*pP pP 02 52 47.6 -1.5
WCI LR LR
comp=Z,18µm,20.0s,MS6.2
HKT Hockley 56.97 83 *e*P **P 02 52 36.0 +0.4**
HKT pmax pmax
comp=Z,211nm,1.5s,mb6.0
HKT MLR MLR
comp=Z,17µm,19.0s,MS6.2
HKT Hockley 56.97 83 *e*P **P 02 52 36.0 +0.4**
comp=Z,211nm,1.5s,mb6.0
HKT LR LR
comp=Z,17µm,19.0s,MS6.2
ACSO Alum Creek Sta 57.28 65 *e*P **P 02 52 38.3 +0.5**
comp=Z,76nm,1.1s,mb5.6
ACSO LR LR
comp=Z,12µm,19.0s,MS6.0
NVS Novosibirsk 57.31 319 *i* P **P 02 52 35.5 -2.5**
NVS *i* 02 53 33.1
NVS *i* S **S** **03 00 33.8 +3.6**
NVS pmax pmax
comp=N,81nm,1.2s
NVS pmax pmax
comp=Z,139nm,1.2s,mb5.9
NVS pmax pmax
comp=E,91nm,1.3s
NVS smax
comp=Z,32nm,2.1s
NVS smax
comp=E,57nm,2.8s
ZAL Zalesovo 57.33 318 P **P 02 52 37.3 -0.8**
comp=E,23nm,0.9s,mb5.2,baz=64,slow=8.2,SNR=23
ZAL PcP PcP 02 53 33.5 +1.8
comp=E,32nm,0.8s,baz=60,slow=7.0,SNR=8.8
ZAL LR LR 03 18 59.6
comp=E,47µm,21.6s,MS6.6,baz=65,slow=38
ZAL Zalesovo 57.33 318 P **P 02 52 37.3 -0.8**
ZAL 02 53 33.5
WVT Waverly 57.37 72 PFAKE 02 52 50.0 +12
WVT LR LR
comp=Z,19µm,21.0s,MS6.2
KEV Kevo 57.38 353 *e*p **P 02 52 37.3 -1.2**
ERPA Erie 57.61 62 *e*P **P 02 52 39.1 -1.0**
comp=Z,252nm,1.1s,mb6.2
ERPA LR LR
comp=Z,21µm,20.0s,MS6.2
ARCES ARCESS Array B 57.70 354 P **P 02 52 39.9 -0.8**
comp=Z,62nm,1.0s,mb5.6,baz=9.6,slow=7.9,SNR=102
ARCES PcP PcP 02 53 35.0 +1.9
comp=Z,101nm,0.9s,baz=18,slow=4.2,SNR=12
ARCES ScP ScP 02 57 32.5 +4.1
comp=Z,11nm,1.0s,baz=0.0,slow=3.9,SNR=4.4
ARCES LR LR 03 19 35.0
comp=Z,36µm,19.2s,MS6.5,baz=7.9,slow=38
ARCES PKP2bc 03 22 42.4
comp=Z,5.1nm,0.9s,baz=205,slow=2.6,SNR=5.3
ARCES ARCESS Array B 57.70 354 P **P 02 52 39.9 -0.8**
ARCES 02 53 35.1
ARCES ARCESS Array B 57.70 354 P **P 02 52 39.9 -0.8**
ARCES PcP PcP 02 53 35.0 +1.9
ARCES ScP ScP 02 57 32.5 +4.1
ARCES LR LR 03 19 35.0
ARCES ⇑*e* 03 22 42.4
ARE0 ARCESS Array S 57.70 354 *e*P **P 02 52 39.8 -0.9**
ARE0 *e*PcP PcP 02 53 34.1 +1.0
TRO Tromso 57.93 357 *e*P **P 02 52 40.9 -1.4**
TRO AMb AMB 02 52 46.5
comp=Z,272nm,1.4s,mb6.1
TRO *e*S **S** **03 00 40.6 +2.3**
TRO *e*SS SS 03 04 40.3 +10
TRO AMS AMS 03 19 55.0
comp=Z,14µm,19.1s,MS6.1
TRO Tromso 57.93 357 *e*P **P 02 52 40.9 -1.4**
comp=Z,272nm,1.4s,mb6.1
TRO LR LR
comp=Z,14463µm,19.1s
PLAL Pickwick Lake 58.03 73 *e*P **P 02 52 40.6 -2.4**
comp=Z,112nm,0.9s,mb5.9
PLAL LR LR
comp=Z,11µm,20.0s,MS6.0
TATO Taipei 58.10 270 *e*P **P 02 52 45.8 +2.3**
comp=Z,104nm,0.9s,mb5.9
TATO LR LR
comp=Z,42µm,21.0s,MS6.5
ZAIG Zacatecas 58.12 94 *i* P **P 02 52 46.0 +2.3**
MSNY Massena 58.29 56 *e*P **P 02 52 43.7 -1.1**
KTK1 Kautokeino 58.35 355 *e*P **P 02 52 44.6 -0.7**
KTK1 AMb AMB 02 52 49.8
comp=Z,304nm,1.4s,mb6.1
KTK1 Kautokeino 58.35 355 *e*P **P 02 52 44.6 -0.7**
comp=Z,304nm,1.4s,mb6.1
WHN Wuhan 58.39 280⇑P **P 02 52 44.8 -0.7**
WHN S **S** **03 00 46.3 +2.0**
WHN AMB AMB
comp=Z,258nm,0.7s,mb6.4
WHN LR LR
comp=Z,37µm,23.3s,MS6.4
YHNB Yeheng 58.39 270 *e*P **P 02 52 45.9 +0.4**
LVZ Lovozero 58.50 350 P **P 02 52 45.8 -0.5**
comp=Z,2µm,0.7s,SNR=28
LVZ Lovozero 58.50 350*c* *i*P **P 02 52 45.9 -0.4**
LVZ *i* 02 54 56.8
LVZ *e*S **S** **03 00 48.7 +2.9**
LVZ *e*SS SS 03 04 48.5 +10
LVZ pmax pmax
comp=Z,285nm,0.8s,mb6.3
LVZ pmax pmax
comp=N,86nm,0.6s
LVZ pmax pmax
comp=E,52nm,1.0s
LVZ smax
comp=Z,376nm,3.6s
LVZ smax
comp=N,404nm,3.7s
LVZ smax
comp=E,303nm,4.8s
LVZ MLR MLR
comp=Z,23µm,20.0s,MS6.3
LVZ MLR MLR
comp=N,11µm,19.0s,MS6.1
LVZ MLR MLR
comp=E,13µm,23.0s,MS6.1
LVZ Lovozero 58.50 350⇑*e*P **P 02 52 45.9 -0.4**
LVZ LR LR
comp=Z,24µm,20.0s,MS6.3
NACB Ninganchiao 58.63 269 *e*P **P 02 52 47.1 -0.1**
LONY Lake Ozonia 58.70 56 *e*P **P 02 52 46.2 -1.5**
APA Apatity 58.95 350⇑*i*P **P 02 52 48.0 -1.4**
APA *i* 02 53 41.0
APA *i* 02 55 00.0
APA *i* PPP 02 56 23.0
APA *e*S **S** **03 00 59.0 +7.3**
APA *i* SSS 03 07 13.0
APA pmax pmax
comp=Z,96nm,1.1s,mb5.7
APA pmax pmax
comp=Z,5µm,17.0s
APA MLR MLR
comp=Z,35µm,18.0s,MS6.5
FRNY Flat Rock 59.05 56 *e*P **P 02 52 48.1 -2.0**
SWET Sewanee 59.11 71 *e*P **P 02 52 48.0 -2.6**
XAN Xi'an 59.12 287 P **P 02 52 49.7 -0.9**
XAN AP pP 02 53 00.2 -5.2
XAN PP PP 02 55 03.8 +2.2
XAN PPP 02 56 30.4
XAN S **S** **03 00 45.8 -8.0**
XAN AMB AMB
comp=Z,68nm,0.9s,mb5.7
XAN AMB AMB
comp=Z,4µm,14.6s
XAN LR LR
comp=E,27µm,21.8s
XAN LR LR
comp=Z,37µm,22.7s,MS6.5
NCB Newcomb 59.34 57 *e*P **P 02 52 51.0 -1.1**
comp=Z,117nm,0.9s,mb5.9
NCB LR LR
comp=Z,23µm,19.0s,MS6.3
TZTN Tazewell 59.54 69 *e*P **P 02 52 51.8 -1.7**
SFJM Santa Fe 59.56 96 *e*P **P 02 52 56.0 +2.4**
LOF Lofoten 59.57 359 *e*P **P 02 52 54.4 +0.7**
LOF AMb AMB 02 52 58.2
comp=Z,137nm,1.2s,mb5.8
LOF Lofoten 59.57 359 *e*P **P 02 52 54.4 +0.7**
comp=Z,137nm,1.2s,mb5.9
MIV Mineville/With 59.62 56 *e*P **P 02 52 53.4 -0.6**
CPCT Cooper Cave 59.76 70 *e*P **P 02 52 52.8 -2.3**
SSPA Standing Stone 59.78 62 PFAKE 02 53 10.0 +15
SSPA LR LR
comp=Z,11µm,19.0s,MS6.0
QZH Quanzhou 59.89 272⇑*i*P **P 02 52 55.6 -0.3**
QZH S **S** **03 01 07.0 +3.3**
QZH PS 03 01 23.4
QZH AMB AMB
comp=Z,1µm,1.4s,mb6.7
QZH AMB AMB
comp=Z,7µm,4.1s
QZH LR LR
comp=N,24µm,23.1s,MS6.4
QZH LR LR
comp=E,15µm,20.3s,MS6.4
QZH LR LR
comp=Z,34µm,23.0s,MS6.4
ACCN Adirondack Com 60.04 57 *e*P **P 02 52 55.5 -1.5**
LRAL Lakeview Retre 60.04 74 PFAKE 02 53 10.0 +13
LRAL LR LR
comp=Z,13µm,19.0s,MS6.1
LBNH Lisbon 60.31 55 *e*P **P 02 52 57.9 -0.9**
LBNH pmax pmax
comp=Z,69nm,1.0s,mb5.6
LBNH Lisbon 60.31 55 *e*P **P 02 52 57.9 -0.9**
comp=Z,69nm,1.0s,mb5.6
FWV Forest Hill 60.35 66 *e*P **P 02 52 57.5 -1.5**
BORG Borgarnes 60.38 15 P **P 02 52 59.1 -0.1**
comp=Z,708nm,1.3s,mb6.5,SNR=11
BORG Borgarnes 60.38 15 *e*P **P 02 52 59.6 +0.4**
comp=Z,238nm,1.4s,mb6.0
BORG LR LR
comp=Z,28µm,19.0s,MS6.4
GTA Gaotai 60.46 297⇑P **P 02 52 58.8 -1.0**
GTA AP pP 02 53 04.1 -11
GTA XP sP 02 53 06.7 -14
GTA PCP PcP 02 53 42.5 -1.6
GTA PP PP 02 55 15.1 +1.7
GTA PPP 02 56 43.7
GTA SCP ScP 02 57 41.7 +1.1
GTA S **S** **03 01 14.5 +3.5**
GTA XS sS 03 01 21.8 -14
GTA SCS ScS 03 02 47.1 +1.3
GTA SS SS 03 05 14.4 +4.9
GTA AMB AMB
comp=Z,132nm,1.2s,mb5.8
GTA AMB AMB
comp=Z,4µm,11.8s
GTA LR LR
comp=N,21µm,19.8s,MS6.6
GTA LR LR
comp=E,41µm,20.9s,MS6.6
GTA LR LR
comp=Z,63µm,20.1s,MS6.8
LZH Lanzhou 60.59 292⇑P **P 02 53 00.9 +0.2**
LZH PP PP 02 55 17.0 +2.4
LZH S **S** **03 01 14.3 +1.6**
LZH SS SS 03 05 13.0 +1.4
LZH AMB AMB
comp=Z,600nm,1.0s,mb6.7
LZH AMB AMB
comp=Z,5µm,6.6s
LZH LR LR
comp=N,54µm,16.0s
LZH LR LR
comp=Z,98µm,17.6s,MS7.0
ELN Prospectdale 60.63 66 *e*P **P 02 52 59.1 -1.9**
BLA Blacksburg 60.83 66 *e*P **P 02 53 01.3 -1.0**
BLA *e**PP pP 02 53 17.0 -0.2
BLA pmax pmax
comp=Z,15nm,0.8s,mb5.2
BLA MLR MLR
comp=Z,2µm,22.0s
BLA Blacksburg 60.83 66 *e*P **P 02 53 01.3 -1.0**
comp=Z,15nm,0.8s,mb5.2
BLA *e*pP pP 02 53 17.0 -0.2
BLA LR LR
comp=Z,2µm,22.0s
FFD Franklin Falls 61.00 56 *e*P **P 02 53 03.4 -0.1**
comp=Z,229nm,1.5s,mb6.1
MVL Millersville 61.06 61 *e*P **P 02 53 03.1 -0.7**
SDMD Soldier's Deli 61.22 62 *e*P **P 02 53 03.5 -1.5**
SDMD *e*pP pP 02 53 19.3 -0.5
MRX Morelia 61.27 95 *e*P **P 02 53 06.0 +0.7**
MOIG Morelia 61.30 95 *i* P **P 02 53 09.1 +3.6**
STOK Stokkvaagen 61.38 359 *e*P **P 02 53 05.4 -0.6**
STOK AMb AMB 02 53 10.9
comp=Z,436nm,1.4s,mb6.4
STOK Stokkvaagen 61.38 359 *e*P **P 02 53 05.4 -0.6**
comp=Z,436nm,1.4s,mb6.4
QUA2 Belchertown 61.51 57 *e*P **P 02 53 06.2 -0.7**
comp=Z,144nm,1.1s,mb6.0
BRNJ Basking Ridge 61.51 60 *e*P **P 02 53 06.1 -0.8**
MOR8 Moi Rana 61.52 358 *e*P **P 02 53 04.8 -2.2**
MOR8 AMb AMB 02 53 10.6
comp=Z,153nm,1.3s,mb6.0
MOR8 Moi Rana 61.52 358 *e*P **P 02 53 04.8 -2.2**
comp=Z,153nm,1.3s,mb6.0
PAL Palisades 61.62 59 *e*P **P 02 53 08.6 +0.9**
PAL pmax pmax
comp=Z,103nm,0.9s,mb6.0
PAL Palisades 61.62 59 *e*P **P 02 53 08.6 +0.9**
comp=Z,103nm,0.9s,mb6.0
HRV Harvard--Oak R 61.75 56 *e*P **P 02 53 08.3 -0.2**
HRV pmax pmax
comp=Z,113nm,1.2s,mb5.9
HRV MLR MLR
comp=Z,21µm,20.0s,MS6.3
HRV Harvard--Oak R 61.75 56 *e*P **P 02 53 08.3 -0.2**
comp=Z,113nm,1.2s,mb5.9
HRV LR LR
comp=Z,21µm,20.0s,MS6.3
CPNY Central Park 61.75 59 *e*P **P 02 53 09.8 +1.2**
CBN Corbin 61.80 63 PFAKE 02 53 20.0 +11
CBN LR LR
comp=Z,9µm,19.0s,MS5.9
WES Weston 61.95 56 *e*P **P 02 53 09.2 -0.7**
WES pmax pmax
comp=Z,89nm,0.8s,mb6.0
WES MLR MLR
comp=Z,17µm,19.0s,MS6.2
WES Weston 61.95 56 *e*P **P 02 53 09.2 -0.7**
comp=Z,89nm,0.8s,mb6.0
WES LR LR
comp=Z,17µm,19.0s,MS6.2
KURK Kurchatov 62.26 318 P **P 02 53 11.5 -0.5**
comp=Z,982nm,0.6s,mb7.1,SNR=98
KURK Kurchatov 62.26 318 *e*P **P 02 53 10.7 -1.3**
KURK pmax pmax
comp=Z,91nm,0.6s,mb6.1
KURK Kurchatov 62.26 318 *e*P **P 02 53 10.7 -1.3**
comp=Z,91nm,0.6s,mb6.1
JSC Jenkinsville 62.46 69 *e*P **P 02 53 11.5 -1.8**
NSS Namsos 63.20 359 *e*P **P 02 53 17.0 -1.2**
NSS AMb AMB 02 53 22.0
comp=Z,330nm,1.4s,mb6.3
NSS *e*S **S** **03 01 49.4 +3.8**
NSS *e*SKSa 03 03 10.2
NSS AMS AMS 03 20 35.3
comp=Z,15µm,20.9s,MS6.1
NSS Namsos 63.20 359 *e*P **P 02 53 17.0 -1.2**
comp=Z,330nm,1.4s,mb6.3
PPM Popocatepetl 63.32 93 *i* P **P 02 53 20.3 +1.3**
CVP Callao Caves 63.37 264 *e*P **P 02 53 22.0 +2.7**
COW Cow Castle Cre 63.44 69 *e*P **P 02 53 18.2 -1.6**
COW *e*pP pP 02 53 33.8 -1.0
WMQ Urumqi 63.46 308⇓P **P 02 53 20.6 +0.7**
WMQ PCP PcP 02 53 55.8 -0.5
WMQ PP PP 02 55 42.1 +2.2
WMQ PPP 02 57 14.5
WMQ SCP ScP 02 57 52.4 -1.6
WMQ PCS 02 57 58.6
WMQ S **S** **03 01 48.1 -0.8**
WMQ PS 03 02 13.3
WMQ SCS ScS 03 03 06.1 -2.4
WMQ SS SS 03 05 57.3 +0.8
WMQ AMB AMB
comp=Z,257nm,1.4s,mb6.2
WMQ AMB AMB
comp=Z,5µm,8.0s
WMQ LR LR
comp=N,30µm,18.3s,MS6.5

WMQ LR LR
comp=E,19µm,22.3s,MS6.5
WMQ LR LR
comp=Z,26µm,19.0s,MS6.4
SVE Sverdlovsk 63.53 332 *o*eP **P 02 53 19.9 -0.5**
SVE *e* 02 53 55.0
SVE *e*PPP 02 57 14.0
SVE *e* 03 01 44.0
SVE *e*S **S 03 02 06.0 +16**
SVE *e* 03 06 08.0
SVE pmax pmax
comp=Z,44nm,1.0s,mb5.4
SVE pmax pmax
comp=N,1µm,9.0s
SVE pmax pmax
comp=E,700nm,9.0s
SVE pmax pmax
comp=Z,3µm,9.0s
SVE MLR MLR
comp=N,12µm,16.0s,MS6.3
SVE MLR MLR
comp=E,14µm,16.0s,MS6.3
SVE MLR MLR
comp=Z,30µm,16.0s,MS6.6
BVA0 Borovoye Array 63.57 324 *i* P **P 02 53 20.2 -0.4**
BVA0 pmax pmax
comp=Z,24nm,0.7s,mb5.3
BVAR Borovoye Array 63.57 324 P **P 02 53 20.2 -0.5**
comp=Z,65nm,0.5s,mb5.9,baz=46,slow=6.5,SNR=181
BVAR PcP PcP 02 53 58.7 +2.0
comp=Z,80nm,0.7s,baz=49,slow=4.5,SNR=8.9
BVAR SKKP 03 17 28.0
comp=Z,0.8nm,0.6s,baz=214,slow=4.9,SNR=5.6
BVAR Borovoye Array 63.57 324 P **P 02 53 20.2 -0.4**
BVAR 02 53 58.7
BRVK Borovoye 63.58 324 P **P 02 53 20.1 -0.6**
comp=Z,1µm,0.7s,mb7.0,SNR=36
BRVK Borovoye 63.58 324 *e*P **P 02 53 20.2 -0.5**
BRVK *e* 02 53 55.4
BRVK pmax pmax
comp=Z,122nm,1.4s,mb5.7
BRVK MLR MLR
comp=Z,52µm,19.0s,MS6.7
BRVK Borovoye 63.58 324 *e*P **P 02 53 20.2 -0.5**
comp=Z,122nm,1.4s,mb5.7
BRVK *e*PcP PcP 02 53 55.4 -1.4
BRVK LR LR
comp=Z,52µm,19.0s,MS6.7
VOSK Vostochnaya 63.60 324 P **P 02 53 19.2 -1.6**
VOSK pmax pmax
comp=Z,181nm,1.2s,mb6.0
JOF Joensuu 63.70 350 *e*p **P 02 53 20.0 -1.5**
MK31 Makanchi Array 63.71 313 P **P 02 53 20.0 -1.6**
MK31 pmax pmax
comp=Z,55nm,1.0s,mb5.5
MKAR Makanchi Array 63.71 313 P **P 02 53 20.1 -1.5**
comp=Z,28nm,0.7s,mb5.4,baz=46,slow=6.9,SNR=72
MKAR SKKP 03 17 29.3
comp=Z,0.5nm,0.6s,baz=205,slow=5.9,SNR=4.1
MKAR PKP2bc 03 22 18.6
comp=Z,3.8nm,1.2s,baz=194,slow=4.4,SNR=8.8
MKAR Makanchi Array 63.71 313 P **P 02 53 20.1 -1.5**
MKAR SKKP 03 17 29.3
MKAR ⇑*e* 03 22 18.6
NHSC New Hope 63.94 69 *e*P **P 02 53 22.0 -1.0**
comp=Z,626nm,1.1s,mb6.5
ZRNK Zerenda 64.11 325 *e*P **P 02 53 23.5 -0.7**
ZRNK pmax pmax
comp=Z,306nm,0.6s,mb6.5
ZRNK Zerenda 64.11 325 *e*P **P 02 53 23.5 -0.7**
comp=Z,306nm,0.6s,mb6.5
CD2 Chengdu 64.39 288 ⇑*i*P **P 02 53 25.9 -0.1**
CD2 PCP PcP 02 54 03.5 +3.4
CD2 PP PP 02 55 45.5 -2.6
CD2 S **S 03 01 51.5 -8.9**
CD2 AMB AMB
comp=Z,330nm,1.1s,mb6.3
CD2 AMB AMB
comp=Z,4µm,10.2s
CD2 LR LR
comp=N,12µm,21.6s
CD2 LR LR
comp=Z,16µm,22.8s,MS6.1
ARU Arti 64.45 333 P **P 02 53 25.6 -0.8**
comp=Z,1µm,0.8s,mb7.0,SNR=22
ARU Arti 64.45 333 ⇑*i*P **P 02 53 25.8 -0.7**
ARU *i* 02 53 59.7
ARU *e* 02 55 48.1
ARU *e*PPP 02 57 22.9
ARU *e*S **S 03 02 04.3 +3.1**
ARU *e* 03 03 13.6
ARU *e*SS SS 03 06 16.1 +4.1
ARU pmax pmax
comp=Z,371nm,1.7s,mb6.1
ARU MLR MLR
comp=Z,28µm,22.0s,MS6.4
ARU MLR MLR
comp=N,17µm,21.0s,MS6.4
ARU MLR MLR
comp=E,19µm,20.0s,MS6.4
HKC Hong Kong 64.55 274 P **P 02 53 22.0 -5.0**
KLMR Klimovskoe 64.58 345 *c i*P **P 02 53 26.1 -1.2**
KLMR *e*PPP 02 57 22.8
KLMR *e*S **S 03 02 00.9 -1.9**
KLMR *e*SS SS 03 06 15.4 +1.4
KLMR pmax pmax
comp=Z,210nm,1.5s,mb6.0
KLMR pmax pmax
comp=Z,2µm,10.7s
KLMR MLR MLR
comp=Z,21µm,23.0s,MS6.3
KAF Kangasniemi 64.97 352 *e*p **P 02 53 28.8 -1.0**
PVCP Virac 65.14 260 *e*P **P 02 53 31.5 +0.5**
FINES FINESS Array B 65.65 352 P **P 02 53 33.5 -0.7**
comp=Z,58nm,0.7s,mb5.7,baz=24,slow=6.7,SNR=101
FINES SKKPbc 03 17 38.8
comp=Z,0.4nm,0.5s,baz=208,slow=6.5,SNR=4.1
FINES PKP2bc 03 22 13.9
comp=Z,4.1nm,0.9s,baz=143,slow=6.9,SNR=5.4
FINES LR LR 03 24 43.8
comp=Z,25µm,20.2s,MS6.4,baz=8.0,slow=38
FINES FINESS Array B 65.65 352 P **P 02 53 33.5 -0.7**
FINES SKKPbc 03 17 38.8
FINES ⇑*e* 03 22 13.9
FINES LR LR 03 24 43.8
PNIG Pinotepa 65.67 95 *e*P **P 02 53 32.5 -1.8**
DOMB Dombas 65.69 1 *e*P **P 02 53 33.9 -0.6**
DOMB AMb AMB 02 53 39.1
comp=Z,270nm,1.6s,mb6.0
DOMB Dombas 65.69 1 *e*P **P 02 53 33.9 -0.6**
comp=Z,270nm,1.6s,mb6.0
GYA Guiyang 65.97 282 ⇑*i*P **P 02 53 36.2 -0.1**
GYA PP PP 02 56 04.7 +2.8
GYA PPP 02 57 41.7
GYA S S 03 02 18.8 -1.0
GYA SS SS 03 06 36.4 +0.8
GYA AMB AMB
comp=Z,620nm,1.1s,mb6.5
GYA AMB AMB
comp=Z,4µm,11.4s
GYA LR LR
comp=N,13µm,17.4s,MS6.3
GYA LR LR
comp=E,9µm,18.2s,MS6.3
GYA LR LR
comp=Z,18µm,17.8s,MS6.3
OXX Oaxaca 65.99 93 *e*P **P 02 53 39.0 +2.6**
VHO Vista Hermosa 66.00 93 *e*P **P 02 53 38.7 +2.3**
SCZP Santa Cruz 66.01 265 *e*P **P 02 53 36.9 +0.3**
FOO Floro 66.06 3 *e*P **P 02 53 36.1 -0.8**
FOO AMb AMB 02 53 41.3
comp=Z,253nm,1.4s,mb6.1
FOO Floro 66.06 3 *e*P **P 02 53 36.1 -0.8**
comp=Z,253nm,1.4s,mb6.1
TAOE Nuku Hiva Isla 66.07 148 *e*S S 03 02 20.6 -0.4
comp=Z,105µm,27.8s
TAOE *e*SS SS 03 06 26.4 -11
comp=Z,28µm,27.4s
TAOE *e*LQ 03 10 03.4
comp=Z,22µm,30.0s
TAOE *e*LR LR 03 13 19.4
comp=Z,100µm,22.9s,baz=352
AFI Afiamalu 66.27 183 PFAKE
AFI LR LR 02 53 50.0 +12
comp=Z,8µm,21.0s,MS5.9

HYA Hoyanger 66.52 2 *e*P **P 02 53 40.5 +0.7**
HYA AMb AMB 02 53 45.1
comp=Z,270nm,1.5s,mb6.0
HYA Hoyanger 66.52 2 *e*P **P 02 53 40.5 +0.7**
comp=Z,270nm,1.5s,mb6.1
TGY Tagaytay City 66.69 263 P **P 02 53 42.0 +1.1**
comp=Z,260nm,0.4s,baz=45,slow=9.1,SNR=19
NB2 NORSAR Subarra 66.71 360 P **P 02 53 40.7 -0.3**
comp=Z,122nm,0.8s,mb6.0,baz=360,slow=6.5
NOA NORSAR Array B 66.71 360 P **P 02 53 40.0 -0.9**
comp=Z,112nm,0.9s,mb5.9,baz=0.1,slow=6.3,SNR=119
NOA PKP2bc 03 22 09.9
comp=Z,1.1nm,0.8s,baz=176,slow=3.7,SNR=5.3
NOA LR LR 03 23 32.8
comp=Z,11µm,19.3s,MS6.1,baz=0.0,slow=37
NOA NORSAR Array B 66.71 360 P **P 02 53 40.0 -0.9**
NOA ⇑*e* 03 22 09.9
NOA LR LR 03 23 32.8
PUL Pulkovo 66.88 349 *e*P **P 02 53 42.5 +0.4**
PUL *e*S S 03 02 35.8 +5.0
PUL pmax pmax
comp=Z,247nm,0.7s,mb6.3
PUL pmax pmax
comp=N,476nm,1.3s
PUL pmax pmax
comp=E,40nm,0.6s
PUL smax
comp=N,99nm,0.4s
PUL smax
comp=E,94nm,0.5s
PUL MLR MLR
comp=Z,25µm,23.0s,MS6.4
PUL MLR MLR
comp=N,14µm,22.0s,MS6.3
PUL MLR MLR
comp=E,16µm,20.0s,MS6.3
PUL Pulkovo 66.88 349 ⇑*e*P **P 02 53 42.6 +0.5**
DWPF Disney 66.90 74 *e*P **P 02 53 42.8 +0.5**
comp=E,182nm,1.1s,mb6.0
DWPF LR LR
comp=Z,10µm,19.0s,MS6.1
NAO01 NORSAR Array S 66.90 360 PFAKE
NAO01 LR LR 02 53 50.0 +7.8
comp=Z,13µm,19.0s,MS6.2
WAL1 Walls 67.05 7 ⇑*e*P **P 02 53 42.2 -1.0**
ASK Askoy 67.18 3 *e*P **P 02 53 43.9 0.0**
ASK AMb AMB 02 53 49.2
comp=Z,404nm,1.3s,mb6.3
ASK Askoy 67.18 3 *e*P **P 02 53 43.9 0.0**
comp=Z,404nm,1.3s,mb6.3
HNR Honiara 67.19 213 LR LR 03 18 11.6
comp=Z,10µm,20.8s,MS6.0,baz=1.1,slow=32
HNR Honiara 67.19 213 PFAKE 02 54 00.0 +16
HNR LR LR
comp=Z,10µm,20.0s,MS6.0
LRW Lerwick 67.20 6 *e*P **P 02 53 43.9 -0.2**
RUND Rundenannen 67.25 3 *e*P **P 02 53 43.7 -0.7**
RUND AMb AMB 02 53 50.9
comp=Z,461nm,1.2s,mb6.4
BER Bergen 67.28 3 *e*P **P 02 53 43.8 -0.9**
BER ⇑*i*P 02 53 43.8
BER AMb AMB 02 53 49.9
comp=Z,223nm,1.6s,mb6.0
BER AMb AMB 02 53 50.4
comp=Z,243nm,1.6s,mb6.0
BER *e*S S 03 02 40.1 +4.5
BER AMS AMS 03 26 13.0
comp=Z,8µm,16.5s,MS6.0
HUIG Huatulco 67.38 94 *i* P **P 02 53 45.1 -0.1**
EGD Espegrend 67.39 3 *e*P **P 02 53 45.4 +0.1**
EGD AMb AMB 02 53 50.5
comp=Z,397nm,1.3s,mb6.3
EGD Espegrend 67.39 3 *e*P **P 02 53 45.4 +0.1**
comp=Z,397nm,1.3s,mb6.3
ODD1 Odda 67.79 2 *e*P **P 02 53 46.5 -1.4**
ODD1 AMb AMB 02 53 51.9
comp=Z,294nm,1.4s,mb6.1
ODD1 Odda 67.79 2 *e*P **P 02 53 46.5 -1.4**
comp=Z,294nm,1.4s,mb6.1
OSL Oslo 67.81 0 *e*P **P 02 53 47.5 -0.5**
OSL AMb AMB 02 53 51.4
comp=Z,193nm,1.1s,mb6.0
OSL Oslo 67.81 0 *e*P **P 02 53 47.5 -0.5**
comp=Z,193nm,1.1s,mb6.0
PECR Pechory 68.04 341 *de*P **P 02 53 48.4 -1.0**
PECR *e* pP 02 54 04.7 +0.2
PECR *e* 02 56 22.0
PECR *e*S S 03 02 51.0 +6.3
PECR *e*PS 03 03 28.0
PECR pmax pmax
comp=Z,3µm,1.4s,mb7.1
PECR pmax pmax
comp=Z,3µm,10.0s
PECR pmax pmax
comp=N,1µm,7.0s
PECR MLR MLR
comp=E,19µm,20.0s,MS6.5
PECR MLR MLR
comp=Z,58µm,20.0s,MS6.8
PECR MLR MLR
comp=N,24µm,19.0s,MS6.5
KONO Kongsberg 68.10 1 ⇑*i*P **P 02 53 49.1 -0.7**
KONO *e*S S 03 02 49.6 +4.2
BIPH Bislig 68.12 254 ⇑*i*P **P 02 53 45.2 -4.7**
BLS5 Blasjo 68.28 2 *e*P **P 02 53 51.0 +0.1**
BLS5 AMb AMB 02 53 56.5
comp=Z,92nm,1.3s,mb5.7
BLS5 Blasjo 68.28 2 *e*P **P 02 53 51.0 +0.1**
comp=Z,92nm,1.3s,mb5.7
KMY Karmoy 68.45 3 *e*P **P 02 53 50.9 -1.0**
KMY AMb AMB 02 53 56.7
comp=Z,148nm,1.7s,mb5.7
KMY Karmoy 68.45 3 *e*P **P 02 53 50.9 -1.0**
comp=Z,148nm,1.7s,mb5.7
RTO Tolsta 68.52 10 *e*P **P 02 53 51.5 -0.9**
VSU Vasula 68.54 351 ⇑*i*P **P 02 53 51.0 -1.5**
STAV Stavanger 68.74 3 *e*P **P 02 53 52.5 -1.3**
STAV AMb AMB 02 53 59.0
comp=Z,227nm,1.3s,mb6.0
STAV Stavanger 68.74 3 *e*P **P 02 53 52.5 -1.3**
comp=Z,227nm,1.3s,mb5.9
AAA Alma-Ata 68.83 314 *e*P **P 02 53 54.5 +0.2**
AAA *e*S S 03 03 02.0 +8.0
AAA pmax pmax
comp=Z,4µm,10.0s
AAA smax
comp=N,6µm,19.0s
AAA MLR MLR
comp=Z,28µm,18.0s,MS6.5
MLA1 Latheron 68.85 8 ⇑*e*P **P 02 53 53.9 -0.6**
REB Eisghbrachaidh 68.86 9 ⇑*e*P **P 02 53 53.3 -1.2**
RRH Rhenigidale 68.92 10 *e*P **P 02 53 54.1 -0.7**
RRR Rubha Reidh 69.07 9 ⇑*e*P **P 02 53 55.1 -0.7**
KMI Kunming 69.30 284 ⇑P **P 02 53 57.5 +0.2**
KMI AP pP 02 54 03.8 -8.6
KMI XP sP 02 54 06.0 -13
KMI PCP PcP 02 54 22.2 +1.7
KMI PP PP 02 56 32.3 +1.4
KMI PPP 02 58 14.1
KMI S S 03 03 01.5 +1.9
KMI XS sS 03 03 10.8 -14
KMI SKS 03 03 53.0
KMI SCS ScS 03 03 54.3 +0.6
KMI SS SS 03 07 29.4 +2.3
KMI SSS 03 10 36.7
KMI AMB AMB
comp=Z,310nm,1.4s,mb6.0
KMI AMB AMB
comp=Z,4µm,5.4s
KMI LR LR
comp=N,16µm,16.0s
KMI LR LR
comp=E,11µm,22.0s
KMI LR LR
comp=Z,16µm,19.0s,MS6.3
KSK Scoval 69.36 10 *e*P **P 02 53 56.9 -0.8**
CCIG Comitan 69.40 90 *i* P **P 02 53 59.5 +1.6**
KAC Achnashellach 69.47 9 ⇑*e*P **P 02 53 57.4 -0.9**
MCD Coleburn Disti 69.58 8 ⇑*e*P **P 02 53 58.2 -0.7**
KPL Plockton 69.60 9 *e*P **P 02 53 58.4 -0.7**
QIZ Qiongzhong 69.65 275 ⇑P **P 02 53 59.7 +0.3**
QIZ AP pP 02 54 04.2 -10
QIZ PP PP 02 56 33.6 -0.3
QIZ S S 03 03 10.2 +6.4
QIZ XS sS 03 03 20.9 -8.4

QIZ PS 03 03 46.2
QIZ SS SS 03 07 37.7 +5.1
QIZ AMB AMB
comp=Z,162nm,1.6s,mb5.7
QIZ AMB AMB
comp=Z,4µm,11.6s
QIZ LR LR
comp=N,8µm,23.5s,MS6.1
QIZ LR LR
comp=E,9µm,23.1s,MS6.1
QIZ LR LR
comp=Z,16µm,23.1s,MS6.2
QIZ Qiongzhong 69.65 275 *e*P **P 02 54 00.0 +0.6**
comp=Z,360nm,1.5s,mb6.1
QIZ LR LR
comp=Z,13µm,20.0s,MS6.2
KSB Sheil Bridge 69.75 9 ⇑*e*P **P 02 53 59.0 -1.0**
ORR Orenburg 69.76 333 *c i*P **P 02 53 56.7 -3.4**
ORR *i* pP 02 54 11.5 -3.8
ORR *i* 02 56 31.9
ORR *i*PPP 02 58 15.3
ORR *i*S S 03 03 12.3 +7.2
ORR pmax pmax
comp=Z,340nm,1.3s,mb6.1
ORR MLR MLR
comp=Z,32µm,19.0s,MS6.6
MOS Moscow 69.77 344 *α i*P **P 02 53 59.7 -0.5**
MOS *e* 02 54 23.2
MOS *e* 02 56 34.0
MOS *e*PPP 02 58 17.9
MOS *e*S S 03 03 05.3 +0.1
MOS *e*PS 03 03 36.9
MOS *i* 03 03 57.0
MOS pmax pmax
comp=Z,176nm,0.7s,mb6.1
MOS MLR MLR
comp=N,38µm,20.0s
MOS MLR MLR
comp=Z,35µm,20.0s,MS6.6
PMOR Pomariorio Ree 69.81 158 *e*P **P 02 54 00.5 +0.1**
comp=Z,115nm,1.0s,mb5.7
AKTK Aktyubinsk 69.86 330 P **P 02 54 00.2 -0.5**
AKTO Aktyubinsk 69.86 330 P **P 02 54 00.2 -0.4**
comp=Z,93nm,0.5s,mb6.0,baz=44,slow=6.6,SNR=151
AKTO Aktyubinsk 69.86 330 *i* P **P 02 54 00.3 -0.4**
AKTO pmax pmax
comp=Z,44nm,0.7s,mb5.5
MME1 Meikle Cairn 69.87 8 ⇑*e*P **P 02 53 59.7 -1.1**
SOR Soroa 69.97 79 *e*P **P 02 54 01.8 +0.4**
KAR1 Arisaig 69.99 10 ⇑*e*P **P 02 54 00.5 -1.0**
VAH Vaihoa 70.09 158 *e*P **P 02 54 01.9 -0.2**
comp=Z,119nm,0.9s,mb5.8
FRU Bishkek 70.19 315 *i* P **P 02 54 03.0 +0.3**
FRU *e* 02 58 14.0
FRU *e* 03 03 54.0
FRU pmax pmax
comp=Z,680nm,1.6s,mb6.3
FRU pmax pmax
comp=Z,4µm,8.0s
FRU MLR MLR
comp=E,31µm,16.0s
FRU MLR MLR
comp=Z,46µm,16.0s,MS6.8
AB31 Akbulak array 70.29 328 *e*P **P 02 54 03.0 -0.3**
AB31 pmax pmax
comp=Z,113nm,0.7s,mb5.9
AAK Ala-Archa 70.40 315 P **P 02 54 03.4 -0.6**
comp=Z,1µm,1.2s,mb6.7,SNR=73
AAK Ala-Archa 70.40 315 ⇑*e*P **P 02 54 02.5 -1.5**
AAK pmax pmax
comp=Z,299nm,1.4s,mb6.0
AAK MLR MLR
comp=Z,33µm,16.0s,MS6.7
AAK Ala-Archa 70.40 315 *e*P **P 02 54 02.8 -1.2**
comp=Z,10nm,1.6s
OBN Obninsk 70.54 345 P **P 02 54 03.0 -1.9**
comp=Z,1µm,0.5s,mb7.1,SNR=17
OBN Obninsk 70.54 345 *c i*P **P 02 54 03.6 -1.3**
OBN *i* 02 54 27.2
OBN *i*S S 03 03 09.9 -4.3
OBN pmax pmax
comp=Z,322nm,1.2s,mb6.1
OBN MLR MLR
comp=Z,26µm,19.0s,MS6.5
OBN Obninsk 70.54 345 *e*P **P 02 54 03.3 -1.6**
comp=Z,397nm,1.1s,mb6.3
OBN LR LR
comp=Z,27µm,20.0s,MS6.5
EAB Aberfoyle 70.86 9 ⇑*e*P **P 02 54 06.2 -0.7**
PGBU Glenifferbraes 71.22 9 *e*P **P 02 54 08.2 -0.8**
EDI Edinburgh 71.23 8 *e*P **P 02 54 08.2 -0.8**
IZAR Zarasai 71.26 351 *e*P **P 02 54 08.9 -0.3**
IZAR AMb AMB 02 54 13.7
comp=Z,3µm,1.2s,mb7.1
EAU Auchinoon 71.28 8 ⇑*e*P **P 02 54 08.9 -0.4**
ESY Stoneypath 71.28 8 ⇑*e*P **P 02 54 08.5 -0.9**
MUD Monsted U'grnd 71.30 1 ⇑*i*P **P 02 54 09.4 -0.1**
comp=Z,243nm,1.2s,mb6.0
MUD *e* 02 56 11.4
MUD *i*S S 03 03 29.4 +6.4
MUD *i* 03 11 47.2
MUD
comp=Z,12µm,20.0s
MUD Monsted U'grnd 71.30 1 ⇑*i*P **P 02 54 09.4 -0.1**
MUD *i*S S 03 03 29.4 +6.4
MUD pmax pmax
comp=Z,240nm,1.2s,mb6.0
MUD MLR MLR
comp=Z,12µm,20.0s,MS6.2
MUD Monsted U'grnd 71.30 1 ⇑*i*P **P 02 54 09.4 -0.1**
comp=Z,243nm,1.2s,mb6.0
MUD *e* 02 56 11.4
MUD *i*S S 03 03 29.4 +6.4
MUD *i* 03 11 47.2
EBL Broad Law 71.39 8 ⇑*e*P **P 02 54 09.4 -0.6**
PPR Puerto Princes 71.40 262 *e*P **P 02 54 11.8 +1.7**
comp=Z,82µm,1.0s
ISAL Salakas 71.45 351 *e*P **P 02 54 10.0 -0.4**
ISAL AMb AMB 02 54 13.5
comp=Z,2µm,1.0s,mb7.0
GMK Mull of Kintyr 71.57 10 ⇑*e*P **P 02 54 10.4 -0.6**
IDID Didziasalis 71.64 350 *e*P **P 02 54 11.1 -0.5**
IDID AMb AMB 02 54 14.7
comp=Z,3µm,1.2s,mb7.1
IIGN Ignalina 71.66 351 *e*P **P 02 54 11.2 -0.4**
IIGN AMb AMB 02 54 14.8
comp=Z,3µm,1.1s
KK31 Karatay Array 71.68 318 P **P 02 54 10.8 -0.9**
KK31 pmax pmax
comp=Z,227nm,1.1s,mb6.0
GCL Cushendall 71.78 10 ⇑*e*P **P 02 54 11.7 -0.6**
ESK Eskdalemuir 71.83 8 P **P 02 54 12.4 -0.2**
comp=Z,966nm,0.8s,mb6.8,SNR=26
ESK Eskdalemuir 71.83 8 *e*P **P 02 54 12.2 -0.4**
ESK pmax pmax
comp=Z,178nm,1.0s,mb6.0
ESK MLR MLR
comp=Z,15µm,22.0s,MS6.2
ESK Eskdalemuir 71.83 8 *e*P **P 02 54 12.2 -0.4**
comp=Z,178nm,1.0s,mb6.0
ESK LR LR
comp=Z,15µm,22.0s,MS6.2
PPT Papeete 71.93 160 *e*S S 03 03 29.1 -1.1
comp=Z,16µm,28.0s
PPT *e*SS SS 03 08 12.7 +5.2
comp=Z,10µm,27.8s
PPT *e*LR LR 03 16 00.7
comp=Z,50µm,28.2s,baz=350
PPT Papeete 71.93 160 LR LR 03 18 31.5
comp=Z,13µm,21.7s,MS6.2,baz=297,slow=30
ECK Cauldkaine Hil 71.97 8 ⇑*e*P **P 02 54 12.6 -0.8**
COP Copenhagen 72.07 359 *i* P **P 02 54 14.0 -0.1**
comp=Z,99nm,0.9s,mb5.7
COP *i*S S 03 03 42.3 +10
COP *i* 03 08 42.0
COP
comp=Z,6µm,19.0s
COP Copenhagen 72.07 359 *i* P **P 02 54 14.0 -0.1**
COP *i*S S 03 03 42.3 +10
COP pmax pmax
comp=Z,99nm,0.9s,mb5.7
COP MLR MLR
comp=Z,6µm,19.0s,MS5.8
PMG Port Moresby 72.12 226 P **P 02 54 14.1 -0.3**
comp=Z,61nm,1.0s,mb5.5,baz=28,slow=4.6,SNR=19

PMG LR LR 03 20 31.2
comp=Z,12µm,21.5s,MS6.2,baz=19,slow=31
PMG Port Moresby 72.12 226 P **P** **02 54 14.1 -0.3**
PMG pmax pmax
comp=Z,61nm,1.0s
PMG Port Moresby 72.12 226 *eP* **P** **02 54 13.6 -0.9**
comp=Z,62nm,0.9s,mb5.5
PMG LR LR
comp=Z,14µm,22.0s,MS6.2
GAL1 Galloway 72.13 9⇑ *eP* **P** **02 54 13.7 -0.7**
GCD Castle Douglas 72.21 9 *eP* **P** **02 54 14.2 -0.7**
KSH Kashi 72.29 313⇑ *iP* **P** **02 54 16.0 +0.6**
KSH *eAP* pP 02 54 20.3 -10
KSH *eXP* sP 02 54 22.5 -14
KSH *ePCP* PcP 02 54 33.2 0.0
KSH *ePP* PP 02 56 56.1 -0.4
KSH *ePPP* 02 58 38.2
KSH *eS* S 03 03 34.2 -0.1
KSH *eXS* sS 03 03 42.3 -18
KSH *ePS* 03 04 07.0
KSH *eSKS* 03 04 14.3
KSH *eSCS* ScS 03 04 16.3 -1.0
KSH *eSS* SS 03 08 13.1 +0.1
KSH AMB AMB
comp=Z,330nm,1.3s,mb6.1
KSH AMB AMB
comp=Z,3µm,13.4s
KSH LR LR
comp=N,33µm,16.9s,MS6.7
KSH LR LR
comp=E,18µm,16.6s,MS6.7
KSH LR LR
comp=Z,30µm,16.9s,MS6.6
MGV Manicaragua 72.30 77 *eP* **P** **02 54 15.3 -0.1**
MNK Minsk 72.33 350 *eP* **P** **02 54 13.0 -2.6**
MNK *e* 02 57 00.0
MNK *ePPP* 02 58 46.0
MNK *eS* S 03 03 26.0 -8.8
MNK *eSS* SS 03 08 18.0 +4.4
MNK pmax pmax
comp=Z,2µm,1.0s,mb7.0
MNK MLR MLR
comp=N,22µm,18.0s,MS6.7
MNK MLR MLR
comp=E,30µm,20.0s,MS6.7
MNK MLR MLR
comp=Z,52µm,20.0s,MS6.8
LSA Lhasa 72.43 296 P **P** **02 54 17.4 +1.1**
LSA AP pP 02 54 25.0 -6.5
LSA XP sP 02 54 29.5 -8.1
LSA PP PP 02 57 02.6 +4.8
LSA AMB AMB
comp=Z,50nm,1.3s,mb5.3
LSA LR LR
comp=N,4µm,26.8s,MS5.8
LSA LR LR
comp=E,6µm,29.2s,MS5.8
LSA LR LR
comp=Z,2µm,21.9s
LSA Lhasa 72.43 296 *eP* **P** **02 54 17.2 +0.9**
LSA pmax pmax
comp=Z,468nm,1.1s,mb6.3
LSA MLR MLR
comp=Z,24µm,20.0s,MS6.5
LSA Lhasa 72.43 296 *eP* **P** **02 54 17.2 +1.0**
comp=Z,468nm,1.1s,mb6.3
LSA LR LR
comp=Z,24µm,20.0s,MS6.5
CKE Keswick 72.56 8⇑ *eP* **P** **02 54 16.7 -0.3**
BSD Bornholm Skovb 72.60 358⇑ *iP* **P** **02 54 16.5 -0.7**
comp=Z,110nm,0.9s,mb5.8
BSD *eS* S 03 03 53.5 +16
BSD *i* 03 08 48.5
BSD
comp=Z,13µm,19.0s
BSD Bornholm Skovb 72.60 358⇑ *iP* **P** **02 54 16.5 -0.7**
BSD pmax pmax
comp=Z,110nm,0.9s,mb5.8
BSD MLR MLR
comp=Z,13µm,19.0s,MS6.2
BSD Bornholm Skovb 72.60 358⇑ *iP* **P** **02 54 16.5 -0.7**
comp=Z,110nm,0.9s,mb5.8
BSD *eS* S 03 03 53.5 +16
BSD *i* 03 08 48.5
XDE Dent Fell 72.60 9⇑ *eP* **P** **02 54 16.6 -0.7**
XDE AMb AMB 02 54 22.4
comp=Z,430nm,1.3s,mb6.2
GMM Mts of Mourne 72.62 10 *eP* **P** **02 54 16.6 -0.8**
GlM North Isle of 72.72 9 *eP* **P** **02 54 17.6 -0.4**
CDU1 Dunnerdale 72.80 9 *eP* **P** **02 54 18.1 -0.4**
WlM Isle of Man 72.84 9⇑ *eP* **P** **02 54 18.3 -0.4**
WlM AMb AMB 02 54 24.0
comp=Z,448nm,1.2s,mb6.3
BBSR BB Station 72.97 59 *eP* **P** **02 54 19.5 0.0**
comp=Z,123nm,0.9s,mb5.8
BBSR LR LR
comp=Z,13µm,20.0s,MS6.2
RGN Rugen 73.20 358 *eP* **P** **02 54 21.0 +0.2**
comp=Z,338nm,0.9s,mb6.3
RGN Rugen 73.20 358 *eP* **P** **02 54 21.2 +0.4**
comp=Z,360nm,0.9s,mb6.3
SUW Suwalki 73.25 352 *ePc* 02 54 20.0
SUW *eS* S 03 03 45.9 +0.6
SUW *esS* sS 03 03 59.6 -11
SUW *eSKS* 03 04 35.1
SUW *eSS* SS 03 08 39.4 +12
SUW L 03 27 42.0
comp=Z,25nm,22.1s
SUW Suwalki 73.25 352⇑ *eP* **P** **02 54 20.0 -1.1**
SUW *eS* S 03 03 45.9 +0.6
SUW *e* 03 04 35.1
SUW MLR MLR
comp=Z,25µm,22.1s,MS6.5
SUW Suwalki 73.25 352⇑ *eP* **P** **02 54 20.0 -1.1**
SUW *eS* S 03 03 45.9 +0.6
SUW *eSS* sS 03 03 59.6 -11
SUW *eSKS* 03 04 35.1
SUW *eSS* SS 03 08 39.4 +12
VOR Voronezh 73.33 342 *eP* **P** **02 54 20.0 -1.5**
VOR *e* pP 02 54 30.0 -6.8
VOR *e* pP 02 54 39.0 +2.2
VOR pmax pmax
comp=Z,220nm,1.5s,mb5.9
VOR pmax pmax
comp=N,180nm,1.4s
DCN Croghan 73.35 11⇑ *iP* **P** **02 54 21.2 -0.5**
VRHR Novokhopersk 73.45 340 *eP* **P** **02 54 21.2 -1.1**
VRHR *eS* S 03 03 42.6 -5.0
VRHR pmax pmax
comp=Z,110nm,1.0s,mb5.7
VRHR pmax pmax
comp=N,60nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR smax
comp=N,6µm,16.5s
VRHR smax
comp=Z,4µm,17.4s
VRHR smax
comp=E,2µm,15.5s
DLF Lyons Farm 73.48 11⇑ *iP* **P** **02 54 21.5 -1.0**
DSB Dublin 73.55 11 *eP* **P** **02 54 22.0 -0.9**
comp=E,117nm,1.0s,mb5.8
HLG Helgoland 73.56 2 *eP* **P** **02 54 23.0 +0.1**
comp=Z,659nm,1.2s,mb6.4
WCB1 Church Bay 73.62 10⇑ *eP* **P** **02 54 22.5 -0.7**
WCB1 AMb AMB 02 54 26.8
comp=Z,207nm,1.6s,mb5.8
WME Myndd Eilian 73.62 9 *eP* **P** **02 54 23.5 +0.2**
WME AMb AMB 02 54 28.2
comp=Z,343nm,1.6s,mb6.0
LHO Holmfirth 73.70 8⇑ *eP* **P** **02 54 23.3 -0.5**
WLF1 Llynfaes 73.72 9⇑ *eP* **P** **02 54 23.0 -0.8**
YRC Rhoscolyn 73.74 10 *eP* **P** **02 54 22.7 -1.3**
YRC AMb AMB 02 54 29.1
comp=Z,172nm,1.5s,mb5.8
WPM1 Penmaenmawr 73.80 9⇑ *eP* **P** **02 54 23.5 -0.8**
BSEG Bad Segeberg 73.83 0 *eP* **P** **02 54 24.6 +0.1**
comp=Z,201nm,1.0s,mb6.0
BSEG Bad Segeberg 73.83 0 *eP* **P** **02 54 24.6 +0.1**
BSEG pmax pmax
comp=Z,201nm,1.0s,mb6.0
YLL Llanberis 73.89 9 *eP* **P** **02 54 24.2 -0.6**
KBI1 Birley Grange 74.01 8⇑ *eP* **P** **02 54 25.1 -0.5**
YRE Yr Eifl 74.02 9⇑ *eP* **P** **02 54 24.9 -0.7**

YRE AMb AMB 02 54 30.8
comp=Z,377nm,1.5s,mb6.1
SBD1 Bryn Du 74.21 9⇑ *eP* **P** **02 54 26.4 -0.3**
KWE Weaver Farm 74.22 8⇑ *eP* **P** **02 54 26.4 -0.4**
CCCC Cccc 74.31 76 *eP* **P** **02 54 27.0 -0.3**
GKP Gorka Klasztor 74.36 356 *ePc* **P** **02 54 27.4 -0.2**
GKP *eS* S 03 03 57.5 -0.3
GKP *esS* sS 03 04 15.2 -8.3
GKP *eSKS* 03 04 30.1
GKP *eScS* ScS 03 04 37.7 +3.8
GKP *eSS* SS 03 09 01.4 +17
GKP L 03 26 43.1
comp=Z,29nm,23.4s
GKP Gorka Klasztor 74.36 356⇑ *eP* **P** **02 54 27.4 -0.2**
GKP *eS* S 03 03 57.5 -0.3
GKP *e* 03 04 30.1
GKP *e* 03 04 37.7
GKP MLR MLR
comp=Z,29µm,23.4s,MS6.5
HLM1 Long Mynd 74.63 9⇑ *eP* **P** **02 54 28.6 -0.6**
HLM1 AMb AMB 02 54 34.0
comp=Z,238nm,1.3s,mb6.0
SSP1 Stoney Pound 74.70 9⇑ *eP* **P** **02 54 29.1 -0.5**
SSP1 AMb AMB 02 54 33.1
comp=Z,388nm,1.0s,mb6.3
WIT Witteveen 74.90 3⇑ *eP* **P** **02 54 31.6 +0.9**
comp=Z,1µm,1.4s,mb6.6
HTR Trewern Hill 75.03 9 *eP* **P** **02 54 31.0 -0.5**
CHRT Chiangrai 75.06 283⇑ *iP* **P** **02 54 32.0 +0.3**
comp=Z,2µm,1.0s,mb7.0
MCH1 Michaelchurch 75.13 9⇑ *eP* **P** **02 54 31.6 -0.5**
WAR Warsaw 75.17 354 *eP* **P** **02 54 32.8 +0.5**
WAR *eS* S 03 04 04.2 -2.7
WAR *esS* sS 03 04 17.3 -15
WAR L 03 30 03.1
comp=Z,23nm,21.4s
WAR Warsaw 75.17 354 *eP* **P** **02 54 32.8 +0.5**
WAR *eS* S 03 04 04.2 -2.7
WAR MLR MLR
comp=Z,23µm,21.4s,MS6.5
SHL Shillong 75.23 293 *iP* **P** **02 54 32.0 -0.6**
SHL *eS* S 03 04 10.6 +3.1
RUE Ruedersdorf 75.26 358 *eP* **P** **02 54 32.8 0.0**
comp=Z,327nm,1.1s,mb6.2
RUE Ruedersdorf 75.26 358 *eP* **P** **02 54 32.4 -0.4**
comp=Z,255nm,1.0s,mb6.1
SSW Stow on the Wo 75.26 8 *eP* **P** **02 54 32.9 0.0**
HSA Swansea 75.27 10⇑ *eP* **P** **02 54 32.6 -0.2**
NANT Nan 75.34 282⇑ *iP* **P** **02 54 32.0 -1.3**
comp=Z,2µm,0.4s
IBBN Ibbenburen 75.43 2 *eP* **P** **02 54 33.8 0.0**
comp=Z,323nm,1.0s,mb6.2
HGH Gray Hill 75.50 9⇑ *eP* **P** **02 54 33.7 -0.5**
HGH AMb AMB 02 54 39.6
comp=Z,532nm,1.3s,mb6.3
HLGC Holguin 75.55 75 *eP* **P** **02 54 34.6 +0.2**
SKP1 Kophill 75.59 7 *eP* **P** **02 54 34.1 -0.6**
LMGC Las Mercedes 75.63 76 *eP* **P** **02 54 36.1 +1.2**
SWN1 Swindon 75.72 8 *eP* **P** **02 54 34.9 -0.5**
WTSB Winterswijk 75.75 3⇑ *eP* **P** **02 54 35.3 -0.3**
comp=Z,192nm,1.6s,mb5.8
SMD Mendips 75.84 9 *eP* **P** **02 54 35.5 -0.6**
KKM Kota Kinabalu 75.86 261 P **P** **02 54 36.8 +0.6**
KKM Kota Kinabalu 75.86 261 *eP* **P** **02 54 35.5 -0.7**
AKASG Malin Array Be 75.90 348 P **P** **02 54 35.1 -1.4**
comp=Z,166nm,0.9s,mb6.0,baz=9.9,slow=5.6,SNR=135
AKASG PP PP 02 57 26.9 -0.3
comp=Z,22nm,1.1s,baz=11,slow=9.2,SNR=4.6
AKASG PKPPKP 03 21 55.1
comp=Z,0.6nm,0.6s,baz=223,slow=1.7,SNR=4.2
AKASG Malin Array Be 75.90 348 *iP* **P** **02 54 35.0 -1.4**
AKASG pmax pmax
comp=Z,166nm,0.9s
CLZ Clausthal 75.93 0 *eP* **P** **02 54 36.9 +0.3**
comp=Z,412nm,1.4s,mb6.2
CLZ Clausthal 75.93 0 *eP* **P** **02 54 36.9 +0.3**
CLZ pmax pmax
comp=Z,412nm,1.4s,mb6.2
HEX Exmoor 75.97 9⇑ *eP* **P** **02 54 36.3 -0.6**
KKTK Khon Kaen 75.97 279⇓ *P* **P** **02 54 37.5 +0.6**
comp=Z,4µm,0.4s
HTL Hartland 75.98 10⇑ *eP* **P** **02 54 36.6 -0.3**
SWK Warminster 76.04 8 *eP* **P** **02 54 37.3 0.0**
TSM Tawau 76.25 259 P **P** **02 54 39.3 +0.8**
BUG Bochum--Univer 76.29 2 *eP* **P** **02 54 38.5 -0.2**
comp=Z,397nm,1.4s,mb6.2
CHG Chiang Mai 76.38 283⇑ *iP* **P** **02 54 38.9 -0.3**
comp=Z,150nm,1.2s,mb5.8
CHTO Chiang Mai 76.38 283 *eP* **P** **02 54 38.7 -0.5**
CHTO pmax pmax
comp=Z,457nm,1.3s,mb6.2
CHTO MLR MLR
comp=Z,14µm,19.0s,MS6.3
CHTO Chiang Mai 76.38 283 *eP* **P** **02 54 38.7 -0.5**
comp=Z,457nm,1.3s,mb6.2
CHTO LR LR
comp=Z,14µm,19.0s,MS6.3
CLL Collm 76.45 359 *eP* **P** **02 54 39.1 -0.5**
comp=Z,133nm,0.9s,mb5.9
CLL Collm 76.45 359⇑ *iP* **P** **02 54 39.1 -0.5**
comp=Z,133nm,0.9s,mb5.9
CLL *ix* x 02 54 53.7
CLL *ePP* PP 02 57 42.0 +10
CLL *eS* S 03 04 23.0 +2.1
CLL *ePS* 03 05 08.0
CLL *ex* x 03 05 44.0
CLL *eSS* SS 03 09 31.0 +15
CLL *eSSSS* 03 15 06.0
CLL LmH 03 28 00.0
comp=N,12µm,21.3s
CLL LmH 03 28 00.0
comp=E,5µm,20.0s
CLL LmV 03 30 00.0
comp=Z,18µm,20.6s
CLL Collm 76.45 359⇑ *iP* **P** **02 54 39.1 -0.5**
CLL *i* *PP pP 02 54 53.7 -1.2
CLL *eS* S 03 04 23.0 +2.1
CLL pmax pmax
comp=Z,42nm,0.9s,mb5.4
CLL MLR MLR
comp=Z,18µm,20.6s,MS6.4
CLL Collm 76.45 359⇑ *iP* **P** **02 54 39.1 -0.5**
comp=Z,133nm,0.9s,mb5.9
CLL *i* pP pP 02 54 53.7 -1.2
CLL *eS* S 03 04 23.0 +2.1
CLL LR LR
comp=Z,18µm,20.6s,MS6.4
RCC Rio Carpintero 76.46 75 *eP* **P** **02 54 38.1 -1.5**
CSA1 St Austell 76.57 10⇑ *eP* **P** **02 54 39.8 -0.5**
CPZ Penzance 76.68 11⇑ *eP* **P** **02 54 40.7 -0.2**
CPZ AMb AMB 02 54 46.3
comp=Z,308nm,1.3s,mb6.1
CCA1 Carnmenellis 76.69 10⇑ *eP* **P** **02 54 40.7 -0.3**
GUN Gumba 76.69 299 *eP* **P** **02 54 41.3 +0.4**
comp=Z,562nm,0.8s,mb6.6
JIRN Jiri 76.72 298 *eP* **P** **02 54 41.6 +0.5**
comp=Z,2µm,1.2s,mb6.8
CMA1 Manaccan 76.81 10⇑ *eP* **P** **02 54 41.4 -0.2**
KSP Ksiaz 76.83 356 *eP* **P** **02 54 41.4 -0.3**
KSP *eS* S 03 04 27.0 +2.0
KSP *esS* sS 03 04 41.0 -10
KSP *eSS* SS 03 09 30.3 +8.3
KSP L 03 30 16.5
comp=Z,27nm,20.6s
KSP Ksiaz 76.83 356⇑ *eP* **P** **02 54 41.7 0.0**
KSP *e*PP pP 02 54 54.6 -2.5
KSP *ePPP* 02 59 28.0
KSP *eS* S 03 04 23.0 -2.0
KSP MLR MLR
comp=Z,30µm,23.5s,MS6.5
KSP Ksiaz 76.83 356⇑ *eP* **P** **02 54 41.7 0.0**
KSP *epP* pP 02 54 54.6 -2.5
KSP *ePPP* 02 59 28.0
KSP *eS* S 03 04 23.0 -2.0
KSP *eSS* SS 03 09 14.0 -8.0
KSP LR LR
comp=Z,30µm,23.5s,MS6.5
UCC Uccle 76.83 4 P **P** **02 54 41.3 -0.4**
UCC AP pP 02 54 43.6 -13
UCC XP sP 02 54 49.0 -14
BRG Berggiesshubel 76.86 358 *eP* **P** **02 54 41.7 -0.2**
comp=Z,191nm,1.0s,mb6.0
BRG Berggiesshubel 76.86 358 *iP* **P** **02 54 41.8 -0.1**
comp=Z,80nm,0.9s,mb5.7

BRG *e* 02 56 40.2
comp=Z,19nm,1.2s
BRG S S 03 04 37.0 +12
BRG PS 03 05 17.0
BRG SS SS 03 09 32.0 +9.4
BRG
comp=N,8µm,20.2s
BRG
comp=E,3µm,19.1s
BRG
comp=Z,1µm,20.6s
BRG Berggiesshubel 76.86 358 *iP* **P** **02 54 41.8 -0.1**
BRG PS 03 05 17.0
BRG SS SS 03 09 32.0 +9.4
BRG pmax pmax
comp=Z,80nm,0.9s,mb5.7
BRG pmax pmax
comp=Z,19nm,1.2s
BRG MLR MLR
comp=N,8µm,20.2s,MS6.1
BRG MLR MLR
comp=E,3µm,19.1s,MS6.1
BRG MLR MLR
comp=Z,1µm,20.6s,MS5.2
BEBN Eben Emael 76.89 3 P **P** **02 54 42.1 +0.1**
BEBN XP sP 02 54 48.8 -15
HGN Heimansgroeve 76.93 3 *eP* **P** **02 54 42.1 -0.1**
comp=Z,271nm,1.7s,mb5.9
HGN *ePPP* 02 59 41.6
HGN *eS* S 03 04 21.3 -4.8
HGN *eSS* SS 03 09 30.3 +6.7
MENF Mencas 76.96 6 *eP* **P** **02 54 42.2 -0.2**
MEM Membach 77.08 3 P **P** **02 54 43.1 -0.1**
comp=Z,86nm,1.0s,mb5.6
MEM E 02 54 45.5
MEM AP pP 02 54 47.4 -11
MEM XP sP 02 54 49.9 -15
MEM E 02 55 03.7
KKN Kakani 77.11 299 *eP* **P** **02 54 43.4 +0.1**
comp=Z,970nm,1.4s,mb6.5
SNF Seneffe 77.12 4 P **P** **02 54 43.4 +0.1**
comp=Z,35nm,1.2s,mb5.2
MOX Moxa 77.13 359 *eP* **P** **02 54 43.4 0.0**
comp=Z,283nm,1.5s,mb6.0
MOX
comp=Z,9µm,22.0s
MOX Moxa 77.13 359 *eP* **P** **02 54 43.4 0.0**
MOX pmax pmax
comp=Z,283nm,1.5s,mb6.0
MOX MLR MLR
comp=Z,9µm,22.0s,MS6.0
UPC Upice 77.17 357 *eP* **P** **02 54 44.1 +0.5**
UPC *epP* pP 02 54 46.8 -12
MASC Masc 77.18 74 *eP* **P** **02 54 45.8 +2.1**
PKI Pulchoki 77.22 299 *eP* **P** **02 54 43.9 0.0**
comp=Z,1µm,1.3s,mb6.7
OJC Ojcow 77.27 354 *eP* **P** **02 54 44.2 0.0**
OJC *eS* S 03 04 28.2 -1.6
OJC *eSS* SS 03 09 40.1 +11
OJC L 03 30 16.2
comp=Z,113nm,21.3s
GKN Gorkha 77.28 299 *eP* **P** **02 54 43.0 -1.3**
comp=Z,1µm,1.3s,mb6.7
DPC Dobruska-Polom 77.32 356 *eP* **P** **02 54 44.9 +0.5**
DPC *epP* pP 02 54 47.8 -12
DPC *eS* S 03 04 32.7 +2.4
DPC *ex* x 03 09 45.3
DPC *ex* x 03 14 01.1
DPC AMS AMS 03 30 30.0
comp=Z,14µm,20.5s
DPC Dobruska-Polom 77.32 356 *eP* **P** **02 54 44.9 +0.5**
DPC *eS* S 03 04 32.7 +2.4
DPC MLR MLR
comp=Z,14µm,20.5s,MS6.3
WERD Werda 77.32 359 *eP* **P** **02 54 44.5 0.0**
comp=Z,154nm,1.5s,mb5.7
LVV L'vov 77.34 351 *eP* **P** **02 54 44.1 -0.5**
LVV *e* 02 54 53.9
LVV *eS* S 03 04 31.9 +1.3
LVV *ePS* 03 05 33.9
LVV MLR MLR
comp=N,18µm,20.0s,MS6.5
LVV MLR MLR
comp=E,13µm,20.0s,MS6.5
LVV MLR MLR
comp=Z,24µm,20.0s,MS6.5
DMN Daman 77.35 299 *eP* **P** **02 54 44.7 +0.1**
comp=Z,1µm,1.4s,mb6.6
RAC Raciborz 77.50 355 *eP* **P** **02 54 46.1 +0.6**
RAC MLR MLR
comp=Z,30µm,20.9s,MS6.6
RAC MLR MLR
comp=N,30µm,20.3s
NKC Novy Kostel 77.53 359 *eP* **P** **02 54 46.3 +0.7**
NKC *epP* pP 02 54 48.8 -12
NKC *eS* S 03 04 35.2 +2.5
NKC *ex* x 03 10 02.7
NKC *ex* x 03 14 03.8
NKC AMS AMS 03 31 30.0
comp=N,13µm,20.2s
TNS Taunus Mts 77.53 2 *eP* **P** **02 54 45.7 0.0**
comp=Z,110nm,0.9s,mb5.8
TNS Taunus Mts 77.53 2 *eP* **P** **02 54 45.7 0.0**
TNS pmax pmax
comp=Z,110nm,0.9s,mb5.8
DOU Dourbes 77.54 4 P **P** **02 54 45.5 -0.2**
comp=Z,52nm,1.1s,mb5.4
DOU E 02 54 47.7
DOU AP pP 02 54 50.6 -10
DOU XP sP 02 54 52.8 -14
DOU PCP PcP 02 54 55.6 -0.2
DOU E pP 02 55 04.3 +3.2
GIVF Givet 77.55 4⇑ *iP* **P** **02 54 45.6 -0.1**
comp=Z,652nm,1.4s,mb6.1
GIVF Givet 77.55 4⇑ *iP* **P** **02 54 45.6 -0.1**
GIVF pmax pmax
comp=Z,326nm,1.4s,mb6.1
GIVF Givet 77.55 4⇑ *iP* **P** **02 54 45.6 -0.1**
comp=Z,326nm,1.4s,mb6.1
BAIF Baives 77.56 4⇑ *iP* **P** **02 54 45.9 +0.1**
comp=Z,238nm,1.0s,mb5.8
BAIF Baives 77.56 4⇑ *iP* **P** **02 54 45.9 +0.1**
BAIF pmax pmax
comp=Z,119nm,1.0s,mb5.8
BAIF Baives 77.56 4⇑ *iP* **P** **02 54 45.9 +0.1**
comp=Z,119nm,1.0s,mb5.8
TBI Tubuai 77.57 161 *eS* S 03 04 31.6 -1.5
comp=Z,9µm,30.2s
TBI *eSS* SS 03 09 32.2 -1.0
comp=Z,7µm,28.0s
TBI *eLQ* 03 14 52.0
comp=Z,4µm,29.5s
TBI *eLR* LR 03 18 24.8
comp=Z,30µm,31.0s,baz=345
KWP Kalwaria 77.64 352 *ePc* **P** **02 54 46.3 0.0**
KWP *eS* S 03 04 34.8 +0.9
KWP *eSS* SS 03 09 48.8 +15
KWP L 03 31 27.0
comp=Z,26nm,22.2s
KWP Kalwaria 77.64 352⇑ *eP* **P** **02 54 46.3 0.0**
KWP *eS* S 03 04 34.8 +0.9
KWP MLR MLR
comp=Z,26µm,22.2s,MS6.5
KWP Kalwaria 77.64 352⇑ *eP* **P** **02 54 46.3 0.0**
KWP *eS* S 03 04 34.8 +0.9
KWP *eSS* SS 03 09 48.8 +15
PRA Prague 77.66 358 P **P** **02 54 47.0 +0.7**
KLP Kalpa 77.71 306 *eP* **P** **02 54 46.9 +0.2**
PRU Pruhonice 77.74 358 *eP* **P** **02 54 47.0 +0.2**
PRU *epP* pP 02 54 49.7 -12
PRU *eS* S 03 04 35.4 +0.5
PRU *ex* x 03 10 06.9
PRU *ex* x 03 14 15.5
PRU AMS AMS 03 29 40.0
comp=Z,19µm,20.5s
PRU Pruhonice 77.74 358 *eP* **P** **02 54 47.0 +0.2**
PRU *eS* S 03 04 35.4 +0.5
PRU MLR MLR
comp=Z,19µm,20.5s,MS6.4
OKC Ostrava-Krasne 77.75 355 *eP* **P** **02 54 47.1 +0.3**
OKC *epP* pP 02 54 49.8 -12
OKC *eS* S 03 04 35.8 +0.8
OKC *ex* x 03 10 17.9
OKC *ex* x 03 14 13.3

OKC AMS AMS 03 30 50.0
comp=Z,19µm,20.4s
OKC Ostrava-Krasne 77.75 355 *e*P **P** **02 54 47.1 +0.3**
OKC *e*S S 03 04 35.8 +0.8
OKC MLR MLR
comp=Z,19µm,20.4s,MS6.4
MANZ Manzenberg 77.78 359 *e*P **P** **02 54 47.3 +0.3**
comp=Z,152nm,1.6s,mb5.7
MORC Moravsky Berou 77.84 356⇑*i*P **P** **02 54 47.6 +0.3**
MORC Moravsky Berou 77.84 356 *e*P **P** **02 54 47.2 -0.1**
MORC pmax pmax
comp=Z,32nm,2.0s
MORC Moravsky Berou 77.84 356 *e*P **P** **02 54 47.2 -0.1**
comp=Z,32nm,2.0s
ABH Alteburg 77.86 2 *e*P **P** **02 54 47.5 0.0**
JLP Les Platons 77.94 9⇑*e*P **P** **02 54 47.4 -0.5**
JVM Valle D.L. Mar 77.96 9 *e*P **P** **02 54 47.6 -0.5**
STHS Stebnicka Huta 77.97 353 *i* P **P** **02 54 48.7 +0.6**
comp=Z,139nm,0.9s,mb5.9
DLH Dalhousie 77.99 308 *e*P **P** **02 54 48.0 -0.2**
JRS Jersey 77.99 9 *e*P **P** **02 54 48.1 -0.2**
ROTZ Rotzenmuhle 78.00 359 *e*P **P** **02 54 48.7 +0.4**
comp=Z,280nm,1.5s,mb6.0
KOLN Koldanda 78.02 300 *e*P **P** **02 54 48.3 -0.1**
comp=Z,791nm,1.2s,mb6.5
RUP Ruppelstein 78.02 2 *e*P **P** **02 54 48.5 +0.1**
NIE Niedzica 78.03 354 *e*P **P** **02 54 48.6 +0.2**
WLF Walferdange 78.03 3 *e*P **P** **02 54 48.8 +0.4**
comp=Z,125nm,1.0s,mb5.8
WLF Walferdange 78.03 3 P **P** **02 54 48.8 +0.3**
comp=Z,54nm,1.0s,mb5.4
WLF E 02 54 51.4
WLF AP pP 02 54 53.0 -11
WLF PCP PcP 02 55 08.9 +11
WLF E 02 55 15.8
WLF Walferdange 78.03 3 *e*P **P** **02 54 48.3 -0.1**
WLF pmax pmax
comp=Z,118nm,1.0s,mb5.8
WLF Walferdange 78.03 3 *e*P **P** **02 54 48.3 -0.2**
comp=Z,118nm,1.0s,mb5.8
GRA1 Grafenberg Arr 78.08 360 *e*P **P** **02 54 49.2 +0.5**
comp=Z,350nm,1.1s,mb6.2
GRA1 *e* 02 54 52.0
GRA1 *e*S S 03 04 42.1 +3.5
GRA1 *e*SS SS 03 10 00.5 +20
GRA1 *e*L 03 36 09.5
comp=Z,11µm,22.0s,MS6.1
GRF Grafenberg Arr 78.08 360 *e*P **P** **02 54 49.2 +0.5**
comp=Z,350nm,1.1s,mb6.2
GRF *e* 02 54 52.0
GRF *e*S S 03 04 42.1 +3.5
GRF *e*SS SS 03 10 00.5 +20
GRF *e*L 03 36 09.5
comp=Z,11µm,22.0s
GRF Grafenberg Arr 78.08 360 *e*P **P** **02 54 49.2 +0.5**
GRF *e* 02 54 52.0
GRF *e*S S 03 04 42.1 +3.5
GRF pmax pmax
comp=Z,350nm,1.1s,mb6.2
GRFO Grafenberg 78.08 360 *e*P **P** **02 54 49.3 +0.6**
GRFO pmax pmax
comp=Z,532nm,1.6s,mb6.2
GRFO MLR MLR
comp=Z,300nm,14.7s
GRFO Grafenberg 78.08 360 *e*P **P** **02 54 49.3 +0.6**
comp=Z,14µm,1.6s
GRFO LR LR
comp=Z,10.0nm,14.7s
TOD Tromm 78.16 1 *e*P **P** **02 54 49.3 +0.2**
VRAC Vranov 78.35 356⇑*i*P **P** **02 54 50.8 +0.6**
NIL Nilore 78.35 311 P **P** **02 54 51.9 +1.7**
comp=Z,861nm,0.9s,mb6.7,SNR=11
KOLS Kolonicke sedl 78.37 352 *e*P **P** **02 54 51.4 +1.1**
KOLS *e* 02 54 55.3
KOLS Kolonicke sedl 78.37 352 *e*P **P** **02 54 51.4 +1.1**
comp=Z,143nm,1.2s,mb5.8
KOLS *e* 02 54 55.3
KOLS LR LR
comp=Z,11µm,19.9s,MS6.2
TREC Trest 78.40 357 *e*P **P** **02 54 50.5 0.0**
TREC *e*pP pP 02 54 53.2 -13
TREC *e*S S 03 04 42.5 +0.5
TREC *e*x x 03 10 21.8
TREC *e*x x 03 14 27.8
TREC AMS AMS 03 30 50.0
comp=Z,16µm,20.2s
TREC Trest 78.40 357 *e*P **P** **02 54 50.5 0.0**
TREC *e**PP pP 02 54 53.2 -13
TREC *e*S S 03 04 42.5 +0.5
TREC MLR MLR
comp=Z,16µm,20.2s,MS6.3
JTS JuntasAbangare 78.43 88 PFAKE 02 55 00.0 +9.4
JTS LR LR
comp=Z,6µm,22.0s,MS5.9
KTD Kalmit 78.43 2 *e*P **P** **02 54 51.0 +0.4**
CRVS Cervenica-Dubn 78.47 353 *e*P **P** **02 54 51.7 +0.9**
CRVS *e*pP pP 02 54 58.1 -8.1
CRVS Cervenica-Dubn 78.47 353 *e*P **P** **02 54 51.7 +0.9**
comp=Z,44nm,0.9s,mb5.4
CRVS *e* 02 54 58.1
CRVS LR LR
comp=Z,13µm,20.5s,MS6.3
LIKS Likavka 78.48 354 *e*P **P** **02 54 52.3 +1.4**
LIKS Likavka 78.48 354 *e*P **P** **02 54 52.4 +1.5**
comp=Z,149nm,0.8s,mb6.0
PONG Pong 78.49 308 *e*P **P** **02 54 52.0 +1.1**
PONG *ex* x 02 58 31.0
FLN La Foliniere 78.56 8⇑*i*P **P** **02 54 50.8 -0.5**
comp=Z,286nm,1.0s,mb5.8
FLN *e*R
comp=Z,22µm,22.5s
FLN La Foliniere 78.56 8⇑*i*P **P** **02 54 50.8 -0.5**
FLN pmax pmax
comp=Z,143nm,1.0s,mb5.9
FLN MLR MLR
comp=Z,22µm,22.5s,MS6.4
FLN La Foliniere 78.56 8⇑*i*P **P** **02 54 50.8 -0.5**
comp=Z,143nm,1.0s,mb5.8
FLN LR LR
comp=Z,22µm,22.5s,MS6.4
SMLA Simla 78.57 307 *e*P **P** **02 54 50.2 -1.2**
SMLA AML AML 02 54 53.6
comp=Z,990nm,0.6s
SMLA *e*S S 03 04 46.9 +3.0
WET Wettzell 78.61 359 *e*P **P** **02 54 52.0 +0.3**
comp=Z,208nm,1.4s,mb5.9
WET Wettzell 78.61 359 *e*P **P** **02 54 52.0 +0.3**
WET pmax pmax
comp=Z,208nm,1.4s,mb5.9
KHC Kasperske Hory 78.62 358 *e*P **P** **02 54 52.3 +0.6**
KHC *e*pP pP 02 54 55.0 -12
KHC *e*S S 03 04 47.6 +3.3
KHC *e*x x 03 10 05.4
KHC *e*x x 03 14 30.8
KHC AMS AMS 03 32 30.0
comp=Z,16µm,20.7s
KHC Kasperske Hory 78.62 358 *e*P **P** **02 54 52.3 +0.6**
KHC *e**PP pP 02 54 55.0 -12
KHC *e*S S 03 04 47.6 +3.3
KHC MLR MLR
comp=Z,16µm,20.7s,MS6.3
KHC Kasperske Hory 78.62 358⇑*e*P **P** **02 54 52.4 +0.7**
UZH Uzhgorod 78.67 352 *e*P **P** **02 54 51.0 -1.0**
UZH *e*S S 03 04 41.0 -3.9
UZH MLR MLR
comp=Z,9µm,20.0s,MS6.1
BHK Bhakra 78.70 307 *e*P **P** **02 54 53.6 +1.5**
ROSF Rostrenen 78.73 10⇑*i*P **P** **02 54 52.1 -0.2**
comp=Z,399nm,1.4s,mb5.9
ROSF Rostrenen 78.73 10⇑*i*P **P** **02 54 52.1 -0.2**
ROSF pmax pmax
comp=Z,200nm,1.4s,mb5.8
ROSF Rostrenen 78.73 10⇑*i*P **P** **02 54 52.1 -0.2**
comp=Z,200nm,1.4s,mb5.8
LDF La Druitiere 78.75 7⇑*i*P **P** **02 54 51.9 -0.5**
comp=Z,289nm,0.9s,mb5.9
LDF La Druitiere 78.75 7⇑*i*P **P** **02 54 51.9 -0.5**
LDF pmax pmax
comp=Z,144nm,0.9s,mb5.9
LDF La Druitiere 78.75 7⇑*i*P **P** **02 54 51.9 -0.5**
comp=Z,144nm,0.9s,mb5.9
LANF Langenberg 78.76 2⇑*e*P **P** **02 54 52.9 +0.4**
DDI Dehra Dun 78.80 306⇑*i*P **P** **02 54 52.0 -0.6**
DDI *e*S S 03 04 50.0 +3.8

GOF Gofitskoye 78.85 337⇑*i*P **P** **02 54 52.3 -0.6**
GOF *i* S S 03 04 51.7 +4.9
GOF pmax pmax
comp=Z,880nm,1.2s,mb6.6
GOF smax
comp=N,160nm,1.7s
GOF smax
comp=E,70nm,1.7s
SGMF Saint Gilles 78.88 9⇑*i*P **P** **02 54 52.9 -0.2**
comp=E,512nm,1.2s,mb6.0
SGMF Saint Gilles 78.88 9⇑*i*P **P** **02 54 52.9 -0.2**
SGMF pmax pmax
comp=Z,256nm,1.2s,mb6.0
SGMF Saint Gilles 78.88 9⇑*i*P **P** **02 54 52.9 -0.2**
comp=Z,256nm,1.2s,mb6.0
GRR Gorron 78.90 8⇑*i*P **P** **02 54 52.9 -0.3**
comp=Z,550nm,1.2s,mb6.0
GRR Gorron 78.90 8⇑*i*P **P** **02 54 52.9 -0.3**
GRR pmax pmax
comp=Z,275nm,1.2s,mb6.1
GRR Gorron 78.90 8⇑*i*P **P** **02 54 52.9 -0.3**
comp=Z,275nm,1.2s,mb6.1
GEC2 GERESS Array S 78.90 358 *e*P **P** **02 54 53.4 +0.2**
comp=Z,165nm,1.1s,mb5.9
GEC2 GERESS Array S 78.90 358 *e*P **P** **02 54 53.4 +0.2**
GEC2 pmax pmax
comp=Z,165nm,1.1s,mb5.9
GERES GERESS Array B 78.90 358 P **P** **02 54 53.4 +0.2**
comp=Z,55nm,0.8s,mb5.5,baz=7.6,slow=4.0,SNR=145
GERES PKKPbc PKKPbc 03 13 44.4 -1.6
comp=Z,0.6nm,0.8s,baz=112,slow=1.4,SNR=4.2
GERES PKPPKP 03 21 43.6
comp=Z,0.3nm,0.7s,baz=129,slow=1.9,SNR=3.7
KECS Kecovo 78.95 353 *i* P **P** **02 54 53.4 -0.1**
comp=Z,88nm,0.9s,mb5.7
STU Stuttgart 78.99 1 *e*P **P** **02 54 53.8 +0.1**
comp=Z,217nm,1.1s,mb6.0
STU Stuttgart 78.99 1 *e*P **P** **02 54 53.1 -0.6**
STU pmax pmax
comp=Z,324nm,1.4s,mb6.1
STU Stuttgart 78.99 1 *e*P **P** **02 54 53.1 -0.6**
comp=Z,324nm,1.4s,mb6.1
VYHS Vyhne 79.05 355 *e*P **P** **02 54 54.5 +0.5**
comp=Z,115nm,1.2s,mb5.7
VYHS LR LR
comp=Z,12µm,23.3s,MS6.2
SMOL Smolenice 79.10 356 *i* P **P** **02 54 55.0 +0.7**
SMOL *e* 02 54 58.0
QUIF Quistinic 79.15 10⇑*i*P **P** **02 54 54.3 -0.3**
comp=Z,345nm,1.4s,mb5.8
QUIF Quistinic 79.15 10⇑*i*P **P** **02 54 54.3 -0.3**
QUIF pmax pmax
comp=Z,173nm,1.4s,mb5.8
QUIF Quistinic 79.15 10⇑*i*P **P** **02 54 54.3 -0.3**
comp=Z,173nm,1.4s,mb5.8
MEZF Maizieres J'vi 79.16 4⇑*i*P **P** **02 54 54.9 +0.3**
comp=Z,734nm,1.5s,mb6.1
MEZF Maizieres J'vi 79.16 4⇑*i*P **P** **02 54 54.9 +0.3**
comp=Z,734nm,1.5s,mb6.4
STR Strasbourg 79.16 2 *e*P **P** **02 54 55.5 +0.9**
CDF Champ du Feu 79.32 2⇑*i*P **P** **02 54 55.7 +0.2**
comp=Z,701nm,1.4s,mb6.1
CDF Champ du Feu 79.32 2⇑*i*P **P** **02 54 55.7 +0.2**
CDF pmax pmax
comp=Z,350nm,1.4s,mb6.1
CDF Champ du Feu 79.32 2⇑*i*P **P** **02 54 55.7 +0.2**
comp=Z,350nm,1.4s,mb6.1
WLS Welschbruch 79.32 2⇑*e*P **P** **02 54 55.8 +0.3**
VKA Vienna 79.40 356 *i* P **P** **02 54 57.4 +1.5**
BURAR Bucovina Array 79.40 350⇑*i*P **P** **02 54 55.7 -0.3**
BURAR Bucovina Array 79.40 350⇑P **P** **02 54 55.7 -0.2**
BFO Black Forest 79.42 2 *e*P **P** **02 54 56.1 0.0**
comp=Z,213nm,1.2s,mb6.0
BFO Black Forest 79.42 2 P **P** **02 54 55.8 -0.3**
comp=Z,684nm,1.1s,mb6.5,SNR=49
BFO Black Forest 79.42 2 *e*P **P** **02 54 56.1 0.0**
BFO pmax pmax
comp=Z,213nm,1.2s,mb6.0
ZST Bratislava 79.44 356 *i* P **P** **02 54 56.9 +0.8**
ZST *e* 02 54 59.3
ZST Bratislava 79.44 356 *i* P **P** **02 54 56.9 +0.8**
comp=Z,266nm,0.9s,mb6.2
ZST *e* 02 54 59.3
ZST LR LR
comp=Z,3µm,19.8s,MS5.6
THEF They Montfort 79.47 3⇑*e*P **P** **02 54 56.6 +0.3**
ECH Echery 79.51 2⇑*e*P **P** **02 54 56.8 +0.2**
IAS Iasi 79.55 348 P **P** **02 54 57.3 +0.5**
PSZ Piszkesteto 79.56 354⇑*e* **P** **02 54 57.5 +0.7**
KIS Kishinev 79.59 348 *e*P **P** **02 54 55.0 -2.0**
KIS *e* 02 57 56.0
KIS *e*S S 03 04 52.0 -2.6
KIS pmax pmax
comp=N,2µm,16.0s
KIS pmax pmax
comp=Z,200nm,16.0s
KIS pmax pmax
comp=Z,8µm,19.0s
KIS pmax pmax
comp=Z,2µm,16.0s
KIS pmax pmax
comp=Z,3µm,18.0s
LIBD Limburg 79.59 2 *e*P **P** **02 54 57.5 +0.5**
CAL Calcutta 79.61 293 *e*P **P** **02 54 57.5 +0.5**
CAL *ex* x 02 54 58.7
comp=Z,7µm,0.2s
CAL *e*S S 03 04 57.8 +3.0
FUR Furstenfeldbru 79.61 360 *e*P **P** **02 54 57.5 +0.4**
comp=Z,276nm,1.2s,mb6.1
FUR Furstenfeldbru 79.61 360 *e*P **P** **02 54 57.5 +0.4**
FUR pmax pmax
comp=Z,276nm,1.2s,mb6.1
SPAK Spaichingen-Ko 79.66 1 *e*P **P** **02 54 57.7 +0.3**
MAK Makhachkala 79.68 334*c i*P **P** **02 54 59.0 +1.6**
MAK *i* 02 55 07.8
MAK *i* 02 58 00.8
MAK *i* S S 03 04 59.3 +3.7
MAK *i* 03 05 12.6
MAK *i* 03 05 14.4
MAK pmax pmax
comp=Z,520nm,1.1s,mb6.4
MAK pmax pmax
comp=Z,5µm,6.9s
MAK smax
comp=N,3µm,7.0s
MAK smax
comp=E,502nm,1.9s
HAU Haudompre 79.70 3⇑*i*P **P** **02 54 58.6 +1.0**
comp=E,317nm,0.9s,mb5.9
HAU *e*R
comp=E,24µm,20.2s
HAU Haudompre 79.70 3⇑*i*P **P** **02 54 58.6 +1.0**
HAU pmax pmax
comp=Z,158nm,0.9s,mb5.9
HAU MLR MLR
comp=Z,24µm,20.3s,MS6.5
HAU Haudompre 79.70 3⇑*i*P **P** **02 54 58.6 +1.0**
comp=Z,158nm,0.9s,mb6.0
HAU LR LR
comp=Z,24µm,20.3s,MS6.5
KKR Kurukshetra 79.70 306 *e*P **P** **02 54 58.1 +0.5**
SRO Srobarova 79.76 355 *e*P **P** **02 54 59.4 +1.5**
comp=Z,303nm,1.0s,mb6.2
SRO2 Moca 79.80 355 *e*P **P** **02 54 59.7 +1.6**
SRO1 Iza 79.81 355 *e*P **P** **02 54 59.7 +1.5**
FELD Feldberg im Sc 79.87 2 *e*P **P** **02 54 58.7 +0.2**
MOF Molkenrain 79.88 2⇑*e*P **P** **02 54 58.5 0.0**
MOA Molln 79.88 358⇑*i*P **P** **02 54 58.9 +0.3**
comp=Z,2µm,6.2s,SNR=48
MOA ⇓*i*P 02 55 03.3
HINF Hinteralfeld 79.90 3⇑*i*P **P** **02 54 58.6 -0.1**
comp=Z,284nm,1.0s,mb5.9
HINF Hinteralfeld 79.90 3⇑*i*P **P** **02 54 58.6 -0.1**
HINF pmax pmax
comp=Z,142nm,1.0s,mb5.8
HINF Hinteralfeld 79.90 3⇑*i*P **P** **02 54 58.6 -0.1**
comp=Z,142nm,1.0s,mb5.8
BOK Bokaro 79.96 296 *e*P **P** **02 54 58.9 -0.1**
BOK AMb AMB 02 55 04.2
comp=Z,611nm,1.2s,mb6.4
KIV Kislovodsk 79.97 337 P **P** **02 54 59.5 +0.5**
comp=Z,2µm,0.9s,mb7.0,SNR=64
KIV Kislovodsk 79.97 337*c i*P **P** **02 54 59.4 +0.4**
KIV *e* 02 58 01.7
KIV *e*PPP 02 59 51.0
KIV *e*S S 03 05 02.0 +3.3

KIV *e*SS SS 03 10 17.1 +7.8
KIV pmax pmax
comp=Z,347nm,1.1s,mb6.2
KIV pmax pmax
comp=Z,2µm,3.8s
KIV Kislovodsk 79.97 337 *e*P **P** **02 54 59.1 +0.1**
comp=Z,2µm,2.1s,mb6.8
KIV LR LR
comp=Z,18µm,20.0s,MS6.4
SOP Sopron 79.97 356⇑*e* **P** **02 55 00.0 +1.0**
SLE Schleitheim 79.99 2⇑*i*P **P** **02 54 59.2 +0.1**
comp=Z,322nm,1.4s,mb6.1
BUD Budapest 80.04 354⇑*e* **P** **02 55 02.1 +2.7**
STEIN Stein am Rhein 80.09 1⇑*i*P **P** **02 55 00.0 +0.3**
comp=Z,552nm,1.2s,mb6.3
TRULL Truellikon 80.11 1⇑*i*P **P** **02 55 00.2 +0.4**
comp=Z,298nm,1.4s,mb6.0
TRULL Truellikon 80.11 1⇑*i*P **P** **02 55 00.4 +0.6**
PKSG 80.17 355 *e*P **P** **02 55 00.8 +0.7**
SULZ Sulz-Cheisache 80.22 2⇑*i*P **P** **02 55 00.6 +0.2**
comp=Z,241nm,1.0s,mb6.1
WEIN Weingarten 80.24 1⇑*i*P **P** **02 55 00.9 +0.4**
comp=Z,564nm,1.4s,mb6.3
HYF Humbligny 80.26 6⇑*i*P **P** **02 55 00.9 +0.3**
BBS Basel-Blauen 80.27 2⇑*e*P **P** **02 55 00.5 -0.2**
ANN Anapa 80.31 341*c i*P **P** **02 55 00.8 0.0**
ANN *i* *PP pP 02 55 11.8 -4.5
ANN *i* 02 58 12.2
ANN *e*S S 03 05 06.4 +4.2
ANN *e*SS SS 03 10 21.5 +7.2
ANN pmax pmax
comp=Z,207nm,1.2s,mb5.9
LOR Lormes 80.33 5⇑*i*P **P** **02 55 01.0 0.0**
comp=Z,399nm,1.1s,mb6.0
LOR *e*R
comp=Z,21µm,20.8s
LOR Lormes 80.33 5⇑*i*P **P** **02 55 01.0 0.0**
LOR pmax pmax
comp=Z,200nm,1.1s,mb6.0
LOR MLR MLR
comp=Z,21µm,20.8s,MS6.5
LOR Lormes 80.33 5⇑*i*P **P** **02 55 01.0 0.0**
comp=Z,200nm,1.1s,mb6.0
LOR LR LR
comp=Z,21µm,20.8s,MS6.5
BOURR Bourrignon 80.34 2⇑*i*P **P** **02 55 01.5 +0.5**
comp=Z,372nm,1.3s,mb6.2
WILA Wila 80.35 1⇑*i*P **P** **02 55 01.6 +0.5**
comp=Z,371nm,1.0s,mb6.3
LOMF Lomont 80.37 3⇑*e*P **P** **02 55 01.8 +0.6**
ZUR Zurich 80.39 2⇑*i*P **P** **02 55 01.8 +0.5**
comp=Z,356nm,1.0s,mb6.3
BALST Balsthal 80.41 2⇑*i*P **P** **02 55 01.9 +0.5**
comp=Z,581nm,1.3s,mb6.3
MOTA Moosalm 80.43 360 *i* P **P** **02 55 02.2 +0.7**
comp=Z,392nm,1.4s,mb6.2,SNR=134
MOTA Moosalm 80.43 360 *i* P **P** **02 55 02.2 +0.7**
MOTA pmax pmax
comp=Z,392nm,1.4s,mb6.2
WATA Walderalm 80.44 359⇑*i*P **P** **02 55 02.1 +0.5**
comp=Z,359nm,1.4s,mb6.1,SNR=64
WATA Walderalm 80.44 359⇑*i*P **P** **02 55 02.1 +0.5**
WATA pmax pmax
comp=Z,359nm,1.4s,mb6.1
ARSA Arzberg 80.44 357 *i* P **P** **02 55 02.4 +0.8**
comp=Z,1µm,4.2s,SNR=61
DRGR 80.46 352⇑*i*P **P** **02 55 01.7 0.0**
DRGR 80.46 352 ⇑P **P** **02 55 01.7 +0.1**
PKS7 Kunszentmiklos 80.47 354⇓*e*P **P** **02 55 02.9 +1.2**
LIENZ Alp Oberkamor 80.47 1⇑*i*P **P** **02 55 02.4 +0.6**
comp=Z,407nm,1.9s,mb6.0
DAVA Damuels 80.49 1⇑*i*P **P** **02 55 02.4 +0.6**
comp=Z,2µm,5.2s,SNR=24
WTTA Wattenberg 80.51 359 *i* P **P** **02 55 02.9 +0.9**
comp=Z,2µm,5.0s,SNR=84
WTTA ⇓*i*P 02 55 05.6
WTTA Wattenberg 80.51 359 *i* P **P** **02 55 02.9 +1.0**
WTTA pmax pmax
comp=Z,2µm,5.0s
SSF Saint Saulge 80.52 5⇑*i*P **P** **02 55 02.1 +0.1**
comp=Z,834nm,1.4s,mb6.2
SSF Saint Saulge 80.52 5⇑*i*P **P** **02 55 02.1 +0.1**
SSF pmax pmax
comp=Z,417nm,1.4s,mb6.2
SSF Saint Saulge 80.52 5⇑*i*P **P** **02 55 02.1 +0.1**
comp=Z,417nm,1.4s,mb6.2
BISR Bishrakh 80.53 305 *e*P **P** **02 55 02.2 +0.1**
NDI New Delhi 80.55 305 *e*P **P** **02 55 01.8 -0.4**
NDI AML AML 02 55 06.0
comp=Z,572nm,1.5s
NDI *ex* x 02 58 08.0
NDI *ex* x 03 05 15.0
SQTA Sankt Quirin 80.56 360⇑*i*P **P** **02 55 03.1 +0.9**
comp=Z,758nm,1.8s,mb6.3,SNR=110
SQTA Sankt Quirin 80.56 360⇑*i*P **P** **02 55 03.1 +0.9**
SQTA pmax pmax
comp=Z,758nm,1.8s,mb6.3
PKS8 Sarbogard 80.67 355 *e*P **P** **02 55 03.3 +0.5**
KBA Koelnbreinsper 80.67 358 *i* P **P** **02 55 04.0 +1.2**
comp=Z,2µm,3.0s,SNR=201
KBA Koelnbreinsper 80.67 358 *i* P **P** **02 55 04.0 +1.2**
KBA pmax pmax
comp=Z,2µm,3.0s
PLONS Plons 80.72 1⇑*i*P **P** **02 55 02.4 -0.7**
comp=Z,338nm,1.7s,mb6.0
PLONS Plons 80.72 1⇑*i*P **P** **02 55 03.6 +0.5**
MFF Saint Martin d 80.73 8⇑*i*P **P** **02 55 03.3 +0.2**
comp=Z,1µm,1.3s,mb6.4
MFF Saint Martin d 80.73 8⇑*i*P **P** **02 55 03.3 +0.2**
MFF pmax pmax
comp=Z,678nm,1.3s,mb6.4
MFF Saint Martin d 80.73 8⇑*i*P **P** **02 55 03.3 +0.2**
comp=Z,678nm,1.3s,mb6.4
NNT Nongplab 80.75 279 P **P** **02 55 04.0 +0.8**
AYAN Aya Nagar 80.76 305 *e*P **P** **02 55 02.9 -0.4**
AYAN AMb AMB 02 55 09.1
comp=Z,330nm,1.2s,mb6.1
BRANT Les Verrieres 80.77 3⇑*i*P **P** **02 55 02.9 -0.4**
comp=Z,273nm,1.0s,mb6.2
BRANT Les Verrieres 80.77 3⇑*i*P **P** **02 55 04.0 +0.7**
SIM Simferopol' 80.78 343*c i*P **P** **02 55 02.6 -0.8**
SIM *e* 02 58 07.0
SIM *e*S S 03 05 03.5 -3.6
SIM *e*PS 03 06 07.0
SIM pmax pmax
comp=Z,117nm,1.1s,mb5.7
SIM MLR MLR
comp=Z,40µm,19.0s,MS6.8
AVF Avril sur Loir 80.78 5⇑*i*P **P** **02 55 03.4 0.0**
comp=Z,675nm,1.2s,mb6.2
AVF Avril sur Loir 80.78 5⇑*i*P **P** **02 55 03.4 0.0**
AVF pmax pmax
comp=Z,338nm,1.2s,mb6.2
AVF Avril sur Loir 80.78 5⇑*i*P **P** **02 55 03.4 0.0**
comp=Z,338nm,1.2s,mb6.2
MUO Muotathal 80.79 1⇑*i*P **P** **02 55 03.6 +0.2**
comp=Z,405nm,1.1s,mb6.3
MUO Muotathal 80.79 1⇑*i*P **P** **02 55 04.3 +0.9**
ZEI Tsey 80.79 336 *e*P **P** **02 55 04.1 +0.6**
ZEI *e**PP pP 02 55 12.4 -6.5
ZEI pmax pmax
comp=Z,247nm,1.2s,mb6.0
BNALP Bannalp 80.89 2⇑*i*P **P** **02 55 04.2 +0.3**
comp=Z,219nm,1.0s,mb6.0
BNALP Bannalp 80.89 2⇑*i*P **P** **02 55 04.7 +0.8**
ABKT Ailbek 80.90 324 P **P** **02 55 04.4 +0.4**
comp=Z,2µm,1.0s,mb6.9,SNR=61
LLS Linth-Limmern 80.92 1⇑*i*P **P** **02 55 04.3 +0.2**
comp=Z,301nm,1.5s,mb6.0
LLS Linth-Limmern 80.92 1⇑*i*P **P** **02 55 04.9 +0.8**
TORNY Torny 80.95 3⇑*i*P **P** **02 55 04.7 +0.4**
comp=Z,450nm,1.5s,mb6.2
TORNY Torny 80.95 3⇑*i*P **P** **02 55 05.0 +0.7**
SMF Signal de Mont 80.95 5⇑*i*P **P** **02 55 04.3 0.0**
comp=Z,572nm,1.0s,mb6.2
SMF Signal de Mont 80.95 5⇑*i*P **P** **02 55 04.3 0.0**
SMF pmax pmax
comp=Z,286nm,1.0s,mb6.2
SMF Signal de Mont 80.95 5⇑*i*P **P** **02 55 04.3 0.0**
comp=Z,286nm,1.0s,mb6.2
VRI Vrincioaia 80.96 349⇓*i*P **P** **02 55 05.3 +1.0**
VRI Vrincioaia 80.96 349⇓P **P** **02 55 05.2 +0.9**
SONA Sohna 80.98 305 *e*P **P** **02 55 04.8 +0.3**
SONA AMb AMB 02 55 08.7
comp=Z,497nm,1.2s,mb6.3
PKS9 Tamasi 80.98 355 *e*P **P** **02 55 05.2 +0.7**

BGF **Bois d'Agland** 80.98 6⇑*i*P P 02 55 04.5 0.0
comp=Z,667nm,1.2s,mb6.1
BGF **Bois d'Agland** 80.98 6⇑*i*P P 02 55 04.5 0.0
BGF pmax pmax
comp=Z,334nm,1.2s,mb6.1
BGF **Bois d'Agland** 80.98 6⇑*i*P P 02 55 04.5 0.0
comp=Z,334nm,1.2s,mb6.1
PLOR **Plostina** 80.98 349⇑*i*P P 02 55 04.7 +0.2
DAVOX **Davos** 80.99 1⇑*i*P P 02 55 04.9 +0.4
comp=Z,423nm,1.2s,mb6.2
DAVOX **Davos** 80.99 1⇑*i*P P 02 55 05.6 +1.1
HASLI **Hasliberg** 80.99 2⇑*i*P P 02 55 05.2 +0.7
comp=Z,344nm,1.3s,mb6.1
HASLI **Hasliberg** 80.99 2⇑*i*P P 02 55 05.3 +0.8
SOC **Sochi** 81.00 339*c i*P P 02 55 04.1 -0.4
SOC *e**PP pP 02 55 14.7 -5.3
SOC *e* 02 58 09.1
SOC *e*PPP 03 00 10.7
SOC *i* S S 03 05 12.4 +3.0
SOC pmax pmax
comp=Z,322nm,1.4s,mb6.1
SOC pmax pmax
comp=Z,3µm,4.7s
SOC MLR MLR
comp=Z,38µm,18.0s,MS6.8
SEST **Monte Rota** 81.02 359 P P 02 55 05.0 +0.3
comp=Z,263nm,1.0s,mb6.1
BRES **Bressanone** 81.07 359 P P 02 55 05.7 +0.7
comp=Z,434nm,1.3s,mb6.2
WIMIS **Wimmis** 81.07 2⇑*i*P P 02 55 05.3 +0.3
comp=Z,234nm,1.4s,mb5.9
WIMIS **Wimmis** 81.07 2⇑*i*P P 02 55 05.5 +0.5
ONI **Oni** 81.08 336 P P 02 55 04.5 -0.5
CABF **La Chapelle** 81.08 3⇑*i*P P 02 55 05.7 +0.7
comp=Z,885nm,1.2s,mb6.3
CABF **La Chapelle** 81.08 3⇑*i*P P 02 55 05.7 +0.7
CABF pmax pmax
comp=Z,442nm,1.2s,mb6.3
CABF **La Chapelle** 81.08 3⇑*i*P P 02 55 05.7 +0.7
comp=Z,442nm,1.2s,mb6.3
RKT **Rikitea** 81.09 148 *e*S S 03 05 08.5 -2.0
comp=Z,6µm,24.8s
RKT *e*SS SS 03 10 25.7 -0.4
RKT comp=Z,6µm,28.0s *e*LQ 03 16 55.8
RKT comp=Z,3µm,26.8s *e*LR LR 03 20 16.0
comp=Z,33µm,22.8s,baz=343
GIMEL **Gimel** 81.17 3⇑*i*P P 02 55 05.5 +0.1
comp=Z,518nm,1.4s,mb6.3
GIMEL **Gimel** 81.17 3⇑*i*P P 02 55 06.3 +0.9
OBKA **Obir** 81.22 357 *i* P P 02 55 06.1 +0.4
comp=Z,1µm,2.2s,mb6.4,SNR=127
TCF **Toulx Ste Croi** 81.22 6⇑*i*P P 02 55 05.6 -0.1
comp=Z,213nm,0.9s,mb5.8
TCF **Toulx Ste Croi** 81.22 6⇑*i*P P 02 55 05.6 -0.1
TCF pmax pmax
comp=Z,107nm,0.9s,mb5.8
TCF **Toulx Ste Croi** 81.22 6⇑*i*P P 02 55 05.6 -0.1
comp=Z,107nm,0.9s,mb5.8
AMRG 81.22 336 P P 02 55 06.8 +1.1
DUS **Dusheti** 81.23 335 P P 02 55 07.2 +1.4
VDL **Val di Lei** 81.28 1⇑*i*P P 02 55 05.6 -0.5
comp=Z,411nm,1.4s,mb6.2
VDL **Val di Lei** 81.28 1⇑*i*P P 02 55 07.3 +1.2
APPI **Appiano** 81.30 360 P P 02 55 05.9 -0.2
comp=Z,208nm,1.2s,mb5.9
TUE **Stuetta** 81.30 1 P P 02 55 07.2 +1.1
comp=Z,195nm,1.1s,mb6.0
BRMO **Bormio** 81.30 0 P P 02 55 07.4 +1.2
FUSIO **Fusio** 81.31 1⇑*i*P P 02 55 06.3 +0.1
comp=Z,387nm,1.8s,mb6.0
FUSIO **Fusio** 81.31 1⇑*i*P P 02 55 07.3 +1.1
PKSM **Moragy** 81.33 354⇑*i*P P 02 55 05.5 -0.8
PKSM **Moragy** 81.33 354⇑*e*P P 02 55 06.0 -0.3
PTCC **Patocco-Chiusa** 81.35 358 P P 02 55 06.2 -0.2
comp=Z,304nm,1.4s,mb6.0
LKBD **Leukerbad** 81.35 2⇑*i*P P 02 55 07.3 +0.9
comp=Z,308nm,1.2s,mb6.1
KUDL **Kundal** 81.36 306 *e*P P 02 55 06.7 +0.2
BERNI **Berninapass** 81.36 1⇑*i*P P 02 55 07.1 +0.6
comp=Z,454nm,1.3s,mb6.2
BERNI **Berninapass** 81.36 1⇑*i*P P 02 55 07.7 +1.2
AGRA **Agra** 81.38 304 *e*P P 02 55 06.1 -0.5
AIGLE **Aigle** 81.38 3⇑*i*P P 02 55 07.3 +0.7
comp=Z,230nm,1.8s,mb5.8
AIGLE **Aigle** 81.38 3⇑*i*P P 02 55 07.1 +0.5
MLR **Muntele Rosu** 81.42 349 P P 02 55 07.7 +0.9
comp=Z,63nm,1.0s,mb5.5,baz=42,slow=3.8,SNR=29
MLR **Muntele Rosu** 81.42 349⇓*i*P P 02 55 07.9 +1.1
MLR **Muntele Rosu** 81.42 349 P P 02 55 07.7 +0.9
MLR pmax pmax
comp=Z,63nm,1.0s
MLR **Muntele Rosu** 81.42 349⇓P P 02 55 07.9 +1.1
CFR **Carcaliu** 81.46 348⇑*i*P P 02 55 07.3 +0.3
GRYON **Gryon** 81.48 3⇑*i*P P 02 55 07.3 +0.2
comp=Z,87nm,1.2s,mb5.5
GRYON **Gryon** 81.48 3⇑*i*P P 02 55 07.7 +0.6
GMNA **Gemona** 81.48 358 P P 02 55 06.6 -0.5
comp=Z,631nm,0.8s,mb6.6
RHK1 **Bakonya** 81.48 355⇑*e*P P 02 55 07.4 +0.3
ROBS **Robic** 81.50 358 *e*P P 02 55 06.7 -0.5
ROBS *e* 02 55 10.9
AGO **Saint Agoulin** 81.50 5 *e*P P 02 55 08.0 +0.8
TBLG **Delisi** 81.56 335 P P 02 55 08.4 +0.9
SAMG **Sameba** 81.57 335 P P 02 55 09.6 +2.0
VOIR 81.57 350⇑*i*P P 02 55 07.3 -0.3
VOIR 81.57 350⇑P P 02 55 07.3 -0.3
SNX **Sinaia** 81.60 350⇑*i*P P 02 55 08.8 +1.0
SNX **Sinaia** 81.60 350⇑P P 02 55 08.8 +1.0
PLDF **La Plantade** 81.61 5 *e*P P 02 55 08.8 +1.0
DGRG **David-gareji** 81.65 334 P P 02 55 08.6 +0.6
EMV **Vieux Emosson** 81.66 3⇑*i*P P 02 55 07.7 -0.3
comp=Z,201nm,0.9s,mb6.0
EMV **Vieux Emosson** 81.66 3⇑*i*P P 02 55 09.0 +1.0
LJU **Ljubljana** 81.68 357 *i* P P 02 55 07.6 -0.6
LJU *e* 02 55 12.3
LJU *e*S S 03 05 21.0 +4.5
LJU *e* 03 11 12.1
LJU **Ljubljana** 81.68 357 *i* P P 02 55 07.6 -0.6
LJU *e*S S 03 05 21.0 +4.5
MMK **Mattmark** 81.69 2⇑*i*P P 02 55 07.7 -0.5
comp=Z,533nm,1.5s,mb6.3
MMK **Mattmark** 81.69 2⇑*i*P P 02 55 09.8 +1.6
VOY **Vojsko** 81.71 358 *e*P P 02 55 08.0 -0.3
VOY *e* pP 02 55 26.3 +2.5
VOY *e* 02 56 00.2
BZS **Buzias** 81.72 352⇑*i*P P 02 55 08.1 -0.3
BZS **Buzias** 81.72 352⇑P P 02 55 08.1 -0.3
ISR **Istrita** 81.72 349⇓*i*P P 02 55 09.4 +1.0
ISR **Istrita** 81.72 349⇓P P 02 55 09.4 +1.0
CTI **Castel Tesino** 81.73 359 P P 02 55 08.4 0.0
CTI pmax pmax
comp=Z,372nm,1.2s,mb6.2
CTI **Castel Tesino** 81.73 359 P P 02 55 08.4 0.0
comp=Z,372nm,1.2s,mb6.2
KHET **Khetri** 81.75 306 *e*P P 02 55 08.5 -0.1
KHET AMb AMB 02 55 11.6
comp=Z,318nm,0.9s,mb6.2
MTUR **Matau** 81.78 350⇓*i*P P 02 55 09.6 +0.9
MTUR **Matau** 81.78 350⇓P P 02 55 09.6 +1.0
MCGN **Macugnaga** 81.79 2 P P 02 55 10.2 +1.5
comp=Z,683nm,1.4s,mb6.4
PYM **Petit Puy Mans** 81.80 5 *e*P P 02 55 09.9 +1.1
MUGIO **Muggio** 81.84 1⇑*i*P P 02 55 09.1 +0.1
comp=Z,435nm,1.1s,mb6.3
MUGIO **Muggio** 81.84 1⇑*i*P P 02 55 09.3 +0.3
RAO **Raoul Island** 81.86 188 LR LR 03 27 50.5
comp=Z,15µm,19.4s,MS6.4,baz=27,slow=33
RAO **Raoul Island** 81.86 188 PFAKE 02 55 20.0 +11
RAO LR LR
comp=Z,16µm,20.0s,MS6.4
BKR **Bakuriani** 81.87 336 P P 02 55 10.5 +1.3
VAI **Varese** 81.89 1 P P 02 55 09.6 +0.3
HARR **Harsova** 81.97 348⇑*i*P P 02 55 09.1 -0.6
KAKA **Kakadu** 82.00 237 *e*P P 02 55 06.9 -3.0
comp=Z,51nm,0.8s,mb5.5
CTA **Charters Tower** 82.06 222 *e*S S 03 05 14.8 -5.6
CTA **Charters Tower** 82.06 222 P P 02 55 10.4 +0.2
comp=Z,38nm,1.0s,mb5.3,baz=44,slow=6.9,SNR=19
CTA **Charters Tower** 82.06 222 *e*P P 02 55 09.4 -0.8
CTA *e*S S 03 05 14.8 -5.6
CTA pmax pmax
comp=Z,27nm,0.9s
CTA **Charters Tower** 82.06 222 *e*P P 02 55 09.4 -0.8
comp=Z,27nm,0.9s,mb5.2
CTA *e*S S 03 05 14.8 -5.6
CTAO **Charters Tower** 82.06 222 *e*P P 02 55 09.1 -1.1
CTAO pmax pmax
comp=Z,51nm,0.9s,mb5.5
CTAO MLR MLR
comp=Z,11µm,20.0s,MS6.2
CTAO **Charters Tower** 82.06 222 *e*P P 02 55 09.1 -1.1
comp=Z,51nm,0.9s,mb5.5
CTAO LR LR
comp=Z,11µm,20.0s,MS6.2
ORO **Oropa** 82.12 2 P P 02 55 11.7 +1.2
ORO pmax pmax
comp=Z,288nm,1.1s,mb6.1
ORO **Oropa** 82.12 2 P P 02 55 11.7 +1.2
comp=Z,288nm,1.1s,mb6.1
TIRR **Tirgusor** 82.13 347⇓*i*P P 02 55 10.6 +0.1
TIRR **Tirgusor** 82.13 347 *e*P P 02 55 10.1 -0.5
RJF **Les Rejaudoux** 82.15 7⇑*i*P P 02 55 10.4 -0.2
comp=Z,367nm,1.3s,mb5.9
RJF *e*R
comp=Z,34µm,20.0s
RJF **Les Rejaudoux** 82.15 7⇑*i*P P 02 55 10.4 -0.2
RJF pmax pmax
comp=Z,183nm,1.3s,mb5.8
RJF MLR MLR
comp=Z,34µm,20.0s,MS6.7
RJF **Les Rejaudoux** 82.15 7⇑*i*P P 02 55 10.4 -0.2
comp=Z,183nm,1.3s,mb5.8
RJF LR LR
comp=Z,34µm,20.0s,MS6.7
SAL **Salo** 82.17 0 P P 02 55 11.3 +0.6
SAL pmax pmax
comp=Z,742nm,1.0s,mb6.6
SAL **Salo** 82.17 0 P P 02 55 11.3 +0.6
comp=Z,742nm,1.0s,mb6.6
SISC **Sisak** 82.19 356 *i*P 02 55 11.4
BOJS **Bojanci** 82.20 357 *i* P P 02 55 11.0 +0.1
BOJS *e*PcP PcP 02 55 15.1 -1.0
BOJS *e*S S 03 05 25.5 +3.6
BOJS *e*SKSac SKSac 03 05 37.4 +11
BOJS *e* 03 05 42.9
LPL **La Plagne** 82.20 3⇑*i*P P 02 55 12.4 +1.5
comp=Z,172nm,1.1s,mb5.6
LPL **La Plagne** 82.20 3⇑*i*P P 02 55 12.4 +1.5
LPL pmax pmax
comp=Z,86nm,1.1s,mb5.6
LPL **La Plagne** 82.20 3⇑*i*P P 02 55 12.4 +1.5
comp=Z,86nm,1.1s,mb5.6
LPG **La Plagne** 82.22 3⇑*i*P P 02 55 12.6 +1.6
comp=Z,411nm,1.3s,mb5.9
LPG **La Plagne** 82.22 3⇑*i*P P 02 55 12.6 +1.6
LPG pmax pmax
comp=Z,206nm,1.3s,mb5.9
LPG **La Plagne** 82.22 3⇑*i*P P 02 55 12.6 +1.6
comp=Z,206nm,1.3s,mb5.9
LBL **Lubilhac** 82.33 5 *e*P P 02 55 12.2 +0.6
LFF **La Frestale** 82.45 7⇑*i*P P 02 55 12.5 +0.3
comp=Z,356nm,0.7s,mb6.1
LFF **La Frestale** 82.45 7⇑*i*P P 02 55 12.5 +0.3
LFF pmax pmax
comp=Z,178nm,0.6s,mb6.2
LFF **La Frestale** 82.45 7⇑*i*P P 02 55 12.5 +0.3
comp=Z,178nm,0.6s,mb6.2
GDM **Grand'Maison** 82.49 3 *e*P P 02 55 13.4 +1.0
BUC1 **Bucharest** 82.54 349 P P 02 55 12.1 -0.6
CAF **Calviac** 82.56 6⇑*i*P P 02 55 13.1 +0.3
comp=Z,665nm,1.3s,mb6.2
CAF **Calviac** 82.56 6⇑*i*P P 02 55 13.1 +0.3
CAF pmax pmax
comp=Z,333nm,1.3s,mb6.2
CAF **Calviac** 82.56 6⇑*i*P P 02 55 13.1 +0.3
comp=Z,332nm,1.3s,mb6.2
BNI **Bardonecchia** 82.66 3 *e*P P 02 55 15.0 +1.8
comp=Z,320nm,1.0s,mb6.3
ORIF **Oris-en-Rattie** 82.77 4⇑*i*P P 02 55 14.8 +1.0
comp=Z,209nm,0.8s,mb5.9
ORIF *e*R
comp=Z,22µm,19.8s
ORIF **Oris-en-Rattie** 82.77 4⇑*i*P P 02 55 14.8 +1.0
ORIF pmax pmax
comp=Z,104nm,0.8s,mb5.9
ORIF **Oris-en-Rattie** 82.77 4⇑*i*P P 02 55 14.8 +1.0
comp=Z,104nm,0.8s,mb5.9
ARTV **Artvin** 82.77 337 *i* P P 02 55 14.3 +0.4
VIVF **Saint-Julien-I** 82.78 4⇑*i*P P 02 55 14.5 +0.6
comp=Z,273nm,0.9s,mb6.0
VIVF **Saint-Julien-I** 82.78 4⇑*i*P P 02 55 14.5 +0.6
VIVF pmax pmax
comp=Z,137nm,0.9s,mb6.0
VIVF **Saint-Julien-I** 82.78 4⇑*i*P P 02 55 14.5 +0.6
comp=Z,137nm,0.9s,mb6.0
CRAR **CRAIOVA** 82.80 351 P P 02 55 15.0 +1.0
CALA **Caldeira** 82.92 30 *e*P P 02 55 15.2 +0.6
ROSA **Rosais** 82.94 30 *e*P P 02 55 16.3 +1.6
MBDF **Montbardon** 82.99 3⇑*i*P P 02 55 16.4 +1.4
comp=Z,345nm,0.8s,mb6.2
MBDF **Montbardon** 82.99 3⇑*i*P P 02 55 16.4 +1.4
MBDF pmax pmax
comp=Z,173nm,0.8s,mb6.1
MBDF **Montbardon** 82.99 3⇑*i*P P 02 55 16.4 +1.4
comp=Z,173nm,0.8s,mb6.1
HOR **Horta** 82.99 30 *e*P P 02 55 14.3 -0.7
KARS **Kars** 83.03 336 *e*P P 02 55 18.4 +3.2
GNI **Garni** 83.04 334 P P 02 55 16.1 +0.9
comp=Z,91nm,1.1s,mb5.7,baz=84,slow=1.2,SNR=22
GNI **Garni** 83.04 334 *e*P P 02 55 16.8 +1.5
GNI pmax pmax
comp=Z,187nm,1.1s
GNI MLR MLR
comp=Z,20µm,20.1s
GNI **Garni** 83.04 334 *e*P P 02 55 16.8 +1.5
comp=Z,187nm,1.1s,mb6.0
GNI LR LR
comp=Z,20µm,20.1s,MS6.5
KSM **Kuching** 83.04 263 *e*P P 02 55 14.8 -0.5
SVIS **Svilajnac** 83.06 352⇑*i*P P 02 55 15.0 -0.4
PICO **Pico** 83.08 30 *e*P P 02 55 16.9 +1.4
DIGO **Kars** 83.14 336 *i* P P 02 55 16.7 +0.9
EPON **Pontenova** 83.20 13 P P 02 55 16.7 +0.6
comp=Z,1µm,1.8s,mb6.6
PID **Ribeirinha** 83.23 30 *e*P P 02 55 19.0 +2.8
SURF **Saint Ours** 83.23 3 *e*P P 02 55 18.2 +1.9
EMAZ **Mazaricos** 83.31 14 P P 02 55 18.5 +1.8
comp=Z,997nm,2.1s,mb6.5
BLSP **Bilaspur** 83.34 298 *e*P P 02 55 17.0 +0.2
DIVS **Divcibare** 83.35 353 *i* P P 02 55 17.1 +0.2
STS **Santiago** 83.43 14 ⇓P P 02 55 17.7 +0.4
STS pmax pmax
comp=Z,245nm,1.1s,mb6.2
STS **Santiago** 83.43 14 ⇓P P 02 55 17.6 +0.4
comp=Z,245nm,1.1s,mb6.2
BOLS **Boljevac** 83.46 352⇑*i*P P 02 55 16.6 -0.8
SJG **San Juan** 83.47 69 *e*P P 02 55 17.5 0.0
SJG pmax pmax
comp=Z,238nm,1.4s
SJG MLR MLR
comp=Z,10µm,20.0s
SJG **San Juan** 83.47 69 *e*P P 02 55 17.5 0.0
comp=Z,238nm,1.4s,mb6.0
SJG LR LR
comp=Z,10µm,20.0s,MS6.2
EARI **Arriondas** 83.48 12 ⇑P P 02 55 17.4 -0.1
comp=Z,1µm,1.7s,mb6.6
MACK **Trabzon** 83.50 338 *i* P P 02 55 17.6 0.0
LASF **Ste Croix** 83.52 5⇑*i*P P 02 55 18.5 +0.8
comp=Z,437nm,1.3s,mb6.1
VLC **Villacollemand** 83.62 0 *e*P P 02 55 19.9 +1.7
comp=Z,164nm,0.9s,mb6.2
JBP **Jabalpur** 83.65 300⇑*e*P P 02 55 17.9 -0.5
JBP *i* S S 03 05 37.4 +0.9
AJM **Ajmer** 83.65 306 *i* P P 02 55 17.0 -1.4
AJM *e*P 02 55 17.9
CPD **Cerro la Pandu** 83.66 69 *e*P P 02 55 18.3 -0.1
STOF **St-Etienne Org** 83.69 4 *e*P P 02 55 19.8 +1.2
SMRF **Simiane la Rot** 83.70 4⇑*i*P P 02 55 20.0 +1.4
comp=Z,1µm,1.5s,mb6.5
SMRF **Simiane la Rot** 83.70 4⇑*i*P P 02 55 20.0 +1.4
comp=Z,1µm,1.5s,mb6.8
AUTN **L'Aution** 83.74 2 *e*P P 02 55 20.4 +1.6
ELAN **Lanestosa** 83.76 10 ⇑P P 02 55 19.4 +0.4
comp=Z,2µm,1.5s,mb7.0
PAYG **Puerto Ayora** 83.81 99 PFAKE 02 55 30.0 +11
PAYG LR LR
comp=Z,12µm,22.0s,MS6.2
MTP **Monte Pirata** 83.82 68 *e*P P 02 55 18.4 -0.8
VILF **Villemus** 83.83 4 *e*P P 02 55 21.0 +1.7
MVIF **Mont Vial** 83.83 3 *e*P P 02 55 20.0 +0.7
PRAF **Pradon** 83.85 4 *e*P P 02 55 21.2 +1.8
GRSN **GIRESUNGRSN** 83.85 339 *i* P P 02 55 19.4 0.0
SBF **Sospel** 83.87 2⇑*i*P P 02 55 19.9 +0.4
comp=Z,1µm,1.0s,mb6.6
SBF **Sospel** 83.87 2⇑*i*P P 02 55 19.9 +0.4
comp=Z,518nm,1.0s,mb6.6
EALK **Alkurruntz** 83.97 9 ⇑P P 02 55 20.2 +0.2
comp=Z,1µm,1.5s,mb6.7
REVF **Revere** 83.99 2 *e*P P 02 55 20.6 +0.5
ELIZ **Elizondo** 84.02 9 P P 02 55 20.7 +0.4
ELIZ pmax pmax
comp=Z,121nm,1.0s,mb6.0
ELIZ **Elizondo** 84.02 9 P P 02 55 20.7 +0.4
comp=Z,120nm,1.0s,mb6.0
GUMT **Gumushane** 84.03 338 *e*P P 02 55 21.1 +0.7
BYBT **Boyabat** 84.03 342 *e*P P 02 55 22.0 +1.6
TREF **Trevaresse** 84.04 4 *e*P P 02 55 21.8 +1.4
BOYT **Boyabat** 84.05 342 *i* P P 02 55 21.9 +1.5
TAVF **Tavernes** 84.07 3 *e*P P 02 55 21.8 +1.3
SJPF **Ste Jean** 84.10 9⇑*i*P P 02 55 21.1 +0.4
comp=Z,361nm,1.1s,mb6.1
SJPF **Ste Jean** 84.10 9⇑*i*P P 02 55 21.1 +0.4
SJPF pmax pmax
comp=Z,180nm,1.1s,mb6.1
SJPF **Ste Jean** 84.10 9⇑*i*P P 02 55 21.1 +0.4
comp=Z,180nm,1.1s,mb6.1
ERZM **Erzurum** 84.12 337 *i* P P 02 55 22.2 +1.5
EZM **Erzurum** 84.12 337 *e*P P 02 55 22.4 +1.7
ERUA **La Rua** 84.12 13 ⇑P P 02 55 21.1 +0.3
ERUA pmax pmax
comp=Z,213nm,0.9s,mb6.3
ERUA **La Rua** 84.12 13 ⇑P P 02 55 21.1 +0.3
comp=Z,213nm,0.9s,mb6.3
EZAM **Zamans** 84.13 14 P P 02 55 22.0 +1.1
EZAM pmax pmax
comp=Z,82nm,0.9s,mb5.9
EZAM **Zamans** 84.13 14 P P 02 55 22.0 +1.2
comp=Z,82nm,0.9s,mb5.9
PUYF **Puyloubier** 84.14 4 *e*P P 02 55 22.5 +1.6
FRF **La Foret Royal** 84.15 3⇑*i*P P 02 55 21.5 +0.6
comp=Z,1µm,1.4s,mb6.5
FRF **La Foret Royal** 84.15 3⇑*i*P P 02 55 21.5 +0.6
comp=Z,602nm,1.4s,mb6.5
MTLF **Montolieu** 84.15 6⇑*i*P P 02 55 21.6 +0.7
comp=Z,600nm,1.1s,mb6.3
MTLF **Montolieu** 84.15 6⇑*i*P P 02 55 21.6 +0.7
MTLF pmax pmax
comp=Z,300nm,1.1s,mb6.3
MTLF **Montolieu** 84.15 6⇑*i*P P 02 55 21.6 +0.7
comp=Z,300nm,1.1s,mb6.3
PLE **Pljevlja** 84.16 354⇓*i*P P 02 55 21.9 +0.9
KVT **Kavak** 84.16 341 *e*P P 02 55 21.6 +0.7
CLDR **Caldiran** 84.20 335 *e*P P 02 55 21.7 +0.5
BALT **Daday** 84.22 343 *i* P P 02 55 22.7 +1.4
GELF **Grande-Etoile** 84.28 4 *e*P P 02 55 22.8 +1.2
UPM **Unac-Piva** 84.32 354⇓*i*P P 02 55 21.6 -0.2
BERF **Bertagne** 84.36 4 *e*P P 02 55 23.5 +1.5
LMR **La Mourre** 84.37 3⇑*i*P P 02 55 22.7 +0.6
comp=Z,1µm,1.5s,mb6.5
LMR **La Mourre** 84.37 3⇑*i*P P 02 55 22.7 +0.6
comp=Z,612nm,1.5s,mb6.5
ETSF **Etsaut** 84.37 8⇑*i*P P 02 55 22.9 +0.8
comp=Z,1µm,1.0s,mb6.7
ETSF **Etsaut** 84.37 8⇑*i*P P 02 55 22.9 +0.8
ETSF pmax pmax
comp=Z,574nm,1.0s,mb6.7
ETSF **Etsaut** 84.37 8⇑*i*P P 02 55 22.9 +0.8
comp=Z,574nm,1.0s,mb6.7
VIEF **Viey** 84.44 8 *e*P P 02 55 23.4 +1.0
SNG **Songkhla** 84.46 274 P P 02 55 21.0 -1.5
comp=Z,394nm,1.0s,mb6.5
ELOB **Lobios** 84.50 14 P P 02 55 23.3 +0.6
comp=Z,810nm,1.9s,mb6.5
PGB **Panagyurishte** 84.52 350 *e*P P 02 55 22.0 -0.8
PTCN **Pitcairn Islan** 84.54 145 PFAKE 02 55 30.0 +7.1
PTCN LR LR
comp=Z,15µm,20.0s,MS6.4
VTS **Vitosha** 84.58 351 *e*P P 02 55 22.0 -1.1
VTS **Vitosha** 84.58 351⇑*i*P P 02 55 21.2 -1.9
VTS **Vitosha** 84.58 351 P P 02 55 22.9 -0.2
IVA **Berane** 84.58 353⇓*i*P P 02 55 23.7 +0.6
TOS **Tosya** 84.59 343 *e*P P 02 55 24.7 +1.5
PDA **Ponta Delgada** 84.60 28 *i* P P 02 55 25.0 +1.8
PDA *i* pP 02 55 36.0 -2.8
PDA **Ponta Delgada** 84.60 28 *e*S 03 05 42.0
PDA *e*SS SS 03 11 38.0 +20
PDA **Ponta Delgada** 84.60 28 *i* LR LR 03 22 54.0
ECAL **Calabor** 84.62 13 P P 02 55 23.6 +0.3
comp=Z,950nm,2.1s,mb6.6
SAFT **Safranbolu** 84.63 344 *e*P P 02 55 24.5 +1.1
BRY **Bratogost** 84.64 354⇓*i*P P 02 55 23.1 -0.3
EBIE **Bielsa** 84.64 8⇑*i*P P 02 55 24.5 +1.0
comp=Z,1µm,1.9s,mb6.7
SALF **Salau** 84.66 7 *e*P P 02 55 23.6 +0.1
PCAB **Cabril** 84.66 14 *e*P P 02 55 23.5 0.0
comp=Z,98nm,1.0s,mb5.9
NKY **Niksic** 84.70 354⇓*i*P P 02 55 23.2 -0.5
PBRG **Braganca** 84.75 13 *e*P P 02 55 24.2 +0.2
comp=Z,161nm,1.2s,mb6.0
TOKT **Tokat** 84.79 341 *e*P P 02 55 25.9 +1.7
CTKT **Corum** 84.84 342 *i* P P 02 55 26.0 +1.6
PVY **Plav** 84.85 353⇓*i*P P 02 55 25.4 +0.9
DIM **Dimitrovgrad** 84.86 349 *e*P P 02 55 19.0 -5.6
PLD **Plovdiv** 84.91 350 *e*P P 02 55 24.0 -0.8
TVAN **Van** 84.91 335 *i* P P 02 55 24.8 0.0
EDRB **Edirne** 84.92 348 *e*P P 02 55 26.0 +1.2
BHPL **Bhopal** 84.92 302 *e*P P 02 55 23.7 -1.2
SJAF **Saint Jean de** 85.05 6 *e*P P 02 55 26.1 +0.6
TTG **Podgorica** 85.06 354⇓*i*P P 02 55 25.4 -0.1
VALF **Valcebollere** 85.07 7 *e*P P 02 55 26.4 +0.8
BNGL **BINGOL** 85.08 337 *i* P P 02 55 26.8 +1.1
CANT **Cankiri** 85.08 343 *e*P P 02 55 27.4 +1.7
EJON **La Jonquera** 85.08 6 P P 02 55 26.0 +0.4
comp=Z,681nm,1.8s,mb6.5
SVSK **Karacayir** 85.09 340 *e*P P 02 55 24.6 -1.1
HCY **Herceg Novi** 85.09 354⇓*i*P P 02 55 25.8 +0.1
PVRL **Vila Real** 85.14 14 *e*P P 02 55 26.2 +0.3
comp=Z,96nm,0.9s,mb5.9
PTO **Porto** 85.14 15 *e*P P 02 55 26.6 +0.7
comp=Z,185nm,1.0s,mb6.2
EGRA **Graus** 85.15 8 ⇑P P 02 55 26.4 +0.4
comp=Z,214nm,0.9s,mb6.3
BUM **Brajici-Budva** 85.22 354⇓*i*P P 02 55 27.4 +1.1
PGF **Pioggiola** 85.22 1⇑*i*P P 02 55 26.9 +0.6
comp=Z,3µm,1.3s,mb6.9
PGF **Pioggiola** 85.22 1⇑*i*P P 02 55 26.9 +0.6
PGF pmax pmax
comp=Z,1µm,1.3s,mb6.9
PGF **Pioggiola** 85.22 1⇑*i*P P 02 55 26.9 +0.6
comp=Z,1µm,1.3s,mb6.9
ELDT **Eldivan** 85.22 343 *i* P P 02 55 27.6 +1.2
SVST **Sivas** 85.23 340 *i* P P 02 55 27.4 +1.0
KDZ **Kurdzhali** 85.27 349 *e*P P 02 55 26.0 -0.6
HENT **Hendek** 85.33 345 *i* P P 02 55 27.1 +0.2
SKO **Skopje** 85.35 352 *i* P P 02 55 24.2 -2.8
ISK **Istanbul-Kandi** 85.37 346 *e*P P 02 55 26.8 -0.3
ELBA **Catalca** 85.38 347 *i* P P 02 55 27.2 +0.1
SGKT **Sivrigoynuk** 85.38 344 *i* P P 02 55 28.2 +1.1
AQU **L'Aquila** 85.39 358⇓*i*P P 02 55 28.3 +1.1
AQU **L'Aquila** 85.39 358 *e*P P 02 55 28.1 +0.9
AQU pmax pmax
comp=Z,455nm,1.1s,mb6.5
AQU **L'Aquila** 85.39 358 *e*P P 02 55 28.1 +0.9
comp=Z,455nm,1.1s,mb6.5
CORF **Corte** 85.47 1 *e*P P 02 55 28.1 +0.5
MMB **Musomiste** 85.52 350 *e*P P 02 55 27.0 -0.8
EMIR **Miracle** 85.52 7 ⇑P P 02 55 28.3 +0.5
comp=Z,1µm,1.7s,mb6.9
HRT **Hereke** 85.52 346 *e*P P 02 55 28.6 +0.7
ULC **Ulcinj** 85.53 354⇓*i*P P 02 55 27.8 -0.1
ESAC **San Caprasio** 85.55 8 ⇑P P 02 55 28.4 +0.4
comp=Z,790nm,1.0s,mb6.9
STIP **Stip** 85.56 351 *i* P P 02 55 25.4 -2.6
MDU **Mudurnu** 85.63 345 *e*P P 02 55 28.2 -0.2
PVIS **Viseu** 85.66 14 *e*P P 02 55 28.6 +0.1
comp=Z,95nm,0.8s,mb6.1
PBA **Port Blair** 85.67 283⇓*e*x x 02 54 53.6
PBA *e*x x 02 55 03.0
comp=Z,298nm,1.2s
PBA *e*x x 03 04 57.0
YOZ **Yozgat** 85.69 341 *e*P P 02 55 29.9 +1.2

BTMT Batman 85.72 336 *e*P **P** 02 55 30.1 +1.3
NGP Nagpur 85.79 300 *e*P **P** 02 55 28.4 -0.7
NGP AMP 02 55 33.1
comp=Z,498nm,1.6s
NGP *e*S 03 05 54.1
YLV Yalova 85.82 346 *e*P **P** 02 55 29.0 -0.3
CDAG Cicekdag 85.89 342 *i* P **P** 02 55 30.1 +0.4
MFT Murefte 85.89 348 *e*P **P** 02 55 29.1 -0.6
VAY Valandovo 85.90 351 *i* P **P** 02 55 23.6 -6.1
KULM Kulim 85.92 273 *e*P **P** 02 55 30.1 +0.2
QSH Qafa e Shtames 85.92 353 *i* p **P** 02 55 30.0 +0.2
LOD Lodumlu 85.93 343 *e*P **P** 02 55 30.4 +0.6
ALN Alexandroupoli 85.94 348 *e*P **P** 02 55 30.2 +0.3
ANTO Ankara 85.94 343 ⇑*i*P **P** 02 55 31.0 +1.1
ANTO Ankara 85.94 343 *e*P **P** 02 55 30.9 +1.0
ANTO *e* 02 58 51.7
ANTO pmax pmax
comp=Z,498nm,1.4s,mb6.5
ANTO MLR MLR
comp=Z,17µm,19.0s,MS6.5
ANTO Ankara 85.94 343 *e*P **P** 02 55 30.9 +0.9
comp=Z,498nm,1.4s,mb6.5
ANTO *e*PP PP 02 58 51.7 +1.5
ANTO LR LR
comp=Z,17µm,19.0s,MS6.5
GPA Golpazari 85.94 345 *e*P **P** 02 55 31.3 +1.3
SRS Serrai 86.00 350 *e*P **P** 02 55 29.9 -0.2
SART Tekirdag 86.00 348 *i* P **P** 02 55 30.5 +0.3
ELZG Elazig 86.02 338 *i* P **P** 02 55 31.8 +1.5
MTE Manteigas 86.02 14 *e*P **P** 02 55 30.4 +0.1
comp=Z,156nm,1.4s,mb6.0
MTE Manteigas 86.02 14 *e*PP PP 02 58 48.1 -2.8
MTE *e*S 03 06 06.7
MTE Manteigas 86.02 14 *e*LQ 03 18 33.1
MTE *e*LR LR 03 24 13.7
comp=Z,20µm,18.3s
KNT Kendrikon 86.02 351 *e*P **P** 02 55 30.4 +0.1
IZI Iznik 86.03 346 *e*P **P** 02 55 31.1 +0.8
MRMT Marmara Adasi 86.03 347 *e*P **P** 02 55 29.9 -0.5
EPOB Poblet 86.05 7 ⇑P **P** 02 55 30.6 +0.2
comp=Z,1µm,1.8s,mb6.9
BEST Besiri 86.05 336 *i* P **P** 02 55 33.9 +3.4
BNT Bandirma 86.23 347 *e*P **P** 02 55 31.9 +0.5
GUD Guadarrama 86.23 11 P **P** 02 55 31.4 +0.1
comp=Z,68nm,0.9s,mb5.9
VIS Vishakhapatnam 86.25 294 *e*P **P** 02 55 31.4 0.0
VIS AMb AMB 02 55 36.3
comp=Z,272nm,1.2s,mb6.3
OHR Ohrid 86.26 352 *i* P **P** 02 55 25.8 -5.7
KAMT Kaman 86.26 342 *e*P **P** 02 55 31.9 +0.4
ULDT Uludag 86.27 346 *i* P **P** 02 55 32.3 +0.8
GRG Griva 86.28 351 *e*P **P** 02 55 31.4 -0.2
DIY Diyarbakir 86.30 337 *e*P **P** 02 55 32.5 +0.8
MYA Malataya 86.31 339 *e*P **P** 02 55 32.9 +1.2
BIA Bitola 86.31 352 *i* P **P** 02 55 27.0 -4.7
SOH Sokhos 86.32 350 *e*P **P** 02 55 31.7 -0.1
MALT Malatya 86.32 339 ⇓*i*P **P** 02 55 33.0 +1.2
MALT Malatya 86.32 339 *e*P **P** 02 55 32.2 +0.4
MALT pmax pmax
comp=Z,250nm,1.2s,mb6.3
MALT Malatya 86.32 339 *e*P **P** 02 55 32.2 +0.4
comp=Z,250nm,1.2s,mb6.3
BORA Eskisehir 86.32 345 *i* P **P** 02 55 32.1 +0.3
IPM Ipoh 86.33 273 P **P** 02 55 32.9 +1.1
BNN Bunyan 86.35 341 *e*P **P** 02 55 32.6 +0.7
ERTA Horta de San J 86.38 8 P **P** 02 55 33.5 +1.4
comp=Z,638nm,1.7s,mb6.6
ORLT Orhaneli 86.40 346 *e*P **P** 02 55 32.8 +0.7
EBR Ebro Roquetas 86.53 8 *e*P **P** 02 55 33.0 +0.2
FNA Florina 86.54 352 *e*P **P** 02 55 32.0 -0.8
THE Thessaloniki 86.54 351 *e*P **P** 02 55 32.2 -0.7
PCBR Castelo Branco 86.58 14 *e*P **P** 02 55 33.0 0.0
comp=Z,85nm,1.1s,mb5.9
AVNT Avonos 86.62 341 *i* P **P** 02 55 30.6 -2.7
PTOM Tomar 86.65 15 *e*P **P** 02 55 33.4 0.0
comp=Z,115nm,1.2s,mb6.0
MARD Mardin 86.72 336 *i* P **P** 02 55 34.4 +0.7
OUR Ouranopolis 86.73 350 *e*P **P** 02 55 33.5 -0.3
BPA Boggy Peak 86.74 66 *e*P **P** 02 55 37.0 +3.2
BTOK Tokmak 86.80 347 *i* P **P** 02 55 34.4 +0.2
KGM Kluang 86.87 269 P **P** 02 55 35.7 +1.2
EMOS Mosqueruela 86.90 9 P **P** 02 55 34.9 +0.3
comp=Z,682nm,1.9s,mb6.5
BALB Balikesir 86.94 347 *e*P **P** 02 55 34.7 -0.1
EZN Ezine 86.96 348 *e*P **P** 02 55 33.1 -1.8
KIZT Kizilcal 87.06 344 *e*P **P** 02 55 35.2 -0.2
URFA Urfa 87.06 338 *e*P **P** 02 55 34.5 -0.9
ALMR Almeirim 87.08 15 *e*P **P** 02 55 35.1 -0.4
MSL Mosul 87.11 334 *ex* x 02 55 37.0
MSL *ex* x 02 55 40.0
LIT Litokhoron 87.11 351 *e*P **P** 02 55 35.0 -0.7
ATAB Bozova 87.16 338 *i* P **P** 02 55 36.4 +0.5
PAIG Paliouri 87.17 350 *e*P **P** 02 55 35.2 -0.7
ALT Altintas 87.18 345 *e*P **P** 02 55 36.6 +0.6
WRAB Tennant Creek 87.21 232 *e*P **P** 02 55 34.7 -1.4
WRAB pmax pmax
comp=Z,76nm,0.9s,mb5.9
WRAB MLR MLR
comp=Z,10µm,20.0s,MS6.2
WRAB Tennant Creek 87.21 232 *e*P **P** 02 55 34.7 -1.4
comp=Z,76nm,0.9s,mb5.9
WRAB LR LR
comp=Z,10µm,20.0s,MS6.2
ESDC Sonseca Array 87.21 11 P **P** 02 55 35.9 -0.2
comp=Z,108nm,0.8s,mb6.1,baz=349,slow=4.6,SNR=99
ESDC PKKPbc PKKPbc 03 13 25.2 -1.6
comp=Z,0.6nm,0.8s,baz=132,slow=2.2,SNR=4.1
ESLA Sonseca Array 87.21 11 *e*P **P** 02 55 36.1 0.0
comp=Z,39nm,0.9s,mb5.6
ESLA LR LR
comp=Z,54µm,19.0s,MS7.0
WB2 Warramunga Arr 87.22 232 ⇑*i*P **P** 02 55 33.4 -2.8
WB2 *e*S 03 05 59.9
WRA Warramunga Arr 87.22 232 P **P** 02 55 34.8 -1.4
comp=Z,35nm,0.9s,mb5.6,baz=38,slow=5.5,SNR=56
WRA PKKPbc PKKPbc 03 13 22.4 -4.3
comp=Z,0.8nm,0.9s,baz=180,slow=0.7,SNR=3.4
AKL Akola 87.23 301 *ex* x 02 55 00.8
AKL *i* x x 02 55 02.6
AKL AMb AMB 02 55 06.4
comp=Z,345nm,1.4s,mb6.4
GDZ Gediz 87.25 346 *i* P **P** 02 55 36.1 -0.2
PLOU Loures 87.25 15 *e*P **P** 02 55 36.0 -0.3
comp=Z,148nm,0.9s,mb6.2
PAB San Pablo 87.29 12 P **P** 02 55 36.3 -0.2
LIS Lisbon 87.42 15 *e*P **P** 02 55 36.4 -0.7
LIS *e*S 03 05 59.2
LIS *e*S 03 05 59.7
LIS AMS AMS 03 38 58.8
comp=Z,14µm,17.3s,MS6.4
AYVA Ayvalik 87.43 348 *i* P **P** 02 55 36.9 -0.3
GZT Gaziantep 87.43 339 *i* P **P** 02 55 37.9 +0.7
LZG Guadaloupe-1 87.52 67 *e*P **P** 02 55 37.2 -0.4
ECHE Chera 87.62 9 P **P** 02 55 38.8 +0.7
ECHE pmax pmax
comp=Z,152nm,0.8s,mb6.3
ECHE Chera 87.62 9 P **P** 02 55 38.8 +0.7
comp=Z,152nm,0.8s,mb6.3
KOZT Kozan 87.67 340 *e*P **P** 02 55 37.1 -1.3
GAZ Gaziantep 87.68 339 *e*P **P** 02 55 39.4 +1.0
AKS Akhisar 87.70 347 *e*P **P** 02 55 38.3 -0.1
EBAD Badajoz 87.71 14 P **P** 02 55 39.5 +1.0
comp=Z,441nm,2.1s,mb6.3
MOE Montemor 87.73 15 *e*P **P** 02 55 39.1 +0.5
ETOS Mallorca 87.75 6 P **P** 02 55 38.8 +0.1
comp=Z,524nm,2.5s,mb6.3
XOR Xorichti 87.77 350 *e*P **P** 02 55 37.7 -1.1
DEG La Desirade 87.78 66 *e*P **P** 02 55 38.9 0.0
TBG Guadaloupe-3 87.83 67 *e*P **P** 02 55 38.8 -0.2
IGT Igoumenitsa 87.87 353 *e*P **P** 02 55 38.8 -0.5
AOS Alonnisos 87.90 350 *e*P **P** 02 55 38.8 -0.6
KHL Karahalli 87.99 345 *e*P **P** 02 55 40.4 +0.5
KARA Karaisali 88.04 341 *e*P **P** 02 55 38.4 -1.7
TKTP Tekketepe 88.14 345 *i* P **P** 02 55 40.3 -0.2
CEYT Ceyhan 88.14 340 *e*P **P** 02 55 37.2 -3.4
SDV Santo Domingo 88.19 78 *e*P **P** 02 55 42.5 +1.8
comp=Z,66nm,1.0s,mb5.8
SDV LR LR
comp=Z,6µm,21.0s,MS6.0
AGG Agios Georgios 88.20 351 *e*P **P** 02 55 39.9 -1.0
KDAG Bornova 88.24 347 *i* P **P** 02 55 40.5 -0.5
IZM Izmir 88.25 347 *e*P **P** 02 55 40.6 -0.5
PBEJ Beja 88.30 15 *e*P **P** 02 55 41.4 +0.1
comp=Z,148nm,1.3s,mb6.1
ISP Isparta 88.30 344 *e*P **P** 02 55 41.2 -0.1
ISP pmax pmax
comp=Z,90nm,0.9s,mb6.0
ISP Isparta 88.30 344 *e*P **P** 02 55 41.2 -0.1
comp=Z,90nm,0.9s,mb6.0
EIBI Ibiza 88.38 7 P **P** 02 55 42.9 +1.2
comp=Z,624nm,1.8s,mb6.5
EVIA Vianos 88.40 10 P **P** 02 55 42.9 +1.1
EVIA pmax pmax
comp=Z,54nm,0.7s,mb5.9
EVIA Vianos 88.40 10 P **P** 02 55 42.9 +1.1
comp=Z,54nm,0.7s,mb5.9
CHOS Chios island 88.42 348 *e*P **P** 02 55 41.5 -0.4
TIP Timpagrande 88.45 355 *e*P **P** 02 55 42.4 +0.4
ETOB Tobarra 88.50 10 P **P** 02 55 42.5 +0.2
comp=Z,553nm,1.8s,mb6.5
COBT Iskenderun 88.51 340 *i* P **P** 02 55 41.9 -0.4
MERS Mersin 88.53 341 *e*P **P** 02 55 42.1 -0.3
EBEN Beniarda 88.56 9 P **P** 02 55 43.2 +0.6
comp=Z,834nm,1.7s,mb6.8
EADA Adamuz 88.62 12 ⇑P **P** 02 55 42.9 0.0
comp=Z,736nm,1.8s,mb6.7
DENT Denizli 88.62 346 *e*P **P** 02 55 42.7 -0.1
PTEO Sao Teotonio 88.63 15 *e*P **P** 02 55 42.5 -0.4
comp=Z,229nm,1.0s,mb6.5
KRTS Karatas 88.64 340 *e*P **P** 02 55 44.7 +1.8
BCK Bucak 88.66 344 *e*P **P** 02 55 42.9 -0.1
EBAN Banos Encina 88.72 11 P **P** 02 55 43.8 +0.5
EBAN pmax pmax
comp=Z,175nm,1.2s,mb6.3
EBAN Banos Encina 88.72 11 P **P** 02 55 43.8 +0.5
comp=Z,175nm,1.2s,mb6.3
EMIN Mina Concepcio 88.73 14 P **P** 02 55 42.8 -0.6
comp=Z,537nm,2.0s,mb6.5
BHJ Bhuj 88.79 308 *e*P **P** 02 55 45.4 +1.7
BHJ *e*S 03 06 13.7
EGRO El Granado 88.84 14 ⇑P **P** 02 55 43.3 -0.6
comp=Z,450nm,1.6s,mb6.5
MEST Erdemli 88.88 341 *i* P **P** 02 55 43.6 -0.4
MORF Marmelete 88.88 15 *e*P **P** 02 55 43.7 -0.4
MORF *e*S 03 06 07.7
MORF *e*S 03 06 07.9
MORF AMS AMS 03 40 22.8
comp=Z,9µm,13.6s,MS6.4
AYDN Tasoluk 88.88 347 *i* P **P** 02 55 44.0 -0.1
ERMK Ermenek 89.06 342 *i* P **P** 02 55 44.2 -0.7
HYB Hyderabad 89.11 298 ⇑*i*P **P** 02 55 45.0 -0.2
comp=Z,600nm,1.2s,mb6.8
HYB *e*PP PP 02 59 18.0 +2.3
HYB *e*SKS 03 06 10.0
HYB *e*PS PS 03 07 46.0 +5.1
HYB *e* 03 07 54.0
HYB *e*SS SS 03 12 18.0 -6.1
HYB LR LR 03 38 56.0
comp=Z,27nm,20.0s
ROSC El Rosal 89.15 83 P **P** 02 55 47.1 +1.8
comp=Z,8.3nm,0.9s,mb5.0,baz=104,slow=22,SNR=8.0
ROSC LR LR 03 41 17.4
comp=Z,2µm,19.0s,MS5.5,baz=350,slow=39
EQES Quesada 89.16 11 P **P** 02 55 45.3 -0.1
comp=Z,484nm,1.5s,mb6.6
EHUE Huescar 89.20 11 P **P** 02 55 45.8 +0.2
EHUE pmax pmax
comp=Z,75nm,1.8s,mb5.7
EHUE Huescar 89.20 11 P **P** 02 55 45.8 +0.2
comp=Z,75nm,1.8s,mb5.7
ELUQ Luque 89.26 12 P **P** 02 55 46.6 +0.8
ELUQ pmax pmax
comp=Z,67nm,0.9s,mb6.0
ELUQ Luque 89.26 12 P **P** 02 55 46.6 +0.8
comp=Z,66nm,0.9s,mb6.0
MLSB Milas 89.26 347 *e*P **P** 02 55 45.2 -0.6
IKL Isikli 89.30 342 *e*P **P** 02 55 46.7 +0.7
EMUR La Murta 89.32 9 P **P** 02 55 48.1 +2.0
comp=Z,515nm,2.3s,mb6.5
YER Yerkesik 89.34 346 *e*P **P** 02 55 46.0 -0.2
ARMA Armidale 89.47 213 *e*P **P** 02 55 47.8 +1.0
ARMA *e*S 03 06 15.9
ELL Elmali 89.47 345 *e*P **P** 02 55 47.5 +0.7
BDRM Kayabasi 89.53 347 *i* P **P** 02 55 48.0 +0.9
BODT Bodrum 89.55 347 *e*P **P** 02 55 45.9 -1.3
BHD Baghdad 89.60 332 *ex* x 02 55 47.0
BHD *ex* x 02 59 15.0
BHD *ex* x 03 06 17.0
BHD *ex* x 03 06 32.0
ECOG Cogollos-Vega 89.62 11 ⇑P **P** 02 55 47.9 +0.4
ECOG pmax pmax
comp=Z,174nm,1.0s,mb6.3
ECOG Cogollos-Vega 89.62 11 ⇑P **P** 02 55 47.9 +0.3
comp=Z,174nm,1.0s,mb6.3
DALT Dalyan (Mudla) 89.65 346 *e*P **P** 02 55 47.3 -0.4
ELOJ Sierra Loja 89.68 12 ⇑P **P** 02 55 47.9 +0.1
ELOJ pmax pmax
comp=Z,61nm,1.0s,mb5.9
ELOJ Sierra Loja 89.68 12 ⇑P **P** 02 55 47.9 +0.1
comp=Z,61nm,1.0s,mb5.9
FETY Fethiye 89.71 345 *e*P **P** 02 55 47.3 -0.6
ESPR Espera 89.73 13 P **P** 02 55 47.9 -0.1
comp=Z,573nm,1.8s,mb6.6
APE Apeiranthos 89.78 348 ⇑*i*P **P** 02 55 43.3 -5.0
APE Apeiranthos 89.78 348 ⇑P **P** 02 55 43.3 -4.9
ERON Agron 89.85 12 P **P** 02 55 49.2 +0.7
comp=Z,45nm,0.8s,mb5.8
FITZ Fitzroy Crossi 90.05 240 P **P** 02 55 47.8 -1.7
comp=Z,38nm,1.1s,mb5.7,baz=40,slow=5.5,SNR=23
FITZ Fitzroy Crossi 90.05 240 ⇑*i*P **P** 02 55 47.8 -1.7
comp=Z,46nm,0.9s,mb5.8
FITZ *e*S 03 06 36.0
EGUA Guajares 90.06 11 P **P** 02 55 50.0 +0.4
EGUA pmax pmax
comp=Z,13nm,1.6s,mb5.0
EGUA Guajares 90.06 11 P **P** 02 55 50.0 +0.4
comp=Z,13nm,1.6s,mb5.0
ENIJ Nijar 90.08 10 P **P** 02 55 51.1 +1.4
ENIJ pmax pmax
comp=Z,29nm,0.6s,mb5.8
ENIJ Nijar 90.08 10 P **P** 02 55 51.1 +1.5
comp=Z,29nm,0.6s,mb5.8
SSV Crater Summit 90.12 68 *e*P **P** 02 55 52.4 +2.5
SVB Belmont 90.14 68 *e*P **P** 02 55 52.8 +2.9
EMIJ Mijas 90.17 12 ⇑P **P** 02 55 51.8 +1.7
comp=Z,367nm,2.0s,mb6.4
EJIF Jimena Fronter 90.19 13 P **P** 02 55 53.0 +2.8
EJIF pmax pmax
comp=Z,59nm,1.0s,mb5.9
EJIF Jimena Fronter 90.19 13 P **P** 02 55 53.0 +2.8
comp=Z,59nm,1.0s,mb5.9
MAMC Mammari 90.43 342 P **P** 02 55 51.5 +0.2
PHNC Paralimni 90.43 341 P **P** 02 55 51.9 +0.6
comp=Z,3.8nm,1.1s
SANT Santorini 90.48 348 *e*P **P** 02 55 51.5 -0.1
comp=Z,301nm,1.3s,mb6.5
THR1 Thera Island 90.48 348 *e*P **P** 02 55 51.9 +0.4
ALFC Alevga 90.56 342 P **P** 02 55 51.3 -0.6
comp=Z,2.9nm,0.8s
CSS Prodhromos 90.61 342 P **P** 02 55 52.9 +0.8
ASAR Alice Springs 90.62 230 P **P** 02 55 50.5 -1.7
comp=Z,38nm,1.0s,mb5.7,baz=35,slow=4.2,SNR=93
ASAR ScS ScS 03 06 51.2 +4.2
comp=Z,0.8nm,0.8s,baz=4.3,slow=5.0,SNR=4.7
ASAR PKKPbc PKKPbc 03 13 17.6 -0.8
comp=Z,0.5nm,0.6s,baz=211,slow=3.9,SNR=4.1
ASAR Alice Springs 90.62 230 P **P** 02 55 50.5 -1.7
ASAR 03 06 51.3
POO Poona 90.68 302 ⇑*i*P **P** 02 55 51.0 -1.4
POO *ex* x 03 08 04.0
POO *ex* x 03 08 34.0
FKH Fakeheh 90.68 339 *e*P **P** 02 55 53.5 +1.0
PPCY Paphos 90.87 342 P **P** 02 55 54.0 +0.7
CAEH 'Ain El Ouahch 90.92 3 P **P** 02 55 55.0 +1.4
EBNR Beni Rached 91.11 7 P **P** 02 55 55.2 +0.7
DFRA Djebel Bou Aff 91.12 4 P **P** 02 55 55.0 +0.5
BHL Bhannes 91.16 340 *e*P **P** 02 55 54.4 -0.3
ECHA Ech Chlef 91.24 8 P **P** 02 55 55.8 +0.8
CGMA Guelma 91.27 3 P **P** 02 55 58.0 +2.8
CKFL Kef-Lekhel 91.30 3 P **P** 02 55 55.0 -0.3
EMHD Djebel Mahouad 91.30 6 P **P** 02 55 55.0 -0.4
EANR 'Ain N'Sour 91.41 8 P **P** 02 55 56.2 +0.3
CASM Ain Smara 91.43 3 P **P** 02 55 56.0 +0.1
SET Setif 91.44 4 P **P** 02 55 58.0 +2.0
PMPS Porto Santo 91.47 23 *e*P **P** 02 55 56.4 +0.3
comp=Z,163nm,1.2s,mb6.2
KAD Karad 91.52 301 *e*P **P** 02 55 57.4 +1.0
CTEI Djebel Teioual 91.62 4 P **P** 02 55 58.0 +1.2
CKHR Kef el Ahmar 91.63 4 P **P** 02 55 59.0 +2.1
MIB Mutribah 91.95 329 *e*P **P** 02 55 57.7 -0.7
MIB AMb AMB 02 56 03.3
comp=Z,499nm,0.9s,mb6.8
ETRT Tiaret 91.98 8 P **P** 02 55 59.2 +0.7
CMER Merouana 92.04 4 P **P** 02 56 00.0 +1.2
UMR Umm Al-Rimmam 92.06 328 *e*P **P** 02 55 58.3 -0.6
UMR AMb AMB 02 56 02.8
comp=Z,286nm,0.8s,mb6.7
GVD Gavdhos 92.15 349 *e*P **P** 02 55 59.5 +0.2
comp=Z,356nm,1.4s,mb6.5
BANOM Banah 92.31 320 ⇑P **P** 02 55 58.2 -1.8
SNR=60
KBD Kabd 92.42 328 *e*P **P** 02 55 59.8 -0.7
KBD AMb AMB 02 56 04.5
comp=Z,693nm,1.2s,mb6.9
NAY Al-Naaiem 92.49 329 *e*P **P** 02 55 59.7 -1.2
NAY AMb AMB 02 56 04.6
comp=Z,164nm,1.1s,mb6.3
ASF Jabal al Asfar 92.55 338 P **P** 02 56 01.4 +0.3
comp=Z,77nm,1.0s,mb6.1,baz=284,slow=0.7,SNR=34
RDF Al-Radifah 92.69 328 *e*P **P** 02 56 00.8 -1.0
RDF AMb AMB 02 56 05.8
comp=Z,398nm,1.1s,mb6.8
GOA Goa 93.22 301 *e*P **P** 02 56 06.0 +1.8
ASHO Ashiyiah 93.52 320 P **P** 02 56 04.5 -1.1
SNR=71
BIDO Bidbid 93.72 317 P **P** 02 56 07.4 +0.9
SNR=12
WSAR Wadi Sarin 93.76 317 P **P** 02 56 06.4 -0.3
comp=Z,343nm,1.2s,mb6.7,baz=23,slow=3.5,SNR=38
HOQ Hoqain 94.00 318 P **P** 02 56 06.8 -1.0
SNR=33
SMDO Samad 94.16 317 P **P** 02 56 08.5 -0.1
SNR=46
WBK Wadi Bani Khal 94.18 316 P **P** 02 56 09.2 +0.6
SNR=31
STKA Stephens Creek 94.44 220 P **P** 02 56 08.6 -1.2
comp=Z,12nm,0.9s,mb5.3,baz=56,slow=2.2,SNR=9.0
STKA LR LR 03 33 51.8
comp=Z,16µm,21.6s,MS6.5,baz=23,slow=32
STKA Stephens Creek 94.44 220 *e*P **P** 02 56 05.5 -4.3
comp=Z,11nm,1.0s,mb5.3
STKA *e*S 03 06 34.6
STKA LR LR 03 33 51.8
ARQ Araqi 94.54 319 P **P** 02 56 09.7 -0.6
SNR=109
SNZO South Karori 94.57 192 PFAKE 02 56 20.0 +10
SNZO LR LR
comp=Z,15µm,21.0s,MS6.4
JMDO Jabal Madar 94.75 317 P **P** 02 56 11.1 -0.1
SNR=40
BSY Bisya 94.79 318 P **P** 02 56 11.2 -0.2
SNR=48
MNGI Mangalore 94.82 298 *e*P **P** 02 56 11.3 -0.2
MNGI AMb AMB 02 56 15.1
comp=Z,222nm,1.6s,mb6.3
RPN Rapa Nui 94.97 129 LR LR 03 29 53.7
comp=Z,7µm,19.9s,MS6.1,baz=314,slow=30
RPN Rapa Nui 94.97 129 PFAKE 02 56 20.0 +7.8
RPN LR LR
comp=Z,9µm,20.0s,MS6.2
EIL Elat 95.39 339 *e*P **P** 02 56 14.3 +0.1
comp=Z,2µm,1.3s
MBWA Marble Bar 95.71 243 *e*P **P** 02 56 15.1 -0.5
comp=Z,39nm,1.3s,mb5.7
MBWA LR LR
comp=Z,6µm,20.0s,MS6.0
CCAN Las Canadas 96.03 24 P **P** 02 56 21.0 +3.9
comp=Z,52nm,1.1s,mb5.9
CHIE El Hierro 96.16 25 P **P** 02 56 21.1 +3.4
comp=Z,49nm,1.2s,mb5.8
PALK Pallekele 96.21 290 P **P** 02 56 18.6 +0.7
comp=Z,399nm,0.9s,mb6.8,SNR=6.2
PALK Pallekele 96.21 290 *e*P **P** 02 56 18.0 +0.1
comp=Z,16µm,0.9s
PALK LR LR
comp=Z,10µm,22.0s,MS6.3
CFTV Fuerteventura 96.45 22 P **P** 02 56 23.0 +4.0
comp=Z,15nm,0.8s,mb5.5
TRD Trivandrum 97.31 294 *e*P **P** 02 56 22.4 -0.5
TRD AMb AMB 02 56 29.8
comp=Z,73nm,2.4s,mb5.7
WHFO Wadi Hawf 100.51 319 P Pdif 02 56 36.4 -0.8
SNR=16
NNA Nana 100.85 95 PFAKE 02 56 50.0 +11
NNA LR LR
comp=Z,7µm,21.0s,MS6.1
ABTO Aybut 101.21 319 P Pdif 02 56 40.5 +0.2
SNR=9.1
COCO West Island 101.97 266 PFAKE 02 56 50.0 +6.4
COCO LR LR
comp=Z,3µm,19.0s,MS5.8
TAU Tasmania Unive 102.26 211 PFAKE 02 57 00.0 +15
TAU LR LR
comp=Z,8µm,20.0s,MS6.2
NWAO Narrogin (SRO) 106.47 237 PFAKE 03 01 30.0 +16
NWAO LR LR
comp=Z,7µm,20.0s,MS6.2
SAML Samuel 106.79 83 PFAKE 03 01 30.0 +15
SAML LR LR
comp=Z,6µm,22.0s,MS6.1
LPAZ La Paz 109.48 91 PFAKE 03 01 30.0 +10
LPAZ LR LR
comp=Z,6µm,21.0s,MS6.1
DGAR Diego Garcia 112.87 289 PFAKE 03 01 40.0 +14
DGAR LR LR
comp=Z,7µm,22.0s,MS6.2
LVC Limon Verde 113.81 96 PFAKE 03 01 40.0 +12
LVC LR LR
comp=Z,5µm,21.0s,MS6.1
TORD Torodi Ar. Bea 114.05 10 PKP PKiKP 03 01 28.4 -0.3
comp=Z,4.0nm,0.9s,baz=345,slow=1.8,SNR=14
TORD PP PP 03 02 22.8 -0.8
comp=Z,5.5nm,0.9s,baz=358,slow=5.6,SNR=5.4
TORD PKKPbc PKKPbc 03 12 07.8 -1.9
comp=Z,2.2nm,0.6s,baz=174,slow=2.3,SNR=14
RCBR Riachuelo 119.75 56 PFAKE 03 01 50.0 +10
RCBR LR LR
comp=Z,8µm,21.0s,MS6.3
BDFB Brasilia 121.11 74 PKP PKPdf 03 01 41.2 -1.1
comp=Z,3.2nm,0.9s,baz=44,slow=2.0,SNR=3.1
CPUP Villa Florida 123.62 90 PKPdf PKPdf 03 01 47.8 +0.7
CPUP Villa Florida 123.62 90 PKP PKPdf 03 01 45.6 -1.4
comp=Z,1.5nm,0.5s,baz=291,slow=1.8,SNR=6.4
CPUP Villa Florida 123.62 90 PKP PKPdf 03 01 45.6 -1.4
CPUP LR LR
comp=Z,571nm,20.0s,MS5.2
KMBO Kilima Mbogo 124.15 327 PKP PKPdf 03 01 48.1 0.0
comp=Z,45nm,1.2s,baz=14,slow=4.6,SNR=17
DRV Dumont d'Urvil 124.97 202 PP PP 03 03 48.0 +9.3
DRV SKS SKSdf 03 08 53.0 -3.9
DRV SKKS SKKSac 03 10 35.0 +2.7
DRV SP SP 03 13 41.0 +8.2
DRV SS SS 03 20 40.0 +10
PLCA Paso Flores 125.80 112 PFAKE 03 02 00.0 +8.7
PLCA LR LR
comp=Z,10µm,20.0s,MS6.5
TRQA Tornquist 128.99 104 *e*PKPdf PKPdf 03 01 56.9 -0.4
TRQA LR LR
comp=Z,7µm,19.0s,MS6.3
ASCN Ascension 130.96 34 PFAKE 03 02 10.0 +8.9
ASCN LR LR
comp=Z,7µm,20.0s,MS6.4
SBA Scott Base 131.03 187 PFAKE 03 02 10.0 +8.8
SBA LR LR
comp=Z,12µm,19.0s,MS6.6
VNDA Vanda 131.10 188 PKP PKPdf 03 01 59.4 -2.0
comp=Z,2.2nm,1.0s,baz=339,slow=0.2,SNR=4.7
VNDA SKPbc SKPbc 03 05 20.6 -0.7
comp=Z,11nm,1.1s,baz=340,slow=3.4,SNR=7.1
VNDA Vanda 131.10 188 PKP PKPdf 03 01 59.4 -2.0
VNDA SKPbc SKPbc 03 05 20.6 -0.7
VNDA LR LR
comp=Z,8µm,21.0s,MS6.4
CASY Casey 133.07 213 *e*PKPdf PKPdf 03 02 03.6 -1.4
CASY LR LR
comp=Z,9µm,20.0s,MS6.5
OPO Ambohidratompo135.77 306 PKP PKPdf 03 02 11.4 +1.2
comp=Z,39nm,1.1s,baz=55,slow=2.0,SNR=14
OPO SKPbc SKPbc 03 05 42.6 +5.5
comp=Z,15nm,1.1s,baz=77,slow=4.0,SNR=4.2
EFI East Falkland 139.21 117 PFAKE 03 02 30.0 +14
EFI LR LR
comp=Z,11µm,19.0s,MS6.6

MIR	**Mirnyy**	**139.40**	**218**	*e*PKIKP	PKPdf	03 02 13.0	-3.8
MIR				pmax	pmax			
	comp=Z,210nm,1.0s							
LSZ	**Lusaka**	**140.28**	**333**	PKhKP		03 02 12.6		
	comp=Z,18nm,0.7s,baz=39,slow=2.3,SNR=22							
LSZ				PP	PP	03 05 19.0	+2.3	
	comp=Z,13nm,1.1s,baz=352,slow=7.5,SNR=3.3							
LSZ	**Lusaka**	**140.28**	**333**	*e*PKPpre		03 02 12.2		
LSZ				*e*SKP		03 05 59.5		
LSZ				LR	LR			
	comp=Z,12µm,22.0s,MS6.6							
PMSA	**Palmer Station**	**141.66**	**138**	PFAKE		03 02 30.0	+9.1	
PMSA				LR	LR			
	comp=Z,12µm,20.0s,MS6.7							
QSPA	**South Pole Qui**	**142.37**	**180**	*e*P	PKPdf	03 02 18.2	-4.0	
MATP	**Matopo**	**145.07**	**330**	PKPbc	PKPbc	03 02 26.3	-0.2	
	comp=Z,366nm,1.1s,baz=20,slow=4.7,SNR=110							
MATP	**Matopo**	**145.07**	**330**	PKPbc	PKPbc	03 02 26.3	-0.2	
TSUM	**Tsumeb**	**146.25**	**348**	PKPdf	PKPdf	03 02 30.2	+1.3	
TSUM	**Tsumeb**	**146.25**	**348**	PKPbc	PKPbc	03 02 30.4	+0.3	
	comp=Z,160nm,0.9s,baz=4.5,slow=4.4,SNR=8.2							
TSUM	**Tsumeb**	**146.25**	**348**	PKPbc	PKPbc	03 02 30.4	+0.3	
TSUM				LR	LR			
	comp=Z,11µm,21.0s,MS6.6							
LBTB	**Lobatse**	**150.25**	**332**	PKPdf	PKPdf	03 02 37.6	+2.2	
LBTB				PKPbc	PKPbc	03 02 43.4	+2.8	
LBTB	**Lobatse**	**150.25**	**332**	PKPbc	PKPbc	03 02 41.4	+0.7	
	comp=Z,193nm,0.9s,baz=36,slow=1.3,SNR=68							
LBTB	**Lobatse**	**150.25**	**332**	PKPbc	PKPbc	03 02 41.4	+0.7	
LBTB				LR	LR			
	comp=Z,8µm,21.0s,MS6.5							
MAW	**Mawson**	**151.11**	**219**	*e*PKP	PKPdf	03 02 35.8	-1.0	
	comp=Z,48nm,0.9s							
MAW	**Mawson**	**151.11**	**219**	PKP	PKPdf	03 02 34.6	-2.2	
	comp=Z,5.4nm,1.0s,baz=212,slow=2.0,SNR=5.5							
MAW				PKPbc	PKPbc	03 02 42.1	-0.6	
	comp=Z,64nm,0.9s,baz=202,slow=0.4,SNR=34							
MAW	**Mawson**	**151.11**	**219**	PKIKP	PKPdf	03 02 34.6	-2.2	
MAW						03 02 42.1		
MAW				pmax	pmax			
	comp=Z,5.0nm,1.0s							
MAW				pmax	pmax			
	comp=Z,64nm,0.9s							
HOPE	**Hope Point**	**152.20**	**113**	PFAKE		03 02 50.0	+12	
HOPE				LR	LR			
	comp=Z,10µm,19.0s,MS6.7							
TRIS	**Tristan da Cun**	**157.57**	**55**	PFAKE		03 03 00.0	+14	
TRIS				LR	LR			
	comp=Z,7µm,20.0s,MS6.5							
SUR	**Sutherland**	**158.52**	**336**	PKP	PKPdf	03 02 48.8	+1.9	
	comp=Z,18nm,1.1s,baz=274,slow=5.0,SNR=5.8							
SUR				PKPab	PKPab	03 03 23.2	+1.2	
	comp=Z,73nm,1.1s,baz=345,slow=2.7,SNR=8.3							
SUR	**Sutherland**	**158.52**	**336**	PKP	PKPdf	03 02 48.8	+1.9	
SUR				PKPab	PKPab	03 03 23.2	+1.2	
SUR				LR	LR			
	comp=Z,10µm,20.0s,MS6.7							
VNA3	**Neumayer Olymp**	**159.18**	**161**	*e*PKPdf	PKPdf	03 02 45.9	-1.9	
VNA3				*e*		03 02 48.1		
VNA3				*e*		03 02 56.7		
VNA3				*e*		03 03 02.9		
VNA3				*e*		03 03 08.8		
VNA3				*e*		03 03 13.5		
VNA3				*e*		03 03 16.3		
VNA3				*e*		03 03 19.4		
VNA3				*e*		03 03 23.5		
VNA3				*e*		03 03 27.4		
VNA3				*e*		03 03 30.6		
VNA3				*e*		03 03 34.7		
VNA3				*e*		03 03 39.7		
VNA3				*e*		03 03 46.2		
VNA3				*e*		03 03 54.4		
VNA3				*e*		03 04 00.8		
VNA3				*e*		03 04 12.4		
VNA3				*e*		03 04 19.9		
VNA2	**Neumayer--Watz**	**159.87**	**163**	*e*PKPdf	PKPdf	03 02 46.7	-1.8	
	baz=291,slow=1.5							
VNA2				*e*		03 02 49.5		
VNA2				*e*		03 02 56.8		
VNA2				*e*		03 03 03.2		
VNA2				*e*		03 03 09.5		
VNA2				*e*		03 03 13.2		
VNA2				*e*		03 03 16.2		
VNA2				*e*		03 03 20.9		
VNA2				*e*		03 03 25.9		
VNA2				*e*		03 03 29.6		
VNA2				*e*		03 03 34.4		
VNA2				*e*		03 03 39.4		
VNA2				*e*		03 03 43.6		
VNA2				*e*		03 03 49.4		
VNA2				*e*		03 03 55.5		
VNA2				*e*		03 04 02.6		
VNA2				*e*		03 04 13.9		
VNA2				*e*		03 04 22.1		
SNAA	**Sanae**	**159.93**	**167**	*e*PKPdf	PKPdf	03 02 47.8	-0.8	
SNAA				*e*		03 02 50.0		
SNAA				*e*		03 02 58.7		
SNAA				*e*		03 03 04.3		
SNAA				*e*		03 03 10.9		
SNAA				*e*		03 03 22.5		
SNAA				*e*		03 03 28.3		
SNAA				*e*		03 03 32.4		
SNAA				*e*		03 03 44.0		
SNAA				*e*		03 03 48.9		
SNAA				*e*		03 03 52.7		
SNAA				*e*		03 04 00.8		
SNAA				*e*		03 04 14.2		
VNA1	**Neumayer--Stat**	**159.94**	**162**	*e*PKPdf	PKPdf	03 02 47.0	-1.6	
VNA1				*e*		03 02 49.4		
VNA1				*e*		03 02 57.2		
VNA1				*e*		03 03 03.7		
VNA1				*e*		03 03 09.8		
VNA1				*e*		03 03 12.8		
VNA1				*e*		03 03 16.2		
VNA1				*e*		03 03 20.2		
VNA1				*e*		03 03 27.1		
VNA1				*e*		03 03 29.1		
VNA1				*e*		03 03 33.2		
VNA1				*e*		03 03 37.6		
VNA1				*e*		03 03 43.0		
VNA1				*e*		03 03 49.3		
VNA1				*e*		03 03 54.9		
VNA1				*e*		03 04 02.0		
VNA1				*e*		03 04 13.0		
VNA1				*e*		03 04 21.8		
NVL	**N'lazarevskaya**	**161.76**	**181**	*d* PKIKP	pPKPdf	03 03 05.8	-1.1	
NVL				pmax	pmax			
	comp=Z,44nm,2.1s							

*ISCJB **10** 02:44:16.5±0.3, 4641N±002×993E±002, h10km, Error ellipse: s-maj=2.6km s-min=2.0km az=156.4*
*ZUR **10** 02:44:16.9, 4639N×987E, h2km±1km, ML2.3/12*
*ROM **10** 02:44:16.9±0.2, 4643N×987E, h10km, Md2.6/12, Ml2.3/6, Error ellipse: s-maj=3.2km s-min=2.1km az=173.0*
*CSEM **10** 02:44:16.2±0.1, 4640N×989E, h12km, ML2.3/12, Error ellipse: s-maj=1.5km s-min=1.1km az=161.0*
*NEIC **10** 02:44:16.9, 4639N×986E, h2km, ML2.3(STR), ML2.3(ZUR), ML2.5(LDG), After ZUR.*
*LDG **10** 02:44:19.1±0.3, 4643N×1006E, h6km, Ml2.5/8, Error ellipse: s-maj=6.0km s-min=3.0km az=80.0*
*STR **10** 02:44:24.8±1.4, 4671N×978E, h10km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 10 02:44:17.5±0.3, 4641N±002×994E±002, h10km, n76, σ1§09/100, 27C-9D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BERNI	**Berninapass**	**0.06**	**83**	*e*Sg	**Pg**	**02 44 19.6**	**0.0**
	12µm,0.2s						
BERNI	**Berninapass**	**0.06**	**83**	⇑*i*Pg	**Sg**	**02 44 22.0**	**+0.9**
	12µm,0.2s						
BERNI	**Berninapass**	**0.06**	**83**	⇑*i*P	**Pg**	**02 44 19.6**	**0.0**
BERNI	**Berninapass**	**0.06**	**83**	⇑*i*Pg	**Sg**	**02 44 22.0**	**+0.9**
	12µm,0.2s						
BRMO	**Bormio**	**0.31**	**77**	Pg	**Pg**	**02 44 23.6**	**-0.1**
	161nm,0.2s						
VDL	**Val di Lei**	**0.33**	**284**	⇑*i*Pg	**Pg**	**02 44 23.3**	**-0.9**
	3µm,0.2s						
VDL				*i* Sg	**Sg**	**02 44 27.4**	**-1.2**
	3µm,0.2s						

DAVOX	**Davos**	**0.38**	**354**	*e*Sg	**Pg**	**02 44 24.8**	**-0.1**
	537nm,0.5s						
DAVOX	**Davos**	**0.38**	**354**	⇑*i*Pg	**Sg**	**02 44 29.8**	**-0.2**
	537nm,0.5s						
DAVOX	**Davos**	**0.38**	**354**	⇑*i*P	**Pg**	**02 44 24.8**	**-0.1**
DAVOX	**Davos**	**0.38**	**354**	Pg	**Pg**	**02 44 24.9**	**0.0**
TUE	**Stuetta**	**0.41**	**279**	Pg	**Pg**	**02 44 24.4**	**-1.3**
TUE				Sg	**Sg**	**02 44 29.7**	**-1.5**
	370nm,0.3s						
MDI	**Monti di Nese**	**0.65**	**194**	Pg	**Pg**	**02 44 30.3**	**+0.2**
	74nm,0.4s						
PLONS	**Plons**	**0.75**	**329**	⇓*i*Pg	**Sg**	**02 44 41.4**	**-0.4**
	49nm,0.3s						
PLONS	**Plons**	**0.75**	**329**	⇓*i*P	**Pg**	**02 44 31.3**	**-0.7**
LLS	**Linth-Limmern**	**0.78**	**305**	*e*Pg	**Pg**	**02 44 31.3**	**-1.2**
	80nm,0.3s						
LLS	**Linth-Limmern**	**0.78**	**305**	*e*P	**Pg**	**02 44 31.4**	**-1.1**
MUGIO	**Muggio**	**0.79**	**232**	Pg	**Pg**	**02 44 31.3**	**-1.5**
MUGIO				Sg	**Sg**	**02 44 41.7**	**-1.4**
MUGIO	**Muggio**	**0.79**	**232**	⇑*i*P	**Pg**	**02 44 31.2**	**-1.6**
DAVA	**Damuels**	**0.88**	**357**	⇑*i*Pg	**Pg**	**02 44 34.2**	**-0.3**
DAVA				⇓*i*Sg	**Sg**	**02 44 46.7**	**+0.7**
	19nm,0.2s						
FUSIO	**Fusio**	**0.88**	**274**	⇑*i*Pg	**Pg**	**02 44 31.5**	**-3.1**
	290nm,0.3s						
FUSIO	**Fusio**	**0.88**	**274**	⇑*i*P	**Pg**	**02 44 32.9**	**-1.7**
SALO	**Salr**	**0.89**	**152**	Pg	**Pg**	**02 44 34.4**	**-0.2**
APPI	**Appiano**	**0.89**	**85**	Pg	**Pg**	**02 44 34.3**	**-0.5**
	76nm,0.4s						
SAL	**Salo**	**0.90**	**153**	Pg	**Pg**	**02 44 35.1**	**+0.3**
	40nm,0.2s						
VAI	**Varese**	**0.98**	**237**	Pg	**Pg**	**02 44 35.2**	**-1.1**
	29nm,0.3s						
MUO	**Muotathal**	**1.06**	**303**	*e*Pg	**Pg**	**02 44 32.9**	**-5.0**
	143nm,0.6s						
MUO	**Muotathal**	**1.06**	**303**	*e*P	**Pg**	**02 44 37.1**	**-0.8**
BNALP	**Bannalp**	**1.14**	**295**	⇓*i*Pg	**Pg**	**02 44 34.3**	**-5.2**
	89nm,0.5s						
BNALP	**Bannalp**	**1.14**	**295**	⇓*i*P	**Pb**	**02 44 38.1**	**-1.2**
SQTA	**Sankt Quirin**	**1.19**	**47**	⇑*i*Sg	**Sg**	**02 44 55.6**	**-0.4**
	comp=Z,18nm,0.2s						
SQTA	**Sankt Quirin**	**1.19**	**47**	⇑*i*Pg	**Pg**	**02 44 39.6**	**-0.8**
SQTA				⇓*i*Sg	**Sg**	**02 44 56.9**	**+1.0**
	18nm,0.2s						
SQTA	**Sankt Quirin**	**1.19**	**47**	⇑*i*Pg	**Pg**	**02 44 39.6**	**-0.8**
SQTA				*i* Sg	**Sg**	**02 44 55.6**	**-0.4**
SQTA	**Sankt Quirin**	**1.19**	**47**	⇑*i*Pg	**Pg**	**02 44 39.6**	**-0.9**
SQTA				*i* Sg	**Sg**	**02 44 55.6**	**-0.4**
WILA	**Wila**	**1.23**	**325**	*e*P	**Pn**	**02 44 37.7**	**-3.1**
	192nm,0.3s						
WILA	**Wila**	**1.23**	**325**	*e*P	**Pn**	**02 44 41.0**	**+0.2**
MOTA	**Moosalm**	**1.23**	**40**	⇑*i*Sg	**Sg**	**02 44 56.9**	**-0.4**
	comp=Z,12nm,0.3s						
MOTA	**Moosalm**	**1.23**	**40**	⇑*i*Pg	**Pg**	**02 44 40.4**	**-0.9**
MOTA				⇓*i*Sg	**Sg**	**02 44 59.0**	**+1.7**
	12nm,0.3s						
MOTA	**Moosalm**	**1.23**	**40**	⇑*i*Pg	**Pg**	**02 44 40.4**	**-0.9**
MOTA				*i* Sg	**Sg**	**02 44 56.9**	**-0.4**
MOTA	**Moosalm**	**1.23**	**40**	⇑*i*Pg	**Pg**	**02 44 40.3**	**-0.9**
MOTA				*i* Sg	**Sg**	**02 44 56.9**	**-0.4**
CTI	**Castel Tesino**	**1.24**	**106**	Pg	**Pg**	**02 44 40.8**	**-0.6**
CTI				Sg	**Sg**	**02 44 56.9**	**-0.6**
	50nm,0.3s						
HASLI	**Hasliberg**	**1.28**	**287**	⇓*i*Pg	**Pg**	**02 44 38.1**	**-4.0**
	112nm,0.6s						
HASLI	**Hasliberg**	**1.28**	**287**	⇓*i*P	**Pn**	**02 44 40.5**	**-1.0**
MMK	**Mattmark**	**1.42**	**256**	*e*P	**Pn**	**02 44 40.5**	**-2.8**
	103nm,0.2s						
MMK	**Mattmark**	**1.42**	**256**	*e*P	**Pn**	**02 44 42.1**	**-1.2**
WTTA	**Wattenberg**	**1.45**	**53**	⇑*i*Sg	**Sg**	**02 45 03.4**	**-0.7**
	comp=E,15nm,0.4s						
WTTA	**Wattenberg**	**1.45**	**53**	⇑*i*Pn	**Pn**	**02 44 44.4**	**+0.6**
WTTA				⇑*i*Sg	**Sg**	**02 45 07.0**	**+2.9**
	15nm,0.4s						
WTTA	**Wattenberg**	**1.45**	**53**	⇑*i*Pg	**Pg**	**02 44 44.4**	**-0.9**
WTTA				*i* Sg	**Sg**	**02 45 03.4**	**-0.7**
WTTA	**Wattenberg**	**1.45**	**53**	⇑*i*Pg	**Pg**	**02 44 44.4**	**-0.9**
WTTA				*i* Sg	**Sg**	**02 45 03.4**	**-0.7**
WATA	**Walderalm**	**1.46**	**50**	⇑*i*Sg	**Sg**	**02 45 04.6**	**+0.2**
	comp=Z,6.3nm,0.2s						
WATA	**Walderalm**	**1.46**	**50**	⇑*i*Pn	**Pn**	**02 44 44.7**	**+0.8**
WATA				⇑*i*Sn	**Sg**	**02 45 04.6**	**+0.2**
	6.3nm,0.2s						
ORO	**Oropa**	**1.57**	**241**	Pg	**Pg**	**02 44 45.7**	**-2.0**
	41nm,0.2s						
TEOL	**Teolo**	**1.60**	**130**	⇑*i*Pg	**Pg**	**02 44 47.8**	**-0.5**
SEST	**Monte Rota**	**1.61**	**77**	Pg	**Pg**	**02 44 47.2**	**-1.2**
	53nm,0.9s						
BBS	**Basel-Blauen**	**1.97**	**303**	Pn	**Pn**	**02 44 55.0**	**+4.0**
BBS				Sg	**Sg**	**02 45 21.0**	**+0.1**
FELD	**Feldberg im Sc**	**1.98**	**319**	Pn	**Pn**	**02 44 52.2**	**+1.2**
FELD				Sg	**Sg**	**02 45 20.2**	**-0.9**
MOF	**Molkenrain**	**2.40**	**308**	Pn	**Pn**	**02 44 58.4**	**+1.5**
LPG	**La Plagne**	**2.40**	**249**	*e*Pn	**Pn**	**02 44 58.8**	**+1.9**
LPL	**La Plagne**	**2.41**	**249**	*e*Pn	**Pn**	**02 45 00.0**	**+3.0**
HINF	**Hinteralfeld**	**2.54**	**305**	*e*Pn	**Pn**	**02 44 59.6**	**+0.9**
HINF				*e*Sn	**Sn**	**02 45 29.0**	**-0.7**
	3.7nm,0.3s						
CABF	**La Chapelle**	**2.67**	**276**	*e*Sg	**Sg**	**02 45 45.3**	**+2.1**
	7.7nm,0.4s						
CDF	**Champ du Feu**	**2.70**	**319**	*e*Pn	**Pn**	**02 45 02.2**	**+1.2**
CDF				*e*Sg	**Sg**	**02 45 44.2**	**-0.1**
	8.7nm,0.3s						
MBDF	**Montbardon**	**2.79**	**234**	*e*Pn	**Pn**	**02 45 01.7**	**-0.5**
HAU	**Haudompre**	**2.92**	**304**	*e*Pn	**Pn**	**02 45 06.8**	**+2.7**
HAU				*e*Sn	**Sn**	**02 45 41.0**	**+1.8**
	7.3nm,0.4s						
SBF	**Sospel**	**3.10**	**216**	*e*Pn	**Pn**	**02 45 07.4**	**+0.9**
FRF	**La Foret Royal**	**3.68**	**221**	*e*Pn	**Pn**	**02 45 15.3**	**+0.8**
FRF				*e*Sn	**Sn**	**02 45 57.7**	**-0.2**
	0.9nm,0.3s						
LMR	**La Mourre**	**3.92**	**220**	*e*Pn	**Pn**	**02 45 17.6**	**-0.2**
SMRF	**Simiane la Rot**	**3.93**	**233**	*e*Pn	**Pn**	**02 45 19.3**	**+1.4**
VIVF	**Saint-Julien-l**	**4.01**	**249**	*e*Pn	**Pn**	**02 45 20.4**	**+1.5**
SMF	**Signal de Mont**	**4.22**	**275**	*e*Pn	**Pn**	**02 45 22.9**	**+1.1**
SMF				*e*Sn	**Sn**	**02 46 11.4**	**+0.3**
	1.4nm,0.2s						
LOR	**Lormes**	**4.26**	**284**	*e*Pn	**Pn**	**02 45 23.8**	**+1.4**
LOR				*e*Sn	**Sn**	**02 46 11.8**	**-0.4**
	2.6nm,0.3s						
SSF	**Saint Saulge**	**4.47**	**281**	*e*Pn	**Pn**	**02 45 26.7**	**+1.4**
AVF	**Avril sur Loir**	**4.56**	**277**	*e*Pn	**Pn**	**02 45 27.6**	**+1.1**
LASF	**Ste Croix**	**4.89**	**244**	*e*Pn	**Pn**	**02 45 32.2**	**+1.2**
BGF	**Bois d'Agland**	**4.90**	**274**	*e*Pn	**Pn**	**02 45 32.2**	**+0.9**
TCF	**Toulx Ste Croi**	**5.35**	**272**	*e*Pn	**Pn**	**02 45 38.6**	**+1.1**
TCF				*e*Sn	**Sn**	**02 46 37.3**	**-1.9**
	0.7nm,0.3s						
CAF	**Calviac**	**5.71**	**258**	*e*Pn	**Pn**	**02 45 43.4**	**+1.0**

NEIC 10 02:49:16.1, 5254N×16920W, h25km, ML3.5(AEIC)**, After AEIC., Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKO	**Nikolski**	**0.48**	**26**	P	Pb	02 49 25.8	-0.2
NIKO				S	Sb	02 49 35.5	+2.7
OKCD	**Okmok Cone D**	**1.11**	**36**	P	Pn	02 49 35.5	-0.5
OKCD				S	Sn	02 49 53.3	+2.9
UNV	**Unalaska Valle**	**2.08**	**50**	P	Pn	02 49 50.5	+1.1
UNV				S	Sn	02 50 14.5	0.0
AKUT	**Akutan**	**2.60**	**51**	P	Pn	02 49 58.9	+2.4
AKUT				S	Sn	02 50 29.1	+1.8
ATKA	**Atka Island**	**3.08**	**266**	P	Pn	02 50 04.3	+1.3
ATKA				S	Sn	02 50 40.9	+1.8

*NEIC **10** 03:00:27.7, 5246N×16908W, h25km, mb3.8/1, ML3.6(AEIC), After AEIC.*
*ISCJB **10** 03:00:28.0±1.4, 526N±02×1692W±0.1, h50km±7km, mb3.7/10, Error ellipse: s-maj=31.7km s-min=6.4km az=134.1*
*IDC **10** 03:00:32.6±4.2, 5286N×16925W, h65km±35km, mb3.5/10, mb1 3.6/12, mb1mx3.5/24, mbtmp3.8/12, ML3.4/2, Error ellipse: s-maj=52.3km s-min=18.3km az=177.0*

ISC 10 03:00:29.0±1.3, 526N±02×1692W±01, h46km±7km, n21, σ0§93/25, mb3.7/10, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKO	**Nikolski**	**0.42**	**27**	P	**Pn**	**03 00 37.9**	**-1.2**
NIKO				S	**Sn**	**03 00 46.0**	**-0.2**
OKCE	**Okmok Cone E**	**1.03**	**36**	P	**Pn**	**03 00 47.2**	**+0.2**
OKCE				S	**Sn**	**03 01 02.1**	**+1.8**
OKCD	**Okmok Cone D**	**1.05**	**37**	P	**Pn**	**03 00 47.6**	**+0.3**
UNV	**Unalaska Valle**	**2.04**	**51**	P	**Pn**	**03 01 00.5**	**-0.3**
UNV				S	**Sn**	**03 01 25.0**	**0.0**
ATKA	**Atka Island**	**3.10**	**265**	P	**Pn**	**03 01 15.1**	**-0.3**
ATKA				S	**Sn**	**03 01 51.0**	**-0.2**
AMKA	**Amchitka**	**7.22**	**265**	P	**Pn**	**03 02 12.2**	**+0.3**
FX1	**Attu Island--F**	**10.71**	**279**	P	**Pn**	**03 03 02.2**	**+2.5**
	0.9nm,0.3s,baz=239,slow=21,SNR=2.2						
KDAK	**Kodiak Island**	**10.80**	**55**	P	**Pn**	**03 02 58.4**	**-2.6**
	0.5nm,0.3s,baz=82,slow=22,SNR=4.3						
ILAR	**Eielson Array**	**16.70**	**34**	P	**Pn**	**03 04 18.6**	**-0.9**
	0.1nm,0.3s,baz=229,slow=12,SNR=6.7						
INK	**Inuvik**	**23.09**	**34**	P	**P**	**03 05 30.6**	**-0.1**
	1.6nm,0.6s,mb3.7,baz=251,slow=8.4,SNR=13						
INK	**Inuvik**	**23.09**	**34**	*e*P	**P**	**03 05 32.7**	**+2.0**
	1.6nm,0.6s,mb3.6						
YKA	**Yellowknife Ar**	**30.00**	**49**	P	**P**	**03 06 33.8**	**+0.6**
	0.4nm,0.5s,mb3.4,baz=270,slow=7.7,SNR=11						
PDAR	**Pinedale Array**	**40.24**	**80**	P	**P**	**03 08 02.8**	**+1.6**
	0.3nm,0.5s,mb3.3,baz=305,slow=3.2,SNR=3.3						
SONM	**Songino Array**	**51.28**	**301**	P	**P**	**03 09 28.4**	**0.0**
	0.7nm,0.9s,mb3.6,baz=61,slow=6.4,SNR=3.2						
SCHQ	**Schefferville**	**55.19**	**44**	P	**P**	**03 09 57.1**	**+0.2**
	0.7nm,0.6s,mb3.9,baz=299,slow=10,SNR=3.7						
BVAR	**Borovoye Array**	**63.59**	**324**	P	**P**	**03 10 54.6**	**-0.4**
	1.5nm,0.6s,mb4.2,baz=51,slow=6.3,SNR=8.1						
FINES	**FINESS Array B**	**65.66**	**352**	P	**P**	**03 11 07.7**	**-0.8**
	0.4nm,0.5s,mb3.7,baz=24,slow=10,SNR=5.4						
NOA	**NORSAR Array B**	**66.71**	**360**	P	**P**	**03 11 14.8**	**-0.4**
	0.2nm,0.5s,mb3.4,baz=360,slow=6.3,SNR=3.5						
AKTK	**Aktyubinsk**	**69.87**	**330**	P	**P**	**03 11 34.5**	**-0.5**
AKTO	**Aktyubinsk**	**69.87**	**330**	P	**P**	**03 11 34.5**	**-0.5**
	0.8nm,0.4s,mb4.0,baz=47,slow=8.5,SNR=6.0						
ESDC	**Sonseca Array**	**87.21**	**11**	P	**P**	**03 13 10.4**	**0.0**
	0.7nm,0.6s,mb4.1,baz=354,slow=5.1,SNR=5.4						

*ISCJB **10** 03:04:19.3±1.8, 525N±02×169.1W±02, h49km±9km, mb3.7/7, Error ellipse: s-maj=35.8km s-min=8.7km az=122.3*
*NEIC **10** 03:04:19.5, 5245N×16907W, h40km, mb3.3/1, ML3.4(AEIC), After AEIC.*
*IDC **10** 03:04:25.1±5.8, 5253N×169.10W, h82km±38km, mb3.5/6, mb1 3.6/8, mb1mx3.4/23, mbtmp3.8/8, Error ellipse: s-maj=119.1km s-min=27.0km az=170.0*

ISC 10 03:04:20.8±1.7, 525N±02×1692W±02, h45km±9km, n18, σ0§82/21, mb3.7/7, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKO	**Nikolski**	**0.49**	**23**	P	**Pn**	**03 04 30.5**	**-1.1**
NIKO				S	**Sn**	**03 04 38.6**	**-0.7**
OKCE	**Okmok Cone E**	**1.09**	**33**	P	**Pn**	**03 04 39.2**	**-0.4**
OKCD	**Okmok Cone D**	**1.11**	**35**	P	**Pn**	**03 04 39.9**	**+0.1**
OKCD				S	**Sn**	**03 04 55.6**	**+1.6**
UNV	**Unalaska Valle**	**2.08**	**49**	P	**Pn**	**03 04 52.1**	**-1.0**
UNV				S	**Sn**	**03 05 18.3**	**+0.5**
ATKA	**Atka Island**	**3.10**	**266**	P	**Pn**	**03 05 07.8**	**+0.6**
AMKA	**Amchitka**	**7.22**	**265**	P	**Pn**	**03 06 04.4**	**+0.7**
FX1	**Attu Island--F**	**10.73**	**279**	P	**Pn**	**03 06 56.2**	**+4.4**
	1.0nm,0.3s,baz=66,slow=5.4,SNR=11						
ILAR	**Eielson Array**	**16.75**	**34**	P	**Pn**	**03 08 13.0**	**+0.9**
	0.1nm,0.3s,baz=221,slow=10,SNR=6.3						
INK	**Inuvik**	**23.15**	**33**	*e*P	**P**	**03 09 18.2**	**-5.0**
	0.7nm,0.6s,mb3.3						
YKA	**Yellowknife Ar**	**30.05**	**49**	P	**P**	**03 10 26.2**	**+0.7**
	0.3nm,0.5s,mb3.3,baz=273,slow=7.9,SNR=10						
YKA	**Yellowknife Ar**	**30.05**	**49**	P	**P**	**03 10 26.2**	**+0.7**
ARCES	**ARCESS Array B**	**57.78**	**354**	P	**P**	**03 14 07.1**	**-0.2**
	2.1nm,1.0s,mb4.1,baz=357,slow=7.1,SNR=6.6						
BVAR	**Borovoye Array**	**63.65**	**324**	P	**P**	**03 14 47.3**	**+0.1**
	1.2nm,0.5s,mb4.2,baz=52,slow=6.0,SNR=9.0						
FINES	**FINESS Array B**	**65.73**	**352**	P	**P**	**03 15 01.0**	**+0.2**
	0.2nm,0.4s,mb3.5,baz=2.1,slow=9.3,SNR=4.2						
NOA	**NORSAR Array B**	**66.78**	**360**	P	**P**	**03 15 05.7**	**-1.8**
	0.6nm,0.6s,mb3.8,baz=0.6,slow=6.4,SNR=3.6						
NOA	**NORSAR Array B**	**66.78**	**360**	P	**P**	**03 15 05.7**	**-1.8**
AKTK	**Aktyubinsk**	**69.94**	**330**	P	**P**	**03 15 27.1**	**-0.2**
AKTO	**Aktyubinsk**	**69.94**	**330**	P	**P**	**03 15 27.1**	**-0.2**
	0.3nm,0.3s,mb3.7,baz=68,slow=9.2,SNR=4.4						

*ISCJB **10** 03:05:05.4±0.4, 4000N±002×2071E±003, h2km, Error ellipse: s-maj=3.9km s-min=3.1km az=76.4*
*CSEM **10** 03:05:05.5±0.0, 3998N×2069E, h2km, MD3.3, Error ellipse: s-maj=1.3km s-min=0.9km az=148.0*
*THE

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATP	**Matopo**	**4.16**	**277**	Pn	**Pn**	**03 06 18.4**	**+4.2**
	8.2nm,0.3s,baz=101,slow=13,SNR=99						
MATP				Sn	**Sn**	**03 07 03.5**	**+0.5**
	19nm,0.3s,baz=91,slow=15,SNR=3.5						
MATP				Lg		03 07 25.1	
	178nm,0.3s,baz=6.8,slow=23,SNR=9.0						
MATP	**Matopo**	**4.16**	**277**	Pn	**Pn**	**03 06 18.4**	**+4.2**
MATP				Sn	**Sn**	**03 07 03.5**	**+0.5**
MATP				Lg		03 07 25.1	
SLR	**Silverton**	**6.34**	**221**	*eP*	**Pn**	**03 06 43.8**	**-0.3**
SLR				*eS*	**Sn**	**03 07 53.0**	**-3.6**
SLR				AML	AML	03 08 45.5	
	comp=Z,482nm,0.7s						
LSZ	**Lusaka**	**7.25**	**321**	Pn	**Pn**	**03 06 58.7**	**+2.1**
	comp=Z,1.3nm,0.3s,baz=153,slow=14,SNR=32						
LSZ				Sn	**Sn**	**03 08 17.8**	**-1.3**
	comp=Z,14nm,0.3s,baz=40,slow=22,SNR=4.4						
LSZ				Lg		03 08 57.7	
	comp=Z,27nm,0.3s,baz=178,slow=13,SNR=4.0						
KSR	**Koster**	**7.33**	**228**	*eP*	**Pn**	**03 06 57.5**	**-0.1**
LBTB	**Lobatse**	**7.82**	**238**	*eP*	**Pn**	**03 07 02.5**	**-2.0**
LBTB				*eS*	**Sn**	**03 08 24.2**	**-8.9**
LBTB				AML	AML	03 09 30.3	
	comp=Z,170nm,0.5s						
LBTB	**Lobatse**	**7.82**	**238**	Pn	**Pn**	**03 07 07.0**	**+2.5**
	comp=Z,4.2nm,0.3s,baz=61,slow=13,SNR=34						
LBTB				Sn	**Sn**	**03 08 34.1**	**+1.0**
	comp=Z,15nm,0.3s,baz=112,slow=18,SNR=5.6						
LBTB				Lg		03 09 13.2	
	comp=Z,20nm,0.3s,baz=4.0,slow=15,SNR=8.2						
LBTB				LR	LR	03 10 42.1	
	comp=Z,2μm,21.8s,baz=296,slow=42						
LBTB	**Lobatse**	**7.82**	**238**	Pn	**Pn**	**03 07 07.0**	**+2.5**
LBTB				Sn	**Sn**	**03 08 34.1**	**+1.0**
LBTB				Lg		03 09 13.2	
LBTB				LR	LR	03 10 42.1	
SWZ	**Schweizer**	**9.25**	**227**	*eP*	**Pn**	**03 07 23.4**	**-0.6**
SWZ				*eS*	**Sn**	**03 09 01.9**	**-6.3**
SWZ				AML	AML	03 09 35.7	
	comp=Z,33nm,0.5s						
PKA	**Prieska**	**12.59**	**225**	*eP*	**Pn**	**03 08 09.2**	**-0.5**
OPO	**Ambohidratompo**	**13.66**	**82**	Pn	**Pn**	**03 08 19.1**	**-5.3**
	comp=Z,1.6nm,0.3s,baz=260,slow=14,SNR=12						
OPO				Sn	**Sn**	**03 10 38.8**	**-17**
	comp=Z,2.8nm,0.3s,baz=147,slow=18,SNR=5.8						
TSUM	**Tsumeb**	**14.51**	**274**	Pn	**Pn**	**03 08 37.1**	**+1.2**
	comp=Z,0.9nm,0.3s,baz=130,slow=14,SNR=6.1						
TSUM				Sn	**Sn**	**03 11 14.9**	**-1.9**
	comp=Z,0.7nm,0.3s,baz=122,slow=20,SNR=3.4						
TSUM				Lg		03 12 48.3	
	comp=Z,2.0nm,0.3s,baz=152,slow=14,SNR=4.5						
TSUM	**Tsumeb**	**14.51**	**274**	*ePn*	**Pn**	**03 08 36.3**	**+0.4**
TSUM				*eP*		03 08 45.3	
TSUM				Sn	**Sn**	**03 11 14.9**	**-1.9**
TSUM				Lg		03 12 48.3	
SUR	**Sutherland**	**15.64**	**221**	*eP*	**Pn**	**03 08 52.6**	**+1.6**
SUR				*eS*	**Sn**	**03 11 35.4**	**-9.0**
SUR	**Sutherland**	**15.64**	**221**	Pn	**Pn**	**03 08 52.4**	**+1.3**
	comp=Z,3.0nm,0.3s,baz=52,slow=15,SNR=16						
SUR				Sn	**Sn**	**03 11 39.4**	**-5.0**
	comp=Z,2.3nm,0.3s,baz=87,slow=21,SNR=3.3						
SUR				Lg		03 13 18.3	
	comp=Z,3.1nm,0.3s,baz=129,slow=22,SNR=9.1						
SUR	**Sutherland**	**15.64**	**221**	*ePn*	**Pn**	**03 08 52.7**	**+1.7**
SUR				Sn	**Sn**	**03 11 39.4**	**-5.0**
SUR				Lg		03 13 18.3	
CER	**Ceres**	**17.24**	**222**	*eP*	**Pn**	**03 09 15.4**	**+3.9**
KMBO	**Kilima Mbogo**	**20.21**	**13**	LR	LR	03 17 42.6	
	comp=Z,1μm,20.3s,MS4.2,baz=104,slow=37						
TORD	**Torodi Ar. Bea**	**45.74**	**315**	P	**P**	**03 13 35.0**	**+3.0**
	comp=Z,3.6nm,1.1s,mb4.2,baz=132,slow=6.5,SNR=3.6						
MAW	**Mawson**	**50.25**	**166**	P	**P**	**03 14 05.7**	**-1.3**
	comp=Z,4.1nm,0.8s,mb4.5,baz=338,slow=6.1,SNR=4.0						
SNAA	**Sanae**	**54.69**	**193**	P	**P**	**03 14 40.5**	**+0.7**
	comp=Z,1.1nm,0.9s,mb3.9,baz=49,slow=9.3,SNR=3.9						
SNAA	**Sanae**	**54.69**	**193**	*e*	**P**	**03 14 40.0**	**+0.1**
SNAA	**Sanae**	**54.69**	**193**	*eP*	**P**	**03 14 38.9**	**-1.0**
	comp=Z,1.0nm,0.5s,mb4.1						
VNA2	**Neumayer--Watz**	**55.19**	**195**	*e*	**P**	**03 14 43.7**	**+0.2**
VNA1	**Neumayer--Stat**	**55.22**	**195**	*e*	**P**	**03 14 45.3**	**+1.6**
VNA3	**Neumayer Olymp**	**55.96**	**195**	*e*	**P**	**03 14 48.7**	**-0.3**
BVAR	**Borovoye Array**	**80.57**	**22**	P	**P**	**03 17 22.6**	**-0.6**
	comp=Z,0.3nm,0.5s,mb3.5,baz=223,slow=7.4,SNR=2.9						
MKAR	**Makanchi Array**	**80.86**	**32**	P	**P**	**03 17 23.4**	**-1.4**
	comp=Z,0.2nm,0.5s,mb3.3,baz=170,slow=5.3,SNR=2.3						
ASAR	**Alice Springs**	**91.22**	**116**	P	**P**	**03 18 16.2**	**+0.2**
	comp=Z,0.9nm,0.8s,mb4.2,baz=235,slow=3.3,SNR=5.9						
YKA	**Yellowknife Ar**	**132.97**	**340**	PKP	PKPdf	03 24 26.3	+0.1
	comp=Z,0.1nm,0.4s,baz=32,slow=1.5,SNR=7.9						

*ISCJB **10** 03:13:39.3±1.3,523N×0.1×1692W×0.1,h47km±9km, mb3.8/8,Error ellipse: s-maj=21.5km s-min=6.1km az=130.4*

*NEIC **10** 03:13:39.1,5232N×169.11W,h19km,mb3.5/1, ML3.6(AEIC),After AEIC.*

*IDC **10** 03:13:43.6±3.5,5277N×169.12W,h44km±29km,mb3.6/8, mb1 3.8/11,mb1mx3.7/23,mbtmp3.8/11,ML3.6/3,Error ellipse: s-maj=50.4km s-min=20.3km az=177.0*

ISC 10 03:13:38.5±1.7,5230N.008×**16911W**±.009,**h22**km±11km, **n28,σ1s29/33,mb3.8/8,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.69**	**13**	P	**Pb**	**03 13 51.7**	**-0.1**
NIKO				S	**Sb**	**03 14 00.1**	**-0.8**
OKCE	**Okmok Cone E**	**1.26**	**27**	P	**Pn**	**03 14 01.3**	**+0.5**
OKCE				S	**Sn**	**03 14 18.7**	**+1.5**
OKCD	**Okmok Cone D**	**1.28**	**28**	P	**Pn**	**03 14 01.5**	**+0.4**
OKCD				S	**Sn**	**03 14 18.8**	**+1.3**
UNV	**Unalaska Valle**	**2.20**	**44**	P	**Pn**	**03 14 13.8**	**+0.1**
UNV				S	**Sn**	**03 14 42.9**	**+2.5**
AKUT	**Akutan**	**2.72**	**46**	*ePn*	**Pn**	**03 14 21.4**	**+0.6**
ATKA	**Atka Island**	**3.13**	**270**	P	**Pn**	**03 14 27.3**	**+0.8**
ATKA				S	**Sn**	**03 15 03.8**	**+0.6**
AMKA	**Amchitka**	**7.24**	**267**	P	**Pn**	**03 15 24.2**	**+1.2**
FX1	**Attu Island--F**	**10.80**	**280**	P	**Pn**	**03 16 14.8**	**+3.0**
	0.7nm,0.3s,baz=72,slow=5.3,SNR=15						
KDAK	**Kodiak Island**	**10.94**	**53**	P	**Pn**	**03 16 13.5**	**-0.2**
	1.0nm,0.3s,baz=272,slow=23,SNR=6.9						
KDAK	**Kodiak Island**	**10.94**	**53**	P	**Pn**	**03 16 13.5**	**-0.2**
SLKM	**Skilak Lake**	**13.26**	**44**	*ePn*	**Pn**	**03 16 44.1**	**-1.2**
ILAR	**Eielson Array**	**16.92**	**34**	P	**Pn**	**03 17 32.3**	**-1.5**
	0.1nm,0.3s,baz=231,slow=12,SNR=7.3						
DAWY	**Dawson**	**19.38**	**41**	*eP*	**Pn**	**03 18 02.6**	**-1.3**
SKAG	**Skagway**	**20.08**	**56**	*eP*	**P**	**03 18 11.7**	**+1.3**
INK	**Inuvik**	**23.32**	**33**	P	**P**	**03 18 42.6**	**-2.5**
	0.8nm,0.5s,mb3.4,baz=226,slow=7.9,SNR=13						
INK	**Inuvik**	**23.32**	**33**	*eP*	**P**	**03 18 43.4**	**-1.7**
	0.8nm,0.5s,mb3.4						
YKW3	**Yellowknife Ar**	**30.15**	**49**	*eP*	**P**	**03 19 48.4**	**+1.6**
YKA	**Yellowknife Ar**	**30.16**	**49**	P	**P**	**03 19 47.1**	**+0.1**
	0.7nm,0.5s,mb3.6,baz=272,slow=7.9,SNR=27						
PDAR	**Pinedale Array**	**40.26**	**79**	P	**P**	**03 21 15.1**	**+1.4**
	1.1nm,0.5s,mb3.8,baz=304,slow=3.8,SNR=9.4						
SONM	**Songino Array**	**51.47**	**301**	P	**P**	**03 22 42.1**	**-0.1**
	1.0nm,0.9s,mb3.7,baz=55,slow=5.5,SNR=4.5						
ARCES	**ARCESS Array B**	**58.01**	**354**	P	**P**	**03 23 28.1**	**-1.5**
	1.0nm,0.5s,mb4.1,baz=10.0,slow=7.4,SNR=8.3						
JOF	**Joensuu**	**64.00**	**350**	*ep*	**P**	**03 24 08.1**	**-2.2**
KAF	**Kangasniemi**	**65.28**	**352**	*ep*	**P**	**03 24 15.3**	**-3.3**
FINES	**FINESS Array B**	**65.96**	**352**	P	**P**	**03 24 21.0**	**-2.0**
	0.8nm,0.4s,mb4.1,baz=23,slow=8.6,SNR=8.3						
FINES	**FINESS Array B**	**65.96**	**352**	P	**P**	**03 24 21.0**	**-2.0**
NB2	**NORSAR Subarra**	**67.01**	**360**	P	**P**	**03 24 28.2**	**-1.5**
	comp=Z,0.8nm,0.5s,mb4.0,baz=359,slow=6.2						
NOA	**NORSAR Array B**	**67.01**	**360**	P	**P**	**03 24 28.2**	**-1.5**
	comp=Z,0.8nm,0.6s,mb4.0,baz=0.3,slow=6.3,SNR=5.0						
GERES	**GERESS Array B**	**79.20**	**358**	P	**P**	**03 25 41.9**	**+0.1**
	comp=Z,0.5nm,0.7s,mb3.6,baz=354,slow=2.7,SNR=4.2						

*IDC **10** 03:20:06.1±1.0,5244N×169.13W,h0km,mb4.2/14, mb1 4.3/17,mb1mx4.3/24,mbtmp4.2/17,ML3.8/3,Error ellipse: s-maj=27.8km s-min=12.5km az=166.0*

*ISCJB **10** 03:20:08.2±1.4,5229N±007×169.09W±.006,h25km±8km, mb4.4/41,Error ellipse: s-maj=13.2km s-min=5.1km az=139.5*

*NEIC **10** 03:20:10.1,5230N×169.04W,h25km,mb4.5/26, ML4.0(AEIC),After AEIC.*

*MOS **10** 03:20:10.0±1.1,5243N×169.15W,h33km,mb4.8/21,Error ellipse: s-maj=16.5km s-min=7.5km az=80.4*

ISC 10 03:20:11.5±1.3,5245N.009×**16916W**±.007,**h34**km±7km, **n126,σ0s80/131,mb4.4/41,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.56**	**19**	P	**Pb**	**03 20 22.7**	**-0.4**
NIKO				S	**Sb**	**03 20 31.3**	**+0.2**
OKCE	**Okmok Cone E**	**1.15**	**31**	P	**Pn**	**03 20 31.7**	**+0.4**
OKCD	**Okmok Cone D**	**1.17**	**32**	P	**Pn**	**03 20 32.3**	**+0.8**
OKCD				S	**Sn**	**03 20 50.7**	**+4.4**
UNV	**Unalaska Valle**	**2.13**	**48**	P	**Pn**	**03 20 44.5**	**-0.1**
UNV				S	**Sn**	**03 21 10.8**	**+0.9**
AKLV	**Akutan Long Va**	**2.58**	**47**	P	**Pn**	**03 20 52.6**	**+1.7**
AKUT	**Akutan**	**2.64**	**49**	P	**Pn**	**03 20 52.3**	**+0.6**
AKUT				S	**Sn**	**03 21 23.1**	**+0.5**
ATKA	**Atka Island**	**3.10**	**267**	P	**Pn**	**03 20 57.8**	**-0.2**
ATKA				S	**Sn**	**03 21 35.1**	**+1.2**
AMKA	**Amchitka**	**7.22**	**266**	P	**Pn**	**03 21 55.2**	**+0.5**
CHGN	**Chignik**	**7.37**	**54**	*eP*	**Pn**	**03 21 57.2**	**+0.6**
FX1	**Attu Island--F**	**10.75**	**279**	Pn	**Pn**	**03 22 43.3**	**+0.3**
	1.8nm,0.3s,baz=157,slow=23,SNR=27						
FX1	**Attu Island--F**	**10.75**	**279**	*ePn*	**Pn**	**03 22 44.0**	**+1.0**
KDAK	**Kodiak Island**	**10.88**	**54**	Pn	**Pn**	**03 22 44.8**	**0.0**
	1.0nm,0.3s,baz=324,slow=8.6,SNR=8.0						
SLKM	**Skilak Lake**	**13.18**	**45**	*eP*	**Pn**	**03 23 15.7**	**-0.5**
EYAK	**Cordova Ski Ar**	**15.19**	**49**	*ePn*	**Pn**	**03 23 41.9**	**-1.6**
COLA	**College**	**16.55**	**33**	*eP*	**Pn**	**03 24 01.3**	**+0.3**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
COLA	**College**	**16.55**	**33**	*eP*	**Pn**	**03 24 01.3**	**+0.4**
	comp=Z,4.7nm,0.8s						
ILAR	**Eielson Array**	**16.81**	**34**	Pn	**Pn**	**03 24 02.5**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=230,slow=11,SNR=12						
ILAR				PcP	PcP	03 28 50.2	-0.7
	comp=Z,0.0nm,0.3s,baz=269,slow=3.9,SNR=4.5						
DAWY	**Dawson**	**19.29**	**41**	*eP*	**Pn**	**03 24 32.2**	**-2.3**
SKAG	**Skagway**	**20.02**	**56**	*eP*	**P**	**03 24 41.8**	**+0.5**
INK	**Inuvik**	**23.21**	**33**	P	**P**	**03 25 13.5**	**-2.0**
	comp=Z,1.3nm,0.5s,mb3.6,baz=238,slow=10,SNR=10						
INK				PcP	PcP	03 29 02.5	-0.2
	comp=Z,0.5nm,0.8s,baz=269,slow=1.2,SNR=3.9						
INK	**Inuvik**	**23.21**	**33**	*eP*	**P**	**03 25 13.6**	**-1.9**
INK						03 29 02.5	
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
INK	**Inuvik**	**23.21**	**33**	*eP*	**P**	**03 25 13.6**	**-2.0**
	comp=Z,3.2nm,0.8s,mb3.8						
INK				PcP	PcP	03 29 02.5	-0.2
YKW3	**Yellowknife Ar**	**30.08**	**49**	*eP*	**P**	**03 26 17.7**	**0.0**
YKA	**Yellowknife Ar**	**30.09**	**49**	P	**P**	**03 26 17.8**	**+0.1**
	comp=Z,1.2nm,0.5s,mb3.9,baz=272,slow=7.8,SNR=47						
YKA				PcP	PcP	03 29 18.6	-0.2
	comp=Z,0.2nm,0.7s,baz=286,slow=2.5,SNR=4.5						
YKA	**Yellowknife Ar**	**30.09**	**49**	P	**P**	**03 26 17.8**	**+0.1**
YKA				PcP	PcP	03 29 18.6	-0.2
NEW	**Newport**	**32.86**	**76**	*eP*	**P**	**03 26 42.6**	**+0.5**
NEW				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NEW	**Newport**	**32.86**	**76**	*eP*	**P**	**03 26 42.6**	**+0.4**
	comp=Z,2.3nm,0.7s,mb4.2						
FFC	**Flin Flon**	**38.57**	**59**	*eP*	**P**	**03 27 30.7**	**-0.3**
FFC				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.6						
FFC	**Flin Flon**	**38.57**	**59**	*eP*	**P**	**03 27 30.7**	**-0.3**
	comp=Z,1.4nm,0.8s,mb3.7						
MAJO	**Matsushiro**	**39.83**	**268**	*eP*	**P**	**03 27 41.9**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.4						
MAJO	**Matsushiro**	**39.83**	**268**	*eP*	**P**	**03 27 41.9**	**+0.3**
	comp=Z,4.4nm,0.5s,mb4.4						
BW06	**Boulder Array**	**40.26**	**79**	*eP*	**P**	**03 27 45.7**	**+0.6**
	comp=Z,1.1nm,0.6s,mb3.8						
PDAR	**Pinedale Array**	**40.26**	**79**	P	**P**	**03 27 45.8**	**+0.7**
	comp=Z,1.9nm,0.7s,mb4.0,baz=305,slow=3.6,SNR=17						
FCC	**Fort Churchill**	**40.79**	**50**	*eP*	**P**	**03 27 49.6**	**+0.1**
FCC				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.5						
FCC	**Fort Churchill**	**40.79**	**50**	*eP*	**P**	**03 27 49.6**	**+0.1**
	comp=Z,15nm,1.1s,mb4.5						
BOD	**Bodaibo**	**42.05**	**309**	*eP*	**P**	**03 27 58.2**	**-1.6**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.3						
MNTX	**Cornudas Mount**	**49.90**	**88**	*eP*	**P**	**03 29 02.2**	**+0.5**
	comp=Z,0.7nm,0.6s,mb3.2						
SONM	**Songino Array**	**51.37**	**301**	P	**P**	**03 29 12.7**	**-0.1**
	comp=Z,1.7nm,0.6s,mb4.2,baz=57,slow=6.1,SNR=16						
SONM				pP	pP	03 29 26.2	+3.2
	comp=Z,3.4nm,1.0s,baz=52,slow=2.9,SNR=14						
LTX	**Lajitas**	**52.62**	**89**	*eP*	**P**	**03 29 21.3**	**-0.8**
LTX				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
LTX	**Lajitas**	**52.62**	**89**	*eP*	**P**	**03 29 21.3**	**-0.8**
	comp=Z,1.9nm,0.7s,mb4.1						
SCHQ	**Schefferville**	**55.29**	**43**	P	**P**	**03 29 40.2**	**-1.4**
	comp=Z,1.8nm,0.8s,mb4.2,baz=290,slow=6.4,SNR=6.6						
SCHQ	**Schefferville**	**55.29**	**43**	P	**P**	**03 29 40.2**	**-1.4**
WCI	**Wyandotte Cave**	**56.82**	**69**	*eP*	**P**	**03 29 51.7**	**-0.8**
WCI				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
WCI	**Wyandotte Cave**	**56.82**	**69**	*eP*	**P**	**03 29 51.6**	**-0.9**
	comp=Z,3.0nm,0.6s,mb4.5						
ARCES	**ARCESS Array B**	**57.86**	**354**	P	**P**	**03 29 58.7**	**-1.1**
	comp=Z,2.3nm,0.9s,mb4.2,baz=8.5,slow=6.3,SNR=8.9						
ARCES	**ARCESS Array B**	**57.86**	**354**	P	**P**	**03 29 58.7**	**-1.1**
MKAR	**Makanchi Array**	**63.85**	**313**	P	**P**	**03 30 39.3**	**-1.3**
	comp=Z,1.2nm,0.7s,mb4.0,baz=38,slow=6.2,SNR=9.5						
JOF	**Joensuu**	**63.86**	**350**	*ep*	**P**	**03 30 38.8**	**-1.8**
KAF	**Kangasniemi**	**65.13**	**352**	*ep*	**P**	**03 30 45.4**	**-3.6**
FINES	**FINESS Array B**	**65.81**	**352**	P	**P**	**03 30 52.1**	**-1.3**
	comp=Z,2.0nm,0.5s,mb4.4,baz=24,slow=8.1,SNR=20						
NB2	**NORSAR Subarra**	**66.86**	**360**	P	**P**	**03 30 59.2**	**-0.9**
	comp=Z,2.3nm,0.5s,mb4.5,baz=0.4,slow=6.2						
NOA	**NORSAR Array B**	**66.86**	**360**	P	**P**	**03 30 59.5**	**-0.6**
	comp=Z,2.6nm,0.6s,mb4.4,baz=0.1,slow=6.2,SNR=12						
AKASG	**Malin Array Be**	**76.06**	**348**	P	**P**	**03 31 54.3**	**-1.3**
	comp=Z,1.7nm,0.4s,mb4.3,baz=14,slow=5.9,SNR=12						
CLL	**Collm**	**76.61**	**359**	*eP*	**P**	**03 31 58.0**	**-0.6**
CLL				*epP*	pP	03 32 07.0	-2.2
GUN	**Gumba**	**76.80**	**299**	*eP*	**P**	**03 31 59.9**	**+0.2**
	comp=Z,11nm,0.5s,mb5.1						
JIRN	**Jiri**	**76.83**	**298**	*eP*	**P**	**03 32 00.3**	**+0.4**
	comp=Z,11nm,0.4s,mb5.2						
KKN	**Kakani**	**77.22**	**299**	*eP*	**P**	**03 32 02.6**	**+0.5**
PKI	**Pulchoki**	**77.32**	**299**	*eP*	**P**	**03 32 02.5**	**-0.2**
GKN	**Gorkha**	**77.39**	**299**	*eP*	**P**	**03 32 02.8**	**-0.2**
DMN	**Dhamman**	**77.45**	**299**	*eP*	**P**	**03 32 03.6**	**+0.2**
KOLN	**Koldanda**	**78.13**	**300**	*eP*	**P**	**03 32 07.0**	**-0.1**
GRA1	**Grafenberg Arr**	**78.24**	**360**	*eP*	**P**	**03 32 08.2**	**+0.4**
GRF	**Grafenberg Arr**	**78.24**	**360**	*eP*	**P**	**03 32 08.2**	**+0.4**
FLN	**La Foliniere**	**78.71**	**8**	*eP*	**P**	**03 32 09.8**	**-0.6**
ROSF	**Rostrenen**	**78.88**	**10**	*eP*	**P**	**03 32 11.2**	**-0.1**
LDF	**La Druitiere**	**78.91**	**7**	*eP*	**P**	**03 32 11.1**	**-0.3**
	comp=Z,5.9nm,0.5s,mb4.5						
LDF	**La Druitiere**	**78.91**	**7**	*eP*	**P**	**03 32 11.1**	**-0.3**
LDF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
LDF	**La Druitiere**	**78.91**	**7**	*eP*	**P**	**03 32 11.1**	**-0.3**
	comp=Z,3.0nm,0.5s,mb4.5						
SGMF	**Saint Gilles**	**79.03**	**9**	*eP*	**P**	**03 32 12.1**	**0.0**
GRR	**Gorron**	**79.05**	**8**	*eP*	**P**	**03 32 12.1**	**-0.1**
	comp=Z,6.6nm,0.7s,mb4.3						
GRR	**Gorron**	**79.05**	**8**	*eP*	**P**	**03 32 12.1**	**-0.1**
GRR				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
GRR	**Gorron**	**79.05**	**8**	*eP*	**P**	**03 32 12.1**	**-0.1**
	comp=Z,3.3nm,0.7s,mb4.4						
GERES	**GERESS Array B**	**79.06**	**358**	P	**P**	**03 32 12.5**	**+0.2**
	comp=Z,1.3nm,0.7s,mb4.0,baz=17,slow=4.9,SNR=14						
CDF	**Champ du Feu**	**79.47**	**2**	*eP*	**P**	**03 32 14.8**	**+0.3**
HAU	**Haudompre**	**79.85**	**3**	*eP*	**P**	**03 32 17.7**	**+1.1**
HINF	**Hinteralfeld**	**80.06**	**3**	*eP*	**P**	**03 32 17.8**	**+0.1**
	comp=Z,3.6nm,0.5s,mb4.2						
HINF	**Hinteralfeld**	**80.06**	**3**	*eP*	**P**	**03 32 17.8**	**+0.1**
HINF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
HINF	**Hinteralfeld**	**80.06**	**3**	*eP*	**P**	**03 32 17.8**	**+0.1**
	comp=Z,1.8nm,0.5s,mb4.3						
LOR	**Lormes**	**80.48**	**5**	*eP*	**P**	**03 32 20.2**	**+0.2**
SSF	**Saint Saulge**	**80.67**	**5**	*eP*	**P**	**03 32 21.3**	**+0.3**
	comp=Z,3.3nm,0.9s,mb4.4						
SSF	**Saint Saulge**	**80.67**	**5**	*eP*	**P**	**03 32 21.3**	**+0.3**
SSF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
SSF	**Saint Saulge**	**80.67**	**5**	*eP*	**P**	**03 32 21.3**	**+0.3**
	comp=Z,4.7nm,0.9s,mb4.4						
MFF	**Saint Martin d**	**80.88**	**8**	*eP*	**P**	**03 32 22.4**	**+0.3**
	comp=Z,7.2nm,0.6s,mb4.5						
MFF	**Saint Martin d**	**80.88**	**8**	*eP*	**P**	**03 32 22.4**	**+0.3**
MFF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
MFF	**Saint Martin d**	**80.88**	**8**	*eP*	**P**	**03 32 22.4**	**+0.3**
	comp=Z,3.6nm,0.6s,mb4.5						
AVF	**Avril sur Loir**	**80.93**	**5**	*eP*	**P**	**03 32 22.5**	**+0.1**
	comp=Z,2.4nm,0.5s,mb4.1						
AVF	**Avril sur Loir**	**80.93**	**5**	*eP*	**P**	**03 32 22.5**	**+0.1**
AVF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
AVF	**Avril sur Loir**	**80.93**	**5**	*eP*	**P**	**03 32 22.5**	**+0.1**
	comp=Z,1.2nm,0.5s,mb4.1						
SMF	**Signal de Mont**	**81.11**	**5**	*eP*	**P**	**03 32 23.5**	**+0.2**
	comp=Z,9.4nm,0.8s,mb4.5						
SMF	**Signal de Mont**	**81.11**	**5**	*eP*	**P**	**03 32 23.5**	**+0.2**
SMF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
SMF	**Signal de Mont**	**81.11**	**5**	*eP*	**P**	**03 32 23.5**	**+0.2**
	comp=Z,4.7nm,0.8s,mb4.5						
BGF	**Bois d'Agland**	**81.14**	**6**	*eP*	**P**	**03 32 23.7**	**+0.2**
CABF	**La Chapelle**	**81.24**	**3**	*eP*	**P**	**03 32 24.8**	**+0.8**
	comp=Z,8.7nm,0.7s,mb4.5						
CABF	**La Chapelle**	**81.24**	**3**	*eP*	**P**	**03 32 24.8**	**+0.8**
CABF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
CABF	**La Chapelle**	**81.24**	**3**	*eP*	**P**	**03 32 24.8**	**+0.8**
	comp=Z,4.3nm,0.7s,mb4.5						
TCF	**Toulx Ste Croi**	**81.37**	**6**	*eP*	**P**	**03 32 24.8**	**+0.1**
RJF	**Les Rejaudoux**	**82.30**	**7**	*eP*	**P**	**03 32 29.6**	**0.0**
LFF	**La Frestale**	**82.61**	**7**	*eP*	**P**	**03 32 31.7**	**+0.5**
	comp=Z,13nm,0.6s,mb4.8						
LFF	**La Frestale**	**82.61**	**7**	*eP*	**P**	**03 32 31.7**	**+0.5**
LFF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
LFF	**La Frestale**	**82.61**	**7**	*eP*	**P**	**03 32 31.7**	**+0.5**
	comp=Z,6.3nm,0.6s,mb4.8						
CAF	**Calviac**	**82.71**	**6**	*eP*	**P**	**03 32 32.3**	**+0.5**
	comp=Z,8.1nm,0.9s,mb4.4						
CAF	**Calviac**	**82.71**	**6**	*eP*	**P**	**03 32 32.3**	**+0.5**
CAF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
CAF	**Calviac**	**82.71**	**6**	*eP*	**P**	**03 32 32.3**	**+0.5**
	comp=Z,4.1nm,0.9s,mb4.5						
ORIF	**Oris-en-Rattie**	**82.92**	**4**	*eP*	**P**	**03 32 33.9**	**+1.1**
	comp=Z,8.0nm,0.8s,mb4.5						
ORIF	**Oris-en-Rattie**	**82.92**	**4**	*eP*	**P**	**03 32 33.9**	**+1.1**
ORIF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVL	**N'lazarevskaya**	**18.02**	**178**	*e*P	**Pn**	**03 33 57.7**	**+0.6**
NVL	comp=N,127nm,1.0s			pmax	pmax		
NVL	comp=Z,159nm,1.0s			pmax	pmax		
NVL	comp=E,34nm,0.9s			pmax	pmax		
VNA1	**Neumayer--Stat**	**19.71**	**198**	⇓*i*	**Pn**	**03 34 17.2**	**-0.4**
VNA1				*e*		03 34 18.3	
VNA1				*e*		03 34 20.4	
VNA1				*e*		03 34 23.6	
VNA1				*e*		03 34 25.0	
VNA1				*e*		03 34 45.2	
VNA1				*e*		03 35 02.2	
VNA1				*e*		03 35 06.0	
VNA1				*e*		03 35 14.5	
VNA1				*e*		03 35 21.1	
VNA1				*e*		03 35 26.6	
VNA1	**Neumayer--Stat**	**19.71**	**198**	*e*	**Sn**	**03 37 48.3**	**-11**
VNA1				*e*		03 37 51.8	
VNA1				*e*		03 37 58.3	
VNA1				*e*		03 38 02.1	
SNAA	**Sanae**	**19.75**	**192**	P	**Pn**	**03 34 17.3**	**-0.8**
	comp=E,1.2nm,0.3s,baz=22,slow=11,SNR=128						
SNAA	**Sanae**	**19.75**	**192**	⇓*i*	**Pn**	**03 34 18.2**	**+0.1**
SNAA				*e*		03 34 19.1	
SNAA				*e*		03 34 21.6	
SNAA				*e*		03 34 24.7	
SNAA				*e*		03 34 26.1	
SNAA				*e*		03 34 30.7	
SNAA				*e*		03 35 10.3	
SNAA				*e*		03 35 14.7	
SNAA				*e*		03 35 21.1	
SNAA	**Sanae**	**19.75**	**192**	*e*	**Sn**	**03 37 48.4**	**-12**
SNAA				*e*		03 37 52.3	
SNAA				*e*		03 37 56.5	
SNAA				*e*		03 38 01.5	
SNAA	**Sanae**	**19.75**	**192**	*e*P	**Pn**	**03 34 17.0**	**-1.1**
SNAA	comp=Z,216nm,0.9s			pmax	pmax		
SNAA	**Sanae**	**19.75**	**192**	*e*P	**Pn**	**03 34 17.0**	**-1.0**
	comp=Z,216nm,0.9s						
VNA2	**Neumayer--Watz**	**19.78**	**197**	⇓*i*	**Pn**	**03 34 17.6**	**-0.9**
VNA2				*e*		03 34 18.9	
VNA2				*e*		03 34 21.0	
VNA2				*e*		03 34 23.9	
VNA2				*e*		03 34 25.5	
VNA2				*e*		03 34 30.1	
VNA2				*e*		03 34 48.6	
VNA2				*e*		03 34 58.0	
VNA2				*e*		03 35 00.1	
VNA2				*e*		03 35 07.0	
VNA2				*e*		03 35 16.0	
VNA2				*e*		03 35 24.6	
VNA2				*e*		03 35 43.9	
VNA2	**Neumayer--Watz**	**19.78**	**197**	*e*	**Sn**	**03 37 48.4**	**-13**
VNA2				*e*		03 37 51.7	
VNA2				*e*		03 37 56.2	
VNA2				*e*		03 38 00.8	
VNA3	**Neumayer Olymp**	**20.46**	**198**	⇓*i*	**P**	**03 34 25.2**	**+0.8**
VNA3				*e*		03 34 26.3	
VNA3				*e*		03 34 28.4	
VNA3				*e*		03 34 31.2	
VNA3				*e*		03 34 33.1	
VNA3				*e*		03 34 37.9	
VNA3				*e*		03 34 54.0	
VNA3				*e*		03 35 02.0	
VNA3				*e*		03 35 09.3	
VNA3				*e*		03 35 16.9	
VNA3	**Neumayer Olymp**	**20.46**	**198**	*e*	**S**	**03 38 00.7**	**-13**
VNA3				*e*		03 38 04.9	
VNA3				*e*		03 38 09.5	
SYO	**Syowa Base**	**21.29**	**151**	⇑eP	**P**	**03 34 33.5**	**+0.2**
SYO	**Syowa Base**	**21.29**	**151**	⇓*i*P	**P**	**03 34 35.1**	**+1.8**
SUR	**Sutherland**	**21.87**	**25**	P	**P**	**03 34 40.5**	**+0.9**
	comp=Z,639nm,1.2s,mb5.9,SNR=16						
SUR	**Sutherland**	**21.87**	**25**	P	**P**	**03 34 40.2**	**+0.6**
	comp=Z,97nm,1.0s,mb5.2,baz=200,slow=6.5,SNR=32						
SUR	**Sutherland**	**21.87**	**25**	*e*P	**P**	**03 34 39.4**	**-0.1**
	comp=Z,179nm,1.2s,mb5.4						
MAW	**Mawson**	**28.97**	**141**	*e*P	**P**	**03 35 46.0**	**-0.4**
	comp=Z,9.5nm,0.9s,mb4.5						
MAW	**Mawson**	**28.97**	**141**	P	**P**	**03 35 47.2**	**+0.8**
	comp=Z,14nm,1.1s,mb4.6,baz=274,slow=7.6,SNR=11						
MAW	**Mawson**	**28.97**	**141**	*e*P	**P**	**03 35 46.0**	**-0.4**
MAW	comp=Z,10.0nm,0.9s			pmax	pmax		
LBTB	**Lobatse**	**30.15**	**29**	*e*P	**P**	**03 35 56.4**	**-0.5**
LBTB	comp=Z,22nm,1.1s,mb4.8			pmax	pmax		
LBTB	**Lobatse**	**30.15**	**29**	*e*P	**P**	**03 35 56.4**	**-0.5**
	comp=Z,22nm,1.1s,mb4.8						
TSUM	**Tsumeb**	**34.07**	**13**	*e*P	**P**	**03 36 31.8**	**+0.6**
	comp=Z,72nm,1.3s,mb5.4						
QSPA	**South Pole Qui**	**37.40**	**180**	*e*P	**P**	**03 37 00.1**	**+0.2**
	comp=Z,62nm,1.2s,mb5.3						
LSZ	**Lusaka**	**40.12**	**28**	*e*P	**P**	**03 37 21.9**	**-0.7**
LSZ	comp=Z,10.0nm,1.3s,mb4.4			pmax	pmax		
LSZ	**Lusaka**	**40.12**	**28**	*e*P	**P**	**03 37 21.9**	**-0.8**
	comp=Z,9.8nm,1.3s,mb4.4						
CASY	**Casey**	**46.97**	**147**	*e*P	**P**	**03 38 18.3**	**+0.5**
CASY	**Casey**	**46.97**	**147**	*e*P	**P**	**03 38 17.6**	**-0.2**
	comp=Z,33nm,1.2s,mb5.1						
VNDA	**Vanda**	**48.73**	**172**	P	**P**	**03 38 32.1**	**+0.6**
	comp=Z,41nm,0.9s,mb5.5,baz=224,slow=8.4,SNR=70						
VNDA	**Vanda**	**48.73**	**172**	*e*P	**P**	**03 38 31.8**	**+0.3**
VNDA	comp=Z,47nm,0.9s			pmax	pmax		
VNDA	**Vanda**	**48.73**	**172**	*e*P	**P**	**03 38 31.8**	**+0.2**
	comp=Z,47nm,0.9s,mb5.5						
TRQA	**Tornquist**	**50.55**	**257**	*e*P	**P**	**03 38 45.1**	**-0.3**
	comp=Z,29nm,1.2s,mb5.1						
PLCA	**Paso Flores**	**53.72**	**248**	*e*P	**P**	**03 39 08.5**	**-0.5**
PLCA	comp=Z,7.0nm,0.8s			pmax	pmax		
PLCA	**Paso Flores**	**53.72**	**248**	*e*P	**P**	**03 39 08.5**	**-0.4**
	comp=Z,6.6nm,0.8s,mb4.6						
CPUP	**Villa Florida**	**55.96**	**270**	P	**P**	**03 39 24.8**	**-0.4**
	comp=Z,8.5nm,0.7s,mb4.9,baz=111,slow=5.7,SNR=23						
BDFB	**Brasilia**	**58.54**	**286**	P	**P**	**03 39 43.4**	**0.0**
	comp=Z,12nm,0.9s,mb4.9,baz=144,slow=4.6,SNR=15						
LVC	**Limon Verde**	**65.74**	**264**	*e*P	**P**	**03 40 32.2**	**+0.5**
	comp=Z,17nm,1.0s,mb5.0						
TORD	**Torodi Ar. Bea**	**66.11**	**351**	P	**P**	**03 40 33.3**	**-0.9**
	comp=Z,16nm,1.0s,mb5.0,baz=186,slow=7.8,SNR=62						
LPAZ	**La Paz**	**70.09**	**269**	P	**P**	**03 41 00.6**	**+1.5**
	comp=Z,26nm,0.8s,mb5.2,baz=124,slow=5.5,SNR=112						
LPAZ	**La Paz**	**70.09**	**269**	*e*P	**P**	**03 41 00.1**	**+1.0**
LPAZ	comp=Z,27nm,0.8s			pmax	pmax		
LPAZ	**La Paz**	**70.09**	**269**	*e*P	**P**	**03 41 00.1**	**+0.9**
	comp=Z,27nm,0.8s,mb5.2						
SAML	**Samuel**	**72.82**	**278**	*e*P	**P**	**03 41 15.1**	**-0.5**
	comp=Z,10.0nm,0.9s,mb4.8						
MUN	**Mundaring**	**73.99**	**122**	*e*P	**P**	**03 41 23.0**	**+0.4**
KLBR	**Kellerberrin**	**75.09**	**123**	*e*P	**P**	**03 41 26.7**	**-2.2**
	comp=Z,22nm,1.1s,mb5.0						
NNA	**Nana**	**78.70**	**265**	*e*P	**P**	**03 41 49.8**	**+0.5**
	comp=Z,7.6nm,0.7s,mb4.7						
FORT	**Forrest**	**80.80**	**130**	*e*P	**P**	**03 42 01.8**	**+1.1**
	comp=Z,10nm,0.8s,mb4.8						
EIL	**Elat**	**84.97**	**22**	*e*P	**P**	**03 42 22.5**	**+0.2**
	comp=Z,126nm,1.0s,mb6.0						
STKA	**Stephens Creek**	**85.66**	**140**	*e*P	**P**	**03 42 22.5**	**-3.3**
	comp=Z,7.1nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**85.66**	**140**	P	**P**	**03 42 24.6**	**-1.2**
	comp=Z,7.6nm,0.9s,mb4.9,baz=146,slow=4.7,SNR=7.6						
STKA	**Stephens Creek**	**85.66**	**140**	*e*P	**P**	**03 42 24.4**	**-1.3**
ASAR	**Alice Springs**	**89.56**	**130**	P	**P**	**03 42 44.2**	**-0.3**
	comp=Z,1.8nm,0.9s,mb4.4,baz=205,slow=5.4,SNR=8.4						
ASAR				PP	PP	03 46 20.0	+4.1
	comp=Z,1.1nm,0.9s,baz=202,slow=8.2,SNR=4.2						
ESDC	**Sonseca Array**	**92.94**	**349**	P	**P**	**03 43 01.3**	**+1.1**
	comp=Z,5.6nm,1.0s,mb4.9,baz=162,slow=4.7,SNR=12						
GERES	**GERESS Array B**	**101.35**	**2**	PP	PP	03 47 45.4	-2.0
	comp=Z,2.0nm,1.0s,baz=180,slow=8.0,SNR=8.9						
AKASG	**Malin Array Be**	**104.42**	**12**	PP	PP	03 48 10.3	-0.1
	comp=Z,0.6nm,0.6s,baz=201,slow=7.5,SNR=5.9						
JCT	**Junction City**	**125.41**	**275**	*e*PKIKP	PKPdf	03 48 47.0	-1.1
ZAK	**Zakamensk**	**129.22**	**56**	*e*PKIKP	PKPdf	03 49 00.6	+5.3
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.8s						
SONM	**Songino Array**	**129.22**	**60**	PKP	PKPdf	03 48 53.5	-1.8
	comp=Z,0.8nm,0.7s,baz=216,slow=2.3,SNR=8.5						
SMCO	**Snowmass**	**135.62**	**278**	*e*PKPdf	PKPdf	03 49 04.3	-3.1
ULM	**Lac du Bonnet**	**135.77**	**298**	PKP	PKPdf	03 49 06.7	-1.0
	comp=Z,1.7nm,0.8s,baz=16,slow=1.8,SNR=3.1						
MSU	**Marysvale**	**138.33**	**274**	*e*PKIKP	PKPdf	03 49 12.4	0.0
PDAR	**Pinedale Array**	**139.36**	**281**	PKhKP		03 49 03.2	
	comp=Z,0.2nm,0.4s,baz=133,slow=6.3,SNR=3.5						
PDAR				PKP	PKPdf	03 49 13.6	-0.7
	comp=Z,0.7nm,0.7s,baz=108,slow=4.3,SNR=6.0						
HWUT	**Hardware Ranch**	**139.87**	**278**	*e*PKPdf	PKPdf	03 49 14.7	-0.6
TPAW	**Teton Pass**	**140.61**	**281**	*e*PKPpre		03 49 11.0	
TPAW				*e*PKPdf	PKPdf	03 49 16.3	-0.2
MOOW	**Moose Ponds**	**140.63**	**281**	*e*PKPpre		03 49 11.0	
ELK	**Elko**	**141.57**	**274**	*e*PKIKP	PKPdf	03 49 17.7	-0.6
NVAR	**Mina Array Bea**	**141.99**	**269**	PKhKP		03 49 14.2	
	comp=Z,0.6nm,0.6s,baz=160,slow=5.8,SNR=4.5						
NVAR	**Mina Array Bea**	**141.99**	**269**	PKP		03 49 14.2	
HLID	**Hailey**	**142.72**	**278**	*e*PKPdf	PKPdf	03 49 17.4	-3.0
CHMT	**Chamberlain Mo**	**143.83**	**284**	*e*PKPdf	PKPdf	03 49 19.6	-2.7
RES	**Resolute Bay**	**143.90**	**334**	*e*PKIKP	PKPdf	03 49 18.4	-4.0
KLR	**Kul'dur**	**144.01**	**72**	*e*PKIKP	PKPdf	03 49 26.3	+3.7
KLR	comp=Z,42nm,1.8s			pmax	pmax		
OHCM	**Honcut**	**144.49**	**267**	*e*PKPdf	PKPdf	03 49 20.4	-3.0
WVOR	**Wild Horse Val**	**144.62**	**274**	*e*PKIKP	PKPdf	03 49 22.7	-1.0
WVOR				*e*		03 49 29.8	
EDM	**Edmonton**	**146.74**	**294**	*e*PKP2	PKPab	03 49 27.4	-2.8
NEW	**Newport**	**146.78**	**284**	*e*PKP2	PKPab	03 49 28.1	-2.2
YKA	**Yellowknife Ar**	**149.81**	**311**	PKP	PKPdf	03 49 27.9	-4.4
	comp=Z,0.6nm,0.8s,baz=95,slow=1.6,SNR=12						
YKA				PKPbc	PKPbc	03 49 34.9	-2.2
	comp=Z,4.3nm,0.7s,baz=100,slow=2.1,SNR=83						
YKA				PP	PP	03 53 06.9	-3.6
	comp=Z,1.0nm,1.1s,baz=89,slow=5.5,SNR=4.4						
YKW3	**Yellowknife Ar**	**149.82**	**311**	*e*PKPbc	PKPbc	03 49 34.6	-2.5
INK	**Inuvik**	**156.85**	**326**	PKPab	PKPab	03 50 10.0	-2.2
	comp=Z,3.2nm,1.0s,baz=52,slow=4.5,SNR=6.2						
INK	**Inuvik**	**156.85**	**326**	*e*PKPab	PKPab	03 50 09.9	-2.3
ILAR	**Eielson Array**	**163.24**	**324**	PKPab	PKPab	03 50 39.4	-0.6
	comp=Z,1.8nm,0.8s,baz=24,slow=2.7,SNR=8.4						
ILAR				PP	PP	03 54 25.6	+0.7
	comp=Z,0.8nm,1.0s,baz=13,slow=4.8,SNR=5.0						

NEIC 10 03:30:15.3, 5241N×16889W, h15km, ML2.6(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.56**	**2**	P	Pg	03 30 25.9	-0.4
NIKO				S	Sg	03 30 35.1	+1.2
OKCD	**Okmok Cone D**	**1.12**	**25**	P	Pb	03 30 35.7	-0.6
OKCD				S	Sb	03 30 53.0	+2.3
UNV	**Unalaska Valle**	**2.03**	**44**	P	Pn	03 30 48.4	-0.5
UNV				S	Sn	03 31 12.9	-1.1
SVW2	**Sparrevohn**	**11.34**	**35**	*e*Pn	Pn	03 32 58.2	+1.6

NEIC 10 03:34:18.6, 5240N×16913W, h36km, ML2.7(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.60**	**16**	P	Pn	03 34 28.4	-2.2
NIKO				S	Sn	03 34 38.8	-0.3
OKCD	**Okmok Cone D**	**1.20**	**31**	P	Pn	03 34 40.0	+1.2
OKCD				S	Sn	03 34 55.8	+1.9
UNV	**Unalaska Valle**	**2.15**	**47**	P	Pn	03 34 53.0	+1.1
SMY	**Shemya**	**10.22**	**278**	*e*Pn	Pn	03 36 38.1	-4.5

NEIC 10 03:37:45.2, 5248N×16874W, h2km, mb3.1/1, ML3.1(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.49**	**352**	P	Pg	03 37 55.8	+1.1
NIKO				S	Sg	03 38 04.0	+2.9
OKCE	**Okmok Cone E**	**1.01**	**20**	P	Pg	03 38 05.1	+0.6
OKCE				S	Sg	03 38 21.6	+4.0
OKCD	**Okmok Cone D**	**1.02**	**22**	P	Pg	03 38 05.6	+0.8
OKCD				S	Sg	03 38 21.9	+3.9
UNV	**Unalaska Valle**	**1.92**	**44**	P	Pn	03 38 18.7	-0.1
UNV				S	Sn	03 38 44.5	+1.0
AKUT	**Akutan**	**2.43**	**46**	*e*Pn	Pn	03 38 26.8	+0.9
AKUT				*e*Sg	Sg	03 39 02.1	-1.3
INK	**Inuvik**	**23.04**	**33**	*e*P	P	03 42 48.8	-2.9
	0.4nm,0.6s						
EDM	**Edmonton**	**32.75**	**66**	*e*P	P	03 44 18.1	-1.2

CASC 10 03:55:28.7±1.7, 1138N×8744W, h23km±14km, MD3.9, ML3.3, 6C-4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.15**	**46**⇓	*e*P	Pn	03 55 49.2	-0.2
LEON	**Leon**	**1.16**	**27**⇑	*e*P	Pn	03 55 49.4	-0.1
MIRN	**Miramar**	**1.27**	**34**⇓	*e*P	Pn	03 55 50.7	-0.3
TEL3	**Telica 3**	**1.32**	**26**	*e*P	Pn	03 55 51.5	-0.2
CNGN	**Cerro Negro**	**1.32**	**33**⇑	*e*P	Pn	03 55 51.3	-0.5
XAVN	**Gruta Xavier**	**1.33**	**55**	*e*P	Pn	03 55 51.6	-0.2
TICN	**Ticuantepe**	**1.35**	**61**⇑	*e*P	Pn	03 55 52.0	0.0
TICN				*e*S	Sn	03 56 09.2	0.0
APYN	**Apoyeque**	**1.36**	**51**	*e*P	Pn	03 55 51.9	-0.4
APYN				*e*S	Sn	03 56 10.5	+0.9
CRIN	**San Cristobal**	**1.36**	**16**⇓	*e*P	Pn	03 55 52.4	+0.1
TISN	**Laguna Tiscapa**	**1.37**	**56**⇑	*e*P	Pn	03 55 53.1	+0.7
TISN				*e*S	Sn	03 56 10.5	+0.7
MGAN	**Managua**	**1.39**	**57**⇑	*e*P	Pn	03 55 52.1	-0.5
MGAN	comp=N,510nm,0.4s			*e*S	Sn	03 56 12.2	+1.9
APON	**Apoyo**	**1.44**	**68**⇓	*e*P	Pn	03 55 53.3	-0.1
CONN	**Concepcion**	**1.78**	**84**⇓	*e*P	Pn	03 55 57.7	-0.4
LCBS	**La Ceiba**	**2.71**	**326**	*e*P	Pn	03 56 41.9	+31
LCBS				*e*S	Sn	03 57 13.2	+30

IDC 10 04:14:53.0±2.7, 3071N×13160E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/19, mbtmp3.9/6, MS3.6/1, Ms1 3.6/1, ms1mx2.6/41, Error ellipse: s-maj=190.1km s-min=20.3km az=69.0
ISCJB 10 04:14:56.3±1.5, 3054N×004×13157E±009, h29km±8km, mb3.7/6, Error ellipse: s-maj=12.9km s-min=6.9km az=4.5
JMA 10 04:14:58.3±0.1, 3059N×13146E, h33km±1km, MS3.7
ISC 10 04:14:57.7±1.3, 3058N±004×13150E±008, h27km±7km, n17, σθ61/22, mb3.7/6, 3C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.46**	**280**	⇑P	**Pb**	**04 15 07.3**	**0.0**
JTN				S	**Sb**	**04 15 14.1**	**+0.3**
JTSR	**Tashiro 2**	**0.77**	**320**	⇑P	**Pb**	**04 15 12.0**	**-0.5**
JTSR				S	**Sb**	**04 15 22.4**	**-0.3**
JNAR	**Kushima--Naru**	**0.97**	**348**	P	**Pn**	**04 15 15.6**	**+0.1**
JNAR				S	**Sb**	**04 15 28.6**	**+0.4**
JKC	**Kuchinoerabu**	**1.14**	**265**	P	**Pn**	**04 15 18.0**	**+0.2**
JKC				*e*S	**Sn**	**04 15 32.7**	**+0.2**
JSU	**Suzuyama**	**1.29**	**316**	P	**Pn**	**04 15 19.3**	**-0.7**
JTZ	**Takazaki**	**1.37**	**345**	P	**Pn**	**04 15 21.6**	**+0.6**
JTZ				S	**Sn**	**04 15 38.8**	**+0.5**
JNN	**Nakanoshima**	**1.59**	**243**	P	**Pn**	**04 15 25.0**	**+0.9**
JTSN	**Tsuno**	**1.66**	**0**	*e*S	**Sn**	**04 15 45.9**	**+0.3**
JZO	**Okuchi**	**1.74**	**334**	P	**Pn**	**04 15 26.2**	**0.0**
JZO				*e*S	**Sn**	**04 15 48.2**	**+0.7**
JSJ	**Shimokoshiki**	**1.89**	**306**	⇑P	**Pn**	**04 15 27.2**	**-1.0**
JOW	**Kunigami**	**4.69**	**218**	LR	LR	04 17 49.2	
	comp=Z,668nm,21.0s,baz=133,slow=36						
SONM	**Songino Array**	**25.82**	**319**	P	**P**	**04 20 25.4**	**-1.2**
	0.3nm,0.4s,mb3.2,baz=137,slow=10,SNR=6.4						
WRA	**Warramunga Arr**	**50.30**	**177**	P	**P**	**04 23 52.9**	**+1.0**
	0.9nm,0.8s,mb3.9,baz=349,slow=8.4,SNR=4.9						
ASAR	**Alice Springs**	**53.98**	**177**	P	**P**	**04 24 19.6**	**+0.4**
	0.9nm,0.8s,mb3.7,baz=4.9,slow=4.9,SNR=8.5						
STKA	**Stephens Creek**	**62.84**	**170**	P	**P**	**04 25 20.9**	**-0.2**
	1.6nm,0.6s,mb4.4,baz=336,slow=12,SNR=4.3						
FINES	**FINESS Array B**	**70.51**	**331**	P	**P**	**04 26 09.1**	**-0.9**
	0.4nm,0.4s,mb3.7,baz=86,slow=9.8,SNR=6.0						
AKASG	**Malin Array Be**	**74.10**	**320**	P	**P**	**04 26 30.6**	**-0.8**
	0.2nm,0.4s,mb3.4,baz=57,slow=6.6,SNR=4.1						

ISCJB 10 04:18:25.9±1.3, 524N±0.1×1693W±0.1, h48km±8km, mb4.0/12, MS4.7/1, Error ellipse: s-maj=23.3km s-min=5.8km az=132.9
NEIC 10 04:18:27.1, 5248N±16927W, h39km, mb3.8/1, ML3.8(AEIC), After AEIC.
BJI 10 04:18:27.1, 5250N×16930W, h39km, mB4.5, mb4.4, Ms4.3, Msz4.0
IDC 10 04:18:28.2±3.6, 5260N×16937W, h43km±29km, mb3.6/10, mb1 3.8/13, mb1mx3.7/23, mbtmp3.9/13, ML3.7/3, Error ellipse: s-maj=48.3km s-min=18.2km az=174.0
ISC 10 04:18:28.2±1.2, 526N±02×1693W±01, h47km±7km, n32, σθ85/38, mb4.0/12, MS4.7/1, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.51**	**33**	P	**Pn**	**04 18 38.2**	**-1.1**
NIKO				S	**Sn**	**04 18 46.5**	**-0.7**
OKCE	**Okmok Cone E**	**1.12**	**38**	P	**Pn**	**04 18 47.5**	**+0.1**
OKCE				S	**Sn**	**04 19 05.1**	**+3.4**
OKCD	**Okmok Cone D**	**1.14**	**39**	P	**Pn**	**04 18 48.1**	**+0.4**
OKCD				S	**Sn**	**04 19 04.3**	**+2.1**
UNV	**Unalaska Valle**	**2.13**	**51**	P	**Pn**	**04 19 01.1**	**-0.1**
UNV				S	**Sn**	**04 19 26.9**	**+0.5**
AKUT	**Akutan**	**2.65**	**52**	*e*Pn	**Pn**	**04 19 09.1**	**+0.8**
ATKA	**Atka Island**	**3.02**	**265**	P	**Pn**	**04 19 12.5**	**-0.9**
ATKA				S	**Sn**	**04 19 48.9**	**+0.6**
AMKA	**Amchitka**	**7.14**	**265**	P	**Pn**	**04 20 10.3**	**+0.3**
FX1	**Attu Island--F**	**10.64**	**279**	P	**Pn**	**04 20 58.0**	**0.0**
	1.3nm,0.3s,baz=165,slow=14,SNR=13						
FX1	**Attu Island--F**	**10.64**	**279**	*e*Pn	**Pn**	**04 20 58.6**	**+0.6**
KDAK	**Kodiak Island**	**10.89**	**55**	P	**Pn**	**04 21 00.8**	**-0.5**
	1.6nm,0.3s,baz=136,slow=19,SNR=10						
ILAR	**Eielson Array**	**16.78**	**34**	P	**Pn**	**04 22 18.4**	**-1.3**
	0.1nm,0.3s,baz=206,slow=9.4,SNR=14						
MENT	**Mentasta**	**17.03**	**42**	*e*P	**Pn**	**04 22 22.5**	**-0.5**
DAWY	**Dawson**	**19.27**	**42**	*e*P	**Pn**	**04 22 48.5**	**-1.7**
SKAG	**Skagway**	**20.04**	**56**	*e*P	**P**	**04 22 57.1**	**-0.1**
INK	**Inuvik**	**23.17**	**34**	P	**P**	**04 23 29.5**	**-1.2**
	2.5nm,0.7s,mb3.8,baz=231,slow=8.3,SNR=25						
INK	**Inuvik**	**23.17**	**34**	*e*P	**P**	**04 23 29.3**	**-1.4**
	2.5nm,0.7s,mb3.8						
YKW3	**Yellowknife Ar**	**30.08**	**49**	*e*P	**P**	**04 24 33.5**	**+0.5**
YKA	**Yellowknife Ar**	**30.09**	**49**	P	**P**	**04 24 33.8**	**+0.7**
	0.9nm,0.5s,mb3.8,baz=273,slow=7.8,SNR=49						
YKA	**Yellowknife Ar**	**30.09**	**49**	P	**P**	**04 24 33.8**	**+0.7**
PDAR	**Pinedale Array**	**40.33**	**79**	P	**P**	**04 26 01.8**	**+0.8**
	0.7nm,0.6s,mb3.6,baz=306,slow=4.4,SNR=7.4						
PDAR				pP	pP	04 26 14.2	+0.6
	0.7nm,0.5s,baz=302,slow=5.4,SNR=6.1						
CN2	**Changchun**	**43.00**	**285**	*e*P	**P**	**04 26 24.0**	**+1.1**
BJI	**Beijing**	**50.76**	**287**	*e*P	**P**	**04 27 27.9**	**+4.5**
BJI				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.2						
SONM	**Songino Array**	**51.24**	**301**	P	**P**	**04 27 27.5**	**+0.5**
	comp=Z,0.4nm,0.4s,mb3.7,baz=42,slow=5.2,SNR=5.6						
SONM				PcP	PcP	04 28 40.2	-1.5
	comp=Z,0.4nm,0.5s,baz=83,slow=3.3,SNR=2.9						
NJ2	**Nanjing**	**54.56**	**278**	*e*P	**P**	**04 27 56.1**	**+4.6**
NJ2				S	**S**	**04 35 34.0**	**+6.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
NJ2				LR	LR		
	comp=N,970nm,19.6s						
NJ2				LR	LR		
	comp=E,1μm,31.5s						
NJ2				LR	LR		
	comp=Z,570nm,15.7s,MS4.7						
SCHQ	**Schefferville**	**55.28**	**43**	P	**P**	**04 27 56.9**	**+0.2**
	comp=Z,2.9nm,0.9s,mb4.3,baz=35,slow=6.9,SNR=4.1						
SCHQ	**Schefferville**	**55.28**	**43**	P	**P**	**04 27 56.9**	**+0.2**
ARCES	**ARCESS Array B**	**57.75**	**354**	P	**P**	**04 28 14.2**	**-0.1**
	comp=Z,2.8nm,0.9s,mb4.3,baz=11,slow=10,SNR=3.8						
MKAR	**Makanchi Array**	**63.71**	**313**	P	**P**	**04 28 53.9**	**-1.0**
	comp=Z,0.5nm,0.7s,mb3.6,baz=53,slow=4.9,SNR=5.4						
FINES	**FINESS Array B**	**65.70**	**352**	P	**P**	**04 29 07.2**	**-0.5**
	comp=Z,1.0nm,0.6s,mb4.0,baz=26,slow=9.1,SNR=6.8						
NOA	**NORSAR Array B**	**66.76**	**360**	P	**P**	**04 29 14.5**	**0.0**
	comp=Z,0.6nm,0.8s,mb3.7,baz=1.0,slow=6.3,SNR=3.4						
NOA	**NORSAR Array B**	**66.76**	**360**	P	**P**	**04 29 14.5**	**-0.1**
GERES	**GERESS Array B**	**78.95**	**358**	P	**P**	**04 30 27.0**	**+0.3**
	comp=Z,0.2nm,0.3s,mb3.5,baz=10,slow=8.1,SNR=4.4						

*ISK 10 04:

mb1 3.7/10,mb1mx3.5/24,mbtmp3.7/10,ML3.6/3,Error ellipse: s-maj=58.2km s-min=19.6km az=173.0

ISC 10 04:30:09.0±1.2,527N±02×1694W±01,h46km±6km,n23, σ0♦86/27,mb3.6/8,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	Nikolski	0.44	50	P	Pn	04 30 17.9	-1.3
NIKO				S	Sn	04 30 26.4	-0.1
OKCE	Okmok Cone E	1.05	45	P	Pn	04 30 27.5	+0.3
OKCE				S	Sn	04 30 45.1	+4.3
OKCD	Okmok Cone D	1.08	46	P	Pn	04 30 28.0	+0.4
UNV	Unalaska Valle	2.09	55	P	Pn	04 30 41.0	-0.5
UNV				S	Sn	04 31 07.8	+1.4
AKUT	Akutan	2.61	55	*e*Pn	Pn	04 30 49.2	+0.6
ATKA	Atka Island	2.97	262	P	Pn	04 30 52.6	-1.0
ATKA				S	Sn	04 31 28.5	+0.5
AMKA	Amchitka	7.09	264	P	Pn	04 31 50.6	+0.5
FX1	Attu Island--F	10.56	278	P	Pn	04 32 38.6	+1.0
	1.1nm,0.3s,baz=244,slow=16,SNR=12						
KDAK	Kodiak Island	10.86	55	P	Pn	04 32 40.9	-0.9
	0.8nm,0.3s,baz=20,slow=19,SNR=6.2						
ILAR	Eielson Array	16.70	35	P	Pn	04 33 59.0	-0.6
	0.1nm,0.3s,baz=206,slow=9.3,SNR=8.6						
DAWY	Dawson	19.20	42	*e*P	Pn	04 34 29.4	-0.8
SKAG	Skagway	20.01	57	*e*P	P	04 34 38.9	+1.2
INK	Inuvik	23.09	34	P	P	04 35 10.1	-0.6
	1.7nm,0.5s,mb3.7,baz=233,slow=7.9,SNR=21						
INK	Inuvik	23.09	34	*e*P	P	04 35 09.3	-1.3
	1.9nm,0.6s,mb3.7						
YKW3	Yellowknife Ar	30.04	49	*e*P	P	04 36 13.9	+0.4
YKA	Yellowknife Ar	30.05	49	P	P	04 36 13.4	-0.1
	0.7nm,0.5s,mb3.6,baz=273,slow=7.8,SNR=45						
YKA	Yellowknife Ar	30.05	49	P	P	04 36 13.4	-0.1
RES	Resolute Bay	36.09	26	*e*P	P	04 37 08.4	+2.1
	0.6nm,0.7s,mb3.6						
PDAR	Pinedale Array	40.37	79	P	P	04 37 42.2	+0.1
	0.5nm,0.7s,mb3.4,baz=286,slow=5.3,SNR=4.1						
SONM	Songino Array	51.12	301	P	P	04 39 06.8	-0.2
	0.3nm,0.4s,mb3.6,baz=45,slow=7.3,SNR=4.2						
MKAR	Makanchi Array	63.57	313	P	P	04 40 35.1	+0.4
	0.4nm,0.8s,mb3.5,baz=65,slow=7.1,SNR=4.2						
FINES	FINESS Array B	65.55	352	P	P	04 40 46.6	-1.1
	0.7nm,0.6s,mb3.9,baz=12,slow=9.9,SNR=4.5						
NOA	NORSAR Array B	66.62	360	P	P	04 40 53.6	-1.0
	0.7nm,0.8s,mb3.8,baz=0.5,slow=6.1,SNR=3.3						

IDC 10 04:32:27.6±1.0, 1193N×143.17E,h0km,mb3.9/6, mb1 4.1/7,mb1mx3.8/20,mbtmp3.9/7,ML4.0/1,Error ellipse: s-maj=63.2km s-min=19.0km az=117.0
ISCJB 10 04:32:30.9±0.7, 119N±0.1×143.1E±0.1,h33km,mb3.9/9, Error ellipse: s-maj=25.8km s-min=9.8km az=83.5
NEIC 10 04:32:33.4±0.6, 1193N×143.18E,h40km,mb4.1/4,Error ellipse: s-maj=26.2km s-min=13.0km az=116.0

ISC 10 04:32:30.0±6.9,120N±01×1431E±01,h14km±43km,n12, σ0♦58/13,mb3.9/9,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.37	47	Pn	Pn	04 33 08.6	+0.1
	35nm,0.3s,baz=266,slow=2.3,SNR=12						
GUMO				Sn	Sn	04 33 37.3	-0.1
	79nm,0.3s,baz=12,slow=23,SNR=11						
WRA	Warramunga Arr	32.86	195	P	P	04 39 03.8	+0.5
	0.5nm,0.4s,mb3.8,baz=20,slow=9.8,SNR=5.0						
ASAR	Alice Springs	36.54	194	P	P	04 39 34.5	-0.6
	0.2nm,0.4s,mb3.3,baz=15,slow=12,SNR=4.2						
KURK	Kurchatov	64.69	321	*e*P	P	04 43 07.1	-0.4
	1.6nm,0.8s,mb4.1						
ILAR	Eielson Array	70.76	25	P	P	04 43 44.5	-1.3
	1.4nm,0.6s,mb4.1,baz=250,slow=6.0,SNR=34						
ZRNK	Zerenda	70.93	322	*e*P	P	04 43 46.6	-0.1
	1.0nm,0.6s,mb3.9						
INK	Inuvik	76.52	22	P	P	04 44 19.6	+0.1
	1.1nm,0.9s,mb3.8,baz=291,slow=3.3,SNR=5.8						
INK	Inuvik	76.52	22	*e*P	P	04 44 19.2	-0.3
	1.0nm,0.8s,mb3.8						
YKA	Yellowknife Ar	85.08	27	P	P	04 45 05.7	+0.4
	0.2nm,0.6s,mb3.4,baz=286,slow=5.1,SNR=5.1						
YKA	Yellowknife Ar	85.08	27	P	P	04 45 05.7	+0.4
RES	Resolute Bay	86.51	13	*e*P	P	04 45 13.2	+0.8
	1.1nm,0.6s,mb4.3						
ARCES	ARCESS Array B	88.07	342	P	P	04 45 20.6	+0.7
	3.2nm,1.0s,mb4.5,baz=83,slow=7.5,SNR=4.1						

IDC 10 04:39:43.9±7.5,1994S×17567W,h53km±54km,mb3.8/3, mb1 4.1/4,mb1mx3.7/13,mbtmp4.2/4,ML2.5/1,Error ellipse: s-maj=150.7km s-min=26.2km az=139.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.05	32	P	Pn	04 41 25.7	+1.2
	4.5nm,0.3s,baz=93,slow=2.9,SNR=5.4						
AFI				S	Sn	04 42 43.6	+0.2
	2.1nm,0.3s,baz=99,slow=14,SNR=2.5						
STKA	Stephens Creek	40.00	244	P	P	04 47 13.0	-0.5
	2.2nm,0.9s,baz=125,slow=12,SNR=3.2						
ASAR	Alice Springs	46.78	256	P	P	04 48 08.4	+0.4
	3.0nm,1.0s,baz=93,slow=8.5,SNR=17						
WRA	Warramunga Arr	46.85	261	P	P	04 48 09.2	+0.6
	4.4nm,1.1s,baz=99,slow=7.6,SNR=9.3						
AKASG	Malin Array Be	143.54	333	PKP	PKPdf	04 59 11.2	-1.4
	0.6nm,0.6s,baz=36,slow=3.5,SNR=8.3						
GERES	GERESS Array B	150.19	348	PKPbc	PKPbc	04 59 29.0	+0.2
	0.2nm,0.4s,baz=25,slow=3.5,SNR=3.5						

NEIC 10 04:41:17.7,3697S×7161W,h8km,mb3.8/2,ML4.0(GUC), After GUC.

GUC 10 04:41:17.7±0.9,3697S×7161W,h8km±3km,MD4.2,ML4.0, 1C-2D,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCHI	Chillan	0.52	314	⇑*i*P	Pg	04 41 28.2	+0.4
CCHI				*i* S	Sg	04 41 36.1	+1.5
LNCH	Linares	1.12	0	*e*P	Pg	04 41 38.3	-0.8
LNCH				*i* S	Sg	04 41 52.9	-0.7
LNCH				AML	AML	04 42 03.7	
	comp=N,1μm,0.2s						
LNCH	Linares	1.12	0	*e*P	Pg	04 41 38.3	-0.8
LNCH				*i* S	Sg	04 41 52.9	-0.7
CNCO	Chanco	1.44	329	⇓*i*P	Pn	04 41 43.2	-0.8
CNCO				*i* S	Sn	04 42 02.4	-0.5
CNCO				AML	AML	04 42 05.3	
	comp=E,3μm,0.6s						
CNCO	Chanco	1.44	329	⇓*i*P	Pn	04 41 43.2	-0.8
CNCO				*i* S	Sn	04 42 02.4	-0.5
TALC	Talca	1.56	359	*e*P	Pn	04 41 44.5	-1.2
TALC				*i* S	Sn	04 42 05.4	-0.7
TALC				AML	AML	04 42 08.9	
	comp=N,3μm,0.4s						
TALC	Talca	1.56	359	*e*P	Pn	04 41 44.5	-1.2
TALC				*i* S	Sn	04 42 05.4	-0.7
NICH	Los Niches	1.98	9	*e*P	Pn	04 41 51.9	+0.4
SFDO	San Fernando	2.40	12	*e*P	Pn	04 41 58.2	+1.0
SFDO				*i* S	Sn	04 42 29.4	+2.8
CICH	Cipreses	2.81	21	*e*P	Pn	04 42 06.4	+3.5
CICH				*i* S	Sn	04 42 43.5	+6.6
CACH	El Canelo	2.96	16	*e*P	Pn	04 42 06.6	+1.7
LNV	Longovilo	3.01	3	*i* P	Pn	04 42 06.8	+1.2
VLCH	Valdivia	3.11	204	*i* P	Pn	04 42 08.1	+1.1
VLCH				*i* S	Sn	04 42 45.9	+1.5
VLCH				AML	AML	04 42 58.2	
	comp=E,4μm,0.5s						
VLCH	Valdivia	3.11	204	*i* P	Pn	04 42 08.1	+1.1
VLCH				*i* S	Sn	04 42 45.9	+1.5
CHCH	Chadas Angostu	3.13	15	*e*P	Pn	04 42 08.5	+1.3
LMEL	Las Melosas	3.32	21	*e*P	Pn	04 42 13.3	+3.5
LMEL				*i* S	Sn	04 42 55.3	+5.9
TACH	Talagante	3.35	10	*e*P	Pn	04 42 11.6	+1.3
PCH	Pirque	3.46	15	*e*P	Pn	04 42 12.7	+1.0
PLCA	Paso Flores	3.85	168	*e*Pn	Pn	04 42 17.4	+0.2
PLCA				*e*Pg	Pg	04 42 29.8	-1.7
PLCA				*e*Sg	Sg	04 43 16.6	-4.8
LPAZ	La Paz	20.83	9	*e*P	P	04 46 02.6	+3.0
	comp=E,0.6nm,0.6s						
QSPA	South Pole Qui	53.28	180	*e*P	P	04 50 38.6	+1.7
	comp=E,6.1nm,0.9s						

SFS 10 04:50:41.0,3465N×371W,h63km,ML3.2
ISCJB 10 04:50:41.8±0.6,3489N±003×393W±005,h23km±6km, Error ellipse: s-maj=6.7km s-min=5.2km az=29.9
CSEM 10 04:50:41.8±0.3,3492N×390W,h20km,MD3.3,Error ellipse: s-maj=6.6km s-min=5.7km az=25.0
NEIC 10 04:50:42.9,3496N×388W,h0km,MG3.4(MDD),After MDD.
CNRM 10 04:50:42.3,3488N×399W,h8km,MD3.3
MDD 10 04:50:43.3±0.7,3489N×388W,h14km±4km,mb4.2/3, Error ellipse: s-maj=7.0km s-min=6.2km az=122.0, PRXIMO

ISC 10 04:50:42.3±0.7,3488N±003×389W±004,h20km±3km,n25, σ1♦02/42,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	Touzarine	0.14	52	P	Pg	04 50 47.0	+0.3
TOU				S	Sg	04 50 49.0	-0.6
TOU	Touzarine	0.14	52	*i* P	Pg	04 50 47.0	+0.3
MPAL	Palemas	0.35	353	*i* P	Pg	04 50 49.0	-0.9
EMEL	Melilla	0.88	61	P	Pb	04 50 58.6	-0.2
	87nm,0.2s,SNR=7.9						
EMEL				S	Sb	04 51 09.4	-0.8
	266nm,0.2s,SNR=7.9						
EMLI	Melilla	0.88	61	P	Pb	04 50 58.6	-0.3
	87nm,0.2s,SNR=7.9						
EMLI				S	Sb	04 51 09.4	-0.9
	266nm,0.2s,SNR=7.9						
MELI	Melilla	0.89	62	P	Pb	04 50 58.8	-0.3
MELI				S	Sb	04 51 10.5	0.0
MELI	Melilla	0.89	62	*e*P	Pb	04 50 58.8	-0.3
MELI				*e*S	Sb	04 51 10.5	0.0
ZAI	Zaio	0.94	84	*i* P	Pb	04 51 01.5	+1.5
ZAI				*i* S	Sb	04 51 15.0	+2.9
EMIJ	Mijas	1.83	337	P	Pn	04 51 13.4	+0.7
	3.7nm,0.3s,SNR=5.5						
EMIJ				S	Sn	04 51 33.8	-1.5
	3.5nm,0.3s,SNR=5.8						
EGUA	Guajares	1.97	8	P	Pn	04 51 13.2	-1.4
	0.5nm,0.2s,SNR=7.9						
EGUA				S	Sn	04 51 39.0	+0.2
	1.1nm,0.2s,SNR=7.9						
EJIF	Jimena Fronter	2.03	321	S	Sn	04 51 40.3	+0.1
	2.6nm,0.4s,SNR=7.9						
CZD	Col de Zad	2.07	208	*e*P	Pn	04 51 17.0	+1.0
CZD				*i* S	Sn	04 51 41.0	-0.2
ERON	Agron	2.14	2	S	Sn	04 51 44.8	+1.9
	2.5nm,0.2s,SNR=7.9						
ENIJ	Nijar	2.50	33	S	Sn	04 51 49.6	-2.1
	2.6nm,0.3s,SNR=4.0						
ZFT	Errachidia	2.86	188	S	Sn	04 51 59.0	-1.7
EQES	Quesada	3.00	13	P	Pn	04 51 29.6	+0.9
	1.0nm,0.2s,SNR=5.7						
EQES				S	Sn	04 52 03.9	-0.1
	3.5nm,0.4s,SNR=5.2						
EQES	Quesada	3.00	13	P	Pn	04 51 29.6	+0.9
	1.0nm,0.2s,SNR=5.7						
EQES				S	Sn	04 52 03.9	-0.1
	3.5nm,0.4s,SNR=5.2						
EADA	Adamuz	3.33	351	P	Pn	04 51 34.4	+1.0
	0.2nm,0.2s,SNR=7.9						
EADA				S	Sn	04 52 13.2	+0.8
	2.8nm,0.4s,SNR=7.9						
EADA	Adamuz	3.33	351	P	Pn	04 51 34.4	+1.1
	0.2nm,0.2s,SNR=7.9						
EADA				S	Sn	04 52 13.2	+0.9
	2.8nm,0.4s,SNR=7.9						
EMIN	Mina Concepcio	3.66	323	P	Pn	04 51 38.6	+0.8
	0.6nm,0.4s,SNR=6.6						
EMIN				S	Sn	04 52 19.7	-0.7
	1.1nm,0.4s,SNR=7.9						
EMIN	Mina Concepcio	3.66	323	P	Pn	04 51 38.6	+0.8
	0.6nm,0.4s,SNR=6.6						
EMIN				S	Sn	04 52 19.7	-0.7
	1.1nm,0.4s,SNR=7.9						
EGRO	El Granado	3.94	313	P	Pn	04 51 42.5	+0.9
	0.7nm,0.1s,SNR=7.9						
EGRO				S	Sn	04 52 26.2	-1.0
	2.7nm,0.3s,SNR=8.8						
EGRO	El Granado	3.94	313	P	Pn	04 51 42.5	+0.9
	0.7nm,0.1s,SNR=7.9						
EGRO				S	Sn	04 52 26.2	-1.0
	2.7nm,0.3s,SNR=8.8						
ESDC	Sonseca Array	4.79	359	P	Pn	04 51 54.3	+0.9
	0.3nm,0.2s,baz=178,slow=12,SNR=4.7						
ESDC	Sonseca Array	4.79	359	P	Pn	04 51 54.3	+0.9

IDC 10 04:50:53.4±2.7,3464N×7346E,h0km,mb3.8/4,mb1 3.9/6, mb1mx3.6/20,mbtmp3.8/6,ML3.6/3,Error ellipse: s-maj=60.0km s-min=32.7km az=127.0
ISCJB 10 04:50:58.6±1.6,3487N±006×734E±0.1,h42km±20km, mb3.8/4,Error ellipse: s-maj=20.8km s-min=6.7km az=138.7
NEIC 10 04:51:00.1±6.2,3481N×7339E,h37km±32km,mb3.5/2, Error ellipse: s-maj=63.2km s-min=23.1km az=185.0
NNC 10 04:51:03.3±8.2,3509N×7182E,h0km,mb4.1,mpv4.3, Error ellipse: s-maj=226.9km s-min=78.1km az=89.0

ISC 10 04:51:01.3±1.0,3492N±006×734E±01,h51km±15km,n21, σ1♦05/24,mb3.8/4,2C,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	Dalhousie	3.17	138	*e*P	Pn	04 51 50.0	+1.3
DLH				*ex*	x	04 52 37.0	
SDNR	Sundarnagar	4.52	138	*e*P	Pn	04 52 09.0	+1.8
SDNR				*ex*	x	04 53 17.0	
KLP	Kalpa	5.26	129	*e*P	Pn	04 52 21.1	+3.7
KLP				*e*S	Sn	04 53 15.7	-1.0
KLP				AML	AML	04 53 46.5	
	comp=E,102nm,0.3s						
KLP				AML	AML	04 53 48.2	
	comp=N,106nm,0.5s						
JOSI	Joshimath	6.75	128	*e*S	Sn	04 53 51.1	-2.1
JOSI				AML	AML	04 54 18.1	
	comp=E,68nm,0.9s						
JOSI				AML	AML	04 54 23.4	
	comp=N,57nm,0.4s						
KHET	Khetri	7.12	163	*e*S	Sn	04 54 02.8	+0.5
KUDL	Kundal	7.24	158	*e*P	Pn	04 52 50.5	+6.0
KUDL				*e*S	Sn	04 54 04.2	-1.1
SONA	Sohna	7.34	154	*e*S	Sn	04 54 03.8	-4.0
SONA				AML	AML	04 54 56.4	
	comp=N,15nm,0.7s						
SONA				AML	AML	04 54 58.8	
	comp=E,16nm,0.9s						
KK02	Karatay Array	8.48	345	⇑Pn	Pn	04 53 01.9	+0.3
	comp=E,6.3nm,0.4s,baz=169,slow=13						
KK02				⇑Sn	Sn	04 54 34.9	-1.0
	comp=E,1.2nm,0.4s,baz=163,slow=22						
MKAR	Makanchi Array	13.61	27	Pn	Pn	04 54 11.9	+0.3
	comp=E,0.1nm,0.3s,baz=216,slow=14,SNR=1.8						
AB31	Akbulak array	17.44	329	P	Pn	04 54 57.1	-3.8
	comp=E,0.9nm,0.7s						
AB31	Akbulak array	17.44	329	P	Pn	04 54 57.1	-3.8
	comp=E,0.9nm,0.7s						
BVAR	Borovoye Array	18.23	354	P	Pn	04 55 11.3	+0.7
	comp=E,0.5nm,0.3s,baz=167,slow=9.1,SNR=5.7						
BRVK	Borovoye	18.27	354	*e*P	Pn	04 55 11.5	+0.4
	comp=E,2.2nm,0.9s						
ZRNK	Zerenda	18.30	351	*e*P	Pn	04 55 11.6	+0.1
	comp=E,3.4nm,0.7s						
AKTK	Aktyubinsk	19.15	329	P	Pn	04 55 20.6	-1.0
AKTO	Aktyubinsk	19.15	329	P	Pn	04 55 20.6	-1.0
	comp=E,0.4nm,0.3s,baz=129,slow=12,SNR=8.3						
FINES	FINESS Array B	39.30	327	P	P	04 58 30.5	+0.3
	comp=E,0.8nm,0.4s,mb3.8,baz=121,slow=10,SNR=8.1						
ARCES	ARCESS Array B	43.36	338	P	P	04 58 59.1	+0.6
	comp=E,2.5nm,0.9s,mb3.9,baz=114,slow=8.4,SNR=15						
TORD	Torodi Ar. Bea	67.69	271	P	P	05 01 53.0	-0.3
	comp=E,0.4nm,0.5s,mb3.7,baz=46,slow=5.4,SNR=10						
YKA	Yellowknife Ar	82.71	4	P	P	05 03 20.2	+0.6
	comp=E,0.4nm,0.5s,mb3.7,baz=348,slow=5.3,SNR=22						
YKA	Yellowknife Ar	82.71	4	P	P	05 03 20.2	+0.6

IDC 10 04:51:05.3±1.7, 12.19N×8668W,h0km,mb3.7/4,mb1 3.8/5, mb1mx3.6/18,mbtmp3.6/5,ML2.7/1,Error ellipse: s-maj=83.7km s-min=19.0km az=55.0
NEIC 10 04:51:05.6±6.7, 12.18N×8659W,h3km±44km,mb3.8/5, Error ellipse: s-maj=37.6km s-min=9.5km az=54.0
ISCJB 10 04:51:11.0±1.0, 1165N±009×87.1W±0.1,h80km±8km, mb3.6/9,Error ellipse: s-maj=24.5km s-min=4.7km az=106.6
CASC 10 04:51:10.9±2.6, 1153N×87.12W,h20km,MD4.1,ML3.5, mb3.8(NEIC)

ISC 10 04:51:11.9±1.1,1167N±009×871W±01,h69km±10km,n35, σ0♦90/38,mb3.6/9,8C-3D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	0.71	45	⇓*e*P	Pn	04 51 27.1	+0.2
LEON	Leon	0.77	16	⇑*e*P	Pn	04 51 27.4	-0.2
MIRN	Miramar	0.86	27	⇓*e*P	Pn	04 51 28.7	+0.1
XAVN	Gruta Xavier	0.90	58	*e*P	Pn	04 51 29.3	+0.2
CNGN	Cerro Negro	0.92	26	⇑*e*P	Pn	04 51 29.3	0.0
APYN	Apoyeque	0.93	53	⇑*e*P	Pn	04 51 29.9	+0.4
TICN	Ticuantepe	0.93	67	*e*P	Pn	04 51 29.8	+0.4
TEL3	Telica 3	0.94	16	⇑*e*P	Pn	04 51 29.4	-0.1
TISN	Laguna Tiscapa	0.94	60	*e*P	Pn	04 51 29.8	+0.1
MGAN	Managua	0.96	60	⇑*e*P	Pn	04 51 30.2	+0.2
MGAN				*e*		04 51 59.7	
	comp=E,1μm,0.5s						
CRIN	San Cristobal	1.03	3	*e*P	Pn	04 51 30.1	-0.6
APON	Apoyo	1.05	76	⇓*e*P	Pn	04 51 31.1	+0.2
CNCH	Conchagua	1.75	336	*e*P	Px	04 52 09.0	
CNCH				*e*S	Sx	04 52 33.1	
VSM	San Miguel	2.09	327	*e*P	Px	04 52 13.2	
VSM				*e*S	Sx	04 52 42.8	
VCR	Vista de Mar	2.11	136	*e*P	Pn	04 51 45.5	+0.5
VCR				*e*S	Sn	04 52 07.4	-2.8
JTS	JuntasAbangare	2.52	123	Pn	Pn	04 51 49.0	-1.5
	comp=E,1.7nm,0.3s,baz=315,slow=18,SNR=12						
JTS				Sn	Sn	04 52 18.8	-1.3
	comp=E,16nm,0.3s,baz=275,slow=22,SNR=12						
JTS	JuntasAbangare	2.52	123	*e*Pn	Pn	04 51 47.4	-3.1
JTS				*e*Pg	Pn	04 51 54.7	+4.2
JTS				Sn	Sn	04 52 18.8	-1.3
SNVI	San Vicente	2.57	319	*e*P	Px	04 52 18.4	
SNVI				*e*S	Sx	04 52 50.0	
LCBS	La Ceiba	2.69	317	*e*P	Px	04 52 20.2	
LCBS				*e*S	Sx	04 52 53.1	
LFRS	El Faro	2.73	316	*e*P	Px	04 52 20.8	
LFRS				*e*S	Sx	04 52 53.9	
CGA2	Cerro Gallo 2	3.07	122	*e*P	Pn	04 51 57.4	-0.6
CGA2				*e*S	Sn	04 52 33.0	-0.5
PRS1	Puriscal	3.21	121	*e*P	Pn	04 52 00.6	+0.7
PRS1				⇑*e*P		04 52 01.7	
PRS1				*e*S	Sn	04 52 37.1	0.0
LCR2	La Lucha 2	3.60	122	⇑*e*P	Pn	04 52 05.3	+0.1
LCR2				*e*S	Sn	04 52 46.0	-0.5
URSC	Urasca	3.74	119	⇑*e*P	Pn	04 52 08.9	+1.7
URSC				*e*S	Sn	04 52 51.1	+1.1
BUS	Buena Vista	3.90	122	*e*P	Pn	04 52 09.7	+0.3
BUS				*e*S	Sn	04 52 54.2	+0.3
LTX	Lajitas	23.39	321	*e*P	P	04 56 14.8	+0.3
	comp=E,3.1nm,0.6s,mb3.8						
WVT	Waverly	24.36	359	*e*P	P	04 56 20.7	-2.6
	comp=E,1.1nm,0.6s,mb3.4						
MNTX	Cornudas Mount	26.11	323	*e*P	P	04 56 39.9	+0.7
	comp=E,0.4nm,0.5s,mb3.1						
SAML	Samuel	31.39	130	*e*P	P	04 57 26.2	+0.1
	comp=E,2.0nm,0.9s,mb3.9						
PDAR	Pinedale Array	36.62	332	P	P	04 58 11.0	-0.4
	comp=E,0.4nm,0.8s,mb3.4,baz=125,slow=7.8,SNR=3.5						
TPAW	Teton Pass	37.83	331	*e*P	P	04 58 23.0	+1.3
	comp=E,1.5nm,0.7s,mb3.9						
ULM	Lac du Bonnet	39.14	351	P	P	04 58 31.3	-1.3
	comp=E,1.3nm,0.5s,mb4.0,baz=145,slow=5.1,SNR=3.1						
BDFB	Brasilia	47.26	124	P	P	04 59 39.9	+1.8
	comp=E,1.8nm,0.9s,mb3.8,baz=339,slow=8.6,SNR=4.1						
YKA	Yellowknife Ar	54.45	345	P	P	05 00 31.2	-0.8
	comp=E,0.3nm,0.7s,mb3.5,baz=141,slow=7.1,SNR=11						
WRA	Warramunga Arr	139.37	253	PKP	PKPdf	05 10 37.3	+6.2
	comp=E,0.6nm,0.8s,baz=67,slow=1.4,SNR=5.3						

NEIC 10 04:53:30.2, 1708N×9999W,h39km,MD4.1(MEX),After MEX.

MEX 10 04:53:30.2±0.8,1708N×9999W,h39km±8km,MD4.1, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.22	162	*i* P	Pn	04 53 35.7	-1.8
ACX				*i* S	Sn	04 53 41.5	-1.1
CAIG	El Cayaco	0.27	264	*i* P	Pn	04 53 36.2	-1.8
CAIG				*i* S	Sn	04 53 42.0	-1.5
MEIG	Mezcala	0.92	22	*i* P	Pn	04 53 44.5	-2.1
MEIG				*i* S	Sn	04 53 56.4	-2.1
PLIG	Platanillo	1.39	19	*e*P	Pn	04 53 52.1	-0.9
PLIG				*i* S	Sn	04 54 09.6	-0.6
ZIIG	Zihuatanejo	1.51	291	*e*P	Pn	04 53 53.4	-1.3
ZIIG				*i* S	Sn	04 54 12.6	-0.6
PNIG	Pinotepa	1.91	111	*i* P	Pn	04 53 58.9	-1.3
PNIG				*i* S	Sn	04 54 22.0	-0.9
YAIG	Yautepec	1.98	26	*e*P	Pn	04 53 59.9	-1.3
YAIG				*i* S	Sn	04 54 24.5	-0.2
UTMO	Huajuapan	2.21	70	*e*P	Pn	04 54 02.9	-1.5
UTMO				*i* S	Sn	04 54 28.7	-1.8
PPM	Popocatepetl	2.37	33	*e*P	Pn	04 54 05.4	-1.0
PPM				*i* S	Sn	04 54 32.8	-1.5
MOIG	Morelia	2.83	336	*i* P	Pn	04 54 13.2	+0.4
MOIG				*i* S	Sn	04 54 44.0	-1.8
MRX	Morelia	2.85	337	*e*P	Pn	04 54 13.5	+0.3
VHO	Vista Hermosa	3.11	90	*i* P	Pn	04 54 17.1	+0.3
VHO				*i* S	Sn	04 54 51.0	-1.6
OXX	Oaxaca	3.12	89	*e*P	Pn	04 54 17.0	+0.1
HUIG	Huatulco	3.94	109	*i* S	Sn	04 55 11.8	-1.3
SFJM	Santa Fe	4.46	320	*e*P	Pn	04 54 32.5	-2.8

HLW 10 05:07:25.7, 3042N×3465E,h4km,Mb3.8
*ISCJB 10 05:07:26.3±0.5, 3038N±002×3460E±004

mb5.2/293,MS4.7/19,Error ellipse: s-maj=5.6km s-min=3.1km az=176.2

MOS ***10*** *05:07:25.4±0.9,5240N×169.23W,h33km,mb5.5/124, MS4.3/5,Error ellipse: s-maj=7.8km s-min=4.0km az=91.1*

BJI ***10*** *05:07:25.9,5280N×169.35W,h40km,mB5.2,mb5.3,Ms5.1, Ms2.4*

IDC ***10*** *05:07:26.1±2.2,5251N×169.15W,h27km±14km,mb4.8/25, mb1 4.8/27,mb1mx4.8/29,mbtmp4.9/27,ML4.1/2,MS4.5/3, Ms1 4.5/3,ms1mx3.9/37,Error ellipse: s-maj=17.4km s-min=9.3km az=160.0*

HRVD ***10*** *05:07:28.6±0.6,5248N×169.14W,h43km±3km,MW5.3/34, Centroid moment Tensor Solution. LP body waves: s18,c21;Mantle waves: s34,c37; Half duration: 1s0 Moment tensor: Scale 10¹⁷Nm; Mrr0.81±.08; Mθθ-0.75±.06; Mϕϕ-0.05±.05; Mrθ0.23±.07; Mθϕ-0.28±.04; Mϕr0.41±.07; Best double couple: M₀0.95600×10¹⁷ NP1:ϕs267.00000°,δ36.00000°,λ119.00000°. NP2: ϕs52.00000°,δ59.00000°,λ70.00000°. Principal axes: T 0.9800, Plg69.0000°, Azm281.0000°; N -0.0490, Plg17.0000°, Azm63.0000°; P -0.9320, Plg12.0000°, Azm157.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***10*** *05:07:28.6,5272N×169.31W,h44km,mb5.2/208, ML4.9(AEIC),ML5.1(PMR),After AEIC.*

SZGRF ***10*** *05:07:33.3,5370N×169.17W,h33km,mb5.4,Fox Islands, Aleutian Islands, United States*

ISC 10 05:07:27.6±0.5,5251N±003×16918W±003,h38km±3km, h37km±1.3km:pP-P,n672,σ0s86/677,mb5.2/293,MS4.7/19, 134C-15D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.51**	**23**	P	**Pn**	**05 07 37.7**	**-0.7**
NIKO				S	**Sn**	**05 07 46.0**	**+0.1**
OKCE	**Okmok Cone E**	**1.11**	**33**	P	**Pn**	**05 07 46.5**	**-0.1**
OKCE				S	**Sn**	**05 08 01.0**	**+0.4**
OKCD	**Okmok Cone D**	**1.13**	**35**	P	**Pn**	**05 07 46.9**	**+0.1**
UNV	**Unalaska Valle**	**2.10**	**49**	P	**Pn**	**05 07 59.6**	**-0.6**
UNV				S	**Sn**	**05 08 24.3**	**-0.7**
AKLV	**Akutan Long Va**	**2.55**	**48**	P	**Pn**	**05 08 07.3**	**+0.9**
AKUT	**Akutan**	**2.62**	**50**	P	**Pn**	**05 08 07.0**	**-0.3**
ATKA	**Atka Island**	**3.09**	**266**	P	**Pn**	**05 08 15.0**	**+1.2**
ATKA				S	**Sn**	**05 08 51.6**	**+2.1**
SDPT	**Sand Point**	**5.88**	**58**	P	**Pn**	**05 08 52.5**	**+0.4**
AMKA	**Amchitka**	**7.21**	**266**	P	**Pn**	**05 09 11.6**	**+1.2**
CHGN	**Chignik**	**7.34**	**55**	*e*P	**Pn**	**05 09 12.8**	**+0.6**
SMY	**Shemya**	**10.17**	**278**	*e*P	**Pn**	**05 09 51.8**	**+0.8**
SMY	comp=Z,236nm,1.4s			pmax	pmax		
SMY	**Shemya**	**10.17**	**278**	*e*Pn	**Pn**	**05 09 51.8**	**+0.7**
	comp=Z,236nm,1.4s						
FX1	**Attu Island--F**	**10.72**	**279**	Pn	**Pn**	**05 10 00.2**	**+1.7**
	comp=Z,3.8nm,0.3s,baz=58,slow=16,SNR=36						
FX1				LR	LR	05 13 52.5	
	comp=Z,52nm,20.0s,baz=116,slow=36						
FX1	**Attu Island--F**	**10.72**	**279**	*e*Pn	**Pn**	**05 10 00.6**	**+2.1**
KDAK	**Kodiak Island**	**10.86**	**54**	Pn	**Pn**	**05 09 59.0**	**-1.4**
	comp=Z,281nm,0.4s,SNR=28						
KDAK	**Kodiak Island**	**10.86**	**54**	Pn	**Pn**	**05 09 59.1**	**-1.2**
	comp=Z,6.1nm,0.3s,baz=236,slow=6.8,SNR=33						
KDAK	**Kodiak Island**	**10.86**	**54**	P	**Pn**	**05 09 59.7**	**-0.7**
SVW2	**Sparrevohn**	**11.36**	**35**	*e*P	**Pn**	**05 10 08.4**	**+1.1**
TTA	**Tatalina**	**12.56**	**29**	*e*P	**Pn**	**05 10 27.4**	**+3.7**
SLKM	**Skilak Lake**	**13.14**	**45**	*e*P	**Pn**	**05 10 30.5**	**-1.1**
PMR	**Palmer**	**14.15**	**42**	*e*P	**Pn**	**05 10 46.5**	**+1.2**
PMR	comp=Z,4.0nm,0.3s			pmax	pmax		
PMR	**Palmer**	**14.15**	**42**	*e*P	**Pn**	**05 10 46.5**	**+1.2**
	comp=Z,4.2nm,0.3s						
EYAK	**Cordova Ski Ar**	**15.16**	**49**	*e*Pn	**Pn**	**05 10 55.9**	**-3.0**
COLA	**College**	**16.51**	**33**	*e*P	**Pn**	**05 11 15.0**	**-1.2**
COLA	comp=Z,33nm,0.9s			pmax	pmax		
COLA	**College**	**16.51**	**33**	*e*Pn	**Pn**	**05 11 15.0**	**-1.2**
	comp=Z,34nm,0.9s						
ILAR	**Eielson Array**	**16.77**	**34**	Pn	**Pn**	**05 11 16.8**	**-2.7**
	comp=Z,0.5nm,0.3s,baz=230,slow=11,SNR=43						
ILAR				PcP	PcP	05 16 05.3	-1.1
	comp=Z,0.1nm,0.3s,baz=278,slow=3.3,SNR=5.6						
ILAR				ScP	ScP	05 19 38.3	+0.1
	comp=Z,0.0nm,0.3s,baz=258,slow=4.2,SNR=8.4						
MENT	**Mentasta**	**17.02**	**42**	*e*P	**Pn**	**05 11 22.3**	**-0.3**
DAWY	**Dawson**	**19.25**	**42**	*e*P	**Pn**	**05 11 47.8**	**-2.1**
PET	**Petropavlovsk**	**19.39**	**284**	*e*P	**Pn**	**05 11 50.5**	**-1.0**
PET	comp=Z,63nm,0.8s			pmax	pmax		
PET				MLR	MLR		
	comp=Z,700nm,21.0s						
PET	**Petropavlovsk**	**19.39**	**284**	*e*P	**Pn**	**05 11 50.4**	**-1.2**
	comp=Z,128nm,1.2s						
BILL	**Bilibino**	**19.53**	**332**	*c i*P	**Pn**	**05 11 53.3**	**+0.1**
BILL	comp=Z,48nm,0.9s			pmax	pmax		
BILL				MLR	MLR		
	comp=Z,600nm,14.0s						
BILL	**Bilibino**	**19.53**	**332**	*e*P	**Pn**	**05 11 52.6**	**-0.6**
	comp=Z,127nm,1.4s						
SKAG	**Skagway**	**20.00**	**56**	*e*P	**P**	**05 11 57.6**	**+0.7**
MA2	**Magadan**	**23.16**	**304**	*e*P	**P**	**05 12 31.4**	**+0.7**
MA2				*e*		05 12 54.9	
MA2				*e*S	**S**	**05 16 37.3**	**-2.1**
MA2	comp=E,60nm,0.8s,mb5.1			pmax	pmax		
MA2				pmax	pmax		
	comp=E,30nm,0.7s						
MA2				MLR	MLR		
	comp=Z,1μm,17.7s,MS4.4						
MA2	**Magadan**	**23.16**	**304**	*e*P	**P**	**05 12 30.6**	**-0.1**
	comp=Z,40nm,0.8s,mb4.9						
INK	**Inuvik**	**23.17**	**33**	P	**P**	**05 12 28.5**	**-2.3**
	comp=Z,18nm,0.8s,mb4.5,baz=239,slow=11,SNR=89						
INK				PcP	PcP	05 16 17.8	-0.4
	comp=Z,6.4nm,0.7s,baz=288,slow=4.4,SNR=5.1						
INK	**Inuvik**	**23.17**	**33**	*e*P	**P**	**05 12 27.8**	**-3.0**
INK				*e*		05 16 17.8	
INK	comp=Z,31nm,0.9s			pmax	pmax		
INK	**Inuvik**	**23.17**	**33**	*e*P	**P**	**05 12 27.8**	**-2.9**
	comp=Z,31nm,0.9s,mb4.7						
INK				*e*PcP	PcP	05 16 17.8	-0.3
BBB	**Bella Bella**	**24.86**	**74**	P	**P**	**05 12 47.6**	**+1.1**
	comp=Z,16nm,1.1s,mb4.5,baz=289,slow=12,SNR=3.7						
BBB				LR	LR	05 20 10.0	
	comp=Z,578nm,20.2s,MS4.1,baz=134,slow=31						
YKW3	**Yellowknife Ar**	**30.05**	**49**	*e*P	**P**	**05 13 32.4**	**-0.6**
YKA	**Yellowknife Ar**	**30.07**	**49**	P	**P**	**05 13 32.5**	**-0.6**
	comp=Z,7.7nm,0.6s,mb4.6,baz=271,slow=7.7,SNR=133						
YKA				PcP	PcP	05 16 33.9	-0.4
	comp=Z,2.1nm,0.7s,baz=282,slow=2.4,SNR=7.9						
YKA				ScP	ScP	05 20 14.2	+0.7
	comp=Z,0.5nm,0.8s,baz=286,slow=3.4,SNR=5.2						
YKA	**Yellowknife Ar**	**30.07**	**49**	P	**P**	**05 13 32.5**	**-0.6**
YKA				PcP	PcP	05 16 33.9	-0.4
YKA				ScP	ScP	05 20 14.2	+0.7
YSS	**Yuzh-Sakhalins**	**31.08**	**279**	P	**P**	**05 13 41.7**	**-0.4**
YSS	comp=Z,13nm,0.5s,mb5.0			pmax	pmax		
YSS	**Yuzh-Sakhalins**	**31.08**	**279**	P	**P**	**05 13 41.7**	**-0.4**
	comp=Z,13nm,0.5s,mb5.0						
TWW	**Teanaway**	**31.15**	**80**	P	**P**	**05 13 45.0**	**+2.3**
EBG	**Ellensburg**	**31.44**	**80**	P	**P**	**05 13 47.0**	**+1.8**
HAWA	**Hanford**	**32.31**	**81**	*e*P	**P**	**05 13 53.4**	**+0.5**
	comp=Z,2.1nm,1.0s						
OD2	**Odessa Site #2**	**32.33**	**79**	P	**P**	**05 13 53.7**	**+0.7**
ASAJ	**Asahikawa**	**32.61**	**275**	P	**P**	**05 13 55.1**	**-0.4**
	comp=Z,61nm,1.2s,mb5.4,baz=22,slow=6.6,SNR=8.4						
NEW	**Newport**	**32.87**	**76**	*e*P	**P**	**05 13 58.1**	**+0.3**
NEW	comp=Z,11nm,0.7s			pmax	pmax		
NEW	**Newport**	**32.87**	**76**	*e*P	**P**	**05 13 58.1**	**+0.3**
	comp=Z,11nm,0.7s,mb4.9						
YBH	**Yreka Blue Hor**	**32.87**	**90**	LR	LR	05 24 50.6	
	comp=Z,727nm,18.2s,MS4.4,baz=199,slow=32						
EDM	**Edmonton**	**32.99**	**66**	*e*P	**P**	**05 13 58.8**	**0.0**
YAK	**Yakutsk**	**33.17**	**311**	*e*P	**P**	**05 13 59.5**	**-0.9**
YAK	comp=Z,34nm,0.8s,mb5.3			pmax	pmax		
YAK	**Yakutsk**	**33.17**	**311**	*e*P	**P**	**05 13 59.5**	**-0.9**
	comp=Z,34nm,0.8s,mb5.3						
WALA	**Waterton Lakes**	**34.40**	**73**	*e*P	**P**	**05 14 11.2**	**+0.1**
	comp=Z,28nm,1.1s,mb5.1						
BSMT	**Bassoo Peak**	**34.44**	**76**	P	**P**	**05 14 12.4**	**+0.9**
WVOR	**Wild Horse Val**	**34.95**	**86**	*e*P	**P**	**05 14 16.7**	**+0.8**
WVOR	comp=Z,17nm,1.1s,mb4.9			pmax	pmax		
WVOR	**Wild Horse Val**	**34.95**	**86**	*e*P	**P**	**05 14 16.7**	**+0.8**
	comp=Z,16nm,1.1s,mb4.9						
HABR	**Khabarovsk**	**34.96**	**286**	*e*P	**P**	**05 14 13.9**	**-2.0**
HABR				*e*S	**S**	**05 19 44.7**	**-0.3**
HABR	comp=Z,79nm,1.1s,mb5.6			pmax	pmax		
CHMT	**Chamberlain Mo**	**35.81**	**76**	*e*P	**P**	**05 14 22.8**	**-0.4**
RES	**Resolute Bay**	**36.20**	**26**	*e*P	**P**	**05 14 25.3**	**-1.3**
KLR	**Kul'dur**	**36.52**	**289**	*e*P	**P**	**05 14 23.7**	**-5.6**
KLR	comp=E,28nm,1.6s			pmax	pmax		
KLR				pmax	pmax		
	comp=Z,50nm,1.6s,mb5.1						
HRY	**Holter Researc**	**36.76**	**76**	*e*P	**P**	**05 14 31.3**	**0.0**
HLID	**Hailey**	**36.89**	**82**	*e*P	**P**	**05 14 32.7**	**+0.2**
HLID	comp=Z,19nm,1.4s,mb4.7			*e*PcP	PcP	05 16 54.0	+0.6
DLMT	**Dillon**	**37.00**	**78**	*e*P	**P**	**05 14 33.8**	**+0.3**
	comp=Z,21nm,1.2s,mb4.8						
DLMT				*e*PcP	PcP	05 16 54.0	+0.2
MCMT	**McKenzie Canyo**	**37.14**	**79**	*e*P	**P**	**05 14 34.8**	**+0.2**
EGMT	**Eagleton**	**37.32**	**72**	*e*P	**P**	**05 14 36.0**	**-0.1**
	comp=Z,45nm,0.9s,mb5.3						
QLMT	**Earthquake Lak**	**37.99**	**78**	P	**P**	**05 14 42.0**	**+0.2**
ELK	**Elko**	**38.01**	**86**	*e*P	**P**	**05 14 42.9**	**+1.0**
ELK	comp=Z,7.0nm,0.8s			pmax	pmax		
ELK	**Elko**	**38.01**	**86**	*e*P	**P**	**05 14 42.9**	**+1.0**
	comp=Z,7.2nm,0.8s,mb4.5						
YMR	**Madison River**	**38.35**	**78**	*e*P	**P**	**05 14 45.1**	**+0.3**
	comp=Z,15nm,0.8s,mb4.8						
YMR				*e*PcP	PcP	05 16 59.0	+1.0
GCMT	**Greycliff**	**38.52**	**76**	*e*P	**P**	**05 14 46.8**	**+0.6**
GCMT				*e*PcP	PcP	05 16 59.1	+0.6
FFC	**Flin Flon**	**38.55**	**59**	P	**P**	**05 14 46.5**	**0.0**
	comp=Z,78nm,1.0s,mb5.4,SNR=10.0						
FFC	**Flin Flon**	**38.55**	**59**	*e*P	**P**	**05 14 45.9**	**-0.6**
FFC	comp=Z,14nm,1.0s,mb4.7			pmax	pmax		
FFC	**Flin Flon**	**38.55**	**59**	*e*P	**P**	**05 14 45.9**	**-0.6**
	comp=Z,14nm,1.0s,mb4.7						
LKWY	**Lake**	**38.75**	**78**	*e*P	**P**	**05 14 49.5**	**+1.4**
LKWY	comp=Z,13nm,0.7s,mb4.8			pmax	pmax		
LKWY	**Lake**	**38.75**	**78**	*e*P	**P**	**05 14 49.5**	**+1.4**
	comp=Z,13nm,0.7s,mb4.8						
IMW	**Indian Meadow**	**38.80**	**79**	*e*P	**P**	**05 14 49.2**	**+0.7**
	comp=Z,13nm,1.0s,mb4.6						
DCID1	**Drake Creek**	**38.82**	**79**	P	**P**	**05 14 49.6**	**+0.9**
FLWY	**Flagg Ranch**	**38.84**	**78**	*e*P	**P**	**05 14 49.9**	**+1.0**
	comp=Z,61nm,1.6s,mb5.1						
HVU	**Hansel Valley**	**38.90**	**83**	*e*P	**P**	**05 14 49.7**	**+0.3**
HVU	comp=Z,12nm,0.8s,mb4.7			pmax	pmax		
HVU	**Hansel Valley**	**38.90**	**83**	*e*P	**P**	**05 14 49.7**	**+0.3**
	comp=Z,12nm,0.8s,mb4.7						
MOOW	**Moose Ponds**	**38.99**	**79**	*e*P	**P**	**05 14 50.4**	**+0.2**
	comp=Z,5.8nm,1.2s,mb4.2						
TPAW	**Teton Pass**	**39.02**	**79**	*e*P	**P**	**05 14 51.3**	**+0.9**
	comp=Z,18nm,1.2s,mb4.7						
REDW	**Red Top Meadow**	**39.15**	**79**	*e*P	**P**	**05 14 51.4**	**-0.1**
	comp=Z,51nm,1.6s,mb5.0						
DAC	**Darwin (Calif)**	**39.37**	**93**	P	**P**	**05 14 54.5**	**+1.2**
DAC	comp=Z,4.0nm,0.9s,mb4.2			pmax	pmax		
DAC	**Darwin (Calif)**	**39.37**	**93**	P	**P**	**05 14 54.5**	**+1.1**
	comp=Z,3.8nm,0.9s						
SPUT	**South Promonto**	**39.37**	**83**	*e*P	**P**	**05 14 53.6**	**+0.3**
VLA	**Vladivostok**	**39.64**	**281**	*e*P	**P**	**05 14 54.8**	**-0.8**
VLA	comp=Z,39nm,0.7s,mb5.2			pmax	pmax		
HWUT	**Hardware Ranch**	**39.73**	**82**	*e*P	**P**	**05 14 56.4**	**+0.1**
	comp=Z,7.5nm,1.0s,mb4.4						
TPNV	**Topopah Spring**	**39.75**	**91**	*e*P	**P**	**05 14 57.1**	**+0.6**
TPNV	comp=Z,9.0nm,0.8s,mb4.5			pmax	pmax		
TPNV	**Topopah Spring**	**39.75**	**91**	*e*P	**P**	**05 14 57.1**	**+0.6**
	comp=Z,9.0nm,0.8s,mb4.5						
MJAR	**Matsushiro Arr**	**39.81**	**268**	P	**P**	**05 14 57.2**	**+0.1**
	comp=Z,26nm,1.0s,mb4.9,baz=46,slow=7.0,SNR=54						
MJAR				PcP	PcP	05 17 03.0	+0.4
	comp=Z,9.6nm,0.9s,baz=88,slow=1.1,SNR=9.6						
MAJO	**Matsushiro**	**39.82**	**268**	*e*P	**P**	**05 14 56.9**	**-0.2**
MAJO	comp=Z,118nm,1.1s,mb5.5			pmax	pmax		
MAJO	**Matsushiro**	**39.82**	**268**	*e*P	**P**	**05 14 56.9**	**-0.2**
	comp=Z,118nm,1.1s,mb5.5						
MAT	**Matsushiro**	**39.82**	**268**	P	**P**	**05 14 57.0**	**-0.1**
MAT				*e*S	**S**	**05 21 07.0**	**+8.2**
MAT	**Matsushiro**	**39.82**	**268**	*e*P	**P**	**05 14 57.0**	**-0.1**
MAT				S	**S**	**05 21 07.0**	**+8.2**
MAT	comp=Z,80nm,1.0s,mb5.4			pmax	pmax		
MAT	**Matsushiro**	**39.82**	**268**	*e*P	**P**	**05 14 57.0**	**-0.1**
	comp=Z,80nm,1.0s,mb5.4						
MAT				S	**S**	**05 21 07.0**	**+8.2**
DUG	**Dugway**	**39.82**	**85**	*e*P	**P**	**05 14 57.3**	**+0.2**
DUG	comp=Z,21nm,1.2s,mb4.7			pmax	pmax		
DUG	**Dugway**	**39.82**	**85**	*e*P	**P**	**05 14 57.3**	**+0.2**
	comp=Z,20nm,1.2s,mb4.7						
TCUT	**Toone Canyon**	**40.12**	**83**	*e*P	**P**	**05 14 59.8**	**+0.3**
MDJ	**Mudanjiang**	**40.17**	**284**	P	**P**	**05 14 57.9**	**-2.1**
MDJ				PP	PP	05 16 29.9	-2.9
MDJ				PCP	PcP	05 17 02.6	-1.1
MDJ				SCP	ScP	05 20 51.2	+1.3
MDJ				PCS	PcS	05 20 52.8	-1.3
MDJ				S	**S**	**05 21 04.4**	**+0.3**
MDJ	comp=Z,8.0nm,1.0s,mb4.4			AMB	AMB		
MDJ	comp=Z,109nm,8.0s			AMB	AMB		
MDJ	comp=N,611nm,17.3s,MS4.6			LR	LR		
MDJ	comp=E,571nm,19.2s,MS4.6			LR	LR		
MDJ	comp=Z,830nm,17.3s,MS4.6			LR	LR		
MDJ	**Mudanjiang**	**40.17**	**284**	*e*P	**P**	**05 14 56.9**	**-3.2**
	comp=Z,10nm,0.9s,mb4.5						
PDAR	**Pinedale Array**	**40.27**	**79**	P	**P**	**05 15 01.0**	**+0.2**
	comp=Z,12nm,0.9s,mb4.6,baz=308,slow=4.9,SNR=72						
ALE	**Alert**	**40.42**	**11**	P	**P**	**05 15 02.0**	**-0.1**
	comp=Z,59nm,1.0s,mb5.3,SNR=7.2						
DAU	**Daniels Canyon**	**40.63**	**83**	*e*P	**P**	**05 15 04.6**	**+0.8**
MPU	**Maple Canyon**	**40.65**	**84**	*e*P	**P**	**05 15 04.3**	**+0.4**
	comp=Z,10nm,0.9s,mb4.5						
FCC	**Fort Churchill**	**40.77**	**50**	*e*P	**P**	**05 15 04.6**	**-0.3**
FCC	comp=Z,147nm,1.2s,mb5.5			pmax	pmax		
FCC	**Fort Churchill**	**40.77**	**50**	*e*P	**P**	**05 15 04.5**	**-0.4**
	comp=Z,147nm,1.2s,mb5.5						
ARUT	**Antelope Range**	**40.93**	**88**	P	**P**	**05 15 06.7**	**+0.4**
CCUT	**Cedar City**	**41.13**	**88**	*e*P	**P**	**05 15 08.6**	**+0.7**
MSU	**Marysvale**	**41.24**	**86**	*e*P	**P**	**05 15 09.4**	**+0.5**
TMUT	**Trail Mountain**	**41.35**	**85**	*e*P	**P**	**05 15 10.0**	**+0.3**
NEN	**Nelson**	**41.46**	**92**	*e*P	**P**	**05 15 11.0**	**+0.4**
SRU	**San Rafael**	**41.88**	**85**	*e*P	**P**	**05 15 14.8**	**+0.8**
SRU	comp=Z,20nm,0.9s,mb4.8			pmax	pmax		
SRU	**San Rafael**	**41.88**	**85**	*e*P	**P**	**05 15 14.8**	**+0.8**
	comp=Z,20nm,0.9s,mb4.7						
BOD	**Bodaibo**	**42.00**	**309**	*e*P	**P**	**05 15 13.3**	**-1.7**
BOD	comp=Z,36nm,0.8s,mb5.0			pmax	pmax		
RWWY	**Rawlins**	**42.31**	**79**	*e*P	**P**	**05 15 17.3**	**-0.3**
	comp=Z,11nm,0.7s,mb4.6						
RSSD	**Black Hills**	**42.77**	**74**	*e*P	**P**	**05 15 20.7**	**-0.6**
RSSD				*e*		05 17 12.0	
RSSD	comp=Z,11nm,0.9s,mb4.6			pmax	pmax		
RSSD	**Black Hills**	**42.77**	**74**	*e*P	**P**	**05 15 20.7**	**-0.6**
	comp=Z,11nm,0.9s,mb4.6						
RSSD				*e*PcP	PcP	05 17 12.0	-0.3
CN2	**Changchun**	**43.09**	**286**	⇑P	**P**	**05 15 22.7**	**-1.2**
CN2				*e*S	**S**	**05 21 46.1**	**-1.2**
CN2	comp=Z,40nm,0.8s,mb5.2			AMB	AMB		
CN2	comp=Z,300nm,6.0s			AMB	AMB		
CN2	comp=N,600nm,18.0s,MS4.7			LR	LR		
CN2	comp=E,500nm,18.0s,MS4.7			LR	LR		
CN2	comp=Z,900nm,19.0s,MS4.7			LR	LR		
PV10	**Paradox Valley**	**43.24**	**84**	*e*P	**P**	**05 15 25.2**	**+0.1**
PV10				*e*PcP	PcP	05 17 14.3	+0.5
HIA	**Hailar**	**43.29**	**295**	*e*P	**P**	**05 15 24.4**	**-1.1**
HIA	comp=Z,55nm,1.3s			pmax	pmax		
HIA	**Hailar**	**43.29**	**295**	*e*P	**P**	**05 15 24.4**	**-1.2**
	comp=Z,55nm,1.3s,mb5.1						
WUAZ	**Wupatki**	**43.67**	**89**	*e*P	**P**	**05 15 29.1**	**+0.6**
	comp=Z,24nm,1.0s,mb4.9						
PV01	**Paradox Valley**	**43.68**	**84**	*e*P	**P**	**05 15 28.6**	**0.0**
ULM	**Lac du Bonnet**	**43.98**	**62**	P	**P**	**05 15 30.4**	**-0.7**
	comp=Z,12nm,1.0s,mb4.6,baz=301,slow=9.4,SNR=12						
ULM				ScP	ScP	05 21 06.2	+1.1
SMCO	**Snowmass**	**43.99**	**82**	*e*P	**P**	**05 15 30.9**	**-0.3**
	comp=Z,18nm,1.3s,mb4.6						
SMCO				*e*PcP	PcP	05 17 16.8	+0.5
MVCO	**Mesa Verde**	**44.31**	**85**	*e*P	**P**	**05 15 33.1**	**-0.6**
CIT	**Chita**	**45.13**	**302**	*e*P	**P**	**05 15 40.1**	**-0.1**
CIT				*e*		05 17 18.4	
CIT	comp=Z,38nm,1.5s,mb5.0			pmax	pmax		
KS15	**Wonju Array Si**	**45.53**	**277**	*e*P	**P**	**05 15 43.3**	**-0.1**
TUC	**Tucson**	**46.20**	**92**	*e*P	**P**	**05 15 48.8**	**+0.1**
TUC	comp=Z,15nm,1.2s,mb4.8			pmax	pmax		
TUC	**Tucson**	**46.20**	**92**	*e*P	**P**	**05 15 48.8**	**+0.1**
	comp=Z,15nm,1.2s,mb4.8						
JNU	**Nakatsue**	**46.58**	**270**	P	**P**	**05 15 51.8**	**+0.1**
	comp=Z,106nm,0.9s,mb5.8,baz=42,slow=4.8,SNR=9.6						
JNU				PKiKP	PKiKP	05 24 16.1	-3.8
	comp=Z,39nm,0.4s,baz=157,slow=0.7,SNR=4.3						
LAZ	**Ladron**	**47.00**	**87**	*e*P	**P**	**05 15 54.6**	**-0.3**
ANMO	**Albuquerque**	**47.04**	**86**	P	**P**	**05 15 55.2**	**0.0**
	comp=Z,4.1nm,1.1s,mb4.3,baz=317,slow=9.0,SNR=7.5						
ANMO				PcP	PcP	05 17 27.9	+1.0
	comp=Z,5.0nm,0.9s,baz=284,slow=3.9,SNR=7.7						
ANMO	**Albuquerque**	**47.04**	**86**	*e*P	**P**	**05 15 55.0**	**-0.3**
ANMO				*e*		05 17 27.5	
ANMO	comp=Z,7.0nm,1.2s			pmax	pmax		
ANMO	**Albuquerque**	**47.04**	**86**	*e*P	**P**	**05 15 55.0**	**-0.3**
	comp=Z,6.5nm,1.2s,mb4.4						
ANMO				*e*PcP	PcP	05 17 27.5	+0.5
LENM	**Lemitar**	**47.26**	**87**	*e*P	**P**	**05 15 56.8**	**-0.2**
LPM	**Los Pinos Moun**	**47.37**	**87**	*e*P	**P**	**05 15 58.0**	**+0.2**
BNM	**Barren Site**	**47.48**	**87**	*e*P	**P**	**05 15 58.4**	**-0.2**
CBKS	**Cedar Bluff**	**48.57**	**77**	*e*P	**P**	**05 16 06.9**	**-0.2**
CBKS	comp=Z,50nm,1.1s,mb5.5			pmax	pmax		
CBKS	**Cedar Bluff**	**48.57**	**77**	*e*P	**P**	**05 16 06.9**	**-0.2**
	comp=Z,50nm,1.1s,mb5.5						
DAG	**Danmarks Havn**	**49.64**	**9**	⇑*i*P	**P**	**05 16 14.3**	**-1.0**
	comp=Z,17nm,0.8s,mb5.1						
DAG	**Danmarks Havn**	**49.64**	**9**	⇑*i*P	**P**	**05 16 14.3**	**-1.0**
DAG	comp=Z,17nm,0.8s,mb5.1			pmax	pmax		
MNTX	**Cornudas Mount**	**49.92**	**88**	*e*P	**P**	**05 16 17.7**	**+0.3**
	comp=Z,9.3nm,0.8s,mb4.9						
KSU1	**Kansas State U**	**50.24**	**75**	P	**P**	**05 16 18.6**	**-1.3**
TLY	**Talaya**	**50.35**	**306**	*e*P	**P**	**05 16 20.4**	**-0.3**
TLY	comp=Z,20nm,0.6s,mb5.3			pmax	pmax		
TLY	**Talaya**	**50.35**	**306**	*e*P	**P**	**05 16 20.4**	**-0.3**
	comp=Z,20nm,0.6s,mb5.3						
BJI	**Beijing**	**50.84**	**287**	*e*P	**P**	**05 16 24.3**	**-0.1**
BJI	comp=Z,21nm,0.8s,mb5.1			AMB	AMB		
BJT	**Baijiatuau**	**50.86**	**287**	*e*P	**P**	**05 16 24.1**	**-0.5**
BJT	comp=Z,25nm,1.0s			pmax	pmax		
BJT	**Baijiatuau**	**50.86**	**287**	*e*P	**P**	**05 16 24.1**	**-0.5**
	comp=Z,25nm,1.0s,mb5.1						
ULN	**Ulaanbaatar**	**50.96**	**300**	*e*P	**P**	**05 16 24.8**	**-0.5**
ULN	comp=Z,18nm,0.8s,mb5.0			pmax	pmax		
ULN	**Ulaanbaatar**	**50.96**	**300**	*e*P	**P**	**05 16 24.8**	**-0.5**
	comp=Z,18nm,0.8s,mb5.1						
SONM	**Songino Array**	**51.33**	**301**	P	**P**	**05 16 27.9**	**-0.1**
	comp=Z,15nm,0.9s,mb4.9,baz=61,slow=5.3,SNR=83						
SONM				PcP	PcP	05 17 42.6	+0.1
	comp=Z,5.9nm,0.8s,baz=62,slow=1.7,SNR=7.7						
SONM				ScP	ScP	05 21 37.2	+1.2
	comp=Z,1.6nm,1.0s,baz=78,slow=2.8,SNR=5.6						
SONM	**Songino Array**	**51.33**	**301**	P	**P**	**05 16 27.9**	**-0.2**
SONM						05 17 42.6	
ZAK	**Zakamensk**	**51.33**	**305**	*e*P	**P**	**05 16 27.4**	**-0.7**
ZAK				*e*		05 17 41.2	
ZAK	comp=Z,36nm,1.5s,mb5.1			pmax	pmax		
ZAK	comp=Z,18nm,1.5s,mb4.8			pmax	pmax		
WMOK	**Wichita Mounta**	**51.85**	**81**	*e*P	**P**	**05 16 31.5**	**-0.4**
WMOK	comp=Z,19nm,1.1s,mb4.9			pmax	pmax		
WMOK	**Wichita Mounta**	**51.

BLO Bloomington 56.04 68 *e*P **P 05 17 00.8 -1.8**
comp=Z,5.2nm,0.6s,mb4.7

USIN University of 56.21 70 *e*P **P 05 17 02.1 -1.7**
comp=Z,31nm,0.8s,mb5.4

WCI Wyandotte Cave 56.82 69 *e*P **P 05 17 06.1 -2.0**
WCI pmax pmax
comp=Z,15nm,1.0s,mb5.0

WCI Wyandotte Cave 56.82 69 *e*P **P 05 17 06.0 -2.0**
comp=Z,15nm,1.0s,mb5.0

ACSO Alum Creek Sta 57.30 65 *e*P **P 05 17 10.2 -1.3**
comp=Z,7.0nm,1.0s,mb4.7

WVT Waverly 57.38 72 *e*P **P 05 17 10.9 -1.2**
WVT pmax pmax
comp=Z,15nm,1.1s,mb4.9

WVT Waverly 57.38 72 *e*P **P 05 17 10.8 -1.2**
comp=Z,15nm,1.1s,mb4.9

NVS Novosibirsk 57.40 319 *i*P **P 05 17 10.0 -2.2**
ZAL Zalesovo 57.41 318 LR LR 05 40 56.5
comp=Z,877nm,20.3s,MS4.9,baz=66,slow=35

KEV Kevo 57.48 353 *ep* **P 05 17 10.0 -2.8**
ERPA Erie 57.64 62 *e*P **P 05 17 12.8 -1.1**
comp=Z,68nm,1.4s,mb5.5

ARCES ARCESS Array B 57.80 354 P **P 05 17 13.8 -1.2**
comp=Z,14nm,0.9s,mb5.0,baz=354,slow=7.0,SNR=37
ARCES PcP PcP 05 18 06.7 -0.6
comp=Z,12nm,0.7s,baz=20,slow=3.9,SNR=12

PLAL Pickwick Lake 58.04 73 *e*P **P 05 17 14.6 -2.1**
comp=Z,19nm,1.1s,mb5.0

MSNY Massena 58.33 56 *e*P **P 05 17 17.6 -1.1**
WHN Wuhan 58.43 280 ⇑P **P 05 17 19.0 -0.4**
WHN AMB AMB
comp=Z,69nm,1.3s,mb5.5

LVZ Lovozero 58.60 350 P **P 05 17 19.7 -0.9**
comp=Z,365nm,0.7s,SNR=9.2

LVZ Lovozero 58.60 350 *e*P **P 05 17 18.2 -2.4**
LVZ pmax pmax
comp=Z,51nm,0.7s,mb5.7

LVZ pmax pmax
comp=N,14nm,0.6s

LVZ pmax pmax
comp=E,8.0nm,0.8s

LONY Lake Ozonia 58.73 56 *e*P **P 05 17 20.4 -1.2**
APA Apatity 59.05 350 ⇓*i*P **P 05 17 25.2 +1.5**
APA *i* 05 18 11.2
APA pmax pmax
comp=Z,18nm,1.2s,mb5.0

XAN Xi'an 59.17 287 P **P 05 17 24.1 -0.4**
XAN AP pP 05 17 33.9 -1.9
XAN XP sP 05 17 38.4 -1.8
XAN AMB AMB
comp=Z,26nm,1.3s,mb5.1

NCB Newcomb 59.38 57 *e*P **P 05 17 25.2 -0.7**
comp=Z,34nm,1.2s,mb5.2

TZTN Tazewell 59.56 69 *e*P **P 05 17 25.3 -1.9**
QZH Quanzhou 59.91 272 ⇓*i*P **P 05 17 30.2 +0.5**
QZH AMB AMB
comp=Z,270nm,1.4s,mb6.1

LRAL Lakeview Retre 60.05 74 *e*P **P 05 17 28.6 -2.0**
comp=Z,3.5nm,0.7s,mb4.5

FWV Forest Hill 60.37 66 *e*P **P 05 17 31.5 -1.3**
GTA Gaotai 60.52 297 P **P 05 17 32.8 -1.0**
GTA PCP PcP 05 18 17.6 -0.6
GTA PP PP 05 19 49.3 +1.9
GTA PPP 05 21 17.1
GTA SCP ScP 05 22 16.2 -0.2
GTA S **S** **05 25 48.4 +1.6**
GTA AMB AMB
comp=Z,16nm,0.9s,mb5.2

GTA AMB AMB
comp=Z,628nm,12.6s

GTA LR LR
comp=N,414nm,18.7s,MS4.7

GTA LR LR
comp=E,417nm,19.9s,MS4.7

GTA LR LR
comp=Z,506nm,21.0s,MS4.6

LZH Lanzhou 60.64 292 *e*P **P 05 17 35.3 +0.6**
LZH PP PP 05 19 50.5 +2.0
LZH *e*S **S** **05 25 48.2 -0.2**
LZH *e*SS SS 05 29 47.1 0.0
LZH AMB AMB
comp=Z,56nm,1.5s,mb5.5

LZH AMB AMB
comp=Z,250nm,4.2s

LZH LR LR
comp=N,1μm,15.6s

LZH LR LR
comp=Z,1μm,16.7s,MS5.2

ELN Prospectdale 60.65 66 *e*P **P 05 17 33.5 -1.3**
BLA Blacksburg 60.85 66 *e*P **P 05 17 34.9 -1.2**
BLA pmax pmax
comp=Z,3.0nm,0.9s,mb4.4

BLA Blacksburg 60.85 66 *e*P **P 05 17 34.9 -1.1**
comp=Z,3.0nm,0.9s,mb4.4

KURK Kurchatov 62.35 318 P **P 05 17 45.7 -0.5**
comp=Z,226nm,0.7s,SNR=21

KURK Kurchatov 62.35 318 *e*P **P 05 17 45.3 -0.9**
KURK *e* 05 18 25.0
KURK pmax pmax
comp=Z,21nm,0.6s,mb5.4

KURK Kurchatov 62.35 318 *e*P **P 05 17 45.3 -0.9**
comp=Z,21nm,0.6s,mb5.5

KURK *e*PcP PcP 05 18 24.9 -0.6
JSC Jenkinsville 62.48 69 *e*P **P 05 17 45.7 -1.4**
COW Cow Castle Cre 63.45 69 *e*P **P 05 17 52.7 -0.8**
WMQ Urumqi 63.54 308 ⇑*i*P **P 05 17 54.0 -0.1**
WMQ PCP PcP 05 18 30.0 -0.4
WMQ SCP 05 22 30.7
WMQ AMB AMB
comp=Z,21nm,0.8s,mb5.2

WMQ AMB AMB
comp=Z,183nm,3.9s

WMQ LR LR
comp=N,440nm,22.1s,MS4.9

WMQ LR LR
comp=E,721nm,18.5s,MS4.9

WMQ LR LR
comp=Z,404nm,20.8s,MS4.6

SVE Sverdlovsk 63.62 332 *e* PcP 05 18 30.8 +0.1
SVE MLR MLR
comp=N,400nm,17.0s,MS4.8

SVE MLR MLR
comp=E,400nm,17.0s,MS4.8

SVE MLR MLR
comp=Z,500nm,17.0s,MS4.8

BVA0 Borovoye Array 63.66 324 *i*P **P 05 17 54.4 -0.5**
BVA0 pmax pmax
comp=Z,2.0nm,0.6s,mb4.3

BRVK Borovoye 63.67 325 P **P 05 17 54.4 -0.5**
comp=Z,149nm,0.6s,mb6.2,SNR=14

BRVK Borovoye 63.67 325 *e*P **P 05 17 54.3 -0.6**
BRVK *e* 05 18 31.0
BRVK pmax pmax
comp=Z,8.0nm,0.6s,mb4.9

BRVK Borovoye 63.67 325 *e*P **P 05 17 54.3 -0.6**
comp=Z,8.2nm,0.6s,mb4.9

BRVK *e*PcP PcP 05 18 31.0 +0.1
VOSK Vostochnaya 63.69 324 P **P 05 17 54.3 -0.8**
VOSK pmax pmax
comp=Z,16nm,1.1s,mb5.0

JOF Joensuu 63.79 350 *ep* **P 05 17 53.7 -2.1**
MK31 Makanchi Array 63.79 313 P **P 05 17 54.3 -1.5**
MK31 pmax pmax
comp=Z,8.0nm,0.8s,mb4.8

MKAR Makanchi Array 63.79 313 P **P 05 17 54.4 -1.4**
comp=Z,9.5nm,0.8s,mb4.9,baz=48,slow=6.8,SNR=56

NHSC New Hope 63.95 69 *e*P **P 05 17 56.3 -0.5**
comp=Z,67nm,0.9s,mb5.7

ZRNK Zerenda 64.20 325 *e*P **P 05 17 57.7 -0.8**
ZRNK *e* 05 18 32.5
ZRNK pmax pmax
comp=Z,25nm,0.6s,mb5.4

ZRNK Zerenda 64.20 325 *e*P **P 05 17 57.7 -0.8**
comp=Z,25nm,0.6s,mb5.4

ZRNK *e*PcP PcP 05 18 32.5 -0.6
CD2 Chengdu 64.44 288 *e*P **P 05 17 59.4 -0.6**
CD2 PP PP 05 20 22.4 +0.5
CD2 S **S** **05 26 34.7 -1.3**
CD2 SS SS 05 30 45.5 -1.0
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9

CD2 LR LR
comp=N,150nm,20.4s

CD2 LR LR
comp=Z,270nm,20.4s,MS4.4

GZH Guangzhou 64.49 275 P **P 05 17 57.0 -3.3**
ARU Arti 64.55 333 P **P 05 18 00.0 -0.7**
comp=Z,289nm,0.5s,SNR=10

ARU Arti 64.55 333 ⇑*i*P **P 05 17 59.6 -1.1**
ARU *e* 05 18 33.3
ARU *e* 05 20 19.8
ARU *e*PPP 05 21 56.0
ARU *e*S **S** **05 26 38.1 +0.7**
ARU *e*SS SS 05 30 52.1 +3.9
ARU pmax pmax
comp=Z,28nm,0.7s,mb5.4

ARU Arti 64.55 333 *e*P **P 05 17 59.5 -1.3**
comp=Z,33nm,0.7s,mb5.5

ARU *e*PcP PcP 05 18 34.0 -0.6
KLMR Klimovskoe 64.68 345 *e*P **P 05 18 00.1 -1.5**
KLMR pmax pmax
comp=Z,30nm,1.7s,mb5.0

KAF Kangasniemi 65.07 352 *e*p **P 05 18 00.9 -3.2**
comp=Z,25nm,0.8s,mb5.3

KAF Kangasniemi 65.07 352 *e*P **P 05 18 00.9 -3.2**
KAF pmax pmax
comp=Z,25nm,0.8s,mb5.3

FINES FINESS Array B 65.75 352 P **P 05 18 07.4 -1.1**
comp=Z,10nm,0.8s,mb5.0,baz=28,slow=8.6,SNR=37
FINES PcP PcP 05 18 39.0 -0.5
comp=Z,4.3nm,0.8s,baz=53,slow=4.3,SNR=4.3

FINES FINESS Array B 65.75 352 P **P 05 18 07.4 -1.1**
FINES PcP PcP 05 18 39.0 -0.5

GYA Guiyang 66.01 283 ⇑*i*P **P 05 18 10.3 +0.1**
GYA PP PP 05 20 37.4 +1.7
GYA PPP 05 22 12.6
GYA SCP 05 22 41.4
GYA S S 05 26 54.9 -0.4
GYA SS SS 05 31 10.4 -0.6
GYA AMB AMB
comp=Z,60nm,1.0s,mb5.6

GYA AMB AMB
comp=Z,120nm,4.2s

GYA LR LR
comp=N,540nm,18.4s,MS4.9

GYA LR LR
comp=E,490nm,17.6s,MS4.9

GYA LR LR
comp=Z,510nm,17.9s,MS4.8

NB2 NORSAR Subarra 66.80 360 P **P 05 18 14.5 -0.8**
comp=Z,18nm,0.7s,mb5.2,baz=360,slow=6.5

NOA NORSAR Array B 66.80 360 P **P 05 18 14.4 -0.9**
comp=Z,11nm,0.6s,mb5.1,baz=0.1,slow=6.3,SNR=55
NOA PcP PcP 05 18 43.6 -0.2
comp=Z,6.7nm,1.0s,baz=352,slow=3.2,SNR=4.8

NAO01 NORSAR Array S 67.00 360 *e*P **P 05 18 15.5 -1.0**
comp=Z,5.5nm,0.9s,mb4.6

KONO Kongsberg 68.19 1 *e*P **P 05 18 23.5 -0.6**
KONO pmax pmax
comp=Z,57nm,1.2s,mb5.5

KONO Kongsberg 68.19 1 *e*P **P 05 18 23.5 -0.5**
comp=Z,57nm,1.2s,mb5.5

KMI Kunming 69.34 284 ⇑P **P 05 18 31.9 +0.7**
KMI PCP PcP 05 18 56.7 +2.2
KMI PP PP 05 21 07.5 +2.8
KMI S S 05 27 37.1 +1.8
KMI SS SS 05 32 05.0 +2.5
KMI AMB AMB
comp=Z,40nm,1.5s,mb5.1

KMI LR LR
comp=N,315nm,19.1s,MS4.7

KMI LR LR
comp=E,254nm,20.5s,MS4.7

KMI LR LR
comp=Z,336nm,19.1s,MS4.6

QIZ Qiongzhong 69.68 275 ⇓P **P 05 18 34.4 +1.1**
QIZ S S 05 27 43.5 +4.3
QIZ AMB AMB
comp=Z,27nm,1.5s,mb5.0

QIZ LR LR
comp=E,249nm,19.1s

QIZ LR LR
comp=Z,468nm,21.1s,MS4.7

MOS Moscow 69.87 344 *e*P **P 05 18 33.3 -1.1**
MOS pmax pmax
comp=Z,54nm,0.7s,mb5.6

AB31 Akbulak array 70.38 328 *i*P **P 05 18 36.9 -0.7**
AB31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.6

AAK Ala-Archa 70.48 315 P **P 05 18 37.4 -0.8**
comp=Z,122nm,0.8s,mb5.9,SNR=9.9

AAK Ala-Archa 70.48 315*c i*P **P 05 18 37.3 -0.9**
AAK pmax pmax
comp=Z,28nm,1.2s,mb5.1

AAK Ala-Archa 70.48 315 *e*P **P 05 18 37.2 -1.0**
comp=Z,28nm,1.1s,mb5.1

OBN Obninsk 70.64 345 *e*P **P 05 18 37.6 -1.6**
OBN *i* 05 18 59.6
OBN pmax pmax
comp=Z,68nm,1.6s,mb5.3

OBN MLR MLR
comp=Z,400nm,24.0s,MS4.6

ESK Eskdalemuir 71.92 8 *e*P **P 05 18 46.2 -0.7**
ESK pmax pmax
comp=Z,33nm,1.1s,mb5.2

ESK Eskdalemuir 71.92 8 *e*P **P 05 18 46.2 -0.7**
comp=Z,33nm,1.1s,mb5.2

PMG Port Moresby 72.07 226 P **P 05 18 47.1 -0.7**
comp=Z,7.0nm,0.7s,mb4.7,baz=255,slow=2.3,SNR=3.7

KSH Kashi 72.37 313 *e*P **P 05 18 47.2 -2.4**
KSH *e*PCP PcP 05 19 05.7 -1.7
KSH *e*PP PP 05 21 29.3 -1.4
KSH *e*PPP 05 23 11.1
KSH *e*S S 05 28 04.8 -5.6
KSH *e*PS 05 28 40.0
KSH *e*SKS 05 28 47.0
KSH *e*SCS ScS 05 28 49.0 -4.3
KSH *e*SS SS 05 32 46.2 -2.8
KSH AMB AMB
comp=Z,122nm,3.9s

KSH LR LR
comp=N,170nm,8.2s

KSH LR LR
comp=E,234nm,8.2s

KSH LR LR
comp=Z,483nm,21.9s,MS4.7

LSA Lhasa 72.49 296 P **P 05 18 52.0 +1.7**
LSA Lhasa 72.49 296 *e*P **P 05 18 51.8 +1.5**
LSA pmax pmax
comp=Z,41nm,0.8s,mb5.4

LSA Lhasa 72.49 296 *e*P **P 05 18 51.8 +1.5**
comp=Z,41nm,0.8s,mb5.4

SUW Suwalki 73.35 352 *e*P **P 05 18 54.8 -0.6**
SUW pmax pmax
comp=Z,49nm,0.5s,mb5.7

SUW Suwalki 73.35 352 *e*P **P 05 18 54.8 -0.6**
comp=Z,49nm,0.5s,mb5.7

DCN Croghan 73.44 11 *e*P **P 05 18 55.2 -0.7**
DLF Lyons Farm 73.57 11 *e*P **P 05 18 56.2 -0.5**
DSB Dublin 73.64 11 *e*P **P 05 18 56.9 -0.2**
comp=Z,21nm,1.1s,mb5.0

BSEG Bad Segeberg 73.93 0 *e*P **P 05 18 58.7 -0.1**
comp=Z,53nm,1.2s,mb5.3

RUE Ruedersdorf 75.36 358 *e*P **P 05 19 06.9 -0.2**
comp=Z,62nm,1.0s,mb5.5

IBBN Ibbenburen 75.53 2 *e*P **P 05 19 07.9 -0.1**
comp=Z,78nm,1.2s,mb5.5

WTSB Winterswijk 75.85 3 ⇑*i*P **P 05 19 09.6 -0.2**
comp=Z,39nm,1.4s,mb5.1

AKASG Malin Array Be 76.00 348 P **P 05 19 09.3 -1.4**
comp=Z,19nm,0.7s,mb5.1,baz=10,slow=5.6,SNR=67

KKTK Khon Kaen 76.01 279 P **P 05 19 11.5 +0.7**
CLZ Clausthal 76.03 0 *e*P **P 05 19 11.1 +0.2**
comp=Z,56nm,1.3s,mb5.3

CLZ Clausthal 76.03 0 *e*P **P 05 19 11.1 +0.2**
CLZ pmax pmax
comp=Z,56nm,1.3s,mb5.3

BUG Bochum--Univer 76.38 2 *e*P **P 05 19 12.5 -0.4**
comp=Z,28nm,0.8s,mb5.2

CHTO Chiang Mai 76.42 283 *e*P **P 05 19 13.0 -0.1**
CHTO pmax pmax
comp=Z,54nm,1.4s,mb5.3

CHTO Chiang Mai 76.42 283 *e*P **P 05 19 13.0 -0.1**
comp=Z,54nm,1.4s,mb5.3

CLL Collm 76.54 359 *e*P **P 05 19 13.2 -0.6**
comp=Z,26nm,1.1s,mb5.1

CLL Collm 76.54 359 ⇑*i*P **P 05 19 13.3 -0.5**
comp=Z,26nm,1.1s,mb5.1

CLL Collm 76.54 359 ⇑*i*P **P 05 19 13.3 -0.5**
CLL pmax pmax
comp=Z,26nm,1.1s,mb5.1

CLL Collm 76.54 359 ⇑*i*P **P 05 19 13.3 -0.5**
comp=Z,26nm,1.1s,mb5.1

GUN Gumba 76.76 299 *e*P **P 05 19 15.5 +0.5**
comp=Z,71nm,0.7s,mb5.7

JIRN Jiri 76.79 298 *e*P **P 05 19 15.8 +0.6**
KSP Ksiaz 76.92 356 *e*P **P 05 19 15.8 -0.2**
BRG Berggiesshubel 76.96 358 *e*P **P 05 19 15.9 -0.3**
comp=Z,33nm,1.2s,mb5.1

BRG Berggiesshubel 76.96 358 *i*P **P 05 19 15.9 -0.2**
comp=Z,20nm,1.3s,mb4.9

BRG Berggiesshubel 76.96 358 *i*P **P 05 19 15.9 -0.3**
BRG pmax pmax
comp=Z,20nm,1.3s,mb4.9

HGN Heimansgroeve 77.02 3 ⇑*i*P **P 05 19 16.4 -0.1**
comp=Z,43nm,1.6s,mb5.1

KKN Kakani 77.17 299 *e*P **P 05 19 17.6 +0.2**
comp=Z,102nm,1.2s,mb5.6

MEM Membach 77.18 3 P **P 05 19 17.1 -0.3**
comp=Z,16nm,0.0s

SNF Seneffe 77.21 4 P **P 05 19 17.7 +0.1**
comp=Z,8.4nm,0.0s

MOX Moxa 77.22 359 *e*P **P 05 19 17.5 -0.1**
comp=Z,39nm,1.2s,mb5.2

MOX Moxa 77.22 359 *e*P **P 05 19 17.6 0.0**
comp=Z,44nm,1.2s,mb5.3

MOX Moxa 77.22 359 *e*P **P 05 19 17.6 0.0**
MOX pmax pmax
comp=Z,44nm,1.2s,mb5.3

UPC Upice 77.27 357 *e*P **P 05 19 18.1 +0.2**
PKI Pulchoki 77.28 299 *e*P **P 05 19 18.1 +0.1**
comp=Z,158nm,1.3s,mb5.8

GKN Gorkha 77.35 300 *e*P **P 05 19 18.2 -0.1**
comp=Z,148nm,1.1s,mb5.8

OJC Ojcow 77.37 354 *e*P **P 05 19 18.3 -0.2**
DMN Daman 77.41 299 *e*P **P 05 19 19.1 +0.4**
comp=Z,78nm,1.0s,mb5.6

DPC Dobruska-Polom 77.41 356 *e*P **P 05 19 19.1 +0.4**
WERD Werda 77.41 359 *e*P **P 05 19 18.7 0.0**
comp=Z,13nm,1.1s,mb4.8

LVV L'vov 77.44 351 *e*P **P 05 19 18.5 -0.3**
NKC Novy Kostel 77.63 359 *e*P **P 05 19 20.2 +0.3**
TNS Taunus Mts 77.63 2 *e*P **P 05 19 19.8 -0.1**
comp=Z,32nm,1.4s,mb5.1

TNS Taunus Mts 77.63 2 *e*P **P 05 19 19.8 -0.1**
TNS pmax pmax
comp=Z,32nm,1.4s,mb5.1

DOU Dourbes 77.64 4 P **P 05 19 19.8 -0.1**
comp=Z,9.5nm,0.9s,mb4.7

DOU XP sP 05 19 28.5 -7.4
DOU PCP PcP 05 19 33.1 +3.1
GIVF Givet 77.64 4 ⇑*i*P **P 05 19 19.7 -0.3**
comp=Z,82nm,1.1s,mb5.3

GIVF Givet 77.64 4 ⇑*i*P **P 05 19 19.7 -0.3**
GIVF pmax pmax
comp=Z,41nm,1.1s,mb5.3

GIVF Givet 77.64 4 ⇑*i*P **P 05 19 19.7 -0.3**
comp=Z,41nm,1.1s,mb5.3

BAIF Baives 77.66 4 ⇑*i*P **P 05 19 19.9 -0.2**
comp=Z,86nm,1.2s,mb5.2

BAIF Baives 77.66 4 ⇑*i*P **P 05 19 19.9 -0.2**
BAIF pmax pmax
comp=Z,43nm,1.2s,mb5.2

BAIF Baives 77.66 4 ⇑*i*P **P 05 19 19.9 -0.2**
comp=Z,43nm,1.2s,mb5.2

KWP Kalwaria 77.74 352 *e*P **P 05 19 20.3 -0.2**
KWP pmax pmax
comp=Z,96nm,1.1s,mb5.6

KWP Kalwaria 77.74 352 *e*P **P 05 19 20.3 -0.3**
comp=Z,96nm,1.1s,mb5.6

PRU Pruhonice 77.83 358 *e*P **P 05 19 21.2 +0.1**
OKC Ostrava-Krasne 77.84 355 *e*P **P 05 19 20.6 -0.5**
MANZ Manzenberg 77.88 359 *e*P **P 05 19 21.5 +0.2**
comp=Z,20nm,1.4s,mb4.8

MORC Moravsky Berou 77.93 356 ⇑*i*P **P 05 19 21.6 0.0**
MORC Moravsky Berou 77.93 356 *e*P **P 05 19 21.4 -0.2**
comp=Z,27nm,1.0s,mb5.1

ABH Alteburg 77.95 2 *e*P **P 05 19 21.5 -0.2**
STHS Stebnicka Huta 78.07 353 *i*P **P 05 19 22.8 +0.4**
STHS *e* pP 05 19 33.8 -0.2
STHS pmax pmax
comp=Z,29nm,1.1s,mb5.1

STHS Stebnicka Huta 78.07 353 *i*P **P 05 19 22.8 +0.4**
comp=Z,29nm,1.1s,mb5.1

STHS *e* pP 05 19 33.8 -0.2
KOLN Koldanda 78.08 300 *e*P **P 05 19 22.5 +0.1**
comp=Z,100nm,1.2s,mb5.6

ROTZ Rotzenmuhle 78.10 359 *e*P **P 05 19 23.0 +0.5**
comp=Z,39nm,1.5s,mb5.1

RUP Ruppelstein 78.12 2 *e*P **P 05 19 22.4 -0.2**
WLF Walferdange 78.13 3 *e*P **P 05 19 22.9 +0.2**
comp=Z,32nm,1.1s,mb5.2

WLF Walferdange 78.13 3 P **P 05 19 22.9 +0.2**
comp=Z,9.6nm,0.0s

WLF Walferdange 78.13 3 *e*P **P 05 19 22.8 +0.1**
WLF pmax pmax
comp=Z,31nm,1.3s,mb5.1

WLF Walferdange 78.13 3 *e*P **P 05 19 22.8 +0.1**
comp=Z,31nm,1.3s,mb5.1

NIE Niedzica 78.13 354 *e*P **P 05 19 23.1 +0.4**
NST Nakhon Sawan 78.14 280 P **P 05 19 23.0 +0.2**
GRA1 Grafenberg Arr 78.18 360 *e*P **P 05 19 23.4 +0.4**
comp=Z,134nm,1.6s,mb5.6

GRF Grafenberg Arr 78.18 360 *e*P **P 05 19 23.4 +0.4**
comp=Z,134nm,1.6s,mb5.6

GRF Grafenberg Arr 78.18 360 *e*P **P 05 19 23.4 +0.4**
GRF pmax pmax
comp=Z,134nm,1.6s,mb5.6

TOD Tromm 78.25 1 *e*P **P 05 19 22.8 -0.6**
VRAC Vranov 78.44 356 ⇑*i*P **P 05 19 24.8 +0.4**
VRAC Vranov 78.44 356 ⇑P **P 05 19 24.8 +0.3**
KOLS Kolonicke sedl 78.47 352 *e*P **P 05 19 25.1 +0.5**
KOLS pmax pmax
comp=Z,15nm,1.1s,mb4.8

KOLS Kolonicke sedl 78.47 352 *e*P **P 05 19 25.1 +0.5**
comp=Z,15nm,1.1s,mb4.8

TREC Trest 78.50 357 *e*P **P 05 19 24.8 +0.1**
CRVS Cervenica-Dubn 78.56 353 *e*P **P 05 19 25.2 +0.1**
CRVS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5

CRVS Cervenica-Dubn 78.56 353 *e*P **P 05 19 25.2 +0.1**
comp=Z,6.1nm,0.9s,mb4.5

LIKS Likavka 78.58 354 *e*P **P 05 19 24.6 -0.6**
FLN La Foliniere 78.65 8 ⇑*i*P **P 05 19 24.9 -0.7**
comp=Z,33nm,0.8s,mb5.0

FLN La Foliniere 78.65 8 ⇑*i*P **P 05 19 24.9 -0.7**
FLN pmax pmax
comp=Z,17nm,0.8s,mb5.0

FLN La Foliniere 78.65 8 ⇑*i*P **P 05 19 24.9 -0.7**
comp=Z,17nm,0.8s,mb5.0

WET Wettzell 78.71 359 *e*P **P 05 19 26.2 +0.3**
comp=Z,24nm,1.2s,mb5.0

WET Wettzell 78.71 359 *e*P **P 05 19 26.2 +0.3**
WET pmax pmax
comp=Z,24nm,1.2s,mb5.0

KHC Kasperske Hory 78.71 358 *e*P **P 05 19 26.5 +0.6**
ROSF Rostrenen 78.82 10 ⇑*i*P **P 05 19 26.2 -0.3**
comp=Z,22nm,0.9s,mb4.8

ROSF Rostrenen 78.82 10 ⇑*i*P **P 05 19 26.2 -0.3**
ROSF pmax pmax
comp=Z,11nm,0.9s,mb4.8

ROSF Rostrenen 78.82 10 ⇑*i*P **P 05 19 26.2 -0.3**
comp=Z,11nm,0.9s,mb4.8

LDF La Druitiere 78.85 7 ⇑*i*P **P 05 19 26.0 -0.7**
comp=Z,40nm,0.8s,mb5.1

LDF La Druitiere 78.85 7 ⇑*i*P **P 05 19 26.0 -0.7**
LDF pmax pmax
comp=Z,20nm,0.8s,mb5.1

LDF La Druitiere 78.85 7 ⇑*i*P **P 05 19 26.0 -0.7**
comp=Z,20nm,0.8s,mb5.1

LANF Langenberg 78.86 2 *e*P **P 05 19 26.7 0.0**
DDI Dehra Dun 78.87 306 ⇑*i*P **P 05 19 26.5 -0.3**
GOF Gofitskoye 78.94 337 *e*P **P 05 19 26.7 -0.5**
GOF pmax pmax
comp=Z,190nm,1.3s,mb5.9

SGMF Saint Gilles 78.97 9 ⇑*i*P **P 05 19 27.0 -0.3**
comp=Z,26nm,0.8s,mb4.9

SGMF Saint Gilles 78.97 9 ⇑*i*P **P 05 19 27.0 -0.3**
SGMF pmax pmax
comp=Z,13nm,0.8s,mb4.9

SGMF Saint Gilles 78.97 9 ⇑*i*P **P 05 19 27.0 -0.3**
comp=Z,13nm,0.8s,mb4.9

GRR Gorron 78.99 8 ⇑*i*P **P 05 19 27.0 -0.5**
comp=Z,36nm,0.8s,mb5.1

GRR Gorron 78.99 8 ⇑*i*P **P 05 19 27.0 -0.5**
GRR pmax pmax
comp=Z,18nm,0.8s,mb5.0

GRR **Gorron** 78.99 8⇑*iP* P 05 19 27.0 -0.5
comp=Z,18nm,0.8s,mb5.0
GEC2 **GERESS Array S** 79.00 358 *eP* P 05 19 27.6 +0.1
comp=Z,34nm,1.4s,mb5.1
GEC2 **GERESS Array S** 79.00 358 *eP* P 05 19 27.6 +0.1
GEC2 pmax pmax
comp=Z,34nm,1.4s,mb5.1
GERES **GERESS Array B** 79.00 358 P P 05 19 27.7 +0.2
comp=Z,9.1nm,0.7s,mb4.8,baz=5.4,slow=4.3,SNR=67
KECS **Kecovo** 79.05 353 *eP* P 05 19 27.6 -0.2
KECS pmax pmax
comp=Z,15nm,1.0s,mb4.9
KECS **Kecovo** 79.05 353 *eP* P 05 19 27.6 -0.2
comp=Z,15nm,1.0s,mb4.9
STU **Stuttgart** 79.09 1 *eP* P 05 19 28.0 0.0
comp=Z,67nm,1.6s,mb5.3
VYHS **Vyhne** 79.14 355 *iP* P 05 19 28.6 +0.3
VYHS pmax pmax
comp=Z,20nm,1.1s,mb5.0
VYHS **Vyhne** 79.14 355 *iP* P 05 19 28.6 +0.3
comp=Z,20nm,1.1s,mb5.0
SMOL **Smolenice** 79.20 356 *eP* P 05 19 29.5 +0.9
QUIF **Quistinic** 79.25 10 *eP* P 05 19 28.4 -0.4
comp=Z,44nm,1.4s,mb4.9
QUIF **Quistinic** 79.25 10 *eP* P 05 19 28.4 -0.4
QUIF pmax pmax
comp=Z,22nm,1.4s,mb4.9
QUIF **Quistinic** 79.25 10 *eP* P 05 19 28.4 -0.4
comp=Z,22nm,1.4s,mb4.9
CDF **Champ du Feu** 79.41 2⇑*iP* P 05 19 29.7 -0.1
comp=Z,84nm,1.3s,mb5.2
CDF **Champ du Feu** 79.41 2⇑*iP* P 05 19 29.7 -0.1
CDF pmax pmax
comp=Z,42nm,1.3s,mb5.2
CDF **Champ du Feu** 79.41 2⇑*iP* P 05 19 29.7 -0.1
comp=Z,42nm,1.3s,mb5.2
WLS **Welschbruch** 79.42 2 *eP* P 05 19 29.7 -0.1
BURAR **Bucovina Array** 79.50 350⇑*iP* P 05 19 29.7 -0.5
BURAR **Bucovina Array** 79.50 350 ⇑P P 05 19 29.7 -0.5
BFO **Black Forest** 79.52 2 *eP* P 05 19 30.3 0.0
comp=Z,30nm,1.3s,mb5.1
BFO **Black Forest** 79.52 2 P P 05 19 30.2 -0.1
comp=Z,97nm,1.4s,mb5.5,SNR=6.5
BFO **Black Forest** 79.52 2 *eP* P 05 19 30.3 0.0
BFO pmax pmax
comp=Z,30nm,1.3s,mb5.1
ZST **Bratislava** 79.53 356 *eP* P 05 19 30.7 +0.3
ZST pmax pmax
comp=Z,68nm,1.4s,mb5.4
ZST **Bratislava** 79.53 356 *eP* P 05 19 30.7 +0.3
comp=Z,68nm,1.4s,mb5.4
THEF **They Montfort** 79.56 3 *eP* P 05 19 30.4 -0.2
ECH **Echery** 79.61 2 *eP* P 05 19 30.4 -0.4
PSZ **Piszkesteto** 79.65 354⇓*eP* P 05 19 32.1 +1.0
FUR **Furstenfeldbru** 79.70 360 *eP* P 05 19 31.7 +0.4
comp=Z,52nm,1.0s,mb5.4
FUR **Furstenfeldbru** 79.70 360 *eP* P 05 19 31.7 +0.4
FUR pmax pmax
comp=Z,52nm,1.0s,mb5.4
HAU **Haudompre** 79.79 3⇑*iP* P 05 19 32.7 +0.9
comp=Z,40nm,0.8s,mb5.9
HAU **Haudompre** 79.79 3⇑*iP* P 05 19 32.7 +0.9
HAU pmax pmax
comp=Z,20nm,0.8s,mb5.1
HAU **Haudompre** 79.79 3⇑*iP* P 05 19 32.7 +0.9
comp=Z,20nm,0.8s,mb5.1
FELD **Feldberg im Sc** 79.97 2 *eP* P 05 19 32.9 +0.1
MOF **Molkenrain** 79.97 3 *eP* P 05 19 32.7 -0.1
MOA **Molln** 79.98 358 *iP* P 05 19 33.0 +0.2
comp=Z,31nm,1.5s,mb5.0,SNR=8.7
HINF **Hinteralfeld** 80.00 3⇑*iP* P 05 19 32.7 -0.2
comp=Z,38nm,0.8s,mb5.0
HINF **Hinteralfeld** 80.00 3⇑*iP* P 05 19 32.7 -0.2
HINF pmax pmax
comp=Z,19nm,0.8s,mb5.1
HINF **Hinteralfeld** 80.00 3⇑*iP* P 05 19 32.7 -0.2
comp=Z,19nm,0.8s,mb5.1
KIV **Kislovodsk** 80.07 337 *eP* P 05 19 33.7 +0.4
KIV pmax pmax
comp=Z,39nm,1.0s,mb5.3
KIV **Kislovodsk** 80.07 337 *eP* P 05 19 33.3 0.0
comp=Z,24nm,0.8s,mb5.2
SOP **Sopron** 80.07 356 *eP* P 05 19 33.9 +0.6
BUD **Budapest** 80.14 354⇓*eP* P 05 19 33.5 -0.2
HYF **Humbligny** 80.36 6 *eP* P 05 19 35.1 +0.2
BBS **Basel-Blauen** 80.37 2 *eP* P 05 19 34.9 0.0
ANN **Anapa** 80.40 341 *eP* P 05 19 37.1 +2.0
ANN *e* 05 19 43.0
ANN *e* 05 22 42.3
ANN *eS* S 05 29 45.1 +6.7
ANN pmax pmax
comp=Z,49nm,1.0s,mb5.4
LOR **Lormes** 80.43 5⇑*iP* P 05 19 35.1 -0.1
comp=Z,82nm,1.2s,mb5.2
LOR **Lormes** 80.43 5⇑*iP* P 05 19 35.1 -0.1
LOR pmax pmax
comp=Z,41nm,1.2s,mb5.2
LOR **Lormes** 80.43 5⇑*iP* P 05 19 35.1 -0.1
comp=Z,41nm,1.2s,mb5.2
LOMF **Lomont** 80.46 3 *eP* P 05 19 35.6 +0.2
MOTA **Moosalm** 80.53 360⇓*iP* P 05 19 36.3 +0.5
comp=Z,51nm,1.3s,mb5.3
MOTA **Moosalm** 80.53 360⇓*iP* P 05 19 36.3 +0.5
MOTA pmax pmax
comp=Z,51nm,1.3s,mb5.3
WATA **Walderalm** 80.53 359⇑*iP* P 05 19 36.3 +0.5
comp=Z,49nm,1.3s,mb5.3
WATA **Walderalm** 80.53 359⇑*iP* P 05 19 36.3 +0.5
WATA pmax pmax
comp=Z,49nm,1.3s,mb5.3
ARSA **Arzberg** 80.54 357⇑*iP* P 05 19 36.6 +0.7
comp=Z,45nm,1.3s,mb5.2,SNR=13
DRGR 80.56 352⇓*iP* P 05 19 35.5 -0.4
DRGR 80.56 352⇓P P 05 19 35.5 -0.4
DAVA **Damuels** 80.58 1⇑*iP* P 05 19 36.5 +0.4
comp=Z,26nm,1.6s,mb4.9
WTTA **Wattenberg** 80.61 359⇑*iP* P 05 19 37.0 +0.8
comp=Z,95nm,1.6s,mb5.5
WTTA **Wattenberg** 80.61 359⇑*iP* P 05 19 37.0 +0.8
WTTA pmax pmax
comp=Z,95nm,1.6s,mb5.5
SSF **Saint Saulge** 80.61 5⇑*iP* P 05 19 36.2 0.0
comp=Z,108nm,1.2s,mb5.3
SSF **Saint Saulge** 80.61 5⇑*iP* P 05 19 36.2 0.0
SSF pmax pmax
comp=Z,54nm,1.2s,mb5.3
SSF **Saint Saulge** 80.61 5⇑*iP* P 05 19 36.2 0.0
comp=Z,54nm,1.2s,mb5.3
NDI **New Delhi** 80.63 305 *eP* P 05 19 44.0 +7.7
SQTA **Sankt Quirin** 80.65 360⇓*iP* P 05 19 37.3 +0.8
comp=Z,32nm,1.0s,mb5.2
SQTA **Sankt Quirin** 80.65 360⇓*iP* P 05 19 37.3 +0.9
SQTA pmax pmax
comp=Z,32nm,1.0s,mb5.2
KBA **Koelnbreinsper** 80.77 358 *iP* P 05 19 38.3 +1.2
comp=Z,95nm,1.2s,mb5.6,SNR=14
KBA **Koelnbreinsper** 80.77 358 *iP* P 05 19 38.3 +1.2
KBA pmax pmax
comp=Z,95nm,1.2s,mb5.6
MFF **Saint Martin d** 80.82 8⇑*iP* P 05 19 37.4 0.0
comp=Z,143nm,1.2s,mb5.5
MFF **Saint Martin d** 80.82 8⇑*iP* P 05 19 37.4 0.0
MFF pmax pmax
comp=Z,72nm,1.2s,mb5.5
MFF **Saint Martin d** 80.82 8⇑*iP* P 05 19 37.4 0.0
comp=Z,72nm,1.2s,mb5.5
AVF **Avril sur Loir** 80.88 5⇑*iP* P 05 19 37.4 -0.2
comp=Z,96nm,1.1s,mb5.3
AVF **Avril sur Loir** 80.88 5⇑*iP* P 05 19 37.4 -0.2
AVF pmax pmax
comp=Z,48nm,1.1s,mb5.3
AVF **Avril sur Loir** 80.88 5⇑*iP* P 05 19 37.4 -0.2
comp=Z,48nm,1.1s,mb5.3
SIM **Simferopol'** 80.88 343 *eP* P 05 19 38.3 +0.7
SIM pmax pmax
comp=Z,16nm,0.9s,mb5.0
ZEI **Tsey** 80.89 336 *eP* P 05 19 38.4 +0.7
ZEI pmax pmax
comp=Z,15nm,0.8s,mb5.0
ABKT **Ailbek** 80.98 324 P P 05 19 38.7 +0.5
comp=Z,192nm,1.0s,mb6.0,SNR=13
SMF **Signal de Mont** 81.05 5⇑*iP* P 05 19 38.4 -0.2
comp=Z,107nm,1.0s,mb5.4
SMF **Signal de Mont** 81.05 5⇑*iP* P 05 19 38.4 -0.2
SMF pmax pmax
comp=Z,54nm,1.0s,mb5.4

SMF **Signal de Mont** 81.05 5⇑*iP* P 05 19 38.4 -0.2
comp=Z,54nm,1.0s,mb5.4
BGF **Bois d'Agland** 81.08 6⇑*iP* P 05 19 38.6 -0.1
comp=Z,40nm,0.8s,mb5.1
BGF **Bois d'Agland** 81.08 6⇑*iP* P 05 19 38.6 -0.1
BGF pmax pmax
comp=Z,20nm,0.8s,mb5.1
BGF **Bois d'Agland** 81.08 6⇑*iP* P 05 19 38.6 -0.1
comp=Z,20nm,0.8s,mb5.1
SOC **Sochi** 81.09 339 *eP* P 05 19 38.4 -0.4
SOC pmax pmax
comp=Z,34nm,0.9s,mb5.3
SOC MLR MLR
comp=Z,577nm,20.0s,MS4.9
SEST **Monte Rota** 81.12 359 P P 05 19 39.9 +1.0
PERS **Pernice** 81.17 357 *eP* P 05 19 39.7 +0.5
BRES **Bressanone** 81.17 359 P P 05 19 39.9 +0.7
comp=Z,58nm,1.2s,mb5.4
CABF **La Chapelle** 81.18 3⇑*iP* P 05 19 39.8 +0.5
comp=Z,141nm,1.1s,mb5.5
CABF **La Chapelle** 81.18 3⇑*iP* P 05 19 39.8 +0.5
CABF pmax pmax
comp=Z,70nm,1.1s,mb5.5
CABF **La Chapelle** 81.18 3⇑*iP* P 05 19 39.8 +0.5
comp=Z,70nm,1.1s,mb5.5
TCF **Toulx Ste Croi** 81.31 6⇑*iP* P 05 19 39.7 -0.2
comp=Z,41nm,0.9s,mb5.0
TCF **Toulx Ste Croi** 81.31 6⇑*iP* P 05 19 39.7 -0.2
TCF pmax pmax
comp=Z,20nm,0.9s,mb5.0
TCF **Toulx Ste Croi** 81.31 6⇑*iP* P 05 19 39.7 -0.2
comp=Z,20nm,0.9s,mb5.1
OBKA **Obir** 81.31 357⇑*iP* P 05 19 40.5 +0.5
comp=Z,44nm,1.1s,mb5.3
BRMO **Bormio** 81.40 0 P P 05 19 41.8 +1.4
comp=Z,79nm,1.7s,mb5.4
PKSM **Moragy** 81.43 355 *eP* P 05 19 40.3 -0.3
PTCC **Patocco-Chiusa** 81.44 358 P P 05 19 40.3 -0.4
comp=Z,44nm,1.4s,mb4.8
MLR **Muntele Rosu** 81.52 349⇑*iP* P 05 19 41.7 +0.6
MLR **Muntele Rosu** 81.52 349 ⇑P P 05 19 41.7 +0.6
CFR **Carcaliu** 81.56 348⇑*iP* P 05 19 40.6 -0.7
AGO **Saint Agoulin** 81.60 5 *eP* P 05 19 42.0 +0.5
ROBS **Robic** 81.60 358 *iP* P 05 19 41.0 -0.5
PLDF **La Plantade** 81.71 5 *eP* P 05 19 42.7 +0.6
BZS **Buzias** 81.82 352⇓*iP* P 05 19 41.9 -0.7
BZS **Buzias** 81.82 352 ⇓P P 05 19 41.9 -0.8
CTI **Castel Tesino** 81.82 359 P P 05 19 43.0 +0.3
CTI pmax pmax
comp=Z,68nm,1.4s,mb5.4
CTI **Castel Tesino** 81.82 359 P P 05 19 43.0 +0.3
comp=Z,68nm,1.4s,mb5.4
MCGN **Macugnaga** 81.89 2 P P 05 19 44.4 +1.4
comp=Z,30nm,0.8s,mb5.3
PYM **Petit Puy Mans** 81.89 6 *eP* P 05 19 43.5 +0.5
KAKA **Kakadu** 81.97 237 *eP* P 05 19 42.2 -1.2
comp=Z,8.6nm,0.8s,mb4.7
VAI **Varese** 81.99 1 P P 05 19 44.0 +0.5
VAI pmax pmax
comp=Z,28nm,0.5s,mb5.5
VAI **Varese** 81.99 1 P P 05 19 44.0 +0.5
comp=Z,28nm,0.5s,mb5.4
CTA **Charters Tower** 82.00 222 *eP* P 05 19 42.9 -0.7
comp=Z,8.2nm,1.4s,mb4.5
CTA **Charters Tower** 82.00 222 *eP* P 05 19 42.9 -0.7
CTA pmax pmax
comp=Z,8.0nm,1.4s
COLF **Collangettes** 82.16 5 *eP* P 05 19 45.0 +0.6
ORO **Oropa** 82.22 2 P P 05 19 45.7 +1.0
ORO pmax pmax
comp=Z,41nm,1.0s,mb5.3
ORO **Oropa** 82.22 2 P P 05 19 45.7 +1.0
comp=Z,41nm,1.0s,mb5.3
TIRR **Tirgusor** 82.23 347⇑*iP* P 05 19 44.5 -0.3
TIRR **Tirgusor** 82.23 347 *eP* P 05 19 44.3 -0.5
RJF **Les Rejaudoux** 82.24 7⇑*iP* P 05 19 44.5 -0.4
comp=Z,69nm,1.2s,mb5.2
RJF **Les Rejaudoux** 82.24 7⇑*iP* P 05 19 44.5 -0.4
RJF pmax pmax
comp=Z,35nm,1.2s,mb5.2
RJF **Les Rejaudoux** 82.24 7⇑*iP* P 05 19 44.5 -0.4
comp=Z,35nm,1.2s,mb5.2
SAL **Salo** 82.27 0 P P 05 19 45.4 +0.4
SAL pmax pmax
comp=Z,69nm,0.7s,mb5.7
SAL **Salo** 82.27 0 P P 05 19 45.4 +0.4
comp=Z,69nm,0.7s,mb5.7
LPL **La Plagne** 82.29 3⇑*iP* P 05 19 46.4 +1.3
comp=Z,27nm,1.1s,mb4.8
LPL **La Plagne** 82.29 3⇑*iP* P 05 19 46.4 +1.3
LPL pmax pmax
comp=Z,13nm,1.1s,mb4.8
LPL **La Plagne** 82.29 3⇑*iP* P 05 19 46.4 +1.3
comp=Z,13nm,1.1s,mb4.8
BOJS **Bojanci** 82.29 357 *eP* P 05 19 45.2 0.0
LPG **La Plagne** 82.31 3⇑*iP* P 05 19 46.6 +1.4
comp=Z,65nm,1.2s,mb5.1
LPG **La Plagne** 82.31 3⇑*iP* P 05 19 46.6 +1.4
LPG pmax pmax
comp=Z,32nm,1.2s,mb5.1
LPG **La Plagne** 82.31 3⇑*iP* P 05 19 46.6 +1.4
comp=Z,32nm,1.2s,mb5.1
LBL **Lubilhac** 82.42 5 *eP* P 05 19 46.3 +0.5
LFF **La Frestale** 82.55 7⇑*iP* P 05 19 46.6 +0.2
comp=Z,66nm,0.8s,mb5.4
LFF **La Frestale** 82.55 7⇑*iP* P 05 19 46.6 +0.2
LFF pmax pmax
comp=Z,33nm,0.8s,mb5.4
LFF **La Frestale** 82.55 7⇑*iP* P 05 19 46.6 +0.2
comp=Z,33nm,0.8s,mb5.4
CAF **Calviac** 82.66 6⇑*iP* P 05 19 47.2 +0.2
comp=Z,79nm,1.1s,mb5.4
CAF **Calviac** 82.66 6⇑*iP* P 05 19 47.2 +0.2
CAF pmax pmax
comp=Z,40nm,1.1s,mb5.4
CAF **Calviac** 82.66 6⇑*iP* P 05 19 47.2 +0.2
comp=Z,40nm,1.1s,mb5.4
BNI **Bardonecchia** 82.75 3 *eP* P 05 19 48.8 +1.3
BNI pmax pmax
comp=Z,55nm,1.0s,mb5.5
BNI **Bardonecchia** 82.75 3 *eP* P 05 19 48.8 +1.3
comp=Z,55nm,1.0s,mb5.5
ORIF **Oris-en-Rattie** 82.86 4⇑*iP* P 05 19 48.9 +0.8
comp=Z,35nm,0.8s,mb5.2
ORIF **Oris-en-Rattie** 82.86 4⇑*iP* P 05 19 48.9 +0.8
ORIF pmax pmax
comp=Z,18nm,0.8s,mb5.2
ORIF **Oris-en-Rattie** 82.86 4⇑*iP* P 05 19 48.9 +0.8
comp=Z,18nm,0.8s,mb5.1
VIVF **Saint-Julien-l** 82.87 4⇑*iP* P 05 19 48.6 +0.5
comp=Z,42nm,0.8s,mb5.2
VIVF **Saint-Julien-l** 82.87 4⇑*iP* P 05 19 48.6 +0.5
VIVF pmax pmax
comp=Z,21nm,0.8s,mb5.2
VIVF **Saint-Julien-l** 82.87 4⇑*iP* P 05 19 48.6 +0.5
comp=Z,21nm,0.8s,mb5.2
KSM **Kuching** 83.05 263 *eP* P 05 19 48.9 -0.1
MBDF **Montbardon** 83.08 3⇑*iP* P 05 19 50.6 +1.4
comp=Z,58nm,0.7s,mb5.4
MBDF **Montbardon** 83.08 3⇑*iP* P 05 19 50.6 +1.4
MBDF pmax pmax
comp=Z,29nm,0.7s,mb5.4
MBDF **Montbardon** 83.08 3⇑*iP* P 05 19 50.6 +1.4
comp=Z,29nm,0.7s,mb5.4
GNI **Garni** 83.14 334 *eP* P 05 19 50.7 +1.2
GNI pmax pmax
comp=Z,20nm,0.9s
GNI **Garni** 83.14 334 *eP* P 05 19 50.6 +1.1
comp=Z,20nm,0.9s,mb5.1
EPON **Pontenova** 83.29 13 P P 05 19 49.4 -0.9
comp=Z,87nm,1.3s,mb5.6
EMAZ **Mazaricos** 83.40 14 P P 05 19 49.7 -1.1
comp=Z,13nm,0.9s,mb5.0
GSCL **Gusciola** 83.52 0 P P 05 19 52.2 +0.7
comp=Z,63nm,1.2s,mb5.6
STS **Santiago** 83.52 14 P P 05 19 52.2 +0.7
STS pmax pmax
comp=Z,45nm,1.2s,mb5.5
STS **Santiago** 83.52 14 P P 05 19 52.2 +0.7
comp=Z,44nm,1.2s,mb5.5
ZCCA **Zocca** 83.52 360 P P 05 19 53.8 +2.3
comp=Z,133nm,1.6s,mb5.8
EARI **Arriondas** 83.57 12 P P 05 19 52.4 +0.7
comp=Z,48nm,1.1s,mb5.5
LASF **Ste Croix** 83.61 5⇑*iP* P 05 19 52.7 +0.8
comp=Z,60nm,1.3s,mb5.3

SMRF **Simiane la Rot** 83.79 4⇑*iP* P 05 19 54.1 +1.2
comp=Z,119nm,1.2s,mb5.6
SMRF **Simiane la Rot** 83.79 4⇑*iP* P 05 19 54.1 +1.2
comp=Z,119nm,1.2s,mb5.9
SEI **Scarperia** 83.82 360 P P 05 19 54.8 +1.8
comp=Z,862nm,1.6s
AUTN **L'Aution** 83.83 2 *eP* P 05 19 54.6 +1.5
ELAN **Lanestosa** 83.85 10 P P 05 19 52.4 -0.7
comp=Z,81nm,0.9s,mb5.9
VMG **Vicchio** 83.91 359 P P 05 19 55.2 +1.7
comp=Z,70nm,0.7s,mb5.9
VILF **Villemus** 83.92 4 *eP* P 05 19 54.8 +1.3
MVIF **Mont Vial** 83.92 3 *eP* P 05 19 53.5 -0.1
GRSN **GIRESUNGRSN** 83.95 339 *iP* P 05 19 53.9 +0.2
SFI **Santa Sofia** 83.96 359 P P 05 19 55.1 +1.3
SFI pmax pmax
comp=Z,43nm,0.9s,mb5.6
SFI **Santa Sofia** 83.96 359 P P 05 19 55.1 +1.3
comp=Z,43nm,0.9s,mb5.6
SBF **Sospel** 83.97 2⇑*iP* P 05 19 54.0 +0.2
comp=Z,198nm,1.1s,mb5.8
SBF **Sospel** 83.97 2⇑*iP* P 05 19 54.0 +0.2
SBF pmax pmax
comp=Z,99nm,1.1s,mb5.8
SBF **Sospel** 83.97 2⇑*iP* P 05 19 54.0 +0.2
comp=Z,99nm,1.1s,mb5.8
EALK **Alkurruntz** 84.06 9 P P 05 19 53.9 -0.3
comp=Z,23nm,0.9s,mb5.3
ELIZ **Elizondo** 84.11 9 P P 05 19 54.7 +0.2
ELIZ pmax pmax
comp=Z,13nm,0.8s,mb5.1
ELIZ **Elizondo** 84.11 9 P P 05 19 54.7 +0.2
comp=Z,13nm,0.8s,mb5.1
BOYT **Boyabat** 84.15 342 *iP* P 05 19 56.2 +1.5
PII **Pisa** 84.15 0 P P 05 19 54.1 -0.6
PII pmax pmax
comp=Z,34nm,0.8s,mb5.5
PII **Pisa** 84.15 0 P P 05 19 54.1 -0.6
comp=Z,34nm,0.8s,mb5.5
TAVF **Tavernes** 84.17 3 *eP* P 05 19 55.9 +1.1
SJPF **Ste Jean** 84.19 9⇑*iP* P 05 19 56.1 +1.2
comp=Z,28nm,0.8s,mb5.1
SJPF **Ste Jean** 84.19 9⇑*iP* P 05 19 56.1 +1.2
SJPF pmax pmax
comp=Z,14nm,0.8s,mb5.1
SJPF **Ste Jean** 84.19 9⇑*iP* P 05 19 56.1 +1.2
comp=Z,14nm,0.8s,mb5.1
ERUA **La Rua** 84.21 13 P P 05 19 55.5 +0.5
ERUA pmax pmax
comp=Z,19nm,0.8s,mb5.3
ERUA **La Rua** 84.21 13 P P 05 19 55.5 +0.5
comp=Z,19nm,0.8s,mb5.3
ERZM **Erzurum** 84.22 337 *iP* P 05 19 56.6 +1.5
EZAM **Zamans** 84.22 14 P P 05 19 55.8 +0.7
EZAM pmax pmax
comp=Z,14nm,0.8s,mb5.1
EZAM **Zamans** 84.22 14 P P 05 19 55.8 +0.8
comp=Z,14nm,0.8s,mb5.1
PUYF **Puyloubier** 84.24 4 *eP* P 05 19 56.1 +1.0
MTLF **Montolieu** 84.24 6⇑*iP* P 05 19 55.7 +0.5
comp=Z,129nm,1.2s,mb5.6
MTLF **Montolieu** 84.24 6⇑*iP* P 05 19 55.7 +0.5
MTLF pmax pmax
comp=Z,65nm,1.2s,mb5.6
MTLF **Montolieu** 84.24 6⇑*iP* P 05 19 55.7 +0.5
comp=Z,65nm,1.2s,mb5.6
FRF **La Foret Royal** 84.24 3⇑*iP* P 05 19 55.6 +0.4
comp=Z,91nm,1.0s,mb5.6
FRF **La Foret Royal** 84.24 3⇑*iP* P 05 19 55.6 +0.4
FRF pmax pmax
comp=Z,46nm,1.0s,mb5.6
FRF **La Foret Royal** 84.24 3⇑*iP* P 05 19 55.6 +0.4
comp=Z,46nm,1.0s,mb5.6
BALT **Daday** 84.32 343 *iP* P 05 19 56.8 +1.3
BERF **Bertagne** 84.46 4 *eP* P 05 19 57.4 +1.1
ETSF **Etsaut** 84.47 8⇑*iP* P 05 19 57.1 +0.8
comp=Z,83nm,0.8s,mb5.6
ETSF **Etsaut** 84.47 8⇑*iP* P 05 19 57.1 +0.8
ETSF pmax pmax
comp=Z,41nm,0.8s,mb5.6
ETSF **Etsaut** 84.47 8⇑*iP* P 05 19 57.1 +0.8
comp=Z,41nm,0.8s,mb5.6
LMR **La Mourre** 84.47 3⇑*iP* P 05 19 56.8 +0.5
comp=Z,134nm,1.3s,mb5.6
LMR **La Mourre** 84.47 3⇑*iP* P 05 19 56.8 +0.5
LMR pmax pmax
comp=Z,67nm,1.3s,mb5.6
LMR **La Mourre** 84.47 3⇑*iP* P 05 19 56.8 +0.5
comp=Z,67nm,1.3s,mb5.6
VIEF **Viey** 84.53 8 *eP* P 05 19 57.7 +1.1
ELOB **Lobios** 84.59 14 P P 05 19 57.0 0.0
comp=Z,10nm,0.9s,mb5.0
SNTG **Esanatoglia** 84.60 358 P P 05 19 57.6 +0.6
comp=Z,48nm,1.0s,mb5.6
ECAL **Calabor** 84.71 13 P P 05 19 58.0 +0.5
comp=Z,14nm,0.9s,mb5.1
EBIE **Bielsa** 84.74 8 P P 05 19 58.3 +0.6
comp=Z,38nm,0.7s,mb5.6
SALF **Salau** 84.75 7 *eP* P 05 19 57.1 -0.6
PCAB **Cabril** 84.75 14 *eP* P 05 19 57.7 0.0
comp=Z,35nm,1.6s,mb5.2
PBRG **Braganca** 84.84 13 *eP* P 05 19 57.8 -0.4
comp=Z,31nm,1.6s,mb5.2
CTKT **Corum** 84.94 342 *iP* P 05 20 00.0 +1.3
NRCA **Norcia** 85.02 358 P P 05 19 59.8 +0.7
comp=Z,32nm,0.9s,mb5.5
VALF **Valcebollere** 85.16 7 *eP* P 05 20 00.6 +0.8
EJON **La Jonquera** 85.17 6 P P 05 20 00.5 +0.6
comp=Z,23nm,1.0s,mb5.3
PVRL **Vila Real** 85.22 14 *eP* P 05 20 00.5 +0.4
comp=Z,68nm,1.6s,mb5.5
EGRA **Graus** 85.24 8 P P 05 20 01.4 +1.2
comp=Z,34nm,0.9s,mb5.5
PGF **Pioggiola** 85.31 1⇑*iP* P 05 20 01.0 +0.5
comp=Z,448nm,1.3s,mb6.1
PGF **Pioggiola** 85.31 1⇑*iP* P 05 20 01.0 +0.5
PGF pmax pmax
comp=Z,224nm,1.3s,mb6.1
PGF **Pioggiola** 85.31 1⇑*iP* P 05 20 01.0 +0.5
comp=Z,224nm,1.3s,mb6.1
ELDT **Eldivan** 85.32 343 *iP* P 05 20 01.7 +1.1
HENT **Hendek** 85.43 345 *iP* P 05 20 01.6 +0.4
SKO **Skopje** 85.45 352 *iP* P 05 20 00.1 -1.1
SGKT **Sivrigoynuk** 85.48 344 *iP* P 05 20 02.5 +1.2
AQU **L'Aquila** 85.49 358 *eP* P 05 20 01.6 +0.2
AQU pmax pmax
comp=Z,66nm,1.0s,mb5.7
AQU **L'Aquila** 85.49 358 *eP* P 05 20 01.6 +0.2
comp=Z,66nm,1.0s,mb5.7
EMIR **Miracle** 85.61 7 P P 05 20 02.8 +0.8
comp=Z,76nm,1.3s,mb5.8
ESAC **San Caprasio** 85.64 8 P P 05 20 03.0 +0.8
comp=Z,72nm,0.8s,mb6.0
PVIS **Viseu** 85.75 14 *eP* P 05 20 02.8 +0.1
comp=Z,34nm,1.4s,mb5.4
KULM **Kulim** 85.94 273 *eP* P 05 20 04.1 +0.4
VAY **Valandovo** 86.00 351 *iP* P 05 20 01.1 -2.8
ANTO **Ankara** 86.04 343⇓*iP* P 05 20 05.3 +1.1
ANTO **Ankara** 86.04 343 *eP* P 05 20 05.5 +1.3
comp=Z,74nm,1.4s,mb5.7
MTE **Manteigas** 86.11 14 *eP* P 05 20 04.2 -0.3
SDI **San Donato** 86.13 358 P P 05 20 04.5 -0.1
SDI pmax pmax
comp=Z,29nm,0.6s,mb5.7
SDI **San Donato** 86.13 358 P P 05 20 04.5 -0.1
comp=Z,28nm,0.6s,mb5.7
EPOB **Poblet** 86.14 7 P P 05 20 04.4 -0.3
comp=Z,29nm,0.7s,mb5.6
GUD **Guadarrama** 86.32 11 P P 05 20 05.8 +0.2
GUD pmax pmax
comp=Z,17nm,1.0s,mb5.2
GUD **Guadarrama** 86.32 11 P P 05 20 05.8 +0.3
comp=Z,17nm,1.0s,mb5.2
OHR **Ohrid** 86.36 352 *iP* P 05 20 03.4 -2.3
ULDT **Uludag** 86.36 346 *iP* P 05 20 07.0 +1.2
MALT **Malatya** 86.41 339⇓*iP* P 05 20 07.3 +1.3
MALT **Malatya** 86.41 339 *eP* P 05 20 06.9 +0.8
comp=Z,15nm,0.8s,mb5.3
BORA **Eskisehir** 86.42 345 *iP* P 05 20 06.2 +0.2
ERTA **Horta de San J** 86.47 8 P P 05 20 06.2 0.0
comp=Z,5.5nm,0.9s,mb4.8
PCBR **Castelo Branco** 86.67 14 *eP* P 05 20 06.7 -0.5
comp=Z,20nm,1.6s,mb5.1
PTOM **Tomar** 86.74 15 *eP* P 05 20 07.4 -0.2
comp=Z,40nm,1.2s,mb5.5
EMOS **Mosqueruela** 86.99 9 P P 05 20 08.8 0.0

comp=Z,12nm,0.8s,mb5.2
WRAB Tennant Creek 87.17 232 P **P** 05 20 08.2 -1.5
WRAB pmax pmax
comp=Z,25nm,1.2s,mb5.3
WRAB Tennant Creek 87.17 232 P **P** 05 20 08.2 -1.5
comp=Z,25nm,1.2s,mb5.3
WB2 Warramunga Arr 87.17 232 *e*P **P** 05 20 07.2 -2.5
WRA Warramunga Arr 87.18 232 P **P** 05 20 08.2 -1.5
comp=Z,4.4nm,0.8s,mb4.7,baz=37,slow=5.7,SNR=20
ESDC Sonseca Array 87.30 11 P **P** 05 20 10.2 -0.1
comp=Z,12nm,0.6s,mb5.3,baz=347,slow=4.6,SNR=61
ESLA Sonseca Array 87.30 11 *e*P **P** 05 20 09.9 -0.4
comp=Z,12nm,1.1s,mb5.0
ECHE Chera 87.71 9 P **P** 05 20 13.0 +0.7
ECHE pmax pmax
comp=Z,16nm,0.8s,mb5.3
ECHE Chera 87.71 9 P **P** 05 20 13.0 +0.7
comp=Z,16nm,0.8s,mb5.3
ETOS Mallorca 87.84 6 P **P** 05 20 13.1 +0.2
comp=Z,14nm,0.8s,mb5.2
SDV Santo Domingo 88.19 78 *e*P **P** 05 20 13.4 -1.1
comp=Z,9.3nm,1.0s,mb5.0
PBEJ Beja 88.38 15 *e*P **P** 05 20 15.7 +0.2
comp=Z,25nm,1.3s,mb5.3
EIBI Ibiza 88.47 7 P **P** 05 20 16.3 +0.4
comp=Z,10nm,0.7s,mb5.2
EVIA Vianos 88.49 10 P **P** 05 20 16.7 +0.7
EVIA pmax pmax
comp=Z,30nm,0.8s,mb5.6
EVIA Vianos 88.49 10 P **P** 05 20 16.7 +0.7
comp=Z,30nm,0.8s,mb5.6
TIP Timpagrande 88.54 355 *e*P **P** 05 20 16.9 +0.7
ETOB Tobarra 88.59 10 P **P** 05 20 17.3 +0.8
comp=Z,14nm,1.0s,mb5.3
COBT Iskenderun 88.61 340 *i* P **P** 05 20 17.8 +1.2
EBEN Beniarda 88.66 9 P **P** 05 20 17.9 +1.1
comp=Z,13nm,0.9s,mb5.3
EADA Adamuz 88.71 12 P **P** 05 20 17.3 +0.3
comp=Z,24nm,0.9s,mb5.5
PTEO Sao Teotonio 88.72 15 *e*P **P** 05 20 16.9 -0.2
comp=Z,36nm,0.9s,mb5.7
EBAN Banos Encina 88.81 11 P **P** 05 20 17.8 +0.3
EBAN pmax pmax
comp=Z,17nm,1.1s,mb5.3
EBAN Banos Encina 88.81 11 P **P** 05 20 17.8 +0.3
comp=Z,17nm,1.1s,mb5.3
EMIN Mina Concepcio 88.82 14 P **P** 05 20 17.1 -0.4
comp=Z,16nm,0.8s,mb5.4
EGRO El Granado 88.92 14 P **P** 05 20 17.8 -0.2
comp=Z,15nm,1.0s,mb5.3
PSI Prapat 88.95 273 P **P** 05 20 19.1 +0.9
comp=Z,38nm,0.9s,mb5.7,baz=3.9,slow=2.7,SNR=32
HYB Hyderabad 89.18 298 *i* P **P** 05 20 19.0 -0.2
comp=Z,86nm,1.2s,mb6.0
HYB *e*pP pP 05 20 30.5 -0.5
HYB *e*sP sP 05 20 37.5 +2.2
HYB Hyderabad 89.18 298 *e*P **P** 05 20 19.5 +0.3
HYB pmax pmax
comp=Z,86nm,1.2s,mb6.0
HYB Hyderabad 89.18 298 *e*P **P** 05 20 19.5 +0.3
comp=Z,86nm,1.2s,mb6.0
EQES Quesada 89.25 11 P **P** 05 20 20.6 +1.0
comp=Z,18nm,1.1s,mb5.3
EHUE Huescar 89.30 11 P **P** 05 20 20.4 +0.6
EHUE pmax pmax
comp=Z,19nm,1.0s,mb5.4
EHUE Huescar 89.30 11 P **P** 05 20 20.4 +0.6
comp=Z,19nm,1.0s,mb5.4
ELUQ Luque 89.35 12 P **P** 05 20 20.6 +0.6
ELUQ pmax pmax
comp=Z,3.0nm,0.2s,mb5.3
ELUQ Luque 89.35 12 P **P** 05 20 20.6 +0.6
comp=Z,3.1nm,0.2s,mb5.3
EMUR La Murta 89.41 10 P **P** 05 20 20.4 +0.1
comp=Z,14nm,1.0s,mb5.2
ECOG Cogollos-Vega 89.71 11 P **P** 05 20 22.2 +0.5
ECOG pmax pmax
comp=Z,40nm,1.2s,mb5.6
ECOG Cogollos-Vega 89.71 11 P **P** 05 20 22.2 +0.5
comp=Z,40nm,1.2s,mb5.6
ELOJ Sierra Loja 89.77 12 P **P** 05 20 22.5 +0.5
ELOJ pmax pmax
comp=Z,40nm,1.1s,mb5.7
ELOJ Sierra Loja 89.77 12 P **P** 05 20 22.4 +0.5
comp=Z,40nm,1.1s,mb5.7
ESPR Espera 89.81 13 P **P** 05 20 22.4 +0.2
comp=Z,24nm,1.0s,mb5.5
ERON Agron 89.94 12 P **P** 05 20 23.4 +0.6
comp=Z,2.9nm,0.4s,mb5.0
FITZ Fitzroy Crossi 90.02 240 *e*P **P** 05 20 22.0 -1.2
comp=Z,9.9nm,1.6s,mb4.9
FITZ Fitzroy Crossi 90.02 240 P **P** 05 20 22.5 -0.7
comp=Z,2.6nm,0.5s,mb4.8,baz=2.1,slow=10,SNR=11
EGUA Guajares 90.15 11 P **P** 05 20 24.8 +1.0
EGUA pmax pmax
comp=Z,6.0nm,1.4s,mb4.7
EGUA Guajares 90.15 11 P **P** 05 20 24.8 +1.0
comp=Z,5.6nm,1.4s,mb5.2
ENIJ Nijar 90.17 10 P **P** 05 20 25.5 +1.6
ENIJ pmax pmax
comp=Z,5.0nm,0.4s,mb5.2
ENIJ Nijar 90.17 10 P **P** 05 20 25.5 +1.6
comp=Z,5.0nm,0.4s,mb5.2
EMIJ Mijas 90.26 12 P **P** 05 20 25.9 +1.6
comp=Z,21nm,0.9s,mb5.5
ASAR Alice Springs 90.57 230 P **P** 05 20 24.9 -0.8
comp=Z,5.6nm,0.8s,mb4.9,baz=36,slow=4.3,SNR=40
MIB Mutribah 92.04 329 *e*P **P** 05 20 31.9 -0.6
MIB AMb AMB 05 20 33.5
comp=Z,99nm,0.8s,mb6.2
KBD Kabd 92.51 328 *e*P **P** 05 20 31.2 -3.5
KBD AMb AMB 05 20 35.3
comp=Z,88nm,1.0s,mb6.1
NAY Al-Naaiem 92.58 329 *e*P **P** 05 20 33.7 -1.4
NAY AMb AMB 05 20 36.0
comp=Z,20nm,1.1s,mb5.4
ASF Jabal al Asfar 92.65 338 P **P** 05 20 36.2 +0.9
comp=Z,8.5nm,0.8s,mb5.2,baz=229,slow=2.9,SNR=9.8
RDF Al-Radifah 92.79 328 *e*P **P** 05 20 33.8 -2.2
ASHO Ashiyiah 93.60 320 P **P** 05 20 38.8 -1.0
SNR=5.9
SMDO Samad 94.25 317 P **P** 05 20 42.8 +0.1
SNR=5.9
STKA Stephens Creek 94.38 220 *e*P **P** 05 20 40.8 -2.5
comp=Z,3.1nm,1.1s,mb4.7
STKA Stephens Creek 94.38 220 P **P** 05 20 41.3 -2.0
comp=Z,1.5nm,0.8s,mb4.5,baz=40,slow=4.0,SNR=3.2
ARQ Araqi 94.62 319 P **P** 05 20 43.0 -1.5
SNR=12
JMDO Jabal Madar 94.84 317 P **P** 05 20 45.2 -0.2
SNR=5.1
BSY Bisya 94.88 318 P **P** 05 20 45.4 -0.2
SNR=5.8
TORD Torodi Ar. Bea 114.14 10 PKP PKiKP 05 26 02.1 -0.7
comp=Z,0.6nm,0.7s,baz=337,slow=3.0,SNR=4.7
TORD PP PP 05 26 57.4 -0.4
comp=Z,1.6nm,1.1s,baz=359,slow=6.8,SNR=3.9
QSPA South Pole Qui 142.27 180 *e*P PKPdf 05 26 48.6 -7.3
TSUM Tsumeb 146.34 348 *e*PKPbc PKPbc 05 27 04.4 +0.1
LBTB Lobatse 150.35 332 *e*PKiKP PKPdf 05 27 10.4 +0.9
LBTB *e* 05 27 15.2
MAW Mawson 151.05 219 *e*P PKPdf 05 27 14.6 +4.0
comp=Z,8.9nm,0.8s
MAW Mawson 151.05 219 PKPbc PKPbc 05 27 14.9 -1.5
comp=Z,12nm,0.8s,baz=84,slow=1.8,SNR=14
VNA3 Neumayer Olymp 159.09 162 *e*PKPdf PKPdf 05 27 20.9 -0.6
VNA3 *e* 05 27 24.3
VNA3 *e* 05 27 30.9
VNA3 *e* 05 27 34.2
VNA3 *e* 05 27 36.9
VNA3 *e* 05 27 46.4
VNA3 *e* 05 27 49.0
VNA3 *e* 05 27 53.2
VNA3 *e* 05 27 58.1
VNA3 *e* 05 28 01.1
VNA3 *e* 05 28 02.2
VNA3 *e* 05 28 07.2
VNA2 Neumayer--Watz 159.78 163 *e*PKPdf PKPdf 05 27 21.4 -0.9
VNA2 *e* 05 27 24.8
VNA2 *e* 05 27 32.4
VNA2 *e* 05 27 35.0
VNA2 *e* 05 27 38.5
VNA2 *e* 05 27 46.9
VNA2 *e* 05 27 49.8
VNA2 *e* 05 27 53.0
VNA2 *e* 05 28 00.9
VNA2 *e* 05 28 03.8
VNA2 *e* 05 28 05.3
VNA2 *e* 05 28 08.1
VNA1 Neumayer--Stat 159.84 162 *e*PKPdf PKPdf 05 27 21.6 -0.8
VNA1 *e* 05 27 25.1
VNA1 *e* 05 27 31.9
VNA1 *e* 05 27 35.0
VNA1 *e* 05 27 37.3
VNA1 *e* 05 27 47.4
VNA1 *e* 05 27 50.3
VNA1 *e* 05 27 53.9
VNA1 *e* 05 28 00.4
VNA1 *e* 05 28 04.2
VNA1 *e* 05 28 05.7
VNA1 *e* 05 28 08.1

NEIC 10 05:09:41.3, 5252N×16904W, h44km, ML3.8(AEIC), **After AEIC., Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKO	**Nikolski**	**0.47**	**14**	P	Pn	05 09 51.7	-0.2
NIKO				S	Sn	05 09 60.0	+0.6
OKCD	**Okmok Cone D**	**1.07**	**31**	P	Pn	05 10 01.2	+1.3
UNV	**Unalaska Valle**	**2.03**	**48**	P	Pn	05 10 13.6	+0.6
UNV				S	Sn	05 10 38.9	+1.8
AKLV	**Akutan Long Va**	**2.48**	**47**	P	Pn	05 10 21.6	+2.4
AKUT	**Akutan**	**2.54**	**49**	P	Pn	05 10 21.1	+1.1
AKUT				S	Sn	05 10 51.5	+1.6
ATKA	**Atka Island**	**3.18**	**266**	P	Pn	05 10 29.3	+0.6
ATKA				S	Sn	05 11 06.1	+0.7

*NEIC **10** 05:24:13.2, 5229N×169.18W, h19km, mb3.6/1, ML3.6(AEIC), After AEIC.*
*ISCJB **10** 05:24:14.4±1.4, 524N±0.1×169.3W±0.1, h50km±10km, mb3.6/6, Error ellipse: s-maj=27.0km s-min=6.3km az=134.1*
*IDC **10** 05:24:19.5±4.0, 5277N×169.29W, h62km±31km, mb3.4/6, mb1 3.6/9, mb1mx3.5/22, mbtmp3.7/9, ML3.5/3, Error ellipse: s-maj=56.0km s-min=18.8km az=172.0*
ISC 10 05:24:14.2±1.9, **523N**±01×**1692W**±01, **h29**km±11km, **n19, σ1s21**/23, **mb3.6**/6, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKO	**Nikolski**	**0.69**	**19**	P	**Pb**	**05 24 26.5**	**-1.2**
NIKO				S	**Sb**	**05 24 36.6**	**-0.1**
OKCE	**Okmok Cone E**	**1.27**	**30**	P	**Pn**	**05 24 36.3**	**+0.2**
OKCD	**Okmok Cone D**	**1.29**	**31**	P	**Pn**	**05 24 37.1**	**+0.8**
OKCD				S	**Sn**	**05 24 54.0**	**+1.3**
UNV	**Unalaska Valle**	**2.24**	**46**	P	**Pn**	**05 24 49.1**	**-0.2**
UNV				S	**Sn**	**05 25 16.2**	**+0.3**
AKUT	**Akutan**	**2.75**	**48**	*e*Pn	**Pn**	**05 24 58.2**	**+1.8**
ATKA	**Atka Island**	**3.06**	**270**	P	**Pn**	**05 25 00.1**	**-0.5**
ATKA				S	**Sn**	**05 25 37.2**	**+1.1**
AMKA	**Amchitka**	**7.17**	**267**	P	**Pn**	**05 25 58.1**	**+1.0**
FX1	**Attu Island--F**	**10.73**	**280**	P	**Pn**	**05 26 48.9**	**+3.1**
	0.9nm,0.3s,baz=58,slow=16,SNR=14						
KDAK	**Kodiak Island**	**10.98**	**54**	P	**Pn**	**05 26 51.4**	**+2.0**
	0.4nm,0.3s,baz=229,slow=9.3,SNR=4.6						
ILAR	**Eielson Array**	**16.94**	**34**	P	**Pn**	**05 28 07.3**	**-1.7**
	0.1nm,0.3s,baz=231,slow=11,SNR=10						
INK	**Inuvik**	**23.33**	**33**	P	**P**	**05 29 18.4**	**-1.8**
	0.9nm,0.5s,mb3.4,baz=247,slow=12,SNR=14						
INK	**Inuvik**	**23.33**	**33**	*e*P	**P**	**05 29 18.7**	**-1.4**
	1.0nm,0.6s,mb3.4						
YKW3	**Yellowknife Ar**	**30.19**	**49**	*e*P	**P**	**05 30 21.9**	**0.0**
YKA	**Yellowknife Ar**	**30.20**	**49**	P	**P**	**05 30 22.0**	**-0.1**
	0.6nm,0.6s,mb3.5,baz=273,slow=7.8,SNR=32						
YKA				pP	pP	05 30 37.3	+6.8
	0.4nm,0.5s,baz=271,slow=7.6,SNR=9.3						
YKA	**Yellowknife Ar**	**30.20**	**49**	P	**P**	**05 30 22.0**	**0.0**
YKA				pP	pP	05 30 37.3	+6.8
PDAR	**Pinedale Array**	**40.33**	**79**	P	**P**	**05 31 49.1**	**+0.1**
	0.4nm,0.5s,mb3.4,baz=316,slow=8.2,SNR=3.9						
PDAR				pP	pP	05 32 02.3	+4.7
	0.6nm,0.5s,baz=294,slow=3.1,SNR=5.6						
SONM	**Songino Array**	**51.40**	**301**	P	**P**	**05 33 15.6**	**-0.7**
	0.3nm,0.4s,mb3.6,baz=50,slow=6.2,SNR=5.5						
SONM				PcP	PcP	05 34 32.7	+2.0
	0.5nm,0.8s,baz=19,slow=2.5,SNR=3.7						
MKAR	**Makanchi Array**	**63.90**	**313**	P	**P**	**05 34 42.1**	**-2.2**
	0.4nm,0.6s,mb3.6,baz=37,slow=6.4,SNR=5.1						
FINES	**FINESS Array B**	**65.92**	**352**	P	**P**	**05 34 55.5**	**-1.9**
	0.9nm,0.6s,mb4.0,baz=5.6,slow=7.9,SNR=5.6						

*IDC **10** 05:28:04.5±2.7, 5236N×169.34W, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.5/23, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=57.5km s-min=32.8km az=1.0*
*NEIC **10** 05:28:09.5, 5236N×168.82W, h16km, mb3.4/2, ML3.2(AEIC), After AEIC.*
*ISCJB **10** 05:28:10.9±1.6, 526N±0.2×1692W±0.2, h54km±9km, mb3.6/4, Error ellipse: s-maj=40.4km s-min=11.3km az=131.6*
ISC 10 05:28:12.0±1.5, **526N**±02×**1692W**±02, **h49**km±9km, **n15, σ0s69**/17, **mb3.6**/4, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKO	**Nikolski**	**0.41**	**31**	P	**Pn**	**05 28 21.0**	**-1.3**
NIKO				S	**Sn**	**05 28 30.2**	**+0.7**
OKCE	**Okmok Cone E**	**1.02**	**38**	P	**Pn**	**05 28 30.3**	**+0.3**
OKCD	**Okmok Cone D**	**1.05**	**39**	P	**Pn**	**05 28 30.7**	**+0.3**
UNV	**Unalaska Valle**	**2.04**	**52**	P	**Pn**	**05 28 43.0**	**-0.8**
UNV				S	**Sn**	**05 29 08.7**	**+0.6**
AKUT	**Akutan**	**2.56**	**52**	*e*Pn	**Pn**	**05 28 52.0**	**+1.0**
ATKA	**Atka Island**	**3.08**	**264**	P	**Pn**	**05 28 58.5**	**+0.4**
KDAK	**Kodiak Island**	**10.80**	**55**	Pn	**Pn**	**05 30 42.9**	**-1.1**
	0.4nm,0.3s,baz=287,slow=14,SNR=4.1						
COLA	**College**	**16.42**	**33**	*e*P	**Pn**	**05 31 58.7**	**-0.3**
	1.8nm,0.6s						
ILAR	**Eielson Array**	**16.69**	**35**	Pn	**Pn**	**05 32 01.7**	**-0.6**
	0.1nm,0.3s,baz=228,slow=11,SNR=5.4						
INK	**Inuvik**	**23.08**	**34**	P	**P**	**05 33 12.3**	**-1.0**
	0.5nm,0.6s,mb3.1,baz=258,slow=6.2,SNR=9.0						
INK	**Inuvik**	**23.08**	**34**	*e*P	**P**	**05 33 13.5**	**+0.1**
	0.7nm,0.7s,mb3.2						
YKA	**Yellowknife Ar**	**30.00**	**49**	P	**P**	**05 34 16.7**	**+0.8**
	0.4nm,0.5s,mb3.4,baz=271,slow=7.7,SNR=18						
YKA	**Yellowknife Ar**	**30.00**	**49**	P	**P**	**05 34 16.7**	**+0.8**
PDAR	**Pinedale Array**	**40.26**	**80**	P	**P**	**05 35 44.4**	**+0.3**
	0.6nm,0.5s,mb3.6,baz=318,slow=3.9,SNR=5.5						
BVAR	**Borovoye Array**	**63.55**	**324**	P	**P**	**05 38 37.5**	**+0.1**
	1.1nm,0.5s,mb4.2,baz=51,slow=7.2,SNR=7.0						

*IDC **10** 05:36:25.7±1.4, 27.12N×5365E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.7/21, mbtmp3.7/8, ML3.2/1, MS3.9/2, Ms1 3.9/2, ms1mx3.2/33, Error ellipse: s-maj=31.4km s-min=28.0km az=2.0*
*ISCJB **10** 05:36:28.4±1.1, 2698N±007×5377E±007, h40km±11km, mb3.7/7, Error ellipse: s-maj=12.7km s-min=7.3km az=78.3*
*NEIC **10** 05:36:31.1, 2753N×5413E, h14km, ML3.2(THR), After THR.*
*CSEM **10** 05:36:31.0±0.2, 2750N×5407E, h30km, ML3.2, Error ellipse: s-maj=5.6km s-min=2.9km az=28.0*
*THR **10** 05:36:31.0±0.4, 2753N×5413E, h14km±5km, ML3.2*
ISC 10 05:36:30.1±1.1, **2703N**±007×**5377E**±007, **h35**km±11km, **n17, σ0s98**/25, **mb3.7**/7, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**1.43**	**331**	*e*Pg	**Pn**	**05 36 54.4**	**+0.9**
GHIR				AML	AML	05 37 20.4	
	comp=N,573nm,0.4s						
GHIR	**Ghir-Karzin**	**1.43**	**331**	Pg	**Pn**	**05 36 54.0**	**+0.5**
GHIR				Sg	**Sn**	**05 37 11.0**	**-0.1**
BNDS	**Bandar-Abbas**	**2.17**	**80**	*e*PG	**Pn**	**05 37 04.3**	**+0.6**
BNDS				*e*SG	**Sn**	**05 37 28.8**	**-0.5**
BNDS				AML	AML	05 37 53.3	
	comp=E,204nm,0.5s						
BNDS				AML	AML	05 37 56.5	
	comp=N,200nm,0.5s						
BNDS	**Bandar-Abbas**	**2.17**	**80**	Pg	**Pn**	**05 37 04.0**	**+0.3**
BNDS				Sg	**Sn**	**05 37 28.0**	**-1.3**
BNDS	**Bandar-Abbas**	**2.17**	**80**	*e*Pg	**Pn**	**05 37 04.3**	**+0.6**
	SNR=90						
BNDS				*e*Sg	**Sn**	**05 37 28.8**	**-0.5**
	SNR=90						
KRBR	**Kerman**	**3.95**	**41**	*e*PN	**Pn**	**05 37 25.6**	**-2.5**
KRBR				*e*SG	**Sn**	**05 38 15.9**	**+2.8**
KRBR				AML	AML	05 38 22.4	
	comp=N,60nm,0.5s						
KRBR	**Kerman**	**3.95**	**41**	Pn	**Pn**	**05 37 25.0**	**-3.1**
KRBR				Sg	**Sn**	**05 38 15.0**	**+1.9**
WSAR	**Wadi Sarin**	**5.80**	**130**	Pn	**Pn**	**05 37 55.0**	**+1.4**
	comp=N,0.6nm,0.3s,baz=252,slow=6.5,SNR=21						
WSAR				Sn	**Sn**	**05 38 58.0**	**-0.8**
	comp=N,2.3nm,0.3s,baz=163,slow=23,SNR=12						
WSAR				LR	LR	05 39 51.3	
	comp=N,261nm,18.7s,baz=258,slow=35						
WSAR	**Wadi Sarin**	**5.80**	**130**	Pn	**Pn**	**05 37 55.0**	**+1.4**
WSAR				Sn	**Sn**	**05 38 58.0**	**-0.8**
NASN	**Na'in**	**5.81**	**352**	Pn	**Pn**	**05 37 53.0**	**-0.7**
BVAR	**Borovoye Array**	**28.77**	**21**	P	**P**	**05 42 24.1**	**-0.3**
	comp=N,0.3nm,0.4s,mb3.4,baz=193,slow=5.9,SNR=3.9						
MKAR	**Makanchi Array**	**29.89**	**41**	P	**P**	**05 42 35.1**	**+0.8**
	comp=N,0.6nm,0.5s,mb3.6,baz=236,slow=10,SNR=6.9						
FINES	**FINESS Array B**	**39.11**	**339**	P	**P**	**05 43 53.4**	**-0.5**
	comp=N,1.2nm,0.4s,mb4.0,baz=142,slow=9.1,SNR=18						
NOA	**NORSAR Array B**	**44.38**	**332**	P	**P**	**05 44 36.0**	**-1.0**
	comp=N,0.5nm,0.6s,mb3.4,baz=119,slow=7.5,SNR=3.5						
ARCES	**ARCESS Array B**	**45.62**	**347**	P	**P**	**05 44 47.0**	**+0.1**
	comp=N,1.4nm,0.8s,mb4.0,baz=23,slow=6.6,SNR=4.5						
TORD	**Torodi Ar. Bea**	**50.49**	**265**	P	**P**	**05 45 24.9**	**+0.4**
	comp=N,0.5nm,0.6s,mb3.7,baz=62,slow=8.5,SNR=7.7						
YKA	**Yellowknife Ar**	**90.31**	**355**	P	**P**	**05 49 27.7**	**+0.5**
	comp=N,0.2nm,0.6s,mb3.6,baz=5.3,slow=5.0,SNR=6.6						

*ISCJB **10** 05:42:08.0±0.6, 3695N±003×2800E±004, h13km±5km, Error ellipse: s-maj=5.7km s-min=5.1km az=1.7*
*ISK **10** 05:42:07.5, 3700N×2799E, h21km, MD2.8*
*CSEM **10** 05:42:07.6±0.1, 3701N×2799E, h20km, MD2.8, Error ellipse: s-maj=3.0km s-min=2.0km az=29.0*
*ATH **10** 05:42:12.5, 3670N×2783E, h10km, MD2.9/3*
ISC 10 05:42:08.3±0.5, **3695N**±004×**2799E**±004, **h18**km±5km, **n15, σ0s79**/23, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.30**	**51**	*i* PG	**Pg**	**05 42 14.1**	**-0.7**
YER				*i* SG	**Sg**	**05 42 19.2**	**0.0**
MLSB	**Milas**	**0.39**	**334**	PG	**Pg**	**05 42 15.4**	**-0.9**
MLSB				SG	**Sg**	**05 42 21.0**	**-0.8**
BDRM	**Kayabasi**	**0.45**	**285**	*i* P	**Pg**	**05 42 17.1**	**-0.4**
BDRM				*i* S	**Sg**	**05 42 24.6**	**+0.8**
BDRM	**Kayabasi**	**0.45**	**285**	*i* P	**Pg**	**05 42 17.1**	**-0.4**
BDRM				*i* S	**Sg**	**05 42 24.5**	**+0.8**
DALT	**Dalyan (Mudla)**	**0.55**	**109**	PG	**Pg**	**05 42 19.1**	**-0.1**
BODT	**Bodrum**	**0.56**	**282**	PG	**Pg**	**05 42 19.0**	**-0.4**
BODT				SG	**Sg**	**05 42 27.2**	**+0.3**
AYDN	**Tasoluk**	**0.72**	**353**	*i* P	**Pb**	**05 42 21.8**	**-0.4**
AYDN				*i* S	**Sb**	**05 42 31.8**	**+0.1**
ARG	**Arkhangelos**	**0.74**	**172**	*e*PB	**Pb**	**05 42 23.0**	**+0.5**
NISR	**Nisiros**	**0.77**	**245**	*e*PB	**Pb**	**05 42 23.5**	**+0.4**
FETY	**Fethiye**	**0.93**	**109**	*e*PG	**Pg**	**05 42 26.6**	**+0.2**
DENT	**Denizli**	**1.16**	**46**	*e*PN	**Pn**	**05 42 29.3**	**-0.2**
KARP	**Karpathos**	**1.55**	**206**	*e*PB	**Pb**	**05 42 36.5**	**+0.1**
MANT	**Manisa**	**1.61**	**16**	*i* P	**Pg**	**05 42 40.8**	**+1.6**
MANT				*i* S	**Sg**	**05 43 02.6**	**+2.5**
AKS	**Akhisar**	**1.94**	**356**	*e*PN	**Pn**	**05 42 39.0**	**-1.2**
TKTP	**Tekketepe**	**2.15**	**59**	*i* P	**Pg**	**05 42 49.0**	**-0.6**
TKTP				*i* S	**Sg**	**05 43 23.9**	**+6.5**

*MOS **10** 05:52:41.5±0.9, 6.19S×149.09E, h33km, mb4.6/8, Error ellipse: s-maj=16.8km s-min=8.8km az=77.5*
*ISCJB **10** 05:52:43.7±1.4, 631S±005×149.16E±007, h61km±12km, mb4.6/32, Error ellipse: s-maj=12.6km s-min=6.9km az=63.0*
*BJI **10** 05:52:43.7, 630S×149.20E, h64km, mB5.1, mb5.0, Ms4.9, Msz4.7*
*IDC **10** 05:52:44.4±1.4, 631S×149.12E, h49km±11km, mb4.1/12, mb1 4.2/13, mb1mx4.2/15, mbtmp4.3/13, ML4.4/3, MS4.5/19, Ms1 4.5/19, ms1mx4.3/25, Error ellipse: s-maj=17.5km s-min=8.2km az=123.0*
*NEIC **10** 05:52:45.8±0.2, 633S×149.17E, mb4.7/16, Error ellipse: s-maj=8.7km s-min=4.9km az=106.0*
ISC 10 05:52:45.2±1.4, **634S**±006×**14920E**±009, **h59**km±13km, **h56**km±5.0km**:pP-P, n93, σ1s18**/80, **mb4.6**/32, **MS4.6**/19, **1C-1D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.66**	**213**	P	**Pn**	**05 53 40.0**	**+0.7**
	102nm,0.3s,baz=48,slow=5.0,SNR=299						
PMG				S	**Sn**	**05 54 22.1**	**+1.0**
	263nm,0.3s,baz=62,slow=20,SNR=18						
PMG				LR	LR	05 54 46.1	
	comp=Z,848nm,20.6s,baz=10.0,slow=33						
PMG	**Port Moresby**	**3.66**	**213**	*e*Pn	**Pn**	**05 53 39.8**	**+0.5**
PMG				*e*Sn	**Sn**	**05 54 21.7**	**+0.6**
HNR	**Honiara**	**11.08**	**107**	LR	LR	05 59 11.2	
	comp=Z,893nm,21.6s,baz=351,slow=35						
CTA	**Charters Tower**	**13.97**	**192**	*e*P	**Pn**	**05 56 00.3**	**+0.3**
	17nm,1.0s						
CTA	**Charters Tower**	**13.97**	**192**	P	**Pn**	**05 56 00.7**	**+0.7**
	0.3nm,0.3s,baz=3.4,slow=13,SNR=6.2						
CTA				LR	LR	06 00 48.7	
	comp=Z,2μm,21.5s,baz=12,slow=35						
CTA	**Charters Tower**	**13.97**	**192**	*e*P	**Pn**	**05 56 00.3**	**+0.3**
CTA				pmax	pmax		
	comp=Z,17nm,1.0s						
CTAO	**Charters Tower**	**13.97**	**192**	*e*P	**Pn**	**05 56 00.8**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,99nm,1.8s						
CTAO	**Charters Tower**	**13.97**	**192**	*e*Pn	**Pn**	**05 56 00.8**	**+0.8**
	comp=Z,99nm,1.8s						
CTAO				*e*P		05 56 08.5	
KAKA	**Kakadu**	**17.70**	**248**	*e*P	**Pn**	**05 56 46.7**	**-0.7**
	comp=Z,22nm,0.5s						
KAKA				*e*S	**S**	**06 00 00.5**	**-7.6**
WRAB	**Tennant Creek**	**19.77**	**225**	*e*P	**Pn**	**05 57 10.9**	**-1.3**
WRAB				*e*S	**S**	**06 00 44.8**	**-5.0**
WRAB				pmax	pmax		
	comp=Z,142nm,0.8s						
WRAB	**Tennant Creek**	**19.77**	**225**	*e*P	**Pn**	**05 57 10.8**	**-1.4**
	comp=Z,142nm,0.8s						
WRAB				*e*pP	pP	05 57 24.6	+1.5
WRAB				*e*S	**S**	**06 00 44.8**	**-5.0**
WB2	**Warramunga Arr**	**19.77**	**225**	*e*P	**Pn**	**05 57 09.6**	**-2.7**
WB2				*e*S	**S**	**06 00 41.0**	**-8.9**
WRA	**Warramunga Arr**	**19.78**	**225**	P	**Pn**	**05 57 11.1**	**-1.3**
	comp=Z,4.9nm,0.3s,baz=49,slow=10,SNR=189						
WRA				S	**S**	**06 00 45.9**	**-4.2**
	baz=46,slow=21,SNR=7.7						
WRA				PcP	PcP	06 01 28.4	+2.0
	comp=Z,0.2nm,0.3s,baz=24,slow=1.6,SNR=4.7						
WRA				ScP	ScP	06 05 01.2	+3.8
	comp=Z,0.1nm,0.3s,baz=30,slow=2.2,SNR=9.9						
WRA	**Warramunga Arr**	**19.78**	**225**	P	**Pn**	**05 57 11.1**	**-1.3**
WRA				S	**S**	**06 00 45.9**	**-4.2**
GUMO	**Guam**	**20.26**	**348**	LR	LR	06 04 17.0	
	comp=Z,980nm,19.1s,MS4.2,baz=96,slow=34						
ASAR	**Alice Springs**	**22.66**	**219**	P	**P**	**05 57 42.2**	**+1.0**
	comp=Z,9.4nm,0.5s,mb4.5,baz=57,slow=9.0,SNR=104						
ASAR				S	**S**	**06 01 46.7**	**+1.5**
	comp=Z,24nm,1.0s,baz=32,slow=22,SNR=14						
ASAR				ScP	ScP	06 05 09.0	+4.5
	comp=Z,2.9nm,0.9s,baz=46,slow=1.9,SNR=6.8				

comp=Z,21nm,1.1s,mb4.6
STKA Stephens Creek 26.39 195 P **P** **05 58 15.2 -0.7**
comp=Z,15nm,0.8s,mb4.6,baz=0.5,slow=9.0,SNR=21
STKA LR LR 06 09 20.6
comp=Z,1μm,18.7s,MS4.5,baz=99,slow=38
STKA Stephens Creek 26.39 195 *e*P **P** **05 58 15.3 -0.6**
STKA *e*pP pP 05 58 29.8 -0.6
FORT Forrest 31.38 217 *e*P **P** **05 59 00.4 +0.1**
comp=Z,22nm,0.7s,mb5.1
MBWA Marble Bar 32.10 240 *e*P **P** **05 59 07.2 +0.6**
comp=Z,20nm,0.8s,mb5.0
MBWA *e*pP pP 05 59 23.2 +1.9
MBWA *e*PcP PcP 06 01 54.5 -0.2
RAO Raoul Island 38.49 130 LR LR 06 13 14.2
comp=Z,342nm,18.2s,MS4.2,baz=319,slow=32
KLBR Kellerberrin 38.67 225i *i*P **P** **06 00 03.1 +0.2**
comp=Z,26nm,1.1s,mb4.9
JOW Kunigami 38.70 329 LR LR 06 21 10.3
comp=Z,336nm,18.2s,MS4.2,baz=48,slow=41
AFI Afiamalu 39.10 104 LR LR 06 13 26.8
comp=Z,475nm,18.4s,MS4.4,baz=142,slow=32
MUN Mundaring 39.98 226 *e*P **P** **06 00 14.6 +0.7**
URZ Urewera 40.62 146 LR LR 06 14 09.8
comp=Z,968nm,20.2s,MS4.7,baz=293,slow=32
RPZ Rata Peaks 41.89 156 LR LR 06 16 34.2
comp=Z,811nm,18.9s,MS4.6,baz=6.5,slow=34
MJAR Matsushiro Arr 43.88 347 P **P** **06 00 44.3 -1.3**
comp=Z,5.5nm,1.0s,mb4.2,baz=167,slow=8.4,SNR=8.2
MJAR ScP ScP 06 06 19.2 +1.7
comp=Z,2.7nm,1.0s,baz=184,slow=5.0,SNR=5.6
MJAR LR LR 06 18 54.0
comp=Z,697nm,18.1s,MS4.6,baz=180,slow=36
MAJO Matsushiro 43.88 347 *e*P **P** **06 00 45.3 -0.4**
MAJO pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
MAJO Matsushiro 43.88 347 *e*P **P** **06 00 45.3 -0.4**
comp=Z,8.7nm,0.7s,mb4.6
SSE Sheshan 45.86 326 P **P** **06 01 01.2 -0.2**
SSE PP PP 06 02 48.4 -1.3
SSE S **S** **06 07 44.0 +2.8**
SSE AMB AMB
comp=Z,41nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,193nm,7.7s
SSE LR LR
comp=N,536nm,20.9s,MS4.6
SSE LR LR
comp=E,446nm,21.3s,MS4.6
SSE LR LR
comp=Z,914nm,20.9s,MS4.7
YSS Yuzh-Sakhalins 53.36 355 P **P** **06 01 56.0 -2.5**
YSS *e* pP 06 02 09.0 -5.1
CD2 Chengdu 57.09 313 *e*P **P** **06 02 27.1 +1.8**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
KLR Kul'dur 57.40 347 *e*P **P** **06 02 24.2 -3.2**
KLR pmax pmax
comp=Z,45nm,1.6s,mb5.2
HHC Hu-ho-hao-te 58.28 327 *e*P **P** **06 02 38.9 +5.2**
HHC AP pP 06 02 48.9 -0.6
HHC XP sP 06 02 53.3 -2.9
HHC PP PP 06 04 42.3 -0.9
HHC AMB AMB
comp=Z,26nm,1.0s,mb5.2
HHC AMB AMB
comp=Z,75nm,5.1s
HHC LR LR
comp=N,384nm,17.8s,MS4.7
HHC LR LR
comp=E,470nm,20.2s,MS4.7
HHC LR LR
comp=Z,661nm,16.5s,MS4.8
HIA Hailar 61.05 338 *e*P **P** **06 02 54.2 +1.5**
HIA pmax pmax
comp=Z,10.0nm,0.6s
HIA Hailar 61.05 338 *e*P **P** **06 02 54.2 +1.5**
comp=Z,10nm,0.6s,mb5.1
FX1 Attu Island--F 62.40 16 P **P** **06 03 03.3 +1.6**
comp=Z,10nm,0.5s,mb5.2,baz=326,slow=8.9,SNR=7.8
FX1 Attu Island--F 62.40 16 *e*P **P** **06 03 02.5 +0.7**
GTA Gaotai 64.41 319 P **P** **06 03 15.5 +0.5**
GTA AP pP 06 03 31.3 +0.2
GTA XP sP 06 03 37.4 -0.4
GTA AMB AMB
comp=Z,4.0nm,0.5s,mb4.7
ULN Ulaanbaatar 65.47 330 *e*P **P** **06 03 22.7 +0.8**
ULN pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
ULN Ulaanbaatar 65.47 330 *e*P **P** **06 03 22.7 +0.8**
comp=Z,1.4nm,0.5s,mb4.2
SONM Songino Array 65.78 330 P **P** **06 03 25.3 +1.5**
comp=Z,1.3nm,0.6s,mb4.1,baz=144,slow=4.5,SNR=12
SONM LR LR 06 31 41.4
comp=Z,313nm,19.9s,MS4.5,baz=98,slow=36
ZAK Zakamensk 68.99 330 *e*P pP 06 04 00.2 -0.3
ZAK pmax pmax
comp=Z,13nm,1.8s,mb4.6
TLY Talaya 69.66 332 *e*P **P** **06 03 49.0 +0.6**
TLY pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
TLY Talaya 69.66 332 *e*P **P** **06 03 49.0 +0.7**
comp=Z,2.6nm,0.9s,mb4.2
BOD Bodaibo 70.00 341 *e*P **P** **06 03 47.5 -2.9**
MOY Mondy 70.93 331 *e*P **P** **06 03 57.5 +1.4**
MIR Mirnyy 71.23 201*d* *i*P **P** **06 04 07.0 +9.1**
MIR pmax pmax
comp=Z,160nm,1.4s
VNDA Vanda 71.46 177 P **P** **06 03 59.9 +0.6**
comp=Z,3.0nm,0.9s,mb4.2,baz=308,slow=6.4,SNR=10
VNDA LR LR 06 35 42.1
comp=Z,365nm,18.8s,MS4.7,baz=288,slow=36
BILL Bilibino 75.18 7 *e*P **P** **06 04 21.1 -0.1**
BILL *e* 06 04 31.9
BILL pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
BILL Bilibino 75.18 7 *e*P **P** **06 04 20.6 -0.6**
comp=Z,5.5nm,0.8s,mb4.5
BILL *e*PcP PcP 06 04 32.7 -1.8
MKAR Makanchi Array 79.15 320 P **P** **06 04 43.5 +0.1**
comp=Z,0.5nm,0.3s,mb3.9,baz=105,slow=7.6,SNR=7.8
KDAK Kodiak Island 79.17 28 LR LR 06 33 49.4
comp=Z,327nm,20.4s,MS4.7,baz=266,slow=31
ZAL Zalesovo 80.47 327 P **P** **06 04 49.4 -1.2**
comp=Z,1.5nm,0.5s,mb4.2,baz=355,slow=2.5,SNR=4.5
ZAL LR LR 06 38 44.9
comp=Z,513nm,21.1s,MS4.8,baz=356,slow=34
MAW Mawson 82.78 203 LR LR 06 38 57.1
comp=Z,353nm,21.4s,MS4.7,baz=63,slow=34
KURK Kurchatov 82.79 323 *e*P **P** **06 05 02.2 -0.6**
KURK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
KURK Kurchatov 82.79 323 *e*P **P** **06 05 02.2 -0.7**
comp=Z,3.0nm,1.0s,mb4.3
AAK Ala-Archa 83.14 314 *i* P **P** **06 05 06.4 +1.8**
AAK Ala-Archa 83.14 314 *e*P **P** **06 05 05.3 +0.7**
comp=Z,2.5nm,0.9s,mb4.2
QSPA South Pole Qui 83.63 180 *e*P **P** **06 05 06.9 -0.2**
comp=Z,19nm,1.1s,mb5.1
ILAR Eielson Array 84.94 23 P **P** **06 05 12.2 -1.5**
comp=Z,1.4nm,0.7s,mb4.2,baz=262,slow=5.1,SNR=5.1
ILAR LR LR 06 37 36.5
comp=Z,268nm,20.7s,MS4.6,baz=85,slow=32
BVAR Borovoye Array 88.33 324 P **P** **06 05 29.4 -0.9**
comp=Z,0.6nm,0.5s,mb4.1,baz=107,slow=5.0,SNR=5.3
ZRNK Zerenda 89.13 323 *e*P **P** **06 05 34.1 0.0**
ZRNK pmax pmax
comp=Z,1.0nm,0.7s,mb4.2
ZRNK Zerenda 89.13 323 *e*P **P** **06 05 34.1 0.0**
comp=Z,1.0nm,0.7s,mb4.2
BBB Bella Bella 90.49 38 LR LR 06 40 57.2
comp=Z,478nm,18.4s,MS5.0,baz=227,slow=32
INK Inuvik 91.17 21 P **P** **06 05 42.2 -1.4**
comp=Z,1.2nm,0.9s,mb4.2,baz=289,slow=0.9,SNR=6.3
INK Inuvik 91.17 21 *e*P **P** **06 05 43.1 -0.5**
INK pmax pmax
comp=Z,2.0nm,1.0s
INK Inuvik 91.17 21 *e*P **P** **06 05 43.1 -0.5**
comp=Z,2.0nm,1.0s,mb4.4
YKA Yellowknife Ar 98.45 28 P **P** **06 06 17.4 +0.6**
comp=Z,0.1nm,0.6s,mb3.5,baz=272,slow=4.7,SNR=3.4
YKA PKiKP PKiKP 06 10 50.5 +1.9
comp=Z,0.1nm,0.4s,baz=271,slow=1.7,SNR=7.2
YKA LR LR 06 47 51.8
comp=Z,287nm,20.4s,MS4.8,baz=285,slow=34
MATP Matopo 115.97 244 PKP PKPdf 06 11 22.6 +1.4
comp=Z,1.0nm,0.4s,baz=344,slow=10,SNR=5.3

GERES GERESS Array B 123.41 326 PKP PKPdf 06 11 35.3 -0.2
comp=Z,0.6nm,0.4s,baz=52,slow=2.2,SNR=8.7
TSUM Tsumeb 126.02 241 PKP PKPdf 06 11 41.8 +1.3
comp=Z,4.4nm,0.9s,baz=76,slow=1.2,SNR=6.6
TSUM Tsumeb 126.02 241 PKP PKPdf 06 11 41.8 +1.3
CFAA Coronel Fontan 128.04 139 PKP PKPdf 06 11 45.2 +0.9
comp=Z,0.7nm,0.9s,baz=229,slow=2.2,SNR=15
ROSC El Rosal 136.66 90 PKP PKPdf 06 12 03.5 +2.9
comp=Z,5.3nm,0.5s,baz=93,slow=18,SNR=7.7
LPAZ La Paz 136.76 122 PKP PKPdf 06 12 04.2 +3.4
comp=Z,5.1nm,1.0s,baz=345,slow=2.0,SNR=8.0
LPAZ La Paz 136.76 122 *e*PKPdf PKPdf 06 12 03.4 +2.6
LPAZ PKP PKPdf 06 12 04.2 +3.4
CPUP Villa Florida 138.57 143 PKP PKPdf 06 12 06.0 +1.8
comp=Z,1.0nm,0.6s,baz=176,slow=5.2,SNR=3.1
SDV Santo Domingo 140.45 84 PKhKP 06 12 03.6
comp=Z,2.1nm,0.4s,baz=118,slow=6.1,SNR=4.0
SDV PKP PKPdf 06 12 09.6 +2.0
comp=Z,24nm,1.0s,baz=322,slow=2.5,SNR=23
SDV Santo Domingo 140.45 84 PKP 06 12 03.6
SDV *e*PKPdf PKPdf 06 12 09.0 +1.5
SDV PKP PKPdf 06 12 09.6 +2.0
SIV San Ignacio 142.71 127 PKhKP 06 12 09.0
comp=Z,1.9nm,0.6s,baz=270,slow=3.6,SNR=8.2
SJG San Juan 143.60 68 *e*PKIKP PKPdf 06 12 14.1 +0.9
SAML Samuel 144.33 115 *e*PKPdf PKPdf 06 12 14.3 -0.2
TORD Torodi Ar. Bea 147.29 284 PKPbc PKPbc 06 12 22.7 +0.8
comp=Z,8.1nm,0.7s,baz=89,slow=2.8,SNR=45
BDFB Brasilia 152.30 142 PKP PKPdf 06 12 29.5 +2.1
comp=Z,4.2nm,0.9s,baz=272,slow=1.6,SNR=5.7
BDFB PKPbc PKPbc 06 12 36.1 +1.9
comp=Z,11nm,0.5s,baz=240,slow=0.6,SNR=33

*ATH **10** 05:53:22.2, 37.18N×28.34E, h28km, MD3.2/4*
*ISCJB **10** 05:53:26.6±0.6, 3692N±003×2797E±003, h3km±5km, Error ellipse: s-maj=5.2km s-min=4.0km az=70.6*
*NEIC **10** 05:53:26.0, 3704N×2799E, h24km, MD2.9(ISK), MD3.2(ATH), After ISK.*
*CSEM **10** 05:53:26.4±0.1, 3699N×2798E, h10km, MD2.9, Error ellipse: s-maj=2.4km s-min=1.8km az=28.0*
*ISK **10** 05:53:26.3, 3699N×2799E, h19km, MD2.9*
ISC 10 05:53:27.0±0.6, 3691N±003×2796E±003, h6km±5km, n16, σ1§12/27, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.34**	**49**	*i*		**Pg**	**Pg**	**05 53 33.1**	**-0.5**
YER				*i*		SG	**Sg**	**05 53 37.9**	**-0.1**
MLSB	**Milas**	**0.41**	**339**	*i*		**Pg**	**Pg**	**05 53 34.0**	**-0.9**
MLSB				*i*		SG	**Sg**	**05 53 39.9**	**-0.3**
BDRM	**Kayabasi**	**0.44**	**290**	*i*	P	**Pg**	**Pg**	**05 53 35.4**	**-0.1**
BDRM				*i*	S	**Sg**	**Sg**	**05 53 42.4**	**+1.2**
BODT	**Bodrum**	**0.54**	**286**		PG	**Pg**	**Pg**	**05 53 37.2**	**-0.2**
BODT					SG	**Sg**	**Sg**	**05 53 46.2**	**+1.7**
DALT	**Dalyan (Mudla)**	**0.56**	**105**		PG	**Pg**	**Pg**	**05 53 37.8**	**0.0**
ARG	**Arkhangelos**	**0.71**	**169**	*e*	PN	**Pn**	**Pn**	**05 53 41.3**	**-2.2**
ARG				*e*	SN	**Sg**	**Sg**	**05 53 55.3**	**+5.5**
NISR	**Nisiros**	**0.73**	**246**	*e*	PN	**Pn**	**Pn**	**05 53 43.5**	**-0.3**
AYDN	**Tasoluk**	**0.75**	**355**	*i*	P	**Pg**	**Pg**	**05 53 40.3**	**-1.1**
AYDN				*i*	S	**Sg**	**Sg**	**05 53 50.6**	**-0.4**
FETY	**Fethiye**	**0.94**	**107**		PG	**Pg**	**Pg**	**05 53 45.3**	**+0.2**
FETY					SG	**Sg**	**Sg**	**05 53 58.7**	**+1.4**
SMG	**Samos**	**1.20**	**312**	*e*	Pn	**Pn**	**Pn**	**05 53 46.4**	**-3.8**
SMG				*e*	Sn	**Sn**	**Sn**	**05 54 06.2**	**-0.5**
KARP	**Karpathos**	**1.51**	**206**	*e*	PN	**Pn**	**Pn**	**05 53 54.6**	**+0.1**
IZM	**Izmir**	**1.58**	**340**	*e*	PN	**Pn**	**Pn**	**05 53 53.2**	**-2.3**
KDAG	**Bornova**	**1.58**	**340**	*i*	P	**Pn**	**Pn**	**05 53 55.7**	**+0.1**
KDAG				*i*	S	**Sn**	**Sn**	**05 54 18.0**	**+1.6**
MANT	**Manisa**	**1.64**	**17**	*i*	P	**Pn**	**Pn**	**05 53 57.1**	**+0.8**
MANT				*i*	S	**Sn**	**Sn**	**05 54 18.9**	**+1.1**
AKS	**Akhisar**	**1.97**	**357**	*e*	PN	**Pn**	**Pn**	**05 53 57.6**	**-3.2**
TKTP	**Tekketepe**	**2.19**	**58**	*i*	P	**Pn**	**Pn**	**05 54 07.2**	**+3.4**
TKTP				*i*	S	**Sn**	**Sn**	**05 54 37.9**	**+6.7**

IDC 10 06:04:32.2±1.1, 1811S×6890W, h141km±8km, mb3.7/2, mb1 3.7/4, mb1mx3.4/14, mbtmp4.0/4, Error ellipse: s-maj=24.6km s-min=9.2km az=100.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.96**	**22**	P		P	Pn	06 05 08.3	+2.0
	57nm,0.3s,baz=211,slow=7.4,SNR=2216								
LPAZ				S			Sn	06 05 33.7	+1.2
	3.6nm,0.3s,baz=75,slow=20,SNR=2.6								
LVC	**Limon Verde**	**4.48**	**180**	P		P	Pn	06 05 39.8	+1.3
	5.7nm,0.3s,baz=5.2,slow=9.1,SNR=104								
LVC				S			Sn	06 06 30.0	0.0
	4.5nm,0.3s,baz=142,slow=22,SNR=11								
SIV	**San Ignacio**	**7.78**	**75**	P			Pn	06 06 23.7	+1.1
	0.6nm,0.3s,baz=264,slow=12,SNR=13								
SIV				S			Sn	06 07 48.9	-0.4
	0.2nm,0.3s,baz=355,slow=23,SNR=3.9								
CFAA	**Coronel Fontan**	**13.45**	**178**	P			Pn	06 07 38.6	+1.2
	0.0nm,0.3s,baz=357,slow=15,SNR=8.4								
TORD	**Torodi Ar. Bea**	**76.23**	**71**	P			P	06 16 05.8	+0.7
	1.6nm,0.5s,baz=251,slow=5.6,SNR=19								
YKA	**Yellowknife Ar**	**88.01**	**341**	P			P	06 17 05.1	-1.2
	0.5nm,0.6s,baz=133,slow=4.8,SNR=27								
SONM	**Songino Array**	**150.11**	**6**	PKPbc			PKPbc	06 24 06.7	+0.5
	0.6nm,0.5s,baz=346,slow=1.9,SNR=6.0								

*LDG **10** 06:11:41.2±0.2, 1770S×16823E, h10km, Mb4.4/2, Error ellipse: s-maj=25.7km s-min=4.4km az=100.0*
*MOS **10** 06:11:45.2±2.1, 1866S×16819E, h33km, mb4.6/1, Error ellipse: s-maj=23.7km s-min=14.8km az=27.6*
*IDC **10** 06:11:46.3±3.5, 1849S×16867E, h67km±28km, mb4.1/9, mb1 4.3/11, mb1mx4.2/15, mbtmp4.5/11, ML4.6/2, Error ellipse: s-maj=27.0km s-min=18.9km az=86.0*
*ISCJB **10** 06:11:47.6±1.2, 1852S±007×1685E±0.1, h87km±8km, mb4.4/13, Error ellipse: s-maj=20.9km s-min=10.4km az=19.3*
*NEIC **10** 06:11:51.0±2.1, 1854S×16815E, h74km±16km, mb4.7/6, Error ellipse: s-maj=19.6km s-min=15.4km az=92.0*
ISC 10 06:11:47.7±1.3, 1851S±006×1687E±01, h79km±9km, n41, σ0§81/23, mb4.4/13, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**0.93**	**334**i	*i*	P	**Pn**	**Pn**	**06 12 06.6**	**+0.8**
DZM	**Mont Dzumac**	**4.11**	**210**	P		P	**Pn**	**06 12 48.8**	**+0.8**
	29nm,0.3s,baz=150,slow=0.0,SNR=61								
DZM				S			**Sn**	**06 13 33.8**	**-1.1**
	63nm,0.3s,baz=94,slow=0.0,SNR=17								
HNR	**Honiara**	**12.36**	**316**	P		P	**Pn**	**06 14 39.0**	**-1.6**
	4.5nm,0.3s,baz=261,slow=5.4,SNR=2.7								
CTA	**Charters Tower**	**21.21**	**262**	P		P	**P**	**06 16 26.7**	**-0.1**
	7.6nm,0.9s,mb4.0,baz=76,slow=12,SNR=5.6								
PMG	**Port Moresby**	**22.72**	**291**	P		P	**P**	**06 16 44.4**	**+1.5**
	14nm,0.9s,mb4.3,baz=146,slow=7.2,SNR=4.1								
STKA	**Stephens Creek**	**27.78**	**236**	*e*P		P	**P**	**06 17 28.7**	**-0.4**
	4.9nm,1.4s,mb3.8								
STKA	**Stephens Creek**	**27.78**	**236**	P		P	**P**	**06 17 28.7**	**-0.4**
	2.7nm,0.6s,mb4.0,baz=57,slow=7.2,SNR=7.4								
WB2	**Warramunga Arr**	**32.40**	**262**	*e*P		P	**P**	**06 18 09.3**	**-0.5**
WB2				*e*				06 21 15.8	
WRA	**Warramunga Arr**	**32.41**	**262**	P		P	**P**	**06 18 09.5**	**-0.4**
	1.8nm,0.4s,mb4.2,baz=85,slow=8.3,SNR=43								
ASAR	**Alice Springs**	**32.78**	**255**	P		P	**P**	**06 18 13.1**	**-0.1**
	19nm,0.7s,mb5.0,baz=83,slow=8.9,SNR=143								
FORT	**Forrest**	**38.67**	**244**	*e*P		P	**P**	**06 19 04.4**	**+0.8**
	7.0nm,0.6s,mb4.7								
FITZ	**Fitzroy Crossi**	**40.78**	**264**	*e*P		P	**P**	**06 19 21.7**	**+0.7**
	44nm,0.6s,mb5.5								
FITZ	**Fitzroy Crossi**	**40.78**	**264**	P		P	**P**	**06 19 22.2**	**+1.1**
	31nm,0.7s,mb5.2,baz=112,slow=8.3,SNR=82								
MBWA	**Marble Bar**	**45.96**	**258**	*e*P		P	**P**	**06 20 02.8**	**0.0**
	8.9nm,0.7s,mb4.6								
KLBR	**Kellerberrin**	**47.54**	**244**	*e*P		P	**P**	**06 20 14.9**	**-0.1**
	21nm,0.8s,mb5.0								
VNDA	**Vanda**	**59.14**	**182**	P		P	**P**	**06 21 40.9**	**+0.9**
	0.5nm,0.6s,mb3.8,baz=309,slow=7.5,SNR=5.5								
ULN	**Ulaanbaatar**	**85.96**	**324**	*e*P		P	**P**	**06 24 19.2**	**+0.1**
ULN					pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.2								
ULN	**Ulaanbaatar**	**85.96**	**324**	*e*P		P	**P**	**06 24 19.2**	**+0.1**
	comp=Z,2.7nm,1.0s,mb4.1								
SONM	**Songino Array**	**86.31**	**323**	P		P	**P**	**06 24 21.0**	**+0.2**
	comp=Z,3.2nm,0.9s,mb4.2,baz=151,slow=5.8,SNR=17								
ILAR	**Eielson Array**	**89.70**	**17**	P		P	**P**	**06 24 35.0**	**-2.0**
	comp=Z,0.3nm,0.7s,mb3.5,baz=245,slow=4.2,SNR=5.3								
VNA3	**Neumayer Olymp**	**90.47**	**181**	*e*		P	**P**	**06 24 40.4**	**-0.2**
VNA3				*e*				06 24 46.2	
VNA3				*e*		pP		06 24 58.8	-3.2
VNA3				*e*				06 25 07.1	
VNA2	**Neumayer--Watz**	**90.76**	**181**	*e*		P	**P**	**06 24 42.0**	**+0.1**
	baz=184,slow=4.5								
VNA2				*e*				06 24 47.5	
VNA2				*e*		pP		06 25 00.2	-3.1
VNA2				*e*				06 25 08.5	
YKA	**Yellowknife Ar**	**100.27**	**27**	P		Pdif		06 25 24.9	-0.3
	comp=Z,0.2nm,0.6s,baz=254,slow=4.7,SNR=10								
MKAR	**Makanchi Array**	**100.84**	**316**	P		Pdif		06 25 28.5	+0.9
	comp=Z,0.3nm,0.6s,baz=97,slow=5.4,SNR=4.0								
ACSO	**Alum Creek Sta**	**115.58**	**54**	*e*PKPdf		PKPdf		06 30 30.6	+10
ARCES	**ARCESS Array B**	**124.23**	**345**	PKP		PKPdf		06 30 36.0	-1.2
	comp=Z,0.7nm,0.3s,baz=83,slow=2.1,SNR=20								
CDF	**Champ du Feu**	**146.56**	**337**	*e*PKP1		PKPbc		06 31 19.9	-0.1
	comp=Z,7.9nm,0.6s								
CABF	**La Chapelle**	**148.51**	**337**	*e*PKP1		PKPbc		06 31 25.8	+0.5
	comp=Z,5.9nm,0.6s								
FLN	**La Foliniere**	**148.57**	**346**	*e*PKP1		PKPbc		06 31 25.1	-0.3
	comp=Z,8.3nm,0.5s								
LDF	**La Druitiere**	**148.64**	**346**	*e*PKP1		PKPbc		06 31 25.7	+0.1
LOR	**Lormes**	**148.73**	**340**	*e*PKP1		PKPbc		06 31 25.9	+0.1
	comp=Z,6.1nm,0.5s								
GRR	**Gorron**	**149.00**	**346**	*e*PKP1		PKPbc		06 31 26.4	-0.1
	comp=Z,3.7nm,0.4s								
SSF	**Saint Saulge**	**149.02**	**340**	*e*PKP1		PKPbc		06 31 26.7	+0.1
	comp=Z,9.0nm,0.7s								
LPL	**La Plagne**	**149.17**	**335**	*e*PKP1		PKPbc		06 31 27.5	+0.6
LPG	**La Plagne**	**149.17**	**335**	*e*PKP1		PKPbc		06 31 27.7	+0.8
	comp=Z,4.5nm,0.6s								
BGF	**Bois d'Agland**	**149.68**	**340**	*e*PKP1		PKPbc		06 31 28.3	+0.1
ORIF	**Oris-en-Rattie**	**150.00**	**335**	*e*PKP1		PKPbc		06 31 29.3	+0.3
	comp=Z,10nm,0.7s								
TCF	**Toulx Ste Croi**	**150.12**	**341**	*e*PKP1		PKPbc		06 31 29.3	0.0
MFF	**Saint Martin d**	**150.50**	**344**	*e*PKP1		PKPbc		06 31 30.1	-0.1
	comp=Z,7.4nm,0.6s								
LMR	**La Mourre**	**151.03**	**333**	*e*PKP1		PKPbc		06 31 31.2	-0.2
	comp=Z,12nm,0.8s								
TORD	**Torodi Ar. Bea**	**166.38**	**249**	PKP		PKPdf		06 31 44.3	+0.7
	comp=Z,1.3nm,1.0s,baz=142,slow=1.2,SNR=5.3								

*IDC **10** 06:11:54.8±1.9, 5261N×16892W, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.7/24, mbtmp3.8/8, ML3.3/3, Error ellipse: s-maj=49.0km s-min=14.7km az=169.0*
*ISCJB **10** 06:11:58.3±1.3, 525N±02×1692W±0.1, h51km±9km, mb3.7/5, Error ellipse: s-maj=29.7km s-min=7.9km az=133.2*
*NEIC **10** 06:11:59.2, 5248N×16900W, h25km, ML3.4(AEIC), After AEIC.*
ISC 10 06:11:58.3±1.8, 524N±01×1691W±01, h30km±11km, n18, σ1§15/21, mb3.7/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.56**	**14**	P		P	**Pb**	**06 12 09.3**	**-0.4**
NIKO				S		S	**Sb**	**06 12 17.1**	**-0.2**
OKCE	**Okmok Cone E**	**1.13**	**29**	P		P	**Pn**	**06 12 18.1**	**0.0**
OKCD	**Okmok Cone D**	**1.15**	**30**	P		P	**Pn**	**06 12 18.9**	**+0.5**
OKCD				S		S	**Sn**	**06 12 34.7**	**+1.6**
UNV	**Unalaska Valle**	**2.10**	**47**	P		P	**Pn**	**06 12 31.0**	**-0.3**
UNV				S		S	**Sn**	**06 12 56.1**	**-0.3**
AKUT	**Akutan**	**2.61**	**48**	P		P	**Pn**	**06 12 40.0**	**+1.6**
ATKA	**Atka Island**	**3.15**	**268**	P		P	**Pn**	**06 12 45.7**	**-0.2**
SDPT	**Sand Point**	**5.86**	**57**	P		P	**Pn**	**06 13 25.3**	**+2.3**
AMKA	**Amchitka**	**7.27**	**266**	P		P	**Pn**	**06 13 42.7**	**+0.2**
FX1	**Attu Island--F**	**10.80**	**279**	Pn		Pn	**Pn**	**06 14 32.5**	**+1.6**
	0.4nm,0.3s,baz=222,slow=19,SNR=4.6								
KDAK	**Kodiak Island**	**10.84**	**54**	Pn			**Pn**	**06 14 30.4**	**-1.1**
	0.6nm,0.3s,baz=285,slow=1.6,SNR=7.6								
ILAR	**Eielson Array**	**16.79**	**34**	Pn			**Pn**	**06 15 48.5**	**-2.6**
	0.1nm,0.3s,baz=230,slow=12,SNR=9.8								
INK	**Inuvik**	**23.19**	**33**	P		P	**P**	**06 16 59.7**	**-2.9**
	0.9nm,0.5s,mb3.5,baz=236,slow=7.3,SNR=13								
INK	**Inuvik**	**23.19**	**33**	*e*P		P	**P**	**06 16 59.3**	**-3.3**
YKA	**Yellowknife Ar**	**30.06**	**49**	P		P	**P**	**06 18 04.5**	**-0.2**
	0.6nm,0.5s,mb3.6,baz=272,slow=7.6,SNR=31								
YKA	**Yellowknife Ar**	**30.06**	**49**	P		P	**P**	**06 18 04.5**	**-0.2**
PDAR	**Pinedale Array**	**40.21**	**79**	P		P	**P**	**06 19 32.4**	**+0.4**
	1.1nm,0.8s,mb3.6,baz=318,slow=2.2,SNR=8.0								
SONM	**Songino Array**	**51.42**	**301**	P		P	**P**	**06 21 00.1**	**-0.4**
	0.4nm,0.4s,mb3.7,baz=56,slow=6.5,SNR=5.9								
ARCES	**ARCESS Array B**	**57.88**	**354**	P		P	**P**	**06 21 45.8**	**-1.5**
	2.9nm,1.1s,mb4.2,baz=358,slow=7.2,SNR=3.3								

MAN 10 06:14:06.7, 1036N×12511E, h12km, mb2.7, ML4.2, MS4.2, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.68**	**147**	*e*P		Pg		06 14 19.1	-0.9
SCPH				*e*S		Sg		06 14 33.9	+5.0
PLP	**Palo**	**0.81**	**351**	*e*P		Pg		06 14 22.4	-0.1
PLP				*e*S		Sg		06 14 34.1	+1.1

*ISCJB **10** 06:22:41.1±1.9, 2426N±005×12689E±004, h29km±16km, mb3.5/6, Error ellipse: s-maj=8.9km s-min=4.3km az=116.3*
*JMA **10** 06:22:41.9±0.4, 2425N×12690E, h62km, M3.1*
*IDC **10** 06:22:44.4±0.9, 2416N×12702E, h37km±7km, mb3.4/6, mb1 3.5/7, mb1mx3.4/18, mbtmp3.6/7, ML3.3/1, Error ellipse: s-maj=34.2km s-min=16.5km az=74.0*
ISC 10 06:22:42.1±2.0, 2430N±005×12686E±004, h23km±16km, h38km±1.8km:pP-P, n24, σ0§95/35, mb3.5/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.40**	**289**	P		P	**Pn**	**06 23 06.4**	**+0.1**
JOGS				S		S	**Sn**	**06 23 25.2**	**+1.1**
JMJ	**Miyako jima 2**	**1.52**	**290**	S		S	**Sn**	**06 23 26.3**	**-0.7**
JTJ	**Tarama**	**2.00**	**280**	P		P	**Pn**	**06 23 14.7**	**+0.2**
JTJ				S		S	**Sn**	**06 23 38.2**	**-0.6**
JJT2	**Tamagusuku 2**	**2.00**	**23**	S	

0.1nm,0.4s,baz=302,slow=5.5,SNR=3.5

ISCJB ***10*** *06:38:01.7±1.2,525N±0.1×169.1W±0.1,h50km±7km, mb3.8/14, Error ellipse: s-maj=23.0km s-min=6.1km az=133.0*

IDC ***10*** *06:38:03.8±5.2, 52.98N×169.02W, h27km±36km, mb3.6/12, mb1 3.8/15, mb1mx3.7/24, mbtmp3.8/15, ML3.5/3, Error ellipse: s-maj=30.0km s-min=13.2km az=160.0*

NEIC ***10*** *06:38:04.0, 52.84N×169.44W, h35km, mb4.0/3, ML3.7(AEIC), After AEIC.*

ISC 10 06:38:03.4±1.1, 526N±01×1691W±01, h48km±7km, n30, σ0§77/35, mb3.8/14, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
NIKO	**Nikolski**	**0.44**	**19**	P			**Pn**	**06 38 12.7**	**-1.1**
NIKO				S			**Sn**	**06 38 20.6**	**-0.7**
OKCE	**Okmok Cone E**	**1.04**	**33**	P			**Pn**	**06 38 21.4**	**-0.1**
OKCE				S			**Sn**	**06 38 35.6**	**+0.6**
OKCD	**Okmok Cone D**	**1.06**	**34**	P			**Pn**	**06 38 22.1**	**+0.3**
OKCD				S			**Sn**	**06 38 35.9**	**+0.5**
UNV	**Unalaska Valle**	**2.02**	**49**	P			**Pn**	**06 38 34.3**	**-0.8**
UNV				S			**Sn**	**06 39 00.5**	**+1.4**
AKUT	**Akutan**	**2.54**	**50**	P			**Pn**	**06 38 42.6**	**+0.5**
ATKA	**Atka Island**	**3.15**	**266**	P			**Pn**	**06 38 49.9**	**-0.5**
ATKA				S			**Sn**	**06 39 27.3**	**+0.6**
SDPT	**Sand Point**	**5.81**	**58**	P			**Pn**	**06 39 27.7**	**+0.8**
AMKA	**Amchitka**	**7.27**	**265**	P			**Pn**	**06 39 46.8**	**-0.1**
FX1	**Attu Island--F**	**10.77**	**279**	Pn			**Pn**	**06 40 36.1**	**+1.2**
	0.9nm,0.3s,baz=57,slow=19,SNR=2.7								
KDAK	**Kodiak Island**	**10.79**	**54**	Pn			**Pn**	**06 40 33.7**	**-1.4**
	0.8nm,0.3s,baz=189,slow=4.0,SNR=6.6								
KDAK	**Kodiak Island**	**10.79**	**54**	Pn			**Pn**	**06 40 33.7**	**-1.4**
ILAR	**Eielson Array**	**16.70**	**34**	Pn			**Pn**	**06 41 49.9**	**-4.0**
	0.1nm,0.3s,baz=223,slow=10,SNR=9.1								
INK	**Inuvik**	**23.10**	**33**	P			**P**	**06 43 03.2**	**-1.8**
	1.5nm,0.6s,mb3.6,baz=224,slow=8.8,SNR=15								
INK	**Inuvik**	**23.10**	**33**	*eP*			**P**	**06 43 03.7**	**-1.4**
	2.0nm,0.8s,mb3.6								
YKA	**Yellowknife Ar**	**29.99**	**49**	P			**P**	**06 44 08.0**	**+0.7**
	0.6nm,0.4s,mb3.6,baz=272,slow=7.6,SNR=34								
YKA	**Yellowknife Ar**	**29.99**	**49**	P			**P**	**06 44 08.0**	**+0.7**
PDAR	**Pinedale Array**	**40.20**	**80**	P			**P**	**06 45 35.3**	**+0.2**
	0.5nm,0.8s,mb3.3,baz=279,slow=2.9,SNR=4.2								
FCC	**Fort Churchill**	**40.69**	**51**	*eP*			**P**	**06 45 39.4**	**+0.3**
	7.5nm,1.2s,mb4.2								
ISCO	**Idaho Springs**	**44.36**	**80**	*eP*			**P**	**06 46 14.5**	**+5.6**
	1.5nm,0.6s,mb3.9								
SONM	**Songino Array**	**51.35**	**301**	P			**P**	**06 47 03.3**	**+0.4**
	0.6nm,0.5s,mb3.8,baz=71,slow=5.7,SNR=6.9								
SCHQ	**Schefferville**	**55.18**	**44**	P			**P**	**06 47 31.4**	**+0.3**
	1.8nm,0.8s,mb4.2,baz=338,slow=5.4,SNR=3.3								
SCHQ	**Schefferville**	**55.18**	**44**	P			**P**	**06 47 31.4**	**+0.3**
ARCES	**ARCESS Array B**	**57.75**	**354**	P			**P**	**06 47 48.4**	**-1.0**
	2.5nm,0.9s,mb4.2,baz=1.2,slow=7.1,SNR=7.2								
FINES	**FINESS Array B**	**65.71**	**352**	P			**P**	**06 48 42.6**	**-0.3**
	1.2nm,0.7s,mb4.0,baz=14,slow=6.2,SNR=4.5								
NB2	**NORSAR Subarra**	**66.75**	**360**	P			**P**	**06 48 49.8**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.9,baz=1.2,slow=6.5								
NOA	**NORSAR Array B**	**66.75**	**360**	P			**P**	**06 48 49.8**	**+0.2**
	comp=Z,0.8nm,0.6s,mb4.0,baz=0.7,slow=6.2,SNR=4.2								
AKASG	**Malin Array Be**	**75.96**	**348**	P			**P**	**06 49 44.5**	**-0.7**
	comp=Z,0.3nm,0.3s,mb3.6,baz=14,slow=5.5,SNR=4.4								
GERES	**GERESS Array B**	**78.95**	**358**	P			**P**	**06 50 02.0**	**+0.2**
	comp=Z,0.5nm,0.6s,mb3.6,baz=302,slow=3.0,SNR=3.7								
WRA	**Warramunga Arr**	**87.25**	**232**	P			**P**	**06 50 49.3**	**+4.6**
	comp=Z,0.3nm,0.8s,mb3.5,baz=41,slow=6.6,SNR=2.8								
ASAR	**Alice Springs**	**90.64**	**230**	P			**P**	**06 51 06.2**	**+5.6**
	comp=Z,0.2nm,0.6s,mb3.6,baz=34,slow=4.4,SNR=4.4								

IDC ***10*** *06:45:26.7±4.7, 52.10N×168.74W, h0km, mb3.3/3, mb1 3.5/5, mb1mx3.4/22, mbtmp3.4/5, ML3.3/1, Error ellipse: s-maj=111.8km s-min=17.8km az=165.0*

ISCJB ***10*** *06:45:32.6±1.6, 524N±02×169.1W±0.1, h49km±13km, mb3.2/3, Error ellipse: s-maj=29.5km s-min=6.5km az=127.8*

NEIC ***10*** *06:45:32.4, 52.40N×169.05W, h38km, ML3.3(AEIC), After AEIC.*

ISC 10 06:45:33.4±1.7, 524N±02×1690W±02, h43km±15km, n13, σ1§15/18, mb3.2/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
NIKO	**Nikolski**	**0.58**	**9**	P			**Pn**	**06 45 43.9**	**-1.5**
NIKO				S			**Sn**	**06 45 52.2**	**-1.6**
OKCE	**Okmok Cone E**	**1.15**	**26**	P			**Pn**	**06 45 53.1**	**+0.1**
OKCE				S			**Sn**	**06 46 08.6**	**+1.1**
OKCD	**Okmok Cone D**	**1.17**	**27**	P			**Pn**	**06 45 53.3**	**+0.1**
OKCD				S			**Sn**	**06 46 09.5**	**+1.5**
UNV	**Unalaska Valle**	**2.09**	**45**	P			**Pn**	**06 46 05.8**	**-0.1**
UNV				S			**Sn**	**06 46 31.5**	**+0.8**
ATKA	**Atka Island**	**3.19**	**269**	P			**Pn**	**06 46 20.4**	**-0.6**
ATKA				S			**Sn**	**06 46 58.2**	**+0.3**
SDPT	**Sand Point**	**5.84**	**56**	P			**Pn**	**06 47 01.6**	**+4.1**
AMKA	**Amchitka**	**7.31**	**267**	P			**Pn**	**06 47 17.7**	**+0.1**
FX1	**Attu Island--F**	**10.85**	**280**	Pn			**Pn**	**06 48 08.5**	**+2.5**
	0.8nm,0.3s,baz=253,slow=14,SNR=3.4								
ILAR	**Eielson Array**	**16.80**	**34**	Pn			**Pn**	**06 49 24.0**	**-1.4**
	baz=236,slow=9.7,SNR=3.1								
INK	**Inuvik**	**23.20**	**33**	P			**P**	**06 50 34.4**	**-2.1**
	0.5nm,0.7s,mb3.1,baz=241,slow=16,SNR=3.7								
YKA	**Yellowknife Ar**	**30.05**	**49**	P			**P**	**06 51 39.2**	**+0.9**
	0.2nm,0.5s,mb3.1,baz=274,slow=7.3,SNR=11								
YKA	**Yellowknife Ar**	**30.05**	**49**	P			**P**	**06 51 39.2**	**+0.9**
SONM	**Songino Array**	**51.48**	**301**	P			**P**	**06 54 34.4**	**-0.1**
	0.3nm,0.7s,mb3.4,baz=70,slow=6.7,SNR=3.6								

SOF ***10*** *07:01:40.3, 4046N×2351E, h2km, MD4.1*

ISCJB ***10*** *07:01:41.7±0.3, 4054N±001×2342E±001, h7km±2km, mb4.5/57, MS3.9/10, Error ellipse: s-maj=1.9km s-min=1.4km az=61.3*

THE ***10*** *07:01:42.8, 4052N×2342E, h2km, ML4.3*

ATH ***10*** *07:01:42.1, 4051N×2347E, h15km±1km, MD4.2/20, ML4.0*

NEIC ***10*** *07:01:42.1, 4051N×2347E, h15km, mb4.4/47, MD4.1(SOF), ML4.0(ATH), ML4.2(ROM), ML4.2(THE), ML4.5(PDG), After ATH.*

CSEM ***10*** *07:01:42.2, 4053N×2341E, h10km, mb4.8*

PDG ***10*** *07:01:42.8±0.7, 4051N×2344E, h11km±1km*

BJI ***10*** *07:01:42.5, 4055N×2284E, h39km, mB4.9, mb4.7, Ms4.6, Msz4.3*

SKO ***10*** *07:01:42.9, 4051N×2340E, h5km*

IDC ***10*** *07:01:44.0±3.2, 4058N×2342E, h12km±21km, mb4.2/19, mb1 4.3/27, mb1mx4.3/31, mbtmp4.3/27, ML4.1/9, MS3.8/11, Ms1 3.8/11, ms1mx3.5/25, Error ellipse: s-maj=11.2km s-min=9.3km az=34.0*

MOS ***10*** *07:01:44.6±1.2, 4054N×2337E, h33km, mb4.5/24, Error ellipse: s-maj=3.8km s-min=2.5km az=107.3*

HLW ***10*** *07:01:44.9, 4026N×2282E, h33km, Mb3.9*

PRU ***10*** *07:01:49.8, 4089N×2278E, h0km, M4.4*

ISC 10 07:01:43.0±0.3, 4051N±001×2343E±001, h5km±2km, n461, σ1§14/546, mb4.5/58, MS3.9/10, 45C-25D, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
PLG	**Polygyros**	**0.13**	**173**	⇑*i*		*PB*	**Pg**	**07 01 46.0**	**+0.3**
SOH	**Sokhos**	**0.32**	**350**	*eP*		*g*	**Pg**	**07 01 48.8**	**-0.4**
SOH				*eS*		*g*	**Sg**	**07 01 53.4**	**0.0**
THE	**Thessaloniki**	**0.37**	**290**	*eP*		*g*	**Pg**	**07 01 49.5**	**-0.7**
THE				*eS*		*g*	**Sg**	**07 01 54.9**	**-0.2**
OUR	**Ouranopolis**	**0.46**	**112**	*eP*		*g*	**Pg**	**07 01 52.1**	**+0.2**
OUR				*eS*		*g*	**Sg**	**07 01 58.9**	**+1.1**
PAIG	**Paliouri**	**0.61**	**161**	*eP*		*g*	**Pg**	**07 01 54.4**	**-0.4**
PAIG				*eS*		*g*	**Sg**	**07 02 03.5**	**+0.8**
PAIG	**Paliouri**	**0.61**	**161**	*eP*		*g*	**Pg**	**07 01 54.3**	**-0.5**
PAIG				*eS*		*g*	**Sg**	**07 02 03.5**	**+0.8**
SRS	**Serrai**	**0.62**	**12**	*eP*		*g*	**Pg**	**07 01 53.7**	**-1.3**
SRS				*eS*		*g*	**Sg**	**07 02 02.9**	**-0.2**
KNT	**Kendrikon**	**0.77**	**329**	*eP*		*g*	**Pg**	**07 01 56.7**	**-1.1**
KNT	**Kendrikon**	**0.77**	**329**	P			**Pg**	**07 01 56.7**	**-1.1**
KNT				S			**Sg**	**07 02 10.6**	**+2.8**
LIT	**Litokhoron**	**0.82**	**241**	*eP*		*g*	**Pg**	**07 01 58.7**	**-0.1**
LIT				*eS*		*g*	**Sg**	**07 02 10.6**	**+1.1**
GRG	**Griva**	**0.90**	**300**	*eP*		*g*	**Pg**	**07 01 58.8**	**-1.5**
GRG				*eS*		*g*	**Sg**	**07 02 13.2**	**+1.2**
GRG	**Griva**	**0.90**	**300**	*eP*		*g*	**Pg**	**07 01 58.8**	**-1.5**
GRG				*eS*		*g*	**Sg**	**07 02 13.1**	**+1.1**
NVR	**Nevrokopi**	**0.91**	**21**	⇑*i*		*PN*	**Pn**	**07 01 59.3**	**-3.1**
NVR				*eS*		*N*	**Sn**	**07 02 11.4**	**-4.5**
VAY	**Valandovo**	**1.04**	**322**	⇑*i*		*Pg*	**Pg**	**07 02 01.2**	**-1.8**
MMB	**Musomiste**	**1.11**	**12**	*i*		*Pg*	**Pg**	**07 02 02.0**	**-2.3**
XOR	**Xorichti**	**1.15**	**189**	*eP*		*g*	**Pg**	**07 02 04.2**	**-0.9**
NEO	**Neokhori**	**1.21**	**187**	⇑*i*		*PN*	**Pn**	**07 02 05.3**	**-1.3**
NEO				*eS*		*N*	**Sn**	**07 02 22.4**	**-0.9**
KZN	**Kozani**	**1.28**	**262**	*eP*		*N*	**Pn**	**07 02 06.3**	**-1.3**
KZN				*eS*		*N*	**Sn**	**07 02 24.8**	**-0.3**
AOS	**Alonnisos**	**1.38**	**165**	*eP*		*g*	**Pg**	**07 02 07.9**	**-1.6**
	comp=Z,19nm,0.9s								
KKB	**Krupnik**	**1.38**	**349**	*i*	P		**Pn**	**07 02 08.9**	**-0.1**
LIA	**Limnos Island**	**1.48**	**114**	*eP*		*N*	**Pn**	**07 02 09.2**	**-1.1**
LIA				*eS*		*N*	**Sn**	**07 02 28.9**	**+1.1**
STIP	**Stip**	**1.51**	**322**	*i*		*Pn*	**Pn**	**07 02 10.1**	**-0.7**
STIP				*i*		*Sn*	**Sn**	**07 02 30.9**	**+0.1**
STIP	**Stip**	**1.51**	**322**	*i*		*Pn*	**Pn**	**07 02 10.0**	**-0.8**
STIP				*i*		*Sn*	**Sn**	**07 02 30.9**	**0.0**
RZN	**Rozhen**	**1.53**	**39**	*i*	P		**Pn**	**07 02 11.3**	**+0.3**
FNA	**Florina**	**1.58**	**281**	*eP*		*g*	**Pg**	**07 02 11.4**	**-2.0**
FNA				*eS*		*g*	**Sg**	**07 02 32.5**	**-1.4**
BIA	**Bitola**	**1.68**	**288**	*i*		*Pn*	**Pn**	**07 02 12.4**	**-0.6**
BIA				*i*		*Sn*	**Sn**	**07 02 34.1**	**-0.8**
BIA	**Bitola**	**1.68**	**288**	*i*		*Pn*	**Pn**	**07 02 12.4**	**-0.6**
BIA				*i*		*Sn*	**Sn**	**07 02 34.1**	**-0.8**
AGG	**Agios Georgios**	**1.71**	**210**	*eP*		*b*	**Pb**	**07 02 12.8**	**-2.1**
	comp=Z,46nm,0.8s								
AGG				*eS*		*b*	**Sb**	**07 02 35.9**	**-0.7**
RDO	**Rodhopi**	**1.73**	**68**	⇓*i*		*PB*	**Pb**	**07 02 12.3**	**-2.9**
RDO				*eS*		*N*	**Sn**	**07 02 35.4**	**-0.7**
PLD	**Plovdiv**	**1.86**	**31**	P			**Pn**	**07 02 18.3**	**+2.7**
LKR	**Lokris**	**1.88**	**190**	⇑*i*		*PB*	**Pb**	**07 02 15.0**	**-2.9**
LKR				*eS*		*N*	**Sn**	**07 02 40.3**	**+0.3**
KDZ	**Kurdzhali**	**1.89**	**52**	*i*	P		**Pn**	**07 02 14.5**	**-1.5**
KBN	**Korca**	**2.01**	**274**	*i*		*Pn*	**Pn**	**07 02 19.0**	**+1.3**
EVR	**Evrytania**	**2.02**	**219**	*eP*		*B*	**Pb**	**07 02 17.3**	**-2.9**
EVR				*eS*		*N*	**Sn**	**07 02 44.5**	**+1.1**
ALN	**Alexandroupoli**	**2.03**	**78**	*eP*		*n*	**Pn**	**07 02 16.8**	**-1.1**
ALN				*eS*		*n*	**Sn**	**07 02 44.4**	**+0.7**
OHR	**Ohrid**	**2.08**	**288**	*i*		*Pn*	**Pn**	**07 02 18.2**	**-0.4**
OHR	**Ohrid**	**2.08**	**288**	*i*		*Pn*	**Pn**	**07 02 18.1**	**-0.5**
VTS	**Vitosha**	**2.09**	**356**	*i*	P		**Pn**	**07 02 19.2**	**+0.5**
VTS	**Vitosha**	**2.09**	**356**	⇑*i*		*PB*	**Pn**	**07 02 18.7**	**0.0**
SKO	**Skopje**	**2.10**	**315**	*eP*		*n*	**Pn**	**07 02 18.5**	**-0.3**
SKO				*eS*		*n*	**Sn**	**07 02 44.8**	**-0.4**
PGR	**Panagyurishte**	**2.12**	**15**	*i*	P		**Pn**	**07 02 20.4**	**+1.6**
BOZC	**Bozcaada**	**2.12**	**107**	*i*	P		**Pn**	**07 02 19.8**	**+0.7**
JAN	**Janina**	**2.15**	**248**	*eP*		*N*	**Pn**	**07 02 20.6**	**+1.1**
JAN				*eS*		*N*	**Sn**	**07 02 47.6**	**+1.0**
SOF	**Sofiya**	**2.18**	**358**	*i*	P		**Pn**	**07 02 22.0**	**+2.1**
LSK	**Leskovik**	**2.19**	**262**	*i*		*Pn*	**Pn**	**07 02 23.4**	**+3.3**
LSK	**Leskovik**	**2.19**	**262**	*eP*		*N*	**Pn**	**07 02 23.4**	**+3.3**
DIM	**Dimitrovgrad**	**2.21**	**45**	*i*	P		**Pn**	**07 02 24.1**	**+3.7**
EZN	**Ezine**	**2.32**	**106**	PN			**Pn**	**07 02 21.5**	**-0.4**
EZN	**Ezine**	**2.32**	**106**	P			**Pn**	**07 02 21.9**	**0.0**
PTL	**Penteli**	**2.48**	**172**	*eP*		*N*	**Pn**	**07 02 23.8**	**-0.2**
PRK	**Paraskevi**	**2.53**	**119**	*eP*		*N*	**Pn**	**07 02 25.0**	**+0.3**
PRK				*eS*		*N*	**Sn**	**07 02 55.9**	**0.0**
ATH	**Athens Observa**	**2.54**	**175**	⇑*i*		*PN*	**Pn**	**07 02 24.6**	**-0.3**
ATH				*eS*		*N*	**Sn**	**07 02 55.7**	**-0.5**
KVR	**Kavouri**	**2.69**	**174**	*eP*		*N*	**Pn**	**07 02 26.5**	**-0.4**
SRN	**Sarande**	**2.70**	**258**	*i*		*Pn*	**Pn**	**07 02 29.3**	**+2.2**
SRN				*i*		*Sn*	**Sn**	**07 03 02.9**	**+2.8**
SRN	**Sarande**	**2.70**	**258**	*eP*		*N*	**Pn**	**07 02 29.3**	**+2.2**
AYVA	**Ayvalik**	**2.78**	**114**	*i*	P		**Pn**	**07 02 28.8**	**+0.5**
AYVA				*i*	S		**Sg**	**07 03 14.4**	**+2.1**
EDRB	**Edirne**	**2.84**	**61**	PN			**Pn**	**07 02 34.1**	**+5.0**
SART	**Tekirdag**	**2.86**	**85**	*i*	P		**Pn**	**07 02 28.9**	**-0.5**
SART				*i*	S		**Sg**	**07 03 16.3**	**+1.3**
RLS	**Riolos of Patr**	**2.88**	**212**	*eP*		*N*	**Pn**	**07 02 30.6**	**+1.0**
RLS				*eS*		*N*	**Sn**	**07 03 05.0**	**+0.4**
KEK	**Kerkira**	**2.89**	**255**	*eP*		*B*	**Pb**	**07 02 31.4**	**-3.7**
KEK				*eS*		*N*	**Sn**	**07 03 06.0**	**+1.1**
CHOS	**Chios island**	**2.94**	**135**	*eP*		*n*	**Pn**	**07 02 30.7**	**+0.3**
MFT	**Murefte**	**2.95**	**83**	PN			**Pn**	**07 02 29.6**	**-0.9**
PVL	**Pavlikeni**	**3.06**	**27**	*i*	P		**Pn**	**07 02 30.5**	**-1.6**
JMB	**Yambol**	**3.08**	**49**	P			**Pn**	**07 02 37.0**	**+4.7**
MRMT	**Marmara Adasi**	**3.18**	**87**	PN			**Pn**	**07 02 34.7**	**+1.0**
MRMT	**Marmara Adasi**	**3.18**	**87**	P			**Pn**	**07 02 34.6**	**+0.9**
VLS	**Valsamata**	**3.20**	**224**	*eP*		*N*	**Pn**	**07 02 34.7**	**+0.7**
VLS				*eS*		*N*	**Sn**	**07 03 12.1**	**+0.5**
PVY	**Plav**	**3.33**	**310**	⇑*i*		*PN*	**Pn**	**07 02 36.8**	**+1.1**
PVY				*eS*		*N*	**Sn**	**07 03 17.3**	**+1.7**
SZH	**Strazhica**	**3.33**	**33**	*i*	P		**Pn**	**07 02 40.2**	**+4.4**
EDC	**Edincik**	**3.39**	**91**	PN			**Pn**	**07 02 37.6**	**+1.0**
BNT	**Bandirma**	**3.43**	**91**	PN			**Pn**	**07 02 37.6**	**+0.4**
ZIMR		**3.46**	**24**	⇑*i*	P		**Pn**	**07 02 38.2**	**+0.6**
ZIMR		**3.46**	**24**	⇑P			**Pn**	**07 02 38.2**	**+0.6**
ULC	**Ulcinj**	**3.47**	**296**	⇑*i*		*Pn*	**Pn**	**07 02 39.1**	**+1.5**
ULC				*eS*		*N*	**Sn**	**07 03 20.2**	**+1.0**
BOLS	**Boljevac**	**3.50**	**342**	⇑*i*		*Pn*	**Pn**	**07 02 36.9**	**-1.2**
BOLS				Sn			**Sn**	**07 03 18.5**	**-1.3**
ITM	**Ithomi**	**3.52**	**200**	*eP*		*N*	**Pn**	**07 02 40.0**	**+1.6**
ITM				*eS*		*N*	**Sn**	**07 03 21.6**	**+1.2**
BALB	**Balikesir**	**3.52**	**103**	PN			**Pn**	**07 02 39.9**	**+1.4**
IVA	**Berane**	**3.54**	**313**	⇑*i*		*Pn*	**Pn**	**07 02 38.4**	**-0.4**
IVA				*eS*		*N*	**Sn**	**07 03 22.6**	**+1.5**
BTOK	**Tokmak**	**3.61**	**100**	*i*	P		**Pn**	**07 02 39.9**	**+0.3**
IZM	**Izmir**	**3.64**	**124**	PN			**Pn**	**07 02 40.9**	**+1.3**
KDAG	**Bornova**	**3.64**	**124**	*i*	P		**Pn**	**07 02 40.9**	**+0.9**
TTG	**Podgorica**	**3.67**	**303**	⇑*i*		*Pn*	**Pn**	**07 02 41.4**	**+0.9**
TTG				*eS*		*N*	**Sn**	**07 03 25.8**	**+1.7**
AKS	**Akhisar**	**3.75**	**114**	PN			**Pn**	**07 02 42.9**	**+1.3**
KCT	**Karacabey**	**3.77**	**92**	PN			**Pn**	**07 02 41.4**	**-0.5**
KCT	**Karacabey**	**3.77**	**92**	P			**Pn**	**07 02 41.3**	**-0.6**
VLI	**Veliai**	**3.80**	**186**	⇑*i*		*PN*	**Pn**	**07 02 42.0**	**-0.3**
APE	**Apeiranthos**	**3.81**	**154**	⇑*i*		*P*	**Pn**	**07 02 42.1**	**-0.2**
BUM	**Brajici-Budva**	**3.85**	**299**	⇑*i*		*Pn*	**Pn**	**07 02 43.9**	**+1.0**
BUM				*eS*		*N*	**Sn**	**07 03 29.4**	**+0.9**
CTT	**Catalca**	**3.85**	**79**	*eP*		*N*	**Pn**	**07 02 44.4**	**+1.4**
ELBA	**Catalca**	**3.85**	**79**	*i*	P		**Pn**	**07 02 42.5**	**-0.4**
ELBA	**Catalca**	**3.85**	**79**	*i*	P		**Pn**	**07 02 42.5**	**-0.4**
SMG	**Samos**	**3.85**	**135**	*eP*		*N*	**Pn**	**07 02 43.4**	**+0.4**
GRUS	**Gruza**	**3.93**	**330**	*i*		*Pn*	**Pn**	**07 02 43.0**	**-1.1**
GRUS				Sn			**Sg**	**07 03 51.7**	**+2.3**
NKY	**Niksic**	**4.04**	**306**	*eP*		*N*	**Pn**	**07 02 47.0**	**+1.5**
NKY				*eS*		*N*	**Sn**	**07 03 34.9**	**+1.7**
LCI	**Lecce**	**4.06**	**269**	Pn			**Pn**	**07 02 45.6**	**-0.2**
DST	**Dursunbey**	**4.09**	**101**	*eP*		*N*	**Pn**	**07 02 46.6**	**+0.3**
PLE	**Pljevlja**	**4.12**	**314**	⇑*i*		*Pn*	**Pn**	**07 02 48.0**	**+1.3**
PLE				*eS*		*N*	**Sn**	**07 03 36.2**	**+0.9**
SVIS	**Svilajnac**	**4.12**	**337**	⇑*i*		*PN*	**Pn**	**07 02 46.1**	**-0.6**
SVIS				Sn			**Sn**	**07 03 33.1**	**-2.2**
HCY	**Herceg Novi**	**4.18**	**299**	⇑*i*		*PN*	**Pn**	**07 02 48.8**	**+1.4**
HCY				*eS*		*N*	**Sn**	**07 03 37.8**	**+1.1**
KYTH	**Kithira**	**4.23**	**184**	*eP*		*N*	**Pn**	**07 02 50.0**	**+1.9**
ISK	**Istanbul-Kandi**	**4.31**	**81**	*eP*		*N*	**Pn**	**07 02 50.3**	**+1.0**
UPM	**Unac-Piva**	**4.32**	**310**	*eP*		*n*	**Pn**	**07 02 50.9**	**+1.6**
UPM				*eS*		*N*	**Sn**	**07 03 40.8**	**+0.7**
BRY	**Bratogost**	**4.37**	**305**	⇑*i*		*Pn*	**Pn**	**07 02 51.6**	**+1.5**
BRY				*eS*		*N*	**Sn**	**07 03 41.9**	**+0.5**
ULDT	**Uludag**	**4.38**	**93**	*i*	P		**Pn**	**07 02 51.0**	**+0.8**
TREB	**Trebinje**	**4.40**	**302**	P			**Pn**	**07 02 51.3**	**+0.8**
TREB				S			**Sn**	**07 03 42.4**	**+0.3**
DIVS	**Divcibare**	**4.40**	**326**	*i*		*Pn*	**Pn**	**07 02 50.1**	**-0.4**
DIVS				Sn			**Sn**	**07 03 45.8**	**+3.6**
SANT	**Santorini**	**4.43**	**158**	*eP*		*n*	**Pn**	**07 02 48.6**	**-2.3**
SANT	**Santorini**	**4.43**	**158**	*eP*		*n*	**Pn**	**07 02 48.6**	**-2.2**
MANT	**Manisa**	**4.45**	**115**	*i*	P		**Pn**	**07 02 52.5**	**+1.4**
MANT	**Manisa**	**4.45**	**115**	*i*	P		**Pn**	**07 02 52.5**	**+1.3**
AYDN	**Tasoluk**	**4.48**	**128**	*i*	P		**Pn**	**07 02 52.6**	**+1.0**
YLV	**Yalova**	**4.53**	**87**	*eP*		*N*	**Pn**	**07 02 54.8**	**+2.5**
PE1	**Pezze di Greco**	**4.58**	**276**	*eP*		*n*	**Pn**	**07 02 52.7**	**-0.2**
BODT	**Bodrum**	**4.59**	**137**	*eP*		*N*	**Pn**	**07 02 53.8**	**+0.8**
IZI	**Iznik**	**4.62**	**90**	*eP*		*N*	**Pn**	**07 02 54.0**	**+0.6**
BDRM	**Kayabasi**	**4.65**	**136**	*i*	P		**Pn**	**07 02 54.8**	**+0.8**
MLSB	**Milas**	**4.67**	**132**	*eP*		*N*	**Pn**	**07 03 01.5**	**+7.3**
BRT	**Bari-Castellan**	**4.75**	**277**	Pn			**Pn**	**07 02 55.8**	**+0.6**
BRT				Sn			**Sn**	**07 03 49.5**	**-1.1**
PSN	**Preselentsi**	**4.75**	**47**	P			**Pn**	**07 02 54.0**	**-1.4**
HRT	**Hereke**	**4.76**	**84**	*eP*		*N*	**Pn**	**07 02 57.8**	**+2.4**
BEO	**Belgrade**	**4.84**	**334**	*i*		*Pn*	**Pn**	**07 02 58.9**	**+2.4**
MTUR	**Matau**	**4.87**	**14**	⇑*i*	P		**Pn**	**07 02 57.6**	**+0.7**
GDZ	**Gediz**	**4.87**	**105**	*i*	P		**Pn**	**07 02 58.1**	**+1.1**
GDZ				*i*	S		**Sg**	**07 04 14.3**	**-5.3**
STON	**Ston**	**4.89**	**301**	*i*		*Pn*	**Pn**	**07 02 58.4**	**+1.1**
STON				*i*		*Sn*	**Sn**	**07 03 56.4**	**+2.1**
BAI	**Bari**	**5.00**	**279**	*eP*		*n*	**Pn**	**07 02 58.5**	**-0.3**
VOIR		**5.07**	**13**	⇓*i*	P		**Pn**	**07 03 00.3**	**+0.6**
YER	**Yerkesik**	**5.07**	**130**	*eP*		*N*	**Pn**	**07 03 00.8**	**+1.1**
SNX	**Sinaia**	**5.08**	**17**	⇑*i*	P		**Pn**	**07 03 00.8**	**+0.9**
SNX	**Sinaia**	**5.08**	**17**	⇑P			**Pn**	**07 03 00.8**	**+0.9**
VAM	**Vamos**	**5.13**	**173**	*eP*		*N*	**Pn**	**07 03 02.1**	**+1.6**
BZS	**Buzias**	**5.28**	**346**	⇓*i*	P		**Pn**	**07 03 01.3**	**-1.2**
BZS	**Buzias**	**5.28**	**346**	⇓P			**Pn**	**07 03 01.3**	**-1.2**
TIP	**Timpagrande**	**5.30**	**258**	*eP*		*n*	**Pn**	**07 03 02.9**	**0.0**
TIP				*eSn*			**Sn**	**07 04 00.4**	**-3.9**
TIP	**Timpagrande**	**5.30**	**258**	*eP*		*n*	**Pn**	**07 03 02.9**	**0.0**
TIP				*eSn*			**Sn**	**07 04 00.4**	**-3.9**
MLR	**Muntele Rosu**	**5.31**	**20**	Pn			**Pn**	**07 03 02.5**	**-0.6**
	3.6nm,0.3s,baz=210,slow=6.0,SNR=167								
MLR				Sn			**Sn**	**07 03 45.9**	**-19**
	6.3nm,0.3s,baz=144,slow=20,SNR=3.0								
MLR				Lg				07 04 32.3	
	baz=84,slow=21,SNR=

comp=Z,0.7nm,0.3s,baz=164,slow=21,SNR=7.1
VRAC LR LR 07 08 03.1
comp=Z,313nm,21.3s,baz=356,slow=38
VRAC Vranov 10.04 333 ⇑*i* P **Pn 07 04 09.8 +1.9**
VRAC Vranov 10.04 333 P **Pn 07 04 08.2 +0.3**
VRAC pmax pmax
comp=Z,1.0nm,0.3s
VRAC MLR MLR
comp=Z,313nm,21.3s
VRAC Vranov 10.04 333 ⇑P **Pn 07 04 09.8 +1.8**
OKC Ostrava-Krasne 10.04 340 *e*P **Pn 07 04 07.8 -0.2**
OKC AMS AMS 07 08 30.0
comp=Z,1μm,12.2s
OKC Ostrava-Krasne 10.04 340 *e*P **Pn 07 04 07.8 -0.2**
comp=Z,1μm,12.2s
MORC Moravsky Berou 10.15 338 P **Pn 07 04 09.0 -0.5**
MORC pmax pmax
comp=Z,5.0nm,0.7s
MORC Moravsky Berou 10.15 338 Pn **Pn 07 04 09.0 -0.5**
comp=Z,4.7nm,0.7s
TREC Trest 10.43 330 AMS AMS 07 08 20.0
comp=Z,700nm,9.8s
COBT Iskenderun 10.81 107 *i* P **Pn 07 04 22.2 +3.8**
GEC2 GERESS Array S 10.83 324 *e*Pn **Pn 07 04 19.6 +0.9**
GERES GERESS Array B 10.83 324 Pn **Pn 07 04 19.0 +0.3**
comp=Z,0.6nm,0.3s,baz=138,slow=14,SNR=22
GERES Sn **Sn 07 06 17.9 -2.4**
comp=Z,1.3nm,0.3s,baz=282,slow=28,SNR=7.7
GERES LR LR 07 08 53.7
comp=Z,505nm,20.8s,baz=135,slow=40
GERES GERESS Array B 10.83 324 P **Pn 07 04 19.0 +0.3**
GERES 07 06 17.9
WTTA Wattenberg 10.86 312 ⇓*i* Pn **Pn 07 04 19.2 +0.1**
WTTA ⇓*i* Sn **Sn 07 06 14.9 -6.1**
AKASG Malin Array Be 10.97 20 Pn **Pn 07 04 19.3 -1.3**
comp=Z,0.9nm,0.3s,baz=203,slow=13,SNR=6.8
AKASG Lg 07 07 39.9
baz=185,slow=31,SNR=5.3
AKASG Malin Array Be 10.97 20 Pn **Pn 07 04 19.3 -1.3**
AKASG Lg 07 07 39.9
PGF Pioggiola 11.01 285 *e*P **Pn 07 04 21.8 +0.6**
DPC Dobruska-Polom 11.03 336 *e*P **Pn 07 04 21.8 +0.3**
DPC *e*S **Sn 07 06 17.1 -8.1**
DPC AMS AMS 07 09 10.0
comp=Z,600nm,12.0s
SQTA Sankt Quirin 11.08 311 ⇑*i* Pn **Pn 07 04 22.8 +0.7**
SQTA ⇑*i* Sn **Sn 07 06 20.8 -5.5**
KHC Kasperske Hory 11.09 324 *e*P **Pn 07 04 23.9 +1.6**
KHC *ex* x 07 06 14.8
KHC AMS AMS 07 08 50.0
comp=Z,800nm,10.5s
MOTA Moosalm 11.20 312 *i* Pn **Pn 07 04 25.1 +1.3**
SNR=7.8
MOTA ⇑*i* Sn **Sn 07 06 23.6 -5.9**
MOTA Moosalm 11.20 312 *i* Pn **Pn 07 04 25.1 +1.2**
MOTA *i* Sn **Sn 07 06 23.6 -5.9**
PRU Pruhonice 11.35 330 *e*P **Pn 07 04 26.6 +0.7**
PRU AMS AMS 07 08 40.0
comp=Z,600nm,10.1s
SWA2 11.36 171 P **Pn 07 04 23.8 -2.1**
SWA2 S **Sn 07 06 20.3 -13**
SWA1 11.37 170 ⇑P **Pn 07 04 23.8 -2.3**
WET Wettzell 11.42 323 *e*Pn **Pn 07 04 28.2 +1.4**
DAVOX Davos 11.64 307 Pn **Pn 07 04 30.3 +0.5**
comp=Z,1.2nm,0.3s,baz=126,slow=23,SNR=11
DAVOX Sn **Sn 07 06 42.2 +2.1**
comp=Z,0.5nm,0.3s,baz=156,slow=23,SNR=4.2
DAVOX LR LR 07 09 52.2
comp=Z,737nm,18.5s,baz=99,slow=42
DAVOX Davos 11.64 307 Pn **Pn 07 04 30.3 +0.5**
DAVOX Sn **Sn 07 06 42.2 +2.1**
DAVOX LR LR 07 09 52.2
DAVA Damuels 11.88 309 ⇑*i* Pn **Pn 07 04 33.3 +0.2**
DAVA ⇓*i* Sn **Sn 07 06 39.6 -6.5**
MMAI Mount Meron Ar 12.16 124 Pn **Pn 07 04 37.8 +0.8**
comp=Z,1.4nm,0.3s,baz=321,slow=16,SNR=3.9
ROTZ Rotzenmuhle 12.17 323 *e*Pn **Pn 07 04 37.8 +0.7**
MANZ Manzenberg 12.37 324 *e*Pn **Pn 07 04 40.7 +0.9**
NKC Novy Kostel 12.40 325 AMS AMS 07 09 40.0
comp=Z,700nm,11.6s
FBE Freiberg 12.56 329 *e*Pn **Pn 07 04 42.7 +0.4**
WERD Werda 12.62 326 *e*Pn **Pn 07 04 44.6 +1.4**
MBDF Montbardon 12.97 294 *e*P **Pn 07 04 48.3 +0.3**
comp=Z,40nm,0.9s
MBDF Montbardon 12.97 294 *e*P **Pn 07 04 48.3 +0.3**
MBDF pmax pmax
comp=Z,20nm,0.9s
MBDF Montbardon 12.97 294 *e*P **Pn 07 04 48.3 +0.3**
comp=Z,20nm,0.9s
CLL Collm 13.00 330 *es*P **Pn 07 04 51.0 +2.6**
MOX Moxa 13.07 325 *e*Pn **Pn 07 04 49.1 -0.2**
MOX Moxa 13.07 325 *e*PN **Pn 07 04 50.8 +1.5**
comp=Z,27nm,1.8s
MOX
comp=Z,600nm,16.0s
MOX Moxa 13.07 325 *e*P **Pn 07 04 50.8 +1.5**
MOX pmax pmax
comp=Z,27nm,1.8s
MOX MLR MLR
comp=Z,600nm,16.0s
LPG La Plagne 13.18 298 *e*P **Pn 07 04 49.6 -1.2**
comp=Z,32nm,0.8s
LPG La Plagne 13.18 298 *e*P **Pn 07 04 49.6 -1.2**
LPG pmax pmax
comp=Z,16nm,0.8s
LPG La Plagne 13.18 298 *e*P **Pn 07 04 49.6 -1.2**
comp=Z,16nm,0.8s
LPL La Plagne 13.20 298 *e*P **Pn 07 04 49.8 -1.3**
comp=Z,39nm,0.9s
LPL La Plagne 13.20 298 *e*P **Pn 07 04 49.8 -1.3**
LPL pmax pmax
comp=Z,20nm,0.9s
LPL La Plagne 13.20 298 *e*P **Pn 07 04 49.8 -1.3**
comp=Z,20nm,0.9s
FELD Feldberg im Sc 13.28 309 *e*P **Pn 07 04 50.7 -1.5**
BFO Black Forest 13.31 311 *e*Pn **Pn 07 04 50.4 -2.2**
SUW Suwalki 13.51 359 *e*P **Pn 07 04 56.1 +0.7**
ORIF Oris-en-Rattie 13.63 295 *e*P **Pn 07 04 56.6 -0.4**
comp=Z,18nm,0.8s
ORIF Oris-en-Rattie 13.63 295 *e*P **Pn 07 04 56.6 -0.4**
ORIF pmax pmax
comp=Z,9.0nm,0.8s
ORIF Oris-en-Rattie 13.63 295 *e*P **Pn 07 04 56.6 -0.4**
comp=Z,9.3nm,0.8s
ASF Jabal al Asfar 13.66 123 Pn **Pn 07 05 01.4 +3.9**
comp=Z,0.2nm,0.3s,baz=290,slow=9.9,SNR=2.7
ASF LR LR 07 11 16.9
comp=Z,202nm,20.2s,baz=199,slow=42
HINF Hinteralfeld 13.95 307 *e*P **Pn 07 04 59.8 -1.5**
comp=Z,23nm,1.0s
HINF Hinteralfeld 13.95 307 *e*P **Pn 07 04 59.8 -1.5**
HINF pmax pmax
comp=Z,11nm,1.0s
HINF Hinteralfeld 13.95 307 *e*P **Pn 07 04 59.8 -1.5**
comp=Z,11nm,1.0s
CDF Champ du Feu 13.96 310 *e*P **Pn 07 05 00.1 -1.4**
comp=Z,11nm,0.7s
CDF Champ du Feu 13.96 310 *e*P **Pn 07 05 00.1 -1.4**
CDF pmax pmax
comp=Z,6.0nm,0.7s
CDF Champ du Feu 13.96 310 *e*P **Pn 07 05 00.1 -1.4**
comp=Z,5.7nm,0.7s
CABF La Chapelle 13.96 302 *e*P **Pn 07 04 59.7 -1.9**
comp=Z,31nm,1.0s
CABF La Chapelle 13.96 302 *e*P **Pn 07 04 59.7 -1.9**
CABF pmax pmax
comp=Z,15nm,1.0s
CABF La Chapelle 13.96 302 *e*P **Pn 07 04 59.7 -1.9**
comp=Z,15nm,1.0s
TNS Taunus Mts 14.30 318 *e*Pn **Pn 07 05 05.2 -1.0**
HAU Haudompre 14.33 307 *e*P **Pn 07 05 06.3 -0.3**
EIL Elat 14.33 135 *e*Pn **Pn 07 05 08.2 +1.6**
comp=Z,261nm,0.9s
VIVF Saint-Julien-l 14.46 294 *e*P **Pn 07 05 08.8 +0.5**
CLZ Clausthal 14.47 326 *e*Pn **Pn 07 05 15.0 +6.5**
KIV Kislovodsk 14.68 70 *e*P **Pn 07 05 20.4 +9.1**
KIV pmax pmax
comp=Z,17nm,1.1s
RUP Ruppelstein 14.74 314 *e*P **Pn 07 05 19.5 +7.4**
GOF Gofitskoye 15.09 66 *e*P **Pn 07 05 22.9 +6.0**
GOF pmax pmax
comp=Z,30nm,0.6s
PLDF La Plantade 15.42 297 *e*P **Pn 07 05 17.4 -3.8**
ZEI Tsey 15.47 75 *e*P **Pn 07 05 28.9 +7.0**
LBL Lubilhac 15.52 294 *e*P **Pn 07 05 27.7 +5.1**

LOR Lormes 15.62 302 *e*P **Pn 07 05 21.5 -2.4**
comp=Z,13nm,0.7s
LOR Lormes 15.62 302 *e*P **Pn 07 05 21.5 -2.4**
LOR pmax pmax
comp=Z,6.0nm,0.7s
LOR Lormes 15.62 302 *e*P **Pn 07 05 21.5 -2.4**
comp=Z,6.3nm,0.7s
PYM Petit Puy Mans 15.79 296 *e*P **Pn 07 05 30.4 +4.3**
SSF Saint Saulge 15.79 301 *e*P **Pn 07 05 24.7 -1.3**
comp=Z,26nm,0.9s
SSF Saint Saulge 15.79 301 *e*P **Pn 07 05 24.7 -1.3**
SSF pmax pmax
comp=Z,13nm,0.9s
SSF Saint Saulge 15.79 301 *e*P **Pn 07 05 24.7 -1.3**
comp=Z,13nm,0.9s
AVF Avril sur Loir 15.81 300 *e*P **Pn 07 05 24.6 -1.7**
comp=Z,64nm,0.9s
AVF Avril sur Loir 15.81 300 *e*P **Pn 07 05 24.6 -1.7**
AVF pmax pmax
comp=Z,32nm,0.9s
AVF Avril sur Loir 15.81 300 *e*P **Pn 07 05 24.6 -1.7**
comp=Z,32nm,0.9s
MTLF Montolieu 16.03 287 *e*P **Pn 07 05 28.8 -0.4**
comp=Z,19nm,1.1s
MTLF Montolieu 16.03 287 *e*P **Pn 07 05 28.8 -0.4**
MTLF pmax pmax
comp=Z,10.0nm,1.1s
MTLF Montolieu 16.03 287 *e*P **Pn 07 05 28.8 -0.4**
comp=Z,9.6nm,1.1s
BSEG Bad Segeberg 16.08 331 *e*Pn **Pn 07 05 34.1 +4.3**
GNI Garni 16.26 84 Pn **Pn 07 05 35.1 +3.0**
comp=Z,0.2nm,0.3s,baz=129,slow=7.8,SNR=7.2
GNI Garni 16.26 84 *e*P **Pn 07 05 34.3 +2.1**
GNI pmax pmax
comp=Z,49nm,1.4s
GNI Garni 16.26 84 *e*Pn **Pn 07 05 34.3 +2.1**
comp=Z,49nm,1.4s
CAF Calviac 16.30 293 *e*P **Pn 07 05 32.1 -0.5**
comp=Z,52nm,1.2s
CAF Calviac 16.30 293 *e*P **Pn 07 05 32.1 -0.5**
CAF pmax pmax
comp=Z,26nm,1.2s
CAF Calviac 16.30 293 *e*P **Pn 07 05 32.1 -0.5**
comp=Z,26nm,1.2s
BAIF Baives 16.52 312 *e*P **Pn 07 05 33.4 -2.0**
RJF Les Rejaudoux 16.74 294 *e*P **Pn 07 05 37.8 -0.4**
comp=Z,32nm,1.0s
RJF Les Rejaudoux 16.74 294 *e*P **Pn 07 05 37.8 -0.4**
RJF pmax pmax
comp=Z,16nm,1.0s
RJF Les Rejaudoux 16.74 294 *e*P **Pn 07 05 37.8 -0.4**
comp=Z,16nm,1.0s
OBN Obninsk 17.03 26 *e*P **Pn 07 05 38.0 -3.9**
OBN pmax pmax
comp=Z,67nm,2.1s
OBN MLR MLR
comp=Z,100nm,17.0s
ERTA Horta de San J 17.50 279 P **Pn 07 05 47.1 -0.7**
comp=Z,34nm,1.5s
EBIE Bielsa 17.54 285 P **Pn 07 05 47.9 -0.4**
comp=Z,21nm,2.0s
MOS Moscow 17.89 27 *e*P **Pn 07 05 48.2 -4.4**
MOS *e*S **Sn 07 09 01.2 -11**
MOS pmax pmax
comp=Z,127nm,1.1s
MFF Saint Martin d 18.11 297 *e*P **Pn 07 05 54.9 -0.4**
comp=Z,84nm,1.2s
MFF Saint Martin d 18.11 297 *e*P **Pn 07 05 54.9 -0.4**
MFF pmax pmax
comp=Z,42nm,1.2s
MFF Saint Martin d 18.11 297 *e*P **Pn 07 05 54.9 -0.4**
comp=Z,42nm,1.2s
EMOS Mosqueruela 18.19 277 P **Pn 07 05 54.8 -1.5**
comp=Z,12nm,0.8s
LDF La Druitiere 18.58 304 *e*P **Pn 07 06 00.5 -0.5**
FLN La Foliniere 18.85 304 *e*P **Pn 07 06 03.4 -1.0**
comp=Z,22nm,0.9s
FLN La Foliniere 18.85 304 *e*P **Pn 07 06 03.4 -1.0**
FLN pmax pmax
comp=Z,11nm,0.9s
FLN La Foliniere 18.85 304 *e*P **Pn 07 06 03.4 -1.0**
comp=Z,11nm,0.9s
GRR Gorron 18.99 303 *e*P **Pn 07 06 05.3 -0.7**
EVIA Vianos 20.05 273 P **P 07 06 20.6 +3.5**
EVIA pmax pmax
comp=Z,13nm,0.6s
EVIA Vianos 20.05 273 P **P 07 06 20.6 +3.5**
comp=Z,13nm,0.6s
SGMF Saint Gilles 20.05 301 *e*P **P 07 06 17.7 +0.7**
comp=Z,27nm,0.9s
SGMF Saint Gilles 20.05 301 *e*P **P 07 06 17.7 +0.7**
SGMF pmax pmax
comp=Z,14nm,0.9s
SGMF Saint Gilles 20.05 301 *e*P **P 07 06 17.7 +0.7**
comp=Z,14nm,0.9s
ELAN Lanestosa 20.16 287 P **P 07 06 17.6 -0.5**
comp=Z,110nm,1.7s
ENIJ Nijar 20.28 268 P **P 07 06 18.9 -0.6**
ENIJ pmax pmax
comp=Z,61nm,1.2s
ENIJ Nijar 20.28 268 P **P 07 06 18.9 -0.6**
comp=Z,61nm,1.2s
EHUE Huescar 20.33 271 P **P 07 06 19.5 -0.6**
EHUE pmax pmax
comp=Z,9.0nm,1.1s
EHUE Huescar 20.33 271 P **P 07 06 19.5 -0.5**
comp=Z,9.4nm,1.1s
QUIF Quistinic 20.38 300 *e*P **P 07 06 19.5 -1.1**
comp=Z,13nm,0.6s
QUIF Quistinic 20.38 300 *e*P **P 07 06 19.5 -1.1**
QUIF pmax pmax
comp=Z,7.0nm,0.6s
QUIF Quistinic 20.38 300 *e*P **P 07 06 19.5 -1.1**
comp=Z,6.7nm,0.6s
ROSF Rostrenen 20.54 301 *e*P **P 07 06 21.5 -0.8**
comp=Z,27nm,0.9s
ROSF Rostrenen 20.54 301 *e*P **P 07 06 21.5 -0.8**
ROSF pmax pmax
comp=Z,14nm,0.9s
ROSF Rostrenen 20.54 301 *e*P **P 07 06 21.5 -0.8**
comp=Z,14nm,0.9s
HFS Hagfors 20.57 346 P **P 07 06 21.0 -1.6**
comp=Z,9.4nm,0.7s,baz=163,slow=11,SNR=20
HFS LR LR 07 14 59.3
comp=Z,184nm,21.5s,MS3.4,baz=127,slow=39
EQES Quesada 20.70 271 P **P 07 06 25.1 +1.1**
comp=Z,25nm,0.8s
GUD Guadarrama 20.92 279 P **P 07 06 25.8 -0.7**
GUD pmax pmax
comp=Z,5.0nm,0.6s
GUD Guadarrama 20.92 279 P **P 07 06 25.8 -0.7**
comp=Z,4.7nm,0.6s
ESDC Sonseca Array 20.94 277 P **P 07 06 27.9 +1.2**
comp=Z,3.6nm,0.8s,baz=69,slow=12,SNR=8.2
ESDC Sonseca Array 20.94 277 P **P 07 06 24.7 -2.0**
comp=Z,5.7nm,1.3s
ESLA Sonseca Array 20.94 277 P **P 07 06 25.8 -1.0**
comp=Z,1.1nm,0.8s
FINES FINESS Array B 21.03 4 P **P 07 06 25.6 -2.0**
comp=Z,7.2nm,0.8s,mb4.0,baz=170,slow=12,SNR=19
FINES LR LR 07 15 08.5
comp=Z,518nm,19.1s,MS3.9,baz=184,slow=38
KONO Kongsberg 21.04 340 P **P 07 06 24.8 -2.9**
KONO pmax pmax
comp=Z,49nm,1.5s,mb4.6
KONO Kongsberg 21.04 340 P **P 07 06 24.8 -2.9**
comp=Z,49nm,1.5s,mb4.6
ECOG Cogollos-Vega 21.23 270 P **P 07 06 30.3 +0.6**
ECOG pmax pmax
comp=Z,2.0nm,0.7s,mb3.6
ECOG Cogollos-Vega 21.23 270 P **P 07 06 30.3 +0.5**
comp=Z,2.1nm,0.7s,mb3.6
EGUA Guajares 21.36 269 P **P 07 06 29.8 -1.4**
EGUA pmax pmax
comp=Z,1.0nm,1.3s
EGUA Guajares 21.36 269 P **P 07 06 29.8 -1.4**
comp=Z,0.8nm,1.3s
ELUQ Luque 21.68 271 P **P 07 06 34.4 -0.2**
ELUQ pmax pmax
comp=Z,46nm,1.1s,mb4.8
ELUQ Luque 21.68 271 P **P 07 06 34.4 -0.2**
comp=Z,46nm,1.1s,mb4.8
KAF Kangasniemi 21.71 4 *ep* **P 07 06 31.2 -3.7**
comp=Z,25nm,1.0s,mb4.6
KAF Kangasniemi 21.71 4 *e*P **P 07 06 31.2 -3.7**
KAF pmax pmax
comp=Z,25nm,1.0s,mb4.6

EADA Adamuz 21.75 273 P **P 07 06 35.9 +0.5**
comp=Z,9.1nm,0.8s,mb4.3
NAO01 NORSAR Array S 21.78 343 *e*P **P 07 06 34.1 -1.6**
comp=Z,37nm,0.9s,mb4.8
NB2 NORSAR Subarra 21.89 344 P **P 07 06 35.0 -1.9**
comp=Z,35nm,0.8s,mb4.8,baz=155,slow=11
NOA NORSAR Array B 21.89 344 P **P 07 06 35.0 -1.8**
comp=Z,25nm,0.8s,mb4.7,baz=155,slow=11,SNR=36
NOA LR LR 07 15 45.2
comp=Z,150nm,18.1s,MS3.4,baz=190,slow=39
EMIJ Mijas 22.36 269 P **P 07 06 42.7 +0.8**
comp=Z,11nm,0.5s,mb4.5
KLMR Klimovskoe 22.66 21*c i*P **P 07 06 43.4 -1.7**
KLMR pmax pmax
comp=Z,40nm,1.2s,mb4.7
EPON Pontenova 22.86 287 P **P 07 06 45.3 -1.9**
comp=Z,15nm,0.7s,mb4.5
EJIF Jimena Fronter 22.93 269 P **P 07 06 47.5 -0.5**
EJIF pmax pmax
comp=Z,4.0nm,0.5s,mb4.1
EJIF Jimena Fronter 22.93 269 P **P 07 06 47.5 -0.4**
comp=Z,4.4nm,0.5s,mb4.1
JOF Joensuu 22.94 9 *ep* **P 07 06 45.5 -2.5**
EKA Eskdalemuir Ar 22.99 319 P **P 07 06 47.1 -1.4**
comp=Z,8.2nm,0.8s,mb4.2,baz=118,slow=9.7,SNR=31
ESK Eskdalemuir 23.00 319 *e*P **P 07 06 44.8 -3.9**
ESK pmax pmax
comp=Z,10.0nm,0.7s,mb4.3
ESK Eskdalemuir 23.00 319 *e*P **P 07 06 44.8 -3.9**
comp=Z,9.6nm,0.7s,mb4.3
MTE Manteigas 23.51 280 *e*P **P 07 06 53.6 -0.5**
comp=Z,23nm,0.8s,mb4.7
MTE *e*S S 07 11 44.5 +36
MTE
comp=Z,271nm,20.0s
MTE Manteigas 23.51 280 *e*P **P 07 06 53.4 -0.7**
comp=Z,7.9nm,0.8s,mb4.2
PCBR Castelo Branco 23.57 279 *e*P **P 07 06 54.6 -0.1**
comp=Z,11nm,1.1s,mb4.2
PCAB Cabril 23.67 283 *e*P **P 07 06 54.6 -1.0**
comp=Z,14nm,1.2s,mb4.3
MDT Midelt 23.70 260 P **P 07 06 55.9 0.0**
comp=Z,7.9nm,0.8s,mb4.2,baz=68,slow=8.9,SNR=17
PVIS Viseu 23.72 281 *e*P **P 07 06 55.4 -0.6**
comp=Z,20nm,1.0s,mb4.5
ORR Orenburg 24.23 52 *e*P **P 07 07 01.9 +1.2**
ORR pmax pmax
comp=Z,30nm,1.3s,mb4.6
AKTK Aktyubinsk 26.00 56 P **P 07 07 15.7 -1.1**
AKTK LR LR 07 18 37.4
AKTO Aktyubinsk 26.00 56 P **P 07 07 15.7 -1.1**
comp=Z,3.5nm,0.8s,mb4.0,baz=269,slow=9.4,SNR=8.8
AKTO LR LR 07 18 37.3
comp=Z,111nm,20.9s,MS3.4,baz=0.0,slow=39
AKTO Aktyubinsk 26.00 56 P **P 07 07 15.7 -1.1**
AKTO pmax pmax
comp=Z,4.0nm,0.8s,mb4.0
AKTO MLR MLR
comp=Z,111nm,20.9s,MS3.4
SVE Sverdlovsk 29.04 43 *e*P **P 07 07 43.7 -0.4**
SVE *e* 07 08 34.8
ARCES ARCESS Array B 29.11 2 P **P 07 07 42.7 -2.0**
comp=Z,5.2nm,0.7s,mb4.4,baz=182,slow=6.1,SNR=17
ARCES LR LR 07 19 59.0
comp=Z,475nm,18.4s,MS4.1,baz=174,slow=38
ARCES ARCESS Array B 29.11 2 P **P 07 07 42.7 -2.0**
ARCES LR LR 07 19 59.0
KEV Kevo 29.38 3 *ep* **P 07 07 42.5 -4.5**
ZRNK Zerenda 33.07 52 *e*P **P 07 08 19.5 -0.1**
ZRNK pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
ZRNK Zerenda 33.07 52 *e*P **P 07 08 19.5 0.0**
comp=Z,5.4nm,1.1s,mb4.4
TORD Torodi Ar. Bea 33.26 221 P **P 07 08 20.9 -0.3**
comp=Z,12nm,0.6s,mb5.0,baz=31,slow=9.1,SNR=119
TORD PcP PcP 07 11 03.0 -0.6
comp=Z,0.9nm,1.0s,baz=5.3,slow=2.0,SNR=3.7
BRVK Borovoye 33.84 52 *e*P **P 07 08 26.1 -0.2**
BRVK *e* 07 09 43.4
BRVK pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BRVK Borovoye 33.84 52 *e*P **P 07 08 26.1 -0.2**
comp=Z,4.7nm,0.9s,mb4.4
BRVK *e*PP PP 07 09 43.4 +0.6
BVAR Borovoye Array 33.91 52 P **P 07 08 26.9 0.0**
comp=Z,2.3nm,0.8s,mb4.2,baz=269,slow=5.9,SNR=15
WSAR Wadi Sarin 34.22 109 P **P 07 08 30.4 +0.8**
comp=Z,5.0nm,0.8s,mb4.5,baz=279,slow=8.9,SNR=4.0
AAK Ala-Archa 37.80 70 *e*P **P 07 09 00.5 +0.3**
AAK pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
AAK Ala-Archa 37.80 70 *e*P **P 07 09 00.5 +0.3**
comp=Z,2.8nm,0.6s,mb4.2
KURK Kurchatov 39.09 56 *e*P **P 07 09 07.2 -4.0**
KURK pmax pmax
comp=Z,4.0nm,1.2s,mb4.0
KURK Kurchatov 39.09 56 *e*P **P 07 09 07.2 -4.0**
comp=Z,3.6nm,1.2s,mb4.0
DAG Danmarks Havn 40.54 346 ⇓*i* P **P 07 09 22.4 -0.8**
comp=Z,3.7nm,0.8s,mb4.1
DAG Danmarks Havn 40.54 346 ⇓*i* P **P 07 09 22.4 -0.8**
DAG pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
NVS Novosibirsk 41.45 49 *i* P **P 07 09 30.2 -0.5**
MKAR Makanchi Array 42.19 61 P **P 07 09 37.0 +0.3**
comp=Z,8.2nm,0.6s,mb4.5,baz=280,slow=6.7,SNR=84
MKAR Makanchi Array 42.19 61 P **P 07 09 37.0 +0.3**
ZAL Zalesovo 42.46 50 P **P 07 09 38.2 -0.7**
comp=Z,3.4nm,0.6s,mb4.1,baz=193,slow=8.4,SNR=14
KMBO Kilima Mbogo 43.31 160 LR LR 07 31 23.5
comp=Z,89nm,19.2s,MS3.7,baz=96,slow=41
WMQ Urumqi 46.68 64 P **P 07 10 13.1 +0.4**
WMQ PCP PcP 07 11 47.1 +0.8
WMQ PP PP 07 12 02.6 +0.4
WMQ AMB AMB
comp=Z,5.0nm,0.6s,mb4.6
WMQ AMB AMB
comp=Z,104nm,4.8s
WMQ LR LR
comp=N,195nm,24.5s
KOLN Koldanda 50.51 85 *e*P **P 07 10 42.1 -0.1**
comp=N,20nm,1.0s,mb5.0
GKN Gorkha 51.18 84 *e*P **P 07 10 46.9 -0.3**
DMN Daman 51.74 84 *e*P **P 07 10 51.4 0.0**
KKN Kakani 51.78 84 *e*P **P 07 10 51.3 -0.4**
PKI Pulchoki 51.99 84 *e*P **P 07 10 53.3 +0.1**
GUN Gumba 52.17 83 *e*P **P 07 10 54.7 +0.1**
JIRN Jiri 52.53 84 *e*P **P 07 10 57.5 +0.2**
comp=N,18nm,1.0s,mb5.0
GTA Gaotai 56.76 64 P **P 07 11 28.0 0.0**
GTA AP pP 07 11 40.1 +11
GTA XP sP 07 11 47.2 +17
GTA AMB AMB
comp=Z,4.0nm,0.8s,mb4.5
BOD Bodaibo 57.15 40 *e*P **P 07 11 29.4 -1.3**
BOD pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
SCHQ Schefferville 58.28 317 P **P 07 11 37.3 -1.4**
comp=Z,1.4nm,0.6s,mb4.2,baz=58,slow=7.1,SNR=5.0
SCHQ LR LR 07 36 14.7
comp=Z,72nm,19.6s,MS3.8,baz=268,slow=36
LZH Lanzhou 61.17 66 *e*P **P 07 11 58.5 -0.1**
LZH PP PP 07 14 15.3 +2.1
LZH AMB AMB
comp=Z,22nm,1.3s,mb5.1
CD2 Chengdu 63.85 71 *e*P **P 07 12 15.5 -1.0**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
HHC Hu-ho-hao-te 63.88 58 *e*P **P 07 12 17.1 +0.4**
HHC PCP PcP 07 12 53.7 +1.3
HHC PP PP 07 14 39.5 +2.5
HHC S **S 07 20 51.2 -1.4**
HHC SS SS 07 24 59.6 -1.2
HHC AMB AMB
comp=Z,15nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,95nm,5.5s
HHC LR LR
comp=N,135nm,19.0s,MS4.4
HHC LR LR
comp=E,176nm,17.2s,MS4.4
HHC LR LR
comp=Z,101nm,19.0s,MS4.0
KMI Kunming 66.34 77 P **P 07 12 33.4 +0.7**
KMI AMB AMB
comp=Z,11nm,0.8s,mb4.9

CHTO	**Chiang Mai**	**67.17**	**84**	*eP*	**P**	**Pn**	07 12 36.0	-2.0	
CHTO				pmax	pmax				
	comp=Z,8.0nm,0.9s,mb4.8								
CHTO	**Chiang Mai**	**67.17**	**84**	*eP*	**P**	**Pn**	07 12 36.0	-2.0	
	comp=Z,7.6nm,0.9s,mb4.7								
BILL	**Bilibino**	**68.23**	**14**	*eP*	**P**	**Pn**	07 12 43.8	-0.9	
BILL				pmax	pmax				
	comp=Z,6.0nm,1.1s,mb4.5								
BILL				MLR	MLR				
	comp=Z,100nm,17.0s,MS4.1								
CN2	**Changchun**	**70.66**	**49**	*eP*	**P**	**Pn**	07 12 59.8	+0.1	
YKW3	**Yellowknife Ar**	**71.90**	**341**	*eP*	**P**	**Pn**	07 13 06.0	-1.2	
YKA	**Yellowknife Ar**	**71.95**	**341**	P	**P**	**Pn**	07 13 06.2	-1.3	
	comp=Z,1.1nm,0.7s,mb3.9,baz=33,slow=5.0,SNR=20								
YKA	**Yellowknife Ar**	**71.95**	**341**	P	**P**	**Pn**	07 13 06.2	-1.3	
MDJ	**Mudanjiang**	**72.47**	**46**	P	**P**	**Pn**	07 13 08.5	-2.1	
MDJ				AMB	AMB				
	comp=Z,6.0nm,0.9s,mb4.5								
MDJ				AMB	AMB				
	comp=Z,74nm,5.6s								
NJ2	**Nanjing**	**73.71**	**62**	*eP*	**P**	**Pn**	07 13 17.0	-1.0	
NJ2				PP	PP		07 16 03.8	+1.6	
NJ2				S	S		07 22 46.0	-3.4	
NJ2				AMB	AMB				
	comp=Z,10.0nm,0.7s,mb4.8								
NJ2				AMB	AMB				
	comp=Z,160nm,12.0s								
NJ2				LR	LR				
	comp=N,750nm,28.0s								
NJ2				LR	LR				
	comp=E,2μm,20.0s								
NJ2				LR	LR				
	comp=Z,320nm,29.9s,MS4.4								
ILAR	**Eielson Array**	**74.79**	**356**	P	**P**	**Pn**	07 13 23.8	-0.4	
	comp=Z,0.7nm,0.8s,mb3.7,baz=352,slow=3.6,SNR=8.7								
DAWY	**Dawson**	**74.89**	**352**	*eP*	**P**	**Pn**	07 13 24.1	-0.7	
ULM	**Lac du Bonnet**	**75.14**	**325**	P	**P**	**Pn**	07 13 26.0	-0.3	
	comp=Z,4.3nm,0.8s,mb4.4,baz=25,slow=4.2,SNR=6.8								
SSE	**Sheshan**	**75.87**	**61**	P	**P**	**Pn**	07 13 29.2	-1.2	
SSE				AMB	AMB				
	comp=Z,43nm,0.6s								
PLAL	**Pickwick Lake**	**81.97**	**310**	*eP*	**P**	**Pn**	07 14 02.6	-1.3	
	comp=Z,3.8nm,0.8s,mb4.4								
LRAL	**Lakeview Retre**	**82.67**	**307**	*eP*	**P**	**Pn**	07 14 07.5	-0.1	
	comp=Z,8.4nm,0.8s,mb4.8								
MJAR	**Matsushiro Arr**	**82.75**	**47**	P	**P**	**Pn**	07 14 07.0	-1.0	
	comp=Z,1.7nm,0.8s,mb4.1,baz=308,slow=6.2,SNR=4.6								
MJAR	**Matsushiro Arr**	**82.75**	**47**	P	**P**	**Pn**	07 14 07.0	-1.0	
MJAR				pmax	pmax				
	comp=Z,2.0nm,0.8s								
KSU1	**Kansas State U**	**83.72**	**317**	*eP*	**P**	**Pn**	07 14 12.6	-0.4	
MIAR	**Mount Ida**	**85.44**	**312**	*eP*	**P**	**Pn**	07 14 19.5	-2.2	
MIAR				pmax	pmax				
	comp=Z,11nm,1.0s,mb4.9								
MIAR	**Mount Ida**	**85.44**	**312**	*eP*	**P**	**Pn**	07 14 19.5	-2.2	
	comp=Z,11nm,1.0s,mb4.9								
LKWY	**Lake**	**85.70**	**329**	P	**P**	**Pn**	07 14 22.9	-0.1	
LKWY				pmax	pmax				
	comp=Z,6.0nm,1.0s,mb4.8								
LKWY	**Lake**	**85.70**	**329**	P	**P**	**Pn**	07 14 22.9	-0.1	
	comp=Z,6.1nm,1.0s,mb4.8								
DLMT	**Dillon**	**85.87**	**331**	*eP*	**P**	**Pn**	07 14 23.8	-0.1	
	comp=Z,3.6nm,1.0s,mb4.6								
PHWY	**Pilot Hill**	**86.29**	**324**	P	**P**	**Pn**	07 14 24.8	-1.1	
BDFB	**Brasilia**	**86.53**	**246**	P	**P**	**Pn**	07 14 28.0	+0.9	
	comp=Z,4.8nm,1.0s,mb4.7,baz=188,slow=10,SNR=4.3								
BDFB	**Brasilia**	**86.53**	**246**	P	**P**	**Pn**	07 14 28.0	+0.9	
BDFB				pmax	pmax				
	comp=Z,5.0nm,1.0s								
PDAR	**Pinedale Array**	**86.85**	**327**	P	**P**	**Pn**	07 14 27.9	-0.8	
	comp=Z,0.7nm,0.8s,mb3.9,baz=46,slow=6.4,SNR=7.3								
SDV	**Santo Domingo**	**87.37**	**279**	*eP*	**P**	**Pn**	07 14 32.1	+0.9	
	comp=Z,14nm,1.1s,mb5.1								
PV01	**Paradox Valley**	**90.25**	**324**	*eP*	**P**	**Pn**	07 14 44.1	-0.7	

IDC 10 07:16:45.0±1.1, 2177S×6807W, h119km±13km, mb3.3/2, mb1 3.4/4, mb1mx3.2/13, mbtmp3.6/4, Error ellipse: s-maj=36.2km s-min=14.0km az=106.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
LVC	**Limon Verde**	**1.15**	**223**	P		Pn	07 17 09.3		+0.8
	71nm,0.3s,baz=6.4,slow=7.1,SNR=700								
LVC				S		Sn	07 17 26.7		+0.5
	8.4nm,0.3s,baz=83,slow=21,SNR=7.2								
LPAZ	**La Paz**	**5.45**	**359**	P		Pn	07 18 04.6		+0.6
	0.3nm,0.3s,baz=94,slow=6.1,SNR=9.9								
LPAZ				S		Sn	07 19 07.6		+2.1
	0.1nm,0.3s,baz=30,slow=23,SNR=2.5								
SIV	**San Ignacio**	**8.77**	**50**	P		Pn	07 18 47.6		-1.2
	1.8nm,0.3s,baz=240,slow=11,SNR=56								
TORD	**Torodi Ar. Bea**	**76.71**	**70**	P		P	07 28 24.1		+1.2
	0.2nm,0.4s,baz=252,slow=5.5,SNR=4.5								
YKA	**Yellowknife Ar**	**91.70**	**340**	P		P	07 29 37.7		-1.1
	0.2nm,0.5s,baz=136,slow=4.5,SNR=15								

*NEIC **10** 07:29:54.9, 4302N×2280E, h2km, ML3.7(PDG), ML4.0(CSEM), ML4.1(THE), After CSEM.*
NEIC Felt along the Serbia-Bulgaria border.
*ISCJB **10** 07:29:55.2±0.5, 4303N±001×2287E±002, h5km±3km, mb3.6/9, Error ellipse: s-maj=2.8km s-min=2.1km az=114.3*
*PDG **10** 07:29:56.0±0.5, 4300N×2287E, h11km±2km*
*SOF **10** 07:29:56.1, 4297N×2296E, h10km, MD3.9*
*PRU **10** 07:29:56.7, 4304N×2300E, h0km*
*BEO **10** 07:29:57.0±0.4, 4306N×2281E, h8km±1km*
*THE **10** 07:29:57.8, 4290N×2294E, h2km, ML4.0*
*MOS **10** 07:29:58.6±1.1, 4300N×2281E, h33km, mb3.8/6, Error ellipse: s-maj=6.0km s-min=3.5km az=97.8*
*CSEM **10** 07:29:58.1±0.0, 4304N×2286E, h40km, mb3.8/4, Error ellipse: s-maj=1.9km s-min=0.9km az=61.0*
*IDC **10** 07:30:01.9±2.0, 4304N×2275E, h41km±18km, mb3.5/9, mb1 3.7/16, mb1mx3.6/25, mbtmp3.7/16, ML3.4/7, MS2.9/5, Ms1 3.0/5, ms1mx2.6/24, Error ellipse: s-maj=19.1km s-min=12.6km az=147.0*

ISC 10 07:29:55.9±0.5, 4301N±001×2287E±002, h0km±3km, n150, σ1§01/199, mb3.8/9, 23C-27D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
SOF	**Sofiya**	**0.47**	**133**	Pg		**Pg**	**07 30 05.3**		**+0.4**
VTS	**Vitosha**	**0.48**	**149**	*i* Pg		**Pg**	07 30 04.5		-0.7
VTS	**Vitosha**	**0.48**	**149**	⇑*i* P		**Pg**	07 30 04.6		-0.6
BOLS	**Boljevac**	**1.06**	**321**	⇓*i* Pg		**Pg**	07 30 16.0		-0.1
BOLS				Sg		**Sg**	07 30 29.0		-0.9
PGB	**Panagyurishte**	**1.06**	**115**	*i* Pg		**Pg**	07 30 15.8		-0.4
KKB	**Krupnik**	**1.15**	**172**	*i* Pg		**Pg**	07 30 18.7		+0.7
STIP	**Stip**	**1.41**	**201**	*e*Pn		**Pn**	07 30 20.8		-2.0
STIP				*i* Sg		**Sn**	07 30 40.1		-1.8
STIP	**Stip**	**1.41**	**201**	*e*Pn		**Pn**	07 30 20.7		-2.0
STIP				*i* Sg		**Sn**	07 30 40.0		-1.9
SKO	**Skopje**	**1.48**	**226**	*i* Pn		**Pn**	07 30 24.8		+1.1
SKO				*e*Sn		**Sn**	07 30 40.3		-3.4
SKO	**Skopje**	**1.48**	**226**	P		**Pn**	07 30 24.9		+1.2
CRAR	**CRAIOVA**	**1.48**	**27**	⇓*i* P		**Pn**	07 30 24.5		+0.8
MMB	**Musomiste**	**1.55**	**155**	*i* P		**Pn**	07 30 25.3		+0.6
PLD	**Plovdiv**	**1.63**	**123**	*i* P		**Pn**	07 30 25.5		-0.3
VAY	**Valandovo**	**1.70**	**188**	⇑*i* Pn		**Pn**	07 30 25.9		-0.9
VAY	**Valandovo**	**1.70**	**188**	P		**Pn**	07 30 25.5		-1.2
VAY	**Valandovo**	**1.70**	**188**	⇑*i* Pn		**Pn**	07 30 25.8		-0.9
SVIS	**Svilajnac**	**1.76**	**318**	⇑*i* Pn		**Pn**	07 30 26.8		-0.8
SVIS				Sn		**Sn**	07 30 51.5		+0.9
PVL	**Pavlikeni**	**1.82**	**83**	P		**Pn**	07 30 27.5		-0.9
KNT	**Kendrikon**	**1.84**	**179**	*e*Pb		**Pn**	07 30 28.4		-0.3
KNT				*e*Sb		**Sn**	07 30 52.4		-0.3
RZN	**Rozhen**	**1.90**	**133**	*i* P		**Pn**	07 30 27.5		-2.0
ZIMR		**1.93**	**70**	⇑*i* P		**Pb**	07 30 31.9		-0.1
ZIMR		**1.93**	**70**	⇑P		**Pb**	07 30 31.9		-0.1
SRS	**Serrai**	**1.96**	**164**	*e*Pb		**Pn**	07 30 30.1		-0.3
GRG	**Griva**	**2.08**	**190**	*e*Pn		**Pn**	07 30 31.2		-0.7
GRG				*e*Sn		**Sn**	07 30 57.9		-0.7
GRG	**Griva**	**2.08**	**190**	*e*Pn		**Pn**	07 30 31.2		-0.8
GRG				*e*Sn		**Sn**	07 30 57.8		-0.7
PVY	**Plav**	**2.17**	**260**	⇓*i* Pn		**Pn**	07 30 33.5		+0.3
PVY				*e*Sn		**Sn**	07 31 02.2		+1.4
IVA	**Berane**	**2.19**	**267**	⇓*i* Pn		**Pn**	07 30 33.0		-0.4
IVA				*e*Sn		**Sn**	07 31 02.2		+1.0
DIM	**Dimitrovgrad**	**2.19**	**115**	P		**Pn**	07 30 33.0		-0.5
SOH	**Sokhos**	**2.21**	**170**	*e*Pn		**Pn**	07 30 33.5		-0.4
SOH				*e*Sn		**Sn**	07 31 01.6		-0.3
SZH	**Strazhica**	**2.26**	**82**	*i* P		**Pg**	07 30 40.7		+1.5
BIA	**Bitola**	**2.30**	**211**	*e*Pn		**Pn**	07 30 33.5		-1.5
BIA	**Bitola**	**2.30**	**211**	*e*Pn		**Pn**	07 30 33.4		-1.5
KDZ	**Kurdzhali**	**2.33**	**125**	*i* P		**Pn**	07 30 34.3		-1.1
KDZ	**Kurdzhali**	**2.33**	**125**	P		**Pb**	07 30 37.9		-0.8
DIVS	**Divcibare**	**2.36**	**299**	*i* Pn		**Pn**	07 30 35.5		-0.3
DIVS				Sn		**Sn**	07 31 07.2		+1.8
THE	**Thessaloniki**	**2.38**	**178**	*e*Pn		**Pn**	07 30 35.5		-0.5
THE				*e*Sn		**Sn**	07 31 04.9		-0.9
FNA	**Florina**	**2.49**	**207**	*e*Pn		**Pn**	07 30 37.8		+0.3
	comp=Z,5.9nm,0.7s								
FNA				*e*Sn		**Sn**	07 31 09.1		+0.6
BEO	**Belgrade**	**2.52**	**317**	*i* Pn		**Pb**	07 30 42.8		+0.9
PLE	**Pljevlja**	**2.56**	**278**	⇓*i* Pn		**Pn**	07 30 39.3		+0.7
PLE				*e*Sn		**Sn**	07 31 11.3		+0.8
PLG	**Polygyros**	**2.67**	**170**	*e*P		**Pn**	07 30 40.0		0.0
TTG	**Podgorica**	**2.72**	**259**	⇓*i* Pn		**Pn**	07 30 40.6		-0.2
TTG				*e*Sn		**Sn**	07 31 15.1		+0.7
MTUR	**Matau**	**2.72**	**35**	⇑*i* P		**Pg**	07 30 48.7		+0.6
BZS	**Buzias**	**2.76**	**341**	⇓*i* P		**Pn**	07 30 40.8		-0.5
BZS	**Buzias**	**2.76**	**341**	⇓P		**Pn**	07 30 40.8		-0.5
OUR	**Ouranopolis**	**2.80**	**162**	*e*Pn		**Pn**	07 30 41.3		-0.6
	comp=Z,16nm,0.8s								
KZN	**Kozani**	**2.82**	**197**	*e*P		**Pn**	07 30 41.5		-0.7
NKY	**Niksic**	**2.85**	**267**	⇓*i* Pn		**Pn**	07 30 43.2		+0.6
NKY				*e*Sn		**Sn**	07 31 18.4		+0.8
ULC	**Ulcinj**	**2.87**	**250**	⇓*i* Pn		**Pn**	07 30 42.9		0.0
ULC				*e*Sn		**Sn**	07 31 19.0		+0.9
VOIR		**2.89**	**32**	⇑*i* P		**Pn**	07 30 43.3		+0.2
VOIR		**2.89**	**32**	⇑P		**Pn**	07 30 43.3		+0.2
UPM	**Unac-Piva**	**2.91**	**275**	⇓*i* Pn		**Pn**	07 30 43.9		+0.6
UPM				*e*Sn		**Sn**	07 31 19.6		+0.7
LIT	**Litokhoron**	**2.92**	**186**	*e*Pn		**Pn**	07 30 43.6		+0.1
LIT				*e*Sn		**Sn**	07 31 18.5		-0.8
BUM	**Brajici-Budva**	**3.01**	**258**	⇓*i* Pn		**Pn**	07 30 45.5		+0.7
BUM				*e*Sn		**Sn**	07 31 22.1		+0.6
SNX	**Sinaia**	**3.02**	**38**	⇑*i* P		**Pn**	07 30 41.8		-3.1
SNX	**Sinaia**	**3.02**	**38**	⇑P		**Pn**	07 30 41.9		-3.1
PAIG	**Paliouri**	**3.14**	**169**	*e*Pn		**Pn**	07 30 45.9		-0.6
ALN	**Alexandroupoli**	**3.17**	**131**	*e*Pn		**Pn**	07 30 47.4		+0.4
	comp=Z,7.8nm,0.7s								
ALN				*e*Sn		**Sn**	07 31 24.9		-0.6
BRY	**Bratogost**	**3.18**	**270**	⇓*i* Pn		**Pn**	07 30 47.7		+0.6
BRY				*e*Sn		**Sn**	07 31 26.8		+1.2
HCY	**Herceg Novi**	**3.27**	**262**	⇓*i* Pn		**Pn**	07 30 47.8		-0.5
HCY				*e*Sn		**Sn**	07 31 28.2		+0.3
MLR	**Muntele Rosu**	**3.32**	**41**	P		**Pn**	07 30 51.0		+1.9
	5.9nm,0.3s,baz=258,slow=9.8,SNR=38								
MLR				S		**Sn**	07 31 31.2		+2.0
	11nm,0.3s,baz=131,slow=21,SNR=13								
MLR	**Muntele Rosu**	**3.32**	**41**	⇑*i* P		**Pn**	07 30 51.5		+2.4
MLR	**Muntele Rosu**	**3.32**	**41**	P		**Pn**	07 30 51.0		+1.9
MLR				S		**Sn**	07 31 31.2		+2.0
MLR				pmax	pmax				
	comp=Z,6.0nm,0.3s								
MLR				smax					
	comp=N,11nm,0.3s								
MLR	**Muntele Rosu**	**3.32**	**41**	⇑P		**Pn**	07 30 51.5		+2.4
TREB	**Trebinje**	**3.33**	**267**	P		**Pn**	07 30 48.6		-0.6
TREB				S		**Sn**	07 31 29.5		0.0
XOR	**Xorichti**	**3.65**	**176**	*e*Pn		**Pn**	07 30 53.0		-0.5
	comp=N,3.2nm,0.5s								
JAN	**Janina**	**3.68**	**205**	*e*P		**Pn**	07 30 58.5		+4.6
DRGR		**3.79**	**358**	⇓*i* P		**Pn**	07 30 55.0		-0.4
DRGR		**3.79**	**358**	⇓P		**Pn**	07 30 55.0		-0.4
PLOR	**Plostina**	**3.93**	**42**	⇓*i* P		**Pn**	07 30 58.3		+0.9
PSN	**Preselentsi**	**3.94**	**78**	*i* P		**Pn**	07 30 57.5		0.0
BOZC	**Bozcaada**	**3.97**	**142**	*i* P		**Pn**	07 30 57.7		+0.3
BOZC				*i* S		**Sb**	07 31 56.4		+1.3
SART	**Tekirdag**	**3.97**	**124**	*i* P		**Pg**	07 31 11.2		-0.7
SART				*i* S		**Sg**	07 32 03.3		-0.1
AGG	**Agios Georgios**	**4.00**	**186**	*e*Pn		**Pn**	07 30 58.4		0.0
HARR	**Harsova**	**4.03**	**64**	⇑*i* P		**Pn**	07 30 58.9		+0.1
TIRR	**Tirgusor**	**4.27**	**68**	⇓*i* P		**Pn**	07 31 01.8		-0.3
TIRR	**Tirgusor**	**4.27**	**68**	*e*Pn		**Pn**	07 31 01.6		-0.5
TIRR				*e*Sn		**Sn**	07 31 53.0		+0.3
TIRR	**Tirgusor**	**4.27**	**68**	*e*P		**Pn**	07 31 01.6		-0.5
TIRR				*e*S		**Sn**	07 31 53.0		+0.4
CFR	**Carcaliu**	**4.37**	**58**	⇓*i* P		**Pn**	07 31 08.7		+5.2
CFR	**Carcaliu**	**4.37**	**58**	⇓P		**Pn**	07 31 08.7		+5.3
RHK3	**Tenkes**	**4.38**	**313**	⇓*e*P		**Pn**	07 31 03.5		-0.2
PKSM	**Moragy**	**4.40**	**318**	⇓*i* P		**Pn**	07 31 03.5		-0.4
PKSM	**Moragy**	**4.40**	**318**	*i* P		**Pn**	07 31 03.6		-0.3
PKSM				*e*S		**Sn**	07 31 54.8		-1.0
PRK	**Paraskevi**	**4.55**	**144**	*e*P		**Pn**	07 31 07.0		+1.0
RHK1	**Bakonya**	**4.61**	**314**	⇑*i* P		**Pn**	07 31 06.6		-0.2
RHK1				*e*S		**Sn**	07 31 59.8		-1.2
	comp=N,5.0nm,0.6s								
AYVA	**Ayvalik**	**4.69**	**141**	*i* P		**Pn**	07 31 08.5		+0.6
PKS9	**Tamasi**	**4.84**	**319**	⇓*e*P		**Pn**	07 31 10.9		+0.9
PKS8	**Sarbogard**	**4.88**	**324**	⇓*e*P		**Pn**	07 31 10.3		-0.2
BURAR	**Bucovina Array**	**4.90**	**19**	⇑*i* P		**Pn**	07 31 11.4		+0.7
BURAR	**Bucovina Array**	**4.90**	**19**	⇑P		**Pn**	07 31 11.3		+0.7
CHOS	**Chios island**	**5.21**	**151**	*e*Pn		**Pn**	07 31 15.9		+0.8
BUD	**Budapest**	**5.23**	**330**	*e*Pn		**Pn**	07 31 14.1		-1.2
BUD				*e*Sn		**Sn**	07 32 15.3		-1.1
PSZ	**Piszkesteto**	**5.34**	**338**	⇑*i* Pn		**Pn**	07 31 16.6		-0.2
PSZ				*e*Sn		**Sn**	07 32 17.4		-1.5
KECS	**Kecovo**	**5.72**	**344**	*e*PN		**Pn**	07 31 21.8		-0.3
KOLS	**Kolonicke sedl**	**5.94**	**356**	*e*PN		**Pn**	07 31 27.2		+2.1
KOLS				*e*SG		**Sg**	07 33 04.3		-2.4
KOLS	**Kolonicke sedl**	**5.94**	**356**	*e*Pn		**Pn**	07 31 27.3		+2.2
KOLS				*e*Sg		**Sg**	07 33 04.3		-2.4
CRVS	**Cervenica-Dubn**	**5.98**	**351**	*e*Pn		**Pn**	07 31 29.9		+4.4
CRVS				*e*Sg		**Sg**	07 33 06.0		-1.9
BOJS	**Bojanci**	**6.01**	**297**	*e*Pn		**Pn**	07 31 28.8		+2.7
BOJS				*e*Sn		**Sn**	07 32 35.4		-0.1
VYHS	**Vyhne**	**6.17**	**334**	*e*PN		**Pn**	07 31 27.7		-0.5
VYHS				*e*PB		**Pb**	07 31 43.3		-0.9
VYHS				*e*			07 32 41.0		
SOP	**Sopron**	**6.45**	**319**	*i* Pn		**Pn**	07 31 31.5		-0.6
SOP				*e*Sn		**Sn**	07 32 43.4		-2.9
STHS	**Stebnicka Huta**	**6.51**	**351**	*e*PN		**Pn**	07 31 33.5		+0.7
STHS				*e*			07 41 20.9		
ZST	**Bratislava**	**6.58**	**324**	*e*PN		**Pn**	07 31 34.4		+0.6
ZST				*e*SN		**Sn**	07 32 44.1		-5.3
PERS	**Pernice**	**6.60**	**306**	*i* Pn		**Pn**	07 31 34.0		0.0
PERS				*i* Sn		**Sn**	07 32 48.7		-1.2
PERS	**Pernice**	**6.60**	**306**	*i* Pn		**Pn**	07 31 34.0		-0.1
KWP	**Kalwaria**	**6.63**	**359**	*e*P		**Pn**	07 31 35.6		+1.1
KWP				pmax	pmax				
	comp=Z,11nm,0.8s								
KWP	**Kalwaria**	**6.63**	**359**	*e*Pn		**Pn**	07 31 35.6		+1.1
	comp=Z,11nm,0.8s								
KWP	**Kalwaria**	**6.63**	**359**	*e*P		**Pn**	07 31 35.6		+1.1
	comp=Z,11nm,0.8s								
ARSA	**Arzberg**	**6.71**	**312**	⇑*i* Pn		**Pn**	07 31 35.3		-0.2
ARSA				⇑*i* Sn		**Sn**	07 32 49.3		-3.3
OBKA	**Obir**	**6.88**	**303**	⇑*i* Pn		**Pn**	07 31 38.7		+0.8
OBKA				⇓*i* Sn		**Sn**	07 32 54.0		-2.9
VOY	**Vojsko**	**7.09**	**298**	*e*Pn		**Pn**	07 31 43.0		+2.2
VOY				*e*Sn		**Sn**	07 33 00.8		-1.3
SGKT	**Sivrigoynuk**	**7.28**	**106**	*i* P		**Pn**	07 31 52.5		+9.0
OKC	**Ostrava-Krasne**	**7.57**	**336**	AMS		AMS	07 35 20.0		
	comp=Z,200nm,11.1s								
VRAC	**Vranov**	**7.66**	**328**	P		**Pn**	07 31 53.3		+4.7
	comp=Z,0.6nm,0.3s,baz=121,slow=7.4,SNR=4.6								
VRAC				S		**Sn**	07 33 17.0		+0.9
	comp=Z,1.3nm,0.3s,baz=181,slow=9.8,SNR=2.6								
VRAC	**Vranov**	**7.66**	**328**	S		**Sn**	07 33 17.0		+0.9
MOA	**Molln**	**7.75**	**312**	⇑*i* Pn		**Pn**	07 31 50.4		+0.5
MOA				⇓*i* Sn		**Sn**	07 33 15.3		-3.0
MOA	**Molln**	**7.75**	**312**	P		**Pn**	07 31 51.1		+1.2
IDI	**Anoyia**	**7.87**	**168**	P		**Pn**	07 31 53.4		+1.9
	comp=Z,0.6nm,0.3s,baz=338,slow=12,SNR=4.3								
IDI				LR		LR	07 35 16.1		
	comp=Z,96nm,18.2s,baz=93,slow=40								
KBA	**Koelnbreinsper**	**7.88**	**304**	⇑*i* Pn		**Pn**	07 31 52.6		+1.0
KBA				⇓*i* Sn		**Sn**	07 33 19.6		-1.8
DPC	**Dobruska-Polom**	**8.61**	**331**	*e*PN		**Pn**	07 32 02.8		+1.1
DPC				AMS		AMS	07 35 50.0		
	comp=Z,200nm,14.8s								
DPC	**Dobruska-Polom**	**8.61**	**331**	*e*P		**Pn**	07 32 02.8		+1.1
	comp=Z,200nm,14.8s								
GERES	**GERESS Array B**	**8.65**	**316**	P		**Pn**	07 32 01.9		-0.4
	comp=Z,0.2nm,0.3s,baz=128,slow=15,SNR=5.8								
GERES				S		**Sn**	07 33 48.5		+8.0
	comp=Z,0.3nm,0.3s,baz=142,slow=26,SNR=2.8								
GERES				LR		LR	07 34 43.3		
	comp=Z,39nm,19.8s,baz=98,slow=33								
GERES	**GERESS Array B**	**8.65**	**316**	P		**Pn**	07 32 01.9		-0.3
GERES				S		**Sn**	07 33 48.5		+8.0
AKASG	**Malin Array Be**	**8.84**	**27**	P		**Pn**	07 32 09.0		+4.1
	comp=Z,0.3nm,0.3s,baz=212,slow=12,SNR=4.0								
KHC	**Kasperske Hory**	**8.89**	**317**	*e*PN		**Pn**	07 32 07.0		+1.4
KHC				*e*SN		**Sn**	07 33 45.4		-1.1
KHC				AMS		AMS	07 35 50.0		
	comp=Z,200nm,13.4s								
KHC	**Kasperske Hory**	**8.89**	**317**	*e*P		**Pn**	07 32 07.0		+1.4
	comp=Z,200nm,13.4s								
KHC				*e*S		**Sn**	07 33 45.4		-1.1
PRU	**Pruhonice**	**9.04**	**323**	AMS		AMS	07 36 00.0		
	comp=Z,200nm,12.4s								
DAVOX	**Davos**	**9.96**	**297**	P		**Pn**	07 32 21.8		+1.6
	comp=Z,0.7nm,0.3s,baz=140,slow=12,SNR=5.4								
NKC	**Novy Kostel**	**10.17**	**319**	AMS		AMS	07 36 50.0		
	comp=Z,100nm,8.2s								
OBN	**Obninsk**	**15.04**	**32**	*e*P		**Pn**	07 33 34.1		+4.4
OBN				pmax	pmax				
	comp=Z,15nm,0.8s								
HFS	**Hagfors**	**18.04**	**345**	P		**Pn**	07 34 09.5		+1.6
	comp=Z,0.1nm,0.3s,baz=145,slow=19,SNR=3.3								
HFS				LR		LR	07 42 12.4		
	comp=Z,68nm,18.3s,baz=92,slow=41								
FINES	**FINESS Array B**	**18.57**	**5**	LR		LR	07 42 18.5		
	comp=Z,59nm,20.4s,baz=186,slow=40								
NB2	**NORSAR Subarra**	**19.38**	**343**	P		**Pn**	07 34 23.0		-1.1
	comp=Z,1.9nm,0.6s,baz=154,slow=12								
NOA	**NORSAR Array B**	**19.38**	**343**	P		**Pn**	07 34 24.6		+0.5
	comp=Z,0.2nm,0.3s,baz=156,slow=11,SNR=4.4								
NOA				LR		LR	07 41 32.9		
	comp=Z,31nm,20.8s,baz=160,slow=36								
EKA	**Eskdalemuir Ar**	**20.87**	**315**	P		**P

	12nm,0.4s							
PGF	**Pioggiola**	**2.22**	**200**	*e*Pn	**Pn**	**07 48 07.3**	**+0.1**
PGF				*e*Sn	**Sn**	**07 48 34.7**	**+0.3**
	7.4nm,0.4s							
PGF	**Pioggiola**	**2.22**	**200**	*e*Pn	**Pn**	**07 48 07.3**	**+0.1**
PGF				*e*Sn	**Sn**	**07 48 34.7**	**+0.3**
	3.7nm,0.4s							
MBDF	**Montbardon**	**2.34**	**273**	*e*Pg	**Pg**	**07 48 15.3**	**-0.4**
MBDF				*e*Sg	**Sg**	**07 48 46.1**	**+0.1**
	12nm,0.5s							
MBDF	**Montbardon**	**2.34**	**273**	*e*P	**Pn**	**07 48 10.9**	**+2.0**
MBDF				*e*Pg	**Pg**	**07 48 15.3**	**-0.4**
MBDF				*e*Sg	**Sg**	**07 48 46.1**	**+0.1**
MBDF	**Montbardon**	**2.34**	**273**	*e*Pg	**Pg**	**07 48 15.3**	**-0.4**
MBDF				*e*Sg	**Sg**	**07 48 46.1**	**+0.1**
	5.8nm,0.5s							
LPG	**La Plagne**	**2.49**	**292**	*e*Pg	**Pg**	**07 48 19.6**	**+1.0**
LPG				*e*Sg	**Sg**	**07 48 50.1**	**-0.8**
	11nm,0.5s							
LPG	**La Plagne**	**2.49**	**292**	*e*Pg	**Pg**	**07 48 19.6**	**+1.0**
LPG				*e*Sg	**Sg**	**07 48 50.1**	**-0.8**
	5.3nm,0.5s							
LPL	**La Plagne**	**2.51**	**292**	*e*Pg	**Pg**	**07 48 19.3**	**+0.3**
LPL				*e*Sg	**Sg**	**07 48 49.2**	**-2.3**
	8.4nm,0.4s							
LPL	**La Plagne**	**2.51**	**292**	*e*Pg	**Pg**	**07 48 19.3**	**+0.3**
LPL				*e*Sg	**Sg**	**07 48 49.2**	**-2.3**
	4.2nm,0.4s							
DAVA	**Damuels**	**2.66**	**358**	⇑*i*Pn	**Pn**	**07 48 16.3**	**+3.0**
DAVA				⇑*i*Sn	**Sn**	**07 48 48.7**	**+3.4**
FRF	**La Foret Royal**	**2.67**	**248**	*e*Pn	**Pn**	**07 48 13.6**	**+0.1**
FRF				*e*Sn	**Sn**	**07 48 46.0**	**+0.4**
	7.0nm,0.3s							
FRF	**La Foret Royal**	**2.67**	**248**	*e*Pn	**Pn**	**07 48 13.6**	**+0.1**
FRF				*e*Sn	**Sn**	**07 48 46.0**	**+0.4**
	3.5nm,0.3s							
WTTA	**Wattenberg**	**2.86**	**22**	⇑*i*Pn	**Pn**	**07 48 17.1**	**+1.0**
WTTA				⇓*i*Sn	**Sn**	**07 48 51.1**	**+0.9**
WTTA	**Wattenberg**	**2.86**	**22**	⇑*i*Pn	**Pn**	**07 48 17.1**	**+1.1**
WTTA				Sn	**Sn**	**07 48 51.1**	**+0.9**
LMR	**La Mourre**	**2.86**	**244**	*e*Pn	**Pn**	**07 48 16.2**	**+0.1**
LMR				*e*Sn	**Sn**	**07 48 50.3**	**-0.1**
	8.3nm,0.3s							
LMR	**La Mourre**	**2.86**	**244**	*e*Pn	**Pn**	**07 48 16.2**	**+0.1**
LMR				*e*Sn	**Sn**	**07 48 50.3**	**-0.1**
	4.2nm,0.3s							
ORIF	**Oris-en-Rattie**	**2.98**	**277**	*e*Pg	**Pg**	**07 48 27.4**	**-0.6**
ORIF				*e*Sn	**Sn**	**07 48 53.0**	**-0.2**
	14nm,0.7s							
ORIF	**Oris-en-Rattie**	**2.98**	**277**	*e*Pn	**Pn**	**07 48 17.2**	**-0.5**
ORIF				*e*Pg	**Pg**	**07 48 27.4**	**-0.6**
ORIF				*e*Sn	**Sn**	**07 48 53.0**	**-0.2**
ORIF	**Oris-en-Rattie**	**2.98**	**277**	*e*Pg	**Pg**	**07 48 27.4**	**-0.6**
ORIF				*e*Sn	**Sn**	**07 48 53.0**	**-0.2**
	7.0nm,0.7s							
SMRF	**Simiane la Rot**	**3.27**	**260**	*e*Pn	**Pn**	**07 48 22.4**	**+0.6**
CABF	**La Chapelle**	**3.41**	**307**	*e*Pn	**Pn**	**07 48 22.6**	**-1.0**
CABF				*e*Sn	**Sn**	**07 49 02.0**	**-1.8**
	4.4nm,0.4s							
CABF	**La Chapelle**	**3.41**	**307**	*e*Pn	**Pn**	**07 48 22.6**	**-1.0**
CABF				*e*Sn	**Sn**	**07 49 02.0**	**-1.8**
	2.2nm,0.4s							
VIVF	**Saint-Julien-l**	**3.83**	**275**	*e*Pn	**Pn**	**07 48 29.1**	**-0.4**
LOR	**Lormes**	**5.05**	**304**	*e*Pn	**Pn**	**07 48 45.1**	**-1.2**
LOR				*e*Sn	**Sn**	**07 49 41.8**	**-2.6**
	3.0nm,0.3s							
LOR	**Lormes**	**5.05**	**304**	*e*Pn	**Pn**	**07 48 45.1**	**-1.2**
LOR				*e*Sn	**Sn**	**07 49 41.8**	**-2.6**
	1.5nm,0.3s							

CSEM ***10*** *07:58:35.1±0.2, 5776N×2195E, h1km, ML2.5, Error ellipse: s-maj=5.6km s-min=2.2km az=156.0, Mining explosion.*
HEL ***10*** *07:58:35.7±0.2, 5770N×2196E, h0km, ML2.2, ML2.5(UPP), ML2.2(NAO), Explosion*
ISCJB ***10*** *07:58:35.2±0.7, 5781N±005×2192E±006, h0km, Error ellipse: s-maj=8.3km s-min=4.4km az=140.8*
NAO ***10*** *07:58:36.2±2.1, 5776N×2194E, ML2.2*
IDC ***10*** *07:58:37.5±2.3, 5780N×2194E, h0km, mb1 3.0/4, mb1mx2.9/19, mbtmp3.0/4, ML2.7/4, Error ellipse: s-maj=24.0km s-min=9.0km az=165.0*
BER ***10*** *07:58:38.5±5.7, 5769N×2197E, h0km±24km, ML2.2(NAO)*
UPP ***10*** *07:58:38.0, 5778N×2166E, h0km, ML2.5, Suspected Mining explosion.*

ISC 10 07:58:36.3±0.7, 5780N±005×2194E±006, h0km, n56, σ0§93/72, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GOTU	**Gotland**	**1.81**	**268**	*e*P	**Pn**	**07 59 07.9**	**-0.8**
NYNU	**Nynaeshamn**	**2.40**	**302**	*e*P	**Pn**	**07 59 17.3**	**+0.5**
NRTU	**Norrtaelje**	**2.55**	**319**	*e*P	**Pn**	**07 59 19.6**	**+0.6**
AAL	**Aland**	**2.59**	**338**	*e*P	**Pn**	**07 59 19.4**	**-0.1**
VSU	**Vasula**	**2.63**	**73**	*e*P	**Pn**	**07 59 19.3**	**-0.6**
VSU				*e*S	**Sn**	**07 59 52.1**	**-0.5**
VSU	**Vasula**	**2.63**	**73**	Pn	**Pn**	**07 59 19.2**	**-0.7**
VSU				Sn	**Sn**	**07 59 55.3**	**+2.7**
VSU	**Vasula**	**2.63**	**73**	Pn	**Pn**	**07 59 19.2**	**-0.8**
	SNR=50							
VSU				S	**Sn**	**07 59 52.1**	**-0.5**
BYXU	**Byxelkrok**	**2.71**	**261**	*e*P	**Pn**	**07 59 20.5**	**-0.5**
MEF	**Metsahovi**	**2.74**	**27**	*e*P	**Pn**	**07 59 22.5**	**+1.0**
MEF	**Metsahovi**	**2.74**	**27**	P	**Pn**	**07 59 22.4**	**+0.9**
ASPU	**Aespoe**	**2.90**	**265**	*e*P	**Pn**	**07 59 24.3**	**+0.6**
VSTU	**Vaestervik**	**2.90**	**270**	*e*P	**Pn**	**07 59 24.6**	**+0.9**
GRAU	**Graesoe**	**3.09**	**327**	*e*P	**Pn**	**07 59 26.4**	**+0.1**
FLYU	**Flymyra**	**3.14**	**320**	*e*P	**Pn**	**07 59 27.6**	**+0.6**
OSKU	**Oskarshamn**	**3.21**	**262**	*e*P	**Pn**	**07 59 27.2**	**-0.7**
ESKU	**Eskilstuna**	**3.24**	**299**	*e*P	**Pn**	**07 59 28.8**	**+0.4**
BACU	**Backbrunna**	**3.25**	**311**	*e*P	**Pn**	**07 59 29.2**	**+0.7**
PVF	**Pernaja**	**3.42**	**35**	*e*P	**Pn**	**07 59 31.9**	**+1.2**
PVF	**Pernaja**	**3.42**	**35**	P	**Pn**	**07 59 31.9**	**+1.1**
LNKU	**Linkoeping**	**3.45**	**280**	*e*P	**Pn**	**07 59 31.2**	**0.0**
LNKU	**Linkoeping**	**3.45**	**280**	P	**Pn**	**07 59 31.2**	**-0.1**
OSTU	**Oestervaala**	**3.48**	**317**	*e*P	**Pn**	**07 59 32.2**	**+0.5**
BLEU	**Blekinge**	**3.67**	**248**	*e*P	**Pn**	**07 59 33.1**	**-1.1**
IGGU	**Iggoen**	**3.89**	**324**	*e*P	**Pn**	**07 59 38.3**	**+1.0**
VXJU	**Vaexsjoe**	**3.89**	**260**	*e*P	**Pn**	**07 59 36.5**	**-0.8**
ASKU	**Askersund**	**3.91**	**289**	*e*P	**Pn**	**07 59 37.9**	**+0.4**
VJF	**Virojoki**	**3.99**	**44**	*e*P	**Pn**	**07 59 38.0**	**-0.7**
VJF	**Virojoki**	**3.99**	**44**	P	**Pn**	**07 59 37.9**	**-0.8**
NRAU	**Nora**	**4.01**	**299**	*e*P	**Pn**	**07 59 39.4**	**+0.3**
NRAU	**Nora**	**4.01**	**299**	P	**Pn**	**07 59 39.3**	**+0.3**
FALU	**Falun**	**4.15**	**313**	*e*P	**Pn**	**07 59 41.1**	**+0.2**
FIA0	**FINESS Array S**	**4.22**	**28**	*e*P	**Pn**	**07 59 42.5**	**+0.7**
FIA0				*e*SG	**Sg**	**08 00 49.7**	**-2.1**
FIA0				MSG		08 00 53.3	
	comp=Z,5.0nm,0.1s							
FIA0	**FINESS Array S**	**4.22**	**28**	Pn	**Pn**	**07 59 41.3**	**-0.5**
	baz=200,slow=12							
FIA0				Pg	**Pg**	**07 59 52.5**	**-4.7**
	baz=218,slow=16							
FIA0				Sn	**Sn**	**08 00 34.5**	**+2.7**
	baz=222,slow=22							
FIA0				Lg		08 00 49.0	
	baz=222,slow=28							
FINES	**FINESS Array B**	**4.22**	**28**	Pn	**Pn**	**07 59 42.7**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=212,slow=12,SNR=11							
FINES				Pg	**Pg**	**07 59 52.5**	**-4.7**
	comp=Z,1.2nm,0.3s,baz=212,slow=15,SNR=28							
FINES				Sn	**Sn**	**08 00 34.3**	**+2.5**
	comp=Z,0.4nm,0.3s,baz=215,slow=24,SNR=3.3							
FINES				Lg		08 00 49.2	
	comp=Z,1.8nm,0.3s,baz=221,slow=23,SNR=13							
ARNU	**Arnoeviken**	**4.54**	**331**	*e*P	**Pn**	**07 59 46.1**	**-0.1**
KEF	**Keuruu**	**4.62**	**17**	*e*P	**Pn**	**07 59 48.6**	**+1.2**
KEF				*e*SG	**Sg**	**08 01 01.2**	**-3.6**
KEF				MSG		08 01 08.2	
	comp=Z,3.1nm,0.2s							
KAF	**Kangasniemi**	**4.85**	**25**	MSG		08 01 13.2	
	comp=Z,2.5nm,0.1s							
HFS	**Hagfors**	**4.87**	**302**	Pn	**Pn**	**07 59 50.4**	**-0.3**
	baz=128,slow=14							
HFS				Sn	**Sn**	**08 00 47.5**	**-0.3**
	baz=113,slow=28							
HFS				Lg		08 01 08.0	
	baz=113,slow=28							
HFS	**Hagfors**	**4.87**	**302**	*e*P	**Pn**	**07 59 50.4**	**-0.3**
HFS				*e*S	**Sn**	**08 00 47.5**	**-0.3**
HFS				*e*SG	**Sg**	**08 01 08.0**	**-4.7**
HFS	**Hagfors**	**4.87**	**302**	Pn	**Pn**	**07 59 50.9**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=114,slow=14,SNR=25							
HFS				Pg	**Pg**	**08 00 08.0**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=116,slow=17,SNR=7.1							
HFS				Sn	**Sn**	**08 00 51.4**	**+3.6**
	comp=Z,0.6nm,0.3s,baz=114,slow=26,SNR=5.2							
HFS				Lg		08 01 08.4	
	comp=Z,1.4nm,0.3s,baz=115,slow=33,SNR=9.1							
HASU	**Hassela**	**5.12**	**331**	*e*P	**Pn**	**07 59 54.1**	**-0.1**
HEMU	**Hemsoen**	**5.26**	**340**	*e*P	**Pn**	**07 59 56.6**	**+0.4**
VAF	**Ylistaro**	**5.28**	**4**	*e*SG	**Sg**	**08 01 20.6**	**-5.1**
HUSU	**Husum**	**5.72**	**348**	*e*P	**Pn**	**08 00 02.8**	**+0.3**
SOLU	**Sollefteaa**	**5.93**	**339**	*e*P	**Pn**	**08 00 05.2**	**-0.2**
BREU	**Bredtraesk**	**6.33**	**346**	*e*P	**Pn**	**08 00 11.3**	**+0.5**
NB2	**NORSAR Subarra**	**6.36**	**305**	*e*P	**Pn**	**08 00 10.8**	**-0.5**
NB2				*e*S	**Sn**	**08 01 25.8**	**+1.1**
NB2	**NORSAR Subarra**	**6.36**	**305**	P	**Pn**	**08 00 10.8**	**-0.5**
	baz=123,slow=14							
NB2				Sn	**Sn**	**08 01 25.8**	**+1.1**
NB2				Lg		08 02 00.1	
	baz=120,slow=37							
NOA	**NORSAR Array B**	**6.36**	**305**	Pn	**Pn**	**08 00 10.6**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=116,slow=11,SNR=2.3							
NOA				Sn	**Sn**	**08 01 21.9**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=164,slow=20,SNR=2.2							
NOA				Lg		08 01 58.3	
	comp=Z,0.7nm,0.3s,baz=104,slow=13,SNR=4.4							
NOD	**Norderasen**	**6.64**	**331**	*e*P	**Pn**	**08 00 13.9**	**-1.3**
BURU	**Burvik**	**6.81**	**358**	*e*P	**Pn**	**08 00 17.4**	**0.0**
JOF	**Joensuu**	**6.92**	**38**	*e*SG	**Sg**	**08 02 10.9**	**-7.8**
SJUU	**Sjulsmark**	**7.74**	**359**	*e*P	**Pn**	**08 00 29.7**	**-0.5**
ARA0	**ARCESS Array S**	**11.89**	**6**	Pn	**Pn**	**08 01 23.0**	**-4.0**
	baz=191,slow=14							
ARA0	**ARCESS Array S**	**11.89**	**6**	*e*P	**Pn**	**08 01 23.0**	**-4.0**
ARCES	**ARCESS Array B**	**11.89**	**6**	Pn	**Pn**	**08 01 23.1**	**-3.9**
	comp=Z,0.0nm,0.3s,baz=186,slow=14,SNR=12							

IDC ***10*** *07:58:56.8±2.0, 5249N×16895W, h0km, mb3.5/6, mb1 3.7/8, mb1mx3.6/24, mbtmp3.5/8, ML2.9/2, Error ellipse: s-maj=52.2km s-min=15.5km az=170.0*
ISCJB ***10*** *07:59:00.0±1.6, 524N±0.1×169.1W±0.1, h46km±12km, mb3.5/6, Error ellipse: s-maj=27.7km s-min=6.6km az=128.4*
NEIC ***10*** *07:59:00.7, 5231N×16903W, h19km, ML3.3(AEIC), After AEIC.*

ISC 10 07:59:01.6±1.5, 524N±02×1691W±01, h44km±11km, n15, σ1§00/19, mb3.5/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKO	**Nikolski**	**0.55**	**14**	P	**Pn**	**07 59 12.0**	**-1.2**
NIKO				S	**Sn**	**07 59 21.2**	**-0.2**
OKCE	**Okmok Cone E**	**1.13**	**29**	P	**Pn**	**07 59 21.2**	**+0.2**
OKCD	**Okmok Cone D**	**1.15**	**30**	P	**Pn**	**07 59 21.8**	**+0.5**
OKCD				S	**Sn**	**07 59 37.8**	**+1.9**
UNV	**Unalaska Valle**	**2.10**	**47**	P	**Pn**	**07 59 33.7**	**-0.5**
UNV				S	**Sn**	**07 59 59.2**	**+0.1**
ATKA	**Atka Island**	**3.15**	**268**	P	**Pn**	**07 59 47.9**	**-0.8**
ATKA				S	**Sn**	**08 00 25.3**	**+0.2**
AMKA	**Amchitka**	**7.27**	**266**	P	**Pn**	**08 00 45.0**	**-0.3**
FX1	**Attu Island--F**	**10.80**	**279**	Pn	**Pn**	**08 01 35.4**	**+1.7**
	0.2nm,0.3s,baz=318,slow=20,SNR=3.4							
ILAR	**Eielson Array**	**16.79**	**34**	Pn	**Pn**	**08 02 51.4**	**-2.2**
	0.0nm,0.3s,baz=229,slow=12,SNR=3.4							
INK	**Inuvik**	**23.19**	**33**	P	**P**	**08 04 03.4**	**-1.2**
	0.4nm,0.5s,mb3.1,baz=254,slow=9.3,SNR=7.8							
YKA	**Yellowknife Ar**	**30.06**	**49**	P	**P**	**08 05 07.4**	**+0.9**
	0.3nm,0.6s,mb3.2,baz=270,slow=7.7,SNR=20							
PDAR	**Pinedale Array**	**40.21**	**79**	P	**P**	**08 06 35.0**	**+1.2**
	0.5nm,0.5s,mb3.5,baz=303,slow=3.3,SNR=6.0							
SONM	**Songino Array**	**51.42**	**301**	P	**P**	**08 08 02.6**	**+0.5**
	0.3nm,0.5s,mb3.5,baz=67,slow=7.0,SNR=2.9							
BVAR	**Borovoye Array**	**63.75**	**325**	P	**P**	**08 09 28.7**	**-0.2**
	1.0nm,0.5s,mb4.1,baz=56,slow=6.8,SNR=7.0							
NB2	**NORSAR Subarra**	**66.87**	**360**	P	**P**	**08 09 48.3**	**-0.7**
	comp=Z,0.5nm,0.5s,mb3.8,baz=1.6,slow=6.2							
NOA	**NORSAR Array B**	**66.87**	**360**	P	**P**	**08 09 48.0**	**-1.0**
	comp=Z,0.5nm,0.7s,mb3.7,baz=358,slow=6.3,SNR=3.5							

IDC 10 08:37:30.8±1.5, 288S×13022E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.9/17, mbtmp3.8/6, ML3.8/2, Error ellipse: s-maj=105.2km s-min=21.1km az=74.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**15.78**	**196**	Pn	**Pn**	**08 41 13.6**	**-0.7**
	0.1nm,0.3s,baz=45,slow=14,SNR=3.6							
WRA	**Warramunga Arr**	**17.43**	**167**	P	**Pn**	**08 41 37.1**	**+1.8**
	0.9nm,0.3s,baz=348,slow=11,SNR=38							
ASAR	**Alice Springs**	**20.97**	**171**	P	**P**	**08 42 15.8**	**+0.4**
	3.3nm,0.4s,baz=353,slow=9.7,SNR=59							
STKA	**Stephens Creek**	**30.77**	**161**	P	**P**	**08 43 47.2**	**-0.7**
	1.2nm,0.7s,baz=343,slow=11,SNR=3.0							
SONM	**Songino Array**	**54.64**	**341**	P	**P**	**08 47 01.5**	**+0.3**
	0.6nm,1.0s,baz=163,slow=5.6,SNR=3.9							
MKAR	**Makanchi Array**	**64.94**	**326**	P	**P**	**08 48 12.5**	**+0.4**
	0.5nm,0.8s,baz=119,slow=7.5,SNR=4.7							

ISCJB ***10*** *08:47:03.4±0.6, 6000N±005×1532W±0.1, h120km±9km, mb3.2/1, Error ellipse: s-maj=8.9km s-min=8.5km az=121.1*
NEIC ***10*** *08:47:05.0, 5997N×15323W, h117km, MG3.4(AEIC), After AEIC.*
NEIC Felt at Homer.
IDC ***10*** *08:47:05.2±1.1, 5957N×15087W, h0km, mb3.3/1, mb1 4.0/5, mb1mx3.6/21, mbtmp3.7/5, ML4.1/3, Error ellipse: s-maj=33.8km s-min=9.9km az=112.0*

ISC 10 08:47:04.6±0.6, 6000N±005×1532W±0.1, h109km±10km, n32, σ0§78/36, mb3.2/1, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLKM	**Skilak Lake**	**1.59**	**70**	P	**Pn**	**08 47 33.0**	**+0.6**
SVW2	**Sparrevohn**	**1.60**	**315**	P	**Pn**	**08 47 33.1**	**+0.6**
SEW	**Seward**	**1.91**	**85**	P	**Pn**	**08 47 36.7**	**+0.4**
FIB	**Fire Island**	**1.92**	**51**	P	**Pn**	**08 47 38.4**	**+2.0**
RC01	**Rabbit Creek A**	**2.05**	**56**	P	**Pn**	**08 47 38.7**	**+0.5**
RC01				S	**Sn**	**08 48 04.4**	**+0.6**
KDAK	**Kodiak Island**	**2.25**	**171**	Pn	**Pn**	**08 47 39.6**	**-1.1**
	46nm,0.3s,baz=24,slow=6.8,SNR=184							
KDAK				Lg		08 48 06.8	
	49nm,0.3s,baz=252,slow=21,SNR=18							
KDAK	**Kodiak Island**	**2.25**	**171**	P	**Pn**	**08 47 39.6**	**-1.1**
PMR	**Palmer**	**2.57**	**50**	P	**Pn**	**08 47 44.6**	**-0.4**
PMR				S	**Sn**	**08 48 17.7**	**-1.3**
GHO	**Glory Hole Cre**	**2.76**	**48**	P	**Pn**	**08 47 47.2**	**-0.2**
TT01	**Tatalina**	**3.21**	**337**	P	**Pn**	**08 47 53.5**	**+0.1**
TTA	**Tatalina**	**3.23**	**337**	*e*P	**Pn**	**08 47 53.7**	**+0.1**
KTH	**Kantishna Hill**	**3.73**	**16**	P	**Pn**	**08 48 00.7**	**+0.4**
TRF	**Thorofare Moun**	**3.74**	**21**	P	**Pn**	**08 48 01.0**	**+0.6**
EYAK	**Cordova Ski Ar**	**3.77**	**78**	P	**Pn**	**08 48 01.0**	**+0.1**
MCK	**McKinley**	**4.27**	**27**	P	**Pn**	**08 48 07.7**	**+0.2**
BMRM	**Bremner River**	**4.38**	**73**	P	**Pn**	**08 48 07.6**	**-1.5**
CHGN	**Chignik**	**4.61**	**219**	*e*P	**Pn**	**08 48 11.6**	**-0.5**
PAX	**Paxson**	**4.77**	**48**	P	**Pn**	**08 48 14.5**	**+0.2**
MENT	**Mentasta**	**5.43**	**53**	*e*P	**Pn**	**08 48 22.6**	**-0.6**
COLA	**College**	**5.50**	**25**	P	**Pn**	**08 48 23.8**	**-0.3**
IL1	**Eielson Array**	**5.63**	**29**	P	**Pn**	**08 48 25.5**	**-0.4**
ILAR	**Eielson Array**	**5.63**	**29**	Pn	**Pn**	**08 48 25.4**	**-0.4**
	6.5nm,0.3s,baz=216,slow=13,SNR=243							
ILAR				Sn	**Sn**	**08 49 24.9**	**-4.3**
	7.1nm,0.3s,baz=203,slow=14,SNR=11							
IM3	**Indian Mountai**	**6.01**	**358**	P	**Pn**	**08 48 31.7**	**+0.6**
PNL	**Peninsula**	**6.99**	**87**	P	**Pn**	**08 48 44.2**	**-0.1**
COLD	**Coldfoot**	**7.38**	**9**	P	**Pn**	**08 48 49.5**	**-0.2**
DAWY	**Dawson**	**7.68**	**52**	*e*Pn	**Pn**	**08 48 53.4**	**-0.3**
DAWY				*e*Sn	**Sn**	**08 50 13.3**	**-5.7**
BM3	**Burnt Mountain**	**8.37**	**23**	P	**Pn**	**08 49 01.4**	**-1.7**
SKAG	**Skagway**	**9.06**	**86**	*e*P	**Pn**	**08 49 14.0**	**+1.5**
	14nm,0.4s							
INK	**Inuvik**	**11.92**	**37**	Pn	**Pn**	**08 49 50.5**	**-0.3**
	0.3nm,0.3s,baz=239,slow=12,SNR=22							
YKA	**Yellowknife Ar**	**18.56**	**66**	P	**P**	**08 51 12.5**	**-0.4**
	baz=277,slow=10.0,SNR=144							
YKA	**Yellowknife Ar**	**18.56**	**66**	P	**P**	**08 51 12.5**	**-0.4**
PDAR	**Pinedale Array**	**31.51**	**103**	P	**P**	**08 53 17.5**	**+1.3**
	0.2nm,0.4s,mb3.2,baz=341,slow=7.9,SNR=3.5							

ISCJB ***10*** *08:57:46.5±4.3, 2325S×02×1795E±02, h534km±51km, mb3.8/7, Error ellipse: s-maj=32.5km s-min=18.4km az=99.5*
NEIC ***10*** *08:57:46.7±4.3, 2330S×17948E, h519km±44km, mb4.1/1, Error ellipse: s-maj=49.9km s-min=18.5km az=207.0*
IDC ***10*** *08:57:49.3±6.3, 2347S×17945E, h553km±79km, mb2.9/5, mb1 3.1/6, mb1mx3.0/13, mbtmp4.0/6, Error ellipse: s-maj=42.2km s-min=19.5km az=28.0*

ISC 10 08:57:49.7±4.0, 236S±02×1794E±02, h548km±45km, n9, σ0§75/10, mb3.8/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.78**	**187**	P	**P**	**09 00 57.1**	**+0.2**
	3.1nm,0.3s,baz=330,slow=3.7,SNR=20							
URZ				S	**S**	**09 03 30.8**	**-0.2**
	1.6nm,0.3s,baz=58,slow=23,SNR=12							
CTA	**Charters Tower**	**30.93**	**270**	P	**P**	**09 03 22.6**	**+0.5**
	4.0nm,0.6s,mb4.2,baz=98,slow=9.1,SNR=6.0							
STKA	**Stephens Creek**	**34.35**	**248**	P	**P**	**09 03 50.5**	**-0.6**
	1.5nm,0.8s,mb3.6,baz=97,slow=13,SNR=5.6							
ASAR	**Alice Springs**	**41.56**	**260**	P	**P**	**09 04 50.0**	**+0.4**
	0.3nm,0.3s,mb3.3,baz=91,slow=6.9,SNR=6.9							
WRA	**Warramunga Arr**	**41.89**	**266**	P	**P**	**09 04 51.8**	**-0.5**
	0.3nm,0.3s,mb3.4,baz=96,slow=8.2,SNR=40							
VNDA	**Vanda**	**54.66**	**185**	P	**P**	**09 06 26.6**	**-0.7**
	1.1nm,0.5s,mb3.3,baz=346,slow=8.3,SNR=3.7							
RPN	**Rapa Nui**	**63.70**	**110**	P	**P**	**09 07 27.3**	**-0.4**
	31nm,0.3s,mb5.2,baz=194,slow=4.2,SNR=4.4							
QSPA	**South Pole Qui**	**66.51**	**180**	*e*P	**P**	**09 07 48.3**	**+3.0**
	3.9nm,0.8s,mb4.0							
PMSA	**Palmer Station**	**79.43**	**157**	*e*P	**P**	**09 08 59.2**	**0.0**

MEX 10 09:08:29.9±1.5, 1602N×9762W, h16km±51km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.61**	**307**	*i* P	Pg	09 08 39.4	-2.5
PNIG				*i* S	Sg	09 08 47.6	-2.5
VHO	**Vista Hermosa**	**1.35**	**39**	*i* P	Pn	09 08 50.1	-4.0
VHO				*i* S	Sn	09 09 05.9	-5.7
OXX	**Oaxaca**	**1.36**	**39**	*i* P	Pn	09 08 50.5	-3.7
OXX				*i* S	Sn	09 09 07.5	-4.4
UTMO	**Huajuapan**	**1.81**	**354**	*i* P	Pn	09 08 58.5	-1.8
UTMO				*i* S	Sn	09 09 17.8	-5.1
MEIG	**Mezcala**	**2.69**	**315**	*i* P	Pn	09 09 10.1	-2.4
MEIG				*i* S	Sn	09 09 40.5	-4.2

ISCJB ***10*** *09:31:05.5±0.5, 4245N±002×26.16E±002, h8km±4km, mb3.5/3, Error ellipse: s-maj=3.4km s-min=3.0km az=57.8*
IDC ***10*** *09:31:05.9±1.4, 4242N×2602E, h0km, mb3.4/3, mb1 3.4/7, mb1mx3.3/22, mbtmp3.3/7, ML2.9/4, MS2.4/1, Ms1 2.4/1, ms1mx1.9/18, Error ellipse: s-maj=28.1km s-min=14.2km az=89.0*
SOF ***10*** *09:31:05.7, 4246N×26.13E, h7km, MD3.3*
SKO ***10*** *09:31:06.0, 4232N×2623E, h4km*
NEIC ***10*** *09:31:06.2, 4251N×26.19E, h10km, ML3.4(BEO), ML3.4(CSEM), After THE.*
NEIC Felt at Nova Zagora and Sliven.
CSEM ***10*** *09:31:06.1±0.1, 4242N×2620E, h10km, ML4.0, Error ellipse: s-maj=2.0km s-min=1.5km az=4.0*
THE ***10*** *09:31:06.2, 4251N×26.19E, h10km, ML4.0*
MOS ***10*** *09:31:08.4±1.1, 4242N×26.14E, h33km, mb3.5/2, Error ellipse: s-maj=8.0km s-min=5.1km az=65.2*

ISC 10 09:31:06.2±0.5, 4243N±002×2616E±002, h4km±4km, n91, σ1§00/106, mb3.5/3, 3C-13D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMB	**Yambol**	**0.32**	**83**	*i* Pg	**Pg**	**09 31 11.9**	**-0.4**
JMB	**Yambol**	**0.32**	**

BZS	**Buzias**	**4.57**	**316**	*i*P		**Pn**	**09 32 14.6**	**-1.4**
DIVS	**Divcibare**	**4.80**	**292**	*i* Pn		**Pn**	**09 32 18.3**	**-0.9**
DIVS	**Divcibare**	**4.80**	**292**	*e*Pn		**Pn**	**09 32 19.2**	**0.0**
BURAR	**Bucovina Array**	**5.23**	**353**	ǁ*i*P		**Pn**	**09 32 26.3**	**+1.2**
BURAR	**Bucovina Array**	**5.23**	**353**	ǁP		**Pn**	**09 32 26.3**	**+1.2**
KIZT	**Kizilcal**	**5.61**	**127**	*e*PN		**Pn**	**09 32 30.8**	**+0.5**
SEV	**Sevastopol'**	**5.86**	**66**	*e*P		**Pn**	**09 32 34.1**	**+0.4**
SEV				*e*S		**Sn**	**09 33 39.7**	**-1.6**
SEV				pmax	pmax			
	comp=Z,10.0nm,0.4s							
SEV				smax				
	comp=N,40nm,0.6s							
SEV				smax				
	comp=E,20nm,0.6s							
SEV	**Sevastopol'**	**5.86**	**66**	*e*P		**Pn**	**09 32 34.1**	**+0.4**
	comp=E,10.0nm,0.4s							
YAL	**Yalta**	**6.17**	**68**	*e*P		**Pn**	**09 32 39.4**	**+1.4**
BRTR	**Keskin Array B**	**6.26**	**113**	Pn		**Pn**	**09 32 41.8**	**+2.5**
	comp=E,0.4nm,0.3s,baz=293,slow=13,SNR=6.4							
BRTR				Lg			09 34 32.5	
	comp=E,0.1nm,0.3s,baz=291,slow=24,SNR=4.2							
SUDU	**Sudak**	**6.87**	**66**	*e*P		**Pn**	**09 32 45.4**	**-2.2**
SUDU				*e*S		**Sn**	**09 34 00.5**	**-5.7**
SUDU				pmax	pmax			
	comp=Z,60nm,0.6s							
SUDU				smax				
	comp=N,30nm,0.5s							
SUDU				smax				
	comp=E,30nm,0.6s							
KECS	**Kecovo**	**7.25**	**329**	*e*SN		**Sn**	**09 34 16.4**	**+0.9**
AKASG	**Malin Array Be**	**8.54**	**13**	Pn		**Pn**	**09 33 10.1**	**-0.4**
	comp=E,0.8nm,0.3s,baz=202,slow=11,SNR=3.2							
AKASG				Lg			09 35 32.0	
	comp=E,1.0nm,0.3s,baz=187,slow=30,SNR=4.7							
HFS	**Hagfors**	**19.31**	**341**	P		**Pn**	**09 35 30.9**	**-2.2**
	comp=E,0.1nm,0.3s,baz=115,slow=13,SNR=4.2							
HFS				LR	LR		09 42 19.8	
	comp=E,9.7nm,19.2s,baz=307,slow=35							
NOA	**NORSAR Array B**	**20.71**	**339**	P		**P**	**09 35 45.5**	**-2.0**
	comp=E,1.2nm,0.8s,baz=150,slow=11,SNR=3.5							
NOA	**NORSAR Array B**	**20.71**	**339**	P		**P**	**09 35 45.5**	**-1.9**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
AKTO	**Aktyubinsk**	**23.23**	**59**	P		**P**	**09 36 19.6**	**+5.3**
	comp=Z,1.0nm,0.6s,mb3.4,baz=252,slow=14,SNR=4.0							
AKTO	**Aktyubinsk**	**23.23**	**59**	P		**P**	**09 36 19.7**	**+5.4**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.4							
TORD	**Torodi Ar. Bea**	**36.06**	**223**	P		**P**	**09 38 09.2**	**+0.5**
	comp=Z,0.7nm,0.8s,mb3.6,baz=39,slow=9.8,SNR=5.5							
MKAR	**Makanchi Array**	**39.48**	**64**	P		**P**	**09 38 37.7**	**+0.1**
	comp=Z,0.4nm,0.6s,mb3.3,baz=280,slow=6.7,SNR=4.7							

*ISCJB **10** 09:31:54.5±1.4, 3.45N±0.09×74.1W±0.1, h92km±13km, mb3.4/5, Error ellipse: s-maj=18.9km s-min=15.4km az=6.3*
*IDC **10** 09:31:55.2±1.7, 339N×74.12W, h83km±15km, mb3.1/6, mb1 3.4/6, mb1mx3.3/19, mbtmp3.4/6, MS2.9/2, Ms1 2.9/2, ms1mx2.7/6, Error ellipse: s-maj=23.7km s-min=15.6km az=61.0*

ISC 10 09:31:55.2±1.5, 340N±009×742W±01, h79km±14km, n12, σ0§89/10, mb3.4/5, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.46**	**353**	P	**Pn**	**09 32 18.5**	**-1.4**
	930nm,0.3s,baz=87,slow=24,SNR=1912						
ROSC				S	**Sn**	**09 32 39.9**	**+1.3**
	982nm,0.3s,baz=92,slow=23,SNR=21						
SDV	**Santo Domingo**	**6.48**	**33**	P	**Pn**	**09 33 27.6**	**-0.3**
	55nm,0.3s,baz=248,slow=4.4,SNR=179						
SDV				S	**Sn**	**09 34 40.4**	**0.0**
	16nm,0.3s,baz=259,slow=21,SNR=6.2						
JTS	**JuntasAbangare**	**12.72**	**303**	LR	LR	09 39 21.0	
	comp=Z,39nm,20.2s,baz=329,slow=35						
SJG	**San Juan**	**16.59**	**28**	LR	LR	09 42 54.3	
	comp=Z,63nm,20.0s,baz=69,slow=40						
LPAZ	**La Paz**	**20.45**	**163**	P	**P**	**09 36 26.9**	**+0.7**
	0.6nm,0.8s,baz=344,slow=14,SNR=2.7						
SIV	**San Ignacio**	**23.21**	**146**	P	**P**	**09 36 54.8**	**-0.5**
	0.7nm,0.6s,mb3.1,baz=329,slow=10,SNR=6.9						
PDAR	**Pinedale Array**	**50.28**	**326**	P	**P**	**09 40 43.5**	**-0.1**
	0.6nm,0.6s,mb3.7,baz=110,slow=8.3,SNR=6.9						
NVAR	**Mina Array Bea**	**53.20**	**317**	P	**P**	**09 41 06.2**	**+0.8**
	0.2nm,0.3s,mb3.6,baz=135,slow=7.5,SNR=5.6						
YKA	**Yellowknife Ar**	**66.12**	**341**	P	**P**	**09 42 32.6**	**-1.5**
	0.2nm,0.5s,mb3.2,baz=135,slow=6.0,SNR=13						
YKA				pP	pP	09 42 49.6	-4.8
	0.2nm,0.5s,baz=133,slow=6.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**75.46**	**77**	P	**P**	**09 43 31.6**	**+0.9**
	0.5nm,1.0s,mb3.2,baz=274,slow=3.7,SNR=3.0						
ASAR	**Alice Springs**	**146.22**	**231**	PKPbc	PKPbc	09 51 26.4	-0.1
	0.8nm,0.6s,baz=122,slow=3.7,SNR=4.4						
WRA	**Warramunga Arr**	**147.71**	**237**	PKPbc	PKPbc	09 51 30.7	-0.1
	0.9nm,0.7s,baz=110,slow=2.9,SNR=15						

*NEIC **10** 10:42:46.9, 1929N×6886W, h12km, MD3.6(RSPR), After RSPR.*

RSPR 10 10:42:46.9, 1929N×6886W, h12km±32km, MD3.6/8, MD3.6/8, 10C-1D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.85**	**116**	ǁ*e*P	Pn	10 43 15.0	-3.4
AGPR				*e*S	Sn	10 43 37.5	-4.2
LSP	**Las Mesas**	**2.01**	**123**	ǁ*e*P	Pn	10 43 18.0	-2.8
LSP				*e*S	Sn	10 43 41.8	-4.0
CRPR	**Cabo Rojo, PR**	**2.09**	**127**	ǁ*e*P	Pn	10 43 18.8	-3.1
CRPR				*e*S	Sn	10 43 44.1	-3.8
MGP	**Maguayo**	**2.11**	**127**	ǁ*e*P	Pn	10 43 20.0	-2.1
MGP				*e*S	Sn	10 43 45.0	-3.2
AOPR	**Arecibo Observ**	**2.21**	**115**	ǁ*e*P	Pn	10 43 20.5	-2.9
AOPR				*e*S	Sn	10 43 46.4	-4.2
OBIP	**Obispado Ponce**	**2.47**	**120**	*e*S	Sn	10 43 54.2	-3.0
CELP	**Cerrillos**	**2.48**	**119**	ǁ*e*P	Pn	10 43 24.8	-2.3
CELP				*e*S	Sn	10 43 53.2	-4.1
ICM	**Isla Caja Muer**	**2.62**	**122**	ǁ*e*P	Pn	10 43 26.9	-2.2
ICM				*e*S	Sn	10 43 57.6	-3.2
SJG	**San Juan**	**2.82**	**114**	*e*S	Sn	10 44 02.7	-3.1
SJG	**San Juan**	**2.82**	**114**	*e*S	Sn	10 44 02.7	-3.1
CBYP	**Canovanas**	**3.02**	**109**	ǁ*e*P	Pn	10 43 31.5	-3.1
CBYP				*e*S	Sn	10 44 07.7	-3.0
CPD	**Cerro la Pandu**	**3.06**	**114**	ǁ*e*P	Pn	10 43 32.8	-2.3
CPD				*e*S	Sn	10 44 07.5	-4.1
MTP	**Monte Pirata**	**3.35**	**110**	ǁ*e*P	Pn	10 43 36.1	-3.0
MTP				*e*S	Sn	10 44 15.6	-3.2
CULB	**Culebra**	**3.48**	**106**	ǁ*e*P	Pn	10 43 40.1	-0.9
CULB				*e*S	Sn	10 44 20.7	-1.4

*NIED **10** 10:59:00, 23.70N×121.70E, h35km, Mw4.4 Best double couple: M=4.30000×10^15 NP1:φ=13.00000°, δ=70.00000°, λ=65.00000°. NP2:φ=247.00000°, δ=31.00000°, λ=139.00000°.*
*IDC **10** 10:59:06.1±0.6, 2361N×12167E, h0km, mb4.0/15, mb1 4.1/16, mb1mx4.1/24, mbtmp4.0/16, ML3.8/2, MS3.6/11, Ms1 3.6/11, ms1mx3.4/34, Error ellipse: s-maj=20.1km s-min=14.5km az=77.0*
*ISCJB **10** 10:59:10.6±0.6, 2369N±005×12160E±003, h43km±6km, mb4.0/21, MS3.7/8, Error ellipse: s-maj=7.8km s-min=4.6km az=13.1*
*BJI **10** 10:59:11.2, 2391N×12168E, h20km, mB4.3, mb4.2, ML4.6, Ms4.0, Msz3.7*
*JMA **10** 10:59:12.5±0.3, 2368N×12165E, h63km, M4.4*
*NEIC **10** 10:59:12.1±0.5, 2377N×12172E, mb4.2/6, Error ellipse: s-maj=13.3km s-min=9.4km az=76.0*
NEIC Recorded [4 TAP] in Hua-lien, [2 TAP] in I-lan and [1 TAP] in Chia-i, Nan-t'ou, T'ai-chung and T'ai-tung Counties.

ISC 10 10:59:11.6±1.2, 2373N±005×12158E±003, h32km±9km, n59, σ1§20/71, mb4.0/21, MS3.7/8, 1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.45**	**2**	*e*P	**Pb**	**10 59 18.6**	**-2.7**
YHNB	**Yeheng**	**0.96**	**349**	*e*Pn	**Pn**	**10 59 26.2**	**-2.5**
TATO	**Taipei**	**1.25**	**356**	*e*Pn	**Pn**	**10 59 31.3**	**-1.5**
YOJ	**Yonaguni jima**	**1.50**	**61**	P	**Pn**	**10 59 37.3**	**+1.0**
YOJ				S	**Sn**	**10 59 55.7**	**+0.9**
IRIF	**Iriomote-Funau**	**2.06**	**72**	P	**Pn**	**10 59 45.2**	**+1.2**
HATJ	**Hateruma jima**	**2.07**	**80**	P	**Pn**	**10 59 44.5**	**+0.4**
HATJ				S	**Sn**	**11 00 08.9**	**+0.2**
JKRS	**Kuro-shima**	**2.29**	**77**	P	**Pn**	**10 59 48.4**	**+1.4**
JKRS				S	**Sn**	**11 00 15.3**	**+1.3**
JIJ	**Ishigaki jima**	**2.43**	**74**	*i*P	**Pn**	**10 59 49.8**	**+0.7**
JIJ				S	**Sn**	**11 00 17.2**	**-0.5**
QZH	**Quanzhou**	**2.98**	**295**	ǁ*i*P	**Pn**	**10 59 57.8**	**+1.2**
QZH				S	**Sn**	**11 00 30.8**	**-0.4**
QZH				Smax			
	comp=N,5μm,0.9s						
QZH				Smax			
	comp=E,3μm,0.9s						
JTJ	**Tarama**	**3.00**	**72**	P	**Pn**	**10 59 57.6**	**+0.7**
JTJ				S	**Sn**	**11 00 32.1**	**+0.4**
JMJ	**Miyako jima 2**	**3.56**	**72**	P	**Pn**	**11 00 06.0**	**+1.4**
JMJ				S	**Sn**	**11 00 46.8**	**+1.2**
JOGS	**Gusukube**	**3.65**	**73**	P	**Pn**	**11 00 07.2**	**+1.4**
JOGS				S	**Sn**	**11 00 48.3**	**+0.7**
JKE	**Kume jima 2**	**5.39**	**60**	P	**Pn**	**11 00 30.3**	**+0.6**
JKE				S	**Sn**	**11 01 29.6**	**-1.0**
JAGN	**Aguni-jima**	**5.87**	**60**	P	**Pn**	**11 00 37.0**	**+0.6**
JAGN				S	**Sn**	**11 01 41.7**	**-0.9**
CVP	**Callao Caves**	**6.00**	**178**	*e*P	**Pn**	**11 00 37.0**	**-1.1**
JIH	**Iheya**	**6.65**	**59**	P	**Pn**	**11 00 47.5**	**+0.4**
JIH				S	**Sn**	**11 01 58.8**	**-3.0**
JOW	**Kunigami**	**6.81**	**62**	Pn	**Pn**	**11 00 48.5**	**-0.7**
	comp=E,6.6nm,0.3s,baz=125,slow=19,SNR=36						
JOW				Sn	**Sn**	**11 02 03.2**	**-2.3**
	comp=E,6.2nm,0.3s,baz=132,slow=26,SNR=6.9						
JOW	**Kunigami**	**6.81**	**62**	P	**Pn**	**11 00 48.4**	**-0.8**
JOW				S	**Sn**	**11 02 04.0**	**-1.6**
JTK	**Tokunoshima**	**7.78**	**57**	P	**Pn**	**11 01 01.5**	**-1.1**
JTK				S	**Sn**	**11 02 25.1**	**-4.4**
JAM	**Amami Oshima**	**8.60**	**55**	P	**Pn**	**11 01 12.7**	**-1.0**
JAM				S	**Sn**	**11 02 44.6**	**-4.9**
NJ2	**Nanjing**	**8.64**	**344**	*e*P	**Pn**	**11 01 16.8**	**+2.5**
NJ2				AP		11 01 23.5	
NJ2				XP		11 01 29.1	
NJ2				S	**Sn**	**11 02 56.0**	**+5.5**
NJ2				PCP	PcP	11 07 44.5	+3.0
NJ2				Smax			
	comp=N,180nm,0.6s						
NJ2				Smax			
	comp=E,120nm,0.7s						
NJ2				LR	LR		
	comp=N,600nm,12.2s						
NJ2				LR	LR		
	comp=E,1μm,8.8s						
NJ2				LR	LR		
	comp=Z,280nm,12.9s						
JMZ	**Minamidaito 2**	**9.01**	**75**	P	**Pn**	**11 01 15.8**	**-3.6**
JMZ				*e*S	**Sn**	**11 02 50.1**	**-10**
XAN	**Xi'an**	**15.10**	**316**	P	**Pn**	**11 02 44.0**	**+1.5**
XAN				AP	pP	11 02 50.4	-5.5
XAN				LG2		11 07 20.6	
XAN				LR	LR		
	comp=E,286nm,15.3s						
XAN				LR	LR		
	comp=Z,415nm,17.8s						
CD2	**Chengdu**	**17.36**	**298**	P	**Pn**	**11 03 17.3**	**+5.9**
CD2				XP	sP	11 03 29.1	+3.9
CD2				PP		11 03 33.0	
CD2				S	**Sn**	**11 06 33.0**	**+9.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2				LR	LR		
	comp=N,350nm,5.7s						
CD2				LR	LR		
	comp=Z,270nm,13.2s						
JHJ	**Hachijo jima 2**	**18.53**	**56**	LR	LR	11 09 58.4	
	comp=Z,107nm,20.5s,baz=49,slow=35						
CBIJ	**Chichi jima**	**18.92**	**75**	LR	LR	11 09 26.6	
	comp=Z,110nm,21.6s,baz=222,slow=33						
MJAR	**Matsushiro Arr**	**19.20**	**45**	P	**Pn**	**11 03 30.8**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=273,slow=23,SNR=2.5						
MJAR				LR	LR	11 11 17.3	
	comp=Z,108nm,20.0s,baz=205,slow=38						
CHTO	**Chiang Mai**	**21.64**	**261**	*e*P	**P**	**11 04 01.1**	**+2.0**
	comp=Z,7.2nm,0.8s,mb4.2						
GTA	**Gaotai**	**24.16**	**315**	P	**P**	**11 04 22.3**	**-2.5**
GTA				AP		11 04 34.1	
GTA				XP	sP	11 04 40.4	+2.4
GTA				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb3.6						
GUMO	**Guam**	**24.23**	**110**	LR	LR	11 11 35.6	
	comp=Z,82nm,20.0s,MS3.2,baz=280,slow=31						
ASAJ	**Asahikawa**	**26.66**	**35**	LR	LR	11 15 38.9	
	comp=Z,116nm,20.8s,MS3.4,baz=173,slow=37						
ULN	**Ulaanbaatar**	**26.72**	**338**	*e*P	**P**	**11 04 47.6**	**-0.4**
	comp=Z,3.4nm,0.7s,mb4.0						
SONM	**Songino Array**	**26.93**	**337**	P	**P**	**11 04 50.7**	**+0.8**
	comp=Z,1.8nm,0.8s,mb3.7,baz=149,slow=9.4,SNR=11						
SONM				LR	LR	11 16 47.9	
	comp=Z,202nm,18.3s,MS3.7,baz=347,slow=39						
PSI	**Prapat**	**30.21**	**230**	P	**P**	**11 05 19.7**	**+0.6**
	comp=Z,2.8nm,0.7s,mb4.1,baz=337,slow=23,SNR=3.5						
PSI				LR	LR	11 17 37.0	
	comp=Z,176nm,18.0s,MS3.8,baz=222,slow=37						
PSI	**Prapat**	**30.21**	**230**	P	**P**	**11 05 19.7**	**+0.6**
MKAR	**Makanchi Array**	**38.91**	**316**	P	**P**	**11 06 35.5**	**+1.3**
	comp=Z,1.3nm,0.6s,mb3.9,baz=112,slow=10.0,SNR=14						
ZAL	**Zalesovo**	**40.83**	**327**	P	**P**	**11 06 50.6**	**+0.5**
	comp=Z,1.3nm,0.5s,mb3.8,baz=340,slow=12,SNR=4.0						
ZAL				LR	LR	11 25 33.1	
	comp=Z,132nm,18.7s,MS3.8,baz=147,slow=39						
WRAB	**Tennant Creek**	**45.15**	**163**	*e*P	**P**	**11 07 25.4**	**+0.3**
	comp=Z,4.5nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**45.15**	**163**	P	**P**	**11 07 23.9**	**-1.2**
	comp=Z,1.4nm,0.6s,mb4.0,baz=352,slow=8.0,SNR=40						
WB2	**Warramunga Arr**	**45.15**	**163**	*e*P	**P**	**11 07 24.0**	**-1.1**
BVAR	**Borovoye Array**	**48.25**	**321**	P	**P**	**11 07 50.1**	**+0.7**
	comp=Z,1.1nm,0.6s,mb4.1,baz=111,slow=8.1,SNR=6.9						
BVAR				PcP	PcP	11 09 16.0	-0.1
	comp=Z,0.8nm,0.5s,baz=132,slow=3.3,SNR=4.2						
BRVK	**Borovoye**	**48.32**	**321**	*e*P	**P**	**11 07 50.0**	**+0.1**
	comp=Z,1.1nm,0.6s,mb4.1						
BRVK				*e*pP	pP	11 08 02.0	+2.4
FX1	**Attu Island--F**	**48.45**	**39**	P	**P**	**11 07 51.9**	**+1.1**
	comp=Z,2.2nm,0.4s,mb4.5,baz=54,slow=19,SNR=4.5						
ASAR	**Alice Springs**	**48.60**	**165**	P	**P**	**11 07 51.0**	**-1.1**
	comp=Z,0.4nm,0.3s,mb3.9,baz=336,slow=6.8,SNR=16						
ZRNK	**Zerenda**	**49.04**	**320**	*e*P	**P**	**11 07 55.5**	**+0.1**
	comp=Z,4.6nm,1.0s,mb4.5						
ZRNK				*e*pP	pP	11 08 07.7	+2.6
STKA	**Stephens Creek**	**58.51**	**160**	P	**P**	**11 09 02.2**	**-2.5**
	comp=Z,1.3nm,0.5s,mb4.2,baz=346,slow=8.7,SNR=7.8						
STKA	**Stephens Creek**	**58.51**	**160**	P	**P**	**11 09 02.2**	**-2.5**
KDAK	**Kodiak Island**	**68.07**	**35**	LR	LR	11 41 27.9	
	comp=Z,72nm,20.8s,MS3.9,baz=140,slow=37						
ILAR	**Eielson Array**	**69.46**	**27**	P	**P**	**11 10 16.1**	**-0.5**
	comp=Z,0.4nm,0.5s,mb3.6,baz=274,slow=4.7,SNR=16						
ARCES	**ARCESS Array B**	**70.10**	**338**	LR	LR	11 44 30.8	
	comp=Z,45nm,19.8s,MS3.7,baz=214,slow=39						
FINES	**FINESS Array B**	**72.02**	**330**	P	**P**	**11 10 32.2**	**-0.1**
	comp=Z,0.7nm,0.5s,mb3.9,baz=62,slow=5.2,SNR=5.1						
FINES				LR	LR	11 46 04.3	
	comp=Z,44nm,19.7s,MS3.7,baz=52,slow=39						
FINES	**FINESS Array B**	**72.02**	**330**	P	**P**	**11 10 32.2**	**-0.1**
INK	**Inuvik**	**73.52**	**22**	P	**P**	**11 10 40.2**	**-0.9**
	comp=Z,1.1nm,0.8s,mb3.9,baz=292,slow=5.6,SNR=8.0						
INK	**Inuvik**	**73.52**	**22**	*e*P	**P**	**11 10 39.7**	**-1.4**
	comp=Z,5.0nm,1.2s,mb4.3						
BRTR	**Keskin Array B**	**73.73**	**307**	P	**P**	**11 10 42.3**	**-0.1**
	comp=Z,1.1nm,0.7s,mb3.9,baz=101,slow=6.5,SNR=4.7						
NB2	**NORSAR Subarra**	**78.80**	**332**	P	**P**	**11 11 10.8**	**-0.3**
	comp=Z,0.9nm,0.6s,mb3.9,baz=63,slow=5.6						
NOA	**NORSAR Array B**	**78.80**	**332**	P	**P**	**11 11 11.1**	**-0.1**
	comp=Z,1.0nm,0.6s,mb3.9,baz=60,slow=5.3,SNR=5.2						
YKA	**Yellowknife Ar**	**83.25**	**23**	P	**P**	**11 11 34.2**	**-0.7**
	comp=Z,0.4nm,0.4s,mb3.8,baz=309,slow=5.0,SNR=17						
YKA	**Yellowknife Ar**	**83.25**	**23**	P	**P**	**11 11 34.2**	**-0.7**

MEX 10 11:21:15.2±1.0, 1706N×9949W, h35km±26km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.45**	**244**	*i*P	Pn	11 21 23.3	-1.8
ACX				*i*S	Sn	11 21 30.3	-1.7
CAIG	**El Cayaco**	**0.74**	**269**	*e*P	Pn	11 21 27.2	-1.9
CAIG				*i*S	Sn	11 21 37.2	-2.0
MEIG	**Mezcala**	**0.87**	**352**	*i*P	Pn	11 21 28.7	-2.2
MEIG				*i*S	Sn	11 21 39.5	-2.8
PLIG	**Platanillo**	**1.32**	**360**	*i*P	Pn	11 21 35.8	-1.3
PLIG				*i*S	Sn	11 21 52.4	-1.2
UTMO	**Huajuapan**	**1.78**	**64**	*i*P	Pn	11 21 42.0	-1.5
UTMO				*i*S	Sn	11 22 04.8	-0.2

*ISCJB **10** 11:25:52.5±0.4, 4053N±002×2340E±003, h7km±5km, Error ellipse: s-maj=4.7km s-min=3.5km az=119.2*
*ATH **10** 11:25:52.1, 4055N×2331E, h7km±5km, MD3.0/4*
*NEIC **10** 11:25:52.1, 4055N×2331E, h7km, MD3.0(ATH), After ATH.*
*CSEM **10** 11:25:53.3±0.1, 4054N×2342E, h2km, MD3.0, Error ellipse: s-maj=1.9km s-min=1.5km az=71.0*
*THE **10** 11:25:53.1, 4053N×2341E, h1km, ML2.5*

ISC 10 11:25:52.8±0.5, 4053N±002×2342E±004, h12km±5km, n15, σ0§81/27, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLG	**Polygyros**	**0.16**	**173**	*e*PG	**Pg**	**11 25 55.3**	**-1.2**
PLG				*e*SG	**Sg**	**11 25 58.9**	**-0.2**
SOH	**Sokhos**	**0.29**	**350**	*e*Pg	**Pg**	**11 25 58.7**	**-0.2**
SOH				*e*Sg	**Sg**	**11 26 03.1**	**+0.3**
THE	**Thessaloniki**	**0.36**	**286**	*e*Pg	**Pg**	**11 25 59.6**	**-0.4**
THE				*e*Sg	**Sg**	**11 26 04.3**	**-0.5**
THE	**Thessaloniki**	**0.36**	**286**	*e*Pg	**Pg**	**11 25 59.6**	**-0.4**
THE				*e*Sg	**Sg**	**11 26 04.3**	**-0.6**
OUR	**Ouranopolis**	**0.47**	**114**	*e*Pg	**Pg**	**11 26 02.3**	**+0.3**
OUR				*e*Sg	**Sg**	**11 26 09.5**	**+1.1**
PAIG	**Paliouri**	**0.64**	**162**	*e*Pg	**Pg**	**11 26 04.6**	**-0.6**
PAIG				*e*Sg	**Sg**	**11 26 13.8**	**+0.3**
KNT	**Kendrikon**	**0.74**	**328**	*e*Pg	**Pg**	**11 26 07.0**	**-0.2**
KNT				*e*Sg	**Sg**	**11 26 17.6**	**+0.6**
LIT	**Litokhoron**	**0.83**	**239**	*e*Pg	**Pg**	**11 26 08.9**	**+0.1**
LIT				*e*Sg	**Sg**	**11 26 20.7**	**+1.0**
GRG	**Griva**	**0.88**	**299**	*e*Pg	**Pg**	**11 26 09.9**	**0.0**
GRG				*e*Sg	**Sg**	**11 26 22.9**	**+1.6**
NVR	**Nevrokopi**	**0.88**	**22**	*e*PN	**Pn**	**11 26 09.8**	**-1.2**
NVR				*e*SB	**Sb**	**11 26 21.3**	**-0.5**
XOR	**Xorichti**	**1.18**	**189**	*e*Pg	**Pg**	**11 26 15.2**	**-0.2**
NEO	**Neokhori**	**1.23**	**187**	*e*PB	**Pb**	**11 26 15.5**	**-0.5**
FNA	**Florina**	**1.57**	**280**	*e*Pg	**Pg**	**11 26 21.7**	**-1.4**
FNA				*e*Sg	**Sg**	**11 26 43.6**	**+0.1**
RDO	**Rodhopi**	**1.72**	**68**	*e*PN	**Pn**	**11 26 25.4**	**+2.9**
AGG	**Agios Georgios**	**1.73**	**209**	*e*Pb	**Pb**	**11 26 23.8**	**-0.6**
AGG				*e*Sb	**Sb**	**11 26 46.8**	**+0.9**

*IDC **10** 11:33:37.3±0.8, 2077S×17431W, h0km, mb4.3/9, mb1 4.5/11, mb1mx4.4/17, mbtmp4.3/11, MS3.8/5, Ms1 3.7/5, ms1mx3.3/20, Error ellipse: s-maj=29.1km s-min=16.6km az=128.0*
*SZGRF **10** 11:33:40.1, 2244S×17384W, h38km, Tonga Islands region*
*ISCJB **10** 11:33:41.1±0.4, 2086S±009×17435W±0.10, h33km, mb4.5/21, MS3.8/4, Error ellipse: s-maj=14.7km s-min=10.3km az=84.8*
*BJI **10** 11:33:42.9, 2013S×17390W, h25km, mB5.0, mb4.7, Ms4.6, Msz4.4*
*NEIC **10** 11:33:43.9±0.4, 2090S×17428W, mb4.5/12, Error ellipse: s-maj=16.4km s-min=10.0km az=137.0*
*MOS **10** 11:33:47.6±0.8, 2170S×17513W, h33km, mb4.6/5, Error ellipse: s-maj=36.8km s-min=20.7km az=161.4*

ISC 10 11:33:42.7±0.4, 2084S±008×17420W±009, h35km, (h44km±7km:pP-P), n75, σ1§01/39, mb4.5/21, MS3.8/4, 2C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.27**	**19**	Pn	**Pn**	**11 35 22.4**	**-4.0**
	2.0nm,0.3s,baz=249,slow=14,SNR=3.6						
AFI				Sn	**Sn**	**11 36 37.4**	**-10**
	2.7nm,0.3s,baz=34,slow=22,SNR=2.7						
AFI	**Afiamalu**	**7.27**	**19**	*e*Pn	**Pn**	**11 35 23.3**	**-3.1**
RAR	**Rarotonga**	**13.48**	**94**	LR	LR	11 39 47.9	
	comp=Z,210nm,20.6s,baz=134,slow=27						
DZM	**Mont Dzumac**	**18.06**	**263**	P	**Pn**	**11 37 52.5**	**+1.8**
	0.4nm,0.3s,baz=77,slow=17,SNR=6.9						
URZ	**Urewera**	**18.91**	**202**	P	**Pn**	**11 38 00.3**	**-0.8**
	1.2nm,0.3s,baz=15,slow=7.4,SNR=9.8						
TBI	**Tubuai**	**23.05**	**101**	*e*LQ		11 43 03.4	
	339nm,24.5s						
TBI				*e*LR	LR	11 43 45.0	
	252nm,32.2s						
PPT	**Papeete**	**23.48**	**86**	*e*LR	LR	11 44 11.4	
	178nm,20.5s						
PPT	**Papeete**	**23.48**	**86**	LR	LR	11 45 35.4	
	comp=Z,356nm,18.6s,MS3.9,baz=245,slow=30						
RPZ	**Rata Peaks**	**25.91**	**205**	P	**P**	**11 39 10.6**	**-0.8**

VNA1	**Neumayer--Stat**	**88.22**	**175**	*e*		**P**	**11 46 29.3**	**-0.9**
VNA1				*e*			11 46 43.4	
INK	**Inuvik**	**93.71**	**14**	P		**P**	**11 46 55.8**	**+0.1**
INK				pmax	pmax			
	comp=Z,1.0nm,0.8s							
INK	**Inuvik**	**93.71**	**14**	P		**P**	**11 46 55.8**	**+0.1**
	comp=Z,1.5nm,0.8s,mb4.5							
YKA	**Yellowknife Ar**	**95.36**	**24**	P		**P**	**11 47 02.9**	**-0.3**
	comp=Z,0.5nm,0.8s,mb4.0,baz=244,slow=4.1,SNR=13							
YKA				LR		LR	12 27 41.4	
	comp=Z,34nm,18.3s,MS3.9,baz=265,slow=34							
ULM	**Lac du Bonnet**	**98.61**	**39**	LR		LR	12 27 44.0	
	comp=Z,40nm,18.0s,MS4.0,baz=348,slow=33							
AKASG	**Malin Array Be**	**144.96**	**334**	PKP		PKPdf	11 53 15.9	-0.2
	comp=Z,9.2nm,0.8s,baz=39,slow=3.7,SNR=31							
BSEG	**Bad Segeberg**	**146.78**	**355**	*e*PKPbc	PKPbc		11 53 22.3	+1.3
MALT	**Malatya**	**146.94**	**309**	*e*PKIKP	PKPbc		11 53 24.2	+2.8
CLZ	**Clausthal**	**148.86**	**355**	*e*PKPbc	PKPbc		11 53 27.7	+1.1
STHS	**Stebnicka Huta**	**148.94**	**340**	*e*PKP	PKPbc		11 53 29.4	+2.6
CLL	**Collm**	**149.07**	**351**	*e*PKPbc	PKPbc		11 53 28.5	+1.4
CLL	**Collm**	**149.07**	**351**	*i*PKPbc	PKPbc		11 53 28.5	+1.4
	comp=Z,16nm,1.4s							
CLL				*i* PKPab	PKPab		11 53 31.5	+0.1
CLL				*e*pPKPbc	pPKPbc		11 53 40.0	+1.5
CLL	**Collm**	**149.07**	**351**	*i*PKIKP	PKPbc		11 53 28.5	+1.4
CLL				*i*			11 53 31.5	
CLL				*e*			11 53 40.0	
CLL				pmax	pmax			
	comp=Z,26nm,1.4s							
UPC	**Upice**	**149.32**	**347**	*e*PKPbc	PKPbc		11 53 30.0	+2.3
CRVS	**Cervenica-Dubn**	**149.32**	**340**	*e*PKP	PKPab		11 53 33.7	+1.3
NEUB	**Neuenburg**	**149.33**	**353**	*e*PKPbc	PKPbc		11 53 29.2	+1.4
BRG	**Berggiesshubel**	**149.35**	**350**	*e*PKPbc	PKPbc		11 53 29.2	+1.4
BRG	**Berggiesshubel**	**149.35**	**350**	*e*P	PKPbc		11 53 29.1	+1.3
	comp=Z,3.8nm,0.7s							
BRG	**Berggiesshubel**	**149.35**	**350**	*e*PKIKP	PKPbc		11 53 29.1	+1.3
BRG				pmax	pmax			
	comp=Z,4.0nm,0.7s							
FBE	**Freiberg**	**149.40**	**351**	*e*PKPbc	PKPbc		11 53 29.2	+1.3
DPC	**Dobruska-Polom**	**149.40**	**347**	*e*PKPbc	PKPbc		11 53 29.9	+2.0
BR131	**Keskin Array S**	**149.66**	**315**	*e*PKPbc	PKPbc		11 53 30.0	+1.5
BRTR	**Keskin Array B**	**149.66**	**315**	PKPbc	PKPbc		11 53 30.1	+1.6
	comp=Z,3.3nm,0.9s,baz=115,slow=1.8,SNR=17							
MOX	**Moxa**	**149.91**	**353**	*e*PKPbc	PKPbc		11 53 30.1	+0.9
KECS	**Kecovo**	**150.00**	**340**	*e*PKP	PKPbc		11 53 31.8	+2.4
WERD	**Werda**	**150.01**	**352**	*e*PKPbc	PKPbc		11 53 30.3	+0.9
TANN	**Tannenbergstha**	**150.02**	**351**	*e*PKPbc	PKPbc		11 53 30.4	+1.0
WERN	**Wernitzgruen**	**150.16**	**352**	*e*PKPbc	PKPbc		11 53 31.0	+1.2
NKC	**Novy Kostel**	**150.20**	**351**	*e*PKPbc	PKPbc		11 53 31.6	+1.7
VYHS	**Vyhne**	**150.49**	**342**	*e*PKP	PKPbc		11 53 32.0	+1.4
MANZ	**Manzenberg**	**150.49**	**352**	*e*PKPbc	PKPbc		11 53 31.5	+0.9
ROTZ	**Rotzenmuhle**	**150.69**	**351**	*e*PKPbc	PKPbc		11 53 32.3	+1.3
GRA1	**Grafenberg Arr**	**150.89**	**353**	*e*PKPbc	PKPbc		11 53 33.2	+1.7
GRA1				*e*pPKPbc	pPKPbc		11 53 44.5	+1.6
GRF	**Grafenberg Arr**	**150.89**	**353**	*e*PKPbc	PKPbc		11 53 33.2	+1.7
GRF				*e*pPKPbc	pPKPbc		11 53 44.5	+1.6
KHC	**Kasperske Hory**	**151.10**	**349**	*e*PKPbc	PKPbc		11 53 33.5	+1.5
KHC				pPKP	pPKPdf		11 53 46.0	+8.4
GEC2	**GERESS Array S**	**151.35**	**349**	*e*PKPbc	PKPbc		11 53 33.6	+1.0
GERES	**GERESS Array B**	**151.35**	**349**	PKPbc	PKPbc		11 53 32.9	+0.3
	comp=Z,1.9nm,0.9s,baz=90,slow=1.3,SNR=8.4							

IDC 10 11:49:48.7±2.8, 2069S×17442W, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.8/14, mbtmp3.8/5, ML2.0/1, Error ellipse: s-maj=122.4km s-min=25.9km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.20**	**21**	Pn	Pn	11 51 33.7	-1.5
	1.5nm,0.3s,baz=128,slow=19,SNR=3.8						
AFI				Sn	Sn	11 52 48.7	-8.9
	1.3nm,0.3s,baz=31,slow=23,SNR=3.0						
STKA	**Stephens Creek**	**40.74**	**245**	P	P	11 57 29.7	-1.5
	1.6nm,0.7s,baz=59,slow=5.9,SNR=2.8						
ASAR	**Alice Springs**	**47.74**	**256**	P	P	11 58 28.5	+1.1
	2.0nm,0.9s,baz=96,slow=7.9,SNR=17						
WRA	**Warramunga Arr**	**47.90**	**261**	P	P	11 58 29.1	+0.5
	0.6nm,0.6s,baz=94,slow=8.0,SNR=14						
YKA	**Yellowknife Ar**	**95.31**	**24**	P	P	12 03 13.8	-0.8
	0.1nm,0.7s,baz=235,slow=3.6,SNR=5.2						
AKASG	**Malin Array Be**	**144.74**	**334**	PKP	PKPdf	12 09 26.9	-0.6
	1.8nm,0.5s,baz=41,slow=4.0,SNR=14						
BRTR	**Keskin Array B**	**149.41**	**315**	PKPbc	PKPbc	12 09 41.0	+1.3
	1.1nm,0.8s,baz=170,slow=2.5,SNR=5.6						

*NAO **10** 11:57:01.8±0.9, 6089N×2072E, ML2.2*
*ISCJB **10** 11:57:01.9±0.3, 6085N±004×2068E±004, h0km, Error ellipse: s-maj=5.3km s-min=2.8km az=147.6*
*IDC **10** 11:57:01.7±0.9, 6077N×2077E, h0km, mb1 3.1/4, mb1mx2.9/20, mbtmp3.1/4, ML3.0/3, Error ellipse: s-maj=20.9km s-min=5.6km az=166.0*
*CSEM **10** 11:57:02.1±0.1, 6081N×2063E, h1km, ML2.3, Error ellipse: s-maj=2.1km s-min=1.6km az=169.0, Mining explosion.*
*HEL **10** 11:57:03.0±0.1, 6087N×2069E, h0km, ML2.3, ML2.6(UPP), ML2.2(NAO), Explosion*
*UPP **10** 11:57:03.7, 6085N×2045E, h0km, ML2.6, Suspected Mining explosion.*
*BER **10** 11:57:04.1±5.0, 6095N×2061E, h0km, ML2.2(NAO), Suspected explosion*

ISC 10 11:57:02.4±0.3, 6086N±004×2068E±004, h0km, n48, σ1§11/68, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAF	**Rauma**	**0.55**	**72**	*i* P	**Pg**	**11 57 12.3**	**-0.8**
RAF				*i* S	**Sg**	**11 57 19.4**	**-0.9**
AAL	**Aland**	**0.76**	**207**	*i* P	**Pg**	**11 57 17.1**	**0.0**
GRAU	**Graesoe**	**1.18**	**244**	*e*P	**Pg**	**11 57 23.9**	**-1.2**
FORU	**Forsmark**	**1.32**	**250**	*e*P	**Pg**	**11 57 26.2**	**-1.6**
NRTU	**Norrtaelje**	**1.56**	**222**	*e*P	**Pn**	**11 57 30.4**	**-1.0**
FLYU	**Flymyra**	**1.57**	**243**	*e*P	**Pn**	**11 57 30.6**	**-0.9**
IGGU	**Iggoen**	**1.65**	**272**	*e*P	**Pn**	**11 57 31.8**	**-0.8**
ARNU	**Arnoeviken**	**1.80**	**299**	*e*P	**Pn**	**11 57 34.5**	**-0.2**
UPP	**Uppsala**	**1.82**	**238**	*e*P	**Pn**	**11 57 35.1**	**+0.1**
OSTU	**Oestervaala**	**1.86**	**252**	*e*P	**Pn**	**11 57 36.0**	**+0.5**
OSTU	**Oestervaala**	**1.86**	**252**	P	**Pn**	**11 57 36.0**	**+0.4**
MEF	**Metsahovi**	**1.94**	**108**	*e*P	**Pn**	**11 57 37.5**	**+0.8**
MEF				*e*S	**Sn**	**11 58 02.7**	**+0.8**
MEF	**Metsahovi**	**1.94**	**108**	P	**Pn**	**11 57 37.4**	**+0.7**
MEF				S	**Sn**	**11 58 02.6**	**+0.8**
BACU	**Backbrunna**	**2.04**	**242**	*e*P	**Pn**	**11 57 38.8**	**+0.8**
HEMU	**Hemsoen**	**2.22**	**327**	*e*P	**Pn**	**11 57 40.6**	**+0.2**
NYNU	**Nynaeshamn**	**2.30**	**217**	*e*P	**Pn**	**11 57 42.9**	**+1.3**
HASU	**Hassela**	**2.34**	**305**	*e*P	**Pn**	**11 57 43.0**	**+0.8**
KEF	**Keuruu**	**2.40**	**55**	*e*P	**Pn**	**11 57 43.1**	**+0.2**
KEF				*e*SB	**Sb**	**11 58 14.2**	**-2.4**
KEF				MSG		11 58 16.4	
	comp=Z,19nm,0.2s						
FALU	**Falun**	**2.41**	**263**	*e*P	**Pn**	**11 57 43.5**	**+0.4**
FALU	**Falun**	**2.41**	**263**	P	**Pn**	**11 57 43.5**	**+0.3**
PVF	**Pernaja**	**2.57**	**95**	*e*P	**Pn**	**11 57 45.9**	**+0.7**
PVF				*e*S	**Sn**	**11 58 18.0**	**+0.8**
PVF				MSG		11 58 22.4	
	comp=Z,14nm,0.2s						
PVF	**Pernaja**	**2.57**	**95**	P	**Pn**	**11 57 45.9**	**+0.6**
PVF				S	**Sn**	**11 58 17.9**	**+0.7**
	comp=Z,14nm,0.2s						
HUSU	**Husum**	**2.59**	**345**	*e*P	**Pn**	**11 57 46.4**	**+0.8**
HUSU				*e*S	**Sn**	**11 58 19.9**	**+2.2**
FIA0	**FINESS Array S**	**2.68**	**75**	*e*P	**Pn**	**11 57 47.4**	**+0.6**
FIA0				*e*SG	**Sg**	**11 58 25.0**	**-3.6**
FIA0				MSG		11 58 25.1	
	comp=Z,10nm,0.2s						
FIA0	**FINESS Array S**	**2.68**	**75**	Pn	**Pn**	**11 57 48.2**	**+1.4**
	baz=263,slow=16						
FIA0				Sn	**Sn**	**11 58 21.4**	**+1.4**
	baz=258,slow=22						
FIA0				Lg		11 58 24.4	
	baz=267,slow=37						
FIA0	**FINESS Array S**	**2.68**	**75**	P	**Pn**	**11 57 47.4**	**+0.6**
FIA0				Sg	**Sg**	**11 58 25.0**	**-3.6**
FINES	**FINESS Array B**	**2.68**	**75**	Pn	**Pn**	**11 57 48.1**	**+1.3**
	comp=Z,2.8nm,0.3s,baz=264,slow=13,SNR=142						
FINES				Sn	**Sn**	**11 58 21.9**	**+1.9**
	comp=Z,4.9nm,0.3s,baz=257,slow=18,SNR=28						
FINES				Lg		11 58 24.6	
	comp=Z,4.9nm,0.3s,baz=255,slow=29,SNR=24						
ESKU	**Eskilstuna**	**2.70**	**235**	*e*P	**Pn**	**11 57 47.6**	**+0.5**
SOLU	**Sollefteaa**	**2.89**	**328**	*e*P	**Pn**	**11 57 50.2**	**+0.6**
SOLU	**Sollefteaa**	**2.89**	**328**	P	**Pn**	**11 57 50.2**	**+0.5**
KAF	**Kangasniemi**	**2.98**	**63**	*e*P	**Pn**	**11 57 51.6**	**+0.7**
KAF				*e*SB	**Sb**	**11 58 30.7**	**-2.6**
KAF				MSG		11 58 31.9	
	comp=Z,8.9nm,0.2s						
UMAU	**Umeaa**	**3.04**	**360**	*e*P	**Pn**	**11 57 53.0**	**+1.3**
UMAU	**Umeaa**	**3.04**	**360**	P	**Pn**	**11 57 53.0**	**+1.3**
NRAU	**Nora**	**3.10**	**248**	*e*P	**Pn**	**11 57 52.6**	**+0.1**
BREU	**Bredtraesk**	**3.20**	**343**	*e*P	**Pn**	**11 57 55.5**	**+1.5**
SUF	**Sumiainen**	**3.20**	**52**	MSG		11 58 43.6	
	comp=Z,5.6nm,0.2s						
HFS	**Hagfors**	**3.53**	**261**	*e*P	**Pn**	**11 57 59.2**	**+0.7**
HFS				*e*PB	**Pb**	**11 58 04.8**	**-1.0**
HFS				*e*S	**Sn**	**11 58 40.3**	**-0.7**
HFS				*e*SG	**Sg**	**11 58 50.6**	**-5.3**
HFS	**Hagfors**	**3.53**	**261**	Pn	**Pn**	**11 57 59.2**	**+0.7**
	baz=100,slow=12						
HFS				Pg	**Pb**	**11 58 04.8**	**-1.0**
	baz=97,slow=16						
HFS				Sn	**Sn**	**11 58 40.3**	**-0.7**
	baz=72,slow=37						
HFS				Lg		11 58 50.6	
	baz=70,slow=37						
HFS	**Hagfors**	**3.53**	**261**	Pn	**Pn**	**11 57 59.0**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=74,slow=11,SNR=23						
HFS				Pg	**Pg**	**11 58 05.4**	**-4.8**
	comp=Z,0.8nm,0.3s,baz=77,slow=26,SNR=15						
HFS				Sn	**Sn**	**11 58 40.9**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=76,slow=25,SNR=5.0						
HFS				Lg		11 58 50.7	
	comp=Z,1.7nm,0.3s,baz=79,slow=31,SNR=10						
HFS	**Hagfors**	**3.53**	**261**	Pg	**Pg**	**11 58 04.8**	**-5.4**
	SNR=90						
HFS				Sn	**Sn**	**11 58 40.3**	**-0.7**
	SNR=3.8						
NB2	**NORSAR Subarra**	**4.62**	**276**	*e*P	**Pn**	**11 58 13.2**	**-0.3**
NB2				*e*SG	**Sg**	**11 59 26.0**	**-4.9**
NB2	**NORSAR Subarra**	**4.62**	**276**	Pn	**Pn**	**11 58 13.2**	**-0.3**
	baz=82,slow=14						
NB2				Lg		11 59 26.0	
	baz=86,slow=37						
NOA	**NORSAR Array B**	**4.62**	**276**	Pn	**Pn**	**11 58 12.3**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=139,slow=13,SNR=3.0						
NOA				Lg		11 59 22.5	
	comp=Z,1.2nm,0.3s,baz=117,slow=20,SNR=5.9						
APA0	**Apatity Array**	**8.62**	**33**	Pn	**Pn**	**11 59 07.2**	**-1.2**
	baz=219,slow=16						
APA0	**Apatity Array**	**8.62**	**33**	*e*P	**Pn**	**11 59 07.2**	**-1.2**
ARA0	**ARCESS Array S**	**8.94**	**11**	Pn	**Pn**	**11 59 09.6**	**-3.2**
	baz=197,slow=14						
ARA0	**ARCESS Array S**	**8.94**	**11**	*e*P	**Pn**	**11 59 09.6**	**-3.2**
ARCES	**ARCESS Array B**	**8.94**	**11**	Pn	**Pn**	**11 59 10.7**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=191,slow=14,SNR=49						

*NEIC **10** 12:00:46.8, 36.78S×177.13E, h33km, ML4.1(WEL), After WEL.*

WEL 10 12:00:46.4±0.3, 3677S×17711E, h33km, ML4.0/5, Error ellipse: s-maj=3.0km s-min=1.9km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.76**	**175**	P*	Pb	12 00 59.5	-1.7
MYRZ	**Mayor Island**	**0.86**	**234**	P*	Pb	12 01 01.4	-1.5
MYRZ				S*	Sb	12 01 13.3	-0.9
KUZ	**Kuaotunu**	**1.12**	**271**	PN	Pn	12 01 05.1	-0.6
KUZ				SN	Sn	12 01 19.8	-0.1
KUZ	**Kuaotunu**	**1.12**	**271**	P	Pn	12 01 05.2	-0.5
KUZ				S	Sn	12 01 20.8	+0.8
TGRZ	**Tauranga**	**1.18**	**215**	P*	Pb	12 01 06.1	-2.1
TGRZ	**Tauranga**	**1.18**	**215**	P	Pn	12 01 06.2	-0.3
MXZ	**Matakaoa Point**	**1.24**	**130**	P*	Pb	12 01 06.9	-2.3
MXZ				S*	Sb	12 01 22.4	-2.4
MXZ				S*	Sb	12 01 22.8	-2.0
MXZ	**Matakaoa Point**	**1.24**	**130**	P	Pn	12 01 07.0	-0.3
MXZ				S	Sn	12 01 22.6	-0.3
URZ	**Urewera**	**1.49**	**180**	P*	Pb	12 01 10.5	-2.8
URZ	**Urewera**	**1.49**	**180**	*e*P	Pn	12 01 10.6	-0.1
PUZ	**Puketiti**	**1.59**	**145**	PN	Pn	12 01 14.3	+2.1
MWZ	**Matawai**	**1.59**	**168**	P*	Pb	12 01 11.7	-3.5
MWZ	**Matawai**	**1.59**	**168**	*e*P	Pn	12 01 12.0	-0.2
MKAZ	**Moumakai**	**1.60**	**257**	*e*PN	Pn	12 01 12.6	+0.3
MKAZ	**Moumakai**	**1.60**	**257**	P	Pn	12 01 12.8	+0.5
TOZ	**Tahuroa Road**	**1.60**	**233**	P*	Pb	12 01 12.6	-2.8
TOZ	**Tahuroa Road**	**1.60**	**233**	P	Pn	12 01 12.7	+0.3
MTAZ	**Motutapu**	**1.77**	**269**	*e*PN	Pn	12 01 15.3	+0.7
MTAZ	**Motutapu**	**1.77**	**269**	P	Pn	12 01 15.8	+1.2
KAAZ	**Kauri Point**	**1.94**	**268**	*e*PN	Pn	12 01 17.6	+0.7
KAAZ	**Kauri Point**	**1.94**	**268**	P	Pn	12 01 18.5	+1.6
WTAZ	**Waiatarua**	**2.04**	**265**	*e*PN	Pn	12 01 19.8	+1.4
WTAZ	**Waiatarua**	**2.04**	**265**	P	Pn	12 01 19.8	+1.4
WCZ	**Waipu Caves**	**2.38**	**290**	PN	Pn	12 01 24.1	+0.9
WCZ	**Waipu Caves**	**2.38**	**290**	P	Pn	12 01 24.1	+1.0
HIZ	**Hauiti**	**2.50**	**225**	PN	Pn	12 01 25.7	+1.0
HIZ	**Hauiti**	**2.50**	**225**	*e*P	Pn	12 01 25.8	+1.1
OUZ	**Omahuta**	**3.25**	**297**	PN	Pn	12 01 36.2	+1.2
OUZ	**Omahuta**	**3.25**	**297**	*e*P	Pn	12 01 36.4	+1.5

*NAO **10** 12:04:35.7±1.0, 6089N×2068E, ML2.2*
*IDC **10** 12:04:36.1±0.9, 6085N×2074E, h0km, mb1 3.0/4, mb1mx2.8/21, mbtmp2.9/4, ML3.0/3, Error ellipse: s-maj=19.8km s-min=5.5km az=168.0*
*ISCJB **10** 12:04:36.3±0.3, 6086N±003×2068E±004, h0km, Error ellipse: s-maj=4.8km s-min=2.7km az=154.8*
*CSEM **10** 12:04:36.7±0.1, 6083N×2064E, h1km, ML2.3, Error ellipse: s-maj=2.6km s-min=2.1km az=179.0, Mining explosion.*
*HEL **10** 12:04:37.3±0.1, 6088N×2069E, h0km, ML2.4, ML2.6(UPP), ML2.2(NAO), Explosion*
*UPP **10** 12:04:38.1, 6085N×2045E, h0km, ML2.6, Suspected Mining explosion.*
*BER **10** 12:04:38.9±3.9, 6119N×2048E, h0km, ML2.2(NAO), Suspected explosion*

ISC 10 12:04:36.8±0.3, 6087N±003×2070E±004, h0km, n48, σ1§16/67, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAF	**Rauma**	**0.54**	**73**	*i* P	**Pg**	**12 04 46.6**	**-0.7**
RAF				*i* S	**Sg**	**12 04 53.8**	**-0.5**
AAL	**Aland**	**0.78**	**207**	*i* P	**Pg**	**12 04 51.4**	**-0.4**
GRAU	**Graesoe**	**1.19**	**244**	*e*P	**Pg**	**12 04 58.2**	**-1.4**
GRAU	**Graesoe**	**1.19**	**244**	P	**Pg**	**12 04 58.2**	**-1.5**
FLYU	**Flymyra**	**1.58**	**243**	*e*P	**Pn**	**12 05 04.8**	**-1.2**
FLYU	**Flymyra**	**1.58**	**243**	P	**Pn**	**12 05 04.8**	**-1.3**
NRTU	**Norrtaelje**	**1.58**	**222**	*e*P	**Pn**	**12 05 04.8**	**-1.3**
IGGU	**Iggoen**	**1.65**	**272**	*e*P	**Pn**	**12 05 06.1**	**-1.0**
ARNU	**Arnoeviken**	**1.80**	**299**	*e*P	**Pn**	**12 05 08.8**	**-0.3**
ARNU				*e*S	**Sn**	**12 05 31.5**	**-1.2**
UPP	**Uppsala**	**1.83**	**238**	*e*P	**Pn**	**12 05 09.4**	**-0.1**
OSTU	**Oestervaala**	**1.87**	**251**	*e*P	**Pn**	**12 05 10.2**	**+0.1**
MEF	**Metsahovi**	**1.94**	**108**	*e*P	**Pn**	**12 05 11.6**	**+0.5**
MEF				*e*S	**Sn**	**12 05 37.0**	**+0.8**
MEF	**Metsahovi**	**1.94**	**108**	P	**Pn**	**12 05 11.5**	**+0.4**
MEF				S	**Sn**	**12 05 36.9**	**+0.7**
BACU	**Backbrunna**	**2.05**	**242**	*e*P	**Pn**	**12 05 13.1**	**+0.5**
HEMU	**Hemsoen**	**2.21**	**326**	*e*P	**Pn**	**12 05 14.9**	**+0.2**
HEMU	**Hemsoen**	**2.21**	**326**	P	**Pn**	**12 05 14.9**	**+0.2**
NYNU	**Nynaeshamn**	**2.31**	**217**	*e*P	**Pn**	**12 05 17.1**	**+1.0**
HASU	**Hassela**	**2.34**	**305**	*e*P	**Pn**	**12 05 17.4**	**+0.8**
KEF	**Keuruu**	**2.39**	**55**	*e*P	**Pn**	**12 05 17.6**	**+0.4**
KEF				*e*SB	**Sb**	**12 05 48.6**	**-2.1**
KEF				MSG		12 05 50.7	
	comp=Z,20nm,0.2s						
KEF	**Keuruu**	**2.39**	**55**	P	**Pn**	**12 05 17.5**	**+0.3**
FALU	**Falun**	**2.42**	**263**	*e*P	**Pn**	**12 05 17.8**	**+0.1**
PVF	**Pernaja**	**2.56**	**95**	*e*P	**Pn**	**12 05 20.4**	**+0.8**
PVF				*e*S	**Sn**	**12 05 52.3**	**+0.9**
PVF				MSG		12 05 56.8	
	comp=Z,15nm,0.2s						
PVF	**Pernaja**	**2.56**	**95**	P	**Pn**	**12 05 20.3**	**+0.7**
PVF				S	**Sn**	**12 05 52.3**	**+0.9**
	comp=Z,15nm,0.2s						
HUSU	**Husum**	**2.57**	**345**	*e*P	**Pn**	**12 05 20.7**	**+0.9**
HUSU				*e*S	**Sn**	**12 05 54.2**	**+2.4**
FIA0	**FINESS Array S**	**2.67**	**75**	*e*P	**Pn**	**12 05 22.1**	**+1.0**
FIA0				*e*SG	**Sg**	**12 05 59.4**	**-3.3**
FIA0				MSG		12 05 59.5	
	comp=Z,11nm,0.2s						
FIA0	**FINESS Array S**	**2.67**	**75**	Pn	**Pn**	**12 05 22.5**	**+1.4**
	baz=264,slow=14						
FIA0				Sn	**Sn**	**12 05 56.1**	**+2.0**
	baz=262,slow=22						
FIA0				Lg		12 05 58.7	
	baz=267,slow=37						
FIA0	**FINESS Array S**	**2.67**	**75**	P	**Pn**	**12 05 22.0**	**+0.9**
FIA0				Sg	**Sg**	**12 05 59.3**	**-3.4**
FINES	**FINESS Array B**	**2.67**	**75**	Pn	**Pn**	**12 05 22.6**	**+1.5**
	comp=Z,2.8nm,0.3s,baz=266,slow=14,SNR=127						
FINES				Sn	**Sn**	**12 05 55.5**	**+1.4**
	comp=Z,4.6nm,0.3s,baz=264,slow=22,SNR=24						
FINES				Lg		12 05 58.7	
	comp=Z,4.7nm,0.3s,baz=264,slow=28,SNR=27						
ESKU	**Eskilstuna**	**2.71**	**235**	*e*P	**Pn**	**12 05 22.1**	**+0.4**
SOLU	**Sollefteaa**	**2.88**	**327**	*e*P	**Pn**	**12 05 24.5**	**+0.5**
KAF	**Kangasniemi**	**2.96**	**63**	*e*P	**Pn**	**12 05 25.7**	**+0.6**
KAF				*e*SB	**Sb**	**12 06 05.2**	**-2.1**
KAF				MSG		12 06 08.7	
	comp=Z,9.3nm,0.2s						
UMAU	**Umeaa**	**3.02**	**360**	*e*P	**Pn**	**12 05 27.4**	**+1.4**
NRAU	**Nora**	**3.11**	**248**	*e*P	**Pn**	**12 05 27.6**	**+0.5**
BREU	**Bredtraesk**	**3.19**	**343**	*e*P	**Pn**	**12 05 29.8**	**+1.6**
HFS	**Hagfors**	**3.54**	**261**	Pn	**Pn**	**12 05 33.3**	**+0.2**
	baz=86,slow=12						
HFS				Sn	**Sn**	**12 06 15.1**	**-0.5**
	baz=72,slow=37						
HFS				Lg		12 06 24.8	
	baz=63,slow=37						
HFS	**Hagfors**	**3.54**	**261**	*e*P	**Pn**	**12 05 33.3**	**+0.2**
HFS				*e*S	**Sn**	**12 06 15.1**	**-0.5**
HFS				*e*SG	**Sg**	**12 06 24.8**	**-5.8**
HFS	**Hagfors**	**3.54**	**261**	Pn	**Pn**	**12 05 33.4**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=71,slow=14,SNR=27						
HFS				Sn	**Sn**	**12 06 15.4**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=74,slow=27,SNR=4.1						
HFS				Lg		12 06 25.3	
	comp=Z,1.7nm,0.3s,baz=80,slow=33,SNR=8.4						
BURU	**Burvik**	**3.74**	**5**	*e*P	**Pn**	**12 05 37.8**	**+2.0**
LNKU	**Linkoeping**	**3.75**	**227**	*e*P	**Pn**	**12 05 36.6**	**+0.8**
NB2	**NORSAR Subarra**	**4.62**	**276**	*e*P	**Pn**	**12 05 46.7**	**-1.2**
NB2				*e*SB	**Sb**	**12 06 56.2**	**+1.1**
NB2	**NORSAR Subarra**	**4.62**	**276**	Pn	**Pn**	**12 05 46.7**	**-1.2**
	baz=82,slow=14						
NB2				Lg		12 06 56.2	
	baz=88,slow=37						
NOA	**NORSAR Array B**	**4.62**	**276**	Pn	**Pn**	**12 05 47.8**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=80,slow=10,SNR=1.9						
NOA				Sn	**Sn**	**12 06 41.3**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=48,slow=22,SNR=2.4						
NOA				Lg		12 06 57.1	
	comp=Z,1.4nm,0.3s,baz=54,slow=23,SNR=6.0						
LANU	**Lannavaara**	**7.23**	**4**	*e*P	**Pn**	**12 06 22.8**	**-0.9**
APA0	**Apatity Array**	**8.61**	**33**	Pn	**Pn**	**12 06 40.6**	**-2.0**
	baz=220,slow=16						
APA0	**Apatity Array**	**8.61**	**33**	*e*P	**Pn**	**12 06 40.6**	**-2.0**
ARA0	**ARCESS Array S**	**8.93**	**11**	Pn	**Pn**	**12 06 43.9**	**-3.2**
	baz=197,slow=14						
ARA0	**ARCESS Array S**	**8.93**	**11**	*e*P	**Pn**	**12 06 43.9**	**-3.2**
ARCES	**ARCESS Array B**	**8.93**	**11**	Pn	**Pn**	**12 06 44.4**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=194,slow=14,SNR=53						

IDC 10 12:05:45.1±5.0, 167S×10009E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, Error ellipse: s-maj=186.3km s-min=31.6km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.08**	**121**	P	P	12 13 05.6

HFS	**Hagfors**	**3.54**	**260**	Pn		**Pn**	**12 16 02.6**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=72,slow=14,SNR=30							
HFS				Pg		**Pg**	**12 16 08.9**	**-4.9**
	comp=Z,0.7nm,0.3s,baz=84,slow=19,SNR=18							
HFS				Sn		**Sn**	**12 16 45.1**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=77,slow=28,SNR=5.7							
HFS				Lg			12 16 54.2	
	comp=Z,1.5nm,0.3s,baz=80,slow=32,SNR=6.5							
HFS	**Hagfors**	**3.54**	**260**	Pn		**Pn**	**12 16 02.5**	**+0.4**
	SNR=50							
HFS				Sn		**Sn**	**12 16 43.9**	**-0.8**
	SNR=50							
ASKU	**Askersund**	**3.58**	**238**	*e*P		**Pn**	**12 16 03.0**	**+0.5**
LNKU	**Linkoeping**	**3.77**	**227**	*e*P		**Pn**	**12 16 05.8**	**+0.5**
NB2	**NORSAR Subarra**	**4.62**	**276**	*e*P		**Pn**	**12 16 15.4**	**-1.4**
NB2				*e*SB		**Sb**	**12 17 25.2**	**+1.4**
NB2	**NORSAR Subarra**	**4.62**	**276**	Pn		**Pn**	**12 16 15.4**	**-1.4**
	baz=84,slow=14							
NB2				Lg			12 17 25.2	
	baz=86,slow=37							
NB2	**NORSAR Subarra**	**4.62**	**276**	Pn		**Pn**	**12 16 15.4**	**-1.4**
	SNR=50							
NOA	**NORSAR Array B**	**4.62**	**276**	Pn		**Pn**	**12 16 16.3**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=90,slow=10,SNR=2.1							
NOA				Lg			12 17 27.2	
	comp=Z,1.2nm,0.3s,baz=43,slow=15,SNR=7.0							
APA0	**Apatity Array**	**8.57**	**33**	Pn		**Pn**	**12 17 10.2**	**-0.9**
	baz=212,slow=16							
APA0	**Apatity Array**	**8.57**	**33**	*e*P		**Pn**	**12 17 10.2**	**-0.9**
ARA0	**ARCESS Array S**	**8.88**	**11**	Pn		**Pn**	**12 17 13.2**	**-2.1**
	baz=195,slow=16							
ARA0	**ARCESS Array S**	**8.88**	**11**	*e*P		**Pn**	**12 17 13.2**	**-2.1**
ARA0	**ARCESS Array S**	**8.88**	**11**	Pn		**Pn**	**12 17 13.2**	**-2.2**
	SNR=50							
ARCES	**ARCESS Array B**	**8.88**	**11**	Pn		**Pn**	**12 17 13.4**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=190,slow=14,SNR=57							
ARCES				Lg			12 19 43.7	
	comp=Z,0.3nm,0.3s,baz=185,slow=29,SNR=4.7							
SPA0	**Spitsbergen Ar**	**17.40**	**357**	*e*P		**Pn**	**12 19 09.8**	**-0.2**

UPP ***10*** *12:16:52.1, 5757N×2245E, h0km, ML2.7, Mining explosion.*
ISCJB ***10*** *12:16:54.3±0.7, 5768N±005×2203E±007, h0km, Error ellipse: s-maj=8.5km s-min=4.5km az=126.6*
CSEM ***10*** *12:16:54.7±0.1, 5770N×2203E, h2km, ML2.7, Error ellipse: s-maj=3.7km s-min=1.7km az=163.0, Mining explosion.*
HEL ***10*** *12:16:55.3±0.2, 5767N×2200E, h0km, ML2.3, ML2.7(UPP), ML2.1(NAO), Explosion*
BER ***10*** *12:16:55.1±3.9, 5758N×2204E, h0km, ML2.1(NAO), Suspected explosion*
NAO ***10*** *12:16:57.4±2.6, 5783N×2187E, ML2.1*

ISC 10 12:16:55.7±0.7, 5770N±005×2195E±007, h0km, n31, σ1§06/54, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GOTU	**Gotland**	**1.82**	**271**	*e*P		**Pn**	**12 17 27.7**	**-0.5**
GOTU				*e*S		**Sn**	**12 17 54.4**	**+2.5**
NRTU	**Norrtaelje**	**2.63**	**320**	*e*P		**Pn**	**12 17 39.4**	**0.0**
VSU	**Vasula**	**2.65**	**71**	*e*P		**Pn**	**12 17 39.1**	**-0.6**
VSU				*e*S		**Sn**	**12 18 11.1**	**-1.4**
VSU	**Vasula**	**2.65**	**71**	P		**Pn**	**12 17 39.0**	**-0.6**
VSU				S		**Sn**	**12 18 11.0**	**-1.5**
AAL	**Aland**	**2.68**	**339**	*e*P		**Pn**	**12 17 39.2**	**-0.9**
BYXU	**Byxelkrok**	**2.70**	**263**	*e*P		**Pn**	**12 17 40.4**	**+0.1**
MEF	**Metsahovi**	**2.82**	**26**	*e*P		**Pn**	**12 17 43.4**	**+1.5**
MEF				*e*S		**Sn**	**12 18 18.9**	**+2.2**
MEF	**Metsahovi**	**2.82**	**26**	P		**Pn**	**12 17 43.4**	**+1.4**
MEF				S		**Sn**	**12 18 18.8**	**+2.1**
VSTU	**Vaestervik**	**2.91**	**271**	*e*P		**Pn**	**12 17 44.2**	**+1.0**
GRAU	**Graesoe**	**3.17**	**328**	*e*P		**Pn**	**12 17 46.3**	**-0.6**
FLYU	**Flymyra**	**3.22**	**321**	*e*P		**Pn**	**12 17 47.4**	**0.0**
ESKU	**Eskilstuna**	**3.30**	**300**	*e*P		**Pn**	**12 17 48.9**	**+0.3**
BACU	**Backbrunna**	**3.32**	**313**	*e*P		**Pn**	**12 17 48.9**	**+0.1**
RAF	**Rauma**	**3.33**	**358**	*e*P		**Pn**	**12 17 49.3**	**+0.3**
RAF				*e*S		**Sn**	**12 18 30.1**	**+0.8**
RAF				*e*SB		**Sb**	**12 18 36.5**	**-0.2**
RAF				MSG			12 18 45.2	
	comp=Z,6.6nm,0.1s							
RAF	**Rauma**	**3.33**	**358**	P		**Pn**	**12 17 49.2**	**+0.2**
RAF				S		**Sn**	**12 18 30.1**	**+0.8**
LNKU	**Linkoeping**	**3.48**	**281**	*e*P		**Pn**	**12 17 51.8**	**+0.8**
OSTU	**Oestervaala**	**3.56**	**317**	*e*P		**Pn**	**12 17 53.7**	**+1.6**
VXJU	**Vaexsjoe**	**3.88**	**261**	*e*P		**Pn**	**12 17 56.3**	**-0.3**
VJF	**Virojoki**	**4.05**	**43**	*e*P		**Pn**	**12 17 58.6**	**-0.3**
VJF				*e*SG		**Sg**	**12 19 00.2**	**-5.6**
VJF				MSG			12 19 06.0	
	comp=Z,6.1nm,0.1s							
VJF	**Virojoki**	**4.05**	**43**	P		**Pn**	**12 17 58.6**	**-0.3**
VJF				Sg		**Sg**	**12 19 00.2**	**-5.6**
	comp=Z,6.1nm,0.1s							
FIA0	**FINESS Array S**	**4.30**	**27**	*e*P		**Pn**	**12 18 02.4**	**+0.1**
FIA0				*e*S		**Sn**	**12 18 53.5**	**+0.4**
FIA0				*e*SG		**Sg**	**12 19 08.2**	**-5.5**
FIA0				MSG			12 19 13.0	
	comp=Z,4.8nm,0.1s							
FIA0	**FINESS Array S**	**4.30**	**27**	Pn		**Pn**	**12 18 02.5**	**+0.2**
	baz=212,slow=12							
FIA0				Pg		**Pg**	**12 18 12.2**	**-5.9**
	baz=212,slow=16							
FIA0				Sn		**Sn**	**12 18 53.6**	**+0.5**
	baz=198,slow=22							
FIA0				Lg			12 19 08.7	
	baz=218,slow=28							
FIA0	**FINESS Array S**	**4.30**	**27**	Pg		**Pg**	**12 18 12.1**	**-5.9**
	SNR=2.8							
FIA0				S		**Sn**	**12 18 53.4**	**+0.3**
FIA0				Sg		**Sg**	**12 19 08.2**	**-5.5**
	comp=Z,4.8nm,0.1s							
HFS	**Hagfors**	**4.92**	**303**	Pn		**Pn**	**12 18 10.6**	**-0.3**
	baz=121,slow=14							
HFS				Sn		**Sn**	**12 19 06.0**	**-2.6**
	baz=119,slow=28							
HFS				Lg			12 19 28.1	
	baz=127,slow=37							
HFS	**Hagfors**	**4.92**	**303**	*e*P		**Pn**	**12 18 10.6**	**-0.3**
HFS				*e*S		**Sn**	**12 19 06.0**	**-2.6**
HFS				*e*SG		**Sg**	**12 19 28.1**	**-5.8**
HFS	**Hagfors**	**4.92**	**303**	Pn		**Pn**	**12 18 10.6**	**-0.3**
	SNR=7.9							
HFS				Sn		**Sn**	**12 19 06.0**	**-2.6**
KAF	**Kangasniemi**	**4.94**	**25**	*e*P		**Pn**	**12 18 10.7**	**-0.3**
KAF				*e*SG		**Sg**	**12 19 26.8**	**-7.4**
KAF				MSG			12 19 30.2	
	comp=Z,3.0nm,0.1s							
NB2	**NORSAR Subarra**	**6.42**	**306**	Pn		**Pn**	**12 18 30.3**	**-1.2**
	baz=123,slow=14							
NB2				Sn		**Sn**	**12 19 43.5**	**-2.0**
NB2				Lg			12 20 17.9	
	baz=120,slow=37							
NB2	**NORSAR Subarra**	**6.42**	**306**	*e*P		**Pn**	**12 18 30.3**	**-1.2**
NB2				*e*S		**Sn**	**12 19 43.5**	**-2.0**
NB2				*e*			12 20 17.9	
ARA0	**ARCESS Array S**	**11.98**	**6**	Pn		**Pn**	**12 19 43.7**	**-4.0**
	baz=191,slow=16							
ARA0	**ARCESS Array S**	**11.98**	**6**	*e*P		**Pn**	**12 19 43.7**	**-4.0**

ISCJB ***10*** *12:24:56.5±0.3, 6089N±004×2068E±005, h0km, Error ellipse: s-maj=6.2km s-min=2.8km az=148.7*
IDC ***10*** *12:24:56.4±0.9, 6078N×2079E, h0km, mb1 2.9/4, mb1mx2.8/21, mbtmp2.8/4, ML2.9/3, Error ellipse: s-maj=20.9km s-min=5.5km az=166.0*
NAO ***10*** *12:24:56.3±0.9, 6095N×2065E, ML2.1*
HEL ***10*** *12:24:57.6±0.1, 6088N×2069E, h0km, ML2.3, ML2.5(UPP), ML2.1(NAO), Explosion*
CSEM ***10*** *12:24:57.2±0.1, 6088N×2066E, h1km, ML2.3, Error ellipse: s-maj=2.4km s-min=1.7km az=175.0, Mining explosion.*
UPP ***10*** *12:24:58.3, 6085N×2046E, h0km, ML2.5, Suspected Mining explosion.*
BER ***10*** *12:24:59.2±4.2, 6110N×2051E, h0km, ML2.1(NAO), Suspected explosion*

ISC 10 12:24:56.8±0.3, 6090N±004×2073E±004, h0km, n45, σ1§25/63, Finland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAF	**Rauma**	**0.52**	**76**	*i* P		**Pg**	**12 25 07.0**	**+0.2**
RAF				*i* S		**Sg**	**12 25 14.0**	**+0.5**
RAF	**Rauma**	**0.52**	**76**	P		**Pg**	**12 25 06.9**	**+0.1**
AAL	**Aland**	**0.81**	**207**	*i* P		**Pg**	**12 25 11.8**	**-0.6**
GRAU	**Graesoe**	**1.22**	**243**	*e*P		**Pg**	**12 25 18.6**	**-1.6**
FORU	**Forsmark**	**1.36**	**249**	*e*P		**Pg**	**12 25 20.9**	**-2.0**
FLYU	**Flymyra**	**1.61**	**242**	*e*P		**Pn**	**12 25 25.2**	**-1.2**
FLYU	**Flymyra**	**1.61**	**242**	P		**Pn**	**12 25 25.2**	**-1.2**
NRTU	**Norrtaelje**	**1.61**	**221**	*e*P		**Pn**	**12 25 25.2**	**-1.3**
IGGU	**Iggoen**	**1.67**	**270**	*e*P		**Pn**	**12 25 26.5**	**-0.8**
ARNU	**Arnoeviken**	**1.80**	**298**	*e*P		**Pn**	**12 25 29.2**	**+0.1**
UPP	**Uppsala**	**1.86**	**237**	*e*P		**Pn**	**12 25 29.7**	**-0.3**
OSTU	**Oestervaala**	**1.90**	**251**	*e*P		**Pn**	**12 25 30.7**	**+0.3**
MEF	**Metsahovi**	**1.94**	**109**	*e*P		**Pn**	**12 25 32.0**	**+1.1**
MEF				*e*S		**Sn**	**12 25 57.2**	**+1.2**
MEF	**Metsahovi**	**1.94**	**109**	P		**Pn**	**12 25 32.0**	**+1.0**
MEF				S		**Sn**	**12 25 57.2**	**+1.2**
BACU	**Backbrunna**	**2.08**	**241**	*e*P		**Pn**	**12 25 33.5**	**+0.5**
HEMU	**Hemsoen**	**2.19**	**325**	*e*P		**Pn**	**12 25 35.5**	**+1.0**
HASU	**Hassela**	**2.34**	**304**	*e*P		**Pn**	**12 25 37.7**	**+1.2**
NYNU	**Nynaeshamn**	**2.35**	**217**	*e*P		**Pn**	**12 25 37.9**	**+1.3**
KEF	**Keuruu**	**2.35**	**56**	*e*P		**Pn**	**12 25 38.1**	**+1.4**
KEF				*e*SB		**Sb**	**12 26 09.3**	**-0.4**
KEF				MSG			12 26 11.4	
	comp=Z,18nm,0.2s							
KEF	**Keuruu**	**2.35**	**56**	P		**Pn**	**12 25 38.0**	**+1.3**
FALU	**Falun**	**2.44**	**262**	*e*P		**Pn**	**12 25 38.2**	**+0.2**
PVF	**Pernaja**	**2.55**	**96**	*e*P		**Pn**	**12 25 41.0**	**+1.7**
PVF				*e*SG		**Sg**	**12 26 16.9**	**-1.8**
PVF				MSG			12 26 17.4	
	comp=Z,12nm,0.2s							
PVF	**Pernaja**	**2.55**	**96**	P		**Pn**	**12 25 41.0**	**+1.6**
PVF				Sg		**Sg**	**12 26 16.8**	**-1.9**
HUSU	**Husum**	**2.55**	**344**	*e*P		**Pn**	**12 25 41.0**	**+1.6**
FIA0	**FINESS Array S**	**2.65**	**76**	Pn		**Pn**	**12 25 42.8**	**+2.1**
	baz=266,slow=16							
FIA0				Sn		**Sb**	**12 26 16.6**	**-1.6**
	baz=249,slow=22							
FIA0				Lg			12 26 19.2	
	baz=267,slow=37							
FIA0	**FINESS Array S**	**2.65**	**76**	*e*P		**Pn**	**12 25 42.8**	**+2.1**
FIA0				*e*SB		**Sb**	**12 26 16.6**	**-1.6**
FIA0				*e*SG		**Sg**	**12 26 19.2**	**-2.7**
FINES	**FINESS Array B**	**2.65**	**76**	Pn		**Pn**	**12 25 42.8**	**+2.0**
	comp=Z,2.8nm,0.3s,baz=266,slow=14,SNR=136							
FINES				Sn		**Sn**	**12 26 16.4**	**+2.8**
	comp=Z,4.0nm,0.3s,baz=255,slow=21,SNR=30							
FINES				Lg			12 26 19.0	
	comp=Z,4.0nm,0.3s,baz=259,slow=27,SNR=34							
ESKU	**Eskilstuna**	**2.75**	**234**	*e*P		**Pn**	**12 25 42.5**	**+0.4**
SOLU	**Sollefteaa**	**2.86**	**327**	*e*P		**Pn**	**12 25 44.8**	**+1.1**
KAF	**Kangasniemi**	**2.94**	**63**	*e*P		**Pn**	**12 25 46.1**	**+1.4**
KAF				*e*SB		**Sb**	**12 26 25.0**	**-1.4**
KAF				MSG			12 26 30.5	
	comp=Z,9.0nm,0.2s							
HFS	**Hagfors**	**3.56**	**261**	Pn		**Pn**	**12 25 53.8**	**+0.4**
	baz=82,slow=12							
HFS				Sn		**Sn**	**12 26 35.2**	**-0.9**
	baz=76,slow=37							
HFS				Lg			12 26 45.3	
	baz=67,slow=37							
HFS	**Hagfors**	**3.56**	**261**	*e*P		**Pn**	**12 25 53.8**	**+0.4**
HFS				*e*S		**Sn**	**12 26 35.2**	**-0.9**
HFS				*e*SG		**Sg**	**12 26 45.3**	**-5.9**
HFS	**Hagfors**	**3.56**	**261**	Pn		**Pn**	**12 25 53.8**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=76,slow=12,SNR=25							
HFS				Pg		**Pg**	**12 26 00.1**	**-5.0**
	comp=Z,0.6nm,0.3s,baz=84,slow=14,SNR=12							
HFS				Sn		**Sn**	**12 26 35.3**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=80,slow=27,SNR=6.5							
HFS				Lg			12 26 45.7	
	comp=Z,1.3nm,0.3s,baz=78,slow=32,SNR=8.7							
HFS	**Hagfors**	**3.56**	**261**	Pn		**Pn**	**12 25 53.8**	**+0.5**
	SNR=50							
HFS				Sn		**Sn**	**12 26 35.2**	**-0.9**
	SNR=50							
LNKU	**Linkoeping**	**3.78**	**227**	*e*P		**Pn**	**12 25 57.3**	**+1.0**
NB2	**NORSAR Subarra**	**4.64**	**276**	*e*P		**Pn**	**12 26 07.4**	**-0.7**
NB2				*e*SB		**Sb**	**12 27 16.6**	**+1.1**
NB2	**NORSAR Subarra**	**4.64**	**276**	Pn		**Pn**	**12 26 07.4**	**-0.7**
	baz=78,slow=14							
NB2				Lg			12 27 16.6	
	baz=88,slow=37							
NOA	**NORSAR Array B**	**4.64**	**276**	Pn		**Pn**	**12 26 07.8**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=244,slow=12,SNR=2.5							
NOA				Lg			12 27 18.4	
	comp=Z,1.3nm,0.3s,baz=55,slow=22,SNR=5.4							
APA0	**Apatity Array**	**8.57**	**33**	Pn		**Pn**	**12 27 01.7**	**-0.4**
	baz=212,slow=16							
APA0	**Apatity Array**	**8.57**	**33**	*e*P		**Pn**	**12 27 01.7**	**-0.4**
ARA0	**ARCESS Array S**	**8.89**	**11**	Pn		**Pn**	**12 27 04.2**	**-2.3**
	baz=187,slow=16							
ARA0	**ARCESS Array S**	**8.89**	**11**	*e*P		**Pn**	**12 27 04.2**	**-2.3**
ARCES	**ARCESS Array B**	**8.89**	**11**	Pn		**Pn**	**12 27 05.2**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=190,slow=14,SNR=54							
SPA0	**Spitsbergen Ar**	**17.42**	**357**	P		**Pn**	**12 28 59.3**	**-1.8**
	baz=154,slow=7.9							
SPA0	**Spitsbergen Ar**	**17.42**	**357**	*e*P		**Pn**	**12 28 59.3**	**-1.8**

NEIC ***10*** *12:31:11.8, 2722S×7113W, h33km, ML3.2(GUC), After GUC.*

GUC 10 12:31:11.8±0.5, 2722S×7113W, h33km±5km, MD3.7, ML3.2, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CDCH	**Caldera**	**0.30**	**62**	*i* P		Pb	12 31 19.1	-0.4
CDCH				*i* S		Sb	12 31 25.1	+0.3
CRCH	**Chaqaral**	**0.98**	**28**	*e*P		Pn	12 31 29.1	-0.1
CRCH				*i* S		Sn	12 31 42.7	+0.7
LCO	**Las Campanas**	**1.83**	**168**	*e*P		Pn	12 31 42.9	+2.0
LCO				*i* S		Sn	12 32 06.5	+3.7
CPN1	**Cerro Paranal**	**2.66**	**14**	*e*P		Pn	12 31 51.3	-1.1
CPN1				*i* S		Sn	12 32 21.4	-2.1
CPN1				AML		AML	12 32 39.7	
	comp=E,98nm,0.8s							
TLL	**Tololo Astrono**	**2.95**	**175**	*e*P		Pn	12 31 58.7	+2.3
TLL				*i* S		Sn	12 32 33.7	+3.1
TLL				AML		AML	12 32 52.6	
	comp=E,86nm,0.3s							
TLL	**Tololo Astrono**	**2.95**	**175**	*e*P		Pn	12 31 58.7	+2.3
TLL				*i* S		Sn	12 32 33.7	+3.1

ISCJB ***10*** *12:33:09.6±0.3, 6089N±004×2067E±005, h0km, Error ellipse: s-maj=6.6km s-min=2.8km az=150.6*
IDC ***10*** *12:33:09.4±1.0, 6083N×2074E, h0km, mb1 3.0/4, mb1mx2.9/21, mbtmp3.0/4, ML3.0/3, Error ellipse: s-maj=22.5km s-min=6.1km az=169.0*
NAO ***10*** *12:33:09.2±1.0, 6086N×2068E, ML2.2*
CSEM ***10*** *12:33:10.5±0.1, 6092N×2077E, h1km, ML2.4, Error ellipse: s-maj=1.8km s-min=1.1km az=14.0, Mining explosion.*
HEL ***10*** *12:33:10.6±0.1, 6088N×2070E, h0km, ML2.4, ML2.7(UPP), ML2.2(NAO), Explosion*
UPP ***10*** *12:33:11.6, 6085N×2046E, h0km, ML2.7, Suspected Mining explosion.*
BER ***10*** *12:33:12.4±4.8, 6113N×2046E, h0km, ML2.2(NAO), Suspected explosion*

ISC 10 12:33:09.9±0.3, 6090N±004×2072E±004, h0km, n42, σ1§24/58, Finland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAF	**Rauma**	**0.53**	**76**	*i* P		**Pg**	**12 33 20.1**	**+0.1**
RAF				*i* S		**Sg**	**12 33 27.1**	**+0.3**
RAF	**Rauma**	**0.53**	**76**	P		**Pg**	**12 33 20.0**	**0.0**
AAL	**Aland**	**0.81**	**207**	*i* P		**Pg**	**12 33 24.9**	**-0.5**
GRAU	**Graesoe**	**1.21**	**243**	*e*P		**Pg**	**12 33 31.7**	**-1.5**
FORU	**Forsmark**	**1.35**	**249**	*e*P		**Pg**	**12 33 34.0**	**-1.8**
FLYU	**Flymyra**	**1.60**	**242**	*e*P		**Pn**	**12 33 38.4**	**-1.1**
NRTU	**Norrtaelje**	**1.60**	**221**	*e*P		**Pn**	**12 33 38.3**	**-1.3**
IGGU	**Iggoen**	**1.66**	**271**	*e*P		**Pn**	**12 33 39.5**	**-0.8**
ARNU	**Arnoeviken**	**1.80**	**298**	*e*P		**Pn**	**12 33 42.4**	**+0.2**
OSTU	**Oestervaala**	**1.89**	**251**	*e*P		**Pn**	**12 33 43.6**	**+0.2**
MEF	**Metsahovi**	**1.94**	**109**	*e*P		**Pn**	**12 33 44.9**	**+0.7**
MEF				*e*S		**Sn**	**12 34 09.7**	**+0.4**
MEF	**Metsahovi**	**1.94**	**109**	P		**Pn**	**12 33 44.8**	**+0.6**
MEF				S		**Sn**	**12 34 09.6**	**+0.4**
BACU	**Backbrunna**	**2.08**	**241**	*e*P		**Pn**	**12 33 46.6**	**+0.6**
HEMU	**Hemsoen**	**2.19**	**326**	*e*P		**Pn**	**12 33 48.5**	**+0.8**
HASU	**Hassela**	**2.34**	**304**	*e*P		**Pn**	**12 33 50.9**	**+1.3**
HASU	**Hassela**	**2.34**	**304**	P		**Pn**	**12 33 50.8**	**+1.2**
NYNU	**Nynaeshamn**	**2.34**	**217**	*e*P		**Pn**	**12 33 51.0**	**+1.4**
KEF	**Keuruu**	**2.36**	**56**	*e*P		**Pn**	**12 33 51.4**	**+1.4**
KEF				*e*SB		**Sb**	**12 34 22.4**	**-0.7**
KEF				MSG			12 34 24.5	
	comp=Z,18nm,0.2s							
ROTU	**Roteberg**	**2.43**	**285**	*e*P		**Pn**	**12 33 52.4**	**+1.5**
FALU	**Falun**	**2.44**	**263**	*e*P		**Pn**	**12 33 51.3**	**+0.3**
PVF	**Pernaja**	**2.55**	**96**	*e*P		**Pn**	**12 33 53.6**	**+1.0**
PVF				*e*SG		**Sg**	**12 34 29.8**	**-2.1**
PVF				MSG			12 34 30.4	
	comp=Z,19nm,0.2s							
PVF	**Pernaja**	**2.55**	**96**	P		**Pn**	**12 33 53.5**	**+0.9**
FIA0	**FINESS Array S**	**2.65**	**76**	Pn		**Pn**	**12 33 56.0**	**+2.0**
	baz=264,slow=14							
FIA0				Sn		**Sb**	**12 34 29.6**	**-1.8**
	baz=266,slow=22							
FIA0				Lg			12 34 32.2	
	baz=265,slow=37							
FIA0	**FINESS Array S**	**2.65**	**76**	*e*PB		**Pn**	**12 33 56.0**	**+2.0**
FIA0				*e*SB		**Sb**	**12 34 29.6**	**-1.8**
FIA0				*e*SG		**Sg**	**12 34 32.2**	**-3.0**
FINES	**FINESS Array B**	**2.65**	**76**	Pn		**Pn**	**12 33 55.9**	**+1.9**
	comp=Z,3.4nm,0.3s,baz=265,slow=14,SNR=169							
FINES				Sn		**Sn**	**12 34 29.6**	**+2.8**
	comp=Z,5.2nm,0.3s,baz=256,slow=20,SNR=17							
FINES				Lg			12 34 32.2	
	comp=Z,5.2nm,0.3s,baz=268,slow=28,SNR=28							
ESKU	**Eskilstuna**	**2.74**	**234**	*e*P		**Pn**	**12 33 56.7**	**+1.6**
SOLU	**Sollefteaa**	**2.87**	**327**	*e*P		**Pn**	**12 33 57.9**	**+1.1**
KAF	**Kangasniemi**	**2.94**	**63**	*e*P		**Pn**	**12 33 59.3**	**+1.4**
KAF				*e*SB		**Sb**	**12 34 38.6**	**-1.2**
KAF				MSG			12 34 40.3	
	comp=Z,13nm,0.2s							
HFS	**Hagfors**	**3.56**	**261**	Pn		**Pn**	**12 34 06.8**	**+0.4**
	baz=87,slow=12							
HFS				Sn		**Sn**	**12 34 48.3**	**-0.7**
	baz=75,slow=37							
HFS				Lg			12 34 58.3	
	baz=73,slow=37							
HFS	**Hagfors**	**3.56**	**261**	*e*P		**Pn**	**12 34 06.8**	**+0.4**
HFS				*e*S		**Sn**	**12 34 48.3**	**-0.7**
HFS				*e*SG		**Sg**	**12 34 58.3**	**-5.9**
HFS	**Hagfors**	**3.56**	**261**	Pn		**Pn**	**12 34 06.8**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=76,slow=12,SNR=20							
HFS				Sn		**Sn**	**12 34 48.4**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=79,slow=25,SNR=5.5							
HFS				Lg			12 34 56.8	
	comp=Z,1.6nm,0.3s,baz=82,slow=32,SNR=8.4							
HFS	**Hagfors**	**3.56**	**261**	Pn		**Pn**	**12 34 06.8**	**+0.4**
	SNR=50							
HFS				Sn		**Sn**	**12 34 48.3**	**-0.8**
	SNR=50							
LNKU	**Linkoeping**	**3.77**	**227**	*e*P		**Pn**	**12 34 09.9**	**+0.6**
NB2	**NORSAR Subarra**	**4.63**	**276**	*e*P		**Pn**	**12 34 21.6**	**+0.4**
NB2				*e*SB		**Sb**	**12 35 26.8**	**-1.6**
NB2	**NORSAR Subarra**	**4.63**	**276**	Pn		**Pn**	**12 34 21.6**	**+0.4**
	baz=83,slow=14							
NB2				Lg			12 35 26.8	
NOA	**NORSAR Array B**	**4.63**	**276**	Pn		**Pn**	**12 34 20.1**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=80,slow=20,SNR=2.4							
NOA				Lg			12 35 33.0	
	comp=Z,1.6nm,0.3s,baz=75,slow=19,SNR=5.5							
APA0	**Apatity Array**	**8.58**	**33**	Pn		**Pn**	**12 35 16.1**	**+0.7**
	baz=213,slow=16							
APA0	**Apatity Array**	**8.58**	**33**	*e*P		**Pn**	**12 35 16.1**	**+0.7**
ARA0	**ARCESS Array S**	**8.90**	**11**	Pn		**Pn**	**12 35 17.6**	**-2.1**
	baz=198,slow=14							
ARA0	**ARCESS Array S**	**8.90**	**11**	*e*P		**Pn**	**12 35 17.6**	**-2.1**
ARA0	**ARCESS Array S**	**8.90**	**11**	Pn		**Pn**	**12 35 17.6**	**-2.2**
	SNR=50							
ARCES	**ARCESS Array B**	**8.90**	**11**	Pn		**Pn**	**12 35 18.2**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=190,slow=14,SNR=49							

NEIC ***10*** *12:34:57.6, 3843S×17602E, h163km, MG4.0(WEL), After WEL.*

WEL 10 12:34:58.1±0.3, 3842S×17602E, h156km±2km, ML3.9/19, 2C, Error ellipse: s-maj=2.0km s-min=1.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WTVZ	**West Tongariro**	**0.77**	**205**	PN		Pn	12 35 21.9	+0.1
WTVZ				SN		Sn	12 35 40.5	+0.7
WTVZ	**West Tongariro**	**0.77**	**205**	P		Pn	12 35 21.9	+0.1
TWVZ	**Taurewa**	**0.79**

KHZ	Kahutara	4.42	205	eP	Pn	12 36 00.7	-3.2
DSZ	Denniston Nort	4.63	223	eP	Pn	12 36 02.4	-4.4
LTZ	Lake Taylor	5.21	212	eP	Pn	12 36 10.0	-4.3
MQZ	McQueen's Vall	5.86	205	eP	Pn	12 36 17.8	-5.2

IDC 10 12:38:56.0±2.0, 468S×15236E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/15, mbtmp3.6/4, MS3.4/2, Ms1 3.4/2, ms1mx2.7/22, Error ellipse: s-maj=128.2km s-min=25.1km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	6.98	227	LR	LR	12 42 38.1	
	comp=Z,51nm,20.1s,baz=185,slow=32						
WRA	Warramunga Arr	23.20	228	P	P	12 44 05.2	+0.7
	0.3nm,0.3s,baz=53,slow=9.8,SNR=8.8						
ASAR	Alice Springs	25.95	222	P	P	12 44 30.2	+0.2
	0.4nm,0.7s,baz=54,slow=8.7,SNR=4.3						
FITZ	Fitzroy Crossi	29.34	241	P	P	12 45 00.5	0.0
	1.7nm,0.8s,baz=69,slow=8.6,SNR=6.6						
PSI	Prapat	53.91	277	LR	LR	13 14 22.6	
	comp=Z,157nm,18.7s,baz=0.4,slow=40						
ILAR	Eielson Array	82.21	22	P	P	12 51 19.1	0.0
	0.9nm,0.7s,baz=248,slow=5.8,SNR=14						
TORD	Torodi Ar. Bea	149.86	288	PKPbc	PKPbc	12 58 48.7	+0.6
	0.4nm,0.5s,baz=104,slow=2.3,SNR=4.1						

*NAO **10** 12:42:57.3±1.0, 6088N×2066E, ML2.2*
*ISCJB **10** 12:42:58.0±0.3, 6087N±004×2069E±004, h0km, Error ellipse: s-maj=5.2km s-min=2.7km az=145.1*
*IDC **10** 12:42:57.5±0.9, 6081N×2074E, h0km, mb1 3.1/4, mb1mx2.9/21, mbtmp3.0/4, ML2.8/4, Error ellipse: s-maj=20.0km s-min=5.3km az=167.0*
*CSEM **10** 12:42:58.2±0.1, 6082N×2061E, h1km, ML2.4, Error ellipse: s-maj=2.0km s-min=1.5km az=177.0, Mining explosion.*
*BER **10** 12:42:59.7±4.3, 6102N×2050E, h0km, ML2.2(NAO), Suspected explosion*
*HEL **10** 12:42:59.0±0.1, 6086N×2070E, h0km, ML2.4, ML2.6(UPP), ML2.2(NAO), Explosion*
*UPP **10** 12:42:59.7, 6085N×2047E, h0km, ML2.6, Suspected Mining explosion.*

ISC 10 12:42:58.4±0.3, 6088N±003×2072E±004, h0km, n43, σ1§20/60, Finland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAF	Rauma	0.53	74	*i* P	Pg	12 43 08.4	-0.2
RAF				*i* S	Sg	12 43 15.5	+0.1
AAL	Aland	0.79	207	*i* P	Pg	12 43 13.1	-0.3
GRAU	Graesoe	1.20	244	eP	Pg	12 43 20.0	-1.5
FORU	Forsmark	1.34	250	eP	Pg	12 43 22.3	-1.8
FLYU	Flymyra	1.59	243	eP	Pn	12 43 26.6	-1.1
NRTU	Norrtaelje	1.59	222	eP	Pn	12 43 26.5	-1.2
IGGU	Iggoen	1.66	271	eP	Pn	12 43 27.9	-0.9
ARNU	Arnoeviken	1.81	298	eP	Pn	12 43 30.4	-0.4
ARNU				eS	Sn	12 43 54.0	-0.4
UPP	Uppsala	1.84	238	eP	Pn	12 43 31.1	-0.2
OSTU	Oestervaala	1.89	251	eP	Pn	12 43 31.9	+0.1
MEF	Metsahovi	1.93	108	eP	Pn	12 43 33.4	+0.9
MEF				eS	Sn	12 43 58.1	+0.6
MEF	Metsahovi	1.93	108	P	Pn	12 43 33.3	+0.8
MEF				S	Sn	12 43 58.0	+0.5
BACU	Backbrunna	2.07	242	eP	Pn	12 43 34.9	+0.6
HEMU	Hemsoen	2.21	326	eP	Pn	12 43 36.9	+0.6
NYNU	Nynaeshamn	2.32	217	eP	Pn	12 43 39.2	+1.4
HASU	Hassela	2.35	305	eP	Pn	12 43 39.1	+1.0
VAF	Ylistaro	2.36	22	eP	Pn	12 43 39.7	+1.3
VAF				eSB	Sb	12 44 10.6	-0.8
VAF	Ylistaro	2.36	22	P	Pn	12 43 39.6	+1.3
KEF	Keuruu	2.37	55	eP	Pn	12 43 39.6	+1.1
KEF				eSB	Sb	12 44 11.2	-0.7
KEF				MSG		12 44 12.8	
	comp=Z,20nm,0.2s						
FALU	Falun	2.43	263	eP	Pn	12 43 39.5	+0.2
ROTU	Roteberg	2.44	285	eP	Pn	12 43 40.7	+1.3
PVF	Pernaja	2.55	95	eP	Pn	12 43 42.0	+1.1
PVF				eSG	Sg	12 44 17.6	-2.7
PVF				MSG		12 44 18.8	
	comp=Z,15nm,0.2s						
PVF	Pernaja	2.55	95	P	Pn	12 43 42.0	+1.1
PVF				Sg	Sg	12 44 17.5	-2.8
HUSU	Husum	2.57	345	eP	Pn	12 43 42.4	+1.1
FIA0	FINESS Array S	2.66	75	Pn	Pn	12 43 44.2	+1.8
	baz=262,slow=16						
FIA0				Sn	Sn	12 44 17.5	+2.1
	baz=246,slow=22						
FIA0				Lg		12 44 20.6	
	baz=265,slow=37						
FIA0	FINESS Array S	2.66	75	ePB	Pn	12 43 44.2	+1.8
FIA0				eSB	Sn	12 44 17.5	+2.1
FIA0				eSG	Sg	12 44 20.6	-3.2
FINES	FINESS Array B	2.66	75	Pn	Pn	12 43 43.9	+1.5
	comp=Z,3.1nm,0.3s,baz=265,slow=14,SNR=180						
FINES				Sn	Sn	12 44 17.4	+2.0
	comp=Z,4.4nm,0.3s,baz=262,slow=21,SNR=28						
FINES				Lg		12 44 20.5	
	comp=Z,4.5nm,0.3s,baz=256,slow=28,SNR=33						
ESKU	Eskilstuna	2.73	235	eP	Pn	12 43 44.9	+1.5
SOLU	Sollefteaa	2.88	327	eP	Pn	12 43 46.2	+0.7
KAF	Kangasniemi	2.95	63	eP	Pn	12 43 47.4	+0.9
KAF				eSB	Sb	12 44 26.6	-1.9
KAF				MSG		12 44 28.6	
	comp=Z,12nm,0.2s						
UMAU	Umeaa	3.02	360	eP	Pn	12 43 49.0	+1.6
NRAU	Nora	3.12	248	eP	Pn	12 43 47.8	-1.0
HFS	Hagfors	3.55	261	eP	Pn	12 43 55.0	+0.2
HFS				eSG	Sg	12 44 46.2	-6.3
HFS	Hagfors	3.55	261	Pn	Pn	12 43 55.0	+0.2
	baz=84,slow=14						
HFS				Lg		12 44 46.2	
	baz=72,slow=37						
HFS	Hagfors	3.55	261	Pn	Pn	12 43 54.1	-0.6
	comp=Z,0.4nm,0.3s,baz=97,slow=8.7,SNR=31						
HFS				Pg	Pg	12 44 01.0	-5.5
	comp=Z,0.7nm,0.3s,baz=84,slow=18,SNR=15						
HFS				Sn	Sn	12 44 37.5	+0.1
	comp=Z,0.7nm,0.3s,baz=77,slow=28,SNR=6.2						
HFS				Lg		12 44 46.6	
	comp=Z,1.3nm,0.3s,baz=77,slow=31,SNR=7.9						
NB2	NORSAR Subarra	4.64	276	eP	Pn	12 44 08.1	-1.5
NB2				eSB	Sb	12 45 18.0	+1.1
NB2	NORSAR Subarra	4.64	276	Pn	Pn	12 44 08.1	-1.5
	baz=80,slow=14						
NB2				Lg		12 45 18.0	
	baz=89,slow=37						
NOA	NORSAR Array B	4.64	276	Pn	Pn	12 44 08.5	-1.1
	comp=Z,0.2nm,0.3s,baz=309,slow=22,SNR=2.3						
NOA				Lg		12 45 20.9	
	comp=Z,1.4nm,0.3s,baz=67,slow=20,SNR=5.6						
APA0	Apatity Array	8.60	33	Pn	Pn	12 45 02.6	-1.4
	baz=207,slow=16						
APA0	Apatity Array	8.60	33	eP	Pn	12 45 02.6	-1.4
ARA0	ARCESS Array S	8.92	11	Pn	Pn	12 45 05.6	-2.9
	baz=198,slow=14						
ARA0	ARCESS Array S	8.92	11	eP	Pn	12 45 05.6	-2.9
ARCES	ARCESS Array B	8.92	11	Pn	Pn	12 45 06.3	-2.2
	comp=Z,0.3nm,0.3s,baz=190,slow=14,SNR=49						

*NAO **10** 12:52:34.9±1.1, 6081N×2065E, ML2.1*
*IDC **10** 12:52:35.8±0.7, 6077N×2076E, h0km, mb1 3.0/3, mb1mx2.9/20, mbtmp2.9/3, ML2.9/3, Error ellipse: s-maj=14.3km s-min=5.3km az=166.0*
*ISCJB **10** 12:52:36.1±0.3, 6086N±003×2072E±004, h0km, Error ellipse: s-maj=4.7km s-min=2.6km az=141.7*
*CSEM **10** 12:52:36.4±0.1, 6083N×2069E, h1km, ML2.4, Error ellipse: s-maj=2.8km s-min=2.4km az=2.0, Mining explosion.*
*BER **10** 12:52:37.6±4.0, 6095N×2050E, h0km, ML2.1(NAO), Suspected explosion*
*HEL **10** 12:52:37.2±0.1, 6086N×2073E, h0km, ML2.4, ML2.6(UPP), ML2.1(NAO), Explosion*
*UPP **10** 12:52:38.0, 6085N×2047E, h0km, ML2.6, Suspected Mining explosion.*

ISC 10 12:52:36.5±0.3, 6085N±003×2074E±004, h0km, n48, σ1§16/66, Finland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAF	Rauma	0.53	71	*i* P	Pg	12 52 46.6	-0.1
RAF				*i* S	Sg	12 52 53.2	-0.4
RAF	Rauma	0.53	71	P	Pg	12 52 46.5	-0.2
AAL	Aland	0.77	209	*i* P	Pg	12 52 51.4	+0.1
GRAU	Graesoe	1.20	245	eP	Pg	12 52 58.2	-1.4
FORU	Forsmark	1.35	251	eP	Pg	12 53 00.5	-1.9
NRTU	Norrtaelje	1.58	223	eP	Pn	12 53 04.8	-1.0
FLYU	Flymyra	1.59	244	eP	Pn	12 53 04.8	-1.1
IGGU	Iggoen	1.68	272	eP	Pn	12 53 06.1	-1.0
ARNU	Arnoeviken	1.83	299	eP	Pn	12 53 08.7	-0.5
UPP	Uppsala	1.84	239	eP	Pn	12 53 09.2	-0.2
OSTU	Oestervaala	1.89	252	eP	Pn	12 53 10.4	+0.4
OSTU	Oestervaala	1.89	252	P	Pn	12 53 10.4	+0.4
MEF	Metsahovi	1.92	108	eP	Pn	12 53 11.0	+0.6
MEF				eS	Sn	12 53 36.6	+1.3
MEF	Metsahovi	1.92	108	P	Pn	12 53 11.0	+0.6
MEF				S	Sn	12 53 36.5	+1.3
BACU	Backbrunna	2.06	243	eP	Pn	12 53 13.1	+0.6
HEMU	Hemsoen	2.24	326	eP	Pn	12 53 15.1	+0.3
NYNU	Nynaeshamn	2.31	218	eP	Pn	12 53 17.1	+1.3
HASU	Hassela	2.37	305	eP	Pn	12 53 17.3	+0.7
HASU				eS	Sn	12 53 47.6	+1.2
KEF	Keuruu	2.38	55	eP	Pn	12 53 17.5	+0.7
KEF				eSB	Sb	12 53 49.2	-0.9
KEF				MSG		12 53 50.6	
	comp=Z,18nm,0.2s						
VAF	Ylistaro	2.38	22	eP	Pn	12 53 17.2	+0.4
VAF				eS	Sn	12 53 46.8	+0.1
VAF	Ylistaro	2.38	22	P	Pn	12 53 17.1	+0.3
VAF				S	Sn	12 53 46.8	+0.1
FALU	Falun	2.44	264	eP	Pn	12 53 17.8	+0.2
PVF	Pernaja	2.54	95	eP	Pn	12 53 19.6	+0.6
PVF				eSG	Sg	12 53 55.8	-2.2
PVF				MSG		12 53 56.6	
	comp=Z,15nm,0.2s						
HUSU	Husum	2.60	345	eP	Pn	12 53 20.7	+0.8
HUSU				eS	Sn	12 53 54.1	+2.0
FIA0	FINESS Array S	2.66	75	Pn	Pn	12 53 22.5	+1.9
	baz=266,slow=16						
FIA0				Sn	Sn	12 53 55.5	+2.0
	baz=246,slow=22						
FIA0				Lg		12 53 58.5	
	baz=267,slow=37						
FIA0	FINESS Array S	2.66	75	ePB	Pn	12 53 22.5	+1.9
FIA0				eSB	Sn	12 53 55.5	+2.0
FIA0				eSG	Sg	12 53 58.5	-3.4
FINES	FINESS Array B	2.66	75	Pn	Pn	12 53 22.4	+1.8
	comp=Z,2.6nm,0.3s,baz=264,slow=13,SNR=137						
FINES				Sn	Sn	12 53 55.3	+1.9
	comp=Z,4.1nm,0.3s,baz=259,slow=21,SNR=24						
FINES				Lg		12 53 58.5	
	comp=Z,4.5nm,0.3s,baz=259,slow=29,SNR=29						
ESKU	Eskilstuna	2.72	235	eP	Pn	12 53 23.3	+1.9
SOLU	Sollefteaa	2.91	327	eP	Pn	12 53 24.5	+0.4
KAF	Kangasniemi	2.95	62	eP	Pn	12 53 25.8	+1.1
KAF				eSB	Sb	12 54 05.1	-1.6
KAF				MSG		12 54 06.1	
	comp=Z,9.5nm,0.2s						
UMAU	Umeaa	3.04	359	eP	Pn	12 53 27.2	+1.3
NRAU	Nora	3.12	248	eP	Pn	12 53 28.2	+1.2
HFS	Hagfors	3.56	261	eP	Pn	12 53 31.9	-1.1
HFS				eSB	Sb	12 54 23.5	-0.7
HFS	Hagfors	3.56	261	Pn	Pn	12 53 31.9	-1.1
	baz=84,slow=12						
HFS				Lg		12 54 23.5	
	baz=73,slow=37						
HFS	Hagfors	3.56	261	Pn	Pn	12 53 33.4	+0.3
	comp=Z,0.2nm,0.3s,baz=74,slow=11,SNR=18						
HFS				Pg	Pg	12 53 38.3	-6.5
	comp=Z,0.6nm,0.3s,baz=81,slow=18,SNR=8.5						
HFS				Sn	Sn	12 54 15.1	-0.7
	comp=Z,0.6nm,0.3s,baz=81,slow=20,SNR=5.2						
HFS				Lg		12 54 25.3	
	comp=Z,1.7nm,0.3s,baz=79,slow=30,SNR=9.5						
LNKU	Linkoeping	3.75	228	eP	Pn	12 53 36.6	+0.9
NB2	NORSAR Subarra	4.65	276	eP	Pn	12 53 46.1	-1.9
NB2				eSB	Sb	12 54 55.9	+0.4
NB2	NORSAR Subarra	4.65	276	Pn	Pn	12 53 46.1	-1.9
	baz=83,slow=16						
NB2				Lg		12 54 55.9	
	baz=88,slow=37						
NOA	NORSAR Array B	4.65	276	Pn	Pn	12 53 48.1	+0.1
	comp=Z,0.2nm,0.3s,baz=28,slow=17,SNR=2.0						
NOA				Lg		12 54 58.6	
	comp=Z,1.2nm,0.3s,baz=22,slow=21,SNR=5.6						
LANU	Lannavaara	7.25	4	eP	Pn	12 54 22.7	-1.0
APA0	Apatity Array	8.61	33	Pn	Pn	12 54 42.5	+0.1
	baz=212,slow=14						
APA0	Apatity Array	8.61	33	eP	Pn	12 54 42.5	+0.1
ARA0	ARCESS Array S	8.94	11	Pn	Pn	12 54 44.1	-2.8
	baz=197,slow=14						
ARA0	ARCESS Array S	8.94	11	eP	Pn	12 54 44.1	-2.8
ARCES	ARCESS Array B	8.94	11	Pn	Pn	12 54 45.0	-1.9
	comp=Z,0.2nm,0.3s,baz=190,slow=14,SNR=40						
VRAC	Vranov	11.81	199	Pn	Pn	12 55 19.7	-6.5
	comp=Z,2.1nm,0.3s,baz=97,slow=17,SNR=2.3						
SPA0	Spitsbergen Ar	17.47	357	P	Pn	12 56 39.7	-1.8
	baz=162,slow=12						
SPA0	Spitsbergen Ar	17.47	357	eP	Pn	12 56 39.7	-1.8

GUC 10 12:53:49.4±0.6, 2201S×6835W, h138km±5km, MD3.6, ML3.2, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	Limon Verde	0.80	221	eP	Pn	12 54 12.0	+0.8
LVC				*i* S	Sn	12 54 29.8	+1.9
LVC				AML	AML	12 54 31.1	
	comp=N,253nm,0.3s						
CEN1	Los Morros	2.19	231	eP	Pn	12 54 29.6	+3.5
CEN1				*i* S	Sn	12 55 00.7	+6.4
CEN1				AML	AML	12 55 08.8	
	comp=N,119nm,0.5s						
ANCH	Antofagasta	2.53	228	eP	Pn	12 54 31.6	+1.3
ANCH				*i* S	Sn	12 55 03.0	+1.3
CPN1	Cerro Paranal	3.22	216	eP	Pn	12 54 41.4	+2.3
CPN1				*i* S	Sn	12 55 20.5	+3.0
CPN1				AML	AML	12 55 32.0	
	comp=E,92nm,0.4s						

*NAO **10** 12:59:36.1±1.0, 6089N×2067E, ML2.2*
*ISCJB **10** 12:59:36.6±0.3, 6088N±003×2068E±004, h0km, Error ellipse: s-maj=4.7km s-min=2.6km az=142.4*
*HEL **10** 12:59:37.7±0.1, 6088N×2069E, h0km, ML2.4, ML2.7(UPP), ML2.2(NAO), Explosion*
*CSEM **10** 12:59:37.3±0.1, 6087N×2068E, h1km, ML2.4, Error ellipse: s-maj=2.4km s-min=1.7km az=167.0, Mining explosion.*
*IDC **10** 12:59:37.4±0.7, 6097N×2074E, h0km, mb1 3.1/4, mb1mx2.9/21, mbtmp3.1/4, ML3.0/2, Error ellipse: s-maj=12.9km s-min=5.4km az=169.0*
*UPP **10** 12:59:38.5, 6085N×2044E, h0km, ML2.7, Suspected Mining explosion.*
*BER **10** 12:59:39.2±4.7, 6111N×2050E, h0km, ML2.2(NAO), Suspected explosion*

ISC 10 12:59:37.2±0.3, 6089N±003×2071E±004, h0km, n55, σ1§19/77, Finland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAF	Rauma	0.53	75	*i* P	Pg	12 59 47.0	-0.3
RAF				*i* S	Sg	12 59 54.1	-0.1
RAF	Rauma	0.53	75	P	Pg	12 59 46.9	-0.4
AAL	Aland	0.80	207	*i* P	Pg	12 59 51.8	-0.7
GRAU	Graesoe	1.21	243	eP	Pg	12 59 58.6	-1.7
FORU	Forsmark	1.35	249	eP	Pg	13 00 01.0	-2.0
FLYU	Flymyra	1.59	243	eP	Pn	13 00 05.3	-1.3
NRTU	Norrtaelje	1.60	221	eP	Pn	13 00 05.2	-1.5
IGGU	Iggoen	1.66	271	eP	Pn	13 00 06.5	-1.0
ARNU	Arnoeviken	1.80	298	eP	Pn	13 00 09.2	-0.2
UPP	Uppsala	1.85	237	eP	Pn	13 00 09.8	-0.3
OSTU	Oestervaala	1.89	251	eP	Pn	13 00 10.6	0.0
MEF	Metsahovi	1.94	109	eP	Pn	13 00 12.3	+0.9
MEF				eS	Sn	13 00 36.8	+0.3
MEF	Metsahovi	1.94	109	P	Pn	13 00 12.2	+0.8
MEF				S	Sn	13 00 36.7	+0.2
BACU	Backbrunna	2.07	241	eP	Pn	13 00 13.6	+0.4
HEMU	Hemsoen	2.20	326	eP	Pn	13 00 15.4	+0.5
NYNU	Nynaeshamn	2.33	217	eP	Pn	13 00 18.0	+1.3
HASU	Hassela	2.34	305	eP	Pn	13 00 17.8	+1.0
VAF	Ylistaro	2.35	22	eP	Pn	13 00 17.4	+0.5
VAF				eS	Sn	13 00 45.4	-1.1
KEF	Keuruu	2.37	55	eP	Pn	13 00 18.4	+1.1
KEF				eSB	Sb	13 00 49.4	-1.0
KEF				MSG		13 00 51.5	
	comp=Z,17nm,0.2s						
KEF	Keuruu	2.37	55	P	Pn	13 00 18.3	+1.1
FALU	Falun	2.43	263	eP	Pn	13 00 18.2	+0.1
PVF	Pernaja	2.56	96	eP	Pn	13 00 20.8	+1.0
PVF				eS	Sn	13 00 52.4	+0.8
PVF				eSG	Sg	13 00 56.7	-2.5
PVF				MSG		13 00 57.4	
	comp=Z,18nm,0.2s						
PVF	Pernaja	2.56	96	P	Pn	13 00 20.8	+1.0
PVF				S	Sn	13 00 52.4	+0.8
PVF				Sg	Sg	13 00 56.7	-2.6
HUSU	Husum	2.56	345	eP	Pn	13 00 21.1	+1.3
FIA0	FINESS Array S	2.66	76	eP	Pn	13 00 22.5	+1.3
FIA0				eSG	Sg	13 00 59.5	-3.1
FIA0	FINESS Array S	2.66	76	Pn	Pn	13 00 22.9	+1.6
	baz=263,slow=14						
FIA0				Sn	Sn	13 00 56.3	+2.1
	baz=243,slow=22						
FIA0				Lg		13 00 59.3	
	baz=265,slow=37						
FIA0	FINESS Array S	2.66	76	P	Pn	13 00 22.5	+1.3
FIA0				Sg	Sg	13 00 59.4	-3.2
FINES	FINESS Array B	2.66	76	Pg	Pg	13 00 22.8	-5.3
	comp=Z,3.2nm,0.3s,baz=266,slow=14,SNR=161						
FINES				Sn	Sn	13 00 56.5	+2.3
	comp=Z,4.6nm,0.3s,baz=264,slow=21,SNR=28						
FINES				Lg		13 00 59.4	
	comp=Z,4.6nm,0.3s,baz=265,slow=29,SNR=33						
ESKU	Eskilstuna	2.73	234	eP	Pn	13 00 22.6	+0.4
SOLU	Sollefteaa	2.87	327	eP	Pn	13 00 24.9	+0.8
KAF	Kangasniemi	2.95	63	eP	Pn	13 00 26.4	+1.1
KAF				eSB	Sb	13 01 05.4	-1.8
KAF				MSG		13 01 07.3	
	comp=Z,12nm,0.2s						
UMAU	Umeaa	3.00	360	eP	Pn	13 00 28.3	+2.4
BREU	Bredtraesk	3.17	343	eP	Pn	13 00 29.0	+0.7
HFS	Hagfors	3.55	261	Pn	Pn	13 00 33.9	+0.3
	baz=85,slow=12						
HFS				Sn	Sn	13 01 15.3	-0.9
	baz=69,slow=37						
HFS				Lg		13 01 24.8	
	baz=72,slow=37						
HFS	Hagfors	3.55	261	eP	Pn	13 00 33.9	+0.3
HFS				eS	Sn	13 01 15.3	-0.9
HFS				eSG	Sg	13 01 24.8	-6.5
HFS	Hagfors	3.55	261	Pn	Pn	13 00 33.8	+0.3
	comp=Z,0.3nm,0.3s,baz=83,slow=14,SNR=24						
HFS				Pg	Pg	13 00 40.5	-4.7
	comp=Z,0.9nm,0.3s,baz=80,slow=18,SNR=16						
HFS				Sn	Sn	13 01 16.3	+0.1
	comp=Z,0.6nm,0.3s,baz=77,slow=31,SNR=5.6						
HFS				Lg		13 01 25.7	
	comp=Z,1.4nm,0.3s,baz=80,slow=32,SNR=9.0						
HFS	Hagfors	3.55	261	Pn	Pn	13 00 33.8	+0.3
	SNR=50						
HFS				Sn	Sn	13 01 15.4	-0.8
	SNR=50						
ASKU	Askersund	3.58	239	eP	Pn	13 00 34.8	+0.9
BURU	Burvik	3.72	4	eP	Pn	13 00 38.4	+2.6
NOD	Norderasen	3.75	316	eP	Pn	13 00 36.8	+0.5
LNKU	Linkoeping	3.77	227	eP	Pn	13 00 37.0	+0.5
VSTU	Vaestervik	3.89	215	eP	Pn	13 00 39.3	+1.2
BYXU	Byxelkrok	4.09	209	eP	Pn	13 00 41.8	+0.9
NB2	NORSAR Subarra	4.63	276	eP	Pn	13 00 48.0	-0.4
NB2				eSB	Sb	13 01 56.2	+0.6
NB2	NORSAR Subarra	4.63	276	Pn	Pn	13 00 48.0	-0.4
	baz=81,slow=14						
NB2				Lg		13 01 56.2	
	baz=86,slow=37						
NOA	NORSAR Array B	4.63	276	Pn	Pn	13 00 47.6	-0.7
	comp=Z,0.3nm,0.3s,baz=182,slow=18,SNR=2.5						
NOA				Sn	Sn	13 01 42.1	-0.7
	comp=Z,0.4nm,0.3s,baz=235,slow=23,SNR=2.7						
NOA				Lg		13 01 56.5	
	comp=Z,1.4nm,0.3s,baz=43,slow=15,SNR=7.4						
BLEU	Blekinge	5.26	211	eP	Pn	13 00 56.7	-0.3
APA0	Apatity Array	8.58	33	Pn	Pn	13 01 41.6	-1.0
	baz=245,slow=12						
APA0	Apatity Array	8.58	33	eP	Pn	13 01 41.6	-1.0
ARA0	ARCESS Array S	8.91	11	Pn	Pn	13 01 44.3	-2.8
	baz=197,slow=14						
ARA0	ARCESS Array S	8.91	11	eP	Pn	13 01 44.3	-2.8
ARCES	ARCESS Array B	8.91	11	Pn	Pn	13 01 45.2	-1.8
	comp=Z,0.3nm,0.3s,baz=191,slow=14,SNR=62						
ARCES				Lg		13 04 13.9	
	comp=Z,0.3nm,0.3s,baz=183,slow=32,SNR=5.2						
AKASG	Malin Array Be	11.27	151	Pn	Pn	13 02 15.6	-3.8
	comp=Z,1.0nm,0.3s,baz=322,slow=13,SNR=5.1						
SPA0	Spitsbergen Ar	17.43	357	P	Pn	13 03 39.4	-2.3
	baz=149,slow=8.6						
SPA0	Spitsbergen Ar	17.43	357	eP	Pn	13 03 39.4	-2.3

IDC 10 13:08:21.1±1.7, 069N×9807E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/21, mbtmp3.7/7, ML3.2/1, Error ellipse: s-maj=56.6km s-min=20.4km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	Prapat	2.26	22	Pn	Pn	13 08 59.0	-0.8
	7.5nm,0.3s,baz=193,slow=9.0,SNR=19						
WRA	Warramunga Arr	41.03	122	P	P	13 16 06.1	+0.1
	0.3nm,0.8s,baz=303,slow=9.5,SNR=3.9						
ASAR	Alice Springs	42.39	127	P	P	13 16 18.0	+0.8
	0.2nm,0.7s,baz=297,slow=7.5,SNR=4.5						
SONM	Songino Array	47.51	8	P	P	13 16 58.0	0.0
	1.3nm,0.7s,baz=188,slow=9.4,SNR=11						
MKAR	Makanchi Array	47.95	345	P	P	13 17 01.8	+0.4
	0.8nm,0.6s,baz=157,slow=8.2,SNR=12						
ZAL	Zalesovo	54.19	350	P	P	13 17 47.9	-0.5
	1.5nm,0.3s,baz=234,slow=6.7,SNR=3.8						
BVAR	Borovoye Array	57.02	340	P	P	13 18 08.3	-0.3
	1.0nm,0.6s,baz=141,slow=9.3,SNR=8.7						

*ISCJB **10**

FIA0					MSG			13 39 19.9		
	comp=Z,2.5nm,0.2s									
FIA0	**FINESS Array S**	**4.02**	**25**	Pn	**Pn**		**13 38 10.3**	**-0.6**		
	baz=220,slow=11									
FIA0					Pg	**Pg**	**13 38 20.6**	**-4.5**		
	baz=198,slow=16									
FIA0					Sn	**Sn**	**13 38 59.6**	**+0.9**		
	baz=196,slow=22									
FIA0					Lg		13 39 14.6			
	baz=208,slow=28									
FINES	**FINESS Array B**	**4.02**	**25**	Pn	**Pn**		**13 38 11.3**	**+0.4**		
	comp=Z,0.2nm,0.3s,baz=210,slow=11,SNR=6.2									
FINES					Pg	**Pg**	**13 38 20.1**	**-5.1**		
	comp=Z,1.1nm,0.3s,baz=208,slow=15,SNR=26									
FINES					Lg		13 39 12.0			
	comp=Z,0.6nm,0.3s,baz=207,slow=24,SNR=6.1									
ASKU	**Askersund**	**4.16**	**288**	*e*P	**Pn**		**13 38 13.2**	**+0.5**		
VXJU	**Vaexsjoe**	**4.19**	**260**	*e*P	**Pn**		**13 38 12.4**	**-0.7**		
NRAU	**Nora**	**4.24**	**297**	*e*P	**Pn**		**13 38 13.8**	**0.0**		
FALU	**Falun**	**4.32**	**310**	*e*P	**Pn**		**13 38 15.3**	**+0.4**		
KEF	**Keuruu**	**4.48**	**15**	*e*P	**Pn**		**13 38 18.1**	**+1.0**		
KEF				*e*SG	**Sg**		**13 39 28.9**	**-3.0**		
KEF				MSG			13 39 31.7			
	comp=Z,2.4nm,0.2s									
ARNU	**Arnoeviken**	**4.62**	**328**	*e*P	**Pn**		**13 38 19.1**	**0.0**		
KAF	**Kangasniemi**	**4.67**	**23**	MSG			13 39 36.1			
	comp=Z,1.6nm,0.2s									
HFS	**Hagfors**	**5.08**	**300**	Pn	**Pn**		**13 38 25.0**	**-0.3**		
	baz=136,slow=12									
HFS				Sn	**Sn**		**13 39 23.6**	**-1.1**		
	baz=126,slow=28									
HFS				Lg			13 39 45.5			
	baz=117,slow=37									
HFS	**Hagfors**	**5.08**	**300**	*e*P	**Pn**		**13 38 25.0**	**-0.3**		
HFS				*e*S	**Sn**		**13 39 23.6**	**-1.1**		
HFS				*e*SG	**Sg**		**13 39 45.5**	**-5.7**		
HFS	**Hagfors**	**5.08**	**300**	Pn	**Pn**		**13 38 25.3**	**-0.1**		
	comp=Z,0.7nm,0.3s,baz=118,slow=15,SNR=38									
HFS				Lg			13 39 45.0			
	comp=Z,0.8nm,0.3s,baz=112,slow=31,SNR=7.3									
VAF	**Ylistaro**	**5.19**	**1**	*e*SG	**Sg**		**13 39 48.3**	**-6.6**		
HEMU	**Hemsoen**	**5.30**	**337**	*e*P	**Pn**		**13 38 28.6**	**+0.1**		
NB2	**NORSAR Subarra**	**6.56**	**304**	*e*P	**Pn**		**13 38 45.4**	**-0.4**		
NB2				*e*SG	**Sg**		**13 40 32.1**	**-6.7**		
NB2	**NORSAR Subarra**	**6.56**	**304**	Pn	**Pn**		**13 38 45.4**	**-0.4**		
	baz=121,slow=14									
NB2				Lg			13 40 32.1			
	baz=118,slow=37									
NOA	**NORSAR Array B**	**6.56**	**304**	Pn	**Pn**		**13 38 44.1**	**-1.6**		
	comp=Z,0.4nm,0.3s,baz=122,slow=13,SNR=2.8									
NOA				Lg			13 40 29.9			
	comp=Z,0.4nm,0.3s,baz=58,slow=22,SNR=3.7									
ARA0	**ARCESS Array S**	**11.79**	**5**	Pn	**Pn**		**13 39 52.5**	**-4.9**		
	baz=181,slow=14									
ARA0	**ARCESS Array S**	**11.79**	**5**	*e*P	**Pn**		**13 39 52.5**	**-4.9**		
ARCES	**ARCESS Array B**	**11.79**	**5**	Pn	**Pn**		**13 39 52.2**	**-5.2**		
	comp=Z,0.1nm,0.3s,baz=184,slow=14,SNR=8.2									

IDC 10 13:44:23.6±1.0, 1580S×6827W, h170km±39km, mb3.0/2, mb1 3.1/4, mb1mx3.0/17, mbtmp3.5/4, Error ellipse: s-maj=180.7km s-min=27.1km az=12.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**0.51**	**165**	P	Pn	13 44 49.6	+2.4
	3.1nm,0.3s,baz=203,slow=5.6,SNR=97						
LPAZ				S	Sn	13 45 07.5	+2.2
	0.9nm,0.3s,baz=174,slow=3.6,SNR=8.8						
SIV	**San Ignacio**	**6.93**	**93**	P	Pn	13 46 03.6	+1.0
	0.3nm,0.3s,baz=292,slow=10.0,SNR=5.8						
BDFB	**Brasilia**	**19.50**	**92**	P	P	13 48 39.2	+1.7
	0.4nm,0.3s,baz=72,slow=3.2,SNR=2.8						
TORD	**Torodi Ar. Bea**	**74.92**	**71**	P	P	13 55 44.8	-0.9
	0.2nm,0.4s,baz=254,slow=5.4,SNR=4.9						
YKA	**Yellowknife Ar**	**86.04**	**340**	P	P	13 56 44.5	-0.3
	0.2nm,0.4s,baz=135,slow=4.6,SNR=7.2						

*ISCJB **10** 14:08:08.7±0.5, 5254N×009.3209W±008, h10km, mb3.9/16, MS3.1/13, Error ellipse: s-maj=13.4km s-min=6.0km az=152.2*
*CSEM **10** 14:08:08.5±0.1, 5252N×3186W, h10km, mb4.1/1, Error ellipse: s-maj=6.8km s-min=3.4km az=147.0*
*IDC **10** 14:08:09.2±0.7, 5256N×3200W, h0km, mb3.9/16, mb1 4.1/18, mb1mx4.0/28, mbtmp4.0/18, ML4.2/2, MS3.2/14, Ms1 3.2/14, ms1mx3.1/31, Error ellipse: s-maj=20.4km s-min=14.4km az=166.0*
*NEIC **10** 14:08:10.4±0.6, 5252N×3208W, h10km, mb4.0/2, Error ellipse: s-maj=15.0km s-min=8.9km az=171.0*
*OTT **10** 14:08:17.9±2.1, 5270N×3242W, h18km, ML5.0/2, 1526km northeast from Bonavista, NI*

ISC 10 14:08:10.6±0.5, 5257N±009×3202W±008, h10km, n49, σ1°9.09/46, mb3.9/16, MS3.1/13, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**13.39**	**20**	Pn	**Pn**	**14 11 22.9**	**+2.2**
	1.0nm,0.3s,baz=223,slow=16,SNR=4.1						
SJNN	**Saint John's**	**14.15**	**258**	PN	**Pn**	**14 11 30.8**	**-0.2**
SJNN				SN	**Sn**	**14 13 57.4**	**-11**
SJNN				Trac		14 14 07.4	
	comp=Z,45nm,0.5s						
DRLN	**Deer Lake**	**16.38**	**269**	PN	**Pn**	**14 11 59.4**	**-1.1**
DRLN				SN	**Sn**	**14 14 47.4**	**-15**
DRLN				SN	**Sn**	**14 14 49.6**	**-13**
DRLN				Trac		14 14 57.1	
	comp=Z,30nm,1.2s						
SFJD	**Kangerlussuaq**	**17.12**	**335**	P	**Pn**	**14 12 11.5**	**+1.7**
	0.4nm,0.3s,baz=115,slow=14,SNR=3.2						
SFJD				LR	LR	14 17 39.1	
	comp=Z,59nm,21.2s,baz=155,slow=33						
SFJD	**Kangerlussuaq**	**17.12**	**335**	P	**Pn**	**14 12 10.6**	**+0.7**
SFJD				LR	LR	14 17 39.1	
SFJD	**Kangerlussuaq**	**17.12**	**335**	P	**Pn**	**14 12 10.6**	**+0.8**
ESK	**Eskdalemuir**	**17.13**	**69**	*e*P	**Pn**	**14 12 11.8**	**+1.8**
	7.4nm,0.7s						
ESK	**Eskdalemuir**	**17.13**	**69**	*e*P	**Pn**	**14 12 11.8**	**+1.8**
EKA	**Eskdalemuir Ar**	**17.15**	**69**	P	**Pn**	**14 12 10.8**	**+0.5**
	0.6nm,0.3s,baz=276,slow=9.9,SNR=33						
NATG	**Natashquan Que**	**19.27**	**276**	PN	**Pn**	**14 12 38.2**	**+2.0**
NATG				SN	**Sn**	**14 16 02.5**	**-10**
CHEG	**Cheticamp, Nov**	**19.34**	**264**	PN	**Pn**	**14 12 38.6**	**+1.5**
CHEG				SN	**Sn**	**14 15 59.3**	**-15**
GBN	**Guysborough**	**20.54**	**261**	PN	**P**	**14 12 56.0**	**+7.0**
GBN				SN	**S**	**14 16 30.6**	**-8.2**
SCHQ	**Schefferville**	**20.61**	**290**	LR	LR	14 19 35.7	
	comp=Z,51nm,19.7s,MS2.9,baz=118,slow=33						
SCHQ	**Schefferville**	**20.61**	**290**	PN	**P**	**14 12 46.7**	**-3.2**
SCHQ				SN	**S**	**14 16 28.2**	**-12**
SCHQ	**Schefferville**	**20.61**	**290**	*e*P	**P**	**14 12 47.1**	**-2.8**
	3.6nm,0.4s						
JMIC	**Jan Mayen**	**21.28**	**21**	LR	LR	14 18 34.3	
	comp=Z,61nm,20.1s,MS3.0,baz=79,slow=29						
MALG	**Malagash, Nova**	**21.44**	**264**	PN	**P**	**14 12 58.3**	**-0.5**
NB2	**NORSAR Subarra**	**24.72**	**53**	P	**P**	**14 13 32.0**	**+0.1**
	comp=Z,4.2nm,1.0s,mb3.9,baz=270,slow=11						
NOA	**NORSAR Array B**	**24.72**	**53**	P	**P**	**14 13 30.6**	**-1.3**
	comp=Z,1.5nm,0.9s,mb3.5,baz=273,slow=11,SNR=3.8						
NOA				LR	LR	14 22 31.2	
	comp=Z,40nm,18.1s,MS3.0,baz=95,slow=35						
HFS	**Hagfors**	**25.96**	**55**	P	**P**	**14 13 42.7**	**-0.5**
	comp=Z,1.1nm,0.8s,mb3.5,baz=236,slow=11,SNR=3.8						
HFS				LR	LR	14 22 54.8	
	comp=Z,26nm,20.2s,MS2.8,baz=312,slow=34						
DAVOX	**Davos**	**27.42**	**85**	LR	LR	14 23 28.9	
	comp=Z,32nm,19.0s,MS2.9,baz=261,slow=34						
CLL	**Collm**	**27.45**	**74**	*e*P	**P**	**14 13 56.0**	**-0.6**
CLL				*e*(sP)	sP	14 14 04.0	+3.1
GERES	**GERESS Array B**	**28.82**	**79**	P	**P**	**14 14 08.4**	**-0.4**
GERES				LR	LR	14 24 01.1	
	comp=Z,48nm,19.8s,MS3.1,baz=96,slow=33						
ARCES	**ARCESS Array B**	**31.05**	**35**	P	**P**	**14 14 27.8**	**-0.8**
	comp=Z,2.3nm,0.9s,mb4.0,baz=272,slow=6.9,SNR=3.2						
ARCES				LR	LR	14 24 04.6	
	comp=Z,47nm,18.7s,MS3.2,baz=339,slow=31						
ARCES	**ARCESS Array B**	**31.05**	**35**	P	**P**	**14 14 27.8**	**-0.8**
ARCES				LR	LR	14 24 04.6	
KAF	**Kangasniemi**	**31.81**	**49**	*e*p	**P**	**14 14 33.7**	**-1.6**
FINES	**FINESS Array B**	**31.82**	**51**	P	**P**	**14 14 34.1**	**-1.3**
	comp=Z,0.9nm,0.6s,mb3.8,baz=284,slow=7.7,SNR=5.6						
FINES				LR	LR	14 25 07.8	
	comp=Z,63nm,20.9s,MS3.3,baz=309,slow=32						
YKA	**Yellowknife Ar**	**42.43**	**317**	P	**P**	**14 16 04.7**	**-0.7**
	comp=Z,0.9nm,0.9s,mb3.4,baz=61,slow=8.9,SNR=8.7						
YKA				PcP	PcP	14 17 57.4	-1.0
	comp=Z,0.2nm,0.6s,baz=64,slow=3.8,SNR=5.0						
YKA				LR	LR	14 31 58.3	
	comp=Z,17nm,18.0s,MS3.0,baz=225,slow=34						
YKA	**Yellowknife Ar**	**42.43**	**317**	P	**P**	**14 16 04.8**	**-0.7**
YKA				PcP	PcP	14 17 57.4	-1.0
YKA				LR	LR	14 31 58.3	
YKA	**Yellowknife Ar**	**42.43**	**317**	PcP	PcP	14 17 57.4	-1.0
SJG	**San Juan**	**43.51**	**231**	LR	LR	14 30 07.1	
	comp=Z,57nm,20.1s,MS3.5,baz=273,slow=30						
BRTR	**Keskin Array B**	**45.71**	**79**	P	**P**	**14 16 32.8**	**+1.0**
	comp=Z,2.0nm,0.7s,mb4.1,baz=311,slow=5.6,SNR=11						
TORD	**Torodi Ar. Bea**	**47.65**	**133**	P	**P**	**14 16 46.6**	**-0.3**
	comp=Z,2.4nm,0.7s,mb4.4,baz=336,slow=7.4,SNR=28						
PDAR	**Pinedale Array**	**50.74**	**292**	P	**P**	**14 17 10.1**	**-0.5**
	comp=Z,1.1nm,0.5s,mb4.0,baz=61,slow=7.1,SNR=14						
DBIC	**Dimbokro**	**50.88**	**144**	LR	LR	14 35 13.7	
	comp=Z,44nm,20.5s,MS3.5,baz=74,slow=32						
AKTK	**Aktyubinsk**	**52.50**	**54**	P	**P**	**14 17 23.8**	**0.0**
AKTK	**Aktyubinsk**	**52.50**	**54**	P	**P**	**14 17 23.8**	**0.0**
AKTO	**Aktyubinsk**	**52.50**	**54**	P	**P**	**14 17 23.8**	**0.0**
	comp=Z,1.8nm,0.5s,mb4.2,baz=329,slow=8.0,SNR=7.7						
ILAR	**Eielson Array**	**52.73**	**331**	P	**P**	**14 17 26.3**	**+0.9**
	comp=Z,0.3nm,0.7s,mb3.4,baz=34,slow=5.7,SNR=4.9						
ILAR				PcP	PcP	14 18 33.2	-1.9
	comp=Z,0.6nm,1.1s,baz=34,slow=3.4,SNR=2.5						
ILAR				LR	LR	14 37 31.9	
	comp=Z,39nm,21.1s,MS3.4,baz=360,slow=33						
ILAR	**Eielson Array**	**52.73**	**331**	PcP	PcP	14 18 33.2	-1.8
BVAR	**Borovoye Array**	**56.49**	**45**	P	**P**	**14 17 53.3**	**+0.5**
	comp=Z,2.8nm,0.6s,mb4.4,baz=308,slow=6.6,SNR=25						
ROSC	**El Rosal**	**58.91**	**232**	P	**P**	**14 18 11.2**	**+1.5**
	comp=Z,8.6nm,0.4s,baz=105,slow=22,SNR=6.7						
ROSC				LR	LR	14 40 40.8	
	comp=Z,32nm,20.6s,MS3.4,baz=359,slow=33						
ZAL	**Zalesovo**	**61.58**	**37**	P	**P**	**14 18 27.2**	**-0.8**
	comp=Z,0.9nm,0.4s,mb4.3,baz=142,slow=12,SNR=3.4						
MKAR	**Makanchi Array**	**66.24**	**43**	P	**P**	**14 18 58.6**	**-0.1**
	comp=Z,1.0nm,0.7s,mb4.0,baz=346,slow=5.8,SNR=9.1						
SONM	**Songino Array**	**73.88**	**28**	P	**P**	**14 19 45.7**	**+0.1**
	comp=Z,0.8nm,0.8s,mb3.7,baz=306,slow=3.3,SNR=5.3						
LPAZ	**La Paz**	**75.36**	**216**	P	**P**	**14 19 54.6**	**+0.5**
	comp=Z,0.8nm,0.8s,mb3.7,baz=26,slow=6.6,SNR=4.0						
WRA	**Warramunga Arr**	**145.75**	**23**	PKPbc	PKPbc	14 27 49.7	0.0
	comp=Z,1.0nm,0.8s,baz=346,slow=3.8,SNR=6.2						
ASAR	**Alice Springs**	**149.21**	**26**	PKPbc	PKPbc	14 27 59.0	-0.2
	comp=Z,0.3nm,0.6s,baz=346,slow=1.8,SNR=8.1						
ASAR	**Alice Springs**	**149.21**	**26**	PKPbc	PKPbc	14 27 59.0	-0.3

*NEIC **10** 14:11:31.6, 3946N×2068E, h24km, MD3.1(ATH), After ATH.*
*ISCJB **10** 14:11:32.8±0.9, 3931N±006×2046E±005, h15km±7km, Error ellipse: s-maj=10.3km s-min=6.4km az=45.8*
*ATH **10** 14:11:32.0, 3944N×2067E, h15km±6km, MD3.1/5*
*THE **10** 14:11:33.8, 3937N×2058E, h1km*
*CSEM **10** 14:11:33.2±0.2, 3931N×2053E, h2km, MD3.1, Error ellipse: s-maj=4.9km s-min=2.9km az=27.0*

ISC 10 14:11:33.1±0.8, 3935N±005×2057E±005, h13km±7km, n14, σ1°45/22, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.26**	**315**	*e*Pg	**Pg**	**14 11 38.3**	**-0.2**
IGT				*e*Sg	**Sg**	**14 11 42.7**	**+0.5**
JAN	**Janina**	**0.38**	**35**	*e*PB	**Pg**	**14 11 37.4**	**-3.2**
JAN				*e*SB	**Sg**	**14 11 41.2**	**-4.5**
KEK	**Kerkira**	**0.70**	**302**	*e*PN	**Pn**	**14 11 45.8**	**-2.8**
KEK				*e*SN	**Sg**	**14 11 56.6**	**+0.8**
EVR	**Evrytania**	**1.06**	**114**	*e*PN	**Pn**	**14 11 52.0**	**-1.6**
EVR				*e*SN	**Sn**	**14 12 05.8**	**-2.4**
VLS	**Valsamata**	**1.17**	**179**	*e*PN	**Pn**	**14 11 55.9**	**+0.8**
KZN	**Kozani**	**1.33**	**44**	*e*PN	**Pn**	**14 11 54.8**	**-2.6**
AGG	**Agios Georgios**	**1.41**	**103**	*e*Pg	**Pg**	**14 11 59.9**	**-0.3**
AGG				*e*Sg	**Sg**	**14 12 19.8**	**+1.4**
AGG	**Agios Georgios**	**1.41**	**103**	*e*Pg	**Pg**	**14 11 59.8**	**-0.3**
AGG				*e*Sg	**Sg**	**14 12 19.8**	**+1.4**
FNA	**Florina**	**1.56**	**23**	*e*Pg	**Pg**	**14 12 02.0**	**-1.1**
FNA				*e*Sg	**Sg**	**14 12 23.3**	**-0.1**
LIT	**Litokhoron**	**1.66**	**63**	*e*Pb	**Pb**	**14 12 02.5**	**-1.0**
LIT				*e*Sb	**Sb**	**14 12 25.7**	**+1.4**
XOR	**Xorichti**	**2.03**	**89**	*e*Pn	**Pn**	**14 12 08.6**	**+1.6**
GRG	**Griva**	**2.13**	**41**	*e*Pn	**Pn**	**14 12 10.0**	**+1.7**
PAIG	**Paliouri**	**2.47**	**75**	*e*Pn	**Pn**	**14 12 14.2**	**+1.2**
KNT	**Kendrikon**	**2.54**	**44**	*e*Pn	**Pn**	**14 12 15.6**	**+1.6**

*NEIC **10** 14:16:28.7±2.7, 3624N×7096E, h123km±21km, mb3.8/5, Error ellipse: s-maj=24.7km s-min=10.7km az=217.0*
*IDC **10** 14:16:30.3±6.2, 3628N×7095E, h138km±54km, mb3.6/10, mb1 3.7/13, mb1mx3.5/24, mbtmp4.0/13, Error ellipse: s-maj=28.7km s-min=18.1km az=23.0*
*ISCJB **10** 14:16:31.8±1.1, 3653N±005×710E±0.1, h154km±10km, mb3.7/11, Error ellipse: s-maj=15.4km s-min=5.3km az=119.6*
*MOS **10** 14:16:32.8±0.7, 3642N×7087E, h172km, mb4.1/2, Error ellipse: s-maj=19.0km s-min=8.9km az=101.1*
*NNC **10** 14:16:39.8±4.5, 3710N×7069E, h157km±47km, mb2.7, mpv3.9, Error ellipse: s-maj=48.1km s-min=34.3km az=33.0*

ISC 10 14:16:32.6±1.1, 3652N±006×710E±01, h150km±10km, n52, σ0°83/56, mb3.7/11, 8C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**5.74**	**132**	*e*P	**Sn**	**14 19 00.0**	**-0.7**
AML	**Almayashu**	**5.99**	**20**	P	**Pn**	**14 17 59.2**	**0.0**
	SNR=113						
UCH	**Uchtor**	**6.33**	**25**	P	**Pn**	**14 18 03.6**	**-0.1**
	SNR=44						
KZA	**Kyzart**	**6.47**	**30**	P	**Pn**	**14 18 05.1**	**-0.5**
	SNR=34						
EKS2	**Erkin-Say**	**6.51**	**19**	P	**Pn**	**14 18 06.0**	**-0.1**
	SNR=21						
KK31	**Karatay Array**	**6.58**	**357**	⇓P	**Pn**	**14 18 06.8**	**-0.3**
	18nm,0.4s,baz=187,slow=16,SNR=225						
KK31				⇑S	**Sn**	**14 19 16.3**	**-4.8**
	9.0nm,0.5s,baz=186,slow=21,SNR=7.6						
AAK	**Ala-Archa**	**6.69**	**23**	P	**Pn**	**14 18 08.5**	**0.0**
	SNR=18						
AAK	**Ala-Archa**	**6.69**	**23**	⇓*e*PN	**Pn**	**14 18 07.5**	**-1.0**
AAK	**Ala-Archa**	**6.69**	**23**	*e*Pn	**Pn**	**14 18 07.1**	**-1.4**
	8.2nm,0.4s						
KBK	**Karagaybulak**	**6.86**	**26**	P	**Pn**	**14 18 11.4**	**+0.6**
	SNR=7.9						
ULHL	**Ulahol**	**7.03**	**34**	P	**Pn**	**14 18 12.5**	**-0.5**
	SNR=8.4						
CHMS	**Chumysh**	**7.10**	**23**	P	**Pn**	**14 18 13.6**	**-0.4**
	SNR=8.8						
USP	**Sopenovka**	**7.27**	**21**	P	**Pn**	**14 18 16.3**	**+0.1**
	SNR=5.9						
TKM2	**Tokmak 2**	**7.33**	**28**	P	**Pn**	**14 18 16.7**	**-0.3**
	SNR=21						
TKM2	**Tokmak 2**	**7.33**	**28**	⇓P	**Pn**	**14 18 16.4**	**-0.6**
	1.5nm,0.7s						
TKM2				⇑S	**Sn**	**14 19 37.3**	**-1.5**
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**13.30**	**36**	P	**Pn**	**14 19 35.0**	**-0.6**
	0.2nm,0.3s,baz=209,slow=16,SNR=7.0						
KOLN	**Koldanda**	**13.81**	**126**	*e*P	**Pn**	**14 19 42.7**	**+0.6**
	4.6nm,0.3s						
GKN	**Gorkha**	**14.35**	**122**	*e*P	**Pn**	**14 19 48.4**	**-0.5**
	24nm,0.5s						
DMN	**Daman**	**14.92**	**123**	*e*P	**Pn**	**14 19 56.8**	**+0.8**
	8.4nm,0.4s						
KKN	**Kakani**	**14.92**	**122**	*e*P	**Pn**	**14 19 56.2**	**+0.2**
	11nm,0.5s						
AB31	**Akbulak array**	**15.05**	**331**	⇑P	**Pn**	**14 19 56.4**	**-1.1**
	1.1nm,0.5s,baz=141,slow=12,SNR=36						
AB31				⇑S	**S**	**14 22 30.9**	**-20**
	1.7nm,0.6s,baz=154,slow=21,SNR=8.9						
PKI	**Pulchoki**	**15.15**	**122**	*e*P	**Pn**	**14 20 00.0**	**+1.2**
	13nm,0.4s						
GUN	**Gumba**	**15.26**	**120**	*e*P	**Pn**	**14 20 01.1**	**+0.9**
	14nm,0.6s						
JIRN	**Jiri**	**15.63**	**120**	*e*P	**Pn**	**14 20 05.7**	**+0.9**
	13nm,0.5s						
ZRNK	**Zerenda**	**16.48**	**356**	⇑P	**Pn**	**14 20 16.1**	**+0.8**
	1.2nm,0.7s						
ZRNK	**Zerenda**	**16.48**	**356**	*e*P	**Pn**	**14 20 15.9**	**+0.7**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZRNK	**Zerenda**	**16.48**	**356**	*e*P	**Pn**	**14 20 15.9**	**+0.7**
	comp=Z,1.2nm,0.5s						
BVA0	**Borovoye Array**	**16.51**	**359**	⇑P	**Pn**	**14 20 16.5**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=172,slow=11,SNR=15						
BVAR	**Borovoye Array**	**16.51**	**359**	P	**Pn**	**14 20 16.9**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=172,slow=12,SNR=14						
BRVK	**Borovoye**	**16.54**	**359**	*e*P	**Pn**	**14 20 18.4**	**+2.5**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRVK	**Borovoye**	**16.54**	**359**	*e*P	**Pn**	**14 20 18.4**	**+2.4**
	comp=Z,1.0nm,0.7s						
AKTK	**Aktyubinsk**	**16.74**	**330**	P	**Pn**	**14 20 18.3**	**0.0**
AKTO	**Aktyubinsk**	**16.74**	**330**	⇑P	**Pn**	**14 20 18.5**	**+0.2**
	comp=Z,0.1nm,0.8s						
AKTO				⇑S	**S**	**14 23 18.3**	**-6.2**
	comp=Z,0.2nm,1.2s						
AKTO	**Aktyubinsk**	**16.74**	**330**	P	**Pn**	**14 20 18.3**	**0.0**
	comp=Z,0.5nm,0.3s,baz=136,slow=12,SNR=15						
AKTO	**Aktyubinsk**	**16.74**	**330**	P	**Pn**	**14 20 18.3**	**0.0**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	**Zalesovo**	**19.90**	**25**	P	**P**	**14 20 53.4**	**+1.0**
	comp=Z,3.1nm,0.6s,baz=243,slow=11,SNR=14						
NVS	**Novosibirsk**	**20.18**	**21**	*e*P	**P**	**14 20 57.0**	**+1.6**
JOF	**Joensuu**	**35.83**	**330**	*e*p	**P**	**14 23 17.5**	**-0.2**
FINES	**FINESS Array B**	**37.44**	**326**	P	**P**	**14 23 31.7**	**+0.3**
	comp=Z,0.9nm,0.5s,mb3.7,baz=110,slow=11,SNR=9.1						
ARCES	**ARCESS Array B**	**41.11**	**338**	P	**P**	**14 24 02.3**	**+0.5**
	comp=Z,1.5nm,0.6s,mb3.8,baz=123,slow=8.8,SNR=6.2						
HFS	**Hagfors**	**43.02**	**322**	P	**P**	**14 24 17.4**	**+0.1**
	comp=Z,2.3nm,0.5s,mb4.0,baz=98,slow=11,SNR=18						
NB2	**NORSAR Subarra**	**44.34**	**323**	P	**P**	**14 24 27.5**	**-0.3**
	comp=Z,1.1nm,0.5s,mb3.7,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.34**	**323**	P	**P**	**14 24 27.8**	**+0.1**
	comp=Z,1.2nm,0.5s,mb3.8,baz=96,slow=7.8,SNR=11						
TORD	**Torodi Ar. Bea**	**65.68**	**269**	P	**P**	**14 26 59.8**	**-1.1**
	comp=Z,1.4nm,0.5s,mb4.1,baz=46,slow=5.8,SNR=28						
INK	**Inuvik**	**73.89**	**9**	*e*P	**P**	**14 27 51.1**	**0.0**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**73.89**	**9**	*e*P	**P**	**14 27 51.1**	**0.0**
	comp=Z,1.3nm,0.6s,mb3.8						
ILAR	**Eielson Array**	**74.77**	**16**	P	**P**	**14 27 55.2**	**-1.0**
	comp=Z,0.5nm,0.9s,mb3.1,baz=307,slow=0.7,SNR=4.2						
YKA	**Yellowknife Ar**	**81.23**	**3**	P	**P**	**14 28 31.5**	**-0.3**
	comp=Z,0.5nm,0.5s,mb3.4,baz=350,slow=5.3,SNR=14						
WRA	**Warramunga Arr**	**82.04**	**122**	P	**P**	**14 28 34.8**	**-1.3**
	comp=Z,0.8nm,0.5s,mb3.6,baz=323,slow=5.0,SNR=8.9						
WRAB	**Tennant Creek**	**82.04**	**122**	*e*P	**P**	**14 28 34.9**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
WRAB	**Tennant Creek**	**82.04**	**122**	*e*P	**P**	**14 28 34.9**	**-1.1**
	comp=Z,1.3nm,0.4s,mb3.9						
ASAR	**Alice Springs**	**84.30**	**125**	P	**P**	**14 28 46.5**	**-1.1**
	comp=Z,0.8nm,0.6s,mb3.6,baz=313,slow=5.1,SNR=8.6						

*IDC **10** 14:31:18.6±1.0, 593S×1492.0E, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.9/14, mbtmp3.8/8, ML3.5/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/18, Error ellipse: s-maj=37.9km s-min=20.6km az=111.0*
*NEIC **10** 14:31:23.8±0.8, 602S×1492.0E, h35km, mb4.4/2, Error ellipse: s-maj=27.3km s-min=12.8km az=122.0*
*ISCJB **10** 14:31:24.0±4.1, 6.1S±02.0×149.1E±02, h48km±33km, mb3.6/6, Error ellipse: s-maj=41.1km s-min=25.3km az=48.2*

ISC 10 14:31:24.7±4.2, 60S±02.0×1491E±02, h42km±35km, n17, σ0°90/17, mb3.6/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.96**	**162**	Pn	Pn	15 05 04.9	-0.5
	4.4nm,0.3s,baz=3.5,slow=19,SNR=4.3						
GUMO				Sn	Sn	15 05 49.2	-14
	8.9nm,0.3s,baz=163,slow=19,SNR=4.3						
JHJ	**Hachijo jima 2**	**15.05**	**349**	LR	LR	15 11 51.7	
	comp=Z,225nm,19.7s,baz=113,slow=32						
WRA	**Warramunga Arr**	**39.05**	**193**	P	P	15 11 18.5	+0.3
	0.2nm,0.3s,baz=13,slow=8.6,SNR=11						
ASAR	**Alice Springs**	**42.74**	**193**	P	P	15 11 48.9	+0.2
	0.1nm,0.4s,baz=20,slow=6.8,SNR=3.7						
ILAR	**Eielson Array**	**64.98**	**26**	P	P	15 14 31.1	-0.3
	0.4nm,0.5s,baz=252,slow=5.9,SNR=7.7						
YKA	**Yellowknife Ar**	**79.37**	**28**	P	P	15 15 57.5	0.0
	0.1nm,0.4s,baz=291,slow=5.9,SNR=4.8						

*IDC **10** 15:06:35.5±3.0, 8.19N×8293W, h0km, mb3.7/5, mb1 4.1/8, mb1mx3.9/21, mbtmp4.0/8, ML4.0/2, MS3.1/5, Ms1 3.1/5, ms1mx2.9/23, Error ellipse: s-maj=82.2km s-min=22.6km az=24.0*
*ISCJB **10** 15:06:37.6±1.3, 8.12N±0.10×8278W±007, h22km±9km, mb3.6/5, MS3.6/1, Error ellipse: s-maj=19.1km s-min=6.8km az=66.1*
*CASC **10** 15:06:38.4±3.1, 820N×8261W, h26km±9km, MD4.5*
*NEIC **10** 15:06:40.7, 838N×8277W, h18km, MD4.2(CASC), MD4.8(HDC), After CASC.*
NEIC Felt at Laurel, Costa Rica.

ISC 10 15:06:38.2±1.3, 819N±009×8281W±007, h10km±7km, n33, σ1@15/41, mb3.6/5, MS3.6/1, 5C-7D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.59**	**322**	*e*P	**Pg**	**15 06 49.3**	**-0.3**
CTCR	**Cotoan**	**0.71**	**4**	⇓*i*P	**Pg**	**15 06 51.6**	**-0.3**
BUS	**Buena Vista**	**1.65**	**325**	*e*P	**Pn**	**15 07 06.6**	**-0.7**
BUS	**Buena Vista**	**1.65**	**325**	⇓*e*P	**Pn**	**15 07 06.6**	**-0.7**
BUS				*e*S	**Sn**	**15 07 27.6**	**-1.0**
URSC	**Urasca**	**1.90**	**330**	⇓*e*P	**Pn**	**15 07 10.4**	**-0.2**
LCR2	**La Lucha 2**	**1.95**	**323**	⇓*e*P	**Pn**	**15 07 11.0**	**-0.3**
OCM	**Ochomogo**	**2.04**	**326**	*e*P	**Pn**	**15 07 12.8**	**+0.1**
OCM				*e*S	**Sn**	**15 07 38.0**	**-0.2**
ICR	**Volcan Irazu**	**2.05**	**330**	*e*P	**Pn**	**15 07 11.6**	**-1.2**
ICR				⇑*i*P		15 07 15.0	
IRZ2	**Volcan Irazu 2**	**2.07**	**329**	*e*P	**Pn**	**15 07 13.3**	**+0.3**
LAJ	**Bijagual**	**2.11**	**322**	*e*P	**Pn**	**15 07 17.9**	**+4.3**
SJS	**Escuela Geolog**	**2.13**	**325**	⇓*e*P	**Pn**	**15 07 15.1**	**+1.2**
SJS				*e*S	**Sn**	**15 07 40.5**	**+0.1**
PRS1	**Puriscal**	**2.32**	**320**	⇓*e*P	**Pn**	**15 07 16.1**	**-0.3**
PRS1				⇑*e*P		15 07 16.4	
POA2	**Poas 2**	**2.44**	**324**	*e*P	**Pn**	**15 07 19.1**	**+1.1**
POA2				*e*S	**Sn**	**15 07 50.8**	**+2.9**
VPS2	**Volcan Poas 2**	**2.44**	**325**	⇓*e*P	**Pn**	**15 07 19.7**	**+1.6**
VPS2				*e*S	**Sn**	**15 07 45.8**	**-2.2**
CGA2	**Cerro Gallo 2**	**2.45**	**318**	⇑*e*P	**Pn**	**15 07 18.6**	**+0.5**
CGA2				*e*P		15 07 18.8	
CGA2				*e*S	**Sn**	**15 07 49.4**	**+1.3**
EPA	**Esparza**	**2.52**	**315**	⇑*e*P	**Pn**	**15 07 20.3**	**+1.2**
EPA				*e*S	**Sn**	**15 07 51.5**	**+1.7**
CAO	**Cobano**	**2.72**	**304**	*e*P	**Pn**	**15 07 20.4**	**-1.5**
CAO				*e*S	**Sn**	**15 07 56.5**	**+1.5**
VACR	**Volcan Arenal**	**2.93**	**321**	*e*P	**Pn**	**15 07 25.3**	**+0.5**
JTS	**JuntasAbangare**	**2.98**	**315**	Pn	**Pn**	**15 07 24.6**	**-0.8**
	38nm,0.3s,baz=88,slow=22,SNR=78						
JTS				Sn	**Sn**	**15 07 59.9**	**-1.3**
	31nm,0.3s,baz=163,slow=23,SNR=3.7						
JTS				LR	LR	15 08 43.4	
	comp=Z,350nm,18.6s,baz=54,slow=44						
JTS	**JuntasAbangare**	**2.98**	**315**	*e*Pn	**Pn**	**15 07 24.9**	**-0.6**
JTS				Sn	**Sn**	**15 07 59.7**	**-1.5**
VCR	**Vista de Mar**	**3.39**	**305**	⇓*e*P	**Pn**	**15 07 31.3**	**+0.1**
LIM1	**Limonal**	**3.47**	**316**	*i* P	**Pn**	**15 07 32.4**	**+0.1**
ROSC	**El Rosal**	**9.05**	**111**	LR	LR	15 11 56.0	
	comp=Z,68nm,21.6s,baz=143,slow=35						
SDV	**Santo Domingo**	**12.06**	**86**	Pn	**Pn**	**15 09 32.2**	**+2.1**
	0.5nm,0.3s,baz=253,slow=17,SNR=3.7						
SDV				LR	LR	15 14 46.6	
	comp=Z,126nm,19.6s,baz=22,slow=40						
SDV	**Santo Domingo**	**12.06**	**86**	P	**Pn**	**15 09 32.3**	**+2.2**
	2.2nm,0.6s						
SJG	**San Juan**	**18.97**	**57**	P	**Pn**	**15 11 00.8**	**+0.6**
	baz=96,slow=23,SNR=5.6						
SJG				LR	LR	15 16 32.3	
	comp=Z,42nm,21.0s,baz=270,slow=31						
PDAR	**Pinedale Array**	**41.70**	**330**	P	**P**	**15 14 26.1**	**-1.0**
	0.4nm,0.6s,mb3.2,baz=121,slow=9.8,SNR=3.8						
ULM	**Lac du Bonnet**	**43.32**	**348**	P	**P**	**15 14 37.5**	**-2.8**
	1.8nm,0.6s,mb4.0,baz=139,slow=8.8,SNR=3.4						
YKA	**Yellowknife Ar**	**58.94**	**343**	P	**P**	**15 16 35.0**	**-2.6**
	0.2nm,0.5s,mb3.4,baz=137,slow=7.0,SNR=9.8						
YKA	**Yellowknife Ar**	**58.94**	**343**	P	**P**	**15 16 35.0**	**-2.6**
ILAR	**Eielson Array**	**71.74**	**336**	P	**P**	**15 17 59.8**	**-0.8**
	0.7nm,0.8s,mb3.6,baz=120,slow=5.0,SNR=10						
TORD	**Torodi Ar. Bea**	**82.85**	**78**	P	**P**	**15 19 02.8**	**0.0**
	0.8nm,0.8s,mb3.8,baz=281,slow=5.0,SNR=5.5						
FINES	**FINESS Array B**	**91.71**	**27**	LR	LR	16 02 22.7	
	comp=Z,20nm,18.5s,MS3.6,baz=310,slow=36						

*NEIC **10** 15:13:08.5, 3729N×2974E, h45km, MD3.2(ISK), MD3.2(ATH), After ATH.*
*ATH **10** 15:13:08.7, 3727N×2963E, h32km, MD3.2/4*
*ISK **10** 15:13:27.7, 3699N×2796E, h9km, MD3.2*
*CSEM **10** 15:13:27.8±0.1, 3700N×2798E, h10km, MD3.2, Error ellipse: s-maj=2.0km s-min=1.0km az=44.0*
*ISCJB **10** 15:13:28.3±0.7, 3700N±005×2797E±005, h10km±7km, Error ellipse: s-maj=8.3km s-min=6.5km az=42.8*

ISC 10 15:13:28.7±0.7, 3700N±005×2798E±005, h11km±6km, n15, σ0@55/18, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.28**	**60**	PG	**Pg**	**15 13 34.1**	**-0.3**
YER				SG	**Sg**	**15 13 38.8**	**+0.6**
MLSB	**Milas**	**0.34**	**332**	PG	**Pg**	**15 13 35.3**	**-0.1**
MLSB				SG	**Sg**	**15 13 40.1**	**+0.1**
BODT	**Bodrum**	**0.54**	**277**	PG	**Pg**	**15 13 38.3**	**-0.8**
DALT	**Dalyan (Mudla)**	**0.58**	**113**	*e*PG	**Pg**	**15 13 39.5**	**-0.4**
NISR	**Nisiros**	**0.78**	**241**	*e*PB	**Pg**	**15 13 44.5**	**+0.8**
ARG	**Arkhangelos**	**0.79**	**171**	*e*PB	**Pg**	**15 13 36.0**	**-7.9**
ARG				*e*SN	**Sg**	**15 13 57.5**	**+3.4**
ARG	**Arkhangelos**	**0.79**	**171**	*e*S	**Sg**	**15 13 57.5**	**+3.4**
FETY	**Fethiye**	**0.96**	**112**	*e*PG	**Pg**	**15 13 46.6**	**-0.5**
DENT	**Denizli**	**1.13**	**48**	*e*PN	**Pn**	**15 13 50.2**	**-0.3**
SMG	**Samos**	**1.15**	**308**	*e*PN	**Pn**	**15 13 46.0**	**-4.8**
IZM	**Izmir**	**1.51**	**338**	*e*PN	**Pn**	**15 13 55.5**	**-0.2**
ELL	**Elmali**	**1.57**	**98**	*e*PN	**Pn**	**15 13 56.6**	**+0.1**
KARP	**Karpathos**	**1.59**	**205**	*e*PN	**Pn**	**15 13 52.0**	**-4.7**
KHL	**Karahalli**	**1.81**	**42**	*e*PN	**Pn**	**15 14 00.0**	**+0.2**
AKS	**Akhisar**	**1.89**	**356**	*e*PN	**Pn**	**15 14 01.2**	**+0.4**

*ISCJB **10** 15:45:50.9±0.6, 4071N±002×2370E±004, h8km±16km, Error ellipse: s-maj=5.8km s-min=3.9km az=149.2*
*ATH **10** 15:45:51.5, 4072N×2373E, h4km, MD3.2/3*
*CSEM **10** 15:45:51.6±0.1, 4072N×2371E, h2km, ML2.3, Error ellipse: s-maj=1.4km s-min=1.1km az=75.0*
*THE **10** 15:45:51.4, 4071N×2370E, h1km, ML2.3*

ISC 10 15:45:51.3±0.7, 4071N±002×2371E±005, h11km±15km, n11, σ0@31/20, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOH	**Sokhos**	**0.29**	**292**	*e*Pg	**Pg**	**15 45 57.2**	**0.0**
SOH				*e*Sg	**Sg**	**15 46 00.9**	**-0.3**
PLG	**Polygyros**	**0.39**	**211**	⇑*i*PG	**Pg**	**15 45 59.2**	**+0.1**
PLG				*e*SG	**Sg**	**15 46 04.4**	**+0.1**
SRS	**Serrai**	**0.41**	**348**	*e*Pg	**Pg**	**15 45 59.5**	**0.0**
SRS				*e*Sg	**Sg**	**15 46 05.0**	**0.0**
OUR	**Ouranopolis**	**0.43**	**151**	*e*Pg	**Pg**	**15 46 00.0**	**+0.2**
OUR				*e*Sg	**Sg**	**15 46 05.4**	**-0.1**
THE	**Thessaloniki**	**0.57**	**262**	*e*Pg	**Pg**	**15 46 02.2**	**-0.2**
THE				*e*Sg	**Sg**	**15 46 10.3**	**+0.3**
NVR	**Nevrokopi**	**0.65**	**10**	*e*PG	**Pg**	**15 46 03.6**	**-0.3**
NVR				*e*SG	**Sg**	**15 46 12.7**	**+0.3**
KNT	**Kendrikon**	**0.76**	**306**	*e*Pg	**Pg**	**15 46 05.8**	**-0.2**
KNT				*e*Sg	**Sg**	**15 46 16.4**	**+0.4**
PAIG	**Paliouri**	**0.78**	**182**	*e*Pg	**Pg**	**15 46 06.1**	**-0.4**
PAIG				*e*Sg	**Sg**	**15 46 17.2**	**+0.5**
GRG	**Griva**	**1.02**	**284**	*e*Pg	**Pg**	**15 46 10.3**	**-0.7**
GRG				*e*Sg	**Sg**	**15 46 24.8**	**+0.5**
LIT	**Litokhoron**	**1.11**	**237**	*e*Pg	**Pg**	**15 46 12.3**	**-0.4**
RDO	**Rodhopi**	**1.45**	**72**	*e*PB	**Pb**	**15 46 18.5**	**+0.2**

*IDC **10** 16:18:03.0±1.5, 3455S×7270W, h0km, mb3.7/3, mb1 4.0/6, mb1mx3.9/15, mbtmp3.8/6, ML4.3/3, MS3.1/3, Ms1 3.1/3, ms1mx2.8/23, Error ellipse: s-maj=43.5km s-min=28.7km az=95.0*
*ISCJB **10** 16:18:08.8±0.5, 3444S±003×7220W±007, h61km±6km, mb3.8/4, Error ellipse: s-maj=9.5km s-min=3.8km az=44.2*
*NEIC **10** 16:18:09.2, 3444S×7217W, h47km, mb3.9/1, MD4.3(GUC), After GUC.*
NEIC Felt [III] at Pichilemu and San Antonio; [II] at Curico, Rancagua, San Fernando, Santiago and Talca.
*GUC **10** 16:18:09.2±0.9, 3444S×7217W, h47km±6km, MD4.3, ML4.2*

ISC 10 16:18:09.6±0.5, 3443S±003×7222W±007, h51km±7km, n46, σ0@44/64, mb3.8/4, 12C-10D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.82**	**55**	⇑*i*P	**Pn**	**16 18 24.5**	**-0.4**
CTCH	**Constitucion**	**0.91**	**190**	⇑*i*P	**Pn**	**16 18 26.5**	**+0.4**
CTCH				*i* S	**Sn**	**16 18 38.3**	**0.0**
CTCH				AML	AML	16 18 40.1	
	comp=N,19μm,0.3s						
CTCH	**Constitucion**	**0.91**	**190**	⇑*i*P	**Pn**	**16 18 26.5**	**+0.4**
CTCH				*i* S	**Sn**	**16 18 38.3**	**0.0**
NICH	**Los Niches**	**0.99**	**125**	*e*P	**Pn**	**16 18 26.9**	**-0.3**
NICH				*e*S	**Sn**	**16 18 39.8**	**-0.4**
SFDO	**San Fernando**	**1.01**	**101**	*e*P	**Pn**	**16 18 27.3**	**-0.1**
TALC	**Talca**	**1.07**	**154**	⇑*i*P	**Pn**	**16 18 28.1**	**-0.3**
TALC				*i* S	**Sn**	**16 18 41.8**	**-0.5**
LCCH	**Las Cruces**	**1.10**	**30**	⇓*i*P	**Pn**	**16 18 28.2**	**-0.4**
TACH	**Talagante**	**1.32**	**54**	⇓*i*P	**Pn**	**16 18 31.3**	**-0.3**
CNCO	**Chanco**	**1.32**	**191**	⇑*i*P	**Pn**	**16 18 31.6**	**-0.1**
CNCO				AML	AML	16 18 49.2	
	comp=E,5μm,0.3s						
CACH	**El Canelo**	**1.38**	**77**	⇑*i*P	**Pn**	**16 18 32.8**	**+0.4**
CHCH	**Chadas Angostu**	**1.39**	**69**	⇓*i*P	**Pn**	**16 18 32.6**	**0.0**
IHA	**Instituto Hidr**	**1.48**	**19**	⇑*i*P	**Pn**	**16 18 33.8**	**-0.1**
CICH	**Cipreses**	**1.49**	**86**	⇓*i*P	**Pn**	**16 18 34.2**	**+0.2**
RCDM	**Rinconada Maip**	**1.51**	**52**	⇑*i*P	**Pn**	**16 18 33.8**	**-0.4**
RCDM				*i* S	**Sn**	**16 18 52.0**	**-0.7**
RCDM				AML	AML	16 18 52.7	
	comp=E,15μm,0.2s						
SAN	**Santiago**	**1.62**	**53**	*e*P	**Pn**	**16 18 35.9**	**+0.1**
SAN				*i* S	**Sn**	**16 18 55.4**	**-0.1**
SAN				AML	AML	16 18 59.2	
	comp=E,4μm,0.5s						
SAN	**Santiago**	**1.62**	**53**	*e*P	**Pn**	**16 18 35.9**	**+0.1**
SAN				*i* S	**Sn**	**16 18 55.4**	**-0.1**
PCH	**Pirque**	**1.63**	**61**	⇓*i*P	**Pn**	**16 18 35.8**	**-0.1**
DSCH	**Colegio Aleman**	**1.72**	**53**	⇓*i*P	**Pn**	**16 18 36.4**	**-0.7**
DSCH				*i* S	**Sn**	**16 18 57.4**	**-0.4**
CLCH	**Cerro Calan**	**1.74**	**54**	⇑*i*P	**Pn**	**16 18 37.5**	**+0.1**
CLCH				*i* S	**Sn**	**16 18 58.5**	**+0.1**
CLCH				AML	AML	16 19 01.2	
	comp=E,5μm,0.5s						
LMEL	**Las Melosas**	**1.77**	**71**	*e*P	**Pn**	**16 18 37.9**	**+0.1**
LMEL				*i* S	**Sn**	**16 18 59.7**	**+0.5**
LMEL				AML	AML	16 19 04.2	
	comp=E,6μm,0.2s						
LMEL	**Las Melosas**	**1.77**	**71**	*e*P	**Pn**	**16 18 37.9**	**+0.1**
LMEL				*i* S	**Sn**	**16 18 59.7**	**+0.5**
ROCH	**El Roble**	**1.77**	**35**	⇓*i*P	**Pn**	**16 18 38.2**	**+0.4**
PEL	**Peldehue**	**1.81**	**45**	⇓*i*P	**Pn**	**16 18 38.6**	**+0.2**
PEL				*i* S	**Sn**	**16 19 00.4**	**+0.2**
PEL				AML	AML	16 19 02.3	
	comp=E,7μm,0.5s						
PEL	**Peldehue**	**1.81**	**45**	⇓*i*P	**Pn**	**16 18 38.6**	**+0.2**
PEL				*i* S	**Sn**	**16 19 00.4**	**+0.2**
YECH	**El Yeso**	**1.93**	**67**	⇑*i*P	**Pn**	**16 18 40.5**	**+0.6**
YECH				*i* S	**Sn**	**16 19 04.1**	**+1.0**
YECH				AML	AML	16 19 12.4	
	comp=N,1μm,0.3s						
FCH	**Farellones**	**1.95**	**56**	⇑*i*P	**Pn**	**16 18 40.4**	**+0.2**
FCH				AML	AML	16 19 07.4	
	comp=E,3μm,0.3s						
CCHI	**Chillan**	**2.17**	**177**	*i* P	**Pn**	**16 18 43.5**	**+0.3**
CCHI				*i* S	**Sn**	**16 19 09.3**	**+0.4**
CCHI				AML	AML	16 19 16.3	
	comp=E,2μm,0.2s						
CCHI	**Chillan**	**2.17**	**177**	*i* P	**Pn**	**16 18 43.5**	**+0.3**
CCHI				*i* S	**Sn**	**16 19 09.3**	**+0.4**
JACH	**Jahuel**	**2.21**	**38**	⇓*i*P	**Pn**	**16 18 44.0**	**+0.2**
JACH				*i* S	**Sn**	**16 19 10.2**	**+0.2**
CHNG	**Los Chungos**	**2.62**	**14**	⇑*i*P	**Pn**	**16 18 48.8**	**-0.5**
CHNG				AML	AML	16 19 18.2	
	comp=E,718nm,0.4s						
CFAA	**Coronel Fontan**	**4.38**	**51**	Pn	**Pn**	**16 19 14.1**	**+0.6**
	comp=E,2.8nm,0.3s,baz=224,slow=11,SNR=599						
CFAA				Sn	**Sn**	**16 20 03.1**	**-0.1**
	comp=E,1.3nm,0.3s,baz=203,slow=7.7,SNR=2.0						
CFAA	**Coronel Fontan**	**4.38**	**51**	Pn	**Pn**	**16 19 14.1**	**+0.6**
CFAA				Sn	**Sn**	**16 20 03.1**	**-0.1**
PLCA	**Paso Flores**	**6.42**	**169**	*e*P	**Pn**	**16 19 42.2**	**+0.6**
	comp=E,8.2nm,0.4s						
TRQA	**Tornquist**	**9.03**	**117**	*e*P	**Pn**	**16 20 16.9**	**-0.4**
	comp=E,6.5nm,0.6s						
LVC	**Limon Verde**	**12.13**	**15**	Pn	**Pn**	**16 20 54.8**	**-4.8**
	comp=E,0.3nm,0.3s,baz=202,slow=11,SNR=5.7						
LVC				LR	LR	16 25 50.5	
	comp=E,94nm,21.0s,baz=189,slow=38						
CPUP	**Villa Florida**	**15.17**	**62**	Pn	**Pn**	**16 21 44.0**	**+3.5**
	comp=E,1.0nm,0.3s,baz=230,slow=12,SNR=6.0						
CPUP				LR	LR	16 27 44.6	
	comp=E,67nm,19.2s,baz=156,slow=37						
CPUP	**Villa Florida**	**15.17**	**62**	*e*Pn	**Pn**	**16 21 36.7**	**-3.8**
CPUP				LR	LR	16 27 44.6	
LPAZ	**La Paz**	**18.44**	**13**	P	**Pn**	**16 22 22.2**	**+0.9**
	comp=E,0.3nm,0.3s,baz=192,slow=8.3,SNR=26						
LPAZ				LR	LR	16 29 04.1	
	comp=E,55nm,21.2s,baz=245,slow=36						
SIV	**San Ignacio**	**20.92**	**31**	P	**P**	**16 22 47.2**	**-0.6**
	comp=E,7.9nm,0.9s,baz=222,slow=11,SNR=32						
VNA3	**Neumayer Olymp**	**49.02**	**158**	*e*	**P**	**16 26 51.3**	**+0.1**
VNA3				*e*		16 26 58.4	
VNA3				*e*	pP	16 27 02.5	-2.5
VNA3				*e*		16 27 10.7	
VNA2	**Neumayer--Watz**	**49.67**	**157**	*e*	**P**	**16 26 56.1**	**-0.1**
	baz=289,slow=8.2						
VNA2				*e*		16 27 03.7	
VNA2				*e*	pP	16 27 07.0	-3.0
VNA2				*e*	pP	16 27 14.4	+4.4
SNAA	**Sanae**	**51.24**	**158**	P	**P**	**16 27 07.4**	**-0.6**
	comp=E,0.6nm,0.7s,mb3.7,baz=271,slow=7.5,SNR=8.1						
MNTX	**Cornudas Mount**	**72.81**	**331**	*e*P	**P**	**16 29 32.5**	**-0.3**
	comp=E,1.0nm,0.6s,mb3.9						
PDAR	**Pinedale Array**	**84.08**	**333**	P	**P**	**16 30 35.0**	**+0.2**
	comp=E,0.5nm,0.7s,mb3.8,baz=157,slow=4.9,SNR=4.8						
TORD	**Torodi Ar. Bea**	**84.50**	**70**	P	**P**	**16 30 42.2**	**+5.3**
	comp=E,0.5nm,0.6s,mb3.8,baz=257,slow=4.2,SNR=4.1						
ZRNK	**Zerenda**	**146.93**	**44**	*e*PKPdf	PKPdf	16 37 44.0	-0.3

*IDC **10** 16:23:21.0±2.2, 846S×12179E, h0km, mb3.5/1, mb1 3.8/3, mb1mx3.6/14, mbtmp3.6/3, ML3.8/2, Error ellipse: s-maj=293.9km s-min=16.0km az=55.0*
*ISCJB **10** 16:23:24.2±1.1, 7.1S±06×1239E±08, h33km, mb4.5/3, Error ellipse: s-maj=142.0km s-min=9.1km az=105.4*

ISC 10 16:23:26.6±1.0, 70S±04×1240E±06, h35km, n9, σ0@33/11, mb4.5/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.27**	**143**	Pn	**Pn**	**16 27 17.7**	**+5.3**
	0.4nm,0.3s,baz=312,slow=13,SNR=38						
WRA				Sn	**Sn**	**16 30 11.4**	**-0.3**
	0.4nm,0.3s,baz=316,slow=24,SNR=6.6						
ASAR	**Alice Springs**	**19.06**	**151**	P	**Pn**	**16 27 47.1**	**+0.3**
	0.2nm,0.3s,baz=324,slow=10,SNR=39						
ASAR				S	**S**	**16 31 20.4**	**+0.1**
	0.1nm,0.3s,baz=314,slow=21,SNR=4.2						
JIRN	**Jiri**	**50.28**	**315**	*e*P	**P**	**16 32 19.9**	**+0.4**
	5.0nm,0.3s						
GUN	**Gumba**	**50.65**	**315**	*e*P	**P**	**16 32 22.7**	**+0.4**
PKI	**Pulchoki**	**50.77**	**314**	*e*P	**P**	**16 32 23.1**	**-0.1**
	9.4nm,0.3s						
KKN	**Kakani**	**51.00**	**314**	*e*P	**P**	**16 32 24.7**	**-0.2**
GKN	**Gorkha**	**51.58**	**314**	*e*P	**P**	**16 32 28.8**	**-0.5**
	5.7nm,0.3s,mb5.0						
KOLN	**Koldanda**	**52.19**	**313**	*e*P	**P**	**16 32 33.4**	**-0.4**
	5.4nm,0.5s,mb4.8						
MKAR	**Makanchi Array**	**65.14**	**330**	P	**P**	**16 34 04.2**	**+0.3**
	0.3nm,0.5s,mb3.6,baz=140,slow=5.5,SNR=5.7						

*NIED **10** 16:47:00, 4350N×13990E, h230km, Mw4.9 Best double couple: M₀2.39000×10¹⁶ NP1:φs100.00000°, δ66.00000°, λ-137.00000°. NP2:φs349.00000°, δ52.00000°, λ-32.00000°.*
*SZGRF **10** 16:47:31.7, 4408N×14021E, h33km, mb5.4, Eastern Sea of Japan*
*BGS **10** 16:47:48.4±1.3, 4329N×13971E, h200km, mb4.8*
*BJI **10** 16:47:49.4, 4371N×13991E, h220km, mB4.8, mb5.0*
*ISCJB **10** 16:47:49.9±0.2, 4358N±002×13982E±003, h214km±1km, mb4.8/221, Error ellipse: s-maj=3.9km s-min=2.8km az=115.2*
*MOS **10** 16:47:49.4±0.8, 4368N×13979E, h206km, mb5.1/97, Error ellipse: s-maj=7.0km s-min=3.5km az=110.0*
*HRVD **10** 16:47:50.6±0.4, 4364N×13988E, h232km±3km, MW4.9/61, Centroid moment Tensor Solution. LP body waves: s22,c27;Mantle waves: s61,c85; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.02±.14; Mθθ-0.15±.13; Mφφ 1.17±.14; Mrθ-1.23±.12; Mrφ-2.18±.10; Mθφ-1.40±.12; Best double couple: M₀3.05000×10¹⁶ NP1:φs106.00000°, δ58.00000°, λ-155.00000°. NP2: φs2.00000°, δ69.00000°, λ-35.00000°. Principal axes: T 2.8370, Plg7.0000°, Azm56.0000°; N 0.4280, Plg50.0000°, Azm155.0000°; P -3.2630, Plg39.0000°, Azm320.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **10** 16:47:50.6±0.4, 4362N×13977E, h206km±4km, mb4.9/125, MW4.9(NIED) Error ellipse: s-maj=4.6km s-min=3.4km az=148.0*
NEIC Recorded [1 JMA] in Iwate Prefecture, Honshu.
*IDC **10** 16:47:51.1±0.9, 4356N×13982E, h214km±8km, mb4.6/39, mb1 4.6/44, mb1mx4.6/47, mbtmp5.1/44, Error ellipse: s-maj=8.5km s-min=7.2km az=131.0*
*JMA **10** 16:47:51.2±0.1, 4353N×13991E, h212km±1km, M4.9 Broadband fault plane solution: P waves. NP1: φs350.00000°, δ62.00000°, λ-31.00000°. NP2:φs96.00000°, δ63.00000°, λ-148.00000°. Principal axes: T Plg1.0000°, Azm223.0000°; N Plg49.0000°, Azm132.0000°; P Plg41.0000°, Azm314.0000°;*
JMA Felt I J1.

ISC 10 16:47:50.8±0.2, 4363N±002×13982E±003, h209km±1km, h209km±2.7km:pP-P, n643, σ0@88/671, mb4.8/221, 42C-87D, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK	**Shakotan**	**0.55**	**120**	⇓P	**Pn**	**16 48 19.6**	**+0.4**
JSK				*e*S	**Sn**	**16 48 41.4**	**+0.2**
JSH	**Shimam**	**1.00**	**170**	P	**Pn**	**16 48 21.6**	**+0.1**
JSH				*e*S	**Sn**	**16 48 45.2**	**+18**
JHR	**Hokuryu**	**1.39**	**85**	⇓P	**Pn**	**16 48 25.3**	**+1.0**
JHR				*e*S	**Sn**	**16 48 51.3**	**+15**
JYG	**Yagishiri**	**1.41**	**55**	P	**Pn**	**16 48 25.2**	**+0.7**
JYG				*e*S	**Sn**	**16 48 51.1**	**+14**
JEW	**Eniwo**	**1.43**	**123**	⇓P	**Pn**	**16 48 25.2**	**+0.5**
JEW				*e*S	**Sn**	**16 48 51.8**	**+14**
JNB	**Noboribetsu**	**1.47**	**142**	⇓P	**Pn**	**16 48 24.8**	**-0.2**
JOSM	**Okushiri--Mats**	**1.57**	**189**	⇓P	**Pn**	**16 48 26.1**	**+0.2**
JOSM				*e*S	**Sn**	**16 48 53.2**	**+12**
JKB	**Kayabe**	**1.96**	**152**	⇓P	**Pn**	**16 48 28.9**	**-0.7**
ASAJ	**Asahikawa**	**2.07**	**75**	P	**Pn**	**16 48 31.2**	**+0.6**
	118nm,0.3s,baz=241,slow=8.2,SNR=682						
ASAJ	**Asahikawa**	**2.07**	**75**	PN	**Pn**	**16 48 31.3**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,118nm,0.3s						
JFR	**Furan**	**2.08**	**102**	⇓P	**Pn**	**16 48 30.8**	**+0.1**
JFR				*e*S	**Sn**	**16 49 01.2**	**+8.1**
JKK2	**Kamakawa 2**	**2.14**	**83**	⇓P	**Pn**	**16 48 32.0**	**+0.6**
JKK2				*e*S	**Sn**	**16 49 02.5**	**+7.9**
JWK2	**Keihoku**	**2.25**	**41**	⇑P	**Pn**	**16 48 34.3**	**+1.8**
JWK2				*e*S	**Sn**	**16 49 07.9**	**+11**
JSE	**Soyaes**	**2.39**	**55**	⇑P	**Pn**	**16 48 34.9**	**+0.9**
JSE				*e*S	**Sn**	**16 49 09.1**	**+8.5**
JOT	**Ohata**	**2.43**	**158**	⇓P	**Pn**	**16 48 33.2**	**-1.2**
JNBK	**Urakawa-nobuka**	**2.54**	**121**	⇓P	**Pn**	**16 48 34.6**	**-1.1**
JCH	**Churui**	**2.79**	**110**	P	**Pn**	**

comp=E,170nm,0.7s
KUR pmax pmax
comp=Z,600nm,0.7s
KUR smax
comp=N,6µm,3.0s
KUR smax
comp=E,4µm,3.0s
KUR smax
comp=N,340nm,0.8s
KUR smax
comp=E,540nm,0.8s
MAJO Matsushiro 7.19 190⇑ *e*PN **Pn 16 49 32.2 -1.3**
MAJO pmax pmax
comp=Z,163nm,0.8s
MAJO Matsushiro 7.19 190⇑ *e*P **Pn 16 49 32.2 -1.3**
comp=Z,163nm,0.8s
MAT Matsushiro 7.19 190 P **Pn 16 49 32.3 -1.2**
MAT S **Sn 16 50 50.4 -4.4**
MAT Matsushiro 7.19 190 *e*PN **Pn 16 49 32.0 -1.5**
MAT *e*S **Sn 16 50 50.0 -4.8**
MAT pmax pmax
comp=Z,175nm,1.0s
MAT Matsushiro 7.19 190 *e*P **Pn 16 49 32.0 -1.5**
comp=Z,175nm,1.0s
MAT *e*S **Sn 16 50 50.0 -4.8**
MJAR Matsushiro Arr 7.19 190 P **Pn 16 49 33.0 -0.5**
comp=Z,19nm,0.3s,baz=5.2,slow=14,SNR=28
MJAR Matsushiro Arr 7.19 190 PN **Pn 16 49 33.0 -0.5**
MJAR pmax pmax
comp=Z,19nm,0.3s
MDJ Mudanjiang 7.42 281 P **Pn 16 49 37.3 +0.8**
MDJ S **Sn 16 51 00.1 -0.4**
MDJ PCP PcP 16 55 58.8 +0.9
MDJ SCP ScP 16 59 11.3 +1.7
MDJ PCS PcS 16 59 31.4 +0.6
MDJ SCS ScS 17 02 40.9 -2.2
MDJ AMB AMB
comp=Z,98nm,0.9s
MDJ LR LR
comp=N,59nm,17.5s
MDJ LR LR
comp=E,14nm,16.6s
MDJ LR LR
comp=Z,21nm,14.6s
MDJ Mudanjiang 7.42 281 *e*P **Pn 16 49 37.6 +1.1**
comp=Z,96nm,1.0s
KLR Kul'dur 7.90 318⇑ *i*PN **Pn 16 49 40.2 -2.5**
KLR *e* 16 51 11.5
KLR pmax pmax
comp=E,820nm,1.6s
KLR pmax pmax
comp=Z,1µm,1.6s
KLR pmax pmax
comp=N,1µm,7.0s
KLR pmax pmax
comp=E,1µm,7.0s
KLR pmax pmax
comp=Z,1µm,7.0s
OKH Okha 10.14 11 *e*PN **Pn 16 50 09.2 -2.4**
OKH *e*S **Sn 16 52 02.0 -3.0**
OKH smax
comp=E,3µm,6.0s
CN2 Changchun 10.41 276 ⇓P **Pn 16 50 15.2 +0.1**
CN2 XP 16 51 03.2
CN2 *e*S **Sn 16 52 08.1 -3.4**
CN2 AMB AMB
comp=Z,30nm,0.9s
CN2 AMB AMB
comp=Z,200nm,3.0s
JHJ Hachijo jima 2 10.50 180 P **Pn 16 50 11.4 -4.8**
comp=Z,85nm,0.3s,baz=260,slow=6.3,SNR=18
KS15 Wonju Array Si 10.98 240 *e*P **Pn 16 50 21.5 -1.0**
JNU Nakatsue 12.61 217 P **Pn 16 50 43.7 +0.7**
comp=Z,7.6nm,0.3s,baz=116,slow=5.6,SNR=18
SKR Severo-Kuril's 13.13 52 *e*PN **Pn 16 50 44.0 -5.5**
SKR pmax pmax
comp=N,300nm,0.9s
SKR pmax pmax
comp=E,490nm,0.9s
SKR pmax pmax
comp=Z,980nm,0.9s
DL2 Dalian 14.47 257 P **Pn 16 51 07.3 +1.3**
DL2 *e*XP 16 52 00.0
DL2 S **S 16 53 45.7 -1.0**
DL2 AMB AMB
comp=Z,40nm,0.7s
DL2 AMB AMB
comp=Z,200nm,4.7s
HIA Hailar 14.93 299 *e*P **Pn 16 51 10.4 -1.2**
HIA pmax pmax
comp=Z,174nm,0.8s
HIA Hailar 14.93 299 *e*P **Pn 16 51 10.3 -1.3**
comp=Z,174nm,0.8s
PET Petropavlovsk 15.62 46⇑ *i*P **Pn 16 51 20.0 0.0**
PET *e*S **S 16 54 04.5 -8.3**
PET pmax pmax
comp=Z,60nm,0.8s
PET pmax pmax
comp=Z,100nm,9.7s
PET pmax pmax
comp=Z,200nm,11.0s
PET smax
comp=N,40nm,0.6s
PET MLR MLR
comp=Z,300nm,11.0s
PET MLR MLR
comp=Z,400nm,15.0s
PET Petropavlovsk 15.62 46 *e*P **Pn 16 51 19.6 -0.4**
comp=Z,45nm,0.8s
NRGR Nerungri 16.18 329 *e*P **P 16 51 26.9 +0.9**
NRGR S **S 16 54 21.8 -3.1**
NRGR smax
comp=E,9.0nm,0.2s
CLNS Chul'man 16.25 330 *e*P **P 16 51 27.5 +0.7**
CLNS *e*S **S 16 54 23.5 -2.8**
CLNS pmax pmax
comp=Z,169nm,0.8s
CLNS pmax pmax
comp=N,105nm,1.0s
CLNS pmax pmax
comp=E,75nm,0.8s
CLNS pmax pmax
comp=Z,76nm,0.8s
CLNS pmax pmax
comp=N,159nm,1.1s
CLNS pmax pmax
comp=E,90nm,0.8s
CLNS smax
comp=N,24nm,1.1s
CLNS smax
comp=Z,15nm,1.0s
CLNS smax
comp=E,28nm,0.9s
CLNS MLR MLR
comp=Z,100nm,11.0s
CLNS MLR MLR
comp=N,100nm,13.0s
CLNS MLR MLR
comp=E,100nm,13.0s
CBIJ Chichi jima 16.61 173 P **P 16 51 29.0 -1.7**
comp=E,14nm,0.3s,baz=347,slow=4.3,SNR=17
MA2 Magadan 17.31 19*c i*P **P 16 51 37.3 -1.1**
MA2 *e*S **S 16 54 43.3 -4.3**
MA2 pmax pmax
comp=N,50nm,0.7s
MA2 pmax pmax
comp=E,20nm,0.7s
MA2 pmax pmax
comp=Z,70nm,0.7s
MA2 Magadan 17.31 19⇑ *e*P **P 16 51 37.0 -1.4**
comp=Z,53nm,0.8s
BJI Beijing 17.96 267 *e*P **P 16 51 45.1 -0.4**
BJI XP sP 16 52 43.3 -2.8
BJI S **S 16 54 54.3 -6.3**
BJI AMB AMB
comp=Z,66nm,1.4s
TIA Tai'an 18.88 255 *e*P **P 16 51 54.3 -1.2**
JOW Kunigami 19.20 213 P **P 16 51 58.0 -0.9**
comp=Z,2.6nm,0.3s,baz=72,slow=18,SNR=9.0
YAK Yakutsk 19.38 346*d i*P **P 16 51 58.5 -2.3**
YAK *e*S **S 16 55 21.2 -7.3**
YAK pmax pmax
comp=Z,118nm,0.9s
YAK pmax pmax
comp=N,61nm,1.1s
YAK pmax pmax
comp=E,18nm,1.0s
YAK pmax pmax
comp=Z,23nm,1.2s
YAK pmax pmax
comp=N,23nm,1.4s
YAK pmax pmax
comp=E,13nm,0.8s
YAK smax
comp=N,28nm,0.8s
YAK smax
comp=Z,24nm,1.1s
YAK smax
comp=E,63nm,1.3s
YAK Yakutsk 19.38 346 *e*P **P 16 51 58.2 -2.5**
comp=E,206nm,0.7s
CIT Chita 19.45 305 *e*P **P 16 51 59.4 -2.1**
CIT *e* 16 55 27.7
CIT pmax pmax
comp=Z,132nm,1.5s
NJ2 Nanjing 20.13 242 *e*P **P 16 52 07.1 -1.8**
NJ2 PP 16 52 38.9
NJ2 XP sP 16 53 09.2 -0.8
NJ2 S **S 16 55 36.0 -7.2**
NJ2 PCP PcP 16 56 16.0 +1.6
NJ2 AMB AMB
comp=Z,70nm,0.8s
NJ2 AMB AMB
comp=Z,70nm,8.0s
NJ2 LR LR
comp=N,510nm,15.6s
NJ2 LR LR
comp=E,620nm,12.2s
NJ2 LR LR
comp=Z,230nm,13.8s
HHC Hu-ho-hao-te 21.06 272 *e*P **P 16 52 18.0 -0.7**
HHC PP 16 52 52.9
HHC XP *s*P 16 53 19.6 -0.5
HHC S **S 16 55 54.4 -5.8**
HHC PCP PcP 16 56 18.8 +2.6
HHC AMB AMB
comp=Z,25nm,1.0s,mb4.7
HHC AMB AMB
comp=Z,93nm,5.7s
HHC LR LR
comp=N,388nm,10.6s
HHC LR LR
comp=E,195nm,10.4s
HHC LR LR
comp=Z,72nm,10.9s
BOD Bodaibo 21.46 320 *e*P **P 16 52 19.6 -3.3**
BOD pmax pmax
comp=Z,48nm,0.8s,mb5.1
BTO Baotou 22.25 272 *e*P **P 16 52 28.6 -1.8**
ULN Ulaanbaatar 23.15 292⇓ *e*P **P 16 52 37.7 -0.9**
ULN pmax pmax
comp=Z,47nm,1.0s,mb5.0
ULN Ulaanbaatar 23.15 292⇓ *e*P **P 16 52 37.7 -0.9**
comp=Z,47nm,1.0s,mb5.0
SONM Songino Array 23.59 292 P **P 16 52 42.1 -0.6**
comp=Z,36nm,0.6s,mb5.2,baz=90,slow=9.1,SNR=206
SONM ScP ScP 16 59 38.5 -1.1
comp=Z,5.6nm,0.7s,baz=147,slow=2.0,SNR=19
SONM Songino Array 23.59 292 P **P 16 52 42.1 -0.5**
SONM pmax pmax
comp=Z,36nm,0.6s
SONM pmax pmax
comp=N,6.0nm,0.7s
FX1 Attu Island--F 23.86 55 P **P 16 52 46.0 +1.0**
comp=N,159nm,0.6s,mb5.8,baz=290,slow=2.4,SNR=120
FX1 Attu Island--F 23.86 55 P **P 16 52 46.0 +0.9**
FX1 pmax pmax
comp=Z,159nm,0.6s
FX1 Attu Island--F 23.86 55 *e*P **P 16 52 45.9 +0.8**
WHN Wuhan 24.04 246⇑ P **P 16 52 51.9 +5.2**
SMY Shemya 24.40 56 *e*P **P 16 52 50.4 +0.5**
SMY pmax pmax
comp=Z,186nm,1.1s,mb5.6
SMY Shemya 24.40 56 *e*P **P 16 52 50.4 +0.5**
comp=Z,186nm,1.1s,mb5.6
IRK Irkutsk 25.11 303 *e*P **P 16 52 55.4 -0.9**
IRK *e* pP 16 53 39.6 +2.2
IRK *e* 16 57 09.6
IRK pmax pmax
comp=Z,111nm,1.0s,mb5.5
TLY Talaya 25.45 301 *e*P **P 16 52 59.1 -0.3**
TLY pmax pmax
comp=Z,72nm,0.8s,mb5.3
TLY Talaya 25.45 301 *e*P **P 16 52 59.1 -0.3**
comp=Z,72nm,0.8s,mb5.3
ZAK Zakamensk 25.62 298 *e*P **P 16 53 00.2 -0.7**
ZAK pmax pmax
comp=Z,54nm,1.3s,mb5.0
XAN Xi'an 25.78 259 P **P 16 53 03.9 +1.5**
XAN AMB AMB
comp=Z,6.0nm,0.7s,mb4.3
MOY Mondy 27.09 301 *e*P **P 16 53 14.2 +0.1**
MOY pmax pmax
comp=Z,100nm,1.8s,mb5.1
BILL Bilibino 28.16 21 *i*P **P 16 53 21.8 -1.8**
BILL *e**PP pP 16 54 05.6 -0.2
BILL *i*S **S 16 57 49.6 -3.7**
BILL *i*SS SS 16 59 37.6 -24
BILL pmax pmax
comp=Z,1.0nm,0.6s,mb3.6
BILL MLR MLR
comp=Z,100nm,15.0s
BILL Bilibino 28.16 21 *e*P **P 16 53 21.4 -2.2**
comp=Z,4.8nm,0.4s,mb4.5
LZH Lanzhou 28.45 267 *e*P **P 16 53 28.5 +2.3**
LZH AP pP 16 54 09.5 +1.1
LZH PP PP 16 54 24.5 -10
LZH XP sP 16 54 35.1 +2.5
LZH *e*S **S 16 57 48.5 -9.4**
LZH AMB AMB
comp=Z,30nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,767nm,5.3s
GTA Gaotai 30.04 276 P **P 16 53 41.4 +1.2**
GTA AP pP 16 54 22.8 +0.2
GTA XP sP 16 54 47.4 +0.6
GTA PP PP 16 54 52.5 +0.1
GTA PCP PcP 16 56 36.9 +0.2
GTA S **S 16 58 21.9 -0.8**
GTA SCP ScP 16 59 58.2 -0.7
GTA SS SS 17 00 16.3 -24
GTA PCS PcS 17 00 20.7 +0.3
GTA SCS ScS 17 03 53.6 -1.1
GTA AMB AMB
comp=Z,25nm,0.8s,mb4.9
GTA AMB AMB
comp=Z,101nm,9.9s
GTA LR LR
comp=N,362nm,10.3s
GTA LR LR
comp=E,117nm,17.5s
GTA LR LR
comp=Z,103nm,16.7s
CD2 Chengdu 31.13 258 *e*P **P 16 53 48.0 -1.8**
CD2 AP pP 16 54 30.0 -2.3
CD2 PP PP 16 54 58.9 -5.6
CD2 S **S 16 58 36.5 -3.3**
CD2 AMB AMB
comp=Z,20nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,80nm,5.9s
CD2 LR LR
comp=E,120nm,14.4s
CD2 LR LR
comp=Z,50nm,12.0s
GYA Guiyang 31.83 248⇑ *i*P **P 16 53 57.3 +1.5**
GYA AP pP 16 54 39.4 +1.0
GYA XP sP 16 55 03.0 +0.5
GYA PP PP 16 55 07.8 -4.4
GYA S **S 16 58 47.9 -2.6**
GYA SCS ScS 17 04 05.3 +1.7
GYA AMB AMB
comp=Z,20nm,0.6s,mb4.8
GYA AMB AMB
comp=Z,80nm,3.4s
GYA LR LR
comp=N,340nm,16.2s
GYA LR LR
comp=E,360nm,15.8s
GYA LR LR
comp=Z,320nm,15.6s
TGY Tagaytay City 33.59 215 P **P 16 54 12.0 +0.9**
comp=Z,116nm,0.8s,baz=317,slow=4.3,SNR=6.8
TGY Tagaytay City 33.59 215 P **P 16 54 12.0 +0.9**
TGY pmax pmax
comp=Z,116nm,0.9s
QIZ Qiongzhong 35.13 235 P **P 16 54 25.4 +1.1**
QIZ AP pP 16 55 06.8 -0.6
QIZ PP PP 16 55 49.5 +0.9
QIZ S **S 16 59 43.3 +1.9**
QIZ XS sS 17 00 57.7 -0.2
QIZ AMB AMB
comp=Z,81nm,2.4s,mb4.8
KMI Kunming 35.37 251 P **P 16 54 27.4 +1.0**
KMI AP pP 16 55 10.4 +0.8
KMI XP sP 16 55 34.4 +0.9
KMI PP PP 16 55 55.1 +3.9
KMI PPP 16 56 20.4
KMI PCP PcP 16 56 54.3 +2.7
KMI S **S 16 59 46.8 +1.8**
KMI SCP ScP 17 00 19.6 +2.3
KMI PCS PcS 17 00 40.4 +1.5
KMI XS sS 17 01 01.3 -0.4
KMI SS SS 17 02 18.4 -10
KMI SSS 17 02 56.6
KMI SCS ScS 17 04 22.9 +0.7
KMI AMB AMB
comp=Z,16nm,0.9s,mb4.5
KMI AMB AMB
comp=Z,91nm,3.5s
KMI LR LR
comp=N,102nm,17.0s
KMI LR LR
comp=E,129nm,18.6s
KMI LR LR
comp=Z,73nm,16.2s
ZAL Zalesovo 36.81 306 P **P 16 54 38.2 -0.4**
comp=Z,46nm,0.6s,mb5.2,baz=26,slow=8.5,SNR=222
ZAL PcP PcP 16 56 54.4 -1.5
comp=Z,9.7nm,0.7s,baz=356,slow=4.8,SNR=5.9
ZAL ScP ScP 17 00 21.6 -1.1
comp=Z,6.5nm,0.5s,baz=11,slow=4.5,SNR=12
ZAL Zalesovo 36.81 306 P **P 16 54 38.2 -0.4**
ZAL 16 56 54.4
ZAL pmax pmax
comp=Z,46nm,0.6s
ZAL pmax pmax
comp=Z,10.0nm,0.7s
ZAL pmax pmax
comp=N,7.0nm,0.5s
WMQ Urumqi 37.15 289 *e*P **P 16 54 42.0 +0.6**
NVS Novosibirsk 37.61 308 *i*P **P 16 54 44.0 -1.3**
NVS *e* 16 56 16.1
NVS *i*S **S 17 00 16.9 -2.1**
NVS pmax pmax
comp=Z,178nm,1.8s,mb5.3
NVS pmax pmax
comp=N,58nm,1.7s
NVS pmax pmax
comp=E,140nm,1.5s
NVS pmax pmax
comp=Z,30nm,1.9s,mb4.5
NVS pmax pmax
comp=N,23nm,1.7s
NVS pmax pmax
comp=E,22nm,1.9s
NVS smax
comp=N,10.0nm,1.6s
NVS smax
comp=E,19nm,1.6s
MK31 Makanchi Array 39.88 295 P **P 16 55 04.1 0.0**
MK31 pmax pmax
comp=Z,26nm,0.7s,mb4.8
MKAR Makanchi Array 39.88 295 P **P 16 55 04.1 0.0**
comp=Z,26nm,0.6s,mb4.8,baz=83,slow=9.4,SNR=265
MKAR PP PP 16 56 39.8 -0.6
comp=Z,5.0nm,0.8s,baz=74,slow=13,SNR=3.6
MKAR PcP PcP 16 57 05.1 -0.3
comp=Z,3.7nm,0.6s,baz=59,slow=5.8,SNR=3.8
MKAR ScP ScP 17 00 33.8 -0.5
comp=Z,6.9nm,0.8s,baz=60,slow=4.9,SNR=16
MKAR Makanchi Array 39.88 295 P **P 16 55 04.1 0.0**
MKAR 16 56 39.8
MKAR 16 57 05.1
MKAR pmax pmax
comp=Z,26nm,0.6s
MKAR pmax pmax
comp=Z,5.0nm,0.8s
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR pmax pmax
comp=N,7.0nm,0.8s
LSA Lhasa 40.87 267 P **P 16 55 14.8 +2.5**
LSA Lhasa 40.87 267 *e*P **P 16 55 14.6 +2.3**
LSA pmax pmax
comp=Z,44nm,1.0s,mb4.8
LSA Lhasa 40.87 267 *e*P **P 16 55 14.6 +2.3**
comp=Z,44nm,1.0s,mb4.8
TTA Tatalina 40.87 39 *e*P **P 16 55 12.8 +0.5**
CHRT Chiangrai 40.93 248 ⇑P **P 16 55 14.0 +1.3**
NANT Nan 41.07 245 ⇑P **P 16 55 15.0 +1.1**
comp=Z,212nm,0.4s,mb5.9
SVW2 Sparrevohn 41.21 42 *e*P **P 16 55 15.9 +0.9**
KKTK Khon Kaen 41.49 241 P **P 16 55 18.5 +1.2**
CHG Chiang Mai 42.23 247 P **P 16 55 24.5 +1.2**
comp=Z,20nm,0.9s,mb4.5
CHTO Chiang Mai 42.23 247 *e*P **P 16 55 24.2 +0.9**
CHTO pmax pmax
comp=Z,13nm,0.6s,mb4.5
CHTO Chiang Mai 42.23 247 *e*P **P 16 55 24.2 +1.0**
comp=Z,13nm,0.6s,mb4.5
KDAK Kodiak Island 43.21 46 P **P 16 55 30.7 -0.5**
comp=Z,26nm,0.5s,mb5.0,baz=297,slow=4.0,SNR=58
KDAK Kodiak Island 43.21 46 P **P 16 55 30.7 -0.5**
SLKM Skilak Lake 43.89 42 *e*P **P 16 55 36.0 -0.6**
PMR Palmer 44.22 40 *e*P **P 16 55 39.0 -0.2**
PMR pmax pmax
comp=Z,13nm,0.6s,mb4.4
PMR Palmer 44.22 40 *e*P **P 16 55 39.0 -0.3**
comp=Z,13nm,0.6s,mb4.5
COLA College 44.29 36 *e*P **P 16 55 40.0 +0.3**
COLA pmax pmax
comp=Z,71nm,1.0s,mb5.0
COLA College 44.29 36 *e*P **P 16 55 40.0 +0.3**
comp=Z,71nm,1.0s,mb5.0
ILAR Eielson Array 44.71 36 P **P 16 55 42.6 -0.5**
comp=Z,18nm,0.7s,mb4.5,baz=282,slow=7.4,SNR=176
ILAR ScP ScP 17 00 51.6 -2.2
comp=Z,0.9nm,1.0s,baz=289,slow=4.2,SNR=4.2
ILAR Eielson Array 44.71 36 P **P 16 55 42.6 -0.5**
ILAR pmax pmax
comp=Z,18nm,0.7s
ILAR pmax pmax
comp=N,1.0nm,1.0s
VOSK Vostochnaya 45.15 307 P **P 16 55 46.5 -0.1**
BVA0 Borovoye Array 45.41 307 *i*P **P 16 55 48.8 +0.3**
BVA0 pmax pmax
comp=Z,9.0nm,0.8s,mb4.2
BVAR Borovoye Array 45.41 307 P **P 16 55 49.0 +0.5**
comp=Z,44nm,0.4s,mb5.1,baz=79,slow=8.4,SNR=361
BVAR PcP PcP 16 57 23.8 -0.2
comp=Z,8.1nm,0.7s,baz=90,slow=5.9,SNR=3.6
BVAR ScP ScP 17 00 55.7 -0.9
comp=Z,5.6nm,0.7s,baz=83,slow=4.6,SNR=10
BVAR Borovoye Array 45.41 307 P **P 16 55 49.0 +0.5**
BVAR 16 57 23.8
BVAR pmax pmax
comp=Z,44nm,0.4s
BVAR pmax pmax
comp=Z,8.0nm,0.7s
BVAR pmax pmax
comp=N,6.0nm,0.7s
BRVK Borovoye 45.46 307⇓ *e*P **P 16 55 49.3 +0.4**
BRVK pmax pmax
comp=Z,98nm,1.0s,mb5.1
BRVK Borovoye 45.46 307⇓ *e*P **P 16 55 49.2 +0.3**
comp=Z,98nm,1.0s,mb5.1
ULHL Ulahol 45.53 291 P **P 16 55 50.1 +0.6**
SNR=23
TKM2 Tokmak 2 45.69 292 P **P 16 55 51.9 +1.1**
SNR=113
EYAK Cordova Ski Ar 46.05 41 *e*P **P 16 55 53.8 +0.3**
ZRNK Zerenda 46.23 308 P **P 16 55 55.5 +0.6**
ZRNK pmax pmax
comp=Z,157nm,1.0s,mb5.3
ZRNK Zerenda 46.23 308⇓ *i*P **P 16 55 55.5 +0.5**
comp=Z,201nm,0.9s,mb5.5

CHMS Chumysh 46.23 293 P **P** **16 55 55.2 +0.2**
SNR=10
KBK Karagaybulak 46.24 292 P **P** **16 55 55.9 +0.9**
SNR=115
KZA Kyzart 46.27 292 P **P** **16 55 56.9 +1.6**
SNR=50
USP Ospenovka 46.29 293 P **P** **16 55 55.9 +0.5**
SNR=9.1
FRU Bishkek 46.39 293 *e*P **P** **16 55 57.0 +0.8**
FRU pmax pmax
comp=Z,80nm,1.4s,mb4.9
MENT Mentasta 46.43 38 *e*P **P** **16 55 57.3 +0.8**
AAK Ala-Archa 46.55 293 P **P** **16 55 58.0 +0.6**
SNR=34
AAK Ala-Archa 46.55 293 *d i*P **P** **16 55 56.8 -0.7**
AAK pmax pmax
comp=Z,12nm,0.4s,mb4.6
AAK MLR MLR
comp=Z,100nm,15.0s
AAK Ala-Archa 46.55 293 *e*P **P** **16 55 56.2 -1.3**
comp=Z,22nm,0.8s,mb4.5
UCH Uchtor 46.71 292 P **P** **16 55 59.8 +1.1**
SNR=19
KSH Kashi 46.90 288 *e*P **P** **16 56 00.7 +0.6**
KSH *e*AP pP 16 56 44.2 -1.3
KSH *e*PCP PcP 16 57 30.0 +0.7
KSH *e*PP PP 16 57 52.2 -0.4
KSH *e*PPP 16 58 45.4
KSH *e*SCP ScP 17 01 03.1 +0.2
KSH *e*PCS PcS 17 01 24.0 -0.6
KSH *e*S **S** **17 02 32.2 -2.5**
KSH *e*SCS ScS 17 05 30.3 -1.8
KSH *e*SS SS 17 05 55.9 -8.3
KSH AMB AMB
comp=Z,44nm,1.0s,mb4.7
KSH LR LR
comp=N,203nm,11.5s
KSH LR LR
comp=E,143nm,5.0s
KSH LR LR
comp=Z,188nm,5.3s
EKS2 Erkin-Say 47.02 293 P **P** **16 56 01.7 +0.6**
SNR=8.2
AML Almayashu 47.30 292 P **P** **16 56 04.4 +1.2**
SNR=42
DAWY Dawson 48.04 36 P **P** **16 56 09.2 +0.2**
BOK Bokaro 48.13 264 *e*P **P** **16 56 09.0 -0.6**
BOK AMb AMB 16 56 11.0
comp=Z,13nm,0.7s,mb4.3
LGTI Lohaghat 48.92 274 *i* P **P** **16 56 17.0 +1.3**
KKAR Karatay Array 49.00 295 *i* P **P** **16 56 16.1 -0.1**
KKAR pmax pmax
comp=Z,16nm,0.6s,mb4.5
INK Inuvik 49.16 29 P **P** **16 56 17.4 0.0**
comp=Z,12nm,0.3s,mb4.7,baz=286,slow=6.7,SNR=130
INK ScP ScP 17 01 10.8 -1.6
comp=Z,1.3nm,0.4s,baz=255,slow=0.3,SNR=4.6
INK Inuvik 49.16 29 P **P** **16 56 17.4 0.0**
INK pmax pmax
comp=Z,12nm,0.3s
INK pmax pmax
comp=N,1.0nm,0.4s
INK Inuvik 49.16 29 P **P** **16 56 17.4 0.0**
INK ScP ScP 17 01 10.8 -1.6
SVE Sverdlovsk 49.51 315⇓ *e*P **P** **16 56 20.0 -0.1**
SVE pmax pmax
comp=Z,278nm,1.2s,mb5.5
KSM Kuching 49.51 220 *e*P **P** **16 56 21.1 +1.0**
SMLA Simla 50.23 278 *e*P **P** **16 56 23.7 -1.8**
SMLA AMb AMB 16 56 25.1
comp=Z,134nm,1.1s,mb5.2
ARU Arti 50.73 315⇓ *i*P **P** **16 56 29.1 -0.1**
ARU *e* pP 16 57 13.4 -1.9
ARU *e* 16 57 43.4
ARU *e* 16 58 22.2
ARU *e*PPP 16 59 29.4
ARU *e*S **S** **17 03 27.6 -0.6**
ARU *e*SS SS 17 07 05.6 +0.3
ARU pmax pmax
comp=Z,132nm,1.6s,mb5.1
ARU Arti 50.73 315⇓ *i*P **P** **16 56 28.9 -0.3**
comp=Z,115nm,1.1s,mb5.2
NDI New Delhi 51.55 275 *e*P **P** **16 56 34.5 -0.8**
NDI *e*P 16 56 35.5
NDI AMb AMB 16 56 36.0
comp=Z,90nm,0.8s,mb5.3
AB31 Akbulak array 52.91 306 *i* P **P** **16 56 45.7 +0.4**
AB31 pmax pmax
comp=Z,28nm,0.5s,mb5.0
AKTK Aktyubinsk 53.50 308 P **P** **16 56 49.8 +0.2**
AKTK ScP ScP 17 01 29.4 -1.8
AKTO Aktyubinsk 53.50 308 P **P** **16 56 49.8 +0.2**
comp=Z,31nm,0.6s,mb5.0,baz=71,slow=8.1,SNR=133
AKTO ScP ScP 17 01 29.4 -1.8
comp=Z,7.3nm,0.8s,baz=82,slow=4.7,SNR=6.0
AKTO Aktyubinsk 53.50 308 P **P** **16 56 49.8 +0.2**
AKTO pmax pmax
comp=Z,31nm,0.6s,mb5.0
AKTO pmax pmax
comp=N,7.0nm,0.8s
BHPL Bhopal 54.60 269 *e*P **P** **16 56 56.8 -0.8**
BHPL AMb AMB 16 56 59.1
comp=Z,50nm,0.9s,mb5.0
AJM Ajmer 54.68 274 *e*P **P** **16 56 57.6 -0.6**
AJM AMb AMB 16 56 59.6
comp=Z,40nm,0.5s,mb5.2
NGP Nagpur 54.72 266 *e*P **P** **16 56 57.4 -1.0**
NGP AMb AMB 16 56 58.9
comp=Z,26nm,1.2s,mb4.6
ORR Orenburg 54.79 311 *e*P **P** **16 56 59.0 0.0**
LVZ Lovozero 55.63 334 *e*P **P** **16 57 04.2 -0.7**
LVZ pmax pmax
comp=Z,87nm,1.3s,mb5.1
LVZ pmax pmax
comp=N,18nm,0.9s
LVZ pmax pmax
comp=E,11nm,0.8s
APA Apatity 56.21 334⇑ *i*P **P** **16 57 08.0 -1.0**
APA pmax pmax
comp=Z,40nm,0.8s,mb5.0
RES Resolute Bay 56.54 15⇓ *e*P **P** **16 57 10.3 -1.0**
RES pmax pmax
comp=Z,30nm,0.8s,mb5.0
RES Resolute Bay 56.54 15⇓ *e*P **P** **16 57 10.3 -1.0**
comp=Z,30nm,0.8s,mb5.0
KEV Kevo 56.87 337 *e*p **P** **16 57 11.5 -2.2**
ARCES ARCESS Array B 57.42 338 P **P** **16 57 16.8 -0.7**
comp=Z,18nm,0.8s,mb4.8,baz=49,slow=7.6,SNR=45
ARCES ARCESS Array B 57.42 338 P **P** **16 57 16.8 -0.7**
ARCES pmax pmax
comp=Z,18nm,0.8s
HYB Hyderabad 57.47 263 *i* P **P** **16 57 18.0 +0.2**
HYB Hyderabad 57.47 263 *e*P **P** **16 57 18.0 +0.2**
KLMR Klimovskoe 57.59 325 *d i*P **P** **16 57 18.0 -0.7**
KLMR pmax pmax
comp=Z,100nm,1.5s,mb5.2
KTK1 Kautokeino 58.38 338 *e*P **P** **16 57 23.8 -0.4**
KTK1 AMb AMB 16 57 24.9
comp=Z,76nm,1.4s,mb5.1
KTK1 Kautokeino 58.38 338 *e*P **P** **16 57 23.8 -0.4**
comp=Z,76nm,1.4s,mb5.1
YKW3 Yellowknife Ar 58.73 31 *e*P **P** **16 57 26.3 -0.3**
YKA Yellowknife Ar 58.77 32 P **P** **16 57 26.8 -0.1**
comp=Z,3.4nm,0.5s,mb4.3,baz=305,slow=6.5,SNR=68
YKA PcP PcP 16 58 14.3 +0.1
comp=Z,2.7nm,0.6s,baz=310,slow=3.8,SNR=13
YKA ScP ScP 17 01 52.7 -1.8
comp=Z,0.8nm,0.7s,baz=306,slow=4.2,SNR=7.9
YKA Yellowknife Ar 58.77 32 P **P** **16 57 26.8 -0.1**
YKA pP 16 58 14.3 0.0
YKA pmax pmax
comp=Z,3.0nm,0.5s
YKA pmax pmax
comp=Z,3.0nm,0.6s
YKA pmax pmax
comp=N,1.0nm,0.7s
YKA Yellowknife Ar 58.77 32 P **P** **16 57 26.8 -0.1**
YKA PcP PcP 16 58 14.3 +0.1
YKA ScP ScP 17 01 52.7 -1.8
TRO Tromso 59.10 340 *e*P **P** **16 57 27.7 -1.5**
DAG Danmarks Havn 59.10 354⇑ *i*P **P** **16 57 28.3 -0.8**
comp=N,79nm,0.9s,mb5.3
DAG Danmarks Havn 59.10 354⇑ *i*P **P** **16 57 28.3 -0.8**
DAG pmax pmax
comp=Z,79nm,0.9s,mb5.3

JOF Joensuu 59.61 330 *ep* **P** **16 57 30.4 -2.3**
POO Poona 60.15 268 *e*P **P** **16 57 35.5 -0.8**
POO *e*P 16 57 35.5
MOS Moscow 61.29 321 *e*P **P** **16 57 42.1 -1.9**
MOS *e* 16 58 21.2
MOS pmax pmax
comp=Z,71nm,1.1s,mb5.2
LOF Lofoten 61.54 340 *e*P **P** **16 57 46.5 +0.8**
LOF AMb AMB 16 57 53.3
comp=Z,65nm,1.5s,mb5.0
LOF Lofoten 61.54 340 *e*P **P** **16 57 46.5 +0.8**
comp=Z,65nm,1.5s,mb5.0
KAF Kangasniemi 61.92 331 *ep* **P** **16 57 46.3 -1.9**
comp=Z,40nm,0.6s,mb5.2
KAF Kangasniemi 61.92 331 *e*P **P** **16 57 46.3 -1.9**
KAF pmax pmax
comp=Z,40nm,0.6s,mb5.2
VRHR Novokhopersk 62.07 315 *e*P **P** **16 57 48.6 -0.6**
VRHR pmax pmax
comp=N,6.0nm,0.5s
VRHR pmax pmax
comp=E,9.0nm,0.5s
VRHR pmax pmax
comp=Z,20nm,0.5s,mb5.0
OBN Obninsk 62.15 321 *d i*P **P** **16 57 49.2 -0.5**
OBN *e* 16 58 26.9
OBN *e**PP pP 16 58 40.9 +3.2
OBN *e* 17 00 11.2
OBN pmax pmax
comp=Z,43nm,0.6s,mb5.3
OBN Obninsk 62.15 321 *e*P **P** **16 57 49.2 -0.5**
comp=Z,47nm,0.8s,mb5.2
FINES FINESS Array B 62.45 330 P **P** **16 57 51.0 -0.8**
comp=Z,69nm,0.7s,mb5.4,baz=60,slow=7.5,SNR=429
FINES FINESS Array B 62.45 330 P **P** **16 57 51.0 -0.7**
FINES pmax pmax
comp=Z,69nm,0.7s
MOR8 Moi Rana 62.77 338 *e*P **P** **16 57 51.7 -2.2**
MOR8 AMb AMB 16 57 53.2
comp=Z,86nm,0.8s,mb5.4
MOR8 Moi Rana 62.77 338 *e*P **P** **16 57 51.7 -2.2**
comp=Z,86nm,0.8s,mb5.4
FITZ Fitzroy Crossi 62.79 195 P **P** **16 57 52.2 -1.8**
comp=Z,2.3nm,0.8s,mb3.9,baz=356,slow=22,SNR=6.2
VOR Voronezh 62.92 317 *e*P **P** **16 57 53.0 -1.8**
VOR pmax pmax
comp=Z,80nm,1.2s,mb5.2
WRA Warramunga Arr 63.46 186 P **P** **16 57 57.1 -1.3**
comp=Z,3.4nm,1.0s,mb3.9,baz=4.4,slow=6.8,SNR=18
WRA Warramunga Arr 63.46 186 P **P** **16 57 57.1 -1.2**
WRA pmax pmax
comp=Z,3.0nm,1.0s
SUMG Summit 64.09 359 *e*P **P** **16 58 03.2 +0.8**
comp=Z,48nm,0.8s,mb5.2
GOF Gofitskoye 64.90 309 *e*P **P** **16 58 07.2 -0.5**
GOF pmax pmax
comp=Z,170nm,0.6s,mb5.8
DGRG David-gareji 65.72 305 P **P** **16 58 13.6 +0.6**
DUS Dusheti 65.73 306 P **P** **16 58 13.7 +0.7**
KIV Kislovodsk 65.77 308 *e*P **P** **16 58 13.9 +0.6**
KIV *e* 16 58 44.1
KIV *e**PP pP 16 59 02.0 +0.3
KIV *e*S S 17 06 44.6 +2.0
KIV pmax pmax
comp=Z,274nm,1.1s,mb5.8
KIV pmax pmax
comp=Z,28nm,4.6s
KIV Kislovodsk 65.77 308 *e*P **P** **16 58 14.1 +0.9**
comp=Z,190nm,0.8s,mb5.8
ZEI Tsey 65.79 307 *e*P **P** **16 58 13.3 -0.1**
ZEI pmax pmax
comp=Z,39nm,0.7s,mb5.2
MTA Mtatsminda 65.92 305 P **P** **16 58 14.8 +0.5**
TBLG Delisi 65.93 305 P **P** **16 58 15.3 +1.0**
ONI Oni 66.17 307 P **P** **16 58 17.0 +1.2**
AMRG 66.39 307 P **P** **16 58 18.2 +1.0**
MNK Minsk 66.43 324 *e*P **P** **16 58 16.0 -1.5**
BKR Bakuriani 66.66 306 P **P** **16 58 20.7 +1.8**
GNI Garni 66.90 304 P **P** **16 58 20.8 +0.3**
comp=Z,10.0nm,0.6s,mb4.6,baz=346,slow=2.7,SNR=8.4
GNI Garni 66.90 304 *e*P **P** **16 58 21.9 +1.5**
GNI pmax pmax
comp=Z,21nm,0.8s
GNI Garni 66.90 304 *e*P **P** **16 58 21.9 +1.4**
comp=Z,21nm,0.8s,mb4.8
ASAR Alice Springs 67.18 186 P **P** **16 58 22.1 -0.2**
comp=Z,1.5nm,0.6s,mb3.8,baz=358,slow=5.0,SNR=15
ASAR PP PP 17 01 04.4 +11
comp=Z,0.7nm,0.6s,baz=11,slow=10,SNR=4.4
ASAR Alice Springs 67.18 186 P **P** **16 58 22.1 -0.1**
ASAR pmax pmax
comp=Z,2.0nm,0.6s
ASAR pmax pmax
comp=Z,1.0nm,0.6s
YBH Yreka Blue Hor 67.34 54 P **P** **16 58 23.6 +0.4**
comp=Z,3.2nm,0.8s,mb4.0,baz=142,slow=1.5,SNR=4.7
YBH Yreka Blue Hor 67.34 54 P **P** **16 58 23.6 +0.4**
YBH pmax pmax
comp=Z,3.0nm,0.8s
HFS Hagfors 67.60 334 P **P** **16 58 24.1 -0.8**
comp=Z,32nm,0.6s,mb5.2,baz=60,slow=6.0,SNR=126
HFS Hagfors 67.60 334 P **P** **16 58 24.1 -0.8**
HFS pmax pmax
comp=Z,32nm,0.6s
NB2 NORSAR Subarra 67.66 336 P **P** **16 58 24.5 -0.7**
comp=Z,44nm,0.8s,mb5.1,baz=36,slow=6.2
NOA NORSAR Array B 67.66 336 P **P** **16 58 24.6 -0.7**
comp=Z,33nm,0.7s,mb5.1,baz=38,slow=6.3,SNR=169
NOA PP PP 17 00 55.7 -1.4
comp=Z,2.5nm,0.7s,baz=45,slow=8.8,SNR=3.7
NOA NORSAR Array B 67.66 336 P **P** **16 58 24.6 -0.6**
NOA 17 00 55.7
NOA pmax pmax
comp=Z,33nm,0.7s
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 67.66 336 P **P** **16 58 24.6 -0.7**
NOA PP PP 17 00 55.7 -1.4
SOC Sochi 67.68 309 *d i*P **P** **16 58 25.3 0.0**
SOC *e* 16 58 47.7
SOC *e**PP pP 16 59 17.2 +3.1
SOC *e* 17 00 53.4
SOC *e*S S 17 07 06.2 +0.7
SOC *e* 17 08 02.9
SOC pmax pmax
comp=Z,41nm,0.7s,mb5.2
NAO01 NORSAR Array S 67.91 336 *e*P **P** **16 58 25.9 -0.9**
comp=Z,12nm,0.6s,mb4.7
ARTV Artvin 67.93 306 *i* P **P** **16 58 28.0 +1.1**
BANOM Banah 68.11 285 P **P** **16 58 28.4 +0.3**
SNR=16
WSAR Wadi Sarin 68.16 282 P **P** **16 58 28.9 +0.6**
comp=Z,3.7nm,0.6s,mb4.2,baz=229,slow=3.3,SNR=10
ANN Anapa 68.16 311 *d i*P **P** **16 58 28.3 -0.1**
ANN *e*S S 17 07 10.6 -0.7
ANN *i* SS SS 17 11 38.0 -0.2
ANN pmax pmax
comp=Z,49nm,0.5s,mb5.4
WBK Wadi Bani Khal 68.31 281 P **P** **16 58 30.7 +1.4**
SNR=7.9
BIDO Bidbid 68.34 282 P **P** **16 58 30.8 +1.4**
SNR=7.4
AKASG Malin Array Be 68.39 320 P **P** **16 58 29.3 -0.5**
comp=Z,31nm,0.6s,mb5.1,baz=43,slow=6.0,SNR=154
AKASG Malin Array Be 68.39 320 *i* P **P** **16 58 29.2 -0.6**
AKASG pmax pmax
comp=Z,31nm,0.6s
BMO Blue Mountains 68.39 48 *e*P **P** **16 58 30.9 +1.1**
BMO pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
BMO Blue Mountains 68.39 48 *e*P **P** **16 58 30.9 +1.1**
comp=Z,2.1nm,0.6s,mb3.9
FCC Fort Churchill 68.66 27⇓ *e*P **P** **16 58 30.8 -0.6**
FCC pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
FCC Fort Churchill 68.66 27⇓ *e*P **P** **16 58 30.8 -0.7**
comp=Z,10.0nm,0.7s,mb4.5
SMDO Samad 68.68 282 P **P** **16 58 33.1 +1.6**
SNR=7.1
SUW Suwalki 68.72 326 *e*P **P** **16 58 31.2 -0.6**
FFC Flin Flon 68.84 33 *e*P **P** **16 58 32.0 -0.5**
FFC pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
FFC Flin Flon 68.84 33 *e*P **P** **16 58 32.0 -0.5**
comp=Z,5.1nm,0.7s,mb4.3

HOQ Hoqain 68.88 283 P **P** **16 58 33.1 +0.3**
SNR=12
FOO Floro 68.94 339 *e*P **P** **16 58 32.6 -0.6**
FOO AMb AMB 16 58 34.0
comp=Z,24nm,0.9s,mb4.8
FOO Floro 68.94 339 *e*P **P** **16 58 32.6 -0.6**
comp=Z,24nm,0.9s,mb4.8
ASHO Ashiyiah 69.06 284 P **P** **16 58 34.5 +0.5**
SNR=12
JMDO Jabal Madar 69.08 281 P **P** **16 58 34.6 +0.5**
SNR=14
KONO Kongsberg 69.25 336 *e*P **P** **16 58 34.6 -0.4**
KONO AMb AMB 16 58 36.1
comp=Z,25nm,0.7s,mb5.0
KONO Kongsberg 69.25 336 *e*P **P** **16 58 34.6 -0.4**
comp=Z,334nm,0.6s,mb6.2
SFJD Kangerlussuaq 69.42 4 P **P** **16 58 35.4 -0.7**
comp=Z,25nm,0.8s,mb4.9,baz=337,slow=4.5,SNR=17
SFJD Kangerlussuaq 69.42 4 *e*P **P** **16 58 35.5 -0.6**
BSY Bisya 69.49 282 P **P** **16 58 37.2 +0.7**
SNR=9.2
ARQ Araqi 69.59 283 P **P** **16 58 38.2 +1.0**
SNR=5.3
SIM Simferopol' 69.84 313 *d i*P **P** **16 58 38.5 -0.2**
SIM pmax pmax
comp=Z,50nm,0.8s,mb5.2
HRY Holter Researc 70.03 44 *e*P **P** **16 58 41.1 +1.3**
GRSN GIRESUNGRSN 70.21 308 *i* P **P** **16 58 40.6 -0.3**
BLS5 Blasjo 70.36 337 *e*P **P** **16 58 42.9 +1.1**
BLS5 AMb AMB 16 58 44.3
comp=Z,31nm,1.0s,mb4.9
BLS5 Blasjo 70.36 337 *e*P **P** **16 58 42.9 +1.1**
comp=Z,31nm,1.0s,mb4.9
DLMT Dillon 70.55 45 *e*P **P** **16 58 44.4 +1.4**
comp=Z,9.7nm,0.6s,mb4.6
FRB Frobisher Bay 70.63 13 P **P** **16 58 42.8 -0.6**
comp=Z,71nm,0.7s,mb5.4,baz=341,slow=6.7,SNR=64
FRB Frobisher Bay 70.63 13 P **P** **16 58 42.8 -0.6**
FRB pmax pmax
comp=Z,71nm,0.7s
BORG Borgarnes 70.95 352 P **P** **16 58 46.4 +1.0**
comp=Z,21nm,0.8s,mb4.8,baz=34,slow=2.7,SNR=8.3
BORG Borgarnes 70.95 352 P **P** **16 58 46.4 +1.0**
CMB Columbia Colle 71.08 55 *e*P **P** **16 58 47.0 +0.9**
CMB pmax pmax
comp=Z,5.0nm,1.0s,mb4.1
CMB Columbia Colle 71.08 55 *e*P **P** **16 58 47.0 +0.9**
comp=Z,5.0nm,1.0s,mb4.1
BSD Bornholm Skovb 71.09 330⇓ *i*P **P** **16 58 45.6 -0.6**
comp=Z,48nm,0.6s,mb5.3
BSD Bornholm Skovb 71.09 330⇓ *i*P **P** **16 58 45.6 -0.6**
BSD pmax pmax
comp=Z,48nm,0.6s,mb5.3
MARD Mardin 71.09 304 *i* P **P** **16 58 47.0 +0.8**
LVV L'vov 71.38 322 *e*P **P** **16 58 47.9 -0.1**
ELZG Elazig 71.39 306 *i* P **P** **16 58 49.2 +1.2**
COP Copenhagen 71.52 332 *i* P **P** **16 58 49.1 +0.3**
comp=Z,39nm,0.7s,mb5.2
COP Copenhagen 71.52 332 *e*P **P** **16 58 49.1 +0.3**
COP pmax pmax
comp=Z,39nm,0.7s,mb5.2
COP Copenhagen 71.52 332 *e*P **P** **16 58 49.1 +0.3**
comp=Z,39nm,0.7s,mb5.2
GKP Gorka Klasztor 71.65 328 *e*P **P** **16 58 49.5 0.0**
UMR Umm Al-Rimmam 71.69 293 *e*P **P** **16 58 48.9 -0.9**
UMR AMb AMB 16 58 49.8
comp=Z,108nm,0.5s,mb5.8
LRW Lerwick 71.77 341 *e*P **P** **16 58 49.5 -0.7**
BOYT Boyabat 71.78 310 *i* P **P** **16 58 51.4 +1.0**
MALT Malatya 71.84 306⇓ *i*P **P** **16 58 52.3 +1.6**
MALT Malatya 71.84 306 *e*P **P** **16 58 51.5 +0.8**
comp=Z,28nm,0.9s,mb4.9
KBD Kabd 71.95 293 *e*P **P** **16 58 51.0 -0.3**
MUD Monsted U'grnd 71.98 334⇓ *i*P **P** **16 58 51.6 +0.1**
comp=Z,34nm,0.9s,mb5.0
MUD Monsted U'grnd 71.98 334⇓ *i*P **P** **16 58 51.6 +0.1**
MUD pmax pmax
comp=Z,34nm,0.9s,mb5.0
NVAR Mina Array Bea 72.05 54 P **P** **16 58 53.1 +1.2**
comp=Z,4.4nm,0.8s,mb4.2,baz=290,slow=5.7,SNR=26
KWP Kalwaria 72.11 323 *e*P **P** **16 58 52.8 +0.5**
RGN Rugen 72.11 331 *e*P **P** **16 58 52.1 -0.2**
comp=Z,79nm,1.0s,mb5.3
NAY Al-Naaiem 72.20 294 *e*P **P** **16 58 52.0 -0.8**
NAY AMb AMB 16 58 52.8
comp=Z,47nm,0.6s,mb5.3
CTKT Corum 72.39 310 *i* P **P** **16 58 54.8 +0.9**
IMW Indian Meadow 72.42 46 *e*P **P** **16 58 56.3 +2.2**
comp=Z,3.6nm,0.6s,mb4.2
BURAR Bucovina Array 72.44 320⇓ *i*P **P** **16 58 54.8 +0.6**
BURAR Bucovina Array 72.44 320⇓ P **P** **16 58 54.8 +0.6**
BALT Daday 72.54 311 *i* P **P** **16 58 56.0 +1.1**
TPAW Teton Pass 72.69 46 *e*P **P** **16 58 58.7 +2.9**
comp=Z,2.9nm,0.7s,mb4.0
CFR Carcaliu 72.76 317⇑ *i*P **P** **16 58 56.3 +0.1**
CFR Carcaliu 72.76 317⇑ P **P** **16 58 56.3 +0.2**
KOLS Kolonicke sedl 72.81 322 *e*P **P** **16 58 57.1 +0.6**
KOLS *e*PP PP 17 01 36.4 -5.0
KOLS Kolonicke sedl 72.81 322 *e*P **P** **16 58 57.1 +0.6**
comp=Z,8.4nm,0.9s,mb4.4
STHS Stebnicka Huta 72.91 323 *e*P **P** **16 58 57.5 +0.5**
STHS Stebnicka Huta 72.91 323 *e*P **P** **16 58 57.6 +0.6**
comp=Z,29nm,1.5s,mb4.7
OJC Ojcow 72.93 324 *i* Pd **P** **16 58 57.6 +0.5**
VRI Vrincioaia 72.97 318⇑ *i*P **P** **16 58 58.2 +0.8**
VRI Vrincioaia 72.97 318 ⇑P **P** **16 58 58.2 +0.8**
GZT Gaziantep 72.99 305 *i* P **P** **16 58 58.9 +1.4**
TIRR Tirgusor 73.13 316 *i*P **P** **16 58 58.5 +0.2**
TIRR Tirgusor 73.13 316 *e*P **P** **16 58 57.9 +0.4**
CRVS Cervenica-Dubn 73.20 323 *e*P **P** **16 58 58.0 -0.7**
CRVS Cervenica-Dubn 73.20 323 *e*P **P** **16 58 58.1 -0.6**
comp=Z,6.4nm,0.7s,mb4.4
ELDT Eldivan 73.23 310 *i* P **P** **16 58 59.8 +0.8**
CDAG Cicekdag 73.30 309 *i* P **P** **16 58 59.9 +0.6**
NIE Niedzica 73.31 324 *e*P **P** **16 59 00.2 +0.8**
RUE Ruedersdorf 73.58 329 *e*P **P** **16 59 00.9 0.0**
comp=Z,94nm,1.4s,mb5.2
OBR Brabster 73.59 341⇓ *e*P **P** **16 59 00.6 -0.4**
AVNT Avonos 73.60 308 *i* P **P** **16 58 58.7 -2.4**
MLR Muntele Rosu 73.62 318 P **P** **16 59 01.6 +0.4**
comp=Z,8.5nm,0.5s,mb4.6,baz=197,slow=1.2,SNR=15
MLR PP PP 17 01 46.9 -1.3
comp=Z,4.0nm,0.9s,baz=93,slow=11,SNR=3.5
MLR Muntele Rosu 73.62 318⇑ *i*P **P** **16 59 01.7 +0.5**
MLR Muntele Rosu 73.62 318 P **P** **16 59 01.6 +0.4**
MLR 17 01 46.9
MLR pmax pmax
comp=Z,9.0nm,0.5s
MLR pmax pmax
comp=Z,4.0nm,0.9s
MLR Muntele Rosu 73.62 318 ⇑P **P** **16 59 01.7 +0.6**
BR131 Keskin Array S 73.64 309 *e*P **P** **16 59 01.8 +0.5**
comp=Z,12nm,0.7s,mb4.6
BRTR Keskin Array B 73.64 309 P **P** **16 59 01.7 +0.4**
comp=Z,15nm,0.8s,mb4.7,baz=74,slow=3.9,SNR=93
BRTR PP PP 17 01 48.7 +0.3
comp=Z,2.5nm,0.8s,baz=72,slow=8.2,SNR=4.4
BRTR Keskin Array B 73.64 309 P **P** **16 59 01.7 +0.4**
BRTR 17 01 48.7
BRTR pmax pmax
comp=Z,15nm,0.8s
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BSEG Bad Segeberg 73.66 332 *e*P **P** **16 59 01.1 -0.3**
comp=Z,46nm,0.9s,mb5.1
BSEG Bad Segeberg 73.66 332 *e*P **P** **16 59 01.1 -0.3**
BSEG pmax pmax
comp=Z,46nm,0.9s,mb5.1
ORE Reay 73.79 341⇓ *e*P **P** **16 59 02.0 -0.2**
KSP Ksiaz 73.89 327 *e*P **P** **16 59 03.0 +0.3**
KSP Ksiaz 73.89 327 *e*P **P** **16 59 03.1 +0.4**
OKC Ostrava-Krasne 73.91 325 *e*P **P** **16 59 03.5 +0.6**
OKC *ex* x 16 59 06.1
OKC *ex* x 16 59 08.2
PDAR Pinedale Array 73.93 46 P **P** **16 59 03.8 +0.8**
comp=Z,3.9nm,0.7s,mb4.2,baz=306,slow=2.0,SNR=36
SGKT Sivrigoynuk 73.93 311 *i* P **P** **16 59 03.9 +0.9**
KECS Kecovo 73.94 323 *e*P **P** **16 59 02.3 -0.7**
comp=Z,3.8nm,0.7s,mb4.1
OTO Tongue 73.99 341⇓ *e*P **P** **16 59 03.2 -0.1**
ANTO Ankara 74.02 310⇓ *i*P **P** **16 59 04.3 +0.8**
ANTO Ankara 74.02 310 ⇓P **P** **16 59 04.4 +0.9**
ANTO Ankara 74.02 310 *e*P **P** **16 59 04.2 +0.8**
comp=Z,30nm,0.8s,mb5.0
VOIR 74.09 318⇓ *i*P **P** **16 59 05.2 +1.3**

VOIR **74.09 318** ⇓P P **P** **16 59 05.2 +1.3**
LIKS **Likavka** **74.11 324** *e*P P **P** **16 59 04.2 +0.2**
comp=Z,21nm,0.9s,mb4.8
MORC **Moravsky Berou** **74.21 325**⇑ *i*P P **P** **16 59 04.8 +0.2**
MORC **Moravsky Berou** **74.21 325**⇑⇑P P **P** **16 59 04.8 +0.2**
TPNV **Topopah Spring** **74.25 54** *e*P P **P** **16 59 06.0 +1.2**
TPNV pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
TPNV **Topopah Spring** **74.25 54** *e*P P **P** **16 59 06.0 +1.2**
comp=Z,4.7nm,0.6s,mb4.3
DPC **Dobruska-Polom** **74.26 326** *e*P P **P** **16 59 05.7 +0.8**
UPC **Upice** **74.26 327** *e*P P **P** **16 59 05.5 +0.6**
UPC *ex* x 16 59 08.1
COBT **Iskenderun** **74.32 306** *i* P P **P** **16 59 06.2 +1.0**
PSZ **Piszkesteto** **74.63 323**⇑ *e*P P **P** **16 59 08.2 +1.2**
VYHS **Vyhne** **74.65 324** *e*P P **P** **16 59 07.4 +0.3**
comp=Z,8.8nm,0.8s,mb4.4
ULM **Lac du Bonnet** **74.67 33** P P **P** **16 59 06.7 -0.5**
comp=Z,3.8nm,0.5s,mb4.3,baz=323,slow=6.1,SNR=6.2
ULM **Lac du Bonnet** **74.67 33** P P **P** **16 59 06.7 -0.5**
BRG **Berggiesshubel** **74.79 328** *e*P P **P** **16 59 07.8 -0.1**
comp=Z,18nm,1.0s,mb4.7
BRG **Berggiesshubel** **74.79 328** *i* P P **P** **16 59 08.1 +0.2**
comp=Z,11nm,1.0s,mb4.5
BRG **Berggiesshubel** **74.79 328** *i* P P **P** **16 59 08.1 +0.2**
BRG pmax pmax
comp=Z,11nm,1.0s,mb4.4
CLL **Collm** **74.80 329** *e*P P **P** **16 59 07.5 -0.5**
comp=Z,47nm,0.7s,mb5.2
CLL **Collm** **74.80 329**⇓ *i*P P **P** **16 59 07.9 -0.1**
comp=Z,47nm,0.7s,mb5.2
CLL *i* P(2) 16 59 09.8
comp=Z,45nm,0.7s
VRAC **Vranov** **74.96 325** P P **P** **16 59 09.7 +0.8**
comp=Z,17nm,0.7s,mb4.8,baz=52,slow=5.4,SNR=34
VRAC **Vranov** **74.96 325**⇓ *i*P P **P** **16 59 09.9 +1.0**
VRAC **Vranov** **74.96 325** ⇓P P **P** **16 59 09.9 +1.0**
GSC **Goldstone** **75.04 55** *e*P P **P** **16 59 10.3 +1.0**
WHFO **Wadi Hawf** **75.05 281** P P **P** **16 59 08.8 -0.7**
SNR=12
SMOL **Smolenice** **75.23 325** *e*P P **P** **16 59 11.5 +1.1**
PRU **Pruhonice** **75.26 327** *e*P P **P** **16 59 11.4 +0.8**
PRU *ex* x 16 59 13.7
PRU *ex* x 16 59 16.7
BORA **Eskisehir** **75.30 311** *i* P P **P** **16 59 10.8 -0.1**
KPL **Plockton** **75.32 341** *e*P P **P** **16 59 10.7 -0.3**
ESKT **Eskisehir** **75.33 311** *i* P P **P** **16 59 11.2 +0.2**
BUD **Budapest** **75.34 323** *e*P P **P** **16 59 11.6 +0.5**
BUD **Budapest** **75.34 323** *e*P P **P** **16 59 11.5 +0.4**
CLZ **Clausthal** **75.34 330** *e*P P **P** **16 59 11.3 +0.2**
comp=Z,38nm,0.7s,mb5.1
CLZ **Clausthal** **75.34 330** *e*P P **P** **16 59 11.3 +0.2**
CLZ pmax pmax
comp=Z,38nm,0.7s,mb5.1
SRO **Srobarova** **75.39 324** *e*P P **P** **16 59 13.0 +1.6**
SRO1 **Iza** **75.47 324** *e*P P **P** **16 59 12.9 +1.1**
ELBA **Catalca** **75.48 313** *i* P P **P** **16 59 11.9 0.0**
MEST **Erdemli** **75.51 307** *i* P P **P** **16 59 12.2 +0.2**
BZS **Buzias** **75.58 320**⇑ *i*P P **P** **16 59 12.6 +0.1**
BZS **Buzias** **75.58 320** ⇑P P **P** **16 59 12.6 +0.2**
ZST **Bratislava** **75.61 324** *e*P P **P** **16 59 13.3 +0.7**
comp=Z,11nm,0.8s,mb4.5
RSSD **Black Hills** **75.73 42** P P **P** **16 59 14.3 +1.1**
RSSD pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
RSSD **Black Hills** **75.73 42** P P **P** **16 59 14.3 +1.0**
comp=Z,6.7nm,1.0s,mb4.2
GTTG **Gvttingen** **75.73 330** *e*P P **P** **16 59 12.9 -0.4**
comp=Z,20nm,0.6s,mb4.9
WERD **Werda** **75.76 328** *e*P P **P** **16 59 13.2 -0.2**
comp=Z,18nm,1.4s,mb4.5
ULDT **Uludag** **75.82 312** *i* P P **P** **16 59 14.2 +0.4**
MOX **Moxa** **75.86 329** *e*P P **P** **16 59 13.7 -0.3**
comp=Z,27nm,1.4s,mb4.7
MOX **Moxa** **75.86 329** *e*P P **P** **16 59 14.1 +0.1**
comp=Z,35nm,1.4s,mb4.8
MOX **Moxa** **75.86 329** *e*P P **P** **16 59 14.1 +0.1**
MOX pmax pmax
comp=Z,35nm,1.4s,mb4.8
IBBN **Ibbenburen** **75.88 332** *e*P P **P** **16 59 13.4 -0.7**
comp=Z,30nm,0.7s,mb5.0
NKC **Novy Kostel** **75.88 328** *e*P P **P** **16 59 14.6 +0.5**
MANZ **Manzenberg** **76.20 328** *e*P P **P** **16 59 16.0 0.0**
comp=Z,23nm,1.4s,mb4.6
SOP **Sopron** **76.24 324**⇑ *e*P P **P** **16 59 17.6 +1.4**
UBBA **Unterbreizbach** **76.31 330** *e*P P **P** **16 59 16.1 -0.5**
comp=Z,11nm,0.8s,mb4.5
KHC **Kasperske Hory** **76.32 327** *e*P P **P** **16 59 17.2 +0.6**
KHC *ex* x 16 59 20.1
KHC *ex* x 16 59 22.6
ROTZ **Rotzenmuhle** **76.34 328** *e*P P **P** **16 59 16.3 -0.4**
comp=Z,17nm,0.9s,mb4.7
GDZ **Gediz** **76.39 311** *i* P P **P** **16 59 17.2 +0.2**
PGBU **Glenifferbraes** **76.43 340** *e*P P **P** **16 59 16.8 -0.4**
PKSM **Moragy** **76.48 322**⇑ *i*P P **P** **16 59 17.0 -0.5**
PKSM **Moragy** **76.48 322**⇓ *e*P P **P** **16 59 17.3 -0.2**
WTSB **Winterswijk** **76.49 332**⇓ *e*P P **P** **16 59 17.3 -0.2**
comp=Z,38nm,0.8s,mb5.0
GEC2 **GERESS Array S** **76.50 327** *e*P P **P** **16 59 17.4 -0.2**
comp=Z,12nm,1.0s,mb4.5
GEC2 **GERESS Array S** **76.50 327** *e*P P **P** **16 59 17.4 -0.2**
GEC2 pmax pmax
comp=Z,12nm,1.0s,mb4.5
GERES **GERESS Array B** **76.50 327** P P **P** **16 59 17.7 +0.1**
comp=Z,6.9nm,0.6s,mb4.5,baz=35,slow=5.1,SNR=59
GERES PP PP 17 02 02.4 -10
comp=Z,1.5nm,0.8s,baz=43,slow=12,SNR=4.7
GERES **GERESS Array B** **76.50 327** P P **P** **16 59 17.7 +0.1**
GERES pmax pmax
comp=Z,7.0nm,0.6s
GERES pmax pmax
comp=Z,2.0nm,0.8s
EKA **Eskdalemuir Ar** **76.53 339** P P **P** **16 59 17.6 -0.1**
comp=Z,13nm,0.6s,mb4.7,baz=21,slow=5.1,SNR=95
EKA PP PP 17 02 07.5 -5.1
comp=Z,2.1nm,1.0s,baz=22,slow=7.2,SNR=4.0
EKA **Eskdalemuir Ar** **76.53 339** P P **P** **16 59 17.6 -0.1**
EKA 17 02 07.6
EKA pmax pmax
comp=Z,13nm,0.6s
EKA pmax pmax
comp=Z,2.0nm,1.0s
ESK **Eskdalemuir** **76.55 339** *e*P P **P** **16 59 17.4 -0.5**
ESK **Eskdalemuir** **76.55 339** *e*P P **P** **16 59 17.8 -0.1**
ESK pmax pmax
comp=Z,14nm,0.7s,mb4.7
ESK **Eskdalemuir** **76.55 339** *e*P P **P** **16 59 17.8 -0.1**
comp=Z,14nm,0.7s,mb4.7
WET **Wettzell** **76.58 327** *e*P P **P** **16 59 18.3 +0.2**
comp=Z,31nm,1.1s,mb4.8
WET **Wettzell** **76.58 327** *e*P P **P** **16 59 18.3 +0.2**
WET pmax pmax
comp=Z,31nm,1.1s,mb4.8
BHH **Howats Hill** **76.75 339**⇓ *e*P P **P** **16 59 19.0 0.0**
BUG **Bochum--Univer** **76.77 332** *e*P P **P** **16 59 18.9 -0.2**
comp=Z,29nm,0.7s,mb5.0
GRA1 **Grafenberg Arr** **76.78 329** *e*P P **P** **16 59 19.4 +0.2**
comp=Z,45nm,0.8s,mb5.2
GRF **Grafenberg Arr** **76.78 329** *e*P P **P** **16 59 19.4 +0.2**
comp=Z,45nm,0.8s,mb5.2
GRF **Grafenberg Arr** **76.78 329** *e*P P **P** **16 59 19.4 +0.2**
GRF pmax pmax
comp=Z,45nm,0.8s,mb5.2
BWH **Wardlaw** **76.79 339** *e*P P **P** **16 59 19.0 -0.3**
RHK1 **Bakonya** **76.83 323** ⇓ *i*P P **P** **16 59 19.6 +0.2**
ASF **Jabal al Asfar** **76.90 302** P P **P** **16 59 20.9 +1.0**
comp=Z,10nm,0.7s,mb4.6,baz=293,slow=3.7,SNR=22
ASF PP PP 17 02 16.1 +0.3
comp=Z,5.0nm,1.0s,baz=310,slow=2.6,SNR=7.8
ASF **Jabal al Asfar** **76.90 302** P P **P** **16 59 20.9 +1.1**
ASF 17 02 16.1
ASF pmax pmax
comp=Z,10.0nm,0.7s
ASF pmax pmax
comp=Z,5.0nm,1.0s
ARSA **Arzberg** **77.02 325** ⇓ *i*P P **P** **16 59 21.1 +0.6**
comp=Z,15nm,1.0s,mb4.6,SNR=6.9
MOA **Molln** **77.06 326** ⇓ *i*P P **P** **16 59 21.3 +0.5**
comp=Z,8.8nm,0.8s,mb4.5,SNR=7.4
VTS **Vitosha** **77.09 317** ⇓ *i*P P **P** **16 59 21.6 +0.7**
VTS **Vitosha** **77.09 317** ⇓P P **P** **16 59 21.6 +0.7**
GMK **Mull of Kintyr** **77.12 341**⇓ *e*P P **P** **16 59 20.8 -0.3**
GCD **Castle Douglas** **77.15 339**⇓ *e*P P **P** **16 59 21.0 -0.3**
CKE **Keswick** **77.18 339**⇓ *e*P P **P** **16 59 21.5 +0.1**
MMAI **Mount Meron Ar** **77.23 303** P P **P** **16 59 22.7 +1.0**
comp=Z,25nm,0.7s,mb5.0,baz=30,slow=6.8,SNR=45
GAL1 **Galloway** **77.34 340**⇓ *e*P P **P** **16 59 22.0 -0.3**
XDE **Dent Fell** **77.35 339**⇓ *e*P P **P** **16 59 22.3 -0.1**
XDE AMb AMB 16 59 24.1
comp=Z,44nm,1.7s,mb4.8
TNS **Taunus Mts** **77.37 330** *e*P P **P** **16 59 22.3 -0.1**
comp=Z,14nm,0.8s,mb4.6
TNS **Taunus Mts** **77.37 330** *e*P P **P** **16 59 22.3 -0.1**
TNS pmax pmax
comp=Z,14nm,0.8s,mb4.6
CDU1 **Dunnerdale** **77.43 339** *e*P P **P** **16 59 22.5 -0.3**
GCL **Cushendall** **77.49 341**⇓ *e*P P **P** **16 59 23.1 0.0**
TOD **Tromm** **77.75 330** *e*P P **P** **16 59 24.5 -0.1**
LHO **Holmfirth** **77.77 338**⇓ *e*P P **P** **16 59 24.6 -0.1**
HGN **Heimansgroeve** **77.79 332**⇓ *e*P P **P** **16 59 24.5 -0.3**
comp=Z,21nm,1.3s,mb4.6
BEBN **Eben Emael** **77.85 332** P P **P** **16 59 24.1 -1.0**
MEM **Membach** **77.90 332** P P **P** **16 59 25.2 -0.1**
ABH **Alteburg** **77.97 331** *e*P P **P** **16 59 25.6 -0.2**
FUR **Furstenfeldbru** **78.00 328** *e*P P **P** **16 59 26.5 +0.5**
comp=Z,68nm,1.2s,mb5.2
FUR **Furstenfeldbru** **78.00 328** *e*P P **P** **16 59 26.5 +0.5**
FUR pmax pmax
comp=Z,68nm,1.2s,mb5.2
OBKA **Obir** **78.02 325**⇓ *i*P P **P** **16 59 26.2 +0.2**
comp=Z,15nm,0.7s,mb4.8
KBA **Koelnbreinsper** **78.06 326**⇓ *i*P P **P** **16 59 26.8 +0.6**
comp=Z,34nm,1.3s,mb4.8,SNR=21
KBA **Koelnbreinsper** **78.06 326**⇓ *i*P P **P** **16 59 26.8 +0.5**
KBA pmax pmax
comp=Z,34nm,1.3s,mb4.8
GMM **Mts of Mourne** **78.21 340**⇓ *e*P P **P** **16 59 26.8 -0.3**
STIP **Stip** **78.26 317** *e*P P **P** **16 59 26.6 -0.8**
RUP **Ruppelstein** **78.30 331** *e*P P **P** **16 59 27.3 -0.3**
STU **Stuttgart** **78.30 329** *e*P P **P** **16 59 27.8 +0.2**
comp=Z,36nm,0.9s,mb5.0
VAY **Valandovo** **78.35 317** *e*P P **P** **16 59 27.2 -0.7**
SKO **Skopje** **78.42 318** *e*P P **P** **16 59 28.5 +0.3**
WATA **Walderalm** **78.56 327**⇓ *i*P P **P** **16 59 29.5 +0.5**
comp=Z,16nm,0.6s,mb4.8,SNR=7.3
WATA **Walderalm** **78.56 327**⇓ *i*P P **P** **16 59 29.5 +0.5**
WATA pmax pmax
comp=Z,16nm,0.6s,mb4.8
SNF **Seneffe** **78.56 333** P P **P** **16 59 28.7 -0.4**
comp=Z,12nm,0.8s,mb4.6
PTCC **Patocco-Chiusa** **78.59 325** P P **P** **16 59 28.5 -0.7**
comp=Z,9.1nm,0.6s,mb4.6
WTTA **Wattenberg** **78.59 327**⇓ *i*P P **P** **16 59 29.8 +0.6**
comp=Z,25nm,0.7s,mb4.9
WTTA **Wattenberg** **78.59 327**⇓ *i*P P **P** **16 59 29.8 +0.6**
WTTA pmax pmax
comp=Z,25nm,0.7s,mb5.0
WLF **Walferdange** **78.65 331** *e*P P **P** **16 59 29.9 +0.4**
comp=Z,16nm,1.2s,mb4.5
WLF **Walferdange** **78.65 331** P P **P** **16 59 29.8 +0.3**
FVI **Forni Avoltri** **78.68 326** P P **P** **16 59 29.4 -0.2**
FVI pmax pmax
comp=Z,4.0nm,0.5s,mb4.3
FVI **Forni Avoltri** **78.68 326** P P **P** **16 59 29.4 -0.2**
comp=Z,4.2nm,0.5s,mb4.3
SBD1 **Bryn Du** **78.73 338**⇓ *e*P P **P** **16 59 30.1 +0.2**
SBD1 AMb AMB 16 59 30.8
comp=Z,77nm,0.8s,mb5.4
GIVF **Givet** **78.73 332** *e*P P **P** **16 59 29.1 -0.8**
MOTA **Moosalm** **78.74 327**⇓ *i*P P **P** **16 59 30.4 +0.4**
comp=Z,52nm,0.9s,mb5.2,SNR=20
MOTA **Moosalm** **78.74 327**⇓ *i*P P **P** **16 59 30.4 +0.4**
MOTA pmax pmax
comp=Z,52nm,0.9s,mb5.2
SQTA **Sankt Quirin** **78.80 327**⇑ *i*P P **P** **16 59 30.8 +0.5**
comp=Z,14nm,0.6s,mb4.7,SNR=7.4
SQTA **Sankt Quirin** **78.80 327**⇑ *i*P P **P** **16 59 30.8 +0.5**
SQTA pmax pmax
comp=Z,14nm,0.6s,mb4.8
DOU **Dourbes** **78.81 332** P P **P** **16 59 29.9 -0.5**
DOU AP pP 17 00 18.2 -2.4
HLM1 **Long Mynd** **78.97 338**⇓ *e*P P **P** **16 59 31.0 -0.3**
HLM1 AMb AMB 16 59 33.7
comp=Z,12nm,0.8s,mb4.6
BAIF **Baives** **78.97 333** *e*P P **P** **16 59 30.5 -0.8**
BFO **Black Forest** **78.98 329** *e*P P **P** **16 59 30.9 -0.4**
comp=Z,29nm,1.2s,mb4.8
BFO **Black Forest** **78.98 329** *e*P P **P** **16 59 30.9 -0.4**
BFO pmax pmax
comp=Z,29nm,1.2s,mb4.8
SPAK **Spaichingen-Ko** **79.00 329** *e*P P **P** **16 59 31.4 0.0**
SSP1 **Stoney Pound** **79.12 338**⇓ *e*P P **P** **16 59 31.6 -0.4**
DLF **Lyons Farm** **79.22 340**⇑ *i*P P **P** **16 59 32.4 -0.2**
DSB **Dublin** **79.22 340** *e*P P **P** **16 59 32.4 -0.3**
comp=Z,19nm,0.8s,mb4.8
DAVA **Damuels** **79.26 328** *i* P P **P** **16 59 33.2 +0.4**
comp=Z,24nm,0.6s,mb5.0,SNR=13
WLS **Welschbruch** **79.27 330** *e*P P **P** **16 59 32.6 -0.3**
CDF **Champ du Feu** **79.30 330** *e*P P **P** **16 59 32.5 -0.5**
comp=Z,34nm,1.1s,mb4.6
CDF **Champ du Feu** **79.30 330** *e*P P **P** **16 59 32.5 -0.5**
CDF pmax pmax
comp=Z,17nm,1.1s,mb4.6
CDF **Champ du Feu** **79.30 330** *e*P P **P** **16 59 32.5 -0.5**
comp=Z,17nm,1.1s,mb4.6
HAE **Alders End** **79.31 337**⇓ *e*P P **P** **16 59 32.7 -0.4**
HAE AMb AMB 16 59 36.0
comp=Z,40nm,1.8s,mb4.8
SCHQ **Schefferville** **79.32 15** P P **P** **16 59 32.9 -0.2**
comp=Z,11nm,0.9s,mb4.5,baz=4.7,slow=6.8,SNR=16
SCHQ **Schefferville** **79.32 15** *e*P P **P** **16 59 32.7 -0.4**
comp=Z,10.0nm,0.6s,mb4.5
DCN **Croghan** **79.35 341**⇑ *i*P P **P** **16 59 33.1 -0.2**
OHR **Ohrid** **79.39 318** *e*P P **P** **16 59 32.5 -0.9**
MCH1 **Michaelchurch** **79.47 338**⇓ *e*P P **P** **16 59 33.7 -0.3**
FELD **Feldberg im Sc** **79.48 329** *e*P P **P** **16 59 33.9 -0.1**
ECH **Echery** **79.51 330** *e*P P **P** **16 59 33.8 -0.4**
CTI **Castel Tesino** **79.58 326** P P **P** **16 59 33.7 -0.8**
CTI pmax pmax
comp=Z,20nm,0.7s,mb4.9
CTI **Castel Tesino** **79.58 326** P P **P** **16 59 33.7 -0.8**
comp=Z,20nm,0.7s,mb4.9
DAVOX **Davos** **79.68 328** P P **P** **16 59 35.5 +0.5**
comp=Z,10nm,0.5s,mb4.7,baz=18,slow=4.2,SNR=12
HGH **Gray Hill** **79.74 337**⇓ *e*P P **P** **16 59 35.1 -0.3**
HGH AMb AMB 16 59 35.8
comp=Z,40nm,1.2s,mb4.9
MOF **Molkenrain** **79.83 330** *e*P P **P** **16 59 35.4 -0.5**
THEF **They Montfort** **79.92 331** *e*P P **P** **16 59 36.0 -0.4**
HINF **Hinteralfeld** **79.96 330** *e*P P **P** **16 59 35.9 -0.7**
comp=Z,11nm,0.8s,mb4.3
HINF **Hinteralfeld** **79.96 330** *e*P P **P** **16 59 35.9 -0.7**
HINF pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
HINF **Hinteralfeld** **79.96 330** *e*P P **P** **16 59 35.9 -0.7**
comp=Z,5.6nm,0.8s,mb4.2
HAU **Haudompre** **79.98 330** *e*P P **P** **16 59 36.1 -0.6**
comp=Z,18nm,0.7s,mb4.5
HAU **Haudompre** **79.98 330** *e*P P **P** **16 59 36.1 -0.6**
HAU pmax pmax
comp=Z,9.0nm,0.7s,mb4.5
HAU **Haudompre** **79.98 330** *e*P P **P** **16 59 36.1 -0.6**
comp=Z,8.9nm,0.7s,mb4.5
BBS **Basel-Blauen** **80.01 329** *e*P P **P** **16 59 36.4 -0.5**
MEZF **Maizieres J'vi** **80.02 331** *e*P P **P** **16 59 36.5 -0.4**
comp=Z,33nm,0.9s,mb4.7
MEZF **Maizieres J'vi** **80.02 331** *e*P P **P** **16 59 36.5 -0.4**
comp=Z,33nm,0.9s,mb5.0
TUE **Stuetta** **80.14 328** P P **P** **16 59 38.0 +0.4**
comp=Z,17nm,0.9s,mb4.7
LOMF **Lomont** **80.36 330** *e*P P **P** **16 59 38.6 -0.1**
HTL **Hartland** **80.78 338** *e*P P **P** **16 59 40.4 -0.6**
FSSB **Fossombrone** **81.02 324** P P **P** **16 59 42.6 +0.4**
comp=Z,40nm,0.6s,mb5.2
MCGN **Macugnaga** **81.09 328** P P **P** **16 59 42.9 +0.3**
comp=Z,30nm,1.0s,mb4.9
ZCCA **Zocca** **81.24 326** P P **P** **16 59 45.2 +1.8**
comp=Z,21nm,0.7s,mb4.9
SFI **Santa Sofia** **81.24 325** P P **P** **16 59 44.5 +1.1**
SFI pmax pmax
comp=Z,18nm,0.6s,mb4.9
SFI **Santa Sofia** **81.24 325** P P **P** **16 59 44.5 +1.1**
comp=Z,18nm,0.6s,mb4.9
CABF **La Chapelle** **81.25 330** *e*P P **P** **16 59 42.8 -0.6**
comp=Z,8.2nm,0.7s,mb4.2
CABF **La Chapelle** **81.25 330** *e*P P **P** **16 59 42.8 -0.6**
CABF pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
CABF **La Chapelle** **81.25 330** *e*P P **P** **16 59 42.8 -0.6**
comp=Z,4.1nm,0.7s,mb4.2
SNTG **Esanatoglia** **81.31 324** P P **P** **16 59 44.0 +0.3**
comp=Z,18nm,0.5s,mb5.0
SEI **Scarperia** **81.33 325** P P **P** **16 59 45.2 +1.4**
comp=Z,219nm,0.6s,mb6.0
GSCL **Gusciola** **81.40 326** P P **P** **16 59 45.2 +1.0**
comp=Z,20nm,0.9s,mb4.8
RGNG **Rignano Grg** **81.41 321** P P **P** **16 59 44.0 -0.2**
ERBM **Eremo** **81.42 326** P P **P** **16 59 45.4 +1.1**
comp=Z,41nm,0.8s,mb5.1
CSA1 **St Austell** **81.47 338** *e*P P **P** **16 59 44.4 -0.2**
LOR **Lormes** **81.49 331** *e*P P **P** **16 59 43.8 -0.9**
comp=Z,48nm,0.8s,mb4.9
LOR **Lormes** **81.49 331** *e*P P **P** **16 59 43.8 -0.9**
LOR pmax pmax
comp=Z,24nm,0.8s,mb4.9
LOR **Lormes** **81.49 331** *e*P P **P** **16 59 43.8 -0.9**
comp=Z,24nm,0.8s,mb4.9
NRCA **Norcia** **81.57 323** P P **P** **16 59 45.8 +0.7**
comp=Z,43nm,0.6s,mb5.2
FLN **La Foliniere** **81.61 335** *e*P P **P** **16 59 44.4 -0.9**
comp=Z,39nm,0.9s,mb4.7
FLN **La Foliniere** **81.61 335** *e*P P **P** **16 59 44.4 -0.9**
FLN pmax pmax
comp=Z,19nm,0.9s,mb4.7
FLN **La Foliniere** **81.61 335** *e*P P **P** **16 59 44.4 -0.9**
comp=Z,19nm,0.9s,mb4.7
LDF **La Druitiere** **81.65 334** *e*P P **P** **16 59 44.6 -0.9**
comp=Z,23nm,0.6s,mb4.7
LDF **La Druitiere** **81.65 334** *e*P P **P** **16 59 44.6 -0.9**
LDF pmax pmax
comp=Z,11nm,0.6s,mb4.7
LDF **La Druitiere** **81.65 334** *e*P P **P** **16 59 44.6 -0.9**
comp=Z,11nm,0.6s,mb4.7
IDI **Anoyia** **81.66 311** P P **P** **16 59 44.5 -1.1**
comp=Z,15nm,0.4s,mb5.0,baz=52,slow=7.6,SNR=46
CCA1 **Carnmenellis** **81.71 338**⇓ *e*P P **P** **16 59 45.4 -0.4**
BNM **Barren Site** **81.75 50** *e*P P **P** **16 59 47.9 +1.9**
SSF **Saint Saulge** **81.79 332** *e*P P **P** **16 59 45.5 -0.7**
comp=Z,25nm,0.8s,mb4.6
SSF **Saint Saulge** **81.79 332** *e*P P **P** **16 59 45.5 -0.7**
SSF pmax pmax
comp=Z,13nm,0.8s,mb4.6
SSF **Saint Saulge** **81.79 332** *e*P P **P** **16 59 45.5 -0.7**
comp=Z,12nm,0.8s,mb4.6
CGW **Gweek** **81.79 338**⇓ *e*P P **P** **16 59 46.0 -0.2**
CSNT **Castellina Chi** **81.83 325** P P **P** **16 59 46.1 -0.4**
comp=Z,20nm,0.8s,mb4.8
AQU **L'Aquila** **81.84 323** *e*P P **P** **16 59 46.7 +0.2**
AQU pmax pmax
comp=Z,45nm,1.1s,mb5.0
AQU **L'Aquila** **81.84 323** *e*P P **P** **16 59 46.7 +0.2**
comp=Z,45nm,1.1s,mb5.0
CPZ **Penzance** **81.84 338**⇓ *e*P P **P** **16 59 46.3 -0.2**
CPZ AMb AMB 16 59 51.4
comp=Z,26nm,1.9s,mb4.5
FG4 **Candela** **81.87 321** P P **P** **16 59 47.3 +0.7**
FG4 pmax pmax
comp=Z,52nm,0.6s,mb5.3
FG4 **Candela** **81.87 321** P P **P** **16 59 47.3 +0.7**
comp=Z,52nm,0.6s,mb5.3
LPL **La Plagne** **81.94 329** *e*P P **P** **16 59 46.9 -0.1**
comp=Z,43nm,0.8s,mb4.8
LPL **La Plagne** **81.94 329** *e*P P **P** **16 59 46.9 -0.1**
LPL pmax pmax
comp=Z,21nm,0.8s,mb4.8
LPL **La Plagne** **81.94 329** *e*P P **P** **16 59 46.9 -0.1**
comp=Z,22nm,0.8s,mb4.8
LPG **La Plagne** **81.95 329** *e*P P **P** **16 59 47.2 +0.1**
comp=Z,45nm,0.8s,mb4.9
LPG **La Plagne** **81.95 329** *e*P P **P** **16 59 47.2 +0.1**
LPG pmax pmax
comp=Z,22nm,0.8s,mb4.8
LPG **La Plagne** **81.95 329** *e*P P **P** **16 59 47.2 +0.1**
comp=Z,22nm,0.8s,mb4.8
SMF **Signal de Mont** **82.03 331** *e*P P **P** **16 59 46.9 -0.6**
comp=Z,39nm,0.8s,mb4.8
SMF **Signal de Mont** **82.03 331** *e*P P **P** **16 59 46.9 -0.6**
SMF pmax pmax
comp=Z,20nm,0.8s,mb4.8
SMF **Signal de Mont** **82.03 331** *e*P P **P** **16 59 46.9 -0.6**
comp=Z,20nm,0.8s,mb4.8
GRR **Gorron** **82.06 335** *e*P P **P** **16 59 46.9 -0.8**
AVF **Avril sur Loir** **82.08 331** *e*P P **P** **16 59 47.2 -0.5**
comp=Z,57nm,0.7s,mb5.0
AVF **Avril sur Loir** **82.08 331** *e*P P **P** **16 59 47.2 -0.5**
AVF pmax pmax
comp=Z,29nm,0.7s,mb5.0
AVF **Avril sur Loir** **82.08 331** *e*P P **P** **16 59 47.2 -0.5**
comp=Z,28nm,0.7s,mb5.0
GVD **Gavdhos** **82.43 312** *e*P P **P** **16 59 48.9 -0.7**
comp=Z,18nm,0.5s,mb5.0
MBDF **Montbardon** **82.59 328** *e*P P **P** **16 59 49.7 -0.7**
comp=Z,29nm,0.6s,mb4.9
MBDF **Montbardon** **82.59 328** *e*P P **P** **16 59 49.7 -0.7**
MBDF pmax pmax
comp=Z,14nm,0.6s,mb4.9
MBDF **Montbardon** **82.59 328** *e*P P **P** **16 59 49.7 -0.7**
comp=Z,14nm,0.6s,mb4.9
PLDF **La Plantade** **82.69 331** *e*P P **P** **16 59 50.8 -0.1**
SGMF **Saint Gilles** **82.70 336** *e*P P **P** **16 59 50.6 -0.3**
comp=Z,34nm,0.7s,mb4.9
SGMF **Saint Gilles** **82.70 336** *e*P P **P** **16 59 50.6 -0.3**
SGMF pmax pmax
comp=Z,17nm,0.7s,mb4.9
SGMF **Saint Gilles** **82.70 336** *e*P P **P** **16 59 50.6 -0.3**
comp=Z,17nm,0.7s,mb4.9
ORIF **Oris-en-Rattie** **82.77 329** *e*P P **P** **16 59 51.0 -0.3**
comp=Z,21nm,0.7s,mb4.7
ORIF **Oris-en-Rattie** **82.77 329** *e*P P **P** **16 59 51.0 -0.3**
ORIF pmax pmax
comp=Z,11nm,0.7s,mb4.7
ORIF **Oris-en-Rattie** **82.77 329** *e*P P **P** **16 59 51.0 -0.3**
comp=Z,11nm,0.7s,mb4.7
AGO **Saint Agoulin** **82.79 331** *e*P P **P** **16 59 50.2 -1.2**
ROSF **Rostrenen** **82.83 336** *e*P P **P** **16 59 51.3 -0.4**
comp=Z,50nm,0.7s,mb5.1
ROSF **Rostrenen** **82.83 336** *e*P P **P** **16 59 51.3 -0.4**
ROSF pmax pmax
comp=Z,25nm,0.7s,mb5.0
ROSF **Rostrenen** **82.83 336** *e*P P **P** **16 59 51.3 -0.4**
comp=Z,25nm,0.7s,mb5.1
TCF **Toulx Ste Croi** **82.91 332** *e*P P **P** **16 59 51.4 -0.6**
comp=Z,33nm,1.0s,mb4.7
TCF **Toulx Ste Croi** **82.91 332** *e*P P **P** **16 59 51.4 -0.6**
TCF pmax pmax
comp=Z,16nm,1.0s,mb4.7
TCF **Toulx Ste Croi** **82.91 332** *e*P P **P** **16 59 51.4 -0.6**
comp=Z,16nm,1.0s,mb4.7
COLF **Collangettes** **83.05 331** *e*P P **P** **16 59 53.1 +0.3**
SBF **Sospel** **83.06 327** *e*P P **P** **16 59 52.1 -0.7**
comp=Z,52nm,0.7s,mb5.2
SBF **Sospel** **83.06 327** *e*P P **P** **16 59 52.1 -0.7**
SBF pmax pmax
comp=Z,26nm,0.7s,mb5.1
SBF **Sospel** **83.06 327** *e*P P **P** **16 59 52.1 -0.7**
comp=Z,26nm,0.7s,mb5.1
PYM **Petit Puy Mans** **83.09 331** *e*P P **P** **16 59 53.4 +0.4**
QUIF **Quistinic** **83.18 336** *e*P P **P** **16 59 52.8 -0.6**
comp=Z,32nm,0.7s,mb4.9
QUIF **Quistinic** **83.18 336** *e*P P **P** **16 59 52.8 -0.6**
QUIF pmax pmax
comp=Z,16nm,0.7s,mb4.9
QUIF **Quistinic** **83.18 336** *e*P P **P** **16 59 52.8 -0.6**
comp=Z,16nm,0.7s,mb4.9
VIVF **Saint-Julien-l** **83.27 330** *e*P P **P** **16 59 53.4 -0.5**
comp=Z,31nm,1.0s,mb4.7
VIVF **Saint-Julien-l** **83.27 330** *e*P P **P** **16 59 53.4 -0.5**
VIVF pmax pmax
comp=Z,15nm,1.0s,mb4.7
VIVF **Saint-Julien-l** **83.27 330** *e*P P **P** **16 59 53.4 -0.5**
comp=Z,15nm,1.0s,mb4.7
MFF **Saint Martin d** **83.41 333** *e*P P **P** **16 59 54.4 -0.2**
comp=Z,36nm,0.7s,mb4.9
MFF **Saint Martin d** **83.41 333** *e*P P **P** **16 59 54.4 -0.2**
MFF pmax pmax
comp=Z,18nm,0.7s,mb4.9
MFF **Saint Martin d** **83.41 333** *e*P P **P** **16 59 54.4 -0.2**
comp=Z,18nm,0.7s,mb4.9
PGF **Pioggiola** **83.54 326** *e*P P **P** **16 59 54.4 -0.9**
comp=Z,33nm,0.9s,mb4.8
PGF **Pioggiola** **83.54 326** *e*P P **P** **16 59 54.4 -0.9**
PGF pmax pmax
comp=Z,17nm,0.9s,mb4.8
PGF **Pioggiola** **83.54 326** *e*P P **P** **16 59 54.4 -0.9**
comp=Z,17nm,0.9s,mb4.8
FRF **La Foret Royal** **83.63 328** *e*P P **P** **16 59 54.8 -0.9**
comp=Z,44nm,0.9s,mb4.9

FRF	**La Foret Royal**	**83.63**	**328**	*eP*		**P**		**16 59 54.8**	**-0.9**
FRF					pmax	pmax			
	comp=Z,22nm,0.9s,mb4.9								
FRF	**La Foret Royal**	**83.63**	**328**	*eP*		**P**		**16 59 54.8**	**-0.9**
	comp=Z,22nm,0.9s,mb4.9								
SMRF	**Simiane la Rot**	**83.68**	**329**	*eP*		**P**		**16 59 55.5**	**-0.5**
	comp=Z,27nm,1.0s,mb4.6								
SMRF	**Simiane la Rot**	**83.68**	**329**	*eP*		**P**		**16 59 55.5**	**-0.5**
	comp=Z,27nm,1.0s,mb4.9								
VILF	**Villemus**	**83.74**	**328**	*eP*		**P**		**16 59 57.3**	**+1.0**
TAVF	**Tavernes**	**83.81**	**328**	*eP*		**P**		**16 59 56.2**	**-0.4**
LMR	**La Mourre**	**83.87**	**328**	*eP*		**P**		**16 59 56.1**	**-0.8**
	comp=Z,87nm,0.9s,mb5.2								
LMR	**La Mourre**	**83.87**	**328**	*eP*		**P**		**16 59 56.1**	**-0.8**
LMR					pmax	pmax			
	comp=Z,44nm,0.9s,mb5.2								
LMR	**La Mourre**	**83.87**	**328**	*eP*		**P**		**16 59 56.1**	**-0.8**
	comp=Z,44nm,0.9s,mb5.2								
PRAF	**Pradon**	**83.98**	**329**	*eP*		**P**		**16 59 58.1**	**+0.6**
RJF	**Les Rejaudoux**	**84.00**	**332**	*eP*		**P**		**16 59 57.2**	**-0.4**
	comp=Z,20nm,0.9s,mb4.5								
RJF	**Les Rejaudoux**	**84.00**	**332**	*eP*		**P**		**16 59 57.2**	**-0.4**
RJF					pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.5								
RJF	**Les Rejaudoux**	**84.00**	**332**	*eP*		**P**		**16 59 57.2**	**-0.4**
	comp=Z,10nm,0.9s,mb4.6								
PUYF	**Puyloubier**	**84.02**	**328**	*eP*		**P**		**16 59 56.3**	**-1.4**
SOI	**Samo**	**84.05**	**319**	P		**P**		**16 59 58.0**	**+0.2**
SOI					pmax	pmax			
	comp=Z,66nm,0.6s,mb5.5								
SOI	**Samo**	**84.05**	**319**	P		**P**		**16 59 58.0**	**+0.2**
	comp=Z,66nm,0.6s,mb5.5								
TREF	**Trevaresse**	**84.06**	**329**	*eP*		**P**		**16 59 58.1**	**+0.2**
CAF	**Calviac**	**84.14**	**331**	*eP*		**P**		**16 59 58.5**	**+0.2**
	comp=Z,41nm,0.9s,mb4.8								
CAF	**Calviac**	**84.14**	**331**	*eP*		**P**		**16 59 58.5**	**+0.2**
CAF					pmax	pmax			
	comp=Z,21nm,0.9s,mb4.9								
CAF	**Calviac**	**84.14**	**331**	*eP*		**P**		**16 59 58.5**	**+0.2**
	comp=Z,21nm,0.9s,mb4.9								
LASF	**Ste Croix**	**84.24**	**330**	*eP*		**P**		**16 59 58.5**	**-0.3**
	comp=Z,26nm,1.0s,mb4.6								
LFF	**La Frestale**	**84.58**	**332**	*eP*		**P**		**17 00 00.5**	**0.0**
	comp=Z,41nm,1.0s,mb4.8								
LFF	**La Frestale**	**84.58**	**332**	*eP*		**P**		**17 00 00.5**	**0.0**
LFF					pmax	pmax			
	comp=Z,20nm,1.0s,mb4.8								
LFF	**La Frestale**	**84.58**	**332**	*eP*		**P**		**17 00 00.5**	**0.0**
	comp=Z,20nm,1.0s,mb4.8								
MTLF	**Montolieu**	**85.47**	**330**	*eP*		**P**		**17 00 04.8**	**-0.1**
	comp=Z,32nm,0.9s,mb4.8								
MTLF	**Montolieu**	**85.47**	**330**	*eP*		**P**		**17 00 04.8**	**-0.1**
MTLF					pmax	pmax			
	comp=Z,16nm,0.9s,mb4.8								
MTLF	**Montolieu**	**85.47**	**330**	*eP*		**P**		**17 00 04.8**	**-0.1**
	comp=Z,16nm,0.9s,mb4.8								
EPF	**Esparros**	**86.40**	**331**	*eP*		**P**		**17 00 09.0**	**-0.5**
	comp=Z,33nm,0.8s,mb4.8								
EPF	**Esparros**	**86.40**	**331**	*eP*		**P**		**17 00 09.0**	**-0.5**
EPF					pmax	pmax			
	comp=Z,16nm,0.8s,mb4.8								
EPF	**Esparros**	**86.40**	**331**	*eP*		**P**		**17 00 09.0**	**-0.5**
	comp=Z,16nm,0.8s,mb4.8								
ETSF	**Etsaut**	**86.83**	**332**	*eP*		**P**		**17 00 12.1**	**+0.6**
	comp=Z,30nm,0.7s,mb4.8								
ETSF	**Etsaut**	**86.83**	**332**	*eP*		**P**		**17 00 12.1**	**+0.6**
ETSF					pmax	pmax			
	comp=Z,15nm,0.7s,mb4.8								
ETSF	**Etsaut**	**86.83**	**332**	*eP*		**P**		**17 00 12.1**	**+0.6**
	comp=Z,15nm,0.7s,mb4.8								
SJPF	**Ste Jean**	**86.86**	**333**	*eP*		**P**		**17 00 11.4**	**-0.3**
PBRG	**Braganca**	**89.79**	**336**	*eP*		**P**		**17 00 25.5**	**0.0**
	comp=Z,20nm,1.2s,mb4.8								
PVRL	**Vila Real**	**90.57**	**336**	*eP*		**P**		**17 00 29.1**	**0.0**
	comp=Z,24nm,1.3s,mb5.0								
ESDC	**Sonseca Array**	**90.85**	**333**	P		**P**		**17 00 29.4**	**-1.0**
	comp=Z,3.6nm,0.8s,mb4.4,baz=18,slow=4.4,SNR=11								
PVIS	**Viseu**	**91.14**	**336**	*eP*		**P**		**17 00 31.6**	**-0.1**
	comp=Z,15nm,1.3s,mb4.8								
MTE	**Manteigas**	**91.32**	**336**	*eP*		**P**		**17 00 32.7**	**+0.1**
	comp=Z,20nm,0.9s,mb5.0								
MTE	**Manteigas**	**91.32**	**336**	*eP*		**P**		**17 00 32.4**	**-0.2**
	comp=Z,15nm,0.9s,mb4.9								
PBEJ	**Beja**	**93.60**	**335**	*eP*		**P**		**17 00 43.0**	**-0.1**
	comp=Z,13nm,1.3s,mb4.8								
TORD	**Torodi Ar. Bea**	**111.79**	**316**	PKiKP		PKiKP		17 05 59.7	-0.9
	comp=Z,0.4nm,0.4s,baz=25,slow=2.6,SNR=7.1								
TORD					PP	PP		17 06 40.3	-6.1
	comp=Z,2.0nm,0.8s,baz=37,slow=5.9,SNR=4.3								
DBIC	**Dimbokro**	**120.61**	**318**	PKP		PKPdf		17 06 16.4	-1.1
	comp=Z,5.1nm,1.0s,baz=45,slow=18,SNR=4.8								
DBIC	**Dimbokro**	**120.61**	**318**	PKIKP		PKPdf		17 06 16.4	-1.1
DBIC					pmax	pmax			
	comp=Z,5.0nm,1.0s								
DBIC	**Dimbokro**	**120.61**	**318**	PKP		PKPdf		17 06 16.4	-1.1
VNDA	**Vanda**	**121.65**	**174**	PKP		PKPdf		17 06 17.1	-2.4
	comp=Z,0.5nm,0.6s,baz=320,slow=6.2,SNR=4.6								
VNDA	**Vanda**	**121.65**	**174**	PKIKP		PKPdf		17 06 17.1	-2.4
VNDA					pmax	pmax			
	comp=Z,1.0nm,0.6s								
MAW	**Mawson**	**124.91**	**207**	PKP		PKPdf		17 06 24.1	-1.6
	comp=Z,1.9nm,0.8s,baz=2.0,slow=4.2,SNR=6.1								
MAW	**Mawson**	**124.91**	**207**	PKIKP		PKPdf		17 06 24.1	-1.7
MAW					pmax	pmax			
	comp=Z,2.0nm,0.8s								
LPAZ	**La Paz**	**143.87**	**50**	PKP		PKPdf		17 06 59.0	-1.9
	comp=Z,0.9nm,0.5s,baz=313,slow=3.6,SNR=6.5								
LPAZ					PP	PP		17 10 22.2	+5.8
	comp=Z,0.6nm,0.7s,baz=360,slow=3.9,SNR=4.5								
LPAZ	**La Paz**	**143.87**	**50**	PKIKP		PKPdf		17 06 59.1	-1.9
LPAZ								17 10 22.2	
LPAZ					pmax	pmax			
	comp=Z,1.0nm,0.5s								
LPAZ					pmax	pmax			
	comp=Z,1.0nm,0.7s								
LPAZ	**La Paz**	**143.87**	**50**	PKP		PKPdf		17 06 59.0	-1.9
LPAZ					PP	PP		17 10 22.2	+5.8
SNAA	**Sanae**	**146.61**	**200**	*e*PKP2		PKPab		17 07 05.4	-3.7
VNA2	**Neumayer--Watz**	**148.22**	**200**	⇑*i*PKPdf		PKPdf		17 07 10.8	+2.5
	baz=81,slow=1.4								
VNA2					*e*			17 07 13.0	
VNA2					*e*			17 07 14.9	
VNA2					*e*			17 07 17.8	
VNA2					*e*			17 07 34.6	
VNA2					*e*			17 07 37.9	
VNA2					*e*			17 07 55.0	
VNA2					*e*			17 08 01.0	
VNA2					*e*			17 08 06.5	
VNA2					*e*			17 08 17.8	
VNA2					*e*			17 08 19.9	
VNA2					*e*			17 08 22.5	
VNA2					*e*			17 08 26.3	
VNA2					*e*			17 10 30.1	
VNA2					*e*			17 10 37.3	
VNA2					*e*			17 10 44.4	
VNA2					*e*			17 10 54.8	
VNA3	**Neumayer Olymp**	**148.54**	**198**	⇑*i*PKPdf		PKPdf		17 07 11.2	+2.3
VNA3					*e*			17 07 13.4	
VNA3					*e*			17 07 15.8	
VNA3					*e*			17 07 18.6	
VNA3					*e*			17 07 39.6	
VNA3					*e*			17 07 53.8	
VNA3					*e*			17 08 05.2	
VNA3					*e*			17 08 17.4	
VNA3					*e*			17 08 25.4	
VNA3					*e*			17 10 29.4	
VNA3					*e*			17 10 43.1	
VNA3					*e*			17 10 54.2	
VNA1	**Neumayer--Stat**	**148.62**	**200**	⇑*i*PKPdf		PKPdf		17 07 11.9	+2.9
VNA1					*e*			17 07 14.4	
VNA1					*e*			17 07 16.0	
VNA1					*e*			17 07 19.8	
VNA1					*e*			17 07 38.3	
VNA1					*e*			17 07 42.2	
VNA1					*e*			17 10 30.9	
VNA1					*e*			17 10 44.7	
BDFB	**Brasilia**	**151.31**	**16**	PKPbc		PKPbc		17 07 19.2	-0.2
	comp=Z,11nm,0.6s,baz=194,slow=1.1,SNR=15								
BDFB	**Brasilia**	**151.31**	**16**	PKIKP		PKPdf		17 07 19.2	+6.0
BDFB					pmax	pmax			
	comp=Z,11nm,0.6s								

MAN 10 17:06:48.9,962N×12202E,h24km,mb3.4,ML4.6,MS5.7,

Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**2.92**	**61**	*eP*	Pn	17 07 35.5	+1.6

*IDC **10** 17:08:07.1±7.0,1849S×177.14W,h0km,mb4.1/3, mb1 4.4/3,mb1mx3.8/13,mbtmp4.1/3,MS4.5/1,Ms1 4.5/1, ms1mx2.7/29,Error ellipse: s-maj=304.9km s-min=36.1km az=143.0*

*ISCJB **10** 17:08:10.0±1.2, 187S±03×177.1W±02,h33km,mb4.1/3, Error ellipse: s-maj=39.1km s-min=32.4km az=149.6*

ISC 10 17:08:11.2±1.2,187S±03×1769W±02,h35km,n6,σ0°74/5, mb4.1/3,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**10.51**	**185**	LR	LR	17 14 03.2	
	comp=Z,3μm,19.0s,baz=146,slow=33						
WRA	**Warramunga Arr**	**45.90**	**260**	P	**P**	**17 16 29.6**	**-0.7**
	0.6nm,0.3s,mb4.0,baz=97,slow=7.7,SNR=26						
ASAR	**Alice Springs**	**45.96**	**255**	P	**P**	**17 16 31.5**	**+0.7**
	5.7nm,0.6s,mb4.7,baz=91,slow=8.9,SNR=143						
ILAR	**Eielson Array**	**86.38**	**12**	P	**P**	**17 20 49.9**	**0.0**
	0.2nm,0.4s,mb3.7,baz=215,slow=5.3,SNR=7.1						
VNA3	**Neumayer Olymp**	**89.82**	**176**	*e*	**P**	**17 21 05.8**	**-0.4**
VNA3				*e*		17 21 08.3	
VNA2	**Neumayer--Watz**	**90.28**	**177**	*e*	**P**	**17 21 08.7**	**+0.4**
	baz=187,slow=5.0						
VNA2				*e*		17 21 11.4	

WEL 10 17:09:15.8±0.6,3649S×17769E,h33km,ML3.5/7,Error ellipse: s-maj=4.4km s-min=4.1km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.18**	**155**	P*	Pb	17 09 34.9	-2.6
MXZ				S*	Sb	17 09 49.4	-3.0
KUZ	**Kuaotunu**	**1.61**	**260**	PN	Pn	17 09 41.2	-0.6
KUZ				SN	Sn	17 09 59.1	-2.2
PUZ	**Puketiti**	**1.64**	**164**	PN	Pn	17 09 44.1	+1.8
PUZ				SN	Sn	17 10 07.2	+5.0
URZ	**Urewera**	**1.82**	**195**	P*	Pb	17 09 45.0	-3.5
URZ				S*	Sb	17 10 06.0	-4.9
MWZ	**Matawai**	**1.84**	**184**	P*	Pb	17 09 45.3	-3.5
MWZ				S*	Sb	17 10 06.2	-5.2

*IDC **10** 17:12:19.0±0.6,2852S×17661W,h0km,mb4.6/12, mb1 4.6/15,mb1mx4.6/18,mbtmp4.6/15,ML4.3/3,MS4.0/12, Ms1 4.0/12,ms1mx3.7/25,Error ellipse: s-maj=24.3km s-min=16.9km az=143.0*

*ISCJB **10** 17:12:23.4±0.4,2861S±008×17663W±009,h41km, mb4.7/21,MS4.0/12,Error ellipse: s-maj=12.5km s-min=10.1km az=107.3*

*MOS **10** 17:12:23.1±1.2,2836S×17658W,h33km,mb5.0/5,Error ellipse: s-maj=20.3km s-min=13.9km az=159.8*

*BJI **10** 17:12:25.1,2890S×17640W,h52km,mB5.3,mb4.8,Ms4.5, Msz4.2*

*NEIC **10** 17:12:25.2±1.1,2892S×17641W,h52km±10km,mb4.9/13, Error ellipse: s-maj=14.8km s-min=8.1km az=155.0*

ISC 10 17:12:25.0±0.4,2867S±007×17653W±008,h43km, h43km±2.8km:pP-P,n78,σ1°23/53,mb4.7/21,MS4.0/12,7C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.35**	**244**	Pn	**Pn**	**17 12 49.3**	**+1.9**
RAO				Sn	**Sn**	**17 13 13.2**	**+9.1**
	577nm,0.3s,baz=96,slow=21,SNR=9.0						
RAO	**Raoul Island**	**1.35**	**244**	*eP*	**Pn**	**17 12 49.0**	**+1.6**
RAO				Pn	**Pn**	**17 12 49.3**	**+1.9**
RAO				Sn	**Sn**	**17 13 13.2**	**+9.1**
URZ	**Urewera**	**10.94**	**207**	Pn	**Pn**	**17 14 56.2**	**-2.7**
	1.0nm,0.3s,baz=45,slow=5.7,SNR=4.9						
URZ				Sn	**Sn**	**17 16 54.7**	**-5.2**
	2.7nm,0.3s,baz=142,slow=18,SNR=11						
SNZO	**South Karori**	**14.51**	**207**	*e*Pn	**Pn**	**17 15 44.3**	**-3.3**
SNZO				*e*Sn	**Sn**	**17 18 10.3**	**-17**
AFI	**Afiamalu**	**15.33**	**18**	Pn	**Pn**	**17 15 50.5**	**-7.9**
	1.8nm,0.3s,baz=28,slow=22,SNR=3.7						
AFI				Sn	Sn	17 18 26.7	-20
	1.5nm,0.3s,baz=217,slow=21,SNR=5.0						
DZM	**Mont Dzumac**	**16.73**	**289**	Pn	**Pn**	**17 16 21.6**	**+5.5**
	0.3nm,0.3s,baz=123,slow=14,SNR=9.0						
RAR	**Rarotonga**	**16.90**	**68**	Pn	**Pn**	**17 16 17.2**	**-1.1**
	1.0nm,0.3s,baz=218,slow=12,SNR=3.4						
RAR				LR	LR	17 21 25.8	
	comp=Z,489nm,18.6s,baz=345,slow=32						
RPZ	**Rata Peaks**	**18.02**	**210**	P	**Pn**	**17 16 30.9**	**-1.3**
	2.7nm,0.3s,baz=314,slow=4.3,SNR=11						
RPZ	**Rata Peaks**	**18.02**	**210**	P	**Pn**	**17 16 30.9**	**-1.3**
TBI	**Tubuai**	**24.87**	**84**	*e*LQ		17 22 19.9	
	393nm,24.2s						
TBI				*e*LR	LR	17 23 15.6	
	401nm,21.2s						
PPT	**Papeete**	**27.07**	**72**	*e*LQ		17 23 11.1	
	333nm,20.8s						
PPT				*e*LR	LR	17 24 11.3	
	290nm,20.8s						
PPT	**Papeete**	**27.07**	**72**	LR	LR	17 26 35.6	
	comp=Z,610nm,18.4s,MS4.2,baz=149,slow=32						
HNR	**Honiara**	**29.23**	**306**	LR	LR	17 26 58.1	
	comp=Z,94nm,19.6s,MS3.4,baz=178,slow=30						
CTA	**Charters Tower**	**34.85**	**276**	⇑*i*P	**P**	**17 19 13.3**	**+1.4**
	5.4nm,0.6s,mb4.7						
CTA				*e*	pP	17 19 24.2	+0.6
CTA	**Charters Tower**	**34.85**	**276**	⇑*i*P	**P**	**17 19 13.3**	**+1.4**
CTA				*e*	pP	17 19 24.2	+0.6
CTA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
STKA	**Stephens Creek**	**36.15**	**254**	⇑*i*P	**P**	**17 19 21.8**	**-1.3**
	comp=Z,6.1nm,0.8s,mb4.6						
STKA				*e*	pP	17 19 33.8	-1.1
STKA	**Stephens Creek**	**36.15**	**254**	P	**P**	**17 19 21.7**	**-1.4**
	comp=Z,8.3nm,0.8s,mb4.7,baz=95,slow=9.0,SNR=16						
STKA				LR	LR	17 33 12.8	
	comp=Z,249nm,19.7s,MS4.0,baz=293,slow=35						
RKT	**Rikitea**	**37.65**	**91**	*e*LR	LR	17 28 57.6	
	comp=Z,264nm,23.5s						
PMG	**Port Moresby**	**39.09**	**292**	P	**P**	**17 19 48.9**	**+1.0**
	comp=Z,21nm,0.9s,mb4.9,baz=160,slow=0.9,SNR=6.1						
PMG				LR	LR	17 33 57.6	
	comp=Z,194nm,18.2s,MS4.0,baz=189,slow=33						
PMG	**Port Moresby**	**39.09**	**292**	*eP*	**P**	**17 19 48.5**	**+0.6**
PMG				pmax	pmax		
	comp=Z,21nm,0.9s						
PMG	**Port Moresby**	**39.09**	**292**	*eP*	**P**	**17 19 48.5**	**+0.6**
	comp=Z,21nm,0.9s,mb4.9						
PMG				LR	LR	17 33 57.6	
ASAR	**Alice Springs**	**44.52**	**265**	P	**P**	**17 20 32.5**	**+0.2**
	comp=Z,7.6nm,0.9s,mb4.5,baz=116,slow=8.1,SNR=43						
WB2	**Warramunga Arr**	**45.34**	**270**	⇑*i*P	**P**	**17 20 38.5**	**-0.3**
WB2				*e*	pP	17 20 50.0	-0.9
WRAB	**Tennant Creek**	**45.35**	**270**	*eP*	**P**	**17 20 38.9**	**0.0**
WRAB				*e*	pP	17 20 48.5	-2.4
WRAB				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.2						
WRAB	**Tennant Creek**	**45.35**	**270**	*eP*	**P**	**17 20 38.9**	**+0.1**
	comp=Z,50nm,1.2s,mb5.2						
WRAB				*e*	pP	17 20 48.5	-2.5
WRA	**Warramunga Arr**	**45.35**	**270**	P	**P**	**17 20 38.6**	**-0.3**
	comp=Z,12nm,0.8s,mb4.7,baz=107,slow=7.9,SNR=40						
FORT	**Forrest**	**47.75**	**253**	*eP*	**P**	**17 20 56.8**	**-0.9**
	comp=Z,21nm,0.7s,mb5.3						
VNDA	**Vanda**	**49.94**	**186**	P	**P**	**17 21 16.6**	**+2.1**
	comp=Z,0.9nm,0.9s,mb3.8,baz=10,slow=6.7,SNR=4.2						
VNDA				LR	LR	17 38 54.7	
	comp=Z,158nm,20.0s,MS4.0,baz=22,slow=32						
VNDA	**Vanda**	**49.94**	**186**	*eP*	**P**	**17 21 16.4**	**+1.9**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
VNDA	**Vanda**	**49.94**	**186**	*eP*	**P**	**17 21 16.4**	**+1.9**
	comp=Z,0.8nm,0.5s,mb4.0						
VNDA				LR	LR	17 38 54.7	
FITZ	**Fitzroy Crossi**	**53.68**	**268**	*eP*	**P**	**17 21 42.8**	**+0.5**
	comp=Z,14nm,1.0s,mb4.8						
FITZ				*e*	pP	17 21 54.3	-0.3
FITZ	**Fitzroy Crossi**	**53.68**	**268**	P	**P**	**17 21 43.1**	**+0.8**
	comp=Z,8.9nm,1.0s,mb4.7,baz=89,slow=9.6,SNR=7.8						
FITZ				LR	LR	17 45 28.9	
	comp=Z,207nm,18.2s,MS4.2,baz=263,slow=37						
KLBR	**Kellerberrin**	**56.14**	**250**	*eP*	**P**	**17 21 59.8**	**-0.3**
	comp=Z,29nm,1.4s,mb5.1						
GUMO	**Guam**	**56.20**	**313**	LR	LR	17 41 56.5	
	comp=Z,63nm,18.3s,MS3.7,baz=87,slow=32						
CASY	**Casey**	**57.27**	**207**	⇑*i*P	**P**	**17 22 09.1**	**+1.0**
	comp=Z,7.5nm,1.4s,mb4.5						
QSPA	**South Pole Qui**	**61.44**	**180**	*eP*	**P**	**17 22 38.4**	**+1.5**
	comp=Z,11nm,1.0s,mb4.9						
CBIJ	**Chichi jima**	**68.13**	**321**	LR	LR	17 47 54.2	
	comp=Z,47nm,21.6s,MS3.7,baz=150,slow=31						
MAW	**Mawson**	**74.37**	**200**	*eP*	**P**	**17 24 00.9**	**+2.7**
	comp=Z,7.6nm,1.2s,mb4.5						
MAW	**Mawson**	**74.37**	**200**	P	**P**	**17 24 00.1**	**+1.9**
	comp=Z,3.1nm,0.9s,mb4.2,baz=140,slow=7.2,SNR=3.5						
MAW	**Mawson**	**74.37**	**200**	*eP*	**P**	**17 24 00.9**	**+2.7**
MAW				pmax	pmax		
	comp=Z,8.0nm,1.2s						
MJAR	**Matsushiro Arr**	**77.57**	**324**	LR	LR	17 55 35.9	
	comp=Z,89nm,18.5s,MS4.1,baz=70,slow=34						
MAT	**Matsushiro**	**77.58**	**324**	P	**P**	**17 24 16.4**	**0.0**
MAT	**Matsushiro**	**77.58**	**324**	*eP*	**P**	**17 24 16.0**	**-0.4**
MAT				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
MAT	**Matsushiro**	**77.58**	**324**	*eP*	**P**	**17 24 16.0**	**-0.4**
	comp=Z,6.7nm,0.9s,mb4.6						
VNA3	**Neumayer Olymp**	**79.94**	**176**	*e*	**P**	**17 24 29.2**	**-0.2**
VNA3				*e*		17 24 34.9	
VNA3				*e*	pP	17 24 40.6	-1.7
VNA3				*e*		17 24 47.3	
VNA3				*e*		17 24 52.7	
VNA3				*e*		17 24 56.2	
VNA3				*e*		17 25 03.5	
VNA3				*e*		17 25 09.5	
VNA3				*e*		17 25 19.5	
VNA2	**Neumayer--Watz**	**80.39**	**176**	*e*	**P**	**17 24 32.3**	**+0.5**
	baz=167,slow=5.1						
VNA2				*e*		17 24 35.9	
VNA2				*e*		17 24 40.2	
VNA2				*e*	pP	17 24 42.9	-1.9
VNA2				*e*		17 24 50.1	
VNA2				*e*		17 24 55.4	
VNA2				*e*		17 24 59.2	
VNA2				*e*		17 25 02.1	
VNA2				*e*		17 25 09.8	
VNA2				*e*		17 25 17.3	
VNA2				*e*		17 25 37.4	
VNA1	**Neumayer--Stat**	**80.61**	**176**	*e*	**P**	**17 24 34.4**	**+1.4**
VNA1				*e*		17 24 37.4	
VNA1				*e*	pP	17 24 45.0	-1.0
VNA1				*e*	pP	17 24 48.9	+2.9
VNA1				*e*		17 24 53.8	
VNA1				*e*		17 24 57.0	
VNA1				*e*		17 25 01.8	
VNA1				*e*		17 25 12.8	
ASAJ	**Asahikawa**	**81.52**	**332**	LR	LR	17 58 59.2	
	comp=Z,154nm,19.3s,MS4.4,baz=174,slow=34						
YSS	**Yuzh-Sakhalins**	**83.77**	**333**	*e*P	**P**	**17 24 49.7**	**+0.2**
YSS				*e*	pP	17 25 04.9	+2.4
YSS	**Yuzh-Sakhalins**	**83.77**	**333**	*e*P	**P**	**17 24 50.1**	**+0.6**
	comp=Z,21nm,1.0s,mb5.2						
NVAR	**Mina Array Bea**	**86.10**	**42**	P	**P**	**17 25 02.6**	**+1.3**
	comp=Z,1.6nm,0.8s,mb4.3,baz=224,slow=8.6,SNR=7.6						
PSI	**Prapat**	**86.55**	**275**	P	**P**	**17 25 02.9**	**-0.6**
	comp=Z,4.7nm,0.8s,mb4.8,baz=171,slow=8.7,SNR=7.3						
KLR	**Kul'dur**	**90.20**	**329**	*eP*	**P**	**17 25 18.7**	**-2.1**
BBB	**Bella Bella**	**90.97**	**27**	P	**P**	**17 25 25.1**	**+0.8**
	comp=Z,27nm,0.9s,mb5.5,baz=96,slow=5.6,SNR=3.4						
PDAR	**Pinedale Array**	**94.00**	**43**	P	**P**	**17 25 37.6**	**-0.7**
	comp=Z,0.5nm,0.9s,mb3.9,baz=222,slow=2.0,SNR=4.2						
ILAR	**Eielson Array**	**95.96**	**12**	P	**P**	**17 25 45.6**	**-1.7**
	comp=Z,0.9nm,0.9s,mb4.2,baz=223,slow=5.5,SNR=6.0						
CD2	**Chengdu**	**96.26**	**302**	*eP*	**P**	**17 25 48.7**	**0.0**
CD2				AP	pP	17 26 04.2	+2.4
CD2				XP	sP	17 26 09.7	+3.0
CD2				PP	PP	17 29 45.7	+3.4
CD2				SKS		17 36 19.7	
CD2				S		17 37 02.2	
CD2				XS	sS	17 37 27.7	+0.5
CD2				SS	SS	17 43 40.7	+2.9
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.2						
CD2				AMB	AMB		
	comp=Z,40nm,9.2s						
CD2				LR	LR		
	comp=E,70nm,15.6s						
CD2				LR	LR		
	comp=Z,60nm,15.6s,MS4.2						
LPAZ	**La Paz**	**97.66**	**113**	LR	LR	18 02 25.2	
	comp=Z,32nm,18.2s,MS3.9,baz=75,slow=31						
MKAR	**Makanchi Array**	**117.64**	**310**	PKP	PKPdf	17 31 04.7	-1.6
	comp=Z,0.8nm,0.8s,baz=64,slow=2.8,SNR=8.3						
KURK	**Kurchatov**	**120.77**	**314**	*e*PKIKP	PKPdf	17 31 11.5	-0.8
KURK				*e*		17 31 22.5	
ZRNK	**Zerenda**	**126.89**	**316**	*e*PKIKP	PKPdf

az=217.0
*BJI **10** 18:04:59.6, 1470N×9260W, h79km, mB4.9, Ms4.8, Msz4.4*
*CASC **10** 18:05:00.0±2.1, 1463N×9270W, h68km±32km, MD4.3, ML4.4, mb4.6(NEIC)*
*MEX **10** 18:05:01.3±0.9, 1460N×9291W, h42km±28km, MD4.7*
*IDC **10** 18:05:04.2±3.2, 1500N×9216W, h111km±28km, mb3.9/17, mb1 4.0/18, mb1mx3.9/24, mbtmp4.2/18, MS3.6/4, Ms1 3.6/4, ms1mx3.2/29, Error ellipse: s-maj=26.9km s-min=11.0km az=57.0*

ISC 10 18:05:00.6±0.3, 1476N±003×9269W±003, h87km±3km, h76km±2.0km: pP-P, n109, σ1§26/103, mb4.2/23, 11C-3D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.11**	**113**⇓	*e*P	**Pn**	**18 05 21.1**	**-0.3**
JAT				*e*S	**Sn**	**18 05 33.4**	**-3.5**
CCIG	**Comitan**	**1.60**	**19**	*i* P	**Pn**	**18 05 28.5**	**+1.0**
CCIG				*i* S	**Sn**	**18 05 50.7**	**+2.8**
FUG	**Fuego 3**	**1.82**	**100**⇑	*e*P	**Pn**	**18 05 29.8**	**-0.4**
SCX	**San Cristobal**	**1.96**	**2**	*i* P	**Pn**	**18 05 34.5**	**+2.3**
SCX				*i* S	**Sn**	**18 05 58.0**	**+1.7**
PCG	**Pacaya**	**2.05**	**100**⇓	*e*P	**Pn**	**18 05 33.9**	**+0.6**
PCG				*e*S	**Sn**	**18 05 58.1**	**-0.2**
GCG	**Guatemala City**	**2.10**	**94**	*e*P	**Pn**	**18 05 33.9**	**0.0**
IXG	**Ixpaco**	**2.24**	**105**⇑	*e*P	**Pn**	**18 05 35.3**	**-0.6**
IXG				*e*S	**Sn**	**18 06 01.8**	**-1.1**
NBG	**Las Nubes**	**2.27**	**94**⇑	*e*P	**Pn**	**18 05 37.1**	**+0.9**
SBLS	**San Blas**	**3.11**	**107**⇑	*e*P	Px	18 05 49.9	
SBLS				*e*S	Sx	18 06 27.1	
SNJE	**San Jose**	**3.12**	**106**⇑	*e*P	Px	18 05 50.1	
SNJE				*e*S	Sx	18 06 28.0	
CMIG	**Matias Romero**	**3.13**	**318**	*i* P	**Pn**	**18 05 46.7**	**-1.1**
CMIG				*i* S	**Sn**	**18 06 23.9**	**-0.4**
MTO2	**Montecristo 2**	**3.24**	**96**⇑	*e*P	**Pn**	**18 05 50.5**	**+1.3**
HUIG	**Huatulco**	**3.45**	**287**	*i* P	**Pn**	**18 05 50.1**	**-1.9**
HUIG				*i* S	**Sn**	**18 06 25.7**	**-6.1**
HUIG	**Huatulco**	**3.45**	**287**	*i* P	**Pn**	**18 05 50.0**	**-2.0**
HUIG				*i* S	**Sn**	**18 06 24.8**	**-7.1**
BOQS	**Boqueron**	**3.46**	**107**	*e*P	Px	18 05 54.7	
BOQS				*e*S	Sx	18 06 35.0	
TUIG	**Tuzandepetl**	**3.65**	**333**	*i* P	**Pn**	**18 05 54.4**	**-0.4**
TUIG				*i* S	**Sn**	**18 06 37.0**	**+0.1**
LBRS	**Las Brisas**	**3.68**	**106**	*e*P	Px	18 05 57.5	
LBRS				*e*S	Sx	18 06 41.1	
SNVI	**San Vicente**	**3.91**	**107**	*e*P	Px	18 06 01.1	
SNVI				*e*S	Sx	18 06 46.8	
SCIG		**4.42**	**19**	*i* P	**Pn**	**18 06 04.7**	**-0.6**
SCIG				*i* S	**Sn**	**18 06 55.1**	**-0.5**
OXX	**Oaxaca**	**4.51**	**301**	*e*P	**Pn**	**18 06 06.0**	**-0.5**
OXX				*i* S	**Sn**	**18 06 53.5**	**-4.3**
VHO	**Vista Hermosa**	**4.52**	**301**	*i* P	**Pn**	**18 06 06.1**	**-0.4**
VHO				*i* S	**Sn**	**18 06 55.6**	**-2.2**
CNCH	**Conchagua**	**4.94**	**107**	*e*P	Px	18 06 15.9	
CNCH				*e*S	Sx	18 07 13.5	
UTMO	**Huajuapan**	**5.78**	**303**	*e*P	**Pn**	**18 06 24.1**	**+0.3**
UTMO				*i* S	**Sn**	**18 07 28.5**	**-0.2**
CRIN	**San Cristobal**	**5.85**	**110**	*e*P	**Pn**	**18 06 25.4**	**+0.6**
TEL3	**Telica 3**	**6.08**	**110**⇑	*e*P	**Pn**	**18 06 27.8**	**-0.1**
TEL3				*i*		18 07 41.5	
	comp=Z,162nm,0.6s						
LEON	**Leon**	**6.10**	**112**	*e*P	**Pn**	**18 06 27.1**	**-1.0**
CNGN	**Cerro Negro**	**6.24**	**110**	*e*P	**Pn**	**18 06 29.4**	**-0.7**
MIRN	**Miramar**	**6.25**	**111**⇑	*e*P	**Pn**	**18 06 29.9**	**-0.3**
MOMJ	**Momotombo**	**6.42**	**111**	*e*P	**Pn**	**18 06 32.0**	**-0.5**
COPN	**Copaltepe**	**6.46**	**113**⇑	*e*P	**Pn**	**18 06 32.4**	**-0.7**
APYN	**Apoyeque**	**6.66**	**111**⇓	*e*P	**Pn**	**18 06 35.3**	**-0.4**
TICN	**Ticuantepe**	**6.84**	**113**	*e*P	**Pn**	**18 06 37.9**	**-0.4**
PPM	**Popocatepetl**	**7.11**	**308**	*e*P	**Pn**	**18 06 43.0**	**+1.1**
PPM				*e*P		18 06 43.0	
PPM				*i* S	**Sn**	**18 08 01.8**	**+0.6**
PPM	**Popocatepetl**	**7.11**	**308**	*e*P	**Pn**	**18 06 39.9**	**-2.0**
PPM				*e*P		18 06 43.0	
PPM				*i* S	**Sn**	**18 08 01.8**	**+0.6**
ACX	**Acapulco**	**7.26**	**288**	*e*P	**Pn**	**18 06 43.5**	**-0.5**
MEIG	**Mezcala**	**7.36**	**296**	*i* P	**Pn**	**18 06 47.2**	**+1.9**
MEIG				*i* S	**Sn**	**18 08 03.8**	**-3.4**
CAIG	**El Cayaco**	**7.63**	**288**	*i* P	**Pn**	**18 06 49.8**	**+0.7**
VCR	**Vista de Mar**	**8.29**	**123**	*e*P	**Pn**	**18 06 57.7**	**-0.3**
JTS	**JuntasAbangare**	**8.76**	**120**	P	**Pn**	**18 07 04.0**	**-0.4**
	comp=Z,4.5nm,0.3s,baz=328,slow=18,SNR=14						
CAO	**Cobano**	**8.96**	**123**⇑	*i* P	**Pn**	**18 07 07.9**	**+0.9**
EPA	**Esparza**	**9.22**	**120**	*e*P	**Pn**	**18 07 13.0**	**+2.4**
PRS1	**Puriscal**	**9.46**	**119**	*e*P	**Pn**	**18 07 15.0**	**+1.1**
LCR2	**La Lucha 2**	**9.85**	**119**	*e*P	**Pn**	**18 07 19.9**	**+0.7**
ICR	**Volcan Irazu**	**9.87**	**118**	*e*P	**Pn**	**18 07 22.4**	**+2.9**
URSC	**Urasca**	**9.99**	**118**	*e*P	**Pn**	**18 07 21.5**	**+0.4**
BUS	**Buena Vista**	**10.15**	**120**	*e*P	**Pn**	**18 07 24.0**	**+0.7**
CTCR	**Cotoan**	**11.33**	**120**	*e*P	**Pn**	**18 07 38.9**	**-0.5**
SOR	**Soroa**	**12.16**	**47**	*e*P	**Pn**	**18 07 48.1**	**-2.5**
CCCC	**Cccc**	**15.57**	**64**	*e*P	**Pn**	**18 08 40.1**	**+5.1**
DWPF	**Disney**	**16.90**	**36**	*e*P	**Pn**	**18 08 52.9**	**+1.4**
	comp=Z,19nm,0.6s						
LRAL	**Lakeview Retre**	**18.91**	**15**	*e*P	**Pn**	**18 09 15.2**	**-0.6**
	comp=Z,27nm,0.4s						
LRAL				*e*		18 09 22.5	
MIAR	**Mount Ida**	**19.71**	**358**	*e*P	**Pn**	**18 09 23.9**	**-1.4**
MIAR				pmax	pmax		
	comp=Z,68nm,1.1s						
MIAR	**Mount Ida**	**19.71**	**358**	*e*P	**Pn**	**18 09 23.9**	**-1.4**
	comp=Z,68nm,1.1s						
UALR	**University of**	**19.93**	**1**	P	**Pn**	**18 09 25.9**	**-1.9**
	comp=Z,32nm,1.2s						
UALR				*e*pP	pP	18 09 43.2	+0.8
MNTX	**Cornudas Mount**	**20.47**	**328**	*e*P	**P**	**18 09 32.5**	**+1.3**
	comp=Z,5.2nm,0.7s						
PLAL	**Pickwick Lake**	**20.56**	**11**	*e*P	**P**	**18 09 31.1**	**-1.1**
	comp=Z,20nm,0.9s						
SWET	**Sewanee**	**21.26**	**15**	*e*P	**P**	**18 09 39.1**	**-0.5**
COW	**Cow Castle Cre**	**21.50**	**28**	*e*P	**P**	**18 09 44.3**	**+2.1**
COW				*e*pP		18 10 03.3	
COW				*e*sP	sP	18 10 11.1	+0.7
JSC	**Jenkinsville**	**22.01**	**26**	*e*P	**P**	**18 09 46.8**	**-0.8**
SDV	**Santo Domingo**	**22.36**	**103**	P	**P**	**18 09 48.1**	**-3.2**
	comp=Z,9.4nm,0.7s,mb4.3,baz=330,slow=7.6,SNR=6.8						
SDV	**Santo Domingo**	**22.36**	**103**	*e*P	**P**	**18 09 47.8**	**-3.5**
TZTN	**Tazewell**	**23.18**	**19**	*e*P	**P**	**18 09 58.8**	**-0.8**
TZTN				*e*		18 10 19.7	
ANMO	**Albuquerque**	**23.62**	**331**	P	**P**	**18 10 05.0**	**+1.5**
	comp=Z,3.2nm,0.5s,mb3.9,baz=142,slow=9.3,SNR=8.2						
ANMO	**Albuquerque**	**23.62**	**331**	*e*P	**P**	**18 10 04.4**	**+0.8**
ANMO				*e*		18 10 22.2	
ELN	**Prospectdale**	**24.77**	**23**	*e*P	**P**	**18 10 13.2**	**-0.8**
BLA	**Blacksburg**	**24.88**	**24**	*e*P	**P**	**18 10 15.3**	**+0.2**
	comp=Z,1.0nm,0.7s,mb3.4						
SJG	**San Juan**	**25.66**	**79**	LR	LR	18 19 43.7	
	comp=Z,36nm,18.2s,baz=259,slow=35						
MVCO	**Mesa Verde**	**26.41**	**331**	*e*P	**P**	**18 10 31.9**	**+2.9**
MVCO				*e*pP	pP	18 10 49.5	+0.8
PDAR	**Pinedale Array**	**31.45**	**336**	P	**P**	**18 11 15.3**	**+1.7**
	comp=Z,1.1nm,0.9s,mb3.6,baz=133,slow=6.5,SNR=5.9						
PDAR				PcP	PcP	18 14 05.8	+0.9
	comp=Z,0.5nm,0.5s,baz=129,slow=4.6,SNR=6.3						
SADO	**Sadowa**	**32.05**	**18**	P	**P**	**18 11 17.2**	**-1.7**
	comp=Z,2.9nm,0.4s,mb4.3,baz=198,slow=9.6,SNR=3.1						
ELK	**Elko**	**32.49**	**327**	*e*P	**P**	**18 11 26.3**	**+3.5**
ELK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ELK	**Elko**	**32.49**	**327**	*e*P	**P**	**18 11 26.3**	**+3.5**
	comp=Z,1.9nm,0.8s,mb3.9						
TPAW	**Teton Pass**	**32.62**	**335**	*e*P	**P**	**18 11 26.3**	**+2.4**
NVAR	**Mina Array Bea**	**32.66**	**321**	P	**P**	**18 11 27.9**	**+3.6**
	comp=Z,2.4nm,0.6s,mb4.2,baz=134,slow=8.1,SNR=19						
NVAR				PcP	PcP	18 14 10.5	+2.3
	comp=Z,1.6nm,0.7s,baz=141,slow=2.6,SNR=5.7						
MCMT	**McKenzie Canyo**	**34.50**	**334**	*e*P	**P**	**18 11 43.5**	**+3.3**
MCMT				*e*pP	pP	18 12 00.7	+0.3
DLMT	**Dillon**	**34.83**	**335**	*e*P	**P**	**18 11 45.6**	**+2.6**
	comp=Z,9.5nm,1.1s,mb4.5						
DLMT				*e*pP	pP	18 12 03.1	-0.2
ULM	**Lac du Bonnet**	**35.49**	**356**	P	**P**	**18 11 47.5**	**-1.3**
	comp=Z,3.0nm,0.8s,mb4.2,baz=169,slow=8.7,SNR=3.3						
ULM				LR	LR	18 26 37.1	
	comp=Z,77nm,20.6s,baz=12,slow=37						
SAML	**Samuel**	**37.56**	**127**	*e*P	**P**	**18 12 05.3**	**-1.0**
	comp=Z,5.4nm,0.8s,mb4.4						
SAML				*e*pP	pP	18 12 24.5	-2.2
LPAZ	**La Paz**	**39.24**	**141**	P	**P**	**18 12 21.5**	**+1.0**
	comp=Z,1.4nm,0.7s,mb3.9,baz=334,slow=10,SNR=9.8						
SIV	**San Ignacio**	**43.70**	**133**	P	**P**	**18 12 56.9**	**+0.1**
	comp=Z,3.9nm,0.6s,mb4.3,baz=308,slow=7.8,SNR=25						
LVC	**Limon Verde**	**43.84**	**147**	P	**P**	**18 12 59.3**	**+1.3**
	comp=Z,1.6nm,0.7s,mb3.9,baz=290,slow=8.9,SNR=3.8						
SCHQ	**Schefferville**	**44.75**	**21**	P	**P**	**18 13 02.8**	**-2.4**
	comp=Z,1.6nm,0.5s,mb4.0,baz=237,slow=7.9,SNR=6.5						
YKA	**Yellowknife Ar**	**50.14**	**347**	P	**P**	**18 13 46.6**	**-0.4**
	comp=Z,4.5nm,0.6s,mb4.6,baz=152,slow=7.2,SNR=90						
YKA				PcP	PcP	18 15 05.5	+0.3
	comp=Z,0.9nm,0.8s,baz=155,slow=3.1,SNR=6.0						
BDFB	**Brasilia**	**53.49**	**123**	P	**P**	**18 14 12.0**	**+0.1**
	comp=Z,2.2nm,0.5s,mb4.5,baz=281,slow=8.0,SNR=4.9						
INK	**Inuvik**	**59.52**	**344**	*e*P	**P**	**18 14 55.1**	**+0.4**
INK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
INK	**Inuvik**	**59.52**	**344**	*e*P	**P**	**18 14 55.1**	**+0.4**
	comp=Z,9.4nm,0.6s,mb5.0						
ILAR	**Eielson Array**	**61.88**	**337**	P	**P**	**18 15 11.4**	**+0.7**
	comp=Z,5.7nm,0.9s,mb4.6,baz=123,slow=4.9,SNR=38						
ILAR				PcP	PcP	18 15 52.3	+1.5
	comp=Z,1.2nm,0.6s,baz=127,slow=2.2,SNR=6.7						
ESDC	**Sonseca Array**	**79.77**	**52**	P	**P**	**18 16 57.8**	**-1.3**
	comp=Z,0.4nm,0.4s,mb3.6,baz=287,slow=5.1,SNR=4.6						
BILL	**Bilibino**	**80.51**	**338**⇑	*i* P	**P**	**18 17 04.9**	**+1.9**
BILL				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.6						
BILL	**Bilibino**	**80.51**	**338**	*e*P	**P**	**18 17 04.3**	**+1.3**
	comp=Z,13nm,1.0s,mb4.7						
NB2	**NORSAR Subarra**	**83.80**	**28**	P	**P**	**18 17 19.3**	**-0.9**
	comp=Z,1.2nm,0.7s,mb3.8,baz=293,slow=5.3						
NOA	**NORSAR Array B**	**83.80**	**28**	P	**P**	**18 17 19.1**	**-1.1**
	comp=Z,1.1nm,0.7s,mb3.8,baz=289,slow=5.2,SNR=4.8						
NOA				LR	LR	18 52 53.3	
	comp=Z,22nm,18.6s,baz=85,slow=34						
ARCES	**ARCESS Array B**	**85.63**	**18**	P	**P**	**18 17 27.7**	**-1.7**
	comp=Z,1.7nm,0.7s,mb4.1,baz=277,slow=4.8,SNR=9.7						
FINES	**FINESS Array B**	**90.10**	**25**	P	**P**	**18 17 48.2**	**-2.5**
	comp=Z,0.9nm,0.8s,mb4.0,baz=299,slow=2.0,SNR=8.5						
URZ	**Urewera**	**99.14**	**233**	LR	LR	18 52 52.5	
	comp=Z,199nm,18.8s,baz=148,slow=29						
SONM	**Songino Array**	**115.40**	**346**	PKP	PKPdf	18 23 33.2	+1.1
	comp=Z,0.2nm,0.6s,baz=260,slow=1.2,SNR=3.7						
MKAR	**Makanchi Array**	**118.57**	**4**	PKP	PKPdf	18 23 38.4	+0.2
	comp=Z,0.5nm,0.8s,baz=48,slow=1.8,SNR=4.3						
HHC	**Hu-ho-hao-te**	**120.28**	**339**	*e*PKP	PKPdf	18 23 38.3	-3.2
HHC				XPKP		18 24 15.6	
HHC				PP	PP	18 25 09.8	+1.6
HHC				PKS		18 27 13.6	
HHC				SKS	SKSdf	18 30 40.1	-5.6
HHC				SS	SS	18 41 28.6	-0.6
HHC				PP	PP		
	comp=Z,46nm,8.2s						
HHC				LR	LR		
	comp=N,118nm,19.0s						
HHC				LR	LR		
	comp=E,121nm,20.2s						
HHC				LR	LR		
	comp=Z,186nm,21.4s						
WMQ	**Urumqi**	**121.70**	**360**	PKP	PKPdf	18 23 45.4	+1.2
WMQ				XPKP		18 24 14.9	
WMQ				PP	PP	18 25 24.2	+6.3
WMQ				PP	PP		
	comp=Z,71nm,5.4s						
WMQ				LR	LR		
	comp=N,36nm,22.2s						
WMQ				LR	LR		
	comp=E,75nm,22.4s						
WMQ				LR	LR		
	comp=Z,43nm,23.2s						
STKA	**Stephens Creek**	**127.84**	**241**	PKP	PKPdf	18 23 55.6	-0.4
	comp=Z,1.9nm,1.0s,baz=79,slow=5.3,SNR=5.1						
CD2	**Chengdu**	**131.92**	**341**	*e*PKP	PKPdf	18 24 01.0	-2.7
WRA	**Warramunga Arr**	**134.93**	**256**	PKP	PKPdf	18 24 11.0	+1.6
	comp=Z,0.6nm,0.6s,baz=80,slow=1.6,SNR=7.8						
ASAR	**Alice Springs**	**135.28**	**251**	PKP	PKPdf	18 24 11.3	+1.3
	comp=Z,0.5nm,0.6s,baz=110,slow=1.7,SNR=4.2						
KMI	**Kunming**	**137.60**	**339**	PKP	PKPdf	18 24 14.6	+0.3
FITZ	**Fitzroy Crossi**	**143.13**	**259**	*e*P	PKPdf	18 24 23.4	-0.9
	comp=Z,3.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**143.13**	**259**	PKhKP		18 24 23.6	
	comp=Z,1.8nm,0.6s,baz=333,slow=21,SNR=5.3						
HYB	**Hyderabad**	**146.88**	**15**	*i* PKP	PKPdf	18 24 34.0	+3.2
HYB	**Hyderabad**	**146.88**	**15**	*e*P	PKPdf	18 24 34.0	+3.2
MUN	**Mundaring**	**148.56**	**232**	*e*P	PKPdf	18 24 38.7	+5.1

*UPP **10** 18:07:55.9, 5765N×2223E, h0km, ML2.7, Mining explosion.*
*IDC **10** 18:07:57.6±2.8, 5771N×2197E, h0km, mb1 3.2/3, mb1mx3.0/17, mbtmp3.1/3, ML2.9/3, Error ellipse: s-maj=29.7km s-min=12.8km az=157.0*
*ISCJB **10** 18:07:57.3±0.7, 5775N±006×2187E±007, h0km, Error ellipse: s-maj=9.4km s-min=4.3km az=134.2*
*HEL **10** 18:07:57.9±0.1, 5770N×2194E, h0km, ML2.2, ML2.7(UPP), ML2.1(NAO), Explosion*
*CSEM **10** 18:07:57.2±0.1, 5772N×2194E, h2km, ML2.7, Error ellipse: s-maj=4.3km s-min=1.8km az=160.0, Mining explosion.*
*NAO **10** 18:07:59.3±2.0, 5784N×2189E, ML2.1*
*BER **10** 18:08:01.0±5.7, 5777N×2186E, h0km±27km, ML2.1(NAO)*

ISC 10 18:07:58.6±0.6, 5781N±005×2188E±007, h0§99, n52, σ0§99/68, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOTU	**Gotland**	**1.78**	**267**	*e*P	**Pn**	**18 08 29.9**	**-0.7**
NYNU	**Nynaeshamn**	**2.36**	**302**	*e*P	**Pn**	**18 08 39.0**	**+0.3**
NRTU	**Norrtaelje**	**2.52**	**319**	*e*P	**Pn**	**18 08 41.5**	**+0.7**
AAL	**Aland**	**2.57**	**338**	*e*P	**Pn**	**18 08 41.5**	**+0.1**
VSU	**Vasula**	**2.66**	**74**	*e*P	**Pn**	**18 08 41.9**	**-0.8**
VSU				*e*S	**Sn**	**18 09 15.2**	**-0.4**
VSU	**Vasula**	**2.66**	**74**	Pn	**Pn**	**18 08 43.5**	**+0.8**
VSU				Sn	**Sn**	**18 09 18.1**	**+2.6**
VSU	**Vasula**	**2.66**	**74**	P	**Pn**	**18 08 41.8**	**-0.9**
VSU	**Vasula**	**2.66**	**74**	Pn	**Pn**	**18 08 43.5**	**+0.8**
SNR=50							
VSU				S	**Sn**	**18 09 15.1**	**-0.5**
BYXU	**Byxelkrok**	**2.68**	**261**	*e*P	**Pn**	**18 08 42.6**	**-0.3**
MEF	**Metsahovi**	**2.74**	**27**	*e*P	**Pn**	**18 08 44.5**	**+0.7**
ASPU	**Aespoe**	**2.87**	**264**	*e*P	**Pn**	**18 08 46.2**	**+0.6**
VSTU	**Vaestervik**	**2.87**	**269**	*e*P	**Pn**	**18 08 45.8**	**+0.2**
GRAU	**Graesoe**	**3.06**	**327**	*e*P	**Pn**	**18 08 48.4**	**+0.2**
FLYU	**Flymyra**	**3.11**	**320**	*e*P	**Pn**	**18 08 49.5**	**+0.6**
OSKU	**Oskarshamn**	**3.18**	**261**	*e*P	**Pn**	**18 08 49.3**	**-0.6**
ESKU	**Eskilstuna**	**3.21**	**299**	*e*P	**Pn**	**18 08 50.9**	**+0.6**
BACU	**Backbrunna**	**3.22**	**312**	*e*P	**Pn**	**18 08 51.1**	**+0.7**
RAF	**Rauma**	**3.22**	**359**	*e*P	**Pn**	**18 08 51.5**	**+1.0**
RAF	**Rauma**	**3.22**	**359**	P	**Pn**	**18 08 51.4**	**+0.9**
LNKU	**Linkoeping**	**3.42**	**280**	*e*P	**Pn**	**18 08 53.2**	**+0.1**
LNKU	**Linkoeping**	**3.42**	**280**	P	**Pn**	**18 08 53.2**	**+0.1**
PVF	**Pernaja**	**3.42**	**35**	*e*P	**Pn**	**18 08 53.7**	**+0.5**
OSTU	**Oestervaala**	**3.45**	**317**	*e*P	**Pn**	**18 08 54.0**	**+0.4**
EKSU	**Eksjoe**	**3.54**	**269**	*e*P	**Pn**	**18 08 54.6**	**-0.2**
BLEU	**Blekinge**	**3.64**	**248**	*e*P	**Pn**	**18 08 55.0**	**-1.1**
IGGU	**Iggoen**	**3.86**	**325**	*e*P	**Pn**	**18 09 00.3**	**+1.1**
VXJU	**Vaexsjoe**	**3.86**	**260**	*e*P	**Pn**	**18 08 58.2**	**-1.0**
ASKU	**Askersund**	**3.87**	**289**	*e*P	**Pn**	**18 09 00.2**	**+0.8**
NRAU	**Nora**	**3.98**	**299**	*e*P	**Pn**	**18 09 01.2**	**+0.4**
NRAU	**Nora**	**3.98**	**299**	P	**Pn**	**18 09 01.2**	**+0.3**
VJF	**Virojoki**	**4.00**	**44**	*e*P	**Pn**	**18 09 00.6**	**-0.6**
FIA0	**FINESS Array S**	**4.22**	**29**	*e*P	**Pn**	**18 09 04.6**	**+0.5**
FIA0				*e*SG	**Sg**	**18 10 11.4**	**-2.8**
FIA0				MSG		18 10 15.4	
	comp=Z,4.7nm,0.1s						
FIA0	**FINESS Array S**	**4.22**	**29**	Pn	**Pn**	**18 09 03.5**	**-0.7**
	baz=187,slow=16						
FIA0				Pg	**Pg**	**18 09 14.2**	**-5.3**
	baz=209,slow=16						
FIA0				Sn	**Sn**	**18 09 55.5**	**+1.4**
	baz=225,slow=22						
FIA0				Lg		18 10 10.4	
	baz=214,slow=28						
FIA0	**FINESS Array S**	**4.22**	**29**	P	**Pn**	**18 09 04.6**	**+0.4**
FIA0	**FINESS Array S**	**4.22**	**29**	Pg	**Pg**	**18 09 14.2**	**-5.3**
SNR=50							
FIA0				Sg	**Sg**	**18 10 11.4**	**-2.8**
	comp=Z,4.7nm,0.1s						
FINES	**FINESS Array B**	**4.22**	**29**	Pn	**Pn**	**18 09 03.7**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=212,slow=11,SNR=22						
FINES				Pg	**Pg**	**18 09 13.6**	**-5.9**
	comp=Z,1.0nm,0.3s,baz=210,slow=15,SNR=24						
FINES				Sn	**Sn**	**18 09 57.6**	**+3.4**
	comp=Z,0.5nm,0.3s,baz=210,slow=20,SNR=3.3						
FINES				Lg		18 10 10.8	
	comp=Z,2.2nm,0.3s,baz=220,slow=24,SNR=14						
KEF	**Keuruu**	**4.62**	**18**	*e*P	**Pn**	**18 09 10.7**	**+1.0**
KEF				*e*SG	**Sg**	**18 10 23.4**	**-3.6**
KEF				MSG		18 10 27.4	
	comp=Z,4.0nm,0.2s						
KEF	**Keuruu**	**4.62**	**18**	P	**Pn**	**18 09 10.7**	**+1.0**
KEF				Sg	**Sg**	**18 10 23.4**	**-3.7**
	comp=Z,4.0nm,0.2s						
BSD	**Bornholm Skovb**	**4.71**	**238**	*i* P	**Pn**	**18 09 07.9**	**-3.1**
BSD				*e*S	**Sn**	**18 10 00.9**	**-5.4**
BSD				*i* LG		18 10 23.0	
HFS	**Hagfors**	**4.83**	**302**	Pn	**Pn**	**18 09 12.6**	**0.0**
	baz=131,slow=16						
HFS				Sn	**Sn**	**18 10 08.2**	**-1.0**
	baz=113,slow=37						
HFS				Lg		18 10 29.4	
	baz=117,slow=37						
HFS	**Hagfors**	**4.83**	**302**	*e*P	**Pn**	**18 09 12.6**	**0.0**
HFS				*e*S	**Sn**	**18 10 08.2**	**-1.0**
HFS				*e*SG	**Sg**	**18 10 29.4**	**-4.5**
HFS	**Hagfors**	**4.83**	**302**	Pn	**Pn**	**18 09 12.6**	**0.0**
SNR=50							
HFS				Sn	**Sn**	**18 10 08.2**	**-1.1**
SNR=50							
KAF	**Kangasniemi**	**4.85**	**25**	*e*SG	**Sg**	**18 10 29.2**	**-5.4**
KAF				MSG		18 10 33.3	
	comp=Z,3.5nm,0.1s						
KAF	**Kangasniemi**	**4.85**	**25**	Sg	**Sg**	**18 10 29.2**	**-5.4**
	comp=Z,3.5nm,0.1s						
VAF	**Ylistaro**	**5.26**	**4**	*e*SG	**Sg**	**18 10 42.8**	**-4.9**
NB2	**NORSAR Subarra**	**6.33**	**305**	Pn	**Pn**	**18 09 32.4**	**-0.8**
	baz=123,slow=14						
NB2				Lg		18 11 19.7	
	baz=115,slow=28						
NB2	**NORSAR Subarra**	**6.33**	**305**	*e*P	**Pn**	**18 09 32.4**	**-0.8**
NOA	**NORSAR Array B**	**6.33**	**305**	Pn	**Pn**	**18 09 32.1**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=123,slow=12,SNR=2.9						
NOA				Lg		18 11 17.2	
	comp=Z,0.8nm,0.3s,baz=77,slow=16,SNR=5.7						
JOF	**Joensuu**	**6.93**	**38**	*e*SG	**Sg**	**18 11 33.0**	**-8.2**
JOF				MSG		18 11 38.8	
	comp=Z,1.4nm,0.2s						
ARA0	**ARCESS Array S**	**11.88**	**6**	Pn	**Pn**	**18 10 45.1**	**-4.0**
	baz=189,slow=14						
ARA0	**ARCESS Array S**	**11.88**	**6**	*e*P	**Pn**	**18 10 45.1**	**-4.0**
ARCES	**ARCESS Array B**	**11.88**	**6**	Pn	**Pn**	**18 10 45.0**	**-4.2**
	comp=Z,0.1nm,0.3s,baz=184,slow=14,SNR=12						
ARCES				Lg		18 14 12.7	
	comp=Z,0.2nm,0.3s,baz=171,slow=34,SNR=3.4						

*IDC **10** 18:28:45.0±2.8, 3097S×17793W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.9/13, mbtmp3.9/4, ML3.2/1, Error ellipse: s-maj=67.4km s-min=25.5km az=117.0*
*ISCJB **10** 18:28:48.2±1.8, 3106S±008×1780W±03, h33km, mb3.8/3, Error ellipse: s-maj=42.9km s-min=8.1km az=22.9*

ISC 10 18:28:50.6±1.6, 3099S±008×1781W±03, h35km, n14, σ1§25/16, mb3.8/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.74**	**4**	Pn	**Pn**	**18 29 16.9**	**-1.3**
	80nm,0.3s,baz=109,slow=14,SNR=11						
RAO				Sn	**Sn**	**18 29 34.3**	**-4.9**
	332nm,0.3s,baz=113,slow=22,SNR=10						
PUZ	**Puketiti**	**

CHCP	**Chirah Chowk**	**7.53**	**213**	P		**Pn**	**18 38 51.4**	**+7.2**
CEP	**Cherat**	**8.01**	**220**	P		**Pn**	**18 38 48.9**	**-1.9**
CEP				S		**Sn**	**18 40 11.0**	**-10**
THW	**Thamme Wali**	**8.94**	**217**	P		**Pn**	**18 39 05.0**	**+1.6**
KURK	**Kurchatov**	**10.60**	**2**	⇑Lg			18 42 18.8	
	comp=Z,8.2nm,1.6s							
VOSK	**Vostochnaya**	**13.52**	**341**	⇑Lg			18 43 51.8	
	comp=Z,8.3nm,1.1s							
BVAR	**Borovoye Array**	**13.95**	**340**	Pn		**Pn**	**18 40 10.8**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=249,slow=39,SNR=2.7							
ZRNK	**Zerenda**	**14.27**	**337**	⇓Lg			18 44 05.4	
	comp=Z,4.4nm,1.1s							
BRTR	**Keskin Array B**	**33.85**	**284**	P		**P**	**18 43 37.0**	**+0.4**
	comp=Z,0.7nm,0.7s,mb3.7,baz=81,slow=7.6,SNR=4.7							
BRTR	**Keskin Array B**	**33.85**	**284**	P		**P**	**18 43 37.1**	**+0.5**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
FINES	**FINESS Array B**	**37.86**	**322**	P		**P**	**18 44 09.6**	**-1.4**
	comp=Z,0.5nm,0.6s,mb3.4,baz=112,slow=14,SNR=3.5							
FINES	**FINESS Array B**	**37.86**	**322**	P		**P**	**18 44 09.6**	**-1.4**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
DAVOX	**Davos**	**48.58**	**302**	LR	LR		19 09 50.7	
	comp=Z,68nm,19.0s,MS3.6,baz=268,slow=41							
TORD	**Torodi Ar. Bea**	**71.32**	**272**	P		**P**	**18 48 14.1**	**+0.3**
	comp=Z,0.4nm,0.4s,mb3.8,baz=49,slow=5.5,SNR=6.7							

JMA ***10*** *18:40:20.5±0.3,3288N×13648E,h459km,M3.0*
ISCJB ***10*** *18:40:21.9±0.6,329N±0.1×13642E±0.10,h449km±5km, mb3.4/7,Error ellipse: s-maj=18.8km s-min=11.7km az=135.2*
IDC ***10*** *18:40:23.6±1.9,3304N×13644E,h449km±23km,mb3.0/7, mb1 3.2/7,mb1mx2.9/21,mbtmp3.8/7,Error ellipse: s-maj=36.1km s-min=13.7km az=83.0*
ISC 10 18:40:23.1±0.6,330N±01×1364E±01,h446km±5km,n22, σ0s75/25,mb3.4/7,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JKN2	**Miekihoku**	**1.21**	**356**	P		**P**	**18 41 19.3**	**-0.3**
JWY	**Kouya**	**1.35**	**331**	P		**P**	**18 41 20.1**	**-0.1**
JHE	**Heguri**	**1.72**	**341**	P		**P**	**18 41 21.6**	**-0.2**
JAI	**Aioi**	**1.78**	**296**	P		**P**	**18 41 21.8**	**-0.3**
JMN	**Monobe**	**2.21**	**289**	P		**P**	**18 41 24.5**	**+0.1**
JWT	**Wachi**	**2.39**	**340**	P		**P**	**18 41 25.3**	**-0.3**
JFM	**Mihama**	**2.51**	**353**	P		**P**	**18 41 26.3**	**-0.1**
JOD2	**Odawara 2**	**3.16**	**44**	P		**P**	**18 41 34.5**	**+3.5**
JOD2				*e*S		**S**	**18 42 28.3**	**+2.1**
JKG	**Kaga**	**3.24**	**359**	P		**P**	**18 41 31.5**	**-0.1**
JNA	**Nagahama**	**3.31**	**280**	P		**P**	**18 41 32.3**	**+0.1**
JHS	**Saijyo**	**3.35**	**307**	P		**P**	**18 41 32.4**	**-0.1**
JYO	**Yokosk**	**3.49**	**50**	*e*S		**S**	**18 42 30.9**	**-0.2**
JRY	**Ryogami san**	**3.63**	**34**	P		**P**	**18 41 35.8**	**+1.0**
JRY				*e*S		**S**	**18 42 32.8**	**-0.4**
MJAR	**Matsushiro Arr**	**3.81**	**23**	P		**P**	**18 41 36.7**	**+0.3**
	12nm,0.3s,baz=200,slow=9.3,SNR=4.4							
BSO1	**Boso 1**	**4.15**	**66**	P		**P**	**18 41 37.2**	**-2.1**
BSO1				*e*S		**S**	**18 42 37.5**	**-3.9**
MKAR	**Makanchi Array**	**42.89**	**305**	P		**P**	**18 47 41.1**	**+0.5**
	0.4nm,0.5s,mb3.1,baz=90,slow=8.5,SNR=5.2							
WRA	**Warramunga Arr**	**52.71**	**182**	P		**P**	**18 48 55.0**	**+0.4**
	1.2nm,0.3s,mb3.7,baz=360,slow=7.6,SNR=37							
ASAR	**Alice Springs**	**56.43**	**193**	P		**P**	**18 49 21.3**	**+0.4**
	0.2nm,0.4s,mb2.8,baz=358,slow=5.4,SNR=9.4							
ARCES	**ARCESS Array B**	**66.26**	**339**	P		**P**	**18 50 25.4**	**-0.3**
	4.2nm,1.0s,mb4.0,baz=56,slow=8.1,SNR=6.2							
YKA	**Yellowknife Ar**	**69.31**	**28**	P		**P**	**18 50 44.1**	**-0.3**
	0.5nm,0.4s,mb3.4,baz=276,slow=8.9,SNR=5.6							
FINES	**FINESS Array B**	**70.39**	**331**	P		**P**	**18 50 50.6**	**-0.3**
	0.8nm,0.7s,mb3.4,baz=57,slow=7.0,SNR=7.9							
NOA	**NORSAR Array B**	**76.21**	**336**	P		**P**	**18 51 24.4**	**0.0**
	0.5nm,0.5s,mb3.3,baz=45,slow=5.3,SNR=3.3							

CSEM ***10*** *18:41:52.4,2239S×17646W,h33km,mb5.6*
MOS ***10*** *18:41:52.0±1.0,2233S×17649W,h33km,mb5.2/41,Error ellipse: s-maj=12.6km s-min=9.3km az=136.8*
BJI ***10*** *18:41:55.5,2273S×17541W,h103km,mB5.2,mb4.9*
BGS ***10*** *18:41:57.5±3.2,2247S×17644W,h76km,mb5.0(NEIC)*
IDC ***10*** *18:41:57.4±2.5,2246S×17643W,h74km±21km,mb4.6/20, mb1 4.7/22,mb1mx4.7/26,mbtmp4.9/22,MS3.8/13, Ms1 3.9/13,ms1mx3.7/27,Error ellipse: s-maj=18.5km s-min=12.1km az=142.0*
HRVD ***10*** *18:41:57.7±0.2,2262S×17609W,h126km±1km,MW5.2/89, Centroid moment Tensor Solution. LP body waves: s64,c85;Mantle waves: s89,c141; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.07±.13; $M_{\theta\theta}$-0.37±.18; $M_{\phi\phi}$5.43±.19; $M_{r\theta}$0.34±.11; $M_{r\phi}$3.00±.16; $M_{\theta\phi}$-3.21±.13; Best double couple: M◎6.79000×10^{16} NP1 $\phi_1$223.00000°, δ35.00000°, λ-59.00000°. NP2: $\phi_2$6.00000°, δ60.00000°, λ-110.00000°. Principal axes: T 7.3580, Plg13.0000°, Azm111.0000°; N -1.1420, Plg17.0000°, Azm16.0000°; P -6.2220, Plg68.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISCJB ***10*** *18:42:00.5±0.2,2257S±004×17652W±006,h110km, mb4.8/56 Error ellipse: s-maj=7.6km s-min=4.8km az=74.5*
SZGRF ***10*** *18:42:01.2,2265S×176.15W,h112km,South of Fiji Islands*
NEIC ***10*** *18:42:01.6±0.2,2248S×17650W,mb4.9/34,Error ellipse: s-maj=10.6km s-min=5.3km az=141.0*
ORF ***10*** *18:42:08.4, 1779S×17943E,h30km,mb6.0*
ISC 10 18:42:02.1±0.2,2258S±005×17642W±006,h112km, h112km±1.1km:pP-P,n365,σ1s10/141,mb4.8/55,31C-26D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RAO	**Raoul Island**	**6.78**	**191**	S		**Sn**	**18 44 55.1**	**+0.3**
	44nm,0.3s,baz=260,slow=23,SNR=3.6							
RAO				LR		LR	18 44 59.0	
	comp=Z,234nm,21.9s,baz=17,slow=26							
AFI	**Afiamalu**	**9.68**	**28**	P		**Pn**	**18 44 08.9**	**-9.4**
	9.9nm,0.3s,baz=237,slow=2.9,SNR=7.0							
AFI				S		**Sn**	**18 45 46.2**	**-19**
	20nm,0.3s,baz=40,slow=23,SNR=6.8							
AFI	**Afiamalu**	**9.68**	**28**	P		**Pn**	**18 44 08.9**	**-9.4**
AFI				pmax	pmax			
	comp=Z,10.0nm,0.3s							
AFI	**Afiamalu**	**9.68**	**28**	*e*P		**Pn**	**18 44 02.9**	**-15**
AFI				*e*S		Sn	18 45 44.4	-21
RAR	**Rarotonga**	**15.51**	**88**	P		**Pn**	**18 45 30.1**	**-4.5**
	comp=Z,3.4nm,0.3s,baz=253,slow=19,SNR=6.3							
RAR				S		S	18 48 08.7	-25
	comp=Z,4.8nm,0.3s,baz=281,slow=24,SNR=6.5							
RAR				LR		LR	18 49 55.4	
	comp=Z,681nm,19.0s,baz=234,slow=31							
DZM	**Mont Dzumac**	**15.87**	**269**	P		**Pn**	**18 45 43.5**	**+4.5**
	comp=Z,0.8nm,0.3s,baz=85,slow=16,SNR=26							
DZM				S		**S**	**18 48 28.3**	**-13**
	comp=Z,0.5nm,0.3s,baz=50,slow=9.8,SNR=12							
URZ	**Urewera**	**16.59**	**198**	P		**Pn**	**18 45 46.2**	**-1.8**
	comp=Z,2.6nm,0.3s,baz=330,slow=1.6,SNR=9.9							
URZ				S		**S**	**18 48 44.3**	**-12**
	comp=Z,1.6nm,0.3s,baz=139,slow=22,SNR=5.1							
URZ	**Urewera**	**16.59**	**198**	*e*PN		**Pn**	**18 45 45.3**	**-2.6**
NNZ	**Nelson**	**20.48**	**202**	*e*PN		**P**	**18 46 27.1**	**-3.8**
THZ	**Tophouse**	**21.13**	**203**	*e*PN		**P**	**18 46 34.5**	**-3.3**
KHZ	**Kahutara**	**21.49**	**201**	*e*PN		**P**	**18 46 39.2**	**-2.5**
LTZ	**Lake Taylor**	**22.25**	**202**	*e*PN		**P**	**18 46 49.4**	**-0.3**
RPZ	**Rata Peaks**	**23.50**	**203**	P		**P**	**18 46 60.0**	**-1.7**
	comp=Z,11nm,0.5s,mb4.5,baz=346,slow=6.7,SNR=8.9							
RPZ				LR		LR	18 56 08.2	
	comp=Z,266nm,18.6s,baz=270,slow=36							
TBI	**Tubuai**	**24.82**	**97**	*e*LQ			18 51 59.8	
	comp=Z,493nm,31.0s							
TBI				*e*LR		LR	18 52 57.5	
	comp=Z,706nm,35.8s							
PPT	**Papeete**	**25.68**	**84**	*e*LQ			18 52 10.5	
	comp=Z,893nm,28.5s							
PPT				*e*LR		LR	18 53 23.9	
	comp=Z,874nm,27.8s							
PPT	**Papeete**	**25.68**	**84**	LR		LR	18 55 42.5	
	comp=Z,404nm,19.5s,baz=272,slow=32							
ARMA	**Armidale**	**29.57**	**248**	⇑*i*P		**P**	**18 47 58.8**	**+2.5**
CNB	**Canberra Magne**	**32.36**	**239**	⇑*i*P		**P**	**18 48 22.7**	**+1.9**
	comp=Z,55nm,1.1s,mb5.2							
CTA	**Charters Tower**	**34.80**	**267**	*e*P		**P**	**18 48 42.8**	**+0.9**
	comp=Z,31nm,0.9s,mb5.1							
CTA	**Charters Tower**	**34.80**	**267**	P		**P**	**18 48 42.3**	**+0.3**
	comp=Z,36nm,0.7s,mb5.3,baz=96,slow=12,SNR=19							
CTA	**Charters Tower**	**34.80**	**267**	*e*P		**P**	**18 48 42.8**	**+0.9**
CTA				pmax	pmax			
	comp=Z,31nm,0.9s							
CTAO	**Charters Tower**	**34.80**	**267**	*e*P		**P**	**18 48 42.8**	**+0.9**
CTAO				pmax	pmax			
	comp=Z,92nm,1.2s,mb5.5							
CTAO	**Charters Tower**	**34.80**	**267**	*e*P		**P**	**18 48 42.8**	**+0.8**
	comp=Z,92nm,1.2s,mb5.5							
TOO	**Toolangi**	**35.93**	**237**	*e*P		**P**	**18 48 52.2**	**+0.6**
	comp=Z,6.2nm,0.6s,mb4.7							
TOO	**Toolangi**	**35.93**	**237**	*e*P		**P**	**18 48 52.2**	**+0.6**
TOO				pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.7							
PMG	**Port Moresby**	**37.26**	**285**	P		**P**	**18 49 02.7**	**-0.2**
	comp=Z,80nm,1.0s,mb5.6,baz=98,slow=5.9,SNR=16							
PMG	**Port Moresby**	**37.26**	**285**	*e*P		**P**	**18 49 03.3**	**+0.4**
PMG				pmax	pmax			
	comp=Z,104nm,1.0s							
PMG	**Port Moresby**	**37.26**	**285**	*e*P		**P**	**18 49 03.3**	**+0.3**
	comp=Z,104nm,1.0s,mb5.7							
RKT	**Rikitea**	**38.11**	**99**	*e*LR		LR	18 58 46.0	
	comp=Z,502nm,39.0s							
STKA	**Stephens Creek**	**38.27**	**247**	⇑*i*P		**P**	**18 49 09.9**	**-1.5**
	comp=Z,22nm,1.0s,mb5.0							
STKA				*e*PCP		PcP	18 51 22.8	-0.5
STKA	**Stephens Creek**	**38.27**	**247**	P		**P**	**18 49 09.5**	**-1.9**
	comp=Z,24nm,1.0s,mb5.0,baz=84,slow=8.1,SNR=23							
STKA				PcP		PcP	18 51 22.4	-0.8
	comp=Z,5.8nm,0.8s,baz=64,slow=2.9,SNR=4.3							
STKA				LR		LR	19 04 22.2	
	comp=Z,198nm,19.9s,baz=31,slow=35							
ASAR	**Alice Springs**	**45.51**	**258**	P		**P**	**18 50 09.6**	**-0.7**
	comp=Z,22nm,0.8s,mb5.0,baz=94,slow=7.8,SNR=10							
ASAR				PcP		PcP	18 51 48.1	+0.9
	comp=Z,13nm,1.0s,baz=107,slow=3.9,SNR=13							
ASAR	**Alice Springs**	**45.51**	**258**	P		**P**	**18 50 09.6**	**-0.7**
ASAR							18 51 48.2	
ASAR				pmax	pmax			
	comp=Z,22nm,0.8s							
ASAR				pmax	pmax			
	comp=Z,13nm,1.0s							
WB2	**Warramunga Arr**	**45.79**	**264**	*e*P		**P**	**18 50 12.7**	**+0.2**
WRA	**Warramunga Arr**	**45.80**	**264**	P		**P**	**18 50 11.2**	**-1.4**
	comp=Z,28nm,0.8s,mb5.0,baz=99,slow=8.1,SNR=45							
WRA	**Warramunga Arr**	**45.80**	**264**	P		**P**	**18 50 11.2**	**-1.4**
WRA				pmax	pmax			
	comp=Z,28nm,0.8s							
FORT	**Forrest**	**49.86**	**248**	*e*P		**P**	**18 50 43.3**	**-0.5**
	comp=Z,43nm,0.9s,mb5.4							
FORT				*e*pP		pP	18 51 09.1	-1.0
VNDA	**Vanda**	**55.99**	**186**	P		**P**	**18 51 30.1**	**+1.2**
	comp=Z,7.6nm,0.9s,mb4.7,baz=7.8,slow=7.3,SNR=28							
VNDA				LR		LR	19 08 45.3	
	comp=Z,190nm,20.6s,baz=304,slow=29							
VNDA	**Vanda**	**55.99**	**186**	P		**P**	**18 51 30.1**	**+1.2**
VNDA				pmax	pmax			
	comp=Z,8.0nm,0.9s							
VNDA				MLR	MLR			
	comp=Z,190nm,20.6s							
KLBR	**Kellerberrin**	**58.53**	**246**	*e*P		**P**	**18 51 46.3**	**-0.5**
	comp=Z,21nm,0.9s,mb5.2							
NWAO	**Narrogin (SRO)**	**58.78**	**244**	P		**P**	**18 51 49.4**	**+1.0**
	comp=Z,9.3nm,0.8s,mb4.8,baz=98,slow=7.2,SNR=6.7							
NWAO	**Narrogin (SRO)**	**58.78**	**244**	P		**P**	**18 51 49.4**	**+1.0**
NWAO				pmax	pmax			
	comp=Z,9.0nm,0.8s							
NWAO	**Narrogin (SRO)**	**58.78**	**244**	P		**P**	**18 51 49.4**	**+1.0**
MBWA	**Marble Bar**	**58.85**	**258**	*e*P		**P**	**18 51 48.3**	**-0.7**
	comp=Z,26nm,1.0s,mb5.2							
MBWA				*e*PcP		PcP	18 52 38.0	+0.8
MUN	**Mundaring**	**59.78**	**245**	*e*P		**P**	**18 51 54.4**	**-0.9**
CASY	**Casey**	**62.73**	**206**	*e*P		**P**	**18 52 16.1**	**+0.8**
QSPA	**South Pole Qui**	**67.50**	**180**	*e*P		**P**	**18 52 47.9**	**+1.8**
	comp=Z,60nm,1.1s,mb5.3							
MIR	**Mirnyy**	**69.75**	**205**	*e*P		**P**	**18 53 02.0**	**+2.0**
MIR				pmax	pmax			
	comp=Z,260nm,1.0s,mb6.0							
MJAR	**Matsushiro Arr**	**72.74**	**323**	LR		LR	19 19 51.4	
	comp=Z,59nm,18.9s,baz=105,slow=31							
KSM	**Kuching**	**75.15**	**278**	*e*P		**P**	**18 53 32.2**	**+0.2**
FX1	**Attu Island--F**	**75.68**	**354**	P		**P**	**18 53 33.3**	**-1.7**
	comp=Z,24nm,0.7s,mb5.0,baz=171,slow=5.4,SNR=12							
FX1				LR		LR	19 18 16.7	
	comp=Z,3.6nm,21.8s,baz=14,slow=29							
FX1	**Attu Island--F**	**75.68**	**354**	P		**P**	**18 53 33.3**	**-1.8**
FX1				pmax	pmax			
	comp=Z,24nm,0.7s							
FX1				MLR	MLR			
	comp=Z,4.0nm,21.8s							
FX1	**Attu Island--F**	**75.68**	**354**	*e*P		**P**	**18 53 33.1**	**-2.0**
ASAJ	**Asahikawa**	**76.24**	**331**	P		**P**	**18 53 38.6**	**+0.4**
	comp=Z,18nm,1.0s,mb4.8,baz=220,slow=13,SNR=4.8							
ASAJ	**Asahikawa**	**76.24**	**331**	P		**P**	**18 53 38.7**	**+0.4**
ASAJ				pmax	pmax			
	comp=Z,18nm,1.0s							
YSS	**Yuzh-Sakhalins**	**78.40**	**333**	⇑*e*P		**P**	**18 53 49.3**	**-1.0**
YSS				pmax	pmax			
	comp=Z,20nm,1.0s,mb4.8							
YSS	**Yuzh-Sakhalins**	**78.40**	**333**	⇑*e*P		**P**	**18 53 49.3**	**-1.0**
	comp=Z,20nm,1.0s,mb4.8							
CMB	**Columbia Colle**	**80.00**	**42**	*e*P		**P**	**18 53 59.4**	**+0.4**
CMB				pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.6							
CMB	**Columbia Colle**	**80.00**	**42**	*e*P		**P**	**18 53 59.4**	**+0.4**
	comp=Z,9.0nm,0.9s,mb4.6							
MAW	**Mawson**	**80.11**	**200**	*e*P		**P**	**18 53 50.8**	**-8.8**
	comp=Z,4.2nm,0.5s,mb4.5							
MAW				*e*PCP		PcP	18 54 01.0	-5.6
MAW	**Mawson**	**80.11**	**200**	*e*P		**P**	**18 54 01.0**	**+1.4**
MAW				pmax	pmax			
	comp=Z,38nm,1.0s							
MAW	**Mawson**	**80.11**	**200**	*e*P		**P**	**18 54 01.0**	**+1.4**
	comp=Z,4.2nm,0.5s,mb4.5							
SSE	**Sheshan**	**80.14**	**310**	P		**P**	**18 54 02.3**	**+2.5**
SSE				XP		sP	18 54 42.3	+2.1
SSE				PP		PP	18 57 02.9	-0.5
SSE				S		S	19 03 54.1	-1.2
SSE				XS		sS	19 04 43.9	-0.4
SSE				AMB		AMB		
	comp=Z,26nm,0.7s,mb5.2							
SSE				AMB		AMB		
	comp=Z,86nm,3.4s							
SSE				LR		LR		
	comp=N,34nm,20.6s							
SSE				LR		LR		
	comp=E,43nm,21.0s							
SSE				LR		LR		
	comp=Z,105nm,36.3s							
SSE	**Sheshan**	**80.14**	**310**	P		**P**	**18 54 02.3**	**+2.5**
	comp=Z,26nm,0.7s,mb5.2							
SSE				sP		sP	18 54 42.3	+2.1
SSE				PP		PP	18 57 02.9	-0.5
SSE				S		S	19 03 54.1	-1.2
SSE				sS		sS	19 04 43.9	-0.4
SSE				SS		SS	19 09 05.6	-2.4
SSE				LR		LR		
	comp=Z,110nm,36.3s							
WDC	**Whiskeytown Da**	**80.35**	**39**	*e*P		**P**	**18 54 01.4**	**+0.5**
WDC				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.4							
WDC	**Whiskeytown Da**	**80.35**	**39**	*e*P		**P**	**18 54 01.4**	**+0.5**
	comp=Z,4.9nm,0.8s,mb4.4							
YBH	**Yreka Blue Hor**	**81.00**	**38**	P		**P**	**18 54 04.1**	**-0.2**
	comp=Z,11nm,0.8s,mb4.7,baz=302,slow=0.7,SNR=22							
YBH				LR		LR	19 20 50.9	
	comp=Z,77nm,21.8s,baz=237,slow=29							
YBH	**Yreka Blue Hor**	**81.00**	**38**	*e*P		**P**	**18 54 04.3**	**-0.1**
YBH				pmax	pmax			
	comp=Z,9.0nm,0.8s							
YBH	**Yreka Blue Hor**	**81.00**	**38**	*e*P		**P**	**18 54 04.3**	**0.0**
	comp=Z,8.9nm,0.8s,mb4.7							
HUMO	**Hull Mountain**	**81.44**	**37**	*e*P		**P**	**18 54 07.0**	**+0.3**
	comp=Z,8.2nm,0.9s,mb4.6							
NVAR	**Mina Array Bea**	**81.54**	**42**	P		**P**	**18 54 07.5**	**+0.3**
	comp=Z,0.8nm,0.3s,mb4.0,baz=225,slow=8.9,SNR=9.7							
TPNV	**Topopah Spring**	**81.96**	**45**	*e*P		**P**	**18 54 10.0**	**+0.6**
TPNV				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.4							
TPNV	**Topopah Spring**	**81.96**	**45**	*e*P		**P**	**18 54 09.9**	**+0.5**
	comp=Z,5.0nm,0.8s,mb4.4							
NEN	**Nelson**	**82.14**	**46**	*e*P		**P**	**18 54 10.2**	**-0.1**
NEN				*e*		pP	18 54 39.5	+0.6
NJ2	**Nanjing**	**82.33**	**309**	*e*P		**P**	**18 54 12.8**	**+1.5**
NJ2				AP		pP	18 54 40.0	0.0
NJ2				XP		sP	18 54 51.9	0.0
NJ2				PP		PP	18 57 24.5	+3.1
NJ2				S		S	19 04 16.0	-1.9
NJ2				XS		sS	19 05 06.0	-1.2
NJ2				AMB		AMB		
	comp=Z,80nm,8.2s							
NJ2				LR		LR		
	comp=N,90nm,19.6s							
NJ2				LR		LR		
	comp=E,580nm,27.2s							
NJ2				LR		LR		
	comp=Z,150nm,21.8s							
HABR	**Khabarovsk**	**82.97**	**330**	*e*P		**P**	**18 54 13.8**	**-0.8**
HABR				S		S	19 04 23.8	-0.6
MDJ	**Mudanjiang**	**83.05**	**324**	P		**P**	**18 54 15.1**	**0.0**
MDJ				AMB		AMB		
	comp=Z,8.0nm,1.1s,mb4.5							
MDJ				AMB		AMB		
	comp=Z,94nm,3.7s							
TUC	**Tucson**	**83.12**	**51**	*e*P		**P**	**18 54 16.5**	**+1.1**
TUC				pmax	pmax			
	comp=Z,17nm,1.4s,mb4.7							
TUC	**Tucson**	**83.12**	**51**	*e*P		**P**	**18 54 16.5**	**+1.1**
	comp=Z,17nm,1.4s,mb4.7							
ELK	**Elko**	**84.82**	**42**	*e*P		**P**	**18 54 23.6**	**-0.4**
ELK				pmax	pmax			
	comp=Z,10.0nm,1.0s							
ELK	**Elko**	**84.82**	**42**	*e*P		**P**	**18 54 23.6**	**-0.5**
	comp=Z,9.6nm,1.0s,mb4.7							
ELK				*e*		pP	18 54 53.0	+0.1
CN2	**Changchun**	**84.83**	**322**	*e*P		**P**	**18 54 26.2**	**+2.1**
SYO	**Syowa Base**	**85.03**	**192**	⇓*i*P		**P**	**18 54 25.0**	**-0.1**
SYO	**Syowa Base**	**85.03**	**192**	⇑*e*PcP		PcP	18 54 29.0	+0.8
KLR	**Kul'dur**	**85.05**	**329**	*e*P		**P**	**18 54 19.6**	**-5.6**
PGC	**Sidney**	**85.21**	**32**	*e*P		**P**	**18 54 25.6**	**-0.4**
	comp=Z,29nm,1.1s,mb5.1							
MSU	**Marysvale**	**85.50**	**45**	*e*P		**P**	**18 54 28.2**	**+0.8**
MSU				*e*		pP	18 54 57.6	+1.3
BBB	**Bella Bella**	**85.54**	**27**	LR		LR	19 24 24.3	
	comp=Z,47nm,18.8s,baz=193,slow=30							
SNAA	**Sanae**	**85.90**	**178**	*e*P		**P**	**18 54 28.5**	**-0.9**
SNAA				*e*			18 54 30.8	
SNAA	**Sanae**	**85.90**	**178**	*e*P		**P**	**18 54 28.6**	**-0.8**
SNAA				pmax	pmax			
	comp=Z,11nm,1.1s							
SNAA	**Sanae**	**85.90**	**178**	*e*P		**P**	**18 54 28.6**	**-0.9**
	comp=Z,11nm,1.1s,mb4.7							
VNA3	**Neumayer Olymp**	**85.98**	**176**	*e*P		**P**	**18 54 29.4**	**-0.4**
VNA3				*e*			18 54 31.7	
VNA3				*e*			18 54 44.2	
VNA3				*e*		pP	18 54 59.0	+0.3
PSI	**Prapat**	**86.13**	**275**	P		**P**	**18 54 30.0**	**-0.6**
	comp=Z,12nm,0.7s,mb4.9,baz=131,slow=2.9,SNR=7.0							
PSI	**Prapat**	**86.13**	**275**	P		**P**	**18 54 30.0**	**-0.6**
PSI				pmax	pmax			
	comp=Z,12nm,0.7s,mb4.9							
MA2	**Magadan**	**86.17**	**344**	*e*P		**P**	**18 54 28.2**	**-2.6**
MA2				pmax	pmax			
	comp=Z,20nm,1.4s,mb4.8							
VNA2	**Neumayer--Watz**	**86.44**	**176**	*e*P		**P**	**18 54 32.4**	**+0.3**
	baz=197,slow=3.1							
VNA2				*e*			18 54 33.8	
VNA2				*e*			18 54 34.2	
VNA2				*e*			18 54 41.2	
VNA2				*e*			18 54 47.3	
VNA2				*e*			18 54 53.8	
VNA2				*e*		pP	18 55 00.6	-0.3
VNA2				*e*			18 55 12.7	
TMUT	**Trail Mountain**	**86.56**	**45**	*e*P		**P**	**18 54 33.9**	**+1.2**
VNA1	**Neumayer--Stat**	**86.66**	**176**	*e*P		**P**	**18 54 33.5**	**+0.4**
VNA1				*e*			18 54 35.9	
VNA1				*e*			18 55 12.0	
MNTX	**Cornudas Mount**	**86.77**	**54**	*e*P		**P**	**18 54 33.8**	**+0.1**
	comp=Z,11nm,1.0s,mb4.8							
MNTX				*e*		pP	18 55 02.2	-0.4
LAZ	**Ladron**	**86.81**	**51**	*e*P		**P**	**18 54 34.9**	**+1.0**
SRU	**San Rafael**	**86.91**	**45**	*e*P		**P**	**18 54 33.7**	**-0.7**
SRU				pmax	pmax			
	comp=Z,12nm,0.9s,mb4.8							
SRU	**San Rafael**	**86.91**	**45**	*e*P		**P**	**18 54 33.7**	**-0.7**
	comp=Z,12nm,0.9s,mb4.8							
SRU				*e*		pP	18 55 02.9	-0.4
HLID	**Hailey**	**86.95**	**40**	*e*P		**P**	**18 54 34.9**	**+0.4**
	comp=Z,2.7nm,0.9s,mb4.2							
LTX	**Lajitas**

KMI S 19 05 44.0
KMI SS SS 19 11 56.0 +0.1
KMI LR LR
comp=Z,140nm,20.8s
HHC Hu-ho-hao-te 91.84 314 *e*P **P 18 54 59.0 +1.5**
HHC AP pP 18 55 28.1 +1.5
HHC XP sP 18 55 40.4 +2.0
HHC PP PP 18 58 42.1 +4.2
HHC SKS 19 05 19.3
HHC S 19 05 48.2
HHC XS sS 19 06 40.0 +0.5
HHC PS PS 19 07 18.2 +4.8
HHC SS SS 19 12 03.0 +3.4
HHC AMB AMB
comp=Z,13nm,1.1s,mb5.1
HHC AMB AMB
comp=Z,101nm,6.2s
HHC LR LR
comp=N,120nm,19.0s
HHC LR LR
comp=E,87nm,17.1s
HHC LR LR
comp=Z,114nm,20.2s
CHG Chiang Mai 92.32 289 ⇓P **P 18 55 00.6 +0.9**
comp=Z,11nm,1.0s,mb5.0
CHTO Chiang Mai 92.32 289 *e*P **P 18 55 00.7 +1.0**
CHTO pmax pmax
comp=Z,11nm,1.1s,mb5.0
CHTO Chiang Mai 92.32 289 *e*P **P 18 55 00.7 +1.0**
comp=Z,11nm,1.1s,mb5.0
CD2 Chengdu 93.14 302 *e*P **P 18 55 02.9 -0.6**
CD2 PP PP 18 58 49.7 +1.6
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,40nm,9.2s
CD2 LR LR
comp=E,90nm,14.4s
CD2 LR LR
comp=Z,60nm,15.6s
LZH Lanzhou 95.19 307 *e*P **P 18 55 14.1 +1.2**
LZH AP pP 18 55 43.5 +1.5
LZH XP sP 18 55 55.4 +1.6
LZH PP PP 18 59 07.3 +3.3
LZH AMB AMB
comp=Z,22nm,1.4s,mb5.4
LZH Lanzhou 95.19 307 *e*P **P 18 55 14.1 +1.2**
comp=Z,22nm,1.4s,mb5.4
LZH pP pP 18 55 43.5 +1.5
LZH sP sP 18 55 55.4 +1.6
LZH PP PP 18 59 07.3 +3.3
INK Inuvik 95.89 15 P **P 18 55 14.4 -1.7**
comp=Z,3.6nm,1.1s,mb4.7,baz=194,slow=3.8,SNR=5.9
INK LR LR 19 31 56.0
comp=Z,29nm,20.2s,baz=178,slow=31
INK Inuvik 95.89 15 *e*P **P 18 55 14.5 -1.6**
INK pmax pmax
comp=Z,11nm,1.4s
INK Inuvik 95.89 15 *e*P **P 18 55 14.5 -1.5**
comp=Z,351nm,1.4s
YKA Yellowknife Ar 97.78 24 P **P 18 55 22.8 -1.8**
comp=Z,2.1nm,0.8s,mb4.7,baz=237,slow=4.2,SNR=38
YKA PKKPbc PKKPbc 19 11 58.3 -0.7
comp=Z,0.1nm,0.7s,baz=49,slow=2.8,SNR=5.8
YKA LR LR 19 36 47.6
comp=Z,35nm,18.7s,baz=175,slow=34
LPAZ La Paz 99.92 112 P Pdif 18 55 38.5 +4.3
comp=Z,0.4nm,0.4s,baz=240,slow=3.3,SNR=4.2
LPAZ LR LR 19 36 22.9
comp=Z,79nm,18.0s,baz=185,slow=33
WMQ Urumqi 109.39 310 PDIF Pdif 18 56 15.9 -0.4
WMQ PP PP 19 00 53.4 +3.0
WMQ PP PP
comp=Z,102nm,4.6s
WMQ LR LR
comp=N,10.0nm,25.8s
WMQ LR LR
comp=E,40nm,28.4s
WMQ LR LR
comp=Z,35nm,20.7s
ZAL Zalesovo 113.03 321 PKiKP PKiKP 19 00 23.4 -2.7
comp=Z,0.9nm,0.6s,baz=340,slow=6.0,SNR=4.0
ZAL Zalesovo 113.03 321 *i* PKIKP PKiKP 19 00 23.4 -2.7
ZAL pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 113.68 313 PKiKP PKiKP 19 00 25.4 -1.9
comp=Z,2.6nm,0.8s,baz=69,slow=3.2,SNR=24
MKAR PKKPbc PKKPbc 19 11 10.9 +0.5
comp=Z,0.7nm,1.0s,baz=264,slow=2.3,SNR=9.0
MKAR Makanchi Array 113.68 313 *i* PKIKP PKiKP 19 00 25.4 -1.9
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR pmax pmax
comp=Z,1.0nm,1.0s
NVS Novosibirsk 114.04 321 *e*PKIKP PKiKP 19 00 24.9 -3.1
AAK Ala-Archa 118.72 307 *i* PKIKP PKPdf 19 00 35.6 -1.4
BVAR Borovoye Array 121.60 319 PKP PKPdf 19 00 41.0 -1.6
comp=Z,4.4nm,0.6s,baz=98,slow=2.1,SNR=24
BVAR Borovoye Array 121.60 319 PKIKP PKPdf 19 00 41.0 -1.5
BVAR pmax pmax
comp=Z,4.0nm,0.6s
ZRNK Zerenda 122.44 319 *e*PKIKP PKPdf 19 00 42.7 -1.5
DAG Danmarks Havn 124.64 6⇑ *i*P PKPdf 19 00 45.8 -2.6
comp=Z,2.7nm,0.7s
DAG Danmarks Havn 124.64 6⇑ *e*PKIKP PKPdf 19 00 45.8 -2.6
DAG pmax pmax
comp=Z,3.0nm,0.7s
SVE Sverdlovsk 126.52 325 *e*PKIKP PKPdf 19 00 51.5 -0.5
ARU Arti 127.73 325 *i* PKIKP PKPdf 19 00 52.9 -1.4
ARU *e* 19 02 55.2
ARU *e* 19 07 49.4
ARU *e*SS SS 19 20 06.6 +6.5
AKTK Aktyubinsk 129.59 318 PKP PKPdf 19 00 57.1 -0.7
AKTO Aktyubinsk 129.59 318 PKP PKPdf 19 00 57.1 -0.7
comp=Z,3.3nm,0.8s,baz=28,slow=2.9,SNR=11
AKTO Aktyubinsk 129.59 318 PKIKP PKPdf 19 00 57.1 -0.7
AKTO pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 131.21 350 PKP PKPdf 19 00 59.4 -1.5
comp=Z,10nm,0.8s,baz=310,slow=0.9,SNR=17
ARCES ARCESS Array B 131.21 350 PKIKP PKPdf 19 00 59.4 -1.5
ARCES pmax pmax
comp=Z,10.0nm,0.8s
ORR Orenburg 131.28 320 *e*PKIKP PKPdf 19 01 00.8 -0.2
ORR pmax pmax
comp=Z,10.0nm,1.0s
FINES FINESS Array B 138.16 344 PKhKP 19 01 04.7
comp=Z,0.6nm,0.6s,baz=31,slow=4.4,SNR=3.6
FINES PKP PKPdf 19 01 12.3 -1.6
comp=Z,6.4nm,0.8s,baz=83,slow=4.3,SNR=18
FINES SKPbc SKPbc 19 04 39.8 +2.0
comp=Z,2.3nm,0.9s,baz=107,slow=2.6,SNR=6.7
FINES FINESS Array B 138.16 344 *i* PKHKP 19 01 04.7
FINES 19 01 12.3
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES pmax pmax
comp=Z,6.0nm,0.8s
FINES pmax pmax
comp=N,2.0nm,0.9s
OBN Obninsk 139.27 331 *i* PKIKP PKPdf 19 01 13.3 -2.6
OBN pmax pmax
comp=Z,15nm,1.2s
GNI Garni 141.12 307 PKP PKPdf 19 01 18.9 -0.3
comp=Z,3.6nm,0.7s,baz=5.6,slow=16,SNR=5.1
GNI Garni 141.12 307 PKIKP PKPdf 19 01 18.9 -0.4
GNI pmax pmax
comp=Z,4.0nm,0.7s
NB2 NORSAR Subarra141.20 354 PKPa 19 01 11.9
comp=Z,1.4nm,0.8s,baz=17,slow=2.6
NOA NORSAR Array B141.20 354 PKhKP 19 01 10.6
comp=Z,2.6nm,0.9s,baz=4.6,slow=2.3,SNR=9.8
NOA NORSAR Array B141.20 354 *i* PKHKP 19 01 10.6
NOA pmax pmax
comp=Z,3.0nm,0.9s
NA001 NORSAR Array S 141.42 354 *e*PKPpre 19 01 12.9
KIV Kislovodsk 141.44 313 *i* PKHKP 19 01 12.1
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,34nm,19.0s
HFS Hagfors 141.80 352 PKhKP 19 01 12.9
comp=Z,4.6nm,0.7s,baz=5.7,slow=1.4,SNR=11
HFS Hagfors 141.80 352 *i* PKHKP 19 01 12.9
HFS pmax pmax
comp=Z,5.0nm,0.7s

OTO Tongue 143.66 7 *e*P PKPdf 19 01 20.0 -3.7
OBR Brabster 143.67 6 *e*P PKPdf 19 01 19.9 -3.8
ORE Reay 143.68 6 *e*P PKPdf 19 01 20.1 -3.7
ERZM Erzurum 143.69 307 *i* P PKPdf 19 01 21.8 -2.0
BNGL BINGOL 144.12 306 *i* P PKPdf 19 01 23.1 -1.5
KSK Scoval 144.35 10 *e*P PKPdf 19 01 22.6 -2.4
KAC Achnashellach 144.52 8 *e*P PKPdf 19 01 22.4 -2.8
ANN Anapa 144.54 317 *i* PKHKP 19 01 18.7
ANN *e* 19 08 22.6
ANN pmax pmax
comp=Z,90nm,0.9s
ANN Anapa 144.54 317 *i* PKP 19 01 18.7
ANN *e* 19 08 22.6
KSB Sheil Bridge 144.78 8 *e*P PKPdf 19 01 23.5 -2.2
MARD Mardin 144.82 303 *i* P PKPdf 19 01 25.1 -0.7
SUW Suwalki 145.29 340 *e*PKP PKPdf 19 01 25.7 -0.9
AKASG Malin Array Be 145.53 331 PKPbc PKPdf 19 01 25.1 -1.9
comp=Z,58nm,0.8s,baz=40,slow=4.1,SNR=235
AKASG Malin Array Be 145.53 331 *i* PKP2 PKPdf 19 01 25.7 -1.3
AKASG pmax pmax
comp=Z,58nm,0.8s
GRSN GIRESUNGRSN 145.59 310 *i* P PKPdf 19 01 26.3 -0.8
ELZG Elazig 145.87 306 *i* P PKPdf 19 01 29.7 +2.1
MUD Monsted U'grnd 145.91 354⇓ *i*P PKPdf 19 01 27.5 -0.1
comp=Z,29nm,0.9s
MUD Monsted U'grnd 145.91 354⇓ *i*PKP2 PKPab 19 01 27.5 -1.6
MUD pmax pmax
comp=Z,29nm,0.9s
EAB Aberfoyle 145.92 8 *e*P PKPdf 19 01 26.5 -1.2
PGBU Glenifferbraes 146.27 8 *e*P PKPdf 19 01 27.1 -1.2
COP Copenhagen 146.28 351 *i* P PKPdf 19 01 28.6 +0.3
comp=Z,26nm,0.8s
COP Copenhagen 146.28 351 *i* PKP2 PKPdf 19 01 28.6 +0.3
COP pmax pmax
comp=Z,26nm,0.8s
MALT Malatya 146.34 306⇓ *i*P PKPbc 19 01 30.4 +0.6
MALT Malatya 146.34 306 *e*PKPdf PKPdf 19 01 28.7 +0.4
MALT *e*PKPbc PKPbc 19 01 31.0 +1.2
EAU Auchinoon 146.37 7 *e*P PKPdf 19 01 28.5 +0.1
ESY Stoneypath 146.38 6 *e*P PKPdf 19 01 28.0 -0.5
BSD Bornholm Skovb 146.42 348⇓ *i*P PKPdf 19 01 28.6 +0.1
comp=Z,54nm,1.0s
BSD Bornholm Skovb 146.42 348⇓ *i*PKP2 PKPdf 19 01 28.6 +0.1
BSD pmax pmax
comp=Z,54nm,1.0s
EBL Broad Law 146.48 7 *e*P PKPdf 19 01 28.4 -0.2
SIM Simferopol' 146.52 319 *i* PKP2 PKPab 19 01 30.1 -1.4
EKA Eskdalemuir Ar 146.90 7 PKIKP PKPdf 19 01 29.2 -0.1
comp=Z,12nm,0.8s,baz=340,slow=3.3,SNR=29
EKA Eskdalemuir Ar 146.90 7 PKIKP PKPdf 19 01 29.3 0.0
EKA pmax pmax
comp=Z,12nm,0.9s
ESK Eskdalemuir 146.91 7 *e*PKP2 PKPdf 19 01 29.7 +0.4
SVST Sivas 146.94 309 *i* P PKPbc 19 01 32.3 +0.8
BWH Wardlaw 147.00 8 *e*P PKPdf 19 01 29.1 -0.4
BBH Bruntsheil 147.12 7 *e*P PKPdf 19 01 29.8 +0.1
BHH Howats Hill 147.13 7 *e*P PKPdf 19 01 29.6 -0.1
GZT Gaziantep 147.28 305 *i* P PKPbc 19 01 32.9 +0.4
GKP Gorka Klasztor 147.63 345 *e*PKP PKPdf 19 01 30.9 +0.4
GKP *e* 19 01 32.9
GKP *e* 19 01 35.3
CKE Keswick 147.64 7 *e*P PKPdf 19 01 30.3 -0.2
XDE Dent Fell 147.67 8 *e*P PKPdf 19 01 30.6 0.0
BOYT Boyabat 147.71 313 *i* P PKPbc 19 01 34.1 +0.5
LWH Whinny Nab 148.13 5 *i* P PKPbc 19 01 31.1 -0.2
CTKT Corum 148.13 312 *i* P PKPbc 19 01 35.0 +0.3
DCN Croghan 148.19 12 *e*P PKPdf 19 01 28.0 -3.4
KIS Kishinev 148.27 326 *e*PKIKP PKPdf 19 01 33.0 +1.4
BSEG Bad Segeberg 148.27 352 *e*PKPdf PKPdf 19 01 30.4 -1.2
BSEG *e*PKPbc PKPbc 19 01 34.5 -0.6
BSEG *ep*PKPbc pPKPbc 19 02 04.2 -1.0
BSEG Bad Segeberg 148.27 352 *e*PKP2 PKPbc 19 01 34.5 -0.6
DLF Lyons Farm 148.37 12 *e*P PKPdf 19 01 28.6 -3.2
LVV L'vov 148.40 334 *e*PKP2 PKPbc 19 01 34.7 -0.7
COBT Iskenderun 148.53 304 *i* P PKPbc 19 01 35.8 +0.1
BALT Daday 148.68 314 *i* P PKPbc 19 01 36.5 +0.3
LHO Holmfirth 148.80 6 *e*P PKPdf 19 01 32.4 -0.1
AVNT Avonos 148.82 308 *i* P PKPdf 19 01 29.4 -3.1
CDAG Cicekdag 148.84 310 *i* P PKPbc 19 01 36.1 -0.4
KWP Kalwaria 149.07 336 *e*PKP PKPbc 19 01 36.9 -0.2
KWP *e* 19 01 41.3
ELDT Eldivan 149.13 312 *i* P PKPbc 19 01 37.4 +0.1
RUE Ruedersdorf 149.13 348 *e*PKPdf PKPdf 19 01 33.1 +0.1
RUE *e*PKPbc PKPbc 19 01 36.6 -0.7
RUE *ep*PKPbc pPKPbc 19 02 06.6 -0.8
SBD1 Bryn Du 149.27 8 *e*P PKPdf 19 01 32.3 -0.9
SBD1 AMb AMB 19 01 38.0
comp=Z,43nm,1.4s
BRTR Keskin Array B 149.31 311 PKP PKPdf 19 01 32.5 -0.8
comp=Z,1.7nm,0.8s,baz=20,slow=1.4,SNR=7.3
BRTR PKPbc PKPbc 19 01 37.5 -0.3
comp=Z,7.2nm,0.8s,baz=135,slow=2.7,SNR=37
BRTR Keskin Array B 149.31 311 PKHKP 19 01 32.5
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR pmax pmax
comp=Z,7.0nm,0.8s
BURAR Bucovina Array 149.58 330⇓ *i*P PKPbc 19 01 38.6 +0.2
BURAR Bucovina Array 149.58 330⇓ P PKPbc 19 01 38.6 +0.3
OJC Ojcow 149.62 339 *e*PKP PKPbc 19 01 37.9 -0.6
HLM1 Long Mynd 149.70 8 *e*P PKPdf 19 01 33.1 -0.8
HLM1 AMb AMB 19 01 39.0
comp=Z,55nm,1.2s
WIT Witteveen 149.72 356 *e*P PKPbc 19 01 39.1 +0.3
comp=Z,351nm,1.2s
SSP1 Stoney Pound 149.77 8 *e*P PKPdf 19 01 33.4 -0.6
SSP1 AMb AMB 19 01 39.3
comp=Z,50nm,1.1s
STHS Stebnicka Huta 149.79 337 *i* PKP PKPbc 19 01 38.6 -0.3
STHS *e* 19 01 45.1
KOLS Kolonicke sedl 149.80 335 *e*PKP PKPbc 19 01 39.9 +1.0
KOLS *e* 19 01 46.7
CFR Carcaliu 149.82 324⇑ *i*P PKPbc 19 01 38.9 -0.1
CFR Carcaliu 149.82 324 ⇑P PKPbc 19 01 38.9 -0.1
ANTO Ankara 149.84 312⇓ *i*P PKPbc 19 01 39.1 +0.1
ANTO Ankara 149.84 312 *e*PKPbc PKPbc 19 01 38.9 -0.1
SGKT Sivrigoynuk 150.02 313 *i* P PKPbc 19 01 39.0 -0.5
KSP Ksiaz 150.09 344 *e*PKP PKPbc 19 01 39.7 +0.1
KSP *e* 19 01 45.6
KSP Ksiaz 150.09 344 *i* PKP2 PKPbc 19 01 39.6 0.0
KSP Ksiaz 150.09 344 *e*PKPdf PKPbc 19 01 39.6 0.0
KSP *e*PKPab PKPab 19 01 45.4 -0.5
KSP *ep*PKP pPKPdf 19 02 08.9 +4.0
VRI Vrincioaia 150.10 327⇓ *i*P PKPbc 19 01 39.3 -0.3
VRI Vrincioaia 150.10 327 ⇓P PKPbc 19 01 39.3 -0.3
MEST Erdemli 150.12 305 *i* P PKPbc 19 01 39.5 -0.1
NIE Niedzica 150.12 338 *e*PKP PKPbc 19 01 40.4 +0.7
TIRR Tirgusor 150.12 323⇓ *i*P PKPbc 19 01 39.0 -0.7
TIRR Tirgusor 150.12 323 ⇓P PKPbc 19 01 39.0 -0.7
CRVS Cervenica-Dubn 150.14 336 *e*PKP PKPbc 19 01 40.5 +0.8
CRVS *e* 19 01 46.3
IBBN Ibbenburen 150.14 355 *e*PKPbc PKPbc 19 01 39.5 -0.2
MCH1 Michaelchurch 150.19 8 *e*P PKPdf 19 01 33.4 -1.2
MCH1 AMb AMB 19 01 39.9
comp=Z,44nm,1.2s
HAE Alders End 150.21 8 *e*P PKPdf 19 01 34.5 -0.2
HAE AMb AMB 19 01 42.7
comp=Z,74nm,1.4s
CLZ Clausthal 150.32 351 *e*PKPdf PKPdf 19 01 34.9 0.0
CLZ *e*PKPbc PKPbc 19 01 39.8 -0.4
CLZ *ep*PKPbc pPKPbc 19 02 09.7 -0.6
CLZ Clausthal 150.32 351 *e*PKIKP PKPbc 19 01 39.8 -0.4
CLL Collm 150.40 348 *e*PKPdf PKPdf 19 01 34.7 -0.3
CLL *e*PKPbc PKPbc 19 01 39.4 -0.9
CLL *e*PKPab PKPab 19 01 45.8 -1.3
CLL *ep*PKPbc pPKPbc 19 02 09.8 -0.7
CLL Collm 150.40 348 *i* PKPdf PKPdf 19 01 34.1 -0.9
CLL ⇓ *i*PKPbc PKPbc 19 01 39.6 -0.7
comp=Z,72nm,1.1s
CLL *i* PKPab PKPab 19 01 45.5 -1.6
comp=Z,43nm,1.0s
CLL *ep*PKPbc pPKPbc 19 02 10.0 -0.5
CLL Collm 150.40 348⇓ *i*PKIKP PKPdf 19 01 34.1 -0.9
CLL *i* 19 01 39.6
CLL *i* 19 01 45.5
CLL pmax pmax
comp=Z,45nm,1.1s
CLL pmax pmax
comp=Z,72nm,1.0s
UPC Upice 150.47 344 *e*PKPDF PKPdf 19 01 35.7 +0.6
UPC ⇑ *e*PKPB PKPbc 19 01 40.9 +0.4
UPC *e*PKPAB PKPab 19 01 47.4 0.0

OKC Ostrava-Krasne 150.47 341 *e*PKPDF PKPdf 19 01 35.4 +0.3
OKC ⇑ *e*PKPB PKPbc 19 01 40.4 -0.1
OKC *e*PKPAB PKPab 19 01 47.3 -0.1
DPC Dobruska-Polom 150.53 343 *e*PKPDF PKPdf 19 01 35.4 +0.2
DPC ⇑ *e*PKPB PKPbc 19 01 40.8 +0.1
DPC *e*PKPAB PKPab 19 01 47.9 +0.2
DPC AMS AMS 19 54 30.0
DPC Dobruska-Polom 150.53 343 *e*PKIKP PKPdf 19 01 35.4 +0.2
DPC *e* 19 01 40.8
DPC *e* 19 01 47.9
WTSB Winterswijk 150.55 356⇓ *i*P PKPdf 19 01 40.0 +4.7
comp=Z,82nm,1.3s
BRG Berggiesshubel 150.62 347 *e*PKPdf PKPdf 19 01 35.2 -0.1
BRG *e*PKPbc PKPbc 19 01 40.3 -0.6
BRG *e*PKPab PKPab 19 01 47.4 -0.6
BRG *ep*PKPbc pPKPbc 19 02 10.5 -0.6
BRG Berggiesshubel 150.62 347 *e*PKP PKPdf 19 01 35.2 -0.1
comp=Z,5.7nm,1.1s
BRG Berggiesshubel 150.62 347 *i* PKP PKPbc 19 01 41.0 +0.1
comp=Z,29nm,1.1s
BRG Berggiesshubel 150.62 347 *i* PKP PKPab 19 01 47.5 -0.6
comp=Z,11nm,0.8s
BRG Berggiesshubel 150.62 347 *e*PKIKP PKPdf 19 01 35.2 -0.1
BRG *i* 19 01 41.0
BRG *i* 19 01 47.5
BRG pmax pmax
comp=Z,6.0nm,1.1s
BRG pmax pmax
comp=Z,29nm,1.1s
BRG pmax pmax
comp=Z,11nm,0.8s
GTTG Gvttingen 150.66 352 *e*PKPdf PKPdf 19 01 35.2 -0.2
GTTG *e*PKPbc PKPbc 19 01 40.5 -0.5
GTTG *e*PKPab PKPab 19 01 47.1 -1.1
GTTG *ep*PKPbc pPKPbc 19 02 10.4 -0.8
HENT Hendek 150.66 315 *i* P PKPbc 19 01 40.6 -0.4
MORC Moravsky Berou 150.71 341⇑ P PKPbc 19 01 40.8 -0.3
MORC Moravsky Berou 150.71 341 *e*PKPbc PKPbc 19 01 40.3 -0.8
MLR Muntele Rosu 150.76 327 PKPbc PKPbc 19 01 40.6 -0.6
comp=Z,20nm,0.8s,baz=349,slow=4.7,SNR=30
MLR Muntele Rosu 150.76 327⇑ *i*P PKPbc 19 01 40.9 -0.3
MLR Muntele Rosu 150.76 327 PKIKP PKPbc 19 01 40.6 -0.6
MLR pmax pmax
comp=Z,20nm,0.8s
MLR Muntele Rosu 150.76 327 ⇑P PKPbc 19 01 40.9 -0.3
KECS Kecovo 150.85 337 *e*PKP PKPbc 19 01 41.4 0.0
KECS *e* 19 01 48.8
ERMK Ermenek 151.03 306 *i* P PKPbc 19 01 41.9 0.0
BUG Bochum--Univer 151.04 355 *e*PKPbc PKPbc 19 01 41.2 -0.7
BUG *ep*PKPbc pPKPbc 19 02 12.1 0.0
CSS Prodhromos 151.26 302 *e*PKPbc PKPbc 19 01 41.6 -0.8
MOX Moxa 151.29 349 *e*PKPdf PKPdf 19 01 35.8 -0.6
MOX *e*PKPbc PKPbc 19 01 41.9 -0.5
MOX *e*PKPab PKPab 19 01 49.9 -0.9
MOX *ep*PKPbc pPKPbc 19 02 12.0 -0.6
MOX Moxa 151.29 349 *e*PKP PKPdf 19 01 35.8 -0.6
MOX *e* 19 01 41.8
comp=Z,32nm,1.2s
MOX Moxa 151.29 349 *e*PKIKP PKPdf 19 01 35.8 -0.6
MOX *e* 19 01 41.8
MOX pmax pmax
comp=Z,32nm,1.2s
MOX Moxa 151.29 349 *e*PKPdf PKPdf 19 01 35.8 -0.6
MOX *e*PKP PKPdf 19 01 41.8 +5.5
MOX *e*PKPab PKPab 19 01 49.8 -0.9
MOX *ep*PKP pPKPdf 19 02 12.0 +5.2
PRU Pruhonice 151.31 345 *e*PKPDF PKPdf 19 01 36.1 -0.3
PRU ⇑ *e*PKPB PKPbc 19 01 42.2 -0.3
PRU *e*PKPAB PKPab 19 01 50.3 -0.6
PRU AMS AMS 19 54 20.0
PRU Pruhonice 151.31 345 *e*PKIKP PKPdf 19 01 36.1 -0.3
PRU *e* 19 01 42.2
PRU *e* 19 01 50.3
DRGR 151.32 332⇑ *i*P PKPbc 19 01 42.2 -0.3
DRGR 151.32 332 ⇑P PKPbc 19 01 42.2 -0.3
ESKT Eskisehir 151.33 312 *i* P PKPbc 19 01 41.9 -0.7
WERD Werda 151.35 348 *e*PKPdf PKPdf 19 01 35.8 -0.7
WERD *e*PKPbc PKPbc 19 01 41.9 -0.7
WERD *e*PKPab PKPab 19 01 50.1 -1.0
UBBA Unterbreizbach 151.37 351 *e*PKPdf PKPdf 19 01 36.3 -0.2
UBBA *e*PKPbc PKPbc 19 01 41.8 -0.8
UBBA *e*PKPab PKPab 19 01 50.7 -0.4
UBBA *ep*PKPbc pPKPbc 19 02 12.0 -0.8
VRAC Vranov 151.40 342 PKPbc PKPbc 19 01 42.5 -0.2
comp=Z,12nm,1.0s,baz=313,slow=0.5,SNR=15
VRAC PKPab PKPab 19 01 50.3 -1.0
comp=Z,18nm,0.8s,baz=19,slow=2.1,SNR=18
VRAC Vranov 151.40 342⇓ *i*P PKPbc 19 01 42.6 -0.1
VRAC Vranov 151.40 342 PKIKP PKPbc 19 01 42.5 -0.2
VRAC 19 01 50.3
VRAC pmax pmax
comp=Z,12nm,1.0s
VRAC pmax pmax
comp=Z,18nm,0.8s
VRAC Vranov 151.40 342 ⇓P PKPbc 19 01 42.6 -0.1
VYHS Vyhne 151.42 339 *e*PKP PKPbc 19 01 42.1 -0.6
VYHS *e* 19 01 51.1
NKC Novy Kostel 151.53 348 *e*PKPDF PKPdf 19 01 36.6 -0.1
NKC ⇑ *e*PKPB PKPbc 19 01 42.8 -0.2
NKC *e*PKPAB PKPab 19 01 51.3 -0.5
PSZ Piszkesteto 151.54 337⇓ *e*PKP/F PKPbc 19 01 42.7 -0.3
HGN Heimansgroeve 151.80 357⇓ *i*P PKPbc 19 01 42.9 -0.7
comp=Z,25nm,1.2s
UCC Uccle 151.82 359 PKPbc PKPbc 19 01 42.7 -0.9
MANZ Manzenberg 151.83 348 *e*PKPdf PKPdf 19 01 37.1 -0.1
MANZ *e*PKPbc PKPbc 19 01 43.4 -0.3
MEM Membach 151.95 357 APKPbc 19 01 13.3
MEM PKPbc PKPbc 19 01 43.4 -0.5
MEM PKPab PKPab 19 01 53.0 -0.7
ROTZ Rotzenmuhle 152.02 348 *e*PKPdf PKPdf 19 01 37.1 -0.4
ROTZ *e*PKPbc PKPbc 19 01 43.8 -0.3
ROTZ *e*PKPab PKPab 19 01 53.2 -0.7
ROTZ *ep*PKPbc pPKPbc 19 02 13.8 -0.5
SNF Seneffe 152.11 359 PKPbc PKPbc 19 01 44.1 -0.2
TNS Taunus Mts 152.14 353 *e*PKPdf PKPdf 19 01 37.3 -0.3
TNS *e*PKPbc PKPbc 19 01 43.8 -0.6
TNS *e*PKPab PKPab 19 01 53.5 -0.9
TNS Taunus Mts 152.14 353 *e*PKIKP PKPbc 19 01 43.8 -0.6
ULDT Uludag 152.17 315 *i* P PKPbc 19 01 44.3 -0.2
ZST Bratislava 152.25 340 *e*PKP PKPbc 19 01 44.5 -0.1
ZST *e* 19 01 54.8
ZST Bratislava 152.25 340 *e*PKP PKPbc 19 01 44.5 -0.1
ZST *e* 19 01 54.8
ZST LR LR
comp=Z,220nm,14.5s
GRA1 Grafenberg Arr 152.27 349 *e*PKPbc PKPbc 19 01 44.2 -0.5
GRA1 *e*PKPab PKPab 19 01 54.4 -0.5
GRF Grafenberg Arr 152.27 349 *e*PKPbc PKPbc 19 01 44.2 -0.5
GRF *e*PKPab PKPab 19 01 54.4 -0.5
KHC Kasperske Hory 152.34 346 *e*PKPDF PKPdf 19 01 37.8 -0.1
KHC ⇑ *e*PKPB PKPbc 19 01 44.6 -0.2
KHC *e*PKPAB PKPab 19 01 54.9 -0.3
KHC AMS AMS 19 55 00.0
KHC Kasperske Hory 152.34 346 *e*PKIKP PKPdf 19 01 37.8 -0.1
KHC *e* 19 01 44.6
KHC *e* 19 01 54.9
TKTP Tekketepe 152.37 310 *i* P PKPbc 19 01 43.0 -1.9
GDZ Gediz 152.47 313 *i* P PKPbc 19 01 42.6 -2.5
WET Wettzell 152.48 347 *e*PKPdf PKPdf 19 01 37.6 -0.5
WET *e*PKPbc PKPbc 19 01 45.0 -0.1
WET *e*PKPab PKPab 19 01 55.3 -0.5
WET Wettzell 152.48 347 *e*PKPbc PKPbc 19 01 45.0 -0.1
DOU Dourbes 152.52 359 PKPbc PKPbc 19 01 44.7 -0.6
GEC2 GERESS Array S 152.58 345 *e*PKPdf PKPdf 19 01 37.7 -0.6
GEC2 *e*PKPbc PKPbc 19 01 44.9 -0.5
GEC2 *e*PKPab PKPab 19 01 55.5 -0.7
GEC2 *ep*PKPbc pPKPbc 19 02 15.9 +0.3
GEC2 GERESS Array S 152.58 345 *e*PKIKP PKPbc 19 01 44.9 -0.5
GERES GERESS Array B 152.58 345 PKP PKPdf 19 01 37.1 -1.2
comp=Z,1.8nm,0.8s,baz=117,slow=1.5,SNR=12
GERES PKPbc PKPbc 19 01 45.0 -0.4
comp=Z,10nm,0.9s,baz=48,slow=2.0,SNR=36
GERES PKPab PKPab 19 01 55.0 -1.3
comp=Z,7.7nm,1.1s,baz=20,slow=1.6,SNR=8.1
GERES GERESS Array B 152.58 345 PKIKP PKPdf 19 01 37.1 -1.2
GERES 19 01 45.0
GERES 19 01 55.0
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES pmax pmax
comp=Z,11nm,0.9s
GERES pmax pmax

comp=Z,8.0nm,1.1s
SOP Sopron 152.87 341⇑ *e*PKP/F PKPdf 19 01 38.5 -0.2
WLF Walferdange 152.89 356 *e*PKPbc PKPbc 19 01 46.0 0.0
WLF *e*PKPab PKPab 19 01 57.2 -0.3
WLF *ep*PKPbc pPKPbc 19 02 16.4 +0.1
WLF Walferdange 152.89 356 PKPbc PKPbc 19 01 46.1 +0.1
WLF PKPab PKPab 19 01 57.8 +0.2
WLF Walferdange 152.89 356 *e*PKPbc PKPbc 19 01 46.4 +0.4
BTOK Tokmak 153.09 315 *i* P PKPbc 19 01 46.1 -0.4
PKSM Moragy 153.44 336⇓ *i* P PKPdf 19 01 38.3 -1.2
PKSM Moragy 153.44 336⇓ *eP* PKPdf 19 01 38.5 -1.0
STU Stuttgart 153.48 352 *e*PKPbc PKPbc 19 01 46.8 -0.5
FLN La Foliniere 153.67 6 *e*PKIKP PKPdf 19 01 40.1 +0.2
FUR Furstenfeldbru 153.73 348 *e*PKPbc PKPbc 19 01 47.2 -0.7
FUR *e*PKPab PKPab 19 02 00.1 -1.0
BFO Black Forest 154.02 353 *e*PKPbc PKPbc 19 01 47.7 -0.8
BFO *e*PKPab PKPab 19 02 00.9 -1.4
KBA Koelnbreinsper 154.31 344⇑ *i* PKPbc 19 01 48.6 -0.5
comp=Z,7.6nm,0.9s
KBA Koelnbreinsper 154.31 344⇓ *i* PKPab 19 02 03.8 +0.2
comp=Z,21nm,0.8s
KBA Koelnbreinsper 154.31 344⇑ *i*PKPdf PKPdf 19 01 39.7 -1.1
comp=Z,8.0nm,1.2s
KBA ⇑*i*PKPbc PKPbc 19 01 48.6 -0.5
comp=Z,7.6nm,0.9s
KBA ⇓*i*PKPab PKPab 19 02 03.8 +0.2
comp=Z,21nm,0.8s
WTTA Wattenberg 154.53 347⇑ *i* PKPbc 19 01 49.4 -0.1
comp=Z,14nm,0.9s
WTTA Wattenberg 154.53 347⇑ *i* PKPab 19 02 04.2 -0.3
comp=Z,21nm,0.8s
WTTA Wattenberg 154.53 347⇑ *i*PKPdf PKPdf 19 01 40.7 -0.4
comp=Z,10nm,1.1s
WTTA ⇑*i*PKiKP PKiKP 19 01 49.4 -0.2
comp=Z,14nm,0.9s
WTTA ⇑*i*PKPab PKPab 19 02 04.2 -0.3
comp=Z,21nm,0.8s
DAVOX Davos 155.32 350 PKPbc PKPdf 19 01 51.4 +9.2
comp=Z,5.6nm,0.8s,baz=80,slow=2.7,SNR=5.3
DAVOX PKPab PKPab 19 02 07.0 -0.9
comp=Z,7.8nm,0.8s,baz=246,slow=1.5,SNR=5.2
LOR Lormes 155.36 360 *e*PKIKP PKPdf 19 01 41.2 -1.0
comp=Z,8.5nm,0.8s
SSF Saint Saulge 155.57 0 *e*PKIKP PKPdf 19 01 41.7 -0.8
comp=Z,7.7nm,0.9s
CABF La Chapelle 155.93 356 *e*PKIKP PKPdf 19 01 42.7 -0.3
comp=Z,25nm,1.1s
SMF Signal de Mont 155.99 360 *e*PKIKP PKPdf 19 01 41.9 -1.1
TCF Toulx Ste Croi 156.32 2 *e*PKIKP PKPdf 19 01 42.5 -1.0
comp=Z,25nm,1.3s
ORIF Oris-en-Rattie 157.63 356 *e*PKIKP PKPdf 19 01 44.6 -0.6
CAF Calviac 157.67 3 *e*PKIKP PKPdf 19 01 45.2 0.0
comp=Z,4.5nm,0.7s
VIVF Saint-Julien-l 157.76 358 *e*PKIKP PKPdf 19 01 44.9 -0.4
comp=Z,14nm,1.0s
LASF Ste Croix 158.55 359 *e*PKIKP PKPdf 19 01 45.9 -0.4
comp=Z,13nm,1.0s
ESDC Sonseca Array 161.79 19 PKP PKPdf 19 01 49.3 -0.6
comp=Z,1.1nm,0.8s,baz=6.8,slow=2.3,SNR=5.8
ESDC PKPab PKPab 19 02 35.8 -0.1
comp=Z,3.2nm,0.8s,baz=320,slow=3.1,SNR=12
MDT Midelt 167.49 34 PKP PKPdf 19 01 54.3 -0.5
comp=Z,2.5nm,0.9s,baz=267,slow=4.0,SNR=6.1
MDT PKPab PKPab 19 03 00.8 -0.2
comp=Z,1.9nm,1.0s,baz=308,slow=4.1,SNR=5.0
TORD Torodi Ar. Bea 170.45 169 PKP PKPdf 19 01 56.1 -0.6
comp=Z,2.6nm,1.0s,baz=271,slow=1.2,SNR=9.8
TORD PKPab PKPab 19 03 14.9 +0.7
comp=Z,8.2nm,0.9s,baz=180,slow=3.9,SNR=21

*BJI **10** 18:43:12.5, 52.40°N × 169.10°W, h22 km, mB5.1, mb4.8, Ms4.7, Msz4.3*
*NEIC **10** 18:43:17.6, 52.45°N × 169.11°W, h23 km, mb4.5/22, ML4.3(AEIC), After AEIC.*
*MOS **10** 18:43:17.5 ± 0.9, 52.77°N × 169.36°W, h33 km, mb4.7/23, MS4.0/4, Error ellipse: s-maj=17.4km s-min=8.0km az=95.6*
*ISCJB **10** 18:43:18.3 ± 0.8, 52.62°N ± 009.0° × 169.34°W ± 007.0, h45 km ± 5 km, mb4.3/51, MS3.8/20, Error ellipse: s-maj=15.1km s-min=6.0km az=149.5*
*IDC **10** 18:43:21.0 ± 3.0, 52.76°N × 169.24°W, h51 km ± 26 km, mb3.9/18, mb1 4.0/21, mb1mx4.0/27, mbtmp4.1/21, ML4.8/3, MS3.7/16, Ms1 3.7/16, ms1mx3.4/41, Error ellipse: s-maj=28.1km s-min=13.5km az=174.0*
ISC 10 18:43:20.2 ± 0.7, **52.74°N** ± 008.0° × **169.30°W** ± 007.0, **h46** km ± 4 km, **n139**, σ 0.6°/7.7/138, **mb4.3**/51, **MS3.8**/20, **1C-1D, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.35**	**49**	P	**Pn**	**18 43 28.2**	**-1.3**
NIKO				S	**Sn**	**18 43 36.7**	**+0.5**
OKCE	**Okmok Cone E**	**0.97**	**44**	P	**Pn**	**18 43 37.8**	**+0.4**
OKCD	**Okmok Cone D**	**0.99**	**45**	P	**Pn**	**18 43 38.3**	**+0.6**
OKCD				S	**Sn**	**18 43 54.1**	**+3.6**
UNV	**Unalaska Valle**	**2.01**	**55**	P	**Pn**	**18 43 51.0**	**-0.7**
UNV				S	**Sn**	**18 44 15.5**	**0.0**
AKLV	**Akutan Long Va**	**2.45**	**53**	P	**Pn**	**18 43 59.0**	**+1.3**
AKUT	**Akutan**	**2.53**	**55**	*e*P	**Pn**	**18 43 59.1**	**+0.3**
ATKA	**Atka Island**	**3.04**	**262**	P	**Pn**	**18 44 04.4**	**-1.5**
SDPT	**Sand Point**	**5.81**	**60**	P	**Pn**	**18 44 44.0**	**+0.1**
AMKA	**Amchitka**	**7.16**	**264**	P	**Pn**	**18 45 01.8**	**-0.6**
FX1	**Attu Island--F**	**10.62**	**278**	P	**Pn**	**18 45 51.8**	**+2.1**
	1.7nm,0.3s,baz=103,slow=1.6,SNR=24						
KDAK	**Kodiak Island**	**10.78**	**55**	P	**Pn**	**18 45 50.7**	**-1.2**
	1.3nm,0.3s,baz=259,slow=11,SNR=4.5						
KDAK				S	**Sn**	**18 47 44.3**	**-6.8**
	0.3nm,0.3s,baz=125,slow=14,SNR=1.9						
KDAK	**Kodiak Island**	**10.78**	**55**	P	**Pn**	**18 45 50.7**	**-1.2**
KDAK				S	**Sn**	**18 47 44.3**	**-6.8**
SVW2	**Sparrevohn**	**11.21**	**36**	P	**Pn**	**18 46 01.6**	**+3.8**
TTA	**Tatalina**	**12.39**	**29**	*e*P	**Pn**	**18 46 20.0**	**+6.1**
TTA				pmax	pmax		
	comp=Z,28nm,1.5s						
TTA	**Tatalina**	**12.39**	**29**	*e*P	**Pn**	**18 46 20.0**	**+6.1**
	comp=Z,28nm,1.5s						
ILAR	**Eielson Array**	**16.62**	**35**	P	**Pn**	**18 47 09.3**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=231,slow=9.3,SNR=9.9						
ILAR				S	**S**	**18 50 22.4**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=200,slow=14,SNR=3.9						
DAWY	**Dawson**	**19.12**	**42**	*e*P	**Pn**	**18 47 39.5**	**-0.9**
PET	**Petropavlovsk**	**19.27**	**284**	*e*P	**Pn**	**18 47 48.1**	**+5.9**
PET				pmax	pmax		
	comp=Z,100nm,15.7s						
PET				MLR	MLR		
	comp=Z,100nm,20.0s						
BILL	**Bilibino**	**19.29**	**332**	*e*P	**Pn**	**18 47 42.9**	**+0.4**
BILL				pmax	pmax		
	comp=Z,20nm,1.3s						
BILL	**Bilibino**	**19.29**	**332**	*e*P	**Pn**	**18 47 42.9**	**+0.4**
	comp=Z,20nm,1.3s						
SKAG	**Skagway**	**19.93**	**57**	*e*P	**Pn**	**18 47 49.8**	**-0.3**
DLBC	**Dease Lake**	**22.66**	**60**	P	**P**	**18 48 22.0**	**+4.6**
	comp=Z,2.7nm,0.8s,mb3.7,baz=283,slow=14,SNR=1.9						
DLBC				LR	LR	18 57 13.6	
	comp=Z,67nm,19.1s,MS3.1,baz=216,slow=37						
MA2	**Magadan**	**22.98**	**303**	*e*P	**P**	**18 48 22.4**	**+1.7**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.2						
MA2				MLR	MLR		
	comp=Z,2μm,19.8s,MS4.4						
INK	**Inuvik**	**23.01**	**34**	P	**P**	**18 48 20.4**	**-0.7**
	comp=Z,3.6nm,0.6s,mb4.0,baz=232,slow=8.6,SNR=30						
INK	**Inuvik**	**23.01**	**34**	*e*P	**P**	**18 48 19.5**	**-1.6**
INK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
INK	**Inuvik**	**23.01**	**34**	*e*P	**P**	**18 48 19.5**	**-1.6**
	comp=Z,4.0nm,0.7s,mb4.0						
BBB	**Bella Bella**	**24.86**	**75**	LR	LR	18 56 39.6	
	comp=Z,110nm,19.7s,MS3.4,baz=150,slow=32						
YKA	**Yellowknife Ar**	**29.96**	**49**	P	**P**	**18 49 24.6**	**+0.5**
	comp=Z,0.7nm,0.4s,mb3.7,baz=272,slow=7.5,SNR=7.6						
YKA				PcP	PcP	18 52 24.6	-1.0
	comp=Z,0.4nm,0.8s,baz=297,slow=2.2,SNR=4.2						
YKA				LR	LR	19 02 50.2	
	comp=Z,90nm,19.1s,MS3.4,baz=270,slow=39						
YKA	**Yellowknife Ar**	**29.96**	**49**	P	**P**	**18 49 24.6**	**+0.5**
YKA						18 52 24.6	
YKA	**Yellowknife Ar**	**29.96**	**49**	P	**P**	**18 49 24.6**	**+0.5**
YKA				PcP	PcP	18 52 24.6	-1.0
YKA				LR	LR	19 02 50.2	
ASAJ	**Asahikawa**	**32.52**	**274**	LR	LR	19 01 21.0	
	comp=Z,115nm,20.8s,MS3.5,baz=116,slow=33						
YBH	**Yreka Blue Hor**	**32.94**	**91**	LR	LR	19 00 03.9	
	comp=Z,137nm,18.8s,MS3.7,baz=250,slow=30						
NVAR	**Mina Array Bea**	**37.63**	**92**	P	**P**	**18 50 30.9**	**+0.4**
	comp=Z,0.4nm,0.5s,mb3.4,baz=293,slow=8.0,SNR=4.8						
ELK	**Elko**	**38.06**	**86**	*e*P	**P**	**18 50 34.5**	**+0.3**
ELK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ELK	**Elko**	**38.06**	**86**	*e*P	**P**	**18 50 34.5**	**+0.3**
	comp=Z,2.1nm,0.9s,mb3.9						
MJAR	**Matsushiro Arr**	**39.76**	**267**	P	**P**	**18 50 49.7**	**+1.3**
	comp=Z,41nm,0.5s,baz=318,slow=6.7,SNR=13						
MJAR				LR	LR	19 05 25.3	
	comp=Z,87nm,20.6s,MS3.6,baz=70,slow=33						
PDAR	**Pinedale Array**	**40.29**	**80**	P	**P**	**18 50 51.9**	**-0.9**
	comp=Z,0.8nm,0.6s,mb3.6,baz=312,slow=4.1,SNR=8.7						
FCC	**Fort Churchill**	**40.67**	**51**	*e*P	**P**	**18 50 55.9**	**0.0**
FCC				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.3						
FCC	**Fort Churchill**	**40.67**	**51**	*e*P	**P**	**18 50 55.9**	**0.0**
	comp=Z,6.7nm,0.9s,mb4.3						
BOD	**Bodaibo**	**41.80**	**309**	*e*P	**P**	**18 51 04.0**	**-1.2**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.3						
SRU	**San Rafael**	**41.92**	**85**	*e*P	**P**	**18 51 06.8**	**+0.6**
SRU				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.0						
SRU	**San Rafael**	**41.92**	**85**	*e*P	**P**	**18 51 06.8**	**+0.6**
	comp=Z,4.2nm,1.0s,mb4.0						
GLA	**Glamis**	**43.30**	**95**	*e*P	**P**	**18 51 16.7**	**-0.7**
ULM	**Lac du Bonnet**	**43.94**	**62**	LR	LR	19 11 35.1	
	comp=Z,41nm,19.9s,MS3.3,baz=23,slow=39						
FRB	**Frobisher Bay**	**48.65**	**36**	LR	LR	19 15 38.4	
	comp=Z,186nm,19.0s,MS4.1,baz=192,slow=40						
TLY	**Talaya**	**50.16**	**306**	*e*P	**P**	**18 52 11.1**	**+0.1**
TLY				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
TLY	**Talaya**	**50.16**	**306**	*e*P	**P**	**18 52 11.1**	**+0.1**
	comp=Z,6.5nm,0.9s,mb4.7						
ULN	**Ulaanbaatar**	**50.79**	**300**	*e*P	**P**	**18 52 15.4**	**-0.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
ULN	**Ulaanbaatar**	**50.79**	**300**	*e*P	**P**	**18 52 15.4**	**-0.3**
	comp=Z,1.6nm,0.8s,mb4.0						
ZAK	**Zakamensk**	**51.14**	**305**	*e*P	**P**	**18 52 18.1**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.2						
SONM	**Songino Array**	**51.15**	**301**	P	**P**	**18 52 18.0**	**-0.5**
	comp=Z,1.9nm,0.9s,mb4.0,baz=58,slow=6.2,SNR=14						
SONM				PcP	PcP	18 53 32.8	-0.7
	comp=Z,1.4nm,0.6s,baz=56,slow=3.7,SNR=7.2						
SCHQ	**Schefferville**	**55.13**	**44**	P	**P**	**18 52 48.0**	**+0.2**
	comp=Z,3.1nm,0.9s,mb4.4,baz=335,slow=8.7,SNR=5.5						
SCHQ				LR	LR	19 18 20.1	
	comp=Z,45nm,18.7s,MS3.6,baz=81,slow=38						
SADO	**Sadowa**	**56.22**	**59**	LR	LR	19 16 53.4	
	comp=Z,55nm,18.8s,MS3.7,baz=211,slow=36						
ZAL	**Zalesovo**	**57.20**	**317**	P	**P**	**18 53 03.3**	**+0.8**
	comp=Z,1.1nm,0.9s,mb3.9,baz=122,slow=9.5,SNR=3.5						
ZAL				PcP	PcP	18 53 56.3	-0.3
	comp=Z,1.3nm,0.7s,baz=78,slow=4.9,SNR=6.3						
ZAL				LR	LR	19 19 21.4	
	comp=Z,98nm,21.2s,MS3.9,baz=81,slow=38						
ZAL	**Zalesovo**	**57.20**	**317**	P	**P**	**18 53 03.3**	**+0.8**
ZAL						18 53 56.3	
ARCES	**ARCESS Array B**	**57.56**	**354**	P	**P**	**18 53 05.7**	**+0.6**
	comp=Z,3.4nm,0.9s,mb4.4,baz=347,slow=10.0,SNR=3.4						
ARCES				PcP	PcP	18 53 57.4	-0.7
	comp=Z,2.2nm,0.6s,baz=32,slow=4.7,SNR=9.8						
ARCES				LR	LR	19 19 56.8	
	comp=Z,60nm,19.5s,MS3.7,baz=239,slow=38						
ARCES	**ARCESS Array B**	**57.56**	**354**	P	**P**	**18 53 05.7**	**+0.7**
ARCES						18 53 57.4	
GTA	**Gaotai**	**60.35**	**297**	P	**P**	**18 53 24.3**	**-0.1**
GTA				AP	pP	18 53 32.4	-5.1
GTA				XP	sP	18 53 35.1	-7.8
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.4						
KURK	**Kurchatov**	**62.13**	**318**	*e*P	**P**	**18 53 35.5**	**-0.9**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.7						
KURK	**Kurchatov**	**62.13**	**318**	*e*P	**P**	**18 53 35.5**	**-0.9**
	comp=Z,3.9nm,0.7s,mb4.7						
BVAR	**Borovoye Array**	**63.43**	**324**	P	**P**	**18 53 44.9**	**-0.2**
	comp=Z,3.9nm,0.6s,mb4.7,baz=56,slow=7.3,SNR=28						
BVAR				PcP	PcP	18 54 21.4	-0.2
	comp=Z,2.8nm,0.7s,baz=46,slow=4.3,SNR=7.1						
JOF	**Joensuu**	**63.55**	**350**	*ep*	**P**	**18 53 43.8**	**-2.1**
MKAR	**Makanchi Array**	**63.58**	**313**	P	**P**	**18 53 44.8**	**-1.4**
	comp=Z,1.1nm,0.7s,mb4.0,baz=53,slow=5.7,SNR=14						
ZRNK	**Zerenda**	**63.98**	**325**	*e*P	**P**	**18 53 48.3**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
ZRNK	**Zerenda**	**63.98**	**325**	*e*P	**P**	**18 53 48.2**	**-0.4**
	comp=Z,4.2nm,0.7s,mb4.6						
ARU	**Arti**	**64.31**	**333⇑**	*i*P	**P**	**18 53 50.5**	**-0.4**
ARU				*e*		18 56 11.8	
ARU				*e*PPP		18 57 45.8	
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
ARU				MLR	MLR		
	comp=Z,60nm,19.0s,MS3.8						
ARU				MLR	MLR		
	comp=N,20nm,21.0s,MS3.4						
ARU				MLR	MLR		
	comp=E,20nm,22.0s,MS3.4						
ARU	**Arti**	**64.31**	**333**	*e*P	**P**	**18 53 50.3**	**-0.6**
	comp=E,5.8nm,0.6s,mb4.8						
KAF	**Kangasniemi**	**64.83**	**352**	*ep*	**P**	**18 53 52.6**	**-1.7**
FINES	**FINESS Array B**	**65.51**	**352**	P	**P**	**18 53 57.3**	**-1.4**
	comp=E,1.6nm,0.6s,mb4.2,baz=19,slow=6.5,SNR=9.7						
FINES				PcP	PcP	18 54 30.5	+0.4
	comp=E,1.0nm,0.7s,baz=28,slow=6.3,SNR=3.1						
FINES				LR	LR	19 24 43.2	
	comp=E,50nm,19.5s,MS3.7,baz=229,slow=38						
FINES	**FINESS Array B**	**65.51**	**352**	P	**P**	**18 53 57.3**	**-1.4**
FINES						18 54 30.5	
FINES	**FINESS Array B**	**65.51**	**352**	P	**P**	**18 53 57.3**	**-1.4**
FINES				PcP	PcP	18 54 30.5	+0.4
FINES				LR	LR	19 24 43.2	
GYA	**Guiyang**	**65.89**	**282**	P	**P**	**18 54 01.1**	**-0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,70nm,3.6s						
NB2	**NORSAR Subarra**	**66.57**	**360**	P	**P**	**18 54 04.7**	**-0.8**
	comp=Z,1.0nm,0.7s,mb4.0,baz=0.8,slow=6.5						
NOA	**NORSAR Array B**	**66.57**	**360**	P	**P**	**18 54 05.3**	**-0.2**
	comp=Z,1.3nm,0.7s,mb4.1,baz=0.8,slow=6.4,SNR=6.1						
NOA				LR	LR	19 23 44.3	
	comp=Z,21nm,19.1s,MS3.4,baz=260,slow=36						
AKTK	**Aktyubinsk**	**69.71**	**330**	P	**P**	**18 54 25.1**	**-0.1**
AKTO	**Aktyubinsk**	**69.71**	**330**	P	**P**	**18 54 25.1**	**-0.1**
	comp=Z,3.1nm,0.6s,mb4.4,baz=54,slow=4.7,SNR=15						
AAK	**Ala-Archa**	**70.27**	**315⇓**	*e*P	**P**	**18 54 28.2**	**-0.4**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.3						
AAK				MLR	MLR		
	comp=Z,100nm,22.0s,MS4.0						
AAK	**Ala-Archa**	**70.27**	**315**	*e*P	**P**	**18 54 27.6**	**-1.0**
	comp=Z,3.4nm,0.9s,mb4.3						
PPT	**Papeete**	**72.07**	**160**	LR	LR	19 21 28.1	
	comp=Z,181nm,19.5s,MS4.3,baz=178,slow=32						
LSA	**Lhasa**	**72.33**	**296**	*e*P	**P**	**18 54 42.1**	**+1.1**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
LSA	**Lhasa**	**72.33**	**296**	*e*P	**P**	**18 54 42.1**	**+1.1**
	comp=Z,4.6nm,0.6s,mb4.6						
AKASG	**Malin Array Be**	**75.75**	**348**	P	**P**	**18 55 00.1**	**-0.9**
	comp=Z,1.3nm,0.4s,mb4.2,baz=12,slow=6.0,SNR=9.3						
AKASG	**Malin Array Be**	**75.75**	**348**	*i* P	**P**	**18 55 00.2**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
DPC	**Dobruska-Polom**	**77.18**	**356**	*e*P	**P**	**18 55 09.7**	**+0.6**
GIVF	**Givet**	**77.41**	**4**	*e*P	**P**	**18 55 11.4**	**+1.0**
BAIF	**Baives**	**77.43**	**4**	*e*P	**P**	**18 55 11.0**	**+0.5**
KWP	**Kalwaria**	**77.50**	**352**	*e*P	**P**	**18 55 11.1**	**+0.2**
KWP				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.8						
KWP	**Kalwaria**	**77.50**	**352**	*e*P	**P**	**18 55 11.1**	**+0.2**
	comp=Z,16nm,1.3s,mb4.8						
OKC	**Ostrava-Krasne**	**77.61**	**355**	*e*P	**P**	**18 55 09.8**	**-1.7**
FLN	**La Foliniere**	**78.43**	**8**	*e*P	**P**	**18 55 16.4**	**+0.4**
KHC	**Kasperske Hory**	**78.48**	**358**	*e*P	**P**	**18 55 17.2**	**+0.9**
LDF	**La Druitiere**	**78.62**	**7**	*e*P	**P**	**18 55 16.6**	**-0.5**
	comp=Z,3.6nm,0.5s,mb4.3						
GOF	**Gofitskoye**	**78.70**	**337**	*e*P	**P**	**18 55 17.4**	**-0.1**
GERES	**GERESS Array B**	**78.76**	**358**	P	**P**	**18 55 18.3**	**+0.5**
	comp=Z,1.2nm,0.8s,mb3.9,baz=350,slow=4.1,SNR=10						
HAU	**Haudompre**	**79.56**	**3**	*e*P	**P**	**18 55 22.9**	**+0.7**
	comp=Z,9.0nm,0.8s,mb4.4						
HAU	**Haudompre**	**79.56**	**3**	*e*P	**P**	**18 55 22.9**	**+0.7**
HAU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
HAU	**Haudompre**	**79.56**	**3**	*e*P	**P**	**18 55 22.9**	**+0.7**
	comp=Z,4.5nm,0.8s,mb4.5						
HINF	**Hinteralfeld**	**79.77**	**3**	*e*P	**P**	**18 55 23.4**	**0.0**
KIV	**Kislovodsk**	**79.83**	**337**	*e*P	**P**	**18 55 24.3**	**+0.6**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
KIV				MLR	MLR		
	comp=Z,63nm,18.0s,MS4.0						
LOR	**Lormes**	**80.20**	**5**	*e*P	**P**	**18 55 24.9**	**-0.8**
	comp=Z,4.1nm,0.7s,mb4.2						
LOR	**Lormes**	**80.20**	**5**	*e*P	**P**	**18 55 24.9**	**-0.8**
LOR				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
LOR	**Lormes**	**80.20**	**5**	*e*P	**P**	**18 55 24.9**	**-0.8**
	comp=Z,2.0nm,0.7s,mb4.2						
SSF	**Saint Saulge**	**80.39**	**5**	*e*P	**P**	**18 55 26.9**	**+0.2**
	comp=Z,2.7nm,0.6s,mb4.1						
SSF	**Saint Saulge**	**80.39**	**5**	*e*P	**P**	**18 55 26.9**	**+0.2**
SSF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
SSF	**Saint Saulge**	**80.39**	**5**	*e*P	**P**	**18 55 26.9**	**+0.2**
	comp=Z,1.4nm,0.6s,mb4.1						
MFF	**Saint Martin d**	**80.60**	**8**	*e*P	**P**	**18 55 27.9**	**+0.1**
	comp=Z,14nm,1.0s,mb4.6						
MFF	**Saint Martin d**	**80.60**	**8**	*e*P	**P**	**18 55 27.9**	**+0.1**
MFF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
MFF	**Saint Martin d**	**80.60**	**8**	*e*P	**P**	**18 55 27.9**	**+0.1**
	comp=Z,7.1nm,1.0s,mb4.5						
AVF	**Avril sur Loir**	**80.65**	**5**	*e*P	**P**	**18 55 28.4**	**+0.3**
	comp=Z,3.8nm,0.7s,mb4.2						
AVF	**Avril sur Loir**	**80.65**	**5**	*e*P	**P**	**18 55 28.4**	**+0.3**
AVF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
AVF	**Avril sur Loir**	**80.65**	**5**	*e*P	**P**	**18 55 28.4**	**+0.3**
	comp=Z,1.9nm,0.6s,mb4.2						
SMF	**Signal de Mont**	**80.82**	**5**	*e*P	**P**	**18 55 29.2**	**+0.2**
	comp=Z,7.9nm,0.7s,mb4.4						
SMF	**Signal de Mont**	**80.82**	**5**	*e*P	**P**	**18 55 29.2**	**+0.2**
SMF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
SMF	**Signal de Mont**	**80.82**	**5**	*e*P	**P**	**18 55 29.2**	**+0.2**
	comp=Z,4.0nm,0.7s,mb4.5						
SOC	**Sochi**	**80.85**	**339**	*e*P	**P**	**18 55 23.8**	**-5.4**
SOC				*e*S	S	19 05 32.2	-1.8
BGF	**Bois d'Agland**	**80.85**	**5**	*e*P	**P**	**18 55 29.2**	**0.0**
CABF	**La Chapelle**	**80.95**	**3**	*e*P	**P**	**18 55 30.5**	**+0.8**
	comp=Z,11nm,0.8s,mb4.5						
CABF	**La Chapelle**	**80.95**	**3**	*e*P	**P**	**18 55 30.5**	**+0.8**
CABF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
CABF	**La Chapelle**	**80.95**	**3**	*e*P	**P**	**18 55 30.5**	**+0.8**
	comp=Z,5.3nm,0.8s,mb4.5						
TCF	**Toulx Ste Croi**	**81.08**	**6**	*e*P	**P**	**18 55 30.9**	**+0.5**
	comp=Z,0.7nm,0.3s,mb3.8						
TCF	**Toulx Ste Croi**	**81.08**	**6**	*e*P	**P**	**18 55 30.9**	**+0.5**
	comp=Z,0.3nm,0.3s,mb3.7						
RJF	**Les Rejaudoux**	**82.02**	**7**	*e*P	**P**	**18 55 35.9**	**+0.6**
LFF	**La Frestale**	**82.32**	**7**	*e*P	**P**	**18 55 37.3**	**+0.4**
	comp=Z,8.2nm,0.6s,mb4.5						
LFF	**La Frestale**	**82.32**	**7**	*e*P	**P**	**18 55 37.3**	**+0.4**
LFF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
LFF	**La Frestale**	**82.32**	**7**	*e*P	**P**	**18 55 37.3**	**+0.4**
	comp=Z,4.1nm,0.6s,mb4.5						
CAF	**Calviac**	**82.43**	**6**	*e*P	**P**	**18 55 37.9**	**+0.4**
ORIF	**Oris-en-Rattie**	**82.63**	**3**	*e*P	**P**	**18 55 39.1**	**+0.5**
VIVF	**Saint-Julien-l**	**82.64**	**4**	*e*P	**P**	**18 55 38.8**	**+0.2**
	comp=Z,7.2nm,0.9s,mb4.4						
MBDF	**Montbardon**	**82.85**	**3**	*e*P	**P**	**18 55 40.4**	**+0.7**
	comp=Z,8.0nm,0.8s,mb4.5						
LASF	**Ste Croix**	**83.38**	**5**	*e*P	**P**	**18 55 42.5**	**+0.1**
SMRF	**Simiane la Rot**	**83.56**	**4**	*e*P	**P**	**18 55 43.6**	**+0.2**
SJPF	**Ste Jean**	**83.97**	**9**	*e*P	**P**	**18 55 45.6**	**+0.1**
	comp=Z,7.1nm,0.7s,mb4.6						
FRF	**La Foret

MK05	**Makanchi Array**	**9.84**	**15**	⇑Pn		**Pn**	**19 02 55.2**	**+1.2**
	comp=E,1.4nm,0.5s,baz=196,slow=13							
MK05				⇓Sn		**Sn**	**19 04 44.6**	**+0.2**
	comp=E,3.4nm,0.7s,baz=202,slow=25							
BVAR	**Borovoye Array**	**16.74**	**342**	Pn		**Pn**	**19 04 24.7**	**-2.4**
	comp=E,0.0nm,0.3s,baz=275,slow=37,SNR=2.0							
SONM	**Songino Array**	**22.84**	**54**	P		**P**	**19 05 39.5**	**+3.8**
	comp=E,0.2nm,0.4s,mb2.9,baz=245,slow=9.8,SNR=4.0							
FINES	**FINESS Array B**	**40.36**	**324**	P		**P**	**19 08 11.4**	**+1.1**
	comp=E,0.5nm,0.7s,mb3.4,baz=183,slow=32,SNR=2.4							
TORD	**Torodi Ar. Bea**	**71.87**	**273**	P		**P**	**19 11 55.0**	**-0.6**
	comp=E,0.3nm,0.5s,mb3.5,baz=49,slow=5.7,SNR=6.5							

IDC 10 19:26:02.0±6.8, 1861S×17563W, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.7/14, mbtmp3.8/4, ML2.6/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/19, Error ellipse: s-maj=289.0km s-min=23.8km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**5.96**	**39**	Pn		Pn	19 27 31.8	+0.3
	9.0nm,0.3s,baz=239,slow=2.5,SNR=14							
AFI				Sn		Sn	19 28 41.4	+1.1
	2.8nm,0.3s,baz=3.4,slow=22,SNR=2.4							
URZ	**Urewera**	**20.58**	**196**	LR		LR	19 37 47.4	
	comp=Z,76nm,18.4s,baz=76,slow=34							
PMG	**Port Moresby**	**37.18**	**279**	LR		LR	19 45 24.7	
	comp=Z,61nm,18.1s,baz=117,slow=31							
WRA	**Warramunga Arr**	**47.11**	**260**	P		P	19 34 36.8	+1.0
	0.3nm,0.3s,baz=96,slow=7.4,SNR=18							
ASAR	**Alice Springs**	**47.15**	**255**	P		P	19 34 35.7	-0.4
	0.4nm,0.6s,baz=91,slow=8.2,SNR=7.5							
ILAR	**Eielson Array**	**86.00**	**12**	P		P	19 38 43.8	-0.5
	0.4nm,0.8s,baz=225,slow=5.2,SNR=5.1							

*ISCJB **10** 19:32:18.9±1.3, 182S±02×1785W±0.1, h547km±17km, mb4.1/13, Error ellipse: s-maj=35.1km s-min=11.6km az=127.5*
*IDC **10** 19:32:19.9±2.0, 1805S×17849W, h544km±24km, mb3.6/8, mb1 3.8/10, mb1mx3.6/17, mbtmp4.5/10, Error ellipse: s-maj=59.6km s-min=12.9km az=153.0*
*NEIC **10** 19:32:19.8±0.8, 1811S×17849W, h546km±9km, mb4.1/7, Error ellipse: s-maj=21.1km s-min=6.8km az=154.0*
ISC 10 19:32:19.9±1.2, 182S±02×1784W±01, h545km±15km, n24, σ0§65/23, mb4.1/13, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**7.69**	**57**	P		**P**	**19 34 14.0**	**-0.3**
	5.6nm,0.3s,baz=104,slow=6.1,SNR=9.0							
DZM	**Mont Dzumac**	**14.72**	**252**	P		**P**	**19 35 27.3**	**+0.8**
	0.5nm,0.3s,baz=74,slow=20,SNR=7.2							
CTA	**Charters Tower**	**33.38**	**261**	*eP*		**P**	**19 38 13.0**	**-0.3**
	8.9nm,1.2s,mb4.2							
CTAO	**Charters Tower**	**33.38**	**261**	*eP*		**P**	**19 38 13.1**	**-0.3**
PMG	**Port Moresby**	**34.49**	**280**	P		**P**	**19 38 22.2**	**-0.4**
	23nm,1.0s,mb4.7,baz=121,slow=6.0,SNR=4.9							
STKA	**Stephens Creek**	**38.47**	**241**	⇓*iP*		**P**	**19 38 55.5**	**+0.1**
	5.7nm,0.6s,mb4.3							
STKA	**Stephens Creek**	**38.47**	**241**	P		**P**	**19 38 55.3**	**-0.2**
	6.5nm,0.5s,mb4.4,baz=97,slow=9.8,SNR=38							
WB2	**Warramunga Arr**	**44.55**	**260**	*eP*		**P**	**19 39 42.9**	**-0.5**
WRA	**Warramunga Arr**	**44.56**	**260**	P		**P**	**19 39 43.1**	**-0.4**
	2.9nm,0.5s,mb4.1,baz=91,slow=6.9,SNR=102							
ASAR	**Alice Springs**	**44.69**	**255**	P		**P**	**19 39 45.2**	**+0.7**
	31nm,0.6s,mb5.0,baz=89,slow=8.2,SNR=494							
KAKA	**Kakadu**	**47.56**	**269**	⇓*iP*		**P**	**19 40 05.9**	**-0.3**
	6.7nm,0.4s,mb4.5							
FORT	**Forrest**	**49.87**	**245**	*eP*		**P**	**19 40 24.0**	**+0.7**
	8.3nm,0.6s,mb4.3							
FITZ	**Fitzroy Crossi**	**52.96**	**261**	*eP*		**P**	**19 40 45.7**	**0.0**
	4.4nm,1.0s,mb3.7							
FITZ	**Fitzroy Crossi**	**52.96**	**261**	P		**P**	**19 40 46.0**	**+0.3**
	0.9nm,0.3s,mb3.6,baz=157,slow=23,SNR=15							
MBWA	**Marble Bar**	**57.98**	**256**	*eP*		**P**	**19 41 20.5**	**0.0**
SBA	**Scott Base**	**60.13**	**184**	P		**P**	**19 41 34.2**	**-0.7**
NVAR	**Mina Array Bea**	**79.64**	**44**	P		**P**	**19 43 31.6**	**+0.7**
	1.5nm,0.7s,mb3.4,baz=231,slow=8.0,SNR=11							
WVOR	**Wild Horse Val**	**81.64**	**40**	*eP*		**P**	**19 43 41.5**	**+0.3**
	1.7nm,0.8s,mb3.5							
ELK	**Elko**	**82.88**	**43**	*eP*		**P**	**19 43 47.9**	**+0.4**
	1.4nm,0.9s,mb3.5							
MCMT	**McKenzie Canyo**	**86.47**	**40**	*eP*		**P**	**19 44 06.0**	**+1.1**
PDAR	**Pinedale Array**	**87.57**	**43**	P		**P**	**19 44 10.2**	**0.0**
	1.2nm,0.5s,mb3.9,baz=214,slow=3.6,SNR=12							
YKA	**Yellowknife Ar**	**94.60**	**25**	P		**P**	**19 44 40.7**	**-1.9**
	0.2nm,0.3s,mb3.8,baz=245,slow=4.3,SNR=6.7							
YKA	**Yellowknife Ar**	**94.60**	**25**	P		**P**	**19 44 40.7**	**-1.9**
GERES	**GERESS Array B**	**147.88**	**345**	PKPbc		PKPbc	19 51 03.0	-0.9
	1.4nm,0.6s,baz=18,slow=3.1,SNR=14							

*IDC **10** 19:32:37.5±4.3, 2062N×12151E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/18, mbtmp3.7/3, Error ellipse: s-maj=342.0km s-min=28.7km az=61.0*
*ISCJB **10** 19:32:43.2±0.9, 2045N±005×1214E±02, h53km±13km, mb3.5/3, Error ellipse: s-maj=25.8km s-min=4.5km az=33.6*
*JMA **10** 19:32:45.5±0.4, 2035N×12185E, h82km, mb4.3*
*MAN **10** 19:32:58.1, 1921N×12122E, h16km, mb4.2, ML5.1, MS4.6*
ISC 10 19:32:44.5±0.9, 2044N±005×1214E±02, h46km±14km, n15, σ0§96/21, mb3.5/3, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SGCP	**Mt. Cagua**	**2.28**	**163**	*eP*		**Pn**	**19 33 19.8**	**+0.2**
APYP	**Conner**	**2.56**	**182**	*eP*		**Pn**	**19 33 22.9**	**-0.6**
APYP				*eS*		**Sn**	**19 33 53.9**	**+0.5**
CVP	**Callao Caves**	**2.76**	**171**	*eP*		**Pn**	**19 33 26.0**	**-0.1**
ABRA	**Dolores**	**2.84**	**192**	*eP*		**Pn**	**19 33 25.1**	**-2.2**
CAUP	**Cauayan**	**3.50**	**173**	*eP*		**Pn**	**19 33 36.7**	**+0.3**
HATJ	**Hateruma jima**	**4.26**	**32**	P		**Pn**	**19 33 47.2**	**+0.4**
HATJ				S		**Sn**	**19 34 33.9**	**-1.3**
YOJ	**Yonaguni jima**	**4.29**	**21**	P		**Pn**	**19 33 49.0**	**+1.8**
YOJ				*eS*		**Sn**	**19 34 37.2**	**+1.3**
IRIF	**Iriomote-Funau**	**4.46**	**29**	P		**Pn**	**19 33 50.4**	**+0.9**
IRIF				S		**Sn**	**19 34 40.4**	**+0.3**
JKRS	**Kuro-shima**	**4.51**	**33**	P		**Pn**	**19 33 50.8**	**+0.6**
JKRS				*eS*		**Sn**	**19 34 41.3**	**-0.1**
BALP	**Baler**	**4.68**	**177**	*eP*		**Pn**	**19 33 52.6**	**+0.2**
JIJ	**Ishigaki jima**	**4.68**	**33**	P		**Pn**	**19 33 52.6**	**0.0**
JIJ				S		**Sn**	**19 34 43.4**	**-2.3**
JTJ	**Tarama**	**5.21**	**36**	S		**Sn**	**19 34 58.0**	**-0.5**
MKAR	**Makanchi Array**	**41.19**	**319**	P		**P**	**19 40 23.4**	**-1.1**
	0.4nm,0.7s,mb3.1,baz=105,slow=6.9,SNR=3.7							
WRA	**Warramunga Arr**	**42.10**	**162**	P		**P**	**19 40 31.9**	**-0.1**
	1.4nm,0.6s,mb3.8,baz=342,slow=8.8,SNR=9.0							
ASAR	**Alice Springs**	**45.51**	**164**	P		**P**	**19 41 00.6**	**+1.2**
	0.3nm,0.4s,mb3.6,baz=354,slow=8.0,SNR=4.7							

IDC 10 19:54:36.3±2.1, 548N×12439E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/19, mbtmp3.4/3, MS3.3/1, Ms1 3.3/1, ms1mx2.3/11, Error ellipse: s-maj=218.2km s-min=25.5km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JOW	**Kunigami**	**21.56**	**9**	LR		LR	20 07 34.9	
	comp=Z,74nm,19.6s,baz=143,slow=36							
WRA	**Warramunga Arr**	**27.09**	**159**	P		P	20 00 21.6	+1.0
	0.8nm,0.6s,baz=338,slow=11,SNR=11							
ASAR	**Alice Springs**	**30.42**	**163**	P		P	20 00 49.9	-0.4
	0.2nm,0.5s,baz=343,slow=7.0,SNR=5.1							
MKAR	**Makanchi Array**	**54.80**	**326**	P		P	20 04 08.0	+0.1
	0.2nm,0.3s,baz=116,slow=7.1,SNR=8.4							

*NEIC **10** 20:00:12.9, 3468S×7220W, h13km, ML2.9(GUC), After GUC.*
GUC 10 20:00:12.9±0.9, 3468S×7220W, h13km±9km, MD3.7, ML2.9, 5C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TALC	**Talca**	**0.85**	**147**	⇑*iP*		Pg	20 00 27.9	-1.5
TALC				*i* S		Sg	20 00 40.5	-0.1
TALC				AML		AML	20 00 44.6	
	comp=E,1μm,0.4s							
TALC	**Talca**	**0.85**	**147**	⇑*iP*		Pg	20 00 27.9	-1.5
TALC				*i* S		Sg	20 00 40.5	-0.1
LNV	**Longovilo**	**0.98**	**42**	*eP*		Pb	20 00 30.2	-1.4
LNV				*i* S		Sb	20 00 43.4	-1.1
CACH	**El Canelo**	**1.44**	**67**	⇑*iP*		Pn	20 00 38.6	0.0
CACH				*i* S		Sn	20 00 57.2	-0.1
CHCH	**Chadas Angostu**	**1.48**	**60**	⇑*iP*		Pn	20 00 38.6	-0.6
CHCH				*i* S		Sn	20 00 57.7	-0.7
CICH	**Cipreses**	**1.51**	**77**	*eP*		Pn	20 00 39.5	-0.2
CICH				*i* S		Sn	20 00 59.2	0.0
LMEL	**Las Melosas**	**1.85**	**64**	⇓*iP*		Pn	20 00 44.9	+0.6
LMEL				*i* S		Sn	20 01 08.4	+0.9
LMEL				AML		AML	20 01 10.9	
	comp=N,158nm,0.3s							
LMEL	**Las Melosas**	**1.85**	**64**	⇓*iP*		Pn	20 00 44.9	+0.6
LMEL				*i* S		Sn	20 01 08.4	+0.9
CLCH	**Cerro Calan**	**1.89**	**48**	*iP*		Pn	20 00 45.4	+0.7
CLCH				*i* S		Sn	20 01 09.8	+1.4
CLCH				AML		AML	20 01 16.5	
	comp=E,156nm,0.4s							
PEL	**Peldehue**	**1.99**	**40**	*eP*		Pn	20 00 46.2	+0.1
PEL				*i* S		Sn	20 01 12.1	+1.3
PEL				AML		AML	20 01 25.7	
	comp=E,162nm,0.4s							
PEL	**Peldehue**	**1.99**	**40**	*eP*		Pn	20 00 46.2	+0.1
PEL				*i* S		Sn	20 01 12.1	+1.3
FCH	**Farellones**	**2.08**	**50**	⇑*iP*		Pn	20 00 48.3	+0.8
FCH				*i* S		Sn	20 01 15.9	+2.7
FCH				AML		AML	20 01 20.0	
	comp=N,91nm,0.2s							

*MOS **10** 20:00:58.0±1.1, 3260N×13201E, h36km, mb4.2/3, Error ellipse: s-maj=19.9km s-min=13.1km az=69.5*
*ISCJB **10** 20:00:59.9±0.5, 3262N±005×13221E±004, h57km±4km, mb3.6/9, MS3.3/2, Error ellipse: s-maj=9.3km s-min=5.1km az=134.1*
*NIED **10** 20:01:00, 3260N×132.10E, h32km, Mw3.9 Best double couple: M₀8.41000×10¹⁴ NP1:φs232.00000°, δ90.00000°, λ-92.00000°. NP2:φs142.00000°, δ2.00000°, λ0.00000°.*
*JMA **10** 20:01:01.0, 3261N×132.15E, h31km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs177.00000°, δ8.00000°, λ17.00000°. NP2:φs70.00000°, δ87.00000°, λ98.00000°. Principal axes: T Plg47.0000°, Azm348.0000°; N Plg8.0000°, Azm249.0000°; P Plg42.0000°, Azm152.0000°;*
JMA Felt I J1.
*NEIC **10** 20:01:01.7±0.8, 3266N×132.10E, h54km±9km, mb4.1/1 Error ellipse: s-maj=11.8km s-min=9.3km az=139.0*
NEIC Recorded [1 JMA] in Ehime and Kochi Prefectures. Also recorded [1 JMA] in Oita and Miyazaki Prefectures, Kyushu.
*IDC **10** 20:01:03.2±1.6, 3265N×13205E, h67km±14km, mb3.3/8, mb1 3.5/9, mb1mx3.3/22, mbtmp3.6/9, MS3.2/4, Ms1 3.2/4, ms1mx2.9/12, Error ellipse: s-maj=22.5km s-min=14.8km az=66.0*
ISC 10 20:01:01.0±0.5, 3263N±005×13218E±004, h47km±5km, n33, σ0§92/38, mb3.6/9, MS3.3/2, 4C-4D, Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JUS	**Usuki**	**0.56**	**321**	⇓P		**Pn**	**20 01 12.2**	**-0.7**
JUS				S		**Sn**	**20 01 20.4**	**-1.0**
JTO	**Tosashimizu**	**0.58**	**66**	⇓P		**Pn**	**20 01 12.7**	**-0.3**
JTO				*eS*		**Sn**	**20 01 21.2**	**-0.4**
JKIT	**Kitakata**	**0.61**	**270**	⇓P		**Pn**	**20 01 12.4**	**-1.1**
JTSN	**Tsuno**	**0.69**	**236**	⇑P		**Pn**	**20 01 13.5**	**-0.9**
UWA2	**Uwa jima 2**	**0.69**	**33**	⇑P		**Pn**	**20 01 14.4**	**-0.2**
UWA2				*eS*		**Sn**	**20 01 24.2**	**-0.1**
JNA	**Nagahama**	**0.96**	**15**	⇑P		**Pn**	**20 01 18.2**	**+0.1**
JKU	**Kubokawa**	**1.01**	**47**	P		**Pn**	**20 01 18.9**	**+0.1**
JIU2	**Izumi 2**	**1.15**	**266**	⇑P		**Pn**	**20 01 21.4**	**+0.6**
JIU2				*eS*		**Sn**	**20 01 36.7**	**+1.3**
JTZ	**Takazaki**	**1.17**	**232**	⇓P		**Pn**	**20 01 21.0**	**0.0**
JNU	**Nakatsue**	**1.20**	**295**	P		**Pn**	**20 01 22.4**	**+1.1**
	286nm,0.3s,baz=25,slow=3.1,SNR=611							
JNU				S		**Sn**	**20 01 37.7**	**+1.2**
	410nm,0.3s,baz=352,slow=39,SNR=39							
MAJO	**Matsushiro**	**6.32**	**50**	P		**Pn**	**20 02 32.1**	**+0.4**
MAJO				pmax		pmax		
	comp=Z,7.0nm,0.4s							
MAJO	**Matsushiro**	**6.32**	**50**	P		**Pn**	**20 02 32.1**	**+0.4**
	comp=Z,6.7nm,0.4s							
MAT	**Matsushiro**	**6.32**	**50**	P		**Pn**	**20 02 32.2**	**+0.5**
MAT				S		**Sn**	**20 03 42.7**	**+0.2**
MAT	**Matsushiro**	**6.32**	**50**	*eP*		**Pn**	**20 02 32.0**	**+0.3**
MAT				*eS*		Sn	20 04 20.0	+37
MJAR	**Matsushiro Arr**	**6.32**	**50**	P		**Pn**	**20 02 33.5**	**+1.8**
	comp=Z,13nm,0.3s,baz=243,slow=15,SNR=10							
MJAR	**Matsushiro Arr**	**6.32**	**50**	P		**Pn**	**20 02 33.5**	**+1.8**
MJAR				pmax		pmax		
	comp=Z,13nm,0.3s							
JHJ	**Hachijo jima 2**	**6.42**	**84**	P		**Pn**	**20 02 29.5**	**-3.5**
	comp=Z,9.5nm,0.3s,baz=55,slow=20,SNR=3.3							
JHJ				LR		LR	20 05 10.8	
	comp=Z,97nm,21.2s,baz=84,slow=38							
JOW	**Kunigami**	**6.70**	**211**	P		**Pn**	**20 02 36.5**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=116,slow=29,SNR=4.9							
JOW				S		**Sn**	**20 03 44.6**	**-7.1**
	comp=Z,0.3nm,0.3s,baz=150,slow=24,SNR=2.8							
CBIJ	**Chichi jima**	**10.29**	**120**	LR		LR	20 06 50.0	
	comp=Z,74nm,18.2s,baz=7.5,slow=33							
KLR	**Kul'dur**	**16.59**	**359**	*eP*		**Pn**	**20 04 51.2**	**+0.9**
KLR				pmax		pmax		
	comp=Z,28nm,1.4s							
SONM	**Songino Array**	**24.70**	**315**	P		**P**	**20 06 16.4**	**-1.3**
	comp=Z,0.5nm,0.6s,mb3.2,baz=118,slow=9.9,SNR=6.0							
SONM				LR		LR	20 17 13.9	
	comp=Z,99nm,18.4s,MS3.3,baz=155,slow=39							
ZAL	**Zalesovo**	**39.59**	**317**	LR		LR	20 25 54.5	
	comp=Z,50nm,20.9s,MS3.3,baz=37,slow=38							
MKAR	**Makanchi Array**	**40.23**	**306**	P		**P**	**20 08 32.5**	**-0.6**
	comp=Z,0.2nm,0.5s,mb3.1,baz=84,slow=13,SNR=3.2							
ZRNK	**Zerenda**	**48.88**	**314**	*eP*		**P**	**20 09 41.2**	**-0.9**
ZRNK				pmax		pmax		
	comp=Z,2.0nm,1.0s,mb4.1							
ZRNK	**Zerenda**	**48.88**	**314**	*eP*		**P**	**20 09 41.2**	**-0.9**
	comp=Z,2.1nm,1.0s,mb4.1							
WRA	**Warramunga Arr**	**52.31**	**177**	P		**P**	**20 10 09.0**	**+1.1**
	comp=Z,1.8nm,0.8s,mb4.1,baz=353,slow=8.1,SNR=16							
WRA	**Warramunga Arr**	**52.31**	**177**	P		**P**	**20 10 09.0**	**+1.1**
WRA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
ASAR	**Alice Springs**	**56.00**	**178**	P		**P**	**20 10 35.3**	**+0.5**
	comp=Z,0.6nm,0.6s,mb3.8,baz=12,slow=12,SNR=11							
ASAR	**Alice Springs**	**56.00**	**178**	P		**P**	**20 10 35.3**	**+0.5**
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
STKA	**Stephens Creek**	**64.77**	**171**	P		**P**	**20 11 34.4**	**-0.3**
	comp=Z,1.8nm,0.7s,mb4.2,baz=329,slow=9.0,SNR=7.1							
FINES	**FINESS Array B**	**69.01**	**330**	P		**P**	**20 11 59.3**	**-2.4**
	comp=Z,0.3nm,0.6s,mb3.4,baz=78,slow=7.7,SNR=4.1							
YKA	**Yellowknife Ar**	**71.29**	**27**	P		**P**	**20 12 16.9**	**+1.3**
	comp=Z,0.1nm,0.3s,mb3.2,baz=305,slow=5.8,SNR=4.9							
BRTR	**Keskin Array B**	**75.82**	**308**	P		**P**	**20 12 41.9**	**-0.3**
	comp=Z,0.3nm,0.8s,mb3.3,baz=91,slow=6.1,SNR=3.6							

*ISCJB **10** 20:01:05.9±0.5, 4240N±002×26.14E±003, h4km±4km, Error ellipse: s-maj=3.7km s-min=3.3km az=12.9*
*SOF **10** 20:01:05.9, 4244N×2615E, h17km, MD2.9*
*NEIC **10** 20:01:05.9, 4244N×2615E, h17km, MD2.9(SOF), After SOF.*
*CSEM **10** 20:01:05.7±0.1, 4245N×2625E, h2km, ML3.5, Error ellipse: s-maj=1.8km s-min=1.4km az=52.0*
*THE **10** 20:01:07.2, 4242N×2630E, h19km, ML3.5*
ISC 10 20:01:06.8±0.5, 4242N±002×2615E±003, h5km±4km, n59, σ0§90/73, 10C-8D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JMB	**Yambol**	**0.33**	**81**	*i* Pg		**Pg**	**20 01 12.0**	**-1.0**
JMB	**Yambol**	**0.33**	**81**	*ePg*		**Pg**	**20 01 11.5**	**-1.5**
JMB				*eSg*		**Sg**	**20 01 16.1**	**-1.2**
DIM	**Dimitrovgrad**	**0.59**	**232**	*i* Pg		**Pg**	**20 01 17.9**	**-0.1**
EDRB	**Edirne**	**0.72**	**142**	PG		**Pg**	**20 01 20.3**	**-0.3**
SZH	**Strazhica**	**0.86**	**349**	*i* Pg		**Pg**	**20 01 23.8**	**+0.4**
KDZ	**Kurdzhali**	**0.94**	**216**	*i* Pg		**Pg**	**20 01 26.5**	**+1.7**
PVL	**Pavlikeni**	**1.00**	**323**	*i* Pg		**Pg**	**20 01 26.7**	**+0.7**
PLD	**Plovdiv**	**1.12**	**254**	*i* Pg		**Pg**	**20 01 27.7**	**-0.5**
RZN	**Rozhen**	**1.29**	**236**	*i* Pg		**Pg**	**20 01 31.7**	**+0.2**
ZIMR		**1.37**	**335**	⇓*iP*		**Pn**	**20 01 31.3**	**-1.2**
ZIMR		**1.37**	**335**	⇓P		**Pn**	**20 01 31.3**	**-1.3**
PGB	**Panagyurishte**	**1.47**	**276**	*i* Pg		**Pg**	**20 01 33.5**	**-1.5**
ALN	**Alexandroupoli**	**1.52**	**183**	*ePg*		**Pn**	**20 01 34.4**	**-0.2**
ALN				*eSg*		**Sn**	**20 01 52.4**	**-2.4**
MFT	**Murefte**	**1.83**	**152**	PN		**Pn**	**20 01 37.7**	**-1.3**
SART	**Tekirdag**	**1.89**	**156**	*i* P		**Pn**	**20 01 41.6**	**+1.9**
SART				*i* S		**Sn**	**20 02 04.4**	**+0.5**
PSN	**Preselentsi**	**1.96**	**49**	*i* P		**Pn**	**20 01 41.0**	**+0.4**
MMB	**Musomiste**	**1.98**	**246**	*i* P		**Pn**	**20 01 42.9**	**+1.9**
MRMT	**Marmara Adasi**	**2.11**	**149**	PN		**Pn**	**20 01 43.1**	**+0.3**
CTT	**Catalca**	**2.12**	**126**	PN		**Pn**	**20 01 41.7**	**-1.2**
CTT				SN		**Sn**	**20 02 11.1**	**+1.4**
ELBA	**Catalca**	**2.12**	**126**	*i* P		**Pn**	**20 01 42.6**	**-0.3**
ELBA				*i* S		**Sn**	**20 02 09.9**	**+0.1**
VTS	**Vitosha**	**2.18**	**276**	*ePn*		**Pn**	**20 01 43.7**	**-0.1**
VTS				*eSn*		**Sn**	**20 02 11.2**	**0.0**
VTS	**Vitosha**	**2.18**	**276**	⇑*iP*		**Pn**	**20 01 43.4**	**-0.3**
VTS	**Vitosha**	**2.18**	**276**	*i* P		**Pn**	**20 01 43.5**	**-0.2**
VTS	**Vitosha**	**2.18**	**276**	*ePn*		**Pn**	**20 01 43.7**	**0.0**
SRS	**Serrai**	**2.31**	**237**	*ePn*		**Pn**	**20 01 45.5**	**-0.1**
SRS				*eSn*		**Sn**	**20 02 14.1**	**-0.2**
KKB	**Krupnik**	**2.35**	**258**	*i* P		**Pn**	**20 01 47.0**	**+1.0**
BNT	**Bandirma**	**2.45**	**147**	PN		**Pn**	**20 01 47.6**	**+0.2**
ISK	**Istanbul-Kandi**	**2.56**	**121**	*ePN*		**Pn**	**20 01 48.9**	**0.0**
EZN	**Ezine**	**2.59**	**177**	*ePN*		**Pn**	**20 01 50.2**	**+0.8**
HARR	**Harsova**	**2.62**	**29**	⇓*iP*		**Pn**	**20 01 50.1**	**+0.4**
HARR	**Harsova**	**2.62**	**29**	⇓P		**Pn**	**20 01 50.1**	**+0.4**
TIRR	**Tirgusor**	**2.62**	**38**	⇓*iP*		**Pn**	**20 01 51.2**	**+1.4**
TIRR	**Tirgusor**	**2.62**	**38**	⇓P		**Pn**	**20 01 51.2**	**+1.4**
SOH	**Sokhos**	**2.63**	**234**	*ePn*		**Pn**	**20 01 50.4**	**+0.5**
SOH				*eSn*		**Sn**	**20 02 22.1**	**-0.2**
OUR	**Ouranopolis**	**2.64**	**219**	*ePn*		**Pn**	**20 01 49.4**	**-0.7**
OUR				*eSn*		**Sn**	**20 02 22.2**	**-0.3**
KCT	**Karacabey**	**2.72**	**142**	PN		**Pn**	**20 01 50.6**	**-0.5**
KNT	**Kendrikon**	**2.74**	**244**	*ePn*		**Pn**	**20 01 51.4**	**0.0**
	comp=Z,7.0nm,0.7s							
KNT				*eSn*		**Sn**	**20 02 26.0**	**+1.2**
THE	**Thessaloniki**	**2.98**	**234**	*ePn*		**Pn**	**20 01 54.9**	**+0.2**
BTOK	**Tokmak**	**3.01**	**151**	*i* P		**Pg**	**20 02 07.8**	**+3.4**
BTOK				*i* S		**Sg**	**20 02 43.0**	**-0.4**
YLV	**Yalova**	**3.04**	**126**	*ePN*		**Pn**	**20 01 54.8**	**-0.8**
BALB	**Balikesir**	**3.07**	**154**	*ePN*		**Pn**	**20 01 55.5**	**-0.4**
MLR	**Muntele Rosu**	**3.08**	**357**	⇑*iP*		**Pn**	**20 01 56.0**	**-0.1**
HRT	**Hereke**	**3.08**	**120**	*ePN*		**Pn**	**20 01 56.1**	**0.0**
PAIG	**Paliouri**	**3.11**	**218**	*ePn*		**Pn**	**20 01 55.9**	**-0.6**
PAIG				*eSn*		**Sn**	**20 02 33.1**	**-0.9**
CFR	**Carcaliu**	**3.11**	**27**	⇑*iP*		**Pn**	**20 01 57.6**	**+1.1**
CFR	**Carcaliu**	**3.11**	**27**	⇑P		**Pn**	**20 01 57.6**	**+1.0**
VOIR		**3.12**	**346**	⇑*iP*		**Pn**	**20 01 56.0**	**-0.7**
VOIR		**3.12**	**346**	⇑P		**Pn**	**20 01 56.0**	**-0.7**
AYVA	**Ayvalik**	**3.13**	**172**	*i* P		**Pg**	**20 02 12.9**	**+6.2**
AYVA				*i* S		**Sg**	**20 02 49.0**	**+1.7**
GRG	**Griva**	**3.16**	**244**	*ePn*		**Pn**	**20 01 57.6**	**+0.4**
GRG				*eSn*		**Sn**	**20 02 35.0**	**-0.4**
VRI	**Vrincioaia**	**3.48**	**7**	⇑*iP*		**Pn**	**20 02 02.6**	**+1.1**
VRI	**Vrincioaia**	**3.48**	**7**	⇑P		**Pn**	**20 02 02.6**	**+1.1**
LIT	**Litokhoron**	**3.60**	**231**	*ePn*		**Pn**	**20 02 03.5**	**+0.3**
XOR	**Xorichti**	**3.78**	**217**	*ePn*		**Pn**	**20 02 05.0**	**-0.8**
FNA	**Florina**	**3.93**	**247**	*ePn*		**Pn**	**20 02 07.3**	**-0.5**
BZS	**Buzias**	**4.57**	**316**	⇑*iP*		**Pn**	**20 02 14.7**	**-1.9**
BZS	**Buzias**	**4.57**	**316**	⇑P

	comp=Z,1.2nm,0.7s,mb3.7,baz=96,slow=7.8,SNR=14								
ZAL	**Zalesovo**	**78.73**	**328**	P		**P**	**20 50 37.2**	**-1.4**	
	comp=Z,1.7nm,0.4s,mb4.0,baz=357,slow=6.9,SNR=6.3								
ZAL	**Zalesovo**	**78.73**	**328**	P		**P**	**20 50 37.2**	**-1.4**	
ILAR	**Eielson Array**	**84.99**	**23**	P		**P**	**20 51 10.5**	**-0.7**	
	comp=Z,0.4nm,0.5s,mb3.4,baz=257,slow=5.5,SNR=6.8								
BVAR	**Borovoye Array**	**86.51**	**324**	P		**P**	**20 51 17.5**	**-1.2**	
	comp=Z,0.7nm,0.5s,mb3.6,baz=104,slow=6.3,SNR=6.7								
TORD	**Torodi Ar. Bea**	**145.16**	**285**	PKPbc		PKPbc	20 58 12.1	+0.1	
	comp=Z,0.8nm,0.6s,baz=75,slow=3.5,SNR=10								

ISCJB ***10*** *20:59:20.5±0.7,3874N±002×9.14W±005,h14km±3km, Error ellipse: s-maj=7.1km s-min=3.5km az=10.9*
CSEM ***10*** *20:59:20.5±0.2,3868N×9.22W,h10km,ML2.5/4, Error ellipse: s-maj=4.4km s-min=2.2km az=88.0*
MDD ***10*** *20:59:21.5±0.5,3871N×9.15W,h4km±2km,mbLg1.9/10, Error ellipse: s-maj=5.2km s-min=2.8km az=76.0,PRXIMO*
INMG ***10*** *20:59:21.4±1.2,3870N×9.17W,h5km,ML1.7, Error ellipse: s-maj=3.3km s-min=1.6km az=80.0*
IGIL ***10*** *20:59:21.5,3869N×9.18W,h0km,ML1.9*
ISC 10 20:59:20.5±0.7,3873N±002×916W±006,h11km±2km,n37, σ0°83/61,Portugal

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LIS	**Lisbon**	**0.02**	**134**	*e*P		**Pg**	**20 59 21.9**	**-0.7**
LIS				*e*S		**Sg**	**20 59 22.9**	**-1.0**
LIS				*e*S		**Sg**	**20 59 22.9**	**-1.0**
LIS				AML		AML	20 59 24.0	
	comp=E,1μm,0.2s							
LIS	**Lisbon**	**0.02**	**134**	*e*P		**Pg**	**20 59 21.9**	**-0.6**
LIS				*e*S		**Sg**	**20 59 22.9**	**-1.0**
PLOU	**Loures**	**0.16**	**3**	*e*Pg		**Pg**	**20 59 24.9**	**+0.8**
PLOU				*e*Sg		**Sg**	**20 59 27.4**	**+0.8**
PLOU								
	comp=E,112nm,0.2s							
PLOU	**Loures**	**0.16**	**3**	*e*Pg		**Pg**	**20 59 24.9**	**+0.8**
PLOU				*e*Sg		**Sg**	**20 59 27.4**	**+0.8**
	comp=E,112nm,0.2s							
ALMR	**Almeirim**	**0.63**	**47**	*e*P		**Pg**	**20 59 33.2**	**+0.5**
ALMR				*e*S		**Sg**	**20 59 42.1**	**+1.2**
ALMR				*e*S		**Sg**	**20 59 42.1**	**+1.2**
ALMR				AML		AML	20 59 45.8	
	comp=E,85nm,0.1s							
ALMR	**Almeirim**	**0.63**	**47**	*e*P		**Pg**	**20 59 33.2**	**+0.5**
ALMR				*e*S		**Sg**	**20 59 42.1**	**+1.2**
MOE	**Montemor**	**0.67**	**108**	*e*Pg		**Pg**	**20 59 33.5**	**0.0**
MOE				*e*Sg		**Sg**	**20 59 42.3**	**0.0**
PTOM	**Tomar**	**1.06**	**33**	*e*P		**Pb**	**20 59 41.4**	**+0.5**
PTOM				*e*S		**Sb**	**20 59 55.9**	**+1.1**
PTOM								
	comp=E,20nm,0.2s							
PTOM	**Tomar**	**1.06**	**33**	*e*P		**Pb**	**20 59 41.4**	**+0.5**
PTOM				*e*S		**Sb**	**20 59 55.9**	**+1.1**
	comp=E,20nm,0.2s							
PTEO	**Sao Teotonio**	**1.23**	**163**	*e*P		**Pn**	**20 59 43.6**	**0.0**
PTEO				*e*S		**Sb**	**20 59 59.1**	**-0.5**
PTEO								
	comp=E,20nm,0.7s							
PTEO	**Sao Teotonio**	**1.23**	**163**	*e*P		**Pn**	**20 59 43.6**	**0.0**
PTEO				*e*S		**Sb**	**20 59 59.1**	**-0.5**
	comp=E,20nm,0.7s							
PBEJ	**Beja**	**1.24**	**124**	*e*P		**Pn**	**20 59 43.4**	**-0.3**
PBEJ				*e*S		**Sb**	**20 59 59.5**	**-0.3**
PBEJ								
	comp=E,4.5nm,0.1s							
PBEJ	**Beja**	**1.24**	**124**	*e*P		**Pn**	**20 59 43.4**	**-0.3**
PBEJ				*e*S		**Sb**	**20 59 59.5**	**-0.3**
	comp=E,4.5nm,0.1s							
MORF	**Marmelete**	**1.48**	**164**	*e*P		**Pn**	**20 59 47.2**	**+0.2**
MORF				*e*S		**Sn**	**21 00 05.5**	**-0.7**
MORF				*e*S		**Sn**	**21 00 05.6**	**-0.6**
MORF				AML		AML	21 00 08.6	
	comp=E,14nm,0.1s							
MORF	**Marmelete**	**1.48**	**164**	*e*P		**Pn**	**20 59 47.2**	**+0.2**
MORF				*e*S		**Sn**	**21 00 05.5**	**-0.7**
EBAD	**Badajoz**	**1.68**	**88**	Pn		**Pn**	**20 59 49.4**	**-0.4**
	comp=E,1.5nm,0.1s,SNR=10							
EBAD				Sn		**Sn**	**21 00 11.2**	**-0.2**
	comp=E,12nm,0.2s,SNR=16							
EBAD				Lg			21 00 13.8	
	comp=E,24nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**1.68**	**88**	Pn		**Pn**	**20 59 49.4**	**-0.4**
	comp=E,1.5nm,0.1s,SNR=10							
EBAD				Sn		**Sn**	**21 00 11.2**	**-0.1**
	comp=E,12nm,0.2s,SNR=16							
PCBR	**Castelo Branco**	**1.72**	**49**	*e*Pg		**Pg**	**20 59 53.0**	**-0.5**
PCBR				*e*Sn		**Sn**	**21 00 12.1**	**-0.1**
PCBR								
	comp=E,4.3nm,0.3s							
EGRO	**El Granado**	**1.78**	**131**	Pn		**Pn**	**20 59 53.3**	**+2.1**
	comp=E,0.7nm,0.1s,SNR=10							
EGRO				Sn		**Sn**	**21 00 15.6**	**+1.8**
	comp=E,1.5nm,0.2s,SNR=9.0							
EGRO	**El Granado**	**1.78**	**131**	Pn		**Pn**	**20 59 53.3**	**+2.1**
	comp=E,0.7nm,0.1s,SNR=10							
EGRO				Sn		**Sn**	**21 00 15.6**	**+1.8**
	comp=E,1.5nm,0.2s,SNR=9.0							
MTE	**Manteigas**	**2.09**	**36**	*e*Sn		**Sn**	**21 00 22.0**	**+0.7**
MTE								
	comp=E,4.6nm,0.4s							
MTE	**Manteigas**	**2.09**	**36**	Sn		**Sn**	**21 00 22.0**	**+0.7**
	comp=E,2.3nm,0.4s							
EMIN	**Mina Concepcio**	**2.18**	**115**	Pn		**Pn**	**20 59 57.1**	**+0.4**
	comp=E,0.2nm,0.1s,SNR=9.1							
EMIN				Lg			21 00 29.3	
	comp=E,2.1nm,0.2s,SNR=10							
EMIN	**Mina Concepcio**	**2.18**	**115**	Pn		**Pn**	**20 59 57.1**	**+0.4**
	comp=E,0.2nm,0.1s,SNR=9.1							
PVIS	**Viseu**	**2.21**	**26**	*e*Sg		**Sg**	**21 00 31.9**	**+0.2**
PVIS								
	comp=E,3.3nm,0.2s							
PVIS	**Viseu**	**2.21**	**26**	Lg			21 00 31.9	
	comp=E,1.6nm,0.2s							
PVRL	**Vila Real**	**2.78**	**23**	*e*Sg		**Sg**	**21 00 47.9**	**-1.8**
ESPR	**Espera**	**3.21**	**124**	Sn		**Sn**	**21 00 49.4**	**+0.4**
	comp=E,1.3nm,0.2s,SNR=7.9							
ESPR				Lg			21 01 03.6	
	comp=E,2.7nm,0.3s,SNR=7.9							
ELOB	**Lobios**	**3.25**	**15**	Sn		**Sn**	**21 00 49.5**	**-0.4**
	comp=E,0.4nm,0.2s,SNR=7.9							
ELOB				Lg			21 01 03.2	
	comp=E,1.1nm,0.2s,SNR=7.9							
ELOB	**Lobios**	**3.25**	**15**	Sn		**Sn**	**21 00 49.5**	**-0.4**
	comp=E,0.4nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**3.64**	**97**	Sn		**Sn**	**21 00 59.3**	**-0.5**
	comp=E,0.8nm,0.3s,SNR=7.9							
EADA				Lg			21 01 16.9	
	comp=E,1.8nm,0.3s,SNR=5.9							
EADA	**Adamuz**	**3.64**	**97**	Sn		**Sn**	**21 00 59.3**	**-0.4**
	comp=E,0.8nm,0.3s,SNR=7.9							
ECAL	**Calabor**	**3.71**	**29**	Pn		**Pn**	**21 00 17.5**	**-0.1**
	comp=E,0.5nm,0.1s,SNR=7.9							
ECAL				Sn		**Sn**	**21 00 59.8**	**-1.4**
	comp=E,1.0nm,0.3s,SNR=7.9							
ECAL				Lg			21 01 21.1	
	comp=E,3.0nm,0.3s,SNR=7.9							
ECAL	**Calabor**	**3.71**	**29**	Pn		**Pn**	**21 00 17.5**	**-0.1**
	comp=E,0.5nm,0.1s,SNR=7.9							
ECAL				Sn		**Sn**	**21 00 59.8**	**-1.5**
	comp=E,1.0nm,0.3s,SNR=7.9							
ESDC	**Sonseca Array**	**4.15**	**75**	Pn		**Pn**	**21 00 23.5**	**-0.2**
	comp=E,0.7nm,0.1s,baz=259,slow=13,SNR=16							
ESDC				Sn		**Sn**	**21 01 10.5**	**-1.6**
	comp=E,0.1nm,0.1s,SNR=7.9							
ESDC				Lg			21 01 29.3	
	comp=E,0.6nm,0.3s,baz=263,slow=28,SNR=4.7							
ESDC	**Sonseca Array**	**4.15**	**75**	Pn		**Pn**	**21 00 23.5**	**-0.2**
	comp=E,0.7nm,0.1s,baz=259,slow=13,SNR=16							
GUD	**Guadarrama**	**4.31**	**62**	Lg			21 01 36.2	
	SNR=7.9							

JMA 10 21:07:19.2±0.3,3269N×13706E,h489km,M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JWZ	**Kozaga**	**1.41**	**307**	P		P	21 08 20.9	+0.3
JAI	**Aioi**	**2.45**	**297**	P		P	21 08 26.7	+1.0
BSO4	**Boso 4**	**3.56**	**49**	P		P	21 08 34.3	+1.0
BSO4				*e*S		S	21 09 30.9	-2.9
JHU	**Hanno**	**3.65**	**30**	P		P	21 08 34.5	+0.5
JHU				*e*S		S	21 09 28.8	-6.2
JRY	**Ryogami san**	**3.65**	**24**	P		P	21 08 35.1	+1.1
MAT	**Matsushiro**	**3.96**	**14**	P		P	21 08 37.0	+0.5
MAT	**Matsushiro**	**3.96**	**14**	P		P	21 08 37.1	+0.6
JAG	**Ashikaga**	**4.22**	**27**	P		P	21 08 38.5	-0.1
JAG				*e*S		S	21 09 34.6	-8.8
JHO	**Hitachi**	**4.86**	**36**	P		P	21 08 44.8	+0.5
JHO				S		S	21 09 45.9	-7.8

ISCJB ***10*** *21:16:49.7±0.5,5012N±003×1832E±003,h0km, Error ellipse: s-maj=4.2km s-min=2.6km az=30.1*
IPEC ***10*** *21:16:50.6±0.3,5005N×1847E,h0km,ML2.2/4, Error ellipse: s-maj=2.4km s-min=2.0km az=123.0*
CSEM ***10*** *21:16:51.5±0.2,5008N×1842E,h1km±1km,ML3.1/6, Error ellipse: s-maj=6.2km s-min=3.1km az=13.0*
WAR ***10*** *21:16:51.2,5005N×1845E,ML2.5,Mining Induced*
VIE ***10*** *21:16:52.4±0.7,4970N×1846E,h0km,mb1.8/4,ML2.5/4, Error ellipse: s-maj=4.2km s-min=2.7km az=87.0 21 km SE of Ostrava Suspected Mining induced.*
PRU ***10*** *21:16:53.4,5003N×1828E,h0km*
ISC 10 21:16:51.0±0.4,5008N±003×1837E±003,h0km,n22, σ1°15/39,2C,Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.11**	**271**	*e*Pg		**Pg**	**21 16 55.0**	**+1.8**
RAC				*e*Sg		**Sg**	**21 16 58.4**	**+3.7**
OKC	**Ostrava-Krasne**	**0.28**	**211**	*e*Pg		**Pg**	**21 16 57.1**	**+0.7**
OKC				*e*SG		**Sg**	**21 17 01.3**	**+1.2**
	306nm,0.6s							
MORC	**Moravsky Berou**	**0.62**	**241**	*e*Pg		**Pg**	**21 17 03.3**	**+0.5**
MORC				*e*Sg		**Sg**	**21 17 11.9**	**+1.1**
	41nm,0.4s							
OJC	**Ojcow**	**0.93**	**81**	*e*Pg		**Pg**	**21 17 07.9**	**-0.9**
OJC				*e*Sg		**Sg**	**21 17 19.6**	**-1.3**
JAVC	**Velka Javorina**	**1.31**	**201**	*e*Sg		**Sg**	**21 17 34.8**	**+1.8**
	24nm,0.6s							
DPC	**Dobruska-Polom**	**1.34**	**282**	*e*PG		**Pg**	**21 17 17.0**	**+0.2**
DPC				*e*SG		**Sg**	**21 17 35.3**	**+1.1**
	79nm,0.5s							
DPC	**Dobruska-Polom**	**1.34**	**282**	*e*Pn		**Pn**	**21 17 17.1**	**+0.1**
DPC				*e*Sg		**Sg**	**21 17 34.8**	**+0.6**
VRAC	**Vranov**	**1.39**	**237**	*e*Pg		**Pg**	**21 17 17.4**	**-0.2**
VRAC				*e*Sg		**Sg**	**21 17 35.1**	**-0.6**
	36nm,0.3s							
NIE	**Niedzica**	**1.42**	**117**	*e*Pg		**Pg**	**21 17 17.5**	**-0.8**
NIE				*e*Sg		**Sg**	**21 17 35.9**	**-0.9**
KSP	**Ksiaz**	**1.53**	**301**	*e*Pg		**Pg**	**21 17 21.2**	**+0.8**
KSP				*e*Sg		**Sg**	**21 17 41.3**	**+1.1**
VYHS	**Vyhne**	**1.62**	**169**	*e*PN		**Pn**	**21 17 20.4**	**-0.4**
VYHS				*e*SN		**Sn**	**21 17 41.8**	**-0.5**
KRUC	**Moravsky**	**1.64**	**232**	*e*Pn		**Pn**	**21 17 21.0**	**-0.1**
KRUC				*e*Sg		**Sg**	**21 17 42.6**	**-1.2**
	19nm,0.4s							
SMOL	**Smolenice**	**1.69**	**202**	*e*SN		**Sn**	**21 17 44.2**	**+0.2**
STHS	**Stebnicka Huta**	**1.98**	**109**	*e*PN		**Pn**	**21 17 28.0**	**+2.3**
STHS				*e*SN		**Sn**	**21 17 54.1**	**+2.9**
KECS	**Kecovo**	**2.12**	**138**	*e*PN		**Pn**	**21 17 27.2**	**-0.4**
KECS				*e*SN		**Sn**	**21 17 56.4**	**+1.8**
PRU	**Pruhonice**	**2.47**	**269**	*e*PG		**Pg**	**21 17 36.3**	**-2.1**
PRU				*e*SG		**Sg**	**21 18 08.7**	**-1.7**
	17nm,0.8s							
BRG	**Berggiesshubel**	**2.94**	**287**	PG		**Pg**	**21 17 47.0**	**-0.4**
BRG				SG		**Sg**	**21 18 24.6**	**-0.8**
	2.8nm,0.6s							
KHC	**Kasperske Hory**	**3.26**	**255**	*e*PG		**Pg**	**21 17 52.1**	**-1.4**
KHC				*e*SG		**Sg**	**21 18 35.2**	**-0.5**
	11nm,0.5s							
MOA	**Molln**	**3.51**	**232**	⇑*i*Pn		**Pn**	**21 17 45.9**	**-0.9**
MOA				⇑*i*Sg		**Sg**	**21 18 41.9**	**-1.8**
	comp=Z,6.7nm,0.5s							
CLL	**Collm**	**3.63**	**292**	*i* Sg		**Sg**	**21 18 49.5**	**+2.0**
NKC	**Novy Kostel**	**3.81**	**275**	*e*SG		**Sg**	**21 18 52.8**	**-0.7**
	16nm,0.9s							
MOX	**Moxa**	**4.36**	**280**	*e*SG		**Sg**	**21 19 11.0**	**-0.1**

ISCJB ***10*** *21:20:49.9±0.8,731S±004×12661E±008,h343km±11km, mb4.1/18, Error ellipse: s-maj=12.8km s-min=6.1km az=149.9*
IDC ***10*** *21:20:51.0±2.1,730S×12676E,h340km±22km,mb3.7/7, mb1 4.0/10,mb1mx3.9/14,mbtmp4.7/10, Error ellipse: s-maj=23.7km s-min=9.8km az=71.0*
NEIC ***10*** *21:20:51.8±1.0,732S×12663E,h348km±12km,mb4.2/9, Error ellipse: s-maj=12.5km s-min=7.6km az=75.0*
ISC 10 21:20:51.9±0.8,735S±004×12671E±008,h350km±10km, n39,σ0°84/44,mb4.1/18,2D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**6.23**	**75**	P		**Pn**	**21 22 24.9**	**-0.4**
	1μm,0.7s							
KAKA	**Kakadu**	**7.76**	**134**	⇓*i*P		**Pn**	**21 22 43.4**	**+0.2**
	34nm,0.5s							
KAKA				*e*S		**S**	**21 24 02.9**	**-11**
SWI	**Sorong**	**7.88**	**35**	P		**Pn**	**21 22 42.3**	**-2.3**
	79nm,0.7s							
PCI	**Palu**	**9.37**	**313**	P		**Pn**	**21 23 06.8**	**+4.4**
	46nm,0.9s							
FITZ	**Fitzroy Crossi**	**10.74**	**185**	⇓*i*P		**Pn**	**21 23 18.4**	**-0.3**
	36nm,0.5s							
FITZ				*e*S		**S**	**21 25 19.3**	**0.0**
FITZ	**Fitzroy Crossi**	**10.74**	**185**	P		**Pn**	**21 23 18.5**	**-0.2**
	4.7nm,0.3s,baz=24,slow=11,SNR=100							
FITZ				S		**S**	**21 25 17.5**	**-1.8**
	0.8nm,0.3s,baz=181,slow=15,SNR=6.4							
BAKI	**Biak**	**11.19**	**57**	P		**Pn**	**21 23 24.9**	**+0.9**
	298nm,0.8s							
WRAB	**Tennant Creek**	**14.54**	**150**	*e*P		**P**	**21 24 02.5**	**+1.0**
	97nm,0.4s							
WRA	**Warramunga Arr**	**14.55**	**150**	P		**P**	**21 24 02.8**	**+1.3**
	8.2nm,0.3s,baz=328,slow=12,SNR=378							
WRA				S		**S**	**21 26 38.1**	**-0.6**
	0.7nm,0.3s,baz=321,slow=22,SNR=12							
WB2	**Warramunga Arr**	**14.55**	**150**	*e*P		**P**	**21 24 02.7**	**+1.1**
WB2				*e*S		**S**	**21 26 37.6**	**-1.2**
JAY	**Jayapura**	**14.74**	**72**	P		**P**	**21 24 07.3**	**+3.6**
	94nm,1.0s							
MBWA	**Marble Bar**	**15.30**	**205**	*e*P		**P**	**21 24 09.3**	**-0.4**
ASAR	**Alice Springs**	**17.64**	**158**	P		**P**	**21 24 36.5**	**+1.6**
	25nm,0.3s,baz=337,slow=11,SNR=1588							
ASAR				S		**S**	**21 27 39.1**	**-0.8**
	0.7nm,0.3s,baz=336,slow=20,SNR=12							
FORT	**Forrest**	**23.35**	**177**	*e*P		**P**	**21 25 31.1**	**+0.8**
	11nm,0.7s,mb4.2							
KLBR	**Kellerberrin**	**25.53**	**198**	*e*P		**P**	**21 25 49.8**	**0.0**
	2.2nm,0.2s,mb4.0							
STKA	**Stephens Creek**	**28.08**	**152**	*e*P		**P**	**21 26 12.1**	**-0.3**
	5.9nm,0.5s,mb4.1							
STKA	**Stephens Creek**	**28.08**	**152**	P		**P**	**21 26 11.7**	**-0.7**
	7.0nm,0.4s,mb4.2,baz=323,slow=9.3,SNR=33							
PSI	**Prapat**	**29.50**	**289**	P		**P**	**21 26 24.6**	**-0.3**
	12nm,0.6s,mb4.3,baz=140,slow=5.1,SNR=15							
MJAR	**Matsushiro Arr**	**44.97**	**13**	P		**P**	**21 28 32.8**	**-0.7**
	54nm,0.5s,mb5.0,baz=198,slow=8.8,SNR=12							
LSA	**Lhasa**	**50.25**	**319**	*e*P		**P**	**21 29 15.1**	**+1.5**
	4.8nm,0.6s,mb3.9							
JIRN	**Jiri**	**52.40**	**313**	*e*P		**P**	**21 29 29.4**	**0.0**
	5.6nm,0.7s,mb4.0							
GUN	**Gumba**	**52.77**	**313**	*e*P		**P**	**21 29 32.4**	**+0.3**
	11nm,0.5s,mb4.5							
PKI	**Pulchoki**	**52.91**	**313**	*e*P		**P**	**21 29 33.2**	**+0.1**
KKN	**Kakani**	**53.13**	**313**	*e*P		**P**	**21 29 34.5**	**-0.2**
	4.3nm,0.4s,mb4.1							
DMN	**Daman**	**53.15**	**313**	*e*P		**P**	**21 29 35.1**	**+0.2**
	6.0nm,0.6s,mb4.1							
GKN	**Gorkha**	**53.72**	**313**	*e*P		**P**	**21 29 39.1**	**+0.2**
	11nm,0.3s,mb4.7							
KOLN	**Koldanda**	**54.35**	**312**	*e*P		**P**	**21 29 42.6**	**-0.8**
ULN	**Ulaanbaatar**	**57.65**	**344**	*e*P		**P**	**21 30 06.3**	**-0.3**
	2.5nm,0.8s,mb3.6							
SONM	**Songino Array**	**57.80**	**344**	P		**P**	**21 30 08.1**	**+0.5**
	1.6nm,0.6s,mb3.6,baz=165,slow=6.2,SNR=24							
SONM				ScP		ScP	21 34 22.7	+1.3
	0.6nm,0.8s,baz=153,slow=3.7,SNR=5.9							
MKAR	**Makanchi Array**	**66.77**	**328**	P		**P**	**21 31 06.6**	**+0.1**
	0.8nm,0.5s,mb3.8,baz=118,slow=7.7,SNR=26							
ZAL	**Zalesovo**	**70.49**	**335**	P		**P**	**21 31 28.5**	**-0.8**
	2.9nm,0.5s,mb4.3,baz=347,slow=5.7,SNR=15							
ZAL	**Zalesovo**	**70.49**	**335**	P		**P**	**21 31 28.5**	**-0.8**
KURK	**Kurchatov**	**71.14**	**330**	*e*P		**P**	**21 31 32.2**	**-1.0**
VNDA	**Vanda**	**72.52**	**172**	P		**P**	**21 31 41.9**	**+0.6**
	0.4nm,0.4s,mb3.5,baz=328,slow=9.6,SNR=6.9							
VNDA	**Vanda**	**72.52**	**172**	*e*P		**P**	**21 31 41.3**	**0.0**
MAW	**Mawson**	**73.45**	**201**	P		**P**	**21 31 47.9**	**+1.2**
	1.5nm,0.6s,mb3.9,baz=74,slow=4.8,SNR=6.3							
MAW	**Mawson**	**73.45**	**201**	*e*P		**P**	**21 31 46.2**	**-0.5**
	2.0nm,0.7s,mb4.0							
ZRNK	**Zerenda**	**77.32**	**328**	*e*P		**P**	**21 32 08.5**	**-0.1**
	3.2nm,0.8s,mb4.1							
TORD	**Torodi Ar. Bea**	**125.67**	**281**	PKP		PKPdf	21 39 13.2	+1.1
	0.4nm,0.6s,baz=17,slow=2.6,SNR=7.0							

SZGRF ***10*** *21:33:03.2,3993N×2004E,h10km,mb3.3, Greece-Albania border region*
SKO ***10*** *21:33:04.8,4001N×1940E,h21km*
IDC ***10*** *21:33:04.3±0.7,4020N×1980E,h0km,mb4.0/14, mb1 4.1/21,mb1mx4.0/31,mbtmp4.0/21,ML3.8/6,MS3.4/10, Ms1 3.4/10,ms1mx3.2/30,Error ellipse: s-maj=13.6km s-min=11.1km az=52.0*
BJI ***10*** *21:33:04.5,3933N×1996E,h36km,mB5.4,mb4.8*
ISCJB ***10*** *21:33:05.4±0.3,4014N±001×1960E±002,h13km±2km, mb4.2/23,MS3.4/7, Error ellipse: s-maj=2.7km s-min=1.7km az=82.4*
THE ***10*** *21:33:05.0,4014N×1951E,h10km,ML4.2*
PRU ***10*** *21:33:05.0,3998N×1875E,h0km,M4.0*
CSEM ***10*** *21:33:05.2±0.1,4016N×1949E,h10km,mb4.2/10,Ms3.1, Error ellipse: s-maj=1.6km s-min=0.9km az=43.0*
LDG ***10*** *21:33:05.7±1.2,4070N×1988E,h10km,Mb4.8/18,Ms2.9/5, Error ellipse: s-maj=75.4km s-min=11.8km az=13.0*
TIR ***10*** *21:33:06.0,4018N×1981E,h5km,MI3.7*
ATH ***10*** *21:33:06.9,4006N×1978E,h18km±1km,MD4.2/20,ML4.5*
NEIC ***10*** *21:33:06.9,4006N×1978E,h18km,mb4.0/22, ML3.9(PDG),ML4.5(ATH),After ATH.*
MOS ***10*** *21:33:07.5±1.1,4017N×1956E,h33km,mb4.3/18, Error ellipse: s-maj=4.1km s-min=2.9km az=107.4*
HLW ***10*** *21:33:08.1,4048N×2185E,h33km,Mb4.1*
PDG ***10*** *21:33:09.6±0.8,4039N×1958E,h16km±3km*
ISC 10 21:33:06.8±0.4,4015N±001×1965E±002,h10km±2km, n346,σ1°28/423,mb4.2/23,MS3.4/7,37C-22D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.31**	**62**	*i* Pg		**Pg**	**21 33 10.8**	**-2.2**
TPE				*i* Sg		**Sg**	**21 33 15.5**	**-1.7**
VLO	**Vlora**	**0.34**	**340**	*i* Pg		**Pg**	**21 33 13.6**	**+0.1**
VLO				*i* Sg		**Sg**	**21 33 21.5**	**+3.4**
SRN	**Sarande**	**0.38**	**135**	*i* Pg		**Pg**	**21 33 12.6**	**-1.7**
SRN				*i* Sg		**Sg**	**21 33 19.2**	**-0.1**
KEK	**Kerkira**	**0.45**	**165**	*e*PB		**Pg**	**21 33 14.3**	**-1.3**
LSK	**Leskovik**	**0.73**	**90**	*i* Pg		**Pg**	**21 33 18.5**	**-2.3**
LSK				*i* Sg		**Sg**	**21 33 28.8**	**-1.6**
IGT	**Igoumenitsa**	**0.81**	**139**	*e*Pg		**Pg**	**21 33 20.3**	**-2.1**
IGT				*e*Sg		**Sg**	**21 33 34.8**	**+1.9**
KBN	**Korca**	**0.99**	**61**	*i* Pg		**Pg**	**21 33 22.6**	**-3.2**
JAN	**Janina**	**1.05**	**118**	⇑*i*PN		**Pg**	**21 33 24.5**	**-2.4**
JAN				*e*SN		**Sg**	**21 33 36.6**	**-3.9**
LCI	**Lecce**	**1.19**	**279**	Pn		**Pn**	**21 33 29.7**	**+0.2**
TIR	**Tirane**	**1.21**	**8**	*e*Pg		**Pg**	**21 33 28.9**	**-1.1**
TIR				*e*Sg		**Sg**	**21 33 46.5**	**+0.8**
OHR	**Ohrid**	**1.30**	**42**	*e*Pn		**Pn**	**21 33 31.0**	**0.0**
QSH	**Qafa e Shtames**	**1.39**	**8**	*i* Pn		**Pn**	**21 33 33.0**	**+0.8**
QSH				*i* Sn		**Sn**	**21 33 51.5**	**+1.0**
QSH	**Qafa e Shtames**	**1.39**	**8**	*e*Pn		**Pn**	**21 33 33.0**	**+0.8**
QSH				*i* Sn		**Sn**	**21 33 51.5**	**+1.0**
FNA	**Florina**	**1.46**	**64**	*e*Pg		**Pg**	**21 33 32.5**	**-2.3**
FNA				*e*Sg		**Sg**	**21 33 55.3**	**+1.5**
LACI	**Lac**	**1.49**	**2**	*i* Pn		**Pn**	**21 33 34.2**	**+0.6**
LACI				*i* Sn		**Sn**	**21 34 00.6**	**+7.6**
LACI	**Lac**	**1.49**	**2**	*e*Pn		**Pn**	**21 33 34.2**	**+0.6**
BIA	**Bitola**	**1.54**	**55**	*e*Pn		**Pn**	**21 33 34.0**	**-0.4**
BIA	**Bitola**	**1.54**	**55**	*e*Pn		**Pn**	**21 33 33.9**	**-0.4**
KZN	**Kozani**	**1.63**	**84**	*e*PN		**Pn**	**21 33 36.0**	**+0.4**
KZN				*e*SN		**Sn**	**21 33 56.2**	**-0.4**
LKD	**Levkas**	**1.64**	**151**	*e*Pb		**Pn**	**21 33 35.1**	**-0.5**
LKD				*e*Sb		**Sn**	**21 33 59.1**	**+2.4**
PE1	**Pezze di Greco**	**1.82**	**292**	*e*Pn		**Pn**	**21 33 38.4**	**+0.2**

PLE Pljevlja 3.18 357 ⇑*i*Pn **Pn 21 33 56.6 -0.3**
PLE *e*Sn **Sn 21 34 33.8 -1.1**
FGMS Monte Sant'Ang 3.21 300 Pn **Pn 21 33 57.8 +0.6**
MS1 Monte Sant'Ang 3.21 300 *e*Pn **Pn 21 33 58.2 +0.9**
OUR Ouranopolis 3.32 85 *e*Pn **Pn 21 33 59.7 +0.9**
comp=Z,6.2nm,1.0s
SGO Sicignano 3.34 278 Pn **Pn 21 33 59.9 +0.8**
AOS Alonnisos 3.41 105 *e*Pn **Pn 21 34 00.5 +0.5**
comp=Z,3.4nm,0.8s
NVR Nevrokopi 3.42 68 *e*PN **Pn 21 34 01.3 +1.2**
NVR *e*SN **Sn 21 34 41.0 +0.3**
ITM Ithomi 3.46 148 *e*PN **Pn 21 34 00.3 -0.4**
ITM *e*SN **Sn 21 34 40.7 -1.0**
MGER Gerania Oros 3.54 126 *e*PN **Pn 21 34 01.5 -0.4**
VTS Vitosha 3.62 46 *e*Pn **Pn 21 34 04.0 +1.1**
VTS Vitosha 3.62 46 ⇑*i*P **Pn 21 34 04.1 +1.2**
ATH Athens Observa 3.84 123 *e*PN **Pn 21 34 05.7 -0.2**
ATH *e*SN **Sn 21 34 49.4 -1.7**
PTL Penteli 3.89 121 *e*PN **Pn 21 34 06.0 -0.6**
DIVS Divcibare 3.96 4 *i* Pn **Pn 21 34 08.9 +1.4**
DIVS Divcibare 3.96 4 *e*Pn **Pn 21 34 07.3 -0.2**
KVR Kavouri 3.96 125 *e*PN **Pn 21 34 07.5 -0.1**
VLI Veliai 4.29 142 *e*PN **Pn 21 34 12.1 0.0**
VLI *e*SN **Sn 21 35 00.2 -2.0**
RDO Rodhopi 4.59 76 *e*PN **Pn 21 34 16.9 +0.7**
KYTH Kithira 4.69 144 *e*PN **Pn 21 34 18.5 +0.9**
VAE Valguarnera 4.88 239 Pn **Pn 21 34 25.1 +4.9**
0.7nm,0.3s,baz=266,slow=16,SNR=3.5
VAE Sn **Sn 21 35 23.4 +6.6**
2.3nm,0.3s,baz=120,slow=20,SNR=2.2
ALN Alexandroupoli 4.93 79 *e*PN **Pn 21 34 21.8 +0.9**
ALN *e*Sn **Sn 21 35 21.4 +3.4**
PRK Paraskevi 5.19 98 *e*PN **Pn 21 34 25.6 +1.2**
AQU L'Aquila 5.20 297 ⇑*i*P **Pn 21 34 26.9 +2.3**
AQU L'Aquila 5.20 297 *e*P **Pn 21 34 26.3 +1.7**
155nm,0.8s
AQU L'Aquila 5.20 297 *e*P **Pn 21 34 26.3 +1.7**
155nm,0.8s
CHOS Chios Island 5.27 107 *e*Pn **Pn 21 34 27.2 +1.5**
AYVA Ayvalik 5.49 97 *i* P **Pn 21 34 35.5 +6.8**
APE Apeiranthos 5.54 122 *e*Pn **Pn 21 34 30.8 +1.6**
APE Apeiranthos 5.54 122 *e*Pn **Pn 21 34 29.4 +0.1**
BZS Buzias 5.65 14 ⇑*i*P **Pn 21 34 30.5 -0.3**
NVLJ Novalja 5.66 323 *i* Pn **Pn 21 34 31.0 +0.1**
NVLJ *i* Sn **Sn 21 35 34.6 -1.3**
NVLJ Novalja 5.66 323 *i* Pn **Pn 21 34 30.9 0.0**
NVLJ *i* Sn **Sn 21 35 34.6 -1.3**
JMB Yambol 5.71 64 *e*Pn **Pn 21 34 33.1 +1.5**
SART Tekirdag 5.77 82 *i* P **Sn 21 35 45.4 +6.6**
SISC Sisak 5.84 337 *e*Pn **Pn 21 34 32.6 -0.8**
SISC Sisak 5.84 337 *e*Pn **Pn 21 34 32.5 -0.9**
THR3 Thira Island, 5.87 128 *e*PN **Pn 21 34 35.9 +2.1**
SANT Santorini 5.92 128 *e*Pn **Pn 21 34 34.8 +0.2**
VAM Vamos 5.95 141 *e*PN **Pn 21 34 35.0 +0.1**
RHK1 Bakonya 6.05 350 ⇓*i*P **Pn 21 34 40.5 +4.1**
PKSM Moragy 6.11 353 ⇓*i*P **Pn 21 34 38.2 +1.1**
PKSM Moragy 6.11 353 ⇓*e*P **Pn 21 34 31.5 -5.6**
KDAG Bornova 6.16 104 *i* P **Pn 21 34 39.2 +1.4**
GVD Gavdhos 6.37 145 *e*P **Pn 21 34 39.2 -1.4**
32nm,0.3s
IDI Anoyia 6.39 138 Pn **Pn 21 34 38.5 -2.5**
1.9nm,0.3s,baz=310,slow=14,SNR=20
IDI Sn **Sn 21 35 44.2 -10**
2.0nm,0.3s,baz=304,slow=21,SNR=2.2
IDI LR LR 21 37 47.8
comp=Z,119nm,18.2s,baz=254,slow=45
SIVA Sivas 6.56 140 *e*Pn **Pn 21 34 43.4 +0.1**
VOIR 6.61 35 ⇓*i*P **Pn 21 34 46.1 +2.1**
ELBA Catalca 6.75 79 *i* P **Sn 21 36 06.5 +3.7**
NPS Neapolis 6.79 134 *e*PN **Pn 21 34 47.0 +0.5**
LJU Ljubljana 6.98 329 *e*Pn **Pn 21 34 50.2 +1.1**
LJU *e*(Sn) **Sn 21 36 10.5 +1.9**
MLR Muntele Rosu 7.06 39 Pn **Pn 21 34 49.6 -0.7**
0.1nm,0.3s,baz=168,slow=16,SNR=2.4
MLR Sn **Sn 21 36 02.9 -7.6**
0.3nm,0.3s,baz=112,slow=11,SNR=3.2
MLR Muntele Rosu 7.06 39 ⇓*i*P **Pn 21 34 55.1 +4.9**
MLR Muntele Rosu 7.06 39 Pn **Pn 21 34 49.6 -0.7**
MLR ⇓P 21 34 55.1
MLR Sn **Sn 21 36 02.9 -7.6**
VOY Vojsko 7.23 326 *e*Pn **Pn 21 34 52.2 -0.3**
VOY *e*Sn **Sn 21 36 11.8 -2.9**
ZKR Zakros 7.24 132 *e*Pn **Pn 21 34 52.9 +0.3**
BUD Budapest 7.35 357 ⇓*e*Pn **Pn 21 34 54.6 +0.5**
OBKA Obir 7.36 331 ⇑*i*Pn **Pn 21 34 54.3 -0.1**
15nm,0.5s,SNR=12
OBKA ⇓*e*Sn **Sn 21 36 17.5 -0.5**
28nm,0.7s
OBKA Obir 7.36 331 *e*Pn **Pn 21 34 53.7 -0.6**
OBKA *e*Sn **Sn 21 36 19.0 +1.1**
KARP Karpathos 7.51 125 *e*PN **Pn 21 34 57.0 +0.7**
PLOR Plostina 7.67 40 ⇑*i*P **Pn 21 35 01.0 +2.5**
ARSA Arzberg 7.70 339 ⇓*i*Pn **Pn 21 34 59.1 +0.1**
4.0nm,0.5s
ARSA ⇑*i*Sn **Sn 21 36 25.9 -0.4**
VRI Vrincioaia 7.71 40 ⇓*i*P **Pn 21 35 01.6 +2.4**
VRI Vrincioaia 7.71 40 ⇓P **Pn 21 35 01.6 +2.4**
PSZ Piszkesteto 7.77 1 ⇓*e*Pn **Pn 21 35 05.7 +5.8**
TIRR Tirgusor 7.79 54 ⇑*i*P **Pn 21 35 02.6 +2.4**
TIRR Tirgusor 7.79 54 *e*P **Pn 21 35 02.5 +2.3**
TIRR Tirgusor 7.79 54 *e*P **Pn 21 35 02.5 +2.3**
KBA Koelnbreinsper 8.30 329 ⇓*e*Pn **Pn 21 35 07.4 +0.2**
9.2nm,0.8s
KBA ⇑*e*Sn **Sn 21 36 40.6 -0.3**
9.9nm,0.7s
KBA Koelnbreinsper 8.30 329 *e*Pn **Pn 21 35 06.9 -0.3**
KBA Koelnbreinsper 8.30 329 ⇓*e*P **Pn 21 35 07.4 +0.2**
KBA *e* 21 36 40.6
KBA pmax pmax
comp=Z,9.0nm,0.8s
KECS Kecovo 8.35 4 *e*PN **Pn 21 35 10.9 +3.0**
VYHS Vyhne 8.36 356 *e*PN **Pn 21 35 09.6 +1.5**
BURAR Bucovina Array 8.47 26 ⇑*i*P **Pn 21 35 11.8 +2.2**
BURAR Bucovina Array 8.47 26 ⇑P **Pn 21 35 11.8 +2.2**
TKTP Tekketepe 8.56 101 *i* P **Pn 21 35 16.5 +5.7**
MOA Molln 8.62 335 ⇓*i*Pn **Pn 21 35 11.7 +0.1**
comp=Z,14nm,0.6s,SNR=12
MOA ⇑*e*Sn **Sn 21 36 49.4 +0.6**
comp=Z,7.3nm,0.6s
MOA Molln 8.62 335 *e*Pn **Pn 21 35 11.9 +0.3**
ESKT Eskisehir 8.64 91 *i* P **Pn 21 35 13.2 +1.3**
SEYT Eskypehyr 8.64 91 *i* P **Pn 21 35 13.2 +1.3**
WTTA Wattenberg 9.18 323 ⇑*i* **Sn 21 37 04.6 +2.1**
WTTA Wattenberg 9.18 323 ⇑*i*Pn **Pn 21 35 19.6 +0.4**
comp=Z,14nm,0.5s,SNR=14
WTTA ⇑*i*Sn **Sn 21 37 02.1 -0.4**
comp=Z,25nm,0.9s
WTTA Wattenberg 9.18 323 *e*Pn **Pn 21 35 19.6 +0.4**
WTTA *e*Sn **Sn 21 37 01.2 -1.3**
WTTA Wattenberg 9.18 323 ⇑*i*P **Pn 21 35 19.6 +0.4**
WTTA *i* 21 37 02.1
WTTA pmax pmax
comp=Z,14nm,0.5s
WTTA Wattenberg 9.18 323 ⇑*i*Pn **Pn 21 35 19.6 +0.4**
comp=Z,14nm,0.5s
WTTA *i* Sn **Sn 21 37 02.1 -0.4**
WTTA *i* 21 37 04.6
WATA Walderalm 9.26 324 ⇑*i*Pn **Pn 21 35 20.2 -0.1**
comp=Z,32nm,0.6s,SNR=11
WATA ⇑*e*Sn **Sn 21 37 03.5 -1.0**
comp=Z,48nm,1.3s
WATA Walderalm 9.26 324 ⇑*i*P **Pn 21 35 20.2 -0.1**
WATA *e* 21 37 03.5
WATA pmax pmax
comp=Z,32nm,0.6s
NIE Niedzica 9.28 3 *e*P **Pn 21 35 22.8 +2.2**
STHS Stebnicka Huta 9.34 6 *e* **Pn 21 35 28.5 +7.1**
SQTA Sankt Quirin 9.34 322 ⇓*e*Pn **Pn 21 35 22.0 +0.6**
comp=Z,12nm,0.4s,SNR=16
SQTA ⇓*i*Sn **Sn 21 37 07.5 +0.9**
comp=Z,14nm,0.6s
SQTA Sankt Quirin 9.34 322 ⇓*e*P **Pn 21 35 22.0 +0.5**
SQTA *i* 21 37 07.5
SQTA pmax pmax
comp=Z,12nm,0.4s
MOTA Moosalm 9.48 322 ⇓*i*Pn **Pn 21 35 23.1 -0.3**
comp=Z,36nm,0.7s,SNR=44
MOTA ⇑*i*Sn **Sn 21 37 08.8 -1.3**
comp=Z,9.5nm,0.7s
MOTA Moosalm 9.48 322 ⇓*i*P **Pn 21 35 23.1 -0.3**
MOTA *i* 21 37 08.8
MOTA pmax pmax
comp=Z,36nm,0.7s

SGKT Sivrigoynuk 9.48 83 *i* P **Pn 21 35 21.5 -1.9**
KIS Kishinev 9.54 41 *e*P **Pn 21 35 25.0 +0.8**
KIS MLR MLR
comp=Z,300nm,7.0s
KIS Kishinev 9.54 41 *e*P **Pn 21 35 25.0 +0.8**
comp=Z,300nm,7.0s
GEC2 GERESS Array S 9.67 336 *e*Pn **Pn 21 35 24.9 -1.1**
GERES GERESS Array B 9.67 336 Pn **Pn 21 35 25.1 -0.9**
comp=Z,0.8nm,0.3s,baz=161,slow=13,SNR=21
GERES Sn **Sn 21 37 13.2 -1.5**
comp=Z,0.5nm,0.3s,baz=148,slow=23,SNR=3.8
GERES LR LR 21 39 51.5
comp=Z,204nm,19.6s,baz=315,slow=42
GERES GERESS Array B 9.67 336 P **Pn 21 35 25.1 -0.9**
GERES 21 37 13.2
GERES pmax pmax
comp=Z,1.0nm,0.3s
GERES smax
comp=N,1.0nm,0.3s
GERES MLR MLR
comp=Z,204nm,19.6s
DAVOX Davos 9.71 316 Pn **Pn 21 35 25.9 -0.6**
comp=Z,1.6nm,0.3s,baz=132,slow=16,SNR=13
DAVOX Sn **Sn 21 37 11.5 -4.1**
comp=Z,0.5nm,0.3s,baz=327,slow=18,SNR=2.1
DAVOX LR LR 21 39 53.6
comp=Z,223nm,19.9s,baz=119,slow=42
DAVOX Davos 9.71 316 Pn **Pn 21 35 25.9 -0.6**
DAVOX Sn **Sn 21 37 11.5 -4.1**
DAVOX LR LR 21 39 53.6
SLUM 9.74 151 P **Pn 21 35 22.3 -4.6**
OKC Ostrava-Krasne 9.75 354 *e*P **Pn 21 35 29.4 +2.4**
OKC AMS AMS 21 40 30.0
comp=Z,400nm,15.1s
OKC Ostrava-Krasne 9.75 354 *e*P **Pn 21 35 29.4 +2.4**
comp=Z,400nm,15.1s
SBF Sospel 9.82 296 *e*P **Pn 21 35 28.3 +0.3**
KHC Kasperske Hory 9.96 336 *e*P **Pn 21 35 29.6 -0.4**
KHC *e*S **Sn 21 37 15.8 -6.1**
KHC AMS AMS 21 40 10.0
comp=Z,600nm,10.5s
DAVA Damuels 10.04 318 ⇑*i*Pn **Pn 21 35 32.1 +1.0**
comp=Z,3.3nm,0.3s
DAVA ⇓*e*Sn **Sn 21 37 21.2 -2.5**
comp=Z,10nm,0.6s
DAVA Damuels 10.04 318 *e*Pn **Pn 21 35 31.8 +0.8**
DAVA *e*Sn **Sn 21 37 22.1 -1.6**
OJC Ojcow 10.07 1 *e*P **Pn 21 35 31.9 +0.4**
WET Wettzell 10.20 334 *e*Pn **Pn 21 35 32.1 -1.1**
DPC Dobruska-Polom 10.47 348 *e*P **Pn 21 35 40.5 +3.6**
DPC AMS AMS 21 40 10.0
comp=Z,400nm,18.5s
DPC Dobruska-Polom 10.47 348 *e*P **Pn 21 35 40.5 +3.6**
comp=Z,400nm,18.5s
PRU Pruhonice 10.48 342 *e*P **Pn 21 35 35.9 -1.1**
PRU AMS AMS 21 40 30.0
comp=Z,500nm,14.3s
MBDF Montbardon 10.56 300 *e*P **Pn 21 35 39.7 +1.6**
comp=Z,18nm,0.8s
MBDF Montbardon 10.56 300 *e*P **Pn 21 35 39.7 +1.6**
MBDF pmax pmax
comp=Z,9.0nm,0.8s
MBDF Montbardon 10.56 300 *e*P **Pn 21 35 39.7 +1.6**
comp=Z,8.8nm,0.8s
BRTR Keskin Array B 10.75 88 Pn **Pn 21 35 44.1 +3.3**
comp=Z,0.1nm,0.3s,baz=266,slow=13,SNR=4.9
LPG La Plagne 10.87 304 *e*P **Pn 21 35 41.0 -1.5**
comp=Z,30nm,0.7s
LPG La Plagne 10.87 304 *e*P **Pn 21 35 41.0 -1.5**
LPG pmax pmax
comp=Z,15nm,0.7s
LPG La Plagne 10.87 304 *e*P **Pn 21 35 41.0 -1.5**
comp=Z,15nm,0.7s
LPL La Plagne 10.89 304 *e*P **Pn 21 35 41.1 -1.6**
comp=Z,16nm,0.6s
LPL La Plagne 10.89 304 *e*P **Pn 21 35 41.1 -1.6**
LPL pmax pmax
comp=Z,8.0nm,0.6s
LPL La Plagne 10.89 304 *e*P **Pn 21 35 41.1 -1.6**
comp=Z,8.2nm,0.6s
SPAK Spaichingen-Ko 11.13 319 *e*P **Pn 21 35 46.7 +0.7**
ORIF Oris-en-Rattie 11.22 300 *e*P **Pn 21 35 48.2 +1.0**
comp=Z,10nm,0.8s
ORIF *e*R
comp=Z,329nm,19.5s
ORIF Oris-en-Rattie 11.22 300 *e*P **Pn 21 35 48.2 +1.0**
ORIF pmax pmax
comp=Z,5.0nm,0.8s
ORIF Oris-en-Rattie 11.22 300 *e*P **Pn 21 35 48.2 +1.0**
comp=Z,5.2nm,0.8s
GRFO Grafenberg 11.25 331 *e*L 21 41 26.3
comp=Z,278nm,14.7s
NKC Novy Kostel 11.29 336 *e*P **Pn 21 35 46.8 -1.3**
NKC AMS AMS 21 40 50.0
comp=Z,500nm,12.9s
FELD Feldberg im Sc 11.39 317 *e*P **Pn 21 35 53.2 +3.7**
BRG Berggiesshubel 11.44 341 *e*P **Pn 21 35 51.2 +0.9**
comp=Z,1.9nm,0.9s
BRG Berggiesshubel 11.44 341 *e*P **Pn 21 35 51.0 +0.8**
BRG Berggiesshubel 11.44 341 *e*P **Pn 21 35 51.2 +1.0**
BRG pmax pmax
comp=Z,2.0nm,1.0s
BFO Black Forest 11.51 319 *e*Pn **Pn 21 35 50.3 -0.9**
SIM Simferopol' 11.70 61 P **Pn 21 35 59.5 +5.8**
SIM pmax pmax
comp=Z,8.0nm,1.2s
SIM MLR MLR
comp=Z,440nm,20.9s
CABF La Chapelle 11.79 308 *e*P **Pn 21 35 54.5 -0.4**
comp=Z,17nm,0.7s
CABF La Chapelle 11.79 308 *e*P **Pn 21 35 54.5 -0.4**
CABF pmax pmax
comp=Z,9.0nm,0.7s
CABF La Chapelle 11.79 308 *e*P **Pn 21 35 54.5 -0.4**
comp=Z,8.6nm,0.7s
MOF Molkenrain 11.84 315 *e*P **Pn 21 35 55.0 -0.7**
SWA2 11.88 155 P **Pn 21 35 52.4 -3.7**
SWA2 S **Sn 21 37 53.4 -15**
SWA2 11.88 155 P **Pn 21 35 52.4 -3.8**
SWA2 S **Sn 21 37 53.3 -15**
MOX Moxa 11.91 334 *e*PN **Pn 21 35 55.9 -0.7**
MOX
comp=Z,400nm,13.0s
MOX Moxa 11.91 334 *e*Pn **Pn 21 35 55.3 -1.3**
MEST Erdemli 11.92 103 *i* P **Pn 21 36 02.8 +6.1**
SWA1 11.94 154 ⇓P **Pn 21 35 53.0 -4.1**
SWA1 S **Sn 21 37 53.8 -17**
HINF Hinteralfeld 11.98 314 *e*P **Pn 21 35 54.0 -3.6**
comp=Z,11nm,0.6s
HINF Hinteralfeld 11.98 314 *e*P **Pn 21 35 54.0 -3.6**
HINF pmax pmax
comp=Z,6.0nm,0.6s
HINF Hinteralfeld 11.98 314 *e*P **Pn 21 35 54.0 -3.6**
comp=Z,5.6nm,0.6s
CLL Collm 12.08 340 *i* (PP) 21 36 11.3
CDF Champ du Feu 12.11 317 *e*P **Pn 21 35 58.5 -0.8**
comp=Z,11nm,0.8s
CDF Champ du Feu 12.11 317 *e*P **Pn 21 35 58.5 -0.8**
CDF pmax pmax
comp=Z,6.0nm,0.8s
CDF Champ du Feu 12.11 317 *e*P **Pn 21 35 58.5 -0.8**
comp=Z,5.7nm,0.8s
HAU Haudompre 12.36 314 *e*P **Pn 21 35 59.0 -3.8**
comp=Z,9.2nm,0.4s
HAU *e*R
comp=Z,170nm,17.3s
HAU Haudompre 12.36 314 *e*P **Pn 21 35 59.0 -3.8**
HAU pmax pmax
comp=Z,5.0nm,0.4s
HAU Haudompre 12.36 314 *e*P **Pn 21 35 59.0 -3.8**
comp=Z,4.6nm,0.4s
AKASG Malin Array Be 12.50 29 Pn **Pn 21 36 04.5 -0.2**
comp=Z,0.3nm,0.3s,baz=213,slow=12,SNR=5.6
THEF They Montfort 12.69 314 *e*P **Pn 21 36 08.2 +0.9**
RUP Ruppelstein 13.05 321 *e*P **Pn 21 36 13.3 +1.1**
SMF Signal de Mont 13.19 305 *e*P **Pn 21 36 13.9 -0.3**
comp=Z,12nm,0.8s
SMF Signal de Mont 13.19 305 *e*P **Pn 21 36 13.9 -0.3**
SMF pmax pmax
comp=Z,6.0nm,0.8s
SMF Signal de Mont 13.19 305 *e*P **Pn 21 36 13.9 -0.3**
comp=Z,6.1nm,0.8s
LOR Lormes 13.45 307 *e*P **Pn 21 36 16.2 -1.4**
comp=Z,4.8nm,0.5s
LOR *e*R
comp=Z,130nm,22.8s

LOR Lormes 13.45 307 *e*P **Pn 21 36 16.2 -1.4**
LOR pmax pmax
comp=Z,2.0nm,0.5s
LOR Lormes 13.45 307 *e*P **Pn 21 36 16.2 -1.4**
comp=Z,2.4nm,0.5s
AVF Avril sur Loir 13.56 305 *e*P **Pn 21 36 19.0 -0.2**
SSF Saint Saulge 13.57 306 *e*P **Pn 21 36 18.5 -0.9**
comp=Z,4.4nm,0.7s
SSF Saint Saulge 13.57 306 *e*P **Pn 21 36 18.5 -0.9**
SSF pmax pmax
comp=Z,2.0nm,0.7s
SSF Saint Saulge 13.57 306 *e*P **Pn 21 36 18.5 -0.9**
comp=Z,2.2nm,0.7s
BGF Bois d'Agland 13.79 303 *e*P **Pn 21 36 23.0 +0.7**
comp=Z,15nm,0.8s
BGF Bois d'Agland 13.79 303 *e*P **Pn 21 36 23.0 +0.7**
BGF pmax pmax
comp=Z,8.0nm,0.8s
BGF Bois d'Agland 13.79 303 *e*P **Pn 21 36 23.0 +0.7**
comp=Z,7.6nm,0.8s
EMIR Miracle 13.80 283 P **Pn 21 36 31.2 +8.8**
comp=Z,14nm,1.0s
CAF Calviac 13.81 296 *e*P **Pn 21 36 25.9 +3.3**
comp=Z,33nm,1.5s
CAF Calviac 13.81 296 *e*P **Pn 21 36 25.9 +3.3**
CAF pmax pmax
comp=Z,17nm,1.5s
CAF Calviac 13.81 296 *e*P **Pn 21 36 25.9 +3.3**
comp=Z,16nm,1.5s
TCF Toulx Ste Croi 14.11 302 *e*P **Pn 21 36 27.8 +1.1**
HYF Humbligny 14.20 306 *e*P **Pn 21 36 26.7 -1.2**
GZT Gaziantep 14.26 96 *i* P **Pn 21 36 32.0 +3.3**
MMAI Mount Meron Ar 14.51 114 Pn **Pn 21 36 28.2 -3.9**
comp=Z,0.9nm,0.3s,baz=307,slow=12,SNR=7.3
MALT Malatya 14.67 91 *e*P **Pn 21 36 40.6 +6.3**
MALT pmax pmax
comp=Z,4.0nm,0.7s
MALT Malatya 14.67 91 *e*P **Pn 21 36 40.6 +6.3**
comp=Z,3.5nm,0.7s
EGRA Graus 14.71 284 P **Pn 21 36 43.2 +8.4**
comp=Z,15nm,1.2s
EPF Esparros 14.73 288 *e*P **Pn 21 36 42.0 +6.8**
HFRF Wahat Farafira 14.82 148 P **Pn 21 36 30.8 -5.7**
EBIE Bielsa 14.86 286 P **Pn 21 36 43.6 +6.8**
comp=Z,4.8nm,1.1s
ESAC San Caprasio 15.29 282 P **Pn 21 36 50.3 +7.7**
comp=Z,9.2nm,0.9s
SOC Sochi 15.34 71 *e*P **Pn 21 36 44.5 +1.2**
SOC *e* 21 39 37.9
SOC pmax pmax
comp=Z,30nm,1.2s
SOC MLR MLR
comp=Z,78nm,14.0s
SOC Sochi 15.34 71 *e*P **Pn 21 36 44.5 +1.2**
comp=Z,30nm,1.2s
MNK Minsk 15.38 18 *e*Pn **Pn 21 36 44.0 +0.2**
ETSF Etsaut 15.38 287 *e*P **Pn 21 36 49.7 +5.8**
comp=Z,16nm,1.1s
ETSF Etsaut 15.38 287 *e*P **Pn 21 36 49.7 +5.8**
ETSF pmax pmax
comp=Z,8.0nm,1.1s
ETSF Etsaut 15.38 287 *e*P **Pn 21 36 49.7 +5.8**
comp=Z,8.1nm,1.1s
ECHE Chera 15.84 275 P **Pn 21 36 55.8 +5.9**
ECHE pmax pmax
comp=Z,9.0nm,1.1s
ECHE Chera 15.84 275 P **Pn 21 36 55.8 +6.0**
comp=Z,8.9nm,1.1s
LDF La Druitiere 16.43 307 *e*P **Pn 21 36 54.3 -3.1**
FLN La Foliniere 16.72 308 *e*P **Pn 21 36 57.7 -3.4**
FLN *e*R
comp=Z,97nm,21.8s
EVIA Vianos 17.19 272 P **Pn 21 37 14.5 +7.5**
EVIA pmax pmax
comp=Z,7.0nm,0.6s
EVIA Vianos 17.19 272 P **Pn 21 37 14.4 +7.5**
comp=Z,7.1nm,0.6s
EHUE Huescar 17.45 269 P **Pn 21 37 16.7 +6.5**
EHUE pmax pmax
comp=Z,4.0nm,1.1s
EHUE Huescar 17.45 269 P **Pn 21 37 16.7 +6.5**
comp=Z,4.1nm,1.1s
KIV Kislovodsk 17.51 70 *e*P **Pn 21 37 13.3 +2.3**
KIV *e*S **Sn 21 40 23.3 -2.7**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,50nm,13.0s
KIV Kislovodsk 17.51 70 *e*P **Pn 21 37 14.0 +3.0**
comp=Z,8.4nm,1.0s
KIV Kislovodsk 17.51 70 *e*P **Pn 21 37 13.3 +2.3**
comp=Z,10.0nm,1.1s
KIV *e*S **Sn 21 40 23.3 -2.7**
comp=Z,50nm,13.0s
EQES Quesada 17.82 270 P **Pn 21 37 18.9 +4.1**
comp=Z,18nm,1.2s
GOF Gofitskoye 17.88 66 *e*P **Pn 21 37 16.7 +1.2**
GOF pmax pmax
comp=Z,20nm,0.8s
GOF Gofitskoye 17.88 66 *e*P **Pn 21 37 16.7 +1.2**
comp=Z,20nm,0.8s
QUIF 18.11 303 *e*P **Pn 21 37 16.0 -2.4**
ESDC Sonseca Array 18.12 276 P **Pn 21 37 18.1 -0.3**
comp=Z,0.2nm,0.3s,baz=79,slow=12,SNR=11
ESDC Sonseca Array 18.12 276 P **Pn 21 37 21.7 +3.2**
comp=Z,0.8nm,0.5s
GUD Guadarrama 18.13 279 P **Pn 21 37 21.2 +2.5**
GUD pmax pmax
comp=Z,3.0nm,0.6s
GUD Guadarrama 18.13 279 P **Pn 21 37 21.2 +2.5**
comp=Z,3.2nm,0.6s
EBAN Banos Encina 18.28 271 P **Pn 21 37 24.1 +3.7**
EBAN pmax pmax
comp=Z,6.0nm,0.9s
EBAN Banos Encina 18.28 271 P **Pn 21 37 24.1 +3.6**
comp=Z,5.9nm,0.9s
ZEI Tsey 18.35 74 *e*P **Pn 21 37 23.1 +1.8**
OBN Obninsk 18.74 31 *i* P **Pn 21 37 25.2 -0.9**
OBN pmax pmax
comp=Z,31nm,1.7s
OBN MLR MLR
comp=Z,100nm,21.0s
OBN Obninsk 18.74 31 *e*P **Pn 21 37 22.0 -4.1**
comp=Z,14nm,0.8s
OBN Obninsk 18.74 31 *i* P **Pn 21 37 25.2 -0.9**
comp=Z,100nm,21.0s
GNI Garni 19.17 82 P **Pn 21 37 27.1 -4.1**
comp=Z,0.1nm,0.3s,baz=281,slow=23,SNR=2.3
GNI LR LR 21 45 15.5
comp=Z,71nm,18.6s,baz=358,slow=38
GNI Garni 19.17 82 P **Pn 21 37 27.1 -4.2**
GNI MLR MLR
comp=Z,71nm,18.6s
EMIJ Mijas 19.47 267 P **Pn 21 37 36.9 +2.0**
comp=Z,9.1nm,0.7s
MOS Moscow 19.61 31 *e*P **Pn 21 37 35.0 -1.6**
ECAL Calabor 19.96 284 P **Pn 21 37 41.6 +0.9**
comp=Z,9.0nm,0.8s
ESPR Espera 20.21 269 P **P 21 37 44.8 +3.0**
comp=Z,5.7nm,0.9s
EPON Pontenova 20.22 288 P **P 21 37 44.3 +2.5**
comp=Z,8.4nm,0.8s
HFS Hagfors 20.35 351 P **P 21 37 40.7 -2.6**
comp=Z,1.4nm,0.6s,baz=179,slow=36,SNR=3.6
HFS LR LR 21 46 30.0
comp=Z,138nm,18.6s,MS3.3,baz=170,slow=40
HFS Hagfors 20.35 351 P **P 21 37 40.7 -2.6**
HFS pmax pmax
comp=Z,1.0nm,0.6s
HFS MLR MLR
comp=Z,138nm,18.6s
EMIN Mina Concepcio 20.59 272 P **P 21 37 46.8 +1.0**
comp=Z,37nm,1.2s
EMIN Mina Concepcio 20.59 272 P **P 21 37 46.8 +1.0**
comp=Z,37nm,1.2s
EBAD Badajoz 20.61 275 P **P 21 37 49.8 +3.6**
comp=Z,2.0nm,0.6s
MDT Midelt 20.80 257 P **P 21 37 48.8 +0.6**
comp=Z,2.3nm,1.0s,baz=90,slow=15,SNR=4.8
EGRO El Granado 21.27 272 P **P 21 37 52.7 -0.5**
comp=Z,12nm,0.9s,mb4.2
EGRO El Granado 21.27 272 P **P 21 37 52.7 -0.5**
comp=Z,12nm,0.9s,mb4.2
NAO01 NORSAR Array S 21.42 348 *e*P **P 21 37 54.3 -0.6**
comp=Z,6.3nm,0.8s,mb4.0
EKA Eskdalemuir Ar 21.44 323 P **P 21 37 55.1 +0.1**
comp=Z,4.8nm,0.7s,mb4.0,baz=122,slow=11,SNR=35

EKA Eskdalemuir Ar 21.44 323 P P 21 37 55.2 +0.1
EKA pmax pmax
comp=Z,5.0nm,0.7s
ESK Eskdalemuir 21.45 323 *e*P **P 21 37 55.7 +0.5**
ESK pmax pmax
comp=Z,22nm,1.2s,mb4.4
ESK Eskdalemuir 21.45 323 *e*P **P 21 37 55.7 +0.5**
comp=Z,22nm,1.2s,mb4.4
NB2 NORSAR Subarra 21.56 349 P **P 21 37 55.1 -1.2**
comp=Z,10nm,0.9s,mb4.2,baz=157,slow=10
NOA NORSAR Array B 21.56 349 P **P 21 37 54.9 -1.4**
comp=Z,5.9nm,0.9s,mb4.0,baz=162,slow=10,SNR=12
NOA LR LR 21 47 44.7
comp=Z,118nm,18.8s,MS3.3,baz=170,slow=41
NOA NORSAR Array B 21.56 349 P **P 21 37 54.9 -1.4**
NOA pmax pmax
comp=Z,6.0nm,0.9s
NOA MLR MLR
comp=Z,118nm,18.8s
FINES FINESS Array B 21.68 8 P **P 21 37 55.8 -1.9**
comp=Z,5.9nm,1.0s,mb4.0,baz=183,slow=9.4,SNR=12
FINES FINESS Array B 21.68 8 P **P 21 37 55.8 -1.9**
FINES pmax pmax
comp=Z,6.0nm,1.0s
KAF Kangasniemi 22.36 8 *e*p **P 21 38 01.6 -3.4**
comp=Z,8.4nm,0.9s,mb4.2
KAF Kangasniemi 22.36 8 *e*P **P 21 38 01.6 -3.4**
KAF pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
JOF Joensuu 23.85 13 *e*p **P 21 38 18.6 -1.6**
KLMR Klimovskoe 24.09 24 *e*P **P 21 38 20.8 -1.6**
KLMR pmax pmax
comp=Z,20nm,1.1s,mb4.5
KLMR Klimovskoe 24.09 24 *e*P **P 21 38 20.8 -1.6**
comp=Z,20nm,1.1s,mb4.5
AKTK Aktyubinsk 28.59 56 P **P 21 39 00.6 -2.5**
AKTK LR LR 21 51 30.1
AKTK Aktyubinsk 28.59 56 P **P 21 39 00.6 -2.4**
comp=Z,55nm,18.7s
AKTO Aktyubinsk 28.59 56 P **P 21 39 00.6 -2.5**
comp=Z,1.3nm,0.5s,mb4.0,baz=268,slow=8.6,SNR=5.7
AKTO LR LR 21 51 30.1
comp=Z,55nm,18.7s,MS3.2,baz=0.0,slow=39
AKTO Aktyubinsk 28.59 56 P **P 21 39 00.6 -2.4**
AKTO pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
AKTO MLR MLR
comp=Z,55nm,18.7s,MS3.2
ARCES ARCESS Array B 29.61 4 P **P 21 39 09.8 -2.3**
comp=Z,4.5nm,0.8s,mb4.2,baz=187,slow=8.6,SNR=9.1
ARCES ARCESS Array B 29.61 4 P **P 21 39 09.8 -2.3**
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARU Arti 30.08 44 *e*P **P 21 39 14.7 -1.5**
ARU *e* 21 40 12.5
ARU *e*PPP 21 40 23.2
ARU *e*S **S 21 44 13.3 -1.3**
ARU *e*SS SS 21 45 51.2 -31
ARU *e*SSS 21 46 10.0
ARU MLR MLR
comp=Z,50nm,16.0s,MS3.2
ARU MLR MLR
comp=N,10.0nm,12.5s,MS3.3
ARU MLR MLR
comp=E,50nm,16.0s,MS3.3
TORD Torodi Ar. Bea 31.19 215 P **P 21 39 26.0 0.0**
comp=E,1.0nm,0.6s,mb3.8,baz=19,slow=8.1,SNR=16
SVE Sverdlovsk 31.29 44 *e*P **P 21 39 27.0 +0.1**
SVE MLR MLR
comp=N,100nm,8.0s
SVE MLR MLR
comp=E,200nm,8.0s
SVE MLR MLR
comp=Z,200nm,8.0s
ZRNK Zerenda 35.57 52 *e*P **P 21 40 05.4 +1.2**
ZRNK pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
ZRNK Zerenda 35.57 52 *e*P **P 21 40 05.3 +1.1**
comp=Z,1.1nm,0.5s,mb4.0
BVAR Borovoye Array 36.41 52 P **P 21 40 09.6 -1.8**
comp=Z,0.9nm,0.6s,mb3.9,baz=234,slow=38,SNR=8.3
BVAR Borovoye Array 36.41 52 P **P 21 40 09.6 -1.8**
BVAR pmax pmax
comp=Z,1.0nm,0.6s
AAK Ala-Archa 40.61 68‖ *e*P **P 21 40 45.2 -1.6**
AAK pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
AAK Ala-Archa 40.61 68 *e*P **P 21 40 45.2 -1.6**
comp=Z,2.0nm,0.8s,mb3.8
NVS Novosibirsk 43.85 48 *e*P **P 21 41 02.8 -10**
NVS *e* 21 42 52.4
NVS pmax pmax
comp=Z,11nm,1.6s,mb4.3
NVS pmax pmax
comp=N,10.0nm,2.0s
NVS pmax pmax
comp=E,7.0nm,1.5s
KMBO Kilima Mbogo 44.12 154 P **P 21 41 14.4 -0.9**
comp=E,0.9nm,0.3s,mb4.0,baz=32,slow=23,SNR=4.1
KMBO Kilima Mbogo 44.12 154 P **P 21 41 14.4 -0.9**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
MKAR Makanchi Array 44.87 60 P **P 21 41 19.6 -1.8**
comp=Z,4.5nm,0.7s,mb4.4,baz=280,slow=6.6,SNR=63
MKAR Makanchi Array 44.87 60 P **P 21 41 19.6 -1.7**
MKAR pmax pmax
comp=Z,5.0nm,0.7s
ZAL Zalesovo 44.89 49 P **P 21 41 19.4 -2.0**
comp=Z,2.0nm,0.5s,mb4.2,baz=200,slow=9.5,SNR=10
ZAL LR LR 22 02 31.4
comp=Z,50nm,18.0s,MS3.5,baz=74,slow=40
ZAL Zalesovo 44.89 49 P **P 21 41 19.5 -2.0**
ZAL pmax pmax
comp=Z,2.0nm,0.5s
ZAL MLR MLR
comp=Z,50nm,18.0s
SCHQ Schefferville 56.56 316 P **P 21 42 49.2 -0.3**
comp=Z,1.8nm,0.8s,mb4.2,baz=62,slow=8.0,SNR=3.3
SONM Songino Array 59.74 51 LR LR 22 13 25.3
comp=Z,39nm,18.2s,MS3.6,baz=246,slow=41
CD2 Chengdu 66.68 69 *e*P **P 21 43 54.7 -3.1**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
BILL Bilibino 69.25 13 *i* P **P 21 44 13.6 -0.3**
BILL pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BILL Bilibino 69.25 13 *i* P **P 21 44 13.6 -0.3**
comp=Z,2.0nm,0.6s,mb4.2
YKA Yellowknife Ar 71.31 339 P **P 21 44 26.4 -0.2**
comp=Z,0.5nm,0.6s,mb3.6,baz=37,slow=5.9,SNR=12
YKA Yellowknife Ar 71.31 339 P **P 21 44 26.4 -0.2**
YKA pmax pmax
comp=Z,1.0nm,0.6s
ULM Lac du Bonnet 73.72 323 LR LR 22 17 51.1
comp=Z,42nm,18.2s,MS3.8,baz=8.2,slow=36
NJ2 Nanjing 76.41 60 *e*P **P 21 44 54.2 -2.2**
NJ2 AP pP 21 45 07.2 +7.5
NJ2 PP PP 21 47 46.6 -1.4
NJ2 S S 21 54 36.0 -5.7
NJ2 XS sS 21 54 57.0 +10
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
NJ2 AMB AMB
comp=Z,60nm,7.5s
ASAR Alice Springs 123.03 94 PKP PKPdf 21 52 02.4 -1.1
comp=Z,1.2nm,0.8s,baz=334,slow=2.0,SNR=9.1
ASAR Alice Springs 123.03 94 PKIKP PKPdf 21 52 02.4 -1.0
ASAR pmax pmax
comp=Z,1.0nm,0.8s

*ISCJB **10** 21:35:29.8±0.9, 2131S×007×686W±02, h162km±13km, mb3.3/1, Error ellipse: s-maj=24.5km s-min=9.2km az=37.4*
*IDC **10** 21:35:32.0±0.9, 2109S×6850W, h108km±15km, mb3.4/1, mb1 3.5/3, mb1mx3.2/13, mbtmp3.9/3, Error ellipse: s-maj=50.9km s-min=10.1km az=99.0*
*NEIC **10** 21:35:32.0, 2128S×69.12W, h135km, MG3.8(GUC), After GUC.*
*GUC **10** 21:35:32.0±0.8, 2128S×69.12W, h135km, MD3.9, ML3.8*
ISC 10 21:35:30.2±0.9,**2127S**×006×**686W**±01,**h158**km±15km,**n12**, σ1§**22**/18,**mb3.3**/1,**1C**,**Chile-Bolivia border region**

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

LVC Limon Verde 1.37 193‖ *i*P **Pn 21 35 59.6 +0.6**
LVC *i* S **Sn 21 36 21.3 +0.1**
LVC AML AML 21 36 22.6
comp=E,1μm,0.2s
LVC Limon Verde 1.37 193 P **Pn 21 36 00.4 +1.4**
comp=E,29nm,0.3s,baz=327,slow=8.4,SNR=27
LVC S **Sn 21 36 20.7 -0.4**
comp=E,140nm,0.3s,baz=99,slow=23,SNR=111
CEN1 Los Morros 2.59 215 *e*P **Pn 21 36 14.5 +1.7**
CEN1 *i* S **Sn 21 36 46.3 +0.6**
CEN1 AML AML 21 36 52.2
comp=N,226nm,0.5s
ANCH Antofagasta 2.94 215 *e*P **Pn 21 36 16.1 -1.0**
ANCH *i* S **Sn 21 36 48.8 -4.6**
CPN1 Cerro Paranal 3.74 207 *e*P **Pn 21 36 27.5 +0.3**
CPN1 *i* S **Sn 21 37 10.2 -1.4**
CPN1 AML AML 21 37 12.9
comp=E,202nm,0.6s
LPAZ La Paz 4.98 5 P **Pn 21 36 44.0 +0.6**
comp=E,1.4nm,0.3s,baz=220,slow=8.5,SNR=28
LPAZ S **Sn 21 37 37.2 -3.3**
comp=E,0.2nm,0.3s,baz=243,slow=24,SNR=2.4
SIV San Ignacio 8.84 55 P **Pn 21 37 34.9 +0.4**
comp=E,2.5nm,0.3s,baz=250,slow=10.0,SNR=42
CFAA Coronel Fontan 10.29 178 P **Pn 21 37 54.9 +1.1**
comp=E,0.1nm,0.3s,baz=340,slow=18,SNR=9.7
CFAA S **Sn 21 39 46.2 -1.7**
comp=E,0.1nm,0.3s,baz=268,slow=22,SNR=6.8
CFAA Coronel Fontan 10.29 178 P **Pn 21 37 54.9 +1.1**
CFAA S **Sn 21 39 46.2 -1.7**
TORD Torodi Ar. Bea 76.98 70 P **P 21 47 12.6 +7.3**
comp=E,0.5nm,0.7s,mb3.3,baz=253,slow=4.1,SNR=11
YKA Yellowknife Ar 91.08 340 pP pP 21 48 52.2 -4.3
comp=E,0.3nm,0.7s,baz=135,slow=4.5,SNR=4.8
MKAR Makanchi Array 145.26 36 PKPbc PKPbc 21 54 55.7 +6.7
comp=E,0.2nm,0.7s,baz=314,slow=5.0,SNR=3.8

*MOS **10** 22:10:47.8±0.1, 4109N×4385E, h16km, mb3.9/1, Error ellipse: s-maj=55.4km s-min=10.2km az=79.9*
*ISCJB **10** 22:10:55.9±0.5, 4166N±003×4409E±003, h6km±5km, Error ellipse: s-maj=5.3km s-min=3.6km az=150.1*
*TIF **10** 22:10:55.2, 4164N×4410E, h16km±1km*
ISC 10 22:10:56.4±0.5,**4166N**±003×**4410E**±003,**h12**km±5km,**n18**, σ0§**74**/29,**Western Caucasus**

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

BKR Bakuriani 0.45 280 P **Pg 22 11 04.8 -0.4**
BKR S **Sg 22 11 13.8 +2.5**
TBLG Delisi 0.49 81 P **Pg 22 11 05.5 -0.4**
TBLG S **Sg 22 11 12.7 +0.3**
AKH Akhalkalaki 0.52 242 P **Pg 22 11 05.9 -0.6**
AKH S **Sg 22 11 13.0 -0.3**
MTA Mtatsminda 0.52 86 P **Pg 22 11 06.1 -0.5**
MTA S **Sg 22 11 14.0 +0.5**
SAMG Sameba 0.54 85 P **Pg 22 11 05.5 -1.5**
SAMG S **Sg 22 11 13.9 -0.2**
DUS Dusheti 0.63 46 P **Pg 22 11 08.0 -0.6**
DUS S **Sg 22 11 18.4 +1.6**
DGRG David-gareji 0.98 102 P **Pg 22 11 15.3 0.0**
DGRG S **Sg 22 11 28.8 +0.8**
ONI Oni 1.04 333 P **Pb 22 11 15.5 -0.9**
ONI S **Sg 22 11 30.3 +0.3**
AMRG 1.12 321 P **Pb 22 11 16.4 -1.2**
AMRG S **Sb 22 11 31.7 -0.4**
ZEI Tsey 1.12 353 *e*PN **Pn 22 11 17.5 -0.4**
LACR Lac 1.18 7 *i* PN **Pn 22 11 18.3 -0.4**
DIGO Kars 1.35 204 *i* P **Pn 22 11 20.9 -0.2**
DIGO *i* S **Sb 22 11 39.1 +0.1**
KORR Kora 1.43 359 *i* PN **Pn 22 11 22.2 +0.1**
VLKR Vladikavkaz 1.46 17 *e*PN **Pn 22 11 22.8 +0.3**
SNJR Sundja 1.51 20 *e*PN **Pn 22 11 23.6 +0.4**
ARTV Artvin 1.70 255 *i* P **Pn 22 11 26.9 +1.1**
ARTV *i* S **Sn 22 11 48.2 +0.7**
KMSR Komsomolskaya 1.72 5 *e*PN **Pn 22 11 26.4 +0.3**
PRTR Priterechnaya 2.10 4 *e*PN **Pn 22 11 31.5 +0.2**

*ATH **10** 22:16:53.8, 3438N×2640E, h26km±1km, MD3.6/5*
*NEIC **10** 22:16:54.2, 3436N×2637E, h32km, MD3.6(ATH), After ATH.*
*HLW **10** 22:16:54.3, 3464N×2649E, h17km, Mb3.5*
*ISCJB **10** 22:16:55.7±0.5, 3447N±004×2640E±007, h64km±8km, mb3.5/5, Error ellipse: s-maj=10.3km s-min=5.8km az=171.0*
*CSEM **10** 22:16:55.2±0.2, 3437N×2636E, h25km, MD3.6, Error ellipse: s-maj=5.9km s-min=4.9km az=3.0*
*IDC **10** 22:16:58.2±2.3, 3468N×2637E, h58km±23km, mb3.4/5, mb1 3.4/6, mb1mx3.2/20, mbtmp3.6/6, ML3.3/1, Error ellipse: s-maj=25.6km s-min=22.1km az=163.0*
ISC 10 22:16:57.1±0.5,**3451N**±003×**2637E**±007,**h57**km±8km,**n19**, σ1§**10**/25,**mb3.5**/5,**5C-2D**,**Crete**

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

XRY Khrisi 0.66 303 *e*PN **Pn 22 17 09.0 -1.6**
XRY *e*SN **Sn 22 17 20.0 -0.5**
NPS Neapolis 0.97 321‖ *i*PN **Pn 22 17 14.7 +0.1**
NPS *e*SN **Sn 22 17 29.2 +1.7**
KARP Karpathos 1.22 32‖ *i*PN **Pn 22 17 18.7 +0.8**
IDI Anoyia 1.44 303 P **Pn 22 17 21.5 +0.6**
4.3nm,0.3s,baz=126,slow=14,SNR=71
VAM Vamos 1.99 297‖ *i*PN **Pn 22 17 29.0 +0.7**
SANT Santorini 2.00 338 *e*Pn **Pn 22 17 27.7 -0.7**
SANT *e*Sn **Sn 22 17 49.0 -3.3**
SANT Santorini 2.00 338 *e*Pn **Pn 22 17 27.7 -0.7**
SANT *e*Sn **Sn 22 17 49.0 -3.3**
ARG Arkhangelos 2.23 40 *e*PN **Pn 22 17 32.7 +1.2**
SLUM 3.16 198 ‖P **Pn 22 17 44.6 +0.3**
SLUM S **Sn 22 18 21.0 +0.2**
SWA1 5.26 186 ‖P **Pn 22 18 13.3 +0.3**
SWA1 S **Sn 22 19 11.2 -1.1**
SWA2 5.31 189‖‖P **Pn 22 18 14.0 +0.3**
GLL Jalalah 6.69 136‖‖P **Pn 22 18 31.6 -1.0**
HFRF Wahat Farafira 7.53 167 P **Pn 22 18 44.4 +0.3**
MMAI Mount Meron Ar 7.67 99 P **Pn 22 18 45.7 -0.4**
0.5nm,0.3s,baz=285,slow=11,SNR=6.7
HFS Hagfors 26.94 346 P **P 22 22 31.6 -1.4**
0.7nm,0.5s,mb3.5,baz=155,slow=11,SNR=6.8
FINES FINESS Array B 26.95 360 P **P 22 22 32.1 -1.0**
0.6nm,0.6s,mb3.3,baz=153,slow=10,SNR=5.1
TORD Torodi Ar. Bea 30.86 232 P **P 22 23 10.1 +2.3**
0.4nm,0.6s,mb3.5,baz=32,slow=9.2,SNR=6.1
ARCES ARCESS Array B 35.08 359 P **P 22 23 43.2 -1.4**
2.9nm,0.9s,mb4.2,baz=165,slow=7.5,SNR=5.0
MKAR Makanchi Array 43.31 56 P **P 22 24 55.2 +1.9**
0.2nm,0.5s,mb3.1,baz=275,slow=7.2,SNR=5.2

*IDC **10** 23:01:46.6±0.7, 5262N×16933W, h0km, mb4.3/19, mb1 4.4/19, mb1mx4.4/24, mbtmp4.3/19, MS3.6/9, Ms1 3.6/9, ms1mx3.1/49, Error ellipse: s-maj=23.1km s-min=14.7km az=175.0*
*SZGRF **10** 23:01:49.7, 5183N×16964W, h33km, mb4.5, Fox Islands, Aleutian Islands, United States*
*MOS **10** 23:01:50.3±1.0, 5260N×16927W, h33km, mb4.8/29, Error ellipse: s-maj=14.9km s-min=6.4km az=87.1*
*BJI **10** 23:01:50.7, 5240N×16920W, h26km, mB4.5, mb4.4, Ms4.5, Msz4.2*
*NEIC **10** 23:01:50.8, 5240N×16916W, h27km, mb4.6/29, ML4.6(AEIC), After AEIC.*
*ISCJB **10** 23:01:52.1±0.6, 5259N±006×16928W±005, h48km±4km, mb4.5/58, MS3.7/10, Error ellipse: s-maj=11.0km s-min=4.9km az=149.0*
ISC 10 23:01:53.4±0.7,**5265N**±008×**16925W**±006,**h47**km±4km, **h73**km±4.6km:**pP-P**,**n170**, σ0§**85**/173,**mb4.5**/58,**MS3.7**/10, **3D**,**Fox Islands**

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

NIKO Nikolski 0.40 36 P **Pn 23 02 02.1 -1.2**
NIKO S **Sn 23 02 11.0 +0.6**
OKCE Okmok Cone E 1.02 40 P **Pn 23 02 11.3 0.0**
OKCD Okmok Cone D 1.04 41 P **Pn 23 02 11.7 +0.1**
OKCD S **Sn 23 02 28.2 +3.2**
UNV Unalaska Valle 2.04 53 P **Pn 23 02 24.8 -0.5**
UNV S **Sn 23 02 49.6 +0.1**
AKLV Akutan Long Va 2.49 51 P **Pn 23 02 32.1 +0.7**
AKUT Akutan 2.56 53 *e*Pn **Pn 23 02 32.6 +0.2**
AKUT *e*Sn **Sn 23 03 07.5 +5.2**
ATKA Atka Island 3.06 264 P **Pn 23 02 38.7 -0.6**
ATKA S **Sn 23 03 14.3 -0.3**
SDPT Sand Point 5.84 59 *e*Pn **Pn 23 03 19.4 +2.0**
SDPT *e*Sn **Sn 23 04 33.6 +11**
AMKA Amchitka 7.18 264 P **Pn 23 03 35.8 0.0**
FX1 Attu Island--F 10.66 278 Pn **Pn 23 04 25.3 +1.9**
1.5nm,0.3s,baz=47,slow=14,SNR=7.0
KDAK Kodiak Island 10.81 55 Pn **Pn 23 04 23.6 -1.9**
3.0nm,0.3s,baz=258,slow=5.1,SNR=17
KDAK Sn **Sn 23 06 18.7 -6.3**
0.2nm,0.3s,baz=121,slow=11,SNR=2.9
SVW2 Sparrevohn 11.27 36 *e*Pn **Pn 23 04 36.4 +4.6**
TTA Tatalina 12.46 29 *e*P **Pn 23 04 52.8 +4.8**
TTA pmax pmax
comp=Z,9.0nm,1.0s
TTA Tatalina 12.46 29 *e*Pn **Pn 23 04 52.8 +4.7**
comp=Z,9.0nm,1.0s
SLKM Skilak Lake 13.07 46 *e*P **Pn 23 04 56.9 +0.5**
COLA College 16.41 33 *e*P **Pn 23 05 39.4 -1.0**
COLA pmax pmax
comp=Z,41nm,1.2s
COLA College 16.41 33 *e*Pn **Pn 23 05 39.4 -1.0**
comp=Z,41nm,1.2s
ILAR Eielson Array 16.68 35 Pn **Pn 23 05 42.5 -1.2**
comp=Z,0.2nm,0.3s,baz=228,slow=12,SNR=12
ILAR PcP PcP 23 10 29.7 -1.3
comp=Z,0.1nm,0.3s,baz=200,slow=1.4,SNR=4.9
ILAR LR LR 23 13 02.4
comp=Z,59nm,18.1s,baz=353,slow=40
DAWY Dawson 19.17 42 *e*P **Pn 23 06 13.4 -0.8**
BILL Bilibino 19.39 332 *e*P **Pn 23 06 17.3 +0.5**
BILL *e*S **S 23 09 47.0 -5.0**
BILL pmax pmax
comp=Z,8.0nm,1.0s
BILL Bilibino 19.39 332 *e*P **Pn 23 06 17.2 +0.5**
comp=Z,8.5nm,1.0s
BILL *e*S **S 23 09 47.0 -5.0**
SKAG Skagway 19.95 57 *e*P **Pn 23 06 22.9 -0.6**
SKAG *e* 23 06 37.3
INK Inuvik 23.07 34 P **P 23 06 52.6 -2.3**
comp=Z,2.7nm,0.5s,mb3.9,baz=232,slow=11,SNR=26
INK PcP PcP 23 10 42.4 -0.2
comp=Z,1.9nm,0.6s,baz=247,slow=2.1,SNR=7.2
INK LR LR 23 16 27.3
comp=Z,73nm,19.8s,MS3.1,baz=294,slow=38
INK Inuvik 23.07 34 *e*P **P 23 06 52.4 -2.5**
INK *e* 23 10 42.1
INK pmax pmax
comp=Z,3.0nm,0.6s
INK Inuvik 23.07 34 *e*P **P 23 06 52.4 -2.5**
comp=Z,2.7nm,0.6s,mb3.9
INK *e*PcP PcP 23 10 42.1 -0.5
YKA Yellowknife Ar 30.00 49 P **P 23 07 57.9 +0.4**
comp=Z,2.1nm,0.5s,mb4.1,baz=272,slow=7.8,SNR=41
YKA PcP PcP 23 10 58.6 -0.2
comp=Z,0.4nm,0.5s,baz=283,slow=2.1,SNR=8.3
YKA LR LR 23 21 27.0
comp=Z,70nm,18.4s,MS3.3,baz=275,slow=39
YKA Yellowknife Ar 30.00 49 P **P 23 07 57.9 +0.4**
YKA 23 10 58.6
YKA Yellowknife Ar 30.00 49 P **P 23 07 57.9 +0.4**
YKA PcP PcP 23 10 58.6 -0.2
YKA LR LR 23 21 27.0
ASAJ Asahikawa 32.56 274 LR LR 23 19 40.2
comp=Z,49nm,21.6s,MS3.2,baz=125,slow=33
NEW Newport 32.87 76 P **P 23 08 21.2 -1.6**
comp=Z,2.8nm,0.8s,mb4.2,baz=283,slow=10,SNR=4.1
NEW Newport 32.87 76 P **P 23 08 21.2 -1.6**
EDM Edmonton 32.97 66 *e*P **P 23 08 24.0 +0.4**
CHMT Chamberlain Mo 35.82 76 *e*P **P 23 08 48.1 -0.2**
RES Resolute Bay 36.09 26 *e*P **P 23 08 50.4 -0.2**
RES *e*pP pP 23 09 09.9 +6.8
EGMT Eagleton 37.31 73 *e*P **P 23 09 01.2 +0.3**
comp=Z,7.0nm,0.6s,mb4.7
NVAR Mina Array Bea 37.60 91 P **P 23 09 04.6 +1.2**
comp=Z,0.3nm,0.4s,mb3.4,baz=292,slow=9.6,SNR=4.1
ELK Elko 38.04 86 *e*P **P 23 09 05.8 -1.3**
ELK *e**PP pP 23 09 22.5 +2.8
ELK pmax pmax
comp=Z,2.0nm,0.8s
ELK Elko 38.04 86 *e*P **P 23 09 05.8 -1.3**
comp=Z,1.5nm,0.8s,mb3.8
ELK *e*pP pP 23 09 22.5 +2.8
MJAR Matsushiro Arr 39.78 268 P **P 23 09 21.3 -0.4**
comp=Z,25nm,0.3s,mb5.4,baz=40,slow=8.2,SNR=2.2
MDJ Mudanjiang 40.10 284 P **P 23 09 26.0 +1.6**
MDJ PP PP 23 10 58.3 +1.1
MDJ PCP PcP 23 11 29.9 +1.7
MDJ SCP ScP 23 15 19.0 +5.6
MDJ PCS PcS 23 15 20.5 +1.9
MDJ S **S 23 15 33.6 +6.3**
MDJ AMB AMB
comp=Z,3.0nm,0.9s,mb4.0
MDJ AMB AMB
comp=Z,37nm,3.4s
MDJ LR LR
comp=Z,36nm,16.3s,MS3.3
PDAR Pinedale Array 40.28 80 P **P 23 09 25.9 +0.1**
comp=Z,2.5nm,0.6s,mb4.1,baz=316,slow=6.3,SNR=17
DAU Daniels Canyon 40.66 84 *e*P **P 23 09 30.4 +1.4**
FCC Fort Churchill 40.70 51 *e*P **P 23 09 29.0 -0.4**
FCC pmax pmax
comp=Z,21nm,1.2s,mb4.6
FCC Fort Churchill 40.70 51 *e*P **P 23 09 29.0 -0.3**
comp=Z,21nm,1.2s,mb4.7
BOD Bodaibo 41.88 309 *e*P **P 23 09 38.2 -0.8**
BOD pmax pmax
comp=Z,5.0nm,0.9s,mb4.1
CN2 Changchun 43.01 285 *e*P **P 23 09 49.0 +0.8**
SONM Songino Array 51.22 301 P **P 23 10 51.9 -0.2**
comp=Z,1.1nm,0.6s,mb4.0,baz=56,slow=5.4,SNR=11
SONM PcP PcP 23 12 07.0 +0.1
comp=Z,1.1nm,0.7s,baz=70,slow=2.5,SNR=4.8
WMOK Wichita Mounta 51.86 81 *e*P **P 23 10 56.8 -0.1**
WMOK pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
WMOK Wichita Mounta 51.86 81 *e*P **P 23 10 56.8 -0.2**
comp=Z,2.5nm,0.8s,mb4.2
JCT Junction City 54.21 85 *e*P **P 23 11 07.6 -6.6**
NJ2 Nanjing 54.58 278 *e*P **P 23 11 21.1 +4.2**
NJ2 S **S 23 18 59.0 +6.0**
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
NJ2 LR LR
comp=N,680nm,28.1s,MS4.8
NJ2 LR LR
comp=E,920nm,30.5s,MS4.8
NJ2 LR LR
comp=Z,490nm,23.6s
SCHQ Schefferville 55.18 43 P **P 23 11 21.0 -0.3**
comp=Z,4.2nm,0.7s,mb4.5,baz=342,slow=7.4,SNR=8.2
SCHQ PcP PcP 23 12 22.1 +0.3
comp=Z,1.5nm,0.7s,baz=71,slow=16,SNR=2.9
ZAL Zalesovo 57.28 317 PcP PcP 23 12 30.0 0.0
comp=Z,1.0nm,0.6s,baz=123,slow=3.2,SNR=4.7
ARCES ARCESS Array B 57.65 354 P **P 23 11 37.6 -1.2**
comp=Z,2.6nm,0.8s,mb4.3,baz=0.0,slow=7.4,SNR=4.1
ARCES PcP PcP 23 12 30.9 -0.6
comp=Z,3.4nm,0.6s,baz=15,slow=4.3,SNR=14
KURK Kurchatov 62.21 318 *e*P **P 23 12 08.1 -2.0**
KURK pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
KURK Kurchatov 62.21 318 *e*P **P 23 12 08.1 -2.1**
comp=Z,3.7nm,0.6s,mb4.7
BVAR Borovoye Array 63.52 324 P **P 23 12 18.6 -0.2**
comp=Z,4.1nm,0.5s,mb4.7,baz=53,slow=7.1,SNR=50
BVAR PcP PcP 23 12 55.0 0.0
comp=Z,3.0nm,0.5s,baz=45,slow=2.2,SNR=10
JOF Joensuu 63.65 350 *e*p **P 23 12 17.7 -1.9**
MKAR Makanchi Array 63.67 313 P **P 23 12 19.1 -0.7**
comp=Z,1.0nm,0.7s,mb4.0,baz=48,slow=6.5,SNR=12
ZRNK Zerenda 64.07 325 *e*P **P 23 12 22.0 -0.4**
ZRNK *e* pP 23 12 39.8 +4.0
ZRNK pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
ZRNK Zerenda 64.07 325 *e*P **P 23 12 22.0 -0.4**
comp=Z,4.1nm,0.6s,mb4.6
ZRNK *e* pP 23 12 39.8 +4.0
ARU Arti 64.40 333 *e*P **P 23 12 23.9 -0.7**
ARU pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
ARU Arti 64.40 333‖ *i*P **P 23 12 24.3 -0.3**
ARU *e* 23 14 47.9

ARU					*e*S	**S**	**23 21 03.1**	**+3.4**		
ARU					*e*SS	SS	23 25 13.8	+3.6		
ARU					pmax	pmax				
	comp=Z,4.0nm,0.6s,mb4.6									
ARU	**Arti**	**64.40**	**333**	*e*P	**P**		**23 12 23.9**	**-0.8**		
	comp=Z,5.6nm,0.6s,mb4.8									
ARU					*e*pP	pP	23 12 49.4	+11		
KAF	**Kangasniemi**	**64.92**	**352**	*e*p	**P**		**23 12 25.5**	**-2.5**		
	comp=Z,3.8nm,0.5s,mb4.7,baz=7.0,slow=6.1									
KAF	**Kangasniemi**	**64.92**	**352**	*e*P	**P**		**23 12 25.5**	**-2.5**		
KAF					pmax	pmax				
	comp=Z,4.0nm,0.5s,mb4.7									
FINES	**FINESS Array B**	**65.60**	**352**	P	**P**		**23 12 31.8**	**-0.7**		
	comp=Z,1.6nm,0.5s,mb4.3,baz=18,slow=8.0,SNR=22									
FINES					PcP	PcP	23 13 03.2	-0.4		
	comp=Z,0.5nm,0.4s,baz=28,slow=5.8,SNR=4.6									
FINES					LR	LR	23 39 40.3			
	comp=Z,28nm,20.9s,MS3.4,baz=40,slow=35									
FINES	**FINESS Array B**	**65.60**	**352**	P	**P**		**23 12 31.8**	**-0.6**		
FINES							23 13 03.2			
FINES	**FINESS Array B**	**65.60**	**352**	P	**P**		**23 12 31.8**	**-0.7**		
FINES					PcP	PcP	23 13 03.2	-0.4		
FINES					LR	LR	23 39 40.3			
GYA	**Guiyang**	**65.94**	**282**	P	**P**		**23 12 34.0**	**-0.6**		
GYA					AMB	AMB				
	comp=Z,10.0nm,0.6s,mb5.0									
NB2	**NORSAR Subarra**	**66.66**	**360**	P	**P**		**23 12 38.6**	**-0.6**		
	comp=Z,1.4nm,0.6s,mb4.2,baz=360,slow=6.5									
NOA	**NORSAR Array B**	**66.66**	**360**	P	**P**		**23 12 39.0**	**-0.2**		
	comp=Z,1.6nm,0.6s,mb4.2,baz=0.3,slow=6.3,SNR=9.1									
HFS	**Hagfors**	**67.55**	**359**	LR	LR		23 41 17.4			
	comp=Z,41nm,18.4s,MS3.7,baz=354,slow=35									
AKTK	**Aktyubinsk**	**69.81**	**330**	P	**P**		**23 12 58.6**	**-0.2**		
AKTO	**Aktyubinsk**	**69.81**	**330**	P	**P**		**23 12 58.6**	**-0.2**		
	comp=Z,3.8nm,0.5s,mb4.5,baz=56,slow=6.6,SNR=22									
AAK	**Ala-Archa**	**70.36**	**315**	*e*P	**P**		**23 13 01.4**	**-0.8**		
AAK					pmax	pmax				
	comp=Z,2.0nm,0.7s,mb4.2									
AAK	**Ala-Archa**	**70.36**	**315**	*e*P	**P**		**23 13 01.4**	**-0.8**		
	comp=Z,1.9nm,0.7s,mb4.1									
OBN	**Obninsk**	**70.50**	**345**	*i* P	**P**		**23 13 02.2**	**-0.9**		
OBN					pmax	pmax				
	comp=Z,5.0nm,0.8s,mb4.5									
PPT	**Papeete**	**71.98**	**160**	LR	LR		23 38 15.3			
	comp=Z,202nm,19.2s,MS4.4,baz=22,slow=30									
LSA	**Lhasa**	**72.39**	**296**	*e*P	**P**		**23 13 16.0**	**+1.5**		
LSA					pmax	pmax				
	comp=Z,5.0nm,0.6s,mb4.6									
LSA	**Lhasa**	**72.39**	**296**	*e*P	**P**		**23 13 16.0**	**+1.5**		
	comp=Z,4.6nm,0.6s,mb4.6									
AKASG	**Malin Array Be**	**75.85**	**348**	P	**P**		**23 13 33.6**	**-1.1**		
	comp=Z,1.9nm,0.4s,mb4.4,baz=15,slow=5.8,SNR=8.1									
AKASG	**Malin Array Be**	**75.85**	**348**	*i* P	**P**		**23 13 33.4**	**-1.3**		
AKASG					pmax	pmax				
	comp=Z,2.0nm,0.4s									
CLL	**Collm**	**76.40**	**359**	⇓*i* P	**P**		**23 13 37.8**	**0.0**		
	comp=Z,6.0nm,1.2s,mb4.4									
CLL				*i* pP	pP		23 13 45.2	-6.3		
CLL	**Collm**	**76.40**	**359**	⇓*i* P	**P**		**23 13 37.8**	**0.0**		
CLL				*i*			23 13 45.2			
CLL				pmax	pmax					
	comp=Z,43nm,1.2s,mb5.2									
GUN	**Gumba**	**76.65**	**298**	*e*P	**P**		**23 13 39.5**	**+0.2**		
	comp=Z,9.8nm,0.5s,mb5.0									
JIRN	**Jiri**	**76.69**	**298**	*e*P	**P**		**23 13 39.4**	**0.0**		
	comp=Z,15nm,0.6s,mb5.1									
BRG	**Berggiesshubel**	**76.82**	**358**	*i* P	**P**		**23 13 40.3**	**+0.1**		
	comp=Z,1.8nm,0.7s,mb4.1									
BRG	**Berggiesshubel**	**76.82**	**358**	*i* P	**P**		**23 13 40.3**	**+0.1**		
BRG					pmax	pmax				
	comp=Z,2.0nm,0.7s,mb4.2									
KKN	**Kakani**	**77.07**	**299**	*e*P	**P**		**23 13 41.7**	**+0.1**		
	comp=Z,8.1nm,0.5s,mb4.9									
UPC	**Upice**	**77.12**	**357**	*e*P	**P**		**23 13 42.3**	**+0.4**		
PKI	**Pulchoki**	**77.18**	**299**	*e*P	**P**		**23 13 41.8**	**-0.4**		
GKN	**Gorkha**	**77.24**	**299**	*e*P	**P**		**23 13 42.2**	**-0.4**		
	comp=Z,7.3nm,0.5s,mb4.9									
DPC	**Dobruska-Polom**	**77.27**	**356**	*e*P	**P**		**23 13 43.4**	**+0.7**		
DMN	**Daman**	**77.31**	**299**	*e*P	**P**		**23 13 43.0**	**+0.1**		
NKC	**Novy Kostel**	**77.48**	**359**	*e*P	**P**		**23 13 44.6**	**+0.7**		
DOU	**Dourbes**	**77.50**	**4**	P	**P**		**23 13 44.3**	**+0.3**		
KWP	**Kalwaria**	**77.59**	**352**	*e*P	**P**		**23 13 44.2**	**-0.3**		
KWP					pmax	pmax				
	comp=Z,8.0nm,1.0s,mb4.6									
KWP	**Kalwaria**	**77.59**	**352**	*e*P	**P**		**23 13 44.2**	**-0.3**		
	comp=Z,7.8nm,1.0s,mb4.6									
PRU	**Pruhonice**	**77.69**	**357**	*e*P	**P**		**23 13 45.5**	**+0.4**		
OKC	**Ostrava-Krasne**	**77.70**	**355**	*e*P	**P**		**23 13 45.6**	**+0.5**		
KOLN	**Koldanda**	**77.98**	**300**	*e*P	**P**		**23 13 46.6**	**-0.1**		
	comp=Z,2.2nm,0.4s,mb4.4									
GRA1	**Grafenberg Arr**	**78.03**	**360**	*e*P	**P**		**23 13 47.8**	**+0.8**		
	comp=Z,4.0nm,0.9s,mb4.3									
GRF	**Grafenberg Arr**	**78.03**	**360**	*e*P	**P**		**23 13 47.8**	**+0.8**		
	comp=Z,4.0nm,0.9s,mb4.3									
GRF	**Grafenberg Arr**	**78.03**	**360**	*e*P	**P**		**23 13 47.8**	**+0.8**		
GRF					pmax	pmax				
	comp=Z,4.0nm,0.9s,mb4.3									
FLN	**La Foliniere**	**78.52**	**8**	*e*P	**P**		**23 13 49.3**	**-0.3**		
KHC	**Kasperske Hory**	**78.57**	**358**	*e*P	**P**		**23 13 50.8**	**+0.9**		
KHC				*e*pP	pP		23 13 59.2	-4.4		
ROSF	**Rostrenen**	**78.69**	**9**	*e*P	**P**		**23 13 50.9**	**+0.3**		
LDF	**La Druitiere**	**78.71**	**7**	*e*P	**P**		**23 13 50.3**	**-0.4**		
	comp=Z,5.2nm,0.4s,mb4.6									
LDF	**La Druitiere**	**78.71**	**7**	*e*P	**P**		**23 13 50.3**	**-0.4**		
LDF					pmax	pmax				
	comp=Z,3.0nm,0.4s,mb4.6									
LDF	**La Druitiere**	**78.71**	**7**	*e*P	**P**		**23 13 50.3**	**-0.4**		
	comp=Z,2.6nm,0.4s,mb4.5									
GOF	**Gofitskoye**	**78.80**	**337**	*e*P	**P**		**23 13 51.6**	**+0.4**		
SGMF	**Saint Gilles**	**78.84**	**9**	*e*P	**P**		**23 13 51.2**	**-0.2**		
	comp=Z,4.4nm,0.6s,mb4.2									
SGMF	**Saint Gilles**	**78.84**	**9**	*e*P	**P**		**23 13 51.2**	**-0.2**		
SGMF					pmax	pmax				
	comp=Z,2.0nm,0.6s,mb4.2									
SGMF	**Saint Gilles**	**78.84**	**9**	*e*P	**P**		**23 13 51.2**	**-0.2**		
	comp=Z,2.2nm,0.6s,mb4.3									
GERES	**GERESS Array B**	**78.85**	**358**	P	**P**		**23 13 50.4**	**-1.1**		
	comp=Z,1.1nm,0.7s,mb3.9,baz=286,slow=24,SNR=14									
GRR	**Gorron**	**78.86**	**8**	*e*P	**P**		**23 13 51.3**	**-0.2**		
CDF	**Champ du Feu**	**79.27**	**2**	*e*P	**P**		**23 13 53.9**	**+0.1**		
HINF	**Hinteralfeld**	**79.86**	**3**	*e*P	**P**		**23 13 56.9**	**-0.1**		
KIV	**Kislovodsk**	**79.92**	**337**	*e*P	**P**		**23 13 58.3**	**+1.0**		
KIV					pmax	pmax				
	comp=Z,7.0nm,1.0s,mb4.5									
LOR	**Lormes**	**80.29**	**5**	*e*P	**P**		**23 13 59.5**	**+0.2**		
SSF	**Saint Saulge**	**80.47**	**5**	*e*P	**P**		**23 14 00.5**	**+0.2**		
	comp=Z,4.3nm,0.5s,mb4.3									
SSF	**Saint Saulge**	**80.47**	**5**	*e*P	**P**		**23 14 00.5**	**+0.2**		
SSF					pmax	pmax				
	comp=Z,2.0nm,0.5s,mb4.3									
SSF	**Saint Saulge**	**80.47**	**5**	*e*P	**P**		**23 14 00.5**	**+0.2**		
	comp=Z,2.2nm,0.5s,mb4.3									
MFF	**Saint Martin d**	**80.69**	**8**	*e*P	**P**		**23 14 01.6**	**+0.2**		
	comp=Z,23nm,1.1s,mb4.7									
MFF	**Saint Martin d**	**80.69**	**8**	*e*P	**P**		**23 14 01.6**	**+0.2**		
MFF					pmax	pmax				
	comp=Z,11nm,1.1s,mb4.7									
MFF	**Saint Martin d**	**80.69**	**8**	*e*P	**P**		**23 14 01.6**	**+0.2**		
	comp=Z,11nm,1.1s,mb4.7									
AVF	**Avril sur Loir**	**80.74**	**5**	*e*P	**P**		**23 14 01.8**	**+0.1**		
SMF	**Signal de Mont**	**80.91**	**5**	*e*P	**P**		**23 14 02.7**	**+0.1**		
CABF	**La Chapelle**	**81.04**	**3**	*e*P	**P**		**23 14 03.9**	**+0.6**		
TCF	**Toulx Ste Croi**	**81.17**	**6**	*e*P	**P**		**23 14 03.9**	**-0.1**		
	comp=Z,3.5nm,0.6s,mb4.1									
TCF	**Toulx Ste Croi**	**81.17**	**6**	*e*P	**P**		**23 14 03.9**	**-0.1**		
TCF					pmax	pmax				
	comp=Z,2.0nm,0.6s,mb4.2									
TCF	**Toulx Ste Croi**	**81.17**	**6**	*e*P	**P**		**23 14 03.9**	**-0.1**		
	comp=Z,1.8nm,0.6s,mb4.2									
MLR	**Muntele Rosu**	**81.37**	**349**	LR	LR		23 52 52.7			
	comp=Z,30nm,19.7s,MS3.7,baz=310,slow=38									
LPL	**La Plagne**	**82.15**	**3**	*e*P	**P**		**23 14 10.5**	**+1.3**		
LFF	**La Frestale**	**82.41**	**7**	*e*P	**P**		**23 14 10.9**	**+0.4**		
	comp=Z,11nm,0.6s,mb4.6									
LFF	**La Frestale**	**82.41**	**7**	*e*P	**P**		**23 14 10.9**	**+0.4**		
LFF					pmax	pmax				
	comp=Z,5.0nm,0.6s,mb4.6									
LFF	**La Frestale**	**82.41**	**7**	*e*P	**P**		**23 14 10.9**	**+0.4**		
	comp=Z,5.3nm,0.6s,mb4.7									
CAF	**Calviac**	**82.52**	**6**	*e*P	**P**		**23 14 11.5**	**+0.4**		
	comp=Z,10.0nm,1.0s,mb4.5									
CAF	**Calviac**	**82.52**	**6**	*e*P	**P**		**23 14 11.5**	**+0.4**		
CAF					pmax	pmax				
	comp=Z,5.0nm,1.0s,mb4.5									
CAF	**Calviac**	**82.52**	**6**	*e*P	**P**		**23 14 11.5**	**+0.4**		
	comp=Z,5.0nm,1.0s,mb4.5									
ORIF	**Oris-en-Rattie**	**82.72**	**3**	*e*P	**P**		**23 14 13.2**	**+1.1**		
	comp=Z,6.2nm,0.6s,mb4.5									
ORIF	**Oris-en-Rattie**	**82.72**	**3**	*e*P	**P**		**23 14 13.2**	**+1.1**		
ORIF					pmax	pmax				
	comp=Z,3.0nm,0.6s,mb4.5									
ORIF	**Oris-en-Rattie**	**82.72**	**3**	*e*P	**P**		**23 14 13.2**	**+1.1**		
	comp=Z,3.1nm,0.6s,mb4.5									
VIVF	**Saint-Julien-l**	**82.73**	**4**	*e*P	**P**		**23 14 12.8**	**+0.6**		
	comp=Z,6.7nm,0.7s,mb4.5									
VIVF	**Saint-Julien-l**	**82.73**	**4**	*e*P	**P**		**23 14 12.8**	**+0.6**		
VIVF					pmax	pmax				
	comp=Z,3.0nm,0.7s,mb4.4									
VIVF	**Saint-Julien-l**	**82.73**	**4**	*e*P	**P**		**23 14 12.8**	**+0.6**		
	comp=Z,3.3nm,0.7s,mb4.5									
MBDF	**Montbardon**	**82.94**	**3**	*e*P	**P**		**23 14 14.8**	**+1.5**		
	comp=Z,12nm,0.7s,mb4.7									
MBDF	**Montbardon**	**82.94**	**3**	*e*P	**P**		**23 14 14.8**	**+1.5**		
MBDF					pmax	pmax				
	comp=Z,6.0nm,0.7s,mb4.7									
MBDF	**Montbardon**	**82.94**	**3**	*e*P	**P**		**23 14 14.8**	**+1.5**		
	comp=Z,5.8nm,0.7s,mb4.7									
SJPF	**Ste Jean**	**84.06**	**9**	*e*P	**P**		**23 14 20.1**	**+1.1**		
MTLF	**Montolieu**	**84.11**	**6**	*e*P	**P**		**23 14 19.9**	**+0.6**		
	comp=Z,5.1nm,0.8s,mb4.4									
MTLF	**Montolieu**	**84.11**	**6**	*e*P	**P**		**23 14 19.9**	**+0.6**		
MTLF					pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.5									
MTLF	**Montolieu**	**84.11**	**6**	*e*P	**P**		**23 14 19.9**	**+0.6**		
	comp=Z,2.5nm,0.8s,mb4.4									
EPF	**Esparros**	**84.28**	**8**	*e*P	**P**		**23 14 20.0**	**-0.1**		
	comp=Z,12nm,1.0s,mb4.7									
EPF	**Esparros**	**84.28**	**8**	*e*P	**P**		**23 14 20.0**	**-0.1**		
EPF					pmax	pmax				
	comp=Z,6.0nm,1.0s,mb4.7									
EPF	**Esparros**	**84.28**	**8**	*e*P	**P**		**23 14 20.0**	**-0.1**		
	comp=Z,6.3nm,1.0s,mb4.7									
ETSF	**Etsaut**	**84.33**	**8**	*e*P	**P**		**23 14 21.4**	**+1.0**		
	comp=Z,14nm,0.7s,mb4.9									
ETSF	**Etsaut**	**84.33**	**8**	*e*P	**P**		**23 14 21.4**	**+1.0**		
ETSF					pmax	pmax				
	comp=Z,7.0nm,0.7s,mb4.9									
ETSF	**Etsaut**	**84.33**	**8**	*e*P	**P**		**23 14 21.4**	**+1.0**		
	comp=Z,7.0nm,0.7s,mb4.9									
BRTR	**Keskin Array B**	**85.88**	**342**	P	**P**		**23 14 29.1**	**+0.9**		
	comp=Z,0.6nm,0.7s,mb3.9,baz=82,slow=3.1,SNR=3.9									
ESDC	**Sonseca Array**	**87.17**	**11**	P	**P**		**23 14 34.8**	**+0.3**		
	comp=Z,2.8nm,0.6s,mb4.7,baz=348,slow=4.7,SNR=21									
SDV	**Santo Domingo**	**88.19**	**78**	LR	LR		23 53 03.9			
	comp=Z,118nm,19.6s,MS4.3,baz=20,slow=35									
PSI	**Prapat**	**88.91**	**273**	P	**P**		**23 14 43.1**	**+0.3**		
	comp=Z,4.9nm,0.5s,mb5.1,baz=213,slow=5.2,SNR=6.1									
HYB	**Hyderabad**	**89.08**	**298**	*i* P	**P**		**23 14 43.5**	**0.0**		
HYB	**Hyderabad**	**89.08**	**298**	*e*P	**P**		**23 14 43.5**	**0.0**		
ASAR	**Alice Springs**	**90.63**	**230**	P	**P**		**23 14 49.5**	**-1.3**		
	comp=Z,1.3nm,0.6s,mb4.4,baz=33,slow=4.4,SNR=12									
MATP	**Matopo**	**145.02**	**330**	PKPbc	PKPbc		23 21 25.0	+0.1		
	comp=Z,6.4nm,0.9s,baz=22,slow=6.0,SNR=13									
TSUM	**Tsumeb**	**146.20**	**348**	*e*PKP	PKPdf		23 21 29.0	+1.5		
MAW	**Mawson**	**151.14**	**219**	PKPbc	PKPbc		23 21 38.7	-2.7		
	comp=Z,1.2nm,0.7s,baz=89,slow=8.9,SNR=6.4									

IDC ***10*** *23:24:41.8±3.9, 1995S×174.39W, h44km±40km, mb3.9/4, mb1 4.2/6, mb1mx3.9/16, mbtmp4.3/6, ML2.5/1, Error ellipse: s-maj=51.8km s-min=22.3km az=137.0*

ISCJB ***10*** *23:24:42.4±2.3, 200S±0.1×1738W±0.1, h105km±30km, mb4.5/11, Error ellipse: s-maj=22.4km s-min=15.7km az=128.6*

NEIC ***10*** *23:24:44.2±1.6, 1998S×173.73W, h108km±22km, mb4.7/7, Error ellipse: s-maj=16.7km s-min=13.9km az=64.0*

ISC 10 23:24:41.7±1.3, 2025S±0.007×1738W±0.1, h73km±16km, n18, σ0§98/21, mb4.5/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.60**	**18**	P		**Pn**	**23 26 15.1**	**-0.9**
	5.7nm,0.3s,baz=17,slow=23,SNR=3.4							
AFI				S		**Sn**	**23 27 17.0**	**-13**
	20nm,0.3s,baz=39,slow=18,SNR=6.4							
RAO	**Raoul Island**	**9.71**	**202**	S		**Sn**	**23 28 44.8**	**-1.1**
	12nm,0.3s,baz=80,slow=22,SNR=2.6							
RAR	**Rarotonga**	**13.18**	**97**	P		**Pn**	**23 27 46.2**	**+0.5**
	1.8nm,0.3s,baz=294,slow=3.6,SNR=6.3							
RAR				S		**Sn**	**23 30 02.0**	**-8.4**
	1.5nm,0.3s,baz=106,slow=6.5,SNR=4.3							
DZM	**Mont Dzumac**	**18.50**	**261**	P		**Pn**	**23 28 54.3**	**+1.4**
	0.9nm,0.3s,baz=74,slow=16,SNR=6.0							
URZ	**Urewera**	**19.60**	**202**	P		**Pn**	**23 29 07.4**	**+1.4**
	1.6nm,0.3s,baz=360,slow=8.7,SNR=5.8							
URZ				S		**S**	**23 32 39.8**	**-1.4**
	0.7nm,0.3s,baz=261,slow=23,SNR=5.1							
HNR	**Honiara**	**27.50**	**289**	*e*P		**P**	**23 30 20.0**	**-1.1**
CTAO	**Charters Tower**	**37.42**	**263**	*e*P		**P**	**23 31 47.8**	**+0.2**
	4.9nm,0.5s,mb4.7							
TAU	**Tasmania Unive**	**39.60**	**226**	*e*P		**P**	**23 32 07.9**	**+2.0**
	18nm,0.8s,mb4.9							
STKA	**Stephens Creek**	**41.43**	**244**	P		**P**	**23 32 19.6**	**-1.4**
	1.3nm,0.5s,mb4.0,baz=84,slow=10,SNR=4.7							
ASAR	**Alice Springs**	**48.39**	**256**	P		**P**	**23 33 16.4**	**+0.2**
	3.6nm,0.6s,mb4.4,baz=96,slow=8.0,SNR=37							
WB2	**Warramunga Arr**	**48.51**	**261**	*e*P		**P**	**23 33 17.0**	**-0.2**
WRAB	**Tennant Creek**	**48.51**	**261**	*e*P		**P**	**23 33 17.2**	**0.0**
	4.0nm,0.3s,mb4.8							
WRA	**Warramunga Arr**	**48.52**	**261**	P		**P**	**23 33 17.8**	**+0.5**
	2.4nm,0.3s,mb4.6,baz=96,slow=7.3,SNR=39							
KAKA	**Kakadu**	**51.90**	**270**	*e*P		**P**	**23 33 42.6**	**-0.2**
	44nm,1.6s,mb5.2							
FORT	**Forrest**	**52.99**	**246**	*e*P		**P**	**23 33 51.4**	**+0.5**
	4.9nm,0.5s,mb4.8							
FITZ	**Fitzroy Crossi**	**56.95**	**261**	*e*P		**P**	**23 34 20.1**	**+0.7**
	4.6nm,0.9s,mb4.5							
MAJO	**Matsushiro**	**72.41**	**321**	*e*P		**P**	**23 35 59.0**	**-1.0**
	1.6nm,0.4s,mb4.2							
NVAR	**Mina Array Bea**	**78.19**	**41**	P		**P**	**23 36 37.7**	**+4.5**
	0.8nm,0.7s,mb3.6,baz=224,slow=8.7,SNR=6.0							

ISCJB ***10*** *23:39:12.4±0.2, 13.10N±0.004×88.61W±0.04, h72km, mb4.6/75, Error ellipse: s-maj=7.6km s-min=2.1km az=79.1*

NEIC ***10*** *23:39:13.6±0.2, 1306N×8857W, mb4.8/61, Error ellipse: s-maj=8.3km s-min=3.7km az=48.0*

NEIC Felt [V] at San Salvador.

IDC ***10*** *23:39:13.1±0.7, 1323N×8837W, h70km±5km, mb4.2/24, mb1 4.3/26, mb1mx4.3/29, mbtmp4.5/26, MS3.7/13, Ms1 3.7/13, ms1mx3.6/16, Error ellipse: s-maj=18.2km s-min=7.9km az=55.0*

BJI ***10*** *23:39:13.5, 13.10N×8860W, h72km, mB5.0, Ms4.9, Msz4.4*

HRVD ***10*** *23:39:13.6±0.4, 1271N×8871W, h75km±2km, MW5.0/49, Centroid moment Tensor Solution. LP body waves: s35,c42;Mantle waves: s49,c64; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr 2.28±.13; Mθθ -2.44±.17; Mϕϕ 0.15±.25; Mrθ 0.10±.08; Mrϕ -0.84±.10; Best double couple: Mw3.28800×10^16 NP1:ϕs 273.00000°, δ48.00000°, λ.48.00000°. NP2: ϕs 146.00000°, δ56.00000°, λ.126.00000°. Principal axes: T 2.7060, Plg60.0000°, Azm113.0000°; N 1.1560, Plg30.0000°, Azm304.0000°; P -3.8700, Plg5.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

CASC ***10*** *23:39:13.4±2.5, 1293N×8873W, h44km±44km, MD4.2, ML5.1*

MOS ***10*** *23:39:14.2±1.2, 1306N×8850W, h99km, mb4.8/22, Error ellipse: s-maj=12.8km s-min=5.7km az=115.8*

ISC 10 23:39:14.2±0.2, 1310N±004×8858W±004, h74km, h74km±1.2km:pP-P, n266, σ1§10/224, mb4.6/75, 32C-22D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.44**	**43**	⇓*i*	P	Px	23 39 31.8	
VSM					*e*S	Sx	23 39 42.3	
BLLM	**Bellamira**	**0.47**	**45**	⇓*i*	P	Px	23 39 31.9	
BLLM					*e*S	Sx	23 39 42.8	
SNVI	**San Vicente**	**0.57**	**334**	⇓*i*	P	Px	23 39 31.9	
SNVI					*e*S	Sx	23 39 39.9	
LCBS	**La Ceiba**	**0.67**	**325**	⇓*i*	P	Px	23 39 32.6	
LCBS					*e*S	Sx	23 39 44.3	
LFRS	**El Faro**	**0.70**	**318**	⇓*i*	P	Px	23 39 32.7	
LFRS					*e*S	Sx	23 39 43.8	
CNCH	**Conchagua**	**0.75**	**77**	⇓*i*	P	Px	23 39 34.7	
CNCH					*e*S	Sx	23 39 47.3	
LBRS	**Las Brisas**	**0.78**	**325**	⇓*i*	P	Px	23 39 34.2	
LBRS					*e*S	Sx	23 39 48.3	
LFU	**La Fuente**	**0.82**	**321**	⇓*i*	P	Px	23 39 34.7	
LFU					*e*S	Sx	23 39 46.7	
SNET	**Serv Nac Est T**	**0.86**	**313**	⇓*e*	P	**Pn**	**23 39 29.1**	**-2.1**
SNET					*e*S	**Sn**	**23 39 42.2**	**-1.6**
SNET					*i*		23 39 42.8	
	comp=Z,240μm,0.4s							
BOQS	**Boqueron**	**0.93**	**313**	⇑*i*	P	Px	23 39 35.7	
BOQS					*e*S	Sx	23 39 48.9	
SBLS	**San Blas**	**1.25**	**306**	⇓*e*	P	Px	23 39 39.6	
SBLS					*e*S	Sx	23 39 55.1	
SNJE	**San Jose**	**1.25**	**307**	⇓*i*	P	Px	23 39 39.8	
SNJE					*e*S	Sx	23 39 56.0	
RTR	**El Retiro**	**1.30**	**307**	⇓*i*	P	Px	23 39 40.7	
RTR					*e*S	Sx	23 39 57.5	
RBDL	**Robledal**	**1.47**	**313**	⇓*i*	P	Px	23 39 42.9	
RBDL					*e*S	Sx	23 40 00.7	
CRIN	**San Cristobal**	**1.55**	**105**	⇓*e*	P	**Pn**	**23 39 40.6**	**+0.8**
TEL3	**Telica 3**	**1.77**	**107**	⇓*e*	P	**Pn**	**23 39 42.7**	**-0.1**
TELN	**Telica**	**1.78**	**106**	*e*	P	**Pn**	**23 39 43.1**	**+0.2**
LEON	**Leon**	**1.78**	**112**	*e*	P	**Pn**	**23 39 41.2**	**-1.8**
LEON				⇑*e*			23 39 42.2	
CNGN	**Cerro Negro**	**1.93**	**108**	⇑*e*	P	**Pn**	**23 39 45.1**	**+0.1**
MIRN	**Miramar**	**1.94**	**110**	⇓*e*	P	**Pn**	**23 39 44.8**	**-0.3**
MOMJ	**Momotombo**	**2.11**	**109**	⇓*e*	P	**Pn**	**23 39 47.5**	**+0.2**
IXG	**Ixpaco**	**2.11**	**301**	⇑*e*	P	**Pn**	**23 39 45.6**	**-1.8**
IXG					*e*S	**Sn**	**23 40 10.6**	**-2.1**
IXG					AML	AML	23 40 19.6	
	comp=N,133μm,0.4s							
COPN	**Copaltepe**	**2.15**	**115**	⇓*e*	P	**Pn**	**23 39 47.3**	**-0.6**
NBG	**Las Nubes**	**2.26**	**311**	⇑*e*	P	**Pn**	**23 39 50.1**	**+0.7**
APYN	**Apoyeque**	**2.34**	**111**	⇓*e*	P	**Pn**	**23 39 50.5**	**0.0**
PCG	**Pacaya**	**2.35**	**303**	*e*	P	**Pn**	**23 39 50.8**	**+0.2**
XAVN	**Gruta Xavier**	**2.40**	**113**	⇑*e*	P	**Pn**	**23 39 51.9**	**+0.7**
GCG	**Guatemala City**	**2.40**	**308**	*e*	P	**Pn**	**23 39 50.7**	**-0.6**
TISN	**Laguna Tiscapa**	**2.45**	**113**	*e*	P	**Pn**	**23 39 52.1**	**+0.1**
MGAN	**Managua**	**2.47**	**112**	*e*	P	**Pn**	**23 39 51.1**	**-1.1**
MGAN					*e*S	**Sn**	**23 40 21.0**	**-0.3**
MGAN					*i*		23 40 22.1	
	comp=N,3μm,0.6s							
TICN	**Ticuantepe**	**2.53**	**115**	*e*	P	**Pn**	**23 39 53.8**	**+0.8**
FUG	**Fuego 3**	**2.57**	**302**	⇓*e*	P	**Pn**	**23 39 53.6**	**0.0**
MASN	**Masaya**	**2.62**	**115**	*e*	P	**Pn**	**23 39 56.0**	**+1.8**

LENM Lemitar 26.81 325 *e*P P **23 44 49.7 +2.3**
KSU1 Kansas State U 26.85 346 *e*P P **23 44 47.1 -0.6**
LAZ Ladron 27.08 325 *e*P P **23 44 51.3 +1.6**
ANMO Albuquerque 27.11 326 P P **23 44 51.2 +1.2**
comp=Z,3.4nm,0.6s,mb4.1,baz=138,slow=9.0,SNR=12
ANMO PcP PcP 23 48 09.3 +0.2
comp=Z,2.5nm,0.5s,baz=106,slow=3.1,SNR=5.1
ANMO *e*PcP 23 48 27.7
comp=Z,2.0nm,0.6s,baz=236,slow=2.6,SNR=4.3
ANMO LR LR 23 56 17.8
comp=Z,114nm,21.2s,baz=0.0,slow=38
ANMO Albuquerque 27.11 326 *e*P P **23 44 51.5 +1.5**
ANMO *e* 23 48 09.7
ANMO pmax pmax
comp=Z,9.0nm,1.0s
ANMO Albuquerque 27.11 326 *e*P P **23 44 51.5 +1.5**
comp=Z,8.8nm,1.0s,mb4.2
ANMO *e*PcP PcP 23 48 09.7 +0.6
ACSO Alum Creek Sta 27.47 9 *e*P P **23 44 53.2 0.0**
comp=Z,9.0nm,0.7s,mb4.4
TUC Tucson 27.91 317 *e*P P **23 44 58.1 +0.9**
TUC *i* 23 48 11.9
TUC pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
TUC Tucson 27.91 317 *e*P P **23 44 58.1 +0.9**
comp=Z,4.1nm,0.9s,mb4.0
TUC *i* PcP PcP 23 48 11.9 +0.8
SDMD Soldier's Deli 28.18 19 *e*P P **23 44 59.7 +0.1**
MVCO Mesa Verde 29.89 327 *e*P P **23 45 15.4 +0.6**
MVCO *e*PcP PcP 23 48 16.8 +0.8
WUAZ Wupatki 30.34 321 *e*P P **23 45 19.9 +1.1**
comp=Z,5.1nm,0.8s,mb4.2
WUAZ *e*pP pP 23 45 37.1 +0.8
WUAZ *i* PcP PcP 23 48 18.2 +1.1
ISCO Idaho Springs 30.54 334 *e*P P **23 45 21.4 +0.9**
ISCO *e* 23 48 17.5
ISCO pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
ISCO Idaho Springs 30.54 334 *e*P P **23 45 21.4 +0.9**
comp=Z,10nm,0.7s,mb4.7
ISCO *e*PcP PcP 23 48 17.5 -0.2
SMCO Snowmass 30.65 331 *e*P P **23 45 22.6 +1.2**
comp=Z,12nm,0.6s,mb4.8
SMCO *e*PcP PcP 23 48 17.9 -0.1
PV10 Paradox Valley 31.05 328 *e*P P **23 45 25.4 +0.4**
PV10 *e*PcP PcP 23 48 19.1 0.0
SRU San Rafael 32.37 327 *e*P P **23 45 37.1 +0.5**
SRU *e* 23 48 22.5
SRU pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
SRU San Rafael 32.37 327 *e*P P **23 45 37.1 +0.6**
comp=Z,10nm,0.6s,mb4.7
SRU *e*PcP PcP 23 48 22.5 -0.1
SADO Sadowa 32.57 13 P P **23 45 37.9 -0.4**
comp=Z,17nm,0.6s,mb5.1,baz=213,slow=8.7,SNR=27
SADO Sadowa 32.57 13 P P **23 45 37.9 -0.4**
NEN Nelson 32.62 318 *e*P P **23 45 39.4 +0.7**
NEN *e*PcP PcP 23 48 23.7 +0.4
RWWY Rawlins 32.78 334⇑ *i*P P **23 45 41.1 +1.0**
comp=Z,23nm,0.6s,mb5.2
MSU Marysvale 32.85 325 *e*P P **23 45 41.5 +0.8**
CCUT Cedar City 32.88 322 *e*P P **23 45 42.6 +1.5**
CCUT *e*PcP PcP 23 48 25.1 +1.0
SAML Samuel 33.41 130 *e*P P **23 45 43.5 -2.1**
comp=Z,18nm,0.8s,mb4.9
SAML *e*pP pP 23 46 01.1 -2.2
SAML *e*PcP PcP 23 48 25.5 0.0
SAML *e*PcP 23 48 43.9
MPU Maple Canyon 33.62 327 *e*P P **23 45 48.5 +1.1**
comp=Z,19nm,1.2s,mb4.8
RSSD Black Hills 33.63 340⇑ *i*P P **23 45 48.5 +0.9**
RSSD pmax pmax
comp=Z,13nm,0.7s,mb4.9
RSSD Black Hills 33.63 340⇑ *i*P P **23 45 48.5 +0.9**
comp=Z,13nm,0.7s,mb4.9
DAU Daniels Canyon 33.71 328 *e*P P **23 45 49.0 +0.8**
DAU *e* 23 48 26.8
FRNY Flat Rock 34.12 19 P P **23 45 51.5 -0.3**
CTU Camp Tracy 34.17 328 P P **23 45 52.0 -0.2**
comp=Z,6.3nm,0.7s,mb4.5
TCUT Toone Canyon 34.31 329 P P **23 45 54.5 +1.1**
DUG Dugway 34.38 326 *e*P P **23 45 54.8 +0.8**
DUG *e* 23 48 28.1
DUG pmax pmax
comp=Z,14nm,1.4s,mb4.6
DUG Dugway 34.38 326 *e*P P **23 45 54.8 +0.7**
comp=Z,14nm,1.4s,mb4.6
DUG *e*PcP PcP 23 48 28.1 -0.2
PDAR Pinedale Array 34.68 332 P P **23 45 56.9 +0.2**
comp=Z,4.7nm,0.5s,mb4.6,baz=126,slow=10,SNR=58
PDAR PcP PcP 23 48 28.4 -0.8
comp=Z,1.7nm,0.6s,baz=136,slow=5.5,SNR=4.4
PDAR *e*PcP 23 48 46.6
comp=Z,0.6nm,0.5s,baz=129,slow=4.0,SNR=4.1
PDAR PKiKP PKiKP 23 55 50.8 -0.9
comp=Z,0.6nm,0.6s,baz=85,slow=3.2,SNR=6.0
PDAR Pinedale Array 34.68 332 P P **23 45 56.9 +0.2**
PDAR PcP PcP 23 48 28.4 -0.8
PDAR *e*PcP 23 48 46.6
HWUT Hardware Ranch 34.75 329⇑ *i*P P **23 45 57.5 +0.2**
comp=Z,10.0nm,0.6s,mb4.8
HWUT *e*PcP PcP 23 48 28.6 -0.7
HWUT *e*ScP ScP 23 52 09.5 +1.4
EYMN Ely 34.82 357 *e*P P **23 45 56.0 -1.8**
comp=Z,12nm,0.6s,mb4.9
HVU Hansel Valley 35.49 328 *e*P P **23 46 04.0 +0.4**
HVU pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
HVU Hansel Valley 35.49 328 *e*P P **23 46 04.0 +0.4**
comp=Z,6.7nm,0.7s,mb4.6
LPAZ La Paz 35.52 145 P P **23 46 04.7 +0.9**
comp=Z,2.7nm,0.6s,mb4.4,baz=325,slow=8.1,SNR=20
LPAZ PcP PcP 23 48 32.3 +0.7
comp=Z,1.2nm,0.7s,baz=5.4,slow=5.5,SNR=3.2
LPAZ LR LR 00 01 16.5
comp=Z,99nm,19.5s,baz=144,slow=37
LPAZ La Paz 35.52 145 *e*P P **23 46 04.0 +0.2**
LPAZ *e**SP sP 23 46 29.5 -0.7
LPAZ *e* 23 48 32.1
LPAZ pmax pmax
comp=Z,1.0nm,0.4s
LPAZ La Paz 35.52 145 *e*P P **23 46 04.0 +0.2**
comp=Z,1.5nm,0.4s,mb4.3
LPAZ *es*P sP 23 46 29.5 -0.7
LPAZ *e*PcP PcP 23 48 32.1 +0.5
REDW Red Top Meadow 35.74 332⇑ *i*P P **23 46 06.4 +0.7**
comp=Z,50nm,0.7s,mb5.6
TPAW Teton Pass 35.88 332 *e*P P **23 46 07.3 +0.4**
comp=Z,24nm,0.6s,mb5.3
TPAW *e*PcP PcP 23 48 33.1 +0.4
MOOW Moose Ponds 35.99 332⇑ *e*P P **23 46 08.2 +0.3**
comp=Z,14nm,0.6s,mb5.1
MOOW *e*PcP PcP 23 48 32.4 -0.6
ELK Elko 36.10 325 *e*P P **23 46 09.3 +0.5**
ELK *e* 23 48 33.7
ELK pmax pmax
comp=Z,4.0nm,0.7s
ELK Elko 36.10 325 *e*P P **23 46 09.3 +0.5**
comp=Z,4.4nm,0.7s,mb4.5
ELK *e*pP pP 23 46 26.2 -0.3
ELK *e*PcP PcP 23 48 33.7 +0.4
IMW Indian Meadow 36.19 332 *e*P P **23 46 09.9 +0.3**
comp=Z,15nm,0.6s,mb5.1
IMW *e*PcP PcP 23 48 33.4 -0.2
FLWY Flagg Ranch 36.23 333⇑ *i*P P **23 46 10.5 +0.6**
comp=Z,18nm,0.6s,mb5.2
MNV Mina 36.40 319 *e*P P **23 46 12.2 +0.9**
MNV *e* 23 48 34.2
MNV pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
MNV Mina 36.40 319 *e*P P **23 46 12.2 +0.9**
comp=Z,5.4nm,0.6s,mb4.7
MNV *e*PcP PcP 23 48 34.2 0.0
LKWY Lake 36.48 333 *e*P P **23 46 13.0 +1.0**
LKWY pmax pmax
comp=Z,12nm,0.6s,mb5.0
LKWY Lake 36.48 333 *e*P P **23 46 13.0 +1.0**
comp=Z,12nm,0.6s,mb5.0
NVAR Mina Array Bea 36.49 319 P P **23 46 13.6 +1.5**
comp=Z,6.0nm,0.7s,mb4.6,baz=120,slow=8.7,SNR=52
NVAR PcP PcP 23 48 35.5 +1.0
comp=Z,6.5nm,0.6s,baz=114,slow=4.6,SNR=21
NVAR pPcP 23 48 53.4
comp=Z,4.0nm,0.7s,baz=122,slow=4.9,SNR=7.5
NVAR ScP ScP 23 52 16.6 +2.1
comp=Z,0.5nm,0.6s,baz=127,slow=3.9,SNR=3.6
NVAR Mina Array Bea 36.49 319 P P **23 46 13.6 +1.5**
NVAR PcP PcP 23 48 35.5 +1.0
NVAR pPcP 23 48 53.4
NVAR ScP ScP 23 52 16.6 +2.1
YFT Old Faithful 36.58 333 *e*P P **23 46 13.8 +0.9**
YMR Madison River 36.81 333 *e*P P **23 46 16.1 +1.2**
comp=Z,34nm,0.8s,mb5.3
BMN Battle Mountai 37.04 323 *e*P P **23 46 17.8 +1.0**
BMN pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
BMN Battle Mountai 37.04 323 *e*P P **23 46 17.8 +1.0**
comp=Z,8.5nm,0.7s,mb4.8
QLMT Earthquake Lak 37.14 333 *e*P P **23 46 19.3 +1.6**
GCMT Greycliff 37.16 335 *e*P P **23 46 17.9 +0.1**
ULM Lac du Bonnet 37.52 352 P P **23 46 19.5 -1.4**
comp=Z,19nm,0.6s,mb5.1,baz=167,slow=8.8,SNR=32
ULM LR LR 00 03 44.8
comp=Z,154nm,21.8s,baz=183,slow=39
HLID Hailey 37.61 329 *e*P P **23 46 21.8 +0.1**
comp=Z,4.4nm,0.6s,mb4.5
HLID *e*PcP PcP 23 48 37.5 -0.4
MCMT McKenzie Canyo 37.79 331 *e*P P **23 46 24.7 +1.5**
DLMT Dillon 38.08 332 *e*P P **23 46 26.4 +0.8**
comp=Z,19nm,1.0s,mb4.9
HRY Holter Researc 38.79 334 *e*P P **23 46 31.7 +0.1**
EGMT Eagleton 39.03 337 *e*P P **23 46 34.0 +0.5**
comp=Z,61nm,0.6s,mb5.6
WVOR Wild Horse Val 39.13 324 *e*P P **23 46 34.6 +0.2**
WVOR *e* 23 48 42.9
WVOR pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
WVOR Wild Horse Val 39.13 324 *e*P P **23 46 34.6 +0.3**
comp=Z,8.6nm,0.7s,mb4.7
WVOR *e*PcP PcP 23 48 42.9 +0.3
CHMT Chamberlain Mo 39.56 333 *e*P P **23 46 37.9 -0.1**
SIV San Ignacio 39.69 136 P P **23 46 38.6 -0.5**
comp=Z,14nm,0.9s,mb4.8,baz=315,slow=9.0,SNR=50
SIV PcP PcP 23 48 44.8 +0.4
comp=Z,6.3nm,0.6s,baz=283,slow=2.6,SNR=8.9
SIV *e*PcP 23 49 03.1
comp=Z,3.2nm,0.6s,baz=339,slow=1.4,SNR=4.0
BMO Blue Mountains 40.00 328 *e*P P **23 46 40.4 -1.2**
comp=Z,2.8nm,0.6s,mb4.3
LVC Limon Verde 40.39 151 P P **23 46 42.1 +1.4**
comp=Z,5.1nm,0.9s,mb4.4,baz=283,slow=4.9,SNR=5.8
LVC Limon Verde 40.39 151 *e*P P **23 46 46.1 +1.3**
comp=Z,20nm,1.6s,mb4.7
YBH Yreka Blue Hor 41.15 320 P P **23 46 49.6 -1.5**
comp=Z,1.4nm,0.5s,mb4.0,baz=100,slow=5.3,SNR=6.8
YBH PcP PcP 23 48 48.4 -0.7
comp=Z,1.7nm,0.7s,baz=82,slow=8.1,SNR=4.0
WALA Waterton Lakes 41.50 335 *e*P P **23 46 54.1 +0.1**
comp=Z,12nm,0.8s,mb4.7
NEW Newport 42.31 332 P P **23 46 60.0 -0.6**
comp=Z,3.6nm,0.4s,mb4.4,baz=135,slow=15,SNR=8.9
NEW Newport 42.31 332 *e*P P **23 46 59.7 -0.9**
NEW pmax pmax
comp=Z,5.0nm,0.6s
NEW Newport 42.31 332 *e*P P **23 46 59.7 -0.9**
comp=Z,5.2nm,0.6s,mb4.4
FFC Flin Flon 42.84 349 *e*P P **23 47 04.3 -0.5**
FFC pmax pmax
comp=Z,21nm,0.6s,mb5.0
FFC Flin Flon 42.84 349 *e*P P **23 47 04.3 -0.5**
comp=Z,20nm,0.6s,mb5.0
RNO Roman Nose 43.00 322 P P **23 47 06.6 +0.5**
WRW Wenatchee Ridg 43.85 329 P P **23 47 13.2 +0.3**
RPW Rockport 44.56 329 P P **23 47 18.0 -0.7**
JCW Jim Creek 44.60 328 P P **23 47 17.8 -1.2**
EDM Edmonton 44.61 339⇑ *i*P P **23 47 18.5 -0.5**
CMW Cultus Mountai 44.85 329 P P **23 47 19.9 -1.1**
SCHQ Schefferville 44.98 18 P P **23 47 20.6 -1.4**
comp=Z,12nm,0.7s,mb4.8,baz=215,slow=6.8,SNR=24
SCHQ PcP PcP 23 48 59.7 -2.3
comp=Z,3.6nm,0.6s,baz=216,slow=4.8,SNR=5.1
SCHQ LR LR 00 07 23.3
comp=Z,143nm,18.1s,baz=258,slow=38
SCHQ Schefferville 44.98 18 *e*P P **23 47 20.5 -1.6**
comp=Z,26nm,1.1s,mb4.9
SCHQ *e*pP pP 23 47 38.5 -1.8
SCHQ *e*PcP PcP 23 49 00.7 -1.3
STW Striped Peak 45.48 327 P P **23 47 26.3 +0.4**
PGC Sidney 45.68 328 *e*P P **23 47 26.6 -0.9**
comp=Z,16nm,0.7s,mb4.9
FCC Fort Churchill 45.76 356⇑ *i*P P **23 47 27.0 -1.2**
FCC pmax pmax
comp=Z,27nm,0.5s,mb5.2
FCC Fort Churchill 45.76 356⇑ *i*P P **23 47 27.0 -1.1**
comp=Z,27nm,0.5s,mb5.2
CFAA Coronel Fontan 48.55 157 P P **23 47 50.1 +0.3**
comp=Z,0.3nm,0.4s,mb3.6,baz=326,slow=5.4,SNR=8.3
BDFB Brasilia 49.25 124 P P **23 47 52.5 -2.8**
comp=Z,8.9nm,0.6s,mb4.8,baz=296,slow=10.0,SNR=17
BDFB PcP PcP 23 49 17.4 +0.3
comp=Z,1.0nm,0.4s,baz=137,slow=4.6,SNR=3.1
BDFB *e*PcP 23 49 36.3
comp=Z,8.2nm,1.0s,baz=304,slow=8.8,SNR=4.9
BDFB LR LR 00 12 11.3
comp=Z,102nm,18.9s,baz=149,slow=40
BDFB Brasilia 49.25 124 P P **23 47 52.5 -2.7**
BDFB 23 49 17.4
CPUP Villa Florida 49.60 142 P P **23 47 56.4 -1.5**
comp=Z,2.4nm,0.5s,mb4.4,baz=321,slow=8.4,SNR=14
CPUP LR LR 00 10 15.2
comp=Z,93nm,21.8s,baz=73,slow=38
CPUP Villa Florida 49.60 142 *e*P P **23 47 56.2 -1.7**
CPUP pmax pmax
comp=Z,15nm,0.5s
CPUP Villa Florida 49.60 142 *e*P P **23 47 56.2 -1.6**
comp=Z,15nm,0.5s,mb5.2
CPUP *ep*P pP 23 48 13.9 -2.5
YKA Yellowknife Ar 52.70 345 P P **23 48 19.9 -1.2**
comp=Z,22nm,0.6s,mb5.3,baz=140,slow=7.7,SNR=552
YKA LR LR 00 13 03.9
comp=Z,114nm,21.8s,baz=125,slow=39
YKW3 Yellowknife Ar 52.76 345⇑ *e*P P **23 48 20.2 -1.3**
DLBC Dease Lake 54.85 335⇑ *i*P P **23 48 37.0 +0.2**
PLCA Paso Flores 56.11 164 *e*P P **23 48 44.2 -1.6**
PLCA pmax pmax
comp=Z,3.0nm,0.9s
PLCA Paso Flores 56.11 164 *e*P P **23 48 44.2 -1.6**
comp=Z,2.9nm,0.9s,mb4.3
RKT Rikitea 57.95 232 *e*LR LR 00 05 50.8
comp=Z,207nm,30.2s
RES Resolute Bay 61.67 358⇑ *i*P P **23 49 22.3 -2.0**
RES pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
RES Resolute Bay 61.67 358⇑ *i*P P **23 49 22.2 -2.1**
comp=Z,8.7nm,0.5s,mb5.0
DAWY Dawson 61.77 337 *e*P P **23 49 22.9 -2.1**
INK Inuvik 62.26 343⇑ *i*P P **23 49 27.0 -1.2**
INK *e* 23 50 05.4
INK pmax pmax
comp=Z,26nm,0.8s
INK Inuvik 62.26 343⇑ *i*P P **23 49 27.0 -1.2**
comp=Z,26nm,0.8s,mb5.3
INK *ep*P pP 23 49 46.3 -1.2
INK *e*PcP PcP 23 50 05.4 -2.1
ILAR Eielson Array 64.98 336 P P **23 49 44.6 -1.6**
comp=Z,11nm,0.7s,mb4.8,baz=118,slow=5.0,SNR=9.5
ILAR LR LR 00 20 26.9
comp=Z,59nm,18.8s,baz=1.8,slow=38
KDAK Kodiak Island 65.23 328 P P **23 49 46.8 -1.0**
comp=Z,6.0nm,0.8s,mb4.5,baz=309,slow=13,SNR=5.6
COLA College 65.40 336 *e*P P **23 49 47.1 -1.8**
COLA pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
COLA College 65.40 336 *e*P P **23 49 47.1 -1.8**
comp=Z,7.0nm,0.5s,mb4.8
SUMG Summit 66.24 15 *e*P P **23 49 52.9 -1.4**
comp=Z,3.1nm,0.6s,mb4.3
SUMG *ep*P pP 23 50 11.3 -2.4
PPT Papeete 67.47 245 *e*LR LR 00 10 16.7
comp=Z,338nm,28.0s,baz=67
SVW2 Sparrevohn 67.55 331 *e*P P **23 50 00.0 -2.6**
TTA Tatalina 68.20 333 *e*P P **23 50 04.4 -2.3**
TTA pmax pmax
comp=Z,14nm,1.0s,mb4.8
TTA Tatalina 68.20 333 *e*P P **23 50 04.4 -2.2**
comp=Z,14nm,1.0s,mb4.8
TBI Tubuai 69.70 239 *e*LR LR 00 11 18.0
comp=Z,194nm,29.8s
EKA Eskdalemuir Ar 76.75 36 P P **23 50 53.8 -3.7**
comp=Z,1.2nm,0.6s,mb3.8,baz=268,slow=5.8,SNR=9.9
EKA pP pP 23 51 14.1 -3.2
comp=Z,4.8nm,1.0s,baz=264,slow=5.5,SNR=5.1
ESDC Sonseca Array 77.66 52 P P **23 51 00.7 -1.9**
comp=Z,1.1nm,0.8s,mb3.6,baz=288,slow=5.2,SNR=5.9
ESDC pP pP 23 51 19.9 -2.5
comp=Z,1.3nm,0.6s,baz=282,slow=5.3,SNR=4.7
NB2 NORSAR Subarra 83.33 29 P P **23 51 30.5 -2.5**
comp=Z,1.8nm,0.8s,mb4.0,baz=286,slow=5.3
NOA NORSAR Array B 83.33 29 P P **23 51 31.2 -1.8**
comp=Z,0.5nm,0.8s,mb3.4,baz=287,slow=5.0,SNR=3.2
NOA LR LR 00 24 21.1
comp=Z,54nm,21.4s,baz=85,slow=33
NOA NORSAR Array B 83.33 29 P P **23 51 31.2 -1.8**
NOA LR LR 00 24 21.1
BILL Bilibino 83.52 339 *i* P P **23 51 32.6 -1.3**
BILL *e* 23 54 45.5
BILL pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
BILL Bilibino 83.52 339 *e*P P **23 51 32.4 -1.5**
comp=Z,4.7nm,0.6s,mb4.5
FX1 Attu Island--F 84.58 323 *e*P P **23 51 38.7 -0.6**
HFS Hagfors 84.76 29 P P **23 51 37.3 -2.9**
comp=Z,1.7nm,0.8s,mb4.0,baz=248,slow=2.7,SNR=4.1
ARCES ARCESS Array B 85.93 19 P P **23 51 43.5 -2.5**
comp=Z,1.6nm,0.7s,mb4.1,baz=282,slow=2.4,SNR=6.0
ARCES LR LR 00 29 34.2
comp=Z,44nm,20.2s,baz=115,slow=35
ARCES ARCESS Array B 85.93 19 P P **23 51 43.5 -2.5**
ARCES LR LR 00 29 34.2
CLL Collm 86.99 38 *e*P P **23 51 51.0 -0.2**
TORD Torodi Ar. Bea 87.34 77 P P **23 51 50.3 -2.6**
comp=Z,0.5nm,0.8s,mb3.5,baz=212,slow=5.3,SNR=14
GERES GERESS Array B 88.16 40 LR LR 00 26 45.1
comp=Z,69nm,21.4s,baz=310,slow=32
FINES FINESS Array B 89.87 26 P P **23 52 03.7 -1.1**
comp=Z,0.9nm,0.9s,mb3.9,baz=357,slow=10,SNR=3.4
FINES LR LR 00 30 23.3
comp=Z,26nm,18.8s,baz=174,slow=34
SONM Songino Array 117.89 349 PKP PKPdf 23 57 50.3 -1.8
comp=Z,1.2nm,0.7s,baz=292,slow=1.3,SNR=11
SONM pPKP pPKPdf 23 58 11.3 -1.9
comp=Z,0.6nm,0.6s,baz=346,slow=2.6,SNR=3.3
SONM PP PP 23 58 59.6 -7.1
comp=Z,0.4nm,0.7s,baz=52,slow=2.4,SNR=2.8
SONM PKKPbc PKKPbc 00 08 11.7 -0.7
comp=Z,0.6nm,0.6s,baz=204,slow=3.3,SNR=7.2
MKAR Makanchi Array 119.82 7 PKP PKPdf 23 57 53.3 -2.5
comp=Z,0.3nm,0.4s,baz=304,slow=3.0,SNR=12
MAW Mawson 122.41 167 PKP PKPdf 23 57 59.5 -1.3
comp=Z,1.6nm,0.5s,baz=96,slow=8.0,SNR=6.2
HHC Hu-ho-hao-te 123.17 342 *e*PKP PKPdf 23 57 58.1 -4.2
HHC XPKP 23 58 35.6
HHC PP PP 23 59 43.5 +0.6
HHC PP PP
comp=Z,47nm,10.0s
HHC LR LR
comp=N,86nm,21.6s
HHC LR LR
comp=E,86nm,22.6s
HHC LR LR
comp=Z,80nm,20.0s
WMQ Urumqi 123.25 3 PKP PKPdf 23 58 02.5 +0.1
WMQ XPKP 23 58 31.3
WMQ PP PP 23 59 48.0 +4.6
WMQ PP PP
comp=Z,99nm,6.5s
WMQ LR LR
comp=N,126nm,26.5s
WMQ LR LR
comp=E,47nm,24.7s
WMQ LR LR
comp=Z,99nm,24.7s
GTA Gaotai 127.18 352 PKP PKPdf 23 58 09.9 0.0
NJ2 Nanjing 127.98 330 *e*PKP PKPdf 23 58 06.8 -4.7
NJ2 XPKP 23 58 42.8
NJ2 PP PP
comp=Z,470nm,5.1s
NJ2 LR LR
comp=N,200nm,30.3s
NJ2 LR LR
comp=E,260nm,31.7s
NJ2 LR LR
comp=Z,140nm,33.8s
LZH Lanzhou 129.69 347 *e*PKP PKPdf 23 58 10.6 -4.1
LZH XPKP 23 58 40.6
LZH LR LR
comp=N,236nm,19.6s
LZH LR LR
comp=Z,563nm,20.7s
STKA Stephens Creek 130.48 239 PKP PKPdf 23 58 14.2 -2.0
comp=Z,1.9nm,0.6s,baz=242,slow=0.8,SNR=3.6
STKA pPKP pPKPdf 23 58 33.4 -4.0
comp=Z,4.5nm,1.0s,baz=87,slow=4.7,SNR=4.4
CD2 Chengdu 134.66 345 *e*PKP PKPdf 23 58 20.5 -3.6
CD2 PP PP 00 00 58.0 0.0
CD2 PP PP
comp=Z,80nm,9.2s
WRAB Tennant Creek 138.37 255 *e*PKPdf PKPdf 23 58 31.5 +0.6
WRAB *ep*PKPdf pPKPdf 23 58 50.3 -1.8
WRA Warramunga Arr 138.38 255 PKhKP 23 58 22.9
comp=Z,0.6nm,0.7s,baz=96,slow=3.2,SNR=3.7
WRA PKP PKPdf 23 58 32.2 +1.2
comp=Z,5.0nm,0.7s,baz=88,slow=2.3,SNR=23
WRA pPKP pPKPdf 23 58 50.4 -1.7
comp=Z,7.4nm,1.0s,baz=87,slow=1.5,SNR=6.4
ASAR Alice Springs 138.48 249 PKhKP 23 58 21.6
comp=Z,0.8nm,0.6s,baz=111,slow=4.1,SNR=8.2
ASAR PKP PKPdf 23 58 32.2 +1.0
comp=Z,2.3nm,0.7s,baz=99,slow=1.7,SNR=16
GKN Gorkha 138.61 9 *e*P PKPdf 23 58 32.5 +1.1
comp=Z,10nm,0.5s
KOLN Koldanda 138.67 11 *e*P PKPdf 23 58 32.4 +0.9
KKN Kakani 138.92 8 *e*P PKPdf 23 58 33.1 +1.1
PKI Pulchoki 139.15 8 *e*P PKPdf 23 58 33.2 +0.8
JIRN Jiri 139.16 7 *e*P PKPdf 23 58 33.5 +1.1
comp=Z,8.8nm,0.4s
KMI Kunming 140.44 344 PKP PKPdf 23 58 34.3 -0.4
FORT Forrest 141.96 236 *e*P PKPdf 23 58 31.8 -5.7
comp=Z,8.7nm,0.5s
FITZ Fitzroy Crossi 146.70 257 *e*P PKPdf 23 58 48.3 +2.6
comp=Z,15nm,0.6s
FITZ *e* 23 59 06.1
HYB Hyderabad 147.12 23 *i* PKP PKPdf 23 58 48.5 +2.1
HYB Hyderabad 147.12 23 *e*P PKPdf 23 58 48.5 +2.1
CHTO Chiang Mai 147.43 347 *e*PKP2 PKPbc 23 58 47.3 -2.2
NWAO Narrogin (SRO) 149.26 226 *e*PKPbc PKPbc 23 58 54.4 +0.1
NWAO *ep*PKPbc pPKPbc 23 59 12.6 -2.6
KLBR Kellerberrin 149.61 228 *e*P PKPbc 23 58 54.1 -1.0
comp=Z,9.5nm,0.7s
MUN Mundaring 150.51 226 *e*P PKPbc 23 58 57.6 +0.3
MUN *e* 23 59 15.7
MBWA Marble Bar 151.82 250 *e*PKPbc PKPbc 23 59 00.5 +0.2
KSM Kuching 156.32 306 *e*PKPab PKPab 23 59 29.6 +0.9

*ISCJB **10** 23:52:44.5±0.7,2206S±006×682W±02,h130km±10km, mb3.7/3,Error ellipse: s-maj=23.4km s-min=9.5km az=9.4*
*IDC **10** 23:52:45.5±0.7,2203S×6820W,h119km±11km,mb3.4/3, mb1 3.7/5,mb1mx3.5/14,mbtmp4.1/5,Error ellipse: s-maj=29.6km s-min=14.6km az=101.0*
*NEIC **10** 23:52:45.4±0.8,2207S×6817W,h126km±11km,mb3.8/2, Error ellipse: s-maj=19.8km s-min=10.9km az=97.0*
ISC 10 23:52:45.6±0.6,**2208S**±006×**682W**±01,**h126**km±9km,**n10,** σ0**96**/14,**mb3.8/3,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.86**	**231**	P		**Pn**	**23 53 07.6**	**+0.8**
	38nm,0.3s,baz=12,slow=8.7,SNR=313							
LVC				S		**Sn**	**23 53 23.1**	**+0.2**
	221nm,0.3s,baz=42,slow=8.0,SNR=142							
LPAZ	**La Paz**	**5.76**	**1**	P		**Pn**	**23 54 09.4**	**+0.6**
	2.7nm,0.3s,baz=201,slow=6.7,SNR=41							
LPAZ				S		**Sn**	**23 55 13.3**	**-0.4**
	baz=218,slow=11,SNR=2.2							
LPAZ	**La Paz**	**5.76**	**1**	P		**Pn**	**23 54 09.4**	**+0.6**
LPAZ				S		**Sn**	**23 55 13.3**	**-0.4**
SIV	**San Ignacio**	**9.05**	**49**	P		**Pn**	**23 54 51.7**	**-1.5**
	8.1nm,0.3s,baz=239,slow=11,SNR=195							
CFAA	**Coronel Fontan**	**9.49**	**180**	P		**Pn**	**23 54 58.5**	**-0.6**
	0.1nm,0.3s,baz=348,slow=13,SNR=5.5							
CFAA				S		**Sn**	**23 56 40.1**	**-3.9**
	0.1nm,0.3s,baz=124,slow=19,SNR=6.8							
TRQA	**Tornquist**	**16.80**	**163**	*e*Pn		**Pn**	**23 56 32.9**	**-0.3**
	3.3nm,0.9s							
BDFB	**Brasilia**	**20.13**	**75**	P		**P**	**23 57 11.1**	**+1.6**

1.4nm,0.4s,baz=268,slow=5.1,SNR=4.1
SDV Santo Domingo 30.86 355 *e*P **P 23 58 49.0 -0.8**
1.0nm,0.3s,mb4.0
TORD Torodi Ar. Bea 76.92 70 P **P 00 04 25.3 +1.3**
0.5nm,0.3s,mb3.6,baz=255,slow=5.5,SNR=20
YKA Yellowknife Ar 91.95 340 P **P 00 05 39.6 -0.3**
0.3nm,0.5s,mb3.8,baz=135,slow=4.6,SNR=12

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*IDC **11** 00:04:34.5±2.3,6.08S×13.027E,h0km,mb3.5/1,mb1 3.7/4, mb1mx3.5/14,mbtmp3.6/4,ML3.5/3,Error ellipse: s-maj=92.9km s-min=28.6km az=77.0*
*NEIC **11** 00:04:39.3±0.8,6.13S×13.033E,h35km,mb3.5/1,Error ellipse: s-maj=20.6km s-min=9.8km az=68.0*
*ISCJB **11** 00:04:51.8±3.3,6.9S±0.1×1.299E±0.1,h185km±36km, mb3.2/1,Error ellipse: s-maj=23.9km s-min=18.2km az=124.4*
ISC 11 00:04:53.6±2.2,6.99S±010×1.298E±02,h183km±23km,n8, σ1§22/11,mb3.2/1,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.76**	**200**	Pn	**Pn**	**00 07 38.6**	**+2.8**
	0.1nm,0.3s,baz=94,slow=16,SNR=7.1						
FITZ				Sn	**Sn**	**00 09 45.1**	**-1.4**
	0.5nm,0.3s,baz=185,slow=21,SNR=8.1						
WRAB	**Tennant Creek**	**13.61**	**161**	*e*Pn	**Pn**	**00 07 58.9**	**-0.4**
WRA	**Warramunga Arr**	**13.62**	**161**	Pn	**Pn**	**00 07 58.6**	**-0.8**
	0.2nm,0.3s,baz=346,slow=14,SNR=4.2						
WRA				Sn	**Sn**	**00 10 25.3**	**-5.7**
	0.5nm,0.3s,baz=343,slow=22,SNR=6.2						
ASAR	**Alice Springs**	**17.05**	**167**	P	**Pn**	**00 08 43.5**	**+2.3**
	0.3nm,0.3s,baz=353,slow=10,SNR=11						
ASAR				S	**S**	**00 11 48.5**	**+0.1**
	0.1nm,0.3s,baz=358,slow=26,SNR=2.9						
CTAO	**Charters Tower**	**20.62**	**131**	*e*P	**P**	**00 09 18.0**	**-0.7**
	1.7nm,0.7s						
NWAO	**Narrogin (SRO)**	**28.32**	**203**	P	**P**	**00 10 38.9**	**+8.7**
LSA	**Lhasa**	**52.03**	**316**	P	**P**	**00 13 44.2**	**-0.1**
MKAR	**Makanchi Array**	**68.09**	**327**	P	**P**	**00 15 33.1**	**-0.4**
	0.2nm,0.4s,mb3.2,baz=118,slow=7.5,SNR=5.7						

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*ISCJB **11** 00:10:32.1±0.5,1978N±003×7563W±004,h36km±12km, Error ellipse: s-maj=6.6km s-min=5.2km az=61.2*
*JSN **11** 00:10:34.7±0.9,1972N×7567W,h30km±194km,MD4.2*
*SSNC **11** 00:10:35.3,1990N×7560W,h25km,MD3.6,ML3.8*
ISC 11 00:10:32.7±0.7,1980N±003×7562W±004,h34km±5km,n15, σ1§07/25,8C,Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.21**	**339**	*i*PG	**Pb**	**00 10 39.5**	**+0.1**
RCC				*i* SG	**Sb**	**00 10 43.3**	**-0.7**
	comp=N,9μm,0.2s						
MOAC	**Moa**	**1.06**	**36**	*i* P	**Pn**	**00 10 51.2**	**+0.1**
MOAC				*i* S	**Sn**	**00 11 02.3**	**-2.4**
	comp=N,74μm,0.5s						
MOAC				*e*			
	comp=E,30μm,0.2s						
HLGC	**Holguin**	**1.17**	**339**	*i* P	**Pn**	**00 10 53.4**	**+0.8**
HLGC				*i* S	**Sn**	**00 11 08.2**	**+0.9**
HLGC				*e*			
LMGC	**Las Mercedes**	**1.33**	**282**	*i* P	**Pn**	**00 10 56.5**	**+1.6**
LMGC				*i* S	**Sn**	**00 11 11.9**	**+0.4**
	comp=N,3μm,1.1s						
LMGC				*e*			
	comp=E,2μm,0.2s						
MASC	**Masc**	**1.36**	**74**	*e*P	**Pn**	**00 10 55.7**	**+0.5**
MASC				*e*S	**Sn**	**00 11 12.2**	**+0.2**
	comp=N,54μm,0.2s						
MASC				*e*			
	comp=E,51μm,0.1s						
CMJ	**Castle Mountai**	**1.80**	**204**	*i*P	**Pn**	**00 11 02.1**	**+0.8**
CMJ				*e*S	**Sn**	**00 11 22.0**	**-1.0**
GWJ	**Greenwich**	**2.01**	**212**	*i*P	**Pn**	**00 11 04.5**	**+0.3**
STH	**Stony Hill**	**2.05**	**214**	*i*P	**Pn**	**00 11 05.0**	**+0.3**
STH				*e*S	**Sn**	**00 11 27.4**	**-1.8**
HOJ	**Hope**	**2.08**	**211**	*i*P	**Pn**	**00 11 05.8**	**+0.6**
BBJ	**Bamboo Saint A**	**2.10**	**228**	*i*P	**Pn**	**00 11 05.8**	**+0.4**
CVJ	**Coleyville**	**2.39**	**230**	*i*P	**Pn**	**00 11 09.8**	**+0.3**
CCCC	**Cccc**	**2.45**	**305**	*i* P	**Pn**	**00 11 07.8**	**-2.5**
CCCC				*i* S	**Sn**	**00 11 37.2**	**-1.9**
	comp=N,4μm,0.2s						
CCCC				*i*			
	comp=E,3μm,0.2s						
MBJ	**Montego Bay**	**2.54**	**237**	*e*S	**Sn**	**00 11 40.1**	**-1.1**
MCJ	**Malvern**	**2.70**	**227**	*e*P	**Pn**	**00 11 14.9**	**+1.1**
MCJ				*e*S	**Sn**	**00 11 45.3**	**0.0**
MGV	**Manicaragua**	**4.68**	**300**	*e*P	**Pn**	**00 11 41.2**	**+0.2**
MGV				*e*S	**Sn**	**00 12 37.5**	**+3.4**
MGV				*e*			

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*IDC **11** 00:22:47.4±4.3,4.22N×1.2802E,h30km±29km,mb3.9/12, mb1 4.0/12,mb1mx3.9/21,mbtmp4.1/12,Error ellipse: s-maj=45.1km s-min=15.0km az=72.0*
*ISCJB **11** 00:22:50.9±5.1,4.3N±01×1.283E±02,h79km±47km, mb4.3/26,Error ellipse: s-maj=28.4km s-min=11.6km az=124.3*
*BJI **11** 00:22:56.1,4.28N×1.2790E,h110km,mB4.8,mb4.8*
*NEIC **11** 00:22:58.1±3.2,4.21N×1.2826E,h134km±29km,mb4.4/5, Error ellipse: s-maj=22.3km s-min=10.1km az=66.0*
ISC 11 00:22:58.2±3.5,4.26N±009×1.283E±01,h131km±31km,n46, σ0§84/44,mb4.2/26,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**12.15**	**279**	*e*Pn	**Pn**	**00 25 47.5**	**+0.6**
KSM	**Kuching**	**18.16**	**262**	*e*P	**P**	**00 26 58.8**	**-1.8**
FITZ	**Fitzroy Crossi**	**22.37**	**187**	P	**P**	**00 27 41.2**	**-4.5**
	2.2nm,0.9s,mb3.6,baz=27,slow=9.0,SNR=4.5						
WRAB	**Tennant Creek**	**24.77**	**166**	*e*P	**P**	**00 28 10.2**	**+2.5**
	27nm,1.3s,mb4.6						
WRA	**Warramunga Arr**	**24.78**	**166**	P	**P**	**00 28 07.1**	**-0.7**
	2.2nm,0.5s,mb3.9,baz=344,slow=10,SNR=9.7						
MBWA	**Marble Bar**	**26.62**	**198**	P	**P**	**00 28 24.5**	**+0.2**
KULM	**Kulim**	**27.55**	**273**	P	**P**	**00 28 34.0**	**+1.3**
ASAR	**Alice Springs**	**28.29**	**169**	P	**P**	**00 28 38.0**	**-1.2**
	0.3nm,0.4s,mb3.4,baz=1.8,slow=8.1,SNR=3.6						
ASAR				PcP	PcP	00 31 51.9	+2.8
	0.5nm,0.4s,baz=340,slow=2.7,SNR=4.5						
ASAR				ScP	ScP	00 35 29.6	+12
	0.6nm,0.7s,baz=354,slow=3.7,SNR=5.3						
KMI	**Kunming**	**32.13**	**313**	P	**P**	**00 29 14.0**	**+0.9**
KMI				XP	sP	00 29 48.9	-7.6
KMI				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.3						
KMI				LR	LR		
	comp=Z,46nm,22.9s						
XAN	**Xi'an**	**34.67**	**331**	P	**P**	**00 29 33.9**	**-1.2**
XAN				AMB	AMB		
	comp=Z,18nm,0.9s,mb4.7						
CD2	**Chengdu**	**35.16**	**322**	*e*P	**P**	**00 29 38.6**	**-0.7**
STKA	**Stephens Creek**	**38.11**	**161**	*e*P	**P**	**00 30 10.2**	**+5.9**
LZH	**Lanzhou**	**38.86**	**328**	*e*P	**P**	**00 30 11.0**	**+0.4**
LZH				AP	pP	00 30 33.5	-6.1
LZH				XP	sP	00 30 45.0	-9.5
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.9						
LSA	**Lhasa**	**43.27**	**310**	P	**P**	**00 30 47.2**	**+0.6**
GTA	**Gaotai**	**43.46**	**328**	*e*P	**P**	**00 30 48.7**	**+0.5**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.2						
JIRN	**Jiri**	**46.33**	**305**	*e*P	**P**	**00 31 10.7**	**-0.2**
	comp=Z,29nm,0.8s,mb4.9						
GUN	**Gumba**	**46.68**	**305**	*e*P	**P**	**00 31 14.1**	**+0.5**
PKI	**Pulchoki**	**46.94**	**304**	*e*P	**P**	**00 31 15.3**	**-0.3**
ULN	**Ulaanbaatar**	**47.12**	**341**	*e*P	**P**	**00 31 17.2**	**+0.2**
	comp=Z,9.1nm,0.9s,mb4.4						
KKN	**Kakani**	**47.13**	**304**	*e*P	**P**	**00 31 17.1**	**0.0**
	comp=Z,5.8nm,0.4s,mb4.6						
DMN	**Daman**	**47.20**	**304**	*e*P	**P**	**00 31 17.7**	**0.0**
SONM	**Songino Array**	**47.31**	**340**	P	**P**	**00 31 18.7**	**+0.2**
	comp=Z,4.2nm,0.9s,mb4.1,baz=153,slow=9.1,SNR=24						
SONM				PcP	PcP	00 32 49.3	+1.9
	comp=Z,0.8nm,0.7s,baz=150,slow=3.5,SNR=4.0						
GKN	**Gorkha**	**47.73**	**304**	*e*P	**P**	**00 31 21.3**	**-0.5**
	comp=Z,1.6nm,0.3s,mb4.2						
KOLN	**Koldanda**	**48.51**	**304**	*e*P	**P**	**00 31 27.9**	**+0.2**
	comp=Z,29nm,0.9s,mb4.9						
WMQ	**Urumqi**	**53.19**	**324**	P	**P**	**00 32 03.2**	**+0.4**
WMQ				PcP	PcP	00 33 09.2	+0.1
WMQ				PP	PP	00 34 06.4	+2.3
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,40nm,5.0s						
WMQ				LR	LR		
	comp=N,126nm,23.7s						
WMQ				LR	LR		
	comp=E,71nm,26.2s						
WMQ				LR	LR		
	comp=Z,119nm,26.7s						
MKAR	**Makanchi Array**	**58.02**	**324**	P	**P**	**00 32 37.8**	**+0.5**
	comp=Z,2.5nm,0.5s,mb4.3,baz=120,slow=8.0,SNR=62						
ZAL	**Zalesovo**	**60.83**	**332**	P	**P**	**00 32 55.2**	**-1.3**
	comp=Z,1.2nm,0.7s,mb3.8,baz=347,slow=7.2,SNR=6.8						
AAK	**Ala-Archa**	**61.02**	**317**	*e*P	**P**	**00 32 55.8**	**-2.0**
	comp=Z,1.0nm,0.6s,mb3.8						
KURK	**Kurchatov**	**62.14**	**327**	*e*P	**P**	**00 33 05.3**	**-0.1**
	comp=Z,3.9nm,0.5s,mb4.5						
BVAR	**Borovoye Array**	**67.73**	**326**	P	**P**	**00 33 41.2**	**-0.3**
	comp=Z,1.1nm,0.7s,mb3.7,baz=120,slow=5.8,SNR=9.9						
BRVK	**Borovoye**	**67.80**	**326**	*e*P	**P**	**00 33 42.4**	**+0.4**
ZRNK	**Zerenda**	**68.47**	**326**	*e*P	**P**	**00 33 46.5**	**+0.4**
	comp=Z,3.4nm,0.8s,mb4.1						
AKTK	**Aktyubinsk**	**74.21**	**321**	P	**P**	**00 34 20.8**	**+0.1**
AKTO	**Aktyubinsk**	**74.21**	**321**	P	**P**	**00 34 20.8**	**+0.1**
	comp=Z,1.0nm,0.5s,mb3.8,baz=86,slow=9.5,SNR=6.4						
ARU	**Arti**	**75.32**	**327**	*e*P	**P**	**00 34 25.6**	**-1.4**
GNI	**Garni**	**82.33**	**310**	P	**P**	**00 35 06.4**	**+1.1**
KIV	**Kislovodsk**	**83.90**	**314**	*e*P	**P**	**00 35 14.0**	**+0.7**
ILAR	**Eielson Array**	**83.96**	**25**	P	**P**	**00 35 14.4**	**+0.7**
	comp=Z,1.3nm,0.8s,mb3.7,baz=240,slow=6.0,SNR=11						
MALT	**Malatya**	**87.28**	**308**	P	**P**	**00 35 30.9**	**+0.9**
ARCES	**ARCESS Array B**	**90.49**	**340**	P	**P**	**00 35 44.2**	**-0.9**
	comp=Z,2.1nm,0.8s,mb4.1,baz=46,slow=7.0,SNR=5.2						
ARCES	**ARCESS Array B**	**90.49**	**340**	P	**P**	**00 35 44.2**	**-0.9**
FINES	**FINESS Array B**	**92.10**	**332**	P	**P**	**00 35 51.9**	**-0.7**
	comp=Z,0.9nm,0.9s,mb3.8,baz=117,slow=2.6,SNR=3.6						
YKA	**Yellowknife Ar**	**98.38**	**25**	P	**P**	**00 36 21.6**	**+0.4**
	comp=Z,0.4nm,0.7s,mb4.0,baz=299,slow=4.4,SNR=8.5						
YKA	**Yellowknife Ar**	**98.38**	**25**	P	**P**	**00 36 21.6**	**+0.4**
TORD	**Torodi Ar. Bea**	**124.22**	**289**	PKP	PKPdf	00 41 43.8	+2.5
	comp=Z,0.9nm,0.6s,baz=53,slow=2.0,SNR=11						
LPAZ	**La Paz**	**159.93**	**128**	PKPab	PKPab	00 43 27.5	+5.8
	comp=Z,1.0nm,0.8s,baz=238,slow=6.1,SNR=5.3						

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*ISCJB **11** 00:51:35.4±0.3,4858N±002×12432W±003,h40km±6km, Error ellipse: s-maj=3.6km s-min=2.4km az=84.1*
*PGC **11** 00:51:35.7,4859N×12432W,h40km±4km,ML2.9/27, MD2.9(SEA)*
PGC 50km southwest of Duncan, Bc West coast Vancouver Island, British Columbia Felt (I) in Sooke.
*NEIC **11** 00:51:35.0,4859N×12432W,h40km,MD2.9(SEA),After PGC.*
NEIC Felt at Sooke.
*PNSN **11** 00:51:36.2,4856N×12426W,h43km,MD2.9,Fault plane solution: NP1:ϕs40.00000°,δ80.00000°, NP2: ϕs132.00000°,δ80.00000°, Principal axes: T Plg0.0000°, Azm266.0000°; P Plg14.0000°, Azm356.0000°;*
ISC 11 00:51:36.0±0.3,4858N±002×12430W±003,h33km±2km, n65,σ0§68/100,7C-14D,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFB	**Port Renfrew**	**0.09**	**264**	⇑P	**Pb**	**00 51 42.1**	**+0.4**
PFB				S	**Sb**	**00 51 46.5**	**+0.8**
PFB				Trac		00 51 46.8	
	comp=Z,789nm,0.2s						
PFB	**Port Renfrew**	**0.09**	**264**	⇑P	**Pb**	**00 51 42.1**	**+0.4**
PFB				S	**Sb**	**00 51 46.6**	**+1.0**
LZB	**Mount Lazard**	**0.32**	**84**	P	**Pb**	**00 51 43.9**	**-0.1**
LZB				S	**Sb**	**00 51 49.9**	**+0.5**
LZB				Trac		00 51 50.6	
	comp=Z,96nm,0.1s						
MGB	**Mount Grey**	**0.49**	**328**	⇓P	**Pb**	**00 51 46.2**	**-0.2**
MGB				S	**Sb**	**00 51 53.6**	**0.0**
MGB				Trac		00 51 55.1	
	comp=Z,993nm,0.1s						
OTR	**Olympics--Tyee**	**0.50**	**183**	⇓P	**Pb**	**00 51 46.7**	**+0.1**
OBC	**Olympics--Boni**	**0.57**	**165**	⇓P	**Pb**	**00 51 47.3**	**-0.3**
PGC	**Sidney**	**0.57**	**83**	⇑P	**Pb**	**00 51 46.9**	**-0.7**
PGC				S	**Sb**	**00 51 55.7**	**+0.1**
PGC				Trac		00 51 57.8	
	comp=Z,261nm,0.1s						
PGC	**Sidney**	**0.57**	**83**	*e*Pn	**Pn**	**00 51 46.9**	**-0.8**
PGC				*e*Sn	**Sn**	**00 51 55.9**	**0.0**
STW	**Striped Peak**	**0.60**	**135**	⇓P	**Pn**	**00 51 47.6**	**-0.6**
GOBB	**Galiano Island**	**0.64**	**55**	P	**Pn**	**00 51 48.3**	**-0.4**
GOBB				S	**Sb**	**00 51 57.0**	**-0.6**
GOBB				Trac		00 51 58.3	
	comp=Z,334nm,0.2s						
VGZ	**Gonzales**	**0.67**	**104**	⇑P	**Pn**	**00 51 48.0**	**-1.2**
VGZ				S	**Sb**	**00 51 57.1**	**-1.3**
VGZ				Trac		00 51 57.3	
	comp=Z,2μm,0.2s						
VGZ	**Gonzales**	**0.67**	**104**	⇑P	**Pn**	**00 51 47.9**	**-1.2**
NLLB	**Nanaimo Lost L**	**0.68**	**18**	P	**Pn**	**00 51 48.7**	**-0.5**
NLLB				S	**Sb**	**00 51 58.2**	**-0.4**
NLLB				Trac		00 51 58.6	
	comp=Z,739nm,0.2s						
ALB	**Alberni**	**0.77**	**333**	⇑P	**Pn**	**00 51 49.7**	**-0.8**
ALB				S	**Sn**	**00 52 00.1**	**-0.9**
ALB				Trac		00 52 00.9	
	comp=Z,519nm,0.2s						
SNB	**Saturna Island**	**0.77**	**75**	⇑P	**Pn**	**00 51 50.4**	**-0.1**
SNB				S	**Sn**	**00 52 00.8**	**-0.1**
SNB				Trac		00 52 01.8	
	comp=Z,65nm,0.2s						
OOW	**Octopus West**	**0.85**	**175**	⇓P	**Pn**	**00 51 51.3**	**-0.2**
OSD	**Olympics--Snow**	**0.86**	**152**	P	**Pn**	**00 51 51.7**	**0.0**
OZB	**Mount Ozzard**	**0.88**	**296**	⇑P	**Pn**	**00 51 50.9**	**-1.0**
OZB				S	**Sn**	**00 52 02.3**	**-1.2**
OZB				Trac		00 52 02.8	
	comp=Z,674nm,0.2s						
OZB	**Mount Ozzard**	**0.88**	**296**	⇑P	**Pn**	**00 51 50.9**	**-1.0**
OZB				S	**Sn**	**00 52 02.5**	**-0.9**
SQM	**Sequim**	**0.98**	**121**	⇑P	**Pn**	**00 51 53.0**	**-0.4**
MCW	**Mount Constitu**	**0.98**	**84**	⇑P	**Pn**	**00 51 53.2**	**-0.1**
BIB	**Bowen Island**	**1.05**	**38**	⇓P	**Pn**	**00 51 54.2**	**-0.1**
BIB				S	**Sn**	**00 52 07.6**	**-0.3**
BIB				Trac		00 52 08.6	
	comp=Z,731nm,0.2s						
SHB	**Sechelt**	**1.05**	**15**	P	**Pn**	**00 51 54.4**	**0.0**
SHB				S	**Sn**	**00 52 08.0**	**0.0**
SHB				Trac		00 52 09.0	
	comp=Z,700nm,0.1s						
BLN	**Blyn Mountain**	**1.06**	**122**	⇑P	**Pn**	**00 51 54.0**	**-0.4**
OSR	**Olympics--Salm**	**1.10**	**168**	⇓P	**Pn**	**00 51 54.5**	**-0.5**
TXB	**Texada**	**1.12**	**356**	P	**Pn**	**00 51 55.1**	**-0.1**
TXB				S	**Sn**	**00 52 09.9**	**+0.4**
TXB				Trac		00 52 11.0	
	comp=Z,394nm,0.3s						
BTB	**Buttle Lake**	**1.20**	**318**	⇓P	**Pn**	**00 51 55.8**	**-0.6**
BTB				S	**Sn**	**00 52 10.8**	**-0.6**
BTB				Trac		00 52 12.1	
	comp=Z,213nm,0.1s						
HDW	**Hoodsport**	**1.25**	**138**	⇓P	**Pn**	**00 51 57.1**	**0.0**
WPB	**Watts Point**	**1.29**	**33**	⇓P	**Pn**	**00 51 57.6**	**0.0**
WPB				S	**Sn**	**00 52 13.9**	**+0.1**
WPB				Trac		00 52 14.5	
	comp=Z,247nm,0.3s						
HNB	**Haney**	**1.33**	**58**	⇑P	**Pn**	**00 51 58.0**	**-0.2**
HNB				S	**Sn**	**00 52 14.6**	**-0.2**
HNB				Trac		00 52 14.9	
	comp=Z,213nm,0.1s						
SMW	**South Mountain**	**1.42**	**153**	⇓P	**Pn**	**00 51 59.2**	**-0.2**
CMW	**Cultus Mountai**	**1.46**	**95**	⇑P	**Pn**	**00 51 59.9**	**0.0**
WISH	**Wishkah**	**1.51**	**166**	⇓P	**Pn**	**00 52 00.1**	**-0.5**
VDB	**Vedder Mountai**	**1.52**	**72**	⇑P	**Pn**	**00 52 00.7**	**-0.1**
VDB				S	**Sn**	**00 52 20.1**	**+0.7**
VDB				Trac		00 52 21.1	
	comp=Z,84nm,0.2s						
VDB	**Vedder Mountai**	**1.52**	**72**	⇑P	**Pn**	**00 52 00.7**	**-0.1**
CBB	**Campbell River**	**1.61**	**335**	P	**Pn**	**00 52 01.4**	**-0.6**
CBB				S	**Sn**	**00 52 21.2**	**-0.4**
CBB				Trac		00 52 26.1	
	comp=Z,39nm,0.2s						
JCW	**Jim Creek**	**1.63**	**103**	⇑P	**Pn**	**00 52 02.3**	**+0.1**
GDR	**Gold River**	**1.65**	**317**	P	**Pn**	**00 52 02.6**	**+0.1**
GDR				S	**Sn**	**00 52 23.1**	**+0.4**
GDR				Trac		00 52 25.8	
	comp=Z,90nm,0.2s						
WSLR	**Whistler**	**1.79**	**30**	P	**Pn**	**00 52 05.1**	**+0.6**
WSLR				S	**Sn**	**00 52 27.4**	**+1.4**
WSLR				Trac		00 52 30.4	
	comp=Z,96nm,0.2s						
RPW	**Rockport**	**1.86**	**93**	P	**Pn**	**00 52 05.9**	**+0.5**
HTW	**Haystack Looko**	**1.86**	**114**	P	**Pn**	**00 52 05.7**	**+0.2**
HOPB	**Hope**	**2.06**	**66**	P	**Pn**	**00 52 08.3**	**+0.1**
HOPB				S	**Sn**	**00 52 33.0**	**+0.2**
HOPB				Trac		00 52 35.2	
	comp=Z,117nm,0.3s						
NCRB	**Newcastle Ridg**	**2.15**	**329**	P	**Pn**	**00 52 10.0**	**+0.5**
NCRB				S	**Sn**	**00 52 35.8**	**+0.8**
NCRB				Trac		00 52 43.9	
	comp=Z,56nm,0.3s						
WOSB	**Woss**	**2.17**	**318**	P	**Pn**	**00 52 09.9**	**+0.2**
WOSB				S	**Sn**	**00 52 38.9**	**+3.5**
WOSB				Trac		00 52 41.9	
	comp=Z,30nm,0.2s						
BMW	**Boistfort Moun**	**2.23**	**161**	P	**Pn**	**00 52 10.1**	**-0.5**
EDB	**Eliza Dome**	**2.25**	**306**	P	**Pn**	**00 52 13.2**	**+2.3**
EDB				S	**Sn**	**00 52 35.8**	**-1.7**
EDB				Trac		00 52 41.9	
	comp=Z,9.0nm,0.1s						
RVC	**Mount Rainier-**	**2.27**	**135**	P	**Pn**	**00 52 11.9**	**+0.8**
WRW	**Wenatchee Ridg**	**2.40**	**106**	P	**Pn**	**00 52 13.1**	**+0.3**
FMW	**Mount Fremont**	**2.42**	**132**	P	**Pn**	**00 52 13.6**	**+0.4**
LON	**Longmire**	**2.49**	**136**	⇓P	**Pn**	**00 52 14.1**	**0.0**
NLO	**Nicolai Mounta**	**2.56**	**167**	⇓P	**Pn**	**00 52 15.0**	**-0.1**
LLLB	**Lillooet**	**2.57**	**37**	P	**Pn**	**00 52 15.8**	**+0.7**
LLLB				S	**Sn**	**00 52 45.8**	**+0.5**
LLLB				Trac		00 52 47.0	
	comp=Z,30nm,0.4s						
MAYB	**Maynard**	**2.61**	**315**	P	**Pn**	**00 52 16.3**	**+0.5**
MAYB				S	**Sn**	**00 52 48.4**	**+2.0**
MAYB				Trac		00 52 50.4	
	comp=Z,12nm,0.2s						
RVW	**Rose Valley**	**2.65**	**156**	P	**Pn**	**00 52 16.6**	**+0.2**
FL2	**Flat Top 2**	**2.73**	**150**	P	**Pn**	**00 52 17.8**	**+0.4**
BPBC	**Brooks Peninsu**	**2.76**	**306**	P	**Pn**	**00 52 19.3**	**+1.5**
BPBC				S	**Sn**	**00 52 50.7**	**+0.6**
BPBC				Trac		00 52 52.1	
	comp=Z,24nm,0.2s						
LTY	**Liberty**	**2.78**	**117**	P	**Pn**	**00 52 18.7**	**+0.6**
LVP	**Lakeview Peak**	**2.83**	**152**	P	**Pn**	**00 52 19.2**	**+0.5**
ETW	**Entiat**	**2.83**	**109**	P	**Pn**	**00 52 19.3**	**+0.4**
CDFW	**Cedar Flats**	**2.90**	**147**	P	**Pn**	**00 52 20.7**	**+0.9**
PHC	**Port Hardy**	**2.94**	**317**	P	**Pn**	**00 52 20.5**	**+0.1**
PHC				S	**Sn**	**00 52 53.5**	**-1.1**
PHC				Trac		00 52 54.2	
	comp=Z,5.0nm,0.2s						
WTV	**Waterville**	**3.04**	**105**	P	**Pn**	**00 52 22.0**	**+0.3**
PNT	**Penticton**	**3.17**	**75**	P	**Pn**	**00 52 23.9**	**+0.4**
HOLB	**Holberg**	**3.23**	**311**	P	**Pn**	**00 52 24.4**	**+0.1**
HOLB				S	**Sn**	**00 53 02.4**	**+0.7**
HOLB				Trac		00 53 05.1	
	comp=Z,13nm,0.2s						
BBB	**Bella Bella**	**4.35**	**327**	P	**Pn**	**00 52 39.5**	**-0.3**
BBB				S	**Sn**	**00 53 26.9**	**-2.4**

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*VIE **11** 01:06:31.2±0.9,4648N×1083E,h8km,ML1.4/3,Error ellipse: s-maj=7.0km s-min=2.4km az=157.0 3 km WSW of St.Gertraud*
ROM 11 01:06:29.0±0.2,4636N×1084E,h10km,Md2.1/5,Ml1.4/4, 5C-3D,Error ellipse: s-maj=3.0km s-min=1.9km az=11.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APPI	**Appiano**	**0.29**	**66**	Pg	Pg	01 06 35.5	+0.7
APPI				Sg	Sg	01 06 39.5	+0.7
	125nm,0.1s						
BRMO	**Bormio**	**0.35**	**290**	Pg	Pg	01 06 36.8	+1.0
BRMO				Sg	Sg	01 06 41.3	+0.8
	29nm,0.3s						
MABI	**Malga Bissina**	**0.38**	**217**	Pg	Pg	01 06 37.2	+0.7
MABI				Sg	Sg	01 06 42.1	+0.5
	17nm,0.1s						
FUORN	**Ofenpass**	**0.48**	**303**	Pg	Pg	01 06 39.1	+0.8
FUORN				Sg	Sg	01 06 45.7	+1.1
CTI	**Castel Tesino**	**0.64**	**119**	Pg	Pg	01 06 42.0	+0.6
CTI				Sg	Sg	01 06 50.6	+0.8
	12nm,0.1s						
SQTA	**Sankt Quirin**	**0.90**	**16**	⇓*e*Pg	Pg	01 06 46.9	+0.7
	1.0nm,0.1s						
SQTA				⇑*e*Sg	Sg	01 06 58.1	+0.2
	3.1nm,0.1s						
MOTA	**Moosalm**	**1.00**	**10**	⇑*e*Pg	Pg	01 06 48.7	+0.4
	0.4nm,0.1s						
MOTA				⇓*i*Sg	Sg	01 07 01.0	-0.3
	1.2nm,0.2s						
WTTA	**Wattenberg**	**1.05**	**31**	⇑*e*Pg	Pg	01 06 50.3	+1.0
	0.9nm,0.1s						
WTTA				⇑Sg	Sg	01 07 03.5	+0.5
	0.7nm,0.1s						
WATA	**Walderalm**	**1.10**	**27**	⇓*e*Pg	Pg	01 06 50.1	0.0
	0.8nm,0.1s						
WATA				⇑*e*Sg	Sg	01 07 03.2	-1.1
	1.4nm,0.2s						

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*CSEM **11** 01:18:10.0±0.2,4020N×3693E,h2km,MD3.5,Error ellipse: s-maj=4.5km s-min=2.5km az=37.0*
*ISCJB **11** 01:18:11.9±0.4,4019N

MBJ	**Montego Bay**	**1.21**	**288**	⇓*e*P		**Pn**	**01 21 00.4**	**+0.2**
MBJ				⇓*e*S		**Sn**	**01 21 16.9**	**+1.1**
LMGC	**Las Mercedes**	**2.05**	**351**	*i* PG		**Pn**	**01 21 12.3**	**+0.6**
LMGC				*i* SG		**Sn**	**01 21 34.8**	**-1.6**
	comp=N,13nm,0.3s							
LMGC				*e*				
	comp=E,15nm,0.3s							
RCC	**Rio Carpintero**	**2.15**	**25**	*e*PG		**Pn**	**01 21 13.7**	**+0.6**
	baz=109							
RCC				*e*SG		**Sn**	**01 21 39.1**	**+0.1**
	comp=N,30nm,0.1s							
RCC				*e*				
	comp=E,26nm,0.1s							

MOS ***11*** *01:47:45.2±1.1,36.04N×2328E,h61km,mb4.2/11,Error ellipse: s-maj=7.6km s-min=3.5km az=95.6*
ISCJB ***11*** *01:47:46.4±0.2,36.14N±002×2334E±002,h81km±3km, mb3.8/16,Error ellipse: s-maj=3.9km s-min=2.1km az=85.6*
CSEM ***11*** *01:47:46.9±0.1,36.16N×2351E,h80km,mb4.0/11,Error ellipse: s-maj=1.7km s-min=0.9km az=40.0*
HLW ***11*** *01:47:46.3,36.18N×2380E,h33km,Mb4.4*
NEIC ***11*** *01:47:47.4,36.19N×2350E,h55km,MD3.9(ATH),After ATH.*
PDG ***11*** *01:47:47.2±0.6,3622N×2328E,h40km±11km*
ATH ***11*** *01:47:47.4,36.18N×2349E,h56km±2km,MD3.9/22,ML3.9*
IDC ***11*** *01:47:48.1±1.2,36.18N×2351E,h71km±15km,mb3.6/11, mb1 3.7/17,mb1mx3.6/27,mbtmp3.8/17,Error ellipse: s-maj=17.7km s-min=13.0km az=36.0*
THE ***11*** *01:47:49.0,3625N×2346E,h47km,ML4.1*
ISC 11 01:47:47.6±0.2,3613N±002×2337E±002,h72km±3km, n211,σ1$31/275,mb3.8/16,36C-15D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.31**	**300**	*e*P	**Pn**	**01 47 58.3**	**-0.8**
VLI	**Veliai**	**0.69**	**330**	*e*P	**Pn**	**01 48 01.8**	**-0.7**
VAM	**Vamos**	**0.98**	**136**	⇓*i*P	**Pn**	**01 48 05.8**	**-0.2**
GVD	**Gavdhos**	**1.41**	**155**	*e*Pg	**Pn**	**01 48 13.5**	**+2.1**
GVD				*e*Sg	**Sn**	**01 48 31.3**	**+1.9**
GVD	**Gavdhos**	**1.41**	**155**	*e*P	**Pn**	**01 48 12.0**	**+0.6**
GVD	**Gavdhos**	**1.41**	**155**	*e*Pg	**Pn**	**01 48 13.5**	**+2.1**
GVD				*e*Sg	**Sn**	**01 48 31.3**	**+1.9**
IDI	**Anoyia**	**1.49**	**124**	P	**Pn**	**01 48 12.0**	**-0.5**
	74nm,0.3s,baz=312,slow=13,SNR=831						
IDI				S	**Sn**	**01 48 30.5**	**-0.8**
	274nm,0.3s,baz=270,slow=20,SNR=18						
ITM	**Ithomi**	**1.57**	**313**	⇓*i*P	**Pn**	**01 48 14.8**	**+1.3**
ITM				*e*S	**Sn**	**01 48 34.8**	**+1.8**
SIVA	**Sivas**	**1.61**	**133**	*e*Pb	**Pn**	**01 48 15.6**	**+1.5**
SIVA				*e*Sb	**Sn**	**01 48 36.2**	**+2.1**
SIVA	**Sivas**	**1.61**	**133**	*e*Pb	**Pn**	**01 48 15.6**	**+1.5**
SIVA				*e*Sb	**Sn**	**01 48 36.2**	**+2.1**
THR3	**Thira Island,**	**1.67**	**80**	*e*Pg	**Pn**	**01 48 14.6**	**-0.2**
SANT	**Santorini**	**1.71**	**81**	*e*Pg	**Pn**	**01 48 15.1**	**-0.3**
SANT				*e*Sg	**Sn**	**01 48 35.0**	**-1.4**
THR1	**Thera Island**	**1.71**	**81**	*e*Pb	**Pn**	**01 48 15.2**	**-0.1**
KVR	**Kavouri**	**1.73**	**11**	*e*P	**Pn**	**01 48 14.8**	**-0.8**
MGER	**Gerania Oros**	**1.86**	**357**	*e*P	**Pn**	**01 48 17.5**	**+0.1**
ATH	**Athens Observa**	**1.86**	**8**	*e*P	**Pn**	**01 48 17.1**	**-0.3**
ATH				*e*S	**Sn**	**01 48 39.0**	**-1.1**
PTL	**Penteli**	**1.96**	**12**	*e*P	**Pn**	**01 48 18.3**	**-0.4**
LAST	**Lasithi**	**1.97**	**119**	*e*Pb	**Pn**	**01 48 19.1**	**+0.2**
LAST				*e*Sb	**Sn**	**01 48 42.4**	**-0.3**
APE	**Apeiranthos**	**1.98**	**61**	*e*Pb	**Pn**	**01 48 18.6**	**-0.4**
APE				*e*Sb	**Sn**	**01 48 41.0**	**-1.9**
APE	**Apeiranthos**	**1.98**	**61**	⇑*i*P	**Pn**	**01 48 18.5**	**-0.5**
APE				*e*S	**Sn**	**01 48 41.0**	**-1.8**
APE	**Apeiranthos**	**1.98**	**61**	*e i*P	**Pn**	**01 48 18.5**	**-0.5**
APE	**Apeiranthos**	**1.98**	**61**	*e*Pb	**Pn**	**01 48 18.5**	**-0.5**
APE				*e*Sb	**Sn**	**01 48 41.0**	**-1.8**
NPS	**Neapolis**	**2.02**	**115**	⇑*i*P	**Pn**	**01 48 19.6**	**+0.1**
NPS				*e*S	**Sn**	**01 48 42.3**	**-1.5**
XRY	**Khrisi**	**2.27**	**123**	*e*P	**Pn**	**01 48 24.0**	**+1.1**
RLS	**Riolos of Patr**	**2.46**	**322**	⇓*i*P	**Pn**	**01 48 26.6**	**+1.2**
RLS				*e*S	**Sn**	**01 48 55.9**	**+1.5**
ZKR	**Zakros**	**2.53**	**113**	*e*Pn	**Pn**	**01 48 27.5**	**+1.0**
ZKR				*e*Sn	**Sn**	**01 48 56.9**	**+0.7**
LKR	**Lokris**	**2.54**	**353**	*e*P	**Pn**	**01 48 26.8**	**+0.3**
LKR				*e*S	**Sn**	**01 48 55.8**	**-0.6**
AGG	**Agios Georgios**	**3.01**	**344**	*e*Pn	**Pn**	**01 48 34.2**	**+1.3**
	comp=Z,9.5nm,0.4s						
AGG				*e*Sn	**Sn**	**01 49 07.2**	**-0.7**
VLS	**Valsamata**	**3.02**	**314**	*e*P	**Pn**	**01 48 34.3**	**+1.2**
EVR	**Evrytania**	**3.05**	**336**	*e*P	**Pn**	**01 48 35.5**	**+2.0**
EVR				*e*S	**Sn**	**01 49 10.0**	**+1.1**
AOS	**Alonnisos**	**3.07**	**7**	*e*Pn	**Pn**	**01 48 33.6**	**-0.1**
AOS				*e*Sn	**Sn**	**01 49 07.3**	**-1.9**
AOS	**Alonnisos**	**3.07**	**7**	*e*Pn	**Pn**	**01 48 33.6**	**-0.1**
AOS				*e*Sn	**Sn**	**01 49 07.3**	**-2.0**
NISR	**Nisiros**	**3.07**	**80**	*e*P	**Pn**	**01 48 34.0**	**+0.2**
CHOS	**Chios island**	**3.11**	**43**	*e*Pn	**Pn**	**01 48 34.1**	**-0.2**
CHOS				*e*Sn	**Sn**	**01 49 08.7**	**-1.7**
KARP	**Karpathos**	**3.13**	**100**	*e*P	**Pn**	**01 48 35.0**	**+0.4**
KARP				*e*S	**Sn**	**01 49 08.9**	**-2.0**
NEO	**Neokhori**	**3.18**	**358**	⇑*i*P	**Pn**	**01 48 35.9**	**+0.7**
NEO				*e*S	**Sn**	**01 49 10.9**	**-1.1**
SMG	**Samos**	**3.20**	**59**	⇑*i*P	**Pn**	**01 48 35.3**	**-0.2**
SMG				*e*S	**Sn**	**01 49 09.8**	**-2.6**
XOR	**Xorichti**	**3.24**	**358**	*e*Pn	**Pn**	**01 48 36.7**	**+0.7**
BODT	**Bodrum**	**3.31**	**72**	PN	**Pn**	**01 48 37.4**	**+0.4**
LKD	**Levkas**	**3.37**	**321**	*e*Pn	**Pn**	**01 48 38.5**	**+0.8**
LKD				*e*Sn	**Sn**	**01 49 17.1**	**+0.5**
MLSB	**Milas**	**3.73**	**70**	*e*PN	**Pn**	**01 48 42.9**	**+0.2**
PAIG	**Paliouri**	**3.80**	**4**	*e*Pn	**Pn**	**01 48 43.9**	**+0.2**
PAIG				*e*Sn	**Sn**	**01 49 25.7**	**-1.6**
IZMI	**Izmir**	**3.84**	**53**	*e*PN	**Pn**	**01 48 44.2**	**-0.1**
ARG	**Arkhangelos**	**3.85**	**87**	*e*P	**Pn**	**01 48 45.6**	**+1.2**
ARG				*e*S	**Sn**	**01 49 27.5**	**-0.9**
PRK	**Paraskevi**	**3.87**	**36**	⇑*i*P	**Pn**	**01 48 44.1**	**-0.6**
AYDN	**Tasoluk**	**3.93**	**66**	*i* P	**Pn**	**01 48 46.6**	**+1.1**
LIA	**Limnos Island**	**4.03**	**20**	*e*P	**Pn**	**01 48 46.7**	**-0.1**
LIT	**Litokhoron**	**4.03**	**350**	*e*Pn	**Pn**	**01 48 47.7**	**+0.9**
LIT				*e*Sn	**Sn**	**01 49 32.4**	**-0.3**
LOS	**Limnos**	**4.04**	**19**	*e*Pn	**Pn**	**01 48 47.3**	**+0.4**
JAN	**Janina**	**4.05**	**331**	*e*P	**Pn**	**01 48 48.7**	**+1.6**
YER	**Yerkesik**	**4.08**	**74**	*e*PN	**Pn**	**01 48 49.5**	**+2.0**
IGT	**Igoumenitsa**	**4.17**	**326**	*e*Pn	**Pn**	**01 48 49.4**	**+0.7**
IGT				*e*Sn	**Sn**	**01 49 36.0**	**0.0**
IGT	**Igoumenitsa**	**4.17**	**326**	*e*Pn	**Pn**	**01 48 49.4**	**+0.7**
IGT				*e*Sn	**Sn**	**01 49 36.0**	**-0.1**
OUR	**Ouranopolis**	**4.23**	**6**	*e*Pn	**Pn**	**01 48 49.9**	**+0.3**
OUR				*e*Sn	**Sn**	**01 49 36.3**	**-1.3**
PLG	**Polygyros**	**4.24**	**1**	⇑*i*P	**Pn**	**01 48 50.2**	**+0.5**
DALT	**Dalyan (Mudla)**	**4.29**	**80**	*e*PN	**Pn**	**01 48 52.8**	**+2.3**
EZN	**Ezine**	**4.37**	**31**	*e*PN	**Pn**	**01 48 50.7**	**-0.7**
THE	**Thessaloniki**	**4.51**	**356**	*e*Pn	**Pn**	**01 48 54.4**	**+1.0**
KEK	**Kerkira**	**4.56**	**323**	*e*P	**Pn**	**01 48 55.9**	**+1.8**
FETY	**Fethiye**	**4.64**	**82**	*e*PN	**Pn**	**01 48 57.5**	**+2.4**
SOH	**Sokhos**	**4.69**	**360**	*e*Pn	**Pn**	**01 48 56.9**	**+1.1**
SOH				*e*Sn	**Sn**	**01 49 49.1**	**+0.2**
SLUM		**4.87**	**161**	⇓*e*P	**Pn**	**01 48 57.4**	**-0.9**
SLUM				S	**Sn**	**01 49 48.1**	**-5.2**
GRG	**Griva**	**4.88**	**351**	*e*Pn	**Pn**	**01 48 59.7**	**+1.2**
FNA	**Florina**	**4.91**	**342**	*e*Pn	**Pn**	**01 48 59.5**	**+0.7**
FNA				*e*Sn	**Sn**	**01 49 53.0**	**-1.2**
SRS	**Serrai**	**4.99**	**2**	*e*Pn	**Pn**	**01 49 00.5**	**+0.6**
SRS				*e*Sn	**Sn**	**01 49 54.0**	**-2.2**
BALB	**Balikesir**	**5.00**	**44**	*e*PN	**Pn**	**01 49 00.0**	**-0.1**
KNT	**Kendrikon**	**5.04**	**356**	*e*Pn	**Pn**	**01 49 01.9**	**+1.2**
	comp=Z,6.1nm,0.7s						
KNT				*e*Sn	**Sn**	**01 49 57.2**	**-0.4**
BIA	**Bitola**	**5.14**	**342**	*e*Pn	**Pn**	**01 49 02.0**	**0.0**
BIA	**Bitola**	**5.14**	**342**	*e*Pn	**Pn**	**01 49 01.9**	**-0.1**
ALN	**Alexandroupoli**	**5.21**	**23**	*e*Pn	**Pn**	**01 49 02.6**	**-0.3**
VAY	**Valandovo**	**5.22**	**353**	*e*Pn	**Pn**	**01 49 04.5**	**+1.3**
NVR	**Nevrokopi**	**5.23**	**4**	*e*P	**Pn**	**01 49 04.0**	**+0.8**
ELL	**Elmali**	**5.31**	**81**	*e*PN	**Pn**	**01 49 06.9**	**+2.6**
OHR	**Ohrid**	**5.37**	**339**	*e*Pn	**Pn**	**01 49 06.1**	**+0.9**
OHR	**Ohrid**	**5.37**	**339**	*e*Pn	**Pn**	**01 49 06.0**	**+0.9**
DST	**Dursunbey**	**5.42**	**49**	*e*PN	**Pn**	**01 49 06.6**	**+0.8**
MMB	**Musomiste**	**5.46**	**3**	*i* P	**Pn**	**01 49 07.0**	**+0.6**
MRMT	**Marmara Adasi**	**5.57**	**35**	*e*PN	**Pn**	**01 49 04.8**	**-3.1**
MFT	**Murefte**	**5.57**	**32**	*e*PN	**Pn**	**01 49 07.7**	**-0.3**
RZN	**Rozhen**	**5.65**	**10**	*i* P	**Pn**	**01 49 09.6**	**+0.6**
KCT	**Karacabey**	**5.70**	**42**	*e*PN	**Pn**	**01 49 09.5**	**-0.2**
KKB	**Krupnik**	**5.74**	**358**	*i* P	**Pn**	**01 49 12.0**	**+1.8**
KDZ	**Kurdzhali**	**5.74**	**16**	*i* P	**Pn**	**01 49 10.0**	**-0.2**
TKTP	**Tekketepe**	**5.88**	**69**	*i* P	**Pn**	**01 49 14.9**	**+2.9**
TIR	**Tirane**	**5.89**	**333**	*e*Pn	**Pn**	**01 49 12.6**	**+0.3**
LCI	**Lecce**	**5.90**	**317**	P	**Pn**	**01 49 11.8**	**-0.5**
LCI				pmax	pmax		
	comp=Z,40nm,0.2s						
LCI	**Lecce**	**5.90**	**317**	Pn	**Pn**	**01 49 11.8**	**-0.5**
	comp=Z,40nm,0.2s						
ANTB	**Antalya**	**5.92**	**80**	*e*PN	**Pn**	**01 49 15.5**	**+2.8**
QSH	**Qafa e Shtames**	**6.03**	**334**	*i* Pn	**Pn**	**01 49 14.5**	**+0.4**
QSH				*i* Sn	**Sn**	**01 50 19.5**	**-2.2**
PLD	**Plovdiv**	**6.06**	**9**	*i* P	**Pn**	**01 49 17.0**	**+2.4**
TIP	**Timpagrande**	**6.07**	**302**	*e*Pn	**Pn**	**01 49 14.4**	**-0.2**
TIP				*e*Sn	**Sn**	**01 50 16.2**	**-6.5**
TIP	**Timpagrande**	**6.07**	**302**	*e*Pn	**Pn**	**01 49 14.4**	**-0.3**
ALT	**Altintas**	**6.10**	**59**	*e*PN	**Pn**	**01 49 16.4**	**+1.3**
SOI	**Samo**	**6.16**	**291**	Pn	**Pn**	**01 49 14.7**	**-1.2**
SOI				Sn	**Sn**	**01 50 21.8**	**-3.2**
EDRB	**Edirne**	**6.29**	**24**	*e*PN	**Pn**	**01 49 16.9**	**-0.8**
CEL	**Celeste**	**6.34**	**292**	Pn	**Pn**	**01 49 17.5**	**-0.8**
CEL				Sn	**Sn**	**01 50 24.9**	**-4.4**
VTS	**Vitosha**	**6.46**	**359**	*i* P	**Pn**	**01 49 22.7**	**+2.7**
VTS	**Vitosha**	**6.46**	**359**	⇑*i*P	**Pn**	**01 49 21.8**	**+1.8**
YLV	**Yalova**	**6.47**	**45**	*e*PN	**Pn**	**01 49 20.7**	**+0.5**
PE1	**Pezze di Greco**	**6.60**	**317**	*e*Pn	**Pn**	**01 49 20.7**	**-1.3**
ULC	**Ulcinj**	**6.65**	**332**	⇑*i*Pn	**Pn**	**01 49 21.6**	**-1.0**
ULC				*e*Sn	**Sn**	**01 50 33.0**	**-4.0**
BCI	**Bajram Curri**	**6.74**	**339**	*i* Pn	**Pn**	**01 49 23.9**	**+0.1**
BCI				*i* Sn	**Sn**	**01 50 37.4**	**-1.7**
BCI	**Bajram Curri**	**6.74**	**339**	*i* Sg	**Sn**	**01 50 40.2**	**+1.1**
BRT	**Bari-Castellan**	**6.77**	**316**	P	**Pn**	**01 49 23.2**	**-1.1**
BRT				pmax	pmax		
	comp=Z,35nm,0.2s						
BRT	**Bari-Castellan**	**6.77**	**316**	Pn	**Pn**	**01 49 23.2**	**-1.1**
	comp=Z,35nm,0.2s						
ESKT	**Eskisehir**	**6.82**	**58**	*i* P	**Pn**	**01 49 28.4**	**+3.5**
PVY	**Plav**	**6.97**	**339**	⇑*i*Pn	**Pn**	**01 49 27.1**	**0.0**
PVY				*e*Sn	**Sn**	**01 50 40.6**	**-4.3**
SG1	**Sgolgore (BA)**	**7.05**	**314**	*e*Pn	**Pn**	**01 49 26.6**	**-1.5**
TTG	**Podgorica**	**7.05**	**334**	⇓*i*Pn	**Pn**	**01 49 27.1**	**-1.1**
TTG				*e*Sn	**Sn**	**01 50 42.0**	**-4.9**
TTG	**Podgorica**	**7.05**	**334**	⇓*i*Pn	**Pn**	**01 49 27.0**	**-1.2**
TTG				*e*Sn	**Sn**	**01 50 42.0**	**-4.9**
BUM	**Brajici-Budva**	**7.08**	**332**	⇑*i*Pn	**Pn**	**01 49 27.7**	**-0.8**
BUM				*e*Sn	**Sn**	**01 50 42.6**	**-4.8**
SWA2		**7.08**	**165**	⇓*e*P	**Pn**	**01 49 27.2**	**-1.4**
CUC	**Castrocucco**	**7.10**	**305**	Pn	**Pn**	**01 49 29.7**	**+0.9**
	comp=Z,63nm,0.4s						
BAI	**Bari**	**7.11**	**316**	*e*Pn	**Pn**	**01 49 28.0**	**-0.9**
SWA1		**7.12**	**163**	⇑P	**Pn**	**01 49 28.0**	**-1.1**
SWA1				S	**Sn**	**01 50 42.3**	**-6.2**
IVA	**Berane**	**7.25**	**339**	⇑*i*Pn	**Pn**	**01 49 30.1**	**-0.7**
IVA				*e*Sn	**Sn**	**01 50 47.0**	**-4.7**
KIZT	**Kizilcal**	**7.30**	**65**	*e*PN	**Pn**	**01 49 33.9**	**+2.4**
VAE	**Valguarnera**	**7.31**	**283**	P	**Pn**	**01 49 32.6**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=271,slow=13,SNR=11						
VAE				S	**Sn**	**01 50 47.0**	**-6.1**
	comp=Z,5.2nm,0.3s,baz=209,slow=21,SNR=8.7						
MGR	**Morigerati**	**7.35**	**305**	Pn	**Pn**	**01 49 31.3**	**-0.8**
	comp=Z,23nm,0.3s						
HCY	**Herceg Novi**	**7.36**	**331**	⇑*i*Pn	**Pn**	**01 49 31.7**	**-0.5**
HCY				*e*Sn	**Sn**	**01 50 48.8**	**-5.4**
SLCN	**Sala Consilina**	**7.43**	**307**	Pn	**Pn**	**01 49 33.8**	**+0.6**
	comp=Z,67nm,0.3s						
CDT	**Castel del Mon**	**7.44**	**314**	*e*Pn	**Pn**	**01 49 31.9**	**-1.5**
NKY	**Niksic**	**7.48**	**334**	⇑*i*Pn	**Pn**	**01 49 33.4**	**-0.6**
NKY				*e*Sn	**Sn**	**01 50 52.6**	**-4.8**
ERMK	**Ermenek**	**7.71**	**83**	*i* P	**Pn**	**01 49 40.7**	**+3.5**
BRY	**Bratogost**	**7.72**	**333**	⇑*i*Pn	**Pn**	**01 49 36.9**	**-0.4**
BRY				*e*Sn	**Sn**	**01 50 58.5**	**-4.7**
BRY	**Bratogost**	**7.72**	**333**	⇑*i*Pn	**Pn**	**01 49 36.9**	**-0.4**
BRY				*e*Sn	**Sn**	**01 50 58.5**	**-4.7**
PLE	**Pljevlja**	**7.82**	**338**	⇑*i*Pn	**Pn**	**01 49 38.2**	**-0.4**
PLE				*e*Sn	**Sn**	**01 51 00.7**	**-4.8**
UPM	**Unac-Piva**	**7.86**	**335**	⇑*i*Pn	**Pn**	**01 49 38.5**	**-0.6**
UPM				*e*Sn	**Sn**	**01 51 02.1**	**-4.4**
UPM	**Unac-Piva**	**7.86**	**335**	⇑*i*Pn	**Pn**	**01 49 38.5**	**-0.7**
UPM				*e*Sn	**Sn**	**01 51 02.1**	**-4.4**
MS1	**Monte Sant'Ang**	**8.03**	**316**	*e*Pn	**Pn**	**01 49 40.6**	**-0.9**
STON	**Ston**	**8.04**	**329**	*i* Pn	**Pn**	**01 49 38.9**	**-2.6**
STON				*i* Sn	**Sn**	**01 51 00.7**	**-10**
SGKT	**Sivrigoynuk**	**8.14**	**54**	*i* P	**Pn**	**01 49 46.9**	**+3.9**
IKL	**Isikli**	**8.34**	**86**	*e*PN	**Pn**	**01 49 45.5**	**-0.3**
MEST	**Erdemli**	**8.71**	**84**	*i* P	**Pn**	**01 49 52.2**	**+1.5**
BRTR	**Keskin Array B**	**8.87**	**63**	P	**Pn**	**01 49 56.5**	**+3.5**
	comp=Z,0.7nm,0.3s,baz=240,slow=13,SNR=54						
BRTR	**Keskin Array B**	**8.87**	**63**	*i* P	**Pn**	**01 49 56.5**	**+3.5**
BRTR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BR131	**Keskin Array S**	**8.87**	**63**	*e*Pn	**Pn**	**01 49 56.7**	**+3.7**
	comp=Z,3.8nm,0.6s						
BR131	**Keskin Array S**	**8.87**	**63**	*e*Pn	**Pn**	**01 49 56.7**	**+3.7**
	comp=Z,3.8nm,0.6s						
HNAT	**Natroun**	**8.89**	**135**	⇑*e*P	**Pn**	**01 49 51.0**	**-2.2**
MERS	**Mersin**	**9.01**	**82**	*e*PN	**Pn**	**01 49 55.8**	**+0.9**
AYT	**Al 'Ayyat**	**9.15**	**132**	⇑P	**Pn**	**01 49 54.3**	**-2.5**
HARS	**Harsova**	**9.23**	**21**	⇑*i*P	**Pn**	**01 49 58.7**	**+0.8**
VOIR		**9.39**	**7**	⇑*i*P	**Pn**	**01 50 01.6**	**+1.6**
KOT	**Kottamia**	**9.41**	**129**	⇓*e*P	**Pn**	**01 49 57.9**	**-2.5**
KARA	**Karaisali**	**9.45**	**80**	*e*PN	**Pn**	**01 50 03.1**	**+2.2**
HSAF	**As Saff**	**9.46**	**131**	⇑*e*P	**Pn**	**01 49 58.6**	**-2.4**
MLR	**Muntele Rosu**	**9.56**	**11**	P	**Pn**	**01 50 03.5**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=190,slow=7.5,SNR=7.1						
MLR	**Muntele Rosu**	**9.56**	**11**	⇓*i*P	**Pn**	**01 50 04.9**	**+2.6**
HHAG	**Hagoal**	**9.57**	**128**	⇓*e*P	**Pn**	**01 49 60.0**	**-2.5**
GLL	**Jalalah**	**9.58**	**131**	⇓*e*P	**Pn**	**01 49 59.9**	**-2.8**
KRTS	**Karatas**	**9.70**	**84**	*e*PN	**Pn**	**01 50 03.5**	**-0.7**
AMAG	**Maghara**	**9.87**	**121**	⇓*e*P	**Pn**	**01 50 03.2**	**-3.5**
HFRF	**Wahat Farafira**	**9.89**	**153**	⇑P	**Pn**	**01 50 05.7**	**-1.2**
AQU	**L'Aquila**	**9.92**	**312**	⇓*i*P	**Pn**	**01 50 09.5**	**+2.2**
PLOR	**Plostina**	**10.03**	**13**	⇓*i*P	**Pn**	**01 50 11.3**	**+2.6**
VRI	**Vrincioaia**	**10.05**	**14**	⇑*i*P	**Pn**	**01 50 11.7**	**+2.6**
KOZT	**Kozan**	**10.08**	**79**	*e*PN	**Pn**	**01 50 10.9**	**+1.4**
MMAI	**Mount Meron Ar**	**10.39**	**104**	P	**Pn**	**01 50 10.9**	**-2.9**
	comp=Z,2.8nm,0.3s,baz=298,slow=13,SNR=9.0						
MMAI				S	**Sn**	**01 52 00.5**	**-8.0**
	comp=Z,8.6nm,0.3s,baz=312,slow=29,SNR=9.7						
COBT	**Iskenderun**	**10.41**	**84**	*i* P	**Pn**	**01 50 14.1**	**+0.2**
NVLJ	**Novalja**	**10.63**	**325**	*i* Pn	**Pn**	**01 50 15.2**	**-1.8**
NVLJ				*i* Sn	**Sn**	**01 52 04.2**	**-10**
PKSM	**Moragy**	**10.69**	**342**	⇑*i*P	**Pn**	**01 50 16.2**	**-1.5**
ASUT		**11.14**	**139**	⇑P	**Pn**	**01 50 21.5**	**-2.5**
ASF	**Jabal al Asfar**	**11.88**	**105**	P	**Pn**	**01 50 32.8**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=240,slow=3.8,SNR=5.2						
OBKA	**Obir**	**12.30**	**330**	⇑*i*Sn	**Sn**	**01 52 42.0**	**-13**
OBKA	**Obir**	**12.30**	**330**	⇓*i*Pn	**Pn**	**01 50 37.6**	**-2.2**
OBKA				⇑*i*Sn	**Sn**	**01 52 46.6**	**-8.4**
KBA	**Koelnbreinsper**	**13.25**	**329**	⇓*i*Pn	**Pn**	**01 50 50.2**	**-2.5**
KBA				⇓*i*Sn	**Sn**	**01 53 05.5**	**-13**
MOA	**Molln**	**13.52**	**333**	⇓*i*Sn	**Sn**	**01 53 12.7**	**-12**
MOA	**Molln**	**13.52**	**333**	⇑*i*Pn	**Pn**	**01 50 53.6**	**-2.5**
MOA				⇑*i*Sn	**Sn**	**01 53 18.6**	**-6.0**
VRAC	**Vranov**	**14.08**	**341**	P	**Pn**	**01 51 06.4**	**+3.0**
	comp=Z,0.3nm,0.3s,baz=138,slow=13,SNR=2.8						
GERES	**GERESS Array B**	**14.56**	**334**	P	**Pn**	**01 51 10.3**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=156,slow=15,SNR=3.8						
GERES				S	**Sn**	**01 53 43.0**	**-6.9**
	comp=Z,0.3nm,0.3s,baz=157,slow=22,SNR=4.5						
DAVOX	**Davos**	**14.66**	**321**	P	**Pn**	**01 51 13.2**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=248,slow=14,SNR=2.1						
DAVOX				S	**Sn**	**01 53 46.3**	**-6.1**
	comp=Z,0.2nm,0.3s,baz=343,slow=19,SNR=3.4						
KHC	**Kasperske Hory**	**14.84**	**334**	*e*P	**Pn**	**01 51 20.4**	**+7.0**
KHC				*ex*	x	01 53 43.0	
DPC	**Dobruska-Polom**	**15.11**	**342**	*e*P	**Pn**	**01 51 21.6**	**+4.8**
AKASG	**Malin Array Be**	**15.17**	**14**	P	**Pn**	**01 51 15.7**	**-1.9**
	baz=204,slow=12,SNR=4.2						
AKASG	**Malin Array Be**	**15.17**	**14**	*i* P	**Pn**	**01 51 20.7**	**+3.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PRU	**Pruhonice**	**15.27**	**338**	*e*P	**Pn**	**01 51 21.5**	**+2.6**
UPC	**Upice**	**15.33**	**342**	*e*P	**Pn**	**01 51 24.7**	**+5.0**
BSD	**Bornholm Skovb**	**19.86**	**346**	*i* P	**Pn**	**01 52 11.7**	**-3.3**
	comp=Z,2.2nm,0.3s						
BSD				*i*		01 52 17.7	
BSD	**Bornholm Skovb**	**19.86**	**346**	*i* P	**Pn**	**01 52 11.7**	**-3.3**
BSD				pmax	pmax		
	comp=Z,2.0nm,0.3s						
VRHR	**Novokhopersk**	**19.88**	**36**	*e*P	**Pn**	**01 52 12.7**	**-2.5**
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.4s						
VRHR				pmax	pmax		
	comp=N,4.0nm,0.3s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.5s						
VRHR	**Novokhopersk**	**19.88**	**36**	*e*P	**Pn**	**01 52 12.7**	**-2.5**
	comp=E,4.0nm,0.3s						
HFS	**Hagfors**	**24.82**	**348**	P	**P**	**01 53 02.8**	**-0.2**
	comp=E,2.7nm,0.4s,mb4.0,baz=150,slow=9.6,SNR=42						
HFS	**Hagfors**	**24.82**	**348**	P	**P**	**01 53 02.8**	**-0.2**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.4s						
FINES	**FINESS Array B**	**25.40**	**3**	P	**P**	**01 53 07.5**	**-0.7**
	comp=Z,0.7nm,0.5s,mb3.3,baz=167,slow=11,SNR=12						
FINES	**FINESS Array B**	**25.40**	**3**	P	**P**	**01 53 07.6**	**-0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KAF	**Kangasniemi**	**26.08**	**3**	*e*p	**P**	**01 53 05.1**	**-9.2**
	comp=Z,2.3nm,1.0s,mb3.6						
KAF	**Kangasniemi**	**26.08**	**3**	*e*P	**P**	**01 53 05.1**	**-9.2**
KAF				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.5						
NB2	**NORSAR Subarra**	**26.11**	**347**	P	**P**	**01 53 15.5**	**+0.9**
	comp=Z,0.5nm,0.4s,mb3.3,baz=163,slow=12						
NOA	**NORSAR Array B**	**26.11**	**347**	P	**P**	**01 53 14.7**	**0.0**
	comp=Z,0.9nm,0.5s,mb3.5,baz=149,slow=11,SNR=4.9						
NOA	**NORSAR Array B**	**26.11**	**347**	P	**P**	**01 53 14.7**	**+0.1**
NOA		

BJI **11** *02:31:07.2, 1500N×6040W, h28km, mB5.2, Ms4.2, Msz4.3*
NEIC **11** *02:31:08.2, 1498N×6036W, h29km, mb4.6/46, MD4.1(TRN), MD4.2(FDF), After FDF.*
NEIC Felt [IV] on Martinique. Also felt on Saint Lucia.
IDC **11** *02:31:08.6±0.7, 1495N×6056W, h48km±7km, mb4.0/18, mb1 4.2/20, mb1mx4.1/24, mbtmp4.3/20, MS3.6/15, Ms1 3.6/15, ms1mx3.4/22, Error ellipse: s-maj=16.1km s-min=5.4km az=84.0*
ISC 11 02:31:07.6±0.3, 1506N±002×6031W±003, h35km, n152, σ1°09/160, mb4.5/60, MS3.7/16, 21D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRM	**Caravelle**	**0.66**	**243**	⇓*i*P	**Pn**	**02 31 19.7**	**-0.8**
MVM	**Montagne Vaucl**	**0.76**	**229**	⇓*i*P	**Pn**	**02 31 21.1**	**-0.7**
BVM	**Bellevue**	**0.80**	**247**	⇓*i*P	**Pn**	**02 31 21.7**	**-0.6**
BVM				*e*S	**Sn**	**02 31 31.2**	**-1.7**
BAMF	**Morne Balai**	**0.85**	**254**	⇓*i*P	**Pn**	**02 31 22.5**	**-0.5**
SVN	**Savane Anatole**	**0.86**	**256**	⇓*i*P	**Pn**	**02 31 22.6**	**-0.6**
GBMF	**Grand Be**	**0.87**	**253**	⇓*i*P	**Pn**	**02 31 22.7**	**-0.6**
FDF	**Fort de France**	**0.88**	**249**	⇓*i*P	**Pn**	**02 31 22.6**	**-0.8**
TRMF	**Trois Ilets**	**0.89**	**234**	⇓*i*P	**Pn**	**02 31 22.6**	**-0.9**
PML	**Morne Lenard**	**0.89**	**252**	⇓*i*P	**Pn**	**02 31 23.0**	**-0.6**
PCM	**Pelee Case Pet**	**0.91**	**255**	⇓*i*P	**Pn**	**02 31 23.3**	**-0.6**
PCM	**Pelee Case Pet**	**0.91**	**255**	⇓*i*P	**Pn**	**02 31 22.5**	**-1.3**
PCM	**Pelee Case Pet**	**0.91**	**255**	⇓*i*P	**Pn**	**02 31 22.5**	**-1.3**
BIM	**Bigot**	**0.91**	**234**	*i* P	**Pn**	**02 31 23.2**	**-0.7**
DBCT	**Belle View Cho**	**1.03**	**282**	*e*P	**Pn**	**02 31 26.1**	**+0.6**
DSHT	**Scott's Head**	**1.04**	**279**	*e*P	**Pn**	**02 31 26.4**	**+0.7**
DSHT				*e*S	**Sn**	**02 31 37.4**	**-1.6**
MDN	**Morne-Daniel**	**1.08**	**284**	*e*P	**Pn**	**02 31 27.3**	**+1.1**
MDN				*e*S	**Sn**	**02 31 40.7**	**+0.7**
DWS	**Wesley**	**1.10**	**298**	*e*P	**Pn**	**02 31 26.4**	**-0.1**
DWS				*e*S	**Sn**	**02 31 39.4**	**-1.0**
BBL	**Barber's Block**	**1.22**	**293**	⇓*e*P	**Pn**	**02 31 28.3**	**+0.3**
BBL				*e*S	**Sn**	**02 31 43.3**	**0.0**
MGG	**Marie-Galante**	**1.30**	**311**	⇓*e*P	**Pn**	**02 31 29.7**	**+0.5**
DEG	**La Desirade**	**1.45**	**330**	*e*P	**Pn**	**02 31 32.1**	**+0.8**
DEG				*e*S	**Sn**	**02 31 51.0**	**+2.0**
SFG	**Saint Francois**	**1.47**	**324**	*e*P	**Pn**	**02 31 32.3**	**+0.8**
TBG	**Guadaloupe-3**	**1.52**	**302**	⇓*e*P	**Pn**	**02 31 32.4**	**+0.2**
DOG	**Dongo Capester**	**1.59**	**308**	⇓*e*P	**Pn**	**02 31 34.0**	**+0.7**
PHG	**Guadaloupe-2**	**1.60**	**307**	⇓*e*P	**Pn**	**02 31 34.1**	**+0.8**
BCG	**Bois Riant Cap**	**1.63**	**309**	⇓*e*P	**Pn**	**02 31 35.4**	**+1.7**
BCG	**Bois Riant Cap**	**1.63**	**309**	⇓*e*P	**Pn**	**02 31 34.4**	**+0.7**
HMG	**Houelmont**	**1.63**	**305**	⇓*e*P	**Pn**	**02 31 34.4**	**+0.7**
SCG	**Saint Claude**	**1.64**	**306**	⇓*e*P	**Pn**	**02 31 34.7**	**+0.8**
SEG	**Port Louis**	**1.77**	**319**	*e*P	**Pn**	**02 31 37.2**	**+1.5**
LZG	**Guadaloupe-1**	**1.78**	**307**	*e*P	**Pn**	**02 31 36.5**	**+0.7**
GRCU	**Cariacou**	**2.80**	**204**	*e*P	**Pn**	**02 31 51.2**	**+1.3**
GRCU				*e*S	**Sn**	**02 32 21.8**	**-0.6**
GRSS	**Sisters**	**3.02**	**205**	*e*P	**Pn**	**02 31 53.4**	**+0.5**
GRSS				*e*S	**Sn**	**02 32 28.7**	**+0.9**
GRIC	**Isle de Caille**	**3.02**	**204**	*e*P	**Pn**	**02 31 54.0**	**+1.1**
GRIC				*e*S	**Sn**	**02 32 29.8**	**+1.9**
NVBH	**Bath Hotel, Ne**	**3.02**	**313**	*e*P	**Pn**	**02 31 56.5**	**+3.6**
NVBH				*e*S	**Sn**	**02 32 31.4**	**+3.5**
NVRH	**Round Hill, Ne**	**3.06**	**314**	*e*P	**Pn**	**02 31 56.2**	**+2.8**
NVRH				*e*S	**Sn**	**02 32 31.2**	**+2.5**
SKTB	**Turtle Beach**	**3.08**	**314**	*e*P	**Pn**	**02 31 55.9**	**+2.1**
SKTB				*e*S	**Sn**	**02 32 31.2**	**+1.8**
GRHS	**Sauteurs**	**3.10**	**205**	*e*P	**Pn**	**02 31 55.0**	**+1.0**
GRHS				*e*S	**Sn**	**02 32 31.0**	**+1.2**
GRW	**Mount Saint Ca**	**3.17**	**205**	*e*P	**Pn**	**02 31 56.1**	**+1.2**
GRW				*e*S	**Sn**	**02 32 32.4**	**+1.0**
SKI	**Saint Kitts**	**3.25**	**314**	*e*P	**Pn**	**02 31 58.7**	**+2.6**
SKI				*e*S	**Sn**	**02 32 35.0**	**+1.4**
BSK	**Brimstone Hill**	**3.33**	**313**	*e*P	**Pn**	**02 31 57.8**	**+0.6**
SKNB	**Saint Kitts 2**	**3.35**	**314**	*e*P	**Pn**	**02 32 00.4**	**+3.0**
STAT	**Sint Eustatius**	**3.53**	**314**	*e*P	**Pn**	**02 32 03.7**	**+3.8**
STAT				*e*S	**Sn**	**02 32 43.1**	**+2.7**
SABT	**Saba**	**3.80**	**313**	*e*P	**Pn**	**02 32 07.3**	**+3.7**
SABS	**Saba**	**3.80**	**313**	*e*P	**Pn**	**02 32 07.3**	**+3.7**
TPR	**Prospect**	**3.87**	**187**	*e*P	**Pn**	**02 32 05.6**	**+1.0**
BOT	**Bacolet**	**3.89**	**186**	*e*P	**Pn**	**02 32 06.6**	**+1.8**
TRN	**Trinidad (W)**	**4.51**	**194**	*e*P	**Pn**	**02 32 14.9**	**+1.5**
TBH	**Brigand Hill**	**4.61**	**189**	*e*P	**Pn**	**02 32 19.9**	**+5.3**
TBH				*e*S	**Sn**	**02 33 08.3**	**+1.4**
MTP	**Monte Pirata**	**5.87**	**302**	*e*Pn	**Pn**	**02 32 32.8**	**+0.8**
CPD	**Cerro la Pandu**	**6.14**	**300**	*e*Pn	**Pn**	**02 32 36.1**	**+0.3**
CPD				*e*Sn	**Sn**	**02 33 42.4**	**-2.4**
SJG	**San Juan** 24nm,0.3s,baz=159,slow=9.9,SNR=64	**6.37**	**299**	P	**Pn**	**02 32 39.8**	**+0.8**
SJG				S	**Sn**	**02 33 47.3**	**-3.1**
	10nm,0.3s,baz=13,slow=19,SNR=2.7						
SJG	**San Juan** 91nm,0.5s	**6.37**	**299**	*e*Pn	**Pn**	**02 32 39.2**	**+0.2**
SJG				*e*Sn	**Sn**	**02 33 46.9**	**-3.6**
SDV	**Santo Domingo** 5.6nm,0.3s,baz=208,slow=8.9,SNR=36	**11.81**	**240**	P	**Pn**	**02 33 52.7**	**-0.8**
SDV				LR	LR	02 38 39.0	
	comp=Z,438nm,21.0s,baz=128,slow=39						
SDV	**Santo Domingo** 24nm,0.6s	**11.81**	**240**	*e*P	**Pn**	**02 33 52.9**	**-0.6**
ROSC	**El Rosal**	**17.12**	**235**	P	**Pn**	**02 35 06.0**	**+2.0**
	5.0nm,0.3s,baz=85,slow=8.2,SNR=31						
ROSC				LR	LR	02 41 59.3	
	comp=Z,167nm,21.8s,baz=27,slow=39						
MGV	**Manicaragua**	**19.91**	**294**	*e*P	**Pn**	**02 35 35.8**	**-2.1**
SAML	**Samuel** 7.2nm,0.8s,mb4.2	**24.02**	**187**	*e*P	**P**	**02 36 18.0**	**-1.1**
JTS	**JuntasAbangare**	**24.50**	**262**	LR	LR	02 45 23.0	
	comp=Z,67nm,21.6s,MS3.1,baz=143,slow=35						
SIV	**San Ignacio** 3.7nm,0.5s,mb4.5,baz=7.7,slow=8.6,SNR=40	**30.86**	**181**	P	**P**	**02 37 20.5**	**+0.1**
NNA	**Nana** 7.7nm,0.7s,mb4.6	**31.47**	**212**	*e*P	**P**	**02 37 23.6**	**-2.2**
PLAL	**Pickwick Lake** 9.3nm,0.6s,mb4.8	**31.87**	**314**	*e*P	**P**	**02 37 28.8**	**-0.5**
LPAZ	**La Paz** 3.8nm,0.8s,mb4.3,baz=1.9,slow=11,SNR=13	**32.09**	**194**	P	**P**	**02 37 31.2**	**0.0**
LPAZ				LR	LR	02 50 13.0	
	comp=Z,99nm,18.8s,MS3.5,baz=254,slow=36						
LPAZ	**La Paz** 4.8nm,0.7s,mb4.4	**32.09**	**194**	*e*P	**P**	**02 37 31.0**	**-0.2**
WCI	**Wyandotte Cave** 4.4nm,0.6s,mb4.6	**32.54**	**320**	*e*P	**P**	**02 37 35.2**	**0.0**
BDFB	**Brasilia** 1.3nm,0.5s,mb4.1,baz=351,slow=8.4,SNR=3.5	**32.83**	**158**	P	**P**	**02 37 39.1**	**+1.3**
LVC	**Limon Verde** 9.5nm,0.5s,mb4.8,baz=18,slow=6.4,SNR=28	**38.37**	**193**	P	**P**	**02 38 24.0**	**-1.3**
LVC	**Limon Verde** 11nm,0.6s,mb4.8	**38.37**	**193**	*e*P	**P**	**02 38 23.8**	**-1.5**
JCT	**Junction City** 11nm,0.7s,mb4.7	**39.30**	**300**	*e*P	**P**	**02 38 31.4**	**-1.6**
JCT				*e*PcP	PcP	02 40 41.4	+0.1
KSU1	**Kansas State U**	**39.83**	**314**	*e*P	**P**	**02 38 35.6**	**-1.8**
SCHQ	**Schefferville** 1.4nm,0.5s,mb4.0,baz=171,slow=7.6,SNR=9.3	**40.01**	**354**	P	**P**	**02 38 39.6**	**+0.6**
SCHQ				LR	LR	02 53 31.9	
	comp=Z,47nm,20.1s,MS3.3,baz=72,slow=34						
SCHQ	**Schefferville** 2.1nm,0.5s,mb4.1	**40.01**	**354**	*e*P	**P**	**02 38 39.9**	**+0.9**
CPUP	**Villa Florida** 2.9nm,0.7s,mb4.0,baz=343,slow=8.1,SNR=9.5	**41.24**	**176**	P	**P**	**02 38 48.2**	**-0.9**
CPUP				LR	LR	02 56 44.2	
	comp=Z,106nm,21.4s,MS3.7,baz=247,slow=37						
CPUP	**Villa Florida** 9.5nm,0.6s,mb4.6	**41.24**	**176**	*e*P	**P**	**02 38 47.7**	**-1.4**
AMTX	**Amarillo** 4.5nm,0.6s,mb4.3	**42.02**	**306**	*e*P	**P**	**02 38 54.5**	**-0.9**
CLNB	**Carlsbad**	**43.10**	**301**	P	**P**	**02 39 03.3**	**-1.0**
MNTX	**Cornudas Mount** 5.3nm,0.5s,mb4.5	**44.23**	**300**	*e*P	**P**	**02 39 12.1**	**-1.3**
MNTX				*e*		02 40 56.5	
ULM	**Lac du Bonnet** 2.4nm,0.5s,mb4.2,baz=111,slow=9.9,SNR=4.0	**45.38**	**328**	P	**P**	**02 39 21.2**	**-1.3**
ULM				LR	LR	02 59 05.6	
	comp=Z,34nm,18.8s,MS3.3,baz=43,slow=37						
BNM	**Barren Site**	**45.77**	**303**	*e*P	**P**	**02 39 25.2**	**-0.4**
LPM	**Los Pinos Moun**	**45.81**	**303**	*e*P	**P**	**02 39 25.6**	**-0.3**
ANMO	**Albuquerque** 1.5nm,0.7s,mb4.0	**45.82**	**304**	*e*P	**P**	**02 39 25.0**	**-0.9**
ISCO	**Idaho Springs** 3.3nm,0.7s,mb4.4	**46.52**	**311**	*e*P	**P**	**02 39 31.4**	**-0.2**
RSSD	**Black Hills** 2.3nm,0.6s,mb4.3	**47.01**	**317**	*e*P	**P**	**02 39 35.6**	**+0.2**
SMCO	**Snowmass** 3.2nm,0.6s,mb4.4	**47.33**	**310**	*e*P	**P**	**02 39 37.1**	**-0.8**
PV01	**Paradox Valley**	**48.25**	**308**	*e*P	**P**	**02 39 44.8**	**-0.2**
RWWY	**Rawlins** 5.1nm,0.8s,mb4.6	**48.29**	**313**	*e*P	**P**	**02 39 46.0**	**+0.8**
TUC	**Tucson**	**48.86**	**300**	*e*P	**P**	**02 39 48.8**	**-0.9**
	4.6nm,0.8s,mb4.6						
WUAZ	**Wupatki** 12nm,0.7s,mb5.0	**49.87**	**304**	*e*P	**P**	**02 39 57.3**	**0.0**
BW06	**Boulder Array** 8.4nm,0.6s,mb5.0	**50.28**	**314**	*e*P	**P**	**02 39 59.7**	**-0.8**
PDAR	**Pinedale Array** 10nm,0.7s,mb5.0,baz=117,slow=9.2,SNR=103	**50.28**	**314**	P	**P**	**02 39 60.0**	**-0.5**
FCC	**Fort Churchill** 4.4nm,0.5s,mb4.7	**50.30**	**338**	*e*P	**P**	**02 39 59.1**	**-1.5**
TMUT	**Trail Mountain**	**50.53**	**309**	*e*P	**P**	**02 40 02.6**	**+0.2**
DAU	**Daniels Canyon**	**50.84**	**310**	*e*P	**P**	**02 40 05.0**	**+0.3**
FFC	**Flin Flon** 1.2nm,0.6s,mb4.0	**51.03**	**330**	*e*P	**P**	**02 40 05.1**	**-1.0**
MSU	**Marysvale**	**51.09**	**308**	*e*P	**P**	**02 40 06.5**	**-0.1**
TCUT	**Toone Canyon**	**51.14**	**311**	*e*P	**P**	**02 40 06.4**	**-0.5**
CTU	**Camp Tracy** 14nm,0.7s,mb5.0	**51.28**	**310**	*e*P	**P**	**02 40 07.9**	**-0.1**
GCMT	**Greycliff**	**51.34**	**317**	*e*P	**P**	**02 40 08.6**	**+0.1**
AHID	**Auburn Hatcher** 11nm,0.5s,mb5.0	**51.37**	**313**	*e*P	**P**	**02 40 08.3**	**-0.3**
REDW	**Red Top Meadow** 5.5nm,0.6s,mb4.7	**51.37**	**314**	*e*P	**P**	**02 40 07.8**	**-0.8**
HWUT	**Hardware Ranch** 5.9nm,0.6s,mb4.7	**51.38**	**312**	*e*P	**P**	**02 40 08.1**	**-0.6**
MOOW	**Moose Ponds** 3.5nm,0.7s,mb4.4	**51.41**	**314**	*e*P	**P**	**02 40 08.3**	**-0.6**
TPAW	**Teton Pass** 8.3nm,0.6s,mb4.8	**51.47**	**314**	*e*P	**P**	**02 40 08.7**	**-0.7**
TPAW				*e*PcP	PcP	02 41 23.4	0.0
FLWY	**Flagg Ranch** 3.3nm,0.6s,mb4.4	**51.48**	**315**	*e*P	**P**	**02 40 09.8**	**+0.3**
IMW	**Indian Meadow** 3.1nm,0.6s,mb4.4	**51.59**	**314**	*e*P	**P**	**02 40 10.0**	**-0.3**
ARUT	**Antelope Range**	**51.92**	**306**	*e*P	**P**	**02 40 12.5**	**-0.3**
SPUT	**South Promonto**	**51.95**	**311**	*e*P	**P**	**02 40 12.1**	**-0.9**
DUG	**Dugway** 7.8nm,0.6s,mb4.8	**51.95**	**309**	*e*P	**P**	**02 40 12.6**	**-0.4**
QLMT	**Earthquake Lak**	**52.20**	**315**	*e*P	**P**	**02 40 16.1**	**+1.2**
HVU	**Hansel Valley** 12nm,0.7s,mb4.9	**52.30**	**311**	*e*P	**P**	**02 40 14.8**	**-0.8**
DLMT	**Dillon** 8.8nm,0.6s,mb4.9	**53.15**	**316**	*e*P	**P**	**02 40 22.2**	**+0.3**
MCMT	**McKenzie Canyo**	**53.17**	**315**	*e*P	**P**	**02 40 22.8**	**+0.8**
ELK	**Elko** 5.4nm,0.7s,mb4.6	**53.87**	**310**	*e*P	**P**	**02 40 26.6**	**-0.6**
HLID	**Hailey** 5.4nm,0.7s,mb4.6	**53.91**	**313**	*e*P	**P**	**02 40 26.9**	**-0.6**
CHMT	**Chamberlain Mo**	**54.05**	**317**	*e*P	**P**	**02 40 28.2**	**-0.3**
DAC	**Darwin (Calif)** 6.2nm,0.6s,mb4.7	**54.97**	**304**	*e*P	**P**	**02 40 35.0**	**-0.2**
BMN	**Battle Mountai** 8.2nm,0.7s,mb4.9	**55.30**	**309**	*e*P	**P**	**02 40 37.3**	**-0.3**
MNV	**Mina** 5.7nm,0.6s,mb4.8	**55.70**	**306**	*e*P	**P**	**02 40 40.2**	**-0.2**
NVAR	**Mina Array Bea** 7.9nm,0.7s,mb4.9,baz=98,slow=7.3,SNR=44	**55.81**	**306**	P	**P**	**02 40 40.8**	**-0.5**
EDM	**Edmonton**	**56.25**	**325**	*e*P	**P**	**02 40 43.4**	**-1.0**
PLCA	**Paso Flores** 4.5nm,0.7s,mb4.6	**56.31**	**189**	*e*P	**P**	**02 40 43.8**	**-1.0**
NEW	**Newport** 9.1nm,0.7s,mb4.9	**56.95**	**318**	*e*P	**P**	**02 40 48.2**	**-1.1**
CMB	**Columbia Colle** 2.8nm,0.6s,mb4.5	**57.39**	**306**	*e*P	**P**	**02 40 51.7**	**-0.8**
MOD	**Modoc** 3.7nm,0.6s,mb4.6	**57.83**	**310**	*e*P	**P**	**02 40 54.6**	**-0.9**
EKA	**Eskdalemuir Ar** 0.6nm,0.7s,mb3.8,baz=255,slow=6.8,SNR=6.9	**59.25**	**34**	P	**P**	**02 41 07.3**	**+1.9**
YBH	**Yreka Blue Hor** 5.8nm,0.6s,mb4.8	**59.59**	**310**	*e*P	**P**	**02 41 05.7**	**-2.1**
TORD	**Torodi Ar. Bea** 0.8nm,1.0s,mb3.7,baz=292,slow=6.5,SNR=7.1	**59.99**	**83**	P	**P**	**02 41 11.5**	**+1.0**
YKA	**Yellowknife Ar** 3.6nm,0.5s,mb4.7,baz=107,slow=7.5,SNR=126	**60.63**	**334**	P	**P**	**02 41 13.6**	**-1.3**
YKA				LR	LR	03 05 19.7	
	comp=Z,52nm,18.4s,MS3.7,baz=90,slow=34						
YKW3	**Yellowknife Ar**	**60.67**	**334**	*e*P	**P**	**02 41 13.8**	**-1.4**
RES	**Resolute Bay** 2.1nm,0.6s,mb4.4	**62.60**	**350**	*e*P	**P**	**02 41 27.2**	**-0.9**
JMIC	**Jan Mayen** comp=Z,136nm,21.7s,MS4.1,baz=90,slow=29	**63.91**	**17**	LR	LR	03 02 20.7	
DAVOX	**Davos** comp=Z,41nm,20.5s,MS3.6,baz=262,slow=32	**65.63**	**45**	LR	LR	03 05 41.3	
DLBC	**Dease Lake**	**66.69**	**328**	*e*P	**P**	**02 41 54.3**	**-0.6**
NOA	**NORSAR Array B** 0.7nm,0.7s,mb3.8,baz=262,slow=6.6,SNR=2.9	**68.00**	**30**	P	**P**	**02 42 04.4**	**+1.3**
NOA				LR	LR	03 08 44.7	
	comp=Z,24nm,19.3s,MS3.4,baz=260,slow=33						
GERES	**GERESS Array B** 0.4nm,0.5s,mb3.7,baz=259,slow=4.9,SNR=4.0	**68.31**	**43**	P	**P**	**02 42 07.1**	**+2.0**
GERES				LR	LR	03 08 12.8	
	comp=Z,35nm,20.5s,MS3.6,baz=269,slow=32						
INK	**Inuvik** 1.8nm,0.5s,mb4.3	**69.92**	**338**	*e*P	**P**	**02 42 13.5**	**-1.5**
DAWY	**Dawson**	**71.80**	**333**	*e*P	**P**	**02 42 26.5**	**0.0**
ARCES	**ARCESS Array B** 2.6nm,1.0s,mb4.1,baz=213,slow=4.2,SNR=3.9	**74.55**	**21**	P	**P**	**02 42 43.6**	**+0.9**
ARCES				LR	LR	03 07 46.0	
	comp=Z,35nm,21.7s,MS3.6,baz=350,slow=29						
ILAR	**Eielson Array** 1.7nm,0.6s,mb4.2,baz=101,slow=4.2,SNR=40	**75.05**	**334**	P	**P**	**02 42 45.1**	**-0.5**
ILAR				LR	LR	03 13 47.3	
	comp=Z,37nm,20.9s,MS3.7,baz=0.7,slow=34						
FINES	**FINESS Array B** 0.7nm,0.5s,mb3.8,baz=270,slow=1.9,SNR=10.0	**75.19**	**30**	P	**P**	**02 42 47.0**	**+0.6**
FINES				LR	LR	03 09 55.1	
	comp=Z,40nm,19.7s,MS3.7,baz=275,slow=31						
COLA	**College** 2.0nm,0.5s,mb4.3	**75.46**	**334**	*e*P	**P**	**02 42 47.8**	**-0.1**
PMR	**Palmer** 5.9nm,0.6s,mb4.7	**76.34**	**331**	*e*P	**P**	**02 42 52.6**	**-0.4**
SVW2	**Sparrevohn**	**79.49**	**331**	*e*P	**P**	**02 43 09.6**	**-0.9**
BRTR	**Keskin Array B** 0.7nm,0.8s,mb3.9,baz=259,slow=5.4,SNR=4.7	**83.51**	**51**	P	**P**	**02 43 32.7**	**+0.9**
WMQ	**Urumqi**	**114.52**	**25**	PKP	PKiKP	02 49 40.7	-3.1
WMQ				XPKP		02 49 55.2	
WMQ				PP	PP		
	comp=Z,110nm,4.1s						
WMQ				LR	LR		
	comp=N,25nm,18.3s						
WMQ				LR	LR		
	comp=Z,45nm,20.0s,MS4.1						
MDJ	**Mudanjiang**	**119.94**	**352**	PKP	PKPdf	02 49 53.2	-1.1
HHC	**Hu-ho-hao-te**	**123.87**	**7**	*e*PKP	PKPdf	02 50 00.1	-1.7
HHC				XPKP		02 50 14.7	
HHC				PKS		02 53 36.6	
HHC				SKS	SKSdf	02 57 06.3	-4.7
HHC				PP	PP		
	comp=Z,59nm,9.6s						
HHC				LR	LR		
	comp=N,104nm,17.1s,MS4.7						
HHC				LR	LR		
	comp=E,93nm,15.5s,MS4.7						
HHC				LR	LR		
	comp=Z,91nm,17.2s,MS4.5						
NJ2	**Nanjing**	**133.16**	**1**	*e*PKP	PKPdf	02 50 21.6	+2.1
NJ2				XPKP		02 50 35.1	
NJ2				PP	PP	02 52 53.0	+6.9
NJ2				PKS		02 53 58.0	
NJ2				PP	PP		
	comp=Z,100nm,10.8s						
NJ2				LR	LR		
	comp=Z,370nm,34.0s,MS4.9						
KMI	**Kunming**	**136.78**	**23**	PKP	PKPdf	02 50 27.0	+0.7
PSI	**Prapat** comp=Z,2.5nm,0.3s,baz=174,slow=3.9,SNR=6.3	**152.84**	**51**	PKPbc	PKPbc	02 51 01.4	+0.5
STKA	**Stephens Creek** comp=Z,1.6nm,0.6s,baz=292,slow=5.0,SNR=4.3	**153.93**	**226**	PKPbc	PKPbc	02 51 01.0	-2.2
ASAR	**Alice Springs** comp=Z,0.6nm,0.6s,baz=116,slow=3.9,SNR=7.4	**164.10**	**235**	PKPab	PKPab	02 51 59.0	-1.6
WRA	**Warramunga Arr** comp=Z,2.0nm,0.8s,baz=97,slow=4.4,SNR=13	**165.21**	**249**	PKPab	PKPab	02 52 04.9	-0.6

MOS **11** *02:37:53.0±0.9, 3639N×7016E, h211km, mb4.1/14, Error ellipse: s-maj=12.8km s-min=6.4km az=90.5*
BJI **11** *02:37:53.9, 3639N×7032E, h238km, mb4.6*
ISCJB **11** *02:37:54.4±0.4, 3642N±002×7037E±005, h222km±5km, mb3.9/18, Error ellipse: s-maj=6.5km s-min=3.2km az=152.3*
IDC **11** *02:37:55.3±1.0, 3630N×7023E, h223km±8km, mb3.6/12, mb1 3.8/15, mb1mx3.6/23, mbtmp4.2/15, Error ellipse: s-maj=16.1km s-min=13.5km az=6.0*
NEIC **11** *02:37:55.6±1.7, 3646N×7030E, h219km±16km, mb4.1/7, Error ellipse: s-maj=13.7km s-min=12.1km az=150.0*
NNC **11** *02:38:01.7±6.5, 3706N×7013E, h210km±49km, mb3.0, mpv4.0, Error ellipse: s-maj=55.8km s-min=40.3km az=22.0*
ISC 11 02:37:55.7±0.4, 3647N±002×7036E±005, h218km±5km, h218km±5.2km: pP-P, n105, σ1°15/139, mb3.9/18, 15C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.93**	**154**	⇑P	**Pn**	**02 38 46.8**	**+1.4**
CEP				S	**S**	**02 39 21.0**	**-3.5**
CHCP	**Chirah Chowk**	**3.68**	**139**	⇑P	**Pn**	**02 38 55.4**	**+1.2**
THW	**Thamme Wali**	**3.84**	**162**	⇓P	**Pn**	**02 38 57.0**	**+0.9**
DRP	**Derazinda**	**4.72**	**182**	⇓P	**Pn**	**02 39 09.5**	**+2.6**
SARP	**Sargodha**	**4.92**	**156**	P	**Pn**	**02 39 10.1**	**+0.6**
KSH	**Kashi**	**5.38**	**54**	P	**Pn**	**02 39 16.7**	**+1.5**
KSH				S	**S**	**02 40 19.6**	**+1.3**
KSH	comp=N,180nm,0.4s			Smax			
KSH	comp=E,388nm,1.0s			Smax			
DLH	**Dalhousie**	**6.07**	**129**	*e*P	**Pn**	**02 39 22.0**	**-2.0**
DLH				*e*S	**S**	**02 40 31.0**	**-3.2**
AML	**Almayashu** SNR=116	**6.22**	**24**	P	**Pn**	**02 39 26.3**	**+0.4**
PONG	**Pong**	**6.46**	**133**	*e*S	**S**	**02 40 41.0**	**-2.4**
UCH	**Uchtor** SNR=61	**6.59**	**28**	P	**Pn**	**02 39 31.3**	**+0.6**
KK31	**Karatay Array** comp=E,3.3nm,0.3s,baz=173,slow=12,SNR=105	**6.63**	**1**	⇑P	**Pn**	**02 39 30.6**	**-0.6**
KK31				⇑S	**S**	**02 40 39.5**	**-7.7**
	comp=E,7.3nm,0.4s,baz=191,slow=20,SNR=7.8						
KKAR	**Karatay Array**	**6.63**	**1**	*e*PN	**Pn**	**02 39 30.6**	**-0.6**
KKAR	comp=Z,2.0nm,0.3s			pmax	pmax		
EKS2	**Erkin-Say** SNR=32	**6.72**	**22**	P	**Pn**	**02 39 33.0**	**+0.5**
KZA	**Kyzart** SNR=144	**6.76**	**33**	P	**Pn**	**02 39 33.2**	**+0.3**
AAK	**Ala-Archa** SNR=44	**6.93**	**26**	P	**Pn**	**02 39 35.7**	**+0.5**
AAK	**Ala-Archa**	**6.93**	**26**	*e*PN	**Pn**	**02 39 34.2**	**-0.9**
AAK				*e*S	**S**	**02 40 53.4**	**-1.0**
AAK	comp=Z,40nm,0.6s			pmax	pmax		
AAK	**Ala-Archa** comp=Z,40nm,0.6s	**6.93**	**26**	*e*Pn	**Pn**	**02 39 34.2**	**-0.9**
AAK				*e*S	**S**	**02 40 53.4**	**-1.0**
BHK	**Bhakra**	**7.12**	**133**	*ex*	x	02 41 02.8	
KBK	**Karagaybulak** SNR=41	**7.12**	**28**	P	**Pn**	**02 39 38.4**	**+0.8**
FRU	**Bishkek**	**7.15**	**26**	*e*PN	**Pn**	**02 39 38.0**	**0.0**
FRU	comp=Z,60nm,2.0s			pmax	pmax		
CHMS	**Chumysh** SNR=18	**7.34**	**26**	P	**Pn**	**02 39 40.4**	**0.0**
ULHL	**Ulahol** SNR=61	**7.35**	**37**	P	**Pn**	**02 39 41.3**	**+0.8**
SDNR	**Sundarnagar**	**7.40**	**130**	*e*P	**Pn**	**02 39 40.6**	**-0.5**
SDNR				*e*S	**S**	**02 40 59.4**	**-5.9**
TKM2	**Tokmak 2** SNR=43	**7.60**	**30**	P	**Pn**	**02 39 44.2**	**+0.5**
TKM2	**Tokmak 2** comp=Z,13nm,0.8s	**7.60**	**30**	⇑P	**Pn**	**02 39 44.1**	**+0.3**
TKM2	comp=Z,5.5nm,0.9s			⇑S	**S**	**02 41 07.4**	**-2.7**
SMLA	**Simla**	**7.78**	**131**	*e*P	**Pn**	**02 39 44.1**	**-1.9**
SMLA				*i* P		02 39 44.3	
SMLA	comp=Z,564nm,0.3s			*i* S	**S**	**02 41 08.6**	**-5.6**
SMLA				*e*S	**S**	**02 41 09.0**	**-5.2**
SMLA	comp=N,152nm,0.4s			AML	AML	02 41 13.1	
SMLA	comp=E,138nm,0.5s			AML	AML	02 41 14.3	
KLP	**Kalpa**	**8.19**	**125**	*e*P	**Pn**	**02 39 51.8**	**+0.4**
KLP				*e*S	**S**	**02 41 18.8**	**-5.2**
KLP	comp=N,293nm,0.6s			AML	AML	02 41 24.6	
KLP	comp=E,204nm,0.6s			AML	AML	02 41 26.1	
DDI	**Dehra Dun**	**8.88**	**131**	*e*P	**Pn**	**02 40 01.5**	**+1.2**
DDI				*ex*	x	02 42 40.4	
KHET	**

ZRNK Zerenda 16.51 357 *e*P P 02 41 33.7 -0.2
ZRNK *e*S S 02 44 33.2 -2.1
ZRNK pmax pmax
comp=Z,7.0nm,0.6s
ZRNK Zerenda 16.51 357 *e*P P 02 41 33.7 -0.2
comp=Z,7.1nm,0.6s
ZRNK *e*S S 02 44 33.2 -2.1
AKTK Aktyubinsk 16.55 331 P P 02 41 35.1 +0.7
AKTK S S 02 44 34.4 -1.9
AKTO Aktyubinsk 16.55 331 S S 02 44 32.9 -3.4
AKTO Aktyubinsk 16.55 331 P P 02 41 35.1 +0.7
comp=Z,2.8nm,0.3s,baz=143,slow=9.2,SNR=39
AKTO S S 02 44 34.4 -1.9
comp=Z,0.1nm,0.3s,baz=30,slow=20,SNR=4.5
AKTO Aktyubinsk 16.55 331 P P 02 41 35.1 +0.7
AKTO S S 02 44 34.4 -1.9
AKTO pmax pmax
comp=Z,3.0nm,0.3s
BVA0 Borovoye Array 16.55 0 P P 02 41 35.2 +0.8
comp=Z,0.2nm,0.4s,baz=172,slow=11,SNR=27
BVA0 S S 02 44 39.2 +2.9
comp=Z,0.4nm,0.7s,baz=230,slow=39,SNR=9.4
BVAR Borovoye Array 16.55 0 P P 02 41 35.1 +0.7
comp=Z,1.1nm,0.3s,baz=158,slow=12,SNR=15
BVAR S S 02 44 36.9 +0.6
comp=Z,0.1nm,0.3s,baz=176,slow=21,SNR=7.6
BRVK Borovoye 16.59 360 *e*P P 02 41 35.2 +0.4
BRVK *e*S S 02 44 29.7 -7.2
BRVK pmax pmax
comp=Z,4.0nm,0.5s
BRVK Borovoye 16.59 360 *e*P P 02 41 35.2 +0.4
comp=Z,4.4nm,0.5s
BRVK *e*S S 02 44 29.7 -7.2
WSAR Wadi Sarin 16.63 221 P P 02 41 37.0 +1.7
comp=Z,1.3nm,0.3s,baz=30,slow=11,SNR=16
ASHO Ashiyiah 16.99 230 P P 02 41 40.0 +0.7
SNR=31
ORR Orenburg 18.78 329 *e*P P 02 41 58.7 0.0
ORR pmax pmax
comp=Z,20nm,0.6s
ZAL Zalesovo 20.14 25 P P 02 42 13.6 +0.3
comp=Z,8.8nm,0.5s,baz=245,slow=8.2,SNR=16
ZAL S S 02 45 45.8 -1.4
comp=Z,2.0nm,0.9s,baz=155,slow=21,SNR=5.5
ZAL Zalesovo 20.14 25 P P 02 42 13.6 +0.3
ZAL S S 02 45 45.8 -1.4
ZAL pmax pmax
comp=Z,9.0nm,0.5s
ZAL smax
comp=N,2.0nm,0.9s
ZAL Zalesovo 20.14 25 P P 02 42 13.6 +0.3
ZAL S S 02 45 45.8 -1.4
ZAL pmax pmax
comp=Z,18nm,0.7s
NVS pmax pmax
comp=N,12nm,0.7s
NVS pmax pmax
comp=E,4.0nm,0.7s
NVS smax
comp=N,18nm,1.7s
NVS smax
comp=E,23nm,1.7s
GNI Garni 20.41 288 *i* P P 02 42 23.5 +7.4
GNI pmax pmax
comp=Z,11nm,1.4s
ARU Arti 21.50 342⇑ *i*P P 02 42 27.7 +0.2
ARU *e*S S 02 46 14.6 +3.8
ARU pmax pmax
comp=Z,20nm,0.8s,mb4.7
ARU Arti 21.50 342 *e*P P 02 42 27.6 0.0
comp=Z,23nm,0.8s,mb4.8
WHFO Wadi Hawf 23.58 223 P P 02 42 48.3 +1.6
SNR=8.9
ABTO Aybut 24.30 223 P P 02 42 55.6 +2.4
SNR=16
ANN Anapa 26.20 299 *e*P P 02 43 03.7 -6.5
ANN *e*S S 02 47 16.2 -10
ANN pmax pmax
comp=Z,57nm,1.9s,mb4.9
SONM Songino Array 28.78 55 P P 02 43 35.5 +2.3
comp=Z,0.8nm,0.4s,mb3.7,baz=270,slow=9.0,SNR=9.5
SONM pP pP 02 44 17.8 +0.9
comp=Z,0.2nm,0.4s,baz=251,slow=9.0,SNR=1.4
SONM Songino Array 28.78 55 P P 02 43 35.5 +2.3
SONM *PP pP 02 44 17.8 +0.9
SONM pmax pmax
comp=Z,1.0nm,0.4s
BR131 Keskin Array S 28.95 288 *e*P P 02 43 32.8 -1.9
comp=Z,0.3nm,0.3s,mb3.4
OBN Obninsk 29.62 320⇑ *i*P P 02 43 40.7 0.0
OBN *e*PP pP 02 44 22.1 -2.4
OBN *e* 02 44 53.6
OBN *e*S S 02 48 21.9 +2.2
OBN pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
BOD Bodaibo 35.70 39 *e*P P 02 44 34.0 +0.7
FINES FINESS Array B 37.22 326 P P 02 44 46.1 0.0
comp=Z,0.5nm,0.3s,mb3.5,baz=122,slow=7.8,SNR=11
FINES FINESS Array B 37.22 326 P P 02 44 46.1 -0.1
FINES pmax pmax
comp=Z,1.0nm,0.3s
KAF Kangasniemi 37.37 327 *e*p P 02 44 46.2 -1.2
comp=Z,2.0nm,0.7s,mb3.8,baz=112,slow=8.2
KAF Kangasniemi 37.37 327 *e*P P 02 44 46.2 -1.2
KAF pmax pmax
comp=Z,2.0nm,0.7s,mb3.8
ARCES ARCESS Array B 40.98 338 P P 02 45 17.5 +0.3
comp=Z,5.2nm,0.6s,mb4.1,baz=113,slow=8.8,SNR=25
ARCES ARCESS Array B 40.98 338 P P 02 45 17.5 +0.3
ARCES pmax pmax
comp=Z,5.0nm,0.6s
NB2 NORSAR Subarra 44.09 323 P P 02 45 41.3 -1.0
comp=Z,2.0nm,0.5s,mb3.7,baz=99,slow=7.9
NOA NORSAR Array B 44.09 323 P P 02 45 40.4 -1.9
comp=Z,1.4nm,0.8s,mb3.3,baz=104,slow=7.3,SNR=12
NOA NORSAR Array B 44.09 323 P P 02 45 40.4 -1.9
NOA pmax pmax
comp=Z,1.0nm,0.8s
TIXI Tiksi 46.00 22⇑ *i*P P 02 45 56.5 -0.7
TIXI pmax pmax
comp=Z,6.0nm,0.9s,mb3.9
EKA Eskdalemuir Ar 51.95 316 P P 02 46 41.5 -0.8
comp=Z,1.1nm,0.7s,mb3.4,baz=94,slow=7.3,SNR=6.7
EKA Eskdalemuir Ar 51.95 316 P P 02 46 41.5 -0.8
EKA pmax pmax
comp=Z,1.0nm,0.7s
BILL Bilibino 58.86 26 *i* P P 02 47 32.7 +1.2
BILL pmax pmax
comp=Z,6.0nm,1.3s,mb4.1
TORD Torodi Ar. Bea 65.20 268 P P 02 48 12.0 -1.6
comp=Z,1.2nm,0.6s,mb3.7,baz=48,slow=5.7,SNR=25
TORD pP pP 02 49 03.9 +0.1
comp=Z,1.1nm,1.0s,baz=46,slow=6.4,SNR=2.9
ILAR Eielson Array 74.95 16 P P 02 49 12.2 -0.6
comp=Z,1.0nm,0.6s,mb3.6,baz=286,slow=5.5,SNR=18
ILAR Eielson Array 74.95 16 P P 02 49 12.2 -0.6
ILAR pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 81.30 2 P P 02 49 47.5 -0.2
comp=Z,2.6nm,0.7s,mb4.0,baz=349,slow=5.4,SNR=63
YKA pP pP 02 50 41.2 +1.3
comp=Z,1.2nm,0.7s,baz=350,slow=5.5,SNR=10
YKA Yellowknife Ar 81.30 2 P P 02 49 47.5 -0.1
YKA *PP pP 02 50 41.2 +1.2
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 81.30 2 P P 02 49 47.5 -0.2
YKA pP pP 02 50 41.2 +1.3
SCHQ Schefferville 81.92 337 P P 02 49 50.8 0.0
comp=Z,1.6nm,0.9s,mb3.6,baz=14,slow=4.3,SNR=3.5
WRA Warramunga Arr 82.41 121 P P 02 49 52.5 -1.0
comp=Z,1.3nm,0.5s,mb3.8,baz=324,slow=4.8,SNR=11
WRA Warramunga Arr 82.41 121 P P 02 49 52.5 -0.9
WRA pmax pmax
comp=Z,1.0nm,0.5s
ASAR Alice Springs 84.66 124 P P 02 50 04.0 -0.9
comp=Z,1.1nm,0.5s,mb3.8,baz=312,slow=4.7,SNR=15
ASAR Alice Springs 84.66 124 P P 02 50 04.0 -0.8
ASAR pmax pmax
comp=Z,1.0nm,0.5s

NEIC ***11*** *02:39:57.3,4024N×1967E,h15km,MD3.3(ATH), ML2.6(ROM),After ATH.*
ATH ***11*** *02:39:57.2,4024N×1967E,h15km±2km,MD3.3/5*
CSEM ***11*** *02:39:59.3±0.2,4015N×1966E,h2km,ML3.8/2,Error ellipse: s-maj=5.3km s-min=4.4km az=19.0*
ISCJB ***11*** *02:40:00.1±0.4,4011N±002×1978E±003,h2km,Error ellipse: s-maj=3.2km s-min=2.8km az=40.3*
THE ***11*** *02:40:00.3,4009N×1969E,h10km,ML3.1*
ROM ***11*** *02:40:00.6±0.3,4005N×1989E,h10km,Md2.9/4,Ml2.6/3, Error ellipse: s-maj=4.3km s-min=2.9km az=103.0*
SKO ***11*** *02:40:01.7,4012N×1993E,h4km*
ISC 11 02:40:00.7±0.3,**4014N**±002×**1980E**±003,**h2**km,**n33,**
σ1§**31**/56,**Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPE	**Tepelena**	**0.23**	**46**	*i* Pg	**Pg**	**02 40 04.4**	**-0.7**
TPE				*i* Sg	**Sg**	**02 40 08.8**	**+0.7**
TPE	**Tepelena**	**0.23**	**46**	*e*Pg	**Pg**	**02 40 04.4**	**-0.7**
TPE				*i* Sg	**Sg**	**02 40 08.8**	**+0.7**
KEK	**Kerkira**	**0.42**	**180**	Pg	**Pg**	**02 40 07.8**	**-1.1**
KEK				Sg	**Sg**	**02 40 14.0**	**-0.4**
288nm,0.5s							
KEK	**Kerkira**	**0.42**	**180**	*e*PN	**Pg**	**02 40 07.7**	**-1.2**
KEK				*e*SN	**Sg**	**02 40 15.3**	**+0.9**
LSK	**Leskovik**	**0.62**	**89**	*i* Pg	**Pg**	**02 40 11.1**	**-1.5**
LSK				*i* Sg	**Sg**	**02 40 20.0**	**-0.6**
LSK	**Leskovik**	**0.62**	**89**	*e*Pg	**Pg**	**02 40 11.1**	**-1.5**
LSK				*i* Sg	**Sg**	**02 40 20.0**	**-0.6**
IGT	**Igoumenitsa**	**0.73**	**145**	*e*Pg	**Pg**	**02 40 13.4**	**-1.4**
IGT				*e*Sg	**Sg**	**02 40 25.5**	**+1.3**
JAN	**Janina**	**0.94**	**120**	*e*PN	**Pg**	**02 40 17.7**	**-1.1**
JAN				*e*SN	**Sg**	**02 40 32.1**	**+1.1**
SCTE	**Santa Cesarea**	**1.02**	**267**	Pg	**Pg**	**02 40 21.1**	**+0.8**
SCTE				Sg	**Sg**	**02 40 36.1**	**+2.5**
256nm,0.2s							
TIR	**Tirane**	**1.21**	**2**	Pg	**Pg**	**02 40 24.4**	**+0.5**
102nm,0.6s							
TIR	**Tirane**	**1.21**	**2**	*e*Pg	**Pg**	**02 40 23.3**	**-0.6**
TIR				*e*Sg	**Sg**	**02 40 42.9**	**+3.3**
OHR	**Ohrid**	**1.24**	**38**	*e*Pg	**Pg**	**02 40 23.9**	**-0.5**
LCI	**Lecce**	**1.30**	**279**	Pg	**Pg**	**02 40 25.4**	**-0.3**
LCI				Sg	**Sg**	**02 40 43.4**	**+0.8**
36nm,0.2s							
FNA	**Florina**	**1.37**	**61**	*e*Pg	**Pg**	**02 40 25.9**	**-1.1**
FNA				*e*Sg	**Sg**	**02 40 48.0**	**+3.3**
QSH	**Qafa e Shtames**	**1.39**	**3**	*i* Pn	**Pn**	**02 40 27.4**	**+0.3**
QSH				*i* Sn	**Sn**	**02 40 50.0**	**+4.0**
BIA	**Bitola**	**1.46**	**52**	*e*Pg	**Pg**	**02 40 26.7**	**-2.0**
KZN	**Kozani**	**1.52**	**83**	*e*PN	**Pn**	**02 40 27.3**	**-1.6**
KZN				*e*SN	**Sn**	**02 40 48.9**	**-0.4**
LKD	**Levkas**	**1.57**	**155**	*e*Pg	**Pg**	**02 40 29.1**	**-1.8**
LKD				*e*Sg	**Sg**	**02 40 50.7**	**-0.6**
EVR	**Evrytania**	**1.98**	**127**	*e*PN	**Pn**	**02 40 35.1**	**-0.1**
EVR				*e*SN	**Sn**	**02 41 01.8**	**+1.2**
KKS	**Kukesi**	**1.99**	**13**	*i* Pn	**Pn**	**02 40 39.6**	**+4.2**
VLS	**Valsamata**	**2.05**	**162**	*e*PB	**Pn**	**02 40 35.0**	**-1.2**
LIT	**Litokhoron**	**2.07**	**90**	*e*Pn	**Pn**	**02 40 37.2**	**+0.8**
LIT				*e*Sn	**Sn**	**02 41 04.6**	**+1.8**
GRG	**Griva**	**2.15**	**67**	*e*Pn	**Pn**	**02 40 38.9**	**+1.3**
GRG				*e*Sn	**Sn**	**02 41 07.5**	**+2.8**
AGG	**Agios Georgios**	**2.25**	**119**	*e*Pn	**Pn**	**02 40 39.4**	**+0.4**
AGG				*e*Sn	**Sn**	**02 41 09.4**	**+2.0**
STIP	**Stip**	**2.39**	**49**	*e*Pn	**Pn**	**02 40 40.8**	**-0.1**
STIP				*e*Sg	**Sg**	**02 41 14.9**	**-2.5**
STIP	**Stip**	**2.39**	**49**	*e*Pn	**Pn**	**02 40 40.7**	**-0.2**
STIP				*e*Sg	**Sg**	**02 41 14.9**	**-2.5**
SGI	**Sgolgore (BA)**	**2.48**	**287**	*e*Pn	**Pn**	**02 40 41.2**	**-0.9**
KNT	**Kendrikon**	**2.57**	**66**	*e*Pn	**Pn**	**02 40 44.5**	**+1.1**
KNT	**Kendrikon**	**2.57**	**66**	*e*Pn	**Pn**	**02 40 44.5**	**+1.1**
SOH	**Sokhos**	**2.80**	**75**	*e*Pn	**Pn**	**02 40 47.4**	**+0.9**
SGO	**Sicignano**	**3.46**	**278**	Pg	**Pn**	**02 40 56.3**	**+0.7**
4.0nm,0.5s							
NVLJ	**Novalja**	**5.73**	**322**	*i* Pn	**Pn**	**02 41 25.1**	**-1.7**
NVLJ				*i* Sn	**Sn**	**02 42 30.2**	**-3.0**
NVLJ	**Novalja**	**5.73**	**322**	*i* Pn	**Pn**	**02 41 25.1**	**-1.7**
NVLJ				*i* Sn	**Sn**	**02 42 30.1**	**-3.1**

INMG ***11*** *02:42:29.1±0.9,4264N×769W,h0km,ML1.1,Error ellipse: s-maj=3.9km s-min=2.8km az=0.0*
MDD 11 02:42:28.0±0.5,**4269N×769W,h0km,mbLg1.6/4,Error ellipse: s-maj=3.8km s-min=3.5km az=106.0,PRXIMO, Spain**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STS	**Santiago**	**0.66**	**287**	Lg		02 42 48.9	
5.6nm,0.1s,SNR=7.9							
EPON	**Pontenova**	**0.75**	**32**	Pg	Pg	02 42 41.9	-0.5
1.3nm,0.1s,SNR=8.0							
EPON				Lg		02 42 51.5	
1.0nm,0.2s,SNR=8.8							
ELOB	**Lobios**	**0.87**	**198**	Pg	Pg	02 42 44.3	-0.5
0.4nm,0.1s,SNR=9.1							
ELOB				Lg		02 42 55.1	
0.4nm,0.1s,SNR=11							
EZAM	**Zamans**	**0.92**	**234**	Pg	Pg	02 42 45.4	-0.3
0.5nm,0.1s,SNR=4.0							
EZAM				Lg		02 42 57.3	
0.5nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**0.98**	**286**	Pg	Pg	02 42 46.1	-0.7
0.4nm,0.1s,SNR=7.9							
EMAZ				Lg		02 42 59.1	
3.3nm,0.1s,SNR=12							
PCAB	**Cabril**	**1.01**	**194**	*e*P	Pg	02 42 46.7	-0.8
PCAB				*e*S	Sg	02 43 00.1	-0.5
PCAB							
5.1nm,0.1s							
ECAL	**Calabor**	**1.03**	**136**	Pg	Pg	02 42 47.1	-0.8
0.6nm,0.1s,SNR=7.3							
ECAL				Lg		02 43 00.8	
0.9nm,0.1s,SNR=5.8							
PBRG	**Braganca**	**1.14**	**141**	*e*P	Pg	02 42 49.1	-0.7
PBRG				*e*S	Sg	02 43 03.7	-0.8
PBRG							
1.6nm,0.1s							
PVRL	**Vila Real**	**1.42**	**181**	*e*P	Pn	02 42 54.4	-0.7
PVRL				*e*S	Sg	02 43 13.0	-0.6
PVRL							
4.4nm,0.2s							
EARI	**Arriondas**	**1.92**	**71**	Lg		02 43 29.3	
0.2nm,0.2s,SNR=7.9							
PVIS	**Viseu**	**1.98**	**184**	*e*Sg	Sg	02 43 30.2	-1.6
GUD	**Guadarrama**	**3.35**	**127**	Pg	Pg	02 43 29.8	-2.5
0.3nm,0.2s,SNR=7.9							

ISCJB ***11*** *02:44:19.8±0.8,4353N±006×062W±005,h8km±17km, Error ellipse: s-maj=9.7km s-min=5.7km az=157.6*
LDG ***11*** *02:44:21.6±0.1,4347N×067W,h10km,Md2.0/2,Ml1.8/2, Error ellipse: s-maj=2.2km s-min=1.4km az=149.0*
MDD ***11*** *02:44:23.6±1.3,4262N×113W,h0km,mbLg0.6/4,Error ellipse: s-maj=9.3km s-min=3.6km az=24.0,PRXIMO*
ISC 11 02:44:20.9±0.8,**4350N**±006×**065W**±005,**h16**km±15km,**n11,**
σ0§**62**/15,**Pyrenees**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJPF	**Ste Jean**	**0.57**	**228**	*e*Pg	**Pg**	**02 44 32.2**	**0.0**
SJPF				*e*Sg	**Sg**	**02 44 38.9**	**-0.9**
4.1nm,0.4s							
SJPF	**Ste Jean**	**0.57**	**228**	Pg	**Pg**	**02 44 32.2**	**0.0**
SJPF				Lg		02 44 38.9	
2.0nm,0.4s							
ETSF	**Etsaut**	**0.60**	**174**	*e*Pg	**Pg**	**02 44 32.5**	**-0.3**
ETSF				*e*Sg	**Sg**	**02 44 40.4**	**-0.5**
6.7nm,0.6s							
ETSF	**Etsaut**	**0.60**	**174**	Pg	**Pg**	**02 44 32.5**	**-0.3**
ETSF				Lg		02 44 40.4	
3.3nm,0.6s							
EALK	**Alkurruntz**	**0.68**	**246**	Pg	**Pg**	**02 44 34.1**	**-0.2**
1.5nm,0.2s,SNR=6.1							
EALK				Lg		02 44 44.6	
1.3nm,0.2s,SNR=7.9							
ELIZ	**Elizondo**	**0.72**	**243**	Pg	**Pg**	**02 44 36.1**	**+1.1**
1.5nm,0.2s,SNR=7.3							
ELIZ				Lg		02 44 44.8	
2.0nm,0.2s,SNR=7.9							
EPF	**Esparros**	**0.86**	**123**	*e*Pg	**Pg**	**02 44 37.9**	**+0.2**
EPF				*e*Sg	**Sg**	**02 44 49.2**	**+0.2**
2.2nm,0.3s							

EBIE Bielsa 1.00 144 Pg Pg 02 44 41.8 +1.5
0.2nm,0.1s,SNR=4.0
EBIE Lg 02 44 53.0
0.6nm,0.2s,SNR=7.9
MTLF Montolieu 2.10 93 *e*Pn Pn 02 44 55.2 -0.2
MTLF Montolieu 2.10 93 *e*Pg Pg 02 45 01.1 0.0
MTLF *e*Sg Sg 02 45 27.7 -0.6
2.6nm,0.7s
RJF Les Rejaudoux 2.38 40 *e*Pg Pg 02 45 06.3 -0.3

IDC ***11*** *02:45:20.1±2.4,3632N×142.18E,h0km,mb3.6/3, mb1 3.9/4,mb1mx3.5/21,mbtmp3.8/4,ML4.1/1,Error ellipse: s-maj=58.1km s-min=28.2km az=51.0*
JMA ***11*** *02:45:22.8±0.2,3618N×14199E,h67km,M3.3*
ISCJB ***11*** *02:45:23.1±1.1,3620N±005×142.0E±0.1,h33km,mb3.6/3, Error ellipse: s-maj=13.9km s-min=6.1km az=23.7*
ISC 11 02:45:25.0±1.1,**3622N**±005×**1419E**±01,**h35**km,**n17,**
σ0§**78**/22,**mb3.6/3,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.01**	**240**	P	**Pn**	**02 45 41.8**	**-0.9**
CHOJ				S	**Sn**	**02 45 56.2**	**+0.5**
JHO	**Hitachi**	**1.17**	**290**	P	**Pn**	**02 45 43.8**	**-1.0**
ONAJ	**Iwakimizuishiy**	**1.27**	**314**	P	**Pn**	**02 45 45.6**	**-0.6**
JFK	**Kawauchi**	**1.43**	**324**	P	**Pn**	**02 45 48.0**	**-0.4**
BSO1	**Boso 1**	**1.75**	**207**	P	**Pn**	**02 45 51.5**	**-1.3**
BSO1				S	**Sn**	**02 46 13.7**	**-0.1**
JFT	**Otama**	**1.82**	**316**	P	**Pn**	**02 45 54.4**	**+0.6**
BSO3	**Boso 3**	**1.83**	**220**	P	**Pn**	**02 45 53.0**	**-0.9**
BSO3				*e*S	**Sn**	**02 46 16.4**	**+0.5**
JMM	**Marumori**	**1.88**	**331**	P	**Pn**	**02 45 54.2**	**-0.4**
JAG	**Ashikaga**	**2.02**	**277**	P	**Pn**	**02 45 56.0**	**-0.5**
JKT	**Katashina**	**2.23**	**285**	P	**Pn**	**02 45 59.7**	**+0.2**
JIO	**Ouri**	**2.28**	**348**	P	**Pn**	**02 45 59.6**	**-0.5**
JRY	**Ryogami san**	**2.47**	**266**	P	**Pn**	**02 46 02.2**	**-0.4**
MJAR	**Matsushiro Arr**	**3.02**	**277**	Pn	**Pn**	**02 46 11.0**	**+0.7**
24nm,0.3s,baz=94,slow=9.7,SNR=6.4							
MJAR				Sn	**Sn**	**02 46 52.2**	**+6.9**
10nm,0.3s,baz=79,slow=23,SNR=3.3							
MAT	**Matsushiro**	**3.03**	**277**	P	**Pn**	**02 46 11.3**	**+0.9**
MAT				S	**Sn**	**02 46 51.8**	**+6.4**
SONM	**Songino Array**	**28.59**	**305**	P	**P**	**02 51 19.0**	**+1.3**
0.9nm,0.6s,mb3.7,baz=109,slow=8.7,SNR=8.1							
MKAR	**Makanchi Array**	**44.91**	**303**	P	**P**	**02 53 37.1**	**+0.9**
0.7nm,0.7s,mb3.6,baz=93,slow=8.8,SNR=5.8							
WRA	**Warramunga Arr**	**56.31**	**189**	P	**P**	**02 55 03.6**	**+1.4**
0.2nm,0.4s,mb3.5,baz=4.9,slow=7.1,SNR=3.0							

CSEM ***11*** *02:55:59.9±0.1,3531N×2342E,h68km±4km,ML3.2,Error ellipse: s-maj=14.5km s-min=4.0km az=81.0*
HLW ***11*** *02:55:59.0,3544N×2327E,h33km,Mb3.2*
ATH ***11*** *02:56:02.5,3550N×2308E,h10km,MD3.0/3*
ISC 11 02:55:58.0±1.6,**3511N**±006×**229E**±02,**h10**km,**n7,**
σ1§**53**/10,**3C-1D,Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**1.02**	**105**	*e*PB	**Pb**	**02 56 22.5**	**+4.7**
VAM	**Vamos**	**1.11**	**74**	*e*PB	**Pb**	**02 56 20.0**	**+0.6**
VLI	**Veliai**	**1.61**	**1**	*e*PB	**Pb**	**02 56 25.5**	**-2.3**
SLUM		**4.10**	**151**	⇓P	**Pn**	**02 57 01.7**	**+1.0**
SLUM				S	**Sn**	**02 57 47.8**	**-0.9**
SWA2		**6.24**	**159**⇑	*e*P	**Pn**	**02 57 32.1**	**+2.0**
SWA2				S	**Sn**	**02 58 39.8**	**-1.7**
SWA1		**6.30**	**157**⇑	*e*P	**Pn**	**02 57 32.8**	**+1.9**
SWA1				S	**Sn**	**02 58 40.9**	**-2.0**
HFRF	**Wahat Farafira**	**9.19**	**148**	⇑P	**Pn**	**02 58 11.5**	**+0.8**

ISCJB ***11*** *03:18:24.9±2.0,55S±0.1×1473E±02,h148km±20km, mb4.1/10,Error ellipse: s-maj=32.8km s-min=15.0km az=54.0*
NEIC ***11*** *03:18:27.9±1.8,555S×14729E,h161km±17km,mb4.6/4, Error ellipse: s-maj=23.9km s-min=14.3km az=117.0*
IDC ***11*** *03:18:28.5±1.8,554S×147.18E,h162km±15km,mb3.7/7, mb1 3.9/9,mb1mx3.9/15,mbtmp4.2/9,Error ellipse: s-maj=27.4km s-min=11.0km az=112.0*
ISC 11 03:18:27.8±1.6,**56S**±01×**1474E**±02,**h158**km±15km,**n16,**
σ0§**99**/18,**mb4.1**/10,**2D,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.77**	**183**	P	**Pn**	**03 19 26.2**	**+1.0**
10.0nm,0.3s,baz=40,slow=6.5,SNR=27							
PMG				S	**Sn**	**03 20 08.3**	**-1.5**
20nm,0.3s,baz=190,slow=22,SNR=19							
WRAB	**Tennant Creek**	**19.03**	**220**	*e*P	**P**	**03 22 38.5**	**+0.8**
11nm,0.3s							
WB2	**Warramunga Arr**	**19.04**	**220**	⇓*i*P	**P**	**03 22 38.6**	**+0.9**
WRA	**Warramunga Arr**	**19.05**	**220**	P	**P**	**03 22 38.8**	**+1.0**
3.6nm,0.3s,baz=46,slow=12,SNR=80							
WRA				S	**S**	**03 26 03.7**	**-1.8**
0.1nm,0.3s,baz=39,slow=20,SNR=6.2							
ASAR	**Alice Springs**	**22.13**	**214**	P	**P**	**03 23 11.7**	**+1.1**
6.1nm,0.6s,mb4.2,baz=44,slow=8.4,SNR=79							
ASAR				S	**S**	**03 27 04.8**	**+1.8**
3.2nm,0.9s,baz=30,slow=22,SNR=14							
FITZ	**Fitzroy Crossi**	**24.56**	**238**	*e*P	**P**	**03 23 32.7**	**-0.3**
25nm,0.5s,mb5.0							
FITZ	**Fitzroy Crossi**	**24.56**	**238**	P	**P**	**03 23 33.0**	**+0.1**
13nm,0.5s,mb4.7,baz=55,slow=9.4,SNR=86							
STKA	**Stephens Creek**	**26.67**	**191**	P	**P**	**03 23 51.4**	**-0.6**
1.0nm,0.7s,mb3.6,baz=2.2,slow=9.8,SNR=3.8							
MBWA	**Marble Bar**	**30.90**	**237**	*e*P	**P**	**03 24 29.3**	**-0.1**
2.3nm,0.4s,mb4.3							
FORT	**Forrest**	**30.91**	**214**	*e*P	**P**	**03 24 28.7**	**-0.8**
6.8nm,0.6s,mb4.5							
KLBR	**Kellerberrin**	**37.89**	**223**	⇓*i*P	**P**	**03 25 29.2**	**-0.3**
5.5nm,0.3s,mb4.7							
SONM	**Songino Array**	**64.24**	**331**	P	**P**	**03 28 46.1**	**+0.2**
0.8nm,0.5s,mb3.8,baz=145,slow=7.5,SNR=8.7							
VNDA	**Vanda**	**72.27**	**177**	P	**P**	**03 29 37.1**	**+1.3**
1.2nm,0.7s,mb3.8,baz=316,slow=6.3,SNR=8.4							
MKAR	**Makanchi Array**	**77.42**	**320**	P	**P**	**03 30 04.2**	**-1.2**
0.5nm,0.5s,mb3.4,baz=101,slow=7.7,SNR=5.7							
ILAR	**Eielson Array**	**85.00**	**23**	P	**P**	**03 30 44.5**	**-0.8**
1.2nm,0.8s,mb3.7,baz=256,slow=4.8,SNR=19							
ILAR				pP	pP	03 31 26.2	+1.5
0.5nm,0.8s,baz=246,slow=5.4,SNR=5.1							
TORD	**Torodi Ar. Bea**	**145.33**	**285**	PKPbc	PKPbc	03 37 46.3	-0.7
0.4nm,0.4s,baz=65,slow=3.5,SNR=22							
TORD				SKPbc	SKPbc	03 41 11.3	-0.3
0.7nm,1.0s,baz=105,slow=3.7,SNR=4.4							

ATH ***11*** *03:18:57.3,3802N×2070E,h18km±1km,MD3.5/7*
NEIC ***11*** *03:18:57.3,3802N×2070E,h18km,MD3.5(ATH),After ATH.*
ISCJB ***11*** *03:18:58.7±0.8,3815N±005×2082E±004,h2km±7km, Error ellipse: s-maj=8.5km s-min=5.3km az=43.7*
CSEM ***11*** *03:18:58.0±0.2,3804N×2082E,h2km,MD3.5,Error ellipse: s-maj=4.3km s-min=2.2km az=36.0*
THE ***11*** *03:19:02.1,3830N×2093E,h10km*
ISC 11 03:18:59.0±0.9,**3812N**±005×**2082E**±004,**h3**km±7km,**n13,**
σ0§**95**/19,**Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.19**	**287**	*e*PB	**Pg**	**03 19 02.3**	**-0.3**
VLS				*e*SB	**Sg**	**03 19 05.7**	**+0.7**
RLS	**Riolos of Patr**	**0.52**	**97**	*e*PB	**Pg**	**03 19 08.7**	**-0.2**
RLS				*e*SN	**Sg**	**03 19 18.1**	**+2.5**
LKD	**Levkas**	**0.60**	**347**	*e*Pg	**Pg**	**03 19 10.1**	**-0.3**
LKD				*e*Sg	**Sg**	**03 19 17.1**	**-1.1**
EVR	**Evrytania**	**1.11**	**44**	*e*PN	**Pg

NIED ***11*** *04:14:00, 36.50N×14060E, h71km, Mw3.8 Best double couple: M₀6.22000×10¹⁴ NP1:φ,δ,λ 13.00000°, 70.00000°, 94.00000°. NP2:φ,δ,λ 181.00000°, 21.00000°, 79.00000°.*
IDC ***11*** *04:14:31.6±8.6, 3652N×14097E, h33km±64km, mb3.7/8, mb1 3.8/8, mb1mx3.6/20, mbtmp3.8/8, ML4.0/1, Error ellipse: s-maj=34.2km s-min=27.0km az=75.0*
MOS ***11*** *04:14:31.8±0.7, 3649N×14089E, h56km, mb4.2/10, Error ellipse: s-maj=22.2km s-min=13.8km az=27.0*
ISCJB ***11*** *04:14:33.6±0.6, 3645N±004×14069E±007, h64km±3km, mb3.9/13, Error ellipse: s-maj=9.9km s-min=6.1km az=63.9*
NEIC ***11*** *04:14:33.3±1.9, 3649N×14085E, h50km±14km, mb4.2/4, Error ellipse: s-maj=19.3km s-min=16.2km az=90.0*
JMA ***11*** *04:14:35.2±0.1, 3646N×14060E, h56km±1km, M4.0 Broadband fault plane solution: P waves. NP1: φ,δ,λ 173.00000°, 27.00000°, 70.00000°. NP2: φ,δ,λ 16.00000°, 64.00000°, 100.00000°. Principal axes: T Plg69.0000°, Azm306.0000°; N Plg9.0000°, Azm191.0000°; P Plg19.0000°, Azm98.0000°;*
JMA Felt II J1.

ISC 11 04:14:34.7±0.6, 3647N±004×14067E±007, h58km±4km, n38, σ0 74/49, mb3.9/13, 3C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHO	**Hitachi**	**0.17**	**330**	⇑P		**Pn**	**04 14 44.0**	**+0.3**
JHO				S		**Sn**	**04 14 49.8**	**-0.3**
JYT	**Yasato**	**0.45**	**239**	⇓P		**Pn**	**04 14 45.9**	**-0.1**
JYT				S		**Sn**	**04 14 53.1**	**-1.0**
ONAJ	**Iwakimizuishiy**	**0.64**	**9**	⇑P		**Pn**	**04 14 48.3**	**+0.2**
ONAJ				S		**Sn**	**04 14 57.8**	**-0.1**
JFK	**Kawauchi**	**0.91**	**10**	⇑P		**Pn**	**04 14 51.5**	**0.0**
JAG	**Ashikaga**	**0.98**	**268**	⇓P		**Pn**	**04 14 52.3**	**-0.1**
JAG				S		**Sn**	**04 15 04.2**	**-1.3**
JFT	**Otama**	**1.08**	**346**	⇓P		**Pn**	**04 14 54.3**	**+0.6**
JFT				S		**Sn**	**04 15 08.0**	**+0.1**
JKT	**Katashina**	**1.18**	**285**	⇓P		**Pn**	**04 14 55.3**	**+0.2**
JKT				S		**Sn**	**04 15 10.3**	**+0.1**
JFY	**Yanaizu**	**1.22**	**321**	⇓P		**Pn**	**04 14 56.0**	**+0.5**
JRY	**Ryogami san**	**1.50**	**253**	⇓P		**Pn**	**04 14 59.3**	**0.0**
JRY				S		**Sn**	**04 15 16.5**	**-1.3**
MJAR	**Matsushiro Arr**	**1.99**	**273**	Pn		**Pn**	**04 15 06.0**	**+0.1**
	43nm,0.3s,baz=96,slow=8.5,SNR=28							
MJAR				Sn		**Sn**	**04 15 32.6**	**+2.9**
	38nm,0.3s,baz=276,slow=25,SNR=4.7							
MJAR	**Matsushiro Arr**	**1.99**	**273**	P		**Pn**	**04 15 06.0**	**+0.1**
MJAR							04 15 32.6	
MJAR				pmax		pmax		
	comp=Z,43nm,0.3s							
MJAR				smax				
	comp=N,38nm,0.3s							
MAJO	**Matsushiro**	**1.99**	**273**	*e*Pn		**Pn**	**04 15 06.5**	**+0.6**
MAJO				*e*Sn		**Sn**	**04 15 21.5**	**-8.1**
MAT	**Matsushiro**	**1.99**	**273**	P		**Pn**	**04 15 06.8**	**+0.9**
MAT				S		**Sn**	**04 15 21.6**	**-8.1**
MAT	**Matsushiro**	**1.99**	**273**	*e*P		**Pn**	**04 15 07.0**	**+1.1**
MAT				*e*S		**Sn**	**04 15 22.0**	**-7.7**
JHJ	**Hachijo jima 2**	**3.42**	**193**	Sn		**Sn**	**04 16 05.8**	**+1.1**
	comp=N,21nm,0.3s,baz=240,slow=23,SNR=5.7							
ENH	**Enshi**	**26.69**	**266**	*e*P		**P**	**04 20 08.2**	**-0.1**
	comp=N,13nm,0.5s,mb4.7							
SONM	**Songino Array**	**27.62**	**305**	P		**P**	**04 20 16.5**	**-0.1**
	comp=N,0.9nm,0.7s,mb3.5,baz=101,slow=9.3,SNR=7.8							
SONM	**Songino Array**	**27.62**	**305**	P		**P**	**04 20 16.5**	**-0.1**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.7s							
TIXI	**Tiksi**	**35.78**	**354**	*e*P		**P**	**04 21 19.1**	**-9.1**
TIXI				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.2							
MKAR	**Makanchi Array**	**43.92**	**302**	P		**P**	**04 22 36.6**	**+0.9**
	comp=Z,0.8nm,0.6s,mb3.6,baz=93,slow=10,SNR=6.2							
MKAR	**Makanchi Array**	**43.92**	**302**	P		**P**	**04 22 36.6**	**+0.9**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
KURK	**Kurchatov**	**45.82**	**308**	*e*P		**P**	**04 22 50.4**	**-0.4**
KURK				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb3.9							
KURK	**Kurchatov**	**45.82**	**308**	*e*P		**P**	**04 22 50.4**	**-0.4**
	comp=Z,1.3nm,0.6s,mb4.0							
ILAR	**Eielson Array**	**50.29**	**32**	P		**P**	**04 23 23.0**	**-2.3**
	comp=Z,0.4nm,0.6s,mb3.6,baz=261,slow=5.4,SNR=4.5							
ZRNK	**Zerenda**	**51.35**	**313**	*e*P		**P**	**04 23 33.2**	**-0.1**
ZRNK				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb4.0							
ZRNK	**Zerenda**	**51.35**	**313**	*e*P		**P**	**04 23 33.1**	**-0.1**
	comp=Z,0.7nm,0.5s,mb3.9							
WRA	**Warramunga Arr**	**56.42**	**187**	P		**P**	**04 24 10.3**	**0.0**
	comp=Z,0.6nm,0.4s,mb4.0,baz=3.1,slow=7.3,SNR=6.4							
WRA	**Warramunga Arr**	**56.42**	**187**	P		**P**	**04 24 10.3**	**0.0**
WRA				pmax		pmax		
	comp=Z,1.0nm,0.4s							
KAF	**Kangasniemi**	**68.54**	**333**	*e*p		**P**	**04 25 30.2**	**-0.9**
	comp=Z,1.4nm,0.4s,mb4.2							
KAF	**Kangasniemi**	**68.54**	**333**	*e*P		**P**	**04 25 30.2**	**-0.9**
KAF				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.1							
FINES	**FINESS Array B**	**69.04**	**332**	P		**P**	**04 25 33.9**	**-0.4**
	comp=Z,1.0nm,0.6s,mb3.9,baz=50,slow=6.0,SNR=7.9							
FINES	**FINESS Array B**	**69.04**	**332**	P		**P**	**04 25 33.9**	**-0.3**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**74.38**	**322**	P		**P**	**04 26 06.3**	**0.0**
	comp=Z,1.0nm,0.5s,mb4.0,baz=46,slow=5.9,SNR=5.9							
AKASG	**Malin Array Be**	**74.38**	**322**	P		**P**	**04 26 06.4**	**+0.1**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.5s							
NB2	**NORSAR Subarra**	**74.48**	**337**	P		**P**	**04 26 06.9**	**0.0**
	comp=Z,0.7nm,0.7s,mb3.7,baz=40,slow=5.6							
NOA	**NORSAR Array B**	**74.48**	**337**	P		**P**	**04 26 07.0**	**+0.1**
	comp=Z,1.0nm,0.8s,mb3.8,baz=40,slow=5.7,SNR=5.4							
NOA	**NORSAR Array B**	**74.48**	**337**	P		**P**	**04 26 07.0**	**+0.1**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
GERES	**GERESS Array B**	**82.88**	**328**	P		**P**	**04 26 53.6**	**+0.6**
	comp=Z,0.2nm,0.4s,mb3.5,baz=32,slow=5.2,SNR=5.0							

NEIC ***11*** *04:40:10.7, 5239N×16909W, h22km, mb4.3/5, ML3.8(AEIC), After AEIC.*
BJI ***11*** *04:40:10.6, 5240N×169.10W, h22km, mB4.9, mb4.7, Ms3.8, Ms2.6*
ISCJB ***11*** *04:40:11.4±1.0, 525N±0.1×16920W±009, h52km±6km, mb4.0/19, MS3.2/3, Error ellipse: s-maj=20.4km s-min=5.6km az=138.5*
IDC ***11*** *04:40:13.2±3.1, 5260N×16922W, h47km±26km, mb3.7/14, mb1 3.9/17, mb1mx3.8/26, mbtmp4.0/17, ML3.6/3, MS3.2/3, Ms1 3.2/3, ms1mx2.6/28, Error ellipse: s-maj=31.9km s-min=16.6km az=173.0*

ISC 11 04:40:13.0±0.9, 526N±01×16919W±009, h50km±5km, n44, σ0 94/47, mb4.0/19, MS3.2/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIKO	**Nikolski**	**0.46**	**26**	P		**Pn**	**04 40 22.1**	**-1.6**
NIKO				S		**Sn**	**04 40 30.6**	**-0.9**
OKCE	**Okmok Cone E**	**1.06**	**35**	P		**Pn**	**04 40 31.3**	**-0.2**
OKCE				S		**Sn**	**04 40 47.7**	**+2.5**
OKCD	**Okmok Cone D**	**1.08**	**36**	P		**Pn**	**04 40 31.7**	**-0.1**
OKCD				S		**Sn**	**04 40 47.7**	**+2.0**
UNV	**Unalaska Valle**	**2.06**	**50**	P		**Pn**	**04 40 44.7**	**-0.4**
UNV				S		**Sn**	**04 41 09.3**	**-0.4**
AKLV	**Akutan Long Va**	**2.51**	**49**	P		**Pn**	**04 40 52.0**	**+0.7**
AKUT	**Akutan**	**2.58**	**51**	*e*Pn		**Pn**	**04 40 52.3**	**0.0**
ATKA	**Atka Island**	**3.09**	**265**	P		**Pn**	**04 40 58.4**	**-0.8**
ATKA				S		**Sn**	**04 41 35.5**	**+0.6**
SDPT	**Sand Point**	**5.85**	**58**	P		**Pn**	**04 41 39.4**	**+2.3**
AMKA	**Amchitka**	**7.21**	**265**	P		**Pn**	**04 41 55.8**	**+0.1**
FX1	**Attu Island--F**	**10.71**	**279**	P		**Pn**	**04 42 44.7**	**+1.1**
	1.2nm,0.3s,baz=192,slow=4.6,SNR=11							
KDAK	**Kodiak Island**	**10.83**	**55**	P		**Pn**	**04 42 44.9**	**-0.3**
	1.3nm,0.3s,baz=137,slow=18,SNR=16							
SLKM	**Skilak Lake**	**13.11**	**45**	*e*Pn		**Pn**	**04 43 16.0**	**-0.3**
ILAR	**Eielson Array**	**16.73**	**34**	P		**Pn**	**04 44 02.5**	**-1.3**
	0.1nm,0.3s,baz=234,slow=9.3,SNR=4.7							
DAWY	**Dawson**	**19.21**	**42**	*e*P		**Pn**	**04 44 32.8**	**-1.2**
SKAG	**Skagway**	**19.97**	**56**	*e*P		**Pn**	**04 44 42.5**	**-0.5**
INK	**Inuvik**	**23.12**	**34**	P		**P**	**04 45 12.6**	**-2.1**
	0.8nm,0.6s,mb3.4,baz=238,slow=9.9,SNR=12							
INK				PcP		PcP	04 49 00.8	-1.1
	0.7nm,0.6s,baz=261,slow=3.7,SNR=6.7							
INK	**Inuvik**	**23.12**	**34**	*e*P		**P**	**04 45 12.4**	**-2.3**
	1.3nm,0.5s,mb3.6							
INK				PcP		PcP	04 49 00.8	-1.1
YKA	**Yellowknife Ar**	**30.03**	**49**	P		**P**	**04 46 18.0**	**+1.0**
	0.6nm,0.6s,mb3.5,baz=271,slow=7.7,SNR=30							
YKA				PcP		PcP	04 49 17.9	-0.1
	0.3nm,0.8s,baz=288,slow=2.1,SNR=5.3							
YKA				LR		LR	04 59 45.4	
	comp=Z,43nm,19.5s,MS3.1,baz=90,slow=39							
YKA	**Yellowknife Ar**	**30.03**	**49**	P		**P**	**04 46 18.0**	**+1.0**
YKA				PcP		PcP	04 49 17.9	-0.1
YKA				LR		LR	04 59 45.4	
EDM	**Edmonton**	**32.97**	**66**	*e*P		**P**	**04 46 42.2**	**-0.6**
PDAR	**Pinedale Array**	**40.26**	**79**	P		**P**	**04 47 45.8**	**+0.9**
	1.2nm,0.8s,mb3.7,baz=313,slow=4.0,SNR=9.0							
FCC	**Fort Churchill**	**40.73**	**51**	*e*P		**P**	**04 47 49.4**	**+0.6**
	4.2nm,0.8s,mb4.1							
CN2	**Changchun**	**43.07**	**285**	*e*P		**P**	**04 48 09.3**	**+1.5**
SONM	**Songino Array**	**51.29**	**301**	P		**P**	**04 49 12.1**	**+0.3**
	0.6nm,0.5s,mb3.8,baz=53,slow=6.5,SNR=5.3							
SONM				PcP		PcP	04 50 26.2	0.0
	0.6nm,0.6s,baz=87,slow=3.2,SNR=3.3							
NJ2	**Nanjing**	**54.63**	**278**	*e*P		**P**	**04 49 41.3**	**+4.9**
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb5.0							
SCHQ	**Schefferville**	**55.22**	**43**	P		**P**	**04 49 41.0**	**+0.4**
	comp=Z,1.7nm,0.7s,mb4.2,baz=310,slow=9.1,SNR=4.4							
SCHQ	**Schefferville**	**55.22**	**43**	P		**P**	**04 49 41.0**	**+0.4**
SCHQ				LR		LR	05 16 27.0	
ARCES	**ARCESS Array B**	**57.74**	**354**	PcP		PcP	04 50 50.7	-0.3
	comp=Z,1.5nm,0.7s,baz=28,slow=4.1,SNR=5.4							
ARCES				LR		LR	05 16 27.0	
	comp=Z,21nm,18.6s,MS3.3,baz=80,slow=38							
KURK	**Kurchatov**	**62.30**	**318**	*e*P		**P**	**04 50 29.2**	**-0.7**
	comp=Z,2.2nm,0.6s,mb4.5							
BVAR	**Borovoye Array**	**63.61**	**324**	P		**P**	**04 50 38.5**	**0.0**
	comp=Z,2.2nm,0.6s,mb4.4,baz=53,slow=7.4,SNR=14							
BVAR				PcP		PcP	04 51 14.7	+0.1
	comp=Z,1.5nm,0.6s,baz=48,slow=4.9,SNR=5.1							
MKAR	**Makanchi Array**	**63.75**	**313**	P		**P**	**04 50 39.1**	**-0.3**
	comp=Z,0.7nm,0.7s,mb3.8,baz=52,slow=7.9,SNR=5.5							
ZRNK	**Zerenda**	**64.16**	**325**	*e*P		**P**	**04 50 41.6**	**-0.6**
	comp=Z,2.2nm,0.7s,mb4.3							
FINES	**FINESS Array B**	**65.69**	**352**	P		**P**	**04 50 51.7**	**-0.5**
	comp=Z,0.9nm,0.7s,mb3.9,baz=28,slow=8.6,SNR=5.4							
FINES	**FINESS Array B**	**65.69**	**352**	P		**P**	**04 50 51.7**	**-0.5**
NB2	**NORSAR Subarra**	**66.75**	**360**	P		**P**	**04 50 58.8**	**-0.1**
	comp=Z,0.8nm,0.6s,mb3.9,baz=360,slow=6.5							
NOA	**NORSAR Array B**	**66.75**	**360**	P		**P**	**04 50 59.0**	**+0.2**
	comp=Z,1.0nm,0.7s,mb4.0,baz=0.4,slow=6.2,SNR=4.8							
NOA				LR		LR	05 23 59.5	
	comp=Z,12nm,18.2s,MS3.2,baz=110,slow=39							
AKTK	**Aktyubinsk**	**69.90**	**330**	P		**P**	**04 51 18.8**	**+0.2**
AKTO	**Aktyubinsk**	**69.90**	**330**	P		**P**	**04 51 18.8**	**+0.2**
	comp=Z,1.8nm,0.6s,mb4.2,baz=55,slow=8.8,SNR=9.7							
AAK	**Ala-Archa**	**70.44**	**315**	*e*P		**P**	**04 51 20.8**	**-1.2**
	comp=Z,1.6nm,0.7s,mb4.1							
AKASG	**Malin Array Be**	**75.94**	**348**	P		**P**	**04 51 53.5**	**-0.8**
	comp=Z,0.8nm,0.4s,mb4.0,baz=14,slow=5.7,SNR=5.5							
GERES	**GERESS Array B**	**78.94**	**358**	P		**P**	**04 52 12.2**	**+1.1**
	comp=Z,0.2nm,0.3s,mb3.6,baz=350,slow=5.0,SNR=5.4							
ESDC	**Sonseca Array**	**87.24**	**11**	P		**P**	**04 52 55.0**	**+1.0**
	comp=Z,1.2nm,0.6s,mb4.3,baz=348,slow=4.7,SNR=5.0							
ASAR	**Alice Springs**	**90.60**	**230**	P		**P**	**04 53 09.4**	**-0.3**
	comp=Z,0.3nm,0.7s,mb3.7,baz=34,slow=4.1,SNR=5.3							
LBTB	**Lobatse**	**150.29**	**332**	PKPbc		PKPbc	04 59 57.4	-1.1
	comp=Z,2.0nm,0.6s,baz=27,slow=4.5,SNR=6.2							

ISCJB ***11*** *04:46:38.4±0.7, 5225N±007×16909W±009, h33km, mb3.8/14, Error ellipse: s-maj=12.1km s-min=4.9km az=116.4*
NEIC ***11*** *04:46:40.4, 5240N×169.19W, h22km, mb4.1/5, ML3.7(AEIC), After AEIC.*
IDC ***11*** *04:46:41.8±6.6, 5285N×16908W, h24km±44km, mb3.6/10, mb1 3.8/12, mb1mx3.7/24, mbtmp3.8/12, ML3.5/2, MS3.2/1, Ms1 3.2/1, ms1mx2.2/30, Error ellipse: s-maj=49.4km s-min=15.2km az=173.0*

ISC 11 04:46:39.7±1.6, 5233N±009×16908W±009, h29km±9km, n29, σ1 21/32, mb3.8/14, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIKO	**Nikolski**	**0.66**	**12**	P		**Pb**	**04 46 52.0**	**-0.8**
NIKO				S		**Sb**	**04 47 00.6**	**-1.0**
OKCE	**Okmok Cone E**	**1.23**	**26**	P		**Pn**	**04 47 01.5**	**+0.6**
OKCE				S		**Sn**	**04 47 18.1**	**+1.4**
OKCD	**Okmok Cone D**	**1.25**	**28**	P		**Pn**	**04 47 02.1**	**+0.9**
OKCD				S		**Sn**	**04 47 18.7**	**+1.6**
UNV	**Unalaska Valle**	**2.17**	**45**	P		**Pn**	**04 47 15.0**	**+1.1**
UNV				S		**Sn**	**04 47 40.9**	**+1.0**
AKUT	**Akutan**	**2.69**	**46**	*e*Pn		**Pn**	**04 47 23.9**	**+2.9**
ATKA	**Atka Island**	**3.15**	**270**	P		**Pn**	**04 47 28.1**	**+0.9**
ATKA				S		**Sn**	**04 48 04.7**	**+0.9**
AMKA	**Amchitka**	**7.26**	**267**	P		**Pn**	**04 48 25.6**	**+1.8**
FX1	**Attu Island--F**	**10.81**	**280**	Pn		**Pn**	**04 49 14.5**	**+2.0**
	1.0nm,0.3s,baz=266,slow=21,SNR=6.7							
KDAK	**Kodiak Island**	**10.91**	**53**	Pn		**Pn**	**04 49 13.7**	**-0.2**
	0.5nm,0.3s,baz=116,slow=6.4,SNR=8.0							
ILAR	**Eielson Array**	**16.89**	**34**	Pn		**Pn**	**04 50 32.4**	**-1.5**
	0.1nm,0.3s,baz=231,slow=11,SNR=5.7							
DAWY	**Dawson**	**19.30**	**41**	P		**Pn**	**04 51 01.8**	**-2.2**
INK	**Inuvik**	**23.28**	**33**	P		**P**	**04 51 43.4**	**-1.7**
	1.3nm,0.6s,mb3.5,baz=243,slow=9.1,SNR=14							
INK				PcP		PcP	04 55 32.4	+0.7
	0.4nm,0.6s,baz=201,slow=0.3,SNR=3.9							
INK	**Inuvik**	**23.28**	**33**	*e*P		**P**	**04 51 43.8**	**-1.3**
	1.5nm,0.8s,mb3.5							
INK				PcP		PcP	04 55 32.4	+0.6
YKA	**Yellowknife Ar**	**30.14**	**49**	P		**P**	**04 52 47.3**	**+0.4**
	0.4nm,0.5s,mb3.4,baz=271,slow=7.7,SNR=21							
YBH	**Yreka Blue Hor**	**32.80**	**90**	LR		LR	05 04 18.9	
	comp=Z,38nm,19.8s,baz=69,slow=32							
PDAR	**Pinedale Array**	**40.24**	**79**	P		**P**	**04 54 15.4**	**+1.7**
	0.3nm,0.6s,mb3.2,baz=323,slow=3.9,SNR=3.3							
FCC	**Fort Churchill**	**40.83**	**50**	*e*P		**P**	**04 54 18.4**	**-0.3**
	2.1nm,0.7s,mb3.9							
SONM	**Songino Array**	**51.47**	**301**	P		**P**	**04 55 42.5**	**0.0**
	0.4nm,0.5s,mb3.6,baz=72,slow=6.9,SNR=3.9							
ARCES	**ARCESS Array B**	**57.98**	**354**	PcP		PcP	04 57 21.0	-0.4
	2.6nm,0.8s,baz=12,slow=4.6,SNR=4.6							
KURK	**Kurchatov**	**62.52**	**318**	*e*P		**P**	**04 56 59.5**	**-1.1**
	1.6nm,0.6s,mb4.3							
BVAR	**Borovoye Array**	**63.84**	**325**	P		**P**	**04 57 08.7**	**-0.7**
	1.2nm,0.5s,mb4.2,baz=52,slow=9.6,SNR=6.4							
ZRNK	**Zerenda**	**64.39**	**325**	*e*P		**P**	**04 57 11.4**	**-1.6**
	1.2nm,0.6s,mb4.1							
FINES	**FINESS Array B**	**65.94**	**352**	P		**P**	**04 57 21.5**	**-1.6**
	0.6nm,0.6s,mb3.8,baz=19,slow=13,SNR=3.2							
NOA	**NORSAR Array B**	**66.98**	**360**	P		**P**	**04 57 28.8**	**-0.9**
	0.7nm,0.8s,mb3.8,baz=1.0,slow=6.5,SNR=2.6							
AKTK	**Aktyubinsk**	**70.14**	**330**	P		**P**	**04 57 48.5**	**-0.9**
AKTO	**Aktyubinsk**	**70.14**	**330**	P		**P**	**04 57 48.5**	**-0.9**
	1.1nm,0.5s,mb4.1,baz=45,slow=9.1,SNR=5.6							
AAK	**Ala-Archa**	**70.66**	**316**	*e*P		**P**	**04 57 51.3**	**-1.2**
	1.2nm,0.7s,mb3.9							
GERES	**GERESS Array B**	**79.18**	**358**	P		**P**	**04 58 42.2**	**+0.4**
	0.2nm,0.4s,mb3.4,baz=328,slow=4.7,SNR=3.7							
ESDC	**Sonseca Array**	**87.46**	**11**	P		**P**	**04 59 24.9**	**+0.4**
	0.8nm,0.6s,mb4.1,baz=348,slow=5.2,SNR=4.8							

ATH ***11*** *04:55:38.2, 3820N×2672E, h26km±1km, MD3.4/5*
ISCJB ***11*** *04:55:39.2±0.5, 3814N±002×2667E±004, h5km, Error ellipse: s-maj=4.7km s-min=3.2km az=160.2*
NEIC ***11*** *04:55:39.0, 3811N×2683E, h5km, MD3.3(ISK), MD3.4(ATH), After ISK.*
ISK ***11*** *04:55:39.3, 3811N×2681E, h3km, MD3.4*
CSEM ***11*** *04:55:39.0±0.2, 3814N×2673E, h5km, MD3.4, Error ellipse: s-maj=4.5km s-min=3.0km az=90.0*

ISC 11 04:55:39.1±0.8, 3814N±002×2663E±005, h2km±6km, n30, σ1 9 25/40, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SMG	**Samos**	**0.46**	**159**	*e*PN		**Pg**	**04 55 48.9**	**+1.0**
SMG				*e*SN		**Sg**	**04 55 56.2**	**+2.4**
IZM	**Izmir**	**0.56**	**62**	*i* PG		**Pg**	**04 55 49.1**	**-0.8**
IZM				*i* SG		**Sg**	**04 55 56.3**	**-0.9**
KDAG	**Bornova**	**0.57**	**62**	*i* P		**Pg**	**04 55 49.4**	**-0.6**
KDAG				*i* S		**Sg**	**04 55 56.5**	**-0.9**
PRK	**Paraskevi**	**1.14**	**346**	*e*PN		**Pn**	**04 55 59.5**	**-2.6**
PRK				*e*SN		**Sn**	**04 56 14.6**	**-3.8**
AYVA	**Ayvalik**	**1.17**	**2**	*i* P		**Pg**	**04 56 00.5**	**-1.0**
AYVA				*i* S		**Sg**	**04 56 17.7**	**+1.0**
AKS	**Akhisar**	**1.19**	**51**	*e*PN		**Pn**	**04 56 00.6**	**-2.2**
BODT	**Bodrum**	**1.20**	**153**	*e*PN		**Pn**	**04 56 00.7**	**-2.2**
MLSB	**Milas**	**1.24**	**132**	*e*PN		**Pn**	**04 56 00.9**	**-2.5**
BDRM	**Kayabasi**	**1.25**	**149**	*i* P		**Pg**	**04 56 02.3**	**-0.7**
BDRM				*i* S		**Sg**	**04 56 20.7**	**+1.4**
APE	**Apeiranthos**	**1.38**	**220**	*e*PN		**Pn**	**04 56 05.3**	**-0.1**
YER	**Yerkesik**	**1.65**	**127**	PN		**Pn**	**04 56 07.6**	**-1.5**
EZN	**Ezine**	**1.70**	**352**	PN		**Pn**	**04 56 11.2**	**+1.4**
BOZC	**Bozcaada**	**1.76**	**345**	*i* P		**Pn**	**04 56 09.6**	**-1.1**
BOZC				*i* S		**Sn**	**04 56 34.6**	**+1.0**
BALB	**Balikesir**	**1.79**	**33**	PN		**Pn**	**04 56 11.3**	**+0.3**
DENT	**Denizli**	**1.94**	**101**	PN		**Pn**	**04 56 12.9**	**-0.2**
BTOK	**Tokmak**	**1.96**	**34**	*i* P		**Pb**	**04 56 15.4**	**-0.1**
BTOK				*i* S		**Sb**	**04 56 40.8**	**+0.5**
LIA	**Limnos Island**	**2.09**	**328**	*e*PN		**Pn**	**04 56 13.3**	**-1.8**
DALT	**Dalyan (Mudla)**	**2.10**	**130**	*e*PN		**Pn**	**04 56 15.3**	**0.0**
DST	**Dursunbey**	**2.14**	**46**	*e*PN		**Pn**	**04 56 16.4**	**+0.5**
GDZ	**Gediz**	**2.43**	**66**	*i* P		**Pb**	**04 56 23.8**	**+0.3**
GDZ				*i* S		**Sb**	**04 56 54.0**	**+0.1**
BNT	**Bandirma**	**2.43**	**24**	*e*PN		**Pn**	**04 56 21.3**	**+1.4**
FETY	**Fethiye**	**2.46**	**127**	*e*PN		**Pn**	**04 56 20.4**	**+0.1**
MRMT	**Marmara Adasi**	**2.58**	**17**	*e*PN		**Pn**	**04 56 23.9**	**+2.1**
SART	**Tekirdag**	**2.58**	**9**	*i* S		**Sn**	**04 56 54.0**	**+0.1**
ORLT	**Orhaneli**	**2.60**	**42**	*e*PN		**Pn**	**04 56 23.2**	**+1.1**
MFT	**Murefte**	**2.69**	**11**	*e*PN		**Pn**	**04 56 25.6**	**+2.1**
TKTP	**Tekketepe**	**2.91**	**91**	*i* P		**Pg**	**04 56 34.7**	**-0.3**
TKTP				*i* S		**Sg**	**04 57 13.2**	**+0.5**
RDO	**Rodhopi**	**3.12**	**345**	*e*PN		**Pn**	**04 56 27.5**	**-1.8**
YLV	**Yalova**	**3.23**	**40**	*e*PN		**Pn**	**04 56 32.2**	**+1.4**
EDRB	**Edirne**	**3.71**	**1**	*e*PN		**Pn**	**04 56 39.0**	**+1.6**

GUC 11 05:04:37.2±0.6, 2398S×6700W, h200km, MD3.7, ML3.7, 2C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LVC	**Limon Verde**	**2.22**	**307**	⇑*i*P		Pn	05 05 19.9	+1.9
LVC				*i* S		Sn	05 05 52.1	+2.3
CEN1	**Los Morros**	**2.99**	**281**	⇓*i*P		Pn	05 05 30.0	+3.3
CEN1				*i* S		Sn	05 06 09.7	+4.3
CEN1				AML		AML	05 06 13.3	
	comp=N,56nm,0.1s							
ANCH	**Antofagasta**	**3.14**	**275**	*e*P		Pn	05 05 30.4	+2.0
ANCH				*i* S		Sn	05 06 10.5	+2.0
CPN1	**Cerro Paranal**	**3.17**	**258**	⇑*i*P		Pn	05 05 31.0	+2.2
CPN1				*i* S		Sn	05 06 12.6	+3.5
CPN1				AML		AML	05 06 14.9	
	comp=E,160nm,0.4s							

ISCJB ***11*** *05:22:01.1±1.0, 4306N±004×7766E±009, h10km, Error ellipse: s-maj=15.2km s-min=5.2km az=114.3*
KNET ***11*** *05:22:01.4±0.8, 4302N×7738E, h4km±3km, ml2.6, Error ellipse: s-maj=4.0km s-min=3.7km az=63.0*
NNC ***11*** *05:22:02.

MJAR	Matsushiro Arr	17.77	341	P		Pn	06 01 15.8	-0.5
	10.0nm,0.3s,baz=163,slow=9.2,SNR=8.0							
MAJO	Matsushiro	17.77	341	*eP*		Pn	06 01 15.6	-0.7
	9.2nm,0.4s							
MAT	Matsushiro	17.77	341	P		Pn	06 01 15.9	-0.4
MAT	Matsushiro	17.77	341	*eP*		Pn	06 01 16.0	-0.3
	10nm,0.8s							
KS15	Wonju Array Si	23.17	323	*eP*		P	06 02 12.9	+1.5
SSE	Sheshan	24.37	302	*eP*		P	06 02 22.8	+0.5
SSE				AMB		AMB		
	comp=Z,19nm,0.7s,mb4.7							
SSE				AMB		AMB		
	comp=Z,38nm,7.2s							
NJ2	Nanjing	26.57	303	*eP*		P	06 02 43.0	+0.8
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.6							
CN2	Changchun	29.08	330	*eP*		P	06 03 07.6	+3.1
QIZ	Qiongzhong	33.33	275	P		P	06 03 41.5	-0.2
ENH	Enshi	33.87	295	*eP*		P	06 03 51.1	+4.7
	comp=Z,46nm,0.7s,mb5.3							
HHC	Hu-ho-hao-te	35.50	314	*eP*		P	06 04 02.1	+1.7
HHC				AP		pP	06 04 36.9	+3.4
HHC				PP		PP	06 05 28.1	+3.9
HHC				PCP		PcP	06 06 26.1	-0.2
HHC				S		**S**	**06 09 25.2**	**+1.0**
HHC				SCP		ScP	06 09 56.5	-1.1
HHC				PCS		PcS	06 10 13.9	+0.3
HHC				SS		SS	06 11 57.0	-6.3
HHC				SCS		ScS	06 14 00.1	-2.5
HHC				AMB		AMB		
	comp=Z,13nm,1.1s,mb4.5							
HHC				AMB		AMB		
	comp=Z,107nm,7.1s							
HHC				LR		LR		
	comp=N,54nm,10.4s							
HHC				LR		LR		
	comp=E,84nm,12.5s							
HHC				LR		LR		
	comp=Z,81nm,13.2s							
CD2	Chengdu	38.85	295	*eP*		P	06 04 28.5	-0.1
CD2				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.5							
KMI	Kunming	39.48	286	P		P	06 04 31.7	-2.2
KMI				AMB		AMB		
	comp=Z,12nm,1.1s,mb4.4							
WRAB	Tennant Creek	40.90	196	*eP*		P	06 04 44.5	-1.0
	comp=Z,13nm,0.6s,mb4.7							
WB2	Warramunga Arr	40.91	196	*eP*		P	06 04 44.7	-0.9
WRA	Warramunga Arr	40.91	196	P		P	06 04 45.0	-0.6
	comp=Z,6.6nm,0.6s,mb4.5,baz=16,slow=8.9,SNR=47							
SONM	Songino Array	41.99	321	P		P	06 04 55.8	+1.4
	comp=Z,0.8nm,0.4s,mb3.7,baz=123,slow=7.2,SNR=6.8							
FITZ	Fitzroy Crossi	42.29	208	*eP*		P	06 04 56.5	-0.3
	comp=Z,12nm,0.4s,mb4.9							
FITZ	Fitzroy Crossi	42.29	208	P		P	06 04 56.6	-0.2
	comp=Z,9.9nm,0.6s,mb4.6,baz=29,slow=9.8,SNR=32							
ASAR	Alice Springs	44.59	195	P		P	06 05 14.2	-1.0
	comp=Z,1.9nm,0.4s,mb4.1,baz=15,slow=6.9,SNR=12							
MBWA	Marble Bar	47.74	213	*eP*		P	06 05 38.7	-1.2
	comp=Z,14nm,1.1s,mb4.5							
BILL	Bilibino	50.01	10	*eP*		P	06 05 57.6	+0.5
	comp=Z,4.4nm,0.8s,mb4.1							
STKA	Stephens Creek	51.51	184	P		P	06 06 04.1	-4.2
	comp=Z,0.8nm,0.4s,mb3.7,baz=337,slow=15,SNR=3.5							
WMQ	Urumqi	53.24	310	*iP*		P	06 06 23.5	+2.4
WMQ				AP		pP	06 07 01.0	+4.4
WMQ				XP		sP	06 07 20.0	+6.4
WMQ				PCP		PcP	06 07 28.7	+1.8
WMQ				PP		PP	06 08 27.7	+5.0
WMQ				S		**S**	**06 13 41.8**	**+1.6**
WMQ				AMB		AMB		
	comp=Z,15nm,0.6s,mb4.9							
WMQ				LR		LR		
	comp=N,24nm,21.0s							
WMQ				LR		LR		
	comp=Z,11nm,17.2s							
ZAL	Zalesovo	56.87	322	P		P	06 06 47.2	+0.1
	comp=Z,1.9nm,0.6s,mb4.1,baz=330,slow=7.6,SNR=6.2							
ZAL	Zalesovo	56.87	322	P		P	06 06 47.2	+0.1
MKAR	Makanchi Array	57.37	313	P		P	06 06 51.5	+0.9
	comp=Z,3.6nm,0.6s,mb4.4,baz=91,slow=9.0,SNR=38							
MKAR				PcP		PcP	06 07 41.9	-0.9
	comp=Z,1.5nm,0.8s,baz=70,slow=8.4,SNR=3.7							
NWAO	Narrogin (SRO)	58.86	207	P		P	06 07 00.2	-0.8
	comp=Z,3.5nm,0.7s,mb4.3,baz=90,slow=4.0,SNR=4.1							
KURK	Kurchatov	60.14	318	*eP*		P	06 07 09.7	-0.1
	comp=Z,3.3nm,0.5s,mb4.4							
COLA	College	62.48	26	P		P	06 07 25.0	-0.5
	comp=Z,1.9nm,0.7s,mb4.0							
ILAR	Eielson Array	62.86	27	P		P	06 07 26.2	-1.8
	comp=Z,1.5nm,0.7s,mb3.9,baz=248,slow=5.9,SNR=22							
ILAR				PcP		PcP	06 08 03.6	-1.3
	comp=Z,1.1nm,0.9s,baz=255,slow=5.7,SNR=5.8							
BRVK	Borovoye	65.39	320	*eP*		P	06 07 44.7	+0.1
	comp=Z,2.6nm,0.8s,mb4.1							
ZRNK	Zerenda	66.17	320	*eP*		P	06 07 49.5	+0.1
	comp=Z,4.2nm,0.9s,mb4.3							
INK	Inuvik	68.54	23	*eP*		P	06 08 03.6	-0.8
	comp=Z,3.8nm,0.8s,mb4.2							
DLBC	Dease Lake	70.63	34	*eP*		P	06 08 17.6	+0.4
HDW	Hoodsport	76.77	44	P		P	06 08 54.1	+1.2
YKW3	Yellowknife Ar	77.21	28	P		P	06 08 54.6	-0.8
YKA	Yellowknife Ar	77.23	28	P		P	06 08 54.7	-0.8
	comp=Z,6.1nm,0.6s,mb4.4,baz=290,slow=5.5,SNR=133							
YKA				pP		pP	06 09 33.4	-0.1
	comp=Z,1.0nm,0.7s,baz=290,slow=5.5,SNR=5.3							
YKA	Yellowknife Ar	77.23	28	P		P	06 08 54.7	-0.8
YKA				pP		pP	06 09 33.4	-0.1
FMW	Mount Fremont	77.87	44	P		P	06 08 59.5	+0.5
RES	Resolute Bay	78.46	14	*eP*		P	06 09 01.2	-1.2
	comp=Z,3.0nm,0.7s,mb4.0							
YBH	Yreka Blue Hor	78.59	50	P		P	06 09 03.6	+0.5
	comp=Z,3.8nm,0.9s,mb4.0,baz=248,slow=4.3,SNR=7.3							
EBG	Ellensburg	78.60	44	P		P	06 09 03.8	+0.6
EPH	Ephrata	79.11	44	P		P	06 09 05.7	-0.1
WRD	Warden	79.57	44	P		P	06 09 08.3	-0.1
NEW	Newport	80.41	42	*eP*		P	06 09 12.6	-0.3
	comp=Z,2.4nm,0.5s,mb4.1							
WVOR	Wild Horse Val	81.28	48	*eP*		P	06 09 17.0	-0.5
	comp=Z,4.1nm,1.0s,mb4.0							
ARCES	ARCESS Array B	81.30	342	P		P	06 09 17.0	-0.6
	comp=Z,2.2nm,0.6s,mb4.0,baz=70,slow=8.7,SNR=14							
ARCES	ARCESS Array B	81.30	342	P		P	06 09 17.0	-0.6
BMO	Blue Mountains	81.40	46	*eP*		P	06 09 18.0	-0.2
	comp=Z,5.6nm,0.8s,mb4.2							
BSMT	Basoo Peak	82.02	42	P		P	06 09 22.0	+0.6
WALA	Waterton Lakes	82.14	41	*eP*		P	06 09 22.1	+0.1
	comp=Z,1.8nm,0.7s,mb3.8							
NVAR	Mina Array Bea	82.83	52	P		P	06 09 25.9	+0.4
	comp=Z,6.2nm,0.7s,mb4.5,baz=268,slow=4.8,SNR=60							
NVAR	Mina Array Bea	82.83	52	P		P	06 09 25.9	+0.4
MNV	Mina	82.94	52	P		P	06 09 26.4	+0.3
	comp=Z,5.3nm,0.8s,mb4.3							
TPH	Tonopah	83.75	52	*eP*		P	06 09 30.3	0.0
	comp=Z,4.2nm,0.6s,mb4.3							
HLID	Hailey	83.80	46	*eP*		P	06 09 30.6	+0.1
	comp=Z,0.9nm,0.5s,mb3.8							
DAC	Darwin (Calif)	84.08	54	P		P	06 09 32.2	+0.2
ELK	Elko	84.25	49	*eP*		P	06 09 33.0	+0.1
	comp=Z,6.2nm,0.8s,mb4.4							
LRM	Limekiln Ridge	84.26	43	P		P	06 09 33.0	+0.2
HRY	Holter Researc	84.31	42	*eP*		P	06 09 33.0	-0.1
MCMT	McKenzie Canyo	84.38	44	*eP*		P	06 09 33.3	-0.2
TPNV	Topopah Spring	84.86	53	*eP*		P	06 09 35.7	-0.2
	comp=Z,3.5nm,0.6s,mb4.3							
QLMT	Earthquake Lak	85.31	44	*eP*		P	06 09 38.7	+0.6
YMR	Madison River	85.68	44	*eP*		P	06 09 40.3	+0.4
	comp=Z,13nm,0.8s,mb4.7							
FINES	FINESS Array B	85.69	335	P		P	06 09 38.1	-1.9
	comp=Z,0.8nm,0.3s,mb3.9,baz=71,slow=5.4,SNR=10							
SPUT	South Promonto	86.00	48	*eP*		P	06 09 41.6	+0.1
IMW	Indian Meadow	86.00	45	*eP*		P	06 09 41.9	+0.3
	comp=Z,4.6nm,0.8s,mb4.3							
FLWY	Flagg Ranch	86.08	44	*eP*		P	06 09 42.8	+0.9
	comp=Z,4.8nm,0.9s,mb4.2							
TPAW	Teton Pass	86.16	45	P		P	06 09 42.8	+0.5
DUG	Dugway	86.17	49	*eP*		P	06 09 42.2	-0.2
	comp=Z,3.2nm,0.6s,mb4.2							
MOOW	Moose Ponds	86.19	45	P		P	06 09 42.7	+0.2
	comp=Z,7.0nm,1.3s,mb4.2							
FFC	Flin Flon	86.41	32	*eP*		P	06 09 42.5	-1.0
	comp=Z,2.8nm,0.5s,mb4.2							
HWUT	Hardware Ranch	86.49	47	P		P	06 09 44.3	+0.4
DAU	Daniels Canyon	87.18	48	*eP*		P	06 09 47.3	0.0
GLA	Glamis	87.36	56	P		P	06 09 48.6	+0.4
PDAR	Pinedale Array	87.38	45	P		P	06 09 47.7	-0.5
	comp=Z,0.5nm,0.7s,mb3.4,baz=298,slow=3.2,SNR=5.1							
FCC	Fort Churchill	87.89	27	*eP*		P	06 09 49.4	-1.2
	comp=Z,3.0nm,0.8s,mb4.2							
SRU	San Rafael	88.22	49	P		P	06 09 52.4	+0.2
WUAZ	Wupatki	89.05	53	P		P	06 09 56.9	+0.8
	comp=Z,5.4nm,0.9s,mb4.5							
RSSD	Black Hills	90.38	42	*eP*		P	06 10 01.9	-0.4
	comp=Z,1.4nm,0.5s,mb4.2							
SMCO	Snowmass	90.69	48	P		P	06 10 04.1	+0.3
ISCO	Idaho Springs	91.35	47	*eP*		P	06 10 07.5	+0.7
	comp=Z,1.2nm,0.7s,mb4.0							
ANMO	Albuquerque	92.94	51	*eP*		P	06 10 14.6	+0.5
	comp=Z,1.0nm,0.8s,mb4.0							
BRTR	Keskin Array B	93.01	314	P		P	06 10 13.2	-1.3
	comp=Z,0.4nm,0.6s,mb3.8,baz=84,slow=5.1,SNR=3.7							
RPN	Rapa Nui	112.11	112	*ePKPdf*		PKiKP	06 15 36.4	+0.8
TORD	Torodi Ar. Bea	131.40	309	PKP		PKPdf	06 16 12.3	-0.2
	comp=Z,0.1nm,0.3s,baz=70,slow=0.8,SNR=7.8							
SDV	Santo Domingo	134.63	54	PKPdf		PKPdf	06 16 18.7	+0.1
LVC	Limon Verde	148.11	101	*ePKPbc*		PKPbc	06 16 46.6	+0.6
LPAZ	La Paz	148.14	89	PKP		PKPdf	06 16 43.4	+0.7
	comp=Z,4.3nm,0.6s,baz=285,slow=3.3,SNR=20							
LPAZ				PKPbc		PKPbc	06 16 47.2	+1.2
	comp=Z,4.3nm,0.6s,baz=351,slow=5.4,SNR=34							
LPAZ	La Paz	148.14	89	PKP		PKPdf	06 16 43.4	+0.7
LPAZ				*ePKPbc*		PKPbc	06 16 46.7	+0.6
LPAZ				PKPbc		PKPbc	06 16 47.2	+1.2
SAML	Samuel	150.51	73	*ePKPbc*		PKPbc	06 16 51.5	-0.5
SAML				*ePKPab*		PKPab	06 16 58.1	-1.0

IDC 11 05:59:55.9±3.9, 3082S×13806E, h0km, mb1 3.5/4, mb1mx3.4/12, mbtmp3.3/4, ML3.0/4, Error ellipse: s-maj=91.1km s-min=16.3km az=34.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	3.20	110	Pn	Pn	06 00 47.3	-0.2
	0.6nm,0.3s,baz=293,slow=12,SNR=10						
STKA				Pg	Pg	06 00 55.5	-1.7
	3.0nm,0.3s,baz=299,slow=15,SNR=32						
STKA				Sn	Sn	06 01 25.7	-0.6
	2.2nm,0.3s,baz=271,slow=13,SNR=3.8						
STKA				Lg		06 01 37.1	
	5.7nm,0.3s,baz=208,slow=20,SNR=8.7						
ASAR	Alice Springs	8.03	332	Pn	Pn	06 01 54.9	+1.1
	0.2nm,0.3s,baz=151,slow=13,SNR=7.8						
ASAR				Sn	Sn	06 03 21.5	-3.9
	0.2nm,0.3s,baz=152,slow=22,SNR=4.6						
WRA	Warramunga Arr	11.34	342	Pn	Pn	06 02 39.3	+0.1
	0.2nm,0.3s,baz=145,slow=12,SNR=5.9						
FITZ	Fitzroy Crossi	16.96	315	Pn	Pn	06 03 53.3	-1.2
	0.0nm,0.3s,baz=125,slow=14,SNR=3.1						

IDC 11 06:03:56.8±4.4, 1734S×17799W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/14, mbtmp3.9/5, MS3.7/1, Ms1 3.6/1, ms1mx2.7/23, Error ellipse: s-maj=189.5km s-min=34.5km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	39.26	241	P	P	06 11 26.6	-0.4
	0.8nm,0.4s,baz=94,slow=9.0,SNR=3.9						
STKA				LR	LR	06 25 39.2	
	comp=Z,112nm,21.0s,baz=132,slow=33						
WRA	Warramunga Arr	45.13	259	P	P	06 12 15.2	+0.3
	0.5nm,0.7s,baz=91,slow=7.1,SNR=6.2						
ASAR	Alice Springs	45.33	254	P	P	06 12 17.5	+0.9
	3.7nm,0.6s,baz=90,slow=8.1,SNR=41						
FITZ	Fitzroy Crossi	53.52	260	P	P	06 13 19.4	+0.3
	1.5nm,0.8s,baz=0.0,slow=20,SNR=4.8						
ILAR	Eielson Array	85.25	13	P	P	06 16 35.0	-0.3
	0.2nm,0.4s,baz=218,slow=5.7,SNR=5.1						

*ISCJB **11** 06:09:43.8±1.3, 525N±0.1×1692W±0.1, h50km±9km, mb3.7/9, Error ellipse: s-maj=25.7km s-min=7.6km az=131.3*
*NEIC **11** 06:09:45.0, 5259N×16934W, h37km, mb3.6/2, ML3.7(AEIC), After AEIC.*
*IDC **11** 06:09:47.1±3.7, 5264N×16926W, h57km±31km, mb3.4/8, mb1 3.6/11, mb1mx3.5/25, mbtmp3.7/11, ML3.4/3, MS3.3/1, Ms1 3.3/1, ms1mx2.2/19, Error ellipse: s-maj=39.4km s-min=17.6km az=168.0*

ISC 11 06:09:45.3±1.2, 525N±01×1692W±01, h47km±9km, n23, σ0§99/25, mb3.7/9, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKO	Nikolski	0.51	24	P	Pn	06 09 54.9	-1.6
NIKO				S	Sn	06 10 03.8	-0.7
OKCE	Okmok Cone E	1.11	34	P	Pn	06 10 04.3	-0.2
OKCE				S	Sn	06 10 21.1	+2.3
OKCD	Okmok Cone D	1.14	35	P	Pn	06 10 04.8	+0.1
UNV	Unalaska Valle	2.11	49	P	Pn	06 10 17.9	-0.2
UNV				S	Sn	06 10 43.3	+0.2
AKUT	Akutan	2.62	50	*ePn*	Pn	06 10 25.6	+0.4
ATKA	Atka Island	3.08	266	P	Pn	06 10 31.0	-0.4
AMKA	Amchitka	7.20	266	P	Pn	06 11 28.3	+0.4
FX1	Attu Island--F	10.71	279	P	Pn	06 12 18.5	+2.5
	1.2nm,0.3s,baz=104,slow=19,SNR=10						
KDAK	Kodiak Island	10.87	54	P	Pn	06 12 17.3	-0.9
	0.2nm,0.3s,baz=314,slow=12,SNR=6.7						
ILAR	Eielson Array	16.78	34	P	Pn	06 13 37.5	+0.6
	0.1nm,0.3s,baz=234,slow=11,SNR=5.9						
INK	Inuvik	23.18	33	P	P	06 14 46.9	-1.0
	1.2nm,0.6s,mb3.5,baz=248,slow=9.8,SNR=16						
INK				PcP	PcP	06 18 34.9	+0.2
	0.5nm,0.6s,baz=220,slow=1.1,SNR=4.3						
INK	Inuvik	23.18	33	*eP*	P	06 14 46.1	-1.7
	1.2nm,0.6s,mb3.5						
INK				*ePcP*	PcP	06 18 34.9	+0.2
YKW3	Yellowknife Ar	30.06	49	*eP*	P	06 15 50.7	+0.7
YKA	Yellowknife Ar	30.07	49	P	P	06 15 51.0	+0.9
	0.5nm,0.5s,mb3.5,baz=272,slow=7.7,SNR=18						
YKA	Yellowknife Ar	30.07	49	P	P	06 15 51.0	+0.9
PDAR	Pinedale Array	40.28	79	P	P	06 17 19.2	+1.5
	0.5nm,0.7s,mb3.4,baz=316,slow=6.2,SNR=4.4						
SONM	Songino Array	51.32	301	P	P	06 18 45.2	+0.5
	0.6nm,0.5s,mb3.8,baz=58,slow=6.0,SNR=6.5						
SONM				PcP	PcP	06 19 59.8	+0.7
	0.5nm,0.6s,baz=79,slow=3.1,SNR=4.0						
WMOK	Wichita Mounta	51.86	81	*eP*	P	06 18 48.5	-0.2
	0.5nm,0.6s,mb3.6						
SCHQ	Schefferville	55.27	43	P	P	06 19 12.6	-1.1
	1.3nm,0.7s,mb4.1,baz=301,slow=5.9,SNR=3.6						
ARCES	ARCESS Array B	57.80	354	LR	LR	06 45 18.5	
	comp=Z,24nm,18.3s,baz=111,slow=37						
MKAR	Makanchi Array	63.78	313	P	P	06 20 11.1	-1.3
	0.6nm,0.8s,mb3.7,baz=23,slow=7.8,SNR=3.3						
FINES	FINESS Array B	65.75	352	P	P	06 20 24.6	-0.6
	1.1nm,0.7s,mb4.0,baz=9.3,slow=14,SNR=3.8						
ASAR	Alice Springs	90.56	230	P	P	06 22 41.9	-0.5
	0.3nm,0.6s,mb3.8,baz=22,slow=4.3,SNR=5.8						

*ISK **11** 06:33:44.8, 3705N×2798E, h25km, MD3.0*
*CSEM **11** 06:33:44.8±0.2, 3706N×2802E, h20km, MD3.0, Error ellipse: s-maj=4.4km s-min=3.4km az=20.0*
*ISCJB **11** 06:33:45.1±0.6, 3695N±003×2800E±004, h11km±4km, Error ellipse: s-maj=5.1km s-min=4.8km az=41.6*
*ATH **11** 06:33:45.0, 3698N×2807E, h29km±1km, MD2.9/3*
*NEIC **11** 06:33:45.0, 3699N×2807E, h29km, MD2.9(ATH), After ATH.*

ISC 11 06:33:45.5±0.5, 3696N±003×2800E±004, h14km±4km, n16, σ1§10/25, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	Yerkesik	0.29	52	*iPg*	Pg	06 33 52.0	+0.5
YER				*iSG*	Sg	06 33 56.5	+1.0
MLSB	Milas	0.38	332	PG	Pg	06 33 52.5	-0.6
MLSB				SG	Sg	06 33 57.0	-1.3
BDRM	Kayabasi	0.46	283	*iP*	Pg	06 33 54.5	-0.1
BDRM				*iS*	Sg	06 34 01.1	+0.4
DALT	Dalyan (Mudla)	0.55	110	PG	Pg	06 33 57.1	+0.9
BODT	Bodrum	0.56	281	PG	Pg	06 33 56.4	-0.1
BODT				SG	Sg	06 34 04.5	+0.5
AYDN	Tasoluk	0.71	352	*iP*	Pg	06 33 59.3	+0.1
ARG	Arkhangelos	0.75	172	*ePN*	Pn	06 34 00.1	-1.5
ARG				*eSN*	Sn	06 34 11.8	-0.9
NISR	Nisiros	0.78	244	*ePN*	Pn	06 34 01.5	-0.5
FETY	Fethiye	0.93	110	*ePG*	Pg	06 34 03.1	-0.3
DENT	Denizli	1.14	46	*ePN*	Pn	06 34 05.4	-1.6
SMG	Samos	1.19	309	*ePN*	Pn	06 34 08.1	+0.5
SMG				*eSN*	Sn	06 34 24.5	+1.0
IZM	Izmir	1.55	338	*ePN*	Pn	06 34 10.4	-2.2
KDAG	Bornova	1.55	338	*iP*	Pn	06 34 12.7	+0.1
KDAG				*iS*	Sn	06 34 36.2	+3.7
KARP	Karpathos	1.56	206	*ePN*	Pn	06 34 13.4	+0.6
KARP				*eSN*	Sn	06 34 34.4	+1.6
MANT	Manisa	1.59	16	*iP*	Pn	06 34 15.1	+1.9
MANT				*iS*	Sn	06 34 34.7	+1.3
AKS	Akhisar	1.92	356	*ePN*	Pn	06 34 15.3	-2.4

*NEIC **11** 06:52:16.5, 2904S×7052W, h82km, MG3.4(GUC), After GUC.*

GUC 11 06:52:16.5±0.7, 2904S×7052W, h82km±4km, MD3.7, ML3.4, 2C-3D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	Las Campanas	0.16	281	*i*⇓*iP*	Pn	06 52 29.1	+0.8
LCO				*i* S	Sn	06 52 38.4	+1.3
VACH	Vallenar	0.51	336	*eP*	Pn	06 52 30.9	+0.5
VACH				*i* S	Sn	06 52 41.9	+1.1
TLL	Tololo Astrono	1.15	192	*i*⇑*iP*	Pn	06 52 38.5	+1.1
TLL				*i* S	Sn	06 52 55.2	+2.1
TLL				AML	AML	06 52 57.0	
	comp=E,671nm,0.2s						
TLL	Tololo Astrono	1.15	192	*i*⇑*iP*	Pn	06 52 38.5	+1.1
TLL				*i* S	Sn	06 52 55.2	+2.1
OVCH	Ovalle	1.67	201	*eP*	Pn	06 52 44.4	+0.4
OVCH				*i* S	Sn	06 53 05.2	+0.3
OVCH				AML	AML	06 53 14.1	
	comp=E,508nm,0.2s						
OVCH				AML	AML	06 53 21.4	
	comp=E,524nm,0.6s						
OVCH	Ovalle	1.67	201	*eP*	Pn	06 52 44.4	+0.4
OVCH				*i* S	Sn	06 53 05.2	+0.3
CDCH	Caldera	1.98	352	*i*⇓*iP*	Pn	06 52 48.1	0.0
CDCH				*i* S	Sn	06 53 12.8	+0.6
CMCH	Combarbala	2.17	191	*i*⇓*iP*	Pn	06 52 50.5	-0.1
CMCH				*i* S	Sn	06 53 15.9	-0.8
CMCH				AML	AML	06 53 30.1	
	comp=E,653nm,0.9s						
CMCH	Combarbala	2.17	191	P	Pn	06 52 50.5	-0.1
CMCH				S	Sn	06 53 15.9	-0.8
CRCH	Chaqaral	2.69	358	*eP*	Pn	06 52 57.2	-0.4
CRCH				*i* S	Sn	06 53 29.5	+0.3
CHNG	Los Chungos	2.96	196	*eP*	Pn	06 53 01.6	+0.4
JACH	Jahuel	3.63	181	*eP*	Pn	06 53 11.3	+0.9
FCH	Farellones	4.28	177	*eP*	Pn	06 53 20.6	+1.4
CLCH	Cerro Calan	4.34	180	*eP*	Pn	06 53 20.9	+0.9
PCH	Pirque	4.57	180	*eP*	Pn	06 53 24.0	+0.9
CEN1	Los Morros	5.63	3	*eP*	Pn	06 53 32.0	-5.7
LVC	Limon Verde	6.56	13	*ePn*	Pn	06 53 49.3	-1.1
LVC				*eSn*	Sn	06 55 01.8	-1.9

*CSEM **11** 07:06:58.4±0.1, 3535N×506W, h30km, MD3.3, Error ellipse: s-maj=2.8km s-min=1.4km az=92.0*
*CNRM **11** 07:07:01.9, 3518N×490W, h19km, MD3.3*
*NEIC **11** 07:07:02.5, 3546N×501W, h33km, MN2.6(MDD), After MDD.*
*INMG **11** 07:07:03.3±0.9, 3552N×509W, h30km±16km, ML2.7, Error ellipse: s-maj=10.0km s-min=3.8km az=172.0*
*IGIL **11** 07:07:04.1, 3560N×510W, h31km, ML2.7*

MDD 11 07:07:00.5±0.5, 3533N×492W, h72km±11km, mb3.5/9, 2D, Error ellipse: s-maj=5.0km s-min=3.7km az=89.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDAL	Dalia	0.73	322	*eP*	Pn	07 07 17.0	+1.0
MPAL	Palemas	0.81	97	*iP*	Pn	07 07 17.0	+0.2
TSY	Tnine Yamani	0.86	273	*eP*	Pn	07 07 18.0	+0.6
TSY				*i* S	Sn	07 07 30.5	+0.6
RSA	Sarsar	0.87	239	P	Pn	07 07 18.0	+0.5
RSA				S	Sn	07 07 28.0	-2.1
RSA	Sarsar	0.87	239	*eP*	Pn	07 07 18.0	+0.5
TOU	Touzarine	1.02	110	P	Pn	07 07 19.0	-0.4
TOU				S	Sn	07 07 31.0	-2.5
TOU	Touzarine	1.02	110	*iP*	Pn	07 07 19.0	-0.4
EJIF	Jimena Fronter	1.21	339	P	Pn	07 07 21.4	-0.3
	0.4nm,0.2s,SNR=7.9						
EJIF				S	Sn	07 07 37.1	-0.5
	2.1nm,0.2s,SNR=7.9						
EJIF	Jimena Fronter	1.21	339	P	Pn	07 07 21.4	-0.3

TZC	**Tazercounte**	**3.43 203**	P	Pn	07 07 51.0	-0.6
TZC			S	Sn	07 08 28.0	-3.0
TZC	**Tazercounte**	**3.43 203**	*eP*	Pn	07 07 51.0	-0.6
PBEJ	**Beja**	**3.59 320**	*eP*	Pn	07 07 52.7	-1.0
PBEJ			S	Sn	07 08 30.1	-4.8
PBEJ						
	24nm,0.1s					
PBEJ	**Beja**	**3.59 320**	P	Pn	07 07 53.0	-0.7
PBEJ			S	Sn	07 08 30.0	-4.9
MORF	**Marmelete**	**3.60 304**	*eP*	Pn	07 07 52.9	-1.0
MORF			*eS*	Sn	07 08 28.5	-6.7
MORF			*eS*	Sn	07 08 28.6	-6.7
MORF			AML	AML	07 08 33.9	
	comp=E,24nm,0.2s					
MORF	**Marmelete**	**3.60 304**	*eP*	Pn	07 07 52.9	-1.0
MORF			*eS*	Sn	07 08 28.5	-6.8
PTEO	**Sao Teotonio**	**3.78 307**	*eP*	Pn	07 07 55.1	-1.3
PTEO			S	Sn	07 08 35.0	-4.7
PTEO						
	comp=E,14nm,0.2s					
PTEO	**Sao Teotonio**	**3.78 307**	P	Pn	07 07 55.8	-0.6
PTEO			S	Sn	07 08 34.8	-4.9
PTEO	**Sao Teotonio**	**3.78 307**	P	Pn	07 07 55.8	-0.6
PTEO			S	Sn	07 08 35.0	-4.7
	comp=E,14nm,0.2s					
EBAD	**Badajoz**	**3.81 335**	P	Pn	07 07 56.0	-0.7
	comp=E,5.6nm,0.1s,SNR=7.9					
EBAD			S	Sn	07 08 35.6	-4.7
	comp=E,12nm,0.1s,SNR=7.9					
EBAD	**Badajoz**	**3.81 335**	P	Pn	07 07 56.0	-0.8
	comp=E,5.6nm,0.1s,SNR=7.9					
EBAD			S	Sn	07 08 35.6	-4.7
	comp=E,12nm,0.1s,SNR=7.9					
MOE	**Montemor**	**4.21 320**	*eP*	Pn	07 08 02.2	0.0
MOE			*eS*	Sn	07 08 45.4	-4.7
MOE	**Montemor**	**4.21 320**	P	Pn	07 08 02.1	-0.1
MOE			S	Sn	07 08 45.2	-4.9
MOE	**Montemor**	**4.21 320**	P	Pn	07 08 02.1	-0.1
MOE			*eS*	Sn	07 08 45.4	-4.7
ETOB	**Tobarra**	**4.27 38**	P	Pn	07 08 04.4	+1.3
	comp=E,0.7nm,0.1s,SNR=7.9					
ETOB	**Tobarra**	**4.27 38**	P	Pn	07 08 05.2	+2.2
ETOB	**Tobarra**	**4.27 38**	P	Pn	07 08 05.2	+2.1
	comp=E,0.7nm,0.1s,SNR=7.9					
ESDC	**Sonseca Array**	**4.41 10**	P	Pn	07 08 05.2	+0.3
	comp=E,5.5nm,0.1s,baz=195,slow=13,SNR=7.9					
ESDC	**Sonseca Array**	**4.41 10**	P	Pn	07 08 05.2	+0.3
	comp=E,5.5nm,0.1s,SNR=7.9					
OUK	**Oukaimeden**	**4.79 212**	P	Pn	07 08 10.0	-0.1
OUK			S	Sn	07 09 01.0	-3.3
OUK	**Oukaimeden**	**4.79 212**	*eP*	Pn	07 08 10.0	-0.1
PLOU	**Loures**	**4.90 318**	S	Sn	07 09 02.3	-4.8
PLOU						
	comp=E,16nm,0.1s					
PLOU	**Loures**	**4.90 318**	S	Sn	07 09 02.3	-4.8
	comp=E,7.8nm,0.1s					
CIA	**Chichaoua**	**4.94 222**	P	Pn	07 08 12.0	-0.1
CIA			S	Sn	07 09 04.0	-3.9
CIA	**Chichaoua**	**4.94 222**	*eP*	Pn	07 08 12.0	-0.1
PCBR	**Castelo Branco**	**4.94 337**	*eP*	Pn	07 08 11.8	-0.4
PCBR			*eS*	Sn	07 09 02.6	-5.4
PCBR						
	comp=E,5.8nm,0.1s					
PTOM	**Tomar**	**5.10 328**	*eP*	Pn	07 08 14.0	-0.4
PTOM			S	Sn	07 09 06.6	-5.4
PTOM						
	comp=E,11nm,0.2s					
MTE	**Manteigas**	**5.47 339**	*eP*	Pn	07 08 19.0	-0.5
MTE			S	Sn	07 09 15.8	-5.2
MTE						
	comp=E,5.8nm,0.2s					
PVIS	**Viseu**	**5.87 337**	*eP*	Pn	07 08 24.7	-0.2
PVIS			*eS*	Sn	07 09 25.3	-5.5
PVIS						
	comp=E,6.7nm,0.1s					
PBRG	**Braganca**	**6.62 348**	*eP*	Pn	07 08 35.0	-0.2
PBRG			S	Sn	07 09 44.9	-4.3
PBRG						
	comp=E,2.1nm,0.2s					
PBRG	**Braganca**	**6.62 348**	P	Pn	07 08 35.2	0.0
ECAL	**Calabor**	**6.76 348**	P	Pn	07 08 37.3	+0.3
	comp=E,0.7nm,0.1s,SNR=7.9					
ECAL			S	Sn	07 09 45.3	-7.2
	comp=E,0.7nm,0.1s,SNR=7.9					
ECAL	**Calabor**	**6.76 348**	P	Pn	07 08 37.3	+0.3
	comp=E,0.7nm,0.1s,SNR=7.9					
PCAB	**Cabril**	**6.82 340**	*eP*	Pn	07 08 37.6	-0.3
PCAB			S	Sn	07 09 49.1	-5.0
PCAB						
	comp=E,3.5nm,0.1s					
PCAB	**Cabril**	**6.82 340**	S	Sn	07 09 48.0	-6.1
ELOB	**Lobios**	**6.98 340**	P	Pn	07 08 39.9	-0.2
	comp=E,0.8nm,0.1s,SNR=7.9					
ELOB			S	Sn	07 09 50.5	-7.4
	SNR=7.9					
ELOB	**Lobios**	**6.98 340**	P	Pn	07 08 39.9	-0.1

ISCJB ***11*** *07:24:47.5±0.8, 5699N±009×156.1W±0.1, h79km±11km, mb3.3/3, Error ellipse: s-maj=17.4km s-min=8.4km az=120.4*

NEIC ***11*** *07:24:50.2, 5692N×15622W, h78km, mb3.4/2, After AEIC.*

IDC ***11*** *07:24:51.3±4.2, 5723N×15602W, h84km±42km, mb2.7/2, mb1 3.2/4, mb1mx3.0/22, mbtmp3.3/4, Error ellipse: s-maj=40.1km s-min=34.9km az=17.0*

ISC 11 07:24:48.6±0.8, 5693N±010×1561W±01, h74km±11km, n20, σ0$68/23, mb3.3/3, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHGN	**Chignik**	**1.43**	**245**	P	**Pn**	**07 25 12.5**	**-0.2**
KDAK	**Kodiak Island**	**2.09**	**64**	P	**Pn**	**07 25 22.3**	**+0.8**
	17nm,0.3s,baz=252,slow=4.7,SNR=292						
KDAK				S	**Sn**	**07 25 46.5**	**0.0**
	25nm,0.3s,baz=82,slow=23,SNR=84						
KDAK	**Kodiak Island**	**2.09**	**64**	P	**Pn**	**07 25 22.2**	**+0.7**
KDAK				S	**Sn**	**07 25 46.6**	**+0.1**
SDPT	**Sand Point**	**2.92**	**239**	P	**Pn**	**07 25 32.6**	**-0.1**
SVW2	**Sparrevohn**	**4.19**	**3**	*e*Pn	**Pn**	**07 25 50.8**	**+0.8**
SLKM	**Skilak Lake**	**4.72**	**38**	P	**Pn**	**07 25 57.6**	**+0.4**
SEW	**Seward**	**4.72**	**45**	P	**Pn**	**07 25 57.3**	**+0.1**
RC01	**Rabbit Creek A**	**5.31**	**36**	P	**Pn**	**07 26 05.8**	**+0.5**
PMR	**Palmer**	**5.88**	**34**	*e*Pn	**Pn**	**07 26 11.9**	**-1.2**
TT01	**Tatalina**	**6.00**	**0**	P	**Pn**	**07 26 15.9**	**+1.2**
TTA	**Tatalina**	**6.02**	**0**	*e*Pn	**Pn**	**07 26 14.9**	**-0.1**
EYAK	**Cordova Ski Ar**	**6.49**	**52**	P	**Pn**	**07 26 21.0**	**-0.5**
TRF	**Thorofare Moun**	**7.15**	**21**	P	**Pn**	**07 26 30.3**	**-0.1**
BMRM	**Bremner River**	**7.19**	**51**	P	**Pn**	**07 26 30.9**	**-0.1**
ILAR	**Eielson Array**	**9.05**	**26**	P	**Pn**	**07 26 54.5**	**-1.9**
	0.4nm,0.3s,baz=214,slow=14,SNR=23						
ILAR				S	**Sn**	**07 28 31.0**	**-5.6**
	0.1nm,0.3s,baz=197,slow=24,SNR=3.2						
INK	**Inuvik**	**15.30**	**33**	P	**Pn**	**07 28 19.6**	**-0.5**
	0.2nm,0.3s,baz=208,slow=12,SNR=8.5						
INK	**Inuvik**	**15.30**	**33**	*eP*	**Pn**	**07 28 19.6**	**-0.5**
	0.7nm,0.5s						
YKA	**Yellowknife Ar**	**21.35**	**58**	P	**P**	**07 29 30.0**	**+0.4**
	0.2nm,0.5s,mb2.7,baz=274,slow=9.2,SNR=6.1						
FCC	**Fort Churchill**	**32.02**	**60**	*eP*	**P**	**07 31 08.3**	**+0.4**
	0.8nm,0.8s,mb3.5						
SONM	**Songino Array**	**55.27**	**306**	P	**P**	**07 34 14.1**	**-0.1**
	0.3nm,0.5s,mb3.6,baz=36,slow=6.1,SNR=3.2						

ISCJB ***11*** *07:30:42.8±2.4, 259S±02×1799W±05, h547km±35km, mb4.1/5, Error ellipse: s-maj=71.9km s-min=18.4km az=150.1*

IDC ***11*** *07:30:43.4±9.6, 2606S×17992E, h517km±52km, mb3.4/4, mb1 3.6/6, mb1mx3.3/14, mbtmp4.4/6, Error ellipse: s-maj=159.9km s-min=38.2km az=69.0*

NEIC ***11*** *07:30:46.0±1.9, 2624S×17960E, h521km±22km, mb4.3/2, Error ellipse: s-maj=55.8km s-min=19.4km az=57.0*

ISC 11 07:30:45.4±1.9, 262S±01×1797E±04, h524km±29km, n9, σ0$45/10, mb4.1/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.73**	**146**	*e*P	**P**	**07 32 03.5**	**+0.1**
URZ	**Urewera**	**12.28**	**190**	P	**P**	**07 33 26.3**	**-0.5**
	2.3nm,0.3s,baz=354,slow=1.6,SNR=13						
URZ				S	**S**	**07 35 40.0**	**+0.3**
	0.2nm,0.3s,baz=144,slow=19,SNR=3.0						
DZM	**Mont Dzumac**	**12.79**	**286**	P	**P**	**07 33 32.0**	**-0.1**
	0.4nm,0.3s,baz=98,slow=14,SNR=4.9						
CTA	**Charters Tower**	**31.31**	**274**	P	**P**	**07 36 23.2**	**+0.8**
	2.9nm,0.4s,mb4.1,baz=90,slow=10,SNR=6.0						
CTAO	**Charters Tower**	**31.31**	**274**	*e*P	**P**	**07 36 22.9**	**+0.4**
	3.7nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**33.71**	**251**	P	**P**	**07 36 42.0**	**-0.8**
	1.6nm,0.5s,mb3.8,baz=108,slow=11,SNR=9.2						
ASAR	**Alice Springs**	**41.47**	**263**	P	**P**	**07 37 46.8**	**+0.5**
	3.0nm,0.4s,mb4.2,baz=91,slow=7.4,SNR=78						
WRAB	**Tennant Creek**	**42.05**	**269**	*e*P	**P**	**07 37 50.5**	**-0.3**
	4.9nm,0.5s,mb4.3						
WRA	**Warramunga Arr**	**42.06**	**269**	P	**P**	**07 37 51.0**	**+0.1**
	3.6nm,0.4s,mb4.2,baz=103,slow=7.8,SNR=53						

MAN 11 07:35:22.9, 1793N×12073E, h76km, mb2.2, ML3.9, MS5.5, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**0.28**	**184**	*e*P	Pn	07 35 36.7	+2.0
PIP	**Pasuquin**	**0.40**	**345**	↓*i*P	Pn	07 35 37.8	+2.3
PIP				*e*S	Sn	07 35 48.0	+3.3
APYP	**Conner**	**0.49**	**98**	*e*P	Pn	07 35 38.0	+1.8
BOLP	**Bolinao**	**1.73**	**207**	*e*P	Pn	07 35 51.7	+0.6

ISCJB ***11*** *07:53:01.4±4.4, 191N±02×1465E±04, h89km±42km, mb3.5/4, Error ellipse: s-maj=64.7km s-min=30.2km az=13.2*

IDC ***11*** *07:53:02.4±5.3, 1902N×14681E, h86km±52km, mb3.2/3, mb1 3.5/4, mb1mx3.1/19, mbtmp3.7/4, ML4.4/1, Error ellipse: s-maj=97.4km s-min=33.0km az=110.0*

NEIC ***11*** *07:53:02.7±3.2, 1910N×14659E, h88km±31km, mb4.0/1, Error ellipse: s-maj=46.9km s-min=26.8km az=90.0*

ISC 11 07:53:02.4±3.9, 191N±02×1466E±04, h86km±38km, n6, σ0$63/7, mb3.5/4, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.74**	**197**	P	**Pn**	**07 54 25.3**	**+0.3**
	10nm,0.3s,baz=45,slow=5.7,SNR=5.0						
GUMO				S	**Sn**	**07 55 29.2**	**-0.2**
	1.6nm,0.3s,baz=162,slow=20,SNR=1.8						
WRA	**Warramunga Arr**	**40.63**	**198**	P	**P**	**08 00 34.0**	**+0.1**
	0.4nm,0.8s,mb3.3,baz=18,slow=8.5,SNR=4.6						
KURK	**Kurchatov**	**61.54**	**318**	P	**P**	**08 03 10.0**	**-0.5**
	0.8nm,0.6s,mb3.9						
ZRNK	**Zerenda**	**67.54**	**320**	*e*P	**P**	**08 03 49.4**	**-0.2**
YKA	**Yellowknife Ar**	**77.22**	**28**	P	**P**	**08 04 46.6**	**-0.4**
	0.3nm,0.6s,mb3.2,baz=288,slow=5.4,SNR=8.3						
FINES	**FINESS Array B**	**86.87**	**336**	P	**P**	**08 05 38.4**	**+0.9**
	0.2nm,0.3s,mb3.5,baz=69,slow=4.8,SNR=3.6						

IDC ***11*** *08:11:05.0±9.9, 322S×14593E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.8/15, mbtmp4.1/5, ML2.6/1, MS3.5/3, Ms1 3.5/3, ms1mx2.9/23, Error ellipse: s-maj=153.2km s-min=53.8km az=34.0*

NEIC ***11*** *08:11:13.3±6.7, 3655S×14595E, h35km, mb4.3/2, Error ellipse: s-maj=97.9km s-min=27.8km az=210.0*

ISCJB ***11*** *08:11:15.2±7.7, 4052S×14582E±04, h33km, mb3.8/3, MS3.6/2, Error ellipse: s-maj=109.6km s-min=26.6km az=55.0*

ISC 11 08:11:16.2±5.6, 39S±05×1457E±03, h35km, n11, σ0$81/9, mb3.8/3, MS3.6/2, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.66**	**166**	Pn	**Pn**	**08 12 37.1**	**-0.6**
	0.9nm,0.3s,baz=315,slow=2.9,SNR=3.6						
PMG	**Port Moresby**	**5.66**	**166**	*e*Pn	**Pn**	**08 12 36.5**	**-1.2**
HNR	**Honiara**	**15.15**	**112**	LR	LR	08 19 20.1	
	comp=Z,81nm,19.9s,baz=0.1,slow=32						
WRAB	**Tennant Creek**	**19.42**	**214**	*e*P	**Pn**	**08 15 40.5**	**-0.2**
	12nm,0.6s						
WB2	**Warramunga Arr**	**19.43**	**214**	*e*P	**Pn**	**08 15 40.9**	**+0.1**
WRA	**Warramunga Arr**	**19.43**	**214**	P	**Pn**	**08 15 40.9**	**0.0**
	12nm,0.9s,baz=38,slow=12,SNR=50						
ASAR	**Alice Springs**	**22.73**	**209**	P	**P**	**08 16 15.8**	**+0.8**
	3.0nm,0.9s,mb3.7,baz=42,slow=8.4,SNR=26						
FITZ	**Fitzroy Crossi**	**24.21**	**233**	*e*P	**P**	**08 16 28.5**	**-0.9**
	7.7nm,0.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**24.21**	**233**	P	**P**	**08 16 28.1**	**-1.4**
	3.8nm,0.7s,mb4.0,baz=81,slow=8.6,SNR=11						
FITZ				LR	LR	08 27 04.3	
	comp=Z,52nm,20.1s,MS3.0,baz=249,slow=39						
STKA	**Stephens Creek**	**28.10**	**187**	P	**P**	**08 17 05.9**	**+1.3**
	1.7nm,0.8s,mb3.7,baz=356,slow=13,SNR=3.9						
AFI	**Afiamalu**	**43.07**	**106**	LR	LR	08 32 25.9	
	comp=Z,288nm,20.2s,MS4.2,baz=184,slow=30						

IDC ***11*** *08:11:23.1±3.6, 777N×8123W, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.6/4, MS2.9/2, Ms1 3.0/2, ms1mx2.7/15, Error ellipse: s-maj=124.4km s-min=68.8km az=80.0*

ISCJB ***11*** *08:11:33.6±1.0, 804N±007×8276W±005, h23km±7km, mb3.5/5, MS3.0/2, Error ellipse: s-maj=12.8km s-min=6.0km az=64.0*

NEIC ***11*** *08:11:35.6, 809N×8290W, h20km, mb4.0/1, MD4.5(CASC), After CASC.*

BJI ***11*** *08:11:35.6, 810N×8290W, h20km, mB5.3, Ms4.4*

CASC ***11*** *08:11:36.5±2.1, 825N×8270W, h26km±5km, MD4.3, ML3.2, mb4.0(NEIC)*

ISC 11 08:11:34.7±1.0, 812N±007×8274W±005, h15km±5km, n52, σ0$84/56, mb3.5/5, MS3.0/2, 15C-7D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DVD	**David**	**0.43**	**42**	↓*i*P	**Pg**	**08 11 44.7**	**+1.4**
ACR	**Cerro Adams**	**0.68**	**322**	*e*P	**Pg**	**08 11 47.9**	**-0.2**
ACR				*e*S	**Sg**	**08 11 57.0**	**-0.1**
ACR	**Cerro Adams**	**0.68**	**322**	↑*i*P	**Pg**	**08 11 47.9**	**-0.2**
ACR				*e*S	**Sg**	**08 11 56.2**	**-0.9**
CTCR	**Cotoan**	**0.78**	**359**	↑*i*P	**Pg**	**08 11 49.0**	**-0.8**
BUS	**Buena Vista**	**1.75**	**325**	↑*e*P	**Pn**	**08 12 03.6**	**-0.9**
BUS				*e*S	**Sn**	**08 12 25.4**	**-1.1**
BUS	**Buena Vista**	**1.75**	**325**	↓*i*P	**Pn**	**08 12 03.6**	**-0.9**
URSC	**Urasca**	**1.99**	**329**	*i*P	**Pn**	**08 12 07.2**	**-0.6**
URSC	**Urasca**	**1.99**	**329**	↑*i*P	**Pn**	**08 12 07.5**	**-0.4**
LCR2	**La Lucha 2**	**2.04**	**322**	↑*e*P	**Pn**	**08 12 07.7**	**-0.8**
LCR2	**La Lucha 2**	**2.04**	**322**	↑*i*P	**Pn**	**08 12 07.7**	**-0.8**
OCM	**Ochomogo**	**2.14**	**326**	↑*e*P	**Pn**	**08 12 09.2**	**-0.7**
OCM				*e*S	**Sn**	**08 12 35.9**	**-0.3**
VTU	**Volcan Turrial**	**2.14**	**332**	↓*e*P	**Pn**	**08 12 10.1**	**+0.2**
VTU				*e*S	**Sn**	**08 12 36.7**	**+0.4**
IRZ2	**Volcan Irazu 2**	**2.17**	**328**	↑*e*P	**Pn**	**08 12 10.1**	**-0.1**
IRZ2				*e*S	**Sn**	**08 12 38.4**	**+1.5**
LAJ	**Bijagual**	**2.21**	**322**	*e*P	**Pn**	**08 12 11.9**	**+1.0**
LAJ	**Bijagual**	**2.21**	**322**	↑*i*P	**Pn**	**08 12 11.9**	**+1.1**
SJS	**Escuela Geolog**	**2.23**	**324**	↑*i*P	**Pn**	**08 12 11.7**	**+0.6**
SJS				*e*S	**Sn**	**08 12 38.2**	**-0.2**
SJS	**Escuela Geolog**	**2.23**	**324**	*e*P	**Pn**	**08 12 11.4**	**+0.3**
SJS				*e*S	**Sn**	**08 12 38.2**	**-0.1**
PRS1	**Puriscal**	**2.42**	**320**	↑*e*P	**Pn**	**08 12 12.5**	**-1.2**
AZU	**Azuero**	**2.46**	**97**	↑*e*P	**Pn**	**08 12 15.8**	**+1.5**
POA2	**Poas 2**	**2.54**	**324**	*e*P	**Pn**	**08 12 15.6**	**+0.3**
VPS2	**Volcan Poas 2**	**2.54**	**325**	*e*P	**Pn**	**08 12 14.3**	**-1.0**
CGA2	**Cerro Gallo 2**	**2.54**	**318**	*e*P	**Pn**	**08 12 15.3**	**-0.1**
CGA2				*e*S	**Sn**	**08 12 46.3**	**+0.2**
CGA2	**Cerro Gallo 2**	**2.54**	**318**	*i*P	**Pn**	**08 12 14.9**	**-0.5**
CGA2				*e*S	**Sn**	**08 12 45.8**	**-0.4**
EPA	**Esparza**	**2.61**	**316**	↑*e*P	**Pn**	**08 12 17.1**	**+0.7**
CAO	**Cobano**	**2.82**	**304**	↓*e*P	**Pn**	**08 12 17.4**	**-1.8**
VACR	**Volcan Arenal**	**3.02**	**321**	↑*i*P	**Pn**	**08 12 22.8**	**+0.7**
JTS	**JuntasAbangare**	**3.07**	**315**	*e*Pn	**Pn**	**08 12 21.4**	**-1.3**
JTS				*e*S	**Sn**	**08 13 00.4**	**+1.2**
UPA	**Univ. de Panam**	**3.29**	**75**	*e*S	**Sn**	**08 13 02.9**	**-1.5**
VCR	**Vista de Mar**	**3.48**	**305**	*e*P	**Pn**	**08 12 27.5**	**-0.9**
VCR	**Vista de Mar**	**3.48**	**305**	↓*i*P	**Pn**	**08 12 27.5**	**-0.9**
LIM1	**Limonal**	**3.57**	**316**	*i*P	**Pn**	**08 12 29.4**	**-0.1**
RIN3	**Volcan Rincon**	**3.72**	**316**	↑*e*P	**Pn**	**08 12 32.2**	**+0.6**
MADN	**Villa Maderas**	**4.28**	**320**	*e*P	**Pn**	**08 12 39.5**	**+0.2**
CONN	**Concepcion**	**4.45**	**321**	*e*P	**Pn**	**08 12 41.8**	**+0.1**
COPN	**Copaltepe**	**5.54**	**317**	*e*P	**Pn**	**08 12 57.1**	**+0.5**
MIRN	**Miramar**	**5.81**	**318**	↓*i*P	**Pn**	**08 13 01.1**	**+0.8**
CNGN	**Cerro Negro**	**5.84**	**319**	*e*P	**Pn**	**08 13 01.6**	**+0.8**
LEON	**Leon**	**5.91**	**317**	*e*P	**Pn**	**08 13 02.1**	**+0.4**
TEL3	**Telica 3**	**5.99**	**318**	*e*P	**Pn**	**08 13 03.8**	**+0.9**
CRIN	**San Cristobal**	**6.22**	**317**	*e*P	**Pn**	**08 13 06.2**	**+0.2**
SAML	**Samuel**	**25.83**	**131**	P	**P**	**08 17 04.8**	**-0.6**
	3.1nm,0.9s,mb3.8						
SAML				*e*		08 17 16.0	
PDAR	**Pinedale Array**	**41.79**	**330**	P	**P**	**08 19 24.3**	**+0.7**
	0.2nm,0.6s,mb3.0,baz=123,slow=11,SNR=3.1						
ULM	**Lac du Bonnet**	**43.40**	**348**	P	**P**	**08 19 31.8**	**-4.9**
	1.6nm,0.5s,mb4.0,baz=142,slow=6.9,SNR=2.4						
RPN	**Rapa Nui**	**43.49**	**215**	LR	LR	08 32 07.6	
	comp=Z,5.3nm,20.9s,MS2.4,baz=333,slow=28						
NVAR	**Mina Array Bea**	**44.00**	**319**	P	**P**	**08 19 41.8**	**+0.3**
	0.4nm,0.5s,mb3.4,baz=146,slow=7.3,SNR=3.3						
YKA	**Yellowknife Ar**	**59.03**	**343**	P	**P**	**08 21 30.0**	**-3.9**
	0.2nm,0.5s,mb3.4,baz=139,slow=6.9,SNR=10.0						
ILAR	**Eielson Array**	**71.84**	**336**	LR	LR	09 02 18.6	
	comp=Z,25nm,19.0s,MS3.5,baz=183,slow=42						
MDJ	**Mudanjiang**	**119.96**	**334**	PKP	PKPdf	08 30 24.4	-0.2
WMQ	**Urumqi**	**127.59**	**9**	↓PKP	PKPdf	08 30 39.4	+0.2
WMQ				XPKP		08 30 48.4	
NJ2	**Nanjing**	**135.05**	**334**	*e*PKP	PKPdf	08 30 52.2	-1.1
NJ2				XPKP		08 31 06.0	
NJ2				PP	PP	08 33 31.0	+2.8
NJ2				PKS		08 34 27.0	
NJ2				PPP		08 36 28.0	
NJ2				PP	PP		
	comp=Z,100nm,6.3s						
ASAR	**Alice Springs**	**141.66**	**242**	PKP	PKPdf	08 30 58.2	-7.2
	comp=Z,0.4nm,0.6s,baz=120,slow=3.6,SNR=6.1						
WRA	**Warramunga Arr**	**142.25**	**248**	PKP	PKPdf	08 31 00.7	-5.9
	comp=Z,0.7nm,0.8s,baz=96,slow=2.5,SNR=8.4						

NEIC ***11*** *08:14:24.4, 3763S×17718E, h131km, MG3.9(WEL), After WEL.*

WEL 11 08:14:24.3±0.1, 3763S×17718E, h131km±1km, ML3.9/8, 4C-1D, Error ellipse: s-maj=0.9km s-min=0.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.63**	**185**	↑PN	Pn	08 14 44.3	0.0
URZ				SN	Sn	08 14 59.5	0.0
URZ	**Urewera**	**0.63**	**185**	P	Pn	08 14 44.3	0.0
MWZ	**Matawai**	**0.75**	**159**	↑PN	Pn	08 14 45.3	+0.1
MWZ				SN	Sn	08 15 01.4	+0.3
MWZ	**Matawai**	**0.75**	**159**	P	Pn	08 14 45.4	+0.2
MWZ				S	Sn	08 15 01.4	+0.3
MXZ	**Matakaoa Point**	**0.90**	**86**	PN	Pn	08 14 46.4	-0.1
MXZ				SN	Sn	08 15 03.7	+0.5
MXZ	**Matakaoa Point**	**0.90**	**86**	P	Pn	08 14 46.4	0.0
MXZ				S	Sn	08 15 03.7	+0.5
PUZ	**Puketiti**	**0.96**	**118**	↑PN	Pn	08 14 46.9	-0.1
PUZ				SN	Sn	08 15 03.6	-0.6
KNZ	**Kokohu**	**1.44**	**165**	↑PN	Pn	08 14 51.8	0.0
KNZ				SN	Sn	08 15 12.5	-0.3
KNZ	**Kokohu**	**1.44**	**165**	P	Pn	08 14 51.8	0.0
KUZ	**Kuaotunu**	**1.46**	**307**	↓PN	Pn	08 14 52.0	0.0
KUZ	**Kuaotunu**	**1.46**	**307**	P	Pn	08 14 52.0	-0.1
BKZ	**Black Stump Fm**	**1.62**	**199**	*e*PN	Pn	08 14 53.1	-0.8
BKZ				SN	Sn	08 15 16.3	-0.2
MOVZ	**Moawhango**	**2.10**	**212**	PN	Pn	08 14 58.6	-0.9
MOVZ	**Moawhango**	**2.10**	**212**	P	Pn	08 14 58.6	-0.9
TSZ	**Takapari Road**	**2.60**	**201**	PN	Pn	08 15 04.1	-1.8
TSZ				SN	Sn	08 15 36.3	-1.5
TSZ	**Takapari Road**	**2.60**	**201**	P	Pn	08 15 04.2	-1.7
WAZ	**Wanganui**	**2.73**	**218**	PN	Pn	08 15 06.8	-0.7
BFZ	**Birch Farm**	**3.13**	**193**	*e*PN	Pn	08 15 10.4	-2.3
BFZ				SN	Sn	08 15 47.4	-2.6
MRZ	**Mangatainoka R**	**3.27**	**202**	PN	Pn	08 15 11.5	-3.0
MRZ				SN	Sn	08 15 49.7	-3.6
MRZ	**Mangatainoka R**	**3.27**	**202**	*e*P	Pn	08 15 11.7	-2.8
TIWZ	**Tintock**	**3.30**	**197**	PN	Pn	08 15 12.2	-2.6
KIW	**Kapiti Island**	**3.68**	**208**	PN	Pn	08 15 16.7	-3.1
KIW	**Kapiti Island**	**3.68**	**208**	P	Pn	08 15 15.9	-3.9
MTW	**Mount Morrison**	**3.75**	**200**	*e*PN	Pn	08 15 17.4	-3.4
MTW	**Mount Morrison**	**3.75**	**200**	P	Pn	08 15 17.2	-3.6
CAW	**Cannon Point**	**3.84**	**205**	PN	Pn	08 15 18.6	-3.4
CAW	**Cannon Point**	**3.84**	**205**	P	Pn	08 15 18.6	-3.3
TRWZ	**Traveller**	**3.94**	**197**	PN	Pn	08 15 19.7	-3.5
MSWZ	**Moikau Station**	**4.06**	**201**	*e*PN	Pn	08 15 21.0	-3.9
MSWZ	**Moikau Station**

AKASG	**Malin Array Be**	**144.98**	**333**	PKPbc	PKPbc	08 47 18.4	+2.0
	0.6nm,0.3s,baz=38,slow=3.6,SNR=4.3						
BRTR	**Keskin Array B**	**149.51**	**314**	PKPbc	PKPbc	08 47 30.9	+1.8
	0.5nm,0.5s,baz=75,slow=1.4,SNR=4.0						
GERES	**GERESS Array B**	**151.50**	**348**	PKPbc	PKPbc	08 47 35.9	+2.0
	0.3nm,0.3s,baz=318,slow=1.8,SNR=4.0						

*NEIC **11** 08:29:37.0, 1822N×10254W, h16km, MD4.1(MEX), After MEX.*

MEX 11 08:29:37.0±0.7, 1822N×10254W, h16km±26km, MD4.1, Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**1.19**	**121**	*i* P	Pn	08 29 55.6	-3.2
ZIIG				*i* S	Sb	08 30 09.2	-5.1
MOIG	**Morelia**	**1.93**	**41**	*i* P	Pn	08 30 05.9	-3.2
MOIG				*i* S	Sn	08 30 28.7	-4.3
MRX	**Morelia**	**1.95**	**41**	*e*P	Pn	08 30 08.0	-1.4
SFJM	**Santa Fe**	**2.31**	**348**	*i* P	Pn	08 30 11.5	-2.8
SFJM				*i* S	Sn	08 30 38.0	-4.3
CAIG	**El Cayaco**	**2.46**	**118**	*i* P	Pn	08 30 12.1	-4.3
CAIG				*i* S	Sn	08 30 40.0	-6.0
MEIG	**Mezcala**	**2.79**	**96**	*e*P	Pn	08 30 17.6	-3.3
MEIG				*i* S	Sn	08 30 51.4	-2.8
PLIG	**Platanillo**	**2.89**	**86**	*i* P	Pn	08 30 21.2	-1.1
PLIG				*i* S	Sn	08 30 53.4	-3.3
PPM	**Popocatepetl**	**3.80**	**77**	*i* P	Pn	08 30 30.9	-3.9
PPM				*i* S	Sn	08 31 16.8	-2.4

*HLW **11** 08:33:19.7, 3625N×2650E, h33km, Mb3.5*
*NEIC **11** 08:33:20.5, 3659N×2653E, h40km, MD3.3(ATH), After ATH.*
*ATH **11** 08:33:20.4, 3656N×2652E, h35km±34km, MD3.3/4*
*ISCJB **11** 08:33:23.5±1.7, 359N±0.1×266E±0.1, h127km±10km, Error ellipse: s-maj=18.1km s-min=13.9km az=170.8*
*CSEM **11** 08:33:28.1±0.2, 3549N×2635E, h30km, MD3.3, Error ellipse: s-maj=5.3km s-min=4.1km az=169.0*

ISC 11 08:33:24.1±1.8, 359N±01×266E±01, h123km±11km, n9, σ0s98/13, 3C-3D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.59**	**129**	*e*PN	**Pn**	**08 33 41.7**	**-1.3**
KARP				*e*SN	**Sn**	**08 33 57.2**	**0.0**
NPS	**Neapolis**	**1.04**	**231**	⇓*i*PN	**Pn**	**08 33 45.6**	**-1.2**
NPS				*e*SN	**Sn**	**08 34 05.2**	**+1.2**
XRY	**Khrisi**	**1.28**	**215**	*e*PB	**Pn**	**08 33 51.7**	**+2.4**
VAM	**Vamos**	**2.02**	**256**	*e*PN	**Pn**	**08 33 57.0**	**-0.9**
SLUM		**4.57**	**195**	⇑P	**Pn**	**08 34 31.1**	**-0.2**
SLUM				S	**Sn**	**08 35 22.5**	**-1.0**
HMAT	**Matruh**	**4.83**	**175**	⇓P	**Pn**	**08 34 35.2**	**+0.4**
SWA1		**6.68**	**187**	⇑*e*P	**Pn**	**08 35 00.4**	**+0.6**
SWA1				S	**Sn**	**08 36 13.8**	**-0.7**
SWA2		**6.73**	**189**	⇑*i*P	**Pn**	**08 35 00.7**	**+0.3**
GLL	**Jalalah**	**7.65**	**144**	⇓*e*P	**Pn**	**08 35 13.7**	**+0.9**

IDC 11 08:44:43.9±6.3, 144N×12458E, h292km±69km, mb3.5/5, mb1 3.5/6, mb1mx3.3/18, mbtmp4.1/6, Error ellipse: s-maj=73.2km s-min=14.9km az=65.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.44**	**177**	P	P	08 48 50.2	+0.9
	0.3nm,0.3s,baz=357,slow=12,SNR=18						
WRA	**Warramunga Arr**	**23.30**	**156**	P	P	08 49 26.4	+0.1
	6.1nm,0.4s,baz=332,slow=11,SNR=159						
WB2	**Warramunga Arr**	**23.31**	**156**	*e*P	P	08 49 26.6	+0.3
ASAR	**Alice Springs**	**26.55**	**161**	P	P	08 49 55.9	+0.5
	1.0nm,0.5s,baz=340,slow=7.2,SNR=12						
ASAR				PcP	PcP	08 53 13.2	+1.7
	0.3nm,0.4s,baz=336,slow=2.1,SNR=4.5						
STKA	**Stephens Creek**	**36.85**	**155**	P	P	08 51 23.7	-1.0
	1.7nm,0.4s,baz=340,slow=8.7,SNR=12						
SONM	**Songino Array**	**48.83**	**344**	P	P	08 53 00.8	+0.6
	1.1nm,0.7s,baz=161,slow=10.0,SNR=11						
MKAR	**Makanchi Array**	**58.25**	**327**	P	P	08 54 07.7	-0.5
	1.6nm,0.5s,baz=123,slow=7.9,SNR=17						

*MOS **11** 08:57:04.4±1.3, 5557N×11212E, h25km, mb4.3/1, Error ellipse: s-maj=21.5km s-min=19.4km az=82.9*

BYKL 11 08:57:04.4±0.2, 5561N×11212E, h16km±16km, 7C-7D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOA	**Uoyan**	**0.57**	**337**	⇓*i*Pg	Pg	08 57 15.0	-0.6
YOA				*e*Sg	Sg	08 57 23.5	+0.2
YOA				*e*Sb	Sb	08 57 26.1	+2.2
YOA				Pmax			
	678nm,0.3s						
YOA				Smax			
	5μm,0.5s						
YOA	**Uoyan**	**0.57**	**337**	⇓*i*PG	Pg	08 57 15.0	-0.6
YOA				*e*		08 57 23.5	
YOA				pmax	pmax		
	comp=Z,735nm,0.2s						
YOA				smax			
	comp=N,5μm,0.4s						
KMO	**Kumora**	**0.59**	**298**	⇑*i*Pg	Pg	08 57 15.1	-0.9
KMO				*e*Sg	Sg	08 57 23.2	-0.7
KMO				Pmax			
	comp=N,386nm,0.4s						
KMO				Smax			
	comp=N,1μm,1.0s						
KMO	**Kumora**	**0.59**	**298**	*e*PG	Pg	08 57 15.1	-0.9
KMO				*e*		08 57 23.2	
KMO				pmax	pmax		
	comp=Z,389nm,0.3s						
KMO				smax			
	comp=N,1μm,0.9s						
UKT	**Uakit**	**0.86**	**97**	⇓*i*Pg	Pg	08 57 20.0	-1.2
	comp=N,97nm,0.4s						
UKT				⇑*i*Pg	Pg	08 57 20.0	-1.2
	comp=N,354nm,0.4s						
UKT				⇑*i*Pg	Pg	08 57 20.0	-1.2
	comp=N,237nm,0.4s						
UKT				*e*Sg	Sg	08 57 31.7	-0.9
UKT				Pmax			
	comp=N,233nm,0.4s						
UKT				Smax			
	comp=N,696nm,0.4s						
UKT	**Uakit**	**0.86**	**97**	⇑*i*PG	Pg	08 57 19.9	-1.3
UKT				*e*		08 57 31.6	
UKT				pmax	pmax		
	comp=Z,232nm,0.3s						
UKT				smax			
	comp=N,732nm,0.7s						
YLYR	**Ulyunkhan**	**0.92**	**217**	⇓*i*Pg	Pg	08 57 21.0	-1.2
YLYR				*e*Sg	Sg	08 57 34.0	-0.3
YLYR				Pmax			
	comp=N,50nm,0.2s						
YLYR				Smax			
	comp=N,478nm,0.2s						
YLYR	**Ulyunkhan**	**0.92**	**217**	⇑*i*PG	Pg	08 57 21.1	-1.1
YLYR				*e*		08 57 33.8	
YLYR				pmax	pmax		
	comp=Z,68nm,0.2s						
YLYR				smax			
	comp=E,483nm,0.2s						
SVKR	**Severomuysk**	**0.96**	**57**	⇑*i*Pg	Pg	08 57 22.1	-0.9
SVKR				*e*Pb	Pb	08 57 23.3	+0.7
SVKR				*e*Sg	Sg	08 57 36.1	+0.6
SVKR				*e*Sb	Sb	08 57 39.5	+4.5
SVKR				max			
	comp=E,226nm,0.4s						
SVKR				max			
	comp=E,687nm,0.3s						
SVKR	**Severomuysk**	**0.96**	**57**	*e*PG	Pg	08 57 21.9	-1.1
SVKR				*e*		08 57 35.1	
SVKR				pmax	pmax		
	comp=Z,228nm,0.3s						
SVKR				smax			
	comp=N,706nm,0.5s						
NIZ	**Nizh Angarsk**	**1.47**	**278**	*e*Pg	Pg	08 57 30.9	-1.8
NIZ				*e*		08 57 38.6	
NIZ				*e*Sg	Sg	08 57 50.7	-1.1
NIZ				Pmax			
	comp=N,121nm,0.6s						
NIZ				Smax			
	comp=N,553nm,0.6s						
NIZ	**Nizh Angarsk**	**1.47**	**278**	*e*PN	Pn	08 57 30.8	+0.6
NIZ				*e*		08 57 50.7	
NIZ				pmax	pmax		
	comp=Z,180nm,0.4s						
NIZ				smax			
	comp=E,557nm,0.4s						
NLYR	**Nelyaty**	**2.19**	**65**	⇓*i*Pn	Pn	08 57 40.1	-0.1
NLYR				*e*Pg	Pg	08 57 43.5	-3.0
NLYR				*e*		08 57 48.6	
NLYR				*e*Sg	Sg	08 58 11.9	-3.1
NLYR				max			
	comp=E,76nm,0.7s						
NLYR				Smax			
	comp=E,173nm,1.0s						
SYVR	**Suvo**	**2.31**	**213**	⇓*i*Pn	Pn	08 57 41.9	+0.1
SYVR				*e*Pg	Pg	08 57 45.4	-3.4
SYVR				⇓*i*		08 57 51.0	
SYVR				*e*Sg	Sg	08 58 16.2	-2.6
SYVR				Pmax			
	comp=E,53nm,0.9s						
SYVR				Smax			
	comp=E,138nm,0.6s						
BOD	**Bodaibo**	**2.45**	**24**	*e*Pn	Pn	08 57 43.3	-0.3
BOD				*e*Pg	Pg	08 57 47.0	-4.3
BOD				*e*		08 57 53.0	
BOD				*e*Sn	Sn	08 58 13.5	+0.3
BOD				*e*Sg	Sg	08 58 18.0	-5.0
BOD				*e*SgSg		08 58 27.3	
BOD				max			
	comp=E,25nm,0.7s						
BOD				Smax			
	comp=E,165nm,0.7s						
MXMB	**Maximikha**	**3.07**	**221**	*e*Pn	Pn	08 57 53.6	+1.4
MXMB				*e*Pg	Pg	08 57 59.6	-3.6
MXMB				*e*		08 58 26.7	
MXMB				*e*Sg	Sg	08 58 39.3	-3.7
MXMB				Pmax			
	comp=E,16nm,0.6s						
MXMB				Smax			
	comp=E,164nm,0.6s						
OGRR	**Ongureny**	**3.29**	**235**	⇑*i*Pn	Pn	08 57 55.9	+0.7
OGRR				*e*Pg	Pg	08 58 03.6	-3.8
OGRR				*e*Sn	Sn	08 58 35.4	+1.5
OGRR				*e*Sg	Sg	08 58 45.9	-4.1
OGRR				Pmax			
	comp=E,15nm,0.4s						
OGRR				Smax			
	comp=E,43nm,0.5s						
CRS	**Chara**	**3.67**	**67**	*e*Pn	Pn	08 58 00.7	+0.3
CRS				*e*Pg	Pg	08 58 10.6	-4.0
CRS				*e*Sg	Sg	08 58 57.9	-4.2
CRS				Pmax			
	comp=E,27nm,0.8s						
CRS				Smax			
	comp=E,64nm,1.0s						
CRS	**Chara**	**3.67**	**67**	*e*PN	Pn	08 58 00.7	+0.3
CRS				*e*		08 58 10.6	
CRS				*e*		08 58 57.8	
CRS				pmax	pmax		
	comp=Z,21nm,0.9s						
CRS				smax			
	comp=E,64nm,1.0s						
CIT	**Chita**	**3.69**	**166**	*e*Pn	Pn	08 58 01.9	+1.1
CIT				*e*Pg	Pg	08 58 11.2	-4.0
CIT				*e*Sg	Sg	08 58 58.1	-5.0
CIT				Pmax			
	comp=E,12nm,0.6s						
CIT				Smax			
	comp=E,88nm,0.8s						
KELR	**Kotokel**	**3.71**	**221**	*e*Pn	Pn	08 58 03.6	+2.5
KELR				*e*Sg	Sg	08 59 00.7	-2.9
KELR				max			
	comp=E,56nm,0.3s						
KELR				Smax			
	comp=E,170nm,0.4s						
ZRHB	**Zarechye**	**4.23**	**226**	*e*	Pg	08 58 22.9	-2.6
ZRHB				*e*Sg	Sg	08 59 15.5	-4.9
ZRHB				Smax			
	comp=E,133nm,1.4s						
TRTB	**Turuntaevo**	**4.30**	**220**	*e*Pg	Pg	08 58 22.2	-4.6
TRTB				*e*Sg	Sg	08 59 18.5	-4.0
TRTB				Pmax			
	comp=E,16nm,0.8s						
TRTB				Smax			
	comp=E,29nm,1.2s						
TRG	**Tyrgan**	**4.43**	**232**	*e*Pn	Pn	08 58 11.1	+0.2
TRG				*e*Pg	Pg	08 58 23.4	-5.9
TRG				*e*Sg	Sg	08 59 21.5	-5.2
TRG				Pmax			
	comp=E,6.0nm,0.5s						
TRG				Smax			
	comp=E,26nm,0.5s						
TUP	**Tupik**	**4.66**	**102**	*e*Pn	Pn	08 58 13.7	-0.4
TUP				*e*Pg	Pg	08 58 28.2	-5.5
TUP				*e*		08 59 04.5	
TUP				*e*Sg	Sg	08 59 29.3	-4.8
TUP				Pmax			
	comp=E,18nm,1.1s						
TUP				Smax			
	comp=E,100nm,0.6s						
TUP	**Tupik**	**4.66**	**102**	*e*PN	Pn	08 58 13.6	-0.5
TUP				*e*		08 58 27.0	
TUP				*e*		08 59 28.9	
TUP				pmax	pmax		
	comp=Z,16nm,0.7s						
TUP				smax			
	comp=N,99nm,1.0s						
FFNB	**Fofonovo**	**4.78**	**224**	*e*Sg	Sg	08 59 31.5	-6.2
FFNB				Smax			
	comp=N,79nm,1.0s						
YKLR	**Yuktali**	**5.43**	**76**	*e*Sg	Sg	08 59 52.6	-6.0
YKLR				Smax			
	comp=N,33nm,0.4s						
LSTR	**Listvyanka**	**5.72**	**232**	*e*Pn	Pn	08 58 30.0	+1.3
LSTR				*e*Sg	Sg	09 00 01.0	-7.0
LSTR				max			
	comp=N,2.0nm,0.4s						
LSTR				Smax			
	comp=N,22nm,1.6s						
KPC	**Khapcheranga**	**5.92**	**178**	*e*Pn	Pn	08 58 32.0	+0.6
KPC				*e*Pg	Pg	08 58 51.5	-6.2
KPC				*e*Sn	Sn	08 59 39.5	+0.7
KPC				*e*Sg	Sg	09 00 07.8	-6.5
KPC				Pmax			
	comp=N,4.0nm,0.7s						
KPC				Smax			
	comp=N,66nm,1.7s						
TLY	**Talaya**	**6.39**	**236**	*e*Pg	Pg	08 59 00.0	-6.8
TLY				*e*Sn	Sn	08 59 50.7	+0.2
TLY				*e*Sg	Sg	09 00 21.9	-7.6
TLY				Pmax			
	comp=N,2.0nm,0.4s						
TLY				Smax			
	comp=N,6.0nm,0.4s						
ARS	**Arshan**	**6.83**	**241**	*e*Pn	Pn	08 58 46.7	+2.8
ARS				*e*Sg	Sn	09 00 35.5	+34
ARS				max			
	comp=N,10.0nm,0.8s						
ARS				Smax			
	comp=N,62nm,0.9s						
MOY	**Mondy**	**7.70**	**244**	*e*Pn	Pn	08 58 56.3	+0.4
MOY				*e*Sn	Sn	09 00 19.7	-3.0
MOY				*e*Sg	Sn	09 01 00.9	+38
MOY				max			
	comp=N,3.0nm,0.6s						
MOY				Smax			
	comp=N,32nm,1.4s						
ORL	**Orlik**	**7.87**	**252**	*e*Pn	Pn	08 58 59.5	+1.4
ORL				*e*Sn	Sn	09 00 23.3	-3.5
ORL				*e*Sg	Sn	09 01 07.9	+41
ORL				max			
	comp=N,1.0nm,0.5s						
ORL				Smax			
	comp=N,23nm,1.7s						

*IDC **11** 08:56:49.7±1.6, 434S×14645E, h0km, mb4.1/4, mb1 4.4/7, mb1mx4.1/16, mbtmp4.2/7, ML4.1/3, Error ellipse: s-maj=49.2km s-min=26.8km az=111.0*
*ISCJB **11** 08:57:04.6±1.8, 5.1S±0.1×1469E±0.2, h148km±18km, mb4.0/4, Error ellipse: s-maj=33.2km s-min=16.7km az=62.8*
*NEIC **11** 08:57:04.1±2.8, 4.995S×14693E, h130km±26km, mb4.6/3, Error ellipse: s-maj=27.8km s-min=19.1km az=153.0*

ISC 11 08:57:08.7±1.6, 55S±01×1472E±02, h175km±16km, n14, σ1s12/19, mb4.0/4, 3D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.85**	**181**	Pn	**Pn**	**08 58 08.3**	**+0.6**
	10nm,0.3s,baz=32,slow=6.1,SNR=33						
PMG				Sn	**Sn**	**08 58 52.8**	**-1.0**
	20nm,0.3s,baz=228,slow=22,SNR=14						
PMG	**Port Moresby**	**3.85**	**181**	⇓*i*Pn	**Pn**	**08 58 08.4**	**+0.6**
PMG				*e*Sn	**Sn**	**08 58 53.0**	**-0.8**
CTA	**Charters Tower**	**14.51**	**184**	Pn	**Pn**	**09 00 30.7**	**+4.9**
	0.3nm,0.3s,baz=17,slow=17,SNR=3.9						
CTA	**Charters Tower**	**14.51**	**184**	Pn	**Pn**	**09 00 30.7**	**+4.9**
CTAO	**Charters Tower**	**14.51**	**184**	*e*P	**Pn**	**09 00 30.8**	**+5.0**
KAKA	**Kakadu**	**16.24**	**243**	*e*P	**Pn**	**09 00 46.2**	**-0.9**
	21nm,0.4s						
WRAB	**Tennant Creek**	**19.02**	**220**	⇓*i*P	**P**	**09 01 18.2**	**+0.9**
	14nm,0.6s						
WRAB				*e*S	**S**	**09 04 43.3**	**-0.5**
WB2	**Warramunga Arr**	**19.03**	**220**	⇓*i*P	**P**	**09 01 18.3**	**+1.0**
WRA	**Warramunga Arr**	**19.04**	**220**	P	**P**	**09 01 18.0**	**+0.6**
	2.5nm,0.3s,baz=38,slow=11,SNR=162						
WRA				S	**S**	**09 04 42.1**	**-2.0**
	0.1nm,0.3s,baz=39,slow=20,SNR=8.6						
ASAR	**Alice Springs**	**22.13**	**214**	P	**P**	**09 01 51.4**	**+1.1**
	5.6nm,0.6s,mb4.2,baz=48,slow=8.4,SNR=69						
ASAR				S	**S**	**09 05 43.3**	**+2.1**
	3.9nm,0.9s,baz=31,slow=21,SNR=18						
FITZ	**Fitzroy Crossi**	**24.51**	**238**	*e*P	**P**	**09 02 12.2**	**+0.4**
	7.8nm,0.4s,mb4.6						
FITZ	**Fitzroy Crossi**	**24.51**	**238**	P	**P**	**09 02 12.3**	**+0.4**
	6.3nm,0.5s,mb4.4,baz=61,slow=13,SNR=26						
STKA	**Stephens Creek**	**26.74**	**191**	P	**P**	**09 02 41.1**	**+9.2**
	0.9nm,0.3s,mb3.8,baz=12,slow=11,SNR=5.4						
ILAR	**Eielson Array**	**84.96**	**23**	P	**P**	**09 09 22.4**	**-1.7**
	0.6nm,0.8s,mb3.4,baz=242,slow=5.5,SNR=4.4						

*ISCJB **11** 09:00:51.7±0.6, 239S±0.1×824E±0.1, h10km, mb4.2/13, Error ellipse: s-maj=21.5km s-min=16.1km az=55.2*
*IDC **11** 09:00:51.9±1.3, 2390S×8237E, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.1/17, mbtmp4.1/10, Error ellipse: s-maj=52.1km s-min=21.9km az=29.0*
*NEIC **11** 09:00:53.4±0.5, 2394S×8240E, h10km, mb4.5/3, Error ellipse: s-maj=15.8km s-min=11.9km az=211.0*
*MOS **11** 09:00:54.2±0.5, 2340S×8258E, h10km, mb4.8/1, Error ellipse: s-maj=99.9km s-min=77.8km az=101.7*

ISC 11 09:00:53.6±0.6, 239S±01×824E±01, h10km, n17, σ0s59/16, mb4.2/13, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**46.92**	**101**	P	**P**	**09 09 24.1**	**-0.2**
	1.6nm,0.8s,mb4.0,baz=263,slow=7.0,SNR=9.3						
ASAR				PcP	PcP	09 10 57.0	+0.1
	1.1nm,0.9s,baz=262,slow=2.8,SNR=6.5						
WRA	**Warramunga Arr**	**48.14**	**96**	P	**P**	**09 09 34.7**	**+0.9**
	3.7nm,0.9s,mb4.4,baz=262,slow=7.7,SNR=11						
WRAB	**Tennant Creek**	**48.16**	**96**	*e*P	**P**	**09 09 34.2**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
WRAB	**Tennant Creek**	**48.16**	**96**	*e*P	**P**	**09 09 34.2**	**+0.3**
	comp=Z,6.5nm,0.8s,mb4.7						
SUR	**Sutherland**	**54.32**	**246**	*e*P	**P**	**09 10 20.9**	**+0.8**
	comp=Z,4.1nm,0.8s,mb4.4						
QSPA	**South Pole Qui**	**66.22**	**180**	*e*P	**P**	**09 11 40.4**	**-1.3**
	comp=Z,2.5nm,0.8s,mb4.3						
MKAR	**Makanchi Array**	**70.35**	**360**	P	**P**	**09 12 07.1**	**-0.4**
	comp=Z,0.9nm,0.8s,mb3.8,baz=168,slow=6.2,SNR=7.7						
MKAR	**Makanchi Array**	**70.35**	**360**	P	**P**	**09 12 07.1**	**-0.4**
SONM	**Songino Array**	**74.59**	**17**	P	**P**	**09 12 32.8**	**0.0**
	comp=Z,0.5nm,0.7s,mb3.5,baz=190,slow=5.7,SNR=5.3						
AKTK	**Aktyubinsk**	**77.08**	**344**	P	**P**	**09 12 46.7**	**-0.3**
AKTO	**Aktyubinsk**	**77.08**	**344**	P	**P**	**09 12 46.7**	**-0.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=146,slow=11,SNR=3.4						
ZAL	**Zalesovo**	**77.53**	**1**	P	**P**	**09 12 49.1**	**-0.4**
	comp=Z,1.9nm,0.5s,mb4.3,baz=179,slow=8.2,SNR=4.7						
BRTR	**Keskin Array B**	**77.93**	**324**	P	**P**	**09 12 52.1**	**+0.3**
	comp=Z,1.2nm,0.7s,mb3.9,baz=147,slow=7.0,SNR=5.2						
MLR	**Muntele Rosu**	**86.00**	**324**	P	**P**	**09 13 35.2**	**+0.9**
	comp=Z,3.0nm,0.6s,mb4.7,baz=122,slow=20,SNR=4.9						
TORD	**Torodi Ar. Bea**	**86.95**	**286**	P	**P**	**09 13 39.1**	**+0.2**
	comp=Z,0.8nm,0.9s,mb3.9,baz=122,slow=3.1,SNR=5.3						
AKASG	**Malin Array Be**	**87.81**	**329**	P	**P**	**09 13 42.6**	**-0.5**
	comp=Z,0.9nm,0.4s,mb4.3,baz=134,slow=4.6,SNR=7.0						
NVAR	**Mina Array Bea**	**157.19**	**46**	PKPab	PKPab	09 21 21.4	+1.0
	comp=Z,0.7nm,0.8s,baz=298,slow=3.9,SNR=5.9						

*SZGRF **11** 09:23:35.7, 3684N×7040E, h33km, mb4.7, Hindu Kush, Afghanistan, region*
*MOS **11** 09:23:43.1±0.9, 3654N×7067E, h150km, mb4.5/48, Error ellipse: s-maj=7.8km s-min=4.4km az=116.3*
*ISCJB **11** 09:23:44.0±0.1, 3652N±0.002×7073E±0.003, h161km, mb4.4/80, Error ellipse: s-maj=3.2km s-min=2.1km az=106.7*
*IDC **11** 09:23:45.5±0.5, 3650N×7070E, h163km±4km, mb4.1/21, mb1 4.2/26, mb1mx4.2/30, mbtmp4.6/26, MS3.2/3, Ms1 3.2/3, ms1mx2.6/32, Error ellipse: s-maj=10.1km s-min=9.7km az=74.0*
*NEIC **11** 09:23:45.5±0.2, 3657N×7076E, mb4.4/40, Error ellipse: s-maj=5.0km s-min=4.8km az=125.0*
*BJI **11** 09:23:46.0, 3685N×7063E, h178km, mB4.6, mb4.6*
*NNC **11** 09:23:50.0±7.2, 3701N×7042E, h173km±65km, mb3.7, mpv4.9, Error ellipse: s-maj=58.8km s-min=37.9km az=22.0*

ISC 11 09:23:45.4±0.1, 3654N±002×7078E±003, h163km, h163km±2.0km:pP-P, n274, σ1s05/312, mb4.4/80, 14C-20D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.87**	**161**	P	**Pn**	**09 24 32.0**	**+0.4**
CEP				S	**Sn**	**09 25 08.0**	**+0.6**
CHCP	**Chirah Chowk**	**3.52**	**144**	P	**Pn**	**09 24 41.9**	**+2.0**
THW	**Thamme Wali**	**3.82**	**168**	P	**Pn**	**09 24 44.1**	**+0.4**
SARP	**Sargodha**	**4.87**	**161**	P	**Pn**	**09 24 57.0**	**-0.3**
KSH	**Kashi**	**5.06**	**53**	P	**Pn**	**09 25 02.8**	**+3.0**
KSH				S	**Sn**	**09 26 02.9**	**+4.9**
KSH				Smax			
	comp=N,1μm,0.4s						
KSH				Smax			
	comp=E,960nm,1.0s						
DLH	**Dalhousie**	**5.85**	**132**	*e*P	**Pn**	**09 25 09.0**	**-1.2**
DLH				*e*S	**Sn**	**09 26 15.0**	**-1.7**
AML	**Almayashu**	**6.02**	**21**	P	**Pn**	**09 25 12.6**	**+0.1**
	SNR=795						
PONG	**Pong**	**6.27**	**135**	*e*P	**Pn**	**09 25 17.0**	**+1.3**
PONG				*e*S	**Sn**	**09 26 26.0**	**-0.6**
UCH	**Uchtor**	**6.37**	**26**	P	**Pn**	**09 25 17.2**	**+0.2**
	SNR=746						
KZA	**Kyzart**	**6.52**	**31**	P	**Pn**	**09 25 19.1**	**0.0**
	SNR=177						
EKS2	**Erkin-Say**	**6.53**	**20**	P	**Pn**	**09 25 19.4**	**+0.1**
	SNR=77						
KK31	**Karatay Array**	**6.56**	**358**	⇓P	**Pn**	**09 25 18.5**	**-1.1**
	comp=E,139nm,0.6s,baz=168,slow=12,SNR=1939						
KK31				⇓S	**Sn**	**09 26 28.6**	**-4.9**
	comp=E,282nm,0.9s,baz=187,slow=23,SNR=7.9						
KKAR	**Karatay Array**	**6.56**	**358**	*i* PN	**Pn**	**09 25 18.5**	**-1.1**
KKAR				pmax	pmax		
	comp=Z,18nm,0.3s						
AAK	**Ala-Archa**	**6.72**	**24**	P	**Pn**	**09 25 21.9**	**+0.1**
	SNR=333						
AAK	**Ala-Archa**	**6.72**	**24**	*d* iPN	**Pn**	**09 25 21.0**	**-0.8**
AAK				pmax	pmax		
	comp=Z,183nm,0.6s						
AAK	**Ala-Archa**	**6.72**	**24**	*e*Pn	**Pn**	**09 25 21.0**	**-0.8**
AAK				*e*Sn	**Sn**	**09 26 35.8**	**-1.7**
KBK	**Karagaybulak**	**6.90**	**

CHMS Chumysh 7.13 24 P Pn 09 25 26.8 -0.5
SNR=175
SDNR Sundarnagar 7.19 133 ex x 09 24 51.2
SDNR eS Sn **09 26 45.6 -3.0**
USP Ospenovka 7.30 22 P Pn **09 25 28.8 -0.6**
SNR=25
TKM2 Tokmak 2 7.37 29 P Pn **09 25 30.7 +0.4**
SNR=411
TKM2 Tokmak 2 7.37 29 ⇓P Pn **09 25 30.8 +0.4**
comp=Z,23nm,0.6s
TKM2 ⇓S Sn **09 26 51.7 -1.3**
comp=Z,20nm,1.1s
SMLA Simla 7.57 134 eP Pn **09 25 31.0 -2.1**
SMLA ⇑iP 09 25 31.0
SMLA eS Sn **09 26 53.2 -4.6**
KLP Kalpa 7.96 127 eP Pn **09 25 37.0 -1.2**
KLP eS Sn **09 27 03.5 -3.6**
DDI Dehra Dun 8.68 134 eP Pn **09 25 47.0 -0.8**
DDI eS Sn **09 27 22.0 -2.4**
RTK Rohtak 8.86 146 eP Pn **09 25 49.2 -0.9**
JOSI Joshimath 9.45 127 eP Pn **09 25 48.5 -9.4**
JOSI eS Sn **09 27 30.3 -13**
KHET Khetri 9.45 152 eP Pn **09 25 56.4 -1.5**
KHET eS Sn **09 27 36.2 -6.7**
NDI New Delhi 9.53 143 eP Pn **09 25 57.0 -1.9**
NDI eP 09 25 58.2
NDI eS Sn **09 27 39.5 -5.2**
NDI AML AML 09 27 44.1
comp=E,266nm,0.3s
NDI AML AML 09 27 44.4
comp=N,281nm,0.3s
AYAN Aya Nagar 9.66 145 eP Pn **09 25 60.0 -0.7**
AYAN eS Sn **09 27 41.0 -6.8**
AYAN AML AML 09 27 46.5
comp=Z,225nm,0.4s
KUDL Kundal 9.66 148 eP Pn **09 25 59.6 -1.1**
KUDL eS Sn **09 27 40.3 -7.7**
KUDL AML AML 09 27 45.3
comp=E,196nm,0.5s
KUDL AML AML 09 27 47.3
comp=N,211nm,0.4s
SONA Sohna 9.83 145 eP Pn **09 26 01.9 -1.0**
SONA eS Sn **09 27 45.3 -6.8**
SONA AML AML 09 27 49.2
comp=N,226nm,0.3s
AJM Ajmer 10.56 161 *i* P Pn **09 26 11.0 -1.5**
AJM *i* S Sn **09 28 02.0 -7.5**
AGRA Agra 11.10 145 eP Pn **09 26 18.1 -1.4**
AGRA eS Sn **09 28 13.7 -8.7**
BHJ Bhuj 13.28 185 eP Pn **09 26 46.3 -1.3**
MK05 Makanchi Array 13.36 36 ⇑P Pn **09 26 48.7 0.0**
comp=N,12nm,0.7s,baz=229,slow=17
MK31 Makanchi Array 13.36 36 P Pn **09 26 48.7 0.0**
MK31 pmax pmax
comp=Z,19nm,0.9s
MKAR Makanchi Array 13.36 36 P Pn **09 26 47.8 -0.8**
comp=Z,1.9nm,0.3s,baz=228,slow=13,SNR=77
MKAR Makanchi Array 13.36 36 P Pn **09 26 47.8 -0.9**
MKAR pmax pmax
comp=Z,2.0nm,0.3s
KOLN Koldanda 13.93 125 eP Pn **09 26 55.1 -0.8**
comp=Z,75nm,0.5s
KOLN eS Sn **09 29 21.6 -8.9**
BHPL Bhopal 14.45 155 eP Pn **09 27 02.8 +0.4**
BHPL ex x 09 29 37.8
GKN Gorkha 14.47 122 eP Pn **09 27 02.9 +0.2**
comp=Z,135nm,0.5s
GKN eS Sn **09 29 33.4 -10**
WMQ Urumqi 14.82 55 ⇑P Pn **09 27 08.2 +1.3**
WMQ PCP PcP 09 32 09.9 +3.9
WMQ PCS PcS 09 35 43.7 +2.6
WMQ AMB AMB
comp=Z,16nm,0.8s
WMQ AMB AMB
comp=Z,44nm,2.7s
WMQ LR LR
comp=N,143nm,4.0s
WMQ LR LR
comp=E,248nm,4.3s
WMQ LR LR
comp=Z,36nm,19.6s
AB31 Akbulak array 14.96 331 ⇑P Pn **09 27 06.4 -2.3**
comp=Z,5.5nm,0.3s
AB31 ⇓S Sn **09 29 42.3 -13**
comp=Z,30nm,0.8s
AB31 Akbulak array 14.96 331 P Pn **09 27 06.4 -2.3**
AB31 S Sn **09 29 42.3 -13**
AB31 pmax pmax
comp=Z,2.0nm,0.3s
AB31 smax
comp=Z,26nm,0.9s
DMN Daman 15.04 122 eP Pn **09 27 10.1 +0.4**
comp=Z,126nm,0.5s
DMN eS S **09 29 47.1 -10**
KKN Kakani 15.05 121 eP Pn **09 27 09.7 -0.1**
comp=Z,304nm,0.6s
KKN eS S **09 29 46.9 -11**
KURK Kurchatov 15.25 19 ⇑P Pn **09 27 13.9 +1.6**
comp=Z,8.7nm,0.9s
KURK Kurchatov 15.25 19 ePn Pn **09 27 11.4 -0.8**
comp=Z,12nm,0.7s
PKI Pulchoki 15.28 122 eP Pn **09 27 12.6 0.0**
comp=Z,173nm,0.6s
GUN Gumba 15.39 120 eP Pn **09 27 14.3 +0.3**
comp=Z,138nm,0.5s
JBP Jabalpur 15.52 147 ⇑iP Pn **09 27 16.3 +0.7**
JBP *i* x x 09 29 55.8
JIRN Jiri 15.76 120 eP Pn **09 27 19.7 +1.2**
comp=Z,161nm,0.4s
JIRN eS S **09 30 05.4 -8.5**
VOSK Vostochnaya 16.18 0 ⇓P Pn **09 27 21.7 -1.9**
comp=Z,37nm,1.1s
VOSK Vostochnaya 16.18 0 P Pn **09 27 21.6 -2.0**
VOSK pmax pmax
comp=Z,41nm,1.1s
ZRNK Zerenda 16.45 356 ⇓P Pn **09 27 25.1 -1.8**
comp=Z,15nm,0.7s
ZRNK ⇑S S **09 30 23.7 -6.0**
comp=Z,16nm,1.2s
ZRNK Zerenda 16.45 356 ePn Pn **09 27 25.2 -1.7**
comp=Z,20nm,0.7s
ZRNK eSn Sn **09 30 24.9 -6.0**
BVA0 Borovoye Array 16.48 359 ⇑P Pn **09 27 25.7 -1.6**
comp=Z,2.9nm,0.7s,baz=167,slow=15,SNR=164
BVA0 ⇓S S **09 30 27.2 -3.2**
comp=Z,3.1nm,1.0s
BVA0 Borovoye Array 16.48 359 eP Pn **09 27 26.0 -1.3**
BVA0 pmax pmax
comp=Z,2.0nm,0.7s
BVAR Borovoye Array 16.48 359 P Pn **09 27 25.4 -1.9**
comp=Z,2.4nm,0.3s,baz=172,slow=12,SNR=50
BVAR Borovoye Array 16.48 359 P Pn **09 27 25.4 -1.9**
BVAR pmax pmax
comp=Z,2.0nm,0.3s
BRVK Borovoye 16.52 359 eP Pn **09 27 26.2 -1.5**
BRVK pmax pmax
comp=Z,13nm,0.6s
BRVK Borovoye 16.52 359 ePn Pn **09 27 26.2 -1.5**
comp=Z,13nm,0.6s
AKTK Aktyubinsk 16.66 330 P Pn **09 27 28.9 -0.5**
AKTK S S **09 30 23.4 -11**
AKTO Aktyubinsk 16.66 330 ⇓P Pn **09 27 28.9 -0.4**
comp=Z,0.6nm,0.7s
AKTO ⇑S S **09 30 23.8 -10**
comp=Z,2.2nm,1.2s
AKTO Aktyubinsk 16.66 330 P Pn **09 27 28.9 -0.4**
comp=Z,3.8nm,0.3s,baz=141,slow=10,SNR=111
AKTO S S **09 30 23.4 -11**
comp=Z,0.8nm,0.3s,baz=75,slow=19,SNR=3.5
AKTO Aktyubinsk 16.66 330 P Pn **09 27 28.9 -0.5**
AKTO S S **09 30 23.8 -11**
AKTO pmax pmax
comp=Z,4.0nm,0.7s
AKTO smax
comp=Z,14nm,1.2s
AKL Akola 16.70 159 *i* x x 09 26 57.6
AKL *i* x x 09 27 59.3
WSAR Wadi Sarin 16.91 222 P Pn **09 27 32.8 +0.4**
comp=Z,0.6nm,0.3s,baz=48,slow=11,SNR=11
WSAR LR LR 09 35 13.2
comp=Z,54nm,18.5s,baz=24,slow=41
NGP Nagpur 16.95 153 eP Pn **09 27 34.1 +1.2**
NGP ex x 09 30 32.4
POO Poona 18.15 171 ex x 09 27 47.0
POO ePP 09 28 04.0
i x x 09 31 21.0
BOK Bokaro 18.19 130 eP P **09 27 49.3 +3.6**
BOK ex x 09 31 02.7
LSA Lhasa 18.36 106 P P **09 27 53.2 +5.6**
LSA AMB AMB
comp=Z,10.0nm,0.9s
LSA Lhasa 18.36 106 eP P **09 27 53.0 +5.4**
LSA pmax pmax
comp=Z,20nm,0.7s
LSA Lhasa 18.36 106 eP P **09 27 53.0 +5.4**
comp=Z,20nm,0.7s
LATR Latur 18.76 163 ex x 09 28 00.0
ORR Orenburg 18.90 328 eP P **09 27 52.0 -1.5**
ORR *i* 09 31 17.8
ORR pmax pmax
comp=Z,30nm,0.9s
ORR MLR MLR
comp=Z,50nm,15.0s
KAD Karad 19.39 170 ex x 09 31 33.6
ZAL Zalesovo 19.93 25 P P **09 28 05.2 +0.6**
comp=Z,19nm,0.3s,baz=255,slow=7.9,SNR=82
ZAL S S **09 31 37.2 -2.7**
baz=180,slow=20,SNR=3.4
ZAL Zalesovo 19.93 25 P P **09 28 05.2 +0.6**
ZAL S S **09 31 37.2 -2.7**
NVS Novosibirsk 20.20 21 ⇓iP P **09 28 07.1 -0.4**
NVS *i* *PP 09 28 30.6
NVS *i* 09 28 53.5
NVS eS S **09 31 36.4 -8.8**
NVS eSS 09 32 29.3
NVS pmax pmax
comp=Z,19nm,1.2s
NVS pmax pmax
comp=N,12nm,1.0s
NVS pmax pmax
comp=E,11nm,1.1s
NVS smax
comp=N,57nm,2.2s
NVS smax
comp=E,18nm,1.3s
HYB Hyderabad 20.25 158 *i* P P **09 28 10.5 +2.5**
HYB esP sP 09 29 05.0 +8.1
HYB e 09 31 41.0
HYB eS S **09 31 49.5 +3.4**
HYB Hyderabad 20.25 158 eP P **09 28 10.5 +2.5**
HYB eS S **09 31 51.5 +5.4**
UMR Umm Al-Rimmam 20.53 257 eP P **09 28 10.0 -1.0**
GNI Garni 20.71 288 P P **09 28 14.2 +1.3**
comp=E,34nm,0.7s,baz=106,slow=3.4,SNR=18
GNI Garni 20.71 288 eP P **09 28 13.2 +0.3**
comp=E,28nm,0.7s
MIB Mutribah 20.71 258 eP P **09 28 11.7 -1.2**
MIB AMb AMB 09 28 15.7
comp=Z,67nm,0.6s
QRN Al-Qurain 20.73 255 eP P **09 28 11.6 -1.5**
QRN AMb AMB 09 28 15.0
comp=Z,42nm,0.3s
RDF Al-Radifah 20.93 255 eP P **09 28 13.3 -2.0**
RDF AMb AMB 09 28 19.1
comp=Z,101nm,0.8s
NAY Al-Naaiem 21.03 257 eP P **09 28 15.3 -1.0**
SHL Shillong 21.09 115 eP P **09 28 19.0 +2.1**
SHL ex x 09 32 08.5
ZEI Tsey 21.56 295 eP P **09 28 24.1 +2.2**
ZEI pmax pmax
comp=Z,21nm,1.0s,mb4.5
VIS Vishakhapatnam 21.78 146 ex x 09 32 28.1
KIV Kislovodsk 22.61 298 eP P **09 28 30.5 -1.8**
KIV eS S **09 32 25.5 -2.1**
KIV pmax pmax
comp=Z,6.0nm,0.5s,mb4.3
KIV MLR MLR
comp=Z,23nm,15.0s
KIV Kislovodsk 22.61 298 eP P **09 28 32.5 +0.2**
comp=Z,10nm,0.4s,mb4.6
GTA Gaotai 23.02 74 eP P **09 28 39.6 +3.5**
GTA AP 09 29 11.9
GTA PP 09 29 20.4
GTA XP sP 09 29 30.7 +3.9
GTA PCP PcP 09 32 21.8 +1.5
GTA S S **09 32 39.0 +4.8**
GTA AMB AMB
comp=Z,11nm,0.9s,mb4.3
GTA AMB AMB
comp=Z,60nm,2.7s,mb4.5
GTA LR LR
comp=N,99nm,11.2s
GTA LR LR
comp=E,117nm,11.6s
GTA LR LR
comp=Z,92nm,9.6s
SOC Sochi 24.70 296 eP P **09 28 52.5 +1.2**
SOC e 09 29 32.7
SOC eS S **09 33 06.8 +5.9**
SOC pmax pmax
comp=Z,7.0nm,0.5s,mb4.5
MALT Malatya 25.69 284 ⇓iP P **09 29 02.0 +1.7**
MALT Malatya 25.69 284 eP P **09 29 01.6 +1.3**
MALT pmax pmax
comp=Z,14nm,1.1s,mb4.5
MALT Malatya 25.69 284 eP P **09 29 01.6 +1.4**
comp=Z,14nm,1.1s,mb4.5
ANN Anapa 26.46 299 eP P **09 29 06.8 -0.4**
ANN eS S **09 33 30.6 +1.8**
ANN pmax pmax
comp=Z,20nm,0.6s,mb4.9
LZH Lanzhou 26.58 81 eP P **09 29 11.5 +3.3**
LZH AP pP 09 29 47.5 +5.5
LZH XP sP 09 30 04.5 +3.6
LZH AMB AMB
comp=Z,20nm,1.5s,mb4.5
CD2 Chengdu 27.91 92 eP P **09 29 21.8 +1.7**
ASF Jabal al Asfar 28.22 271 P P **09 29 23.8 +0.9**
comp=Z,2.6nm,0.7s,mb4.0,baz=307,slow=9.1,SNR=4.6
ASF Jabal al Asfar 28.22 271 P P **09 29 23.8 +0.9**
ASF pmax pmax
comp=Z,3.0nm,0.7s
SONM Songino Array 28.46 55 P P **09 29 27.6 +2.6**
comp=Z,1.8nm,0.8s,mb3.9,baz=266,slow=10,SNR=17
SONM pP pP 09 30 01.1 +2.1
comp=Z,2.7nm,0.9s,baz=259,slow=10.0,SNR=8.0
SONM Songino Array 28.46 55 P P **09 29 27.6 +2.6**
SONM *PP pP 09 30 01.1 +2.1
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM pmax pmax
comp=Z,3.0nm,0.9s
ULN Ulaanbaatar 28.90 56 eP P **09 29 31.5 +2.6**
BR131 Keskin Array S 29.25 288 eP P **09 29 32.5 +0.5**
comp=Z,1.5nm,0.7s,mb3.8
BRTR Keskin Array B 29.25 288 P P **09 29 31.9 -0.1**
comp=Z,3.1nm,0.9s,mb4.0,baz=92,slow=8.7,SNR=9.9
BRTR Keskin Array B 29.25 288 P P **09 29 32.0 0.0**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
KMI Kunming 29.58 104 P P **09 29 40.5 +5.6**
KMI AP pP 09 30 13.0 +4.0
KMI S S **09 34 20.6 +2.8**
KMI AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
KMI LR LR
comp=N,200nm,5.8s
KMI LR LR
comp=E,113nm,8.9s
KMI LR LR
comp=Z,111nm,12.1s
OBN Obninsk 29.79 319 ⇓eP P **09 29 36.8 0.0**
OBN e*PP pP 09 30 23.0 +12
OBN e 09 30 45.6
OBN eS S **09 34 19.6 -1.6**
OBN pmax pmax
comp=Z,37nm,1.7s,mb4.8
KLMR Klimovskoe 31.36 331 eP P **09 29 50.1 -0.5**
KLMR e*SP sP 09 30 39.7 -3.9
KLMR pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
HHC Hu-ho-hao-te 31.91 70 eP P **09 29 56.0 +0.6**
HHC PP PP 09 31 07.9 -2.9
HHC PCP PcP 09 32 45.2 +3.4
HHC S S **09 34 56.9 +2.6**
HHC PCS PcS 09 36 28.4 +1.7
HHC SCS ScS 09 40 10.8 +2.2
HHC AMB AMB
comp=Z,15nm,1.0s,mb4.7
HHC AMB AMB
comp=Z,88nm,5.6s
HHC LR LR
comp=N,97nm,13.1s
HHC LR LR
comp=E,127nm,12.6s
HHC LR LR
comp=Z,73nm,11.4s
AKASG Malin Array Be 32.78 309 P P **09 30 02.4 -0.6**
comp=Z,8.2nm,0.7s,mb4.6,baz=81,slow=7.5,SNR=40
AKASG Malin Array Be 32.78 309 P P **09 30 02.4 -0.6**
AKASG pmax pmax
comp=Z,8.0nm,0.7s
VRI Vrincioaia 34.05 300 ⇓iP P **09 30 15.3 +1.3**
MLR Muntele Rosu 34.61 299 ⇓iP P **09 30 20.7 +2.0**
BURAR Bucovina Array 35.11 303 ⇑iP P **09 30 23.5 +0.4**
BOD Bodaibo 35.43 39 eP P **09 30 28.0 +2.2**
BOD e pP 09 31 02.0 +1.5
BOD pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
VSU Vasula 36.04 322 eP P **09 30 30.9 -0.1**
FINES FINESS Array B 37.35 326 P P **09 30 41.8 -0.3**
comp=Z,8.1nm,0.7s,mb4.5,baz=111,slow=10,SNR=33
FINES pP pP 09 31 17.5 +0.4
comp=Z,2.2nm,0.8s,baz=123,slow=12,SNR=2.0
FINES sP sP 09 31 34.5 -1.1
comp=Z,3.8nm,0.7s,baz=115,slow=9.0,SNR=3.7
FINES LR LR 09 47 26.8
comp=Z,26nm,18.3s,baz=154,slow=38
FINES FINESS Array B 37.35 326 P P **09 30 41.8 -0.3**
FINES *PP pP 09 31 17.5 +0.4
FINES *SP sP 09 31 34.5 -1.2
FINES pmax pmax
comp=Z,8.0nm,0.7s
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES pmax pmax
comp=Z,4.0nm,0.7s
FINES MLR MLR
comp=Z,26nm,18.3s
LVZ Lovozero 37.35 338 eP P **09 30 42.1 0.0**
LVZ pmax pmax
comp=Z,55nm,2.1s,mb4.8
KAF Kangasniemi 37.49 327 ep P **09 30 42.5 -0.8**
baz=112,slow=8.5
STHS Stebnicka Huta 37.79 306 eP P **09 30 45.7 -0.1**
comp=Z,2.9nm,0.8s,mb4.0
KECS Kecovo 38.29 304 eP P **09 30 49.8 -0.2**
comp=Z,1.9nm,0.7s,mb3.8
NIE Niedzica 38.40 306 eP P **09 30 52.2 +1.3**
PSZ Piszkesteto 38.70 303 eP P **09 30 53.8 +0.4**
PSZ pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
PSZ Piszkesteto 38.70 303 eP P **09 30 53.8 +0.4**
comp=Z,2.4nm,0.6s,mb4.0
NJ2 Nanjing 39.64 82 eP P **09 31 03.4 +2.2**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb4.9
MORC Moravsky Berou 40.20 306 eP P **09 31 05.6 -0.1**
MORC pmax pmax
comp=Z,10.0nm,1.4s,mb4.2
MORC Moravsky Berou 40.20 306 eP P **09 31 05.6 -0.1**
comp=Z,9.8nm,1.4s,mb4.2
KEV Kevo 40.70 338 ep P **09 31 09.2 -0.7**
DPC Dobruska-Polom 40.97 307 eP P **09 31 12.8 +0.7**
ARCES ARCESS Array B 41.04 338 P P **09 31 13.0 +0.3**
comp=Z,15nm,0.7s,mb4.7,baz=113,slow=8.0,SNR=49
ARCES pP pP 09 31 48.2 0.0
comp=Z,5.2nm,1.0s,baz=121,slow=8.7,SNR=1.8
ARCES sP sP 09 32 06.2 -0.4
comp=Z,4.7nm,0.8s,baz=119,slow=7.5,SNR=2.8
ARCES LR LR 09 48 52.8
comp=Z,51nm,19.6s,baz=55,slow=37
ARCES ARCESS Array B 41.04 338 P P **09 31 13.0 +0.4**
ARCES *PP pP 09 31 48.2 0.0
ARCES *SP sP 09 32 06.2 -0.4
ARCES pmax pmax
comp=Z,15nm,0.7s
ARCES pmax pmax
comp=Z,5.0nm,1.0s
ARCES pmax pmax
comp=Z,5.0nm,0.8s
ARCES MLR MLR
comp=Z,51nm,19.6s
ARCES ARCESS Array B 41.04 338 P P **09 31 13.0 +0.3**
ARCES pP pP 09 31 48.2 0.0
ARCES sP sP 09 32 06.2 -0.4
ARCES LR LR 09 48 52.8
ARE0 ARCESS Array S 41.04 338 eP P **09 31 12.9 +0.3**
UPC Upice 41.16 308 eP P **09 31 14.5 +0.9**
CN2 Changchun 41.74 63 eP P **09 31 19.4 +1.0**
GROS Grobnik 41.80 302 eP P **09 31 18.8 -0.1**
SSE Sheshan 41.84 82 eP P **09 31 20.0 +0.8**
SSE AMB AMB
comp=Z,29nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,56nm,4.6s
BSD Bornholm Skovb 41.85 315 ⇑iP P **09 31 17.9 -1.4**
comp=Z,9.1nm,0.8s,mb4.5
BSD Bornholm Skovb 41.85 315 ⇑iP P **09 31 17.9 -1.4**
BSD pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
DOBS Dobrina 41.86 301 eP P **09 31 20.7 +1.4**
PRU Pruhonice 42.13 307 eP P **09 31 22.3 +0.8**
TIP Timpagrande 42.21 291 eP P **09 31 21.7 -0.4**
PSI Prapat 42.43 136 P P **09 31 25.2 +1.2**
comp=Z,5.7nm,0.4s,mb4.5,baz=306,slow=9.9,SNR=14
PSI Prapat 42.43 136 P P **09 31 25.2 +1.2**
PSI pmax pmax
comp=Z,6.0nm,0.4s,mb4.6
BRG Berggiesshubel 42.46 308 eP P **09 31 24.3 +0.1**
comp=Z,11nm,1.0s,mb4.4
BRG Berggiesshubel 42.46 308 eP P **09 31 24.5 +0.4**
comp=Z,6.7nm,1.1s,mb4.2
BRG Berggiesshubel 42.46 308 eP P **09 31 24.5 +0.3**
BRG pmax pmax
comp=Z,7.0nm,1.1s,mb4.2
RGN Rugen 42.76 314 eP P **09 31 27.5 +0.9**
comp=Z,70nm,0.4s
GEC2 GERESS Array S 42.76 305 eP P **09 31 26.7 +0.1**
comp=Z,14nm,1.9s,mb4.3
GEC2 **GERESS Array S** 42.76 305 eP P **09 31 26.7 +0.1**
GEC2 pmax pmax
comp=Z,14nm,1.9s,mb4.3
GERES GERESS Array B 42.76 305 P P **09 31 27.1 +0.4**
comp=Z,1.0nm,0.6s,mb3.6,baz=91,slow=8.0,SNR=7.0
GERES PcP PcP 09 33 14.4 -0.6
comp=Z,1.1nm,0.8s,baz=82,slow=7.0,SNR=3.7
GERES GERESS Array B 42.76 305 P P **09 31 27.1 +0.5**
GERES 09 33 14.4
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES pmax pmax
comp=Z,1.0nm,0.8s
KHC Kasperske Hory 42.82 306 eP P **09 31 27.4 +0.3**
CLL Collm 43.03 309 eP P **09 31 28.2 -0.6**
comp=Z,6.0nm,0.7s,mb4.3
CLL Collm 43.03 309 ⇓iP P **09 31 28.7 -0.1**
comp=Z,6.0nm,0.7s,mb4.3
CLL e(PP) 09 33 18.0
CLL Collm 43.03 309 ⇓iP P **09 31 28.7 -0.1**
CLL pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
WET Wettzell 43.27 306 eP P **09 31 30.1 -0.6**
comp=Z,4.0nm,1.1s,mb4.0
WET Wettzell 43.27 306 eP P **09 31 30.1 -0.6**
WET pmax pmax
comp=Z,4.0nm,1.1s,mb4.0
COP Copenhagen 43.29 315 *i* P P **09 31 31.4 +0.6**
comp=Z,23nm,0.8s,mb4.8
COP Copenhagen 43.29 315 eP P **09 31 31.4 +0.6**
COP pmax pmax
comp=Z,23nm,0.8s,mb4.9
COP Copenhagen 43.29 315 eP P **09 31 31.4 +0.6**
comp=Z,23nm,0.8s,mb4.8
WERD Werda 43.53 308 eP P **09 31 33.0 +0.2**
comp=Z,5.0nm,1.1s,mb4.1
ROTZ Rotzenmuhle 43.65 307 eP P **09 31 34.6 +0.9**
comp=Z,21nm,1.6s,mb4.5
MANZ Manzenberg 43.69 307 eP P **09 31 34.6 +0.5**
comp=Z,8.0nm,1.1s,mb4.3
MOX Moxa 43.95 308 eP P **09 31 36.2 +0.1**
comp=Z,7.0nm,1.0s,mb4.2
YAK Yakutsk 44.03 36 eP P **09 31 38.2 +1.4**
YAK pmax pmax
comp=Z,12nm,0.7s,mb4.6

NB2 NORSAR Subarra 44.24 323 P **P** 09 31 37.4 -1.0
comp=Z,20nm,0.9s,mb4.8,baz=97,slow=7.9
NOA NORSAR Array B 44.24 323 P **P** 09 31 37.7 -0.8
comp=Z,12nm,0.8s,mb4.6,baz=97,slow=7.9,SNR=45
NOA NORSAR Array B 44.24 323 P **P** 09 31 37.7 -0.7
NOA pmax pmax
comp=Z,12nm,0.8s
NOA NORSAR Array B 44.24 323 P **P** 09 31 37.7 -0.8
GRA1 Grafenberg Arr 44.29 307 *eP* **P** 09 31 40.2 +1.3
comp=Z,11nm,1.0s,mb4.4
GRF Grafenberg Arr 44.29 307 *eP* **P** 09 31 40.2 +1.3
comp=Z,11nm,1.0s,mb4.4
GRF Grafenberg Arr 44.29 307 *eP* **P** 09 31 40.2 +1.3
GRF pmax pmax
comp=Z,11nm,1.0s,mb4.4
GRF Grafenberg Arr 44.29 307 *eP* **P** 09 31 40.2 +1.3
GRF pmax pmax
comp=Z,11nm,1.0s,mb4.4
NAO01 NORSAR Array S 44.38 323 P **P** 09 31 39.2 -0.3
comp=Z,5.7nm,0.8s,mb4.2
BSEG Bad Segeberg 44.53 313 *eP* **P** 09 31 41.0 +0.2
comp=Z,14nm,0.9s,mb4.6
MDJ Mudanjiang 44.54 61 P **P** 09 31 40.8 0.0
MDJ AMB AMB
comp=Z,6.0nm,1.2s,mb4.1
MDJ AMB AMB
comp=Z,27nm,5.3s
CLZ Clausthal 44.63 310 *eP* **P** 09 31 41.6 +0.1
comp=Z,11nm,1.0s,mb4.4
CLZ Clausthal 44.63 310 *eP* **P** 09 31 41.6 +0.1
CLZ pmax pmax
comp=Z,11nm,1.0s,mb4.4
GTTG Gyttingen 44.91 309 *eP* **P** 09 31 44.0 +0.3
comp=Z,12nm,0.7s,mb4.6
KONO Kongsberg 44.94 321 *eP* **P** 09 31 43.6 -0.4
KONO Kongsberg 44.94 321 *eP* **P** 09 31 43.5 -0.5
comp=Z,5.0nm,0.5s,mb4.4
UBBA Unterbreizbach 44.95 308 *eP* **P** 09 31 44.9 +0.8
comp=Z,13nm,1.5s,mb4.3
TIXI Tiksi 45.80 22*c iP* **P** 09 31 51.6 +0.9
TIXI pmax pmax
comp=Z,12nm,0.7s,mb4.6
TIXI Tiksi 45.80 22 P **P** 09 31 51.5 +0.8
TNS Taunus Mts 46.01 308 *eP* **P** 09 31 52.8 +0.4
comp=Z,9.0nm,1.2s,mb4.3
TNS Taunus Mts 46.01 308 *eP* **P** 09 31 52.8 +0.4
TNS pmax pmax
comp=Z,9.0nm,1.2s,mb4.3
IBBN Ibbenburen 46.19 311 *eP* **P** 09 31 54.0 +0.2
comp=Z,19nm,0.6s,mb4.9
BFO Black Forest 46.36 305 *eP* **P** 09 31 56.4 +1.2
comp=Z,9.0nm,1.1s,mb4.3
BFO Black Forest 46.36 305 *eP* **P** 09 31 56.4 +1.2
BFO pmax pmax
comp=Z,9.0nm,1.1s,mb4.3
BUG Bochum-Univer 46.59 310 *eP* **P** 09 31 57.0 +0.1
comp=Z,10.0nm,0.6s,mb4.6
HINF Hinteralfeld 47.43 305 *eP* **P** 09 32 03.2 -0.2
WLF Walferdange 47.56 307 *eP* **P** 09 32 04.9 +0.5
comp=Z,16nm,1.1s,mb4.6
SBF Sospel 47.88 299 *eP* **P** 09 32 06.4 -0.5
LPG La Plagne 47.98 302 *eP* **P** 09 32 07.7 +0.1
comp=Z,6.1nm,0.7s,mb4.0
LPG La Plagne 47.98 302 *eP* **P** 09 32 07.7 +0.1
LPG pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
LPG La Plagne 47.98 302 *eP* **P** 09 32 07.7 +0.1
comp=Z,3.0nm,0.7s,mb4.0
LPL La Plagne 47.98 302 *eP* **P** 09 32 07.6 -0.1
CABF La Chapelle 48.18 303 *eP* **P** 09 32 09.5 +0.3
BAIF Baives 48.73 308 *eP* **P** 09 32 13.6 +0.2
comp=Z,17nm,0.9s,mb4.4
BAIF Baives 48.73 308 *eP* **P** 09 32 13.6 +0.2
BAIF pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
BAIF Baives 48.73 308 *eP* **P** 09 32 13.6 +0.2
comp=Z,8.5nm,0.9s,mb4.4
KMBO Kilima Mbogo 48.73 227 P **P** 09 32 13.5 +0.1
comp=Z,3.0nm,0.6s,mb4.1,baz=38,slow=11,SNR=7.3
KMBO Kilima Mbogo 48.73 227 *i P* **P** 09 32 13.5 +0.1
KMBO pmax pmax
comp=Z,3.0nm,0.6s
KMBO Kilima Mbogo 48.73 227 P **P** 09 32 13.5 +0.1
VIVF Saint-Julien-l 49.56 301 *eP* **P** 09 32 19.6 -0.1
comp=Z,8.7nm,0.6s,mb4.3
VIVF Saint-Julien-l 49.56 301 *eP* **P** 09 32 19.6 -0.1
VIVF pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
VIVF Saint-Julien-l 49.56 301 *eP* **P** 09 32 19.6 -0.1
comp=Z,4.3nm,0.6s,mb4.3
SMF Signal de Mont 49.68 304 *eP* **P** 09 32 20.0 -0.6
SSF Saint Saulge 49.81 304 *eP* **P** 09 32 21.2 -0.4
AVF Avril sur Loir 49.98 304 *eP* **P** 09 32 22.4 -0.4
comp=Z,15nm,0.8s,mb4.4
AVF Avril sur Loir 49.98 304 *eP* **P** 09 32 22.4 -0.4
AVF pmax pmax
comp=Z,8.0nm,0.8s,mb4.4
AVF Avril sur Loir 49.98 304 *eP* **P** 09 32 22.4 -0.4
comp=Z,7.5nm,0.8s,mb4.4
LASF Ste Croix 50.32 301 *eP* **P** 09 32 25.5 +0.1
comp=Z,22nm,1.0s,mb4.4
CAF Calvisc 51.33 302 *eP* **P** 09 32 32.7 -0.2
RJF Les Rejaudoux 51.59 303 *eP* **P** 09 32 34.3 -0.6
MTLF Montolieu 51.67 300 *eP* **P** 09 32 35.1 -0.4
ESK Eskdalemuir 52.16 316 *eP* **P** 09 32 38.4 -0.7
ESK pmax pmax
comp=Z,9.0nm,1.1s,mb4.3
ESK Eskdalemuir 52.16 316 *eP* **P** 09 32 38.4 -0.8
comp=Z,8.8nm,1.1s,mb4.3
MFF Saint Martin d 52.35 305 *eP* **P** 09 32 40.1 -0.4
comp=Z,13nm,1.0s,mb4.2
MFF Saint Martin d 52.35 305 *eP* **P** 09 32 40.1 -0.4
MFF pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
MFF Saint Martin d 52.35 305 *eP* **P** 09 32 40.1 -0.4
comp=Z,6.6nm,1.0s,mb4.2
SGMF Saint Gilles 53.47 307 *eP* **P** 09 32 48.2 -0.5
ETSF Etsaut 53.74 300 *eP* **P** 09 32 50.2 -0.5
comp=Z,4.5nm,0.5s,mb4.1
ETSF Etsaut 53.74 300 *eP* **P** 09 32 50.2 -0.5
ETSF pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
ETSF Etsaut 53.74 300 *eP* **P** 09 32 50.2 -0.5
comp=Z,2.3nm,0.5s,mb4.2
DAG Danmarks Havn 54.64 344*⇓ iP* **P** 09 32 57.7 +0.5
comp=Z,8.2nm,0.7s,mb4.6
DAG Danmarks Havn 54.64 344*⇓ iP* **P** 09 32 57.7 +0.5
DAG pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
ESDC Sonseca Array 57.28 298 P **P** 09 33 15.6 -0.4
comp=Z,0.2nm,0.3s,mb3.4,baz=61,slow=7.6,SNR=4.5
BILL Bilibino 58.65 26*c iP* **P** 09 33 26.6 +1.2
BILL pmax pmax
comp=Z,12nm,1.3s,mb4.6
SUMG Summit 60.97 341 *eP* **P** 09 33 42.4 +1.2
comp=Z,6.6nm,0.7s,mb4.6
SUMG *ep*P pP 09 34 19.3 -0.2
SUMG *es*P sP 09 34 36.8 -0.4
LSZ Lusaka 65.36 226 P **P** 09 34 10.1 -0.1
comp=Z,5.0nm,0.6s,mb4.6,baz=35,slow=11,SNR=2.8
LSZ Lusaka 65.36 226 P **P** 09 34 10.1 -0.1
LSZ pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
TORD Torodi Ar. Bea 65.54 268 P **P** 09 34 09.4 -2.0
comp=Z,13nm,0.9s,mb4.7,baz=48,slow=5.2,SNR=63
MATP Matopo 69.32 222 P **P** 09 34 35.1 0.0
comp=Z,10nm,0.5s,mb4.8,baz=27,slow=5.7,SNR=26
MATP pP pP 09 35 14.3 +0.1
comp=Z,3.1nm,0.6s,baz=22,slow=3.2,SNR=2.7
MATP Matopo 69.32 222 P **P** 09 34 35.1 0.0
MATP pP pP 09 35 14.3 +0.1
INK Inuvik 73.89 9 *eP* **P** 09 35 03.3 +0.9
INK pmax pmax
comp=Z,6.0nm,0.7s
INK Inuvik 73.89 9 *eP* **P** 09 35 03.3 +0.9
comp=Z,6.5nm,0.7s,mb4.5
COLA College 74.49 16 *eP* **P** 09 35 07.1 +1.3
COLA College 74.49 16 *eP* **P** 09 35 06.7 +0.9
comp=Z,8.6nm,0.8s,mb4.5
LBTB Lobatse 74.59 222 P **P** 09 35 07.0 +0.6
comp=Z,10nm,0.7s,mb4.5,baz=38,slow=4.0,SNR=17
LBTB Lobatse 74.59 222 P **P** 09 35 07.0 +0.6
LBTB pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
ILAR Eielson Array 74.79 16 P **P** 09 35 07.2 -0.4
comp=Z,3.5nm,0.9s,mb4.0,baz=321,slow=4.8,SNR=49
ILAR pP pP 09 35 47.4 +0.1
comp=Z,1.3nm,0.9s,baz=321,slow=4.8,SNR=3.6
ILAR Eielson Array 74.79 16 P **P** 09 35 07.2 -0.4
ILAR *PP pP 09 35 47.4 +0.2
ILAR pmax pmax
comp=Z,4.0nm,0.9s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
TSUM Tsumeb 74.80 232 *eP* **P** 09 35 07.6 -0.1
comp=Z,1.9nm,0.6s,mb3.9
DAWY Dawson 76.92 13 *eP* **P** 09 35 20.2 +0.5
YKA Yellowknife Ar 81.21 3 P **P** 09 35 42.8 -0.1
comp=Z,4.9nm,0.8s,mb4.2,baz=350,slow=5.4,SNR=92
YKA pP pP 09 36 22.4 -0.8
comp=Z,1.5nm,0.8s,baz=348,slow=5.5,SNR=2.9
YKA Yellowknife Ar 81.21 3 *i P* **P** 09 35 43.2 +0.2
YKA pmax pmax
comp=Z,5.0nm,0.8s
YKA Yellowknife Ar 81.21 3 P **P** 09 35 42.9 -0.1
YKA pP pP 09 36 22.4 -0.8
WRA Warramunga Arr 82.16 122 P **P** 09 35 47.9 -0.1
comp=Z,4.1nm,0.8s,mb4.1,baz=323,slow=5.0,SNR=35
WRA sP sP 09 36 45.4 -0.1
comp=Z,0.9nm,0.6s,baz=323,slow=4.9,SNR=2.3
WRA Warramunga Arr 82.16 122 P **P** 09 35 47.9 -0.1
WRA *SP sP 09 36 45.4 -0.1
WRA pmax pmax
comp=Z,4.0nm,0.8s
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRAB Tennant Creek 82.16 122 *eP* **P** 09 35 47.7 -0.3
WRAB pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
WRAB Tennant Creek 82.16 122 *eP* **P** 09 35 47.7 -0.3
comp=Z,5.1nm,0.7s,mb4.3
WB2 Warramunga Ar 82.17 122 *eP* **P** 09 35 47.9 -0.1
SUR Sutherland 82.97 221 P **P** 09 35 52.8 +0.6
comp=Z,4.5nm,0.8s,mb4.2,baz=75,slow=3.0,SNR=4.5
SUR Sutherland 82.97 221 *eP* **P** 09 35 52.7 +0.5
comp=Z,3.6nm,0.8s,mb4.2
FCC Fort Churchill 84.21 352 P **P** 09 35 59.4 +0.9
FCC pmax pmax
comp=Z,11nm,1.5s,mb4.4
FCC Fort Churchill 84.21 352 P **P** 09 35 59.4 +0.9
comp=Z,11nm,1.5s,mb4.4
ASAR Alice Springs 84.42 125 P **P** 09 35 59.4 -0.2
comp=Z,3.1nm,0.8s,mb4.1,baz=306,slow=4.9,SNR=47
ASAR Alice Springs 84.42 125 P **P** 09 35 59.4 -0.1
ASAR pmax pmax
comp=Z,3.0nm,0.8s
FFC Flin Flon 88.89 356 P **P** 09 36 22.0 +0.9
FFC pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
FFC Flin Flon 88.89 356 P **P** 09 36 22.0 +0.8
comp=Z,4.6nm,1.1s,mb4.3
CFAA Coronel Fontan 145.88 266 PKPbc PKPbc 09 43 04.4 -1.2
comp=Z,0.3nm,0.6s,baz=50,slow=4.3,SNR=6.0
CFAA pPKPbc pPKPbc 09 43 46.2 -1.7
comp=Z,0.2nm,0.8s,baz=38,slow=5.5,SNR=2.8
CFAA Coronel Fontan 145.88 266 PKPbc PKPbc 09 43 04.4 -1.2
CFAA pPKPbc pPKPbc 09 43 46.2 -1.7

*NEIC **11** 09:30:13.1, 2726S×7123W, h62km, MG3.6(GUC), After GUC.*

GUC 11 09:30:13.1±0.6, 2726S×7123W, h62km±9km, MD3.7, ML3.6, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.40**	**62**	*eP*	Pn	09 30 24.4	+0.1
CDCH				*i* S	Sn	09 30 32.9	+0.6
CRCH	**Chaqaral**	**1.06**	**31**	*eP*	Pn	09 30 32.7	+0.7
CRCH				*i* S	Sn	09 30 46.6	+0.5
LCO	**Las Campanas**	**1.80**	**165**	*⇓eP*	Pn	09 30 43.0	+1.2
LCO				*i* S	Sn	09 31 05.8	+2.1
TLL	**Tololo Astrono**	**2.92**	**173**	*eP*	Pn	09 30 58.0	+0.9
TLL				*i* S	Sn	09 31 32.6	+1.7
TLL				AML	AML	09 32 02.5	
	comp=N,160nm,0.4s						
TLL	**Tololo Astrono**	**2.92**	**173**	*eP*	Pn	09 30 58.0	+0.9
TLL				*i* S	Sn	09 31 32.6	+1.7

*ISCJB **11** 09:31:07.2±0.6, 22.16S×009×683W±0.1, h117km±8km, mb3.8/3, Error ellipse: s-maj=21.0km s-min=11.0km az=66.7*
*IDC **11** 09:31:07.2±0.9, 2201S×6843W, h104km±8km, mb3.5/4, mb1 3.7/5, mb1mx3.5/14, mbtmp4.0/5, Error ellipse: s-maj=35.1km s-min=21.0km az=131.0*
*NEIC **11** 09:31:08.0±0.7, 22.11S×6839W, h112km±8km, mb3.8/1, Error ellipse: s-maj=18.2km s-min=10.6km az=118.0*
*GUC **11** 09:31:10.0±0.7, 2253S×6846W, h110km±6km, MD4.1, ML3.8*

ISC 11 09:31:08.4±0.6, 2217S±009×684W±01, h115km±8km, n21, σ1ᵗˢ35/25, mb3.8/3, 2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.64**	**226**	*⇓iP*	**Pn**	**09 31 26.9**	**+0.2**
LVC				*i* S	**Sn**	**09 31 40.6**	**0.0**
LVC				AML	AML	09 31 42.4	
	comp=E,4μm,0.3s						
LVC	**Limon Verde**	**0.64**	**226**	P	**Pn**	**09 31 27.1**	**+0.3**
	comp=E,92nm,0.3s,baz=22,slow=7.7,SNR=1428						
LVC				S	**Sn**	**09 31 40.7**	**+0.1**
	comp=E,408nm,0.3s,baz=106,slow=23,SNR=124						
LVC	**Limon Verde**	**0.64**	**226**	*⇓ePn*	**Pn**	**09 31 27.1**	**+0.3**
LVC				*e*S	**Sn**	**09 31 40.5**	**-0.1**
CEN1	**Los Morros**	**2.05**	**233**	*eP*	**Pn**	**09 31 44.2**	**+2.0**
CEN1				*i* S	**Sn**	**09 32 09.6**	**+1.5**
CEN1				AML	AML	09 32 18.8	
	comp=E,460nm,0.7s						
ANCH	**Antofagasta**	**2.38**	**230**	*eP*	**Pn**	**09 31 45.7**	**-0.7**
ANCH				*i* S	**Sn**	**09 32 12.4**	**-3.2**
ANCH				AML	AML	09 32 18.7	
	comp=N,824nm,0.4s						
ANCH	**Antofagasta**	**2.38**	**230**	*eP*	**Pn**	**09 31 45.7**	**-0.7**
ANCH				*i* S	**Sn**	**09 32 12.4**	**-3.2**
CPN1	**Cerro Paranal**	**3.06**	**216**	*eP*	**Pn**	**09 31 54.4**	**-0.8**
CPN1				*i* S	**Sn**	**09 32 28.3**	**-3.1**
CPN1				AML	AML	09 32 57.4	
	comp=E,456nm,0.3s						
CRCH	**Chaqaral**	**4.62**	**205**	*i* S	**Sn**	**09 33 04.1**	**-4.7**
LPAZ	**La Paz**	**5.86**	**3**	P	**Pn**	**09 32 33.9**	**+1.1**
	comp=E,0.8nm,0.3s,baz=197,slow=5.8,SNR=24						
LPAZ	**La Paz**	**5.86**	**3**	*ePn*	**Pn**	**09 32 34.0**	**+1.2**
SIV	**San Ignacio**	**9.27**	**50**	P	**Pn**	**09 33 16.3**	**-2.7**
	comp=E,3.7nm,0.3s,baz=239,slow=11,SNR=70						
SIV				S	**Sn**	**09 34 53.1**	**-8.2**
	baz=300,slow=21,SNR=2.8						
TRQA	**Tornquist**	**16.78**	**162**	*ePn*	**Pn**	**09 34 57.3**	**+1.0**
	comp=E,4.0nm,0.7s						
BDFB	**Brasilia**	**20.35**	**75**	P	**P**	**09 35 35.9**	**+0.3**
	comp=E,1.3nm,0.4s,baz=235,slow=8.1,SNR=3.1						
SNAA	**Sanae**	**61.50**	**161**	P	**P**	**09 41 14.0**	**+1.0**
	comp=E,0.8nm,0.6s,mb3.9,baz=270,slow=6.8,SNR=10.0						
TORD	**Torodi Ar. Bea**	**77.15**	**70**	P	**P**	**09 42 49.3**	**0.0**
	comp=E,1.0nm,0.5s,mb3.9,baz=254,slow=5.7,SNR=20						
YKA	**Yellowknife Ar**	**91.97**	**340**	P	**P**	**09 44 02.8**	**-1.2**
	comp=E,0.2nm,0.6s,mb3.5,baz=135,slow=4.3,SNR=11						
YKA				pP	pP	09 44 33.5	-0.4
	comp=E,0.3nm,0.9s,baz=133,slow=4.7,SNR=4.7						
YKA	**Yellowknife Ar**	**91.97**	**340**	P	**P**	**09 44 02.8**	**-1.2**
YKA				pP	pP	09 44 33.5	-0.4
ASAR	**Alice Springs**	**129.53**	**207**	PKP	PKPdf	09 50 04.2	+0.5
	comp=E,0.5nm,0.9s,baz=140,slow=1.6,SNR=4.0						
WRA	**Warramunga Arr**	**132.61**	**210**	PKP	PKPdf	09 50 10.3	+0.8
	comp=E,0.8nm,1.0s,baz=155,slow=2.0,SNR=5.6						
MKAR	**Makanchi Array**	**145.89**	**37**	PKPbc	PKPbc	09 50 34.2	-0.2
	comp=E,0.8nm,0.7s,baz=338,slow=2.9,SNR=4.5						
MKAR	**Makanchi Array**	**145.89**	**37**	PKPbc	PKPbc	09 50 34.2	-0.2

IDC 11 09:32:18.6±0.9, 3914S×4632E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/17, mbtmp3.8/6, MS3.6/3, Ms1 3.6/3, ms1mx3.1/20, Error ellipse: s-maj=40.7km s-min=21.3km az=35.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**21.73**	**280**	P	P	09 37 14.4	+3.0
	2.6nm,0.8s,baz=110,slow=9.8,SNR=3.2						
LBTB	**Lobatse**	**22.44**	**303**	P	P	09 37 19.4	+0.5
	3.3nm,0.8s,baz=150,slow=8.1,SNR=2.7						
LBTB				LR	LR	09 44 42.5	
	comp=Z,122nm,19.1s,baz=270,slow=33						
MATP	**Matopo**	**24.15**	**315**	P	P	09 37 34.9	-1.3
	2.4nm,0.8s,baz=141,slow=13,SNR=3.2						
MATP				LR	LR	09 45 24.2	
	comp=Z,118nm,18.3s,baz=135,slow=32						
LSZ	**Lusaka**	**28.61**	**321**	LR	LR	09 48 02.3	
	comp=Z,116nm,18.7s,baz=173,slow=33						
SNAA	**Sanae**	**40.78**	**201**	P	P	09 40 00.9	-0.5
	1.4nm,1.1s,baz=39,slow=13,SNR=4.3						
TORD	**Torodi Ar. Bea**	**66.60**	**312**	P	P	09 43 10.9	+0.3
	1.8nm,1.1s,baz=135,slow=5.9,SNR=5.8						
ASAR	**Alice Springs**	**73.68**	**107**	P	P	09 43 53.9	-0.2
	0.6nm,0.7s,baz=229,slow=6.4,SNR=9.4						
STKA	**Stephens Creek**	**74.36**	**118**	P	P	09 43 55.4	-2.7
	1.0nm,0.6s,baz=150,slow=14,SNR=3.2						
WRA	**Warramunga Arr**	**76.21**	**105**	P	P	09 44 08.8	+0.1
	0.9nm,0.8s,baz=228,slow=5.6,SNR=6.9						
ILAR	**Eielson Array**	**153.19**	**13**	PKPbc	PKPbc	09 52 18.9	+0.6
	0.5nm,0.8s,baz=310,slow=2.9,SNR=6.3						
YKA	**Yellowknife Ar**	**153.90**	**340**	PKPbc	PKPbc	09 52 19.9	+0.1
	0.1nm,0.7s,baz=99,slow=6.4,SNR=2.7						

MAN 11 09:45:19.2, 1093N×12552E, h17km, mb3.0, ML4.3, MS2.8, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**0.58**	**294**	*i* P	Pg	09 45 31.2	+0.5
PLP				*i* S	Sg	09 45 40.1	+1.6
BESP	**Borongan**	**0.67**	**353**	*eP*	Pg	09 45 31.7	-0.6
BESP				*eS*	Sg	09 45 41.7	+0.4
OCLP	**Ormoc**	**0.90**	**278**	*eP*	Pb	09 45 37.3	+0.8
MSLP	**Maasin**	**1.03**	**219**	*eP*	Pb	09 45 39.3	+0.8
MSLP				*eS*	Sb	09 45 56.3	+4.6
SCPH	**Surigao**	**1.14**	**182**	*eP*	Pn	09 45 39.3	-1.1
SCPH				*eS*	Sb	09 45 54.0	-1.1
TBP	**Tagbilaran**	**2.05**	**233**	*eP*	Pn	09 45 53.3	+0.4
GUIM	**Jordan**	**2.90**	**264**	*eP*	Pn	09 46 04.5	-0.1
PVCP	**Virac**	**2.97**	**333**	*eP*	Pn	09 46 06.9	+1.4

*ISCJB **11** 09:49:57.2±0.2, 2475N×004×9507E±003, h108km, mb4.5/40, Error ellipse: s-maj=6.0km s-min=3.9km az=56.2*
*MOS **11** 09:49:57.3±1.2, 2472N×9509E, h112km, mb4.8/13, Error ellipse: s-maj=13.4km s-min=6.1km az=118.8*
*BJI **11** 09:49:57.8, 2467N×9511E, h130km, mB4.5, mb4.5*
*IDC **11** 09:49:58.4±0.5, 2475N×9524E, h107km±4km, mb4.0/20, mb1 4.1/20, mb1mx4.1/24, mbtmp4.4/20, MS3.2/4, Ms1 3.2/4, ms1mx2.7/27, Error ellipse: s-maj=14.8km s-min=8.8km az=54.0*
*NEIC **11** 09:49:58.5±0.3, 2481N×9524E, mb4.8/12, Error ellipse: s-maj=12.6km s-min=5.8km az=56.0*

ISC 11 09:49:59.3±0.2, 2476N±004×9504E±003, h110km, h110km±2.9km: pP-P, n121, σ1ᵗ42/133, mb4.5/40, 6C-5D, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**2.97**	**286**	*eP*	**Pn**	**09 50 43.5**	**-1.4**
SHL				*eS*	**Sn**	**09 51 16.5**	**-3.6**
LSA	**Lhasa**	**6.02**	**326**	P	**Pn**	**09 51 26.8**	**+0.9**
LSA				S	**Sn**	**09 52 30.6**	**-2.8**
LSA				Smax			
	comp=N,160nm,0.7s						
LSA				Smax			
	comp=E,380nm,0.7s						
LSA	**Lhasa**	**6.02**	**326**	*eP*	**Pn**	**09 51 26.7**	**+0.8**
LSA				pmax	pmax		
	comp=Z,113nm,0.4s						
LSA	**Lhasa**	**6.02**	**326**	*ePn*	**Pn**	**09 51 26.7**	**+0.8**
	comp=Z,113nm,0.4s						
CHRT	**Chiangrai**	**6.55**	**137**	*⇓P*	**Pn**	**09 51 33.0**	**-0.1**
	comp=Z,334nm,0.7s						
CHG	**Chiang Mai**	**6.94**	**148**	*⇓P*	**Pn**	**09 51 38.8**	**+0.5**
	comp=Z,68nm,0.8s						
CHTO	**Chiang Mai**	**6.94**	**148**	*eP*	**Pn**	**09 51 38.9**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,50nm,0.5s						
CHTO	**Chiang Mai**	**6.94**	**148**	*ePn*	**Pn**	**09 51 38.9**	**+0.6**
	comp=Z,50nm,0.5s						
KMI	**Kunming**	**7.00**	**85**	P	**Pn**	**09 51 40.5**	**+1.4**
KMI				LR	LR		
	comp=N,200nm,5.2s						
KMI				LR	LR		
	comp=E,113nm,8.2s						
KMI				LR	LR		
	comp=Z,111nm,12.5s						
JIRN	**Jiri**	**8.46**	**292**	*ePn*	**Pn**	**09 51 58.0**	**-1.0**
JIRN				*eSn*	**Sn**	**09 53 27.9**	**-4.7**
	comp=Z,526nm,0.5s						
GUN	**Gumba**	**8.80**	**293**	*ePn*	**Pn**	**09 52 02.4**	**-1.2**
GUN				*eSn*	**Sn**	**09 53 35.6**	**-5.3**
	comp=Z,924nm,0.7s						
PKI	**Pulchoki**	**9.10**	**290**	*ePn*	**Pn**	**09 52 05.9**	**-1.7**
PKI				*eSn*	**Sn**	**09 53 42.6**	**-5.5**
	comp=Z,210nm,0.4s						
KKN	**Kakani**	**9.27**	**291**	*ePn*	**Pn**	**09 52 07.0**	**-2.9**
KKN				*eSn*	**Sn**	**09 53 46.1**	**-6.2**
	comp=Z,122nm,0.3s						
DMN	**Daman**	**9.37**	**290**	*ePn*	**Pn**	**09 52 09.3**	**-2.0**
DMN				*eSn*	**Sn**	**09 53 48.4**	**-6.3**
	comp=Z,251nm,0.5s						
CD2	**Chengdu**	**9.85**	**50**	*eP*	**Pn**	**09 52 13.6**	**-4.3**
CD2				S	**Sn**	**09 54 03.6**	**-2.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CD2				LR	LR		
	comp=E,100nm,14.4s						
CD2				LR	LR		
	comp=Z,90nm,9.6s						
GKN	**Gorkha**	**9.87**	**291**	*ePn*	**Pn**	**09 52 15.9**	**-2.3**
GKN				*eSn*	**Sn**	**09 54 00.4**	**-6.6**
	comp=Z,319nm,0.4s						
NST	**Nakhon Sawan**	**10.22**	**151**	P	**Pn**	**09 52 24.3**	**+1.4**
KOLN	**Koldanda**	**10.70**	**289**	*ePn*	**Pn**	**09 52 26.2**	**-3.1**
KOLN				*eSn*	**Sn**	**09 54 19.1**	**-7.9**
	comp=Z,253nm,0.6s						
JBP	**Jabalpur**	**13.86**	**267**	*eP*	**Pn**	**09 53 11.8**	**+0.9**
JBP				*ex*	x	09 55 29.6	
QIZ	**Qiongzhong**	**14.87**	**110**	P	**Pn**	**09 53 22.3**	**-1.5**
QIZ				S	**Sn**	**09 55 58.8**	**-9.2**
QIZ				AMB	AMB		
	comp=Z,8.0nm,1.4s						
QIZ				AMB	AMB		
	comp=Z,74nm,5.1s						
QIZ	**Qiongzhong**	**14.87**	**110**	P	**Pn**	**09 53 20.6**	**-3.2**
GTA	**Gaotai**	**15.16**	**14**	*eP*	**Pn**	**09 53 29.8**	**+2.3**
GTA				AP		09 53 35.8	
GTA				AMB	AMB		
	comp=Z,13nm,0.7s						
NGP	**Nagpur**	**15.16**	**260**	*eP*	**Pn**	**09 53 27.0**	**-0.5**
NGP				AML	AML	09 53 28.6	
	comp=Z,10nm,0.6s						
NGP				*ex*	x	09 56 04.2	
XAN	**Xi'an**	**15.22**	**49**	P	**Pn**	**09 53 26.0**	**-2.2**
XAN				AMB	AMB		
	comp=Z,5.0nm,0.8s						
KALG	**Kalgarh**	**15.25**	**292**	*ex*	x	09 55 52.4	
DDI	**Dehra Dun**	**16.05**	**294**	*eP*	**Pn**	**09 53 36.0**	**-2.6**
DDI				*ex*	x	09 56 25.0	
DDI				*ex*	x	09 56 25.0	
KLP	**Kalpa**	**16.27**	**298**	*eS*	Sx	09 56 23.8	
NDI	**New Delhi**	**16.40**	**288**	*eP*	**Pn**	**09 53 43.5**	**+0.6**
NDI				AMb	AMB	09 53 58.9	
	comp=Z,120nm,1.7s						
SONA	**Sohna**	**16.45**	**286**	*eS*	**S**	**09 56 31.7**	**-19**
KUDL	**Kundal**	**16.95**	**286**	*eP*	**Pn**	**09 53 50.8**	**+1.2**
KUDL				*eS*	**S**	**09 56 43.0**	**-16**
KUDL				AML	AML	09 56 49.8	
	comp=N,10nm,0.5s						
KUDL				AML	AML	09 56 50.5	
	comp=E,9.9nm,0.5s						
SMLA	**Simla**	**17.01**	**296**	*eP*	**Pn**	**09 53 47.2**	**-3.2**
SMLA				AMb	AMB	09 53 51.6	
	comp=Z,57nm,0.6s						
SMLA				*eS*	**S**	**09 56 43.5**	**-17**
HYB	**Hyderabad**	**17.02**	**248**	*i* P	**Pn**	**09 53 54.

HYB	**Hyderabad**	**17.02 248**	*e*P		**Pn**	**09 53 59.0 +8.5**
KHET	**Khetri**	**17.54 285**	*e*S		**S**	**09 56 57.4 -15**
WHN	**Wuhan**	**18.04 67**	⇓P		**P**	**09 54 02.0 +0.2**
DLH	**Dalhousie**	**18.43 299**	*e*P		**P**	**09 54 06.0 -0.1**
WMQ	**Urumqi**	**19.95 344**	⇑P		**P**	**09 54 23.5 +0.9**
WMQ			PP			09 54 47.5
WMQ			XP	sP		09 54 59.0 +2.2
WMQ			SS			09 58 32.7
WMQ			PCP	PcP		09 58 37.0 +2.3
WMQ			AMB	AMB		
	comp=Z,44nm,0.5s					
WMQ			AMB	AMB		
	comp=Z,79nm,3.6s					
WMQ			LR	LR		
	comp=N,83nm,18.8s					
WMQ			LR	LR		
	comp=Z,29nm,15.0s					
KULM	**Kulim**	**20.09 164**	P		**P**	**09 54 26.1 +2.0**
KAD	**Karad**	**20.82 253**	*ex*		x	09 54 44.5
CHCP	**Chirah Chowk**	**20.95 300**	⇓P		**P**	**09 54 35.4 +2.1**
KSH	**Kashi**	**21.78 317**	*e*P		**P**	**09 54 44.1 +1.9**
KSH			*e*AP			09 55 05.0
KSH			*e*PP			09 55 14.0
KSH			*e*XP	sP		09 55 19.2 +2.5
KSH			*e*S	S		**09 58 34.9 -1.8**
KSH			*e*PCP	PcP		09 58 38.0 -0.2
KSH			*e*SS			09 59 21.0
KSH			AMB	AMB		
	comp=Z,108nm,2.3s,mb4.8					
KSH			LR	LR		
	comp=N,141nm,4.4s					
KSH			LR	LR		
	comp=E,131nm,4.1s					
KSH			LR	LR		
	comp=Z,153nm,5.0s					
THW	**Thamme Wali**	**21.91 297**	P		**P**	**09 54 43.9 +0.4**
CEP	**Cherat**	**22.07 299**	P		**P**	**09 54 45.5 +0.3**
NJ2	**Nanjing**	**22.14 65**	*e*P		**P**	**09 54 40.0 -6.0**
NJ2			PP			09 55 12.4
NJ2			S		**S**	**09 58 27.0 -16**
NJ2			AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.1					
NJ2			AMB	AMB		
	comp=Z,150nm,4.5s					
NJ2			LR	LR		
	comp=N,270nm,20.6s					
NJ2			LR	LR		
	comp=E,200nm,16.0s					
NJ2			LR	LR		
	comp=Z,160nm,18.7s					
PSI	**Prapat**	**22.15 170**	P		**P**	**09 54 47.4 +1.4**
	comp=Z,4.0nm,0.5s,mb4.0,baz=317,slow=13,SNR=6.4					
PSI			LR	LR		10 03 22.2
	comp=Z,86nm,19.2s,baz=348,slow=36					
ULHL	**Ulahol**	**23.36 323**	P		**P**	**09 55 00.8 +2.9**
	SNR=5.8					
KZA	**Kyzart**	**23.81 321**	P		**P**	**09 55 05.2 +3.2**
	SNR=12					
TKM2	**Tokmak 2**	**24.17 323**	P		**P**	**09 55 07.1 +1.9**
	SNR=32					
MK31	**Makanchi Array**	**24.24 338**	P		**P**	**09 55 07.2 +1.3**
MK31			pmax	pmax		
	comp=Z,22nm,0.4s,mb4.8					
MKAR	**Makanchi Array**	**24.24 338**	P		**P**	**09 55 07.1 +1.2**
	comp=Z,73nm,0.5s,mb5.3,baz=150,slow=9.2,SNR=338					
MKAR			ScP	ScP		10 02 10.4 -1.3
	comp=Z,0.5nm,0.6s,baz=108,slow=4.0,SNR=4.9					
UCH	**Uchtor**	**24.32 321**	P		**P**	**09 55 08.5 +1.8**
	SNR=21					
KBK	**Karagaybulak**	**24.35 322**	P		**P**	**09 55 10.0 +3.1**
	SNR=12					
AAK	**Ala-Archa**	**24.59 322**	P		**P**	**09 55 11.4 +2.3**
	SNR=20					
AAK	**Ala-Archa**	**24.59 322**	*e*P		**P**	**09 55 10.2 +1.1**
AAK			pmax	pmax		
	comp=Z,22nm,0.9s,mb4.6					
AAK	**Ala-Archa**	**24.59 322**	*e*P		**P**	**09 55 10.2 +1.1**
	comp=Z,22nm,0.9s,mb4.6					
CHMS	**Chumysh**	**24.69 322**	P		**P**	**09 55 11.6 +1.7**
	SNR=6.6					
SONM	**Songino Array**	**24.73 18**	P		**P**	**09 55 10.3 0.0**
	comp=Z,2.8nm,0.7s,mb3.8,baz=198,slow=9.5,SNR=20					
SONM			LR	LR		10 06 23.5
	comp=Z,29nm,19.2s,baz=184,slow=40					
AML	**Almayashu**	**24.74 320**	P		**P**	**09 55 12.8 +2.3**
	SNR=21					
ULN	**Ulaanbaatar**	**24.95 19**	*e*P		**P**	**09 55 11.9 -0.5**
EKS2	**Erkin-Say**	**25.02 321**	P		**P**	**09 55 15.5 +2.5**
	SNR=14					
ZAK	**Zakamensk**	**26.37 12**	*e*P		**P**	**09 55 25.7 +0.5**
ZAK			pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.0					
ZAK			pmax	pmax		
	comp=Z,6.0nm,1.6s,mb3.8					
KURK	**Kurchatov**	**28.85 338**	*e*P		**P**	**09 55 47.9 +0.6**
KURK			*e**PP	pP		09 56 14.0 +2.5
KURK			*e**SP	sP		09 56 26.4 +2.2
KURK			pmax	pmax		
	comp=Z,17nm,0.6s,mb4.8					
KURK	**Kurchatov**	**28.85 338**	*e*P		**P**	**09 55 47.9 +0.6**
	comp=Z,17nm,0.6s,mb4.8					
KURK			*e*pP	pP		09 56 14.0 +2.5
KURK			*e*sP	sP		09 56 26.4 +2.1
JOW	**Kunigami**	**29.95 79**	P		**P**	**09 55 55.4 -1.6**
	comp=Z,8.6nm,0.3s,mb4.9,baz=240,slow=4.6,SNR=21					
JOW			LR	LR		10 09 37.0
	comp=Z,36nm,20.4s,baz=242,slow=40					
NVS	**Novosibirsk**	**31.30 347**	*e*P		**P**	**09 56 08.0 -0.9**
VOSK	**Vostochnaya**	**33.33 333**	P		**P**	**09 56 27.4 +0.7**
VOSK			pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.7					
BVA0	**Borovoye Array**	**33.80 333**	*i* P		**P**	**09 56 31.3 +0.6**
BVAR	**Borovoye Array**	**33.80 333**	P		**P**	**09 56 31.3 +0.6**
	comp=Z,7.4nm,0.4s,mb4.8,baz=139,slow=12,SNR=39					
BVAR			PP	PP		09 57 51.5 +2.3
	comp=Z,1.8nm,0.8s,baz=122,slow=11,SNR=3.5					
BVAR			ScP	ScP		10 02 41.0 -0.9
	comp=Z,0.5nm,0.5s,baz=176,slow=5.9,SNR=4.0					
BVAR	**Borovoye Array**	**33.80 333**	P		**P**	**09 56 31.3 +0.6**
BVAR						09 57 51.5
BRVK	**Borovoye**	**33.87 333**	*e*P		**P**	**09 56 31.6 +0.3**
BRVK			*e**PP	pP		09 56 56.9 +1.1
BRVK			pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5					
BRVK	**Borovoye**	**33.87 333**	*e*P		**P**	**09 56 31.6 +0.3**
	comp=Z,4.6nm,0.6s,mb4.5					
BRVK			*e*pP	pP		09 56 56.9 +1.1
ZRNK	**Zerenda**	**34.33 332**	*e*P		**P**	**09 56 35.8 +0.5**
ZRNK			pmax	pmax		
	comp=Z,11nm,0.6s,mb4.9					
ZRNK	**Zerenda**	**34.33 332**	*e*P		**P**	**09 56 35.8 +0.6**
	comp=Z,12nm,0.6s,mb4.9					
AB31	**Akbulak array**	**36.68 321**	*i* P		**P**	**09 56 56.6 +1.2**
AB31			pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8					
AKTO	**Aktyubinsk**	**38.34 322**	*i* P		**P**	**09 57 10.2 +0.8**
AKTO			pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9					
MJAR	**Matsushiro Arr**	**38.66 62**	P		**P**	**09 57 10.9 -1.1**
	comp=Z,125nm,0.6s,baz=270,slow=9.3,SNR=3.7					
KIV	**Kislovodsk**	**46.44 308**	*e*P		**P**	**09 58 16.8 +1.8**
KIV			*i* *PP	pP		09 58 51.3 +11
KIV			pmax	pmax		
	comp=Z,12nm,0.8s,mb4.7					
SOC	**Sochi**	**48.55 307**	*e*P		**P**	**09 58 31.1 -0.2**
ANN	**Anapa**	**50.27 309**	*e*P		**P**	**09 58 33.6 -11**
ANN			pmax	pmax		
	comp=Z,45nm,1.3s,mb5.2					
TIXI	**Tiksi**	**50.64 13**	*d* *i*P		**P**	**09 58 45.7 -1.4**
TIXI			pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1					
MBWA	**Marble Bar**	**51.57 150**	*e*P		**P**	**09 58 53.1 -0.9**
	comp=Z,3.6nm,0.6s,mb4.6					
FITZ	**Fitzroy Crossi**	**51.99 142**	*e*P		**P**	**09 58 56.4 -0.9**
	comp=Z,5.7nm,0.6s,mb4.8					
FITZ	**Fitzroy Crossi**	**51.99 142**	P		**P**	**09 58 56.5 -0.7**
	comp=Z,2.9nm,0.5s,mb4.5,baz=350,slow=7.3,SNR=20					
FITZ			PcP	PcP		10 00 07.0 -1.2
	comp=Z,1.4nm,0.4s,baz=328,slow=9.5,SNR=4.2					
OBN	**Obninsk**	**52.12 322**	*e*P		**P**	**09 58 59.0 +0.8**
OBN			*e**PP	pP		09 59 35.1 +11
OBN			*e*			10 00 57.2
OBN			*e*S	S		**10 06 12.9 -1.0**
OBN			pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0					
BRTR	**Keskin Array B**	**53.08 302**	P		**P**	**09 59 06.0 +0.7**
	comp=Z,1.6nm,0.5s,mb4.3,baz=122,slow=8.4,SNR=8.9					
AKASG	**Malin Array Be**	**56.07 316**	P		**P**	**09 59 26.3 -0.5**
	comp=Z,2.4nm,0.3s,mb4.6,baz=81,slow=6.5,SNR=12					
AKASG			pP	pP		09 59 51.7 -1.6
	comp=Z,0.8nm,0.4s,baz=82,slow=7.2,SNR=1.7					
AKASG	**Malin Array Be**	**56.07 316**	P		**P**	**09 59 26.3 -0.5**
AKASG			pP	pP		09 59 51.7 -1.6
VRI	**Vrincioaia**	**57.81 310**	⇑*i*P		**P**	**09 59 40.2 +1.0**
PLOR	**Plostina**	**57.87 310**	⇑*i*P		**P**	**09 59 40.8 +1.3**
MLR	**Muntele Rosu**	**58.39 310**	⇑*i*P		**P**	**09 59 44.4 +1.3**
KAF	**Kangasniemi**	**58.50 329**	*ep*		**P**	**09 59 42.5 -1.4**
	comp=Z,2.9nm,0.5s,mb4.6,baz=96,slow=7.0					
KAF	**Kangasniemi**	**58.50 329**	*e*P		**P**	**09 59 42.5 -1.4**
KAF			pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6					
FINES	**FINESS Array B**	**58.53 328**	P		**P**	**09 59 44.2 +0.1**
	comp=Z,3.1nm,0.5s,mb4.6,baz=82,slow=6.0,SNR=22					
FINES			LR	LR		10 27 55.5
	comp=Z,31nm,18.6s,baz=29,slow=39					
FINES	**FINESS Array B**	**58.53 328**	P		**P**	**09 59 44.2 +0.1**
FINES			LR	LR		10 27 55.5
WRA	**Warramunga Arr**	**58.62 136**	P		**P**	**09 59 44.1 -0.6**
	comp=Z,8.4nm,0.6s,mb4.9,baz=322,slow=7.5,SNR=141					
WRA			PcP	PcP		10 00 32.6 -1.2
	comp=Z,1.8nm,0.5s,baz=333,slow=3.7,SNR=7.5					
WRAB	**Tennant Creek**	**58.62 136**	⇑*i*P		**P**	**09 59 44.2 -0.6**
WRAB	**Tennant Creek**	**58.62 136**	*e*P		**P**	**09 59 44.1 -0.7**
	comp=Z,11nm,0.6s,mb5.1					
WB2	**Warramunga Arr**	**58.63 136**	⇑*i*P		**P**	**09 59 44.1 -0.7**
KEV	**Kevo**	**59.42 338**	*ep*		**P**	**09 59 49.7 -0.6**
	comp=Z,5.0nm,0.7s,mb4.7					
KEV	**Kevo**	**59.42 338**	*e*P		**P**	**09 59 49.7 -0.6**
KEV			pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7					
ARCES	**ARCESS Array B**	**59.89 338**	P		**P**	**09 59 53.6 0.0**
	comp=Z,2.5nm,0.7s,mb4.3,baz=94,slow=7.3,SNR=9.6					
PMG	**Port Moresby**	**61.10 117**	*e*P		**P**	**09 59 59.8 -1.9**
PMG			*e**PP	pP		10 00 26.0 -2.6
PMG			*e**SP	sP		10 00 41.4 +0.8
PMG			pmax	pmax		
	comp=Z,13nm,1.0s					
PMG	**Port Moresby**	**61.10 117**	*e*P		**P**	**09 59 59.8 -2.0**
	comp=Z,13nm,1.0s,mb4.9					
PMG			*e*pP	pP		10 00 26.0 -2.6
PMG			*e*sP	sP		10 00 41.4 +0.7
ASAR	**Alice Springs**	**61.13 139**	P		**P**	**10 00 01.5 -0.4**
	comp=Z,7.2nm,0.6s,mb4.8,baz=320,slow=6.8,SNR=158					
ASAR			pP	pP		10 00 25.9 -2.8
	comp=Z,1.6nm,0.6s,baz=317,slow=6.3,SNR=3.2					
ASAR			sP	sP		10 00 38.6 -2.2
	comp=Z,3.6nm,0.9s,baz=318,slow=6.6,SNR=4.4					
NWAO	**Narrogin (SRO)**	**61.14 159**	P		**P**	**10 00 00.6 -1.4**
	comp=Z,5.3nm,0.5s,mb4.8,baz=346,slow=6.3,SNR=11					
NWAO	**Narrogin (SRO)**	**61.14 159**	*e*P		**P**	**10 00 00.5 -1.4**
KMBO	**Kilima Mbogo**	**61.55 254**	P		**P**	**10 00 06.1 +1.3**
	comp=Z,0.8nm,0.3s,mb4.2,baz=38,slow=21,SNR=3.7					
KMBO	**Kilima Mbogo**	**61.55 254**	P		**P**	**10 00 06.1 +1.3**
NB2	**NORSAR Subarra**	**65.71 328**	P		**P**	**10 00 31.5 -0.6**
	comp=Z,3.8nm,0.6s,mb4.4,baz=84,slow=6.2					
NOA	**NORSAR Array B**	**65.71 328**	P		**P**	**10 00 31.5 -0.6**
	comp=Z,3.2nm,0.6s,mb4.3,baz=83,slow=6.4,SNR=17					
GERES	**GERESS Array B**	**66.23 314**	P		**P**	**10 00 35.7 +0.3**
	comp=Z,1.3nm,0.5s,mb4.0,baz=90,slow=5.6,SNR=11					
STKA	**Stephens Creek**	**71.76 139**	P		**P**	**10 01 06.8 -2.8**
	comp=Z,2.5nm,0.4s,mb4.4,baz=316,slow=16,SNR=5.7					
LSZ	**Lusaka**	**76.36 246**	P		**P**	**10 01 37.5 +1.2**
	comp=Z,2.9nm,0.5s,mb4.3,baz=71,slow=6.6,SNR=4.7					
LSZ			pP	pP		10 02 05.7 +1.5
	comp=Z,5.1nm,0.6s,baz=50,slow=6.0,SNR=4.4					
LSZ	**Lusaka**	**76.36 246**	P		**P**	**10 01 37.5 +1.2**
LSZ			pP	pP		10 02 05.7 +1.5
ILAR	**Eielson Array**	**78.88 23**	P		**P**	**10 01 48.0 -2.3**
	comp=Z,0.3nm,0.6s,baz=301,slow=5.9,SNR=6.0					
INK	**Inuvik**	**80.63 16**	P		**P**	**10 01 58.4 -1.4**
	comp=Z,0.5nm,0.6s,mb3.5,baz=338,slow=5.5,SNR=6.4					
INK			pP	pP		10 02 24.9 -3.0
	comp=Z,0.9nm,0.5s,baz=360,slow=8.7,SNR=3.9					
INK	**Inuvik**	**80.63 16**	*e*P		**P**	**10 01 57.2 -2.6**
INK			*e**PP	pP		10 02 25.0 -2.9
INK			pmax	pmax		
	comp=Z,1.0nm,0.8s					
INK	**Inuvik**	**80.63 16**	*e*P		**P**	**10 01 57.2 -2.6**
	comp=Z,1.3nm,0.8s,mb3.8					
INK			*e*pP	pP		10 02 25.0 -2.9
TORD	**Torodi Ar. Bea**	**87.57 283**	P		**P**	**10 02 35.8 +0.9**
	comp=Z,0.9nm,0.5s,mb4.0,baz=58,slow=4.2,SNR=21					
TORD			pP	pP		10 03 05.1 +1.6
	comp=Z,0.4nm,0.6s,baz=47,slow=3.7,SNR=2.4					
SDV	**Santo Domingo**	**143.76 336**	*e*PKPdf	PKPdf		10 09 19.5 -1.9
BDFB	**Brasilia**	**144.25 278**	PKP	PKPdf		10 09 21.6 -0.7
	comp=Z,4.3nm,0.8s,baz=118,slow=1.8,SNR=8.1					

IDC 11 09:53:20.4±3.1, 1968S×17465W, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.8/16, mbtmp3.8/5, ML1.7/1, Error ellipse: s-maj=130.0km s-min=26.7km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.36**	**26**	Pn		Pn	09 54 55.1	-0.3
	1.0nm,0.3s,baz=105,slow=20,SNR=4.5							
AFI				Sn		Sn	09 56 01.5	-7.2
	3.2nm,0.3s,baz=337,slow=23,SNR=6.3							
CTA	**Charters Tower**	**36.71**	**263**	P		P	10 00 30.3	+1.2
	7.2nm,0.9s,baz=90,slow=13,SNR=3.6							
ASAR	**Alice Springs**	**47.77**	**256**	P		P	10 01 58.8	-0.5
	0.2nm,0.5s,baz=93,slow=8.3,SNR=4.1							
ASAR				PcP		PcP	10 03 28.1	-0.3
	0.3nm,0.6s,baz=102,slow=3.6,SNR=4.3							
WRA	**Warramunga Arr**	**47.84**	**261**	P		P	10 02 00.4	+0.6
	0.2nm,0.4s,baz=95,slow=7.8,SNR=5.0							
ILAR	**Eielson Array**	**86.85**	**12**	P		P	10 06 06.5	-0.3
	0.3nm,0.5s,baz=216,slow=4.5,SNR=7.6							
AKASG	**Malin Array Be**	**143.74**	**334**	PKhKP			10 12 53.9	
	1.0nm,0.6s,baz=43,slow=4.4,SNR=5.2							
GERES	**GERESS Array B**	**150.14**	**349**	PKPbc		PKPbc	10 13 13.1	0.0
	0.2nm,0.2s,baz=7.6,slow=3.0,SNR=3.9							

IDC 11 09:54:01.0±6.0, 5128N×17984E, h48km±68km, mb3.1/4, mb1 3.6/6, mb1mx3.3/25, mbtmp3.6/6, ML3.3/1, Error ellipse: s-maj=85.3km s-min=51.3km az=167.0
ISCJB 11 09:54:05.5±0.8, 519N±0.3×1794E±0.1, h97km±21km, mb3.2/4, Error ellipse: s-maj=45.1km s-min=10.6km az=25.3
NEIC 11 09:54:08.1, 5179N×1794GE, h92km, MG3.3(AEIC), After AEIC.

ISC 11 09:54:06.5±0.9, 518N±0.3×1794E±0.1, h97km±19km, n10, σ0.9 93/12, mb3.2/4, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AMKA	**Amchitka**	**0.47**	**187**	P		**Pn**	**09 54 21.9**	**+0.1**
AMKA				S		**Sn**	**09 54 33.1**	**0.0**
FX1	**Attu Island--F**	**3.96**	**288**	P		**Pn**	**09 55 05.3**	**+0.3**
	5.5nm,0.3s,baz=179,slow=3.3,SNR=10							
FX1				S		**Sn**	**09 55 49.6**	**-0.8**
	5.6nm,0.3s,baz=319,slow=15,SNR=13							
FX1	**Attu Island--F**	**3.96**	**288**	P		**Pn**	**09 55 06.5**	**+1.5**
ATKA	**Atka Island**	**3.98**	**82**	P		**Pn**	**09 55 05.5**	**+0.2**
KDAK	**Kodiak Island**	**17.13**	**59**	P		**Pn**	**09 57 57.9**	**-1.8**
	0.7nm,0.3s,baz=248,slow=8.2,SNR=6.3							
ILAR	**Eielson Array**	**21.60**	**40**	P		P	**09 58 49.4**	**+0.9**
	0.2nm,0.6s,mb2.6,baz=242,slow=7.3,SNR=5.1							
INK	**Inuvik**	**27.73**	**36**	P		P	**09 59 47.3**	**+1.5**
	0.7nm,1.0s,mb3.1,baz=239,slow=5.9,SNR=4.7							
YKA	**Yellowknife Ar**	**35.73**	**47**	P		P	**10 00 55.3**	**-0.4**
	0.4nm,0.5s,mb3.6,baz=281,slow=8.0,SNR=14							
YKA	**Yellowknife Ar**	**35.73**	**47**	P		**P**	**10 00 55.3**	**-0.4**
PDAR	**Pinedale Array**	**47.23**	**72**	P		P	**10 02 29.1**	**-0.6**
	0.5nm,0.6s,mb3.4,baz=11,slow=1.5,SNR=5.7							

IDC 11 10:23:21.8±2.6, 1976S×17471W, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.9/16, mbtmp3.8/7, ML2.1/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/23, Error ellipse: s-maj=128.5km s-min=22.0km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.46**	**26**	Pn		Pn	10 24 56.8	-1.2
	2.5nm,0.3s,baz=262,slow=20,SNR=6.3							
AFI				Sn		Sn	10 26 02.2	-10
	6.9nm,0.3s,baz=77,slow=18,SNR=4.3							
AFI				LR		LR	10 26 23.3	
	comp=Z,105nm,21.1s,baz=297,slow=28							
STKA	**Stephens Creek**	**40.89**	**244**	P		P	10 31 05.0	-0.5
	0.8nm,0.5s,baz=68,slow=4.5,SNR=2.9							
ASAR	**Alice Springs**	**47.70**	**256**	P		P	10 32 00.6	+0.5
	1.2nm,0.9s,baz=95,slow=8.0,SNR=15							
ASAR				PcP		PcP	10 33 29.7	+0.2
	0.4nm,0.6s,baz=101,slow=4.7,SNR=6.3							
WRA	**Warramunga Arr**	**47.77**	**261**	P		P	10 32 01.1	+0.5
	0.5nm,0.6s,baz=96,slow=6.8,SNR=21							
ILAR	**Eielson Array**	**86.94**	**12**	P		P	10 36 08.6	-0.1
	0.6nm,0.6s,baz=229,slow=5.6,SNR=14							
INK	**Inuvik**	**92.78**	**14**	P		P	10 36 35.6	-0.4
	0.6nm,0.8s,baz=183,slow=5.1,SNR=3.8							
YKA	**Yellowknife Ar**	**94.57**	**24**	P		P	10 36 43.9	-0.4
	0.1nm,0.8s,baz=236,slow=5.0,SNR=3.6							
AKASG	**Malin Array Be**	**143.78**	**334**	PKP		PKPdf	10 42 56.1	-2.7
	0.9nm,0.4s,baz=41,slow=4.8,SNR=6.9							
GERES	**GERESS Array B**	**150.20**	**349**	PKPbc		PKPbc	10 43 14.9	+0.3
	0.2nm,0.3s,baz=45,slow=2.1,SNR=6.6							

IDC 11 10:40:41.6±1.0, 4208S×4305E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/18, mbtmp3.9/6, MS3.5/5, Ms1 3.5/5, ms1mx3.2/19, Error ellipse: s-maj=55.5km s-min=21.3km az=42.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SUR	**Sutherland**	**20.13**	**292**	P		P	10 45 17.4	+0.3
	7.3nm,0.8s,baz=134,slow=12,SNR=5.6							
SUR				LR		LR	10 51 23.0	
	comp=Z,149nm,18.4s,baz=100,slow=32							
LBTB	**Lobatse**	**22.32**	**314**	P		P	10 45 40.6	-0.1
	2.0nm,0.6s,baz=143,slow=9.2,SNR=3.3							
LBTB				LR		LR	10 52 39.5	
	comp=Z,94nm,19.7s,baz=136,slow=32							
MATP	**Matopo**	**24.84**	**326**	P		P	10 46 04.6	-1.0
	4.2nm,0.4s,baz=135,slow=7.1,SNR=6.1							
MATP				LR		LR	10 53 57.7	
	comp=Z,143nm,19.1s,baz=197,slow=32							
MAW	**Mawson**	**27.74**	**164**	LR		LR	10 55 31.1	
	comp=Z,107nm,18.3s,baz=266,slow=32							
KMBO	**Kilima Mbogo**	**41.10**	**351**	LR		LR	11 03 03.1	
	comp=Z,46nm,20.3s,baz=90,slow=33							
VNDA	**Vanda**	**54.99**	**167**	P		P	10 50 13.3	-1.3
	0.8nm,0.9s,baz=244,slow=7.8,SNR=4.2							
ASAR	**Alice Springs**	**75.15**	**108**	P		P	10 52 27.5	+1.9
	0.5nm,1.0s,baz=236,slow=6.6,SNR=3.4							
WRA	**Warramunga Arr**	**77.84**	**106**	P		P	10 52 39.4	-1.5
	0.7nm,0.9s,baz=224,slow=4.8,SNR=2.8							
ULM	**Lac du Bonnet**	**150.71**	**300**	PKPbc		PKPbc	11 00 35.7	0.0
	1.1nm,0.6s,baz=190,slow=0.7,SNR=3.0							
YKA	**Yellowknife Ar**	**155.65**	**335**	PKPab		PKPab	11 01 03.5	0.0
	0.2nm,0.8s,baz=38,slow=5.5,SNR=4.0							

MOS 11 10:55:57.3±1.3, 768S×12830E, h33km, mb4.5/5, Error ellipse: s-maj=22.5km s-min=9.3km az=119.9
BJI 11 10:55:57.7, 820S×12882E, h80km, mb4.6
NEIC 11 10:56:01.5±1.7, 774S×12835E, h54km±17km, mb4.5/9, Error ellipse: s-maj=16.2km s-min=12.4km az=223.0
IDC 11 10:56:03.6±2.6, 775S×12828E, h69km±23km, mb4.0/9, mb1 4.1/12, mb1mx4.0/17, mbtmp4.4/12, MS3.0/2, Ms1 3.0/2, ms1mx2.5/23, Error ellipse: s-maj=29.8km s-min=13.8km az=58.0
ISCJB 11 10:56:06.1±1.8, 807S±0.8×12837E±0.9, h129km±18km, mb4.2/22, Error ellipse: s-maj=15.2km s-min=11.5km az=123.1

ISC 11 10:56:09.4±2.4, 82S±0.1×12849E±0.10, h152km±27km, n54, σ1.9 15/57, mb4.2/21, 7C, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KAKA	**Kakadu**	**5.92**	**139**	*e*P		**Pn**	**10 57 35.0**	**+0.1**
	35nm,0.3s							
KAKA				*e*S		**Sn**	**10 58 40.5**	**-1.4**
FITZ	**Fitzroy Crossi**	**10.20**	**195**	*e*P		**Pn**	**10 58 32.2**	**+0.3**
	9.3nm,0.3s							
FITZ				*e*S		**Sn**	**11 00 20.5**	**-4.3**
FITZ	**Fitzroy Crossi**	**10.20**	**195**	P		**Pn**	**10 58 32.3**	**+0.4**
	1.4nm,0.3s,baz=41,slow=12,SNR=44							
FITZ				S		**Sn**	**11 00 22.6**	**-2.2**
	3.9nm,0.3s,baz=75,slow=20,SNR=9.6							
FITZ				LR		LR	11 02 10.9	
	comp=Z,44nm,18.0s,baz=352,slow=35							
WRAB	**Tennant Creek**	**12.95**	**155**	*e*P		**Pn**	**10 59 08.1**	**+0.3**
WRAB				pmax		pmax		
	comp=Z,22nm,0.8s							
WRAB	**Tennant Creek**	**12.95**	**155**	*e*Pn		**Pn**	**10 59 08.1**	**+0.3**
	comp=Z,22nm,0.8s							
WRAB				*e*Sn		**Sn**	**11 01 25.8**	**-5.3**
WRA	**Warramunga Arr**	**12.96**	**155**	P		**Pn**	**10 59 08.5**	**+0.6**
	comp=Z,1.4nm,0.3s,baz=328,slow=13,SNR=91							
WRA				S		**Sn**	**11 01 26.1**	**-5.0**
	comp=Z,3.3nm,0.3s,baz=333,slow=22,SNR=14							
WB2	**Warramunga Arr**	**12.96**	**

KURK	Kurchatov	72.79	329	*e*P		P		11 07 21.4	+0.4
	comp=Z,5.0nm,0.8s,mb4.3								
NVS	Novosibirsk	73.31	335	*e*P		P		11 07 22.1	-2.0
BVAR	Borovoye Array	78.30	328	P		P		11 07 53.2	+0.8
	comp=Z,2.8nm,0.7s,mb4.0,baz=122,slow=7.2,SNR=15								
BRVK	Borovoye	78.37	328	*e*P		P		11 07 53.4	+0.5
BRVK				pmax	pmax				
	comp=Z,1.0nm,0.5s,mb3.7								
BRVK	Borovoye	78.37	328	*e*P		P		11 07 53.4	+0.6
	comp=Z,1.1nm,0.5s,mb3.7								
ZRNK	Zerenda	78.99	328	*e*P		P		11 07 56.4	+0.2
ZRNK				pmax	pmax				
	comp=Z,7.0nm,0.9s,mb4.3								
ZRNK	Zerenda	78.99	328	*e*P		P		11 07 56.4	+0.2
	comp=Z,6.7nm,0.9s,mb4.3								
TIXI	Tiksi	79.70	0⇓	*e*P		P		11 08 00.2	+0.1
TIXI				pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.0								
QSPA	South Pole Qui	81.76	180	*e*P		P		11 08 18.0	+7.0
	comp=Z,8.9nm,1.4s,mb4.2								
AKTK	Aktyubinsk	84.12	323	P		P		11 08 23.7	+0.6
AKTO	Aktyubinsk	84.12	323	P		P		11 08 23.7	+0.5
	comp=Z,1.8nm,0.8s,mb3.9,baz=138,slow=8.5,SNR=3.4								
ILAR	Eielson Array	95.09	25	P		P		11 09 14.2	-0.8
	comp=Z,0.4nm,1.0s,mb3.6,baz=252,slow=5.6,SNR=3.8								
OBN	Obninsk	97.78	325⇓	*e*P		P		11 09 25.0	-2.2
OBN				pmax	pmax				
	comp=Z,6.0nm,0.5s,mb5.3								
YKA	Yellowknife Ar	109.50	26	PKiKP	PKiKP			11 14 24.5	+2.9
	comp=Z,0.1nm,0.5s,baz=290,slow=1.3,SNR=3.8								
ANMO	Albuquerque	123.23	54⇑	PKIKP				11 14 43.3	-4.7
TORD	Torodi Ar. Bea	127.56	280	PKP	PKPdf			11 15 01.2	+5.0
	comp=Z,0.5nm,0.8s,baz=199,slow=5.2,SNR=4.1								
CPUP	Villa Florida	145.19	171	PKPbc	PKPbc			11 15 34.6	+6.0
	comp=Z,1.0nm,0.4s,baz=215,slow=2.9,SNR=5.4								
LPAZ	La Paz	150.61	146	PKPbc	PKPbc			11 15 51.3	+8.1
	comp=Z,1.0nm,0.4s,baz=39,slow=3.4,SNR=9.2								
LPAZ				PKPab	PKPab			11 16 00.3	+10
	comp=Z,2.1nm,0.6s,baz=208,slow=6.4,SNR=8.1								
LPAZ	La Paz	150.61	146	*e*PKPbc	PKPbc			11 15 51.5	+8.3

IDC **11** *11:02:47.7±0.8, 24.06N×109.31W, h0km, mb3.9/8, mb1 4.2/11, mb1mx4.1/21, mbtmp3.9/11, ML4.0/2, MS3.9/12, Ms1 3.9/12, ms1mx3.6/28, Error ellipse: s-maj=18.0km s-min=15.1km az=20.0*

NEIC **11** *11:02:48.2±0.7, 2382N×10874W, h10km, mb4.2/36, Error ellipse: s-maj=10.9km s-min=6.3km az=215.0*

HRVD **11** *11:02:48.2±0.6, 24.16N×108.83W, h12km, MW4.8/64, Centroid moment Tensor Solution. LP body waves: s15,c18; Mantle waves: s64,c90; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.12±.07; Mθθ-1.54±.06; Mφφ 1.66±.07; Mrθ-0.51±.20; Mθφ-0.56±.06; Mφr 0.21±.20; Best double couple: M0 1.78600×10^16 NP1: φs 126.00000°, δ 72.00000°, λ -5.00000°. NP2: φs 126.00000°, δ 85.00000°, λ -162.00000°. Principal axes: T 1.8020, Plg 9.0000°, Azm 259.0000°; N -0.0320, Plg 72.0000°, Azm 141.0000°; P -1.7700, Plg 16.0000°, Azm 352.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MEX **11** *11:02:49.4±1.2, 2377N×109.02W, h16km±42km, MD4.5*

ISCJB **11** *11:02:50.4±0.6, 24.17N×108.61W±0.05, h10km, mb4.0/15, MS4.0/12, Error ellipse: s-maj=9.6km s-min=4.5km az=67.7*

BJI **11** *11:02:50.3, 2441N×107.76W, h25km, mB5.2, mb4.9, Ms4.3, Msz4.1*

ISC 11 11:02:50.5±0.7**, 2400N**±007×**10866W**±006**, h10**km**, n110, σ1°18'100, mb4.0/15, MS4.0/12, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	La Paz	1.51	274	Pn	Pn	11 03 07.5	-10
	175nm,0.3s,baz=108,slow=3.8,SNR=107						
LPIG				Sn	Sn	11 03 22.9	-14
	434nm,0.3s,baz=227,slow=19,SNR=11						
LPIG	La Paz	1.51	274	*i* P	Pn	11 03 07.5	-10
LPIG				*i* S	Sn	11 03 23.0	-14
MAIG	Mazatlaan	2.20	111	*i* P	Pn	11 03 26.9	-0.2
MAIG				*i* S	Sn	11 03 53.4	-0.9
MNTX	Cornudas Mount	8.20	20	*e*Pn	Pn	11 04 47.1	-2.4
	11nm,0.8s						
LNIG	Linares	8.42	82	*i* P	Pn	11 04 55.8	+3.3
LNIG				*i* S	Sn	11 06 32.2	+4.5
TUC	Tucson	8.49	348	*e*Pn	Pn	11 04 51.0	-2.5
	6.7nm,1.0s						
GDL2	Guadalupe Moun	9.01	24	*e*Pn	Pn	11 04 59.7	-0.8
CPRX	Cap Rock	9.93	24	*e*Pn	Pn	11 05 13.3	0.0
JCT	Junction City	10.18	49	*e*Pn	Pn	11 05 18.0	+1.4
	7.1nm,0.7s						
LENM	Lemitar	10.24	8	*e*Pn	Pn	11 05 17.7	+0.3
LAZ	Ladron	10.45	7	*e*Pn	Pn	11 05 21.5	+1.2
PPM	Popocatepetl	10.54	116	*i* P	Pn	11 05 19.6	-2.0
PPM	Popocatepetl	10.54	116	*i* P	Pn	11 05 18.7	-2.9
ANMO	Albuquerque	11.08	9	Pn	Pn	11 05 29.1	+0.2
	0.1nm,0.3s,baz=204,slow=10,SNR=6.7						
ANMO				Lg		11 08 42.2	
	0.1nm,0.3s,baz=72,slow=20,SNR=2.8						
ANMO	Albuquerque	11.08	9	*e*Pn	Pn	11 05 30.0	+1.0
	18nm,1.8s						
WUAZ	Wupatki	11.72	349	*e*Pn	Pn	11 05 38.1	+0.4
	9.0nm,1.0s						
NEN	Nelson	12.79	337	*e*Pn	Pn	11 05 52.0	-0.2
MVCO	Mesa Verde	13.17	1	*e*Pn	Pn	11 05 58.2	+0.7
WMOK	Wichita Mounta	13.72	37	*e*Pn	Pn	11 06 04.1	-0.9
	6.8nm,1.0s						
PV01	Paradox Valley	14.09	0	*e*Pn	Pn	11 06 12.5	+2.4
CCUT	Cedar City	14.10	344	*e*Pn	Pn	11 06 11.8	+1.7
PV10	Paradox Valley	14.34	359	*e*Pn	Pn	11 06 13.7	+0.3
PV10				*e*		11 06 19.5	
ARUT	Antelope Range	14.34	345	*e*Pn	Pn	11 06 15.5	+2.0
ISA	Isabella	14.40	326	*e*Pn	Pn	11 06 14.4	+0.1
	20nm,1.5s						
TPNV	Topopah Spring	14.46	335	*e*Pn	Pn	11 06 15.5	+0.3
	26nm,1.2s						
DAC	Darwin (Calif)	14.46	330	*e*Pn	Pn	11 06 15.2	0.0
	19nm,1.1s						
DAC				*e*		11 06 20.5	
DAC				*e*		11 07 00.2	
MSU	Marysvale	14.78	349	*e*Pn	Pn	11 06 19.6	+0.2
SMCO	Snowmass	15.20	5	*e*Pn	Pn	11 06 25.7	+0.6
	19nm,1.1s						
PTRM	Twissleman Ran	15.33	322	*e*Pn	Pn	11 06 29.2	+2.4
TPH	Tonopah	15.82	334	*e*P	Pn	11 06 33.4	+0.2
	18nm,1.1s						
ISCO	Idaho Springs	15.96	9	*e*P	Pn	11 06 36.9	+1.9
	49nm,1.8s						
MPU	Maple Canyon	16.17	352	*e*P	Pn	11 06 39.0	+1.3
	19nm,1.1s						
MNV	Mina	16.51	333	*e*P	Pn	11 06 42.2	+0.2
	8.9nm,0.9s						
DAU	Daniels Canyon	16.51	353	*e*P	Pn	11 06 42.2	+0.1
DUG	Dugway	16.52	349	*e*P	Pn	11 06 42.0	-0.3
	9.4nm,1.1s						
NVAR	Mina Array Bea	16.57	333	Pn	Pn	11 06 42.2	-0.6
	baz=160,slow=12,SNR=24						
NVAR	Mina Array Bea	16.57	333	Pn	Pn	11 06 42.2	-0.6
MIAR	Mount Ida	16.82	48	*e*P	Pn	11 06 47.1	+1.1
	10nm,1.1s						
MIAR				*e*		11 06 53.7	
CTU	Camp Tracy	16.85	352	*e*P	Pn	11 06 46.3	-0.1
	14nm,1.1s						
CMB	Columbia Colle	17.21	327	*e*P	Pn	11 06 50.3	-0.5
	12nm,1.4s						
TCUT	Toone Canyon	17.23	353	*e*P	Pn	11 06 49.6	-1.5
BGU	Big Grassy Mou	17.27	349	*e*P	Pn	11 06 57.5	+5.8
BGU				*e*		11 07 04.3	
SPUT	South Promonto	17.55	350	*e*P	Pn	11 06 55.1	-0.1
ELK	Elko	17.59	343	*e*P	Pn	11 06 54.3	-1.3
	8.6nm,1.0s						
ELK				*e*		11 07 00.3	
RWWY	Rawlins	17.68	4	*e*P	Pn	11 06 57.7	+0.9
	23nm,1.2s						
HWUT	Hardware Ranch	17.73	353	*e*P	Pn	11 06 56.7	-0.6
	19nm,1.2s						
HVU	Hansel Valley	18.06	350	*e*P	Pn	11 07 01.4	-0.1
	16nm,0.9s						
HVU				*e*		11 07 07.2	
KSU1	Kansas State U	18.20	31	*e*P	Pn	11 07 03.1	0.0
PDAR	Pinedale Array	18.73	358	P	Pn	11 07 08.2	-1.4
	0.2nm,0.3s,baz=167,slow=11,SNR=47						
PDAR				LR	LR	11 14 13.1	
	comp=Z,220nm,21.7s,baz=178,slow=37						
AHID	Auburn Hatcher	18.83	354	*e*P	Pn	11 07 10.5	-0.3
	31nm,1.6s						
REDW	Red Top Meadow	19.40	355	*e*P	Pn	11 07 16.5	-1.2
	13nm,1.1s						
TPAW	Teton Pass	19.53	355	*e*P	Pn	11 07 17.7	-1.6
	15nm,1.0s						
DCID1	Drake Creek	19.66	355	*e*P	Pn	11 07 20.1	-0.6
DCID1				*e*		11 07 27.6	
MOOW	Moose Ponds	19.77	356	*e*P	Pn	11 07 20.1	-2.1
	19nm,1.5s						
IMW	Indian Meadow	19.94	355	*e*P	Pn	11 07 21.9	-2.2
	16nm,1.3s						
HLID	Hailey	20.08	348	*e*P	P	11 07 23.6	-0.5
	24nm,1.8s						
FLWY	Flagg Ranch	20.10	356	*e*P	P	11 07 24.8	+0.5
	52nm,1.4s						
WVOR	Wild Horse Val	20.16	338	*e*P	P	11 07 26.6	+1.7
	18nm,1.1s						
WVOR				*e*		11 07 32.5	
WDC	Whiskeytown Da	20.23	328	*e*P	P	11 07 28.6	+3.0
	6.5nm,1.0s						
MOD	Modoc	20.32	334	*e*P	P	11 07 30.4	+3.8
	9.9nm,1.1s						
MOD				*e*		11 07 35.0	
RSSD	Black Hills	20.43	10	*e*P	P	11 07 26.5	-1.2
	8.0nm,1.2s						
YFT	Old Faithful	20.48	356	*e*P	P	11 07 31.6	+3.3
LKWY	Lake	20.57	356	*e*P	P	11 07 29.3	+0.1
	26nm,1.1s						
YMR	Madison River	20.71	355	*e*P	P	11 07 30.9	+0.1
	12nm,1.0s						
QLMT	Earthquake Lak	20.91	354	*e*P	P	11 07 33.5	+0.6
PLAL	Pickwick Lake	20.95	54	*e*P	P	11 07 33.7	+0.3
	9.7nm,0.8s						
MCMT	McKenzie Canyo	21.06	352	*e*P	P	11 07 34.5	-0.1
YBH	Yreka Blue Hor	21.21	330	LR	LR	11 16 10.6	
	comp=Z,192nm,20.2s,MS3.5,baz=153,slow=38						
DLMT	Dillon	21.55	352	*e*P	P	11 07 39.7	-0.2
	13nm,1.3s,mb4.2						
GCMT	Greycliff	21.76	358	*e*P	P	11 07 40.9	-1.3
GCMT				*e*		11 07 47.3	
BMO	Blue Mountains	21.97	343	*e*P	P	11 07 43.8	-0.6
	5.4nm,1.0s,mb3.9						
SWET	Sewanee	22.65	55	*e*P	P	11 07 52.1	+0.5
HRY	Holter Researc	22.81	354	*e*P	P	11 07 53.0	-0.3
CHMT	Chamberlain Mo	23.16	352	*e*P	P	11 07 56.9	-0.1
MSO	Missoula	23.17	351	*e*P	P	11 07 56.3	-0.9
	5.6nm,1.1s,mb3.9						
MSO				*e*		11 08 06.2	
CPCT	Cooper Cave	23.80	56	*e*P	P	11 08 03.5	+0.1
NEW	Newport	25.13	347	P	P	11 08 13.2	-2.4
	0.5nm,0.3s,mb3.5,baz=174,slow=12,SNR=3.1						
NEW				LR	LR	11 18 57.4	
	comp=Z,259nm,19.9s,MS3.7,baz=171,slow=39						
NEW	Newport	25.13	347	*e*P	P	11 08 16.0	+0.5
	7.2nm,1.3s,mb4.0						
WALA	Waterton Lakes	25.35	352	*e*P	P	11 08 17.2	-0.4
	4.6nm,0.8s,mb4.1						
FWV	Forest Hill	27.37	54	*e*P	P	11 08 36.6	+0.8
ULM	Lac du Bonnet	28.03	18	P	P	11 08 41.1	-0.6
	2.0nm,0.8s,mb3.8,baz=169,slow=10.0,SNR=2.7						
FCC	Fort Churchill	36.25	13	*e*P	P	11 09 50.5	-3.2
	9.4nm,1.0s,mb4.7						
FCC				*e*		11 09 57.1	
DLBC	Dease Lake	37.63	342	*e*P	P	11 10 05.3	-0.1
ROSC	El Rosal	38.13	114	LR	LR	11 27 27.0	
	comp=Z,126nm,18.8s,MS3.8,baz=334,slow=38						
YKA	Yellowknife Ar	38.69	356	P	P	11 10 11.4	-2.9
	0.5nm,0.9s,mb3.2,baz=171,slow=7.5,SNR=7.8						
YKA				LR	LR	11 26 26.6	
	comp=Z,272nm,20.0s,MS4.1,baz=200,slow=37						
YKA	Yellowknife Ar	38.69	356	P	P	11 10 11.4	-2.9
YKA				LR	LR	11 26 26.6	
YKW3	Yellowknife Ar	38.76	356	*e*P	P	11 10 16.4	+1.4
YKW3				*e*		11 10 22.9	
SDV	Santo Domingo	39.29	106	P	P	11 10 22.0	+2.6
	2.1nm,0.5s,mb4.2,baz=283,slow=6.1,SNR=4.2						
SDV	Santo Domingo	39.29	106	*e*P	P	11 10 21.8	+2.4
	12nm,1.3s,mb4.5						
SDV				*e*		11 10 32.7	
SCHQ	Schefferville	43.60	34	P	P	11 10 54.5	-0.2
	3.1nm,1.1s,mb4.0,baz=238,slow=19,SNR=2.6						
SCHQ				LR	LR	11 30 06.6	
	comp=Z,112nm,18.8s,MS3.8,baz=269,slow=37						
INK	Inuvik	46.85	348	LR	LR	11 32 10.1	
	comp=Z,184nm,18.2s,MS4.1,baz=353,slow=38						
INK	Inuvik	46.85	348	*e*P	P	11 11 22.1	+1.6
	2.4nm,0.9s,mb4.1						
ILAR	Eielson Array	47.68	339	P	P	11 11 23.9	-3.2
	0.5nm,0.9s,mb3.5,baz=146,slow=7.4,SNR=7.3						
TTA	Tatalina	49.98	334	*e*P	P	11 11 47.4	+2.7
TTA				*e*		11 11 53.2	
LPAZ	La Paz	56.30	131	P	P	11 12 36.1	+4.8
	0.9nm,0.8s,mb3.9,baz=338,slow=12,SNR=2.4						
LPAZ	La Paz	56.30	131	*e*P	P	11 12 35.8	+4.6
	1.0nm,0.7s,mb4.0						
LPAZ				*e*		11 12 44.1	
PPT	Papeete	57.46	228	*e*LR	LR	11 29 13.8	
	319nm,28.0s						
PPT	Papeete	57.46	228	LR	LR	11 30 00.7	
	comp=Z,213nm,21.5s,MS4.2,baz=305,slow=29						
TBI	Tubuai	61.52	223	*e*LR	LR	11 31 05.9	
	141nm,28.8s						
CPUP	Villa Florida	70.46	132	P	P	11 14 09.1	+4.0
	3.8nm,0.9s,mb4.3,baz=349,slow=3.5,SNR=5.5						
BDFB	Brasilia	71.12	117	LR	LR	11 49 32.0	
	comp=Z,64nm,19.2s,MS3.9,baz=100,slow=39						
ARCES	ARCESS Array B	81.11	15	LR	LR	11 55 04.5	
	comp=Z,72nm,18.8s,MS4.0,baz=206,slow=39						
NOA	NORSAR Array B	82.44	25	LR	LR	11 53 15.8	
	comp=Z,56nm,18.8s,MS4.0,baz=310,slow=37						
GERES	GERESS Array B	91.13	34	LR	LR	11 53 15.0	
	comp=Z,90nm,21.7s,MS4.2,baz=277,slow=33						
MDJ	Mudanjiang	93.48	323	P	P	11 16 06.0	-0.3
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,45nm,4.0s						
CN2	Changchun	96.28	324	*e*P	P	11 16 20.0	+0.9
HHC	Hu-ho-hao-te	105.44	329	*e*PDIF	Pdif	11 17 01.5	+1.5
HHC				PP	PP	11 21 25.4	+3.7
HHC				SS	SS	11 36 16.3	-2.2
HHC				PP	PP		
	comp=Z,71nm,9.0s						
HHC				LR	LR		
	comp=N,54nm,18.7s,MS4.5						
HHC				LR	LR		
	comp=E,130nm,20.3s,MS4.5						
HHC				LR	LR		
	comp=Z,87nm,20.2s,MS4.3						
WMQ	Urumqi	110.87	347	*e*PKP	PKiKP	11 21 24.2	+0.4
WMQ				XPKP		11 21 31.2	
WRA	Warramunga Arr	121.86	261	PKP	PKPdf	11 21 41.7	-3.1
	comp=Z,0.2nm,0.7s,baz=51,slow=1.7,SNR=3.8						
ASAR	Alice Springs	123.22	257	PKP	PKPdf	11 21 44.2	-3.2
	comp=Z,0.2nm,0.7s,baz=94,slow=2.8,SNR=3.1						

ISCJB **11** *11:30:18.2±0.3, 62.14N±003×149.74W±007, h65km±5km, mb3.6/4, Error ellipse: s-maj=5.9km s-min=4.2km az=157.5*

IDC **11** *11:30:18.1±2.3, 62.16N×149.94W, h42km±26km, mb3.5/4, mb1 3.8/9, mb1mx3.6/23, mbtmp3.6/9, ML3.4/5, MS3.1/4, Ms1 3.1/4, ms1mx2.6/26, Error ellipse: s-maj=21.2km s-min=15.1km az=92.0*

NEIC **11** *11:30:20.1, 62.13N×149.70W, h47km, ML3.6(AEIC), After AEIC.*

NEIC Felt at Anchorage.

ISC 11 11:30:19.3±0.3**, 6212N**±002×**14977W**±007**, h55**km±6km**, n42, σ0°71/50, mb3.6/4, MS3.0/2, Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHO	Glory Hole Cre	0.53	131	P	Pn	11 30 30.9	-0.4
PMR	Palmer	0.61	150	P	Pn	11 30 31.4	-0.8
PMR				S	Sn	11 30 41.4	-0.2
SML	Sawmill	0.75	114	P	Pn	11 30 33.2	-0.7
SML				S	Sn	11 30 45.4	+0.8
KNK	Knik Glacier	0.95	138	P	Pn	11 30 36.2	-0.3
FIB	Fire Island	0.98	192	P	Pn	11 30 37.9	+1.0
RC01	Rabbit Creek A	1.04	179	P	Pn	11 30 37.5	-0.2
RC01				S	Sn	11 30 52.0	+0.7
TRF	Thorofare Moun	1.35	350	P	Pn	11 30 42.0	+0.1
TRF				S	Sn	11 30 59.1	+0.3
KTH	Kantishna Hill	1.53	340	P	Pn	11 30 44.5	+0.2
KTH				S	Sn	11 31 03.7	+0.5
SLKM	Skilak Lake	1.64	188	P	Pn	11 30 45.7	-0.1
MCK	McKinley	1.66	13	P	Pn	11 30 46.3	+0.2
MCK				S	Sn	11 31 06.5	+0.3
SEW	Seward	2.03	176	P	Pn	11 30 52.4	+1.2
PAX	Paxson	2.17	65	P	Pn	11 30 54.0	+1.1
EYAK	Cordova Ski Ar	2.50	127	P	Pn	11 30 58.3	+0.7
BMRM	Bremner River	2.73	113	P	Pn	11 30 60.0	-0.7
COLA	College	2.89	16	P	Pn	11 31 02.8	-0.1
MENT	Mentasta	2.92	71	*e*P	Pn	11 31 03.7	+0.4
IL1	Eielson Array	2.96	25	P	Pn	11 31 03.5	-0.2
ILAR	Eielson Array	2.96	25	P	Pn	11 31 03.5	-0.2
	3.5nm,0.3s,baz=211,slow=12,SNR=160						
ILAR				S	Sn	11 31 36.7	-1.3
	28nm,0.3s,baz=213,slow=23,SNR=16						
SVW2	Sparrevohn	2.96	252	P	Pn	11 31 03.7	-0.1
TT01	Tatalina	3.00	288	P	Pn	11 31 03.9	-0.5
TTA	Tatalina	3.01	288	*e*P	Pn	11 31 03.9	-0.6
DOT	Dot Lake	3.03	57	P	Pn	11 31 05.3	+0.5
IM3	Indian Mountai	4.25	337	P	Pn	11 31 21.3	-0.2
KDAK	Kodiak Island	4.58	199	P	Pn	11 31 24.2	-1.8
	2.4nm,0.3s,baz=36,slow=7.6,SNR=40						
KDAK				S	Sn	11 32 14.1	-3.8
	3.4nm,0.3s,baz=83,slow=17,SNR=2.7						
KDAK	Kodiak Island	4.58	199	P	Pn	11 31 24.8	-1.2
DAWY	Dawson	5.10	63	P	Pn	11 31 33.6	+0.5
COLD	Coldfoot	5.13	358	P	Pn	11 31 34.1	+0.6
PNL	Peninsula	5.63	111	P	Pn	11 31 39.5	-0.9
BM3	Burnt Mountain	5.76	20	P	Pn	11 31 42.4	+0.3
SKAG	Skagway	7.55	104	*e*P	Pn	11 32 06.6	-0.1
TNA	Tin City	8.72	301	P	Pn	11 32 23.4	+0.7
INK	Inuvik	9.20	41	P	Pn	11 32 29.0	-0.2
	0.4nm,0.3s,baz=241,slow=18,SNR=41						
INK				S	Sn	11 34 10.3	-0.9
	1.7nm,0.3s,baz=75,slow=11,SNR=8.5						
INK	Inuvik	9.20	41	*e*Pn	Pn	11 32 30.9	+1.7
	6.0nm,0.8s						
INK				*e*Sn	Sn	11 34 10.8	-0.4
DLBC	Dease Lake	10.46	102	P	Pn	11 32 45.9	-0.6
	0.1nm,0.3s,baz=302,slow=13,SNR=4.3						
DLBC				LR	LR	11 37 08.6	
	comp=Z,75nm,18.8s,baz=117,slow=39						
DLBC	Dease Lake	10.46	102	P	Pn	11 32 45.9	-0.6
BBB	Bella Bella	15.31	121	LR	LR	11 39 24.6	
	comp=Z,106nm,19.7s,baz=224,slow=36						
YKA	Yellowknife Ar	16.23	73	P	Pn	11 34 02.3	-1.3
	baz=284,slow=10,SNR=18						
NEW	Newport	22.91	112	P	P	11 35 18.3	-0.1
	2.5nm,0.8s,mb3.7,baz=312,slow=9.8,SNR=4.6						
NEW				LR	LR	11 44 39.5	
	comp=Z,44nm,19.3s,MS2.9,baz=257,slow=38						
YBH	Yreka Blue Hor	26.02	129	LR	LR	11 44 05.6	
	comp=Z,43nm,18.2s,MS3.0,baz=152,slow=32						
PDAR	Pinedale Array	30.52	111	P	P	11 36 28.1	+0.8
	0.5nm,0.8s,mb3.4,baz=316,slow=8.2,SNR=4.4						
NVAR	Mina Array Bea	30.55	126	P	P	11 36 28.7	+1.2
	1.2nm,0.8s,mb3.8,baz=316,slow=8.4,SNR=9.0						
SONM	Songino Array	54.80	307	P	P	11 39 42.9	-0.6
	0.5nm,0.7s,mb3.7,baz=45,slow=7.7,SNR=4.4						

NEIC **11** *11:35:29.9, 2731S×7107W, h28km, ML3.7(GUC), After GUC.*

GUC 11 11:35:29.9±0.7**, 2731S×7107W, h28**km±6km**, MD3.8, ML3.7, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	Caldera	0.32	42	*e*P	Pb	11 35 37.6	+0.2
CDCH				*i* S	Sb	11 35 42.5	0.0
CRCH	Chaqaral	1.04	23	*e*P	Pn	11 35 48.1	-0.5
CRCH				*i* S	Sn	11 36 02.4	+0.1
LCO	Las Campanas	1.72	169	*e*P	Pn	11 35 59.8	+1.7
LCO				*i* S	Sn	11 36 22.5	+3.3
CPN1	Cerro Paranal	2.74	13	*e*P	Pn	11 36 10.7	-1.4
CPN1				AML	AML	11 37 03.6	
	comp=E,192nm,0.5s						
TLL	Tololo Astrono	2.85	175	*e*P	Pn	11 36 15.3	+1.7
TLL				*i* S	Sn	11 36 50.4	+3.4
TLL				AML	AML	11 37 09.7	
	comp=N,314nm,0.8s						
TLL	Tololo Astrono	2.85	175	*e*P	Pn	11 36 15.3	+1.7
TLL				*i* S	Sn	11 36 50.4	+3.4
LVC	Limon Verde	5.07	23	*e*Pn	Pn	11 36 45.3	+1.3

IDC 11 11:38:17.4±19.0**, 6422S×17330E, h0**km**, mb3.8/2, mb1 3.9/3, mb1mx3.8/9, mbtmp3.7/3, ML3.1/1, MS3.9/7, Ms1 3.9/7, ms1mx3.5/19, Error ellipse: s-maj=581.5km s-min=45.2km az=79.0, Balleny Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	13.83	190	Pn	Pn	11 41 34.6	-0.2
	0.1nm,0.3s,baz=27,slow=16,SNR=7.1						
VNDA				LR	LR	11 45 49.3	
	comp=Z,306nm,19.2s,baz=23,slow=33						
URZ	Urewera	26.09	7	LR	LR	11 51 17.5	
	comp=Z,201nm,21.9s,baz=319,slow=30						
MAW	Mawson	39.45	214	LR	LR	12 02 20.2	
	comp=Z,279nm,19.1s,baz=247,slow=37						
DZM	Mont Dzumac	42.37	351	LR

MTW	**Mount Morrison**	**2.05**	**169**	P	Pn	11 43 54.5	-0.5
MRW	**Makara Radio**	**2.08**	**185**	PN	Pn	11 43 54.7	-0.7
MRW	**Makara Radio**	**2.08**	**185**	P	Pn	11 43 53.7	-1.7
KNZ	**Kokohu**	**2.11**	**87**	PN	Pn	11 43 55.3	-0.3
KNZ				SN	S	11 44 28.4	-1.4
KNZ	**Kokohu**	**2.11**	**87**	*e*P	Pn	11 43 55.4	-0.2
TCW	**Tory Channel**	**2.12**	**194**	PN	Pn	11 43 55.2	-0.6
TCW				SN	S	11 44 27.8	-2.1
TCW	**Tory Channel**	**2.12**	**194**	P	Pn	11 43 54.2	-1.5
WEL	**Wellington**	**2.14**	**184**	PN	Pn	11 43 55.0	-0.8
WEL	**Wellington**	**2.14**	**184**	P	Pn	11 43 55.1	-0.7
SNZO	**South Karori**	**2.16**	**185**	PN	Pn	11 43 55.2	-0.9
SNZO				SN	S	11 44 29.0	-1.6
MWZ	**Matawai**	**2.17**	**69**	⇑PN	Pn	11 43 55.0	-1.1
MWZ				SN	S	11 44 27.6	-3.0
MWZ	**Matawai**	**2.17**	**69**	P	Pn	11 43 55.0	-1.1
BHW	**Baring Head**	**2.25**	**182**	PN	Pn	11 43 56.1	-0.9
BHW	**Baring Head**	**2.25**	**182**	P	Pn	11 43 55.1	-1.9
PAWZ	**Paruwai Farm**	**2.25**	**171**	⇑PN	Pn	11 43 56.5	-0.5
MSWZ	**Moikau Station**	**2.27**	**175**	⇑PN	Pn	11 43 56.5	-0.6
MSWZ	**Moikau Station**	**2.27**	**175**	P	Pn	11 43 56.5	-0.6
TRWZ	**Traveller**	**2.31**	**166**	PN	Pn	11 43 57.3	-0.2
NNZ	**Nelson**	**2.39**	**210**	PN	Pn	11 43 57.2	-1.1
NNZ	**Nelson**	**2.39**	**210**	P	Pn	11 43 57.3	-1.0
TUWZ	**Tuamarina**	**2.41**	**199**	PN	Pn	11 43 57.6	-0.9
QRZ	**Quartz Range**	**2.51**	**227**	*e*P	Pn	11 43 57.3	-2.2
BSWZ	**Blackbirch Sta**	**2.69**	**198**	P	Pn	11 44 00.9	-0.5
THZ	**Tophouse**	**3.04**	**210**	*e*P	Pn	11 44 03.8	-1.3
KHZ	**Kahutara**	**3.44**	**198**	*e*P	Pn	11 44 08.2	-1.3
DSZ	**Denniston Nort**	**3.54**	**222**	*e*P	Pn	11 44 08.3	-2.4
LTZ	**Lake Taylor**	**4.16**	**208**	*e*P	Pn	11 44 15.6	-2.3
MOZ	**McQueen's Vall**	**4.87**	**200**	*e*P	Pn	11 44 23.4	-3.1
WVZ	**Waitaha Valley**	**5.05**	**218**	*e*P	Pn	11 44 25.8	-2.9
LBZ	**Lake Benmore**	**6.33**	**213**	*e*P	Pn	11 44 41.2	-3.4
ODZ	**Otahua Downs**	**6.71**	**207**	*e*P	Pn	11 44 47.3	-2.0
JCZ	**Jackson Bay**	**6.77**	**221**	*e*P	Pn	11 44 45.7	-4.3
EAZ	**Earnscleugh**	**7.38**	**213**	*e*P	Pn	11 44 53.7	-4.1

NEIC ***11*** *11:51:45.1, 26.90S×70.68W, h32km, ML3.5(GUC), After GUC.*

GUC 11 11:51:45.1±0.5, 26.90S×70.68W, h32km±41km, MD3.7, ML3.5, 2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.22**	**218**	*i* P	Pb	11 51 51.4	-0.3
CDCH				*i* S	Sb	11 51 56.4	+0.3
CRCH	**Chaqaral**	**0.56**	**6**	⇓*i* P	Pb	11 51 56.3	-0.2
CRCH				*i* S	Sb	11 52 04.2	-0.1
LCO	**Las Campanas**	**2.10**	**180**	*e*P	Pn	11 52 20.2	+2.1
LCO				*i* S	Sn	11 52 46.6	+3.5
CPN1	**Cerro Paranal**	**2.28**	**6**	*e*P	Pn	11 52 18.7	-1.8
CPN1				*i* S	Sn	11 52 46.4	-1.1
CPN1	comp=E,258nm,0.5s			AML	AML	11 52 57.9	
TLL	**Tololo Astrono**	**3.26**	**182**	*e*P	Pn	11 52 36.0	+2.1
TLL				*i* S	Sn	11 53 14.6	+3.0
TLL	comp=E,124nm,0.7s			AML	AML	11 53 37.2	
TLL	**Tololo Astrono**	**3.26**	**182**	*e*P	Pn	11 52 36.0	+2.1
TLL				*i* S	Sn	11 53 14.6	+3.0
CEN1	**Los Morros**	**3.52**	**7**	*e*P	Pn	11 52 33.2	-4.4

MOS ***11*** *11:55:10.5±0.7, 0.16S×12.503E, h52km, mb4.7/5, Error ellipse: s-maj=36.3km s-min=11.1km az=115.9*
IDC ***11*** *11:55:12.0±4.6, 0.22S×124.94E, h48km±46km, mb4.1/13, mb1 4.1/14, mb1mx4.0/23, mbtmp4.3/14, ML3.8/1, MS3.7/4, Ms1 3.8/4, ms1mx3.0/35, Error ellipse: s-maj=34.8km s-min=10.4km az=71.0*
ISCJB ***11*** *11:55:13.9±1.2, 0.24S±0.006×125.14E±0.007, h87km±12km, mb4.5/31, Error ellipse: s-maj=12.5km s-min=8.3km az=115.3*
NEIC ***11*** *11:55:15.1±2.4, 0.20S×125.27E, h82km±23km, mb4.4/10, Error ellipse: s-maj=19.3km s-min=8.6km az=61.0*
BJI ***11*** *11:55:15.0, 0.20S×125.30E, h81km, mB4.9, mb4.8*

ISC 11 11:55:15.9±1.0, 0.24S±0.006×125.17E±0.007, h88km±10km, n57, σ0.9s96/55, mb4.5/31, 2C, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**4.56**	**139**	P	**Pn**	**11 56 21.2**	**-1.3**
	136nm,0.8s						
PCI	**Palu**	**5.38**	**263**	P	**Pn**	**11 56 33.7**	**+0.2**
	314nm,1.1s						
SWI	**Sorong**	**6.12**	**96**	P	**Pn**	**11 56 45.4**	**+1.8**
	29nm,0.6s						
TLE	**Tual**	**9.26**	**125**	P	**Pn**	**11 57 25.9**	**-0.5**
	66nm,1.5s						
KAKA	**Kakadu**	**14.33**	**150**	*e*P	**Pn**	**11 58 32.6**	**-1.8**
	12nm,0.5s						
KSM	**Kuching**	**14.96**	**277**	*e*Pn	**Pn**	**11 58 44.8**	**+2.3**
FITZ	**Fitzroy Crossi**	**17.75**	**179**	*e*P	**Pn**	**11 59 16.8**	**-0.3**
	9.7nm,1.1s						
FITZ	**Fitzroy Crossi**	**17.75**	**179**	P	**Pn**	**11 59 16.9**	**-0.3**
	0.3nm,0.3s,baz=352,slow=7.6,SNR=12						
MBWA	**Marble Bar**	**21.46**	**194**	*e*P	**P**	**11 59 57.3**	**+0.4**
	4.7nm,0.7s,mb3.9						
WRAB	**Tennant Creek**	**21.53**	**156**	*e*P	**P**	**11 59 57.8**	**0.0**
WRAB	**Tennant Creek**	**21.53**	**156**	*e*P	**P**	**11 59 57.4**	**-0.4**
	19nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**21.54**	**156**	P	**P**	**11 59 57.7**	**-0.1**
	2.3nm,0.5s,mb3.8,baz=334,slow=11,SNR=23						
WRA				S	**S**	**12 03 57.2**	**+5.7**
	2.9nm,1.2s,baz=338,slow=17,SNR=5.2						
WB2	**Warramunga Arr**	**21.54**	**156**	*e*P	**P**	**11 59 57.6**	**-0.3**
ASAR	**Alice Springs**	**24.78**	**161**	P	**P**	**12 00 30.9**	**+1.6**
	2.2nm,0.7s,mb3.7,baz=336,slow=7.2,SNR=23						
JOW	**Kunigami**	**27.08**	**6**	P	**P**	**12 00 51.4**	**+1.3**
	7.7nm,0.5s,mb4.5,baz=168,slow=9.3,SNR=6.2						
JOW				LR	LR	12 10 20.8	
	comp=Z,80nm,21.6s,baz=224,slow=34						
SSE	**Sheshan**	**31.40**	**353**	*e*P	**P**	**12 01 27.5**	**-0.8**
SSE				AMB	AMB		
	comp=Z,39nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,68nm,4.6s						
CBIJ	**Chichi jima**	**31.73**	**30**	LR	LR	12 11 50.7	
	comp=Z,43nm,21.9s,baz=140,slow=31						
KMI	**Kunming**	**33.27**	**321**	P	**P**	**12 01 50.3**	**+5.6**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.6s,mb4.4						
NWAO	**Narrogin (SRO)**	**33.36**	**192**	P	**P**	**12 01 46.0**	**+0.5**
	comp=Z,2.1nm,0.5s,mb4.2,baz=7.3,slow=7.6,SNR=6.7						
NWAO	**Narrogin (SRO)**	**33.36**	**192**	P	**P**	**12 01 46.0**	**+0.5**
STKA	**Stephens Creek**	**35.09**	**155**	*e*P	**P**	**12 02 00.5**	**+0.1**
	comp=Z,5.2nm,0.5s,mb4.6						
STKA	**Stephens Creek**	**35.09**	**155**	P	**P**	**12 02 00.9**	**+0.5**
	comp=Z,5.0nm,0.5s,mb4.6,baz=328,slow=8.2,SNR=40						
STKA	**Stephens Creek**	**35.09**	**155**	*e*P	**P**	**12 02 00.3**	**-0.2**
MAJO	**Matsushiro**	**38.55**	**17**	*e*P	**P**	**12 02 34.7**	**+4.9**
	comp=Z,50nm,1.9s,mb5.0						
GTA	**Gaotai**	**45.78**	**332**	*e*P	**P**	**12 03 29.8**	**+1.3**
GTA				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.6						
JIRN	**Jiri**	**46.56**	**310**	*e*P	**P**	**12 03 34.0**	**-0.7**
ASAJ	**Asahikawa**	**46.82**	**17**	P	**P**	**12 03 37.9**	**+1.2**
	comp=Z,1.8nm,0.4s,mb4.2,baz=202,slow=19,SNR=5.6						
GUN	**Gumba**	**46.93**	**310**	*e*P	**P**	**12 03 37.5**	**0.0**
	comp=Z,12nm,0.5s,mb4.9						
PKI	**Pulchoki**	**47.12**	**309**	*e*P	**P**	**12 03 38.7**	**-0.3**
KKN	**Kakani**	**47.33**	**309**	*e*P	**P**	**12 03 40.6**	**0.0**
DMN	**Daman**	**47.38**	**309**	*e*P	**P**	**12 03 41.1**	**+0.1**
GKN	**Gorkha**	**47.93**	**309**	*e*P	**P**	**12 03 45.3**	**0.0**
	comp=Z,6.9nm,0.5s,mb4.8						
KOLN	**Koldanda**	**48.63**	**308**	*e*P	**P**	**12 03 49.4**	**-1.2**
	comp=Z,14nm,0.7s,mb5.0						
ULN	**Ulaanbaatar**	**50.44**	**344**	*c i*P	**P**	**12 04 05.0**	**+0.6**
ULN	**Ulaanbaatar**	**50.44**	**344**	*e*P	**P**	**12 04 05.6**	**+1.1**
	comp=Z,3.1nm,1.0s,mb4.2						
SONM	**Songino Array**	**50.60**	**344**	P	**P**	**12 04 05.2**	**-0.4**
	comp=Z,1.7nm,0.5s,mb4.3,baz=159,slow=8.7,SNR=13						
BOD	**Bodaibo**	**58.57**	**353**	*e*P	**P**	**12 05 02.9**	**-0.4**
BOD				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
MKAR	**Makanchi Array**	**59.97**	**327**	P	**P**	**12 05 11.6**	**-1.3**
	comp=Z,5.4nm,0.4s,mb4.9,baz=120,slow=7.8,SNR=81						
YAK	**Yakutsk**	**62.21**	**2**	*e*P	**P**	**12 05 28.3**	**+0.3**
YAK				*i* *PP	pP	12 05 38.4	-12
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
AAK	**Ala-Archa**	**62.30**	**320**	*e*P	**P**	**12 05 28.4**	**-0.3**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.2						
AAK	**Ala-Archa**	**62.30**	**320**	*e*P	**P**	**12 05 28.6**	**-0.1**
	comp=Z,2.7nm,0.9s,mb4.3						
ZAL	**Zalesovo**	**63.45**	**335**	P	**P**	**12 05 35.1**	**-1.2**
	comp=Z,2.4nm,0.3s,mb4.6,baz=357,slow=4.9,SNR=3.8						
KURK	**Kurchatov**	**64.28**	**329**	*e*P	**P**	**12 05 42.1**	**+0.4**
KURK				*i* *PP	pP	12 05 52.2	-12
KURK	**Kurchatov**	**64.28**	**329**	*e*P	**P**	**12 05 40.1**	**-1.6**
	comp=Z,13nm,0.5s,mb5.0						
NVS	**Novosibirsk**	**64.73**	**335**	*e*P	**P**	**12 05 42.1**	**-2.6**
BVAR	**Borovoye Array**	**69.82**	**328**	P	**P**	**12 06 16.9**	**+0.1**
	comp=Z,1.3nm,0.5s,mb4.0,baz=123,slow=11,SNR=8.3						
BRVK	**Borovoye**	**69.89**	**328**	*e*P	**P**	**12 06 17.5**	**+0.2**
	comp=Z,1.6nm,0.4s,mb4.2						
ZRNK	**Zerenda**	**70.52**	**328**	*e*P	**P**	**12 06 19.5**	**-1.6**
	comp=Z,4.9nm,0.4s,mb4.7						
TIXI	**Tiksi**	**71.81**	**1**	*e*P	**P**	**12 06 29.0**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.9						
AKTK	**Aktyubinsk**	**75.82**	**323**	P	**P**	**12 06 52.8**	**+0.5**
AKTO	**Aktyubinsk**	**75.82**	**323**	P	**P**	**12 06 52.8**	**+0.5**
	comp=Z,5.4nm,0.6s,mb4.5,baz=71,slow=5.3,SNR=19						
RAR	**Rarotonga**	**75.99**	**112**	LR	LR	12 33 22.3	
	comp=Z,129nm,21.6s,baz=341,slow=30						
VNDA	**Vanda**	**79.71**	**172**	LR	LR	12 39 18.9	
	comp=Z,146nm,18.3s,baz=290,slow=33						
ILAR	**Eielson Array**	**89.34**	**25**	P	**P**	**12 08 02.1**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=250,slow=4.5,SNR=6.6						
OBN	**Obninsk**	**89.40**	**325**	⇑*e*P	**P**	**12 08 02.5**	**-0.1**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
QSPA	**South Pole Qui**	**89.69**	**180**	*e*P	**P**	**12 08 06.2**	**+2.2**
	comp=Z,2.2nm,0.9s,mb4.3						
INK	**Inuvik**	**94.41**	**21**	P	**P**	**12 08 26.6**	**+0.7**
	comp=Z,0.9nm,0.9s,mb4.1,baz=242,slow=6.6,SNR=3.4						

IDC 11 12:12:07.3±3.9, 1871S×17770W, h344km±54km, mb3.0/3, mb1 3.5/4, mb1mx3.2/14, mbtmp4.0/4, Error ellipse: s-maj=285.3km s-min=26.5km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.42**	**51**	P	Pn	12 13 54.7	+0.3
	26nm,0.3s,baz=236,slow=7.3,SNR=63						
AFI				S	S	12 15 14.9	-6.7
	6.0nm,0.3s,baz=279,slow=15,SNR=4.3						
WRA	**Warramunga Arr**	**45.16**	**260**	P	P	12 19 50.6	-0.3
	0.4nm,0.5s,baz=97,slow=6.4,SNR=10						
ASAR	**Alice Springs**	**45.23**	**255**	P	P	12 19 52.1	+0.7
	2.0nm,0.6s,baz=87,slow=8.3,SNR=37						
ILAR	**Eielson Array**	**86.51**	**13**	P	P	12 24 11.6	-0.4
	0.4nm,0.9s,baz=218,slow=5.7,SNR=4.5						

LDG ***11*** *12:24:37.2±0.2, 4350N×066W, h2km, Md2.2/2, Ml2.2/3, Error ellipse: s-maj=3.4km s-min=1.9km az=162.0*
STR ***11*** *12:24:37.6±0.4, 4347N×065W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 11 12:24:37.8±0.7, 4350N×064W, h0km, mbLg1.3/11, Error ellipse: s-maj=4.5km s-min=2.4km az=3.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORDF	**Ordiarp**	**0.36**	**218**	Pg	Pg	12 24 44.2	-0.4
ORDF				Sg	Sg	12 24 49.6	+0.3
ORDF	**Ordiarp**	**0.36**	**218**	Pg	Pg	12 24 44.2	-0.4
ORDF				Lg		12 24 49.7	
ATE	**Arette**	**0.41**	**187**	Pg	Pg	12 24 45.1	-0.6
ATE				Sg	Sg	12 24 51.3	+0.2
ATE	**Arette**	**0.41**	**187**	Pg	Pg	12 24 45.2	-0.5
ATE				Lg		12 24 51.1	
REYF	**Montagne du Re**	**0.46**	**157**	Pg	Pg	12 24 46.1	-0.5
REYF				Sg	Sg	12 24 52.0	-0.6
REYF	**Montagne du Re**	**0.46**	**157**	Pg	Pg	12 24 45.9	-0.8
REYF				Lg		12 24 52.5	
LARF	**Larrau**	**0.53**	**209**	Pg	Pg	12 24 47.0	-0.8
LARF				Sg	Sg	12 24 54.2	-0.5
LARF	**Larrau**	**0.53**	**209**	Pg	Pg	12 24 47.2	-0.6
LARF				Lg		12 24 54.6	
SJPF	**Ste Jean**	**0.58**	**228**	*e*Pg	Pg	12 24 47.8	-1.0
SJPF				*e*Sg	Sg	12 24 56.3	0.0
	16nm,0.3s						
SJPF	**Ste Jean**	**0.58**	**228**	Pg	Pg	12 24 47.8	-1.0
SJPF				Lg		12 24 56.3	
	7.8nm,0.3s						
ETSF	**Etsaut**	**0.60**	**175**	*e*Pg	Pg	12 24 48.2	-1.1
ETSF				*e*Sg	Sg	12 24 56.5	-0.6
	9.3nm,0.2s						
ETSF	**Etsaut**	**0.60**	**175**	Pg	Pg	12 24 48.2	-1.1
ETSF				Lg		12 24 56.5	
	4.7nm,0.2s						
LABF	**Labassere**	**0.69**	**131**	Pg	Pg	12 24 50.9	0.0
LABF				Sg	Sg	12 25 00.6	+0.8
LABF	**Labassere**	**0.69**	**131**	Pg	Pg	12 24 50.8	-0.1
LABF				Lg		12 25 00.6	
EALK	**Alkurruntz**	**0.69**	**247**	Pg	Pg	12 24 50.2	-0.9
	1.3nm,0.1s,SNR=6.6						
EALK				Lg		12 25 01.0	
	3.5nm,0.6s,SNR=8.7						
ELIZ	**Elizondo**	**0.73**	**243**	Pg	Pg	12 24 51.0	-0.8
	1.3nm,0.2s,SNR=8.7						
ELIZ				Lg		12 25 01.3	
	2.3nm,0.2s,SNR=5.0						
VIEF	**Viey**	**0.78**	**142**	Pg	Pg	12 24 51.9	-0.8
VIEF				Sg	Sg	12 25 02.6	-0.2
VIEF	**Viey**	**0.78**	**142**	Lg		12 25 02.4	
EPF	**Esparros**	**0.85**	**123**	*e*Pg	Pg	12 24 53.7	-0.4
EPF				*e*Sg	Sg	12 25 05.5	+0.4
	14nm,0.2s						
EPF	**Esparros**	**0.85**	**123**	Pg	Pg	12 24 53.7	-0.4
EPF				Lg		12 25 05.5	
	6.8nm,0.2s						
IPRE	**Itoiz**	**0.87**	**218**	Lg		12 25 05.0	
	3.1nm,0.5s,SNR=7.9						
IUNC	**Unciti**	**0.97**	**221**	Lg		12 25 08.8	
	3.5nm,0.3s,SNR=7.9						
EBIE	**Bielsa**	**0.99**	**145**	Pg	Pg	12 24 55.6	-1.2
	0.1nm,0.4s,SNR=7.9						
EBIE				Lg		12 25 09.0	
	5.3nm,0.3s,SNR=8.2						
EGRA	**Graus**	**1.48**	**151**	Pg	Pg	12 25 06.5	+0.4
	0.3nm,0.6s,SNR=7.9						
EGRA				Lg		12 25 24.8	
	0.7nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.78**	**176**	Pg	Pg	12 25 10.5	-1.3
	9.3nm,0.4s,SNR=7.9						
ESAC				Lg		12 25 33.3	
	16nm,0.3s,SNR=7.9						
MTLF	**Montolieu**	**2.08**	**93**	*e*Sg	Sg	12 25 43.1	-1.6
	3.3nm,0.4s						
MTLF	**Montolieu**	**2.08**	**93**	Lg		12 25 43.1	
	1.6nm,0.4s						
RJF	**Les Rejaudoux**	**2.38**	**40**	*e*Sg	Sg	12 25 52.3	-1.8
	2.2nm,0.2s						
RJF	**Les Rejaudoux**	**2.38**	**40**	Lg		12 25 52.3	
	1.1nm,0.2s						

ISCJB ***11*** *12:42:50.6±0.7, 5770N±0.005×2177E±0.007, h0km, Error ellipse: s-maj=7.9km s-min=4.5km az=124.1*
HEL ***11*** *12:42:51.6±0.3, 5762N×2179E, h0km, ML2.1, ML2.3(NAO), Explosion*
NAO ***11*** *12:42:52.7±2.1, 5778N×2205E, ML2.3*
IDC ***11*** *12:42:53.9±2.3, 5781N×2198E, h0km, mb1 3.1/4, mb1mx3.0/19, mbtmp3.1/4, ML2.9/4, Error ellipse: s-maj=24.2km s-min=9.1km az=168.0*
BER ***11*** *12:42:53.4±3.4, 5772N×2206E, h0km, ML2.3(NAO), Suspected explosion*

ISC 11 12:42:52.5±0.7, 5774N±0.005×2182E±0.007, h0km, n23, σ1.9s07/39, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**2.71**	**72**	*e*P	**Pn**	**12 43 36.5**	**-0.8**
VSU				*e*S	**Sn**	**12 44 11.5**	**+0.8**
VSU	**Vasula**	**2.71**	**72**	Pn	**Pn**	**12 43 36.0**	**-1.3**
VSU				Lg		12 44 13.7	
MEF	**Metsahovi**	**2.82**	**27**	*e*P	**Pn**	**12 43 39.8**	**+0.9**
MEF				*e*SB	**Sb**	**12 44 19.4**	**+0.5**
MEF				MSG		12 44 22.4	
	comp=Z,4.8nm,0.2s						
RAF	**Rauma**	**3.29**	**360**	*e*P	**Pn**	**12 43 46.4**	**+1.0**
RAF				*e*SB	**Sb**	**12 44 32.4**	**-0.1**
RAF				MSG		12 44 40.0	
	comp=Z,4.2nm,0.2s						
PVF	**Pernaja**	**3.50**	**35**	*e*P	**Pn**	**12 43 48.8**	**+0.6**
PVF				*e*SG	**Sg**	**12 44 43.2**	**-1.8**
PVF				MSG		12 44 49.0	
	comp=Z,5.8nm,0.3s						
VJF	**Virojoki**	**4.08**	**44**	*e*P	**Pn**	**12 43 56.5**	**+0.4**
VJF				*e*S	**Sn**	**12 44 45.1**	**+0.6**
VJF				*e*SG	**Sg**	**12 45 00.4**	**-3.1**
FIA0	**FINESS Array S**	**4.30**	**28**	*e*P	**Pn**	**12 43 58.9**	**-0.3**
FIA0				*e*S	**Sn**	**12 44 50.2**	**+0.2**
FIA0				*e*SG	**Sg**	**12 45 06.7**	**-4.0**
FIA0	**FINESS Array S**	**4.30**	**28**	Pn	**Pn**	**12 43 57.2**	**-2.0**
	baz=213,slow=12						
FIA0				Pg	**Pg**	**12 44 09.2**	**-5.7**
	baz=205,slow=16						
FIA0				Lg		12 45 05.2	
	baz=212,slow=28						
FINES	**FINESS Array B**	**4.30**	**28**	Pn	**Pn**	**12 43 58.6**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=215,slow=12,SNR=11						
FINES				Pg	**Pg**	**12 44 08.7**	**-6.2**
	comp=Z,0.9nm,0.3s,baz=208,slow=14,SNR=14						
FINES				Lg		12 45 05.7	
	comp=Z,1.9nm,0.3s,baz=216,slow=26,SNR=12						
BSD	**Bornholm Skovb**	**4.65**	**238**	*i* P	**Pn**	**12 44 03.2**	**-0.7**
BSD				*i* S	**Sn**	**12 44 58.1**	**-0.5**
KEF	**Keuruu**	**4.70**	**18**	*e*P	**Pn**	**12 44 05.8**	**+1.2**
HFS	**Hagfors**	**4.84**	**303**	Pn	**Pn**	**12 44 07.3**	**+0.6**
	baz=132,slow=16						
HFS				Sn	**Sn**	**12 45 05.0**	**+1.5**
	baz=116,slow=28						
HFS				Lg		12 45 25.1	
	baz=108,slow=37						
HFS	**Hagfors**	**4.84**	**303**	*e*P	**Pn**	**12 44 07.3**	**+0.6**
HFS				*e*S	**Sn**	**12 45 05.0**	**+1.5**
HFS				*e*SG		12 45 25.1	
HFS	**Hagfors**	**4.84**	**303**	Pn	**Pn**	**12 44 07.6**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=117,slow=15,SNR=29						
HFS				Pg	**Pg**	**12 44 21.8**	**-3.6**
	comp=Z,0.6nm,0.3s,baz=121,slow=17,SNR=7.0						
HFS				Sn	**Sn**	**12 45 05.3**	**+1.9**
	comp=Z,0.6nm,0.3s,baz=114,slow=26,SNR=5.1						
HFS				Lg		12 45 24.3	
	comp=Z,1.1nm,0.3s,baz=120,slow=33,SNR=7.7						
KAF	**Kangasniemi**	**4.93**	**25**	*e*P	**Pn**	**12 44 07.8**	**-0.1**
VAF	**Ylistaro**	**5.34**	**4**	*e*P	**Pn**	**12 44 14.1**	**+0.7**
SUF	**Sumiainen**	**5.44**	**22**	*e*P	**Pn**	**12 44 14.9**	**0.0**
NB2	**NORSAR Subarra**	**6.35**	**306**	Pn	**Pn**	**12 44 27.3**	**0.0**
	baz=127,slow=14						
NB2				Lg		12 46 13.4	
	baz=118,slow=37						
NB2	**NORSAR Subarra**	**6.35**	**306**	*e*P	**Pn**	**12 44 27.3**	**0.0**
NOA	**NORSAR Array B**	**6.35**	**306**	Pn	**Pn**	**12 44 27.1**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=126,slow=12,SNR=2.4						
NOA				Sn	**Sn**	**12 45 38.9**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=224,slow=18,SNR=2.4						
NOA				Lg		12 46 11.4	
	comp=Z,0.9nm,0.3s,baz=110,slow=7.9,SNR=4.9						
ARA0	**ARCESS Array S**	**11.95**	**6**	Pn	**Pn**	**12 45 40.0**	**-4.2**
	baz=190,slow=14						
ARA0	**ARCESS Array S**	**11.95**	**6**	*e*P	**Pn**	**12 45 40.0**	**-4.2**
ARCES	**ARCESS Array B**	**11.95**	**6**	Pn	**Pn**	**12 45 40.0**	**-4.2**
	comp=Z,0.1nm,0.3s,baz=186,slow=14,SNR=10						

KRSC ***11*** *12:50:09.3±0.6, 6083N×16596E, h6km±2km, ML4.1*
MOS ***11*** *12:50:09.3±1.0, 6089N×16561E, h10km, mb4.6/25, MS3.5/10, Error ellipse: s-maj=13.7km s-min=7.7km az=84.9*
IDC ***11*** *12:50:09.3±0.5, 6088N×16569E, h0km, mb4.0/19, mb1 4.2/20, mb1mx4.2/26, mbtmp4.1/20, ML3.4/1, MS3.5/8, Ms1 3.5/8, ms1mx3.1/28, Error ellipse: s-maj=15.4km s-min=11.8km az=39.0*
ISCJB ***11*** *12:50:09.4±0.9, 6089N±0.003×16570E±0.005, h6km±6km, mb4.4/61, MS3.7/19, Error ellipse: s-maj=5.3km s-min=3.6km az=105.3*
NEIC ***11*** *12:50:12.9±0.3, 6096N×16561E, mb4.6/29, Error ellipse: s-maj=10.8km s-min=4.4km az=180.0*
BJI ***11*** *12:50:12.6, 6120N×16495E, h17km, mB4.9, mb4.7, Ms4.3, Msz3.9*

ISC 11 12:50:11.4±1.2, 6093N±0.003×16571E±0.005, h9km±8km, h18km±.7km: pP-P, n146, σ1.9s12/155, mb4.4/61, MS3.7/19, 2D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.53**	**161**	*i* P	**Pg**	**12 50 17.9**	**-3.7**
TILR				*i* S	**Sg**	**12 50 24.5**	**-3.8**
KAMR	**Kamenskoye**	**1.55**	**9**	*i* P

comp=Z,176nm,10.0s
TTA Tatalina 17.95 67 *e*P **Pn** **12 54 22.6 +1.5**
TTA pmax pmax
comp=Z,13nm,1.0s
TTA Tatalina 17.95 67 *e*P **Pn** **12 54 22.6 +1.5**
comp=Z,13nm,1.0s
SVW2 Sparrevohn 18.58 72 *e*P **Pn** **12 54 29.1 +0.2**
COLA College 21.13 59 *e*P **P** **12 54 55.6 -0.9**
COLA College 21.13 59 *e*P **P** **12 54 56.0 -0.4**
comp=Z,22nm,1.0s,mb4.4
HABR Khabarovsk 21.42 248 *e*P **P** **12 55 02.4 +2.8**
HABR *e*S **S** **12 59 02.2 +5.0**
HABR pmax pmax
comp=Z,53nm,1.7s,mb4.6
HABR MLR MLR
comp=Z,200nm,17.0s,MS3.6
ILAR Eielson Array 21.55 59 P **P** **12 55 00.7 -0.3**
comp=Z,16nm,0.8s,mb4.5,baz=274,slow=8.7,SNR=72
ILAR LR LR 13 04 19.1
comp=Z,184nm,18.8s,MS3.5,baz=322,slow=39
ILAR Eielson Array 21.55 59 P **P** **12 55 00.7 -0.3**
ILAR pmax pmax
comp=Z,16nm,0.9s
ILAR MLR MLR
comp=Z,184nm,18.8s
ASAJ Asahikawa 21.74 230 LR LR 13 03 33.3
comp=Z,57nm,18.1s,MS3.0,baz=28,slow=37
KLR Kul'dur 22.40 254 *e*P **P** **12 55 06.4 -3.7**
KLR MLR MLR
comp=Z,500nm,15.0s,MS4.1
DAWY Dawson 24.88 59 *e*P **P** **12 55 33.1 -1.2**
BOD Bodaibo 25.96 286 *e*P **P** **12 55 43.2 -0.9**
BOD pmax pmax
comp=Z,16nm,0.8s,mb4.6
INK Inuvik 26.01 48 P **P** **12 55 43.7 -0.9**
comp=Z,2.3nm,0.5s,mb4.0,baz=283,slow=8.3,SNR=6.5
INK PcP PcP 12 59 11.8 -0.9
comp=Z,1.7nm,0.6s,baz=288,slow=2.9,SNR=9.4
INK LR LR 13 07 38.5
comp=Z,144nm,19.3s,MS3.5,baz=187,slow=40
INK Inuvik 26.01 48 P **P** **12 55 43.7 -0.9**
INK 12 59 11.8
INK pmax pmax
comp=Z,2.0nm,0.5s
INK MLR MLR
comp=Z,144nm,19.3s
INK Inuvik 26.01 48 *e*P **P** **12 55 44.1 -0.6**
comp=Z,12nm,1.1s,mb4.3
INK *e*PcP PcP 12 59 12.1 -0.6
MDJ Mudanjiang 26.80 249 P **P** **12 55 52.3 +0.5**
MDJ AMB AMB
comp=Z,5.0nm,0.6s,mb4.2
MDJ AMB AMB
comp=Z,70nm,5.1s
MDJ LR LR
comp=N,130nm,15.6s,MS3.6
MDJ LR LR
comp=E,61nm,15.6s,MS3.6
MDJ LR LR
comp=Z,86nm,16.6s,MS3.4
CN2 Changchun 29.34 253 *e*P **P** **12 56 16.0 +1.6**
CN2 *e*XP sP 12 56 24.8 +6.5
CN2 *e*S **S** **13 01 06.2 -1.7**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,15.0s,MS4.0
CN2 LR LR
comp=E,200nm,15.0s,MS4.0
CN2 LR LR
comp=Z,200nm,13.0s,MS3.9
MJAR Matsushiro Arr 29.98 228 LR LR 13 09 33.1
comp=Z,127nm,20.1s,MS3.5,baz=30,slow=39
DLBC Dease Lake 31.39 65 *e*P **P** **12 56 33.5 +0.9**
TLY Talaya 34.38 283 *e*P **P** **12 56 58.5 -0.2**
TLY pmax pmax
comp=Z,7.0nm,1.6s,mb4.3
TLY MLR MLR
comp=Z,203nm,17.0s,MS3.9
ULN Ulaanbaatar 35.29 276 *e*P **P** **12 57 06.2 -0.4**
ULN Ulaanbaatar 35.29 276 *e*P **P** **12 57 06.6 0.0**
comp=Z,3.9nm,1.1s,mb4.2
YKW3 Yellowknife Ar 35.52 52 *e*P **P** **12 57 07.8 -0.8**
YKA Yellowknife Ar 35.57 52 P **P** **12 57 07.7 -1.2**
comp=Z,8.2nm,1.0s,mb4.6,baz=303,slow=8.5,SNR=62
YKA PcP PcP 12 59 36.1 -1.7
comp=Z,1.3nm,0.9s,baz=312,slow=3.1,SNR=13
YKA LR LR 13 14 09.6
comp=Z,51nm,21.8s,MS3.2,baz=280,slow=40
YKA Yellowknife Ar 35.57 52 P **P** **12 57 07.7 -1.2**
YKA 12 59 36.1
YKA pmax pmax
comp=Z,8.0nm,1.0s
YKA MLR MLR
comp=Z,51nm,21.8s
SONM Songino Array 35.63 276 P **P** **12 57 09.9 +0.4**
comp=Z,1.4nm,0.8s,mb4.0,baz=46,slow=7.1,SNR=11
SONM Songino Array 35.63 276 P **P** **12 57 09.9 +0.4**
SONM pmax pmax
comp=Z,1.0nm,0.8s
BJI Beijing 36.63 258 *e*P **P** **12 57 18.3 +0.3**
BJI AMB AMB
comp=Z,13nm,0.8s,mb4.8
BJI LR LR
comp=N,131nm,12.2s,MS4.1
BJI LR LR
comp=E,141nm,13.6s,MS4.1
BJI LR LR
comp=Z,55nm,17.7s,MS3.4
HHC Hu-ho-hao-te 38.23 264 *e*P **P** **12 57 33.0 +1.4**
HHC AP pP 12 57 38.5 +4.2
HHC XP sP 12 57 40.8 +5.4
HHC PP PP 12 59 03.2 +4.3
HHC PCP PcP 12 59 50.9 +5.0
HHC S **S** **13 03 25.9 +0.6**
HHC XS sS 13 03 31.8 +1.9
HHC SCP ScP 13 03 34.1 +0.3
HHC PCS PcS 13 03 37.3 +2.4
HHC SS SS 13 06 01.3 -12
HHC AMB AMB
comp=Z,12nm,1.1s,mb4.5
HHC AMB AMB
comp=Z,70nm,5.2s
HHC LR LR
comp=N,131nm,12.1s,MS4.2
HHC LR LR
comp=E,230nm,14.3s,MS4.2
HHC LR LR
comp=Z,108nm,14.5s,MS3.8
NVS Novosibirsk 41.51 300 *e*P **P** **12 57 56.8 -2.1**
NVS pmax pmax
comp=N,5.0nm,1.4s
NVS pmax pmax
comp=E,9.0nm,1.4s
NVS pmax pmax
comp=Z,9.0nm,1.4s,mb4.2
SSE Sheshan 41.65 245 *e*P **P** **12 58 00.2 +0.2**
SSE AMB AMB
comp=Z,14nm,0.8s,mb4.6
SSE AMB AMB
comp=Z,24nm,4.3s
SSE LR LR
comp=E,1μm,18.2s
SSE LR LR
comp=Z,210nm,12.2s
EDM Edmonton 41.97 63 *e*P **P** **12 58 02.3 -0.4**
WALA Waterton Lakes 44.69 67 *e*P **P** **12 58 24.2 -0.5**
comp=Z,17nm,1.3s,mb4.7
WALA *e*PcP PcP 13 00 07.7 +0.6
GTA Gaotai 45.06 273 *e*P **P** **12 58 29.3 +1.7**
GTA XP sP 12 58 37.6 +6.1
GTA PP PP 13 00 15.7 +2.8
GTA PPP 13 00 56.2
GTA S **S** **13 05 07.1 +0.5**
GTA XS sS 13 05 13.8 +2.6
GTA SS SS 13 08 19.4 -9.2
GTA AMB AMB
comp=Z,5.0nm,0.8s,mb4.4
GTA AMB AMB
comp=Z,49nm,4.2s
GTA LR LR
comp=N,144nm,18.5s,MS4.0
GTA LR LR
comp=E,112nm,18.1s,MS4.0
GTA LR LR
comp=Z,105nm,12.7s
BSMT Bassoo Peak 45.18 69 *e*P **P** **12 58 28.7 +0.2**
BSMT *e*PcP PcP 13 00 09.6 +0.8
FCC Fort Churchill 45.60 46 *e*P **P** **12 58 30.5 -1.4**
FFC Flin Flon 45.63 54 *e*P **P** **12 58 31.7 -0.4**
FFC pmax pmax
comp=Z,12nm,1.4s,mb4.6
FFC Flin Flon 45.63 54 *e*P **P** **12 58 31.7 -0.4**
comp=Z,12nm,1.4s,mb4.6
SUMG Summit 45.75 10 *e*P **P** **12 58 32.8 -0.2**
comp=Z,2.4nm,0.5s,mb4.4
YBH Yreka Blue Hor 46.04 81 P **P** **12 58 34.3 -1.0**
comp=Z,1.5nm,0.6s,mb4.1,baz=19,slow=2.3,SNR=6.3
YBH Yreka Blue Hor 46.04 81 P **P** **12 58 34.3 -1.0**
YBH pmax pmax
comp=Z,2.0nm,0.6s
BMO Blue Mountains 46.25 74 *e*P **P** **12 58 37.5 +0.5**
comp=Z,11nm,1.5s,mb4.6
MSO Missoula 46.32 69 P **P** **12 58 38.5 +1.0**
comp=Z,6.7nm,1.3s,mb4.4
KURK Kurchatov 46.42 299 *e*P **P** **12 58 37.7 -0.6**
KURK *e* 13 00 27.5
KURK pmax pmax
comp=Z,15nm,0.9s,mb4.9
KURK Kurchatov 46.42 299 *e*P **P** **12 58 37.7 -0.7**
comp=Z,15nm,0.9s,mb4.9
KURK *e*PP PP 13 00 27.5 +0.3
CHMT Chamberlain Mo 46.57 69 *e*P **P** **12 58 39.7 +0.2**
ARCES ARCESS Array B 46.78 342 P **P** **12 58 39.6 -1.4**
comp=Z,1.9nm,0.7s,mb4.1,baz=30,slow=7.8,SNR=6.6
ARCES ARCESS Array B 46.78 342 P **P** **12 58 39.7 -1.4**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
WVOR Wild Horse Val 47.45 77 *e*P **P** **12 58 45.3 -1.1**
WVOR pmax pmax
comp=Z,10.0nm,1.5s,mb4.5
WVOR Wild Horse Val 47.45 77 *e*P **P** **12 58 45.3 -1.1**
comp=Z,9.7nm,1.5s,mb4.5
WMQ Urumqi 47.51 286 ⇓P **P** **12 58 47.7 +0.9**
WMQ AP pP 12 58 53.2 +3.6
WMQ XP sP 12 58 56.7 +6.0
WMQ PCP PcP 13 00 18.7 +1.8
WMQ PP PP 13 00 38.5 +0.4
WMQ S **S** **13 05 40.5 -1.2**
WMQ XS sS 13 05 48.7 +2.4
WMQ AMB AMB
comp=Z,4.0nm,0.7s,mb4.6
WMQ AMB AMB
comp=Z,110nm,5.4s
WMQ LR LR
comp=N,83nm,18.0s,MS3.8
WMQ LR LR
comp=E,67nm,21.6s,MS3.8
WMQ LR LR
comp=Z,43nm,18.0s,MS3.5
MKAR Makanchi Array 47.74 293 P **P** **12 58 47.5 -1.2**
comp=Z,2.2nm,0.6s,mb4.3,baz=48,slow=7.0,SNR=19
MKAR PP PP 13 00 37.4 -2.9
comp=Z,0.9nm,0.8s,baz=46,slow=8.7,SNR=4.6
MKAR Makanchi Array 47.74 293 P **P** **12 58 47.5 -1.1**
MKAR 13 00 37.4
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR pmax pmax
comp=Z,1.0nm,0.8s
BVAR Borovoye Array 48.08 306 P **P** **12 58 50.4 -0.9**
comp=Z,3.6nm,0.6s,mb4.6,baz=53,slow=7.5,SNR=16
BVAR Borovoye Array 48.08 306 P **P** **12 58 50.4 -0.9**
BVAR pmax pmax
comp=Z,4.0nm,0.6s
BRVK Borovoye 48.10 306 *e*P **P** **12 58 50.9 -0.5**
BRVK pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
BRVK Borovoye 48.10 306 *e*P **P** **12 58 50.9 -0.5**
comp=Z,5.6nm,1.0s,mb4.5
HLID Hailey 48.58 73 *e*P **P** **12 58 56.5 +1.4**
comp=Z,1.6nm,0.9s,mb4.0
HLID *e*pP pP 12 59 01.2 +3.3
HLID *e*PcP PcP 13 00 22.1 +1.3
ZRNK Zerenda 48.68 307 *e*P **P** **12 58 55.0 -0.9**
ZRNK pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
ZRNK Zerenda 48.68 307 *e*P **P** **12 58 55.0 -0.9**
comp=Z,8.0nm,1.1s,mb4.7
LKWY Lake 49.66 69 *e*P **P** **12 59 05.4 +2.0**
LKWY pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
LKWY Lake 49.66 69 *e*P **P** **12 59 05.4 +2.1**
comp=Z,3.7nm,0.6s,mb4.6
ARU Arti 49.79 316 *e*P **P** **12 59 05.8 +1.4**
ARU pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
ARU Arti 49.79 316 *e*P **P** **12 59 05.8 +1.4**
comp=Z,43nm,0.8s,mb5.5
FLWY Flagg Ranch 49.89 69 *e*P **P** **12 59 05.9 +0.8**
comp=Z,11nm,1.0s,mb4.9
IMW Indian Meadow 49.93 70 *e*P **P** **12 59 07.3 +1.9**
comp=Z,9.4nm,1.3s,mb4.7
IMW *e*PcP PcP 13 00 27.1 +1.5
CD2 Chengdu 49.95 262 *e*P **P** **12 59 05.2 -0.4**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
MOOW Moose Ponds 50.13 70 *e*P **P** **12 59 07.8 +0.9**
comp=Z,2.0nm,1.2s,mb4.0
MOOW *e*pP pP 12 59 13.5 +3.7
MOOW *e*PcP PcP 13 00 20.6 -5.7
TPAW Teton Pass 50.24 70 *e*P **P** **12 59 08.9 +1.2**
comp=Z,6.3nm,1.1s,mb4.6
TPAW *e*PcP PcP 13 00 28.2 +1.5
REDW Red Top Meadow 50.38 70 *e*P **P** **12 59 09.9 +1.0**
comp=Z,20nm,1.7s,mb4.9
NVAR Mina Array Bea 50.73 80 P **P** **12 59 11.4 -0.1**
comp=Z,0.5nm,0.7s,mb3.6,baz=312,slow=5.9,SNR=6.0
NVAR PcP PcP 13 00 29.0 +0.4
comp=Z,0.6nm,0.7s,baz=277,slow=3.5,SNR=4.3
HWUT Hardware Ranch 51.42 72 *e*P **P** **12 59 17.8 +1.1**
comp=Z,9.4nm,1.3s,mb4.6
HWUT *e*PcP PcP 13 00 31.9 +0.8
BW06 Boulder Array 51.44 70 *e*P **P** **12 59 16.9 +0.1**
comp=Z,7.2nm,1.2s,mb4.5
PDAR Pinedale Array 51.44 70 P **P** **12 59 17.1 +0.3**
comp=Z,4.1nm,1.0s,mb4.3,baz=337,slow=3.4,SNR=25
PDAR LR LR 13 23 00.3
comp=Z,61nm,18.3s,MS3.7,baz=234,slow=38
ULM Lac du Bonnet 51.46 54 LR LR 13 22 44.8
comp=Z,42nm,18.9s,MS3.5,baz=358,slow=38
RSSD Black Hills 52.86 65 *e*P **P** **12 59 27.7 +0.3**
RSSD *e* 13 00 35.6
RSSD pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
RSSD Black Hills 52.86 65 *e*P **P** **12 59 27.7 +0.3**
comp=Z,7.8nm,1.1s,mb4.5
RSSD *e*PcP PcP 13 00 35.6 -0.9
SRU San Rafael 53.88 73 *e*P **P** **12 59 35.8 +0.9**
SRU *e* 13 00 41.9
SRU pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
SRU San Rafael 53.88 73 *e*P **P** **12 59 35.8 +0.9**
comp=Z,4.7nm,1.0s,mb4.4
SRU *e*PcP PcP 13 00 41.9 +1.4
GSC Goldstone 53.95 81 P **P** **12 59 36.4 +1.0**
FINES FINESS Array B 54.09 337 P **P** **12 59 34.8 -1.6**
comp=Z,1.0nm,0.6s,mb3.9,baz=25,slow=10,SNR=5.3
FINES FINESS Array B 54.09 337 *i* P **P** **12 59 34.7 -1.8**
FINES pmax pmax
comp=Z,1.0nm,0.6s
AAK Ala-Archa 54.46 295 *e*P **P** **12 59 38.1 -1.0**
AAK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
AAK Ala-Archa 54.46 295 *e*P **P** **12 59 38.1 -1.1**
comp=Z,5.0nm,0.8s,mb4.5
AKTK Aktyubinsk 54.84 312 P **P** **12 59 40.6 -1.2**
AKTO Aktyubinsk 54.84 312 P **P** **12 59 40.6 -1.2**
comp=Z,0.7nm,0.4s,mb4.0,baz=52,slow=12,SNR=3.8
AKTO Aktyubinsk 54.84 312 P **P** **12 59 40.7 -1.1**
AKTO pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
PV10 Paradox Valley 55.16 73 *e*P **P** **12 59 45.6 +1.4**
KMI Kunming 55.27 259 P **P** **12 59 45.4 +0.4**
KMI AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
SMCO Snowmass 55.48 70 *e*P **P** **12 59 46.8 +0.4**
comp=Z,3.7nm,1.1s,mb4.3
PV01 Paradox Valley 55.58 72 *e*P **P** **12 59 48.1 +1.0**
NB2 NORSAR Subarra 56.79 345 P **P** **12 59 54.6 -1.3**
comp=Z,1.7nm,0.5s,mb4.3,baz=15,slow=7.4
NOA NORSAR Array B 56.79 345 P **P** **12 59 54.3 -1.5**
comp=Z,1.5nm,0.5s,mb4.3,baz=14,slow=7.3,SNR=5.8
NOA NORSAR Array B 56.79 345 P **P** **12 59 54.3 -1.6**
NOA pmax pmax
comp=Z,2.0nm,0.5s
QIZ Qiongzhong 57.17 249 P **P** **12 59 59.4 +0.8**
QIZ AP pP 13 00 04.3 +2.9
QIZ S **S** **13 07 47.6 -6.5**
QIZ AMB AMB
comp=Z,7.0nm,1.6s,mb4.4
QIZ LR LR
comp=N,113nm,15.3s
QIZ LR LR
comp=Z,128nm,19.4s,MS4.0
SCHQ Schefferville 57.33 33 P **P** **12 59 57.2 -2.4**
comp=Z,2.1nm,0.8s,mb4.2,baz=285,slow=8.7,SNR=4.1
SCHQ LR LR 13 24 59.8
comp=Z,34nm,20.6s,MS3.4,baz=50,slow=36
OBN Obninsk 57.52 328⇓ *e*P **P** **13 00 02.7 +1.7**
OBN *e*S **S** **13 08 08.3 +10**
OBN pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.0
ANMO Albuquerque 59.15 73 *e*P **P** **13 00 11.4 -1.0**
MNTX Cornudas Mount 62.34 74 *e*P **P** **13 00 34.9 +0.7**
comp=Z,6.7nm,1.5s,mb4.5
AKASG Malin Array Be 63.37 331 P **P** **13 00 39.2 -1.8**
comp=Z,2.2nm,0.3s,mb3.8,baz=22,slow=6.5,SNR=4.4
AKASG Malin Array Be 63.37 331 P **P** **13 00 39.2 -1.9**
SOC Sochi 66.99 320 *e*P **P** **13 01 04.8 +0.3**
SOC *e* 13 03 39.7
SOC *e*S S 13 10 00.1 +2.0
SOC pmax pmax
comp=Z,14nm,0.9s,mb5.0
GERES GERESS Array B 68.27 340 P **P** **13 01 11.6 -1.0**
comp=Z,0.2nm,0.2s,mb3.7,baz=329,slow=4.7,SNR=3.5
BRTR Keskin Array B 72.36 323 P **P** **13 01 38.0 +0.4**
comp=Z,0.6nm,0.7s,mb3.7,baz=28,slow=8.2,SNR=3.6
BRTR Keskin Array B 72.36 323 P **P** **13 01 38.0 +0.4**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 84.46 209 P **P** **13 02 42.5 -2.0**
comp=Z,0.9nm,0.7s,mb4.0,baz=12,slow=5.4,SNR=9.4
WRA Warramunga Arr 84.46 209 *i* P **P** **13 02 42.5 -2.0**
WRA pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 88.15 209 P **P** **13 03 00.9 -1.6**
comp=Z,0.4nm,0.6s,mb3.8,baz=14,slow=4.4,SNR=6.5
QSPA South Pole Qui 150.69 180 *e*P PKPdf 13 10 00.3 +1.9

IDC 11 12:54:53.3±7.8, 1994S×17402W, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/15, mbtmp3.8/4, ML1.9/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/27, Error ellipse: s-maj=241.8km s-min=34.4km az=128.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
AFI	**Afiamalu**	**6.37**	**20**	Pn	Pn	12 56 28.4	+0.1
	1.7nm,0.3s,baz=202,slow=17,SNR=6.5						
AFI				Sn	Sn	12 57 36.4	-5.4
	4.9nm,0.3s,baz=205,slow=17,SNR=3.8						
RAO	**Raoul Island**	**9.93**	**200**	LR	LR	13 00 02.1	
	comp=Z,87nm,18.9s,baz=7.2,slow=31						
STKA	**Stephens Creek**	**41.40**	**244**	P	P	13 02 40.9	-0.3
	0.4nm,0.3s,baz=80,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**48.28**	**256**	P	P	13 03 37.0	+0.9
	0.5nm,0.6s,baz=94,slow=7.2,SNR=11						
WRA	**Warramunga Arr**	**48.38**	**261**	P	P	13 03 37.2	+0.3
	0.7nm,0.6s,baz=96,slow=8.3,SNR=13						

IGQ 11 13:04:04.4, 205S×8024W, h13km±9km, Mb4.2, Ms4.0, 9C-3D, Error ellipse: s-maj=9.3km s-min=4.6km az=80.0, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
SALI	**Salinas**	**0.76**	**260**	P	Pg	13 04 19.7	+0.5
IGUA	**Igualata**	**1.69**	**71**	⇑P	Pn	13 04 35.7	+2.0
QIL1	**Quilotoa**	**1.77**	**48**	⇑P	Pn	13 04 35.7	+0.9
PATA	**Patacocha**	**1.89**	**73**	P	Pn	13 04 39.0	+2.6
MAG1	**Magdalena**	**2.02**	**13**	⇓P	Pn	13 04 39.0	+0.9
PISA	**Pisayambo**	**2.10**	**62**	⇑P	Pn	13 04 42.3	+3.0
PISA				S	Sn	13 05 07.8	+2.6
CAMI	**Rancho Maria**	**2.21**	**52**	⇑P	Pn	13 04 44.3	+3.5
VC1	**Cotopaxi 1**	**2.31**	**53**	⇑P	Pn	13 04 45.9	+3.7
VC1				S	Sn	13 05 15.8	+5.4
TERV	**Terraza Guagua**	**2.48**	**41**	P	Pn	13 04 46.7	+2.2
TERV				S	Sn	13 05 16.0	+1.4
GGP	**Refugio Guagua**	**2.48**	**41**	⇑P	Pn	13 04 46.6	+2.0
PINO	**Pino**	**2.49**	**41**	⇑P	Pn	13 04 46.8	+2.2
PINO				S	Sn	13 05 17.1	+2.2
YANA	**Yana**	**2.54**	**41**	⇑P	Pn	13 04 47.3	+1.9
ANTI	**Antisana**	**2.62**	**53**	⇓P	Pn	13 04 49.7	+3.3
ANTI				S	Sn	13 05 23.2	+5.2
CAYR	**Refugio Cayamb**	**3.03**	**47**	P	Pn	13 04 56.3	+4.2
CAYR				S	Sn	13 05 33.1	+4.8
COTA	**Cotacachi**	**3.04**	**39**	P	Pn	13 04 54.6	+2.4
COTA				S	Sn	13 05 33.5	+5.1
ANGU	**Angureal**	**3.05**	**47**	⇓P	Pn	13 04 55.8	+3.4
CAYA	**Cayambe**	**3.08**	**47**	⇑P	Pn	13 04 57.8	+5.0

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*NEIC **11** 13:15:15.6, 2733S×7077W, h28km, ML2.7(GUC), After GUC.*

GUC 11 13:15:15.6±0.5, 2733S×7077W, h28km±3km, MD3.5, ML2.8, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
CDCH	**Caldera**	**0.26**	**349**	*e*P	Pb	13 15 22.1	-0.2
CDCH				*i* S	Sb	13 15 27.1	+0.3
CRCH	**Chaqaral**	**0.99**	**8**	*i* P	Pn	13 15 32.9	-0.8
CRCH				*i* S	Sn	13 15 46.6	-0.1
LCO	**Las Campanas**	**1.68**	**178**	*e*P	Pn	13 15 44.6	+1.5
LCO				*i* S	Sn	13 16 06.8	+3.2
CPN1	**Cerro Paranal**	**2.71**	**7**	*e*P	Pn	13 15 54.8	-2.5
CPN1				*i* S	Sn	13 16 26.4	-2.8
CPN1				AML	AML	13 16 47.9	
	comp=E,37nm,0.5s						
TLL	**Tololo Astrono**	**2.83**	**181**	*e*P	Pn	13 16 00.7	+1.8
TLL				*i* S	Sn	13 16 35.4	+3.3
TLL				AML	AML	13 16 54.0	
	comp=N,40nm,0.8s						
TLL	**Tololo Astrono**	**2.83**	**181**	*e*P	Pn	13 16 00.7	+1.8
TLL				*i* S	Sn	13 16 35.4	+3.3

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*ISCJB **11** 13:29:07.5±2.8, 149S±06×1789W±03, h383km±40km, mb3.9/8, Error ellipse: s-maj=100.4km s-min=16.7km az=119.6*

*IDC **11** 13:29:09.7±2.5, 1532S×17857W, h405km±37km, mb3.4/6, mb1 3.8/7, mb1mx3.5/14, mbtmp4.3/7, Error ellipse: s-maj=88.9km s-min=13.0km az=151.0*

ISC 11 13:29:08.8±2.9, 149S±06×1788W±04, h382km±41km, n12, σ1$02/11, mb3.9/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
AFI	**Afiamalu**	**6.85**	**82**	P	**Pn**	**13 30 51.0**	**+0.8**
	12nm,0.3s,baz=36,slow=1.8,SNR=27						
AFI				S	**S**	**13 32 12.3**	**-0.6**
	0.5nm,0.3s,baz=33,slow=21,SNR=3.5						
STKA	**Stephens Creek**	**39.83**	**238**	*e*P	**P**	**13 36 05.1**	**-1.6**
	3.1nm,1.2s,mb3.5						
STKA	**Stephens Creek**	**39.83**	**238**	P	**P**	**13 36 04.8**	**-1.9**
	1.5nm,0.4s,mb3.7,baz=72,slow=5.3,SNR=7.4						
WRA	**Warramunga Arr**	**44.90**	**257**	P	**P**	**13 36 47.3**	**+0.3**
	0.4nm,0.3s,mb3.2,baz=97,slow=6.4,SNR=34						
ASAR	**Alice Springs**	**45.33**	**251**	P	**P**	**13 36 51.0**	**+0.5**
	14nm,0.5s,mb4.6,baz=86,slow=8.4,SNR=518						
FORT	**Forrest**	**51.02**	**242**	*e*P	**P**	**13 37 32.5**	**-0.8**
	16nm,0.7s,mb4.4						
KLBR	**Kellerberrin**	**59.87**	**242**	*e*P	**P**	**13 38 37.5**	**+1.9**
	7.1nm,0.6s,mb4.3						
NVAR	**Mina Array Bea**	**77.55**	**44**	P	**P**	**13 40 24.3**	**+0.9**
	0.6nm,0.6s,mb3.4,baz=220,slow=6.8,SNR=6.6						
ILAR	**Eielson Array**	**83.09**	**13**	P	**P**	**13 40 51.5**	**-1.2**
	1.1nm,0.6s,mb3.8,baz=230,slow=5.4,SNR=30						
PDAR	**Pinedale Array**	**85.45**	**44**	P	**P**	**13 41 04.5**	**+0.1**
	0.9nm,0.6s,mb3.7,baz=204,slow=2.5,SNR=10						

ARCES ARCESS Array B 123.35 350 PKP PKPdf 13 47 19.3 -1.6
3.8nm,1.1s,baz=45,slow=1.9,SNR=4.7
BRTR Keskin Array B 142.42 317 PKP PKPdf 13 47 54.2 -2.3
3.6nm,1.2s,baz=358,slow=5.6,SNR=3.6

NEIC ***11*** *13:41:42.8, 62.23N×136.18W, h10km, ML2.9(AEIC), ML3.0(PGC), After PGC.*

PGC 11 13:41:42.8, 62.23N×136.18W, h10km, ML3.0/4, 175km northwest of Whitehorse, Yt Near Carmacks, Yukon Territory, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
HYT	**Haines Junctio**	**1.54**	**205**	Pn	Pn		13 42 10.1	-0.2
HYT				Pg	Pg		13 42 11.2	-1.2
HYT				Sg	Sg		13 42 31.8	-0.6
HYT				Trac			13 42 33.8	
	comp=Z,358nm,0.2s							
HYT	**Haines Junctio**	**1.54**	**205**	Pn	Pn		13 42 10.1	-0.2
HYT				*e*Pg	Pg		13 42 11.2	-1.2
HYT				*e*Sg	Sg		13 42 31.8	-0.6
WHY	**Whitehorse**	**1.69**	**158**	Pn	Pn		13 42 11.4	-1.0
WHY				Pg	Pg		13 42 12.8	-2.4
WHY				Sg	Sg		13 42 36.2	-1.0
WHY				Trac			13 42 38.3	
	comp=Z,28nm,0.1s							
WHY	**Whitehorse**	**1.69**	**158**	P	Pn		13 42 11.4	-1.0
WHY				S	Sn		13 42 33.1	-1.0
DAWY	**Dawson**	**2.35**	**323**	Pn	Pn		13 42 20.6	-0.9
DAWY				Pg	Pg		13 42 25.4	-2.4
DAWY				Sg	Sg		13 42 55.6	-2.7
DAWY				Trac			13 42 58.5	
	comp=Z,96nm,0.2s							
DAWY	**Dawson**	**2.35**	**323**	P	Pn		13 42 20.2	-1.2
DAWY				S	Sn		13 42 48.9	-1.5
PLBC	**Pleasant Camp**	**2.78**	**182**	Pg	Pg		13 42 32.2	-3.9
PLBC				Sg	Sg		13 43 08.6	-3.6
SKAG	**Skagway**	**2.81**	**171**	P	Pn		13 42 27.9	+0.2
SKAG				S	Sn		13 43 01.6	-0.1
PNL	**Peninsula**	**3.01**	**213**	P	Pn		13 42 31.5	+1.0
MENT	**Mentasta**	**3.56**	**285**	P	Pn		13 42 36.6	-1.5
BESE	**Bessie Mountai**	**3.72**	**169**	P	Pn		13 42 41.2	+0.9
DOT	**Dot Lake**	**3.87**	**295**	P	Pn		13 42 42.0	-0.4
BMRM	**Bremner River**	**4.22**	**256**	P	Pn		13 42 48.3	+1.2
DLBC	**Dease Lake**	**4.88**	**138**	Pn	Pn		13 42 55.9	-0.3
DLBC				Sg	Sg		13 44 14.5	-4.9
DLBC				Trac			13 44 22.2	
	comp=Z,7.0nm,0.3s							
DLBC	**Dease Lake**	**4.88**	**138**	P	Pn		13 42 54.5	-1.8
INK	**Inuvik**	**6.21**	**9**	Pn	Pn		13 43 13.5	-1.0
INK				Sn	Sn		13 44 20.0	-5.5
INK				Sg	Sg		13 44 56.4	-5.7
INK				Trac			13 45 03.9	
	comp=Z,3.0nm,0.6s							
INK	**Inuvik**	**6.21**	**9**	Pn	Pn		13 43 13.5	-1.0
INK				Sn	Sn		13 44 20.0	-5.5
INK				Sg	Sg		13 44 56.4	-5.7
FNBB	**Fort Nelson**	**7.30**	**111**	Pn	Pn		13 43 27.4	-2.0
FNBB				Sn	Sn		13 44 48.8	-3.7
FNBB				Sg	Sg		13 45 27.7	-9.4
FNBB				Trac			13 45 49.4	
	comp=Z,2.0nm,0.7s							
FNBB	**Fort Nelson**	**7.30**	**111**	Pn	Pn		13 43 27.4	-2.0
FNBB				Sn	Sn		13 44 48.8	-3.7
FNBB				Sg	Sg		13 45 27.7	-9.4
YKW3	**Yellowknife Ar**	**10.01**	**79**	P	Pn		13 44 05.7	-0.9

KRSC ***11*** *13:41:56.6±0.9, 60.76N×116.03E, h1km±2km, ML4.1*
MOS ***11*** *13:41:56.2±1.1, 60.75N×116.58E, h10km, mb4.6/29, MS3.8/10, Error ellipse: s-maj=14.3km s-min=7.6km az=90.5*
IDC ***11*** *13:41:56.9±0.5, 60.76N×116.57E, h0km, mb4.1/18, mb1 4.3/19, mb1mx4.2/26, mbtmp4.1/19, ML3.6/1, MS3.9/12, Ms1 3.9/12, ms1mx3.6/34, Error ellipse: s-maj=14.6km s-min=10.2km az=56.0*
NEIC ***11*** *13:41:58.7±0.4, 60.77N×116.58E, h10km, mb4.6/24, Error ellipse: s-maj=9.9km s-min=5.3km az=182.0*
ISCJB ***11*** *13:41:58.4±0.8, 60.77N±0.003×116.593E±0.005, h18km±6km, mb4.4/55, MS4.0/18, Error ellipse: s-maj=5.4km s-min=3.8km az=105.1*
BJI ***11*** *13:41:58.6, 60.80N×116.80E, h10km, mB4.9, mb4.6, Ms4.4, Msz4.2*

ISC 11 13:41:59.5±0.9, 60.80N±0.003×116.95E±0.005, h15km±5km, h16km±2.3km; pP-P, n145, σ1°13/152, mb4.4/55, MS4.0/18, 1C-3D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
TILR	**Tilichiki**	**0.37**	**172**	*i* P	**Pg**		**13 42 04.3**	**-2.8**
TILR				*i* S	**Sg**		**13 42 10.1**	**-2.1**
KAMR	**Kamenskoye**	**1.67**	**4**	*i* P	**Pn**		**13 42 27.8**	**-0.3**
KAMR				*i* S	**Sn**		**13 42 50.3**	**+1.0**
KAMR				Smax				
	8μm,1.1s							
OSSR	**Ossora**	**2.13**	**224**	*e*P	**Pn**		**13 42 34.8**	**+0.3**
EVNR	**Evensk**	**3.41**	**292**	*e*P	**Pn**		**13 42 53.0**	**+0.9**
SMKR	**Semkarok**	**4.83**	**211**	*e*P	**Pn**		**13 43 12.1**	**+0.4**
SRKR	**Sorokina**	**4.85**	**213**	*e*P	**Pn**		**13 43 13.0**	**+1.1**
KBG	**Krutoberegovo**	**4.87**	**202**	*e*P	**Pn**		**13 43 12.3**	**+0.2**
KBTR	**Krutoberegovo**	**4.89**	**201**	P	**Pn**		**13 43 11.5**	**-1.0**
KBTR				S	**Sn**		**13 44 07.3**	**-1.5**
KBTR	**Krutoberegovo**	**4.89**	**201**	*e*P	**Pn**		**13 43 12.1**	**-0.4**
BDR	**Baidarnaya**	**4.91**	**212**	*e*P	**Pn**		**13 43 13.4**	**+0.6**
KLY	**Klyuchi**	**5.29**	**214**	*e*P	**Pn**		**13 43 18.1**	**+0.2**
KRSR	**Krestovskiy**	**5.39**	**214**	*e*P	**Pn**		**13 43 20.5**	**+1.1**
CIRR	**Tsirk**	**5.43**	**212**	*e*P	**Pn**		**13 43 21.3**	**+1.4**
LGNR	**Loginova**	**5.48**	**213**	*e*P	**Pn**		**13 43 21.0**	**+0.5**
ZLN	**Zelenaya**	**5.51**	**212**	*e*P	**Pn**		**13 43 21.7**	**+0.8**
SRDR	**Sredinnyy**	**5.55**	**219**	*e*P	**Pn**		**13 43 22.4**	**+0.8**
BKI	**Bering**	**5.61**	**180**	*e*P	**Pn**		**13 43 23.1**	**+0.7**
KPT	**Kopyto**	**5.71**	**214**	*e*P	**Pn**		**13 43 24.0**	**+0.3**
KMNR	**Kamenistaya**	**5.89**	**213**	*e*P	**Pn**		**13 43 27.2**	**+1.0**
ESO	**Esso**	**6.20**	**221**	*e*P	**Pn**		**13 43 31.9**	**+1.4**
TUMR	**Tumrok**	**6.33**	**212**	*e*P	**Pn**		**13 43 33.5**	**+1.2**
MKZ	**Mys Kozlova**	**6.66**	**202**	P	**Pn**		**13 43 35.9**	**-0.8**
MKZ	**Mys Kozlova**	**6.66**	**202**	*e*P	**Pn**		**13 43 37.6**	**+0.9**
SEY	**Seymchan**	**6.76**	**294**	*e*P	**Pn**		**13 43 40.0**	**+1.8**
BILL	**Bilibino**	**7.27**	**1**	*e*Pn	**Pn**		**13 43 46.1**	**+1.0**
BILL	**Bilibino**	**7.27**	**1**	*e*Pn	**Pn**		**13 43 46.1**	**+1.0**
BILL	**Bilibino**	**7.27**	**1**	*e*P	**Pn**		**13 43 47.2**	**+2.0**
BILL				Smax				
	340nm,1.4s							
MA2	**Magadan**	**7.67**	**267**	*e*PN	**Pn**		**13 43 49.3**	**-1.3**
MA2				pmax	pmax			
	comp=Z,10.0nm,0.8s							
MA2				MLR	MLR			
	comp=Z,7μm,8.9s							
MA2	**Magadan**	**7.67**	**267**	*e*Pn	**Pn**		**13 43 49.2**	**-1.4**
MA2				*e*Sn	**Sn**		**13 45 17.5**	**+0.3**
MA2	**Magadan**	**7.67**	**267**	*e*P	**Pn**		**13 43 51.7**	**+1.1**
MA2				*e*S	**Sn**		**13 45 17.4**	**+0.1**
MA2				Smax				
	comp=Z,70nm,1.1s							
GNL	**Ganaly**	**8.34**	**215**	*e*P	**Pn**		**13 44 01.5**	**+1.7**
AVH	**Avacha**	**8.51**	**211**	*e*P	**Pn**		**13 44 04.7**	**+2.5**
PET	**Petropavlovsk**	**8.75**	**210**	*e*PN	**Pn**		**13 44 14.8**	**+9.3**
PET				*e*			13 45 55.1	
PET				MLR	MLR			
	comp=Z,1μm,19.0s							
FX1	**Attu Island--F**	**8.86**	**150**	Pn	**Pn**		**13 44 04.8**	**-2.2**
	comp=Z,2.5nm,0.3s,baz=181,slow=9.8,SNR=24							
FX1				Sn	**Sn**		**13 45 43.2**	**-3.3**
	baz=288,slow=22,SNR=2.0							
FX1				LR	LR		13 47 16.3	
	comp=Z,29nm,18.4s,baz=329,slow=36							
FX1	**Attu Island--F**	**8.86**	**150**	PN	**Pn**		**13 44 04.8**	**-2.2**
FX1				pmax	pmax			
	comp=Z,3.0nm,0.3s							
FX1				MLR	MLR			
	comp=Z,3μm,18.4s							
FX1	**Attu Island--F**	**8.86**	**150**	*e*Pn	**Pn**		**13 44 08.3**	**+1.3**
YAK	**Yakutsk**	**17.26**	**290**	*e*P	**Pn**		**13 46 02.4**	**+2.5**
YAK				pmax	pmax			
	comp=Z,24nm,1.0s							
YAK				pmax	pmax			
	comp=N,5.0nm,1.3s							
YAK				pmax	pmax			
	comp=E,14nm,1.1s							
YAK				MLR	MLR			
	comp=Z,195nm,10.0s							
YAK				MLR	MLR			
	comp=N,279nm,9.0s							
YAK				MLR	MLR			
	comp=E,156nm,11.0s							
YAK	**Yakutsk**	**17.26**	**290**	*e*Pn	**Pn**		**13 46 00.2**	**+0.2**
	comp=E,41nm,0.8s							
TTA	**Tatalina**	**17.89**	**67**	*e*P	**Pn**		**13 46 11.1**	**+3.4**
TIXI	**Tiksi**	**18.09**	**322**	*e*P	**Pn**		**13 46 09.4**	**-0.9**
TIXI				*e*S	**Sn**		**13 49 31.6**	**-0.3**
TIXI				pmax	pmax			
	comp=Z,5.0nm,0.8s							
TIXI				MLR	MLR			
	comp=Z,313nm,12.0s							
TIXI	**Tiksi**	**18.09**	**322**	P	**Pn**		**13 46 12.2**	**+1.9**
SVW2	**Sparrevohn**	**18.51**	**72**	*e*P	**Pn**		**13 46 16.2**	**+0.9**
COLA	**College**	**21.09**	**59**	*e*P	**P**		**13 46 43.1**	**-0.2**
COLA				pmax	pmax			
	comp=Z,62nm,1.6s,mb4.7							
COLA	**College**	**21.09**	**59**	*e*P	**P**		**13 46 43.1**	**-0.2**
	comp=Z,62nm,1.6s,mb4.7							
KDAK	**Kodiak Island**	**21.13**	**80**	LR	LR		13 56 45.9	
	comp=Z,283nm,18.6s,MS3.7,baz=302,slow=42							
HABR	**Khabarovsk**	**21.48**	**249**	*e*P	**P**		**13 46 47.0**	**-0.5**
HABR				*e*S	**S**		**13 50 44.8**	**-0.5**
HABR				pmax	pmax			
	comp=Z,33nm,1.4s,mb4.5							
ILAR	**Eielson Array**	**21.52**	**59**	P	**P**		**13 46 47.5**	**-0.4**
	comp=Z,18nm,0.9s,mb4.5,baz=267,slow=7.3,SNR=40							
ILAR				LR	LR		13 56 00.5	
	comp=Z,166nm,18.5s,MS3.5,baz=124,slow=39							
ILAR	**Eielson Array**	**21.52**	**59**	P	**P**		**13 46 47.5**	**-0.4**
ILAR				pmax	pmax			
	comp=Z,18nm,0.9s							
ILAR				MLR	MLR			
	comp=Z,166nm,18.5s							
ASAJ	**Asahikawa**	**21.75**	**230**	LR	LR		13 55 08.8	
	comp=Z,324nm,20.2s,MS3.7,baz=356,slow=37							
KLR	**Kul'dur**	**22.48**	**254**	*e*P	**P**		**13 46 54.7**	**-3.5**
KLR				*e*S	**S**		**13 51 02.5**	**-2.3**
KLR				pmax	pmax			
	comp=E,28nm,1.6s							
KLR				pmax	pmax			
	comp=Z,40nm,1.6s,mb4.6							
KLR				MLR	MLR			
	comp=N,700nm,14.0s							
KLR				MLR	MLR			
	comp=Z,900nm,14.0s,MS4.3							
MENT	**Mentasta**	**23.34**	**63**	*e*P	**P**		**13 47 06.2**	**-1.0**
DAWY	**Dawson**	**24.84**	**59**	*e*P	**P**		**13 47 20.8**	**-0.4**
INK	**Inuvik**	**26.01**	**48**	P	**P**		**13 47 31.2**	**-0.6**
	comp=Z,11nm,1.0s,mb4.3,baz=285,slow=12,SNR=17							
INK				LR	LR		13 59 27.3	
	comp=Z,325nm,18.5s,MS3.9,baz=197,slow=40							
INK	**Inuvik**	**26.01**	**48**	P	**P**		**13 47 31.2**	**-0.6**
INK				pmax	pmax			
	comp=Z,11nm,1.0s							
INK				MLR	MLR			
	comp=Z,325nm,18.5s							
INK	**Inuvik**	**26.01**	**48**	*e*P	**P**		**13 47 31.2**	**-0.6**
	comp=Z,14nm,0.9s,mb4.5							
BOD	**Bodaibo**	**26.11**	**287**	*e*P	**P**		**13 47 31.3**	**-1.4**
BOD				pmax	pmax			
	comp=Z,18nm,1.6s,mb4.3							
CN2	**Changchun**	**29.42**	**253**	*e*P	**P**		**13 48 04.0**	**+1.7**
CN2				*e*AP	pP		13 48 08.3	+1.5
CN2				*e*S	**S**		**13 52 56.4**	**+0.7**
CN2				AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.7							
CN2				AMB	AMB			
	comp=Z,200nm,4.0s							
CN2				LR	LR			
	comp=N,400nm,13.0s,MS4.3							
CN2				LR	LR			
	comp=E,300nm,13.0s,MS4.3							
CN2				LR	LR			
	comp=Z,200nm,15.0s,MS3.9							
MJAR	**Matsushiro Arr**	**29.98**	**229**	LR	LR		14 01 33.3	
	comp=Z,367nm,18.4s,MS4.0,baz=20,slow=39							
DLBC	**Dease Lake**	**31.33**	**65**	P	**P**		**13 48 20.9**	**+1.7**
	comp=Z,2.2nm,0.7s,mb4.1,baz=283,slow=5.7,SNR=5.0							
DLBC	**Dease Lake**	**31.33**	**65**	*e*P	**P**		**13 48 20.8**	**+1.6**
TLY	**Talaya**	**34.53**	**283**	*e*P	**P**		**13 48 47.0**	**-0.2**
ULN	**Ulaanbaatar**	**35.42**	**276**	*e*P	**P**		**13 48 54.7**	**-0.2**
ULN				pmax	pmax			
	comp=Z,7.0nm,1.4s,mb4.4							
ULN	**Ulaanbaatar**	**35.42**	**276**	*e*P	**P**		**13 48 54.7**	**-0.2**
	comp=Z,7.5nm,1.4s,mb4.4							
YKW3	**Yellowknife Ar**	**35.51**	**52**	*e*P	**P**		**13 48 54.9**	**-0.8**
ZAK	**Zakamensk**	**35.55**	**282**	*e*P	**P**		**13 48 55.8**	**-0.2**
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.6s,mb4.3							
YKA	**Yellowknife Ar**	**35.55**	**52**	P	**P**		**13 48 54.9**	**-1.1**
	comp=Z,3.8nm,0.9s,mb4.3,baz=306,slow=8.4,SNR=27							
YKA				PcP	PcP		13 51 23.9	-1.0
	comp=Z,0.7nm,0.7s,baz=314,slow=3.5,SNR=8.6							
YKA				LR	LR		14 06 19.5	
	comp=Z,87nm,18.3s,MS3.5,baz=285,slow=41							
YKA	**Yellowknife Ar**	**35.55**	**52**	P	**P**		**13 48 54.9**	**-1.1**
YKA							13 51 23.9	
YKA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
YKA				MLR	MLR			
	comp=Z,87nm,18.3s							
SONM	**Songino Array**	**35.77**	**276**	P	**P**		**13 48 57.9**	**0.0**
	comp=Z,2.8nm,1.1s,mb4.1,baz=49,slow=7.8,SNR=14							
SONM				PcP	PcP		13 51 25.1	-0.4
	comp=Z,0.5nm,0.9s,baz=45,slow=2.9,SNR=3.2							
SONM				LR	LR		14 04 14.1	
	comp=Z,365nm,18.6s,MS4.2,baz=266,slow=38							
SONM	**Songino Array**	**35.77**	**276**	P	**P**		**13 48 57.9**	**0.0**
SONM							13 51 25.1	
SONM				pmax	pmax			
	comp=Z,3.0nm,1.1s							
SONM				MLR	MLR			
	comp=Z,365nm,18.6s							
BJI	**Beijing**	**36.72**	**259**	*e*P	**P**		**13 49 05.1**	**-0.9**
BJI				AMB	AMB			
	comp=Z,16nm,1.2s,mb4.7							
HHC	**Hu-ho-hao-te**	**38.33**	**264**	*e*P	**P**		**13 49 19.9**	**+0.2**
HHC				AP	pP		13 49 24.2	0.0
HHC				XP	sP		13 49 27.2	+1.2
HHC				PP	PP		13 50 50.2	+2.9
HHC				PCP	PcP		13 51 34.1	+0.8
HHC				S	**S**		**13 55 13.7**	**+0.2**
HHC				XS	sS		13 55 20.9	-0.1
HHC				PCS	PcS		13 55 22.0	-0.4
HHC				AMB	AMB			
	comp=Z,11nm,1.0s,mb4.5							
HHC				AMB	AMB			
	comp=Z,65nm,4.4s							
HHC				LR	LR			
	comp=N,205nm,14.4s,MS4.2							
HHC				LR	LR			
	comp=E,168nm,15.0s,MS4.2							
HHC				LR	LR			
	comp=Z,219nm,13.8s,MS4.1							
NVS	**Novosibirsk**	**41.68**	**300**	*e*P	**P**		**13 49 45.0**	**-2.5**
NVS				pmax	pmax			
	comp=Z,6.0nm,1.3s,mb4.1							
NVS				pmax	pmax			
	comp=E,6.0nm,1.4s							
SSE	**Sheshan**	**41.71**	**245**	*e*P	**P**		**13 49 46.7**	**-1.0**
SSE				AMB	AMB			
	comp=Z,20nm,0.7s,mb4.9							
SSE				AMB	AMB			
	comp=Z,14nm,3.5s							
NJ2	**Nanjing**	**41.95**	**249**	*e*P	**P**		**13 49 50.3**	**+0.6**
NJ2				AP	pP		13 49 54.2	0.0
NJ2				XP	sP		13 49 57.8	+1.7
NJ2				PP	PP		13 51 31.1	+4.4
NJ2				S	**S**		**13 56 07.0**	**-0.7**
NJ2				XS	sS		13 56 17.0	+1.8
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.5							
NJ2				AMB	AMB			
	comp=Z,270nm,10.0s							
NJ2				LR	LR			
	comp=N,3μm,20.0s							
NJ2				LR	LR			
	comp=E,1μm,29.9s							
NJ2				LR	LR			
	comp=Z,500nm,30.0s							
WALA	**Waterton Lakes**	**44.63**	**67**	*e*P	**P**		**13 50 11.4**	**+0.1**
	comp=Z,10nm,1.2s,mb4.5							
BSMT	**Bassoo Peak**	**45.11**	**69**	*e*P	**P**		**13 50 15.4**	**+0.3**
GTA	**Gaotai**	**45.19**	**273**	*e*P	**P**		**13 50 17.4**	**+1.6**
GTA				AP	pP		13 50 21.4	+1.0
GTA				XP	sP		13 50 24.2	+2.0
GTA				PP	PP		13 52 04.6	+3.1
GTA				PPP			13 52 47.1	
GTA				S	**S**		**13 56 57.3**	**+2.3**
GTA				XS	sS		13 57 06.7	+4.1
GTA				AMB	AMB			
	comp=Z,4.0nm,1.3s,mb4.1							
GTA				AMB	AMB			
	comp=Z,72nm,3.8s							
GTA				LR	LR			
	comp=N,192nm,9.6s							
GTA				LR	LR			
	comp=E,243nm,11.2s							
GTA				LR	LR			
	comp=Z,297nm,11.9s,MS4.4							
FFC	**Flin Flon**	**45.60**	**54**	*e*P	**P**		**13 50 18.6**	**-0.4**
FFC				pmax	pmax			
	comp=Z,20nm,1.4s,mb4.8							
FFC	**Flin Flon**	**45.60**	**54**	*e*P	**P**		**13 50 18.6**	**-0.4**
	comp=Z,20nm,1.4s,mb4.9							
FCC	**Fort Churchill**	**45.60**	**46**	*e*P	**P**		**13 50 17.8**	**-1.3**
FCC				*e*			13 51 57.4	
FCC				pmax	pmax			
	comp=Z,9.0nm,0.7s,mb4.8							
FCC	**Fort Churchill**	**45.60**	**46**	*e*P	**P**		**13 50 17.8**	**-1.2**
	comp=Z,9.0nm,0.7s,mb4.8							
FCC				*e*PcP	PcP		13 51 57.4	+0.1
LZH	**Lanzhou**	**45.82**	**267**	*e*P	**P**		**13 50 21.0**	**+0.2**
LZH				AP	pP		13 50 30.0	+4.6
LZH				AMB	AMB			
	comp=Z,26nm,1.2s,mb5.0							
SUMG	**Summit**	**45.85**	**10**	*e*P	**P**		**13 50 21.2**	**+0.1**
	comp=Z,22nm,1.0s,mb5.0							
YBH	**Yreka Blue Hor**	**45.94**	**81**	LR	LR		14 08 21.9	
	comp=Z,106nm,19.0s,MS3.8,baz=316,slow=34							
BMO	**Blue Mountains**	**46.16**	**74**	P	**P**		**13 50 24.2**	**+0.7**
	comp=Z,7.8nm,1.4s,mb4.5							
CHMT	**Chamberlain Mo**	**46.51**	**69**	*e*P	**P**		**13 50 25.5**	**-0.6**
KURK	**Kurchatov**	**46.59**	**299**	*e*P	**P**		**13 50 25.4**	**-1.4**
KURK				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.6							
KURK	**Kurchatov**	**46.59**	**299**	*e*P	**P**		**13 50 25.4**	**-1.4**
	comp=Z,7.2nm,0.8s,mb4.7							
ARCES	**ARCESS Array B**	**46.93**	**342**	P	**P**		**13 50 28.5**	**-1.0**
	comp=Z,2.9nm,0.8s,mb4.3,baz=29,slow=8.3,SNR=5.4							
ARCES				LR	LR		14 12 14.3	
	comp=Z,107nm,19.0s,MS3.8,baz=215,slow=39							
ARCES	**ARCESS Array B**	**46.93**	**342**	P	**P**		**13 50 28.5**	**-1.0**
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.8s							
ARCES				MLR	MLR			
	comp=Z,107nm,19.0s							
ARCES	**ARCESS Array B**	**46.93**	**342**	P	**P**		**13 50 28.5**	**-1.0**
ARCES				LR	LR		14 12 14.3	
WMQ	**Urumqi**	**47.66**	**287**	⇑P	**P**		**13 50 34.6**	**-0.6**
WMQ				AP	pP		13 50 38.6	-1.2
WMQ				XP	sP		13 50 41.1	-0.5
WMQ				PCP	PcP		13 52 05.6	+1.1
WMQ				PP	PP		13 52 25.6	-1.1
WMQ				S	**S**		**13 57 28.6**	**-1.8**
WMQ				AMB	AMB			
	comp=Z,6.0nm,1.2s,mb4.5							
WMQ				AMB	AMB			
	comp=Z,93nm,4.5s							
WMQ				LR	LR			
	comp=N,149nm,17.0s,MS4.1							
WMQ				LR	LR			
	comp=E,140nm,20.3s,MS4.1							
WMQ				LR	LR			
	comp=Z,104nm,15.6s,MS3.9							
MKAR	**Makanchi Array**	**47.90**	**293**	P	**P**		**13 50 34.6**	**-2.5**
	comp=Z,1.2nm,0.7s,mb4.1,baz=52,slow=8.4,SNR=8.7							
MKAR	**Makanchi Array**	**47.90**	**293**	P	**P**		**13 50 34.6**	**-2.4**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
BVAR	**Borovoye Array**	**48.26**	**306**	P	**P**		**13 50 38.3**	**-1.5**
	comp=Z,3.9nm,0.6s,mb4.6,baz=43,slow=6.7,SNR=17							
BVAR	**Borovoye Array**	**48.26**	**306**	P	**P**		**13 50 38.3**	**-1.5**
BVAR				pmax	pmax			
	comp=Z,4.0nm,0.6s							
BRVK	**Borovoye**	**48.27**	**306**	*e*P	**P**		**13 50 38.8**	**-1.1**
BRVK				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.5							
BRVK	**Borovoye**	**48.27**	**306**	*e*P	**P**		**13 50 38.8**	**-1.1**
	comp=Z,4.5nm,1.0s,mb4.5							
ZRNK	**Zerenda**	**48.85**	**307**	*e*P	**P**		**13 50 43.8**	**-0.6**
ZRNK				pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.7							
ZRNK	**Zerenda**	**48.85**	**307**	*e*P	**P**		**13 50 43.8**	**-0.6**
	comp=Z,6.8nm,1.0s,mb4.6							
GCMT	**Greycliff**	**48.98**	**67**	*e*P	**P**		**13 50 45.9**	**+0.6**
FLWY	**Flagg Ranch**	**49.82**	**70**	*e*P	**P**		**13 50 52.9**	**+1.1**
	comp=Z,8.0nm,1.1s,mb4.7							
IMW	**Indian Meadow**	**49.86**	**70**	*e*P	**P**		**13 50 53.1**	**+1.0**
	comp=Z,14nm,1.5s,mb4.8							
MOOW	**Moose Ponds**	**50.06**	**70**	*e*P	**P**		**13 50 54.7**	**+1.1**
	comp=Z,7.1nm,1.6s,mb4.5							
ELK	**Elko**	**50.29**	**76**	*e*P	**P**		**13 50 55.7**	**+0.4**
ELK				pmax	pmax			
	comp=Z,4.0nm,1.3s							
ELK	**Elko**	**50.29**	**76**	*e*P	**P**		**13 50 55.7**	**+0.4**
	comp=Z,3.6nm,1.3s,mb4.2							
NVAR	**Mina Array Bea**	**50.63**	**80**	P	**P**		**13 50 58.1**	**+0.2**
	comp=Z,0.4nm,0.6s,mb3.6,baz=322,slow=7.3,SNR=3.9							
HWUT	**Hardware Ranch**	**51.34**	**72**	*e*P	**P**		**13 51 03.8**	**+0.5**
	comp=Z,12nm,1.4s,mb4.6							
BW06	**Boulder Array**	**51.37**	**70**	*e*P	**P**		**13 51 03.6**	**+0.1**
	comp=Z,14nm,1.7s,mb4.6							
PDAR	**Pinedale Array**	**51.37**	**70**	P	**P**		**13 51 02.9**	**-0.6**
	comp=Z,1.2nm,0.6s,mb4.0,baz=321,slow=3.8,S

AKASG pmax pmax
comp=Z,1.0nm,0.5s
GOF Gofitskoye 64.79 319 *e*P **P 13 52 35.6 -1.9**
CLL Collm 66.15 342 *e*P **P 13 52 47.0 +0.7**
CLL Collm 66.15 342↓ *i*P **P 13 52 47.2 +0.9**
CLL pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
CLL Collm 66.15 342↓ *i*P **P 13 52 47.2 +0.9**
comp=Z,7.0nm,1.2s,mb4.6
GERES GERESS Array B 68.43 341 P **P 13 53 01.5 +0.8**
comp=Z,0.4nm,0.5s,mb3.7,baz=57,slow=5.4,SNR=3.8
HNR Honiara 70.17 186 LR LR 14 22 47.1
comp=Z,90nm,18.6s,MS4.0,baz=359,slow=35
ESDC Sonseca Array 79.54 352 P **P 13 54 06.8 +1.1**
comp=Z,0.2nm,0.3s,mb3.5,baz=1.7,slow=6.8,SNR=5.0
WRAB Tennant Creek 84.40 210 *e*P **P 13 54 30.1 -1.2**
WRA Warramunga Arr 84.41 210 P **P 13 54 29.8 -1.5**
comp=Z,1.0nm,0.8s,mb4.0,baz=17,slow=5.5,SNR=5.4
WRA Warramunga Arr 84.41 210 P **P 13 54 29.8 -1.5**
WRA pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 88.10 209 P **P 13 54 47.5 -1.9**
comp=Z,0.5nm,0.9s,mb3.8,baz=11,slow=4.7,SNR=6.2
ASAR Alice Springs 88.10 209 P **P 13 54 47.6 -1.9**
ASAR pmax pmax
comp=Z,1.0nm,0.9s

GUC ***11*** *13:48:55.7±0.7,2756S×7161W,h45km±4km,ML4.8*
MOS ***11*** *13:48:56.1±1.7,2732S×7136W,h10km,mb5.1/17,Error ellipse: s-maj=16.7km s-min=9.7km az=101.2*
ISCJB ***11*** *13:48:57.9±0.2,2751S±003×7136W±005,h31km, mb4.8/49,MS5.0/13,Error ellipse: s-maj=6.5km s-min=3.6km az=158.6*
HRVD ***11*** *13:48:59.9±0.1,2772S×7208W,h12km,MW5.5/94, Centroid moment Tensor Solution. LP body waves: s71,c117;Mantle waves: s94,c182; Half duration: 1s3 Moment tensor: Scale 10¹⁷Nm; Mrr0.98±.01; Mθθ0.00±.01; Mϕϕ-0.98±.01; Mrθ-0.06±.03; Mθϕ-0.08±.01; Mϕr-1.64±.03; Best double couple: M₀1.91200×10¹⁷ NP1:ϕ₁6.00000°, δ15.00000°,λ94.00000°. NP2:ϕ₂182.00000°,δ75.00000°, λ89.00000°. Principal axes: T 1.9070, Plg60.0000°, Azm91.0000°; N 0.0090, Plg1.0000°, Azm183.0000°; P -1.9170, Plg30.0000°, Azm273.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***11*** *13:48:59.9±0.2,2747S×7130W,mb4.9/42,ML4.8(GUC) Error ellipse: s-maj=8.2km s-min=5.1km az=76.0*
NEIC Felt [II] at Copiapo.
BJI ***11*** *13:48:59.8,2750S×7130W,h32km,mB5.2,Ms5.4,Msz5.1*
IDC ***11*** *13:49:00.2±2.6,2742S×7135W,h34km±19km,mb4.3/12, mb1 4.3/17,mb1mx4.3/21,mbtmp4.4/17,ML4.3/5,MS4.8/11, Ms1 4.8/11,ms1mx4.6/14,Error ellipse: s-maj=16.9km s-min=12.5km az=98.0*
ISC 11 13:48:59.8±0.2,2754S±003×7136W±005,h33km, h33km±1.2km:pP-P,n177,σ1s13/138,mb4.8/49,MS5.0/13, 9C-1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.66**	**46**	↑*i*P	**Pn**	**13 49 11.3**	**-1.6**
CDCH				*i* S	**Sb**	**13 49 24.1**	**+2.2**
CRCH	**Chaqaral**	**1.36**	**29**	↑*i*P	**Pn**	**13 49 20.5**	**-2.0**
CRCH				*i* S	**Sn**	**13 49 39.8**	**+0.4**
CRCH				AML	AML	13 49 58.2	
	comp=E,7μm,0.4s						
CRCH	**Chaqaral**	**1.36**	**29**	↑*i*P	**Pn**	**13 49 20.5**	**-2.0**
CRCH				*i* S	**Sn**	**13 49 39.8**	**+0.4**
LCO	**Las Campanas**	**1.58**	**159**	↑*i*P	**Pn**	**13 49 23.8**	**-1.7**
LCO				*i* S	**Sn**	**13 49 44.6**	**-0.2**
TLL	**Tololo Astrono**	**2.67**	**170**	↑*i*P	**Pn**	**13 49 38.2**	**-2.2**
TLL				*i* S	**Sn**	**13 50 09.7**	**-1.9**
TLL				AML	AML	13 50 30.9	
	comp=E,12μm,0.7s						
TLL	**Tololo Astrono**	**2.67**	**170**	↑*i*P	**Pn**	**13 49 38.2**	**-2.2**
TLL				*i* S	**Sn**	**13 50 09.7**	**-1.9**
CFAA	**Coronel Fontan**	**4.88**	**147**	Pn	**Pn**	**13 50 12.0**	**+1.1**
	comp=E,1.4nm,0.3s,baz=323,slow=13,SNR=58						
CFAA				Sn	**Sn**	**13 51 10.9**	**+4.7**
	comp=E,2.0nm,0.3s,baz=312,slow=19,SNR=5.5						
CFAA				Lg		13 51 32.5	
	comp=E,7.1nm,0.3s,baz=245,slow=24,SNR=9.1						
CFAA	**Coronel Fontan**	**4.88**	**147**	Pn	**Pn**	**13 50 12.0**	**+1.1**
CFAA				Sn	**Sn**	**13 51 10.9**	**+4.7**
CFAA				Lg		13 51 32.5	
LVC	**Limon Verde**	**5.38**	**25**	Pn	**Pn**	**13 50 16.0**	**-1.8**
	comp=E,6.0nm,0.3s,baz=225,slow=9.7,SNR=40						
LVC				Sn	**Sn**	**13 51 18.8**	**+0.2**
	comp=E,20nm,0.3s,baz=178,slow=19,SNR=4.9						
LVC				Lg		13 51 48.1	
	comp=E,36nm,0.3s,baz=12,slow=11,SNR=7.9						
LVC	**Limon Verde**	**5.38**	**25**	*e*P	**Pn**	**13 50 16.1**	**-1.7**
	comp=E,289nm,0.6s						
CHCH	**Chadas Angostu**	**6.40**	**175**	*e*P	**Pn**	**13 50 28.6**	**-3.3**
LPAZ	**La Paz**	**11.59**	**16**	Pn	**Pn**	**13 51 41.0**	**-1.9**
	comp=E,0.9nm,0.3s,baz=193,slow=7.2,SNR=32						
LPAZ				Sn	**Sn**	**13 53 44.5**	**-6.6**
	baz=198,slow=8.8,SNR=1.4						
LPAZ				Lg		13 54 57.9	
	comp=E,0.1nm,0.3s,baz=33,slow=13,SNR=1.8						
LPAZ	**La Paz**	**11.59**	**16**	*e*P	**Pn**	**13 51 40.3**	**-2.6**
LPAZ				pmax	pmax		
	comp=Z,18nm,0.8s						
LPAZ	**La Paz**	**11.59**	**16**	*e*P	**Pn**	**13 51 40.3**	**-2.6**
	comp=Z,18nm,0.8s						
CPUP	**Villa Florida**	**12.57**	**88**	Pn	**Pn**	**13 51 58.0**	**+1.6**
	comp=Z,0.6nm,0.3s,baz=246,slow=11,SNR=4.5						
CPUP				Lg		13 55 28.5	
	comp=Z,0.7nm,0.3s,baz=330,slow=12,SNR=2.3						
CPUP				LR	LR	13 57 06.5	
	comp=Z,4μm,19.1s,baz=246,slow=39						
CPUP	**Villa Florida**	**12.57**	**88**	*e*P	**Pn**	**13 51 55.5**	**-0.9**
CPUP				pmax	pmax		
	comp=Z,74nm,0.8s						
CPUP	**Villa Florida**	**12.57**	**88**	*e*P	**Pn**	**13 51 55.5**	**-0.9**
	comp=Z,74nm,0.8s						
TRQA	**Tornquist**	**13.12**	**145**	*e*P	**Pn**	**13 52 03.5**	**-0.2**
	comp=Z,74nm,0.9s						
TRQA				*e*Sn	**Sn**	**13 54 35.6**	**+7.2**
PLCA	**Paso Flores**	**13.18**	**177**	*e*P	**Pn**	**13 52 06.0**	**+1.4**
PLCA				pmax	pmax		
	comp=Z,38nm,1.2s						
PLCA	**Paso Flores**	**13.18**	**177**	*e*Pn	**Pn**	**13 52 06.0**	**+1.4**
	comp=Z,38nm,1.2s						
LPA	**La Plata**	**13.63**	**126**	*ce*P	**Pn**	**13 52 10.0**	**-0.8**
LPA				*es*P		13 52 22.0	
LPA				*es*S		13 54 53.0	
SIV	**San Ignacio**	**14.93**	**42**	Pn	**Pn**	**13 52 28.6**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=240,slow=8.2,SNR=18						
SIV				Sn	**Sn**	**13 55 24.6**	**+12**
	comp=Z,0.1nm,0.3s,baz=218,slow=15,SNR=1.6						
NNA	**Nana**	**16.30**	**341**	P	**Pn**	**13 52 42.6**	**-3.6**
	comp=Z,28nm,0.9s						
SAML	**Samuel**	**20.04**	**24**	↑*e*P	**P**	**13 53 29.6**	**-0.4**
	comp=Z,114nm,1.5s						
BDFB	**Brasilia**	**24.67**	**66**	P	**P**	**13 54 17.8**	**+0.2**
	comp=Z,28nm,0.9s,mb4.8,baz=248,slow=8.7,SNR=20						
BDFB				S	**S**	**13 58 38.1**	**+1.0**
	comp=Z,2.5nm,0.7s,baz=103,slow=18,SNR=1.6						
BDFB				Lg		14 02 08.8	
	comp=Z,1.1nm,0.3s,baz=187,slow=24,SNR=1.9						
BDFB				LR	LR	14 04 01.6	
	comp=Z,3μm,19.2s,MS4.9,baz=249,slow=37						
BDFB	**Brasilia**	**24.67**	**66**	P	**P**	**13 54 17.8**	**+0.2**
BDFB				S	**S**	**13 58 38.1**	**+1.0**
USHA	**Ushuaia**	**27.35**	**176**	P	**P**	**13 54 44.3**	**+2.5**
	comp=Z,8.4nm,0.8s,mb4.3,baz=323,slow=6.8,SNR=2.9						
ROSC	**El Rosal**	**32.33**	**354**	LR	LR	14 08 07.8	
	comp=Z,2μm,18.8s,MS4.7,baz=193,slow=36						
SDV	**Santo Domingo**	**36.21**	**1**	*e*P	**P**	**13 55 59.8**	**+0.2**
	comp=Z,18nm,1.0s,mb4.9						
JTS	**JuntasAbangare**	**39.84**	**339**	P	**P**	**13 56 30.6**	**+0.5**
	comp=Z,1.4nm,0.4s,mb4.1,baz=290,slow=21,SNR=3.9						
JTS	**JuntasAbangare**	**39.84**	**339**	P	**P**	**13 56 28.3**	**-1.9**
JTS				pmax	pmax		
	comp=Z,33nm,1.7s						
JTS	**JuntasAbangare**	**39.84**	**339**	P	**P**	**13 56 28.3**	**-1.9**
	comp=Z,33nm,1.7s,mb4.8						
RCBR	**Riachuelo**	**40.00**	**64**	*e*P	**P**	**13 56 32.7**	**+1.2**
	comp=Z,59nm,1.8s,mb5.0						
VNA3	**Neumayer Olymp**	**55.15**	**160**	*e*P	**P**	**13 58 28.6**	**-0.5**
VNA3				*e*		13 58 31.1	
VNA3				*e*	pP	13 58 37.6	-1.4
VNA3				*e*		13 58 45.7	
VNA3				*e*		13 59 43.1	
VNA1	**Neumayer--Stat**	**55.42**	**159**	*e*P	**P**	**13 58 30.2**	**-0.8**
VNA1				*e*		13 58 32.8	
VNA1				*e*		13 58 36.6	
VNA1				*e*		13 58 48.2	
VNA1				*e*		13 59 30.4	
VNA1				*e*		13 59 50.3	
VNA2	**Neumayer--Watz**	**55.77**	**159**	*e*P	**P**	**13 58 32.9**	**-0.6**
VNA2				*e*		13 58 33.7	
VNA2				*e*		13 58 35.1	
VNA2				*e*		13 58 39.8	
VNA2				*e*	pP	13 58 42.3	-1.1
VNA2				*e*		13 58 48.9	
VNA2				*e*		13 59 33.4	
VNA2				*e*		13 59 46.8	
RKT	**Rikitea**	**57.12**	**259**	*e*S	**S**	**14 06 42.3**	**+6.2**
	comp=Z,2μm,25.8s						
RKT				*e*LR	LR	14 15 16.6	
	comp=Z,608nm,20.5s						
SNAA	**Sanae**	**57.38**	**160**	P	**P**	**13 58 44.8**	**-0.1**
	comp=Z,2.9nm,0.8s,mb4.4,baz=273,slow=5.3,SNR=31						
SNAA	**Sanae**	**57.38**	**160**	*e*P	**P**	**13 58 43.9**	**-1.0**
SNAA				*e*		13 58 51.3	
SNAA	**Sanae**	**57.38**	**160**	*e*P	**P**	**13 58 43.3**	**-1.6**
SNAA				pmax	pmax		
	comp=Z,37nm,1.1s						
SNAA	**Sanae**	**57.38**	**160**	*e*P	**P**	**13 58 43.3**	**-1.6**
	comp=Z,37nm,1.1s,mb5.3						
SNAA				*ep*P	pP	13 58 54.9	0.0
NVL	**N'lazarevskaya**	**62.05**	**158**	↓*i*P	**P**	**13 59 26.0**	**+8.9**
NVL				*i* S	**S**	**14 07 39.1**	**-0.4**
NVL				*e*		14 09 06.0	
NVL				pmax	pmax		
	comp=Z,47nm,1.9s,mb5.3						
NVL				MLR	MLR		
	comp=Z,2μm,17.1s,MS5.3						
QSPA	**South Pole Qui**	**62.68**	**180**	*e*P	**P**	**13 59 25.1**	**+3.8**
	comp=Z,8.6nm,0.7s,mb5.0						
SWET	**Sewanee**	**63.92**	**347**	*e*P	**P**	**13 59 28.2**	**-1.3**
MIAR	**Mount Ida**	**65.23**	**340**	*e*P	**P**	**13 59 36.3**	**-1.8**
MIAR				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
MIAR	**Mount Ida**	**65.23**	**340**	*e*P	**P**	**13 59 36.3**	**-1.8**
	comp=Z,6.0nm,0.8s,mb4.7						
WMOK	**Wichita Mounta**	**67.15**	**336**	*e*P	**P**	**13 59 49.1**	**-1.3**
WMOK				pmax	pmax		
	comp=Z,17nm,1.5s,mb4.8						
WMOK	**Wichita Mounta**	**67.15**	**336**	*e*P	**P**	**13 59 49.0**	**-1.3**
	comp=Z,17nm,1.5s,mb4.9						
WMOK				*ep*P	pP	14 00 01.1	+0.6
TAOE	**Nuku Hiva Isla**	**67.18**	**272**	*e*LR	LR	14 20 04.8	
	comp=Z,4μm,22.8s						
GDL2	**Guadalupe Moun**	**67.20**	**330**	*e*P	**P**	**13 59 48.0**	**-2.8**
MNTX	**Cornudas Mount**	**67.24**	**329**	*e*P	**P**	**13 59 49.3**	**-1.6**
	comp=Z,6.4nm,1.0s,mb4.6						
MVL	**Millersville**	**67.35**	**356**	*e*P	**P**	**13 59 53.5**	**+1.9**
MVL				*ep*P	pP	14 00 00.0	-1.7
FVM	**French Village**	**67.58**	**344**	*e*P	**P**	**13 59 51.7**	**-1.4**
FVM				pmax	pmax		
	comp=Z,169nm,1.9s,mb5.8						
FVM	**French Village**	**67.58**	**344**	*e*P	**P**	**13 59 51.7**	**-1.5**
	comp=Z,169nm,1.9s,mb5.8						
FVM				*ep*P	pP	14 00 01.5	-1.7
CPRX	**Cap Rock**	**67.69**	**331**	*e*P	**P**	**13 59 52.7**	**-1.1**
ACSO	**Alum Creek Sta**	**68.28**	**350**	*e*P	**P**	**13 59 57.6**	**+0.1**
	comp=Z,10nm,0.9s,mb4.9						
ACSO				*ep*P	pP	14 00 05.3	-2.3
AMTX	**Amarillo**	**68.39**	**333**	*e*P	**P**	**13 59 58.3**	**+0.2**
	comp=Z,36nm,1.5s,mb5.2						
SBA	**Scott Base**	**69.51**	**191**	*e*P	**P**	**14 00 07.0**	**+1.9**
SBA				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.8						
SBA	**Scott Base**	**69.51**	**191**	*e*P	**P**	**14 00 07.0**	**+1.8**
	comp=Z,19nm,1.4s,mb4.8						
TBI	**Tubuai**	**69.55**	**254**	*e*S	S	14 09 17.6	+6.6
	comp=Z,1μm,26.8s						
TBI				*e*LR	LR	14 21 11.2	
	comp=Z,693nm,29.8s,baz=112						
BNM	**Barren Site**	**69.86**	**329**	*e*P	**P**	**14 00 08.4**	**+1.1**
LPM	**Los Pinos Moun**	**70.00**	**329**	*e*P	**P**	**14 00 07.8**	**-0.3**
LAZ	**Ladron**	**70.30**	**329**	*e*P	**P**	**14 00 10.0**	**0.0**
ANMO	**Albuquerque**	**70.46**	**330**	*e*P	**P**	**14 00 11.1**	**+0.1**
ANMO				pmax	pmax		
	comp=Z,24nm,1.8s						
ANMO	**Albuquerque**	**70.46**	**330**	*e*P	**P**	**14 00 11.1**	**+0.2**
	comp=Z,24nm,1.8s,mb4.8						
VNDA	**Vanda**	**70.54**	**191**	P	**P**	**14 00 11.7**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=144,slow=3.7,SNR=3.9						
VNDA				LR	LR	14 30 10.5	
	comp=Z,621nm,20.3s,MS4.8,baz=40,slow=35						
VNDA	**Vanda**	**70.54**	**191**	P	**P**	**14 00 12.4**	**+0.9**
VNDA				*e**PP	pP	14 00 20.9	-0.7
VNDA				pmax	pmax		
	comp=Z,9.0nm,1.3s						
VNDA	**Vanda**	**70.54**	**191**	P	**P**	**14 00 12.4**	**+0.9**
	comp=Z,8.6nm,1.3s,mb4.5						
VNDA				*ep*P	pP	14 00 20.9	-0.7
NCB	**Newcomb**	**71.21**	**358**	*e*P	**P**	**14 00 16.9**	**+1.3**
	comp=Z,8.5nm,0.9s,mb4.7						
NCB				*ep*P	pP	14 00 25.8	+0.1
PPT	**Papeete**	**71.89**	**259**	*e*S	S	14 09 44.0	+5.8
	comp=Z,2μm,23.0s						
PPT				*e*LR	LR	14 22 32.2	
	comp=Z,590nm,19.8s,baz=101						
PPT	**Papeete**	**71.89**	**259**	LR	LR	14 24 39.1	
	comp=Z,1μm,18.1s,MS5.2,baz=104,slow=30						
FRNY	**Flat Rock**	**72.05**	**358**	*e*P	**P**	**14 00 20.2**	**-0.4**
WUAZ	**Wupatki**	**73.21**	**327**	*e*P	**P**	**14 00 28.2**	**+0.7**
	comp=Z,16nm,1.2s,mb4.8						
MVCO	**Mesa Verde**	**73.25**	**330**	*e*P	**P**	**14 00 29.2**	**+1.4**
PV01	**Paradox Valley**	**74.05**	**330**	*e*P	**P**	**14 00 33.7**	**+1.3**
SMCO	**Snowmass**	**74.23**	**332**	*e*P	**P**	**14 00 34.2**	**+0.7**
	comp=Z,39nm,1.5s,mb5.1						
PV10	**Paradox Valley**	**74.45**	**330**	P	**P**	**14 00 36.0**	**+1.2**
NEN	**Nelson**	**75.06**	**325**	*e*P	**P**	**14 00 37.7**	**-0.5**
SRU	**San Rafael**	**75.72**	**330**	*e*P	**P**	**14 00 43.0**	**+0.9**
SRU				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
SRU	**San Rafael**	**75.72**	**330**	*e*P	**P**	**14 00 43.0**	**+0.9**
	comp=Z,4.1nm,0.8s,mb4.4						
CCUT	**Cedar City**	**75.80**	**327**	*e*P	**P**	**14 00 43.8**	**+1.3**
MSU	**Marysvale**	**75.99**	**328**	*e*P	**P**	**14 00 44.1**	**+0.5**
ARUT	**Antelope Range**	**76.02**	**327**	*e*P	**P**	**14 00 44.6**	**+0.8**
TPNV	**Topopah Spring**	**76.78**	**324**	*e*P	**P**	**14 00 48.7**	**+0.6**
TPNV				pmax	pmax		
	comp=Z,25nm,1.6s,mb4.9						
TPNV	**Topopah Spring**	**76.78**	**324**	*e*P	**P**	**14 00 48.7**	**+0.6**
	comp=Z,25nm,1.6s,mb4.9						
DAC	**Darwin (Calif)**	**76.97**	**323**	*e*P	**P**	**14 00 49.2**	**0.0**
DAC				pmax	pmax		
	comp=Z,32nm,1.8s,mb5.0						
DAC	**Darwin (Calif)**	**76.97**	**323**	*e*P	**P**	**14 00 49.2**	**0.0**
	comp=Z,32nm,1.8s,mb5.0						
DAU	**Daniels Canyon**	**77.10**	**330**	*e*P	**P**	**14 00 50.4**	**+0.5**
RSSD	**Black Hills**	**77.33**	**337**	*e*P	**P**	**14 00 52.2**	**+1.0**
RSSD				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
RSSD	**Black Hills**	**77.33**	**337**	*e*P	**P**	**14 00 52.2**	**+1.0**
	comp=Z,2.3nm,0.7s,mb4.2						
DUG	**Dugway**	**77.63**	**329**	*e*P	**P**	**14 00 53.3**	**+0.4**
DUG				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.8						
DUG	**Dugway**	**77.63**	**329**	*e*P	**P**	**14 00 53.2**	**+0.4**
	comp=Z,15nm,1.3s,mb4.8						
HWUT	**Hardware Ranch**	**78.21**	**330**	*e*P	**P**	**14 00 55.5**	**-0.5**
	comp=Z,8.2nm,0.8s,mb4.7						
PDAR	**Pinedale Array**	**78.30**	**332**	P	**P**	**14 00 55.8**	**-0.8**
	comp=Z,1.2nm,0.8s,mb3.9,baz=131,slow=4.5,SNR=9.4						
PDAR				LR	LR	14 32 36.1	
	comp=Z,366nm,19.7s,MS4.7,baz=158,slow=33						
BGU	**Big Grassy Mou**	**78.32**	**329**	*e*P	**P**	**14 01 03.2**	**+6.5**
SPUT	**South Promonto**	**78.36**	**330**	*e*P	**P**	**14 00 57.5**	**+0.6**
NVAR	**Mina Array Bea**	**78.96**	**324**	P	**P**	**14 01 00.9**	**+0.7**
	comp=Z,0.7nm,0.7s,mb3.7,baz=143,slow=7.2,SNR=6.8						
MAW	**Mawson**	**79.20**	**164**	P	**P**	**14 01 01.2**	**-0.3**
	comp=Z,5.2nm,0.8s,mb4.5,baz=204,slow=10.0,SNR=3.3						
MAW				LR	LR	14 34 41.4	
	comp=Z,2μm,19.3s,MS5.4,baz=231,slow=35						
MAW	**Mawson**	**79.20**	**164**	*e*P	**P**	**14 01 01.6**	**+0.1**
MAW				pmax	pmax		
	comp=Z,11nm,0.4s						
MAW	**Mawson**	**79.20**	**164**	*e*P	**P**	**14 01 01.6**	**+0.1**
	comp=Z,11nm,0.4s,mb5.2						
ELK	**Elko**	**79.20**	**328**	*e*P	**P**	**14 01 01.0**	**-0.5**
ELK				*e**PP	pP	14 01 10.6	-1.2
ELK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ELK	**Elko**	**79.20**	**328**	*e*P	**P**	**14 01 01.0**	**-0.6**
	comp=Z,7.9nm,1.1s,mb4.6						
ELK				*ep*P	pP	14 01 10.6	-1.2
REDW	**Red Top Meadow**	**79.33**	**332**	*e*P	**P**	**14 01 03.3**	**+1.1**
	comp=Z,16nm,1.1s,mb4.9						
TPAW	**Teton Pass**	**79.48**	**332**	*e*P	**P**	**14 01 03.2**	**+0.1**
	comp=Z,8.7nm,0.9s,mb4.7						
TPAW				*ep*P	pP	14 01 12.5	-0.8
MOOW	**Moose Ponds**	**79.60**	**332**	*e*P	**P**	**14 01 03.0**	**-0.8**
	comp=Z,10nm,1.5s,mb4.5						
IMW	**Indian Meadow**	**79.80**	**332**	*e*P	**P**	**14 01 04.8**	**0.0**
	comp=Z,12nm,1.2s,mb4.7						
FLWY	**Flagg Ranch**	**79.86**	**332**	*e*P	**P**	**14 01 05.3**	**+0.2**
	comp=Z,21nm,1.1s,mb5.0						
FLWY				*ep*P	pP	14 01 15.6	+0.3
ULM	**Lac du Bonnet**	**80.44**	**344**	P	**P**	**14 01 07.4**	**-0.8**
	comp=Z,4.8nm,0.7s,mb4.5,baz=137,slow=4.4,SNR=5.3						
ULM				LR	LR	14 39 51.8	
	comp=Z,317nm,19.2s,MS4.7,baz=138,slow=38						
YMR	**Madison River**	**80.45**	**333**	*e*P	**P**	**14 01 09.0**	**+0.7**
	comp=Z,20nm,0.9s,mb5.0						
YMR				*ep*P	pP	14 01 19.4	+0.9
TSUM	**Tsumeb**	**80.45**	**107**	*e*P	**P**	**14 01 09.6**	**+1.2**
	comp=Z,28nm,1.4s,mb5.0						
TSUM				*ep*P	pP	14 01 19.2	+0.6
PAHR	**Pah Rah Range**	**80.47**	**324**	*e*P	**P**	**14 01 06.9**	**-1.5**
	comp=Z,12nm,1.2s,mb4.7						
QLMT	**Earthquake Lak**	**80.77**	**332**	*e*P	**P**	**14 01 10.8**	**+0.8**
GCMT	**Greycliff**	**80.85**	**334**	*e*P	**P**	**14 01 10.4**	**0.0**
HLID	**Hailey**	**81.03**	**330**	*e*P	**P**	**14 01 11.4**	**0.0**
	comp=Z,12nm,1.2s,mb4.7						
MCMT	**McKenzie Canyo**	**81.36**	**332**	*e*P	**P**	**14 01 13.1**	**-0.1**
MCMT				*ep*P	pP	14 01 22.8	-0.7
TORD	**Torodi Ar. Bea**	**81.48**	**70**	P	**P**	**14 01 14.4**	**+0.7**
	comp=Z,26nm,0.8s,mb5.2,baz=252,slow=4.3,SNR=6.5						
SCHQ	**Schefferville**	**82.12**	**3**	LR	LR	14 39 34.7	
	comp=Z,299nm,18.7s,MS4.7,baz=226,slow=37						
SCHQ	**Schefferville**	**82.12**	**3**	*e*P	**P**	**14 01 16.8**	**-0.4**
	comp=Z,21nm,1.5s,mb4.8						
MOD	**Modoc**	**82.57**	**325**	*e*P	**P**	**14 01 19.2**	**-0.3**
	comp=Z,9.2nm,1.0s,mb4.8						
LBTB	**Lobatse**	**84.50**	**115**	*e*P	**P**	**14 01 30.6**	**+1.2**
LBTB				pmax	pmax		
	comp=Z,29nm,1.8s,mb5.1						
LBTB	**Lobatse**	**84.50**	**115**	*e*P	**P**	**14 01 30.6**	**+1.2**
	comp=Z,29nm,1.8s,mb5.1						
WALA	**Waterton Lakes**	**85.19**	**333**	*e*P	**P**	**14 01 32.0**	**-0.8**
	comp=Z,16nm,1.5s,mb4.9						
CASY	**Casey**	**86.47**	**181**	*e*P	**P**	**14 01 40.6**	**+1.4**
	comp=Z,15nm,1.0s,mb5.2						
MDT	**Midelt**	**87.30**	**51**	LR	LR	14 41 44.7	
	comp=Z,725nm,19.1s,MS5.1,baz=83,slow=36						
FCC	**Fort Churchill**	**88.03**	**348**	*e*P	**P**	**14 01 46.1**	**-0.7**
FCC				pmax	pmax		
	comp=Z,30nm,1.6s,mb5.3						
FCC	**Fort Churchill**	**88.03**	**348**	*e*P	**P**	**14 01 46.1**	**-0.6**
	comp=Z,30nm,1.6s,mb5.3						
FCC				*ep*P	pP	14 01 57.7	+0.5
RPZ	**Rata Peaks**	**88.94**	**220**	P	**P**	**14 01 52.8**	**+1.7**
	comp=Z,28nm,1.0s,mb5.5,baz=359,slow=7.4,SNR=3.7						
LSZ	**Lusaka**	**91.24**	**108**	*e*P	**P**	**14 02 05.2**	**+3.4**
YKA	**Yellowknife Ar**	**96.14**	**341**	P	**P**	**14 02 22.1**	**-2.2**
	comp=Z,0.5nm,0.7s,mb4.0,baz=136,slow=4.7,SNR=11						
YKA				LR	LR	14 51 36.1	
	comp=Z,264nm,18.9s,MS4.7,baz=140,slow=39						
YKA	**Yellowknife Ar**	**96.14**	**341**	P	**P**	**14 02 22.1**	**-2.2**
YKA				LR	LR	14 51 36.1	
NKC	**Novy Kostel**	**106.92**	**42**	*e*PP	PP	14 07 35.3	-3.3
NKC				*e*SKS	SKSac	14 13 54.8	+4.8
NKC				*e*SDIF	Sdif	14 15 24.6	+13
NKC				*e*SP	SP	14 17 01.3	+6.5
NKC				AMS	AMS	14 53 10.0	
	comp=Z,500nm,20.7s						
KHC	**Kasperske Hory**	**107.17**	**43**	*e*PP	PP	14 07 33.5	-7.0
KHC				*e*SKS	SKSac	14 13 56.8	+5.6
KHC				*e*SDIF	Sdif	14 15 23.0	+9.2
KHC				*e*SP	SP	14 17 01.8	+4.4
KHC				*e*SS	SS	14 22 48.4	+2.5
KHC				AMS	AMS	14 53 50.0	
	comp=Z,300nm,16.6s						
CLL	**Collm**	**107.65**	**41**	*e*Pdif	Pdif	14 03 15.0	-0.7
CLL				*e*PP	PP	14 07 44.0	0.0
CLL				*e*SKSac	SKSac	14 13 58.0	+4.8

HYB	**Hyderabad**	**150.50**	**104**	*i* PKP	PKPbc	14 08 49.5	+1.4
HYB				*e*PKPAB	PKPab	14 08 58.0	+3.3
HYB				*ep*PKPAB		14 09 11.0	
MKAR	**Makanchi Array**	**151.75**	**40**	PKPbc	PKPbc	14 08 50.3	-0.7
	comp=Z,8.6nm,0.9s,baz=329,slow=2.1,SNR=24						
KLR	**Kul'dur**	**151.97**	**327**	*e*PKIKP	PKPdf	14 08 45.0	0.0
DDI	**Dehra Dun**	**153.12**	**77**	*ex*	x	14 09 05.0	
MJAR	**Matsushiro Arr**	**153.46**	**297**	PKPbc	PKPbc	14 08 56.5	+1.7
	comp=Z,1.8nm,0.9s,baz=129,slow=1.2,SNR=4.1						
IRK	**Irkutsk**	**155.11**	**6**	*e*PKIKP	PKPdf	14 08 50.7	+1.2
IRK				pmax	pmax		
	comp=Z,40nm,2.3s						
MOY	**Mondy**	**155.22**	**11**	*e*PKIKP	PKPdf	14 08 52.0	+2.4
CIT	**Chita**	**155.27**	**353**	*e*PKIKP	PKPdf	14 08 58.8	+9.1
TLY	**Talaya**	**155.59**	**8**	*e*PKIKP	PKPdf	14 08 52.0	+1.9
TLY				*e*		14 08 59.5	
TLY	**Talaya**	**155.59**	**8**	*e*PKPdf	PKPdf	14 08 52.0	+1.9
TLY				*e*PKPbc	PKPdf	14 08 59.5	+9.4
TLY				*e*PKPab	PKPab	14 09 18.8	+2.6
MDJ	**Mudanjiang**	**156.09**	**321**	PKP	PKPdf	14 08 50.8	0.0
WMQ	**Urumqi**	**156.57**	**41**	*e*PKP	PKPdf	14 08 50.0	-1.4
WMQ				APKP		14 09 00.0	
WMQ				XPKP		14 09 04.5	
WMQ				PKP2	PKPab	14 09 21.3	+0.9
WMQ				PP	PP	14 13 00.4	+2.1
WMQ				PP	PP		
	comp=Z,102nm,7.4s						
WMQ				LR	LR		
	comp=N,219nm,22.5s,MS5.1						
WMQ				LR	LR		
	comp=E,256nm,22.5s,MS5.1						
WMQ				LR	LR		
	comp=Z,215nm,20.9s,MS5.0						
ZAK	**Zakamensk**	**156.82**	**9**	*e*PKIKP	PKPdf	14 08 53.0	+1.3
ZAK				*e*		14 13 00.8	
ZAK				pmax	pmax		
	comp=Z,21nm,2.0s						
ZAK				pmax	pmax		
	comp=Z,17nm,2.0s						
ZAK				pmax	pmax		
	comp=Z,5.0nm,2.1s						
CN2	**Changchun**	**158.86**	**325**	*e*PKP	PKPdf	14 08 56.5	+2.3
CN2				PP	PP	14 13 16.0	+5.1
CN2				PP	PP		
	comp=Z,200nm,8.0s						
CN2				LR	LR		
	comp=N,200nm,18.0s,MS5.2						
CN2				LR	LR		
	comp=E,200nm,18.0s,MS5.2						
CN2				LR	LR		
	comp=Z,300nm,21.0s,MS5.1						
SONM	**Songino Array**	**159.66**	**4**	PKP	PKPdf	14 08 57.0	+1.8
	comp=Z,1.0nm,0.9s,baz=10,slow=0.5,SNR=7.1						
SONM				PKPab	PKPab	14 09 33.0	-0.8
	comp=Z,1.1nm,1.0s,baz=341,slow=2.4,SNR=2.5						
ULN	**Ulaanbaatar**	**159.67**	**3**	*e*PKIKP	PKPdf	14 08 54.3	-0.9
GTA	**Gaotai**	**166.06**	**30**	*e*PKP	PKPdf	14 09 02.6	+1.2
GTA				APKP		14 09 10.5	
GTA				XPKP		14 09 14.4	
HHC	**Hu-ho-hao-te**	**166.50**	**350**	*e*PKP	PKPdf	14 09 02.9	+1.2
HHC				PKP2	PKPab	14 10 06.9	+3.1
HHC				PKS		14 12 36.0	
HHC				PP	PP	14 13 55.7	+4.3
HHC				PP	PP		
	comp=Z,221nm,9.6s						
HHC				LR	LR		
	comp=N,217nm,20.2s						
HHC				LR	LR		
	comp=E,239nm,21.4s						
HHC				LR	LR		
	comp=Z,426nm,21.8s						
SSE	**Sheshan**	**168.49**	**291**	*e*PKP	PKPdf	14 09 05.0	+1.8
SSE				PP	PP	14 14 06.2	+4.6
SSE				SS	SS	14 34 55.6	+4.4
SSE				PP	PP		
	comp=Z,36nm,12.0s						
SSE				LR	LR		
	comp=N,77nm,24.1s						
SSE				LR	LR		
	comp=E,188nm,24.1s						
SSE				LR	LR		
	comp=Z,210nm,28.3s						
NJ2	**Nanjing**	**170.06**	**299**	*e*PKP	PKPdf	14 09 00.6	-3.5
NJ2				APKP		14 09 11.9	
NJ2				XPKP		14 09 15.4	
NJ2				PKP2	PKPab	14 10 16.1	-3.4
NJ2				PKS		14 12 31.0	
NJ2				PP	PP	14 14 07.0	-2.5
NJ2				PP	PP		
	comp=Z,190nm,9.0s						
NJ2				LR	LR		
	comp=N,1μm,29.1s						
NJ2				LR	LR		
	comp=E,950nm,27.0s						
NJ2				LR	LR		
	comp=Z,380nm,30.8s						
LZH	**Lanzhou**	**170.55**	**24**	*e*PKP	PKPdf	14 09 06.0	+1.6
LZH				APKP		14 09 13.5	
LZH				XPKP		14 09 18.0	
LZH				PP	PP	14 14 17.0	+5.0
LZH				SKS	SKSdf	14 16 05.0	-0.4
LZH				SKKS	SKKSac	14 20 59.0	+2.5
LZH				SS	SS	14 35 10.0	-1.6
LZH				PP	PP		
	comp=Z,90nm,5.0s						
LZH				LR	LR		
	comp=E,820nm,20.0s						
LZH				LR	LR		
	comp=Z,610nm,22.0s						
KMI	**Kunming**	**174.18**	**113**	PKP	PKPdf	14 09 06.0	0.0
CD2	**Chengdu**	**174.57**	**51**	*e*PKP	PKPdf	14 09 07.4	+1.3

*TIF **11** 14:23:35.9, 4324N×4478E, h14km±2km*
MOS 11 14:23:34.1±1.3, 4319N×4490E, h21km, mb4.0/1, 6C-5D, Error ellipse: s-maj=11.6km s-min=9.7km az=37.5, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**0.14**	**208**	↑*i* PG	Pb	14 23 40.4	+1.8
SNJR				*i* S	Sb	14 23 44.4	+2.8
VLKR	**Vladikavkaz**	**0.22**	**229**	↓*i* PG	Pb	14 23 40.7	+1.1
VLKR				*i* S	Sb	14 23 44.8	+1.5
BTKR	**Batakoyurt**	**0.32**	**305**	↓*i* PG	Pb	14 23 40.5	-0.7
BTKR				*i* S	Sb	14 23 44.6	-1.3
ARNR	**Ardon**	**0.46**	**270**	↑*i* PG	Pb	14 23 43.2	-0.2
ARNR				*i* S	Sb	14 23 49.3	-0.5
KMSR	**Komsomolskaya**	**0.48**	**292**	↓*i* PG	Pb	14 23 43.5	-0.4
KMSR				*i* S	Sb	14 23 49.7	-0.8
TRKR	**Terskaya**	**0.55**	**347**	↑*i* PG	Pb	14 23 46.2	+1.2
TRKR				*i* S	Sb	14 23 54.3	+1.9
LACR	**Lac**	**0.57**	**231**	↓*i* PG	Pb	14 23 46.7	+1.2
LACR				*i* S	Sb	14 23 55.4	+2.2
KORR	**Kora**	**0.62**	**261**	↑*i* PG	Pb	14 23 46.5	+0.3
KORR				*i* S	Sb	14 23 54.9	+0.4
PRTR	**Priterechnaya**	**0.72**	**321**	↑*i* PG	Pb	14 23 48.3	+0.4
PRTR				*i* S	Sb	14 23 58.0	+0.6
ZEI	**Tsey**	**0.85**	**241**	↓*i* PG	Pb	14 23 51.1	+1.0
ZEI				*i* S	Sb	14 24 02.8	+1.7
SHAR	**Shatzhatmas**	**1.72**	**290**	*e*PN	Pn	14 24 05.5	+2.8
SHAR				*e*S	Sn	14 24 28.1	+4.1
BEYR	**Belyy Ugol+**	**1.72**	**299**	*e*PN	Pn	14 24 04.6	+1.8
BEYR				*e*S	Sn	14 24 27.2	+3.0
KIV0	**Kislovodsk Arr**	**1.78**	**296**	*e*PN	Pn	14 24 05.7	+2.1
KIV	**Kislovodsk**	**1.78**	**296**	↑*e*PN	Pn	14 24 05.8	+2.2
KIV				*i* S	Sn	14 24 28.7	+3.0

*IDC **11** 14:40:46.2±1.8, 3326N×331W, h0km, mb3.1/2, mb1 3.6/3, mb1mx3.2/22, mbtmp3.3/3, ML4.1/1, Error ellipse: s-maj=26.9km s-min=14.4km az=149.0*
*NEIC **11** 14:40:48.0, 3329N×338W, h0km, MN2.7(MDD), After MDD.*
*ISCJB **11** 14:40:47.5±0.4, 3337N±002×355W±004, h10km, Error ellipse: s-maj=4.9km s-min=2.8km az=67.9*
*IGIL **11** 14:40:48.1, 3330N×340W, h0km, ML2.5*
*MDD **11** 14:40:48.3±1.3, 3325N×336W, h6km±11km, mb4.1/17, Error ellipse: s-maj=9.8km s-min=4.5km az=129.0, PRXIMO*
*INMG **11** 14:40:48.5±1.1, 3334N×346W, h5km, ML2.9, Error ellipse: s-maj=6.5km s-min=4.5km az=1.0*
*CSEM **11** 14:40:48.1±0.2, 3331N×339W, h40km, MD3.9, Error ellipse: s-maj=5.6km s-min=3.6km az=134.0*
*CNRM **11** 14:40:50.2, 3322N×326W, h24km, MD3.9*
*CRAAG **11** 14:40:50.5, 3344N×323W, Mb3.0*
ISC 11 14:40:48.7±0.4, 3335N±002×350W±003, h10km, n68, σ1§34/115, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDT	**Midelt**	**1.08**	**241**	Pg	**Pg**	**14 41 08.4**	**-0.9**
	95nm,0.3s,baz=66,slow=15,SNR=14						
MDT				Lg		14 41 25.0	
	126nm,0.3s,baz=35,slow=21,SNR=17						
CZD	**Col de Zad**	**1.33**	**257**	*i* P	**Pn**	**14 41 14.0**	**+0.7**
CZD				*e*S	**Sb**	**14 41 34.0**	**+3.2**
IFR	**Ifrane**	**1.37**	**277**	P	**Pn**	**14 41 15.5**	**+1.7**
IFR				S	**Sb**	**14 41 37.0**	**+5.1**
MIF	**Mishlifen**	**1.45**	**273**	*i* P	**Pn**	**14 41 15.0**	**+0.1**
MIF				*i* S	**Sn**	**14 41 35.0**	**+1.1**
TGT	**Taghat**	**1.48**	**299**	*e*P	**Pn**	**14 41 18.0**	**+2.6**
TGT				*i* S	**Sn**	**14 41 39.0**	**+4.2**
ZFT	**Errachidia**	**1.50**	**209**	*i* P	**Pn**	**14 41 13.0**	**-2.6**
ZFT				*i* S	**Sn**	**14 41 33.0**	**-2.2**
TOU	**Touzarine**	**1.62**	**353**	*i* P	**Pn**	**14 41 17.0**	**-0.3**
TOU				*i* S	**Sn**	**14 41 38.0**	**-0.2**
ZAI	**Zaio**	**1.73**	**21**	*i* P	**Pn**	**14 41 19.0**	**+0.2**
ZAI				*i* S	**Sn**	**14 41 40.0**	**-0.9**
MPAL	**Palemas**	**1.90**	**349**	*i* P	**Pn**	**14 41 23.0**	**+1.8**
MPAL				*i* S	**Sn**	**14 41 46.0**	**+0.8**
EMEL	**Melilla**	**2.00**	**13**	P	**Pn**	**14 41 22.2**	**-0.3**
	184nm,0.2s,SNR=7.9						
EMEL				S	**Sn**	**14 41 49.0**	**+1.5**
	261nm,0.2s,SNR=7.9						
EMLI	**Melilla**	**2.00**	**13**	P	**Pn**	**14 41 22.2**	**-0.2**
	184nm,0.2s,SNR=7.9						
EMLI				S	**Sn**	**14 41 49.0**	**+1.5**
	261nm,0.2s,SNR=7.9						
KIB	**El Ksiba**	**2.27**	**251**	*i* P	**Pn**	**14 41 26.0**	**-0.2**
KIB				*i* S	**Sn**	**14 41 53.0**	**-1.2**
RSA	**Sarsar**	**2.46**	**309**	*i* S	**Sn**	**14 42 01.0**	**+2.1**
OLHC	**Oulhaca**	**2.56**	**42**	P	**Pn**	**14 41 35.0**	**+4.8**
ODZI	**Dziouia**	**2.70**	**44**	P	**Pn**	**14 41 33.0**	**+0.9**
AVE	**Averroes**	**3.28**	**270**	P	**Pn**	**14 41 40.0**	**0.0**
EMIJ	**Mijas**	**3.37**	**342**	P	**Pn**	**14 41 41.4**	**+0.1**
	3.8nm,0.3s,SNR=7.9						
EMIJ				S	**Sn**	**14 42 22.2**	**+0.8**
	10nm,0.4s,SNR=7.9						
ODJA	**Bouhanifia**	**3.40**	**54**	P	**Pg**	**14 41 56.0**	**+2.1**
EGUA	**Guajares**	**3.48**	**359**	P	**Pn**	**14 41 41.9**	**-0.8**
	3.0nm,0.3s,SNR=7.9						
EGUA				S	**Sn**	**14 42 24.1**	**+0.1**
	3.0nm,0.5s,SNR=7.9						
ERON	**Agron**	**3.67**	**356**	P	**Pn**	**14 41 44.6**	**-0.8**
	3.2nm,0.4s,SNR=7.9						
ENIJ	**Nijar**	**3.76**	**16**	P	**Pn**	**14 41 45.8**	**-1.0**
	14nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**3.84**	**1**	P	**Pn**	**14 41 48.9**	**+1.0**
	3.1nm,0.2s,SNR=10						
EQUE				S	**Sn**	**14 42 31.9**	**-1.2**
	1.4nm,0.2s,SNR=7.9						
ESPR	**Espera**	**4.00**	**332**	P	**Pn**	**14 41 51.9**	**+1.8**
	1.4nm,0.2s,SNR=4.0						
ESPR				S	**Sn**	**14 42 37.5**	**+0.4**
	7.6nm,0.3s,SNR=7.9						
ESPR	**Espera**	**4.00**	**332**	P	**Pn**	**14 41 51.9**	**+1.8**
	1.4nm,0.2s,SNR=4.0						
ESPR				S	**Sn**	**14 42 37.5**	**+0.5**
	7.6nm,0.3s,SNR=7.9						
OUK	**Oukaimeden**	**4.27**	**241**	P	**Pn**	**14 41 56.0**	**+2.3**
OUK				S	**Sn**	**14 42 42.0**	**-1.6**
EQES	**Quesada**	**4.46**	**4**	P	**Pn**	**14 41 58.1**	**+1.8**
	5.7nm,0.6s,SNR=31						
EQES				S	**Sn**	**14 42 47.6**	**-0.6**
	4.1nm,0.2s,SNR=7.9						
EQES	**Quesada**	**4.46**	**4**	P	**Pn**	**14 41 58.1**	**+1.8**
	5.7nm,0.6s,SNR=31						
EQES				S	**Sn**	**14 42 47.6**	**-0.5**
	4.1nm,0.2s,SNR=7.9						
ETRT	**Tiaret**	**4.46**	**62**	P	**Pn**	**14 42 07.5**	**+11**
EHUE	**Huescar**	**4.51**	**9**	P	**Pn**	**14 41 58.1**	**+1.0**
	2.5nm,0.2s,SNR=7.9						
EANR	**'Ain N'Sour**	**4.59**	**54**	P	**Pn**	**14 41 56.0**	**-2.1**
CIA	**Chichaoua**	**4.79**	**250**	P	**Pn**	**14 42 03.0**	**+2.2**
CIA				S	**Sn**	**14 42 56.0**	**-0.4**
EMUR	**La Murta**	**4.84**	**22**	P	**Pn**	**14 42 00.3**	**-1.3**
	15nm,0.4s,SNR=7.9						
EMUR				S	**Sn**	**14 42 56.0**	**-1.8**
	5.1nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**4.84**	**22**	P	**Pn**	**14 42 00.3**	**-1.3**
	15nm,0.4s,SNR=7.9						
EMUR				S	**Sn**	**14 42 56.0**	**-1.7**
	5.1nm,0.2s,SNR=7.9						
ECHA	**Ech Chlef**	**4.88**	**54**	P	**Pg**	**14 42 25.0**	**+2.8**
EADA	**Adamuz**	**4.88**	**350**	P	**Pn**	**14 42 03.9**	**+1.8**
	1.4nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**14 42 59.4**	**+0.7**
	2.1nm,0.3s,SNR=4.0						
EADA	**Adamuz**	**4.88**	**350**	P	**Pn**	**14 42 03.9**	**+1.8**
	1.4nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**14 42 59.4**	**+0.7**
	2.1nm,0.3s,SNR=4.0						
EBNR	**Beni Rached**	**5.07**	**53**	P	**Pg**	**14 42 34.0**	**+8.2**
EMIN	**Mina Concepcio**	**5.11**	**330**	P	**Pn**	**14 42 05.3**	**0.0**
	1.3nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**14 43 03.0**	**-1.2**
	4.5nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.11**	**330**	P	**Pn**	**14 42 05.3**	**+0.1**
	1.3nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**14 43 03.0**	**-1.3**
	4.5nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**5.29**	**323**	P	**Pn**	**14 42 07.5**	**-0.2**
	1.2nm,0.3s,SNR=7.9						
EGRO				S	**Sn**	**14 43 07.4**	**-1.3**
	0.9nm,0.4s,SNR=7.9						
EGRO	**El Granado**	**5.29**	**323**	P	**Pn**	**14 42 07.5**	**-0.2**
	1.2nm,0.3s,SNR=7.9						
EGRO				S	**Sn**	**14 43 07.4**	**-1.3**
	0.9nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**5.51**	**16**	P	**Pn**	**14 42 10.9**	**+0.1**
	2.3nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**14 43 11.6**	**-2.6**
	2.3nm,0.3s,SNR=4.0						
ETOB	**Tobarra**	**5.51**	**16**	P	**Pn**	**14 42 10.9**	**+0.1**
	2.3nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**14 43 11.6**	**-2.6**
	2.3nm,0.3s,SNR=4.0						
MORF	**Marmelete**	**5.77**	**315**	*e*P	**Pn**	**14 42 13.9**	**-0.4**
MORF				AML	AML	14 42 16.8	
	comp=Z,5.6nm,0.1s						
MORF				*e*S	**Sn**	**14 43 16.6**	**-3.9**
MORF				*e*S	**Sn**	**14 43 16.7**	**-3.9**
MORF	**Marmelete**	**5.77**	**315**	*e*P	**Pn**	**14 42 13.9**	**-0.4**
MORF				*e*S	**Sn**	**14 43 16.6**	**-3.9**
MORF							
	comp=Z,5.6nm,0.1s						
MORF	**Marmelete**	**5.77**	**315**	*e*P	**Pn**	**14 42 13.9**	**-0.4**
	comp=Z,5.6nm,0.1s						
PBEJ	**Beja**	**5.86**	**324**	*e*Pn	**Pn**	**14 42 15.8**	**+0.2**
PBEJ				*e*Sn	**Sn**	**14 43 21.3**	**-1.5**
PBEJ							
	comp=Z,8.0nm,0.1s						
PBEJ	**Beja**	**5.86**	**324**	P	**Pn**	**14 42 15.5**	**-0.1**
PBEJ				S	**Sn**	**14 43 21.4**	**-1.4**
EBEN	**Beniarda**	**5.96**	**25**	P	**Pn**	**14 42 17.4**	**+0.4**
	comp=Z,1.9nm,0.3s,SNR=7.9						
EBEN				S	**Sn**	**14 43 20.1**	**-5.2**
	comp=Z,2.5nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**5.96**	**25**	P	**Pn**	**14 42 17.4**	**+0.4**
	comp=Z,1.9nm,0.3s,SNR=7.9						
PTEO	**Sao Teotonio**	**5.97**	**316**	*e*Pn	**Pn**	**14 42 16.9**	**-0.2**
PTEO				*e*Sn	**Sn**	**14 43 23.6**	**-2.0**
PTEO							
	comp=Z,16nm,0.1s						
PTEO	**Sao Teotonio**	**5.97**	**316**	P	**Pn**	**14 42 16.8**	**-0.3**
PTEO				S	**Sn**	**14 43 24.5**	**-1.1**
EMHD	**Djebel Mahouad**	**6.02**	**60**	P	**Pn**	**14 42 35.0**	**+17**
EBAD	**Badajoz**	**6.10**	**333**	P	**Pn**	**14 42 19.6**	**+0.8**
	comp=Z,2.2nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**14 43 26.1**	**-2.5**
	comp=Z,12nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**6.10**	**333**	P	**Pn**	**14 42 19.6**	**+0.8**
	comp=Z,2.2nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**14 43 26.1**	**-2.5**
	comp=Z,12nm,0.2s,SNR=7.9						

ellipse: s-maj=6.5km s-min=4.5km az=1.0
*CSEM **11** 14:40:48.1±0.2, 3331N×339W, h40km, MD3.9, Error ellipse: s-maj=5.6km s-min=3.6km az=134.0*
*CNRM **11** 14:40:50.2, 3322N×326W, h24km, MD3.9*
*CRAAG **11** 14:40:50.5, 3344N×323W, Mb3.0*
ISC 11 14:40:48.7±0.4, 3335N±002×350W±003, h10km, n68, σ1§34/115, Morocco

ESDC	**Sonseca Array**	**6.32**	**357**	Pn	**Pn**	**14 42 23.1**	**+1.2**
	comp=Z,1.5nm,0.3s,baz=173,slow=12,SNR=10						
MOE	**Montemor**	**6.49**	**324**	*e*Pn	**Pn**	**14 42 24.6**	**+0.4**
MOE				*e*Sn	**Sn**	**14 43 36.6**	**-1.6**
MOE	**Montemor**	**6.49**	**324**	P	**Pn**	**14 42 24.8**	**+0.6**
MOE				S	**Sn**	**14 43 37.2**	**-1.0**
EIBI	**Ibiza**	**6.88**	**33**	P	**Pn**	**14 42 28.2**	**-1.4**
	comp=Z,2.7nm,0.4s,SNR=7.9						
EIBI				S	**Sn**	**14 43 44.8**	**-3.2**
	comp=Z,2.6nm,0.6s,SNR=7.9						
EIBI	**Ibiza**	**6.88**	**33**	P	**Pn**	**14 42 28.2**	**-1.4**
	comp=Z,2.7nm,0.4s,SNR=7.9						
EIBI				S	**Sn**	**14 43 44.8**	**-3.2**
	comp=Z,2.6nm,0.6s,SNR=7.9						
PCBR	**Castelo Branco**	**7.22**	**335**	*e*Pn	**Pn**	**14 42 35.4**	**+1.1**
PCBR				*e*Sn	**Sn**	**14 43 53.4**	**-2.9**
PCBR							
	comp=Z,2.1nm,0.3s						
PCBR	**Castelo Branco**	**7.22**	**335**	P	**Pn**	**14 42 34.2**	**-0.1**
PCBR				S	**Sn**	**14 43 53.8**	**-2.5**
PTOM	**Tomar**	**7.40**	**329**	*e*Pn	**Pn**	**14 42 37.6**	**+0.9**
PVIS	**Viseu**	**8.14**	**336**	*e*Pn	**Pn**	**14 42 47.7**	**+0.8**
PVIS				*e*Sn	**Sn**	**14 44 16.3**	**-2.7**
PVIS							
	comp=Z,3.7nm,0.1s						
PCAB	**Cabril**	**9.08**	**338**	*e*Pn	**Pn**	**14 43 00.6**	**+0.8**
ELOB	**Lobios**	**9.24**	**338**	P	**Pn**	**14 43 03.2**	**+1.3**
	comp=Z,0.5nm,0.2s,SNR=4.0						
GERES	**GERESS Array B**	**20.12**	**35**	P	**P**	**14 45 21.2**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=232,slow=11,SNR=3.8						
TORD	**Torodi Ar. Bea**	**20.66**	**166**	P	**P**	**14 45 26.5**	**-2.1**
	comp=Z,0.6nm,0.4s,baz=343,slow=11,SNR=8.7						

IDC 11 14:41:11.2±9.0, 3006S×17728W, h0km, mb3.1/2, mb1 3.4/2, mb1mx3.3/12, mbtmp3.1/2, Error ellipse: s-maj=383.7km s-min=61.8km az=154.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.75**	**266**	P	P	14 49 18.4	+0.1
	0.2nm,0.8s,baz=99,slow=6.5,SNR=4.5						
WRA	**Warramunga Arr**	**44.71**	**271**	P	P	14 49 26.8	+0.8
	0.3nm,1.1s,baz=108,slow=7.9,SNR=2.8						
FINES	**FINESS Array B**	**145.04**	**341**	PKPbc	PKPbc	15 00 49.5	-0.3
	0.3nm,0.4s,baz=48,slow=4.1,SNR=4.6						

*SOF **11** 14:56:42.2, 41.18N×24.16E, h3km, MD2.8*
*ISCJB **11** 14:56:42.5±0.5, 4121N±003×24.18E±003, h7km±5km, Error ellipse: s-maj=4.6km s-min=3.9km az=152.4*
*CSEM **11** 14:56:43.2±0.1, 4122N×2420E, h15km, MD3.3, Error ellipse: s-maj=1.6km s-min=1.1km az=1.0*
*ATH **11** 14:56:43.2, 4129N×24.17E, h19km±7km, MD3.3/3*
*NEIC **11** 14:56:45.0, 41.17N×24.13E, h11km, MD3.3(ATH), ML3.0(THE), After THE.*
*THE **11** 14:56:45.0, 41.17N×24.13E, h10km, ML3.0*
ISC 11 14:56:43.3±0.4, 4121N±003×2418E±003, h12km±5km, n22, σ0§89/33, 1D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVR	**Nevrokopi**	**0.28**	**300**	↓*i* PB	**Pg**	**14 56 49.1**	**+0.1**
NVR				*e*SB	**Sg**	**14 56 52.9**	**+0.1**
SRS	**Serrai**	**0.45**	**258**	*e*Pg	**Pg**	**14 56 52.4**	**+0.2**
SRS				*e*Sg	**Sg**	**14 56 59.2**	**+0.9**
MMB	**Musomiste**	**0.51**	**318**	*i* Pg	**Pg**	**14 56 52.5**	**-0.7**
RZN	**Rozhen**	**0.62**	**40**	*i* Pg	**Pg**	**14 56 56.0**	**+0.6**
SOH	**Sokhos**	**0.74**	**238**	*e*Pg	**Pg**	**14 56 58.4**	**+0.9**
OUR	**Ouranopolis**	**0.89**	**190**	*e*Pg	**Pg**	**14 57 01.3**	**+0.9**
KNT	**Kendrikon**	**0.97**	**267**	*e*Pg	**Pg**	**14 57 01.6**	**-0.3**
PLG	**Polygyros**	**1.00**	**214**	*e*PN	**Pn**	**14 57 03.1**	**-0.1**
PLG				*e*SN	**Sn**	**14 57 17.7**	**+0.5**
RDO	**Rodhopi**	**1.03**	**93**	*e*PN	**Pn**	**14 57 02.6**	**-0.9**
RDO				*e*SN	**Sn**	**14 57 17.7**	**-0.1**
KDZ	**Kurdzhali**	**1.03**	**64**	*i* P	**Pb**	**14 57 01.5**	**-1.5**
KKB	**Krupnik**	**1.05**	**309**	*i* P	**Pb**	**14 57 02.0**	**-1.4**
THE	**Thessaloniki**	**1.09**	**238**	*e*Pg	**Pg**	**14 57 04.8**	**+0.7**
THE				*e*Sg	**Sg**	**14 57 18.7**	**+0.3**
THE	**Thessaloniki**	**1.09**	**238**	*e*Pg	**Pg**	**14 57 04.8**	**+0.6**
THE				*e*Sg	**Sg**	**14 57 18.7**	**+0.3**
DIM	**Dimitrovgrad**	**1.32**	**50**	*i* P	**Pn**	**14 57 09.4**	**+2.0**
PGB	**Panagyurishte**	**1.34**	**360**	*i* P	**Pn**	**14 57 08.0**	**+0.3**
PAIG	**Paliouri**	**1.34**	**197**	*e*Pg	**Pg**	**14 57 07.8**	**-1.2**
PAIG				*e*Sg	**Sg**	**14 57 25.9**	**-0.5**
GRG	**Griva**	**1.37**	**260**	*e*Pg	**Pg**	**14 57 09.0**	**-0.5**
GRG				*e*Sg	**Sg**	**14 57 27.2**	**-0.1**
ALN	**Alexandroupoli**	**1.45**	**102**	*e*Pg	**Pg**	**14 57 10.2**	**-0.9**
ALN				*e*Sg	**Sg**	**14 57 31.1**	**+1.2**
VTS	**Vitosha**	**1.56**	**333**	*i* P	**Pn**	**14 57 13.0**	**+2.2**
VTS	**Vitosha**	**1.56**	**333**	*e*Pg	**Pg**	**14 57 12.3**	**-0.8**
VTS				*e*Sg	**Sg**	**14 57 33.4**	**0.0**
VTS	**Vitosha**	**1.56**	**333**	*e*Pg	**Pg**	**14 57 12.4**	**-0.8**
VTS				*e*Sg	**Sg**	**14 57 33.3**	**-0.1**
LIT	**Litokhoron**	**1.70**	**230**	*e*Pb	**Pb**	**14 57 13.2**	**-1.2**

*ISCJB **11** 15:03:48.9±0.7, 2863S±005×178.7W±0.1, h283km±7

7.2nm,1.1s,mb4.0
MJAR Matsushiro Arr 76.74 325 P **P** 15 15 07.7 -1.9
2.5nm,0.8s,mb4.0,baz=157,slow=5.7,SNR=5.6
VNA3 Neumayer Olymp 79.85 176 *e* **P** 15 15 33.1 +6.5
VNA2 Neumayer--Watz 80.28 177 *e* **P** 15 15 33.3 +4.4
baz=183,slow=4.8
YSS Yuzh-Sakhalins 83.18 334 *eP* **P** 15 15 42.6 -1.3
42nm,1.4s,mb5.1
NVAR Mina Array Bea 87.42 43 P **P** 15 16 04.8 +0.1
0.5nm,0.7s,mb3.5,baz=228,slow=4.7,SNR=3.9
MKAR Makanchi Array 116.45 311 PKP PKPdf 15 21 58.7 -0.7
0.3nm,0.6s,baz=277,slow=0.9,SNR=4.4
MKAR Makanchi Array 116.45 311 PKP PKPdf 15 21 58.7 -0.7
ZAL Zalesovo 116.61 319 PKP PKPdf 15 21 58.2 -1.4
0.9nm,0.3s,baz=66,slow=9.0,SNR=3.0
FINES FINESS Array B 143.56 340 PKhKP 15 22 46.1
0.8nm,0.5s,baz=35,slow=3.5,SNR=7.6
NB2 NORSAR Subarra147.18 351 PKPa PKPbc 15 22 57.1 -2.0
comp=Z,1.5nm,0.5s,baz=13,slow=2.9
NOA NORSAR Array B 147.18 351 PKPbc PKPbc 15 22 56.6 -2.5
comp=Z,2.1nm,0.7s,baz=16,slow=4.5,SNR=6.1
AKASG Malin Array Be 149.82 324 PKPbc PKPbc 15 23 05.2 -0.6
comp=Z,3.0nm,0.5s,baz=44,slow=3.0,SNR=14
AKASG PKPab PKPab 15 23 10.9 -1.4
comp=Z,2.7nm,0.5s,baz=45,slow=4.7,SNR=12
BRTR Keskin Array B 151.47 301 PKPbc PKPbc 15 23 09.9 +0.3
comp=Z,1.0nm,0.6s,baz=143,slow=4.6,SNR=4.2

ISCJB ***11*** *15:05:29.3±1.1, 3859N±003×2620E±008, h22km±8km, Error ellipse: s-maj=10.4km s-min=5.7km az=2.2*
ATH ***11*** *15:05:29.0, 3859N×2625E, h37km, MD2.9/3*
CSEM ***11*** *15:05:29.5±0.3, 3855N×2632E, h20km, MD2.9, Error ellipse: s-maj=8.1km s-min=5.9km az=89.0*
ISK ***11*** *15:05:34.2, 3842N×2656E, h32km, MD3.0*
ISC 11 15:05:29.3±1.0, 3858N±003×2622E±007, h17km±5km, n10, σ0§99/17, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.37**	**126**	*i* P		**Pg**		**15 05 36.4**	**-0.5**
URLA				*i* S		**Sg**		**15 05 42.1**	**0.0**
PRK	**Paraskevi**	**0.67**	**4**	*e*PN		**Pn**		**15 05 42.8**	**-1.1**
PRK				*e*SN		**Sg**		**15 05 52.0**	**+0.6**
AYVA	**Ayvalik**	**0.82**	**27**	*i* P		**Pb**		**15 05 44.0**	**-1.0**
AYVA				*i* S		**Sb**		**15 05 56.4**	**+0.6**
IZM	**Izmir**	**0.84**	**102**	PG		**Pg**		**15 05 45.9**	**+0.2**
KDAG	**Bornova**	**0.84**	**102**	*i* P		**Pb**		**15 05 44.4**	**-1.0**
KDAG				*i* S		**Sb**		**15 05 58.2**	**+1.7**
SMG	**Samos**	**1.00**	**150**	*e*PN		**Pn**		**15 05 48.0**	**-0.4**
SMG				*e*SN		**Sn**		**15 06 01.8**	**-0.3**
EZN	**Ezine**	**1.25**	**4**	*e*PN		**Pg**		**15 05 58.3**	**+4.9**
AKS	**Akhisar**	**1.28**	**76**	PN		**Pn**		**15 05 53.6**	**+1.2**
AKS				SN		**Sn**		**15 06 07.6**	**-1.6**
APE	**Apeiranthos**	**1.60**	**200**	*e*PN		**Pn**		**15 05 56.7**	**-0.1**
APE				*e*SN		**Sn**		**15 06 17.9**	**+0.9**
KCT	**Karacabey**	**2.36**	**44**	*e*PN		**Pn**		**15 06 10.6**	**+3.3**

IDC ***11*** *15:16:20.2±2.4, 564N×12631E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.4/19, mbtmp3.4/4, Error ellipse: s-maj=146.1km s-min=25.2km az=70.0*
ISCJB ***11*** *15:16:25.3±0.9, 537N±0.10×1262E±02, h33km, mb3.3/4, Error ellipse: s-maj=25.3km s-min=8.9km az=123.4*
ISC 11 15:16:26.7±0.9, 54N±01×1263E±02, h35km, n7, σ1§34/8, mb3.3/4, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.50**	**359**	*e*P		**Pn**		**15 16 51.7**	**+0.6**
CTBH	**Cotabato--PC H**	**2.68**	**311**	*e*P		**Pn**		**15 17 05.3**	**-2.0**
CTBH				*i* S		**Sn**		**15 17 40.4**	**+1.8**
BUKP	**Musuan**	**2.71**	**334**	*e*P		**Pn**		**15 17 07.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**23.40**	**182**	P		**P**		**15 21 32.0**	**-0.6**
	1.9nm,1.1s,mb3.4,baz=338,slow=19,SNR=4.4								
WRA	**Warramunga Arr**	**26.44**	**163**	P		**P**		**15 22 01.8**	**+1.6**
	0.3nm,0.6s,mb3.0,baz=347,slow=10,SNR=2.7								
ASAR	**Alice Springs**	**29.87**	**166**	P		**P**		**15 22 31.0**	**+0.2**
	0.1nm,0.4s,mb2.9,baz=343,slow=7.0,SNR=1.7								
MKAR	**Makanchi Array**	**55.90**	**325**	P		**P**		**15 25 58.9**	**-2.1**
	0.6nm,0.7s,mb3.8,baz=126,slow=7.6,SNR=7.0								

BJI ***11*** *15:28:05.1, 938S×11832E, h95km, mB4.9, mb4.6*
NEIC ***11*** *15:28:10.7±1.7, 848S×11864E, h95km±17km, mb4.2/10, Error ellipse: s-maj=14.4km s-min=8.4km az=70.0*
NEIC Felt [III] at Bima.
ISCJB ***11*** *15:28:13.5±1.6, 858S±007×11880E±008, h136km±17km, mb4.3/22, Error ellipse: s-maj=17.3km s-min=6.1km az=98.7*
IDC ***11*** *15:28:15.3±2.1, 837S×11907E, h138km±18km, mb4.1/6, mb1 4.1/8, mb1mx3.8/18, mbtmp4.4/8, Error ellipse: s-maj=32.5km s-min=9.1km az=54.0*
ISC 11 15:28:16.4±1.4, 868S±007×11875E±009, h147km±15km, n41, σ1§24/50, mb4.3/22, 1C-1D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.51**	**145**	*e*P		**Pn**		**15 30 55.0**	**-1.3**
	8.6nm,0.4s								
FITZ				*e*S		**Sn**		**15 32 54.9**	**-8.6**
FITZ	**Fitzroy Crossi**	**11.51**	**145**	P		**Pn**		**15 30 55.5**	**-0.8**
	1.3nm,0.3s,baz=331,slow=10,SNR=53								
FITZ				S		**Sn**		**15 32 58.2**	**-5.3**
	3.0nm,0.3s,baz=175,slow=22,SNR=15								
MBWA	**Marble Bar**	**12.44**	**176**	*e*Pn		**Pn**		**15 31 07.2**	**-1.3**
MBWA				*e*Sn		**Sn**		**15 33 12.0**	**-14**
KAKA	**Kakadu**	**14.03**	**108**	*e*P		**Pn**		**15 31 27.5**	**-1.3**
	27nm,0.4s								
KAKA				*e*S		**Sn**		**15 33 51.3**	**-13**
KKM	**Kota Kinabalu**	**14.84**	**350**	*e*P		**Pn**		**15 31 41.0**	**+2.0**
WRA	**Warramunga Arr**	**18.78**	**128**	P		**P**		**15 32 25.1**	**+0.8**
	1.1nm,0.3s,baz=304,slow=12,SNR=83								
WRA				S		**S**		**15 35 48.0**	**-2.1**
	0.7nm,0.3s,baz=304,slow=24,SNR=9.9								
WRA				ScP		ScP		15 40 07.8	+0.7
	0.1nm,0.3s,baz=314,slow=2.3,SNR=5.0								
WRAB	**Tennant Creek**	**18.78**	**128**	*e*P		**P**		**15 32 24.7**	**+0.3**
	9.9nm,0.6s								
WRAB				*e*S		**S**		**15 35 45.6**	**-4.7**
WB2	**Warramunga Arr**	**18.79**	**128**	*e*P		**P**		**15 32 24.7**	**+0.3**
WB2				*e*S		**S**		**15 35 45.2**	**-5.1**
ASAR	**Alice Springs**	**20.80**	**138**	P		**P**		**15 32 47.4**	**+1.4**
	14nm,0.6s,baz=314,slow=9.1,SNR=89								
ASAR				S		**S**		**15 36 33.5**	**+3.7**
	1.2nm,0.9s,baz=317,slow=22,SNR=5.5								
ASAR				ScP		ScP		15 40 13.8	+2.1
	1.9nm,0.6s,baz=340,slow=2.1,SNR=11								
KLBR	**Kellerberrin**	**22.82**	**182**	*e*P		**P**		**15 33 08.2**	**+1.6**
	10nm,1.0s,mb4.2								
KLBR				*e*S		**S**		**15 37 16.5**	**+12**
FORT	**Forrest**	**23.64**	**160**	*e*P		**P**		**15 33 15.9**	**+1.7**
	15nm,0.6s,mb4.7								
NWAO	**Narrogin (SRO)**	**24.17**	**183**	P		**P**		**15 33 20.8**	**+1.8**
	4.9nm,0.5s,mb4.3,baz=355,slow=9.9,SNR=11								
NWAO	**Narrogin (SRO)**	**24.17**	**183**	*e*P		**P**		**15 33 19.3**	**+0.3**
	4.9nm,0.6s,mb4.2								
NWAO				*e*S		**S**		**15 37 44.4**	**+18**
QIZ	**Qiongzhong**	**28.90**	**342**	P		**P**		**15 34 02.9**	**+1.5**
STKA	**Stephens Creek**	**31.35**	**141**	⇓*i* P		**P**		**15 34 22.6**	**-0.4**
	3.4nm,0.4s,mb4.4								
STKA	**Stephens Creek**	**31.35**	**141**	P		**P**		**15 34 23.0**	**0.0**
	4.7nm,0.5s,mb4.5,baz=317,slow=8.6,SNR=22								
KMI	**Kunming**	**37.04**	**335**	P		**P**		**15 35 11.8**	**-0.2**
KMI					AMB	AMB			
	comp=Z,6.0nm,1.2s,mb4.1								
NJ2	**Nanjing**	**40.50**	**0**	*e*P		**P**		**15 35 42.1**	**+1.3**
NJ2					AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.5								
CD2	**Chengdu**	**41.91**	**341**	*e*P		**P**		**15 35 51.5**	**-0.8**
CD2					AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.5								
LSA	**Lhasa**	**46.49**	**326**	P		**P**		**15 36 27.4**	**-1.4**
	comp=Z,3.2nm,1.0s,mb3.9								
JIRN	**Jiri**	**47.94**	**320**	*e*P		**P**		**15 36 39.9**	**-0.1**
	comp=Z,16nm,0.7s,mb4.8								
GUN	**Gumba**	**48.31**	**320**	*e*P		**P**		**15 36 43.1**	**+0.3**
	comp=Z,20nm,0.6s,mb4.9								
PKI	**Pulchoki**	**48.38**	**319**	*e*P		**P**		**15 36 43.5**	**+0.2**
DMN	**Daman**	**48.60**	**319**	*e*P		**P**		**15 36 44.5**	**-0.5**
KKN	**Kakani**	**48.61**	**319**	*e*P		**P**		**15 36 45.5**	**+0.4**
GKN	**Gorkha**	**49.17**	**319**	*e*P		**P**		**15 36 49.3**	**-0.1**
KOLN	**Koldanda**	**49.70**	**318**	*e*P		**P**		**15 36 53.0**	**-0.4**
	comp=Z,5.3nm,0.5s,mb4.4								
HHC	**Hu-ho-hao-te**	**49.72**	**353**	*e*P		**P**		**15 36 55.7**	**+2.1**
HHC				XP		sP		15 37 30.3	-13
HHC				PCP		PcP		15 38 14.4	+2.0
HHC				PP		PP		15 38 53.0	+3.6
HHC				SCP		ScP		15 41 54.4	+0.3
HHC				PCS		PcS		15 42 09.4	0.0
HHC				S		**S**		**15 43 52.6**	**+1.4**
HHC					AMB	AMB			
	comp=Z,9.0nm,1.2s,mb4.3								
HHC					AMB	AMB			
	comp=Z,170nm,3.5s								
HHC					LR	LR			
	comp=N,81nm,15.8s								
HHC					LR	LR			
	comp=E,156nm,14.4s								
HHC					LR	LR			
	comp=Z,142nm,16.9s								
GTA	**Gaotai**	**50.97**	**341**	*e*P		**P**		**15 37 03.7**	**+0.8**
GTA					AMB	AMB			
	comp=Z,4.0nm,0.8s,mb4.1								
MDJ	**Mudanjiang**	**53.94**	**10**	P		**P**		**15 37 26.9**	**+2.1**
MDJ					AMB	AMB			
	comp=Z,6.0nm,0.5s,mb4.6								
MDJ					AMB	AMB			
	comp=Z,34nm,4.5s								
ULN	**Ulaanbaatar**	**57.24**	**351**	P		**P**		**15 37 47.4**	**-1.0**
	comp=Z,2.7nm,1.0s,mb4.0								
SONM	**Songino Array**	**57.32**	**350**	P		**P**		**15 37 48.2**	**-0.7**
	comp=Z,1.8nm,0.6s,mb4.1,baz=168,slow=8.6,SNR=17								
WMQ	**Urumqi**	**59.36**	**334**	⇑P		**P**		**15 38 03.5**	**+0.5**
WMQ					XP	sP		15 38 41.0	-13
WMQ					PCP	PcP		15 38 49.5	+0.1
WMQ					AMB	AMB			
	comp=Z,6.0nm,0.8s,mb4.5								
WMQ					AMB	AMB			
	comp=Z,46nm,3.5s								
MKAR	**Makanchi Array**	**64.06**	**333**	P		**P**		**15 38 33.1**	**-1.4**
	comp=Z,2.4nm,0.6s,mb4.2,baz=150,slow=6.5,SNR=23								
MKAR					pP	pP		15 39 07.8	-1.8
	comp=Z,0.6nm,0.6s,baz=151,slow=7.1,SNR=2.6								
AAK	**Ala-Archa**	**65.08**	**325**	*e*P		**P**		**15 38 39.3**	**-1.8**
	comp=Z,1.9nm,0.7s,mb4.0								
KURK	**Kurchatov**	**68.60**	**334**	*e*P		**P**		**15 39 01.6**	**-1.9**
	comp=Z,3.0nm,0.8s,mb4.1								
ZAL	**Zalesovo**	**68.65**	**339**	P		**P**		**15 39 01.4**	**-2.4**
	comp=Z,3.1nm,0.5s,mb4.3,baz=342,slow=3.7,SNR=12								
ZRNK	**Zerenda**	**74.50**	**331**	*e*P		**P**		**15 39 37.1**	**-1.6**
	comp=Z,1.0nm,0.6s,mb3.6								
QSPA	**South Pole Qui**	**91.31**	**180**	*e*P		**P**		**15 40 17.5**	**+1.1**
TORD	**Torodi Ar. Bea**	**118.17**	**280**	PKP		PKPdf		15 46 47.5	+1.6
	comp=Z,0.5nm,0.5s,baz=45,slow=2.0,SNR=4.8								
CPUP	**Villa Florida**	**144.99**	**186**	PKPbc		PKPbc		15 47 39.1	+3.4
	comp=Z,0.6nm,0.5s,baz=73,slow=6.0,SNR=4.3								

ISCJB ***11*** *16:03:38.6±0.3, 5141N±002×1609E±002, h0km, mb3.4/4, Error ellipse: s-maj=2.7km s-min=1.8km az=38.7*
MOS ***11*** *16:03:38.0±0.7, 5161N×1617E, h10km, mb4.0/1, Error ellipse: s-maj=11.1km s-min=5.4km az=84.0*
CSEM ***11*** *16:03:39.8±0.2, 5150N×1618E, h1km±1km, ML3.6/7, Error ellipse: s-maj=2.1km s-min=1.7km az=47.0*
NEIC ***11*** *16:03:39.7±0.4, 5152N×1614E, h5km, ML3.4(SZGRF), Error ellipse: s-maj=5.7km s-min=4.5km az=52.0*
BGR ***11*** *16:03:39.3±0.5, 5147N×1620E, h1km, ML3.3, Error ellipse: s-maj=5.6km s-min=4.4km az=141.0*
IPEC ***11*** *16:03:40.6±0.2, 5147N×1616E, h8km±1km, ML2.8/4, Error ellipse: s-maj=1.3km s-min=0.6km az=37.0*
WAR ***11*** *16:03:41, 5147N×1611E, ML3.1, Mining Induced*
VIE ***11*** *16:03:41.3±0.9, 5134N×1611E, h0km, mb2.6/6, ML3.2/6, Error ellipse: s-maj=5.3km s-min=4.4km az=25.0 68 km WNW of Breslau Suspected Mining induced.*
IDC ***11*** *16:03:41.6±2.0, 5143N×1597E, h10km±15km, mb3.4/4, mb1 3.5/9, mb1mx3.4/21, mbtmp3.4/9, ML3.2/5, Error ellipse: s-maj=18.7km s-min=9.0km az=99.0*
PRU ***11*** *16:03:41.6, 5142N×1605E, h0km*
ISC 11 16:03:39.6±0.3, 5148N±002×1611E±002, h0km, n79, σ0§93/148, mb3.4/4, 5C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**169**	*i* Pgd		**Pg**		**16 03 52.7**	**+0.8**
KSP				*e*Sg		**Sg**		**16 04 01.0**	**+0.7**
KSP				*e*L				16 04 04.7	
KSP	**Ksiaz**	**0.65**	**169**	⇓*i* P		**Pg**		**16 03 52.7**	**+0.8**
KSP				*e*				16 04 01.0	
KSP	**Ksiaz**	**0.65**	**169**	*e*Pg		**Pg**		**16 03 52.5**	**+0.6**
KSP				*e*Sg		**Sg**		**16 04 01.0**	**+0.7**
UPC	**Upice**	**0.97**	**184**	*e*PG		**Pg**		**16 03 58.7**	**+0.5**
UPC	**Upice**	**0.97**	**184**	*e*Pg		**Pg**		**16 03 58.6**	**+0.4**
DPC	**Dobruska-Polom**	**1.14**	**173**	*e*PG		**Pg**		**16 04 01.4**	**+0.1**
DPC				*e*SG		**Sg**		**16 04 16.0**	**-0.1**
	116nm,0.6s								
DPC	**Dobruska-Polom**	**1.14**	**173**	*e*P		**Pg**		**16 04 01.4**	**+0.1**
DPC				*e*				16 04 16.0	
DPC				smax					
	comp=N,116nm,0.6s								
DPC	**Dobruska-Polom**	**1.14**	**173**	*e*Pg		**Pg**		**16 04 01.4**	**+0.1**
DPC				*e*Sg		**Sg**		**16 04 16.0**	**-0.1**
DPC	**Dobruska-Polom**	**1.14**	**173**	*e*Pg		**Pg**		**16 04 01.2**	**-0.1**
DPC				*e*Sg		**Sg**		**16 04 16.0**	**-0.1**
BRG	**Berggiesshubel**	**1.49**	**247**	*e*Pn		**Pn**		**16 04 06.9**	**-0.7**
BRG				*e*Sg		**Sg**		**16 04 28.4**	**+1.0**
BRG	**Berggiesshubel**	**1.49**	**247**	PN		**Pn**		**16 04 06.8**	**-0.8**
BRG				PG		**Pg**		**16 04 08.4**	**+0.3**
BRG				SG		**Sg**		**16 04 28.6**	**+1.1**
	comp=N,105nm,0.4s								
BRG	**Berggiesshubel**	**1.49**	**247**	P		**Pn**		**16 04 06.8**	**-0.8**
BRG								16 04 28.5	
BRG				smax					
	comp=N,105nm,0.4s								
RUE	**Ruedersdorf**	**1.76**	**306**	*e*Pn		**Pn**		**16 04 10.4**	**-0.9**
RUE				*e*Sg		**Sg**		**16 04 37.1**	**+1.1**
RUE	**Ruedersdorf**	**1.76**	**306**	*e*Pn		**Pn**		**16 04 10.4**	**-0.8**
RUE				*e*Pg		**Pg**		**16 04 13.7**	**+0.4**
RUE				*e*Sn		**Sn**		**16 04 36.1**	**+1.8**
RUE				*e*Sg		**Sg**		**16 04 37.1**	**+1.1**
RUE	**Ruedersdorf**	**1.76**	**306**	*e*Pg		**Pg**		**16 04 13.7**	**+0.5**
RUE				*e*Sg		**Sg**		**16 04 36.8**	**+0.8**
PRA	**Prague**	**1.76**	**218**	PG		**Pg**		**16 04 12.0**	**-1.4**
PRA				SG		**Sg**		**16 04 36.0**	**-0.2**
PRU	**Pruhonice**	**1.79**	**214**	*e*PN		**Pn**		**16 04 11.4**	**-0.3**
PRU				*e*PG		**Pg**		**16 04 13.4**	**-0.5**
PRU				*e*SG		**Sg**		**16 04 37.9**	**+0.8**
	comp=N,49nm,0.2s								
PRU	**Pruhonice**	**1.79**	**214**	*e*P		**Pn**		**16 04 11.4**	**-0.3**
PRU				*e*				16 04 37.9	
PRU				smax					
	comp=N,49nm,0.2s								
PRU	**Pruhonice**	**1.79**	**214**	*e*Pg		**Pg**		**16 04 13.4**	**-0.5**
PRU				*e*Sg		**Sg**		**16 04 36.2**	**-0.9**
PRU				*e*S		**Sg**		**16 04 37.9**	**+0.8**
	comp=N,49nm,0.2s								
FBE	**Freiberg**	**1.82**	**253**	*e*Pn		**Pn**		**16 04 13.2**	**+1.1**
FBE				*e*Sg		**Sg**		**16 04 38.1**	**0.0**
MORC	**Moravsky Berou**	**1.93**	**151**	*e*Pn		**Pn**		**16 04 13.2**	**-0.5**
MORC				*e*Sn		**Sn**		**16 04 39.0**	**+0.3**
MORC	**Moravsky Berou**	**1.93**	**151**	*e*Pn		**Pn**		**16 04 13.2**	**-0.5**
MORC				*e*Sn		**Sn**		**16 04 39.0**	**+0.4**
MORC				*e*Sg		**Sg**		**16 04 39.7**	**-1.9**
	comp=N,37nm,0.3s								
CLL	**Collm**	**1.95**	**266**	*e*Pn		**Pn**		**16 04 13.1**	**-0.9**
CLL				*i* Pg		**Pg**		**16 04 16.9**	**-0.1**
CLL				*i* Sg		**Sg**		**16 04 41.9**	**-0.4**
CLL	**Collm**	**1.95**	**266**	*i* Pn		**Pn**		**16 04 13.2**	**-0.7**
CLL				*i* Pg		**Pg**		**16 04 16.9**	**-0.1**
CLL				*i* x		x		16 04 20.2	
CLL				*i* Sg		**Sg**		**16 04 41.9**	**-0.4**
	comp=Z,84nm,0.9s								
CLL	**Collm**	**1.95**	**266**	*i* Pn		**Pn**		**16 04 13.2**	**-0.7**
CLL				*i* Pg		**Pg**		**16 04 16.9**	**-0.1**
CLL				*i* Sg		**Sg**		**16 04 41.9**	**-0.4**
OKC	**Ostrava-Krasne**	**2.09**	**141**	*e*Pn		**Pn**		**16 04 15.2**	**-0.7**
OKC				*e*PG		**Pg**		**16 04 19.0**	**-0.7**
OKC				*e*SG		**Sg**		**16 04 45.9**	**-0.9**
OKC	**Ostrava-Krasne**	**2.09**	**141**	*e*Pn		**Pn**		**16 04 15.1**	**-0.8**
OKC	**Ostrava-Krasne**	**2.09**	**141**	*e*Pg		**Pg**		**16 04 19.0**	**-0.7**
OKC				*e*Sg		**Sg**		**16 04 44.9**	**-1.9**
VRAC	**Vranov**	**2.19**	**172**	Pn		**Pn**		**16 04 17.6**	**+0.3**
	comp=Z,3.7nm,0.3s,baz=331,slow=14,SNR=16								
VRAC					Lg			16 04 48.9	
	comp=Z,11nm,0.3s,baz=256,slow=22,SNR=13								
VRAC	**Vranov**	**2.19**	**172**	*e*Pn		**Pn**		**16 04 17.4**	**+0.1**
VRAC				*e*Sg		**Sg**		**16 04 49.1**	**-0.9**
	comp=Z,25nm,0.2s								
KRUC	**Moravsky**	**2.42**	**176**	*e*Pg		**Pg**		**16 04 24.6**	**-1.4**
KRUC				*e*Sg		**Sg**		**16 04 56.4**	**-1.1**
	comp=Z,41nm,0.4s								
TANN	**Tannenbergstha**	**2.54**	**247**	*e*Pn		**Pn**		**16 04 22.4**	**+0.3**
TANN				*e*Sg		**Sg**		**16 05 01.4**	**+0.2**
WERD	**Werda**	**2.61**	**248**	*e*Pn		**Pn**		**16 04 22.9**	**-0.1**
NKC	**Novy Kostel**	**2.63**	**243**	*e*PN		**Pn**		**16 04 23.5**	**+0.2**
NKC				*e*PG		**Pg**		**16 04 29.7**	**-0.3**
NKC				*e*SG		**Sg**		**16 05 04.3**	**+0.2**
	comp=Z,92nm,0.3s								
NKC	**Novy Kostel**	**2.63**	**243**	*e*P		**Pn**		**16 04 23.5**	**+0.2**
NKC				*e*				16 05 04.3	
NKC				smax					
	comp=N,92nm,0.3s								
NKC	**Novy Kostel**	**2.63**	**243**	*e*Pg		**Pg**		**16 04 29.7**	**-0.3**
NKC				*e*Sg		**Sg**		**16 05 03.8**	**-0.3**
WERN	**Wernitzgruen**	**2.65**	**245**	*e*Pn		**Pn**		**16 04 23.8**	**+0.3**
WERN				*e*Sg		**Sg**		**16 05 03.5**	**-1.0**
OJC	**Ojcow**	**2.66**	**117**	*e*Pn		**Pn**		**16 04 21.9**	**-1.7**
OJC				*e*Pg		**Pg**		**16 04 31.2**	**+0.7**
OJC				*e*Sn		**Sn**		**16 04 52.6**	**-3.9**
OJC				*e*Sg		**Sg**		**16 05 05.7**	**+0.7**
OJC	**Ojcow**	**2.66**	**117**	*e*P		**Pn**		**16 04 21.9**	**-1.7**
OJC				*e*				16 04 52.6	
OJC	**Ojcow**	**2.66**	**117**	*e*Pg		**Pg**		**16 04 31.2**	**+0.7**
OJC				*e*Sn		**Sn**		**16 04 52.6**	**-3.9**
OJC				*e*S		**Sn**		**16 04 52.6**	**-3.9**
OJC				*e*Sg		**Sg**		**16 05 05.7**	**+0.7**
NEUB	**Neuenburg**	**2.73**	**266**	*e*Sg		**Sg**		**16 05 08.1**	**+0.8**
JAVC	**Velka Javorina**	**2.81**	**158**	*e*Sg		**Sg**		**16 05 09.0**	**-0.8**
	comp=N,69nm,0.9s								
KHC	**Kasperske Hory**	**2.85**	**216**	*e*PN		**Pn**		**16 04 27.0**	**+0.7**
KHC				*e*PG		**Pg**		**16 04 32.8**	**-1.5**
KHC				*e*SN		**Sn**		**16 05 00.8**	**-0.6**
KHC				*e*SG		**Sg**		**16 05 10.5**	**-0.7**
	comp=N,59nm,1.1s								
KHC	**Kasperske Hory**	**2.85**	**216**	*e*Pn		**Pn**		**16 04 26.8**	**+0.5**
MHAI	**Haid-Arzberg**	**2.89**	**241**	⇑*i*Pn		**Pn**		**16 04 27.3**	**+0.5**
MGBB	**Grossbuechelbe**	**2.90**	**240**	⇑*i*Pn		**Pn**		**16 04 27.4**	**+0.5**
MANZ	**Manzenberg**	**2.95**	**241**	*e*Pn		**Pn**		**16 04 28.1**	**+0.4**
MOX	**Moxa**	**2.95**	**255**	*e*Pn		**Pn**		**16 04 28.1**	**+0.3**
MOX				*e*Pg		**Pg**		**16 04 35.9**	**-0.3**
MOX				*e*Sg		**Sg**		**16 05 15.7**	**+1.2**
MOX	**Moxa**	**2.95**	**255**	*e*PN		**Pn**		**16 04 27.9**	**+0.2**
MOX				*e*PG		**Pg**		**16 04 35.9**	**-0.3**
MOX				*e*SG		**Sg**		**16 05 15.6**	**+1.1**
MOX	**Moxa**	**2.95**	**255**	Pg		**Pg**		**16 04 35.9**	**-0.3**
MOX				*e*Sg		**Sg**		**16 05 14.3**	**-0.2**
ROTZ	**Rotzenmuhle**	**3.02**	**237**	*e*Pn		**Pn**		**16 04 29.0**	**+0.5**
GEC2	**GERESS Array S**	**3.05**	**211**	*e*Pn		**Pn**		**16 04 29.0**	**+0.7**
GEC2				*e*Sg		**Sg**		**16 05 16.7**	**-1.0**
GERES	**GERESS Array B**	**3.05**	**211**	Pn		**Pn**		**16 04 29.1**	**0.0**
	comp=N,2.4nm,0.3s,baz=24,slow=13,SNR=33								
GERES					Pg	**Pg**		**16 04 36.3**	**-1.9**
	comp=N,6.6nm,0.3s,baz=29,slow=18,SNR=48								
GERES					Sn	**Sn**		**16 04 59.2**	**-7.1**
	comp=N,3.8nm,0.3s,baz=16,slow=18,SNR=4.3								
GERES					Lg			16 05 14.0	
	comp=N,9.4nm,0.3s,baz=30,slow=26,SNR=12								
GERES	**GERESS Array B**	**3.05**	**211**	Pg		**Pg**		**16 04 36.3**	**-1.8**
SMOL	**Smolenice**	**3.08**	**163**	*e*Pg		**Pg**		**16 04 39.5**	**+0.8**
SMOL				*e*Sg		**Sg**		**16 05 19.9**	**+1.2**
WET	**Wettzell**	**3.12**	**223**	*e*Pn		**Pn**		**16 04 30.2**	**+0.2**
ZST	**Bratislava**	**3.35**	**169**	*e*SG		**Sg**		**16 05 26.0**	**

Ms1 4.2/16,ms1mx3.9/29 Error ellipse: s-maj=11.5km s-min=9.7km az=166.0

ISC 11 16:09:45.8±0.3,**4299N**±002×**14575E**±002,**h56**km±2km, **h52**km±.7km:**pP-P,n822,σ0=86**/840,**mb5.3**/273,**MS4.3**/38, **81C-40D,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.38**	**360**	⇓P		**Pn**		**16 09 55.7**	**-0.4**
NEM2				eS		**Sn**		**16 10 03.8**	**+0.2**
JAK	**Akkeshi**	**0.77**	**271**	⇓P		**Pn**		**16 10 00.6**	**0.0**
JAK				eS		**Sn**		**16 10 12.1**	**+0.6**
JNK	**Nakash**	**0.96**	**309**	⇓P		**Pn**		**16 10 03.0**	**-0.1**
JNK				eS		**Sn**		**16 10 16.5**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**1.05**	**5**	*i* P		**Pn**		**16 10 03.4**	**-0.9**
YUK					AMB	AMB		16 10 04.0	
	25μm,2.0s								
YUK					AMB	AMB		16 10 04.0	
	5μm,1.0s								
YUK					AMB	AMB		16 10 04.0	
	40μm,1.0s								
YUK				*i* S		**Sn**		**16 10 17.6**	**-0.5**
YUK				A				16 10 19.2	
	226μm,0.7s								
YUK				A				16 10 19.2	
	156μm,0.7s								
YUK	**Yuzh-Kuril'sk**	**1.05**	**5**	⇓*i*PN		**Pn**		**16 10 03.4**	**-0.9**
YUK				*i* S		**Sn**		**16 10 17.6**	**-0.5**
YUK				pmax	pmax				
	comp=Z,40μm,0.8s								
YUK				pmax	pmax				
	comp=N,25μm,2.0s								
YUK				pmax	pmax				
	comp=E,5μm,0.4s								
YUK				smax					
	comp=N,226μm,0.7s								
YUK				smax					
	comp=E,156μm,0.7s								
JRA	**Rausu**	**1.06**	**335**	⇓P		**Pn**		**16 10 04.5**	**+0.2**
JRA				eS		**Sn**		**16 10 19.2**	**+1.1**
JOB	**Onbets**	**1.41**	**267**	⇓P		**Pn**		**16 10 09.1**	**0.0**
JOB				eS		**Sn**		**16 10 27.0**	**+0.5**
JAR	**Ashorobuto**	**1.48**	**283**	⇓P		**Pn**		**16 10 10.5**	**+0.4**
JAR				eS		**Sn**		**16 10 29.4**	**+1.1**
JTKR	**Abashiri--Toko**	**1.66**	**307**	⇓P		**Pn**		**16 10 13.6**	**+1.1**
JTKR				eS		**Sn**		**16 10 35.6**	**+2.9**
JCH	**Churui**	**1.79**	**259**	⇓P		**Pn**		**16 10 14.0**	**-0.3**
JCH				eS		**Sn**		**16 10 35.7**	**-0.2**
JMP	**Maruseppu**	**2.02**	**301**	⇓P		**Pn**		**16 10 18.7**	**+1.4**
ERM	**Erimo**	**2.15**	**244**	Pn		**Pn**		**16 10 20.9**	**+1.8**
	comp=E,7μm,0.4s,SNR=83								
JFR	**Furan**	**2.32**	**275**	⇓P		**Pn**		**16 10 22.1**	**+0.6**
JKK2	**Kamakawa 2**	**2.36**	**293**	P		**Pn**		**16 10 23.5**	**+1.5**
JBT2	**Biratori 2**	**2.50**	**266**	⇓P		**Pn**		**16 10 23.6**	**-0.3**
ASAJ	**Asahikawa**	**2.55**	**297**	P		**Pn**		**16 10 26.8**	**+2.1**
	comp=E,176nm,0.3s,baz=126,slow=11,SNR=934								
ASAJ				S		**Sn**		**16 11 02.0**	**+7.4**
	comp=E,248nm,0.3s,baz=286,slow=29,SNR=7.8								
ASAJ				LR		LR		16 11 42.4	
	comp=E,6μm,20.0s,baz=92,slow=44								
ASAJ	**Asahikawa**	**2.55**	**297**	⇓P		**Pn**		**16 10 26.7**	**+2.0**
JAB	**Ashibetsu**	**2.63**	**283**	⇓P		**Pn**		**16 10 28.0**	**+2.3**
KUR	**Kuril'sk**	**2.72**	**33**	*i* P		**Pn**		**16 10 24.6**	**-2.3**
KUR				*i* P				16 10 24.6	
KUR					AMB	AMB		16 10 25.0	
	comp=E,650nm,0.4s								
KUR					AMB	AMB		16 10 25.0	
	comp=E,610nm,0.4s								
KUR					AMB	AMB		16 10 25.0	
	comp=E,3μm,0.4s								
KUR					AMB	AMB		16 10 25.0	
	comp=E,4μm,0.8s								
KUR				*i* S		**Sn**		**16 10 56.0**	**-2.6**
KUR				A				16 10 57.5	
	comp=E,8μm,0.5s								
KUR				A				16 10 57.5	
	comp=E,9μm,0.5s								
KUR				A				16 10 59.0	
	comp=E,12μm,1.2s								
KUR				A				16 10 59.0	
	comp=E,10μm,1.2s								
JKB	**Kayabe**	**3.66**	**254**	⇓P		**Pn**		**16 10 40.4**	**+0.6**
JANG	**Nango**	**4.10**	**232**	P		**Pn**		**16 10 44.2**	**-1.7**
YSS	**Yuzh-Sakhalins**	**4.50**	**333**	⇓*i*P		**Pn**		**16 10 52.5**	**+1.1**
YSS					AMB	AMB		16 10 53.8	
	comp=E,140nm,0.7s								
YSS					AMB	AMB		16 10 53.8	
	comp=E,210nm,0.7s								
YSS				*i* S		**Sn**		**16 11 42.0**	**-0.4**
YSS				A				16 11 44.6	
	comp=E,490nm,0.9s								
YSS				A				16 11 44.6	
	comp=E,250nm,0.6s								
YSS					AMS	AMS		16 12 53.0	
	comp=E,3μm,15.0s								
YSS					AMS	AMS		16 12 53.0	
	comp=E,3μm,15.0s								
YSS	**Yuzh-Sakhalins**	**4.50**	**333**	⇓*i*PN		**Pn**		**16 10 52.5**	**+1.1**
YSS				*i* S		**Sn**		**16 11 42.0**	**-0.4**
YSS				pmax	pmax				
	comp=N,140nm,0.7s								
YSS				pmax	pmax				
	comp=Z,210nm,0.7s								
YSS				smax					
	comp=N,250nm,0.6s								
YSS				smax					
	comp=E,490nm,0.9s								
YSS				MLR	MLR				
	comp=N,3μm,15.0s								
YSS				MLR	MLR				
	comp=Z,3μm,15.0s								
YSS	**Yuzh-Sakhalins**	**4.50**	**333**	*e*P		**Pn**		**16 10 51.9**	**+0.6**
JIO	**Ouri**	**5.62**	**218**	P		**Pn**		**16 11 04.0**	**-2.8**
UGL	**Uglegorsk**	**6.61**	**338**	*e*P		**Pn**		**16 11 23.0**	**+2.7**
UGL					AMB	AMB		16 11 24.0	
	comp=Z,65nm,0.7s								
UGL					AMB	AMB		16 11 24.0	
	comp=Z,84nm,0.7s								
UGL					AMB	AMB		16 11 24.0	
	comp=Z,170nm,0.7s								
UGL				*e*S		**Sn**		**16 12 35.0**	**+0.8**
UGL				A				16 12 37.5	
	comp=Z,72nm,0.6s								
UGL				A				16 12 37.5	
	comp=Z,76nm,0.6s								
UGL				A				16 12 44.0	
	comp=Z,4μm,4.0s								
UGL				A				16 12 44.0	
	comp=Z,2μm,4.0s								
UGL					AMS	AMS		16 14 00.0	
	comp=Z,3μm,20.0s								
UGL					AMS	AMS		16 14 00.0	
	comp=Z,2μm,20.0s								
UGL					AMS	AMS		16 14 00.0	
	comp=Z,3μm,20.0s								
JFT	**Otama**	**6.85**	**219**	P		**Pn**		**16 11 22.1**	**-1.4**
TEY	**Ternei**	**6.90**	**290**	*e*P		**Pn**		**16 11 24.0**	**-0.3**
TEY				*e*S		**Sn**		**16 12 43.0**	**+1.6**
TEY					AMS	AMS		16 14 15.0	
	comp=Z,2μm,16.0s								
JAG	**Ashikaga**	**8.15**	**219**	P		**Pn**		**16 11 39.1**	**-2.2**
TYV	**Tymovskoe**	**8.16**	**346**	*e*P		**Pn**		**16 11 40.2**	**-1.3**
TYV					AMB	AMB		16 11 53.2	
	comp=Z,42nm,0.8s								
TYV					AMB	AMB		16 11 53.2	
	comp=Z,96nm,0.8s								
MJAR	**Matsushiro Arr**	**8.66**	**225**	P		**Pn**		**16 11 47.1**	**-1.3**
	comp=Z,2.2nm,0.3s,baz=30,slow=14,SNR=15								
MJAR				S		**Sn**		**16 13 30.3**	**+5.7**
	comp=Z,4.4nm,0.3s,baz=74,slow=10,SNR=4.5								
MJAR				LR		LR		16 15 41.5	
	comp=Z,860nm,21.3s,baz=50,slow=41								
MJAR	**Matsushiro Arr**	**8.66**	**225**	PN		**Pn**		**16 11 47.1**	**-1.3**
MJAR				S		**Sn**		**16 13 30.3**	**+5.7**
MJAR				pmax	pmax				
	comp=Z,2.0nm,0.3s								
MJAR				smax					
	comp=N,4.0nm,0.3s								
MJAR				MLR	MLR				
	comp=Z,861nm,21.3s								
MAJO	**Matsushiro**	**8.66**	**225**	PN		**Pn**		**16 11 47.2**	**-1.2**
MAJO				pmax	pmax				
	comp=Z,74nm,0.7s								
MAJO	**Matsushiro**	**8.66**	**225**	*e*P		**Pn**		**16 11 46.7**	**-1.7**
	comp=Z,74nm,0.6s								
MAT	**Matsushiro**	**8.66**	**225**	P		**Pn**		**16 11 47.0**	**-1.4**
MAT				S		**Sn**		**16 13 24.4**	**-0.2**
MAT	**Matsushiro**	**8.66**	**225**	*e*PN		**Pn**		**16 11 47.0**	**-1.4**
MAT					pmax	pmax			
	comp=Z,13nm,0.7s								
MAT	**Matsushiro**	**8.66**	**225**	*e*P		**Pn**		**16 11 47.0**	**-1.4**
	comp=Z,13nm,0.7s								
MAT				*e*S		**Sn**		**16 13 24.0**	**-0.6**
JNG	**Nsakai**	**8.82**	**224**	P		**Pn**		**16 11 49.6**	**-0.9**
HABR	**Khabarovsk**	**9.27**	**310**	⇓*i*PN		**Pn**		**16 11 58.6**	**+1.9**
HABR					pmax	pmax			
	comp=Z,128nm,1.5s								
VLA	**Vladivostok**	**10.14**	**275**	*i* PN		**Pn**		**16 12 09.6**	**+1.0**
VLA					pmax	pmax			
	comp=Z,51nm,0.9s								
VLA					MLR	MLR			
	comp=Z,800nm,19.8s								
VLA	**Vladivostok**	**10.14**	**275**	*e*P		**Pn**		**16 12 10.1**	**+1.5**
SKR	**Severo-Kuril's**	**10.47**	**39**	*e*P		**Pn**		**16 12 05.7**	**-7.4**
SKR					AMB	AMB		16 12 10.5	
	comp=Z,90nm,0.5s								
SKR					AMB	AMB		16 12 10.5	
	comp=Z,80nm,0.5s								
SKR					AMB	AMB		16 12 10.5	
	comp=Z,120nm,0.5s								
SKR				*e*S		**Sn**		**16 13 57.0**	**-12**
SKR				A				16 14 16.9	
	comp=Z,110nm,0.5s								
SKR				A				16 14 16.9	
	comp=Z,80nm,0.5s								
SKR					AMS	AMS		16 16 24.0	
	comp=Z,3μm,13.0s								
SKR	**Severo-Kuril's**	**10.47**	**39**	*e*PN		**Pn**		**16 12 05.7**	**-7.4**
SKR					pmax	pmax			
	comp=N,90nm,0.5s								
SKR					pmax	pmax			
	comp=E,80nm,0.5s								
SKR					pmax	pmax			
	comp=Z,120nm,0.5s								
SKR					MLR	MLR			
	comp=Z,3μm,12.0s								
SKR					MLR	MLR			
	comp=N,3μm,14.0s								
SKR					MLR	MLR			
	comp=E,3μm,14.0s								
NKL	**Nikolayevsk**	**10.72**	**343**	*e*P		**Pn**		**16 12 14.2**	**-2.3**
NKL					AMB	AMB		16 12 14.8	
	comp=E,17nm,0.5s								
NKL					AMB	AMB		16 12 14.8	
	comp=E,30nm,0.5s								
NKL					AMS	AMS		16 16 39.0	
	comp=E,1μm,18.0s								
NKL					AMS	AMS		16 16 39.0	
	comp=E,1μm,18.0s								
JHJ	**Hachijo jima 2**	**10.91**	**207**	P		**Pn**		**16 12 14.9**	**-4.2**
	comp=E,19nm,0.3s,baz=34,slow=22,SNR=20								
JHJ				S		**Sn**		**16 14 07.2**	**-12**
	comp=E,121nm,0.3s,baz=242,slow=23,SNR=15								
KLR	**Kul'dur**	**11.54**	**308**	*e*P		**Pn**		**16 12 28.8**	**+1.1**
KLR					AMB	AMB		16 12 31.5	
	comp=E,57nm,1.4s								
KLR					AMB	AMB		16 12 31.5	
	comp=E,52nm,1.4s								
KLR					AMS	AMS		16 17 24.0	
	comp=E,1μm,15.0s								
KLR					AMS	AMS		16 17 24.0	
	comp=E,1μm,15.0s								
KLR					AMS	AMS		16 17 24.0	
	comp=E,2μm,15.0s								
MDJ	**Mudanjiang**	**11.79**	**283**	P		**Pn**		**16 12 31.1**	**0.0**
MDJ				S		**Sn**		**16 14 40.1**	**-1.0**
MDJ					AMB	AMB			
	comp=Z,24nm,0.9s								
MDJ					AMB	AMB			
	comp=Z,143nm,4.5s								
MDJ					LR	LR			
	comp=N,86nm,23.0s								
MDJ					LR	LR			
	comp=E,534nm,22.7s								
MDJ					LR	LR			
	comp=Z,728nm,22.3s								
EKMR	**Ekimchan**	**13.21**	**324**	*e*P		**Pn**		**16 12 45.7**	**-4.8**
EKMR					AMB	AMB		16 12 57.2	
	comp=Z,12nm,0.6s								
PET	**Petropavlovsk**	**13.23**	**36**	*e*P		**Pn**		**16 12 47.2**	**-3.5**
PET				*e*S		**Sn**		**16 15 08.2**	**-7.9**
PET					AMS	AMS		16 17 33.1	
	comp=Z,650nm,18.0s								
PET	**Petropavlovsk**	**13.23**	**36**	*e*P		**Pn**		**16 12 47.7**	**-3.0**
CN2	**Changchun**	**14.78**	**280**	⇑P		**Pn**		**16 13 11.0**	**-0.4**
CN2				*e*AP		pP		16 13 21.0	-7.3
CN2				*e*XP		sP		16 13 30.0	-5.4
CN2				*e*S		**Sn**		**16 15 52.8**	**-1.2**
CN2					AMB	AMB			
	comp=Z,40nm,0.8s								
CN2					AMB	AMB			
	comp=Z,200nm,5.0s								
CN2					LR	LR			
	comp=N,200nm,16.0s								
CN2					LR	LR			
	comp=E,500nm,16.0s								
CN2					LR	LR			
	comp=Z,600nm,21.0s								
YASR	**Yasnyy**	**15.67**	**317**	*e*P		**Pn**		**16 13 21.8**	**-1.1**
YASR					AMB	AMB		16 13 38.7	
	comp=Z,9.0nm,0.7s								
YASR					AMB	AMB		16 13 38.7	
	comp=Z,30nm,0.7s								
YASR					AMB	AMB		16 13 38.7	
	comp=Z,54nm,0.7s								
CBIJ	**Chichi jima**	**16.12**	**192**	P		**Pn**		**16 13 24.2**	**-4.3**
	comp=Z,7.8nm,0.3s,baz=324,slow=22,SNR=18								
CBIJ				S		S		16 16 08.8	-28
	comp=Z,22nm,0.3s,baz=129,slow=23,SNR=9.1								
BMKR	**Bomnak**	**16.12**	**323**	*e*P		**Pn**		**16 13 26.7**	**-1.9**
BMKR					AMB	AMB		16 13 32.2	
	comp=Z,11nm,0.7s								
ZEA	**Zeya**	**16.28**	**318**	*e*P		**Pn**		**16 13 29.6**	**-1.1**
ZEA					AMB	AMB		16 13 30.4	
	comp=Z,76nm,0.6s								
ZEA					AMB	AMB		16 13 46.0	
	comp=Z,400nm,3.0s								
ZEA					A			16 16 37.0	
	comp=Z,200nm,8.0s								
SNY	**Shenyang**	**16.41**	**274**	⇑P		**Pn**		**16 13 35.9**	**+3.6**
SNY					AP	pP		16 13 46.1	-0.3
SNY					PP			16 13 50.3	
SNY					XP	sP		16 13 51.4	-2.1
SNY					AMB	AMB			
	comp=Z,15nm,0.8s								
SNY					AMB	AMB			
	comp=Z,200nm,3.6s								
SNY					LR	LR			
	comp=E,335nm,22.8s								
SNY					LR	LR			
	comp=Z,482nm,29.6s								
KROS	**Kirovskiy**	**16.81**	**319**	*e*P		**Pn**		**16 13 35.5**	**-1.8**
KROS					AMB	AMB		16 13 37.5	
	comp=Z,13nm,0.5s								
KROS					AMB	AMB		16 13 37.5	
	comp=Z,25nm,0.5s								
MA2	**Magadan**	**16.90**	**9**	*e*P		**Pn**		**16 13 38.4**	**0.0**
MA2					pmax	pmax			
	comp=Z,20nm,0.6s								
MA2	**Magadan**	**16.90**	**9**	*e*P		**Pn**		**16 13 38.4**	**0.0**
	comp=Z,20nm,0.6s								
DL2	**Dalian**	**18.65**	**266**	P		**Pn**		**16 13 59.9**	**+0.1**
DL2					AP	pP		16 14 10.0	-1.2
DL2					XP	sP		16 14 16.7	-1.5
DL2					S	**S**		**16 17 27.8**	**-0.6**
DL2					XS	sS		16 17 42.2	-6.0
DL2					AMB	AMB			
	comp=Z,20nm,0.7s								
DL2					AMB	AMB			
	comp=Z,160nm,5.3s								
DL2					LR	LR			
	comp=N,110nm,13.2s								
DL2					LR	LR			
	comp=E,180nm,13.1s								
DL2					LR	LR			
	comp=Z,260nm,16.6s								
CLNS	**Chul'man**	**19.19**	**323**	*e*P		**Pn**		**16 14 04.0**	**-2.2**
CLNS				*e*S		**S**		**16 17 37.1**	**-2.2**
CLNS					pmax	pmax			
	comp=Z,25nm,0.7s								
CLNS					pmax	pmax			
	comp=N,18nm,0.9s								
CLNS					pmax	pmax			
	comp=E,14nm,1.0s								
CLNS					smax				
	comp=E,63nm,1.2s								
CLNS					smax				
	comp=Z,6.0nm,1.0s								
CLNS					smax				
	comp=N,49nm,1.1s								
CLNS					MLR	MLR			
	comp=N,200nm,17.0s								
CLNS					MLR	MLR			
	comp=Z,700nm,17.0s								
CLNS					MLR	MLR			
	comp=E,700nm,19.0s								
FX1	**Attu Island--F**	**20.75**	**52**	P		**P**		**16 14 23.1**	**+1.4**
	comp=E,181nm,0.6s,baz=274,slow=3.5,SNR=65								
FX1				S		**S**		**16 18 02.2**	**-8.1**
	comp=E,17nm,0.4s,baz=77,slow=22,SNR=7.8								
FX1	**Attu Island--F**	**20.75**	**52**	P		**P**		**16 14 23.1**	**+1.3**
FX1				S		**S**		**16 18 02.2**	**-8.1**
FX1				pmax	pmax				
	comp=Z,181nm,0.6s								
FX1				smax					
	comp=N,17nm,0.4s								
FX1	**Attu Island--F**	**20.75**	**52**	*e*P		**P**		**16 14 22.8**	**+1.0**
YAK	**Yakutsk**	**21.32**	**339**	*e*P		**P**		**16 14 24.2**	**-3.7**
YAK				*e*				16 14 40.1	
YAK				*e*S		**S**		**16 18 10.8**	**-11**
YAK				*e*SS				16 18 30.6	
YAK				*e*				16 18 33.8	
YAK				pmax	pmax				
	comp=Z,22nm,0.9s,mb4.5								
YAK				pmax	pmax				
	comp=N,9.0nm,1.3s								
YAK				pmax	pmax				
	comp=E,5.0nm,1.1s								
YAK				smax					
	comp=N,19nm,1.1s								
YAK				smax					
	comp=E,33nm,1.1s								
YAK				smax					
	comp=Z,32nm,1.1s								
YAK				MLR	MLR				
	comp=Z,346nm,25.0s,MS3.6								
YAK				MLR	MLR				
	comp=N,241nm,20.0s								
YAK				MLR	MLR				
	comp=E,190nm,28.0s								
YAK	**Yakutsk**	**21.32**	**339**	*e*P		**P**		**16 14 22.4**	**-5.6**
	comp=E,52nm,0.5s,mb5.1								
YAK				*e*S		**S**		**16 18 13.1**	**-8.4**
JOW	**Kunigami**	**21.49**	**227**	P		**P**		**16 14 30.4**	**+0.7**
	comp=E,24nm,0.9s,mb4.5,baz=41,slow=16,SNR=6.3								
JOW				LR		LR		16 24 12.9	
	comp=E,242nm,19.2s,MS3.6,baz=53,slow=40								
BJI	**Beijing**	**22.29**	**273**	P		**P**		**16 14 37.7**	**-0.5**
BJI				AP				16 14 50.2	
BJI				XP		sP		16 14 57.1	-0.6
BJI				S		**S**		**16 18 40.8**	**+0.5**
BJI					AMB	AMB			
	comp=Z,37nm,0.6s,mb5.0								
BJI					LR	LR			
	comp=N,263nm,12.4s								
BJI					LR	LR			
	comp=E,345nm,20.5s								
BJI					LR	LR			
	comp=Z,497nm,24.2s								
BJT	**Baijiatuau**	**22.30**	**272**	*e*P		**P**		**16 14 37.1**	**-1.2**
BJT					pmax	pmax			
	comp=Z,47nm,0.7s								
BJT	**Baijiatuau**	**22.30**	**272**	*e*P		**P**		**16 14 37.1**	**-1.3**
	comp=Z,47nm,0.7s,mb5.0								
SSE	**Sheshan**	**22.83**	**247**	*e*P		**P**		**16 14 42.5**	**-1.4**
SSE					AP			16 14 53.9	
SSE					XP		sP	16 15 01.1	-2.4
SSE					S		**S**	**16 18 47.4**	**-1.8**
SSE					XS		sS	16 19 10.4	-1.0
SSE					AMB	AMB			
	comp=Z,55nm,1.2s,mb4.9								
SSE					AMB	AMB			
	comp=Z,143nm,5.9s								
SSE					LR	LR			
	comp=E,233nm,16.9s								
SSE					LR	LR			
	comp=Z,422nm,21.5s,MS3.9								
TIA	**Tai'an**	**23.00**	**263**	P		**P**		**16 14 45.0**	**-0.7**
TIA					AMB	AMB			
	comp=Z,28nm,0.9s,mb4.7								
CIT	**Chita**	**23.39**	**304**	*e*P		**P**		**16 14 49.4**	**-0.2**
CIT				*e*				16 18 44.4	
CIT				pmax	pmax				
	comp=Z,62nm,1.4s,mb4.8								
NJ2	**Nanjing**	**23.86**	**252**	*e*P		**P**		**16 14 55.0**	**+1.1**
NJ2					AP			16 15 06.4	
NJ2					XP		sP	16 15 09.1	-5.2
NJ2					PP			16 15 29.5	
NJ2					S		**S**	**16 19 03.0**	**-3.0**
NJ2					AMB	AMB			
	comp=Z,90nm,0.9s,mb5.2								
NJ2					AMB	AMB			
	comp=Z,60nm,6.3s								
NJ2					LR	LR			
	comp=N,1μm,29.4s								
NJ2					LR	LR			
	comp=E,1μm,16.0s								
NJ2					LR	LR			
	comp=Z,680nm,18.9s								
BOD	**Bodaibo**	**24.79**	**318**	*e*P		**P**		**16 14 57.9**	**-4.5**
BOD					pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.4								
HHC	**Hu-ho-hao-te**	**25.43**	**277**	⇓P		**P**		**16 15 10.2**	**+2.1**
HHC					AP	pP		16 15 24.3	+2.3
HHC					XP	sP		16 15 32.7	+4.1
HHC					PP			16 15 50.9	
HHC					PCP	PcP		16 18 42.8	+3.8
HHC					S	**S**		**16 19 33.1**	**+2.1**
HHC					XS	sS		16 19 56.2	+1.6
HHC					SS			16 20 36.6	
HHC					SCP	ScP		16 22 14.9	+1.4
HHC					PCS	PcS		16 22 20.4	+0.9
HHC					AMB	AMB			
	comp=Z,37nm,1.1s,mb4.8								
HHC					AMB	AMB			
	comp=Z,108nm,4.4s								
HHC					LR	LR			
	comp=N,162nm,13.2s,MS3.9								
HHC					LR	LR			
	comp=E,180nm,13.0s,MS3.9								
HHC					LR	LR			
	comp=Z,168nm,11.3s,MS3.8								
BTO	**Baotou**	**26.62**	**277**	P		**P**		**16 15 19.5**	**+0.6**
BTO					AMB	AMB			
	comp=Z,40nm,0.5s,mb5.2								
BILL	**Bilibino**	**27.38**	**17**	*e*P		**P**		**16 15 22.2**	**-3.6**
BILL					pmax	pmax			
	comp=Z,17nm,1.6s,mb4.3								
BILL					MLR	MLR			
	comp=Z,500nm,25.0s,MS4.0								
BILL	**Bilibino**	**27.38**	**17**	*e*P		**P**		**16 15 21.4**	**-4.4**
	comp=Z,9.7nm,0.6s,mb4.5								
ULN	**Ulaanbaatar**	**27.39**	**294**	P		**P**		**16 15 26.4**	**+0.6**
ULN					pmax	pmax			
	comp=Z,40nm,0.8s,mb5.0								
ULN	**Ulaanbaatar**	**27.39**	**294**	*e*P		**P**		**16 15 26.3**	**+0.5**
	comp=Z,40nm,0.8s,mb5.0								
SONM	**Songino Array**	**27.83**	**294**	P		**P**		**16 15 30.4**	**+0.6**
	comp=Z,81nm,0.7s,mb5.5,baz=84,slow=8.4,SNR=623								
SONM				LR		LR		16 27 43.4	
	comp=Z,694nm,18.6s,MS4.3,baz=133,slow=39								
SONM	**Songino Array**	**27.83**	**294**	P		**P**		**16 15 30.4**	**+0.6**
SONM					pmax	pmax			
	comp=Z,81nm,0.7s								
SONM					MLR	MLR			
	comp=Z,695nm,18.6s								
WHN	**Wuhan**	**27.88**	**254**	P		**P**		**16 15 31.0**	**+0.8**
WHN					AP	pP		16 15 46.0	+1.8
WHN					AMB	AMB			
	comp=Z,100nm,0.8s,mb5.5								
WHN					LR	LR			
	comp=Z,1μm,24.4s,MS4.4							

TLY Talaya 29.47 302 P **P** **16 15 44.7 +0.3**
comp=Z,95nm,0.8s,mb5.6,SNR=8.2
TLY Talaya 29.47 302 *e*P **P** **16 15 44.5 +0.1**
TLY *e*S **S** **16 20 39.8 +5.0**
TLY *e*SS SS 16 22 27.0 -15
TLY pmax pmax
comp=Z,12nm,0.8s,mb4.7
TLY MLR MLR
comp=Z,568nm,17.0s,MS4.3
TLY Talaya 29.47 302 *e*P **P** **16 15 44.6 +0.3**
comp=Z,11nm,0.8s,mb4.7
ZAK Zakamensk 29.72 299⇓*i*P **P** **16 15 47.1 +0.5**
ZAK *e* 16 18 49.1
ZAK *e* 16 20 38.2
ZAK pmax pmax
comp=Z,54nm,1.9s,mb5.0
TIXI Tiksi 29.91 349 *e*P **P** **16 15 42.3 -6.0**
TIXI *e**SP sP 16 16 02.9 -5.9
TIXI *e* 16 22 26.7
TIXI pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
TIXI MLR MLR
comp=Z,270nm,16.0s,MS4.0
TIXI Tiksi 29.91 349 *e*P **P** **16 15 42.9 -5.4**
XAN Xi'an 29.97 265 P **P** **16 15 49.2 +0.4**
XAN AMB AMB
comp=Z,31nm,0.9s,mb5.0
MOY Mondy 31.12 302 *e*P **P** **16 15 59.6 +0.7**
MOY pmax pmax
comp=Z,50nm,1.9s,mb5.0
LZH Lanzhou 32.78 272 P **P** **16 16 14.8 +1.3**
LZH AP pP 16 16 26.7 -0.8
LZH XP sP 16 16 30.6 -3.5
LZH PP PP 16 17 27.0 -1.3
LZH S **S** **16 21 29.0 +2.6**
LZH XS sS 16 21 50.0 -0.2
LZH *e*SS SS 16 23 31.0 -18
LZH AMB AMB
comp=Z,90nm,1.2s,mb5.6
LZH AMB AMB
comp=Z,170nm,4.6s
LZH LR LR
comp=E,300nm,12.0s
LZH LR LR
comp=Z,480nm,20.0s
GTA Gaotai 34.42 280 *e*P **P** **16 16 28.2 +0.5**
GTA AP pP 16 16 40.7 -1.1
GTA XP sP 16 16 46.1 -2.2
GTA PP PP 16 17 45.0 -1.5
GTA PPP 16 18 04.7
GTA PCP PcP 16 19 03.1 +0.9
GTA S **S** **16 21 53.6 +1.8**
GTA XS sS 16 22 15.0 -0.6
GTA SCP ScP 16 22 42.6 0.0
GTA PCS PcS 16 22 48.9 +0.3
GTA SS SS 16 24 08.1 -14
GTA AMB AMB
comp=Z,15nm,0.8s,mb5.0
GTA AMB AMB
comp=Z,67nm,5.8s
GTA LR LR
comp=N,168nm,16.6s,MS4.0
GTA LR LR
comp=E,181nm,20.8s,MS4.0
GTA LR LR
comp=Z,230nm,21.2s,MS3.9
CD2 Chengdu 35.31 264 *e*P **P** **16 16 35.9 +0.5**
CD2 AP pP 16 16 49.4 -0.1
CD2 XP sP 16 16 57.0 +0.9
CD2 PP PP 16 17 56.1 -0.2
CD2 S **S** **16 22 04.7 -0.8**
CD2 XS sS 16 22 27.6 -1.8
CD2 SS SS 16 24 23.4 -17
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,120nm,5.9s
CD2 LR LR
comp=N,100nm,15.6s
CD2 LR LR
comp=Z,120nm,22.8s
GYA Guiyang 35.74 255⇑*i*P **P** **16 16 39.3 +0.2**
GYA AP pP 16 16 54.4 +1.2
GYA XP sP 16 17 01.6 +1.8
GYA PP PP 16 18 01.1 0.0
GYA PCP PcP 16 19 07.3 +1.2
GYA S **S** **16 22 10.6 -1.5**
GYA XS sS 16 22 36.0 0.0
GYA SCS ScS 16 26 49.5 -3.0
GYA AMB AMB
comp=Z,30nm,0.8s,mb5.3
GYA AMB AMB
comp=Z,110nm,3.8s
GYA LR LR
comp=N,490nm,15.8s,MS4.5
GYA LR LR
comp=E,460nm,17.0s,MS4.5
GYA LR LR
comp=Z,450nm,16.5s,MS4.3
KRAR Krasnoyarsk 35.82 310 *e*P **P** **16 16 39.8 0.0**
KRAR pmax pmax
comp=Z,27nm,0.6s,mb5.3
QIZ Qiongzhong 38.51 243 P **P** **16 17 02.0 -0.6**
QIZ XP sP 16 17 21.4 -2.0
QIZ S **S** **16 22 54.6 +0.4**
QIZ XS sS 16 23 17.4 -0.9
QIZ LR LR
comp=E,255nm,16.4s
QIZ LR LR
comp=Z,258nm,17.5s,MS4.1
TTA Tatalina 38.67 39 *e*P **P** **16 17 03.2 -0.7**
TTA pmax pmax
comp=Z,85nm,1.2s,mb5.3
TTA Tatalina 38.67 39 *e*P **P** **16 17 03.2 -0.7**
comp=Z,85nm,1.2s,mb5.3
SVW2 Sparrevohn 38.82 41 *e*P **P** **16 17 05.4 +0.2**
KMI Kunming 39.35 257⇑*i*P **P** **16 17 10.7 +1.1**
KMI AP pP 16 17 24.0 +0.1
KMI XP sP 16 17 30.2 -0.2
KMI PP PP 16 18 43.5 +2.8
KMI PPP 16 19 09.5
KMI S **S** **16 23 06.3 -0.6**
KMI PCS PcS 16 23 09.6 +2.6
KMI XS sS 16 23 29.8 -1.2
KMI SS SS 16 25 54.8 -7.5
KMI SSS 16 26 28.4
KMI SCS ScS 16 27 13.0 +0.1
KMI AMB AMB
comp=Z,40nm,1.0s,mb5.1
KMI AMB AMB
comp=Z,128nm,5.7s
KMI LR LR
comp=N,198nm,17.0s,MS4.2
KMI LR LR
comp=E,186nm,16.5s,MS4.2
KMI LR LR
comp=Z,253nm,17.2s,MS4.1
KDAK Kodiak Island 40.52 47 P **P** **16 17 18.0 -1.3**
comp=Z,558nm,0.6s,SNR=47
KDAK Kodiak Island 40.52 47 P **P** **16 17 18.6 -0.7**
comp=Z,49nm,0.4s,mb5.5,baz=290,slow=2.5,SNR=87
KDAK PcP PcP 16 19 21.0 +0.2
comp=Z,8.9nm,0.7s,baz=270,slow=8.1,SNR=3.0
KDAK Kodiak Island 40.52 47 P **P** **16 17 18.6 -0.7**
KDAK PcP PcP 16 19 21.0 +0.1
ZAL Zalesovo 40.66 308 P **P** **16 17 19.8 -0.7**
comp=Z,19nm,0.5s,mb5.0,baz=22,slow=8.7,SNR=81
ZAL PcP PcP 16 19 20.7 -0.6
comp=Z,15nm,0.5s,baz=27,slow=3.6,SNR=10
ZAL LR LR 16 36 04.0
comp=Z,561nm,18.7s,MS4.5,baz=32,slow=39
ZAL Zalesovo 40.66 308 P **P** **16 17 19.8 -0.7**
ZAL 16 19 20.7
ZAL pmax pmax
comp=Z,19nm,0.5s
ZAL MLR MLR
comp=Z,561nm,18.7s
NVS Novosibirsk 41.40 309⇑*i*P **P** **16 17 25.1 -1.5**
NVS *e*PPP 16 19 22.3
NVS *i* S **S** **16 23 34.0 -3.5**
NVS pmax pmax
comp=E,50nm,1.4s
NVS pmax pmax
comp=Z,51nm,1.4s,mb5.0
NVS smax
comp=E,23nm,1.4s
NVS smax
comp=N,23nm,1.5s
WMQ Urumqi 41.43 292⇑*i*P **P** **16 17 27.6 +0.8**
WMQ AP pP 16 17 40.6 -0.5
WMQ XP sP 16 17 46.1 -1.5
WMQ PP PP 16 19 07.1 +3.8
WMQ PCP PcP 16 19 25.7 +1.9
WMQ PPP 16 19 37.6
WMQ SCP ScP 16 23 09.6 +0.5
WMQ PCS PcS 16 23 15.1 0.0
WMQ S **S** **16 23 39.1 +1.3**
WMQ XS sS 16 23 59.6 -2.5
WMQ SS SS 16 26 39.6 -4.0
WMQ AMB AMB
comp=Z,41nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,27nm,7.6s
WMQ LR LR
comp=N,263nm,14.0s,MS5.2
WMQ LR LR
comp=E,2μm,15.9s,MS5.2
WMQ LR LR
comp=Z,281nm,22.0s
COLA College 42.29 36⇑*i*P **P** **16 17 33.5 -0.3**
ILAR Eielson Array 42.71 36 P **P** **16 17 36.2 -1.0**
comp=Z,51nm,0.8s,mb5.3,baz=258,slow=6.2,SNR=270
ILAR S **S** **16 23 57.1 +0.4**
comp=Z,0.6nm,1.0s,baz=266,slow=12,SNR=4.2
ILAR Eielson Array 42.71 36 P **P** **16 17 36.3 -0.9**
ILAR S **S** **16 23 57.2 +0.5**
ILAR pmax pmax
comp=Z,51nm,0.8s
ILAR smax
comp=N,1.0nm,1.0s
EYAK Cordova Ski Ar 43.66 42 *e*P **P** **16 17 44.9 0.0**
MK31 Makanchi Array 44.03 298 P **P** **16 17 48.2 +0.3**
MK31 pmax pmax
comp=Z,59nm,0.8s,mb5.4
MKAR Makanchi Array 44.03 298 P **P** **16 17 48.2 +0.3**
comp=Z,42nm,0.8s,mb5.2,baz=83,slow=9.2,SNR=222
MKAR PcP PcP 16 19 33.0 +0.5
comp=Z,3.7nm,0.5s,baz=63,slow=4.2,SNR=3.8
MKAR S **S** **16 24 16.3 +0.2**
comp=Z,0.8nm,0.7s,baz=83,slow=12,SNR=4.2
MKAR Makanchi Array 44.03 298 P **P** **16 17 48.2 +0.3**
MKAR 16 19 33.0
MKAR S **S** **16 24 16.3 +0.2**
MKAR pmax pmax
comp=Z,42nm,0.8s
MKAR smax
comp=N,1.0nm,0.7s
CHRT Chiangrai 44.80 254⇓P **P** **16 17 54.5 +0.5**
comp=N,105nm,0.9s,mb5.7
KURK Kurchatov 45.11 304 P **P** **16 17 56.0 -0.5**
comp=N,1μm,0.6s
KURK Kurchatov 45.11 304*c* *i*P **P** **16 17 56.5 0.0**
KURK Kurchatov 45.11 304 *e*P **P** **16 17 56.4 -0.1**
comp=N,125nm,0.7s,mb5.8
LSA Lhasa 45.19 272 P **P** **16 17 59.1 +2.0**
LSA AMB AMB
comp=Z,20nm,1.0s,mb4.9
LSA Lhasa 45.19 272 *e*P **P** **16 17 58.6 +1.5**
LSA pmax pmax
comp=Z,20nm,1.0s,mb4.9
LSA Lhasa 45.19 272 *e*P **P** **16 17 58.6 +1.5**
comp=Z,20nm,1.0s,mb4.9
DAWY Dawson 46.02 36 *e*P **P** **16 18 03.3 -0.4**
CHG Chiang Mai 46.09 253⇑P **P** **16 18 05.2 +1.0**
comp=Z,17nm,1.0s,mb4.9
CHTO Chiang Mai 46.09 253 P **P** **16 18 05.0 +0.8**
CHTO pmax pmax
comp=Z,11nm,0.7s,mb4.9
CHTO Chiang Mai 46.09 253 *e*P **P** **16 18 04.9 +0.7**
comp=Z,11nm,0.7s,mb4.9
CHTO *e* pP 16 18 18.4 -0.4
INK Inuvik 47.58 30 P **P** **16 18 15.5 -0.3**
INK pmax pmax
comp=Z,120nm,0.9s
INK Inuvik 47.58 30 *e*P **P** **16 18 15.5 -0.3**
comp=Z,120nm,0.9s,mb5.9
VOSK Vostochnaya 48.97 309 P **P** **16 18 26.3 -0.2**
VOSK pmax pmax
comp=Z,23nm,0.7s,mb5.3
SKAG Skagway 49.00 42 *e*P **P** **16 18 27.3 +0.5**
BVA0 Borovoye Array 49.20 309 *i*P **P** **16 18 28.2 -0.1**
BVA0 pmax pmax
comp=Z,20nm,0.5s,mb5.4
BRVK Borovoye 49.25 310 P **P** **16 18 28.1 -0.6**
comp=Z,260nm,0.6s,SNR=31
BRVK Borovoye 49.25 310 *e*P **P** **16 18 28.5 -0.2**
BRVK *e* 16 19 50.6
BRVK pmax pmax
comp=Z,33nm,1.0s,mb5.3
BRVK Borovoye 49.25 310 *e*P **P** **16 18 28.5 -0.2**
comp=Z,32nm,1.0s,mb5.3
BRVK *e*PcP PcP 16 19 50.6 -0.3
TKM2 Tokmak 2 49.91 295 P **P** **16 18 34.8 +1.1**
TKM2 pmax pmax
comp=Z,46nm,0.7s,mb5.6
JIRN Jiri 49.95 273 *e*P **P** **16 18 34.8 +0.8**
ZRNK Zerenda 50.01 310 P **P** **16 18 34.5 +0.1**
ZRNK pmax pmax
comp=Z,49nm,0.7s,mb5.7
ZRNK Zerenda 50.01 310 *e*P **P** **16 18 34.5 0.0**
comp=Z,49nm,0.7s,mb5.7
ZRNK *e*pP pP 16 18 47.3 -1.9
GUN Gumba 50.03 273 *e*P **P** **16 18 35.3 +0.7**
KKN Kakani 50.54 273 *e*P **P** **16 18 38.7 +0.2**
comp=Z,48nm,0.6s,mb5.6
PKI Pulchoki 50.57 273 *e*P **P** **16 18 39.1 +0.4**
FRU Bishkek 50.60 296 *e*P **P** **16 18 39.0 +0.1**
FRU *e* pP 16 18 55.0 +1.4
AAK Ala-Archa 50.77 296 P **P** **16 18 39.1 -1.1**
comp=Z,226nm,0.4s,SNR=21
AAK Ala-Archa 50.77 296 *e*P **P** **16 18 39.4 -0.8**
AAK *e* 16 19 55.9
AAK pmax pmax
comp=Z,20nm,0.6s,mb5.2
AAK Ala-Archa 50.77 296 *e*P **P** **16 18 39.4 -0.8**
comp=Z,20nm,0.6s,mb5.2
AAK *e*PcP PcP 16 19 55.9 -0.6
DMN Daman 50.77 273 *e*P **P** **16 18 40.8 +0.6**
comp=Z,60nm,0.8s,mb5.6
GKN Gorkha 50.89 274 *e*P **P** **16 18 41.5 +0.4**
comp=Z,51nm,0.8s,mb5.5
KSH Kashi 51.19 291 *e*P **P** **16 18 45.0 +1.7**
KSH *e*AP pP 16 18 59.1 +1.0
KSH *e*XP sP 16 19 06.0 +1.5
KSH *e*PCP PcP 16 19 59.2 +1.1
KSH *e*PP PP 16 20 42.2 +1.7
KSH *e*PPP 16 21 42.1
KSH *e*SCP ScP 16 23 49.4 -0.3
KSH *e*PCS PcS 16 23 55.9 +0.1
KSH *e*S **S** **16 25 55.4 -2.1**
KSH *e*PS 16 26 13.4
KSH *e*XS sS 16 26 23.5 +1.1
KSH *e*SCS ScS 16 28 23.3 -5.5
KSH *e*SS SS 16 29 28.4 -5.0
KSH AMB AMB
comp=Z,76nm,1.0s,mb5.6
KSH LR LR
comp=N,159nm,4.8s
KSH LR LR
comp=E,172nm,5.2s
KSH LR LR
comp=Z,139nm,5.8s
KOLN Koldanda 51.78 274 *e*P **P** **16 18 48.4 +0.6**
comp=Z,132nm,1.0s,mb5.8
DLBC Dease Lake 51.93 42 *e*P **P** **16 18 50.0 +1.1**
DLBC *e*pP pP 16 19 03.5 -0.2
BOK Bokaro 52.41 269 *e*P **P** **16 18 52.9 +0.5**
BOK *ex* x 16 24 37.0
KKAR Karatay Array 53.16 298 *i*P **P** **16 18 58.1 +0.1**
KKAR pmax pmax
comp=Z,28nm,0.7s,mb5.3
ALE Alert 53.95 4 P **P** **16 19 03.9 +0.1**
comp=Z,208nm,0.5s,mb6.3,SNR=6.1
ARU Arti 54.20 317⇑*i*P **P** **16 19 05.1 -0.5**
ARU *e* 16 20 06.9
ARU *e* 16 21 05.6
ARU *e*S **S** **16 26 39.6 +0.9**
ARU *e*SS SS 16 30 23.0 +2.0
ARU pmax pmax
comp=Z,61nm,0.7s,mb5.6
ARU Arti 54.20 317 *e*P **P** **16 19 05.0 -0.6**
comp=Z,47nm,0.8s,mb5.5
DDI Dehra Dun 54.40 280 *e*P **P** **16 19 07.5 +0.5**
SMLA Simla 54.60 282 *e*P **P** **16 19 06.8 -1.7**
SMLA *i* x x 16 26 37.2
KULM Kulim 54.69 240 *e*P **P** **16 19 10.0 +0.9**
KULM *e* pP 16 19 26.0 +2.0
DLH Dalhousie 54.70 284 *e*P **P** **16 19 09.0 -0.2**
KBS Kingsbay 55.37 350 *e*P **P** **16 19 13.6 -0.4**
KBS Kingsbay 55.37 350 P **P** **16 19 13.4 -0.6**
KBS pmax pmax
comp=Z,50nm,1.2s,mb5.4
KBS Kingsbay 55.37 350 *e*P **P** **16 19 12.8 -1.2**
comp=Z,50nm,1.3s,mb5.4
NDI New Delhi 55.92 279 *e*P **P** **16 19 18.3 +0.3**
NDI AMb AMB 16 19 19.3
comp=Z,131nm,0.9s,mb6.0
RES Resolute Bay 55.99 16 P **P** **16 19 17.4 -1.1**
RES pmax pmax
comp=Z,23nm,0.5s,mb5.5
RES Resolute Bay 55.99 16 *e*P **P** **16 19 17.2 -1.3**
comp=Z,231nm,0.5s
NIL Nilore 56.03 286 P **P** **16 19 19.3 +0.6**
comp=Z,142nm,0.5s,mb6.2,SNR=6.6
AB31 Akbulak array 56.74 309 *i* P **P** **16 19 24.0 +0.2**
AB31 pmax pmax
comp=Z,16nm,0.5s,mb5.3
KAKA Kakadu 56.75 196 *e*P **P** **16 19 23.1 -0.8**
comp=Z,11nm,0.6s,mb5.1
YKW3 Yellowknife Ar 56.97 33 *e*P **P** **16 19 24.6 -0.8**
YKA Yellowknife Ar 57.01 33 P **P** **16 19 24.9 -0.7**
comp=Z,7.7nm,0.5s,mb5.0,baz=302,slow=6.8,SNR=188
YKA LR LR 16 47 44.7
comp=Z,69nm,18.6s,MS3.8,baz=305,slow=40
YKA Yellowknife Ar 57.01 33 P **P** **16 19 24.9 -0.8**
YKA pmax pmax
comp=Z,8.0nm,0.5s
YKA MLR MLR
comp=Z,69nm,18.6s
YKA Yellowknife Ar 57.01 33 P **P** **16 19 24.9 -0.7**
YKA LR LR 16 47 44.7
AKTK Aktyubinsk 57.26 311 P **P** **16 19 27.4 -0.1**
AKTK S **S** **16 27 19.7 +0.3**
AKTO Aktyubinsk 57.26 311 P **P** **16 19 27.4 -0.1**
comp=Z,29nm,0.7s,mb5.5,baz=69,slow=8.1,SNR=151
AKTO S **S** **16 27 19.7 +0.4**
comp=Z,1.4nm,0.7s,baz=227,slow=10,SNR=5.1
AKTO Aktyubinsk 57.26 311 P **P** **16 19 27.4 -0.1**
AKTO S **S** **16 27 19.7 +0.4**
AKTO pmax pmax
comp=Z,29nm,0.7s,mb5.4
AKTO smax
comp=N,1.0nm,0.7s
LVZ Lovozero 58.07 335 P **P** **16 19 32.5 -0.7**
comp=N,526nm,0.7s,SNR=6.0
LVZ Lovozero 58.07 335 *e*P **P** **16 19 32.2 -1.0**
LVZ *e* 16 21 39.6
LVZ *e*S **S** **16 27 21.1 -8.9**
LVZ pmax pmax
comp=Z,82nm,1.0s,mb5.7
LVZ pmax pmax
comp=E,38nm,0.9s
LVZ pmax pmax
comp=N,16nm,0.9s
LVZ pmax pmax
comp=E,10.0nm,0.9s
LVZ pmax pmax
comp=Z,65nm,0.9s,mb5.7
LVZ smax
comp=N,28nm,11.6s
LVZ smax
comp=Z,41nm,11.6s
LVZ smax
comp=E,42nm,12.3s
LVZ MLR MLR
comp=Z,124nm,20.0s,MS4.0
LVZ MLR MLR
comp=N,43nm,14.0s
LVZ MLR MLR
comp=E,69nm,21.0s
ORR Orenburg 58.45 313*c* *i*P **P** **16 19 35.5 -0.3**
ORR pmax pmax
comp=Z,21nm,1.5s,mb5.0
ORR MLR MLR
comp=Z,250nm,18.0s,MS4.4
APA Apatity 58.65 335⇑*i*P **P** **16 19 36.0 -1.2**
APA *i* pP 16 19 45.7 -6.6
APA pmax pmax
comp=Z,70nm,0.8s,mb5.7
BHPL Bhopal 58.94 274 *e*P **P** **16 19 38.9 -0.4**
BHPL AMb AMB 16 19 41.0
comp=Z,66nm,1.2s,mb5.5
BHPL *i* x x 16 19 52.8
NGP Nagpur 59.02 271 *e*P **P** **16 19 38.9 -0.9**
NGP AMb AMB 16 19 40.0
comp=Z,43nm,1.1s,mb5.4
AJM Ajmer 59.05 279 *i* P **P** **16 19 40.0 0.0**
AJM *e*P 16 19 40.0
AJM AMb AMB 16 19 42.0
comp=Z,79nm,1.0s,mb5.7
AJM *i* x x 16 19 53.2
KEV Kevo 59.07 339 *e*p **P** **16 19 38.0 -2.1**
comp=Z,45nm,0.7s,mb5.6
KEV Kevo 59.07 339 *e*P **P** **16 19 38.0 -2.1**
KEV pmax pmax
comp=Z,45nm,0.7s,mb5.6
ARCES ARCESS Array B 59.60 339 P **P** **16 19 43.2 -0.6**
comp=Z,25nm,0.6s,mb5.5,baz=37,slow=7.7,SNR=144
ARCES LR LR 16 50 52.6
comp=Z,188nm,19.2s,MS4.2,baz=296,slow=41
ARCES ARCESS Array B 59.60 339 P **P** **16 19 43.3 -0.5**
ARCES pmax pmax
comp=Z,25nm,0.6s
ARCES MLR MLR
comp=Z,189nm,19.2s
DAG Danmarks Havn 60.11 356⇓*i*P **P** **16 19 45.9 -1.4**
comp=Z,37nm,0.6s,mb5.6
DAG Danmarks Havn 60.11 356⇓*i*P **P** **16 19 45.9 -1.4**
DAG pmax pmax
comp=Z,37nm,0.6s,mb5.6
KLMR Klimovskoe 60.53 327*c* *i*P **P** **16 19 49.1 -1.1**
KLMR pmax pmax
comp=Z,100nm,1.6s,mb5.7
KLMR MLR MLR
comp=Z,480nm,23.0s,MS4.6
KTK1 Kautokeino 60.55 340 *e*P **P** **16 19 49.7 -0.6**
KTK1 AMb AMB 16 19 51.1
comp=Z,119nm,0.7s,mb6.2
KTK1 Kautokeino 60.55 340 *e*P **P** **16 19 49.7 -0.6**
comp=Z,119nm,0.6s,mb6.2
TRO Tromso 61.16 341 *e*P **P** **16 19 52.8 -1.7**
TRO AMb AMB 16 19 53.4
comp=Z,148nm,0.6s,mb6.3
TRO Tromso 61.16 341 *e*P **P** **16 19 52.8 -1.7**
comp=Z,148nm,0.6s,mb6.3
PECR Pechory 61.22 321 *e*P **P** **16 19 54.0 -0.8**
PECR pmax pmax
comp=Z,80nm,1.3s,mb5.7
HYB Hyderabad 61.73 268 *i* P **P** **16 19 58.5 +0.2**
HYB *e*pP pP 16 20 13.0 -0.4
HYB *e*PcP PcP 16 20 39.5 +0.4
HYB Hyderabad 61.73 268 *e*P **P** **16 19 58.5 +0.2**
WPW White Pass 62.03 51 P **P** **16 20 01.1 +0.8**
COR Corvallis 62.19 54 P **P** **16 20 03.0 +1.6**
COR pmax pmax
comp=Z,16nm,1.6s,mb4.9
COR Corvallis 62.19 54 *e*P **P** **16 20 02.6 +1.2**
comp=Z,157nm,1.6s,mb5.9
TBM Table Mountain 62.31 50 P **P** **16 20 02.8 +0.7**
WTV Waterville 62.37 49 P **P** **16 20 02.8 +0.2**
EBG Ellensburg 62.47 50 P **P** **16 20 04.2 +1.0**
KEBM Edson Butte 62.53 56 *e*P **P** **16 20 04.9 +1.3**
EDM Edmonton 62.66 42 P **P** **16 20 04.5 0.0**
EDM *e* 16 20 18.6 -1.1
EDM Edmonton 62.66 42 *e*P **P** **16 20 03.4 -1.1**
EDM *e*pP pP 16 20 18.5 -1.2
VFP Flag Point 62.86 52 P **P** **16 20 06.9 +1.1**
HBO Huckleberry Mo 63.19 54 P **P** **16 20 09.1 +1.1**
OD2 Odessa Site #2 63.24 49 P **P** **16 20 08.4 +0.1**
HAWA Hanford 63.35 51 *e*P **P** **16 20 08.4 -0.7**
comp=Z,3.5nm,1.3s,mb4.3
WRAB Tennant Creek 63.48 192 *e*P **P** **16 20 09.1 -0.8**
WB2 Warramunga Arr 63.49 192 *e*P **P** **16 20 08.2 -1.8**
WRA Warramunga Arr 63.49 192 P **P** **16 20 09.1 -0.9**

comp=Z,4.1nm,0.6s,mb4.7,baz=8.7,slow=6.7,SNR=29
WRA PKP2bc 16 49 27.4
comp=Z,0.9nm,0.9s,baz=188,slow=2.2,SNR=4.8
WRA Warramunga Arr 63.49 192 *i* P **P 16 20 09.1 -0.9**
WRA pmax pmax
comp=Z,40nm,0.6s
WRA Warramunga Arr 63.49 192 P **P 16 20 09.1 -0.9**
WRA ⇑*e* 16 49 27.4
HUMO Hull Mountain 63.52 56 *e*P **P 16 20 11.0 +0.8**
comp=Z,11nm,0.7s,mb5.0
FITZ Fitzroy Crossi 63.54 201 *e*P pP 16 20 27.7 +2.2
comp=Z,15nm,0.9s
LOF Lofoten 63.57 342 *e*P **P 16 20 11.1 +0.6**
LOF AMb AMB 16 20 13.4
comp=Z,59nm,1.2s,mb5.5
LOF Lofoten 63.57 342 *e*P **P 16 20 11.1 +0.6**
comp=Z,59nm,1.2s,mb5.5
NEW Newport 63.60 48 *e*P **P 16 20 09.9 -0.9**
NEW pmax pmax
comp=Z,48nm,1.2s
NEW Newport 63.60 48 *e*P **P 16 20 09.9 -0.8**
comp=Z,48nm,1.2s,mb5.4
ABKT Ailbek 63.91 298 P **P 16 20 13.6 +0.9**
comp=Z,348nm,0.6s,SNR=23
KHMM Horse Mountain 64.04 58 *e*P **P 16 20 15.0 +1.4**
YBH Yreka Blue Hor 64.17 56 P **P 16 20 15.9 +1.4**
YBH pmax pmax
comp=Z,19nm,0.7s
YBH Yreka Blue Hor 64.17 56 *e*P **P 16 20 15.5 +1.0**
comp=Z,19nm,0.6s,mb5.3
MOS Moscow 64.46 323 *e*P **P 16 20 15.2 -1.2**
MOS *e* pP 16 20 30.8 -0.8
MOS *e* 16 20 51.3
MOS pmax pmax
comp=Z,200nm,1.4s,mb6.0
MOS pmax pmax
comp=Z,108nm,1.3s,mb5.7
MOS pmax pmax
comp=N,84nm,0.9s
MOS pmax pmax
comp=E,111nm,0.9s
POO Poona 64.47 272 *e*P **P 16 20 15.0 -1.5**
KAF Kangasniemi 64.53 333 *ep* **P 16 20 14.4 -2.5**
comp=E,50nm,0.6s,mb5.7,baz=44,slow=6.2
KAF Kangasniemi 64.53 333 *e*P **P 16 20 14.4 -2.5**
KAF pmax pmax
comp=Z,50nm,0.6s,mb5.7
SUMG Summit 64.70 1 *e*P **P 16 20 17.9 -0.1**
comp=Z,181nm,1.0s,mb6.1
PUL Pulkovo 64.76 330 *e*P **P 16 20 17.9 -0.4**
WALA Waterton Lakes 64.85 46 *e*P **P 16 20 18.7 -0.2**
comp=Z,24nm,1.1s,mb5.1
WALA *ep*P pP 16 20 33.6 -0.5
MOR8 Moi Rana 64.92 340 *e*P **P 16 20 17.2 -2.2**
MOR8 AMb AMB 16 20 18.9
comp=Z,180nm,0.8s,mb6.1
MOR8 Moi Rana 64.92 340 *e*P **P 16 20 17.2 -2.2**
comp=Z,180nm,0.8s,mb6.2
WDC Whiskeytown Da 64.94 57 P **P 16 20 20.5 +1.0**
WDC pmax pmax
comp=Z,46nm,1.1s,mb5.4
WDC Whiskeytown Da 64.94 57 *e*P **P 16 20 20.0 +0.4**
comp=Z,46nm,1.1s,mb5.4
KAD Karad 65.00 271 *e*P **P 16 20 19.6 -0.3**
KAD AMb AMB 16 20 21.4
comp=Z,62nm,0.8s,mb5.7
KAD *i* x x 16 20 33.7
FINES FINESS Array B 65.09 333 P **P 16 20 19.6 -0.8**
comp=Z,77nm,0.5s,mb6.0,baz=45,slow=8.0,SNR=1089
FINES LR LR 16 51 25.9
comp=Z,152nm,21.7s,MS4.2,baz=182,slow=38
FINES FINESS Array B 65.09 333 *i* P **P 16 20 19.7 -0.8**
FINES pmax pmax
comp=Z,77nm,0.5s
STOK Stokkvaagen 65.13 341 *e*P **P 16 20 19.9 -0.8**
STOK AMb AMB 16 20 21.7
comp=Z,93nm,1.1s,mb5.7
STOK Stokkvaagen 65.13 341 *e*P **P 16 20 19.9 -0.8**
comp=Z,93nm,1.1s,mb5.7
LTIM Timbered Crate 65.24 56 P **P 16 20 22.7 +1.2**
OBN Obninsk 65.32 323 P **P 16 20 21.3 -0.7**
comp=Z,688nm,1.1s,SNR=7.5
OBN Obninsk 65.32 323*c* *i*P **P 16 20 21.0 -1.0**
OBN *e*S S 16 28 54.0 -7.6
OBN pmax pmax
comp=Z,131nm,1.2s,mb5.8
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.4
BMO Blue Mountains 65.52 51 *e*P **P 16 20 23.3 0.0**
comp=Z,17nm,0.9s,mb5.1
VRHR Novokhopersk 65.52 318 *e*P **P 16 20 22.7 -0.6**
VRHR pmax pmax
comp=Z,60nm,0.6s,mb5.8
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.7s
MOD Modoc 65.53 55 *e*P **P 16 20 23.4 0.0**
comp=E,18nm,0.6s,mb5.3
MSO Missoula 66.19 48 *e*P **P 16 20 27.4 -0.1**
comp=E,35nm,1.3s,mb5.2
WVOR Wild Horse Val 66.20 54 *e*P **P 16 20 27.9 +0.3**
WVOR pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
WVOR Wild Horse Val 66.20 54 *e*P **P 16 20 27.9 +0.3**
comp=Z,5.5nm,0.4s,mb4.9
VOR Voronezh 66.30 319⇑ *i*P **P 16 20 26.7 -1.5**
VOR pmax pmax
comp=N,70nm,1.3s
VOR pmax pmax
comp=Z,140nm,1.3s,mb5.8
OHCM Honcut 66.34 58 *e*P **P 16 20 28.1 -0.4**
CHMT Chamberlain Mo 66.51 47 *e*P **P 16 20 29.1 -0.5**
NSS Namsos 66.86 340 *e*P **P 16 20 30.0 -1.9**
NSS AMb AMB 16 20 31.8
comp=Z,59nm,1.6s,mb5.4
NSS Namsos 66.86 340 *e*P **P 16 20 30.0 -1.9**
comp=Z,59nm,1.6s,mb5.4
FFC Flin Flon 66.92 36 P **P 16 20 31.3 -0.9**
comp=Z,222nm,1.0s,mb6.2,SNR=15
FFC Flin Flon 66.92 36 P **P 16 20 31.7 -0.5**
FFC pmax pmax
comp=Z,47nm,1.1s,mb5.4
FFC Flin Flon 66.92 36 *e*P **P 16 20 31.6 -0.6**
comp=Z,47nm,1.1s,mb5.4
FFC *ep*P pP 16 20 45.3 -2.3
VSU Vasula 66.99 330⇑ *i*P **P 16 20 32.2 -0.5**
FCC Fort Churchill 67.19 29 P **P 16 20 32.8 -1.2**
FCC pmax pmax
comp=Z,25nm,0.6s,mb5.4
FCC Fort Churchill 67.19 29 *e*P **P 16 20 32.8 -1.2**
comp=Z,25nm,0.6s,mb5.4
FCC *ep*P pP 16 20 47.0 -2.3
ASAR Alice Springs 67.21 192 P **P 16 20 34.2 +0.1**
comp=Z,2.8nm,0.7s,mb4.4,baz=11,slow=5.1,SNR=55
ASAR PKPPKP 16 49 02.3
comp=Z,0.9nm,0.9s,baz=219,slow=1.6,SNR=5.6
ASAR PKP2bc 16 49 18.3
comp=Z,1.5nm,0.9s,baz=191,slow=4.0,SNR=8.4
ASAR Alice Springs 67.21 192 P **P 16 20 34.2 +0.1**
ASAR pmax pmax
comp=Z,3.0nm,0.7s
ASAR pmax pmax
comp=N,1.0nm,1.0s
ASAR pmax pmax
comp=E,2.0nm,0.9s
ASAR Alice Springs 67.21 192 P **P 16 20 34.2 +0.1**
ASAR P'P' 16 49 02.3
ASAR ⇑*e* 16 49 18.3
HRY Holter Researc 67.40 47 *e*P **P 16 20 35.3 0.0**
PAHR Pah Rah Range 67.41 56 *e*P **P 16 20 35.4 +0.1**
comp=E,54nm,1.0s,mb5.5
PAHR *ep*P pP 16 20 51.0 +0.3
CMB Columbia Colle 67.81 58 P **P 16 20 38.7 +0.9**
CMB pmax pmax
comp=Z,69nm,1.3s,mb5.5
CMB Columbia Colle 67.81 58 *e*P **P 16 20 37.9 +0.1**
comp=Z,69nm,1.3s,mb5.5
DLMT Dillon 67.84 48 *e*P **P 16 20 38.0 0.0**
comp=Z,56nm,1.0s,mb5.5
HLID Hailey 67.95 51 *e*P **P 16 20 38.9 +0.1**
comp=Z,23nm,1.1s,mb5.1
MCMT McKenzie Canyo 68.03 49 *e*P **P 16 20 38.7 -0.6**
BMN Battle Mountai 68.27 55 P **P 16 20 41.8 +1.1**
BMN pmax pmax
comp=Z,53nm,1.0s,mb5.5
BMN Battle Mountai 68.27 55 *e*P **P 16 20 41.3 +0.6**
comp=Z,53nm,1.0s,mb5.5
GOF Gofitskoye 68.61 312 *e*P **P 16 20 42.1 -0.7**
GOF *i* pP 16 20 55.7 -2.5
GOF *i* S S 16 29 43.1 +1.9
GOF pmax pmax
comp=Z,130nm,0.7s,mb6.0
GOF smax
comp=N,40nm,1.7s
GOF smax
comp=E,60nm,1.7s
TRD Trivandrum 68.75 262 *e*P **P 16 20 44.4 +0.7**
TRD AMb AMB 16 20 46.1
comp=Z,37nm,1.2s,mb5.2
QLMT Earthquake Lak 68.81 48 *e*P **P 16 20 44.4 +0.3**
NVAR Mina Array Bea 68.85 57 P **P 16 20 45.1 +0.7**
comp=Z,320nm,0.7s,mb5.4,baz=301,slow=5.3,SNR=227
MNV Mina 68.94 57 P **P 16 20 45.5 +0.6**
MNV pmax pmax
comp=Z,76nm,1.3s,mb5.5
MNV Mina 68.94 57 *e*P **P 16 20 45.3 +0.4**
comp=Z,76nm,1.4s,mb5.4
GCMT Greycliff 69.14 46 *e*P **P 16 20 46.8 +0.7**
YMR Madison River 69.17 48 *e*P **P 16 20 47.0 +0.7**
comp=Z,28nm,0.9s,mb5.2
YFT Old Faithful 69.38 48 *e*P **P 16 20 49.2 +1.6**
PTRM Twissleman Ran 69.39 60 *e*P **P 16 20 47.9 +0.2**
MNK Minsk 69.43 327 *e*P **P 16 20 46.0 -1.9**
MNK pmax pmax
comp=Z,560nm,1.0s
KIV Kislovodsk 69.51 311 P **P 16 20 49.8 +1.4**
comp=Z,719nm,0.9s,SNR=16
KIV Kislovodsk 69.51 311*c* *i*P **P 16 20 49.3 +0.9**
KIV pmax pmax
comp=Z,135nm,1.1s,mb5.8
KIV MLR MLR
comp=Z,200nm,19.0s,MS4.4
KIV Kislovodsk 69.51 311 *e*P **P 16 20 48.2 -0.2**
comp=Z,109nm,0.9s,mb5.8
LKWY Lake 69.55 48 *e*P **P 16 20 50.6 +2.0**
LKWY pmax pmax
comp=Z,15nm,0.9s,mb4.9
LKWY Lake 69.55 48 *e*P **P 16 20 50.6 +1.9**
comp=Z,15nm,0.9s,mb4.9
ZEI Tsey 69.59 310 *e*P **P 16 20 49.6 +0.7**
ZEI *e**PP pP 16 21 02.4 -2.0
ZEI pmax pmax
comp=Z,37nm,0.8s,mb5.4
SFJD Kangerlussuaq 69.64 7⇑ *i*P **P 16 20 48.0 -1.2**
comp=Z,27nm,0.9s,mb5.2
SFJD Kangerlussuaq 69.64 7⇑ *i*P **P 16 20 48.0 -1.2**
SFJD pmax pmax
comp=Z,27nm,0.9s,mb5.2
SFJD Kangerlussuaq 69.64 7 *e*P **P 16 20 47.7 -1.5**
SFJD *ep*P pP 16 21 01.7 -2.9
DOMB Dombas 69.66 340 *e*P **P 16 20 48.8 -0.6**
DOMB AMb AMB 16 20 50.9
comp=Z,66nm,1.2s,mb5.5
DOMB Dombas 69.66 340 *e*P **P 16 20 48.8 -0.6**
comp=Z,66nm,1.2s,mb5.4
IMW Indian Meadow 69.68 49 *e*P **P 16 20 50.5 +1.0**
comp=Z,49nm,0.9s,mb5.4
FLWY Flagg Ranch 69.69 48 *e*P **P 16 20 50.8 +1.3**
comp=Z,124nm,1.6s,mb5.6
TPH Tonopah 69.74 57 P **P 16 20 51.0 +1.2**
TPH pmax pmax
comp=Z,39nm,0.7s,mb5.5
TPH Tonopah 69.74 57 *e*P **P 16 20 50.6 +0.8**
comp=Z,39nm,0.7s,mb5.5
DCID1 Drake Creek 69.74 49 *e*P **P 16 20 50.8 +0.9**
MOOW Moose Ponds 69.89 49 *e*P **P 16 20 51.7 +0.9**
comp=Z,53nm,1.1s,mb5.4
TPAW Teton Pass 69.94 49 *e*P **P 16 20 52.1 +1.1**
comp=Z,92nm,1.1s,mb5.6
NB2 NORSAR Subarra 69.94 338 P **P 16 20 50.6 -0.5**
comp=Z,44nm,0.7s,mb5.5,baz=33,slow=6.5
NOA NORSAR Array B 69.94 338 P **P 16 20 50.4 -0.7**
comp=Z,36nm,0.6s,mb5.5,baz=34,slow=6.3,SNR=238
NOA LR LR 16 55 44.1
comp=Z,182nm,20.1s,MS4.3,baz=10.0,slow=39
NOA NORSAR Array B 69.94 338 P **P 16 20 50.4 -0.7**
NOA pmax pmax
comp=Z,36nm,0.6s
NOA MLR MLR
comp=Z,182nm,20.1s
HVU Hansel Valley 70.02 51 P **P 16 20 52.6 +1.0**
HVU pmax pmax
comp=Z,25nm,1.0s,mb5.1
HVU Hansel Valley 70.02 51 *e*P **P 16 20 52.0 +0.5**
comp=Z,25nm,1.0s,mb5.1
REDW Red Top Meadow 70.08 49 *e*P **P 16 20 52.7 +0.8**
comp=Z,74nm,1.3s,mb5.5
NAO01 NORSAR Array S 70.19 338 *e*P **P 16 20 51.6 -1.0**
comp=Z,20nm,0.6s,mb5.2
AHID Auburn Hatcher 70.33 50 *e*P **P 16 20 53.4 0.0**
comp=Z,18nm,0.9s,mb5.0
BGU Big Grassy Mou 70.42 52 *e*P **P 16 20 58.9 +4.9**
SPUT South Promonto 70.51 51 *e*P **P 16 20 52.3 -2.2**
DAC Darwin (Calif) 70.64 58 P **P 16 20 55.7 +0.3**
DAC pmax pmax
comp=Z,25nm,1.0s,mb5.1
DAC Darwin (Calif) 70.64 58 *e*P **P 16 20 55.2 -0.2**
comp=Z,25nm,1.0s,mb5.1
GNI Garni 70.80 307 P **P 16 20 58.5 +2.2**
comp=Z,5.9nm,0.4s,mb4.9,baz=76,slow=3.9,SNR=12
GNI Garni 70.80 307 P **P 16 20 58.6 +2.3**
GNI pmax pmax
comp=Z,25nm,0.9s
GNI Garni 70.80 307 *e*P **P 16 20 57.9 +1.6**
comp=Z,25nm,0.8s,mb5.2
HWUT Hardware Ranch 70.82 51 *e*P **P 16 20 56.8 +0.4**
comp=Z,42nm,1.1s,mb5.3
DUG Dugway 71.02 53 P **P 16 20 58.3 +0.6**
DUG pmax pmax
comp=Z,47nm,1.0s,mb5.4
DUG Dugway 71.02 53 *e*P **P 16 20 58.2 +0.5**
comp=Z,47nm,1.0s,mb5.4
FOO Floro 71.03 341 *e*P **P 16 20 57.3 -0.4**
FOO AMb AMB 16 21 01.2
comp=Z,36nm,2.1s,mb4.9
FOO Floro 71.03 341 *e*P **P 16 20 57.3 -0.4**
comp=Z,36nm,2.1s,mb4.9
NOQ North Oquirrh 71.13 52 *e*P **P 16 20 58.5 +0.2**
comp=Z,24nm,0.5s,mb5.4
PDAR Pinedale Array 71.19 49 P **P 16 20 58.6 0.0**
comp=Z,19nm,0.5s,mb5.2,baz=254,slow=1.4,SNR=190
TCUT Toone Canyon 71.23 51 *e*P **P 16 20 59.5 +0.6**
CTU Camp Tracy 71.31 52 *e*P **P 16 20 59.6 +0.2**
comp=Z,26nm,1.1s,mb5.1
SOC Sochi 71.37 313*c* *i*P **P 16 21 00.1 +0.3**
SOC *e*PPP 16 25 24.4
SOC *e*SS SS 16 34 44.2 -4.6
SOC pmax pmax
comp=Z,28nm,0.8s,mb5.2
SOC MLR MLR
comp=Z,530nm,25.0s,MS4.7
DIGO Kars 71.42 308 *i*P **P 16 21 01.4 +1.3**
KONO Kongsberg 71.55 338 *e*P **P 16 21 00.6 -0.2**
KONO Kongsberg 71.55 338*c* *i*P **P 16 21 00.3 -0.6**
KONO Kongsberg 71.55 338 *e*P **P 16 21 00.2 -0.7**
SUE Sulen 71.57 341 *e*P **P 16 21 00.9 0.0**
SUE AMb AMB 16 21 01.6
comp=Z,59nm,1.0s,mb5.5
SUE Sulen 71.57 341 *e*P **P 16 21 00.9 0.0**
comp=Z,59nm,1.0s,mb5.5
AKASG Malin Array Be 71.58 323 P **P 16 21 00.5 -0.6**
comp=Z,41nm,0.7s,mb5.5,baz=40,slow=5.9,SNR=148
AKASG S S 16 30 15.5 -0.5
comp=Z,0.1nm,0.3s,baz=46,slow=12,SNR=7.2
AKASG Malin Array Be 71.58 323 *i*P **P 16 21 00.5 -0.6**
AKASG pmax pmax
comp=Z,41nm,0.7s
AKASG Malin Array Be 71.58 323 P **P 16 21 00.5 -0.6**
AKASG S S 16 30 15.5 -0.5
NLU North Lily Min 71.61 52 *e*P **P 16 21 01.4 +0.2**
SUW Suwalki 71.62 328 *e*Pc **P 16 21 00.7 -0.6**
comp=Z,0.1nm,1.0s
SUW *ep*P pP 16 21 09.1 -7.7
SUW *e*S S 16 30 16.2 -0.3
SUW L 16 53 37.6
comp=Z,0.3nm,23.4s
SUW Suwalki 71.62 328⇑ *e*P **P 16 21 00.7 -0.6**
SUW *ep*P pP 16 21 09.1 -7.7
SUW *e*S S 16 30 16.2 -0.3
ARTV Artvin 71.74 309 *i*P **P 16 20 59.5 -2.4**
ANN Anapa 71.77 315 *e*P **P 16 21 01.7 -0.5**
ANN pmax pmax
comp=Z,60nm,1.0s,mb5.5
DAU Daniels Canyon 71.78 52 P **P 16 21 03.1 +0.9**
DAU Daniels Canyon 71.78 52 *e*P **P 16 21 02.8 +0.6**
ASK Askoy 71.97 341 *e*P **P 16 21 03.4 +0.1**
ASK AMb AMB 16 21 04.3
comp=Z,107nm,0.8s,mb5.8
ASK Askoy 71.97 341 *e*P **P 16 21 03.4 +0.1**
comp=Z,107nm,0.8s,mb5.8
BER Bergen 72.02 341 *e*P **P 16 21 03.9 +0.3**
BER AMb AMB 16 21 04.9
comp=Z,89nm,1.0s,mb5.7
BER Bergen 72.02 341 *e*P **P 16 21 03.9 +0.3**
comp=Z,89nm,1.0s,mb5.7
ODD1 Odda 72.11 340 *e*P **P 16 21 03.3 -0.9**
ODD1 AMb AMB 16 21 05.1
comp=Z,57nm,1.0s,mb5.5
ODD1 Odda 72.11 340 *e*P **P 16 21 03.3 -0.9**
comp=Z,57nm,1.0s,mb5.5
BORG Borgarnes 72.13 354 P **P 16 21 04.9 +0.6**
comp=Z,38nm,0.8s,mb5.4,baz=43,slow=4.2,SNR=12
EGD Espegrend 72.14 341 *e*P **P 16 21 04.6 +0.2**
EGD AMb AMB 16 21 06.8
comp=Z,91nm,1.8s,mb5.4
EGD Espegrend 72.14 341 *e*P **P 16 21 04.6 +0.2**
comp=Z,91nm,1.8s,mb5.4
ARUT Antelope Range 72.22 55 P **P 16 21 05.5 +0.6**
ARUT Antelope Range 72.22 55 *e*P **P 16 21 05.1 +0.2**
CCUT Cedar City 72.42 55 *e*P **P 16 21 07.3 +1.2**
MSU Marysvale 72.49 54 P **P 16 21 07.4 +0.9**
MSU Marysvale 72.49 54 *e*P **P 16 21 07.2 +0.6**
TMUT Trail Mountain 72.54 52 *e*P **P 16 21 07.2 +0.4**
WBK Wadi Bani Khal 72.67 285 P **P 16 21 09.3 +1.7**
SNR=5.9
BIDO Bidbid 72.69 286 P **P 16 21 09.4 +1.8**
SNR=11
ULM Lac du Bonnet 72.73 36 P **P 16 21 07.1 -0.8**
comp=Z,7.2nm,0.6s,mb4.8,baz=302,slow=7.6,SNR=9.2
ULM LR LR 16 54 43.9
comp=Z,68nm,21.9s,MS3.9,baz=314,slow=37
NEN Nelson 72.75 57 *e*P **P 16 21 08.2 +0.1**
ERZM Erzurum 72.91 309 *i*P **P 16 21 10.4 +1.4**
SRU San Rafael 73.06 52 P **P 16 21 10.3 +0.4**
SRU pmax pmax
comp=Z,52nm,0.8s,mb5.5
SRU San Rafael 73.06 52 *e*P **P 16 21 10.1 +0.2**
comp=Z,52nm,0.8s,mb5.5
KMY Karmoy 73.06 340 *e*P **P 16 21 10.1 +0.2**
KMY AMb AMB 16 21 11.7
comp=Z,95nm,1.0s,mb5.7
KMY *ep*P pP 16 21 23.9 -1.5
KMY Karmoy 73.06 340 *e*P **P 16 21 10.1 +0.2**
comp=Z,95nm,1.0s,mb5.7
PFO Pinyon Flat Ob 73.07 60 P **P 16 21 10.6 +0.7**
comp=Z,106nm,1.0s,mb5.7,SNR=5.9
RWWY Rawlins 73.20 48 *e*P **P 16 21 10.4 -0.3**
comp=Z,56nm,1.0s,mb5.5
RSSD Black Hills 73.22 45 P **P 16 21 10.6 -0.2**
RSSD pmax pmax
comp=Z,19nm,1.0s,mb5.0
RSSD Black Hills 73.22 45 *e*P **P 16 21 10.5 -0.3**
comp=Z,19nm,0.9s,mb5.0
HOQ Hoqain 73.22 287 P **P 16 21 11.9 +1.0**
SNR=12
SNART Snartemo 73.32 339 *e*P **P 16 21 11.4 +0.1**
SIM Simferopol' 73.37 316 *e*P **P 16 21 11.8 +0.1**
SIM pmax pmax
comp=Z,37nm,0.8s,mb5.4
SIM MLR MLR
comp=Z,500nm,20.5s,MS4.8
ASHO Ashiyiah 73.40 288 P **P 16 21 12.8 +0.9**
SNR=6.8
JMDO Jabal Madar 73.44 285 P **P 16 21 13.3 +1.2**
SNR=5.7
BSD Bornholm Skovb 73.72 333⇑ *i*P **P 16 21 13.2 -0.5**
comp=Z,48nm,1.0s,mb5.4
BSD Bornholm Skovb 73.72 333⇑ *i*P **P 16 21 13.2 -0.5**
BSD pmax pmax
comp=Z,48nm,1.0s,mb5.4
WAR Warsaw 73.82 328 *e*P **P 16 21 15.2 +0.9**
WAR *e*PcP PcP 16 21 24.8 -4.8
BSY Bisya 73.84 286 P **P 16 21 15.8 +1.3**
SNR=8.3
ARQ Araqi 73.94 287 P **P 16 21 16.0 +1.0**
SNR=8.2
GRSN GIRESUNGRSN 73.96 311 *i*P **P 16 21 12.0 -3.2**
COP Copenhagen 74.05 335 *i*P **P 16 21 13.1 -2.6**
comp=Z,32nm,0.8s,mb5.3
COP Copenhagen 74.05 335 *e*P **P 16 21 13.1 -2.6**
COP pmax pmax
comp=Z,32nm,0.8s,mb5.3
COP Copenhagen 74.05 335 *e*P **P 16 21 13.1 -2.6**
comp=Z,32nm,0.8s,mb5.3
MSL Mosul 74.31 305 *ex* x 16 21 19.0
MUD Monsted U'grnd 74.39 337 *i*P **P 16 21 18.1 +0.5**
comp=Z,19nm,0.6s,mb5.2
MUD Monsted U'grnd 74.39 337 *e*P **P 16 21 18.1 +0.5**
MUD pmax pmax
comp=Z,19nm,0.6s,mb5.2
MUD Monsted U'grnd 74.39 337 *e*P **P 16 21 18.1 +0.5**
comp=Z,19nm,0.6s,mb5.2
GKP Gorka Klasztor 74.41 331 *e*P **P 16 21 17.7 -0.1**
PV10 Paradox Valley 74.42 52 *e*P **P 16 21 18.5 +0.7**
PV10 *ep*P pP 16 21 33.3 -0.1
PHWY Pilot Hill 74.42 48 *e*P **P 16 21 17.6 -0.3**
KIS Kishinev 74.47 321 *e*P pP 16 21 31.0 -2.7
KIS MLR MLR
comp=Z,500nm,15.0s,MS4.9
KIS MLR MLR
comp=Z,1μm,16.0s
LVV L'vov 74.47 325 *i*P **P 16 21 18.1 0.0**
STKA Stephens Creek 74.59 184 *e*P **P 16 21 16.5 -2.3**
comp=Z,2.7nm,0.6s,mb4.3
STKA Stephens Creek 74.59 184 P **P 16 21 16.8 -2.1**
comp=Z,2.4nm,0.6s,mb4.3,baz=331,slow=7.8,SNR=10
STKA LR LR 16 53 04.1
comp=Z,126nm,18.7s,MS4.2,baz=205,slow=35
RGN Rugen 74.71 334 *e*P **P 16 21 19.6 +0.1**
comp=Z,69nm,1.0s,mb5.5
PV01 Paradox Valley 74.85 52 *e*P **P 16 21 20.4 +0.1**
WUAZ Wupatki 74.96 55 *e*P **P 16 21 21.4 +0.4**
comp=Z,54nm,1.1s,mb5.4
MARD Mardin 74.99 307 *i*P **P 16 21 22.4 +1.2**
SMCO Snowmass 75.05 50 *e*P **P 16 21 21.9 +0.5**
comp=Z,29nm,1.0s,mb5.2
KWP Kalwaria 75.17 326 *e*Pc **P 16 21 22.8 +0.6**
comp=Z,0.2nm,1.2s
ELZG Elazig 75.22 309 *i*P **P 16 21 23.9 +1.5**
ISCO Idaho Springs 75.38 49 P **P 16 21 24.0 +0.6**
ISCO pmax pmax
comp=Z,33nm,1.3s,mb5.1
ISCO Idaho Springs 75.38 49 *e*P **P 16 21 23.7 +0.3**
comp=Z,33nm,1.3s,mb5.1
BOYT Boyabat 75.44 313 *i*P **P 16 21 24.5 +0.8**
MVCO Mesa Verde 75.52 53 *e*P **P 16 21 24.4 +0.3**
BHD Baghdad 75.54 302 *ex* x 16 21 21.0
BURAR Bucovina Array 75.64 323⇑ *i*P **P 16 21 25.0 +0.2**
BURAR Bucovina Array 75.64 323⇑ P **P 16 21 25.0 +0.2**
MALT Malatya 75.67 309⇑ *i*P **P 16 21 26.6 +1.6**
MALT Malatya 75.67 309⇑ P **P 16 21 26.6 +1.6**
UMR Umm Al-Rimmam 75.88 297 *e*P **P 16 21 26.2 0.0**
UMR AMb AMB 16 21 27.0
comp=Z,72nm,0.6s,mb5.8
OJC Ojcow 75.88 328 *i*Pc **P 16 21 26.6 +0.4**
KOLS Kolonicke sedl 75.89 325 *e*P **P 16 21 26.8 +0.5**
comp=Z,15nm,0.8s,mb5.0
KOLS *e*PP PP 16 24 20.9 +3.9
STHS Stebnicka Huta 75.94 326 *e*P **P 16 21 27.3 +0.8**
comp=Z,22nm,0.8s,mb5.1
MIB Mutribah 75.96 298 *e*P **P 16 21 26.4 -0.3**
MIB AMb AMB 16 21 27.6
comp=Z,54nm,0.8s,mb5.5
CTKT Corum 76.07 313 *i*P **P 16 21 24.3 -3.0**
CFR Carcaliu 76.13 320⇓ *i*P **P 16 21 28.0 +0.3**
CFR Carcaliu 76.13 320⇓ P **P 16 21 28.0 +0.4**
KBD Kabd 76.14 297 *e*P **P 16 21 27.7 0.0**
KBD AMb AMB 16 21 28.8
comp=Z,111nm,0.5s,mb6.0
BALT Daday 76.16 314 *i*P **P 16 21 28.0 +0.1**
BSEG Bad Segeberg 76.19 335 *e*P **P 16 21 27.9 -0.1**
comp=Z,50nm,0.9s,mb5.4
CRVS Cervenica-Dubn 76.25 326 *e*P **P 16 21 29.3 +1.0**
comp=Z,7.2nm,1.0s,mb4.6
CRVS *e* 16 21 35.5
RUE Ruedersdorf 76.27 332 *e*P **P 16 21 28.3 -0.1**

VRI Vrincioaia 76.28 321 ⇓iP P 16 21 29.0 +0.5
VRI Vrincioaia 76.28 321 P P 16 21 30.4 +1.9
VRI Vrincioaia 76.28 321 ⇓P P 16 21 28.9 +0.5
QRN Al-Qurain 76.28 296 eP P 16 21 28.6 +0.1
NIE Niedzica 76.31 327 eP P 16 21 29.9 +1.2
NAY Al-Naaiem 76.39 297 eP P 16 21 28.8 -0.3
NAY AMb AMB 16 21 30.0
comp=Z,34nm,0.7s,mb5.4
RDF Al-Radifah 76.40 297 eP P 16 21 29.2 0.0
RDF AMb AMB 16 21 30.4
comp=Z,110nm,0.6s,mb5.9
TIRR Tirgusor 76.53 319⇑iP P 16 21 30.1 +0.2
HARR Harsova 76.59 320⇓iP P 16 21 31.0 +0.7
HARR Harsova 76.59 320 ⇓P P 16 21 31.0 +0.7
HLG Helgoland 76.72 336 eP P 16 21 30.9 -0.1
comp=Z,82nm,1.0s,mb5.6
KSP Ksiaz 76.72 330 ePc P 16 21 31.3 +0.3
KSP eS S 16 31 14.1 +0.5
KSP Ksiaz 76.72 330⇑eP P 16 21 31.1 +0.1
GZT Gaziantep 76.82 309 i P P 16 21 32.0 +0.4
OKC Ostrava-Krasne 76.83 328 eP P 16 21 32.1 +0.5
OKC epP pP 16 21 45.3 -1.9
OKC esP sP 16 21 52.5 -0.9
OKC AMS AMS 16 57 40.0
OKC Ostrava-Krasne 76.83 328 eP P 16 21 32.1 +0.5
OKC epP pP 16 21 45.3 -1.9
OKC e 16 21 52.5
MLR Muntele Rosu 76.92 321⇑iP P 16 21 32.6 +0.5
MLR Muntele Rosu 76.92 321 P P 16 21 33.4 +1.3
MLR Muntele Rosu 76.92 321 ⇑P P 16 21 32.6 +0.5
KECS Kecovo 76.98 326 i P P 16 21 32.7 +0.3
comp=Z,13nm,0.9s,mb4.9
LIKS Likavka 77.09 327 eP P 16 21 33.8 +0.8
LIKS pmax pmax
comp=Z,51nm,1.1s,mb5.4
LIKS Likavka 77.09 327 eP P 16 21 33.8 +0.8
comp=Z,51nm,1.1s,mb5.4
UPC Upice 77.10 330 eP P 16 21 33.5 +0.4
UPC epP pP 16 21 48.6 -0.1
UPC esP sP 16 21 53.9 -1.0
DPC Dobruska-Polom 77.11 329 eP P 16 21 33.9 +0.7
DPC epP pP 16 21 47.9 -0.9
DPC esP sP 16 21 54.3 -0.7
DPC eS S 16 31 18.2 +0.3
DPC AMS AMS 16 58 10.0
DPC Dobruska-Polom 77.11 329 eP P 16 21 33.9 +0.7
DPC epP pP 16 21 47.9 -0.9
DPC e 16 21 54.3
DPC eS S 16 31 18.2 +0.3
MORC Moravsky Berou 77.11 328⇑iP P 16 21 33.5 +0.3
MORC Moravsky Berou 77.11 328 P P 16 21 33.6 +0.4
MORC Moravsky Berou 77.11 328 eP P 16 21 33.1 -0.1
comp=Z,45nm,1.1s,mb5.3
BR131 Keskin Array S 77.32 313 eP P 16 21 34.5 +0.2
comp=Z,8.2nm,0.6s,mb4.8
BRTR Keskin Array B 77.32 313 P P 16 21 34.9 +0.5
comp=Z,9.8nm,0.7s,mb4.9,baz=78,slow=3.4,SNR=54
BRTR Keskin Array B 77.32 313 P P 16 21 34.9 +0.5
BRTR pmax pmax
comp=Z,10.0nm,0.7s
AVNT Avonos 77.34 312 i P P 16 21 31.8 -2.6
DRGR 77.37 324⇑iP P 16 21 35.3 +0.7
DRGR 77.37 324 ⇑P P 16 21 35.3 +0.7
VOIR 77.37 322⇑iP P 16 21 35.1 +0.5
VOIR 77.37 322 ⇑P P 16 21 35.1 +0.5
TUC Tucson 77.49 58 P P 16 21 35.8 +0.5
TUC pmax pmax
comp=Z,18nm,1.1s,mb4.9
TUC Tucson 77.49 58 eP P 16 21 35.6 +0.3
comp=Z,18nm,1.1s,mb4.9
CLL Collm 77.51 332⇑iP P 16 21 34.9 -0.5
comp=Z,57nm,1.0s,mb5.5
CLL epP pP 16 21 48.6 -2.5
CLL esP sP 16 21 55.7 -1.6
CLL eS S 16 31 21.3 -1.0
CLL ePS 16 32 07.6
CLL eLR LR 16 47 00.9
CLL eL 17 00 37.9
comp=Z,435nm,22.0s
CLL Collm 77.51 332⇑iP P 16 21 34.9 -0.5
comp=Z,56nm,1.0s,mb5.5
CLL i pP pP 16 21 48.9 -2.2
CLL i sP sP 16 21 55.3 -2.0
CLL ex x 16 25 12.0
CLL eS S 16 31 22.0 -0.3
CLL Collm 77.51 332⇑iP P 16 21 34.9 -0.5
CLL i *PP pP 16 21 48.9 -2.2
CLL i *SP sP 16 21 55.3 -2.0
CLL eS S 16 31 22.0 -0.3
CLL pmax pmax
comp=Z,56nm,1.0s,mb5.5
CLL MLR MLR
comp=Z,1μm,7.0s
CLL Collm 77.51 332⇑iP P 16 21 34.9 -0.5
comp=Z,56nm,1.0s,mb5.5
CLL i pP pP 16 21 48.9 -2.2
CLL i sP sP 16 21 55.3 -2.0
CLL eS S 16 31 22.0 -0.3
BRG Berggiesshubel 77.55 331 eP P 16 21 35.2 -0.4
comp=Z,15nm,0.9s,mb4.9
BRG Berggiesshubel 77.55 331⇓iP P 16 21 35.5 -0.2
comp=Z,12nm,1.2s,mb4.7
BRG i pP 16 21 49.0 -2.3
comp=Z,4.4nm,0.9s
BRG Berggiesshubel 77.55 331⇓iP P 16 21 35.5 -0.1
BRG i pP 16 21 49.0 -2.3
BRG pmax pmax
comp=Z,12nm,1.3s,mb4.7
SGKT Sivrigoynuk 77.55 314 i P P 16 21 35.5 -0.2
PSZ Piszkesteto 77.67 326⇓eP P 16 21 37.0 +0.7
PSZ Piszkesteto 77.67 326⇓iP P 16 21 37.1 +0.8
PSZ Piszkesteto 77.67 326 P P 16 21 37.4 +1.1
PSZ pmax pmax
comp=Z,36nm,1.0s,mb5.3
PSZ Piszkesteto 77.67 326 eP P 16 21 36.7 +0.4
comp=Z,36nm,0.9s,mb5.3
PSZ epP pP 16 21 50.6 -1.3
ANTO Ankara 77.67 313⇓iP P 16 21 36.6 +0.3
ANTO Ankara 77.67 313 P P 16 21 37.9 +1.6
ANTO Ankara 77.67 313 ⇓P P 16 21 36.6 +0.3
VRAC Vranov 77.86 329 LR LR 17 00 01.2
comp=Z,681nm,19.9s,MS5.0,baz=320,slow=39
VRAC Vranov 77.86 329⇑iP P 16 21 37.9 +0.6
VRAC Vranov 77.86 329 P P 16 21 38.1 +0.8
VRAC Vranov 77.86 329 ⇑P P 16 21 37.9 +0.5
CLZ Clausthal 77.95 334 eP P 16 21 38.0 +0.1
comp=Z,36nm,0.9s,mb5.3
CLZ Clausthal 77.95 334 eP P 16 21 38.0 +0.1
CLZ pmax pmax
comp=Z,36nm,0.9s,mb5.3
PRA Prague 78.03 330 P P 16 21 38.0 -0.3
PRU Pruhonice 78.06 330 eP P 16 21 38.8 +0.3
PRU epP pP 16 21 52.7 -1.4
PRU esP sP 16 21 59.7 -0.6
PRU eS S 16 31 25.5 -2.7
PRU AMS AMS 16 58 50.0
PRU Pruhonice 78.06 330 eP P 16 21 38.8 +0.3
PRU epP pP 16 21 52.7 -1.4
PRU e 16 21 59.7
PRU eS S 16 31 25.5 -2.7
COBT Iskenderun 78.15 309 i P P 16 21 39.7 +0.7
SMOL Smolenice 78.18 328 eP P 16 21 40.0 +0.9
LAZ Ladron 78.26 54 eP P 16 21 40.3 +0.7
ANMO Albuquerque 78.28 53 P P 16 21 41.0 +1.3
ANMO pmax pmax
comp=Z,48nm,1.6s
ANMO Albuquerque 78.28 53 eP P 16 21 40.1 +0.4
comp=Z,48nm,1.7s,mb5.2
GTTG Gvttingen 78.34 334 eP P 16 21 39.8 -0.2
comp=Z,24nm,0.8s,mb5.2
BUD Budapest 78.37 326⇑eP P 16 21 40.8 +0.6
IBBN Ibbenburen 78.38 335 eP P 16 21 39.8 -0.4
comp=Z,36nm,0.9s,mb5.3
SRO2 Moca 78.40 327 eP P 16 21 41.1 +0.7
SRO1 Iza 78.47 327 eP P 16 21 41.8 +1.1
WERD Werda 78.48 332 eP P 16 21 40.6 -0.2
comp=Z,12nm,0.9s,mb4.8
WERD epP pP 16 21 54.6 -1.8
LENM Lemitar 78.52 54 eP P 16 21 41.8 +0.8
MOX Moxa 78.55 332 eP P 16 21 40.9 -0.3
comp=Z,15nm,0.9s,mb4.9
MOX Moxa 78.55 332 eP P 16 21 40.3 -0.9
comp=Z,28nm,1.3s,mb5.0
MOX e pP 16 21 54.8 -2.0
MOX Moxa 78.55 332 eP P 16 21 40.3 -0.9
MOX e pP 16 21 54.8 -2.0
MOX pmax pmax
comp=Z,28nm,1.3s,mb5.0
ZST Bratislava 78.56 328 eP P 16 21 42.3 +1.0
ESK Eskdalemuir 78.58 342 P P 16 21 41.0 -0.3
comp=Z,214nm,0.6s,mb6.2,SNR=9.3
ESK Eskdalemuir 78.58 342 P P 16 21 40.8 -0.5
ESK pmax pmax
comp=Z,11nm,0.6s,mb5.0
ESK Eskdalemuir 78.58 342 eP P 16 21 40.6 -0.7
comp=Z,11nm,0.6s,mb5.0
ESK epP pP 16 21 55.1 -1.9
NKC Novy Kostel 78.61 332 eP P 16 21 41.6 +0.1
NKC epP pP 16 21 56.1 -1.1
NKC esP sP 16 22 02.7 -0.6
NKC AMS AMS 16 58 40.0
NKC Novy Kostel 78.61 332 eP P 16 21 41.6 +0.1
NKC epP pP 16 21 56.1 -1.1
NKC e 16 22 02.7
LPM Los Pinos Moun 78.62 54 eP P 16 21 42.4 +0.8
SCHQ Schefferville 78.68 19 P P 16 21 41.5 -0.3
comp=Z,20nm,0.8s,mb5.1,baz=354,slow=5.1,SNR=29
SCHQ LR LR 16 57 41.0
comp=Z,188nm,21.0s,MS4.4,baz=271,slow=36
SCHQ Schefferville 78.68 19 eP P 16 21 41.0 -0.9
comp=Z,15nm,0.7s,mb5.0
SCHQ epP pP 16 21 55.5 -2.1
BNM Barren Site 78.74 54 eP P 16 21 42.9 +0.7
BZS Buzias 78.76 324⇑iP P 16 21 42.1 -0.2
BZS Buzias 78.76 324 P P 16 21 42.5 +0.2
BZS Buzias 78.76 324 ⇑P P 16 21 42.1 -0.2
MANZ Manzenberg 78.93 332 eP P 16 21 43.3 0.0
comp=Z,12nm,0.9s,mb4.8
ESKT Eskisehir 78.95 314 i P P 16 21 42.7 -0.7
WTSB Winterswijk 78.97 336⇑iP P 16 21 43.0 -0.4
comp=Z,36nm,0.9s,mb5.3
WTSB ex x 16 21 57.0
comp=Z,32nm,1.3s
ROTZ Rotzenmuhle 79.08 331 eP P 16 21 44.4 +0.3
comp=Z,16nm,1.0s,mb4.9
ROTZ epP pP 16 21 58.1 -1.7
ROTZ esP sP 16 22 04.1 -1.9
KHC Kasperske Hory 79.13 330 eP P 16 21 44.6 +0.3
KHC epP pP 16 21 59.2 -0.8
KHC esP sP 16 22 05.7 -0.5
KHC eS S 16 31 42.3 +2.8
KHC AMS AMS 16 57 20.0
KHC Kasperske Hory 79.13 330 eP P 16 21 44.6 +0.3
KHC epP pP 16 21 59.2 -0.8
KHC e 16 22 05.7
KHC eS S 16 31 42.3 +2.8
SOP Sopron 79.19 328⇑eP P 16 21 45.6 +0.9
BUG Bochum--Univer 79.28 335 eP P 16 21 44.7 -0.5
comp=Z,30nm,1.1s,mb5.1
MEST Erdemli 79.30 310 i P P 16 21 45.4 +0.1
GEC2 GERESS Array S 79.32 330 eP P 16 21 45.2 -0.2
comp=Z,12nm,0.9s,mb4.8
GEC2 GERESS Array S 79.32 330 eP P 16 21 45.2 -0.2
GEC2 pmax pmax
comp=Z,12nm,0.9s,mb4.8
GERES GERESS Array B 79.32 330 P P 16 21 45.5 +0.1
comp=Z,4.9nm,0.6s,mb4.6,baz=35,slow=4.9,SNR=57
GERES GERESS Array B 79.32 330 P P 16 21 45.5 +0.1
GERES pmax pmax
comp=Z,5.0nm,0.6s
WET Wettzell 79.37 331 eP P 16 21 45.9 +0.2
comp=Z,30nm,1.0s,mb5.2
WET Wettzell 79.37 331 eP P 16 21 45.9 +0.2
WET pmax pmax
comp=Z,30nm,1.0s,mb5.2
ULDT Uludag 79.38 316 i P P 16 21 45.9 +0.1
GRA1 Grafenberg Arr 79.49 332 eP P 16 21 46.3 0.0
comp=Z,25nm,0.8s,mb5.2
GRA1 epP pP 16 22 00.6 -1.4
GRF Grafenberg Arr 79.49 332 eP P 16 21 46.3 0.0
comp=Z,25nm,0.8s,mb5.2
GRF epP pP 16 22 00.6 -1.4
GRF Grafenberg Arr 79.49 332 eP P 16 21 46.3 0.0
GRF e*PP pP 16 22 00.6 -1.4
GRF pmax pmax
comp=Z,25nm,0.8s,mb5.2
GRF Grafenberg Arr 79.49 332 eP P 16 21 46.3 0.0
GRF e*PP pP 16 22 00.6 -1.4
GRF pmax pmax
comp=Z,25nm,0.8s,mb5.2
PKSM Moragy 79.55 326⇑iP P 16 21 46.1 -0.5
PKSM Moragy 79.55 326 P P 16 21 46.4 -0.2
PKSM Moragy 79.55 326 ⇑P P 16 21 46.1 -0.6
DIM Dimitrovgrad 79.73 319 eP P 16 21 48.0 +0.4
RHK1 Bakonya 79.88 326⇑iP P 16 21 48.4 0.0
MOA Molln 79.94 329⇑iP P 16 21 48.9 +0.2
comp=Z,50nm,2.3s,mb5.0,SNR=11
ARSA Arzberg 79.95 328⇑iP P 16 21 49.0 +0.2
comp=Z,50nm,2.2s,mb5.0,SNR=6.0
TNS Taunus Mts 79.97 334 eP P 16 21 48.7 -0.2
comp=Z,16nm,0.8s,mb5.0
TNS Taunus Mts 79.97 334 eP P 16 21 48.7 -0.2
TNS pmax pmax
comp=Z,16nm,0.8s,mb5.0
GDZ Gediz 79.99 315 i P P 16 21 38.0 -11
HGN Heimansgroeve 80.29 335⇑iP P 16 21 50.0 -0.6
comp=Z,25nm,1.1s,mb5.0
HGN ex x 16 22 03.7
comp=Z,17nm,1.3s
KOGS Kog 80.33 327 eP P 16 21 50.4 -0.4
BEBN Eben Emael 80.33 336 P P 16 21 50.6 -0.3
BEBN E 16 21 59.4
BEBN AP pP 16 22 04.4 -2.2
TOD Tromm 80.38 333 eP P 16 21 50.9 -0.2
MEM Membach 80.40 335 P P 16 21 50.2 -1.1
MEM AP pP 16 22 04.7 -2.2
MEM XP sP 16 22 11.4 -1.7
VTS Vitosha 80.41 321 i P P 16 21 52.0 +0.7
VTS Vitosha 80.41 321⇑iP P 16 21 51.9 +0.6
VTS Vitosha 80.41 321 ⇑P P 16 21 51.9 +0.7
RDO Rodhopi 80.42 319 eP P 16 21 51.8 +0.5
ABH Alteburg 80.55 334 eP P 16 21 51.7 -0.3
PERS Pernice 80.62 328 eP P 16 21 52.4 0.0
PERS epP pP 16 22 06.7 -1.4
FUR Furstenfeldbru 80.77 331 eP P 16 21 53.4 +0.2
comp=Z,41nm,0.9s,mb5.4
FUR Furstenfeldbru 80.77 331 eP P 16 21 53.4 +0.2
FUR pmax pmax
comp=Z,41nm,0.9s,mb5.4
ASF Jabal al Asfar 80.86 306 P P 16 21 54.9 +1.3
comp=Z,9.0nm,0.9s,mb4.7,baz=251,slow=3.3,SNR=12
ASF Jabal al Asfar 80.86 306 P P 16 21 54.9 +1.2
ASF pmax pmax
comp=Z,9.0nm,0.9s
RUP Ruppelstein 80.86 334 eP P 16 21 53.2 -0.5
KBA Koelnbreinsper 80.93 329⇑iP P 16 21 54.2 +0.2
comp=Z,44nm,1.2s,mb5.2,SNR=22
KBA Koelnbreinsper 80.93 329⇑iP P 16 21 54.2 +0.2
KBA pmax pmax
comp=Z,44nm,1.3s,mb5.2
CSS Prodhromos 80.93 310 eP P 16 21 54.3 +0.3
comp=Z,23nm,0.6s,mb5.3
OBKA Obir 80.94 328⇑iP P 16 21 54.0 -0.1
comp=Z,13nm,0.9s,mb4.8
MMB Musomiste 80.94 320 i P P 16 21 54.0 -0.2
STU Stuttgart 80.97 333 eP P 16 21 53.9 -0.4
comp=Z,31nm,0.8s,mb5.3
SNF Seneffe 81.01 336 P P 16 21 54.4 -0.1
SNF AP pP 16 22 08.2 -2.0
SNF XP sP 16 22 15.0 -1.3
KKB Krupnik 81.03 320 eP P 16 21 55.0 +0.4
NVR Nevrokopi 81.07 320 eP P 16 21 54.7 -0.1
AMTX Amarillo 81.07 50 eP P 16 21 54.7 -0.1
comp=Z,11nm,0.6s,mb5.0
MMAI Mount Meron Ar 81.14 307 P P 16 21 56.5 +1.3
comp=Z,42nm,0.8s,mb5.4,baz=44,slow=7.3,SNR=45
CRES Cresnjev 81.15 327 eP P 16 21 54.7 -0.5
CRES epP pP 16 22 08.3 -2.7
CRES e 16 22 15.5
CRES e 16 22 21.9
DLF Lyons Farm 81.18 344⇑iP P 16 21 55.2 -0.2
DLF Lyons Farm 81.18 344 eP pP 16 22 09.6 -1.5
WLF Walferdange 81.18 335 eP P 16 21 55.7 +0.3
comp=Z,13nm,1.0s,mb4.8
DSB Dublin 81.19 343 eP P 16 21 55.3 -0.2
comp=Z,12nm,0.8s,mb4.9
DSB epP pP 16 22 09.5 -1.7
MNTX Cornudas Mount 81.20 55 eP P 16 21 55.8 +0.2
comp=Z,31nm,0.8s,mb5.3
GIVF Givet 81.21 336 eP P 16 21 54.7 -0.8
LANF Langenberg 81.25 333 eP P 16 21 55.4 -0.4
DOU Dourbes 81.28 336 P P 16 21 55.2 -0.7
DOU AP pP 16 22 09.7 -1.9
DCN Croghan 81.28 344⇑iP P 16 21 55.8 -0.1
DCN Croghan 81.28 344 eP pP 16 22 10.1 -1.6
LJU Ljubljana 81.34 328 eP P 16 21 55.7 -0.5
WATA Walderalm 81.36 330⇑iP P 16 21 56.7 +0.3
comp=Z,26nm,1.2s,mb5.0
WATA Walderalm 81.36 330⇑iP P 16 21 56.7 +0.3
WATA pmax pmax
comp=Z,27nm,1.2s,mb5.0
WTTA Wattenberg 81.40 330⇑iP P 16 21 56.8 +0.3
comp=Z,51nm,1.5s,mb5.2,SNR=11
WTTA Wattenberg 81.40 330⇑iP P 16 21 56.8 +0.2
WTTA pmax pmax
comp=Z,51nm,1.5s,mb5.2
BAIF Baives 81.43 336 eP P 16 21 55.9 -0.8
comp=Z,16nm,0.9s,mb4.6
BAIF Baives 81.43 336 eP P 16 21 55.9 -0.8
BAIF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BAIF Baives 81.43 336 eP P 16 21 55.9 -0.8
comp=Z,8.0nm,0.9s,mb4.7
GDL2 Guadalupe Moun 81.45 54 eP P 16 21 57.5 +0.6
PTCC Patocco-Chiusa 81.49 329 P P 16 21 56.4 -0.6
comp=Z,12nm,0.5s,mb5.1
CADS Cadrg 81.49 329 eP P 16 21 55.8 -1.2
MOTA Moosalm 81.52 331⇑iP P 16 21 57.4 +0.2
comp=Z,30nm,1.0s,mb5.2,SNR=14
MOTA Moosalm 81.52 331⇑iP P 16 21 57.4 +0.2
MOTA pmax pmax
comp=Z,30nm,1.0s,mb5.2
PLE Pljevlja 81.54 324⇑iP P 16 21 58.2 +0.9
MENF Mencas 81.58 337 eP P 16 21 56.6 -0.9
STIP Stip 81.58 321 i P P 16 21 56.5 -1.0
SQTA Sankt Quirin 81.59 331⇑iP P 16 21 57.7 +0.1
comp=Z,17nm,1.0s,mb5.0
SQTA Sankt Quirin 81.59 331⇑iP P 16 21 57.7 +0.1
SQTA pmax pmax
comp=Z,17nm,1.0s,mb4.9
GMNA Gemona 81.64 329 P P 16 21 57.1 -0.7
comp=Z,145nm,1.0s,mb5.9
BFO Black Forest 81.64 333 eP P 16 21 57.3 -0.5
comp=Z,13nm,0.9s,mb4.9
BFO Black Forest 81.64 333 P P 16 21 57.1 -0.7
comp=Z,85nm,0.9s,mb5.7,SNR=6.8
BFO Black Forest 81.64 333 P P 16 21 57.9 +0.1
SPAK Spaichingen-Ko 81.68 332 eP P 16 21 57.7 -0.4
IVA Berane 81.69 323⇑iP P 16 21 58.6 +0.5
CLNB Carlsbad 81.69 53 eP P 16 21 58.3 +0.2
VAY Valandovo 81.70 320 i P P 16 21 57.4 -0.7
SKO Skopje 81.71 322 i P P 16 21 58.7 +0.5
BRES Bressanone 81.84 330 P P 16 21 58.7 -0.2
comp=Z,17nm,0.6s,mb5.1
UPM Unac-Piva 81.85 324 eP P 16 21 58.0 -0.9
PVY Plav 81.88 323⇑iP P 16 21 59.0 0.0
WLS Welschbruch 81.89 333 eP P 16 21 58.8 -0.4
CDF Champ du Feu 81.92 334 eP P 16 21 58.7 -0.6
comp=Z,44nm,0.9s,mb5.1
CDF Champ du Feu 81.92 334 eP P 16 21 58.7 -0.6
CDF pmax pmax
comp=Z,22nm,0.9s,mb5.1
CDF Champ du Feu 81.92 334 eP P 16 21 58.7 -0.6
comp=Z,22nm,0.9s,mb5.1
DAVA Damuels 82.01 331⇓iP P 16 21 59.8 0.0
comp=Z,18nm,1.0s,mb5.0,SNR=11
PLG Polygyros 82.02 319 eP P 16 21 59.6 -0.3
ECH Echery 82.13 333 eP P 16 21 59.7 -0.7
NKY Niksic 82.13 323⇑iP P 16 21 59.4 -1.0
FELD Feldberg im Sc 82.14 333 eP P 16 21 59.5 -1.0
BRY Bratogost 82.26 324⇑iP P 16 22 00.4 -0.6
TTG Podgorica 82.32 323⇑iP P 16 22 00.9 -0.5
CTI Castel Tesino 82.42 330 P P 16 22 01.3 -0.6
CTI pmax pmax
comp=Z,13nm,0.5s,mb5.1
CTI Castel Tesino 82.42 330 P P 16 22 01.3 -0.6
comp=Z,13nm,0.5s,mb5.1
MOF Molkenrain 82.45 333 eP P 16 22 01.4 -0.7
THEF They Montfort 82.50 334 eP P 16 22 01.8 -0.5
BIA Bitola 82.52 321 eP P 16 22 01.0 -1.4
HAU Haudompre 82.58 334 eP P 16 22 02.5 -0.2
comp=Z,29nm,1.0s,mb5.0
HAU eR
comp=Z,303nm,18.0s
HAU Haudompre 82.58 334 eP P 16 22 02.5 -0.2
HAU pmax pmax
comp=Z,15nm,1.0s,mb5.0
HAU MLR MLR
comp=Z,300nm,18.0s,MS4.7
HAU Haudompre 82.58 334 eP P 16 22 02.5 -0.2
comp=Z,15nm,1.0s,mb5.0
HAU LR LR
comp=Z,300nm,18.0s,MS4.7
HINF Hinteralfeld 82.58 333 eP P 16 22 01.8 -0.9
comp=Z,11nm,0.8s,mb4.6
HINF Hinteralfeld 82.58 333 eP P 16 22 01.8 -0.9
HINF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
HINF Hinteralfeld 82.58 333 eP P 16 22 01.8 -0.9
comp=Z,5.5nm,0.8s,mb4.6
BUM Brajici-Budva 82.58 323⇑iP P 16 22 02.8 0.0
HCY Herceg Novi 82.64 324⇑iP P 16 22 02.5 -0.5
BBS Basel-Blauen 82.67 333 eP P 16 22 02.8 -0.4
OHR Ohrid 82.68 321 i P P 16 22 01.6 -1.7
ULC Ulcinj 82.70 323⇑iP P 16 22 03.1 -0.3
QSH Qafa e Shtames 82.76 322 i p P 16 22 04.2 +0.5
WMOK Wichita Mounta 82.80 49 eP P 16 22 03.4 -0.5
WMOK pmax pmax
comp=Z,23nm,1.1s,mb5.1
WMOK Wichita Mounta 82.80 49 eP P 16 22 03.4 -0.5
comp=Z,23nm,1.1s,mb5.1
LOMF Lomont 82.99 333 eP P 16 22 04.6 -0.3
APE Apeiranthos 83.55 316⇓iP P 16 22 06.9 -0.9
APE Apeiranthos 83.55 316 eP P 16 22 05.7 -2.1
APE Apeiranthos 83.55 316 ⇓P P 16 22 06.9 -0.8
LKR Lokris 83.58 318 eP P 16 22 06.1 -1.8
MCGN Macugnaga 83.81 332 P P 16 22 09.5 +0.4
comp=Z,22nm,1.3s,mb5.1
KAP Karpathos 83.86 314 eP P 16 22 08.8 -0.5
CABF La Chapelle 83.89 333 eP P 16 22 08.9 -0.6
comp=Z,16nm,0.8s,mb4.9
CABF La Chapelle 83.89 333 eP P 16 22 08.9 -0.6
CABF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
CABF La Chapelle 83.89 333 eP P 16 22 08.9 -0.6
comp=Z,7.9nm,0.8s,mb4.9
FLN La Foliniere 83.93 338 eP P 16 22 09.0 -0.7
comp=Z,11nm,0.5s,mb4.9
FLN eR
comp=Z,486nm,18.4s
FLN La Foliniere 83.93 338 eP P 16 22 09.0 -0.7
FLN pmax pmax
comp=Z,6.0nm,0.5s,mb5.0
FLN MLR MLR
comp=Z,490nm,18.4s,MS4.9
FLN La Foliniere 83.93 338 eP P 16 22 09.0 -0.7
comp=Z,5.5nm,0.5s,mb4.9
FLN LR LR
comp=Z,490nm,18.4s,MS4.9
LDF La Druitiere 83.99 338 eP P 16 22 09.6 -0.4
comp=Z,10nm,0.7s,mb4.8
LDF La Druitiere 83.99 338 eP P 16 22 09.6 -0.4
LDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
LDF La Druitiere 83.99 338 eP P 16 22 09.6 -0.4
comp=Z,5.3nm,0.7s,mb4.8
LOR Lormes 84.02 335 eP P 16 22 09.4 -0.7
comp=Z,22nm,0.6s,mb5.2
LOR eR
comp=Z,804nm,17.5s
LOR Lormes 84.02 335 eP P 16 22 09.4 -0.7
LOR pmax pmax
comp=Z,11nm,0.6s,mb5.2
LOR MLR MLR
comp=Z,800nm,17.5s,MS5.2
LOR Lormes 84.02 335 eP P 16 22 09.4 -0.7
comp=Z,11nm,0.6s,mb5.2
LOR LR LR
comp=Z,800nm,17.5s,MS5.2
ARV Arcevia 84.08 328 P P 16 22 10.9 +0.4
comp=Z,44nm,1.2s,mb5.5
ZCCA Zocca 84.12 329 P P 16 22 12.3 +1.6

comp=Z,30nm,0.8s,mb5.5
SFI Santa Sofia 84.17 328 P P 16 22 12.0 +1.1
SFI pmax pmax
comp=Z,32nm,0.9s,mb5.5
SFI Santa Sofia 84.17 328 P P 16 22 12.0 +1.1
comp=Z,32nm,0.9s,mb5.5
SEI Scarperia 84.23 329 P P 16 22 12.8 +1.6
comp=Z,169nm,0.7s,mb6.3
VMG Vicchio 84.23 329 P P 16 22 12.7 +1.5
comp=Z,95nm,0.8s,mb6.0
KEK Kerkira 84.26 321 *e*P **P 16 22 10.4 -1.0**
GSCL Gusciola 84.26 329 P P 16 22 12.5 +1.1
comp=Z,29nm,0.8s,mb5.5
SNTG Esanatoglia 84.29 327 P P 16 22 11.6 +0.1
comp=Z,26nm,0.8s,mb5.4
SSF Saint Saulge 84.31 335 *e*P **P 16 22 10.9 -0.7**
comp=Z,12nm,0.5s,mb5.0
SSF Saint Saulge 84.31 335 *e*P **P 16 22 10.9 -0.7**
SSF pmax pmax
comp=Z,6.0nm,0.5s,mb5.0
SSF Saint Saulge 84.31 335 *e*P **P 16 22 10.9 -0.7**
comp=Z,6.3nm,0.5s,mb5.0
FGMS Monte Sant'Ang 84.34 325 P P 16 22 11.7 -0.1
comp=Z,62nm,0.5s,mb6.0
BADI Badiali 84.35 328 P P 16 22 12.8 +1.0
comp=Z,30nm,0.8s,mb5.5
GRR Gorron 84.38 338 *e*P **P 16 22 11.6 -0.4**
comp=Z,22nm,0.5s,mb5.2
GRR Gorron 84.38 338 *e*P **P 16 22 11.6 -0.4**
GRR pmax pmax
comp=Z,11nm,0.5s,mb5.2
GRR Gorron 84.38 338 *e*P **P 16 22 11.6 -0.4**
comp=Z,11nm,0.5s,mb5.2
PPT Papeete 84.51 120 *e*LR LR 16 48 21.0
comp=Z,606nm,31.5s,baz=317
PPT Papeete 84.51 120 LR LR 16 52 03.8
comp=Z,211nm,19.7s,MS4.5,baz=319,slow=30
TERO Teramo 84.55 327 P **P 16 22 12.8 -0.1**
comp=Z,22nm,0.9s,mb5.3
SMF Signal de Mont 84.58 335 *e*P **P 16 22 12.4 -0.6**
comp=Z,67nm,0.9s,mb5.5
SMF Signal de Mont 84.58 335 *e*P **P 16 22 12.4 -0.6**
SMF pmax pmax
comp=Z,34nm,0.9s,mb5.5
SMF Signal de Mont 84.58 335 *e*P **P 16 22 12.4 -0.6**
comp=Z,34nm,0.9s,mb5.5
AVF Avril sur Loir 84.60 335 *e*P **P 16 22 12.6 -0.5**
comp=Z,60nm,1.0s,mb5.4
AVF Avril sur Loir 84.60 335 *e*P **P 16 22 12.6 -0.5**
AVF pmax pmax
comp=Z,30nm,1.0s,mb5.4
AVF Avril sur Loir 84.60 335 *e*P **P 16 22 12.6 -0.5**
comp=Z,30nm,1.0s,mb5.4
LPL La Plagne 84.63 332 *e*P **P 16 22 13.3 0.0**
comp=Z,29nm,0.8s,mb5.2
LPL La Plagne 84.63 332 *e*P **P 16 22 13.3 0.0**
LPL pmax pmax
comp=Z,15nm,0.8s,mb5.2
LPL La Plagne 84.63 332 *e*P **P 16 22 13.3 0.0**
comp=Z,14nm,0.8s,mb5.2
LPG La Plagne 84.64 332 *e*P **P 16 22 13.5 +0.2**
comp=Z,25nm,0.7s,mb5.2
LPG La Plagne 84.64 332 *e*P **P 16 22 13.5 +0.2**
LPG pmax pmax
comp=Z,13nm,0.6s,mb5.2
LPG La Plagne 84.64 332 *e*P **P 16 22 13.5 +0.2**
comp=Z,13nm,0.6s,mb5.2
RLS Riolos of Patr 84.79 319 *e*P **P 16 22 14.0 -0.1**
AQU L'Aquila 84.86 327 *e*P **P 16 22 14.8 +0.4**
AQU pmax pmax
comp=Z,32nm,0.7s,mb5.6
AQU L'Aquila 84.86 327 *e*P **P 16 22 14.8 +0.4**
comp=Z,32nm,0.7s,mb5.6
SGMF Saint Gilles 84.95 339 *e*P **P 16 22 14.6 -0.2**
BGF Bois d'Agland 84.96 335 *e*P **P 16 22 14.4 -0.5**
comp=Z,22nm,0.7s,mb5.1
BGF Bois d'Agland 84.96 335 *e*P **P 16 22 14.4 -0.5**
BGF pmax pmax
comp=Z,11nm,0.7s,mb5.1
BGF Bois d'Agland 84.96 335 *e*P **P 16 22 14.4 -0.5**
comp=Z,11nm,0.7s,mb5.1
BNI Bardonecchia 85.06 332 P **P 16 22 16.0 +0.6**
BNI pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
BNI Bardonecchia 85.06 332 *e*P **P 16 22 15.1 -0.3**
comp=Z,9.2nm,0.8s,mb5.0
ROSF Rostrenen 85.06 340 *e*P **P 16 22 15.4 0.0**
comp=Z,114nm,1.0s,mb5.7
ROSF Rostrenen 85.06 340 *e*P **P 16 22 15.4 0.0**
ROSF pmax pmax
comp=Z,57nm,1.0s,mb5.7
ROSF Rostrenen 85.06 340 *e*P **P 16 22 15.4 0.0**
comp=Z,57nm,1.0s,mb5.7
GDM Grand'Maison 85.11 333 *e*P **P 16 22 16.2 +0.5**
VLS Valsamata 85.12 320 *e*P **P 16 22 15.2 -0.5**
GRN Grenoble 85.20 333 *e*P **P 16 22 16.6 +0.5**
PLDF La Plantade 85.25 335 *e*P **P 16 22 16.5 +0.1**
IDI Anoyia 85.25 315 P **P 16 22 15.6 -0.8**
comp=Z,21nm,0.5s,mb5.6,baz=30,slow=10,SNR=31
IDI LR LR 17 06 30.0
comp=Z,146nm,20.8s,MS4.3,baz=189,slow=40
MBDF Montbardon 85.31 332 *e*P **P 16 22 16.1 -0.5**
comp=Z,19nm,0.6s,mb5.1
MBDF Montbardon 85.31 332 *e*P **P 16 22 16.1 -0.5**
MBDF pmax pmax
comp=Z,10.0nm,0.6s,mb5.1
MBDF Montbardon 85.31 332 *e*P **P 16 22 16.1 -0.5**
comp=Z,9.6nm,0.6s,mb5.1
JCT Junction City 85.38 52 *e*P **P 16 22 17.0 0.0**
JCT pmax pmax
comp=Z,24nm,0.9s,mb5.3
JCT Junction City 85.38 52 *e*P **P 16 22 16.7 -0.3**
comp=Z,24nm,0.9s,mb5.3
JCT *e*pP pP 16 22 31.9 -0.9
TCF Toulx Ste Croi 85.40 336 *e*P **P 16 22 17.1 0.0**
comp=Z,24nm,0.9s,mb5.0
TCF Toulx Ste Croi 85.40 336 *e*P **P 16 22 17.1 0.0**
TCF pmax pmax
comp=Z,12nm,0.9s,mb5.0
TCF Toulx Ste Croi 85.40 336 *e*P **P 16 22 17.1 0.0**
comp=Z,12nm,0.9s,mb5.0
QUIF Quistinic 85.42 340 *e*P **P 16 22 16.6 -0.6**
comp=Z,30nm,0.7s,mb5.2
QUIF Quistinic 85.42 340 *e*P **P 16 22 16.6 -0.6**
QUIF pmax pmax
comp=Z,15nm,0.7s,mb5.2
QUIF Quistinic 85.42 340 *e*P **P 16 22 16.6 -0.6**
comp=Z,15nm,0.7s,mb5.2
ORIF Oris-en-Rattie 85.44 333 *e*P **P 16 22 17.3 0.0**
comp=Z,31nm,0.8s,mb5.2
ORIF *e*R
comp=Z,846nm,21.8s
ORIF Oris-en-Rattie 85.44 333 *e*P **P 16 22 17.3 0.0**
ORIF pmax pmax
comp=Z,15nm,0.8s,mb5.2
ORIF Oris-en-Rattie 85.44 333 *e*P **P 16 22 17.3 0.0**
comp=Z,15nm,0.8s,mb5.2
SURF Saint Ours 85.51 332 *e*P **P 16 22 17.7 +0.1**
COLF Collangettes 85.63 334 *e*P **P 16 22 18.7 +0.5**
SAOF Saorge 85.68 331 *e*P **P 16 22 17.8 -0.7**
AUTN L'Aution 85.72 331 *e*P **P 16 22 17.6 -1.1**
MIAR Mount Ida 85.73 45 P **P 16 22 19.2 +0.4**
MIAR pmax pmax
comp=Z,72nm,1.2s,mb5.8
MIAR Mount Ida 85.73 45 *e*P **P 16 22 18.6 -0.1**
comp=Z,72nm,1.2s,mb5.8
MIAR *e*pP pP 16 22 32.4 -2.2
MFF Saint Martin d 85.81 337 *e*P **P 16 22 19.0 -0.1**
comp=Z,46nm,0.8s,mb5.5
MFF Saint Martin d 85.81 337 *e*P **P 16 22 19.0 -0.1**
MFF pmax pmax
comp=Z,23nm,0.8s,mb5.5
MFF Saint Martin d 85.81 337 *e*P **P 16 22 19.0 -0.1**
comp=Z,23nm,0.8s,mb5.5
SBF Sospel 85.83 331 *e*P **P 16 22 18.3 -0.9**
comp=Z,57nm,0.7s,mb5.6
SBF Sospel 85.83 331 *e*P **P 16 22 18.3 -0.9**
SBF pmax pmax
comp=Z,29nm,0.7s,mb5.6
SBF Sospel 85.83 331 *e*P **P 16 22 18.3 -0.9**
comp=Z,29nm,0.7s,mb5.6
OG25 Le Caire 85.86 332 *e*P **P 16 22 18.7 -0.7**
VIVF Saint-Julien-I 85.90 333 *e*P **P 16 22 19.6 0.0**
comp=Z,40nm,0.9s,mb5.3
VIVF Saint-Julien-I 85.90 333 *e*P **P 16 22 19.6 0.0**
VIVF pmax pmax
comp=Z,20nm,0.9s,mb5.3
VIVF Saint-Julien-I 85.90 333 *e*P **P 16 22 19.6 0.0**
comp=Z,20nm,0.9s,mb5.3
MVIF Mont Vial 85.90 331 *e*P **P 16 22 18.6 -1.0**
OCF Saint Nazaire 85.94 333 *e*P **P 16 22 19.9 +0.1**
OG26 St.-Nazaire-De 85.94 333 *e*P **P 16 22 19.9 +0.1**
TIP Timpagrande 86.07 323 *e*P **P 16 22 20.0 -0.4**
TIP *e*pP pP 16 22 35.0 -1.3
STOF St-Etienne Org 86.24 332 *e*P **P 16 22 21.4 +0.1**
FRF La Foret Royal 86.37 332 *e*P **P 16 22 21.0 -0.9**
comp=Z,32nm,0.9s,mb5.2
FRF La Foret Royal 86.37 332 *e*P **P 16 22 21.0 -0.9**
FRF pmax pmax
comp=Z,16nm,0.9s,mb5.2
FRF La Foret Royal 86.37 332 *e*P **P 16 22 21.0 -0.9**
comp=Z,16nm,0.9s,mb5.2
SMRF Simiane la Rot 86.38 332 *e*P **P 16 22 21.6 -0.3**
comp=Z,42nm,1.2s,mb5.3
SMRF Simiane la Rot 86.38 332 *e*P **P 16 22 21.6 -0.3**
comp=Z,42nm,1.2s,mb5.5
PGF Pioggiola 86.40 330 *e*P **P 16 22 21.3 -0.8**
comp=Z,26nm,0.8s,mb5.2
PGF Pioggiola 86.40 330 *e*P **P 16 22 21.3 -0.8**
PGF pmax pmax
comp=Z,13nm,0.8s,mb5.2
PGF Pioggiola 86.40 330 *e*P **P 16 22 21.3 -0.8**
comp=Z,13nm,0.8s,mb5.2
VILF Villemus 86.44 332 *e*P **P 16 22 22.2 0.0**
RJF Les Rejaudoux 86.50 336 *e*P **P 16 22 22.4 -0.1**
comp=Z,31nm,0.7s,mb5.3
RJF *e*R
comp=Z,236nm,20.9s
RJF Les Rejaudoux 86.50 336 *e*P **P 16 22 22.4 -0.1**
RJF pmax pmax
comp=Z,16nm,0.7s,mb5.4
RJF MLR MLR
comp=Z,240nm,20.9s,MS4.6
RJF Les Rejaudoux 86.50 336 *e*P **P 16 22 22.4 -0.1**
comp=Z,16nm,0.7s,mb5.3
RJF LR LR
comp=Z,240nm,20.9s,MS4.6
TAVF Tavernes 86.53 332 *e*P **P 16 22 22.8 +0.1**
CORF Corte 86.56 329 *e*P **P 16 22 22.1 -0.7**
LMR La Mourre 86.62 331 *e*P **P 16 22 22.5 -0.6**
comp=Z,96nm,0.9s,mb5.7
LMR La Mourre 86.62 331 *e*P **P 16 22 22.5 -0.6**
LMR pmax pmax
comp=Z,48nm,0.9s,mb5.7
LMR La Mourre 86.62 331 *e*P **P 16 22 22.5 -0.6**
comp=Z,48nm,0.9s,mb5.7
PRAF Pradon 86.67 333 *e*P **P 16 22 23.8 +0.4**
CAF Calvisc 86.67 335 *e*P **P 16 22 23.9 +0.5**
comp=Z,79nm,0.9s,mb5.7
CAF Calvisc 86.67 335 *e*P **P 16 22 23.9 +0.5**
CAF pmax pmax
comp=Z,40nm,0.9s,mb5.7
CAF Calvisc 86.67 335 *e*P **P 16 22 23.9 +0.5**
comp=Z,40nm,0.9s,mb5.6
PUYF Puyloubier 86.72 332 *e*P **P 16 22 23.1 -0.5**
TREF Trevaresse 86.75 332 *e*P **P 16 22 24.1 +0.3**
LBNH Lisbon 86.86 26 P **P 16 22 25.9 +1.6**
LBNH pmax pmax
comp=Z,26nm,0.6s,mb5.6
LASF Ste Croix 86.86 334 *e*P **P 16 22 24.5 +0.2**
comp=Z,44nm,1.0s,mb5.3
BERF Bertagne 86.92 332 *e*P **P 16 22 24.7 +0.1**
GELF Grande-Etoile 86.95 332 *e*P **P 16 22 24.6 -0.1**
LFF La Frestale 87.06 336 *e*P **P 16 22 24.9 -0.4**
NATX Nacogdoches 87.30 48 *e*P **P 16 22 27.5 +1.1**
comp=Z,58nm,0.8s,mb5.9
WVT Waverly 87.36 41 *e*P **P 16 22 26.5 -0.2**
WVT *e**PP pP 16 22 40.2 -2.4
WVT pmax pmax
comp=Z,33nm,1.3s,mb5.4
WVT Waverly 87.36 41 *e*P **P 16 22 26.5 -0.2**
comp=Z,33nm,1.3s,mb5.4
WVT *e*pP pP 16 22 40.2 -2.4
SSPA Standing Stone 87.91 32 *e*P **P 16 22 28.9 -0.5**
comp=Z,6.5nm,0.8s,mb4.9
SSPA *e*pP pP 16 22 43.9 -1.4
MTLF Montolieu 88.05 334 *e*P **P 16 22 30.3 +0.3**
comp=Z,26nm,0.7s,mb5.3
MTLF Montolieu 88.05 334 *e*P **P 16 22 30.3 +0.3**
MTLF pmax pmax
comp=Z,13nm,0.7s,mb5.3
MTLF Montolieu 88.05 334 *e*P **P 16 22 30.3 +0.3**
comp=Z,13nm,0.7s,mb5.3
MLS Moulis 88.75 335 *e*P **P 16 22 33.4 +0.1**
TBI Tubuai 88.88 124 *e*LR LR 16 50 22.4
comp=Z,186nm,33.2s,baz=294
EPF Esparros 88.92 335 *e*P **P 16 22 33.5 -0.6**
comp=Z,8.1nm,0.5s,mb5.0
EPF Esparros 88.92 335 *e*P **P 16 22 33.5 -0.6**
EPF pmax pmax
comp=Z,4.0nm,0.5s,mb5.0
EPF Esparros 88.92 335 *e*P **P 16 22 33.5 -0.6**
comp=Z,4.1nm,0.5s,mb5.0
VALF Valcebollere 88.96 334 *e*P **P 16 22 35.0 +0.7**
ETSF Etsaut 89.31 336 *e*P **P 16 22 36.1 +0.2**
comp=Z,24nm,0.6s,mb5.4
ETSF Etsaut 89.31 336 *e*P **P 16 22 36.1 +0.2**
ETSF pmax pmax
comp=Z,12nm,0.6s,mb5.4
ETSF Etsaut 89.31 336 *e*P **P 16 22 36.1 +0.2**
comp=Z,12nm,0.6s,mb5.4
SJPF Ste Jean 89.31 336 *e*P **P 16 22 36.0 +0.1**
comp=Z,21nm,1.0s,mb5.1
SJPF Ste Jean 89.31 336 *e*P **P 16 22 36.0 +0.1**
SJPF pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
SJPF Ste Jean 89.31 336 *e*P **P 16 22 36.0 +0.1**
comp=Z,10nm,1.0s,mb5.1
ELN Prospectdale 89.65 35 *e*P **P 16 22 37.0 -0.5**
ELN *e*pP pP 16 22 52.6 -0.9
ESDC Sonseca Array 93.27 337 P **P 16 22 54.2 -0.1**
comp=Z,4.0nm,0.5s,mb5.1,baz=13,slow=4.4,SNR=17
RKT Rikitea 98.02 114 *e*LR LR 16 54 36.2
comp=Z,341nm,39.2s
MDT Midelt 99.83 335 P Pdif 16 23 22.5 -1.5
comp=Z,0.9nm,0.3s,baz=219,slow=14,SNR=5.1
TORD Torodi Ar. Bea 115.16 321 PKP PKiKP 16 28 20.2 -0.5
comp=Z,1.0nm,0.6s,baz=16,slow=2.3,SNR=13
TORD PKKP PKKPbc 16 39 16.1 +20
comp=Z,0.7nm,0.8s,baz=206,slow=2.3,SNR=4.8
SDV Santo Domingo 118.66 42 *e*PKPdf PKPdf 16 28 27.0 -0.4
SAML Samuel 137.69 45 *e*PKPpre 16 28 51.8
SAML *e*PKPdf PKPdf 16 29 03.1 -0.5
LPAZ La Paz 140.75 58 PKhKP 16 29 03.5
comp=Z,0.5nm,0.4s,baz=279,slow=2.2,SNR=5.1
LPAZ PKP PKPdf 16 29 09.6 +0.5
comp=Z,2.6nm,0.7s,baz=344,slow=6.0,SNR=12
LPAZ La Paz 140.75 58 *e*PKHKP 16 29 01.4
LPAZ 16 29 09.6
LPAZ La Paz 140.75 58 *e*PKPpre 16 29 01.4
LPAZ PKP PKPdf 16 29 09.6 +0.5
LPAZ *e*PKPdf PKPdf 16 29 10.5 +1.3
NVL N'lazarevskaya 144.06 204 ↓↓ *i*PKIKP PKPdf 16 29 12.7 -2.3
NVL pmax pmax
comp=Z,21nm,1.3s
NVL MLR MLR
comp=Z,1μm,20.6s
LVC Limon Verde 144.83 66 *e*PKPdf PKPdf 16 29 16.9 +0.5
LVC *ep*PKPdf pPKPdf 16 29 31.8 -1.1
SNAA Sanae 147.41 198 PKPbc PKPbc 16 29 19.3 -4.0
comp=Z,2.9nm,0.7s,baz=139,slow=2.9,SNR=29
SNAA Sanae 147.41 198 *e*PKPdf PKPdf 16 29 19.0 -1.8
SNAA *e* 16 29 22.3
SNAA *e* 16 29 23.9
SNAA *e* 16 29 28.5
SNAA *e* 16 29 38.5
SNAA *e* 16 29 44.8
SNAA *e* 16 29 51.9
SNAA *e* 17 41 28.9
SNAA *e* 17 41 41.0
SNAA *e* 17 41 46.4
SNAA Sanae 147.41 198 PKIKP PKPdf 16 29 19.3 -1.5
SNAA pmax pmax
comp=Z,3.0nm,0.7s
SNAA Sanae 147.41 198 *e*PKPdf PKPdf 16 29 18.9 -1.9
SNAA *e*PKPbc PKPbc 16 29 22.4 -0.9
LCO Las Campanas 147.65 77 ↓ *i*P PKPdf 16 29 22.6 +1.5
TLL Tololo Astrono 148.23 78 ↑↑ *i*P PKPdf 16 29 23.7 +1.6
VNA2 Neumayer--Watz 148.96 197 *e*PKPdf PKPdf 16 29 22.3 -1.0
VNA2 *e* 16 29 26.3
VNA2 *e* 16 29 28.1
VNA2 *e* 16 29 29.7
VNA2 *e* 16 29 31.8
VNA2 *e* 16 29 37.9
VNA2 *e* 16 29 40.5
VNA2 *e* 16 29 42.7
VNA2 *e* 16 29 43.8
VNA2 *e* 16 29 45.5
VNA2 *e* 16 29 48.6
VNA2 *e* 16 29 52.0
VNA2 *e* 16 30 00.3
VNA3 Neumayer Olymp 149.17 195 *e*PKPdf PKPdf 16 29 22.6 -1.0
VNA3 *e* 16 29 26.5
VNA3 *e* 16 29 28.2
VNA3 *e* 16 29 30.6
VNA3 *e* 16 29 31.9
VNA3 *e* 16 29 36.2
VNA3 *e* 16 29 40.7
VNA3 *e* 16 29 44.0
VNA3 *e* 16 29 45.6
VNA3 *e* 16 29 47.7
VNA3 *e* 16 29 52.5
VNA3 *e* 16 30 00.8
VNA1 Neumayer--Stat 149.36 197 *e*PKPdf PKPdf 16 29 22.9 -1.0
VNA1 *e* 16 29 27.2
VNA1 *e* 16 29 29.2
VNA1 *e* 16 29 33.1
VNA1 *e* 16 29 39.3
VNA1 *e* 16 29 44.4
VNA1 *e* 16 29 46.6
VNA1 *e* 16 29 49.8
VNA1 *e* 16 29 54.2
VNA1 *e* 16 29 59.2
VNA1 Neumayer--Stat 149.36 197 *e*PKPdf PKPdf 16 29 22.9 -1.0
VNA1 *e* 16 29 27.2
VNA1 *e* 16 29 29.2
VNA1 *e* 16 29 33.1
VNA1 *e* 16 29 39.3
VNA1 *e* 16 29 44.4
VNA1 *e* 16 29 46.6
VNA1 *e* 16 29 49.8
VNA1 *e* 16 29 54.2
VNA1 *e* 16 29 59.2
BDFB Brasilia 150.31 28 PKPbc PKPbc 16 29 31.1 +0.5
comp=Z,24nm,0.8s,baz=281,slow=3.1,SNR=24
BDFB Brasilia 150.31 28 PKIKP PKPbc 16 29 31.1 +0.4
BDFB pmax pmax
comp=Z,24nm,0.8s
CPUP Villa Florida 154.90 56 PKPbc PKPbc 16 29 41.0 +0.1
comp=Z,0.6nm,0.4s,baz=273,slow=2.8,SNR=3.0
CPUP PKPab PKPab 16 29 56.7 +0.3
comp=Z,8.2nm,0.9s,baz=313,slow=3.7,SNR=9.6
CPUP Villa Florida 154.90 56 PKP2 PKPab 16 29 56.2 -0.2
CPUP Villa Florida 154.90 56 *e*PKPab PKPab 16 29 56.1 -0.3

IDC 11 16:17:30.5±8.0, 4922N×14857E, h500km±84km, mb3.1/6, mb1 3.2/6, mb1mx2.8/20, mbtmp3.9/6, Error ellipse: s-maj=72.9km s-min=17.2km az=79.0, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**14.75**	**215**	P		P	16 20 38.3	+0.3
	0.4nm,0.3s,baz=24,slow=9.3,SNR=5.2							
ZAL	**Zalesovo**	**38.72**	**302**	P		P	16 24 10.1	-0.8
	1.1nm,0.4s,baz=120,slow=6.7,SNR=3.3							
MKAR	**Makanchi Array**	**43.13**	**293**	P		P	16 24 46.4	+0.3
	1.5nm,0.9s,baz=70,slow=11,SNR=5.6							
ARCES	**ARCESS Array B**	**54.48**	**339**	P		P	16 26 10.3	-0.2
	1.8nm,0.8s,baz=10,slow=6.4,SNR=2.7							
FINES	**FINESS Array B**	**60.47**	**332**	P		P	16 26 50.5	-0.8
	0.5nm,0.4s,baz=36,slow=7.1,SNR=6.3							
WRA	**Warramunga Arr**	**70.00**	**194**	P		P	16 27 50.4	-1.0
	1.1nm,0.9s,baz=11,slow=6.2,SNR=6.8							
ASAR	**Alice Springs**	**73.72**	**194**	P		P	16 28 13.6	+0.6
	0.8nm,0.6s,baz=7.2,slow=5.1,SNR=21							

PRE 11 16:51:02.3±1.5, 2122S×3300E, h5km, ML3.5, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BFT	**Belfast (SA)**	**5.21**	**211**	*e*P		Pn	16 52 22.0	+1.2
BFT				*e*S		Sn	16 53 20.0	-1.3
BFT				AML		AML	16 53 42.0	
	comp=Z,14nm,0.4s							
POGA	**Pongola**	**6.25**	**191**	*e*P		Pn	16 52 34.6	-0.6
POGA				*e*S		Sn	16 53 44.0	-2.9
POGA				AML		AML	16 53 49.2	
	comp=Z,20nm,0.5s							
LBTB	**Lobatse**	**7.79**	**240**	*e*P		Pn	16 52 58.3	+2.0
LBTB				*e*S		Sn	16 54 21.0	-3.8
LBTB				AML		AML	16 54 32.0	
	comp=Z,7.7nm,0.6s							

IDC 11 16:55:28.2±1.4, 000S×12543E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.8/18, mbtmp3.9/6, ML3.5/1, Error ellipse: s-maj=117.5km s-min=19.2km az=65.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**17.99**	**179**	P		Pn	16 59 40.3	+0.7
	0.1nm,0.3s,baz=24,slow=11,SNR=8.7							
WRA	**Warramunga Arr**	**21.66**	**157**	P		P	17 00 21.0	+0.8
	0.9nm,0.6s,baz=334,slow=11,SNR=6.3							
ASAR	**Alice Springs**	**24.92**	**161**	P		P	17 00 53.5	+0.6
	2.1nm,0.9s,baz=337,slow=9.6,SNR=17							
STKA	**Stephens Creek**	**35.20**	**156**	P		P	17 02 23.5	-0.5
	2.7nm,0.6s,baz=337,slow=9.7,SNR=10.0							
MKAR	**Makanchi Array**	**59.91**	**327**	P		P	17 05 36.4	+0.5
	0.4nm,0.4s,baz=122,slow=8.4,SNR=7.6							
AKTO	**Aktyubinsk**	**75.78**	**322**	P		P	17 07 15.8	-0.2
	0.8nm,0.6s,baz=96,slow=9.2,SNR=4.5							

*STR **11** 16:55:29.2±6.5, 4382N×2094E, h10km±1km, Ml4.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*BJI **11** 16:55:34.9, 4400N×2020E, h10km, mB4.9, mb4.7, Ms4.9, Msz4.9*
*LDG **11** 16:55:34.2±0.1, 4406N×2024E, h10km, Ml4.6/2, Error ellipse: s-maj=2.3km s-min=1.6km az=38.0*
*CSEM **11** 16:55:34.5, 4404N×2023E, h10km, ML4.5*
*ISCJB **11** 16:55:35.5±0.3, 44022N±0010×20.14E±001, h13km±2km, mb4.4/39, MS4.0/6, Error ellipse: s-maj=1.7km s-min=1.4km az=68.1*
*PRU **11** 16:55:35.4, 4398N×20.10E, h0km, M4.4*
*MOS **11** 16:55:35.1±1.0, 4402N×2010E, h10km, mb4.6/18, MS3.7/14, Error ellipse: s-maj=3.1km s-min=2.2km az=115.6*
*PDG **11** 16:55:36.0±0.6, 4405N×2011E, h11km±1km*
*BEO **11** 16:55:36.6±0.5, 4402N×2015E, h10km±1km*
*THE **11** 16:55:36.4, 4422N×2016E, h30km, ML4.7*
*IDC **11** 16:55:36.4±0.8, 4405N×2007E, h0km, mb4.1/11, mb1 4.2/24, mb1mx4.2/31, mbtmp4.1/24, ML4.2/12, MS3.5/9, Ms1 3.5/9, ms1mx3.3/37, Error ellipse: s-maj=12.9km s-min=8.1km az=22.0*
*SZGRF **11** 16:55:36.9, 4403N×2035E, h10km, Northwestern Balkan Peninsula*
*SKO **11** 16:55:36.6, 4407N×20.15E, h6km*
*NEIC **11** 16:55:37.0±0.1, 4401N×2017E, h10km, mb4.4/18, ML3.9(BEO), ML4.0(SKO), ML4.2(BRA), ML4.4(PDG), ML4.6(BUC), Error ellipse: s-maj=1.7km s-min=1.3km az=216.0*
NEIC Felt [III] at Beograd. Also felt at Kragujevac and Novi Sad.
*IPEC **11** 16:55:38.6±0.2, 4402N×2012E, h22km±2km, ML4.1/1, Error ellipse: s-maj=1.5km s-min=0.8km az=54.0*

ISC 11 16:55:36.3±0.3, 44027N±0009×2016E±001, h3km±2km, h18km±2.9km: pP-P, n577, σ1§10/664, mb4.4/39, MS4.0/6, 45C-46D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DIVS	**Divcibare**	**0.14**	**300**	↑↑ *i*P	g	**Pg**	**16 55 39.3**	**+0.2**
DIVS						Sg	**16 55 41.6**	**+0.7**
BBLS	**Bajina Basta -**	**0.56**	**254**	*e*P	g	**Pg**	**16 55 47.6**	**+0.5**
BBLS						Sg	**16 55 55.2**	**+0.7**
SVIS	**Svilajnac**	**0.81**	**70**	↑↑ *i*P	g	**Pg**	**16 55 52.6**	**+0.7**
SVIS						Sg	**16 56 02.9**	**+0.5**

BEO Belgrade 0.82 15⇑*i*Pg Pg 16 55 52.3 +0.2
BEO Sg Sg 16 56 03.6 +0.8
BEO Belgrade 0.82 15 P Pg 16 55 50.6 -1.5
BEO Belgrade 0.82 15 Pg Pg 16 55 52.3 +0.2
BEO Sg Sg 16 56 03.6 +0.8
PLE Pljevlja 0.89 219⇑*i*Pg Pg 16 55 52.7 -0.7
PLE *e*Sg Sg 16 56 06.4 +1.4
IVA Berane 1.17 189⇓*i*Pg Pg 16 55 58.1 -0.7
IVA *e*Sg Sg 16 56 16.3 +2.3
UPM Unac-Piva 1.23 228⇓*i*Pg Pg 16 55 58.9 -0.9
UPM *e*Sg Sg 16 56 17.4 +1.6
BOLS Boljevac 1.31 98⇑*i*Pg Pg 16 56 02.0 +0.4
BOLS Sg Sg 16 56 18.8 +0.2
PVY Plav 1.44 185⇓*i*Pg Pg 16 56 02.6 -1.3
PVY *e*Sg Sg 16 56 24.8 +2.2
NKY Niksic 1.48 215⇓*i*Pg Pg 16 56 03.2 -1.5
NKY *e*Sg Sg 16 56 25.7 +1.8
BRY Bratogost 1.63 227⇑*i*Pn Pn 16 56 05.2 -0.7
BRY *e*Sn Sn 16 56 28.4 +1.0
BRY Bratogost 1.63 227⇑*i*Pn Pn 16 56 05.2 -0.7
BCI Bajram Curri 1.66 182 *i* Pn Pn 16 56 06.4 0.0
BCI *i* Sn Sn 16 56 31.5 +3.3
BCI Bajram Curri 1.66 182 *e*Pn Pn 16 56 06.4 0.0
TTG Podgorica 1.73 203⇓*i*Pn Pn 16 56 06.5 -0.7
TTG *e*Sn Sn 16 56 31.7 +1.9
DJES Djerdap 1.80 70 *e*Pn Pn 16 56 08.9 +0.6
DJES Sn Sn 16 56 34.3 +2.6
TREB Trebinje 1.86 226 P Pn 16 56 08.8 -0.3
TREB S Sn 16 56 35.1 +2.0
BZS Buzias 1.90 33⇓*i*P Pn 16 56 08.8 -0.8
BZS Buzias 1.90 33 S Sn 16 56 37.1 +3.0
BZS Buzias 1.90 33 P Pn 16 56 09.0 -0.6
BZS Buzias 1.90 33 ⇓P Pn 16 56 08.8 -0.8
BUM Brajici-Budva 1.96 209 *e*Pn Pn 16 56 10.4 -0.1
BUM *e*Sn Sn 16 56 37.5 +2.0
KKS Kukesi 1.96 175 *i* Pn Pn 16 56 10.7 +0.2
KKS Kukesi 1.96 175 *e*Pn Pn 16 56 10.7 +0.2
HCY Herceg Novi 1.99 218⇓*i*Pn Pn 16 56 11.5 +0.6
HCY *e*Sn Sn 16 56 37.7 +1.3
SDA Shkodra 2.03 194 *i* Pn Pn 16 56 12.7 +1.2
STON Ston 2.13 238⇓*i*Pn Pn 16 56 12.7 -0.1
STON *i* Sn Sn 16 56 42.1 +2.3
ULC Ulcinj 2.17 198⇓*i*Pn Pn 16 56 14.0 +0.6
ULC *e*Sn Sn 16 56 42.5 +1.8
SKO Skopje 2.26 155⇑*i*Pn Pn 16 56 14.6 0.0
SKO Skopje 2.26 155 P Pn 16 56 14.1 -0.5
RHK3 Tenkes 2.30 325⇑*e*P Pn 16 56 14.2 -1.0
PHP Peshkopia 2.35 175 *i* Pn Pn 16 56 16.2 +0.3
PHP *i* Sn Sg 16 56 51.2 -0.7
PKSM Moragy 2.44 334⇑*i*P Pn 16 56 16.0 -1.0
PKSM Moragy 2.44 334 P Pn 16 56 16.1 -0.9
PKSM Moragy 2.44 334⇑*e*P Pn 16 56 16.0 -1.0
PKSM *e*S Sg 16 56 53.6 -1.0
QSH Qafa e Shtames 2.51 184 *i* Pn Pn 16 56 21.4 +3.3
QSH *i* Sn Sg 16 56 55.4 -1.6
RHK1 Bakonya 2.54 325⇓*e*P Pn 16 56 17.6 -0.9
PKS6 Bocsa 2.61 351⇑*e*P Pn 16 56 19.2 -0.2
CRAR CRAIOVA 2.64 82⇓*i*P Pn 16 56 20.3 +0.5
CRAR CRAIOVA 2.64 82 P Pn 16 56 20.3 +0.5
CRAR S Sn 16 56 51.6 -0.7
VTS Vitosha 2.65 122⇑*i*P Pn 16 56 19.5 -0.4
VTS Vitosha 2.65 122 P Pn 16 56 19.8 -0.1
VTS Vitosha 2.65 122 ⇑P Pn 16 56 19.5 -0.4
TIR Tirane 2.69 185 P Pn 16 56 21.7 +1.2
PKSN Nyarlorinc 2.88 356⇓*e*P Pn 16 56 23.2 +0.1
PKS9 Tamasi 2.88 333⇑*e*P Pn 16 56 22.5 -0.7
OHR Ohrid 2.95 171 *i* Pn Pn 16 56 23.7 -0.4
OHR Ohrid 2.95 171 *i* Pn Pn 16 56 23.6 -0.5
PKS8 Sarbogard 3.04 340⇑*e*P Pn 16 56 24.7 -0.6
SISC Sisak 3.06 299 *e*Pn Pn 16 56 28.8 +3.1
SISC Sn Sg 16 57 12.9 -1.8
PKS7 Kunszentmiklos 3.10 347⇓*e*P Pn 16 56 25.8 -0.4
BIA Bitola 3.13 164 *i* Pn Pn 16 56 26.8 +0.3
VAY Valandovo 3.24 146⇑*i*Pn Pn 16 56 26.9 -1.2
VAY Valandovo 3.24 146⇑*i*Pn Pn 16 56 26.8 -1.2
DRGR 3.30 32⇓*i*P Pn 16 56 28.2 -0.7
DRGR 3.30 32 P Pn 16 56 29.3 +0.4
DRGR 3.30 32 ⇓P Pn 16 56 28.2 -0.7
FNA Florina 3.36 164 *e*Pn Pn 16 56 30.3 +0.5
comp=Z,18nm,0.7s
KBN Korca 3.43 172 *i* Pn Pn 16 56 32.4 +1.7
GRG Griva 3.49 151 *e*Pn Pn 16 56 31.5 0.0
KNT Kendrikon 3.50 144 *e*Pn Pn 16 56 31.3 -0.4
comp=Z,60nm,1.0s
BUD Budapest 3.55 347⇓*e*Pn Pn 16 56 31.9 -0.4
BUD *e*Sn Sn 16 57 16.0 +1.3
PKSG 3.59 340⇓*e*P Pn 16 56 32.4 -0.4
KOGS Kog 3.67 313 *e*Pn Pn 16 56 33.4 -0.6
MTUR Matau 3.70 69⇑*i*P Pn 16 56 35.5 +1.1
MTUR Matau 3.70 69 ⇑P Pn 16 56 35.5 +1.0
GCIS Gornji Cirnik 3.71 301 *e*Pn Pn 16 56 33.9 -0.6
VOIR 3.76 66⇓*i*P Pn 16 56 36.6 +1.4
ZIMR 3.78 94⇑*i*P Pn 16 56 35.5 -0.1
ZIMR 3.78 94 ⇑P Pn 16 56 35.5 -0.1
BAI Bari 3.79 221 *e*Pn Pn 16 56 34.5 -1.2
CRES Cresnjev 3.79 300 P Pn 16 56 35.6 -0.1
BOJS Bojanci 3.79 295 Sn Sg 16 57 33.5 -4.7
BOJS
comp=Z,2µm,1.5s
PE1 Pezze di Greco 3.80 213 *e*Pn Pn 16 56 34.7 -1.1
PENC Penc 3.81 351 *e*P Pn 16 56 35.7 -0.3
NVR Nevrokopi 3.82 133⇑*i*P Pn 16 56 35.9 -0.2
BRT Bari-Castellan 3.83 216 P Pn 16 56 35.5 -0.7
NVLJ Novalja 3.83 280 *i* Pn Pn 16 56 36.9 +0.6
NVLJ *i* Sn Sn 16 57 19.8 -2.1
NVLJ *i* Sg Sg 16 57 35.9 -3.6
NVLJ Novalja 3.83 280 *i* Pn Pn 16 56 36.8 +0.5
NVLJ *i* Sn Sn 16 57 19.7 -2.1
NVLJ *i* Sg Sg 16 57 35.9 -3.6
SRS Serrai 3.86 138 *e*Pn Pn 16 56 36.0 -0.6
FGMS Monte Sant'Ang 3.86 235 P Pn 16 56 35.8 -0.9
MS1 Monte Sant'Ang 3.87 235 *e*Pn Pn 16 56 35.8 -1.0
PSZ Piszkesteto 3.90 357⇑*e*Pn Pn 16 56 36.3 -0.8
PSZ *e*Sn Sn 16 57 23.6 +0.2
PSZ Piszkesteto 3.90 357⇑*i*P Pn 16 56 36.5 -0.6
KZN Kozani 3.91 162 *e*P Pn 16 56 38.0 -0.8
SRO2 Moca 3.93 342 *e*PN Pn 16 56 37.4 -0.2
SRO2 *e*SN Sn 16 57 26.1 +1.8
SRO1 Iza 3.97 341 *e*PN Pn 16 56 37.6 -0.5
SRO1 *e*SN Sn 16 57 24.8 -0.4
THE Thessaloniki 3.98 148 *e*Pn Pn 16 56 37.8 -0.5
comp=Z,5.5nm,0.7s
SOH Sokhos 3.98 142 *e*Pn Pn 16 56 37.9 -0.4
LCI Lecce 3.99 203 P Pn 16 56 37.4 -1.0
SRO Srobarova 4.00 342 *e*PN Pn 16 56 39.0 +0.5
SRO *e*SN Sn 16 57 28.6 +2.7
SRO Srobarova 4.00 342 *e*Pn Pn 16 56 38.9 +0.4
SRO *e*S Sn 16 57 28.6 +2.7
SG1 Sgolgore (BA) 4.10 220 *e*Pn Pn 16 56 38.7 -1.2
RGNG Rignano Grg 4.10 237 P Pn 16 56 40.4 +0.5
CDT Castel del Mon 4.11 226 *e*Pn Pn 16 56 39.2 -0.9
BUC1 Bucharest 4.23 84 P Pn 16 56 42.9 +1.2
FG2 Serracapriola 4.29 241 P Pn 16 56 44.4 +1.9
LIT Litokhoron 4.29 155 *e*Pn Pn 16 56 42.3 -0.2
comp=Z,5.5nm,0.6s
KEK Kerkira 4.32 184 *e*P Pn 16 56 43.8 +0.9
KEK Kerkira 4.32 184 *e*Pn Pn 16 56 42.7 -0.2
MLR Muntele Rosu 4.37 68 Pn Pn 16 56 45.5 +1.8
comp=Z,12nm,0.3s,baz=289,slow=3.9,SNR=75
MLR Lg 16 57 58.2
comp=Z,18nm,0.3s,baz=259,slow=17,SNR=5.0
MLR LR LR 16 58 18.6
comp=Z,452nm,19.9s,baz=302,slow=37
MLR Muntele Rosu 4.37 68⇓*i*P Pn 16 56 45.1 +1.4
PLG Polygyros 4.39 145⇑*i*P Pn 16 56 43.8 -0.1
JAN Janina 4.40 173⇓*i*P Pn 16 56 46.0 +2.0
PERS Pernice 4.41 308 *e*Pn Pn 16 56 43.4 -0.8
PERS Sn Sn 16 57 32.3 -3.8
PERS
comp=Z,323nm,0.5s
CEY Cerknica 4.42 295 P Pn 16 56 44.9 +0.6
CEY Cerknica 4.42 295 *e*Pn Pn 16 56 44.7 +0.4
CEY Cerknica 4.42 295 *e*Pg Pg 16 56 57.7 -3.3
SOP Sopron 4.44 327⇑*e*Pn Pn 16 56 43.7 -0.9
SOP *e*Sn Sn 16 57 36.6 -0.1
KECS Kecovo 4.46 3 *i* PN Pn 16 56 45.4 +0.5
KECS *e*SN Sn 16 57 36.6 -0.7
LJU Ljubljana 4.47 299 *e*Pn Pn 16 56 45.5 +0.5
LJU *e*Pg Pg 16 57 00.0 -2.0
LJU *e*Sn Sn 16 57 36.6 -1.0
LJU *e*Sg Sg 16 57 59.0 -1.0
LJU Ljubljana 4.47 299 P Pn 16 56 46.4 +1.4
LJU Ljubljana 4.47 299 *e*Pn Pn 16 56 45.4 +0.4
FG4 Candela 4.49 231 P Pn 16 56 45.0 -0.2
IGT Igoumenitsa 4.49 178 *e*Pn Pn 16 56 45.8 +0.5
FG5 Orsara di Pugl 4.53 234 P Pn 16 56 45.7 -0.1
CIGN Sant'Elia a Pi 4.53 240 P Pn 16 56 46.5 +0.6
ARSA Arzberg 4.58 316 *i* Pn Pn 16 56 46.0 -0.5
SNR=223
ARSA ⇑*i*Sn Sn 16 57 37.8 -2.4
ARSA Arzberg 4.58 316 P Pn 16 56 45.6 -0.9
ARSA Arzberg 4.58 316 *e*Pn Pn 16 56 46.0 -0.5
PTRP Pietrapertosa 4.64 222 P Pn 16 56 47.2 -0.1
OUR Ouranopolis 4.66 141 *e*Pn Pn 16 56 47.2 -0.4
comp=Z,23nm,0.3s
OBKA Obir 4.67 304 *i* Pn Pn 16 56 47.7 -0.1
SNR=31
OBKA ⇑*i*Sn Sn 16 57 40.6 -2.0
OBKA Obir 4.67 304 P Pn 16 56 46.6 -1.2
OBKA Obir 4.67 304 *e*Pn Pn 16 56 47.3 -0.5
ZST Bratislava 4.68 334 *e*PN Pn 16 56 47.7 -0.2
ZST *e*SN Sn 16 57 41.9 -0.8
ZST Bratislava 4.68 334 *e*Pn Pn 16 56 47.6 -0.3
ZST *e*S Sn 16 57 41.9 -0.8
MRLC Muro Lucano 4.76 228 P Pn 16 56 48.2 -0.8
AOI Ancona 4.77 267 P Pn 16 56 51.8 +2.7
UZH Uzhgorod 4.84 17 *e*P Pn 16 56 51.0 +1.0
UZH *e*S Sn 16 57 50.0 +3.5
UZH MLR MLR
comp=Z,2µm,2.0s
UZH Uzhgorod 4.84 17 *e*P Pn 16 56 51.0 +1.0
comp=Z,2µm,2.0s
UZH *e*S Sn 16 57 50.0 +3.5
PSB1 Pescosannita 4.84 236 P Pn 16 56 50.0 -0.1
TRI Trieste 4.85 293 P Pn 16 56 50.2 0.0
TRI Trieste 4.85 293 *e*Pn Pn 16 56 50.4 +0.2
PAIG Paliouri 4.87 146 *e*Pn Pn 16 56 50.0 -0.4
SMOL Smolenice 4.87 338 *e*PN Pn 16 56 50.2 -0.3
SMOL *e*SN Sn 16 57 45.1 -2.3
VOY Vojsko 4.87 296 *e*Pn Pn 16 56 50.8 +0.3
VOY *e*Pg Pg 16 57 05.8 -3.9
VOY *e*(Sn) Sn 16 57 45.0 -2.4
VOY *e*Sg Sg 16 58 06.5 -6.4
CII Carovilli 4.88 244 P Pn 16 56 51.3 +0.7
RDO Rodhopi 4.90 124 *e*P Pn 16 56 50.4 -0.6
RDO Rodhopi 4.90 124 P Pn 16 56 49.8 -1.2
RDO Rodhopi 4.90 124 *e*Pn Pn 16 56 50.4 -0.6
CSSN Cassano Irpino 4.94 232 P Pn 16 56 50.9 -0.6
JMB Yambol 4.95 106 P Pn 16 56 50.8 -0.7
SLCN Sala Consilina 4.95 224 P Pn 16 56 50.9 -0.7
MIDA Miranda 4.95 243 P Pn 16 56 51.8 +0.2
PLOR Plostina 4.96 66⇓*i*P Pn 16 56 52.3 +0.6
CRVS Cervenica-Dubn 4.96 10 *e*PN Pn 16 56 52.8 +1.1
TERO Teramo 4.98 256 P Pn 16 56 52.0 -0.1
RNI2 Rionero Sannit 4.99 244 P Pn 16 56 52.8 +0.7
SGO Sicignano 4.99 228 P Pn 16 56 51.5 -0.7
INTR Introdacqua 5.01 248 P Pn 16 56 51.5 -0.9
VKA Vienna 5.01 329 *i* Pn Pn 16 56 54.9 +2.5
SGG Gregorio Mates 5.01 240 P Pn 16 56 52.4 0.0
VRI Vrincioaia 5.01 66⇓*i*P Pn 16 56 53.5 +1.1
VRI Vrincioaia 5.01 66 P Pn 16 56 53.7 +1.3
VRI Vrincioaia 5.01 66 ⇓P Pn 16 56 53.5 +1.1
BURAR Bucovina Array 5.04 43⇑*i*P Pn 16 56 53.8 +1.0
BURAR Bucovina Array 5.04 43 ⇑P Pn 16 56 53.8 +1.0
LIKS Likavka 5.08 352 *e*PN Pn 16 56 54.6 +1.3
DRE Drenchia 5.09 297⇓*e*P Pn 16 56 55.0 +1.5
CING Cingoli 5.09 265 P Pn 16 56 53.7 +0.2
KOLS Kolonicke sedl 5.12 16 *e*PN Pn 16 56 54.8 +0.9
KOLS *e* 16 57 20.0
JAVC Velka Javorina 5.13 341 *e*Pn Pn 16 56 54.3 +0.2
CUC Castrocucco 5.17 220 P Pn 16 56 54.7 +0.1
MGR Morigerati 5.18 223 P Pn 16 56 53.9 -0.9
XOR Xorichti 5.18 153 *e*Pn Pn 16 56 54.3 -0.5
comp=Z,4.2nm,0.6s
SDI San Donato 5.21 246 P Pn 16 56 55.3 +0.1
AQU L'Aquila 5.22 254⇑*i*P Pn 16 56 55.6 +0.4
AQU L'Aquila 5.22 254 *e*Pn Pn 16 56 55.4 +0.1
AQU L'Aquila 5.22 254 *e*Pn Pn 16 56 55.4 +0.2
COLI Coloredo 5.24 296⇓*e*P Pn 16 56 57.0 +1.4
NEO Neokhori 5.25 153 *e*P Pn 16 56 55.1 -0.5
EVR Evrytania 5.25 166 *e*P Pn 16 56 57.4 +1.6
ARV Arcevia 5.25 267 P Pn 16 56 55.5 -0.3
AGG Agios Georgios 5.26 161 *e*Pn Pn 16 56 56.3 +0.5
comp=Z,3.5nm,0.5s
VVLD Villa Vallelon 5.26 248 P Pn 16 56 55.6 -0.2
NRCA Norcia 5.27 259 P Pn 16 56 54.3 -1.7
LSR Lussari 5.28 300⇑*e*P Pn 16 56 57.0 +0.8
SNTG Esanatoglia 5.30 264 P Pn 16 56 56.7 +0.4
EDRB Edirne 5.30 112 P Pn 16 56 55.6 -0.8
EDRB Edirne 5.30 112 ⇑P Pn 16 56 55.5 -1.2
RFI Rocamonfina 5.30 241 P Pn 16 56 57.2 +0.7
LKD Levkas 5.33 176 *e*Pn Pn 16 56 56.1 -0.6
ALN Alexandroupoli 5.36 124 *e*Pn Pn 16 56 57.0 -0.3
comp=Z,12nm,0.8s
ALN Alexandroupoli 5.36 124 P Pn 16 56 57.0 -0.3
ALN S Sb 16 58 18.9 +3.5
PTCC Patocco-Chiusa 5.36 299 P Pn 16 56 57.5 +0.2
GMNA Gemona 5.39 297 P Pn 16 56 59.1 +1.5
NIE Niedzica 5.39 1 *e*Pn Pn 16 56 59.3 +1.6
NIE *e*Sn Sn 16 58 04.1 +3.8
BUA Buia 5.44 296⇑*e*P Pn 16 57 00.0 +1.7
STHS Stebnicka Huta 5.44 7 *e*PN Pn 16 56 59.4 +1.0
FIAM Fiamignano 5.44 254 P Pn 16 56 59.3 +0.9
TIP Timpagrande 5.47 209 *e*Pn Pn 16 56 57.2 -1.6
TIP Timpagrande 5.47 209 *e*Pn Pn 16 56 57.2 -1.6
LOS Limnos 5.49 136 *e*Pn Pn 16 56 57.9 -1.2
GUAR Guarcino 5.50 248 P Pn 16 57 00.0 +0.8
MPRI Monte Prat 5.54 296⇓*e*P Pn 16 57 00.0 +0.4
PLRO Paularo 5.55 299⇓*e*P Pn 16 57 00.0 +0.1
RSM Repubblica di 5.56 272 P Pn 16 57 02.3 +2.3
AOS Alonnisos 5.60 149 *e*Pn Pn 16 56 60.0 -0.5
comp=Z,3.5nm,0.5s
HARR Harsova 5.61 81⇓*i*P Pn 16 57 00.9 +0.2
HARR Harsova 5.61 81 ⇓P Pn 16 57 00.9 +0.2
MOA Molln 5.61 315 *i* Pn Pn 16 57 00.8 +0.1
SNR=78
MOA ⇓*i*Sn Sn 16 58 04.1 -1.6
MOA Molln 5.61 315 P Pn 16 56 59.7 -1.0
MOA Molln 5.61 315 *e*Pn Pn 16 57 00.7 0.0
CERT Cerreto 5.66 251 P Pn 16 57 02.3 +1.0
ZOU Zoufplan 5.67 299⇓*i*P Pn 16 57 03.0 +1.6
KBA Koelnbreinsper 5.67 305⇓*i*Pn Pn 16 57 01.3 -0.2
SNR=13
KBA ⇑*i*Sn Sn 16 58 05.7 -1.5
KBA Koelnbreinsper 5.67 305 P Pn 16 57 00.6 -0.9
KBA Koelnbreinsper 5.67 305 *e*Pn Pn 16 57 01.2 -0.3
MNS Montasola 5.71 256 P Pn 16 57 02.0 0.0
MLNI Malnisio 5.75 294⇓*e*P Pn 16 57 04.0 +1.4
BADI Badiali 5.75 268 P Pn 16 57 05.3 +2.6
LKR Lokris 5.78 157 *e*P Pn 16 57 03.1 +0.1
MTCE Montecelio 5.79 252 P Pn 16 57 05.4 +2.2
FVI Forni Avoltri 5.80 299 P Pn 16 57 04.2 +0.9
CFR Carcaliu 5.81 76⇓*i*P Pn 16 57 04.2 +0.8
CFR Carcaliu 5.81 76 ⇓P Pn 16 57 04.2 +0.7
VRAC Vranov 5.82 336 Pn Pn 16 57 03.0 -0.6
comp=Z,3.2nm,0.3s,baz=150,slow=14,SNR=28
VRAC Sn Sn 16 58 08.7 -2.2
comp=Z,7.3nm,0.3s,baz=75,slow=13,SNR=4.9
VRAC Vranov 5.82 336⇓*i*P Pn 16 57 03.0 -0.6
VRAC Vranov 5.82 336 P Pn 16 57 03.1 -0.5
VLS Valsamata 5.85 177⇓*i*P Pn 16 57 02.7 -1.3
KWP Kalwaria 5.87 16 *e*Pn Pn 16 56 57.1 -7.2
KWP *e*Pg Pg 16 57 35.1 +6.3
GRI Girifalco 5.91 210 P Pn 16 57 03.9 -0.9
RDP Rocca di Papa 5.92 250 P Pn 16 57 05.0 +0.1
TIRR Tirgusor 5.95 83⇑*i*P Pn 16 57 05.1 -0.2
TIRR Tirgusor 5.95 83 *e*Pn Pn 16 57 03.4 -1.9
TIRR Tirgusor 5.95 83 P Pn 16 57 05.9 +0.6
OKC Ostrava-Krasne 5.97 347 *e*PN Pn 16 57 05.1 +0.4
OKC *e*SN Sn 16 58 09.7 -4.9
OKC AMS AMS 16 59 50.0
comp=Z,1µm,9.3s
OKC Ostrava-Krasne 5.97 347 *e*Pn Pn 16 57 06.1 +0.4
OKC *e*Sn Sn 16 58 09.7 -4.9
OKC Ostrava-Krasne 5.97 347 *e*P Pn 16 57 06.1 +0.4
comp=Z,1µm,9.3s
SFI Santa Sofia 6.00 272 P Pn 16 57 06.7 +0.7
MORC Moravsky Berou 6.02 344⇑*i*P Pn 16 57 05.2 -1.2
MORC Moravsky Berou 6.02 344 P Pn 16 57 05.5 -0.9
MORC Moravsky Berou 6.02 344 *e*Pn Pn 16 57 05.0 -1.4
RLS Riolos of Patr 6.04 170 *e*P Pn 16 57 06.8 +0.2
BOZC Bozcaada 6.07 132 *i* P Pn 16 57 04.9 -2.0
SART Tekirdag 6.18 120 *i* P Pn 16 57 08.1 -0.4
MFT Murefte 6.19 119 PN Pn 16 57 06.6 -2.0
OJC Ojcow 6.20 358 *e*P Pn 16 57 10.3 +1.5
OJC *e*S Sn 16 58 21.9 +1.7
VMG Vicchio 6.22 272 P Pn 16 57 11.3 +2.3
SEST Monte Rota 6.22 299 P Pn 16 57 10.5 +1.5
EZN Ezine 6.23 130 *e*PN Pn 16 57 08.6 -0.5
TOLF Tolfa 6.29 255 P Pn 16 57 09.7 -0.3
CTI Castel Tesino 6.36 291 P Pn 16 57 11.2 +0.3
LVV L'vov 6.37 23 *e*P Pn 16 57 21.5 +10
LVV MLR MLR
comp=N,140nm,8.0s
LVV MLR MLR
comp=E,280nm,8.0s
LVV MLR MLR
comp=Z,240nm,8.0s
CSNT Castellina Chi 6.45 268 P Pn 16 57 12.4 +0.2
MRMT Marmara Adasi 6.49 119 *e*PN Pn 16 57 10.6 -2.1
MRMT Marmara Adasi 6.49 119 P Pn 16 57 10.5 -2.2
BRES Bressanone 6.51 297 P Pn 16 57 14.0 +1.0
GEC2 GERESS Array S 6.57 319 *e*Pn Pn 16 57 13.8 0.0
GERES GERESS Array B 6.57 319 Pn Pn 16 57 13.6 -0.2
comp=Z,2.5nm,0.3s,baz=138,slow=14,SNR=76
GERES Sn Sn 16 58 29.5 +0.3
comp=Z,5.1nm,0.3s,baz=135,slow=23,SNR=5.7
GERES Lg 16 59 05.1
baz=102,slow=34,SNR=2.3
GERES LR LR 17 00 07.2
comp=Z,1µm,20.7s,baz=109,slow=42
GERES GERESS Array B 6.57 319 P Pn 16 57 13.6 -0.2
GERES 16 58 29.5
GERES pmax pmax
comp=Z,3.0nm,0.3s
GERES smax
comp=N,5.0nm,0.3s
GERES MLR MLR
comp=Z,1µm,20.7s
GERES GERESS Array B 6.57 319 P Pn 16 57 13.6 -0.2
comp=Z,3.0nm,0.3s
GERES S Sn 16 58 29.5 +0.3
comp=Z,1µm,20.7s
CEL Celeste 6.60 211 P Pn 16 57 13.9 -0.4
PRK Paraskevi 6.62 134⇑*i*P Pn 16 57 14.4 -0.1
SCLL Scilla 6.67 212 P Pn 16 57 15.5 +0.3
SOI Samo 6.71 209 P Pn 16 57 14.3 -1.4
CTT Catalca 6.75 112 *e*PN Pn 16 57 15.3 -1.0
CTT Catalca 6.75 112 P Pn 16 57 15.2 -1.1
ELBA Catalca 6.75 112 *i* P Pn 16 57 14.6 -1.7
APPI Appiano 6.76 294 P Pn 16 57 16.8 +0.3
KIS Kishinev 6.77 61 *e*P Pn 16 57 18.0 +1.4
KIS *e*S Sn 16 58 38.0 +3.8
KIS MLR MLR
comp=Z,900nm,6.0s
KIS MLR MLR
comp=Z,1µm,10.0s
KIS Kishinev 6.77 61 *e*P Pn 16 57 18.0 +1.4
comp=Z,900nm,6.0s
WTTA Wattenberg 6.79 301⇑*i*Pn Pn 16 57 17.6 +0.7
SNR=22
WTTA ⇑*i*Sn Sn 16 58 33.9 -0.9
WTTA Wattenberg 6.79 301 P Pn 16 57 17.5 +0.6
EDC Edincik 6.80 120 *e*PN Pn 16 57 16.6 -0.5
EDC Edincik 6.80 120 P Pn 16 57 16.5 -0.5
KHC Kasperske Hory 6.83 321 *e*PN Pn 16 57 17.4 0.0
KHC *e*x x 16 57 35.0
KHC *e*x x 16 58 45.5
KHC AMS AMS 17 00 10.0
comp=Z,2µm,10.4s
KHC Kasperske Hory 6.83 321 *e*Pn Pn 16 57 17.4 0.0
KHC *e* 16 57 35.0
KHC *e* 16 58 45.5
BNT Bandirma 6.83 120 *e*PN Pn 16 57 16.7 -0.7
BNT Bandirma 6.83 120 P Pn 16 57 16.7 -0.7
DPC Dobruska-Polom 6.84 339 *e*PN Pn 16 57 17.4 -0.2
DPC AMS AMS 17 00 20.0
comp=Z,1µm,16.6s
DPC Dobruska-Polom 6.84 339 *e*P Pn 16 57 17.4 -0.2
comp=Z,1µm,16.6s
WATA Walderalm 6.86 302 *i* Pn Pn 16 57 19.4 +1.5
SNR=19
WATA ⇓*i*Sn Sn 16 58 35.8 -0.7
WATA Walderalm 6.86 302 P Pn 16 57 19.3 +1.5
BDI Bagni Di Lucca 6.89 274 P Pn 16 57 20.6 +2.3
MTTG Motta San Giov 6.90 211 P Pn 16 57 17.6 -0.8
PII Pisa 6.97 271 P Pn 16 57 21.9 +2.6
ITM Ithomi 6.97 168 *e*P Pn 16 57 19.0 -0.4
ITM Ithomi 6.97 168 P Pn 16 57 18.9 -0.5
ITM Ithomi 6.97 168 *e*Pn Pn 16 57 19.3 -0.1
ERBM Eremo 7.01 277 P Pn 16 57 21.6 +1.7
VLC Villacollemand 7.04 274 *e*Pn Pn 16 57 16.3 -4.0
VLC Villacollemand 7.04 274 *e*Pn Pn 16 57 16.3 -4.0
SQTA Sankt Quirin 7.04 300⇓*i*Pn Pn 16 57 22.2 +1.9
SNR=21
SQTA ⇓*i*Sn Sn 16 58 40.5 -0.3
SQTA Sankt Quirin 7.04 300 P Pn 16 57 22.0 +1.7
UPC Upice 7.07 338 *e*PN Pn 16 57 20.9 +0.2
PRU Pruhonice 7.09 329 *e*PN Pn 16 57 19.7 -1.3
PRU *e*SN Sn 16 58 38.5 -3.6
PRU AMS AMS 17 00 40.0
comp=Z,1µm,8.0s
PRU Pruhonice 7.09 329 *e*Pn Pn 16 57 19.7 -1.3
PRU *e*Sn Sn 16 58 38.5 -3.6
PRU Pruhonice 7.09 329 *e*P Pn 16 57 19.7 -1.3
comp=Z,1µm,8.0s
KCT Karacabey 7.16 119 *e*PN Pn 16 57 20.7 -1.2
KCT Karacabey 7.16 119 P Pn 16 57 20.6 -1.3
MOTA Moosalm 7.16 301 *i* Pn Pn 16 57 23.1 +1.2
SNR=28
MOTA ⇓*i*Sn Sn 16 58 42.8 -0.9
WET Wettzell 7.16 318 *e*Pn Pn 16 57 21.6 -0.4
CHOS Chios island 7.17 140 *e*Pn Pn 16 57 22.4 +0.2
PRA Prague 7.20 329 PN Pn 16 57 22.0 -0.5
ISK Istanbul-Kandi 7.21 111 *e*PN Pn 16 57 21.2 -1.4
ISK Istanbul-Kandi 7.21 111 P Pn 16 57 21.1 -1.5
BALB Balikesir 7.24 125 *e*PN Pn 16 57 22.5 -0.6
BALB Balikesir 7.24 125 P Pn 16 57 22.4 -0.7
BTOK Tokmak 7.25 123 *i* P Pn 16 57 23.2 0.0
KSP Ksiaz 7.30 340 *e*Pn Pn 16 57 25.4 +1.5
KSP L 16 58 09.3
comp=Z,0.7nm,21.2s
KSP *e*Sn Sn 16 58 48.2 +0.8
KSP Ksiaz 7.30 340 *e*P Sn 16 57 25.1 +1.2
KSP *e* 16 58 45.9
BRMO Bormio 7.33 293 P Pn 16 57 26.2 +1.9
FUR Furstenfeldbru 7.43 307 *e*Pn Pn 16 57 25.4 -0.3
URLA Izmir 7.46 137 *i* P Pn 16 57 25.3 -0.7
GIB Gibilmanna 7.61 220 P Pn 16 57 29.0 +0.9
ORLT Orhaneli 7.62 118 *e*PN Pn 16 57 27.3 -1.0
ORLT Orhaneli 7.62 118 P Pn 16 57 27.2 -1.1
YLV Yalova 7.66 114 *e*PN Pn 16 57 27.5 -1.2
BOB Bobbio (Coli) 7.71 279 P Pn 16 57 28.6 -0.9
AKS Akhisar 7.71 129 *e*PN Pn 16 57 29.6 +0.1
DST Dursunbey 7.71 122 *e*PN Pn 16 57 28.8 -0.7
ULDT Uludag 7.72 117 *i* P Pn 16 57 27.4 -2.2
HRT Hereke 7.73 111 *e*PN Pn 16 57 28.9 -0.8
HRT Hereke 7.73 111 P Pn 16 57 29.1 -0.7
DAVOX Davos 7.74 294 Pn Pn 16 57 31.4 +1.5
comp=Z,2.3nm,0.3s,baz=129,slow=11,SNR=37
DAVOX Sn Sn 16 58 58.2 +0.1
comp=Z,1.5nm,0.3s,baz=324,slow=22,SNR=4.8
DAVOX LR LR 17 01 00.5
comp=Z,948nm,19.9s,baz=87,slow=42
DAVOX Davos 7.74 294 Pn Pn 16 57 31.4 +1.5
DAVOX Sn Sn 16 58 58.2 +0.1
DAVOX LR LR 17 01 00.5
KDAG Bornova 7.76 134 *i* P Pn 16 57 30.5 +0.3
IZM Izmir 7.76 134 *e*PN Pn 16 57 30.4 +0.2
IZM Izmir 7.76 134 P Pn 16 57 30.4 +0.2
IZI Iznik 7.84 115 *e*PN Pn 16 57 30.8 -0.5
IZI Iznik 7.84 115 P Pn 16 57 30.7 -0.5
VAE Valguarnera 7.86 216 Pn Pn 16 57 36.3 +4.7
comp=Z,1.7nm,0.3s,baz=63,slow=4.5,SNR=2.6
VAE LR LR 17 00 22.3
comp=Z,211nm,18.7s,baz=71,slow=36
DAVA Damuels 7.90 298⇑*i*Pn Pn 16 57 32.5 +0.4
SNR=21
DAVA ⇓*i*Sn Sn 16 59 00.8 -1.3
DAVA Damuels 7.90 298 P Pn 16 57 32.6 +0.4
ROTZ Rotzenmuhle 7.91 319 *e*Pn Pn 16 57 31.2 -1.0
TUE Stuetta 8.01 292 P Pn 16 57 34.3 +0.7
BRG Berggiesshubel 8.04 331 *e*Pn Pn 16 57 33.9 -0.1
BRG Berggiesshubel 8.04 331 PN Pn 16 57 32.6 -1.4

BRG PG Px 16 57 43.2
BRG *e* 16 59 00.1
comp=Z,29nm,0.9s
BRG
comp=N,449nm,7.4s
BRG
comp=E,435nm,8.2s
BRG
comp=Z,544nm,9.9s
BRG Berggiesshubel 8.04 331 P **Pn 16 57 32.7 -1.3**
BRG *e* 16 59 00.1
BRG pmax pmax
comp=Z,29nm,0.9s
BRG MLR MLR
comp=N,449nm,7.4s
BRG MLR MLR
comp=E,435nm,8.2s
BRG MLR MLR
comp=Z,544nm,9.9s
BRG Berggiesshubel 8.04 331 P **Pn 16 57 36.2 +2.2**
APE Apeiranthos 8.06 148 ⇓*i*P **Pn 16 57 34.4 +0.1**
APE Apeiranthos 8.06 148 ⇓P **Pn 16 57 34.4 +0.1**
APE Apeiranthos 8.06 148 *e*Pn **Pn 16 57 34.4 +0.1**
MANZ Manzenberg 8.11 320 *e*Pn **Pn 16 57 34.3 -0.7**
NKC Novy Kostel 8.13 322 *e*PN **Pn 16 57 34.2 -1.1**
NKC AMS AMS 17 01 00.0
comp=Z,2µm,10.0s
NKC Novy Kostel 8.13 322 *e*P **Pn 16 57 34.2 -1.1**
comp=Z,2µm,10.0s
HDH Heidenheim-Cha 8.26 307 P **Pn 16 57 36.6 -0.4**
PGF Pioggiola 8.28 264 *e*P **Pn 16 57 37.1 -0.2**
comp=Z,37nm,0.7s
PGF Pioggiola 8.28 264 *e*P **Pn 16 57 37.1 -0.2**
comp=Z,19nm,0.7s
CLTB Caltabellotta 8.32 222 P **Pn 16 57 40.1 +2.3**
GRA1 Grafenberg Arr 8.34 316 *e*Pn **Pn 16 57 37.4 -0.7**
GRF Grafenberg Arr 8.34 316 *e*Pn **Pn 16 57 37.4 -0.7**
WERD Werda 8.35 323 *e*Pn **Pn 16 57 37.3 -1.0**
GDZ Gediz 8.55 122 *i* P **Pn 16 57 40.0 -1.1**
HENT Hendek 8.56 108 *i* P **Pn 16 57 40.0 -1.2**
FIN Finale Ligure 8.60 275 P **Pn 16 57 40.2 -1.5**
SISB Singen-Schiene 8.63 299 P **Pn 16 57 42.3 +0.2**
AYDN Tasoluk 8.64 135 *i* P **Pn 16 57 52.3 +10**
SANT Santorini 8.65 150 P **Pn 16 57 42.8 +0.4**
GUT Gutenstein 8.68 302 P **Pn 16 57 42.2 -0.6**
BUCH Bad Urach 8.70 304 P **Pn 16 57 42.5 -0.5**
CLL Collm 8.73 329 *e*Pn **Pn 16 57 42.3 -1.3**
CLL Collm 8.73 329 *i* Pn **Pn 16 57 42.6 -1.0**
CLL *ex* x 16 57 47.0
CLL *e*Pg **Pg 16 58 30.0 +6.4**
CLL *e*Sn **Sn 16 59 10.0 -13**
CLL *ex* x 16 59 46.0
CLL *e*Sg **Sg 17 00 19.0 +2.3**
CLL Collm 8.73 329 *i* Pn **Pn 16 57 42.6 -1.0**
CLL *e*Pg **Pg 16 58 30.0 +6.4**
CLL *e*Sn **Sn 16 59 10.0 -13**
CLL *e*Sg **Sg 17 00 19.0 +2.3**
MOX Moxa 8.80 322 *e*PN **Pn 16 57 43.8 -0.6**
MOX
comp=Z,900nm,15.0s
BODT Bodrum 8.83 140 *e*PN **Pn 16 57 45.8 +0.9**
MLSB Milas 8.87 137 *e*PN **Pn 16 57 45.6 +0.2**
MLSB Milas 8.87 137 P **Pn 16 57 45.5 +0.1**
BDRM Kayabasi 8.89 139 *i* P **Pn 16 57 46.2 +0.5**
SPAK Spaichingen-Ko 8.89 301 P **Pn 16 57 44.9 -0.8**
STU Stuttgart 8.94 306 *e*Pn **Pn 16 57 47.6 +1.3**
MDU Mudurnu 8.94 110 *e*PN **Pn 16 57 46.1 -0.2**
ALT Altintas 8.96 120 *e*PN **Pn 16 57 46.3 -0.4**
SIND Sindeldorf 8.99 310 P **Pn 16 57 46.5 -0.6**
KHL Karahalli 9.07 126 *e*PN **Pn 16 57 48.0 -0.1**
KHL Karahalli 9.07 126 P **Pn 16 57 47.4 -0.8**
AKASG Malin Array Be 9.07 39 Pn **Pn 16 57 48.2 +0.1**
comp=Z,1.1nm,0.3s,baz=226,slow=13,SNR=14
AKASG Lg 17 00 25.5
comp=Z,1.0nm,0.3s,baz=224,slow=29,SNR=4.9
LBG Lerchenberg 9.12 305 P **Pn 16 57 50.0 +1.1**
ESKT Eskisehir 9.17 116 *i* P **Pn 16 57 48.0 -1.4**
SEYT Eskypehyr 9.17 116 *i* P **Pn 16 57 48.0 -1.5**
SBF Sospel 9.18 273 *e*P **Pn 16 57 47.9 -1.8**
comp=Z,57nm,0.8s
VSL Villasalto 9.24 244 *e*Pn **Pn 16 57 48.4 -2.1**
VSL *e*Sn **Sn 16 59 31.4 -3.5**
VSL Villasalto 9.24 244 *e*Pn **Pn 16 57 48.4 -2.1**
YER Yerkesik 9.25 135 *e*PN **Pn 16 57 50.0 -0.6**
BFO Black Forest 9.26 302 *e*Pn **Pn 16 57 50.3 -0.5**
BFO *e*Sn **Sn 16 59 29.4 -6.2**
DOI San Damiano 9.28 277 P **Pn 16 57 53.3 +2.3**
FELD Feldberg im Sc 9.30 299 P **Pn 16 57 50.8 -0.5**
KIZ Kirchzarten 9.38 299 P **Pn 16 57 52.6 +0.2**
IDI Anoyia 9.46 156 Pn **Pn 16 57 51.1 -2.4**
comp=Z,0.5nm,0.3s,baz=329,slow=13,SNR=5.3
RUE Ruedersdorf 9.46 336 *e*Pn **Pn 16 57 53.7 +0.1**
SGKT Sivrigoynuk 9.47 107 *i* P **Pn 16 57 54.3 +0.7**
BBS Basel-Blauen 9.49 296 P **Pn 16 57 53.8 -0.1**
TOD Tromm 9.57 310 P **Pn 16 57 54.5 -0.6**
MBDF Montbardon 9.62 279 *e*P **Pn 16 57 52.8 -2.8**
comp=Z,39nm,0.6s
SAFT Safranbolu 9.64 102 *e*PN **Pn 16 57 55.5 -0.6**
SAFT Safranbolu 9.64 102 P **Pn 16 57 55.4 -0.6**
LPG La Plagne 9.65 283 *e*P **Pn 16 57 57.8 +1.7**
comp=Z,88nm,0.8s
LPG *e*Sn **Sn 16 59 36.8 -8.3**
comp=Z,215nm,1.4s
LPG La Plagne 9.65 283 *e*P **Pn 16 57 57.8 +1.7**
comp=Z,44nm,0.8s
GVD Gavdhos 9.66 160 *e*Pn **Pn 16 57 48.3 -8.0**
GVD *e*Sn **Sn 16 59 32.5 -13**
GVD Gavdhos 9.66 160 *e*Pn **Pn 16 57 48.3 -8.0**
GVD *e*Sn **Sn 16 59 32.5 -13**
LPL La Plagne 9.67 284 *e*P **Pn 16 57 58.2 +1.9**
comp=Z,69nm,0.7s
LPL La Plagne 9.67 284 *e*P **Pn 16 57 58.2 +1.9**
comp=Z,34nm,0.7s
BNI Bardonecchia 9.68 281 *e*P **Pn 16 57 53.4 -3.2**
TKTP Tekketepe 9.73 124 *i* P **Pn 16 57 56.8 -0.4**
FRF La Foret Royal 9.79 272 *e*P **Pn 16 57 56.3 -1.7**
comp=Z,45nm,0.8s
MOF Molkenrain 9.85 297 P **Pn 16 57 58.3 -0.5**
LANF Langenberg 9.85 305 P **Pn 16 58 00.3 +1.5**
WLS Welschbruch 9.90 301 P **Pn 16 58 00.7 +1.2**
LOMF Lomont 9.90 294 P **Pn 16 57 59.9 +0.3**
LMR La Mourre 9.92 271 *e*P **Pn 16 58 00.1 +0.3**
comp=Z,29nm,0.9s
LMR *e*Sg Sn 17 00 44.9 +53
comp=Z,42nm,1.2s
LMR La Mourre 9.92 271 *e*P **Pn 16 58 00.1 +0.3**
comp=Z,15nm,0.9s
CDF Champ du Feu 9.95 301 *e*P **Pn 16 57 59.6 -0.6**
ECH Echery 9.95 299 P **Pn 16 57 59.2 -1.0**
ISP Isparta 9.97 125 P **Pn 16 57 59.8 -0.7**
ISP pmax pmax
comp=Z,16nm,0.7s
ISP Isparta 9.97 125 Pn **Pn 16 57 59.8 -0.7**
comp=Z,16nm,0.7s
HINF Hinteralfeld 10.02 297 *e*P **Pn 16 58 00.5 -0.6**
SIM Simferopol' 10.02 80 P **Pn 16 58 04.3 +3.1**
SIM *e*S **Sn 16 59 50.6 -3.5**
SIM pmax pmax
comp=Z,34nm,0.8s
BALT Daday 10.04 100 *i* P **Pn 16 58 01.8 +0.4**
FETY Fethiye 10.04 134 *e*PN **Pn 16 58 01.1 -0.4**
FETY Fethiye 10.04 134 P **Pn 16 58 01.0 -0.5**
TNS Taunus Mts 10.10 312 *e*Pn **Pn 16 58 02.0 -0.2**
TNS *e*Sn **Sn 16 59 48.2 -7.8**
KIZT Kizilcal 10.19 116 *e*PN **Pn 16 58 02.2 -1.2**
SUW Suwalki 10.19 10 Pn **Pn 16 57 53.9 -10**
CABF La Chapelle 10.24 290 *e*P **Pn 16 58 05.1 +0.9**
ORIF Oris-en-Rattie 10.25 280 *e*P **Pn 16 58 03.6 -0.7**
comp=Z,37nm,0.8s
ORIF Oris-en-Rattie 10.25 280 *e*P **Pn 16 58 03.6 -0.7**
ORIF pmax pmax
comp=Z,18nm,0.8s
ORIF Oris-en-Rattie 10.25 280 *e*P **Pn 16 58 03.6 -0.7**
comp=Z,18nm,0.8s
ANTO Ankara 10.29 109 *e*P **Pn 16 57 59.1 -5.7**
HAU Haudompre 10.40 297 *e*P **Pn 16 58 06.5 +0.2**
ABH Alteburg 10.42 309 P **Pn 16 58 05.7 -0.9**
SMRF Simiane la Rot 10.51 275 *e*P **Pn 16 58 08.5 +0.6**
comp=Z,20nm,0.9s
SMRF Simiane la Rot 10.51 275 *e*P **Pn 16 58 08.5 +0.6**
comp=Z,10nm,0.9s
RUP Ruppelstein 10.61 307 P **Pn 16 58 08.5 -0.7**
THEF They Montfort 10.69 298 P **Pn 16 58 09.8 -0.6**

BR131 Keskin Array S 10.93 109 P **Pn 16 58 10.8 -2.8**
BRTR Keskin Array B 10.93 109 Pn **Pn 16 58 13.9 +0.3**
comp=Z,0.4nm,0.3s,baz=294,slow=11,SNR=16
VIVF Saint-Julien-l 11.11 280 *e*P **Pn 16 58 14.2 -1.9**
comp=Z,14nm,0.7s
VIVF Saint-Julien-l 11.11 280 *e*P **Pn 16 58 14.2 -1.9**
VIVF pmax pmax
comp=Z,7.0nm,0.7s
VIVF Saint-Julien-l 11.11 280 *e*P **Pn 16 58 14.2 -1.9**
comp=Z,7.2nm,0.7s
WLF Walferdange 11.12 305 *e*Pn **Pn 16 58 17.2 +1.0**
WLF Walferdange 11.12 305 AP 16 58 17.0
WLF XP 16 58 20.2
WLF Walferdange 11.12 305 P **Pn 16 58 14.6 -1.6**
BOYT Boyabat 11.16 98 *i* P **Pn 16 58 19.1 +2.4**
CTKT Corum 11.35 102 *i* P **Pn 16 58 18.8 -0.6**
MEZF Maizieres J'vi 11.37 298 *e*P **Pn 16 58 20.8 +1.1**
MEM Membach 11.63 309 AP 16 58 24.2
MEM E 16 58 30.0
MEM Membach 11.63 309 P **Pn 16 58 24.1 +0.8**
LASF Ste Croix 11.74 276 *e*P **Pn 16 58 26.8 +2.1**
SMF Signal de Mont 11.78 289 *e*P **Pn 16 58 24.1 -1.2**
BSEG Bad Segeberg 11.82 330 *e*Pn **Pn 16 58 26.2 +0.3**
LOR Lormes 11.86 292 *e*P **Pn 16 58 25.3 -1.1**
PLDF La Plantade 11.87 285 P **Pn 16 58 25.8 -0.7**
BEBN Eben Emael 11.91 310 P **Pn 16 58 25.2 -1.8**
BEBN AP 16 58 28.2
BEBN XP 16 58 29.9
BEBN Eben Emael 11.91 310 P **Pn 16 58 28.1 +1.1**
SSF Saint Saulge 12.06 290 *e*P **Pn 16 58 27.8 -1.4**
GIVF Givet 12.09 306 *e*P **Pn 16 58 29.7 +0.3**
LBL Lubilhac 12.11 282 P **Pn 16 58 28.9 -0.9**
AVF Avril sur Loir 12.13 289 *e*P **Pn 16 58 29.2 -0.9**
AVNT Avonos 12.21 110 *i* P **Pn 16 58 26.8 -4.4**
DOU Dourbes 12.22 305 P **Pn 16 58 30.7 -0.6**
DOU AP 16 58 32.0
DOU XP 16 58 34.4
DOU Dourbes 12.22 305 P **Pn 16 58 30.6 -0.6**
BGF Bois d'Agland 12.45 288 *e*P **Pn 16 58 34.8 +0.3**
TCF Toulx Ste Croi 12.87 286 *e*P **Pn 16 58 40.6 +0.4**
MTLF Montolieu 13.01 273 *e*P **Pn 16 58 42.8 +0.7**
RJF Les Rejaudoux 13.34 282 *e*P **Pn 16 58 49.3 +2.8**
CSS Prodhromos 13.60 127 Pn **Pn 16 58 51.2 +1.1**
CSS Prodhromos 13.60 127 Pn **Pn 16 58 51.2 +1.1**
SOC Sochi 14.13 85 *e*P **Pn 16 58 57.1 -0.3**
SOC *e* 17 01 40.0
SOC pmax pmax
comp=Z,12nm,0.8s
SOC Sochi 14.13 85 *e*P **Pn 16 58 57.1 -0.3**
comp=Z,12nm,0.8s
MFF Saint Martin d 14.52 287 *e*P **Pn 16 59 02.8 +0.2**
LDF La Druitiere 14.73 295 *e*P **Pn 16 59 03.5 -2.1**
MALT Malatya 14.89 106 *e*P **Pn 16 59 14.5 +6.8**
MALT pmax pmax
comp=Z,9.0nm,0.8s
MALT Malatya 14.89 106 *e*P **Pn 16 59 14.5 +6.9**
comp=Z,9.2nm,0.8s
VOR Voronezh 14.89 52 *e*P **Pn 16 59 09.0 +1.3**
VOR pmax pmax
comp=Z,40nm,1.2s
VOR Voronezh 14.89 52 *e*P **Pn 16 59 09.0 +1.3**
comp=Z,40nm,1.2s
FLN La Foliniere 15.00 296 *e*P **Pn 16 59 09.2 0.0**
VSU Vasula 15.02 13 *e*P **Pn 16 59 11.4 +1.9**
GRR Gorron 15.18 294 *e*P **Pn 16 59 11.3 -0.3**
OBN Obninsk 15.33 38 *e*P **Pn 16 59 14.7 +1.1**
OBN *e*S **Sn 17 02 06.2 +2.3**
OBN pmax pmax
comp=Z,38nm,0.9s
OBN MLR MLR
comp=Z,300nm,18.0s
OBN Obninsk 15.33 38 *e*P **Pn 16 59 14.7 +1.1**
comp=Z,38nm,0.9s
MOS Moscow 16.19 37 *e*P **Pn 16 59 25.7 +0.9**
MMAI Mount Meron Ar 16.20 128 Pn **Pn 16 59 28.1 +3.3**
comp=Z,0.6nm,0.3s,baz=335,slow=9.2,SNR=12
KIV Kislovodsk 16.21 82 *e*P **Pn 16 59 26.1 +1.0**
KIV *e*S **Sn 17 02 27.2 +1.9**
KIV pmax pmax
comp=Z,20nm,1.0s
KIV MLR MLR
comp=Z,209nm,15.0s
KIV Kislovodsk 16.21 82 P **Pn 16 59 21.0 -4.1**
comp=Z,24nm,1.1s
KIV Kislovodsk 16.21 82 *e*P **Pn 16 59 26.1 +1.0**
comp=Z,20nm,1.0s
GOF Gofitskoye 16.34 78 *e*P **Pn 16 59 25.0 -1.7**
HFS Hagfors 16.60 349 Pn **Pn 16 59 30.9 +0.8**
comp=Z,0.5nm,0.3s,baz=150,slow=12,SNR=11
HFS LR LR 17 06 50.8
comp=Z,147nm,20.6s,baz=163,slow=41
HFS Hagfors 16.60 349 P **Pn 16 59 30.9 +0.9**
HFS pmax pmax
comp=Z,1.0nm,0.3s
HFS MLR MLR
comp=Z,147nm,20.6s
QUIF Quistinic 16.66 292 *e*P **Pn 16 59 26.5 -4.3**
ZEI Tsey 17.29 86 *e*P **Pn 16 59 33.0 -5.7**
ASF Jabal al Asfar 17.67 126 P **Pn 16 59 46.7 +3.2**
comp=Z,0.3nm,0.3s,baz=217,slow=4.6,SNR=3.9
ASF LR LR 17 07 22.4
comp=Z,111nm,19.0s,baz=206,slow=40
ASF Jabal al Asfar 17.67 126 P **Pn 16 59 46.7 +3.2**
ASF LR LR 17 07 22.4
FINES FINESS Array B 17.80 9 P **Pn 16 59 44.8 -0.2**
comp=Z,0.9nm,0.3s,baz=180,slow=13,SNR=20
FINES FINESS Array B 17.80 9 P **Pn 16 59 44.8 -0.2**
FINES pmax pmax
comp=Z,1.0nm,0.3s
NB2 NORSAR Subarra 17.86 346 P **Pn 16 59 44.5 -1.3**
comp=Z,2.9nm,0.7s,baz=158,slow=11
NOA NORSAR Array B 17.86 346 P **Pn 16 59 45.0 -0.8**
comp=Z,0.4nm,0.3s,baz=162,slow=11,SNR=10
NOA LR LR 17 06 18.2
comp=Z,75nm,21.8s,baz=170,slow=36
ESDC Sonseca Array 18.47 265 P **Pn 16 59 52.9 -0.4**
comp=Z,0.8nm,0.3s,baz=66,slow=11,SNR=7.1
ESLA Sonseca Array 18.47 265 Pn **Pn 16 59 53.0 -0.2**
ESLA Sonseca Array 18.47 265 Pn **Pn 16 59 53.0 -0.3**
KAF Kangasniemi 18.47 9 *e*p **Pn 16 59 49.3 -4.1**
comp=Z,10.0nm,1.0s
KAF Kangasniemi 18.47 9 *e*P **Pn 16 59 49.3 -4.1**
KAF pmax pmax
comp=Z,10.0nm,1.0s
EIL Elat 18.54 136 *e*P **Pn 16 59 55.9 +1.7**
comp=Z,132nm,0.7s
GNI Garni 18.63 93 P **Pn 16 59 57.5 +2.3**
comp=Z,0.4nm,0.3s,baz=57,slow=11,SNR=5.4
GNI Garni 18.63 93 *c i*P **Pn 16 59 57.3 +2.0**
GNI pmax pmax
comp=Z,8.0nm,0.7s
GNI Garni 18.63 93 *e*P **Pn 16 59 54.8 -0.5**
comp=Z,27nm,1.2s
GNI Garni 18.63 93 *e*P **Pn 16 59 54.8 -0.5**
comp=Z,27nm,1.2s
EKA Eskdalemuir Ar 18.76 315 P **Pn 16 59 56.9 0.0**
comp=Z,0.3nm,0.3s,baz=112,slow=11,SNR=38
EKA Eskdalemuir Ar 18.76 315 P **Pn 16 59 56.8 0.0**
ESK Eskdalemuir 18.77 315 *e*P **Pn 16 59 56.5 -0.5**
ESK pmax pmax
comp=Z,13nm,1.0s
ESK Eskdalemuir 18.77 315 *e*P **Pn 16 59 56.5 -0.5**
comp=Z,13nm,1.0s
ESK Eskdalemuir 18.77 315 *e*P **Pn 16 59 56.5 -0.5**
comp=Z,13nm,1.0s
PECR Pechory 19.52 43 *e*P **Pn 16 59 57.2 -8.9**
KLMR Klimovskoe 20.43 28 *e*P **P 17 00 15.8 +1.0**
KLMR pmax pmax
comp=Z,50nm,1.1s
KLMR Klimovskoe 20.43 28 *e*P **P 17 00 15.8 +1.0**
comp=Z,50nm,1.1s
MTE Manteigas 20.80 270 *e*P **P 17 00 18.2 -0.5**
comp=Z,12nm,0.9s
MTE Manteigas 20.80 270 *e*P **P 17 00 18.2 -0.5**
comp=Z,12nm,0.9s
MDT Midelt 22.32 248 LR LR 17 08 37.9
comp=Z,160nm,20.0s,MS3.4,baz=148,slow=35
ORR Orenburg 24.26 59 *e*P **P 17 00 55.9 +1.3**
ORR pmax pmax
comp=Z,20nm,0.9s,mb4.5
APA Apatity 24.63 12 *e*P **P 17 01 00.0 +2.0**
APA *i* 17 01 08.7
APA pmax pmax
comp=Z,29nm,1.2s,mb4.7

APA MLR MLR
comp=Z,500nm,14.0s,MS4.2
ARCES ARCESS Array B 25.72 4 P **P 17 01 09.1 +1.2**
comp=Z,4.5nm,0.9s,mb4.0,baz=180,slow=9.9,SNR=7.4
ARCES LR LR 17 10 44.7
comp=Z,136nm,18.6s,MS3.5,baz=8.1,slow=35
ARCES ARCESS Array B 25.72 4 P **P 17 01 09.1 +1.2**
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES MLR MLR
comp=Z,136nm,18.6s
ARCES ARCESS Array B 25.72 4 P **P 17 01 09.1 +1.2**
ARCES LR LR 17 10 44.7
MIB Mutribah 25.81 114 *e*P **P 17 01 08.0 -0.8**
MIB AMb AMB 17 01 10.0
comp=Z,118nm,0.7s,mb5.5
MIB Mutribah 25.81 114 *e*P **P 17 01 08.6 -0.1**
NAY Al-Naaiem 26.11 115 *e*P **P 17 01 09.1 -2.3**
NAY AMb AMB 17 01 13.9
comp=Z,18nm,0.9s,mb4.6
NAY Al-Naaiem 26.11 115 *e*P **P 17 01 10.3 -1.1**
UMR Umm Al-Rimmam 26.22 114 *e*P **P 17 01 10.1 -2.3**
UMR AMb AMB 17 01 18.4
comp=Z,35nm,0.9s,mb4.9
AKTK Aktyubinsk 26.28 62 P **P 17 01 13.3 +0.4**
AKTO Aktyubinsk 26.28 62 P **P 17 01 13.3 +0.4**
comp=Z,2.1nm,0.8s,mb3.7,baz=273,slow=8.0,SNR=8.2
AKTO Aktyubinsk 26.28 62 P **P 17 01 13.3 +0.4**
AKTO pmax pmax
comp=Z,2.0nm,0.8s,mb3.7
ARU Arti 27.14 49 ⇓*i*P **P 17 01 21.5 +0.8**
ARU *e* 17 02 05.8
ARU *e* 17 04 41.4
ARU *e*S **S 17 06 00.8 +1.1**
ARU *e*SS 17 07 10.1
ARU pmax pmax
comp=Z,14nm,1.0s,mb4.5
ARU Arti 27.14 49 *e*P **P 17 01 19.6 -1.0**
comp=Z,13nm,1.0s,mb4.4
ZRNK Zerenda 33.00 57 *e*P **P 17 02 11.2 -1.4**
ZRNK pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
ZRNK Zerenda 33.00 57 *e*P **P 17 02 11.2 -1.4**
comp=Z,1.8nm,0.7s,mb4.1
BRVK Borovoye 33.76 56 *e*P **P 17 02 17.2 -2.1**
BRVK pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BRVK Borovoye 33.76 56 *e*P **P 17 02 17.2 -2.1**
comp=Z,4.3nm,0.7s,mb4.5
TORD Torodi Ar. Bea 34.61 213 P **P 17 02 26.9 +0.3**
comp=Z,2.3nm,0.6s,mb4.3,baz=15,slow=9.3,SNR=16
AAK Ala-Archa 38.95 73 *e*P **P 17 03 03.9 +0.4**
AAK pmax pmax
comp=Z,13nm,1.9s,mb4.3
AAK Ala-Archa 38.95 73 *e*P **P 17 03 03.4 -0.2**
comp=Z,7.7nm,1.1s,mb4.3
KURK Kurchatov 39.24 59 *e*P **P 17 03 02.9 -3.1**
KURK *e* 17 04 34.3
KURK pmax pmax
comp=Z,6.0nm,1.1s,mb4.2
KURK Kurchatov 39.24 59 *e*P **P 17 03 02.9 -3.1**
comp=Z,6.3nm,1.1s,mb4.3
KURK *e*PP PP 17 04 34.3 -1.6
NVS Novosibirsk 41.07 52 *e*P **P 17 03 21.9 +0.7**
NVS pmax pmax
comp=E,6.0nm,1.4s
NVS pmax pmax
comp=Z,22nm,1.4s,mb4.6
ZAL Zalesovo 42.16 53 P **P 17 03 29.9 -0.2**
comp=Z,1.4nm,0.6s,mb3.8,baz=190,slow=8.3,SNR=8.9
ZAL Zalesovo 42.16 53 P **P 17 03 29.9 -0.2**
ZAL pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 42.70 64 P **P 17 03 34.5 0.0**
comp=Z,1.4nm,0.5s,mb4.0,baz=275,slow=8.1,SNR=15
MKAR Makanchi Array 42.70 64 P **P 17 03 34.5 0.0**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
WMQ Urumqi 47.36 65 ⇑P **P 17 04 12.4 +0.8**
WMQ AP pP 17 04 16.9 +4.4
WMQ XP sP 17 04 19.4 +6.6
WMQ PCP PcP 17 05 42.9 +0.5
WMQ PP PP 17 06 03.1 +0.4
WMQ S **S 17 11 04.9 -1.2**
WMQ XS sS 17 11 12.5 +4.9
WMQ AMB AMB
comp=Z,6.0nm,0.5s,mb4.8
WMQ AMB AMB
comp=Z,52nm,4.2s
KOLN Koldanda 52.64 86 *e*P **P 17 04 51.4 -0.3**
GKN Gorkha 53.25 85 *e*P **P 17 04 55.1 -1.1**
TLY Talaya 53.64 50 *e*P **P 17 04 58.8 -0.2**
TLY pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
TLY MLR MLR
comp=Z,246nm,15.0s,MS4.4
TLY Talaya 53.64 50 *e*P **P 17 04 57.5 -1.5**
comp=Z,3.3nm,0.9s,mb4.3
KKN Kakani 53.84 85 *e*P **P 17 04 59.9 -0.6**
PKI Pulchoki 54.06 85 *e*P **P 17 05 02.8 +0.7**
SCHQ Schefferville 54.07 314 P **P 17 05 01.1 -1.1**
comp=Z,2.0nm,0.7s,mb4.2,baz=61,slow=3.4,SNR=4.2
GUN Gumba 54.20 84 *e*P **P 17 05 02.7 -0.5**
TIXI Tiksi 54.29 22 *e*P **P 17 05 09.2 +5.3**
TIXI pmax pmax
comp=Z,1.0nm,1.1s,mb3.7
TIXI MLR MLR
comp=Z,130nm,14.0s,MS4.2
JIRN Jiri 54.57 84 *e*P **P 17 05 06.0 +0.2**
comp=Z,15nm,0.8s,mb5.1
LSA Lhasa 56.92 79 *e*P **P 17 05 27.0 +4.3**
LSA Lhasa 56.92 79 P **P 17 05 21.2 -1.5**
LSA pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
LSA Lhasa 56.92 79 P **P 17 05 21.2 -1.5**
comp=Z,6.0nm,0.7s,mb4.7
SONM Songino Array 57.06 53 P **P 17 05 23.8 0.0**
comp=Z,2.1nm,0.8s,mb4.2,baz=293,slow=8.0,SNR=5.6
SONM Songino Array 57.06 53 P **P 17 05 23.8 0.0**
SONM pmax pmax
comp=Z,2.0nm,0.8s
LSZ Lusaka 59.47 171 *e*P **P 17 05 41.1 +0.5**
LSZ pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
LSZ Lusaka 59.47 171 *e*P **P 17 05 41.1 +0.5**
comp=Z,4.5nm,1.0s,mb4.5
YAK Yakutsk 60.19 31 *e*P **P 17 05 45.6 +0.1**
YAK pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
HHC Hu-ho-hao-te 64.03 58 *e*P **P 17 06 07.9 -3.4**
HHC AP pP 17 06 15.0 +2.7
HHC AMB AMB
comp=Z,13nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,88nm,5.3s
HHC LR LR
comp=N,99nm,15.6s,MS4.3
HHC LR LR
comp=E,125nm,15.5s,MS4.3
HHC LR LR
comp=Z,74nm,15.7s,MS4.0
CD2 Chengdu 64.97 71 *e*P **P 17 06 14.4 -3.1**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
YKA Yellowknife Ar 67.82 339 P **P 17 06 35.1 -0.6**
comp=Z,1.4nm,0.7s,mb4.1,baz=35,slow=5.6,SNR=21
YKA Yellowknife Ar 67.82 339 ⇑*e*P **P 17 06 35.2 -0.5**
KMI Kunming 67.86 76 P **P 17 06 35.9 -0.1**
KMI AMB AMB
comp=Z,6.0nm,1.0s,mb4.6
LBTB Lobatse 68.88 175 *e*P **P 17 06 43.1 +0.7**
LBTB pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
LBTB Lobatse 68.88 175 *e*P **P 17 06 43.1 +0.8**
comp=Z,4.1nm,0.8s,mb4.4
CN2 Changchun 70.13 48 *e*P **P 17 06 50.0 -0.1**
CN2 *e*XP sP 17 06 57.0 +5.7
CN2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
CN2 AMB AMB
comp=Z,200nm,3.0s
ULM Lac du Bonnet 70.87 322 P **P 17 06 55.3 +0.7**
comp=Z,2.7nm,0.8s,mb4.2,baz=26,slow=2.0,SNR=2.8
ILAR Eielson Array 71.07 354 P **P 17 06 56.0 +0.2**
comp=Z,0.3nm,0.6s,mb3.4,baz=3.6,slow=6.6,SNR=4.8

MDJ	**Mudanjiang**	**71.74**	**45**	P	**P**	**17 06 55.9**	**-4.0**
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,72nm,4.1s						
NJ2	**Nanjing**	**74.15**	**61**	*e*P	**P**	**17 07 14.1**	**0.0**
NJ2				AP	pP	17 07 18.0	+2.9
NJ2				XP	sP	17 07 21.4	+6.0
NJ2				PP	PP	17 10 02.1	+2.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,60nm,5.0s						
NJ2				LR	LR		
	comp=N,1μm,15.4s						
NJ2				LR	LR		
	comp=E,3μm,16.7s						
NJ2				LR	LR		
	comp=Z,2μm,16.2s						
YSS	**Yuzh-Sakhalins**	**76.21**	**36**	P	**P**	**17 07 27.7**	**+1.7**
LAO	**LASA Array**	**78.01**	**325**	*e*P	**P**	**17 07 36.7**	**+0.6**
	comp=Z,14nm,1.2s,mb4.8						
EGMT	**Eagleton**	**78.31**	**328**	*e*P	**P**	**17 07 38.4**	**+0.6**
	comp=Z,8.1nm,1.0s,mb4.6						
PDAR	**Pinedale Array**	**82.58**	**325**	P	**P**	**17 08 01.2**	**+0.4**
	comp=Z,1.4nm,1.0s,mb4.0,baz=39,slow=5.7,SNR=6.8						
WMOK	**Wichita Mounta**	**83.95**	**314**	P	**P**	**17 08 06.5**	**-1.3**
WMOK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6						
WMOK	**Wichita Mounta**	**83.95**	**314**	P	**P**	**17 08 06.5**	**-1.3**
	comp=Z,5.0nm,1.0s,mb4.6						

*BJI **11** 17:03:52.6,5.63S×102.96E,h48km,mB5.1,mb4.8,Ms4.9, Msz4.7*
*MOS **11** 17:03:57.2±0.9,4.71S×103.17E,h33km,mb4.9/21,Error ellipse: s-maj=12.9km s-min=8.0km az=112.5*
*NEIC **11** 17:04:00.3±1.1,4.84S×103.07E,h48km±10km,mb4.7/27, Error ellipse: s-maj=8.5km s-min=5.6km az=54.0*
*ISCJB **11** 17:04:02.0±1.4,4.81S±006×103.13E±006,h76km±12km, mb4.7/63,Error ellipse: s-maj=11.8km s-min=6.6km az=96.3*
*IDC **11** 17:04:04.8±2.9,4.70S×103.26E,h83km±25km,mb4.3/20, mb1 4.4/20,mb1mx4.4/22,mbtmp4.6/20,MS3.3/2, Ms1 3.3/2,ms1mx2.7/20,Error ellipse: s-maj=22.0km s-min=8.8km az=45.0*

ISC 11 17:04:04.7±1.2,4825±006×10313E±006,h83km±10km, h57km±6.4km:pP-P,n112,σ0§97/110,mb4.7/63,7C-2D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGM	**Kluang**	**6.79**	**2**	P	**Pn**	**17 05 42.6**	**+0.9**
PSI	**Prapat**	**8.66**	**331**	LR	LR	17 09 47.5	
	comp=Z,180nm,19.5s,baz=165,slow=40						
IPM	**Ipoh**	**9.47**	**347**	P	**Pn**	**17 06 22.3**	**+4.1**
KSM	**Kuching**	**9.51**	**49**	*e*Pn	**Pn**	**17 06 20.1**	**+1.4**
COCO	**West Island**	**9.61**	**220**	*e*P	**Pn**	**17 06 13.6**	**-6.5**
	132nm,0.4s						
KULM	**Kulim**	**10.34**	**346**	*e*Pn	**Pn**	**17 06 28.6**	**-1.5**
MBWA	**Marble Bar**	**22.88**	**137**	P	**P**	**17 09 00.1**	**-1.1**
	8.1nm,0.8s,mb4.1						
PALK	**Pallekele**	**25.40**	**298**	P	**P**	**17 09 22.4**	**-1.9**
	20nm,1.4s,mb4.3						
FITZ	**Fitzroy Crossi**	**25.66**	**123**	⇑*i*P	**P**	**17 09 26.5**	**-0.1**
	14nm,0.4s,mb4.7						
FITZ	**Fitzroy Crossi**	**25.66**	**123**	P	**P**	**17 09 26.9**	**+0.3**
	8.9nm,0.5s,mb4.5,baz=315,slow=7.4,SNR=100						
FITZ				PcP	PcP	17 12 56.9	+1.8
	1.8nm,0.7s,baz=35,slow=3.0,SNR=4.5						
FITZ				LR	LR	17 17 54.4	
	comp=Z,40nm,20.4s,baz=273,slow=32						
KMI	**Kunming**	**29.77**	**359**	P	**P**	**17 10 05.3**	**+2.0**
KMI				AP	pP	17 10 22.5	+0.1
KMI				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.3						
NWAO	**Narrogin (SRO)**	**30.91**	**156**	P	**P**	**17 10 14.1**	**+0.7**
	comp=Z,5.4nm,1.0s,mb4.2,baz=11,slow=16,SNR=2.7						
NWAO				LR	LR	17 22 30.8	
	comp=Z,59nm,19.7s,baz=210,slow=36						
WRA	**Warramunga Ar**	**33.89**	**119**	P	**P**	**17 10 39.5**	**+0.1**
	comp=Z,8.6nm,0.6s,mb4.8,baz=298,slow=9.1,SNR=19						
WRA				PcP	PcP	17 13 17.4	+1.1
	comp=Z,2.0nm,0.6s,baz=302,slow=2.1,SNR=6.8						
WRA				S	**S**	**17 15 58.5**	**+0.7**
	comp=Z,1.0nm,1.0s,baz=288,slow=21,SNR=4.0						
WRAB	**Tennant Creek**	**33.89**	**119**	*e*P	**P**	**17 10 39.1**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.9						
WRAB	**Tennant Creek**	**33.89**	**119**	*e*P	**P**	**17 10 39.1**	**-0.3**
	comp=Z,12nm,0.6s,mb4.9						
WB2	**Warramunga Arr**	**33.90**	**119**	⇑*i*P	**P**	**17 10 39.5**	**0.0**
ASAR	**Alice Springs**	**35.08**	**125**	P	**P**	**17 10 50.4**	**+0.7**
	comp=Z,5.1nm,0.4s,mb4.7,baz=306,slow=8.2,SNR=268						
ASAR				PcP	PcP	17 13 21.1	+1.4
	comp=Z,2.4nm,0.6s,baz=298,slow=2.3,SNR=13						
ASAR				S	**S**	**17 16 16.4**	**+0.3**
	comp=Z,0.6nm,0.9s,baz=312,slow=13,SNR=4.5						
CD2	**Chengdu**	**35.53**	**1**	*e*P	**P**	**17 10 53.5**	**-0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
JIRN	**Jiri**	**36.20**	**334**	*e*P	**P**	**17 10 59.3**	**+0.1**
	comp=Z,27nm,0.7s,mb5.3						
LSA	**Lhasa**	**36.20**	**342**	*e*P	**P**	**17 10 59.1**	**-0.1**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
LSA	**Lhasa**	**36.20**	**342**	*e*P	**P**	**17 10 59.1**	**-0.1**
	comp=Z,6.4nm,0.8s,mb4.6						
PKI	**Pulchoki**	**36.47**	**333**	*e*P	**P**	**17 11 01.6**	**+0.1**
	comp=Z,12nm,0.7s,mb5.0						
GUN	**Gumba**	**36.55**	**334**	*e*P	**P**	**17 11 02.1**	**-0.1**
	comp=Z,43nm,0.6s,mb5.6						
DMN	**Daman**	**36.64**	**333**	*e*P	**P**	**17 11 03.2**	**+0.2**
	comp=Z,27nm,0.9s,mb5.2						
KKN	**Kakani**	**36.71**	**333**	*e*P	**P**	**17 11 03.4**	**-0.2**
	comp=Z,24nm,0.7s,mb5.3						
GKN	**Gorkha**	**37.19**	**332**	*e*P	**P**	**17 11 07.7**	**0.0**
	comp=Z,21nm,0.6s,mb5.2						
KOLN	**Koldanda**	**37.48**	**331**	*e*P	**P**	**17 11 10.3**	**+0.1**
	comp=Z,48nm,0.7s,mb5.5						
NJ2	**Nanjing**	**39.60**	**21**	*e*P	**P**	**17 11 29.4**	**+1.5**
NJ2				AP	pP	17 11 43.2	-4.4
NJ2				XP	sP	17 11 51.2	-5.9
NJ2				PP	PP	17 13 03.3	+3.0
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,80nm,12.0s						
NJ2				LR	LR		
	comp=N,2μm,23.0s						
NJ2				LR	LR		
	comp=E,690nm,29.5s						
NJ2				LR	LR		
	comp=Z,430nm,28.8s						
PMG	**Port Moresby**	**43.90**	**99**	P	**P**	**17 12 02.8**	**-0.1**
	comp=Z,7.8nm,0.5s,mb4.7,baz=207,slow=6.8,SNR=6.1						
PMG	**Port Moresby**	**43.90**	**99**	*e*P	**P**	**17 12 01.4**	**-1.6**
PMG				pmax	pmax		
	comp=Z,13nm,0.9s						
PMG	**Port Moresby**	**43.90**	**99**	*e*P	**P**	**17 12 01.4**	**-1.5**
	comp=Z,13nm,0.9s,mb4.7						
GTA	**Gaotai**	**44.12**	**356**	*e*P	**P**	**17 12 05.1**	**+0.4**
GTA				AP	pP	17 12 16.1	-8.6
GTA				XP	sP	17 12 20.8	-13
GTA				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.6						
CTA	**Charters Tower**	**44.59**	**114**	⇑*i*P	**P**	**17 12 09.2**	**+0.7**
	comp=Z,12nm,0.6s,mb4.8						
CTA	**Charters Tower**	**44.59**	**114**	P	**P**	**17 12 08.8**	**+0.3**
	comp=Z,19nm,0.8s,mb4.9,baz=292,slow=8.9,SNR=11						
CTA	**Charters Tower**	**44.59**	**114**	⇑*i*P	**P**	**17 12 09.2**	**+0.7**
CTA				pmax	pmax		
	comp=Z,12nm,0.6s						
CTAO	**Charters Tower**	**44.59**	**114**	*e*P	**P**	**17 12 08.8**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.9						
CTAO	**Charters Tower**	**44.59**	**114**	*e*P	**P**	**17 12 08.8**	**+0.3**
	comp=Z,19nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**44.95**	**131**	⇑*i*P	**P**	**17 12 10.0**	**-1.3**
	comp=Z,5.5nm,0.4s,mb4.6						
STKA	**Stephens Creek**	**44.95**	**131**	P	**P**	**17 12 10.3**	**-1.0**
	comp=Z,7.3nm,0.5s,mb4.7,baz=306,slow=8.6,SNR=30						
STKA	**Stephens Creek**	**44.95**	**131**	*e*P	**P**	**17 12 10.0**	**-1.4**
GUMO	**Guam**	**45.28**	**66**	P	**P**	**17 12 12.4**	**-1.6**
	comp=Z,35nm,0.5s,mb5.3,baz=218,slow=18,SNR=4.7						
HHC	**Hu-ho-hao-te**	**46.10**	**9**	*e*P	**P**	**17 12 23.3**	**+2.9**
HHC				PCP	PcP	17 13 57.9	+2.6
HHC				PP	PP	17 14 13.1	+3.2
HHC				SCP	ScP	17 17 44.6	+3.6
HHC				PCS	PcS	17 17 50.4	+0.6
HHC				S	**S**	**17 19 06.5**	**+6.6**
HHC				SCS	ScS	17 22 09.9	+2.1
HHC				SS	SS	17 22 23.6	-2.3
HHC				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.5						
HHC				AMB	AMB		
	comp=Z,68nm,6.3s						
HHC				LR	LR		
	comp=N,385nm,12.3s						
HHC				LR	LR		
	comp=E,415nm,11.6s						
HHC				LR	LR		
	comp=Z,291nm,13.6s						
BJT	**Baijiatuan**	**46.20**	**14**	P	**P**	**17 12 19.2**	**-2.0**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BJT	**Baijiatuan**	**46.20**	**14**	P	**P**	**17 12 19.2**	**-2.0**
	comp=Z,9.1nm,0.8s,mb4.6						
KS15	**Wonju Array Si**	**47.95**	**27**	*e*P	**P**	**17 12 34.7**	**-0.1**
WMQ	**Urumqi**	**50.38**	**346**	⇓*i*P	**P**	**17 12 54.0**	**+0.7**
WMQ				AP	pP	17 13 09.7	-4.0
WMQ				PCP	PcP	17 14 11.8	+1.1
WMQ				PP	PP	17 14 51.2	+1.7
WMQ				S	**S**	**17 20 01.4**	**+1.2**
WMQ				PS		17 20 19.3	
WMQ				XS	sS	17 20 28.3	-6.8
WMQ				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,118nm,5.0s						
WMQ				LR	LR		
	comp=Z,470nm,15.0s						
SONM	**Songino Array**	**52.51**	**3**	P	**P**	**17 13 09.8**	**+0.6**
	comp=Z,9.3nm,0.8s,mb4.8,baz=182,slow=8.9,SNR=57						
SONM				PcP	PcP	17 14 18.9	+0.3
	comp=Z,2.2nm,0.4s,baz=182,slow=4.3,SNR=12						
ULN	**Ulaanbaatar**	**52.57**	**3**	*e*P	**P**	**17 13 09.9**	**+0.2**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
ULN	**Ulaanbaatar**	**52.57**	**3**	*e*P	**P**	**17 13 09.9**	**+0.2**
	comp=Z,7.1nm,1.0s,mb4.7						
MAJO	**Matsushiro**	**52.60**	**36**	P	**P**	**17 13 10.7**	**+0.8**
MAJO				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
MAJO	**Matsushiro**	**52.60**	**36**	P	**P**	**17 13 10.7**	**+0.7**
	comp=Z,11nm,1.1s,mb4.8						
MJAR	**Matsushiro Arr**	**52.60**	**36**	P	**P**	**17 13 09.2**	**-0.7**
	comp=Z,4.8nm,0.8s,mb4.6,baz=214,slow=6.8,SNR=12						
AAK	**Ala-Archa**	**53.91**	**334**	*e*P	**P**	**17 13 18.1**	**-1.4**
AAK				*e*		17 14 24.2	
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
AAK	**Ala-Archa**	**53.91**	**334**	*e*P	**P**	**17 13 18.1**	**-1.4**
	comp=Z,2.4nm,0.6s,mb4.4						
AAK				*e*PcP	PcP	17 14 24.2	+0.3
MKAR	**Makanchi Array**	**54.60**	**343**	P	**P**	**17 13 23.9**	**-0.6**
	comp=Z,8.4nm,0.7s,mb4.9,baz=144,slow=8.0,SNR=53						
MDJ	**Mudanjiang**	**54.64**	**23**	P	**P**	**17 13 26.6**	**+1.8**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,52nm,5.2s						
ZAK	**Zakamensk**	**54.98**	**0**	*e*P	**P**	**17 13 27.2**	**0.0**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.6s,mb4.2						
TLY	**Talaya**	**56.28**	**0**	*e*P	**P**	**17 13 37.5**	**+0.9**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
TLY	**Talaya**	**56.28**	**0**	*e*P	**P**	**17 13 37.4**	**+0.9**
	comp=Z,3.8nm,0.7s,mb4.5						
KURK	**Kurchatov**	**59.20**	**342**	*e*P	**P**	**17 13 56.2**	**-0.8**
KURK				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
KURK	**Kurchatov**	**59.20**	**342**	*e*P	**P**	**17 13 56.2**	**-0.8**
	comp=Z,11nm,1.0s,mb4.8						
ZAL	**Zalesovo**	**60.53**	**348**	P	**P**	**17 14 05.0**	**-1.2**
	comp=Z,8.3nm,0.4s,mb5.1,baz=314,slow=3.9,SNR=30						
YSS	**Yuzh-Sakhalins**	**62.29**	**30**	*e*P	**P**	**17 14 17.5**	**-0.5**
YSS				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.1						
YSS	**Yuzh-Sakhalins**	**62.29**	**30**	*e*P	**P**	**17 14 17.5**	**-0.5**
	comp=Z,16nm,0.8s,mb5.1						
RDF	**Al-Radifah**	**63.03**	**306**	*e*P	**P**	**17 14 23.3**	**+0.5**
RDF				AMb	AMB	17 14 25.4	
	comp=Z,34nm,1.0s,mb5.2						
BOD	**Bodaibo**	**63.05**	**7**	*e*P	**P**	**17 14 22.5**	**-0.5**
BOD				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
UMR	**Umm Al-Rimmam**	**63.13**	**306**	*e*P	**P**	**17 14 24.3**	**+0.7**
UMR				AMb	AMB	17 14 25.2	
	comp=Z,52nm,0.6s,mb5.6						
NAY	**Al-Naaiem**	**63.40**	**306**	*e*P	**P**	**17 14 25.7**	**+0.4**
NAY				AMb	AMB	17 14 26.7	
	comp=Z,17nm,0.6s,mb5.2						
MIB	**Mutribah**	**63.53**	**307**	*e*P	**P**	**17 14 26.8**	**+0.6**
MIB				AMb	AMB	17 14 27.9	
	comp=Z,23nm,0.7s,mb5.1						
BRVK	**Borovoye**	**63.98**	**339**	*e*P	**P**	**17 14 27.7**	**-1.4**
BRVK				*e*		17 15 03.8	
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
BRVK	**Borovoye**	**63.98**	**339**	*e*P	**P**	**17 14 27.7**	**-1.4**
	comp=Z,3.6nm,0.7s,mb4.3						
BRVK				*e*PcP	PcP	17 15 03.8	-0.1
ZRNK	**Zerenda**	**64.36**	**338**	*e*P	**P**	**17 14 30.3**	**-1.4**
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.6						
ZRNK	**Zerenda**	**64.36**	**338**	*e*P	**P**	**17 14 30.3**	**-1.4**
	comp=Z,6.8nm,0.7s,mb4.6						
AKTK	**Aktyubinsk**	**67.32**	**331**	P	**P**	**17 14 50.0**	**-0.6**
AKTO	**Aktyubinsk**	**67.32**	**331**	P	**P**	**17 14 50.0**	**-0.6**
	comp=Z,1.2nm,0.3s,mb4.2,baz=122,slow=7.3,SNR=7.4						
YAK	**Yakutsk**	**69.72**	**13**	*e*P	**P**	**17 15 04.0**	**-1.6**
YAK				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.9						
YAK	**Yakutsk**	**69.72**	**13**	*e*P	**P**	**17 15 04.0**	**-1.6**
	comp=Z,16nm,0.8s,mb4.9						
KIV	**Kislovodsk**	**72.71**	**319**	P	**P**	**17 15 23.4**	**-0.2**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
KIV	**Kislovodsk**	**72.71**	**319**	P	**P**	**17 15 23.4**	**-0.2**
	comp=Z,4.9nm,0.6s,mb4.5						
ASF	**Jabal al Asfar**	**72.76**	**306**	P	**P**	**17 15 25.9**	**+1.9**
	comp=Z,3.7nm,0.9s,mb4.2,baz=5.0,slow=4.7,SNR=8.1						
LSZ	**Lusaka**	**74.24**	**256**	*e*P	**P**	**17 15 32.1**	**-0.5**
LSZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
LSZ	**Lusaka**	**74.24**	**256**	*e*P	**P**	**17 15 32.0**	**-0.5**
	comp=Z,2.0nm,0.7s,mb4.0						
LBTB	**Lobatse**	**76.69**	**246**	*e*P	**P**	**17 15 47.3**	**+0.7**
LBTB				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
LBTB	**Lobatse**	**76.69**	**246**	*e*P	**P**	**17 15 47.3**	**+0.7**
	comp=Z,3.3nm,0.8s,mb4.1						
BR131	**Keskin Array S**	**77.52**	**312**	*e*P	**P**	**17 15 51.0**	**-0.3**
	comp=Z,2.0nm,0.6s,mb4.0						
BRTR	**Keskin Array B**	**77.52**	**312**	P	**P**	**17 15 51.0**	**-0.2**
	comp=Z,4.0nm,0.8s,mb4.2,baz=133,slow=6.8,SNR=22						
TIXI	**Tiksi**	**78.16**	**8**	*e*P	**P**	**17 15 52.2**	**-2.6**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.6						
VNDA	**Vanda**	**78.81**	**169**	P	**P**	**17 15 58.5**	**+0.1**
	comp=Z,1.0nm,1.0s,mb3.6,baz=330,slow=6.0,SNR=3.3						
VNDA	**Vanda**	**78.81**	**169**	*e*P	**P**	**17 15 58.2**	**-0.2**
VNDA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
VNDA	**Vanda**	**78.81**	**169**	*e*P	**P**	**17 15 58.2**	**-0.2**
	comp=Z,1.8nm,1.0s,mb3.9						
SBA	**Scott Base**	**79.90**	**169**	P	**P**	**17 16 04.9**	**+0.6**
SBA				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
SBA	**Scott Base**	**79.90**	**169**	P	**P**	**17 16 04.8**	**+0.5**
	comp=Z,2.7nm,1.0s,mb4.0						
OBN	**Obninsk**	**80.83**	**328**	P	**P**	**17 16 09.1**	**-0.2**
	comp=Z,12nm,0.7s,mb4.8						
AKASG	**Malin Array Be**	**83.61**	**322**	P	**P**	**17 16 23.4**	**-0.5**
	comp=Z,2.1nm,0.5s,mb4.2,baz=90,slow=4.8,SNR=18						
VRI	**Vrincioaia**	**84.03**	**317**	⇑*i*P	**P**	**17 16 27.3**	**+1.3**
TSUM	**Tsumeb**	**84.24**	**251**	*e*P	**P**	**17 16 28.3**	**+1.3**
	comp=Z,1.8nm,0.7s,mb4.0						
MLR	**Muntele Rosu**	**84.48**	**316**	⇑*i*P	**P**	**17 16 29.5**	**+1.2**
BURAR	**Bucovina Array**	**85.43**	**318**	⇓*i*P	**P**	**17 16 34.2**	**+1.2**
FINES	**FINESS Array B**	**88.05**	**332**	P	**P**	**17 16 45.7**	**0.0**
	comp=Z,3.5nm,0.5s,mb4.7,baz=109,slow=5.8,SNR=39						
FINES	**FINESS Array B**	**88.05**	**332**	P	**P**	**17 16 45.7**	**0.0**
KAF	**Kangasniemi**	**88.10**	**333**	*e*P	**P**	**17 16 44.8**	**-1.2**
	comp=Z,11nm,0.5s,mb5.2,baz=98,slow=4.3						
KAF	**Kangasniemi**	**88.10**	**333**	*e*P	**P**	**17 16 44.8**	**-1.2**
KAF				pmax	pmax		
	comp=Z,11nm,0.5s,mb5.1						
STHS	**Stebnicka Huta**	**88.36**	**320**	*e*P	**P**	**17 16 48.5**	**+1.3**
ARCES	**ARCESS Array B**	**90.17**	**340**	P	**P**	**17 16 55.4**	**-0.3**
	comp=Z,2.4nm,0.6s,mb4.5,baz=105,slow=4.7,SNR=19						
GERES	**GERESS Array B**	**93.22**	**319**	P	**P**	**17 17 10.0**	**+0.3**
	comp=Z,0.5nm,0.6s,mb4.0,baz=110,slow=1.6,SNR=5.5						
NB2	**NORSAR Subarra**	**95.11**	**331**	P	**P**	**17 17 17.7**	**-0.8**
	comp=Z,0.8nm,0.6s,mb4.3,baz=95,slow=5.1						
NOA	**NORSAR Array B**	**95.11**	**331**	P	**P**	**17 17 17.6**	**-0.9**
	comp=Z,1.0nm,0.7s,mb4.3,baz=93,slow=4.6,SNR=4.2						
PDAR	**Pinedale Array**	**132.38**	**33**	PKP	PKPdf	17 23 09.8	+0.6
	comp=Z,0.3nm,0.5s,baz=90,slow=1.5,SNR=3.7						
BDFB	**Brasilia**	**144.94**	**234**	PKPbc	PKPdf	17 23 33.5	+1.4
	comp=Z,5.7nm,0.6s,baz=153,slow=5.4,SNR=7.2						
WCI	**Wyandotte Cave**	**145.66**	**13**	*e*PKP2	PKPab	17 23 34.1	-0.1
PLAL	**Pickwick Lake**	**148.24**	**18**	*e*PKPdf	PKPdf	17 23 40.2	+2.5
PLAL				*e*PKPbc	PKPbc	17 23 44.0	+2.9
CPCT	**Cooper Cave**	**148.71**	**12**	*e*PKPbc	PKPbc	17 23 42.6	+0.3

*NEIC **11** 17:06:36.0,2744S×7147W,h72km,MG3.8(GUC),After GUC.*

GUC 11 17:06:36.0±0.9,2744S×7147W,h72km±14km,ML3.8,3C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.67**	**58**	⇑*i*P	Pn	17 06 50.6	-0.2
CDCH				*i* S	Sn	17 07 02.5	+0.8
CPCH	**Copiapo**	**0.99**	**86**	*i* P	Pn	17 06 54.3	-0.2
CPCH				*i* S	Sn	17 07 09.4	+1.1
CPCH				AML	AML	17 07 10.6	
	comp=E,5μm,0.2s						
CPCH	**Copiapo**	**0.99**	**86**	*i* P	Pn	17 06 54.3	-0.2
CPCH				*i* S	Sn	17 07 09.4	+1.1
LCO	**Las Campanas**	**1.71**	**157**	*e*P	Pn	17 07 05.1	+1.4
LCO				*i* S	Sn	17 07 26.3	+1.6
TLL	**Tololo Astrono**	**2.78**	**168**	⇑*i*P	Pn	17 07 19.9	+1.6
TLL				*i* S	Sn	17 07 52.5	+1.8
TLL				AML	AML	17 08 12.2	
	comp=N,526nm,0.7s						
TLL	**Tololo Astrono**	**2.78**	**168**	⇑*i*P	Pn	17 07 19.9	+1.6
TLL				*i* S	Sn	17 07 52.5	+1.8
CPN1	**Cerro Paranal**	**2.96**	**19**	*i* P	Pn	17 07 21.9	+1.3
CPN1				*i* S	Sn	17 07 57.0	+1.9
CPN1				AML	AML	17 08 21.6	
	comp=E,165nm,0.6s						
LVC	**Limon Verde**	**5.33**	**26**	*e*Pn	Pn	17 07 55.2	+2.1
	comp=E,9.7nm,0.6s						

*THE **11** 17:16:35.4,3786N×2104E,h10km,ML3.4*
*ISCJB **11** 17:16:36.0±0.6,3790N±003×2107E±004,h10km,Error ellipse: s-maj=6.2km s-min=3.6km az=90.5*
*NEIC **11** 17:16:36.0,3793N×2110E,h16km±1km,MD3.6(ATH),After ATH.*
*ATH **11** 17:16:36.0,3793N×2110E,h16km±1km,MD3.6/13,ML3.6*
*CSEM **11** 17:16:36.2±0.1,3790N×2106E,h0km,ML3.6,Error ellipse: s-maj=2.9km s-min=1.6km az=44.0*

ISC 11 17:16:35.3±1.0,3785N±004×2106E±005,h0km±6km,n32, σ1§06/39,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.38**	**57**	*e*PB	**Pg**	**17 16 42.6**	**-0.1**
RLS				*e*SB	**Sg**	**17 16 48.0**	**+0.4**
VLS	**Valsamata**	**0.49**	**312**	*e*PB	**Pg**	**17 16 45.1**	**+0.4**
VLS				*e*SB	**Sg**	**17 16 53.1**	**+2.0**
LKD	**Levkas**	**0.91**	**340**	*e*Pg	**Pg**	**17 16 51.8**	**-1.0**
LKD				*e*Sg	**Sg**	**17 17 05.5**	**+0.9**
ITM	**Ithomi**	**0.96**	**134**	*e*PN	**Pn**	**17 16 54.8**	**-1.2**
ITM				*e*SN	**Sn**	**17 17 08.9**	**-1.5**
EVR	**Evrytania**	**1.22**	**29**	*e*PN	**Pn**	**17 16 56.8**	**-2.7**
AGG	**Agios Georgios**	**1.54**	**40**	*e*Pg	**Pg**	**17 17 02.8**	**-2.0**
	comp=Z,6.0nm,0.8s						
AGG				*e*Sg	**Sg**	**17 17 25.2**	**+0.5**
LKR	**Lokris**	**1.73**	**62**	*e*PN	**Pn**	**17 17 06.9**	**+0.4**
MGER	**Gerania Oros**	**1.75**	**85**	*e*PN	**Pn**	**17 17 08.0**	**+1.2**
IGT	**Igoumenitsa**	**1.77**	**342**	*e*Pb	**Pb**	**17 17 06.4**	**-2.2**
IGT				*e*Sb	**Sb**	**17 17 30.9**	**-0.4**
JAN	**Janina**	**1.81**	**355**	*e*PN	**Pn**	**17 17 06.9**	**-0.8**
VLI	**Veliai**	**1.88**	**126**	*e*PN	**Pn**	**17 17 09.8**	**+1.2**
KEK	**Kerk

λ80.00000°. Principal axes: T 2.2630, Plg82.0000°, Azm30.0000°; N 0.8890, Plg8.0000°, Azm187.0000°; P -3.1550, Plg3.0000°, Azm277.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

IDC ***11*** *17:22:54.3±1.2, 2335N±9432E, h47km±10km, mb5.3/27, mb1 5.4/27, mb1mx5.4/27, mbtmp5.5/27, MS5.2/21, Ms1 5.2/21, ms1mx5.2/26 Error ellipse: s-maj=13.2km s-min=7.0km az=54.0*

ISC 11 17:22:54.8±0.1, 2336N±002×9427E±002, h50km, h50km±1.4km: pP-P, n1092, σ0=99/1077, mb5.7/291, MS5.3/83, 162C-28D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.09**	**316**	*eP*		**Pn**		**17 23 42.0**	**+0.9**
SHL				*ex*		x		17 25 52.0	
LKP	**Lekhapani**	**4.28**	**22**	*eP*		**Pn**		**17 23 58.0**	**+0.6**
LKP				*ex*		x		17 24 59.0	
CAL	**Calcutta**	**5.54**	**263**	*eP*		**Pn**		**17 24 15.8**	**+1.2**
CAL				*eS*		**Sn**		**17 25 15.9**	**-1.1**
CHRT	**Chiangrai**	**6.19**	**123**	⇓PN		**Pn**		**17 24 21.5**	**-2.1**
CHRT				PG		**Pn**		**17 24 24.0**	**+0.4**
CHRT				SG		Sn		17 25 57.5	+24
CHG	**Chiang Mai**	**6.28**	**135**	PN		**Pn**		**17 24 23.0**	**-1.9**
CHG				SG		Sn		17 26 20.8	+45
CHTO	**Chiang Mai**	**6.28**	**135**	*eP*		**Pn**		**17 24 22.7**	**-2.2**
LSA	**Lhasa**	**6.91**	**337**	P		**Pn**		**17 24 35.2**	**+1.8**
LSA				S		**Sn**		**17 25 50.2**	**-0.4**
LSA				LR		LR			
	comp=N,17μm,12.2s								
LSA				LR		LR			
	comp=E,26μm,11.8s								
LSA				LR		LR			
	comp=Z,43μm,20.2s								
LSA	**Lhasa**	**6.91**	**337**	*eP*		**Pn**		**17 24 34.8**	**+1.4**
LSA				*e*				17 25 50.2	
LSA				pmax		pmax			
	comp=Z,276nm,0.6s								
LSA	**Lhasa**	**6.91**	**337**	*e*Pn		**Pn**		**17 24 34.8**	**+1.3**
	comp=Z,276nm,0.6s								
LSA				*e*Sn		**Sn**		**17 25 50.2**	**-0.4**
BOK	**Bokaro**	**7.70**	**275**	*eP*		**Pn**		**17 24 41.7**	**-2.7**
BOK				*eS*		**Sn**		**17 26 04.1**	**-6.1**
KMI	**Kunming**	**7.93**	**75**	PR				17 24 52.6	
KMI				XP				17 25 07.1	
KMI				S		**Sn**		**17 26 24.9**	**+9.2**
KMI				AMB		AMB			
	comp=Z,208nm,1.1s								
KMI				LR		LR			
	comp=Z,35μm,8.6s								
JIRN	**Jiri**	**8.46**	**302**	*e*Sn		**Sn**		**17 26 24.2**	**-4.6**
	comp=Z,7μm,0.8s								
JIRN	**Jiri**	**8.46**	**302**	*e*Pn		**Pn**		**17 24 52.9**	**-1.8**
JIRN				*e*Sn		**Sn**		**17 26 24.2**	**-4.6**
GUN	**Gumba**	**8.82**	**303**	*e*Sn		**Sn**		**17 26 32.7**	**-5.0**
	comp=Z,2μm,0.8s								
GUN	**Gumba**	**8.82**	**303**	*e*Pn		**Pn**		**17 24 57.8**	**-1.9**
GUN				*e*Sn		**Sn**		**17 26 32.7**	**-5.0**
PKI	**Pulchoki**	**9.04**	**299**	*e*Pn		**Pn**		**17 25 00.4**	**-2.2**
PKI				*e*Sn		**Sn**		**17 26 36.9**	**-6.1**
KKN	**Kakani**	**9.24**	**300**	*e*Sn		**Sn**		**17 26 42.1**	**-5.7**
	comp=Z,4μm,0.8s								
KKN	**Kakani**	**9.24**	**300**	*e*Pn		**Pn**		**17 25 02.7**	**-2.6**
KKN				*e*Sn		**Sn**		**17 26 42.1**	**-5.7**
DMN	**Daman**	**9.30**	**299**	*e*Pn		**Pn**		**17 25 03.4**	**-2.8**
DMN				*e*Sn		**Sn**		**17 26 43.5**	**-5.8**
NST	**Nakhon Sawan**	**9.43**	**143**	P		**Pn**		**17 25 06.3**	**-1.7**
GKN	**Gorkha**	**9.84**	**300**	*e*Pn		**Pn**		**17 25 10.7**	**-2.9**
GKN	**Gorkha**	**9.84**	**300**	*e*Sn		**Sn**		**17 26 55.4**	**-7.2**
	comp=Z,5μm,0.7s								
KOLN	**Koldanda**	**10.59**	**297**	*e*Sn		**Sn**		**17 27 12.3**	**-8.6**
	comp=Z,3μm,0.9s								
KOLN	**Koldanda**	**10.59**	**297**	*e*Pn		**Pn**		**17 25 20.2**	**-3.6**
KOLN				*e*Sn		Sn		17 26 55.4	-25
KKTK	**Khon Kaen**	**10.65**	**129**	PN		**Pn**		**17 25 25.2**	**+0.5**
KKTK				PG		Pn		17 25 49.5	+25
KKTK				SG		Sn		17 28 32.0	+69
BLSP	**Bilaspur**	**11.27**	**266**	*eP*		**Pn**		**17 25 29.0**	**-4.1**
BLSP				*eS*		**Sn**		**17 27 25.0**	**-13**
CD2	**Chengdu**	**11.31**	**46**	⇓*iP*		**Pn**		**17 25 36.2**	**+2.5**
CD2				PP				17 25 45.6	
CD2				XP				17 25 50.3	
CD2				S		**Sn**		**17 27 43.1**	**+4.6**
CD2				SS				17 27 57.1	
CD2				AMB		AMB			
	comp=Z,60nm,0.8s								
CD2				AMB		AMB			
	comp=Z,390nm,4.7s								
CD2				LR		LR			
	comp=N,14μm,8.4s								
CD2				LR		LR			
	comp=Z,15μm,20.4s								
GYA	**Guiyang**	**11.66**	**72**	⇑*iP*		**Pn**		**17 25 40.7**	**+2.2**
GYA				XP				17 25 57.3	
GYA				AMB		AMB			
	comp=Z,70nm,1.1s								
GYA				AMB		AMB			
	comp=Z,1μm,8.7s								
GYA				LR		LR			
	comp=N,18μm,10.3s								
GYA				LR		LR			
	comp=E,25μm,9.9s								
GYA				LR		LR			
	comp=Z,38μm,9.3s								
VIS	**Vishakhapatnam**	**11.68**	**243**	*eP*		**Pn**		**17 25 36.3**	**-2.4**
VIS				AMb		AMB		17 25 51.1	
	comp=Z,125nm,0.9s								
VIS				*eS*		**Sn**		**17 27 35.0**	**-13**
PBA	**Port Blair**	**11.73**	**187**	*ex*		x		17 25 06.1	
PBA				*ex*		x		17 27 58.0	
NNT	**Nongplab**	**11.90**	**153**	P		**Pn**		**17 25 43.0**	**+1.2**
QIZ	**Qiongzhong**	**15.15**	**104**	P		**Pn**		**17 26 26.6**	**+1.1**
QIZ				AP		pP		17 26 34.6	-6.4
QIZ				PP				17 26 40.6	
QIZ				AMB		AMB			
	comp=Z,365nm,1.1s								
QIZ				LR		LR			
	comp=N,12μm,10.8s								
QIZ				LR		LR			
	comp=E,20μm,15.2s								
QIZ				LR		LR			
	comp=Z,27μm,16.4s								
QIZ	**Qiongzhong**	**15.15**	**104**	*e*Pn		**Pn**		**17 26 26.1**	**+0.6**
	comp=Z,447nm,1.1s								
LZH	**Lanzhou**	**15.15**	**31**	⇑P		**Pn**		**17 26 24.8**	**-0.8**
LZH				AP		pP		17 26 32.7	-8.4
LZH				PP				17 26 40.0	
LZH				AMB		AMB			
	comp=Z,110nm,1.0s								
LZH				AMB		AMB			
	comp=Z,1μm,4.5s								
LZH				LR		LR			
	comp=E,33μm,19.2s								
LZH				LR		LR			
	comp=Z,39μm,20.6s								
ENH	**Enshi**	**15.22**	**60**	*eP*		**Pn**		**17 26 22.6**	**-3.9**
	comp=Z,259nm,0.7s								
BHPL	**Bhopal**	**15.48**	**273**	*eP*		**Pn**		**17 26 26.6**	**-3.2**
BHPL				AMb		AMB		17 26 31.1	
	comp=Z,249nm,1.0s								
BHPL				*ex*		x		17 29 05.9	
HYB	**Hyderabad**	**15.87**	**251**	*i* P		**Pn**		**17 26 30.0**	**-4.8**
	comp=Z,286nm,1.2s								
HYB				*e*				17 26 39.0	
HYB				*es*P		sP		17 26 46.5	-8.8
HYB				*e*				17 27 05.0	
HYB				*e*				17 29 09.5	
HYB				*eS*		**S**		**17 29 28.5**	**-13**
HYB				LR		LR		17 32 16.0	
	comp=Z,22nm,16.0s								
HYB	**Hyderabad**	**15.87**	**251**	*eP*		**Pn**		**17 26 30.0**	**-4.8**
HYB				pmax		pmax			
	comp=Z,286nm,1.2s								
HYB	**Hyderabad**	**15.87**	**251**	*eP*		**Pn**		**17 26 30.0**	**-4.8**
	comp=Z,286nm,1.2s								
DDI	**Dehra Dun**	**16.04**	**299**	*i* P		**Pn**		**17 26 35.5**	**-1.5**
DDI				*ex*		x		17 29 16.7	
NDI	**New Delhi**	**16.22**	**293**	*eP*		**Pn**		**17 26 38.0**	**-1.2**
NDI				*ex*		x		17 29 20.5	
XAN	**Xi'an**	**16.67**	**47**	P		**Pn**		**17 26 43.6**	**-1.3**
XAN				AP		pP		17 26 53.1	-4.8
XAN				S		**S**		**17 29 42.5**	**-16**
XAN				AMB		AMB			
	comp=Z,452nm,1.0s								
XAN				AMB		AMB			
	comp=Z,722nm,10.1s								
XAN				LR		LR			
	comp=N,8μm,18.6s								
XAN				LR		LR			
	comp=E,11μm,20.7s								
XAN				LR		LR			
	comp=Z,18μm,20.7s								
GTA	**Gaotai**	**16.68**	**15**	*eP*		**Pn**		**17 26 41.1**	**-3.9**
GTA				AP		pP		17 26 54.0	-4.0
GTA				S		**S**		**17 29 41.4**	**-17**
GTA				LR		LR			
	comp=N,9μm,16.6s								
GTA				LR		LR			
	comp=E,11μm,14.6s								
GTA				LR		LR			
	comp=Z,12μm,13.1s								
SNG	**Songkhla**	**17.21**	**158**	P		**Pn**		**17 26 49.0**	**-2.6**
	comp=Z,554nm,1.0s								
GZH	**Guangzhou**	**17.54**	**87**	P		**Pn**		**17 27 00.1**	**+4.5**
GZH				AMB		AMB			
	comp=Z,488nm,1.0s								
GZH				LR		LR			
	comp=N,13μm,7.7s								
GZH				LR		LR			
	comp=E,21μm,9.6s								
GZH				LR		LR			
	comp=Z,34μm,9.6s								
BHK	**Bhakra**	**17.76**	**301**	*ex*		x		17 27 02.8	
BHK				*ex*		x		17 29 52.0	
AJM	**Ajmer**	**18.07**	**284**	*eP*		**Pn**		**17 26 59.2**	**-3.0**
AJM				AMb		AMB		17 27 07.2	
	comp=Z,406nm,0.6s								
AJM				*ex*		x		17 30 04.2	
HKC	**Hong Kong**	**18.38**	**89**	⇓*iP*		**Pn**		**17 27 10.0**	**+4.1**
HKC				*i* S		**S**		**17 30 43.0**	**+10**
DLH	**Dalhousie**	**18.56**	**304**	*eP*		**Pn**		**17 27 07.0**	**-1.1**
DLH				*ex*		x		17 30 22.0	
KLM	**Kulim**	**18.99**	**160**	*e*Pn		**Pn**		**17 27 10.7**	**-2.6**
WHN	**Wuhan**	**19.26**	**64**	⇑P		**Pn**		**17 27 16.6**	**0.0**
WHN				PP				17 27 32.4	
WHN				S		**S**		**17 30 53.0**	**+2.4**
WHN				AMB		AMB			
	comp=Z,6μm,4.0s								
WHN				LR		LR			
	comp=Z,26μm,22.0s								
POO	**Poona**	**19.66**	**260**	*ex*		x		17 27 52.5	
KAD	**Karad**	**19.77**	**256**	*eP*		**Pn**		**17 27 20.1**	**-2.4**
KAD				AMb		AMB		17 27 33.4	
	comp=Z,162nm,1.0s								
KAD				*ex*		x		17 31 07.2	
IPM	**Ipoh**	**19.87**	**160**	P		**Pn**		**17 27 21.0**	**-2.8**
PALK	**Pallekele**	**20.64**	**221**	P		**P**		**17 27 31.5**	**+1.4**
	comp=Z,490nm,1.5s,SNR=18								
PALK	**Pallekele**	**20.64**	**221**	*eP*		**P**		**17 27 30.6**	**+0.6**
	comp=Z,222nm,1.3s								
PALK				*eS*		**S**		**17 31 07.1**	**-11**
GOA	**Goa**	**20.79**	**252**	*i* x		x		17 27 35.0	
GOA				*i* x		x		17 31 13.0	
SARP	**Sargodha**	**20.92**	**299**	P		**P**		**17 27 32.0**	**-1.2**
PSI	**Prapat**	**20.93**	**167**	P		**P**		**17 27 33.9**	**+0.6**
	comp=Z,68nm,0.9s,baz=301,slow=7.5,SNR=72								
PSI				S		**S**		**17 31 26.6**	**+2.9**
	comp=Z,3.6nm,0.3s,baz=29,slow=19,SNR=3.3								
PSI				PcP		PcP		17 31 40.0	+0.6
	comp=Z,31nm,0.8s,baz=339,slow=6.1,SNR=4.6								
PSI				ScP		ScP		17 35 12.8	+0.9
	comp=Z,21nm,0.9s,baz=307,slow=6.0,SNR=8.0								
PSI				LR		LR		17 37 00.3	
	comp=Z,4μm,19.5s,MS4.8,baz=107,slow=40								
PSI	**Prapat**	**20.93**	**167**	P		**P**		**17 27 33.9**	**+0.7**
PSI				S		**S**		**17 31 26.6**	**+2.9**
PSI								17 31 40.0	
PSI				pmax		pmax			
	comp=Z,68nm,0.9s								
PSI				smax					
	comp=N,4.0nm,0.4s								
PSI				MLR		MLR			
	comp=Z,4μm,19.5s,MS4.8								
CHCP	**Chirah Chowk**	**21.08**	**304**	P		**P**		**17 27 35.4**	**+0.5**
NIL	**Nilore**	**21.09**	**304**	P		**P**		**17 27 35.6**	**+0.6**
	comp=Z,388nm,1.0s,mb5.7,SNR=13								
WMQ	**Urumqi**	**21.12**	**347**	⇓*iP*		**P**		**17 27 36.5**	**+1.2**
WMQ				AP				17 27 47.5	
WMQ				XP		sP		17 27 53.2	+0.2
WMQ				PP				17 28 01.0	
WMQ				PPP				17 28 10.4	
WMQ				S		**S**		**17 31 24.6**	**-2.8**
WMQ				PCP		PcP		17 31 41.0	+1.2
WMQ				SS				17 32 00.1	
WMQ				SCP		ScP		17 35 12.8	+0.3
WMQ				PCS		PcS		17 35 17.8	-0.1
WMQ				AMB		AMB			
	comp=Z,375nm,1.3s,mb5.6								
WMQ				LR		LR			
	comp=N,8μm,15.2s,MS5.4								
WMQ				LR		LR			
	comp=E,8μm,15.6s,MS5.4								
WMQ				LR		LR			
	comp=Z,11μm,21.8s								
BTO	**Baotou**	**21.72**	**34**	*eP*		**P**		**17 27 40.0**	**-1.7**
BTO				S		**S**		**17 31 36.6**	**-2.5**
BTO				AMB		AMB			
	comp=Z,51nm,1.1s,mb4.9								
BTO				LR		LR			
	comp=N,9μm,13.9s,MS5.4								
BTO				LR		LR			
	comp=E,7μm,14.9s,MS5.4								
THW	**Thamme Wali**	**21.95**	**300**	P		**P**		**17 27 42.9**	**-1.3**
CEP	**Cherat**	**22.19**	**303**	P		**P**		**17 27 46.0**	**-0.7**
TRD	**Trivandrum**	**22.21**	**231**	*eP*		**P**		**17 27 45.6**	**-1.4**
TRD				AMb		AMB		17 28 00.1	
	comp=Z,238nm,1.1s,mb5.5								
QZH	**Quanzhou**	**22.24**	**81**	⇑*iP*		**P**		**17 27 48.0**	**+0.7**
QZH				AP				17 28 01.0	
QZH				SS				17 32 22.3	
QZH				AMB		AMB			
	comp=Z,310nm,1.0s,mb5.7								
QZH				AMB		AMB			
	comp=Z,3μm,4.7s								
QZH				LR		LR			
	comp=N,39μm,8.0s								
QZH				LR		LR			
	comp=E,13μm,7.4s								
QZH				LR		LR			
	comp=Z,31μm,18.8s,MS5.8								
KSH	**Kashi**	**22.36**	**320**	*eP*		**P**		**17 27 48.9**	**+0.3**
KSH				*e*AP				17 27 59.0	
KSH				*e*XP		sP		17 28 05.1	-1.3
KSH				*eS*		**S**		**17 31 44.8**	**-6.8**
KSH				AMB		AMB			
	comp=Z,839nm,2.4s,mb5.7								
KSH				LR		LR			
	comp=N,4μm,9.1s								
KSH				LR		LR			
	comp=E,5μm,9.2s								
KSH				LR		LR			
	comp=Z,6μm,17.0s,MS5.1								
BHJ	**Bhuj**	**22.60**	**275**	*eP*		**P**		**17 27 51.4**	**+0.2**
BHJ				AMb		AMB		17 28 09.0	
	comp=Z,278nm,1.4s,mb5.5								
BHJ				*ex*		x		17 31 48.9	
HHC	**Hu-ho-hao-te**	**22.70**	**36**	*eP*		**P**		**17 27 51.2**	**-1.0**
HHC				AP				17 28 04.9	
HHC				XP		sP		17 28 08.8	-1.2
HHC				PP				17 28 21.8	
HHC				PCP		PcP		17 31 43.0	0.0
HHC				S		**S**		**17 31 58.0**	**+0.8**
HHC				XS		sS		17 32 12.3	-5.0
HHC				SS				17 32 36.3	
HHC				SCP		ScP		17 35 15.9	-0.6
HHC				PCS		PcS		17 35 21.6	-0.3
HHC				AMB		AMB			
	comp=Z,42nm,1.0s,mb4.8								
HHC				AMB		AMB			
	comp=Z,691nm,4.3s								
HHC				LR		LR			
	comp=N,6μm,13.1s,MS5.3								
HHC				LR		LR			
	comp=E,4μm,13.5s,MS5.3								
HHC				LR		LR			
	comp=Z,7μm,14.1s,MS5.3								
DRP	**Derazinda**	**22.88**	**297**	P		**P**		**17 27 54.8**	**+0.8**
DRP				S		**S**		**17 32 01.0**	**+0.9**
KGM	**Kluang**	**22.96**	**156**	P		**P**		**17 27 54.5**	**-0.3**
NJ2	**Nanjing**	**23.39**	**63**	*eP*		**P**		**17 27 58.9**	**-0.3**
NJ2				AP				17 28 09.8	
NJ2				XP		sP		17 28 15.4	-1.9
NJ2				PP				17 28 31.8	
NJ2				S		**S**		**17 32 05.0**	**-3.3**
NJ2				AMB		AMB			
	comp=Z,100nm,1.0s,mb5.2								
NJ2				AMB		AMB			
	comp=Z,1μm,5.0s								
NJ2				LR		LR			
	comp=N,24μm,20.4s,MS5.7								
NJ2				LR		LR			
	comp=E,20μm,24.1s,MS5.7								
NJ2				LR		LR			
	comp=Z,9μm,22.6s,MS5.2								
TIA	**Tai'an**	**23.54**	**52**	P		**P**		**17 27 59.4**	**-1.2**
TIA				AMB		AMB			
	comp=Z,84nm,1.0s,mb5.1								
TIA				LR		LR			
	comp=N,10μm,18.0s,MS5.5								
TIA				LR		LR			
	comp=E,12μm,15.0s,MS5.5								
AAA	**Alma-Ata**	**24.48**	**328**	*eP*		**P**		**17 28 09.0**	**-0.2**
AAA				*eS*		**S**		**17 32 29.0**	**+2.9**
AAA				pmax		pmax			
	comp=Z,4μm,2.5s,mb6.4								
AAA				smax					
	comp=N,9μm,11.5s								
AAA				MLR		MLR			
	comp=Z,5μm,23.0s,MS5.0								
BJT	**Baijiatuau**	**24.86**	**43**	⇑*eP*		**P**		**17 28 12.6**	**0.0**
BJT				pmax		pmax			
	comp=Z,147nm,0.8s								
BJT	**Baijiatuau**	**24.86**	**43**	⇑*eP*		**P**		**17 28 12.6**	**-0.1**
	comp=Z,147nm,0.8s,mb5.6								
TATO	**Taipei**	**24.87**	**81**	P		**P**		**17 28 13.2**	**+0.5**
	comp=Z,198nm,1.1s,mb5.5								
BJI	**Beijing**	**24.88**	**43**	P		**P**		**17 28 12.9**	**+0.1**
BJI				XP		sP		17 28 31.1	-0.3
BJI				S		**S**		**17 32 35.4**	**+3.0**
BJI				AMB		AMB			
	comp=Z,184nm,0.8s,mb5.7								
BJI				AMB		AMB			
	comp=Z,1μm,3.4s								
BJI				LR		LR			
	comp=N,5μm,20.4s,MS5.1								
BJI				LR		LR			
	comp=E,3μm,20.4s,MS5.1								
BJI				LR		LR			
	comp=Z,6μm,21.7s,MS5.1								
TKM2	**Tokmak 2**	**24.90**	**326**	P		**P**		**17 28 14.2**	**+1.2**
TKM2				pmax		pmax			
	comp=Z,284nm,1.0s,mb5.8								
NACB	**Ninganchiao**	**25.01**	**83**	⇑*eP*		**P**		**17 28 15.8**	**+1.9**
NACB				*e*pP		pP		17 28 28.1	+1.4
BOLP	**Bolinao**	**25.07**	**101**	*eP*		**P**		**17 28 16.4**	**+1.9**
SSE	**Sheshan**	**25.10**	**66**	⇑P		**P**		**17 28 14.8**	**0.0**
SSE				AP		pP		17 28 26.3	-1.2
SSE				XP		sP		17 28 31.0	-2.4
SSE				S		**S**		**17 32 35.7**	**-0.2**
SSE				XS		sS		17 32 54.1	-3.3
SSE				AMB		AMB			
	comp=Z,300nm,0.8s,mb5.9								
SSE				AMB		AMB			
	comp=Z,432nm,5.2s								
SSE				LR		LR			
	comp=N,4μm,20.2s,MS5.3								
SSE				LR		LR			
	comp=E,10μm,20.3s,MS5.3								
SSE				LR		LR			
	comp=Z,13μm,20.7s,MS5.4								
AAK	**Ala-Archa**	**25.28**	**324**	P		**P**		**17 28 17.8**	**+1.4**
	comp=Z,909nm,1.2s,mb6.2								
AAK	**Ala-Archa**	**25.28**	**324**	*c iP*		**P**		**17 28 16.9**	**+0.5**
AAK				pmax		pmax			
	comp=Z,282nm,1.5s,mb5.6								
AAK				MLR		MLR			
	comp=Z,6μm,25.0s,MS5.0								
AAK	**Ala-Archa**	**25.28**	**324**	⇑*iP*		**P**		**17 28 16.9**	**+0.5**
	comp=Z,282nm,1.5s,mb5.6								
AAK				LR		LR			
	comp=Z,6μm,25.0s,MS5.0								
SCZP	**Santa Cruz**	**25.28**	**103**	*eP*		**P**		**17 28 17.4**	**+1.0**
MK31	**Makanchi Array**	**25.29**	**341**	P		**P**		**17 28 17.3**	**+0.7**
MK31				pmax		pmax			
	comp=Z,511nm,1.0s,mb6.0								
MKAR	**Makanchi Array**	**25.29**	**341**	P		**P**		**17 28 17.3**	**+0.7**
	comp=Z,227nm,0.7s,mb5.8,baz=148,slow=9.3,SNR=403								
MKAR				PcP		PcP		17 31 49.4	+0.9
	comp=Z,10nm,0.7s,baz=129,slow=1.9,SNR=5.4								
MKAR				ScP		ScP		17 35 23.9	+0.3
	comp=Z,3.3nm,0.7s,baz=134,slow=3.5,SNR=3.8								
MKAR				PKiKP		PKiKP		17 39 28.1	-1.1
	comp=Z,1.1nm,0.6s,baz=242,slow=2.2,SNR=5.9								
MKAR				P3KPbc				18 01 15.6	
	comp=Z,0.9nm,0.7s,baz=332,slow=4.7,SNR=4.7								
MKAR	**Makanchi Array**	**25.29**	**341**	P		**P**		**17 28 17.3**	**+0.7**
MKAR				*e*				17 31 49.4	
MKAR				pmax		pmax			
	comp=Z,227nm,0.7s								
MKAR	**Makanchi Array**	**25.29**	**341**	P		**P**		**17 28 17.3**	**+0.7**
MKAR				*e*				17 31 49.4	
FRU	**Bishkek**	**25.35**	**325**	*eP*		**P**		**17 28 18.0**	**+0.9**
FRU				*e*		pP		17 28 34.0	+4.2
FRU				*eS*		**S**		**17 32 47.0**	**+7.1**
FRU				*e*				17 33 48.0	
FRU				pmax		pmax			
	comp=Z,260nm,1.6s,mb5.5								
FRU				pmax		pmax			
	comp=Z,1μm,5.5s								
FRU				smax					
	comp=N,7μm,9.0s								
FRU				MLR		MLR			
	comp=Z,4μm,24.0s,MS4.8								
ABRA	**Dolores**	**25.39**	**98**	*eP*		**P**		**17 28 19.8**	**+2.4**
BCPH	**Baguio City Da**	**25.67**	**101**	⇑*iP*		**P**		**17 28 24.8**	**+4.8**
APYP	**Conner**	**25.81**	**97**	*eP*		**P**		**17 28 23.1**	**+1.8**
SONM	**Songino Array**	**26.27**	**19**	P		**P**		**17 28 25.6**	**+0.1**
	comp=Z,44nm,0.8s,mb5.0,baz=196,slow=8.8,SNR=130								
SONM				PcP		PcP		17 31 51.3	+0.5
	comp=Z,23nm,0.8s,baz=192,slow=4.0,SNR=9.0								
SONM				ScP		ScP		17 35 25.6	-0.8
	comp=Z,5.5nm,0.7s,baz=209,slow=3.4,SNR=7.2								
SONM				PKiKP		PKiKP		17 39 29.2	-0.5
	comp=Z,1.4nm,0.7s,baz=164,slow=2.4,SNR=5.3								
SONM				LR		LR		17 41 02.4	
	comp=Z,8μm,19.1s,MS5.3,baz=201,slow=41								
SONM				P3KPbc				18 01 11.8	
	comp=Z,0.3nm,0.5s,baz=21,slow=3.1,SNR=6.3								
SONM	**Songino Array**	**26.27**	**19**	P		**P**		**17 28 25.6**	**+0.2**
SONM								17 31 51.3	
SONM				pmax		pmax			
	comp=Z,44nm,0.8s								
SONM				MLR		MLR			
	comp=Z,8μm,19.1s								
SONM	**Songino Array**	**26.27**	**19**	P		**P**		**17 28 25.6**	**+0.1**
SONM				PcP		PcP		17 31 51.3	+0.5
SONM				ScP		ScP		17 35 25.6	-0.8
ULN	**Ulaanbaatar**	**26

KKM Kota Kinabalu 27.25 126 P **P** **17 28 36.1 +1.8**
KKM Kota Kinabalu 27.25 126⇑ *e*P **P** **17 28 36.0 +1.7**
KKM *e*PcP PcP 17 31 54.1 +1.0
KKAR Karatay Array 27.81 321 *i* P **P** **17 28 40.3 +1.0**
KKAR pmax pmax
comp=Z,28nm,0.8s,mb4.9
ZAK Zakamensk 27.88 12⇑ *i*P **P** **17 28 40.9 +1.1**
ZAK *e* 17 31 54.6
ZAK *e* 17 34 37.6
ZAK *e* 17 39 23.8
ZAK pmax pmax
comp=Z,265nm,1.7s,mb5.6
BOAC Boac 27.91 106 *e*P **P** **17 28 40.3 +0.2**
DL2 Dalian 27.94 50 ⇑P **P** **17 28 39.7 -0.7**
DL2 XP sP 17 28 58.3 -0.8
DL2 PP PP 17 29 31.5 -13
DL2 PPP 17 29 45.5
DL2 PCP PcP 17 31 55.0 +0.3
DL2 S **S** **17 33 21.0 +0.2**
DL2 XS sS 17 33 40.3 -2.1
DL2 SCS ScS 17 39 22.4 -1.4
DL2 AMB AMB
comp=Z,50nm,1.0s,mb5.1
DL2 AMB AMB
comp=Z,340nm,5.8s
DL2 LR LR
comp=N,3μm,16.9s,MS5.1
DL2 LR LR
comp=E,3μm,17.0s,MS5.1
DL2 LR LR
comp=Z,6μm,17.4s,MS5.2
OTRP Odiongan 28.53 108 *e*P **P** **17 28 47.4 +1.7**
MOY Mondy 28.73 9 *e*P **P** **17 28 48.2 +0.8**
MOY pmax pmax
comp=Z,173nm,2.3s,mb5.4
TLY Talaya 29.18 12 P **P** **17 28 53.7 +2.2**
comp=Z,445nm,1.2s,mb6.1,SNR=25
TLY Talaya 29.18 12⇑ *i*P **P** **17 28 52.8 +1.3**
TLY *e*S **S** **17 33 41.7 +1.4**
TLY *e*SSS 17 35 40.5
TLY pmax pmax
comp=Z,145nm,1.5s,mb5.5
TLY MLR MLR
comp=Z,4μm,21.0s,MS5.0
TLY Talaya 29.18 12⇑ *i*P **P** **17 28 52.8 +1.3**
TLY *e*S **S** **17 33 41.7 +1.4**
TLY *e*SSS 17 35 40.5
TSM Tawau 29.64 126 P **P** **17 28 55.0 -0.6**
IRK Irkutsk 29.84 12 *e*P **P** **17 28 58.3 +1.0**
IRK *e* 17 30 11.5
IRK pmax pmax
comp=Z,370nm,1.7s,mb5.8
KURK Kurchatov 29.90 340 P **P** **17 28 58.1 +0.3**
comp=Z,1μm,0.8s,mb6.7
KURK Kurchatov 29.90 340*c* *i*P **P** **17 28 57.9 +0.1**
SNY Shenyang 30.59 46 ⇑P **P** **17 29 03.1 -0.8**
SNY S **S** **17 34 01.0 -1.3**
SNY AMB AMB
comp=Z,29nm,1.1s,mb5.0
SNY AMB AMB
comp=Z,460nm,3.6s
SNY LR LR
comp=E,6μm,21.9s
SNY LR LR
comp=Z,6μm,21.4s,MS5.2
JOW Kunigami 30.93 76 LR LR 17 43 01.0
comp=Z,12μm,19.0s,MS5.6,baz=256,slow=39
INCN Inchon 31.08 56 P **P** **17 29 07.0 -1.2**
comp=Z,30nm,0.9s,mb5.1
ZAL Zalesovo 31.36 349 P **P** **17 29 10.5 -0.2**
comp=Z,35nm,0.5s,mb5.5,baz=307,slow=8.4,SNR=183
ZAL PcP PcP 17 32 03.1 -0.4
comp=Z,8.9nm,0.3s,baz=328,slow=2.9,SNR=7.1
ZAL ScP ScP 17 35 44.5 +2.1
comp=Z,3.0nm,0.7s,baz=74,slow=21,SNR=6.7
ZAL P3KPbc 18 00 47.5
comp=Z,1.1nm,0.5s,baz=136,slow=7.2,SNR=5.4
ZAL Zalesovo 31.36 349 *i* P **P** **17 29 10.5 -0.2**
ZAL pmax pmax
comp=Z,35nm,0.5s
KS15 Wonju Array Si 32.02 56 *e*P **P** **17 29 14.2 -2.3**
CIT Chita 32.22 23 *e*P **P** **17 29 18.9 +0.7**
CIT *e* 17 39 41.9
CIT pmax pmax
comp=Z,40nm,1.9s,mb4.9
WBK Wadi Bani Khal 32.46 276 P **P** **17 29 22.3 +2.0**
SNR=6.6
NVS Novosibirsk 32.50 348⇑ *i*P **P** **17 29 19.7 -1.0**
NVS pmax pmax
comp=Z,534nm,1.8s,mb6.2
NVS pmax pmax
comp=N,360nm,1.6s
NVS pmax pmax
comp=E,152nm,1.3s
KRAR Krasnoyarsk 32.63 359 *e*P **P** **17 29 22.0 +0.2**
KRAR MLR MLR
comp=Z,1μm,17.0s,MS4.6
HIA Hailar 32.72 31 *e*P **P** **17 29 22.0 -0.6**
HIA *e* 17 32 06.5
HIA pmax pmax
comp=Z,52nm,1.1s
HIA Hailar 32.72 31 *e*P **P** **17 29 22.0 -0.6**
comp=Z,52nm,1.1s,mb5.4
HIA *e*PcP PcP 17 32 06.5 -0.7
CN2 Changchun 32.73 44 ⇓P **P** **17 29 21.0 -1.7**
CN2 *e*AP pP 17 29 32.9 -2.7
CN2 *e*S **S** **17 34 33.1 -2.7**
CN2 AMB AMB
comp=Z,20nm,0.7s,mb5.2
CN2 AMB AMB
comp=Z,300nm,6.0s
CN2 LR LR
comp=N,2μm,18.0s,MS5.2
CN2 LR LR
comp=E,5μm,18.0s,MS5.2
CN2 LR LR
comp=Z,4μm,23.0s,MS5.1
BIDO Bidbid 33.11 278 P **P** **17 29 26.7 +0.7**
SNR=13
SMDO Samad 33.24 277 P **P** **17 29 28.9 +1.7**
SNR=24
BUKP Musuan 33.30 113 *e*P **P** **17 29 29.2 +1.5**
JNU Nakatsue 33.54 65 LR LR 17 44 59.2
comp=Z,12μm,21.8s,MS5.6,baz=189,slow=40
HOQ Hoqain 33.84 278 P **P** **17 29 34.4 +2.0**
SNR=11
BSY Bisya 34.06 276 P **P** **17 29 36.0 +1.8**
SNR=14
ABKT Ailbek 34.09 304 P **P** **17 29 36.2 +1.6**
comp=Z,311nm,1.6s,mb6.0,SNR=30
BVA0 Borovoye Array 34.74 335 *i* P **P** **17 29 40.1 0.0**
BVA0 pmax pmax
comp=Z,22nm,1.3s,mb4.9
BRVK Borovoye 34.80 335 P **P** **17 29 40.2 -0.5**
comp=Z,526nm,0.6s,mb6.6,SNR=63
BRVK Borovoye 34.80 335⇑ *e*P **P** **17 29 40.5 -0.2**
BRVK pmax pmax
comp=Z,101nm,1.1s,mb5.7
BRVK Borovoye 34.80 335⇑ *e*P **P** **17 29 40.5 -0.2**
comp=Z,101nm,1.1s,mb5.7
ASHO Ashiyiah 34.85 280 P **P** **17 29 42.7 +1.5**
SNR=12
ZRNK Zerenda 35.24 333 P **P** **17 29 44.3 -0.1**
ZRNK pmax pmax
comp=Z,54nm,0.7s,mb5.6
MDJ Mudanjiang 35.76 45 P **P** **17 29 48.1 -0.8**
MDJ AP pP 17 29 59.1 -2.8
MDJ PP PP 17 31 08.3 -2.5
MDJ S **S** **17 35 20.6 -1.9**
MDJ AMB AMB
comp=Z,28nm,1.1s,mb5.1
MDJ AMB AMB
comp=Z,133nm,4.4s
MDJ LR LR
comp=N,3μm,17.2s,MS5.2
MDJ LR LR
comp=E,3μm,18.6s,MS5.2
MDJ LR LR
comp=Z,5μm,17.2s,MS5.3
MDJ Mudanjiang 35.76 45 *e*P **P** **17 29 47.2 -1.7**
comp=Z,113nm,1.4s,mb5.6
VLA Vladivostok 36.73 48 *e*P **P** **17 29 56.2 -1.0**
VLA pmax pmax
comp=Z,175nm,1.0s,mb5.8
VLA MLR MLR
comp=Z,10μm,19.0s,MS5.6
VLA Vladivostok 36.73 48 *e*P **P** **17 29 56.2 -1.0**
comp=Z,175nm,1.0s,mb5.8
VLA LR LR
comp=Z,10μm,19.0s,MS5.6
BOD Bodaibo 37.25 17 *e*P pP 17 30 13.3 -1.4
BOD pmax pmax
comp=Z,116nm,1.5s,mb5.5
DGAR Diego Garcia 37.29 217 *e*P **P** **17 30 02.0 +0.1**
AB31 Akbulak array 37.34 322 *i* P **P** **17 30 02.9 +0.6**
AB31 pmax pmax
comp=Z,34nm,0.6s,mb5.3
AKTO Aktyubinsk 39.01 323 P **P** **17 30 16.7 +0.3**
AKTO pmax pmax
comp=Z,33nm,1.1s,mb5.0
KLR Kul'dur 39.12 39 *e*P **P** **17 30 13.1 -4.3**
KLR *e*S **S** **17 36 14.5 +0.9**
KLR pmax pmax
comp=E,34nm,1.2s
KLR pmax pmax
comp=Z,68nm,1.2s,mb5.2
KLR MLR MLR
comp=N,2μm,13.0s,MS5.3
KLR MLR MLR
comp=E,2μm,13.0s,MS5.3
KLR MLR MLR
comp=Z,3μm,13.0s,MS5.3
MAJO Matsushiro 39.94 60 *e*P **P** **17 30 23.0 -1.2**
MAJO *e* 17 32 28.5
MAJO pmax pmax
comp=Z,65nm,0.8s,mb5.4
MAJO Matsushiro 39.94 60 *e*P **P** **17 30 23.0 -1.2**
comp=Z,67nm,0.8s,mb5.4
MAJO *e*PcP PcP 17 32 28.5 -0.3
MAT Matsushiro 39.94 60 P **P** **17 30 23.5 -0.7**
MAT *S* **S** **17 36 23.0 -2.9**
MAT Matsushiro 39.94 60 *e*P **P** **17 30 24.0 -0.2**
MAT *e*S **S** **17 36 24.0 -1.9**
MAT pmax pmax
comp=Z,73nm,1.0s,mb5.4
MAT MLR MLR
comp=Z,6μm,20.0s,MS5.4
MAT Matsushiro 39.94 60 *e*P **P** **17 30 24.0 -0.2**
comp=Z,73nm,1.0s,mb5.4
MAT *e*S **S** **17 36 24.0 -1.9**
MAT LR LR
comp=Z,6μm,20.0s,MS5.4
MJAR Matsushiro Arr 39.95 60 P **P** **17 30 23.9 -0.3**
comp=Z,47nm,0.9s,mb5.2,baz=273,slow=9.3,SNR=50
MJAR PcP PcP 17 32 28.6 -0.2
comp=Z,10nm,0.8s,baz=255,slow=1.6,SNR=10
MJAR ScP ScP 17 36 12.8 -0.8
comp=Z,4.1nm,0.8s,baz=251,slow=3.1,SNR=4.8
MJAR LR LR 17 49 18.2
comp=Z,7μm,19.8s,MS5.5,baz=270,slow=40
CLNS Chul'man 40.18 26 *e*P **P** **17 30 22.1 -4.1**
CLNS *e**PP pP 17 30 30.3 -9.0
CLNS *e*PPP 17 32 01.3
CLNS *e* 17 32 27.7
CLNS *e* 17 36 25.5
CLNS *e* 17 40 06.9
CLNS pmax pmax
comp=E,90nm,0.9s
CLNS pmax pmax
comp=Z,110nm,0.9s,mb5.6
CLNS pmax pmax
comp=N,100nm,0.7s
CLNS MLR MLR
comp=Z,10μm,20.0s,MS5.7
CLNS MLR MLR
comp=E,7μm,19.0s
HABR Khabarovsk 40.77 42⇑ *i*P **P** **17 30 30.5 -0.5**
HABR *e*S **S** **17 36 40.3 +2.1**
HABR pmax pmax
comp=Z,73nm,1.6s,mb5.1
JHJ Hachijo jima 2 40.99 66 LR LR 17 49 05.6
comp=Z,4μm,20.9s,MS5.2,baz=93,slow=38
ORR Orenburg 41.39 323 *i* P **P** **17 30 36.2 +0.1**
ORR S **S** **17 36 37.8 -10**
ORR pmax pmax
comp=Z,850nm,1.4s,mb6.2
ORR MLR MLR
comp=Z,3μm,18.0s,MS5.2
QRN Al-Qurain 41.79 288 *e*P **P** **17 30 39.9 +0.5**
KBD Kabd 41.96 288 *e*P **P** **17 30 41.4 +0.6**
KBD AMb AMB 17 30 42.6
comp=Z,265nm,0.6s,mb6.0
ARU Arti 42.07 331 P **P** **17 30 41.9 +0.2**
comp=Z,1μm,0.6s,mb6.6,SNR=12
ARU Arti 42.07 331⇑ *i*P **P** **17 30 41.6 -0.1**
ARU *e* 17 32 20.5
ARU *e*PPP 17 32 51.2
ARU *e*S **S** **17 37 01.2 +3.8**
ARU *e*SSS 17 40 42.1
ARU pmax pmax
comp=Z,117nm,0.8s,mb5.6
ARU MLR MLR
comp=Z,4μm,20.0s,MS5.3
ARU MLR MLR
comp=N,2μm,18.0s
ARU MLR MLR
comp=E,2μm,24.0s
ARU Arti 42.07 331⇑ *i*P **P** **17 30 41.6 -0.1**
comp=E,117nm,0.8s,mb5.6
ARU *e* 17 32 20.5
ARU *e*PPP 17 32 51.2
ARU *e*S **S** **17 37 01.2 +3.8**
ARU *e*SSS 17 40 42.1
ARU LR LR
comp=Z,4μm,20.0s,MS5.3
RDF Al-Radifah 42.10 288 *e*P **P** **17 30 41.6 -0.4**
RDF AMb AMB 17 30 43.7
comp=Z,202nm,0.5s,mb6.0
MIB Mutribah 42.23 289 *e*P **P** **17 30 43.9 +0.9**
MIB AMb AMB 17 30 56.8
comp=Z,240nm,1.0s,mb5.8
NAY Al-Naaiem 42.35 288 *e*P **P** **17 30 43.6 -0.4**
NAY AMb AMB 17 30 57.7
comp=Z,168nm,0.7s,mb5.8
MAK Makhachkala 43.13 309*c* *i*P **P** **17 30 51.2 +0.9**
MAK *i* 17 32 43.3
MAK *e*S **S** **17 37 13.7 +0.7**
MAK *e*SS SS 17 40 21.8 -5.2
MAK pmax pmax
comp=Z,50nm,1.0s,mb5.2
MAK MLR MLR
comp=Z,167nm,18.0s
CBIJ Chichi jima 43.30 75 LR LR 17 48 42.1
comp=Z,2μm,21.4s,MS5.0,baz=250,slow=36
DGRG David-gareji 44.42 306 P **P** **17 31 03.0 +2.3**
BHD Baghdad 44.66 294 *i* x x 17 31 00.0
BHD *e*x x 17 32 42.0
BHD *e*x x 17 33 39.0
BHD *e*x x 17 35 41.0
BHD *e*x x 17 37 33.0
BHD *e*x x 17 37 56.0
GNI Garni 44.73 304⇑ *i*P **P** **17 31 05.4 +2.3**
GNI pmax pmax
comp=Z,75nm,1.2s
GNI Garni 44.73 304⇑ *i*P **P** **17 31 05.4 +2.3**
comp=Z,75nm,1.2s,mb5.4
SAMG Sameba 44.88 306 P **P** **17 31 04.8 +0.5**
MTA Mtatsminda 44.89 306 P **P** **17 31 05.4 +1.0**
TBLG Delisi 44.94 306 P **P** **17 31 06.0 +1.3**
YSS Yuzh-Sakhalins 45.21 46⇑ *e*P **P** **17 31 06.0 -0.9**
YSS *e**PP pP 17 31 19.1 -1.2
YSS *e**SP sP 17 31 25.2 -0.8
YSS *e* 17 32 46.0
YSS *e*PPP 17 33 35.5
YSS *e*S **S** **17 37 42.0 -1.3**
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.1
YSS MLR MLR
comp=N,6μm,20.0s
YSS MLR MLR
comp=Z,6μm,20.0s,MS5.5
YSS Yuzh-Sakhalins 45.21 46⇑ *e*P **P** **17 31 06.0 -0.9**
comp=Z,30nm,1.0s,mb5.1
YSS *e*pP pP 17 31 19.1 -1.2
YSS *e*sP sP 17 31 25.2 -0.8
YSS *e* 17 32 46.0
YSS *e*PPP 17 33 35.5
YSS *e*S **S** **17 37 42.0 -1.3**
YSS LR LR
comp=Z,6μm,20.0s,MS5.5
YAK Yakutsk 45.51 23*c* *i*P **P** **17 31 09.1 -0.2**
YAK *e**PP pP 17 31 19.8 -2.8
YAK *i* 17 32 46.8
YAK *e* 17 32 58.3
YAK *e*PPP 17 33 35.7
YAK *e*S **S** **17 37 48.9 +1.3**
YAK *e**SS sS 17 38 02.1 -7.9
YAK *e* 17 40 57.1
YAK pmax pmax
comp=N,15nm,1.2s
YAK pmax pmax
comp=Z,26nm,1.2s,mb5.0
YAK pmax pmax
comp=E,14nm,1.3s
YAK smax
comp=N,4.0nm,1.2s
YAK smax
comp=E,9.0nm,1.4s
YAK MLR MLR
comp=Z,3μm,21.0s,MS5.2
YAK MLR MLR
comp=N,2μm,20.0s,MS5.2
YAK MLR MLR
comp=E,2μm,25.0s,MS5.2
YAK Yakutsk 45.51 23⇑ *i*P **P** **17 31 09.1 -0.2**
YAK *e*pP pP 17 31 19.8 -2.8
YAK *i* 17 32 46.8
YAK *e* 17 32 58.3
YAK *e*PPP 17 33 35.7
YAK *e*S **S** **17 37 48.9 +1.3**
YAK *e*sS sS 17 38 02.1 -7.9
YAK *e* 17 40 57.1
YAK LR LR
comp=Z,3μm,21.0s,MS5.2
ZEI Tsey 45.70 308 *e*P **P** **17 31 13.4 +2.5**
ZEI *e* 17 32 56.2
ZEI pmax pmax
comp=Z,197nm,1.1s,mb6.0
MSL Mosul 45.75 299 *e*x x 17 31 13.0
MSL *e*x x 17 37 52.0
DIGO Kars 45.80 304 *i* P **P** **17 31 13.4 +1.8**
ONI Oni 46.01 307 P **P** **17 31 15.2 +2.0**
GOF Gofitskoye 46.69 311 *e*P **P** **17 31 18.5 -0.1**
GOF *i* S **S** **17 38 06.7 +2.1**
GOF pmax pmax
comp=Z,130nm,1.0s,mb5.8
GOF smax
comp=N,50nm,1.5s
GOF smax
comp=E,70nm,1.5s
KIV Kislovodsk 46.76 309 P **P** **17 31 20.1 +1.0**
comp=E,770nm,1.4s,mb6.4,SNR=27
KIV Kislovodsk 46.76 309*d* *i*P **P** **17 31 19.4 +0.3**
KIV pmax pmax
comp=Z,216nm,1.3s,mb5.9
KIV MLR MLR
comp=Z,4μm,22.0s,MS5.3
KIV Kislovodsk 46.76 309 *i* Pr 17 31 19.4
comp=Z,216nm,1.3s
KIV LR LR
comp=Z,4μm,22.0s,MS5.3
ARTV Artvin 46.97 305 *i* P **P** **17 31 19.9 -0.9**
BTMT Batman 47.10 301 *e*P pP 17 31 34.6 -0.6
LBOS 47.22 267 *e*P **P** **17 31 23.3 +0.6**
ERZM Erzurum 47.29 303 *i* P **P** **17 31 24.9 +1.6**
EZM Erzurum 47.29 303 *e*P **P** **17 31 25.1 +1.8**
MARD Mardin 47.63 300 *i* P **P** **17 31 26.1 +0.2**
GUMO Guam 48.76 92 P **P** **17 31 32.5 -2.1**
comp=Z,51nm,0.7s,mb5.7,baz=207,slow=16,SNR=3.5
GUMO LR LR 17 51 55.7
comp=Z,3μm,21.2s,MS5.3,baz=283,slow=36
GUMO Guam 48.76 92 P **P** **17 31 32.5 -2.1**
GUMO pmax pmax
comp=Z,51nm,0.7s,mb5.7
GUMO MLR MLR
comp=Z,3μm,21.2s,MS5.3
SOC Sochi 48.84 308*c* *i*P **P** **17 31 36.2 +0.9**
SOC *e* 17 32 58.9
SOC *e*PPP 17 32 27.2
SOC *i* S **S** **17 38 34.7 -0.4**
SOC *e**SS sS 17 38 48.5 -9.1
SOC pmax pmax
comp=Z,578nm,2.5s,mb6.2
SOC pmax pmax
comp=Z,171nm,1.2s,mb6.0
SOC MLR MLR
comp=Z,3μm,21.0s,MS5.3
VRHR Novokhopersk 48.88 318 *e*P **P** **17 31 35.0 -0.6**
VRHR *e*S **S** **17 38 34.5 -1.1**
VRHR pmax pmax
comp=Z,380nm,0.7s,mb6.5
VRHR pmax pmax
comp=N,40nm,0.6s
VRHR pmax pmax
comp=E,90nm,0.5s
VRHR smax
comp=N,390nm,2.0s
VRHR smax
comp=E,540nm,2.1s
VRHR smax
comp=Z,230nm,2.1s
VRHR MLR MLR
comp=Z,6μm,24.0s,MS5.5
VRHR MLR MLR
comp=N,1μm,18.0s
VRHR MLR MLR
comp=E,3μm,20.0s
PECR Pechory 49.06 325⇓ *e*P **P** **17 31 37.0 +0.1**
PECR *e* 17 31 56.6
PECR *i* S **S** **17 38 39.0 +0.9**
PECR *e* 17 38 53.0
PECR *e* 17 39 06.0
PECR *e* 17 41 24.6
PECR pmax pmax
comp=Z,360nm,1.2s,mb6.3
PECR pmax pmax
comp=Z,700nm,4.4s
PECR smax
comp=E,700nm,8.0s
PECR smax
comp=N,800nm,8.0s
PECR MLR MLR
comp=Z,4μm,23.0s,MS5.4
PECR MLR MLR
comp=E,1μm,18.0s
ELZG Elazig 49.08 301 *i* P **P** **17 31 36.3 -0.7**
URFA Urfa 49.19 300 *e*P **P** **17 31 39.1 +1.2**
MALT Malatya 49.51 301⇑ *i*P **P** **17 31 42.3 +1.9**
MALT Malatya 49.51 301 *e*P **P** **17 31 42.1 +1.8**
comp=E,33nm,1.0s,mb5.3
ATAB Bozova 49.61 300 *i* P **P** **17 31 42.5 +1.3**
GRSN GIRESUNGRSN 49.71 305 *i* P **P** **17 31 39.1 -2.8**
GAZ Gaziantep 50.48 300 *e*P **P** **17 31 49.1 +1.4**
VOR Voronezh 50.51 319 *e*P **P** **17 31 47.0 -0.9**
VOR *e**SP sP 17 31 58.0 -9.2
VOR *e*S **S** **17 38 57.0 -1.3**
VOR pmax pmax
comp=Z,610nm,1.2s,mb6.4
VOR pmax pmax
comp=N,140nm,1.3s
VOR smax
comp=N,140nm,1.7s
ANN Anapa 50.60 310 *e*P **P** **17 31 47.2 -1.4**
ANN *e*S **S** **17 39 00.4 +0.8**
ANN *e*SS SS 17 42 37.8 +3.7
ANN pmax pmax
comp=Z,110nm,1.6s,mb5.5
ANN MLR MLR
comp=N,3μm,21.0s,MS5.3
ANN MLR MLR
comp=E,2μm,21.0s,MS5.3
ANN MLR MLR
comp=Z,5μm,21.0s,MS5.5
SVSK Karacayir 50.65 303 *e*P **P** **17 31 49.7 +0.8**
MBWA Marble Bar 50.73 149 *e*P **P** **17 31 48.7 -0.8**
comp=Z,253nm,1.3s,mb6.0
MBWA *e*pP pP 17 32 01.6 -1.5
COBT Iskenderun 51.26 299 *i* P **P** **17 31 52.4 -1.2**
FITZ Fitzroy Crossi 51.35 141 *e*P **P** **17 31 53.1 -1.1**
comp=Z,158nm,1.2s,mb5.8
FITZ *e*SCP ScP 17 36 59.0 -1.8
FITZ *e*S **S** **17 39 06.8 -3.2**
FITZ Fitzroy Crossi 51.35 141 P **P** **17 31 53.3 -0.9**
comp=Z,114nm,1.1s,mb5.7,baz=335,slow=8.1,SNR=76
KVT Kavak 51.40 305 *e*P **P** **17 31 55.9 +1.3**

BNN Bunyan 51.53 302 *e*P **P 17 31 57.3 +1.7**
KOZT Kozan 51.58 300 *e*P **P 17 31 57.0 +1.1**
CEYT Ceyhan 51.65 299 *e*P **P 17 31 58.1 +1.6**
KAKA Kakadu 51.77 130 *e*P **P 17 31 55.8 -1.6**
comp=Z,84nm,1.4s,mb5.5
BHL Bhannes 51.91 296 *e*P **P 17 32 00.4 +2.0**
YOZ Yozgat 51.94 303 *e*P **P 17 32 00.1 +1.4**
TIXI Tiksi 52.15 13 *e*P **P 17 31 56.5 -3.7**
TIXI *e* 17 33 07.1
TIXI *e*S **S 17 39 13.1 -7.9**
TIXI pmax pmax
comp=Z,173nm,0.9s,mb6.0
TIXI smax
comp=N,552nm,18.3s
TIXI smax
comp=E,145nm,9.4s
TIXI MLR MLR
comp=Z,2µm,18.0s,MS5.2
TIXI Tiksi 52.15 13 *e*P **P 17 31 56.5 -3.7**
comp=Z,173nm,0.9s,mb6.0
TIXI *e* 17 33 07.1
TIXI *e*S **S 17 39 13.1 -7.9**
TIXI LR LR
comp=Z,2µm,18.0s,MS5.2
KARA Karaisali 52.20 300 *e*P **P 17 32 01.5 +0.9**
BOYT Boyabat 52.27 305 *i* P **P 17 32 00.8 -0.3**
AVNT Avonos 52.31 302 *i* P **P 17 31 58.6 -2.8**
CTKT Corum 52.34 304 *i* P **P 17 32 02.7 +1.0**
MOS Moscow 52.34 323 *e*P **P 17 32 01.1 -0.6**
MOS *e* 17 33 14.5
MOS *e* 17 33 59.5
MOS *e*PPP 17 35 02.9
MOS *e*S **S 17 39 23.0 -0.6**
MOS pmax pmax
comp=N,69nm,1.4s
MOS pmax pmax
comp=Z,482nm,1.4s,mb6.2
MOS pmax pmax
comp=E,157nm,1.1s
BYBT Boyabat 52.37 305 *e*P **P 17 32 03.1 +1.2**
NIG Nigde 52.52 301 *e*P **P 17 32 02.7 -0.2**
MERS Mersin 52.64 299 *e*P **P 17 32 04.8 +1.0**
OBN Obninsk 52.78 322 P **P 17 32 04.6 -0.3**
comp=E,1µm,1.0s,SNR=18
OBN Obninsk 52.78 322*c**e*P **P 17 32 04.3 -0.6**
OBN *e* 17 34 03.9
OBN *i*S **S 17 39 29.9 +0.3**
OBN pmax pmax
comp=Z,439nm,1.6s,mb6.1
OBN MLR MLR
comp=Z,3µm,21.0s,MS5.4
OBN Obninsk 52.78 322⇑*e*P **P 17 32 04.3 -0.6**
comp=Z,439nm,1.6s,mb6.1
OBN *e* 17 34 03.9
OBN *i*S **S 17 39 29.9 +0.3**
OBN LR LR
comp=Z,3µm,21.0s,MS5.4
TOS Tosya 52.93 305 *e*P **P 17 32 08.3 +2.3**
MEST Erdemli 52.96 299 *i* P **P 17 32 06.3 +0.1**
SIM Simferopol' 52.96 310*c i*P **P 17 32 07.1 +0.9**
SIM *i*S **S 17 39 34.1 +2.1**
SIM *e*PS 17 39 49.0
SIM pmax pmax
comp=Z,74nm,1.1s,mb5.5
SIM MLR MLR
comp=Z,3µm,23.8s,MS5.3
EIL Elat 52.97 290⇑*e*P **P 17 32 06.9 +0.7**
comp=Z,692nm,0.8s,mb6.6
PHNC Paralimni 53.16 297 P **P 17 32 07.5 -0.2**
BR131 Keskin Array S 53.23 303 *e*P **P 17 32 08.9 +0.7**
comp=Z,5.6nm,0.5s,mb4.8
BR131 *e*pP pP 17 32 22.8 +1.0
BRTR Keskin Array B 53.23 303 P **P 17 32 07.7 -0.6**
comp=Z,6.8nm,0.5s,mb4.8,baz=112,slow=6.6,SNR=68
BRTR Keskin Array B 53.23 303 P **P 17 32 07.7 -0.5**
BRTR pmax pmax
comp=Z,7.0nm,0.5s
CANT Cankiri 53.23 304 *e*P **P 17 32 10.2 +2.0**
MA2 Magadan 53.31 32 *e*P **P 17 32 07.6 -1.1**
MA2 pmax pmax
comp=Z,35nm,1.1s,mb5.2
MA2 MLR MLR
comp=Z,5µm,22.0s,MS5.5
MA2 Magadan 53.31 32 *e*P **P 17 32 07.6 -1.1**
comp=Z,35nm,1.1s,mb5.2
MA2 LR LR
comp=Z,5µm,22.0s,MS5.5
ELDT Eldivan 53.38 304 *i* P **P 17 32 09.4 +0.1**
BALT Daday 53.41 305 *i* P **P 17 32 09.3 -0.2**
CSS Prodhromos 53.73 297 P **P 17 32 12.1 +0.2**
comp=Z,1.3nm,1.2s
MAMC Mammari 53.81 297 P **P 17 32 11.0 -1.4**
ANTO Ankara 53.88 303⇓*i*P **P 17 32 13.1 +0.1**
ANTO Ankara 53.88 303 P **P 17 32 14.4 +1.4**
ANTO Ankara 53.88 303 *e*P **P 17 32 13.6 +0.7**
comp=Z,40nm,0.7s,mb5.5
LOD Lodumlu 53.90 303 *e*P **P 17 32 13.4 +0.3**
SAFT Safranbolu 53.93 305 *e*P **P 17 32 14.0 +0.6**
ERMK Ermenek 53.94 299 *i* P **P 17 32 12.8 -0.6**
SZAC Souni-Zanaja 54.12 297 P **P 17 32 15.0 +0.3**
KONT Konya--Tatoy 54.30 301 *e*P **P 17 32 15.1 -0.9**
ALFC Alevga 54.31 297 P **P 17 32 16.4 +0.3**
comp=Z,1.7nm,0.6s
SGKT Sivrigoynuk 54.43 304 *i* P **P 17 32 16.6 -0.4**
PPCY Paphos 54.55 297 P **P 17 32 18.2 +0.4**
KIZT Kizilcal 54.63 302 *e*P **P 17 32 18.2 -0.2**
MDU Mudurnu 55.07 304 *e*P **P 17 32 22.5 +0.9**
HENT Hendek 55.30 304 *i* P **P 17 32 23.0 -0.3**
ESKT Eskisehir 55.39 303 *i* P **P 17 32 22.1 -1.9**
BORA Eskisehir 55.68 303 *i* P **P 17 32 24.5 -1.5**
ISP Isparta 55.77 301*c i*P **P 17 32 26.9 +0.3**
ISP Isparta 55.77 301 *e*P **P 17 32 25.4 -1.2**
comp=Z,63nm,0.9s,mb5.7
ALT Altintas 55.99 302 *e*P **P 17 32 29.4 +1.2**
HRT Hereke 56.23 304 *e*P **P 17 32 30.2 +0.3**
ELL Elmali 56.34 300 *e*P **P 17 32 30.3 -0.4**
PET Petropavlovsk 56.34 41 *e*P **P 17 32 37.5 +6.8**
PET *e*S S 17 40 41.5 +24
PET pmax pmax
comp=Z,2µm,6.3s
YLV Yalova 56.47 304 *e*P **P 17 32 30.9 -0.7**
AKASG Malin Array Be 56.58 316 P **P 17 32 31.2 -1.2**
comp=Z,83nm,0.5s,mb6.0,baz=81,slow=6.4,SNR=219
AKASG S **S 17 40 18.9 -1.7**
comp=Z,4.3nm,0.9s,baz=85,slow=12,SNR=7.6
AKASG Malin Array Be 56.58 316 *i* P **P 17 32 31.2 -1.2**
AKASG pmax pmax
comp=Z,83nm,0.5s
AKASG Malin Array Be 56.58 316 *i* P **P 17 32 31.2 -1.2**
comp=Z,83nm,0.5s,mb6.0
ULDT Uludag 56.67 304 *i* P **P 17 32 32.5 -0.6**
ISK Istanbul-Kandi 56.68 305 *e*P **P 17 32 32.9 -0.2**
KIS Kishinev 56.72 312*c i*P **P 17 32 33.0 -0.4**
KIS *e* pP 17 32 50.0 +2.9
KIS *i*S **S 17 40 20.0 -2.4**
KIS *e*PS 17 40 40.0
KIS pmax pmax
comp=Z,1µm,4.0s
ORLT Orhaneli 56.87 304 *e*P **P 17 32 35.4 +1.0**
FETY Fethiye 57.01 299 *e*P **P 17 32 34.5 -1.0**
TIRR Tirgusor 57.02 309⇓*i*P **P 17 32 35.8 +0.3**
TIRR Tirgusor 57.02 309 *e*P **P 17 32 35.7 +0.2**
comp=Z,71nm,1.2s,mb5.6
PUL Pulkovo 57.03 327*c**e*P **P 17 32 36.4 +0.8**
PUL *e* 17 34 42.7
PUL *e*S **S 17 40 23.3 -3.2**
PUL pmax pmax
comp=Z,197nm,1.0s,mb6.1
PUL pmax pmax
comp=N,166nm,0.9s
PUL pmax pmax
comp=E,488nm,1.1s
PUL smax
comp=N,198nm,10.3s
PUL smax
comp=Z,184nm,12.0s
PUL smax
comp=E,157nm,9.4s
PUL MLR MLR
comp=E,3µm,20.0s,MS5.5
PUL MLR MLR
comp=Z,4µm,20.0s,MS5.5
PUL MLR MLR
comp=N,662nm,16.0s,MS5.5

PUL Pulkovo 57.03 327⇑*e*P **P 17 32 36.4 +0.8**
comp=N,197nm,1.0s,mb6.1
PUL *e* 17 34 42.7
PUL *e*S **S 17 40 23.3 -3.2**
PUL LR LR
comp=Z,4µm,20.0s,MS5.5
ELBA Catalca 57.15 305 *i* P **P 17 32 36.5 +0.1**
CTT Catalca 57.15 305 *e*P **P 17 32 37.2 +0.8**
CFR Carcaliu 57.20 310⇑*i*P **P 17 32 37.3 +0.5**
CFR Carcaliu 57.20 310⇑P **P 17 32 37.3 +0.5**
PSN Preselentsi 57.21 308 *i* P **P 17 32 37.0 +0.2**
MANT Manisa 57.25 302 *i* P **P 17 32 29.2 -8.0**
LVZ Lovozero 57.26 337 P **P 17 32 36.8 -0.4**
comp=Z,745nm,0.8s,SNR=10
LVZ Lovozero 57.26 337*c i*P **P 17 32 37.6 +0.4**
LVZ *e* 17 34 43.1
LVZ *e*PPP 17 36 04.2
LVZ *e*S **S 17 40 30.2 +0.6**
LVZ pmax pmax
comp=Z,135nm,1.0s,mb5.9
LVZ pmax pmax
comp=N,21nm,0.8s
LVZ pmax pmax
comp=E,23nm,0.8s
LVZ smax
comp=N,274nm,11.7s
LVZ smax
comp=Z,162nm,12.3s
LVZ smax
comp=E,128nm,10.2s
DALT Dalyan (Mudla) 57.35 300 *e*P **P 17 32 37.7 -0.2**
BTOK Tokmak 57.55 303 *i* P **P 17 32 40.0 +0.8**
BNT Bandirma 57.59 304 *e*P **P 17 32 40.6 +1.1**
YER Yerkesik 57.60 300 *e*P **P 17 32 39.3 -0.3**
APA Apatity 57.60 337⇑*i*P **P 17 32 39.0 -0.6**
APA *i* 17 32 59.3
APA *e* 17 34 54.0
APA *e*PPP 17 36 16.0
APA *e*S **S 17 40 32.0 -2.1**
APA *e* 17 42 24.0
APA pmax pmax
comp=Z,72nm,0.6s,mb5.9
BALB Balikesir 57.67 303 *e*P **P 17 32 40.8 +0.7**
MNK Minsk 57.69 321 *e*P **P 17 32 38.0 -2.2**
MNK *e*S **S 17 40 32.0 -3.2**
MNK *e*PS 17 40 44.0
MNK pmax pmax
comp=Z,1µm,1.0s
MNK MLR MLR
comp=E,3µm,20.0s
MNK MLR MLR
comp=Z,4µm,20.0s,MS5.6
AKS Akhisar 57.79 302 *e*P **P 17 32 40.6 -0.3**
MRMT Marmara Adasi 57.82 304 *e*P **P 17 32 41.0 -0.1**
ARG Arkhangelos 57.83 299 *e*P **P 17 32 41.7 +0.5**
AYDN Tasoluk 57.86 301 *i* P **P 17 32 50.2 +8.8**
BRD Bordesti 57.97 310 P **P 17 32 46.2 +4.0**
MLSB Milas 57.98 300 *e*P **P 17 32 42.6 +0.4**
MFT Murefte 58.04 305 *e*P **P 17 32 40.6 -2.1**
SART Tekirdag 58.12 304 *i* P **P 17 32 42.0 -1.3**
WRA Warramunga Arr 58.13 135 P **P 17 32 42.2 -1.1**
comp=Z,75nm,0.9s,mb5.7,baz=321,slow=7.5,SNR=60
WRA ScP ScP 17 37 28.9 -1.6
comp=Z,4.0nm,0.6s,baz=327,slow=4.4,SNR=6.4
WRA S **S 17 40 40.6 -0.4**
comp=Z,2.6nm,0.9s,baz=320,slow=14,SNR=6.9
WRA PKPPKP 18 02 23.0
comp=Z,2.4nm,0.7s,baz=104,slow=2.1,SNR=10.0
WRA PKP2bc 18 02 30.6
comp=Z,2.4nm,0.8s,baz=152,slow=2.2,SNR=5.5
WRA Warramunga Arr 58.13 135 P **P 17 32 42.2 -1.1**
WRA ScP ScP 17 37 28.9 -1.6
WRA S **S 17 40 40.6 -0.4**
WRA P'P' 18 02 23.0
WRA ⇑*e* 18 02 30.6
WRAB Tennant Creek 58.13 134 P **P 17 32 42.8 -0.5**
comp=Z,784nm,0.9s,mb6.7,SNR=34
WRAB Tennant Creek 58.13 134 *e*P **P 17 32 43.3 0.0**
WRAB *e**PP pP 17 32 56.1 -1.0
WRAB pmax pmax
comp=Z,455nm,1.3s,mb6.3
WRAB Tennant Creek 58.13 134 *e*P **P 17 32 43.3 0.0**
comp=Z,318nm,1.3s,mb6.2
WRAB *e*pP pP 17 32 56.0 -1.0
WB2 Warramunga Arr 58.14 135⇑*i*P **P 17 32 42.4 -1.0**
WB2 *e*SCP ScP 17 37 28.7 -1.8
WB2 *e*S **S 17 40 41.1 0.0**
VRI Vrincioaia 58.17 311⇓*i*P **P 17 32 44.1 +0.5**
VRI Vrincioaia 58.17 311 P **P 17 32 44.6 +1.0**
VRI Vrincioaia 58.17 311⇓P **P 17 32 44.1 +0.5**
PLOR Plostina 58.23 311⇓*i*P **P 17 32 44.6 +0.6**
IZM Izmir 58.27 302 *e*P **P 17 32 44.6 +0.3**
BDRM Kayabasi 58.27 300 *i* P **P 17 32 43.9 -0.4**
EDRB Edirne 58.37 306 *e*P **P 17 32 45.2 +0.2**
BODT Bodrum 58.38 300 *e*P **P 17 32 45.3 +0.3**
IDID Didziasalis 58.38 322 *e*P **P 17 32 45.0 -0.1**
JMB Yambol 58.44 307 *i* P **P 17 32 45.0 -0.5**
VSU Vasula 58.67 325 *e*P **P 17 32 46.7 -0.4**
KAP Karpathos 58.68 298 *e*P **P 17 32 47.1 0.0**
IGN Ignalina 58.68 322 *e*P **P 17 32 47.0 -0.2**
IIGN AMb AMB 17 32 49.0
comp=Z,3µm,0.5s
IIGN *e*pP pP 17 32 59.9 -1.0
SMG Samos 58.68 301 *e*P **P 17 32 47.5 +0.4**
IZAR Zarasai 58.69 322 *e*P **P 17 32 47.0 -0.2**
IZAR AMb AMB 17 32 48.9
comp=Z,3µm,0.6s
BUC1 Bucharest 58.73 309 P **P 17 32 49.3 +1.8**
MLR Muntele Rosu 58.74 310⇑*i*P **P 17 32 48.1 +0.6**
MLR Muntele Rosu 58.74 310 P **P 17 32 48.5 +1.0**
ISAL Salakas 58.75 322 *e*P **P 17 32 47.3 -0.3**
ISAL AMb AMB 17 32 49.5
comp=Z,2µm,0.7s
URLA Izmir 58.80 302 *i* P **P 17 32 46.9 -1.0**
MUN Mundaring 58.89 158 *e*P **P 17 32 47.2 -1.4**
PRK Paraskevi 58.95 303 *e*P **P 17 32 49.5 +0.5**
ALN Alexandroupoli 58.97 305 *e*P **P 17 32 49.1 -0.1**
KLBR Kellerberrin 59.08 157⇑*i*P **P 17 32 48.4 -1.6**
comp=Z,150nm,0.6s,mb6.2
BURAR Bucovina Array 59.16 313⇓*i*P **P 17 32 50.3 -0.2**
BURAR Bucovina Array 59.16 313⇓P **P 17 32 50.3 -0.2**
CHOS Chios island 59.21 302 *e*P **P 17 32 51.4 +0.6**
RDO Rodhopi 59.33 305 *e*P **P 17 32 51.6 0.0**
KAF Kangasniemi 59.33 330 *ep* **P 17 32 50.7 -1.0**
comp=Z,50nm,1.0s,mb5.5,baz=96,slow=6.7
KAF Kangasniemi 59.33 330 *e*P **P 17 32 50.7 -1.0**
KAF pmax pmax
comp=Z,50nm,1.0s,mb5.5
FINES FINESS Array B 59.35 329 P **P 17 32 51.2 -0.5**
comp=Z,26nm,0.7s,mb5.4,baz=101,slow=8.0,SNR=112
FINES LR LR 18 01 16.3
comp=Z,2µm,21.9s,MS5.3,baz=96,slow=39
FINES FINESS Array B 59.35 329 P **P 17 32 51.3 -0.5**
FINES pmax pmax
comp=Z,26nm,0.7s
FINES MLR MLR
comp=Z,2µm,21.9s
VOIR 59.37 310⇓*i*P **P 17 32 52.5 +0.6**
VOIR 59.37 310⇓P **P 17 32 52.5 +0.6**
KDZ Kurdzhali 59.37 306 *i* P **P 17 32 52.0 +0.1**
ZKR Zakros 59.51 298 *e*P **P 17 32 52.7 -0.2**
LIA Limnos Island 59.72 304 *e*P **P 17 32 54.8 +0.5**
APE Apeiranthos 59.79 300 *e*P **P 17 32 55.0 +0.2**
APE Apeiranthos 59.79 300⇑*i*P **P 17 32 54.8 0.0**
APE Apeiranthos 59.79 300 *e*P **P 17 32 55.0 +0.2**
APE Apeiranthos 59.79 300 *e*P **P 17 32 54.9 +0.1**
LOS Limnos 59.79 304 *e*P **P 17 32 54.5 -0.3**
LVV L'vov 59.89 315 *e*P **P 17 32 55.3 -0.2**
LVV *e* 17 35 05.9
LVV *e*PPP 17 36 37.1
LVV *e*S **S 17 40 56.1 -7.7**
LVV *e*PS 17 41 19.7
LVV *e*SS SS 17 45 03.9 +3.3
LVV *e*SSS 17 47 33.5
LVV MLR MLR
comp=N,520nm,19.0s,MS4.8
LVV MLR MLR
comp=E,350nm,19.0s,MS4.8
LVV MLR MLR
comp=Z,840nm,19.0s,MS4.9
SANT Santorini 59.94 300 *e*P **P 17 32 54.9 -1.0**
SANT Santorini 59.94 300 *e*P **P 17 32 55.7 -0.2**
comp=Z,201nm,0.7s,mb6.3

THR1 Thera Island 59.94 300 *e*P **P 17 32 56.8 +0.9**
NPS Neapolis 59.98 298 *e*P **P 17 32 56.9 +0.8**
THR3 Thira Island, 59.98 300 *e*P **P 17 32 55.6 -0.5**
LAST Lasithi 60.10 298 *e*P **P 17 32 57.9 +1.0**
NWAO Narrogin (SRO) 60.11 158 P **P 17 32 55.3 -1.7**
comp=Z,149nm,0.6s,mb6.2,baz=337,slow=7.0,SNR=213
NWAO LR LR 18 02 15.7
comp=Z,2µm,19.9s,MS5.2,baz=332,slow=39
NWAO Narrogin (SRO) 60.11 158 P **P 17 32 55.3 -1.7**
NWAO pmax pmax
comp=Z,149nm,0.6s
NWAO MLR MLR
comp=Z,2µm,19.9s
NWAO Narrogin (SRO) 60.11 158 *e*P **P 17 32 55.2 -1.8**
comp=Z,154nm,0.7s,mb6.1
SUW Suwalki 60.39 320 *e*P **P 17 32 58.4 -0.6**
SUW *e*pP pP 17 33 03.4 -9.4
SUW *e*S **S 17 41 09.5 -0.7**
SUW L 18 02 36.8
comp=Z,4.1nm,23.1s
SUW Suwalki 60.39 320 *e*P **P 17 32 58.0 -0.9**
comp=Z,584nm,1.2s,mb6.5
SUW *e*pP pP 17 33 12.7 -0.1
SUW *e*S **S 17 41 09.5 -0.7**
KEV Kevo 60.45 338 *e*p **P 17 32 59.3 0.0**
comp=Z,71nm,0.8s,mb5.8
KEV Kevo 60.45 338 *e*P **P 17 32 59.3 0.0**
KEV pmax pmax
comp=Z,71nm,0.8s,mb5.8
KMBO Kilima Mbogo 60.50 255 P **P 17 33 00.1 +0.5**
comp=Z,11nm,0.8s,mb4.9,baz=49,slow=12,SNR=28
KMBO LR LR 17 58 19.9
comp=Z,2µm,21.6s,MS5.2,baz=217,slow=35
KMBO Kilima Mbogo 60.50 255 P **P 17 33 00.1 +0.5**
KMBO pmax pmax
comp=Z,110nm,0.8s
KMBO MLR MLR
comp=Z,2µm,21.6s
ASAR Alice Springs 60.56 138 P **P 17 32 59.5 -0.6**
comp=Z,71nm,0.8s,mb5.8,baz=318,slow=6.8,SNR=312
ASAR PKiKP PKiKP 17 40 03.0 +1.5
comp=Z,0.7nm,0.6s,baz=350,slow=0.6,SNR=5.3
ASAR S **S 17 41 12.6 +0.3**
comp=Z,0.5nm,0.8s,baz=324,slow=12,SNR=4.1
ASAR PKPPKP 18 02 20.6
comp=Z,1.7nm,0.9s,baz=136,slow=3.2,SNR=7.3
ASAR PKP2bc 18 02 29.1
comp=Z,3.6nm,0.8s,baz=134,slow=2.5,SNR=15
NVR Nevrokopi 60.56 305 *e*P **P 17 33 00.7 +0.6**
OUR Ouranopolis 60.59 304 *e*P **P 17 33 00.7 +0.4**
SIVA Sivas 60.67 298 *e*P **P 17 33 01.4 +0.6**
KWP Kalwaria 60.76 315 *e*P **P 17 33 01.3 -0.1**
KWP *e*pP pP 17 33 08.2 -7.1
KWP *e*S **S 17 41 16.3 +1.5**
KWP L 18 01 14.7
comp=Z,2.8nm,26.7s
KWP Kalwaria 60.76 315 *e*P **P 17 33 01.3 -0.1**
KWP *e*pP pP 17 33 08.2 -7.1
KWP *e*S **S 17 41 16.3 +1.5**
SRS Serrai 60.79 305 *e*P **P 17 33 01.1 -0.6**
AOS Alonnisos 60.81 303 *e*P **P 17 33 02.1 +0.4**
PAIG Paliouri 60.87 304 *e*P **P 17 33 02.6 +0.5**
DRGR 60.91 312⇓*i*P **P 17 33 03.7 +1.2**
DRGR 60.91 312⇓P **P 17 33 03.7 +1.2**
ARCES ARCESS Array B 60.91 338 P **P 17 33 02.1 -0.3**
comp=Z,59nm,0.7s,mb5.8,baz=87,slow=6.5,SNR=143
ARCES ARCESS Array B 60.91 338 P **P 17 33 02.2 -0.3**
ARCES pmax pmax
comp=Z,59nm,0.7s
ARE0 ARCESS Array S 60.91 338 *e*P **P 17 33 02.1 -0.4**
VTS Vitosha 60.92 307 *i* P **P 17 33 02.0 -0.5**
VTS Vitosha 60.92 307 *e*P **P 17 33 02.1 -0.4**
VTS Vitosha 60.92 307⇑*i*P **P 17 33 02.5 0.0**
VTS Vitosha 60.92 307 P **P 17 33 02.7 +0.2**
PLG Polygyros 60.99 304 *e*P **P 17 33 03.5 +0.5**
SOH Sokhos 61.00 305 *e*P **P 17 33 02.4 -0.7**
KOLS Kolonicke sedl 61.07 314 *i* P **P 17 33 04.5 +0.9**
KOLS *e*S **S 17 41 18.8 -0.1**
KOLS Kolonicke sedl 61.07 314 *i* P **P 17 33 04.5 +0.9**
comp=Z,34nm,1.3s,mb5.3
KOLS *e*S **S 17 41 18.8 -0.1**
KOLS LR LR
comp=Z,1µm,24.3s,MS4.9
UZH Uzhgorod 61.08 314 *i* P **P 17 33 04.0 +0.4**
UZH *i*S **S 17 41 16.0 -2.9**
VAM Vamos 61.10 299 *e*P **P 17 33 03.9 +0.1**
PMG Port Moresby 61.11 116 P **P 17 33 04.7 +0.9**
comp=Z,45nm,0.6s,mb5.8,baz=358,slow=3.6,SNR=24
PMG LR LR 18 02 00.7
comp=Z,632nm,19.6s,MS4.8,baz=21,slow=38
PMG Port Moresby 61.11 116 *e*P **P 17 33 04.4 +0.6**
PMG *e**PP pP 17 33 16.1 -1.6
PMG pmax pmax
comp=Z,146nm,1.0s
PMG Port Moresby 61.11 116 *e*P **P 17 33 04.4 +0.5**
comp=Z,146nm,1.0s,mb6.1
PMG *e*pP pP 17 33 16.1 -1.5
GVD Gavdhos 61.28 298 *e*P **P 17 33 04.8 -0.2**
NEO Neokhori 61.29 303 *e*P **P 17 33 05.0 -0.1**
KNT Kendrikon 61.31 305 *e*P **P 17 33 04.4 -0.7**
XOR Xorichti 61.31 303 *e*P **P 17 33 04.3 -0.9**
THE Thessaloniki 61.32 305 *e*P **P 17 33 05.1 -0.2**
VAY Valandovo 61.53 306 *i* P **P 17 33 04.8 -1.9**
LKR Lokris 61.56 303 *e*P **P 17 33 06.1 -0.7**
CRVS Cervenica-Dubn 61.61 314 *i* P **P 17 33 08.8 +1.6**
CRVS *e*S **S 17 41 26.0 +0.3**
CRVS Cervenica-Dubn 61.61 314 *i* P **P 17 33 08.8 +1.6**
comp=Z,51nm,1.0s,mb5.6
CRVS *e*S **S 17 41 26.0 +0.3**
CRVS LR LR
comp=Z,830nm,27.0s,MS4.8
KTK1 Kautokeino 61.62 337 *e*P **P 17 33 06.7 -0.5**
KTK1 AMb AMB 17 33 08.7
comp=Z,177nm,1.1s,mb6.1
KTK1 Kautokeino 61.62 337 *e*P **P 17 33 06.7 -0.5**
comp=Z,177nm,1.1s,mb6.1
BOLS Boljevac 61.70 308⇓*i*P **P 17 33 07.9 +0.1**
GRG Griva 61.70 305 *e*P **P 17 33 07.0 -0.8**
WAR Warsaw 61.72 318 *e*P **P 17 33 09.4 +1.5**
WAR *e*pP pP 17 33 15.3 -6.5
WAR *e*S **S 17 41 29.8 +2.7**
WAR L 18 03 20.9
comp=Z,5.5nm,23.5s
STHS Stebnicka Huta 61.72 315 *i* P **P 17 33 07.3 -0.6**
comp=Z,29nm,0.8s,mb5.5
LIT Litokhoron 61.75 304 *e*P **P 17 33 07.1 -1.0**
BZS Buzias 61.76 310⇓*i*P **P 17 33 07.9 -0.3**
BZS Buzias 61.76 310 P **P 17 33 08.4 +0.2**
BZS Buzias 61.76 310⇓P **P 17 33 07.9 -0.3**
BILL Bilibino 61.83 24*c i*P **P 17 33 07.8 -0.9**
BILL pmax pmax
comp=Z,65nm,1.9s,mb5.4
BILL MLR MLR
comp=Z,4µm,19.0s,MS5.6
BILL Bilibino 61.83 24⇑*i*P **P 17 33 07.8 -0.9**
comp=Z,65nm,1.9s,mb5.4
BILL LR LR
comp=Z,4µm,19.0s,MS5.6
AGG Agios Georgios 62.02 303 *e*P **P 17 33 08.3 -1.7**
KZN Kozani 62.27 305 *e*P **P 17 33 11.0 -0.6**
KECS Kecovo 62.29 314 *i* P **P 17 33 12.1 +0.4**
comp=Z,34nm,1.2s,mb5.3
SKO Skopje 62.29 306 *e*P **P 17 33 12.3 +0.6**
SKO Skopje 62.29 306 *i* P **P 17 33 11.0 -0.7**
NIE Niedzica 62.33 315 *e*P **P 17 33 12.8 +0.8**
NIE e 17 33 17.6
NIE Niedzica 62.33 315 *e*P **P 17 33 12.8 +0.8**
NIE *e* 17 33 17.6
EVR Evrytania 62.44 303 *e*P **P 17 33 12.3 -0.5**
FNA Florina 62.50 305 *e*P **P 17 33 12.3 -0.8**
BIA Bitola 62.50 305 *e*P **P 17 33 10.4 -2.8**
OJC Ojcow 62.60 316 *e*P **P 17 33 13.4 -0.4**
OJC *e*pP pP 17 33 25.8 -1.9
OJC *e*PP PP 17 35 33.4 +1.5
OJC *i*S **S 17 41 37.9 -0.3**
OJC L 18 08 41.8
comp=Z,5.1nm,20.5s
ITM Ithomi 62.62 301 *e*P **P 17 33 13.5 -0.5**
BEO Belgrade 62.66 310⇓*i*P **P 17 33 14.5 +0.3**
PSZ Piszkesteto 62.73 313 *i* P **P 17 33 15.6 +0.9**
FORT Forrest 62.83 147⇑*i*P **P 17 33 15.9 +0.5**
comp=Z,94nm,1.3s,mb5.8
RLS Riolos of Patr 62.84 302 *e*P **P 17 33 13.0 -2.4**
OHR Ohrid 62.88 306 *i* P **P 17 33 13.4 -2.4**

DIVS	**Divcibare**	**63.08 309**	*eP*	**P**	**17 33 17.6**	**+0.6**
LIKS	**Likavka**	**63.15 315**	*eP*	**P**	**17 33 18.4**	**+0.9**
LIKS			pmax	pmax		
	comp=Z,70nm,0.9s,mb5.8					
LIKS	**Likavka**	**63.15 315**	*eP*	**P**	**17 33 18.4**	**+0.9**
	comp=Z,70nm,0.9s,mb5.8					
TRO	**Tromso**	**63.21 338**⇑	*iP*	**P**	**17 33 17.2**	**-0.7**
TRO			*eS*	**S**	**17 41 44.8**	**-1.0**
TRO			*eSS*	SS	17 46 00.9	+8.3
TRO			AMS	AMS	18 06 33.7	
	comp=Z,1μm,15.5s,MS5.2					
PVY	**Plav**	**63.29 307**⇑	*iP*	**P**	**17 33 18.5**	**+0.1**
IVA	**Berane**	**63.30 308**⇑	*iP*	**P**	**17 33 19.2**	**+0.7**
BUD	**Budapest**	**63.36 313**	*i P*	**P**	**17 33 19.4**	**+0.5**
LKD	**Levkas**	**63.37 303**	*eP*	**P**	**17 33 17.1**	**-1.8**
IGT	**Igoumenitsa**	**63.48 304**	*eP*	**P**	**17 33 17.4**	**-2.2**
VLS	**Valsamata**	**63.50 302**	*eP*	**P**	**17 33 19.0**	**-0.8**
TIR	**Tirane**	**63.55 306**	*eP*	**P**	**17 33 19.0**	**-1.1**
PLE	**Pljevlja**	**63.61 308**⇑	*iP*	**P**	**17 33 21.6**	**+1.1**
RAC	**Raciborz**	**63.64 316**	*eP*	**P**	**17 33 21.1**	**+0.4**
RAC			LR	LR		
	comp=Z,2μm,21.0s,MS5.3					
PKS8	**Sarbogard**	**63.66 312**⇑	*eP*	**P**	**17 33 20.9**	**0.0**
BJO	**Bjornoya**	**63.68 343**	*eP*	**P**	**17 33 21.9**	**+0.8**
BJO			AMS	AMS	18 06 54.6	
	comp=Z,4μm,23.5s,MS5.5					
OKC	**Ostrava-Krasne**	**63.70 315**	*eP*	**P**	**17 33 21.3**	**+0.2**
OKC			*epP*	pP	17 33 35.2	+0.2
OKC			*ex*	x	17 36 08.6	
OKC			*ex*	x	17 37 38.0	
OKC			*eS*	**S**	**17 41 48.3**	**-3.5**
OKC			*ex*	x	17 46 33.2	
OKC			AMS	AMS	18 04 00.0	
	comp=Z,1μm,18.3s					
OKC	**Ostrava-Krasne**	**63.70 315**	*eP*	**P**	**17 33 21.3**	**+0.2**
OKC			*epP*	pP	17 33 35.2	+0.2
OKC			*ePP*	PP	17 36 08.6	+27
OKC			*e*		17 37 38.0	
OKC			*eS*	**S**	**17 41 48.3**	**-3.5**
OKC			*eSS*	SS	17 46 33.2	+33
BJO1	**Bjornoya**	**63.73 343**	*eP*	**P**	**17 33 21.9**	**+0.5**
BJO1			LR	LR		
	comp=Z,3773μm,23.5s					
SRO2	**Moca**	**63.75 313**	*eP*	**P**	**17 33 22.8**	**+1.4**
PKSM	**Moragy**	**63.76 311**⇑	*iP*	**P**	**17 33 20.9**	**-0.6**
PKSM	**Moragy**	**63.76 311**	*i P*	**P**	**17 33 22.1**	**+0.6**
SRO	**Srobarova**	**63.80 313**	*eP*	**P**	**17 33 22.8**	**+1.0**
SRO			pmax	pmax		
	comp=Z,188nm,0.9s,mb6.1					
SRO	**Srobarova**	**63.80 313**	*eP*	**P**	**17 33 22.8**	**+1.0**
	comp=Z,188nm,0.9s,mb6.1					
TTG	**Podgorica**	**63.83 307**⇑	*iP*	**P**	**17 33 21.4**	**-0.6**
KEK	**Kerkira**	**63.85 304**	*eP*	**P**	**17 33 20.8**	**-1.3**
SRO1	**Iza**	**63.86 313**	*eP*	**P**	**17 33 23.1**	**+0.9**
ULC	**Ulcinj**	**63.91 307**⇑	*iP*	**P**	**17 33 22.3**	**-0.2**
GKP	**Gorka Klasztor**	**63.96 319**	*eP*	**P**	**17 33 23.2**	**+0.4**
GKP			*epP*	pP	17 33 30.6	-6.1
GKP			*eS*	**S**	**17 41 59.7**	**+4.6**
GKP			L		18 05 00.7	
	comp=Z,7.3nm,22.9s					
PKS9	**Tamasi**	**63.97 312**⇑	*eP*	**P**	**17 33 23.6**	**+0.7**
NKY	**Niksic**	**63.97 308**⇑	*iP*	**P**	**17 33 22.2**	**-0.7**
UPM	**Unac-Piva**	**63.98 308**⇑	*iP*	**P**	**17 33 23.0**	**+0.1**
MORC	**Moravsky Berou**	**64.09 315**⇑	*iP*	**P**	**17 33 23.6**	**-0.1**
MORC	**Moravsky Berou**	**64.09 315**	*P*	**P**	**17 33 23.9**	**+0.2**
MORC	**Moravsky Berou**	**64.09 315**	*eP*	**P**	**17 33 22.3**	**-1.4**
	comp=Z,98nm,1.0s,mb5.8					
BUM	**Brajici-Budva**	**64.12 307**⇑	*iP*	**P**	**17 33 23.7**	**-0.2**
RHK1	**Bakonya**	**64.17 311**⇓	*eP*	**P**	**17 33 24.7**	**+0.5**
BRY	**Bratogost**	**64.28 308**⇑	*iP*	**P**	**17 33 24.8**	**-0.1**
SMOL	**Smolenice**	**64.31 314**	*eP*	**P**	**17 33 26.1**	**+1.0**
HCY	**Herceg Novi**	**64.39 307**⇑	*iP*	**P**	**17 33 25.7**	**0.0**
ZST	**Bratislava**	**64.56 314**	*eP*	**P**	**17 33 26.7**	**-0.1**
ZST			*eS*	**S**	**17 42 00.6**	**-1.9**
ZST	**Bratislava**	**64.56 314**	*eP*	**P**	**17 33 26.7**	**-0.1**
	comp=Z,55nm,0.8s,mb5.6					
ZST			*eS*	**S**	**17 42 00.6**	**-1.9**
ZST			LR	LR		
	comp=Z,310nm,16.0s,MS4.6					
VRAC	**Vranov**	**64.76 315**⇑	*iP*	**P**	**17 33 28.1**	**0.0**
VRAC	**Vranov**	**64.76 315**	*P*	**P**	**17 33 28.3**	**+0.2**
VRAC	**Vranov**	**64.76 315**⇑	*P*	**P**	**17 33 28.1**	**0.0**
KSP	**Ksiaz**	**64.77 317**	*eP*	**P**	**17 33 28.1**	**0.0**
KSP			*eS*	**S**	**17 42 06.7**	**+1.6**
KSP			L		18 05 23.4	
	comp=Z,5.0nm,20.6s					
KSP	**Ksiaz**	**64.77 317**⇑	*eP*	**P**	**17 33 27.9**	**-0.2**
KSP			*e*PP*	pP	17 33 40.0	-2.1
KSP			*e*		17 35 53.0	
KSP			*eS*	**S**	**17 42 05.0**	**-0.1**
KSP			MLR	MLR		
	comp=Z,6μm,20.6s,MS5.8					
KSP	**Ksiaz**	**64.77 317**⇑	*eP*	**P**	**17 33 27.9**	**-0.2**
KSP			*epP*	pP	17 33 40.0	-2.1
KSP			*ePP*	PP	17 35 53.0	+2.0
KSP			*ePPP*		17 37 45.0	
KSP			*eS*	**S**	**17 42 05.0**	**-0.1**
KSP			LR	LR		
	comp=Z,6μm,20.6s,MS5.8					
MOR8	**Moi Rana**	**64.78 334**	*eP*	**P**	**17 33 26.5**	**-1.7**
MOR8			AMb	AMB	17 33 28.5	
	comp=Z,200nm,1.1s,mb6.0					
MOR8	**Moi Rana**	**64.78 334**	*eP*	**P**	**17 33 26.5**	**-1.7**
	comp=Z,200nm,1.1s,mb6.1					
DPC	**Dobruska-Polom**	**64.81 316**	*eP*	**P**	**17 33 28.7**	**+0.3**
DPC			*epP*	pP	17 33 43.5	+1.2
DPC			*ex*	x	17 36 13.9	
DPC			*ex*	x	17 37 48.0	
DPC			*eS*	**S**	**17 42 05.3**	**-0.3**
DPC			*ex*	x	17 46 49.2	
DPC			AMS	AMS	18 04 30.0	
	comp=Z,2μm,18.4s					
DPC	**Dobruska-Polom**	**64.81 316**	*eP*	**P**	**17 33 28.7**	**+0.3**
DPC			*e*PP*	pP	17 33 43.5	+1.2
DPC			*eS*	**S**	**17 42 05.3**	**-0.3**
DPC			MLR	MLR		
	comp=Z,2μm,18.4s,MS5.4					
HSP	**Hornsund**	**64.87 346**	*eP*	**P**	**17 33 29.8**	**+1.0**
STON	**Ston**	**64.90 308**⇑	*iP*	**P**	**17 33 28.7**	**-0.3**
UPC	**Upice**	**64.99 316**	*eP*	**P**	**17 33 29.7**	**+0.2**
UPC			*epP*	pP	17 33 44.1	+0.6
SOP	**Sopron**	**64.99 313**	*i P*	**P**	**17 33 30.3**	**+0.7**
LCI	**Lecce**	**65.02 305**	*P*	**P**	**17 33 29.8**	**0.0**
LCI			pmax	pmax		
	comp=Z,51nm,0.5s,mb5.8					
LCI	**Lecce**	**65.02 305**	*P*	**P**	**17 33 29.8**	**0.0**
	comp=Z,51nm,0.5s,mb5.8					
LOF	**Lofoten**	**65.10 336**	*eP*	**P**	**17 33 30.6**	**+0.3**
BSD	**Bornholm Skovb**	**65.15 322**⇑	*iP*	**P**	**17 33 30.1**	**-0.5**
	comp=Z,26nm,0.7s,mb5.4					
BSD			*i S*	S	17 42 09.6	-0.2
BSD						
	comp=Z,2μm,20.0s					
BSD	**Bornholm Skovb**	**65.15 322**⇑	*iP*	**P**	**17 33 30.1**	**-0.5**
	comp=Z,26nm,0.7s,mb5.4					
BSD			*i S*	S	17 42 09.6	-0.2
STOK	**Stokkvaagen**	**65.35 334**	*eP*	**P**	**17 33 31.8**	**0.0**
STOK			AMb	AMB	17 33 33.9	
	comp=Z,133nm,1.1s,mb5.9					
STOK	**Stokkvaagen**	**65.35 334**	*eP*	**P**	**17 33 31.8**	**0.0**
	comp=Z,133nm,1.1s,mb5.9					
KOGS	**Kog**	**65.37 312**	*eP*	**P**	**17 33 32.8**	**+0.8**
BRT	**Bari-Castellan**	**65.61 306**	*P*	**P**	**17 33 33.9**	**+0.3**
BRT			pmax	pmax		
	comp=Z,126nm,1.3s,mb5.8					
BRT	**Bari-Castellan**	**65.61 306**	*P*	**P**	**17 33 33.9**	**+0.3**
	comp=Z,126nm,1.3s,mb5.8					
ARSA	**Arzberg**	**65.75 313**⇑	*iP*	**P**	**17 33 33.9**	**-0.5**
	comp=Z,298nm,2.6s,mb5.9,SNR=25					
KBS	**Kingsbay**	**65.76 348**⇑	*iP*	**P**	**17 33 34.8**	**+0.2**
KBS			AMb	AMB	17 33 39.5	
	comp=Z,37nm,1.5s,mb5.2					
KBS			*eS*	S	17 42 15.0	-2.3
KBS			AMS	AMS	18 10 25.7	
	comp=Z,2μm,17.9s,MS5.3					
KBS	**Kingsbay**	**65.76 348**⇑	*iP*	**P**	**17 33 34.8**	**+0.2**
	comp=Z,37nm,1.5s,mb5.2					
KBS			LR	LR		
	comp=Z,1603μm,17.9s					
NSS	**Namsos**	**65.88 332**	AMS	AMS	18 05 13.3	
	comp=Z,3μm,23.2s,MS5.4					
PRU	**Pruhonice**	**65.99 316**	*eP*	**P**	**17 33 36.0**	**0.0**
PRU			*epP*	pP	17 33 50.6	+0.6
PRU			*ePP*	PP	17 36 14.6	+13
PRU			*ex*	x	17 37 49.9	
PRU			*eS*	S	17 42 21.6	+1.6
PRU			*eSS*	SS	17 46 47.9	+12
PRU			AMS	AMS	18 06 10.0	
	comp=Z,2μm,19.8s					
PRU	**Pruhonice**	**65.99 316**	*eP*	**P**	**17 33 36.0**	**0.0**
PRU			*e*PP*	pP	17 33 50.6	+0.6
PRU			*eS*	S	17 42 21.6	+1.6
PRU			MLR	MLR		
	comp=Z,2μm,19.8s,MS5.2					
CRES	**Cresnjev**	**66.02 311**	*eP*	**P**	**17 33 36.0**	**-0.2**
CRES			*e*		17 33 56.6	
CRES			*eS*	S	17 42 19.5	-0.8
PRA	**Prague**	**66.05 316**	*P*	**P**	**17 33 38.0**	**+1.6**
PERS	**Pernice**	**66.12 312**	*eP*	**P**	**17 33 36.4**	**-0.5**
PERS			*eS*	S	17 42 20.6	-1.0
RUE	**Ruedersdorf**	**66.12 319**	*eP*	**P**	**17 33 36.6**	**-0.3**
	comp=Z,294nm,1.2s,mb6.2					
RUE	**Ruedersdorf**	**66.12 319**	*eP*	**P**	**17 33 36.9**	**0.0**
	comp=Z,292nm,1.2s,mb6.2					
RGN	**Rugen**	**66.13 321**	*eP*	**P**	**17 33 36.9**	**0.0**
	comp=Z,203nm,1.3s,mb6.0					
RGN	**Rugen**	**66.13 321**	*eP*	**P**	**17 33 37.3**	**+0.4**
	comp=Z,286nm,1.5s,mb6.1					
BOJS	**Bojanci**	**66.21 311**	*eP*	**P**	**17 33 37.0**	**-0.5**
BRG	**Berggiesshubel**	**66.24 317**	*eP*	**P**	**17 33 37.5**	**-0.1**
	comp=Z,107nm,1.0s,mb5.8					
BRG	**Berggiesshubel**	**66.24 317**	*i P*	**P**	**17 33 37.4**	**-0.2**
	comp=Z,64nm,1.0s,mb5.6					
BRG			*i pP*	pP	17 33 52.2	+0.6
	comp=Z,39nm,1.1s					
BRG			*i*	pP	17 33 55.0	+3.4
BRG			S	S	17 42 25.0	+1.9
BRG			SS	SS	17 46 32.0	-7.8
BRG			*ePKPPKP*		18 02 03.4	
	comp=Z,1.1nm,1.0s					
BRG						
	comp=N,519nm,15.8s					
BRG						
	comp=E,1μm,22.9s					
BRG						
	comp=Z,2μm,22.1s					
BRG	**Berggiesshubel**	**66.24 317**	*i P*	**P**	**17 33 37.4**	**-0.2**
BRG			*i *PP*	pP	17 33 52.2	+0.6
BRG			*i*	pP	17 33 55.0	+3.4
BRG			S	S	17 42 25.0	+1.9
BRG			pmax	pmax		
	comp=Z,64nm,1.0s,mb5.6					
BRG			MLR	MLR		
	comp=N,519nm,15.8s					
BRG			MLR	MLR		
	comp=E,1μm,23.0s					
BRG			MLR	MLR		
	comp=Z,2μm,22.1s					
TIP	**Timpagrande**	**66.27 304**	*eP*	**P**	**17 33 38.0**	**+0.2**
FGMS	**Monte Sant'Ang**	**66.38 307**	*P*	**P**	**17 33 38.7**	**+0.2**
	comp=Z,336nm,1.5s,mb6.2					
MOA	**Molln**	**66.49 314**	*i P*	**P**	**17 33 38.7**	**-0.5**
	comp=Z,142nm,1.2s,mb5.9,SNR=84					
COP	**Copenhagen**	**66.50 322**⇑	*iP*	**P**	**17 33 39.8**	**+0.5**
	comp=Z,40nm,1.4s,mb5.3					
COP			*i*		17 36 07.9	
COP			*i S*	S	17 42 27.6	+1.4
COP						
	comp=Z,700nm,20.0s					
COP	**Copenhagen**	**66.50 322**⇑	*iP*	**P**	**17 33 39.8**	**+0.5**
COP			*i*		17 36 07.9	
COP			*i S*	S	17 42 27.6	+1.4
COP			pmax	pmax		
	comp=Z,41nm,1.4s,mb5.3					
COP			MLR	MLR		
	comp=Z,710nm,20.0s,MS4.9					
NB2	**NORSAR Subarra**	**66.52 328**	*P*	**P**	**17 33 38.4**	**-1.0**
	comp=Z,67nm,0.7s,mb5.8,baz=84,slow=6.5					
NOA	**NORSAR Array B**	**66.52 328**	*P*	**P**	**17 33 38.1**	**-1.3**
	comp=Z,51nm,0.7s,mb5.7,baz=85,slow=6.4,SNR=169					
NOA			PP	PP	17 36 05.6	-0.7
	comp=Z,10.0nm,0.9s,baz=85,slow=8.7,SNR=3.6					
NOA			LR	LR	18 06 50.7	
	comp=Z,2μm,21.7s,MS5.3,baz=85,slow=40					
NOA	**NORSAR Array B**	**66.52 328**	*P*	**P**	**17 33 38.1**	**-1.3**
NOA					17 36 05.6	
NOA			pmax	pmax		
	comp=Z,51nm,0.7s					
NOA			MLR	MLR		
	comp=Z,2μm,21.7s					
NOA	**NORSAR Array B**	**66.52 328**	*P*	**P**	**17 33 38.1**	**-1.3**
NOA			PP	PP	17 36 05.6	-0.7
NOA			LR	LR	18 06 50.7	
OBKA	**Obir**	**66.52 312**	*i P*	**P**	**17 33 39.2**	**-0.2**
	comp=Z,404nm,3.1s,SNR=34					
CTA	**Charters Tower**	**66.58 126**	*eP*	**P**	**17 33 40.1**	**+0.3**
	comp=Z,56nm,1.2s,mb5.5					
CTA	**Charters Tower**	**66.58 126**	*P*	**P**	**17 33 40.7**	**+0.8**
	comp=Z,68nm,1.1s,mb5.6,baz=316,slow=7.2,SNR=25					
CTA	**Charters Tower**	**66.58 126**	*P*	**P**	**17 33 40.7**	**+0.9**
CTA			pmax	pmax		
	comp=Z,68nm,1.1s					
CTAO	**Charters Tower**	**66.58 126**	*eP*	**P**	**17 33 40.4**	**+0.6**
CTAO			*e*PP*	pP	17 33 53.5	-0.3
CTAO			pmax	pmax		
	comp=Z,176nm,1.3s,mb5.9					
CTAO	**Charters Tower**	**66.58 126**	*eP*	**P**	**17 33 40.4**	**+0.6**
	comp=Z,176nm,1.3s,mb5.9					
CTAO			*epP*	pP	17 33 53.5	-0.3
LJU	**Ljubljana**	**66.62 312**	*eP*	**P**	**17 33 39.8**	**-0.2**
LJU			*eS*	S	17 42 27.2	-0.4
RGNG	**Rignano Grg**	**66.66 307**	*P*	**P**	**17 33 40.6**	**+0.3**
NAO01	**NORSAR Array S**	**66.70 328**	*eP*	**P**	**17 33 39.1**	**-1.4**
	comp=Z,44nm,0.6s,mb5.7					
GEC2	**GERESS Array S**	**66.71 315**	*eP*	**P**	**17 33 40.5**	**-0.1**
	comp=Z,210nm,1.3s,mb6.0					
GEC2	**GERESS Array S**	**66.71 315**	*eP*	**P**	**17 33 40.5**	**-0.1**
GEC2			pmax	pmax		
	comp=Z,210nm,1.3s,mb6.0					
GERES	**GERESS Array B**	**66.71 315**	*P*	**P**	**17 33 40.5**	**-0.1**
	comp=Z,63nm,0.7s,mb5.8,baz=79,slow=6.9,SNR=294					
GERES			LR	LR	18 09 32.0	
	comp=Z,2μm,19.2s,MS5.3,baz=332,slow=42					
GERES	**GERESS Array B**	**66.71 315**	*P*	**P**	**17 33 40.5**	**-0.1**
GERES			pmax	pmax		
	comp=Z,63nm,0.7s					
GERES			MLR	MLR		
	comp=Z,2μm,19.2s					
KHC	**Kasperske Hory**	**66.74 315**	*eP*	**P**	**17 33 40.9**	**+0.1**
KHC			*epP*	pP	17 33 52.9	-1.9
KHC			*ePP*	PP	17 36 07.8	-0.4
KHC			*ex*	x	17 38 01.2	
KHC			*eS*	S	17 42 31.7	+2.6
KHC			*eSS*	SS	17 46 49.0	+1.5
KHC			AMS	AMS	18 04 50.0	
	comp=Z,2μm,23.9s					
KHC	**Kasperske Hory**	**66.74 315**	*eP*	**P**	**17 33 40.9**	**+0.1**
KHC			*e*PP*	pP	17 33 52.9	-1.9
KHC			*e*		17 36 07.8	
KHC			*eS*	S	17 42 31.7	+2.6
KHC			*eSS*	SS	17 46 49.0	+1.5
KHC			MLR	MLR		
	comp=Z,2μm,23.9s,MS5.2					
CLL	**Collm**	**66.77 318**⇑	*iP*	**P**	**17 33 41.2**	**+0.2**
	comp=Z,89nm,1.1s,mb5.7					
CLL			*epP*	pP	17 33 54.2	-0.8
CLL			*eSP*	sP	17 34 01.1	+0.5
CLL			*ePP*	PP	17 36 09.9	+1.5
CLL			*epPP*		17 36 21.5	
CLL			*ePPP*		17 37 51.7	
CLL			*eS*	S	17 42 29.2	-0.3
CLL			*esS*	sS	17 42 49.4	-3.5
CLL			*eSS*	SS	17 46 54.9	+7.0
CLL			*eSSS*		17 50 18.6	
CLL			*eLR*	LR	17 59 24.9	
CLL			*eL*		18 06 51.8	
	comp=Z,4μm,22.0s					
CLL	**Collm**	**66.77 318**⇑	*iP*	**P**	**17 33 41.2**	**+0.2**
	comp=Z,88nm,1.1s,mb5.7					
CLL			*i pP*	pP	17 33 54.5	-0.5
CLL			*esP*	sP	17 33 59.0	-1.6
CLL			*ePP*	PP	17 36 11.0	+2.6
CLL			*epPP*		17 36 21.0	
CLL			*ePPP*		17 37 57.0	
CLL			*eS*	S	17 42 28.0	-1.5
CLL			*esS*	sS	17 42 46.0	-6.9
CLL			*eSS*	SS	17 47 00.0	+12
CLL			*ex*	x	17 47 30.0	
CLL			*ex*	x	17 48 04.0	
CLL			*eSSS*		17 50 18.0	
CLL	**Collm**	**66.77 318**⇑	*iP*	**P**	**17 33 41.2**	**+0.2**
CLL			*i *PP*	pP	17 33 54.5	-0.5
CLL			*eS*	S	17 42 28.0	-1.5
CLL			pmax	pmax		
	comp=Z,88nm,1.1s,mb5.7					
CLL			MLR	MLR		
	comp=Z,4μm,21.9s,MS5.6					
CLL	**Collm**	**66.77 318**⇑	*iP*	**P**	**17 33 41.2**	**+0.2**
	comp=Z,88nm,1.1s,mb5.7					
CLL			*i pP*	pP	17 33 54.5	-0.5
CLL			*eS*	S	17 42 28.0	-1.5
CLL			LR	LR		
	comp=Z,4μm,21.9s,MS5.6					
FG4	**Candela**	**66.81 306**	P	**P**	**17 33 41.7**	**+0.4**
FG4			pmax	pmax		
	comp=Z,174nm,1.0s,mb6.0					
FG4	**Candela**	**66.81 306**	P	**P**	**17 33 41.7**	**+0.4**
	comp=Z,174nm,1.0s,mb6.0					
OSL	**Oslo**	**66.88 327**	*eP*	**P**	**17 33 42.1**	**+0.4**
FG5	**Orsara di Pugl**	**66.97 306**	P	**P**	**17 33 43.1**	**+0.8**
FG5			pmax	pmax		
	comp=Z,199nm,1.4s,mb6.0					
FG5	**Orsara di Pugl**	**66.97 306**	P	**P**	**17 33 43.1**	**+0.8**
	comp=Z,199nm,1.4s,mb6.0					
VOY	**Vojsko**	**67.06 312**	*eP*	**P**	**17 33 41.9**	**-0.9**
CADS	**Cadrg**	**67.13 312**	*eP*	**P**	**17 33 42.4**	**-0.9**
WET	**Wettzell**	**67.19 315**	*eP*	**P**	**17 33 43.6**	**-0.1**
	comp=Z,110nm,1.1s,mb5.8					
WET	**Wettzell**	**67.19 315**	*eP*	**P**	**17 33 43.6**	**-0.1**
WET			pmax	pmax		
	comp=Z,110nm,1.1s,mb5.8					
KBA	**Koelnbreinsper**	**67.24 313**⇓⇓	*iP*	**P**	**17 33 43.3**	**-0.7**
	comp=Z,90nm,1.6s,mb5.6,SNR=53					
KBA	**Koelnbreinsper**	**67.24 313**⇓	*iP*	**P**	**17 33 43.3**	**-0.7**
KBA			pmax	pmax		
	comp=Z,90nm,1.5s,mb5.6					
NKC	**Novy Kostel**	**67.28 316**	*eP*	**P**	**17 33 44.2**	**-0.1**
NKC			*epP*	pP	17 33 58.9	+0.6
NKC			*ePP*	PP	17 36 09.1	-3.8
NKC			*ex*	x	17 38 05.2	
NKC			*eS*	S	17 42 33.0	-2.7
NKC			*eSS*	SS	17 47 04.2	+8.3
NKC			AMS	AMS	18 06 40.0	
	comp=Z,2μm,23.0s					
NKC	**Novy Kostel**	**67.28 316**	*eP*	**P**	**17 33 44.2**	**-0.1**
NKC			*e*PP*	pP	17 33 58.9	+0.6
NKC			*e*		17 36 09.1	
NKC			*eS*	S	17 42 33.0	-2.7
NKC			MLR	MLR		
	comp=Z,2μm,23.0s,MS5.3					
NKC	**Novy Kostel**	**67.28 316**	*eP*	**P**	**17 33 44.2**	**-0.1**
NKC			*epP*	pP	17 33 58.9	+0.6
NKC			*ePP*	PP	17 36 09.1	-3.8
NKC			*e*		17 38 05.2	
NKC			*eS*	S	17 42 33.0	-2.7
NKC			*eSS*	SS	17 47 04.2	+8.3
WERD	**Werda**	**67.34 317**	*eP*	**P**	**17 33 44.3**	**-0.3**
	comp=Z,96nm,1.1s,mb5.7					
WERD			*epP*	pP	17 33 58.9	+0.3
DOMB	**Dombas**	**67.42 329**	*eP*	**P**	**17 33 44.6**	**-0.5**
DOMB			AMb	AMB	17 33 46.4	
	comp=Z,152nm,0.7s,mb6.1					
DOMB	**Dombas**	**67.42 329**	*eP*	**P**	**17 33 44.6**	**-0.5**
	comp=Z,152nm,0.7s,mb6.1					
KONO	**Kongsberg**	**67.48 327**⇑	*iP*	**P**	**17 33 45.5**	**0.0**
KONO			*eS*	S	17 42 37.9	-0.1
KONO			*eSS*	SS	17 47 00.7	+1.7
ROTZ	**Rotzenmuhle**	**67.52 316**	*eP*	**P**	**17 33 46.1**	**+0.4**
	comp=Z,269nm,1.2s,mb6.2					
MANZ	**Manzenberg**	**67.54 316**	*eP*	**P**	**17 33 46.3**	**+0.4**
	comp=Z,170nm,1.4s,mb5.9					
MOX	**Moxa**	**67.74 317**	*eP*	**P**	**17 33 46.9**	**-0.2**
	comp=Z,93nm,1.1s,mb5.7					
MOX	**Moxa**	**67.74 317**	*eP*	**P**	**17 33 46.7**	**-0.4**
MOX			pmax	pmax		
	comp=Z,126nm,1.3s,mb5.8					
MOX			MLR	MLR		
	comp=Z,2μm,24.0s,MS5.4					
MOX	**Moxa**	**67.74 317**	*eP*	**P**	**17 33 46.7**	**-0.4**
	comp=Z,126nm,1.3s,mb5.8					
MOX			*eS*	S	17 42 42.0	+0.9
MOX			*eSS*	SS	17 47 33.0	+30
MOX			LR	LR		
	comp=Z,2μm,24.0s,MS5.4					
GRB1	**Grafenberg Arr**	**67.94 316**	*eP*	**P**	**17 33 48.3**	**-0.1**
GRB1			*ePP*	PP	17 36 21.3	+2.7
GRB1			*eS*	S	17 42 43.5	0.0
GRB1			*eL*		18 06 53.0	
	comp=Z,1μm,20.7s					
BSEG	**Bad Segeberg**	**67.97 321**	*eP*	**P**	**17 33 48.6**	**0.0**
	comp=Z,133nm,0.9s,mb6.0					
AQU	**L'Aquila**	**68.12 308**⇑	*iP*	**P**	**17 33 50.3**	**+0.8**
AQU	**L'Aquila**	**68.12 308**	*eP*	**P**	**17 33 48.6**	**-0.9**
	comp=Z,267nm,1.3s,mb6.1					
GRA1	**Grafenberg Arr**	**68.16 316**	*eP*	**P**	**17 33 50.2**	**+0.4**
	comp=Z,84nm,1.2s,mb5.7					
GRA1			*epP*	pP	17 34 04.0	+0.2
GRA1			*esP*	sP	17 34 10.6	+1.2
GRF	**Grafenberg Arr**	**68.16 316**	*eP*	**P**	**17 33 50.2**	**+0.4**
	comp=Z,84nm,1.2s,mb5.7					
GRF			*epP*	pP	17 34 04.0	+0.2
GRF			*esP*	sP	17 34 10.6	+1.2
GRF	**Grafenberg Arr**	**68.16 316**	*eP*	**P**	**17 33 50.2**	**+0.4**
GRF			*e*PP*	pP	17 34 04.0	+0.2
GRF			*e*SP*	sP	17 34 10.6	+1.2
GRF			pmax	pmax		
	comp=Z,84nm,1.2s,mb5.7					
GRF	**Grafenberg Arr**	**68.16 316**	*eP*	**P**	**17 33 50.2**	**+0.4**
GRF			*e*PP*	pP	17 34 04.0	+0.2
GRF			*e*SP*	sP	17 34 10.6	+1.2
GRF			pmax	pmax		
	comp=Z,84nm,1.2s,mb5.7					
GRFO	**Grafenberg**	**68.16 316**	*eL*		18 06 59.1	
	comp=Z,2μm,20.0s					
MUD	**Monsted U'grnd**	**68.19 323**⇑	*iP*	**P**	**17 33 51.1**	**+1.1**
	comp=Z,118nm,1.3s,mb5.8					
MUD			*i*		17 36 18.

BLS5 Blasjo 69.10 327 *e*P **P** 17 33 57.4 +1.8
BLS5 AMb AMB 17 33 58.3
comp=Z,53nm,0.9s,mb5.5
BLS5 Blasjo 69.10 327 *e*P **P** 17 33 57.4 +1.8
comp=Z,53nm,0.9s,mb5.5
HLG Helgoland 69.33 321 *e*P **P** 17 33 57.0 -0.1
comp=Z,100nm,1.2s,mb5.6
FOO Floro 69.38 329 *e*P **P** 17 33 57.7 +0.3
FOO AMb AMB 17 33 58.4
comp=Z,52nm,1.0s,mb5.4
FOO Floro 69.38 329 *e*P **P** 17 33 57.7 +0.3
comp=Z,52nm,1.0s,mb5.4
FUORN Ofenpass 69.41 313⇑*i*P **P** 17 33 49.8 -7.7
comp=Z,261nm,2.4s,mb5.7
FUORN Ofenpass 69.41 313⇑*i*P **P** 17 33 56.8 -0.7
RUND Rundenannen 69.45 328 *e*P **P** 17 33 58.4 +0.5
RUND AMb AMB 17 33 59.5
comp=Z,167nm,0.9s,mb6.0
BER Bergen 69.47 328 *e*P **P** 17 33 58.3 +0.3
BER *e*P 17 33 58.4
BER AMb AMB 17 33 59.9
comp=Z,89nm,1.0s,mb5.7
BER AMb AMB 17 34 00.8
comp=Z,88nm,1.0s,mb5.6
BER AMS AMS 18 08 58.4
comp=Z,3µm,16.5s,MS5.5
DAVA Damuels 69.52 314 *i* P **P** 17 33 57.6 -0.6
comp=Z,218nm,1.3s,mb5.9,SNR=70
ASK Askoy 69.52 328 *e*P **P** 17 33 58.9 +0.6
EGD Espegrend 69.55 328 *e*P **P** 17 33 59.0 +0.6
EGD AMb AMB 17 34 01.6
comp=Z,99nm,2.1s,mb5.4
EGD Espegrend 69.55 328 *e*P **P** 17 33 59.0 +0.6
comp=Z,99nm,2.1s,mb5.4
BERNI Berninapass 69.61 313⇑*i*P **P** 17 33 56.8 -2.0
comp=Z,212nm,1.1s,mb6.0
BERNI Berninapass 69.61 313⇑*i*P **P** 17 33 58.2 -0.6
SUE Sulen 69.62 329 *e*P **P** 17 33 59.3 +0.4
SUE AMb AMB 17 34 01.4
comp=Z,96nm,1.2s,mb5.6
SUE Sulen 69.62 329 *e*P **P** 17 33 59.3 +0.4
comp=Z,96nm,1.3s,mb5.6
DAVOX Davos 69.63 313⇑*i*P **P** 17 33 57.3 -1.6
comp=Z,212nm,1.3s,mb5.9
DAVOX Davos 69.63 313⇑*i*P **P** 17 33 58.2 -0.7
STU Stuttgart 69.64 315 *e*P **P** 17 33 58.7 -0.3
comp=Z,224nm,1.2s,mb6.0
STU *e*sP sP 17 34 20.1 +1.4
STU Stuttgart 69.64 315 *e*P **P** 17 33 59.3 +0.3
STU pmax pmax
comp=Z,169nm,1.1s,mb5.9
STU Stuttgart 69.64 315 *e*P **P** 17 33 59.3 +0.3
comp=Z,169nm,1.1s,mb5.9
TOD Tromm 69.72 316 *e*P **P** 17 34 00.0 +0.6
KMY Karmoy 69.75 327 *e*P **P** 17 33 59.2 -0.5
KMY AMb AMB 17 34 02.1
comp=Z,121nm,1.1s,mb5.8
KMY *e*pP pP 17 34 12.4 -1.4
KMY Karmoy 69.75 327 *e*P **P** 17 33 59.2 -0.5
comp=Z,121nm,1.1s,mb5.7
LIENZ Alp Oberkamor 69.77 314⇑*i*P **P** 17 33 58.2 -1.6
comp=Z,267nm,1.5s,mb6.0
LIENZ Alp Oberkamor 69.77 314⇑*i*P **P** 17 33 59.0 -0.8
IBBN Ibbenburen 69.79 319 *e*P **P** 17 33 59.7 -0.2
comp=Z,113nm,1.2s,mb5.7
TNS Taunus Mts 69.81 317 *e*P **P** 17 33 59.8 -0.2
comp=Z,117nm,1.1s,mb5.7
TNS *e*pP pP 17 34 14.4 +0.3
TNS Taunus Mts 69.81 317 *e*P **P** 17 33 59.8 -0.2
TNS *e**PP pP 17 34 14.4 +0.3
TNS pmax pmax
comp=Z,117nm,1.1s,mb5.7
VLC Villacollemand 69.87 310 *e*P **P** 17 33 59.8 -0.6
comp=Z,135nm,1.1s,mb5.8
PLONS Plons 69.90 314⇑*i*P **P** 17 33 58.2 -2.4
comp=Z,277nm,1.3s,mb6.0
PLONS Plons 69.90 314⇑*i*P **P** 17 33 59.7 -0.9
VDL Val di Lei 69.97 313⇑*i*P **P** 17 33 59.0 -2.0
comp=Z,209nm,1.6s,mb5.8
VDL Val di Lei 69.97 313⇑*i*P **P** 17 34 00.4 -0.6
SPAK Spaichingen-Ko 70.06 315 *e*P **P** 17 34 01.9 +0.4
WILA Wila 70.13 314⇑*i*P **P** 17 33 59.7 -2.3
comp=Z,258nm,2.8s,mb5.7
WILA Wila 70.13 314⇑*i*P **P** 17 34 00.9 -1.1
LLS Linth-Limmern 70.19 313⇑*i*P **P** 17 34 00.4 -2.0
comp=Z,158nm,1.4s,mb5.7
LLS Linth-Limmern 70.19 313⇑*i*P **P** 17 34 01.6 -0.8
KTD Kalmit 70.24 316 *e*P **P** 17 34 03.1 +0.5
BUG Bochum--Univer 70.27 318 *e*P **P** 17 34 02.6 -0.2
comp=Z,110nm,1.2s,mb5.7
BFO Black Forest 70.30 315 *e*P **P** 17 34 02.4 -0.7
comp=Z,56nm,1.1s,mb5.4
BFO Black Forest 70.30 315 P **P** 17 34 02.8 -0.2
comp=Z,222nm,1.2s,mb6.0,SNR=13
BFO Black Forest 70.30 315 *e*P **P** 17 34 02.4 -0.7
BFO pmax pmax
comp=Z,56nm,1.1s,mb5.4
MUGIO Muggio 70.39 312⇑*i*P **P** 17 34 00.9 -2.7
comp=Z,134nm,0.7s,mb6.0
MUGIO Muggio 70.39 312⇑*i*P **P** 17 34 02.0 -1.6
MUO Muotathal 70.42 314⇑*i*P **P** 17 34 01.6 -2.1
comp=Z,533nm,2.1s,mb6.1
MUO Muotathal 70.42 314⇑*i*P **P** 17 34 03.2 -0.5
WTSB Winterswijk 70.44 319⇑*i*P **P** 17 34 04.8 +0.9
comp=Z,136nm,1.6s,mb5.6
ABH Alteburg 70.45 317 *e*P **P** 17 34 04.8 +0.9
LANF Langenberg 70.49 316 *e*P **P** 17 34 05.1 +0.9
FUSIO Fusio 70.52 313⇑*i*P **P** 17 34 02.0 -2.4
comp=Z,302nm,1.9s,mb5.9
FUSIO Fusio 70.52 313⇑*i*P **P** 17 34 03.5 -0.9
BNALP Bannalp 70.58 313⇑*i*P **P** 17 34 03.2 -1.5
comp=Z,276nm,1.3s,mb6.0
BNALP Bannalp 70.58 313⇑*i*P **P** 17 34 04.1 -0.6
FELD Feldberg im Sc 70.62 315 *e*P **P** 17 34 05.4 +0.4
SULZ Sulz-Cheisache 70.63 314⇑*i*P **P** 17 34 03.5 -1.5
comp=Z,412nm,1.1s,mb6.3
SULZ Sulz-Cheisache 70.63 314⇑*i*P **P** 17 34 04.0 -1.0
HASLI Hasliberg 70.79 313⇑*i*P **P** 17 34 04.5 -1.5
comp=Z,747nm,2.3s,mb6.2
HASLI Hasliberg 70.79 313⇑*i*P **P** 17 34 05.4 -0.6
RUP Ruppelstein 70.80 317 *e*P **P** 17 34 06.9 +0.8
WLS Welschbruch 70.92 315 *e*P **P** 17 34 07.3 +0.5
BALST Balsthal 70.95 314⇑*i*P **P** 17 34 04.1 -2.9
comp=Z,351nm,1.2s,mb6.2
BALST Balsthal 70.95 314⇑*i*P **P** 17 34 06.1 -0.9
CDF Champ du Feu 70.97 315 *e*P **P** 17 34 06.4 -0.7
comp=Z,166nm,1.0s,mb5.6
CDF Champ du Feu 70.97 315 *e*P **P** 17 34 06.4 -0.7
CDF pmax pmax
comp=Z,83nm,1.0s,mb5.6
CDF Champ du Feu 70.97 315 *e*P **P** 17 34 06.4 -0.7
comp=Z,83nm,1.0s,mb5.6
BBS Basel-Blauen 71.05 314 *e*P **P** 17 34 07.8 +0.2
ECH Echery 71.09 315 *e*P **P** 17 34 08.0 +0.2
WIMIS Wimmis 71.16 313⇑*i*P **P** 17 34 05.4 -2.9
comp=Z,260nm,1.1s,mb6.1
WIMIS Wimmis 71.16 313⇑*i*P **P** 17 34 07.7 -0.6
STKA Stephens Creek 71.17 139 *e*P **P** 17 34 05.6 -2.7
comp=Z,73nm,1.3s,mb5.5
STKA *e*S S 17 43 19.0 -2.5
STKA Stephens Creek 71.17 139 P **P** 17 34 06.5 -1.8
comp=Z,126nm,1.2s,mb5.7,baz=316,slow=6.5,SNR=59
STKA LR LR 18 08 02.0
comp=Z,2µm,21.3s,MS5.3,baz=308,slow=38
MOF Molkenrain 71.20 315 *e*P **P** 17 34 09.1 +0.6
LKBD Leukerbad 71.23 313⇑*i*P **P** 17 34 06.1 -2.6
comp=Z,322nm,1.2s,mb6.1
LKBD Leukerbad 71.23 313⇑*i*P **P** 17 34 08.3 -0.4
HGN Heimansgroeve 71.25 318⇑*i*P **P** 17 34 09.2 +0.4
comp=Z,54nm,1.7s,mb5.2
HGN *e*PP PP 17 36 49.2 +2.0
HGN *e*PPP 17 38 46.2
HGN *e*S S 17 42 59.7 -23
HGN *e*ScSP 17 43 27.0
HGN *e*SS SS 17 47 32.8 -24
HGN *e*SSS 17 52 05.8
OSPF L'Ospedale 71.33 308 *e*P **P** 17 34 09.6 +0.3
WLF Walferdange 71.38 317 *e*P **P** 17 34 10.0 +0.4
comp=Z,342nm,1.1s,mb6.2
WLF Walferdange 71.38 317 P **P** 17 34 09.8 +0.2
comp=Z,114nm,1.1s,mb5.7
WLF E 17 34 15.7
WLF E pP 17 34 24.9 +1.2
WLF Walferdange 71.38 317 *e*P **P** 17 34 09.9 +0.3
WLF *e**PP pP 17 34 24.7 +1.0

WLF pmax pmax
comp=Z,268nm,1.0s,mb6.1
WLF Walferdange 71.38 317 *e*P **P** 17 34 09.9 +0.3
comp=Z,268nm,1.0s,mb6.1
WLF *e*pP pP 17 34 24.7 +1.0
HINF Hinteralfeld 71.39 315 *e*P **P** 17 34 08.8 -0.8
comp=Z,222nm,1.4s,mb5.6
HINF Hinteralfeld 71.39 315 *e*P **P** 17 34 08.8 -0.8
HINF pmax pmax
comp=Z,111nm,1.4s,mb5.6
HINF Hinteralfeld 71.39 315 *e*P **P** 17 34 08.8 -0.8
comp=Z,111nm,1.4s,mb5.6
BEBN Eben Emael 71.40 318 P **P** 17 34 09.4 -0.2
BEBN E 17 34 10.4
DIX Grande Dixence 71.45 313⇑*i*P **P** 17 34 07.7 -2.3
comp=Z,375nm,1.0s,mb6.3
DIX Grande Dixence 71.45 313⇑*i*P **P** 17 34 10.2 +0.2
SENIN Lac Senin 71.46 313⇑*i*P **P** 17 34 08.3 -1.7
comp=Z,421nm,2.2s,mb6.0
SENIN Lac Senin 71.46 313⇑*i*P **P** 17 34 09.8 -0.2
LOMF Lomont 71.52 314 *e*P **P** 17 34 10.7 +0.3
TORNY Torny 71.58 314⇑*i*P **P** 17 34 09.8 -1.0
comp=Z,404nm,1.2s,mb6.2
TORNY Torny 71.58 314⇑*i*P **P** 17 34 10.3 -0.5
GRYON Gryon 71.61 313⇑*i*P **P** 17 34 10.2 -0.8
comp=Z,193nm,1.5s,mb5.8
GRYON Gryon 71.61 313⇑*i*P **P** 17 34 10.5 -0.5
HAU Haudompre 71.67 315 *e*P **P** 17 34 11.5 +0.2
comp=Z,142nm,1.0s,mb5.5
HAU *e*R
comp=Z,1µm,21.0s
HAU Haudompre 71.67 315 *e*P **P** 17 34 11.5 +0.2
HAU pmax pmax
comp=Z,71nm,1.0s,mb5.5
HAU MLR MLR
comp=Z,1µm,21.0s,MS5.1
HAU Haudompre 71.67 315 *e*P **P** 17 34 11.5 +0.2
comp=Z,71nm,1.0s,mb5.5
HAU LR LR
comp=Z,1µm,21.0s,MS5.1
VSL Villasalto 71.76 306 *e*P **P** 17 34 12.1 +0.2
comp=Z,215nm,1.2s,mb6.0
EMV Vieux Emosson 71.80 313⇑*i*P **P** 17 34 10.3 -1.8
comp=Z,526nm,2.7s,mb6.0
EMV Vieux Emosson 71.80 313⇑*i*P **P** 17 34 11.9 -0.2
THEF They Montfort 71.85 315 *e*P **P** 17 34 12.8 +0.4
BRANT Les Verrieres 71.86 314⇑*i*P **P** 17 34 10.5 -2.0
comp=Z,452nm,3.2s
BRANT Les Verrieres 71.86 314⇑*i*P **P** 17 34 11.8 -0.7
OG01 Vacheresse 71.88 313 *e*P **P** 17 34 13.1 +0.5
SAOF Saorge 71.89 311 *e*P **P** 17 34 13.5 +0.9
AUTN L'Aution 71.98 311 *e*P **P** 17 34 14.2 +1.0
HNR Honiara 71.98 109 P **P** 17 34 13.2 0.0
comp=Z,37nm,0.4s,mb5.7,baz=322,slow=6.8,SNR=5.9
HNR LR LR 18 03 35.1
comp=Z,1µm,21.6s,MS5.2,baz=359,slow=34
HNR Honiara 71.98 109 P **P** 17 34 13.2 0.0
HNR pmax pmax
comp=Z,37nm,0.4s,mb5.7
HNR MLR MLR
comp=Z,1µm,21.6s,MS5.2
HNR Honiara 71.98 109 *e*P **P** 17 34 10.8 -2.4
comp=Z,166nm,0.9s,mb6.0
SBF Sospel 72.00 311 *e*P **P** 17 34 12.8 -0.5
LPG La Plagne 72.05 312 *e*P **P** 17 34 13.6 0.0
comp=Z,206nm,0.9s,mb5.8
LPG La Plagne 72.05 312 *e*P **P** 17 34 13.6 0.0
LPG pmax pmax
comp=Z,103nm,0.9s,mb5.8
LPG La Plagne 72.05 312 *e*P **P** 17 34 13.6 0.0
comp=Z,103nm,0.9s,mb5.8
LPL La Plagne 72.06 312 *e*P **P** 17 34 13.7 +0.1
comp=Z,305nm,1.0s,mb5.9
LPL La Plagne 72.06 312 *e*P **P** 17 34 13.7 +0.1
LPL pmax pmax
comp=Z,153nm,1.0s,mb5.9
LPL La Plagne 72.06 312 *e*P **P** 17 34 13.7 +0.1
comp=Z,152nm,1.0s,mb5.9
RSL Roselend 72.08 313 *e*P **P** 17 34 14.1 +0.3
REVF Revere 72.08 310 *e*P **P** 17 34 14.3 +0.5
GIVF Givet 72.10 317 *e*P **P** 17 34 13.5 -0.4
comp=Z,95nm,0.9s,mb5.4
GIVF Givet 72.10 317 *e*P **P** 17 34 13.5 -0.4
GIVF pmax pmax
comp=Z,48nm,0.9s,mb5.4
GIVF Givet 72.10 317 *e*P **P** 17 34 13.5 -0.4
comp=Z,48nm,0.9s,mb5.4
GIMEL Gimel 72.10 314⇑*i*P **P** 17 34 11.8 -2.1
comp=Z,488nm,3.1s
GIMEL Gimel 72.10 314⇑*i*P **P** 17 34 13.5 -0.4
JMIC Jan Mayen 72.19 340 *e*P **P** 17 34 16.8 +2.3
JMIC *e*S S 17 43 35.1 +1.8
JMIC AMS AMS 18 12 46.4
comp=Z,1µm,19.2s,MS5.1
MVIF Mont Vial 72.19 311 *e*P **P** 17 34 14.9 +0.4
CABF La Chapelle 72.20 314 *e*P **P** 17 34 14.1 -0.4
comp=Z,278nm,1.2s,mb5.8
CABF La Chapelle 72.20 314 *e*P **P** 17 34 14.1 -0.4
CABF pmax pmax
comp=Z,139nm,1.2s,mb5.8
CABF La Chapelle 72.20 314 *e*P **P** 17 34 14.1 -0.4
comp=Z,139nm,1.2s,mb5.8
UCC Uccle 72.21 318 P **P** 17 34 14.9 +0.3
UCC AP pP 17 34 28.8 +0.2
BNI Bardonecchia 72.21 312 *e*P **P** 17 34 14.1 -0.5
BNI pmax pmax
comp=Z,88nm,1.1s,mb5.6
BNI Bardonecchia 72.21 312 *e*P **P** 17 34 14.1 -0.5
comp=Z,88nm,1.1s,mb5.6
MBDF Montbardon 72.24 312 *e*P **P** 17 34 13.5 -1.2
comp=Z,68nm,0.7s,mb5.4
MBDF Montbardon 72.24 312 *e*P **P** 17 34 13.5 -1.2
MBDF pmax pmax
comp=Z,34nm,0.7s,mb5.4
MBDF Montbardon 72.24 312 *e*P **P** 17 34 13.5 -1.2
comp=Z,34nm,0.7s,mb5.4
DOU Dourbes 72.25 317 P **P** 17 34 14.6 -0.2
comp=Z,12nm,1.0s,mb4.8
DOU E 17 34 15.3
DOU E 17 34 20.0
DOU AP pP 17 34 28.7 -0.2
SURF Saint Ours 72.27 311 *e*P **P** 17 34 15.8 +0.9
SNF Seneffe 72.33 318 P **P** 17 34 14.8 -0.5
comp=Z,20nm,0.9s,mb5.0
SNF E 17 34 15.9
SNF E 17 34 20.8
SNF AP pP 17 34 29.1 -0.3
MEZF Maizieres J'vi 72.38 316 *e*P **P** 17 34 15.1 -0.5
comp=Z,213nm,0.8s,mb5.8
MEZF Maizieres J'vi 72.38 316 *e*P **P** 17 34 15.1 -0.5
comp=Z,213nm,0.8s,mb6.1
DAG Danmarks Havn 72.47 347⇑*i*P **P** 17 34 15.2 -0.9
comp=Z,77nm,1.1s,mb5.5
DAG pmax pmax
comp=Z,2µm,20.0s
DAG Danmarks Havn 72.47 347⇑*i*P **P** 17 34 15.2 -0.9
DAG pmax pmax
comp=Z,77nm,1.1s,mb5.5
DAG MLR MLR
comp=Z,2µm,20.0s,MS5.4
DAG MLR MLR
comp=E,1µm,20.0s
BAIF Baives 72.50 317 *e*P **P** 17 34 15.9 -0.4
comp=E,174nm,1.1s,mb5.6
BAIF Baives 72.50 317 *e*P **P** 17 34 15.9 -0.4
BAIF pmax pmax
comp=Z,87nm,1.1s,mb5.6
BAIF Baives 72.50 317 *e*P **P** 17 34 15.9 -0.4
comp=Z,87nm,1.1s,mb5.6
GDM Grand'Maison 72.56 312 *e*P **P** 17 34 17.0 +0.4
FRF La Foret Royal 72.64 310 *e*P **P** 17 34 16.6 -0.5
comp=Z,300nm,1.1s,mb5.8
FRF La Foret Royal 72.64 310 *e*P **P** 17 34 16.6 -0.5
FRF pmax pmax
comp=Z,150nm,1.1s,mb5.8
FRF La Foret Royal 72.64 310 *e*P **P** 17 34 16.6 -0.5
comp=Z,150nm,1.1s,mb5.8
LRW Lerwick 72.68 329 *e*P **P** 17 34 16.6 -0.7
OG05 Jujurieux 72.77 313 *e*P **P** 17 34 18.6 +0.7
LMR La Mourre 72.80 310 *e*P **P** 17 34 17.5 -0.5
comp=Z,388nm,1.2s,mb5.9
LMR La Mourre 72.80 310 *e*P **P** 17 34 17.5 -0.5
LMR pmax pmax
comp=Z,194nm,1.2s,mb5.9
LMR La Mourre 72.80 310 *e*P **P** 17 34 17.5 -0.5
comp=Z,194nm,1.2s,mb5.9

ORIF Oris-en-Rattie 72.80 312 *e*P **P** 17 34 17.3 -0.8
comp=Z,69nm,0.9s,mb5.3
ORIF *e*R
comp=Z,3µm,22.5s
ORIF Oris-en-Rattie 72.80 312 *e*P **P** 17 34 17.3 -0.8
ORIF pmax pmax
comp=Z,35nm,0.9s,mb5.3
ORIF Oris-en-Rattie 72.80 312 *e*P **P** 17 34 17.3 -0.8
comp=Z,35nm,0.9s,mb5.3
GRN Grenoble 72.80 312 *e*P **P** 17 34 18.9 +0.8
OG25 Le Caire 72.81 311 *e*P **P** 17 34 17.7 -0.5
WAL1 Walls 72.86 329 *e*P **P** 17 34 18.3 -0.1
STOF St-Etienne Org 73.03 311 *e*P **P** 17 34 20.9 +1.5
VILF Villemus 73.21 311 *e*P **P** 17 34 21.6 +1.1
SMRF Simiane la Rot 73.27 311 *e*P **P** 17 34 20.7 -0.1
comp=Z,237nm,1.4s,mb5.6
SMRF Simiane la Rot 73.27 311 *e*P **P** 17 34 20.7 -0.1
comp=Z,237nm,1.4s,mb5.9
OCF Saint Nazaire 73.29 312 *e*P **P** 17 34 21.8 +0.9
OG26 St.-Nazaire-De 73.29 312 *e*P **P** 17 34 21.8 +0.9
PUYF Puyloubier 73.31 311 *e*P **P** 17 34 22.2 +1.1
BERF Bertagne 73.38 310 *e*P **P** 17 34 22.6 +1.1
LOR Lormes 73.49 315 *e*P **P** 17 34 21.1 -1.0
comp=Z,142nm,1.1s,mb5.5
LOR *e*R
comp=Z,723nm,22.2s
LOR Lormes 73.49 315 *e*P **P** 17 34 21.1 -1.0
LOR pmax pmax
comp=Z,71nm,1.1s,mb5.5
LOR MLR MLR
comp=Z,720nm,22.3s,MS4.9
LOR Lormes 73.49 315 *e*P **P** 17 34 21.1 -1.0
comp=Z,71nm,1.1s,mb5.5
LOR LR LR
comp=Z,720nm,22.3s,MS4.9
TREF Trevaresse 73.50 311 *e*P **P** 17 34 23.2 +1.0
GELF Grande-Etoile 73.54 311 *e*P **P** 17 34 23.4 +1.0
PRAF Pradon 73.60 311 *e*P **P** 17 34 24.0 +1.2
MENF Mencas 73.62 318 *e*P **P** 17 34 23.5 +0.6
VIVF Saint-Julien-l 73.64 312 *e*P **P** 17 34 22.5 -0.5
comp=Z,286nm,1.2s,mb5.8
VIVF Saint-Julien-l 73.64 312 *e*P **P** 17 34 22.5 -0.5
VIVF pmax pmax
comp=Z,143nm,1.2s,mb5.8
VIVF Saint-Julien-l 73.64 312 *e*P **P** 17 34 22.5 -0.5
comp=Z,143nm,1.2s,mb5.8
SMF Signal de Mont 73.68 314 *e*P **P** 17 34 22.5 -0.8
comp=Z,150nm,0.8s,mb5.7
SMF Signal de Mont 73.68 314 *e*P **P** 17 34 22.5 -0.8
SMF pmax pmax
comp=Z,75nm,0.8s,mb5.7
SMF Signal de Mont 73.68 314 *e*P **P** 17 34 22.5 -0.8
comp=Z,75nm,0.8s,mb5.7
ALE Alert 73.74 357 P **P** 17 34 23.0 -0.6
comp=Z,712nm,0.6s,SNR=40
SSF Saint Saulge 73.78 315 *e*P **P** 17 34 23.2 -0.6
comp=Z,254nm,1.1s,mb5.8
SSF Saint Saulge 73.78 315 *e*P **P** 17 34 23.2 -0.6
SSF pmax pmax
comp=Z,127nm,1.1s,mb5.8
SSF Saint Saulge 73.78 315 *e*P **P** 17 34 23.2 -0.6
comp=Z,127nm,1.1s,mb5.8
AVF Avril sur Loir 73.96 314 *e*P **P** 17 34 24.1 -0.8
comp=Z,122nm,0.8s,mb5.6
AVF Avril sur Loir 73.96 314 *e*P **P** 17 34 24.1 -0.8
AVF pmax pmax
comp=Z,61nm,0.8s,mb5.6
AVF Avril sur Loir 73.96 314 *e*P **P** 17 34 24.1 -0.8
comp=Z,61nm,0.8s,mb5.6
PLDF La Plantade 74.02 313 *e*P **P** 17 34 25.7 +0.4
COLF Collangettes 74.11 313 *e*P **P** 17 34 26.4 +0.6
LWH Whinny Nab 74.15 323 *e*P **P** 17 34 25.1 -0.9
HYF Humbligny 74.28 315 *e*P **P** 17 34 26.8 0.0
MLA1 Latheron 74.31 327 *e*P **P** 17 34 26.6 -0.4
AGO Saint Agoulin 74.32 314 *e*P **P** 17 34 27.9 +0.9
BGF Bois d'Agland 74.36 314 *e*P **P** 17 34 26.6 -0.6
comp=Z,73nm,0.8s,mb5.3
BGF Bois d'Agland 74.36 314 *e*P **P** 17 34 26.6 -0.6
BGF pmax pmax
comp=Z,36nm,0.8s,mb5.3
BGF Bois d'Agland 74.36 314 *e*P **P** 17 34 26.6 -0.6
comp=Z,36nm,0.8s,mb5.4
LASF Ste Croix 74.42 312 *e*P **P** 17 34 27.5 -0.1
comp=Z,338nm,1.2s,mb5.8
MME1 Meikle Cairn 74.43 326 *e*P **P** 17 34 27.7 +0.1
LBL Lubilhac 74.49 313 *e*P **P** 17 34 28.9 +0.9
MCD Coleburn Disti 74.49 326 *e*P **P** 17 34 27.7 -0.3
PYM Petit Puy Mans 74.50 313 *e*P **P** 17 34 28.8 +0.8
CKFL Kef-Lekhel 74.66 303 P **P** 17 34 30.0 +1.1
ESY Stoneypath 74.70 325 *e*P **P** 17 34 28.8 -0.4
VERF Verneugheol 74.85 314 *e*P **P** 17 34 30.9 +0.9
MVH1 Achvaich 74.85 327 *e*P **P** 17 34 29.8 -0.3
TCF Toulx Ste Croi 74.86 314 *e*P **P** 17 34 30.0 -0.1
comp=Z,366nm,1.2s,mb5.9
TCF Toulx Ste Croi 74.86 314 *e*P **P** 17 34 30.0 -0.1
comp=Z,183nm,1.2s,mb5.9
CASM Ain Smara 74.88 303 P **P** 17 34 31.0 +0.8
FRNF Fournols 74.91 313 *e*P **P** 17 34 31.4 +1.0
EBL Broad Law 74.98 325 *e*P **P** 17 34 30.6 -0.2
CTEI Djebel Teioual 75.00 303 P **P** 17 34 32.5 +1.6
EDI Edinburgh 75.01 325 *e*P **P** 17 34 30.3 -0.7
LHO Holmfirth 75.06 322 *e*P **P** 17 34 30.5 -0.7
BBH Bruntsheil 75.13 324 *e*P **P** 17 34 32.1 +0.4
LSZ Lusaka 75.14 246 *e*P **P** 17 34 31.9 +0.1
LSZ pmax pmax
comp=Z,113nm,0.6s,mb6.0
LSZ Lusaka 75.14 246 *e*P **P** 17 34 31.9 +0.1
comp=Z,113nm,0.6s,mb6.0
EAU Auchinoon 75.17 325 *e*P **P** 17 34 32.0 +0.1
RSC Scourie 75.20 327 *e*P **P** 17 34 31.9 -0.2
ESK Eskdalemuir 75.22 324 P **P** 17 34 31.1 -1.1
comp=Z,517nm,0.9s,mb6.5,SNR=10
ESK Eskdalemuir 75.22 324 *e*P **P** 17 34 31.8 -0.4
ESK Eskdalemuir 75.22 324 *e*P **P** 17 34 31.2 -1.0
ESK *e* pP 17 34 44.6 -1.8
ESK pmax pmax
comp=Z,79nm,0.9s,mb5.6
ESK Eskdalemuir 75.22 324 *e*P **P** 17 34 31.2 -1.0
comp=Z,79nm,0.9s,mb5.6
ESK *e* pP 17 34 44.5 -1.9
DFRA Djebel Bou Aff 75.26 304 P **P** 17 34 34.0 +1.6
BHH Howats Hill 75.30 324 *e*P **P** 17 34 32.2 -0.5
CAF Calviac 75.38 313 *e*P **P** 17 34 33.0 -0.1
comp=Z,200nm,1.2s,mb5.6
CAF Calviac 75.38 313 *e*P **P** 17 34 33.0 -0.1
CAF pmax pmax
comp=Z,100nm,1.2s,mb5.6
CAF Calviac 75.38 313 *e*P **P** 17 34 33.0 -0.1
comp=Z,100nm,1.2s,mb5.6
CKE Keswick 75.41 323 *e*P **P** 17 34 32.4 -0.9
BBO1 Bothel 75.44 324 *e*P **P** 17 34 33.6 +0.2
BWH Wardlaw 75.51 324 *e*P **P** 17 34 33.3 -0.5
EAB Aberfoyle 75.53 325 *e*P **P** 17 34 33.9 -0.1
CMER Merouana 75.53 303 P **P** 17 34 34.0 0.0
KAC Achnashellach 75.56 327 *e*P **P** 17 34 33.8 -0.4
RJF Les Rejaudoux 75.63 313 *e*P **P** 17 34 34.7 +0.1
comp=Z,379nm,1.2s,mb5.9
RJF *e*R
comp=Z,1µm,22.5s
RJF Les Rejaudoux 75.63 313 *e*P **P** 17 34 34.7 +0.1
comp=Z,189nm,1.2s,mb5.9
RJF LR LR
comp=Z,1µm,22.5s,MS5.2
LDF La Druitiere 75.64 317 *e*P **P** 17 34 33.8 -0.8
comp=Z,169nm,1.0s,mb5.7
LDF La Drere 75.64 317 *e*P **P** 17 34 33.8 -0.8
comp=Z,85nm,1.0s,mb5.6
XDE Dent Fell 75.65 323 *e*P **P** 17 34 34.0 -0.6
XDE AMb AMB 17 34 36.8
comp=Z,106nm,1.2s,mb5.7
RRR Rubha Reidh 75.69 327 *e*P **P** 17 34 35.1 +0.2
LRDF Laroque-de-Fa 75.69 311 *e*P **P** 17 34 35.4 +0.5
RTO Tolsta 75.70 328 *e*P **P** 17 34 35.2 +0.3
CKHR Kef el Ahmar 75.70 303 P **P** 17 34 35.0 0.0
KSB Sheil Bridge 75.73 326 *e*P **P** 17 34 34.9 -0.2
SET Setif 75.73 303 P **P** 17 34 32.0 -3.1
PGBU Glenifferbraes 75.73 325 *e*P **P** 17 34 35.3 +0.2
GCD Castle Douglas 75.77 324‖*e*P **P** 17 34 33.8 -1.5
MTLF Montolieu 75.78 311 *e*P **P** 17 34 35.2 -0.2
comp=Z,236nm,1.2s,mb5.7
MTLF Montolieu 75.78 311 *e*P **P** 17 34 35.2 -0.2
MTLF pmax pmax
comp=Z,118nm,1.2s,mb5.7
MTLF Montolieu 75.78 311 *e*P **P** 17 34 35.2 -0.2
comp=Z,118nm,1.2s,mb5.7

KPL Plockton 75.80 327 *eP* **P** **17 34 35.4 -0.1**
FLN La Foliniere 75.81 317 *eP* **P** **17 34 34.8 -0.8**
comp=Z,104nm,1.0s,mb5.4
FLN *eR*
comp=Z,2µm,20.8s
FLN La Foliniere 75.81 317 *eP* **P** **17 34 34.8 -0.8**
comp=Z,52nm,1.0s,mb5.4
FLN LR LR
comp=Z,2µm,20.8s,MS5.3
HAE Alders End 75.96 321 *eP* **P** **17 34 35.9 -0.5**
HAE AMb AMB 17 34 38.0
comp=Z,169nm,1.0s,mb5.9
HLM1 Long Mynd 75.99 321 *eP* **P** **17 34 36.2 -0.4**
HLM1 AMb AMB 17 34 39.7
comp=Z,111nm,1.4s,mb5.6
KAR1 Arisaig 76.04 326 *eP* **P** **17 34 36.8 -0.1**
CARF Carcanieres 76.06 311 *eP* **P** **17 34 37.5 +0.5**
SBD1 Bryn Du 76.07 322 *eP* **P** **17 34 36.6 -0.4**
SBD1 AMb AMB 17 34 39.5
comp=Z,100nm,1.4s,mb5.5
RRH Rhenigidale 76.10 327 *eP* **P** **17 34 37.0 -0.3**
SSP1 Stoney Pound 76.15 321 *eP* **P** **17 34 37.0 -0.5**
SSP1 AMb AMB 17 34 39.9
comp=Z,112nm,1.3s,mb5.6
GRR Gorron 76.17 317 *eP* **P** **17 34 36.9 -0.7**
comp=Z,95nm,0.9s,mb5.4
GRR Gorron 76.17 317 *eP* **P** **17 34 36.9 -0.7**
GRR pmax pmax
comp=Z,48nm,0.9s,mb5.4
GRR Gorron 76.17 317 *eP* **P** **17 34 36.9 -0.7**
comp=Z,48nm,0.9s,mb5.4
GAL1 Galloway 76.19 324⇑ *eP* **P** **17 34 37.0 -0.7**
VALF Valcebollere 76.22 310 *eP* **P** **17 34 39.0 +1.1**
MCH1 Michaelchurch 76.23 321 *eP* **P** **17 34 37.1 -0.9**
HGH Gray Hill 76.25 320 *eP* **P** **17 34 37.3 -0.8**
HGH AMb AMB 17 34 40.0
comp=Z,155nm,1.2s,mb5.8
LFF La Frestale 76.27 313 *eP* **P** **17 34 38.1 -0.1**
comp=Z,145nm,0.9s,mb5.6
LFF La Frestale 76.27 313 *eP* **P** **17 34 38.1 -0.1**
comp=Z,72nm,0.9s,mb5.6
KSK Scoval 76.28 327 *eP* **P** **17 34 38.6 +0.3**
WPM1 Penmaenmawr 76.31 322 *eP* **P** **17 34 38.4 0.0**
WIM Isle of Man 76.42 323 *eP* **P** **17 34 39.5 +0.4**
WIM AMb AMB 17 34 41.6
comp=Z,110nm,1.4s,mb5.6
GMK Mull of Kintyr 76.49 325⇑ *eP* **P** **17 34 39.1 -0.3**
YLL Llanberis 76.50 322 *eP* **P** **17 34 39.3 -0.2**
WLF1 Llynfaes 76.58 322 *eP* **P** **17 34 39.8 -0.1**
WLF1 AMb AMB 17 34 42.3
comp=Z,116nm,1.2s,mb5.7
WCB1 Church Bay 76.63 323 *eP* **P** **17 34 39.9 -0.3**
WCB1 AMb AMB 17 34 42.5
comp=Z,89nm,1.2s,mb5.6
MLS Moulis 76.69 311 *eP* **P** **17 34 40.4 -0.1**
YRC Rhoscolyn 76.69 322 *eP* **P** **17 34 40.1 -0.4**
YRC AMb AMB 17 34 43.1
comp=Z,120nm,1.1s,mb5.7
YRE Yr Eifl 76.70 322 *eP* **P** **17 34 40.4 -0.2**
YRE AMb AMB 17 34 42.4
comp=Z,112nm,1.1s,mb5.7
JVM Valle D.L. Mar 76.72 318 *eP* **P** **17 34 39.8 -1.0**
ARMA Armidale 76.73 132⇑ *iP* **P** **17 34 42.5 +1.7**
EMIR Miracle 76.73 310 P **P** **17 34 40.8 0.0**
comp=Z,197nm,1.6s,mb5.8
GCL Cushendall 76.87 324 *eP* **P** **17 34 41.1 -0.5**
GMM Mts of Mourne 77.09 324⇑ *eP* **P** **17 34 42.2 -0.6**
EPF Esparros 77.18 311 *eP* **P** **17 34 42.3 -1.0**
RESF Ens 77.26 311 *eP* **P** **17 34 44.9 +1.1**
SGMF Saint Gilles 77.28 317 *eP* **P** **17 34 43.5 -0.4**
comp=Z,146nm,0.8s,mb5.7
SGMF Saint Gilles 77.28 317 *eP* **P** **17 34 43.5 -0.4**
comp=Z,73nm,0.8s,mb5.7
OLEF Ile d'Oleron 77.31 315 *eP* **P** **17 34 44.9 +0.8**
LABF Labassere 77.36 311 *eP* **P** **17 34 45.4 +1.1**
TOO Toolangi 77.41 141⇑ *iP* **P** **17 34 45.3 +0.7**
comp=Z,43nm,1.8s,mb5.1
TOO Toolangi 77.41 141⇑ *i* **P** **17 34 45.3 +0.7**
TOO pmax pmax
comp=Z,43nm,1.8s,mb5.1
VIEF Viey 77.45 311 *eP* **P** **17 34 45.9 +1.1**
EGRA Graus 77.48 311 P **P** **17 34 45.6 +0.6**
comp=Z,84nm,0.9s,mb5.7
EMHD Djebel Mahouad 77.60 304 P **P** **17 34 45.0 -0.7**
REYF Montagne du Re 77.67 312 *eP* **P** **17 34 47.5 +1.4**
ROSF Rostrenen 77.69 317 *eP* **P** **17 34 45.7 -0.5**
comp=Z,136nm,0.8s,mb5.7
ROSF Rostrenen 77.69 317 *eP* **P** **17 34 45.7 -0.5**
ROSF pmax pmax
comp=Z,68nm,0.8s,mb5.6
ROSF Rostrenen 77.69 317 *eP* **P** **17 34 45.7 -0.5**
comp=Z,68nm,0.8s,mb5.6
DSB Dublin 77.70 323 *eP* **P** **17 34 47.0 +0.7**
comp=Z,8.1nm,0.8s,mb4.7
DLF Lyons Farm 77.77 323 *eP* **P** **17 34 46.0 -0.6**
QUIF Quistinic 77.78 317 *eP* **P** **17 34 45.9 -0.8**
comp=Z,90nm,1.1s,mb5.3
QUIF Quistinic 77.78 317 *eP* **P** **17 34 45.9 -0.8**
QUIF pmax pmax
comp=Z,45nm,1.0s,mb5.3
QUIF Quistinic 77.78 317 *eP* **P** **17 34 45.9 -0.8**
comp=Z,45nm,1.0s,mb5.4
ETSF Etsaut 77.85 311 *eP* **P** **17 34 47.0 0.0**
comp=Z,134nm,1.0s,mb5.5
ETSF Etsaut 77.85 311 *eP* **P** **17 34 47.0 0.0**
comp=Z,67nm,1.0s,mb5.5
TTA Tatalina 77.95 26 *eP* **P** **17 34 47.2 -0.4**
TTA *e*PP pP 17 35 01.4 -0.5
TTA pmax pmax
comp=Z,37nm,1.4s,mb5.1
TTA Tatalina 77.95 26 *eP* **P** **17 34 47.2 -0.4**
comp=Z,37nm,1.4s,mb5.1
TTA *ep*P pP 17 35 01.4 -0.5
LARF Larrau 78.09 312 *eP* **P** **17 34 49.4 +1.0**
DCN Croghan 78.16 323 *eP* **P** **17 34 48.4 -0.4**
CCA1 Carnmenellis 78.20 320 *eP* **P** **17 34 48.2 -0.8**
SJPF Ste Jean 78.23 312 *eP* **P** **17 34 49.2 0.0**
comp=Z,156nm,1.3s,mb5.5
SJPF Ste Jean 78.23 312 *eP* **P** **17 34 49.2 0.0**
comp=Z,78nm,1.3s,mb5.5
CGW Gweek 78.23 320 *eP* **P** **17 34 49.8 +0.6**
CNB Canberra Magne 78.28 137 *eP* **P** **17 34 48.3 -1.1**
comp=Z,41nm,0.8s,mb5.4
ELIZ Elizondo 78.42 312 P **P** **17 34 50.8 +0.6**
comp=Z,22nm,1.0s,mb5.0
CPZ Penzance 78.42 320 *eP* **P** **17 34 50.2 -0.1**
CPZ AMb AMB 17 34 52.4
comp=Z,70nm,1.5s,mb5.4
EBNR Beni Rached 78.65 305 P **P** **17 34 50.0 -1.5**
ECHA Ech Chlef 78.82 305 P **P** **17 34 52.0 -0.4**
SVW2 Sparrevohn 79.00 28 *eP* **P** **17 34 53.3 -0.1**
EANR 'Ain N'Sour 79.09 304 P **P** **17 34 55.0 +1.1**
ETRT Tiaret 79.14 304 P **P** **17 34 56.0 +1.8**
SUMG Summit 79.16 347 *eP* **P** **17 34 53.3 -1.0**
comp=Z,208nm,1.3s,mb5.9
SUMG *ep*P pP 17 35 09.1 +0.5
ECHE Chera 79.31 308 P **P** **17 34 56.6 +1.5**
comp=Z,14nm,0.7s,mb5.0
COLA College 80.04 23*c iP* **P** **17 34 58.7 -0.3**
COLA College 80.04 23 *eP* **P** **17 34 58.4 -0.7**
comp=Z,33nm,1.1s,mb5.2
ODJA Bouhanifia 80.27 304 P **P** **17 35 02.0 +1.7**
ILAR Eielson Array 80.43 22 P **P** **17 35 00.3 -0.9**
comp=Z,13nm,0.9s,mb4.9,baz=294,slow=5.0,SNR=65
ILAR PP PP 17 38 06.2 +1.5
comp=Z,7.7nm,0.9s,baz=301,slow=6.9,SNR=7.1
ILAR PKKPbc PKKPbc 17 53 41.4 -0.9
comp=Z,1.7nm,0.7s,baz=153,slow=1.9,SNR=14
ILAR PKPPKP 18 01 38.5
comp=Z,0.5nm,0.9s,baz=202,slow=3.9,SNR=4.1
ILAR LR LR 18 15 08.9
comp=Z,2µm,21.0s,MS5.5,baz=321,slow=39
EVIA Vianos 80.78 308 P **P** **17 35 04.7 +1.7**
EVIA pmax pmax
comp=Z,28nm,0.8s,mb5.2
EVIA Vianos 80.78 308 P **P** **17 35 04.7 +1.7**
comp=Z,28nm,0.8s,mb5.2
EHUE Huescar 81.16 307 P **P** **17 35 05.6 +0.6**
EHUE pmax pmax
comp=Z,106nm,1.4s,mb5.6
EHUE Huescar 81.16 307 P **P** **17 35 05.6 +0.6**
comp=Z,106nm,1.4s,mb5.6
GUD Guadarrama 81.18 310 P **P** **17 35 06.2 +1.0**
GUD pmax pmax
comp=Z,38nm,0.5s,mb5.6
GUD Guadarrama 81.18 310 P **P** **17 35 06.2 +1.1**
comp=Z,38nm,0.5s,mb5.6
ENIJ Nijar 81.20 306 P **P** **17 35 05.9 +0.7**
ENIJ pmax pmax
comp=Z,40nm,0.9s,mb5.3
ENIJ Nijar 81.20 306 P **P** **17 35 05.9 +0.6**
comp=Z,40nm,0.9s,mb5.3
PMR Palmer 81.40 26 *eP* **P** **17 35 05.4 -1.0**
PMR *e*PP pP 17 35 18.8 -1.9
ESDC Sonseca Array 81.42 309 P **P** **17 35 07.2 +0.8**
comp=Z,27nm,1.0s,mb5.1,baz=56,slow=5.4,SNR=56
ESLA Sonseca Array 81.42 309 *eP* **P** **17 35 06.9 +0.4**
comp=Z,23nm,1.3s,mb4.9
SLKM Skilak Lake 81.56 27 *eP* **P** **17 35 05.4 -1.8**
EBAN Banos Encina 81.89 308 P **P** **17 35 09.7 +0.8**
comp=Z,21nm,0.6s,mb5.2
RES Resolute Bay 82.01 2⇑ *eP* **P** **17 35 08.7 -0.9**
RES *e* 17 38 17.2
RES pmax pmax
comp=Z,142nm,0.9s,mb5.9
RES Resolute Bay 82.01 2⇑ *eP* **P** **17 35 08.7 -0.8**
comp=Z,5µm,0.9s
RES *ep*P pP 17 38 17.2 -0.5
TAU Tasmania Unive 82.04 144 *eP* **P** **17 35 09.5 -0.2**
TAU pmax pmax
comp=Z,90nm,1.1s,mb5.6
TAU Tasmania Unive 82.04 144 *eP* **P** **17 35 09.4 -0.3**
comp=Z,90nm,1.1s,mb5.6
LBTB Lobatse 82.10 239 *eP* **P** **17 35 10.0 0.0**
LBTB pmax pmax
comp=Z,158nm,0.6s,mb6.1
LBTB Lobatse 82.10 239 *eP* **P** **17 35 10.0 0.0**
comp=Z,158nm,0.6s,mb6.1
INK Inuvik 82.16 16⇑ *eP* **P** **17 35 08.8 -1.5**
INK pmax pmax
comp=Z,129nm,1.0s
INK Inuvik 82.16 16⇑ *eP* **P** **17 35 08.8 -1.5**
comp=Z,4µm,1.0s
INK *ep*P pP 17 38 12.6 -6.4
ERON Agron 82.36 307 P **P** **17 35 12.2 +0.8**
comp=Z,8.7nm,0.6s,mb4.9
ELUQ Luque 82.48 308 P **P** **17 35 12.3 +0.3**
ELUQ pmax pmax
comp=Z,20nm,0.8s,mb5.1
ELUQ Luque 82.48 308 P **P** **17 35 12.3 +0.3**
comp=Z,20nm,0.8s,mb5.1
PBRG Braganca 82.50 312 *eP* **P** **17 35 12.3 +0.2**
comp=Z,38nm,1.4s,mb5.1
STS Santiago 83.26 314 P **P** **17 35 17.0 +1.0**
STS pmax pmax
comp=Z,19nm,0.7s,mb5.2
STS Santiago 83.26 314 P **P** **17 35 17.0 +1.0**
comp=Z,19nm,0.7s,mb5.2
EYAK Cordova Ski Ar 83.35 26 *eP* **P** **17 35 15.4 -1.1**
PVRL Vila Real 83.38 312 *eP* **P** **17 35 17.7 +1.0**
comp=Z,51nm,1.5s,mb5.3
PCAB Cabril 83.41 313 *eP* **P** **17 35 18.2 +1.4**
comp=Z,71nm,1.4s,mb5.5
DAWY Dawson 83.42 21 *eP* **P** **17 35 16.2 -0.6**
DAWY *ep*P pP 17 38 26.9 -2.4
MTE Manteigas 83.64 311 *eP* **P** **17 35 18.9 +0.9**
comp=Z,89nm,1.3s,mb5.7
MTE Manteigas 83.64 311 *eS* S 17 45 42.9 +6.4
MTE Manteigas 83.64 311 *eP* **P** **17 35 18.6 +0.7**
comp=Z,75nm,1.1s,mb5.7
EZAM Zamans 83.67 313 P **P** **17 35 19.2 +1.1**
EZAM pmax pmax
comp=Z,18nm,0.8s,mb5.2
EZAM Zamans 83.67 313 P **P** **17 35 19.2 +1.1**
comp=Z,18nm,0.8s,mb5.2
PVIS Viseu 83.74 312 *eP* **P** **17 35 20.0 +1.5**
comp=Z,64nm,1.5s,mb5.5
EJIF Jimena Fronter 83.81 307 P **P** **17 35 19.2 +0.4**
comp=Z,51nm,1.2s,mb5.5
PCBR Castelo Branco 83.83 311 *eP* **P** **17 35 19.5 +0.5**
comp=Z,74nm,1.2s,mb5.7
PTOM Tomar 84.57 311 *eP* **P** **17 35 23.4 +0.7**
comp=Z,101nm,1.5s,mb5.7
PBEJ Beja 84.88 309 *eP* **P** **17 35 25.9 +1.6**
comp=Z,59nm,1.1s,mb5.6
MOE Montemor 85.01 310 *eP* **P** **17 35 25.6 +0.7**
PTEO Sao Teotonio 85.70 309 *eP* **P** **17 35 29.9 +1.5**
comp=Z,99nm,1.2s,mb5.9
TSUM Tsumeb 85.92 247⇑ *eP* **P** **17 35 30.1 +0.6**
comp=Z,19nm,0.6s,mb5.5
TSUM *ep*P pP 17 35 44.0 +0.1
SFJD Kangerlussuaq 86.16 347 *i* P **P** **17 35 29.9 -0.7**
comp=Z,123nm,1.2s,mb6.0
SFJD *i* 17 51 50.2
SFJD Kangerlussuaq 86.16 347 *i* P **P** **17 35 29.9 -0.7**
SFJD pmax pmax
comp=Z,120nm,1.2s,mb6.0
TORD Torodi Ar. Bea 87.20 283 P **P** **17 35 36.2 +0.5**
comp=Z,24nm,1.0s,mb5.4,baz=64,slow=2.8,SNR=97
TORD PP PP 17 39 01.2 +1.3
comp=Z,2.0nm,0.8s,baz=62,slow=5.9,SNR=3.2
TORD PKiKP PKiKP 17 40 40.7 +0.4
comp=Z,0.3nm,0.4s,baz=46,slow=2.0,SNR=4.6
TORD PKKPbc PKKPbc 17 53 26.7 +0.2
comp=Z,0.6nm,0.5s,baz=296,slow=1.3,SNR=5.0
SKAG Skagway 88.01 23⇑ *iP* **P** **17 35 40.5 +0.9**
comp=Z,167nm,1.4s,mb6.1
SUR Sutherland 89.35 234 P **P** **17 35 47.7 +1.8**
comp=Z,212nm,0.8s,mb6.5,SNR=10
SUR Sutherland 89.35 234 LR LR 18 13 57.4
comp=Z,2µm,20.5s,MS5.5,baz=102,slow=34
SUR Sutherland 89.35 234 *eP* **P** **17 35 46.6 +0.7**
comp=Z,31nm,0.9s,mb5.6
MIR Mirnyy 89.63 181⇑ *iP* **P** **17 35 48.0 +0.8**
MIR *i* pP 17 35 58.0 -3.8
MIR pmax pmax
comp=Z,410nm,1.0s,mb6.7
CASY Casey 90.21 173 *eP* **P** **17 35 47.9 -2.0**
DLBC Dease Lake 90.61 22 *eP* **P** **17 35 52.5 +0.7**
DLBC *ep*P pP 17 39 28.2 +0.9
YKW3 Yellowknife Ar 91.34 13 *eP* **P** **17 35 53.7 -1.5**
YKW3 *ep*P pP 17 39 28.0 -5.0
YKA Yellowknife Ar 91.40 13 P **P** **17 35 54.1 -1.3**
comp=Z,14nm,0.8s,mb5.3,baz=327,slow=4.4,SNR=152
YKA PP PP 17 39 31.3 -2.2
comp=Z,5.8nm,0.9s,baz=335,slow=8.0,SNR=14
YKA PKiKP PKiKP 17 40 46.7 -0.6
comp=Z,1.0nm,0.8s,baz=319,slow=2.5,SNR=3.9
YKA PKKPbc PKKPbc 17 53 15.0 -1.1
comp=Z,1.6nm,0.6s,baz=157,slow=2.2,SNR=21
YKA SKKPbc 17 56 49.5
comp=Z,0.4nm,0.7s,baz=146,slow=2.2,SNR=5.9
YKA PKPPKP 18 01 13.6
comp=Z,0.2nm,0.7s,baz=159,slow=3.7,SNR=3.7
YKA LR LR 18 22 31.9
comp=Z,724nm,21.4s,MS5.1,baz=275,slow=39
YKA Yellowknife Ar 91.40 13 P **P** **17 35 54.1 -1.4**
YKA 17 39 31.3
YKA pmax pmax
comp=Z,14nm,0.8s
YKA pmax pmax
comp=Z,6.0nm,0.9s
YKA MLR MLR
comp=Z,724nm,21.4s
YKA Yellowknife Ar 91.40 13 P **P** **17 35 54.1 -1.3**
YKA PP PP 17 39 31.3 -2.2
MAW Mawson 93.64 192 P **P** **17 36 05.5 -0.3**
comp=Z,20nm,0.9s,mb5.5,baz=357,slow=5.0,SNR=7.0
MAW PKKP PKKPbc 17 53 09.2 -1.2
comp=Z,8.6nm,0.7s,baz=199,slow=7.9,SNR=5.7
MAW LR LR 18 12 05.3
comp=Z,480nm,21.9s,MS4.9,baz=33,slow=32
MAW Mawson 93.64 192 *eP* **P** **17 36 04.8 -1.0**
comp=Z,81nm,1.5s,mb5.9
CFTV Fuerteventura 93.92 303 P **P** **17 36 09.1 +2.0**
comp=Z,14nm,0.8s,mb5.5
DRV Dumont d'Urvil 96.09 163 SS SS 17 54 08.0 +3.9
RPZ Rata Peaks 96.84 135 LR LR 18 23 03.0
comp=Z,2µm,18.9s,MS5.6,baz=210,slow=37
FCC Fort Churchill 97.90 4⇑ *iP* **P** **17 36 24.5 -0.7**
FCC pmax pmax
comp=Z,51nm,1.4s,mb5.9
FCC Fort Churchill 97.90 4⇑ *iP* **P** **17 36 24.4 -0.7**
comp=Z,51nm,1.4s,mb5.9
FCC *ep*P pP 17 40 12.4 -12
SYO Syowa Base 100.15 197⇓ *e*Pdiff Pdif 17 36 35.5 +0.2
SCHQ Schefferville 100.46 349 P Pdif 17 36 36.9 +0.2
comp=Z,6.0nm,0.8s,baz=29,slow=4.4,SNR=8.5
SCHQ PP PP 17 40 42.2 -1.3
comp=Z,4.4nm,0.8s,baz=8.4,slow=8.0,SNR=4.9
SCHQ PKKPbc PKKPbc 17 52 50.9 -0.9
comp=Z,4.3nm,0.5s,baz=171,slow=2.6,SNR=9.7
SCHQ Schefferville 100.46 349 *eP* Pdif 17 36 35.9 -0.7
comp=Z,8.7nm,0.9s
SCHQ *ePP* PP 17 40 37.6 -5.9
FFC Flin Flon 100.99 10 *eP* Pdif 17 36 38.2 -0.8
FFC pmax pmax
comp=Z,15nm,1.1s
FFC Flin Flon 100.99 10 *ePdif* Pdif 17 36 38.2 -0.8
comp=Z,15nm,1.1s
FFC *ePP* PP 17 40 39.4 -8.2
CHMT Chamberlain Mo 105.77 19 *e*PKPdf PKiKP 17 41 07.2 -5.6
HUMO Hull Mountain 105.92 28 *e*PKPdf PKiKP 17 41 14.2 +1.1
ULM Lac du Bonnet 106.17 7 PKiKP PKiKP 17 41 11.3 -2.2
comp=Z,4.4nm,0.8s,baz=334,slow=2.8,SNR=5.0
ULM PKKPbc PKKPbc 17 52 33.3 -1.5
comp=Z,2.4nm,0.7s,baz=104,slow=4.2,SNR=3.2
WVOR Wild Horse Val 107.83 25 *e*PKPdf PKiKP 17 41 17.3 +0.7
VNDA Vanda 107.97 168 Pdiff Pdif 17 37 07.8 -2.2
comp=Z,0.6nm,0.8s,baz=280,slow=12,SNR=3.0
VNDA PKiKP PKiKP 17 41 15.6 -1.3
comp=Z,2.7nm,1.0s,baz=300,slow=4.5,SNR=4.8
VNDA PKKPbc PKKPbc 17 52 30.1 +0.9
comp=Z,2.2nm,0.7s,baz=140,slow=3.0,SNR=12
VNDA PKKP PKKPbc 17 52 42.2 +13
comp=Z,1.1nm,0.6s,baz=70,slow=5.9,SNR=3.1
VNDA Vanda 107.97 168 Pdif Pdif 17 37 07.8 -2.2
VNDA *e*PKPdf PKiKP 17 41 15.4 -1.5
VNDA *ePP* PP 17 41 34.2 -5.3
HLID Hailey 108.38 22 *e*PKPdf PKiKP 17 41 18.6 +0.9
SBA Scott Base 109.07 168 *e*PKPdf PKiKP 17 41 18.5 -0.4
FLWY Flagg Ranch 109.09 19 *e*PKPdf PKiKP 17 41 19.0 0.0
FLWY *ePP* PP 17 41 43.3 -4.3
IMW Indian Meadow 109.19 19 *e*PKPdf PKiKP 17 41 14.6 -4.6
IMW *ePP* PP 17 41 46.0 -2.3
MOOW Moose Ponds 109.38 19 *e*PKPdf PKiKP 17 41 19.1 -0.4
MOOW *ePP* PP 17 41 49.6 -0.1
TPAW Teton Pass 109.56 19 *e*PKPdf PKiKP 17 41 20.5 +0.6
REDW Red Top Meadow 109.70 19 *e*PKPdf PKiKP 17 41 21.2 +1.1
PDAR Pinedale Array 110.63 19 PKiKP PKiKP 17 41 21.5 -0.4
comp=Z,7.5nm,0.7s,baz=82,slow=0.5,SNR=51
PDAR PKKPbc PKKPbc 17 52 19.8 -1.0
comp=Z,1.0nm,0.8s,baz=128,slow=5.8,SNR=5.5
PDAR PKKPab PKKPab 17 52 30.4 -1.0
comp=Z,1.7nm,0.6s,baz=134,slow=5.2,SNR=11
RSSD Black Hills 110.79 14 *e*PKIKP PKiKP 17 41 19.5 -2.7
HWUT Hardware Ranch 111.07 21 *e*PKPdf PKiKP 17 41 21.1 -1.6
BGU Big Grassy Mou 111.19 22 *e*PKPdf PKiKP 17 41 30.1 +7.2
NVAR Mina Array Bea 111.36 27 PKiKP PKiKP 17 41 24.8 +1.5
comp=Z,5.5nm,0.8s,baz=334,slow=0.9,SNR=33
NVAR PKKPbc PKKPbc 17 52 19.1 +0.7
comp=Z,1.2nm,0.7s,baz=150,slow=4.2,SNR=7.6
NVAR PKKPab PKKPab 17 52 28.8 +0.6
comp=Z,1.4nm,0.8s,baz=116,slow=4.1,SNR=6.2
MNV Mina 111.42 27 *e*PKIKP PKiKP 17 41 23.5 +0.1
DUG Dugway 111.92 22 *e*PKIKP PKiKP 17 41 25.3 +0.9
DAU Daniels Canyon 112.25 21 *e*PKIKP PKiKP 17 41 26.0 +1.0
RWWY Rawlins 112.29 17 *e*PKPdf PKiKP 17 41 24.7 -0.4
PHWY Pilot Hill 113.11 16 *e*PKPdf PKiKP 17 41 26.8 +0.2
QSPA South Pole Qui 113.17 180 *e*P PKiKP 17 41 25.8 -0.9
TMUT Trail Mountain 113.27 21 *e*PKPdf PKiKP 17 41 27.5 +0.6
DAC Darwin (Calif) 113.48 28 *e*PKPdf PKiKP 17 41 27.8 +0.5
MVU Marysvale 113.64 22 *e*PKPdf PKiKP 17 41 38.5 +11
MVU *ep*PKPdf 17 41 51.5
MSU Marysvale 113.64 22 *e*PKPdf PKiKP 17 41 29.0 +1.4
SRU San Rafael 113.67 21 *e*PKIKP PKiKP 17 41 27.6 -0.1
SNAA Sanae 114.20 200 *e*PKIKP PKiKP 17 41 26.9 -1.8
ISCO Idaho Springs 114.48 17 *e*PKPdf PKiKP 17 41 29.7 +0.5
SMCO Snowmass 114.69 18 *e*PKPdf PKiKP 17 41 30.4 +0.8
PV10 Paradox Valley 114.81 20 PKPdf PKiKP 17 41 31.6 +1.8
NEN Nelson 115.16 26 *e*PKPdf PKiKP 17 41 31.6 +1.1
PV01 Paradox Valley 115.18 20 *e*PKPdf PKiKP 17 41 31.1 +0.6
VNA2 Neumayer--Watz 115.68 201 *e*Pdiff Pdif 17 37 43.7 -0.6
VNA2 *e* 17 37 56.7
VNA2 *e* 17 38 00.1
VNA2 *e* 17 41 31.0
VNA2 *e* 17 41 34.9
VNA2 *e* 17 41 39.6
VNA2 *e* 17 41 44.8
VNA2 *e* 17 41 49.9
VNA2 *e* 17 41 52.0
VNA2 *e* 17 41 58.3
VNA2 *e* 17 45 02.0
VNA2 *e* 17 45 02.6
VNA2 *e* 17 45 08.0
VNA2 Neumayer--Watz 115.68 201 *e*Pdif Pdif 17 37 43.7 -0.6
VNA2 *e* 17 37 56.7
VNA2 *e* 17 38 00.1
VNA2 *e* 17 41 31.0
VNA2 *e* 17 41 34.9
VNA2 *e* 17 41 39.6
VNA2 *e* 17 41 44.8
VNA2 *e* 17 41 49.9
VNA2 *e* 17 41 52.0
VNA2 *e* 17 41 58.3
VNA2 *e* 17 45 02.0
VNA2 *e* 17 45 02.6
VNA2 *e* 17 45 08.0
VNA2 *e* 17 52 03.9
VNA2 *e* 17 52 05.5
VNA1 Neumayer--Stat 115.99 201 *e*P PKPdf 17 41 33.3 +1.2
VNA1 *e* 17 41 35.6
VNA1 *e* 17 41 40.5
VNA1 *e* 17 41 45.4
VNA1 *e* 17 41 51.8
VNA1 *e* 17 41 53.4
VNA1 *e* 17 45 02.3
VNA1 *e* 17 45 02.8
VNA1 *e* 17 45 08.3
VNA1 *e* 17 41 35.6
VNA1 *e* 17 41 40.5
VNA1 *e* 17 41 45.4
VNA1 *e* 17 41 51.8
VNA1 *e* 17 41 53.4
VNA1 *e* 17 45 02.3
VNA1 *e* 17 45 02.8
VNA1 *e* 17 45 08.3
VNA1 Neumayer--Stat 115.99 201 *e* PKPdf 17 41 33.3 +1.2
MVCO Mesa Verde 116.05 20 *e*PKPdf PKPdf 17 41 32.5 +0.3
VNA3 Neumayer Olymp 116.40 201 *e*Pdiff Pdif 17 37 44.9 -2.6
VNA3 *e* 17 37 56.7
VNA3 *e* 17 38 00.8
VNA3 *e* 17 41 32.1
VNA3 *e* 17 41 33.2
VNA3 *e* 17 41 35.9
VNA3 *e* 17 41 39.8
VNA3 *e* 17 41 46.1
VNA3 *e* 17 41 51.0
VNA3 *e* 17 41 53.8
VNA3 *e* 17 41 59.9
VNA3 *e* 17 45 03.3
VNA3 *e* 17 45 03.6
VNA3 *e* 17 45 08.9
VNA3 Neumayer Olymp 116.40 201 *e*Pdif Pdif 17 37 44.9 -2.6
VNA3 *e* 17 37 56.7
VNA3 *e* 17 38 00.8
VNA3 *e* 17 41 32.1
VNA3 *e* 17 41 33.2
VNA3 *e* 17 41 35.9
VNA3 *e* 17 41 39.8
VNA3 *e* 17 41 46.1
VNA3 *e* 17 41 51.0
VNA3 *e* 17 41 53.8
VNA3 *e* 17 41 59.9
VNA3 *e* 17 45 03.3
VNA3 *e* 17 45 03.6
VNA3 *e* 17 45 08.9
VNA3 *e* 17 52 01.5
VNA3 *e* 17 52 03.0
WUAZ Wupatki 116.61 23 *e*PKPdf PKPdf 17 41 35.1 +1.8
ANMO Albuquerque 118.77 19 *e*PKPdf PKPdf 17 41 38.4 +0.9
ANMO *ep*PKPdf pPKPdf 17 41 50.1 -2.4
LAZ Ladron 119.06 20 *e*PKPdf PKPdf 17 41 38.9 +0.8
LPM Los Pinos Moun 119.30 20 *e*PKPdf PKPdf 17 41 38.8 +0.3
LENM Lemitar 119.33 20 *e*PKPdf PKPdf 17 41 39.0 +0.5
BNM Barren Site 119.45 20 *e*PKPdf PKPdf 17 41 38.8 0.0
TUC Tucson 119.69 24 *e*PKPdf PKPdf 17 41 40.4 +1.2
PPT Papeete 120.31 97 *e*PP PP 17 42 58.7 -8.0
comp=Z,122nm,27.2s
PPT Papeete 120.31 97 *e*PS PS 17 52 58.0 +0.6
comp=Z,643nm,27.2s
PPT Papeete 120.31 97 *e*SS SS 17 59 35.6 +4.6

	comp=Z,576nm,24.0s							
PPT				*e*LR	LR	18 19 01.8		
	comp=Z,2μm,26.2s							
WMOK	**Wichita Mounta**	**120.91**	**13**	*e*PKPdf	PKPdf	17 41 40.9	-0.6	
WMOK				*ep*PKPdf	pPKPdf	17 41 53.6	-3.0	
CPRX	**Cap Rock**	**121.32**	**18**	*e*PKPdf	PKPdf	17 41 42.4	0.0	
CPCT	**Cooper Cave**	**121.50**	**359**	*e*PKPdf	PKPdf	17 41 42.1	-0.6	
UALR	**University of**	**121.85**	**6**	*e*PKPdf	PKPdf	17 41 43.0	-0.4	
MIAR	**Mount Ida**	**121.94**	**8**	*e*PKPdf	PKPdf	17 41 43.3	-0.3	
PLAL	**Pickwick Lake**	**121.94**	**2**	*e*PKPdf	PKPdf	17 41 43.2	-0.3	
TBI	**Tubuai**	**121.95**	**104**	*e*PP	PP	17 43 14.5	-3.4	
	comp=Z,108nm,28.5s							
TBI	**Tubuai**	**121.95**	**104**	eLR	LR	18 20 32.1		
	comp=Z,1μm,25.0s							
GDL2	**Guadalupe Moun**	**121.95**	**19**	*e*PKPdf	PKPdf	17 41 43.5	-0.1	
CLNB	**Carlsbad**	**122.03**	**18**	*e*PKPdf	PKPdf	17 41 43.7	0.0	
MNTX	**Cornudas Mount**	**122.11**	**20**	*e*PKPdf	PKPdf	17 41 43.9	0.0	
JSC	**Jenkinsville**	**122.52**	**356**	*e*PKPdf	PKPdf	17 41 44.8	+0.1	
JCT	**Junction City**	**124.79**	**15**	*e*PKPdf	PKPdf	17 41 48.8	-0.2	
HKT	**Hockley**	**126.12**	**11**	*e*PKPdf	PKPdf	17 41 52.2	+0.6	
RKT	**Rikitea**	**134.93**	**100**	*e*PS	PS	17 55 05.7	+0.8	
	comp=Z,222nm,31.8s							
RKT	**Rikitea**	**134.93**	**100**	eLR	LR	18 25 41.6		
	comp=Z,988nm,26.8s							
BDFB	**Brasilia**	**143.71**	**275**	PKP	PKPdf	17 42 23.4	-0.8	
	comp=Z,21nm,0.6s,baz=57,slow=2.2,SNR=20							
EFI	**East Falkland**	**144.62**	**210**	*e*PKPdf	PKPdf	17 42 23.5	-2.3	
SDV	**Santo Domingo**	**144.71**	**334**	PKP	PKPdf	17 42 25.1	-0.9	
	comp=Z,519nm,0.8s,baz=87,slow=1.9,SNR=294							
SDV				SKPbc	SKPbc	17 46 03.2	+2.1	
	comp=Z,11nm,0.6s,baz=0.0,slow=1.0,SNR=5.5							
SDV	**Santo Domingo**	**144.71**	**334**	*e*PKPdf	PKPdf	17 42 24.9	-1.1	
USHA	**Ushuaia**	**146.02**	**198**	PKPbc	PKPbc	17 42 28.3	-0.8	
	comp=Z,149nm,0.7s,baz=98,slow=4.8,SNR=107							
JTS	**JuntasAbangare**	**146.55**	**359**	PKPbc	PKPbc	17 42 29.4	-1.2	
	comp=Z,11nm,0.3s,baz=9.3,slow=13,SNR=5.8							
JTS	**JuntasAbangare**	**146.55**	**359**	*e*PKPdf	PKPdf	17 42 29.3	+0.1	
ROSC	**El Rosal**	**149.83**	**337**	PKP	PKPdf	17 42 36.7	+2.2	
	comp=Z,204nm,1.2s,baz=104,slow=11,SNR=17							
ROSC				PKPbc	PKPbc	17 42 41.8	+2.4	
	comp=Z,296nm,0.9s,baz=100,slow=6.1,SNR=82							
CPUP	**Villa Florida**	**154.08**	**258**	PKP	PKPdf	17 42 42.0	+1.2	
	comp=Z,14nm,0.9s,baz=54,slow=1.7,SNR=26							
CPUP				PKPbc	PKPbc	17 42 49.4	+0.4	
	comp=Z,31nm,0.5s,baz=75,slow=2.2,SNR=78							
CPUP				PKPab	PKPab	17 43 03.6	+0.9	
	comp=Z,18nm,0.7s,baz=68,slow=4.5,SNR=5.2							
CPUP	**Villa Florida**	**154.08**	**258**	*e*PKPdf	PKPdf	17 42 41.7	+0.9	
CPUP				*e*PKPbc	PKPbc	17 42 49.0	0.0	
SAML	**Samuel**	**154.09**	**300**	*e*PKPdf	PKPdf	17 42 40.8	-0.1	
SAML				*e*PKPbc	PKPbc	17 42 50.3	+1.3	
SAML				*e*PKPab	PKPab	17 43 04.3	+1.6	
SAML				*e*PP	PP	17 46 38.7	+1.2	
TRQA	**Tornquist**	**154.97**	**229**	*e*PKPdf	PKPdf	17 42 42.7	+0.6	
TRQA				*e*PKPbc	PKPbc	17 42 51.3	+0.5	
TRQA				*e*PKPab	PKPab	17 43 05.6	-0.8	
TRQA				*e*PP	PP	17 46 44.0	+1.7	
SIV	**San Ignacio**	**155.68**	**283**	PKP	PKPdf	17 42 44.0	+1.0	
	comp=Z,2.8nm,0.7s,baz=100,slow=2.9,SNR=18							
SIV				PKPab	PKPab	17 43 10.9	+1.5	
	comp=Z,14nm,0.6s,baz=84,slow=5.5,SNR=20							
PLCA	**Paso Flores**	**158.48**	**213**	*e*PKIKP	PKPdf	17 42 47.7	+1.1	
PLCA				*e*		17 43 19.3		
LPAZ	**La Paz**	**162.02**	**290**	PKP	PKPdf	17 42 52.5	+2.0	
	comp=Z,8.0nm,0.8s,baz=27,slow=1.6,SNR=38							
LPAZ				PKPab	PKPab	17 43 38.0	+1.1	
	comp=Z,6.0nm,0.8s,baz=185,slow=5.6,SNR=4.5							
LPAZ	**La Paz**	**162.02**	**290**	*e*PKPdf	PKPdf	17 42 51.7	+1.2	
LPAZ				*e*PKPab	PKPab	17 43 37.3	+0.3	
CFAA	**Coronel Fontan**	**162.46**	**238**	PKP	PKPdf	17 42 52.3	+1.4	
	comp=Z,3.0nm,0.8s,baz=204,slow=0.4,SNR=37							
CFAA				PKPab	PKPab	17 43 40.0	+1.0	
	comp=Z,4.7nm,0.7s,baz=90,slow=3.4,SNR=18							
CFAA				PP	PP	17 47 23.9	+0.7	
	comp=Z,0.3nm,0.4s,baz=136,slow=12,SNR=3.7							
LVC	**Limon Verde**	**164.49**	**269**	PKP	PKPdf	17 42 55.5	+2.6	
	comp=Z,7.1nm,0.7s,baz=161,slow=1.6,SNR=18							
LVC				PKPab	PKPab	17 43 48.6	+0.7	
	comp=Z,9.9nm,0.7s,baz=69,slow=5.0,SNR=7.2							
LVC				PP	PP	17 47 35.7	+1.8	
	comp=Z,4.5nm,1.0s,baz=95,slow=1.8,SNR=6.1							
LVC	**Limon Verde**	**164.49**	**269**	*e*PKPdf	PKPdf	17 42 54.7	+1.8	
LVC				*e*PKPab	PKPab	17 43 48.2	+0.3	
LVC				*e*PP	PP	17 47 34.4	+0.5	
ARE	**Arequipa**	**164.96**	**295**	*e*P	PKPdf	17 42 55.0	+1.7	

LDG ***11*** *17:34:18.8±0.3, 4396N×8.11E, h4km, Ml2.6/8, Error ellipse: s-maj=4.3km s-min=2.7km az=109.0*

ISCJB ***11*** *17:34:20.0±0.8, 4402N±003×795E±005, h10km, Error ellipse: s-maj=5.9km s-min=4.2km az=74.5*

CSEM ***11*** *17:34:19.3±0.3, 4399N×805E, h10km, ML2.5/6, Error ellipse: s-maj=5.1km s-min=2.9km az=135.0*

STR ***11*** *17:34:20.0±0.4, 4401N×803E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

GEN ***11*** *17:34:20.0, 4395N×802E, h6km, ML2.0*

NEIC ***11*** *17:34:20.0, 4401N×803E, h5km, ML2.3(STR), ML2.6(LDG), After STR.*

ISC 11 17:34:19.5±0.9, 4398N±004×803E±006, h10km, n30, g085/49, Corsica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MONE	**Monesi**	**0.22**	**297**	P	**Pg**	**17 34 24.8**	**+0.7**
FIN	**Finale Ligure**	**0.27**	**30**	P	**Pg**	**17 34 26.0**	**+1.1**
NEGI	**Negi**	**0.27**	**241**	P	**Pg**	**17 34 25.1**	**+0.2**
ROB	**Roburent**	**0.34**	**341**	P	**Pg**	**17 34 27.0**	**+0.8**
SAOF	**Saorge**	**0.34**	**272**	Pg	**Pg**	**17 34 26.6**	**+0.3**
SAOF				Sg	**Sg**	**17 34 31.3**	**+0.5**
AUTN	**L'Aution**	**0.43**	**273**	Pg	**Pg**	**17 34 28.6**	**+0.6**
AUTN				Sg	**Sg**	**17 34 34.7**	**+1.0**
SBF	**Sospel**	**0.44**	**255**	*e*Pg	**Pg**	**17 34 28.6**	**+0.4**
SBF				*e*Sg	**Sg**	**17 34 34.8**	**+0.8**
	160nm,0.3s						
SBF	**Sospel**	**0.44**	**255**	*e*Pg	**Pg**	**17 34 28.6**	**+0.4**
SBF				*e*Sg	**Sg**	**17 34 34.8**	**+0.8**
	80nm,0.3s						
ENR	**Entracque**	**0.50**	**300**	P	**Pg**	**17 34 29.9**	**+0.6**
REVF	**Revere**	**0.53**	**244**	Pg	**Pg**	**17 34 30.3**	**+0.4**
STV	**Sta Anna Valdi**	**0.57**	**298**	P	**Pg**	**17 34 31.1**	**+0.5**
MVIF	**Mont Vial**	**0.64**	**263**	Pg	**Pg**	**17 34 32.2**	**+0.4**
MVIF				Sg	**Sg**	**17 34 41.3**	**+1.1**
PZZ	**Prazzo**	**0.85**	**309**	P	**Pg**	**17 34 36.1**	**+0.2**
FRF	**La Foret Royal**	**1.08**	**248**	*e*Pg	**Pg**	**17 34 39.5**	**-0.8**
FRF				*e*Sg	**Sg**	**17 34 53.9**	**-0.5**
	22nm,0.2s						
FRF	**La Foret Royal**	**1.08**	**248**	*e*Pg	**Pg**	**17 34 39.5**	**-0.8**
FRF				*e*Sg	**Sg**	**17 34 53.9**	**-0.5**
	11nm,0.2s						
MBDF	**Montbardon**	**1.17**	**310**	*e*Pg	**Pg**	**17 34 41.9**	**-0.1**
MBDF				*e*Sg	**Sg**	**17 34 57.5**	**+0.3**
	13nm,0.3s						
MBDF	**Montbardon**	**1.17**	**310**	*e*Pg	**Pg**	**17 34 41.9**	**-0.1**
MBDF				*e*Sg	**Sg**	**17 34 57.5**	**+0.3**
	6.6nm,0.3s						
LMR	**La Mourre**	**1.28**	**240**	*e*Pn	**Pn**	**17 34 41.8**	**-1.6**
LMR				*e*Sn	**Sn**	**17 34 57.6**	**-2.9**
	13nm,0.3s						
LMR	**La Mourre**	**1.28**	**240**	*e*Pn	**Pn**	**17 34 41.8**	**-1.6**
LMR				*e*Sn	**Sn**	**17 34 57.6**	**-2.9**
	6.4nm,0.3s						
LPG	**La Plagne**	**1.77**	**330**	*e*Pg	**Pg**	**17 34 53.4**	**-0.1**
LPG				*e*Sn	**Sn**	**17 35 11.3**	**-1.5**
	2.1nm,0.3s						
LPG	**La Plagne**	**1.77**	**330**	*e*Pg	**Pg**	**17 34 53.4**	**-0.1**
LPG				*e*Sn	**Sn**	**17 35 11.3**	**-1.5**
	1.0nm,0.3s						
SMRF	**Simiane la Rot**	**1.77**	**271**	*e*Pn	**Pn**	**17 34 50.5**	**+0.3**
SMRF				*e*Sg	**Sg**	**17 35 16.9**	**+0.5**
	29nm,0.5s						
SMRF	**Simiane la Rot**	**1.77**	**271**	*e*Pn	**Pn**	**17 34 50.5**	**+0.3**
SMRF				*e*Sg	**Sg**	**17 35 16.9**	**+0.5**
	14nm,0.5s						
LPL	**La Plagne**	**1.79**	**330**	*e*Pg	**Pg**	**17 34 52.9**	**-1.0**
ORIF	**Oris-en-Rattie**	**1.80**	**302**	*e*Pg	**Pg**	**17 34 53.6**	**-0.5**
ORIF				*e*Sg	**Sg**	**17 35 16.7**	**-0.8**
	13nm,0.4s						
ORIF	**Oris-en-Rattie**	**1.80**	**302**	*e*Pg	**Pg**	**17 34 53.6**	**-0.5**
ORIF				*e*Sg	**Sg**	**17 35 16.7**	**-0.8**
	6.3nm,0.4s						
VIVF	**Saint-Julien-l**	**2.56**	**291**	*e*Sn	**Sn**	**17 35 31.5**	**-0.7**
	2.2nm,0.2s						
VIVF				*e*Sg	**Sg**	**17 35 41.5**	**-0.2**
VIVF	**Saint-Julien-l**	**2.56**	**291**	*e*Sn	**Sn**	**17 35 31.5**	**-0.7**
	1.1nm,0.2s						
VIVF				*e*Sg	**Sg**	**17 35 41.5**	**-0.2**
LASF	**Ste Croix**	**3.01**	**273**	*e*Sn	**Sn**	**17 35 41.3**	**-2.0**
	1.6nm,0.2s						
LASF	**Ste Croix**	**3.01**	**273**	*e*Sn	**Sn**	**17 35 41.3**	**-2.0**
	0.8nm,0.2s						

IDC 11 17:42:08.6±4.8, 2256N×9299E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/19, mbtmp3.6/4, Error ellipse: s-maj=402.6km s-min=23.5km az=59.0, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**25.68**	**343**	P	P	17 47 40.3	+0.1
	1.0nm,0.6s,baz=157,slow=7.3,SNR=7.4						
WRA	**Warramunga Arr**	**58.43**	**133**	P	P	17 52 05.9	-0.1
	0.6nm,1.0s,baz=313,slow=8.3,SNR=5.9						
ASAR	**Alice Springs**	**60.77**	**137**	P	P	17 52 22.9	+0.8
	0.1nm,0.4s,baz=313,slow=6.3,SNR=6.8						
ARCES	**ARCESS Array B**	**61.22**	**338**	P	P	17 52 24.8	-0.4
	2.8nm,0.9s,baz=111,slow=4.9,SNR=3.5						

MAN 11 17:43:54.4, 1008N×12199E, h1km, mb2.8, ML4.2, MS3.0, 2D, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.80**	**47**	*e*P	Pg	17 44 10.1	+0.4
GUIM				*e*S	Sg	17 44 22.0	+2.0
CUYO	**Cuyo Island**	**1.22**	**309**	*e*P	Pg	17 44 18.0	+0.2
CUYO				*e*S	Sg	17 44 32.9	-0.8
RCP	**Roxas**	**1.64**	**27**	*e*P	Pn	17 44 25.7	+1.3
RCP				*e*S	Sn	17 44 45.7	-0.5
TBP	**Tagbilaran**	**1.88**	**102**	*e*P	Pn	17 44 28.5	+0.7
TBP				*e*S	Sn	17 44 52.1	0.0
LLP	**Lapu-Lapu**	**1.96**	**83**	*e*P	Pn	17 44 27.9	-0.9
LLP				*e*S	Sn	17 44 54.8	+0.8
IPIL	**Ipil**	**2.35**	**166**	*i*P	Pn	17 44 34.9	+0.7
IPIL				*i* S	Sn	17 45 01.6	-2.1
IPIL	**Ipil**	**2.35**	**166**	*e*P	Pn	17 44 35.0	+0.8
IPIL				*e*S	Sn	17 44 56.0	-7.6
BUSP	**Coron**	**2.59**	**317**	*e*P	Pn	17 44 37.0	-0.5
PAGZ	**Pagadian**	**2.61**	**148**	*e*P	Pn	17 44 40.2	+2.4
ENPP	**El Nido**	**2.76**	**294**	*e*P	Pn	17 44 40.3	+0.5

LDG ***11*** *17:56:11.6±0.2, 2045S×16826E, h10km, Mb5.1/2, Error ellipse: s-maj=21.8km s-min=2.9km az=129.0*

BJI ***11*** *17:56:14.5, 2007S×169.16E, h43km, mB5.4, mb4.8, Ms5.5, Msz4.9*

ISCJB ***11*** *17:56:14.6±0.3, 2032S±005×16872E±006, h41km, mb4.9/43, MS4.3/4, Error ellipse: s-maj=8.2km s-min=6.5km az=177.3*

MOS ***11*** *17:56:15.5±2.5, 2025S×16872E, h33km, mb5.1/27, Error ellipse: s-maj=11.9km s-min=10.6km az=0.2*

IDC ***11*** *17:56:15.9±0.8, 2037S×16879E, h37km±4km, mb4.5/11, mb1 4.7/11, mb1mx4.7/14, mbtmp4.8/11, MS4.3/3, Ms1 4.3/3, ms1mx3.6/25, Error ellipse: s-maj=22.9km s-min=16.5km az=142.0*

SZGRF ***11*** *17:56:15.6, 1990S×17066E, h27km, Vanuatu Islands*

HRVD ***11*** *17:56:16.2±0.4, 2001S×16849E, h30km, MW5.1/50, Centroid moment Tensor Solution. LP body waves: s22,c25;Mantle waves: s50,c62; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.53±.32; Mθθ-0.36±.19; Mϕϕ-4.17±.20; Mrθ-1.05±.24; Mϕθ 1.44±.10; Mϕr~1.97±.22; Best double couple: M≈5.09700×10^16 NP1:ϕs325.00000°, δ38.00000°, λ63.00000°. NP2: ϕs179.00000°, δ57.00000°, λ110.00000°. Principal axes: T 5.2770, Plg71.0000°, Azm135.0000°; N -0.3600, Plg17.0000°, Azm348.0000°; P -4.9170, Plg10.0000°, Azm255.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***11*** *17:56:16.2±0.2, 2036S×16875E, mb5.0/27 Error ellipse: s-maj=9.6km s-min=6.5km az=138.0*

ISC 11 17:56:16.3±0.3, 2032S±005×16882E±006, h43km, h43km±2.7km?; pP-P, n201, σ1?05/94, mb4.9/43, MS4.3/4, 10C-5D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**2.69**	**348**	*i*P	**Pn**	**17 56 55.2**	**-1.9**
DZM	**Mont Dzumac**	**2.82**	**231**	Pn	**Pn**	**17 56 54.9**	**-4.0**
	14nm,0.3s,baz=58,slow=17,SNR=401						
DZM				Sn	**Sn**	**17 57 25.2**	**-6.4**
	35nm,0.3s,baz=177,slow=24,SNR=4.9						
RAO	**Raoul Island**	**14.96**	**129**	LR	LR	18 04 26.6	
	comp=Z,697nm,19.1s,baz=345,slow=33						
URZ	**Urewera**	**19.27**	**160**	P	**Pn**	**18 00 40.5**	**+1.9**
	0.6nm,0.3s,baz=44,slow=6.9,SNR=5.8						
URZ				S	**S**	**18 04 09.3**	**-3.8**
	2.0nm,0.3s,baz=56,slow=3.7,SNR=12						
AFI	**Afiamalu**	**19.60**	**74**	P	**Pn**	**18 00 41.1**	**-1.4**
AFI				pmax	pmax		
	comp=Z,52nm,1.0s						
AFI	**Afiamalu**	**19.60**	**74**	P	**Pn**	**18 00 41.1**	**-1.4**
	comp=Z,52nm,1.0s						
CTA	**Charters Tower**	**21.18**	**267**	*e*P	**P**	**18 01 00.4**	**+2.4**
	comp=Z,36nm,1.0s,mb4.7						
CTA	**Charters Tower**	**21.18**	**267**	P	**P**	**18 01 03.0**	**+5.0**
	comp=Z,46nm,1.0s,mb4.8,baz=83,slow=12,SNR=14						
CTA	**Charters Tower**	**21.18**	**267**	*e*P	**P**	**18 01 00.4**	**+2.4**
CTA				pmax	pmax		
	comp=Z,36nm,1.0s						
CTAO	**Charters Tower**	**21.18**	**267**	*e*P	**P**	**18 01 02.5**	**+4.5**
CTAO				pmax	pmax		
	comp=Z,73nm,1.1s,mb4.9						
CTAO	**Charters Tower**	**21.18**	**267**	*e*P	**P**	**18 01 02.5**	**+4.5**
	comp=Z,73nm,1.1s,mb4.9						
CNB	**Canberra Magne**	**22.73**	**225**	*e*P	**P**	**18 01 15.4**	**+0.9**
	comp=Z,55nm,1.1s,mb4.9						
CNB				*e*		18 01 27.8	
PMG	**Port Moresby**	**23.55**	**294**	P	**P**	**18 01 23.7**	**+0.9**
	comp=Z,28nm,1.0s,mb4.6,baz=119,slow=8.6,SNR=7.3						
PMG	**Port Moresby**	**23.55**	**294**	*e*P	**P**	**18 01 23.5**	**+0.7**
STKA	**Stephens Creek**	**26.95**	**239**	*e*P	**P**	**18 01 52.2**	**-1.4**
	comp=Z,16nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**26.95**	**239**	P	**P**	**18 01 52.8**	**-0.9**
	comp=Z,12nm,0.9s,mb4.4,baz=78,slow=12,SNR=17						
STKA				pP	pP	18 02 03.7	-1.4
	comp=Z,19nm,0.9s,baz=61,slow=10,SNR=11						
WRAB	**Tennant Creek**	**32.33**	**265**	*e*P	**P**	**18 02 40.3**	**-1.1**
WRAB	**Tennant Creek**	**32.33**	**265**	P	**P**	**18 02 36.3**	**-5.1**
	comp=Z,27nm,0.9s,mb5.1						
WRA	**Warramunga Arr**	**32.34**	**265**	P	**P**	**18 02 40.6**	**-0.8**
	comp=Z,9.9nm,1.0s,mb4.6,baz=92,slow=9.4,SNR=7.1						
WRA				pP	pP	18 02 51.9	-1.1
	comp=Z,11nm,0.9s,baz=92,slow=8.0,SNR=10.0						
WRA				PcP	PcP	18 05 28.2	-0.3
	comp=Z,0.9nm,0.8s,baz=98,slow=5.3,SNR=3.6						
WRA	**Warramunga Arr**	**32.34**	**265**	P	**P**	**18 02 40.6**	**-0.9**
WRA				*pP	pP	18 02 51.9	-1.2
WRA						18 05 28.2	
WRA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ASAR	**Alice Springs**	**32.50**	**258**	P	**P**	**18 02 42.4**	**-0.5**
	comp=Z,13nm,0.8s,mb4.8,baz=83,slow=8.9,SNR=60						
ASAR				pP	pP	18 02 53.6	-0.8
	comp=Z,23nm,0.8s,baz=84,slow=8.8,SNR=15						
ASAR	**Alice Springs**	**32.50**	**258**	P	**P**	**18 02 42.4**	**-0.4**
ASAR				*pP	pP	18 02 53.6	-0.8
ASAR				pmax	pmax		
	comp=Z,13nm,0.8s						
FORT	**Forrest**	**38.04**	**246**	*e*P	**P**	**18 03 38.5**	**+8.0**
	comp=Z,20nm,0.8s,mb4.9						
FITZ	**Fitzroy Crossi**	**40.75**	**266**	*e*P	**P**	**18 03 53.5**	**+0.4**
	comp=Z,37nm,0.9s,mb5.0						
FITZ				*e*pP	pP	18 04 04.8	-0.1
FITZ	**Fitzroy Crossi**	**40.75**	**266**	P	**P**	**18 03 53.6**	**+0.5**
	comp=Z,24nm,0.9s,mb4.8,baz=126,slow=9.1,SNR=30						
FITZ				pP	pP	18 04 05.1	+0.2
	comp=Z,29nm,0.7s,baz=114,slow=9.0,SNR=17						
FITZ				LR	LR	18 21 41.4	
	comp=Z,365nm,18.4s,MS4.3,baz=260,slow=38						
MBWA	**Marble Bar**	**45.77**	**260**	*e*P	**P**	**18 04 34.0**	**+0.4**
	comp=Z,34nm,0.8s,mb5.3						
MBWA				*e*	pP	18 04 44.1	-1.4
KLBR	**Kellerberrin**	**46.90**	**245**	*e*P	**P**	**18 04 41.5**	**-0.9**
	comp=Z,26nm,1.0s,mb5.1						
KLBR				*e*	pP	18 04 52.9	-1.5
NWAO	**Narrogin (SRO)**	**47.38**	**244**	P	**P**	**18 04 46.3**	**+0.1**
	comp=Z,23nm,0.9s,mb5.1,baz=97,slow=5.9,SNR=9.6						
NWAO				pP	pP	18 04 57.5	-0.7
	comp=Z,39nm,0.8s,baz=94,slow=7.3,SNR=12						
NWAO				LR	LR	18 25 16.4	
	comp=Z,496nm,18.9s,MS4.5,baz=56,slow=37						
NWAO	**Narrogin (SRO)**	**47.38**	**244**	P	**P**	**18 04 46.3**	**+0.2**
NWAO				*PP	pP	18 04 57.5	-0.7
NWAO				pmax	pmax		
	comp=Z,23nm,1.0s						
NWAO				MLR	MLR		
	comp=Z,496nm,18.9s						
NWAO	**Narrogin (SRO)**	**47.38**	**244**	P	**P**	**18 04 46.3**	**+0.1**
NWAO				pP	pP	18 04 57.5	-0.7
NWAO				LR	LR	18 25 16.4	
MUN	**Mundaring**	**48.22**	**245**	*e*P	**P**	**18 04 51.2**	**-1.5**
MUN				*e*	pP	18 05 03.6	-1.1
VNDA	**Vanda**	**57.34**	**182**	P	**P**	**18 06 00.2**	**+0.2**
	comp=Z,1.1nm,0.8s,mb4.0,baz=321,slow=6.3,SNR=4.8						
VNDA	**Vanda**	**57.34**	**182**	P	**P**	**18 06 00.2**	**+0.2**
VNDA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VNDA	**Vanda**	**57.34**	**182**	P	**P**	**18 06 00.2**	**+0.2**
	comp=Z,2.2nm,1.4s,mb4.0						
SBA	**Scott Base**	**57.59**	**181**	*e*P	**P**	**18 06 02.3**	**+0.6**
SBA				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
SBA	**Scott Base**	**57.59**	**181**	*e*P	**P**	**18 06 02.3**	**+0.6**
	comp=Z,8.1nm,1.0s,mb4.7						
CASY	**Casey**	**58.98**	**204**	P	**P**	**18 06 11.4**	**-0.1**
	comp=Z,19nm,1.3s,mb5.0						
KSM	**Kuching**	**61.23**	**283**	*e*P	**P**	**18 06 27.7**	**+0.8**
KSM				*e*	pP	18 06 39.1	-0.2
MJAR	**Matsushiro Arr**	**63.52**	**333**	P	**P**	**18 06 42.1**	**-0.1**
	comp=Z,4.2nm,1.1s,mb4.4,baz=168,slow=7.9,SNR=5.0						
MJAR	**Matsushiro Arr**	**63.52**	**333**	P	**P**	**18 06 42.1**	**-0.1**
MJAR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
SSE	**Sheshan**	**68.58**	**317**	*e*P	**P**	**18 07 14.8**	**+0.1**
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,87nm,4.6s						
KS15	**Wonju Array Si**	**69.18**	**326**	*e*P	**P**	**18 07 15.9**	**-2.5**
QSPA	**South Pole Qui**	**69.74**	**180**	*e*P	**P**	**18 07 22.2**	**+0.3**
	comp=Z,10.0nm,1.0s,mb4.7						
NJ2	**Nanjing**	**70.71**	**316**	*e*P	**P**	**18 07 29.0**	**+1.2**
NJ2				AP	pP	18 07 40.1	-0.3
NJ2				PP	PP	18 10 09.8	+5.1
NJ2				S	S	18 16 43.0	+4.0
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,240nm,10.2s						
NJ2				LR	LR		
	comp=N,970nm,29.6s						
NJ2				LR	LR		
	comp=E,1μm,22.0s						
NJ2				LR	LR		
	comp=Z,450nm,31.3s,MS4.5						
YSS	**Yuzh-Sakhalins**	**70.97**	**341**	*e*P	**P**	**18 07 30.2**	**+0.8**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
YSS	**Yuzh-Sakhalins**	**70.97**	**341**	*e*P	**P**	**18 07 30.2**	**+0.9**
	comp=Z,20nm,1.0s,mb5.0						
KULM	**Kulim**	**71.58**	**283**	P	**P**	**18 07 37.6**	**+4.5**
MDJ	**Mudanjiang**	**73.88**	**332**	*e*P	**P**	**18 07 47.3**	**+0.6**
	comp=Z,20nm,1.1s,mb5.0						
HABR	**Khabarovsk**	**74.84**	**337**	*e*P	**P**	**18 07 53.4**	**+1.1**
HABR				*e*S	S	18 17 31.0	+5.0
HABR				pmax	pmax		
	comp=Z,39nm,1.3s,mb5.2						
KLR	**Kul'dur**	**76.69**	**336**	*e*P	**P**	**18 08 00.0**	**-2.8**
BJI	**Beijing**	**77.53**	**321**	*e*P	**P**	**18 08 08.0**	**+0.5**
BJI				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.8						
MA2	**Magadan**	**80.97**	**351**	*e*P	**P**	**18 08 25.1**	**-1.2**
MA2				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.8						
LZH	**Lanzhou**	**83.16**	**312**	*e*P	**P**	**18 08 39.0**	**+1.2**
LZH				AP	pP	18 08 50.5	-0.1
LZH				AMB	AMB		
	comp=Z,26nm,1.4s,mb5.1

VNA1 e 18 09 15.5
VNA1 e 18 09 17.1
VNA1 e pP 18 09 22.3 +1.6
VNA1 Neumayer--Stat 89.25 181 eP **P** **18 09 07.8 0.0**
VNA1 e 18 09 08.7
VNA1 e 18 09 15.5
VNA1 e 18 09 17.1
VNA1 e pP 18 09 22.3 +1.6
DAC Darwin (Calif) 89.37 51 eP **P** **18 09 08.8 +0.5**
DAC pmax pmax
comp=E,5.0nm,1.0s,mb4.8
DAC Darwin (Calif) 89.37 51 eP **P** **18 09 08.8 +0.4**
comp=E,5.3nm,1.0s,mb4.8
LSA Lhasa 89.76 302 P **P** **18 09 11.3 +1.2**
LSA pmax pmax
comp=E,8.0nm,1.4s,mb4.9
LSA Lhasa 89.76 302 P **P** **18 09 11.3 +1.2**
comp=E,7.5nm,1.4s,mb4.8
NVAR Mina Array Bea 89.81 49 P **P** **18 09 11.2 +0.9**
comp=E,4.6nm,0.9s,mb4.8,baz=216,slow=6.0,SNR=26
MNV Mina 89.91 49 eP **P** **18 09 11.2 +0.3**
MNV pmax pmax
comp=E,10.0nm,1.1s,mb5.1
MNV Mina 89.91 49 eP **P** **18 09 11.2 +0.4**
comp=E,9.5nm,1.1s,mb5.0
MOD Modoc 90.01 45 eP **P** **18 09 11.6 +0.3**
comp=E,7.3nm,1.0s,mb5.0
BOD Bodaibo 90.12 334 eP **P** **18 09 10.4 -1.4**
BOD pmax pmax
comp=E,7.0nm,1.6s,mb4.7
TPH Tonopah 90.42 49 eP **P** **18 09 14.4 +1.2**
TPNV Topopah Spring 90.64 51 eP **P** **18 09 14.6 +0.4**
TPNV e pP 18 09 24.7 -2.5
TPNV pmax pmax
comp=E,9.0nm,1.0s,mb5.0
TPNV Topopah Spring 90.64 51 eP **P** **18 09 14.6 +0.4**
comp=E,8.5nm,1.0s,mb5.0
TPNV e pP 18 09 24.7 -2.5
ZAK Zakamensk 90.94 324⇑ iP **P** **18 09 15.8 +0.2**
ZAK pmax pmax
comp=E,16nm,1.6s,mb5.1
WVOR Wild Horse Val 91.35 45 eP **P** **18 09 17.7 +0.2**
WVOR pmax pmax
comp=E,15nm,1.2s,mb5.2
WVOR Wild Horse Val 91.35 45 eP **P** **18 09 17.7 +0.2**
comp=E,15nm,1.2s,mb5.2
ILAR Eielson Array 91.37 17 P **P** **18 09 15.0 -2.6**
comp=E,0.9nm,0.8s,mb4.1,baz=235,slow=5.9,SNR=9.2
ILAR Eielson Array 91.37 17 P **P** **18 09 15.0 -2.6**
ILAR pmax pmax
comp=E,1.0nm,0.8s
WUAZ Wupatki 93.68 54 eP **P** **18 09 29.6 +1.3**
comp=E,9.5nm,1.0s,mb5.2
YKA Yellowknife Ar 101.80 27 P Pdif 18 10 05.4 +0.5
comp=E,0.5nm,0.8s,baz=249,slow=4.5,SNR=6.7
YKA Yellowknife Ar 101.80 27 P Pdif 18 10 05.4 +0.5
YKA pmax pmax
comp=E,1.0nm,0.8s
YKA Yellowknife Ar 101.80 27 P Pdif 18 10 05.4 +0.5
MKAR Makanchi Array 102.22 315 P Pdif 18 10 07.7 +0.9
comp=E,0.4nm,0.7s,baz=112,slow=6.4,SNR=3.0
ARCES ARCESS Array B 126.00 345 PKP PKPdf 18 15 13.4 -0.3
comp=E,1.6nm,0.6s,baz=62,slow=3.3,SNR=3.9
ARCES pPKP pPKPdf 18 15 23.6 -3.4
comp=E,4.5nm,1.0s,baz=17,slow=1.3,SNR=2.4
ARCES ARCESS Array B 126.00 345 PKIKP PKPdf 18 15 13.4 -0.3
ARCES 18 15 23.7
ARCES pmax pmax
comp=E,2.0nm,0.6s
BDFB Brasilia 129.14 132 PKP PKPdf 18 15 20.4 +0.7
comp=E,2.0nm,0.5s,baz=158,slow=4.1,SNR=3.8
BDFB Brasilia 129.14 132 PKIKP PKPdf 18 15 20.4 +0.7
BDFB pmax pmax
comp=E,2.0nm,0.5s
OBN Obninsk 130.17 326⇓↓ ePKIKP PKPdf 18 15 18.3 -3.3
OBN pmax pmax
comp=E,3.0nm,0.5s
FINES FINESS Array B 131.43 337 SKPbc SKPbc 18 18 48.7 +3.0
comp=E,2.0nm,0.8s,baz=93,slow=3.8,SNR=8.9
SOC Sochi 131.86 311c iPKIKP PKPdf 18 15 22.2 -2.6
SOC e 18 17 54.3
SOC ePPP 18 20 33.3
SOC pmax pmax
comp=E,16nm,1.6s
NOA NORSAR Array B 136.38 344 SKPbc SKPbc 18 19 10.7 +8.6
comp=E,1.1nm,0.9s,baz=30,slow=3.6,SNR=3.3
DPC Dobruska-Polom 142.97 331 ePKP PKPdf 18 15 45.9 +0.6
DPC epPKP pPKPdf 18 15 53.1 -5.6
BRG Berggiesshubel 143.65 333 eP PKPdf 18 15 43.9 -2.6
comp=E,2.2nm,0.9s
BRG Berggiesshubel 143.65 333 ePKIKP PKPdf 18 15 43.9 -2.6
BRG pmax pmax
comp=E,20nm,0.9s
CLL Collm 143.72 334 ePKPdf PKPdf 18 15 45.0 -1.6
comp=E,7.0nm,1.0s
PRU Pruhonice 144.04 332 ePKP PKPdf 18 15 46.9 -0.3
PRU epPKP pPKPdf 18 15 56.6 -4.0
CLZ Clausthal 144.32 337 ePKPbc PKPdf 18 15 46.0 -1.6
PKSM Moragy 144.47 324⇓↓ ePKIKP PKPdf 18 15 47.4 -0.5
VAY Valandovo 144.57 314 ePKP PKPdf 18 15 46.0 -2.0
WERD Werda 144.66 334 ePKPbc PKPdf 18 15 47.3 -0.9
GTTG Gvttingen 144.71 337 ePKPbc PKPdf 18 15 47.6 -0.7
NKC Novy Kostel 144.76 334 ePKP PKPdf 18 15 48.4 0.0
NKC epPKP pPKPdf 18 15 58.8 -3.0
MOX Moxa 144.79 335 ePKPbc PKPdf 18 15 47.8 -0.7
MOX Moxa 144.79 335 ePKP PKPdf 18 15 47.7 -0.8
comp=E,36nm,1.6s
MOX e 18 15 57.1
MOX Moxa 144.79 335 ePKIKP PKPdf 18 15 47.7 -0.8
MOX e 18 15 57.1
MOX pmax pmax
comp=E,36nm,1.6s
IBBN Ibbenburen 144.84 340 ePKPbc PKPdf 18 15 47.9 -0.6
SKO Skopje 145.03 315 ePKP PKPdf 18 15 46.6 -2.2
KHC Kasperske Hory 145.09 331 ePKP PKPdf 18 15 49.2 +0.2
KHC epPKP pPKPdf 18 15 59.9 -2.5
KHC Kasperske Hory 145.09 331c iPKIKP PKPdf 18 15 48.6 -0.4
MANZ Manzenberg 145.09 334 ePKPbc PKPbc 18 15 48.9 +0.4
ROTZ Rotzenmuhle 145.22 333 ePKPbc PKPbc 18 15 49.4 +0.5
GEC2 GERESS Array S 145.24 331 ePKPbc PKPbc 18 15 49.5 +0.5
GERES GERESS Array B 145.24 331 PKPbc PKPbc 18 15 49.7 +0.7
comp=E,1.8nm,0.7s,baz=46,slow=3.9,SNR=18
GERES pPKPbc pPKPbc 18 16 00.1 -2.1
comp=E,2.8nm,0.6s,baz=46,slow=3.9,SNR=9.2
GERES GERESS Array B 145.24 331 PKIKP PKPdf 18 15 49.7 +0.5
GERES 18 16 00.1
GERES pmax pmax
comp=E,20nm,0.7s
WET Wettzell 145.40 332 ePKPbc PKPbc 18 15 49.9 +0.4
WTSB Winterswijk 145.44 340 eP PKPdf 18 15 49.6 0.0
comp=E,39nm,1.8s
ARSA Arzberg 145.47 327⇑ iP PKPdf 18 15 50.1 +0.4
comp=E,20nm,1.5s
BIA Bitola 145.55 314 ePKP PKPdf 18 15 47.6 -2.1
MOA Molln 145.69 329⇓ iP PKPdf 18 15 51.6 +1.6
comp=E,26nm,1.0s
GRA1 Grafenberg Arr 145.69 334 ePKPbc PKPbc 18 15 51.5 +1.1
GRA1 epPKPbc pPKPbc 18 15 59.6 -4.1
GRF Grafenberg Arr 145.69 334 ePKPbc PKPbc 18 15 51.5 +1.1
GRF epPKPbc pPKPbc 18 15 59.6 -4.1
GRFO Grafenberg 145.69 334 ePKP2 PKPab 18 15 50.9 +0.1
GRFO MLR MLR
comp=E,20nm,20.0s,MS3.9
BUG Bochum--Univer 145.74 339 ePKPbc PKPbc 18 15 50.3 -0.3
OHR Ohrid 145.86 315 ePKP PKPdf 18 15 48.3 -2.0
TNS Taunus Mts 146.34 337 ePKPbc PKPbc 18 15 52.7 +0.3
TNS Taunus Mts 146.34 337 ePKPbc PKPbc 18 15 52.6 +0.2
KBA Koelnbreinsper 146.67 329⇓ iP PKPbc 18 15 53.4 +0.1
comp=E,11nm,1.0s
TOD Tromm 146.72 336 PKP2 PKPab 18 15 54.5 -0.2
HGN Heimansgroeve 146.75 340 eP PKPbc 18 15 53.7 +0.2
comp=E,19nm,1.5s
LJU Ljubljana 146.79 327 ePKPbc PKPbc 18 15 54.0 +0.3
MEM Membach 146.86 340 P PKPbc 18 15 54.1 +0.2
MEM E 18 16 03.7
DLF Lyons Farm 146.89 355⇑ iP PKPbc 18 15 53.2 -0.8
DCN Croghan 146.90 356⇑ iP PKPbc 18 15 53.5 -0.5
DSB Dublin 146.92 355 ePKPbc PKPbc 18 15 53.6 -0.4
ABH Alteburg 146.95 338 PKP PKPbc 18 15 54.7 +0.6
CEY Cerknica 147.05 326 ePKPbc PKPbc 18 15 54.4 -0.1
CADS Cadrg 147.07 327 ePKPbc PKPbc 18 15 54.0 -0.5
STU Stuttgart 147.24 335 ePKPbc PKPbc 18 15 55.5 +0.6
RUP Ruppelstein 147.28 338 PKP2 PKPab 18 15 56.0 -0.9
WTTA Wattenberg 147.35 331⇓ iP PKPbc 18 15 56.2 +0.9
comp=E,16nm,1.3s
MOTA Moosalm 147.53 331⇑ iP PKPbc 18 15 55.9 +0.2
comp=E,9.6nm,1.1s
SQTA Sankt Quirin 147.57 331⇑ iP PKPbc 18 15 56.3 +0.4
comp=E,8.6nm,1.1s
LANF Langenberg 147.60 336 PKP PKPbc 18 15 57.0 +1.0
WLF Walferdange 147.62 339 ePKPbc PKPbc 18 15 56.9 +0.9
WLF Walferdange 147.62 339 P PKPbc 18 15 56.5 +0.5
WLF Walferdange 147.62 339 ePKPbc PKPbc 18 15 56.3 +0.3
GIVF Givet 147.68 341 ePKP1 PKPbc 18 15 56.2 0.0
DOU Dourbes 147.75 341 P PKPbc 18 15 56.6 +0.2
DOU E 18 16 00.1
BAIF Baives 147.90 341 ePKP1 PKPbc 18 15 56.2 -0.6
comp=E,48nm,1.1s
BFO Black Forest 147.93 335 ePKPbc PKPbc 18 15 57.2 +0.4
MENF Mencas 148.03 344 PKP PKPbc 18 15 56.2 -0.9
DAVA Damuels 148.11 332⇑ iP PKPbc 18 15 57.9 +0.6
comp=E,11nm,0.9s
WLS Welschbruch 148.24 336 PKP PKPbc 18 15 58.6 +0.9
CDF Champ du Feu 148.27 336 ePKP1 PKPbc 18 15 57.9 +0.2
comp=E,19nm,0.8s
FELD Feldberg im Sc 148.43 335 PKP PKPbc 18 15 58.3 +0.2
ECH Echery 148.48 336 PKP PKPbc 18 15 58.3 0.0
MOF Molkenrain 148.79 336 PKP PKPbc 18 15 59.6 +0.5
THEF They Montfort 148.90 338 PKP PKPbc 18 15 59.9 +0.5
HINF Hinteralfeld 148.92 336 ePKP1 PKPbc 18 15 59.3 -0.1
HAU Haudompre 148.96 337 ePKP1 PKPbc 18 16 00.5 +1.0
comp=E,26nm,0.9s
LOMF Lomont 149.32 336 PKP PKPbc 18 16 00.9 +0.5
CABF La Chapelle 150.22 336 ePKP1 PKPbc 18 16 02.8 +0.2
comp=E,39nm,1.0s
FLN La Foliniere 150.35 346 ePKP1 PKPbc 18 16 02.5 -0.4
comp=E,55nm,1.1s
LDF La Druitiere 150.42 345 ePKP1 PKPbc 18 16 02.7 -0.4
comp=E,34nm,1.1s
LOR Lormes 150.46 339 ePKP1 PKPbc 18 16 03.3 +0.1
SSF Saint Saulge 150.76 339 ePKP1 PKPbc 18 16 04.0 +0.1
comp=E,25nm,1.1s
GRR Gorron 150.78 346 ePKP1 PKPbc 18 16 03.8 -0.1
LPL La Plagne 150.85 334 ePKP1 PKPbc 18 16 04.1 0.0
comp=E,14nm,1.0s
LPG La Plagne 150.86 334 ePKP1 PKPbc 18 16 04.8 +0.7
comp=E,17nm,1.0s
SMF Signal de Mont 151.01 338 ePKP1 PKPbc 18 16 04.4 -0.1
comp=E,49nm,1.3s
AVF Avril sur Loir 151.05 339 ePKP1 PKPbc 18 16 04.3 -0.3
comp=E,44nm,1.2s
BNI Bardonecchia 151.25 333 ePKIKP PKPbc 18 16 05.5 +0.5
SGMF Saint Gilles 151.27 348 ePKP1 PKPbc 18 16 04.5 -0.6
comp=E,24nm,1.0s
BGF Bois d'Agland 151.42 340 ePKP1 PKPbc 18 16 05.4 0.0
MBDF Montbardon 151.47 333 ePKP1 PKPbc 18 16 05.5 0.0
ORIF Oris-en-Rattie 151.69 334 ePKP1 PKPbc 18 16 06.2 +0.2
QUIF Quistinic 151.71 349 ePKP1 PKPbc 18 16 05.3 -0.8
TCF Toulx Ste Croi 151.87 340 ePKP1 PKPbc 18 16 06.4 0.0
comp=E,18nm,1.0s
PYM Petit Puy Mans 152.07 339 PKP PKPbc 18 16 08.5 +1.6
VIVF Saint-Julien-l 152.22 335 ePKP1 PKPbc 18 16 07.6 +0.3
MFF Saint Martin d 152.27 344 ePKP1 PKPbc 18 16 07.2 -0.2
LBL Lubilhac 152.44 338 PKP PKPbc 18 16 09.3 +1.6
SMRF Simiane la Rot 152.58 333 ePKP1 PKPbc 18 16 08.1 +0.1
comp=E,30nm,1.3s
LMR La Mourre 152.68 331 ePKP1 PKPbc 18 16 07.9 -0.4
RJF Les Rejaudoux 152.96 340 ePKP1 PKPbc 18 16 09.0 +0.1
ESDC Sonseca Array 159.74 344 PKPab PKPab 18 16 49.7 +0.4
comp=E,1.0nm,0.7s,baz=34,slow=4.8,SNR=5.7
TORD Torodi Ar. Bea 165.76 242 PKPab PKPab 18 17 17.7 +2.0
comp=E,0.5nm,0.9s,baz=123,slow=4.4,SNR=2.7

*IDC **11** 18:02:47.5±6.5, 5.44S×146.63E, h160km±70km, mb3.4/3, mb1 3.6/5, mb1mx3.3/15, mbtmp3.9/5, Error ellipse: s-maj=78.0km s-min=27.3km az=140.0*
*ISCJB **11** 18:02:48.8±3.7, 56S±03×1466E±03, h186km±36km, mb3.8/4, Error ellipse: s-maj=54.5km s-min=29.0km az=83.6*
*NEIC **11** 18:02:48.5±3.0, 5.41S×146.58E, h172km±29km, mb4.2/1, Error ellipse: s-maj=45.2km s-min=19.7km az=136.0*
ISC 11 18:02:48.9±3.7, 55S±03×1467E±03, h175km±36km, n7, σ1 9 03/8, mb3.8/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.90**	**174**	P	**Pn**	**18 03 49.5**	**+1.0**
	3.4nm,0.3s,baz=359,slow=5.7,SNR=18						
PMG				S	**Sn**	**18 04 34.1**	**-0.9**
	5.0nm,0.3s,baz=128,slow=23,SNR=12						
WRAB	**Tennant Creek**	**18.72**	**219**	eP	**P**	**18 06 54.2**	**+0.1**
WRA	**Warramunga Arr**	**18.73**	**219**	P	**P**	**18 06 54.1**	**-0.2**
	0.8nm,0.3s,baz=42,slow=10,SNR=32						
ASAR	**Alice Springs**	**21.87**	**213**	P	**P**	**18 07 28.9**	**+1.1**
	1.6nm,0.7s,mb3.6,baz=38,slow=8.1,SNR=11						
FITZ	**Fitzroy Crossi**	**24.09**	**237**	P	**P**	**18 07 47.3**	**-1.0**
	2.5nm,0.3s,mb4.2,baz=57,slow=13,SNR=46						
STKA	**Stephens Creek**	**26.67**	**190**	eP	**P**	**18 08 11.8**	**+0.3**
	3.3nm,0.6s,mb4.1						
ILAR	**Eielson Array**	**85.14**	**23**	P	**P**	**18 15 05.0**	**-0.4**
	0.3nm,0.6s,mb3.2,baz=262,slow=4.7,SNR=4.3						

*ISCJB **11** 18:03:35.2±0.6, 49.12S×0.10×1274E±0.5, h10km, mb4.4/7, Error ellipse: s-maj=45.4km s-min=8.7km az=29.5*
*IDC **11** 18:03:36.0±1.2, 49.11S×127.40E, h0km, mb4.4/5, mb1 4.6/5, mb1mx4.4/10, mbtmp4.4/5, Error ellipse: s-maj=77.1km s-min=18.5km az=101.0*
*NEIC **11** 18:03:37.2±0.5, 49.11S×127.27E, h10km, mb4.4/3, Error ellipse: s-maj=42.3km s-min=7.2km az=101.0*
ISC 11 18:03:37.0±0.6, 4915S±010×1274E±05, h10km, n18, σ0 5 2/16, mb4.4/7, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRV	**Dumont d'Urvil**	**18.74**	**164**	R		18 09 00.0	
CASY	**Casey**	**19.26**	**201**	eP	**Pn**	**18 08 01.3**	**-1.3**
STKA	**Stephens Creek**	**20.31**	**37**	P	**P**	**18 08 12.4**	**-0.6**
	3.8nm,0.7s,baz=183,slow=14,SNR=6.5						
ASAR	**Alice Springs**	**25.95**	**14**	P	**P**	**18 09 10.1**	**+0.5**
	25nm,0.9s,mb4.7,baz=188,slow=9.1,SNR=76						
WRA	**Warramunga Arr**	**29.67**	**13**	P	**P**	**18 09 42.8**	**0.0**
	6.3nm,1.0s,mb4.3,baz=196,slow=9.6,SNR=14						
WB2	**Warramunga Arr**	**29.67**	**13**	eP	**P**	**18 09 42.7**	**-0.1**
WRAB	**Tennant Creek**	**29.68**	**13**	eP	**P**	**18 09 42.7**	**-0.2**
QIS	**Mount Isa**	**30.16**	**23**	eP	**P**	**18 09 46.8**	**-0.4**
	4.1nm,0.9s,mb4.2						
VNDA	**Vanda**	**31.37**	**166**	P	**P**	**18 09 58.2**	**+0.4**
	5.2nm,0.8s,mb4.4,baz=318,slow=8.7,SNR=18						
VNDA	**Vanda**	**31.37**	**166**	P	**P**	**18 09 58.2**	**+0.4**
KAKA	**Kakadu**	**36.57**	**8**	eP	**P**	**18 10 43.5**	**+0.5**
	6.7nm,0.6s,mb4.7						
QSPA	**South Pole Qui**	**40.98**	**180**	eP	**P**	**18 11 20.2**	**+0.3**
	8.4nm,1.1s,mb4.3						
SNAA	**Sanae**	**54.45**	**197**	P	**P**	**18 13 04.7**	**+0.2**
	4.1nm,0.9s,mb4.3,baz=146,slow=7.4,SNR=19						
SNAA	**Sanae**	**54.45**	**197**	e	**P**	**18 13 04.6**	**+0.1**
SNAA				e		18 13 31.9	
VNA2	**Neumayer--Watz**	**55.92**	**196**	e	**P**	**18 13 15.3**	**+0.2**
	baz=150,slow=7.6						
VNA2				e	pP	18 13 16.7	-1.6
VNA2				e		18 13 21.7	
VNA2				e		18 13 27.7	
VNA2				e		18 13 42.0	
VNA3	**Neumayer Olymp**	**56.07**	**195**	e	**P**	**18 13 15.9**	**-0.2**
VNA3				e		18 13 23.5	
VNA3				e		18 13 41.9	
VNA1	**Neumayer--Stat**	**56.31**	**196**	e	**P**	**18 13 18.7**	**+0.8**
VNA1				e	pP	18 13 20.3	-0.8
YKA	**Yellowknife Ar**	**144.22**	**45**	PKP	PKPdf	18 23 11.8	-1.3
	1.1nm,1.0s,baz=267,slow=3.1,SNR=10						

*ISCJB **11** 18:07:45.5±0.8, 203S±0.1×168.6E±0.1, h41km, mb4.0/6, Error ellipse: s-maj=21.4km s-min=9.5km az=73.0*
*IDC **11** 18:07:46.2±1.6, 2065S×168.86E, h39km±6km, mb3.8/6, mb1 4.0/7, mb1mx3.9/13, mbtmp4.0/7, ML3.7/1, Error ellipse: s-maj=64.2km s-min=18.8km az=146.0*
ISC 11 18:07:47.2±0.9, 206S±02×168.8E±01, h43km, h43km±3.1km:pP-P, n14, σ0 5 2/13, mb4.0/6, 1C, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.63**	**235**	Pn	**Pn**	**18 08 26.2**	**-1.0**
	15nm,0.3s,baz=59,slow=18,SNR=140						
DZM				Sn	**Sn**	**18 08 57.8**	**-0.1**
	50nm,0.3s,baz=294,slow=23,SNR=7.8						
BKM	**Butte a Klehm**	**2.91**	**350**⇑ iP		**Pn**	**18 08 26.2**	**-4.8**
STKA	**Stephens Creek**	**26.78**	**240**	eP	**P**	**18 13 23.3**	**+0.3**
	2.6nm,0.9s,mb3.8						
STKA				e	pP	18 13 34.5	+0.1
STKA	**Stephens Creek**	**26.78**	**240**	P	**P**	**18 13 22.6**	**-0.4**
	2.2nm,0.7s,mb3.8,baz=93,slow=6.9,SNR=5.5						
STKA				pP	pP	18 13 34.5	+0.1
	4.5nm,0.8s,baz=78,slow=8.6,SNR=6.4						
WRA	**Warramunga Arr**	**32.26**	**265**	P	**P**	**18 14 11.3**	**-0.4**
	1.2nm,0.9s,mb3.7,baz=91,slow=8.5,SNR=6.4						
WRA				pP	pP	18 14 21.5	-1.7
	1.4nm,0.8s,baz=94,slow=8.4,SNR=5.7						
ASAR	**Alice Springs**	**32.39**	**258**	P	**P**	**18 14 13.2**	**+0.4**
	2.8nm,0.7s,mb4.2,baz=88,slow=9.0,SNR=48						
ASAR				pP	pP	18 14 24.5	+0.2
	3.4nm,0.7s,baz=72,slow=8.7,SNR=12						
FITZ	**Fitzroy Crossi**	**40.68**	**266**	eP	**P**	**18 15 24.6**	**+1.2**
	4.9nm,0.8s,mb4.2						
FITZ				e	pP	18 15 35.3	+0.2
FITZ	**Fitzroy Crossi**	**40.68**	**266**	P	**P**	**18 15 24.5**	**+1.1**
	3.1nm,0.8s,mb4.0,baz=28,slow=2.3,SNR=8.5						
FITZ				pP	pP	18 15 35.4	+0.3
	5.5nm,0.7s,baz=140,slow=7.4,SNR=8.8						
SONM	**Songino Array**	**88.00**	**323**	P	**P**	**18 20 33.0**	**+0.3**
	0.4nm,0.7s,mb3.8,baz=155,slow=11,SNR=4.6						
VNA3	**Neumayer Olymp**	**88.44**	**181**	e	**P**	**18 20 35.2**	**+0.3**
VNA3				e		18 20 37.7	
VNA3				e	pP	18 20 46.2	-1.5
VNA3				e	pP	18 20 49.8	+2.1
VNA3				e		18 20 53.6	
VNA3				e		18 20 58.7	
VNA2	**Neumayer--Watz**	**88.73**	**181**	e	**P**	**18 20 36.6**	**+0.4**
	baz=177,slow=3.7						
VNA2				e		18 20 39.5	
VNA2				e	pP	18 20 47.7	-1.4
VNA2				e	pP	18 20 51.0	+1.9
VNA2				e		18 20 54.8	
VNA2				e		18 20 59.0	
NVAR	**Mina Array Bea**	**90.00**	**49**	P	**P**	**18 20 41.3**	**-0.9**
	0.9nm,0.9s,mb4.1,baz=242,slow=13,SNR=5.6						
ARCES	**ARCESS Array B**	**126.21**	**345**	PKP	PKPdf	18 26 44.1	-0.9
	0.8nm,0.7s,baz=302,slow=2.3,SNR=3.9						
GERES	**GERESS Array B**	**145.42**	**331**	PKPbc	PKPbc	18 27 19.9	-0.6
	0.6nm,0.5s,baz=43,slow=4.5,SNR=5.5						
GERES				pPKPbc	pPKPbc	18 27 31.9	-1.7
	1.3nm,0.6s,baz=25,slow=3.5,SNR=8.2						

*CSEM **11** 18:29:51.3±0.1, 3162N×5987E, h16km, ML4.0, Error ellipse: s-maj=2.4km s-min=2.0km az=93.0*
*NEIC **11** 18:29:52.1, 3160N×5989E, h0km, mb3.6/3, ML4.0(THR), MN4.0(TEH), After TEH.*
*THR **11** 18:29:52.1±0.8, 3145N×5994E, h14km±8km, ML3.7*
*TEH **11** 18:29:52.1, 3160N×5989E, h0km, Mn4.0*
*ISCJB **11** 18:29:53.3±2.1, 3165N±005×5981E±006, h31km±17km, mb3.7/16, Error ellipse: s-maj=9.7km s-min=8.2km az=68.4*
*IDC **11** 18:29:55.0±4.8, 3153N×5981E, h36km±41km, mb3.6/14, mb1 3.7/17, mb1mx3.6/25, mbtmp3.7/17, ML3.5/3, Error ellipse: s-maj=20.1km s-min=17.1km az=166.0*
ISC 11 18:29:50.7±1.6, 3158N±004×5992E±005, h3km±12km, n57, σ0 9 4/63, mb3.7/16, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZHSF	**Zahedan**	**2.10**	**159**	ePg	**Pg**	**18 30 28.2**	**-2.8**
ZHSF				AML	AML	18 31 09.1	
	comp=N,401nm,0.4s						
ZHSF				AML	AML	18 31 09.3	
	comp=E,484nm,0.6s						
ZHSF	**Zahedan**	**2.10**	**159**	ePn	**Pn**	**18 30 28.0**	**+1.2**
ZHSF				eSg	**Sg**	**18 30 59.0**	**+0.8**
ZHSF	**Zahedan**	**2.10**	**159**	ePg	**Pg**	**18 30 28.2**	**-2.8**
	SNR=90						
ZHSF				eSg	**Sg**	**18 30 59.0**	**+0.8**
KRBR	**Kerman**	**3.15**	**240**	ePN	**Pn**	**18 30 42.5**	**+1.3**
KRBR				eSG	**Sg**	**18 31 29.3**	**-2.7**
KRBR	**Kerman**	**3.15**	**240**	ePn	**Pn**	**18 30 42.0**	**+0.7**
KRBR				eSg	**Sg**	**18 31 29.0**	**-2.9**
KRBR	**Kerman**	**3.15**	**240**	ePn	**Pn**	**18 30 42.5**	**+1.2**
	SNR=52						
KRBR				eSg	**Sg**	**18 31 29.0**	**-2.9**
IBAF	**Bafgh**	**3.71**	**271**	ePn	**Pn**	**18 30 49.7**	**+0.7**
IMEH	**Mehriz**	**4.54**	**269**	ePn	**Pn**	**18 31 01.2**	**+0.9**
ICHK	**Chekchek**	**4.73**	**279**	ePn	**Pn**	**18 31 03.5**	**+0.5**
ICHK	**Chekchek**	**4.73**	**279**	Pn	**Pn**	**18 31 03.4**	**+0.4**
IMYA	**Miamay**	**4.75**	**2**	ePn	**Pn**	**18 31 04.1**	**+0.9**
IMYA	**Miamay**	**4.75**	**2**	Pn	**Pn**	**18 31 04.0**	**+0.8**
IPAY	**Payeh**	**4.91**	**351**	ePn	**Pn**	**18 31 06.2**	**+0.7**
BNDS	**Bandar-Abbas**	**5.30**	**219**	ePN	**Pn**	**18 31 12.2**	**+1.5**
BNDS				AML	AML	18 32 54.9	
	comp=E,62nm,0.5s						
BNDS				AML	AML	18 32 55.1	
	comp=N,80nm,0.6s						
BNDS	**Bandar-Abbas**	**5.30**	**219**	ePn	**Pn**	**18 31 12.0**	**+1.3**
NASN	**Na'in**	**6.15**	**283**	ePn	**Pn**	**18 31 26.0**	**+3.6**
NASN				ePg	**Pg**	**18 31 42.8**	**-5.7**
IPAR	**Pars**	**6.16**	**255**	ePn	**Pn**	**18 31 23.4**	**+0.7**
IPAR	**Pars**	**6.16**	**255**	Pn	**Pn**	**18 31 23.3**	**+0.6**
IZEF	**Zefreh**	**6.56**	**284**	ePn	**Pn**	**18 31 29.0**	**+0.9**
ISFB	**Sefidab**	**7.02**	**295**	ePn	**Pn**	**18 31 34.3**	**-0.1**
ISFB	**Sefidab**	**7.02**	**295**	Pn	**Pn**	**18 31 34.2**	**-0.2**
IFIR	**Firoozkooh**	**7.22**	**306**	ePn	**Pn**	**18 31 37.6**	**+0.5**
IFIR	**Firoozkooh**	**7.22**	**306**	Pn	**Pn**	**18 31 37.5**	**+0.4**
IVRN	**Varamin**	**7.65**	**299**	ePn	**Pn**	**18 31 43.3**	**+0.2**
IVRN	**Varamin**	**7.65**	**299**	Pn	**Pn**	**18 31 43.2**	**+0.1**
IDMV	**Damavand**	**7.69**	**303**	ePn	**Pn**	**18 31 43.8**	**+0.2**
IAFJ	**Afjeh**	**8.05**	**304**	ePn	**Pn**	**18 31 48.9**	**+0.3**
IAFJ	**Afjeh**	**8.05**	**304**	Pn	**Pn**	**18 31 48.8**	**+0.2**
WSAR	**Wadi Sarin**	**8.39**	**188**	Pn	**Pn**	**18 31 52.3**	**-0.9**
	comp=N,0.4nm,0.3s,baz=346,slow=12,SNR=8.0						
IRAZ	**Razeghan**	**9.17**	**297**	ePn	**Pn**	**18 32 12.6**	**+8.7**
IRAZ	**Razeghan**	**9.17**	**297**	Pn	**Pn**	**18 32 12.5**	**+8.6**
AAK	**Ala-Archa**	**16.00**	**42**	eP	**Pn**	**18 33 35.7**	**-1.1**
	comp=N,2.9nm,0.8s						
AAK	**Ala-Archa**	**16.00**	**42**	eP	**Pn**	**18 33 35.7**	**-1.1**
	comp=N,2.9nm,0.8s						
AKTK	**Aktyubinsk**	**18.89**	**356**	P	**Pn**	**18 34 13.0**	**+0.2**
AKTK	**Aktyubinsk**	**18.89**	**356**	P	**Pn**	**18 34 13.0**	**+0.2**
AKTO	**Aktyubinsk**	**18.89**	**356**	P	**Pn**	**18 34 13.0**	**+0.2**
	comp=N,0.1nm,0.3s,baz=164,slow=10,SNR=5.8						
ASF	**Jabal al Asfar**	**19.56**	**278**	P	**Pn**	**18 34 20.0**	**-0.9**
	comp=N,0.1nm,0.3s,baz=321,slow=13,SNR=2.1						
ZRNK	**Zerenda**	**22.35**	**15**	eP	**P**	**18 34 48.9**	**-0.9**
	comp=N,3.0nm,0.9s,mb3.7						
ZRNK	**Zerenda**	**22.35**	**15**	eP	**P**	**18 34 48.9**	**-0.9**
BVAR	**Borovoye Array**	**22.74**	**17**	P	**P**	**18 34 54.6**	**+0.7**
	comp=N,2.2nm,0.8s,mb3

*NEIC **11** 18:32:39.9±1.4,3138N×4961E,h10km,ML3.7(THR), Error ellipse: s-maj=24.9km s-min=12.1km az=176.0*
*KISR **11** 18:32:41.2±0.6,3160N×4980E,h33km,ML3.4*
*THR **11** 18:32:41.8±0.4,3171N×4988E,h22km±11km,ML3.8*
*ISCJB **11** 18:32:41.8±0.4,3170N±003×4952E±006,h10km,mb3.5/7, Error ellipse: s-maj=8.1km s-min=3.7km az=55.2*
*IDC **11** 18:32:42.5±1.2,3160N×4953E,h17km±4km,mb3.6/8, mb1 3.7/11,mb1mx3.6/24,mbtmp3.8/11,ML3.9/3, Error ellipse: s-maj=25.8km s-min=19.1km az=155.0*
*CSEM **11** 18:32:43.9±0.1,3168N×4950E,h22km,ML3.9, Error ellipse: s-maj=2.4km s-min=1.3km az=122.0*
*TEH **11** 18:32:46.8,3164N×4950E,h28km,Mn3.9*

ISC 11 18:32:43.2±0.4,3165N±003×4956E±005,h10km, (h20km±1.1km:pP-P),n44,σ1§54/53,mb3.5/7,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**0.79**	**306**	*e*Pg	**Pg**	**18 33 00.3**	**+2.0**
SHGR				*e*Sg	**Sg**	**18 33 13.6**	**+4.9**
SHGR				AML	AML	18 33 24.1	
	comp=N,2μm,0.8s						
SHGR				AML	AML	18 33 27.8	
	comp=E,2μm,0.7s						
SHGR	**Shooshtar-Gavs**	**0.79**	**306**	*e*Pg	**Pg**	**18 33 00.0**	**+1.6**
IPIR	**Pirpir**	**1.53**	**47**	*e*Pn	**Pn**	**18 33 11.3**	**+0.7**
IKLH	**Kalahroud**	**2.38**	**45**	*e*Pn	**Pn**	**18 33 24.7**	**+2.4**
UMR	**Umm Al-Rimmam**	**2.63**	**218**	*e*P	**Pn**	**18 33 25.6**	**-0.1**
UMR				AML	AML	18 34 05.6	
	comp=Z,151nm,0.3s						
MIB	**Mutribah**	**2.65**	**227**	*e*P	**Pn**	**18 33 26.4**	**+0.3**
MIB				AML	AML	18 34 06.0	
	comp=Z,160nm,0.4s						
IZEF	**Zefreh**	**2.66**	**61**	*e*Pn	**Pn**	**18 33 27.9**	**+1.8**
KBD	**Kabd**	**2.95**	**214**	*e*P	**Pn**	**18 33 30.3**	**+0.2**
KBD				*e*S	**Sn**	**18 34 07.1**	**+1.6**
KBD				AML	AML	18 34 10.2	
	comp=Z,278nm,0.3s						
KBD	**Kabd**	**2.95**	**214**	*e*P	**Pn**	**18 33 30.3**	**+0.3**
KBD				*e*S	**Sn**	**18 34 07.1**	**+1.7**
NASN	**Na'in**	**2.98**	**67**	*e*Pn	**Pn**	**18 33 26.6**	**-4.0**
NASN	**Na'in**	**2.98**	**67**	*e*Pn	**Pn**	**18 33 25.0**	**-5.6**
NAY	**Al-Naaiem**	**3.12**	**220**	*e*P	**Pn**	**18 33 32.7**	**+0.3**
NAY				AML	AML	18 34 21.1	
	comp=Z,38nm,0.4s						
RDF	**Al-Radifah**	**3.22**	**213**	*e*P	**Pn**	**18 33 34.1**	**+0.2**
RDF				*e*S	**Sn**	**18 34 13.1**	**+0.8**
QRN	**Al-Qurain**	**3.23**	**206**	*e*P	**Pn**	**18 33 33.6**	**-0.3**
QRN				*e*S	**Sn**	**18 34 12.8**	**+0.4**
ISFB	**Sefidab**	**3.51**	**39**	*e*Pn	**Pn**	**18 33 39.4**	**+1.6**
IGHG	**Ghaleghazi**	**3.67**	**318**	*e*Pn	**Pn**	**18 33 40.8**	**+0.9**
IVRN	**Varamin**	**3.80**	**28**	*e*Pn	**Pn**	**18 33 43.3**	**+1.5**
SNGE	**Sanandaj**	**3.90**	**332**	*e*Pn	**Pn**	**18 33 44.1**	**+0.9**
SNGE				AML	AML	18 34 32.6	
	comp=E,201nm,0.3s						
SNGE				AML	AML	18 34 32.7	
	comp=N,184nm,0.3s						
SNGE	**Sanandaj**	**3.90**	**332**	*e*Pn	**Pn**	**18 33 39.0**	**-4.1**
SNGE				*e*Sg	**Sg**	**18 34 31.0**	**-17**
ILIN	**Laeen**	**3.92**	**327**	*e*Pn	**Pn**	**18 33 44.4**	**+1.0**
IDHR	**Dehrash**	**4.04**	**320**	*e*Pn	**Pn**	**18 33 46.0**	**+1.0**
IDHR				*e*Sn	**Sn**	**18 34 29.9**	**-2.5**
THKV	**Tehran--Karaj**	**4.39**	**14**	*e*Pn	**Pn**	**18 33 48.1**	**-1.8**
THKV				Sn	**Sn**	**18 34 36.5**	**-4.6**
IDMV	**Damavand**	**4.43**	**27**	*e*Pn	**Pn**	**18 33 51.8**	**+1.4**
DAMV	**Damavand**	**4.45**	**26**	*e*P	**Pn**	**18 33 42.0**	**-8.7**
IAFJ	**Afjeh**	**4.56**	**23**	*e*Pn	**Pn**	**18 33 53.5**	**+1.2**
ILAS	**Lasjerd**	**4.68**	**36**	*e*Pn	**Pn**	**18 33 55.2**	**+1.3**
IFIR	**Firoozkooh**	**4.79**	**33**	*e*Pn	**Pn**	**18 33 57.2**	**+1.8**
ISHM	**Shahmirzad**	**5.18**	**36**	*e*Pn	**Pn**	**18 34 01.7**	**+0.9**
ASF	**Jabal al Asfar**	**10.77**	**276**	Pn	**Pn**	**18 35 14.8**	**-2.6**
	comp=N,0.5nm,0.3s,baz=315,slow=8.6,SNR=3.2						
ASF				Lg		18 38 33.8	
	comp=N,0.1nm,0.3s,baz=233,slow=20,SNR=2.4						
WSAR	**Wadi Sarin**	**11.62**	**134**	Pn	**Pn**	**18 35 26.4**	**-2.6**
	comp=N,1.1nm,0.3s,baz=293,slow=11,SNR=9.6						
WSAR				Sn	**Sn**	**18 37 26.1**	**-13**
	comp=N,0.4nm,0.3s,baz=90,slow=20,SNR=2.9						
BRTR	**Keskin Array B**	**15.22**	**306**	P	**Pn**	**18 36 22.8**	**+4.6**
	comp=N,0.1nm,0.3s,baz=107,slow=16,SNR=3.8						
AKTK	**Aktyubinsk**	**19.80**	**16**	P	**Pn**	**18 37 12.7**	**-2.5**
AKTO	**Aktyubinsk**	**19.80**	**16**	P	**Pn**	**18 37 12.7**	**-2.5**
	comp=N,0.3nm,0.3s,baz=209,slow=13,SNR=7.1						
IDI	**Anoyia**	**20.88**	**287**	P	**P**	**18 37 25.1**	**-0.3**
	comp=N,5.2nm,0.6s,baz=80,slow=13,SNR=6.6						
AKASG	**Malin Array Be**	**24.28**	**327**	P	**P**	**18 37 58.5**	**-2.0**
	comp=N,0.4nm,0.4s,mb3.2,baz=136,slow=9.2,SNR=5.8						
AKASG				pP		18 38 04.6	
	comp=N,0.5nm,0.4s,baz=115,slow=6.7,SNR=3.7						
AKASG	**Malin Array Be**	**24.28**	**327**	P	**P**	**18 37 58.5**	**-2.1**
AKASG				pP		18 38 04.6	
BVAR	**Borovoye Array**	**26.15**	**29**	P	**P**	**18 38 16.9**	**-0.6**
	comp=N,0.4nm,0.4s,mb3.3,baz=213,slow=12,SNR=5.3						
MKAR	**Makanchi Array**	**29.27**	**49**	P	**P**	**18 38 44.5**	**-1.0**
	comp=N,0.4nm,0.6s,mb3.4,baz=245,slow=9.5,SNR=4.2						
FINES	**FINESS Array B**	**33.51**	**340**	P	**P**	**18 39 20.7**	**-2.0**
	comp=N,0.7nm,0.4s,mb3.9,baz=152,slow=9.3,SNR=9.2						
FINES				pP	pP	18 39 26.6	+0.7
	comp=N,1.1nm,0.5s,baz=142,slow=10,SNR=6.0						
NOA	**NORSAR Array B**	**38.58**	**331**	P	**P**	**18 40 04.2**	**-2.0**
	comp=N,0.4nm,0.7s,mb3.2,baz=200,slow=7.6,SNR=2.3						
NOA				pP	pP	18 40 09.0	-0.3
	comp=N,0.5nm,0.5s,baz=123,slow=8.4,SNR=2.5						
NOA	**NORSAR Array B**	**38.58**	**331**	P	**P**	**18 40 04.2**	**-2.0**
NOA				pP	pP	18 40 09.0	-0.3
TORD	**Torodi Ar. Bea**	**47.51**	**258**	P	**P**	**18 41 16.9**	**-1.7**
	comp=N,1.4nm,0.7s,mb4.1,baz=55,slow=8.3,SNR=5.1						
TORD				pP	pP	18 41 22.4	+0.7
	comp=N,1.8nm,0.7s,baz=56,slow=8.6,SNR=9.1						
YKA	**Yellowknife Ar**	**85.32**	**353**	P	**P**	**18 45 17.7**	**-2.7**
	comp=N,0.3nm,0.6s,mb3.6,baz=13,slow=5.7,SNR=5.2						
YKA				pP	pP	18 45 23.9	+0.1
	comp=N,0.2nm,0.5s,baz=13,slow=5.6,SNR=5.9						
YKA	**Yellowknife Ar**	**85.32**	**353**	P	**P**	**18 45 17.7**	**-2.7**
YKA				pP	pP	18 45 23.9	+0.1

*IDC **11** 18:33:53.4±0.9, 1020N×122.75E, h0km, mb3.9/10, mb1 4.0/10,mb1mx3.9/22,mbtmp3.9/10, Error ellipse: s-maj=67.1km s-min=15.7km az=72.0*
*NEIC **11** 18:33:55.0±0.4, 1017N×122.67E, h10km, mb4.4/6, Error ellipse: s-maj=31.5km s-min=7.9km az=72.0*
*MAN **11** 18:33:54.4, 1017N×121.95E, h2km, mb3.9, ML4.9, MS2.3*
*ISCJB **11** 18:33:56.5±1.0, 1014N±004×12199E±004, h25km±8km, mb4.0/15, Error ellipse: s-maj=6.6km s-min=5.0km az=83.7*

ISC 11 18:33:56.3±1.1,1016N±004×12200E±003,h12km±7km, n40,σ1§37/48,mb4.0/15,3C-2D,Panay

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.74**	**52**	*e*P	**Pg**	**18 34 09.6**	**-1.1**
GUIM				*e*S	**Sg**	**18 34 20.9**	**+0.5**
CUYO	**Cuyo Island**	**1.18**	**305**	*e*P	**Pb**	**18 34 18.1**	**-0.4**
SNPH	**Sibulan**	**1.47**	**124**	⇑*i*P	**Pn**	**18 34 24.5**	**+2.0**
SNPH				*i* S	**Sn**	**18 34 45.0**	**+3.4**
KALP	**Kalibo**	**1.54**	**13**	*e*P	**Pn**	**18 34 24.5**	**+1.0**
KALP				*i* S	**Sn**	**18 34 44.1**	**+0.7**
TBP	**Tagbilaran**	**1.90**	**104**	*e*P	**Pn**	**18 34 28.3**	**0.0**
TBP				*e*S	**Sn**	**18 34 51.2**	**-1.0**
LLP	**Lapu-Lapu**	**1.94**	**85**	⇑*e*P	**Pn**	**18 34 28.3**	**-0.7**
LLP				*e*S	**Sn**	**18 34 51.9**	**-1.5**
OTRP	**Odiongan**	**2.18**	**1**	*e*P	**Pn**	**18 34 31.6**	**-0.7**
IPIL	**Ipil**	**2.43**	**166**	⇓*i*P	**Pn**	**18 34 34.1**	**-1.6**
IPIL				*i* S	**Sn**	**18 35 01.6**	**-3.7**
IPIL	**Ipil**	**2.43**	**166**	*e*P	**Pn**	**18 34 34.9**	**-0.8**
BUSP	**Coron**	**2.54**	**316**	*e*P	**Pn**	**18 34 37.1**	**-0.1**
PAGZ	**Pagadian**	**2.68**	**149**	*e*P	**Pn**	**18 34 39.9**	**+0.8**
OCLP	**Ormoc**	**2.72**	**71**	*e*P	**Pn**	**18 34 39.9**	**+0.3**
ENPP	**El Nido**	**2.73**	**293**	*e*P	**Pn**	**18 34 39.9**	**+0.1**
MSLP	**Maasin**	**2.82**	**90**	*e*P	**Pn**	**18 34 41.7**	**+0.7**
CGP	**Cagayan de Oro**	**3.16**	**122**	⇓*e*P	**Pn**	**18 34 49.3**	**+3.5**
CGP				*i* S	**Sn**	**18 35 26.1**	**+2.8**
PPR	**Puerto Princes**	**3.24**	**263**	⇑*i*P	**Pn**	**18 34 47.4**	**+0.5**
BOAC	**Boac**	**3.28**	**357**	*e*P	**Pn**	**18 34 45.9**	**-1.4**
SCPH	**Surigao**	**3.46**	**96**	*e*P	**Pn**	**18 34 49.1**	**-0.8**
CTBH	**Cotabato--PC H**	**3.67**	**143**	*e*P	**Pn**	**18 34 53.7**	**+0.9**
CTBH				*i* S	**Sn**	**18 35 41.8**	**+5.8**
BUKP	**Musuan**	**3.79**	**127**	*e*P	**Pn**	**18 34 56.5**	**+2.2**
LUBP	**Lubang**	**3.94**	**334**	*e*P	**Pn**	**18 34 55.8**	**-0.7**
BATP	**Bataraza**	**4.36**	**252**	*e*P	**Pn**	**18 35 05.7**	**+3.5**
FITZ	**Fitzroy Crossi**	**28.32**	**173**	P	**P**	**18 39 48.5**	**-1.1**
	comp=Z,445nm,20.4s,MS4.0,baz=164,slow=38						
BDFB	**Brasilia**	**24.77**	**66**	P	**P**	**19 12 33.7**	**+0.6**
BDFB				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BDFB				MLR	MLR		
	comp=Z,445nm,20.4s						
USHA	**Ushuaia**	**27.42**	**176**	P	**P**	**19 12 59.1**	**+2.0**
	comp=Z,13nm,1.0s,mb4.4,baz=331,slow=7.6,SNR=3.7						
RPN	**Rapa Nui**	**33.54**	**262**	LR	LR	19 24 31.4	
	comp=Z,668nm,18.3s,MS4.4,baz=292,slow=31						
SDV	**Santo Domingo**	**36.16**	**1**	*e*P	**P**	**19 14 14.0**	**+0.2**
VNA3	**Neumayer Olymp**	**55.25**	**160**	*e*	**P**	**19 16 44.0**	**-0.6**
VNA3				*e*	pP	19 16 47.8	-0.6
VNA3				*e*		19 16 52.5	
VNA3				*e*		19 17 01.6	
VNA3				*e*		19 17 07.2	
VNA3	**Neumayer Olymp**	**55.25**	**160**	*e*P	**P**	**19 16 44.0**	**-0.6**
VNA3				*e*	pP	19 16 47.8	-0.6
VNA3				*e*		19 16 52.5	
VNA3				*e*		19 17 01.6	
VNA3				*e*		19 17 07.2	
VNA2	**Neumayer--Watz**	**55.87**	**159**	*e*	**P**	**19 16 47.6**	**-1.5**
	baz=294,slow=8.2						
VNA2				*e*		19 16 56.7	
VNA2				*e*		19 17 04.8	
VNA2				*e*		19 17 10.6	
VNA2	**Neumayer--Watz**	**55.87**	**159**	*e*P	**P**	**19 16 47.6**	**-1.5**
VNA2				*e*		19 16 56.7	
VNA2				*e*		19 17 04.8	
VNA2				*e*		19 17 10.6	
SNAA	**Sanae**	**57.47**	**160**	P	**P**	**19 16 59.7**	**-0.7**
	comp=Z,1.5nm,0.9s,mb4.0,baz=288,slow=8.2,SNR=13						
SNAA	**Sanae**	**57.47**	**160**	*e*	**P**	**19 16 59.4**	**-1.0**
SNAA				*e*		19 17 07.5	
SNAA				*e*		19 17 22.4	
SNAA	**Sanae**	**57.47**	**160**	P	**P**	**19 16 59.7**	**-0.7**
SNAA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SNAA	**Sanae**	**57.47**	**160**	*e*P	**P**	**19 16 59.4**	**-1.1**
	comp=Z,1.1nm,1.0s,mb4.8						
QSPA	**South Pole Qui**	**62.74**	**180**	*e*P	**P**	**19 17 36.4**	**-0.1**
	comp=Z,1.1nm,0.9s,mb5.0						
VNDA	**Vanda**	**70.57**	**191**	P	**P**	**19 18 27.5**	**+1.0**
	comp=Z,0.5nm,0.8s,mb3.5,baz=120,slow=7.7,SNR=2.3						
VNDA	**Vanda**	**70.57**	**191**	P	**P**	**19 18 27.5**	**+1.0**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
VNDA	**Vanda**	**70.57**	**191**	P	**P**	**19 18 27.5**	**+1.0**
SMCO	**Snowmass**	**74.12**	**332**	P	**P**	**19 18 48.5**	**+0.8**
	comp=Z,8.5nm,1.0s,mb4.6						
CCUT	**Cedar City**	**75.68**	**327**	*e*P	**P**	**19 18 58.6**	**+1.9**
HWUT	**Hardware Ranch**	**78.10**	**330**	*e*P	**P**	**19 19 10.4**	**0.0**
	comp=Z,1.1nm,1.1s,mb4.7						
NVAR	**Mina Array Bea**	**78.84**	**324**	P	**P**	**19 19 15.7**	**+1.2**
	comp=Z,0.2nm,0.4s,mb3.4,baz=101,slow=1.8,SNR=2.8						
TSUM	**Tsumeb**	**80.59**	**107**	*e*P	**P**	**19 19 24.8**	**+0.8**
	comp=Z,5.8nm,0.8s,mb4.6						
HLID	**Hailey**	**80.92**	**330**	*e*P	**P**	**19 19 27.2**	**+1.4**
	comp=Z,8.1nm,1.0s,mb4.6						
MCMT	**McKenzie Canyo**	**81.25**	**332**	*e*P	**P**	**19 19 28.6**	**+1.1**
TORD	**Torodi Ar. Bea**	**81.58**	**71**	P	**P**	**19 19 29.6**	**+0.3**
	comp=Z,6.4nm,0.7s,mb4.7,baz=262,slow=3.9,SNR=32						
LBTB	**Lobatse**	**84.64**	**115**	P	**P**	**19 19 44.9**	**-0.2**
	comp=Z,1.0nm,0.6s,mb4.1,baz=236,slow=7.3,SNR=2.6						
LBTB	**Lobatse**	**84.64**	**115**	P	**P**	**19 19 44.9**	**-0.2**
LBTB				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.1						
YKA	**Yellowknife Ar**	**96.05**	**341**	P	**P**	**19 20 37.5**	**-1.3**
	comp=Z,0.2nm,0.7s,mb3.7,baz=144,slow=4.4,SNR=4.9						
YKA	**Yellowknife Ar**	**96.05**	**341**	P	**P**	**19 20 37.5**	**-1.3**
AKASG	**Malin Array Be**	**117.35**	**45**	PKP	PKPdf	19 25 55.9	-1.1
	comp=Z,0.9nm,0.7s,baz=262,slow=3.4,SNR=4.0						
AKASG	**Malin Array Be**	**117.35**	**45**	PKIKP	PKPdf	19 25 55.9	-1.1
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZRNK	**Zerenda**	**141.29**	**38**	*e*PKIKP	PKPdf	19 26 45.1	+2.9
YAK	**Yakutsk**	**142.69**	**344**	*i* PKIKP	PKPdf	19 26 47.5	+2.8
YSS	**Yuzh-Sakhalins**	**146.87**	**315**	PKP2	PKPab	19 27 02.0	+6.9
NVS	**Novosibirsk**	**147.05**	**27**	*e*PKHKP		19 26 54.6	
NVS				pmax	pmax		
	comp=Z,37nm,1.6s						
KURK	**Kurchatov**	**147.57**	**36**	*e*PKHKP		19 26 56.1	
ZAL	**Zalesovo**	**148.34**	**27**	PKPbc	PKPbc	19 26 56.8	-1.0
	comp=Z,2.6nm,0.8s,baz=150,slow=1.5,SNR=10						
ZAL	**Zalesovo**	**148.34**	**27**	PKHKP		19 26 56.8	
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AAK	**Ala-Archa**	**148.57**	**52**	*e*PKIKP	PKPbc	19 26 59.9	+1.5
BOD	**Bodaibo**	**149.43**	**354**	*e*PKIKP	PKPab	19 27 06.2	+0.9
BOD				pmax	pmax		
	comp=Z,5.0nm,1.3s						
HYB	**Hyderabad**	**150.63**	**104**	*i* PKP	PKPbc	19 27 04.5	+1.0
HYB				*e*		19 27 12.5	
HYB	**Hyderabad**	**150.63**	**104**	*e*P	PKPbc	19 27 04.5	+1.0
MKAR	**Makanchi Array**	**151.78**	**40**	PKIKP	PKPbc	19 27 06.1	-0.1
	comp=Z,4.4nm,0.8s,baz=312,slow=1.5,SNR=11						
MKAR	**Makanchi Array**	**151.78**	**40**	PKIKP	PKPbc	19 27 06.1	0.0
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KLR	**Kul'dur**	**151.85**	**327**	*e*PKIKP	PKPbc	19 27 08.8	+2.5
MJAR	**Matsushiro Arr**	**153.32**	**297**	PKPbc	PKPbc	19 27 17.4	+7.8
	comp=Z,2.9nm,0.9s,baz=125,slow=1.7,SNR=5.6						
SONM	**Songino Array**	**159.61**	**4**	PKP	PKPdf	19 27 14.1	+3.9
	comp=Z,0.3nm,0.8s,baz=338,slow=1.6,SNR=4.7						

*IDC **11** 19:16:42.6±0.6, 1982S×174.38W, h0km, mb4.5/14, mb1 4.7/16,mb1mx4.7/20, mbtmp4.6/16,ML5.5/2,MS3.8/7, Ms1 3.9/7,ms1mx3.5/21, Error ellipse: s-maj=23.2km s-min=13.7km az=126.0*
*BJI **11** 19:16:46.2, 1980S×174.40W, h22km, mB5.3, mb5.1*
*NEIC **11** 19:16:46.2±2.4, 1983S×174.39W, h23km±16km, mb5.0/17, Error ellipse: s-maj=10.5km s-min=5.9km az=130.0*
*ISCJB **11** 19:16:46.5±0.4, 1997S±006×174.46W±008, h33km, mb4.8/35, MS4.1/5, Error ellipse: s-maj=11.7km s-min=7.3km az=63.5*
*SZGRF **11** 19:16:48.9, 1956S×173.11W, h33km, Tonga Islands*
*MOS **11** 19:16:48.6±2.5, 1997S×174.69W, h33km, mb4.8/15, Error ellipse: s-maj=14.7km s-min=12.0km az=52.8*

ISC 11 19:16:47.9±0.3,1998S±005×17426W±008,h35km,n195, σ1§14/87,mb4.8/35,MS4.1/5,20C-2D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.49**	**22**	Pn	**Pn**	**19 18 18.1**	**-2.8**
	23nm,0.3s,baz=312,slow=1.0,SNR=19						
AFI				Sn	**Sn**	**19 19 23.1**	**-11**
	27nm,0.3s,baz=233,slow=20,SNR=4.3						
AFI				LR	LR	19 19 39.3	
	comp=Z,131nm,19.5s,baz=120,slow=28						
RAO	**Raoul Island**	**9.81**	**199**	Pn	**Pn**	**19 19 07.2**	**+0.8**
	61nm,0.3s,baz=252,slow=20,SNR=5.3						
RAO				Sn	**Sn**	**19 20 53.6**	**-1.6**
	163nm,0.3s,baz=248,slow=23,SNR=7.2						
RAO	**Raoul Island**	**9.81**	**199**	P	**Pn**	**19 19 07.2**	**+0.8**
RAO						19 20 53.6	
RAO				pmax	pmax		
	comp=Z,61nm,0.3s						
RAO				smax			
	comp=N,163nm,0.3s						
RAO	**Raoul Island**	**9.81**	**199**	Pn	**Pn**	**19 19 07.2**	**+0.8**
RAO				Sn	**Sn**	**19 20 53.6**	**-1.6**
RAR	**Rarotonga**	**13.62**	**98**	Pn	**Pn**	**19 19 54.6**	**-4.0**
	comp=N,4.8nm,0.3s,baz=260,slow=7.8,SNR=13						
RAR				Sn	**Sn**	**19 22 10.1**	**-19**
	comp=N,12nm,0.3s,baz=133,slow=20,SNR=7.1						
RAR				LR	LR	19 23 52.5	
	comp=N,363nm,21.2s,baz=131,slow=31						
DZM	**Mont Dzumac**	**18.13**	**260**	P	**Pn**	**19 21 01.2**	**+4.3**
	comp=N,3.8nm,0.3s,baz=78,slow=17,SNR=32						
URZ	**Urewera**	**19.69**	**201**	P	**Pn**	**19 21 15.5**	**-0.1**
	comp=N,8.7nm,0.3s,baz=315,slow=3.9,SNR=30						
URZ				S	**S**	**19 24 40.9**	**-13**
	comp=N,2.8nm,0.3s,baz=322,slow=22,SNR=8.6						
URZ	**Urewera**	**19.69**	**201**	*e*PN	**Pn**	**19 21 13.5**	**-2.2**
TBI	**Tubuai**	**23.28**	**103**	*e*LR	LR	19 27 15.8	
	comp=N,644nm,33.0s,baz=283						
TCW	**Tory Channel**	**23.30**	**202**	*e*SN	**S**	**19 25 58.6**	**-4.0**
PPT	**Papeete**	**23.49**	**88**	*e*LQ		19 26 24.0	
	comp=N,599nm,24.8s						
PPT				*e*LR	LR	19 27 20.0	
	comp=N,1μm,29.5s,baz=260						
PPT	**Papeete**	**23.49**	**88**	LR	LR	19 28 11.1	
	comp=N,438nm,19.8s,MS3.9,baz=84,slow=29						

*ISCJB **11** 19:07:09.3±1.7, 2747S±003×71.45W±008, h7km±11km, mb4.3/13,MS4.2/2, Error ellipse: s-maj=11.3km s-min=4.6km az=176.3*
*NEIC **11** 19:07:10.8±2.3, 2748S×71.46W, h6km±14km, mb4.7/7, ML5.1(GUC), Error ellipse: s-maj=16.1km s-min=5.9km az=90.0*
NEIC Felt [III] at Copiapo and [II] at Caldera.
*GUC **11** 19:07:10.1±0.9, 2754S×71.62W, h15km±7km, ML5.1*
*HRVD **11** 19:07:10.8±0.5, 2755S×71.90W, h18km±1km, MW4.9/47, Centroid moment Tensor Solution. LP body waves: s15,c15;Mantle waves: s47,c53; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.40±.21; $M_{\theta\theta}$-0.14±.11; $M_{\phi\phi}$-2.25±. 15; $M_{r\theta}$-0.17±.27; $M_{\theta\phi}$0.53±.09; $M_{\phi r}$-0.94±.30; Best double couple: M_o2.57300×10^{16} NP1:ϕ_s339.00000°,δ35.00000°,λ77.00000°. NP2: ϕ_s175.00000°,δ56.00000°,λ99.00000°. Principal axes: T 2.6100, Plg77.0000°, Azm116.0000°; N -0.0680, Plg8.0000°, Azm350.0000°; P -2.5360, Plg10.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **11** 19:07:14.6±5.6, 2739S×71.37W, h29km±44km, mb4.0/8, mb1 4.1/12,mb1mx4.0/19,mbtmp4.1/12,ML4.5/3,MS4.1/3, Ms1 4.1/3,ms1mx3.7/15 Error ellipse: s-maj=31.1km s-min=16.2km az=92.0*
*MOS **11** 19:07:15.9±2.6, 2804S×70.58W, h10km, mb4.3/5, Error ellipse: s-maj=22.2km s-min=17.4km az=65.4*

ISC 11 19:07:11.6±1.3,2748S±003×7150W±007,h12km±7km,n71, σ1§26/61,mb4.3/13,MS4.2/2,1C-4D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.72**	**56**	⇓*i*P	**Pg**	**19 07 25.3**	**-0.3**
CDCH				*i* S	**Sg**	**19 07 36.9**	**+1.9**
CRCH	**Chaqaral**	**1.38**	**35**	⇓*i*P	**Pn**	**19 07 35.2**	**-1.4**
CRCH				*i* S	**Sn**	**19 07 56.1**	**+1.3**
LCO	**Las Campanas**	**1.68**	**155**	*e*P	**Pn**	**19 07 38.9**	**-1.9**
LCO				*i* S	**Sn**	**19 08 00.8**	**-1.4**
TLL	**Tololo Astrono**	**2.75**	**167**	⇓*i*P	**Pn**	**19 07 54.9**	**-0.6**
TLL				*i* S	**Sn**	**19 08 28.4**	**-0.1**
TLL				AML	AML	19 08 47.3	
	comp=N,10μm,0.9s						
TLL	**Tololo Astrono**	**2.75**	**167**	⇓*i*P	**Pn**	**19 07 54.9**	**-0.6**
TLL				*i* S	**Sn**	**19 08 28.4**	**-0.1**
CPN1	**Cerro Paranal**	**3.01**	**19**	⇑*i*P	**Pn**	**19 07 56.8**	**-2.3**
CPN1				*i* S	**Sn**	**19 08 34.4**	**-0.7**
CPN1				AMP		19 09 04.0	
	comp=N,4μm,0.6s						
CFAA	**Coronel Fontan**	**5.00**	**146**	Pn	**Pn**	**19 08 28.2**	**+1.8**
	comp=N,0.5nm,0.3s,baz=318,slow=13,SNR=25						
CFAA				Sn	**Sn**	**19 09 25.4**	**+1.3**
	comp=N,2.7nm,0.3s,baz=0.3,slow=18,SNR=6.5						
CFAA				Lg		19 09 39.8	
	comp=N,5.2nm,0.3s,baz=88,slow=20,SNR=8.3						
LVC	**Limon Verde**	**5.38**	**26**	*e*P	**Pn**	**19 08 30.7**	**-1.1**
LVC				*i* S	**Sn**	**19 09 42.4**	**+8.7**
LVC	**Limon Verde**	**5.38**	**26**	Pn	**Pn**	**19 08 31.2**	**-0.5**
	comp=N,6.1nm,0.3s,baz=221,slow=9.3,SNR=39						
LVC				Sn	**Sn**	**19 09 31.4**	**-2.3**
	comp=N,16nm,0.3s,baz=189,slow=19,SNR=2.4						
LVC				Lg		19 09 53.5	
	comp=N,32nm,0.3s,baz=135,slow=17,SNR=3.4						
FCH	**Farellones**	**5.92**	**170**	*e*P	**Pn**	**19 08 37.9**	**-1.2**
CLCH	**Cerro Calan**	**5.95**	**172**	*e*P	**Pn**	**19 08 42.0**	**+2.4**
LMEL	**Las Melosas**	**6.44**	**170**	*e*P	**Pn**	**19 08 46.4**	**+0.1**
CHCH	**Chadas Angostu**	**6.47**	**174**	*

QRZ	Quartz Range	23.64	206	*e*PN	P	19 21 58.6	+2.6	
THZ	Tophouse	24.29	204	*e*PN	P	19 22 06.1	+4.2	
DSZ	Denniston Nort	24.71	206	*e*PN	P	19 22 09.9	+4.2	
LTZ	Lake Taylor	25.41	204	PN	P	19 22 15.8	+3.8	
RPZ	Rata Peaks	26.66	204	P	P	19 22 25.1	+1.7	
	comp=N,19nm,0.5s,mb4.9,baz=185,slow=6.6,SNR=11							
ARMA	Armidale	32.45	245	*e*P	P	19 23 15.6	+0.8	
CNB	Canberra Magne	35.43	237	*e*P	P	19 23 41.4	+0.8	
	comp=N,35nm,0.9s,mb5.3							
RKT	Rikitea	36.60	102	*e*LR	LR	19 33 22.8		
	comp=N,500nm,31.5s,baz=275							
CTA	Charters Tower	37.03	263⇑	*i*P	P	19 23 54.4	+0.1	
	comp=N,20nm,0.4s,mb5.3							
CTA	Charters Tower	37.03	263	*i*P	P	19 23 54.4	+0.1	
CTA				pmax	pmax			
	comp=Z,20nm,0.4s							
CTAO	Charters Tower	37.03	263	*e*P	P	19 23 54.4	+0.1	
CTAO				pmax	pmax			
	comp=Z,44nm,0.8s,mb5.3							
CTAO	Charters Tower	37.03	263	*e*P	P	19 23 54.4	+0.1	
	comp=Z,44nm,0.8s,mb5.3							
PMG	Port Moresby	38.68	280	P	P	19 24 08.9	+0.7	
	comp=Z,31nm,0.9s,mb5.0,baz=57,slow=6.0,SNR=9.6							
PMG	Port Moresby	38.68	280	P	P	19 24 08.9	+0.7	
PMG				pmax	pmax			
	comp=Z,31nm,0.9s							
TOO	Toolangi	39.04	235	*e*P	P	19 24 11.7	+0.4	
	comp=Z,13nm,0.8s,mb4.7							
TOO	Toolangi	39.04	235	*e*P	P	19 24 11.7	+0.4	
TOO				pmax	pmax			
	comp=Z,13nm,0.8s,mb4.7							
STKA	Stephens Creek	41.17	244⇑	*i*P	P	19 24 26.7	-2.2	
	comp=Z,11nm,1.2s,mb4.4							
STKA	Stephens Creek	41.17	244	P	P	19 24 26.8	-2.1	
	comp=Z,18nm,1.1s,mb4.6,baz=99,slow=8.2,SNR=15							
STKA				LR	LR	19 38 52.5		
	comp=Z,151nm,20.9s,MS3.8,baz=288,slow=32							
ASAR	Alice Springs	48.05	256	P	P	19 25 23.2	-0.6	
	comp=Z,27nm,0.8s,mb5.3,baz=94,slow=7.9,SNR=211							
ASAR				PcP	PcP			
	comp=Z,2.7nm,0.9s,baz=121,slow=3.5,SNR=4.1					19 26 51.9	+0.6	
ASAR				S	S	19 32 15.0	-4.7	
	comp=Z,0.9nm,1.0s,baz=96,slow=15,SNR=5.8							
ASAR	Alice Springs	48.05	256	P	P	19 25 23.2	-0.6	
ASAR						19 26 51.9		
ASAR				S	S	19 32 15.0	-4.7	
ASAR				pmax	pmax			
	comp=Z,27nm,0.8s							
ASAR				smax				
	comp=N,1.0nm,1.0s							
WB2	Warramunga Arr	48.14	261⇑	*i*P	P	19 25 23.3	-1.1	
WRAB	Tennant Creek	48.14	261	P	P	19 25 23.5	-1.0	
	comp=N,119nm,1.2s,mb5.8,SNR=15							
WRAB	Tennant Creek	48.14	261	*i*P	P	19 25 24.1	-0.4	
WRAB	Tennant Creek	48.14	261	*e*P	P	19 25 23.4	-1.0	
	comp=N,27nm,0.9s,mb5.3							
WRA	Warramunga Arr	48.15	261	P	P	19 25 23.4	-1.1	
	comp=N,5.2nm,0.4s,mb5.0,baz=97,slow=7.5,SNR=27							
WRA				S	S	19 32 16.2	-4.8	
	comp=N,0.6nm,0.8s,baz=101,slow=14,SNR=2.5							
WRA	Warramunga Arr	48.15	261	P	P	19 25 23.4	-1.1	
WRA				S	S	19 32 16.2	-4.8	
WRA				pmax	pmax			
	comp=Z,5.0nm,0.4s							
WRA				smax				
	comp=N,1.0nm,0.8s							
KAKA	Kakadu	51.48	269⇑	*i*P	P	19 25 49.2	-0.7	
	comp=N,7.7nm,0.5s,mb4.9							
FORT	Forrest	52.72	246	*e*P	P	19 25 58.0	-1.0	
	comp=N,18nm,0.5s,mb5.3							
FITZ	Fitzroy Crossi	56.57	261⇑	*i*P	P	19 26 26.9	-0.1	
	comp=N,12nm,1.1s,mb4.8							
VNDA	Vanda	58.76	186	P	P	19 26 44.3	+1.9	
	comp=N,3.4nm,1.0s,mb4.3,baz=12,slow=6.7,SNR=9.6							
VNDA	Vanda	58.76	186	P	P	19 26 44.3	+1.9	
VNDA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
MBWA	Marble Bar	61.39	256	*e*P	P	19 26 59.8	-0.6	
	comp=Z,45nm,1.4s,mb5.4							
KLBR	Kellerberrin	61.45	244	*e*P	P	19 27 00.5	-0.3	
	comp=Z,29nm,1.1s,mb5.3							
NWAO	Narrogin (SRO)	61.73	243	P	P	19 27 03.0	+0.4	
	comp=Z,6.2nm,0.7s,mb4.8,baz=97,slow=12,SNR=5.3							
NWAO	Narrogin (SRO)	61.73	243	P	P	19 27 03.1	+0.4	
NWAO				pmax	pmax			
	comp=Z,6.0nm,0.7s							
MUN	Mundaring	62.70	244	*e*P	P	19 27 03.8	-5.4	
QSPA	South Pole Qui	70.08	180	*e*P	P	19 27 57.4	+1.0	
	comp=Z,13nm,0.9s,mb4.9							
QSPA				*e*PcP	PcP	19 28 17.2	-1.1	
MJAR	Matsushiro Arr	71.94	321	P	P	19 28 07.8	+0.1	
	comp=Z,14nm,0.9s,mb4.9,baz=157,slow=6.0,SNR=19							
MJAR	Matsushiro Arr	71.94	321	P	P	19 28 07.8	+0.1	
MJAR				pmax	pmax			
	comp=Z,14nm,0.9s							
MAT	Matsushiro	71.94	321	P	P	19 28 07.8	+0.1	
MAT	Matsushiro	71.94	321	*e*P	P	19 28 08.0	+0.3	
MAT				pmax	pmax			
	comp=Z,12nm,0.9s,mb4.8							
MAT	Matsushiro	71.94	321	*e*P	P	19 28 08.0	+0.3	
	comp=Z,12nm,0.9s,mb4.8							
YSS	Yuzh-Sakhalins	77.06	331⇑	*e*P	P	19 28 37.9	+0.5	
YSS				pmax	pmax			
	comp=Z,30nm,0.9s,mb5.2							
NVAR	Mina Aray Bea	78.27	42	P	P	19 28 44.8	+0.6	
	comp=Z,3.3nm,0.9s,mb4.3,baz=212,slow=7.3,SNR=18							
MSU	Marysvale	82.25	44	*e*P	P	19 29 07.2	+1.6	
HLID	Hailey	83.68	39	*e*P	P	19 29 13.7	+0.7	
	comp=Z,4.0nm,0.9s,mb4.5							
HLID				*e*		19 29 38.1		
TTA	Tatalina	83.88	8	*e*P	P	19 29 14.1	+0.1	
TTA				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.3							
TTA	Tatalina	83.88	8	*e*P	P	19 29 14.1	+0.1	
	comp=Z,2.1nm,0.8s,mb4.3							
CN2	Changchun	84.08	321	*e*P	P	19 29 15.4	+0.4	
CN2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb5.0							
ANMO	Albuquerque	84.37	50	P	P	19 29 17.6	+1.1	
	comp=Z,3.6nm,1.0s,mb4.5,baz=226,slow=6.3,SNR=7.0							
ANMO	Albuquerque	84.37	50	P	P	19 29 17.6	+1.1	
ANMO				pmax	pmax			
	comp=Z,4.0nm,1.0s							
PDAR	Pinedale Array	86.21	42	P	P	19 29 25.5	-0.2	
	comp=Z,0.7nm,0.9s,mb3.9,baz=176,slow=4.5,SNR=5.5							
COLA	College	86.99	11	*i*P	P	19 29 28.9	-0.6	
COLA	College	86.99	11	*e*P	P	19 29 28.3	-1.3	
	comp=Z,6.4nm,0.8s,mb4.9							
COLA				*e*		19 29 48.0		
ILAR	Eielson Array	87.08	11	P	P	19 29 29.0	-0.9	
	comp=Z,2.4nm,0.7s,mb4.5,baz=229,slow=6.0,SNR=33							
ILAR	Eielson Array	87.08	11	P	P	19 29 29.0	-0.9	
ILAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
BJI	Beijing	88.03	314	*e*P	P	19 29 35.8	+1.3	
BJI				AMB	AMB			
	comp=Z,13nm,1.8s,mb4.9							
DAWY	Dawson	88.04	15	*e*P	P	19 29 34.5	0.0	
DAWY				*e*		19 29 53.5		
VNA3	Neumayer Olymp	88.39	175	*e*	P	19 29 34.5	-1.7	
VNA3				*e*	pP	19 29 46.2	-1.1	
VNA3				*e*		19 29 54.6		
SNAA	Sanae	88.39	177	P	P	19 29 35.7	-0.6	
	comp=Z,1.0nm,1.0s,mb4.0,baz=171,slow=21,SNR=3.6							
SNAA	Sanae	88.39	177	P	P	19 29 35.7	-0.5	
SNAA				pmax	pmax			
	comp=Z,1.0nm,1.0s							
VNA2	Neumayer--Watz	88.87	176	*e*	P	19 29 38.6	+0.1	
	baz=199,slow=3.2							
VNA2				*e*	pP	19 29 51.4	+1.8	
VNA2				*e*		19 29 58.7		
HHC	Hu-ho-hao-te	91.53	313	⇑P	P	19 29 52.3	+1.4	
HHC				AMB	AMB			
	comp=Z,19nm,1.1s,mb5.3							
HHC				AMB	AMB			
	comp=Z,87nm,4.8s							
INK	Inuvik	92.89	14	*e*P	P	19 29 56.1	-1.1	
INK				pmax	pmax			
	comp=Z,4.0nm,1.0s							
INK	Inuvik	92.89	14	*e*P	P	19 29 56.1	-1.0	
	comp=Z,3.5nm,1.0s,mb4.7							
CHTO	Chiang Mai	93.39	289	*e*P	P	19 30 01.8	+2.3	
CHTO				pmax	pmax			
	comp=Z,16nm,1.1s,mb5.4							
CHTO	Chiang Mai	93.39	289	*e*P	P	19 30 01.8	+2.3	
	comp=Z,16nm,1.1s,mb5.4							

YKA	Yellowknife Ar	94.60	24	P	P	19 30 04.4	-0.6	
	comp=Z,0.5nm,0.8s,mb4.0,baz=244,slow=4.6,SNR=9.1							
YKA				LR	LR	20 04 25.0		
	comp=Z,90nm,18.8s,MS4.3,baz=120,slow=30							
SONM	Songino Array	97.69	318	P	P	19 30 18.6	-0.5	
	comp=Z,0.8nm,1.0s,mb4.2,baz=120,slow=4.0,SNR=3.7							
SONM				PP	PP	19 34 15.4	-1.7	
	comp=Z,1.0nm,1.0s,baz=119,slow=7.9,SNR=4.5							
SONM	Songino Array	97.69	318	P	P	19 30 18.6	-0.5	
SONM						19 34 15.4		
SONM				pmax	pmax			
	comp=Z,1.0nm,1.0s							
ULM	Lac du Bonnet	97.99	39	LR	LR	20 06 20.1		
	comp=Z,96nm,20.2s,MS4.3,baz=3.2,slow=30							
LPAZ	La Paz	98.99	111	LR	LR	20 03 43.6		
	comp=Z,59nm,21.0s,MS4.1,baz=55,slow=28							
ZAL	Zalesovo	112.30	321	PKiKP	PKiKP	19 35 18.2	-1.7	
	comp=Z,0.5nm,0.4s,baz=165,slow=2.8,SNR=3.5							
ZAL				PP	PP	19 35 54.0	-11	
	comp=Z,0.5nm,0.3s,baz=184,slow=6.9,SNR=3.2							
ZAL	Zalesovo	112.30	321	*i* PKiKP	PKiKP	19 35 18.2	-1.8	
ZAL				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ZAL				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MKAR	Makanchi Array	113.40	313	PKiKP	PKiKP	19 35 20.6	-1.5	
	comp=Z,0.9nm,0.7s,baz=104,slow=1.0,SNR=7.8							
MKAR	Makanchi Array	113.40	313	*i* PKiKP	PKiKP	19 35 20.6	-1.5	
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ZRNK	Zerenda	121.77	321	*e*PKPdf	PKPdf	19 35 36.1	-2.0	
ZRNK				*e*		19 36 00.3		
ARCES	ARCESS Array B	129.00	351	PKP	PKPdf	19 35 50.5	-1.5	
	comp=Z,2.6nm,0.5s,baz=20,slow=0.7,SNR=29							
ARCES	ARCESS Array B	129.00	351	PKiKP	PKPdf	19 35 50.5	-1.5	
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.5s							
KAF	Kangasniemi	135.55	346	*e*p	PKPdf	19 36 03.7	-0.6	
	comp=Z,1.8nm,0.6s							
KAF	Kangasniemi	135.55	346	*e*PKiKP	PKPdf	19 36 03.7	-0.6	
KAF				pmax	pmax			
	comp=Z,2.0nm,0.6s							
FINES	FINESS Array B	136.19	346	PKP	PKPdf	19 36 05.5	0.0	
	comp=Z,1.8nm,0.7s,baz=32,slow=4.1,SNR=13							
FINES	FINESS Array B	136.19	346	PKiKP	PKPdf	19 36 05.5	0.0	
FINES				pmax	pmax			
	comp=Z,2.0nm,0.7s							
ERZM	Erzurum	143.62	311	*i* P	PKPdf	19 36 14.0	-5.0	
AKASG	Malin Array Be	144.17	334	PKP	PKPdf	19 36 17.1	-2.8	
	comp=Z,24nm,0.4s,baz=42,slow=4.4,SNR=26							
AKASG	Malin Array Be	144.17	334	PKHKP		19 36 17.1		
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.4s							
MARD	Mardin	144.99	307	*i* P	PKPbc	19 36 21.0	+0.3	
ELZG	Elazig	145.87	310	*i* P	PKPbc	19 36 24.7	+1.2	
BSEG	Bad Segeberg	145.93	355	*e*PKPbc	PKPbc	19 36 23.3	-0.4	
MALT	Malatya	146.35	310⇑	*i*P	PKPbc	19 36 26.3	+1.3	
MALT	Malatya	146.35	310	*e*PKPdf	PKPbc	19 36 26.1	+1.2	
LVV	L'vov	146.85	338	*e*PKiKP	PKPbc	19 36 26.1	-0.3	
LVV				*e*		19 39 54.3		
RUE	Ruedersdorf	146.97	351	*e*PKPbc	PKPbc	19 36 26.5	-0.2	
BOYT	Boyabat	147.31	317	*i* P	PKPbc	19 36 27.8	+0.1	
GZT	Gaziantep	147.35	309	*i* P	PKPbc	19 36 27.0	-0.8	
IBBN	Ibbenburen	147.70	358	*e*PKPbc	PKPbc	19 36 28.5	-0.3	
CLZ	Clausthal	148.00	355	*e*PKPbc	PKPbc	19 36 29.1	-0.5	
CLZ				*e*PKPab	PKPab	19 36 32.2	-0.1	
CLZ	Clausthal	148.00	355	*e*PKP2	PKPab	19 36 32.2	-0.1	
KSP	Ksiaz	148.09	347	*e*PKP	PKPbc	19 36 30.0	+0.2	
KSP				*e*		19 36 51.1		
STHS	Stebnicka Huta	148.12	341	*e*PKP	PKPbc	19 36 29.8	-0.1	
BALT	Daday	148.20	319	*i* P	PKPbc	19 36 29.6	-0.5	
KOLS	Kolonicke sedl	148.21	339	*e*PKP	PKPbc	19 36 32.1	+2.0	
KOLS				*e*		19 36 55.3		
BURAR	Bucovina Array	148.22	335⇑	*i*P	PKPbc	19 36 30.0	-0.2	
CLL	Collm	148.22	351	*e*PKPbc	PKPbc	19 36 29.8	-0.4	
CLL				*e*PKPab	PKPab	19 36 32.7	-0.5	
CLL	Collm	148.22	351⇑	*i*PKPbc	PKPbc	19 36 29.9	-0.3	
	comp=Z,16nm,0.8s							
CLL				*i* sPKPab		19 36 45.0		
CLL				*i* x	x	19 36 51.3		
CLL	Collm	148.22	351	*i*PKiKP	PKPdf	19 36 29.9	+3.1	
CLL				*i*		19 36 45.0		
CLL				pmax	pmax			
	comp=Z,16nm,0.8s							
GTTG	Gyttingen	148.33	355	*e*PKPbc	PKPbc	19 36 29.8	-0.6	
GTTG				*e*PKPab	PKPab	19 36 33.4	-0.2	
UPC	Upice	148.47	347	*e*PKP	PKPbc	19 36 31.3	+0.5	
BRG	Berggiesshubel	148.50	350	*e*PKPbc	PKPbc	19 36 30.8	-0.1	
BRG				*e*PKPab	PKPab	19 36 33.9	-0.4	
BRG	Berggiesshubel	148.50	350	*i* PKP	PKPbc	19 36 30.8	0.0	
	comp=Z,4.9nm,0.8s							
BRG				*e*		19 36 52.2		
	comp=Z,3.4nm,0.9s							
CRVS	Cervenica-Dubn	148.50	340	*e*PKP	PKPbc	19 36 33.1	+2.2	
DPC	Dobruska-Polom	148.56	347	*e*PKP	PKPbc	19 36 31.4	+0.4	
DPC				*e*pPKP	pPKPdf	19 36 35.1	-3.7	
CDAG	Cicekdag	148.58	315	*i* P	PKPdf	19 36 29.2	+1.8	
OKC	Ostrava-Krasne	148.61	345	*e*PKP	PKPbc	19 36 31.4	+0.2	
COBT	Iskenderun	148.65	308	*i* P	PKPdf	19 36 27.7	+0.2	
AVNT	Avonos	148.66	313	*i* P	PKPdf	19 36 27.7	+0.1	
ELDT	Eldivan	148.75	317	*i* P	PKPbc	19 36 31.7	+0.2	
MORC	Moravsky Berou	148.82	345⇑	*i*P	PKPbc	19 36 31.6	-0.1	
BR131	Keskin Array S	149.01	315	*e*PKPbc	PKPbc	19 36 32.1	-0.1	
BR131				*e*PKPab	PKPab	19 36 37.5	+1.1	
BRTR	Keskin Array B	149.01	315	PKPbc	PKPbc	19 36 32.1	0.0	
	comp=Z,1.7nm,0.5s,baz=137,slow=4.4,SNR=11							
BRTR	Keskin Array B	149.01	315	PKiKP	PKPbc	19 36 32.2	0.0	
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
MOX	Moxa	149.05	353	*e*PKPbc	PKPbc	19 36 32.0	-0.3	
MOX	Moxa	149.05	353	*e*PKP	PKPbc	19 36 32.1	-0.2	
	comp=Z,14nm,1.6s							
MOX	Moxa	149.05	353	*e*PKiKP	PKPbc	19 36 32.1	-0.2	
MOX				pmax	pmax			
	comp=Z,14nm,1.6s							
WERD	Werda	149.16	352	*e*PKPbc	PKPbc	19 36 32.5	-0.1	
WERD				*e*PKPab	PKPab	19 36 36.8	-0.2	
KECS	Kecovo	149.18	341	*e*PKP	PKPbc	19 36 31.8	-0.8	
PRU	Pruhonice	149.25	349	*e*PKP	PKPbc	19 36 32.9	+0.1	
NKC	Novy Kostel	149.35	352	*e*PKP	PKPbc	19 36 33.1	+0.1	
SGKT	Sivrigoynuk	149.57	318	*i* P	PKPbc	19 36 33.7	+0.1	
MLR	Muntele Rosu	149.58	331⇑	*i*P	PKPbc	19 36 33.9	+0.3	
MANZ	Manzenberg	149.64	352	*e*PKPbc	PKPbc	19 36 34.0	+0.3	
TNS	Taunus Mts	149.75	357	*e*PKPbc	PKPbc	19 36 34.0	0.0	
TNS				*e*PKPab	PKPab	19 36 39.3	-0.1	
TNS	Taunus Mts	149.75	357	*e*PKP2	PKPab	19 36 39.3	-0.1	
ROTZ	Rotzenmuhle	149.84	352	*e*PKPbc	PKPbc	19 36 34.3	+0.1	
PSZ	Piszkesteto	149.86	341	*e*PKHKP		19 36 34.4		
PSZ				*e*		19 36 39.2		
GIVF	Givet	149.94	1	*e*PKP1	PKPbc	19 36 34.2	-0.3	
DOU	Dourbes	149.94	1	PKP	PKPbc	19 36 34.6	+0.1	
BAIF	Baives	149.97	2	*e*PKP1	PKPbc	19 36 34.1	-0.4	
	comp=Z,10nm,0.7s							
SMOL	Smolenice	150.01	344	*e*PKP	PKPbc	19 36 35.6	+0.9	
GRA1	Grafenberg Arr	150.04	353	*e*PKPbc	PKPbc	19 36 35.1	+0.4	
GRA1				*e*PKPab	PKPab	19 36 41.0	+0.4	
GRF	Grafenberg Arr	150.04	353	*e*PKPbc	PKPbc	19 36 35.1	+0.4	
GRF				*e*PKPab	PKPab	19 36 41.0	+0.4	
GRF	Grafenberg Arr	150.04	353	*e*PKP2	PKPab	19 36 41.0	+0.4	
GRF	Grafenberg Arr	150.04	353	*e*PKHKP		19 36 35.1		
GRF				*e*		19 36 41.0		
GRFO	Grafenberg	150.04	353	*e*PKPbc	PKPbc	19 36 35.0	+0.3	
GRFO				*e*PKPab	PKPab	19 36 40.6	0.0	
GRFO	Grafenberg	150.04	353	*e*PKP2	PKPab	19 36 40.6	0.0	
MEST	Erdemli	150.16	310	*i* P	PKPbc	19 36 34.4	-0.7	
KHC	Kasperske Hory	150.25	350	*e*PKP	PKPbc	19 36 35.3	+0.1	
KHC				*e*pPKP	pPKPdf	19 36 41.8	+0.3	
WET	Wettzell	150.35	351	*e*PKPbc	PKPbc	19 36 35.1	-0.4	
WET				*e*PKPab	PKPab	19 36 41.6	-0.3	
WLF	Walferdange	150.38	359	*e*PKPbc	PKPbc	19 36 35.6	0.0	
WLF	Walferdange	150.38	359	PKP	PKPbc	19 36 36.3	+0.8	
GEC2	GERESS Array S	150.50	349	*e*PKPbc	PKPbc	19 36 35.6	-0.2	
GEC2				*e*PKPab	PKPab	19 36 42.0	-0.5	
GERES	GERESS Array B	150.50	349	PKPbc	PKPbc	19 36 35.8	0.0	
	comp=Z,3.4nm,0.7s,baz=45,slow=2.1,SNR=30							
GERES	GERESS Array B	150.50	349	PKiKP	PKPbc	19 36 35.8	0.0	
GERES				pmax	pmax			
	comp=Z,3.0nm,0.7s							
FLN	La Foliniere	150.85	8	*e*PKP1	PKPbc	19 36 35.9	-0.8	
	comp=Z,12nm,0.8s							
ESKT	Eskisehir	150.93	317	*i* P	PKPbc	19 36 35.6	-1.3	
ERMK	Ermenek	151.03	311	*i* P	PKPbc	19 36 36.5	-0.5	
LDF	La Druitiere	151.07	8	*e*PKP1	PKPbc	19 36 36.3	-0.9	

	comp=Z,11nm,0.9s							
STU	Stuttgart	151.15	355	*e*PKPbc	PKPbc	19 36 37.4	+0.1	
GRR	Gorron	151.17	9	*e*PKP1	PKPbc	19 36 36.7	-0.7	
	comp=Z,9.7nm,0.7s							
BZS	Buzias	151.27	336⇑	*i*P	PKPbc	19 36 37.4	-0.2	
MOA	Molln	151.35	348⇑	*i*P	PKPbc	19 36 37.6	-0.2	
	comp=Z,3.9nm,0.5s							
FUR	Furstenfeldbru	151.53	352	*e*PKPbc	PKPbc	19 36 38.1	-0.1	
MEZF	Maizieres J'vi	151.54	1	*e*PKP1	PKPbc	19 36 38.1	-0.2	
CDF	Champ du Feu	151.61	358	*e*PKP1	PKPbc	19 36 38.2	-0.2	
	comp=Z,14nm,0.9s							
BFO	Black Forest	151.64	356	*e*PKPbc	PKPbc	19 36 37.7	-0.8	
BFO				*e*PKPab	PKPab	19 36 46.4	-0.8	
PKSM	Moragy	151.77	341⇓	*i*P	PKPbc	19 36 38.3	-0.5	
HAU	Haudompre	152.04	359	*e*PKP1	PKPbc	19 36 40.0	+0.6	
	comp=Z,6.4nm,0.5s							
HINF	Hinteralfeld	152.22	358	*e*PKP1	PKPbc	19 36 39.6	-0.2	
	comp=Z,3.9nm,0.5s							
KBA	Koelnbreinsper	152.27	349⇓	*i*P	PKPbc	19 36 39.1	-0.8	
	comp=Z,4.0nm,0.5s							
WATA	Walderalm	152.31	351⇑	*i*P	PKPbc	19 36 39.5	-0.5	
	comp=Z,4.9nm,1.1s							
WTTA	Wattenberg	152.37	351⇑	*i*P	PKPbc	19 36 40.0	-0.1	
	comp=Z,13nm,0.5s							
SQTA	Sankt Quirin	152.47	352⇑	*i*P	PKPbc	19 36 40.1	-0.2	
	comp=Z,4.0nm,0.9s							
DAVA	Damuels	152.56	354⇑	*i*P	PKPbc	19 36 40.8	+0.2	
	comp=Z,3.1nm,0.5s							
LOR	Lormes	152.74	3	*e*PKP1	PKPbc	19 36 40.7	-0.3	
	comp=Z,6.1nm,0.7s							
SSF	Saint Saulge	152.93	3	*e*PKP1	PKPbc	19 36 41.1	-0.3	
	comp=Z,11nm,0.9s							
LJU	Ljubljana	153.02	346	*e*PKPbc	PKPbc	19 36 41.1	-0.5	
VOJS	Vojsko	153.17	347	*e*PKPbc	PKPbc	19 36 40.9	-1.0	
AVF	Avril sur Loir	153.19	4	*e*PKP1	PKPbc	19 36 41.3	-0.7	
CEY	Cerknica	153.33	346	*e*PKPbc	PKPbc	19 36 41.8	-0.4	
CEY				*e*		19 36 53.7		
BOJS	Bojanci	153.36	345	*e*PKPbc	PKPbc	19 36 42.3	0.0	
BGF	Bois d'Agland	153.39	4	*e*PKP1	PKPbc	19 36 41.9	-0.5	
CABF	La Chapelle	153.44	359	*e*PKP1	PKPbc	19 36 43.6	+1.1	
TCF	Toulx Ste Croi	153.60	6	*e*PKP1	PKPbc	19 36 42.5	-0.4	

ISCJB ***11*** *19:21:01.2±2.2,394N±02×7136E±008,h10km, Error ellipse: s-maj=23.4km s-min=7.8km az=19.3*
NNC ***11*** *19:21:04.5±7.4,3944N×7157E,h13km±20km, mb3.5, mpv3.4, Error ellipse: s-maj=57.7km s-min=22.4km az=171.0*

ISC 11 19:21:02.1±2.2,393N±02×7141E±008,h10km,n14, σ1°§03/18,6C-3D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	Almayashu	3.33	31	P	Pn	19 21 54.8	+0.5
	SNR=102						
UCH	Uchtor	3.76	38	P	Pn	19 21 59.9	-0.3
	SNR=46						
EKS2	Erkin-Say	3.81	27	P	Pn	19 22 01.4	+0.5
	SNR=26						
KK31	Karatay Array	3.87	350	Pn	Pn	19 22 04.2	+2.5
	5.4nm,0.3s,baz=158,slow=12,SNR=230						
KK31				⇓Pg	Pg	19 22 14.2	-2.1
	21nm,0.5s,baz=151,slow=14,SNR=22						
KK31				⇑Lg		19 23 05.5

EKS2	**Erkin-Say**	**3.77**	**52**	P		**Pn**	**20 01 14.4**	**+0.6**
	SNR=7.8							
AAK	**Ala-Archa**	**4.20**	**56**	P		**Pn**	**20 01 20.6**	**+0.9**
	SNR=9.8							
KZA	**Kyzart**	**4.46**	**66**	P		**Pn**	**20 01 22.4**	**-0.9**
	SNR=7.5							
CHMS	**Chumysh**	**4.55**	**53**	P		**Pn**	**20 01 24.7**	**+0.1**
	SNR=5.3							
USP	**Ospenovka**	**4.56**	**49**	P		**Pn**	**20 01 24.7**	**+0.1**
	SNR=11							
TKM2	**Tokmak 2**	**5.04**	**58**	Pn		**Pn**	**20 01 30.6**	**-0.7**
	1.5nm,0.9s							
TKM2				Lg			20 02 55.3	
	2.0nm,0.8s							
AB31	**Akbulak array**	**11.28**	**325**	⇑P		**Pn**	**20 02 56.1**	**-0.7**
	1.1nm,0.4s,baz=153,slow=10,SNR=36							
AB31				⇓S		**Sn**	**20 05 00.8**	**-0.7**
	3.5nm,0.6s,baz=154,slow=22,SNR=9.4							
AKTO	**Aktyubinsk**	**12.99**	**325**	P		**Pn**	**20 03 21.3**	**+1.1**
AKTO				S		**Sn**	**20 05 43.5**	**+0.1**

BUG ***11*** *20:07:29.9, 5162N×700E, h1km, ML1.0*
BGR ***11*** *20:07:29.6±0.7, 5159N×682E, h1km, ML1.9/5, Error ellipse: s-maj=11.1km s-min=4.4km az=108.0*
BNS ***11*** *20:07:29.2±0.6, 5168N×696E, h1km, ML1.7*
ISCJB ***11*** *20:07:29.1±0.4, 5155N±003×687E±005, h0km, Error ellipse: s-maj=5.0km s-min=3.3km az=46.2*
CSEM ***11*** *20:07:30.7±0.1, 5164N×698E, h5km, ML2.6/2, Error ellipse: s-maj=4.0km s-min=2.2km az=83.0*
LDG ***11*** *20:07:32.1±0.3, 5151N×693E, h1km, Ml2.6/2, Error ellipse: s-maj=7.0km s-min=3.4km az=5.0, Suspected Mining induced.*

ISC 11 20:07:29.9±0.4, 5157N±002×693E±005, h0km, n31, σ1§08/43, 2D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
BZER	**Hlnxe**	**0.06**	**323**	Pg		**Pg**	**Pg**	**20 07 32.0**	**+0.9**
BZER				Sg			**Sg**	**20 07 34.2**	**+2.3**
LAUG	**Laupendahl**	**0.22**	**178**	*e*Pg		**Pg**	**Pg**	**20 07 35.5**	**+1.3**
BUG	**Bochum--Univer**	**0.25**	**122**	⇓*i*Pg		**Pg**	**Pg**	**20 07 35.5**	**+0.8**
WTSB	**Winterswijk**	**0.40**	**348**	*e*Pg		**Pg**	**Pg**	**20 07 37.6**	**-0.1**
	28nm,0.5s								
HOBG	**Hohbusch**	**0.64**	**157**	*e*Pg		**Pg**	**Pg**	**20 07 43.2**	**+0.9**
IBBN	**Ibbenburen**	**0.90**	**34**	*e*Pg		**Pg**	**Pg**	**20 07 47.3**	**+0.2**
	SNR=3.9								
IBBN				*e*Sg		**Sg**	**Sg**	**20 07 58.9**	**+0.1**
STB	**Steinbach**	**0.98**	**183**	*e*Pg		**Pg**	**Pg**	**20 07 49.8**	**+1.1**
STB				*e*Sg		**Sg**	**Sg**	**20 08 05.0**	**+3.5**
	14nm,0.3s								
KLL	**Kalltalsperre**	**1.00**	**203**	*e*Pg		**Pg**	**Pg**	**20 07 49.9**	**+0.7**
HGN	**Heimansgroeve**	**1.02**	**218**	*e*Pn		**Pn**	**Pn**	**20 07 50.8**	**-0.7**
	5.1nm,0.3s								
HGN				⇓*i*Pg		**Pg**	**Pg**	**20 07 51.5**	**+1.9**
	15nm,0.2s								
HGN				*e*Sg		**Sg**	**Sg**	**20 08 05.2**	**+2.3**
MEM	**Membach**	**1.13**	**212**	P		**Pg**	**Pg**	**20 07 52.3**	**+0.8**
MEM				S		**Sg**	**Sg**	**20 08 08.1**	**+1.9**
	comp=N,13nm,0.0s								
MEM	**Membach**	**1.13**	**212**	P		**Pg**	**Pg**	**20 07 52.2**	**+0.7**
MEM				S		**Sg**	**Sg**	**20 08 08.0**	**+1.9**
BGG	**Burgeitz**	**1.39**	**169**	*e*Pg		**Pg**	**Pg**	**20 07 56.3**	**-0.3**
TNS	**Taunus Mts**	**1.66**	**144**	*e*Pg		**Pg**	**Pg**	**20 08 01.0**	**-0.7**
	SNR=3.8								
TNS				*e*Sg		**Sg**	**Sg**	**20 08 24.3**	**+1.1**
WLF	**Walferdange**	**1.97**	**195**	*e*Pg		**Pg**	**Pg**	**20 08 05.8**	**-1.9**
	SNR=1.8								
WLF				*e*Sg		**Sg**	**Sg**	**20 08 33.3**	**0.0**
GIVF	**Givet**	**1.99**	**223**	*e*Pn		**Pn**	**Pn**	**20 08 05.1**	**+0.3**
GIVF				*e*Sg		**Sg**	**Sg**	**20 08 32.7**	**-1.1**
	comp=N,10nm,0.3s								
CLZ	**Clausthal**	**2.16**	**81**	*e*Pg		**Pg**	**Pg**	**20 08 07.8**	**-3.6**
	SNR=3.2								
BAIF	**Baives**	**2.30**	**230**	*e*Pn		**Pn**	**Pn**	**20 08 09.3**	**+0.2**
BAIF	**Baives**	**2.30**	**230**	*e*Pg		**Pg**	**Pg**	**20 08 14.5**	**+0.5**
BAIF				*e*Sg		**Sg**	**Sg**	**20 08 43.1**	**-0.6**
	comp=N,3.4nm,0.3s								
BAIF	**Baives**	**2.30**	**230**	*e*Pg		**Pg**	**Pg**	**20 08 14.5**	**+0.5**
BAIF				*e*Sg		**Sg**	**Sg**	**20 08 43.1**	**-0.6**
RFYF	**Reffroy**	**3.09**	**198**	*e*Pn		**Pn**	**Pn**	**20 08 19.2**	**-0.8**
CDF	**Champ du Feu**	**3.17**	**176**	*e*Pn		**Pn**	**Pn**	**20 08 20.6**	**-0.5**
LOR	**Lormes**	**4.75**	**206**	*e*Pn		**Pn**	**Pn**	**20 08 41.9**	**-0.9**
CABF	**La Chapelle**	**5.00**	**187**	*e*Pn		**Pn**	**Pn**	**20 08 45.0**	**-1.2**
SSF	**Saint Saulge**	**5.04**	**208**	*e*Pn		**Pn**	**Pn**	**20 08 45.8**	**-0.9**
HYF	**Humbligny**	**5.14**	**215**	*e*Pn		**Pn**	**Pn**	**20 08 47.9**	**-0.2**
SMF	**Signal de Mont**	**5.33**	**204**	*e*Pn		**Pn**	**Pn**	**20 08 49.8**	**-1.0**
FLN	**La Foliniere**	**5.53**	**242**	*e*Pn		**Pn**	**Pn**	**20 08 53.1**	**-0.4**
BGF	**Bois d'Agland**	**5.69**	**210**	*e*Pn		**Pn**	**Pn**	**20 08 54.7**	**-1.0**
GRR	**Gorron**	**5.95**	**241**	*e*Pn		**Pn**	**Pn**	**20 08 58.2**	**-1.0**
TCF	**Toulx Ste Croi**	**6.13**	**212**	*e*Pn		**Pn**	**Pn**	**20 09 00.7**	**-1.1**
SGMF	**Saint Gilles**	**6.97**	**245**	*e*Pn		**Pn**	**Pn**	**20 09 11.6**	**-1.6**

NIED ***11*** *20:15:00, 4240N×14390E, h38km, Mw4.0 Best double couple: Mo1.05000×10^15 NP1:φs236.00000°, δ77.00000°, λ90.00000°. NP2:φs57.00000°, δ13.00000°, λ91.00000°.*
ISCJB ***11*** *20:15:20.9±0.6, 4234N±004×14398E±006, h51km±4km, mb3.9/19, MS3.5/1, Error ellipse: s-maj=8.4km s-min=5.3km az=79.9*
MOS ***11*** *20:15:21.2±0.8, 4237N×14379E, h51km, mb4.2/15, Error ellipse: s-maj=15.0km s-min=9.0km az=84.4*
JMA ***11*** *20:15:21.2±0.1, 4237N×14392E, h58km±2km, M3.8 Broadband fault plane solution: P waves. NP1: φs81.00000°, δ32.00000°, λ152.00000°. NP2: φs196.00000°, δ75.00000°, λ61.00000°. Principal axes: T Plg51.0000°, Azm73.0000°; N Plg28.0000°, Azm204.0000°; P Plg25.0000°, Azm308.0000°;*
JMA Felt II J1.
NEIC ***11*** *20:15:23.9±1.4, 4238N×14376E, h58km±15km, mb4.2/6 Error ellipse: s-maj=12.1km s-min=11.9km az=173.0*
IDC ***11*** *20:15:24.6±2.1, 4236N×14373E, h64km±17km, mb3.6/14, mb1 3.8/14, mb1mx3.7/21, mbtmp3.9/14, MS3.5/3, Ms1 3.5/3, ms1mx2.8/25, Error ellipse: s-maj=19.4km s-min=13.0km az=94.0*

ISC 11 20:15:22.1±0.6, 4237N±004×14398E±006, h44km±4km, n70, σ0§88/76, mb3.9/19, MS3.5/1, 5C-5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
JCH	**Churui**	**0.52**	**298**	⇑P		**Pn**	**Pn**	**20 15 33.1**	**-0.1**
JCH				*e*S		**Sn**	**Sn**	**20 15 40.8**	**-0.4**
JOB	**Onbets**	**0.54**	**349**	⇑P		**Pn**	**Pn**	**20 15 33.6**	**0.0**
JOB				*e*S		**Sn**	**Sn**	**20 15 42.2**	**+0.5**
JEM	**Erimo**	**0.71**	**240**	P		**Pn**	**Pn**	**20 15 34.8**	**-0.9**
JAK	**Akkeshi**	**0.82**	**40**	⇑P		**Pn**	**Pn**	**20 15 36.7**	**-0.5**
JNBK	**Urakawa-nobuka**	**0.92**	**265**	⇑P		**Pn**	**Pn**	**20 15 37.5**	**-1.0**
JAR	**Ashorobuto**	**0.94**	**351**	⇓P		**Pn**	**Pn**	**20 15 38.7**	**-0.2**
JAR				*e*S		**Sn**	**Sn**	**20 15 50.6**	**-0.5**
JBT2	**Biratori 2**	**1.26**	**289**	P		**Pn**	**Pn**	**20 15 42.1**	**-1.2**
JFR	**Furan**	**1.29**	**308**	P		**Pn**	**Pn**	**20 15 43.4**	**-0.3**
JNK	**Nakash**	**1.33**	**24**	⇑P		**Pn**	**Pn**	**20 15 43.6**	**-0.6**
JNK				*e*S		**Sn**	**Sn**	**20 15 59.4**	**-1.3**
JTKR	**Abashiri--Toko**	**1.60**	**358**	⇓P		**Pn**	**Pn**	**20 15 48.5**	**+0.6**
JTKR				*e*S		**Sn**	**Sn**	**20 16 07.6**	**+0.2**
NEM2	**Nemuro 2**	**1.63**	**52**	P		**Pn**	**Pn**	**20 15 47.3**	**-1.1**
JMP	**Maruseppu**	**1.70**	**345**	⇓P		**Pn**	**Pn**	**20 15 49.6**	**+0.4**
JAB	**Ashibetsu**	**1.72**	**312**	P		**Pn**	**Pn**	**20 15 50.2**	**+0.7**
JKK2	**Kamakawa 2**	**1.75**	**329**	⇓P		**Pn**	**Pn**	**20 15 50.5**	**+0.5**
ASAJ	**Asahikawa**	**2.02**	**330**	P		**Pn**	**Pn**	**20 15 54.5**	**+0.8**
	36nm,0.3s,baz=189,slow=12,SNR=102								
ASAJ				S		**Sn**	**Sn**	**20 16 19.1**	**+1.5**
	39nm,0.3s,baz=93,slow=32,SNR=9.1								
YUK	**Yuzh-Kuril'sk**	**2.16**	**39**	⇓*i*PN		**Pn**	**Pn**	**20 15 57.0**	**+1.4**
YUK				*i* S		**Sn**	**Sn**	**20 16 20.8**	**-0.3**
YUK				pmax		pmax			
	comp=N,210nm,0.4s								
YUK				pmax		pmax			
	comp=Z,260nm,0.4s								
YUK				smax					
	comp=N,2μm,0.4s								
YUK				smax					
	comp=E,2μm,0.4s								
YUK				smax					
	comp=N,3μm,0.8s								
YUK				smax					
	comp=E,5μm,0.6s								
YSS	**Yuzh-Sakhalins**	**4.67**	**350**	*e*PN		**Pn**	**Pn**	**20 16 31.0**	**+1.0**
MAJO	**Matsushiro**	**7.33**	**219**	*e*PN		**Pn**	**Pn**	**20 17 07.0**	**+0.4**
MAJO				pmax		pmax			
	comp=Z,8.0nm,0.5s								
MAJO	**Matsushiro**	**7.33**	**219**	*e*P		**Pn**	**Pn**	**20 17 07.0**	**+0.4**
	comp=Z,8.0nm,0.5s								
MAT	**Matsushiro**	**7.33**	**219**	P		**Pn**	**Pn**	**20 17 06.9**	**+0.3**
MAT	**Matsushiro**	**7.33**	**219**	*e*PN		**Pn**	**Pn**	**20 17 07.0**	**+0.4**
MAT				pmax		pmax			
	comp=Z,7.0nm,0.7s								
MAT	**Matsushiro**	**7.33**	**219**	*e*P		**Pn**	**Pn**	**20 17 07.0**	**+0.4**
	comp=Z,6.8nm,0.7s								
MJAR	**Matsushiro Arr**	**7.33**	**219**	P		**Pn**	**Pn**	**20 17 07.1**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=30,slow=13,SNR=18								
MJAR				LR		LR		20 20 37.5	
	comp=Z,122nm,20.4s,baz=35,slow=43								
MJAR	**Matsushiro Arr**	**7.33**	**219**	P		**Pn**	**Pn**	**20 17 07.1**	**+0.5**
MJAR				LR		LR		20 20 37.5	
KLR	**Kul'dur**	**10.94**	**313**	*e*PN		**Pn**	**Pn**	**20 17 56.3**	**+0.3**
JNU	**Nakatsue**	**13.87**	**233**	LR		LR		20 23 13.4	
	comp=Z,968nm,20.8s,baz=90,slow=34								
SONM	**Songino Array**	**26.90**	**295**	P		**P**		**20 20 59.1**	**+0.3**
	comp=Z,1.5nm,0.7s,mb3.6,baz=72,slow=9.2,SNR=11								
SONM	**Songino Array**	**26.90**	**295**	P		**P**		**20 20 59.1**	**+0.3**
SONM				pmax		pmax			
	comp=Z,2.0nm,0.7s								
ZAL	**Zalesovo**	**40.01**	**308**	P		**P**		**20 22 50.2**	**-2.3**
	comp=Z,1.0nm,0.6s,mb3.7,baz=31,slow=4.0,SNR=6.2								
ZAL	**Zalesovo**	**40.01**	**308**	P		**P**		**20 22 50.2**	**-2.3**
ZAL				pmax		pmax			
	comp=Z,1.0nm,0.6s								
ZAL	**Zalesovo**	**40.01**	**308**	P		**P**		**20 22 50.2**	**-2.3**
MKAR	**Makanchi Array**	**43.17**	**298**	P		**P**		**20 23 18.5**	**0.0**
	comp=Z,1.1nm,0.5s,mb3.9,baz=78,slow=10,SNR=12								
MKAR	**Makanchi Array**	**43.17**	**298**	P		**P**		**20 23 18.5**	**+0.1**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.5s								
ILAR	**Eielson Array**	**43.96**	**35**	P		**P**		**20 23 26.0**	**+1.2**
	comp=Z,0.6nm,0.5s,mb3.6,baz=256,slow=5.6,SNR=11								
ILAR	**Eielson Array**	**43.96**	**35**	P		**P**		**20 23 26.0**	**+1.2**
ILAR				pmax		pmax			
	comp=Z,1.0nm,0.5s								
KURK	**Kurchatov**	**44.38**	**304**	*e*P		**P**		**20 23 27.4**	**-0.8**
KURK				pmax		pmax			
	comp=Z,3.0nm,0.8s,mb4.1								
KURK	**Kurchatov**	**44.38**	**304**	*e*P		**P**		**20 23 27.4**	**-0.7**
	comp=Z,2.6nm,0.8s,mb4.0								
INK	**Inuvik**	**48.76**	**29**	P		**P**		**20 24 02.5**	**0.0**
	comp=Z,1.0nm,0.5s,mb4.1,baz=278,slow=4.8,SNR=8.7								
INK	**Inuvik**	**48.76**	**29**	P		**P**		**20 24 02.5**	**+0.1**
INK				pmax		pmax			
	comp=Z,1.0nm,0.5s								
INK	**Inuvik**	**48.76**	**29**	*e*P		**P**		**20 24 02.0**	**-0.4**
	comp=Z,1.7nm,0.8s,mb4.1								
GUN	**Gumba**	**48.76**	**272**	*e*P		**P**		**20 24 03.7**	**+1.2**
KKN	**Kakani**	**49.27**	**273**	*e*P		**P**		**20 24 06.6**	**+0.2**
ZRNK	**Zerenda**	**49.40**	**310**	*e*P		**P**		**20 24 06.9**	**-0.4**
ZRNK				pmax		pmax			
	comp=Z,3.0nm,0.8s,mb4.4								
ZRNK	**Zerenda**	**49.40**	**310**	*e*P		**P**		**20 24 06.9**	**-0.4**
	comp=Z,3.2nm,0.8s,mb4.4								
GKN	**Gorkha**	**49.63**	**273**	*e*P		**P**		**20 24 10.6**	**+1.5**
KOLN	**Koldanda**	**50.52**	**274**	*e*P		**P**		**20 24 16.7**	**+0.8**
ARU	**Arti**	**53.76**	**317**	*e*P		**P**		**20 24 39.5**	**-0.4**
ARU				pmax		pmax			
	comp=Z,3.0nm,0.8s,mb4.3								
ARU	**Arti**	**53.76**	**317**	*e*P		**P**		**20 24 39.5**	**-0.5**
	comp=Z,2.6nm,0.8s,mb4.2								
RES	**Resolute Bay**	**56.94**	**16**	*e*P		**P**		**20 25 02.6**	**-0.2**
RES				pmax		pmax			
	comp=Z,2.0nm,0.4s,mb4.5								
RES	**Resolute Bay**	**56.94**	**16**	*e*P		**P**		**20 25 02.6**	**-0.2**
	comp=Z,1.6nm,0.4s,mb4.4								
YKA	**Yellowknife Ar**	**58.23**	**32**	P		**P**		**20 25 13.8**	**+2.0**
	comp=Z,0.3nm,0.6s,mb3.5,baz=304,slow=6.8,SNR=5.9								
ARCES	**ARCESS Array B**	**59.72**	**339**	P		**P**		**20 25 20.8**	**-1.4**
	comp=Z,0.7nm,0.6s,mb3.8,baz=60,slow=7.0,SNR=5.1								
ARCES	**ARCESS Array B**	**59.72**	**339**	P		**P**		**20 25 20.8**	**-1.4**
ARCES				pmax		pmax			
	comp=Z,1.0nm,0.6s								
WRA	**Warramunga Arr**	**62.63**	**190**	P		**P**		**20 25 41.5**	**-0.4**
	comp=Z,0.8nm,0.5s,mb4.1,baz=7.6,slow=6.7,SNR=11								
WRA	**Warramunga Arr**	**62.63**	**190**	P		**P**		**20 25 41.5**	**-0.4**
WRA				pmax		pmax			
	comp=Z,1.0nm,0.5s								
KAF	**Kangasniemi**	**64.48**	**333**	*e*p		**P**		**20 25 52.3**	**-1.8**
	comp=Z,1.1nm,0.5s,mb4.1,baz=46,slow=6.2								
KAF	**Kangasniemi**	**64.48**	**333**	*e*P		**P**		**20 25 52.3**	**-1.8**
KAF				pmax		pmax			
	comp=Z,1.0nm,0.5s,mb4.1								
FINES	**FINESS Array B**	**65.03**	**332**	P		**P**		**20 25 56.7**	**-0.9**
	comp=Z,2.6nm,0.6s,mb4.5,baz=46,slow=8.1,SNR=36								
FINES				LR		LR		20 57 03.1	
	comp=Z,30nm,20.2s,MS3.5,baz=62,slow=38								
FINES	**FINESS Array B**	**65.03**	**332**	P		**P**		**20 25 56.7**	**-1.0**
FINES				pmax		pmax			
	comp=Z,3.0nm,0.6s								
FINES				MLR		MLR			
	comp=Z,31nm,20.2s								
FINES	**FINESS Array B**	**65.03**	**332**	P		**P**		**20 25 56.7**	**-1.0**
FINES				LR		LR		20 57 03.1	
ASAR	**Alice Springs**	**66.36**	**190**	P		**P**		**20 26 06.8**	**+0.5**
	comp=Z,0.6nm,0.7s,mb3.7,baz=4.3,slow=5.6,SNR=10.0								
ASAR	**Alice Springs**	**66.36**	**190**	P		**P**		**20 26 06.8**	**+0.5**
ASAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
KIV	**Kislovodsk**	**68.92**	**311**	P		**P**		**20 26 22.7**	**+0.3**
KIV	**Kislovodsk**	**68.92**	**311**	P		**P**		**20 26 22.7**	**+0.3**
NB2	**NORSAR Subarra**	**70.02**	**338**	P		**P**		**20 26 28.4**	**-0.8**
	comp=Z,0.6nm,0.6s,mb3.7,baz=33,slow=6.5								
NOA	**NORSAR Array B**	**70.02**	**338**	P		**P**		**20 26 28.6**	**-0.6**
	comp=Z,0.9nm,0.6s,mb3.9,baz=34,slow=6.3,SNR=4.8								
NOA	**NORSAR Array B**	**70.02**	**338**	P		**P**		**20 26 28.6**	**-0.6**
NOA				pmax		pmax			
	comp=Z,1.0nm,0.6s								
NVAR	**Mina Array Bea**	**70.28**	**56**	P		**P**		**20 26 32.3**	**+1.6**
	comp=Z,0.5nm,0.7s,mb3.6,baz=309,slow=5.7,SNR=4.4								
AKASG	**Malin Array Be**	**71.29**	**322**	P		**P**		**20 26 36.1**	**-0.8**
	comp=Z,0.8nm,0.3s,mb4.1,baz=44,slow=6.6,SNR=6.4								
GERES	**GERESS Array B**	**79.19**	**329**	P		**P**		**20 27 21.9**	**-0.4**
	comp=Z,0.2nm,0.3s,mb3.5,baz=52,slow=5.2,SNR=5.0								

IDC ***11*** *20:30:53.1±1.7, 2641N×12970E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/20, mbtmp3.5/3, Error ellipse: s-maj=48.4km s-min=20.6km az=44.0*
JMA ***11*** *20:30:54.7±0.1, 2638N×12985E, h45km, M3.5*
ISCJB ***11*** *20:30:55.0±0.5, 2642N±004×12983E±003, h33km, mb3.6/3, Error ellipse: s-maj=5.5km s-min=4.4km az=176.5*

ISC 11 20:30:55.8±2.2, 2647N±004×12979E±005, h27km±19km, n15, σ0§94/27, mb3.6/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
JOW	**Kunigami**	**1.40**	**285**	Pn		**Pn**	**Pn**	**20 31 19.9**	**+0.4**
	68nm,0.3s,baz=117,slow=18,SNR=590								
JOW				Sn		**Sn**	**Sn**	**20 31 36.4**	**-0.8**
	106nm,0.3s,baz=148,slow=28,SNR=32								
JOW	**Kunigami**	**1.40**	**285**	P		**Pn**	**Pn**	**20 31 19.9**	**+0.3**
JOW				S		**Sn**	**Sn**	**20 31 36.2**	**-1.0**
JMZ	**Minamidaito 2**	**1.44**	**116**	P		**Pn**	**Pn**	**20 31 17.6**	**-2.5**
JMZ				S		**Sn**	**Sn**	**20 31 34.1**	**-3.9**
JTK	**Tokunoshima**	**1.51**	**331**	P		**Pn**	**Pn**	**20 31 21.7**	**+0.6**
JTK				S		**Sn**	**Sn**	**20 31 40.3**	**+0.5**
JIH	**Iheya**	**1.73**	**290**	P		**Pn**	**Pn**	**20 31 24.6**	**+0.6**
JIH				S		**Sn**	**Sn**	**20 31 45.1**	**0.0**
JZK	**Kikaishima**	**1.85**	**5**	P		**Pn**	**Pn**	**20 31 26.3**	**+0.6**
JZK				S		**Sn**	**Sn**	**20 31 49.2**	**+1.1**
JJT2	**Tamagusuku 2**	**1.86**	**260**	P		**Pn**	**Pn**	**20 31 26.1**	**+0.2**
JJT2				S		**Sn**	**Sn**	**20 31 48.6**	**+0.1**
NAH1	**Naha**	**1.90**	**263**	P		**Pn**	**Pn**	**20 31 25.3**	**-1.1**
NAH1				S		**Sn**	**Sn**	**20 31 49.3**	**-0.2**
JAM	**Amami Oshima**	**1.94**	**355**	P		**Pn**	**Pn**	**20 31 27.2**	**+0.2**
JAM				S		**Sn**	**Sn**	**20 31 49.2**	**-1.3**
JAGN	**Aguni-jima**	**2.29**	**274**	P		**Pn**	**Pn**	**20 31 32.3**	**+0.6**
JAGN				S		**Sn**	**Sn**	**20 31 58.6**	**-0.3**
JKE	**Kume jima 2**	**2.70**	**268**	P		**Pn**	**Pn**	**20 31 37.1**	**-0.3**
JKE				S		**Sn**	**Sn**	**20 32 08.6**	**-0.5**
JNN	**Nakanoshima**	**3.36**	**1**	P		**Pn**	**Pn**	**20 31 47.0**	**+0.5**
JNN				S		**Sn**	**Sn**	**20 32 23.7**	**-1.8**
WRA	**Warramunga Arr**	**46.34**	**174**	P		**P**	**P**	**20 39 19.6**	**+0.2**
	0.4nm,0.5s,mb3.6,baz=353,slow=8.4,SNR=2.3								
ASAR	**Alice Springs**	**50.00**	**175**	P		**P**	**P**	**20 39 49.3**	**+1.7**
	0.2nm,0.5s,mb3.4,baz=5.1,slow=14,SNR=7.3								
FINES	**FINESS Array B**	**73.34**	**331**	P		**P**	**P**	**20 42 26.3**	**+1.3**
	0.4nm,0.4s,mb3.7,baz=58,slow=7.5,SNR=5.8								

MAN 11 21:02:27.9, 1034N×12513E, h5km, mb2.7, ML4.2, MS1.2, 2D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
MSLP	**Maasin**	**0.34**	**232**	*e*P		Pg		21 02 35.6	+1.1
MSLP				*e*S		Sg		21 02 41.6	+2.7
OCLP	**Ormoc**	**0.87**	**324**	*e*P		Pg		21 02 44.5	-0.1
OCLP				*e*S		Sg		21 02 59.8	+3.9
LLP	**Lapu-Lapu**	**1.14**	**269**	⇓*i*P		Pg		21 02 49.1	-0.7
LLP				*i* S		Sg		21 03 06.7	+2.0
TBP	**Tagbilaran**	**1.41**	**243**	*e*P		Pn		21 02 53.8	-0.4
TBP				*e*S		Sb		21 03 08.5	-4.4
BUTP	**Butuan**	**1.45**	**160**	*e*P		Pn		21 02 54.6	-0.2
SNPH	**Sibulan**	**2.11**	**242**	*e*P		Pn		21 03 06.5	+2.6
BUKP	**Musuan**	**2.45**	**182**	*e*P		Pn		21 03 07.4	-1.2
GUIM	**Jordan**	**2.51**	**277**	*e*P		Pn		21 03 10.4	+0.9
RCP	**Roxas**	**2.63**	**298**	⇓*e*P		Pn		21 03 12.0	+0.9

ISCJB ***11*** *21:15:52.6±3.3, 76S±02×1173E±02, h312km±41km, mb3.8/5, Error ellipse: s-maj=45.4km s-min=14.8km az=71.6*
IDC ***11*** *21:15:57.2±11.0, 764S×11740E, h341km±128km, mb3.4/6, mb1 3.5/7, mb1mx3.3/17, mbtmp4.1/7, Error ellipse: s-maj=100.7km s-min=26.4km az=60.0*
NEIC ***11*** *21:16:00.1±4.8, 761S×11762E, h377km±54km, mb4.1/3, Error ellipse: s-maj=54.4km s-min=18.9km az=61.0*

ISC 11 21:15:53.1±2.7, 74S±02×1175E±02, h293km±33km, n12, σ1§07/15, mb3.8/5, 1C, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
FITZ	**Fitzroy Crossi**	**13.23**	**144**	*e*P		**Pn**		**21 18 51.9**	**+1.3**
	3.7nm,0.4s								
FITZ				*e*S		**S**		**21 21 22.0**	**+5.1**
FITZ	**Fitzroy Crossi**	**13.23**	**144**	P		**Pn**		**21 18 51.4**	**+0.9**
	0.7nm,0.3s,baz=353,slow=17,SNR=30								
FITZ				S		**S**		**21 21 20.5**	**+3.5**
	0.1nm,0.3s,baz=117,slow=16,SNR=2.1								
KAKA	**Kakadu**	**15.61**	**111**	*e*P		**Pn**		**21 19 18.1**	**-0.7**
	12nm,1.2s								
KAKA				*e*S		**S**		**21 22 07.1**	**+0.6**
WRA	**Warramunga Arr**	**20.52**	**129**	P		**P**		**21 20 09.5**	**-0.2**
	1.2nm,0.3s,baz=302,slow=11,SNR=40								
WRAB	**Tennant Creek**	**20.52**	**129**	*e*P		**P**		**21 20 07.9**	**-1.8**
WB2	**Warramunga Ar**	**20.53**	**129**	*e*P		**P**		**21 20 09.5**	**-0.3**
WB2				*e*S		PcP		21 24 09.6	+2.0
ASAR	**Alice Springs**	**22.54**	**138**	P		**P**		**21 20 29.1**	**+0.7**
	3.8nm,0.5s,mb4.0,baz=313,slow=8.9,SNR=78								
STKA	**Stephens Creek**	**33.09**	**140**	⇑*i*P		**P**		**21 22 00.4**	**-1.4**
	1.2nm,0.4s,mb3.8								
STKA	**Stephens Creek**	**33.09**	**140**	P		**P**		**21 22 00.8**	**-1.1**
	1.6nm,0.5s,mb3.8,baz=291,slow=8.4,SNR

STKA	**Stephens Creek**	**41.12**	**244**	P		P		21 41 50.5	-3.1
	0.9nm,0.6s,baz=104,slow=11,SNR=3.2								
ASAR	**Alice Springs**	**47.93**	**256**	P		P		21 42 48.4	+0.3
	2.4nm,0.6s,baz=96,slow=8.1,SNR=31								
WRA	**Warramunga Arr**	**47.99**	**261**	P		P		21 42 48.9	+0.3
	1.5nm,0.3s,baz=96,slow=7.4,SNR=61								
JHJ	**Hachijo jima 2**	**68.28**	**320**	LR		LR		22 09 28.2	
	comp=Z,246nm,19.4s,baz=330,slow=31								
NVAR	**Mina Array Bea**	**78.18**	**42**	P		P		21 46 09.0	-0.1
	0.9nm,0.9s,baz=214,slow=7.7,SNR=4.1								
ILAR	**Eielson Array**	**86.81**	**11**	P		P		21 46 54.5	+0.4
	0.3nm,0.7s,baz=224,slow=6.3,SNR=4.3								
SONM	**Songino Array**	**97.32**	**318**	LR		LR		22 29 20.4	
	comp=Z,49nm,18.3s,baz=166,slow=34								

ISC 11 21:49:17.0±0.7, 3850N±004×3197E±007, h10km, n8, σ0§98/13, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KIZT	**Kizilcal**	**0.38**	**350**	PG	**Pg**		**21 49 23.3**	**-1.2**
KIZT				SG	**Sg**		**21 49 29.3**	**-0.3**
KONT	**Konya--Tatoy**	**0.64**	**151**	PG	**Pg**		**21 49 28.2**	**-1.1**
ESKT	**Eskisehir**	**1.34**	**320**	*i* P	**Pn**		**21 49 40.4**	**-1.4**
ESKT				*i* S	**Sb**		**21 49 58.5**	**-0.8**
TKTP	**Tekketepe**	**1.38**	**251**	*i* P	**Pn**		**21 49 42.7**	**+0.4**
TKTP				*i* S	**Sb**		**21 50 00.7**	**+0.2**
KAMT	**Kaman**	**1.61**	**57**	*e*PN	**Pn**		**21 49 46.7**	**+1.2**
BORA	**Eskisehir**	**1.81**	**320**	*i* P	**Pn**		**21 49 49.0**	**+0.7**
BORA				*i* S	**Sn**		**21 50 12.7**	**+1.4**
ERMK	**Ermenek**	**2.00**	**158**	*i* P	**Pn**		**21 49 51.3**	**+0.4**
SGKT	**Sivrigoynuk**	**2.07**	**2**	*i* P	**Pn**		**21 49 51.7**	**0.0**
SGKT				*i* S	**Sn**		**21 50 21.1**	**+3.6**

*IDC **11** 21:55:24.8±0.7, 144N×126.17E, h0km, mb4.3/10, mb1 4.3/11, mb1mx4.1/17, mbtmp4.2/11, ML3.8/1, Error ellipse: s-maj=48.6km s-min=13.8km az=80.0*
*ISCJB **11** 21:55:34.8±0.5, 146N±006×126.4E±0.1, h100km, mb4.2/17, Error ellipse: s-maj=18.7km s-min=8.0km az=149.7*
*NEIC **11** 21:55:37.4±3.0, 143N×126.46E, h109km±30km, mb4.3/8, Error ellipse: s-maj=21.6km s-min=10.4km az=71.0*

ISC 11 21:55:36.9±2.9, 143N±008×1265E±01, h104km±28km, n27, σ1§24/27, mb4.2/17, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KAKA	**Kakadu**	**15.25**	**157**	*e*P	**Pn**		**21 59 08.7**	**+2.3**
	12nm,0.6s							
KSM	**Kuching**	**16.15**	**270**	*e*P	**Pn**		**21 59 17.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**19.42**	**182**	⇓*i*P	**Pn**		**21 59 54.8**	**-2.3**
	3.6nm,0.5s							
FITZ	**Fitzroy Crossi**	**19.42**	**182**	P	**Pn**		**21 59 53.8**	**-3.2**
	0.2nm,0.3s,baz=30,slow=17,SNR=7.7							
WRAB	**Tennant Creek**	**22.59**	**160**	*e*P	**P**		**22 00 28.4**	**-0.3**
	14nm,0.4s,mb4.6							
WRA	**Warramunga Arr**	**22.60**	**160**	P	**P**		**22 00 28.4**	**-0.4**
	7.8nm,0.6s,mb4.2,baz=338,slow=11,SNR=58							
WB2	**Warramunga Arr**	**22.60**	**160**	*e*P	**P**		**22 00 28.8**	**0.0**
WB2				*e*S	**S**		**22 04 35.8**	**+7.2**
MBWA	**Marble Bar**	**23.39**	**196**	*e*P	**P**		**22 00 38.9**	**+2.6**
JOW	**Kunigami**	**25.32**	**4**	P	**P**		**22 00 55.1**	**+1.4**
	6.8nm,0.8s,mb4.1,baz=205,slow=11,SNR=5.2							
ASAR	**Alice Springs**	**25.97**	**164**	P	**P**		**22 01 00.5**	**+0.8**
	1.7nm,0.4s,mb3.8,baz=343,slow=7.6,SNR=37							
ASAR				PcP	PcP		22 04 28.5	+3.1
	0.4nm,0.3s,baz=350,slow=2.1,SNR=4.5							
KLBR	**Kellerberrin**	**33.86**	**193**	*e*P	**P**		**22 02 10.3**	**+0.9**
	3.3nm,0.6s,mb4.3							
MUN	**Mundaring**	**34.62**	**195**	*e*P	**P**		**22 02 15.3**	**-0.6**
NWAO	**Narrogin (SRO)**	**35.27**	**194**	P	**P**		**22 02 19.4**	**-2.1**
	3.0nm,0.7s,mb4.2,baz=90,slow=14,SNR=2.9							
STKA	**Stephens Creek**	**36.09**	**158**	*e*P	**P**		**22 02 26.9**	**-1.6**
	1.4nm,0.4s,mb4.2							
STKA	**Stephens Creek**	**36.09**	**158**	P	**P**		**22 02 26.4**	**-2.2**
	1.0nm,0.4s,mb4.1,baz=346,slow=8.7,SNR=6.6							
MJAR	**Matsushiro Arr**	**36.59**	**16**	P	**P**		**22 02 31.5**	**-1.3**
	1.2nm,0.4s,mb4.2,baz=185,slow=11,SNR=5.7							
SONM	**Songino Array**	**49.39**	**342**	P	**P**		**22 04 16.2**	**+0.4**
	0.6nm,0.5s,mb3.8,baz=156,slow=8.6,SNR=7.0							
MKAR	**Makanchi Array**	**59.30**	**326**	P	**P**		**22 05 27.4**	**-0.2**
	1.7nm,0.4s,mb4.5,baz=118,slow=7.9,SNR=34							
ZAL	**Zalesovo**	**62.52**	**334**	P	**P**		**22 05 48.5**	**-0.9**
	1.5nm,0.3s,mb4.4,baz=336,slow=5.3,SNR=3.5							
KURK	**Kurchatov**	**63.54**	**328**	*e*P	**P**		**22 05 55.9**	**-0.3**
	7.0nm,0.8s,mb4.5							
ZRNK	**Zerenda**	**69.81**	**327**	*e*P	**P**		**22 06 35.6**	**-0.4**
	4.1nm,0.5s,mb4.5							
ARU	**Arti**	**76.73**	**328**	*e*P	**P**		**22 07 16.2**	**-0.5**
	2.0nm,0.6s,mb4.0							
VNDA	**Vanda**	**81.19**	**173**	P	**P**		**22 07 42.5**	**+1.4**
	0.9nm,0.5s,mb3.9,baz=308,slow=8.7,SNR=9.9							
ARCES	**ARCESS Array B**	**92.50**	**340**	P	**P**		**22 08 35.9**	**-0.3**
	2.1nm,0.8s,mb4.5,baz=51,slow=6.4,SNR=3.8							
ARCES	**ARCESS Array B**	**92.50**	**340**	P	**P**		**22 08 35.9**	**-0.3**
FINES	**FINESS Array B**	**93.72**	**332**	P	**P**		**22 08 44.3**	**+2.5**
	0.3nm,0.6s,mb3.8,baz=60,slow=8.3,SNR=3.4							
TORD	**Torodi Ar. Bea**	**123.35**	**287**	PKP	PKPdf		22 14 23.7	+2.1
	0.5nm,0.8s,baz=52,slow=1.7,SNR=6.3							

MAN 11 22:02:22.3, 1014N×12201E, h3km, mb2.8, ML4.3, MS2.2, 1C, Panay

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
GUIM	**Jordan**	**0.75**	**50**	*e*P	Pg		22 02 36.8	+0.1
CUYO	**Cuyo Island**	**1.20**	**306**	*e*P	Pg		22 02 45.5	+0.2
CUYO				*e*S	Sg		22 03 01.2	+0.2
SNPH	**Sibulan**	**1.45**	**123**	*e*P	Pn		22 02 49.0	-0.3
SNPH				*e*S	Sb		22 03 07.0	-1.6
RCP	**Roxas**	**1.59**	**27**	*e*P	Pn		22 02 51.9	+0.6
RCP				*e*S	Sn		22 03 13.1	+0.8
TBP	**Tagbilaran**	**1.88**	**103**	*e*P	Pn		22 02 55.5	+0.2
LLP	**Lapu-Lapu**	**1.94**	**85**	⇑*i*P	Pn		22 02 56.6	+0.6
LLP				*i* S	Sn		22 03 20.4	-0.5
OTRP	**Odiongan**	**2.21**	**0**	*e*P	Pn		22 02 60.0	+0.1
IPIL	**Ipil**	**2.40**	**167**	*e*P	Sn		22 03 29.8	-2.5
BUSP	**Coron**	**2.57**	**316**	*e*P	Pn		22 03 04.5	-0.2
PAGZ	**Pagadian**	**2.65**	**149**	*e*P	Pn		22 03 06.6	+0.7
ENPP	**El Nido**	**2.75**	**293**	*e*P	Pn		22 03 07.5	+0.2
MSLP	**Maasin**	**2.81**	**90**	*e*P	Pn		22 03 08.5	+0.5
LUBP	**Lubang**	**3.97**	**334**	*e*P	Pn		22 03 23.3	-0.7

*IDC **11** 22:05:42.6±2.4, 5384N×164.15W, h0km, mb4.0/12, mb1 4.1/15, mb1mx3.9/26, mbtmp4.0/15, ML3.7/3, MS3.2/3, Ms1 3.2/3, ms1mx2.5/31, Error ellipse: s-maj=58.1km s-min=18.7km az=164.0*
*BJI **11** 22:05:43.4, 5370N×164.00W, h20km, mB4.7, mb4.4, Ms4.0, Msz3.8*
*MOS **11** 22:05:45.9±0.9, 5446N×164.37W, h10km, mb4.6/12, Error ellipse: s-maj=24.8km s-min=8.9km az=90.8*
*ISCJB **11** 22:05:47.9±0.9, 5385N±010×164.01W±007, h47km±5km, mb4.3/35, MS3.1/3, Error ellipse: s-maj=17.2km s-min=5.6km az=147.7*
*NEIC **11** 22:05:48.4, 5374N×164.00W, h20km, mb4.4/17, ML3.8(AEIC), After AEIC.*

ISC 11 22:05:48.8±0.8, 539N±01×16401W±007, h44km±5km, n98, σ1§01/102, mb4.3/35, MS3.1/3, 2C-2D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
AKUT	**Akutan**	**1.08**	**285**	P	**Pn**		**22 06 07.0**	**-0.4**
AKUT				S	**Sn**		**22 06 21.6**	**+0.4**
AKLV	**Akutan Long Va**	**1.19**	**285**	P	**Pn**		**22 06 08.5**	**-0.4**
AKLV				S	**Sn**		**22 06 24.2**	**+0.3**
UNV	**Unalaska Valle**	**1.48**	**270**	P	**Pn**		**22 06 12.0**	**-1.0**
OKCD	**Okmok Cone D**	**2.48**	**262**	P	**Pn**		**22 06 27.4**	**+0.7**
OKCE	**Okmok Cone E**	**2.51**	**262**	P	**Pn**		**22 06 27.4**	**+0.2**
SDPT	**Sand Point**	**2.54**	**53**	P	**Pn**		**22 06 28.3**	**+0.9**
SDPT				S	**Sn**		**22 06 57.8**	**+0.8**
NIKO	**Nikolski**	**3.04**	**255**	P	**Pn**		**22 06 34.9**	**+0.6**
KDAK	**Kodiak Island**	**7.53**	**54**	Pn	**Pn**		**22 07 34.3**	**-1.7**
	2.2nm,0.3s,baz=236,slow=6.0,SNR=14							
KDAK				Sn	**Sn**		**22 08 56.8**	**-3.3**
	0.4nm,0.3s,baz=158,slow=22,SNR=4.2							
SVW2	**Sparrevohn**	**8.55**	**29**	*e*P	**Pn**		**22 07 52.0**	**+2.1**
TTA	**Tatalina**	**10.00**	**21**	*e*P	**Pn**		**22 08 12.4**	**+2.6**
ILAR	**Eielson Array**	**13.93**	**32**	Pn	**Pn**		**22 09 01.2**	**-2.3**
	0.1nm,0.3s,baz=230,slow=13,SNR=6.8							
ILAR				LR	LR		22 14 44.5	
	comp=Z,63nm,18.2s,baz=0.0,slow=39							
DLBC	**Dease Lake**	**19.33**	**63**	P	**Pn**		**22 10 10.4**	**-1.3**
	0.1nm,0.3s,baz=328,slow=19,SNR=3.6							
BILL	**Bilibino**	**19.94**	**327**	*e*P	**Pn**		**22 10 20.6**	**+1.7**
BILL				pmax	pmax			
	comp=Z,2.0nm,0.6s							
BILL	**Bilibino**	**19.94**	**327**	*e*P	**Pn**		**22 10 20.6**	**+1.7**
	comp=Z,2.3nm,0.6s							
INK	**Inuvik**	**20.32**	**33**	P	**P**		**22 10 19.4**	**-1.7**
	comp=Z,1.5nm,0.4s,baz=240,slow=8.9,SNR=7.7							
INK	**Inuvik**	**20.32**	**33**	*e*P	**P**		**22 10 19.3**	**-1.8**
INK				pmax	pmax			
	comp=Z,5.0nm,0.9s							
INK	**Inuvik**	**20.32**	**33**	*e*P	**P**		**22 10 19.3**	**-1.8**
	comp=Z,4.7nm,0.9s							
YKA	**Yellowknife Ar**	**26.80**	**51**	P	**P**		**22 11 24.9**	**+0.2**
	comp=Z,0.4nm,0.5s,mb3.2,baz=275,slow=9.6,SNR=9.7							
YKA	**Yellowknife Ar**	**26.80**	**51**	⇑*e*P	**P**		**22 11 26.7**	**+2.1**
NEW	**Newport**	**29.55**	**82**	LR	LR		22 21 27.0	
	comp=Z,30nm,19.6s,MS2.9,baz=172,slow=32							
YBH	**Yreka Blue Hor**	**29.84**	**97**	LR	LR		22 20 38.4	
	comp=Z,65nm,19.3s,MS3.3,baz=82,slow=30							
TIXI	**Tiksi**	**33.16**	**328**	*e*P	**P**		**22 12 19.7**	**-1.2**
TIXI				pmax	pmax			
	comp=Z,2.0nm,1.2s,mb3.9							
FCC	**Fort Churchill**	**37.47**	**54**	*e*P	**P**		**22 12 58.4**	**+0.4**
MDJ	**Mudanjiang**	**42.84**	**286**	P	**P**		**22 13 40.0**	**-2.4**
MDJ				S	**S**		**22 20 03.9**	**+0.3**
MDJ				AMB	AMB			
	comp=Z,4.0nm,1.0s,mb4.1							
MDJ				AMB	AMB			
	comp=Z,77nm,4.4s							
MDJ				LR	LR			
	comp=N,11nm,17.4s							
MDJ				LR	LR			
	comp=E,16nm,23.3s							
MDJ				LR	LR			
	comp=Z,23nm,17.4s,MS3.1							
MIAR	**Mount Ida**	**51.79**	**82**	*e*P	**P**		**22 14 41.5**	**-11**
ULN	**Ulaanbaatar**	**52.91**	**302**	*e*P	**P**		**22 14 58.7**	**-1.7**
SONM	**Songino Array**	**53.26**	**303**	P	**P**		**22 15 02.9**	**0.0**
	comp=Z,0.5nm,0.4s,mb3.8,baz=42,slow=8.4,SNR=8.1							
SONM				PcP	PcP		22 16 11.0	+0.8
	comp=Z,0.9nm,0.8s,baz=77,slow=2.1,SNR=5.7							
CPCT	**Cooper Cave**	**56.39**	**75**	*e*P	**P**		**22 15 14.8**	**-11**
LRAL	**Lakeview Retre**	**56.70**	**78**	*e*P	**P**		**22 15 17.2**	**-11**
ARCES	**ARCESS Array B**	**56.72**	**356**	P	**P**		**22 15 26.3**	**-1.5**
	comp=Z,1.4nm,0.7s,mb4.1,baz=11,slow=6.8,SNR=7.6							
NJ2	**Nanjing**	**57.49**	**281**	*e*P	**P**		**22 15 32.0**	**-1.3**
NJ2				AMB	AMB			
	comp=Z,10.0nm,1.0s,mb4.8							
ZAL	**Zalesovo**	**58.45**	**320**	P	**P**		**22 15 39.0**	**-1.1**
	comp=Z,0.5nm,0.5s,mb3.9,baz=75,slow=5.0,SNR=3.2							
ZAL	**Zalesovo**	**58.45**	**320**	⇑*e*P	**P**		**22 15 41.5**	**+1.4**
KURK	**Kurchatov**	**63.33**	**321**	*e*P	**P**		**22 16 11.9**	**-1.3**
KURK	**Kurchatov**	**63.33**	**321**	P	**P**		**22 16 10.1**	**-3.1**
KAF	**Kangasniemi**	**64.08**	**355**	*ep*	**P**		**22 16 16.5**	**-1.7**
	comp=Z,3.8nm,0.5s,mb4.7,baz=3.0,slow=6.3							
KAF	**Kangasniemi**	**64.08**	**355**	*e*P	**P**		**22 16 16.5**	**-1.7**
KAF				pmax	pmax			
	comp=Z,4.0nm,0.5s,mb4.7							
BVAR	**Borovoye Array**	**64.29**	**327**	P	**P**		**22 16 19.7**	**+0.2**
	comp=Z,2.1nm,0.6s,mb4.3,baz=46,slow=6.4,SNR=13							
BRVK	**Borovoye**	**64.30**	**327**	*e*P	**P**		**22 16 19.4**	**-0.2**
BRVK				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.4							
BRVK	**Borovoye**	**64.30**	**327**	*e*P	**P**		**22 16 19.4**	**-0.2**
	comp=Z,2.6nm,0.8s,mb4.3							
ARU	**Arti**	**64.68**	**335**	⇓*i*P	**P**		**22 16 21.2**	**-0.9**
ARU				*e*			22 18 39.9	
ARU				*e*S	**S**		**22 24 58.6**	**-0.4**
ARU				*e*SS	SS		22 29 08.1	-2.3
ARU				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.5							
FINES	**FINESS Array B**	**64.76**	**355**	P	**P**		**22 16 21.7**	**-0.9**
	comp=Z,1.7nm,0.5s,mb4.4,baz=18,slow=8.3,SNR=35							
ZRNK	**Zerenda**	**64.80**	**328**	*e*P	**P**		**22 16 22.4**	**-0.4**
ZRNK				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.6							
ZRNK	**Zerenda**	**64.80**	**328**	*e*P	**P**		**22 16 22.4**	**-0.4**
	comp=Z,5.7nm,1.0s,mb4.6							
MKAR	**Makanchi Array**	**65.05**	**316**	P	**P**		**22 16 23.8**	**-0.7**
	comp=Z,1.0nm,0.7s,mb3.9,baz=50,slow=7.6,SNR=4.8							
WMQ	**Urumqi**	**65.08**	**311**	⇓P	**P**		**22 16 25.2**	**+0.5**
WMQ				AMB	AMB			
	comp=Z,3.0nm,0.5s,mb4.6							
WMQ				AMB	AMB			
	comp=Z,31nm,4.0s							
NB2	**NORSAR Subarra**	**65.38**	**3**	P	**P**		**22 16 25.8**	**-0.8**
	comp=Z,0.9nm,0.7s,mb3.9,baz=359,slow=6.5							
NOA	**NORSAR Array B**	**65.38**	**3**	P	**P**		**22 16 26.2**	**-0.4**
	comp=Z,1.3nm,0.7s,mb4.1,baz=359,slow=6.4,SNR=5.5							
AAK	**Ala-Archa**	**71.62**	**318**	*e*P	**P**		**22 17 05.3**	**-0.3**
AAK				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.3							
AAK	**Ala-Archa**	**71.62**	**318**	*e*P	**P**		**22 17 05.2**	**-0.3**
	comp=Z,4.9nm,1.0s,mb4.4							
LSA	**Lhasa**	**74.62**	**299**	*e*P	**P**		**22 17 24.9**	**+1.6**
LSA				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.3							
LSA	**Lhasa**	**74.62**	**299**	*e*P	**P**		**22 17 24.9**	**+1.6**
	comp=Z,4.0nm,1.0s,mb4.3							
AKASG	**Malin Array Be**	**75.22**	**351**	P	**P**		**22 17 26.0**	**-0.7**
	comp=Z,0.9nm,0.4s,mb4.1,baz=8.3,slow=5.6,SNR=9.8							
BAIF	**Baives**	**75.98**	**8**	*e*P	**P**		**22 17 32.7**	**+1.6**
FLN	**La Foliniere**	**76.80**	**11**	*e*P	**P**		**22 17 36.2**	**+0.4**
HAU	**Haudompre**	**78.18**	**7**	*e*P	**P**		**22 17 44.4**	**+1.0**
LOR	**Lormes**	**78.72**	**8**	*e*P	**P**		**22 17 46.5**	**+0.1**
GUN	**Gumba**	**78.76**	**302**	*e*P	**P**		**22 17 47.5**	**+0.8**
	comp=Z,0.2nm,0.1s,mb4.3							
GOF	**Gofitskoye**	**78.79**	**341**	*e*P	**P**		**22 17 47.0**	**+0.2**
JIRN	**Jiri**	**78.81**	**302**	*e*P	**P**		**22 17 47.8**	**+0.9**
	comp=Z,18nm,0.6s,mb5.2							
SSF	**Saint Saulge**	**78.89**	**9**	*e*P	**P**		**22 17 47.4**	**0.0**
	comp=Z,4.8nm,0.8s,mb4.2							
SSF	**Saint Saulge**	**78.89**	**9**	*e*P	**P**		**22 17 47.4**	**0.0**
SSF				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.1							
SSF	**Saint Saulge**	**78.89**	**9**	*e*P	**P**		**22 17 47.4**	**0.0**
	comp=Z,2.4nm,0.8s,mb4.2							
MFF	**Saint Martin d**	**78.97**	**11**	*e*P	**P**		**22 17 48.0**	**+0.2**
	comp=Z,6.9nm,0.9s,mb4.3							
MFF	**Saint Martin d**	**78.97**	**11**	*e*P	**P**		**22 17 48.0**	**+0.2**
MFF				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.2							
MFF	**Saint Martin d**	**78.97**	**11**	*e*P	**P**		**22 17 48.0**	**+0.2**
	comp=Z,3.5nm,0.9s,mb4.3							
AVF	**Avril sur Loir**	**79.15**	**9**	*e*P	**P**		**22 17 48.6**	**-0.2**
	comp=Z,2.2nm,0.5s,mb4.0							
AVF	**Avril sur Loir**	**79.15**	**9**	*e*P	**P**		**22 17 48.6**	**-0.2**
AVF				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.0							
AVF	**Avril sur Loir**	**79.15**	**9**	*e*P	**P**		**22 17 48.6**	**-0.2**
	comp=Z,1.1nm,0.5s,mb4.0							
KKN	**Kakani**	**79.16**	**302**	*e*P	**P**		**22 17 48.8**	**0.0**
GKN	**Gorkha**	**79.31**	**303**	*e*P	**P**		**22 17 49.8**	**+0.2**
	comp=Z,8.2nm,0.7s,mb4.8							
SMF	**Signal de Mont**	**79.33**	**8**	*e*P	**P**		**22 17 49.6**	**-0.2**
	comp=Z,6.9nm,0.8s,mb4.3							
SMF	**Signal de Mont**	**79.33**	**8**	*e*P	**P**		**22 17 49.6**	**-0.2**
SMF				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3							
SMF	**Signal de Mont**	**79.33**	**8**	P	**P**		**22 17 49.6**	**-0.2**
	comp=Z,3.5nm,0.8s,mb4.3							
DMN	**Daman**	**79.40**	**302**	*e*P	**P**		**22 17 49.7**	**-0.4**
CABF	**La Chapelle**	**79.55**	**7**	*e*P	**P**		**22 17 51.4**	**+0.5**
	comp=Z,4.9nm,0.8s,mb4.2							
CABF	**La Chapelle**	**79.55**	**7**	*e*P	**P**		**22 17 51.4**	**+0.5**
CABF				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.1							
CABF	**La Chapelle**	**79.55**	**7**	*e*P	**P**		**22 17 51.4**	**+0.5**
	comp=Z,2.5nm,0.8s,mb4.2							
KIV	**Kislovodsk**	**79.91**	**341**	*e*P	**P**		**22 17 53.7**	**+0.8**
KIV				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.5							
KOLN	**Koldanda**	**80.01**	**304**	*e*P	**P**		**22 17 52.1**	**-1.4**
	comp=Z,5.9nm,0.8s,mb4.6							
LPL	**La Plagne**	**80.68**	**7**	*e*P	**P**		**22 17 57.4**	**+0.3**
LPG	**La Plagne**	**80.70**	**7**	*e*P	**P**		**22 17 57.4**	**+0.2**
LFF	**La Frestale**	**80.71**	**11**	*e*P	**P**		**22 17 57.4**	**+0.2**
VIVF	**Saint-Julien-l**	**81.18**	**8**	*e*P	**P**		**22 18 00.2**	**+0.5**
ORIF	**Oris-en-Rattie**	**81.22**	**7**	*e*P	**P**		**22 18 00.6**	**+0.7**
MBDF	**Montbardon**	**81.47**	**7**	*e*P	**P**		**22 18 02.6**	**+1.3**
	comp=Z,7.7nm,0.8s,mb4.4							
MBDF	**Montbardon**	**81.47**	**7**	*e*P	**P**		**22 18 02.6**	**+1.3**
	comp=Z,3.8nm,0.8s,mb4.4							
SMRF	**Simiane la Rot**	**82.13**	**8**	*e*P	**P**		**22 18 05.9**	**+1.2**
MTLF	**Montolieu**	**82.45**	**10**	*e*P	**P**		**22 18 06.7**	**+0.3**
	comp=Z,4.7nm,0.8s,mb4.2							
MTLF	**Montolieu**	**82.45**	**10**	*e*P	**P**		**22 18 06.7**	**+0.3**
	comp=Z,2.3nm,0.8s,mb4.2							
EPF	**Esparros**	**82.55**	**12**	*e*P	**P**		**22 18 07.2**	**+0.3**
ETSF	**Etsaut**	**82.57**	**12**	*e*P	**P**		**22 18 07.5**	**+0.5**
	comp=Z,8.2nm,0.9s,mb4.4							
ETSF	**Etsaut**	**82.57**	**12**	*e*P	**P**		**22 18 07.5**	**+0.5**
	comp=Z,4.1nm,0.9s,mb4.5							
FRF	**La Foret Royal**	**82.62**	**7**	*e*P	**P**		**22 18 07.6**	**+0.3**
	comp=Z,5.4nm,0.8s,mb4.3							
FRF	**La Foret Royal**	**82.62**	**7**	*e*P	**P**		**22 18 07.6**	**+0.3**
	comp=Z,2.7nm,0.8s,mb4.3							
ESDC	**Sonseca Array**	**85.26**	**15**	P	**P**		**22 18 21.3**	**+0.6**
	comp=Z,0.9nm,0.6s,mb4.0,baz=346,slow=4.1,SNR=5.0							
BR131	**Keskin Array S**	**85.55**	**346**	*e*P	**P**		**22 18 23.0**	**+0.8**
	comp=Z,0.6nm,0.5s,mb4.1							
BRTR	**Keskin Array B**	**85.55**	**346**	P	**P**		**22 18 23.2**	**+1.0**
	comp=Z,1.9nm,0.6s,mb4.5,baz=39,slow=2.9,SNR=12							

JMA 11 22:41:36.5±0.3, 4372N×14819E, h14km, M3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
NEM2	**Nemuro 2**	**1.81**	**260**	P	Pn		22 42 08.2	+0.9
NEM2				*e*S	Sn		22 42 31.3	+1.2
JRA	**Rausu**	**2.23**	**277**	*e*S	Sn		22 42 41.8	+1.4
JNK	**Nakash**	**2.52**	**268**	*e*S	Sn		22 42 48.2	+0.6
JAK	**Akkeshi**	**2.65**	**255**	P	Pn		22 42 19.8	+1.0
JAR	**Ashorobuto**	**3.24**	**264**	P	Pn		22 42 28.7	+1.8
JAR				*e*S	Sn		22 43 07.1	+1.7
JCH	**Churui**	**3.70**	**254**	P	Pn		22 42 35.0	+1.8
JCH				*e*S	Sn		22 43 18.0	+1.4
JNBK	**Urakawa-nobuka**	**4.24**	**252**	P	Pn		22 42 41.9	+1.3
JNBK				*e*S	Sn		22 43 30.7	+0.8
JKB	**Kayabe**	**5.58**	**253**	P	Pn		22 43 00.2	+1.2
JKB				*e*S	Sn		22 44 01.7	-1.1
JOT	**Ohata**	**5.77**	**249**	*e*S	Sn		22 44 06.8	-0.8
JANG	**Nango**	**5.99**	**238**	*e*S	Sn		22 44 11.3	-1.7

*MOS **11** 22:55:53.4±0.8, 3575N×7091E, h68km, mb4.2/4, Error ellipse: s-maj=23.3km s-min=8.9km az=89.2*
*IDC **11** 22:55:55.8±8.2, 3590N×7101E, h64km±66km, mb3.5/6, mb1 3.7/9, mb1mx3.4/22, mbtmp3.8/9, ML3.5/3, MS4.0/1, Ms1 4.0/1, ms1mx2.3/20, Error ellipse: s-maj=58.7km s-min=36.9km az=154.0*
*NEIC **11** 22:55:56.9±2.2, 3586N×7106E, h80km±18km, mb3.3/3, Error ellipse: s-maj=20.4km s-min=11.2km az=206.0*
*ISCJB **11** 22:56:05.2±0.5, 3644N±003×7098E±008, h147km±8km, mb3.4/5, Error ellipse: s-maj=10.9km s-min=5.3km az=169.5*

**ISC 11 22:56:06.2±0.5, 3644N±003×7100E±008, h143km±7km, n47, σ0§88/51, mb3

mb1 4.7/22,mb1mx4.7/23,mbtmp4.7/22,ML4.4/1,MS4.0/13, Ms1 4.0/13,ms1mx3.7/23,Error ellipse: s-maj=20.9km s-min=11.9km az=57.0

HRVD ***11*** *22:58:12.2±0.3,1153S×116.16E,h12km,MW4.8/60, Centroid moment Tensor Solution. LP body waves: s20,c25;Mantle waves: s60,c86; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.04±.09; $M_{\theta\theta}$1.81±.06; $M_{\phi\phi}$0.23±.10; $M_{r\theta}$-0.72±.23; $M_{\theta\phi}$-0.31±.06; $M_{\phi r}$-1.10±.32; Best double couple: M_o2.28600×10^{16} NP1:ϕ_s299.00000°,δ41.00000°,λ-55.00000°. NP2: ϕ_s76.00000°,δ58.00000°,λ-117.00000°. Principal axes: T 1.9490, Plg9.0000°, Azm185.0000°; N 0.6780, Plg22.0000°, Azm91.0000°; P -2.6240, Plg66.0000°, Azm295.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***11*** *22:58:12.2±0.2, 1124S×116.02E, h10km, mb5.0/19 Error ellipse: s-maj=10.0km s-min=5.0km az=61.0*

NEIC Felt [II] at Mataram.

MOS ***11*** *22:58:13.7±1.1, 1121S×116.13E, h33km, mb5.2/24, Error ellipse: s-maj=15.0km s-min=6.8km az=117.4*

ISC 11 22:58:11.0±1.5,**1128S**±004×**11603E**±005,**h3**^{km}$_{\pm}$9^{km}, **h17**^{km}$_{\pm}$3.4^{km}:**pP-P,n181,**σ1**05**/166,**mb4.9**/67,**MS4.0**/21, **2C-7D,South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BJI	**Banjamegara**	**7.37**	**302**		P		**Pn**	**22 59 58.3**	**-1.2**
	182nm,0.8s								
MBWA	**Marble Bar**	**10.44**	**161**		*e*Pn		**Pn**	**23 00 34.7**	**-6.9**
	76nm,0.5s								
PCI	**Palu**	**10.98**	**20**		P		**Pn**	**23 00 55.6**	**+6.6**
	335nm,1.8s								
FITZ	**Fitzroy Crossi**	**11.50**	**127**		*e*P		**Pn**	**23 00 52.4**	**-3.7**
	46nm,0.4s								
FITZ					*e*S		**Sn**	**23 02 53.0**	**-12**
FITZ	**Fitzroy Crossi**	**11.50**	**127**		Pn		**Pn**	**23 00 52.3**	**-3.8**
	3.1nm,0.3s,baz=310,slow=12,SNR=57								
FITZ					Sn		**Sn**	**23 02 52.9**	**-12**
	2.1nm,0.3s,baz=195,slow=16,SNR=4.2								
FITZ					LR		LR	23 05 33.1	
	comp=Z,308nm,19.2s,baz=305,slow=38								
KSM	**Kuching**	**13.89**	**335**		*e*P		**Pn**	**23 01 28.7**	**-0.1**
KSI	**Kapahiang**	**15.32**	**299**		P		**Pn**	**23 01 44.6**	**-3.6**
	338nm,0.7s								
TSM	**Tawau**	**15.58**	**7**		P		**Pn**	**23 01 54.6**	**+3.0**
KAKA	**Kakadu**	**16.11**	**97**		*e*P		**Pn**	**23 02 04.7**	**+6.2**
	15nm,0.6s								
KKM	**Kota Kinabalu**	**17.21**	**1**		P		**Pn**	**23 02 13.5**	**+1.0**
KKM	**Kota Kinabalu**	**17.21**	**1**		*e*P		**Pn**	**23 02 12.5**	**0.0**
TLE	**Tual**	**17.45**	**73**		P		**Pn**	**23 02 17.5**	**+2.2**
	120nm,1.9s								
KGM	**Kluang**	**18.29**	**316**		P		**Pn**	**23 02 28.4**	**+2.7**
SWI	**Sorong**	**18.33**	**57**		P		**Pn**	**23 02 25.2**	**-1.0**
	115nm,1.3s								
PPI	**Padang Panjang**	**18.89**	**304**		P		**Pn**	**23 02 30.8**	**-2.3**
	61nm,1.2s								
WRA	**Warramunga Arr**	**19.61**	**118**		P		**Pn**	**23 02 41.7**	**0.0**
	1.3nm,0.3s,baz=296,slow=11,SNR=30								
WRA					S		**Sn**	**23 06 03.2**	**-19**
	0.6nm,0.3s,baz=273,slow=22,SNR=4.0								
WRAB	**Tennant Creek**	**19.61**	**118**		Pn		**Pn**	**23 02 41.8**	**0.0**
	230nm,0.8s,SNR=8.1								
WRAB	**Tennant Creek**	**19.61**	**118**		*e*P		**Pn**	**23 02 41.0**	**-0.8**
WRAB					pmax		pmax		
	comp=Z,45nm,0.8s								
WRAB	**Tennant Creek**	**19.61**	**118**		*e*P		**Pn**	**23 02 41.0**	**-0.8**
	comp=Z,45nm,0.8s								
WB2	**Warramunga Arr**	**19.62**	**118**		*e*P		**Pn**	**23 02 40.7**	**-1.1**
WB2					*e*			23 02 52.1	
WB2					*e*S		**Sn**	**23 06 03.3**	**-19**
KLBR	**Kellerberrin**	**20.27**	**176**	⇓	*i*P		**P**	**23 02 46.4**	**-1.3**
	comp=Z,24nm,0.5s								
MUN	**Mundaring**	**20.60**	**180**		*e*P		**P**	**23 02 50.9**	**-0.3**
MUN					*e*S		**S**	**23 06 21.4**	**-21**
ASAR	**Alice Springs**	**21.00**	**128**		P		**P**	**23 02 56.6**	**+1.1**
	comp=Z,7.2nm,0.5s,mb4.2,baz=300,slow=10,SNR=132								
ASAR					S		**S**	**23 06 40.3**	**-10**
	comp=Z,9.4nm,0.8s,baz=293,slow=23,SNR=12								
NWAO	**Narrogin (SRO)**	**21.57**	**177**		P		**P**	**23 03 02.5**	**+0.8**
	comp=Z,18nm,0.5s,mb4.8,baz=358,slow=13,SNR=17								
NWAO					S		**S**	**23 06 46.1**	**-15**
	comp=Z,24nm,0.6s,baz=299,slow=19,SNR=3.7								
NWAO					LR		LR	23 11 37.2	
	comp=Z,588nm,18.8s,MS4.0,baz=337,slow=37								
NWAO	**Narrogin (SRO)**	**21.57**	**177**		P		**P**	**23 03 02.5**	**+0.8**
NWAO					S		**S**	**23 06 46.1**	**-15**
IPM	**Ipoh**	**21.64**	**316**		P		**P**	**23 03 03.2**	**+0.8**
PSI	**Prapat**	**22.03**	**308**		P		**P**	**23 03 06.4**	**-0.2**
	comp=Z,15nm,0.7s,mb4.5,baz=128,slow=9.8,SNR=9.4								
PSI					LR		LR	23 13 47.9	
	comp=Z,403nm,18.0s,MS3.9,baz=162,slow=43								
FORT	**Forrest**	**22.38**	**152**		*e*P		**P**	**23 03 10.3**	**0.0**
	comp=Z,37nm,0.6s,mb5.0								
FORT					*e*S		**S**	**23 07 05.8**	**-11**
KULM	**Kulim**	**22.48**	**316**		*e*P		**P**	**23 03 10.8**	**-0.6**
SNG	**Songkhla**	**23.91**	**319**		P		**P**	**23 03 24.0**	**-2.0**
	comp=Z,130nm,0.8s,mb5.4								
CTA	**Charters Tower**	**30.34**	**111**		*e*P		pP	23 04 36.2	+11
	comp=Z,12nm,0.9s								
CTA	**Charters Tower**	**30.34**	**111**		P		**P**	**23 04 23.8**	**-0.1**
	comp=Z,9.3nm,1.0s,mb4.5,baz=300,slow=14,SNR=2.1								
CTA					LR		LR	23 16 41.4	
	comp=Z,221nm,18.8s,MS3.8,baz=57,slow=37								
CTA	**Charters Tower**	**30.34**	**111**		P		**P**	**23 04 23.8**	**-0.1**
CTA					*e*			23 04 36.2	
CTA	**Charters Tower**	**30.34**	**111**		P		**P**	**23 04 23.8**	**-0.1**
CTA					*e*P			23 04 36.2	
CTA					LR		LR	23 16 41.4	
QIZ	**Qiongzhong**	**30.73**	**348**		P		**P**	**23 04 25.8**	**-1.5**
QIZ					XP		sP	23 04 40.8	+12
QIZ					S		**S**	**23 09 33.8**	**+2.9**
QIZ					AMB		AMB		
	comp=Z,17nm,1.2s,mb4.8								
QIZ					AMB		AMB		
	comp=Z,131nm,6.8s								
QIZ					LR		LR		
	comp=E,171nm,21.8s								
QIZ					LR		LR		
	comp=Z,161nm,20.9s,MS3.7								
QIZ	**Qiongzhong**	**30.73**	**348**		*e*P		**P**	**23 04 26.7**	**-0.6**
	comp=Z,34nm,1.4s,mb5.0								
NST	**Nakhon Sawan**	**31.06**	**329**		P		**P**	**23 04 34.0**	**+3.8**
STKA	**Stephens Creek**	**31.24**	**135**		*e*P		**P**	**23 04 30.7**	**-1.1**
	comp=Z,13nm,1.2s,mb4.6								
STKA					*e*			23 04 41.5	
STKA	**Stephens Creek**	**31.24**	**135**		P		**P**	**23 04 31.8**	**0.0**
	comp=Z,13nm,0.9s,mb4.8,baz=305,slow=7.7,SNR=14								
STKA					PcP		PcP	23 07 24.2	-2.1
	comp=Z,4.9nm,0.8s,baz=305,slow=3.7,SNR=3.9								
STKA					LR		LR	23 16 46.5	
	comp=Z,319nm,21.4s,MS4.0,baz=126,slow=36								
CHG	**Chiang Mai**	**34.33**	**330**		P		**P**	**23 04 59.1**	**+0.3**
CHTO	**Chiang Mai**	**34.33**	**330**		*e*P		**P**	**23 04 59.0**	**+0.2**
CHTO					pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.7								
CHTO	**Chiang Mai**	**34.33**	**330**		*e*P		**P**	**23 04 59.0**	**+0.2**
	comp=Z,7.9nm,0.8s,mb4.7								
KMI	**Kunming**	**38.44**	**340**		P		**P**	**23 05 35.9**	**+2.0**
KMI					AP		pP	23 05 45.5	+11
KMI					XP		sP	23 05 49.9	+15
KMI					PP		PP	23 07 07.9	+6.2
KMI					PCP		PcP	23 07 46.1	-1.1
KMI					S		**S**	**23 11 31.4**	**+1.7**
KMI					XS		sS	23 11 45.4	+14
KMI					SS		SS	23 14 14.3	-3.5
KMI					SCS		ScS	23 15 43.5	-2.5
KMI					AMB		AMB		
	comp=Z,11nm,1.5s,mb4.4								
KMI					AMB		AMB		
	comp=Z,188nm,5.0s								
KMI					LR		LR		
	comp=N,215nm,22.2s								
KMI					LR		LR		
	comp=E,275nm,16.1s								
KMI					LR		LR		
	comp=Z,264nm,20.4s,MS4.0								
GYA	**Guiyang**	**38.60**	**346**	⇑	*i*P		**P**	**23 05 36.2**	**+0.9**
GYA					AP		pP	23 05 40.8	+4.6
GYA					PP		PP	23 07 06.7	+3.2
GYA					S		**S**	**23 11 29.0**	**-3.2**
GYA					SCS		ScS	23 15 41.6	-5.4
GYA					AMB		AMB		
	comp=Z,20nm,0.8s,mb4.9								
GYA					AMB		AMB		
	comp=Z,120nm,4.2s								
GYA					LR		LR		
	comp=N,460nm,16.9s,MS4.5								
GYA					LR		LR		
	comp=E,480nm,17.0s,MS4.5								
GYA					LR		LR		
	comp=Z,470nm,18.0s,MS4.3								
NJ2	**Nanjing**	**43.17**	**4**		*e*P		**P**	**23 06 14.5**	**+1.5**
NJ2					AP		pP	23 06 19.0	+5.1
NJ2					XP		sP	23 06 22.4	+8.2
NJ2					PP		PP	23 07 57.4	+4.3
NJ2					S		**S**	**23 12 41.0**	**+0.8**
NJ2					AMB		AMB		
	comp=Z,10.0nm,0.7s,mb4.7								
NJ2					AMB		AMB		
	comp=Z,110nm,10.5s								
NJ2					LR		LR		
	comp=N,1μm,28.0s,MS4.8								
NJ2					LR		LR		
	comp=E,1μm,23.2s,MS4.8								
NJ2					LR		LR		
	comp=Z,450nm,26.8s,MS4.2								
CD2	**Chengdu**	**43.58**	**345**		*e*P		**P**	**23 06 16.3**	**+0.1**
CD2					PP		PP	23 07 59.8	+2.3
CD2					S		**S**	**23 12 44.8**	**-1.3**
CD2					SS		SS	23 15 52.3	-8.3
CD2					AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.5								
CD2					LR		LR		
	comp=E,90nm,17.8s								
CD2					LR		LR		
	comp=Z,90nm,12.0s								
XAN	**Xi'an**	**45.57**	**352**		P		**P**	**23 06 31.6**	**-0.6**
XAN					AP		pP	23 06 42.5	+9.4
XAN					AMB		AMB		
	comp=Z,16nm,1.8s,mb4.7								
HYB	**Hyderabad**	**46.73**	**307**		*i* P		**P**	**23 06 41.0**	**-0.3**
HYB					*e*			23 06 53.0	
HYB					*e*			23 07 03.0	
HYB	**Hyderabad**	**46.73**	**307**		*e*P		**P**	**23 06 41.0**	**-0.3**
LSA	**Lhasa**	**47.28**	**330**		P		**P**	**23 06 46.7**	**+1.1**
LSA					AMB		AMB		
	comp=Z,10.0nm,0.7s,mb4.8								
LSA	**Lhasa**	**47.28**	**330**		*e*P		**P**	**23 06 46.8**	**+1.2**
LSA					pmax		pmax		
	comp=Z,23nm,0.8s,mb5.2								
LSA	**Lhasa**	**47.28**	**330**		*e*P		**P**	**23 06 46.8**	**+1.2**
	comp=Z,23nm,0.8s,mb5.2								
JIRN	**Jiri**	**48.32**	**324**		*e*P		**P**	**23 06 54.1**	**+0.4**
	comp=Z,145nm,0.6s								
LZH	**Lanzhou**	**48.50**	**347**	⇓	P		**P**	**23 06 55.5**	**+0.5**
LZH					AP		pP	23 07 05.0	+9.0
LZH					XP		sP	23 07 08.0	+12
LZH					AMB		AMB		
	comp=Z,56nm,1.5s,mb5.4								
GUN	**Gumba**	**48.69**	**324**		*e*P		**P**	**23 06 57.0**	**+0.5**
	comp=Z,152nm,0.6s								
PKI	**Pulchoki**	**48.71**	**323**		*e*P		**P**	**23 06 56.5**	**-0.2**
	comp=Z,24nm,0.5s,mb5.5								
DMN	**Daman**	**48.92**	**323**		*e*P		**P**	**23 06 58.4**	**+0.1**
	comp=Z,59nm,0.5s,mb5.8								
KKN	**Kakani**	**48.95**	**323**		*e*P		**P**	**23 06 58.0**	**-0.5**
	comp=Z,61nm,0.7s,mb5.7								
GKN	**Gorkha**	**49.49**	**323**		*e*P		**P**	**23 07 02.4**	**-0.3**
	comp=Z,58nm,0.6s,mb5.8								
KOLN	**Koldanda**	**49.94**	**322**		*e*P		**P**	**23 07 05.7**	**-0.4**
	comp=Z,72nm,0.7s,mb5.8								
BJI	**Beijing**	**51.06**	**0**		P		**P**	**23 07 14.2**	**-0.4**
BJI					S		**S**	**23 14 33.5**	**+0.8**
BJI					AMB		AMB		
	comp=Z,118nm,2.3s,mb5.4								
BJI					LR		LR		
	comp=N,185nm,16.5s,MS4.3								
BJI					LR		LR		
	comp=E,185nm,17.3s,MS4.3								
BJI					LR		LR		
	comp=Z,171nm,23.3s								
POO	**Poona**	**51.08**	**305**		*e*P		**P**	**23 07 13.0**	**-1.7**
MJAR	**Matsushiro Arr**	**51.95**	**23**		P		**P**	**23 07 20.0**	**-1.3**
	comp=Z,4.1nm,0.7s,mb4.5,baz=199,slow=8.1,SNR=9.5								
MJAR					LR		LR	23 30 25.7	
	comp=Z,70nm,20.0s,MS3.7,baz=185,slow=37								
HHC	**Hu-ho-hao-te**	**52.03**	**356**		*e*P		**P**	**23 07 26.7**	**+4.9**
HHC					AP		pP	23 07 31.3	+8.6
HHC					XP		sP	23 07 34.3	+11
HHC					PP		PP	23 09 26.1	+6.2
HHC					S		**S**	**23 14 51.6**	**+5.5**
HHC					XS		sS	23 14 58.4	+11
HHC					AMB		AMB		
	comp=Z,11nm,1.1s,mb4.7								
HHC					AMB		AMB		
	comp=Z,74nm,6.3s								
HHC					LR		LR		
	comp=N,155nm,15.9s,MS4.3								
HHC					LR		LR		
	comp=E,125nm,15.2s,MS4.3								
HHC					LR		LR		
	comp=Z,106nm,17.8s,MS3.9								
GTA	**Gaotai**	**52.64**	**344**		*e*P		**P**	**23 07 26.1**	**-0.3**
GTA					AP		pP	23 07 33.5	+6.2
GTA					AMB		AMB		
	comp=Z,12nm,1.6s,mb4.6								
MDJ	**Mudanjiang**	**56.98**	**12**		P		**P**	**23 07 58.3**	**+0.5**
MDJ					AP		pP	23 08 02.7	+4.0
MDJ					PP		PP	23 10 04.8	+0.5
MDJ					PCS		PcS	23 12 54.3	+0.4
MDJ					S		**S**	**23 15 55.9**	**+3.2**
MDJ					AMB		AMB		
	comp=Z,8.0nm,0.9s,mb4.8								
MDJ					AMB		AMB		
	comp=Z,131nm,5.0s								
MDJ					LR		LR		
	comp=N,82nm,36.6s,MS3.6								
MDJ					LR		LR		
	comp=E,39nm,34.4s,MS3.6								
MDJ					LR		LR		
	comp=Z,106nm,38.7s,MS3.6								
RPZ	**Rata Peaks**	**57.21**	**135**		LR		LR	23 30 50.6	
	comp=Z,372nm,18.7s,MS4.5,baz=96,slow=34								
ULN	**Ulaanbaatar**	**59.42**	**353**		*e*P		**P**	**23 08 14.9**	**0.0**
SONM	**Songino Array**	**59.47**	**352**		P		**P**	**23 08 15.3**	**0.0**
	comp=Z,4.7nm,0.5s,mb4.8,baz=176,slow=8.3,SNR=55								
SONM					LR		LR	23 35 10.1	
	comp=Z,82nm,19.9s,MS3.9,baz=275,slow=37								
URZ	**Urewera**	**60.44**	**128**		LR		LR	23 33 49.6	
	comp=Z,165nm,19.4s,MS4.2,baz=145,slow=35								
WMQ	**Urumqi**	**60.60**	**337**	⇓	*i*P		**P**	**23 08 23.4**	**+0.4**
WMQ					AP		pP	23 08 30.4	+6.4
WMQ					PCP		PcP	23 09 08.1	+0.7
WMQ					PP		PP	23 10 38.9	+2.4
WMQ					S		**S**	**23 16 37.7**	**-2.2**
WMQ					AMB		AMB		
	comp=Z,13nm,0.5s,mb5.3								
WMQ					AMB		AMB		
	comp=Z,187nm,2.7s,mb5.7								
WMQ					LR		LR		
	comp=N,104nm,24.3s								
WMQ					LR		LR		
	comp=Z,94nm,22.8s,MS3.9								
KLR	**Kul'dur**	**61.82**	**12**		*e*P		**P**	**23 08 27.0**	**-4.3**
ZAK	**Zakamensk**	**62.41**	**351**	⇓	*i*P		**P**	**23 08 35.1**	**-0.1**
ZAK					pmax		pmax		
	comp=Z,27nm,1.8s,mb5.1								
YSS	**Yuzh-Sakhalins**	**62.70**	**20**		*e*P		**P**	**23 08 35.3**	**-1.9**
YSS					pmax		pmax		
	comp=Z,22nm,1.3s,mb5.1								
KSH	**Kashi**	**62.77**	**326**		*e*P		**P**	**23 08 38.0**	**+0.4**
KSH					*e*AP		pP	23 08 44.2	+5.7
KSH					*e*PCP		PcP	23 09 18.2	+2.0
KSH					*e*PP		PP	23 10 58.7	+3.1
KSH					*e*SCP		ScP	23 13 16.0	-3.2
KSH					*e*PCS		PcS	23 13 18.3	-1.3
KSH					*e*S		**S**	**23 17 02.0**	**-5.3**
KSH					*e*SCS		ScS	23 18 25.2	-6.0
KSH					AMB		AMB		
	comp=Z,143nm,1.6s,mb5.8								
KSH					LR		LR		
	comp=N,157nm,4.9s								
KSH					LR		LR		
	comp=E,170nm,5.6s								
KSH					LR		LR		
	comp=Z,238nm,6.2s								
CIT	**Chita**	**63.08**	**358**		*e*P		**P**	**23 08 40.1**	**+0.4**
TLY	**Talaya**	**63.62**	**351**		*e*P		**P**	**23 08 43.0**	**-0.2**
TLY					*e*			23 21 21.5	
TLY					pmax		pmax		
	comp=Z,24nm,1.8s,mb4.9								
TLY					MLR		MLR		
	comp=Z,71nm,17.0s,MS3.9								
TLY	**Talaya**	**63.62**	**351**		*e*P		**P**	**23 08 41.4**	**-1.9**
	comp=Z,11nm,1.0s,mb4.8								
MOY	**Mondy**	**64.03**	**350**		*e*P		**P**	**23 08 46.3**	**+0.3**
MOY					pmax		pmax		
	comp=Z,44nm,1.9s,mb5.2								
IRK	**Irkutsk**	**64.08**	**352**		*e*P		**P**	**23 08 45.3**	**-1.0**
IRK					*e*			23 09 25.8	
IRK					pmax		pmax		
	comp=Z,43nm,2.0s,mb5.1								
ULHL	**Ulahol**	**64.57**	**328**		P		**P**	**23 08 49.4**	**-0.1**
	SNR=10								
KZA	**Kyzart**	**64.96**	**328**		P		**P**	**23 08 53.2**	**+1.1**
	SNR=24								
MKAR	**Makanchi Array**	**65.22**	**335**		P		**P**	**23 08 53.7**	**0.0**
	comp=Z,19nm,0.5s,mb5.4,baz=146,slow=7.6,SNR=343								
MKAR	**Makanchi Array**	**65.22**	**335**		P		**P**	**23 08 53.7**	**0.0**
TKM2	**Tokmak 2**	**65.38**	**328**		P		**P**	**23 08 55.0**	**+0.2**
	SNR=7.0								
UCH	**Uchtor**	**65.46**	**327**		P		**P**	**23 08 57.4**	**+2.2**
	SNR=8.8								
KBK	**Karagaybulak**	**65.53**	**328**		P		**P**	**23 08 56.1**	**+0.4**
	SNR=9.6								
AAK	**Ala-Archa**	**65.75**	**328**		P		**P**	**23 08 57.9**	**+0.7**
	SNR=9.4								
AAK	**Ala-Archa**	**65.75**	**328**		P		**P**	**23 08 56.1**	**-1.1**
	comp=Z,62nm,0.9s,mb5.6,SNR=8.5								
AAK	**Ala-Archa**	**65.75**	**328**	*d*	*i*P		**P**	**23 08 56.7**	**-0.5**
AAK					pmax		pmax		
	comp=Z,21nm,1.6s,mb4.9								
AAK	**Ala-Archa**	**65.75**	**328**		*e*P		**P**	**23 08 57.4**	**+0.2**
	comp=Z,16nm,1.0s,mb5.0								
WSAR	**Wadi Sarin**	**65.80**	**302**		P		**P**	**23 08 57.0**	**-0.5**
	comp=Z,3.6nm,0.6s,mb4.6,baz=127,slow=5.2,SNR=5.8								
WSAR	**Wadi Sarin**	**65.80**	**302**		P		**P**	**23 08 57.0**	**-0.5**
FRU	**Bishkek**	**65.83**	**328**		*e*P		**P**	**23 08 57.8**	**+0.1**
AML	**Almayashu**	**65.83**	**327**		P		**P**	**23 08 58.5**	**+0.8**
	SNR=12								
MAW	**Mawson**	**66.11**	**200**		P		**P**	**23 08 57.6**	**-1.9**
	comp=Z,3.3nm,0.5s,mb4.6,baz=96,slow=15,SNR=4.7								
MAW					LR		LR	23 31 07.4	
	comp=Z,177nm,19.8s,MS4.3,baz=300,slow=30								
EKS2	**Erkin-Say**	**66.15**	**327**		P		**P**	**23 09 00.5**	**+0.8**
	SNR=20								
USP	**Ospenovka**	**66.19**	**328**		P		**P**	**23 08 60.0**	**-0.1**
	SNR=9.3								
OPO	**Ambohidratompo**	**66.59**	**255**		P		**P**	**23 09 03.0**	**+0.5**
	comp=Z,2.8nm,0.9s,mb4.3,baz=34,slow=7.3,SNR=3.6								
BOD	**Bodaibo**	**68.87**	**359**		*e*P		**P**	**23 09 16.1**	**-0.9**
BOD					pmax		pmax		
	comp=Z,21nm,1.4s,mb4.9								
KURK	**Kurchatov**	**69.80**	**336**		P		**P**	**23 09 22.4**	**-0.3**
	comp=Z,179nm,0.6s,SNR=22								
KURK	**Kurchatov**	**69.80**	**336**	*d*	*i*P		**P**	**23 09 22.4**	**-0.3**
KURK	**Kurchatov**	**69.80**	**336**		*e*P		**P**	**23 09 22.4**	**-0.3**
	comp=Z,15nm,0.6s,mb5.1								
ZAL	**Zalesovo**	**70.17**	**341**		P		**P**	**23 09 23.6**	**-1.4**
	comp=Z,7.3nm,0.5s,mb4.9,baz=335,slow=4.1,SNR=32								
ZAL					LR		LR	23 43 55.9	
	comp=Z,70nm,19.6s,MS3.9,baz=322,slow=39								
VNDA	**Vanda**	**70.22**	**170**		P		**P**	**23 09 25.0**	**-0.3**
	comp=Z,7.4nm,0.9s,mb4.6,baz=304,slow=7.0,SNR=26								
VNDA	**Vanda**	**70.22**	**170**		*e*P		**P**	**23 09 25.1**	**-0.2**
VNDA					pmax		pmax		
	comp=Z,7.0nm,0.8s								
VNDA	**Vanda**	**70.22**	**170**		*e*P		**P**	**23 09 25.1**	**-0.1**
	comp=Z,7.2nm,0.8s,mb4.7								
NVS	**Novosibirsk**	**71.43**	**341**		*i*P		**P**	**23 09 30.3**	**-2.4**
NVS					pmax		pmax		
	comp=Z,38nm,1.7s,mb5.0								
NVS					pmax		pmax		
	comp=N,22nm,1.5s								
NVS					pmax		pmax		
	comp=E,21nm,1.5s								
YAK	**Yakutsk**	**73.86**	**7**		*e*P		**P**	**23 09 47.0**	**-0.1**
YAK					pmax		pmax		
	comp=Z,16nm,1.1s,mb4.9								
BVAR	**Borovoye Array**	**74.97**	**333**		P		**P**	**23 09 53.2**	**-0.4**
	comp=Z,6.5nm,0.6s,mb4.7,baz=144,slow=7.7,SNR=56								
BRVK	**Borovoye**	**75.04**	**333**		P		**P**	**23 09 53.5**	**-0.5**
	comp=Z,57nm,0.9s,mb5.5,SNR=6.7								
BRVK	**Borovoye**	**75.04**	**333**		*e*P		**P**	**23 09 53.6**	**-0.4**
BRVK					*e*			23 10 07.2	
BRVK					*e*			23 12 38.0	
BRVK					pmax		pmax		
	comp=Z,10.0nm,1.2s,mb4.6								
BRVK	**Borovoye**	**75.04**	**333**		*e*P		**P**	**23 09 53.6**	**-0.4**
	comp=Z,9.8nm,1.2s,mb4.6								
BRVK					*e*PcP		PcP	23 10 07.2	-0.5
BRVK					*e*PP		PP	23 12 38.0	-3.8
ZRNK	**Zerenda**	**75.53**	**333**		*e*P		**P**	**23 09 56.4**	**-0.4**
ZRNK					pmax		pmax		
	comp=Z,11nm,0.6s,mb5.0								
ZRNK	**Zerenda**	**75.53**	**333**		*e*P		**P**	**23 09 56.4**	**-0.5**
	comp=Z,12nm,0.6s,mb5.0								
RDF	**Al-Radifah**	**77.18**	**303**		*e*P		**P**	**23 10 05.8**	**-0.3**
NAY	**Al-Naaiem**	**77.55**	**303**		*e*P		**P**	**23 10 07.7**	**-0.5**

VNA2				*e*		pP		23 11 13.2	+1.9
VNA2				*e*				23 11 16.7	
VNA2				*e*				23 11 21.7	
VNA2				*e*				23 11 27.4	
VNA1	**Neumayer--Stat**	**90.05**	**196**	*e*P		**P**		**23 11 14.1**	**+1.9**
VNA1				*e*				23 11 17.0	
VNA1				*e*				23 11 20.1	
VNA1				*e*				23 11 23.2	
VNA1				*e*				23 11 31.0	
VNA1	**Neumayer--Stat**	**90.05**	**196**	*e*P		**P**		**23 11 14.1**	**+1.9**
VNA1				*e*				23 11 17.0	
VNA1				*e*				23 11 20.1	
VNA1				*e*				23 11 23.2	
VNA1				*e*				23 11 31.0	
VNA3	**Neumayer Olymp**	**90.07**	**195**	*e*P		**P**		**23 11 13.3**	**+1.1**
VNA3				*e*		pP		23 11 14.7	+1.5
VNA3				*e*				23 11 16.5	
VNA3				*e*				23 11 23.0	
VNA3				*e*				23 11 28.9	
VNA3	**Neumayer Olymp**	**90.07**	**195**	*e*P		**P**		**23 11 13.3**	**+1.1**
VNA3				*e*		pP		23 11 14.7	+1.5
VNA3				*e*				23 11 16.5	
VNA3				*e*				23 11 23.0	
VNA3				*e*				23 11 28.9	
BR131	**Keskin Array S**	**91.35**	**310**	*e*P		**P**		**23 11 18.6**	**+0.3**
	comp=Z,2.0nm,0.8s,mb4.5								
BRTR	**Keskin Array B**	**91.35**	**310**	P		**P**		**23 11 18.5**	**+0.3**
	comp=Z,2.3nm,0.8s,mb4.6,baz=122,slow=4.8,SNR=11								
OBN	**Obninsk**	**93.21**	**326**	*e*P		**P**		**23 11 26.2**	**-0.6**
OBN				*e*				23 15 14.9	
OBN				*i* S				23 22 28.1	
OBN				*e*SS		SS		23 28 54.3	+4.6
OBN				*e*SSS				23 32 31.6	
OBN				pmax		pmax			
	comp=Z,7.0nm,1.2s,mb5.0								
KLMR	**Klimovskoe**	**93.30**	**332**	*e*P		**P**		**23 11 27.0**	**-0.2**
KLMR				pmax		pmax			
	comp=Z,10.0nm,1.4s,mb5.0								
AKASG	**Malin Array Be**	**96.62**	**320**	P		**P**		**23 11 40.7**	**-1.7**
	comp=Z,0.3nm,0.3s,mb4.3,baz=99,slow=3.9,SNR=7.2								
AKASG	**Malin Array Be**	**96.62**	**320**	P		**P**		**23 11 40.7**	**-1.7**
KAF	**Kangasniemi**	**99.75**	**332**	*e*p		Pdif		23 11 55.1	-1.3
	comp=Z,2.1nm,0.5s,baz=86,slow=4.1								
KAF	**Kangasniemi**	**99.75**	**332**	*e*P		Pdif		23 11 55.1	-1.3
KAF				pmax		pmax			
	comp=Z,2.0nm,0.5s,mb4.8								
FINES	**FINESS Array B**	**99.79**	**331**	P		Pdif		23 11 56.0	-0.7
	comp=Z,1.3nm,0.7s,baz=94,slow=5.7,SNR=6.4								
ARCES	**ARCESS Array B**	**100.67**	**339**	P		Pdif		23 11 59.0	-1.6
	comp=Z,4.8nm,1.0s,baz=338,slow=2.9,SNR=6.3								
INK	**Inuvik**	**107.93**	**21**	PKiKP		PKiKP		23 16 39.6	-0.4
	comp=Z,0.3nm,0.5s,baz=214,slow=3.1,SNR=4.4								
TORD	**Torodi Ar. Bea**	**115.96**	**279**	PKP		PKPdf		23 16 56.0	+0.7
	comp=Z,1.1nm,0.6s,baz=73,slow=1.7,SNR=22								
YKA	**Yellowknife Ar**	**117.45**	**24**	PKP		PKPdf		23 16 57.7	-0.4
	comp=Z,1.2nm,0.5s,baz=310,slow=2.0,SNR=38								
YKA	**Yellowknife Ar**	**117.45**	**24**	PKP		PKPdf		23 16 57.7	-0.5
NVAR	**Mina Array Bea**	**124.72**	**51**	PKP		PKPdf		23 17 13.8	+1.7
	comp=Z,0.9nm,0.7s,baz=294,slow=0.6,SNR=5.8								
HLID	**Hailey**	**125.99**	**44**	*e*PKPdf		PKPdf		23 17 16.7	+2.2
PDAR	**Pinedale Array**	**129.57**	**43**	PKP		PKPdf		23 17 21.7	+0.3
	comp=Z,0.3nm,0.3s,baz=222,slow=1.8,SNR=3.9								
SCHQ	**Schefferville**	**136.50**	**2**	PKP		PKPdf		23 17 35.3	+0.9
	comp=Z,2.8nm,0.9s,baz=25,slow=4.7,SNR=5.4								
CPUP	**Villa Florida**	**142.06**	**190**	PKP		PKPdf		23 17 45.5	+1.0
	comp=Z,2.1nm,0.9s,baz=164,slow=9.4,SNR=2.8								
SADO	**Sadowa**	**144.18**	**19**	PKP		PKPdf		23 17 46.8	-1.5
	comp=Z,6.0nm,0.8s,baz=251,slow=1.4,SNR=4.1								
FVM	**French Village**	**144.40**	**37**	*e*PKIKP		PKPdf		23 17 47.7	-0.9
MIAR	**Mount Ida**	**144.46**	**45**	*e*PKIKP		PKPdf		23 17 48.7	-0.1
FRNY	**Flat Rock**	**145.56**	**12**	*e*PKPdf		PKPdf		23 17 51.5	+0.9
LVC	**Limon Verde**	**145.97**	**172**	*e*PKPdf		PKPdf		23 17 54.4	+3.1
NCB	**Newcomb**	**146.25**	**13**	*e*PKPdf		PKPdf		23 17 53.6	+1.8
WCI	**Wyandotte Cave**	**146.56**	**33**	*e*PKP2		PKPab		23 17 54.4	-0.4
ACSO	**Alum Creek Sta**	**146.62**	**27**	*e*PKP		PKPdf		23 17 54.7	+2.2
HNH	**Hanover**	**146.90**	**11**	*e*PKP		PKPdf		23 17 56.0	+3.1
BINY	**Binghamton**	**147.46**	**17**	*e*PKPbc		PKPbc		23 17 57.2	+0.8
PLAL	**Pickwick Lake**	**147.80**	**39**	*e*PKP		PKPdf		23 17 57.0	+2.6
SWET	**Sewanee**	**148.93**	**36**	*e*PKPdf		PKPdf		23 17 57.2	+0.9
SWET				*e*PKPbc		PKPbc		23 18 00.7	+0.5
BDFB	**Brasilia**	**148.93**	**211**	PKPbc		PKPbc		23 18 02.0	+1.7
	comp=Z,5.1nm,0.6s,baz=194,slow=3.9,SNR=9.3								
TZTN	**Tazewell**	**149.26**	**32**	*e*PKPbc		PKPbc		23 18 01.7	+0.6
CPCT	**Cooper Cave**	**149.56**	**34**	*e*PKPbc		PKPbc		23 18 02.7	+0.8
LPAZ	**La Paz**	**152.30**	**171**	PKPbc		PKPbc		23 18 10.8	+2.5
	comp=Z,7.8nm,1.0s,baz=178,slow=1.2,SNR=11								
LPAZ	**La Paz**	**152.30**	**171**	*e*PKPdf		PKPdf		23 18 03.2	+1.7
LPAZ				PKPbc		PKPbc		23 18 10.8	+2.5

ISCJB ***11*** *23:10:21.6±0.7, 118S±02×1158E±02, h33km, mb4.3/9, Error ellipse: s-maj=34.3km s-min=9.4km az=98.3*

NEIC ***11*** *23:10:22.6±0.8, 1168S×11580E, h25km, mb4.1/3, Error ellipse: s-maj=37.0km s-min=10.6km az=54.0*

IDC ***11*** *23:10:23.1±2.7, 1067S×11666E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.7/14, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=140.9km s-min=23.9km az=49.0*

ISC 11 23:10:24.3±0.7, 117S±02×1159E±02, h35km, n17, σ1§01/20, mb4.3/9, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**10.11**	**159**	*e*Pn		**Pn**	**23 12 46.0**	**-0.9**
MBWA				*e*Sn		**Sn**	**23 14 31.6**	**-7.5**
FITZ	**Fitzroy Crossi**	**11.37**	**125**	*e*P		**Pn**	**23 13 04.3**	**+0.2**
	7.9nm,1.8s							
FITZ				*e*S		**Sn**	**23 15 02.5**	**-7.3**
FITZ	**Fitzroy Crossi**	**11.37**	**125**	Pn		**Pn**	**23 13 03.8**	**-0.3**
	0.2nm,0.3s,baz=342,slow=14,SNR=7.0							
FITZ				Sn		**Sn**	**23 15 03.0**	**-6.8**
	baz=258,slow=19							
WRA	**Warramunga Arr**	**19.53**	**117**	P		**Pn**	**23 14 49.9**	**-0.2**
	0.1nm,0.3s,baz=298,slow=11,SNR=3.6							
ASAR	**Alice Springs**	**20.85**	**127**	P		**P**	**23 15 07.5**	**+4.5**
	1.2nm,0.9s,baz=303,slow=11,SNR=7.6							
CTAO	**Charters Tower**	**30.32**	**110**	*e*P		**P**	**23 16 34.0**	**+1.7**
	9.9nm,1.0s,mb4.5							
STKA	**Stephens Creek**	**31.05**	**134**	*e*P		**P**	**23 16 42.9**	**+4.1**
QIZ	**Qiongzhong**	**31.09**	**349**	P		**P**	**23 16 36.9**	**-2.3**
JIRN	**Jiri**	**48.57**	**324**	*e*P		**P**	**23 19 04.6**	**+0.5**
	7.9nm,0.6s,mb4.9							
GUN	**Gumba**	**48.94**	**324**	*e*P		**P**	**23 19 07.3**	**+0.3**
	7.0nm,0.5s,mb5.0							
PKI	**Pulchoki**	**48.95**	**323**	*e*P		**P**	**23 19 08.5**	**+1.4**
KOLN	**Koldanda**	**50.18**	**322**	*e*P		**P**	**23 19 16.2**	**-0.2**
	6.6nm,0.7s,mb4.8							
SONM	**Songino Array**	**59.85**	**353**	P		**P**	**23 20 25.3**	**-1.0**
	0.7nm,0.8s,mb3.8,baz=175,slow=7.6,SNR=6.2							
MKAR	**Makanchi Array**	**65.52**	**335**	P		**P**	**23 21 04.5**	**+0.4**
	0.9nm,0.5s,mb4.1,baz=146,slow=7.3,SNR=11							
KURK	**Kurchatov**	**70.11**	**336**	*e*P		**P**	**23 21 33.8**	**+0.8**
	0.5nm,0.3s,mb3.9							
ZAL	**Zalesovo**	**70.51**	**341**	P		**P**	**23 21 34.1**	**-1.3**
	0.7nm,0.7s,mb3.7,baz=298,slow=6.0,SNR=3.4							
ZRNK	**Zerenda**	**75.83**	**333**	*e*P		**P**	**23 22 07.1**	**+0.3**
	0.8nm,0.5s,mb3.9							

IDC ***11*** *23:20:45.6±0.5, 1121S×11602E, h0km, mb4.6/13, mb1 4.6/14, mb1mx4.6/17, mbtmp4.6/14, ML4.0/1, Error ellipse: s-maj=21.1km s-min=13.7km az=65.0*

ISCJB ***11*** *23:20:48.8±0.3, 1121S±005×11604E±006, h33km, mb4.8/45, MS3.9/2, Error ellipse: s-maj=9.0km s-min=5.4km az=109.2*

MOS ***11*** *23:20:48.9±1.1, 1117S×11609E, h33km, mb4.9/14, Error ellipse: s-maj=16.2km s-min=7.9km az=117.3*

BJI ***11*** *23:20:48.1, 1168S×11609E, h53km, mB5.1, mb4.8, Ms4.7, Msz4.2*

NEIC ***11*** *23:20:50.8±0.2, 1123S×11601E, mb4.7/16, Error ellipse: s-maj=10.7km s-min=5.5km az=58.0*

ISC 11 23:20:50.9±0.3, 1123S±005×11607E±006, h34km, h34km±2.5km: pP-P, n110, σ0§96/99, mb4.8/44, MS3.9/2, 2C-3D, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**7.38**	**301**	P		**Pn**	**23 22 35.7**	**-0.5**
	153nm,0.9s							
MBWA	**Marble Bar**	**10.48**	**161**	*e*Pn		**Pn**	**23 23 10.9**	**-7.8**
	38nm,0.8s							
MBWA				*e*Sn		**Sn**	**23 24 56.9**	**-18**
PCI	**Palu**	**10.92**	**20**	P		**Pn**	**23 23 30.5**	**+5.8**
	109nm,1.2s							
FITZ	**Fitzroy Crossi**	**11.50**	**128**	*e*P		**Pn**	**23 23 28.6**	**-4.0**
	17nm,0.6s							
FITZ				*e*S		**Sn**	**23 25 27.7**	**-12**
FITZ	**Fitzroy Crossi**	**11.50**	**128**	Pn		**Pn**	**23 23 29.0**	**-3.7**
	1.1nm,0.3s,baz=297,slow=13,SNR=20							
FITZ				Sn		**Sn**	**23 25 28.3**	**-12**
	2.1nm,0.3s,baz=227,slow=22,SNR=6.9							
KSM	**Kuching**	**13.86**	**335**	*e*Pn		**Pn**	**23 24 04.5**	**-0.5**
KSI	**Kapahiang**	**15.33**	**298**	P		**Pn**	**23 24 19.6**	**-5.1**
	229nm,0.8s							
KKM	**Kota Kinabalu**	**17.16**	**0**	*e*Pn		**Pn**	**23 24 48.1**	**+0.1**
TLE	**Tual**	**17.39**	**73**	P		**Pn**	**23 24 53.2**	**+2.3**
	76nm,1.1s							
SWI	**Sorong**	**18.26**	**57**	P		**Pn**	**23 25 00.8**	**-0.8**
	120nm,1.2s							
PPI	**Padang Panjang**	**18.89**	**303**	P		**Pn**	**23 25 06.3**	**-2.9**
	48nm,1.1s							
WRA	**Warramunga Arr**	**19.59**	**118**	P		**Pn**	**23 25 16.8**	**-0.8**
	0.5nm,0.3s,baz=295,slow=11,SNR=21							
WRAB	**Tennant Creek**	**19.60**	**118**	*e*P		**Pn**	**23 25 17.0**	**-0.7**
WRAB				pmax		pmax		
	comp=Z,47nm,1.1s							
WRAB	**Tennant Creek**	**19.60**	**118**	*e*P		**Pn**	**23 25 17.0**	**-0.7**
	comp=Z,47nm,1.1s							
WB2	**Warramunga Arr**	**19.61**	**118**	*e*P		**Pn**	**23 25 16.7**	**-1.1**
KLBR	**Kellerberrin**	**20.32**	**176**	*e*P		**P**	**23 25 17.7**	**-6.3**
	comp=Z,36nm,1.1s							
MUN	**Mundaring**	**20.65**	**180**	*e*P		**P**	**23 25 28.9**	**+1.3**
ASAR	**Alice Springs**	**21.00**	**128**	P		**P**	**23 25 32.2**	**+0.9**
	comp=Z,17nm,1.0s,baz=303,slow=8.4,SNR=30							
NWAO	**Narrogin (SRO)**	**21.62**	**177**	P		**P**	**23 25 37.4**	**-0.6**
	comp=Z,17nm,0.8s,mb4.5,baz=352,slow=13,SNR=9.2							
PSI	**Prapat**	**22.03**	**308**	P		**P**	**23 25 42.4**	**0.0**
	comp=Z,7.0nm,0.6s,mb4.3,baz=172,slow=7.3,SNR=5.1							
FORT	**Forrest**	**22.41**	**152**	*e*P		**P**	**23 25 45.9**	**-0.5**
	comp=Z,9.4nm,0.3s,mb4.7							
KULM	**Kulim**	**22.47**	**316**	*e*P		**P**	**23 25 45.7**	**-1.4**
KULM				*e*			23 25 58.0	
JAY	**Jayapura**	**25.92**	**72**	P		**P**	**23 26 24.0**	**+4.2**
	comp=Z,25nm,0.9s,mb4.7							
STKA	**Stephens Creek**	**31.25**	**135**	*e*P		**P**	**23 27 07.2**	**-0.1**
	comp=Z,6.7nm,0.9s,mb4.5							
STKA	**Stephens Creek**	**31.25**	**135**	P		**P**	**23 27 06.6**	**-0.7**
	comp=Z,8.6nm,0.9s,mb4.6,baz=305,slow=8.6,SNR=16							
CHTO	**Chiang Mai**	**34.30**	**330**	*e*P		**P**	**23 27 34.7**	**+0.7**
CHTO				*e**PP		pP	23 27 49.0	+5.2
CHTO				pmax		pmax		
	comp=Z,11nm,1.1s,mb4.7							
CHTO	**Chiang Mai**	**34.30**	**330**	*e*P		**P**	**23 27 34.7**	**+0.7**
	comp=Z,11nm,1.1s,mb4.7							
CHTO				*e*pP		pP	23 27 49.0	+5.2
GUMO	**Guam**	**37.74**	**50**	P		**P**	**23 28 04.0**	**+0.6**
	comp=Z,28nm,0.4s,mb5.3,baz=2.2,slow=21,SNR=3.6							
KMI	**Kunming**	**38.40**	**340**	P		**P**	**23 28 10.9**	**+1.9**
KMI				AMB		AMB		
	comp=Z,13nm,1.2s,mb4.5							
GYA	**Guiyang**	**38.56**	**346**	↑*i*P		**P**	**23 28 11.4**	**+1.0**
GYA				AP		pP	23 28 21.8	+1.6
GYA				PP		PP	23 29 41.8	+2.9
GYA				PCP		PcP	23 30 25.8	+3.3
GYA				S		**S**	**23 34 03.2**	**-0.9**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.6							
GYA				AMB		AMB		
	comp=Z,80nm,4.0s							
GYA				LR		LR		
	comp=N,340nm,16.8s,MS4.4							
GYA				LR		LR		
	comp=E,400nm,17.0s,MS4.4							
GYA				LR		LR		
	comp=Z,410nm,17.2s,MS4.3							
CD2	**Chengdu**	**43.54**	**345**	↑*i*P		**P**	**23 28 51.4**	**+0.1**
CD2				AMB		AMB		
	comp=Z,40nm,0.6s,mb5.3							
XAN	**Xi'an**	**45.53**	**352**	P		**P**	**23 29 06.2**	**-1.0**
XAN				AMB		AMB		
	comp=Z,14nm,0.9s,mb4.9							
HYB	**Hyderabad**	**46.74**	**307**	*i* P		**P**	**23 29 16.0**	**-0.7**
HYB				*e*			23 29 31.5	
HYB	**Hyderabad**	**46.74**	**307**	*e*P		**P**	**23 29 16.0**	**-0.7**
LSA	**Lhasa**	**47.26**	**330**	P		**P**	**23 29 22.1**	**+1.4**
LSA	**Lhasa**	**47.26**	**330**	*e*P		**P**	**23 29 22.1**	**+1.4**
LSA				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb4.7							
LSA	**Lhasa**	**47.26**	**330**	*e*P		**P**	**23 29 22.1**	**+1.4**
	comp=Z,6.4nm,0.6s,mb4.7							
JIRN	**Jiri**	**48.30**	**324**	*e*P		**P**	**23 29 29.2**	**+0.3**
	comp=Z,99nm,0.7s							
LZH	**Lanzhou**	**48.46**	**347**	*e*P		**P**	**23 29 30.0**	**0.0**
LZH				AMB		AMB		
	comp=Z,30nm,1.2s,mb5.2							
GUN	**Gumba**	**48.67**	**324**	*e*P		**P**	**23 29 31.9**	**+0.2**
	comp=Z,85nm,0.7s							
PKI	**Pulchoki**	**48.70**	**323**	*e*P		**P**	**23 29 31.5**	**-0.4**
	comp=Z,45nm,0.9s,mb5.5							
DMN	**Daman**	**48.90**	**323**	*e*P		**P**	**23 29 33.3**	**-0.2**
	comp=Z,84nm,0.8s,mb5.8							
KKN	**Kakani**	**48.93**	**323**	*e*P		**P**	**23 29 33.5**	**-0.2**
	comp=Z,55nm,0.9s,mb5.6							
GKN	**Gorkha**	**49.47**	**323**	*e*P		**P**	**23 29 37.5**	**-0.3**
	comp=Z,75nm,0.9s,mb5.7							
KOLN	**Koldanda**	**49.93**	**322**	*e*P		**P**	**23 29 40.9**	**-0.4**
	comp=Z,62nm,0.8s,mb5.7							
POO	**Poona**	**51.08**	**305**	*e*P		**P**	**23 29 49.0**	**-1.0**
MJAR	**Matsushiro Arr**	**51.89**	**23**	P		**P**	**23 29 55.1**	**-0.9**
	comp=Z,6.5nm,0.8s,mb4.6,baz=197,slow=7.6,SNR=14							
GTA	**Gaotai**	**52.60**	**344**	*e*P		**P**	**23 30 02.6**	**+1.2**
GTA				AP		pP	23 30 15.8	+4.3
GTA				AMB		AMB		
	comp=Z,10.0nm,1.4s,mb4.5							
MDJ	**Mudanjiang**	**56.92**	**11**	P		**P**	**23 30 34.8**	**+2.2**
MDJ				PP		PP	23 32 41.8	+2.6
MDJ				AMB		AMB		
	comp=Z,9.0nm,0.7s,mb4.9							
MDJ				AMB		AMB		
	comp=Z,105nm,4.4s							
MDJ				LR		LR		
	comp=Z,66nm,38.7s,MS3.5							
ULN	**Ulaanbaatar**	**59.38**	**353**	*e*P		**P**	**23 30 49.7**	**-0.1**
ULN				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.5							
ULN	**Ulaanbaatar**	**59.38**	**353**	*e*P		**P**	**23 30 49.7**	**-0.1**
	comp=Z,4.1nm,0.8s,mb4.5							
SONM	**Songino Array**	**59.43**	**352**	P		**P**	**23 30 50.3**	**+0.2**
	comp=Z,9.7nm,0.9s,mb4.8,baz=174,slow=8.5,SNR=64							
WMQ	**Urumqi**	**60.57**	**337**	↓*i*P		**P**	**23 30 58.2**	**+0.2**
WMQ				AP		pP	23 31 09.2	+0.9
WMQ				PCP		PcP	23 31 42.8	+0.6
WMQ				AMB		AMB		
	comp=Z,11nm,0.9s,mb5.0							
WMQ				AMB		AMB		
	comp=Z,83nm,3.7s							
WMQ				LR		LR		
	comp=N,199nm,30.0s							
WMQ				LR		LR		
	comp=Z,81nm,23.0s							
ZAK	**Zakamensk**	**62.36**	**351**	↓*i*P		**P**	**23 31 09.9**	**-0.2**
ZAK				pmax		pmax		
	comp=Z,12nm,1.4s,mb4.8							
KSH	**Kashi**	**62.75**	**326**	*e*P		**P**	**23 31 12.4**	**-0.3**
KSH				*e*XP		sP	23 31 34.2	+7.3
KSH				*e*PCP		PcP	23 31 52.6	+1.6
KSH				AMB		AMB		
	comp=Z,130nm,1.4s							
KSH				LR		LR		
	comp=N,165nm,4.9s							
KSH				LR		LR		
	comp=E,212nm,4.7s							
TLY	**Talaya**	**63.57**	**351**	*e*P		**P**	**23 31 18.8**	**+0.7**
TLY				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.8							
TLY	**Talaya**	**63.57**	**351**	*e*P		**P**	**23 31 18.5**	**+0.4**
	comp=Z,3.1nm,0.8s,mb4.4							
TLY				*e*pP		pP	23 31 26.2	-2.2
MOY	**Mondy**	**63.98**	**350**	*e*P		**P**	**23 31 21.5**	**+0.7**
MOY				pmax		pmax		
	comp=Z,33nm,2.5s,mb4.9							
ULHL	**Ulahol**	**64.54**	**328**	P		**P**	**23 31 24.8**	**+0.3**
	SNR=8.7							
KZA	**Kyzart**	**64.94**	**328**	P		**P**	**23 31 28.0**	**+0.9**
	SNR=21							
MKAR	**Makanchi Array**	**65.19**	**335**	P		**P**	**23 31 28.8**	**+0.1**
	comp=Z,10nm,0.6s,mb5.0,baz=146,slow=7.4,SNR=61							
MKAR	**Makanchi Array**	**65.19**	**335**	P		**P**	**23 31 28.8**	**+0.1**
KBK	**Karagaybulak**	**65.51**	**328**	P		**P**	**23 31 32.0**	**+1.3**
	SNR=7.4							
AAK	**Ala-Archa**	**65.73**	**328**	P		**P**	**23 31 33.0**	**+0.8**
	SNR=8.8							
AAK	**Ala-Archa**	**65.73**	**328**	*e*P		**P**	**23 31 31.7**	**-0.5**
AAK				*e**PP		pP	23 31 42.6	0.0
AAK				pmax		pmax		
	comp=Z,9.0nm,1.0s,mb4.8							
AAK	**Ala-Archa**	**65.73**	**328**	*e*P		**P**	**23 31 31.7**	**-0.5**
	comp=Z,8.8nm,1.0s,mb4.7							
AAK				*e*pP		pP	23 31 42.6	0.0
AML	**Almayashu**	**65.81**	**327**	P		**P**	**23 31 33.6**	**+0.9**
	SNR=12							
EKS2	**Erkin-Say**	**66.13**	**327**	P		**P**	**23 31 36.0**	**+1.2**
	SNR=14							
OPO	**Ambohidratompo**	**66.64**	**255**	P		**P**	**23 31 38.4**	**+0.3**
	comp=Z,2.9nm,0.9s,mb4.3,baz=84,slow=2.9,SNR=3.8							
BOD	**Bodaibo**	**68.82**	**359**	*e*P		**P**	**23 31 50.6**	**-1.2**
BOD				pmax		pmax		
	comp=Z,17nm,1.0s,mb4.9							
KURK	**Kurchatov**	**69.77**	**336**	*e*P		**P**	**23 31 56.8**	**-0.9**
KURK				pmax		pmax		
	comp=Z,18nm,1.0s,mb5.0							
KURK	**Kurchatov**	**69.77**	**336**	*e*P		**P**	**23 31 56.8**	**-0.8**
	comp=Z,18nm,1.0s,mb5.0							
ZAL	**Zalesovo**	**70.14**	**341**	P		**P**	**23 31 58.7**	**-1.2**
	baz=329,slow=4.6,SNR=64							
ZAL	**Zalesovo**	**70.14**	**341**	P		**P**	**23 31 58.7**	**-1.2**
VNDA	**Vanda**	**70.26**	**170**	P		**P**	**23 32 00.1**	**-0.6**
	comp=Z,5.2nm,0.9s,mb4.5,baz=296,slow=6.3,SNR=22							
NVS	**Novosibirsk**	**71.40**	**341**	↓*i*P		**P**	**23 32 05.0**	**-2.6**
NVS				pmax		pmax		
	comp=Z,18nm,1.1s,mb4.9							
NVS				pmax		pmax		
	comp=N,15nm,1.4s							
NVS				pmax		pmax		
	comp=E,13nm,1.4s							
BRVK	**Borovoye**	**75.01**	**333**	*e*P		**P**	**23 32 28.9**	**0.0**
BRVK				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.2							
BRVK	**Borovoye**	**75.01**	**333**	*e*P		**P**	**23 32 28.9**	**0.0**
	comp=Z,2.9nm,0.9s,mb4.2							
ZRNK	**Zerenda**	**75.50**	**333**	*e*P		**P**	**23 32 31.5**	**-0.2**
ZRNK				pmax		pmax		
	comp=Z,9.0nm,0.9s,mb4.7							
ZRNK	**Zerenda**	**75.50**	**333**	*e*P		**P**	**23 32 31.5**	**-0.2**
	comp=Z,9.4nm,0.9s,mb4.7							
QSPA	**South Pole Qui**	**78.78**	**180**	*e*P		**P**	**23 32 50.4**	**+0.3**
	comp=Z,5.4nm,0.7s,mb4.6							
KMBO	**Kilima Mbogo**	**78.81**	**271**	P		**P**	**23 32 50.6**	**+0.3**
	comp=Z,1.2nm,0.6s,mb4.0,baz=64,slow=18,SNR=4.2							
ARU	**Arti**	**82.42**	**332**	*e*P		**P**	**23 33 09.0**	**-0.6**
ARU				*e**PP		pP	23 33 19.9	-0.3
ARU				pmax		pmax		
	comp=Z,18nm,1.2s,mb4.9							
ARU	**Arti**	**82.42**	**332**	*e*P		**P**	**23 33 09.0**	**-0.6**
	comp=Z,18nm,1.2s,mb4.9							
ARU				*e*pP		pP	23 33 19.9	-0.4
TIXI	**Tiksi**	**83.14**	**4**	*e*P		**P**	**23 33 10.9**	**-2.4**
TIXI				pmax		pmax		
	comp=Z,4.0nm,1.2s,mb4.3							
MALT	**Malatya**	**87.38**	**310**	*e*P		**P**	**23 33 36.2**	**+1.6**
MALT				pmax		pmax		
	comp=Z,1.0nm,0.8s,mb4.1							
MALT	**Malatya**	**87.38**	**310**	*e*P		**P**	**23 33 36.2**	**+1.6**
	comp=Z,1.5nm,0.8s,mb4.3							
SNAA	**Sanae**	**88.08**	**196**	P		**P**	**23 33 38.1**	**+0.2**
	comp=Z,2.5nm,0.9s,mb4.5,baz=125,slow=5.0,SNR=16							
SNAA	**Sanae**	**88.08**	**196**	*e*		**P**	**23 33 38.3**	**+0.4**
SNAA				*e*			23 33 40.5	
SNAA				*e*		pP	23 33 47.5	-1.1
SNAA				*e*			23 34 02.7	
VNA2	**Neumayer--Watz**	**89.72**	**196**	*e*		**P**	**23 33 46.2**	**+0.6**
	baz=116,slow=4.3							
VNA2				*e*			23 33 48.6	
V

ASAR Alice Springs 21.00 128 P **P** **23 27 46.2 +1.7**
44nm,1.1s,baz=299,slow=9.4,SNR=13
ASAR S **S** **23 31 24.4 -12**
2.1nm,0.7s,baz=306,slow=16,SNR=2.4
NWAO Narrogin (SRO) 21.61 177 P **P** **23 27 51.7 +0.5**
17nm,0.5s,mb4.8,baz=354,slow=12,SNR=10
NWAO S **S** **23 31 32.2 -17**
20nm,0.7s,baz=297,slow=2.3,SNR=4.5
NWAO LR LR 23 36 14.7
comp=Z,394nm,18.7s,MS3.8,baz=164,slow=37
NWAO Narrogin (SRO) 21.61 177 P **P** **23 27 51.2 0.0**
PSI Prapat 22.03 308 P **P** **23 27 53.2 -2.5**
16nm,0.8s,mb4.5,baz=95,slow=6.9,SNR=6.8
PSI LR LR 23 36 50.0
comp=Z,448nm,20.1s,MS3.9,baz=168,slow=38
PSI Prapat 22.03 308 P **P** **23 27 53.2 -2.5**
PSI LR LR 23 36 50.0
FORT Forrest 22.40 152 *e*P **P** **23 27 57.6 -2.0**
38nm,0.7s,mb4.9
KULM Kulim 22.47 316 *e*P **P** **23 27 59.3 -1.1**
JAY Jayapura 25.93 72 P **P** **23 28 36.9 +3.8**
33nm,0.8s,mb4.9
BSI Banda Aceh 26.53 308 P **P** **23 28 38.4 -0.2**
47nm,1.4s,mb4.8
CTA Charters Tower 30.32 111 LR LR 23 41 29.5
comp=Z,165nm,20.0s,MS3.7,baz=64,slow=36
QIZ Qiongzhong 30.69 348 P **P** **23 29 16.7 +1.0**
QIZ AP pP 23 29 24.1 -0.7
QIZ XP sP 23 29 29.7 +1.2
QIZ PP PP 23 30 19.9 -5.3
QIZ S **S** **23 34 21.0 +4.6**
QIZ XS sS 23 34 38.9 +7.6
QIZ AMB AMB
comp=Z,28nm,1.3s,mb4.9
QIZ AMB AMB
comp=Z,84nm,4.2s
QIZ LR LR
comp=N,165nm,14.2s,MS4.0
QIZ LR LR
comp=E,144nm,14.2s,MS4.0
QIZ LR LR
comp=Z,116nm,17.8s,MS3.6
QIZ Qiongzhong 30.69 348 *e*P **P** **23 29 16.3 +0.6**
comp=Z,52nm,1.4s,mb5.2
STKA Stephens Creek 31.25 135 *e*P **P** **23 29 20.2 -0.3**
comp=Z,17nm,0.9s,mb4.9
STKA Stephens Creek 31.25 135 P **P** **23 29 19.8 -0.8**
comp=Z,28nm,1.1s,mb5.0,baz=300,slow=7.9,SNR=9.6
STKA LR LR 23 41 34.6
comp=Z,307nm,18.3s,MS4.0,baz=115,slow=36
CHTO Chiang Mai 34.30 330 *e*P **P** **23 29 48.1 +0.8**
CHTO pmax pmax
comp=Z,26nm,1.3s,mb5.0
CHTO Chiang Mai 34.30 330 *e*P **P** **23 29 48.1 +0.8**
comp=Z,26nm,1.3s,mb5.0
KMI Kunming 38.41 340 P **P** **23 30 24.4 +2.1**
KMI PP PP 23 31 55.3 +4.9
KMI S **S** **23 36 21.7 +6.5**
KMI SS SS 23 39 02.9 -1.8
KMI SSS 23 39 36.4
KMI AMB AMB
comp=Z,18nm,0.9s,mb4.8
KMI AMB AMB
comp=Z,139nm,4.0s
KMI LR LR
comp=N,200nm,12.1s,MS4.3
KMI LR LR
comp=E,245nm,16.9s,MS4.3
KMI LR LR
comp=Z,214nm,18.6s,MS4.0
PALK Pallekele 39.71 296 P **P** **23 30 33.2 0.0**
WHN Wuhan 41.57 358 P **P** **23 30 46.4 -2.2**
TAU Tasmania Unive 41.62 145 P **P** **23 30 49.3 +0.3**
SSE Sheshan 42.38 7 ⇑P **P** **23 30 57.6 +2.5**
SSE AMB AMB
comp=Z,47nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,138nm,5.5s
NJ2 Nanjing 43.12 3 *e*P **P** **23 31 02.8 +1.6**
NJ2 AP pP 23 31 09.4 -1.1
NJ2 PP PP 23 32 44.8 +3.2
NJ2 S **S** **23 37 30.0 +4.6**
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.0
NJ2 AMB AMB
comp=Z,130nm,5.3s
NJ2 LR LR
comp=N,610nm,29.2s,MS4.5
NJ2 LR LR
comp=E,620nm,30.0s,MS4.5
NJ2 LR LR
comp=Z,410nm,32.0s,MS4.1
HNR Honiara 43.18 92 *e*P **P** **23 31 03.0 +1.4**
CD2 Chengdu 43.54 345 *e*P **P** **23 31 04.6 0.0**
CD2 PP PP 23 32 48.4 +2.3
CD2 S **S** **23 37 34.4 +2.9**
CD2 SS SS 23 40 42.6 -4.1
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
CD2 LR LR
comp=E,100nm,13.2s
CD2 LR LR
comp=Z,90nm,19.2s
XAN Xi'an 45.53 352 P **P** **23 31 19.7 -0.8**
XAN AP pP 23 31 30.1 +0.3
XAN AMB AMB
comp=Z,19nm,1.2s,mb4.9
HYB Hyderabad 46.74 307 *i* P **P** **23 31 29.5 -0.5**
HYB *e*pP pP 23 31 41.5 +2.2
HYB Hyderabad 46.74 307 *e*P **P** **23 31 29.5 -0.5**
LSA Lhasa 47.26 330 P **P** **23 31 35.2 +1.2**
LSA AMB AMB
comp=Z,20nm,1.0s,mb5.0
LSA Lhasa 47.26 330 P **P** **23 31 35.3 +1.3**
JIRN Jiri 48.31 324 *e*P **P** **23 31 42.5 +0.4**
comp=Z,136nm,0.7s,mb6.1
LZH Lanzhou 48.46 347 *e*P **P** **23 31 44.0 +0.7**
LZH AP pP 23 31 54.5 +1.8
LZH AMB AMB
comp=Z,50nm,1.5s,mb5.3
GUN Gumba 48.68 324 *e*P **P** **23 31 45.2 +0.2**
comp=Z,145nm,0.8s,mb6.0
PKI Pulchoki 48.70 323 *e*P **P** **23 31 44.8 -0.4**
comp=Z,45nm,0.8s,mb5.5
DMN Daman 48.91 323 *e*P **P** **23 31 46.7 -0.1**
comp=Z,91nm,0.8s,mb5.9
KKN Kakani 48.94 323 *e*P **P** **23 31 46.8 -0.2**
comp=Z,83nm,0.9s,mb5.8
GKN Gorkha 49.48 323 *e*P **P** **23 31 50.4 -0.7**
comp=Z,91nm,0.8s,mb5.8
KOLN Koldanda 49.93 322 *e*P **P** **23 31 54.3 -0.3**
comp=Z,66nm,0.7s,mb5.8
BJT Baijiatuau 50.99 0 *e*P **P** **23 32 02.8 +0.2**
BJI Beijing 51.01 0 *e*P **P** **23 32 01.7 -1.1**
BJI AMB AMB
comp=Z,10.0nm,1.3s,mb4.6
BJI LR LR
comp=Z,175nm,25.6s,MS4.0
BTO Baotou 51.88 354 *e*P **P** **23 32 06.1 -3.2**
MAJO Matsushiro 51.90 23 *e*P **P** **23 32 08.6 -0.8**
MAJO pmax pmax
comp=Z,6.0nm,0.3s,mb5.0
MAJO Matsushiro 51.90 23 *e*P **P** **23 32 08.6 -0.8**
comp=Z,6.2nm,0.3s,mb5.0
MJAR Matsushiro Arr 51.90 23 P **P** **23 32 08.4 -0.9**
comp=Z,11nm,0.8s,mb4.8,baz=198,slow=7.2,SNR=15
MJAR LR LR 23 52 14.8
comp=Z,96nm,21.7s,MS3.8,baz=210,slow=34
HHC Hu-ho-hao-te 51.99 356 *e*P **P** **23 32 11.9 +1.8**
HHC AP pP 23 32 19.0 -0.5
HHC PCP PcP 23 33 22.2 +0.1
HHC PP PP 23 34 12.4 +4.2
HHC PCS PcS 23 37 19.8 -0.5
HHC S **S** **23 39 36.7 +5.4**
HHC SS SS 23 43 12.6 +4.1
HHC AMB AMB
comp=Z,12nm,1.4s,mb4.6
HHC AMB AMB
comp=Z,150nm,4.6s
HHC LR LR
comp=N,173nm,14.3s,MS4.3
HHC LR LR
comp=E,128nm,16.7s,MS4.3
HHC LR LR
comp=Z,123nm,17.3s,MS4.0
GTA Gaotai 52.61 344 *e*P **P** **23 32 15.1 +0.4**
GTA AP pP 23 32 24.5 +0.4
GTA XP sP 23 32 29.6 +1.8
GTA PCP PcP 23 33 25.1 +0.6
GTA PP PP 23 34 15.0 +1.2
GTA S **S** **23 39 37.2 -2.6**
GTA AMB AMB
comp=Z,13nm,1.0s,mb4.8
GTA AMB AMB
comp=Z,176nm,3.4s
GTA LR LR
comp=N,101nm,20.8s,MS4.1
GTA LR LR
comp=E,158nm,18.1s,MS4.1
GTA LR LR
comp=Z,120nm,22.0s,MS3.9
CN2 Changchun 55.44 8 *e*P **P** **23 32 41.4 +6.1**
MDJ Mudanjiang 56.93 11 P **P** **23 32 47.3 +1.4**
MDJ PP PP 23 34 54.0 +1.5
MDJ PCS PcS 23 37 43.0 +1.1
MDJ S **S** **23 40 43.1 +5.3**
MDJ AMB AMB
comp=Z,6.0nm,0.8s,mb4.7
MDJ AMB AMB
comp=Z,86nm,5.6s
MDJ LR LR
comp=N,50nm,37.2s,MS3.4
MDJ LR LR
comp=E,26nm,32.8s,MS3.4
MDJ LR LR
comp=Z,66nm,37.2s,MS3.5
MDJ Mudanjiang 56.93 11 *e*P **P** **23 32 45.5 -0.4**
ULN Ulaanbaatar 59.38 353⇑*e*P **P** **23 33 03.4 +0.3**
ULN Ulaanbaatar 59.38 353 P **P** **23 33 03.3 +0.2**
comp=Z,15nm,1.1s,mb4.9
SONM Songino Array 59.43 352 P **P** **23 33 03.7 +0.3**
comp=Z,13nm,0.9s,mb5.0,baz=170,slow=7.8,SNR=20
SONM LR LR 00 01 57.4
comp=Z,75nm,19.2s,MS3.8,baz=189,slow=39
HIA Hailar 60.33 3 P **P** **23 33 09.5 -0.1**
WMQ Urumqi 60.58 337⇓*i*P **P** **23 33 12.1 +0.8**
WMQ PCP PcP 23 33 56.6 +1.1
WMQ PP PP 23 35 27.4 +2.5
WMQ S **S** **23 41 26.3 +1.1**
WMQ AMB AMB
comp=Z,21nm,1.1s,mb5.2
WMQ AMB AMB
comp=Z,267nm,4.1s
WMQ LR LR
comp=N,67nm,22.7s
WMQ LR LR
comp=Z,74nm,22.6s,MS3.8
KLR Kul'dur 61.77 12 *e*P **P** **23 33 15.8 -3.6**
ZAK Zakamensk 62.37 351⇓*e*P **P** **23 33 22.9 -0.5**
ZAK pmax pmax
comp=Z,19nm,1.6s,mb5.0
YSS Yuzh-Sakhalins 62.65 20 *e*P **P** **23 33 25.3 0.0**
KSH Kashi 62.75 326 *i* P **P** **23 33 26.2 +0.2**
KSH *e*PCP PcP 23 34 04.4 +0.1
KSH *e*PP PP 23 35 45.2 +1.1
KSH *e*SCP ScP 23 38 04.1 -0.1
KSH *e*PCS PcS 23 38 06.1 -1.6
KSH *e*S **S** **23 41 50.5 -2.2**
KSH *i* SCS ScS 23 43 14.2 -2.0
KSH *e*SS SS 23 45 58.3 +0.6
KSH AMB AMB
comp=Z,196nm,2.6s,mb5.8
KSH LR LR
comp=N,102nm,4.5s
KSH LR LR
comp=E,212nm,4.7s
CIT Chita 63.03 358 *e*P **P** **23 33 28.8 +1.0**
TLY Talaya 63.58 351 P **P** **23 33 32.0 +0.6**
comp=E,90nm,0.8s,mb5.8,SNR=5.2
TLY Talaya 63.58 351 P **P** **23 33 31.9 +0.5**
MOY Mondy 63.99 350 *e*P **P** **23 33 34.7 +0.5**
ULHL Ulahol 64.55 328 P **P** **23 33 38.3 +0.5**
SNR=8.8
KZA Kyzart 64.95 328 P **P** **23 33 41.2 +0.8**
SNR=18
MKAR Makanchi Array 65.19 335 P **P** **23 33 42.1 +0.1**
comp=E,19nm,0.7s,mb5.2,baz=148,slow=7.2,SNR=35
TKM2 Tokmak 2 65.36 328 P **P** **23 33 43.9 +0.8**
SNR=7.0
UCH Uchtor 65.44 327 P **P** **23 33 44.6 +1.0**
SNR=7.7
KBK Karagaybulak 65.51 328 P **P** **23 33 44.9 +0.9**
SNR=10
AAK Ala-Archa 65.73 328 P **P** **23 33 46.0 +0.5**
SNR=12
AAK Ala-Archa 65.73 328 P **P** **23 33 45.3 -0.2**
comp=E,89nm,1.0s,mb5.8,SNR=12
AAK Ala-Archa 65.73 328*d*/*i*P **P** **23 33 45.1 -0.4**
AAK pmax pmax
comp=Z,32nm,1.8s,mb5.0
AAK Ala-Archa 65.73 328 P **P** **23 33 44.8 -0.7**
AML Almayashu 65.81 327 P **P** **23 33 46.9 +0.9**
SNR=10
EKS2 Erkin-Say 66.13 327 P **P** **23 33 48.9 +0.8**
SNR=16
MAW Mawson 66.17 200 LR LR 23 55 41.1
comp=Z,123nm,20.0s,MS4.1,baz=240,slow=30
USP Ospenovka 66.17 328 P **P** **23 33 48.4 +0.1**
SNR=10
BOD Bodaibo 68.83 359 *e*P **P** **23 34 04.6 -0.5**
BOD pmax pmax
comp=Z,26nm,1.1s,mb5.1
KURK Kurchatov 69.78 336 P **P** **23 34 10.4 -0.6**
comp=Z,156nm,1.3s,mb5.8,SNR=11
KURK Kurchatov 69.78 336*d*/*i*P **P** **23 34 10.9 -0.1**
KURK Kurchatov 69.78 336 *e*P **P** **23 34 10.9 0.0**
comp=Z,24nm,0.9s,mb5.1
ZAL Zalesovo 70.14 341 P **P** **23 34 11.7 -1.6**
comp=Z,0.7nm,0.3s,mb4.0,baz=196,slow=4.8,SNR=2.0
VNDA Vanda 70.26 170 P **P** **23 34 13.4 -0.5**
comp=Z,9.2nm,1.0s,mb4.7,baz=306,slow=6.3,SNR=9.9
VNDA LR LR 00 02 40.4
comp=Z,140nm,19.3s,MS4.2,baz=317,slow=34
SBA Scott Base 71.28 170 P **P** **23 34 21.3 +1.1**
SBA pmax pmax
comp=Z,18nm,1.4s,mb4.8
SBA Scott Base 71.28 170 P **P** **23 34 21.3 +1.2**
comp=Z,18nm,1.4s,mb4.8
NVS Novosibirsk 71.40 341 *e*P **P** **23 34 18.8 -2.1**
NVS pmax pmax
comp=Z,34nm,1.5s,mb5.1
NVS pmax pmax
comp=N,25nm,1.6s
NVS pmax pmax
comp=E,23nm,1.4s
YAK Yakutsk 73.81 7 *e*P **P** **23 34 34.5 -0.7**
YAK pmax pmax
comp=Z,27nm,0.8s,mb5.2
BRVK Borovoye 75.01 333 P **P** **23 34 42.5 +0.3**
ZRNK Zerenda 75.51 333 P **P** **23 34 45.0 0.0**
ZRNK pmax pmax
comp=Z,17nm,0.9s,mb5.0
ZRNK Zerenda 75.51 333 P **P** **23 34 45.0 -0.1**
comp=Z,17nm,0.9s,mb5.0
QSPA South Pole Qui 78.77 180 *e*P **P** **23 35 03.9 +0.5**
comp=Z,20nm,1.2s,mb4.9
KMBO Kilima Mbogo 78.81 271 P **P** **23 35 03.2 -0.3**
comp=Z,0.6nm,0.3s,mb4.0,baz=66,slow=13,SNR=3.6
ORR Orenburg 81.82 326 *e*P **P** **23 35 20.4 +0.6**
ORR pmax pmax
comp=Z,30nm,1.8s,mb4.9
ARU Arti 82.43 332 P **P** **23 35 22.3 -0.6**
comp=Z,102nm,0.9s,mb5.8,SNR=9.4
ARU Arti 82.43 332⇓*i*P **P** **23 35 22.3 -0.6**
ARU *e* 23 38 30.7
ARU *e*PPP 23 40 18.4
ARU *e*S S 23 45 35.9 -1.2
ARU *e*SS SS 23 50 55.4 -2.8
ARU pmax pmax
comp=Z,21nm,1.2s,mb4.9
ARU Arti 82.43 332 P **P** **23 35 22.8 -0.1**
comp=Z,25nm,1.1s,mb5.1
TIXI Tiksi 83.14 4 *e*P **P** **23 35 25.5 -1.2**
TIXI pmax pmax
comp=Z,14nm,1.6s,mb4.7
GNI Garni 83.31 313 *e*P **P** **23 35 27.2 -0.3**
GNI pmax pmax
comp=Z,10.0nm,1.3s
GNI Garni 83.31 313 *e*P **P** **23 35 29.2 +1.7**
comp=Z,5.7nm,0.9s,mb4.6
ZEI Tsey 84.83 315 *e*P **P** **23 35 35.2 0.0**
LBTB Lobatse 85.75 245 *e*P **P** **23 35 40.4 +0.5**
comp=Z,0.4nm,0.4s,mb4.0
KIV Kislovodsk 86.06 316 *e*P **P** **23 35 41.5 +0.1**
KIV pmax pmax
comp=Z,9.0nm,1.1s,mb4.9
KIV Kislovodsk 86.06 316 *e*P **P** **23 35 43.1 +1.7**
GOF Gofitskoye 86.20 317 *e*P **P** **23 35 42.1 0.0**
MALT Malatya 87.38 310 P **P** **23 35 49.6 +1.7**
MALT pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
MALT Malatya 87.38 310 P **P** **23 35 49.5 +1.7**
comp=Z,9.4nm,1.0s,mb5.0
SNAA Sanae 88.07 196 P **P** **23 35 51.2 0.0**
comp=Z,3.6nm,1.0s,mb4.6,baz=89,slow=3.7,SNR=11
SNAA Sanae 88.07 196 *e*P **P** **23 35 51.6 +0.4**
SNAA *e* 23 35 53.3
SNAA *e* pP 23 35 59.8 -1.3
SNAA *e* pP 23 36 02.5 +1.4
VNA2 Neumayer--Watz 89.71 196 *e*P **P** **23 35 59.8 +0.9**
VNA2 *e* 23 36 00.8
VNA2 *e* pP 23 36 07.7 -1.2
VNA2 *e* pP 23 36 10.6 +1.7
VNA2 *e* 23 36 15.4
VNA3 Neumayer Olymp 90.12 195 *e*P **P** **23 36 01.2 +0.4**
VNA3 *e* 23 36 02.0
VNA3 *e* pP 23 36 09.8 -1.0
VNA3 *e* 23 36 12.7
VNA3 *e* 23 36 17.6
BR131 Keskin Array S 91.35 310 *e*P **P** **23 36 06.1 -0.4**
comp=Z,3.4nm,0.9s,mb4.7
BRTR Keskin Array B 91.35 310 P **P** **23 36 06.7 +0.2**
comp=Z,3.6nm,0.9s,mb4.7,baz=116,slow=5.6,SNR=13
OBN Obninsk 93.20 326⇓*e*P **P** **23 36 13.9 -1.1**
OBN *e* 23 39 59.4
OBN pmax pmax
comp=Z,4.0nm,0.6s,mb5.0
KLMR Klimovskoe 93.27 332 *e*P **P** **23 36 14.1 -1.3**
KLMR pmax pmax
comp=Z,10.0nm,1.5s,mb5.0
AKASG Malin Array Be 96.61 320 P **P** **23 36 29.2 -1.4**
comp=Z,0.3nm,0.4s,mb4.1,baz=87,slow=4.1,SNR=7.7
AKASG Malin Array Be 96.61 320 *i* P **P** **23 36 29.8 -0.8**
FINES FINESS Array B 99.77 331 P Pdif 23 36 42.5 -2.3
comp=Z,1.9nm,0.9s,baz=64,slow=4.4,SNR=7.1
FINES FINESS Array B 99.77 331 *i* P Pdif 23 36 44.7 -0.1
FINES pmax pmax
comp=Z,2.0nm,0.9s
TORD Torodi Ar. Bea 115.99 279 PKP PKPdf 23 41 44.4 +0.9
comp=Z,0.7nm,0.7s,baz=42,slow=2.0,SNR=8.9
YKA Yellowknife Ar 117.40 24 PKP PKPdf 23 41 46.1 0.0
comp=Z,0.9nm,0.6s,baz=311,slow=2.0,SNR=20
NVAR Mina Array Bea 124.66 51 PKP PKPdf 23 42 02.3 +2.2
comp=Z,0.8nm,0.7s,baz=226,slow=1.7,SNR=5.6
HLID Hailey 125.93 44 PKPdf PKPdf 23 42 05.4 +2.8
ANMO Albuquerque 134.78 51 *i* PKIKP PKPdf 23 42 20.3 +1.0
CPUP Villa Florida 142.11 190 PKP PKPdf 23 42 33.9 +1.1
comp=Z,0.5nm,0.4s,baz=117,slow=1.5,SNR=3.2
FVM French Village 144.34 37 PKIKP PKPdf 23 42 35.1 -1.6
MIAR Mount Ida 144.40 45 PKIKP PKPdf 23 42 36.4 -0.4
HKT Hockley 144.99 53 PKIKP PKPdf 23 42 40.1 +2.3
UALR University of 145.11 43 PKPdf PKPdf 23 42 39.3 +1.2
LVC Limon Verde 146.01 172 PKPdf PKPbc 23 42 42.9 +2.5
NCB Newcomb 146.19 13 PKPdf PKPdf 23 42 42.3 +2.5
WCI Wyandotte Cave 146.50 33 PKP2 PKPab 23 42 43.3 +0.5
ACSO Alum Creek Sta 146.56 27 PKPdf PKPdf 23 42 43.6 +3.0
BINY Binghamton 147.41 17 PKPdf PKPbc 23 42 45.3 +0.9
PLAL Pickwick Lake 147.74 39 PKPdf PKPbc 23 42 46.2 +0.9
SWET Sewanee 148.87 36 PKPdf PKPbc 23 42 49.1 +0.8
BDFB Brasilia 148.99 211 PKPbc PKPbc 23 42 50.2 +1.6
comp=Z,5.5nm,0.8s,baz=120,slow=2.2,SNR=5.1
PAL Palisades 149.07 15 PKP2 PKPab 23 42 50.6 -2.5
TZTN Tazewell 149.21 32 PKPdf PKPdf 23 42 47.5 +2.6
CPCT Cooper Cave 149.50 34 PKPdf PKPbc 23 42 51.5 +1.7
LRAL Lakeview Retre 149.69 41 PKPdf PKPbc 23 42 52.0 +1.7
LPAZ La Paz 152.34 171 PKPbc PKPbc 23 42 59.0 +2.5
comp=Z,4.1nm,0.9s,baz=140,slow=2.0,SNR=8.6
LPAZ La Paz 152.34 171 PKPdf PKPbc 23 42 59.8 +3.2

IDC **11** *23:25:44.2±0.8, 11.13S×11607E, h0km, mb4.2/7, mb1 4.3/8, mb1mx4.2/15, mbtmp4.2/8, ML3.8/1, Error ellipse: s-maj=36.2km s-min=18.2km az=63.0*
ISCJB **11** *23:25:47.0±0.5, 11.1S±0.1×1162E±0.1, h33km, mb4.8/17, Error ellipse: s-maj=21.2km s-min=7.9km az=94.9*
NEIC **11** *23:25:49.3±0.4, 11.15S×116.11E, h35km, mb4.4/3, Error ellipse: s-maj=16.5km s-min=6.5km az=50.0*
ISC 11 23:25:49.2±0.5, 112S±01×1161E±01, h35km, n27, σ0s78/26, mb4.8/17, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
	1.0nm,0.3s,baz=209,slow=19,SNR=3.5								
FITZ	**Fitzroy Crossi**	**11.48**	**128**		Sn		**Sn**	**23 30 27.1**	**-10**
KKM	**Kota Kinabalu**	**17.11**	**0**		*e*Pn		**Pn**	**23 29 45.7**	**+0.1**
WRA	**Warramunga Arr**	**19.56**	**119**		P		**Pn**	**23 30 13.9**	**-1.5**
	0.3nm,0.3s,baz=295,slow=13,SNR=2.7								
WRAB	**Tennant Creek**	**19.57**	**119**		*e*P		**Pn**	**23 30 14.2**	**-1.2**
ASAR	**Alice Springs**	**20.98**	**129**		P		**P**	**23 30 31.6**	**+2.3**
	3.8nm,0.7s,baz=300,slow=9.6,SNR=4.4								
PSI	**Prapat**	**22.05**	**308**		P		**P**	**23 30 39.1**	**-1.7**
	4.3nm,0.7s,mb4.0,baz=146,slow=4.5,SNR=6.3								
KULM	**Kulim**	**22.48**	**316**		*e*P		**P**	**23 30 44.3**	**-1.1**
CTAO	**Charters Tower**	**30.28**	**111**		P		**P**	**23 31 57.7**	**+0.8**
STKA	**Stephens Creek**	**31.24**	**135**		*e*P		**P**	**23 32 05.1**	**-0.3**
LSA	**Lhasa**	**47.24**	**330**		P		**P**	**23 34 19.6**	**+0.8**
JIRN	**Jiri**	**48.30**	**324**		*e*P		**P**	**23 34 27.6**	**+0.6**
	53nm,0.6s,mb5.7								
GUN	**Gumba**	**48.67**	**324**		*e*P		**P**	**23 34 30.3**	**+0.5**
	48nm,0.7s,mb5.7								
PKI	**Pulchoki**	**48.70**	**323**		*e*P		**P**	**23 34 30.2**	**+0.2**
	20nm,0.8s,mb5.2								
DMN	**Daman**	**48.90**	**323**		*e*P		**P**	**23 34 31.7**	**+0.1**
	37nm,0.7s,mb5.5								
KKN	**Kakani**	**48.93**	**323**		*e*P		**P**	**23 34 31.9**	**+0.1**
	15nm,0.7s,mb5.2								
GKN	**Gorkha**	**49.47**	**323**		*e*P		**P**	**23 34 35.8**	**-0.2**
	25nm,0.5s,mb5.5								
KOLN	**Koldanda**	**49.93**	**321**		*e*P		**P**	**23 34 39.0**	**-0.4**
	29nm,0.7s,mb5.4								
MJAR	**Matsushiro Arr**	**51.82**	**23**		P		**P**	**23 34 53.3**	**-0.4**
	47nm,0.3s,mb5.9,baz=192,slow=7.1,SNR=5.1								
SONM	**Songino Array**	**59.39**	**352**		P		**P**	**23 35 48.5**	**+0.5**
	0.6nm,0.4s,mb3.9,baz=172,slow=8.1,SNR=6.5								
MKAR	**Makanchi Array**	**65.17**	**335**		P		**P**	**23 36 27.2**	**+0.5**
	4.3nm,0.5s,mb4.7,baz=147,slow=7.5,SNR=14								
KURK	**Kurchatov**	**69.75**	**336**		*e*P		**P**	**23 36 56.2**	**+0.5**
	2.3nm,0.5s,mb4.4								
ZAL	**Zalesovo**	**70.11**	**341**		P		**P**	**23 36 57.2**	**-0.7**
	3.4nm,0.6s,mb4.4,baz=316,slow=4.0,SNR=8.9								
VNDA	**Vanda**	**70.30**	**170**		P		**P**	**23 36 59.1**	**+0.1**
	1.8nm,0.9s,mb4.0,baz=344,slow=6.6,SNR=4.4								
BRVK	**Borovoye**	**75.00**	**333**		P		**P**	**23 37 27.1**	**+0.2**
	1.3nm,0.6s,mb4.0								
ZRNK	**Zerenda**	**75.49**	**333**		*e*P		**P**	**23 37 29.9**	**+0.2**
	3.0nm,0.5s,mb4.5								
SNAA	**Sanae**	**88.14**	**196**		P		**P**	**23 38 36.7**	**+0.4**
	0.9nm,0.8s,mb4.1,baz=163,slow=3.1,SNR=5.9								
YKA	**Yellowknife Ar**	**117.32**	**24**		PKP	PKPdf		23 44 31.5	+0.6
	0.3nm,0.6s,baz=309,slow=2.1,SNR=5.0								

IDC **11** *23:56:11.3±0.8, 11.14S×11621E, h0km, mb4.0/7, mb1 4.1/8, mb1mx4.0/14, mbtmp4.0/8, ML3.8/1, MS3.5/1, Ms1 3.5/1, ms1mx2.5/24, Error ellipse: s-maj=46.2km s-min=17.8km az=61.0*
ISCJB **11** *23:56:13.4±0.4, 1125S±0.10×1162E±0.1, h33km, mb4.3/13, Error ellipse: s-maj=20.9km s-min=7.5km az=105.7*
NEIC **11** *23:56:16.4±0.5, 1123S×116.16E, h35km, mb4.0/4, Error ellipse: s-maj=20.2km s-min=10.0km az=64.0*
ISC 11 23:56:15.9±0.4, 1123S±010×1162E±01, h35km, n32, σ0s92/33, mb4.3/13, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**10.44**	**161**		*e*Pn		**Pn**	**23 58 36.9**	**-6.2**
	13nm,0.5s								
FITZ	**Fitzroy Crossi**	**11.41**	**128**		*e*S		**Sn**	**00 00 54.0**	**-8.6**
FITZ	**Fitzroy Crossi**	**11.41**	**128**		Sn		**Sn**	**00 00 53.5**	**-9.1**
	0.8nm,0.3s,baz=226,slow=20,SNR=3.2								
WRA	**Warramunga Arr**	**19.50**	**119**		P		**Pn**	**00 00 41.7**	**+0.3**
	0.3nm,0.3s,baz=296,slow=9.9,SNR=5.9								
WRA					S		**S**	**00 04 05.1**	**-13**
	0.4nm,0.3s,baz=290,slow=26,SNR=5.1								
WRAB	**Tennant Creek**	**19.50**	**119**		*e*P		**Pn**	**00 00 40.6**	**-0.8**

12nm,0.8s
KLBR Kellerberrin 20.31 176 *e*P **P 00 00 47.6 -1.2**
KLBR *e*S S 00 04 08.8 -26
MUN Mundaring 20.65 180 *e*P **P 00 00 54.1 +1.7**
MUN *e*S **S 00 04 25.4 -16**
ASAR Alice Springs 20.91 129 P **P 00 00 56.2 +0.9**
7.1nm,1.1s,baz=302,slow=9.2,SNR=19
ASAR S **S 00 04 41.2 -5.3**
1.1nm,0.6s,baz=299,slow=23,SNR=8.9
NWAO Narrogin (SRO) 21.61 178 P **P 00 01 03.2 +0.4**
6.4nm,0.8s,mb4.1,baz=352,slow=12,SNR=3.1
NWAO S **S 00 04 42.9 -17**
8.3nm,0.9s,baz=53,slow=10,SNR=3.3
NWAO LR LR 00 09 34.5
comp=Z,116nm,18.9s,baz=278,slow=37
NWAO Narrogin (SRO) 21.61 178 P **P 00 01 03.2 +0.4**
NWAO S **S 00 04 42.9 -17**
NWAO LR LR 00 09 34.5
KULM Kulim 22.55 316 *e*P **P 00 01 08.6 -4.2**
STKA Stephens Creek 31.17 135 P **P 00 02 30.8 -0.7**
2.8nm,0.9s,mb4.1,baz=325,slow=6.4,SNR=4.5
STKA Stephens Creek 31.17 135 P **P 00 02 30.8 -0.7**
JIRN Jiri 48.37 324 *e*P **P 00 04 54.5 +0.3**
20nm,0.7s,mb5.3
GUN Gumba 48.74 324 *e*P **P 00 04 57.6 +0.5**
18nm,0.7s,mb5.2
PKI Pulchoki 48.76 323 *e*P **P 00 04 57.2 -0.1**
DMN Daman 48.97 323 *e*P **P 00 04 58.2 -0.7**
11nm,0.6s,mb5.1
KKN Kakani 49.00 323 *e*P **P 00 04 58.0 -1.1**
GKN Gorkha 49.54 323 *e*P **P 00 05 03.0 -0.2**
KOLN Koldanda 50.00 321 *e*P **P 00 05 06.3 -0.4**
11nm,0.7s,mb5.0
SONM Songino Array 59.44 352 P **P 00 06 16.1 +1.0**
1.4nm,0.8s,mb4.0,baz=172,slow=7.8,SNR=12
MKAR Makanchi Array 65.23 335 P **P 00 06 53.9 +0.1**
2.8nm,0.9s,mb4.3,baz=153,slow=6.8,SNR=9.7
MKAR Makanchi Array 65.23 335 P **P 00 06 53.9 +0.1**
KURK Kurchatov 69.82 336 *e*P **P 00 07 23.2 +0.4**
3.4nm,1.0s,mb4.2
VNDA Vanda 70.24 170 P **P 00 07 28.0 +2.6**
1.0nm,0.8s,mb3.8,baz=304,slow=5.7,SNR=4.5
BRVK Borovoye 75.06 333 *e*P **P 00 07 53.8 -0.2**
0.5nm,0.6s,mb3.6
ZRNK Zerenda 75.56 333 *e*P **P 00 07 57.1 +0.2**
0.9nm,0.7s,mb3.8
BRTR Keskin Array B 91.43 310 P **P 00 09 18.8 +0.3**
0.5nm,0.8s,mb3.9,baz=77,slow=6.5,SNR=4.4
YKA Yellowknife Ar 117.35 24 PKP PKPdf 00 14 56.7 -1.0
0.2nm,0.6s,baz=309,slow=1.9,SNR=5.3
YKA Yellowknife Ar 117.35 24 PKP PKPdf 00 14 56.7 -1.0
LAZ Ladron 134.35 52 *e*Pdif Pdif 00 12 32.2 +2.1
LPAZ La Paz 152.33 171 PKPbc PKPbc 00 16 12.0 +3.9
0.4nm,0.8s,baz=237,slow=5.2,SNR=4.2

IDC ***12*** *00:02:17.4±3.0,2346S×17982W,h498km±32km,mb3.2/5, mb1 3.5/6,mb1mx3.2/14,mbtmp4.1/6,Error ellipse: s-maj=49.7km s-min=25.7km az=160.0*
NEIC ***12*** *00:02:17.7±2.7,2339S×17986W,h503km±29km,mb4.2/3, Error ellipse: s-maj=21.3km s-min=14.8km az=216.0*
ISCJB ***12*** *00:02:18.2±4.5,235S±02×1800W±02,h516km±52km, mb3.8/7,Error ellipse: s-maj=32.2km s-min=22.4km az=80.7*

ISC 12 00:02:17.3±3.8,234S±02×1798W±02,h496km±43km,n16, σ0§63/13,mb3.7/7,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**15.02**	**189**	P	**P**	**00 05 27.4**	**-0.3**
	2.2nm,0.3s,baz=254,slow=10,SNR=7.1						
CTA	**Charters Tower**	**31.62**	**269**	P	**P**	**00 07 59.9**	**+1.1**
	5.4nm,0.4s,mb4.4,baz=89,slow=9.1,SNR=7.7						
CTAO	**Charters Tower**	**31.62**	**269**	*e*P	**P**	**00 07 59.4**	**+0.6**
	6.5nm,0.3s,mb4.5						
TAU	**Tasmania Unive**	**33.36**	**226**	*e*P	**P**	**00 08 13.2**	**-0.4**
STKA	**Stephens Creek**	**35.04**	**247**	P	**P**	**00 08 28.1**	**+0.4**
ASAR	**Alice Springs**	**42.26**	**260**	P	**P**	**00 09 26.4**	**0.0**
	0.9nm,1.0s,mb3.2,baz=105,slow=7.1,SNR=4.7						
ASAR				ScP	ScP	00 14 12.2	+0.3
	1.1nm,0.8s,baz=113,slow=4.1,SNR=7.1						
WRAB	**Tennant Creek**	**42.58**	**266**	*e*P	**P**	**00 09 28.6**	**-0.3**
	2.4nm,0.4s,mb4.0						
WRA	**Warramunga Arr**	**42.59**	**266**	P	**P**	**00 09 28.6**	**-0.3**
	1.1nm,0.3s,mb3.8,baz=95,slow=8.4,SNR=7.2						
SBA	**Scott Base**	**54.86**	**183**	*e*P	**P**	**00 11 01.4**	**+1.2**
CASY	**Casey**	**60.60**	**206**	*e*P	**P**	**00 11 38.4**	**-0.9**
QSPA	**South Pole Qui**	**66.66**	**180**	*e*P	**P**	**00 12 18.1**	**-0.1**
	1.6nm,0.5s,mb3.9						
ILAR	**Eielson Array**	**91.54**	**13**	P	**P**	**00 14 29.6**	**-0.9**
	0.3nm,0.8s,mb3.3,baz=205,slow=10,SNR=4.1						
PDAR	**Pinedale Array**	**92.25**	**44**	P	**P**	**00 14 34.4**	**+0.7**
	0.5nm,0.6s,mb3.6,baz=228,slow=5.8,SNR=5.3						
ARCES	**ARCESS Array B**	**131.46**	**348**	PKP	PKPdf	00 20 30.9	-2.0
	10.0nm,1.2s,baz=350,slow=6.2,SNR=3.7						
FINES	**FINESS Array B**	**138.04**	**342**	PKP	PKPdf	00 20 44.2	-1.0
	0.8nm,0.7s,baz=114,slow=2.3,SNR=4.3						
AKASG	**Malin Array Be**	**144.65**	**328**	PKP	PKPdf	00 20 55.6	-1.3
	1.0nm,0.4s,baz=48,slow=3.6,SNR=6.9						

IDC ***12*** *00:10:59.7±1.1,1121S×11620E,h0km,mb4.0/5, mb1 4.1/7,mb1mx4.0/14,mbtmp4.0/7,ML3.8/2,MS3.2/1, Ms1 3.2/1,ms1mx2.6/18,Error ellipse: s-maj=60.5km s-min=18.2km az=56.0*
ISCJB ***12*** *00:11:01.8±0.4,1124S±008×1162E±0.1,h33km,mb4.6/13, MS3.0/1,Error ellipse: s-maj=18.3km s-min=6.8km az=108.6*
NEIC ***12*** *00:11:04.7±0.5,1122S×11603E,h35km,mb4.1/6,Error ellipse: s-maj=16.8km s-min=8.0km az=63.0*

ISC 12 00:11:04.3±0.4,1121S±008×1162E±01,h35km,n29, σ1§20/33,mb4.6/13,MS3.0/1,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**10.46**	**162**	*e*Pn	**Pn**	**00 13 24.7**	**-6.9**
	9.6nm,0.6s						
MBWA				*e*Sn	**Sn**	**00 15 11.5**	**-16**
FITZ	**Fitzroy Crossi**	**11.41**	**128**	*e*P	**Pn**	**00 13 42.4**	**-2.3**
	3.2nm,0.3s						
FITZ				*e*S	**Sn**	**00 15 40.0**	**-11**
FITZ	**Fitzroy Crossi**	**11.41**	**128**	Pn	**Pn**	**00 13 42.6**	**-2.1**
	0.4nm,0.3s,baz=256,slow=13,SNR=16						
FITZ				Sn	**Sn**	**00 15 41.4**	**-10**
	0.3nm,0.3s,baz=162,slow=20,SNR=4.0						
KKM	**Kota Kinabalu**	**17.14**	**0**	*e*P	**Pn**	**00 15 00.1**	**-0.9**
WRA	**Warramunga Arr**	**19.49**	**119**	P	**Pn**	**00 15 29.8**	**+0.1**
	0.3nm,0.3s,baz=292,slow=14,SNR=8.7						
WRA				S	**S**	**00 18 51.2**	**-15**
	0.1nm,0.3s,baz=287,slow=24,SNR=2.6						
WRAB	**Tennant Creek**	**19.50**	**119**	*e*P	**Pn**	**00 15 31.2**	**+1.5**
	5.8nm,0.7s						
WB2	**Warramunga Arr**	**19.50**	**119**	*e*P	**Pn**	**00 15 31.1**	**+1.3**
WB2				*e*S	**S**	**00 18 54.0**	**-13**
KLBR	**Kellerberrin**	**20.34**	**176**	*e*P	**P**	**00 15 35.8**	**-1.7**
	7.9nm,0.8s						
KLBR				*e*S	S	00 18 59.2	-24
MUN	**Mundaring**	**20.67**	**180**	*e*P	**P**	**00 15 42.5**	**+1.4**
MUN				*e*S	S	00 19 03.8	-26
ASAR	**Alice Springs**	**20.91**	**129**	P	**P**	**00 15 45.1**	**+1.5**
	2.8nm,0.8s,baz=302,slow=9.2,SNR=19						
ASAR				S	**S**	**00 19 29.5**	**-5.3**
	2.8nm,1.0s,baz=296,slow=22,SNR=9.0						
NWAO	**Narrogin (SRO)**	**21.64**	**178**	LR	LR	00 23 00.1	
	comp=Z,56nm,18.7s,MS3.0,baz=318,slow=33						
NWAO	**Narrogin (SRO)**	**21.64**	**178**	*e*P	**P**	**00 15 51.7**	**+0.2**
	2.1nm,0.4s,mb3.9						
KULM	**Kulim**	**22.55**	**316**	*e*P	**P**	**00 15 59.6**	**-1.6**
STKA	**Stephens Creek**	**31.17**	**135**	*e*P	**P**	**00 17 19.2**	**-0.7**
	3.7nm,1.4s,mb4.0						
STKA	**Stephens Creek**	**31.17**	**135**	P	**P**	**00 17 18.7**	**-1.2**
	2.5nm,0.9s,mb4.0,baz=316,slow=10.0,SNR=5.1						
JIRN	**Jiri**	**48.36**	**324**	*e*P	**P**	**00 19 43.1**	**+0.5**
	27nm,0.6s,mb5.4						
GUN	**Gumba**	**48.73**	**324**	*e*P	**P**	**00 19 45.9**	**+0.5**
	25nm,0.7s,mb5.3						
PKI	**Pulchoki**	**48.76**	**323**	*e*P	**P**	**00 19 45.5**	**-0.1**
DMN	**Daman**	**48.97**	**323**	*e*P	**P**	**00 19 46.0**	**-1.2**
	20nm,0.7s,mb5.2						
KKN	**Kakani**	**48.99**	**323**	*e*P	**P**	**00 19 47.4**	**0.0**
	12nm,0.7s,mb5.0						
GKN	**Gorkha**	**49.53**	**323**	*e*P	**P**	**00 19 51.4**	**-0.1**
	9.0nm,0.5s,mb5.1						
KOLN	**Koldanda**	**49.99**	**321**	*e*P	**P**	**00 19 54.9**	**-0.1**
	15nm,0.7s,mb5.1						
SONM	**Songino Array**	**59.42**	**352**	P	**P**	**00 21 04.3**	**+1.0**
	1.6nm,0.7s,mb4.1,baz=173,slow=9.0,SNR=11						
MKAR	**Makanchi Array**	**65.22**	**335**	P	**P**	**00 21 42.6**	**+0.5**
	2.6nm,0.6s,mb4.5,baz=148,slow=7.4,SNR=13						
KURK	**Kurchatov**	**69.80**	**336**	*e*P	**P**	**00 22 11.4**	**+0.3**
	4.3nm,1.1s,mb4.3						
VNDA	**Vanda**	**70.26**	**170**	P	**P**	**00 22 14.9**	**+1.0**
	0.9nm,0.8s,mb3.8,baz=314,slow=5.2,SNR=5.4						
BRVK	**Borovoye**	**75.05**	**333**	P	**P**	**00 22 42.8**	**+0.4**
ZRNK	**Zerenda**	**75.55**	**333**	*e*P	**P**	**00 22 45.7**	**+0.5**
	1.3nm,0.6s,mb4.0						
ZRNK				*e*PcP	PcP	00 22 59.6	+1.6
YKA	**Yellowknife Ar**	**117.31**	**24**	PKP	PKPdf	00 29 46.9	+0.9
	0.3nm,0.6s,baz=310,slow=2.0,SNR=7.3						

MEX 12 00:14:57.4±1.1,1780N×9967W,h2km±38km,MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEIG	**Mezcala**	**0.14**	**22**	*i* P	Pg	00 14 59.5	-0.5
MEIG				*i* S	Sg	00 15 01.2	-0.5
PLIG	**Platanillo**	**0.61**	**15**	*i* P	Pg	00 15 09.6	+0.5
PLIG				*i* S	Sg	00 15 18.2	+1.1
PPM	**Popocatepetl**	**1.60**	**38**	*i* P	Pn	00 15 23.5	-3.2
PPM				*i* S	Sn	00 15 44.6	-3.4
UTMO	**Huajuapan**	**1.78**	**89**	*e*P	Pn	00 15 24.6	-4.5
UTMO				*i* S	Sn	00 15 49.5	-2.9

IDC ***12*** *00:22:58.3±1.4,2142S×17356W,h0km,mb4.0/4, mb1 4.3/5,mb1mx4.0/15,mbtmp4.1/5,ML4.4/1,Error ellipse: s-maj=85.7km s-min=25.2km az=159.0*
ISCJB ***12*** *00:22:59.7±1.1,212S±03×1734W±0.1,h33km,mb4.1/6, Error ellipse: s-maj=48.4km s-min=14.9km az=2.8*
NEIC ***12*** *00:23:02.1±0.6,2124S×17346W,h35km,mb4.3/2,Error ellipse: s-maj=29.3km s-min=10.9km az=180.0*

ISC 12 00:23:03.2±0.8,215S±03×1735W±01,h35km,n10,σ0§94/9, mb4.1/6,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**12.77**	**91**	Pn	**Pn**	**00 26 01.1**	**-1.1**
	2.3nm,0.3s,baz=236,slow=4.0,SNR=6.9						
PMG	**Port Moresby**	**39.69**	**281**	*e*P	**P**	**00 30 30.5**	**-1.4**
	2.1nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**41.20**	**246**	P	**P**	**00 30 44.3**	**0.0**
	1.6nm,0.6s,mb3.8,baz=104,slow=13,SNR=2.7						
ASAR	**Alice Springs**	**48.41**	**257**	P	**P**	**00 31 42.0**	**+0.3**
	2.1nm,0.8s,mb4.2,baz=97,slow=7.2,SNR=8.6						
WRAB	**Tennant Creek**	**48.64**	**262**	*e*P	**P**	**00 31 43.1**	**-0.5**
	3.2nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**48.65**	**262**	P	**P**	**00 31 44.1**	**+0.5**
	1.4nm,0.8s,mb4.0,baz=93,slow=7.5,SNR=4.5						
QSPA	**South Pole Qui**	**68.56**	**180**	P	**P**	**00 34 02.9**	**+0.6**
NVAR	**Mina Array Bea**	**78.93**	**41**	P	**P**	**00 35 04.8**	**+1.8**
	1.6nm,0.9s,mb4.0,baz=232,slow=10,SNR=5.0						
NVAR	**Mina Array Bea**	**78.93**	**41**	P	**P**	**00 35 04.8**	**+1.8**
AKASG	**Malin Array Be**	**145.86**	**334**	PKPbc	PKPbc	00 42 37.0	-1.7
	0.3nm,0.3s,baz=38,slow=4.1,SNR=4.4						

IDC 12 00:36:11.8±2.6,1047S×11684E,h0km,mb3.5/3, mb1 3.5/4,mb1mx3.4/13,mbtmp3.4/4,ML3.3/1,Error ellipse: s-maj=131.6km s-min=24.2km az=50.0,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.41**	**133**	*e*P	Pn	00 38 51.9	-4.2
	4.5nm,1.0s						
FITZ				*e*S	Sn	00 40 50.5	-14
WRA	**Warramunga Arr**	**19.32**	**121**	P	Pn	00 40 39.9	+0.5
	0.1nm,0.3s,baz=300,slow=12,SNR=3.0						
WRA				S	Sn	00 44 02.4	-14
	0.1nm,0.3s,baz=292,slow=24,SNR=2.4						
ASAR	**Alice Springs**	**20.91**	**131**	P	P	00 40 54.8	-1.0
	0.4nm,0.8s,baz=299,slow=9.9,SNR=3.4						
SONM	**Songino Array**	**58.78**	**352**	P	P	00 46 13.2	+1.5
	0.4nm,0.7s,baz=167,slow=8.9,SNR=4.0						
MKAR	**Makanchi Array**	**64.82**	**334**	P	P	00 46 51.9	-0.5
	1.1nm,0.5s,baz=146,slow=7.7,SNR=13						

IDC ***12*** *00:51:43.9±2.9,643S×15463E,h17km±17km,mb4.6/11, mb1 4.8/13,mb1mx4.7/15,mbtmp4.7/13,ML4.1/2,MS4.0/11, Ms1 4.0/11,ms1mx3.7/24,Error ellipse: s-maj=19.3km s-min=14.7km az=125.0*
MOS ***12*** *00:51:44.8±0.9,643S×15461E,h33km,mb4.9/16,Error ellipse: s-maj=11.2km s-min=10.0km az=143.1*
BJI ***12*** *00:51:45.7,607S×15486E,h37km,mB5.1,mb5.1,Ms4.7, Msz4.5*
ISCJB ***12*** *00:51:46.0±0.3,650S±005×15459E±004,h43km, mb4.9/54,MS4.1/13,Error ellipse: s-maj=7.0km s-min=5.9km az=155.9*
HRVD ***12*** *00:51:47.7±0.4,678S×15457E,h32km±1km,MW5.0/54, Centroid moment Tensor Solution. LP body waves: s37,c45;Mantle waves: s54,c63; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.68±.19; $M_{\theta\theta}$-1.80±.12; $M_{\phi\phi}$-0.87±.14; $M_{r\theta}$1.26±.19; $M_{\theta\phi}$2.21±.12; $M_{\phi r}$-1.19±.23; Best double couple: M○3.58700×10^{16} NP1:ϕ○305.00000°,δ31.00000°,λ84.00000°. NP2: ϕ○132.00000°,δ59.00000°,λ94.00000°. Principal axes: T 3.1310, Plg75.0000°, Azm52.0000°; N 0.9110, Plg3.0000°, Azm310.0000°; P -4.0420, Plg14.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***12*** *00:51:47.7±0.2,653S×15461E,mb4.8/23 Error ellipse: s-maj=7.5km s-min=5.8km az=139.0*

ISC 12 00:51:47.8±0.3,654S±005×15466E±005,h44km, h44km±3.0km:pP-P,n128,σ1§08/113,mb4.9/54,MS4.1/13, 1C,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.97**	**119**	Pn	**Pn**	**00 53 18.1**	**+4.5**
	55nm,0.3s,baz=246,slow=3.0,SNR=11						
HNR				Sn	**Sn**	**00 54 34.5**	**+14**
	48nm,0.3s,baz=73,slow=3.9,SNR=8.3						
HNR				LR	LR	00 54 46.2	
	comp=Z,196nm,21.7s,baz=355,slow=30						
HNR	**Honiara**	**5.97**	**119**	*e*P	**Pn**	**00 53 13.1**	**-0.5**
HNR				Sn		00 54 25.8	
HNR				*e*			
	comp=Z,173nm,0.5s			pmax	pmax		
HNR	**Honiara**	**5.97**	**119**	*e*Pn	**Pn**	**00 53 13.1**	**-0.5**
	comp=Z,173nm,0.5s						
HNR				*e*Sn	**Sn**	**00 54 25.8**	**+5.1**
PMG	**Port Moresby**	**7.96**	**249**	Pn	**Pn**	**00 53 41.3**	**+0.4**
	comp=Z,6.9nm,0.3s,baz=50,slow=8.1,SNR=32						
PMG				Sn	**Sn**	**00 55 11.5**	**+2.0**
	comp=Z,6.1nm,0.3s,baz=78,slow=19,SNR=8.9						
PMG				LR	LR	00 56 36.6	
	comp=Z,1μm,21.3s,baz=58,slow=37						
PMG	**Port Moresby**	**7.96**	**249**	*e*P	**Pn**	**00 53 41.5**	**+0.6**
PMG				*e*		00 55 11.3	
PMG							
	comp=Z,77nm,0.8s			pmax	pmax		
PMG	**Port Moresby**	**7.96**	**249**	*e*Pn	**Pn**	**00 53 41.5**	**+0.6**
	comp=Z,77nm,0.8s						
PMG				*e*Sn	**Sn**	**00 55 11.3**	**+1.8**
CTA	**Charters Tower**	**15.75**	**210**	*e*P	**Pn**	**00 55 30.3**	**+3.8**
	comp=Z,36nm,0.8s						
CTA	**Charters Tower**	**15.75**	**210**	Pn	**Pn**	**00 55 31.0**	**+4.5**
	comp=Z,0.9nm,0.3s,baz=33,slow=14,SNR=22						
CTA	**Charters Tower**	**15.75**	**210**	*e*P	**Pn**	**00 55 30.3**	**+3.8**
CTA							
	comp=Z,36nm,0.8s			pmax	pmax		
CTAO	**Charters Tower**	**15.75**	**210**	*e*P	**Pn**	**00 55 26.3**	**-0.2**
CTAO							
	comp=Z,55nm,0.9s			pmax	pmax		
CTAO	**Charters Tower**	**15.75**	**210**	*e*Pn	**Pn**	**00 55 26.3**	**-0.2**
	comp=Z,55nm,0.9s						
DZM	**Mont Dzumac**	**19.18**	**145**	P	**Pn**	**00 56 09.0**	**+0.1**
	comp=Z,1.9nm,0.3s,baz=346,slow=9.0,SNR=17						
GUMO	**Guam**	**22.24**	**334**	LR	LR	01 03 01.3	
	comp=Z,156nm,20.4s,MS3.4,baz=129,slow=31						
KAKA	**Kakadu**	**22.74**	**253**	*e*P	**P**	**00 56 45.1**	**-0.9**
	comp=Z,24nm,0.6s,mb4.8						
WRAB	**Tennant Creek**	**23.79**	**234**	*e*P	**P**	**00 56 56.1**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,43nm,0.9s,mb4.9						
WRAB	**Tennant Creek**	**23.79**	**234**	*e*P	**P**	**00 56 56.1**	**-0.3**
	comp=Z,43nm,0.9s,mb4.9						
WB2	**Warramunga Arr**	**23.80**	**234**	*e*P	**P**	**00 56 55.4**	**-1.0**
WB2				*e*PCP	PcP	01 00 40.2	+1.3
WB2				*e*SCP	ScP	01 04 17.3	+3.7
WB2				*e*SCS	ScS	01 08 05.4	+5.0
WRA	**Warramunga Arr**	**23.81**	**234**	P	**P**	**00 56 55.7**	**-0.8**
	comp=Z,22nm,0.8s,mb4.7,baz=57,slow=9.7,SNR=56						
WRA				PcP	PcP	01 00 40.1	+1.2
	comp=Z,6.1nm,0.7s,baz=59,slow=2.0,SNR=10						
WRA				S	**S**	**01 01 12.4**	**+3.3**
	comp=Z,0.9nm,0.8s,baz=51,slow=15,SNR=3.4						
WRA				ScP	ScP	01 04 17.5	+3.9
	comp=Z,3.1nm,0.8s,baz=57,slow=2.9,SNR=9.9						
WRA	**Warramunga Arr**	**23.81**	**234**	P	**P**	**00 56 55.7**	**-0.8**
WRA						01 00 40.1	
WRA				S	**S**	**01 01 12.4**	**+3.3**
ASAR	**Alice Springs**	**26.23**	**227**	P	**P**	**00 57 18.2**	**-0.3**
	comp=Z,6.7nm,0.8s,mb4.2,baz=60,slow=8.3,SNR=35						
ASAR				PcP	PcP	01 00 45.7	+1.4
	comp=Z,2.5nm,0.7s,baz=49,slow=2.8,SNR=6.3						
ASAR				ScP	ScP	01 04 24.8	+4.3
	comp=Z,4.5nm,1.0s,baz=61,slow=3.4,SNR=13						
ASAR	**Alice Springs**	**26.23**	**227**	P	**P**	**00 57 18.3**	**-0.2**
ASAR						01 00 45.7	
STKA	**Stephens Creek**	**28.01**	**204**	*e*P	**P**	**00 57 30.9**	**-3.6**
	comp=Z,4.6nm,0.6s,mb4.3						
STKA				*e*PCP	PcP	01 00 47.1	-1.4
STKA				*e*SCP	ScP	01 04 26.9	+1.1
STKA	**Stephens Creek**	**28.01**	**204**	P	**P**	**00 57 31.8**	**-2.7**
	comp=Z,5.9nm,0.7s,mb4.3,baz=23,slow=9.4,SNR=12						
STKA				ScP	ScP	01 04 26.7	+0.9
	comp=Z,3.4nm,0.7s,baz=354,slow=5.4,SNR=8.4						
STKA				LR	LR	01 08 59.0	
	comp=Z,533nm,18.7s,MS4.2,baz=31,slow=37						
FITZ	**Fitzroy Crossi**	**30.54**	**245**	*e*P	**P**	**00 57 56.1**	**-0.8**
	comp=Z,13nm,0.6s,mb4.9						
AFI	**Afiamalu**	**33.80**	**105**	LR	LR	01 09 02.9	
	comp=Z,232nm,21.2s,MS3.9,baz=134,slow=31						
FORT	**Forrest**	**34.69**	**223**	*e*P	**P**	**00 58 32.9**	**-0.3**
	comp=Z,16nm,0.7s,mb5.1						
FORT				*e*pP	pP	00 58 44.6	-0.6
CBIJ	**Chichi jima**	**35.55**	**341**	LR	LR	01 12 45.3	
	comp=Z,55nm,18.9s,MS3.3,baz=123,slow=36						
URZ	**Urewera**	**37.56**	**150**	P	**P**	**00 58 57.8**	**0.0**
	comp=Z,33nm,1.1s,mb5.0,baz=262,slow=7.1,SNR=4.7						
KLBR	**Kellerberrin**	**42.52**	**229**	*e*P	**P**	**00 59 37.7**	**-1.2**
	comp=Z,4.5nm,0.5s,mb4.5						
NWAO	**Narrogin (SRO)**	**43.55**	**228**	LR	LR	01 17 20.6	
	comp=Z,432nm,19.8s,MS4.4,baz=66,slow=35						
MUN	**Mundaring**	**43.87**	**230**	*e*P	**P**	**00 59 49.2**	**-0.6**
SSE	**Sheshan**	**49.25**	**321**	*e*P	**P**	**01 00 30.1**	**-1.8**
SSE				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,72nm,6.7s						
NJ2	**Nanjing**	**51.36**	**320**	*e*P	**P**	**01 00 47.2**	**-0.6**
NJ2				AP	pP	01 00 58.6	-1.7
NJ2				XP	sP	01 01 04.3	-1.1
NJ2				PP	PP	01 02 43.8	-1.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,30nm,6.8s						
NJ2				LR	LR		
	comp=N,830nm,31.7s,MS4.8						
NJ2				LR	LR		
	comp=E,1μm,31.6s,MS4.8						
NJ2				LR	LR		
	comp=Z,460nm,30.9s,MS4.3						
MDJ	**Mudanjiang**	**55.70**	**339**	P	**P**	**01 01 22.1**	**+2.4**
MDJ				AP	pP	01 01 33.7	+1.5
MDJ				XP	sP	01 01 38.6	+1.2
MDJ				PP	PP	01 03 27.1	+2.8
MDJ				SCP	ScP	01 06 15.7	+1.8
MDJ				PCS	PcS	01 06 20.5	+1.6
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,95nm,4.3s						
MDJ				LR	LR		
	comp=N,60nm,32.0s,MS3.6						
MDJ				LR	LR		
	comp=E,77nm,36.3s,MS3.6						
MDJ				LR	LR		
	comp=Z,52nm,23.5s						
TBI	**Tubuai**	**56.16**	**114**	*e*LR	LR	01 18 02.9	
	comp=Z,123nm,24.8s						
CN2	**Changchun**	**56.64**	**335**	*e*P	**P**	**01 01 24.7**	**-1.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
GYA	**Guiyang**	**56.92**	**307**	↑*i*P	**P**	**01 01 29.7**	**+1.4**
GYA				AP	pP	01 01 42.4	+1.5
GYA				XP	sP	01 01 47.7	+1.7
GYA				PP	PP	01 03 37.9	+2.8
GYA				S	**S**	**01 09 17.8**	**-1.2**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
GYA				AMB	AMB		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=N,340nm,18.4s,MS4.7						
GYA				LR	LR		
	comp=E,410nm,18.0s,MS4.7						
GYA				LR	LR		
	comp=Z,430nm,18.4s,MS4.6						
PMOR	**Pomariorio Ree**	**56.92**	**104**	*e*P	**P**	**01 01 29.6**	**+1.2**
	comp=Z,23nm,0.9s,mb5.2						
KLR	**Kul'dur**	**59.04**	**343**	*e*P	**P**	**01 01 39.0**	**-4.2**
XAN	**Xi'an**	**59.15**	**316**	P	**P**	**01 01 43.8**	**-0.2**
XAN				AMB	AMB		
	comp=Z,11nm,0.7s,mb5.0						
KMI	**Kunming**	**59.49**	**304**	P	**P**	**01 01 48.4**	**+2.1**
KMI				AP	pP	01

LSA	**Lhasa**	**70.75**	**304**	P	**P**	**01 03 01.4**	**+2.1**
LSA				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
LSA	**Lhasa**	**70.75**	**304**	*e*P	**P**	**01 03 01.5**	**+2.2**
LSA				pmax	pmax		
	comp=Z,45nm,0.8s,mb5.5						
LSA	**Lhasa**	**70.75**	**304**	*e*P	**P**	**01 03 01.5**	**+2.1**
	comp=Z,45nm,0.8s,mb5.5						
VNDA	**Vanda**	**71.04**	**178**	P	**P**	**01 03 01.4**	**+0.3**
	comp=Z,3.0nm,0.8s,mb4.3,baz=340,slow=5.4,SNR=16						
ZAK	**Zakamensk**	**71.94**	**328**	*e*P	**P**	**01 03 05.0**	**-1.5**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.4						
BOK	**Bokaro**	**73.50**	**297**	*e*P	**P**	**01 03 16.6**	**+0.8**
JIRN	**Jiri**	**74.27**	**301**	*e*P	**P**	**01 03 21.8**	**+1.5**
	comp=Z,95nm,0.7s,mb5.8						
GUN	**Gumba**	**74.60**	**301**	*e*P	**P**	**01 03 23.6**	**+1.4**
	comp=Z,218nm,0.7s						
BILL	**Bilibino**	**74.86**	**4**	*e*P	**P**	**01 03 22.6**	**-1.1**
BILL				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
BILL	**Bilibino**	**74.86**	**4**	*e*P	**P**	**01 03 22.6**	**-1.1**
	comp=Z,13nm,0.8s,mb4.9						
PKI	**Pulchoki**	**74.91**	**301**	*e*P	**P**	**01 03 25.0**	**+1.0**
	comp=Z,79nm,1.1s,mb5.6						
KKN	**Kakani**	**75.08**	**301**	*e*P	**P**	**01 03 25.0**	**0.0**
	comp=Z,124nm,0.7s,mb6.0						
DMN	**Daman**	**75.18**	**301**	*e*P	**P**	**01 03 26.9**	**+1.3**
	comp=Z,241nm,0.7s						
GKN	**Gorkha**	**75.68**	**301**	*e*P	**P**	**01 03 29.3**	**+0.8**
	comp=Z,205nm,0.8s						
KOLN	**Koldanda**	**76.51**	**300**	*e*P	**P**	**01 03 33.8**	**+0.7**
	comp=Z,157nm,0.7s,mb6.0						
KDAK	**Kodiak Island**	**76.91**	**26**	LR	LR	01 35 06.3	
	comp=Z,118nm,19.3s,MS4.2,baz=249,slow=34						
SVW2	**Sparrevohn**	**77.71**	**22**	*e*P	**P**	**01 03 40.1**	**+0.2**
SVW2				*e*pP	pP	01 03 54.0	+1.0
TTA	**Tatalina**	**78.72**	**21**	*e*P	**P**	**01 03 45.2**	**-0.3**
TTA				*e*	pP	01 03 53.5	-5.1
TTA				*e**PP	pP	01 03 59.5	+0.9
TTA				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
TTA	**Tatalina**	**78.72**	**21**	*e*P	**P**	**01 03 45.2**	**-0.2**
	comp=Z,10nm,1.1s,mb4.7						
TTA				*e*PcP	PcP	01 03 53.5	-0.8
TTA				*e*pP	pP	01 03 59.5	+0.9
HYB	**Hyderabad**	**78.81**	**289**	*i* P	**P**	**01 03 46.5**	**+0.5**
HYB	**Hyderabad**	**78.81**	**289**	*e*P	**P**	**01 03 46.5**	**+0.5**
NGP	**Nagpur**	**79.06**	**293**	*e*P	**P**	**01 03 46.0**	**-1.3**
NGP				AMb	AMB	01 03 48.1	
	comp=Z,22nm,1.5s,mb4.9						
TIXI	**Tiksi**	**79.86**	**352**	*e*P	**P**	**01 03 48.7**	**-3.0**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb4.2						
JOSI	**Joshimath**	**80.61**	**302**	*ex*	x	01 03 46.5	
AKL	**Akola**	**80.84**	**292**	*ex*	x	01 03 22.8	
BHPL	**Bhopal**	**80.94**	**295**	*e*P	**P**	**01 03 58.1**	**+0.6**
KLP	**Kalpa**	**81.93**	**303**	*e*P	**P**	**01 04 02.6**	**-0.1**
BISR	**Bishrakh**	**81.98**	**300**	*e*P	**P**	**01 04 02.5**	**-0.5**
BISR				AMb	AMB	01 04 04.4	
	comp=Z,7.2nm,0.9s,mb4.6						
NDI	**New Delhi**	**82.20**	**300**	*e*P	**P**	**01 04 03.8**	**-0.4**
NDI				AMb	AMB	01 04 04.6	
	comp=Z,40nm,1.2s,mb5.2						
SONA	**Sohna**	**82.23**	**300**	*e*P	**P**	**01 04 03.1**	**-1.2**
SONA				AMb	AMB	01 04 04.7	
	comp=Z,26nm,1.3s,mb5.0						
AYAN	**Aya Nagar**	**82.24**	**300**	*e*P	**P**	**01 04 03.9**	**-0.5**
KUDL	**Kundal**	**82.72**	**299**	*e*P	**P**	**01 04 06.2**	**-0.7**
KKR	**Kurukshetra**	**82.80**	**301**	*e*P	**P**	**01 04 06.0**	**-1.2**
MKAR	**Makanchi Array**	**82.85**	**319**	P	**P**	**01 04 07.6**	**+0.1**
	comp=Z,6.9nm,0.6s,mb4.8,baz=99,slow=4.5,SNR=41						
KAD	**Karad**	**82.90**	**288**	*e*P	**P**	**01 04 07.1**	**-0.7**
KAD				AMb	AMB	01 04 09.8	
	comp=Z,25nm,1.1s,mb5.2						
ILAR	**Eielson Array**	**83.08**	**22**	P	**P**	**01 04 06.3**	**-2.4**
	comp=Z,2.5nm,0.8s,mb4.3,baz=253,slow=5.0,SNR=20						
ILAR				LR	LR	01 38 24.2	
	comp=Z,178nm,19.0s,MS4.5,baz=180,slow=34						
KHET	**Khetri**	**83.30**	**299**	*e*P	**P**	**01 04 10.0**	**+0.2**
QSPA	**South Pole Qui**	**83.43**	**180**	*e*P	**P**	**01 04 10.8**	**+0.3**
	comp=Z,24nm,1.1s,mb5.1						
BOM	**Bombay**	**84.44**	**290**	*e*P	**P**	**01 04 16.1**	**+0.5**
MAW	**Mawson**	**84.69**	**203**	*e*P	**P**	**01 04 17.1**	**+0.2**
	comp=Z,4.9nm,0.6s,mb4.8						
MAW	**Mawson**	**84.69**	**203**	P	**P**	**01 04 17.2**	**+0.3**
	comp=Z,6.0nm,0.6s,mb4.9,baz=122,slow=2.7,SNR=8.8						
MAW	**Mawson**	**84.69**	**203**	*e*P	**P**	**01 04 17.1**	**+0.2**
MAW				pmax	pmax		
	comp=Z,5.0nm,0.6s						
NVS	**Novosibirsk**	**84.79**	**327**	*e*P	**P**	**01 04 14.8**	**-2.7**
NVS				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.8						
NVS				pmax	pmax		
	comp=E,11nm,1.3s						
KSH	**Kashi**	**85.47**	**310**	*e*P	**P**	**01 04 22.5**	**+1.7**
KSH				*e*AP	pP	01 04 32.4	-1.7
KSH				*e*XP	sP	01 04 36.3	-2.7
KSH				AMB	AMB		
	comp=Z,103nm,2.8s,mb5.5						
KSH				LR	LR		
	comp=N,168nm,3.7s						
KSH				LR	LR		
	comp=E,195nm,5.1s						
KSH				LR	LR		
	comp=Z,195nm,6.9s						
KURK	**Kurchatov**	**86.27**	**322**	*e*P	**P**	**01 04 23.6**	**-1.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb5.0						
KURK	**Kurchatov**	**86.27**	**322**	*e*P	**P**	**01 04 23.6**	**-1.2**
	comp=Z,4.2nm,0.4s,mb5.0						
AAK	**Ala-Archa**	**87.20**	**313**	*e*P	**P**	**01 04 28.9**	**-0.4**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.6						
AAK	**Ala-Archa**	**87.20**	**313**	*e*P	**P**	**01 04 28.9**	**-0.4**
	comp=Z,3.1nm,0.7s,mb4.7						
INK	**Inuvik**	**89.42**	**21**	*e*P	**P**	**01 04 38.7**	**-1.1**
INK				*e**PP	pP	01 04 53.5	+0.4
INK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
INK	**Inuvik**	**89.42**	**21**	*e*P	**P**	**01 04 38.7**	**-1.1**
	comp=Z,3.1nm,1.0s,mb4.6						
INK				*e*pP	pP	01 04 53.5	+0.3
NVAR	**Mina Array Bea**	**91.70**	**52**	P	**P**	**01 04 51.9**	**+1.4**
	comp=Z,4.5nm,0.7s,mb4.9,baz=248,slow=4.9,SNR=24						
MNV	**Mina**	**91.82**	**52**	*e*P	**P**	**01 04 52.3**	**+1.3**
MNV				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0						
MNV	**Mina**	**91.82**	**52**	*e*P	**P**	**01 04 52.3**	**+1.3**
	comp=Z,9.4nm,1.0s,mb5.1						
DAC	**Darwin (Calif)**	**92.01**	**54**	*e*P	**P**	**01 04 53.1**	**+1.2**
DAC				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0						
DAC	**Darwin (Calif)**	**92.01**	**54**	*e*P	**P**	**01 04 53.1**	**+1.2**
	comp=Z,8.9nm,1.0s,mb5.0						
NEN	**Nelson**	**94.17**	**55**	*e*P	**P**	**01 05 03.0**	**+1.2**
NEN				*e*pP	pP	01 05 16.6	+1.4
ELK	**Elko**	**94.30**	**50**	*e*P	**P**	**01 05 03.5**	**+1.1**
ELK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ELK	**Elko**	**94.30**	**50**	*e*P	**P**	**01 05 03.5**	**+1.1**
	comp=Z,2.6nm,1.1s,mb4.6						
CCUT	**Cedar City**	**95.50**	**53**	*e*P	**P**	**01 05 08.6**	**+0.6**
WALA	**Waterton Lakes**	**95.83**	**41**	*e*P	**P**	**01 05 09.7**	**+0.3**
	comp=Z,6.0nm,1.3s,mb4.9						
YKA	**Yellowknife Ar**	**96.09**	**28**	P	**P**	**01 05 09.9**	**-0.7**
	comp=Z,0.6nm,0.5s,mb4.3,baz=268,slow=4.6,SNR=17						
YKA				PKKPbc	PKKPbc	01 21 56.9	-0.6
	comp=Z,0.2nm,0.5s,baz=86,slow=2.8,SNR=12						
YKA				LR	LR	01 49 16.7	
	comp=Z,76nm,18.2s,MS4.2,baz=290,slow=36						
PDAR	**Pinedale Array**	**98.64**	**48**	P	**P**	**01 05 21.6**	**-0.5**
	comp=Z,0.8nm,0.8s,mb4.3,baz=299,slow=1.5,SNR=6.2						
PDAR				LR	LR	01 46 25.2	
	comp=Z,96nm,18.9s,MS4.3,baz=262,slow=33						
VNA3	**Neumayer Olymp**	**101.68**	**185**	*e*PKiKP	PKiKP	01 09 57.8	-1.2
VNA3				*e*		01 10 00.5	
VNA2	**Neumayer--Watz**	**101.76**	**186**	*e*PKiKP	PKiKP	01 09 59.6	+0.5
	baz=169,slow=0.1						
VNA2				*e*		01 10 02.1	
FINES	**FINESS Array B**	**113.39**	**336**	PKKPbc	PKKPbc	01 21 04.8	-0.4
	comp=Z,0.9nm,0.8s,baz=192,slow=1.9,SNR=7.6						
KMBO	**Kilima Mbogo**	**117.07**	**265**	PKP	PKPdf	01 10 29.1	+1.2
	comp=Z,0.8nm,0.3s,baz=43,slow=24,SNR=3.8						
BRTR	**Keskin Array B**	**117.84**	**312**	PKP	PKPdf	01 10 28.9	-0.4
	comp=Z,0.6nm,0.6s,baz=170,slow=2.7,SNR=3.9						
BRTR				PKKPbc	PKKPbc	01 20 51.5	+1.8
	comp=Z,0.7nm,0.8s,baz=228,slow=1.5,SNR=3.6						
GERES	**GERESS Array B**	**126.50**	**329**	PKP	PKPdf	01 10 45.6	-0.3
	comp=Z,0.9nm,0.7s,baz=66,slow=1.6,SNR=8.3						
LPAZ	**La Paz**	**131.96**	**119**	PKP	PKPdf	01 10 58.7	+2.4
	comp=Z,1.8nm,0.8s,baz=297,slow=3.7,SNR=7.1						
LPL	**La Plagne**	**132.26**	**330**	*e*PKP1	PKPdf	01 10 55.4	-1.5
LPG	**La Plagne**	**132.26**	**330**	*e*PKP1	PKPdf	01 10 55.5	-1.4
	comp=Z,3.5nm,0.7s						
ORIF	**Oris-en-Rattie**	**133.11**	**330**	*e*PKP1	PKPdf	01 10 56.6	-1.9
CPUP	**Villa Florida**	**134.94**	**138**	PKP	PKPdf	01 11 02.4	+0.5
	comp=Z,1.9nm,0.7s,baz=129,slow=2.9,SNR=5.5						
SAML	**Samuel**	**139.26**	**112**	*e*P	PKPdf	01 11 09.5	-0.5
BDFB	**Brasilia**	**148.53**	**135**	PKPbc	PKPbc	01 11 30.8	+1.1
	comp=Z,16nm,0.6s,baz=248,slow=5.4,SNR=9.7						
TORD	**Torodi Ar. Bea**	**152.59**	**286**	PKP	PKPdf	01 11 32.4	0.0
	comp=Z,2.2nm,0.8s,baz=39,slow=1.3,SNR=15						
TORD				PKPbc	PKPbc	01 11 40.1	+0.8
	comp=Z,13nm,0.8s,baz=88,slow=1.8,SNR=66						
TORD				PKPab	PKPab	01 11 51.0	+1.0
	comp=Z,7.2nm,0.8s,baz=79,slow=3.7,SNR=8.4						

ISCJB ***12*** *00:55:21.5±0.5,5156N±003×694E±006,h0km, Error ellipse: s-maj=5.0km s-min=3.7km az=7.5*
BNS ***12*** *00:55:21.4±1.2,5171N×687E,h1km,ML1.5*
BUG ***12*** *00:55:22.4,5160N×705E,h1km,ML1.3*
NEIC ***12*** *00:55:22.1±5.1,5160N×698E,h5km, ML2.5(LDG), Error ellipse: s-maj=57.2km s-min=11.3km az=214.0*
BGR ***12*** *00:55:23.6±0.8,5157N×704E,h1km,ML1.8/2, Error ellipse: s-maj=14.5km s-min=5.6km az=106.0*
LDG ***12*** *00:55:24.8±0.2,5152N×694E,h1km, Ml2.5/2, Error ellipse: s-maj=4.7km s-min=3.2km az=28.0, Suspected Mining induced.*
CSEM ***12*** *00:55:24.0±0.2,5158N×693E,h1km, ML2.5/2, Error ellipse: s-maj=5.7km s-min=3.6km az=77.0*

ISC 12 00:55:22.4±0.5,5159N±003×697E±005,h0km,n27,
σ1§12/34,1D,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BZER	**Hinxe**	**0.07**	**299**	Pg	**Pg**	**00 55 24.8**	**+1.1**
BZER				Sg	**Sg**	**00 55 27.0**	**+2.4**
LAUG	**Laupendahl**	**0.24**	**183**	*e*Pg	**Pg**	**00 55 27.5**	**+0.6**
BUG	**Bochum--Univer**	**0.24**	**128**	*e*Pg	**Pg**	**00 55 28.3**	**+1.3**
	SNR=10						
WTSB	**Winterswijk**	**0.39**	**345**	*e*Pg	**Pg**	**00 55 30.4**	**+0.5**
	23nm,0.5s						
BNS	**Bensberg**	**0.64**	**168**	*e*Pg	**Pg**	**00 55 36.0**	**+1.3**
HOBG	**Hohbusch**	**0.65**	**159**	*e*Pg	**Pg**	**00 55 36.6**	**+1.8**
IBBN	**Ibbenburen**	**0.87**	**34**	*e*Sg	**Sg**	**00 55 50.5**	**+0.1**
	SNR=1.3						
KLL	**Kalltalsperre**	**1.03**	**204**	*e*Pg	**Pg**	**00 55 42.5**	**+0.4**
KLL				*e*Sg	**Sg**	**00 55 57.9**	**+2.5**
	10nm,0.3s						
HGN	**Heimansgroeve**	**1.05**	**219**	*e*Pn	**Pn**	**00 55 43.3**	**-1.1**
	4.2nm,0.4s						
HGN				⇓*i*Pg	**Pg**	**00 55 44.3**	**+1.7**
	12nm,0.0s						
HGN				*e*Sg	**Sg**	**00 55 58.4**	**+2.3**
BGG	**Burgeitz**	**1.40**	**170**	*e*Pg	**Pg**	**00 55 49.2**	**-0.2**
BGG				*e*Sg	**Sg**	**00 56 08.9**	**+1.4**
TNS	**Taunus Mts**	**1.66**	**145**	*e*Sg	**Sg**	**00 56 14.3**	**-1.4**
	SNR=1.6						
WLF	**Walferdange**	**2.00**	**195**	*e*Sg	**Sg**	**00 56 26.5**	**0.0**
	SNR=1.6						
GIVF	**Givet**	**2.01**	**223**	*e*Pn	**Pn**	**00 55 57.8**	**+0.2**
GIVF				*e*Sg	**Sg**	**00 56 27.0**	**-0.1**
	8.0nm,0.2s						
BAIF	**Baives**	**2.32**	**230**	*e*Pn	**Pn**	**00 56 01.9**	**0.0**
BAIF				*e*Sg	**Sg**	**00 56 35.4**	**-1.7**
	5.1nm,0.4s						
CDF	**Champ du Feu**	**3.19**	**176**	*e*Pn	**Pn**	**00 56 13.4**	**-0.3**
BFO	**Black Forest**	**3.38**	**164**	*e*Pn	**Pn**	**00 56 16.2**	**-0.2**
	SNR=2.2						
LOR	**Lormes**	**4.78**	**206**	*e*Pn	**Pn**	**00 56 34.9**	**-0.7**
CABF	**La Chapelle**	**5.01**	**187**	*e*Pn	**Pn**	**00 56 38.1**	**-0.8**
SSF	**Saint Saulge**	**5.06**	**208**	*e*Pn	**Pn**	**00 56 38.5**	**-1.1**
AVF	**Avril sur Loir**	**5.35**	**208**	*e*Pn	**Pn**	**00 56 42.5**	**-1.0**
SMF	**Signal de Mont**	**5.36**	**204**	*e*Pn	**Pn**	**00 56 42.7**	**-0.9**
FLN	**La Folliere**	**5.56**	**242**	*e*Pn	**Pn**	**00 56 45.6**	**-0.7**
BGF	**Bois d'Agland**	**5.71**	**210**	*e*Pn	**Pn**	**00 56 47.4**	**-1.1**
GRR	**Gorron**	**5.97**	**241**	*e*Pn	**Pn**	**00 56 51.4**	**-0.7**
TCF	**Toulx Ste Croi**	**6.16**	**212**	*e*Pn	**Pn**	**00 56 53.5**	**-1.1**
MFF	**Saint Martin d**	**6.83**	**226**	*e*Pn	**Pn**	**00 57 03.2**	**-0.6**
SGMF	**Saint Gilles**	**6.99**	**245**	*e*Pn	**Pn**	**00 57 04.5**	**-1.6**

IDC ***12*** *01:12:28.8±0.6,1122S×116.10E,h0km,mb4.2/10, mb1 4.3/12,mb1mx4.2/17,mbtmp4.2/12,ML4.0/2,MS3.5/1, Ms1 3.5/1,ms1mx2.9/19, Error ellipse: s-maj=31.5km s-min=14.0km az=59.0*
ISCJB ***12*** *01:12:31.6±0.3,1124S±007×116.12E±009,h33km, mb4.6/20,MS3.4/1, Error ellipse: s-maj=15.0km s-min=5.8km az=113.4*
NEIC ***12*** *01:12:32.7±3.2, 1126S×11601E,h25km±24km,mb4.3/9, Error ellipse: s-maj=14.3km s-min=6.7km az=63.0*

ISC 12 01:12:34.0±0.3,1123S±006×11613E±009,h35km,n47,
σ0§92/46,mb4.6/20,MS3.4/1,1C,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**10.46**	**161**	*e*P	**Pn**	**01 14 54.1**	**-7.2**
	15nm,0.5s						
FITZ	**Fitzroy Crossi**	**11.46**	**128**	*e*P	**Pn**	**01 15 12.1**	**-2.9**
	7.8nm,0.4s						
FITZ				*e*S	**Sn**	**01 17 10.8**	**-11**
FITZ	**Fitzroy Crossi**	**11.46**	**128**	Pn	**Pn**	**01 15 12.2**	**-2.8**
	1.0nm,0.3s,baz=309,slow=10,SNR=22						
FITZ				Sn	**Sn**	**01 17 10.7**	**-11**
	1.0nm,0.3s,baz=223,slow=20,SNR=3.3						
KKM	**Kota Kinabalu**	**17.16**	**0**	*e*P	**Pn**	**01 16 31.6**	**+0.6**
WRA	**Warramunga Arr**	**19.55**	**119**	P	**Pn**	**01 16 59.6**	**-0.4**
	0.4nm,0.3s,baz=291,slow=15,SNR=17						
WRA				S	**S**	**01 20 23.7**	**-14**
	0.3nm,0.3s,baz=277,slow=22,SNR=4.6						
WRAB	**Tennant Creek**	**19.55**	**118**	*e*P	**Pn**	**01 17 00.6**	**+0.5**
	11nm,0.7s						
WB2	**Warramunga Arr**	**19.56**	**119**	*e*P	**Pn**	**01 16 59.8**	**-0.3**
WB2				*e*S	**S**	**01 20 19.0**	**-19**
KLBR	**Kellerberrin**	**20.32**	**176**	*e*P	**P**	**01 17 05.0**	**-1.9**
	9.0nm,0.6s						
KLBR				*e*S	S	01 20 29.8	-23
MUN	**Mundaring**	**20.65**	**180**	*e*P	**P**	**01 17 11.8**	**+1.3**
MUN				*e*S	**S**	**01 20 44.1**	**-15**
ASAR	**Alice Springs**	**20.96**	**129**	P	**P**	**01 17 15.0**	**+1.2**
	3.4nm,0.6s,baz=306,slow=10,SNR=23						
ASAR				S	**S**	**01 20 57.8**	**-7.6**
	3.5nm,1.0s,baz=294,slow=23,SNR=8.8						
NWAO	**Narrogin (SRO)**	**21.62**	**177**	P	**P**	**01 17 20.8**	**-0.1**
	10nm,0.7s,mb4.3,baz=7.5,slow=10,SNR=7.2						
NWAO	**Narrogin (SRO)**	**21.62**	**177**	*e*P	**P**	**01 17 21.1**	**+0.1**
	5.5nm,0.5s,mb4.2						
PSI	**Prapat**	**22.07**	**308**	P	**P**	**01 17 25.0**	**-0.8**
	4.8nm,0.7s,mb4.0,baz=60,slow=2.8,SNR=4.1						
FORT	**Forrest**	**22.38**	**152**	⇑*i*P	**P**	**01 17 29.4**	**+0.3**
	14nm,0.8s,mb4.4						
FORT				*e*S	**S**	**01 21 25.5**	**-7.7**
KULM	**Kulim**	**22.51**	**316**	*e*P	**P**	**01 17 28.6**	**-1.8**
QIZ	**Qiongzhong**	**30.70**	**348**	*e*P	**P**	**01 18 47.0**	**+1.6**
STKA	**Stephens Creek**	**31.21**	**135**	*e*P	**P**	**01 18 49.7**	**-0.2**
	3.1nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**31.21**	**135**	P	**P**	**01 18 50.4**	**+0.5**
	1.9nm,0.8s,mb4.0,baz=313,slow=15,SNR=3.9						
GUMO	**Guam**	**37.69**	**50**	LR	LR	01 36 30.3	
	comp=Z,57nm,18.1s,MS3.4,baz=63,slow=38						
JIRN	**Jiri**	**48.34**	**324**	*e*P	**P**	**01 21 12.2**	**+0.2**
	47nm,0.6s						
GUN	**Gumba**	**48.70**	**324**	*e*P	**P**	**01 21 15.1**	**+0.2**
	52nm,0.6s,mb5.7						
PKI	**Pulchoki**	**48.73**	**323**	*e*P	**P**	**01 21 14.6**	**-0.4**
DMN	**Daman**	**48.94**	**323**	*e*P	**P**	**01 21 16.4**	**-0.2**
	35nm,0.6s,mb5.5						
KKN	**Kakani**	**48.97**	**323**	*e*P	**P**	**01 21 16.4**	**-0.5**
	19nm,0.6s,mb5.3						
GKN	**Gorkha**	**49.51**	**323**	*e*P	**P**	**01 21 20.5**	**-0.5**
	30nm,0.6s,mb5.5						
KOLN	**Koldanda**	**49.96**	**322**	*e*P	**P**	**01 21 24.0**	**-0.5**
	27nm,0.7s,mb5.4						
MJAR	**Matsushiro Arr**	**51.87**	**23**	P	**P**	**01 21 37.4**	**-1.4**
	2.3nm,0.7s,mb4.2,baz=198,slow=7.4,SNR=5.8						
SONM	**Songino Array**	**59.43**	**352**	P	**P**	**01 22 34.1**	**+1.0**
	2.5nm,0.7s,mb4.3,baz=173,slow=8.9,SNR=22						
MKAR	**Makanchi Array**	**65.21**	**335**	P	**P**	**01 23 11.9**	**+0.2**
	4.3nm,0.6s,mb4.7,baz=149,slow=7.2,SNR=22						
AAK	**Ala-Archa**	**65.76**	**327**	*e*P	**P**	**01 23 15.1**	**-0.2**
	2.9nm,0.8s,mb4.4						
KURK	**Kurchatov**	**69.79**	**336**	*e*P	**P**	**01 23 40.5**	**-0.2**
	13nm,1.4s,mb4.7						
VNDA	**Vanda**	**70.25**	**170**	P	**P**	**01 23 43.4**	**-0.1**
	1.9nm,0.8s,mb4.0,baz=277,slow=5.7,SNR=6.4						
BVAR	**Borovoye Array**	**74.97**	**333**	P	**P**	**01 24 11.8**	**+0.3**
	2.1nm,0.7s,mb4.2,baz=116,slow=6.8,SNR=11						
BRVK	**Borovoye**	**75.03**	**333**	*e*P	**P**	**01 24 11.4**	**-0.6**
	1.2nm,0.4s,mb4.2						
ZRNK	**Zerenda**	**75.53**	**333**	*e*P	**P**	**01 24 15.0**	**+0.2**
	2.3nm,0.6s,mb4.3						
ZRNK				*e*PcP	PcP	01 24 27.4	-0.3
AKTK	**Aktyubinsk**	**79.47**	**326**	P	**P**	**01 24 37.5**	**+0.7**
AKTO	**Aktyubinsk**	**79.47**	**326**	P	**P**	**01 24 37.5**	**+0.7**
	3.2nm,0.6s,mb4.4,baz=106,slow=3.4,SNR=19						
SNAA	**Sanae**	**88.10**	**196**	*e*	**P**	**01 25 21.0**	**+0.1**
SNAA				*e*		01 25 26.2	
VNA2	**Neumayer--Watz**	**89.74**	**196**	*e*	**P**	**01 25 30.8**	**+2.2**
	baz=116,slow=3.6						
VNA2				*e*		01 25 34.4	
VNA2				*e*		01 25 35.5	
VNA2				*e*		01 25 50.5	
BRTR	**Keskin Array B**	**91.39**	**310**	P	**P**	**01 25 37.0**	**+0.7**
	0.6nm,0.8s,mb4.0,baz=130,slow=12,SNR=4.4						
TORD	**Torodi Ar. Bea**	**116.04**	**279**	PKP	PKPdf	01 31 13.7	+0.5
	0.5nm,0.8s,baz=66,slow=0.9,SNR=4.5						
YKA	**Yellowknife Ar**	**117.37**	**24**	PKP	PKPdf	01 31 16.2	+0.5
	0.4nm,0.6s,baz=308,slow=2.0,SNR=16						
YKA	**Yellowknife Ar**	**117.37**	**24**	PKP	PKPdf	01 31 16.2	+0.5
MIAR	**Mount Ida**	**144.36**	**45**	*e*PKPdf	PKPdf	01 32 06.1	-0.2
WCI	**Wyandotte Cave**	**146.46**	**33**	*e*PKPdf	PKPdf	01 32 12.5	+2.5
BDFB	**Brasilia**	**149.03**	**211**	PKPbc	PKPbc	01 32 17.8	-0.5
	3.0nm,0.7s,baz=228,slow=5.8,SNR=3.6						
LPAZ	**La Paz**	**152.34**	**171**	PKPbc	PKPbc	01 32 29.1	+3.0
	0.9nm,0.7s,baz=326,slow=3.2,SNR=4.8						

MAN 12 01:17:43.0,1704N×12169E,h26km,mb2.8,ML4.2,MS1.6,
1D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAUP	**Cauayan**	**0.16**	**126**	*e*P	Pb	01 17 49.8	+1.5
PALP	**Palanan**	**0.71**	**88**	⇓*i*P	Pb	01 17 57.1	+0.4
PALP				*i* S	Sb	01 18 08.6	+2.5
PALP	**Palanan**	**0.71**	**88**	*e*P	Pb	01 17 57.3	+0.6
PALP				*e*S	Sb	01 18 08.2	+2.2
APYP	**Conner**	**0.92**	**333**	*e*P	Pn	01 17 59.5	-0.6
ABRA	**Dolores**	**1.11**	**303**	*e*P	Pn	01 18 02.6	-0.2
BALP	**Baler**	**1.30**	**185**	*e*P	Pn	01 18 05.2	-0.2

IDC ***12*** *01:21:19.1±4.7,6445S×15465E,h53km±41km,mb3.8/8, mb1 4.0/10,mb1mx3.9/16,mbtmp4.1/10,ML3.4/2,MS3.6/7, Ms1 3.6/7,ms1mx3.2/25, Error ellipse: s-maj=30.1km s-min=23.9km az=166.0*
ISCJB ***12*** *01:21:21.0±1.9,6758S±01×15462E±006,h83km±18km, mb4.3/18, Error ellipse: s-maj=18.4km s-min=10.6km az=167.9*
NEIC ***12*** *01:21:21.6±1.6,6515S×15465E,h77km±15km,mb4.1/3, Error ellipse: s-maj=15.3km s-min=10.3km az=167.0*
BJI ***12*** *01:21:21.6,6505S×15470E,h77km,mB4.8,mb4.4, Ms4.0, Msz3.9*

ISC 12 01:21:22.2±1.7,6758S±01×15469E±007,h79km±16km,n37,
σ0§93/39,mb4.3/18,1C,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res

BRVK	**Borovoye**	**91.94**	**323**	*e*P	**P**	**01 34 21.4**	**-0.4**
ZRNK	**Zerenda**	**92.69**	**323**	*e*P	**P**	**01 34 24.8**	**-0.5**
YKA	**Yellowknife Ar**	**96.21**	**28**	P	**P**	**01 34 40.8**	**-0.6**
	comp=Z,0.2nm,0.6s,mb3.7,baz=265,slow=5.1,SNR=3.6						
YKA	**Yellowknife Ar**	**96.21**	**28**	P	P	**01 34 40.8**	**-0.6**
BDFB	**Brasilia**	**148.41**	**135**	PKPbc	PKPbc	01 41 02.3	+2.9
	comp=Z,4.4nm,0.8s,baz=232,slow=3.4,SNR=6.1						
TORD	**Torodi Ar. Bea**	**152.65**	**286**	PKPbc	PKPbc	01 41 10.1	+0.5
	comp=Z,2.4nm,0.8s,baz=66,slow=2.1,SNR=16						
TORD				PKPab	PKPab	01 41 21.4	+0.9
	comp=Z,1.5nm,0.7s,baz=75,slow=2.9,SNR=7.3						

NEIC ***12*** *01:46:20.2,3839N×1980E,h15km,MD3.2(ATH),After ATH.*
ISCJB ***12*** *01:46:21.0±1.8,3843N±006×1990E±009,h5km±8km, Error ellipse: s-maj=13.5km s-min=7.6km az=113.0*
ATH ***12*** *01:46:21.4,3843N×1991E,h19km±1km,MD3.2/4*
CSEM ***12*** *01:46:21.2±0.3,3844N×1984E,h5km,MD3.2,Error ellipse: s-maj=5.8km s-min=2.9km az=57.0*
THE ***12*** *01:46:24.4,3850N×2002E,h11km*
ISC 12 01:46:21.9±1.6,3844N±005×1989E±010,h8km±6km,n10, **σ0§71/16,Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.61**	**115**	*e*PN	**Pg**	**01 46 33.4**	**-0.3**
VLS				*e*SN	**Sg**	**01 46 42.0**	**+0.4**
LKD	**Levkas**	**0.66**	**65**	*e*Pg	**Pg**	**01 46 34.6**	**0.0**
LKD				*e*Sg	**Sg**	**01 46 42.6**	**-0.5**
IGT	**Igoumenitsa**	**1.15**	**17**	*e*Pg	**Pg**	**01 46 43.0**	**-0.9**
IGT				*e*Sg	**Sg**	**01 46 60.0**	**+1.2**
KEK	**Kerkira**	**1.28**	**357**	*e*PN	**Pn**	**01 46 45.4**	**-0.6**
KEK				*e*SN	**Sn**	**01 47 03.4**	**+0.1**
RLS	**Riolos of Patr**	**1.30**	**106**	*e*Pn	**Pn**	**01 46 45.7**	**-0.7**
RLS				*e*Sn	**Sn**	**01 47 05.0**	**+1.1**
JAN	**Janina**	**1.43**	**31**	*e*PN	**Pn**	**01 46 48.2**	**0.0**
EVR	**Evrytania**	**1.58**	**72**	*e*PN	**Pn**	**01 46 50.9**	**+0.7**
AGG	**Agios Georgios**	**2.00**	**72**	*e*Pb	**Pn**	**01 46 56.7**	**+0.7**
AGG				*e*Sb	**Sn**	**01 47 19.6**	**-1.5**
ITM	**Ithomi**	**2.04**	**127**	*e*PB	**Pn**	**01 46 56.5**	**-0.1**
FNA	**Florina**	**2.61**	**26**	*e*Pn	**Pn**	**01 47 04.9**	**+0.5**

LDG ***12*** *01:47:42.9±1.8,4281N×155W,h2km,Md2.0/2,Ml1.9/1, Error ellipse: s-maj=32.1km s-min=20.2km az=54.0*
ISCJB ***12*** *01:47:44.1±0.8,4282N±005×141W±005,h0km,Error ellipse: s-maj=6.6km s-min=5.7km az=31.2*
MDD ***12*** *01:47:45.2±0.2,4285N×142W,h0km,mbLg1.1/8,Error ellipse: s-maj=2.7km s-min=1.3km az=133.0,PRXIMO*
ISC 12 01:47:44.2±1.6,4284N±005×146W±008,h13km±22km,n12, **σ0§70/21,1C,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EARA	**Aranguren**	**0.11**	**235**	⇑Pg	**Pg**	**01 47 47.7**	**+0.4**
	SNR=18						
EARA				Lg		01 47 49.9	
	46nm,0.1s,SNR=15						
SJPF	**Ste Jean**	**0.33**	**31**	*e*Pg	**Pg**	**01 47 50.4**	**-0.4**
SJPF				*e*Sg	**Sg**	**01 47 54.6**	**-0.7**
	9.0nm,0.3s						
SJPF	**Ste Jean**	**0.33**	**31**	Pg	**Pg**	**01 47 50.4**	**-0.4**
SJPF				Lg		01 47 54.6	
	4.5nm,0.3s						
ELIZ	**Elizondo**	**0.33**	**351**	Pg	**Pg**	**01 47 51.3**	**+0.4**
	0.8nm,0.2s,SNR=6.5						
ELIZ				Lg		01 47 56.0	
	1.2nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**0.39**	**354**	Pg	**Pg**	**01 47 52.2**	**+0.3**
	1.3nm,0.3s,SNR=7.9						
EALK				Lg		01 47 57.3	
	6.6nm,0.3s,SNR=7.8						
ETSF	**Etsaut**	**0.66**	**84**	*e*Pg	**Pg**	**01 47 55.9**	**-1.2**
ETSF				*e*Sg	**Sg**	**01 48 05.6**	**-0.2**
	4.5nm,0.5s						
ETSF	**Etsaut**	**0.66**	**84**	Pg	**Pg**	**01 47 55.9**	**-1.2**
ETSF				Lg		01 48 05.6	
	2.2nm,0.5s						
EBIE	**Bielsa**	**1.19**	**97**	Pg	**Pg**	**01 48 07.9**	**+0.9**
	0.4nm,0.1s,SNR=7.9						
EBIE				Lg		01 48 23.4	
	1.3nm,0.2s,SNR=7.9						
EPF	**Esparros**	**1.33**	**81**	*e*Pg	**Pg**	**01 48 09.8**	**0.0**
EPF				*e*Sg	**Sg**	**01 48 28.7**	**+1.5**
	2.0nm,0.3s						
EPF	**Esparros**	**1.33**	**81**	Pg	**Pg**	**01 48 09.8**	**0.0**
EPF				Lg		01 48 28.7	
	1.0nm,0.3s						
ESAC	**San Caprasio**	**1.33**	**146**	Pg	**Pg**	**01 48 09.2**	**-0.7**
	5.6nm,0.2s,SNR=7.9						
ESAC				Lg		01 48 28.5	
	7.2nm,0.2s,SNR=7.9						
EGRA	**Graus**	**1.46**	**115**	Pg	**Pg**	**01 48 12.0**	**-0.2**
	0.3nm,0.2s,SNR=7.9						
EGRA				Lg		01 48 32.1	
	0.9nm,0.4s,SNR=7.9						

BJI ***12*** *01:58:39.4,1205S×11638E,h10km,mB5.0,mb4.9,Ms4.7, Msz4.0*
ISCJB ***12*** *01:58:45.3±1.3,1129S±005×11607E±005,h8km±8km, mb4.8/53,MS3.9/14,Error ellipse: s-maj=10.0km s-min=6.1km az=103.3*
IDC ***12*** *01:58:46.3±0.5,1122S×11605E,h0km,mb4.6/14, mb1 4.7/15,mb1mx4.6/18,mbtmp4.6/15,ML4.2/1,MS3.6/7, Ms1 3.6/7,ms1mx3.3/18,Error ellipse: s-maj=27.4km s-min=13.4km az=62.0*
NEIC ***12*** *01:58:47.9±0.2,1126S×11601E,h10km,mb4.8/18,Error ellipse: s-maj=8.7km s-min=4.7km az=58.0*
MOS ***12*** *01:58:49.3±1.1,1121S×11609E,h33km,mb5.0/19,Error ellipse: s-maj=14.0km s-min=6.8km az=112.0*
ISC 12 01:58:48.4±1.5,1127S±005×11611E±005,h13km±9km, **h14km±1.5km:pP-P,n148,σ1§00/138,mb4.8/52,MS3.9/14,** **4C-4D,South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**7.42**	**301**	P	**Pn**	**02 00 37.3**	**+0.9**
	124nm,1.1s						
MBWA	**Marble Bar**	**10.43**	**161**	*e*Pn	**Pn**	**02 01 10.9**	**-6.7**
	54nm,0.5s						
MBWA				*e*Sn	**Sn**	**02 02 57.5**	**-17**
PCI	**Palu**	**10.94**	**20**	P	**Pn**	**02 01 31.8**	**+7.2**
	167nm,1.2s						
FITZ	**Fitzroy Crossi**	**11.45**	**127**	⇑*i*P	**Pn**	**02 01 28.7**	**-2.9**
	22nm,0.6s						
FITZ				*e*S	**Sn**	**02 03 28.6**	**-11**
FITZ	**Fitzroy Crossi**	**11.45**	**127**	Pn	**Pn**	**02 01 28.9**	**-2.7**
	2.1nm,0.3s,baz=307,slow=11,SNR=54						
FITZ				Sn	**Sn**	**02 03 29.2**	**-10**
	2.4nm,0.3s,baz=34,slow=22,SNR=6.0						
FITZ				LR	LR	02 05 26.6	
	comp=Z,94nm,20.3s,baz=302,slow=35						
KSM	**Kuching**	**13.91**	**335**	Pn	**Pn**	**02 02 05.9**	**+0.7**
KSI	**Kapahiang**	**15.38**	**298**	P	**Pn**	**02 02 20.7**	**-4.3**
	128nm,0.8s						
KAKA	**Kakadu**	**16.04**	**97**	*e*P	**Pn**	**02 02 35.3**	**+1.6**
	15nm,0.6s						
KKM	**Kota Kinabalu**	**17.20**	**0**	*e*P	**Pn**	**02 02 49.0**	**+0.7**
TLE	**Tual**	**17.37**	**73**	P	**Pn**	**02 02 54.2**	**+3.7**
	80nm,1.5s						
SWI	**Sorong**	**18.26**	**57**	P	**Pn**	**02 03 01.7**	**+0.3**
	139nm,1.0s						
WRA	**Warramunga Arr**	**19.55**	**118**	P	**Pn**	**02 03 16.1**	**-0.9**
	0.7nm,0.3s,baz=289,slow=14,SNR=18						
WRA				S	**Sn**	**02 06 40.4**	**-16**
	0.9nm,0.3s,baz=283,slow=25,SNR=8.4						
WRAB	**Tennant Creek**	**19.55**	**118**	*e*P	**Pn**	**02 03 17.5**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,40nm,1.1s						
WRAB	**Tennant Creek**	**19.55**	**118**	*e*Pn	**Pn**	**02 03 17.5**	**+0.4**
	comp=Z,40nm,1.1s						
WRAB				*e*Sn	**Sn**	**02 06 39.6**	**-17**
WB2	**Warramunga Arr**	**19.56**	**118**	⇑*i*P	**Pn**	**02 03 17.5**	**+0.3**
WB2				*e*S	**Sn**	**02 06 40.2**	**-16**
KLBR	**Kellerberrin**	**20.28**	**176**	*e*P	**P**	**02 03 22.6**	**-1.1**
	comp=Z,20nm,0.5s						
KLBR				*e*S	**S**	**02 06 48.6**	**-22**
MUN	**Mundaring**	**20.61**	**180**	*e*P	**P**	**02 03 26.4**	**-0.9**
MUN				*e*S	**S**	**02 06 57.6**	**-20**
ASAR	**Alice Springs**	**20.95**	**128**	P	**P**	**02 03 32.6**	**+1.7**
	comp=Z,6.0nm,0.6s,baz=299,slow=10,SNR=77						
ASAR				S	**S**	**02 07 14.2**	**-10**
	comp=Z,11nm,1.0s,baz=290,slow=22,SNR=9.8						
NWAO	**Narrogin (SRO)**	**21.58**	**177**	P	**P**	**02 03 38.3**	**+0.6**
	comp=Z,25nm,0.5s,mb4.9,baz=356,slow=14,SNR=14						
NWAO				S	**S**	**02 07 21.9**	**-15**
	comp=Z,10nm,0.5s,baz=275,slow=16,SNR=4.9						
NWAO				LR	LR	02 12 04.0	
	comp=Z,245nm,18.5s,MS3.6,baz=168,slow=37						
NWAO	**Narrogin (SRO)**	**21.58**	**177**	*e*P	**P**	**02 03 37.9**	**+0.2**
NWAO				pmax	pmax		
	comp=Z,21nm,0.6s						
NWAO	**Narrogin (SRO)**	**21.58**	**177**	*e*P	**P**	**02 03 37.9**	**+0.2**
	comp=Z,21nm,0.6s,mb4.7						
PSI	**Prapat**	**22.08**	**308**	P	**P**	**02 03 41.6**	**-1.5**
	comp=Z,4.8nm,0.5s,mb4.2,baz=135,slow=4.3,SNR=5.4						
PSI				LR	LR	02 12 26.4	
	comp=Z,156nm,21.9s,MS3.4,baz=352,slow=37						
FORT	**Forrest**	**22.36**	**152**	*e*P	**P**	**02 03 46.0**	**0.0**
	comp=Z,38nm,0.7s,mb4.9						
FORT				*e*S	**S**	**02 07 42.3**	**-9.3**
KULM	**Kulim**	**22.52**	**316**	*e*P	**P**	**02 03 46.4**	**-1.4**
JAY	**Jayapura**	**25.90**	**72**	P	**P**	**02 04 18.8**	**-1.2**
	comp=Z,196nm,0.4s						
CTA	**Charters Tower**	**30.28**	**111**	LR	LR	02 17 09.4	
	comp=Z,67nm,18.2s,MS3.3,baz=62,slow=36						
CTAO	**Charters Tower**	**30.28**	**111**	*e*P	**P**	**02 05 00.0**	**+0.9**
QIZ	**Qiongzhong**	**30.73**	**348**	⇑P	**P**	**02 05 04.4**	**+1.3**
STKA	**Stephens Creek**	**31.20**	**135**	*e*P	**P**	**02 05 07.4**	**+0.1**
	comp=Z,3.6nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**31.20**	**135**	P	**P**	**02 05 07.8**	**+0.5**
	comp=Z,4.6nm,0.8s,mb4.4,baz=311,slow=7.7,SNR=11						
STKA				LR	LR	02 18 12.8	
	comp=Z,140nm,20.9s,MS3.6,baz=208,slow=37						
KMI	**Kunming**	**38.45**	**340**	P	**P**	**02 06 11.9**	**+2.1**
KMI				AP	pP	02 06 14.8	+0.9
KMI				XP	sP	02 06 16.0	+0.4
KMI				PP	PP	02 07 43.8	+6.0
KMI				S	**S**	**02 12 08.2**	**+3.6**
KMI				AMB	AMB		
	comp=Z,15nm,0.5s,mb5.0						
KMI				LR	LR		
	comp=N,106nm,18.4s,MS4.0						
KMI				LR	LR		
	comp=E,173nm,15.7s,MS4.0						
KMI				LR	LR		
	comp=Z,114nm,17.4s,MS3.8						
GYA	**Guiyang**	**38.61**	**346**	⇓*i*P	**P**	**02 06 11.9**	**+0.7**
GYA				AP	pP	02 06 17.2	+1.9
GYA				XP	sP	02 06 18.9	+2.0
GYA				PP	PP	02 07 44.1	+4.6
GYA				PCP	PcP	02 08 24.7	+1.3
GYA				S	**S**	**02 12 07.4**	**+0.4**
GYA				SCS	ScS	02 16 22.7	+1.2
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,90nm,3.9s						
GYA				LR	LR		
	comp=N,540nm,16.8s,MS4.5						
GYA				LR	LR		
	comp=E,410nm,17.0s,MS4.5						
GYA				LR	LR		
	comp=Z,430nm,17.2s,MS4.3						
PALK	**Pallekele**	**39.75**	**296**	*e*P	**P**	**02 06 20.7**	**-0.1**
SSE	**Sheshan**	**42.40**	**6**	*e*P	**P**	**02 06 43.8**	**+1.3**
SSE				AMB	AMB		
	comp=Z,44nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,46nm,4.4s						
NJ2	**Nanjing**	**43.15**	**3**	*e*P	**P**	**02 06 50.1**	**+1.5**
NJ2				AP	pP	02 06 55.8	+3.0
NJ2				XP	sP	02 07 00.0	+5.6
NJ2				PP	PP	02 08 33.9	+5.0
NJ2				S	**S**	**02 13 19.0**	**+4.3**
NJ2				XS	sS	02 13 26.0	+4.5
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,110nm,5.0s						
NJ2				LR	LR		
	comp=N,790nm,26.2s						
NJ2				LR	LR		
	comp=E,810nm,20.0s						
NJ2				LR	LR		
	comp=Z,190nm,24.2s,MS3.9						
CD2	**Chengdu**	**43.58**	**345**	*e*P	**P**	**02 06 52.0**	**-0.1**
CD2				PP	PP	02 08 35.8	+2.3
CD2				S	**S**	**02 13 21.8**	**+0.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2				LR	LR		
	comp=E,60nm,12.0s						
CD2				LR	LR		
	comp=Z,70nm,18.0s						
XAN	**Xi'an**	**45.57**	**352**	P	**P**	**02 07 07.3**	**-0.7**
XAN				AP	pP	02 07 19.4	+7.2
XAN				AMB	AMB		
	comp=Z,15nm,0.8s,mb5.0						
HYB	**Hyderabad**	**46.78**	**307**	*e*P	**P**	**02 07 16.5**	**-1.0**
LSA	**Lhasa**	**47.30**	**330**	*e*P	**P**	**02 07 21.4**	**-0.2**
LSA				*e**PP	pP	02 07 27.2	+1.4
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
LSA	**Lhasa**	**47.30**	**330**	*e*P	**P**	**02 07 21.4**	**-0.2**
	comp=Z,7.2nm,0.6s,mb4.8						
LSA				*e*pP	pP	02 07 27.1	+1.4
JIRN	**Jiri**	**48.35**	**324**	*e*P	**P**	**02 07 30.0**	**+0.3**
	comp=Z,144nm,0.6s						
LZH	**Lanzhou**	**48.50**	**347**	*e*P	**P**	**02 07 31.6**	**+0.7**
LZH				AP	pP	02 07 34.7	-0.3
LZH				XP	sP	02 07 36.3	-0.4
LZH				*e*S	**S**	**02 14 32.6**	**+0.9**
LZH				SS	SS	02 17 58.2	-3.3
LZH				AMB	AMB		
	comp=Z,31nm,1.4s,mb5.2						
LZH				AMB	AMB		
	comp=Z,83nm,7.2s						
LZH				LR	LR		
	comp=E,439nm,15.3s						
LZH				LR	LR		
	comp=Z,738nm,17.9s,MS4.7						
GUN	**Gumba**	**48.72**	**324**	*e*P	**P**	**02 07 32.8**	**+0.2**
	comp=Z,137nm,0.6s						
PKI	**Pulchoki**	**48.74**	**323**	*e*P	**P**	**02 07 32.3**	**-0.4**
	comp=Z,55nm,0.8s,mb5.7						
DMN	**Daman**	**48.95**	**323**	*e*P	**P**	**02 07 34.3**	**0.0**
	comp=Z,102nm,0.7s						
KKN	**Kakani**	**48.98**	**323**	*e*P	**P**	**02 07 34.4**	**-0.2**
	comp=Z,54nm,0.7s,mb5.7						
GKN	**Gorkha**	**49.52**	**323**	*e*P	**P**	**02 07 38.4**	**-0.3**
	comp=Z,77nm,0.7s,mb5.8						
KOLN	**Koldanda**	**49.98**	**322**	*e*P	**P**	**02 07 41.7**	**-0.5**
	comp=Z,72nm,0.7s,mb5.8						
BJT	**Baijiatuau**	**51.02**	**0**	*e*P	**P**	**02 07 49.6**	**-0.5**
BJI	**Beijing**	**51.05**	**0**	P	**P**	**02 07 49.9**	**-0.3**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.8						
MAJO	**Matsushiro**	**51.91**	**23**	*e*P	**P**	**02 07 55.7**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
MAJO	**Matsushiro**	**51.91**	**23**	*e*P	**P**	**02 07 55.7**	**-1.0**
	comp=Z,6.7nm,0.6s,mb4.8						
MAT	**Matsushiro**	**51.91**	**23**	P	**P**	**02 07 55.6**	**-1.1**
MAT	**Matsushiro**	**51.91**	**23**	*e*P	**P**	**02 07 56.0**	**-0.7**
MJAR	**Matsushiro Arr**	**51.91**	**23**	P	**P**	**02 07 55.8**	**-1.0**
	comp=Z,9.3nm,0.8s,mb4.8,baz=197,slow=7.4,SNR=20						
MJAR				LR	LR	02 27 28.4	
	comp=Z,64nm,21.4s,MS3.6,baz=260,slow=33						
HHC	**Hu-ho-hao-te**	**52.02**	**356**	*e*P	**P**	**02 07 56.5**	**-1.0**
HHC				PCP	PcP	02 09 08.1	-1.6
HHC				PP	PP	02 09 56.4	+0.8
HHC				SCP	ScP	02 13 04.2	-2.1
HHC				PCS	PcS	02 13 04.8	-3.1
HHC				S	**S**	**02 15 21.1**	**+0.4**
HHC				PS		02 15 32.6	
HHC				SCS	ScS	02 17 43.2	-4.2
HHC				SS	SS	02 18 57.1	-0.6
HHC				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.7						
HHC				AMB	AMB		
	comp=Z,109nm,5.9s						
HHC				LR	LR		
	comp=N,179nm,14.9s,MS4.6						
HHC				LR	LR		
	comp=E,358nm,15.5s,MS4.6						
HHC				LR	LR		
	comp=Z,136nm,16.9s,MS4.0						
GTA	**Gaotai**	**52.65**	**344**	*e*P	**P**	**02 08 02.7**	**+0.5**
GTA				AP	pP	02 08 06.5	+0.1
GTA				XP	sP	02 08 08.7	+0.7
GTA				PP	PP	02 10 04.1	+2.8
GTA				S	**S**	**02 15 30.9**	**+1.6**
GTA				SS	SS	02 19 09.0	+1.4
GTA				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.7						
GTA				AMB	AMB		
	comp=Z,150nm,3.0s						
GTA				LR	LR		
	comp=N,149nm,14.5s,MS4.4						
GTA				LR	LR		
	comp=E,183nm,15.2s,MS4.4						
GTA				LR	LR		
	comp=Z,70nm,11.0s,MS4.0						
CN2	**Changchun**	**55.46**	**8**	*e*P	**P**	**02 08 20.6**	**-2.1**
CN2				PCP	PcP	02 09 19.4	-3.4
CN2				PCS	PcS	02 13 18.1	-4.8
CN2				*e*S	**S**	**02 16 04.7**	**-2.6**
CN2				*e*SS	SS	02 19 51.0	-1.0
CN2				LR	LR		
	comp=N,500nm,21.0s,MS4.6						
CN2				LR	LR		
	comp=E,300nm,21.0s,MS4.6						
MDJ	**Mudanjiang**	**56.95**	**11**	P	**P**	**02 08 35.3**	**+2.0**
MDJ				AP	pP	02 08 38.4	+0.8
MDJ				XP	sP	02 08 39.6	+0.4
MDJ				PP	PP	02 10 42.3	+2.4
MDJ				S	**S**	**02 16 32.2**	**+5.1**
MDJ				XS	sS	02 16 37.1	+3.0
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,106nm,5.0s						
MDJ				LR	LR		
	comp=N,71nm,36.9s						
MDJ				LR	LR		
	comp=E,22nm,21.1s						
MDJ				LR	LR		
	comp=Z,30nm,23.7s						
ULN	**Ulaanbaatar**	**59.42**	**353**	*e*P	**P**	**02 08 50.7**	**+0.1**
ULN				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
ULN	**Ulaanbaatar**	**59.42**	**353**	*e*P	**P**	**02 08 50.6**	**0.0**
	comp=Z,9.2nm,0.8s,mb4.9						
SONM	**Songino Array**	**59.47**	**352**	P	**P**	**02 08 50.7**	**-0.3**
	comp=Z,9.8nm,0.7s,mb4.9,baz=175,slow=8.4,SNR=72						
ASAJ	**Asahikawa**	**60.15**	**22**	P	**P**	**02 08 56.0**	**+0.3**
	comp=Z,9.9nm,0.7s,mb5.0,baz=276,slow=22,SNR=4.9						
WMQ	**Urumqi**	**60.62**	**337**	⇓*i*P	**P**	**02 08 59.1**	**+0.2**
WMQ				AP	pP	02 09 03.6	+0.4
WMQ				XP	sP	02 09 06.1	+1.3
WMQ				PCP	PcP	02 09 43.6	+0.5
WMQ				PP	PP	02 11 14.7	+2.3
WMQ				S	**S**	**02 17 13.1**	**-1.7**
WMQ				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,53nm,4.9s						
WMQ				LR	LR		
	comp=N,52nm,25.0s						
WMQ				LR	LR		
	comp=Z,32nm,25.0s,MS3.4						
ZAK	**Zakamensk**	**62.41**	**351**	⇑*e*P	**P**	**02 09 09.8**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.8						
YSS	**Yuzh-Sakhalins**	**62.67**	**20**	*e*P	**P**	**02 09 12.5**	**-0.2**
CIT	**Chita**	**63.07**	**358**	*e*P	**P**	**02 09 15.6**	**+0.2**
TLY	**Talaya**	**63.61**	**351**	*e*P	**P**	**02 09 19.4**	**+0.4**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
TLY	**Talaya**	**63.61**	**351**	*e*P	**P**	**02 09 19.4**	**+0.4**
	comp=Z,4.0nm,0.8s,mb4.5						
MOY	**Mondy**	**64.03**	**350**	*e*P	**P**	**02 09 22.4**	**+0.7**
MOY				pmax	pmax		
	comp=Z,21nm,1.9s,mb4.8						
ULHL	**Ulahol**	**64.59**	**328**	P	**P**	**02 09 26.1**	**+0.7**
	SNR=7.5						
KZA	**Kyzart**	**64.99**	**327**	P	**P**	**02 09 29.0**	**+1.0**
	SNR=15						
MK31	**Makanchi Array**	**65.23**	**335**	P	**P**	**02 09 29.6**	**0.0**
MK31				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
MKAR	**Makanchi Array**	**65.23**	**335**	P	**P**	**02 09 29.6**	**+0.1**
	comp=Z,16nm,0.6s,mb5.2,baz=148,slow=7.4,SNR=74						
UCH	**Uchtor**	**65.49**	**327**	P	**P**	**02 09 32.0**	**+0.8**
	SNR=5.4						
KBK	**Karagaybulak**	**65.56**	**328**	P	**P**	**02 09 32.5**	**+0.8**
	SNR=6.9						
AAK	**Ala-Archa**	**65.78**	**327**	P	**P**	**02 09 34.2**	**+1.1**
	SNR=8.1						
AAK	**Ala-Archa**	**65.78**	**327**	*e*P	**P**	**02 09 32.7**	**-0.4**
AAK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
AAK	**Ala-Archa**	**65.78**	**327**	*e*P	**P**	**02 09 32.6**	**-0.5**
	comp=Z,7.9nm,0.9s,mb4.7						
FRU	**Bishkek**	**65.86**	**328**	*e*P	**P**	**02 09 34.0**	**+0.4**
AML	**Almayashu**	**65.86**	**327**	P	**P**	**02 09 34.6**	**+1.0**
	SNR=8.4						
MAW	**Mawson**	**66.15**	**200**	LR	LR	02 33 19.5	
	comp=Z,116nm,18.7s,MS4.1,baz=93,slow=31						
EKS2	**Erkin-Say**	**66.18**	**327**	P	**P**	**02 09 36.8**	**+1.2**
	SNR=7.6						
BOD	**Bodaibo**	**68.86**	**359**	*e*P	**P**	**02 09 51.8**	**-0.8**
BOD				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
KURK	**Kurchatov**	**69.82**	**336**	*e*P	**P**	**02 09 58.3**	**-0.3**
KURK				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.0						
KURK	**Kurchatov**	**69.82**	**336**	*e*P	**P**	**02 09 58.3**	**-0.3**
	comp=Z,13nm,0.7s,mb5.0						
ZAL	**Zalesovo**	**70.19**	**341**	P	**P**	**02 09 59.6**	**-1.2**
	comp=Z,8.2nm,0.7s,mb4.8,baz=334,slow=5.3,SNR=35						
VNDA	**Vanda**	**70.22**	**170**	P	**P**	**02 10 00.9**	**-0.1**
	comp=Z,2.2nm,0.7s,mb4.2,baz=288,slow=6.7,SNR=8.0						
VNDA	**Vanda**	**70.22**	**170**	*e*P	**P**	**02 10 00.7**	**-0.3**
NVS	**Novosibirsk**	**71.44**	**341**	⇓*i*P	**P**	**02 10 06.3**	**-2.2**
NVS				pmax	pmax		
	comp=Z,20nm,1.6s,mb4.8						
NVS				pmax	pmax		
	comp=N,12nm,1.7s						
NVS				pmax	pmax		
	comp=E,11nm,1.3s						
PET	**Petropavlovsk**	**73.63**	**25**	P	**P**	**02 10 20.9**	**-0.6**
PET				*e*		02 10 37.4	
YAK	**Yakutsk**	**73.84**	**7**	P	**P**	**02 10

TIXI	**Tiksi**	**83.17**	**4**	*e*P		**P**		**02 11 12.5**	**-1.7**
TIXI				pmax	pmax				
	comp=Z,5.0nm,0.9s,mb4.5								
BILL	**Bilibino**	**86.76**	**17**	*e*P		**P**		**02 11 32.4**	**+0.2**
BILL				pmax	pmax				
	comp=Z,4.0nm,1.4s,mb4.5								
MALT	**Malatya**	**87.43**	**310**	*e*P		**P**		**02 11 36.7**	**+1.2**
MALT				pmax	pmax				
	comp=Z,16nm,1.6s,mb5.0								
MALT	**Malatya**	**87.43**	**310**	*e*P		**P**		**02 11 36.7**	**+1.2**
	comp=Z,16nm,1.6s,mb5.0								
EIL	**Elat**	**87.96**	**301**	*e*P		**P**		**02 11 38.2**	**+0.2**
SNAA	**Sanae**	**88.05**	**196**	*e*P		**P**		**02 11 38.5**	**0.0**
SNAA				*e*	pP			02 11 41.3	-1.6
SNAA				*e*	pP			02 11 43.6	+0.7
SNAA				*e*				02 11 44.8	
VNA2	**Neumayer--Watz**	**89.69**	**196**	*e*P		**P**		**02 11 49.0**	**+2.8**
VNA2				*e*				02 11 50.6	
VNA2				*e*	pP			02 11 52.6	+2.0
VNA2				*e*	pP			02 11 53.4	+2.8
ANN	**Anapa**	**89.95**	**316**	*e*P		**P**		**02 11 44.0**	**-3.4**
ANN				pmax	pmax				
	comp=Z,43nm,1.2s,mb5.7								
VNA3	**Neumayer Olymp**	**90.10**	**195**	*e*P		**P**		**02 11 50.9**	**+2.8**
VNA3				*e*	pP			02 11 53.3	+0.8
VNA3				*e*	pP			02 11 54.5	+2.0
BR131	**Keskin Array S**	**91.40**	**310**	*e*P		**P**		**02 11 54.1**	**0.0**
	comp=Z,1.7nm,0.9s,mb4.4								
BRTR	**Keskin Array B**	**91.40**	**310**	P		**P**		**02 11 53.9**	**-0.2**
	comp=Z,2.0nm,0.9s,mb4.5,baz=130,slow=6.7,SNR=13								
AKASG	**Malin Array Be**	**96.66**	**320**	P		**P**		**02 12 17.0**	**-1.3**
	comp=Z,0.2nm,0.4s,mb3.9,baz=81,slow=4.9,SNR=5.5								
JOF	**Joensuu**	**97.58**	**333**	*e*p		**P**		**02 12 18.6**	**-3.8**
KAF	**Kangasniemi**	**99.77**	**332**	*e*p		Pdif		02 12 29.2	-3.0
FINES	**FINESS Array B**	**99.82**	**331**	P		Pdif		02 12 31.9	-0.5
	comp=Z,1.3nm,0.8s,baz=94,slow=10,SNR=6.3								
TORD	**Torodi Ar. Bea**	**116.03**	**279**	PKP		PKPdf		02 17 31.9	+0.9
	comp=Z,0.9nm,0.8s,baz=60,slow=1.3,SNR=13								
YKW3	**Yellowknife Ar**	**117.37**	**24**	*e*PKPdf		PKPdf		02 17 33.5	-0.1
YKA	**Yellowknife Ar**	**117.41**	**24**	PKP		PKPdf		02 17 33.7	0.0
	comp=Z,1.0nm,0.6s,baz=311,slow=2.0,SNR=37								
YKA	**Yellowknife Ar**	**117.41**	**24**	PKP		PKPdf		02 17 33.7	0.0
NVAR	**Mina Array Bea**	**124.65**	**51**	PKP		PKPdf		02 17 50.0	+2.4
	comp=Z,0.8nm,0.6s,baz=273,slow=0.4,SNR=4.4								
HLID	**Hailey**	**125.92**	**44**	*e*PKPdf		PKPdf		02 17 52.4	+2.3
ELK	**Elko**	**126.28**	**47**	*e*PKIKP		PKPdf		02 17 53.1	+2.4
FFC	**Flin Flon**	**127.31**	**27**	PKIKP		PKPdf		02 17 52.9	+0.2
FCC	**Fort Churchill**	**127.42**	**19**	*e*PKIKP		PKPdf		02 17 53.2	+0.3
PLCA	**Paso Flores**	**127.90**	**174**	*e*PKIKP		PKPdf		02 17 53.3	-0.5
BW06	**Boulder Array**	**129.51**	**43**	*e*PKPdf		PKPdf		02 17 56.8	0.0
FVM	**French Village**	**144.34**	**37**	*e*PKIKP		PKPdf		02 18 24.0	-0.2
MIAR	**Mount Ida**	**144.40**	**45**	*e*PKIKP		PKPdf		02 18 24.6	+0.3
HKT	**Hockley**	**144.98**	**53**	*e*PKIKP		PKPdf		02 18 27.6	+2.3
LVC	**Limon Verde**	**145.97**	**172**	*e*PKP		PKPdf		02 18 30.3	+3.3
MIV	**Mineville/With**	**146.27**	**13**	*e*PKPdf		PKPdf		02 18 29.6	+2.1
WCI	**Wyandotte Cave**	**146.50**	**33**	*e*PKP2		PKPab		02 18 30.3	0.0
ACSO	**Alum Creek Sta**	**146.58**	**27**	*e*PKPbc		PKPbc		02 18 30.5	+1.0
OXF	**Oxford**	**147.20**	**41**	*e*PKPbc		PKPbc		02 18 32.5	+1.1
OXF				*e*				02 18 44.4	
PLAL	**Pickwick Lake**	**147.74**	**39**	*e*PKPbc		PKPbc		02 18 33.1	+0.3
BDFB	**Brasilia**	**148.98**	**211**	PKPbc		PKPbc		02 18 37.3	+1.2
	comp=Z,2.7nm,0.6s,baz=246,slow=0.2,SNR=5.0								
TZTN	**Tazewell**	**149.21**	**32**	*e*PKPbc		PKPbc		02 18 38.5	+1.8
CPCT	**Cooper Cave**	**149.51**	**35**	*e*PKPbc		PKPbc		02 18 38.1	+0.7
LRAL	**Lakeview Retre**	**149.69**	**41**	*e*PKPbc		PKPbc		02 18 38.8	+1.0
FWV	**Forest Hill**	**149.72**	**27**	*e*PKPbc		PKPbc		02 18 39.0	+1.2
ELN	**Prospectdale**	**150.03**	**28**	*e*PKPbc		PKPbc		02 18 39.4	+0.8
LPAZ	**La Paz**	**152.30**	**171**	PKPbc		PKPbc		02 18 45.5	+1.5
	comp=Z,1.4nm,0.8s,baz=101,slow=7.7,SNR=6.2								

*ISCJB **12** 02:08:30.5±0.5, 8598N±005×29E±, h10km, mb3.6/14, MS3.4/14, Error ellipse: s-maj=10.3km s-min=7.1km az=6.8*
*IDC **12** 02:08:31.0±0.8, 8607N×3052E, h0km, mb3.7/12, mb1 3.9/13, mb1mx3.8/21, mbtmp3.7/13, ML3.4/1, MS3.4/15, Ms1 3.4/15, ms1mx3.2/26, Error ellipse: s-maj=25.2km s-min=14.8km az=73.0*
*CSEM **12** 02:08:32.1, 8602N×2934E, h10km, mb4.4/2, Mw4.7, After NEIC*
*NEIC **12** 02:08:32.1±0.4, 8602N×2934E, h10km, mb4.1/4, Error ellipse: s-maj=9.8km s-min=6.9km az=76.0*
*HRVD **12** 02:08:32.1±0.4, 8594N×2788E, h14km±1km, MW4.7/56, Centroid moment Tensor Solution. LP body waves: s8,c8;Mantle waves: s56,c79; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-1.16±.13; Mθθ0.60±.08; Mφφ0.56±.08; Mrθ-0.21±.18; Mθφ0.59±.05; Mφr0.77±.22; Best double couple: M0 1.39000×10^16^ NP1:ϑφ66.00000°, δ40.00000°,λ-52.00000°. NP2:ϑφ201.00000°,δ60.00000°, λ-117.00000°. Principal axes: T 1.2490, Plg11.0000°, Azm310.0000°; N 0.2890, Plg23.0000°, Azm215.0000°; P -1.5320, Plg64.0000°, Azm63.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 12 02:08:31.1±4.8, 8601N±005×29E±, h6km±32km, n40, σ0$77/37, mb3.6/14, MS3.4/14, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KBS	**Kingsbay**	**7.41**	**207**	*e*Pn		**Pn**	**02 10 19.6**	**-0.2**
	39nm,0.6s							
KBS				*e*Sn		**Sn**	**02 11 43.5**	**-0.7**
KBS	**Kingsbay**	**7.41**	**207**	*e*Pn		**Pn**	**02 10 19.6**	**-0.2**
	39nm,0.6s							
KBS				*e*Sn		**Sn**	**02 11 43.5**	**-0.7**
SUMG	**Summit**	**16.44**	**261**	*e*P		**Pn**	**02 12 22.2**	**-0.1**
	17nm,1.3s							
SUMG	**Summit**	**16.44**	**261**	*e*P		**Pn**	**02 12 22.2**	**-0.1**
	17nm,1.3s							
ARCES	**ARCESS Array B**	**16.59**	**185**	Pn		**Pn**	**02 12 23.8**	**-0.4**
	0.2nm,0.3s,baz=13,slow=11,SNR=7.7							
ARCES				Sn		**Sn**	**02 15 18.8**	**-10**
	0.1nm,0.3s,baz=357,slow=24,SNR=3.6							
ARCES				LR		LR	02 18 24.4	
	comp=Z,123nm,20.6s,baz=1.5,slow=36							
ARCES	**ARCESS Array B**	**16.59**	**185**	Pn		**Pn**	**02 12 23.8**	**-0.4**
ARCES				Sn		**Sn**	**02 15 18.8**	**-10**
RES	**Resolute Bay**	**17.98**	**315**	*e*P		**Pn**	**02 12 41.6**	**0.0**
	8.8nm,1.0s							
RES	**Resolute Bay**	**17.98**	**315**	*e*P		**Pn**	**02 12 41.7**	**+0.1**
	8.8nm,1.0s							
JOF	**Joensuu**	**23.22**	**178**	*e*p		**P**	**02 13 37.8**	**-1.1**
KAF	**Kangasniemi**	**24.04**	**184**	*e*p		**P**	**02 13 46.1**	**-0.7**
FINES	**FINESS Array B**	**24.71**	**184**	P		**P**	**02 13 54.1**	**+1.2**
	0.9nm,0.7s,mb3.4,baz=8.9,slow=9.8,SNR=3.5							
FINES				LR		LR	02 23 28.9	
	comp=Z,57nm,19.6s,MS3.1,baz=19,slow=36							
BILL	**Bilibino**	**25.17**	**37**	*e*P		**P**	**02 13 56.5**	**-0.6**
	5.6nm,0.9s,mb4.1							
BILL	**Bilibino**	**25.17**	**37**	*e*P		**P**	**02 13 56.5**	**-0.6**
	5.6nm,0.9s,mb4.1							
NOA	**NORSAR Array B**	**25.34**	**201**	P		**P**	**02 14 00.6**	**+1.9**
	1.6nm,0.9s,mb3.5,baz=2.4,slow=8.9,SNR=4.0							
NOA				LR		LR	02 23 06.7	
	comp=Z,34nm,18.2s,MS2.9,baz=215,slow=34							
INK	**Inuvik**	**25.69**	**345**	P		**P**	**02 14 02.7**	**+0.8**
	5.3nm,1.2s,mb4.0,baz=28,slow=11,SNR=5.0							
INK	**Inuvik**	**25.69**	**345**	*e*P		**P**	**02 14 01.9**	**0.0**
	9.9nm,1.1s,mb4.2							
INK	**Inuvik**	**25.69**	**345**	*e*P		**P**	**02 14 01.9**	**0.0**
	9.9nm,1.1s,mb4.2							
HFS	**Hagfors**	**26.19**	**198**	LR		LR	02 24 11.5	
	comp=Z,44nm,19.2s,MS3.0,baz=4.9,slow=36							
FRB	**Frobisher Bay**	**27.24**	**286**	LR		LR	02 24 28.0	
	comp=Z,95nm,19.7s,MS3.4,baz=40,slow=35							
ILAR	**Eielson Array**	**29.39**	**357**	P		**P**	**02 14 35.0**	**0.0**
	0.6nm,0.8s,mb3.4,baz=358,slow=7.6,SNR=6.9							
ILAR				LR		LR	02 25 23.8	
	comp=Z,58nm,19.7s,MS3.2,baz=4.0,slow=34							
YKA	**Yellowknife Ar**	**31.00**	**328**	P		**P**	**02 14 49.5**	**+0.2**
	0.1nm,0.6s,mb2.8,baz=1.1,slow=8.3,SNR=6.6							
YKA				LR		LR	02 27 52.6	
	comp=Z,168nm,18.3s,MS3.7,baz=15,slow=38							
ZAL	**Zalesovo**	**34.10**	**120**	P		**P**	**02 15 16.1**	**-0.4**
	1.2nm,0.5s,mb4.1,baz=160,slow=6.6,SNR=3.6							
ZAL				LR		LR	02 32 26.9	
	comp=Z,79nm,18.1s,MS3.5,baz=121,slow=42							
ZAL	**Zalesovo**	**34.10**	**120**	P		**P**	**02 15 16.0**	**-0.4**
ZAL				LR		LR	02 32 26.9	
BVAR	**Borovoye Array**	**34.21**	**135**	P		**P**	**02 15 18.5**	**+1.1**
	0.9nm,0.6s,mb3.9,baz=344,slow=8.4,SNR=5.8							
ZRNK	**Zerenda**	**34.22**	**137**	*e*P		**P**	**02 15 18.0**	**+0.6**
ZRNK	**Zerenda**	**34.22**	**137**	*e*P		**P**	**02 15 18.0**	**+0.6**
AKASG	**Malin Array Be**	**35.47**	**180**	P		**P**	**02 15 28.8**	**+0.6**
	1.0nm,0.6s,mb3.9,baz=358,slow=8.8,SNR=5.8							
SCHQ	**Schefferville**	**35.98**	**282**	LR		LR	02 29 32.8	
	comp=Z,104nm,18.4s,MS3.6,baz=43,slow=35							
GERES	**GERESS Array B**	**37.49**	**197**	P		**P**	**02 15 49.5**	**+4.0**
	0.3nm,0.6s,mb3.3,baz=15,slow=8.1,SNR=4.5							
GERES				LR		LR	02 30 28.7	
	comp=Z,23nm,18.8s,MS3.0,baz=349,slow=35							
GERES	**GERESS Array B**	**37.49**	**197**	P		**P**	**02 15 49.5**	**+4.0**
GERES				LR		LR	02 30 28.7	
MLR	**Muntele Rosu**	**40.69**	**184**	LR		LR	02 32 49.3	
	comp=Z,102nm,20.6s,MS3.7,baz=149,slow=36							
MKAR	**Makanchi Array**	**41.07**	**124**	P		**P**	**02 16 14.1**	**-1.3**
	1.3nm,0.8s,mb3.6,baz=10,slow=8.6,SNR=4.7							
SONM	**Songino Array**	**41.60**	**99**	P		**P**	**02 16 19.8**	**+0.1**
	0.5nm,0.8s,mb3.2,baz=338,slow=6.2,SNR=3.5							
ULM	**Lac du Bonnet**	**42.37**	**309**	LR		LR	02 33 48.3	
	comp=Z,102nm,18.3s,MS3.8,baz=20,slow=36							
GNI	**Garni**	**46.17**	**164**	LR		LR	02 37 44.5	
	comp=Z,59nm,21.9s,MS3.5,baz=147,slow=38							
PDAR	**Pinedale Array**	**50.51**	**321**	P		**P**	**02 17 29.2**	**-0.7**
	0.5nm,0.9s,mb3.5,baz=36,slow=6.9,SNR=3.3							
PDAR				LR		LR	02 37 41.4	
	comp=Z,53nm,21.2s,MS3.5,baz=40,slow=35							
PDAR	**Pinedale Array**	**50.51**	**321**	P		**P**	**02 17 29.2**	**-0.7**
PDAR				LR		LR	02 37 41.4	
PDAR	**Pinedale Array**	**50.51**	**321**	P		**P**	**02 17 29.2**	**-0.8**
IDI	**Anoyia**	**50.89**	**185**	LR		LR	02 40 12.9	
	comp=Z,37nm,18.4s,MS3.4,baz=285,slow=37							
TORD	**Torodi Ar. Bea**	**73.39**	**208**	P		**P**	**02 20 04.2**	**+0.3**
	0.6nm,0.7s,mb3.6,baz=2.0,slow=7.1,SNR=5.9							

IDC 12 02:15:16.5±5.0, 1139S×11580E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.4/14, mbtmp3.5/3, ML3.2/1, Error ellipse: s-maj=307.0km s-min=29.3km az=45.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**11.62**	**126**	Pn		Pn	02 17 59.7	-3.9
	0.2nm,0.3s,baz=121,slow=23,SNR=7.9							
FITZ				Sn		Sn	02 19 57.7	-16
	0.3nm,0.3s,baz=180,slow=19,SNR=5.6							
WRA	**Warramunga Arr**	**19.76**	**118**	P		Pn	02 19 48.3	-1.1
	0.1nm,0.3s,baz=292,slow=12,SNR=4.3							
ASAR	**Alice Springs**	**21.12**	**128**	P		P	02 20 03.0	+0.3
	0.5nm,0.6s,baz=302,slow=10,SNR=6.7							
MKAR	**Makanchi Array**	**65.21**	**335**	P		P	02 25 59.7	+0.1
	0.5nm,0.4s,baz=139,slow=7.7,SNR=4.0							

IDC 12 02:17:41.0±3.9, 1113S×11612E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.4/14, mbtmp3.4/4, ML3.1/1, Error ellipse: s-maj=192.8km s-min=26.3km az=48.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**19.61**	**119**	P		Pn	02 22 11.0	-1.0
	0.1nm,0.3s,baz=292,slow=13,SNR=2.9							
ASAR	**Alice Springs**	**21.03**	**129**	P		P	02 22 26.8	+0.5
	0.3nm,0.5s,baz=295,slow=9.9,SNR=3.6							
SONM	**Songino Array**	**59.33**	**352**	P		P	02 27 44.7	0.0
	0.1nm,0.3s,baz=185,slow=5.2,SNR=3.3							
MKAR	**Makanchi Array**	**65.11**	**335**	P		P	02 28 23.7	+0.2
	0.6nm,0.4s,baz=140,slow=7.7,SNR=4.2							

*ISCJB **12** 02:20:49.3±0.6, 119S±02×1156E±02, h10km, mb4.7/11, Error ellipse: s-maj=33.5km s-min=7.8km az=91.8*
*IDC **12** 02:20:51.7±2.6, 1134S×11586E, h0km, mb4.1/5, mb1 4.2/6, mb1mx4.0/15, mbtmp4.1/6, ML3.8/1, Error ellipse: s-maj=140.6km s-min=22.0km az=47.0*
*NEIC **12** 02:20:51.4±0.6, 1185S×11540E, h10km, mb4.2/3, Error ellipse: s-maj=29.8km s-min=8.1km az=50.0*

ISC 12 02:20:50.2±0.6, 122S±01×1155E±02, h10km, n20, σ1$27/24, mb4.7/11, Northwest of Australia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MBWA	**Marble Bar**	**9.84**	**156**	*e*Pn		**Pn**	**02 23 16.7**	**+4.9**
MBWA				*e*Sn		**Sn**	**02 25 01.4**	**-1.0**
FITZ	**Fitzroy Crossi**	**11.46**	**122**	*e*P		**Pn**	**02 23 34.0**	**0.0**
	7.7nm,0.4s							
FITZ				*e*S		**Sn**	**02 25 33.9**	**-8.2**
FITZ	**Fitzroy Crossi**	**11.46**	**122**	Pn		**Pn**	**02 23 35.5**	**+1.5**
	1.3nm,0.3s,baz=263,slow=10,SNR=9.9							
FITZ				Sn		**Sn**	**02 25 32.4**	**-10**
	0.8nm,0.3s,baz=323,slow=20,SNR=5.3							
WRA	**Warramunga Arr**	**19.71**	**116**	P		**Pn**	**02 25 23.0**	**+1.8**
	0.3nm,0.3s,baz=292,slow=12,SNR=8.8							
WRAB	**Tennant Creek**	**19.72**	**116**	*e*P		**Pn**	**02 25 22.9**	**+1.7**
	3.2nm,0.5s							
WB2	**Warramunga Arr**	**19.72**	**116**	*e*P		**Pn**	**02 25 23.6**	**+2.3**
WB2				*e*S		**Sn**	**02 28 46.4**	**-16**
ASAR	**Alice Springs**	**20.92**	**126**	P		**P**	**02 25 38.1**	**+5.2**
	1.6nm,0.6s,baz=299,slow=10.0,SNR=18							
ASAR				S		**S**	**02 29 20.5**	**-5.6**
	1.5nm,0.8s,baz=304,slow=23,SNR=3.2							
JIRN	**Jiri**	**48.70**	**325**	*e*P		**P**	**02 29 35.9**	**+1.2**
	29nm,0.6s,mb5.5							
GUN	**Gumba**	**49.07**	**325**	*e*P		**P**	**02 29 38.6**	**+1.1**
	22nm,0.5s,mb5.4							
DMN	**Daman**	**49.28**	**324**	*e*P		**P**	**02 29 39.9**	**+0.7**
	17nm,0.6s,mb5.2							
KKN	**Kakani**	**49.32**	**324**	*e*P		**P**	**02 29 40.5**	**+1.0**
GKN	**Gorkha**	**49.85**	**324**	*e*P		**P**	**02 29 44.2**	**+0.7**
	9.4nm,0.4s,mb5.2							
KOLN	**Koldanda**	**50.28**	**323**	*e*P		**P**	**02 29 46.0**	**-0.8**
	12nm,0.7s,mb5.0							
SONM	**Songino Array**	**60.26**	**353**	P		**P**	**02 30 57.0**	**-1.8**
	1.4nm,0.7s,mb4.1,baz=175,slow=8.4,SNR=13							
MKAR	**Makanchi Array**	**65.77**	**336**	P		**P**	**02 31 35.2**	**-0.2**
	3.2nm,0.5s,mb4.6,baz=149,slow=7.6,SNR=14							
KURK	**Kurchatov**	**70.36**	**336**	*e*P		**P**	**02 32 03.5**	**-0.7**
	1.8nm,0.5s,mb4.3							
ZAL	**Zalesovo**	**70.81**	**341**	P		**P**	**02 32 05.3**	**-1.7**
	2.4nm,0.5s,mb4.4,baz=38,slow=5.0,SNR=6.4							
BVAR	**Borovoye Array**	**75.50**	**334**	P		**P**	**02 32 34.6**	**-0.1**
	1.1nm,0.7s,mb3.9,baz=130,slow=8.0,SNR=6.6							
ZRNK	**Zerenda**	**76.05**	**333**	*e*P		**P**	**02 32 37.4**	**-0.4**
	1.3nm,0.6s,mb4.0							
YKA	**Yellowknife Ar**	**118.47**	**24**	PKP		PKPdf	02 39 39.2	+1.1
	0.2nm,0.5s,baz=307,slow=1.9,SNR=7.5							

IDC 12 02:22:52.2±3.8, 1140S×11563E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.6/14, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=183.0km s-min=25.0km az=48.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**19.90**	**118**	P		Pn	02 27 27.0	+0.2
	0.2nm,0.3s,baz=294,slow=14,SNR=2.9							
ASAR	**Alice Springs**	**21.24**	**127**	P		P	02 27 38.9	-0.9
	0.8nm,0.7s,baz=298,slow=10,SNR=3.1							
SONM	**Songino Array**	**59.54**	**353**	P		P	02 32 56.9	-0.4
	1.0nm,0.9s,baz=173,slow=8.0,SNR=4.6							
MKAR	**Makanchi Array**	**65.15**	**335**	P		P	02 33 35.5	+0.5
	0.8nm,0.3s,baz=147,slow=7.4,SNR=5.4							

*ISCJB **12** 02:34:48.5±0.8, 5780N±006×22.27E±009, h0km, Error ellipse: s-maj=9.3km s-min=4.6km az=108.5*
*HEL **12** 02:34:50.8±0.2, 5779N×2241E, h0km, ML2.0, Explosion*
*IDC **12** 02:34:52.5±2.4, 5787N×2242E, h0km, mb1 2.9/4, mb1mx2.8/19, mbtmp2.9/4, ML2.6/4, Error ellipse: s-maj=24.3km s-min=8.7km az=162.0*

ISC 12 02:34:49.6±0.8, 5780N±005×2241E±007, h0km, n12, σ1$51/24, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VSU	**Vasula**	**2.38**	**72**	*e*P		**Pn**	**02 35 31.0**	**+1.1**
VSU				*e*Sg		**Sg**	**02 36 04.2**	**-2.0**
MEF	**Metsahovi**	**2.63**	**22**	*e*PB		**Pb**	**02 35 36.4**	**-1.1**
MEF				*e*S		**Sn**	**02 36 06.5**	**+0.7**
RAF	**Rauma**	**3.25**	**354**	*e*P		**Pn**	**02 35 43.4**	**+1.6**
RAF				*e*SB		**Sb**	**02 36 27.6**	**-0.6**
PVF	**Pernaja**	**3.27**	**31**	*e*PB		**Pb**	**02 35 47.4**	**-1.1**
PVF				*e*SB		**Sb**	**02 36 28.9**	**-0.1**
PVF				MSG			02 36 32.2	
	comp=Z,2.3nm,0.3s							
VJF	**Virojoki**	**3.81**	**42**	*e*PG		**Pg**	**02 35 59.2**	**-3.4**
VJF				*e*S		**Sn**	**02 36 35.5**	**+0.5**
FINES	**FINESS Array B**	**4.10**	**25**	Pn		**Pn**	**02 35 55.3**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=212,slow=12,SNR=9.5							
FINES				Pg		**Pg**	**02 36 03.9**	**-4.2**
	comp=Z,0.6nm,0.3s,baz=212,slow=13,SNR=20							
FINES				Sn		**Sn**	**02 36 44.0**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=216,slow=20,SNR=3.6							
FINES				Lg			02 36 59.3	
	comp=Z,1.2nm,0.3s,baz=208,slow=24,SNR=14							
KEF	**Keuruu**	**4.55**	**15**	*e*P		**Pn**	**02 36 02.2**	**+2.5**
KEF				*e*SG		**Sg**	**02 37 11.2**	**-4.5**
KEF				MSG			02 37 16.6	
	comp=Z,2.5nm,0.3s							
KAF	**Kangasniemi**	**4.75**	**23**	*e*P		**Pn**	**02 36 03.9**	**+1.6**
KAF				*e*S		**Sn**	**02 36 56.9**	**-1.2**
KAF				MSG			02 37 19.3	
	comp=Z,1.7nm,0.3s							
BSD	**Bornholm Skovb**	**4.96**	**240**	*i* P		**Pn**	**02 36 05.0**	**-0.2**
BSD				*i* S		**Sn**	**02 37 01.8**	**-1.4**
HFS	**Hagfors**	**5.08**	**301**	Pn		**Pn**	**02 36 08.3**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=116,slow=16,SNR=13							
HFS				Sn		**Sn**	**02 37 06.3**	**0.0**
	comp=Z,0.2nm,0.3s,baz=112,slow=25,SNR=3.8							
HFS				Lg			02 37 29.1	
	comp=Z,0.3nm,0.3s,baz=115,slow=34,SNR=4.4							
NOA	**NORSAR Array B**	**6.57**	**304**	Pn		**Pn**	**02 36 28.5**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=130,slow=12,SNR=2.3							
NOA				Sn		**Sn**	**02 37 41.0**	**-2.0**
	comp=Z,0.0nm,0.3s,baz=39,slow=19,SNR=2.3							
ARCES	**ARCESS Array B**	**11.86**	**5**	Pn		**Pn**	**02 37 37.4**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=183,slow=13,SNR=2.9							

*IDC **12** 03:34:24.2±0.6, 1583S×17294W, h0km, mb4.1/9, mb1 4.3/11, mb1mx4.2/18, mbtmp4.1/11, ML3.6/2, MS3.6/4, Ms1 3.6/4, ms1mx3.2/20, Error ellipse: s-maj=28.5km s-min=15.8km az=131.0*
*ISCJB **12** 03:34:26.9±4.3, 1571S±009×173.1W±0.1, h25km±30km, mb4.2/25, MS3.8/3, Error ellipse: s-maj=23.2km s-min=8.9km az=74.5*
*NEIC **12** 03:34:26.5±4.2, 1577S×17303W, h12km±25km, mb4.4/16, Error ellipse: s-maj=12.7km s-min=6.1km az=128.0*

ISC 12 03:34:25.8±5.4, 1581S±008×17293W±010, h7km±33km, n47, σ0$89/35, mb4.2/25, MS3.8/3, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**2.19**	**31**	Pn		**Pn**	**03 35 03.3**	**+0.7**
	101nm,0.3s,baz=289,slow=0.5,SNR=81							
AFI				Sn		**Sn**	**03 35 27.0**	**-3.0**
	557nm,0.3s,baz=52,slow=24,SNR=30							
AFI				LR		LR	03 35 44.7	
	comp=Z,690nm,20.1s,baz=214,slow=36							
RAR	**Rarotonga**	**13.59**	**115**	Pn		**Pn**	**03 37 36.9**	**-2.0**
	2.7nm,0.3s,baz=265,slow=11,SNR=4.0							
PPT	**Papeete**	**22.44**	**98**	*e*LQ			03 43 45.6	
	336nm,27.0s							
PPT				*e*LR		LR	03 44 43.0	
	261nm,25.2s,baz=258							
TBI	**Tubuai**	**23.33**	**112**	*e*LR		LR	03 44 59.7	
	319nm,28.5s,baz=295							
URZ	**Urewera**	**24.03**	**200**	P		**P**	**03 39 42.1**	**+0.8**
	20nm,0.6s,mb4.7,baz=238,slow=0.9,SNR=17							
RKT	**Rikitea**	**36.44**	**108**	*e*LR		LR	03 51 15.4	
	160nm,26.0s,baz=286							
STKA	**Stephens Creek**	**44.23**	**240**	P		**P**	**03 42 33.4**	**-2

Error ellipse: s-maj=10.0km s-min=6.4km az=135.0

ISC 12 03:42:12.5±0.3,2067S±008×17388W±007,h35km, (h47km±1.9km;pP-P),n119,σ0§73/91,mb4.7/45,MS4.3/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.01**	**17**	Pn	**Pn**	**03 43 46.3**	**-6.4**
	6.3nm,0.3s,baz=308,slow=18,SNR=4.4						
AFI				Sn	**Sn**	**03 44 58.0**	**-13**
	4.9nm,0.3s,baz=41,slow=19,SNR=2.6						
RAR	**Rarotonga**	**13.19**	**95**	Pn	**Pn**	**03 45 06.2**	**-11**
	9.8nm,0.3s,baz=249,slow=4.9,SNR=12						
RAR				Sn	Sn	03 47 15.6	-27
	0.7nm,0.3s,baz=300,slow=16,SNR=2.7						
DZM	**Mont Dzumac**	**18.38**	**262**	P	**Pn**	**03 46 26.3**	**+1.7**
	0.6nm,0.3s,baz=76,slow=17,SNR=11						
DZM				LR	LR	03 51 58.5	
	comp=Z,170nm,21.1s,baz=181,slow=32						
URZ	**Urewera**	**19.19**	**202**	P	**Pn**	**03 46 34.6**	**+0.2**
	1.3nm,0.3s,baz=222,slow=3.0,SNR=5.7						
PAE	**Paea**	**23.14**	**87**	*e*P	**P**	**03 47 11.7**	**-4.0**
	56nm,1.3s,mb4.8						
PPT	**Papeete**	**23.16**	**86**	*e*P	**P**	**03 47 12.3**	**-3.6**
	38nm,1.3s,mb4.7						
PPT				*e*LQ		03 51 29.7	
	424nm,25.0s						
PPT				*e*LR	LR	03 52 31.2	
	301nm,25.5s,baz=257						
PPT	**Papeete**	**23.16**	**86**	LR	LR	03 54 43.7	
	comp=Z,336nm,18.3s,MS3.8,baz=248,slow=33						
STKA	**Stephens Creek**	**41.21**	**245**	*e*P	**P**	**03 49 52.2**	**-1.6**
	4.0nm,1.0s,mb4.0						
STKA	**Stephens Creek**	**41.21**	**245**	P	**P**	**03 49 52.1**	**-1.7**
	3.2nm,0.7s,mb4.1,baz=78,slow=9.5,SNR=11						
STKA				LR	LR	04 05 35.5	
	comp=Z,131nm,18.9s,MS3.8,baz=28,slow=34						
ASAR	**Alice Springs**	**48.24**	**256**	P	**P**	**03 50 49.7**	**-0.1**
	5.0nm,0.9s,mb4.6,baz=93,slow=8.2,SNR=29						
WB2	**Warramunga Arr**	**48.39**	**261**	*e*P	**P**	**03 50 51.3**	**+0.3**
WRA	**Warramunga Arr**	**48.40**	**261**	P	**P**	**03 50 50.2**	**-0.8**
	2.6nm,0.7s,mb4.4,baz=97,slow=6.2,SNR=11						
NWAO	**Narrogin (SRO)**	**61.74**	**243**	P	**P**	**03 52 26.1**	**-1.3**
	4.7nm,0.4s,mb4.9,baz=139,slow=9.3,SNR=4.0						
QSPA	**South Pole Qui**	**69.41**	**180**	*e*P	**P**	**03 53 17.9**	**+1.0**
	9.2nm,1.0s,mb4.7						
MJAR	**Matsushiro Arr**	**72.69**	**321**	P	**P**	**03 53 37.5**	**+0.7**
	3.8nm,0.7s,mb4.4,baz=160,slow=5.9,SNR=8.9						
WDC	**Whiskeytown Da**	**77.39**	**38**	*e*P	**P**	**03 54 03.9**	**0.0**
WDC				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.7						
WDC	**Whiskeytown Da**	**77.39**	**38**	*e*P	**P**	**03 54 03.9**	**0.0**
	comp=Z,14nm,1.4s,mb4.7						
YBH	**Yreka Blue Hor**	**78.06**	**37**	*e*P	**P**	**03 54 07.7**	**+0.1**
YBH				pmax	pmax		
	comp=Z,20nm,0.9s						
YBH	**Yreka Blue Hor**	**78.06**	**37**	*e*P	**P**	**03 54 07.7**	**+0.1**
	comp=Z,1.7nm,0.9s,mb4.0						
NVAR	**Mina Array Bea**	**78.54**	**41**	P	**P**	**03 54 10.0**	**-0.3**
	comp=Z,8.6nm,1.1s,mb4.6,baz=214,slow=6.5,SNR=24						
MNV	**Mina**	**78.64**	**41**	*e*P	**P**	**03 54 10.8**	**0.0**
MNV				*e*		03 54 24.3	
MNV				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.9						
MNV	**Mina**	**78.64**	**41**	*e*P	**P**	**03 54 10.8**	**0.0**
	comp=Z,21nm,1.3s,mb4.9						
MNV				*e*		03 54 24.3	
PAHR	**Pah Rah Range**	**78.68**	**40**	*e*P	**P**	**03 54 11.0**	**-0.1**
	comp=Z,10nm,1.2s,mb4.6						
TPH	**Tonopah**	**79.00**	**42**	*e*P	**P**	**03 54 13.3**	**+0.5**
TPH				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.8						
TPH	**Tonopah**	**79.00**	**42**	*e*P	**P**	**03 54 13.2**	**+0.4**
	comp=Z,16nm,1.4s,mb4.8						
NEN	**Nelson**	**79.11**	**45**	*e*P	**P**	**03 54 13.3**	**-0.1**
TUC	**Tucson**	**80.08**	**50**	*e*P	**P**	**03 54 18.9**	**+0.2**
TUC				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.5						
TUC	**Tucson**	**80.08**	**50**	*e*P	**P**	**03 54 18.9**	**+0.2**
	comp=Z,9.2nm,1.4s,mb4.5						
BMN	**Battle Mountai**	**80.43**	**40**	*e*P	**P**	**03 54 20.6**	**+0.1**
BMN				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.8						
BMN	**Battle Mountai**	**80.43**	**40**	*e*P	**P**	**03 54 20.6**	**0.0**
	comp=Z,16nm,1.3s,mb4.8						
SSE	**Sheshan**	**80.79**	**308**	*e*P	**P**	**03 54 21.8**	**-0.7**
SSE				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
SSE				AMB	AMB		
	comp=Z,72nm,3.6s						
CCUT	**Cedar City**	**81.17**	**44**	*e*P	**P**	**03 54 25.3**	**+0.8**
ARUT	**Antelope Range**	**81.26**	**44**	*e*P	**P**	**03 54 26.3**	**+1.3**
WUAZ	**Wupatki**	**81.38**	**47**	*e*P	**P**	**03 54 26.2**	**+0.5**
	comp=Z,7.8nm,1.1s,mb4.5						
ELK	**Elko**	**81.83**	**41**	*e*P	**P**	**03 54 27.8**	**-0.2**
ELK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
ELK	**Elko**	**81.83**	**41**	*e*P	**P**	**03 54 27.8**	**-0.2**
	comp=Z,7.4nm,1.3s,mb4.5						
MSU	**Marysvale**	**82.49**	**44**	*e*P	**P**	**03 54 32.4**	**+1.0**
HAWA	**Hanford**	**82.84**	**35**	P	**P**	**03 54 32.3**	**-1.0**
	comp=Z,0.3nm,0.8s						
MDJ	**Mudanjiang**	**82.92**	**323**	P	**P**	**03 54 34.4**	**+0.7**
MDJ				AP	pP	03 54 48.6	+3.9
MDJ				XP	sP	03 54 54.6	+5.9
MDJ				PP	PP	03 57 45.5	+1.1
MDJ				S	S	04 04 49.8	-0.2
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,90nm,4.4s						
NJ2	**Nanjing**	**82.99**	**308**	*e*P	**P**	**03 54 34.4**	**+0.3**
NJ2				AP	pP	03 54 47.1	+2.0
NJ2				XP	sP	03 54 52.5	+3.4
NJ2				PP	PP	03 57 46.3	+1.3
NJ2				S	S	04 04 47.0	-3.7
NJ2				XS	sS	04 05 05.0	-4.0
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,80nm,4.7s						
NJ2				LR	LR		
	comp=N,440nm,24.0s,MS4.9						
NJ2				LR	LR		
	comp=E,580nm,27.5s,MS4.9						
NJ2				LR	LR		
	comp=Z,250nm,29.1s,MS4.4						
DUG	**Dugway**	**83.02**	**42**	*e*P	**P**	**03 54 34.3**	**+0.1**
DUG				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.5						
DUG	**Dugway**	**83.02**	**42**	*e*P	**P**	**03 54 34.3**	**+0.1**
	comp=Z,6.3nm,1.3s,mb4.5						
BMO	**Blue Mountains**	**83.09**	**37**	*e*P	**P**	**03 54 34.3**	**-0.3**
	comp=Z,12nm,1.6s,mb4.7						
TMUT	**Trail Mountain**	**83.55**	**44**	*e*P	**P**	**03 54 37.8**	**+0.8**
MPU	**Maple Canyon**	**83.67**	**43**	*e*P	**P**	**03 54 37.9**	**+0.3**
	comp=Z,2.2nm,0.6s,mb4.5						
MNTX	**Cornudas Mount**	**83.73**	**53**	*e*P	**P**	**03 54 37.6**	**-0.3**
	comp=Z,11nm,1.3s,mb4.8						
LAZ	**Ladron**	**83.77**	**50**	*e*P	**P**	**03 54 39.0**	**+0.9**
LENM	**Lemitar**	**83.77**	**50**	P	**P**	**03 54 38.7**	**+0.6**
SPUT	**South Promonto**	**83.88**	**42**	*e*P	**P**	**03 54 38.5**	**-0.1**
SRU	**San Rafael**	**83.90**	**44**	*e*P	**P**	**03 54 38.9**	**+0.2**
SRU				pmax	pmax		
	comp=Z,27nm,1.4s,mb5.2						
SRU	**San Rafael**	**83.90**	**44**	*e*P	**P**	**03 54 38.9**	**+0.2**
	comp=Z,27nm,1.4s,mb5.2						
HLID	**Hailey**	**83.97**	**39**	*e*P	**P**	**03 54 39.2**	**+0.1**
	comp=Z,12nm,1.3s,mb4.9						
BNM	**Barren Site**	**84.01**	**50**	*e*P	**P**	**03 54 40.1**	**+0.8**
LPM	**Los Pinos Moun**	**84.09**	**50**	*e*P	**P**	**03 54 40.1**	**+0.4**
DAU	**Daniels Canyon**	**84.13**	**43**	*e*P	**P**	**03 54 40.3**	**+0.4**
TCUT	**Toone Canyon**	**84.42**	**42**	*e*P	**P**	**03 54 40.5**	**-0.9**
ANMO	**Albuquerque**	**84.53**	**50**	*e*P	**P**	**03 54 41.8**	**-0.1**
ANMO				pmax	pmax		
	comp=Z,11nm,1.2s						
ANMO	**Albuquerque**	**84.53**	**50**	*e*P	**P**	**03 54 41.8**	**-0.1**
	comp=Z,11nm,1.2s,mb4.8						
HWUT	**Hardware Ranch**	**84.59**	**42**	*e*P	**P**	**03 54 41.6**	**-0.7**
	comp=Z,8.6nm,1.4s,mb4.7						
PV01	**Paradox Valley**	**84.68**	**46**	*e*P	**P**	**03 54 42.5**	**-0.2**
GDL2	**Guadalupe Moun**	**84.73**	**53**	*e*P	**P**	**03 54 43.8**	**+0.9**
CN2	**Changchun**	**84.83**	**321**	*e*P	**P**	**03 54 38.3**	**-5.1**
CN2				*e*XP	sP	03 54 56.8	-1.7
CN2				*e*S		04 05 01.4	
CN2				LR	LR		
	comp=N,500nm,18.0s,MS5.0						
CN2				LR	LR		
	comp=E,400nm,18.0s,MS5.0						
MCMT	**McKenzie Canyo**	**85.62**	**39**	*e*P	**P**	**03 54 47.7**	**+0.3**
SKAG	**Skagway**	**85.85**	**19**	*e*P	**P**	**03 54 48.6**	**+0.1**
TPAW	**Teton Pass**	**86.01**	**41**	*e*P	**P**	**03 54 49.5**	**+0.2**
	comp=E,4.1nm,1.2s,mb4.5						
DLMT	**Dillon**	**86.08**	**38**	*e*P	**P**	**03 54 49.3**	**-0.3**
	comp=E,16nm,1.6s,mb5.0						
IMW	**Indian Meadow**	**86.24**	**40**	*e*P	**P**	**03 54 50.7**	**+0.2**
	comp=E,5.2nm,1.2s,mb4.6						
MOOW	**Moose Ponds**	**86.28**	**40**	*e*P	**P**	**03 54 50.5**	**-0.1**
	comp=E,8.1nm,1.7s,mb4.7						
SMCO	**Snowmass**	**86.28**	**46**	*e*P	**P**	**03 54 51.4**	**+0.8**
	comp=E,4.3nm,1.1s,mb4.6						
QLMT	**Earthquake Lak**	**86.46**	**39**	*e*P	**P**	**03 54 51.9**	**+0.4**
BW06	**Boulder Array**	**86.47**	**42**	*e*P	**P**	**03 54 50.9**	**-0.7**
	comp=E,2.6nm,1.1s,mb4.4						
PDAR	**Pinedale Array**	**86.47**	**42**	P	**P**	**03 54 50.9**	**-0.7**
	comp=E,1.5nm,0.9s,mb4.2,baz=237,slow=1.8,SNR=9.3						
CHMT	**Chamberlain Mo**	**86.59**	**37**	*e*P	**P**	**03 54 50.7**	**-1.4**
COLA	**College**	**87.59**	**11**	*e*P	**P**	**03 54 55.8**	**-1.2**
COLA				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.8						
COLA	**College**	**87.59**	**11**	*e*P	**P**	**03 54 55.8**	**-1.3**
	comp=Z,7.2nm,1.1s,mb4.8						
ILAR	**Eielson Array**	**87.67**	**11**	P	**P**	**03 54 56.4**	**-1.1**
	comp=Z,1.5nm,0.9s,mb4.2,baz=223,slow=4.3,SNR=11						
VNA3	**Neumayer Olymp**	**87.68**	**175**	*e*P	**P**	**03 54 57.7**	**+0.2**
VNA3				*e*		03 54 59.3	
VNA3				*e*	pP	03 55 09.3	+0.7
VNA3				*e*		03 55 12.0	
VNA3				*e*		03 55 14.6	
VNA3				*e*		03 55 18.0	
SNAA	**Sanae**	**87.70**	**177**	*e*P	**P**	**03 54 58.0**	**+0.4**
SNAA				*e*		03 55 00.8	
SNAA				*e*		03 55 13.9	
SNAA				*e*		03 55 17.3	
SNAA	**Sanae**	**87.70**	**177**	*e*P	**P**	**03 54 58.0**	**+0.4**
SNAA				*e*		03 55 13.9	
AMTX	**Amarillo**	**87.96**	**52**	*e*P	**P**	**03 54 59.4**	**+0.7**
	comp=Z,2.1nm,0.4s,mb4.7						
VNA2	**Neumayer--Watz**	**88.17**	**176**	*e*P	**P**	**03 54 59.6**	**-0.2**
VNA2				*e*		03 55 01.9	
VNA2				*e*		03 55 14.2	
VNA2				*e*		03 55 19.6	
VNA1	**Neumayer--Stat**	**88.37**	**175**	*e*P	**P**	**03 55 00.3**	**-0.4**
VNA1				*e*		03 55 02.2	
VNA1				*e*		03 55 15.3	
VNA1				*e*		03 55 18.6	
VNA1				*e*		03 55 20.2	
DAWY	**Dawson**	**88.61**	**14**	*e*P	**P**	**03 55 01.7**	**-0.2**
CFAA	**Coronel Fontan**	**91.86**	**125**	P	**P**	**03 55 16.6**	**-0.5**
	comp=Z,0.1nm,0.4s,baz=208,slow=4.6,SNR=3.2						
HHC	**Hu-ho-hao-te**	**92.26**	**313**	*e*P	**P**	**03 55 19.1**	**+0.2**
HHC				AP	pP	03 55 33.0	+3.0
HHC				XP	sP	03 55 38.1	+4.1
HHC				PP	PP	03 59 04.2	+4.7
HHC				SKS		04 05 48.0	
HHC				S		04 06 17.8	
HHC				XS	sS	04 06 40.1	+2.3
HHC				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb5.0						
HHC				AMB	AMB		
	comp=Z,63nm,5.5s						
HHC				LR	LR		
	comp=N,155nm,19.6s,MS4.8						
HHC				LR	LR		
	comp=E,344nm,22.6s,MS4.8						
HHC				LR	LR		
	comp=Z,113nm,20.8s,MS4.3						
KMI	**Kunming**	**92.88**	**296**	P	**P**	**03 55 22.6**	**+0.8**
KMI				AP	pP	03 55 37.6	+4.7
KMI				XP	sP	03 55 42.9	+6.0
KMI				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb5.1						
KMI				LR	LR		
	comp=Z,36nm,33.5s,MS3.6						
INK	**Inuvik**	**93.46**	**14**	*e*P	**P**	**03 55 23.4**	**-1.0**
INK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
INK	**Inuvik**	**93.46**	**14**	*e*P	**P**	**03 55 23.4**	**-1.0**
	comp=Z,2.3nm,1.0s,mb4.6						
CD2	**Chengdu**	**94.15**	**301**	*e*P	**P**	**03 55 26.3**	**-1.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.3						
YKA	**Yellowknife Ar**	**95.08**	**24**	P	**P**	**03 55 30.6**	**-1.2**
	comp=Z,0.7nm,0.9s,mb4.1,baz=236,slow=4.2,SNR=12						
LZH	**Lanzhou**	**95.96**	**306**	*e*P	**P**	**03 55 36.5**	**+0.6**
LZH				AP	pP	03 55 50.6	+3.6
LZH				XP	sP	03 55 56.7	+5.7
LZH				PP	PP	03 59 31.8	+3.5
LZH				AMB	AMB		
	comp=Z,19nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,56nm,9.3s						
LZH				LR	LR		
	comp=E,389nm,18.5s						
LZH				LR	LR		
	comp=Z,487nm,19.7s,MS5.0						
LPAZ	**La Paz**	**98.41**	**111**	LR	LR	04 31 27.6	
	comp=Z,56nm,18.9s,MS4.1,baz=89,slow=30						
ARCES	**ARCESS Array B**	**129.72**	**351**	PKP	PKPdf	04 01 17.6	-0.4
	comp=Z,1.1nm,0.8s,baz=46,slow=5.2,SNR=4.6						
AKASG	**Malin Array Be**	**144.94**	**334**	PKPbc	PKPdf	04 01 44.7	-1.2
	comp=Z,2.2nm,0.5s,baz=37,slow=4.0,SNR=14						
AKASG	**Malin Array Be**	**144.94**	**334**	PKPbc	PKPdf	04 01 44.7	-1.2
MALT	**Malatya**	**147.06**	**309**	*e*PKP2	PKPab	04 01 53.5	+0.3
LVV	**L'vov**	**147.62**	**338**	*i* PKP2	PKPab	04 01 53.9	-1.5
LVV				*e*		04 05 17.5	
CLL	**Collm**	**148.95**	**352**	*i* PKPbc	PKPbc	04 01 57.2	+0.6
	comp=Z,22nm,1.7s						
CLL	**Collm**	**148.95**	**352**	*i* PKP2	PKPbc	04 01 57.2	+0.6
CLL				pmax	pmax		
	comp=Z,22nm,1.7s						
UPC	**Upice**	**149.21**	**348**	*e*PKPbc	PKPbc	04 01 58.2	+0.9
BRG	**Berggiesshubel**	**149.23**	**350**	*e*PKP	PKPbc	04 01 57.5	+0.2
	comp=Z,7.2nm,1.4s						
BRG	**Berggiesshubel**	**149.23**	**350**	*e*PKP2	PKPbc	04 01 57.5	+0.1
BRG				pmax	pmax		
	comp=Z,7.0nm,1.5s						
DPC	**Dobruska-Polom**	**149.30**	**347**	*e*PKPbc	PKPbc	04 01 58.4	+0.9
DPC				*e*PKP	pPKPdf	04 02 15.7	+11
OKC	**Ostrava-Krasne**	**149.36**	**345**	*e*PKPbc	PKPbc	04 01 58.8	+1.1
MORC	**Moravsky Berou**	**149.56**	**345**	*e*PKP2	PKPbc	04 01 58.2	0.0
BRTR	**Keskin Array B**	**149.75**	**315**	PKPbc	PKPbc	04 01 59.2	+0.6
	comp=Z,1.1nm,0.9s,baz=100,slow=1.5,SNR=9.5						
PRU	**Pruhonice**	**149.99**	**349**	*e*PKPbc	PKPbc	04 01 59.7	+0.5
NKC	**Novy Kostel**	**150.07**	**352**	*e*PKPbc	PKPbc	04 01 59.7	+0.3
GIVF	**Givet**	**150.61**	**2**	*e*PKP1	PKPbc	04 02 00.6	-0.1
BAIF	**Baives**	**150.63**	**3**	*e*PKP1	PKPbc	04 02 00.8	+0.1
GRA1	**Grafenberg Arr**	**150.75**	**353**	*e*PKP	PKPbc	04 02 01.3	+0.3
GRF	**Grafenberg Arr**	**150.75**	**353**	*e*PKP	PKPbc	04 02 01.3	+0.3
KHC	**Kasperske Hory**	**150.98**	**350**	*e*PKPbc	PKPbc	04 02 00.3	-1.3
KHC				*e*PKPab	PKPab	04 02 09.4	+0.3
GERES	**GERESS Array B**	**151.23**	**350**	PKPbc	PKPbc	04 02 02.0	-0.2
	comp=Z,1.4nm,0.9s,baz=24,slow=1.6,SNR=9.5						
FLN	**La Foliniere**	**151.47**	**9**	*e*PKP1	PKPbc	04 02 02.1	-0.6
LDF	**La Druitiere**	**151.69**	**9**	*e*PKP1	PKPbc	04 02 02.6	-0.6
	comp=Z,10nm,0.9s						
GRR	**Gorron**	**151.78**	**10**	*e*PKP1	PKPbc	04 02 02.8	-0.6
	comp=Z,10nm,0.8s						
SSF	**Saint Saulge**	**153.58**	**4**	*e*PKP1	PKPbc	04 02 07.4	0.0
AVF	**Avril sur Loir**	**153.84**	**4**	*e*PKP1	PKPbc	04 02 07.6	-0.4

ISCJB 12 03:45:32.7±1.5, 117S±0.1×773W±02, h60km±11km, mb3.8/6, Error ellipse: s-maj=27.5km s-min=17.3km az=131.6

NEIC 12 03:45:33.0±2.5, 1172S×77.41W, h53km±22km, mb4.2/1, Error ellipse: s-maj=30.1km s-min=16.6km az=90.0

NEIC Felt [IV] at Callao. Felt at Lima.

IDC 12 03:45:32.0±1.0, 1180S×7758W, h44km±7km, mb3.7/5, mb1 3.8/8, mb1mx3.7/19, mbtmp3.9/8, ML4.1/3, MS3.0/5, Ms1 3.0/5, ms1mx2.8/19, Error ellipse: s-maj=35.6km s-min=18.3km az=56.0

ISC 12 03:45:32.2±2.8, 117S±01×775W±02, h39km±25km, h47km±1.1km;pP-P,n17,σ0§96/16,mb3.8/6,MS3.0/3,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**0.71**	**118**	*e*Pn	**Pn**	**03 45 45.0**	**-0.7**
NNA				*e*Sn	**Sn**	**03 45 55.7**	**+0.3**
LPAZ	**La Paz**	**10.18**	**118**	P	**Pn**	**03 47 55.7**	**0.0**
	0.5nm,0.3s,baz=300,slow=9.5,SNR=16						
LVC	**Limon Verde**	**13.62**	**144**	P	**Pn**	**03 48 43.9**	**+1.1**
	0.4nm,0.3s,baz=298,slow=15,SNR=3.1						
LVC				S	**Sn**	**03 51 04.0**	**-8.7**
	0.2nm,0.3s,baz=229,slow=20,SNR=2.4						
LVC				LR	LR	03 53 42.8	
	comp=Z,57nm,21.6s,baz=85,slow=36						
LVC	**Limon Verde**	**13.62**	**144**	Pn	**Pn**	**03 48 43.7**	**+0.9**
LVC				S	**Sn**	**03 51 04.0**	**-8.7**
LVC				LR	LR	03 53 42.8	
SAML	**Samuel**	**14.32**	**81**	*e*Pn	**Pn**	**03 48 50.5**	**-1.8**
	12nm,0.8s						
SIV	**San Ignacio**	**16.50**	**107**	P	**Pn**	**03 49 21.0**	**+0.2**
	0.1nm,0.3s,baz=274,slow=13,SNR=8.3						
ROSC	**El Rosal**	**16.70**	**11**	LR	LR	03 55 17.4	
	comp=Z,22nm,18.9s,baz=24,slow=35						
SDV	**Santo Domingo**	**21.51**	**19**	P	**P**	**03 50 20.6**	**+2.8**
	2.7nm,0.4s,mb4.0,baz=207,slow=6.4,SNR=8.7						
SDV				LR	LR	03 59 41.7	
	comp=Z,75nm,19.0s,MS3.1,baz=224,slow=39						
SDV	**Santo Domingo**	**21.51**	**19**	*e*P	**P**	**03 50 20.1**	**+2.4**
	11nm,1.0s,mb4.2						
SDV				LR	LR	03 59 41.7	
CFAA	**Coronel Fontan**	**21.61**	**158**	P	**P**	**03 50 18.5**	**-0.3**
	0.2nm,0.6s,mb2.7,baz=328,slow=13,SNR=5.7						
CFAA				LR	LR	03 57 14.2	
	comp=Z,9.7nm,18.6s,MS2.2,baz=97,slow=33						
BDFB	**Brasilia**	**28.89**	**101**	LR	LR	04 03 54.4	
	comp=Z,129nm,19.4s,MS3.5,baz=286,slow=38						
ULM	**Lac du Bonnet**	**63.71**	**347**	P	**P**	**03 55 59.8**	**0.0**
	2.0nm,0.6s,mb4.3,baz=108,slow=6.4,SNR=3.2						
YKA	**Yellowknife Ar**	**79.35**	**343**	P	**P**	**03 57 33.4**	**-0.5**
	0.5nm,0.5s,mb3.8,baz=142,slow=5.8,SNR=29						
YKA				pP	pP	03 57 47.1	+1.4
	0.9nm,0.7s,baz=143,slow=6.1,SNR=10.0						
TORD	**Torodi Ar. Bea**	**82.31**	**75**	P	**P**	**03 57 50.0**	**+0.3**
	1.8nm,0.9s,mb4.0,baz=262,slow=4.0,SNR=10.0						
TORD				pP	pP	03 58 03.2	+1.6
	1.9nm,0.8s,baz=254,slow=4.8,SNR=10						
ILAR	**Eielson Array**	**91.93**	**336**	P	**P**	**03 58 35.7**	**-0.9**
	0.4nm,0.8s,mb3.8,baz=161,slow=2.9,SNR=4.5						
ILAR				pP	pP	03 58 48.7	+0.1
	0.6nm,0.8s,baz=142,slow=3.0,SNR=6.0						
ASAR	**Alice Springs**	**133.37**	**221**	PKP	PKPdf	04 04 42.7	-1.3
	0.4nm,0.6s,baz=137,slow=2.1,SNR=5.8						
WRA	**Warramunga Arr**	**135.65**	**225**	PKP	PKPdf	04 04 47.5	-0.8
	0.4nm,0.4s,baz=125,slow=2.1,SNR=5.0						

ISCJB 12 03:47:33.6±0.6, 119S±02×1157E±02, h33km, mb4.7/9, MS3.7/2, Error ellipse: s-maj=34.0km s-min=7.8km az=93.1

IDC 12 03:47:33.6±2.1, 1116S×11604E, h0km, mb4.1/4, mb1 4.1/5, mb1mx3.9/14, mbtmp4.0/5, ML3.7/1, MS3.8/2, Ms1 3.8/2, ms1mx2.9/19, Error ellipse: s-maj=100.0km s-min=22.7km az=49.0

NEIC 12 03:47:35.1±0.8, 1179S×11560E, h25km, mb4.3/4, Error ellipse: s-maj=39.5km s-min=10.2km az=49.0

ISC 12 03:47:36.3±0.6, 118S±02×1158E±02, h35km, n21, σ0§76/23, mb4.7/9, MS3.7/2, South of Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**10.08**	**158**	*e*Pn	**Pn**	**03 49 58.2**	**-0.2**
	12nm,0.3s						
FITZ	**Fitzroy Crossi**	**11.43**	**125**	*e*P	**Pn**	**03 50 16.4**	**-0.6**
	4.7nm,0.4s						
FITZ				*e*S	**Sn**	**03 52 14.5**	**-8.9**
FITZ	**Fitzroy Crossi**	**11.43**	**125**	Pn	**Pn**	**03 50 15.7**	**-1.3**
	0.6nm,0.3s,baz=302,slow=7.8,SNR=40						
FITZ				Sn	**Sn**	**03 52 14.6**	**-8.8**
	0.7nm,0.3s,baz=156,slow=20,SNR=5.6						
WRA	**Warramunga Arr**	**19.62**	**117**	P	**Pn**	**03 52 04.3**	**+1.2**
	0.2nm,0.3s,baz=293,slow=11,SNR=4.5						
WRA				S	**S**	**03 55 27.9**	**-13**
	0.2nm,0.3s,baz=286,slow=24,SNR=5.8						
WRAB	**Tennant Creek**	**19.62**	**117**	P	**Pn**	**03 52 03.8**	**+0.5**
	7.4nm,1.2s						
ASAR	**Alice Springs**	**20.91**	**127**	P	**P**	**03 52 19.4**	**+3.7**
	1.7nm,0.6s,baz=298,slow=10,SNR=18						
ASAR				S	**S**	**03 56 01.5**	**-5.3**
	1.2nm,0.7s,baz=313,slow=23,SNR=3.4						
NWAO	**Narrogin (SRO)**	**21.09**	**177**	LR	LR	03 59 00.5	
	comp=Z,52nm,21.4s,MS2.9,baz=64,slow=32						
KULM	**Kulim**	**22.66**	**318**	*e*P	**P**	**03 52 34.5**	**+0.2**
JIRN	**

ISC 12 04:13:55.7±0.2, 2438S±005×17676W±008, h60km, h60km±2.3km: pP-P, n98, σ0s94/85, mb4.7/40, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
RAO	**Raoul Island**	**4.96**	**192**	Pn	**Pn**		**04 15 06.9**	**-0.8**
	82nm,0.3s,baz=82,slow=17,SNR=6.7							
RAO				Sn	**Sn**		**04 16 04.3**	**+0.6**
	29nm,0.3s,baz=68,slow=22,SNR=2.0							
RAO	**Raoul Island**	**4.96**	**192**	*e*Pn	**Pn**		**04 15 07.2**	**-0.4**
RAO				*e*Sn	**Sn**		**04 16 06.0**	**+2.3**
AFI	**Afiamalu**	**11.42**	**25**	Pn	**Pn**		**04 16 29.2**	**-6.8**
	4.8nm,0.3s,baz=264,slow=10,SNR=6.2							
AFI				Sn	**Sn**		**04 18 28.3**	**-14**
	3.3nm,0.3s,baz=209,slow=23,SNR=3.6							
AFI				LR	LR		04 19 04.8	
	comp=Z,51nm,20.4s,baz=199,slow=28							
AFI	**Afiamalu**	**11.42**	**25**	*e*P	**Pn**		**04 16 29.4**	**-6.6**
AFI				pmax	pmax			
	comp=Z,76nm,1.1s							
AFI	**Afiamalu**	**11.42**	**25**	*e*Pn	**Pn**		**04 16 29.4**	**-6.6**
	comp=Z,76nm,1.1s							
URZ	**Urewera**	**14.79**	**199**	Pn	**Pn**		**04 17 23.0**	**+1.7**
	comp=Z,1.5nm,0.3s,baz=55,slow=13,SNR=6.7							
URZ				Sn	**Sn**		**04 19 51.3**	**-13**
	comp=Z,0.4nm,0.3s,baz=151,slow=7.0,SNR=3.4							
DZM	**Mont Dzumac**	**15.61**	**275**	Pn	**Pn**		**04 17 40.7**	**+8.8**
	comp=Z,0.4nm,0.3s,baz=75,slow=18,SNR=5.5							
DZM				LR	LR		04 21 51.9	
	comp=Z,142nm,18.6s,baz=211,slow=31							
RAR	**Rarotonga**	**15.98**	**82**	Pn	**Pn**		**04 17 31.0**	**-5.5**
	comp=Z,3.4nm,0.3s,baz=235,slow=8.0,SNR=6.8							
RAR				Sn	Sn		04 20 09.0	-24
	comp=Z,2.1nm,0.3s,baz=53,slow=20,SNR=6.5							
RAR				T			04 33 33.8	
	comp=Z,8.1nm,0.3s,baz=106,slow=5.9,SNR=6.2							
TBI	**Tubuai**	**24.97**	**93**	*e*LQ			04 23 51.3	
	comp=Z,824nm,28.0s							
TBI				*e*LR	LR		04 24 49.7	
	comp=Z,96nm,25.5s							
PPT	**Papeete**	**26.24**	**80**	*e*LQ			04 24 16.9	
	comp=Z,942nm,27.8s							
PPT				*e*LR	LR		04 25 22.5	
	comp=Z,89nm,21.2s							
PPT	**Papeete**	**26.24**	**80**	LR	LR		04 26 18.4	
	comp=Z,168nm,19.8s,baz=256,slow=29							
PPT				T			04 46 33.8	
	comp=Z,14nm,0.4s,baz=32,slow=16,SNR=4.2							
HNR	**Honiara**	**26.72**	**300**	LR	LR		04 28 47.4	
	comp=Z,70nm,19.7s,baz=177,slow=34							
CTA	**Charters Tower**	**34.44**	**270**	P	**P**		**04 20 38.8**	**+1.5**
	comp=Z,3.6nm,0.4s,mb4.6,baz=95,slow=11,SNR=5.2							
CTA	**Charters Tower**	**34.44**	**270**	P	**P**		**04 20 38.8**	**+1.4**
CTA				pmax	pmax			
	comp=Z,4.0nm,0.4s							
PMG	**Port Moresby**	**37.46**	**287**	P	**P**		**04 21 04.5**	**+1.3**
	comp=Z,7.8nm,0.6s,mb4.7,baz=132,slow=5.3,SNR=3.0							
PMG	**Port Moresby**	**37.46**	**287**	P	**P**		**04 21 04.5**	**+1.3**
PMG				pmax	pmax			
	comp=Z,8.0nm,0.6s							
ASAR	**Alice Springs**	**44.88**	**260**	P	**P**		**04 22 04.1**	**0.0**
	comp=Z,1.7nm,0.4s,mb4.2,baz=94,slow=7.3,SNR=24							
ASAR	**Alice Springs**	**44.88**	**260**	P	**P**		**04 22 04.1**	**0.0**
ASAR				pmax	pmax			
	comp=Z,2.0nm,0.4s							
WRA	**Warramunga Arr**	**45.33**	**266**	P	**P**		**04 22 06.3**	**-1.3**
	comp=Z,1.9nm,0.6s,mb4.1,baz=98,slow=6.5,SNR=7.8							
WRA	**Warramunga Arr**	**45.33**	**266**	P	**P**		**04 22 06.3**	**-1.3**
WRA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
FITZ	**Fitzroy Crossi**	**53.74**	**265**	P	**P**		**04 23 13.1**	**+1.4**
	comp=Z,1.8nm,0.6s,mb4.2,baz=108,slow=12,SNR=6.5							
SBA	**Scott Base**	**54.10**	**184**	*e*P	**P**		**04 23 15.7**	**+1.4**
SBA				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.3							
SBA	**Scott Base**	**54.10**	**184**	*e*P	**P**		**04 23 15.7**	**+1.4**
	comp=Z,3.8nm,0.9s,mb4.3							
VNDA	**Vanda**	**54.17**	**186**	P	**P**		**04 23 14.8**	**-0.1**
	comp=Z,1.0nm,0.6s,mb4.0,baz=1.3,slow=5.3,SNR=5.8							
VNDA				LR	LR		04 42 26.4	
	comp=Z,94nm,18.6s,baz=344,slow=32							
VNDA	**Vanda**	**54.17**	**186**	*e*P	**P**		**04 23 14.6**	**-0.3**
	comp=Z,11nm,1.6s,mb4.5							
CASY	**Casey**	**60.99**	**206**	*e*P	**P**		**04 24 00.7**	**-2.0**
	comp=Z,57nm,2.0s,mb5.3							
QSPA	**South Pole Qui**	**65.71**	**180**	*e*P	**P**		**04 24 33.4**	**-0.5**
	comp=Z,17nm,1.1s,mb5.0							
MJAR	**Matsushiro Arr**	**74.00**	**324**	LR	LR		04 51 47.6	
	comp=Z,135nm,21.2s,baz=180,slow=31							
MAW	**Mawson**	**78.32**	**200**	LR	LR		04 58 33.3	
	comp=Z,156nm,21.2s,baz=233,slow=34							
MAW	**Mawson**	**78.32**	**200**	P	**P**		**04 25 48.8**	**-0.5**
MAW				pmax	pmax			
	comp=Z,28nm,1.5s							
MAW	**Mawson**	**78.32**	**200**	P	**P**		**04 25 48.8**	**-0.6**
	comp=Z,28nm,1.5s,mb5.0							
SSE	**Sheshan**	**81.05**	**310**	*e*P	**P**		**04 26 02.8**	**-1.3**
SSE				AMB	AMB			
	comp=Z,29nm,0.6s,mb5.4							
SSE				AMB	AMB			
	comp=Z,59nm,4.5s							
CMB	**Columbia Colle**	**81.55**	**42**	*e*P	**P**		**04 26 06.3**	**-0.4**
CMB				pmax	pmax			
	comp=Z,7.0nm,1.2s,mb4.5							
CMB	**Columbia Colle**	**81.55**	**42**	*e*P	**P**		**04 26 06.3**	**-0.5**
	comp=Z,6.8nm,1.2s,mb4.5							
NVAR	**Mina Array Bea**	**83.07**	**42**	P	**P**		**04 26 14.8**	**+0.1**
	comp=Z,2.3nm,0.7s,mb4.3,baz=210,slow=6.4,SNR=14							
PAHR	**Pah Rah Range**	**83.22**	**41**	*e*P	**P**		**04 26 15.1**	**-0.4**
	comp=Z,4.4nm,1.0s,mb4.4							
NJ2	**Nanjing**	**83.22**	**310**	*e*P	**P**		**04 26 15.3**	**-0.2**
NJ2				AP	pP		04 26 31.8	-0.6
NJ2				XP	sP		04 26 40.0	+1.0
NJ2				PP	PP		04 29 27.0	-0.5
NJ2				S	S		04 36 28.0	-3.0
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.7s,mb5.0							
NJ2				AMB	AMB			
	comp=Z,400nm,9.9s							
NJ2				LR	LR			
	comp=N,1μm,36.0s							
NJ2				LR	LR			
	comp=E,1μm,34.8s							
NJ2				LR	LR			
	comp=Z,650nm,23.5s							
NEN	**Nelson**	**83.60**	**46**	*e*P	**P**		**04 26 17.7**	**+0.3**
NEN				*e*	pP		04 26 34.7	+0.4
MOD	**Modoc**	**84.08**	**39**	*e*P	**P**		**04 26 20.3**	**+0.4**
	comp=Z,9.3nm,1.0s,mb4.9							
SNAA	**Sanae**	**84.12**	**178**	*e*P	**P**		**04 26 18.6**	**-1.5**
SNAA				*e*			04 26 22.2	
SNAA				*e*			04 26 25.7	
SNAA				*e*	pP		04 26 34.4	-2.6
SNAA				*e*	pP		04 26 39.9	+2.9
SNAA	**Sanae**	**84.12**	**178**	*e*P	**P**		**04 26 18.6**	**-1.5**
SNAA				*e*			04 26 25.7	
SNAA				*e*	pP		04 26 34.4	-2.6
VNA3	**Neumayer Olymp**	**84.21**	**176**	*e*P	**P**		**04 26 18.9**	**-1.6**
VNA3				*e*			04 26 22.7	
VNA3				*e*	pP		04 26 35.1	-2.4
VNA3				*e*	pP		04 26 39.5	+2.0
VNA3				*e*			04 26 43.8	
MDJ	**Mudanjiang**	**84.33**	**325**	P	**P**		**04 26 21.5**	**+0.4**
MDJ				AP	pP		04 26 36.0	-2.1
MDJ				XP	sP		04 26 41.8	-2.9
MDJ				PP	PP		04 29 36.3	-0.2
MDJ				S			04 36 43.7	
MDJ				XS	sS		04 37 08.5	-2.3
MDJ				SS	SS		04 42 14.4	+1.4
MDJ				AMB	AMB			
	comp=Z,5.0nm,0.5s,mb4.9							
MDJ				AMB	AMB			
	comp=Z,56nm,5.6s							
MDJ				LR	LR			
	comp=Z,46nm,19.2s							
TUC	**Tucson**	**84.49**	**51**	*e*P	**P**		**04 26 21.8**	**-0.1**
TUC				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.4							
TUC	**Tucson**	**84.49**	**51**	*e*P	**P**		**04 26 21.8**	**-0.1**
	comp=Z,2.6nm,1.0s,mb4.3							
VNA2	**Neumayer--Watz**	**84.67**	**177**	*e*P	**P**		**04 26 21.7**	**-1.1**
	baz=152,slow=4.2							
VNA2				*e*			04 26 23.8	
VNA2				*e*			04 26 26.2	
VNA2				*e*			04 26 30.5	
VNA2				*e*	pP		04 26 38.1	-1.7
VNA2				*e*	pP		04 26 40.1	+0.3
VNA2				*e*			04 26 45.6	
VNA1	**Neumayer--Stat**	**84.89**	**176**	*e*P	**P**		**04 26 23.1**	**-0.8**
VNA1				*e*			04 26 27.5	
VNA1				*e*	pP		04 26 38.9	-2.0
VNA1				*e*	pP		04 26 43.6	+2.7
BMN	**Battle Mountai**	**84.97**	**41**	*e*P	**P**		**04 26 24.5**	**+0.2**
BMN				pmax	pmax			
	comp=Z,9.0nm,1.1s,mb4.8							
BMN	**Battle Mountai**	**84.97**	**41**	*e*P	**P**		**04 26 24.5**	**+0.2**
	comp=Z,8.8nm,1.1s,mb4.8							
WVOR	**Wild Horse Val**	**85.38**	**39**	*e*P	**P**		**04 26 26.4**	**0.0**
WVOR				pmax	pmax			
	comp=Z,10.0nm,0.9s,mb5.0							
WVOR	**Wild Horse Val**	**85.38**	**39**	*e*P	**P**		**04 26 26.4**	**0.0**
	comp=Z,10nm,0.9s,mb5.0							
CCUT	**Cedar City**	**85.67**	**45**	*e*P	**P**		**04 26 29.0**	**+1.2**
PLCA	**Paso Flores**	**85.79**	**133**	*e*P	**P**		**04 26 28.6**	**+0.1**
PLCA				pmax	pmax			
	comp=Z,4.0nm,1.0s							
PLCA	**Paso Flores**	**85.79**	**133**	*e*P	**P**		**04 26 28.6**	**+0.1**
	comp=Z,4.5nm,1.0s,mb4.7							
WUAZ	**Wupatki**	**85.84**	**48**	*e*P	**P**		**04 26 29.8**	**+1.1**
	comp=Z,4.3nm,0.9s,mb4.7							
CN2	**Changchun**	**86.05**	**322**	*e*P	**P**		**04 26 31.5**	**+1.8**
CN2				*e*XP	sP		04 26 57.8	+4.5
CN2				*e*S			04 36 59.2	
CN2				LR	LR			
	comp=N,700nm,23.0s							
CN2				LR	LR			
	comp=E,400nm,23.0s							
MSU	**Marysvale**	**86.99**	**45**	*e*P	**P**		**04 26 35.0**	**+0.7**
TMUT	**Trail Mountain**	**88.05**	**45**	*e*P	**P**		**04 26 40.3**	**+0.9**
MNTX	**Cornudas Mount**	**88.07**	**54**	*e*P	**P**		**04 26 39.8**	**+0.3**
	comp=E,0.9nm,0.6s,mb4.2							
LAZ	**Ladron**	**88.18**	**51**	*e*P	**P**		**04 26 40.9**	**+0.9**
SRU	**San Rafael**	**88.39**	**45**	*e*P	**P**		**04 26 41.2**	**+0.2**
SRU				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb5.0							
SRU	**San Rafael**	**88.39**	**45**	*e*P	**P**		**04 26 41.1**	**+0.1**
	comp=Z,7.8nm,0.9s,mb4.9							
SPUT	**South Promonto**	**88.40**	**43**	*e*P	**P**		**04 26 41.8**	**+0.8**
CTU	**Camp Tracy**	**88.49**	**44**	*e*P	**P**		**04 26 42.3**	**+0.8**
	comp=Z,3.0nm,0.7s,mb4.6							
LPM	**Los Pinos Moun**	**88.49**	**51**	*e*P	**P**		**04 26 41.6**	**+0.2**
HLID	**Hailey**	**88.52**	**40**	*e*P	**P**		**04 26 41.1**	**-0.5**
	comp=Z,2.4nm,1.0s,mb4.5							
DAU	**Daniels Canyon**	**88.64**	**44**	*e*P	**P**		**04 26 42.8**	**+0.6**
ANMO	**Albuquerque**	**88.94**	**51**	*e*P	**P**		**04 26 44.1**	**+0.5**
ANMO				pmax	pmax			
	comp=Z,5.0nm,1.0s							
ANMO	**Albuquerque**	**88.94**	**51**	*e*P	**P**		**04 26 44.1**	**+0.5**
	comp=Z,5.0nm,1.0s,mb4.8							
MCMT	**McKenzie Canyo**	**90.17**	**40**	*e*P	**P**		**04 26 50.5**	**+1.1**
TPAW	**Tekapo Pass**	**90.54**	**42**	*e*P	**P**		**04 26 51.3**	**+0.3**
	comp=Z,7.3nm,1.4s,mb4.8							
DLMT	**Dillon**	**90.62**	**39**	*e*P	**P**		**04 26 51.5**	**0.0**
	comp=Z,5.5nm,1.0s,mb4.8							
IMW	**Indian Meadow**	**90.78**	**41**	*e*P	**P**		**04 26 52.6**	**+0.4**
	comp=Z,6.0nm,1.0s,mb4.9							
MOOW	**Moose Ponds**	**90.81**	**41**	*e*P	**P**		**04 26 51.7**	**-0.7**
	comp=Z,2.0nm,1.2s,mb4.3							
BW06	**Boulder Array**	**91.00**	**43**	*e*P	**P**		**04 26 52.8**	**-0.4**
	comp=Z,2.2nm,1.0s,mb4.6							
PDAR	**Pinedale Array**	**91.00**	**43**	P	**P**		**04 26 52.9**	**-0.3**
	comp=Z,2.6nm,0.9s,mb4.5,baz=225,slow=2.9,SNR=17							
PDAR				LR	LR		04 57 57.4	
	comp=Z,53nm,22.0s,baz=44,slow=29							
QLMT	**Earthquake Lak**	**91.00**	**40**	*e*P	**P**		**04 26 53.7**	**+0.5**
QLMT				*e*	pP		04 27 08.7	-1.6
FLWY	**Flagg Ranch**	**91.02**	**41**	*e*P	**P**		**04 26 52.9**	**-0.4**
	comp=Z,4.4nm,0.9s,mb4.8							
CHMT	**Chamberlain Mo**	**91.14**	**38**	*e*P	**P**		**04 26 53.1**	**-0.8**
COLA	**College**	**91.74**	**12**	*e*P	**P**		**04 26 54.2**	**-2.4**
COLA				*e**PP	pP		04 27 10.7	-3.0
COLA				pmax	pmax			
	comp=Z,8.0nm,1.1s,mb5.0							
COLA	**College**	**91.74**	**12**	*e*P	**P**		**04 26 54.2**	**-2.5**
	comp=Z,8.2nm,1.1s,mb5.0							
COLA				*e*pP	pP		04 27 10.7	-3.1
ILAR	**Eielson Array**	**91.83**	**12**	P	**P**		**04 26 55.6**	**-1.5**
	comp=Z,1.0nm,0.9s,mb4.2,baz=236,slow=3.8,SNR=7.3							
ILAR				LR	LR		04 59 31.3	
	comp=Z,50nm,20.8s,baz=359,slow=30							
KMI	**Kunming**	**92.11**	**297**	P	**P**		**04 26 57.9**	**-0.5**
KMI				AP	pP		04 27 15.5	0.0
KMI				XP	sP		04 27 21.4	-0.7
KMI				AMB	AMB			
	comp=Z,3.0nm,0.7s,mb4.7							
KMI				LR	LR			
	comp=Z,29nm,19.0s							
DAWY	**Dawson**	**92.86**	**15**	P	**P**		**04 27 00.8**	**-1.0**
DAWY				*e*	pP		04 27 17.9	-1.1
HHC	**Hu-ho-hao-te**	**92.86**	**314**	*e*P	**P**		**04 27 01.2**	**-0.6**
HHC				AP	pP		04 27 18.1	-0.8
HHC				XP	sP		04 27 29.1	+3.6
HHC				PP	PP		04 30 47.4	+2.6
HHC				SKS			04 37 27.6	
HHC				S			04 38 00.1	
HHC				XS	sS		04 38 28.2	-3.5
HHC				PS	PS		04 39 25.0	+3.0
HHC				SS	SS		04 44 17.1	+0.1
HHC				AMB	AMB			
	comp=Z,10.0nm,1.2s,mb5.1							
HHC				AMB	AMB			
	comp=Z,56nm,5.1s							
HHC				LR	LR			
	comp=N,273nm,21.6s							
HHC				LR	LR			
	comp=E,576nm,22.1s							
HHC				LR	LR			
	comp=Z,58nm,18.7s							
CD2	**Chengdu**	**93.83**	**302**	*e*P	**P**		**04 27 03.2**	**-3.1**
CD2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb5.3							
LZH	**Lanzhou**	**96.01**	**307**	*e*P	**P**		**04 27 16.2**	**-0.1**
LZH				AP	pP		04 27 33.1	-0.3
LZH				XP	sP		04 27 39.8	-0.2
LZH				PP	PP		04 31 11.5	+2.2
LZH				AMB	AMB			
	comp=Z,18nm,1.4s,mb5.3							
LZH				AMB	AMB			
	comp=Z,57nm,9.5s							
LZH				LR	LR			
	comp=N,365nm,18.3s							
LZH				LR	LR			
	comp=Z,418nm,19.5s							
YKA	**Yellowknife Ar**	**99.54**	**25**	P	Pdif		04 27 32.6	+0.5
	comp=Z,0.3nm,1.0s,baz=221,slow=5.2,SNR=4.3							
YKA				LR	LR		05 07 04.0	
	comp=Z,57nm,19.6s,baz=270,slow=32							
YKA	**Yellowknife Ar**	**99.54**	**25**	P	Pdif		04 27 32.6	+0.5
YKA				LR	LR		05 07 04.0	
WMQ	**Urumqi**	**110.30**	**310**	PDIF	Pdif		04 28 17.9	-2.1
WMQ				PP	PP		04 32 56.4	+0.3
WMQ				PP	PP			
	comp=Z,7.0nm,5.7s							
WMQ				LR	LR			
	comp=N,52nm,30.8s							
WMQ				LR	LR			
	comp=Z,41nm,26.4s							
ARCES	**ARCESS Array B**	**132.92**	**350**	PKP	PKPdf		04 33 05.7	+1.6
	comp=Z,2.8nm,0.9s,baz=336,slow=2.7,SNR=4.6							
ARCES	**ARCESS Array B**	**132.92**	**350**	PKIKP	PKPdf		04 33 05.7	+1.7
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.9s							
AKASG	**Malin Array Be**	**146.93**	**329**	PKPbc	PKPbc		04 33 30.0	-1.3
	comp=Z,2.6nm,0.4s,baz=43,slow=4.0,SNR=17							
AKASG	**Malin Array Be**	**146.93**	**329**	PKP2	PKPab		04 33 30.0	-2.8
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.4s							
BRTR	**Keskin Array B**	**150.21**	**308**	PKPbc	PKPbc		04 33 39.0	-0.7
	comp=Z,0.7nm,0.6s,baz=160,slow=3.9,SNR=5.0							
BRTR	**Keskin Array B**	**150.21**	**308**	PKIKP	PKPbc		04 33 39.1	-0.7
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
CLL	**Collm**	**152.08**	**347**	*e*PKPbc	PKPbc		04 33 43.0	-1.1
KHC	**Kasperske Hory**	**153.99**	**344**	*e*PKP	PKPbc		04 33 52.5	+4.2

NIED ***12*** *04:23:00, 3290N×14190E, h5km, Mw3.6 Best double couple: M₀2.61000×10¹⁴ NP1:φs164.00000°, δ69.00000°, λ-94.00000°. NP2:φs355.00000°, δ22.00000°,*

λ-80.00000°.

JMA 12 04:23:40.2±0.5, 3295N×14187E, h0km, M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JHJ2	**Mitsune**	**1.73**	**276**	P	Pn		04 24 14.8	+3.3
BSO1	**Boso 1**	**1.85**	**337**	P	Pn		04 24 13.6	+0.4
BSO1				*e*S	Sn		04 24 37.1	-0.3
BSO3	**Boso 3**	**2.17**	**329**	P	Pn		04 24 18.9	+1.4
BSO3				*e*S	Sn		04 24 46.0	+1.0
BSO4	**Boso 4**	**2.40**	**328**	P	Pn		04 24 22.5	+1.8
BSO4				*e*S	Sn		04 24 52.2	+1.4
JHO	**Hitachi**	**3.81**	**344**	P	Pn		04 24 39.4	-0.7
JHO				*e*S	Sn		04 25 21.5	-4.0
JAG	**Ashikaga**	**4.00**	**331**	*e*S	Sn		04 25 30.5	+0.3
JMM	**Marumori**	**4.98**	**350**	*e*S	Sn		04 25 48.6	-6.0

IDC 12 04:24:48.5±3.6, 1114S×11602E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.5/14, mbtmp3.5/4, ML3.1/1, Error ellipse: s-maj=178.6km s-min=24.7km az=49.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
FITZ	**Fitzroy Crossi**	**11.60**	**128**	Pn	Pn		04 27 31.3	-3.9
	0.3nm,0.3s,baz=65,slow=16,SNR=7.7							
FITZ				Sn	Sn		04 29 30.5	-15
	0.2nm,0.3s,baz=287,slow=16,SNR=4.3							
WRA	**Warramunga Arr**	**19.69**	**119**	P	Pn		04 29 19.3	-1.2
	0.1nm,0.3s,baz=292,slow=14,SNR=3.6							
WRA				S	Sn		04 32 40.9	-21
	0.1nm,0.3s,baz=285,slow=26,SNR=3.1							
ASAR	**Alice Springs**	**21.10**	**129**	P	P		04 29 35.0	+0.5
	0.7nm,0.6s,baz=301,slow=10,SNR=7.9							
SONM	**Songino Array**	**59.33**	**352**	P	P		04 34 52.2	0.0
	0.9nm,0.9s,baz=189,slow=4.7,SNR=5.6							
MKAR	**Makanchi Array**	**65.08**	**335**	P	P		04 35 30.9	+0.2
	0.9nm,0.6s,baz=147,slow=7.8,SNR=6.2							

ISCJB ***12*** *05:33:09.4±0.8, 2166S±007×6888W±009, h94km±8km, mb4.1/12, Error ellipse: s-maj=14.3km s-min=9.9km az=53.9*

NEIC ***12*** *05:33:09.9±0.8, 2166S×6900W, h83km±8km, mb4.1/10, Error ellipse: s-maj=11.6km s-min=7.5km az=97.0*

IDC ***12*** *05:33:10.2±0.7, 2170S×6897W, h88km±5km, mb3.9/5, mb1 4.0/7, mb1mx3.8/15, mbtmp4.2/7, MS3.1/3, Ms1 3.1/3, ms1mx2.8/16, Error ellipse: s-maj=23.2km s-min=11.5km az=96.0*

ISC 12 05:33:10.3±0.8, 2165S±007×6891W±009, h86km±8km, n29, σ1s02/27, mb4.1/12, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
LVC	**Limon Verde**	**0.95**	**180**	P	**Pn**		**05 33 29.4**	**+0.2**
	baz=343,slow=11							
LVC				S	**Sn**		**05 33 43.7**	**+0.4**
LPAZ	**La Paz**	**5.39**	**8**	P	**Pn**		**05 34 32.4**	**+4.3**
	23nm,0.3s,baz=186,slow=7.6,SNR=210							
LPAZ				LR	LR		05 37 00.5	
	comp=Z,116nm,20.0s,baz=154,slow=42							
LPAZ	**La Paz**	**5.39**	**8**	P	**Pn**		**05 34 32.4**	**+4.3**
LPAZ				LR	LR		05 37 00.5	
SIV	**San Ignacio**	**9.32**	**54**	P	**Pn**		**05 35 21.5**	**-0.2**
	9.7nm,0.3s,baz=245,slow=11,SNR=399							
SIV				S	**Sn**		**05 37 02.9**	**-1.9**
	baz=316,slow=18,SNR=3.8							
CFAA	**Coronel Fontan**	**9.93**	**177**	P	**Pn**		**05 35 26.3**	**-3.7**
	0.2nm,0.3s,baz=351,slow=14,SNR=17							
CFAA				S	**Sn**		**05 37 26.1**	**+6.4**
	0.2nm,0.3s,baz=155,slow=18,SNR=2.7							
CPUP	**Villa Florida**	**11.57**	**116**	P	**Pn**		**05 35 53.5**	**+1.1**
	0.3nm,0.3s,baz=288,slow=13,SNR=3.8							
SAML	**Samuel**	**13.78**	**24**	*e*Pn	**Pn**		**05 36 22.1**	**+0.3**
	6.2nm,0.9s							
TRQA	**Tornquist**	**17.41**	**161**	*e*P	**Pn**		**05 37 07.3**	**-0.2**
	12nm,1.2s							
PLCA	**Paso Flores**	**19.07**	**184**	*e*P	**Pn**		**05 37 24.9**	**-2.6**
	4.2nm,0.9s							
BDFB	**Brasilia**	**20.68**	**77**	P	**P**		**05 37 43.7**	**+0.5**
	5.7nm,0.6s,baz=264,slow=8.4,SNR=10							
BDFB				LR	LR		05 47 17.3	
	comp=Z,48nm,19.2s,baz=125,slow=41							
SDV	**Santo Domingo**	**30.40**	**357**	LR	LR		05 52 05.4	
	comp=Z,49nm,19.8s,baz=305,slow=37							
RCBR	**Riachuelo**	**35.60**	**69**	*e*P	**P**		**05 40 02.4**	**+2.9**
	11nm,0.9s,mb4.8							
SNAA	**Sanae**	**62.14**	**161**	P	**P**		**05 43 21.6**	**-0.7**
	1.8nm,0.8s,mb4.1,baz=298,slow=5.7,SNR=10.0							
MNTX	**Cornudas Mount**	**63.52**	**326**	*e*P	**P**		**05 43 29.9**	**-1.5**
	3.6nm,1.4s,mb4.0							
TUC	**Tucson**	**66.95**	**322**	*e*P	**P**		**05 43 53.8**	**+0.2**
	1.1nm,0.8s,mb3.7							
QSPA	**South Pole Qui**	**68.54**	**180**	*e*P	**P**		**05 44 03.8**	**+0.2**
	9.3nm,1.0s,mb4.6							
PDAR	**Pinedale Array**	**74.24**	**330**	P	**P**		**05 44 37.5**	**-0.3**
	0.4nm,0.6s,mb3.3,baz=171,slow=3.9,SNR=4.0							
MOOW	**Moose Ponds**	**75.55**	**330**	*e*P	**

NRGR				smax				
	comp=E,61nm,0.1s							
CLNS	**Chul'man**	**2.32**	**103**	*e*Pg		Pg	06 29 28.5	-3.6
CLNS				*e*Sn		Sn	06 29 54.8	-1.5
CLNS				*e*Sg		Sg	06 29 59.2	-3.0
CLNS				Pmax				
	comp=E,92nm,0.2s							
CLNS				Smax				
	comp=E,2µm,0.4s							
CLNS	**Chul'man**	**2.32**	**103**	*e*P		Pn	06 29 28.5	+1.5
CLNS				*e*S		Sn	06 29 58.3	+2.0
CLNS				pmax	pmax			
	comp=Z,5.0nm,0.3s							
CLNS				pmax	pmax			
	comp=N,2.0nm,0.2s							
CLNS				pmax	pmax			
	comp=E,2.0nm,0.3s							
CLNS				smax				
	comp=N,24nm,0.3s							
CLNS				smax				
	comp=E,23nm,0.3s							
CLNS				smax				
	comp=Z,12nm,0.3s							
CLNS				MLR	MLR			
	comp=Z,600nm,18.0s							
ALDR	**Aldan**	**2.75**	**62**	*e*Pn		Pn	06 29 33.8	+0.9
ALDR				*e*Pg		Pg	06 29 38.2	-2.1
ALDR				*e*Sn		Sn	06 30 06.0	-0.8
ALDR				*e*Sg		Sg	06 30 12.2	-3.7
ALDR				Pmax				
	comp=Z,97nm,0.2s							
ALDR				Smax				
	comp=Z,2µm,0.2s							
NLYR	**Nelyaty**	**2.92**	**254**	⇑*i*Pn		Pn	06 29 35.9	+0.6
NLYR				*e*Pg		Pg	06 29 40.4	-3.3
NLYR				⇓*i*			06 29 42.7	
NLYR				*e*Sg		Sg	06 30 17.2	-4.4
NLYR				max				
	comp=Z,96nm,0.8s							
NLYR				Smax				
	comp=Z,330nm,1.2s							
NLYR	**Nelyaty**	**2.92**	**254**	*e*P		Pn	06 29 35.3	0.0
NLYR				*e*			06 30 15.3	
NLYR				pmax	pmax			
	comp=Z,97nm,0.4s							
NLYR				smax				
	comp=N,330nm,1.2s							
TUP	**Tupik**	**3.03**	**189**	*e*Pn		Pn	06 29 36.5	-0.3
TUP				*e*Pg		Pg	06 29 42.9	-2.7
TUP				*e*Sn		Sn	06 30 12.8	-0.9
TUP				*e*Sg		Sg	06 30 20.1	-4.8
TUP				Pmax				
	comp=N,171nm,0.7s							
TUP				Smax				
	comp=N,484nm,0.5s							
TUP	**Tupik**	**3.03**	**189**	*e*P		Pn	06 29 36.6	-0.2
TUP				*e*S		Sn	06 30 11.7	-2.0
TUP				pmax	pmax			
	comp=Z,178nm,0.7s							
TUP				smax				
	comp=E,483nm,0.8s							
TNDR	**Tynda**	**3.16**	**134**	*e*Pn		Pn	06 29 39.0	+0.4
TNDR				*e*Pg		Pg	06 29 42.6	-5.6
TNDR				*e*			06 30 17.8	
TNDR				*e*Sg		Sg	06 30 25.6	-3.6
TNDR				Pmax				
	comp=E,283nm,0.3s							
TNDR				Smax				
	comp=E,2µm,0.3s							
BOD	**Bodaibo**	**3.66**	**279**	*e*Pn		Pn	06 29 46.6	+1.1
BOD				*e*Sg		Sg	06 30 40.5	-4.8
BOD				max				
	comp=E,11nm,0.3s							
BOD				Smax				
	comp=E,101nm,0.7s							
SVKR	**Severomuysk**	**4.17**	**255**	*e*Sg		Sg	06 30 57.0	-4.7
SVKR				Smax				
	comp=E,248nm,0.9s							
UKT	**Uakit**	**4.41**	**247**	*e*Pn		Pn	06 29 55.9	+0.2
UKT				*e*Pg		Pg	06 30 06.7	-5.4
UKT				*e*Sg		Sg	06 31 02.3	-6.9
UKT				Pmax				
	comp=E,18nm,0.9s							
UKT				Smax				
	comp=E,63nm,1.4s							
UKT	**Uakit**	**4.41**	**247**	*e*P		Pg	06 30 06.8	-5.3
UKT				pmax	pmax			
	comp=Z,18nm,0.7s							
KROS	**Kirovskiy**	**4.59**	**128**	*i*Sg		Sg	06 31 08.5	-6.6
KROS				Smax				
	comp=Z,210nm,0.5s							
YOA	**Uoyan**	**5.14**	**259**	*e*Sg		Sg	06 31 26.8	-5.9
YOA				Smax				
	comp=Z,563nm,1.6s							
CGD	**Chagda**	**5.40**	**71**	*e*Pn		Pn	06 30 10.5	+1.2
CGD				*e*Pg		Pg	06 30 23.9	-7.1
CGD				*e*Sn		Sn	06 31 08.0	-4.1
CGD				*e*Sg		Sg	06 31 32.7	-8.2
KMO	**Kumora**	**5.50**	**258**	*e*Pg		Pg	06 30 27.4	-5.5
KMO				*e*Sg		Sg	06 31 37.6	-6.6
KMO				Pmax				
	comp=Z,9.0nm,0.6s							
KMO				Smax				
	comp=Z,98nm,1.4s							
KMO	**Kumora**	**5.50**	**258**	*e*P		Pn	06 30 14.7	+4.0
KMO				pmax	pmax			
	comp=Z,9.0nm,0.3s							
YLYR	**Ulyunkhan**	**5.94**	**249**	⇑*i*Pn		Pn	06 30 17.4	+0.6
YLYR				*e*Pg		Pg	06 30 35.6	-5.8
YLYR				*e*			06 31 23.8	
YLYR				*e*Sg		Sg	06 31 51.5	-6.9
YLYR				Pmax				
	comp=Z,7.0nm,1.2s							
YLYR				Smax				
	comp=Z,66nm,1.6s							
NIZ	**Nizh Angarsk**	**6.42**	**260**	*e*Pg		Pg	06 30 43.2	-7.3
NIZ				*e*Sg		Sg	06 32 05.7	-8.0
NIZ				Pmax				
	comp=Z,4.0nm,0.8s							
NIZ				Smax				
	comp=E,34nm,1.3s							
CIT	**Chita**	**6.83**	**221**	*e*		Pg	06 30 53.4	-5.0
CIT				*e*Sg		Sg	06 32 18.4	-8.5
CIT				Smax				
	comp=Z,165nm,1.7s							
OGRR	**Ongureny**	**8.37**	**249**	*e*Sg		Sg	06 33 06.7	-10
OGRR				Smax				
	comp=Z,22nm,1.9s							
TRTB	**Turuntaevo**	**9.18**	**241**	*e*Sg		Sn	06 33 32.4	+47
TRTB				Smax				
	comp=Z,65nm,1.7s							
KPC	**Khapcheranga**	**9.19**	**216**	⇑*i*Pn		Pn	06 31 02.1	+0.7
KPC				*e*Sn		Sn	06 32 40.5	-4.9
KPC				*e*Sg		Sn	06 33 30.0	+45
KPC				Smax				
	comp=Z,52nm,1.4s							
ZRHB	**Zarechye**	**9.21**	**244**	*e*Sg		Sn	06 33 33.5	+47
ZRHB				Smax				
	comp=Z,174nm,1.4s							
ARS	**Arshan**	**11.94**	**250**	*e*Sg		Sn	06 34 55.4	+62
ARS				Smax				
	comp=Z,35nm,1.4s							
ULN	**Ulaanbaatar**	**12.65**	**227**	*e*Sg		Sn	06 35 19.3	+69
MOY	**Mondy**	**12.82**	**252**	*e*Sg		Sn	06 35 23.9	+69
MOY				Smax				
	comp=Z,20nm,2.7s							
ORL	**Orlik**	**12.97**	**257**	*e*Sg			06 35 30.0	
ORL				Smax				
	comp=Z,10.0nm,1.8s							
TDJR	**Todzha**	**15.01**	**261**	*e*Sg			06 36 29.1	

NEIC ***12*** *06:33:59.6, 2726S×7136W, h7km, ML4.1(GUC), After GUC.*

GUC 12 06:33:59.6±0.7, 2726S×7136W, h7km±3km, MD4.1, ML4.1, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.51**	**68**	⇓*i*P	Pg	06 34 09.9	+0.5
CDCH				*i*S	Sg	06 34 17.7	+1.7
CPCH	**Copiapo**	**0.90**	**96**	*e*P	Pg	06 34 17.0	+0.1
CPCH				*i*S	Sg	06 34 29.4	+0.9
	comp=E,17µm,0.1s			AML	AML	06 34 31.2	

CPCH	**Copiapo**	**0.90**	**96**	*e*P		Pg	06 34 17.0	+0.1
CPCH				*i*S		Sg	06 34 29.4	+0.9
CRCH	**Chaqaral**	**1.12**	**36**	*e*P		Pg	06 34 20.0	-1.2
CRCH				*i*S		Sg	06 34 34.2	-1.6
LCO	**Las Campanas**	**1.84**	**162**	*e*P		Pn	06 34 32.2	+0.7
LCO				*i*S		Sn	06 34 56.6	+1.5
CPN1	**Cerro Paranal**	**2.76**	**18**	*e*P		Pn	06 34 42.2	-2.1
CPN1				*i*S		Sn	06 35 12.8	-5.1
TLL	**Tololo Astrono**	**2.94**	**171**	*e*P		Pn	06 34 48.0	+1.3
TLL				*i*S		Sn	06 35 25.4	+3.2
TLL					AML	AML	06 35 38.4	
	comp=N,386nm,0.7s							
TLL	**Tololo Astrono**	**2.94**	**171**	*e*P		Pn	06 34 48.0	+1.3
TLL				*i*S		Sn	06 35 25.4	+3.2
LVC	**Limon Verde**	**5.13**	**26**	*e*Pn		Pn	06 35 16.9	0.0
	comp=N,8.0nm,0.4s							
LVC				*e*Sn		Sn	06 36 11.3	-5.1

WEL 12 06:41:57.6±0.4, 3662S×17718E, h5km, ML4.3/6, Error ellipse: s-maj=3.9km s-min=2.2km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.91**	**180**	P*	Pb	06 42 14.1	-1.7
MYRZ	**Mayor Island**	**1.00**	**228**	P*	Pb	06 42 16.2	-1.3
KUZ	**Kuaotunu**	**1.18**	**263**	P*	Pb	06 42 19.8	-0.7
KUZ				*S**	Sb	06 42 35.2	-1.0
KUZ				*S**	Sb	06 42 35.2	-0.9
MXZ	**Matakaoa Point**	**1.30**	**137**	P*	Pb	06 42 19.9	-2.7
MXZ				*eS**	Sb	06 42 37.1	-2.5
TGRZ	**Tauranga**	**1.33**	**213**	P*	Pb	06 42 20.6	-2.5
URZ	**Urewera**	**1.64**	**182**	P*	Pb	06 42 25.1	-3.3
MWZ	**Matawai**	**1.73**	**171**	P*	Pb	06 42 26.2	-3.7
TOZ	**Tahuroa Road**	**1.74**	**230**	P*	Pb	06 42 27.3	-2.8
WCZ	**Waipu Caves**	**2.39**	**286**	PN	Pn	06 42 38.6	+1.1
BKZ	**Black Stump Fm**	**2.60**	**192**	*e*P*	Pb	06 42 38.6	-6.1
HIZ	**Hauiti**	**2.65**	**224**	PN	Pn	06 42 40.3	-0.7
VNA3	**Neumayer Olymp**	**72.33**	**178**	*e*	P	06 53 24.7	+0.4
VNA3				*e*		06 53 26.1	
VNA2	**Neumayer--Watz**	**72.71**	**178**	*e*	P	06 53 26.9	+0.3
	baz=166,slow=5.7						
VNA2				*e*		06 53 28.2	

ISCJB ***12*** *06:46:57.7±0.7, 4306N±004×7493E±004, h5km±6km, Error ellipse: s-maj=7.0km s-min=4.8km az=28.4*
NNC ***12*** *06:46:57.9±0.2, 4305N×7494E, h0km, mb2.8, mpv1.8, Error ellipse: s-maj=6.0km s-min=1.1km az=12.0*
KNET ***12*** *06:46:57.3±0.3, 4304N×7491E, h13km±3km, ml1.9, Error ellipse: s-maj=2.1km s-min=1.7km az=44.0*

ISC 12 06:46:57.7±0.7, 4307N±004×7492E±004, h11km±6km, n12, σ0°69/22, 15C-5D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMS	**Chumysh**	**0.14**	**239**	⇓P	Pg	06 47 00.5	-0.5
	395nm,0.2s,SNR=259						
CHMS				⇑S	Sg	06 47 02.5	-0.8
	341nm,0.1s						
USP	**Ospenovka**	**0.36**	**303**	P	Pg	06 47 05.4	+0.5
	155nm,0.1s,SNR=551						
USP				⇑S	Sg	06 47 10.8	+1.1
	142nm,0.2s						
KBK	**Karagaybulak**	**0.42**	**177**	P	Pg	06 47 06.0	+0.1
	194nm,0.1s,SNR=164						
KBK				⇓S	Sg	06 47 12.0	+0.7
	515nm,0.4s						
TKM2	**Tokmak 2**	**0.52**	**107**	⇑P	Pg	06 47 07.7	-0.1
	29nm,0.1s,SNR=98						
TKM2				⇑S	Sg	06 47 15.1	+0.4
	94nm,0.1s						
TKM2	**Tokmak 2**	**0.52**	**107**	⇑P	Pg	06 47 07.7	-0.1
	0.2nm,0.2s						
TKM2				⇑S	Sg	06 47 14.8	+0.1
	0.3nm,0.2s						
AAK	**Ala-Archa**	**0.54**	**216**	⇑P	Pg	06 47 07.9	-0.3
	30nm,0.2s,SNR=76						
AAK				⇑S	Sg	06 47 15.1	-0.1
	100nm,0.3s						
UCH	**Uchtor**	**0.90**	**200**	⇑P	Pg	06 47 14.4	-0.5
	7.6nm,0.2s,SNR=50						
UCH				⇓S	Sg	06 47 26.6	0.0
	7.2nm,0.2s						
EKS2	**Erkin-Say**	**0.93**	**244**	P	Pg	06 47 15.6	-0.1
	28nm,0.1s,SNR=111						
EKS2				⇓S	Sg	06 47 29.3	+1.5
	16nm,0.2s						
KZA	**Kyzart**	**1.02**	**166**	⇓P	Pg	06 47 17.1	-0.3
	13nm,0.2s,SNR=22						
KZA				⇑S	Sg	06 47 31.2	+0.5
	13nm,0.2s						
ULHL	**Ulahol**	**1.28**	**130**	⇑P	Pn	06 47 21.4	-0.2
	6.1nm,0.1s,SNR=43						
AML	**Almayashu**	**1.30**	**224**	⇑P	Pn	06 47 22.1	+0.2
	7.8nm,0.2s,SNR=33						
AML				⇑S	Sb	06 47 38.9	-0.1
	24nm,0.2s						
KK31	**Karatay Array**	**3.23**	**272**	⇑Pg	Pg	06 47 57.3	-2.2
	0.3nm,0.2s,baz=90,slow=15,SNR=22						
KK31				⇑Lg		06 48 41.2	
	1.3nm,0.3s,baz=90,slow=29,SNR=5.8						

ISCJB ***12*** *06:55:25.6±0.3, 4935N±001×684E±003, h0km, Error ellipse: s-maj=2.6km s-min=2.1km az=8.6*
STR ***12*** *06:55:26.5±0.3, 4939N×681E, h1km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
NEIC ***12*** *06:55:26.5, 4939N×681E, h1km, ML2.5(STR), ML3.0(LDG), After STR.*
BGR ***12*** *06:55:27.5±0.6, 4936N×691E, h1km, ML1.9/3, Error ellipse: s-maj=8.9km s-min=6.7km az=65.0*
LDG ***12*** *06:55:27.4±0.1, 4938N×694E, h1km, Md2.7/2, Ml3.0/10, Error ellipse: s-maj=1.3km s-min=1.1km az=104.0, Suspected Mining induced.*
CSEM ***12*** *06:55:27.4±0.1, 4937N×693E, h1km, ML2.9/9, Error ellipse: s-maj=1.0km s-min=0.9km az=104.0*

ISC 12 06:55:26.5±0.3, 4937N±001×685E±003, h0km, n47, σ0°84/85, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.36**	**22**	Pg	Pg	06 55 33.6	+0.2
RUP				Sg	Sg	06 55 38.7	+0.5
WLF	**Walferdange**	**0.54**	**304**	*e*Pg	Pg	06 55 38.2	+1.3
	SNR=3.9						
WLF	**Walferdange**	**0.54**	**304**	P	Pg	06 55 38.1	+1.2
WLF				S	Sg	06 55 43.7	-0.2
	comp=E,23nm,0.0s						
WLF	**Walferdange**	**0.54**	**304**	*e*Pg	Pg	06 55 38.1	+1.2
ABH	**Alteburg**	**0.69**	**41**	Pg	Pg	06 55 39.1	-0.6
ABH				Sg	Sg	06 55 48.1	-0.5
LANF	**Langenberg**	**0.74**	**121**	Pg	Pg	06 55 40.5	-0.1
LANF				Sg	Sg	06 55 52.6	+2.4
CDF	**Champ du Feu**	**0.99**	**163**	*e*Pg	Pg	06 55 46.5	+0.9
CDF				*e*Sg	Sg	06 55 58.8	+0.3
	comp=E,26nm,0.2s						
CDF	**Champ du Feu**	**0.99**	**163**	*e*Pg	Pg	06 55 46.5	+0.9
CDF				*e*Sg	Sg	06 55 58.8	+0.3
	comp=E,13nm,0.2s						
WLS	**Welschbruch**	**1.01**	**161**	Pg	Pg	06 55 46.2	+0.3
ECH	**Echery**	**1.17**	**170**	Pg	Pg	06 55 49.6	+0.7
RFYF	**Reffroy**	**1.17**	**231**	*e*Pn	Pn	06 55 50.3	+0.2
RFYF				*e*Sg	Sg	06 56 07.0	+3.0
	comp=E,28nm,0.3s						
RFYF	**Reffroy**	**1.17**	**231**	*e*Pn	Pn	06 55 50.3	+0.2
RFYF				*e*Sg	Sg	06 56 07.0	+3.0
	comp=E,14nm,0.3s						
THEF	**They Montfort**	**1.27**	**207**	Pg	Pg	06 55 51.2	+0.3
THEF				Sg	Sg	06 56 07.9	+0.4
TOD	**Tromm**	**1.30**	**79**	Pg	Pg	06 55 50.8	-0.5
TNS	**Taunus Mts**	**1.34**	**50**	*e*Pg	Pg	06 55 52.0	-0.2
	SNR=3.7						
TNS				*e*Sg	Sg	06 56 09.2	-0.5
MEM	**Membach**	**1.36**	**337**	P	Pg	06 55 52.6	+0.1
MEM				S	Sg	06 56 10.8	+0.6
	comp=E,15nm,0.0s						
HAU	**Haudompre**	**1.40**	**194**	*e*Pg	Pg	06 55 54.6	+1.2
HAU				*e*Sg	Sg	06 56 12.1	+0.6
	comp=E,21nm,0.2s						
HAU	**Haudompre**	**1.40**	**194**	*e*Pg	Pg	06 55 54.6	+1.2

HAU				*e*Sg		Sg	06 56 12.1	+0.6
	comp=E,11nm,0.2s							
BFO	**Black Forest**	**1.43**	**136**	*e*Pg		Pg	06 55 53.9	+0.1
	SNR=6.1							
BFO				*e*Sg		Sg	06 56 11.0	-1.3
BFO	**Black Forest**	**1.43**	**136**	*e*Pn		Pn	06 55 53.3	-0.3
BFO				*e*Sg		Sg	06 56 12.6	+0.4
BFO	**Black Forest**	**1.43**	**136**	*e*Pn		Pn	06 55 53.3	-0.3
BFO	**Black Forest**	**1.43**	**136**	Pg		Pg	06 55 53.9	+0.1
	SNR=6.1							
BFO				*e*Sg		Sg	06 56 12.6	+0.3
MEZF	**Maizieres J'vi**	**1.47**	**235**	*e*Pn		Pn	06 55 54.8	+0.6
MEZF				*e*Sg		Sg	06 56 15.0	+1.3
	comp=E,16nm,0.3s							
MEZF	**Maizieres J'vi**	**1.47**	**235**	*e*Pn		Pn	06 55 54.8	+0.6
MEZF				*e*Sg		Sg	06 56 15.0	+1.3
	comp=E,8.2nm,0.3s							
GIVF	**Givet**	**1.51**	**300**	*e*Pg		Pg	06 55 56.2	+0.8
GIVF				*e*Sg		Sg	06 56 16.5	+1.6
	comp=E,34nm,0.5s							
GIVF	**Givet**	**1.51**	**300**	*e*Pn		Pn	06 55 54.4	-0.3
GIVF				*e*Pg		Pg	06 55 56.2	+0.8
GIVF				*e*Sg		Sg	06 56 16.5	+1.6
GIVF	**Givet**	**1.51**	**300**	*e*Pg		Pg	06 55 56.2	+0.8
GIVF				*e*Sg		Sg	06 56 16.5	+1.6
	comp=E,17nm,0.5s							
HGN	**Heimansgroeve**	**1.52**	**337**	*e*Pg		Pg	06 55 55.2	-0.5
	comp=E,10.0nm,0.9s							
HGN				*e*Sg		Sg	06 56 15.0	-0.3
MOF	**Molkenrain**	**1.53**	**173**	Pg		Pg	06 55 55.8	0.0
MOF				Sg		Sg	06 56 15.9	+0.3
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pg		Pg	06 55 56.3	+0.1
HINF				*e*Sg		Sg	06 56 16.4	+0.1
	comp=E,70nm,0.3s							
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pg		Pg	06 55 56.3	+0.1
HINF				*e*Sg		Sg	06 56 16.4	+0.1
	comp=E,35nm,0.3s							
DOU	**Dourbes**	**1.64**	**297**	P		Pn	06 55 56.8	+0.3
DOU				S		Sn	06 56 18.4	+0.1
	comp=E,10.0nm,0.0s							
SFTF	**Sexfontaines**	**1.67**	**227**	*e*Pn		Pn	06 55 56.6	-0.4
SFTF				*e*Sn		Sn	06 56 17.7	-1.4
	comp=E,15nm,0.4s							
SFTF	**Sexfontaines**	**1.67**	**227**	*e*Pn		Pn	06 55 56.6	-0.4
SFTF				*e*Sn		Sn	06 56 17.7	-1.4
	comp=E,7.4nm,0.4s							
FELD	**Feldberg im Sc**	**1.68**	**152**	Pg		Pg	06 55 58.9	+0.3
BAIF	**Baives**	**1.85**	**293**	*e*Pn		Pn	06 55 59.4	-0.1
LOMF	**Lomont**	**2.02**	**180**	Pg		Pg	06 56 05.1	-0.1
CABF	**La Chapelle**	**2.80**	**191**	*e*Pn		Pn	06 56 12.0	-0.6
CABF				*e*Sg		Sg	06 56 56.0	-0.6
LOR	**Lormes**	**2.90**	**225**	*e*Pn		Pn	06 56 12.7	-1.2
LOR				*e*Sn		Sn	06 56 47.8	-1.6
LOR				*e*Sg		Sg	06 56 59.3	-0.3
	comp=E,9.6nm,0.4s							
LOR	**Lormes**	**2.90**	**225**	*e*Pn		Pn	06 56 12.7	-1.2
LOR				*e*Sn		Sn	06 56 47.8	-1.6
LOR				*e*Sg		Sg	06 56 59.3	-0.3
	comp=E,4.8nm,0.4s							
SSF	**Saint Saulge**	**3.21**	**225**	*e*Pn		Pn	06 56 16.8	-1.4
SSF				*e*Sg		Sg	06 57 10.7	+1.0
	comp=E,7.5nm,0.5s							
SSF	**Saint Saulge**	**3.21**	**225**	*e*Pn		Pn	06 56 16.8	-1.4
SSF				*e*Sg		Sg	06 57 10.7	+1.0
	comp=E,3.8nm,0.5s							
SMF	**Signal de Mont**	**3.39**	**218**	*e*Pn		Pn	06 56 19.8	-0.8
SMF				*e*Sn		Sn	06 56 59.4	-2.1
AVF	**Avril sur Loir**	**3.48**	**224**	*e*Pn		Pn	06 56 21.9	0.0
AVF				*e*Sn		Sn	06 57 01.8	-2.1
BGF	**Bois d'Agland**	**3.89**	**225**	*e*Pn		Pn	06 56 26.8	-0.7
TCF	**Toulx Ste Croi**	**4.39**	**227**	*e*Pn		Pn	06 56 33.7	-0.6
GEC2	**GERESS Array S**	**4.53**	**94**	*e*Pn		Pn	06 56 36.5	+0.2
	SNR=5.2							

ISCJB ***12*** *07:20:56.0±0.3, 4310N±002×017E±002, h0km, Error ellipse: s-maj=3.1km s-min=2.4km az=155.1*
STR ***12*** *07:20:57.3±0.2, 4302N×014E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***12*** *07:20:57.6±0.1, 4302N×014E, h2km, Md2.7/2, Ml2.3/6, Error ellipse: s-maj=2.2km s-min=1.4km az=175.0*
CSEM ***12*** *07:20:57.7±0.1, 4302N×014E, h5km, ML2.5/6, Error ellipse: s-maj=1.9km s-min=1.3km az=179.0*
MDD ***12*** *07:20:58.0±0.2, 4302N×013E, h0km, mbLg1.5/20, Error ellipse: s-maj=1.8km s-min=1.3km az=30.0, PRXIMO*

ISC 12 07:20:56.7±0.4, 4305N±002×015E±002, h14km±5km, n50, σ0°53/62, 1C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.06**	**269**	Pg	Pg	07 20 59.4	-0.1
LABF				Sg	Sg	07 21 01.1	-0.3
LABF	**Labassere**	**0.06**	**269**	Pg	Pg	07 20 59.5	0.0
LABF				Lg		07 21 01.1	
EPF	**Esparros**	**0.14**	**97**	*e*Pg	Pg	07 21 00.8	+0.4
EPF				*e*Sg	Sg	07 21 03.3	+0.4
	51nm,0.2s						
EPF	**Esparros**	**0.14**	**97**	*e*Pg	Pg	07 21 00.8	+0.4
EPF				*e*Sg	Sg	07 21 03.3	+0.4
	26nm,0.2s						
VIEF	**Viey**	**0.19**	**210**	Pg	Pg	07 21 00.9	-0.2
VIEF				Sg	Sg	07 21 03.7	-0.5
VIEF	**Viey**	**0.19**	**210**	Pg	Pg	07 21 01.0	-0.2
VIEF				Lg		07 21 03.8	
RESF	**Ens**	**0.28**	**150**	Pg	Pg	07 21 02.7	+0.1
RESF				Sg	Sg	07 21 07.0	+0.5
RESF	**Ens**	**0.28**	**150**	Pg	Pg	07 21 02.8	+0.2
RESF				Lg		07 21 07.1	
EBIE	**Bielsa**	**0.36**	**181**	⇑Pg	Pg	07 21 04.0	-0.1
	14nm,0.3s,SNR=18						
EBIE				Lg		07 21 09.1	
	14nm,0.3s,SNR=41						
EBIE	**Bielsa**	**0.36**	**181**	Pg	Pg	07 21 04.0	-0.1
	14nm,0.3s,SNR=18						
REYF	**Montagne du Re**	**0.40**	**273**	Pg	Pg	07 21 04.3	-0.4
REYF				Lg		07 21 09.9	
MELF	**Melles**	**0.48**	**111**	Pg	Pg	07 21 06.6	+0.4
MELF				Sg	Sg	07 21 12.3	-0.4
MELF	**Melles**	**0.48**	**111**	Pg	Pg	07 21 06.8	+0.6
MELF				Lg		07 21 13.0	
ETSF	**Etsaut**	**0.54**	**254**	*e*Pg	Pg	07 21 07.0	-0.4
ETSF				*e*Sg	Sg	07 21 14.0	-0.7
	32nm,0.2s						
ETSF	**Etsaut**	**0.54**	**254**	*e*Pg	Pg	07 21 07.0	-0.4
ETSF				*e*Sg	Sg	07 21 14.0	-0.7
	16nm,0.2s						
FDAF	**Les Forges d'A**	**0.58**	**247**	Pg	Pg	07 21 07.7	-0.4
FDAF				Lg		07 21 15.3	
ATE	**Arette**	**0.62**	**274**	Pg	Pg	07 21 09.4	+0.4
ATE				Lg		07 21 17.2	
SALF	**Salau**	**0.81**	**110**	Pg	Pg	07 21 12.9	+0.3
SALF	**Salau**	**0.81**	**110**	Pg	Pg	07 21 12.9	+0.4
SALF				Lg		07 21 23.9	
LARF	**Larrau

CAVN				Lg			07 21 37.1	
	5.3nm,0.3s							
ESAC	**San Caprasio**	**1.40**	**199**	Pg	**Pg**		**07 21 24.1**	**+0.4**
	14nm,0.2s,SNR=8.5							
ESAC				Lg			07 21 42.5	
	13nm,0.3s,SNR=6.7							
ESAC	**San Caprasio**	**1.40**	**199**	Pg	**Pg**		**07 21 24.1**	**+0.4**
	18nm,0.3s,SNR=8.5							
CLLI	**Llivia**	**1.46**	**112**	Lg			07 21 44.5	
	0.9nm,0.2s							
EMIR	**Miracle**	**1.52**	**138**	Pg	**Pg**		**07 21 25.9**	**-0.1**
	1.1nm,0.1s,SNR=7.9							
EMIR				Lg			07 21 46.5	
	5.0nm,0.3s,SNR=7.8							
EMIR	**Miracle**	**1.52**	**138**	Pg	**Pg**		**07 21 25.9**	**-0.1**
	1.1nm,0.1s,SNR=7.9							
MTLF	**Montolieu**	**1.54**	**78**	*e*Pg	**Pg**		**07 21 27.1**	**+0.8**
MTLF				*e*Sg	**Sg**		**07 21 46.1**	**-0.2**
	12nm,0.3s							
MTLF	**Montolieu**	**1.54**	**78**	*e*Pg	**Pg**		**07 21 27.1**	**+0.8**
MTLF				*e*Sg	**Sg**		**07 21 46.1**	**-0.2**
	5.9nm,0.3s							
EPOB	**Poblet**	**1.83**	**158**	Pg	**Pg**		**07 21 30.7**	**-1.1**
	2.1nm,0.7s,SNR=7.9							
EPOB				Lg			07 21 54.9	
	5.5nm,0.7s,SNR=7.9							
EPOB	**Poblet**	**1.83**	**158**	Pg	**Pg**		**07 21 30.7**	**-1.1**
	2.1nm,0.7s,SNR=7.9							
LFF	**La Frestale**	**1.94**	**12**	*e*Sg	**Sg**		**07 21 59.7**	**+0.6**
	5.6nm,0.3s							
LFF	**La Frestale**	**1.94**	**12**	*e*Sg	**Sg**		**07 21 59.7**	**+0.6**
	2.8nm,0.3s							
ERTA	**Horta de San J**	**2.10**	**176**	Pg	**Pg**		**07 21 36.3**	**-0.6**
	0.3nm,0.1s,SNR=7.9							
ERTA				Lg			07 22 04.2	
	5.4nm,1.3s,SNR=7.9							
ERTA	**Horta de San J**	**2.10**	**176**	Pg	**Pg**		**07 21 38.4**	**+1.5**
	0.3nm,0.4s,SNR=7.9							
CAF	**Calviac**	**2.33**	**36**	*e*Sg	**Sg**		**07 22 11.8**	**+0.2**
	2.2nm,0.2s							
CAF	**Calviac**	**2.33**	**36**	*e*Sg	**Sg**		**07 22 11.8**	**+0.2**
	1.1nm,0.2s							
RJF	**Les Rejaudoux**	**2.46**	**23**	*e*Pg	**Pg**		**07 21 43.0**	**-0.9**
RJF				*e*Sg	**Sg**		**07 22 15.7**	**-0.1**
	3.6nm,0.2s							
RJF	**Les Rejaudoux**	**2.46**	**23**	*e*Pg	**Pg**		**07 21 43.0**	**-0.9**
RJF				*e*Sg	**Sg**		**07 22 15.7**	**-0.1**
	1.8nm,0.2s							
EMOS	**Mosqueruela**	**2.72**	**190**	Lg			07 22 24.2	
	4.2nm,1.0s,SNR=4.0							
LASF	**Ste Croix**	**2.88**	**68**	*e*Sg	**Sg**		**07 22 27.9**	**-1.4**
	3.8nm,0.4s							
LASF	**Ste Croix**	**2.88**	**68**	*e*Sg	**Sg**		**07 22 27.9**	**-1.4**
	1.9nm,0.4s							

ISCJB ***12*** *07:32:41.0±0.5, 41°32.N±0.03 × 141°47.E±0.05, h119km±4km, mb3.3/5, Error ellipse: s-maj=7.0km s-min=5.1km az=42.9*
JMA ***12*** *07:32:42.1±0.1, 41°34.N × 141°47.E, h113km± 1km, M3.4*
JMA Felt I J1.
IDC ***12*** *07:32:42.0±3.6, 41°22.N × 141°31.E, h119km±32km, mb3.2/5, mb1 3.5/5, mb1mx3.2/19, mbtmp3.6/5, Error ellipse: s-maj=31.6km s-min=26.1km az=136.0*

ISC 12 07:32:41.9±0.5, 41°32.N±0.03 × 141°46.E±0.05, h116km±4km, n21, σ0°64/34, mb3.3/5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOT	**Ohata**	**0.32**	**281**	P	**Pn**	**07 32 58.2**	**-0.2**
JOT				*e*S	**Sn**	**07 33 11.2**	**+0.4**
JTM	**Tenmabayashi**	**0.61**	**209**	P	**Pn**	**07 33 00.2**	**+0.1**
JTM				*e*S	**Sn**	**07 33 13.8**	**0.0**
JKB	**Kayabe**	**0.65**	**330**	P	**Pn**	**07 33 00.4**	**0.0**
JSR	**Shiriuchi**	**0.81**	**285**	P	**Pn**	**07 33 01.9**	**+0.1**
JSR				*e*S	**Sn**	**07 33 16.7**	**0.0**
JANG	**Nango**	**0.95**	**178**	P	**Pn**	**07 33 02.9**	**-0.1**
JANG				S	**Sn**	**07 33 17.9**	**-1.1**
JYM2	**Yakumo 2**	**1.14**	**315**	P	**Pn**	**07 33 05.4**	**+0.4**
JYM2				*e*S	**Sn**	**07 33 22.9**	**+0.4**
JNB	**Noboribetsu**	**1.19**	**345**	P	**Pn**	**07 33 05.3**	**-0.2**
JNB				*e*S	**Sn**	**07 33 22.7**	**-0.7**
JAH	**Hinai**	**1.29**	**209**	P	**Pn**	**07 33 07.3**	**+0.6**
JAH				*e*S	**Sn**	**07 33 26.5**	**+1.0**
JIW	**Iwasaki**	**1.32**	**237**	P	**Pn**	**07 33 07.4**	**+0.4**
JNBK	**Urakawa-nobuka**	**1.36**	**45**	P	**Pn**	**07 33 07.5**	**+0.1**
JNBK				*e*S	**Sn**	**07 33 27.0**	**+0.2**
JEM	**Erimo**	**1.45**	**61**	P	**Pn**	**07 33 08.8**	**+0.4**
JEM				*e*S	**Sn**	**07 33 28.1**	**-0.5**
JEW	**Eniwo**	**1.52**	**360**	P	**Pn**	**07 33 09.5**	**+0.2**
JEW				*e*S	**Sn**	**07 33 29.6**	**-0.4**
JOSM	**Okushiri--Mats**	**1.67**	**298**	P	**Pn**	**07 33 10.8**	**-0.3**
JOSM				*e*S	**Sn**	**07 33 32.6**	**-0.7**
JOM	**Ohasama**	**1.85**	**184**	P	**Pn**	**07 33 13.5**	**+0.2**
JOM				*e*S	**Sn**	**07 33 36.6**	**-0.6**
JCH	**Churui**	**1.92**	**47**	P	**Pn**	**07 33 14.4**	**+0.3**
JCH				*e*S	**Sn**	**07 33 37.8**	**-0.9**
ASAJ	**Asahikawa**	**2.92**	**16**	P	**Pn**	**07 33 28.9**	**+1.9**
	1.0nm,0.3s,baz=202,slow=16,SNR=3.2						
MKAR	**Makanchi Array**	**42.00**	**298**	P	**P**	**07 40 21.1**	**-0.6**
	0.5nm,0.6s,mb3.4,baz=82,slow=12,SNR=4.5						
ILAR	**Eielson Array**	**45.90**	**35**	P	**P**	**07 40 53.0**	**+0.2**
	0.8nm,0.6s,mb3.6,baz=269,slow=6.4,SNR=16						
ASAR	**Alice Springs**	**65.03**	**188**	P	**P**	**07 43 08.6**	**-1.1**
	0.2nm,0.3s,mb3.4,baz=0.2,slow=6.8,SNR=4.9						
AKASG	**Malin Array Be**	**70.95**	**321**	P	**P**	**07 43 46.0**	**-0.8**
	0.1nm,0.2s,mb3.2,baz=45,slow=6.1,SNR=4.2						
NVAR	**Mina Array Bea**	**72.42**	**54**	P	**P**	**07 43 56.9**	**+1.4**
	0.1nm,0.4s,mb3.0,baz=286,slow=6.2,SNR=3.9						

IDC 12 07:46:39.2±1.3, 2992N × 14224.E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.7/3, ML3.2/1, Error ellipse: s-maj=53.4km s-min=25.5km az=90.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.81**	**181**	Pn	Pn	07 47 26.1	+0.6
	4.4nm,0.3s,baz=252,slow=20,SNR=7.5						
CBIJ				Sn	Sn	07 47 58.3	-1.7
	11nm,0.3s,baz=108,slow=23,SNR=6.7						
MKAR	**Makanchi Array**	**48.75**	**308**	P	P	07 55 25.7	0.0
	0.4nm,0.5s,baz=83,slow=9.2,SNR=4.8						
WRA	**Warramunga Arr**	**50.15**	**190**	P	P	07 55 36.2	-0.2
	1.4nm,0.6s,baz=7.9,slow=7.9,SNR=14						
YKA	**Yellowknife Ar**	**69.65**	**29**	P	P	07 57 50.2	-0.2
	0.2nm,0.7s,baz=295,slow=6.1,SNR=4.6						

ISCJB ***12*** *07:50:59.0±0.6, 52.35°N±0.05 × 168.9°W±0.1, h33km, mb3.7/8, MS2.9/1, Error ellipse: s-maj=10.2km s-min=6.6km az=47.3*
IDC ***12*** *07:51:01.5±6.0, 52.93°N × 169.31°W, h57km±53km, mb3.5/7, mb1 3.8/9, mb1mx3.5/24, mbtmp3.7/9, ML3.3/1, MS2.9/2, Ms1 2.9/2, ms1mx2.4/39, Error ellipse: s-maj=48.2km s-min=28.2km az=157.0*
NEIC ***12*** *07:51:02.4, 52.63°N × 168.95°W, h44km, mb3.8/2, ML3.7(AEIC), After AEIC.*

ISC 12 07:51:00.4±0.7, 52°42.N±0.05 × 168°9W±0.1, h35km, n24, σ1°22/29, mb3.7/8, MS2.9/1, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKO	**Nikolski**	**0.56**	**6**	P	**Pn**	**07 51 10.7**	**-1.1**
NIKO				S	**Sn**	**07 51 19.1**	**-0.6**
OKCE	**Okmok Cone E**	**1.11**	**25**	P	**Pn**	**07 51 19.2**	**-0.2**
OKCE				S	**Sn**	**07 51 33.5**	**0.0**
OKCD	**Okmok Cone D**	**1.13**	**26**	P	**Pn**	**07 51 19.6**	**0.0**
OKCD				S	**Sn**	**07 51 34.6**	**+0.7**
UNV	**Unalaska Valle**	**2.05**	**45**	P	**Pn**	**07 51 32.6**	**+0.3**
UNV				S	**Sn**	**07 51 56.3**	**-0.3**
AKLV	**Akutan Long Va**	**2.50**	**45**	P	**Pn**	**07 51 40.3**	**+1.8**
AKUT	**Akutan**	**2.56**	**47**	P	**Pn**	**07 51 41.2**	**+1.9**
ATKA	**Atka Island**	**3.23**	**268**	P	**Pn**	**07 51 51.0**	**+2.5**
KDAK	**Kodiak Island**	**10.79**	**54**	P	**Pn**	**07 53 32.6**	**+0.4**
	0.2nm,0.3s,baz=242,slow=8.3,SNR=4.2						
KDAK				S	**Sn**	**07 55 27.3**	**-4.4**
	0.1nm,0.3s,baz=322,slow=14,SNR=2.4						
SVW2	**Sparrevohn**	**11.35**	**35**	*e*P	**Pn**	**07 53 43.1**	**+3.2**
COLA	**College**	**16.50**	**33**	*e*P	**Pn**	**07 54 54.2**	**+5.2**
	7.1nm,0.9s						
ILAR	**Eielson Array**	**16.76**	**34**	P	**Pn**	**07 54 48.0**	**-4.3**
	0.1nm,0.3s,baz=229,slow=11,SNR=11						
ILAR				LR	LR	08 01 58.7	
	comp=Z,29nm,18.8s,baz=0.7,slow=40						
SKAG	**Skagway**	**19.93**	**56**	*e*P	**Pn**	**07 55 28.8**	**-2.1**
DLBC	**Dease Lake**	**22.63**	**59**	P	**P**	**07 55 56.9**	**-1.3**
	1.8nm,0.9s,mb3.5,baz=285,slow=12,SNR=2.2						
INK	**Inuvik**	**23.16**	**33**	P	**P**	**07 55 59.0**	**-4.7**
	1.3nm,0.6s,mb3.6,baz=235,slow=7.2,SNR=18						
YKA	**Yellowknife Ar**	**30.01**	**49**	P	**P**	**07 57 03.5**	**-2.2**
	0.3nm,0.4s,mb3.4,baz=273,slow=7.6,SNR=18						
YKA				PcP	PcP	08 00 04.4	-2.8
	0.1nm,0.6s,baz=280,slow=2.7,SNR=4.6						
YKA				LR	LR	08 08 18.6	
	comp=Z,26nm,18.9s,MS2.9,baz=90,slow=35						
YKA	**Yellowknife Ar**	**30.01**	**49**	P	**P**	**07 57 03.5**	**-2.2**
YKA				PcP	PcP	08 00 04.5	-2.8
YKA				LR	LR	08 08 18.6	
MCMT	**McKenzie Canyo**	**37.01**	**79**	*e*P	**P**	**07 58 06.8**	**+0.2**
NVAR	**Mina Array Bea**	**37.40**	**91**	P	**P**	**07 58 11.1**	**+1.2**
	0.5nm,0.8s,mb3.4,baz=314,slow=6.7,SNR=5.0						
NVAR				PcP	PcP	08 00 27.8	-0.4
	0.4nm,0.5s,baz=277,slow=3.2,SNR=3.5						
NVAR	**Mina Array Bea**	**37.40**	**91**	P	**P**	**07 58 11.1**	**+1.2**
NVAR				PcP	PcP	08 00 27.8	-0.4
ELK	**Elko**	**37.87**	**86**	*e*P	**P**	**07 58 15.1**	**+1.3**
	0.8nm,0.7s,mb3.6						
PDAR	**Pinedale Array**	**40.14**	**79**	P	**P**	**07 58 32.0**	**-0.8**
	1.0nm,0.5s,mb3.8,baz=307,slow=3.4,SNR=10						
PV01	**Paradox Valley**	**43.54**	**84**	*e*P	**P**	**07 59 00.5**	**-0.1**
WRA	**Warramunga Arr**	**87.24**	**232**	P	**P**	**08 03 41.8**	**-1.4**
	1.5nm,0.9s,mb4.2,baz=38,slow=6.5,SNR=5.8						
ASAR	**Alice Springs**	**90.63**	**230**	P	**P**	**08 03 58.4**	**-0.7**
	1.4nm,0.8s,mb4.4,baz=28,slow=4.2,SNR=13						

IDC 12 07:58:39.2±60.0, 1688S × 17574W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/13, mbtmp3.9/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/28, Error ellipse: s-maj=1135.0km s-min=178.6km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**17.57**	**250**	LR	LR	08 07 15.8	
	comp=Z,85nm,20.4s,baz=37,slow=29						
STKA	**Stephens Creek**	**41.35**	**241**	P	P	08 06 27.1	+0.3
	0.9nm,0.5s,baz=72,slow=6.4,SNR=4.0						
WRA	**Warramunga Arr**	**47.33**	**258**	P	P	08 07 14.7	0.0
	0.3nm,0.5s,baz=95,slow=7.3,SNR=7.6						
ASAR	**Alice Springs**	**47.52**	**253**	P	P	08 07 16.8	+0.6
	3.6nm,0.6s,baz=89,slow=8.1,SNR=66						

SZGRF ***12*** *08:16:53.6, 6.58°S × 105.39E, h33km, mb5.5, MS4.8, Sunda Strait, Indonesia*
IDC ***12*** *08:16:55.0±2.5, 5.45°S × 105.52E, h9km±14km, mb4.9/20, mb1 5.0/20, mb1mx5.0/20, mbtmp5.0/20, MS4.7/23, Ms1 4.7/23, ms1mx4.5/36, Error ellipse: s-maj=18.3km s-min=10.7km az=55.0*
ISCJB ***12*** *08:16:55.1±0.1, 5.65°S × 105.36°E × 003, h18km, mb5.4/147, MS5.0/125, Error ellipse: s-maj=4.2km s-min=3.4km az=106.0*
HRVD ***12*** *08:16:56.5±0.1, 5.78°S × 105.48E, h18km, MW5.5/92, Centroid moment Tensor Solution. LP body waves: s81,c141;Mantle waves: s92,c180; Half duration: 1s3 Moment tensor: Scale 10^17Nm; Mrr~1.73±.03; Mθθ 0.72±.02; Mφφ 1.00±.03; Mrθ -0.79±.05; Mrφ -0.96±.02; Mθφ~0.44±.05; Best double couple: M0 1.98600×10^17 NP1:φs 340.00000°, δ47.00000°, λ-57.00000°. NP2: φs 117.00000°, δ53.00000°, λ-120.00000°. Principal axes: T 1.8470, Plg3.0000°, Azm228.0000°; N 0.2740, Plg24.0000°, Azm136.0000°; P -2.1250, Plg66.0000°, Azm325.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***12*** *08:16:56.5±0.1, 5.58°S × 105.40E, mb5.4/88, MS4.9/83, MW5.5 Error ellipse: s-maj=5.0km s-min=3.3km az=52.0, Moment Tensor Solution. s20 Moment tensor: Scale 10^17Nm; Mrr~1.51; Mθθ 0.31; Mφφ 1.20; Mrθ -0.88; Mrφ -0.65; Mθφ 0.73; Best double couple: M0 1.90000×10^17 NP1: φs 139.00000°, δ64.00000°, λ-102.00000°. NP2: φs 345.00000°, δ29.00000°, λ-67.00000°. Principal axes: T 1.8800, Plg18.0000°, Azm238.0000°; N 0.0500, Plg11.0000°, Azm145.0000°; P -1.9300, Plg69.0000°, Azm25.0000°;*
NEIC Some buildings damaged in the Kaliandak area, Sumatra. Felt [V] at Tanjungkarang-Telukbetung and Panjang and [III] at Kotabumi, Sumatra. Felt [IV] at Serang and [III] at Jakarta, Java. Also felt at Cilegon, Java.
BJI ***12*** *08:16:56.5, 5.60°S × 105.40E, h17km, mB5.5, mb5.2, Ms5.5, Msz5.3*
MOS ***12*** *08:16:57.6±1.1, 5.42°S × 105.52E, h33km, mb5.6/78, MS4.8/43, Error ellipse: s-maj=9.1km s-min=4.1km az=122.1*
CSEM ***12*** *08:17:00.2, 5.71°S × 104.97E, h40km, mb5.9*

ISC 12 08:16:57.2±0.1, 5.65°S ± 002 × 105.34E ± 003, h20km, h20km±.8km: pP-P, n691, σ1°13/519, mb5.4/147, MS5.0/125, 17C-49D, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KLI	**Kotabumi**	**0.92**	**328**	P	**Pb**	**08 17 16.4**	**+1.9**
	59µm,0.7s						
JCJI	**Jatiwangi**	**3.03**	**106**	P	**Pn**	**08 17 45.4**	**+1.4**
	7µm,0.8s						
KSI	**Kapahiang**	**3.38**	**306**	P	**Pn**	**08 17 54.1**	**+5.2**
	3µm,1.1s						
BJII	**Banjamegara**	**4.65**	**111**	P	**Pn**	**08 18 08.8**	**+2.5**
	437nm,1.1s						
KGM	**Kluang**	**7.88**	**345**	P	**Pn**	**08 18 56.5**	**+5.9**
KGM	**Kluang**	**7.88**	**345**	P	**Pn**	**08 18 56.0**	**+5.4**
KSM	**Kuching**	**8.64**	**35**	*e*Pn	**Pn**	**08 19 02.0**	**+0.9**
PSI	**Prapat**	**10.56**	**322**	Pn	**Pn**	**08 19 30.4**	**+3.0**
	1.7nm,0.3s,baz=151,slow=11,SNR=31						
PSI				LR	LR	08 24 53.1	
	comp=Z,4µm,19.4s,baz=336,slow=46						
PSI	**Prapat**	**10.56**	**322**	P	**Pn**	**08 19 30.4**	**+3.0**
PSI				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PSI				MLR	MLR		
	comp=Z,4µm,19.4s						
PSI	**Prapat**	**10.56**	**322**	Pn	**Pn**	**08 19 30.4**	**+3.0**
PSI				LR	LR	08 24 53.1	
COCO	**West Island**	**10.62**	**232**	Pn	**Pn**	**08 19 29.4**	**+1.1**
	comp=Z,3µm,1.1s,SNR=10						
COCO	**West Island**	**10.62**	**232**	*e*Pn	**Pn**	**08 19 28.4**	**+0.1**
	comp=Z,1µm,1.2s						
COCO				*e*Sn	**Sn**	**08 21 26.1**	**-0.6**
IPM	**Ipoh**	**10.94**	**337**	P	**Pn**	**08 19 40.2**	**+7.5**
KULM	**Kulim**	**11.83**	**337**	*e*Pn	**Pn**	**08 19 49.9**	**+5.0**
KULM				*e*Sn	**Sn**	**08 21 54.1**	**-2.2**
SNG	**Songkhla**	**13.58**	**340**	P	**Pn**	**08 20 15.0**	**+6.2**
	comp=Z,580nm,1.0s						
KKM	**Kota Kinabalu**	**15.89**	**43**	P	**Pn**	**08 20 44.3**	**+4.5**
KKM	**Kota Kinabalu**	**15.89**	**43**	P	**Pn**	**08 20 39.6**	**-0.1**
TSM	**Tawau**	**15.94**	**52**	P	**Pn**	**08 20 44.6**	**+4.3**
NNT	**Nonggalab**	**18.95**	**343**	P	**Pn**	**08 21 20.0**	**+2.2**
GIRL	**Giralia**	**19.49**	**151**	*e*P	**Pn**	**08 21 18.9**	**-5.3**
	comp=Z,693nm,0.9s						
MBWA	**Marble Bar**	**20.79**	**139**	*e*P	**P**	**08 21 36.8**	**-0.4**
NST	**Nakhon Sawan**	**21.80**	**346**	P	**P**	**08 21 50.6**	**+2.6**
KKTK	**Khon Kaen**	**21.98**	**354**	P	**P**	**08 21 54.0**	**+4.0**
	comp=Z,1µm,0.5s						
PAGZ	**Pagadian**	**22.44**	**53**	*e*P	**P**	**08 21 59.5**	**+4.8**
FITZ	**Fitzroy Crossi**	**23.37**	**124**	*e*P	**P**	**08 22 02.8**	**-1.8**
	comp=Z,92nm,0.9s,mb5.2						
FITZ				*i* S	**S**	**08 26 14.1**	**-2.1**
FITZ	**Fitzroy Crossi**	**23.37**	**124**	P	**P**	**08 22 03.6**	**-1.1**
	comp=Z,54nm,0.9s,mb5.0,baz=314,slow=9.7,SNR=60						
DAV	**Davao City (W)**	**23.82**	**58**	PFAKE		08 22 20.0	+11
DAV				LR	LR		
	comp=Z,5µm,22.0s,MS4.9						
BUKP	**Musuan**	**23.82**	**56**	*e*P	**P**	**08 22 11.7**	**+2.8**
TBP	**Tagbilaran**	**23.93**	**51**	*e*P	**P**	**08 22 11.9**	**+2.0**
LUBP	**Lubang**	**24.28**	**37**	*e*P	**P**	**08 22 15.1**	**+1.9**
MEEK	**Meekatharra**	**24.41**	**150**	*e*P	**P**	**08 22 13.5**	**-0.9**
	comp=Z,129nm,1.1s,mb5.3						
NANT	**Nan**	**24.72**	**349**	⇑P	**P**	**08 22 18.5**	**+1.4**
	comp=Z,938nm,1.0s,mb6.3						
QIZ	**Qiongzhong**	**24.92**	**10**	P	**P**	**08 22 21.6**	**+2.7**
QIZ				XP	sP	08 22 28.0	+0.7
QIZ				PCP	PcP	08 25 55.5	+1.3
QIZ				S	**S**	**08 26 45.9**	**+4.6**
QIZ				XS	sS	08 26 54.7	+3.7
QIZ				AMB	AMB		
	comp=Z,116nm,1.3s,mb5.2						
QIZ				AMB	AMB		
	comp=Z,1µm,6.6s						
QIZ				LR	LR		
	comp=E,9µm,16.9s						
QIZ				LR	LR		
	comp=Z,8µm,15.2s,MS5.3						
QIZ	**Qiongzhong**	**24.92**	**10**	*e*P	**P**	**08 22 21.9**	**+3.0**
	comp=Z,128nm,0.9s,mb5.5						
TGY	**Tagaytay City**	**24.99**	**38**	P	**P**	**08 22 22.9**	**+3.3**
	comp=Z,254nm,0.5s,baz=188,slow=6.6,SNR=5.2						
TGY	**Tagaytay City**	**24.99**	**38**	P	**P**	**08 22 22.9**	**+3.3**
TGY				pmax	pmax		
	comp=Z,254nm,0.5s						
CHG	**Chiang Mai**	**25.11**	**346**	⇓P	**P**	**08 22 20.9**	**+0.2**
	comp=Z,71nm,1.2s,mb5.1						
CHTO	**Chiang Mai**	**25.11**	**346**	*e*P	**P**	**08 22 21.2**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,89nm,1.1s,mb5.2						
CHTO				MLR	MLR		
	comp=Z,2µm,20.0s,MS4.6						
CHTO	**Chiang Mai**	**25.11**	**346**	*e*P	**P**	**08 22 21.2**	**+0.5**
	comp=Z,89nm,1.1s,mb5.2						
CHTO				LR	LR		
	comp=Z,2µm,20.0s,MS4.6						
MORW	**Morawa**	**25.40**	**158**	*e*P	**P**	**08 22 23.6**	**+0.3**
	comp=Z,84nm,0.9s,mb5.3						
SCZP	**Santa Cruz**	**25.71**	**34**	*e*P	**P**	**08 22 28.3**	**+2.1**
CHRT	**Chiangrai**	**25.94**	**348**	⇓P	**P**	**08 22 32.0**	**+3.8**
	comp=Z,474nm,0.7s,mb6.1						
BOLP	**Bolinao**	**26.20**	**33**	*e*P	**P**	**08 22 29.0**	**-1.7**
SWI	**Sorong**	**26.30**	**81**	P	**P**	**08 22 33.7**	**+2.2**
	comp=Z,171nm,1.6s,mb5.3						
KAKA	**Kakadu**	**27.64**	**107**	*e*P	**P**	**08 22 41.9**	**-1.6**
	comp=Z,123nm,1.0s,mb5.5						
KAKA				*e*PCP	PcP	08 26 00.8	+0.3
PALK	**Pallekele**	**27.73**	**297**	*e*P	**P**	**08 22 45.2**	**+0.8**
	comp=Z,75nm,1.4s,mb5.1						
PALK				LR	LR		
	comp=Z,2µm,19.0s,MS4.6						
MUN	**Mundaring**	**28.10**	**160**	*e*P	**P**	**08 22 48.0**	**+0.4**
KLBR	**Kellerberrin**	**28.31**	**157**	*e*P	**P**	**08 22 48.8**	**-0.7**
	comp=Z,44nm,0.6s,mb5.3						
HKC	**Hong Kong**	**29.09**	**17**	P	**P**	**08 23 05.0**	**+8.6**
NWAO	**Narrogin (SRO)**	**29.32**	**159**	P	**P**	**08 22 57.8**	**-0.7**
	comp=Z,38nm,0.8s,mb5.1,baz=335,slow=11,SNR=16						
NWAO				PcP	PcP	08 26 05.2	+0.5
	comp=Z,10.0nm,0.9s,baz=266,slow=5.0,SNR=3.9						
NWAO				LR	LR	08 33 14.3	
	comp=Z,2µm,20.8s,MS4.7,baz=329,slow=33						
NWAO	**Narrogin (SRO)**	**29.32**	**159**	*e*P	**P**	**08 22 58.4**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,231nm,0.6s						
NWAO				MLR	MLR		
	comp=Z,2µm,21.0s						
NWAO	**Narrogin (SRO)**	**29.32**	**159**	*e*P	**P**	**08 22 58.4**	**-0.1**
	comp=Z,231nm,0.6s,mb6.1						
NWAO				LR	LR		
	comp=Z,2µm,21.0s,MS4.6						
GZH	**Guangzhou**	**29.61**	**15**	P	**P**	**08 23 07.8**	**+6.8**
GZH				LR	LR		
	comp=N,2µm,12.3s,MS5.2						
GZH				LR	LR		
	comp=E,2µm,11.7s,MS5.2						
GZH				LR	LR		
	comp=Z,4µm,14.5s,MS5.2						
KMBL	**Kambalda**	**29.92**	**151**	*e*P	**P**	**08 23 02.7**	**-1.1**
	comp=Z,595nm,2.0s,mb6.0						
KMI	**Kunming**	**30.69**	**355**	P	**P**	**08 23 13.8**	**+3.2**
KMI				AP	pP	08 23 19.4	+2.8
KMI				XP	sP	08 23 21.5	+2.5
KMI				PP	PP	08 24 14.0	-5.9
KMI				PPP		08 24 29.3	
KMI				PCP	PcP	08 26 10.9	+2.6
KMI				S	**S**	**08 28 15.1**	**+2.9**
KMI				XS	sS	08 28 24.4	+2.3
KMI				SCP	ScP	08 29 51.4	+1.6
KMI				PCS	PcS	08 29 53.6	+1.5
KMI				SS	SS	08 29 57.9	-25
KMI				SSS		08 30 19.7	
KMI				SCS	ScS	08 33 46.5	+0.3
KMI				AMB	AMB		
	comp=Z,45nm,1.0s,mb5.2						
KMI				AMB	AMB		
	comp=Z,423nm,6.7s						
KMI				LR	LR		
	comp=N,11µm,11.0s						
KMI				LR	LR		
	comp=E,4µm,8.9s						
KMI				LR	LR		
	comp=Z,12µm,11.6s,MS5.8						
RKGY	**Rocky Gully**	**30.77**	**161**	*e*P	**P**	**08 23 12.0**	**+0.7**
WRA	**Warramunga Arr**	**31.56**	**119**	P	**P**	**08 23 17.3**	**-1.0**
	comp=Z,31nm,0.8s,mb5.2,baz=293,slow=10,SNR=156						
WRA				PcP	PcP	08 26 10.5	-0.1
	comp=Z,7.5nm,0.3s,baz=311,slow=2.1,SNR=33						
WRA				ScP	ScP	08 29 52.8	+0.1
	comp=Z,4.6nm,1.1s,baz=281,slow=5.0,SNR=6.0						
WRA				P3KPbc		08 54 56.2	
	comp=Z,0.7nm,0.5s,baz=103,slow=4.4,SNR=16						
WRA	**Warramunga Arr**	**31.56**	**119**	P

ASAR Alice Springs 32.81 126 P **P** **08 23 29.0 -0.2**
ASAR 08 26 14.2
ASAR S **S** **08 28 42.5 -2.9**
ASAR 08 33 57.9
ASAR pmax pmax
comp=Z,81nm,0.8s
ASAR smax
comp=N,13nm,1.0s
ASAR Alice Springs 32.81 126 P **P** **08 23 28.9 -0.3**
ASAR PcP PcP 08 26 14.2 +0.2
ASAR S **S** **08 28 42.5 -2.9**
ASAR ScP ScP 08 29 57.2 +0.3
ASAR ScS ScS 08 33 57.9 +1.0
ASAR *e* 08 54 49.6
FORT Forrest 32.87 142 *e*P **P** **08 23 28.7 -1.1**
comp=N,53nm,0.8s,mb5.5
QZH Quanzhou 33.02 22 P **P** **08 23 33.0 +1.9**
QZH S **S** **08 28 58.4 +10**
QZH LR LR
comp=N,4μm,14.3s,MS5.6
QZH LR LR
comp=E,8μm,16.8s,MS5.6
QZH LR LR
comp=Z,4μm,12.4s,MS5.3
NACB Ninganchiao 33.61 28 *e*P **P** **08 23 36.6 +0.4**
NACB *e*pP pP 08 23 43.1 +0.9
SHL Shillong 33.67 338 *e*P **P** **08 23 36.0 -0.7**
SHL *ex* x 08 26 17.0
YHNB Yeheng 33.94 27 *e*P **P** **08 23 38.5 -0.6**
BOK Bokaro 34.88 328 *e*P **P** **08 23 47.3 +0.1**
HYB Hyderabad 35.01 311 *i* P **P** **08 23 48.5 +0.2**
HYB Hyderabad 35.01 311 *e*P **P** **08 23 48.0 -0.3**
ENH Enshi 35.93 6 PFAKE 08 24 10.0 +14
ENH LR LR
comp=Z,638nm,19.0s,MS4.4
CD2 Chengdu 36.38 358 P **P** **08 24 00.5 +0.4**
CD2 XP sP 08 24 11.2 +2.6
CD2 PP PP 08 25 23.0 0.0
CD2 PPP 08 25 50.6
CD2 S **S** **08 29 39.3 -1.1**
CD2 XS sS 08 29 50.3 0.0
CD2 SS SS 08 32 03.1 -16
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,240nm,5.5s
CD2 LR LR
comp=E,4μm,12.0s
CD2 LR LR
comp=Z,4μm,12.0s,MS5.5
WHN Wuhan 37.00 13 P **P** **08 24 07.0 +1.6**
WHN LR LR
comp=Z,5μm,12.3s,MS5.5
LSA Lhasa 37.69 340 P **P** **08 24 12.0 +0.7**
LSA AMB AMB
comp=Z,20nm,0.9s,mb4.8
LSA AMB AMB
comp=Z,250nm,9.5s
LSA LR LR
comp=N,930nm,13.6s,MS5.0
LSA LR LR
comp=E,2μm,18.5s,MS5.0
LSA LR LR
comp=Z,2μm,16.7s,MS4.9
LSA Lhasa 37.69 340 *e*P **P** **08 24 11.8 +0.5**
LSA *e* 08 26 30.8
LSA pmax pmax
comp=Z,43nm,0.8s,mb5.2
LSA Lhasa 37.69 340 *e*P **P** **08 24 11.8 +0.5**
comp=Z,43nm,0.8s,mb5.2
LSA *e*PcP PcP 08 26 30.8 +2.5
JIRN Jiri 37.93 332 *e*P **P** **08 24 12.6 -0.7**
comp=Z,69nm,0.8s,mb5.4
PKI Pulchoki 38.23 331 *e*P **P** **08 24 14.4 -1.4**
comp=Z,17nm,0.7s,mb4.9
PKI Pulchoki 38.23 331 *e*P **P** **08 24 14.4 -1.4**
PKI pmax pmax
comp=Z,17nm,0.7s,mb4.9
GUN Gumba 38.29 332 *e*P **P** **08 24 15.9 -0.4**
comp=Z,55nm,0.6s,mb5.5
DMN Daman 38.41 330 *e*P **P** **08 24 15.9 -1.4**
comp=Z,41nm,0.8s,mb5.2
KKN Kakani 38.48 331 *e*P **P** **08 24 16.5 -1.4**
comp=Z,54nm,0.9s,mb5.3
KKN Kakani 38.48 331 *e*P **P** **08 24 16.5 -1.4**
KKN pmax pmax
comp=Z,54nm,0.9s,mb5.3
GKN Gorkha 38.97 330 *e*P **P** **08 24 20.9 -1.1**
comp=Z,43nm,0.6s,mb5.3
JOW Kunigami 39.18 33 P **P** **08 24 24.1 +0.3**
comp=Z,66nm,1.1s,mb5.3,baz=247,slow=6.6,SNR=10
JOW LR LR 08 38 35.8
comp=Z,763nm,20.4s,MS4.5,baz=38,slow=33
POO Poona 39.26 308 *e*P **P** **08 24 25.0 +0.6**
POO *ex* x 08 24 59.1
KOLN Koldanda 39.30 329 *e*P **P** **08 24 24.0 -0.8**
comp=Z,68nm,0.7s,mb5.5
SSE Sheshan 39.55 22 ⇓P **P** **08 24 29.4 +2.5**
SSE AP pP 08 24 38.1 +5.2
SSE XP sP 08 24 41.2 +5.9
SSE PP PP 08 26 00.9 +3.2
SSE PCP PcP 08 26 33.4 -0.7
SSE S **S** **08 30 31.3 +2.9**
SSE XS sS 08 30 46.2 +7.8
SSE SCS ScS 08 34 34.3 +0.3
SSE AMB AMB
comp=Z,98nm,1.6s,mb5.3
SSE AMB AMB
comp=Z,513nm,7.5s
SSE LR LR
comp=N,1μm,16.1s,MS5.1
SSE LR LR
comp=E,2μm,16.1s,MS5.1
SSE LR LR
comp=Z,2μm,12.4s,MS5.2
BHPL Bhopal 39.60 317 *e*P **P** **08 24 26.6 -0.7**
XAN Xi'an 39.61 5 P **P** **08 24 28.1 +0.7**
XAN AP pP 08 24 33.3 -0.1
XAN PP PP 08 26 02.6 +4.2
XAN S **S** **08 30 32.6 +3.2**
XAN AMB AMB
comp=Z,68nm,1.4s,mb5.2
XAN AMB AMB
comp=Z,700nm,8.1s
XAN LR LR
comp=N,742nm,18.1s,MS5.5
XAN LR LR
comp=E,6μm,16.6s,MS5.5
XAN LR LR
comp=Z,6μm,13.3s,MS5.6
NJ2 Nanjing 39.64 18 *e*P **P** **08 24 30.0 +2.4**
NJ2 AP pP 08 24 34.6 +1.0
NJ2 XP sP 08 24 37.8 +1.7
NJ2 PP PP 08 26 04.4 +5.7
NJ2 S **S** **08 30 31.0 +1.3**
NJ2 XS sS 08 30 40.0 +0.3
NJ2 AMB AMB
comp=Z,160nm,1.0s,mb5.7
NJ2 AMB AMB
comp=Z,520nm,5.8s
NJ2 LR LR
comp=N,5μm,17.3s,MS5.7
NJ2 LR LR
comp=E,6μm,14.3s,MS5.7
NJ2 LR LR
comp=Z,1μm,19.4s
LZH Lanzhou 41.53 358 ⇓P **P** **08 24 44.5 +1.2**
LZH AP pP 08 24 50.1 +0.8
LZH XP sP 08 24 53.2 +1.4
LZH PP PP 08 26 24.6 +5.3
LZH S **S** **08 31 00.5 +2.5**
LZH XS sS 08 31 10.2 +2.2
LZH SS SS 08 34 01.6 -1.3
LZH AMB AMB
comp=Z,93nm,1.3s,mb5.2
LZH AMB AMB
comp=Z,827nm,6.2s
LZH LR LR
comp=E,3μm,12.8s
LZH LR LR
comp=Z,5μm,17.5s,MS5.5
PMG Port Moresby 41.60 98 P **P** **08 24 42.2 -1.6**
comp=Z,19nm,0.7s,mb4.8,baz=195,slow=2.6,SNR=8.9
PMG Port Moresby 41.60 98 *e*P **P** **08 24 42.8 -1.0**
PMG pmax pmax
comp=Z,65nm,1.0s
PMG MLR MLR
comp=Z,1μm,22.0s
PMG Port Moresby 41.60 98 *e*P **P** **08 24 42.8 -1.0**
comp=Z,65nm,1.0s,mb5.2
PMG LR LR
comp=Z,1μm,22.0s,MS4.7
CTA Charters Tower 42.24 114 *e*P **P** **08 24 48.8 -0.3**
comp=Z,63nm,1.0s,mb5.2
CTA *e*PCP PcP 08 26 43.1 +0.3
CTA *e*S **S** **08 31 06.2 -2.3**
CTA Charters Tower 42.24 114 LR LR 08 43 15.7
comp=Z,2μm,21.5s,MS4.9,baz=48,slow=38
CTA Charters Tower 42.24 114 *e*P **P** **08 24 48.8 -0.3**
CTA *e* 08 26 43.1
CTA *e*S **S** **08 31 06.2 -2.3**
CTA pmax pmax
comp=Z,63nm,1.0s
CTAO Charters Tower 42.24 114 *e*P **P** **08 24 48.9 -0.2**
CTAO *e* 08 26 43.1
CTAO pmax pmax
comp=Z,416nm,1.7s,mb5.8
CTAO MLR MLR
comp=Z,1μm,21.0s,MS4.8
CTAO Charters Tower 42.24 114 *e*P **P** **08 24 48.9 -0.2**
comp=Z,416nm,1.7s,mb5.8
CTAO *e*PcP PcP 08 26 43.1 +0.3
CTAO LR LR
comp=Z,1μm,21.0s,MS4.8
STKA Stephens Creek 42.76 132 ⇓*i*P **P** **08 24 51.4 -1.9**
comp=Z,279nm,0.6s,mb6.2
STKA *e*S **S** **08 31 12.1 -4.0**
STKA Stephens Creek 42.76 132 P **P** **08 24 51.5 -1.7**
comp=Z,320nm,0.6s,mb6.2,baz=308,slow=8.0,SNR=492
STKA LR LR 08 44 09.1
comp=Z,2μm,19.7s,MS5.0,baz=305,slow=38
TIA Tai'an 43.08 14 *e*P **P** **08 24 56.6 +0.8**
TIA LR LR
comp=N,3μm,11.0s,MS5.5
TIA LR LR
comp=E,3μm,12.0s,MS5.5
NDI New Delhi 43.57 323 *e*P **P** **08 24 56.5 -3.3**
NDI *e*S **S** **08 31 24.0 -4.0**
GUMO Guam 43.65 64 LR LR 08 43 42.3
comp=E,393nm,19.7s,MS4.3,baz=247,slow=37
GUMO Guam 43.65 64 PFAKE 08 25 10.0 +10
GUMO LR LR
comp=Z,1.0nm,19.0s
DDI Dehra Dun 44.30 325 *e*P **P** **08 25 03.4 -2.3**
DDI *ex* x 08 26 49.7
GTA Gaotai 45.12 354 *e*P **P** **08 25 13.3 +1.1**
GTA AP pP 08 25 20.4 +2.1
GTA XP sP 08 25 23.8 +3.1
GTA PCP PcP 08 26 55.5 +2.9
GTA PP PP 08 26 59.3 +1.5
GTA S **S** **08 31 51.2 +0.7**
GTA SS SS 08 35 03.0 -10
GTA AMB AMB
comp=Z,28nm,1.3s,mb4.9
GTA AMB AMB
comp=Z,487nm,6.5s
GTA LR LR
comp=N,3μm,15.2s,MS5.6
GTA LR LR
comp=E,4μm,15.2s,MS5.6
GTA LR LR
comp=Z,3μm,15.2s,MS5.3
BHJ Bhuj 45.17 311 *e*P **P** **08 25 11.3 -1.3**
BHJ AMb AMB 08 25 16.8
comp=Z,89nm,1.5s,mb5.4
JNU Nakatsue 45.54 30 P **P** **08 25 16.1 +0.6**
comp=Z,94nm,0.9s,mb5.7,baz=187,slow=4.9,SNR=7.0
JNU ScS ScS 08 35 17.9 +7.0
comp=Z,75nm,0.4s,baz=124,slow=0.2,SNR=14
BTO Baotou 46.22 5 *e*P **P** **08 25 21.4 +0.5**
BJT Baijiatuan 46.52 11 *e*P **P** **08 25 25.0 +1.7**
BJT *e**PP pP 08 25 30.5 +1.1
BJT pmax pmax
comp=Z,64nm,0.8s
BJT MLR MLR
comp=Z,1μm,19.0s
BJT Baijiatuan 46.52 11 *e*P **P** **08 25 25.0 +1.7**
comp=Z,64nm,0.8s,mb5.6
BJT *e*pP pP 08 25 30.5 +1.1
BJT LR LR
comp=Z,1μm,19.0s,MS5.0
BJI Beijing 46.54 11 P **P** **08 25 24.4 +1.0**
BJI S **S** **08 32 13.2 +2.2**
BJI AMB AMB
comp=Z,27nm,1.0s,mb5.1
BJI AMB AMB
comp=Z,668nm,7.1s
BJI LR LR
comp=N,786nm,14.3s,MS5.3
BJI LR LR
comp=E,3μm,14.3s,MS5.3
BJI LR LR
comp=Z,953nm,21.9s
HHC Hu-ho-hao-te 46.62 6 ⇓P **P** **08 25 25.6 +1.6**
HHC AP pP 08 25 31.7 +1.5
HHC XP sP 08 25 34.5 +1.9
HHC PCP PcP 08 26 58.6 +0.8
HHC PP PP 08 27 14.6 +1.0
HHC SCP ScP 08 30 50.4 +0.1
HHC PCS PcS 08 30 52.7 +0.1
HHC S **S** **08 32 15.1 +3.0**
HHC XS sS 08 32 23.2 +1.0
HHC SCS ScS 08 35 17.2 -0.7
HHC SS SS 08 35 33.7 -4.5
HHC AMB AMB
comp=Z,32nm,1.5s,mb5.0
HHC AMB AMB
comp=Z,461nm,8.7s
HHC LR LR
comp=N,4μm,14.5s,MS5.6
HHC LR LR
comp=E,3μm,14.5s,MS5.6
HHC LR LR
comp=Z,4μm,14.4s,MS5.5
DL2 Dalian 46.83 17 *i* PR **P** **08 25 25.6 -0.1**
DL2 S **S** **08 32 17.5 +2.5**
DL2 AMB AMB
comp=Z,30nm,0.6s,mb5.4
DL2 AMB AMB
comp=Z,160nm,5.6s
DL2 LR LR
comp=N,690nm,14.8s,MS5.1
DL2 LR LR
comp=E,1μm,15.6s,MS5.1
DL2 LR LR
comp=Z,700nm,15.4s,MS4.7
INCN Inchon 47.28 23 *e*P **P** **08 25 31.1 +1.9**
comp=Z,20nm,0.6s,mb5.2
INCN LR LR
comp=Z,909nm,19.0s,MS4.8
KS15 Wonju Array Si 47.74 24 *e*P **P** **08 25 34.9 +2.1**
CBIJ Chichi jima 48.26 46 LR LR 08 45 18.7
comp=Z,302nm,20.5s,MS4.3,baz=207,slow=36
TOO Toolangi 48.41 137 *e*P **P** **08 25 40.2 +2.2**
comp=Z,47nm,0.9s,mb5.5
TOO Toolangi 48.41 137 *e*P **P** **08 25 40.2 +2.2**
TOO pmax pmax
comp=Z,47nm,0.9s,mb5.5
ARMA Armidale 49.96 125 *e*P **P** **08 25 51.5 +1.7**
ARMA *e*PCP PcP 08 27 10.4 +0.6
CNB Canberra Magne 50.09 132 *e*P **P** **08 25 51.0 +0.2**
comp=Z,23nm,0.8s,mb5.2
SNY Shenyang 50.09 18 PR **P** **08 25 50.0 -0.8**
SNY AMB AMB
comp=Z,611nm,5.0s
JHJ Hachijo jima 2 50.53 38 LR LR 08 47 09.0
comp=Z,384nm,21.7s,MS4.4,baz=279,slow=36
MAJO Matsushiro 52.03 34 *e*P **P** **08 26 04.5 -0.9**
MAJO pmax pmax
comp=Z,30nm,0.8s,mb5.3
MAJO MLR MLR
comp=Z,535nm,20.0s,MS4.6
MAJO Matsushiro 52.03 34 *e*P **P** **08 26 04.5 -0.9**
comp=Z,30nm,0.8s,mb5.3
MAJO LR LR
comp=Z,535nm,20.0s,MS4.6
MAT Matsushiro 52.03 34 P **P** **08 26 03.8 -1.6**
MAT S **S** **08 33 25.0 -2.9**
MAT Matsushiro 52.03 34 *e*P **P** **08 26 04.0 -1.4**
MAT *e*S **S** **08 33 25.0 -2.9**
MAT pmax pmax
comp=Z,118nm,2.0s,mb5.5
MAT MLR MLR
comp=Z,690nm,18.0s,MS4.7
MAT Matsushiro 52.03 34 *e*P **P** **08 26 04.0 -1.4**
comp=Z,118nm,2.0s,mb5.5
MAT *e*S **S** **08 33 25.0 -2.9**
MAT LR LR
comp=Z,690nm,18.0s,MS4.7
MJAR Matsushiro Arr 52.03 34 P **P** **08 26 04.3 -1.1**
comp=Z,29nm,0.3s,mb5.7,baz=282,slow=31,SNR=13
MJAR Matsushiro Arr 52.03 34 P **P** **08 26 04.3 -1.1**
MJAR pmax pmax
comp=Z,29nm,0.3s
TAU Tasmania Unive 52.42 142 *e*P **P** **08 26 09.3 +1.0**
TAU pmax pmax
comp=Z,67nm,1.1s,mb5.5
TAU Tasmania Unive 52.42 142 *e*P **P** **08 26 09.3 +1.0**
comp=Z,66nm,1.1s,mb5.5
CN2 Changchun 52.46 18 *e*P **P** **08 26 08.7 +0.1**
CN2 *e*XP sP 08 26 19.4 +2.2
CN2 PP PP 08 28 09.1 +1.7
CN2 PPP 08 29 14.0
CN2 *e*S **S** **08 33 32.8 -1.1**
CN2 *e*SS SS 08 37 09.9 -2.0
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,2μm,16.0s,MS5.3
CN2 LR LR
comp=E,2μm,16.0s,MS5.3
CN2 LR LR
comp=Z,1μm,16.0s,MS5.1
SONM Songino Array 53.26 1 P **P** **08 26 14.9 +0.4**
comp=Z,13nm,0.9s,mb4.9,baz=184,slow=8.4,SNR=59
SONM LR LR 08 51 41.6
comp=Z,2μm,18.4s,MS5.2,baz=174,slow=39
SONM Songino Array 53.26 1 P **P** **08 26 14.9 +0.4**
SONM pmax pmax
comp=Z,13nm,0.9s
SONM MLR MLR
comp=Z,2μm,18.4s
ULN Ulaanbaatar 53.30 1 *e*P **P** **08 26 15.3 +0.5**
ULN pmax pmax
comp=Z,38nm,0.9s,mb5.3
ULN MLR MLR
comp=Z,2μm,19.0s,MS5.2
ULN Ulaanbaatar 53.30 1 *e*P **P** **08 26 15.3 +0.5**
comp=Z,38nm,0.9s,mb5.3
ULN LR LR
comp=Z,2μm,19.0s,MS5.2
WBK Wadi Bani Khal 53.33 304 P **P** **08 26 17.1 +2.1**
SNR=13
JMDO Jabal Madar 53.95 303 P **P** **08 26 21.3 +1.7**
SNR=15
HNR Honiara 54.22 98 *e*P **P** **08 26 19.9 -1.6**
HNR MLR MLR
comp=Z,406nm,20.0s,MS4.5
SMDO Samad 54.29 304 P **P** **08 26 23.6 +1.5**
SNR=28
BIDO Bidbid 54.43 304 P **P** **08 26 24.8 +1.8**
SNR=64
MDJ Mudanjiang 54.57 21 P **P** **08 26 25.0 +0.9**
MDJ PCP PcP 08 27 27.9 +0.8
MDJ PP PP 08 28 27.0 +0.5
MDJ S **S** **08 34 08.0 +5.5**
MDJ XS sS 08 34 10.3 -2.5
MDJ SCS ScS 08 36 14.3 +2.0
MDJ SS SS 08 37 48.9 +3.7
MDJ AMB AMB
comp=Z,24nm,0.9s,mb5.2
MDJ AMB AMB
comp=Z,410nm,6.7s
MDJ LR LR
comp=N,1μm,15.6s,MS5.3
MDJ LR LR
comp=E,1μm,14.9s,MS5.3
MDJ LR LR
comp=Z,2μm,11.4s,MS5.3
MDJ Mudanjiang 54.57 21 *e*P **P** **08 26 24.9 +0.8**
comp=Z,38nm,0.9s,mb5.4
MDJ *e*pP pP 08 26 29.7 -0.6
MDJ LR LR
comp=Z,592nm,21.0s,MS4.6
KZA Kyzart 54.84 333 P **P** **08 26 25.3 -0.8**
SNR=18
BSY Bisya 54.87 303 P **P** **08 26 28.1 +1.9**
SNR=18
HOQ Hoqain 55.13 304 P **P** **08 26 30.0 +1.8**
SNR=46
UCH Uchtor 55.30 332 P **P** **08 26 28.5 -0.8**
SNR=7.6
TKM2 Tokmak 2 55.36 334 P **P** **08 26 28.7 -1.1**
SNR=12
RBK Rabkut 55.48 296 P **P** **08 26 32.8 +2.2**
SNR=20
AML Almayashu 55.61 332 P **P** **08 26 30.2 -1.4**
SNR=9.0
AAK Ala-Archa 55.63 333 *e*P **P** **08 26 29.4 -2.3**
AAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
AAK MLR MLR
comp=Z,834nm,21.0s,MS4.8
AAK Ala-Archa 55.63 333 *e*P **P** **08 26 29.4 -2.3**
comp=Z,7.0nm,0.8s,mb4.7
AAK LR LR
comp=Z,834nm,21.0s,MS4.8
ARQ Araqi 55.68 303 P **P** **08 26 33.6 +1.5**
SNR=27
FRU Bishkek 55.73 333 *e*P **P** **08 26 31.0 -1.4**
FRU *e* 08 27 31.0
FRU pmax pmax
comp=Z,40nm,1.9s,mb5.1
ZAK Zakamensk 55.83 358 *e*P **P** **08 26 32.7 -0.5**
ZAK *e* 08 27 28.5
ZAK pmax pmax
comp=Z,45nm,1.7s,mb5.2
EKS2 Erkin-Say 55.98 332 P **P** **08 26 33.2 -1.0**
SNR=9.5
WHFO Wadi Hawf 56.01 296 P **P** **08 26 36.3 +1.8**
SNR=14
MK31 Makanchi Array 56.07 341 P **P** **08 26 32.9 -2.0**
MK31 pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
MKAR Makanchi Array 56.07 341 P **P** **08 26 33.5 -1.4**
comp=Z,5.7nm,0.5s,mb4.8,baz=151,slow=8.2,SNR=15
MKAR PKP2bc 08 56 42.0
comp=Z,2.0nm,1.0s,baz=258,slow=10,SNR=4.7
MKAR Makanchi Array 56.07 341 P **P** **08 26 33.5 -1.4**
MKAR ⇑*e* 08 56 42.0
HIA Hailar 56.11 11 *e*P **P** **08 26 35.2 0.0**
HIA pmax pmax
comp=Z,45nm,1.0s
HIA MLR MLR
comp=Z,973nm,20.0s
HIA Hailar 56.11 11 *e*P **P** **08 26 35.2 0.0**
comp=Z,45nm,1.0s,mb5.5
HIA *e*pP pP 08 26 39.8 -1.6
HIA LR LR
comp=Z,973nm,20.0s,MS4.9
USP Ospenovka 56.12 333 P **P** **08 26 33.6 -1.6**
SNR=7.3
ABTO Aybut 56.25 295 P **P** **08 26 38.4 +2.2**
SNR=20
ASHO Ashiyiah 56.64 304 P **P** **08 26 40.5 +1.6**
SNR=21
TLY Talaya 57.12 359 P **P** **08 26 43.2 +0.9**
comp=Z,173nm,0.9s,mb6.1,SNR=6.4
TLY Talaya 57.12 359 *e*P **P** **08 26 43.3 +1.0**
TLY *e*S **S** **08 34 40.6 +4.2**
TLY pmax pmax
comp=Z,32nm,1.0s,mb5.3
TLY MLR MLR
comp=Z,1μm,13.0s,MS5.2
TLY Talaya 57.12 359 *e*P **P** **08 26 43.2 +0.9**
comp=Z,28nm,0.9s,mb5.3
MOY Mondy 57.21 357 *e*P **P** **08 26 43.1 +0.1**
IRK Irkutsk 57.67 359 *e*P **P** **08 26 45.7 -0.5**
IRK *e* 08 27 37.6
IRK *e* 08 28 55.9
IRK pmax pmax
comp=Z,82nm,2.0s,mb5.4
CIT Chita 57.87 6 *e*P **P** **08 26 48.1 +0.5**
CIT *e* 08 27 34.7

CIT pmax pmax
comp=Z,91nm,1.9s,mb5.5
KK31 Karatay Array 57.88 330 *i* P **P** **08 26 47.3 -0.4**
KKAR Karatay Array 57.88 330 P **P** **08 26 47.3 -0.4**
KKAR pmax pmax
comp=Z,1.0nm,0.5s
KLR Kul'dur 59.30 20 *e*P **P** **08 26 53.3 -4.3**
KLR *e*PPP 08 30 37.0
KLR *e*S **S** **08 35 17.5 +13**
KLR pmax pmax
comp=E,28nm,1.6s
KLR pmax pmax
comp=Z,110nm,1.6s,mb5.6
ASAJ Asahikawa 59.82 30 P **P** **08 26 59.9 -1.3**
comp=Z,33nm,0.7s,mb5.5,baz=258,slow=5.3,SNR=12
ASAJ LR LR 08 54 28.1
comp=Z,282nm,18.3s,MS4.4,baz=347,slow=38
ASAJ Asahikawa 59.82 30 P **P** **08 26 59.9 -1.3**
ASAJ pmax pmax
comp=Z,33nm,0.7s
ASAJ MLR MLR
comp=Z,282nm,18.3s
HABR Khabarovsk 59.85 22 *e*P **P** **08 27 00.7 -0.7**
HABR *e*S **S** **08 35 08.3 -3.7**
CASY Casey 60.64 178 *e*P **P** **08 27 07.1 +0.3**
CASY LR LR
comp=Z,669nm,19.0s,MS4.8
KURK Kurchatov 60.68 341 P **P** **08 27 05.0 -2.1**
comp=Z,129nm,0.9s,mb6.1,SNR=11
KURK Kurchatov 60.68 341 *e*P **P** **08 27 05.4 -1.7**
KURK pmax pmax
comp=Z,23nm,1.0s,mb5.3
KURK MLR MLR
comp=Z,1μm,19.0s,MS5.0
KURK Kurchatov 60.68 341 *e*P **P** **08 27 05.4 -1.6**
comp=Z,23nm,1.0s,mb5.3
KURK LR LR
comp=Z,1μm,19.0s,MS5.0
DZM Mont Dzumac 61.14 112 LR LR 08 54 19.0
comp=Z,716nm,21.8s,MS4.8,baz=69,slow=37
MIR Mirnyy 61.40 186 ⇓*i*P **P** **08 27 13.0 +1.0**
MIR pmax pmax
comp=Z,327nm,1.5s,mb6.2
ABKT Ailbek 61.66 319 P **P** **08 27 13.3 -0.4**
comp=Z,102nm,1.3s,mb5.8,SNR=7.0
ZAL Zalesovo 61.82 346 P **P** **08 27 12.5 -2.3**
comp=Z,7.2nm,0.5s,mb5.0,baz=318,slow=4.7,SNR=28
ZAL LR LR 08 56 48.8
comp=Z,2μm,18.4s,MS5.2,baz=323,slow=39
ZAL Zalesovo 61.82 346 *i* P **P** **08 27 12.8 -2.0**
YSS Yuzh-Sakhalins 61.94 28 *e*P **P** **08 27 14.6 -1.0**
YSS pmax pmax
comp=N,30nm,1.0s
YSS pmax pmax
comp=Z,70nm,1.0s,mb5.8
YSS MLR MLR
comp=Z,900nm,16.0s,MS5.0
YSS Yuzh-Sakhalins 61.94 28 *e*P **P** **08 27 14.8 -0.8**
comp=Z,92nm,0.9s,mb5.9
YSS *e*pP pP 08 27 20.4 -1.6
YSS LR LR
comp=Z,717nm,19.0s,MS4.8
NVS Novosibirsk 63.02 346 *e*P **P** **08 27 19.3 -3.5**
NVS *e* 08 35 51.3
NVS pmax pmax
comp=Z,34nm,1.5s,mb5.3
NVS pmax pmax
comp=N,35nm,1.7s
NVS pmax pmax
comp=E,23nm,1.6s
BOD Bodaibo 63.64 5 *e*P **P** **08 27 24.0 -2.9**
BOD pmax pmax
comp=Z,27nm,0.9s,mb5.3
CLNS Chul'man 64.29 12 *e*P **P** **08 27 28.5 -2.7**
CLNS *e**PP pP 08 27 35.4 -2.1
CLNS *e* 08 28 04.1
CLNS *e* 08 29 45.6
CLNS *e*S **S** **08 36 00.9 -7.2**
CLNS *e*PS 08 36 33.3
CLNS *e* 08 37 22.9
CLNS pmax pmax
comp=E,14nm,1.0s
CLNS pmax pmax
comp=Z,30nm,1.0s,mb5.3
CLNS pmax pmax
comp=N,23nm,1.2s
CLNS smax
comp=E,139nm,12.0s
CLNS smax
comp=Z,37nm,11.6s
CLNS smax
comp=N,98nm,11.1s
CLNS MLR MLR
comp=N,300nm,12.0s,MS5.4
CLNS MLR MLR
comp=Z,1μm,12.0s,MS5.3
CLNS MLR MLR
comp=E,2μm,16.0s,MS5.4
QRN Al-Qurain 64.93 305 *e*P **P** **08 27 35.8 +0.4**
QRN AMb AMB 08 27 39.5
comp=Z,338nm,1.5s,mb6.2
VOSK Vostochnaya 65.03 338 P **P** **08 27 33.8 -2.2**
KBD Kabd 65.27 306 *e*P **P** **08 27 38.1 +0.5**
KBD AMb AMB 08 27 40.2
comp=Z,824nm,1.3s
RDF Al-Radifah 65.30 305 *e*P **P** **08 27 38.1 +0.3**
RDF AMb AMB 08 27 40.2
comp=Z,355nm,1.3s,mb6.2
UMR Umm Al-Rimmah 65.40 306 *e*P **P** **08 27 38.8 +0.4**
UMR AMb AMB 08 27 44.6
comp=Z,323nm,0.6s
DRV Dumont d'Urvil 65.44 166 S S 08 36 22.0 -0.2
DRV SKS 08 37 32.0
BVA0 Borovoye Array 65.49 338 P **P** **08 27 37.0 -2.0**
BVA0 pmax pmax
comp=Z,5.0nm,1.5s,mb4.3
BVAR Borovoye Array 65.49 338 P **P** **08 27 36.9 -2.2**
comp=Z,3.2nm,0.5s,mb4.6,baz=141,slow=9.0,SNR=16
BVAR PcP PcP 08 28 11.5 +0.8
comp=Z,7.4nm,0.7s,baz=140,slow=7.7,SNR=3.7
BVAR Borovoye Array 65.49 338 P **P** **08 27 36.9 -2.1**
BVAR 08 28 11.5
BVAR pmax pmax
comp=Z,3.0nm,0.5s
BVAR pmax pmax
comp=Z,7.0nm,0.7s
BRVK Borovoye 65.56 338 *e*P **P** **08 27 37.1 -2.3**
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
BRVK MLR MLR
comp=Z,478nm,20.0s,MS4.7
BRVK Borovoye 65.56 338 *e*P **P** **08 27 37.1 -2.3**
comp=Z,4.3nm,0.8s,mb4.5
BRVK LR LR
comp=Z,478nm,20.0s,MS4.7
NAY Al-Naaiem 65.67 305 *e*P **P** **08 27 40.2 +0.1**
NAY AMb AMB 08 27 46.1
comp=Z,130nm,0.7s,mb6.1
MIB Mutribah 65.80 306 *e*P **P** **08 27 41.3 +0.3**
MIB AMb AMB 08 27 43.4
comp=Z,292nm,1.5s,mb6.1
ZRNK Zerenda 65.97 337 P **P** **08 27 40.0 -2.1**
ZRNK pmax pmax
comp=Z,26nm,1.6s,mb5.0
ZRNK Zerenda 65.97 337 *e*P **P** **08 27 39.8 -2.3**
comp=Z,7.8nm,0.7s,mb4.8
ZRNK *e*pP pP 08 27 45.7 -2.7
AB31 Akbulak array 67.42 330 *i* P **P** **08 27 49.4 -1.9**
AB31 pmax pmax
comp=Z,28nm,0.8s,mb5.3
KMBO Kilima Mbogo 68.09 271 P **P** **08 27 57.3 +1.8**
comp=Z,19nm,1.2s,mb5.0,baz=68,slow=8.8,SNR=16
KMBO LR LR 08 53 04.1
comp=Z,390nm,19.4s,MS4.7,baz=94,slow=32
MAW Mawson 68.19 196 *e*P **P** **08 27 57.6 +1.4**
comp=Z,32nm,0.8s,mb5.4
MAW Mawson 68.19 196 P **P** **08 27 57.9 +1.7**
comp=Z,35nm,0.8s,mb5.5,baz=41,slow=7.2,SNR=30
MAW LR LR 08 55 12.7
comp=Z,658nm,18.0s,MS4.9,baz=40,slow=34
RPZ Rata Peaks 68.64 135 LR LR 08 55 50.4
comp=Z,826nm,18.5s,MS5.0,baz=176,slow=34
AKTK Aktyubinsk 69.13 330 P **P** **08 27 60.0 -2.1**
AKTO Aktyubinsk 69.13 330 P **P** **08 27 60.0 -2.1**
comp=Z,8.9nm,1.1s,mb4.6,baz=132,slow=6.6,SNR=22
AKTO Aktyubinsk 69.13 330 P **P** **08 28 00.0 -2.1**
AKTO pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
BHD Baghdad 69.43 309 *i* x x 08 28 01.0
BHD *ex* x 08 28 24.0
BHD *ex* x 08 37 06.5
THZ Tophouse 69.57 132 *e*PN **P** **08 28 04.7 -0.1**
YAK Yakutsk 70.04 12 *d*iP **P** **08 28 06.6 -1.1**
YAK pmax pmax
comp=N,14nm,1.1s
YAK pmax pmax
comp=Z,41nm,1.1s,mb5.3
YAK pmax pmax
comp=E,9.0nm,1.4s
YAK Yakutsk 70.04 12 *e*P **P** **08 28 06.0 -1.7**
comp=E,141nm,0.8s,mb6.0
YAK *e*pP pP 08 28 11.0 -3.0
YAK LR LR
comp=Z,865nm,19.0s,MS5.0
MAK Makhachkala 71.18 319 *d*iP **P** **08 28 13.0 -1.7**
MAK *e* 08 28 33.4
MAK *e*PPP 08 32 38.9
MAK *i* S S 08 37 33.0 +2.4
MAK *e* 08 38 19.5
MAK pmax pmax
comp=Z,169nm,1.5s,mb5.8
ORR Orenburg 71.49 329 ⇓*i*P **P** **08 28 15.3 -1.2**
ORR pmax pmax
comp=Z,20nm,1.1s,mb5.0
MSL Mosul 71.53 311 *i* x x 08 28 18.0
GNI Garni 71.84 315 P **P** **08 28 18.2 -0.4**
comp=Z,2.7nm,0.3s,mb4.7,baz=169,slow=23,SNR=11
GNI Garni 71.84 315 *e*P **P**
GNI pmax pmax
comp=Z,17nm,0.8s
GNI MLR MLR
comp=Z,317nm,21.0s
GNI Garni 71.84 315 *e*P **P** **08 28 18.6 0.0**
comp=Z,17nm,0.8s,mb5.0
GNI LR LR
comp=Z,317nm,21.0s,MS4.6
CLDR Caldiran 72.02 314 *e*P **P** **08 28 19.2 -0.4**
ARU Arti 72.70 335 ⇓*i*P **P** **08 28 22.0 -1.8**
ARU *e* 08 31 04.4
ARU *e*PPP 08 32 46.7
ARU *e*S S 08 37 44.5 -3.6
ARU *e*SS SS 08 42 22.0 -5.7
ARU pmax pmax
comp=Z,24nm,0.9s,mb5.1
ARU Arti 72.70 335 *i* Pr **P** **08 28 22.2 -1.6**
ARU LR LR
comp=Z,558nm,20.0s,MS4.8
ZEI Tsey 73.49 318 *e*P **P** **08 28 29.1 +0.7**
ZEI *e**PP pP 08 28 38.7 +3.9
ZEI *e* 08 31 12.1
ZEI pmax pmax
comp=Z,28nm,0.9s,mb5.2
MARD Mardin 73.63 311 *i* P **P** **08 28 29.6 +0.4**
PET Petropavlovsk 73.66 30 *e*P **P** **08 28 30.7 +1.3**
PET *e*S S 08 37 54.4 -4.6
PET *e*PS 08 38 23.7
PET pmax pmax
comp=Z,120nm,1.7s,mb5.5
PET pmax pmax
comp=Z,200nm,12.8s
PET pmax pmax
comp=Z,100nm,14.9s
PET smax
comp=E,100nm,16.6s
PET MLR MLR
comp=Z,400nm,20.0s,MS4.7
PET Petropavlovsk 73.66 30 *e*P **P** **08 28 28.3 -1.1**
BNGL BINGÖL 73.94 313 *i* P **P** **08 28 33.5 +2.4**
EZM Erzurum 74.14 314 *e*P **P** **08 28 32.9 +0.7**
ARTV Artvin 74.21 315 *i* P **P** **08 28 32.2 -0.5**
MA2 Magadan 74.25 22 *ce*P **P** **08 28 32.3 -0.6**
MA2 *e*S S 08 38 01.2 -4.5
MA2 *e*SS SS 08 42 51.8 +0.5
MA2 pmax pmax
comp=Z,70nm,2.0s,mb5.2
MA2 Magadan 74.25 22 ⇑*i*P **P** **08 28 32.4 -0.5**
MA2 LR LR
comp=Z,511nm,21.0s,MS4.8
KIV Kislovodsk 74.78 318 P **P** **08 28 35.0 -1.0**
comp=Z,121nm,1.3s,mb5.7,SNR=7.3
KIV Kislovodsk 74.78 318 *d*iP **P** **08 28 35.3 -0.7**
KIV *e* 08 28 49.7
KIV *e*S S 08 38 16.4 +4.9
KIV pmax pmax
comp=Z,46nm,1.5s,mb5.2
KIV Kislovodsk 74.78 318 *e*P **P** **08 28 35.9 0.0**
comp=Z,46nm,1.2s,mb5.3
KIV LR LR
comp=Z,270nm,19.0s,MS4.6
URFA Urfa 75.14 311 *e*P **P** **08 28 37.9 -0.1**
ELZG Elazig 75.37 312 *i* P **P** **08 28 40.2 +0.9**
GUMT Gumushane 75.68 314 *e*P **P** **08 28 41.3 +0.2**
RAO Raoul Island 75.70 119 LR LR 08 59 28.8
comp=Z,317nm,19.0s,MS4.6,baz=286,slow=34
MALT Malatya 75.72 312 *e*P **P** **08 28 41.7 +0.3**
MALT pmax pmax
comp=Z,94nm,1.4s,mb5.5
MALT Malatya 75.72 312 *e*P **P** **08 28 41.7 +0.3**
comp=Z,94nm,1.4s,mb5.5
EIL Elat 75.96 302 *e*P **P** **08 28 44.0 +1.3**
comp=Z,6μm,1.6s
EIL *e*pP pP 08 28 49.0 -0.2
GZT Gaziantep 76.06 311 *i* P **P** **08 28 44.0 +0.7**
LSZ Lusaka 76.17 256 *e*P **P** **08 28 46.4 +2.5**
LSZ pmax pmax
comp=Z,61nm,1.1s,mb5.4
LSZ MLR MLR
comp=Z,542nm,20.0s,MS4.9
LSZ Lusaka 76.17 256 *e*P **P** **08 28 46.4 +2.5**
comp=Z,61nm,1.1s,mb5.4
LSZ LR LR
comp=Z,542nm,20.0s,MS4.9
SYO Syowa Base 76.21 200 ⇓*e*P **P** **08 28 43.0 -1.1**
SYO Syowa Base 76.21 200 ⇓*i*pP pP 08 28 49.0 -1.6
GAZ Gaziantep 76.27 310 *e*P **P** **08 28 44.6 +0.1**
SOC Sochi 76.63 317 *d*iP **P** **08 28 45.1 -1.4**
SOC *e**PP pP 08 28 50.2 -2.7
SOC *e* 08 29 04.5
SOC *e*PPP 08 33 27.2
SOC *e*S S 08 38 29.0 -2.9
SOC *e**SS sS 08 38 44.5 +2.0
SOC *e* 08 39 01.8
SOC *e*SS SS 08 43 23.3 -4.0
SOC pmax pmax
comp=Z,59nm,1.5s,mb5.3
HTY Hatay 76.78 309 *e*P **P** **08 28 48.0 +0.7**
SVSK Karacayir 77.29 313 *e*P **P** **08 28 50.0 -0.3**
CEYT Ceyhan 77.34 310 *e*P **P** **08 28 50.0 -0.6**
KOZT Kozan 77.42 310 *e*P **P** **08 28 50.0 -1.0**
KRTS Karatas 77.50 309 *e*P **P** **08 28 52.2 +0.8**
VNDA Vanda 77.59 169 P **P** **08 28 52.0 0.0**
comp=Z,35nm,1.0s,mb5.2,baz=305,slow=5.2,SNR=87
VNDA PKPPKP 08 56 02.0
comp=Z,1.1nm,1.1s,baz=277,slow=6.3,SNR=4.7
VNDA LR LR 09 00 19.5
comp=Z,470nm,19.8s,MS4.8,baz=314,slow=34
VNDA Vanda 77.59 169 *e*P **P** **08 28 52.0 +0.1**
comp=Z,36nm,0.9s,mb5.3
KARA Karaisali 77.94 310 *e*P **P** **08 28 54.2 +0.3**
PHNC Paralimni 78.11 307 P **P** **08 28 55.0 +0.2**
MERS Mersin 78.24 309 *e*P **P** **08 28 55.6 +0.1**
VRHR Novokhopersk 78.34 325 *e*P **P** **08 28 55.4 -0.7**
VRHR pmax pmax
comp=Z,40nm,0.6s,mb5.5
VRHR pmax pmax
comp=N,20nm,0.9s
VRHR pmax pmax
comp=E,9.0nm,0.4s
LBTB Lobatse 78.36 246 *e*P **P** **08 28 58.6 +2.4**
LBTB pmax pmax
comp=Z,45nm,0.9s,mb5.4
LBTB MLR MLR
comp=Z,637nm,21.0s,MS4.9
LBTB Lobatse 78.36 246 *e*P **P** **08 28 58.6 +2.4**
comp=Z,45nm,0.9s,mb5.4
LBTB LR LR
comp=Z,637nm,21.0s,MS4.9
MEST Erdemli 78.45 309 *i* P **P** **08 28 56.8 0.0**
AVNT Avonos 78.53 311 *i* P **P** **08 28 53.9 -3.3**
ANN Anapa 78.59 318 *e*P **P** **08 28 56.6 -0.9**
ANN pmax pmax
comp=Z,31nm,1.2s,mb5.1
CSS Prodhromos 78.66 307 P **P** **08 28 58.5 +0.6**
comp=Z,2.2nm,1.2s
SBA Scott Base 78.67 169 *e*P **P** **08 28 58.8 +0.9**
SBA pmax pmax
comp=Z,28nm,0.8s,mb5.2
SBA MLR MLR
comp=Z,579nm,19.0s,MS4.9
SBA Scott Base 78.67 169 *e*P **P** **08 28 58.8 +0.9**
comp=Z,28nm,0.8s,mb5.2
SBA LR LR
comp=Z,579nm,19.0s,MS4.9
TIXI Tiksi 78.68 7 ⇓*i*P **P** **08 28 52.6 -5.4**
TIXI *e* 08 31 50.2
TIXI *e*PPP 08 33 40.5
TIXI *e*S S 08 38 41.8 -12
TIXI *e* 08 39 10.4
TIXI pmax pmax
comp=Z,19nm,1.1s,mb4.9
TIXI MLR MLR
comp=Z,972nm,16.0s,MS5.2
TIXI Tiksi 78.68 7 *i* Pr **P** **08 28 55.2 -2.8**
IKL Isikli 78.72 309 *e*P **P** **08 28 58.0 -0.2**
CDAG Cicekdag 79.13 312 *i* P **P** **08 28 58.5 -1.9**
BOYT Boyabat 79.27 314 *i* P **P** **08 29 01.0 -0.3**
ALFC Alevga 79.29 307 P **P** **08 29 01.2 -0.1**
PPCY Paphos 79.42 307 P **P** **08 29 00.7 -1.3**
ERMK Ermenek 79.42 309 *i* P **P** **08 29 02.2 +0.2**
CANT Cankiri 79.97 313 *e*P **P** **08 29 05.2 +0.2**
VOR Voronezh 79.99 325 *e*P **P** **08 29 03.5 -1.6**
VOR pmax pmax
comp=Z,130nm,2.0s,mb5.5
ANTO Ankara 80.37 312 ⇓*i*P **P** **08 29 07.2 0.0**
ANTO Ankara 80.37 312 *e*P **P** **08 29 07.4 +0.2**
ANTO pmax pmax
comp=Z,106nm,1.4s,mb5.6
ANTO MLR MLR
comp=Z,454nm,20.0s,MS4.8
ANTO Ankara 80.37 312 *e*P **P** **08 29 07.4 +0.3**
comp=Z,106nm,1.4s,mb5.6
ANTO LR LR
comp=Z,454nm,20.0s,MS4.8
BALT Daday 80.39 314 *i* P **P** **08 29 07.8 +0.5**
LOD Lodumlu 80.40 312 *e*P **P** **08 29 07.5 +0.2**
KIZT Kizilcal 80.79 311 *e*P **P** **08 29 09.2 -0.2**
SAFT Safranbolu 80.82 313 *e*P **P** **08 29 09.5 -0.1**
SIM Simferopol' 80.87 317 *de*P **P** **08 29 09.7 -0.2**
SIM pmax pmax
comp=Z,340nm,8.4s
SGKT Sivrigoynuk 81.10 312 *i* P **P** **08 29 10.2 -0.9**
ISP Isparta 81.58 309 *e*P **P** **08 29 13.3 -0.3**
ISP pmax pmax
comp=Z,30nm,0.7s,mb5.3
ISP Isparta 81.58 309 *e*P **P** **08 29 13.3 -0.4**
comp=Z,30nm,0.7s,mb5.3
MDU Mudurnu 81.69 312 *e*P **P** **08 29 14.2 0.0**
ESKT Eskisehir 81.73 311 *i* P **P** **08 29 14.5 +0.1**
TKTP Tekketepe 81.77 310 *i* P **P** **08 29 14.4 -0.2**
HENT Hendek 82.02 312 *i* P **P** **08 29 15.7 -0.2**
BORA Eskisehir 82.11 311 *i* P **P** **08 29 16.9 +0.5**
ALT Altintas 82.17 311 *e*P **P** **08 29 16.9 +0.1**
MOS Moscow 82.37 328 *e*P **P** **08 29 13.8 -4.0**
MOS pmax pmax
comp=Z,98nm,1.3s,mb5.6
SUR Sutherland 82.40 238 P **P** **08 29 20.8 +2.9**
comp=Z,367nm,1.3s,mb6.2,SNR=11
SUR Sutherland 82.40 238 *e*P **P** **08 29 21.1 +3.2**
comp=Z,124nm,1.3s,mb5.7
FETY Fethiye 82.41 308 *e*P **P** **08 29 17.8 -0.2**
GDZ Gediz 82.66 310 *i* P **P** **08 29 19.0 -0.3**
OBN Obninsk 82.70 327 *d*iP **P** **08 29 18.5 -1.0**
OBN *i* pP 08 29 23.6 -2.4
OBN *i* 08 29 33.9
OBN pmax pmax
comp=Z,103nm,1.6s,mb5.6
OBN Obninsk 82.70 327 *e*P **P** **08 29 18.9 -0.6**
comp=Z,32nm,0.8s,mb5.4
DALT Dalyan (Mudla) 82.79 308 *e*P **P** **08 29 19.9 -0.1**
HRT Hereke 82.92 312 *e*P **P** **08 29 20.1 -0.5**
ARG Arkhangelos 83.08 307 *e*P **P** **08 29 22.5 +1.1**
YLV Yalova 83.08 312 *e*P **P** **08 29 21.6 +0.1**
ULDT Uludag 83.16 311 *i* P **P** **08 29 22.4 +0.5**
MANT Manisa 83.23 310 *i* P **P** **08 29 22.8 +0.6**
ISK Istanbul-Kandi 83.43 312 *e*P **P** **08 29 23.0 -0.3**
KLMR Klimovskoe 83.44 333 *d*iP **P** **08 29 21.8 -1.5**
KLMR pmax pmax
comp=Z,70nm,1.6s,mb5.4
AYDN Tasoluk 83.57 309 *i* P **P** **08 29 24.9 +0.9**
MLSB Milas 83.58 308 *e*P **P** **08 29 24.1 +0.1**
KARP Karpathos 83.71 307 *e*P **P** **08 29 25.6 +0.9**
AKS Akhisar 83.88 310 *e*P **P** **08 29 25.7 +0.1**
BODT Bodrum 83.89 308 *e*P **P** **08 29 25.6 0.0**
BTOK Tokmak 83.90 311 *i* P **P** **08 29 26.6 +1.0**
ELBA Catalca 83.91 312 *i* P **P** **08 29 25.5 -0.2**
BALB Balikesir 83.99 311 *e*P **P** **08 29 26.3 +0.2**
BNT Bandirma 84.11 311 *e*P **P** **08 29 26.8 0.0**
KDAG Marmorya 84.20 309 *i* P **P** **08 29 25.4 -1.8**
QSPA South Pole Qui 84.34 180 P **P** **08 29 28.3 +0.4**
QSPA South Pole Qui 84.34 180 ⇓*i*P **P** **08 29 28.3 +0.4**
comp=Z,90nm,1.0s,mb5.9
SMG Samos 84.39 309 *e*P **P** **08 29 28.6 +0.4**
PSN Preselentsi 84.65 315 *e*P **P** **08 29 30.0 +0.5**
TIRR Tirgusor 84.67 316 ⇓P **P** **08 29 29.6 0.0**
TIRR Tirgusor 84.67 316 *e*P **P** **08 29 29.3 -0.3**
MFT Murefte 84.68 312 *e*P **P** **08 29 28.7 -1.0**
XRY Khrisi 84.76 306 *e*P **P** **08 29 30.6 +0.6**
BILL Bilibino 84.76 19 *d*iP **P** **08 29 27.9 -2.1**
BILL pmax pmax
comp=Z,19nm,2.2s,mb4.8
BILL MLR MLR
comp=Z,600nm,15.0s,MS5.1
BILL Bilibino 84.76 19 P **P** **08 29 28.1 -1.9**
comp=Z,5.1nm,0.7s,mb4.8
BILL LR LR
comp=Z,647nm,19.0s,MS5.0
NPS Neapolis 84.89 306 *e*P **P** **08 29 31.7 +1.0**
KIS Kishinev 84.98 318 *d*iP **P** **08 29 30.0 -1.2**
KIS *e* 08 29 40.0
KIS pmax pmax
comp=Z,600nm,6.0s
LAST Lasithi 84.98 306 *e*P **P** **08 29 32.1 +0.9**
CFR Carcaliu 85.02 316 ⇓*i*P **P** **08 29 31.1 -0.3**
CFR Carcaliu 85.02 316 ⇓P **P** **08 29 31.4 +0.1**
HARR Harsova 85.06 316 ⇓P **P** **08 29 31.9 +0.4**
CHOS Chios island 85.13 309 *e*P **P** **08 29 32.9 +1.0**
SANT Santorini 85.22 307 *e*P **P** **08 29 32.2 -0.1**
THR1 Thera Island 85.22 307 *e*P **P** **08 29 32.5 +0.2**
THR3 Thira Island, 85.27 307 *e*P **P** **08 29 32.5 -0.1**
APE Apeiranthos 85.29 308 *e*P **P** **08 29 32.6 -0.1**
APE Apeiranthos 85.29 308 ⇑P **P** **08 29 32.7 0.0**
EDRB Edirne 85.30 313 *e*P **P** **08 29 32.7 0.0**
IDI Anoyia 85.48 306 P **P** **08 29 34.4 +0.8**
comp=Z,80nm,1.1s,mb5.8,baz=90,slow=6.4,SNR=34
JMB Yambol 85.54 313 P **P** **08 29 35.0 +1.1**
JMB Yambol 85.54 313 *e*P **P** **08 29 34.4 +0.5**
AKASG Malin Array Be 85.62 322 P **P** **08 29 32.5 -1.8**
comp=Z,3.6nm,0.7s,mb4.7,baz=89,slow=4.0,SNR=43
AKASG Malin Array Be 85.62 322 P **P** **08 29 32.5 -1.8**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
ALN Alexandroupoli 85.62 312 *e*P **P** **08 29 34.1 -0.3**
NVL N'lazarevskaya 85.87 199 *d*iP **P** **08 29 37.1 +1.5**
NVL pmax pmax
comp=N,32nm,1.8s
NVL pmax pmax
comp=Z,76nm,1.8s,mb5.6
NVL pmax pmax
comp=E,26nm,1.3s
MAIT Maitri 85.90 199 *e*P **P** **08 29 37.9 +2.2**
TSUM Tsumeb 86.06 251 P **P** **08 29 39.1 +2.6**
TSUM Tsumeb 86.06 251 *e*P **P** **08 29 39.1 +2.5**
comp=E,75nm,1.3s,mb5.8
VRI Vrincioaia 86.14 317 ⇑*i*P **P** **08 29 37.8 +0.9**
VRI Vrincioaia 86.14 317 P **P** **08 29 37.9 +1.0**
VRI Vrincioaia 86.14 317 ⇓P **P** **08 29 37.8 +0.9**
KDZ Kurdzhali 86.23 312 P **P** **08 29 38.0 +0.6**
BUC1 Bucharest 86.31 315 P **P** **08 29 39.4 +1.6**
PVL Pavlikeni 86.59 314 P **P** **08 29 40.0 +0.9**
MLR Muntele Rosu 86.60 316 ⇓*i*P **P** **08 29 40.0 +0.8**
MLR Muntele Rosu 86.60 316 P **P** **08 29 40.2 +1.0**
MLR Muntele Rosu 86.60 316 ⇓P **P** **08 29 39.9 +0.7**
RZN Rozhen 86.75 312 P **P** **08 29 40.7 +0.8**

PLD Plovdiv 86.84 313 eP P 08 29 40.7 +0.3
OUR Ouranopolis 87.06 311 eP P 08 29 42.1 +0.6
MTUR Matau 87.16 316 P P 08 29 43.0 +1.1
VOIR 87.21 316 ⇓iP P 08 29 41.6 -0.5
PAIG Paliouri 87.22 310 eP P 08 29 42.0 -0.2
VLI Veliai 87.28 307 eP P 08 29 42.0 -0.5
PGB Panagyurishte 87.31 313 P P 08 29 42.6 0.0
MNK Minsk 87.35 325⇑eP P 08 29 40.0 -2.9
MNK pmax pmax
comp=Z,280nm,1.5s,mb6.3
MNK pmax pmax
comp=E,255nm,1.5s
MMB Musomiste 87.47 312 P P 08 29 43.4 0.0
SRS Serrai 87.49 312 eP P 08 29 43.1 -0.4
XOR Xorichti 87.50 310 eP P 08 29 48.0 +4.4
SOH Sokhos 87.62 311 eP P 08 29 43.8 -0.4
JOF Joensuu 87.80 334 ep P 08 29 43.5 -1.5
comp=E,26nm,0.8s,mb5.5
JOF Joensuu 87.80 334 eP P 08 29 43.5 -1.5
JOF pmax pmax
comp=Z,26nm,0.8s,mb5.5
THE Thessaloniki 87.88 311 eP P 08 29 44.6 -0.8
KKB Krupnik 87.99 312 P P 08 29 45.6 -0.3
KNT Kendrikon 88.01 312 eP P 08 29 45.7 -0.3
VTS Vitosha 88.01 313 eP P 08 29 46.3 +0.3
VTS Vitosha 88.01 313 ⇓iP P 08 29 46.5 +0.5
AGG Agios Georgios 88.11 309 eP P 08 29 46.2 -0.3
ITM Ithomi 88.15 307 eP P 08 29 47.0 +0.3
LIT Litokhoron 88.15 310 eP P 08 29 46.4 -0.3
VAY Valandovo 88.28 312 iP P 08 29 46.3 -1.0
GRG Griva 88.35 311 eP P 08 29 47.2 -0.4
APA Apatity 88.39 339⇓eP P 08 29 45.0 -2.8
APA e 08 41 43.0
APA pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
STIP Stip 88.62 312 iP P 08 29 48.0 -0.9
LVV L'vov 88.69 320⇓iP P 08 29 49.1 -0.1
LVV e 08 33 24.9
LVV e 08 40 06.9
LVV iS 08 40 29.5
VSU Vasula 88.84 329 iP P 08 29 48.8 -1.1
VSU Vasula 88.84 329 iPr P 08 29 48.8 -1.1
DRGR 89.04 317⇓iP P 08 29 51.5 +0.6
DRGR 89.04 317 P P 08 29 51.4 +0.5
DRGR 89.04 317 ⇓P P 08 29 51.3 +0.4
FNA Florina 89.09 311 eP P 08 29 50.3 -0.8
BOLS Boljevac 89.11 314⇑iP P 08 29 50.6 -0.6
BIA Bitola 89.17 311 iP P 08 29 50.0 -1.4
SKO Skopje 89.22 312 eP P 08 29 50.6 -1.1
SKO Skopje 89.22 312 iP P 08 29 51.1 -0.6
JAN Janina 89.33 310 eP P 08 29 53.0 +0.8
VLS Valsamata 89.34 308 eP P 08 29 52.5 +0.2
LKD Levkas 89.36 309 eP P 08 29 53.1 +0.8
KWP Kalwaria 89.50 320 eP P 08 29 53.2 +0.2
OHR Ohrid 89.57 311 iP P 08 29 52.1 -1.3
BZS Buzias 89.62 316⇓iP P 08 29 53.7 +0.1
BZS Buzias 89.62 316 P P 08 29 54.0 +0.4
BZS Buzias 89.62 316 ⇓P P 08 29 53.6 +0.1
KOLS Kolonicke sedl 89.67 319 eP P 08 29 54.3 +0.5
comp=Z,92nm,1.8s,mb5.8
KOLS e 08 30 05.3
SVIS Svilajnac 89.70 314⇓iP P 08 29 54.3 +0.3
IGT Igoumenitsa 89.72 310 eP P 08 29 54.9 +0.9
FINES FINESS Array B 89.81 332 P P 08 29 53.1 -1.4
comp=Z,5.9nm,0.7s,mb5.0,baz=114,slow=8.5,SNR=16
FINES PKiKP PKiKP 08 34 54.7 +3.5
comp=Z,1.0nm,0.7s,baz=90,slow=1.9,SNR=4.2
FINES LR LR 09 19 09.3
comp=Z,233nm,19.2s,MS4.6,baz=145,slow=42
KAF Kangasniemi 89.84 333 ep P 08 29 53.2 -1.4
comp=Z,14nm,0.8s,mb5.3,baz=94,slow=4.2
KAF Kangasniemi 89.84 333 eP P 08 29 53.2 -1.4
KAF pmax pmax
comp=Z,14nm,0.8s,mb5.3
SUW Suwalki 89.93 324 eP P 08 29 54.6 -0.4
KEK Kerkira 90.15 310 eP P 08 29 57.0 +1.0
CRVS Cervenica-Dubn 90.20 319 e P 08 30 00.5 +4.2
QSH Qafa e Shtames 90.29 312 ip P 08 29 56.1 -0.6
TIR Tirane 90.30 311 eP P 08 29 49.4 -7.4
BEO Belgrade 90.32 315⇓iP P 08 29 57.1 +0.3
SNAA Sanae 90.32 197 eP P 08 29 58.3 +1.5
SNAA e 08 29 59.9
SNAA e pP 08 30 03.0 -0.4
SNAA e 08 30 06.5
SNAA e 08 30 10.1
STHS Stebnicka Huta 90.41 319 eP P 08 29 57.7 +0.4
comp=Z,17nm,0.8s,mb5.4
STHS e pP 08 30 02.7 -1.1
DIVS Divcibare 90.55 314 iP P 08 29 58.4 +0.5
DIVS Divcibare 90.55 314 eP P 08 29 58.2 +0.3
KECS Kecovo 90.78 318 eP P 08 29 58.7 -0.3
comp=Z,8.0nm,0.9s,mb5.0
KECS e pP 08 30 03.8 -1.7
PSZ Piszkesteto 91.10 318⇓ePcP PcP 08 30 00.3 -1.2
PSZ Piszkesteto 91.10 318⇑iP P 08 30 00.3 -0.2
KEV Kevo 91.24 340 PFAKE 08 30 10.0 +8.9
KEV LR LR
comp=Z,367nm,19.0s,MS4.8
OJC Ojcow 91.45 320 eP P 08 30 01.8 -0.3
BUD Budapest 91.63 317⇑ePcP PcP 08 30 03.8 0.0
ARCES ARCESS Array B 91.70 340 P P 08 30 01.8 -1.4
comp=Z,5.9nm,0.9s,mb4.9,baz=120,slow=4.3,SNR=9.1
ARCES LR LR 09 15 57.8
comp=Z,412nm,20.1s,MS4.9,baz=94,slow=39
PKSM Moragy 91.75 316⇑iP P 08 30 03.5 0.0
PKSM Moragy 91.75 316 P P 08 30 03.6 +0.1
PKSM Moragy 91.75 316⇓eP P 08 30 03.5 0.0
VNA2 Neumayer--Watz 91.96 198 eP P 08 30 06.2 +1.8
baz=104,slow=4.2
VNA2 e 08 30 07.1
VNA2 e pP 08 30 10.2 -0.8
VNA2 e pP 08 30 13.6 +2.6
VNA2 e 08 30 17.8
VNA2 e 08 34 55.2
VNA2 e 08 35 02.7
VNA2 e 08 35 06.4
VNA2 e 08 35 11.0
VNA1 Neumayer--Stat 92.33 198 eP P 08 30 08.0 +1.8
VNA1 e 08 30 09.3
VNA1 e 08 30 10.6
VNA1 e pP 08 30 15.7 +3.0
VNA1 e 08 30 20.0
TIP Timpagrande 92.43 309 eP P 08 30 07.0 +0.3
TIP epP pP 08 30 12.9 -0.3
OKC Ostrava-Krasne 92.46 320 eP P 08 30 06.8 0.0
OKC AMS AMS 09 18 50.0
comp=Z,400nm,17.9s
VNA3 Neumayer Olymp 92.50 197 eP P 08 30 08.5 +1.5
VNA3 e 08 30 10.2
VNA3 e 08 30 11.5
VNA3 e pP 08 30 14.4 +0.9
VNA3 e pP 08 30 15.9 +2.4
VNA3 e 08 30 20.4
VNA3 e 08 34 59.2
VNA3 e 08 35 08.3
VNA3 e 08 35 14.0
MORC Moravsky Berou 92.85 320⇑iP P 08 30 08.7 +0.1
MORC Moravsky Berou 92.85 320 P P 08 30 09.1 +0.5
MORC Moravsky Berou 92.85 320 eP P 08 30 08.2 -0.4
comp=Z,13nm,1.0s,mb5.3
MORC epP pP 08 30 13.7 -1.4
ZST Bratislava 92.99 318 eP P 08 30 09.3 +0.1
comp=Z,56nm,1.7s,mb5.7
ZST LR LR
comp=Z,50nm,19.9s,MS4.0
VRAC Vranov 93.42 319 LR LR 09 19 54.6
comp=Z,301nm,19.2s,MS4.8,baz=276,slow=40
DPC Dobruska-Polom 93.68 320 eP P 08 30 12.2 -0.2
KSP Ksiaz 93.73 321 eP P 08 30 12.9 +0.3
KSP Ksiaz 93.73 321 eP P 08 30 13.0 +0.4
KSP epP pP 08 30 17.6 -1.6
GCIS Gornji Cirnik 93.81 316 eP P 08 30 13.1 +0.1
UPC Upice 93.89 320 eP P 08 30 12.6 -0.7
ARSA Arzberg 93.98 317⇓iP P 08 30 13.6 -0.2
comp=Z,76nm,2.1s,mb5.8,SNR=5.5
BOJS Bojanci 94.05 315 eP P 08 30 14.0 -0.1
VISS Visnje 94.36 315 iP P 08 30 15.5 0.0
LJU Ljubljana 94.59 316 eP P 08 30 16.8 +0.2
LJU e pP 08 30 22.0 -1.1
OBKA Obir 94.60 316⇓iP P 08 30 16.6 0.0
comp=Z,72nm,1.9s,mb5.8,SNR=6.6
PRU Pruhonice 94.80 320 eP P 08 30 16.8 -0.7
PRU AMS AMS 09 17 30.0
comp=Z,400nm,22.2s
MOA Molln 94.87 317⇑iP P 08 30 17.3 -0.6
comp=Z,18nm,1.7s,mb5.2
VOY Vojsko 95.03 316 eP P 08 30 18.0 -0.6
BRG Berggiesshubel 95.22 321 eP P 08 30 19.2 -0.3
comp=Z,30nm,1.8s,mb5.4
BRG Berggiesshubel 95.22 321 eP P 08 30 19.4 -0.1
comp=Z,9.5nm,1.3s,mb5.1
BRG
comp=N,420nm,19.9s
BRG
comp=E,175nm,19.1s
BRG
comp=Z,238nm,17.2s
BRG Berggiesshubel 95.22 321 eP P 08 30 19.4 -0.1
BRG pmax pmax
comp=Z,10.0nm,1.3s,mb5.1
BRG MLR MLR
comp=N,420nm,19.9s,MS5.0
BRG MLR MLR
comp=E,175nm,19.1s,MS5.0
BRG MLR MLR
comp=Z,238nm,17.2s,MS4.7
GEC2 GERESS Array S 95.29 318 eP P 08 30 19.8 0.0
comp=Z,35nm,1.5s,mb5.6
GEC2 GERESS Array S 95.29 318 eP P 08 30 19.8 0.0
GEC2 pmax pmax
comp=Z,35nm,1.5s,mb5.6
GERES GERESS Array B 95.29 318 P P 08 30 19.7 0.0
comp=Z,3.2nm,0.7s,mb4.9,baz=90,slow=4.0,SNR=13
GERES LR LR 09 21 12.3
comp=Z,324nm,19.0s,MS4.8,baz=271,slow=40
GERES GERESS Array B 95.29 318 P P 08 30 19.7 0.0
GERES LR LR 09 21 12.3
KHC Kasperske Hory 95.38 319 eP P 08 30 19.6 -0.6
KHC AMS AMS 09 22 20.0
comp=Z,400nm,16.1s
KBA Koelnbreinsper 95.45 317⇑iP P 08 30 19.9 -0.6
comp=Z,25nm,2.0s,mb5.3
KBA Koelnbreinsper 95.45 317⇑iP P 08 30 19.9 -0.6
KBA pmax pmax
comp=Z,25nm,2.0s,mb5.3
CLL Collm 95.83 321 eP P 08 30 22.0 -0.2
comp=Z,26nm,1.8s,mb5.4
CLL LmV 08 22 00.0
comp=Z,400nm,19.1s
WET Wettzell 95.84 319 eP P 08 30 22.2 -0.1
comp=Z,27nm,1.5s,mb5.5
WET Wettzell 95.84 319 eP P 08 30 22.2 -0.1
WET pmax pmax
comp=Z,27nm,1.5s,mb5.5
NKC Novy Kostel 96.15 320 AMS AMS 09 22 30.0
comp=Z,500nm,16.4s
KBS Kingsbay 96.16 349 PFAKE 08 30 30.0 +6.3
KBS LR LR
comp=Z,810nm,19.0s,MS5.2
WERD Werda 96.25 320 eP P 08 30 23.8 -0.3
comp=Z,25nm,2.0s,mb5.3
ROTZ Rotzenmuhle 96.30 319 eP P 08 30 24.7 +0.3
comp=Z,20nm,1.6s,mb5.3
MANZ Manzenberg 96.37 320 eP P 08 30 25.2 +0.5
comp=Z,42nm,1.7s,mb5.6
WTTA Wattenberg 96.63 317⇑iP P 08 30 25.0 -0.8
comp=Z,48nm,2.0s,mb5.6
WTTA Wattenberg 96.63 317⇑iP P 08 30 25.0 -0.9
WTTA pmax pmax
comp=Z,48nm,2.0s,mb5.6
MOX Moxa 96.69 320 eP P 08 30 25.7 -0.5
comp=Z,26nm,1.9s,mb5.3
MOX Moxa 96.69 320 eP P 08 30 26.2 0.0
comp=Z,28nm,1.9s,mb5.4
MOX
comp=Z,300nm,21.0s
MOX Moxa 96.69 320 eP P 08 30 26.2 0.0
MOX pmax pmax
comp=Z,28nm,1.9s,mb5.4
MOX MLR MLR
comp=Z,300nm,21.0s,MS4.8
NOA NORSAR Array B 96.91 331 P P 08 30 25.6 -1.5
comp=Z,0.6nm,0.8s,baz=320,slow=5.6,SNR=2.4
NOA LR LR 09 19 15.2
comp=Z,312nm,19.0s,baz=70,slow=39
GRA1 Grafenberg Arr 96.94 319 eP P 08 30 27.6 +0.3
comp=Z,9.0nm,0.7s,mb5.3
GRF Grafenberg Arr 96.94 319 eP P 08 30 27.6 +0.3
GRF pmax pmax
comp=Z,9.0nm,0.7s,mb5.3
GRF Grafenberg Arr 96.94 319 eP P 08 30 27.6 +0.3
comp=Z,9.0nm,0.7s,mb5.3
GRF epP pP 08 30 32.7 -1.1
GRFO Grafenberg 96.94 319 eL 09 17 59.9
comp=Z,305nm,21.7s
MOTA Moosalm 96.99 317⇓iP P 08 30 26.7 -0.8
comp=Z,14nm,1.4s,mb5.2
MOTA Moosalm 96.99 317⇓iP P 08 30 26.7 -0.8
MOTA pmax pmax
comp=Z,14nm,1.4s,mb5.2
KONO Kongsberg 97.75 329 PFAKE 08 30 40.0 +9.1
KONO LR LR
comp=Z,327nm,19.0s,MS4.8
DAVA Damuels 97.82 317 iP P 08 30 31.0 -0.3
comp=Z,60nm,1.8s,mb5.8,SNR=5.0
DAVOX Davos 97.82 316 LR LR 09 22 49.8
comp=Z,474nm,20.5s,MS5.0,baz=264,slow=40
TNS Taunus Mts 98.72 320 eP P 08 30 35.4 +0.1
comp=Z,16nm,1.5s,mb5.3
TNS Taunus Mts 98.72 320 eP P 08 30 35.4 +0.1
TNS pmax pmax
comp=Z,16nm,1.5s,mb5.3
BFO Black Forest 98.85 318 eP P 08 30 35.1 -0.8
comp=Z,5.0nm,1.2s,mb4.9
BFO Black Forest 98.85 318 eP P 08 30 35.1 -0.8
BFO pmax pmax
comp=Z,5.0nm,1.2s,mb4.9
SBF Sospel 99.59 313 eP P 08 30 38.9 -0.2
LPG La Plagne 100.02 315 eP Pdif 08 30 41.2 +0.1
comp=Z,11nm,0.8s
LPG La Plagne 100.02 315 eP Pdif 08 30 41.2 +0.1
LPG pmax pmax
comp=Z,6.0nm,0.8s
LPG La Plagne 100.02 315 eP Pdif 08 30 41.2 +0.1
comp=Z,5.7nm,0.8s
LPL La Plagne 100.04 315 eP Pdif 08 30 41.1 -0.1
comp=Z,9.6nm,0.8s
LPL La Plagne 100.04 315 eP Pdif 08 30 41.1 -0.1
LPL pmax pmax
comp=Z,5.0nm,0.8s
LPL La Plagne 100.04 315 eP Pdif 08 30 41.1 -0.1
comp=Z,4.8nm,0.8s
MBDF Montbardon 100.04 314 eP Pdif 08 30 41.0 -0.2
HAU Haudompre 100.19 318 eP Pdif 08 30 41.7 -0.1
HAU eR
comp=Z,314nm,17.8s
HAU Haudompre 100.19 318 eP Pdif 08 30 41.7 -0.1
HAU LR LR
comp=Z,310nm,17.8s,MS4.9
CABF La Chapelle 100.44 316 eP Pdif 08 30 42.9 0.0
comp=Z,14nm,0.9s
CABF La Chapelle 100.44 316 eP Pdif 08 30 42.9 0.0
CABF pmax pmax
comp=Z,7.0nm,0.9s
CABF La Chapelle 100.44 316 eP Pdif 08 30 42.9 0.0
comp=Z,7.3nm,0.9s
ORIF Oris-en-Rattie 100.66 315 eP Pdif 08 30 43.7 -0.2
comp=Z,13nm,0.9s
ORIF eR
comp=Z,486nm,20.5s
ORIF Oris-en-Rattie 100.66 315 eP Pdif 08 30 43.7 -0.2
ORIF pmax pmax
comp=Z,7.0nm,0.9s
ORIF Oris-en-Rattie 100.66 315 eP Pdif 08 30 43.7 -0.2
comp=Z,6.6nm,0.9s
SMRF Simiane la Rot 100.93 314 eP Pdif 08 30 45.0 -0.1
comp=Z,24nm,1.2s
SMRF Simiane la Rot 100.93 314 eP Pdif 08 30 45.0 -0.1
comp=Z,24nm,1.2s
TBI Tubuai 101.61 115 ePS PS 08 43 56.5 -5.8
comp=Z,72nm,28.2s
TBI Tubuai 101.61 115 eSS SS 08 49 42.3 +12
comp=Z,167nm,31.2s
TBI eLR LR 09 03 59.2
comp=Z,822nm,23.5s
LOR Lormes 101.92 317 eP Pdif 08 30 49.4 -0.1
LOR eR
comp=Z,327nm,17.8s
LOR Lormes 101.92 317 eP Pdif 08 30 49.4 -0.1
LOR LR LR
comp=Z,330nm,17.8s,MS4.9
SMF Signal de Mont 101.98 316 eP Pdif 08 30 49.6 -0.2
comp=Z,10nm,0.8s
SMF Signal de Mont 101.98 316 eP Pdif 08 30 49.6 -0.2
SMF pmax pmax
comp=Z,5.0nm,0.8s
SMF Signal de Mont 101.98 316 eP Pdif 08 30 49.6 -0.2
comp=Z,5.2nm,0.8s
LASF Ste Croix 102.16 314 eP Pdif 08 30 50.5 -0.1
SSF Saint Saulge 102.17 317 eP Pdif 08 30 50.5 -0.2
COLA College 102.19 25 PFAKE 08 31 00.0 +9.3
COLA LR LR
comp=Z,272nm,19.0s,MS4.8
AVF Avril sur Loir 102.30 317 eP Pdif 08 30 50.9 -0.3
comp=Z,8.3nm,1.0s
AVF Avril sur Loir 102.30 317 eP Pdif 08 30 50.9 -0.3
AVF pmax pmax
comp=Z,4.0nm,1.0s
AVF Avril sur Loir 102.30 317 eP Pdif 08 30 50.9 -0.3
comp=Z,4.2nm,1.0s
PPT Papeete 102.57 109 ePS PS 08 44 05.1 -7.4
comp=Z,81nm,26.2s
PPT Papeete 102.57 109 eSS SS 08 49 52.1 +8.8
comp=Z,369nm,28.0s
PPT eLR LR 09 04 21.4
comp=Z,577nm,27.0s
ILAR Eielson Array 102.62 25 PP PP 08 35 05.1 -0.8
comp=Z,2.4nm,1.0s,baz=299,slow=7.2,SNR=5.6
ILAR PKKPbc PKKPbc 08 46 53.5 +1.4
comp=Z,1.7nm,0.8s,baz=112,slow=2.5,SNR=12
TCF Toulx Ste Croi 103.13 316 eP Pdif 08 30 54.2 -0.7
comp=Z,8.3nm,0.9s
TCF Toulx Ste Croi 103.13 316 eP Pdif 08 30 54.2 -0.7
TCF pmax pmax
comp=Z,4.0nm,0.9s
TCF Toulx Ste Croi 103.13 316 eP Pdif 08 30 54.2 -0.7
comp=Z,4.2nm,0.9s
MTLF Montolieu 103.40 313 eP Pdif 08 30 55.7 -0.4
RJF Les Rejaudoux 103.72 315 eP Pdif 08 30 57.2 -0.3
RJF eR
comp=Z,293nm,22.0s
RJF Les Rejaudoux 103.72 315 eP Pdif 08 30 57.2 -0.3
RJF LR LR
comp=Z,290nm,22.0s,MS4.8
TORD Torodi Ar. Bea 104.53 282 Pdiff Pdif 08 31 02.5 +1.4
comp=Z,2.3nm,1.2s,baz=116,slow=3.4,SNR=8.2
TORD PKiKP PKiKP 08 35 18.1 +1.1
comp=Z,1.7nm,0.7s,baz=104,slow=1.4,SNR=5.3
TORD PKKPbc PKKPbc 08 46 45.4 -0.9
comp=Z,0.6nm,1.1s,baz=272,slow=2.3,SNR=5.4
MFF Saint Martin d 104.72 317 eP Pdif 08 31 01.7 -0.3
comp=Z,11nm,1.0s
MFF Saint Martin d 104.72 317 eP Pdif 08 31 01.7 -0.3
MFF pmax pmax
comp=Z,5.0nm,1.0s
MFF Saint Martin d 104.72 317 eP Pdif 08 31 01.7 -0.3
comp=Z,5.3nm,1.0s
GRR Gorron 104.95 319 eP Pdif 08 31 02.9 -0.1
ESK Eskdalemuir 105.14 326 PFAKE 08 35 30.0 +12
ESK LR LR
comp=Z,445nm,19.0s,MS5.0
ETSF Etsaut 105.47 313 eP Pdif 08 31 04.8 -0.5
SJPF Ste Jean 105.92 313 eP Pdif 08 31 06.9 -0.4
comp=Z,24nm,1.3s
SJPF Ste Jean 105.92 313 eP Pdif 08 31 06.9 -0.4
SJPF pmax pmax
comp=Z,12nm,1.3s
SJPF Ste Jean 105.92 313 eP Pdif 08 31 06.9 -0.4
comp=Z,12nm,1.3s
INK Inuvik 106.38 19 ePKPdf PKiKP 08 35 15.2 -5.3
ESDC Sonseca Array 108.43 310 PP PP 08 35 53.2 +4.3
comp=Z,0.4nm,0.4s,baz=95,slow=5.6,SNR=4.1
ESLA Sonseca Array 108.43 310 PFAKE 08 35 40.0 +16
ESLA LR LR
comp=Z,1μm,21.0s,MS5.4
SUMG Summit 109.58 349 ePKPdf PKiKP 08 35 26.0 -0.5
DBIC Dimbokro 110.65 275 PFAKE 08 35 40.0 +12
DBIC LR LR
comp=Z,300nm,19.0s,MS4.9
RKT Rikitea 114.55 118 eSS SS 08 52 28.4 +3.4
comp=Z,193nm,31.0s
RKT eLR LR 09 10 02.9
comp=Z,524nm,25.5s
YKW3 Yellowknife Ar 116.10 19 ePKPdf PKPdf 08 35 37.2 -1.7
YKA Yellowknife Ar 116.15 19 PKP PKPdf 08 35 37.3 -1.7
comp=Z,4.3nm,1.1s,baz=307,slow=2.3,SNR=31
YKA PP PP 08 36 45.8 +1.8
comp=Z,1.5nm,1.0s,baz=315,slow=6.7,SNR=5.9
YKA PKKPbc PKKPbc 08 46 09.1 +0.5
comp=Z,1.2nm,0.6s,baz=125,slow=3.5,SNR=28
YKA SKKPbc 08 49 52.5
comp=Z,0.2nm,0.7s,baz=158,slow=2.1,SNR=3.7
YKA Yellowknife Ar 116.15 19 PKIKP PKPdf 08 35 37.3 -1.7
YKA 08 36 45.8
YKA pmax pmax
comp=Z,4.0nm,1.1s
YKA pmax pmax
comp=Z,2.0nm,1.0s
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 116.15 19 PKP PKPdf 08 35 37.3 -1.7
YKA PP PP 08 36 45.9 +1.8
YKA PKKPbc PKKPbc 08 46 09.1 +0.5
YKA SKKPbc 08 49 52.5
EDM Edmonton 123.03 27 ePKPdf PKPdf 08 35 51.4 -0.9
EDM ePP PP 08 37 24.0 -7.4
HUMO Hull Mountain 123.69 41 ePKPdf PKPdf 08 35 53.5 0.0
HUMO LR LR
comp=Z,234nm,22.0s,MS4.8
HAWA Hanford 123.96 36 ePKPdf PKPdf 08 35 53.8 -0.2
NEW Newport 124.28 33 PFAKE 08 36 10.0 +15
NEW LR LR
comp=Z,408nm,21.0s,MS5.1
FCC Fort Churchill 124.93 12 ePKIKP PKPdf 08 35 54.4 -1.5
HOPS Hopland 125.17 45 PFAKE 08 36 10.0 +14
HOPS LR LR
comp=Z,220nm,22.0s,MS4.8
MOD Modoc 125.76 41 ePKPdf PKPdf 08 35 57.9 +0.5
MOD LR LR
comp=Z,273nm,20.0s,MS4.9
BMO Blue Mountains 126.11 37 PFAKE 08 36 10.0 +12
BMO LR LR
comp=Z,187nm,19.0s,MS4.8
FFC Flin Flon 126.34 19 ePKIKP PKPdf 08 35 56.9 -1.7
FFC MLR MLR
comp=Z,384nm,20.0s,MS5.1
WVOR Wild Horse Val 126.57 40 ePKIKP PKPdf 08 35 59.8 +0.8
MSO Missoula 126.87 33 ePKPdf PKPdf 08 35 59.3 -0.3
CHMT Chamberlain Mo 127.18 32 ePKPdf PKPdf 08 35 59.8 -0.4
SAO San Andreas Ge 127.26 47 PFAKE 08 36 10.0 +10
SAO LR LR
comp=Z,260nm,20.0s,MS4.9
PAHR Pah Rah Range 127.42 43 ePKPdf PKPdf 08 36 01.4 +0.7
CMB Columbia Colle 127.48 45 PFAKE 08 36 10.0 +9.3
CMB LR LR
comp=Z,270nm,20.0s,MS4.9
HRY Holter Researc 128.07 32 ePKPdf PKPdf 08 36 01.6 -0.2
BMN Battle Mountai 128.51 41 PFAKE 08 36 10.0 +7.3
BMN LR LR
comp=Z,223nm,19.0s,MS4.9
DLMT Dillon 128.51 34 ePKPdf PKPdf 08 36 03.2 +0.5
HLID Hailey 128.56 36 ePKPdf PKPdf 08 36 03.2 +0.4
HLID LR LR
comp=Z,366nm,19.0s,MS5.1
QLMT Earthquake Lak 129.49 34 ePKPdf PKPdf 08 36 05.5 +0.9
ELK Elko 129.63 40 ePKIKP PKPdf 08 36 05.8 +1.0
ELK MLR MLR
comp=Z,245nm,19.0s
TPH Tonopah 129.68 44 ePKIKP PKPdf 08 36 05.9 +1.0
GCMT Greycliff 129.80 32 ePKPdf PKPdf 08 36 05.6 +0.4
YMR Madison River 129.84 33 ePKPdf PKPdf 08 36 06.7 +1.5
ISA Isabella 129.90 47 PFAKE 08 36 20.0 +15
ISA LR LR
comp=Z,63nm,21.0s,MS4.3
YFT Old Faithful 130.06 34 ePKPdf PKPdf 08 36 06.0 +0.4
LKWY Lake 130.22 33 ePKIKP PKPdf 08 36 07.9 +1.9
LKWY MLR MLR
comp=Z,680nm,19.0s,MS5.4
DAC Darwin (Calif) 130.26 46 PFAKE 08 36 20.0 +14
DAC LR LR
comp=Z,240nm,22.0s,MS4.8

IMW	**Indian Meadow**	**130.35**	**34**	*e*PKPdf	PKPdf	08 36 06.9	+0.7
SCHQ	**Schefferville**	**130.55**	**354**	PKP	PKPdf	08 36 05.8	-0.8
	comp=Z,12nm,1.0s,baz=31,slow=4.4,SNR=13						
SCHQ	**Schefferville**	**130.55**	**354**	*e*PKPdf	PKPdf	08 36 06.2	-0.4
MOOW	**Moose Ponds**	**130.56**	**34**	*e*PKPdf	PKPdf	08 36 07.5	+0.9
TPAW	**Teton Pass**	**130.60**	**35**	*e*PKPdf	PKPdf	08 36 07.5	+0.8
REDW	**Red Top Meadow**	**130.74**	**35**	*e*PKPdf	PKPdf	08 36 07.6	+0.7
LAO	**LASA Array**	**130.89**	**28**	*e*PKPdf	PKPdf	08 36 08.3	+1.1
LAO				LR	LR		
	comp=Z,277nm,21.0s,MS4.9						
BGU	**Big Grassy Mou**	**130.92**	**38**	*e*PKPdf	PKPdf	08 36 14.7	+7.4
AHID	**Auburn Hatcher**	**130.97**	**35**	*e*PKPdf	PKPdf	08 36 08.2	+0.8
AHID				LR	LR		
	comp=Z,335nm,21.0s,MS5.0						
SPUT	**South Promonto**	**131.05**	**38**	*e*PKPdf	PKPdf	08 36 08.0	+0.5
HWUT	**Hardware Ranch**	**131.41**	**37**	*e*PKPdf	PKPdf	08 36 08.2	-0.1
HWUT				LR	LR		
	comp=Z,330nm,19.0s,MS5.1						
DUG	**Dugway**	**131.47**	**39**	*e*PKIKP	PKPdf	08 36 08.9	+0.6
DUG				MLR	MLR		
	comp=Z,243nm,20.0s,MS4.9						
TCUT	**Toone Canyon**	**131.80**	**37**	*e*PKPdf	PKPdf	08 36 09.7	+0.8
CTU	**Camp Tracy**	**131.84**	**38**	*e*PKPdf	PKPdf	08 36 08.8	-0.3
BW06	**Boulder Array**	**131.85**	**34**	PFAKE		08 36 20.0	+11
BW06				LR	LR		
	comp=Z,265nm,19.0s,MS5.0						
PDAR	**Pinedale Array**	**131.85**	**34**	PKP	PKPdf	08 36 08.3	-0.7
	comp=Z,1.1nm,0.8s,baz=262,slow=3.0,SNR=12						
PDAR				SKPbc	SKPbc	08 39 34.5	+0.6
	comp=Z,1.8nm,0.9s,baz=318,slow=2.0,SNR=4.9						
NLU	**North Lily Min**	**132.07**	**39**	*e*PKPdf	PKPdf	08 36 10.7	+1.2
NLU				*e*SKPbc	SKPbc	08 39 35.7	+1.1
ULM	**Lac du Bonnet**	**132.11**	**18**	PKP	PKPdf	08 36 08.7	-0.9
	comp=Z,3.8nm,0.8s,baz=323,slow=4.9,SNR=5.9						
DAU	**Daniels Canyon**	**132.31**	**38**	*e*PKIKP	PKPdf	08 36 10.2	+0.3
MPU	**Maple Canyon**	**132.31**	**39**	*e*PKPdf	PKPdf	08 36 10.8	+0.9
NEN	**Nelson**	**132.53**	**45**	*e*PKPdf	PKPdf	08 36 11.3	+1.0
CCUT	**Cedar City**	**132.58**	**42**	*e*PKPdf	PKPdf	08 36 11.9	+1.4
MSU	**Marysvale**	**132.83**	**41**	*e*PKIKP	PKPdf	08 36 12.6	+1.7
TMUT	**Trail Mountain**	**133.00**	**39**	*e*PKPdf	PKPdf	08 36 12.8	+1.6
SRU	**San Rafael**	**133.54**	**39**	*e*PKIKP	PKPdf	08 36 12.8	+0.6
RSSD	**Black Hills**	**133.82**	**29**	PFAKE		08 36 20.0	+7.2
RSSD				LR	LR		
	comp=Z,1μm,21.0s,MS5.6						
RWWY	**Rawlins**	**133.87**	**34**	*e*PKPdf	PKPdf	08 36 12.2	-0.7
PV10	**Paradox Valley**	**134.91**	**39**	*e*PKPdf	PKPdf	08 36 16.5	+1.7
TRQA	**Tornquist**	**134.95**	**194**	*e*PKPdf	PKPdf	08 36 15.3	+0.4
WUAZ	**Wupatki**	**135.02**	**44**	*e*PKPdf	PKPdf	08 36 16.5	+1.5
PV01	**Paradox Valley**	**135.35**	**39**	*e*PKPdf	PKPdf	08 36 16.8	+1.2
EYMN	**Ely**	**135.46**	**16**	PFAKE		08 36 30.0	+14
EYMN				LR	LR		
	comp=Z,407nm,21.0s,MS5.1						
SMCO	**Snowmass**	**135.66**	**36**	*e*PKPdf	PKPdf	08 36 17.1	+0.9
ISCO	**Idaho Springs**	**136.04**	**35**	*e*PKIKP	PKPdf	08 36 16.8	-0.1
ISCO				MLR	MLR		
	comp=Z,337nm,22.0s,MS5.0						
TUC	**Tucson**	**137.11**	**47**	*e*PKIKP	PKPdf	08 36 20.1	+1.2
LAZ	**Ladron**	**138.51**	**42**	*e*PKPdf	PKPdf	08 36 22.8	+1.3
ANMO	**Albuquerque**	**138.63**	**41**	*e*PKIKP	PKPdf	08 36 22.9	+1.2
ANMO				MLR	MLR		
	comp=Z,276nm,20.0s						
LENM	**Lemitar**	**138.76**	**42**	*e*PKPdf	PKPdf	08 36 23.2	+1.3
LPM	**Los Pinos Moun**	**138.91**	**42**	*e*PKPdf	PKPdf	08 36 22.8	+0.6
BNM	**Barren Site**	**139.00**	**42**	*e*PKPdf	PKPdf	08 36 23.3	+1.0
CBKS	**Cedar Bluff**	**139.92**	**31**	PFAKE		08 36 40.0	+16
CBKS				LR	LR		
	comp=Z,354nm,19.0s,MS5.1						
FRNY	**Flat Rock**	**140.96**	**359**	*e*PKPdf	PKPdf	08 36 24.5	-1.4
MNTX	**Cornudas Mount**	**141.29**	**44**	*e*PKPdf	PKPdf	08 36 26.8	+0.3
LBNH	**Lisbon**	**141.49**	**357**	PFAKE		08 36 40.0	+13
LBNH				LR	LR		
	comp=Z,436nm,20.0s,MS5.2						
AMTX	**Amarillo**	**141.67**	**37**	*e*PKPdf	PKPdf	08 36 27.8	+0.6
AMTX				LR	LR		
	comp=Z,350nm,19.0s,MS5.1						
GDL2	**Guadalupe Moun**	**141.69**	**43**	*e*PKPdf	PKPdf	08 36 27.6	+0.3
MIV	**Mineville/With**	**141.71**	**359**	*e*PKPdf	PKPdf	08 36 27.1	-0.1
HRV	**Harvard--Oak R**	**143.19**	**356**	PFAKE		08 36 40.0	+10
HRV				LR	LR		
	comp=Z,379nm,21.0s,MS5.1						
ERPA	**Erie**	**143.37**	**7**	PFAKE		08 36 40.0	+10
ERPA				LR	LR		
	comp=Z,230nm,19.0s,MS5.0						
BINY	**Binghamton**	**143.58**	**2**	*e*PKPdf	PKPdf	08 36 31.0	+0.4
BINY				LR	LR		
	comp=Z,482nm,20.0s,MS5.3						
CPUP	**Villa Florida**	**144.05**	**207**	PKP	PKPdf	08 36 31.1	-0.3
	comp=Z,102nm,1.1s,baz=115,slow=2.5,SNR=68						
CPUP	**Villa Florida**	**144.05**	**207**	*e*PKPdf	PKPdf	08 36 31.3	-0.1
TLL	**Tololo Astrono**	**144.20**	**186**	*e*P	PKPdf	08 36 30.5	-1.1
SLM	**Saint Louis**	**144.25**	**21**	*e*PKIKP	PKPdf	08 36 28.7	-3.1
FVM	**French Village**	**144.76**	**22**	*e*PKIKP	PKPdf	08 36 30.2	-2.4
ACSO	**Alum Creek Sta**	**144.76**	**11**	*e*PKPdf	PKPdf	08 36 30.4	-2.3
ACSO				LR	LR		
	comp=Z,271nm,20.0s,MS5.0						
PAL	**Palisades**	**144.79**	**359**	*e*PKIKP	PKPdf	08 36 29.6	-3.1
BLO	**Bloomington**	**144.94**	**16**	*e*PKIKP	PKPdf	08 36 31.2	-1.8
BLO				*e*		08 36 35.7	
USIN	**University of**	**145.72**	**18**	*e*PKPdf	PKPdf	08 36 33.9	-0.4
JCT	**Junction City**	**145.80**	**41**	PFAKE		08 36 50.0	+16
JCT				LR	LR		
	comp=Z,288nm,20.0s,MS5.0						
WCI	**Wyandotte Cave**	**145.88**	**16**	*e*PKP2	PKPab	08 36 34.2	-1.5
PARMO	**Parma**	**146.17**	**22**	*e*PKPdf	PKPdf	08 36 34.8	-0.2
BDFB	**Brasilia**	**146.19**	**231**	PKPbc	PKPbc	08 36 37.2	+1.1
	comp=Z,70nm,0.9s,baz=85,slow=3.0,SNR=53						
BDFB	**Brasilia**	**146.19**	**231**	PKP2	PKPab	08 36 37.2	+0.4
BDFB				pmax	pmax		
	comp=Z,70nm,0.9s						
SDMD	**Soldier's Deli**	**146.33**	**3**	*e*PKPdf	PKPdf	08 36 34.6	-0.7
MIAR	**Mount Ida**	**146.34**	**29**	PFAKE		08 36 50.0	+15
MIAR				LR	LR		
	comp=Z,334nm,20.0s,MS5.1						
UALR	**University of**	**146.72**	**27**	*e*PKPdf	PKPdf	08 36 35.5	-0.4
UTMT	**University of**	**146.78**	**21**	*e*PKPdf	PKPdf	08 36 37.2	+1.1
UTMT				*e*PKPbc	PKPbc	08 36 39.0	+1.1
HBAR	**Harrisburg**	**146.79**	**24**	*e*PKPdf	PKPdf	08 36 36.3	+0.2
CBN	**Corbin**	**147.50**	**4**	PFAKE		08 36 50.0	+13
CBN				LR	LR		
	comp=Z,499nm,20.0s,MS5.3						
FWV	**Forest Hill**	**147.72**	**9**	*e*PKPdf	PKPdf	08 36 38.1	+0.4
FWV				*e*PKPbc	PKPbc	08 36 41.1	+0.6
FWV				*e*PKPab	PKPab	08 36 45.0	+2.2
NATX	**Nacogdoches**	**147.97**	**33**	*e*PKPdf	PKPdf	08 36 39.0	+0.9
NATX				*e*PKPbc	PKPbc	08 36 42.5	+1.4
ELN	**Prospectdale**	**148.08**	**9**	*e*PKPdf	PKPdf	08 36 37.8	-0.4
BLA	**Blacksburg**	**148.14**	**9**	*e*PKIKP	PKPdf	08 36 38.7	+0.3
BLA				*e*		08 36 41.9	
BLA				MLR	MLR		
	comp=Z,42nm,19.0s,MS4.2						
TZTN	**Tazewell**	**148.19**	**14**	*e*PKPdf	PKPdf	08 36 38.8	+0.4
TZTN				*e*PKPbc	PKPbc	08 36 42.3	+0.6
TZTN				*e*PKPab	PKPab	08 36 45.3	+0.6
TZTN				*e*PP	PP	08 40 07.3	-2.6
OXF	**Oxford**	**148.20**	**24**	*e*PKIKP	PKPdf	08 36 38.1	-0.3
OXF				*e*		08 36 42.3	
OXF				*e*		08 36 45.3	
PLAL	**Pickwick Lake**	**148.28**	**21**	*e*PKPdf	PKPdf	08 36 37.9	-0.7
PLAL				*e*PKPbc	PKPbc	08 36 42.0	0.0
PLAL				LR	LR		
	comp=Z,289nm,19.0s,MS5.1						
HKT	**Hockley**	**148.65**	**37**	*e*PKIKP	PKPdf	08 36 40.4	+1.2
HKT				*e*		08 36 43.8	
HKT				MLR	MLR		
	comp=Z,424nm,19.0s,MS5.2						
SWET	**Sewanee**	**148.79**	**18**	*e*PKPdf	PKPdf	08 36 39.0	-0.4
SWET				*e*PKPbc	PKPbc	08 36 43.3	+0.1
SWET				*e*PKPab	PKPab	08 36 47.6	+0.5
CPCT	**Cooper Cave**	**148.98**	**16**	*e*PKPdf	PKPdf	08 36 40.1	+0.4
CPCT				*e*PKPbc	PKPbc	08 36 44.5	+0.8
CPCT				*e*PKPab	PKPab	08 36 48.6	+0.8
LRAL	**Lakeview Retre**	**150.42**	**21**	*e*PKPdf	PKPdf	08 36 42.9	+0.9
LRAL				*e*PKPbc	PKPbc	08 36 47.7	+0.4
LRAL				LR	LR		
	comp=Z,397nm,20.0s,MS5.2						
CEN1	**Los Morros**	**150.82**	**188**	*e*P	PKPdf	08 36 44.2	+1.6
JSC	**Jenkinsville**	**150.86**	**11**	*e*PKIKP	PKPdf	08 36 43.2	+0.5
JSC				*e*		08 36 48.0	
JSC				*e*		08 36 53.9	
LVC	**Limon Verde**	**151.36**	**191**	*e*PKPdf	PKPdf	08 36 46.4	+2.9
LVC				*e*PKPbc	PKPbc	08 36 51.8	+2.3
LVC				LR	LR		
	comp=Z,271nm,20.0s,MS5.0						
BBSR	**BB Station**	**151.83**	**342**	*e*PKPbc	PKPbc	08 36 50.4	-0.2
BBSR				LR	LR		
	comp=Z,354nm,21.0s,MS5.2						
COW	**Cow Castle Cre**	**151.84**	**11**	*e*PKPdf	PKPdf	08 36 41.1	-3.1
COW				*e*PKPbc	PKPbc	08 36 45.6	-4.9
DWPF	**Disney**	**156.75**	**15**	PFAKE		08 37 00.0	+9.0
DWPF				LR	LR		
	comp=Z,318nm,20.0s,MS5.2						
LPAZ	**La Paz**	**157.27**	**196**	PKP	PKPdf	08 36 53.9	+2.2
	comp=Z,7.5nm,1.0s,baz=56,slow=2.6,SNR=23						
LPAZ				PKPab	PKPab	08 37 25.3	+2.5
	comp=Z,6.0nm,0.6s,baz=156,slow=6.0,SNR=6.9						
LPAZ				PP	PP	08 41 04.2	+2.8
	comp=Z,1.3nm,0.9s,baz=143,slow=6.5,SNR=3.6						
LPAZ	**La Paz**	**157.27**	**196**	*e*PKPdf	PKPdf	08 36 53.6	+1.9
LPAZ				LR	LR		
	comp=Z,266nm,21.0s,MS5.0						
JTS	**JuntasAbangare**	**168.81**	**65**	PFAKE		08 37 10.0	+7.2
JTS				LR	LR		
	comp=Z,352nm,20.0s						
SDV	**Santo Domingo**	**174.87**	**309**	*e*PKPdf	PKPdf	08 37 04.8	-0.8
SDV				*e*PKPab	PKPab	08 38 40.7	+0.5
ROSC	**El Rosal**	**179.15**	**202**	PKP	PKPdf	08 37 07.1	+0.7
	comp=Z,4.8nm,0.4s,baz=115,slow=5.9,SNR=7.8						
ROSC				PKPab		08 39 01.4	
	comp=Z,5.5nm,0.7s,baz=280,slow=13,SNR=3.4						
ROSC				PP	PP	08 42 56.4	+3.6
	comp=Z,2.6nm,0.4s,baz=95,slow=24,SNR=3.7						

CASC 12 08:37:28.9±2.0, 841N×8284W, h0km±8km, MD3.6,2C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DVD	**David**	**0.38**	**86**	⇓*i*P	Pg	08 37 37.6	+1.4
BUS	**Buena Vista**	**1.46**	**321**	*e*S	Sg	08 38 16.9	+1.0
URSC	**Urasca**	**1.70**	**327**	⇑*e*P	Pn	08 37 59.6	-0.1
URSC				*e*S	Sn	08 38 23.0	+0.8
LCR2	**La Lucha 2**	**1.76**	**319**	*e*P	Pn	08 38 01.4	+0.8
LCR2				*e*S	Sn	08 38 26.1	+2.5
PRS1	**Puriscal**	**2.14**	**317**	*e*P	Pn	08 38 06.0	+0.2
PRS1				*e*S	Sn	08 38 35.2	+2.1
CGA2	**Cerro Gallo 2**	**2.27**	**315**	*e*S	Sn	08 38 39.0	+2.7
PTP	**Ponta Puerca**	**19.38**	**58**	⇑*e*P		08 37 33.4	
PTP				*e*S		08 37 37.9	

*NEIC **12** 08:38:42.0, 3294S×6923W, h6km, ML3.1(GUC), After GUC.*

GUC 12 08:38:42.0±0.9, 3294S×6923W, h6km±18km, MD4.1, ML3.1, 1C-3D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FCH	**Farellones**	**0.97**	**246**	*e*P	Pg	08 39 01.3	+0.7
FCH				*i* S	Sg	08 39 15.3	+2.1
FCH				AML	AML	08 39 17.9	
	comp=N,460nm,0.6s						
JACH	**Jahuel**	**1.18**	**282**	*e*P	Pg	08 39 03.9	-0.7
JACH				*i* S	Sg	08 39 20.2	+0.3
CLCH	**Cerro Calan**	**1.19**	**247**	*e*P	Pg	08 39 04.6	-0.1
CLCH				*i* S	Sg	08 39 22.0	+1.9
CLCH				AML	AML	08 39 24.8	
	comp=E,449nm,0.5s						
FSR	**Penalolen**	**1.21**	**244**	*i* P	Pg	08 39 05.7	+0.4
FSR				*i* S	Sg	08 39 22.7	+1.7
FSR				AML	AML	08 39 23.8	
	comp=N,592nm,0.6s						
FSR	**Penalolen**	**1.21**	**244**	*i* P	Pg	08 39 05.7	+0.4
FSR				*i* S	Sg	08 39 22.7	+1.7
PEL	**Peldehue**	**1.24**	**260**	*e*P	Pg	08 39 04.5	-1.3
PEL				*i* S	Sg	08 39 21.6	-0.3
PEL				AML	AML	08 39 22.9	
	comp=N,607nm,0.2s						
PEL	**Peldehue**	**1.24**	**260**	*e*P	Pg	08 39 04.5	-1.3
PEL				*i* S	Sg	08 39 21.6	-0.3
CHCH	**Chadas Angostu**	**1.55**	**230**	⇓*i*P	Pn	08 39 11.6	+1.5
CACH	**El Canelo**	**1.64**	**224**	*i* P	Pn	08 39 12.8	+1.5
CICH	**Cipreses**	**1.70**	**216**	*e*P	Pn	08 39 14.3	+2.2
LNV	**Longovilo**	**2.09**	**240**	⇑*i*P	Pn	08 39 17.8	+0.4
CHNG	**Los Chungos**	**2.19**	**298**	*e*P	Pn	08 39 19.9	+1.0
CHNG				*i* S	Sn	08 39 48.1	+1.7
CMCH	**Combarbala**	**2.32**	**319**	⇓*i*P	Pn	08 39 21.4	+0.7
CMCH				*i* S	Sn	08 39 52.2	+2.7
CMCH				AML	AML	08 39 56.1	
	comp=E,1μm,0.9s						
CMCH	**Combarbala**	**2.32**	**319**	⇓*i*P	Pn	08 39 21.4	+0.7
CMCH				*i* S	Sn	08 39 52.2	+2.7

*IDC **12** 08:59:34.3±3.9, 6447N×3287E, h0km, mb1 3.1/4, mb1mx3.0/20, mbtmp3.0/4, ML2.5/4, Error ellipse: s-maj=54.2km s-min=12.6km az=100.0*
*ISCJB **12** 08:59:38.7±0.9, 6471N±004×308E±02, h0km, Error ellipse: s-maj=14.2km s-min=5.9km az=17.5*
*HEL **12** 08:59:40.0±0.3, 6470N×3079E, h0km, ML2.2(NAO), Explosion*
*NAO **12** 08:59:41.2±0.8, 6467N×3083E, ML2.2*
*BER **12** 08:59:41.8±3.2, 6465N×3083E, h0km, ML2.2(NAO), Suspected explosion*

ISC 12 08:59:39.6±0.9, 6471N±005×308E±02, h0km, n24, σ1§16/26, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSF	**Maaselka**	**1.41**	**330**	*e*P	**Pn**	**09 00 05.3**	**-1.2**
KJN	**Kajaani**	**1.46**	**246**	*e*P	**Pn**	**09 00 05.8**	**-1.4**
KU4	**Liikasenvaara**	**1.74**	**344**	*e*P	**Pn**	**09 00 11.2**	**+0.1**
JOF	**Joensuu**	**1.81**	**172**	*e*P	**Pn**	**09 00 11.5**	**-0.6**
OUL	**Oulu**	**2.10**	**283**	*e*P	**Pn**	**09 00 16.7**	**+0.6**
SUF	**Sumiainen**	**2.86**	**228**	*e*P	**Pn**	**09 00 27.5**	**+1.0**
APA0	**Apatity Array**	**3.05**	**16**	Pn	**Pn**	**09 00 30.3**	**+1.1**
	baz=191,slow=16						
APA0				Lg		09 01 18.7	
	baz=201,slow=28						
APA0	**Apatity Array**	**3.05**	**16**	*e*P	**Pn**	**09 00 30.3**	**+1.1**
SGF	**Sodankyl**	**3.24**	**330**	*e*P	**Pn**	**09 00 32.1**	**+0.4**
KAF	**Kangasniemi**	**3.28**	**220**	*e*P	**Pn**	**09 00 33.9**	**+1.7**
FIA0	**FINESS Array S**	**3.90**	**215**	*e*P	**Pn**	**09 00 40.9**	**+0.1**
FIA0				*e*SG	**Sg**	**09 01 43.4**	**-1.6**
FIA0	**FINESS Array S**	**3.90**	**215**	Pn	**Pn**	**09 00 40.9**	**+0.1**
	baz=33,slow=14						
FIA0				Lg		09 01 43.4	
	baz=30,slow=28						
FINES	**FINESS Array B**	**3.90**	**215**	Pn	**Pn**	**09 00 41.1**	**+0.3**
	0.1nm,0.3s,baz=38,slow=13,SNR=18						
FINES				Lg		09 01 43.8	
	0.7nm,0.3s,baz=39,slow=27,SNR=8.2						
VAF	**Ylistaro**	**3.94**	**249**	*e*P	**Pn**	**09 00 42.7**	**+1.3**
ARA0	**ARCESS Array S**	**5.26**	**339**	Pn	**Pn**	**09 00 59.1**	**-0.4**
	baz=153,slow=14						
ARA0				Lg		09 02 26.9	
	baz=146,slow=37						
ARA0	**ARCESS Array S**	**5.26**	**339**	*e*P	**Pn**	**09 00 59.1**	**-0.4**
ARCES	**ARCESS Array B**	**5.26**	**339**	Pn	**Pn**	**09 00 59.3**	**-0.2**
	0.2nm,0.3s,baz=151,slow=13,SNR=45						
ARCES				Sn	**Sn**	**09 02 05.1**	**+4.2**
	0.3nm,0.3s,baz=147,slow=20,SNR=3.3						
KEV	**Kevo**	**5.28**	**346**	*e*P	**Pn**	**09 00 59.5**	**-0.2**
HFS	**Hagfors**	**9.13**	**248**	Pn	**Pn**	**09 01 51.2**	**-1.4**
	baz=63,slow=16						
HFS	**Hagfors**	**9.13**	**248**	*e*P	**Pn**	**09 01 51.2**	**-1.4**
HFS	**Hagfors**	**9.13**	**248**	Pn	**Pn**	**09 01 52.0**	**-0.5**
	0.1nm,0.3s,baz=51,slow=14,SNR=6.1						
NOA	**NORSAR Array B**	**9.63**	**257**	Pn	**Pn**	**09 02 01.7**	**+2.2**
	0.1nm,0.3s,baz=84,slow=12,SNR=2.1						
SPA0	**Spitsbergen Ar**	**14.21**	**348**	Pn	**Pn**	**09 02 59.7**	**-2.4**
	baz=145,slow=22						
SPA0	**Spitsbergen Ar**	**14.21**	**348**	*e*P	**Pn**	**09 02 59.7**	**-2.4**

*IDC **12** 09:08:31.4±1.9, 273N×9542E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.8/22, mbtmp4.0/7, ML3.5/1, Error ellipse: s-maj=65.3km s-min=19.6km az=52.0*
*NEIC **12** 09:08:38.4±6.0, 284N×9561E, h48km±45km, mb4.3/1, Error ellipse: s-maj=69.1km s-min=11.6km az=59.0*
*ISCJB **12** 09:08:39.1±4.0, 29N±02×957E±02, h65km±32km, mb4.2/10, Error ellipse: s-maj=45.4km s-min=12.6km az=95.1*

ISC 12 09:08:41.1±4.1, 29N±02×957E±02, h62km±33km, n16, σ0§66/17, mb4.2/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.18**	**92**	Pn	**Pn**	**09 09 28.0**	**-0.6**
	4.4nm,0.3s,baz=291,slow=11,SNR=12						
PSI				Sn	**Sn**	**09 10 06.2**	**+0.8**
	3.1nm,0.3s,baz=343,slow=20,SNR=4.3						
KULM	**Kulim**	**5.44**	**64**	*e*Pn	**Pn**	**09 09 59.0**	**-0.6**
JIRN	**Jiri**	**26.26**	**341**	*e*P	**P**	**09 14 10.0**	**-0.4**
	11nm,0.6s,mb4.5						
PKI	**Pulchoki**	**26.45**	**339**	*e*P	**P**	**09 14 12.8**	**+0.7**
DMN	**Daman**	**26.60**	**339**	*e*P	**P**	**09 14 14.3**	**+0.9**
GUN	**Gumba**	**26.60**	**340**	*e*P	**P**	**09 14 13.9**	**+0.5**
	16nm,0.6s,mb4.7						
KKN	**Kakani**	**26.70**	**339**	*e*P	**P**	**09 14 15.0**	**+0.7**
GKN	**Gorkha**	**27.13**	**338**	*e*P	**P**	**09 14 18.4**	**+0.3**
KOLN	**Koldanda**	**27.32**	**336**	*e*P	**P**	**09 14 20.3**	**+0.4**
	7.3nm,0.4s,mb4.6						
WRA	**Warramunga Arr**	**44.17**	**123**	P	**P**	**09 16 43.4**	**-0.1**
	0.8nm,0.5s,mb3.7,baz=299,slow=9.6,SNR=10						
WRAB	**Tennant Creek**	**44.17**	**123**	*e*P	**P**	**09 16 43.9**	**+0.3**
	6.3nm,1.1s,mb4.3						
MKAR	**Makanchi Array**	**45.27**	**347**	P	**P**	**09 16 52.1**	**-0.2**
	4.1nm,0.7s,mb4.4,baz=161,slow=8.0,SNR=27						
ASAR	**Alice Springs**	**45.57**	**128**	P	**P**	**09 16 54.8**	**+0.1**
	0.3nm,0.5s,mb3.5,baz=298,slow=7.7,SNR=4.9						
SONM	**Songino Array**	**45.70**	**10**	P	**P**	**09 16 55.3**	**-0.5**
	1.8nm,0.6s,mb4.2,baz=192,slow=9.9,SNR=6.9						
ZAL	**Zalesovo**	**51.67**	**352**	P	**P**	**09 17 40.8**	**-0.7**
	2.9nm,0.5s,mb4.5,baz=17,slow=3.2,SNR=5.5						
BVAR	**Borovoye Array**	**54.19**	**341**	P	**P**	**09 17 58.4**	**-1.7**
	1.3nm,0.7s,mb4.0,baz=130,slow=8.0,SNR=6.2						

*NEIC **12** 09:17:53.5, 3202S×7138W, h40km, MG3.0(GUC), After GUC.*

GUC 12 09:17:53.5±0.7, 3202S×7138W, h40km±1km, MD4.1, ML3.0, 4C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.17**	**325**	⇓*i*P	Pn	09 18 00.8	+0.2
CHNG				*i* S	Sn	09 18 05.7	+0.1
CHNG				AML	AML	09 18 06.3	
	comp=E,2μm,0.5s						
ILCH	**Illapel**	**0.43**	**25**	*e*P	Pn	09 18 03.9	+0.6
ILCH				*i* S	Sn	09 18 11.4	+1.3
ILCH				AML	AML	09 18 11.7	
	comp=N,3μm,0.1s						
CMCH	**Combarbala**	**0.91**	**21**	⇑*i*P	Pn	09 18 10.3	+0.5
CMCH				*i* S	Sn	09 18 23.1	+1.4
CMCH				AML	AML	09 18 26.4	
	comp=E,2μm,0.7s						
CMCH	**Combarbala**	**0.91**	**21**	⇑*i*P	Pn	09 18 10.3	+0.5
CMCH				*i* S	Sn	09 18 23.1	+1.4
JACH	**Jahuel**	**0.94**	**135**	⇓*i*P	Pn	09 18 11.4	+1.3
JACH				*i* S	Sn	09 18 24.1	+1.7
ROCH	**El Roble**	**1.00**	**162**	⇓*i*P	Pn	09 18 11.9	+0.9
IHA	**Instituto Hidr**	**1.02**	**192**	*i* P	Pn	09 18 11.9	+0.6
IHA				*i* S	Sn	09 18 26.1	+1.6
PEL	**Peldehue**	**1.26**	**152**	*e*P	Pn	09 18 15.9	+1.3
PEL				*i* S	Sn	09 18 33.0	+2.6
PEL				AML	AML	09 18 34.8	
	comp=N,296nm,0.4s						
PEL	**Peldehue**	**1.26**	**152**	*e*P	Pn	09 18 15.9	+1.3
PEL				*i* S	Sn	09 18 33.0	+2.6
OVCH	**Ovalle**	**1.42**	**6**	*i* P	Pn	09 18 18.2	+1.4
OVCH				*i* S	Sn	09 18 36.6	+2.3
OVCH				AML	AML	09 18 39.0	
	comp=N,449nm,0.3s						
OVCH	**Ovalle**	**1.42**	**6**	*i* P	Pn	09 18 18.2	+1.4
OVCH				*i* S	Sn	09 18 36.6	+2.3
LCCH	**Las Cruces**	**1.46**	**186**	⇓*i*P	Pn	09 18 18.3	+1.0
CLCH	**Cerro Calan**	**1.54**	**153**	*e*P	Pn	09 18 20.0	+1.5
CLCH				*i* S	Sn	09 18 39.5

comp=Z,0.8nm,0.3s,baz=33,slow=7.8,SNR=6.6
TBI Tubuai 22.98 101 *e*LQ 10 25 34.7
comp=Z,773nm,28.0s
TBI *e*LR LR 10 26 44.2
comp=Z,295nm,28.2s
PPT Papeete 23.42 86 *e*P **P 10 21 33.9 -1.8**
comp=Z,21nm,1.1s,mb4.5
PPT Papeete 23.42 86 *e*LQ 10 25 56.2
comp=Z,736nm,26.0s
PPT *e*LR LR 10 27 02.2
comp=Z,390nm,26.8s,baz=253
PPT Papeete 23.42 86 LR LR 10 29 45.4
comp=Z,252nm,18.5s,MS3.7,baz=255,slow=34
TVO Taravao 23.68 87 *e*P **P 10 21 36.8 -1.3**
comp=Z,58nm,1.0s,mb5.0
RPZ Rata Peaks 25.87 205 P **P 10 21 57.2 -0.8**
comp=Z,15nm,0.8s,mb4.6,baz=226,slow=16,SNR=3.8
RKT Rikitea 36.31 101 *e*LQ 10 31 39.3
comp=Z,178nm,28.5s
RKT *e*LR LR 10 33 05.4
comp=Z,224nm,25.8s,baz=274
CTA Charters Tower 37.04 264 *e*P **P 10 23 35.3 -0.8**
comp=Z,6.4nm,1.0s,mb4.4
CTA Charters Tower 37.04 264 *e*P **P 10 23 35.3 -0.8**
CTA pmax pmax
comp=Z,6.0nm,1.0s
PMG Port Moresby 38.96 281 *e*P **P 10 23 53.2 +0.9**
PMG pmax pmax
comp=Z,14nm,0.9s
PMG Port Moresby 38.96 281 *e*P **P 10 23 53.2 +0.9**
comp=Z,14nm,0.9s,mb4.7
STKA Stephens Creek 40.88 245 *e*P **P 10 24 05.6 -2.6**
comp=Z,2.4nm,0.7s,mb3.9
STKA Stephens Creek 40.88 245 P **P 10 24 05.6 -2.6**
comp=Z,3.6nm,0.8s,mb4.0,baz=102,slow=12,SNR=8.8
STKA LR LR 10 39 54.8
comp=Z,163nm,18.1s,MS3.9,baz=27,slow=35
ASAR Alice Springs 47.94 257 P **P 10 25 03.9 -0.7**
comp=Z,3.9nm,0.6s,mb4.6,baz=102,slow=7.9,SNR=40
ASAR PcP PcP 10 26 33.9 +1.3
comp=Z,3.0nm,0.9s,baz=107,slow=3.6,SNR=7.8
WB2 Warramunga Arr 48.11 262 *e*P **P 10 25 04.5 -1.4**
WRAB Tennant Creek 48.11 262 *e*P **P 10 25 04.8 -1.2**
WRAB pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
WRAB Tennant Creek 48.11 262 *e*P **P 10 25 04.8 -1.2**
comp=Z,8.1nm,0.9s,mb4.8
WRA Warramunga Arr 48.12 262 P **P 10 25 04.6 -1.4**
comp=Z,3.4nm,0.9s,mb4.4,baz=96,slow=7.9,SNR=38
FITZ Fitzroy Crossi 56.55 262 *e*P **P 10 26 09.2 +0.6**
comp=Z,2.1nm,0.4s,mb4.5
VNDA Vanda 57.85 186 *e*P **P 10 26 11.7 -6.1**
VNDA pmax pmax
comp=Z,3.0nm,1.0s
VNDA Vanda 57.85 186 *e*P **P 10 26 11.7 -6.0**
comp=Z,3.0nm,1.0s,mb4.3
KLBR Kellerberrin 61.15 245 *e*P **P 10 26 40.9 +0.4**
comp=Z,24nm,1.0s,mb5.3
MBWA Marble Bar 61.28 257 *e*P **P 10 26 40.6 -0.8**
comp=Z,4.7nm,0.5s,mb4.9
QSPA South Pole Qui 69.16 180 *e*P **P 10 27 34.5 +2.0**
comp=Z,8.3nm,1.1s,mb4.6
MJAR Matsushiro Arr 72.73 321 P **P 10 27 52.8 -1.3**
comp=Z,30nm,0.3s,baz=155,slow=5.3,SNR=4.9
NVAR Mina Array Bea 78.89 41 P **P 10 28 30.2 +0.9**
comp=Z,2.5nm,0.8s,mb4.2,baz=231,slow=11,SNR=17
MNV Mina 78.98 42 *e*P **P 10 28 29.9 +0.1**
MNV pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
MNV Mina 78.98 42 *e*P **P 10 28 29.9 +0.1**
comp=Z,9.1nm,1.3s,mb4.5
SSE Sheshan 80.75 308 *e*P **P 10 28 39.7 +0.3**
SSE AMB AMB
comp=Z,36nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,71nm,5.1s
MSU Marysvale 82.84 44 *e*P **P 10 28 52.1 +1.7**
NJ2 Nanjing 82.95 308 *e*P **P 10 28 52.1 +1.1**
NJ2 AP pP 10 28 56.3 -5.7
NJ2 XP sP 10 28 59.6 -6.4
NJ2 PP PP 10 32 05.0 +3.3
NJ2 S S 10 39 09.0 +1.6
NJ2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
NJ2 AMB AMB
comp=Z,100nm,8.0s
NJ2 LR LR
comp=N,2μm,30.0s,MS5.2
NJ2 LR LR
comp=E,760nm,32.3s,MS5.2
NJ2 LR LR
comp=Z,720nm,32.7s,MS4.8
MDJ Mudanjiang 82.97 323 P **P 10 28 52.8 +1.7**
MDJ AP pP 10 28 55.9 -6.2
MDJ XP sP 10 28 57.3 -8.8
MDJ PP PP 10 32 03.4 +1.5
MDJ S S 10 39 12.9 +5.3
MDJ XS sS 10 39 18.5 -7.3
MDJ AMB AMB
comp=Z,8.0nm,0.6s,mb4.9
MDJ AMB AMB
comp=Z,129nm,4.5s
MDJ LR LR
comp=N,21nm,22.7s,MS4.1
MDJ LR LR
comp=E,92nm,18.7s,MS4.1
MDJ LR LR
comp=Z,123nm,18.7s,MS4.3
HLID Hailey 84.32 39 *e*P **P 10 28 58.4 +0.4**
comp=Z,2.5nm,0.8s,mb4.4
TTA Tatalina 84.78 8 *e*P **P 10 28 59.5 -0.8**
TTA pmax pmax
comp=Z,15nm,1.3s,mb5.0
TTA Tatalina 84.78 8 *e*P **P 10 28 59.5 -0.8**
comp=Z,15nm,1.3s,mb5.0
CN2 Changchun 84.86 321 *e*P **P 10 29 01.1 +0.4**
CN2 *e*XP sP 10 29 08.1 -7.7
CN2 *e*S S 10 39 28.9
ANMO Albuquerque 84.88 50 *e*P **P 10 29 01.7 +0.9**
ANMO pmax pmax
comp=Z,3.0nm,1.2s
ANMO Albuquerque 84.88 50 *e*P **P 10 29 01.7 +0.9**
comp=Z,3.4nm,1.2s,mb4.3
MCMT McKenzie Canyo 85.97 39 *e*P **P 10 29 06.9 +0.7**
PDAR Pinedale Array 86.82 42 P **P 10 29 10.3 -0.1**
comp=Z,1.3nm,0.9s,mb4.2,baz=247,slow=3.1,SNR=6.6
VNA3 Neumayer Olymp 87.46 175 *e*P **P 10 29 15.8 +2.3**
VNA3 *e* 10 29 17.9
VNA3 *e* 10 29 22.8
SNAA Sanae 87.47 177 *e*P **P 10 29 13.2 -0.4**
SNAA *e* 10 29 14.9
SNAA *e* pP 10 29 21.1 -3.6
COLA College 87.88 11 *e*P **P 10 29 14.4 -1.1**
COLA pmax pmax
comp=Z,4.0nm,1.0s,mb4.6
COLA College 87.88 11 *e*P **P 10 29 14.4 -1.1**
comp=Z,4.4nm,1.0s,mb4.6
VNA2 Neumayer--Watz 87.94 176 *e*P **P 10 29 17.3 +1.5**
VNA2 *e* 10 29 18.9
VNA2 *e* 10 29 22.5
VNA2 *e* 10 29 24.1
ILAR Eielson Array 87.96 11 P **P 10 29 15.2 -0.8**
comp=Z,1.6nm,1.2s,mb4.1,baz=198,slow=5.2,SNR=9.4
VNA1 Neumayer--Stat 88.15 175 *e*P **P 10 29 17.2 +0.4**
VNA1 *e* 10 29 24.6
BJI Beijing 88.75 314 P **P 10 29 18.3 -1.3**
BJI AMB AMB
comp=Z,4.0nm,0.9s,mb4.8
BJI LR LR
comp=Z,164nm,28.0s,MS4.3
HHC Hu-ho-hao-te 92.25 313 *e*P **P 10 29 37.2 +1.3**
HHC AP pP 10 29 42.6 -4.5
HHC XP sP 10 29 44.9 -6.2
HHC PP PP 10 33 20.9 +4.4
HHC SKS 10 40 09.3
HHC S 10 40 39.6
HHC AMB AMB
comp=Z,7.0nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,102nm,5.3s
HHC LR LR
comp=N,138nm,23.5s,MS4.5
HHC LR LR
comp=E,127nm,20.2s,MS4.5
HHC LR LR
comp=Z,122nm,21.0s,MS4.3

KMI Kunming 92.77 296 P **P 10 29 39.8 +1.5**
KMI AMB AMB
comp=Z,7.0nm,0.9s,mb5.1
CD2 Chengdu 94.07 301 *e*P **P 10 29 43.2 -1.1**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.3
YKA Yellowknife Ar 95.41 24 P **P 10 29 48.3 -2.1**
comp=Z,0.2nm,0.7s,baz=239,slow=4.7,SNR=7.5
LZH Lanzhou 95.91 306 *e*P **P 10 29 53.8 +1.1**
LZH AP pP 10 29 58.6 -5.3
LZH XP sP 10 30 00.9 -7.0
LZH PP PP 10 33 47.7 +2.7
LZH AMB AMB
comp=Z,22nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,59nm,9.4s
LZH LR LR
comp=N,297nm,18.4s
LZH LR LR
comp=Z,423nm,19.5s,MS4.9
ULM Lac du Bonnet 98.63 39 LR LR 11 10 50.1
comp=Z,81nm,19.1s,MS4.2,baz=334,slow=33
WMQ Urumqi 109.93 310 PDIF Pdif 10 30 53.6 -1.7
WMQ PP PP 10 35 32.1 +2.0
WMQ PP PP
comp=Z,9.0nm,5.7s
WMQ LR LR
comp=N,52nm,31.8s
WMQ LR LR
comp=Z,43nm,27.4s,MS3.9
ARCES ARCESS Array B 129.93 351 PKP PKPdf 10 35 35.4 -0.1
comp=Z,4.6nm,1.0s,baz=345,slow=2.8,SNR=5.1
FINES FINESS Array B 137.12 346 PKP PKPdf 10 35 50.9 +2.0
comp=Z,0.6nm,0.6s,baz=48,slow=2.1,SNR=2.6
AKASG Malin Array Be 145.05 334 PKP PKPdf 10 36 02.2 -1.0
comp=Z,5.3nm,0.5s,baz=40,slow=4.3,SNR=20
MALT Malatya 147.02 309 *e*PKP2 PKPab 10 36 10.6 +0.4
LVV L'vov 147.75 338 *e*PKHKP 10 35 50.7
CLL Collm 149.15 351 *e*PKPbc PKPbc 10 36 15.0 +0.7
comp=Z,8.0nm,1.0s
CLL LmV 11 27 00.0
comp=Z,200nm,18.9s
BRG Berggiesshubel 149.43 350 *e*P PKPdf 10 36 14.3 +3.8
comp=Z,1.0nm,0.5s
BRG *e* 10 36 20.1
comp=Z,6.0nm,1.2s
BRG Berggiesshubel 149.43 350 *e*PKP2 PKPab 10 36 14.3 -5.5
BRG pmax pmax
comp=Z,1.0nm,0.5s
BRG pmax pmax
comp=Z,6.0nm,1.2s
MORC Moravsky Berou 149.74 345 *e*PKP2 PKPab 10 36 17.0 -4.1
BR131 Keskin Array S 149.75 314 *e*PKPbc PKPbc 10 36 16.7 +1.0
BRTR Keskin Array B 149.75 314 PKPbc PKPbc 10 36 16.2 +0.5
comp=Z,2.5nm,0.6s,baz=131,slow=3.5,SNR=13
MOX Moxa 149.98 353 *e*P PKPdf 10 36 19.9 +8.5
ASF Jabal al Asfar 150.16 299 PKPbc PKPbc 10 36 18.4 +1.7
comp=Z,4.3nm,0.9s,baz=287,slow=4.0,SNR=6.3
GIVF Givet 150.86 1 *e*PKP1 PKPbc 10 36 19.9 +1.5
comp=Z,7.7nm,0.5s
BAIF Baives 150.89 2 *e*PKP1 PKPbc 10 36 20.2 +1.7
GRF Grafenberg Arr 150.97 353 *e*PKP PKPdf 10 36 19.9 +7.0
MMAI Mount Meron Ar 151.14 301 PKPbc PKPbc 10 36 21.3 +2.2
comp=Z,3.5nm,0.6s,baz=96,slow=5.9,SNR=5.1
GERES GERESS Array B 151.43 349 PKPbc PKPbc 10 36 20.4 +0.7
comp=Z,0.9nm,0.6s,baz=345,slow=4.1,SNR=6.6
FLN La Foliniere 151.75 9 *e*PKP1 PKPbc 10 36 21.5 +1.0
comp=Z,11nm,0.8s
LDF La Druitiere 151.97 8 *e*PKP1 PKPbc 10 36 22.0 +1.0
comp=Z,3.5nm,0.7s
GRR Gorron 152.06 10 *e*PKP1 PKPbc 10 36 22.4 +1.2
comp=Z,8.4nm,0.7s
LOR Lormes 153.66 3 *e*PKP1 PKPbc 10 36 26.7 +2.0

ISCJB ***12*** *10:18:53.9±1.5,3081N±008×1422E±04,h42km±15km, mb3.7/3,Error ellipse: s-maj=56.8km s-min=7.2km az=155.6*
JMA ***12*** *10:18:53.2±0.2,3084N×14250E,h49km,M3.8*
IDC ***12*** *10:18:55.0±2.5,3034N×14076E,h0km, mb3.7/3, mb1 3.8/4,mb1mx3.5/20,mbtmp3.7/4,ML3.9/2, MS2.9/1, Ms1 2.9/1,ms1mx2.1/35,Error ellipse: s-maj=101.2km s-min=21.5km az=68.0*
ISC 12 10:18:55.8±1.3,3080N±008×1422E±04,h38km±14km,n12,
σ1§02/17,mb3.7/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.69**	**180**	Pn		**Pn**		**10 19 50.0**	**-0.2**
	7.5nm,0.3s,baz=290,slow=16,SNR=9.2								
CBIJ				Sn		**Sn**		**10 20 32.1**	**-0.3**
	13nm,0.3s,baz=106,slow=23,SNR=8.0								
CBIJ	**Chichi jima**	**3.69**	**180**	P		**Pn**		**10 19 50.2**	**-0.1**
CBIJ				*e*S		**Sn**		**10 20 30.0**	**-2.4**
JOD2	**Odawara 2**	**5.15**	**331**	P		**Pn**		**10 20 11.4**	**+1.0**
JOD2				*e*S		**Sn**		**10 21 03.3**	**-5.3**
JHU	**Hanno**	**5.59**	**335**	P		**Pn**		**10 20 17.6**	**+1.2**
JHU				*e*S		**Sn**		**10 21 17.0**	**-2.4**
JRY	**Ryogami san**	**5.88**	**333**	P		**Pn**		**10 20 21.5**	**+1.1**
JRY				S		**Sn**		**10 21 26.7**	**+0.2**
JHO	**Hitachi**	**5.95**	**347**	P		**Pn**		**10 20 21.5**	**+0.1**
JHO				S		**Sn**		**10 21 26.4**	**-1.9**
JAG	**Ashikaga**	**6.05**	**339**	P		**Pn**		**10 20 23.0**	**+0.2**
MJAR	**Matsushiro Arr**	**6.61**	**331**	Pn		**Pn**		**10 20 31.1**	**+0.7**
	13nm,0.3s,baz=156,slow=14,SNR=4.3								
JOW	**Kunigami**	**12.81**	**255**	LR		LR		10 25 51.3	
	comp=Z,58nm,20.1s,baz=121,slow=36								
MKAR	**Makanchi Array**	**48.18**	**307**	P		**P**		**10 27 32.1**	**-0.2**
	0.2nm,0.4s,mb3.5,baz=94,slow=7.1,SNR=4.0								
WRA	**Warramunga Arr**	**51.00**	**189**	P		**P**		**10 27 53.6**	**-0.2**
	0.9nm,0.5s,mb4.0,baz=3.1,slow=7.5,SNR=11								
ASAR	**Alice Springs**	**54.73**	**189**	P		**P**		**10 28 21.9**	**+0.6**
	0.4nm,0.5s,mb3.7,baz=2.6,slow=6.0,SNR=7.7								

ISCJB ***12*** *10:30:42.9±0.4,4568N±003×2656E±003,h104km±3km, Error ellipse: s-maj=4.2km s-min=3.6km az=146.6*
CSEM ***12*** *10:30:43.8±0.1,4564N×2656E,h84km±1km,mb3.2,Error ellipse: s-maj=2.2km s-min=1.5km az=159.0*
SOF ***12*** *10:30:44.6,4542N×2638E,h18km,MD2.9*
BUC ***12*** *10:30:44.3±1.7,4569N×2651E,h92km±18km,MD4.2/4, Error ellipse: s-maj=9.1km s-min=6.9km az=99.0*
MOS ***12*** *10:30:44.3±1.9,4560N×2657E,h83km,mb4.0/1,Error ellipse: s-maj=10.0km s-min=6.8km az=107.2*
NEIC ***12*** *10:30:44.5,4582N×2662E,h90km,MD3.8(BUC),After BUC.*
ISC 12 10:30:44.1±0.4,4568N±002×2656E±003,h97km±4km,n63,
σ0§92/98,17C-16D,Romania

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.18**	**21**	⇑*i*P		**Pn**		**10 30 57.7**	**-0.2**
VRI	**Vrincioaia**	**0.22**	**33**	⇑*i*P		**Pn**		**10 30 58.1**	**+0.1**
VRI				*i* S		**Sn**		**10 31 07.8**	**-0.6**
VRI	**Vrincioaia**	**0.22**	**33**	⇑P		**Pn**		**10 30 58.1**	**+0.1**
VRI				S		**Sn**		**10 31 08.1**	**-0.3**
VRI	**Vrincioaia**	**0.22**	**33**	⇑*i*P		**Pn**		**10 30 58.1**	**+0.1**
VRI				*i* S		**Sn**		**10 31 08.1**	**-0.3**
BRD	**Bordesti**	**0.35**	**110**	P		**Pn**		**10 30 58.3**	**-0.3**
GRER		**0.42**	**135**	⇓*i*P		**Pn**		**10 30 59.9**	**+0.9**
GRER				*i* S		**Sn**		**10 31 12.0**	**+1.8**
MLR	**Muntele Rosu**	**0.47**	**247**	⇑*i*P		**Pn**		**10 30 59.0**	**-0.4**
MLR				*i* S		**Sn**		**10 31 09.2**	**-1.5**
MLR	**Muntele Rosu**	**0.47**	**247**	⇑P		**Pn**		**10 30 59.2**	**-0.2**
MLR				S		**Sn**		**10 31 09.3**	**-1.5**
MLR	**Muntele Rosu**	**0.47**	**247**	P		**Pn**		**10 30 59.4**	**0.0**
MLR				*i* S		**Sn**		**10 31 09.2**	**-1.5**
ISR	**Istrita**	**0.56**	**181**	⇓*i*P		**Pn**		**10 31 00.4**	**+0.4**
OZUR		**0.68**	**308**	⇑*i*P		**Pn**		**10 31 00.6**	**-0.5**
OZUR				*e*S		**Sn**		**10 31 11.3**	**-2.5**
GHRR		**0.71**	**57**	⇓*i*P		**Pn**		**10 31 02.3**	**+1.0**
GHRR				*i* S		**Sn**		**10 31 14.9**	**+0.7**
SECR		**0.73**	**208**	⇑*i*P		**Pn**		**10 31 02.0**	**+0.5**
SECR				*i* S		**Sn**		**10 31 14.9**	**+0.3**
TUDR		**0.79**	**96**	⇑*i*P		**Pn**		**10 31 02.2**	**+0.1**
TUDR				*i* S		**Sn**		**10 31 15.6**	**+0.1**
FULR		**0.80**	**186**	⇑*i*P		**Pn**		**10 31 02.6**	**+0.4**
FULR				*i* S		**Sn**		**10 31 15.8**	**+0.1**
SNX	**Sinaia**	**0.80**	**247**	⇑*i*P		**Pn**		**10 31 02.5**	**+0.3**
SNX				*i* S		**Sn**		**10 31 15.5**	**-0.3**
SNX	**Sinaia**	**0.80**	**247**	⇓P		**Pn**		**10 31 02.3**	**+0.1**
SNX	**Sinaia**	**0.80**	**247**	P		**Pn**		**10 31 02.3**	**+0.1**
SNX				*i* S		**Sn**		**10 31 15.5**	**-0.3**
TESR		**0.84**	**4**	⇑*i*P		**Pn**		**10 31 02.8**	**+0.2**
TESR				*i* S		**Sn**		**10 31 15.3**	**-1.1**
ONCR	**Oncesti**	**0.93**	**32**	⇓*i*P		**Pn**		**10 31 04.1**	**+0.6**
ONCR				*i* S		**Sn**		**10 31 18.1**	**0.0**
VARR		**0.93**	**77**	⇓*i*P		**Pn**		**10 31 04.5**	**+0.9**
VARR				*i* S		**Sn**		**10 31 18.4**	**+0.2**
SULR		**1.02**	**192**	⇑*i*P		**Pn**		**10 31 04.9**	**+0.4**
SULR				*i* S		**Sn**		**10 31 21.0**	**+1.1**
VOIR		**1.08**	**258**	P		**Pn**		**10 31 04.9**	**-0.3**
VOIR				S		**Sn**		**10 31 19.6**	**-1.6**
MTUR	**Matau**	**1.14**	**247**	⇓*i*P		**Pn**		**10 31 07.9**	**+2.0**
MTUR	**Matau**	**1.14**	**247**	P		**Pn**		**10 31 08.0**	**+2.1**
KGL	**Cahul**	**1.17**	**78**	⇓*i*P		**Pn**		**10 31 06.8**	**+0.5**
	960nm,0.6s								
KGL				*i* S		**Sn**		**10 31 22.6**	**-0.4**
	4μm,1.0s								
AMRR		**1.20**	**152**	⇓*i*P		**Pn**		**10 31 07.2**	**+0.6**
AMRR				*i* S		**Sn**		**10 31 23.7**	**+0.1**
CFR	**Carcaliu**	**1.22**	**114**	⇓*i*P		**Pn**		**10 31 07.0**	**+0.2**
CFR				*i* S		**Sn**		**10 31 23.3**	**-0.6**
CFR	**Carcaliu**	**1.22**	**114**	⇑P		**Pn**		**10 31 07.0**	**+0.2**
CFR	**Carcaliu**	**1.22**	**114**	⇓*i*P		**Pn**		**10 31 07.0**	**+0.2**
CFR				*i* S		**Sn**		**10 31 22.8**	**-1.1**
BERR	**Berezeni**	**1.30**	**58**	⇑*i*P		**Pn**		**10 31 09.0**	**+1.2**
BERR				*i* S		**Sn**		**10 31 26.6**	**+0.9**
HARR	**Harsova**	**1.39**	**135**	⇓*i*P		**Pn**		**10 31 09.3**	**+0.5**
HARR				*i* S		**Sn**		**10 31 26.3**	**-1.2**
HARR	**Harsova**	**1.39**	**135**	⇓P		**Pn**		**10 31 09.3**	**+0.5**
LEOM	**Leova**	**1.42**	**55**	*e*P		**Pn**		**10 31 09.5**	**+0.3**
	390nm,0.4s								
LEOM				S		**Sn**		**10 31 28.0**	**-0.2**
TIRR	**Tirgusor**	**1.79**	**132**	⇓*i*P		**Pn**		**10 31 14.5**	**+0.6**
TIRR				*i* S		**Sn**		**10 31 35.3**	**-1.3**
TIRR	**Tirgusor**	**1.79**	**132**	⇓P		**Pn**		**10 31 14.5**	**+0.6**
TIRR				S		**Sn**		**10 31 35.3**	**-1.3**
KIS	**Kishinev**	**2.05**	**49**	*i* S		**Sn**		**10 31 42.0**	**-0.4**
PSN	**Preselentsi**	**2.31**	**149**	*i* P		**Pn**		**10 31 21.7**	**+1.1**
SZH	**Strazhica**	**2.45**	**191**	P		**Pn**		**10 31 21.1**	**-1.4**
DRGR		**2.89**	**294**	P		**Pn**		**10 31 28.3**	**0.0**
JMB	**Yambol**	**3.21**	**180**	P		**Pn**		**10 31 32.0**	**-0.6**
PGB	**Panagyurishte**	**3.57**	**210**	P		**Pn**		**10 31 38.2**	**+0.8**
EDRB	**Edirne**	**3.83**	**178**	PN		**Pn**		**10 31 41.1**	**+0.1**
VTS	**Vitosha**	**3.92**	**219**	P		**Pn**		**10 31 41.5**	**-0.6**
KDZ	**Kurdzhali**	**4.11**	**192**	*e*P		**Pn**		**10 31 46.0**	**+1.3**
RZN	**Rozhen**	**4.21**	**199**	P		**Pn**		**10 31 47.5**	**+1.5**
KOLS	**Kolonicke sedl**	**4.37**	**320**	*e*PN		**Pn**		**10 31 47.3**	**-0.9**
LVV	**L'vov**	**4.48**	**339**	*e*P		**Pn**		**10 31 54.9**	**+5.2**
CTT	**Catalca**	**4.73**	**163**	*e*PN		**Pn**		**10 31 52.1**	**-1.0**
CRVS	**Cervenica-Dubn**	**4.73**	**315**	*e*PN		**Pn**		**10 31 54.1**	**+1.0**
CRVS	**Cervenica-Dubn**	**4.73**	**315**	*e*P		**Pn**		**10 32 00.6**	**+7.5**
CRVS				*e*				10 32 53.8	
MFT	**Murefte**	**4.92**	**174**	*e*PN		**Pn**		**10 31 54.9**	**-0.7**
KECS	**Kecovo**	**5.01**	**306**	*e*PN		**Pn**		**10 32 00.6**	**+3.8**
KECS				*e*SN		**Sn**		**10 32 53.8**	**+0.4**
SEV	**Sevastopol'**	**5.16**	**100**	⇑*i*P		**Pn**		**10 32 00.2**	**+1.3**
SEV				*i* S		**Sn**		**10 32 55.3**	**-1.9**
SEV				pmax	pmax				
	comp=Z,60nm,0.4s								
SEV				smax					
	comp=N,50nm,0.5s								
SEV				smax					
	comp=E,20nm,0.5s								
SEV	**Sevastopol'**	**5.16**	**100**	P		**Pn**		**10 32 00.2**	**+1.3**
SEV				S		**Sn**		**10 32 55.3**	**-1.9**
STHS	**Stebnicka Huta**	**5.19**	**318**	*e*PN		**Pn**		**10 31 58.9**	**-0.4**
STHS				*e*SN		**Sn**		**10 32 53.6**	**-4.2**
HRT	**Hereke**	**5.36**	**154**	*e*PN		**Pn**		**10 31 59.2**	**-2.4**
SIM	**Simferopol'**	**5.38**	**95**	S		**Sn**		**10 33 01.8**	**-0.8**
YLV	**Yalova**	**5.51**	**157**	*e*PN		**Pn**		**10 32 02.5**	**-1.2**
YAL	**Yalta**	**5.51**	**100**	⇑*e*P		**Pn**		**10 32 04.9**	**+1.2**
YAL				*i* S		**Sn**		**10 33 05.4**	**-0.3**
YAL				pmax	pmax				
	comp=Z,50nm,0.3s								
YAL				smax					
	comp=N,10.0nm,0.4s								
YAL				smax					
	comp=E,20nm,0.4s								
YAL	**Yalta**	**5.51**	**100**	P		**Pn**		**10 32 04.9**	**+1.2**
YAL				S		**Sn**		**10 33 05.4**	**-0.3**
SUDU	**Sudak**	**6.01**	**95**	⇓*e*P		**Pn**		**10 32 09.4**	**-1.1**
SUDU				*i* S		**Sn**		**10 33 13.7**	**-4.2**
SUDU				pmax	pmax				
	comp=Z,50nm,0.5s								
SUDU				smax					
	comp=N,60nm,0.8s								
SUDU				smax					
	comp=E,30nm,0.5s								
SUDU	**Sudak**	**6.01**	**95**	P		**Pn**		**10 32 09.4**	**-1.1**

BJI ***12*** *10:37:26.8,39.19N×122.79W,h2km,mB5.2,mb4.7,Ms4.6, Msz4.4*
ISCJB ***12*** *10:37:28.5±0.3,3876N±003×12280W±004,h3km, mb4.5/26,MS4.2/12,Error ellipse: s-maj=5.1km s-min=3.1km az=102.7*
MOS ***12*** *10:37:29.4±1.2,3868N×122.77W,h10km,mb4.5/7,Error ellipse: s-maj=9.6km s-min=7.1km az=30.8*
HRVD ***12*** *10:37:29.3±0.4,3880N×122.85W,h14km±1km,MW4.8/71, Centroid moment Tensor Solution. LP body waves: s16,c19;Mantle waves: s71,c107; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.27±.14; Mθθ=0.69±.08; Mφφ=1.96±.11; Mrθ=-0.49±.22; Mθφ=1.29±.07; Mφr=-0.49±.20; Best double couple: M0=2.07900×10^16 NP1:φs=168.00000°,δ47.00000°,λ=-143.00000°. NP2: φs=51.00000°,δ63.00000°,λ=-49.00000°. Principal axes: T 2.5890, Plg9.0000°, Azm113.0000°; N -1.0180, Plg36.0000°, Azm210.0000°; P -1.5690, Plg53.0000°, Azm10.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***12*** *10:37:29.3,3882N×122.82W,h3km,mb4.5/11, MW4.7(BRK),After NCEDC.*
NEIC Felt [V] at Hopland; [IV] at Clearlake, Geyserville and Kelseyville; [III] at Angwin, Calistoga, Cloverdale, Guerneville, Healdsburg, Saint Helena, San Francisco and Santa Rosa; [II] at Napa. Felt at Antioch, Berkeley, Carmel, Cazadero, Clearlake Oaks, Daly City, Fairfield, Forestville, Graton, Huntington Beach, Moraga, Mountain View, Oakley, Pacifica, Petaluma, Pope Valley, San Ramon and Yountville.
IDC ***12*** *10:37:34.2±2.2,3892N×122.59W,h22km±10km,mb3.9/11, mb1 4.1/15,mb1mx4.0/23,mbtmp4.0/15,ML3.7/4,MS4.1/10, Ms1 4.1/10,ms1mx3.7/27,Error ellipse: s-maj=20.5km s-min=8.0km az=47.0*
ISC 12 10:37:29.1±0.4,3869N±003×12298W±004,h3km,n140,
σ1§38/142,mb4.4/26,MS4.2/12,3C,Northern California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HOPS	**Hopland**	**0.31**	**346**	*e*Pg		**Pg**		**10 37 35.2**	**+0.1**
NSHM	**Saint Helena R**	**0.34**	**120**	*e*Pg		**Pg**		**10 37 36.0**	**+0.4**
MCCM	**Marconi Confer**	**0.55**	**172**	*e*Pg		**Pg**		**10 37 43.1**	**+3.4**
KCPM	**Cahto Peak**	**1.10**	**335**	*e*Pg		**Pg**		**10 37 45.7**	**-4.5**
KCPM				*e*Sg		**Sg**		**10 38 03.5**	**-1.0**
KIPM	**Iron Peak**	**1.18**	**341**	*e*Pg		**Pg**		**10 37 50.8**	**-1.0**
SAC	**San Andreas**	**1.19**	**158**	*e*P		**Pg**		**10 37 52.3**	**+0.3**
OHCM	**Honcut**	**1.33**	**61**	*e*Pg		**Pg**		**10 37 49.4**	**-5.2**
WDC	**Whiskeytown Da**	**1.92**	**10**	*e*P		**Pn**		**10 38 00.5**	**-2.2**
CMB	**Columbia Colle**	**2.14**	**107**	*e*P		**Pn**		**10 38 03.9**	**-1.8**
KHMM	**Horse Mountain**	**2.26**	**345**	*e*Pn		**Pn**		**10 38 06.8**	**-0.5**
SAO	**San Andreas Ge**	**2.27**	**147**	*e*P		**Pn**		**10 38 06.1**	**-1.5**
PAHR	**Pah Rah Range**	**2.97**	**69**	*e*Pn		**Pn**		**10 38 15.2**	**-2.0**
YBH	**Yreka Blue Hor**	**3.04**	**4**	Pn		**Pn**		**10 38 18.3**	**+0.1**
	1.5nm,0.3s,baz=202,slow=9.3,SNR=23								
YBH				Pg		**Pg**		**10 38 24.4**	**-3.1**
	12nm,0.3s,baz=175,slow=11,SNR=49								
YBH				Lg				10 39 04.8	
	baz=68,slow=14,SNR=3.4								
YBH				LR		LR		10 39 43.9	
	comp=Z,4μm,18.0s,baz=220,slow=46								
YBH	**Yreka Blue Hor**	**3.04**	**4**	*e*Pn		**

NVAR Lg 10 39 25.2
12nm,0.3s,baz=292,slow=22,SNR=3.7
PTRM Twissleman Ran 3.75 143 *e*Pn **Pn 10 38 27.6 -0.3**
MNV Mina 3.79 92 *e*P **Pn 10 38 26.8 -1.6**
MOD Modoc 3.80 32 *e*Pn **Pn 10 38 27.6 -1.1**
MOD *e*Pg **Pg 10 38 39.6 -2.4**
HUMO Hull Mountain 3.91 0 *e*Pn **Pn 10 38 30.9 +0.8**
HUMO *e*Pg **Pg 10 38 39.5 -4.6**
BBOR Butler Butte 4.20 3 P **Pn 10 38 37.3 +3.3**
KEBM Edson Butte 4.30 347 *e*Pn **Pn 10 38 36.0 +0.5**
TPH Tonopah 4.56 96 *e*P **Pn 10 38 48.4 +9.3**
ISA Isabella 4.70 129 *e*P **Pn 10 38 40.9 0.0**
BMN Battle Mountai 4.78 67 *e*P **Pn 10 38 40.0 -2.0**
DAC Darwin (Calif) 4.91 118 *e*Pn **Pn 10 38 43.9 0.0**
DAC *e*S **Sn 10 39 54.4 +13**
WVOR Wild Horse Val 4.99 40 *e*P **Pn 10 38 43.1 -1.8**
HBO Huckleberry Mo 5.17 5 P **Pn 10 38 49.5 +2.1**
GSC Goldstone 5.99 123 *e*P **Pn 10 38 58.2 -0.4**
ELK Elko 6.31 69 *e*P **Pn 10 39 01.7 -1.3**
ELK pmax pmax
comp=E,378nm,1.0s
ELK Elko 6.31 69 *e*P **Pn 10 39 01.6 -1.4**
comp=E,378nm,1.0s
VTHM Trough 6.73 15 P **Pn 10 39 11.8 +3.0**
NEN Nelson 7.17 113 *e*Pn **Pn 10 39 15.2 +0.4**
BMO Blue Mountains 7.47 33 *e*Pn **Pn 10 39 19.7 +0.7**
comp=Z,31nm,1.3s
ARUT Antelope Range 7.56 94 *e*P **Pn 10 39 19.2 -1.0**
CCUT Cedar City 7.66 96 *e*Pn **Pn 10 39 20.6 -1.0**
DUG Dugway 8.01 76 *e*P **Pn 10 39 26.1 -0.3**
DUG pmax pmax
comp=Z,52nm,1.0s
DUG Dugway 8.01 76 *e*Pn **Pn 10 39 26.1 -0.3**
comp=Z,52nm,1.0s
HLID Hailey 8.09 50 Pn **Pn 10 39 25.6 -1.9**
comp=Z,19nm,1.1s
HAWA Hanford 8.11 17 *e*Pn **Pn 10 39 29.8 +2.1**
comp=Z,6.7nm,1.5s
HVU Hansel Valley 8.39 65 *e*P **Pn 10 39 30.1 -1.5**
MSU Marysvale 8.46 88 *e*P **Pn 10 39 32.4 -0.2**
SPUT South Promonto 8.49 69 *e*Pn **Pn 10 39 33.1 +0.1**
GLA Glamis 8.68 128 *e*P **Pn 10 39 33.9 -1.7**
TCUT Toone Canyon 9.21 71 *e*P **Pn 10 39 43.9 +1.0**
DAU Daniels Canyon 9.22 76 *e*P **Pn 10 39 42.4 -0.5**
SRU San Rafael 9.72 84 *e*P **Pn 10 39 51.8 +2.0**
SRU pmax pmax
comp=Z,44nm,1.1s
SRU San Rafael 9.72 84 *e*P **Pn 10 39 51.8 +2.0**
comp=Z,44nm,1.1s
MCMT McKenzie Canyo 9.73 48 *e*P **Pn 10 39 51.3 +1.3**
WUAZ Wupatki 9.79 105 *e*P **Pn 10 39 54.2 +3.3**
comp=Z,18nm,1.0s
DCID1 Drake Creek 10.15 57 *e*Pn **Pn 10 39 59.3 +3.5**
DLMT Dillon 10.20 46 *e*Pn **Pn 10 39 56.8 +0.4**
comp=Z,28nm,1.4s
TPAW Teton Pass 10.26 58 *e*Pn **Pn 10 39 59.0 +1.7**
comp=Z,27nm,1.2s
REDW Red Top Meadow 10.28 59 *e*Pn **Pn 10 39 57.8 +0.3**
comp=Z,28nm,1.3s
IMW Indian Meadow 10.44 56 *e*Pn **Pn 10 40 02.5 +2.8**
comp=Z,33nm,1.4s
NEW Newport 10.47 22 Pn **Pn 10 40 01.7 +1.6**
comp=Z,0.1nm,0.3s,baz=200,slow=18,SNR=6.2
NEW LR LR 10 44 15.8
comp=Z,747nm,20.3s,baz=222,slow=40
NEW Newport 10.47 22 *e*P **Pn 10 39 56.5 -3.5**
NEW Pn **Pn 10 40 01.7 +1.6**
NEW LR LR 10 44 15.8
MSO Missoula 10.49 36 *e*Pn **Pn 10 40 02.1 +1.6**
comp=Z,15nm,1.1s
MOOW Moose Ponds 10.51 57 *e*P **Pn 10 40 01.1 +0.5**
comp=Z,9.2nm,1.0s
QLMT Earthquake Lak 10.58 51 P **Pn 10 40 02.1 +0.5**
FLWY Flagg Ranch 10.68 56 *e*Pn **Pn 10 40 06.1 +3.1**
comp=Z,74nm,1.2s
CHMT Chamberlain Mo 10.88 38 *e*Pn **Pn 10 40 06.9 +1.2**
PV10 Paradox Valley 10.93 87 *e*Pn **Pn 10 40 08.0 +1.6**
PDAR Pinedale Array 10.96 64 Pn **Pn 10 40 09.1 +2.2**
comp=Z,0.1nm,0.3s,baz=250,slow=12,SNR=77
PDAR Lg 10 43 15.0
comp=Z,0.1nm,0.3s,baz=151,slow=44,SNR=2.1
LKWY Lake 11.09 54 *e*P **Pn 10 40 09.0 +0.4**
LKWY pmax pmax
comp=Z,15nm,1.1s
LKWY Lake 11.09 54 *e*P **Pn 10 40 09.0 +0.5**
comp=Z,15nm,1.1s
PV01 Paradox Valley 11.32 88 *e*Pn **Pn 10 40 11.9 +0.1**
MVCO Mesa Verde 11.53 93 *e*P **Pn 10 40 14.2 -0.4**
TUC Tucson 11.80 119 *e*P **Pn 10 40 19.2 +0.9**
TUC pmax pmax
comp=Z,5.0nm,1.1s
TUC Tucson 11.80 119 *e*P **Pn 10 40 19.2 +1.0**
comp=Z,5.0nm,1.1s
GCMT Greycliff 12.14 50 *e*P **Pn 10 40 22.6 -0.4**
WALA Waterton Lakes 12.24 29 *e*P **Pn 10 40 21.0 -3.4**
comp=Z,13nm,1.1s
SMCO Snowmass 12.47 83 *e*P **Pn 10 40 28.0 +0.4**
comp=Z,20nm,1.3s
ISCO Idaho Springs 13.51 80 *e*P **Pn 10 40 40.7 -0.9**
ISCO pmax pmax
comp=Z,8.0nm,1.0s
ISCO Idaho Springs 13.51 80 *e*P **Pn 10 40 40.7 -1.0**
comp=Z,8.1nm,1.0s
LENM Lemitar 13.65 104 P **Pn 10 40 43.0 -0.7**
ANMO Albuquerque 13.75 101 Pn **Pn 10 40 52.5 +7.5**
comp=Z,0.1nm,0.3s,baz=319,slow=9.1,SNR=4.4
ANMO LR LR 10 46 27.0
comp=Z,1μm,20.1s,baz=0.1,slow=40
LPM Los Pinos Moun 13.85 103 P **Pn 10 40 45.3 -1.1**
BNM Barren Site 13.92 104 P **Pn 10 40 47.9 +0.6**
BBB Bella Bella 13.96 347 LR LR 10 45 40.3
comp=Z,806nm,21.6s,baz=179,slow=35
LAO LASA Array 14.67 52 *e*P **Pn 10 40 58.6 +1.2**
comp=Z,87nm,1.7s
MNTX Cornudas Mount 15.97 111 *e*P **Pn 10 41 16.9 +2.2**
comp=Z,7.3nm,1.0s
EDM Edmonton 15.98 21 *e*P **Pn 10 41 12.8 -2.0**
GDL2 Guadalupe Moun 16.48 107 *e*P **Pn 10 41 25.4 +4.1**
WMOK Wichita Mounta 19.78 94 *e*P **Pn 10 42 01.6 -0.3**
WMOK pmax pmax
comp=Z,29nm,1.4s
WMOK Wichita Mounta 19.78 94 *e*P **Pn 10 42 01.6 -0.2**
comp=Z,29nm,1.4s
DLBC Dease Lake 20.28 349 P **P 10 42 09.8 +3.9**
comp=Z,3.9nm,0.9s,baz=160,slow=12,SNR=10
KSU1 Kansas State U 20.51 81 *e*P **P 10 42 08.5 +0.2**
JCT Junction City 20.73 106 *e*P **P 10 42 09.8 -0.9**
JCT pmax pmax
comp=Z,13nm,1.0s
JCT Junction City 20.73 106 *e*P **P 10 42 09.8 -0.9**
comp=Z,13nm,1.0s
FFC Flin Flon 21.42 35 *e*P **P 10 42 15.1 -3.1**
FFC pmax pmax
comp=Z,22nm,0.8s,mb4.5
FFC Flin Flon 21.42 35 *e*P **P 10 42 15.1 -3.1**
comp=Z,22nm,0.8s,mb4.5
ULM Lac du Bonnet 22.40 50 P **P 10 42 25.3 -3.4**
comp=Z,13nm,0.9s,mb4.3,baz=257,slow=11,SNR=13
ULM LR LR 10 50 48.8
comp=Z,433nm,19.0s,MS3.9,baz=249,slow=36
MIAR Mount Ida 23.91 91 *e*P **P 10 42 44.8 +0.6**
MIAR pmax pmax
comp=Z,15nm,1.3s,mb4.3
MIAR Mount Ida 23.91 91 *e*P **P 10 42 44.8 +0.6**
comp=Z,16nm,1.3s,mb4.3
HKT Hockley 23.99 103 *e*P **P 10 42 45.4 +0.5**
HKT pmax pmax
comp=Z,10.0nm,1.1s,mb4.2
HKT Hockley 23.99 103 *e*P **P 10 42 45.4 +0.5**
comp=Z,9.9nm,1.1s,mb4.2
NATX Nacogdoches 24.08 98 *e*P **P 10 42 48.3 +2.6**
comp=Z,12nm,0.7s,mb4.4
YKA Yellowknife Ar 24.38 9 P **P 10 42 47.1 -1.3**
comp=Z,1.3nm,1.0s,baz=193,slow=9.9,SNR=11
YKA PcP PcP 10 46 28.4 +0.6
comp=Z,0.3nm,0.8s,baz=191,slow=2.6,SNR=3.7
YKA Yellowknife Ar 24.38 9 P **P 10 42 47.1 -1.3**
YKA PcP PcP 10 46 28.4 +0.6
YKW3 Yellowknife Ar 24.44 9 *e*P **P 10 42 48.1 -0.9**
KDAK Kodiak Island 27.10 324 LR LR 10 51 29.5
comp=Z,762nm,21.2s,MS4.2,baz=157,slow=31
FCC Fort Churchill 27.33 33 *e*P **P 10 43 12.2 -3.0**
FCC pmax pmax
comp=Z,6.0nm,1.0s,mb4.1
FCC Fort Churchill 27.33 33 *e*P **P 10 43 12.2 -2.9**
comp=Z,6.1nm,1.0s,mb4.1
ILAR Eielson Array 29.65 339 P **P 10 43 36.5 +0.7**
comp=Z,1.6nm,0.9s,mb3.7,baz=157,slow=7.5,SNR=21
ILAR PcP PcP 10 46 40.9 +0.6
comp=Z,0.6nm,0.9s,baz=177,slow=2.6,SNR=4.7
ILAR LR LR 10 53 48.4
comp=Z,403nm,21.7s,MS4.0,baz=296,slow=33
ILAR Eielson Array 29.65 339 P **P 10 43 36.6 +0.8**
ILAR 10 46 40.9
INK Inuvik 30.23 352 P **P 10 43 41.8 +0.7**
comp=Z,2.0nm,0.9s,mb3.8,baz=158,slow=12,SNR=8.4
SCHQ Schefferville 40.53 48 P **P 10 45 08.1 -1.5**
comp=Z,5.6nm,1.0s,mb4.2,baz=291,slow=6.7,SNR=7.0
SFJD Kangerlussuaq 48.27 30⇑*i*P **P 10 46 11.9 +0.5**
comp=Z,14nm,0.9s,mb5.0
SFJD
comp=Z,170nm,16.0s
SFJD Kangerlussuaq 48.27 30⇑*i*P **P 10 46 11.9 +0.5**
SFJD pmax pmax
comp=Z,14nm,0.9s,mb5.0
SFJD MLR MLR
comp=Z,170nm,16.0s,MS4.1
SUMG Summit 51.97 22 *e*P **P 10 46 39.9 +0.5**
comp=Z,18nm,1.0s,mb5.0
ROSC El Rosal 55.42 115 LR LR 11 11 13.4
comp=Z,80nm,22.0s,MS3.8,baz=206,slow=36
TIXI Tiksi 59.12 339 *e*P **P 10 47 38.8 +7.9**
TIXI pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
TIXI MLR MLR
comp=Z,201nm,19.0s,MS4.3
ARCES ARCESS Array B 69.63 11 LR LR 11 21 15.8
comp=Z,181nm,19.0s,MS4.3,baz=342,slow=38
BOD Bodaibo 72.68 332 *e*P **P 10 48 56.5 -1.8**
BOD pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
NB2 NORSAR Subarra 73.84 21 P **P 10 49 06.3 +1.2**
comp=Z,5.0nm,1.0s,mb4.4,baz=322,slow=6.5
NOA NORSAR Array B 73.84 21 P **P 10 49 05.4 +0.3**
comp=Z,3.5nm,0.9s,mb4.3,baz=324,slow=5.9,SNR=6.7
MJAR Matsushiro Arr 74.19 304 P **P 10 49 09.8 +2.6**
comp=Z,42nm,0.3s,baz=25,slow=23,SNR=2.4
MDJ Mudanjiang 74.44 315 P **P 10 49 07.5 -1.1**
MDJ PP PP 10 51 52.7 -2.1
MDJ S S 10 58 42.8 -1.3
MDJ SCS ScS 10 59 19.1 -1.4
MDJ SS SS 11 03 28.8 -1.4
MDJ AMB AMB
comp=Z,5.0nm,0.7s,mb4.5
MDJ AMB AMB
comp=Z,96nm,4.1s
MDJ LR LR
comp=N,11nm,19.2s,MS4.0
MDJ LR LR
comp=E,86nm,21.3s,MS4.0
MDJ LR LR
comp=Z,117nm,21.3s,MS4.2
KAF Kangasniemi 76.52 14 *e*p **P 10 49 22.8 +2.2**
JOF Joensuu 76.66 12 *e*p **P 10 49 21.8 +0.5**
FINES FINESS Array B 77.09 15 P **P 10 49 24.0 +0.3**
comp=Z,2.1nm,0.8s,mb4.1,baz=35,slow=7.0,SNR=7.4
FINES FINESS Array B 77.09 15 P **P 10 49 24.0 +0.2**
CBIJ Chichi jima 77.10 294 LR LR 11 15 05.8
comp=Z,90nm,21.8s,MS4.0,baz=126,slow=29
CN2 Changchun 77.23 316 *e*P **P 10 49 22.0 -2.6**
CLL Collm 82.45 26 *e*P **P 10 49 52.0 -0.9**
CLL *ex* x 10 49 57.0
comp=Z,9.0nm,1.3s
BRG Berggiesshubel 83.14 26 *e*(P) **P 10 50 00.7 +4.3**
comp=Z,1.9nm,0.6s,mb4.3
BRG Berggiesshubel 83.14 26 *e*P **P 10 50 00.7 +4.3**
BRG pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
SONM Songino Array 83.30 329 P **P 10 49 59.6 +2.4**
comp=Z,1.9nm,0.7s,mb4.2,baz=24,slow=3.8,SNR=7.1
ESDC Sonseca Array B 84.09 43 P **P 10 50 01.8 +0.5**
comp=Z,0.3nm,0.3s,mb3.9,baz=304,slow=5.0,SNR=7.4
GERES GERESS Array B 84.76 27 P **P 10 50 06.0 +1.3**
comp=Z,1.1nm,0.8s,mb4.0,baz=329,slow=5.0,SNR=7.3
OBN Obninsk 84.94 12⇑*i*P **P 10 50 09.2 +3.6**
OBN pmax pmax
comp=Z,19nm,1.0s,mb5.2
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.5
HHC Hu-ho-hao-te 86.49 322 *e*P **P 10 50 13.4 +0.1**
HHC PP PP 10 53 37.6 +2.9
HHC SKS 11 00 37.6
HHC S 11 00 49.0
HHC SS SS 11 06 30.1 -0.3
HHC AMB AMB
comp=Z,8.0nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,132nm,5.7s
HHC LR LR
comp=N,149nm,22.0s,MS4.4
HHC LR LR
comp=E,98nm,23.3s,MS4.4
HHC LR LR
comp=Z,99nm,20.6s,MS4.2
AKASG Malin Array Be 87.69 17 P **P 10 50 19.8 +0.6**
comp=Z,0.2nm,0.2s,mb3.9,baz=319,slow=4.2,SNR=6.3
SSE Sheshan 88.43 309 *e*P **P 10 50 22.2 -0.5**
SSE AMB AMB
comp=Z,37nm,0.7s,mb5.7
SSE AMB AMB
comp=Z,62nm,3.6s
NJ2 Nanjing 89.14 312 *e*P **P 10 50 24.8 -1.2**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.3
LZH Lanzhou 93.94 324 *e*P **P 10 50 43.7 -4.6**
LZH *e*PP PP 10 54 30.5 -3.5
LZH AMB AMB
comp=Z,17nm,1.4s,mb5.3
LZH AMB AMB
comp=Z,48nm,9.3s
LZH LR LR
comp=N,198nm,18.2s
LZH LR LR
comp=Z,297nm,19.5s,MS4.8
CD2 Chengdu 98.21 321 *e*P **P 10 51 06.0 -1.7**

MOS ***12*** *10:38:22.4±1.7,5641N×11338E,h5km,mb4.2/1,Error ellipse: s-maj=23.5km s-min=14.0km az=65.5*
BYKL 12 10:38:22.4±0.3,5639N×11341E,6C-3D,East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**0.29**	**163**	⇑*i*Pg		Pg		10 38 26.6	-1.3
SVKR				*e*Sg		Sg		10 38 30.2	-1.4
SVKR				Pmax					
	2μm,0.2s								
SVKR				Smax					
	12μm,0.6s								
SVKR	**Severomuysk**	**0.29**	**163**	*e*PG		Pg		10 38 26.6	-1.3
SVKR				pmax	pmax				
	comp=Z,2μm,0.3s								
UKT	**Uakit**	**0.91**	**172**	⇑*i*Pg		Pg		10 38 38.3	-1.6
UKT				*e*Pb		Pb		10 38 41.1	0.0
UKT				*e*Sg		Sg		10 38 50.9	-0.8
UKT				*e*Sb		Sb		10 38 55.2	+1.5
UKT				Pmax					
	comp=Z,72nm,0.2s								
UKT				max					
	comp=Z,222nm,0.4s								
YOA	**Uoyan**	**0.98**	**255**	⇓*i*Pg		Pg		10 38 40.2	-0.9
YOA				*e*Sg		Sg		10 38 53.4	-0.3
YOA				Pmax					
	comp=Z,142nm,0.2s								
YOA				Smax					
	comp=Z,870nm,0.4s								
YOA	**Uoyan**	**0.98**	**255**	⇑*i*PG		Pg		10 38 40.2	-0.9
YOA				*e*				10 38 53.4	
YOA				pmax	pmax				
	comp=Z,119nm,0.2s								
YOA				smax					
	comp=E,870nm,0.3s								
NLYR	**Nelyaty**	**1.28**	**84**	*e*Pg		Pg		10 38 45.6	-1.3
NLYR				*e*Pb		Pb		10 38 46.7	-0.6
NLYR				*e*Sg		Sg		10 39 02.3	-1.2
NLYR				*e*				10 39 13.0	
NLYR				max					
	comp=E,52nm,0.4s								
NLYR				Smax					
	comp=E,581nm,1.0s								
NLYR	**Nelyaty**	**1.28**	**84**	*e*PG		Pg		10 38 45.3	-1.6
NLYR				*e*				10 39 02.4	
NLYR				pmax	pmax				
	comp=Z,51nm,0.3s								
NLYR				smax					
	comp=N,576nm,0.9s								
KMO	**Kumora**	**1.34**	**249**	⇓*i*Pg		Pg		10 38 45.8	-2.2
KMO				⇑*i*Pb		Pb		10 38 47.1	-1.2
KMO				*e*Sg		Sg		10 39 03.9	-1.4
KMO				max					
	comp=N,114nm,0.4s								
KMO				Smax					
	comp=N,374nm,0.8s								
KMO	**Kumora**	**1.34**	**249**	*e*PG		Pg		10 38 45.8	-2.2
KMO				*e*				10 39 03.1	
KMO				pmax	pmax				
	comp=Z,114nm,0.3s								
KMO				smax					
	comp=E,374nm,0.9s								
BOD	**Bodaibo**	**1.47**	**12**⇑*i*Pg			Pg		10 38 48.3	-2.3
BOD				*e*Sg		Sg		10 39 07.5	-2.1
BOD				Pmax					
	comp=E,201nm,0.3s								
BOD				Smax					
	comp=E,380nm,0.3s								
BOD	**Bodaibo**	**1.47**	**12**⇑*i*PG			Pg		10 38 47.8	-2.8
BOD				*e*				10 39 07.1	
BOD				pmax	pmax				
	comp=Z,202nm,0.2s								
BOD				smax					
	comp=E,380nm,0.3s								
YLYR	**Ulyunkhan**	**1.98**	**221**	*e*Pn		Pn		10 38 56.1	-1.1
YLYR				*e*Pg		Pg		10 38 57.4	-3.0
YLYR				*e*				10 39 22.1	
YLYR				*e*Sg		Sg		10 39 24.2	-1.9
YLYR				Pmax					
	comp=E,25nm,0.3s								
YLYR				Smax					
	comp=E,316nm,0.3s								
YLYR	**Ulyunkhan**	**1.98**	**221**	*e*PN		Pn		10 38 56.1	-1.1
YLYR				*e*				10 38 57.9	
YLYR				*e*				10 39 23.5	
YLYR				pmax	pmax				
	comp=Z,25nm,0.3s								
YLYR				smax					
	comp=E,320nm,0.3s								
NIZ	**Nizh Angarsk**	**2.25**	**256**	*e*Pn		Pn		10 39 00.3	-0.6
NIZ				*e*Pg		Pg		10 39 03.6	-2.0
NIZ				*e*Sg		Sg		10 39 32.7	-2.1
NIZ				Pmax					
	comp=E,19nm,0.3s								
NIZ				Smax					
	comp=E,266nm,0.4s								
NIZ	**Nizh Angarsk**	**2.25**	**256**	*e*PN		Pn		10 39 00.4	-0.5
NIZ				*e*				10 39 03.4	
NIZ				*e*				10 39 32.8	
NIZ				pmax	pmax				
	comp=Z,20nm,0.4s								
NIZ				smax					
	comp=N,267nm,0.5s								
CRS	**Chara**	**2.73**	**77**	*e*Pn		Pn		10 39 06.6	-0.9
CRS				*e*Pg		Pg		10 39 11.5	-3.3
CRS				*e*Sg		Sg		10 39 46.8	-3.4
CRS				Pmax					
	comp=N,38nm,0.9s								
CRS				Smax					
	comp=N,105nm,1.6s								
CRS	**Chara**	**2.73**	**77**	*e*PN		Pn		10 39 08.5	+1.0
CRS				*e*				10 39 12.7	
CRS				*e*				10 39 46.9	
CRS				pmax	pmax				
	comp=Z,37nm,1.0s								
CRS				smax					
	comp=E,91nm,1.2s								
SYVR	**Suvo**	**3.37**	**217**	*e*		Pg		10 39 24.4	-2.6
SYVR				*e*Sg		Sg		10 40 05.6	-5.1
SYVR				Smax					
	comp=E,114nm,1.9s								
KHNR	**Khani**	**3.67**	**79**	*e*Pg		Pg		10 39 29.0	-3.7
KHNR				*e*Sg		Sg		10 40 16.9	-3.3
MXMB	**Maximikha**	**4.13**	**223**	*e*Pg		Pg		10 39 37.4	-4.2
MXMB				*e*				10 40 15.6	
MXMB				*e*Sg		Sg		10 40 30.3	-4.9
MXMB				Pmax					
	comp=E,11nm,0.1s								
MXMB				Smax					
	comp=E,121nm,0.8s								
TUP	**Tupik**	**4.22**	**115**	*e*Pn		Pn		10 39 26.1	-1.8
TUP				*e*Pg		Pg		10 39 38.0	-5.2
TUP				*e*Sn		Sn		10 40 13.9	-4.0
TUP				*e*Sg		Sg		10 40 32.9	-5.0
TUP				Pmax					
	comp=E,12nm,0.3s								
TUP				Smax					
	comp=E,65nm,1.0s								
OGRR	**Ongureny**	**4.33**	**233**	⇓*i*Pn		Pn		10 39 28.0	-1.5
OGRR				*e*Pg		Pg		10 39 39.7	-5.7
OGRR				*e*Sn		Sn		10 40 18.0	-2.7
OGRR				*e*Sg		Sg		10 40 35.7	-5.9
OGRR				Pmax					
	comp=E,2.0nm,0.5s								
OGRR				Smax					
	comp=E,22nm,0.6s								
CIT	**Chita**	**4.38**	**179**	*e*Pn		Pn		10 39 30.7	+0.6
CIT				*e*Pg		Pg		10 39 41.0	-5.3
CIT				*e*Sg		Sg		10 40 37.5	-5.6
CIT				Pmax					
	comp=E,12nm,0.5s								
CIT				Smax					
	comp=E,49nm,1.0s								
KELR	**Kotokel**	**4.78**	**223**	*e*Sg		Sg		10 40 51.8	-4.1
KELR				Smax					
	comp=E,83nm,0.3s								
TRTB	**Turuntaevo**	**5.37**	**221**	*e*Pg		Pg		10 40 00.1	-5.2
TRTB				*e*				10 40 44.8	
TRTB				*e*Sg		Sg		10 41 09.0	-5.8
TRTB				Pmax					
	comp=E,2.0nm,0.8s								
TRTB				Smax					
	comp=E,15nm,1.0s								
TRG	**Tyrgan**	**5.49**	**231**	*e*Pn		Pn		10 39 43.3	-2.0
TRG				*e*Sg		Sg		10 41 11.4	-7.2
TRG				Smax					
	comp=E,13nm,0.8s								
KPC	**Khapcheranga**	**6.73**	**186**	*e*Pn		Pn		10 39 59.4	-3.0
KPC				*e*Pg		Pg		10 40 23.7	-7.6
KPC				*e*Sg		Sg		10 41 50.8	-7.7
KPC				Pmax					
	comp=E,3.0nm,1.0s								
KPC				Smax					
	comp=E,19nm,1.3s								
TLY	**Talaya**	**7.43**	**235**	*e*Sg		Sg		10 42 11.8	-9.4
TLY				Smax					
	comp=E,4.0nm,0.4s								
ARS	**Arshan**	**7.85**	**240**	*e*Sg		Sg		10 42 25.1	-9.3
ARS				Smax					
	comp=E,31nm,0.7s								
MOY	**Mondy**	**8.70**	**242**	*e*Sg		Sg		10 42 52.8	-9.0
MOY				Smax					
	comp=E,19nm,2.5s								
ORL	**Orlik**	**8.81**	**250**	*e*Pn		Pn		10 40 28.6	-2.4
ORL				*e*				10 42 09.3	
ORL				*e*Sg		Sg		10 42 54.0	-11
ORL				Smax					
	comp=E,15nm,1.8s								
TDJR	**Todzha**	**10.85**	**256**	*e*Sg		Sn		10 43 55.6	+55

ISCJB ***12*** *10:38:35.3±0.5,3887N±004×12273W±005,h3km,mb4.0/9, MS4.0/1,Error ellipse: s-maj=6.6km s-min=5.2km az=109.6*
NEIC ***12*** *10:38:35.9,3884N×12285W,h3km,mb4.4/2, ML4.2(NCEDC),After NCEDC.*
NEIC Felt [IV] at Middletown. Felt at Angwin, Calistoga, Cloverdale, Kelseyville, Lower Lake, Pope Valley and Santa Rosa.
IDC ***12*** *10:38:35.2±1.9,3865N×12280W,h0km,mb4.0/8, mb1 4.2/10,mb1mx4.0/22,mbtmp4.0/10,ML3.8/2,MS3.9/1, Ms1 4.0/1,ms1mx2.7/24,Error ellipse: s-maj=30.7km s-min=20.0km az=52.0*
ISC 12 10:38:36.3±0.5,3884N±004×12284W±006,h3km,n37,σ1§18/39,mb4.0/9,MS4.0/1,Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPS	**Hopland**	**0.24**	**310**	*eP*	**Pg**	**10 38 40.9**	**0.0**
MCCM	**Marconi Confer**	**0.69**	**183**	*eP*	**Pg**	**10 38 49.4**	**-0.2**
OHCM	**Honcut**	**1.16**	**64**	*eP*	**Pg**	**10 38 56.2**	**-2.4**
SAC	**San Andreas**	**1.30**	**165**	*eP*	**Pg**	**10 38 59.7**	**-1.4**
WDC	**Whiskeytown Da**	**1.75**	**7**	*ePg*	**Pg**	**10 39 11.9**	**+2.0**
KHMM	**Horse Mountain**	**2.15**	**342**	Pg	**Pg**	**10 39 18.6**	**+1.1**
YBH	**Yreka Blue Hor**	**2.89**	**2**	Pn	**Pn**	**10 39 25.9**	**+2.6**
	1.1nm,0.3s,baz=170,slow=12,SNR=6.8						
YBH				Pg	**Pg**	**10 39 30.3**	**-1.4**
	8.7nm,0.3s,baz=214,slow=9.3,SNR=4.4						
HUMO	**Hull Mountain**	**3.77**	**359**	*ePg*	**Pg**	**10 39 46.1**	**-2.4**
TPH	**Tonopah**	**4.47**	**98**	*ePg*	**Pg**	**10 39 53.7**	**-8.3**
ISA	**Isabella**	**4.71**	**131**	P	**Pn**	**10 39 47.1**	**-1.1**
WVOR	**Wild Horse Val**	**4.81**	**40**	Pn	**Pn**	**10 39 50.7**	**+1.1**
WVOR				*ePg*	**Pg**	**10 40 07.0**	**-1.4**
GSC	**Goldstone**	**5.97**	**124**	Pn	**Pn**	**10 40 06.1**	**+0.4**
REDW	**Red Top Meadow**	**10.11**	**60**	Sn	**Sn**	**10 42 56.7**	**+0.4**
PDAR	**Pinedale Array**	**10.80**	**64**	Pn	**Pn**	**10 41 15.7**	**+3.8**
	0.1nm,0.3s,baz=249,slow=12,SNR=5.2						
MVCO	**Mesa Verde**	**11.43**	**94**	*e*Sn	**Sn**	**10 43 30.2**	**+1.6**
ISCO	**Idaho Springs**	**13.37**	**80**	P	**Pn**	**10 41 47.9**	**+0.9**
PHWY	**Pilot Hill**	**13.54**	**74**	Pn	**Pn**	**10 41 49.6**	**+0.3**
EDM	**Edmonton**	**15.80**	**21**	*eP*	**Pn**	**10 42 18.1**	**-1.7**
MNTX	**Cornudas Mount**	**15.92**	**111**	*eP*	**Pn**	**10 42 20.4**	**-0.9**
GDL2	**Guadalupe Moun**	**16.42**	**108**	*eP*	**Pn**	**10 42 29.8**	**+2.1**
WMOK	**Wichita Mounta**	**19.68**	**95**	*eP*	**Pn**	**10 43 07.3**	**-0.6**
	13nm,1.2s						
KSU1	**Kansas State U**	**20.38**	**81**	*eP*	**P**	**10 43 13.6**	**-0.5**
JCT	**Junction City**	**20.66**	**107**	*eP*	**P**	**10 43 18.4**	**+1.2**
FFC	**Flin Flon**	**21.24**	**35**	*eP*	**P**	**10 43 21.3**	**-2.1**
ULM	**Lac du Bonnet**	**22.22**	**50**	P	**P**	**10 43 32.5**	**-1.5**
	11nm,0.8s,mb4.3,baz=248,slow=9.9,SNR=6.4						
HKT	**Hockley**	**23.91**	**104**	P	**P**	**10 43 51.4**	**-0.1**
NATX	**Nacogdoches**	**24.00**	**98**	P	**P**	**10 43 53.7**	**+1.6**
DAWY	**Dawson**	**27.11**	**344**	P	**P**	**10 44 20.6**	**+0.1**
FCC	**Fort Churchill**	**27.14**	**33**	P	**P**	**10 44 20.8**	**0.0**
ILAR	**Eielson Array**	**29.55**	**339**	P	**P**	**10 44 43.1**	**+0.9**
	1.0nm,1.0s,mb3.5,baz=150,slow=8.1,SNR=3.6						
INK	**Inuvik**	**30.10**	**352**	P	**P**	**10 44 47.6**	**+0.5**
	4.2nm,1.2s,mb4.1,baz=168,slow=10,SNR=7.0						
SCHQ	**Schefferville**	**40.35**	**48**	P	**P**	**10 46 14.7**	**-0.6**
	2.8nm,1.1s,mb3.9,baz=252,slow=9.1,SNR=3.8						
SUMG	**Summit**	**51.79**	**22**	*eP*	**P**	**10 47 45.5**	**+0.1**
	11nm,1.1s,mb4.7						
NOA	**NORSAR Array B**	**73.66**	**21**	P	**P**	**10 50 11.7**	**+0.4**
	1.7nm,0.9s,mb4.0,baz=325,slow=5.8,SNR=2.9						
NOA				LR	LR	11 22 38.1	
	comp=Z,76nm,18.6s,MS4.0,baz=305,slow=36						
ESDC	**Sonseca Array**	**83.91**	**43**	P	**P**	**10 51 07.7**	**+0.1**
	0.2nm,0.2s,mb3.8,baz=312,slow=4.8,SNR=5.6						
GERES	**GERESS Array B**	**84.58**	**27**	P	**P**	**10 51 11.5**	**+0.5**
	0.2nm,0.2s,mb3.8,baz=307,slow=2.9,SNR=4.1						
AKASG	**Malin Array Be**	**87.52**	**17**	P	**P**	**10 51 25.4**	**-0.2**
	0.2nm,0.2s,mb3.9,baz=324,slow=3.7,SNR=4.4						

CSEM ***12*** *10:50:34.8±0.2, 4697N×137W, h0km, ML2.9/12, Error ellipse: s-maj=2.0km s-min=1.0km az=47.0*
NEIC ***12*** *10:50:35.2, 4698N×135W, h2km, ML2.3(STR), ML2.9(LDG), After LDG.*
STR ***12*** *10:50:36.4±0.2, 4682N×144W, h2km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 12 10:50:35.2±0.1, 4698N×135W, h2km, Md2.8/1, Ml2.9/13, Error ellipse: s-maj=2.2km s-min=1.3km az=44.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCHF	**La Chataignera**	**0.52**	**126**	Pg	Pg	10 50 45.7	+0.5
LCHF				Sg	Sg	10 50 52.7	+0.7
MFF	**Saint Martin d**	**0.91**	**114**	*e*Pn	Pn	10 50 52.8	-2.2
MFF				*e*Sg	Sg	10 51 04.1	-0.4
	29nm,0.2s						
MFF	**Saint Martin d**	**0.91**	**114**	*e*Pg	Pg	10 50 51.5	-1.2
MFF				*e*Pn	Pn	10 50 52.8	-2.2
MFF				*e*Sg	Sg	10 51 04.1	-0.4
MFF	**Saint Martin d**	**0.91**	**114**	*e*Pn	Pn	10 50 52.8	-2.2
MFF				*e*Sg	Sg	10 51 04.1	-0.4
	14nm,0.2s						
CHIF	**Chize**	**1.07**	**142**	Pg	Pg	10 50 55.0	-0.7
CHIF				Sg	Sg	10 51 08.7	-0.9
GRR	**Gorron**	**1.45**	**13**	*e*Pg	Pg	10 51 02.0	-0.9
GRR				*e*Sn	Sn	10 51 18.9	-3.0
	25nm,0.2s						
GRR	**Gorron**	**1.45**	**13**	*e*Pn	Pn	10 51 01.1	-1.3
GRR				*e*Pg	Pg	10 51 02.0	-0.9
GRR				*e*Sn	Sn	10 51 18.9	-3.0
GRR	**Gorron**	**1.45**	**13**	*e*Pg	Pg	10 51 02.0	-0.9
GRR				*e*Sn	Sn	10 51 18.9	-3.0
	13nm,0.2s						
SGMF	**Saint Gilles**	**1.51**	**328**	*e*Pn	Pn	10 51 02.1	-1.2
SGMF				*e*Sg	Sg	10 51 22.6	-1.2
	41nm,0.3s						
SGMF	**Saint Gilles**	**1.51**	**328**	*e*Pn	Pn	10 51 02.1	-1.2
SGMF				*e*Sg	Sg	10 51 22.6	-1.2
	21nm,0.3s						
QUIF	**Quistinic**	**1.55**	**308**	*e*Pg	Pg	10 51 03.6	-1.3
QUIF				*e*Sg	Sg	10 51 24.2	-0.7
	14nm,0.2s						
QUIF	**Quistinic**	**1.55**	**308**	*e*Pn	Pn	10 51 02.1	-1.7
QUIF				*e*Pg	Pg	10 51 03.6	-1.3
QUIF				*e*Sg	Sg	10 51 24.2	-0.7
QUIF	**Quistinic**	**1.55**	**308**	*e*Pg	Pg	10 51 03.6	-1.3
QUIF				*e*Sg	Sg	10 51 24.2	-0.7
	7.2nm,0.2s						
LDF	**La Druitiere**	**1.81**	**27**	*e*Pg	Pg	10 51 08.4	-1.6
LDF				*e*Sg	Sg	10 51 32.0	-1.5
	12nm,0.3s						
LDF	**La Druitiere**	**1.81**	**27**	*e*Pn	Pn	10 51 05.9	-1.5
LDF				*e*Pg	Pg	10 51 08.4	-1.6
LDF				*e*Sg	Sg	10 51 32.0	-1.5
LDF	**La Druitiere**	**1.81**	**27**	*e*Pg	Pg	10 51 08.4	-1.6
LDF				*e*Sg	Sg	10 51 32.0	-1.5
	6.1nm,0.3s						
FLN	**La Foliniere**	**1.88**	**18**	*e*Pg	Pg	10 51 09.5	-1.7
FLN				*e*Sg	Sg	10 51 33.5	-2.0
	11nm,0.2s						
FLN	**La Foliniere**	**1.88**	**18**	*e*Pn	Pn	10 51 06.7	-1.6
FLN				*e*Pg	Pg	10 51 09.5	-1.7
FLN				*e*Sg	Sg	10 51 33.5	-2.0
FLN	**La Foliniere**	**1.88**	**18**	*e*Pg	Pg	10 51 09.5	-1.7
FLN				*e*Sg	Sg	10 51 33.5	-2.0
	5.7nm,0.2s						
ROSF	**Rostrenen**	**1.88**	**317**	*e*Pg	Pg	10 51 09.8	-1.4
ROSF				*e*Sg	Sg	10 51 34.0	-1.6
	11nm,0.3s						
ROSF	**Rostrenen**	**1.88**	**317**	*e*Pn	Pn	10 51 06.8	-1.5
ROSF				*e*Pg	Pg	10 51 09.8	-1.4
ROSF				*e*Sg	Sg	10 51 34.0	-1.6
ROSF	**Rostrenen**	**1.88**	**317**	*e*Pg	Pg	10 51 09.8	-1.4
ROSF				*e*Sg	Sg	10 51 34.0	-1.6
	5.4nm,0.3s						
LFF	**La Frestale**	**2.51**	**144**	*e*Pg	Pg	10 51 21.5	-1.8
LFF				*e*Sg	Sg	10 51 54.1	-1.7
	14nm,0.3s						
LFF	**La Frestale**	**2.51**	**144**	*e*Pg	Pg	10 51 21.5	-1.8
LFF				*e*Sg	Sg	10 51 54.1	-1.7
	7.2nm,0.3s						
TCF	**Toulx Ste Croi**	**2.55**	**104**	*e*Pg	Pg	10 51 22.1	-2.0
TCF				*e*Sg	Sg	10 51 54.3	-2.8
	15nm,0.4s						
TCF	**Toulx Ste Croi**	**2.55**	**104**	*e*Pg	Pg	10 51 22.1	-2.0
TCF				*e*Sg	Sg	10 51 54.3	-2.8
	7.3nm,0.4s						
RJF	**Les Rejaudoux**	**2.60**	**129**	*e*Pg	Pg	10 51 22.9	-2.2
RJF				*e*Sg	Sg	10 51 56.7	-2.2
HYF	**Humbligny**	**2.74**	**83**	*e*Pg	Pg	10 51 26.4	-1.3
HYF				*e*Sg	Sg	10 52 01.8	-1.4
BGF	**Bois d'Agland**	**2.92**	**97**	*e*Pg	Pg	10 51 30.2	-0.9
BGF				*e*Sg	Sg	10 52 06.5	-2.4
	20nm,0.3s						
BGF	**Bois d'Agland**	**2.92**	**97**	*e*Pn	Pn	10 51 21.2	-1.4
BGF				*e*Pg	Pg	10 51 30.2	-0.9
BGF				*e*Sg	Sg	10 52 06.5	-2.4
BGF	**Bois d'Agland**	**2.92**	**97**	*e*Pg	Pg	10 51 30.2	-0.9
BGF				*e*Sg	Sg	10 52 06.5	-2.4
	9.8nm,0.3s						
CAF	**Calviac**	**3.15**	**130**	*e*Sn	Sn	10 52 00.8	-3.1
CAF				*e*Sg	Sg	10 52 14.7	-1.6
	6.4nm,0.3s						
CAF	**Calviac**	**3.15**	**130**	*e*Sn	Sn	10 52 00.8	-3.1
CAF				*e*Sg	Sg	10 52 14.7	-1.6
	3.2nm,0.3s						
AVF	**Avril sur Loir**	**3.23**	**92**	*e*Pg	Pg	10 51 34.5	-2.6
AVF	**Avril sur Loir**	**3.23**	**92**	*e*Pn	Pn	10 51 25.0	-1.9
AVF				*e*Pg	Pg	10 51 34.5	-2.6
AVF	**Avril sur Loir**	**3.23**	**92**	*e*Pg	Pg	10 51 34.5	-2.6
SSF	**Saint Saulge**	**3.32**	**87**	*e*Pn	Pn	10 51 26.7	-1.5
SSF				*e*Pg	Pg	10 51 37.0	-1.9
LOR	**Lormes**	**3.57**	**83**	*e*Pg	Pg	10 51 42.1	-1.5
SMF	**Signal de Mont**	**3.58**	**93**	*e*Sg	Sg	10 52 27.8	-2.5
	3.5nm,0.3s						
SMF	**Signal de Mont**	**3.58**	**93**	*e*Sg	Sg	10 52 27.8	-2.5
	1.8nm,0.3s						
SJPF	**Ste Jean**	**3.87**	**179**	*e*Pg	Pg	10 51 46.6	-2.7
EPF	**Esparros**	**4.13**	**162**	*e*Pn	Pn	10 51 37.3	-1.9
MTLF	**Montolieu**	**4.43**	**144**	*e*Pn	Pn	10 51 41.8	-1.6
BAIF	**Baives**	**4.81**	**48**	*e*Pn	Pn	10 51 47.1	-1.5

IDC 12 10:53:00.7±1.6, 2086S×17444W, h0km, mb3.6/4, mb1 4.0/5, mb1mx3.9/15, mbtmp3.7/5, ML4.0/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/22, Error ellipse: s-maj=74.4km s-min=26.4km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.37**	**21**	Pn	Pn	10 54 42.5	-6.9
	5.4nm,0.3s,baz=317,slow=17,SNR=7.9						
AFI				Sn	Sn	10 55 59.2	-14
	3.9nm,0.3s,baz=226,slow=18,SNR=2.9						
AFI				T		11 02 04.2	
	2.5nm,0.3s,baz=58,slow=17,SNR=5.5						
RAR	**Rarotonga**	**13.70**	**94**	Pn	Pn	10 56 03.6	-13
	2.0nm,0.3s,baz=14,slow=5.3,SNR=6.5						
RAR				LR	LR	11 00 21.5	
	comp=Z,182nm,20.1s,baz=216,slow=32						
URZ	**Urewera**	**18.82**	**201**	Pn	Pn	10 57 23.5	+1.3
	0.5nm,0.3s,baz=31,slow=22,SNR=3.1						
TBI	**Tubuai**	**23.27**	**101**	*e*LR	LR	11 03 19.9	
	69nm,27.5s						
PPT	**Papeete**	**23.70**	**86**	*e*LR	LR	11 03 27.3	
	136nm,30.0s						
ASAR	**Alice Springs**	**47.68**	**257**	P	P	11 01 39.0	+0.1
	0.6nm,0.5s,baz=105,slow=7.7,SNR=17						
WRA	**Warramunga Arr**	**47.85**	**262**	P	P	11 01 40.4	+0.3
	0.9nm,0.9s,baz=96,slow=7.6,SNR=16						
NVAR	**Mina Array Bea**	**79.04**	**42**	P	P	11 05 06.3	-0.2
	1.0nm,1.0s,baz=210,slow=6.7,SNR=5.1						
ILAR	**Eielson Array**	**87.96**	**11**	P	P	11 05 53.3	+0.8
	0.6nm,1.0s,baz=214,slow=5.2,SNR=5.1						
AKASG	**Malin Array Be**	**144.88**	**334**	PKP	PKPdf	11 12 37.5	-2.1
	0.7nm,0.5s,baz=39,slow=4.0,SNR=9.0						
BRTR	**Keskin Array B**	**149.51**	**314**	PKPbc	PKPbc	11 12 52.5	+0.6
	0.5nm,0.6s,baz=189,slow=2.8,SNR=3.5						

PRE 12 10:58:44.2±1.6, 2692S×2681E, h2km, ML3.8, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSR	**Koster**	**1.07**	**4**	*eP*	Pg	10 59 05.3	+0.6
KSR				*e*S	Sg	10 59 18.8	+0.3
KSR				AML	AML	10 59 26.3	
	comp=Z,4μm,0.2s						
SWZ	**Schweizer**	**1.34**	**259**	*eP*	Pg	10 59 10.2	+0.3
SWZ				*e*S	Sg	10 59 28.3	+1.0
SWZ				AML	AML	10 59 31.9	
	comp=Z,1μm,0.3s						
SLR	**Silverton**	**1.77**	**49**	*eP*	Pn	10 59 16.8	+0.9
SLR				*e*S	Sn	10 59 40.1	+1.1
SLR				AML	AML	10 59 43.6	
	comp=Z,1μm,0.5s						
LBTB	**Lobatse**	**2.19**	**330**	*eP*	Pn	10 59 22.9	+1.4
LBTB				*e*S	Sn	10 59 49.5	+0.3
LBTB				AML	AML	11 00 06.1	
	comp=Z,172nm,0.3s						
BFT	**Belfast (SA)**	**3.15**	**68**	*eP*	Pn	10 59 36.0	+1.2
BFT				*e*S	Sn	11 00 12.8	-0.3
BFT				AML	AML	11 00 24.2	
	comp=Z,136nm,0.4s						
POGA	**Pongola**	**4.30**	**97**	*eP*	Pn	10 59 52.8	+2.1
POGA				*e*S	Sn	11 00 42.1	+0.6
POGA				AML	AML	11 01 07.4	
	comp=Z,176nm,0.4s						
PKA	**Prieska**	**4.50**	**232**	*eP*	Pn	10 59 40.4	-13
PKA				*e*S	Sn	11 00 29.2	-17
UPI	**Upington**	**5.13**	**252**	*eP*	Pn	11 00 03.8	+1.7
UPI				*e*S	Sn	11 01 01.0	-0.8
UPI				AML	AML	11 01 25.1	
	comp=Z,64nm,0.4s						
GRM	**Grahamstown**	**6.38**	**182**	*eP*	Pn	11 00 20.5	+1.4
GRM				*e*S	Sn	11 01 45.8	+13
SUR	**Sutherland**	**7.53**	**222**	*eP*	Pn	11 00 35.4	+0.4
SUR				*e*S	Sn	11 01 57.2	-3.8
CVNA	**Calvinia**	**7.65**	**232**	*eP*	Pn	11 00 38.2	+1.5
CVNA				*e*S	Sn	11 01 60.0	-3.9
CVNA				AML	AML	11 02 05.4	
	comp=Z,21nm,0.3s						

CASC 12 11:04:35.1±2.8, 1355N×9057W, h27km±8km, MD3.7, 6C-10D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.63**	**10**	*e*P	Pb	11 04 47.7	+0.1
IXG				*e*S	Sb	11 04 57.9	+1.8
PCG	**Pacaya**	**0.84**	**358**	*e*P	Pb	11 04 51.6	+0.5
PCG				*e*S	Sb	11 05 04.0	+1.9
FUG	**Fuego 3**	**0.93**	**344**	*e*P	Pn	11 04 52.3	-0.1
RTR	**El Retiro**	**0.97**	**69**	*i*P	Pn	11 05 12.0	+19
RTR				*e*S	Sb	11 05 25.4	+20
SBLS	**San Blas**	**0.97**	**72**	*i*P	Pn	11 05 11.8	+19
SBLS				*e*S	Sb	11 05 26.2	+21
BOQS	**Boqueron**	**1.27**	**81**	*e*P	Pn	11 05 18.4	+21
BOQS				*e*S	Sn	11 05 37.2	+24
JAT	**Jato**	**1.29**	**307**	*e*P	Pn	11 04 57.8	+0.6
SNET	**Serv Nac Est T**	**1.31**	**84**	*e*P	Pn	11 04 56.9	-0.7
SNET				*e*S	Sn	11 05 13.4	-0.8
LFU	**La Fuente**	**1.43**	**82**	*e*P	Pn	11 05 18.2	+19
LFU				*e*S	Sn	11 05 37.8	+21
MTO2	**Montecristo 2**	**1.45**	**54**	*e*P	Pn	11 05 17.7	+18
MTO2				*e*S	Sn	11 05 36.0	+18
LFRS	**El Faro**	**1.47**	**87**	*e*P	Pn	11 05 18.4	+19
LFRS				*e*S	Sn	11 05 37.1	+19
LCBS	**La Ceiba**	**1.55**	**86**	*e*P	Pn	11 05 19.6	+19
LCBS				*e*S	Sn	11 05 40.1	+20
SNVI	**San Vicente**	**1.69**	**88**	*e*P	Pn	11 05 18.9	+16
SNVI				*e*S	Sn	11 05 38.9	+15
BLLM	**Bellamira**	**2.27**	**92**	*e*P	Pn	11 05 30.1	+19
BLLM				*e*S	Sn	11 05 58.5	+21
CNCH	**Conchagua**	**2.68**	**95**	*e*P	Pn	11 05 35.3	+19
CNCH				*e*S	Sn	11 06 08.1	+20
CRIN	**San Cristobal**	**3.53**	**103**	*e*P	Pn	11 05 29.3	+1.1
CRIN				*e*S	Sn	11 06 12.7	+3.7
LEON	**Leon**	**3.76**	**107**	*e*P	Pn	11 05 30.1	-1.1
MIRN	**Miramar**	**3.92**	**106**	*e*P	Pn	11 05 33.7	+0.2
MIRN				*e*S	Sn	11 06 18.6	0.0
COPN	**Copaltepe**	**4.11**	**109**	*e*P	Pn	11 05 35.4	-0.8
APYN	**Apoyeque**	**4.32**	**107**	*e*P	Pn	11 05 39.1	+0.2

IDC ***12*** *11:14:23.6±0.8, 552S×10565E, h0km, mb4.0/8, mb1 4.1/8, mb1mx4.0/17, mbtmp4.0/8, Error ellipse: s-maj=36.8km s-min=19.2km az=51.0*
NEIC ***12*** *11:14:25.0±0.5, 552S×10569E, h10km, mb4.3/2, Error ellipse: s-maj=22.1km s-min=11.2km az=49.0*
ISCJB ***12*** *11:14:26.4±0.7, 55S±02×1057E±02, h33km, mb4.0/9, Error ellipse: s-maj=30.7km s-min=14.6km az=100.4*

ISC 12 11:14:28.9±0.7, 55S±02×1057E±02, h35km, n12, σ0§56/11, mb4.0/9, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.34**	**120**	P	**P**	**11 20 46.5**	**+0.5**
	0.4nm,0.5s,mb3.5,baz=291,slow=10,SNR=8.5						
WRA				PcP	PcP	11 23 40.1	+0.8
	0.3nm,0.4s,baz=304,slow=1.9,SNR=14						
WRAB	**Tennant Creek**	**31.35**	**120**	P	**P**	**11 20 45.1**	**-0.9**
	2.2nm,0.8s,mb4.0						
ASAR	**Alice Springs**	**32.62**	**126**	P	**P**	**11 20 58.0**	**+0.8**
	1.1nm,0.7s,mb3.9,baz=294,slow=7.8,SNR=16						
ASAR				PcP	PcP	11 23 43.7	+0.9
	0.6nm,0.7s,baz=305,slow=2.1,SNR=8.0						
STKA	**Stephens Creek**	**42.60**	**132**	*e*P	**P**	**11 22 21.1**	**-0.4**
	6.5nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**42.60**	**132**	P	**P**	**11 22 21.4**	**-0.2**
	6.9nm,0.6s,mb4.6,baz=299,slow=8.3,SNR=18						
SONM	**Songino Array**	**53.15**	**1**	P	**P**	**11 23 43.6**	**+0.4**
	0.6nm,0.7s,mb3.6,baz=172,slow=4.2,SNR=3.5						
WSAR	**Wadi Sarin**	**54.10**	**304**	P	**P**	**11 23 50.3**	**+0.1**
	4.0nm,0.8s,mb4.4,baz=135,slow=7.1,SNR=4.2						
MKAR	**Makanchi Array**	**56.07**	**341**	P	**P**	**11 24 03.9**	**-0.5**
	0.4nm,0.5s,mb3.7,baz=171,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**56.07**	**341**	P	**P**	**11 24 03.9**	**-0.5**
MAW	**Mawson**	**68.38**	**196**	P	**P**	**11 25 27.3**	**+0.4**
	2.7nm,0.7s,mb4.4,baz=16,slow=7.4,SNR=4.4						
VNDA	**Vanda**	**77.64**	**169**	P	**P**	**11 26 21.0**	**-0.6**
	1.0nm,0.8s,mb3.8,baz=314,slow=4.6,SNR=4.7						
BDFB	**Brasilia**	**146.50**	**231**	PKPbc	PKPbc	11 34 07.8	+1.5
	2.7nm,0.4s,baz=126,slow=4.8,SNR=4.0						

FUNV 12 11:19:36.8, 960N×7083W, h32km, MW3.6, 6C-2D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QARV	**Quebrada Arrib**	**0.67**	**27**	*i*P	Pn	11 19 50.1	0.0
QARV				*e*S	Sb	11 20 00.9	+1.7
VIGV	**El Vigia**	**0.92**	**215**	*i*P	Pn	11 19 53.3	-0.3
VIGV				*e*S	Sn	11 20 06.2	+0.5
CURV	**Curarigua**	**0.95**	**64**	*e*P	Pn	11 19 53.3	-0.6
CURV				*e*S	Sn	11 20 05.5	-0.9
SANV	**Sanarito**	**1.28**	**94**	*e*P	Pn	11 19 58.2	-0.3
SANV				*e*S	Sn	11 20 14.7	+0.1
SOCV	**Socops**	**1.31**	**181**	*i*P	Pn	11 19 58.6	-0.3
SOCV				*e*S	Sn	11 20 15.3	0.0
DABV	**Dabajuro**	**1.33**	**8**	*i*P	Pn	11 19 59.1	0.0
DABV				*e*S	Sn	11 20 15.7	0.0
SIQV	**Siquisique**	**1.45**	**44**	*e*P	Pn	11 20 00.8	0.0
SIQV				*e*S	Sn	11 20 17.5	-1.2
TEPV	**Terepaima**	**1.66**	**77**	*e*P	Pn	11 20 03.8	+0.1
TEPV				*e*S	Sn	11 20 23.7	-0.1
VIRV	**Villa del Rosa**	**1.79**	**300**	*i*P	Pn	11 20 04.3	-1.2
CAPV	**Capacho**	**2.26**	**220**	*e*P	Pn	11 20 11.5	-0.5
JACV	**Jacura**	**2.46**	**53**	*e*P	Pn	11 20 14.0	-0.8
MONV	**Montecano**	**2.49**	**20**	*i*P	Pn	11 20 14.2	-0.9
MONV				*e*S	Sn	11 20 41.7	-2.6
IMOV	**Isla Los Monje**	**2.74**	**359**	*e*P	Pn	11 20 17.6	-1.0
BAUV	**El Baul**	**2.83**	**103**	*e*P	Pn	11 20 18.2	-1.6
ELOV	**Elorza**	**2.91**	**153**	*e*P	Pn	11 20 19.1	-1.8
ELOV				*e*S	Sn	11 20 52.2	-2.5
TURV	**Turiamo**	**3.06**	**74**	*e*P	Pn	11 20 21.6	-1.5
TURV				*e*S	Sn	11 20 55.5	-3.1
CUPV	**Cœpira**	**4.99**	**84**	*e*P	Pn	11 20 47.8	-1.7

ISCJB ***12*** *11:30:11.4±0.8, 1746S±005×6985W±009, h136km±8km, mb4.2/6, Error ellipse: s-maj=14.0km s-min=8.9km az=13.2*
IDC ***12*** *11:30:13.9±1.5, 1752S×6965W, h138km±10km, mb4.1/6, mb1 4.2/8, mb1mx3.9/17, mbtmp4.6/8, Error ellipse: s-maj=24.2km s-min=10.2km az=104.0*
NEIC ***12*** *11:30:14.6±1.1, 1743S×6966W, h144km±9km, mb4.3/1, Error ellipse: s-maj=20.2km s-min=10.0km az=100.0*

ISC 12 11:30:12.1±0.7, 1745S±005×6994W±006, h126km±7km, n21, σ1§32/26, mb4.3/6, 2C, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.08**	**57**	P	**Pn**	**11 30 49.0**	**+2.2**
	48nm,0.3s,baz=248,slow=8.1,SNR=870						
LPAZ				S	**Sn**	**11 31 13.9**	**+0.5**
	16nm,0.3s,baz=352,slow=22,SNR=10						
LPAZ	**La Paz**	**2.08**	**57**	*i*P	**Pn**	**11 30 48.9**	**+2.1**
LPAZ				P		11 30 49.0	
LPAZ				S	**Sn**	**11 31 13.9**	**+0.5**
LVC	**Limon Verde**	**5.23**	**170**	P	**Pn**	**11 31 30.1**	**+2.0**
	11nm,0.3s,baz=359,slow=10,SNR=107						
LVC				S	**Sn**	**11 32 25.8**	**-1.5**
	33nm,0.3s,baz=148,slow=19,SNR=25						
LVC	**Limon Verde**	**5.23**	**170**	*i*P	**Pn**	**11 31 30.0**	**+1.8**
LVC				P		11 31 30.1	
LVC				S	**Sn**	**11 32 25.9**	**-1.5**
NNA	**Nana**	**8.61**	**308**	*e*P	**Pn**	**11 32 14.0**	**+0.3**
NNA				*e*S	**Sn**	**11 33 47.7

IKLH eSn Sn 12 15 43.4 +1.4
IKLH Kalahroud 2.06 37 Pn Pn 12 15 15.9 -0.3
IKLH Sn Sn 12 15 43.0 +1.0
IKLH Sn Sn 12 15 43.3 +1.3
IZEF Zefreh 2.25 57 ePn Pn 12 15 19.6 +0.9
IZEF eSn Sn 12 15 50.1 +3.6
IZEF eSn Sn 12 15 50.9 +4.4
IZEF Zefreh 2.25 57 Pn Pn 12 15 19.6 +0.9
IZEF Sn Sn 12 15 50.0 +3.5
IZEF Sn Sn 12 15 50.9 +4.4
IZEF Zefreh 2.25 57 ePn Pn 12 15 19.6 +0.9
IZEF Sn Sn 12 15 50.0 +3.5
NASN Na'in 2.55 63 ePN Pn 12 15 23.7 +0.8
NASN eSG Sg 12 16 00.1 -3.5
UMR Umm Al-Rimmam 2.95 225 eP Pn 12 15 31.1 +2.7
UMR AML AML 12 16 13.7
comp=Z,370nm,0.4s
MIB Mutribah 3.02 233 eP Pn 12 15 32.5 +3.1
MIB AML AML 12 16 14.7
comp=Z,292nm,0.5s
ISAD Sadrabad 3.06 85 eSn Sn 12 16 07.1 +0.5
ISAD eSn Sn 12 16 07.3 +0.7
ISFB Sefidab 3.22 33 ePn Pn 12 15 33.3 +1.2
ISFB eSn Sn 12 16 08.5 -2.0
ISFB eSn Sn 12 16 09.0 -1.5
ISFB Sefidab 3.22 33 Pn Pn 12 15 33.2 +1.1
ISFB Sn Sn 12 16 09.5 -1.0
ISFB Sefidab 3.22 33 ePn Pn 12 15 33.3 +1.2
ISFB eSn Sn 12 16 09.5 -1.0
KBD Kabd 3.24 221 eP Pn 12 15 35.4 +2.9
KBD eS Sn 12 16 14.9 +3.8
KBD AML AML 12 16 18.8
comp=Z,390nm,0.3s
KBD Kabd 3.24 221 eP Pn 12 15 35.4 +3.0
KBD eS Sn 12 16 14.9 +3.8
IKOM Komasi 3.31 320 ePn Pn 12 15 35.6 +2.2
IKOM eSn Sn 12 16 14.2 +1.4
IKOM eSn Sn 12 16 14.5 +1.7
IKOM Komasi 3.31 320 Pn Pn 12 15 35.5 +2.1
IKOM Sn Sn 12 16 14.2 +1.4
IKOM Sn Sn 12 16 14.5 +1.7
IKOM Komasi 3.31 320 Pn Pn 12 15 35.5 +2.1
IKOM eSn Sn 12 16 14.2 +1.4
NAY Al-Naaiem 3.45 226 eP Pn 12 15 38.4 +3.0
NAY AML AML 12 16 28.9
comp=Z,111nm,0.5s
QRN Al-Qurain 3.48 214 eP Pn 12 15 37.9 +2.2
QRN AML AML 12 16 24.8
comp=Z,166nm,0.3s
RDF Al-Radifah 3.52 220 eP Pn 12 15 38.9 +2.7
RDF eS Sn 12 16 20.6 +2.8
RDF AML AML 12 16 28.7
comp=Z,191nm,0.3s
RDF Al-Radifah 3.52 220 eP Pn 12 15 38.9 +2.7
RDF eS Sn 12 16 20.6 +2.8
IVRN Varamin 3.58 22 ePn Pn 12 15 38.7 +1.6
IVRN eSn Sn 12 16 20.0 +0.5
IVRN eSn Sn 12 16 20.1 +0.6
IVRN Varamin 3.58 22 ePn Pn 12 15 38.7 +1.6
IVRN eSn Sn 12 16 20.1 +0.6
IVRN Varamin 3.58 22 Pn Pn 12 15 38.6 +1.5
IVRN Sn Sn 12 16 19.9 +0.4
IVRN Sn Sn 12 16 20.1 +0.6
IVRN Varamin 3.58 22 ePn Pn 12 15 38.7 +1.6
IVRN Sn Sn 12 16 19.9 +0.4
ICHK Chekchek 3.70 80 eSn Sn 12 16 22.2 -0.3
ICHK eSn Sn 12 16 22.4 -0.1
ICHK Chekchek 3.70 80 Pn Pn 12 15 39.3 +0.5
ICHK Sn Sn 12 16 22.2 -0.3
ICHK Sn Sn 12 16 22.3 -0.2
ICHK Chekchek 3.70 80 ePn Pn 12 15 39.3 +0.5
ICHK eSn Sn 12 16 22.2 -0.3
IRAZ Razeghan 3.73 358 ePn Pn 12 15 42.1 +3.0
IRAZ eSn Sn 12 16 23.0 0.0
IRAZ eSn Sn 12 16 23.5 +0.5
IRAZ Razeghan 3.73 358 ePn Pn 12 15 42.1 +3.0
IRAZ eSn Sn 12 16 23.5 +0.5
IRAZ Razeghan 3.73 358 Pn Pn 12 15 42.1 +3.0
IRAZ Sn Sn 12 16 22.9 -0.1
IRAZ Sn Sn 12 16 23.4 +0.4
IRAZ Razeghan 3.73 358 ePn Pn 12 15 42.1 +3.0
IRAZ Sn Sn 12 16 22.9 -0.1
IMEH Mehriz 3.86 93 ePn Pn 12 15 42.4 +1.5
IMEH Mehriz 3.86 93 Pn Pn 12 15 42.3 +1.4
IVIS Veys 3.94 317 ePn Pn 12 15 43.5 +1.5
IVIS eSn Sn 12 16 28.9 +0.6
IVIS eSn Sn 12 16 29.0 +0.7
IVIS Veys 3.94 317 Pn Pn 12 15 43.4 +1.4
IVIS Sn Sn 12 16 28.8 +0.5
IVIS Sn Sn 12 16 29.0 +0.7
IVIS Veys 3.94 317 ePn Pn 12 15 43.5 +1.5
IVIS Sn Sn 12 16 28.8 +0.5
IGHG Ghaleghazi 3.98 313 ePn Pn 12 15 44.1 +1.5
IGHG eSn Sn 12 16 28.9 -0.4
IGHG eSn Sn 12 16 29.0 -0.3
IGHG Ghaleghazi 3.98 313 Pn Pn 12 15 44.0 +1.4
IGHG Sn Sn 12 16 28.9 -0.4
IGHG Sn Sn 12 16 29.0 -0.3
IGHG Ghaleghazi 3.98 313 Pn Pn 12 15 44.0 +1.4
IGHG eSn Sn 12 16 28.9 -0.4
IMHD Mahdasht 4.03 7 ePn Pn 12 15 44.8 +1.5
IMHD eSn Sn 12 16 30.2 -0.3
IMHD eSn Sn 12 16 30.6 +0.1
IMHD Mahdasht 4.03 7 Pn Pn 12 15 44.8 +1.5
IMHD Sn Sn 12 16 30.2 -0.3
IMHD Sn Sn 12 16 30.6 +0.1
IMHD Mahdasht 4.03 7 ePn Pn 12 15 44.8 +1.5
IMHD eSn Sn 12 16 30.6 +0.1
SNGE Sanandaj 4.12 327 ePN Pn 12 15 51.9 +1.6
SNGE eSG Sg 12 16 51.9 -1.8
SNGE AML AML 12 17 03.9
comp=N,266nm,0.6s
SNGE AML AML 12 17 04.6
comp=E,242nm,0.6s
SNGE Sanandaj 4.12 327 ePn Pn 12 15 46.1 +1.6
SNGE eSg Sg 12 16 51.9 -1.8
SNGE Sanandaj 4.12 327 ePn Pn 12 15 46.1 +1.6
SNR=52
SNGE eSg Sg 12 16 51.9 -1.8
comp=E,242nm,0.6s,SNR=91
ILIN Laeen 4.17 322 ePn Pn 12 15 46.6 +1.4
ILIN eSn Sn 12 16 33.6 -0.4
ILIN eSn Sn 12 16 33.9 -0.1
GHIR Ghir-Karzin 4.20 143 ePN Pn 12 15 45.2 -0.4
IDMV Damavand 4.21 22 ePn Pn 12 15 47.3 +1.5
IDMV eSn Sn 12 16 38.7 +3.6
IDMV eSn Sn 12 16 39.3 +4.2
DAMV Damavand 4.25 21 ePN Pn 12 15 47.6 +1.4
DAMV AML AML 12 17 07.2
comp=E,122nm,0.7s
DAMV AML AML 12 17 09.1
comp=N,135nm,0.6s
THKV Tehran--Karaj 4.28 8 ePN Pn 12 15 48.5 +1.8
THKV AML AML 12 17 09.3
comp=E,154nm,0.7s
CHTH Charan 4.31 11 ePN Pn 12 15 48.6 +1.5
IDHR Dehrash 4.34 315 ePn Pn 12 15 49.6 +2.1
IDHR eSn Sn 12 16 37.5 -0.6
IDHR eSn Sn 12 16 37.7 -0.4
IDHR Dehrash 4.34 315 ePn Pn 12 15 49.6 +2.1
IDHR eSn Sn 12 16 37.7 -0.4
IDHR Dehrash 4.34 315 Pn Pn 12 15 49.5 +2.0
IDHR Sn Sn 12 16 37.6 -0.5
IDHR Dehrash 4.34 315 ePn Pn 12 15 49.6 +2.1
IDHR Sn Sn 12 16 37.6 -0.5
IAFJ Afjeh 4.38 17 ePn Pn 12 15 49.7 +1.6
IAFJ eSn Sn 12 16 37.5 -1.7
IAFJ eSn Sn 12 16 38.0 -1.2
IFIR Firoozkooh 4.54 28 ePn Pn 12 15 51.7 +1.5
IFIR eSn Sn 12 16 42.9 -0.1
IFIR eSn Sn 12 16 42.9 -0.1
IBAF Bafgh 4.66 90 ePn Pn 12 15 52.8 +0.9
IBAF eSn Sn 12 16 41.7 -4.4
IBAF eSn Sn 12 16 41.7 -4.4
IGZV Gazvin 4.70 1 ePn Pn 12 15 54.0 +1.5
IGZV eSn Sn 12 16 44.2 -2.9
IGZV eSn Sn 12 16 45.1 -2.0
IGZV Gazvin 4.70 1 Pn Pn 12 15 53.9 +1.4
IGZV Sn Sn 12 16 44.1 -3.0
IGZV Sn Sn 12 16 45.0 -2.1
IGZV Gazvin 4.70 1 Pn Pn 12 15 53.9 +1.4
IGZV Sn Sn 12 16 44.1 -3.0
IPRN Paran-Amol 4.89 21 ePn Pn 12 15 58.2 +3.1
IPRN eSn Sn 12 16 49.6 -2.2
IPRN eSn Sn 12 16 50.2 -1.6
IPRN Paran-Amol 4.89 21 ePn Pn 12 15 58.2 +3.1
BHD Baghdad 5.09 290 ex x 12 16 07.0
BHD ex x 12 16 20.0
BHD ex x 12 17 09.0
BHD ex x 12 17 24.0
BHD ex x 12 17 41.0
IGLO Galoogah 5.42 30 ePn Pn 12 16 09.2 +6.9
IGLO eSn Sn 12 17 11.1 +6.4
IGLO eSn Sn 12 17 11.4 +6.7
IGLO Galoogah 5.42 30 ePn Pn 12 16 09.2 +6.9
IGLO eSn Sn 12 17 11.1 +6.4
IGLO Galoogah 5.42 30 Pn Pn 12 16 09.1 +6.8
IGLO Sn Sn 12 17 11.1 +6.4
IGLO Sn Sn 12 17 11.3 +6.6
IKIA Kiasar 5.42 32 ePn Pn 12 16 04.2 +1.9
IKIA eSn Sn 12 17 02.9 -1.8
IKIA eSn Sn 12 17 03.1 -1.6
BNDS Bandar-Abbas 6.79 127 ePN Pn 12 16 20.7 -0.5
MSL Mosul 7.42 310 ex x 12 16 32.0
MSL ex x 12 17 56.0
BANOM Banah 7.89 135 ⇓P Pn 12 16 34.6 -1.7
SNR=6.6
ISFR Esferayen 8.44 48 ePn Pn 12 16 44.8 +0.9
ISFR Esferayen 8.44 48 Pn Pn 12 16 44.7 +0.8
BSY Bisya 10.90 143 P Pn 12 17 18.1 +0.5
SNR=13
BSYO Bisya 10.94 143 P Pn 12 17 18.1 +0.1
SNR=13
ASF Jabal al Asfar 11.23 276 Pn Pn 12 17 21.6 -0.5
comp=E,2.9nm,0.3s,baz=323,slow=9.9,SNR=19
ASF Sn Sn 12 19 20.8 -6.9
baz=337,slow=24,SNR=4.8
ASF Jabal al Asfar 11.23 276 P Pn 12 17 21.6 -0.5
ASF 12 19 20.8
ASF pmax pmax
comp=Z,3.0nm,0.3s
WSAR Wadi Sarin 11.30 136 Pn Pn 12 17 21.2 -1.9
comp=Z,1.6nm,0.3s,baz=310,slow=10,SNR=19
WSAR Sn Sn 12 19 20.9 -8.5
comp=Z,0.6nm,0.3s,baz=117,slow=23,SNR=3.8
WSAR LR LR 12 22 17.3
comp=Z,127nm,19.9s,baz=303,slow=41
WSAR Wadi Sarin 11.30 136 Pn Pn 12 17 21.2 -1.9
WSAR Sn Sn 12 19 20.9 -8.5
MALT Malatya 11.64 308 eP Pn 12 17 26.7 -0.9
MALT pmax pmax
comp=Z,5.0nm,0.7s
MALT Malatya 11.64 308 ePn Pn 12 17 26.7 -0.9
comp=Z,4.6nm,0.7s
MALT Malatya 11.64 308 eP Pn 12 17 26.7 -0.9
comp=Z,5.0nm,0.7s
JMDO Jabal Madar 11.69 140 ⇓P Pn 12 17 27.7 -0.6
SNR=7.4
MMAI Mount Meron Ar 12.50 280 Pn Pn 12 17 39.9 +0.4
comp=Z,1.4nm,0.3s,baz=90,slow=14,SNR=6.1
MMAI Sn Sn 12 19 47.8 -11
comp=Z,0.7nm,0.3s,baz=75,slow=27,SNR=2.6
EIL Elat 13.20 265 ePn Pn 12 17 47.5 -1.4
comp=Z,139nm,0.7s
EIL Elat 13.20 265 ePn Pn 12 17 47.5 -1.4
comp=Z,139nm,0.7s
KIV Kislovodsk 13.58 337 ⇓eP Pn 12 17 56.5 +2.3
KIV pmax pmax
comp=Z,11nm,1.4s
KIV MLR MLR
comp=Z,100nm,17.0s
KIV Kislovodsk 13.58 337 eP Pn 12 17 56.5 +2.3
comp=Z,100nm,17.0s
WHFO Wadi Hawf 14.09 166 P Pn 12 17 58.8 -2.4
SNR=14
SOC Sochi 14.45 328 eP Pn 12 18 04.8 -1.2
SOC e 12 20 38.4
SOC pmax pmax
comp=Z,29nm,1.3s
SOC MLR MLR
comp=Z,108nm,11.0s
SOC Sochi 14.45 328 eP Pn 12 18 04.8 -1.2
comp=Z,29nm,1.3s
ABTO Aybut 14.55 168 P Pn 12 18 04.8 -2.5
SNR=13
BR131 Keskin Array S 15.59 306 eP Pn 12 18 22.4 +1.1
comp=Z,7.2nm,0.6s
BR131 Keskin Array S 15.59 306 eP Pn 12 18 22.4 +1.1
comp=Z,7.2nm,0.6s
BRTR Keskin Array B 15.59 306 Pn Pn 12 18 21.4 +0.1
comp=Z,1.0nm,0.3s,baz=127,slow=13,SNR=20
BRTR Keskin Array B 15.59 306 P Pn 12 18 21.4 +0.1
BRTR pmax pmax
comp=Z,1.0nm,0.3s
BALT Daday 16.62 311 *i* P Pn 12 18 35.3 +0.7
SGKT Sivrigoynuk 17.05 306 *i* P Pn 12 18 40.7 +0.7
TKTP Tekketepe 17.42 297 *i* P Pn 12 18 47.4 +2.8
AKTK Aktyubinsk 19.65 15 P Pn 12 19 10.8 -1.0
AKTK LR LR 12 28 46.4
AKTK Aktyubinsk 19.65 15 P Pn 12 19 10.8 -1.0
AKTO Aktyubinsk 19.65 15 P Pn 12 19 10.8 -1.0
comp=Z,0.2nm,0.3s,baz=211,slow=11,SNR=9.7
AKTO LR LR 12 28 46.4
comp=Z,61nm,19.2s,baz=0.0,slow=43
ORR Orenburg 20.22 8 eP P 12 19 16.7 +0.1
ORR pmax pmax
comp=Z,10.0nm,0.8s
ORR Orenburg 20.22 8 eP P 12 19 16.7 +0.1
comp=Z,10.0nm,0.8s
ATD Arta Tunnel 21.14 200 LR LR 12 27 50.7
comp=Z,70nm,20.5s,MS3.0,baz=26,slow=37
TIRR Tirgusor 21.24 313 eP P 12 19 27.2 -0.5
IDI Anoyia 21.32 287 P P 12 19 30.2 +1.7
comp=Z,21nm,0.7s,mb4.6,baz=90,slow=11,SNR=12
AAK Ala-Archa 22.23 54 eP P 12 19 38.2 -0.1
AAK *e*PP 12 19 44.1
AAK pmax pmax
comp=Z,8.0nm,1.1s,mb4.1
AAK Ala-Archa 22.23 54 eP P 12 19 38.2 -0.1
comp=Z,7.5nm,1.1s,mb4.0
AAK epP 12 19 44.1
AAK Ala-Archa 22.23 54 eP P 12 19 38.2 -0.1
comp=Z,7.5nm,1.1s,mb4.0
AAK epP 12 19 44.1
MLR Muntele Rosu 23.28 313 P P 12 19 50.2 +0.9
comp=Z,8.2nm,0.8s,mb4.2,baz=124,slow=3.6,SNR=8.4
MLR Muntele Rosu 23.28 313 P P 12 19 50.2 +0.9
MLR pmax pmax
comp=Z,8.0nm,0.8s
AKASG Malin Array Be 24.52 327 P P 12 20 00.4 -0.6
comp=Z,1.3nm,0.3s,mb3.9,baz=133,slow=8.5,SNR=16
AKASG Malin Array Be 24.52 327 P P 12 20 00.4 -0.6
AKASG pmax pmax
comp=Z,1.0nm,0.3s
ZRNK Zerenda 25.30 27 eP P 12 20 06.0 -2.2
ZRNK pmax pmax
comp=Z,3.0nm,0.9s,mb3.8
ZRNK Zerenda 25.30 27 eP P 12 20 06.0 -2.1
comp=Z,3.1nm,0.9s,mb3.8
ZRNK Zerenda 25.30 27 eP P 12 20 06.0 -2.2
comp=Z,3.0nm,0.9s,mb3.8
OBN Obninsk 25.32 342 ⇑eP P 12 20 07.9 -0.5
OBN pmax pmax
comp=Z,13nm,1.0s,mb4.4
OBN Obninsk 25.32 342 eP P 12 20 07.9 -0.5
comp=Z,13nm,1.0s,mb4.4
ARU Arti 25.45 11 ⇓*i* P P 12 20 08.6 -0.9
ARU *e* 12 20 44.1
ARU eS S 12 24 36.5 +0.1
ARU eSS 12 25 34.8
ARU pmax pmax
comp=Z,60nm,0.8s,mb5.2
ARU Arti 25.45 11 *i* P P 12 20 08.6 -0.9
comp=Z,60nm,0.8s,mb5.2
BVAR Borovoye Array 25.91 29 P P 12 20 12.9 -0.8
comp=Z,1.4nm,0.6s,mb3.7,baz=210,slow=8.6,SNR=8.8
BVAR Borovoye Array 25.91 29 P P 12 20 12.9 -0.8
BVAR pmax pmax
comp=Z,1.0nm,0.6s
KOLS Kolonicke sedl 27.12 318 *e* P 12 20 29.1 +4.5
CRVS Cervenica-Dubn 27.58 317 eP P 12 20 29.1 +0.4
TIP Timpagrande 28.07 295 eP P 12 20 33.5 +0.4
TIP Timpagrande 28.07 295 eP P 12 20 33.5 +0.4
MKAR Makanchi Array 28.91 49 P P 12 20 41.2 +0.6
comp=Z,1.2nm,0.7s,mb3.7,baz=251,slow=3.7,SNR=6.2
MKAR Makanchi Array 28.91 49 P P 12 20 41.2 +0.6
MKAR pmax pmax
comp=Z,1.0nm,0.7s
WMQ Urumqi 31.84 57 ⇑P P 12 21 07.8 +1.3
WMQ AP pP 12 21 13.8 +4.2
WMQ XP sP 12 21 16.8 +6.0
WMQ PP PP 12 22 13.8 -4.6
WMQ *e*S S 12 26 16.3 -0.6
WMQ AMB AMB
comp=Z,5.0nm,1.0s,mb4.3
WMQ LR LR
comp=Z,36nm,19.6s,MS3.1
ZAL Zalesovo 33.29 38 P P 12 21 19.6 +0.3
comp=Z,1.8nm,0.4s,mb4.4,baz=243,slow=6.4,SNR=4.6
ZAL Zalesovo 33.29 38 P P 12 21 19.6 +0.4
ZAL pmax pmax
comp=Z,2.0nm,0.4s
JOF Joensuu 33.49 345 *e*p P 12 21 18.5 -2.4
FINES FINESS Array B 33.65 339 P P 12 21 21.4 -0.9
comp=Z,2.1nm,0.4s,mb4.5,baz=146,slow=9.4,SNR=31
FINES FINESS Array B 33.65 339 P P 12 21 21.4 -0.9
FINES pmax pmax
comp=Z,2.0nm,0.4s
VSL Villasalto 33.80 295 eP P 12 21 19.9 -3.7
VSL *e*pP pP 12 21 25.4 -1.3
VSL Villasalto 33.80 295 epP pP 12 21 25.5 -1.2
KAF Kangasniemi 34.11 340 ep P 12 21 23.1 -3.2
DAVOX Davos 34.21 308 P P 12 21 26.7 -0.5
comp=Z,4.6nm,0.7s,mb4.5,baz=147,slow=7.8,SNR=4.5
KMBO Kilima Mbogo 34.82 203 LR LR 12 36 06.2
comp=Z,48nm,19.2s,MS3.3,baz=80,slow=37
SBF Sospel 35.48 302 eP P 12 21 37.7 -0.5
comp=Z,33nm,1.0s,mb4.9
SBF Sospel 35.48 302 eP P 12 21 37.7 -0.5
SBF pmax pmax
comp=Z,17nm,1.0s,mb4.9
SBF Sospel 35.48 302 eP P 12 21 37.7 -0.5
comp=Z,17nm,1.0s,mb4.9
MBDF Montbardon 36.05 304 eP P 12 21 42.2 -0.8
comp=Z,11nm,0.6s,mb4.6
MBDF Montbardon 36.05 304 eP P 12 21 42.2 -0.8
MBDF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
MBDF Montbardon 36.05 304 eP P 12 21 42.2 -0.8
comp=Z,5.3nm,0.6s,mb4.6
BNI Bardonecchia 36.15 304 eP P 12 21 42.2 -1.7
BNI pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BNI Bardonecchia 36.15 304 eP P 12 21 42.2 -1.7
comp=Z,9.4nm,0.8s,mb4.8
BNI Bardonecchia 36.15 304 eP P 12 21 42.2 -1.7
comp=Z,9.0nm,0.8s,mb4.8
LPG La Plagne 36.15 305 eP P 12 21 43.2 -0.7
comp=Z,14nm,0.7s,mb4.7
LPG La Plagne 36.15 305 eP P 12 21 43.2 -0.7
LPG pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
LPG La Plagne 36.15 305 eP P 12 21 43.2 -0.7
comp=Z,7.2nm,0.7s,mb4.7
LPL La Plagne 36.16 305 eP P 12 21 43.3 -0.7
comp=Z,12nm,0.6s,mb4.7
LPL La Plagne 36.16 305 eP P 12 21 43.3 -0.7
LPL pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
LPL La Plagne 36.16 305 eP P 12 21 43.3 -0.7
comp=Z,6.2nm,0.6s,mb4.7
CABF La Chapelle 36.75 307 ⇑*i*P P 12 21 48.4 -0.7
comp=Z,24nm,0.8s,mb4.8
CABF La Chapelle 36.75 307 ⇑*i*P P 12 21 48.4 -0.7
CABF pmax pmax
comp=Z,12nm,0.8s,mb4.8
CABF La Chapelle 36.75 307 ⇑*i*P P 12 21 48.4 -0.7
comp=Z,12nm,0.8s,mb4.8
SMF Signal de Mont 38.30 307 ⇑*i*P P 12 22 00.8 -1.3
comp=Z,22nm,0.6s,mb4.8
SMF Signal de Mont 38.30 307 ⇑*i*P P 12 22 00.8 -1.3
SMF pmax pmax
comp=Z,11nm,0.6s,mb4.8
SMF Signal de Mont 38.30 307 ⇑*i*P P 12 22 00.8 -1.3
comp=Z,11nm,0.6s,mb4.8
LOR Lormes 38.35 308 ⇑*i*P P 12 22 01.0 -1.6
comp=Z,9.6nm,0.9s,mb4.2
LOR Lormes 38.35 308 ⇑*i*P P 12 22 01.0 -1.6
LOR pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
LOR Lormes 38.35 308 ⇑*i*P P 12 22 01.0 -1.6
comp=Z,4.8nm,0.9s,mb4.2
SSF Saint Saulge 38.57 307 ⇑*i*P P 12 22 03.1 -1.3
comp=Z,12nm,0.8s,mb4.4
SSF Saint Saulge 38.57 307 ⇑*i*P P 12 22 03.1 -1.3
SSF pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
SSF Saint Saulge 38.57 307 ⇑*i*P P 12 22 03.1 -1.3
comp=Z,5.8nm,0.8s,mb4.4
AVF Avril sur Loir 38.64 307 eP P 12 22 03.5 -1.6
NB2 NORSAR Subarra 38.79 331 P P 12 22 04.3 -2.0
comp=Z,2.3nm,0.8s,mb4.0,baz=125,slow=7.9
NOA NORSAR Array B 38.79 331 P P 12 22 04.1 -2.2
comp=Z,1.9nm,0.7s,mb3.9,baz=121,slow=8.3,SNR=9.3
NOA LR LR 12 41 07.7
comp=Z,22nm,18.3s,MS3.0,baz=140,slow=41
NOA NORSAR Array B 38.79 331 P P 12 22 04.1 -2.2
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA MLR MLR
comp=Z,22nm,18.3s
NOA NORSAR Array B 38.79 331 P P 12 22 04.1 -2.2
NOA LR LR 12 41 07.7
TCF Toulx Ste Croi 39.38 306 eP P 12 22 10.1 -1.2
ARCES ARCESS Array B 40.38 347 P P 12 22 19.0 -0.6
comp=Z,3.0nm,0.8s,mb4.1,baz=150,slow=8.1,SNR=16
ARCES LR LR 12 40 59.6
comp=Z,31nm,20.8s,MS3.1,baz=224,slow=39
ARCES ARCESS Array B 40.38 347 P P 12 22 19.0 -0.5
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES MLR MLR
comp=Z,31nm,20.8s
GTA Gaotai 40.76 65 eP P 12 22 23.6 +1.0
GTA AP pP 12 22 31.5 +5.8
GTA XP sP 12 22 35.6 +8.6
GTA AMB AMB
comp=Z,6.0nm,0.9s,mb4.2
MFF Saint Martin d 41.03 306 eP P 12 22 23.2 -1.7
comp=Z,11nm,0.8s,mb4.2
MFF Saint Martin d 41.03 306 eP P 12 22 23.2 -1.7
MFF pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
MFF Saint Martin d 41.03 306 eP P 12 22 23.2 -1.7
comp=Z,5.7nm,0.8s,mb4.2
LDF La Druitiere 41.16 309 eP P 12 22 24.0 -2.0
FLN La Foliniere 41.41 309 eP P 12 22 26.1 -1.9
GRR Gorron 41.63 309 eP P 12 22 28.1 -1.7
SGMF Saint Gilles 42.75 308 ⇑*i*P P 12 22 37.5 -1.5
comp=Z,9.0nm,0.6s,mb4.3
SGMF Saint Gilles 42.75 308 ⇑*i*P P 12 22 37.5 -1.5
SGMF pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
SGMF Saint Gilles 42.75 308 ⇑*i*P P 12 22 37.5 -1.5
comp=Z,4.5nm,0.6s,mb4.3
QUIF Quistinic 43.14 308 ⇑*i*P P 12 22 40.4 -1.8
comp=Z,9.8nm,0.5s,mb4.5
QUIF Quistinic 43.14 308 ⇑*i*P P 12 22 40.4 -1.8
QUIF pmax pmax
comp=Z,5.0nm,0.5s,mb4.5
QUIF Quistinic 43.14 308 ⇑*i*P P 12 22 40.4 -1.8
comp=Z,4.9nm,0.5s,mb4.5
ROSF Rostrenen 43.23 309 eP P 12 22 41.2 -1.7
comp=Z,8.0nm,0.7s,mb4.3
ROSF Rostrenen 43.23 309 eP P 12 22 41.2 -1.7
ROSF pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
ROSF Rostrenen 43.23 309 eP P 12 22 41.2 -1.7
comp=Z,4.0nm,0.7s,mb4.3
ESDC Sonseca Array 44.08 296 P P 12 22 50.9 +1.2
comp=Z,2.6nm,0.8s,mb4.0,baz=75,slow=8.0,SNR=10
LZH Lanzhou 44.37 69 eP P 12 22 52.5 +0.5
LZH AP pP 12 22 58.6 +3.5
LZH XP sP 12 23 01.5 +5.1
LZH *e*PP PP 12 24 37.9 +2.5
LZH AMB AMB
comp=Z,22nm,1.4s,mb4.7
LZH AMB AMB
comp=Z,47nm,6.3s
LZH LR LR
comp=E,213nm,14.2s
LZH LR LR

	comp=Z,295nm,17.8s,MS4.2								
SONM	**Songino Array**	**45.18**	**52**	P		**P**		**12 22 58.9**	**+0.5**
	comp=Z,0.4nm,0.5s,mb3.5,baz=273,slow=5.5,SNR=3.5								
CD2	**Chengdu**	**45.46**	**76**	*eP*		**P**		**12 22 59.1**	**-1.6**
PBRG	**Braganca**	**45.92**	**299**	*eP*		**P**		**12 23 04.8**	**+0.4**
	comp=Z,8.5nm,1.7s,mb4.4								
MTE	**Manteigas**	**46.70**	**298**	*eP*		**P**		**12 23 11.4**	**+0.9**
	comp=Z,15nm,1.0s,mb4.9								
PVRL	**Vila Real**	**46.71**	**299**	*eP*		**P**		**12 23 10.3**	**-0.3**
	comp=Z,11nm,1.1s,mb4.7								
PCBR	**Castelo Branco**	**46.74**	**297**	*eP*		**P**		**12 23 11.5**	**+0.7**
	comp=Z,23nm,1.1s,mb5.0								
PVIS	**Viseu**	**46.92**	**298**	*eP*		**P**		**12 23 12.7**	**+0.5**
	comp=Z,20nm,1.1s,mb5.0								
PBEJ	**Beja**	**47.34**	**294**	*eP*		**P**		**12 23 15.7**	**+0.2**
	comp=Z,8.7nm,1.4s,mb4.5								
TORD	**Torodi Ar. Bea**	**47.98**	**259**	P		**P**		**12 23 20.8**	**+0.4**
	comp=Z,24nm,0.7s,mb4.3,baz=53,slow=7.9,SNR=14								
HHC	**Hu-ho-hao-te**	**49.50**	**61**	*eP*		**P**		**12 23 33.0**	**+0.9**
HHC				AP	pP			12 23 39.3	+4.0
HHC				XP	sP			12 23 41.9	+5.4
HHC				PCP	PcP			12 24 56.4	+2.4
HHC				PP	PP			12 25 27.6	+1.3
HHC				SCP	ScP			12 28 47.8	-1.7
HHC				PCS	PcS			12 28 51.0	+0.3
HHC				S	**S**			**12 30 39.0**	**-0.7**
HHC				SCS	ScS			12 33 20.2	-3.9
HHC				SS	SS			12 34 05.9	-5.6
HHC				AMB	AMB				
	comp=Z,12nm,1.2s,mb4.8								
HHC				AMB	AMB				
	comp=Z,73nm,6.0s								
HHC				LR	LR				
	comp=N,72nm,16.7s,MS4.0								
HHC				LR	LR				
	comp=E,116nm,14.6s,MS4.0								
HHC				LR	LR				
	comp=Z,88nm,14.2s,MS3.9								
NJ2	**Nanjing**	**57.43**	**70**	*eP*		**P**		**12 24 32.3**	**+1.9**
NJ2				AMB	AMB				
	comp=Z,10.0nm,0.6s,mb5.0								
SSE	**Sheshan**	**59.63**	**70**	*eP*		**P**		**12 24 41.6**	**-4.1**
SSE				AMB	AMB				
	comp=Z,26nm,0.7s,mb5.4								
SSE				AMB	AMB				
	comp=Z,39nm,4.4s								
MDJ	**Mudanjiang**	**61.52**	**53**	P		**P**		**12 24 58.6**	**0.0**
MDJ				AMB	AMB				
	comp=Z,2.0nm,0.7s,mb4.4								
MDJ				AMB	AMB				
	comp=Z,82nm,4.7s								
MDJ				LR	LR				
	comp=N,16nm,26.5s,MS3.4								
MDJ				LR	LR				
	comp=E,29nm,24.1s,MS3.4								
MDJ				LR	LR				
	comp=Z,30nm,16.9s								
BILL	**Bilibino**	**69.96**	**21**	*eP*		**P**		**12 25 51.6**	**-1.4**
BILL				pmax	pmax				
	comp=Z,4.0nm,1.6s,mb4.1								
ASAJ	**Asahikawa**	**70.38**	**50**	LR	LR			13 02 51.4	
	comp=Z,20nm,18.4s,MS3.4,baz=203,slow=41								
SCHQ	**Schefferville**	**78.31**	**328**	P		**P**		**12 26 40.7**	**-1.1**
	comp=Z,0.5nm,0.3s,mb3.9,baz=80,slow=6.1,SNR=3.6								
INK	**Inuvik**	**80.29**	**1**	P		**P**		**12 26 50.2**	**-2.4**
	comp=Z,1.0nm,0.7s,mb3.8,baz=316,slow=5.6,SNR=4.6								
INK	**Inuvik**	**80.29**	**1**	P		**P**		**12 26 50.2**	**-2.4**
INK				pmax	pmax				
	comp=Z,1.0nm,0.7s								
ILAR	**Eielson Array**	**82.96**	**7**	P		**P**		**12 27 04.7**	**-2.0**
	comp=Z,0.6nm,0.7s,mb3.8,baz=322,slow=4.2,SNR=14								
ILAR	**Eielson Array**	**82.96**	**7**	P		**P**		**12 27 04.7**	**-2.0**
ILAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
YKA	**Yellowknife Ar**	**85.36**	**353**	P		**P**		**12 27 17.1**	**-1.8**
	comp=Z,0.9nm,0.7s,mb4.0,baz=12,slow=5.4,SNR=20								
YKA	**Yellowknife Ar**	**85.36**	**353**	P		**P**		**12 27 17.1**	**-1.8**
YKA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
WB2	**Warramunga Arr**	**95.55**	**110**	*eP*		**P**		**12 28 14.3**	**+7.4**

IDC 12 12:17:58.9±22.0, 2040N×12213E, h348km±188km, mb2.7/4, mb1 3.0/4, mb1mx2.7/19, mbtmp3.4/4, Error ellipse: s-maj=297.9km s-min=22.9km az=96.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**2.67**	**199**	*eP*	Pn	12 18 11.6	-44
APYP				*eS*	S	12 18 55.0	-45
WRA	**Warramunga Arr**	**41.84**	**163**	P	P	12 25 15.7	-0.3
	0.2nm,0.3s,baz=344,slow=9.1,SNR=5.4						
WRA				PcP	PcP	12 27 04.4	0.0
	0.2nm,0.7s,baz=343,slow=3.3,SNR=4.7						
ASAR	**Alice Springs**	**45.28**	**165**	P	P	12 25 43.6	+0.6
	0.2nm,0.4s,baz=344,slow=7.1,SNR=12						
ASAR				PcP	PcP	12 27 15.7	-0.5
	0.3nm,0.5s,baz=338,slow=3.4,SNR=7.0						
ILAR	**Eielson Array**	**72.17**	**27**	P	P	12 28 45.9	-0.6
	0.4nm,0.6s,baz=289,slow=6.8,SNR=8.5						
YKA	**Yellowknife Ar**	**86.10**	**23**	P	P	12 30 01.7	+0.5
	0.3nm,0.7s,baz=313,slow=4.6,SNR=6.7						

IDC 12 12:18:28.4±2.3, 5208N×16877W, h0km, mb4.0/11, mb1 4.1/12, mb1mx3.9/25, mbtmp3.9/12, ML3.5/1, MS3.2/2, Ms1 3.2/2, ms1mx2.5/28, Error ellipse: s-maj=54.4km s-min=21.5km az=173.0
ISCJB 12 12:18:31.6±1.4, 5200N±0.10×16870W±0.09, h41km±9km, mb4.0/13, MS3.1/2, Error ellipse: s-maj=17.3km s-min=7.5km az=141.6
NEIC 12 12:18:34.2, 5218N×16875W, h41km, ML3.3(AEIC), After AEIC.

ISC 12 12:18:33.1±1.2, 5204N±0.09×16871W±0.09, h39km±9km, n27, σ0°89/30, mb4.0/13, MS3.1/2, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.94**	**355**	P	**Pn**	**12 18 48.4**	**-1.4**
NIKO				S	**Sn**	**12 19 01.6**	**-0.4**
OKCE	**Okmok Cone E**	**1.43**	**13**	P	**Pn**	**12 18 56.2**	**-0.3**
OKCD	**Okmok Cone D**	**1.44**	**14**	P	**Pn**	**12 18 56.6**	**-0.1**
OKCD				S	**Sn**	**12 19 15.9**	**+1.6**
UNV	**Unalaska Valle**	**2.25**	**36**	P	**Pn**	**12 19 07.6**	**-0.3**
AKLV	**Akutan Long Va**	**2.70**	**37**	P	**Pn**	**12 19 14.9**	**+0.9**
AKUT	**Akutan**	**2.75**	**39**	P	**Pn**	**12 19 15.5**	**+0.9**
AKUT				S	**Sn**	**12 19 47.7**	**+1.1**
ATKA	**Atka Island**	**3.38**	**275**	P	**Pn**	**12 19 24.0**	**+0.6**
ATKA				S	**Sn**	**12 20 02.2**	**0.0**
KDAK	**Kodiak Island**	**10.91**	**52**	Pn	**Pn**	**12 21 05.8**	**-0.8**
	1.0nm,0.3s,baz=323,slow=22,SNR=7.2						
SLKM	**Skilak Lake**	**13.28**	**43**	*eP*	**Pn**	**12 21 38.5**	**-0.5**
COLA	**College**	**16.75**	**32**	*eP*	**Pn**	**12 22 23.7**	**-1.0**
	4.7nm,1.1s						
ILAR	**Eielson Array**	**17.00**	**33**	Pn	**Pn**	**12 22 26.4**	**-1.5**
	0.1nm,0.3s,baz=239,slow=11,SNR=7.5						
INK	**Inuvik**	**23.41**	**33**	P	**P**	**12 23 37.5**	**-1.1**
	1.3nm,0.4s,mb3.7,baz=254,slow=11,SNR=16						
YKA	**Yellowknife Ar**	**30.16**	**48**	P	**P**	**12 24 41.0**	**+1.7**
	0.3nm,0.4s,mb3.4,baz=275,slow=8.1,SNR=12						
YKA				LR	LR	12 38 17.8	
	comp=Z,29nm,18.7s,MS3.0,baz=290,slow=39						
YKA	**Yellowknife Ar**	**30.16**	**48**	P	**P**	**12 24 41.0**	**+1.7**
YKA				LR	LR	12 38 17.8	
PDAR	**Pinedale Array**	**40.07**	**79**	P	**P**	**12 26 05.0**	**+0.4**
	0.4nm,0.4s,mb3.5,baz=305,slow=5.2,SNR=4.1						
JHJ	**Hachijo jima 2**	**41.38**	**263**	LR	LR	12 39 15.5	
	comp=Z,50nm,21.9s,MS3.3,baz=313,slow=30						
SONM	**Songino Array**	**51.82**	**301**	P	**P**	**12 27 38.3**	**+1.2**
	0.3nm,0.3s,mb3.7,baz=42,slow=7.6,SNR=4.6						
ARCES	**ARCESS Array B**	**58.29**	**354**	P	**P**	**12 28 23.7**	**-0.2**
	2.4nm,0.8s,mb4.3,baz=13,slow=11,SNR=5.1						
BVAR	**Borovoye Array**	**64.21**	**325**	P	**P**	**12 29 04.2**	**+0.3**
	1.8nm,0.5s,mb4.4,baz=46,slow=8.5,SNR=7.9						
JOF	**Joensuu**	**64.31**	**350**	*ep*	**P**	**12 29 02.6**	**-2.0**
	1.2nm,0.4s,mb4.3						
MKAR	**Makanchi Array**	**64.33**	**314**	P	**P**	**12 29 05.0**	**+0.2**
	0.9nm,0.7s,mb3.9,baz=50,slow=8.1,SNR=6.3						
KAF	**Kangasniemi**	**65.57**	**352**	*ep*	**P**	**12 29 11.9**	**-0.9**
	4.3nm,0.6s,mb4.7,baz=7.4,slow=6.1						
FINES	**FINESS Array B**	**66.25**	**352**	P	**P**	**12 29 17.2**	**0.0**
	2.2nm,0.8s,mb4.2,baz=7.1,slow=8.6,SNR=9.7						
NOA	**NORSAR Array B**	**67.27**	**0**	P	**P**	**12 29 23.6**	**-0.1**
	1.2nm,0.8s,mb4.0,baz=0.8,slow=6.2,SNR=3.7						
AKTK	**Aktyubinsk**	**70.50**	**330**	P	**P**	**12 29 44.5**	**+0.8**
AKTO	**Aktyubinsk**	**70.50**	**330**	P	**P**	**12 29 44.5**	**+0.8**
	0.6nm,0.4s,mb3.9,baz=56,slow=6.3,SNR=6.8						
AKASG	**Malin Array Be**	**76.52**	**348**	P	**P**	**12 30 19.0**	**-0.1**
	1.1nm,0.4s,mb4.2,baz=17,slow=5.8,SNR=5.1						

ISCJB 12 12:20:50.6±0.9, 178S±02×1788W±0.1, h540km±13km, mb3.9/15, Error ellipse: s-maj=29.2km s-min=10.4km az=109.8
IDC 12 12:20:50.9±1.4, 1782S×17872W, h532km±18km, mb3.5/12, mb1 3.7/14, mb1mx3.6/19, mbtmp4.4/14, Error ellipse: s-maj=24.6km s-min=10.9km az=141.0
NEIC 12 12:20:51.4±0.8, 1779S×17874W, h539km±9km, mb4.0/4, Error ellipse: s-maj=19.1km s-min=7.5km az=147.0

ISC 12 12:20:51.3±0.9, 178S±02×1787W±01, h537km±12km, n56, σ0°92/26, mb3.9/15, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.70**	**61**	P	**P**	**12 22 45.8**	**+0.2**
	8.5nm,0.3s,baz=71,slow=19,SNR=17						
AFI				S	**S**	**12 24 18.9**	**-0.4**
	2.1nm,0.3s,baz=36,slow=15,SNR=7.2						
AFI	**Afiamalu**	**7.70**	**61**	P	**P**	**12 22 45.8**	**+0.2**
AFI				*eP*		12 22 45.9	
AFI				S	**S**	**12 24 18.9**	**-0.4**
DZM	**Mont Dzumac**	**14.60**	**251**	P	**P**	**12 23 57.6**	**+0.8**
	1.3nm,0.3s,baz=85,slow=22,SNR=11						
URZ	**Urewera**	**20.72**	**189**	P	**P**	**12 24 53.9**	**-0.5**
	8.4nm,0.8s,baz=187,slow=14,SNR=7.6						
PMOR	**Pomariorio Ree**	**29.67**	**89**	*eP*	**P**	**12 26 07.7**	**-5.8**
	24nm,1.0s,mb4.7						
STKA	**Stephens Creek**	**38.44**	**241**	*eP*	**P**	**12 27 26.5**	**-0.5**
	2.6nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**38.44**	**241**	P	**P**	**12 27 26.3**	**-0.7**
	2.7nm,0.5s,mb4.1,baz=96,slow=9.5,SNR=14						
WRAB	**Tennant Creek**	**44.37**	**259**	P	**P**	**12 28 13.8**	**-0.1**
	5.4nm,1.1s,mb4.0						
WRA	**Warramunga Arr**	**44.38**	**259**	P	**P**	**12 28 13.3**	**-0.8**
	0.4nm,0.3s,mb3.4,baz=92,slow=7.5,SNR=21						
ASAR	**Alice Springs**	**44.55**	**254**	P	**P**	**12 28 16.1**	**+0.8**
	7.9nm,0.6s,mb4.4,baz=89,slow=8.2,SNR=220						
ASAR				PcP	PcP	12 29 47.3	+0.5
	0.6nm,0.4s,baz=98,slow=4.6,SNR=6.9						
MJAR	**Matsushiro Arr**	**67.65**	**323**	P	**P**	**12 30 54.5**	**-0.3**
	30nm,0.3s,baz=149,slow=5.7,SNR=5.2						
ASAJ	**Asahikawa**	**71.04**	**332**	P	**P**	**12 31 16.1**	**+1.0**
	3.6nm,0.5s,mb4.2,baz=219,slow=7.0,SNR=5.3						
KDAK	**Kodiak Island**	**78.36**	**14**	P	**P**	**12 31 56.6**	**+0.4**
	3.8nm,0.6s,mb3.9,baz=215,slow=8.9,SNR=6.2						
NVAR	**Mina Array Bea**	**79.53**	**44**	P	**P**	**12 32 03.7**	**+1.3**
	1.6nm,0.7s,mb3.5,baz=231,slow=11,SNR=13						
NVAR	**Mina Array Bea**	**79.53**	**44**	P	**P**	**12 32 03.7**	**+1.3**
SLKM	**Skilak Lake**	**81.34**	**14**	*eP*	**P**	**12 32 10.8**	**-1.0**
ELK	**Elko**	**82.76**	**43**	*eP*	**P**	**12 32 20.0**	**+1.0**
	2.4nm,0.9s,mb3.7						
DLBC	**Dease Lake**	**85.83**	**23**	P	**P**	**12 32 33.8**	**-0.2**
	0.9nm,0.9s,mb3.4,baz=210,slow=9.6,SNR=4.3						
ILAR	**Eielson Array**	**85.84**	**13**	P	**P**	**12 32 32.4**	**-1.7**
	1.4nm,0.4s,mb4.0,baz=224,slow=5.1,SNR=84						
IMW	**Indian Meadow**	**87.09**	**42**	*eP*	**P**	**12 32 41.5**	**+1.5**
	3.6nm,0.9s,mb4.0						
PDAR	**Pinedale Array**	**87.46**	**44**	P	**P**	**12 32 42.6**	**+0.9**
	1.5nm,0.5s,mb3.9,baz=216,slow=3.1,SNR=11						
INK	**Inuvik**	**91.85**	**15**	P	**P**	**12 33 00.6**	**-1.5**
	1.0nm,0.6s,mb4.0,baz=218,slow=4.9,SNR=6.1						
YKA	**Yellowknife Ar**	**94.34**	**25**	P	**P**	**12 33 12.4**	**-1.0**
	0.7nm,0.8s,mb3.9,baz=245,slow=4.0,SNR=12						
YKA	**Yellowknife Ar**	**94.34**	**25**	P	**P**	**12 33 12.4**	**-1.0**
BVAR	**Borovoye Array**	**116.58**	**321**	PKP	PKPdf	12 38 33.3	-1.0
	1.0nm,0.4s,baz=194,slow=0.6,SNR=6.0						
ARCES	**ARCESS Array B**	**126.15**	**350**	PKP	PKPdf	12 38 51.1	-1.6
	3.6nm,1.0s,baz=325,slow=1.5,SNR=3.8						
FINES	**FINESS Array B**	**133.00**	**344**	PKP	PKPdf	12 39 04.9	-0.8
	0.4nm,0.3s,baz=324,slow=38,SNR=4.0						
AKASG	**Malin Array Be**	**140.33**	**332**	PKP	PKPdf	12 39 19.2	+0.1
	0.3nm,0.3s,baz=28,slow=1.7,SNR=4.3						
BR131	**Keskin Array S**	**144.50**	**315**	*eP*	PKPdf	12 39 26.6	+0.1
BRTR	**Keskin Array B**	**144.50**	**315**	PKP	PKPdf	12 39 26.6	+0.1
	2.7nm,0.7s,baz=116,slow=2.9,SNR=13						
CLL	**Collm**	**145.29**	**347**	*i* PKPbc	PKPbc	12 39 28.6	-0.4
	comp=Z,10.0nm,0.6s						
BRG	**Berggiesshubel**	**145.49**	**346**	*e*(P)	PKPdf	12 39 28.6	+0.4
	comp=Z,0.6nm,0.4s						
MLR	**Muntele Rosu**	**145.59**	**329**	PKPbc	PKPbc	12 39 30.7	+0.9
	comp=Z,2.2nm,0.5s,baz=307,slow=10,SNR=4.2						
GRA1	**Grafenberg Arr**	**147.19**	**348**	*e*PKP	PKPbc	12 39 34.3	+0.1
KHC	**Kasperske Hory**	**147.19**	**345**	*e*PKPbc	PKPbc	12 39 34.5	+0.3
GERES	**GERESS Array B**	**147.43**	**345**	PKPbc	PKPbc	12 39 34.5	-0.3
	comp=Z,2.8nm,0.5s,baz=12,slow=1.9,SNR=21						
GIVF	**Givet**	**147.64**	**356**	*e*PKP1	PKPbc	12 39 35.4	0.0
	comp=Z,11nm,0.5s						
BAIF	**Baives**	**147.73**	**356**	*e*PKP1	PKPbc	12 39 35.6	0.0
	comp=Z,8.7nm,0.6s						
CDF	**Champ du Feu**	**149.07**	**352**	*e*PKP1	PKPbc	12 39 39.0	+0.1
	comp=Z,6.6nm,0.5s						
FLN	**La Foliniere**	**149.07**	**2**	*e*PKP1	PKPbc	12 39 38.6	-0.4
	comp=Z,8.3nm,0.6s						
LDF	**La Druitiere**	**149.26**	**2**	*e*PKP1	PKPbc	12 39 38.9	-0.5
GRR	**Gorron**	**149.43**	**3**	*e*PKP1	PKPbc	12 39 39.5	-0.3
	comp=Z,8.1nm,0.5s						
SGMF	**Saint Gilles**	**149.46**	**5**	*e*PKP1	PKPbc	12 39 39.3	-0.6
HAU	**Haudompre**	**149.58**	**353**	*e*PKP1	PKPbc	12 39 41.0	+0.8
HINF	**Hinteralfeld**	**149.71**	**353**	*e*PKP1	PKPbc	12 39 40.2	-0.3
QUIF	**Quistinic**	**149.73**	**6**	*e*PKP1	PKPbc	12 39 40.1	-0.4
LOR	**Lormes**	**150.53**	**356**	*e*PKP1	PKPbc	12 39 42.3	-0.1
	comp=Z,10nm,0.4s						
HYF	**Humbligny**	**150.58**	**358**	*e*PKP1	PKPbc	12 39 43.1	+0.6
SSF	**Saint Saulge**	**150.75**	**357**	*e*PKP1	PKPbc	12 39 42.9	0.0
	comp=Z,9.1nm,0.5s						
CABF	**La Chapelle**	**150.99**	**353**	*e*PKP1	PKPbc	12 39 43.4	0.0
	comp=Z,9.9nm,0.7s						
AVF	**Avril sur Loir**	**151.03**	**357**	*e*PKP1	PKPbc	12 39 43.2	-0.3
MFF	**Saint Martin d**	**151.25**	**2**	*e*PKP1	PKPbc	12 39 43.8	-0.2
	comp=Z,9.8nm,0.7s						
BGF	**Bois d'Algaud**	**151.29**	**358**	*e*PKP1	PKPbc	12 39 43.5	-0.6
TCF	**Toulx Ste Croi**	**151.57**	**359**	*e*PKP1	PKPbc	12 39 44.6	-0.2
LPL	**La Plagne**	**151.99**	**352**	*e*PKP1	PKPbc	12 39 46.5	+0.8
MBDF	**Montbardon**	**152.76**	**351**	*e*PKP1	PKPbc	12 39 47.6	+0.2

CSEM 12 12:32:54.6±1.0, 3853N×29.11W, h5km±4km, ML1.8, Error ellipse: s-maj=11.0km s-min=7.9km az=157.0, After PDA
PDA 12 12:32:54.6±1.0, 3853N×29.11W, h5km±4km, MD3.1, ML1.8, Error ellipse: s-maj=11.0km s-min=7.9km az=157.0

SVSA 12 12:32:54.6±1.0, 3853N×2911W, h5km±4km, MD3.1, ML1.8, Error ellipse: s-maj=11.0km s-min=7.9km az=157.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**0.25**	**78**	*eS*	Sg	12 33 03.7	+0.9
PTCA							
	31nm,0.2s						
CALA	**Caldeira**	**0.32**	**81**	*eP*	Pg	12 33 00.8	0.0
CALA				*eS*	Sg	12 33 05.1	0.0
PCED	**Cedros**	**0.33**	**73**	*i* P	Pg	12 33 00.8	-0.2
PCED				*i* S	Sg	12 33 05.0	-0.4
PCED							
	149nm,0.1s						
PCED	**Cedros**	**0.33**	**73**	*i* S	Sg	12 33 05.0	-0.4
HOR	**Horta**	**0.38**	**91**	*i* P	Pg	12 33 01.1	-0.8
PCND	**Candelaria**	**0.51**	**97**	*eS*	Sg	12 33 10.1	-1.0
PCND							
	18nm,0.1s						
PICO	**Pico**	**0.54**	**93**	*eP*	Pg	12 33 03.8	-1.1
PTEI	**Pico do Teixo**	**0.59**	**94**	*eS*	Sg	12 33 12.7	-1.0
PTEI							
	8.0nm,0.1s						
ROSA	**Rosais**	**0.70**	**74**	*eP*	Pg	12 33 06.7	-1.4
ROSA				*eS*	Sg	12 33 14.8	-2.5
PAMA	**Santo Amaro**	**0.74**	**78**	*eS*	Sg	12 33 16.3	-2.2
PAMA							
	24nm,0.1s						
PID	**Ribeirinha**	**0.78**	**96**	*erx*		12 33 04.4	
PMAN	**Manadas**	**0.81**	**83**	*erx*		12 33 11.1	

IDC 12 12:50:23.5±1.8, 1675N×14592E, h284km±15km, mb2.7/5, mb1 3.1/6, mb1mx2.9/21, mbtmp3.5/6, Error ellipse: s-maj=132.6km s-min=17.4km az=114.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.31**	**198**	P	Pn	12 51 23.3	+2.0
	10nm,0.3s,baz=7.9,slow=20,SNR=14						
GUMO				S	S	12 52 07.3	0.0
	39nm,0.3s,baz=173,slow=24,SNR=19						
WRA	**Warramunga Arr**	**38.20**	**198**	P	P	12 57 16.5	+0.2
	0.2nm,0.4s,baz=22,slow=8.2,SNR=7.9						
FITZ	**Fitzroy Crossi**	**39.98**	**211**	P	P	12 57 30.5	-0.4
	1.5nm,0.9s,baz=21,slow=14,SNR=4.0						
ASAR	**Alice Springs**	**41.85**	**197**	P	P	12 57 47.0	+0.9
	0.2nm,0.4s,baz=21,slow=6.3,SNR=4.9						
ILAR	**Eielson Array**	**65.29**	**26**	P	P	13 00 34.9	-0.4
	0.2nm,0.5s,baz=240,slow=6.4,SNR=6.4						
YKA	**Yellowknife Ar**	**79.60**	**28**	P	P	13 01 59.1	-0.2
	0.2nm,0.7s,baz=288,slow=5.1,SNR=5.5						

ZUR 12 13:27:06.6, 4707N×8.13E, h14km±3km, ML1.9/9
ISCJB 12 13:27:06.3±0.4, 47.10N±002×807E±003, h10km, Error ellipse: s-maj=3.7km s-min=2.5km az=115.1
LDG 12 13:27:07.3±0.2, 47.10N×8.12E, h2km, Ml2.5/7, Error ellipse: s-maj=2.9km s-min=1.7km az=123.0
CSEM 12 13:27:07.1±0.1, 4709N×8.12E, h10km, ML2.4/6, Error ellipse: s-maj=1.6km s-min=1.3km az=104.0
STR 12 13:27:08.6±0.5, 47.17N×805E, h10km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
NEIC 12 13:27:08.6, 47.17N×805E, h10km, ML2.0(STR), ML2.5(LDG), After STR.

ISC 12 13:27:07.0±0.4, 4709N±002×809E±003, h10km, n36, σ0°63/52, 3C-6D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNALP	**Bannalp**	**0.32**	**134**	*i*Pg	**Pg**	**13 27 13.9**	**+0.5**
	71nm,0.3s						
BNALP				*i* Sg	**Sg**	**13 27 17.8**	**+0.1**
	71nm,0.3s						
HASLI	**Hasliberg**	**0.34**	**173**	*i* Sg	**Pg**	**13 27 13.6**	**-0.1**
	482nm,0.4s						
HASLI	**Hasliberg**	**0.34**	**173**	*i*Pg	**Sg**	**13 27 18.4**	**+0.1**
	482nm,0.4s						
HASLI	**Hasliberg**	**0.34**	**173**	*i*Pg	**Sg**	**13 27 18.4**	**+0.1**
	482nm,0.4s						
BALST	**Balsthal**	**0.36**	**312**	*e*Sg	**Pg**	**13 27 14.8**	**+0.7**
	147nm,0.4s						
BALST	**Balsthal**	**0.36**	**312**	*i*Pg	**Sg**	**13 27 20.5**	**+1.5**
	147nm,0.4s						
BALST	**Balsthal**	**0.36**	**312**	*i*Pg	**Sg**	**13 27 20.5**	**+1.5**
	147nm,0.4s						
MUO	**Muotathal**	**0.40**	**108**	*e*Sg	**Pg**	**13 27 14.7**	**-0.1**
	107nm,0.5s						
MUO	**Muotathal**	**0.40**	**108**	*e*Pg	**Sg**	**13 27 20.3**	**+0.2**
	107nm,0.5s						
MUO	**Muotathal**	**0.40**	**108**	*e*Pg	**Sg**	**13 27 20.3**	**+0.2**
	107nm,0.5s						
SULZ	**Sulz-Cheisache**	**0.43**	**2**	*i* Sg	**Pg**	**13 27 15.9**	**+0.4**
	219nm,0.4s						
SULZ	**Sulz-Cheisache**	**0.43**	**2**	*i*Pg	**Sg**	**13 27 22.3**	**+1.0**
	219nm,0.4s						
SULZ	**Sulz-Cheisache**	**0.43**	**2**	*i*Pg	**Sg**	**13 27 22.3**	**+1.0**
	219nm,0.4s						
WIMIS	**Wimmis**	**0.53**	**217**	*i*Pg	**Pg**	**13 27 17.3**	**-0.1**
	62nm,0.4s						
SLE	**Schleitheim**	**0.73**	**22**	*i*Pg	**Pg**	**13 27 20.8**	**-0.3**
	161nm,0.4s						
LKBD	**Leukerbad**	**0.77**	**204**	*e*Pg	**Pg**	**13 27 21.5**	**-0.4**
	18nm,0.2s						
FELD	**Feldberg im Sc**	**0.79**	**356**	Pg	**Pg**	**13 27 22.2**	**0.0**
FELD				Sg	**Sg**	**13 27 32.3**	**-0.1**
LOMF	**Lomont**	**0.90**	**287**	Pg	**Pg**	**13 27 24.7**	**+0.4**
LOMF				Sg	**Sg**	**13 27 37.0**	**+1.0**
MOF	**Molkenrain**	**1.00**	**320**	Pg	**Pg**	**13 27 26.5**	**+0.3**
MOF				Sg	**Sg**	**13 27 39.7**	**+0.5**
HINF	**Hinteralfeld**	**1.11**	**311**	*e*Pg	**Pg**	**13 27 28.3**	**0.0**
HINF				*e*Sg	**Sg**	**13 27 42.6**	**-0.1**
	7.7nm,0.2s						
HINF	**Hinteralfeld**	**1.11**	**311**	*e*Pg	**Pg**	**13 27 28.3**	**0.0**
HINF				*e*Sg	**Sg**	**13 27 42.6**	**-0.1**
	3.8nm,0.

NGZ	**Ngauruhoe**	**0.78**	**56**	PN	Pn	13 41 00.9	0.0		
NWEZ	**Newall Road**	**0.78**	**296**	⇑PN	Pn	13 41 00.8	-0.2		
MOVZ	**Moawhango**	**0.79**	**75**	PN	Pn	13 41 00.7	-0.2		
WTVZ	**West Tongariro**	**0.81**	**52**	PN	Pn	13 41 01.0	-0.2		
OTVZ	**Oturere**	**0.83**	**57**	PN	Pn	13 41 01.5	+0.1		
KRVZ	**Karewarewa**	**0.85**	**52**	PN	Pn	13 41 01.4	-0.2		
KATZ	**Kakaramea**	**0.96**	**48**	PN	Pn	13 41 02.7	+0.1		
TSZ	**Takapari Road**	**1.01**	**116**	PN	Pn	13 41 03.0	-0.2		
RATZ	**Rangitukua**	**1.08**	**46**	PN	Pn	13 41 04.2	+0.4		
HIZ	**Hauiti**	**1.11**	**3**	⇓PN	Pn	13 41 03.8	-0.3		
HIZ				SN	Sn	13 41 20.3	-0.9		
MRZ	**Mangatainoka R**	**1.21**	**150**	PN	Pn	13 41 05.0	-0.2		
MRZ				SN	Sn	13 41 21.7	-1.5		
KIW	**Kapiti Island**	**1.24**	**175**	PN	Pn	13 41 05.6	-0.1		
DUWZ	**D'Urville Isla**	**1.35**	**209**	PN	Pn	13 41 06.9	+0.1		
BKZ	**Black Stump Fm**	**1.41**	**72**	PN	Pn	13 41 07.1	-0.4		
BKZ				SN	Sn	13 41 26.1	-1.0		
TIWZ	**Tintock**	**1.44**	**144**	⇑PN	Pn	13 41 07.8	0.0		
CAW	**Cannon Point**	**1.50**	**171**	⇓PN	Pn	13 41 08.6	0.0		
BFZ	**Birch Farm**	**1.55**	**134**	PN	Pn	13 41 09.0	-0.2		
MRW	**Makara Radio**	**1.61**	**182**	⇓PN	Pn	13 41 09.8	0.0		
MTW	**Mount Morrison**	**1.63**	**160**	PN	Pn	13 41 09.8	-0.3		
TCW	**Tory Channel**	**1.64**	**193**	PN	Pn	13 41 10.0	-0.2		
WEL	**Wellington**	**1.66**	**180**	⇑PN	Pn	13 41 10.4	-0.2		
SNZO	**South Karori**	**1.69**	**182**	⇓PN	Pn	13 41 10.6	-0.3		
MSWZ	**Moikau Station**	**1.83**	**169**	⇓PN	Pn	13 41 12.3	-0.3		
PAWZ	**Paruwai Farm**	**1.83**	**164**	PN	Pn	13 41 12.2	-0.4		
TRWZ	**Traveller**	**1.91**	**159**	PN	Pn	13 41 13.1	-0.4		
TUWZ	**Tuamarina**	**1.92**	**199**	PN	Pn	13 41 13.0	-0.6		
NNZ	**Nelson**	**1.92**	**213**	PN	Pn	13 41 13.4	-0.2		
QRZ	**Quartz Range**	**2.10**	**234**	PN	Pn	13 41 15.3	-0.6		
QRZ				SN	Sn	13 41 40.6	-1.7		
BSWZ	**Blackbirch Sta**	**2.20**	**198**	PN	Pn	13 41 17.9	+0.6		
URZ	**Urewera**	**2.27**	**54**	PN	Pn	13 41 17.3	-0.9		
KNZ	**Kokohu**	**2.33**	**76**	PN	Pn	13 41 18.0	-0.9		
MWZ	**Matawai**	**2.50**	**60**	PN	Pn	13 41 20.1	-1.0		
THZ	**Tophouse**	**2.57**	**213**	PN	Pn	13 41 21.3	-0.7		
KHZ	**Kahutara**	**2.95**	**198**	⇓PN	Pn	13 41 26.1	-0.8		
DSZ	**Denniston Nort**	**3.10**	**226**	PN	Pn	13 41 27.8	-1.2		

IDC 12 13:46:56.3±2.3, 1997S×17424W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.8/15, mbtmp3.8/4, ML2.0/1, Error ellipse: s-maj=107.5km s-min=25.6km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.47**	**22**	Pn	Pn	13 48 33.5	+0.8
	1.7nm,0.3s,baz=148,slow=20,SNR=4.0						
AFI				Sn	Sn	13 49 45.1	-2.1
	1.2nm,0.3s,baz=197,slow=18,SNR=2.5						
RAR	**Rarotonga**	**13.61**	**98**	Pn	Pn	13 49 53.9	-17
	2.3nm,0.3s,baz=205,slow=14,SNR=5.9						
ASAR	**Alice Springs**	**48.07**	**256**	P	P	13 55 38.0	+0.5
	0.8nm,0.9s,baz=101,slow=7.6,SNR=16						
WRA	**Warramunga Arr**	**48.17**	**261**	P	P	13 55 38.6	+0.3
	0.4nm,0.7s,baz=97,slow=7.4,SNR=5.7						
NVAR	**Mina Array Bea**	**78.25**	**42**	P	P	13 58 58.2	+0.3
	1.2nm,0.7s,baz=220,slow=7.6,SNR=9.3						

IDC 12 13:51:00.4±2.0, 290S×11758E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/16, mbtmp3.7/4, Error ellipse: s-maj=308.2km s-min=23.1km az=56.0, Borneo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.55**	**137**	P	P	13 56 12.6	0.0
	1.8nm,0.7s,baz=311,slow=12,SNR=15						
ASAR	**Alice Springs**	**25.99**	**144**	P	P	13 56 36.8	+1.9
	0.4nm,0.5s,baz=322,slow=8.4,SNR=15						
STKA	**Stephens Creek**	**36.63**	**145**	P	P	13 58 07.2	-1.3
	2.2nm,0.6s,baz=327,slow=9.1,SNR=6.0						
MKAR	**Makanchi Array**	**58.42**	**332**	P	P	14 00 57.9	0.0
	0.5nm,0.7s,baz=149,slow=6.7,SNR=2.6						

NIED ***12*** *14:21:00,44.80N×150.40E,h32km,Mw3.7 Best double couple: M₀4.62000×10¹⁴ NP1:φ₀53.00000°,δ90.00000°, λ161.00000°. NP2:φ₀143.00000°,δ71.00000°,λ0.00000°.*

JMA 12 14:21:32.9±0.6, 4485N×15044E, h30km, M3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**3.69**	**248**	P	Pn	14 22 26.9	-1.0
NEM2				*e*S	Sn	14 23 06.8	-3.6
JRA	**Rausu**	**3.92**	**258**	P	Pn	14 22 32.5	+1.5
JRA				*e*S	Sn	14 23 17.0	+1.0
JAK	**Akkeshi**	**4.54**	**248**	P	Pn	14 22 38.6	-1.0
JTKR	**Abashiri--Toko**	**4.76**	**262**	P	Pn	14 22 45.1	+2.5
JAR	**Ashorobuto**	**5.05**	**254**	P	Pn	14 22 47.4	+0.8
JAR				*e*S	Sn	14 23 44.4	+0.5
JMP	**Maruseppu**	**5.14**	**263**	P	Pn	14 22 50.5	+2.7
JOB	**Onbets**	**5.16**	**250**	P	Pn	14 22 47.8	-0.2
JOB				*e*S	Sn	14 23 45.4	-1.1
JCH	**Churui**	**5.59**	**249**	P	Pn	14 22 53.9	-0.1
JCH				*e*S	Sn	14 23 54.5	-2.8
JKK2	**Kamakawa 2**	**5.60**	**263**	P	Pn	14 22 57.2	+3.1
ASAJ	**Asahikawa**	**5.66**	**265**	P	Pn	14 22 57.9	+3.0
JEM	**Erimo**	**6.01**	**244**	P	Pn	14 23 00.8	+1.0
JKB	**Kayabe**	**7.47**	**250**	P	Pn	14 23 19.1	-0.6
JKB				*e*S	Sn	14 24 37.5	-5.9
JANG	**Nango**	**7.96**	**239**	*e*S	Sn	14 24 45.2	-10
JTM	**Tenmabayashi**	**8.00**	**243**	*e*S	Sn	14 24 48.7	-7.7
JTH	**Tanohata**	**8.02**	**235**	*e*S	Sn	14 24 44.9	-12
JOSM	**Okushiri--Mats**	**8.44**	**255**	P	Pn	14 23 33.4	+0.3
OFUJ	**Ofunato**	**8.71**	**232**	*e*S	Sn	14 25 03.2	-11
JIO	**Ouri**	**9.33**	**230**	*e*S	Sn	14 25 16.8	-12

IDC ***12*** *15:00:43.9±0.7,172N×12633E,h0km,mb4.3/10, mb1 4.3/11,mb1mx4.2/18,mbtmp4.3/11,ML4.0/1,MS3.8/2, Ms1 3.8/2,ms1mx2.5/28,Error ellipse: s-maj=46.1km s-min=13.4km az=75.0*

MOS ***12*** *15:00:46.9±1.1,183N×12647E,h33km,mb4.8/18,Error ellipse: s-maj=22.4km s-min=8.5km az=108.8*

ISCJB ***12*** *15:00:50.3±1.6,176N±005×12654E±009,h62km±15km, mb4.5/40,Error ellipse: s-maj=15.2km s-min=6.8km az=141.5*

NEIC ***12*** *15:00:53.3±1.5,173N×12658E,h77km±15km,mb4.6/22, Error ellipse: s-maj=13.3km s-min=5.9km az=67.0*

BJI ***12*** *15:00:53.2,170N×12660E,h77km,mB5.0,mb4.7,Ms4.3, Msz3.9*

ISC 12 15:00:52.6±1.3, 174N±005×12659E±008, h67km±12km, h73km±2.1km: pP-P, n78, σ1°28/81, mb4.4/40, 3D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**11.19**	**293**	*e*Pn	**Pn**	**15 03 30.1**	**+0.4**
KAKA	**Kakadu**	**15.49**	**158**	*e*P	**Pn**	**15 04 27.9**	**+1.0**
	22nm,0.8s						
KSM	**Kuching**	**16.27**	**269**	*e*P	**Pn**	**15 04 39.0**	**+2.1**
FITZ	**Fitzroy Crossi**	**19.74**	**183**	*e*P	**Pn**	**15 05 16.7**	**-2.2**
	8.4nm,1.1s						
FITZ	**Fitzroy Crossi**	**19.74**	**183**	P	**Pn**	**15 05 15.5**	**-3.4**
	0.3nm,0.3s,baz=37,slow=11,SNR=11						
GUMO	**Guam**	**21.58**	**56**	LR	LR	15 12 23.7	
	comp=Z,132nm,19.9s,baz=154,slow=32						
WRAB	**Tennant Creek**	**22.85**	**161**	*e*P	**P**	**15 05 48.7**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**22.85**	**161**	*e*P	**P**	**15 05 48.7**	**-1.4**
	comp=Z,14nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**22.85**	**161**	P	**P**	**15 05 48.9**	**-1.3**
	comp=Z,5.9nm,0.4s,mb4.3,baz=339,slow=11,SNR=35						
WRA				S	**S**	**15 09 57.4**	**+2.9**
	comp=Z,1.3nm,0.8s,baz=328,slow=21,SNR=5.2						
WB2	**Warramunga Arr**	**22.86**	**161**	*e*P	**P**	**15 05 48.8**	**-1.4**
WB2				*e*S	**S**	**15 09 55.1**	**+0.5**
PMG	**Port Moresby**	**23.29**	**119**	P	**P**	**15 05 55.4**	**+0.9**
PMG				pmax	pmax		
	comp=Z,24nm,1.3s						
PMG	**Port Moresby**	**23.29**	**119**	P	**P**	**15 05 55.4**	**+0.9**
	comp=Z,24nm,1.3s,mb4.4						
YHNB	**Yeheng**	**23.34**	**348**	P	**P**	**15 05 54.2**	**-0.7**
MBWA	**Marble Bar**	**23.73**	**196**	*e*P	**P**	**15 05 57.7**	**-0.7**
	comp=Z,6.5nm,0.7s,mb4.1						
QIZ	**Qiongzhong**	**23.75**	**317**	*e*P	**P**	**15 06 03.3**	**+4.6**
	comp=Z,16nm,1.0s,mb4.3						
JOW	**Kunigami**	**25.00**	**4**	P	**P**	**15 06 11.5**	**+1.5**
	comp=Z,11nm,0.9s,mb4.3,baz=178,slow=15,SNR=4.7						
KULM	**Kulim**	**26.12**	**278**	P	**P**	**15 06 23.2**	**+3.0**
ASAR	**Alice Springs**	**26.24**	**165**	P	**P**	**15 06 22.7**	**+1.4**
	comp=Z,5.0nm,0.6s,mb4.1,baz=351,slow=14,SNR=34						
ASAR				PcP	PcP	15 09 48.7	+2.4
	comp=Z,0.4nm,0.5s,baz=351,slow=2.4,SNR=5.3						
ASAR				S	**S**	**15 10 59.5**	**+11**
	comp=Z,1.5nm,0.8s,baz=348,slow=20,SNR=8.0						
CTAO	**Charters Tower**	**29.03**	**139**	*e*P	**P**	**15 06 47.8**	**+1.6**
CTAO				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.7						
CTAO	**Charters Tower**	**29.03**	**139**	*e*P	**P**	**15 06 47.8**	**+1.6**
	comp=Z,25nm,1.2s,mb4.7						
NJ2	**Nanjing**	**31.02**	**347**	*e*P	**P**	**15 07 06.6**	**+2.8**
NJ2				AP	pP	15 07 22.9	+2.9
NJ2				XP	sP	15 07 35.4	+7.5
NJ2				PP	PP	15 08 10.2	-4.6
NJ2				S	**S**	**15 12 06.0**	**+2.2**
NJ2				XS	sS	15 12 35.0	+3.4
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,100nm,10.7s						
NJ2				LR	LR		
	comp=N,690nm,38.0s						
NJ2				LR	LR		
	comp=E,360nm,30.8s						
NJ2				LR	LR		
	comp=Z,340nm,34.2s						
FORT	**Forrest**	**32.37**	**178**	*e*P	**P**	**15 07 16.2**	**+0.6**
	comp=Z,9.6nm,0.6s,mb4.7						
KMI	**Kunming**	**32.70**	**317**	P	**P**	**15 07 24.5**	**+5.9**
KMI				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.3						
KS15	**Wonju Array Si**	**35.55**	**2**	P	**P**	**15 07 46.4**	**+3.2**
CD2	**Chengdu**	**36.17**	**326**	*e*P	**P**	**15 07 48.0**	**-0.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
MJAR	**Matsushiro Arr**	**36.26**	**16**	P	**P**	**15 07 49.1**	**-0.2**
	comp=Z,3.2nm,0.9s,mb4.3,baz=190,slow=9.7,SNR=7.6						
MAJO	**Matsushiro**	**36.26**	**16**	*e*P	**P**	**15 07 49.0**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
MAJO	**Matsushiro**	**36.26**	**16**	*e*P	**P**	**15 07 49.0**	**-0.3**
	comp=Z,6.4nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**36.34**	**158**	*e*P	**P**	**15 07 48.4**	**-1.5**
	comp=Z,3.5nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**36.34**	**158**	P	**P**	**15 07 48.5**	**-1.4**
	comp=Z,4.7nm,0.8s,mb4.5,baz=343,slow=8.5,SNR=7.4						
STKA	**Stephens Creek**	**36.34**	**158**	*e*P	**P**	**15 07 47.8**	**-2.2**
BJT	**Baijiatuau**	**39.26**	**347**	P	**P**	**15 08 12.7**	**-1.9**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BJT	**Baijiatuau**	**39.26**	**347**	P	**P**	**15 08 12.7**	**-1.8**
	comp=Z,8.9nm,0.8s,mb4.7						
LZH	**Lanzhou**	**40.15**	**331**	*e*P	**P**	**15 08 21.5**	**-0.4**
LZH				AP	pP	15 08 39.2	+0.6
LZH				XP	sP	15 08 48.3	+1.9
LZH				PP	PP	15 09 59.2	+3.8
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,68nm,6.5s						
LZH				LR	LR		
	comp=N,356nm,14.3s						
LZH				LR	LR		
	comp=Z,491nm,17.5s						
HHC	**Hu-ho-hao-te**	**41.23**	**343**	*e*P	**P**	**15 08 32.4**	**+1.5**
HHC				AP	pP	15 08 51.2	+3.6
HHC				XP	sP	15 08 59.5	+4.1
HHC				PP	PP	15 10 10.9	+3.8
HHC				PCP	PcP	15 10 29.5	+0.9
HHC				SCP	ScP	15 14 11.8	-0.8
HHC				PCS	PcS	15 14 19.6	-0.2
HHC				S	**S**	**15 14 42.7**	**+3.0**
HHC				XS	sS	15 15 14.2	+6.0
HHC				SS	SS	15 17 43.3	-1.8
HHC				SCS	ScS	15 18 26.2	-2.3
HHC				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.6						
HHC				PP	PP		
	comp=Z,82nm,6.0s						
HHC				LR	LR		
	comp=N,133nm,15.7s						
HHC				LR	LR		
	comp=E,180nm,13.2s						
HHC				LR	LR		
	comp=Z,90nm,14.3s						
MDJ	**Mudanjiang**	**42.78**	**3**	P	**P**	**15 08 44.8**	**+1.4**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,102nm,4.4s						
MDJ				LR	LR		
	comp=N,27nm,18.1s						
MDJ				LR	LR		
	comp=E,36nm,20.1s						
MDJ				LR	LR		
	comp=Z,34nm,26.1s						
MDJ	**Mudanjiang**	**42.78**	**3**	P	**P**	**15 08 43.8**	**+0.4**
	comp=Z,8.2nm,1.1s,mb4.4						
LSA	**Lhasa**	**43.66**	**313**	*e*P	**P**	**15 08 51.4**	**+0.8**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
LSA	**Lhasa**	**43.66**	**313**	*e*P	**P**	**15 08 51.4**	**+0.8**
	comp=Z,5.2nm,0.6s,mb4.4						
GTA	**Gaotai**	**44.73**	**330**	*e*P	**P**	**15 08 58.1**	**-1.0**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb3.9						
KLR	**Kul'dur**	**47.52**	**5**	*e*P	**P**	**15 09 18.2**	**-2.8**
ULN	**Ulaanbaatar**	**48.96**	**343**	*e*P	**P**	**15 09 32.6**	**+0.5**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
ULN	**Ulaanbaatar**	**48.96**	**343**	*e*P	**P**	**15 09 32.5**	**+0.5**
	comp=Z,5.2nm,1.0s,mb4.4						
SONM	**Songino Array**	**49.13**	**342**	P	**P**	**15 09 32.9**	**-0.5**
	comp=Z,2.8nm,0.7s,mb4.3,baz=155,slow=9.6,SNR=8.1						
CIT	**Chita**	**51.28**	**350**	*e*P	**P**	**15 09 49.3**	**-0.4**
CIT				*e*		15 09 58.9	
CIT				*e*		15 11 53.4	
CIT				pmax	pmax		
	comp=Z,20nm,2.0s,mb4.8						
WMQ	**Urumqi**	**54.27**	**326**	⇓P	**P**	**15 10 11.9**	**+0.2**
WMQ				AP	pP	15 10 29.4	+0.3
WMQ				PCP	PcP	15 11 15.3	+0.1
WMQ				PP	PP	15 12 16.1	+2.0
WMQ				PPP		15 13 27.6	
WMQ				S	**S**	**15 17 41.6**	**-2.7**
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,110nm,4.0s						
WMQ				LR	LR		
	comp=N,163nm,27.5s						
WMQ				LR	LR		
	comp=Z,43nm,24.2s						
BOD	**Bodaibo**	**56.80**	**352**	*e*P	**P**	**15 10 29.3**	**-0.6**
MKAR	**Makanchi Array**	**59.10**	**326**	P	**P**	**15 10 45.1**	**-0.9**
	comp=Z,1.8nm,0.5s,mb4.4,baz=122,slow=8.3,SNR=36						
YAK	**Yakutsk**	**60.19**	**2**	*e*P	**P**	**15 10 53.3**	**-0.1**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
YAK	**Yakutsk**	**60.19**	**2**	*e*P	**P**	**15 10 53.3**	**-0.1**
	comp=Z,6.6nm,0.6s,mb4.8						
MA2	**Magadan**	**60.66**	**14**	P	**P**	**15 10 57.1**	**+0.5**
MA2				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
MA2	**Magadan**	**60.66**	**14**	P	**P**	**15 10 57.1**	**+0.4**
	comp=Z,13nm,1.1s,mb4.9						
AAK	**Ala-Archa**	**61.73**	**319**	P	**P**	**15 11 03.4**	**-0.5**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
AAK	**Ala-Archa**	**61.73**	**319**	P	**P**	**15 11 03.4**	**-0.5**
	comp=Z,5.5nm,1.1s,mb4.5						
KURK	**Kurchatov**	**63.34**	**328**	*e*P	**P**	**15 11 13.5**	**-1.1**
KURK				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
KURK	**Kurchatov**	**63.34**	**328**	*e*P	**P**	**15 11 13.5**	**-1.1**
	comp=Z,11nm,0.7s,mb4.9						
BVAR	**Borovoye Array**	**68.90**	**327**	P	**P**	**15 11 49.4**	**-0.9**
	comp=Z,1.6nm,0.7s,mb4.0,baz=138,slow=9.1,SNR=9.4						
BRVK	**Borovoye**	**68.97**	**327**	*e*P	**P**	**15 11 51.0**	**+0.3**
ZRNK	**Zerenda**	**69.62**	**327**	*e*P	**P**	**15 11 54.1**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.4						
ZRNK	**Zerenda**	**69.62**	**327**	*e*P	**P**	**15 11 54.1**	**-0.5**
	comp=Z,3.4nm,0.5s,mb4.4						
TIXI	**Tiksi**	**69.82**	**1**	*e*P	**P**	**15 11 53.1**	**-2.8**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
BILL	**Bilibino**	**71.50**	**15**	*e*P	**P**	**15 12 09.1**	**+3.0**
BILL	**Bilibino**	**71.50**	**15**	*e*P	**P**	**15 12 09.1**	**+2.9**
AKTK	**Aktyubinsk**	**75.12**	**322**	P	**P**	**15 12 27.4**	**0.0**
AKTO	**Aktyubinsk**	**75.12**	**322**	P	**P**	**15 12 27.4**	**0.0**
	comp=Z,2.5nm,0.7s,mb4.1,baz=107,slow=6.2,SNR=14						
ORR	**Orenburg**	**77.42**	**323**	⇓*i*P	**P**	**15 12 41.2**	**+0.8**
ORR				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.3						
VNDA	**Vanda**	**81.48**	**173**	P	**P**	**15 13 03.1**	**+0.6**
	comp=Z,2.1nm,0.9s,mb4.0,baz=307,slow=6.0,SNR=4.9						
VNDA	**Vanda**	**81.48**	**173**	*e*P	**P**	**15 13 02.7**	**+0.2**
VNDA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
VNDA	**Vanda**	**81.48**	**173**	*e*P	**P**	**15 13 02.7**	**+0.2**
	comp=Z,2.8nm,1.0s,mb4.0						
MAW	**Mawson**	**81.85**	**200**	*e*P	**P**	**15 13 04.6**	**+0.1**
MAW				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MAW	**Mawson**	**81.85**	**200**	*e*P	**P**	**15 13 04.6**	**+0.1**
	comp=Z,7.3nm,1.0s,mb4.5						
MALT	**Malatya**	**87.48**	**308**	P	**P**	**15 13 30.0**	**-2.8**
MALT				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
MALT	**Malatya**	**87.48**	**308**	P	**P**	**15 13 30.0**	**-2.8**
	comp=Z,5.4nm,1.0s,mb4.4						
SYO	**Syowa Base**	**90.53**	**201**	⇓*e*P	**P**	**15 13 46.8**	**-0.3**
QSPA	**South Pole Qui**	**91.66**	**180**	P	**P**	**15 13 54.7**	**+2.3**
	comp=Z,4.4nm,1.3s,mb4.5						
FINES	**FINESS Array B**	**93.50**	**332**	P	**P**	**15 13 59.8**	**-1.1**
	comp=Z,0.8nm,0.7s,mb4.2,baz=68,slow=5.1,SNR=3.8						
DLBC	**Dease Lake**	**95.51**	**31**	LR	LR	15 57 50.8	
	comp=Z,79nm,18.3s,baz=265,slow=36						
TORD	**Torodi Ar. Bea**	**123.38**	**287**	PKP	PKPdf	15 19 43.4	+1.4
	comp=Z,0.6nm,0.7s,baz=54,slow=1.2,SNR=4.3						

ISCJB ***12*** *15:28:09.3±0.8,687N±008×7308W±0.10,h170km±9km, mb3.5/1,Error ellipse: s-maj=19.1km s-min=7.4km az=76.3*

IDC ***12*** *15:28:09.8±0.8,668N×7296W,h163km±11km,mb3.2/1, mb1 3.4/3,mb1mx3.0/21,mbtmp3.6/3,Error ellipse: s-maj=54.0km s-min=7.8km az=131.0*

FUNV ***12*** *15:28:09.6,671N×7315W,h171km,MW3.6*

ISC 12 15:28:10.3±0.8, 684N±008×7306W±010, h165km±9km, n12, σ1°09/19, mb3.5/1, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.26**	**36**	⇑*i*P	**Pn**	**15 28 39.8**	**+1.1**
CAPV				*e*S	Sn	15 29 01.3	+0.8
ROSC	**El Rosal**	**2.34**	**213**	P	**Pn**	**15 28 50.8**	**+0.5**
	11nm,0.3s,baz=84,slow=20,SNR=22						
ROSC				S	Sn	15 29 19.7	-1.5
	15nm,0.3s,baz=100,slow=14,SNR=8.9						
VIGV	**El Vigia**	**2.60**	**40**	⇑*i*P	**Pn**	**15 28 54.3**	**+0.9**
VIGV				*e*S	Sn	15 29 27.3	+0.7
SOCV	**Socops**	**2.61**	**57**	*e*P	**Pn**	**15 28 54.6**	**+1.1**
SOCV				*e*S	Sn	15 29 26.1	-0.8
SDV	**Santo Domingo**	**3.15**	**50**	P	**Pn**	**15 29 01.3**	**+1.2**
	4.2nm,0.3s,baz=253,slow=4.0,SNR=28						
SDV				S	Sn	15 29 39.3	+0.6
	10nm,0.3s,baz=87,slow=23,SNR=25						
VIRV	**Villa del Rosa**	**3.69**	**10**	*e*P	**Pn**	**15 29 06.6**	**-0.4**
VIRV				*e*S	Sn	15 29 49.4	-1.7
CURV	**Curarigua**	**4.39**	**44**	*e*P	**Pn**	**15 29 16.4**	**+0.4**
CURV				*e*S	Sn	15 30 05.8	-1.6
BAUV	**El Baul**	**5.39**	**67**	*e*P	**Pn**	**15 29 27.8**	**-1.3**
BAUV				*e*S	Sn	15 30 26.7	-4.1
MONV	**Montecano**	**5.92**	**31**	*e*P	**Pn**	**15 29 35.7**	**-0.4**
MONV				*e*S	Sn	15 30 39.4	-4.0
YKA	**Yellowknife Ar**	**63.26**	**340**	P	**P**	**15 38 21.9**	**+0.6**
	0.5nm,0.6s,mb3.5,baz=132,slow=6.6,SNR=14						
ASAR	**Alice Springs**	**149.17**	**234**	PKPbc	PKPbc	15 47 39.1	0.0
	0.3nm,0.7s,baz=121,slow=3.9,SNR=4.3						
WRA	**Warramunga Arr**	**150.40**	**241**	PKPbc	PKPbc	15 47 42.5	+0.4
	0.4nm,0.9s,baz=108,slow=2.7,SNR=6.1						

ISCJB ***12*** *15:35:13.8±0.6,2175S±006×6690W±0.10,h173km±10km, mb3.8/3,Error ellipse: s-maj=15.9km s-min=7.5km az=45.6*

IDC ***12*** *15:35:15.3±0.9,2170S×6710W,h174km±13km,mb3.5/2, mb1 3.4/6,mb1mx3.3/16,mbtmp3.7/6,Error ellipse: s-maj=21.5km s-min=12.8km az=106.0*

NEIC ***12*** *15:35:15.5±0.8,2168S×6707W,h177km±11km,mb3.7/4, Error ellipse: s-maj=17.4km s-min=9.9km az=100.0*

ISC 12 15:35:14.9±0.6, 2173S±006×6692W±010, h169km±9km, n16, σ1°05/20, mb3.8/3, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.04**	**244**	P	**Pn**	**15 35 52.2**	**+0.6**
	4.7nm,0.3s,baz=55,slow=7.5,SNR

CDCH	**Caldera**	**1.59**	**186**	*e*P		**Pn**	**15 37 58.0 +0.2**
CDCH				*i* S		**Sn**	**15 38 18.2 +0.9**
ANCH	**Antofagasta**	**1.80**	**7**	⇓*i*P		**Pn**	**15 38 00.8 +0.2**
ANCH				*i* S		**Sn**	**15 38 22.8 +0.5**
CPCH	**Copiapo**	**1.89**	**172**	⇑*i*P		**Pn**	**15 38 01.3 -0.4**
CPCH				*i* S		**Sn**	**15 38 24.4 0.0**
CPCH				AML	AML		15 38 28.0
	comp=N,9µm,0.3s						
CPCH	**Copiapo**	**1.89**	**172**	⇑*i*P		**Pn**	**15 38 01.3 -0.4**
CPCH				*i* S		**Sn**	**15 38 24.4 0.0**
CEN1	**Los Morros**	**2.12**	**11**	⇓*i*P		**Pn**	**15 38 02.4 -2.4**
CEN1				*i* S		**Sn**	**15 38 25.8 -4.2**
CEN1				AML	AML		15 38 36.2
	comp=E,727nm,0.7s						
LVC	**Limon Verde**	**3.26**	**29**	*e*P		**Pn**	**15 38 21.0 +0.5**
LVC				*i* S		**Sn**	**15 38 58.1 0.0**
LVC				AML	AML		15 39 10.2
	comp=N,532nm,0.5s						
LVC	**Limon Verde**	**3.26**	**29**	P		**Pn**	**15 38 21.5 +1.0**
	comp=N,26nm,0.3s,baz=207,slow=11,SNR=21						
LVC				S		**Sn**	**15 39 03.6 +5.5**
	comp=N,95nm,0.3s,baz=35,slow=14,SNR=17						
LVC				LR	LR		15 39 36.8
	comp=N,135nm,19.6s,baz=236,slow=37						
CFAA	**Coronel Fontan**	**6.46**	**161**	P		**Pn**	**15 39 05.2 +0.9**
	comp=N,0.2nm,0.3s,baz=337,slow=12,SNR=23						
LPAZ	**La Paz**	**9.44**	**15**	P		**Pn**	**15 39 45.5 +0.4**
	comp=N,0.4nm,0.3s,baz=184,slow=8.6,SNR=5.9						
LPAZ	**La Paz**	**9.44**	**15**	P		**Pn**	**15 39 45.5 +0.4**
SIV	**San Ignacio**	**13.00**	**45**	P		**Pn**	**15 40 33.4 -0.3**
	comp=N,2.1nm,0.3s,baz=243,slow=9.7,SNR=14						
BDFB	**Brasilia**	**23.30**	**70**	LR	LR		15 52 37.8
	comp=N,63nm,20.2s,MS3.1,baz=115,slow=38						
TORD	**Torodi Ar. Bea**	**80.18**	**70**	P	P		**15 49 35.6 -0.4**
	comp=N,1.8nm,0.5s,mb4.3,baz=253,slow=5.2,SNR=36						
TORD				pP	pP		15 49 54.4 +2.3
	comp=N,1.2nm,0.6s,baz=260,slow=4.9,SNR=5.8						
MKAR	**Makanchi Array**	**149.75**	**38**	PKPbc	PKPbc		15 57 15.3 +0.1
	comp=N,0.7nm,0.5s,baz=298,slow=2.6,SNR=4.0						

ISCJB ***12*** *15:42:51.7±2.0,5201N±006×16876W±007,h0km±12km, mb4.5/53,MS3.7/4, Error ellipse: s-maj=10.9km s-min=5.9km az=118.0*
BJI ***12*** *15:42:52.1,5262N×16865W,h3km,mB4.9,mb4.8,Ms4.2, Msz4.0*
IDC ***12*** *15:42:54.0±1.6,5222N×16878W,h0km,mb4.1/14, mb1 4.3/16,mb1mx4.2/24,mbtmp4.2/16,ML3.5/2,MS3.2/2, Ms1 3.2/2,ms1mx2.5/32, Error ellipse: s-maj=43.1km s-min=14.5km az=171.0*
NEIC ***12*** *15:42:55.0±0.5,5210N×16875W,h10km, mb4.5/17, Error ellipse: s-maj=10.2km s-min=6.5km az=165.0*
SZGRF ***12*** *15:43:00.3,5194N×16961W,h33km,mb4.6, Fox Islands, Aleutian Islands, United States*
MOS ***12*** *15:43:00.8±1.0,5278N×16909W,h33km,mb4.6/22, Error ellipse: s-maj=17.9km s-min=7.4km az=92.1*
ISC 12 15:42:54.4±2.2,5207N±006×16874W±007,h8km±13km, n122,σ0§92/125,mb4.4/53,MS3.7/4,1C-1D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKO	**Nikolski**	**0.91**	**356**	P	**Pb**	**15 43 13.1**	**+0.7**
NIKO				S	**Sb**	**15 43 25.8**	**+1.2**
OKCE	**Okmok Cone E**	**1.40**	**14**	P	**Pn**	**15 43 20.8**	**+0.5**
OKCD	**Okmok Cone D**	**1.41**	**15**	P	**Pn**	**15 43 21.0**	**+0.6**
UNV	**Unalaska Valle**	**2.23**	**36**	P	**Pn**	**15 43 31.9**	**+0.2**
UNV				S	**Sn**	**15 43 59.9**	**+0.4**
AKUT	**Akutan**	**2.73**	**40**	P	**Pn**	**15 43 39.5**	**+1.0**
AKUT				S	**Sn**	**15 44 11.8**	**0.0**
KDAK	**Kodiak Island**	**10.90**	**52**	Pn	**Pn**	**15 45 30.0**	**-0.7**
	1.7nm,0.3s,baz=237,slow=5.6,SNR=19						
KDAK	**Kodiak Island**	**10.90**	**52**	Pn	**Pn**	**15 45 30.0**	**-0.7**
FX1	**Attu Island--F**	**11.07**	**281**	Pn	**Pn**	**15 45 34.8**	**+1.8**
	0.8nm,0.3s,baz=348,slow=23,SNR=4.2						
SLKM	**Skilak Lake**	**13.27**	**43**	*e*P	**Pn**	**15 46 02.9**	**-0.2**
COLA	**College**	**16.73**	**32**	*e*P	**Pn**	**15 46 48.6**	**-0.5**
ILAR	**Eielson Array**	**16.98**	**33**	Pn	**Pn**	**15 46 50.6**	**-1.7**
	0.1nm,0.3s,baz=238,slow=11,SNR=15						
DAWY	**Dawson**	**19.40**	**40**	*e*Pn	**Pn**	**15 47 20.9**	**-1.1**
BILL	**Bilibino**	**20.04**	**332**	*e*P	**P**	**15 47 27.1**	**-0.8**
BILL				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BILL	**Bilibino**	**20.04**	**332**	*e*P	**P**	**15 47 27.1**	**-0.8**
	comp=Z,8.7nm,0.9s						
DLBC	**Dease Lake**	**22.71**	**58**	P	**P**	**15 47 60.0**	**+3.4**
	comp=Z,1.7nm,0.6s,mb3.6,baz=268,slow=13,SNR=5.6						
DLBC	**Dease Lake**	**22.71**	**58**	P	**P**	**15 47 56.8**	**+0.3**
INK	**Inuvik**	**23.39**	**33**	P	**P**	**15 48 01.8**	**-1.9**
	comp=Z,3.6nm,0.6s,mb4.0,baz=237,slow=11,SNR=17						
INK	**Inuvik**	**23.39**	**33**	*e*P	**P**	**15 48 01.5**	**-2.2**
INK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
INK	**Inuvik**	**23.39**	**33**	*e*P	**P**	**15 48 01.5**	**-2.2**
	comp=Z,3.9nm,0.7s,mb4.0						
BBB	**Bella Bella**	**24.71**	**74**	LR	LR		15 57 24.9
	comp=Z,48nm,18.8s,MS3.0,baz=294,slow=35						
YKA	**Yellowknife Ar**	**30.15**	**49**	P	**P**	**15 49 05.2**	**+0.4**
	comp=Z,0.5nm,0.4s,mb3.6,baz=272,slow=9.3,SNR=14						
YKA				ScP	ScP		15 55 48.0 -0.5
	comp=Z,0.1nm,0.7s,baz=287,slow=3.2,SNR=4.0						
YKA	**Yellowknife Ar**	**30.15**	**49**	P	**P**	**15 49 05.2**	**+0.4**
YKA				ScP	ScP		15 55 48.0 -0.5
ASAJ	**Asahikawa**	**32.92**	**276**	LR	LR		16 01 30.3
	comp=Z,47nm,19.9s,MS3.2,baz=209,slow=34						
TIXI	**Tiksi**	**33.19**	**329**	*e*P	**P**	**15 49 29.5**	**-2.0**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
HABR	**Khabarovsk**	**35.34**	**287**	*e*P	**P**	**15 49 50.7**	**+0.5**
HABR				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
MCMT	**McKenzie Canyo**	**36.96**	**79**	*e*P	**P**	**15 50 05.9**	**+1.9**
MCMT				*e*		15 50 32.4	
BW06	**Boulder Array**	**40.08**	**79**	*e*P	**P**	**15 50 29.3**	**-1.0**
	comp=Z,3.6nm,0.9s,mb4.1						
PDAR	**Pinedale Array**	**40.08**	**79**	P	**P**	**15 50 30.4**	**+0.1**
	comp=Z,0.9nm,0.8s,mb3.6,baz=328,slow=3.5,SNR=8.8						
MDJ	**Mudanjiang**	**40.54**	**285**	P	**P**	**15 50 35.6**	**+1.5**
MDJ				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb3.8						
MDJ				AMB	AMB		
	comp=Z,96nm,4.3s						
MDJ	**Mudanjiang**	**40.54**	**285**	P	**P**	**15 50 38.2**	**+4.1**
FCC	**Fort Churchill**	**40.83**	**50**	*e*P	**P**	**15 50 36.8**	**+0.3**
FCC				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
FCC	**Fort Churchill**	**40.83**	**50**	*e*P	**P**	**15 50 36.8**	**+0.3**
	comp=Z,5.5nm,0.9s,mb4.2						
BOD	**Bodaibo**	**42.48**	**309**	*e*P	**P**	**15 50 47.7**	**-2.3**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
CN2	**Changchun**	**43.47**	**286**	*e*P	**P**	**15 50 57.9**	**-0.1**
CN2				*e*XP	sP	15 51 04.9	+3.4
CN2				*e*S	**S**	**15 57 29.0**	**+2.4**
SUMG	**Summit**	**50.95**	**17**	*e*P	**P**	**15 51 55.4**	**-0.9**
	comp=Z,9.1nm,0.9s,mb4.7						
ULN	**Ulaanbaatar**	**51.42**	**301**	*e*P	**P**	**15 51 58.9**	**-1.0**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
ULN	**Ulaanbaatar**	**51.42**	**301**	*e*P	**P**	**15 51 58.9**	**-1.0**
	comp=Z,3.2nm,0.8s,mb4.3						
SONM	**Songino Array**	**51.78**	**301**	P	**P**	**15 52 02.0**	**-0.6**
	comp=Z,0.6nm,0.3s,mb4.0,baz=50,slow=8.2,SNR=11						
SONM				PcP	PcP		15 53 16.5 +0.8
	comp=Z,0.6nm,0.7s,baz=50,slow=2.3,SNR=2.7						
HHC	**Hu-ho-hao-te**	**53.39**	**292**	*e*P	**P**	**15 52 15.2**	**+0.7**
HHC				PCP	PcP		15 53 22.7 +0.9
HHC				PP	PP		15 54 17.8 +3.0
HHC				PCS	PcS		15 57 19.4 -1.3
HHC				S	**S**	**15 59 40.0**	**-6.8**
HHC				SS	SS		16 03 20.6 -6.1
HHC				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.7						
HHC				AMB	AMB		
	comp=Z,65nm,4.5s						
HHC				LR	LR		
	comp=N,75nm,16.0s,MS4.2						
HHC				LR	LR		
	comp=E,114nm,12.2s,MS4.2						
HHC				LR	LR		
	comp=Z,122nm,14.8s,MS4.1						
SSE	**Sheshan**	**54.21**	**276**	*e*P	**P**	**15 52 20.2**	**-0.3**
SSE				AMB	AMB		
	comp=Z,43nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,64nm,5.1s						
NJ2	**Nanjing**	**54.98**	**279**	*e*P	**P**	**15 52 27.1**	**+1.0**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
SCHQ	**Schefferville**	**55.39**	**43**	P	**P**	**15 52 29.6**	**+0.6**
	comp=Z,2.6nm,0.8s,mb4.3,baz=321,slow=10,SNR=4.1						
SCHQ	**Schefferville**	**55.39**	**43**	*e*P	**P**	**15 52 28.7**	**-0.3**
	comp=Z,6.2nm,0.9s,mb4.6						
ARCES	**ARCESS Array B**	**58.26**	**354**	P	**P**	**15 52 48.2**	**-1.2**
	comp=Z,2.8nm,0.8s,mb4.4,baz=17,slow=8.9,SNR=6.6						
ARCES	**ARCESS Array B**	**58.26**	**354**	P	**P**	**15 52 48.2**	**-1.2**
LZH	**Lanzhou**	**61.06**	**292**	*e*P	**P**	**15 53 09.8**	**+1.1**
LZH				*e*PP	PP	15 55 26.3	+3.2
LZH				AMB	AMB		
	comp=Z,19nm,1.3s,mb5.1						
LZH				AMB	AMB		
	comp=Z,53nm,8.4s						
LZH				LR	LR		
	comp=E,285nm,15.6s						
LZH				LR	LR		
	comp=Z,352nm,18.4s,MS4.5						
KURK	**Kurchatov**	**62.85**	**319**	P	**P**	**15 53 20.1**	**-0.7**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.3						
KURK	**Kurchatov**	**62.85**	**319**	*e*P	**P**	**15 53 20.1**	**-0.7**
	comp=Z,3.5nm,0.8s,mb4.5						
BVAO	**Borovoye Array**	**64.17**	**325**	*i* P	**P**	**15 53 29.5**	**0.0**
BVAR	**Borovoye Array**	**64.17**	**325**	P	**P**	**15 53 29.2**	**-0.3**
	comp=Z,5.2nm,0.7s,mb4.7,baz=58,slow=8.9,SNR=29						
BRVK	**Borovoye**	**64.18**	**325**	*e*P	**P**	**15 53 28.9**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
BRVK	**Borovoye**	**64.18**	**325**	*e*P	**P**	**15 53 28.9**	**-0.6**
	comp=Z,2.2nm,0.7s,mb4.3						
VOSK	**Vostochnaya**	**64.20**	**324**	P	**P**	**15 53 29.4**	**-0.3**
VOSK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
JOF	**Joensuu**	**64.27**	**350**	*e*p	**P**	**15 53 27.6**	**-2.5**
	comp=Z,5.5nm,0.7s,mb4.7						
JOF	**Joensuu**	**64.27**	**350**	*e*P	**P**	**15 53 27.6**	**-2.5**
JOF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
MK31	**Makanchi Array**	**64.29**	**314**	P	**P**	**15 53 29.5**	**-0.8**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
MKAR	**Makanchi Array**	**64.29**	**314**	P	**P**	**15 53 29.5**	**-0.8**
	comp=Z,2.3nm,0.8s,mb4.3,baz=46,slow=6.9,SNR=14						
MKAR	**Makanchi Array**	**64.29**	**314**	P	**P**	**15 53 29.5**	**-0.8**
ZRNK	**Zerenda**	**64.72**	**326**	P	**P**	**15 53 32.8**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
ZRNK	**Zerenda**	**64.72**	**326**	*e*P	**P**	**15 53 32.6**	**-0.5**
	comp=Z,7.7nm,0.8s,mb4.8						
CD2	**Chengdu**	**64.83**	**288**	*e*P	**P**	**15 53 33.3**	**-0.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
KAF	**Kangasniemi**	**65.54**	**352**	*e*p	**P**	**15 53 36.8**	**-1.6**
	comp=Z,7.5nm,0.6s,mb4.9,baz=6.6,slow=6.1						
KAF	**Kangasniemi**	**65.54**	**352**	*e*P	**P**	**15 53 36.8**	**-1.6**
KAF				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
FINES	**FINESS Array B**	**66.22**	**352**	P	**P**	**15 53 41.8**	**-1.0**
	comp=Z,3.3nm,0.5s,mb4.6,baz=18,slow=7.6,SNR=23						
NB2	**NORSAR Subarra**	**67.24**	**0**	P	**P**	**15 53 48.6**	**-0.7**
	comp=Z,1.5nm,0.7s,mb4.1,baz=359,slow=6.2						
NOA	**NORSAR Array B**	**67.24**	**0**	P	**P**	**15 53 48.9**	**-0.4**
	comp=Z,2.8nm,0.8s,mb4.4,baz=0.4,slow=6.3,SNR=8.2						
NOA	**NORSAR Array B**	**67.24**	**0**	P	**P**	**15 53 48.9**	**-0.4**
KMI	**Kunming**	**69.72**	**285**	P	**P**	**15 54 05.5**	**+0.7**
KMI				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb4.1						
AKTO	**Aktyubinsk**	**70.46**	**330**	P	**P**	**15 54 09.0**	**-0.4**
AAK	**Ala-Archa**	**70.98**	**316**	*e*P	**P**	**15 54 11.9**	**-0.7**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
AAK	**Ala-Archa**	**70.98**	**316**	*e*P	**P**	**15 54 11.9**	**-0.7**
	comp=Z,5.2nm,0.9s,mb4.5						
OBN	**Obninsk**	**71.13**	**345**	⇓*e*P	**P**	**15 54 12.3**	**-1.2**
OBN				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.9						
KKAR	**Karatay Array**	**72.27**	**319**	*i* P	**P**	**15 54 20.0**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
LSA	**Lhasa**	**72.93**	**296**	*e*P	**P**	**15 54 26.1**	**+1.9**
AKASG	**Malin Array Be**	**76.48**	**348**	P	**P**	**15 54 43.8**	**-1.0**
	comp=Z,2.5nm,0.5s,mb4.4,baz=14,slow=5.6,SNR=12						
CLL	**Collm**	**76.98**	**359**	*e*P	**P**	**15 54 48.0**	**+0.3**
GUN	**Gumba**	**77.20**	**299**	*e*P	**P**	**15 54 47.1**	**-1.8**
	comp=Z,12nm,0.6s,mb5.0						
JIRN	**Jiri**	**77.23**	**299**	*e*P	**P**	**15 54 48.3**	**-0.8**
	comp=Z,11nm,0.6s,mb5.0						
KKN	**Kakani**	**77.62**	**299**	*e*P	**P**	**15 54 51.2**	**0.0**
PKI	**Pulchoki**	**77.73**	**299**	*e*P	**P**	**15 54 52.5**	**+0.7**
GKN	**Gorkha**	**77.80**	**300**	*e*P	**P**	**15 54 52.3**	**+0.1**
	comp=Z,7.5nm,0.8s,mb4.7						
DOU	**Dourbes**	**78.05**	**4**	P	**P**	**15 54 54.6**	**+0.9**
GIVF	**Givet**	**78.06**	**4**	*e*P	**P**	**15 54 53.5**	**-0.1**
MORC	**Moravsky Berou**	**78.39**	**356**	P	**P**	**15 54 55.1**	**-0.4**
GRF	**Grafenberg Arr**	**78.61**	**0**	*e*P	**P**	**15 54 57.9**	**+1.2**
	comp=Z,8.0nm,1.3s,mb4.5						
GRF	**Grafenberg Arr**	**78.61**	**0**	*e*P	**P**	**15 54 57.9**	**+1.2**
GRF				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
LDF	**La Druitiere**	**79.24**	**8**	*e*P	**P**	**15 54 59.6**	**-0.6**
	comp=Z,4.4nm,0.4s,mb4.4						
GERES	**GERESS Array B**	**79.44**	**358**	P	**P**	**15 55 01.6**	**+0.4**
	comp=Z,0.3nm,0.3s,mb3.6,baz=28,slow=3.6,SNR=7.0						
GOF	**Gofitskoye**	**79.45**	**338**	*e*P	**P**	**15 54 55.6**	**-5.7**
CDF	**Champ du Feu**	**79.84**	**3**	*e*P	**P**	**15 55 03.3**	**-0.1**
HAU	**Haudompre**	**80.21**	**3**	*e*P	**P**	**15 55 06.3**	**+0.8**
HINF	**Hinteralfeld**	**80.42**	**3**	*e*P	**P**	**15 55 06.4**	**-0.2**
KIV	**Kislovodsk**	**80.57**	**338**	⇓*e*P	**P**	**15 55 08.4**	**+1.0**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
LOR	**Lormes**	**80.84**	**5**	*e*P	**P**	**15 55 08.8**	**0.0**
SSF	**Saint Saulge**	**81.02**	**5**	*e*P	**P**	**15 55 09.8**	**0.0**
MFF	**Saint Martin d**	**81.22**	**8**	*e*P	**P**	**15 55 10.9**	**+0.1**
	comp=Z,5.9nm,0.6s,mb4.4						
AVF	**Avril sur Loir**	**81.28**	**5**	*e*P	**P**	**15 55 11.0**	**-0.2**
	comp=Z,5.2nm,0.7s,mb4.3						
AVF	**Avril sur Loir**	**81.28**	**5**	*e*P	**P**	**15 55 11.0**	**-0.2**
AVF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
AVF	**Avril sur Loir**	**81.28**	**5**	*e*P	**P**	**15 55 11.0**	**-0.2**
	comp=Z,2.6nm,0.7s,mb4.3						
SMF	**Signal de Mont**	**81.46**	**5**	*e*P	**P**	**15 55 12.0**	**-0.1**
CABF	**La Chapelle**	**81.60**	**4**	*e*P	**P**	**15 55 13.3**	**+0.5**
	comp=Z,7.1nm,0.7s,mb4.4						
CABF	**La Chapelle**	**81.60**	**4**	*e*P	**P**	**15 55 13.3**	**+0.5**
CABF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
CABF	**La Chapelle**	**81.60**	**4**	*e*P	**P**	**15 55 13.3**	**+0.5**
	comp=Z,3.5nm,0.7s,mb4.4						
TCF	**Toulx Ste Croi**	**81.71**	**6**	*e*P	**P**	**15 55 13.3**	**-0.1**
LPL	**La Plagne**	**82.71**	**3**	*e*P	**P**	**15 55 20.2**	**+1.5**
LPG	**La Plagne**	**82.73**	**3**	*e*P	**P**	**15 55 20.3**	**+1.5**
ORIF	**Oris-en-Rattie**	**83.28**	**4**	*e*P	**P**	**15 55 22.5**	**+0.9**
	comp=Z,3.3nm,0.5s,mb4.3						
ORIF	**Oris-en-Rattie**	**83.28**	**4**	*e*P	**P**	**15 55 22.5**	**+0.9**
ORIF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
ORIF	**Oris-en-Rattie**	**83.28**	**4**	*e*P	**P**	**15 55 22.5**	**+0.9**
	comp=Z,1.6nm,0.5s,mb4.3						
VIVF	**Saint-Julien-l**	**83.28**	**5**	*e*P	**P**	**15 55 22.2**	**+0.5**
	comp=Z,4.5nm,0.7s,mb4.3						
VIVF	**Saint-Julien-l**	**83.28**	**5**	*e*P	**P**	**15 55 22.2**	**+0.5**
VIVF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
VIVF	**Saint-Julien-l**	**83.28**	**5**	*e*P	**P**	**15 55 22.2**	**+0.5**
	comp=Z,2.3nm,0.7s,mb4.3						
MBDF	**Montbardon**	**83.50**	**3**	*e*P	**P**	**15 55 24.1**	**+1.3**
	comp=Z,5.6nm,0.7s,mb4.5						
MBDF	**Montbardon**	**83.50**	**3**	*e*P	**P**	**15 55 24.1**	**+1.3**
MBDF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5						
MBDF	**Montbardon**	**83.50**	**3**	*e*P	**P**	**15 55 24.1**	**+1.3**
	comp=Z,2.8nm,0.7s,mb4.5						
SBF	**Sospel**	**84.39**	**3**	*e*P	**P**	**15 55 27.7**	**+0.4**
SJPF	**Ste Jean**	**84.58**	**9**	*e*P	**P**	**15 55 28.8**	**+0.5**
MTLF	**Montolieu**	**84.64**	**7**	*e*P	**P**	**15 55 28.9**	**+0.3**
	comp=Z,12nm,1.0s,mb4.7						
ETSF	**Etsaut**	**84.86**	**9**	*e*P	**P**	**15 55 30.4**	**+0.7**
	comp=Z,7.3nm,0.8s,mb4.6						
LMR	**La Mourre**	**84.88**	**3**	*e*P	**P**	**15 55 30.2**	**+0.4**
BRTR	**Keskin Array B**	**86.52**	**343**	P	**P**	**15 55 38.5**	**+0.5**
	comp=Z,0.5nm,0.7s,mb3.9,baz=72,slow=4.0,SNR=4.2						
ESDC	**Sonseca Array**	**87.67**	**12**	P	**P**	**15 55 44.5**	**+1.0**
	comp=Z,0.3nm,0.3s,mb4.0,baz=350,slow=4.2,SNR=4.0						

ISCJB ***12*** *15:45:49.0±0.4,2497N±007×12347E±004,h118km±5km, mb3.6/6, Error ellipse: s-maj=11.3km s-min=5.7km az=138.8*
NEIC ***12*** *15:45:49.9±0.8,2499N×12350E,h112km±9km,mb4.1/1, Error ellipse: s-maj=14.8km s-min=12.5km az=168.0*
IDC ***12*** *15:45:50.8±3.6,2512N×12364E,h123km±35km,mb3.2/5, mb1 3.4/6,mb1mx3.2/21,mbtmp3.7/6, Error ellipse: s-maj=30.2km s-min=16.9km az=65.0*
JMA ***12*** *15:45:51.0±0.2,2493N×12347E,h105km±2km,M3.3*
ISC 12 15:45:50.1±0.4,2498N±006×12346E±004,h111km±5km, n25,σ0§82/36,mb3.6/6,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.65**	**219**	P	**Pn**	**15 46 08.3**	**+0.1**
YOJ				S	**Sn**	**15 46 21.5**	**-0.2**
IRIF	**Iriomote-Funau**	**0.68**	**159**	P	**Pn**	**15 46 08.1**	**-0.3**
IRIF				*e*S	**Sn**	**15 46 21.4**	**-0.8**
JIJ	**Ishigaki jima**	**0.87**	**134**	P	**Pn**	**15 46 10.0**	**-0.1**
JIJ				S	**Sn**	**15 46 24.1**	**-1.1**
JKRS	**Kuro-shima**	**0.89**	**145**	P	**Pn**	**15 46 10.5**	**+0.2**
JKRS				S	**Sn**	**15 46 25.2**	**-0.3**
HATJ	**Hateruma jima**	**0.97**	**161**	P	**Pn**	**15 46 11.3**	**+0.3**
HATJ				*e*S	**Sn**	**15 46 26.2**	**-0.6**
JTJ	**Tarama**	**1.18**	**106**	P	**Pn**	**15 46 13.8**	**+0.5**
JTJ				*e*S	**Sn**	**15 46 31.2**	**+0.4**
JMJ	**Miyako jima 2**	**1.68**	**95**	P	**Pn**	**15 46 20.0**	**+0.9**
JMJ				*e*S	**Sn**	**15 46 41.6**	**+0.5**
JOGS	**Gusukube**	**1.78**	**96**	P	**Pn**	**15 46 21.6**	**+1.2**
JOGS				*e*S	**Sn**	**15 46 44.4**	**+0.9**
TATO	**Taipei**	**1.79**	**270**	*e*Pn	**Pn**	**15 46 21.0**	**+0.6**
NACB	**Ninganchiao**	**1.87**	**245**	*e*Pn	**Pn**	**15 46 20.8**	**-0.7**
YHNB	**Yeheng**	**1.92**	**261**	*e*Pn	**Pn**	**15 46 23.3**	**+1.3**
JKE	**Kume jima 2**	**3.29**	**65**	P	**Pn**	**15 46 40.7**	**+0.7**
JAGN	**Aguni-jima**	**3.77**	**64**	P	**Pn**	**15 46 46.9**	**+0.5**
JAGN				*e*S	**Sn**	**15 47 30.9**	**+0.9**
JIH	**Iheya**	**4.55**	**62**	P	**Pn**	**15 46 56.8**	**0.0**
JIH				*e*S	**Sn**	**15 47 47.6**	**-1.0**
JOW	**Kunigami**	**4.72**	**66**	P	**Pn**	**15 46 58.4**	**-0.7**
	10nm,0.3s,baz=214,slow=9.2,SNR=135						
JOW				S	**Sn**	**15 47 49.0**	**-3.7**
	2.5nm,0.3s,baz=106,slow=24,SNR=3.3						
JTK	**Tokunoshima**	**5.67**	**59**	P	**Pn**	**15 47 10.8**	**-1.1**
JAM	**Amami Oshima**	**6.48**	**57**	P	**Pn**	**15 47 21.4**	**-1.5**
SONM	**Songino Array**	**26.51**	**334**	P	**P**	**15 51 17.5**	**+0.3**
	0.4nm,0.5s,mb3.2,baz=147,slow=9.4,SNR=4.0						
TLY	**Talaya**	**30.66**	**336**	P	**P**	**15 51 55.1**	**+1.1**
	4.9nm,1.1s,mb4.2						
MKAR	**Makanchi Array**	**39.24**	**314**	P	**P**	**15 53 06.6**	**-1.0**
	0.7nm,0.3s,mb3.9,baz=100,slow=9.6,SNR=27						
MKAR	**Makanchi Array**	**39.24**	**314**	P	**P**	**15 53 06.6**	**-1.0**
WRA	**Warramunga Arr**	**45.88**	**166**	P	**P**	**15 54 01.3**	**0.0**
	0.4nm,0.4s,mb3.5,baz=347,slow=8.8,SNR=5.4						
ASAR	**Alice Springs**	**49.40**	**167**	P	**P**	**15 54 29.3**	**+0.8**
	0.1nm,0.3s,mb3.2,baz=354,slow=7.1,SNR=13						
ASAR				PcP	PcP	15 55 48.9	-0.4
	0.5nm,0.6s,baz=343,slow=3.5,SNR=11						
YKA	**Yellowknife Ar**	**81.43**	**23**	P	**P**	**15 57 52.9**	**-1.8**
	0.5nm,0.6s,mb3.5

IPIR Sn Sn 16 08 19.0 -2.3
IPIR Sn Sn 16 08 20.4 -0.9
IPIR Pirpir 6.59 323 *e*Pn Pn 16 07 07.5 +1.5
IPIR *e*Sn Sn 16 08 19.0 -2.3
IKLH Kalahroud 6.77 330 *e*Pn Pn 16 07 11.2 +2.8
IKLH *e*Sn Sn 16 08 24.5 -1.0
IKLH *e*Sn Sn 16 08 24.5 -1.0
IKLH Kalahroud 6.77 330 Pn Pn 16 07 11.1 +2.7
IKLH Sn Sn 16 08 24.5 -1.0
QRN Al-Qurain 6.93 282 *e*P Pn 16 07 11.6 +1.0
QRN AML AML 16 08 27.0
comp=Z,29nm,0.3s
KBD Kabd 7.19 285 *e*P Pn 16 07 15.2 +0.9
KBD AML AML 16 08 37.0
comp=Z,72nm,0.3s
KBD Kabd 7.19 285 *e*P Pn 16 07 15.2 +0.9
KBD *e*S Sn 16 08 35.1 -0.9
UMR Umm Al-Rimmam 7.26 288 *e*P Pn 16 07 16.1 +1.0
UMR AML AML 16 08 38.3
comp=Z,33nm,0.4s
UMR Umm Al-Rimmam 7.26 288 *e*P Pn 16 07 16.1 +0.9
UMR *e*S Sn 16 08 36.1 -1.5
RDF Al-Radifah 7.27 283 *e*P Pn 16 07 16.5 +1.1
RDF AML AML 16 08 34.6
comp=Z,33nm,0.5s
ISFB Sefidab 7.42 338 *e*Pn Pn 16 07 19.1 +1.7
ISFB *e*Sn Sn 16 08 40.2 -1.4
ISFB *e*Sn Sn 16 08 40.6 -1.0
ISFB Sefidab 7.42 338 Pn Pn 16 07 19.1 +1.7
ISFB Sn Sn 16 08 40.1 -1.5
ISFB Sn Sn 16 08 40.6 -1.0
NAY Al-Naaiem 7.59 285 *e*P Pn 16 07 20.8 +1.0
NAY Al-Naaiem 7.59 285 *e*P Pn 16 07 20.8 +1.0
NAY *e*S Sn 16 08 44.4 -1.5
ILAS Lasjerd 8.17 344 *e*Pn Pn 16 07 29.8 +2.1
ILAS *e*Sn Sn 16 08 57.7 -2.4
ILAS *e*Sn Sn 16 08 57.7 -2.4
ILAS Lasjerd 8.17 344 Pn Pn 16 07 29.8 +2.1
ILAS Sn Sn 16 08 57.6 -2.5
IVRN Varamin 8.18 337 *e*Pn Pn 16 07 30.2 +2.4
IVRN *e*Sn Sn 16 08 58.0 -2.2
IVRN *e*Sn Sn 16 08 58.6 -1.6
IVRN Varamin 8.18 337 Pn Pn 16 07 30.2 +2.4
IVRN Sn Sn 16 08 57.9 -2.3
IVRN Sn Sn 16 08 58.5 -1.7
IFIR Firoozkooh 8.47 344 *e*Pn Pn 16 07 33.1 +1.3
IFIR *e*Sn Sn 16 09 03.2 -4.2
IFIR *e*Sn Sn 16 09 03.8 -3.6
IFIR Firoozkooh 8.47 344 Pn Pn 16 07 33.0 +1.2
IFIR Sn Sn 16 09 03.1 -4.3
IFIR Sn Sn 16 09 03.8 -3.6
IFIR Firoozkooh 8.47 344 *e*Pn Pn 16 07 33.1 +1.3
IFIR *e*Sn Sn 16 09 03.8 -3.6
IDMV Damavand 8.61 340 *e*Pn Pn 16 07 35.5 +1.8
IDMV *e*Sn Sn 16 09 06.9 -3.9
IDMV *e*Sn Sn 16 09 07.7 -3.1
IDMV Damavand 8.61 340 Pn Pn 16 07 35.5 +1.8
IDMV Sn Sn 16 09 06.8 -4.0
IDMV Sn Sn 16 09 07.6 -3.2
IKIA Kiasar 8.83 350 *e*Pn Pn 16 07 39.1 +2.4
IKIA *e*Sn Sn 16 09 14.4 -1.8
IKIA *e*Sn Sn 16 09 15.2 -1.0
IKIA Kiasar 8.83 350 Pn Pn 16 07 39.0 +2.3
IKIA Sn Sn 16 09 14.4 -1.8
IKIA Sn Sn 16 09 15.1 -1.1
IKIA Kiasar 8.83 350 *e*Pn Pn 16 07 39.1 +2.4
IKIA *e*Sn Sn 16 09 14.4 -1.8
IGLO Galoogah 8.96 349 *e*Pn Pn 16 07 42.6 +4.1
IGLO *e*Sn Sn 16 09 19.8 +0.4
IGLO *e*Sn Sn 16 09 19.8 +0.4
IGLO Galoogah 8.96 349 Pn Pn 16 07 42.5 +4.0
IGLO Sn Sn 16 09 19.7 +0.3
IAFJ Afjeh 8.96 339 *e*Pn Pn 16 07 40.3 +1.7
IAFJ *e*Sn Sn 16 09 15.2 -4.4
IAFJ *e*Sn Sn 16 09 16.1 -3.5
IAFJ Afjeh 8.96 339 Pn Pn 16 07 40.2 +1.6
IAFJ Sn Sn 16 09 15.1 -4.5
IAFJ Sn Sn 16 09 16.0 -3.6
IPRN Paran-Amol 9.17 343 *e*Pn Pn 16 07 43.5 +2.1
IPRN *e*Sn Sn 16 09 21.6 -3.0
IPRN *e*Sn Sn 16 09 21.6 -3.0
IRAZ Razeghan 9.25 330 *e*Pn Pn 16 07 51.0 +8.4
IRAZ *e*Sn Sn 16 09 25.3 -1.4
IRAZ *e*Sn Sn 16 09 25.3 -1.4
IRAZ Razeghan 9.25 330 Pn Pn 16 07 51.0 +8.4
IRAZ Sn Sn 16 09 25.2 -1.5
IPAY Payeh 9.36 17 *e*Pn Pn 16 07 46.1 +2.1
IPAY *e*Sn Sn 16 09 24.4 -4.8
IPAY Payeh 9.36 17 Pn Pn 16 07 46.1 +2.1
IPAY Sn Sn 16 09 24.3 -4.9
SHAO Shalim 9.44 180 P Pn 16 07 47.1 +2.0
SNR=8.6
IMYA Miamay 9.59 22 *e*Pn Pn 16 07 49.1 +2.0
IMYA *e*Sn Sn 16 09 30.8 -4.0
IMYA *e*Sn Sn 16 09 30.9 -3.9
IMYA Miamay 9.59 22 *e*Pn Pn 16 07 49.1 +2.0
IMYA *e*Sn Sn 16 09 30.9 -3.9
WHFO Wadi Hawf 9.70 191 P Pn 16 07 48.4 -0.2
SNR=17
RBK Rabkut 10.05 188 ⇓P Pn 16 07 53.9 +0.5
SNR=17
IGHG Ghaleghazi 10.33 313 *e*Pn Pn 16 07 57.7 +0.4
IGHG *e*Sn Sn 16 09 47.4 -5.8
IGHG *e*Sn Sn 16 09 47.9 -5.3
IGHG Ghaleghazi 10.33 313 Pn Pn 16 07 57.6 +0.3
IGHG Sn Sn 16 09 47.3 -5.9
IGHG Sn Sn 16 09 47.9 -5.3
ABTO Aybut 10.34 193 P Pn 16 07 56.9 -0.5
SNR=53
ILIN Laeen 10.47 317 *e*Pn Pn 16 08 00.6 +1.4
ILIN *e*Sn Sn 16 09 52.0 -4.5
ILIN *e*Sn Sn 16 09 52.7 -3.8
ILIN Laeen 10.47 317 Pn Pn 16 08 00.6 +1.4
ILIN Sn Sn 16 09 51.9 -4.6
ILIN Sn Sn 16 09 52.7 -3.8
IDHR Dehrash 10.68 314 *e*Pn Pn 16 08 02.7 +0.6
IDHR *e*Sn Sn 16 09 54.7 -7.0
IDHR *e*Sn Sn 16 09 55.4 -6.3
IDHR Dehrash 10.68 314 Pn Pn 16 08 02.6 +0.5
IDHR Sn Sn 16 09 54.7 -7.0
IDHR Sn Sn 16 09 55.3 -6.4
BHD Baghdad 11.28 303 *ex* x 16 08 10.0
BHD *ex* x 16 10 11.0
MSL Mosul 13.78 313 *ex* x 16 08 41.0
MSL *ex* x 16 11 10.0
GNI Garni 15.50 327 Pn Pn 16 09 13.4 +5.7
comp=Z,4.7nm,0.3s,baz=1.2,slow=2.5,SNR=17
GNI LR LR 16 16 06.1
comp=Z,164nm,18.9s,baz=252,slow=41
GNI Garni 15.50 327 P Pn 16 09 13.4 +5.7
GNI pmax pmax
comp=Z,5.0nm,0.3s
GNI MLR MLR
comp=Z,164nm,18.9s
GNI Garni 15.50 327 *e*Pn Pn 16 09 14.4 +6.7
comp=Z,34nm,0.7s
DHBB Dhamar BB 16.60 221⇑*e*P Pn 16 09 19.2 -2.6
LBOS 16.68 218 *e*P Pn 16 09 20.1 -2.8
ASF Jabal al Asfar 16.91 290 Pn Pn 16 09 25.7 0.0
comp=Z,0.5nm,0.3s,baz=331,slow=11,SNR=8.0
ASF Sn Sn 16 12 28.5 -5.1
comp=Z,0.2nm,0.3s,baz=18,slow=19,SNR=2.8
ASF Jabal al Asfar 16.91 290 P Pn 16 09 25.7 0.0
ASF 16 12 28.5
ASF pmax pmax
comp=Z,1.0nm,0.3s
ERZM Erzurum 17.11 320 *i* P Pn 16 09 28.1 -0.2
ZEI Tsey 17.97 331 *e*P Pn 16 09 45.3 +6.3
MALT Malatya 17.99 311 *e*P Pn 16 09 39.0 -0.3
MALT pmax pmax
comp=Z,13nm,0.9s
MALT Malatya 17.99 311 *e*Pn Pn 16 09 39.0 -0.3
comp=Z,13nm,0.9s
MALT Malatya 17.99 311 *e*P Pn 16 09 39.0 -0.3
comp=Z,13nm,0.9s
GZT Gaziantep 18.11 307 *i* P Pn 16 09 41.5 +0.8
EIL Elat 18.29 282 *e*P Pn 16 09 44.5 +1.5
comp=Z,309nm,1.0s
MMAI Mount Meron Ar 18.31 292 P Pn 16 09 42.7 -0.5
comp=Z,0.8nm,0.3s,baz=99,slow=14,SNR=14
COBT Iskenderun 18.70 304 *i* P Pn 16 09 48.6 +0.7

NDI New Delhi 19.07 81 *ex* Pn 16 09 50.0 -2.4
ANR Andizhan 19.09 42 *e*P Pn 16 09 51.2 -1.4
KIV Kislovodsk 19.45 331 *c i* P Pn 16 09 57.7 +0.8
KIV pmax pmax
comp=Z,16nm,1.0s
KIV Kislovodsk 19.45 331 *e*Pn Pn 16 09 57.1 +0.2
comp=Z,39nm,0.8s
KIV Kislovodsk 19.45 331 *e*Pn Pn 16 09 57.1 +0.2
KIV Kislovodsk 19.45 331 *i* P Pn 16 09 57.7 +0.8
comp=Z,16nm,1.0s
GRSN GIRESUNGRSN 19.58 318 *i* P Pn 16 09 58.6 +0.1
ATD Arta Tunnel 19.92 220 P Pn 16 10 01.3 -1.3
comp=Z,0.8nm,0.3s,baz=254,slow=21,SNR=4.6
ATD LR LR 16 17 02.0
comp=Z,36nm,19.4s,baz=54,slow=35
ATD Arta Tunnel 19.92 220 P Pn 16 10 01.3 -1.3
ATD LR LR 16 17 02.0
CSS Prodhromos 20.44 297 P P 16 10 09.3 +2.7
comp=Z,18nm,0.8s
CSS Prodhromos 20.44 297 P P 16 10 09.3 +2.7
comp=Z,18nm,0.8s
SOC Sochi 20.56 325 *e*P P 16 10 08.3 +0.5
SOC *e**PP 16 10 30.8
SOC *e*S S 16 13 46.5 -11
SOC *e**SS sS 16 14 37.1 +35
SOC pmax pmax
comp=Z,82nm,1.6s
SOC Sochi 20.56 325 *e*P P 16 10 08.3 +0.5
comp=Z,82nm,1.6s
KSH Kashi 20.70 49 *e*P P 16 10 09.2 -0.2
KSH *e*AP 16 10 25.2
KSH *e*PP 16 10 30.2
KSH *e*S S 16 13 48.3 -12
KSH *e*PCP PcP 16 14 20.1 +1.0
KSH AMB AMB
comp=Z,100nm,3.4s
KSH LR LR
comp=N,188nm,5.4s
KSH LR LR
comp=E,171nm,7.5s
KSH LR LR
comp=Z,218nm,6.2s
AML Almayashu 20.73 41 P P 16 10 09.4 -0.4
SNR=22
EKS2 Erkin-Say 21.12 40 P P 16 10 14.6 +0.7
SNR=14
UCH Uchtor 21.27 41 P P 16 10 15.3 -0.2
SNR=12
CDAG Cicekdag 21.39 310 *i* P P 16 10 20.9 +4.1
AAK Ala-Archa 21.51 41 P P 16 10 18.8 +0.7
SNR=6.9
AAK Ala-Archa 21.51 41 *e*P P 16 10 17.5 -0.6
AAK pmax pmax
comp=Z,8.0nm,0.6s,mb4.3
AAK Ala-Archa 21.51 41 *e*P P 16 10 17.5 -0.6
comp=Z,7.8nm,0.6s,mb4.3
AAK Ala-Archa 21.51 41 *e*P P 16 10 17.5 -0.6
comp=Z,8.0nm,0.6s,mb4.3
CTKT Corum 21.60 313 *i* P P 16 10 20.6 +1.6
KZA Kyzart 21.62 43 P P 16 10 23.5 +4.2
SNR=11
FRU Bishkek 21.71 40 *e*P P 16 10 21.0 +0.8
KBK Karagaybulak 21.79 41 P P 16 10 24.3 +3.2
SNR=8.3
BRTR Keskin Array B 21.93 309 P P 16 10 23.4 +0.8
comp=Z,9.7nm,0.8s,mb4.3,baz=126,slow=12,SNR=24
BRTR Keskin Array B 21.93 309 P P 16 10 23.5 +0.8
BRTR pmax pmax
comp=Z,10.0nm,0.8s
BR131 Keskin Array S 21.93 309 *e*P P 16 10 23.3 +0.6
comp=Z,21nm,1.0s,mb4.5
BR131 Keskin Array S 21.93 309 *e*P P 16 10 23.3 +0.6
comp=Z,21nm,1.0s,mb4.5
BOYT Boyabat 21.94 315 *i* P P 16 10 23.4 +0.6
ULHL Ulahol 22.32 43 P P 16 10 26.9 +0.1
SNR=13
ELDT Eldivan 22.43 311 *i* P P 16 10 29.1 +1.1
ANN Anapa 22.58 325 *e*P P 16 10 33.1 +3.6
ANTO Ankara 22.58 309 P P 16 10 30.9 +1.3
ANTO pmax pmax
comp=Z,49nm,1.1s,mb4.8
ANTO Ankara 22.58 309 P P 16 10 30.9 +1.3
comp=Z,49nm,1.1s,mb4.8
ANTO Ankara 22.58 309 P P 16 10 30.9 +1.3
comp=Z,49nm,1.1s,mb4.8
AKTK Aktyubinsk 22.96 4 P P 16 10 33.5 -0.2
AKTK LR LR 16 21 37.4
AKTK Aktyubinsk 22.96 4 P P 16 10 33.5 -0.1
comp=Z,88nm,18.5s
AKTO Aktyubinsk 22.96 4 P P 16 10 33.5 -0.2
comp=Z,8.7nm,0.7s,mb4.3,baz=188,slow=11,SNR=15
AKTO LR LR 16 21 37.4
comp=Z,88nm,18.5s,MS3.2,baz=0.0,slow=42
AKTO Aktyubinsk 22.96 4 P P 16 10 33.5 -0.1
AKTO pmax pmax
comp=Z,9.0nm,0.7s,mb4.3
AKTO MLR MLR
comp=Z,88nm,18.5s,MS3.2
BALT Daday 22.97 313 *i* P P 16 10 35.3 +1.6
SGKT Sivrigoynuk 23.40 310 *i* P P 16 10 38.3 +0.1
HYB Hyderabad 23.40 111 *i* P P 16 10 39.0 +0.8
ISP Isparta 23.46 302 P P 16 10 39.5 +0.7
TKTP Tekketepe 23.67 303 *i* P P 16 10 42.1 +1.2
ESKT Eskisehir 23.80 307 *i* P P 16 10 43.2 +1.1
SEYT Eskypehyr 23.80 307 *i* P P 16 10 43.2 +1.1
ORR Orenburg 24.09 359 *e*P P 16 10 44.8 +0.1
ORR pmax pmax
comp=Z,70nm,1.6s,mb4.8
ORR Orenburg 24.09 359 *e*P P 16 10 44.8 +0.1
comp=Z,70nm,1.6s,mb4.8
BORA Eskisehir 24.23 307 *i* P P 16 10 46.9 +1.0
HENT Hendek 24.30 309 *i* P P 16 10 46.8 +0.2
KOLN Koldanda 24.76 83 *e*P P 16 10 50.5 -0.3
comp=Z,26nm,0.9s,mb4.8
ULDT Uludag 25.26 307 *i* P P 16 10 56.9 +1.5
GKN Gorkha 25.64 82 *e*P P 16 10 59.1 +0.2
comp=Z,20nm,0.8s,mb4.7
DMN Daman 26.10 83 *e*P P 16 11 03.8 +0.8
comp=Z,36nm,0.9s,mb4.9
KKN Kakani 26.23 82 *e*P P 16 11 04.7 +0.5
comp=Z,50nm,0.8s,mb5.1
PKI Pulchoki 26.37 83 *e*P P 16 11 06.2 +0.8
comp=Z,57nm,0.9s,mb5.1
GUN Gumba 26.75 82 *e*P P 16 11 09.6 +0.8
comp=Z,98nm,0.9s,mb5.3
SANT Santorini 27.00 297 P P 16 11 08.0 -3.1
comp=Z,96nm,1.0s,mb5.3
JIRN Jiri 27.05 83 *e*P P 16 11 12.3 +0.7
comp=Z,49nm,0.9s,mb5.1
IDI Anoyia 27.29 294 P P 16 11 13.5 -0.2
comp=Z,33nm,1.2s,mb4.7,baz=105,slow=11,SNR=4.6
IDI Anoyia 27.29 294 P P 16 11 13.4 -0.3
ZRNK Zerenda 27.29 18 *e*P P 16 11 13.0 -0.7
ZRNK pmax pmax
comp=Z,12nm,1.3s,mb4.3
ZRNK Zerenda 27.29 18 *e*P P 16 11 13.0 -0.7
comp=Z,12nm,1.3s,mb4.3
ZRNK Zerenda 27.29 18 *e*P P 16 11 13.0 -0.7
comp=Z,12nm,1.3s,mb4.3
TIRR Tirgusor 27.59 315 *e*P P 16 11 14.8 -1.6
BRVK Borovoye 27.75 19 *e*P P 16 11 18.9 +1.1
BRVK pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
BRVK Borovoye 27.75 19 *e*P P 16 11 18.9 +1.1
comp=Z,6.4nm,1.0s,mb4.2
BRVK Borovoye 27.75 19 *e*P P 16 11 18.9 +1.1
comp=Z,6.0nm,1.0s,mb4.2
BVAR Borovoye Array 27.75 19 P P 16 11 16.9 -0.9
comp=Z,8.9nm,0.9s,mb4.4,baz=206,slow=9.7,SNR=19
BVAR Borovoye Array 27.75 19 P P 16 11 16.9 -0.9
BVAR pmax pmax
comp=Z,9.0nm,0.9s
MKAR Makanchi Array 28.45 40 P P 16 11 23.6 -0.5
comp=Z,0.5nm,0.4s,baz=225,slow=9.2,SNR=8.0
MKAR Makanchi Array 28.45 40 P P 16 11 23.6 -0.5
MKAR pmax pmax
comp=Z,1.0nm,0.4s
KURK Kurchatov 29.02 31 *e*P P 16 11 29.0 -0.1
KURK pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
KURK Kurchatov 29.02 31 *e*P P 16 11 29.0 -0.1
comp=Z,5.0nm,0.8s,mb4.3
MLR Muntele Rosu 29.62 315 P P 16 11 35.2 +0.7
comp=Z,15nm,0.8s,MS3.2,baz=326,slow=40
MLR LR LR 16 25 27.2

MLR Muntele Rosu 29.62 315 P P 16 11 35.2 +0.7
MLR pmax pmax
comp=Z,15nm,0.8s
MLR MLR MLR
comp=Z,63nm,20.6s
WMQ Urumqi 30.47 49 ⇓P P 16 11 43.0 +1.0
WMQ AP pP 16 11 55.0 +10
WMQ XP sP 16 12 00.5 +14
WMQ PP PP 16 12 43.5 -7.2
WMQ PPP 16 12 58.3
WMQ *e*S S 16 16 40.0 -3.1
WMQ AMB AMB
comp=Z,5.0nm,0.5s,mb4.5
WMQ AMB AMB
comp=Z,61nm,4.4s
WMQ LR LR
comp=N,232nm,25.8s
WMQ LR LR
comp=Z,97nm,24.8s,MS3.4
AKASG Malin Array Be 30.63 326 P P 16 11 42.5 -0.9
comp=Z,4.4nm,0.5s,mb4.5,baz=134,slow=7.9,SNR=23
AKASG Malin Array Be 30.63 326 P P 16 11 42.5 -0.9
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 30.63 326 P P 16 11 42.5 -0.9
OBN Obninsk 30.87 339⇑*e*P P 16 11 47.4 +1.9
OBN *e* 16 12 46.9
OBN pmax pmax
comp=Z,11nm,0.8s,mb4.7
OBN Obninsk 30.87 339 *e*P P 16 11 47.4 +1.9
comp=Z,11nm,0.8s,mb4.7
KOLS Kolonicke sedl 33.43 319 *e*P P 16 12 09.1 +1.1
comp=Z,6.7nm,1.0s,mb4.5
KOLS *e*ScS ScS 16 22 58.3 +24
KWP Kalwaria 33.51 320 *e*P P 16 12 08.6 -0.1
KWP pmax pmax
comp=Z,19nm,1.0s,mb5.0
KWP Kalwaria 33.51 320 *e*P P 16 12 08.6 -0.1
comp=Z,19nm,1.0s,mb5.0
KWP Kalwaria 33.51 320 *e*P P 16 12 08.6 -0.1
comp=Z,19nm,1.0s,mb5.0
NVS Novosibirsk 33.89 29 *e*P P 16 12 09.7 -2.3
NVS *e*S S 16 17 32.1 -4.3
NVS pmax pmax
comp=N,6.0nm,0.9s
NVS pmax pmax
comp=E,3.0nm,0.9s
NVS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
NVS smax
comp=N,11nm,1.6s
NVS smax
comp=E,11nm,1.7s
TIP Timpagrande 34.26 300 *e*P P 16 12 15.1 0.0
TIP Timpagrande 34.26 300 *e*P P 16 12 15.1 -0.1
KECS Kecovo 34.29 317 *i* P P 16 12 16.4 +0.9
KECS *e* pP 16 12 19.1 +0.6
KECS *e* 16 50 23.2
KECS Kecovo 34.29 317 *i* P P 16 12 16.4 +0.9
comp=E,12nm,1.2s,mb4.7
KECS *e* pP 16 12 19.1 +0.6
PSZ Piszkesteto 34.42 316⇓*e*P P 16 12 17.0 +0.4
PKSM Moragy 34.59 313 *e*P P 16 12 18.4 +0.3
BUD Budapest 34.80 315⇓*e*P P 16 12 23.2 +3.4
KLMR Klimovskoe 35.08 346 *e*P P 16 12 21.4 -0.9
KLMR pmax pmax
comp=Z,30nm,1.4s,mb5.0
KLMR Klimovskoe 35.08 346 *e*P P 16 12 21.4 -0.9
comp=Z,30nm,1.4s,mb5.0
CUC Castrocucco 35.09 301 P P 16 12 24.4 +2.0
comp=Z,30nm,0.8s,mb5.3
SLCN Sala Consilina 35.29 302 P P 16 12 25.8 +1.7
comp=Z,68nm,1.1s,mb5.5
MGR Morigerati 35.31 301 P P 16 12 25.0 +0.7
comp=Z,47nm,1.6s,mb5.2
LIKS Likavka 35.36 317 *e*P P 16 12 24.8 +0.1
LIKS Likavka 35.36 317 *e*P P 16 12 25.6 +0.9
SRO Srobarova 35.36 315 *e*P P 16 12 25.4 +0.7
SRO1 Iza 35.40 315 *e*P P 16 12 25.6 +0.6
OJC Ojcow 35.45 320 *e*P P 16 12 25.4 0.0
SGO Sicignano 35.56 302 P P 16 12 27.8 +1.3
SGO pmax pmax
comp=Z,12nm,0.7s,mb4.9
SGO Sicignano 35.56 302 P P 16 12 27.8 +1.3
comp=Z,12nm,0.7s,mb4.9
SMOL Smolenice 36.17 316 *e*P P 16 12 32.0 +0.3
OKC Ostrava-Krasne 36.25 318 *e*P P 16 12 28.3 -4.0
SOP Sopron 36.43 314⇓*e*P P 16 12 32.3 -1.6
MORC Moravsky Berou 36.58 318 *e*P P 16 12 34.0 -1.2
MORC pmax pmax
comp=Z,11nm,1.0s,mb4.6
MORC Moravsky Berou 36.58 318 *e*P P 16 12 34.0 -1.1
comp=Z,11nm,1.0s,mb4.7
MORC Moravsky Berou 36.58 318 *e*P P 16 12 34.0 -1.2
comp=Z,11nm,1.0s,mb4.6
VRAC Vranov 36.98 317 *e*P P 16 12 38.4 -0.1
AQU L'Aquila 37.26 305 *e*P P 16 12 42.3 +1.3
AQU pmax pmax
comp=Z,53nm,0.9s,mb5.4
AQU L'Aquila 37.26 305 *e*P P 16 12 42.3 +1.3
comp=Z,53nm,0.9s,mb5.4
AQU L'Aquila 37.26 305 *e*P P 16 12 42.3 +1.3
comp=Z,53nm,0.9s,mb5.4
DPC Dobruska-Polom 37.53 318 *e*P P 16 12 42.3 -0.9
DPC *ex* x 16 12 45.4
NRCA Norcia 37.55 305 P P 16 12 44.3 +0.9
comp=Z,9.9nm,0.7s,mb4.7
SNTG Esanatoglia 37.75 306 P P 16 12 45.7 +0.6
comp=Z,70nm,1.6s,mb5.1
UPC Upice 37.77 318 *e*P P 16 12 45.0 -0.3
MOA Molln 37.95 314⇑*i*P P 16 12 46.5 -0.3
comp=Z,19nm,1.3s,mb4.7,SNR=7.9
MURB Monte Urbino 38.05 306 P P 16 12 49.3 +1.6
comp=Z,33nm,1.0s,mb5.0
PTCC Patocco-Chiusa 38.15 311 P P 16 12 48.5 0.0
comp=Z,24nm,1.2s,mb4.8
KBA Koelnbreinsper 38.33 312⇑*i*P P 16 12 49.9 -0.1
comp=Z,26nm,1.2s,mb4.8,SNR=11
KBA Koelnbreinsper 38.33 312⇑*i*P P 16 12 49.9 -0.1
KBA pmax pmax
comp=Z,26nm,1.2s,mb4.8
GTA Gaotai 38.37 60 *e*P P 16 12 50.5 +0.2
GTA PCP PcP 16 15 05.8 +1.9
GTA AMB AMB
comp=Z,12nm,0.7s,mb4.7
PRU Pruhonice 38.47 317 *e*P P 16 12 47.9 -3.2
PRU *ex* x 16 12 52.9
GEC2 GERESS Array S 38.61 315 *e*P P 16 12 51.5 -0.8
comp=Z,8.0nm,1.0s,mb4.4
GEC2 *e*pP pP 16 12 55.0 -0.4
GEC2 GERESS Array S 38.61 315 *e*P P 16 12 51.5 -0.8
GEC2 pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
GERES GERESS Array B 38.61 315 P P 16 12 52.0 -0.4
comp=Z,4.7nm,0.9s,mb4.2,baz=115,slow=9.4,SNR=15
GERES LR LR 16 32 22.2
comp=Z,38nm,18.3s,MS3.2,baz=91,slow=42
GERES GERESS Array B 38.61 315 P P 16 12 52.0 -0.3
GERES pmax pmax
comp=Z,5.0nm,0.9s
GERES MLR MLR
comp=Z,38nm,18.3s
SFI Santa Sofia 38.65 307 P P 16 12 54.4 +1.7
SFI pmax pmax
comp=Z,63nm,1.0s,mb5.3
SFI Santa Sofia 38.65 307 P P 16 12 54.4 +1.7
comp=Z,63nm,1.0s,mb5.3
KHC Kasperske Hory 38.77 315 *e*P P 16 12 53.2 -0.5
JOF Joensuu 38.84 343 *ep* P 16 12 53.5 -0.7
VMG Vicchio 38.88 307 P P 16 12 56.4 +1.8
comp=Z,213nm,1.2s
BRG Berggiesshubel 39.13 318 *e*P P 16 12 56.1 -0.7
comp=Z,3.0nm,0.9s,mb4.0
BRG *e* pP 16 12 58.8 -1.0
comp=Z,8.1nm,1.1s
BRG Berggiesshubel 39.13 318 *e*P P 16 12 56.1 -0.6
BRG pmax pmax
comp=Z,30nm,1.0s,mb5.0
BRG pmax pmax
comp=Z,8.0nm,1.1s,mb4.4
WET Wettzell 39.22 315 *e*P P 16 12 56.6 -0.8
comp=Z,11nm,1.2s,mb4.5
WET Wettzell 39.22 315 *e*P P 16 12 56.6 -0.8
WET pmax pmax
comp=Z,11nm,1.2s,mb4.5

FINES FINESS Array B 39.27 338 P **P** **16 12 56.9 -1.0**
comp=Z,1.3nm,0.4s,mb4.0,baz=134,slow=10.0,SNR=9.7
FINES LR LR 16 30 18.8
comp=Z,34nm,19.4s,MS3.2,baz=140,slow=38
FINES FINESS Array B 39.27 338 P **P** **16 12 56.9 -1.0**
FINES pmax pmax
comp=Z,10.0nm,0.4s
FINES MLR MLR
comp=Z,34nm,19.4s
ZCCA Zocca 39.35 307 P **P** **16 13 00.3 +1.8**
WTTA Wattenberg 39.50 312⇑ *i*P **P** **16 12 59.2 -0.6**
comp=Z,27nm,0.7s,mb5.1,SNR=14
WTTA Wattenberg 39.50 312⇑ *i*P **P** **16 12 59.2 -0.6**
WTTA pmax pmax
comp=Z,27nm,0.7s,mb5.1
ERBM Eremo 39.76 307 P **P** **16 13 03.2 +1.3**
comp=Z,21nm,0.8s,mb4.9
NKC Novy Kostel 39.82 317 *e*P **P** **16 13 01.6 -0.8**
ROTZ Rotzenmuhle 39.82 316 *e*P **P** **16 13 02.2 -0.3**
comp=Z,20nm,1.1s,mb4.8
CLL Collm 39.84 318 *e*P **P** **16 13 02.0 -0.6**
comp=Z,16nm,1.0s,mb4.7
CLL *e*Pmax pP 16 13 05.0 -0.7
CLL Collm 39.84 318 *e*P **P** **16 13 02.0 -0.6**
CLL pmax pmax
comp=Z,16nm,1.0s,mb4.7
MOTA Moosalm 39.88 312⇑ *i*P **P** **16 13 01.7 -1.2**
comp=Z,15nm,1.0s,mb4.7,SNR=11
MOTA Moosalm 39.88 312⇑ *i*P **P** **16 13 01.7 -1.2**
MOTA pmax pmax
comp=Z,15nm,1.0s,mb4.7
MANZ Manzenberg 39.95 316 *e*P **P** **16 13 03.6 +0.1**
comp=Z,7.0nm,1.0s,mb4.3
VSL Villasalto 39.98 300 *e*P **P** **16 13 03.5 -0.3**
comp=Z,27nm,0.9s,mb5.0
VSL Villasalto 39.98 300 *e*P **P** **16 13 03.5 -0.3**
comp=Z,27nm,0.9s,mb5.0
BSD Bornholm Skovb 40.29 325 *i* P **P** **16 13 04.6 -1.7**
comp=Z,18nm,1.2s,mb4.7
BSD Bornholm Skovb 40.29 325 *e*P **P** **16 13 04.6 -1.7**
BSD pmax pmax
comp=Z,18nm,1.2s,mb4.7
BSD Bornholm Skovb 40.29 325 *e*P **P** **16 13 04.6 -1.7**
comp=Z,18nm,1.2s,mb4.7
GRA1 Grafenberg Arr 40.41 315 *e*P **P** **16 13 07.0 -0.4**
comp=Z,31nm,1.1s,mb5.0
GRF Grafenberg Arr 40.41 315 *e*P **P** **16 13 07.0 -0.4**
comp=Z,31nm,1.1s,mb5.0
GRF Grafenberg Arr 40.41 315 *e*P **P** **16 13 07.0 -0.4**
GRF pmax pmax
comp=Z,31nm,1.1s,mb5.0
MOX Moxa 40.45 317 *e*P **P** **16 13 07.4 -0.3**
comp=Z,8.0nm,1.2s,mb4.3
CHTO Chiang Mai 40.58 93 *e*P **P** **16 13 09.5 +0.7**
CHTO pmax pmax
comp=Z,5.0nm,1.0s,mb4.1
CHTO Chiang Mai 40.58 93 *e*P **P** **16 13 09.5 +0.7**
comp=Z,5.1nm,1.0s,mb4.1
CHTO Chiang Mai 40.58 93 *e*P **P** **16 13 09.5 +0.7**
comp=Z,5.0nm,1.0s,mb4.1
DAVA Damuels 40.67 312⇑ *i*P **P** **16 13 08.7 -0.8**
comp=Z,41nm,0.7s,mb5.2,SNR=19
LZH Lanzhou 41.50 66 *e*P **P** **16 13 16.7 +0.3**
LZH AP pP 16 13 29.2 +10
LZH PP PP 16 14 56.2 +4.0
LZH AMB AMB
comp=Z,18nm,1.5s,mb4.5
LZH AMB AMB
comp=Z,52nm,6.6s
LZH LR LR
comp=N,287nm,14.5s
LZH LR LR
comp=Z,456nm,17.6s,MS4.4
CLZ Clausthal 41.56 318 *e*P **P** **16 13 17.1 +0.2**
comp=Z,32nm,1.1s,mb4.9
CLZ Clausthal 41.56 318 *e*P **P** **16 13 17.1 +0.2**
CLZ pmax pmax
comp=Z,32nm,1.1s,mb4.9
SBF Sospel 41.80 306 *e*P **P** **16 13 18.0 -0.8**
comp=Z,63nm,1.0s,mb4.9
SBF Sospel 41.80 306 *e*P **P** **16 13 18.0 -0.8**
SBF pmax pmax
comp=Z,32nm,1.0s,mb4.9
SBF Sospel 41.80 306 *e*P **P** **16 13 18.0 -0.8**
comp=Z,32nm,1.0s,mb4.9
CD2 Chengdu 41.89 73 *e*P **P** **16 13 17.8 -1.7**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
BFO Black Forest 41.92 313 *e*P **P** **16 13 18.6 -1.2**
comp=Z,10.0nm,1.2s,mb4.3
BFO Black Forest 41.92 313 *e*P **P** **16 13 18.6 -1.2**
BFO pmax pmax
comp=Z,10.0nm,1.2s,mb4.3
KMI Kunming 42.09 82 P **P** **16 13 21.6 +0.4**
KMI AMB AMB
comp=Z,11nm,0.8s,mb4.5
TNS Taunus Mts 42.28 316 *e*P **P** **16 13 22.5 -0.2**
comp=Z,33nm,1.4s,mb4.8
TNS Taunus Mts 42.28 316 *e*P **P** **16 13 22.5 -0.2**
TNS pmax pmax
comp=Z,33nm,1.4s,mb4.8
APA Apatity 42.28 348⇑ *i*P **P** **16 13 22.8 0.0**
APA *i* 16 13 39.5
APA pmax pmax
comp=Z,14nm,0.8s,mb4.6
APA pmax pmax
comp=Z,39nm,1.0s,mb5.0
APA Apatity 42.28 348 *i* P **P** **16 13 22.8 0.0**
comp=Z,39nm,1.0s,mb5.0
FRF La Foret Royal 42.34 305 *e*P **P** **16 13 22.9 -0.3**
comp=Z,5.7nm,0.8s,mb4.0
FRF La Foret Royal 42.34 305 *e*P **P** **16 13 22.9 -0.3**
FRF pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
FRF La Foret Royal 42.34 305 *e*P **P** **16 13 22.9 -0.3**
comp=Z,2.8nm,0.8s,mb3.9
MBDF Montbardon 42.38 307 *e*P **P** **16 13 23.1 -0.4**
comp=Z,19nm,0.6s,mb4.6
MBDF Montbardon 42.38 307 *e*P **P** **16 13 23.1 -0.4**
MBDF pmax pmax
comp=Z,9.0nm,0.6s,mb4.6
MBDF Montbardon 42.38 307 *e*P **P** **16 13 23.1 -0.4**
comp=Z,9.4nm,0.6s,mb4.6
BNI Bardonecchia 42.48 308 *e*P **P** **16 13 22.6 -1.8**
BNI pmax pmax
comp=Z,21nm,1.2s,mb4.6
BNI Bardonecchia 42.48 308 *e*P **P** **16 13 22.6 -1.8**
comp=Z,21nm,1.2s,mb4.6
BNI Bardonecchia 42.48 308 *e*P **P** **16 13 22.6 -1.8**
comp=Z,21nm,1.2s,mb4.6
LPG La Plagne 42.49 308 *e*P **P** **16 13 23.4 -1.0**
comp=Z,23nm,0.8s,mb4.6
LPG La Plagne 42.49 308 *e*P **P** **16 13 23.4 -1.0**
LPG pmax pmax
comp=Z,11nm,0.8s,mb4.5
LPG La Plagne 42.49 308 *e*P **P** **16 13 23.4 -1.0**
comp=Z,11nm,0.8s,mb4.6
LPL La Plagne 42.51 308 *e*P **P** **16 13 23.4 -1.1**
comp=Z,26nm,0.7s,mb4.8
LPL La Plagne 42.51 308 *e*P **P** **16 13 23.4 -1.1**
LPL pmax pmax
comp=Z,13nm,0.7s,mb4.8
LPL La Plagne 42.51 308 *e*P **P** **16 13 23.4 -1.1**
comp=Z,13nm,0.7s,mb4.8
ZAK Zakamensk 42.60 44 *e*P **P** **16 13 25.7 +0.4**
ZAK pmax pmax
comp=Z,4.0nm,1.8s,mb3.9
ZAK Zakamensk 42.60 44 *e*P **P** **16 13 25.7 +0.4**
comp=Z,4.0nm,1.8s,mb3.9
CDF Champ du Feu 42.62 313 *e*P **P** **16 13 24.0 -1.5**
comp=Z,9.1nm,0.9s,mb4.2
CDF Champ du Feu 42.62 313 *e*P **P** **16 13 24.0 -1.5**
CDF pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
CDF Champ du Feu 42.62 313 *e*P **P** **16 13 24.0 -1.5**
comp=Z,4.6nm,0.9s,mb4.2
HINF Hinteralfeld 42.79 312 *e*P **P** **16 13 25.4 -1.4**
CABF La Chapelle 43.10 310 *e*P **P** **16 13 28.6 -0.8**
comp=Z,24nm,0.8s,mb4.7
CABF La Chapelle 43.10 310 *e*P **P** **16 13 28.6 -0.8**
CABF pmax pmax
comp=Z,12nm,0.8s,mb4.7
CABF La Chapelle 43.10 310 *e*P **P** **16 13 28.6 -0.8**
comp=Z,12nm,0.8s,mb4.7
HAU Haudompre 43.16 312 *e*P **P** **16 13 29.3 -0.5**
comp=Z,8.8nm,0.7s,mb4.3
HAU *e*R
comp=Z,59nm,20.8s
HAU Haudompre 43.16 312 *e*P **P** **16 13 29.3 -0.5**
HAU pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
HAU MLR MLR
comp=Z,60nm,20.8s,MS3.5
HAU Haudompre 43.16 312 *e*P **P** **16 13 29.3 -0.5**
comp=Z,4.4nm,0.7s,mb4.3
HAU LR LR
comp=Z,60nm,20.8s,MS3.5
BUG Bochum--Univer 43.31 317 *e*P **P** **16 13 31.4 +0.3**
comp=Z,23nm,0.9s,mb4.9
WLF Walferdange 43.60 314 *e*P **P** **16 13 32.8 -0.6**
comp=Z,21nm,1.2s,mb4.7
WLF Walferdange 43.60 314 P **P** **16 13 32.8 -0.6**
WLF E pP 16 13 35.4 -1.1
WLF AP pP 16 13 43.6 +7.1
HLG Helgoland 43.72 321 *e*P **P** **16 13 34.9 +0.5**
comp=Z,59nm,1.2s,mb5.2
WTSB Winterswijk 43.73 318⇑ *e*P **P** **16 13 37.3 +2.9**
comp=Z,17nm,0.8s,mb4.8
MUD Monsted U'grnd 43.80 324 *i* P **P** **16 13 34.7 -0.3**
comp=Z,9.8nm,0.5s,mb4.8
MUD Monsted U'grnd 43.80 324 *e*P **P** **16 13 34.7 -0.3**
MUD pmax pmax
comp=Z,10.0nm,0.5s,mb4.8
MUD Monsted U'grnd 43.80 324 *e*P **P** **16 13 34.7 -0.3**
comp=Z,10.0nm,0.5s,mb4.8
VIVF Saint-Julien-l 43.88 307 *e*P **P** **16 13 34.2 -1.4**
comp=Z,21nm,1.1s,mb4.5
VIVF Saint-Julien-l 43.88 307 *e*P **P** **16 13 34.2 -1.4**
VIVF pmax pmax
comp=Z,11nm,1.0s,mb4.5
VIVF Saint-Julien-l 43.88 307 *e*P **P** **16 13 34.2 -1.4**
comp=Z,11nm,1.1s,mb4.5
MEM Membach 43.89 316 E 16 13 38.8
MEM E 16 13 44.2
HGN Heimansgroeve 43.97 316⇑ *e*P **P** **16 13 39.3 +2.9**
comp=Z,17nm,1.1s,mb4.7
MEZF Maizieres J'vi 44.09 312 *e*P **P** **16 13 36.7 -0.7**
comp=Z,49nm,1.1s,mb4.9
MEZF Maizieres J'vi 44.09 312 *e*P **P** **16 13 36.7 -0.7**
comp=Z,24nm,1.1s,mb4.9
SONM Songino Array 44.10 49 P **P** **16 13 37.5 0.0**
comp=Z,2.1nm,0.8s,mb3.9,baz=259,slow=8.5,SNR=13
SONM LR LR 16 33 04.1
comp=Z,57nm,19.0s,MS3.5,baz=276,slow=38
SONM Songino Array 44.10 49 P **P** **16 13 37.5 0.0**
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM MLR MLR
comp=Z,57nm,19.0s
LASF Ste Croix 44.39 306 *e*P **P** **16 13 38.9 -0.9**
comp=Z,34nm,1.1s,mb4.7
LASF Ste Croix 44.39 306 *e*P **P** **16 13 38.9 -0.9**
comp=Z,17nm,1.1s,mb4.7
GIVF Givet 44.53 315 *e*P **P** **16 13 40.8 -0.1**
comp=Z,46nm,1.0s,mb5.0
GIVF Givet 44.53 315 *e*P **P** **16 13 40.8 -0.1**
GIVF pmax pmax
comp=Z,23nm,1.0s,mb5.0
GIVF Givet 44.53 315 *e*P **P** **16 13 40.8 -0.1**
comp=Z,23nm,1.0s,mb5.0
ULN Ulaanbaatar 44.55 49 *e*P **P** **16 13 40.4 -0.6**
ULN pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
ULN Ulaanbaatar 44.55 49 *e*P **P** **16 13 40.4 -0.6**
comp=Z,2.2nm,0.6s,mb4.2
ULN Ulaanbaatar 44.55 49 *e*P **P** **16 13 40.4 -0.6**
comp=Z,2.0nm,0.6s,mb4.1
SMF Signal de Mont 44.64 310 *e*P **P** **16 13 40.6 -1.2**
comp=Z,55nm,1.1s,mb5.0
SMF Signal de Mont 44.64 310 *e*P **P** **16 13 40.6 -1.2**
SMF pmax pmax
comp=Z,27nm,1.1s,mb5.0
SMF Signal de Mont 44.64 310 *e*P **P** **16 13 40.6 -1.2**
comp=Z,28nm,1.1s,mb5.0
DOU Dourbes 44.67 315 P **P** **16 13 42.5 +0.5**
DOU E pP 16 13 44.8 -0.3
LOR Lormes 44.71 310 *e*P **P** **16 13 40.9 -1.4**
comp=Z,8.8nm,0.8s,mb4.3
LOR *e*R
comp=Z,51nm,17.0s
LOR Lormes 44.71 310 *e*P **P** **16 13 40.9 -1.4**
LOR pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
LOR MLR MLR
comp=Z,50nm,17.0s,MS3.5
LOR Lormes 44.71 310 *e*P **P** **16 13 40.9 -1.4**
comp=Z,4.4nm,0.8s,mb4.3
LOR LR LR
comp=Z,50nm,17.0s,MS3.5
NB2 NORSAR Subarra 44.76 331 P **P** **16 13 41.3 -1.4**
comp=Z,9.6nm,1.0s,mb4.6,baz=118,slow=8.6
NOA NORSAR Array B 44.76 331 P **P** **16 13 41.3 -1.3**
comp=Z,4.8nm,0.8s,mb4.4,baz=117,slow=7.9,SNR=14
NOA LR LR 16 35 16.0
comp=Z,31nm,19.2s,MS3.2,baz=135,slow=40
NOA NORSAR Array B 44.76 331 P **P** **16 13 41.3 -1.4**
NOA pmax pmax
comp=Z,5.0nm,0.8s
NOA MLR MLR
comp=Z,31nm,19.2s
BAIF Baives 44.91 314 *e*P **P** **16 13 43.9 0.0**
comp=Z,80nm,1.2s,mb5.1
BAIF Baives 44.91 314 *e*P **P** **16 13 43.9 0.0**
BAIF pmax pmax
comp=Z,40nm,1.2s,mb5.1
BAIF Baives 44.91 314 *e*P **P** **16 13 43.9 0.0**
comp=Z,40nm,1.2s,mb5.1
SSF Saint Saulge 44.92 310 *e*P **P** **16 13 42.9 -1.1**
comp=Z,33nm,1.1s,mb4.8
SSF Saint Saulge 44.92 310 *e*P **P** **16 13 42.9 -1.1**
SSF pmax pmax
comp=Z,16nm,1.1s,mb4.8
SSF Saint Saulge 44.92 310 *e*P **P** **16 13 42.9 -1.1**
comp=Z,16nm,1.1s,mb4.8
SNF Seneffe 44.95 315 P **P** **16 13 43.7 -0.5**
SNF Seneffe 44.95 315 P **P** **16 13 43.6 -0.6**
AVF Avril sur Loir 44.99 310 *e*P **P** **16 13 43.2 -1.4**
comp=Z,18nm,1.0s,mb4.5
AVF Avril sur Loir 44.99 310 *e*P **P** **16 13 43.2 -1.4**
AVF pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
AVF Avril sur Loir 44.99 310 *e*P **P** **16 13 43.2 -1.4**
comp=Z,9.1nm,1.0s,mb4.5
BGF Bois d'Agland 45.32 309 *e*P **P** **16 13 46.1 -1.0**
comp=Z,16nm,0.7s,mb4.7
BGF Bois d'Agland 45.32 309 *e*P **P** **16 13 46.1 -1.0**
BGF pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
BGF Bois d'Agland 45.32 309 *e*P **P** **16 13 46.1 -1.0**
comp=Z,8.1nm,0.7s,mb4.7
KEV Kevo 45.40 346 *e*P **P** **16 13 47.6 -0.2**
KEV pmax pmax
comp=Z,22nm,0.8s,mb5.0
KEV Kevo 45.40 346 *e*P **P** **16 13 47.6 -0.2**
comp=Z,22nm,0.8s,mb5.0
KEV Kevo 45.40 346 *e*P **P** **16 13 47.6 -0.2**
comp=Z,22nm,0.8s,mb5.0
MTLF Montolieu 45.54 305 *e*P **P** **16 13 48.6 -0.3**
comp=Z,27nm,1.1s,mb4.8
MTLF Montolieu 45.54 305 *e*P **P** **16 13 48.6 -0.3**
MTLF pmax pmax
comp=Z,13nm,1.1s,mb4.8
MTLF Montolieu 45.54 305 *e*P **P** **16 13 48.6 -0.3**
comp=Z,13nm,1.1s,mb4.8
ARCES ARCESS Array B 45.55 346 P **P** **16 13 48.8 -0.2**
comp=Z,5.2nm,0.8s,mb4.5,baz=127,slow=8.1,SNR=8.2
ARCES LR LR 16 35 49.8
comp=Z,51nm,18.8s,MS3.5,baz=93,slow=40
ARCES ARCESS Array B 45.55 346 P **P** **16 13 48.8 -0.2**
ARCES pmax pmax
comp=Z,5.0nm,0.8s
ARCES MLR MLR
comp=Z,51nm,18.8s
CAF Calviac 45.73 307 *e*P **P** **16 13 49.8 -0.6**
comp=Z,21nm,0.8s,mb4.8
CAF Calviac 45.73 307 *e*P **P** **16 13 49.8 -0.6**
CAF pmax pmax
comp=Z,11nm,0.8s,mb4.8
CAF Calviac 45.73 307 *e*P **P** **16 13 49.8 -0.6**
comp=Z,11nm,0.8s,mb4.8
TCF Toulx Ste Croi 45.73 309 *e*P **P** **16 13 49.6 -0.8**
comp=Z,12nm,0.7s,mb4.6
TCF Toulx Ste Croi 45.73 309 *e*P **P** **16 13 49.6 -0.8**
TCF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
TCF Toulx Ste Croi 45.73 309 *e*P **P** **16 13 49.6 -0.8**
comp=Z,5.9nm,0.7s,mb4.6
RJF Les Rejaudoux 46.14 308 *e*P **P** **16 13 53.3 -0.3**
comp=Z,61nm,1.2s,mb5.1
RJF *e*R
comp=Z,59nm,17.9s
RJF Les Rejaudoux 46.14 308 *e*P **P** **16 13 53.3 -0.3**
RJF pmax pmax
comp=Z,31nm,1.2s,mb5.1
RJF MLR MLR
comp=Z,60nm,17.9s,MS3.6
RJF Les Rejaudoux 46.14 308 *e*P **P** **16 13 53.3 -0.3**
comp=Z,31nm,1.2s,mb5.1
RJF LR LR
comp=Z,60nm,17.9s,MS3.6
LFF La Frestale 46.67 307 *e*P **P** **16 13 57.3 -0.5**
comp=Z,24nm,0.7s,mb4.9
LFF La Frestale 46.67 307 *e*P **P** **16 13 57.3 -0.5**
LFF pmax pmax
comp=Z,12nm,0.7s,mb4.9
LFF La Frestale 46.67 307 *e*P **P** **16 13 57.3 -0.5**
comp=Z,12nm,0.7s,mb4.9
MFF Saint Martin d 47.38 309 *e*P **P** **16 14 01.9 -1.4**
comp=Z,19nm,1.2s,mb4.6
MFF Saint Martin d 47.38 309 *e*P **P** **16 14 01.9 -1.4**
MFF pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
MFF Saint Martin d 47.38 309 *e*P **P** **16 14 01.9 -1.4**
comp=Z,9.7nm,1.2s,mb4.6
HHC Hu-ho-hao-te 47.40 59 *e*P **P** **16 14 04.1 +0.6**
HHC AP pP 16 14 16.1 +9.4
HHC XP sP 16 14 21.6 +14
HHC PCP PcP 16 15 34.7 +0.7
HHC PP PP 16 15 56.0 +1.3
HHC SCP ScP 16 19 23.3 -4.8
HHC PCS PcS 16 19 28.2 -1.1
HHC S **S** **16 20 53.6 -4.0**
HHC SCS ScS 16 23 51.3 -6.3
HHC SS SS 16 24 15.5 -10
HHC AMB AMB
comp=Z,7.0nm,1.1s,mb4.5
HHC AMB AMB
comp=Z,138nm,5.1s
HHC LR LR
comp=N,163nm,14.2s,MS4.2
HHC LR LR
comp=E,107nm,13.1s,MS4.2
HHC LR LR
comp=Z,100nm,14.8s,MS3.9
LDF La Druitiere 47.52 312 *e*P **P** **16 14 02.9 -1.5**
comp=Z,13nm,0.7s,mb4.7
LDF La Druitiere 47.52 312 *e*P **P** **16 14 02.9 -1.5**
LDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
LDF La Druitiere 47.52 312 *e*P **P** **16 14 02.9 -1.5**
comp=Z,6.4nm,0.7s,mb4.7
ETSF Etsaut 47.56 304 *e*P **P** **16 14 04.6 -0.2**
comp=Z,8.9nm,0.6s,mb4.6
ETSF Etsaut 47.56 304 *e*P **P** **16 14 04.6 -0.2**
ETSF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
ETSF Etsaut 47.56 304 *e*P **P** **16 14 04.6 -0.2**
comp=Z,4.4nm,0.6s,mb4.6
FLN La Foliniere 47.77 312 *e*P **P** **16 14 04.9 -1.5**
comp=Z,45nm,1.3s,mb5.0
FLN *e*R
comp=Z,50nm,19.2s
FLN La Foliniere 47.77 312 *e*P **P** **16 14 04.9 -1.5**
FLN pmax pmax
comp=Z,22nm,1.3s,mb5.0
FLN MLR MLR
comp=Z,50nm,19.3s,MS3.5
FLN La Foliniere 47.77 312 *e*P **P** **16 14 04.9 -1.5**
comp=Z,22nm,1.3s,mb5.0
FLN LR LR
comp=Z,50nm,19.3s,MS3.5
GRR Gorron 47.98 312 *e*P **P** **16 14 06.8 -1.3**
comp=Z,25nm,1.2s,mb4.8
GRR Gorron 47.98 312 *e*P **P** **16 14 06.8 -1.3**
GRR pmax pmax
comp=Z,12nm,1.2s,mb4.8
GRR Gorron 47.98 312 *e*P **P** **16 14 06.8 -1.3**
comp=Z,12nm,1.2s,mb4.8
SJPF Ste Jean 48.05 304 *e*P **P** **16 14 08.4 -0.2**
comp=Z,12nm,0.6s,mb4.8
SJPF Ste Jean 48.05 304 *e*P **P** **16 14 08.4 -0.2**
SJPF pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
SJPF Ste Jean 48.05 304 *e*P **P** **16 14 08.4 -0.2**
comp=Z,5.8nm,0.6s,mb4.8
SGMF Saint Gilles 49.11 311 *e*P **P** **16 14 15.6 -1.1**
comp=Z,15nm,0.8s,mb4.8
SGMF Saint Gilles 49.11 311 *e*P **P** **16 14 15.6 -1.1**
SGMF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
SGMF Saint Gilles 49.11 311 *e*P **P** **16 14 15.6 -1.1**
comp=Z,7.6nm,0.8s,mb4.8
QUIF Quistinic 49.50 311 *e*P **P** **16 14 18.3 -1.4**
comp=Z,15nm,0.8s,mb4.8
QUIF Quistinic 49.50 311 *e*P **P** **16 14 18.3 -1.4**
QUIF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
QUIF Quistinic 49.50 311 *e*P **P** **16 14 18.3 -1.4**
comp=Z,7.4nm,0.8s,mb4.8
ROSF Rostrenen 49.59 311 *e*P **P** **16 14 19.1 -1.3**
comp=Z,28nm,1.2s,mb4.9
ROSF Rostrenen 49.59 311 *e*P **P** **16 14 19.1 -1.3**
ROSF pmax pmax
comp=Z,14nm,1.2s,mb4.9
ROSF Rostrenen 49.59 311 *e*P **P** **16 14 19.1 -1.3**
comp=Z,14nm,1.2s,mb4.9
ESDC Sonseca Array 50.28 300 P **P** **16 14 25.6 0.0**
comp=Z,1.5nm,0.6s,mb4.2,baz=70,slow=7.8,SNR=5.1
BOD Bodaibo 50.40 36 *e*P **P** **16 14 24.1 -2.4**
BOD pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
TORD Torodi Ar. Bea 52.19 265 P **P** **16 14 39.5 -0.4**
comp=Z,7.4nm,0.7s,mb4.7,baz=60,slow=7.1,SNR=62
NJ2 Nanjing 54.37 69 *e*P **P** **16 14 58.2 +2.2**
NJ2 AP pP 16 15 11.4 +12
NJ2 XP sP 16 15 18.0 +18
NJ2 PP PP 16 17 01.5 +3.5
NJ2 S **S** **16 22 31.0 -3.2**
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
NJ2 AMB AMB
comp=Z,50nm,9.9s
NJ2 LR LR
comp=N,2μm,22.0s
NJ2 LR LR
comp=E,730nm,22.6s
NJ2 LR LR
comp=Z,830nm,22.4s,MS4.8
SSE Sheshan 56.53 69 *e*P **P** **16 15 09.0 -2.6**
SSE AMB AMB
comp=Z,38nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,70nm,3.9s
CN2 Changchun 57.39 54 *e*P **P** **16 15 19.0 +1.3**
YHNB Yeheng 58.48 77 *e*P **P** **16 15 26.4 +1.1**
YHNB Yeheng 58.48 77 *e*P **P** **16 15 26.4 +1.1**
TIXI Tiksi 58.87 21 *e*P **P** **16 15 24.6 -3.4**
TIXI pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
TIXI MLR MLR
comp=Z,45nm,14.0s,MS3.8
DAG Danmarks Havn 59.83 345⇑ *i*P **P** **16 15 33.9 -0.8**
comp=Z,2.7nm,0.6s,mb4.5
DAG Danmarks Havn 59.83 345⇑ *e*P **P** **16 15 33.9 -0.8**
DAG pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
DAG Danmarks Havn 59.83 345⇑ *e*P **P** **16 15 33.9 -0.8**
comp=Z,2.7nm,0.6s,mb4.5
MDJ Mudanjiang 60.20 52 P **P** **16 15 35.8 -1.4**
MDJ AMB AMB
comp=Z,3.0nm,0.7s,mb4.4
MDJ AMB AMB
comp=Z,40nm,4.1s
MDJ LR LR
comp=N,30nm,22.8s,MS3.4
MDJ LR LR
comp=E,15nm,22.8s,MS3.4
KS15 Wonju Array Si 60.42 61 *e*P **P** **16 15 36.0 -2.7**
DBIC Dimbokro 60.82 262 P **P** **16 15 41.1 -0.3**
comp=E,4.1nm,0.9s,mb4.6,baz=64,slow=10,SNR=5.0

DBIC	**Dimbokro**	**60.82**	**262**	P	**P**	**16 15 41.1**	**-0.3**
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
DBIC	**Dimbokro**	**60.82**	**262**	*e*P	**P**	**16 15 40.7**	**-0.7**
	comp=Z,15nm,1.3s,mb5.0						
KLR	**Kul'dur**	**60.88**	**47**	*e*P	**P**	**16 15 36.7**	**-5.1**
SUMG	**Summit**	**65.23**	**341**	*e*P	**P**	**16 16 11.4**	**+0.7**
	comp=Z,29nm,1.0s,mb5.3						
YSS	**Yuzh-Sakhalins**	**68.57**	**47**	*e*P	**P**	**16 16 30.4**	**-1.6**
YSS				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
YSS	**Yuzh-Sakhalins**	**68.57**	**47**	*e*P	**P**	**16 16 30.4**	**-1.7**
	comp=Z,13nm,0.8s,mb4.9						
YSS	**Yuzh-Sakhalins**	**68.57**	**47**	*e*P	**P**	**16 16 30.4**	**-1.6**
	comp=Z,13nm,0.8s,mb4.9						
MAJO	**Matsushiro**	**68.60**	**59**	*e*P	**P**	**16 16 32.8**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
MAJO	**Matsushiro**	**68.60**	**59**	*e*P	**P**	**16 16 32.8**	**+0.7**
	comp=Z,14nm,1.0s,mb4.8						
MAJO	**Matsushiro**	**68.60**	**59**	*e*P	**P**	**16 16 32.8**	**+0.6**
	comp=Z,14nm,1.0s,mb4.8						
MJAR	**Matsushiro Arr**	**68.60**	**59**	P	**P**	**16 16 31.6**	**-0.6**
	comp=Z,3.5nm,0.8s,mb4.3,baz=282,slow=5.7,SNR=7.9						
MJAR	**Matsushiro Arr**	**68.60**	**59**	P	**P**	**16 16 31.6**	**-0.6**
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BILL	**Bilibino**	**72.06**	**22**	*e*P	**P**	**16 16 54.7**	**+1.3**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
BILL	**Bilibino**	**72.06**	**22**	*e*P	**P**	**16 16 54.7**	**+1.3**
	comp=Z,6.3nm,1.0s,mb4.5						
BILL	**Bilibino**	**72.06**	**22**	*e*P	**P**	**16 16 54.7**	**+1.3**
	comp=Z,6.0nm,1.0s,mb4.5						
INK	**Inuvik**	**84.23**	**3**	*e*P	**P**	**16 17 59.5**	**-1.3**
INK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
INK	**Inuvik**	**84.23**	**3**	*e*P	**P**	**16 17 59.5**	**-1.4**
	comp=Z,4.4nm,1.1s,mb4.5						
INK	**Inuvik**	**84.23**	**3**	*e*P	**P**	**16 17 59.5**	**-1.3**
	comp=Z,4.0nm,1.1s,mb4.5						
SCHQ	**Schefferville**	**84.33**	**331**	P	**P**	**16 17 60.0**	**-1.3**
	comp=Z,2.6nm,0.8s,mb4.4,baz=25,slow=6.6,SNR=5.9						
SCHQ	**Schefferville**	**84.33**	**331**	P	**P**	**16 17 60.0**	**-1.3**
ILAR	**Eielson Array**	**86.36**	**9**	P	**P**	**16 18 09.6**	**-1.9**
	comp=Z,2.1nm,0.9s,mb4.3,baz=328,slow=4.2,SNR=13						
ILAR	**Eielson Array**	**86.36**	**9**	P	**P**	**16 18 09.6**	**-1.9**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
DAWY	**Dawson**	**87.97**	**7**	*e*P	**P**	**16 18 18.5**	**-0.8**
YKW3	**Yellowknife Ar**	**89.90**	**356**	*e*P	**P**	**16 18 27.9**	**-0.4**
YKA	**Yellowknife Ar**	**89.97**	**355**	P	**P**	**16 18 28.1**	**-0.5**
	comp=Z,3.4nm,1.1s,mb4.6,baz=5.5,slow=4.8,SNR=14						
YKA				PP	PP	16 21 52.1	-9.3
	comp=Z,0.1nm,0.5s,baz=4.5,slow=8.7,SNR=2.3						
YKA				LR	LR	17 06 11.9	
	comp=Z,20nm,18.7s,MS3.6,baz=125,slow=40						
ASAR	**Alice Springs**	**91.02**	**116**	P	**P**	**16 18 32.7**	**-0.9**
	comp=Z,0.5nm,0.8s,mb3.9,baz=309,slow=4.7,SNR=8.4						
ASAR	**Alice Springs**	**91.02**	**116**	P	**P**	**16 18 32.7**	**-0.9**
ASAR				pmax	pmax		
	comp=Z,10.0nm,0.8s						

*MOS **12** 16:22:51.7±1.6,5659N×121.14E,h6km,mb4.3/1,Error ellipse: s-maj=31.6km s-min=20.1km az=163.7*

BYKL 12 16:22:51.5±0.3,5668N×12119E,h9km±16km,4C, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHNR	**Khani**	**0.71**	**290**	⇑*i*Pg	Pg	16 23 04.8	-0.4
KHNR				*e*Sg	Sg	16 23 14.2	-0.2
CRS	**Chara**	**1.62**	**279**	⇑*i*Pg	Pg	16 23 20.9	-1.7
CRS				*e*Sg	Sg	16 23 42.6	-1.1
CRS				Pmax			
	163nm,0.7s						
CRS				Smax			
	488nm,0.8s						
CRS	**Chara**	**1.62**	**279**	*e*P	Pn	16 23 21.2	+0.9
CRS				*e*		16 23 44.0	
CRS				pmax	pmax		
	comp=Z,163nm,0.3s						
CRS				smax			
	comp=E,463nm,0.5s						
NRGR	**Nerungri**	**1.95**	**89**	*i* P	Pn	16 23 27.0	+2.2
NRGR				S	Sn	16 23 52.8	+3.4
NRGR				smax			
	comp=E,16nm,0.1s						
CLNS	**Chul'man**	**2.04**	**84**	*e*Pg	Pg	16 23 28.3	-2.4
CLNS				*e*Sg	Sg	16 23 56.7	-0.5
CLNS				Pmax			
	comp=E,217nm,0.2s						
CLNS				Smax			
	comp=E,916nm,0.2s						
CLNS	**Chul'man**	**2.04**	**84**	*e*P	Pn	16 23 28.4	+2.3
CLNS				*e*		16 23 57.5	
CLNS				pmax	pmax		
	comp=N,13nm,0.3s						
CLNS				pmax	pmax		
	comp=E,19nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,25nm,0.3s						
CLNS				smax			
	comp=E,168nm,0.3s						
CLNS				smax			
	comp=Z,56nm,0.3s						
CLNS				smax			
	comp=N,99nm,0.4s						
TUP	**Tupik**	**2.37**	**198**	*e*Pn	Pn	16 23 30.5	0.0
TUP				⇑*i*Pg	Pg	16 23 33.0	-3.9
TUP				*e*Sg	Sg	16 24 03.3	-4.3
TUP				Pmax			
	comp=N,95nm,0.5s						
TUP				Smax			
	comp=N,440nm,0.7s						
TUP	**Tupik**	**2.37**	**198**	*e*P	Pn	16 23 30.3	-0.2
TUP				*e*S	Sn	16 23 58.9	-0.7
TUP				pmax	pmax		
	comp=Z,96nm,0.5s						
TUP				smax			
	comp=E,442nm,0.7s						
TNDR	**Tynda**	**2.51**	**126**	*e*Pn	Pn	16 23 33.6	+1.1
TNDR				*e*Pg	Pg	16 23 36.5	-3.2
TNDR				*e*		16 24 04.6	
TNDR				*e*Sg	Sg	16 24 09.8	-2.4
TNDR				Pmax			
	comp=E,319nm,0.1s						
TNDR				Smax			
	comp=E,2μm,0.2s						
ALDR	**Aldan**	**2.98**	**48**	*e*	Pn	16 23 40.8	+1.9
ALDR				*e*Pg	Pg	16 23 44.0	-4.6
ALDR				*e*Sn	Sn	16 24 15.8	+1.0
ALDR				*e*Sg	Sg	16 24 23.7	-3.6
ALDR				Pmax			
	comp=E,78nm,0.2s						
ALDR				Smax			
	comp=E,857nm,0.1s						
NLYR	**Nelyaty**	**3.04**	**269**	*e*Pn	Pn	16 23 40.9	+1.1
NLYR				*e*Pg	Pg	16 23 45.3	-4.5
NLYR				*e*Sg	Sg	16 24 24.0	-5.2
NLYR				*e*SgSg		16 24 34.9	
NLYR				Pmax			
	comp=E,36nm,0.6s						
NLYR				Smax			
	comp=E,257nm,0.8s						
NLYR	**Nelyaty**	**3.04**	**269**	*e*P	Pn	16 23 42.0	+2.2
NLYR				*e*		16 24 23.6	
NLYR				pmax	pmax		
	comp=Z,36nm,0.4s						
NLYR				smax			
	comp=N,251nm,0.7s						
KROS	**Kirovskiy**	**3.98**	**122**	*e*Pn	Pn	16 23 51.0	-1.7
KROS				*e*Pg	Pg	16 24 00.5	-7.3
KROS				*e*Sn	Sn	16 24 36.6	-2.9
KROS				*i* Sg	Sg	16 24 52.5	-6.8
KROS				Pmax			
	comp=N,10.0nm,0.4s						
KROS				Smax			
	comp=N,130nm,0.5s						
BOD	**Bodaibo**	**4.07**	**289**	*e*Pn	Pn	16 23 55.0	+1.1
BOD				*e*Pg	Pg	16 24 03.6	-5.8
BOD				*e*Sg	Sg	16 24 55.7	-6.4
BOD				Pmax			
	comp=N,8.0nm,0.3s						
BOD				Smax			
	comp=N,80nm,1.2s						
SVKR	**Severomuysk**	**4.28**	**266**	*e*Sg	Sg	16 25 03.8	-5.1
SVKR				Smax			
	comp=N,196nm,1.0s						
UKT	**Uakit**	**4.40**	**257**	*e*Pn	Pn	16 23 58.7	+0.2
UKT				⇑*i*Pg	Pg	16 24 09.8	-6.0
UKT				*e*Sg	Sg	16 25 06.5	-6.4
UKT				Pmax			
	comp=N,12nm,0.6s						
UKT				Smax			
	comp=N,88nm,1.0s						
UKT	**Uakit**	**4.40**	**257**	*e*P	Pn	16 24 09.4	+11
UKT				pmax	pmax		
	comp=Z,17nm,0.7s						
YOA	**Uoyan**	**5.29**	**268**	*e*Sg	Sg	16 25 35.4	-5.8
YOA				Smax			
	comp=Z,479nm,2.2s						
CGD	**Chagda**	**5.46**	**64**	*e*	Pn	16 24 14.4	+1.3
CGD				*e*Pg	Pg	16 24 29.0	-7.1
CGD				*e*Sg	Sg	16 25 38.9	-8.0
KMO	**Kumora**	**5.62**	**266**	*e*Pg	Pg	16 24 32.4	-6.8
KMO				*e*Sg	Sg	16 25 45.6	-6.4
KMO				Pmax			
	comp=Z,5.0nm,0.6s						
KMO				Smax			
	comp=Z,115nm,1.3s						
KMO	**Kumora**	**5.62**	**266**	*e*P	Pn	16 24 13.5	-1.7
KMO				*e*S	Sn	16 25 16.3	-3.6
KMO				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KMO				smax			
	comp=N,115nm,1.2s						
YLYR	**Ulyunkhan**	**5.94**	**256**	*e*Pn	Pn	16 24 20.8	+1.2
YLYR				*e*Pg	Pg	16 24 38.8	-6.5
YLYR				*e*Sg	Sg	16 25 55.7	-6.5
YLYR				Smax			
	comp=N,105nm,1.6s						
CIT	**Chita**	**6.46**	**227**	*e*	Pn	16 24 50.0	+23
CIT				*e*Sg	Sg	16 26 11.8	-7.0
CIT				Smax			
	comp=N,66nm,1.5s						
SYVR	**Suvo**	**7.09**	**249**	*e*Sn	Sn	16 25 52.5	-3.6
SYVR				*e*Sg	Sg	16 26 29.2	-10
SYVR				Smax			
	comp=N,49nm,1.0s						
MXMB	**Maximikha**	**7.94**	**250**	*e*Sg	Sn	16 26 58.1	+41
MXMB				Smax			
	comp=N,76nm,1.0s						
OGRR	**Ongureny**	**8.36**	**254**	*e*Pn	Pn	16 24 53.8	+1.0
OGRR				*e*Pg	Pn	16 25 22.4	+30
OGRR				*e*Sg	Sn	16 27 11.5	+44
OGRR				Smax			
	comp=N,15nm,1.6s						
KPC	**Khapcheranga**	**8.76**	**221**	*e*Pn	Pn	16 24 58.0	-0.3
KPC				*e*		16 26 36.3	
KPC				*e*Sg	Sn	16 27 21.7	+45
KPC				Smax			
	comp=N,39nm,2.1s						
TRTB	**Turuntaevo**	**9.06**	**246**	*e*Sg	Sn	16 27 32.1	+47
TRTB				Smax			
	comp=N,30nm,1.6s						
TRG	**Tyrgan**	**9.44**	**252**	*e*Sg	Sn	16 27 42.2	+48
TRG				Smax			
	comp=N,22nm,2.4s						
ARS	**Arshan**	**11.94**	**254**	*e*Sg	Sn	16 29 02.3	+67
ARS				Smax			
	comp=N,15nm,1.2s						
MOY	**Mondy**	**12.83**	**255**	*e*Sg		16 29 28.7	
MOY				Smax			
	comp=N,14nm,2.0s						
ORL	**Orlik**	**13.05**	**260**	*e*Sg		16 29 33.7	
ORL				Smax			
	comp=N,10.0nm,2.0s						

IDC 12 16:37:25.9±2.3,191N×12717E,h0km,mb3.2/3,mb1 3.4/3, mb1mx3.3/15,mbtmp3.3/3,Error ellipse: s-maj=196.8km s-min=25.1km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.83**	**162**	P	P	16 42 30.6	+0.1
	0.3nm,0.4s,baz=341,slow=11,SNR=3.1						
ASAR	**Alice Springs**	**26.25**	**166**	P	P	16 43 03.2	+0.4
	0.1nm,0.4s,baz=348,slow=13,SNR=3.1						
MKAR	**Makanchi Array**	**59.29**	**326**	P	P	16 47 29.6	+0.2
	0.3nm,0.5s,baz=122,slow=8.7,SNR=7.3						

*ATH **12** 16:39:41.2,3831N×2140E,h32km,MD3.4/5*
*NEIC **12** 16:39:41.2,3831N×2140E,h32km,MD3.4(ATH),After ATH.*
*ISCJB **12** 16:39:42.3±0.5,3829N±004×2140E±005,h30km±6km, Error ellipse: s-maj=7.1km s-min=6.1km az=37.9*
*CSEM **12** 16:39:42.6±0.1,3829N×2140E,h25km,MD3.4,Error ellipse: s-maj=2.3km s-min=2.1km az=133.0*
*THE **12** 16:39:42.1,3824N×2137E,h25km,ML2.8*

ISC 12 16:39:42.5±0.6,3828N±004×2139E±005,h27km±6km,n16, σ0ᵌ78/24,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.23**	**164**	*e*PB	**Pb**	**16 39 48.3**	**-0.5**
RLS				*e*SB	**Sb**	**16 39 54.0**	**+1.0**
VLS	**Valsamata**	**0.64**	**261**	*e*PN	**Pn**	**16 39 54.9**	**-0.9**
EVR	**Evrytania**	**0.71**	**28**	*e*PN	**Pn**	**16 39 55.2**	**-1.6**
LKD	**Levkas**	**0.71**	**306**	*e*Pg	**Pb**	**16 39 56.0**	**-0.4**
LKD				*e*Sg	**Sb**	**16 40 06.5**	**+0.7**
AGG	**Agios Georgios**	**1.04**	**45**	*e*Pg	**Pn**	**16 40 01.0**	**-0.3**
AGG				*e*Sg	**Sb**	**16 40 15.7**	**+0.6**
ITM	**Ithomi**	**1.18**	**159**	*e*PN	**Pn**	**16 40 04.1**	**+0.8**
LKR	**Lokris**	**1.32**	**73**	*e*PB	**Pb**	**16 40 04.5**	**-2.1**
IGT	**Igoumenitsa**	**1.49**	**327**	*e*Pg	**Pn**	**16 40 07.2**	**-0.4**
IGT				*e*Sg	**Sn**	**16 40 26.6**	**+0.4**
NEO	**Neokhori**	**1.76**	**54**	*e*PN	**Pn**	**16 40 11.0**	**-0.3**
NEO				*e*SN	**Sn**	**16 40 32.9**	**+0.1**
XOR	**Xorichti**	**1.78**	**52**	*e*Pb	**Pn**	**16 40 11.4**	**0.0**
XOR				*e*Sb	**Sn**	**16 40 33.9**	**+0.7**
XOR	**Xorichti**	**1.78**	**52**	*e*Pb	**Pn**	**16 40 11.4**	**-0.1**
XOR				*e*Sb	**Sn**	**16 40 33.8**	**+0.6**
VLI	**Veliai**	**1.99**	**141**	*e*PN	**Pn**	**16 40 15.0**	**+0.6**
LIT	**Litokhoron**	**2.01**	**25**	*e*Pn	**Pn**	**16 40 14.1**	**-0.5**
LIT				*e*Sn	**Sn**	**16 40 40.1**	**+1.2**
AOS	**Alonnisos**	**2.14**	**65**	*e*Pn	**Pn**	**16 40 16.3**	**-0.1**
FNA	**Florina**	**2.50**	**360**	*e*Pn	**Pn**	**16 40 21.8**	**+0.4**
KNT	**Kendrikon**	**3.10**	**22**	*e*Pn	**Pn**	**16 40 29.9**	**+0.2**

IDC 12 16:45:57.9±11.0,2098S×17832W,h677km±127km, mb2.9/4,mb1 3.1/5,mb1mx2.9/14,mbtmp4.1/5,Error ellipse: s-maj=115.3km s-min=36.0km az=32.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**17.67**	**192**	P	P	16 49 28.1	+0.4
	0.8nm,0.3s,baz=292,slow=17,SNR=5.0						
CTA	**Charters Tower**	**33.15**	**265**	P	P	16 51 42.7	+0.3
	7.0nm,1.1s,baz=97,slow=11,SNR=4.8						
STKA	**Stephens Creek**	**37.31**	**245**	P	P	16 52 15.6	-0.9
	1.8nm,0.5s,baz=89,slow=8.9,SNR=7.4						
ASAR	**Alice Springs**	**44.12**	**257**	P	P	16 53 10.8	+1.0
	1.1nm,0.5s,baz=98,slow=7.7,SNR=31						
WRA	**Warramunga Arr**	**44.24**	**263**	P	P	16 53 11.4	+0.6
	0.3nm,0.2s,baz=97,slow=6.9,SNR=13						
VNA3	**Neumayer Olymp**	**87.68**	**176**	*e*	P	16 57 43.8	+6.6
VNA2	**Neumayer--Watz**	**88.12**	**177**	*e*	P	16 57 46.2	+7.0
	baz=197,slow=3.6						
VNA1	**Neumayer--Stat**	**88.35**	**177**	*e*	P	16 57 46.2	+5.9
AKASG	**Malin Array Be**	**143.29**	**331**	PKP	PKPdf	17 04 16.5	-0.9
	1.1nm,0.4s,baz=43,slow=4.0,SNR=4.8						

IDC 12 17:04:59.3±3.8,555S×10415E,h0km,mb3.7/4,mb1 3.8/4, mb1mx3.6/16,mbtmp3.7/4,Error ellipse: s-maj=206.5km s-min=27.5km az=52.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.65**	**119**	P	P	17 11 32.4	-0.5
	0.4nm,0.7s,baz=293,slow=9.6,SNR=4.0						
ASAR	**Alice Springs**	**33.83**	**125**	P	P	17 11 44.5	+1.3
	0.7nm,0.3s,baz=297,slow=8.2,SNR=17						
STKA	**Stephens Creek**	**43.71**	**132**	P	P	17 13 06.1	0.0
	1.0nm,0.4s,baz=304,slow=7.9,SNR=5.7						
MKAR	**Makanchi Array**	**55.60**	**342**	P	P	17 14 36.7	0.0
	0.1nm,0.4s,baz=158,slow=8.0,SNR=4.4						

IDC 12 17:25:34.0±8.9,391S×12867E,h472km±122km,mb3.0/3, mb1 3.1/4,mb1mx2.9/16,mbtmp3.9/4,Error ellipse: s-maj=117.8km s-min=37.1km az=66.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.87**	**161**	P	P	17 29 04.3	+0.1
	0.6nm,0.3s,baz=339,slow=11,SNR=22						
WB2	**Warramunga Arr**	**16.87**	**161**	*e*P	P	17 29 04.2	0.0
ASAR	**Alice Springs**	**20.28**	**166**	P	P	17 29 37.5	+1.0
	1.3nm,0.3s,baz=342,slow=12,SNR=33						
STKA	**Stephens Creek**	**30.36**	**158**	P	P	17 31 04.8	-1.2
	0.7nm,0.5s,baz=1.5,slow=7.3,SNR=3.3						
MKAR	**Makanchi Array**	**64.93**	**327**	P	P	17 35 26.0	0.0
	0.3nm,0.4s,baz=115,slow=7.4,SNR=7.1						

*BJI **12** 17:27:17.8,5581N×160.94E,h137km,mB4.6,mb4.6*
*NEIC **12** 17:27:19.8±0.2,5581N×160.78E,mb4.4/36,Error ellipse: s-maj=6.9km s-min=4.6km az=151.0*
*MOS **12** 17:27:20.2±1.0,5573N×160.78E,h154km,mb4.3/47,Error ellipse: s-maj=11.4km s-min=5.9km az=91.6*
*KRSC **12** 17:27:20.3±0.4,5563N×161.13E,h162km±2km,ML4.6*
*ISCJB **12** 17:27:20.9±0.2,5569N±002×160.99E±005,h162km±1km, mb4.2/71,Error ellipse: s-maj=5.2km s-min=3.0km az=61.0*
*IDC **12** 17:27:21.0±1.6,5575N×160.77E,h145km±14km,mb3.9/20, mb1 4.1/21,mb1mx4.0/27,mbtmp4.3/21,Error ellipse: s-maj=14.0km s-min=9.6km az=159.0*
*SZGRF **12** 17:27:52.0,6102N×150.60E,h33km,mb4.6,Eastern Siberia, Russia*

ISC 12 17:27:21.8±0.2,5569N±002×16101E±005,h159km±1km, h141km±4.5km;pP-P,n218,σ1ᵌ03/258,mb4.2/71,5C-2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZLN	**Zelenaya**	**0.35**	**340**	*i* P	**Pn**	**17 27 43.9**	**+0.4**
ZLN				*e*S	**Sn**	**17 28 00.8**	**+0.7**
LGNR	**Loginova**	**0.43**	**335**	*i* P	**Pn**	**17 27 44.2**	**+0.4**
LGNR				*e*S	**Sn**	**17 28 01.5**	**+0.9**
KMNR	**Kamenistaya**	**0.44**	**279**	*i* P	**Pn**	**17 27 44.1**	**+0.2**
KMNR				*i* S	**Sn**	**17 28 01.9**	**+1.2**
CIRR	**Tsirk**	**0.45**	**341**	*i* P	**Pn**	**17 27 44.1**	**+0.2**
CIRR				*i* S	**Sn**	**17 28 01.6**	**+0.8**
KPT	**Kopyto**	**0.53**	**302**	*i* P	**Pn**	**17 27 44.2**	**0.0**
KPT				*i* S	**Sn**	**17 28 01.8**	**+0.4**
KRSR	**Krestovskiy**	**0.58**	**335**	*i* P	**Pn**	**17 27 44.3**	**-0.2**
KRSR				*i* S	**Sn**	**17 28 02.3**	**+0.4**
TUMR	**Tumrok**	**0.64**	**231**	*i* P	**Pn**	**17 27 45.2**	**+0.4**
TUMR				*i* S	**Sn**	**17 28 02.9**	**+0.4**
KLY	**Klyuchi**	**0.66**	**342**	*i* P	**Pn**	**17 27 44.5**	**-0.4**
KLY				*i* S	**Sn**	**17 28 02.2**	**-0.4**
KOZR	**Kozyr**	**0.73**	**301**	PN	**Pn**	**17 27 45.6**	**+0.2**
KOZR				S	**Sn**	**17 28 03.7**	**+0.2**
KOZ	**Kozyrevsk**	**0.74**	**300**	P	**Pn**	**17 27 45.6**	**+0.1**
KOZ				S	**Sn**	**17 28 03.7**	**+0.1**
KOZ	**Kozyrevsk**	**0.74**	**300**	*i* P	**Pn**	**17 27 45.6**	**+0.1**
KOZ				*e*S	**Sn**	**17 28 03.9**	**+0.3**
BDR	**Baidarnaya**	**0.89**	**7**	*i* P	**Pn**	**17 27 46.4**	**-0.1**
BDR				*e*S	**Sn**	**17 28 05.0**	**-0.4**
SMKR	**Semkarok**	**0.93**	**16**	*i* P	**Pn**	**17 27 46.6**	**-0.2**
SMKR				*i* S	**Sn**	**17 28 06.0**	**+12**
SRDR	**Sredinnyy**	**0.96**	**311**	*i* P	**Pn**	**17 27 47.2**	**+0.1**
SRDR				*e*S	**Sn**	**17 28 06.5**	**+11**
SRKR	**Sorokina**	**0.97**	**5**	*i* P	**Pn**	**17 27 47.0**	**-0.1**
SRKR				*e*S	**Sn**	**17 28 06.0**	**+11**
KBG	**Krutoberegovo**	**1.11**	**59**	*i* P	**Pn**	**17 27 47.3**	**-1.0**
KBG				*i* S	**Sn**	**17 28 06.5**	**+8.0**
KBG				Smax			
	17μm,1.1s						
KBTR	**Krutoberegovo**	**1.14**	**62**	P	**Pn**	**17 27 47.4**	**-1.2**
KBTR				S	**Sn**	**17 28 07.0**	**+7.7**
KBTR	**Krutoberegovo**	**1.14**	**62**	*i* P	**Pn**	**17 27 47.4**	**-1.2**
KBTR				*e*S	**Sn**	**17 28 06.9**	**+7.6**
ESO	**Esso**	**1.33**	**281**	*i* P	**Pn**	**17 27 50.8**	**+0.5**
ESO				*e*S	**Sn**	**17 28 12.9**	**+9.1**
KII	**Karymskiy**	**1.89**	**209**	P	**Pn**	**17 27 56.8**	**+0.6**
KII				S	**Sn**	**17 28 23.7**	**+6.4**
KII	**Karymskiy**	**1.89**	**209**	*e*P	**Pn**	**17 27 56.8**	**+0.6**
SPN	**Mys Shipunski**	**2.66**	**193**	*i* P	**Pn**	**17 28 03.3**	**-2.0**
SPN				*e*S	**Sn**	**17 28 34.6**	**-1.3**
GNL	**Ganaly**	**2.68**	**223**	*i* P	**Pn**	**17 28 06.2**	**+0.7**
GNL				*e*S	**Sn**	**17 28 39.8**	**+3.5**
NLC	**Nalytchevo**	**2.71**	**202**	P	**Pn**	**17 28 05.0**	**-0.8**
NLC				S	**Sn**	**17 28 37.5**	**+0.5**
NLC	**Nalytchevo**	**2.71**	**202**	*e*P	**Pn**	**17 28 05.0**	**-0.8**
NLC				*e*S	**Sn**	**17 28 37.9**	**+0.9**
SDLR	**Sedlovina**	**2.72**	**208**	*i* P	**Pn**	**17 28 06.1**	**+0.1**
SDLR				*e*S	**Sn**	**17 28 39.6**	**+2.3**
SMAR	**Somma**	**2.75**	**209**	*i* P	**Pn**	**17 28 06.8**	**+0.4**
SMAR				*e*S	**Sn**	**17 28 40.7**	**+2.6**
AVH	**Avacha**	**2.77**	**210**	*i* P	**Pn**	**17 28 07.1**	**+0.5**
AVH				*e*S	**Sn**	**17 28 41.3**	**+2.8**
KOK	**Koryaka**	**2.77**	**211**	*i* P	**Pn**	**17 28 07.4**	**+0.7**
UGLR	**Uglovaya**	**2.80**	**208**	*i* P	**Pn**	**17 28 07.4**	**+0.5**
UGLR				*e*S	**Sn**	**17 28 41.2**	**+2.1**
BKI	**Bering**	**2.87**	**98**	*i* P	**Pn**	**17 28 07.0**	**-0.8**
BKI				*i* S	**Sn**	**17 28 40.5**	**-0.3**
BKI				Smax			
	3μm,0.6s						
PET	**Petropavlovsk**	**3.01**	**208**	P	**Pn**	**17 28 09.5**	**-0.1**
PET				S	**Sn**	**17 28 45.6**	**+1.4**
PET	**Petropavlovsk**	**3.01**	**208**	⇓*i*PN	**Pn**	**17 28 09.5**	**-0.1**
PET				*i* S	**Sn**	**17 28 45.9**	**+1.7**
PET				pmax	pmax		
	comp=Z,344nm,0.5s						
PET				smax			
	comp=E,1μm,1.0s						
PET	**Petropavlovsk**	**3.01**	**208**	*e*Pn	**Pn**	**17 28 09.5**	**-0.1**
PET	**Petropavlovsk**	**3.01**	**208**	*i* P	**Pn**	**17 28 09.5**	**-0.1**
PET				*e*S	**Sn**	**17 28 45.8**	**+1.6**
KRMR	**Karymshinskiy**	**3.33**	**212**	*i* P	**Pn**	**17 28 13.6**	**0.0**
KRMR				*e*S	**Sn**	**17 28 52.7**	**+0.8**
APC	**Apacha**	**3.57**	**221**	*i* P	**Pn**	**17 28 17.8**	**+1.1**
APC				Smax			
	comp=E,120nm,1.0s						
RUS	**Russkaya**	**3.58**	**205**	P	**Pn**	**17 28 15.6**	**-1.2**
RUS				S	**Sn**	**17 28 56.5**	**-1.5**

YSS	**Yuzh-Sakhalins**	**14.34**	**240**	*e*Pn		**Pn**	**17 30 39.8**	**+2.2**
	comp=Z,20nm,0.6s								
ASAJ	**Asahikawa**	**16.52**	**233**	P		**Pn**	**17 31 06.0**	**+1.7**
	comp=Z,2.1nm,0.3s,baz=46,slow=7.0,SNR=32								
ASAJ	**Asahikawa**	**16.52**	**233**	P		**Pn**	**17 31 06.0**	**+1.7**
ASAJ				pmax	pmax				
	comp=Z,2.0nm,0.3s								
YAK	**Yakutsk**	**17.27**	**304**	*c i*P		**Pn**	**17 31 13.1**	**-0.2**
YAK				pmax	pmax				
	comp=Z,42nm,1.2s								
YAK				pmax	pmax				
	comp=N,10.0nm,1.3s								
YAK				pmax	pmax				
	comp=E,30nm,1.4s								
YAK	**Yakutsk**	**17.27**	**304**	*e*P		**Pn**	**17 31 11.4**	**-1.9**
	comp=E,118nm,1.1s								
HABR	**Khabarovsk**	**17.44**	**256**	⇑*i*P		**Pn**	**17 31 17.3**	**+2.0**
HABR				pmax	pmax				
	comp=Z,52nm,1.1s								
KLR	**Kul'dur**	**18.87**	**262**	*e*P		**P**	**17 31 26.7**	**-3.1**
TIXI	**Tiksi**	**20.99**	**332**	*e*P		**P**	**17 31 50.8**	**-1.7**
TIXI				*e*S		**S**	**17 35 33.7**	**-3.6**
TIXI				pmax	pmax				
	comp=Z,12nm,0.7s								
TTA	**Tatalina**	**22.71**	**54**	*e*P		**P**	**17 32 10.6**	**+0.6**
TTA				*e**PP			17 32 37.2		
TTA				*e**SP		sP	17 32 48.9	-10	
TTA				pmax	pmax				
	comp=Z,28nm,0.8s,mb4.7								
TTA	**Tatalina**	**22.71**	**54**	*e*P		**P**	**17 32 10.6**	**+0.6**
	comp=Z,28nm,0.8s,mb4.8								
TTA				*e*pP			17 32 37.2		
TTA				*e*sP		sP	17 32 48.9	-10	
MAJO	**Matsushiro**	**24.63**	**228**	*e*P		**P**	**17 32 28.3**	**+0.8**
MAJO				pmax	pmax				
	comp=Z,19nm,0.9s,mb4.6								
MAJO	**Matsushiro**	**24.63**	**228**	*e*P		**P**	**17 32 28.3**	**+0.8**
	comp=Z,19nm,0.9s,mb4.6								
MAT	**Matsushiro**	**24.63**	**228**	P		**P**	**17 32 28.1**	**+0.6**
MAT	**Matsushiro**	**24.63**	**228**	*e*P		**P**	**17 32 28.0**	**+0.5**
MAT				pmax	pmax				
	comp=Z,15nm,0.8s,mb4.6								
MAT	**Matsushiro**	**24.63**	**228**	*e*P		**P**	**17 32 28.0**	**+0.5**
	comp=Z,15nm,0.8s,mb4.6								
MJAR	**Matsushiro Arr**	**24.63**	**228**	P		**P**	**17 32 27.8**	**+0.4**
	comp=Z,9.2nm,0.7s,mb4.4,baz=28,slow=8.1,SNR=24								
MJAR	**Matsushiro Arr**	**24.63**	**228**	P		**P**	**17 32 27.8**	**+0.3**
MJAR				pmax	pmax				
	comp=Z,9.0nm,0.7s								
KDAK	**Kodiak Island**	**25.16**	**66**	P		**P**	**17 32 32.5**	**+0.3**
	comp=Z,11nm,0.4s,mb4.7,baz=344,slow=4.2,SNR=31								
BOD	**Bodaibo**	**25.46**	**294**	*e*P		**P**	**17 32 31.8**	**-3.1**
BOD				pmax	pmax				
	comp=Z,10.0nm,0.8s,mb4.4								
CN2	**Changchun**	**25.57**	**257**	*e*P		**P**	**17 32 38.0**	**+2.0**
HIA	**Hailar**	**25.64**	**273**	*e*P		**P**	**17 32 37.6**	**+1.1**
HIA				pmax	pmax				
	comp=Z,4.0nm,0.7s								
HIA	**Hailar**	**25.64**	**273**	*e*P		**P**	**17 32 37.6**	**+1.0**
	comp=Z,3.9nm,0.7s,mb4.2								
COLA	**College**	**26.23**	**49**	P		**P**	**17 32 42.2**	**+0.3**
COLA				pmax	pmax				
	comp=Z,8.0nm,1.2s,mb4.2								
COLA	**College**	**26.23**	**49**	P		**P**	**17 32 42.2**	**+0.3**
	comp=Z,8.2nm,1.2s,mb4.2								
ILAR	**Eielson Array**	**26.65**	**49**	P		**P**	**17 32 45.8**	**+0.2**
	comp=Z,3.9nm,0.9s,mb4.0,baz=255,slow=6.3,SNR=31								
ILAR				PcP	PcP		17 36 04.0	-1.2	
	comp=Z,0.4nm,0.4s,baz=290,slow=3.0,SNR=4.2								
ILAR	**Eielson Array**	**26.65**	**49**	P		**P**	**17 32 45.8**	**+0.2**
ILAR							17 36 04.1		
ILAR				pmax	pmax				
	comp=Z,4.0nm,0.9s								
KS15	**Wonju Array Si**	**28.79**	**245**	P		**P**	**17 33 03.0**	**-1.7**
INK	**Inuvik**	**31.51**	**40**	P		**P**	**17 33 29.3**	**+0.7**
	comp=Z,5.3nm,0.7s,mb4.4,baz=296,slow=7.3,SNR=28								
INK	**Inuvik**	**31.51**	**40**	*e*P		**P**	**17 33 29.4**	**+0.8**
INK				pmax	pmax				
	comp=Z,7.0nm,0.8s								
INK	**Inuvik**	**31.51**	**40**	*e*P		**P**	**17 33 29.4**	**+0.8**
	comp=Z,7.4nm,0.8s,mb4.5								
TLY	**Talaya**	**33.37**	**288**	P		**P**	**17 33 44.2**	**-0.7**
TLY				pmax	pmax				
	comp=Z,3.0nm,0.7s,mb4.1								
TLY	**Talaya**	**33.37**	**288**	P		**P**	**17 33 44.2**	**-0.7**
	comp=Z,2.9nm,0.7s,mb4.1								
SONM	**Songino Array**	**33.90**	**280**	P		**P**	**17 33 49.3**	**-0.2**
	comp=Z,0.6nm,0.5s,mb3.6,baz=56,slow=7.9,SNR=8.1								
SONM				PcP	PcP		17 36 24.2	-0.1	
	comp=Z,1.2nm,0.9s,baz=62,slow=1.0,SNR=6.7								
SONM				ScP	ScP		17 39 55.2	+1.1	
	comp=Z,1.3nm,0.9s,baz=110,slow=3.2,SNR=8.5								
ZAK	**Zakamensk**	**34.24**	**286**	*e*P		**P**	**17 33 51.1**	**-1.2**
ZAK				pmax	pmax				
	comp=Z,20nm,1.3s,mb4.7								
HHC	**Hu-ho-hao-te**	**35.28**	**266**	*e*P		**P**	**17 34 02.1**	**+0.8**
HHC				AP	pP		17 34 30.1	-5.1	
HHC				XP	sP		17 34 44.7	-8.7	
HHC				PP	PP		17 35 25.7	+1.1	
HHC				PCP	PcP		17 36 30.4	+2.1	
HHC				S	**S**		**17 39 25.2**	**+1.9**	
HHC				SCP	ScP		17 40 03.5	+4.5	
HHC				XS	sS		17 40 12.9	-10	
HHC				PCS	PcS		17 40 16.5	+1.1	
HHC				SS	SS		17 41 49.0	-12	
HHC				SCS	ScS		17 44 06.3	+2.7	
HHC				AMB	AMB				
	comp=Z,14nm,1.3s,mb4.4								
HHC				AMB	AMB				
	comp=Z,88nm,6.2s								
HHC				LR	LR				
	comp=N,171nm,14.3s								
HHC				LR	LR				
	comp=E,107nm,14.1s								
HHC				LR	LR				
	comp=Z,95nm,15.5s								
DLBC	**Dease Lake**	**36.11**	**56**	*e*P		**P**	**17 34 10.5**	**+2.2**
SSE	**Sheshan**	**37.19**	**245**	*e*P		**P**	**17 34 14.9**	**-2.6**
SSE				AMB	AMB				
	comp=Z,44nm,0.7s,mb5.2								
SSE				AMB	AMB				
	comp=Z,27nm,3.5s								
NJ2	**Nanjing**	**37.65**	**249**	*e*P		**P**	**17 34 22.3**	**+0.9**
NJ2				AP	pP		17 34 53.3	-2.3	
NJ2				XP	sP		17 35 09.8	-3.9	
NJ2				PP	PP		17 35 55.1	+4.5	
NJ2				S	**S**		**17 40 01.0**	**+1.7**	
NJ2				XS	sS		17 40 55.0	-4.2	
NJ2				AMB	AMB				
	comp=Z,10.0nm,0.8s,mb4.5								
NJ2				AMB	AMB				
	comp=Z,70nm,4.7s								
NJ2				LR	LR				
	comp=N,910nm,21.9s								
NJ2				LR	LR				
	comp=E,680nm,18.2s								
NJ2				LR	LR				
	comp=Z,460nm,18.0s								
RES	**Resolute Bay**	**40.72**	**23**	P		**P**	**17 34 46.8**	**0.0**
RES				pmax	pmax				
	comp=Z,8.0nm,1.1s,mb4.3								
RES	**Resolute Bay**	**40.72**	**23**	P		**P**	**17 34 46.8**	**+0.1**
	comp=Z,8.0nm,1.1s,mb4.3								
YKW3	**Yellowknife Ar**	**40.87**	**45**	*e*P		**P**	**17 34 48.4**	**+0.4**
YKA	**Yellowknife Ar**	**40.91**	**45**	P		**P**	**17 34 49.0**	**+0.6**
	comp=Z,5.0nm,0.6s,mb4.3,baz=301,slow=8.1,SNR=57								
YKA				PcP	PcP		17 36 45.7	-0.1	
	comp=Z,0.4nm,0.6s,baz=306,slow=3.6,SNR=6.5								
YKA				ScP	ScP		17 40 20.8	+0.4	
	comp=Z,0.3nm,0.5s,baz=301,slow=3.6,SNR=4.6								
YKA	**Yellowknife Ar**	**40.91**	**45**	P		**P**	**17 34 49.0**	**+0.6**
YKA				PcP	PcP		17 36 45.7	-0.1	
YKA				ScP	ScP		17 40 20.8	+0.4	
NVS	**Novosibirsk**	**42.12**	**303**	*e*P		**P**	**17 34 55.4**	**-2.8**
NVS				pmax	pmax				
	comp=N,6.0nm,1.2s								
NVS				pmax	pmax				
	comp=Z,10.0nm,1.2s,mb4.3								
NVS				pmax	pmax				
	comp=E,12nm,1.3s								
LZH	**Lanzhou**	**42.94**	**267**	⇓P		**P**	**17 35 04.5**	**-0.4**
LZH				AP	pP		17 35 34.2	-5.6	
LZH				XP	sP		17 35 48.6	-9.1	
LZH				PP	PP		17 36 48.7	+0.9	
LZH				AMB	AMB				
	comp=Z,23nm,1.5s,mb4.6								
LZH				AMB	AMB				
	comp=Z,56nm,7.2s								
LZH				LR	LR				
	comp=N,174nm,15.2s								
LZH				LR	LR				
	comp=Z,278nm,17.8s								
WMQ	**Urumqi**	**46.66**	**288**	⇑P		**P**	**17 35 35.4**	**+1.2**
WMQ				AP	pP		17 36 04.6	-5.1	
WMQ				XP	sP		17 36 20.4	-7.0	
WMQ				PP	PP		17 37 22.4	-3.4	
WMQ				*e*S	**S**		**17 42 01.1**	**-10**	
WMQ				AMB	AMB				
	comp=Z,7.0nm,0.6s,mb4.5								
WMQ				AMB	AMB				
	comp=Z,103nm,4.5s								
WMQ				LR	LR				
	comp=N,302nm,28.7s								
WMQ				LR	LR				
	comp=Z,56nm,23.0s								
CD2	**Chengdu**	**46.80**	**263**	*e*P		**P**	**17 35 35.0**	**-0.3**
CD2				AMB	AMB				
	comp=Z,10.0nm,0.9s,mb4.5								
EDM	**Edmonton**	**46.81**	**55**	*e*P		**P**	**17 35 36.3**	**+0.9**
EDM				*e**PP		pP	17 36 06.2	-4.7	
KURK	**Kurchatov**	**46.85**	**300**	*e*P		**P**	**17 35 34.4**	**-1.3**
KURK				pmax	pmax				
	comp=Z,25nm,1.0s,mb4.8								
KURK	**Kurchatov**	**46.85**	**300**	*e*P		**P**	**17 35 34.4**	**-1.3**
	comp=Z,25nm,1.0s,mb4.8								
MKAR	**Makanchi Array**	**47.55**	**294**	P		**P**	**17 35 39.5**	**-1.6**
	comp=Z,2.6nm,0.7s,mb4.0,baz=60,slow=7.2,SNR=18								
MKAR	**Makanchi Array**	**47.55**	**294**	P		**P**	**17 35 39.6**	**-1.5**
MKAR				pmax	pmax				
	comp=Z,3.0nm,0.7s								
BVAR	**Borovoye Array**	**49.22**	**307**	P		**P**	**17 35 52.5**	**-1.4**
	comp=Z,4.9nm,0.7s,mb4.2,baz=51,slow=8.0,SNR=26								
BVAR				ScP	ScP		17 40 54.1	-0.6	
	comp=Z,0.9nm,0.7s,baz=134,slow=4.3,SNR=5.5								
BVAR	**Borovoye Array**	**49.22**	**307**	P		**P**	**17 35 52.5**	**-1.4**
BVAR				pmax	pmax				
	comp=Z,5.0nm,0.7s								
BVAR				pmax	pmax				
	comp=N,1.0nm,0.7s								
BRVK	**Borovoye**	**49.25**	**307**	*e*P		**P**	**17 35 53.0**	**-1.1**
BRVK				pmax	pmax				
	comp=Z,4.0nm,0.9s,mb4.0								
BRVK	**Borovoye**	**49.25**	**307**	*e*P		**P**	**17 35 53.0**	**-1.1**
	comp=Z,4.0nm,0.9s,mb4.0								
ZRNK	**Zerenda**	**49.89**	**308**	*e*P		**P**	**17 35 57.3**	**-1.7**
ZRNK				pmax	pmax				
	comp=Z,6.0nm,0.8s,mb4.3								
ZRNK	**Zerenda**	**49.89**	**308**	*e*P		**P**	**17 35 57.3**	**-1.7**
	comp=Z,6.1nm,0.8s,mb4.3								
FCC	**Fort Churchill**	**51.13**	**40**	*e*P		**P**	**17 36 08.5**	**+0.2**
FCC				pmax	pmax				
	comp=Z,4.0nm,0.5s,mb4.3								
FCC	**Fort Churchill**	**51.13**	**40**	*e*P		**P**	**17 36 08.5**	**+0.2**
	comp=Z,4.2nm,0.5s,mb4.3								
WVOR	**Wild Horse Val**	**51.37**	**69**	*e*P		**P**	**17 36 11.8**	**+1.8**
WVOR				pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.0								
WVOR	**Wild Horse Val**	**51.37**	**69**	*e*P		**P**	**17 36 11.8**	**+1.8**
	comp=Z,2.9nm,0.8s,mb4.0								
KMI	**Kunming**	**51.83**	**259**	P		**P**	**17 36 13.9**	**+0.4**
KMI				AP	pP		17 36 46.4	-3.2	
KMI				AMB	AMB				
	comp=Z,3.0nm,0.9s,mb3.9								
KMI				LR	LR				
	comp=Z,16nm,20.4s								
ARU	**Arti**	**51.87**	**316**	⇑*i*P		**P**	**17 36 12.5**	**-1.2**
ARU				*e*			17 38 11.3		
ARU				*e*			17 39 20.3		
ARU				*e*S		**S**	**17 43 22.0**	**-1.9**	
ARU				*e*SS		SS	17 47 00.0	-2.7	
ARU				pmax	pmax				
	comp=Z,8.0nm,0.7s,mb4.5								
ARU	**Arti**	**51.87**	**316**	*e*P		**P**	**17 36 12.2**	**-1.5**
	comp=Z,8.9nm,0.6s,mb4.6								
IMW	**Indian Meadow**	**54.31**	**63**	P		**P**	**17 36 31.0**	**-0.6**
	comp=Z,12nm,1.3s,mb4.5								
NVAR	**Mina Array Bea**	**54.40**	**72**	P		**P**	**17 36 34.6**	**+2.4**
	comp=Z,4.8nm,0.7s,mb4.4,baz=303,slow=7.5,SNR=37								
AAK	**Ala-Archa**	**54.44**	**295**	*e*P		**P**	**17 36 31.4**	**-1.1**
AAK				pmax	pmax				
	comp=Z,7.0nm,1.0s,mb4.3								
AAK	**Ala-Archa**	**54.44**	**295**	*e*P		**P**	**17 36 31.4**	**-1.2**
	comp=Z,6.5nm,1.0s,mb4.3								
MNV	**Mina**	**54.48**	**72**	*e*P		**P**	**17 36 35.1**	**+2.3**
MNV				pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.1								
MNV	**Mina**	**54.48**	**72**	*e*P		**P**	**17 36 35.1**	**+2.3**
	comp=Z,3.3nm,0.8s,mb4.1								
JOF	**Joensuu**	**55.44**	**335**	*e*p		**P**	**17 36 37.0**	**-2.7**
PDAR	**Pinedale Array**	**55.82**	**63**	P		**P**	**17 36 44.1**	**+1.7**
	comp=Z,3.2nm,0.7s,mb4.3,baz=330,slow=3.2,SNR=29								
PDAR	**Pinedale Array**	**55.82**	**63**	P		**P**	**17 36 44.1**	**+1.7**
KKAR	**Karatay Array**	**56.11**	**298**	*i* P		**P**	**17 36 43.2**	**-1.3**
KKAR				pmax	pmax				
	comp=Z,3.0nm,0.7s,mb4.2								
AKTK	**Aktyubinsk**	**56.48**	**312**	P		**P**	**17 36 46.5**	**-0.6**
AKTK				ScP	ScP		17 41 25.9	-0.4	
AKTO	**Aktyubinsk**	**56.48**	**312**	P		**P**	**17 36 46.5**	**-0.6**
	comp=Z,4.9nm,0.7s,mb4.5,baz=15,slow=4.9,SNR=17								
AKTO				ScP	ScP		17 41 25.9	-0.4	
	comp=Z,0.7nm,0.6s,baz=55,slow=1.4,SNR=5.2								
AKTO	**Aktyubinsk**	**56.48**	**312**	P		**P**	**17 36 46.5**	**-0.6**
AKTO				pmax	pmax				
	comp=Z,5.0nm,0.7s,mb4.5								
AKTO				pmax	pmax				
	comp=N,1.0nm,0.6s								
AB31	**Akbulak array**	**56.53**	**310**	*i* P		**P**	**17 36 46.5**	**-1.0**
AB31				pmax	pmax				
	comp=Z,2.0nm,0.6s,mb4.1								
ULM	**Lac du Bonnet**	**56.67**	**48**	P		**P**	**17 36 48.9**	**+0.5**
	comp=Z,2.3nm,0.5s,mb4.3,baz=323,slow=4.5,SNR=5.1								
ULM	**Lac du Bonnet**	**56.67**	**48**	P		**P**	**17 36 48.9**	**+0.5**
FINES	**FINESS Array B**	**57.95**	**336**	P		**P**	**17 36 56.6**	**-0.8**
	comp=Z,1.6nm,0.7s,mb4.0,baz=28,slow=8.4,SNR=12								
FINES	**FINESS Array B**	**57.95**	**336**	P		**P**	**17 36 56.6**	**-0.8**
FINES				pmax	pmax				
	comp=Z,2.0nm,0.7s								
GUN	**Gumba**	**59.18**	**275**	*e*P		**P**	**17 37 05.8**	**-0.1**
KKN	**Kakani**	**59.61**	**275**	*e*P		**P**	**17 37 08.2**	**-0.6**
PKI	**Pulchoki**	**59.70**	**275**	*e*P		**P**	**17 37 09.3**	**-0.2**
GKN	**Gorkha**	**59.81**	**276**	*e*P		**P**	**17 37 09.9**	**-0.3**
DMN	**Daman**	**59.85**	**276**	*e*P		**P**	**17 37 10.3**	**-0.2**
KOLN	**Koldanda**	**60.57**	**277**	*e*P		**P**	**17 37 14.1**	**-1.3**
OBN	**Obninsk**	**60.62**	**327**	*e*P		**P**	**17 37 14.2**	**-1.5**
OBN				*i* *PP		pP	17 37 48.9	-4.1	
OBN				pmax	pmax				
	comp=Z,12nm,1.6s,mb4.5								
NB2	**NORSAR Subarra**	**61.20**	**344**	P		**P**	**17 37 18.7**	**-0.9**
	comp=Z,1.8nm,0.7s,mb4.0,baz=19,slow=6.9								
NOA	**NORSAR Array B**	**61.20**	**344**	P		**P**	**17 37 19.0**	**-0.6**
	comp=Z,2.4nm,0.7s,mb4.2,baz=19,slow=6.8,SNR=9.8								
NOA	**NORSAR Array B**	**61.20**	**344**	P		**P**	**17 37 19.0**	**-0.6**
NOA				pmax	pmax				
	comp=Z,2.0nm,0.7s								
KSM	**Kuching**	**67.69**	**237**	*e*P		**P**	**17 38 02.7**	**+0.9**
KIV	**Kislovodsk**	**67.91**	**317**	*e*P		**P**	**17 38 01.7**	**-1.5**
KIV				*i* *PP		pP	17 38 42.7	+1.5	
KIV				pmax	pmax				
	comp=Z,3.0nm,0.6s,mb4.2								
BSEG	**Bad Segeberg**	**68.12**	**342**	*e*P		**P**	**17 38 03.3**	**-1.1**
	comp=Z,3.0nm,0.5s,mb4.3								
BSEG	**Bad Segeberg**	**68.12**	**342**	*e*P		**P**	**17 38 03.3**	**-1.1**
BSEG				pmax	pmax				
	comp=Z,3.0nm,0.5s,mb4.3								
KULM	**Kulim**	**69.25**	**248**	*e*P		**P**	**17 38 11.7**	**+0.2**
KULM				*e*			17 38 26.6		
SOC	**Sochi**	**69.36**	**318**	*e*P		**P**	**17 38 10.5**	**-1.6**
SOC				*e**PP		pP	17 38 49.8	-0.5	
SOC				*e*S		S	17 47 03.1	-3.0	
SOC				*e*SS		SS	17 51 39.6	+3.4	
SOC				pmax	pmax				
	comp=Z,15nm,1.1s,mb4.6								
CLZ	**Clausthal**	**70.11**	**341**	*e*P		**P**	**17 38 16.5**	**-0.2**
	comp=Z,7.0nm,1.2s,mb4.3								
CLZ	**Clausthal**	**70.11**	**341**	*e*P		**P**	**17 38 16.5**	**-0.2**
CLZ				pmax	pmax				
	comp=Z,7.0nm,1.2s,mb4.3								
CLL	**Collm**	**70.11**	**339**	*e*P		**P**	**17 38 16.1**	**-0.6**
	comp=Z,7.0nm,1.0s,mb4.3								
CLL	**Collm**	**70.11**	**339**	*e*P		**P**	**17 38 16.0**	**-0.7**
CLL				*e**PP		pP	17 38 53.0	-2.0	
CLL				pmax	pmax				
	comp=Z,7.0nm,1.0s,mb4.3								
CLL	**Collm**	**70.11**	**339**	*e*P		**P**	**17 38 16.0**	**-0.7**
	comp=Z,7.0nm,1.0s,mb4.3								
CLL				*e*pP		pP	17 38 53.0	-2.0	
JCT	**Junction City**	**70.25**	**65**	*e*P		**P**	**17 38 17.8**	**+0.2**
JCT				pmax	pmax				
	comp=Z,9.0nm,0.8s,mb4.5								
JCT	**Junction City**	**70.25**	**65**	*e*P		**P**	**17 38 17.8**	**+0.2**
	comp=Z,9.0nm,0.8s,mb4.5								
BRG	**Berggiesshubel**	**70.33**	**339**	*e*(P)		**P**	**17 38 18.7**	**+0.6**
	comp=Z,1.3nm,0.7s,mb3.8								
BRG	**Berggiesshubel**	**70.33**	**339**	*e*P		**P**	**17 38 18.7**	**+0.6**
BRG				pmax	pmax				
	comp=Z,1.0nm,0.7s,mb3.6								
MORC	**Moravsky Berou**	**70.58**	**336**	*e*P		**P**	**17 38 19.3**	**-0.2**
MORC				pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.1								
MORC	**Moravsky Berou**	**70.58**	**336**	*e*P		**P**	**17 38 19.3**	**-0.2**
	comp=Z,2.9nm,0.8s,mb4.1								
MOX	**Moxa**	**71.02**	**340**	*e*P		**P**	**17 38 21.9**	**-0.3**
	comp=Z,3.0nm,0.9s,mb4.0								
WERD	**Werda**	**71.07**	**339**	*e*P		**P**	**17 38 22.6**	**+0.1**
	comp=Z,4.0nm,1.0s,mb4.1								
WVT	**Waverly**	**71.44**	**53**	P		**P**	**17 38 19.7**	**-5.0**
WVT				pmax	pmax				
	comp=Z,104nm,1.2s								
WVT	**Waverly**	**71.44**	**53**	P		**P**	**17 38 19.7**	**-5.0**
	comp=Z,104nm,1.2s								
MANZ	**Manzenberg**	**71.55**	**339**	*e*P		**P**	**17 38 25.5**	**+0.1**
	comp=Z,3.0nm,1.1s,mb3.9								
ROTZ	**Rotzenmuhle**	**71.74**	**339**	*e*P		**P**	**17 38 26.4**	**-0.1**
	comp=Z,3.0nm,0.8s,mb4.1								
GRA1	**Grafenberg Arr**	**72.00**	**340**	*e*P		**P**	**17 38 28.7**	**+0.6**
	comp=Z,5.0nm,0.7s,mb4.3								
GRF	**Grafenberg Arr**	**72.00**	**340**	*e*P		**P**	**17 38 28.7**	**+0.6**
	comp=Z,5.0nm,0.7s,mb4.3								
GRF	**Grafenberg Arr**	**72.00**	**340**	*e*P		**P**	**17 38 28.7**	**+0.6**
GRF				pmax	pmax				
	comp=Z,5.0nm,0.7s,mb4.3								
WET	**Wettzell**	**72.19**	**339**	*e*P		**P**	**17 38 29.4**	**+0.1**
	comp=Z,7.0nm,1.3s,mb4.2								
WET	**Wettzell**	**72.19**	**339**	*e*P		**P**	**17 38 29.4**	**+0.1**
WET				pmax	pmax				
	comp=Z,7.0nm,1.3s,mb4.2								
PSI	**Prapat**	**72.26**	**248**	P		**P**	**17 38 29.8**	**+0.1**
	comp=Z,7.8nm,0.7s,mb4.6,baz=3.1,slow=12,SNR=4.9								
PSI	**Prapat**	**72.26**	**248**	P		**P**	**17 38 29.8**	**+0.2**
PSI				pmax	pmax				
	comp=Z,8.0nm,0.7s,mb4.6								
GEC2	**GERESS Array S**	**72.31**	**338**	*e*P		**P**	**17 38 29.6**	**-0.3**
	comp=Z,2.0nm,0.8s,mb3.9								
GEC2	**GERESS Array S**	**72.31**	**338**	*e*P		**P**	**17 38 29.6**	**-0.3**
GEC2				pmax	pmax				
	comp=Z,2.0nm,0.8s,mb3.9								
GERES	**GERESS Array B**	**72.31**	**338**	P		**P**	**17 38 30.0**	**+0.1**
	comp=Z,1.1nm,0.7s,mb3.7,baz=46,slow=3.9,SNR=12								
GERES	**GERESS Array B**	**72.31**	**338**	P		**P**	**17 38 30.0**	**+0.1**
GERES				pmax	pmax				
	comp=Z,1.0nm,0.7s								
CDF	**Champ du Feu**	**73.96**	**342**	*e*P		**P**	**17 38 39.6**	**0.0**
	comp=Z,14nm,1.0s,mb4.3								
CDF	**Champ du Feu**	**73.96**	**342**	*e*P		**P**	**17 38 39.6**	**0.0**
CDF				pmax	pmax				
	comp=Z,7.0nm,1.0s,mb4.3								
CDF	**Champ du Feu**	**73.96**	**342**	*e*P		**P**	**17 38 39.6**	**0.0**
	comp=Z,6.8nm,1.0s,mb4.3								
HAU	**Haudompre**	**74.51**	**343**	*e*P		**P**	**17 38 42.7**	**-0.1**
BRTR	**Keskin Array B**	**74.95**	**321**	P		**P**	**17 38 44.9**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=64,slow=5.6,SNR=4.4								
LOR	**Lormes**	**75.63**	**344**	*e*P		**P**	**17 38 49.7**	**+0.5**
SSF	**Saint Saulge**	**75.89**	**344**	*e*P		**P**	**17 38 50.3**	**-0.4**
AVF	**Avril sur Loir**	**76.17**	**344**	*e*P		**P**	**17 38 51.9**	**-0.4**
	comp=Z,7.3nm,0.9s,mb4.0								
AVF	**Avril sur Loir**	**76.17**	**344**	*e*P		**P**	**17 38 51.9**	**-0.4**
AVF				pmax	pmax				
	comp=Z,4.0nm,0.9s,mb4.0								
AVF	**Avril sur Loir**	**76.17**	**344**	*e*P		**P**	**17 38 51.9**	**-0.4**
	comp=Z,3.7nm,0.9s,mb4.0								
SMF	**Signal de Mont**	**76.24**	**344**	*e*P		**P**	**17 38 53.5**	**+0.8**
LPL	**La Plagne**	**76.86**	**342**	*e*P		**P**	**17 38 57

LVC				S		**Sn**	**17 31 07.6**	**-0.5**
	comp=E,12nm,0.3s,baz=93,slow=3.9,SNR=7.1							
LVC	**Limon Verde**	**2.56**	**315**	*e*Pn		**Pn**	**17 30 36.0**	**+1.2**
LVC				P			17 30 36.2	
LVC				*e*Sn		**Sn**	**17 31 02.6**	**-5.5**
LVC				S		**Sn**	**17 31 07.6**	**-0.5**
CPN1	**Cerro Paranal**	**3.14**	**266**	*e*P		**Pn**	**17 30 43.2**	**+1.3**
CPN1				*i* S		**Sn**	**17 31 20.5**	**-0.3**
CPN1				AML	AML		17 31 23.7	
	comp=E,234nm,0.4s							
CEN1	**Los Morros**	**3.14**	**289**	⇓*i*P		**Pn**	**17 30 43.8**	**+1.8**
CEN1				*i* S		**Sn**	**17 31 21.5**	**+0.6**
CEN1				AML	AML		17 31 24.0	
	comp=E,235nm,0.6s							
ANCH	**Antofagasta**	**3.24**	**283**	*i* P		**Pn**	**17 30 44.3**	**+1.0**
ANCH				*i* S		**Sn**	**17 31 22.4**	**-0.7**
ANCH				AML	AML		17 31 25.2	
	comp=N,387nm,0.1s							
ANCH	**Antofagasta**	**3.24**	**283**	*i* P		**Pn**	**17 30 44.3**	**+1.0**
ANCH				*i* S		**Sn**	**17 31 22.4**	**-0.7**
CRCH	**Chaqaral**	**3.81**	**239**	*i* S		**Sn**	**17 31 33.8**	**-2.2**
CDCH	**Caldera**	**4.36**	**232**	⇑*i*P		**Pn**	**17 30 57.3**	**-0.1**
CDCH				*i* S		**Sn**	**17 31 46.2**	**-2.4**
CFAA	**Coronel Fontan**	**7.22**	**189**	P		**Pn**	**17 31 36.8**	**+1.9**
	comp=N,0.1nm,0.3s,baz=8.2,slow=13,SNR=11							
CFAA				S		**Sn**	**17 32 54.9**	**-1.3**
	comp=N,0.2nm,0.3s,baz=123,slow=21,SNR=10.0							
LPAZ	**La Paz**	**8.19**	**352**	P		**Pn**	**17 31 47.2**	**-0.4**
	comp=N,0.8nm,0.3s,baz=156,slow=13,SNR=27							
LPAZ				S		**Sn**	**17 33 15.0**	**-4.2**
	comp=N,0.1nm,0.3s,baz=194,slow=12,SNR=2.4							
CPUP	**Villa Florida**	**8.91**	**104**	P		**Pn**	**17 31 58.0**	**+0.8**
	comp=N,0.3nm,0.3s,baz=243,slow=6.8,SNR=4.1							
SIV	**San Ignacio**	**10.06**	**34**	P		**Pn**	**17 32 09.4**	**-3.0**
	comp=N,0.8nm,0.3s,baz=241,slow=14,SNR=11							
TRQA	**Tornquist**	**14.22**	**164**	*e*P		**Pn**	**17 33 08.8**	**+3.3**
	comp=N,8.7nm,1.0s							
BDFB	**Brasilia**	**19.82**	**67**	P		**P**	**17 34 07.8**	**-1.5**
	comp=N,0.4nm,0.3s,baz=242,slow=4.4,SNR=3.5							
SNAA	**Sanae**	**58.92**	**161**	*e*P		**P**	**17 39 33.6**	**+0.8**
QSPA	**South Pole Qui**	**65.76**	**180**	*e*P		**P**	**17 40 19.4**	**+1.1**
SUR	**Sutherland**	**75.56**	**119**	P		**P**	**17 41 16.4**	**-1.1**
TORD	**Torodi Ar. Bea**	**76.69**	**69**	P		**P**	**17 41 23.3**	**-0.5**
	comp=N,0.3nm,0.3s,mb3.4,baz=260,slow=5.3,SNR=9.6							
MKAR	**Makanchi Array**	**146.84**	**40**	PKPbc		PKPbc	17 49 13.2	-0.5
	comp=N,0.4nm,0.7s,baz=307,slow=3.5,SNR=5.3							

PRE 12 17:33:08.6±1.0, 2121S×3337E, h5km, ML4.7, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BFT	**Belfast (SA)**	**5.40**	**214**	*e*P	Pn	17 34 30.8	+1.0
BFT				*e*S	Sn	17 35 30.6	-1.8
BFT				AML	AML	17 36 01.0	
	comp=Z,102nm,0.6s						
POGA	**Pongola**	**6.34**	**194**	*e*P	Pn	17 34 43.9	+1.2
POGA				*e*S	Sn	17 35 51.5	-4.0
POGA				AML	AML	17 36 37.6	
	comp=Z,56nm,0.5s						
SLR	**Silverton**	**6.49**	**225**	*e*P	Pn	17 34 45.8	+1.0
SLR				*e*S	Sn	17 35 56.6	-2.6
SLR				AML	AML	17 36 38.6	
	comp=Z,110nm,0.6s						
LBTB	**Lobatse**	**8.09**	**241**	*e*P	Pn	17 35 08.1	+1.3
LBTB				*e*S	Sn	17 36 35.2	-3.5
LBTB				AML	AML	17 37 38.1	
	comp=Z,60nm,0.5s						
SWZ	**Schweizer**	**9.44**	**229**	*e*P	Pn	17 35 26.2	+1.0
SWZ				*e*S	Sn	17 37 07.5	-4.3
SWZ				AML	AML	17 38 09.8	
	comp=Z,19nm,1.0s						
SUR	**Sutherland**	**15.78**	**223**	*e*P	Pn	17 36 54.2	+2.7
SUR				*e*S	Sn	17 39 39.3	-7.4
CVNA	**Calvinia**	**15.90**	**227**	*e*P	Pn	17 36 55.6	+2.5
CVNA				*e*S	Sn	17 39 42.6	-7.1
CVNA				AML	AML	17 41 32.7	
	comp=Z,17nm,0.7s						

*ISCJB **12** 17:38:57.9±1.1, 3761N×005×2071E×008, h10km, Error ellipse: s-maj=11.5km s-min=4.4km az=106.2*
*CSEM **12** 17:38:57.0±0.4, 3759N×2056E, h2km, MD3.6, Error ellipse: s-maj=9.0km s-min=2.9km az=58.0*
*NEIC **12** 17:38:59.9, 3775N×2090E, h9km, MD3.6(ATH), After ATH.*
*THE **12** 17:38:59.2, 3771N×2061E, h2km, ML3.1*
*ATH **12** 17:38:59.8, 3774N×2090E, h8km±4km, MD3.6/6*
ISC 12 17:38:59.9±1.0, 3767N±005×2080E±008, h10km, n22, σ1§36/29, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.53**	**342**	*e*PB	**Pg**	**17 39 09.2**	**-1.1**
VLS				*e*SB	**Sg**	**17 39 17.4**	**+0.1**
RLS	**Riolos of Patr**	**0.66**	**53**	*e*PB	**Pg**	**17 39 09.9**	**-2.7**
RLS				*e*SB	**Sg**	**17 39 18.5**	**-2.7**
ITM	**Ithomi**	**1.02**	**118**	*e*PN	**Pg**	**17 39 19.0**	**-0.5**
ITM				*e*SB	**Sg**	**17 39 32.3**	**-0.5**
LKD	**Levkas**	**1.04**	**354**	*e*Pg	**Pg**	**17 39 17.8**	**-2.2**
LKD				*e*Sg	**Sg**	**17 39 32.5**	**-1.0**
EVR	**Evrytania**	**1.48**	**32**	*e*PG	**Pn**	**17 39 25.5**	**-1.0**
AGG	**Agios Georgios**	**1.81**	**41**	*e*Pb	**Pb**	**17 39 31.3**	**-1.7**
AGG				*e*Sb	**Sb**	**17 39 56.6**	**+0.8**
IGT	**Igoumenitsa**	**1.90**	**349**	*e*Pb	**Pn**	**17 39 31.4**	**-0.9**
IGT				*e*Sb	**Sn**	**17 39 55.2**	**-1.0**
VLI	**Veliai**	**1.95**	**118**	*e*PG	**Pg**	**17 39 35.7**	**-1.6**
LKR	**Lokris**	**1.99**	**60**	*e*PN	**Pn**	**17 39 34.0**	**+0.4**
XOR	**Xorichti**	**2.53**	**47**	*e*Pn	**Pn**	**17 39 43.2**	**+2.2**
LIT	**Litokhoron**	**2.76**	**28**	*e*Pn	**Pn**	**17 39 45.0**	**+0.8**
LIT				*e*Sn	**Sn**	**17 40 20.6**	**+3.0**
AOS	**Alonnisos**	**2.85**	**57**	*e*Pn	**Pn**	**17 39 45.8**	**+0.5**
FNA	**Florina**	**3.14**	**8**	*e*Pn	**Pn**	**17 39 49.5**	**0.0**
PAIG	**Paliouri**	**3.19**	**44**	*e*Pn	**Pn**	**17 39 51.1**	**+1.1**
BIA	**Bitola**	**3.37**	**7**	*e*Pn	**Pn**	**17 39 53.9**	**+1.3**
BIA	**Bitola**	**3.37**	**7**	*e*Pn	**Pn**	**17 39 53.8**	**+1.2**
OHR	**Ohrid**	**3.44**	**0**	*e*Pn	**Pn**	**17 39 55.3**	**+1.8**
OHR	**Ohrid**	**3.44**	**0**	*e*Pn	**Pn**	**17 39 55.2**	**+1.7**
GRG	**Griva**	**3.51**	**20**	*e*Pn	**Pn**	**17 39 54.7**	**+0.2**
KNT	**Kendrikon**	**3.85**	**24**	*e*Pn	**Pn**	**17 39 59.1**	**0.0**
VAY	**Valandovo**	**3.90**	**20**	*e*Pn	**Pn**	**17 40 02.0**	**+2.3**
CHOS	**Chios island**	**4.21**	**79**	*e*Pn	**Pn**	**17 40 06.3**	**+2.2**

*MOS **12** 17:56:54.3±1.8, 5664N×12122E, h11km, mb4.7/1, Error ellipse: s-maj=13.2km s-min=10.9km az=53.4*
BYKL 12 17:56:54.3±0.4, 5664N×12122E, h5km±20km, 3C-5D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNR	**Khani**	**0.74**	**293**	⇑*i*Pg	Pg	17 57 07.9	-0.6
KHNR				*e*Sg	Sg	17 57 17.2	-0.9
CRS	**Chara**	**1.65**	**280**	⇑*i*Pg	Pg	17 57 23.9	-1.9
CRS				Pmax		17 57 26.5	
	946nm,0.7s						
CRS				*e*Sg	Sg	17 57 45.7	-1.5
CRS				Smax		17 57 48.8	
	3μm,0.8s						
CRS	**Chara**	**1.65**	**280**	*e*P	Pn	17 57 24.2	+0.3
CRS				*e*		17 57 45.3	
CRS				pmax	pmax		
	comp=Z,946nm,0.4s						
CRS				smax			
	comp=E,3μm,0.6s						
NRGR	**Nerungri**	**1.94**	**88**	*i* P	Pn	17 57 29.9	+2.1
NRGR				S	Sn	17 57 54.6	+2.1
NRGR				smax			
	comp=N,119nm,0.1s						
CLNS	**Chul'man**	**2.03**	**83**	⇓*i*Pg	Pg	17 57 31.3	-2.0
CLNS				*e*		17 57 32.8	
CLNS				max		17 57 33.9	
	comp=N,896nm,0.2s						
CLNS				*e*Sg	Sg	17 57 59.8	+0.2
CLNS				Smax		17 58 03.0	
	comp=N,9μm,0.3s						
CLNS	**Chul'man**	**2.03**	**83**	*e*P	Pn	17 57 31.3	+2.1
CLNS				*e*S	Sn	17 57 58.8	+3.9
CLNS				pmax	pmax		
	comp=N,52nm,0.3s						
CLNS				pmax	pmax		
	comp=E,83nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,137nm,0.3s						
CLNS				smax			
	comp=N,91nm,0.3s						
CLNS				smax			
	comp=E,100nm,0.3s						
CLNS				smax			
	comp=Z,44nm,0.2s						
TUP	**Tupik**	**2.33**	**198**	*e*Pn	Pn	17 57 33.2	-0.1
TUP				*e*Pg	Pg	17 57 35.7	-3.3
TUP				*e*		17 57 37.4	
TUP				max		17 57 37.6	
	comp=Z,680nm,0.6s						
TUP				*e*Sg	Sg	17 58 06.2	-3.1
TUP				Smax		17 58 09.9	
	comp=Z,3μm,1.2s						
TUP	**Tupik**	**2.33**	**198**	*e*P	Pn	17 57 33.3	0.0
TUP				*e*S	Sn	17 58 01.8	-0.6
TUP				pmax	pmax		
	comp=Z,683nm,0.5s						
TUP				smax			
	comp=E,3μm,1.1s						
TNDR	**Tynda**	**2.48**	**126**	*i* Pn	Pn	17 57 36.4	+1.1
TNDR				⇓*i*Pg	Pg	17 57 39.2	-2.5
TNDR				Pmax		17 57 40.5	
	comp=E,2μm,0.3s						
TNDR				*e*Sn	Sn	17 58 05.7	-0.2
TNDR				*e*Sg	Sg	17 58 12.9	-0.9
TNDR				Smax		17 58 14.0	
	comp=E,11μm,0.3s						
ALDR	**Aldan**	**3.00**	**47**	*e*Pn	Pn	17 57 43.5	+1.1
ALDR				*e*Pg	Pg	17 57 49.8	-1.9
ALDR				Pmax		17 57 53.1	
	comp=E,318nm,0.2s						
ALDR				*e*		17 58 20.3	
ALDR				*e*Sg	Sg	17 58 27.1	-3.5
ALDR				Smax		17 58 28.1	
	comp=E,3μm,0.2s						
NLYR	**Nelyaty**	**3.06**	**270**	⇓*i*Pn	Pn	17 57 44.0	+0.7
NLYR				*e*Pg	Pg	17 57 48.3	-4.6
NLYR				Pmax		17 57 52.5	
	comp=E,193nm,0.6s						
NLYR				*e*Sg	Sg	17 58 27.2	-5.3
NLYR				Smax		17 58 28.7	
	comp=E,2μm,0.7s						
NLYR				*e*SgSg		17 58 38.0	
NLYR	**Nelyaty**	**3.06**	**270**	*e*P	Pn	17 57 43.8	+0.5
NLYR				*e*		17 58 27.4	
NLYR				pmax	pmax		
	comp=Z,193nm,0.4s						
NLYR				smax			
	comp=N,2μm,1.0s						
KROS	**Kirovskiy**	**3.94**	**122**	*e*Pn	Pn	17 57 53.6	-1.9
KROS				*e*Pg	Pg	17 58 04.4	-5.5
KROS				Pmax		17 58 08.5	
	comp=N,82nm,0.5s						
KROS				*e*Sn	Sn	17 58 38.7	-3.4
KROS				*i* Sg	Sg	17 58 55.3	-5.7
KROS				Smax		17 58 59.5	
	comp=N,540nm,0.6s						
BOD	**Bodaibo**	**4.10**	**290**	*e*Pn	Pn	17 57 57.9	+0.3
BOD				*e*Pg	Pg	17 58 06.9	-5.9
BOD				Pmax		17 58 12.1	
	comp=N,39nm,0.6s						
BOD				*e*Sn	Sn	17 58 43.7	-2.2
BOD				*e*Sg	Sg	17 58 58.9	-7.0
BOD				Smax		17 59 06.4	
	comp=N,454nm,1.1s						
BOD	**Bodaibo**	**4.10**	**290**	*e*P	Pn	17 57 57.1	-0.5
BOD				pmax	pmax		
	comp=Z,33nm,0.4s						
SVKR	**Severomuysk**	**4.29**	**266**	*e*Pn	Pn	17 57 59.6	-0.6
SVKR				*e*Pg	Pg	17 58 11.8	-4.7
SVKR				Pmax		17 58 14.3	
	comp=Z,116nm,0.8s						
SVKR				*e*Sg	Sg	17 59 06.9	-5.2
SVKR				Smax		17 59 15.7	
	comp=Z,926nm,1.0s						
SVKR	**Severomuysk**	**4.29**	**266**	*e*P	Pg	17 58 12.8	-3.7
SVKR				pmax	pmax		
	comp=Z,114nm,1.0s						
UKT	**Uakit**	**4.41**	**258**	⇓*i*Pn	Pn	17 58 03.9	+2.0
UKT				⇓*i*Pg	Pg	17 58 12.7	-6.1
UKT				Pmax		17 58 16.9	
	comp=Z,77nm,0.9s						
UKT				*e*Sg	Sg	17 59 09.2	-6.7
UKT				Smax		17 59 14.0	
	comp=Z,515nm,1.0s						
UKT	**Uakit**	**4.41**	**258**	*e*P	Pg	17 58 13.3	-5.5
UKT				pmax	pmax		
	comp=Z,78nm,0.5s						
ZEA	**Zeya**	**4.52**	**128**	⇑*i*Pn	Pn	17 58 01.7	-1.6
ZEA				*e*Pg	Pg	17 58 14.1	-6.7
ZEA				Pmax		17 58 15.3	
	comp=Z,92nm,0.3s						
ZEA				*i* Sg	Sg	17 59 11.2	-8.1
ZEA				Smax		17 59 15.5	
	comp=Z,600nm,1.5s						
YOA	**Uoyan**	**5.30**	**268**	*e*Sg	Sg	17 59 37.9	-6.7
YOA				Smax		17 59 57.6	
	comp=Z,3μm,1.8s						
YOA	**Uoyan**	**5.30**	**268**	*e*P	Pg	17 58 29.1	-6.8
YOA				pmax	pmax		
	comp=Z,182nm,0.3s						
CGD	**Chagda**	**5.47**	**63**	*e*Pn	Pn	17 58 18.7	+2.3
CGD				*e*Pg	Pg	17 58 31.8	-7.2
CGD				*e*Sg	Sg	17 59 42.2	-7.6
KMO	**Kumora**	**5.64**	**266**	*e*Pn	Pn	17 58 20.1	+1.4
KMO				*i* Pg	Pg	17 58 35.3	-7.0
KMO				Pmax		17 58 40.9	
	comp=Z,18nm,0.7s						
KMO				*e*Sg	Sg	17 59 48.5	-6.8
KMO				Smax		17 59 58.4	
	comp=Z,680nm,1.1s						
KMO	**Kumora**	**5.64**	**266**	*e*P	Pn	17 58 17.7	-1.0
KMO				*e*S	Sn	17 59 20.7	-3.1
KMO				pmax	pmax		
	comp=Z,17nm,0.6s						
KMO				smax			
	comp=N,680nm,1.0s						
YLYR	**Ulyunkhan**	**5.95**	**257**	*e*Pn	Pn	17 58 23.5	+0.5
YLYR				*i* Pg	Pg	17 58 41.4	-6.8
YLYR				Pmax		17 58 49.9	
	comp=N,18nm,1.1s						
YLYR				*e*Sg	Sg	17 59 57.4	-7.9
YLYR				Smax		18 00 07.0	
	comp=N,650nm,1.5s						
YLYR	**Ulyunkhan**	**5.95**	**257**	*e*P	Pn	17 58 23.7	+0.7
YLYR				pmax	pmax		
	comp=Z,18nm,0.9s						
CIT	**Chita**	**6.44**	**227**	*e*Pn	Pn	17 58 30.5	+0.7
CIT				*e*Pg	Pg	17 58 49.3	-8.4
CIT				Pmax		17 58 58.0	
	comp=Z,12nm,0.4s						
CIT				*e*Sg	Sg	18 00 12.4	-8.8
CIT				Smax		18 00 20.4	
	comp=Z,456nm,2.1s						
CIT				*e*		18 00 40.3	
CIT	**Chita**	**6.44**	**227**	*e*P	Pn	17 58 28.6	-1.2
CIT				pmax	pmax		
	comp=Z,12nm,0.8s						
YAK	**Yakutsk**	**6.92**	**35**	*e*P	Pn	17 58 37.3	+0.9
YAK				*e*		17 59 53.5	
YAK				pmax	pmax		
	comp=Z,14nm,0.9s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.2s						
YAK				smax			
	comp=Z,26nm,0.4s						
YAK				smax			
	comp=N,62nm,0.6s						
YAK				smax			
	comp=N,242nm,21.5s						
SYVR	**Suvo**	**7.09**	**250**	*e*Pg	Pg	17 59 01.4	-8.7
SYVR				*e*Sg	Sg	18 00 34.5	-7.4
SYVR				Smax		18 00 39.0	
	comp=N,249nm,1.6s						
HIA	**Hailar**	**7.44**	**187**	*e*Sg	Sg	18 00 45.6	-7.6
MXMB	**Maximikha**	**7.94**	**250**	*e*Pn	Pn	17 58 51.8	+1.5
MXMB				max		17 59 13.5	
	comp=N,2.0nm,0.3s						
MXMB				*e*Pg	Pg	17 59 17.0	-9.3
MXMB				*e*Sg	Sg	18 01 00.0	-9.1
MXMB				Smax		18 01 19.5	
	comp=N,410nm,0.8s						
OGRR	**Ongureny**	**8.36**	**255**	*e*Pn	Pn	17 58 57.6	+1.5
OGRR				*e*Pg	Pg	17 59 24.4	-10
OGRR				Pmax		17 59 40.8	
	comp=N,1.0nm,0.8s						
OGRR				*e*Sg	Sg	18 01 13.9	-8.8
OGRR				Smax		18 01 26.7	
	comp=N,94nm,1.9s						
OGRR	**Ongureny**	**8.36**	**255**	*e*P	Pn	17 58 58.4	+2.3
OGRR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KELR	**Kotokel**	**8.54**	**248**	*e*Sg	Sn	18 01 19.0	+44
KELR				Smax		18 01 35.4	
	comp=Z,285nm,0.7s						
KPC	**Khapcheranga**	**8.74**	**221**	*e*Pn	Pn	17 59 00.9	-0.4
KPC				max		17 59 04.4	
	comp=Z,6.0nm,0.9s						
KPC				*e*Pg	Pn	17 59 31.2	+30
KPC				*e*Sg	Sn	18 01 24.3	+44
KPC				Smax		18 01 41.4	
	comp=Z,220nm,1.9s						
TRTB	**Turuntaevo**	**9.06**	**247**	*e*Sg	Sn	18 01 35.0	+47
TRTB				Smax		18 01 44.7	
	comp=Z,181nm,1.1s						
ZRHB	**Zarechye**	**9.13**	**249**	*e*Sg	Sn	18 01 38.3	+48
ZRHB				Smax		18 01 58.6	
	comp=Z,732nm,1.2s						
TRG	**Tyrgan**	**9.44**	**252**	*e*Sg	Sn	18 01 47.6	+50
TRG				Smax		18 01 55.4	
	comp=Z,77nm,1.7s						
FFNB	**Fofonovo**	**9.61**	**247**	*e*Sg	Sn	18 01 50.2	+49
FFNB				Smax		18 02 05.2	
	comp=Z,297nm,1.0s						
KAB	**Kabansk**	**9.66**	**248**	*e*Sg	Sn	18 01 54.8	+52
KAB				Smax		18 02 21.1	
	comp=Z,842nm,1.4s						
KLR	**Kul'dur**	**9.76**	**135**	*e*P	Pn	17 59 14.0	-1.3
KLR				*e*		18 01 09.2	
LSTR	**Listvyanka**	**10.70**	**250**	*e*Pg	Pn	18 00 07.2	+39
LSTR				Pmax		18 00 09.7	
	comp=Z,2.0nm,0.5s						
LSTR				*e*Sg	Sn	18 02 26.3	+58
LSTR				Smax		18 02 43.2	
	comp=Z,61nm,1.6s						
TLY	**Talaya**	**11.43**	**252**	*e*Sg	Sn	18 02 47.2	+61
HABR	**Khabarovsk**	**11.72**	**128**	*e*P	Pn	17 59 29.4	-13
ARS	**Arshan**	**11.95**	**255**	*e*Sg	Sn	18 03 03.5	+65
ARS				Smax		18 03 12.9	
	comp=Z,91nm,1.1s						
ZAK	**Zakamensk**	**12.36**	**247**	*e*Sg	Sn	18 03 18.2	+69
ZAK				Smax		18 03 53.5	
	comp=Z,48nm,1.6s						
MOY	**Mondy**	**12.84**	**256**	*e*Sg	Sn	18 03 30.0	+69
MOY				Smax		18 04 00.1	
	comp=Z,77nm,1.9s						
ORL	**Orlik**	**13.06**	**261**	*e*Sg		18 03 38.5	
ORL				Smax		18 03 58.9	
	comp=Z,66nm,1.6s						
TDJR	**Todzha**	**15.15**	**264**	*e*Sg		18 04 43.6	
TIXI	**Tiksi**	**15.41**	**9**	*e*P	Pn	18 00 26.9	-5.5
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TIXI				MLR	MLR		
	comp=Z,30nm,12.0s						

*CSEM **12** 17:57:13.6, 1961S×17644W, h33km, mb5.6*
*ISCJB **12** 17:57:52.2±1.5, 1943S±005×17727W±004, h355km±14km, mb4.7/67, Error ellipse: s-maj=9.2km s-min=5.7km az=124.1*
*BJI **12** 17:57:55.2, 1940S×17730W, h376km, mB4.9, mb4.6*
*NEIC **12** 17:57:55.3±0.1, 1942S×17732W, mb4.8/48, Error ellipse: s-maj=7.4km s-min=4.2km az=149.0*
*SZGRF **12** 17:57:56.1, 1919S×17690W, h379km, Fiji Islands region*
*IDC **12** 17:57:56.2±2.0, 1957S×17725W, h389km±20km, mb4.5/19, mb1 4.5/21, mb1mx4.4/26, mbtmp5.2/21, Error ellipse: s-maj=13.7km s-min=9.0km az=146.0*
*MOS **12** 17:57:57.9±0.8, 1943S×17735W, h415km, mb4.9/26, Error ellipse: s-maj=12.8km s-min=9.9km az=141.7*
ISC 12 17:57:55.6±1.3, 1950S±006×17721W±004, h377km±13km, n269, σ1§01/173, mb4.7/67, 15C-6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.61**	**44**	P	**Pn**	**17 59 36.6**	**-9.0**
	12nm,0.3s,baz=263,slow=4.3,SNR=19						
AFI				S	**S**	**18 00 58.5**	**-17**
	75nm,0.3s,baz=260,slow=17,SNR=9.6						
AFI	**Afiamalu**	**7.61**	**44**	*e*Pn	**Pn**	**17 59 36.3**	**-9.4**
	70nm,0.5s						
AFI				*e*Sn	**S**	**18 00 54.9**	**-21**
BKM	**Butte a Klehm**	**13.91**	**275**	⇑*i*P	**P**	**18 00 59.0**	**+1.9**
DZM	**Mont Dzumac**	**15.50**	**258**	P	**P**	**18 01 16.6**	**+2.3**
	1.0nm,0.3s,baz=80,slow=16,SNR=10						
RAR	**Rarotonga**	**16.44**	**99**	P	**P**	**18 01 26.4**	**+1.9**
	1.0nm,0.3s,baz=242,slow=6.5,SNR=16						
RAR	**Rarotonga**	**16.44**	**99**	P	**P**	**18 01 26.4**	**+1.9**
RAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
URZ	**Urewera**	**19.34**	**194**	P	**P**	**18 01 53.6**	**-1.6**
	comp=Z,2.1nm,0.3s,baz=223,slow=5.1,SNR=11						
URZ				S	**S**	**18 05 09.7**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=258,slow=6.3,SNR=3.0						
HNR	**Honiara**	**24.25**	**291**	P	**P**	**18 02 39.4**	**-0.6**
	comp=Z,82nm,0.8s,mb5.0,baz=132,slow=0.9,SNR=14						
HNR	**Honiara**	**24.25**	**291**	P	**P**	**18 02 39.4**	**-0.6**
HNR				pmax	pmax		
	comp=Z,82nm,0.9s,mb5.0						
HNR	**Honiara**	**24.25**	**291**	*e*P	**P**	**18 02 38.7**	**-1.3**
	comp=Z,98nm,1.0s,mb5.0						
PAE	**Paea**	**26.24**	**91**	*e*P	**P**	**18 02 56.6**	**-1.2**
	comp=Z,46nm,1.1s,mb4.6						
PAE				*e*pP		18 04 01.0	
	comp=Z,29nm,1.2s						
PPT	**Papeete**	**26.26**	**90**	*e*P	**P**	**18 02 57.1**	**-0.9**
	comp=Z,27nm,1.3s,mb4.3						
PMOR	**Pomariorio Ree**	**28.33**	**86**	*e*P	**P**	**18 03 15.2**	**-1.1**
CNB	**Canberra Magne**	**33.40**	**235**	*e*P	**P**	**18 04 01.4**	**+1.1**
	comp=Z,23nm,1.0s,mb4.4						
CTA	**Charters Tower**	**34.34**	**263**	⇓*i*P	**P**	**18 04 08.6**	**+0.3**
	comp=Z,23nm,0.6s,mb4.6						
CTA	**Charters Tower**	**34.34**	**263**	P	**P**	**18 04 08.6**	**+0.3**
	comp=Z,29nm,0.7s,mb4.7,baz=94,slow=12						
CTA	**Charters Tower**	**34.34**	**263**	P	**P**	**18 04 08.6**	**+0.3**
CTA				pmax	pmax		
	comp=Z,29nm,0.7s						
CTAO	**Charters Tower**	**34.34**	**263**	*e*P	**P**	**18 04 08.6**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,33nm,0.8s,mb4.6						
CTAO	**Charters Tower**	**34.34**	**263**	*e*P	**P**	**18 04 08.6**	**+0.3**
	comp=Z,32nm,0.8s,mb4.6						
PMG	**Port Moresby**	**35.86**	**281**	P	**P**	**18 04 21.4**	**+0.3**
	comp=Z,57nm,0.8s,mb4.8,baz=104,slow=5.4,SNR=14						
PMG	**Port Moresby**	**

WRA Warramunga Arr 45.48 261 P **P** 18 05 38.3 -0.5
comp=N,22nm,0.6s,mb4.5,baz=97,slow=8.3,SNR=175
WRA pP pP 18 06 53.1 -0.7
comp=N,4.2nm,0.8s,baz=93,slow=7.1,SNR=5.2
WRA S **S** **18 11 51.1 -0.3**
comp=N,2.9nm,1.1s,baz=100,slow=14,SNR=4.8
WRA Warramunga Arr 45.48 261 P **P** **18 05 38.3 -0.5**
WRA S **S** **18 11 51.1 -0.3**
WRA pmax pmax
comp=Z,22nm,0.6s
WRA pmax pmax
comp=Z,4.0nm,0.8s
WRA smax
comp=N,3.0nm,1.1s
KAKA Kakadu 48.71 270 *e*P **P** **18 06 02.8 -0.6**
comp=N,16nm,0.6s,mb4.4
FORT Forrest 50.38 246 *e*P **P** **18 06 14.4 -1.4**
comp=N,24nm,0.6s,mb4.6
FITZ Fitzroy Crossi 53.90 261 *e*P **P** **18 06 41.8 +0.3**
comp=N,22nm,0.5s,mb4.7
MBWA Marble Bar 58.80 257 *e*P **P** **18 07 16.0 +0.4**
comp=N,19nm,0.8s,mb4.6
SBA Scott Base 58.92 184 *e*P **P** **18 07 18.2 +1.8**
VNDA Vanda 58.97 185 *e*P **P** **18 07 16.4 -0.4**
NWAO Narrogin (SRO) 59.48 243 *e*P **P** **18 07 20.5 +0.2**
NWAO pmax pmax
comp=Z,11nm,1.0s
NWAO Narrogin (SRO) 59.48 243 *e*P **P** **18 07 20.5 +0.2**
comp=Z,11nm,1.0s,mb4.2
CASY Casey 65.18 205 *e*P **P** **18 07 50.0 -7.6**
MJAR Matsushiro Arr 69.85 323 P **P** **18 08 25.6 -0.9**
comp=Z,2.4nm,0.6s,mb4.1,baz=153,slow=5.4,SNR=7.1
MJAR Matsushiro Arr 69.85 323 P **P** **18 08 25.6 -0.9**
MJAR pmax pmax
comp=Z,2.0nm,0.6s
MAJO Matsushiro 69.85 323 *e*P **P** **18 08 25.8 -0.7**
MAJO pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
MAJO Matsushiro 69.85 323 *e*P **P** **18 08 25.8 -0.8**
comp=Z,4.7nm,0.8s,mb4.3
JOW Kunigami 70.10 309 P **P** **18 08 28.7 +0.7**
comp=Z,14nm,0.8s,mb4.7,baz=173,slow=8.6,SNR=4.7
KKM Kota Kinabalu 70.23 284 P **P** **18 08 30.0 +1.2**
KKM Kota Kinabalu 70.23 284 *e*P **P** **18 08 29.6 +0.9**
QSPA South Pole Qui 70.57 180 *e*P **P** **18 08 31.2 +0.4**
comp=Z,12nm,0.9s,mb4.6
KSM Kuching 74.01 277 *e*P **P** **18 08 52.0 +1.0**
YSS Yuzh-Sakhalins 75.34 333 P **P** **18 08 58.6 +0.1**
SSE Sheshan 77.62 309 *e*P **P** **18 09 09.0 -2.2**
SSE AMB AMB
comp=Z,22nm,0.8s,mb4.9
SSE AMB AMB
comp=Z,58nm,3.5s
ISA Isabella 78.11 45 *e*P **P** **18 09 14.1 +0.3**
ISA pmax pmax
comp=Z,24nm,0.7s,mb5.0
ISA Isabella 78.11 45 *e*P **P** **18 09 14.1 +0.3**
comp=Z,24nm,0.7s,mb5.0
CMB Columbia Colle 78.22 42 *e*P **P** **18 09 14.4 0.0**
CMB pmax pmax
comp=Z,27nm,1.0s,mb4.9
CMB Columbia Colle 78.22 42 *e*P **P** **18 09 14.4 0.0**
comp=Z,27nm,1.0s,mb4.9
OHCM Honcut 78.31 41 *e*P **P** **18 09 15.1 +0.2**
WDC Whiskeytown Da 78.43 39 *e*P **P** **18 09 15.5 -0.1**
WDC pmax pmax
comp=Z,30nm,1.4s,mb4.8
WDC Whiskeytown Da 78.43 39 *e*P **P** **18 09 15.5 -0.1**
comp=Z,30nm,1.4s,mb4.8
YBH Yreka Blue Hor 79.05 38 P **P** **18 09 19.8 +1.0**
comp=Z,12nm,0.9s,mb4.7,baz=189,slow=2.0,SNR=20
YBH Yreka Blue Hor 79.05 38 *e*P **P** **18 09 19.5 +0.6**
YBH pmax pmax
comp=Z,15nm,1.1s
YBH Yreka Blue Hor 79.05 38 P **P** **18 09 19.8 +0.9**
YBH pmax pmax
comp=Z,12nm,0.9s
YBH Yreka Blue Hor 79.05 38 *e*P **P** **18 09 19.5 +0.6**
comp=Z,15nm,1.1s,mb4.6
HUMO Hull Mountain 79.45 38 *e*P **P** **18 09 21.5 +0.5**
comp=Z,22nm,1.3s,mb4.7
KDAK Kodiak Island 79.67 13 P **P** **18 09 21.2 -1.0**
comp=Z,21nm,0.6s,mb5.1,baz=178,slow=2.6,SNR=41
NVAR Mina Array Bea 79.79 43 P **P** **18 09 23.4 +0.5**
comp=Z,14nm,0.7s,mb4.8,baz=218,slow=7.7,SNR=101
NJ2 Nanjing 79.82 309 *e*P **P** **18 09 22.5 -0.5**
NJ2 PP PP 18 12 31.1 +0.7
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
NJ2 AMB AMB
comp=Z,210nm,5.6s
NJ2 LR LR
comp=N,930nm,32.0s
NJ2 LR LR
comp=E,570nm,30.1s
NJ2 LR LR
comp=Z,390nm,31.6s
PAHR Pah Rah Range 79.84 42 *e*P **P** **18 09 23.7 +0.6**
comp=Z,22nm,1.0s,mb4.8
MNV Mina 79.89 43 *e*P **P** **18 09 23.6 +0.2**
MNV pmax pmax
comp=Z,22nm,1.0s,mb4.8
MNV Mina 79.89 43 *e*P **P** **18 09 23.6 +0.2**
comp=Z,22nm,1.0s,mb4.8
HABR Khabarovsk 79.95 330 *e*P **P** **18 09 23.8 +0.1**
HABR *e*S S 18 18 55.0 -0.3
HABR pmax pmax
comp=Z,15nm,0.9s,mb4.7
MDJ Mudanjiang 80.13 325 P **P** **18 09 25.1 +0.4**
MDJ PP PP 18 12 31.7 -1.2
MDJ AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
MDJ AMB AMB
comp=Z,86nm,5.2s
MDJ Mudanjiang 80.13 325 *e*P **P** **18 09 24.4 -0.2**
comp=Z,9.8nm,0.9s,mb4.5
TPH Tonopah 80.29 44 *e*P **P** **18 09 25.6 +0.1**
TPH pmax pmax
comp=Z,19nm,1.1s,mb4.7
TPH Tonopah 80.29 44 *e*P **P** **18 09 25.6 +0.1**
comp=Z,19nm,1.1s,mb4.7
MPOR Mary's Peak 80.31 36 P **P** **18 09 26.6 +1.0**
NEN Nelson 80.57 47 *e*P **P** **18 09 27.4 +0.4**
MOD Modoc 80.57 39 *e*P **P** **18 09 27.1 +0.1**
comp=Z,6.0nm,0.6s,mb4.5
KGM Kluang 80.75 275 P **P** **18 09 30.2 +2.2**
BMN Battle Mountai 81.61 42 *e*P **P** **18 09 32.6 +0.2**
BMN pmax pmax
comp=Z,45nm,1.3s,mb5.1
BMN Battle Mountai 81.61 42 *e*P **P** **18 09 32.6 +0.2**
comp=Z,45nm,1.3s,mb5.1
TUC Tucson 81.78 52 *e*P **P** **18 09 34.6 +1.3**
TUC pmax pmax
comp=Z,42nm,1.3s,mb5.1
TUC Tucson 81.78 52 *e*P **P** **18 09 34.6 +1.4**
comp=Z,42nm,1.3s,mb5.1
WVOR Wild Horse Val 81.89 40 *e*P **P** **18 09 33.8 0.0**
WVOR pmax pmax
comp=Z,36nm,1.1s,mb5.1
WVOR Wild Horse Val 81.89 40 *e*P **P** **18 09 33.8 0.0**
comp=Z,36nm,1.1s,mb5.1
CN2 Changchun 81.97 322 *e*P **P** **18 09 34.2 0.0**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
OOW Octopus West 82.05 33 P **P** **18 09 35.7 +1.1**
CCUT Cedar City 82.58 46 *e*P **P** **18 09 38.3 +0.9**
ARUT Antelope Range 82.65 46 *e*P **P** **18 09 38.6 +0.9**
SLKM Skilak Lake 82.67 13 *e*P **P** **18 09 36.0 -1.8**
WUAZ Wupatki 82.93 49 *e*P **P** **18 09 39.9 +0.8**
comp=Z,30nm,1.1s,mb5.0
WUAZ *e* 18 09 51.1
ELK Elko 83.04 43 *e*P **P** **18 09 39.9 +0.2**
ELK pmax pmax
comp=Z,23nm,0.9s
ELK Elko 83.04 43 *e*P **P** **18 09 39.9 +0.2**
comp=Z,23nm,0.9s,mb5.0
BBB Bella Bella 83.17 28 P **P** **18 09 40.1 -0.2**
comp=Z,20nm,1.0s,mb4.9,baz=225,slow=6.6,SNR=5.4
PRW Prosser 83.51 36 P **P** **18 09 42.7 +0.6**
SNIWA Snively Ranch 83.68 36 P **P** **18 09 43.5 +0.6**
HAWA Hanford 83.70 36 *e*P **P** **18 09 42.9 -0.1**
comp=Z,5.4nm,1.4s,mb4.2
EYAK Cordova Ski Ar 83.73 15 *e*P **P** **18 09 41.4 -1.8**
IPM Ipoh 83.74 277 P **P** **18 09 45.3 +2.0**
TTA Tatalina 83.83 10 *e*P **P** **18 09 42.5 -1.2**
TTA pmax pmax
comp=Z,75nm,1.4s,mb5.3
TTA Tatalina 83.83 10 *e*P **P** **18 09 42.5 -1.2**
comp=Z,75nm,1.4s,mb5.3
PMR Palmer 83.88 13 *e*P **P** **18 09 41.8 -2.1**
PMR pmax pmax
comp=Z,31nm,1.0s,mb5.1
PMR Palmer 83.88 13 *e*P **P** **18 09 41.8 -2.1**
comp=Z,31nm,1.0s,mb5.1
MSU Marysvale 83.88 46 *e*P **P** **18 09 45.1 +1.2**
BMO Blue Mountains 84.07 38 *e*P **P** **18 09 44.5 -0.4**
comp=Z,7.7nm,0.8s,mb4.6
DUG Dugway 84.32 44 P **P** **18 09 45.5 -0.6**
DUG pmax pmax
comp=Z,8.0nm,1.1s,mb4.5
DUG Dugway 84.32 44 P **P** **18 09 45.5 -0.7**
comp=Z,7.6nm,1.1s,mb4.4
KULM Kulim 84.37 278 *e*P **P** **18 09 47.4 +1.0**
TMUT Trail Mountain 84.93 45 *e*P **P** **18 09 50.4 +1.3**
SPUT South Promonto 85.13 43 *e*P **P** **18 09 50.2 +0.1**
SRU San Rafael 85.29 46 *e*P **P** **18 09 51.2 +0.3**
SRU pmax pmax
comp=Z,13nm,0.7s,mb4.9
SRU San Rafael 85.29 46 *e*P **P** **18 09 51.2 +0.3**
comp=Z,13nm,0.7s,mb4.9
LAZ Ladron 85.45 51 *e*P **P** **18 09 52.6 +0.9**
LENM Lemitar 85.47 52 *e*P **P** **18 09 52.6 +0.8**
MNTX Cornudas Mount 85.57 54 *e*P **P** **18 09 53.1 +0.8**
comp=Z,25nm,0.9s,mb5.0
BNM Barren Site 85.72 52 *e*P **P** **18 09 53.6 +0.6**
SKAG Skagway 85.79 20 *e*P **P** **18 09 52.4 -0.9**
HWUT Hardware Ranch 85.86 43 *e*P **P** **18 09 52.8 -0.9**
comp=Z,1.9nm,0.6s,mb4.1
PV10 Paradox Valley 85.95 47 *e*P **P** **18 09 54.3 +0.2**
NEW Newport 86.13 35 P **P** **18 09 54.2 -0.8**
comp=Z,4.4nm,0.7s,mb4.4,baz=231,slow=2.8,SNR=5.5
NEW Newport 86.13 35 P **P** **18 09 54.2 -0.8**
NEW pmax pmax
comp=Z,4.0nm,0.7s
NEW Newport 86.13 35 P **P** **18 09 54.2 -0.8**
PV01 Paradox Valley 86.16 47 *e*P **P** **18 09 55.2 +0.1**
ANMO Albuquerque 86.20 51 P **P** **18 09 56.0 +0.7**
comp=Z,9.0nm,0.8s,mb4.6,baz=222,slow=5.2,SNR=17
ANMO Albuquerque 86.20 51 P **P** **18 09 56.0 +0.7**
ANMO pmax pmax
comp=Z,9.0nm,0.8s
ANMO Albuquerque 86.20 51 *e*P **P** **18 09 55.8 +0.5**
comp=Z,15nm,1.2s,mb4.7
GDL2 Guadalupe Moun 86.56 54 *e*P **P** **18 09 58.3 +1.2**
MCMT McKenzie Canyo 86.71 40 *e*P **P** **18 09 58.3 +0.5**
GYA Guiyang 86.80 299 P **P** **18 09 59.3 +1.1**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
DLBC Dease Lake 86.84 23 P **P** **18 09 58.6 +0.2**
comp=Z,8.6nm,0.7s,mb4.7,baz=220,slow=7.0,SNR=26
DLBC Dease Lake 86.84 23 *e*P **P** **18 09 58.1 -0.3**
COLA College 87.07 12 *e*P **P** **18 09 57.3 -2.2**
COLA pmax pmax
comp=Z,40nm,1.0s,mb5.2
COLA College 87.07 12 *e*P **P** **18 09 57.3 -2.2**
comp=Z,40nm,1.0s,mb5.2
MSO Missoula 87.12 38 *e*P **P** **18 09 58.8 -1.0**
comp=Z,6.1nm,1.1s,mb4.3
ILAR Eielson Array 87.18 13 P **P** **18 09 57.9 -2.1**
comp=Z,5.4nm,0.4s,mb4.7,baz=220,slow=4.9,SNR=105
ILAR PP PP 18 13 23.3 -6.6
comp=Z,1.5nm,1.1s,baz=222,slow=6.4,SNR=4.1
ILAR Eielson Array 87.18 13 P **P** **18 09 57.9 -2.1**
ILAR pmax pmax
comp=Z,5.0nm,0.4s
ILAR pmax pmax
comp=Z,2.0nm,1.1s
TPAW Teton Pass 87.20 42 *e*P **P** **18 10 00.3 +0.2**
comp=Z,10nm,1.2s,mb4.5
CPRX Cap Rock 87.30 54 *e*P **P** **18 10 01.4 +0.8**
IMW Indian Meadow 87.41 41 *e*P **P** **18 10 01.4 +0.3**
comp=Z,18nm,1.2s,mb4.8
CHMT Chamberlain Mo 87.57 38 *e*P **P** **18 10 01.1 -0.7**
QLMT Earthquake Lak 87.58 41 *e*P **P** **18 10 02.4 +0.5**
FLWY Flagg Ranch 87.65 41 *e*P **P** **18 10 03.2 +1.0**
comp=Z,23nm,1.1s,mb4.9
PDAR Pinedale Array 87.72 43 P **P** **18 10 02.2 -0.3**
comp=Z,4.1nm,0.8s,mb4.3,baz=217,slow=2.3,SNR=33
SMCO Snowmass 87.75 47 *e*P **P** **18 10 02.8 +0.1**
comp=Z,7.3nm,0.7s,mb4.6
YMR Mason River 87.78 41 *e*P **P** **18 10 03.9 +1.1**
comp=Z,8.1nm,0.6s,mb4.7
SYO Syowa Base 87.86 192 *e*P **P** **18 10 08.0 +4.8**
BILL Bilibino 88.12 354 *e*P **P** **18 10 02.5 -1.9**
BILL Bilibino 88.12 354 *e*P **P** **18 10 02.5 -1.9**
DAWY Dawson 88.30 16 *e*P **P** **18 10 04.2 -1.0**
HRY Holter Researc 88.30 39 *e*P **P** **18 10 04.9 -0.3**
WALA Waterton Lakes 88.34 36 *e*P **P** **18 10 05.1 -0.3**
comp=Z,25nm,1.6s,mb4.8
SNAA Sanae 88.99 178 *e*P **P** **18 10 06.7 -1.8**
SNAA *e* 18 10 07.6
VNA3 Neumayer Olymp 89.09 176 *e*P **P** **18 10 08.3 -0.6**
VNA3 *e* 18 10 08.6
VNA3 *e* 18 10 15.7
GCMT Greycliff 89.13 40 *e*P **P** **18 10 09.7 +0.6**
PLCA Paso Flores 89.42 133 P **P** **18 10 11.5 +1.0**
VNA2 Neumayer--Watz 89.54 177 *e*P **P** **18 10 10.4 -0.6**
baz=193,slow=4.3
VNA2 *e* 18 10 10.8
VNA2 *e* 18 10 18.6
VNA2 *e* 18 10 20.7
KMI Kunming 89.56 297 P **P** **18 10 13.2 +2.1**
KMI AMB AMB
comp=Z,6.0nm,1.3s,mb4.4
VNA1 Neumayer--Stat 89.76 176 *e*P **P** **18 10 11.8 -0.3**
VNA1 *e* 18 10 12.2
CD2 Chengdu 90.88 302 *e*P **P** **18 10 16.0 -1.2**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
INK Inuvik 93.12 15 P **P** **18 10 25.8 -1.8**
comp=Z,18nm,0.9s,mb5.1,baz=224,slow=4.1,SNR=59
INK Inuvik 93.12 15 P **P** **18 10 25.8 -1.7**
INK pmax pmax
comp=Z,18nm,0.9s
INK Inuvik 93.12 15 *e*P **P** **18 10 25.4 -2.2**
comp=Z,24nm,1.1s,mb5.1
YKA Yellowknife Ar 95.30 24 P **P** **18 10 36.0 -1.4**
comp=Z,4.3nm,0.8s,mb4.5,baz=242,slow=4.4,SNR=60
YKA PP PP 18 14 32.6 -0.8
comp=Z,0.3nm,0.8s,baz=240,slow=7.0,SNR=3.8
YKA Yellowknife Ar 95.30 24 P **P** **18 10 36.0 -1.5**
YKA 18 14 32.6
YKA pmax pmax
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 95.30 24 P **P** **18 10 36.0 -1.5**
YKA PP PP 18 14 32.6 -0.8
YKW3 Yellowknife Ar 95.33 24 *e*P **P** **18 10 35.9 -1.7**
MKAR Makanchi Array 111.05 314 PKiKP PKiKP 18 15 43.3 -1.4
comp=Z,0.6nm,0.6s,baz=233,slow=0.9,SNR=7.1
MKAR Makanchi Array 111.05 314 *i* PKiKP PKiKP 18 15 43.3 -1.4
MKAR pmax pmax
comp=Z,1.0nm,0.6s
BVAR Borovoye Array 118.79 320 PKP PKPdf 18 15 58.0 -1.5
comp=Z,2.7nm,0.9s,baz=90,slow=1.5,SNR=13
BVAR Borovoye Array 118.79 320 PKiKP PKPdf 18 15 58.0 -1.5
BVAR pmax pmax
comp=Z,3.0nm,0.9s
ZRNK Zerenda 119.63 320 *e*PKiKP PKPdf 18 15 59.3 -1.8
ARU Arti 124.80 326 *i* PKiKP PKPdf 18 16 09.4 -1.6
ARU *e* 18 18 00.4
ARCES ARCESS Array B 128.07 350 PKP PKPdf 18 16 16.2 -1.1
comp=Z,13nm,1.2s,baz=7.6,slow=3.7,SNR=11
ARCES ARCESS Array B 128.07 350 PKiKP PKPdf 18 16 16.2 -1.1
ARCES pmax pmax
comp=Z,13nm,1.2s
ARCES ARCESS Array B 128.07 350 PKP PKPdf 18 16 16.2 -1.1
JOF Joensuu 132.40 343 *ep* PKPdf 18 16 24.1 -1.4
KAF Kangasniemi 134.39 345 *ep* PKPdf 18 16 25.1 -4.1
FINES FINESS Array B 135.02 344 PKP PKPdf 18 16 27.4 -3.0
comp=Z,1.7nm,0.8s,baz=114,slow=4.6,SNR=3.9
FINES FINESS Array B 135.02 344 PKiKP PKPdf 18 16 27.4 -3.0
FINES pmax pmax
comp=Z,2.0nm,0.8s
SOC Sochi 140.89 316 *d* iPKiKP PKPdf 18 16 43.9 +2.7
SOC *e* 18 18 21.4
SOC *e* 18 19 43.6
SOC *e* 18 23 11.7
SOC *e* 18 32 09.9
SOC *e*SS SS 18 38 14.1 +32
SOC *e*SSS 18 43 01.7
SOC pmax pmax
comp=Z,24nm,1.3s
AKASG Malin Array Be 142.49 332 PKhKP 18 16 38.5
comp=Z,3.5nm,0.6s,baz=42,slow=4.0,SNR=22
AKASG Malin Array Be 142.49 332 *i* PKHKP 18 16 38.6
AKASG pmax pmax
comp=Z,4.0nm,0.6s
SIM Simferopol' 143.69 321 *de*PKiKP PKPdf 18 16 44.7 -1.4
SIM pmax pmax
comp=Z,22nm,0.9s
MALT Malatya 143.90 309 *e*PKiKP PKPdf 18 16 45.1 -1.4
BSEG Bad Segeberg 145.14 352 *e*PKPbc PKPbc 18 16 47.7 -1.4
LVV L'vov 145.32 336 *e*PKiKP PKPdf 18 16 47.2 -1.7
LVV *e*PPP 18 23 12.4
LVV *e* 18 23 37.4
LVV MLR MLR
comp=N,70nm,22.0s
LVV MLR MLR
comp=E,40nm,22.0s
LVV MLR MLR
comp=Z,420nm,22.0s
OJC Ojcow 146.49 340 *e*PKP PKPdf 18 16 52.1 +1.2
STHS Stebnicka Huta 146.68 338 *e*PKP PKPdf 18 16 53.5 +2.3
STHS *e* 18 16 56.1
STHS *e* 18 18 21.4
STHS *e* 18 23 29.0
STHS *es*P 18 23 46.3
STHS Stebnicka Huta 146.68 338 *e*PKP PKPdf 18 16 53.5 +2.3
STHS *e* 18 16 56.1
STHS *e* 18 18 21.4
STHS *e* 18 23 29.1
STHS *e* 18 23 46.3
BR131 Keskin Array S 146.70 314 *e*PKPbc PKPbc 18 16 53.2 -0.4
BRTR Keskin Array B 146.70 314 PKPbc PKPbc 18 16 53.1 -0.5
comp=Z,5.1nm,0.7s,baz=125,slow=3.0,SNR=30
BRTR Keskin Array B 146.70 314 PKP2 PKPbc 18 16 53.1 -0.5
BRTR pmax pmax
comp=Z,5.0nm,0.7s
KOLS Kolonicke sedl 146.71 336 *e*PKP PKPdf 18 16 54.1 +2.8
KOLS *e* 18 17 04.5
KSP Ksiaz 146.94 344 *e*PKP2 PKPbc 18 16 53.8 -0.5
NIE Niedzica 147.01 339 *e*PKP PKPbc 18 16 54.5 +0.1
IBBN Ibbenburen 147.03 354 *e*PKPbc PKPbc 18 16 53.2 -1.3
CRVS Cervenica-Dubn 147.04 337 *e*PKP2 PKPab 18 16 56.1 -1.0
CLZ Clausthal 147.18 351 *e*PKPbc PKPbc 18 16 54.0 -0.9
CLL Collm 147.25 348 *e*PKPbc PKPbc 18 16 53.8 -1.3
CLL Collm 147.25 348 ⇑*i*PKPbc PKPbc 18 16 54.2 -0.9
comp=Z,25nm,1.0s
CLL *e*PKPab PKPab 18 16 56.0 -2.0
CLL *ep*PKPbc pPKPbc 18 18 22.0 -4.6
CLL Collm 147.25 348 ⇑*i*PKP2 PKPbc 18 16 54.2 -0.9
CLL pmax pmax
comp=Z,25nm,1.0s
UPC Upice 147.32 344 ⇑*e*PKPB 18 16 54.8
UPC *ep*PKP pPKPdf 18 18 24.8 -0.4
OKC Ostrava-Krasne 147.34 341 ⇑*e*PKPB 18 16 55.2
DPC Dobruska-Polom 147.39 344 ⇑*e*PKPB 18 16 55.2
DPC *e*PKPAB PKPab 18 16 58.3 -0.2
DPC *ep*PKP pPKPdf 18 18 22.9 -2.4
BRG Berggiesshubel 147.47 347 *e*PKPbc PKPbc 18 16 54.6 -1.1
BRG Berggiesshubel 147.47 347 *e*PKP PKPdf 18 16 55.0 +2.4
comp=Z,6.7nm,0.9s
BRG Berggiesshubel 147.47 347 *e*PKP2 PKPbc 18 16 55.0 -0.7
BRG pmax pmax
comp=Z,7.0nm,0.9s
GTTG Gyttingen 147.52 352 *e*PKPbc PKPbc 18 16 54.6 -1.2
KECS Kecovo 147.74 338 *e*PKP PKPdf 18 16 56.1 +3.1
KECS *e* 18 17 00.0
KECS Kecovo 147.74 338 *e*PKP PKPdf 18 16 56.1 +3.1
KECS *e* 18 17 00.0
BUG Bochum--Univer 147.93 355 *e*PKPbc PKPbc 18 16 55.6 -1.3
MOX Moxa 148.14 349 *e*PKPbc PKPbc 18 16 56.3 -1.1
MOX Moxa 148.14 349 *e*P PKPbc 18 16 56.5 -0.9
comp=Z,7.0nm,1.1s
MOX Moxa 148.14 349 *e*PKP2 PKPbc 18 16 56.5 -0.9
MOX pmax pmax
comp=Z,7.0nm,1.1s
PRU Pruhonice 148.16 346 ⇑*e*PKPB PKPbc 18 16 56.9 -0.6
PRU *e*PKPAB PKPab 18 17 00.9 -0.8
PRU *ep*PKP pPKPdf 18 18 28.4 +1.8
WERD Werda 148.20 348 *e*PKPbc PKPbc 18 16 56.6 -1.0
WERD *ep*PKPbc pPKPbc 18 18 28.6 -0.7
NKC Novy Kostel 148.38 348 ⇑*e*PKPB PKPbc 18 16 57.4 -0.6
MANZ Manzenberg 148.68 348 *e*PKPbc PKPbc 18 16 58.1 -0.7
ROTZ Rotzenmuhle 148.87 348 *e*PKPbc PKPbc 18 16 58.5 -0.8
ROTZ *ep*PKPbc pPKPbc 18 18 30.1 -1.0
TNS Taunus Mts 149.01 353 *e*PKPbc PKPbc 18 16 58.7 -0.9
ZST Bratislava 149.11 341 *e*PKP PKPbc 18 16 59.8 0.0
GRA1 Grafenberg Arr 149.13 349 *e*PKPbc PKPbc 18 16 59.5 -0.4
GRF Grafenberg Arr 149.13 349 *e*PKPbc PKPbc 18 16 59.5 -0.4
KHC Kasperske Hory 149.19 346 ⇑*e*PKPB 18 16 59.7
KHC *e*PKPAB PKPab 18 17 05.5 -0.4
KHC *ep*PKP pPKPdf 18 18 30.7 +2.5
WET Wettzell 149.33 347 *e*PKPbc PKPbc 18 16 59.5 -0.9
WET *ep*PKPbc pPKPbc 18 18 31.3 -1.0
GIVF Givet 149.42 357 *e*PKP1 PKPbc 18 16 59.8 -0.8
GEC2 GERESS Array S 149.43 346 *e*PKPbc PKPbc 18 16 59.6 -1.0
GERES GERESS Array B 149.43 346 PKPbc PKPbc 18 17 00.1 -0.5
comp=Z,7.1nm,0.9s,baz=42,slow=2.2,SNR=43
GERES GERESS Array B 149.43 346 PKP2 PKPbc 18 17 00.1 -0.5
GERES pmax pmax
comp=Z,7.0nm,0.9s
DOU Dourbes 149.44 358 PKPbc PKPbc 18 16 59.9 -0.8
DOU PKPab PKPab 18 17 05.6 -1.3
BAIF Baives 149.49 358 *e*PKP1 PKPbc 18 17 00.1 -0.6
comp=Z,16nm,0.9s
WLF Walferdange 149.78 356 *e*PKPbc PKPbc 18 17 00.9 -0.6
WLF Walferdange 149.78 356 PKPbc PKPbc 18 17 01.7 +0.2
MOA Molln 150.22 344 ⇑*iP* PKPbc 18 17 01.8 -0.7
comp=Z,5.0nm,0.8s
FLN La Foliniere 150.69 4 *e*PKP1 PKPbc 18 17 02.5 -1.1
comp=Z,25nm,0.7s
ROSF Rostrenen 150.81 8 *e*PKP1 PKPbc 18 17 02.5 -1.4
LDF La Druitiere 150.88 4 *e*PKP1 PKPbc 18 17 02.8 -1.2
comp=Z,7.2nm,0.5s
BFO Black Forest 150.89 352 *e*PKPdf PKPdf 18 16 58.0 0.0
BFO *e*PKPbc PKPbc 18 17 02.8 -1.3
BFO *ep*PKPbc pPKPbc 18 18 35.5 -0.7
BFO Black Forest 150.89 352 *e*PKPdf PKPdf 18 16 58.0 0.0
BFO *e*PKPbc PKPbc 18 17 02.3 -1.7
BFO *e*PKPbc PKPbc 18 17 02.8 -1.3
BFO *ep*PKPbc pPKPbc 18 18 35.5 -0.7
CDF Champ du Feu 150.93 354 *e*PKP1 PKPbc 18 17 03.4 -0.7
comp=Z,21nm,0.9s
SGMF Saint Gilles 150.99 7 *e*PKP1 PKPbc 18 17 03.1 -1.2
comp=Z,36nm,1.1s
MEZF Maizieres J'vi 151.01 357 *e*PKP1 PKPbc 18 17 03.8 -0.5
comp=Z,23nm,0.7s
GRR Gorron 151.03 5 *e*PKP1 PKPbc 18 17 03.4 -1.0
comp=Z,17nm,0.7s
PERS Pernice 151.10 342 *i* PKPdf PKPbc 18 17 03.2 -1.4
KBA Koelnbreinsper 151.17 345 ⇑*iP* PKPbc 18 17 03.3 -1.4
comp=Z,9.0nm,0.8s
QUIF Quistinic 151.24 8 *e*PKP1 PKPbc 18 17 03.7 -1.2
WTTA Wattenberg 151.38 347 ⇑*iP* PKPbc 18 17 04.6 -0.6
comp=Z,15nm,0.6s
MOTA Moosalm 151.41 348 ⇑*iP* PKPbc 18 17 04.4 -0.8
comp=Z,7.4nm,1.0s
HAU Haudompre 151.42 355 *e*PKP1 PKPbc 18 17 05.4 +0.1
comp=Z,15nm,0.7s
SQTA Sankt Quirin 151.50 348 ⇓*iP* PKPbc 18 17 04.8 -0.6
comp=Z,6.7nm,0.9s
HINF Hinteralfeld 151.56 354 *e*PKP1 PKPbc 18 17 04.5 -1.1
comp=Z,11nm,0.7s
DAVA Damuels 151.68 350 ⇑*iP* PKPbc 18 17 06.0 +0.2
comp=Z,13nm,1.0s
LJU Ljubljana 151.81 343 *e*PKPdf PKPbc 18 17 05.3 -0.9
BOJS Bojanci 152.09 341 *e*PKPdf PKPbc 18 17 06.2 -0.6
BOJS *e* 18 18 38.5
LOR Lormes 152.29 358 *e*PKP1 PKPbc 18 17 06.4 -0.8
comp=Z,14nm,0.7s
SSF Saint Saulge 152.50 359 *e*PKP1 PKPbc 18 17 06.9 -0.8
comp=Z,24nm,1.1s
AVF Avril sur Loir 152.77 359 *e*PKP1 PKPbc 18 17 07.1 -1.2
comp=Z,3.2nm,0.7s
CABF La Chapelle 152.82 355 *e*PKP1 PKPbc 18 17 08.2 -0.2
comp=Z,25nm,1.2s
MFF Saint Martin d 152.86 4 *e*PKP1 PKPbc 18 17 07.4 -1.1
comp=Z,11nm,0.7s
BGF Bois d'Agland 153.01 360 *e*PKP1 PKPbc 18 17 07.9 -0.9
comp=Z,9.6nm,0.6s
TCF Toulx Ste Croi 153.28 1 *e*PKP1 PKPbc 18 17 08.4 -1.0
comp=Z,9.6nm,0.8s
LPL La Plagne 153.85 354 *e*PKP1 PKPbc 18 17 10.6 0.0
comp=Z,3.3nm,0.8s

LPG	**La Plagne**	**153.86**	**354**	*e*PKP1	PKPbc	18 17 10.8	+0.2		
	comp=Z,4.0nm,0.8s								
RJF	**Les Rejaudoux**	**154.24**	**2**	*e*PKP1	PKPbc	18 17 10.5	-0.9		
ORIF	**Oris-en-Rattie**	**154.52**	**355**	*e*PKP1	PKPbc	18 17 11.5	-0.5		
	comp=Z,9.2nm,0.9s								
MBDF	**Montbardon**	**154.62**	**353**	*e*PKP1	PKPbc	18 17 11.8	-0.4		
CAF	**Calviac**	**154.64**	**1**	*e*PKP1	PKPbc	18 17 11.6	-0.6		
VIVF	**Saint-Julien-l**	**154.66**	**357**	*e*PKP1	PKPbc	18 17 11.8	-0.5		
	comp=Z,5.7nm,0.8s								
ESDC	**Sonseca Array**	**159.07**	**15**	PKPab	PKPab	18 17 47.3	-0.7		
	comp=Z,1.2nm,0.8s,baz=349,slow=4.5,SNR=6.9								
TORD	**Torodi Ar. Bea**	**173.60**	**170**	PKP	PKPdf	18 17 19.5	-0.7		
	comp=Z,1.2nm,0.9s,baz=352,slow=0.9,SNR=6.4								
TORD				PKPab	PKPab	18 18 52.5	+0.4		
	comp=Z,2.3nm,0.9s,baz=198,slow=4.6,SNR=9.0								

MOS ***12*** *18:12:15.9±0.8,21.19S×3336E,h10km,mb4.8/48,Error ellipse: s-maj=13.5km s-min=6.2km az=99.6*

IDC ***12*** *18:12:16.0±0.5,2124S×3345E,h0km,mb4.4/19, mb1 4.6/23,mb1mx4.6/26,mbtmp4.5/23,ML5.1/4,MS4.1/13, Ms1 4.1/13,ms1mx4.0/18,Error ellipse: s-maj=17.9km s-min=13.6km az=86.0*

ISCJB ***12*** *18:12:16.9±0.2,2130S×003×3322E×004,h19km, mb4.7/79,MS4.2/19,Error ellipse: s-maj=6.1km s-min=3.8km az=54.6*

PRE ***12*** *18:12:16.1±1.6,2095S×3265E,h5km,ML5.8*

HRVD ***12*** *18:12:18.9±0.4,2125S×3338E,h29km×1km,MW4.9/52, Centroid moment Tensor Solution. LP body waves: s24,c27;Mantle waves: s52,c71; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=3.03±.22; Mθθ0.65±.15; Mθφ2.37±.17; Mrθ-0.29±.22; Mφφ-1.28±.10; Mφr-0.57±.23; Best double couple: M○3.10900×10¹⁶ NP1:φs142.00000°,δ42.00000°,λ-104.00000°. NP2: φs342.00000°,δ49.00000°,λ-77.00000°. Principal axes: T 3.0750, Plg4.0000°, Azm63.0000°; N 0.0600, Plg10.0000°, Azm153.0000°; P -3.1420, Plg80.0000°, Azm313.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***12*** *18:12:18.9±0.2,2129S×3345E,mb4.8/38 Error ellipse: s-maj=6.8km s-min=5.2km az=92.0*

BJI ***12*** *18:12:18.9,2130S×3340E,h20km,mB5.6,mb5.0,Ms5.0, Msz4.5*

SZGRF ***12*** *18:12:22.5,21.13S×3278E,h33km,mb4.7,Mozambique*

ISC 12 18:12:18.9**±0.2,**2131S**×003×**3326E**×004,**h20**km, **h20**km±1.1km;**pP-P,n237**,σ1§**03**/222,**mb4.7**/79,**MS4.2**/19, **5C-2D**,**Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MATP	**Matopo**	**4.54**	**280**	Pn		**Pn**	**18 13 27.6**	**+1.1**
	49nm,0.3s,baz=98,slow=14,SNR=356							
MATP				Sn		**Sn**	**18 14 17.3**	**-1.4**
	161nm,0.3s,baz=166,slow=9.6,SNR=8.0							
MATP				Lg			18 14 38.2	
	680nm,0.3s,baz=11,slow=16,SNR=34							
MATP				LR		LR	18 15 33.0	
	comp=Z,2μm,19.2s,baz=100,slow=42							
MATP	**Matopo**	**4.54**	**280**	Pn		**Pn**	**18 13 27.6**	**+1.1**
MATP				Sn		**Sn**	**18 14 17.3**	**-1.4**
MATP				Lg			18 14 38.2	
MATP				LR		LR	18 15 33.0	
BFT	**Belfast (SA)**	**5.26**	**214**	*e*P		**Pn**	**18 13 36.1**	**-0.3**
BFT				*e*S		**Sn**	**18 14 34.8**	**-1.7**
BFT				AML		AML	18 15 04.1	
	comp=Z,2μm,0.5s							
POGA	**Pongola**	**6.22**	**194**	*e*P		**Pn**	**18 13 51.8**	**+2.3**
POGA				*e*S		**Sn**	**18 15 03.1**	**+3.1**
POGA				AML		AML	18 15 34.9	
	comp=Z,712nm,0.5s							
SLR	**Silverton**	**6.35**	**225**	*e*P		**Pn**	**18 13 50.5**	**-0.9**
SLR				*e*S		**Sn**	**18 14 58.1**	**-5.1**
SLR				AML		AML	18 15 45.7	
	comp=Z,2μm,0.5s							
LSZ	**Lusaka**	**7.70**	**320**	Pn		**Pn**	**18 14 08.5**	**-1.4**
	comp=Z,130nm,0.3s,baz=144,slow=14,SNR=262							
LSZ				Sn		**Sn**	**18 15 32.4**	**-4.1**
	comp=Z,45nm,0.3s,baz=102,slow=18,SNR=11							
LSZ				Lg			18 16 14.6	
	comp=Z,71nm,0.3s,baz=57,slow=22,SNR=14							
LSZ				LR		LR	18 17 27.5	
	comp=Z,1μm,18.7s,baz=166,slow=40							
LSZ	**Lusaka**	**7.70**	**320**	P		**Pn**	**18 14 08.5**	**-1.4**
LSZ							18 15 32.4	
LSZ				pmax	pmax			
	comp=Z,130nm,0.3s							
LSZ				smax				
	comp=N,45nm,0.3s							
LSZ				MLR	MLR			
	comp=Z,1μm,18.7s							
LSZ	**Lusaka**	**7.70**	**320**	*e*Pn		**Pn**	**18 14 08.0**	**-1.8**
LSZ				*e*Sn		**Sn**	**18 15 32.8**	**-3.7**
LBTB	**Lobatse**	**7.96**	**241**	*e*P		**Pn**	**18 14 10.3**	**-3.1**
LBTB				*e*S		**Sn**	**18 15 31.4**	**-11**
LBTB				AML		AML	18 15 45.4	
	comp=Z,337nm,0.5s							
LBTB	**Lobatse**	**7.96**	**241**	Pn		**Pn**	**18 14 14.3**	**+0.8**
	comp=Z,28nm,0.3s,baz=66,slow=13,SNR=184							
LBTB				Sn		**Sn**	**18 15 42.6**	**-0.3**
	comp=Z,98nm,0.3s,baz=343,slow=23,SNR=9.2							
LBTB				Lg			18 16 22.7	
	comp=Z,85nm,0.3s,baz=346,slow=22,SNR=12							
LBTB				LR		LR	18 17 37.1	
	comp=Z,1μm,21.4s,baz=76,slow=39							
LBTB	**Lobatse**	**7.96**	**241**	P		**Pn**	**18 14 14.3**	**+0.9**
LBTB							18 15 42.6	
LBTB				pmax	pmax			
	comp=Z,28nm,0.3s							
LBTB				smax				
	comp=N,98nm,0.3s							
LBTB				MLR	MLR			
	comp=Z,1μm,21.4s							
LBTB	**Lobatse**	**7.96**	**241**	*e*Pn		**Pn**	**18 14 14.2**	**+0.8**
	comp=Z,0.1nm,1.0s							
LBTB				*e*Sn		**Sn**	**18 15 34.3**	**-8.6**
SWZ	**Schweizer**	**9.30**	**230**	*e*P		**Pn**	**18 14 30.5**	**-1.4**
SWZ				*e*S		**Sn**	**18 16 06.5**	**-9.4**
SWZ				AML		AML	18 16 18.0	
	comp=Z,234nm,0.4s							
PKA	**Prieska**	**12.62**	**227**	*e*P		**Pn**	**18 15 16.2**	**-1.0**
PKA				*e*S		**Sn**	**18 17 26.4**	**-11**
PKA				AML		AML	18 17 30.2	
	comp=Z,89nm,0.3s							
GRM	**Grahamstown**	**13.37**	**205**	*e*P		**Pn**	**18 15 29.5**	**+1.9**
GRM				*e*S		**Sn**	**18 17 51.5**	**-4.1**
OPO	**Ambohidratompo**	**13.38**	**81**	Pn		**Pn**	**18 15 24.1**	**-3.5**
	comp=Z,4.6nm,0.3s,baz=255,slow=14,SNR=35							
OPO				Sn		**Sn**	**18 17 43.1**	**-13**
	comp=Z,16nm,0.3s,baz=155,slow=20,SNR=9.6							
TSUM	**Tsumeb**	**14.86**	**275**	Pn		**Pn**	**18 15 45.7**	**-2.2**
	comp=Z,3.3nm,0.3s,baz=106,slow=11,SNR=79							
TSUM				Sn		**Sn**	**18 18 23.3**	**-8.7**
	comp=Z,4.0nm,0.3s,baz=48,slow=19,SNR=6.1							
TSUM				Lg			18 19 59.9	
	comp=Z,8.2nm,0.3s,baz=7.7,slow=20,SNR=3.5							
TSUM				LR		LR	18 21 35.3	
	comp=Z,1μm,18.4s,baz=91,slow=37							
TSUM	**Tsumeb**	**14.86**	**275**	*e*Pn		**Pn**	**18 15 44.7**	**-3.2**
	comp=Z,31nm,0.5s							
TSUM				*e*Sn		**Sn**	**18 18 13.4**	**-19**
SUR	**Sutherland**	**15.64**	**223**	*e*P		**Pn**	**18 15 57.9**	**-0.2**
SUR				*e*S		**Sn**	**18 18 41.3**	**-10**
SUR	**Sutherland**	**15.64**	**223**	Pn		**Pn**	**18 15 58.1**	**0.0**
	comp=Z,6.1nm,0.3s,baz=48,slow=14,SNR=56							
SUR				Sn		**Sn**	**18 18 42.2**	**-8.6**
	comp=Z,9.9nm,0.3s,baz=102,slow=18,SNR=8.0							
SUR				Lg			18 20 24.5	
	comp=Z,3.5nm,0.3s,baz=309,slow=22,SNR=7.9							
SUR	**Sutherland**	**15.64**	**223**	*e*Pn		**Pn**	**18 15 57.1**	**-1.0**
SUR				*e*Sn		**Sn**	**18 18 38.6**	**-12**
CVNA	**Calvinia**	**15.76**	**227**	*e*P		**Pn**	**18 15 58.9**	**-0.8**
CVNA				*e*S		**Sn**	**18 18 43.0**	**-11**
CVNA				AML		AML	18 20 36.1	
	comp=Z,383nm,0.7s							
CER	**Ceres**	**17.24**	**223**	*e*P		**Pn**	**18 16 19.9**	**+1.4**
CER				*e*S		**Sn**	**18 19 19.1**	**-11**
KMBO	**Kilima Mbogo**	**20.43**	**11**	P		**P**	**18 16 55.2**	**+0.3**
	comp=Z,5.0nm,0.7s,baz=200,slow=14,SNR=7.6							
KMBO				Lg			18 22 48.5	
	comp=Z,63nm,1.1s,baz=62,slow=24,SNR=11							
KMBO				LR		LR	18 24 22.6	
	comp=Z,323nm,19.9s,MS3.7,baz=91,slow=36							

TORD	**Torodi Ar. Bea**	**46.19**	**315**	P		**P**	**18 20 42.8**	**+0.5**	
	comp=Z,13nm,1.1s,mb4.8,baz=123,slow=6.6,SNR=37								
MAW	**Mawson**	**49.88**	**166**	P		**P**	**18 21 11.1**	**+0.2**	
	comp=Z,8.3nm,0.8s,mb4.8,baz=305,slow=9.1,SNR=8.9								
MAW				LR		LR	18 37 46.0		
	comp=Z,163nm,21.8s,MS4.0,baz=57,slow=31								
MAW	**Mawson**	**49.88**	**166**	P		**P**	**18 21 11.1**	**+0.2**	
MAW				pmax	pmax				
	comp=Z,8.0nm,0.9s								
MAW				MLR	MLR				
	comp=Z,163nm,21.8s								
MAW	**Mawson**	**49.88**	**166**	*e*P		**P**	**18 21 10.6**	**-0.3**	
	comp=Z,17nm,0.8s,mb5.1								
SNAA	**Sanae**	**54.47**	**193**	P		**P**	**18 21 46.0**	**+1.0**	
	comp=Z,3.5nm,1.1s,mb4.2,baz=43,slow=6.8,SNR=17								
SNAA	**Sanae**	**54.47**	**193**	*e*P		**P**	**18 21 45.4**	**+0.4**	
SNAA				*e*			18 21 46.7		
SNAA				*e*			18 21 48.1		
SNAA				*e*		pP	18 21 49.6	-1.8	
VNA2	**Neumayer--Watz**	**54.98**	**195**	*e*P		**P**	**18 21 49.1**	**+0.4**	
VNA2				*e*			18 21 50.6		
VNA2				*e*			18 21 52.3		
VNA2				*e*		pP	18 21 54.1	-1.0	
VNA2				*e*		pP	18 21 55.6	+0.5	
VNA2				*e*			18 22 38.3		
VNA2				*e*			18 22 41.2		
VNA2				*e*			18 22 44.7		
VNA2				*e*			18 22 50.8		
VNA2				*e*			18 22 52.2		
VNA1	**Neumayer--Stat**	**55.02**	**196**	*e*P		**P**	**18 21 50.2**	**+1.2**	
VNA1				*e*			18 21 51.5		
VNA1				*e*			18 21 52.7		
VNA1				*e*		pP	18 21 54.3	-1.0	
VNA1				*e*		pP	18 21 56.7	+1.4	
VNA3	**Neumayer Olymp**	**55.76**	**195**	*e*P		**P**	**18 21 54.4**	**+0.1**	
VNA3				*e*			18 21 56.0		
VNA3				*e*			18 21 56.8		
VNA3				*e*		pP	18 21 58.3	-2.4	
VNA3				*e*		pP	18 22 00.6	-0.1	
VNA3				*e*			18 22 42.2		
VNA3				*e*			18 22 51.3		
VNA3				*e*			18 22 53.8		
VNA3	**Neumayer Olymp**	**55.76**	**195**	*e*P		**P**	**18 21 54.4**	**+0.1**	
VNA3				*e*			18 21 56.0		
VNA3				*e*			18 21 56.8		
VNA3				*e*		pP	18 21 58.3	-2.4	
VNA3				*e*		pP	18 22 00.6	-0.1	
VNA3				*e*			18 22 42.2		
VNA3				*e*			18 22 51.3		
VNA3				*e*			18 22 53.8		
HYB	**Hyderabad**	**58.75**	**53**	*i* P		**P**	**18 22 14.5**	**-0.9**	
BRTR	**Keskin Array B**	**60.72**	**0**	P		**P**	**18 22 29.8**	**+0.8**	
	comp=Z,1.9nm,1.0s,mb4.2,baz=178,slow=9.9,SNR=12								
BRTR	**Keskin Array B**	**60.72**	**0**	P		**P**	**18 22 29.8**	**+0.8**	
BRTR				pmax	pmax				
	comp=Z,2.0nm,1.0s								
KIV	**Kislovodsk**	**65.52**	**7**	*ce*P		**P**	**18 23 01.3**	**+0.5**	
KIV				*e*		pP	18 23 07.5	+0.2	
KIV				pmax	pmax				
	comp=Z,19nm,1.2s,mb5.0								
KIV				MLR	MLR				
	comp=Z,100nm,19.0s,MS4.0								
KIV	**Kislovodsk**	**65.52**	**7**	*e*P		**P**	**18 23 01.5**	**+0.7**	
	comp=Z,14nm,1.3s,mb4.8								
QSPA	**South Pole Qui**	**68.85**	**180**	*e*P		**P**	**18 23 22.3**	**+0.3**	
	comp=Z,10.0nm,1.0s,mb4.7								
LMR	**La Mourre**	**68.87**	**339**	*e*P		**P**	**18 23 22.2**	**+0.1**	
KOLN	**Koldanda**	**68.90**	**47**	*e*P		**P**	**18 23 20.7**	**-1.6**	
	comp=Z,40nm,1.2s,mb5.2								
FRF	**La Foret Royal**	**69.03**	**340**	*e*P		**P**	**18 23 23.1**	**0.0**	
	comp=Z,8.2nm,0.9s,mb4.3								
FRF	**La Foret Royal**	**69.03**	**340**	*e*P		**P**	**18 23 23.1**	**0.0**	
FRF				pmax	pmax				
	comp=Z,4.0nm,0.9s,mb4.3								
FRF	**La Foret Royal**	**69.03**	**340**	*e*P		**P**	**18 23 23.1**	**0.0**	
	comp=Z,4.1nm,0.9s,mb4.4								
SBF	**Sospel**	**69.05**	**340**	*e*P		**P**	**18 23 23.5**	**+0.3**	
	comp=Z,26nm,1.0s,mb4.8								
SBF	**Sospel**	**69.05**	**340**	*e*P		**P**	**18 23 23.5**	**+0.3**	
SBF				pmax	pmax				
	comp=Z,13nm,1.0s,mb4.8								
SBF	**Sospel**	**69.05**	**340**	*e*P		**P**	**18 23 23.5**	**+0.3**	
	comp=Z,13nm,1.0s,mb4.8								
OBKA	**Obir**	**69.59**	**346**	⇑*i*P		**P**	**18 23 28.4**	**+1.8**	
	comp=Z,6.3nm,0.9s,mb4.5								
SMRF	**Simiane la Rot**	**69.75**	**339**	*e*P		**P**	**18 23 28.8**	**+1.2**	
	comp=Z,22nm,1.2s,mb4.7								
SMRF	**Simiane la Rot**	**69.75**	**339**	*e*P		**P**	**18 23 28.8**	**+1.2**	
	comp=Z,22nm,1.2s,mb5.0								
GKN	**Gorkha**	**69.76**	**47**	*e*P		**P**	**18 23 25.0**	**-2.6**	
	comp=Z,33nm,0.9s,mb5.3								
DMN	**Daman**	**69.84**	**48**	*e*P		**P**	**18 23 26.5**	**-1.6**	
	comp=Z,33nm,1.1s,mb5.2								
ESDC	**Sonseca Array**	**69.92**	**330**	P		**P**	**18 23 30.1**	**+1.5**	
	comp=Z,4.8nm,0.8s,mb4.5,baz=145,slow=5.7,SNR=15								
ESLA	**Sonseca Array**	**69.92**	**330**	*e*P		**P**	**18 23 29.9**	**+1.3**	
	comp=Z,2.8nm,1.2s,mb4.1								
PKI	**Pulchoki**	**70.03**	**48**	*e*P		**P**	**18 23 27.9**	**-1.3**	
	comp=Z,41nm,1.2s,mb5.2								
MBDF	**Montbardon**	**70.03**	**340**	*e*P		**P**	**18 23 28.9**	**-0.4**	
	comp=Z,15nm,1.1s,mb4.5								
MBDF	**Montbardon**	**70.03**	**340**	*e*P		**P**	**18 23 28.9**	**-0.4**	
MBDF				pmax	pmax				
	comp=Z,7.0nm,1.1s,mb4.5								
MBDF	**Montbardon**	**70.03**	**340**	*e*P		**P**	**18 23 28.9**	**-0.4**	
	comp=Z,7.4nm,1.1s,mb4.5								
KKN	**Kakani**	**70.07**	**48**	*e*P		**P**	**18 23 28.3**	**-1.2**	
	comp=Z,27nm,1.0s,mb5.1								
MTLF	**Montolieu**	**70.38**	**336**	*e*P		**P**	**18 23 31.4**	**0.0**	
	comp=Z,30nm,1.5s,mb4.7								
MTLF	**Montolieu**	**70.38**	**336**	*e*P		**P**	**18 23 31.4**	**0.0**	
MTLF				pmax	pmax				
	comp=Z,15nm,1.5s,mb4.7								
MTLF	**Montolieu**	**70.38**	**336**	*e*P		**P**	**18 23 31.4**	**0.0**	
	comp=Z,15nm,1.5s,mb4.7								
KBA	**Koelnbreinsper**	**70.40**	**346**	⇑*i*P		**P**	**18 23 33.1**	**+1.5**	
	comp=Z,6.7nm,0.9s,mb4.6								
KBA	**Koelnbreinsper**	**70.40**	**346**	⇑*i*P		**P**	**18 23 33.1**	**+1.5**	
KBA				pmax	pmax				
	comp=Z,7.0nm,0.9s,mb4.6								
KECS	**Kecovo**	**70.41**	**351**	*e*P		**P**	**18 23 33.6**	**+2.0**	
KECS				*e*pP		pP	18 23 38.4	+0.3	
LASF	**Ste Croix**	**70.43**	**338**	*e*P		**P**	**18 23 32.1**	**+0.4**	
	comp=Z,68nm,1.6s,mb5.0								
ORIF	**Oris-en-Rattie**	**70.49**	**340**	*e*P		**P**	**18 23 33.0**	**+0.9**	
ORIF				*e*R					
	comp=Z,161nm,18.5s								
GUN	**Gumba**	**70.56**	**48**	*e*P		**P**	**18 23 31.5**	**-1.0**	
	comp=Z,55nm,0.8s,mb5.5								
JIRN	**Jiri**	**70.62**	**49**	*e*P		**P**	**18 23 31.7**	**-1.2**	
	comp=Z,26nm,0.8s,mb5.2								
CRVS	**Cervenica-Dubn**	**70.68**	**352**	*e*P		**P**	**18 23 32.7**	**-0.6**	
LPG	**La Plagne**	**70.73**	**341**	*e*P		**P**	**18 23 33.7**	**+0.1**	
	comp=Z,20nm,1.4s,mb4.6								
LPG	**La Plagne**	**70.73**	**341**	*e*P		**P**	**18 23 33.7**	**+0.1**	
LPG				pmax	pmax				
	comp=Z,10.0nm,1.4s,mb4.5								
LPG	**La Plagne**	**70.73**	**341**	*e*P		**P**	**18 23 33.7**	**+0.1**	
	comp=Z,10nm,1.4s,mb4.6								
LPL	**La Plagne**	**70.75**	**341**	*e*P		**P**	**18 23 33.7**	**0.0**	
	comp=Z,14nm,1.1s,mb4.5								
LPL	**La Plagne**	**70.75**	**341**	*e*P		**P**	**18 23 33.7**	**0.0**	
LPL				pmax	pmax				
	comp=Z,7.0nm,1.1s,mb4.5								
LPL	**La Plagne**	**70.75**	**341**	*e*P		**P**	**18 23 33.7**	**0.0**	
	comp=Z,6.8nm,1.1s,mb4.5								
VIVF	**Saint-Julien-l**	**70.83**	**339**	*e*P		**P**	**18 23 34.7**	**+0.5**	
	comp=Z,17nm,1.3s,mb4.5								
VIVF	**Saint-Julien-l**	**70.83**	**339**	*e*P		**P**	**18 23 34.7**	**+0.5**	
VIVF				pmax	pmax				
	comp=Z,9.0nm,1.3s,mb4.5								
VIVF	**Saint-Julien-l**	**70.83**	**339**	*e*P		**P**	**18 23 34.7**	**+0.5**	
	comp=Z,8.7nm,1.3s,mb4.5								
EPF	**Esparros**	**70.84**	**335**	*e*P		**P**	**18 23 34.5**	**+0.3**	
MOA	**Molln**	**70.92**	**347**	⇑*i*P		**P**	**18 23 35.9**	**+1.2**	
	comp=Z,9.0nm,1.0s,mb4.7								
ETSF	**Etsaut**	**71.08**	**334**	*e*P		**P**	**18 23 36.0**	**+0.3**	
	comp=Z,9.5nm,0.8s,mb4.5								
ETSF	**Etsaut**	**71.08**	**334**	*e*P		**P**	**18 23 36.0**	**+0.3**	
ETSF				pmax	pmax				
	comp=Z,5.0nm,0.8s,mb4.5								
ETSF	**Etsaut**	**71.08**	**334**	*e*P		**P**	**18 23 36.0**	**+0.3**	
	comp=Z,4.8nm,0.8s,mb4.5								
SJPF	**Ste Jean**	**71.53**	**334**	*e*P		**P**	**18 23 38.6**	**+0.2**	
	comp=Z,10nm,0.9s,mb4.5								

SJPF	**Ste Jean**	**71.53**	**334**	*e*P		**P**	**18 23 38.6**	**+0.2**	
SJPF				pmax	pmax				
	comp=Z,5.0nm,0.9s,mb4.4								
SJPF	**Ste Jean**	**71.53**	**334**	*e*P		**P**	**18 23 38.6**	**+0.2**	
	comp=Z,5.3nm,0.9s,mb4.5								
AKASG	**Malin Array Be**	**71.78**	**357**	P		**P**	**18 23 39.3**	**-0.6**	
	comp=Z,0.7nm,0.4s,mb4.0,baz=180,slow=5.8,SNR=9.4								
AKASG	**Malin Array Be**	**71.78**	**357**	P		**P**	**18 23 39.3**	**-0.6**	
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.4s								
CAF	**Calviac**	**71.80**	**337**	*e*P		**P**	**18 23 40.4**	**+0.4**	
	comp=Z,13nm,1.1s,mb4.5								
CAF	**Calviac**	**71.80**	**337**	*e*P		**P**	**18 23 40.4**	**+0.4**	
CAF				pmax	pmax				
	comp=Z,7.0nm,1.1s,mb4.5								
CAF	**Calviac**	**71.80**	**337**	*e*P		**P**	**18 23 40.4**	**+0.4**	
	comp=Z,6.6nm,1.1s,mb4.5								
CABF	**La Chapelle**	**71.93**	**341**	*e*P		**P**	**18 23 41.0**	**+0.2**	
	comp=Z,40nm,1.4s,mb4.9								
CABF	**La Chapelle**	**71.93**	**341**	*e*P		**P**	**18 23 41.0**	**+0.2**	
CABF				pmax	pmax				
	comp=Z,20nm,1.4s,mb4.8								
CABF	**La Chapelle**	**71.93**	**341**	*e*P		**P**	**18 23 41.0**	**+0.2**	
	comp=Z,20nm,1.4s,mb4.9								
GEC2	**GERESS Array S**	**71.99**	**347**	*e*P		**P**	**18 23 41.1**	**-0.1**	
	comp=Z,6.0nm,1.1s,mb4.4								
GEC2	**GERESS Array S**	**71.99**	**347**	*e*P		**P**	**18 23 41.1**	**-0.1**	
GEC2				pmax	pmax				
	comp=Z,6.0nm,1.1s,mb4.4								
GERES	**GERESS Array B**	**71.99**	**347**	P		**P**	**18 23 41.7**	**+0.5**	
	comp=Z,1.7nm,0.7s,mb4.1,baz=157,slow=4.4,SNR=17								
GERES				LR		LR	18 59 11.8		
	comp=Z,87nm,18.6s,MS4.1,baz=27,slow=39								
GERES	**GERESS Array B**	**71.99**	**347**	P		**P**	**18 23 41.7**	**+0.5**	
GERES				pmax	pmax				
	comp=Z,2.0nm,0.7s								
GERES				MLR	MLR				
	comp=Z,87nm,18.6s								
LFF	**La Frestale**	**72.30**	**336**	*e*P		**P**	**18 23 43.3**	**+0.3**	
RJF	**Les Rejaudoux**	**72.32**	**337**	*e*P		**P**	**18 23 43.3**	**+0.1**	
RJF				*e*R					
	comp=Z,173nm,18.0s								
RJF	**Les Rejaudoux**	**72.32**	**337**	*e*P		**P**	**18 23 43.3**	**+0.1**	
RJF				LR	LR				
	comp=Z,170nm,18.0s,MS4.4								
WET	**Wettzell**	**72.45**	**346**	*e*P		**P**	**18 23 43.9**	**0.0**	
	comp=Z,4.0nm,1.0s,mb4.3								
WET	**Wettzell**	**72.45**	**346**	*e*P		**P**	**18 23 43.9**	**0.0**	
WET				pmax	pmax				
	comp=Z,4.0nm,1.0s,mb4.3								
SMF	**Signal de Mont**	**72.68**	**339**	*e*P		**P**	**18 23 45.0**	**-0.3**	
HINF	**Hinteralfeld**	**72.78**	**342**	*e*P		**P**	**18 23 45.5**	**-0.4**	
BFO	**Black Forest**	**72.83**	**343**	*e*P		**P**	**18 23 46.5**	**+0.3**	
	comp=Z,4.0nm,1.2s,mb4.2								
BFO	**Black Forest**	**72.83**	**343**	*e*P		**P**	**18 23 46.5**	**+0.3**	
BFO				pmax	pmax				
	comp=Z,4.0nm,1.2s,mb4.2								
TCF	**Toulx Ste Croi**	**72.92**	**338**	*e*P		**P**	**18 23 47.2**	**+0.5**	
	comp=Z,21nm,1.1s,mb4.7								
TCF	**Toulx Ste Croi**	**72.92**	**338**	*e*P		**P**	**18 23 47.2**	**+0.5**	
TCF				pmax	pmax				
	comp=Z,10.0nm,1.1s,mb4.7								
TCF	**Toulx Ste Croi**	**72.92**	**338**	*e*P		**P**	**18 23 47.2**	**+0.5**	
	comp=Z,10nm,1.1s,mb4.7								
AVF	**Avril sur Loir**	**72.97**	**339**	*e*P		**P**	**18 23 46.9**	**-0.1**	
	comp=Z,28nm,1.3s,mb4.7								
AVF	**Avril sur Loir**	**72.97**	**339**	*e*P		**P**	**18 23 46.9**	**-0.1**	
AVF				pmax	pmax				
	comp=Z,14nm,1.3s,mb4.7								
AVF	**Avril sur Loir**	**72.97**	**339**	*e*P		**P**	**18 23 46.9**	**-0.1**	
	comp=Z,14nm,1.3s,mb4.7								
SSF	**Saint Saulge**	**73.16**	**339**	*e*P		**P**	**18 23 47.6**	**-0.5**	
ROTZ	**Rotzenmuhle**	**73.19**	**346**	*e*P		**P**	**18 23 49.1**	**+0.8**	
	comp=Z,10.0nm,0.9s,mb4.8								
CDF	**Champ du Feu**	**73.20**	**342**	*e*P		**P**

comp=Z,25nm,1.6s,mb4.9
BDFB Brasilia 76.52 258 P **P** **18 24 09.8 +2.2**
comp=Z,14nm,0.8s,mb4.9,baz=86,slow=5.2,SNR=12
BDFB LR LR 18 56 35.7
comp=Z,371nm,18.0s,MS4.7,baz=353,slow=35
BDFB Brasilia 76.52 258 P **P** **18 24 09.8 +2.2**
BDFB pmax pmax
comp=Z,14nm,0.8s
BDFB MLR MLR
comp=Z,371nm,18.0s
VNDA Vanda 76.93 170 P **P** **18 24 11.0 +1.1**
comp=Z,4.4nm,0.7s,mb4.5,baz=262,slow=6.3,SNR=14
VNDA LR LR 18 56 53.9
comp=Z,166nm,19.1s,MS4.4,baz=215,slow=35
VNDA Vanda 76.93 170 *e*P **P** **18 24 10.9 +1.0**
VNDA *e**PP pP 18 24 17.3 +0.8
VNDA pmax pmax
comp=Z,4.0nm,0.7s
VNDA Vanda 76.93 170 P **P** **18 24 11.0 +1.1**
VNDA pmax pmax
comp=Z,4.0nm,0.7s
VNDA MLR MLR
comp=Z,166nm,19.1s
VNDA Vanda 76.93 170 *e*P **P** **18 24 10.9 +1.0**
comp=Z,4.1nm,0.7s,mb4.5
VNDA *e*pP pP 18 24 17.3 +0.8
BSEG Bad Segeberg 77.51 346 *e*P **P** **18 24 13.5 +0.4**
comp=Z,13nm,1.2s,mb4.7
BSEG Bad Segeberg 77.51 346 *e*P **P** **18 24 13.5 +0.4**
BSEG pmax pmax
comp=Z,13nm,1.2s,mb4.7
ZRNK Zerenda 80.19 21 *e*P **P** **18 24 26.5 -1.4**
ZRNK *e**PP pP 18 24 32.0 -2.5
ZRNK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
ZRNK Zerenda 80.19 21 *e*P **P** **18 24 26.5 -1.4**
comp=Z,5.4nm,1.0s,mb4.4
ZRNK *e*pP pP 18 24 32.0 -2.5
ARU Arti 80.33 14 ⇓*i*P **P** **18 24 27.7 -0.9**
ARU *e* 18 27 30.8
ARU *e*PPP 18 29 19.0
ARU *e*S S 18 34 32.2 -1.1
ARU *e*SS SS 18 39 47.5 +2.8
ARU *e*SSS 18 43 11.8
ARU pmax pmax
comp=Z,11nm,1.1s,mb4.7
ARU Arti 80.33 14 *e*P **P** **18 24 27.6 -1.0**
comp=Z,17nm,1.4s,mb4.8
BRVK Borovoye 80.72 22 P **P** **18 24 30.1 -0.6**
BVAR Borovoye Array 80.73 22 P **P** **18 24 29.8 -1.0**
comp=Z,4.4nm,0.8s,mb4.5,baz=216,slow=7.3,SNR=27
BVAR Borovoye Array 80.73 22 P **P** **18 24 29.8 -0.9**
BVAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR Makanchi Array 80.93 32 P **P** **18 24 30.4 -1.4**
comp=Z,1.9nm,0.8s,mb4.1,baz=242,slow=5.1,SNR=9.0
MKAR Makanchi Array 80.93 32 P **P** **18 24 30.5 -1.3**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
CPUP Villa Florida 81.33 245 LR LR 18 54 59.7
comp=Z,151nm,21.4s,MS4.3,baz=138,slow=31
KMI Kunming 81.73 59 P **P** **18 24 38.4 +2.3**
KMI AP pP 18 24 44.7 +2.0
KMI XP sP 18 24 47.5 +2.4
KMI AMB AMB
comp=Z,6.0nm,1.1s,mb4.4
KMI LR LR
comp=Z,61nm,15.5s,MS4.1
WMQ Urumqi 81.76 37 P **P** **18 24 37.0 +0.8**
WMQ AP pP 18 24 43.5 +0.6
WMQ XP sP 18 24 46.0 +0.8
WMQ PP PP 18 27 46.0 +2.7
WMQ AMB AMB
comp=Z,7.0nm,0.8s,mb4.6
WMQ LR LR
comp=N,289nm,24.6s
WMQ LR LR
comp=Z,94nm,25.6s,MS4.0
KURK Kurchatov 82.09 27 *e*P **P** **18 24 36.3 -1.7**
KURK *e**PP pP 18 24 43.4 -1.2
KURK pmax pmax
comp=Z,18nm,1.3s,mb4.8
KURK Kurchatov 82.09 27 *e*P **P** **18 24 36.2 -1.7**
comp=Z,18nm,1.3s,mb4.8
KURK *e*pP pP 18 24 43.4 -1.2
FINES FINESS Array B 82.67 357 P **P** **18 24 39.9 -1.1**
comp=Z,2.0nm,0.8s,mb4.2,baz=145,slow=7.0,SNR=8.7
FINES LR LR 19 05 09.7
comp=Z,35nm,19.8s,MS3.7,baz=176,slow=38
FINES FINESS Array B 82.67 357 P **P** **18 24 39.9 -1.1**
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES MLR MLR
comp=Z,35nm,19.8s
KAF Kangasniemi 83.32 357 *e*p **P** **18 24 42.6 -1.8**
NB2 NORSAR Subarra 83.97 349 P **P** **18 24 47.6 -0.1**
comp=Z,6.2nm,1.0s,mb4.7,baz=163,slow=4.6
NOA NORSAR Array B 83.97 349 P **P** **18 24 47.6 -0.1**
comp=Z,2.9nm,0.9s,mb4.4,baz=152,slow=4.7,SNR=5.1
NOA LR LR 19 05 47.7
comp=Z,42nm,18.1s,MS3.9,baz=185,slow=38
NOA NORSAR Array B 83.97 349 P **P** **18 24 47.6 -0.1**
NOA pmax pmax
comp=Z,3.0nm,0.9s
NOA MLR MLR
comp=Z,42nm,18.1s
CD2 Chengdu 85.24 54 *e*P **P** **18 24 54.1 0.0**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
GYA Guiyang 85.49 60 P **P** **18 24 54.6 -0.7**
GYA AMB AMB
comp=Z,10.0nm,1.4s,mb4.8
GTA Gaotai 86.62 45 *e*P **P** **18 25 00.5 -0.4**
GTA AP pP 18 25 07.5 -0.1
GTA XP sP 18 25 11.5 +1.5
NVS Novosibirsk 87.01 26 *e*P **P** **18 25 00.1 -2.7**
NVS pmax pmax
comp=N,5.0nm,1.0s
NVS pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
NVS pmax pmax
comp=E,1.0nm,0.6s
LZH Lanzhou 87.75 50 *e*P **P** **18 25 06.5 +0.1**
LZH AP pP 18 25 13.2 +0.1
LZH XP sP 18 25 15.7 +0.2
LZH PP PP 18 28 35.6 +3.6
LZH AMB AMB
comp=Z,22nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,71nm,9.3s
LZH LR LR
comp=N,356nm,18.3s
LZH LR LR
comp=Z,448nm,19.6s,MS4.9
ARCES ARCESS Array B 90.76 357 LR LR 19 09 47.0
comp=Z,43nm,18.2s,MS3.9,baz=34,slow=38
ASAR Alice Springs 90.78 116 P **P** **18 25 20.9 +0.2**
comp=Z,4.3nm,0.9s,mb4.8,baz=244,slow=3.9,SNR=30
ASAR Alice Springs 90.78 116 P **P** **18 25 20.9 +0.2**
ASAR pmax pmax
comp=Z,4.0nm,0.9s
WRA Warramunga Arr 92.64 112 P **P** **18 25 28.9 -0.4**
comp=Z,1.3nm,1.0s,mb4.3,baz=254,slow=3.5,SNR=5.3
WRA Warramunga Arr 92.64 112 P **P** **18 25 28.9 -0.3**
WRA pmax pmax
comp=Z,1.0nm,1.0s
STKA Stephens Creek 93.42 126 P **P** **18 25 32.1 -0.7**
comp=Z,1.6nm,0.7s,mb4.5,baz=274,slow=7.4,SNR=3.7
LPAZ La Paz 94.37 251 P **P** **18 25 39.5 +2.3**
comp=Z,1.6nm,0.8s,mb4.5,baz=133,slow=3.4,SNR=6.5
LPAZ La Paz 94.37 251 P **P** **18 25 39.6 +2.4**
LPAZ pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 94.86 40 P **P** **18 25 38.4 -1.1**
comp=Z,0.6nm,0.8s,mb4.0,baz=191,slow=2.3,SNR=4.2
SONM Songino Array 94.86 40 P **P** **18 25 38.4 -1.1**
SONM pmax pmax
comp=Z,1.0nm,0.9s
HHC Hu-ho-hao-te 95.28 48 *e*P **P** **18 25 42.5 +1.1**
HHC AP pP 18 25 49.3 +1.2
HHC XP sP 18 25 51.6 +1.2
HHC PP PP 18 29 35.4 +3.9
HHC SKS 18 36 16.1
HHC S 18 36 55.8
HHC XS sS 18 37 04.5 -2.6
HHC AMB AMB
comp=Z,11nm,1.1s,mb5.2
HHC AMB AMB
comp=Z,93nm,5.7s
HHC LR LR
comp=N,98nm,18.6s,MS4.6
HHC LR LR
comp=E,154nm,19.0s,MS4.6
HHC LR LR
comp=Z,135nm,20.6s,MS4.4
NJ2 Nanjing 97.47 59 *e*P **P** **18 25 53.3 +2.0**
NJ2 AP pP 18 25 59.6 +1.6
NJ2 XP sP 18 26 02.5 +2.1
NJ2 PP PP 18 29 53.9 +5.5
NJ2 S 18 37 14.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.4
NJ2 AMB AMB
comp=Z,120nm,4.6s
NJ2 LR LR
comp=N,470nm,34.1s
NJ2 LR LR
comp=E,370nm,25.2s
NJ2 LR LR
comp=Z,500nm,35.1s,MS4.8
BJI Beijing 98.23 50 P **P** **18 25 58.7 +3.9**
BJI LR LR
comp=Z,70nm,19.0s,MS4.2
SSE Sheshan 99.02 60 *e*P **P** **18 25 58.9 +0.6**
SSE AMB AMB
comp=Z,22nm,0.8s,mb5.7
SSE AMB AMB
comp=Z,43nm,4.2s
ULM Lac du Bonnet 130.91 319 PKP PKPdf 18 31 28.7 -0.2
comp=Z,4.4nm,0.8s,baz=158,slow=3.3,SNR=3.6
YKA Yellowknife Ar 133.36 340 PKP PKPdf 18 31 33.2 -0.3
comp=Z,1.1nm,0.6s,baz=38,slow=1.9,SNR=18
YKA Yellowknife Ar 133.36 340 PKIKP PKPdf 18 31 33.2 -0.3
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 133.36 340 PKP PKPdf 18 31 33.2 -0.4
ILAR Eielson Array 136.56 0 PKP PKPdf 18 31 38.4 -1.2
comp=Z,1.2nm,1.0s,baz=310,slow=2.5,SNR=7.3
ILAR Eielson Array 136.56 0 PKIKP PKPdf 18 31 38.4 -1.1
ILAR pmax pmax
comp=Z,1.0nm,1.0s
DAWY Dawson 136.98 355 *e*PKPdf PKPdf 18 31 41.4 +1.1
PDAR Pinedale Array 142.33 313 PKhKP 18 31 45.8
comp=Z,1.2nm,0.9s,baz=72,slow=2.4,SNR=5.5
BNM Barren Site 142.50 299 *e*PKPpre 18 31 48.0
PV01 Paradox Valley 143.16 306 *e*PKPdf PKPdf 18 31 50.7 -0.8
PV01 *e*pPKPdf pPKPdf 18 31 56.6 -1.8
KDAK Kodiak Island 143.32 5 PKhKP 18 31 48.5
comp=Z,4.5nm,0.8s,baz=31,slow=9.9,SNR=3.6
PV10 Paradox Valley 143.44 306 *e*PKPdf PKPdf 18 31 51.6 -0.4
HWUT Hardware Ranch 144.16 312 *e*PKPdf PKPdf 18 31 52.4 -0.8
SRU San Rafael 144.32 308 *e*PKIKP PKPdf 18 31 53.4 -0.1
DAU Daniels Canyon 144.40 310 *e*PKIKP PKPdf 18 31 54.0 +0.3
TMUT Trail Mountain 144.76 309 *e*PKPdf PKPdf 18 31 55.0 +0.7
SPUT South Promonto 144.88 312 *e*PKPdf PKPdf 18 31 54.8 +0.3
HVU Hansel Valley 144.91 313 *e*PKIKP PKPdf 18 31 55.4 +0.8
HLID Hailey 145.18 317 *e*PKPdf PKPdf 18 31 56.5 +1.5
BGU Big Grassy Mou 145.44 312 PKPbc PKPbc 18 31 59.4 +3.9
BGU *e*pPKPbc pPKPbc 18 32 03.8 +1.5
DUG Dugway 145.58 311 *e*PKIKP PKPdf 18 31 57.2 +1.5
MSU Marysvale 145.74 308 *e*PKPdf PKPdf 18 31 58.4 +2.4
MSU *e*pPKPdf pPKPdf 18 32 05.6 +2.8
WUAZ Wupatki 146.03 302 *e*PKPbc PKPbc 18 31 59.6 +2.3
TUC Tucson 146.24 297 *e*PKP2 PKPab 18 32 00.5 +1.8
BMO Blue Mountains 146.26 321 *e*PKIKP PKPdf 18 31 58.8 +1.9
HAWA Hanford 146.59 325 *e*PKPbc PKPbc 18 32 00.4 +1.4
NEN Nelson 148.70 304 *e*PKPdf PKPdf 18 32 03.0 +2.1
GLA Glamis 149.42 299 *e*PKP2 PKPab 18 32 05.8 -5.5
TPH Tonopah 149.57 310 *e*PKP2 PKPab 18 32 09.5 -2.4
MOD Modoc 149.74 319 *e*PKPbc PKPbc 18 32 05.0 -2.3
MNV Mina 150.08 311 *e*PKIKP PKPdf 18 32 03.4 +0.3
MNV *e* 18 32 10.7
NVAR Mina Array Bea 150.19 311 PKP PKPdf 18 32 05.7 +2.4
comp=Z,2.8nm,1.1s,baz=120,slow=3.3,SNR=12
NVAR PKPbc PKPbc 18 32 10.4 +2.1
comp=Z,2.8nm,0.7s,baz=101,slow=3.0,SNR=12
DAC Darwin (Calif) 150.57 307 *e*PKIKP PKPbc 18 32 11.9 +2.6
DAC *e* 18 32 18.0
HUMO Hull Mountain 150.89 322 *e*PKPdf PKPdf 18 32 06.3 +2.0

*ISCJB **12** 18:35:40.0±0.5, 3605N×004×7081E±007, h137km±9km, mb3.6/3, Error ellipse: s-maj=9.4km s-min=5.5km az=127.1*
*IDC **12** 18:35:39.5±12.0, 3581N×7084E, h125km± 126km, mb3.6/4, mb1 3.6/5, mb1mx3.2/20, mbtmp3.9/5, ML3.1/1, Error ellipse: s-maj=76.2km s-min=50.0km az=146.0*
*MOS **12** 18:35:39.9±2.0, 3616N×7072E, h119km, mb4.0/5, Error ellipse: s-maj=18.0km s-min=10.3km az=90.1*
*NEIC **12** 18:35:43.4±2.7, 3634N×7067E, h120km±28km, mb3.9/5, Error ellipse: s-maj=22.4km s-min=14.3km az=196.0*
*NNC **12** 18:35:45.4±3.3, 3655N×7023E, h80km±46km, mb3.3, mpv3.6, Error ellipse: s-maj=32.7km s-min=20.8km az=58.0*
ISC 12 18:35:41.0±0.5, 3607N±004×7083E±007, h130km±9km, n46, σ1ᵗ18/52, mb3.6/3, 4C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
CEP	**Cherat**	**2.41**	**158**	⇓P	**Pn**	**18 36 21.4**	**+1.4**
CEP				S	**Sn**	**18 36 51.0**	**+1.0**
CHCP	**Chirah Chowk**	**3.13**	**140**	⇓P	**Pn**	**18 36 31.2**	**+1.9**
THW	**Thamme Wali**	**3.35**	**167**	P	**Pn**	**18 36 33.0**	**+0.8**
DRP	**Derazinda**	**4.34**	**187**	P	**Pn**	**18 36 45.1**	**-0.2**
DRP				S	**Sn**	**18 37 33.0**	**-2.3**
SARP	**Sargodha**	**4.41**	**159**	P	**Pn**	**18 36 46.1**	**-0.1**
DLH	**Dalhousie**	**5.52**	**128**	*e*P	**Pn**	**18 37 00.0**	**-1.0**
DLH				*ex*	x	18 38 06.0	
SDNR	**Sundarnagar**	**6.85**	**130**	*e*P	**Pn**	**18 37 20.0**	**+1.1**
SDNR				*e*S	**Sn**	**18 38 34.4**	**-1.0**
KK31	**Karatay Array**	**7.03**	**358**	⇑P	**Pn**	**18 37 19.9**	**-1.5**
	5.4nm,0.3s,baz=183,slow=13,SNR=242						
KK31				⇑S	**Sn**	**18 38 33.0**	**-6.8**
	28nm,0.8s,baz=183,slow=20,SNR=8.9						
KKAR	**Karatay Array**	**7.03**	**358**	*i* PN	**Pn**	**18 37 19.9**	**-1.5**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AAK	**Ala-Archa**	**7.14**	**22**	*e*PN	**Pn**	**18 37 22.5**	**-0.4**
AAK				pmax	pmax		
	comp=Z,32nm,1.3s						
AAK	**Ala-Archa**	**7.14**	**22**	*e*P	**Pn**	**18 37 22.5**	**-0.4**
	comp=Z,32nm,1.3s						
SMLA	**Simla**	**7.22**	**131**	*i* x	**Pn**	**18 37 20.6**	**-3.5**
SMLA				*i* S	**Sn**	**18 38 43.2**	**-1.3**
TKM2	**Tokmak 2**	**7.77**	**27**	⇓P	**Pn**	**18 37 32.4**	**+1.0**
	comp=Z,0.6nm,0.6s						
DDI	**Dehra Dun**	**8.34**	**131**	*e*S	**Sn**	**18 39 13.0**	**+1.6**
NDI	**New Delhi**	**9.13**	**142**	*ex*	**Sn**	**18 39 25.0**	**-5.6**
KOLN	**Koldanda**	**13.63**	**124**	*e*P	**Pn**	**18 38 48.5**	**-0.5**
	comp=Z,15nm,0.4s						
MKAR	**Makanchi Array**	**13.72**	**35**	P	**Pn**	**18 38 50.5**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=228,slow=14,SNR=5.5						
GKN	**Gorkha**	**14.20**	**121**	*e*P	**Pn**	**18 38 55.4**	**-0.7**
	comp=Z,22nm,0.3s						
DMN	**Daman**	**14.77**	**121**	*e*P	**Pn**	**18 39 03.3**	**0.0**
	comp=Z,22nm,0.5s						
KKN	**Kakani**	**14.78**	**120**	*e*P	**Pn**	**18 39 02.9**	**-0.6**
	comp=Z,21nm,0.5s						
PKI	**Pulchoki**	**15.00**	**120**	*e*P	**Pn**	**18 39 06.4**	**+0.1**
	comp=Z,27nm,0.3s						
GUN	**Gumba**	**15.13**	**118**	*e*P	**Pn**	**18 39 07.0**	**-0.9**
	comp=Z,13nm,0.3s						
AB31	**Akbulak array**	**15.40**	**332**	⇓P	**Pn**	**18 39 09.0**	**-2.2**
	comp=Z,9.2nm,0.4s,baz=158,slow=12,SNR=356						
AB31				S	**S**	**18 41 50.5**	**-18**
	comp=Z,2.4nm,0.3s,baz=154,slow=19,SNR=15						
AB31	**Akbulak array**	**15.40**	**332**	*e*P	**Pn**	**18 39 09.0**	**-2.2**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.3s						
JIRN	**Jiri**	**15.50**	**118**	*e*P	**Pn**	**18 39 13.4**	**+0.9**
	comp=Z,47nm,0.4s						
KURK	**Kurchatov**	**15.68**	**19**	*e*P	**Pn**	**18 39 14.6**	**-0.2**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KURK	**Kurchatov**	**15.68**	**19**	*e*P	**Pn**	**18 39 14.6**	**-0.2**
	comp=Z,7.2nm,0.8s						
VOSK	**Vostochnaya**	**16.65**	**0**	⇑P	**Pn**	**18 39 27.9**	**+1.3**
	comp=Z,3.6nm,1.4s						
ZRNK	**Zerenda**	**16.93**	**356**	⇓P	**Pn**	**18 39 31.0**	**+1.0**
	comp=Z,1.6nm,1.1s						
ZRNK	**Zerenda**	**16.93**	**356**	*e*P	**Pn**	**18 39 30.3**	**+0.3**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZRNK	**Zerenda**	**16.93**	**356**	*e*P	**Pn**	**18 39 30.3**	**+0.3**
	comp=Z,1.4nm,0.7s						
BVA0	**Borovoye Array**	**16.96**	**359**	P	**Pn**	**18 39 31.7**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=166,slow=9.8,SNR=7.2						
AKTO	**Aktyubinsk**	**17.09**	**331**	⇑P	**Pn**	**18 39 31.5**	**-0.4**
	comp=Z,0.2nm,1.0s						
LSA	**Lhasa**	**18.20**	**105**	*e*P	**P**	**18 39 49.8**	**+6.0**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
LSA	**Lhasa**	**18.20**	**105**	*e*P	**P**	**18 39 49.8**	**+6.1**
	comp=Z,2.4nm,0.6s						
ZAL	**Zalesovo**	**20.35**	**24**	P	**P**	**18 40 08.8**	**+1.7**
	comp=Z,25nm,0.6s,baz=252,slow=8.1,SNR=86						
ZAL	**Zalesovo**	**20.35**	**24**	P	**P**	**18 40 08.8**	**+1.7**
ZAL				pmax	pmax		
	comp=Z,25nm,0.6s						
ZAL	**Zalesovo**	**20.35**	**24**	P	**P**	**18 40 08.8**	**+1.7**
NVS	**Novosibirsk**	**20.63**	**21**	*e*P	**P**	**18 40 07.4**	**-2.7**
NVS				pmax	pmax		
	comp=N,7.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GNI	**Garni**	**20.90**	**289**	*e*P	**P**	**18 40 15.1**	**+2.1**
GNI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GNI	**Garni**	**20.90**	**289**	*e*P	**P**	**18 40 15.1**	**+2.1**
	comp=Z,6.3nm,0.8s						
BRTR	**Keskin Array B**	**29.44**	**288**	P	**P**	**18 41 33.0**	**+0.7**
	comp=Z,0.5nm,0.5s,mb3.5,baz=104,slow=10,SNR=4.6						
BRTR	**Keskin Array B**	**29.44**	**288**	P	**P**	**18 41 33.0**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**37.77**	**326**	P	**P**	**18 42 44.1**	**-0.2**
	comp=Z,1.4nm,0.8s,mb3.6,baz=134,slow=9.9,SNR=4.2						
FINES	**FINESS Array B**	**37.77**	**326**	P	**P**	**18 42 44.1**	**-0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**65.57**	**269**	P	**P**	**18 46 10.0**	**-0.7**
	comp=Z,0.6nm,0.5s,mb3.7,baz=49,slow=6.1,SNR=13						

IDC 12 19:10:57.9±2.2, 478N×12672E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, MS3.3/1, Ms1 3.3/1, ms1mx2.5/29, Error ellipse: s-maj=187.1km s-min=25.0km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
WRA	**Warramunga Arr**	**25.68**	**163**	P	P	19 16 30.5	+1.0
	1.9nm,0.8s,baz=342,slow=10,SNR=11						
WB2	**Warramunga Arr**	**25.69**	**163**	*e*P	P	19 16 30.9	+1.3
ASAR	**Alice Springs**	**29.13**	**166**	P	P	19 17 00.9	+0.5
	0.3nm,0.5s,baz=354,slow=8.1,SNR=4.6						
CTA	**Charters Tower**	**31.30**	**143**	LR	LR	19 28 49.8	
	comp=Z,50nm,20.7s,baz=55,slow=34						
STKA	**Stephens Creek**	**39.11**	**160**	P	P	19 18 26.1	-0.8
	2.2nm,0.8s,baz=344,slow=10,SNR=5.4						
MKAR	**Makanchi Array**	**56.69**	**325**	P	P	19 20 43.3	+0.2
	0.3nm,0.5s,baz=116,slow=7.5,SNR=5.7						

*CSEM **12** 19:13:18.2±0.3, 3845N×2840W, h6km±2km, ML1.0, Error ellipse: s-maj=1.6km s-min=1.6km az=36.0, After PDA*
*PDA **12** 19:13:18.2±0.3, 3845N×2840W, h6km±2km, MD2.7, ML1.0, Error ellipse: s-maj=1.6km s-min=1.6km az=36.0*
SVSA 12 19:13:18.2±0.3, 3845N×2840W, h6km±2km, MD2.7, ML1.0, Error ellipse: s-maj=1.6km s-min=1.6km az=36.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
PBOI	**Pico dos Bois**	**0.02**	**136**	*i* P	Pg	19 13 19.4	+0.1
PBOI				*e*S	Sg	19 13 20.2	0.0
PBOI							
	93nm,0.1s						
PTEI	**Pico do Teixo**	**0.05**	**35**	*e*P	Pg	19 13 19.6	-0.1
PTEI				*e*S	Sg	19 13 20.8	+0.1
PTEI							
	46nm,0.1s						
PICO	**Pico**	**0.05**	**334**	*e*P	Pg	19 13 18.7	-1.0
PICO				*i* S	Sg	19 13 19.9	-0.8
PCND	**Candelaria**	**0.06**	**288**	*e*P	Pg	19 13 19.7	0.0
PCND				*e*S	Sg	19 13 20.8	0.0
PCND							
	21nm,0.1s						

IDC 12 19:20:33.8±12.0, 711S×13086E, h95km±136km, mb3.1/1, mb1 3.3/4, mb1mx3.1/13, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=82.6km s-min=53.4km az=25.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
FITZ	**Fitzroy Crossi**	**12.05**	**205**	P	Pn	19 23 23.1	+0.9
	0.1nm,0.3s,baz=51,slow=15,SNR=8.3						
FITZ				S	Sn	19 25 35.6	+1.0
	0.3nm,0.3s,baz=198,slow=20,SNR=6.4						
WRA	**Warramunga Arr**	**13.19**	**166**	P	Pn	19 23 35.8	-1.5
	0.2nm,0.3s,baz=350,slow=14,SNR=20						
WRA				S	Sn	19 26 01.9	-0.4
	0.3nm,0.3s,baz=338,slow=23,SNR=6.0						
ASAR	**Alice Springs**	**16.72**	**170**	P	Pn	19 24 23.9	+1.9
	0.2nm,0.3s,baz=343,slow=8.6,SNR=13						
MKAR	**Makanchi Array**	**68.79**	**326**	P	P	19 31 27.7	+0.1
	0.2nm,0.4s,baz=111,slow=7.6,SNR=5.1						

*TIF **12** 19:31:02.1, 4333N×4490E, h13km±1km*
MOS 12 19:31:02.6±1.6, 4334N×4491E, h14km, mb3.5/1, 7C-3D, Error ellipse: s-maj=12.9km s-min=10.5km az=59.7, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
BTKR	**Batakoyurt**	**0.27**	**277**	⇓*i*PG	Pg	19 31 08.2	-0.1
BTKR				*i* S	Sg	19 31 12.4	+0.2
SNJR	**Sundja**	**0.28**	**195**	⇑*i*PG	Pg	19 31 08.3	-0.2
SNJR				*i* S	Sg	19 31 12.4	-0.1
VLKR	**Vladikavkaz**	**0.34**	**210**	⇓*i*PG	Pg	19 31 09.3	-0.2
VLKR				*i* S	Sg	19 31 14.3	+0.1
TRKR	**Terskaya**	**0.40**	**341**	⇑*i*PG	Pg	19 31 11.0	+0.3
TRKR				*i* S	Sg	19 31 17.0	+0.8
KMSR	**Komsomolskaya**	**0.45**	**274**	⇑*i*PG	Pg	19 31 11.5	-0.1
KMSR				*i* S	Sg	19 31 18.0	+0.4
ARNR	**Ardon**	**0.48**	**252**	⇑*i*PG	Pg	19 31 12.0	-0.2
ARNR				*i* S	Sg	19 31 18.9	+0.2
PRTR	**Priterechnaya**	**0.61**	**312**	⇓*i*PG	Pg	19 31 14.7	+0.1
PRTR				*i* S	Sg	19 31 23.5	+0.7
KORR	**Kora**	**0.67**	**248**	⇑*i*PG	Pg	19 31 15.3	-0.3
KORR				*i* S	Sg	19 31 24.7	+0.3
LACR	**Lac**	**0.68**	**221**	⇑*i*PG	Pg	19 31 15.6	-0.3
LACR				*i* S	Sg	19 31 25.1	+0.2
ZEI	**Tsey**	**0.94**	**233**	⇑*i*PG	Pg	19 31 20.0	-0.7
ZEI				*i* S	Sb	19 31 32.8	0.0
ONI	**Oni**	**1.31**	**235**	P	Pn	19 31 26.7	+0.1
ONI				S	Sb	19 31 44.9	+1.2
TBLG	**Delisi**	**1.61**	**185**	S	Sn	19 31 55.1	+3.9
MTA	**Mtatsminda**	**1.65**	**183**	S	Sn	19 31 55.3	+3.2
KIV	**Kislovodsk**	**1.73**	**292**	*e*PN	Pn	19 31 36.3	+4.1
KIV				pmax	pmax		
	comp=Z,6.0nm,1.2s						
DGRG	**David-gareji**	**1.92**	**170**	P	Pn	19 31 35.7	+0.9
DGRG				S	Sn	19 32 05.2	+6.5

*ISCJB **12** 19:31:01.1±0.7, 213S±0.1×1736W±0.1, h33km, mb4.3/10, MS3.6/4, Error ellipse: s-maj=17.9km s-min=12.2km az=119.1*
*IDC **12** 19:31:01.3±1.1, 2144S×17403W, h0km, mb4.2/7, mb1 4.4/8, mb1mx4.3/14, mbtmp4.2/8, ML3.7/1, MS3.5/6, Ms1 3.5/6, ms1mx3.2/27, Error ellipse: s-maj=50.1km s-min=20.5km az=144.0*
*NEIC **12** 19:31:02.8±0.6, 2142S×17405W, h10km, mb4.7/2, Error ellipse: s-maj=23.0km s-min=11.3km az=139.0*
ISC 12 19:31:04.2±0.7, 214S±01×1736W±01, h35km, n29,

σ1§39/20, **mb4.3**/10, **MS3.6/4, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.67**	**14**	Pn		**Pn**	**19 32 49.4**	**-3.9**
	12nm,0.3s,baz=133,slow=21,SNR=7.1							
AFI				Sn		**Sn**	**19 34 02.7**	**-16**
	14nm,0.3s,baz=165,slow=20,SNR=3.1							
AFI				T			19 40 32.1	
	5.0nm,0.3s,baz=87,slow=22,SNR=4.0							
AFI	**Afiamalu**	**7.67**	**14**	Pn		**Pn**	**19 32 49.5**	**-3.9**
AFI				Sn		**Sn**	**19 34 02.8**	**-16**
RAR	**Rarotonga**	**12.93**	**92**	Pn		**Pn**	**19 34 05.0**	**-0.4**
	6.6nm,0.3s,baz=254,slow=8.6,SNR=17							
RAR				LR		LR	19 37 44.3	
	comp=Z,314nm,19.3s,baz=236,slow=30							
DZM	**Mont Dzumac**	**18.51**	**264**	LR		LR	19 39 29.2	
	comp=Z,59nm,21.1s,baz=170,slow=28							
URZ	**Urewera**	**18.59**	**203**	P		**Pn**	**19 35 18.0**	**-0.7**
	0.3nm,0.3s,baz=311,slow=17,SNR=3.1							
TBI	**Tubuai**	**22.44**	**99**	*e*LQ			19 40 15.0	
	711nm,27.2s							
TBI				*e*LR		LR	19 41 23.2	
	180nm,26.8s,baz=282							
PPT	**Papeete**	**23.00**	**85**	*e*LQ			19 40 36.1	
	550nm,24.5s							
PPT				*e*LR		LR	19 41 39.1	
	194nm,25.5s							
PPT	**Papeete**	**23.00**	**85**	LR		LR	19 43 33.5	
	comp=Z,175nm,19.2s,MS3.5,baz=253,slow=32							
CTAO	**Charters Tower**	**37.46**	**265**	*e*P		**P**	**19 38 12.7**	**-1.5**
STKA	**Stephens Creek**	**41.09**	**246**	P		**P**	**19 38 43.6**	**-1.0**
	3.1nm,0.9s,mb4.0,baz=107,slow=12,SNR=5.4							
STKA				LR		LR	19 52 40.4	
	comp=Z,78nm,19.8s,MS3.6,baz=25,slow=32							
STKA	**Stephens Creek**	**41.09**	**246**	*e*P		**P**	**19 38 42.8**	**-1.7**
STKA				P			19 38 43.6	
STKA				LR		LR	19 52 40.4	
ASAR	**Alice Springs**	**48.28**	**257**	P		**P**	**19 39 42.0**	**+0.3**
	9.1nm,0.9s,mb4.8,baz=92,slow=8.2,SNR=58							
WB2	**Warramunga Arr**	**48.50**	**262**	*e*P		**P**	**19 39 42.9**	**-0.6**
WRAB	**Tennant Creek**	**48.50**	**262**	*e*P		**P**	**19 39 43.1**	**-0.4**
WRA	**Warramunga Arr**	**48.51**	**262**	P		**P**	**19 39 43.0**	**-0.6**
	1.4nm,0.3s,mb4.4,baz=94,slow=7.7,SNR=51							
FITZ	**Fitzroy Crossi**	**56.94**	**262**	*e*P		**P**	**19 40 47.3**	**+1.4**
	8.0nm,1.6s,mb4.5							
KLBR	**Kellerberrin**	**61.36**	**245**	*e*P		**P**	**19 41 18.5**	**+2.0**
	8.6nm,0.7s,mb5.0							
MJAR	**Matsushiro Arr**	**73.41**	**321**	P		**P**	**19 42 34.0**	**+1.3**
	1.9nm,0.7s,mb4.2,baz=155,slow=5.7,SNR=6.1							
NVAR	**Mina Array Bea**	**78.96**	**41**	P		**P**	**19 43 08.8**	**+4.6**
	2.3nm,0.7s,mb4.2,baz=213,slow=7.1,SNR=13							
PDAR	**Pinedale Array**	**86.89**	**42**	P		**P**	**19 43 48.9**	**+3.6**
	0.6nm,0.7s,mb3.9,baz=183,slow=5.6,SNR=5.6							
YKA	**Yellowknife Ar**	**95.67**	**24**	P		**P**	**19 44 28.3**	**+2.1**
	0.3nm,0.8s,mb3.8,baz=235,slow=4.8,SNR=4.5							
YKA				LR		LR	20 18 34.9	
	comp=Z,19nm,19.9s,MS3.6,baz=240,slow=30							
ULM	**Lac du Bonnet**	**98.72**	**39**	LR		LR	20 24 16.8	
	comp=Z,35nm,18.2s,MS3.9,baz=353,slow=32							
SONM	**Songino Array**	**99.14**	**118**	P		**P**	**19 44 42.7**	**+0.9**
	0.4nm,1.1s,mb3.9,baz=134,slow=4.3,SNR=3.7							
AKASG	**Malin Array Be**	**145.70**	**334**	PKPbc	PKPbc	PKPbc	19 50 41.1	+1.9
	2.6nm,0.6s,baz=41,slow=4.2,SNR=21							
CLL	**Collm**	**149.71**	**352**	*e*PKPab	PKPab	PKPab	19 50 58.0	+2.5
DPC	**Dobruska-Polom**	**150.07**	**347**	*e*PKPab	PKPab	PKPab	19 50 57.5	+0.5
BRTR	**Keskin Array B**	**150.43**	**314**	PKPbc	PKPbc	PKPbc	19 50 55.0	+3.1
	0.8nm,0.9s,baz=75,slow=1.9,SNR=5.2							
KHC	**Kasperske Hory**	**151.75**	**350**	*e*PKPbc	PKPbc	PKPbc	19 50 57.6	+2.6
GERES	**GERESS Array B**	**152.01**	**350**	PKPbc	PKPbc	PKPbc	19 50 58.9	+3.3
	0.5nm,0.7s,baz=298,slow=2.9,SNR=3.7							

NEIC **12** *19:33:08.8, 2358S×6844W, h18km, ML3.6(GUC), After GUC.*

GUC 12 19:33:08.8±0.6, 2358S×6844W, h18km±6km, MD3.9, ML3.6, 1C-7D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.06**	**336**	⇓*i*P		Pb	19 33 28.0	-0.6
LVC				*i* S		Sb	19 33 42.7	+0.5
LVC				AML		AML	19 33 44.0	
	comp=N,3μm,0.5s							
LVC	**Limon Verde**	**1.06**	**336**	⇓*i*P		Pb	19 33 28.0	-0.6
LVC				*i* S		Sb	19 33 42.7	+0.5
CEN1	**Los Morros**	**1.63**	**276**	⇓*i*P		Pn	19 33 38.4	+1.8
CEN1				*i* S		Sn	19 34 00.5	+3.3
CEN1				AML		AML	19 34 02.4	
	comp=N,787nm,0.4s							
ANCH	**Antofagasta**	**1.81**	**267**	⇓*i*P		Pn	19 33 39.5	+0.4
ANCH				*i* S		Sn	19 34 02.5	+0.9
ANCH				AML		AML	19 34 07.3	
	comp=N,943nm,0.5s							
ANCH	**Antofagasta**	**1.81**	**267**	⇓*i*P		Pn	19 33 39.5	+0.4
ANCH				*i* S		Sn	19 34 02.5	+0.9
CPN1	**Cerro Paranal**	**2.08**	**240**	⇑*i*P		Pn	19 33 44.0	+1.3
CPN1				*i* S		Sn	19 34 11.3	+3.2
CPN1				AML		AML	19 34 19.5	
	comp=E,466nm,0.4s							
CRCH	**Chaqaral**	**3.39**	**215**	⇓*i*P		Pn	19 34 01.6	+0.8
CRCH				*i* S		Sn	19 34 42.1	+1.6
CRCH				AML		AML	19 34 57.7	
	comp=E,292nm,0.3s							
CRCH	**Chaqaral**	**3.39**	**215**	⇓*i*P		Pn	19 34 01.6	+0.8
CRCH				*i* S		Sn	19 34 42.1	+1.6
LPAZ	**La Paz**	**7.26**	**2**	*e*P		Pn	19 34 48.8	-5.2
	comp=E,1.5nm,0.6s							
TRQA	**Tornquist**	**15.45**	**161**	*e*P		Pn	19 36 45.4	-0.3

ATH **12** *19:41:44.5, 3968N×2082E, h9km, MD3.2/5*
NEIC **12** *19:41:44.5, 3968N×2082E, h9km, MD3.2(ATH), After ATH.*
ISCJB **12** *19:41:45.0±0.4, 3970N±002×2086E±003, h5km±4km, Error ellipse: s-maj=4.2km s-min=4.1km az=55.8*
SKO **12** *19:41:45.1, 3972N×2087E, h0km*
CSEM **12** *19:41:45.3±0.2, 3971N×2082E, h2km, MD3.2, Error ellipse: s-maj=4.0km s-min=3.5km az=154.0*
THE **12** *19:41:45.2, 3972N×2084E, h10km, ML2.8*

ISC 12 19:41:45.3±0.4, 3969N±003×2086E±003, h7km±4km, n25, σ1§13/38, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.03**	**189**	*e*PG		**Pg**	**19 41 46.0**	**-0.7**
JAN				*e*SG		**Sg**	**19 41 47.3**	**-0.4**
IGT	**Igoumenitsa**	**0.43**	**249**	*e*Pg		**Pg**	**19 41 53.3**	**-0.4**
IGT				*e*Sg		**Sg**	**19 42 00.6**	**+1.1**
LSK	**Leskovik**	**0.50**	**337**	*i* Pg		**Pg**	**19 41 54.9**	**-0.1**
LSK				*i* Sg		**Sg**	**19 42 02.0**	**+0.5**
LSK	**Leskovik**	**0.50**	**337**	*e*Pg		**Pg**	**19 41 54.9**	**-0.1**
LSK				*e*Sg		**Sg**	**19 42 02.0**	**+0.5**
SRN	**Sarande**	**0.69**	**286**	*i* Pg		**Pg**	**19 41 58.6**	**0.0**
SRN				*i* Sg		**Sg**	**19 42 09.9**	**+2.4**
SRN	**Sarande**	**0.69**	**286**	*e*Pg		**Pg**	**19 41 58.6**	**0.0**
SRN				*e*Sg		**Sg**	**19 42 09.9**	**+2.4**
KEK	**Kerkira**	**0.82**	**272**	*e*PB		**Pb**	**19 41 59.5**	**-2.4**
KZN	**Kozani**	**0.93**	**48**	*e*PB		**Pb**	**19 42 02.9**	**-1.0**
LKD	**Levkas**	**0.99**	**189**	*e*Pg		**Pg**	**19 42 04.4**	**0.0**
LKD				*e*Sg		**Sg**	**19 42 19.7**	**+2.4**
EVR	**Evrytania**	**1.07**	**136**	*e*PB		**Pb**	**19 42 04.8**	**-1.4**
FNA	**Florina**	**1.16**	**20**	*e*Pg		**Pg**	**19 42 05.9**	**-1.8**
FNA				*e*Sg		**Sg**	**19 42 23.5**	**+0.8**
LIT	**Litokhoron**	**1.32**	**71**	*e*Pg		**Pg**	**19 42 09.6**	**-1.1**
LIT				*e*Sg		**Sg**	**19 42 30.0**	**+2.2**
AGG	**Agios Georgios**	**1.32**	**120**	*e*Pg		**Pg**	**19 42 09.9**	**-0.8**
AGG				*e*Sg		**Sg**	**19 42 30.6**	**+2.8**
BIA	**Bitola**	**1.38**	**15**	*i* Pn		**Pn**	**19 42 10.8**	**-0.1**
BIA	**Bitola**	**1.38**	**15**	*i* Pn		**Pn**	**19 42 10.8**	**-0.2**
OHR	**Ohrid**	**1.42**	**358**	*i* Pn		**Pn**	**19 42 12.2**	**+0.6**
OHR	**Ohrid**	**1.42**	**358**	*i* Pn		**Pn**	**19 42 12.1**	**+0.5**
VLS	**Valsamata**	**1.52**	**188**	*e*PB		**Pb**	**19 42 13.2**	**-0.7**
GRG	**Griva**	**1.73**	**43**	*e*Pb		**Pb**	**19 42 16.4**	**-1.1**
GRG				*e*Sb		**Sb**	**19 42 39.9**	**+0.5**
XOR	**Xorichti**	**1.83**	**99**	*e*Pb		**Pb**	**19 42 17.6**	**-1.6**
XOR				*e*Sb		**Sb**	**19 42 42.9**	**+0.6**
KNT	**Kendrikon**	**2.14**	**46**	*e*Pn		**Pn**	**19 42 22.0**	**+0.5**
PAIG	**Paliouri**	**2.19**	**83**	*e*Pn		**Pn**	**19 42 22.5**	**+0.4**
PAIG				*e*Sn		**Sn**	**19 42 51.1**	**+1.6**
SOH	**Sokhos**	**2.22**	**59**	*e*Pn		**Pn**	**19 42 22.9**	**+0.4**
OUR	**Ouranopolis**	**2.48**	**74**	*e*Pn		**Pn**	**19 42 25.4**	**-0.8**
SRS	**Serrai**	**2.53**	**55**	*e*Pn		**Pn**	**19 42 26.8**	**0.0**

IDC **12** *19:43:03.8±1.9, 2577N×9514E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/19, mbtmp3.3/4, Error ellipse: s-maj=82.4km s-min=22.6km az=70.0*
ISCJB **12** *19:43:12.1±1.9, 2611N±02×9576E±0.1, h74km±22km, mb3.2/4, Error ellipse: s-maj=29.4km s-min=14.5km az=123.1*

ISC 12 19:43:13.9±1.6, 2620N±02×9576E±01, h73km±19km, n6, σ1§53/8, mb3.2/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LKP	**Lekhapani**	**1.16**	**16**	*e*P		**Pn**	**19 43 34.0**	**-0.5**
LKP				*e*S		**Sn**	**19 43 44.0**	**-5.9**
SHL	**Shillong**	**3.50**	**260**	*i* P		**Pn**	**19 44 08.0**	**+2.1**
SHL				*e*S		**Sn**	**19 44 45.0**	**-1.1**
MKAR	**Makanchi Array**	**23.13**	**336**	P		**P**	**19 48 13.6**	**-0.1**
	0.2nm,0.4s,mb2.8,baz=147,slow=10,SNR=4.1							
SONM	**Songino Array**	**23.16**	**19**	P		**P**	**19 48 17.7**	**+3.7**
	0.3nm,0.9s,mb2.6,baz=188,slow=8.7,SNR=3.1							
WRA	**Warramunga Arr**	**59.26**	**137**	P		**P**	**19 53 07.3**	**-0.4**
	0.7nm,0.4s,mb4.0,baz=323,slow=7.6,SNR=16							
ASAR	**Alice Springs**	**61.85**	**140**	P		**P**	**19 53 25.1**	**-0.1**
	0.3nm,0.5s,mb3.6,baz=322,slow=6.7,SNR=13							

ISCJB **12** *19:43:29.6±2.1, 1495±0.1×1665E±02, h33km, mb3.9/3, Error ellipse: s-maj=32.4km s-min=14.2km az=117.2*
IDC **12** *19:43:36.1±12.0, 1537S×16548E, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.8/15, mbtmp4.1/4, ML4.2/1, Error ellipse: s-maj=216.3km s-min=35.0km az=54.0*

ISC 12 19:43:30.8±2.2, 1485N±01×1666E±02, h35km, n5, σ1§35/6, mb3.9/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**3.26**	**152**	*i* P		**Pn**	**19 44 18.8**	**-0.6**
DZM	**Mont Dzumac**	**7.25**	**181**	Pn		**Pn**	**19 45 16.3**	**+2.1**
	4.7nm,0.3s,baz=345,slow=23,SNR=32							
DZM				Sn		**Sn**	**19 46 34.9**	**-0.5**
	1.7nm,0.3s,baz=324,slow=23,SNR=4.1							
STKA	**Stephens Creek**	**28.50**	**229**	P		**P**	**19 49 21.7**	**-1.0**
	4.5nm,0.6s,mb4.3,baz=43,slow=8.5,SNR=13							
WRA	**Warramunga Arr**	**31.22**	**256**	P		**P**	**19 49 47.1**	**+0.3**
	0.7nm,0.6s,mb3.7,baz=86,slow=9.3,SNR=11							
ASAR	**Alice Springs**	**32.08**	**249**	P		**P**	**19 49 54.4**	**0.0**
	0.5nm,0.3s,mb3.8,baz=77,slow=9.4,SNR=20							

IDC **12** *19:57:05.4±1.3, 1.13N×9703E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.8/19, mbtmp4.0/7, ML3.2/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/31, Error ellipse: s-maj=37.8km s-min=20.2km az=54.0*
BJI **12** *19:57:08.5, 068N×9700E, h62km, mB5.2, mb4.6, Ms4.3, Msz4.1*
NEIC **12** *19:57:10.1±0.6, 1.19N×97.11E, h30km, mb4.2/5, Error ellipse: s-maj=12.9km s-min=9.3km az=50.0*
ISCJB **12** *19:57:11.6±3.0, 1.3N±01×973E±02, h54km±23km, mb4.3/21, Error ellipse: s-maj=31.6km s-min=13.0km az=97.3*

ISC 12 19:57:13.5±2.9, 13N±01×973E±02, h51km±23km, n27, σ0§81/27, mb4.3/21, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.19**	**47**	Pn		**Pn**	**19 57 47.1**	**-0.3**
	5.2nm,0.3s,baz=243,slow=6.6,SNR=29							
PSI				LR		LR	19 58 37.8	
	comp=Z,400nm,21.5s,baz=320,slow=38							
KULM	**Kulim**	**5.17**	**40**	*e*P		**Pn**	**19 58 28.2**	**-0.1**
KMI	**Kunming**	**24.25**	**12**	P		**P**	**20 02 27.3**	**+1.7**
KMI				AMB		AMB		
	comp=Z,18nm,1.4s							
KMI				LR		LR		
	comp=N,371nm,14.4s							
KMI				LR		LR		
	comp=E,243nm,12.5s							
KMI				LR		LR		
	comp=Z,423nm,15.0s							
GYA	**Guiyang**	**26.57**	**19**	P		**P**	**20 02 47.3**	**+0.6**
GYA				AMB		AMB		
	comp=Z,10.0nm,1.2s,mb4.2							
JIRN	**Jiri**	**28.28**	**339**	*e*P		**P**	**20 03 02.7**	**+0.7**
	comp=Z,31nm,1.0s,mb4.9							
PKI	**Pulchoki**	**28.49**	**337**	*e*P		**P**	**20 03 05.2**	**+1.3**
GUN	**Gumba**	**28.62**	**339**	*e*P		**P**	**20 03 05.5**	**+0.4**
	comp=Z,29nm,0.8s,mb5.0							
DMN	**Daman**	**28.64**	**337**	*e*P		**P**	**20 03 05.9**	**+0.7**
	comp=Z,21nm,1.0s,mb4.8							
KKN	**Kakani**	**28.74**	**337**	*e*P		**P**	**20 03 06.4**	**+0.3**
	comp=Z,18nm,0.9s,mb4.8							
GKN	**Gorkha**	**29.18**	**337**	*e*P		**P**	**20 03 10.1**	**+0.1**
	comp=Z,26nm,1.1s,mb4.9							
KOLN	**Koldanda**	**29.40**	**335**	*e*P		**P**	**20 03 11.1**	**-0.9**
	comp=Z,12nm,0.8s,mb4.7							
XAN	**Xi'an**	**34.33**	**17**	P		**P**	**20 03 53.4**	**-1.8**
GTA	**Gaotai**	**37.99**	**3**	*e*P		**P**	**20 04 26.3**	**-0.1**
GTA				AMB		AMB		
	comp=Z,6.0nm,0.8s,mb4.4							
WRA	**Warramunga Arr**	**42.00**	**122**	P		**P**	**20 04 59.8**	**+0.1**
	comp=Z,0.9nm,0.6s,mb3.6,baz=303,slow=9.1,SNR=11							
WRAB	**Tennant Creek**	**42.01**	**122**	P		**P**	**20 04 59.9**	**+0.2**
	comp=Z,5.5nm,0.9s,mb4.2							
BJI	**Beijing**	**42.20**	**22**	P		**P**	**20 05 00.2**	**-1.1**
BJI				AMB		AMB		
	comp=Z,6.0nm,0.9s,mb4.2							
ASAR	**Alice Springs**	**43.38**	**127**	P		**P**	**20 05 10.8**	**0.0**
	comp=Z,1.2nm,1.0s,mb3.6,baz=295,slow=7.7,SNR=9.4							
AAK	**Ala-Archa**	**45.94**	**337**	*e*P		**P**	**20 05 31.9**	**+0.6**
	comp=Z,1.1nm,0.8s,mb3.8							
SONM	**Songino Array**	**47.01**	**8**	P		**P**	**20 05 40.0**	**+0.4**
	comp=Z,3.1nm,0.8s,mb4.3,baz=189,slow=8.4,SNR=32							
ULN	**Ulaanbaatar**	**47.14**	**9**	*e*P		**P**	**20 05 40.2**	**-0.4**
	comp=Z,1.5nm,0.8s,mb4.0							
MKAR	**Makanchi Array**	**47.16**	**346**	P		**P**	**20 05 40.6**	**-0.2**
	comp=Z,2.3nm,0.6s,mb4.3,baz=160,slow=9.1,SNR=24							
MJAR	**Matsushiro Arr**	**51.54**	**42**	P		**P**	**20 06 15.6**	**+1.4**
	comp=Z,0.8nm,0.6s,mb3.8,baz=244,slow=7.9,SNR=3.8							
KURK	**Kurchatov**	**51.71**	**345**	*e*P		**P**	**20 06 14.6**	**-0.9**
	comp=Z,2.5nm,0.9s,mb4.1							
ZAL	**Zalesovo**	**53.46**	**351**	P		**P**	**20 06 27.7**	**-0.8**
	comp=Z,2.8nm,0.5s,mb4.5,baz=313,slow=5.1,SNR=12							
ZAL	**Zalesovo**	**53.46**	**351**	P		**P**	**20 06 27.7**	**-0.8**
ZRNK	**Zerenda**	**56.59**	**340**	*e*P		**P**	**20 06 49.5**	**-1.5**
	comp=Z,3.6nm,1.0s,mb4.4							
GERES	**GERESS Array B**	**84.80**	**319**	P		**P**	**20 09 41.9**	**-0.5**
	comp=Z,0.4nm,0.7s,mb3.7,baz=68,slow=7.7,SNR=2.4							

NEIC **12** *20:14:08.4, 3668S×177.15E, h12km, ML4.0(WEL), After WEL.*

WEL 12 20:14:07.6±0.6, 3669S×17712E, h5km, ML4.0/5, Error ellipse: s-maj=5.6km s-min=2.8km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.84**	**176**	P*		Pb	20 14 22.9	-1.8
WIZ	**White Island**	**0.84**	**176**	P		Pg	20 14 23.1	-0.6
MYRZ	**Mayor Island**	**0.92**	**230**	P*		Pb	20 14 24.9	-1.2
KUZ	**Kuaotunu**	**1.13**	**267**	P*		Pb	20 14 28.5	-1.1
KUZ				S*		Sb	20 14 43.2	-1.3
KUZ	**Kuaotunu**	**1.13**	**267**	P		Pg	20 14 28.8	-0.4
MXZ	**Matakaoa Point**	**1.29**	**133**	P*		Pb	20 14 30.0	-2.3
MXZ				S*		Sb	20 14 45.3	-3.9
MXZ	**Matakaoa Point**	**1.29**	**133**	P		Pn	20 14 30.0	-2.2
URZ	**Urewera**	**1.57**	**180**	P*		Pb	20 14 33.8	-3.3
URZ	**Urewera**	**1.57**	**180**	P		Pn	20 14 33.8	-2.3
MKAZ	**Moumakai**	**1.62**	**254**	*e*Pn		Pn	20 14 36.4	-0.5
MKAZ	**Moumakai**	**1.62**	**254**	P		Pn	20 14 36.6	-0.2
PUZ	**Puketiti**	**1.65**	**147**	PN		Pn	20 14 37.2	-0.1
TOZ	**Tahuroa Road**	**1.66**	**231**	P*		Pb	20 14 36.5	-2.2
TOZ	**Tahuroa Road**	**1.66**	**231**	P		Pn	20 14 36.5	-0.9
MWZ	**Matawai**	**1.68**	**169**	P*		Pb	20 14 35.2	-3.7
MWZ	**Matawai**	**1.68**	**169**	*e*P		Pn	20 14 35.2	-2.4
HIZ	**Hauiti**	**2.56**	**224**	PN		Pn	20 14 49.1	-0.7
HIZ	**Hauiti**	**2.56**	**224**	P		Pn	20 14 49.1	-0.7

IDC **12** *20:15:13.8±3.2, 373N×12671E, h18km±19km, mb4.8/25, mb1 4.8/25, mb1mx4.8/26, mbtmp4.9/25, MS4.2/23, Ms1 4.2/23, ms1mx4.0/33, Error ellipse: s-maj=18.2km s-min=9.8km az=76.0*
MOS **12** *20:15:14.9±1.2, 374N×12659E, h33km, mb5.2/43, MS4.2/19, Error ellipse: s-maj=10.8km s-min=5.6km az=111.0*
ISCJB **12** *20:15:18.0±0.5, 367N±003×12660E±004, h62km±4km, mb5.1/16, Error ellipse: s-maj=6.3km s-min=3.7km az=133.6*
BJI **12** *20:15:19.6, 367N×12643E, h78km, mB4.9, mb4.9, Ms4.4, Msz4.2*
HRVD **12** *20:15:21.7±0.4, 379N×12680E, h70km±5km, MW5.0/46, Centroid moment Tensor Solution. LP body waves: s21,c22;Mantle waves: s46,c63; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.29±.25; Mθθ2.67±.16; Mφφ-2.38±.18; Mrθ-0.29±.12; Mrφ1.80±.12; Mθφ1.97±.14; Best double couple: Mo3.23400×10^16 NP1:φs122.00000°, δ69.00000°, λ-22.00000°. NP2: φs220.00000°, δ69.00000°, λ-157.00000°. Principal axes: T 2.7940, Plg0.0000°, Azm351.0000°; N 0.8830, Plg60.0000°, Azm261.0000°; P -3.6750, Plg30.0000°, Azm81.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC **12** *20:15:21.7±1.2, 366N×12663E, h82km±11km, mb5.0/40 Error ellipse: s-maj=8.8km s-min=5.5km az=74.0*

ISC 12 20:15:20.1±0.4, 369N±003×12666E±003, h66km±3km, h99km±1.3km: pP-P, n292, σ1§14/290, mb5.0/115, 7C-14D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**3.26**	**353**	*e*P		**Pn**	**20 16 07.7**	**-1.1**
MATI				*e*S		**Sn**	**20 16 40.7**	**-5.7**
DAV	**Davao City (W)**	**3.52**	**342**	*e*P		**Pn**	**20 16 13.0**	**+0.6**
DAV	**Davao City (W)**	**3.52**	**342**	*e*P		**Pn**	**20 16 17.6**	**+5.2**
KCP	**Kidapawan**	**3.65**	**335**	⇓*i*P		**Pn**	**20 16 14.4**	**+0.3**
KCP				*i* S		**Sn**	**20 17 00.9**	**+5.0**
CTBH	**Cotabato--PC H**	**4.25**	**326**	*e*P		**Pn**	**20 16 22.2**	**-0.1**
CTBH				*e*S		**Sn**	**20 17 12.3**	**+1.6**
BUKP	**Musuan**	**4.45**	**339**	*e*P		**Pn**	**20 16 23.6**	**-1.5**
BIPH	**Bislig**	**4.47**	**356**	*i* P		**Pn**	**20 16 25.3**	**-0.1**
BIPH				*i* S		**Sn**	**20 17 22.1**	**+6.0**
CGP	**Cagayan de Oro**	**5.12**	**338**	⇓*e*P		**Pn**	**20 16 34.2**	**0.0**
CGP				*i* S		**Sn**	**20 17 46.9**	**+15**
PAGZ	**Pagadian**	**5.26**	**322**	*e*P		**Pn**	**20 16 34.5**	**-1.6**
BUTP	**Butuan**	**5.34**	**349**	*e*P		**Pn**	**20 16 36.4**	**-0.9**
IPIL	**Ipil**	**5.75**	**315**	⇓*e*P		**Pn**	**20 16 41.9**	**-1.0**
IPIL				*e*S		**Sn**	**20 17 44.7**	**-2.8**
IPIL	**Ipil**	**5.75**	**315**	*e*P		**Pn**	**20 16 41.0**	**-1.8**
SCPH	**Surigao**	**6.16**	**349**	*e*P		**Pn**	**20 16 49.3**	**+0.8**
SCPH				*i* S		**Sn**	**20 17 59.9**	**+2.4**
SWI	**Sorong**	**6.45**	**134**	P		**Pn**	**20 16 49.8**	**-2.7**
	473nm,1.0s							
LLP	**Lapu-Lapu**	**7.10**	**338**	⇑*e*P		**Pn**	**20 17 02.0**	**+0.6**
AAI	**Ambon**	**7.49**	**168**	P		**Pn**	**20 17 07.5**	**+0.9**
	114nm,0.9s							
OCLP	**Ormoc**	**7.59**	**345**	*e*P		**Pn**	**20 17 01.5**	**-6.5**
PCI	**Palu**	**8.21**	**236**	P		**Pn**	**20 17 18.2**	**+1.8**
	100nm,0.9s							
TSM	**Tawau**	**8.78**	**274**	P		**Pn**	**20 17 25.7**	**+1.4**
BATP	**Bataraza**	**10.16**	**300**	*e*P		**Pn**	**20 17 43.5**	**+0.4**
BAKI	**Biak**	**10.62**	**117**	P		**Pn**	**20 17 49.6**	**+0.2**
	212nm,0.9s							
KKM	**Kota Kinabalu**	**10.66**	**283**	P		**Pn**	**20 17 54.0**	**+4.0**
KKM	**Kota Kinabalu**	**10.66**	**283**	*e*P		**Pn**	**20 17 51.4**	**+1.3**
TLE	**Tual**	**11.08**	**147**	P		**Pn**	**20 17 56.1**	**+0.4**
	384nm,1.0s							
APYP	**Conner**	**15.05**	**340**	*e*P		**Pn**	**20 18 51.6**	**+2.7**
JAY	**Jayapura**	**15.33**	**114**	P		**Pn**	**20 18 51.6**	**-0.9**
	215nm,0.9s							
KSM	**Kuching**	**16.48**	**263**	*e*P		**Pn**	**20 19 10.2**	**+3.2**
KAKA	**Kakadu**	**17.28**	**161**	*e*P		**Pn**	**20 19 12.4**	**-4.5**
	70nm,0.7s							
GUMO	**Guam**	**20.50**	**60**	P		**P**	**20 19 53.8**	**+1.2**
	28nm,0.7s,baz=227,slow=18,SNR=2.6							
GUMO				LR		LR	20 26 34.0	
	comp=Z,373nm,21.3s,baz=226,slow=33							
GUMO	**Guam**	**20.50**	**60**	P		**P**	**20 19 53.8**	**+1.2**
GUMO				pmax		pmax		
	comp=Z,28nm,0.7s							
GUMO				ML

PSI Prapat 27.70 269 P **P** **20 21 01.7 -0.4**
PSI pmax pmax
comp=Z,11nm,0.7s,mb4.5
PSI MLR MLR
comp=Z,649nm,18.2s
PSI Prapat 27.70 269 P **P** **20 21 01.7 -0.4**
PSI LR LR 20 34 03.4
SSE Sheshan 27.74 350 *e*P **P** **20 21 04.6 +2.2**
SSE XP sP 20 21 27.0 +1.1
SSE PCP PcP 20 24 17.7 +0.1
SSE S **S** **20 25 41.1 +0.9**
SSE SCS ScS 20 31 43.8 -0.9
SSE AMB AMB
comp=Z,19nm,0.8s,mb4.7
SSE AMB AMB
comp=Z,110nm,5.1s
SSE LR LR
comp=N,292nm,19.0s
SSE LR LR
comp=E,154nm,19.1s
SSE LR LR
comp=Z,360nm,20.3s
ASAR Alice Springs 28.09 166 P **P** **20 21 04.8 -0.8**
comp=Z,5.8nm,0.7s,mb4.2,baz=347,slow=6.6,SNR=54
ASAR PcP PcP 20 24 20.1 +1.6
comp=Z,7.4nm,0.7s,baz=346,slow=1.6,SNR=11
ASAR Alice Springs 28.09 166 P **P** **20 21 04.8 -0.8**
ASAR 20 24 20.1
ASAR pmax pmax
comp=Z,6.0nm,0.7s
NST Nakhon Sawan 28.68 296 P **P** **20 21 08.1 -2.7**
NJ2 Nanjing 29.15 346 *e*P **P** **20 21 16.1 +1.2**
NJ2 AP pP 20 21 36.5 +5.7
NJ2 PP PP 20 22 13.6 -8.1
NJ2 S **S** **20 26 03.0 +0.7**
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb4.8
NJ2 AMB AMB
comp=Z,100nm,10.3s
NJ2 LR LR
comp=N,1μm,24.8s
NJ2 LR LR
comp=E,940nm,19.2s
NJ2 LR LR
comp=Z,510nm,22.1s
NANT Nan 29.48 303 ⇓P **P** **20 21 15.0 -2.9**
comp=Z,200nm,1.0s,mb5.7
CTA Charters Tower 30.48 142 *e*P **P** **20 21 27.7 +1.0**
comp=Z,14nm,0.9s,mb4.6
CTA Charters Tower 30.48 142 P **P** **20 21 26.7 0.0**
comp=Z,4.1nm,0.6s,mb4.2,baz=341,slow=14,SNR=5.9
CTA Charters Tower 30.48 142 *e*P **P** **20 21 27.7 +1.0**
CTA pmax pmax
comp=Z,14nm,0.9s
CTAO Charters Tower 30.48 142 *e*P **P** **20 21 25.6 -1.1**
CHRT Chiangrai 30.75 304 ⇓P **P** **20 21 29.0 -0.1**
comp=Z,197nm,0.6s,mb6.0
CHG Chiang Mai 30.98 301 ⇓P **P** **20 21 31.4 +0.3**
comp=Z,18nm,1.0s,mb4.8
CHTO Chiang Mai 30.98 301 *e*P **P** **20 21 30.8 -0.3**
CHTO pmax pmax
comp=Z,14nm,0.8s,mb4.7
CHTO Chiang Mai 30.98 301 *e*P **P** **20 21 30.8 -0.4**
comp=Z,14nm,0.8s,mb4.7
KMI Kunming 31.36 315 P **P** **20 21 36.1 +1.7**
KMI AP pP 20 21 58.2 +7.9
KMI S **S** **20 26 36.5 -0.4**
KMI AMB AMB
comp=Z,6.0nm,0.9s,mb4.3
KMI AMB AMB
comp=Z,65nm,3.7s
KMI LR LR
comp=N,170nm,20.0s
KMI LR LR
comp=E,357nm,22.3s
KMI LR LR
comp=Z,534nm,25.0s
TIA Tai'an 33.53 346 ⇓P **P** **20 21 52.8 -0.7**
KS15 Wonju Array Si 33.61 2 *e*P **P** **20 21 54.8 +0.7**
FORT Forrest 34.30 178 *e*P **P** **20 21 59.9 -0.2**
comp=Z,58nm,0.7s,mb5.5
FORT *e*PCP PcP 20 24 36.6 +1.6
MAT Matsushiro 34.38 17 P **P** **20 21 58.9 -1.9**
MAT S **S** **20 27 18.0 -5.8**
MAT Matsushiro 34.38 17 *e*P **P** **20 21 59.0 -1.8**
MAT *e*S **S** **20 27 18.0 -5.8**
MAT LR LR
comp=Z,740nm,22.0s
MJAR Matsushiro Arr 34.38 17 P **P** **20 21 58.8 -2.0**
comp=Z,4.3nm,0.6s,mb4.5,baz=184,slow=10,SNR=18
MJAR PcP PcP 20 24 36.3 +1.0
comp=Z,3.1nm,0.8s,baz=181,slow=3.3,SNR=6.1
MJAR LR LR 20 35 38.9
comp=Z,386nm,20.8s,baz=210,slow=36
MJAR Matsushiro Arr 34.38 17 P **P** **20 21 58.8 -2.0**
MJAR 20 24 36.3
MJAR pmax pmax
comp=Z,40nm,0.6s
MJAR MLR MLR
comp=Z,386nm,20.8s
XAN Xi'an 34.42 333 P **P** **20 21 59.5 -1.6**
XAN AMB AMB
comp=Z,46nm,0.8s,mb5.4
CD2 Chengdu 34.63 324 *e*P **P** **20 22 02.2 -0.8**
CD2 AP pP 20 22 24.4 +5.4
CD2 PP PP 20 23 22.2 -0.3
CD2 S **S** **20 27 24.1 -3.6**
CD2 SS SS 20 29 41.7 -18
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
CD2 AMB AMB
comp=Z,60nm,5.2s
CD2 LR LR
comp=E,300nm,19.2s
CD2 LR LR
comp=Z,270nm,19.4s
DL2 Dalian 35.35 353 P **P** **20 22 10.2 +1.1**
DL2 *e*S **S** **20 27 39.9 +1.2**
DL2 AMB AMB
comp=Z,40nm,0.8s,mb5.3
DL2 LR LR
comp=N,100nm,18.0s
DL2 LR LR
comp=E,130nm,17.7s
DL2 LR LR
comp=Z,320nm,18.5s
KLBR Kellerberrin 36.10 193 *e*P **P** **20 22 15.8 +0.2**
comp=Z,27nm,1.1s,mb5.1
MUN Mundaring 36.84 195 *e*P **P** **20 22 22.4 +0.5**
BJT Baijiatuau 37.39 347 *e*P **P** **20 22 26.7 +0.2**
BJT pmax pmax
comp=Z,98nm,0.8s
BJT Baijiatuau 37.39 347 *e*P **P** **20 22 26.7 +0.2**
comp=Z,98nm,0.8s,mb5.8
BJI Beijing 37.41 347 P **P** **20 22 26.7 0.0**
BJI AP pP 20 22 50.9 +8.0
BJI S **S** **20 28 01.3 -8.8**
BJI AMB AMB
comp=Z,112nm,0.8s,mb5.8
BJI AMB AMB
comp=Z,178nm,3.9s
BJI LR LR
comp=N,240nm,21.6s
BJI LR LR
comp=E,165nm,20.4s
BJI LR LR
comp=Z,282nm,22.8s
NWAO Narrogin (SRO) 37.50 193 P **P** **20 22 27.4 0.0**
comp=Z,15nm,0.9s,mb4.9,baz=21,slow=7.9,SNR=12
NWAO Narrogin (SRO) 37.50 193 *e*P **P** **20 22 27.8 +0.4**
SNY Shenyang 38.07 356 ⇑P **P** **20 22 33.8 +1.5**
STKA Stephens Creek 38.12 159 *e*P **P** **20 22 30.3 -2.4**
comp=Z,62nm,0.7s,mb5.5
STKA *e*PCP PcP 20 24 45.6 -0.8
STKA Stephens Creek 38.12 159 P **P** **20 22 30.6 -2.1**
comp=Z,76nm,0.7s,mb5.6,baz=333,slow=8.2,SNR=140
STKA PcP PcP 20 24 45.4 -1.1
comp=Z,17nm,0.6s,baz=324,slow=6.6,SNR=6.5
STKA LR LR 20 39 11.0
comp=Z,232nm,21.6s,baz=216,slow=38
LZH Lanzhou 38.50 330 ⇑P **P** **20 22 35.8 -0.1**
LZH AP pP 20 22 58.5 +6.4
LZH S **S** **20 28 24.7 -2.0**
LZH SS SS 20 31 11.2 -7.1
LZH AMB AMB
comp=Z,37nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,153nm,5.6s
LZH LR LR
comp=E,665nm,13.5s
LZH LR LR
comp=Z,1μm,17.6s
HHC Hu-ho-hao-te 39.41 342 ⇑P **P** **20 22 45.0 +1.5**
HHC AP pP 20 23 07.8 +8.0
HHC PP PP 20 24 21.1 +6.1
HHC PCP PcP 20 24 51.5 +1.0
HHC SCP ScP 20 28 30.1 -3.2
HHC S **S** **20 28 40.2 -0.2**
HHC SS SS 20 31 32.1 -4.5
HHC SCS ScS 20 32 40.4 -5.1
HHC AMB AMB
comp=Z,25nm,1.5s,mb4.8
HHC AMB AMB
comp=Z,118nm,5.6s
HHC LR LR
comp=N,328nm,18.6s
HHC LR LR
comp=E,248nm,18.0s
HHC LR LR
comp=Z,350nm,19.0s
SHL Shillong 39.84 306 *e*P **P** **20 22 48.0 +0.9**
SHL *e*S **S** **20 28 48.0 +1.2**
CN2 Changchun 39.95 359 *e*P **P** **20 22 48.4 +0.4**
CN2 *e*S **S** **20 28 47.8 -0.7**
CN2 *e*SS SS 20 31 44.2 -3.3
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
CN2 LR LR
comp=N,200nm,19.0s
CN2 LR LR
comp=E,300nm,19.0s
CN2 LR LR
comp=Z,200nm,19.0s
MDJ Mudanjiang 40.84 3 P **P** **20 22 56.2 +0.9**
MDJ AP pP 20 23 19.5 +7.8
MDJ PP PP 20 24 34.4 +3.9
MDJ SCP ScP 20 28 37.9 -1.0
MDJ PCS PcS 20 28 47.6 +1.6
MDJ S **S** **20 29 04.8 +3.1**
MDJ SCS ScS 20 32 53.5 -0.5
MDJ AMB AMB
comp=Z,32nm,0.8s,mb5.2
MDJ AMB AMB
comp=Z,92nm,4.6s
MDJ LR LR
comp=N,76nm,22.9s
MDJ LR LR
comp=E,150nm,28.6s
MDJ LR LR
comp=Z,183nm,18.6s
MDJ Mudanjiang 40.84 3 *e*P **P** **20 22 56.4 +1.1**
comp=Z,25nm,0.8s,mb5.1
ARMA Armidale 41.48 147 *e*P **P** **20 23 01.5 +1.0**
LSA Lhasa 42.41 311 P **P** **20 23 09.3 +1.1**
LSA AMB AMB
comp=Z,20nm,0.9s,mb4.8
LSA Lhasa 42.41 311 *e*P **P** **20 23 08.5 +0.3**
LSA pmax pmax
comp=Z,24nm,0.6s,mb5.1
LSA Lhasa 42.41 311 *e*P **P** **20 23 08.5 +0.3**
comp=Z,24nm,0.6s,mb5.1
GTA Gaotai 43.09 329 *e*P **P** **20 23 13.1 -0.6**
GTA AP pP 20 23 37.0 +6.9
GTA PP PP 20 24 56.4 +1.6
GTA PCP PcP 20 25 04.3 +1.8
GTA PPP 20 25 34.1
GTA SCP ScP 20 28 41.8 -6.1
GTA PCS PcS 20 28 53.1 -1.9
GTA S **S** **20 29 30.2 -4.7**
GTA XS sS 20 30 10.1 +7.2
GTA SS SS 20 32 38.0 -11
GTA SCS ScS 20 33 01.4 -6.4
GTA AMB AMB
comp=Z,6.0nm,0.7s,mb4.4
GTA AMB AMB
comp=Z,80nm,6.8s
GTA LR LR
comp=N,263nm,19.8s
GTA LR LR
comp=E,469nm,22.1s
GTA LR LR
comp=Z,662nm,21.7s
BOK Bokaro 44.12 301 *e*P **P** **20 23 21.4 -0.5**
CNB Canberra Magne 44.27 153 *e*P **P** **20 23 24.7 +1.6**
comp=Z,16nm,1.0s,mb4.7
TOO Toolangi 44.63 159 *e*P **P** **20 23 28.3 +2.3**
comp=Z,9.2nm,0.8s,mb4.6
TOO *e*PCP PcP 20 25 10.2 +2.4
TOO Toolangi 44.63 159 *e*P **P** **20 23 28.3 +2.3**
TOO *e* 20 25 10.2
TOO pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
HABR Khabarovsk 45.19 8 *e*P **P** **20 23 32.4 +1.9**
HABR *e*S **S** **20 30 12.1 +6.7**
YSS Yuzh-Sakhalins 45.30 16 *e*P **P** **20 23 31.0 -0.3**
YSS *e* 20 23 38.0
JIRN Jiri 45.34 306 *e*P **P** **20 23 31.3 -0.3**
comp=Z,48nm,0.8s,mb5.3
KLR Kul'dur 45.58 5 *e*P **P** **20 23 30.8 -2.7**
GUN Gumba 45.69 306 *e*P **P** **20 23 34.3 -0.1**
comp=Z,54nm,0.7s,mb5.4
HIA Hailar 45.79 354 *e*P **P** **20 23 35.7 +0.5**
HIA pmax pmax
comp=Z,26nm,0.9s
HIA Hailar 45.79 354 *e*P **P** **20 23 35.7 +0.5**
comp=Z,26nm,0.9s,mb5.0
PKI Pulchoki 45.93 305 *e*P **P** **20 23 35.8 -0.5**
comp=Z,16nm,0.7s,mb4.9
KKN Kakani 46.12 306 *e*P **P** **20 23 37.3 -0.5**
comp=Z,14nm,0.4s,mb5.0
DMN Daman 46.19 305 *e*P **P** **20 23 37.4 -1.0**
comp=Z,22nm,0.8s,mb5.0
GKN Gorkha 46.73 306 *e*P **P** **20 23 41.5 -1.1**
comp=Z,18nm,0.6s,mb5.0
ULN Ulaanbaatar 47.13 342 *e*P **P** **20 23 45.1 -0.6**
ULN pmax pmax
comp=Z,13nm,0.8s,mb4.7
ULN Ulaanbaatar 47.13 342 *e*P **P** **20 23 45.1 -0.6**
comp=Z,13nm,0.8s,mb4.7
SONM Songino Array 47.31 341 P **P** **20 23 46.4 -0.7**
comp=Z,8.1nm,0.7s,mb4.6,baz=154,slow=8.3,SNR=80
SONM PcP PcP 20 25 18.5 +1.3
comp=Z,6.5nm,0.7s,baz=164,slow=4.4,SNR=7.4
SONM LR LR 20 44 12.4
comp=Z,245nm,21.8s,baz=298,slow=37
SONM Songino Array 47.31 341 P **P** **20 23 46.4 -0.7**
SONM 20 25 18.5
SONM pmax pmax
comp=Z,8.0nm,0.7s
SONM MLR MLR
comp=Z,245nm,21.8s
KOLN Koldanda 47.49 305 *e*P **P** **20 23 47.7 -0.8**
comp=Z,59nm,0.5s,mb5.6
HYB Hyderabad 49.06 290 *i* P **P** **20 24 01.6 +1.0**
HYB *e* 20 24 09.5
HYB Hyderabad 49.06 290 *e*P **P** **20 24 01.6 +1.0**
NGP Nagpur 49.38 295 *e*P **P** **20 24 02.6 -0.5**
NGP AMb AMB 20 24 13.3
comp=Z,17nm,1.9s,mb4.7
CIT Chita 49.39 349 *e*P **P** **20 24 04.2 +1.1**
CIT *e* pP 20 24 18.4 -1.5
CIT pmax pmax
comp=Z,45nm,1.0s,mb5.3
TRD Trivandrum 49.62 278 *e*P **P** **20 24 04.8 -0.1**
TRD AMb AMB 20 24 13.8
comp=Z,47nm,1.3s,mb5.2
ZAK Zakamensk 50.53 341 *e*P **P** **20 24 11.1 -0.7**
ZAK pmax pmax
comp=Z,6.0nm,1.4s,mb4.4
BHPL Bhopal 51.35 297 *e*P **P** **20 24 17.5 -0.4**
TLY Talaya 51.54 342 P **P** **20 24 19.2 -0.1**
comp=Z,96nm,0.6s,mb6.0,SNR=5.1
TLY Talaya 51.54 342 *e*P **P** **20 24 19.4 +0.1**
TLY pmax pmax
comp=Z,11nm,0.7s,mb5.0
TLY MLR MLR
comp=Z,257nm,23.0s
TLY Talaya 51.54 342 *e*P **P** **20 24 18.6 -0.7**
comp=Z,12nm,0.8s,mb5.0
MOY Mondy 52.39 340 *e*P **P** **20 24 26.4 +0.8**
WMQ Urumqi 52.71 325 ⇑P **P** **20 24 29.5 +1.5**
WMQ AP pP 20 24 53.2 +8.3
WMQ PCP PcP 20 25 38.4 +1.4
WMQ PP PP 20 26 31.3 +3.6
WMQ PPP 20 27 38.5
WMQ SCP ScP 20 29 25.0 -3.5
WMQ PCS PcS 20 29 35.5 -0.1
WMQ S **S** **20 31 47.5 -3.5**
WMQ SCS ScS 20 34 06.1 -5.6
WMQ AMB AMB
comp=Z,14nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,22nm,5.4s
WMQ LR LR
comp=N,552nm,25.2s
WMQ LR LR
comp=Z,304nm,22.2s
DDI Dehra Dun 52.93 306 *ex* **P** **20 24 27.0 -2.6**
NDI New Delhi 53.08 303 *e*P **P** **20 24 29.0 -1.8**
NDI AMb AMB 20 24 29.8
comp=Z,34nm,0.7s,mb5.5
POO Poona 53.66 290 ⇑ *i*P **P** **20 24 33.5 -1.5**
comp=Z,50nm,1.0s,mb5.5
SMLA Simla 53.93 306 *e*P **P** **20 24 35.1 -1.9**
SMLA AMb AMB 20 24 36.6
comp=Z,76nm,0.9s,mb5.7
BOD Bodaibo 54.89 352 *e*P **P** **20 24 43.9 0.0**
BOD pmax pmax
comp=Z,16nm,1.6s,mb4.8
DLH Dalhousie 55.37 307 *e*P **P** **20 24 46.0 -1.4**
MK31 Makanchi Array 57.54 325 P **P** **20 25 01.6 -1.2**
MK31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
MKAR Makanchi Array 57.54 325 P **P** **20 25 02.4 -0.5**
comp=Z,8.8nm,0.5s,mb5.0,baz=118,slow=7.4,SNR=56
MKAR ScP ScP 20 29 54.0 +4.3
comp=Z,1.1nm,0.8s,baz=180,slow=0.5,SNR=4.1
MKAR Makanchi Array 57.54 325 P **P** **20 25 02.4 -0.4**
MKAR pmax pmax
comp=Z,9.0nm,0.5s
MKAR pmax pmax
comp=N,1.0nm,0.8s
KSH Kashi 58.02 315 *e*P **P** **20 25 07.1 +1.0**
KSH *e*AP pP 20 25 30.5 +7.2
KSH *e*PCP PcP 20 25 57.2 -0.3
KSH *e*PP PP 20 27 19.1 +3.9
KSH *e*SCP ScP 20 29 47.3 -4.5
KSH *e*PCS PcS 20 29 57.0 -1.9
KSH *e*S **S** **20 32 55.5 -6.3**
KSH *e*SCS ScS 20 34 42.2 -7.5
KSH *e*SS SS 20 36 52.1 -1.6
KSH AMB AMB
comp=Z,155nm,4.4s
KSH LR LR
comp=N,147nm,4.9s
KSH LR LR
comp=E,117nm,6.8s
KSH LR LR
comp=Z,186nm,4.7s
YAK Yakutsk 58.25 2 *e*P **P** **20 25 08.8 +1.1**
YAK *e* 20 33 11.1
YAK pmax pmax
comp=Z,29nm,0.8s,mb5.4
YAK pmax pmax
comp=N,7.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.5s
YAK Yakutsk 58.25 2 *e*P **P** **20 25 08.3 +0.6**
comp=N,51nm,0.7s,mb5.7
BHJ Bhuj 58.34 295 *e*P **P** **20 25 07.7 -0.6**
BHJ AMb AMB 20 25 09.3
comp=Z,67nm,1.0s,mb5.6
MA2 Magadan 58.76 14 P **P** **20 25 12.2 +0.9**
MA2 *e* 20 37 02.5
MA2 pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
ULHL Ulahol 59.00 318 P **P** **20 25 14.3 +1.3**
SNR=11
KZA Kyzart 59.59 318 P **P** **20 25 18.7 +1.7**
SNR=26
TKM2 Tokmak 2 59.73 319 P **P** **20 25 17.8 -0.1**
SNR=29
KBK Karagaybulak 60.04 318 P **P** **20 25 21.6 +1.4**
SNR=12
UCH Uchtor 60.15 317 P **P** **20 25 22.9 +2.0**
SNR=57
CHMS Chumysh 60.32 318 P **P** **20 25 22.2 +0.2**
SNR=9.1
AAK Ala-Archa 60.34 318 P **P** **20 25 22.9 +0.8**
SNR=11
AAK Ala-Archa 60.34 318 P **P** **20 25 21.3 -0.8**
comp=Z,57nm,0.7s,mb5.7,SNR=10
AAK Ala-Archa 60.34 318 *e*P **P** **20 25 21.4 -0.7**
AAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
AAK Ala-Archa 60.34 318 *e*P **P** **20 25 21.4 -0.7**
comp=Z,6.8nm,0.8s,mb4.7
ZAL Zalesovo 60.59 333 P **P** **20 25 22.3 -1.6**
comp=Z,0.8nm,0.4s,mb4.1,baz=38,slow=4.0,SNR=2.6
ZAL LR LR 20 53 38.6
comp=Z,230nm,19.7s,baz=342,slow=38
ZAL Zalesovo 60.59 333 P **P** **20 25 22.3 -1.6**
ZAL pmax pmax
comp=Z,1.0nm,0.4s
ZAL MLR MLR
comp=Z,230nm,19.7s
ZAL Zalesovo 60.59 333 P **P** **20 25 22.3 -1.6**
ZAL LR LR 20 53 38.6
USP Ospenovka 60.60 319 P **P** **20 25 24.9 +0.9**
SNR=39
AML Almayashu 60.67 317 P **P** **20 25 25.2 +0.8**
SNR=62
EKS2 Erkin-Say 60.83 318 P **P** **20 25 26.9 +1.4**
SNR=61
KURK Kurchatov 61.73 328 P **P** **20 25 31.1 -0.5**
comp=Z,292nm,0.6s,SNR=47
KURK Kurchatov 61.73 328 *e*P **P** **20 25 30.3 -1.3**
KURK pmax pmax
comp=Z,44nm,0.8s,mb5.5
KURK Kurchatov 61.73 328 *e*P **P** **20 25 30.3 -1.3**
comp=Z,44nm,0.8s,mb5.5
RPZ Rata Peaks 61.77 145 P **P** **20 25 31.2 -0.6**
comp=Z,36nm,0.8s,mb5.4,baz=352,slow=7.2,SNR=8.9
NVS Novosibirsk 61.87 333 *e*P **P** **20 25 29.7 -2.8**
NVS *e*S **S** **20 33 49.4 -1.8**
NVS pmax pmax
comp=N,4.0nm,0.7s
NVS pmax pmax
comp=E,4.0nm,0.7s
NVS pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
NVS smax
comp=N,4.0nm,1.8s
NVS smax
comp=E,13nm,1.8s
FX1 Attu Island--F 62.15 30 *e*P **P** **20 25 36.1 +1.7**
KKAR Karatay Array 63.21 317 *i* P **P** **20 25 40.3 -1.1**
KKAR pmax pmax
comp=Z,16nm,0.8s,mb5.0
AFI Afiamalu 63.50 107 LR LR 20 50 29.8
comp=Z,153nm,19.0s,baz=286,slow=33
VOSK Vostochnaya 66.86 327 P **P** **20 26 03.3 -1.8**
VOSK pmax pmax
comp=Z,16nm,0.8s,mb4.9
BVA0 Borovoye Array 67.31 327 *i* P **P** **20 26 06.9 -1.1**
BVA0 pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
BVAR Borovoye Array 67.31 327 P **P** **20 26 07.3 -0.7**
comp=Z,26nm,0.8s,mb5.1,baz=116,slow=6.9,SNR=99
BVAR Borovoye Array 67.31 327 P **P** **20 26 07.3 -0.7**
BVAR pmax pmax
comp=Z,26nm,0.8s
BRVK Borovoye 67.38 327 P **P** **20 26 08.8 +0.4**
comp=Z,284nm,0.8s,SNR=12
BRVK Borovoye 67.38 327 *e*P **P** **20 26 07.6 -0.8**
BRVK pmax pmax
comp=Z,25nm,0.8s,mb5.1
BRVK Borovoye 67.38 327 *e*P **P** **20 26 07.5 -0.9**
comp=Z,25nm,0.8s,mb5.1
TIXI Tiksi 67.88 1 *e*P **P** **20 26 06.9 -4.7**
TIXI *e*S S 20 35 02.3 -2.7
TIXI *e*SS SS 20 39 25.1 -2.6
TIXI pmax pmax
comp=Z,32nm,1.4s,mb5.0
TIXI smax

comp=N,18nm,7.0s
TIXI smax
comp=E,51nm,9.7s
TIXI MLR MLR
comp=Z,204nm,20.0s
ZRNK Zerenda 68.04 327 *e*P **P 20 26 11.4 -1.1**
ZRNK pmax pmax
comp=Z,33nm,0.7s,mb5.3
ZRNK Zerenda 68.04 327 *e*P **P 20 26 11.4 -1.2**
comp=Z,33nm,0.7s,mb5.3
BILL Bilibino 69.61 15 *e*P **P 20 26 22.7 +0.4**
BILL *i* 20 26 49.0
BILL pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
BILL MLR MLR
comp=Z,100nm,18.0s
CASY Casey 70.77 187 *e*P **P 20 26 30.5 +1.1**
comp=Z,8.8nm,0.8s,mb4.6
AB31 Akbulak array 72.13 321 *i*P **P 20 26 36.5 -1.1**
AB31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
AKTO Aktyubinsk 73.64 322 LR LR 21 01 39.2
comp=Z,265nm,20.5s,baz=286,slow=38
AKTO Aktyubinsk 73.64 322 P **P 20 26 45.8 -0.8**
AKTO pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
AKUT Akutan 73.99 34 *e*P **P 20 26 49.4 +0.8**
MIR Mirnyy 74.11 193↓ *i*P **P 20 26 52.0 +2.7**
MIR pmax pmax
comp=Z,175nm,1.0s,mb5.7
ARU Arti 74.93 328 P **P 20 26 53.7 -0.3**
comp=Z,189nm,0.9s,mb5.8,SNR=14
ARU Arti 74.93 328 *e*P **P 20 26 53.1 -0.9**
ARU *e* 20 29 40.6
ARU *e*PPP 20 31 25.9
ARU *e*S S 20 36 27.6 +1.3
ARU *e*SS SS 20 41 12.2 -3.5
ARU MLR MLR
comp=Z,100nm,20.0s
ARU MLR MLR
comp=N,80nm,19.0s
ARU MLR MLR
comp=E,70nm,18.0s
ARU Arti 74.93 328 *e*P **P 20 26 52.7 -1.3**
comp=E,24nm,0.8s,mb5.0
ORR Orenburg 75.92 322↓ *i*P **P 20 26 59.9 +0.2**
ORR pmax pmax
comp=Z,30nm,1.5s,mb4.8
ORR MLR MLR
comp=Z,190nm,19.0s
RAR Rarotonga 76.09 113 LR LR 20 54 56.9
comp=Z,167nm,18.9s,baz=231,slow=31
QRN Al-Qurain 78.36 298 *e*P **P 20 27 13.6 +0.2**
QRN AMb AMB 20 27 16.1
comp=Z,38nm,0.7s,mb5.2
UMR Umm Al-Rimmam 78.57 299 *e*P **P 20 27 14.4 -0.1**
KBD Kabd 78.58 299 *e*P **P 20 27 14.7 +0.1**
MIB Mutribah 78.91 299 *e*P **P 20 27 15.8 -0.5**
MIB AMb AMB 20 27 17.7
comp=E,48nm,0.8s,mb5.4
NAY Al-Naaiem 78.97 299 *e*P **P 20 27 15.8 -0.9**
NAY AMb AMB 20 27 17.9
comp=Z,19nm,0.6s,mb5.1
SVW2 Sparrevohn 80.87 29 *e*P **P 20 27 27.1 +0.1**
TTA Tatalina 80.97 27 *e*P **P 20 27 28.9 +1.4**
TTA pmax pmax
comp=Z,16nm,0.8s,mb4.9
TTA Tatalina 80.97 27 *e*P **P 20 27 28.9 +1.4**
comp=Z,16nm,0.8s,mb4.9
OPO Ambohidratompo 81.21 251 P **P 20 27 30.1 +1.3**
comp=Z,3.5nm,0.8s,mb4.3,baz=70,slow=4.2,SNR=10
GNI Garni 81.45 310 LR LR 21 10 53.1
comp=Z,117nm,21.9s,baz=270,slow=41
KDAK Kodiak Island 81.96 32 P **P 20 27 34.3 +1.6**
comp=Z,267nm,0.7s,SNR=12
ZEI Tsey 82.19 312 *e*P **P 20 27 34.5 +0.6**
KIV Kislovodsk 83.11 314↓ *e*P **P 20 27 34.2 -4.5**
KIV pmax pmax
comp=Z,9.0nm,1.6s,mb4.3
VNDA Vanda 83.40 173 P **P 20 27 40.2 0.0**
comp=Z,5.1nm,0.9s,mb4.4,baz=316,slow=6.6,SNR=22
VNDA Vanda 83.40 173 *e*P **P 20 27 41.0 +0.8**
VNDA pmax pmax
comp=Z,6.0nm,1.0s
VNDA Vanda 83.40 173 *e*P **P 20 27 41.0 +0.8**
comp=Z,6.0nm,1.0s,mb4.4
SLKM Skilak Lake 83.41 30 *e*P **P 20 27 40.6 +0.3**
MAW Mawson 83.69 200 P **P 20 27 42.8 +1.1**
comp=Z,3.0nm,0.7s,mb4.2,baz=73,slow=10,SNR=4.5
MAW LR LR 21 01 03.2
comp=Z,149nm,20.2s,baz=248,slow=33
MAW Mawson 83.69 200 P **P 20 27 42.8 +1.1**
MAW pmax pmax
comp=Z,3.0nm,0.7s
MAW MLR MLR
comp=Z,149nm,20.2s
PMR Palmer 84.01 29 *e*P **P 20 27 44.0 +0.7**
PMR pmax pmax
comp=Z,25nm,0.8s,mb5.1
PMR Palmer 84.01 29 *e*P **P 20 27 44.0 +0.6**
comp=Z,25nm,0.8s,mb5.1
VRHR Novokhopersk 84.02 321 *e*P **P 20 27 43.0 -0.4**
VRHR pmax pmax
comp=Z,30nm,0.8s,mb5.2
VRHR pmax pmax
comp=N,9.0nm,0.4s
VRHR pmax pmax
comp=E,20nm,0.6s
COLA College 84.76 25 P **P 20 27 48.0 +0.9**
COLA pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
COLA College 84.76 25 P **P 20 27 48.0 +0.9**
comp=Z,5.8nm,0.6s,mb4.7
ILAR Eielson Array 85.17 25 P **P 20 27 49.4 +0.2**
comp=Z,6.4nm,0.8s,mb4.6,baz=249,slow=6.4,SNR=42
ILAR LR LR 21 04 03.8
comp=Z,59nm,20.2s,baz=182,slow=34
ILAR Eielson Array 85.17 25 P **P 20 27 49.4 +0.2**
ILAR pmax pmax
comp=Z,6.0nm,0.8s
ILAR MLR MLR
comp=Z,59nm,20.2s
PPT Papeete 85.17 108 *e*SS SS 20 43 54.6 +5.8
comp=Z,90nm,29.5s
PPT *e*LR LR 20 54 50.6
comp=Z,172nm,26.2s
PPT Papeete 85.17 108 LR LR 20 57 31.1
comp=Z,98nm,20.3s,baz=264,slow=30
KLMR Klimovskoe 85.40 331 *d*P **P 20 27 50.5 +0.2**
KLMR pmax pmax
comp=Z,50nm,0.9s,mb5.4
KLMR pmax pmax
comp=Z,20nm,5.3s
EYAK Cordova Ski Ar 85.62 30 *e*P **P 20 27 52.8 +1.4**
TBI Tubuai 85.84 114 *e*S 20 38 16.9
comp=Z,127nm,41.3s
TBI *e*LR LR 20 55 09.6
comp=Z,232nm,27.0s
OBN Obninsk 87.05 325↓ *e*P **P 20 27 58.1 -0.3**
OBN pmax pmax
comp=Z,29nm,0.7s,mb5.3
OBN MLR MLR
comp=Z,200nm,19.0s
OBN Obninsk 87.05 325 *e*P **P 20 27 57.0 -1.5**
comp=Z,29nm,0.7s,mb5.3
ASF Jabal al Asfar 87.86 302 LR LR 21 14 35.9
comp=Z,68nm,18.7s,baz=301,slow=40
APA Apatity 87.86 337↓ *i*P **P 20 27 57.0 -5.3**
APA *i* 20 28 06.4
APA pmax pmax
comp=Z,18nm,1.2s,mb5.0
APA MLR MLR
comp=Z,700nm,20.0s
DAWY Dawson 88.44 26 *e*P **P 20 28 06.3 +1.3**
JOF Joensuu 89.18 333 *e*p **P 20 28 07.9 -0.6**
comp=Z,19nm,0.7s,mb5.2
JOF Joensuu 89.18 333 *e*P **P 20 28 07.9 -0.6**
JOF pmax pmax
comp=Z,19nm,0.7s,mb5.2
SIM Simferopol' 89.22 315 *de*P **P 20 28 08.8 +0.1**
SIM pmax pmax
comp=Z,12nm,0.8s,mb5.0
SIM MLR MLR
comp=Z,150nm,22.0s
KMBO Kilima Mbogo 89.48 269 P **P 20 28 10.4 +0.5**
comp=Z,3.1nm,0.7s,mb4.5,baz=44,slow=8.1,SNR=15
KMBO LR LR 21 05 39.7
comp=Z,103nm,18.2s,baz=93,slow=34
KMBO Kilima Mbogo 89.48 269 P **P 20 28 10.5 +0.6**
KMBO pmax pmax
comp=Z,3.0nm,0.7s
KMBO MLR MLR
comp=Z,103nm,18.2s
KMBO Kilima Mbogo 89.48 269 P **P 20 28 10.4 +0.5**
KMBO LR LR 21 05 39.7
BR131 Keskin Array S 89.99 310 *e*P **P 20 28 12.3 0.0**
comp=Z,8.3nm,0.8s,mb4.9
BRTR Keskin Array B 89.99 310 P **P 20 28 12.1 -0.2**
comp=Z,8.9nm,0.8s,mb4.9,baz=117,slow=4.8,SNR=48
BRTR Keskin Array B 89.99 310 P **P 20 28 12.1 -0.2**
BRTR pmax pmax
comp=Z,9.0nm,0.9s
INK Inuvik 90.22 21 *e*P **P 20 28 13.6 +0.2**
INK pmax pmax
comp=Z,6.0nm,0.9s
INK Inuvik 90.22 21 *e*P **P 20 28 13.6 +0.2**
comp=Z,6.1nm,0.9s,mb4.7
ARCES ARCESS Array B 90.46 340 P **P 20 28 13.3 -1.2**
comp=Z,12nm,0.8s,mb5.1,baz=78,slow=6.3,SNR=21
ARCES LR LR 21 15 23.0
comp=Z,102nm,18.4s,baz=24,slow=40
ARCES ARCESS Array B 90.46 340 P **P 20 28 13.3 -1.2**
ARCES pmax pmax
comp=Z,12nm,0.8s
ARCES MLR MLR
comp=Z,102nm,18.4s
ARE0 ARCESS Array S 90.46 340 *e*P **P 20 28 13.8 -0.7**
CSS Prodhromos 90.64 305 *e*P **P 20 28 15.9 +0.5**
comp=Z,12nm,0.8s,mb5.1
KAF Kangasniemi 91.60 332 *e*p **P 20 28 18.5 -1.3**
comp=Z,5.9nm,0.6s,mb5.0,baz=75,slow=4.2
KAF Kangasniemi 91.60 332 *e*P **P 20 28 18.5 -1.3**
KAF pmax pmax
comp=Z,6.0nm,0.6s,mb5.0
FINES FINESS Array B 91.83 332 P **P 20 28 20.3 -0.6**
comp=Z,2.6nm,0.7s,mb4.6,baz=63,slow=6.0,SNR=17
FINES LR LR 21 13 48.2
comp=Z,139nm,20.3s,baz=283,slow=38
FINES FINESS Array B 91.83 332 P **P 20 28 20.3 -0.6**
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES MLR MLR
comp=Z,139nm,20.3s
AKASG Malin Array Be 91.88 321 P **P 20 28 20.1 -1.0**
comp=Z,6.5nm,0.7s,mb5.0,baz=71,slow=4.6,SNR=44
AKASG Malin Array Be 91.88 321 P **P 20 28 20.1 -1.0**
AKASG pmax pmax
comp=Z,7.0nm,0.7s
SYO Syowa Base 92.36 201↑ *e*P **P 20 28 23.9 +0.5**
QSPA South Pole Qui 93.60 180 *e*P **P 20 28 28.6 -0.5**
comp=Z,50nm,1.0s,mb5.8
DLBC Dease Lake 93.81 31 P **P 20 28 30.1 0.0**
MLR Muntele Rosu 94.88 316 LR LR 21 17 37.3
comp=Z,198nm,20.0s,baz=324,slow=40
SUW Suwalki 94.91 325 *e*P **P 20 28 34.9 -0.2**
KWP Kalwaria 96.19 321 *e*P **P 20 28 41.7 +0.8**
KOLS Kolonicke sedl 96.63 320 *e*P **P 20 28 45.2 +2.3**
comp=Z,4.2nm,1.0s,mb4.8
KOLS *e* 20 28 49.7
CRVS Cervenica-Dubn 97.16 320 *e*P **P 20 28 46.2 +0.9**
comp=Z,4.5nm,0.9s,mb4.9
STHS Stebnicka Huta 97.17 321 *e*P **P 20 28 45.5 +0.2**
comp=Z,3.3nm,0.8s,mb4.8
STHS *e* 20 28 54.5
DAG Danmarks Havn 97.28 352 *i*P **P 20 28 47.0 +1.2**
comp=Z,5.9nm,0.9s,mb5.0
DAG Danmarks Havn 97.28 352 *i*P **P 20 28 47.0 +1.2**
DAG pmax pmax
comp=Z,6.0nm,0.9s,mb5.0
KECS Kecovo 97.89 320 *e*P **P 20 28 48.3 -0.2**
KECS *e* 21 02 47.8
KECS *e* 21 03 21.2
KECS Kecovo 97.89 320 *e*P **P 20 28 48.4 -0.1**
comp=Z,3.5nm,0.8s,mb4.9
HFS Hagfors 98.02 332 LR LR 21 17 28.9
comp=Z,230nm,18.2s,baz=336,slow=38
NB2 NORSAR Subarra 98.79 334 P **P 20 28 51.4 -1.2**
comp=Z,6.1nm,0.8s,mb5.2,baz=67,slow=4.6
NOA NORSAR Array B 98.79 334 P **P 20 28 51.5 -1.1**
comp=Z,5.6nm,0.7s,mb5.2,baz=66,slow=4.6,SNR=25
NOA LR LR 21 19 55.1
comp=Z,106nm,19.7s,baz=35,slow=39
NOA NORSAR Array B 98.79 334 P **P 20 28 51.5 -1.1**
NOA pmax pmax
comp=Z,6.0nm,0.7s
NOA MLR MLR
comp=Z,106nm,19.7s
NOA NORSAR Array B 98.79 334 P **P 20 28 51.5 -1.1**
NOA LR LR 21 19 55.1
LSZ Lusaka 99.13 255 LR LR 21 09 49.7
comp=Z,186nm,20.4s,baz=358,slow=33
LSZ Lusaka 99.13 255 *e*P **P 20 28 55.1 +1.0**
LSZ pmax pmax
comp=Z,4.0nm,0.8s,mb5.0
LSZ Lusaka 99.13 255 *e*P **P 20 28 55.1 +1.0**
comp=Z,3.6nm,0.8s,mb5.0
RKT Rikitea 99.13 113 *e*LR LR 21 01 18.9
comp=Z,114nm,30.0s
YKA Yellowknife Ar 99.56 24 P Pdif 20 28 56.7 +0.7
comp=Z,1.3nm,0.6s,baz=301,slow=4.5,SNR=18
YKA PKiKP PKiKP 20 33 23.5 -1.4
comp=Z,0.3nm,0.6s,baz=294,slow=1.6,SNR=3.0
YKA Yellowknife Ar 99.56 24 P Pdif 20 28 56.7 +0.7
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 99.56 24 P Pdif 20 28 56.7 +0.7
BRG Berggiesshubel 101.22 323 *e*P Pdif 20 29 04.5 +1.1
comp=Z,2.2nm,0.8s
BRG *e* 20 29 08.7
comp=Z,1.4nm,0.8s
BRG Berggiesshubel 101.22 323 *e*P Pdif 20 29 04.5 +1.1
BRG pmax pmax
comp=Z,2.0nm,0.8s
BRG pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 102.07 322 P Pdif 20 29 07.7 +0.5
comp=Z,1.3nm,0.9s,baz=76,slow=5.6,SNR=14
GERES GERESS Array B 102.07 322 P Pdif 20 29 07.7 +0.5
GERES pmax pmax
comp=Z,1.0nm,0.9s
PDAR Pinedale Array 111.43 41 PKKPbc PKKPbc 20 44 41.9 +0.3
comp=Z,0.3nm,0.6s,baz=122,slow=4.2,SNR=4.0
PDAR PKKPab PKKPab 20 44 52.0 +0.6
comp=Z,1.0nm,0.7s,baz=118,slow=5.2,SNR=8.8
TORD Torodi Ar. Bea 122.86 288 PKP PKPdf 20 34 10.2 +1.5
comp=Z,2.9nm,0.7s,baz=52,slow=1.9,SNR=23
TORD PKKPbc PKKPbc 20 44 03.6 +2.8
comp=Z,0.6nm,0.7s,baz=282,slow=3.3,SNR=4.2
JCT Junction City 124.14 49 *e*PKIKP PKPdf 20 34 13.3 +2.2
TRQA Tornquist 144.90 168 *e*PKPdf PKPdf 20 34 50.6 +0.9
CCCC Cccc 145.58 43 *e*P PKPdf 20 34 54.6 +3.8
JTS JuntasAbangare 145.59 66 *e*PKP2 PKPab 20 34 54.5 +3.0
LMGC Las Mercedes 146.87 44 *e*P PKPab 20 34 59.8 +3.4
CPUP Villa Florida 157.17 171 PKPab PKPab 20 35 41.5 +2.2
comp=Z,3.3nm,0.7s,baz=149,slow=4.6,SNR=7.4
CPUP Villa Florida 157.17 171 PKP2 PKPab 20 35 41.6 +2.3
CPUP pmax pmax
comp=Z,3.0nm,0.7s
LPAZ La Paz 160.82 132 PKP PKPdf 20 35 16.3 +3.7
comp=Z,1.3nm,0.7s,baz=180,slow=2.4,SNR=8.8
LPAZ La Paz 160.82 132 PKIKP PKPdf 20 35 16.3 +3.7
LPAZ pmax pmax
comp=Z,1.0nm,0.7s

IDC 12 20:26:29.2±1.2, 377N×12660E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.7/19, mbtmp3.7/6, Error ellipse: s-maj=97.0km s-min=18.2km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.75**	**182**	P	P	20 31 21.7	-0.6
	1.3nm,0.7s,baz=348,slow=18,SNR=2.6						
WRA	**Warramunga Arr**	**24.76**	**162**	P	P	20 31 51.8	-0.7
	1.0nm,0.4s,baz=344,slow=9.9,SNR=9.8						
WB2	**Warramunga Arr**	**24.76**	**162**	*e*P	P	20 31 52.4	-0.1
ASAR	**Alice Springs**	**28.18**	**166**	P	P	20 32 25.2	+1.8
	0.4nm,0.6s,baz=336,slow=11,SNR=5.0						
STKA	**Stephens Creek**	**38.21**	**159**	P	P	20 33 51.3	+0.6
	2.1nm,0.8s,baz=327,slow=11,SNR=3.8						
SONM	**Songino Array**	**47.22**	**342**	P	P	20 35 03.9	0.0
	0.4nm,0.7s,baz=152,slow=8.1,SNR=5.5						
MKAR Makanchi Array 57.45 325 P P 20 36 19.9 +0.1
1.0nm,0.4s,baz=120,slow=7.6,SNR=25

MOS 12 20:55:13.8±0.4, 4335N×4470E, h14km, mb3.5/1, Error ellipse: s-maj=20.6km s-min=14.9km az=67.1, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTKR	**Batakoyurt**	**0.12**	**281**	*i* Pg	Pg	20 55 18.1	+1.0
BTKR				*i* Sg	Sg	20 55 21.2	+1.7
SNJR	**Sundja**	**0.29**	**164**	*i* Pg	Pg	20 55 21.2	+1.3
SNJR				*i* Sg	Sg	20 55 26.6	+2.6
KMSR	**Komsomolskaya**	**0.30**	**274**	*i* Pg	Pg	20 55 21.3	+1.3
KMSR				*i* Sg	Sg	20 55 26.7	+2.5
ARNR	**Ardon**	**0.35**	**243**	*i* Pg	Pg	20 55 22.0	+1.1
ARNR				*i* Sg	Sg	20 55 28.2	+2.6
TRKR	**Terskaya**	**0.37**	**4**	*i* Pg	Pg	20 55 23.1	+1.7
TRKR				*i* Sg	Sg	20 55 29.8	+3.4
KORR	**Kora**	**0.53**	**241**	*i* Pg	Pg	20 55 25.5	+1.2
KORR				*i* Sg	Sg	20 55 34.0	+2.6
LACR	**Lac**	**0.60**	**210**	*i* Pg	Pg	20 55 26.7	+1.1
LACR				*i* Sg	Sg	20 55 36.2	+2.6

ISK **12** *20:59:36.6, 3468N×2635E, h68km, MD4.3*
ISCJB **12** *20:59:41.1±0.2, 3494N±002×2679E±002, h33km, mb4.0/40, Error ellipse: s-maj=2.4km s-min=1.8km az=68.5*
CSEM **12** *20:59:42.3±0.0, 3497N×2694E, h40km, Mw3.7, Error ellipse: s-maj=1.2km s-min=0.8km az=55.0*
ATH **12** *20:59:42.8, 3511N×2679E, h32km±1km, MD4.2/20, ML4.4*
THE **12** *20:59:43.9, 3519N×2673E, h10km, ML3.9*
NEIC **12** *20:59:43.2, 3514N×2678E, h33km, mb4.1/20, ML4.0(THE), ML4.4(ATH), After ATH.*
MOS **12** *20:59:44.1±0.9, 3509N×2668E, h61km, mb4.3/27, Error ellipse: s-maj=6.2km s-min=3.2km az=112.2*
NIC **12** *20:59:44.6±0.2, 3439N×2698E, h25km, mb4.4, ML4.0, MW3.7*
HLW **12** *20:59:45.4, 3489N×2700E, h33km, Mb3.9*
IDC **12** *20:59:45.9±1.1, 3508N×2693E, h59km±11km, mb3.7/15, mb1 3.8/22, mb1mx3.7/30, mbtmp3.9/22, MS3.4/1, Ms1 3.4/1, ms1mx2.6/36, Error ellipse: s-maj=17.1km s-min=7.3km az=179.0*

ISC 12 20:59:43.5±0.2, 3497N±002×2678E±002, h35km, n283, σ18 31/316, mb4.0/40, 14C-7D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.48**	**287**	*e*Pg	**Pn**	**20 59 52.0**	**-1.9**
ZKR				*e*Sg	**Sn**	**20 59 60.0**	**-1.2**
KARP	**Karpathos**	**0.65**	**28**	*e*PN	**Pn**	**20 59 53.9**	**-2.3**
KARP				*e*SN	**Sn**	**21 00 03.0**	**-2.3**
XRY	**Khrisi**	**0.90**	**264**	*e*PN	**Pn**	**21 00 00.5**	**+0.9**
XRY				*e*SN	**Sn**	**21 00 13.0**	**+1.7**
NPS	**Neapolis**	**1.00**	**287**	*e*PN	**Pn**	**21 00 01.4**	**+0.4**
NPS				*e*SN	**Sn**	**21 00 14.7**	**+0.8**
LAST	**Lasithi**	**1.09**	**280**	*e*Pg	**Pn**	**21 00 02.5**	**+0.3**
LAST				*e*Sg	**Sn**	**21 00 19.1**	**+3.1**
IDI	**Anoyia**	**1.58**	**282**	P	**Pn**	**21 00 11.3**	**+2.3**
	79nm,0.3s,baz=104,slow=17,SNR=317						
IDI				S	**Sn**	**21 00 34.7**	**+6.5**
	188nm,0.3s,baz=343,slow=8.9,SNR=9.0						
IDI				LR	LR	21 01 08.4	
	comp=Z,626nm,21.5s,baz=127,slow=49						
SIVA	**Sivas**	**1.62**	**272**	*e*Pg	**Pn**	**21 00 12.4**	**+2.9**
SIVA				*e*Sg	**Sn**	**21 00 34.4**	**+5.3**
SIVA	**Sivas**	**1.62**	**272**	*e*Pg	**Pn**	**21 00 12.4**	**+2.9**
SIVA				*e*Sg	**Sn**	**21 00 34.4**	**+5.3**
ARG	**Arkhangelos**	**1.66**	**41**	*e*PN	**Pn**	**21 00 11.4**	**+1.4**
ARG				*e*SN	**Sn**	**21 00 30.3**	**+0.2**
ARG	**Arkhangelos**	**1.66**	**41**	*e*Pn	**Pn**	**21 00 11.7**	**+1.7**
NISR	**Nisiros**	**1.66**	**10**	*e*PB	**Pn**	**21 00 09.0**	**-1.1**
NISR				*e*SN	**Sn**	**21 00 30.0**	**-0.2**
THR1	**Thera Island**	**1.76**	**323**	*e*Pg	**Pn**	**21 00 11.4**	**-0.1**
THR1				*e*Sg	**Sn**	**21 00 32.8**	**+0.1**
SANT	**Santorini**	**1.76**	**323**	*e*Pg	**Pn**	**21 00 11.3**	**-0.2**
SANT				*e*Sg	**Sn**	**21 00 33.1**	**+0.4**
THR3	**Thira Island,**	**1.82**	**322**	*e*Pb	**Pn**	**21 00 12.5**	**+0.2**
BODT	**Bodrum**	**2.13**	**11**	PN	**Pn**	**21 00 16.7**	**+0.2**
BODT				SN	**Sn**	**21 00 45.6**	**+3.9**
BDRM	**Kayabasi**	**2.16**	**14**	*i* P	**Pn**	**21 00 17.7**	**+0.8**
VAM	**Vamos**	**2.16**	**282**	*e*PB	**Pn**	**21 00 19.7**	**+2.8**
VAM				*e*SN	**Sn**	**21 00 45.5**	**+3.0**
GVD	**Gavdhos**	**2.22**	**267**	*e*Pn	**Pn**	**21 00 20.7**	**+3.0**
GVD				*e*Sn	**Sn**	**21 00 48.0**	**+4.1**
GVD	**Gavdhos**	**2.22**	**267**	*e*PB	**Pn**	**21 00 20.5**	**+2.8**
GVD				*e*SN	**Sn**	**21 00 47.0**	**+3.1**
APE	**Apeiranthos**	**2.33**	**335**	*e*Pn	**Pn**	**21 00 19.1**	**-0.1**
APE				*e*Sn	**Sn**	**21 00 45.6**	**-1.0**
APE	**Apeiranthos**	**2.33**	**335**	*e*PN	**Pn**	**21 00 19.1**	**-0.1**
APE				*e*SN	**Sn**	**21 00 45.5**	**-1.1**
DALT	**Dalyan (Mudla)**	**2.34**	**39**	PN	**Pn**	**21 00 20.9**	**+1.4**
MLSB	**Milas**	**2.46**	**19**	PN	**Pn**	**21 00 21.9**	**+0.9**
YER	**Yerkesik**	**2.48**	**29**	PN	**Pn**	**21 00 22.1**	**+0.9**
FETY	**Fethiye**	**2.50**	**48**	PN	**Pn**	**21 00 22.5**	**+0.9**
KSL	**Kastellorizon**	**2.57**	**62**	*e*PN	**Pn**	**21 00 23.0**	**+0.4**
SMG	**Samos**	**2.73**	**1**	*e*PN	**Pn**	**21 00 24.1**	**-0.7**
AYDN	**Tasoluk**	**2.83**	**18**	*i* P	**Pn**	**21 00 27.0**	**+0.9**
ELL	**Elmali**	**3.10**	**54**	PN	**Pn**	**21 00 31.7**	**+1.9**
DENT	**Denizli**	**3.32**	**33**	PN	**Pn**	**21 00 33.3**	**+0.4**
KYTH	**Kithira**	**3.32**	**294**	*e*PN	**Pn**	**21 00 34.5**	**+1.6**
URLA	**Izmir**	**3.39**	**358**	*i* P	**Pn**	**21 00 33.1**	**-0.7**
IZM	**Izmir**	**3.44**	**6**	PN	**Pn**	**21 00 34.7**	**+0.1**
KDAG	**Bornova**	**3.45**	**6**	*i* P	**Pn**	**21 00 35.0**	**+0.3**
CHOS	**Chios island**	**3.46**	**350**	*e*Pn	**Pn**	**21 00 34.6**	**-0.2**
CHOS				*e*Sn	**Sn**	**21 01 14.6**	**+0.1**
VLI	**Veliai**	**3.58**	**300**	*e*PN	**Pn**	**21 00 36.9**	**+0.5**
ANTB	**Antalya**	**3.69**	**57**	PN	**Pn**	**21 00 40.2**	**+2.3**
SLUM		**3.71**	**201**	↑P	**Pn**	**21 00 40.3**	**+2.0**
SLUM				S	**Sn**	**21 01 20.0**	**-0.7**
KVR	**Kavouri**	**3.75**	**320**	*e*PN	**Pn**	**21 00 39.5**	**+0.8**
MANT	**Manisa**	**3.79**	**22**	*i* P	**Pn**	**21 00 39.8**	**+0.4**
PTL	**Penteli**	**3.87**	**323**	*e*PN	**Pn**	**21 00 41.6**	**+1.2**
HMAT	**Matruh**	**3.88**	**176**	↑P	**Pn**	**21 00 41.3**	**+0.8**
HMAT				S	**Sn**	**21 01 22.3**	**-2.5**
ATH	**Athens Observa**	**3.88**	**321**	*e*PN	**Pn**	**21 00 41.7**	**+1.1**
AKS	**Akhisar**	**3.99**	**12**	PN	**Pn**	**21 00 41.8**	**-0.3**
MGER	**Gerania Oros**	**4.14**	**318**	*e*PN	**Pn**	**21 00 45.6**	**+1.5**
ISP	**Isparta**	**4.15**	**45**	P	**Pn**	**21 00 47.5**	**+3.1**
TKTP	**Tekketepe**	**4.18**	**42**	*i* P	**Pn**	**21 00 45.9**	**+1.1**
PRK	**Paraskevi**	**4.29**	**355**	*e*PN	**Pn**	**21 00 45.6**	**-0.6**
ITM	**Ithomi**	**4.51**	**301**	*e*PN	**Pn**	**21 00 51.3**	**+2.1**
PPCY	**Paphos**	**4.57**	**89**	P	**Pn**	**21 00 49.5**	**-0.6**
LKR	**Lokris**	**4.76**	**322**	*e*PN	**Pn**	**21 00 54.6**	**+1.9**
LKR	**Lokris**	**4.76**	**322**	*e*Pn	**Pn**	**21 00 54.5**	**+1.8**
ALFC	**Alevga**	**4.78**	**86**	P	**Pn**	**21 00 52.8**	**-0.1**
	27nm,0.8s						
ALFC				S	**Sn**	**21 01 47.0**	**0.0**
AOS	**Alonnisos**	**4.79**	**332**	*e*Pn	**Pn**	**21 00 53.8**	**+0.7**
SZAC	**Souni-Zanaja**	**5.02**	**91**	P	**Pn**	**21 00 56.0**	**-0.3**
SZAC				S	**Sn**	**21 01 51.5**	**-1.6**
LOS	**Limnos**	**5.14**	**345**	*e*PN	**Pn**	**21 00 58.4**	**+0.6**
XOR	**Xorichti**	**5.24**	**328**	*e*Pn	**Pn**	**21 01 00.7**	**+1.4**
ERMK	**Ermenek**	**5.25**	**70**	*i* P	**Pn**	**21 01 01.2**	**+1.7**
MAMC	**Mammari**	**5.28**	**86**	P	**Pn**	**21 01 00.0**	**+0.1**
CSS	**Prodhromos**	**5.38**	**88**	P	**Pn**	**21 01 01.1**	**-0.1**
	3.3nm,0.7s						
CSS				S	**Sn**	**21 02 01.0**	**-0.8**
KONT	**Konya--Tatoy**	**5.39**	**55**	PN	**Pn**	**21 01 02.8**	**+1.5**
AGG	**Agios Georgios**	**5.39**	**320**	*e*Pn	**Pn**	**21 01 01.2**	**-0.1**
AGG				*e*Sn	**Sn**	**21 02 04.2**	**+2.1**
BNT	**Bandirma**	**5.45**	**9**	PN	**Pn**	**21 01 01.9**	**-0.3**
ULUT	**Uludag**	**5.49**	**19**	*i* P	**Pn**	**21 01 03.0**	**+0.6**
PAIG	**Paliouri**	**5.53**	**334**	*e*Pn	**Pn**	**21 01 03.9**	**+0.6**
ESKT	**Eskisehir**	**5.58**	**34**	*i* P	**Pn**	**21 01 04.4**	**+0.4**
SEYT	**Eskypehyr**	**5.58**	**34**	*i* P	**Pn**	**21 01 04.4**	**+0.4**
EVR	**Evrytania**	**5.60**	**316**	*e*PN	**Pn**	**21 01 07.1**	**+2.9**
KIZT	**Kizilcal**	**5.65**	**45**	*e*PN	**Pn**	**21 01 05.5**	**+0.6**
MRMT	**Marmara Adasi**	**5.66**	**6**	*e*PN	**Pn**	**21 01 05.2**	**+0.2**
BORA	**Eskisehir**	**5.71**	**30**	*i* P	**Pn**	**21 01 08.6**	**+2.9**
SWA1		**5.76**	**189**	↑P	**Pn**	**21 01 08.3**	**+1.8**
SWA1				S	**Sn**	**21 02 08.8**	**-2.5**
IKL	**Isikli**	**5.76**	**75**	*e*PN	**Pn**	**21 01 06.8**	**+0.3**
OUR	**Ouranopolis**	**5.80**	**338**	*e*Pn	**Pn**	**21 01 07.0**	**0.0**
OUR	**Ouranopolis**	**5.80**	**338**	*e*Pn	**Pn**	**21 01 06.9**	**0.0**
SWA2		**5.82**	**192**	↑P	**Pn**	**21 01 09.1**	**+1.8**
SWA2				S	**Sn**	**21 02 10.6**	**-2.1**

VLS	**Valsamata**	**5.92**	**305**	*e*PN		**Pn**	**21 01 10.5**	**+1.9**
ALN	**Alexandroupoli**	**5.95**	**355**	*e*Pn		**Pn**	**21 01 08.6**	**-0.3**
YLV	**Yalova**	**5.95**	**19**	*e*PN		**Pn**	**21 01 09.1**	**+0.1**
PHNC	**Paralimni**	**5.95**	**88**	P		**Pn**	**21 01 10.1**	**+1.0**
PHNC				S		**Sn**	**21 02 15.0**	**-1.0**
LIT	**Litokhoron**	**6.15**	**328**	*e*Pn		**Pn**	**21 01 13.4**	**+1.6**
LKD	**Levkas**	**6.17**	**309**	*e*Pn		**Pn**	**21 01 13.2**	**+1.1**
THE	**Thessaloniki**	**6.41**	**333**	*e*Pn		**Pn**	**21 01 16.9**	**+1.6**
SOH	**Sokhos**	**6.44**	**336**	*e*Pn		**Pn**	**21 01 17.1**	**+1.3**
MERS	**Mersin**	**6.56**	**71**	*e*PN		**Pn**	**21 01 17.8**	**+0.4**
KOT	**Kottamia**	**6.59**	**138**	⇓P		**Pn**	**21 01 17.6**	**-0.2**
KOT	**Kottamia**	**6.59**	**138**	P		**Pn**	**21 01 17.6**	**-0.3**
SRS	**Serrai**	**6.63**	**339**	*e*Pn		**Pn**	**21 01 19.3**	**+0.9**
HSAF	**As Saff**	**6.69**	**142**	⇑P		**Pn**	**21 01 19.5**	**+0.3**
HHAG	**Hagoal**	**6.72**	**137**	P		**Pn**	**21 01 19.6**	**0.0**
KDZ	**Kurdzhali**	**6.75**	**351**	*e*P		**Pn**	**21 01 19.7**	**-0.4**
GLL	**Jalalah**	**6.80**	**141**	⇑P		**Pn**	**21 01 21.1**	**+0.3**
ANTO	**Ankara**	**6.84**	**43**	*e*P		**Pn**	**21 01 21.5**	**+0.3**
ANTO					pmax	pmax		
	comp=Z,13nm,0.8s							
ANTO	**Ankara**	**6.84**	**43**	*e*P		**Pn**	**21 01 21.4**	**+0.2**
	comp=Z,13nm,0.8s							
ANTO	**Ankara**	**6.84**	**43**	*e*P		**Pn**	**21 01 21.5**	**+0.3**
	comp=Z,13nm,0.8s							
IGT	**Igoumenitsa**	**6.87**	**313**	*e*Pn		**Pn**	**21 01 21.8**	**+0.2**
AWBH		**6.87**	**164**	⇑P		**Pn**	**21 01 22.7**	**+1.0**
KNT	**Kendrikon**	**6.90**	**335**	*e*Pn		**Pn**	**21 01 22.4**	**+0.3**
GRG	**Griva**	**6.90**	**331**	*e*Pn		**Pn**	**21 01 23.7**	**+1.6**
AMAG	**Maghara**	**6.92**	**127**	⇑P		**Pn**	**21 01 22.4**	**+0.1**
SGKT	**Sivrigoynuk**	**6.98**	**35**	*i* P		**Pn**	**21 01 24.2**	**+1.0**
MMB	**Musomiste**	**7.03**	**341**	*e*P		**Pn**	**21 01 26.0**	**+2.1**
KAMT	**Kaman**	**7.06**	**50**	*e*PN		**Pn**	**21 01 25.4**	**+1.1**
KARA	**Karaisali**	**7.08**	**69**	*e*PN		**Pn**	**21 01 23.9**	**-0.6**
VAY	**Valandovo**	**7.15**	**334**	*e*Pn		**Pn**	**21 01 26.7**	**+1.1**
FNA	**Florina**	**7.21**	**325**	*e*Pn		**Pn**	**21 01 27.9**	**+1.6**
SUZ		**7.23**	**133**	⇓P		**Pn**	**21 01 26.9**	**+0.2**
BR131	**Keskin Array S**	**7.23**	**47**	*e*P		**Pn**	**21 01 27.2**	**+0.5**
	comp=Z,2.6nm,0.6s							
BR131	**Keskin Array S**	**7.23**	**47**	*e*P		**Pn**	**21 01 27.2**	**+0.5**
	comp=Z,2.6nm,0.6s							
BRTR	**Keskin Array B**	**7.23**	**47**	P		**Pn**	**21 01 27.2**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=217,slow=15,SNR=13							
BRTR				S		**Sn**	**21 02 46.7**	**-0.9**
	baz=242,slow=14,SNR=2.1							
BRTR	**Keskin Array B**	**7.23**	**47**	P		**Pn**	**21 01 27.3**	**+0.6**
BRTR				S		**Sn**	**21 02 46.7**	**-0.8**
BRTR					pmax	pmax		
	comp=Z,1.0nm,0.3s							
SRN	**Sarande**	**7.29**	**314**	*e*Pn		**Pn**	**21 01 25.8**	**-1.6**
BHL	**Bhannes**	**7.41**	**96**	Sn		**Sn**	**21 02 49.4**	**-2.4**
BIA	**Bitola**	**7.42**	**326**	*e*Pn		**Pn**	**21 01 29.9**	**+0.7**
MMAI	**Mount Meron Ar**	**7.42**	**103**	P		**Pn**	**21 01 28.4**	**-0.8**
	comp=Z,3.1nm,0.3s,baz=305,slow=13,SNR=19							
MMAI				S		**Sn**	**21 02 49.5**	**-2.6**
	comp=Z,9.5nm,0.3s,baz=306,slow=25,SNR=8.5							
KKB	**Krupnik**	**7.47**	**338**	*e*P		**Pn**	**21 01 33.1**	**+3.2**
ZAF		**7.49**	**138**	⇓P		**Pn**	**21 01 30.4**	**+0.2**
HWQ	**Hawqa**	**7.59**	**93**	*e*Pn		**Pn**	**21 01 31.6**	**0.0**
HWQ				Sn		**Sn**	**21 02 53.2**	**-3.1**
HWQ	**Hawqa**	**7.59**	**93**	*e*Pn		**Pn**	**21 01 31.5**	**0.0**
ZNM		**7.60**	**136**	⇓P		**Pn**	**21 01 32.5**	**+0.8**
ELDT	**Eldivan**	**7.62**	**42**	*i* P		**Pn**	**21 01 33.1**	**+1.2**
KOZT	**Kozan**	**7.73**	**68**	*e*PN		**Pn**	**21 01 32.8**	**-0.6**
OHR	**Ohrid**	**7.74**	**324**	*e*Pn		**Pn**	**21 01 33.8**	**+0.2**
COBT	**Iskenderun**	**7.86**	**76**	*i* P		**Pn**	**21 01 35.4**	**+0.2**
HFRF	**Wahat Farafira**	**7.91**	**170**	⇑P		**Pn**	**21 01 37.8**	**+1.9**
FKH	**Fakeheh**	**7.97**	**93**	Sn		**Sn**	**21 03 01.9**	**-3.6**
VTS	**Vitosha**	**8.10**	**341**	*e*P		**Pn**	**21 01 40.5**	**+1.9**
BALT	**Daday**	**8.36**	**36**	*i* P		**Pn**	**21 01 45.1**	**+3.0**
EIL	**Elat**	**8.70**	**125**	*e*P		**Pn**	**21 01 47.2**	**+0.4**
	comp=Z,155nm,0.6s							
EIL	**Elat**	**8.70**	**125**	*e*P		**Pn**	**21 01 47.2**	**+0.4**
	comp=Z,155nm,0.6s							
PSN	**Preselentsi**	**8.77**	**7**	*e*P		**Pn**	**21 01 49.3**	**+1.6**
TR2		**8.83**	**136**	⇑P		**Pn**	**21 01 48.7**	**+0.1**
HBST	**Basata**	**8.85**	**128**	⇑P		**Pn**	**21 01 48.8**	**0.0**
HKAT	**Jabal Katrina**	**8.89**	**134**	⇓P		**Pn**	**21 01 49.8**	**+0.4**
ASF	**Jabal al Asfar**	**8.89**	**105**	P		**Pn**	**21 01 49.1**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=307,slow=5.1,SNR=2.8							
ASF				S		**Sn**	**21 03 30.1**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=198,slow=20,SNR=3.0							
ASF	**Jabal al Asfar**	**8.89**	**105**	P		**Pn**	**21 01 49.1**	**-0.3**
ASF				S		**Sn**	**21 03 30.1**	**+1.8**
ASF					smax			
	comp=N,1.0nm,0.3s							
TIP	**Timpagrande**	**9.04**	**301**	*e*P		**Pn**	**21 01 49.6**	**-1.9**
HDHB	**Dhahab**	**9.12**	**131**	⇑P		**Pn**	**21 01 53.0**	**+0.5**
TR1		**9.25**	**137**	⇓P		**Pn**	**21 01 54.9**	**+0.5**
TIRR	**Tirgusor**	**9.56**	**7**	*e*P		**Pn**	**21 01 59.7**	**+1.2**
HHRG	**Al Ghardaqah**	**9.67**	**141**	⇓P		**Pn**	**21 02 00.4**	**+0.3**
MALT	**Malatya**	**9.93**	**67**	*e*P		**Pn**	**21 02 06.5**	**+2.8**
MALT					pmax	pmax		
	comp=Z,2.0nm,0.6s							
MALT	**Malatya**	**9.93**	**67**	*e*P		**Pn**	**21 02 06.5**	**+2.8**
	comp=Z,2.2nm,0.6s							
HSFG		**10.39**	**142**	⇑P		**Pn**	**21 02 10.8**	**+0.9**
DIVS	**Divcibare**	**10.51**	**332**	*i* Pn		**Pn**	**21 02 16.4**	**+4.8**
MLR	**Muntele Rosu**	**10.53**	**357**	P		**Pn**	**21 02 13.2**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=154,slow=6.0,SNR=5.6							
HADB		**11.74**	**143**	⇑P		**Pn**	**21 02 29.7**	**+1.3**
ANN	**Anapa**	**12.77**	**37**	*e*P		**Pn**	**21 02 39.7**	**-2.7**
ANN				*e*S		**Sn**	**21 04 59.5**	**-3.7**
ANN					pmax	pmax		
	comp=Z,52nm,1.0s							
STHS	**Stebnicka Huta**	**15.00**	**346**	*e*P		**Pn**	**21 03 17.4**	**+4.6**
STHS				*es*P		sP	21 03 27.9	-3.5
KIV	**Kislovodsk**	**15.19**	**49**	*e*P		**Pn**	**21 03 20.3**	**+5.0**
KIV					pmax	pmax		
	comp=Z,8.0nm,1.1s							
AKASG	**Malin Array Be**	**15.82**	**6**	P		**Pn**	**21 03 23.9**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=194,slow=11,SNR=7.4							
AKASG	**Malin Array Be**	**15.82**	**6**	P		**Pn**	**21 03 23.9**	**+0.4**
AKASG					pmax	pmax		
	comp=Z,1.0nm,0.3s							
OKC	**Ostrava-Krasne**	**16.15**	**340**	*e*pP		pP	21 03 37.8	-1.9
OKC					AMS	AMS	21 11 50.0	
	comp=Z,100nm,11.6s							
VRAC	**Vranov**	**16.17**	**335**	P		**Pn**	**21 03 27.5**	**-0.5**
	baz=193,slow=12,SNR=4.2							
GEC2	**GERESS Array S**	**16.90**	**329**	*e*P		**Pn**	**21 03 37.6**	**+0.4**
GERES	**GERESS Array B**	**16.90**	**329**	P		**Pn**	**21 03 36.8**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=147,slow=12,SNR=12							
DPC	**Dobruska-Polom**	**17.16**	**337**	*e*P		**Pn**	**21 03 40.3**	**-0.1**
KHC	**Kasperske Hory**	**17.18**	**329**	*e*P		**Pn**	**21 03 40.9**	**+0.3**
KHC				*es*P		sP	21 03 55.5	0.0
KHC	**Kasperske Hory**	**17.18**	**329**	*e*P		**Pn**	**21 03 40.9**	**+0.3**
KHC				*e*S			21 03 55.5	
SBF	**Sospel**	**17.36**	**307**	*e*P		**Pn**	**21 03 41.4**	**-1.5**
	comp=Z,27nm,0.8s							
SBF	**Sospel**	**17.36**	**307**	*e*P		**Pn**	**21 03 41.4**	**-1.5**
SBF					pmax	pmax		
	comp=Z,13nm,0.8s							
SBF	**Sospel**	**17.36**	**307**	*e*P		**Pn**	**21 03 41.4**	**-1.5**
	comp=Z,13nm,0.8s							
UPC	**Upice**	**17.39**	**336**	*e*P		**Pn**	**21 03 40.1**	**-3.3**
PRU	**Pruhonice**	**17.48**	**333**	*e*P		**Pn**	**21 03 43.6**	**-0.8**
PRU					AMS	AMS	21 12 10.0	
	comp=Z,100nm,17.0s							
PRU	**Pruhonice**	**17.48**	**333**	*e*P		**Pn**	**21 03 43.6**	**-0.8**
	comp=Z,100nm,17.0s							
FRF	**La Foret Royal**	**17.76**	**305**	*e*P		**Pn**	**21 03 47.2**	**-0.7**
	comp=Z,10nm,0.8s							
FRF	**La Foret Royal**	**17.76**	**305**	*e*P		**Pn**	**21 03 47.2**	**-0.7**
FRF					pmax	pmax		
	comp=Z,5.0nm,0.8s							
FRF	**La Foret Royal**	**17.76**	**305**	*e*P		**Pn**	**21 03 47.2**	**-0.7**
	comp=Z,5.2nm,0.8s							
LMR	**La Mourre**	**17.77**	**304**	*e*P		**Pn**	**21 03 46.4**	**-1.6**
MBDF	**Montbardon**	**18.15**	**308**	*e*P		**Pn**	**21 03 51.5**	**-1.2**
BNI	**Bardonecchia**	**18.35**	**309**	*e*P		**Pn**	**21 03 53.8**	**-1.3**
BNI					pmax	pmax		
	comp=Z,5.0nm,0.9s							
BNI	**Bardonecchia**	**18.35**	**309**	*e*P		**Pn**	**21 03 53.8**	**-1.4**
	comp=Z,4.6nm,0.9s							
BNI	**Bardonecchia**	**18.35**	**309**	*e*P		**Pn**	**21 03 53.8**	**-1.3**
	comp=Z,4.6nm,0.9s							
BRG	**Berggiesshubel**	**18.42**	**334**	*e*P		**Pn**	**21 03 54.3**	**-1.6**
	comp=Z,3.0nm,0.8s							
BRG	**Berggiesshubel**	**18.42**	**334**	*e*P		**Pn**	**21 03 54.5**	**-1.4**
BRG					pmax	pmax		
	comp=Z,2.0nm,0.7s							
BRG	**Berggiesshubel**	**18.42**	**334**	*e*P		**Pn**	**21 03 54.5**	**-1.4**
	comp=Z,2.0nm,0.7s							
LPG	**La Plagne**	**18.51**	**311**	*e*P		**Pn**	**21 03 56.2**	**-0.8**
	comp=Z,6.5nm,0.4s							
LPG	**La Plagne**	**18.51**	**311**	*e*P		**Pn**	**21 03 56.2**	**-0.8**
	comp=Z,3.2nm,0.4s							
LPL	**La Plagne**	**18.53**	**311**	*e*P		**Pn**	**21 03 56.2**	**-1.1**
	comp=Z,4.3nm,0.4s							
LPL	**La Plagne**	**18.53**	**311**	*e*P		**Pn**	**21 03 56.2**	**-1.1**
	comp=Z,2.2nm,0.4s							
GRA1	**Grafenberg Arr**	**18.62**	**327**	*e*P		**Pn**	**21 03 56.0**	**-2.3**
	comp=Z,4.0nm,0.7s							
GRF	**Grafenberg Arr**	**18.62**	**327**	*e*P		**Pn**	**21 03 56.0**	**-2.3**
	comp=Z,4.0nm,0.7s							
GRF	**Grafenberg Arr**	**18.62**	**327**	*e*P		**Pn**	**21 03 56.0**	**-2.3**
GRF					pmax	pmax		
	comp=Z,4.0nm,0.7s							
CLL	**Collm**	**19.12**	**333**	*e*(P)		**Pn**	**21 04 06.0**	**+1.6**
MOX	**Moxa**	**19.15**	**329**	*e*P		**Pn**	**21 04 05.0**	**+0.2**
MOX								
	comp=Z,100nm,18.0s							
MOX	**Moxa**	**19.15**	**329**	*e*P		**Pn**	**21 04 05.0**	**+0.2**
	comp=Z,100nm,18.0s							
CABF	**La Chapelle**	**19.45**	**313**	*e*P		**Pn**	**21 04 04.8**	**-3.5**
	comp=Z,18nm,0.7s							
CABF	**La Chapelle**	**19.45**	**313**	*e*P		**Pn**	**21 04 04.8**	**-3.5**
CABF					pmax	pmax		
	comp=Z,9.0nm,0.7s							
CABF	**La Chapelle**	**19.45**	**313**	*e*P		**Pn**	**21 04 04.8**	**-3.5**
	comp=Z,9.0nm,0.7s							
VIVF	**Saint-Julien-l**	**19.57**	**307**	*e*P		**Pn**	**21 04 07.1**	**-2.7**
HINF	**Hinteralfeld**	**19.63**	**317**	*e*P		**Pn**	**21 04 08.1**	**-2.4**
CDF	**Champ du Feu**	**19.74**	**319**	*e*P		**Pn**	**21 04 09.9**	**-1.9**
TNS	**Taunus Mts**	**20.27**	**324**	*e*P		**P**	**21 04 14.1**	**-1.8**
	comp=Z,10.0nm,1.2s							
TNS	**Taunus Mts**	**20.27**	**324**	*e*P		**P**	**21 04 14.1**	**-1.8**
TNS					pmax	pmax		
	comp=Z,10.0nm,1.2s							
MTLF	**Montolieu**	**20.75**	**301**	*e*P		**P**	**21 04 20.1**	**-1.0**
SMF	**Signal de Mont**	**20.84**	**311**	*e*P		**P**	**21 04 19.8**	**-2.2**
	comp=Z,11nm,0.4s							
SMF	**Signal de Mont**	**20.84**	**311**	*e*P		**P**	**21 04 19.8**	**-2.2**
SMF					pmax	pmax		
	comp=Z,6.0nm,0.4s							
SMF	**Signal de Mont**	**20.84**	**311**	*e*P		**P**	**21 04 19.8**	**-2.2**
	comp=Z,5.6nm,0.4s							
MEZF	**Maizieres J'vi**	**21.02**	**317**	*e*P		**P**	**21 04 22.0**	**-2.0**
LOR	**Lormes**	**21.10**	**313**	*e*P		**P**	**21 04 22.4**	**-2.5**
	comp=Z,17nm,0.8s,mb4.1							
LOR	**Lormes**	**21.10**	**313**	*e*P		**P**	**21 04 22.4**	**-2.5**
LOR					pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.1							
LOR	**Lormes**	**21.10**	**313**	*e*P		**P**	**21 04 22.4**	**-2.5**
	comp=Z,8.4nm,0.8s,mb4.1							
AVF	**Avril sur Loir**	**21.20**	**311**	*e*P		**P**	**21 04 24.0**	**-2.0**
SSF	**Saint Saulge**	**21.23**	**312**	*e*P		**P**	**21 04 24.4**	**-1.8**
	comp=Z,26nm,0.7s,mb4.4							
SSF	**Saint Saulge**	**21.23**	**312**	*e*P		**P**	**21 04 24.4**	**-1.8**
SSF					pmax	pmax		
	comp=Z,13nm,0.7s,mb4.4							
SSF	**Saint Saulge**	**21.23**	**312**	*e*P		**P**	**21 04 24.4**	**-1.8**
	comp=Z,13nm,0.7s,mb4.4							
OBN	**Obninsk**	**21.26**	**16**	*e*P		**P**	**21 04 25.6**	**-0.9**
OBN				*e*			21 04 42.4	
OBN					pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.0							
OBN	**Obninsk**	**21.26**	**16**	*e*P		**P**	**21 04 25.6**	**-0.9**
	comp=Z,10.0nm,1.4s,mb4.0							
CAF	**Calviac**	**21.32**	**305**	*e*P		**P**	**21 04 25.7**	**-1.6**
BGF	**Bois d'Agland**	**21.42**	**310**	*e*P		**P**	**21 04 26.7**	**-1.6**
	comp=Z,7.9nm,0.6s,mb3.9							
BGF	**Bois d'Agland**	**21.42**	**310**	*e*P		**P**	**21 04 26.7**	**-1.6**
BGF					pmax	pmax		
	comp=Z,4.0nm,0.6s,mb3.9							
BGF	**Bois d'Agland**	**21.42**	**310**	*e*P		**P**	**21 04 26.7**	**-1.6**
	comp=Z,4.0nm,0.6s,mb3.9							
TCF	**Toulx Ste Croi**	**21.72**	**309**	*e*P		**P**	**21 04 30.2**	**-1.3**
RJF	**Les Rejaudoux**	**21.82**	**306**	*e*P		**P**	**21 04 31.0**	**-1.6**
	comp=Z,14nm,0.8s,mb4.1							
RJF	**Les Rejaudoux**	**21.82**	**306**	*e*P		**P**	**21 04 31.0**	**-1.6**
RJF					pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.1							
RJF	**Les Rejaudoux**	**21.82**	**306**	*e*P		**P**	**21 04 31.0**	**-1.6**
	comp=Z,7.1nm,0.8s,mb4.1							
GIVF	**Givet**	**22.03**	**320**	*e*P		**P**	**21 04 33.4**	**-1.4**
LFF	**La Frestale**	**22.22**	**304**	*e*P		**P**	**21 04 34.5**	**-2.4**
BAIF	**Baives**	**22.33**	**319**	*e*P		**P**	**21 04 35.5**	**-2.5**
	comp=Z,6.5nm,0.4s,mb4.1							
BAIF	**Baives**	**22.33**	**319**	*e*P		**P**	**21 04 35.5**	**-2.5**
	comp=Z,3.2nm,0.4s,mb4.1							
ETSF	**Etsaut**	**22.62**	**299**	*e*P		**P**	**21 04 39.6**	**-1.5**
SJPF	**Ste Jean**	**23.14**	**299**	*e*P		**P**	**21 04 45.7**	**-0.9**
	comp=Z,17nm,0.9s,mb4.2							
SJPF	**Ste Jean**	**23.14**	**299**	*e*P		**P**	**21 04 45.7**	**-0.9**
SJPF					pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.2							
SJPF	**Ste Jean**	**23.14**	**299**	*e*P		**P**	**21 04 45.7**	**-0.9**
	comp=Z,8.4nm,0.9s,mb4.2							
MFF	**Saint Martin d**	**23.35**	**308**	*e*P		**P**	**21 04 46.6**	**-2.2**
	comp=Z,8.6nm,0.7s,mb4.0							
MFF	**Saint Martin d**	**23.35**	**308**	*e*P		**P**	**21 04 46.6**	**-2.2**
MFF					pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.0							
MFF	**Saint Martin d**	**23.35**	**308**	*e*P		**P**	**21 04 46.6**	**-2.2**
	comp=Z,4.3nm,0.7s,mb4.0							
LDF	**La Druitiere**	**24.09**	**313**	*e*P		**P**	**21 04 53.4**	**-2.2**
	comp=Z,2.6nm,0.4s,mb3.8							
LDF	**La Druitiere**	**24.09**	**313**	*e*P		**P**	**21 04 53.4**	**-2.2**
LDF					pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.6							
LDF	**La Druitiere**	**24.09**	**313**	*e*P		**P**	**21 04 53.4**	**-2.2**
	comp=Z,1.3nm,0.4s,mb3.7							
FLN	**La Foliniere**	**24.38**	**313**	*e*P		**P**	**21 04 55.8**	**-2.5**
GRR	**Gorron**	**24.46**	**312**	*e*P		**P**	**21 04 56.8**	**-2.2**
	comp=Z,5.9nm,0.4s,mb4.1							
GRR	**Gorron**	**24.46**	**312**	*e*P		**P**	**21 04 56.8**	**-2.2**
GRR					pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.1							
GRR	**Gorron**	**24.46**	**312**	*e*P		**P**	**21 04 56.8**	**-2.2**
	comp=Z,3.0nm,0.4s,mb4.1							
ESDC	**Sonseca Array**	**24.83**	**290**	P		**P**	**21 05 02.0**	**-0.4**
	comp=Z,0.5nm,0.3s,mb3.5,baz=85,slow=9.4,SNR=12							
SGMF	**Saint Gilles**	**25.46**	**310**	*e*P		**P**	**21 05 06.7**	**-1.4**
QUIF	**Quistinic**	**25.73**	**309**	*e*P		**P**	**21 05 10.1**	**-0.4**
	comp=Z,3.2nm,0.4s,mb3.9							
QUIF	**Quistinic**	**25.73**	**309**	*e*P		**P**	**21 05 10.1**	**-0.4**
QUIF					pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.0							
QUIF	**Quistinic**	**25.73**	**309**	*e*P		**P**	**21 05 10.1**	**-0.4**
	comp=Z,1.6nm,0.4s,mb3.9							
ROSF	**Rostrenen**	**25.94**	**310**	*e*P		**P**	**21 05 10.3**	**-2.1**
MDT	**Midelt**	**26.10**	**274**	P		**P**	**21 05 16.3**	**+2.4**
	comp=Z,3.8nm,1.1s,mb3.9,baz=115,slow=11,SNR=3.8							
FINES	**FINESS Array B**	**26.50**	**359**	P		**P**	**21 05 14.4**	**-3.0**
	comp=Z,0.3nm,0.3s,mb3.3,baz=159,slow=10,SNR=5.1							
HFS	**Hagfors**	**26.58**	**345**	P		**P**	**21 05 15.7**	**-2.5**
	comp=Z,3.6nm,1.1s,mb3.8,baz=148,slow=12,SNR=5.8							
HFS	**Hagfors**	**26.58**	**345**	P		**P**	**21 05 15.7**	**-2.5**
HFS					pmax	pmax		
	comp=Z,4.0nm,1.1s							
AKTK	**Aktyubinsk**	**27.41**	**46**	P		**P**	**21 05 24.3**	**-1.4**
AKTO	**Aktyubinsk**	**27.41**	**46**	P		**P**	**21 05 24.3**	**-1.4**
	comp=Z,1.7nm,0.6s,mb3.8,baz=246,slow=11,SNR=7.0							
AKTO	**Aktyubinsk**	**27.41**	**46**	P		**P**	**21 05 25.1**	**-0.6**
AKTO					pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.4							
AB31	**Akbulak array**	**28.18**	**49**	*i* P		**P**	**21 05 32.7**	**+0.2**
AB31					pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6							
EKA	**Eskdalemuir Ar**	**28.97**	**324**	P		**P**	**21 05 37.9**	**-1.7**
	comp=Z,0.5nm,0.4s,mb3.6,baz=120,slow=11,SNR=4.2							
EKA	**Eskdalemuir Ar**	**28.97**	**324**	P		**P**	**21 05 37.9**	**-1.7**
EKA					pmax	pmax		
	comp=Z,1.0nm,0.4s							
TORD	**Torodi Ar. Bea**	**31.41**	**232**	P		**P**	**21 06 02.7**	**+1.5**
	comp=Z,1.1nm,0.4s,mb4.0,baz=34,slow=8.9,SNR=20							
KKAR	**Karatay Array**	**34.60**	**63**	*i* P		**P**	**21 06 30.0**	**+1.0**
KKAR					pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9							
ZRNK	**Zerenda**	**34.69**	**46**	P		**P**	**21 06 29.9**	**+0.1**
ZRNK					pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2							
ZRNK	**Zerenda**	**34.69**	**46**	*e*P		**P**	**21 06 29.4**	**-0.4**
	comp=Z,4.3nm,0.8s,mb4.4							
BVA0	**Borovoye Array**	**35.52**	**46**	*i* P		**P**	**21 06 36.4**	**-0.5**
BVA0					pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.6							
BVAR	**Borovoye Array**	**35.52**	**46**	P		**P**	**21 06 37.2**	**+0.3**
	comp=Z,1.2nm,0.7s,mb4.0,baz=251,slow=4.5,SNR=9.7							
BVAR	**Borovoye Array**	**35.52**	**46**	P		**P**	**21 06 37.2**	**+0.3**
BVAR					pmax	pmax		
	comp=Z,1.0nm,0.7s							
VOSK	**Vostochnaya**	**35.80**	**46**	P		**P**	**21 06 39.2**	**-0.2**
VOSK					pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3							
AAK	**Ala-Archa**	**37.55**	**64**	*e*P		**P**	**21 06 53.7**	**-0.5**
AAK					pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0							
AAK	**Ala-Archa**	**37.55**	**64**	*e*P		**P**	**21 06 53.7**	**-0.5**
	comp=Z,1.7nm,0.6s,mb4.0							
KURK	**Kurchatov**	**40.27**	**51**	*e*P		**P**	**21 07 17.4**	**+0.4**
KURK					pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2							
KURK	**Kurchatov**	**40.27**	**51**	*e*P		**P**	**21 07 17.4**	**+0.4**
	comp=Z,4.5nm,0.8s,mb4.2							
MK31	**Makanchi Array**	**42.77**	**57**	P		**P**	**21 07 38.2**	**+0.7**
MK31					pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7							
MKAR	**Makanchi Array**	**42.77**	**57**	P		**P**	**21 07 37.6**	**+0.1**
	comp=Z,2.1nm,0.5s,mb4.1,baz=268,slow=8.2,SNR=30							
MKAR	**Makanchi Array**	**42.77**	**57**	P		**P**	**21 07 37.6**	**+0.1**
MKAR					pmax	pmax		
	comp=Z,2.0nm,0.5s							
NVS	**Novosibirsk**	**43.29**	**45**	*e*P		**P**	**21 07 41.0**	**-0.7**
NVS					pmax	pmax		
	comp=N,3.0nm,0.7s							
NVS					pmax	pmax		
	comp=E,3.0nm,0.7s							
NVS					pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4							
ZAL	**Zalesovo**	**44.16**	**46**	P		**P**	**21 07 47.9**	**-0.9**
	comp=Z,2.0nm,0.5s,mb4.2,baz=183,slow=7.8,SNR=10.0							
ZAL					LR	LR	21 27 54.2	
	comp=Z,46nm,20.8s,baz=42,slow=38							
ZAL	**Zalesovo**	**44.16**	**46**	P		**P**	**21 07 47.9**	**-0.8**
ZAL					pmax	pmax		
	comp=Z,2.0nm,0.5s							
ZAL					MLR	MLR		
	comp=Z,46nm,20.8s							
TLY	**Talaya**	**55.76**	**47**	*e*P		pP	21 09 25.5	-1.8
TLY					pmax	pmax		
	comp=

SANT	Santorini	1.75	322	*e*Pg		Pn	21 18 24.7	-0.1
SANT				*e*Sg		Sn	21 18 45.3	-0.6
THR3	Thira Island,	1.81	321	*e*Pg		Pn	21 18 25.9	+0.2
BODT	Bodrum	2.10	11	PN		Pn	21 18 29.9	+0.3
BODT				SN		Sn	21 18 57.4	+2.9
BDRM	Kayabasi	2.13	14	*i* P		Pn	21 18 30.2	+0.2
BDRM	Kayabasi	2.13	14	*i* P		Pn	21 18 30.2	+0.2
VAM	Vamos	2.17	282	*e*PB		Pn	21 18 32.8	+2.3
GVD	Gavdhos	2.23	267	*e*Pn		Pn	21 18 34.8	+3.3
GVD	Gavdhos	2.23	267	*e*Pn		Pn	21 18 33.5	+2.1
APE	Apeiranthos	2.31	334	*e*Pn		Pn	21 18 32.4	-0.1
APE				*e*Sn		Sn	21 18 58.7	-1.0
APE	Apeiranthos	2.31	334	*e*PN		Pn	21 18 32.5	0.0
DALT	Dalyan (Mudla)	2.31	40	PN		Pn	21 18 34.3	+1.8
DALT				SN		Sn	21 19 06.0	+6.2
MLSB	Milas	2.43	19	PN		Pn	21 18 35.0	+0.9
MLSB				SN		Sn	21 19 06.5	+4.0
YER	Yerkesik	2.45	29	PN		Pn	21 18 35.6	+1.2
FETY	Fethiye	2.47	48	PN		Pn	21 18 36.1	+1.4
KSL	Kastellorizon	2.54	62	*e*PN		Pn	21 18 36.8	+1.1
SMG	Samos	2.71	1	*e*PN		Pn	21 18 37.5	-0.4
SMG	Samos	2.71	1	*e*Pn		Pn	21 18 37.4	-0.5
AYDN	Tasoluk	2.80	18	*i* P		Pn	21 18 40.3	+1.1
ELL	Elmali	3.07	54	PN		Pn	21 18 45.3	+2.4
DENT	Denizli	3.29	33	PN		Pn	21 18 48.2	+2.2
KYTH	Kithira	3.32	294	*e*PN		Pn	21 18 48.5	+2.1
URLA	Izmir	3.36	357	*i* P		Pn	21 18 46.5	-0.4
IZM	Izmir	3.42	6	PN		Pn	21 18 48.6	+0.9
KDAG	Bornova	3.42	6	*i* P		Pn	21 18 48.5	+0.7
CHOS	Chios island	3.44	350	*e*Pn		Pn	21 18 47.5	-0.4
CHOS				*e*Sn		Sn	21 19 28.6	+1.2
VLI	Veliai	3.58	300	*e*PN		Pn	21 18 50.5	+0.6
KVR	Kavouri	3.74	320	*e*PN		Pn	21 18 53.0	+0.9
SLUM		3.74	201	P		Pn	21 18 53.2	+1.1
SLUM				S		Sn	21 19 35.9	+0.9
MANT	Manisa	3.76	22	*i* P		Pn	21 18 53.1	+0.6
PTL	Penteli	3.85	323	*e*PN		Pn	21 18 55.0	+1.3
ATH	Athens Observa	3.87	321	*e*PN		Pn	21 18 54.5	+0.5
HMAT	Matruh	3.90	176	⇓P		Pn	21 18 55.2	+0.9
HMAT				S		Sn	21 19 39.5	+0.6
AKS	Akhisar	3.96	12	*e*PN		Pn	21 18 55.1	-0.1
MGER	Gerania Oros	4.13	317	*e*PN		Pn	21 18 59.0	+1.5
TKTP	Tekketepe	4.16	42	*i* P		Pn	21 19 02.5	+4.6
ITM	Ithomi	4.51	300	*e*PN		Pn	21 19 05.1	+2.4
GDZ	Gediz	4.61	27	*i* P		Pn	21 19 04.4	+0.2
AOS	Alonnisos	4.78	332	*e*Pn		Pn	21 19 07.8	+1.4
EZN	Ezine	4.83	356	*e*PN		Pn	21 19 06.1	-1.1
BTOK	Tokmak	4.86	11	*i* P		Pn	21 19 08.8	+1.4
BOZC	Bozcaada	4.87	353	*i* P		Pn	21 19 07.2	-0.6
LOS	Limnos	5.12	345	*e*Pn		Pn	21 19 11.5	+0.5
XOR	Xorichti	5.23	328	*e*Pn		Pn	21 19 13.9	+1.3
AGG	Agios Georgios	5.38	320	*e*Pn		Pn	21 19 16.4	+1.7
BNT	Bandirma	5.42	9	*e*PN		Pn	21 19 15.5	+0.2
ULDT	Uludag	5.46	19	*i* P		Pn	21 19 16.4	+0.6
PAIG	Paliouri	5.51	334	*e*Pn		Pn	21 19 16.9	+0.5
ESKT	Eskisehir	5.55	34	*i* P		Pn	21 19 16.7	-0.4
SEYT	Eskypehyr	5.55	34	*i* P		Pn	21 19 16.7	-0.3
EVR	Evrytania	5.59	316	*e*PN		Pn	21 19 20.1	+2.5
KIZT	Kizilcal	5.62	45	*e*PN		Pn	21 19 18.9	+0.9
MRMT	Marmara Adasi	5.63	6	*e*PN		Pn	21 19 14.6	-3.6
IKL	Isikli	5.74	76	*e*PN		Pn	21 19 20.4	+0.7
OUR	Ouranopolis	5.78	338	*e*Pn		Pn	21 19 20.9	+0.7
SWA1		5.79	189	⇓P		Pn	21 19 22.0	+1.7
SWA1				S		Sn	21 20 24.7	-0.8
SWA2		5.85	192	⇑P		Pn	21 19 22.6	+1.5
VLS	Valsamata	5.92	304	*e*PN		Pn	21 19 24.1	+2.0
ALN	Alexandroupoli	5.92	354	*e*Pn		Pn	21 19 22.2	+0.1
LIT	Litokhoron	6.13	327	*e*Pn		Pn	21 19 27.3	+2.2
LKD	Levkas	6.17	309	*e*Pn		Pn	21 19 26.5	+1.0
THE	Thessaloniki	6.39	333	*e*Pn		Pn	21 19 30.3	+1.7
SOH	Sokhos	6.42	336	*e*Pn		Pn	21 19 30.4	+1.4
MERS	Mersin	6.54	71	*e*PN		Pn	21 19 31.5	+0.9
SRS	Serrai	6.61	338	*e*Pn		Pn	21 19 32.6	+1.0
HSAF	As Saff	6.70	142	P		Pn	21 19 33.2	+0.3
HHAG	Hagoal	6.73	137	⇑P		Pn	21 19 32.6	-0.6
GLL	Jalalah	6.82	141	⇓P		Pn	21 19 34.2	-0.2
IGT	Igoumenitsa	6.86	313	*e*Pn		Pn	21 19 35.0	0.0
KNT	Kendrikon	6.88	335	*e*Pn		Pn	21 19 37.2	+1.9
GRG	Griva	6.89	331	*e*Pn		Pn	21 19 37.4	+2.0
AWBH		6.89	164	⇓P		Pn	21 19 36.8	+1.3
KARA	Karaisali	7.05	69	*e*PN		Pn	21 19 38.4	+0.8
VAY	Valandovo	7.14	333	*e*Pn		Pn	21 19 41.7	+2.9
FNA	Florina	7.19	325	*e*Pn		Pn	21 19 42.5	+2.9
BR131	Keskin Array S	7.21	47	*e*P		Pn	21 19 39.8	0.0
BR131	Keskin Array S	7.21	47	*e*P		Pn	21 19 39.8	0.0
BRTR	Keskin Array B	7.21	47	P		Pn	21 19 39.2	-0.5
	0.1nm,0.3s,baz=239,slow=16,SNR=5.1							
BRTR				S		Sn	21 20 58.7	-1.6
	0.1nm,0.3s,baz=214,slow=23,SNR=3.2							
BHL	Bhannes	7.39	96	Sn		Sn	21 21 02.2	-2.7
BIA	Bitola	7.40	326	*e*Pn		Pn	21 19 43.3	+0.8
MMAI	Mount Meron Ar	7.41	103	P		Pn	21 19 42.2	-0.4
	2.3nm,0.3s,baz=300,slow=12,SNR=19							
MMAI				S		Sn	21 21 02.2	-3.2
	7.1nm,0.3s,baz=289,slow=15,SNR=13							
HWQ	Hawqa	7.57	93	*e*Pn		Pn	21 19 43.8	-1.0
HWQ				Sn		Sn	21 21 06.9	-2.5
KOZT	Kozan	7.70	69	*e*PN		Pn	21 19 47.4	+0.8
OHR	Ohrid	7.72	324	*e*Pn		Pn	21 19 43.4	-3.4
HFRF	Wahat Farafira	7.93	170	P		Pn	21 19 51.6	+1.9
FKH	Fakeheh	7.95	93	Sn		Sn	21 21 17.6	-1.1
ASUT		8.60	150	⇑P		Pn	21 19 59.6	+0.7
TR2		8.84	136	P		Pn	21 20 02.1	-0.1
HBST	Basata	8.86	128	⇑P		Pn	21 20 02.1	-0.3
ASF	Jabal al Asfar	8.88	106	P		Pn	21 20 03.6	+0.9
	0.2nm,0.3s,baz=323,slow=5.1,SNR=2.3							
ASF				S		Sn	21 21 41.4	-0.1
	0.3nm,0.3s,baz=170,slow=21,SNR=2.9							
HKAT	Jabal Katrina	8.89	135	P		Pn	21 20 03.2	+0.3
HKAT	Jabal Katrina	8.89	135	P		Pn	21 20 03.2	+0.3
TIP	Timpagrande	9.04	300	*e*P		Pn	21 20 02.9	-2.0
HHRG	Al Ghardaqah	9.68	141	P		Pn	21 20 14.6	+0.9
MLR	Muntele Rosu	10.50	357	P		Pn	21 20 26.7	+1.8
	0.1nm,0.3s,baz=177,slow=11,SNR=4.9							
ANN	Anapa	12.74	37	*e*P		Pn	21 21 03.4	+7.9
GNI	Garni	15.12	65	LR		LR	21 28 38.3	
	comp=Z,98nm,18.2s,baz=346,slow=43							
AKASG	Malin Array Be	15.79	6	P		Pn	21 21 36.3	-0.4
	2.0nm,0.3s,baz=192,slow=11,SNR=9.6							
AKASG	Malin Array Be	15.79	6	P		Pn	21 21 36.3	-0.3
AKASG				pmax		pmax		
	comp=Z,2.0nm,0.3s							
GERES	GERESS Array B	16.89	329	P		Pn	21 21 51.4	+0.9
	comp=Z,0.2nm,0.3s,baz=130,slow=12,SNR=10							
DPC	Dobruska-Polom	17.14	337	*e*P		Pn	21 21 53.5	-0.2
KHC	Kasperske Hory	17.16	329	*e*P		Pn	21 21 54.2	+0.3
SBF	Sospel	17.35	306	*e*P		Pn	21 21 55.3	-1.0
	comp=Z,9.3nm,0.5s							
SBF	Sospel	17.35	306	*e*P		Pn	21 21 55.3	-1.0
SBF				pmax		pmax		
	comp=Z,5.0nm,0.5s							
SBF	Sospel	17.35	306	*e*P		Pn	21 21 55.3	-1.0
	comp=Z,4.7nm,0.5s							
UPC	Upice	17.38	336	*e*P		Pn	21 21 55.9	-0.7
PRU	Pruhonice	17.46	333	*e*P		Pn	21 21 56.0	-1.6
FRF	La Foret Royal	17.76	305	*e*P		Pn	21 22 00.6	-0.7
	comp=Z,2.5nm,0.6s							
FRF	La Foret Royal	17.76	305	*e*P		Pn	21 22 00.6	-0.7
FRF				pmax		pmax		
	comp=Z,1.0nm,0.6s							
FRF	La Foret Royal	17.76	305	*e*P		Pn	21 22 00.6	-0.7
	comp=Z,1.2nm,0.6s							
LMR	La Mourre	17.77	304	*e*P		Pn	21 22 00.2	-1.3
MBDF	Montbardon	18.15	308	*e*P		Pn	21 22 05.5	-0.6
LPG	La Plagne	18.50	311	*e*P		Pn	21 22 09.7	-0.7
	comp=Z,4.0nm,0.5s							
LPG	La Plagne	18.50	311	*e*P		Pn	21 22 09.7	-0.7
LPG				pmax		pmax		
	comp=Z,2.0nm,0.5s							
LPG	La Plagne	18.50	311	*e*P		Pn	21 22 09.7	-0.7
	comp=Z,2.0nm,0.5s							
LPL	La Plagne	18.52	311	*e*P		Pn	21 22 10.1	-0.6
	comp=Z,3.3nm,0.4s							
LPL	La Plagne	18.52	311	*e*P		Pn	21 22 10.1	-0.6
LPL				pmax		pmax		
	comp=Z,2.0nm,0.4s							
LPL	La Plagne	18.52	311	*e*P		Pn	21 22 10.1	-0.6
	comp=Z,1.6nm,0.4s							
GRA1	Grafenberg Arr	18.60	327	*e*P		Pn	21 22 10.9	-0.8
GRF	Grafenberg Arr	18.60	327	*e*P		Pn	21 22 10.9	-0.8
CABF	La Chapelle	19.44	313	*e*P		Pn	21 22 19.1	-2.6
	comp=Z,5.7nm,0.6s							
CABF	La Chapelle	19.44	313	*e*P		Pn	21 22 19.1	-2.6
CABF				pmax		pmax		
	comp=Z,3.0nm,0.6s							
CABF	La Chapelle	19.44	313	*e*P		Pn	21 22 19.1	-2.6
	comp=Z,2.8nm,0.6s							
CDF	Champ du Feu	19.73	319	*e*P		Pn	21 22 23.9	-1.2
HAU	Haudompre	20.01	317	*e*P		P	21 22 24.1	-2.5
MTLF	Montolieu	20.75	301	*e*P		P	21 22 34.1	-0.4
SMF	Signal de Mont	20.83	311	*e*P		P	21 22 33.7	-1.7
	comp=Z,5.4nm,0.4s							
SMF	Signal de Mont	20.83	311	*e*P		P	21 22 33.7	-1.7
SMF				pmax		pmax		
	comp=Z,3.0nm,0.4s							
SMF	Signal de Mont	20.83	311	*e*P		P	21 22 33.7	-1.7
	comp=Z,2.7nm,0.4s							
MEZF	Maizieres J'vi	21.01	317	*e*P		P	21 22 35.9	-1.5
	comp=Z,8.7nm,0.7s,mb3.9							
MEZF	Maizieres J'vi	21.01	317	*e*P		P	21 22 35.9	-1.5
	comp=Z,4.3nm,0.7s,mb3.9							
LOR	Lormes	21.10	312	*e*P		P	21 22 36.6	-1.7
	comp=Z,6.9nm,0.6s,mb3.8							
LOR	Lormes	21.10	312	*e*P		P	21 22 36.6	-1.7
LOR				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb3.8							
LOR	Lormes	21.10	312	*e*P		P	21 22 36.6	-1.7
	comp=Z,3.5nm,0.6s,mb3.8							
AVF	Avril sur Loir	21.20	311	*e*P		P	21 22 37.1	-2.3
	comp=Z,4.1nm,0.6s,mb3.6							
AVF	Avril sur Loir	21.20	311	*e*P		P	21 22 37.1	-2.3
AVF				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb3.6							
AVF	Avril sur Loir	21.20	311	*e*P		P	21 22 37.1	-2.3
	comp=Z,2.0nm,0.6s,mb3.6							
SSF	Saint Saulge	21.22	312	*e*P		P	21 22 38.2	-1.4
	comp=Z,23nm,1.0s,mb4.2							
SSF	Saint Saulge	21.22	312	*e*P		P	21 22 38.2	-1.4
SSF				pmax		pmax		
	comp=Z,11nm,1.0s,mb4.1							
SSF	Saint Saulge	21.22	312	*e*P		P	21 22 38.2	-1.4
	comp=Z,11nm,1.0s,mb4.2							
OBN	Obninsk	21.23	16	*i* P		P	21 22 39.9	+0.2
OBN				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.1							
OBN				MLR		MLR		
	comp=Z,100nm,19.0s,MS3.2							
OBN	Obninsk	21.23	16	*i* P		P	21 22 39.9	+0.2
	comp=Z,100nm,19.0s							
BGF	Bois d'Agland	21.41	310	*e*P		P	21 22 40.2	-1.5
	comp=Z,7.9nm,0.7s,mb3.9							
BGF	Bois d'Agland	21.41	310	*e*P		P	21 22 40.2	-1.5
BGF				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb3.9							
BGF	Bois d'Agland	21.41	310	*e*P		P	21 22 40.2	-1.5
	comp=Z,4.0nm,0.7s,mb3.9							
TCF	Toulx Ste Croi	21.71	309	*e*P		P	21 22 44.4	-0.5
RJF	Les Rejaudoux	21.81	306	*e*P		P	21 22 45.2	-0.8
	comp=Z,3.6nm,0.6s,mb3.7							
RJF	Les Rejaudoux	21.81	306	*e*P		P	21 22 45.2	-0.8
RJF				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb3.7							
RJF	Les Rejaudoux	21.81	306	*e*P		P	21 22 45.2	-0.8
	comp=Z,1.8nm,0.6s,mb3.7							
LFF	La Frestale	22.22	304	*e*P		P	21 22 48.3	-2.0
BAIF	Baives	22.32	319	*e*P		P	21 22 49.4	-2.0
	comp=Z,9.4nm,0.8s,mb4.0							
BAIF	Baives	22.32	319	*e*P		P	21 22 49.4	-2.0
BAIF				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.0							
BAIF	Baives	22.32	319	*e*P		P	21 22 49.4	-2.0
	comp=Z,4.7nm,0.8s,mb4.0							
ETSF	Etsaut	22.62	299	*e*P		P	21 22 53.5	-1.1
SJPF	Ste Jean	23.14	299	*e*P		P	21 22 59.4	-0.7
MFF	Saint Martin d	23.34	308	*e*P		P	21 23 00.5	-1.7
	comp=Z,3.0nm,0.6s,mb3.6							
MFF	Saint Martin d	23.34	308	*e*P		P	21 23 00.5	-1.7
MFF				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb3.7							
MFF	Saint Martin d	23.34	308	*e*P		P	21 23 00.5	-1.7
	comp=Z,1.5nm,0.6s,mb3.6							
LDF	La Druitiere	24.08	313	*e*P		P	21 23 07.2	-1.9
	comp=Z,3.2nm,0.5s,mb3.8							
LDF	La Druitiere	24.08	313	*e*P		P	21 23 07.2	-1.9
LDF				pmax		pmax		
	comp=Z,2.0nm,0.4s,mb3.9							
LDF	La Druitiere	24.08	313	*e*P		P	21 23 07.2	-1.9
	comp=Z,1.6nm,0.5s,mb3.8							
FLN	La Foliniere	24.37	313	*e*P		P	21 23 09.6	-2.1
	comp=Z,3.5nm,0.4s,mb3.8							
FLN	La Foliniere	24.37	313	*e*P		P	21 23 09.6	-2.1
FLN				pmax		pmax		
	comp=Z,2.0nm,0.4s,mb3.9							
FLN	La Foliniere	24.37	313	*e*P		P	21 23 09.6	-2.1
	comp=Z,1.8nm,0.4s,mb3.9							
GRR	Gorron	24.45	312	*e*P		P	21 23 10.6	-1.8
	comp=Z,4.2nm,0.4s,mb3.9							
GRR	Gorron	24.45	312	*e*P		P	21 23 10.6	-1.8
GRR				pmax		pmax		
	comp=Z,2.0nm,0.4s,mb3.9							
GRR	Gorron	24.45	312	*e*P		P	21 23 10.6	-1.8
	comp=Z,2.1nm,0.4s,mb3.9							
ESDC	Sonseca Array	24.84	290	P		P	21 23 15.2	-0.7
	comp=Z,0.5nm,0.3s,mb3.5,baz=84,slow=9.4,SNR=12							
SGMF	Saint Gilles	25.45	310	*e*P		P	21 23 20.4	-1.1
QUIF	Quistinic	25.72	309	*e*P		P	21 23 23.2	-0.8
ROSF	Rostrenen	25.93	310	*e*P		P	21 23 24.0	-1.8
	comp=Z,9.3nm,0.8s,mb4.1							
ROSF	Rostrenen	25.93	310	*e*P		P	21 23 24.0	-1.8
ROSF				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.1							
ROSF	Rostrenen	25.93	310	*e*P		P	21 23 24.0	-1.8
	comp=Z,4.7nm,0.8s,mb4.1							
FINES	FINESS Array B	26.47	359	P		P	21 23 28.1	-2.6
	comp=Z,0.3nm,0.4s,mb3.1,baz=154,slow=9.7,SNR=7.2							
AKTK	Aktyubinsk	27.38	46	P		P	21 23 38.2	-0.7
	comp=Z,2.0nm,0.7s,mb3.8							
AKTO	Aktyubinsk	27.38	46	P		P	21 23 38.2	-0.7
	comp=Z,2.0nm,0.7s,mb3.8,baz=248,slow=8.1,SNR=5.4							
AKTO	Aktyubinsk	27.38	46	P		P	21 23 38.2	-0.7
AKTO				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb3.8							
EKA	Eskdalemuir Ar	28.96	324	P		P	21 23 50.6	-2.4
	comp=Z,0.5nm,0.5s,mb3.5,baz=122,slow=10,SNR=4.1							
EKA	Eskdalemuir Ar	28.96	324	P		P	21 23 50.6	-2.4
EKA				pmax		pmax		
	comp=Z,1.0nm,0.5s							
ARU	Arti	30.40	35	*i* P		P	21 24 04.1	-1.6
ARU				*e*			21 25 05.2	
ARU				*e*			21 26 59.8	
ARU				*e*S		S	21 29 02.1	-2.0
ARU				*e*SS		SS	21 30 44.9	-29
ARU				pmax		pmax		
	comp=Z,3.0nm,1.4s,mb3.8							
ARU	Arti	30.40	35	*i* P		P	21 24 04.1	-1.6
	comp=Z,3.0nm,1.4s,mb3.8							
ARU	Arti	30.40	35	*e*PcP		PcP	21 26 59.8	-5.1
TORD	Torodi Ar. Bea	31.43	232	P		P	21 24 15.8	+1.0
	comp=Z,1.9nm,0.3s,mb4.3,baz=32,slow=9.0,SNR=35							
KKAR	Karatay Array	34.58	63	*i* P		P	21 24 43.2	+0.9
ARCES	ARCESS Array B	34.60	359	P		P	21 24 39.6	-2.9
	comp=Z,1.8nm,0.8s,mb4.1,baz=169,slow=7.4,SNR=5.3							
ARCES	ARCESS Array B	34.60	359	P		P	21 24 39.6	-2.9
ARCES				pmax		pmax		
	comp=Z,2.0nm,0.8s							
ZRNK	Zerenda	34.66	46	P		P	21 24 42.8	-0.2
ZRNK				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.4							
ZRNK	Zerenda	34.66	46	P		P	21 24 42.8	-0.2
	comp=Z,4.0nm,0.8s,mb4.4							
BVA0	Borovoye Array	35.49	46	*i* P		P	21 24 50.7	+0.5
BVA0				pmax		pmax		
	comp=Z,1.0nm,1.2s,mb3.6							
BVA0	Borovoye Array	35.49	46	*i* P		P	21 24 50.7	+0.5
	comp=Z,1.0nm,1.2s,mb3.6							
VOSK	Vostochnaya	35.78	46	P		P	21 24 52.1	-0.5
VOSK				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.3							
VOSK	Vostochnaya	35.78	46	P		P	21 24 52.1	-0.5
	comp=Z,3.0nm,0.8s,mb4.3							
KURK	Kurchatov	40.24	51	P		P	21 25 30.6	+0.3
KURK				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.0							
MK31	Makanchi Array	42.74	57	P		P	21 25 51.6	+0.8
MK31				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb3.9							
MKAR	Makanchi Array	42.74	57	P		P	21 25 50.9	+0.2
	comp=Z,4.2nm,0.6s,mb4.4,baz=266,slow=8.1,SNR=45							
MKAR	Makanchi Array	42.74	57	P		P	21 25 50.9	+0.1
MKAR				pmax		pmax		
	comp=Z,4.0nm,0.6s							
NVS	Novosibirsk	43.26	45	*e*P		P	21 25 52.4	-2.5
NVS				pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.5							
NVS				pmax		pmax		
	comp=N,1.0nm,0.5s							
NVS				pmax		pmax		
	comp=E,4.0nm,0.7s							
NVS	Novosibirsk	43.26	45	*e*P		P	21 25 52.4	-2.5
	comp=E,1.0nm,0.5s,mb3.8							
ZAL	Zalesovo	44.14	46	P		P	21 26 01.2	-0.7
	comp=E,3.5nm,0.6s,mb4.3,baz=183,slow=5.8,SNR=20							
ZAL				LR		LR	21 45 51.8	
	comp=E,38nm,20.1s,MS3.3,baz=263,slow=38							
ZAL	Zalesovo	44.14	46	P		P	21 26 01.3	-0.7
ZAL				pmax		pmax		
	comp=Z,4.0nm,0.6s							
ZAL				MLR		MLR		
	comp=Z,38nm,20.1s							
ZAL	Zalesovo	44.14	46	P		P	21 26 01.2	-0.8
ZAK	Zakamensk	55.84	49	*e*P		P	21 27 28.5	-2.3
ZAK				pmax		pmax		
	comp=Z,4.0nm,1.7s,mb4.2							
ZAK	Zakamensk	55.84	49	*e*P		P	21 27 28.5	-2.3
	comp=Z,4.0nm,1.7s,mb4.2							
SONM	Songino Array	58.55	51	P		P	21 27 49.9	0.0
	comp=Z,1.4nm,0.6s,mb4.2,baz=289,slow=7.9,SNR=17							
SONM	Songino Array	58.55	51	P		P	21 27 49.9	0.0
SONM				pmax		pmax		
	comp=Z,1.0nm,0.6s							
TIXI	Tiksi	60.84	21	*e*P		P	21 28 03.1	-2.6
TIXI				pmax		pmax		
	comp=Z,1.0nm,0.8s,mb4.0							
TIXI	Tiksi	60.84	21	*e*P		P	21 28 03.1	-2.6
	comp=Z,1.0nm,0.8s,mb4.0							
FRB	Frobisher Bay	61.49	330	P		P	21 28 08.7	-1.4
	comp=Z,1.5nm,0.4s,mb4.5,baz=80,slow=5.5,SNR=3.2							
FRB	Frobisher Bay	61.49	330	P		P	21 28 08.7	-1.4
FRB				pmax		pmax		
	comp=Z,2.0nm,0.4s							
SCHQ	Schefferville	64.18	320	P		P	21 28 26.8	-1.2
	comp=Z,1.0nm,0.5s,mb4.1,baz=87,slow=12,SNR=6.7							
YKA	Yellowknife Ar	78.01	343	P		P	21 29 49.7	-2.0
	comp=Z,0.3nm,0.4s,mb3.5,baz=32,slow=5.3,SNR=5.4							
YKA	Yellowknife Ar	78.01	343	P		P	21 29 49.7	-2.0
ILAR	Eielson Array	80.44	357	P		P	21 30 03.1	-1.9
	comp=Z,0.3nm,0.6s,mb3.4,baz=351,slow=3.2,SNR=5.2							

ISCJB ***12*** *21:18:19.9±0.5, 3853N±002×8.12W±003, h5km±4km, Error ellipse: s-maj=4.4km s-min=3.3km az=156.4*
MDD ***12*** *21:18:21.5±0.3, 3852N×820W, h5km±7km, mbLg1.9/12, Error ellipse: s-maj=3.7km s-min=2.4km az=58.0, PRXIMO*
INMG ***12*** *21:18:21.7±1.1, 3851N×820W, h5km, ML1.7, Error ellipse: s-maj=1.9km s-min=1.2km az=69.0*
IGIL ***12*** *21:18:21.9, 3852N×8.18W, h2km, ML2.0*

ISC 12 21:18:20.7±0.4, 3852N±002×817W±004, h10km±4km, n20, σ0°74/36, Portugal

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MOE	**Montemor**	**0.14**	**272**	*i* Pg		**Pg**	**21 18 23.4**	**-0.5**
MOE				*e*Sg		**Sg**	**21 18 25.6**	**-0.5**
PBEJ	**Beja**	**0.55**	**154**	*e*Pg		**Pg**	**21 18 32.0**	**+0.7**
PBEJ				*e*S

MCK	**McKinley**	**4.45**	**17**	P		Pn		21 31 34.4	0.0
COLA	**College**	**5.69**	**17**	P		Pn		21 31 50.6	-0.8
IL1	**Eielson Array**	**5.76**	**21**	P		Pn		21 31 51.2	-1.1
PNL	**Peninsula**	**6.30**	**83**	P		Pn		21 31 58.2	-1.6
IM3	**Indian Mountai**	**6.56**	**353**	P		Pn		21 32 02.5	-0.7
BM3	**Burnt Mountain**	**8.56**	**19**	P		Pn		21 32 28.7	-2.0

IDC ***12*** *21:35:24.9±1.2,2997S×17708W,h0km,mb4.2/3, mb1 4.4/3,mb1mx4.0/11,mbtmp4.2/3,MS3.7/2,Ms1 3.7/2, ms1mx3.0/24,Error ellipse: s-maj=37.1km s-min=22.1km az=44.0*

ISCJB ***12*** *21:35:25.6±6.4,3005±02×1768W±03,h30km±44km, mb4.3/4,MS3.6/1,Error ellipse: s-maj=46.9km s-min=19.3km az=100.4*

NEIC ***12*** *21:35:26.2±0.8,2998S×17700W,h10km,mb4.6/2,Error ellipse: s-maj=21.9km s-min=15.2km az=211.0*

MOS ***12*** *21:35:31.3±1.5,2933S×17743W,h33km,mb4.6/3,Error ellipse: s-maj=73.5km s-min=22.8km az=6.2*

ISC 12 21:35:25.5±6.6, 298S±02×1767W±02, h18km±42km, n27, σ0°69/19, mb4.3/4, MS3.6/1, 1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**1.17**	**298**	Pn		**Pn**	**21 35 47.0**	**0.0**
RAO	1μm,0.3s,baz=254,slow=23,SNR=36			Sn		**Sn**	**21 36 02.5**	**-0.1**
RAO	2μm,0.3s,baz=90,slow=20,SNR=56							
RAO	**Raoul Island**	**1.17**	**298**	*e*P		**Pn**	**21 35 46.6**	**-0.4**
RAO							21 35 47.0	
RAO	**Raoul Island**	**1.17**	**298**	*e*P		**Pn**	**21 35 46.6**	**-0.3**
RAO				Pn		**Pn**	**21 35 47.0**	**0.0**
RAO				Sn		**Sn**	**21 36 02.5**	**-0.1**
DZM	**Mont Dzumac**	**16.97**	**293**	LR		LR	21 44 28.2	
	comp=Z,274nm,19.9s,baz=22,slow=32							
CTA	**Charters Tower**	**34.80**	**278**	*e*P		**P**	**21 42 17.4**	**+2.4**
	5.8nm,0.9s,mb4.5							
CTA	**Charters Tower**	**34.80**	**278**	*e*P		**P**	**21 42 17.4**	**+2.4**
CTA				pmax		pmax		
	comp=Z,6.0nm,0.9s							
CTAO	**Charters Tower**	**34.80**	**278**	*e*P		**P**	**21 42 16.5**	**+1.5**
CTAO				pmax		pmax		
	comp=Z,8.0nm,0.9s,mb4.7							
CTAO	**Charters Tower**	**34.80**	**278**	*e*P		**P**	**21 42 16.5**	**+1.5**
	comp=Z,8.0nm,0.9s,mb4.7							
STKA	**Stephens Creek**	**35.68**	**256**	*e*P		**P**	**21 42 22.2**	**-0.4**
	comp=Z,4.1nm,1.1s,mb4.3							
STKA	**Stephens Creek**	**35.68**	**256**	P		**P**	**21 42 22.4**	**-0.2**
	comp=Z,3.2nm,0.8s,mb4.3,baz=100,slow=11,SNR=7.3							
STKA				LR		LR	21 55 55.3	
	comp=Z,122nm,20.6s,MS3.6,baz=180,slow=35							
STKA	**Stephens Creek**	**35.68**	**256**	*e*P		**P**	**21 42 22.1**	**-0.6**
STKA				*e*P			21 42 22.2	
ASAR	**Alice Springs**	**44.24**	**266**	P		**P**	**21 43 33.7**	**0.0**
	comp=Z,1.4nm,0.6s,mb3.9,baz=102,slow=7.2,SNR=5.7							
ASAR	**Alice Springs**	**44.24**	**266**	P		**P**	**21 43 33.7**	**0.0**
WB2	**Warramunga Arr**	**45.17**	**271**	*e*P		**P**	**21 43 40.3**	**-0.8**
WRAB	**Tennant Creek**	**45.17**	**271**	*e*P		**P**	**21 43 41.5**	**+0.4**
WRA	**Warramunga Arr**	**45.18**	**271**	P		**P**	**21 43 40.8**	**-0.4**
	comp=Z,4.2nm,0.6s,mb4.5,baz=110,slow=7.5,SNR=40							
KLR	**Kul'dur**	**91.09**	**329**	*e*P		**P**	**21 48 28.8**	**-0.1**
KURK	**Kurchatov**	**121.44**	**314**	*e*PKIKP		PKPdf	21 54 19.3	+1.6
KAF	**Kangasniemi**	**144.35**	**342**	*e*pkp		PKPdf	21 54 55.1	-5.4
FINES	**FINESS Array B**	**144.96**	**341**	PKP		PKPdf	21 55 02.2	+0.7
	comp=Z,9.2nm,0.7s,baz=58,slow=3.6,SNR=81							
OBN	**Obninsk**	**145.31**	**326**	ǁ *i*	*e*PKIKP	PKPdf	21 55 03.8	+1.7
OBN							21 55 16.4	
OBN				pmax		pmax		
	comp=Z,7.0nm,0.8s							
NB2	**NORSAR Subarra**	**148.33**	**353**	PKPa		PKPbc	21 55 12.6	+2.0
	comp=Z,1.0nm,0.7s,baz=12,slow=2.9							
NOA	**NORSAR Array B**	**148.33**	**353**	PKPbc		PKPbc	21 55 12.1	+1.5
	comp=Z,1.2nm,0.7s,baz=13,slow=4.3,SNR=4.3							
NOA	**NORSAR Array B**	**148.33**	**353**	PKPbc		PKPbc	21 55 12.1	+1.5
AKASG	**Malin Array Be**	**151.48**	**324**	PKPbc		PKPbc	21 55 20.1	+1.8
	comp=Z,2.3nm,0.5s,baz=48,slow=2.7,SNR=12							
BRTR	**Keskin Array B**	**153.27**	**300**	PKPbc		PKPbc	21 55 24.9	+2.6
	comp=Z,0.4nm,0.6s,baz=60,slow=3.5,SNR=3.6							
TORD	**Torodi Ar. Bea**	**163.35**	**175**	PKPab		PKPab	21 56 20.4	+2.6
	comp=Z,0.3nm,0.5s,baz=185,slow=5.5,SNR=5.1							

IDC ***12*** *21:52:37.1±0.6,2137S×17468W,h0km,mb4.6/17, mb1 4.7/18,mb1mx4.7/20,mbtmp4.6/18,ML4.4/1,MS4.4/14, Ms1 4.4/14,ms1mx4.1/29,Error ellipse: s-maj=20.9km s-min=13.3km az=142.0*

ISCJB ***12*** *21:52:40.8±0.3,2147S±007×17454W±007,h33km, mb4.9/45,MS4.5/16,Error ellipse: s-maj=12.0km s-min=7.4km az=93.8*

MOS ***12*** *21:52:41.6±1.0,2126S×17470W,h33km,mb5.3/3,Error ellipse: s-maj=16.0km s-min=14.5km az=62.8*

SZGRF ***12*** *21:52:42.3,2171S×174.11W,h33km,Tonga Islands*

HRVD ***12*** *21:52:44.5±0.5,2158S×17383W,h22km±1km,MW4.9/50, Centroid moment Tensor Solution. LP body waves: s23,c31;Mantle waves: s50,c62; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.00±.17; Mθθ 0.14±.12; Mθφ -1.86±.12; Mrθ 1.25±.21; Mφφ -0.58±.07; Mφr 1.87±.19; Best double couple: M0 3.02300×10^16 NP1 φs 186.00000°, δ 22.00000°, λ 68.00000°. NP2: φs 29.00000°, δ 69.00000°, λ 99.00000°. Principal axes: T 3.0500, Plg65.0000°, Azm314.0000°; N -0.0580, Plg8.0000°, Azm206.0000°; P -2.9960, Plg24.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***12*** *21:52:44.5±0.2,2140S×17463W,h50km,mb5.0/23 Error ellipse: s-maj=11.5km s-min=6.6km az=134.0*

BJI ***12*** *21:52:44.6,2124S×17373W,h73km,mB5.4, mb5.0,Ms4.8, Msz4.5*

ISC 12 21:52:42.3±0.3, 2149S±007×17435W±007, h35km, n187, σ1°25/79, mb4.9/45, MS4.5/16, 5C-2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**7.92**	**18**	Pn		**Pn**	**21 54 29.1**	**-5.9**
AFI	15nm,0.3s,baz=76,slow=2.8,SNR=7.7			Sn		**Sn**	**21 55 52.2**	**-11**
AFI	1.7nm,0.3s,baz=19,slow=23,SNR=3.1			T			22 02 30.0	
	9.7nm,0.3s,baz=270,slow=23,SNR=4.6							
RAO	**Raoul Island**	**8.38**	**202**	LR		LR	21 56 42.4	
	comp=Z,224nm,18.2s,baz=81,slow=29							
RAR	**Rarotonga**	**13.58**	**92**	Pn		**Pn**	**21 55 43.1**	**-9.4**
RAR	19nm,0.3s,baz=241,slow=5.0,SNR=30			Sn		Sn	21 58 00.5	-22
RAR	3.9nm,0.3s,baz=93,slow=16,SNR=4.6			T			22 10 09.3	
	2.6nm,0.3s,baz=323,slow=12,SNR=3.1							
RAR	**Rarotonga**	**13.58**	**92**	Pn		**Pn**	**21 55 43.1**	**-9.4**
RAR				Sn		Sn	21 58 00.5	-22
DZM	**Mont Dzumac**	**17.85**	**265**	P		**Pn**	**21 56 50.2**	**+2.3**
	0.7nm,0.3s,baz=78,slow=16,SNR=16							
URZ	**Urewera**	**18.27**	**202**	P		**Pn**	**21 56 53.0**	**+0.1**
	1.2nm,0.3s,baz=354,slow=10,SNR=3.7							
URZ	0.3nm,0.3s,baz=24,slow=24,SNR=2.2			S			21 59 59.4	-21
TBI	**Tubuai**	**23.07**	**99**	*e*LQ			22 02 00.8	
TBI	623nm,24.8s			*e*LR		LR	22 03 01.9	
	1μm,27.0s							
PAE	**Paea**	**23.64**	**85**	*e*P		**P**	**21 57 47.5**	**-2.8**
	100nm,1.2s,mb5.1							
PPT	**Papeete**	**23.66**	**85**	*e*P		**P**	**21 57 48.0**	**-2.6**
	40nm,1.2s,mb4.7							
PPT	**Papeete**	**23.66**	**85**	*e*LQ			22 02 10.2	
	877nm,25.2s							
PPT				*e*LR		LR	22 03 23.4	
	794nm,21.2s							
PPT	**Papeete**	**23.66**	**85**	P		**P**	**21 57 47.3**	**-3.2**
	34nm,0.3s,mb5.2,baz=306,slow=11,SNR=4.2							
PPT				LR		LR	22 05 47.0	
	comp=Z,869nm,18.0s,MS4.3,baz=254,slow=33							
TVO	**Taravao**	**23.91**	**86**	*e*P		**P**	**21 57 50.4**	**-2.5**
	53nm,1.1s,mb4.9							
RPZ	**Rata Peaks**	**25.27**	**205**	P		**P**	**21 58 04.7**	**-0.5**
	14nm,0.9s,mb4.5,baz=14,slow=4.2,SNR=3.3							
HNR	**Honiara**	**27.47**	**292**	LR		LR	22 07 47.8	
	comp=Z,453nm,19.0s,MS4.1,baz=178,slow=34							
RKT	**Rikitea**	**36.39**	**100**	*e*LR		LR	22 09 08.1	
	742nm,27.5s							
CTA	**Charters Tower**	**36.80**	**265**	*e*P		**P**	**21 59 45.1**	**-1.6**
	8.8nm,1.0s,mb4.5							
CTA	**Charters Tower**	**36.80**	**265**	P		**P**	**21 59 45.7**	**-1.0**
	8.4nm,0.8s,mb4.6,baz=84,slow=8.3,SNR=5.3							
CTA	**Charters Tower**	**36.80**	**265**	*e*P		**P**	**21 59 45.1**	**-1.6**
CTA				pmax		pmax		
	comp=Z,9.0nm,1.0s							
PMG	**Port Moresby**	**38.89**	**282**	P		**P**	**22 00 03.0**	**-1.3**
	comp=Z,27nm,0.9s,mb5.0,baz=166,slow=4.7,SNR=5.4							
PMG				LR		LR	22 14 01.2	
	comp=Z,607nm,19.0s,MS4.4,baz=199,slow=33							
STKA	**Stephens Creek**	**40.47**	**246**	*e*P		**P**	**22 00 14.3**	**-3.2**
	comp=Z,12nm,0.9s,mb4.6							
STKA	**Stephens Creek**	**40.47**	**246**	P		**P**	**22 00 15.1**	**-2.4**
	comp=Z,16nm,1.0s,mb4.7,baz=89,slow=9.1,SNR=23							
STKA				LR		LR	22 16 20.8	
	comp=Z,538nm,18.2s,MS4.4,baz=197,slow=35							
STKA	**Stephens Creek**	**40.47**	**246**	*e*P		**P**	**22 00 14.5**	**-3.0**
ASAR	**Alice Springs**	**47.62**	**257**	P		**P**	**22 01 13.9**	**-1.0**
	comp=Z,22nm,0.9s,mb5.2,baz=91,slow=8.3,SNR=27							
ASAR				S		**S**	**22 08 04.7**	**-3.3**
	comp=Z,1.1nm,1.0s,baz=94,slow=16,SNR=7.1							
WB2	**Warramunga Arr**	**47.84**	**262**	*e*P		**P**	**22 01 13.5**	**-3.0**
WRAB	**Tennant Creek**	**47.84**	**262**	P		**P**	**22 01 15.0**	**-1.5**
	comp=Z,172nm,1.0s,SNR=7.8							
WRAB	**Tennant Creek**	**47.84**	**262**	*e*P		**P**	**22 01 14.8**	**-1.7**
WRAB				pmax		pmax		
	comp=Z,57nm,1.2s,mb5.5							
WRAB	**Tennant Creek**	**47.84**	**262**	*e*P		**P**	**22 01 14.8**	**-1.7**
	comp=Z,56nm,1.2s,mb5.5							
WRA	**Warramunga Arr**	**47.85**	**262**	P		**P**	**22 01 14.9**	**-1.7**
	comp=Z,20nm,1.0s,mb5.1,baz=98,slow=7.8,SNR=67							
FORT	**Forrest**	**52.05**	**247**	*e*P		**P**	**22 01 47.4**	**-1.1**
	comp=Z,26nm,0.8s,mb5.2							
GUMO	**Guam**	**53.08**	**307**	LR		LR	22 21 21.0	
	comp=Z,258nm,18.6s,MS4.3,baz=106,slow=33							
FITZ	**Fitzroy Crossi**	**56.28**	**262**	*e*P		**P**	**22 02 18.9**	**-0.4**
	comp=Z,14nm,1.2s,mb4.9							
FITZ	**Fitzroy Crossi**	**56.28**	**262**	P		**P**	**22 02 18.2**	**-1.1**
	comp=Z,12nm,1.1s,mb4.8,baz=104,slow=7.7,SNR=7.7							
SBA	**Scott Base**	**57.14**	**185**	*e*P		**P**	**22 02 30.0**	**+4.5**
SBA				pmax		pmax		
	comp=Z,18nm,0.9s,mb5.1							
SBA	**Scott Base**	**57.14**	**185**	*e*P		**P**	**22 02 30.0**	**+4.5**
	comp=Z,18nm,0.9s,mb5.1							
VNDA	**Vanda**	**57.26**	**186**	P		**P**	**22 02 26.9**	**+0.6**
	comp=Z,6.9nm,0.8s,mb4.7,baz=2.5,slow=6.1,SNR=26							
VNDA				LR		LR	22 21 39.0	
	comp=Z,167nm,18.0s,MS4.2,baz=3.9,slow=30							
KLBR	**Kellerberrin**	**60.73**	**245**	*e*P		**P**	**22 02 50.4**	**0.0**
	comp=Z,23nm,0.9s,mb5.3							
CASY	**Casey**	**64.54**	**206**	*e*P		**P**	**22 03 16.6**	**+0.8**
QSPA	**South Pole Qui**	**68.59**	**180**	*e*P		**P**	**22 03 43.8**	**+2.2**
	comp=Z,20nm,1.1s,mb5.0							
MJAR	**Matsushiro Arr**	**73.06**	**322**	P		**P**	**22 04 08.2**	**-0.6**
	comp=Z,16nm,0.9s,mb5.0,baz=159,slow=6.1,SNR=30							
MAJO	**Matsushiro**	**73.06**	**322**	*e*P		**P**	**22 04 08.2**	**-0.6**
	comp=Z,12nm,0.9s,mb4.8							
MAT	**Matsushiro**	**73.06**	**322**	P		**P**	**22 04 08.5**	**-0.3**
MAT	**Matsushiro**	**73.06**	**322**	*e*P		**P**	**22 04 09.0**	**+0.2**
	comp=Z,30nm,1.1s,mb5.1							
KSM	**Kuching**	**76.92**	**277**	*e*P		**P**	**22 04 32.1**	**+1.0**
YBH	**Yreka Blue Hor**	**78.98**	**37**	P		**P**	**22 04 42.4**	**0.0**
	comp=Z,1.7nm,0.6s,mb4.2,baz=288,slow=6.4,SNR=3.5							
YBH				LR		LR	22 33 58.4	
	comp=Z,296nm,18.1s,MS4.7,baz=152,slow=31							
NVAR	**Mina Array Bea**	**79.45**	**42**	P		**P**	**22 04 46.0**	**+0.9**
	comp=Z,1.3nm,0.7s,mb3.9,baz=223,slow=8.1,SNR=7.6							
MNV	**Mina**	**79.54**	**42**	*e*P		**P**	**22 04 46.0**	**+0.4**
	comp=Z,12nm,1.1s,mb4.7							
KS15	**Wonju Array Si**	**79.93**	**317**	*e*P		**P**	**22 04 48.8**	**+1.1**
MOD	**Modoc**	**80.45**	**38**	*e*P		**P**	**22 04 50.3**	**-0.1**
	comp=Z,7.7nm,0.8s,mb4.7							
KDAK	**Kodiak Island**	**81.03**	**12**	P		**P**	**22 04 53.1**	**-0.5**
	comp=Z,13nm,1.1s,mb4.8,baz=123,slow=9.2,SNR=6.4							
MAW	**Mawson**	**81.77**	**199**	*e*P		**P**	**22 04 59.4**	**+1.9**
	comp=Z,5.2nm,0.7s,mb4.6							
MAW	**Mawson**	**81.77**	**199**	P		**P**	**22 04 57.9**	**+0.4**
	comp=Z,5.1nm,0.6s,mb4.6,baz=131,slow=8.4,SNR=9.7							
MAW				LR		LR	22 40 15.6	
	comp=Z,356nm,19.0s,MS4.8,baz=245,slow=35							
MDJ	**Mudanjiang**	**83.31**	**323**	P		**P**	**22 05 07.2**	**+1.7**
MDJ				AP		pP	22 05 26.2	+10
MDJ				XP		sP	22 05 34.2	+14
MDJ				PP		PP	22 08 23.2	+5.8
MDJ				AMB		AMB		
	comp=Z,19nm,1.2s,mb5.0							
MDJ				AMB		AMB		
	comp=Z,136nm,5.5s							
MDJ				LR		LR		
	comp=N,64nm,18.3s,MS4.3							
MDJ				LR		LR		
	comp=E,111nm,17.2s,MS4.3							
MDJ				LR		LR		
	comp=Z,167nm,18.3s,MS4.5							
MSU	**Marysvale**	**83.38**	**44**	*e*P		**P**	**22 05 11.1**	**+5.2**
HAWA	**Hanford**	**83.77**	**35**	*e*P		**P**	**22 05 13.3**	**+5.5**
	comp=Z,0.8nm,1.2s							
BMO	**Blue Mountains**	**84.01**	**37**	*e*P		**P**	**22 05 12.4**	**+3.3**
	comp=Z,24nm,1.8s,mb5.0							
SLKM	**Skilak Lake**	**84.02**	**12**	*e*P		**P**	**22 05 08.7**	**-0.5**
TMUT	**Trail Mountain**	**84.44**	**44**	*e*P		**P**	**22 05 14.4**	**+3.1**
MNTX	**Cornudas Mount**	**84.58**	**53**	*e*P		**P**	**22 05 14.0**	**+2.0**
	comp=Z,5.6nm,1.3s,mb4.5							
SRU	**San Rafael**	**84.79**	**45**	*e*P		**P**	**22 05 13.3**	**+0.3**
	comp=Z,13nm,1.2s,mb4.9							
HLID	**Hailey**	**84.89**	**39**	*e*P		**P**	**22 05 14.3**	**+0.7**
	comp=Z,6.0nm,1.0s,mb4.7							
EYAK	**Cordova Ski Ar**	**84.98**	**14**	*e*P		**P**	**22 05 13.4**	**-0.6**
CN2	**Changchun**	**85.19**	**321**	*e*P		**P**	**22 05 15.6**	**+0.6**
CN2				AMB		AMB		
	comp=Z,30nm,1.2s,mb5.3							
PMR	**Palmer**	**85.23**	**12**	*e*P		**P**	**22 05 14.8**	**-0.5**
	comp=Z,3.9nm,0.4s,mb4.9							
TTA	**Tatalina**	**85.38**	**8**	*e*P		**P**	**22 05 16.0**	**0.0**
	comp=Z,44nm,1.4s,mb5.4							
ANMO	**Albuquerque**	**85.39**	**50**	*e*P		**P**	**22 05 16.8**	**+0.8**
	comp=Z,6.6nm,1.2s,mb4.6							
NEW	**Newport**	**86.22**	**34**	LR		LR	22 41 26.2	
	comp=Z,577nm,18.0s,MS5.0,baz=162,slow=34							
TIA	**Tai'an**	**86.47**	**311**	ǁ P		**P**	**22 05 22.5**	**+1.1**
SNAA	**Sanae**	**86.90**	**177**	*e*P		**P**	**22 05 24.5**	**+1.0**
	comp=Z,8.6nm,1.2s,mb4.9							
PDAR	**Pinedale Array**	**87.38**	**42**	P		**P**	**22 05 25.8**	**-0.1**
	comp=Z,1.0nm,0.8s,mb4.1,baz=215,slow=1.8,SNR=5.5							
PDAR				LR		LR	22 42 56.6	
	comp=Z,203nm,18.4s,MS4.6,baz=249,slow=34							
DLBC	**Dease Lake**	**87.66**	**22**	LR		LR	22 39 56.1	
	comp=Z,110nm,18.4s,MS4.3,baz=35,slow=32							
DLBC	**Dease Lake**	**87.66**	**22**	*e*P		**P**	**22 05 27.5**	**+0.3**
PSI	**Prapat**	**87.97**	**274**	P		**P**	**22 05 29.1**	**+0.4**
	comp=Z,19nm,0.9s,mb5.3,baz=168,slow=2.6,SNR=16							
COLA	**College**	**88.48**	**11**	*e*P		**P**	**22 05 30.3**	**-0.7**
	comp=Z,23nm,1.2s,mb5.3							
ILAR	**Eielson Array**	**88.56**	**11**	P		**P**	**22 05 30.3**	**-1.1**
	comp=Z,2.4nm,0.8s,mb4.5,baz=217,slow=5.3,SNR=20							
BJI	**Beijing**	**89.01**	**314**	P		**P**	**22 05 34.7**	**+1.2**
BJI				AMB		AMB		
	comp=Z,14nm,2.0s,mb5.0							
BJI				AMB		AMB		
	comp=Z,216nm,5.6s							
BJI				LR		LR		
	comp=N,180nm,18.0s,MS4.6							
BJI				LR		LR		
	comp=E,119nm,18.0s,MS4.6							
BJI				LR		LR		
	comp=Z,104nm,18.9s,MS4.3							
DAWY	**Dawson**	**89.51**	**15**	*e*P		**P**	**22 05 36.2**	**+0.3**
XAN	**Xi'an**	**91.46**	**306**	P		**P**	**22 05 46.3**	**+1.4**
XAN				AMB		AMB		
	comp=Z,34nm,1.2s,mb5.5							
NANT	**Nan**	**92.24**	**289**	ǁ P		**P**	**22 05 48.0**	**-0.6**
	comp=Z,175nm,1.0s							
KMI	**Kunming**	**92.84**	**296**	P		**P**	**22 05 54.0**	**+2.6**
KMI				AMB		AMB		
	comp=Z,19nm,1.6s,mb5.3							
KMI				LR		LR		
	comp=N,146nm,17.6s,MS4.7							
KMI				LR		LR		
	comp=E,185nm,17.6s,MS4.7							
KMI				LR		LR		
	comp=Z,219nm,20.2s,MS4.6							
CHG	**Chiang Mai**	**93.79**	**289**	⇑ P		**P**	**22 05 57.9**	**+2.2**
	comp=Z,15nm,1.0s,mb5.4							
CHTO	**Chiang Mai**	**93.79**	**289**	*e*P		**P**	**22 05 57.6**	**+1.9**
	comp=Z,9.8nm,0.9s,mb5.2							
INK	**Inuvik**	**94.36**	**14**	*e*P		**P**	**22 05 57.4**	**-1.0**
	comp=Z,16nm,1.5s,mb5.2							
YKA	**Yellowknife Ar**	**96.01**	**24**	P		**P**	**22 06 04.6**	**-1.3**
	comp=Z,0.2nm,0.7s,baz=236,slow=4.1,SNR=4.0							
YKA	**Yellowknife Ar**	**96.01**	**24**	P		**P**	**22 06 04.6**	**-1.3**
LPAZ	**La Paz**	**98.53**	**111**	LR		LR	22 43 42.0	
	comp=Z,216nm,18.1s,MS4.7,baz=283,slow=31							
SONM	**Songino Array**	**98.75**	**318**	P		**P**	**22 06 17.3**	**-0.9**
	comp=Z,0.4nm,0.9s,mb3.9,baz=38,slow=2.6,SNR=4.0							
ULM	**Lac du Bonnet**	**99.19**	**40**	LR		LR	22 45 38.4	
	comp=Z,245nm,18.9s,MS4.7,baz=316,slow=32							
MKAR	**Makanchi Array**	**114.36**	**313**	PKP		PKiKP	22 11 16.9	-1.4
	comp=Z,0.5nm,0.6s,baz=175,slow=0.7,SNR=3.9							
BRVK	**Borovoye**	**122.09**	**320**	*e*PKIKP		PKPdf	22 11 32.3	-0.9
ZRNK	**Zerenda**	**122.87**	**320**	*e*PKIKP		PKPdf	22 11 34.2	-0.5
ARCES	**ARCESS Array B**	**130.47**	**351**	PKP		PKPdf	22 11 48.3	-0.9
	comp=Z,2.8nm,0.8s,baz=0.7,slow=9.7,SNR=3.7							
FINES	**FINESS Array B**	**137.63**	**346**	PKP		PKPdf	22 12 02.1	-0.5
	comp=Z,0.9nm,0.9s,baz=25,slow=3.7,SNR=4.0							
ERZM	**Erzurum**	**144.53**	**309**	*i* P		PKPdf	22 12 15.8	+0.8
EZM	**Erzurum**	**144.53**	**309**	*e*P		PKPdf	22 12 15.1	+0.1
SUW	**Suwalki**	**144.90**	**342**	*e*PKIKP		PKPdf	22 12 14.0	-1.6
MUD	**Monsted U'grnd**	**144.98**	**357**	*i* P		PKPdf	22 12 15.6	-0.2
	comp=Z,39nm,1.2s							
BTMT	**Batman**	**145.00**	**306**	*e*P		PKPbc	22 12 15.8	+0.6
AKASG	**Malin Array Be**	**145.48**	**333**	PKPbc		PKPbc	22 12 15.6	-1.2
	comp=Z,9.9nm,0.8s,baz=38,slow=3.7,SNR=53							
COP	**Copenhagen**	**145.48**	**353**	*i* P		PKPdf	22 12 17.0	+0.4
	comp=Z,17nm,1.0s							
COP	**Copenhagen**	**145.48**	**353**	*e*P		PKPdf	22 12 17.0	+0.4
GUMT	**Gumushane**	**145.66**	**311**	*e*P		PKPdf	22 12 19.7	+2.8
BSD	**Bornholm Skovb**	**145.71**	**351**	ǁ *i*P		PKPbc	22 12 17.0	0.0
	comp=Z,26nm,0.9s							
MARD	**Mardin**	**145.81**	**305**	*i* P		PKPdf	22 12 18.2	+1.0
RGN	**Rugen**	**146.49**	**352**	*e*PKPbc		PKPbc	22 12 20.7	+0.9
ELZG	**Elazig**	**146.75**	**308**	*i* P		PKPbc	22 12 22.8	+2.3
MALT	**Malatya**	**147.23**	**308**	*e*PKPdf		PKPbc	22 12 23.3	+1.4
HLG	**Helgoland**	**147.31**	**358**	*e*PKPbc		PKPbc	22 12 23.8	+1.7
BSEG	**Bad Segeberg**	**147.41**	**355**	*e*PKPbc		PKPbc	22 12 22.6	+0.2
SVSK	**Karacayir**	**147.62**	**312**	*e*P		PKPbc	22 12 24.1	+1.2
GZT	**Gaziantep**	**148.21**	**307**	*i* P		PKPbc	22 12 26.0	+1.5
BOYT	**Boyabat**	**148.34**	**316**	*i* P		PKPbc	22 12 26.1	+1.3
RUE	**Ruedersdorf**	**148.43**	**350**	*e*PKPbc		PKPbc	22 12 25.2	+0.1
RUE				*e*PKPab		PKPab	22 12 28.3	-0.1
CTKT	**Corum**	**148.80**	**314**	*i* P		PKPbc	22 12 26.5	+0.4
KWP	**Kalwaria**	**148.83**	**338**	*e*PKP2		PKPbc	22 12 26.9	+0.8
IBBN	**Ibbenburen**	**149.19**	**357**	*e*PKPbc		PKPbc	22 12 27.3	+0.2
OJC	**Ojcow**	**149.23**	**342**	*e*PX		PKPbc	22 12 27.6	+0.5
BALT	**Daday**	**149.25**	**317**	*i* P		PKPbc	22 12 28.4	+1.2
CLZ	**Clausthal**	**149.48**	**354**	*e*PKPbc		PKPbc	22 12 28.3	+0.5
CLZ				*e*PKPab		PKPab	22 12 32.8	+0.1
COBT	**Iskenderun**	**149.49**	**306**	*i* P		PKPbc	22 12 29.1	+1.4
STHS	**Stebnicka Huta**	**149.50**	**340**	*e*PKP		PKPbc	22 12 29.1	+1.3
STHS				*e*			22 12 34.4	
CDAG	**Cicekdag**	**149.56**	**313**	*i* P		PKPdf	22 12 24.6	+1.2
WTSB	**Winterswijk**	**149.56**	**359**	*e*P		PKPbc	22 12 28.7	+0.7
KOLS	**Kolonicke sedl**	**149.57**	**338**	*e*PKP		PKPbc	22 12 31.9	+3.9
KOLS				*e*			22 12 41.7	
CLL	**Collm**	**149.69**	**351**	*e*PKPbc		PKPbc	22 12 28

comp=Z,1.2nm,1.1s,baz=234,slow=5.4,SNR=2.8

*KRSC **12** 21:54:30.5±0.5, 5621N×16355E, h0km±2km, ML4.2*
*IDC **12** 21:54:31.8±1.2, 5647N×16326E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/23, mbtmp3.7/7, ML3.4/1, Error ellipse: s-maj=31.2km s-min=16.6km az=20.0*
*ISCJB **12** 21:54:32.1±0.4, 5623N±003×16369E±004, h10km, mb3.6/7, Error ellipse: s-maj=4.6km s-min=3.1km az=4.1*
*MOS **12** 21:54:32.9±0.9, 5623N×16349E, h15km, mb3.7/2, Error ellipse: s-maj=19.8km s-min=12.8km az=61.8*

ISC 12 21:54:33.3±0.4, 5624N±003×16365E±004, h10km, n47, σ1§15/74, mb3.6/7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.47**	**267**	P	**Pg**	**21 54 40.1**	**-2.3**
KBTR				S	**Sg**	**21 54 46.0**	**-2.5**
KBTR	**Krutoberegovo**	**0.47**	**267**	*i* P	**Pg**	**21 54 40.1**	**-2.3**
KBTR				*e*S	**Sg**	**21 54 47.0**	**-1.5**
KBG	**Krutoberegovo**	**0.53**	**273**	*i* P	**Pg**	**21 54 41.3**	**-2.3**
KBG				*e*S	**Sg**	**21 54 49.4**	**-1.1**
KBG				Smax			
	12µm,0.9s						
SMKR	**Semkarok**	**1.26**	**287**	*i* P	**Pn**	**21 54 54.9**	**-2.1**
SMKR				*e*S	**Sb**	**21 55 13.1**	**-0.4**
BDR	**Baidarnaya**	**1.40**	**285**	*i* P	**Pn**	**21 54 57.6**	**-1.2**
BDR				*e*S	**Sn**	**21 55 18.2**	**+0.9**
SRKR	**Sorokina**	**1.44**	**288**	*i* P	**Pn**	**21 54 58.3**	**-1.1**
SRKR				*e*S	**Sn**	**21 55 19.0**	**+0.6**
ZLN	**Zelenaya**	**1.61**	**263**	*i* P	**Pn**	**21 55 00.8**	**-0.9**
ZLN				*e*S	**Sn**	**21 55 23.0**	**+0.5**
CIRR	**Tsirk**	**1.63**	**267**	*i* P	**Pn**	**21 55 01.1**	**-0.9**
CIRR				*e*S	**Sn**	**21 55 23.2**	**+0.2**
LGNR	**Loginova**	**1.66**	**266**	*i* P	**Pn**	**21 55 01.9**	**-0.6**
LGNR				*e*S	**Sn**	**21 55 24.4**	**+0.5**
BKI	**Bering**	**1.67**	**127**	*e*P	**Pn**	**21 55 02.3**	**-0.3**
BKI				*e*S	**Sn**	**21 55 24.5**	**+0.4**
BKI				Smax			
	610nm,0.9s						
KLY	**Klyuchi**	**1.68**	**274**	P	**Pn**	**21 54 59.7**	**-2.9**
KLY				S	**Sn**	**21 55 19.2**	**-5.0**
KLY	**Klyuchi**	**1.68**	**274**	*i* P	**Pn**	**21 54 59.6**	**-3.0**
KLY				*e*S	**Sn**	**21 55 21.0**	**-3.2**
KRSR	**Krestovskiy**	**1.72**	**271**	*i* P	**Pn**	**21 55 02.2**	**-1.1**
KRSR				*e*S	**Sn**	**21 55 25.5**	**+0.1**
KPT	**Kopyto**	**1.94**	**263**	*i* P	**Pn**	**21 55 05.7**	**-0.6**
KPT				*e*S	**Sn**	**21 55 31.9**	**+1.2**
KMNR	**Kamenistaya**	**1.98**	**257**	*e*P	**Pn**	**21 55 06.7**	**-0.1**
KMNR				*e*S	**Sn**	**21 55 33.1**	**+1.5**
MKZ	**Mys Kozlova**	**2.01**	**214**	*e*P	**Pn**	**21 55 05.4**	**-1.8**
KOZR	**Kozyr**	**2.11**	**267**	PN	**Pn**	**21 55 09.0**	**+0.4**
KOZR				S	**Sn**	**21 55 35.8**	**+0.9**
KOZ	**Kozyrevsk**	**2.12**	**267**	P	**Pn**	**21 55 09.0**	**+0.2**
KOZ				S	**Sn**	**21 55 35.8**	**+0.6**
KOZ	**Kozyrevsk**	**2.12**	**267**	*i* P	**Pn**	**21 55 09.1**	**+0.3**
KOZ				*e*S	**Sn**	**21 55 37.2**	**+2.0**
SRDR	**Sredinnyy**	**2.20**	**274**	*i* P	**Pn**	**21 55 10.0**	**+0.2**
SRDR				*i* S	**Sn**	**21 55 38.9**	**+1.9**
TUMR	**Tumrok**	**2.20**	**246**	*i* P	**Pn**	**21 55 10.3**	**+0.5**
TUMR				*e*S	**Sn**	**21 55 39.0**	**+1.9**
ESO	**Esso**	**2.79**	**266**	*e*P	**Pn**	**21 55 18.9**	**+0.9**
ESO				*e*S	**Sn**	**21 55 53.5**	**+1.8**
ESO				Smax			
	340nm,1.4s						
SPN	**Mys Shipunski**	**3.78**	**215**	P	**Pn**	**21 55 31.2**	**-0.4**
SPN				S	**Sn**	**21 56 12.9**	**-3.3**
SPN	**Mys Shipunski**	**3.78**	**215**	*e*P	**Pn**	**21 55 31.7**	**+0.1**
SPN				*e*S	**Sn**	**21 56 15.7**	**-0.5**
NLC	**Nalytchevo**	**3.96**	**221**	P	**Pn**	**21 55 33.4**	**-0.6**
NLC				S	**Sn**	**21 56 17.0**	**-3.5**
NLC	**Nalytchevo**	**3.96**	**221**	P	**Pn**	**21 55 33.3**	**-0.7**
NLC				*e*S	**Sn**	**21 56 19.2**	**-1.3**
SDLR	**Sedlovina**	**4.05**	**225**	*e*P	**Pn**	**21 55 35.8**	**+0.5**
SMAR	**Somma**	**4.09**	**225**	*e*P	**Pn**	**21 55 36.4**	**+0.5**
AVH	**Avacha**	**4.12**	**226**	*e*P	**Pn**	**21 55 36.5**	**+0.3**
UGLR	**Uglovaya**	**4.13**	**225**	*e*P	**Pn**	**21 55 36.9**	**+0.6**
KOK	**Koryaka**	**4.14**	**227**	*e*P	**Pn**	**21 55 38.1**	**+1.6**
GNL	**Ganaly**	**4.16**	**235**	*i* P	**Pn**	**21 55 37.6**	**+0.8**
PET	**Petropavlovsk**	**4.33**	**224**	P	**Pn**	**21 55 40.2**	**+1.0**
PET				S	**Sn**	**21 56 28.8**	**-1.0**
KRMR	**Karymshinskiy**	**4.69**	**226**	P	**Pn**	**21 55 44.1**	**0.0**
RUS	**Russkaya**	**4.85**	**220**	*e*P	**Pn**	**21 55 46.6**	**+0.3**
GRL	**Gorelyy**	**4.92**	**224**	*e*P	**Pn**	**21 55 48.0**	**+0.7**
KAMR	**Kamenskoye**	**6.38**	**11**	*i* P	**Pn**	**21 56 08.7**	**+1.4**
KAMR				*e*S	**Sn**	**21 57 20.6**	**+0.5**
FX1	**Attu Island--F**	**6.47**	**117**	Pn	**Pn**	**21 56 11.7**	**+3.2**
	2.2nm,0.3s,baz=5.2,slow=11,SNR=4.5						
FX1	**Attu Island--F**	**6.47**	**117**	PN	**Pn**	**21 56 11.7**	**+3.1**
FX1				pmax	pmax		
	comp=Z,2.0nm,0.3s						
TIXI	**Tiksi**	**21.23**	**330**	*e*P	**P**	**21 59 21.2**	**+1.9**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.5						
KDAK	**Kodiak Island**	**23.58**	**68**	P	**P**	**21 59 43.0**	**-1.2**
	comp=Z,1.7nm,0.4s,mb3.8,baz=256,slow=8.3,SNR=2.7						
ILAR	**Eielson Array**	**25.17**	**50**	P	**P**	**21 59 58.8**	**0.0**
	comp=Z,0.8nm,0.8s,mb3.3,baz=266,slow=9.5,SNR=12						
ILAR	**Eielson Array**	**25.17**	**50**	P	**P**	**21 59 58.8**	**+0.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM	**Songino Array**	**35.26**	**281**	P	**P**	**22 01 26.5**	**-1.6**
	comp=Z,0.3nm,0.5s,mb3.5,baz=55,slow=7.4,SNR=3.7						
YKA	**Yellowknife Ar**	**39.47**	**46**	P	**P**	**22 02 03.9**	**+0.2**
	comp=Z,0.2nm,0.5s,mb3.1,baz=301,slow=8.5,SNR=4.3						
MKAR	**Makanchi Array**	**48.67**	**295**	P	**P**	**22 03 14.1**	**-3.4**
	comp=Z,0.4nm,0.5s,mb3.7,baz=55,slow=6.8,SNR=12						
SCHQ	**Schefferville**	**61.90**	**30**	P	**P**	**22 04 52.4**	**-0.5**
	comp=Z,1.0nm,0.6s,mb4.1,baz=297,slow=6.8,SNR=3.9						

*ISCJB **12** 22:17:11.7±4.6, 4.9S±05×1499E±07, h72km±47km, mb3.4/4, Error ellipse: s-maj=134.2km s-min=28.7km az=74.8*
*IDC **12** 22:17:11.7±6.1, 489S×15005E, h58km±59km, mb3.4/4, mb1 3.7/5, mb1mx3.4/15, mbtmp3.7/5, ML2.8/1, Error ellipse: s-maj=96.6km s-min=32.2km az=131.0*

ISC 12 22:17:12.9±4.1, 49S±06×1501E±07, h72km±43km, n7, σ0§99/8, mb3.4/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.30**	**213**	P	**Pn**	**22 18 29.5**	**0.0**
	1.9nm,0.3s,baz=18,slow=6.4,SNR=4.1						
PMG				S	**Sn**	**22 19 29.5**	**+0.3**
	7.1nm,0.3s,baz=28,slow=20,SNR=7.3						
WB2	**Warramunga Arr**	**21.38**	**224**	*e*P	**P**	**22 21 53.1**	**-1.3**
WRA	**Warramunga Arr**	**21.38**	**224**	P	**P**	**22 21 53.7**	**-0.7**
	1.9nm,0.7s,mb3.6,baz=51,slow=11,SNR=9.3						
ASAR	**Alice Springs**	**24.29**	**218**	P	**P**	**22 22 24.0**	**+0.6**
	0.3nm,0.5s,mb2.9,baz=53,slow=8.4,SNR=6.5						
FITZ	**Fitzroy Crossi**	**27.24**	**239**	*e*P	**P**	**22 22 51.1**	**+1.1**
	9.2nm,1.3s,mb4.2						
FITZ	**Fitzroy Crossi**	**27.24**	**239**	P	**P**	**22 22 50.8**	**+0.8**
	2.4nm,0.6s,mb3.9,baz=46,slow=10,SNR=8.7						
ILAR	**Eielson Array**	**83.31**	**23**	P	**P**	**22 29 31.9**	**+0.1**
	0.2nm,0.6s,mb3.1,baz=248,slow=4.8,SNR=3.2						

*TIF **12** 22:20:22.1, 44.27N×3973E, h10km±1km*

MOS 12 22:20:28.4±1.4, 4341N×4023E, h4km, mb4.1/1, 2C-1D, Error ellipse: s-maj=34.5km s-min=14.7km az=161.7, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOC	**Sochi**	**0.41**	**295**	⇓*i* PG	Pg	22 20 36.7	+0.4
SOC				*i* S	Sg	22 20 45.6	+3.9
SHAR	**Shatzhatmas**	**1.80**	**79**	*e*PN	Pn	22 21 02.1	+1.9
SHAR				*e*S	Sn	22 21 28.5	+5.0
KIV	**Kislovodsk**	**1.86**	**72**	*e*PN	Pn	22 21 00.9	-0.1
KIV				*e*S	Sn	22 21 27.6	+2.6
KIV0	**Kislovodsk Arr**	**1.87**	**72**	⇑*e*PN	Pn	22 21 01.0	-0.1
KIV0				*e*S	Sn	22 21 27.6	+2.5
BEYR	**Belyy Ugol+**	**1.97**	**71**	*e*PN	Pn	22 21 02.8	+0.3
BEYR				*e*S	Sn	22 21 30.4	+2.8
KUBR	**Kubataba**	**2.34**	**79**	⇑*e*PN	Pn	22 21 10.4	+2.8
GOF	**Gofitskoye**	**2.60**	**50**	*e*PN	Pn	22 21 14.1	+2.9

IDC 12 22:43:53.9±4.7, 599S×14693E, h0km, mb2.9/1, mb1 3.4/2, mb1mx3.3/13, mbtmp3.1/2, ML3.3/1, Error ellipse: s-maj=181.8km s-min=48.6km az=111.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.50**	**220**	P	Pn	22 48 10.7	-0.9
	0.1nm,0.3s,baz=44,slow=11,SNR=1.9						
ASAR	**Alice Springs**	**21.59**	**214**	P	P	22 48 45.9	+0.6
	0.7nm,0.9s,baz=48,slow=9.7,SNR=4.2						
TORD	**Torodi Ar. Bea**	**145.02**	**284**	PKPbc	PKPbc	23 03 33.0	+0.6
	0.5nm,0.7s,baz=69,slow=3.8,SNR=5.6						

*CSEM **12** 22:44:13.9±0.1, 37.12N×2806E, h2km, MD3.5, Error ellipse: s-maj=1.5km s-min=1.0km az=177.0*
*IDC **12** 22:44:13.7±1.2, 3690N×2817E, h0km, mb3.6/2, mb1 3.7/7, mb1mx3.5/23, mbtmp3.6/7, ML3.5/4, MS2.8/1, Ms1 2.8/1, ms1mx2.2/28, Error ellipse: s-maj=21.9km s-min=17.1km az=149.0*
*ISCJB **12** 22:44:14.6±0.4, 3706N±002×2805E±002, h10km±3km, mb3.5/2, Error ellipse: s-maj=3.6km s-min=3.1km az=14.6*
*ISK **12** 22:44:14.5, 37.10N×2806E, h6km, MD3.5, ML3.6*
*MOS **12** 22:44:15.0±1.0, 3700N×2803E, h15km, mb3.8/4, Error ellipse: s-maj=10.8km s-min=7.9km az=128.2*
*ATH **12** 22:44:15.0, 3707N×2797E, h24km±1km, MD3.6/9*
*NEIC **12** 22:44:15.0, 3707N×2797E, h23km, mb3.6/7, MD3.6(ATH), After ATH.*

ISC 12 22:44:15.3±0.4, 3705N±002×2805E±002, h5km±3km, n76, σ1§05/94, mb3.5/2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.20**	**67**	*i* PG	**Pg**	**22 44 18.5**	**-0.8**
MLSB	**Milas**	**0.32**	**318**	*i* PG	**Pg**	**22 44 21.0**	**-0.6**
MLSB				*i* SG	**Sg**	**22 44 26.1**	**+0.3**
BDRM	**Kayabasi**	**0.48**	**272**	*i* P	**Pg**	**22 44 23.9**	**-0.7**
BDRM				*i* S	**Sg**	**22 44 32.2**	**+1.4**
DALT	**Dalyan (Mudla)**	**0.55**	**121**	*i* PG	**Pg**	**22 44 25.2**	**-0.7**
DALT				*i* SG	**Sg**	**22 44 34.8**	**+1.7**
BODT	**Bodrum**	**0.59**	**271**	*i* PG	**Pg**	**22 44 26.6**	**0.0**
BODT				*i* SG	**Sg**	**22 44 35.2**	**+0.9**
AYDN	**Tasoluk**	**0.62**	**348**	*i* P	**Pg**	**22 44 26.4**	**-0.8**
AYDN				*i* S	**Sg**	**22 44 35.4**	**+0.2**
ARG	**Arkhangelos**	**0.84**	**176**	*e*PB	**Pg**	**22 44 31.0**	**-0.4**
ARG				*e*SN	**Sg**	**22 44 43.8**	**+1.5**
NISR	**Nisiros**	**0.86**	**239**	*e*PN	**Pg**	**22 44 30.5**	**-1.3**
NISR				*e*SN	**Sg**	**22 44 43.0**	**+0.1**
FETY	**Fethiye**	**0.93**	**116**	*i* PG	**Pg**	**22 44 32.9**	**-0.2**
DENT	**Denizli**	**1.05**	**48**	*e*PG	**Pg**	**22 44 34.3**	**-1.2**
SMG	**Samos**	**1.17**	**305**	*e*PN	**Pn**	**22 44 36.5**	**-1.7**
IZM	**Izmir**	**1.48**	**335**	*e*PN	**Pn**	**22 44 41.5**	**-1.0**
KDAG	**Bornova**	**1.48**	**336**	*i* P	**Pn**	**22 44 41.0**	**-1.6**
KDAG				*i* S	**Sn**	**22 44 52.9**	**-9.4**
MANT	**Manisa**	**1.49**	**16**	*i* P	**Pn**	**22 44 42.0**	**-0.7**
ELL	**Elmali**	**1.52**	**101**	*e*PN	**Pn**	**22 44 43.5**	**+0.3**
KSL	**Kastellorizon**	**1.53**	**126**	*e*PN	**Pn**	**22 44 44.0**	**+0.7**
KARP	**Karpathos**	**1.67**	**206**	*e*PB	**Pn**	**22 44 43.8**	**-1.3**
KARP				*e*SN	**Sn**	**22 45 06.2**	**-0.6**
KHL	**Karahalli**	**1.73**	**42**	*e*PN	**Pn**	**22 44 45.4**	**-0.5**
AKS	**Akhisar**	**1.83**	**354**	PN	**Pn**	**22 44 46.0**	**-1.4**
APE	**Apeiranthos**	**2.01**	**271**	*e*PN	**Pn**	**22 44 49.2**	**-0.7**
ANTB	**Antalya**	**2.09**	**93**	*e*PN	**Pn**	**22 44 51.2**	**+0.2**
ISP	**Isparta**	**2.11**	**67**	*e*P	**Pn**	**22 44 53.8**	**+2.5**
ALT	**Altintas**	**2.58**	**39**	*e*PN	**Pn**	**22 44 57.4**	**-0.3**
BALB	**Balikesir**	**2.59**	**357**	*e*PN	**Pn**	**22 44 58.0**	**+0.2**
PRK	**Paraskevi**	**2.60**	**328**	*e*PN	**Pn**	**22 44 57.2**	**-0.7**
NPS	**Neapolis**	**2.66**	**229**	*e*PN	**Pn**	**22 44 57.7**	**-1.1**
XRY	**Khrisi**	**2.89**	**222**	*e*PN	**Pn**	**22 45 02.0**	**0.0**
IDI	**Anoyia**	**3.10**	**236**	Pn	**Pn**	**22 45 04.5**	**-0.4**
	2.3nm,0.3s,baz=58,slow=15,SNR=20						
IDI				Sn	**Sn**	**22 45 43.3**	**+1.0**
	2.6nm,0.3s,baz=279,slow=20,SNR=6.1						
BNT	**Bandirma**	**3.30**	**358**	*e*PN	**Pn**	**22 45 07.3**	**-0.3**
KIZT	**Kizilcal**	**3.54**	**58**	*e*PN	**Pn**	**22 45 11.5**	**+0.7**
KONT	**Konya--Tatoy**	**3.54**	**74**	*e*PN	**Pn**	**22 45 11.5**	**+0.6**
RDO	**Rodhopi**	**4.53**	**335**	*e*PN	**Pn**	**22 45 24.2**	**-0.3**
IKL	**Isikli**	**4.61**	**98**	*e*PN	**Pn**	**22 45 26.9**	**+1.4**
ANTO	**Ankara**	**4.67**	**52**	*e*Pn	**Pn**	**22 45 26.7**	**+0.3**
CSS	**Prodhromos**	**4.76**	**114**	*e*Pn	**Pn**	**22 45 28.0**	**+0.3**
CSS				*e*Sn	**Sn**	**22 46 20.5**	**-2.8**
CSS	**Prodhromos**	**4.76**	**114**	*e*Pn	**Pn**	**22 45 28.0**	**+0.3**
CSS				*e*Sn	**Sn**	**22 46 20.5**	**-2.8**
KAMT	**Kaman**	**5.03**	**61**	*e*PN	**Pn**	**22 45 32.5**	**+1.2**
BR131	**Keskin Array S**	**5.14**	**57**	*e*Pn	**Pn**	**22 45 33.7**	**+0.9**
	3.9nm,0.4s						
BR131				*e*Sn	**Sn**	**22 46 33.2**	**+0.7**
BR131	**Keskin Array S**	**5.14**	**57**	*e*Pn	**Pn**	**22 45 33.7**	**+0.8**
	3.8nm,0.4s						
BR131				*e*Sn	**Sn**	**22 46 33.2**	**+0.6**
BRTR	**Keskin Array B**	**5.14**	**57**	Pn	**Pn**	**22 45 33.9**	**+1.0**
	2.4nm,0.3s,baz=240,slow=17,SNR=61						
BRTR				Sn	**Sn**	**22 46 34.4**	**+1.8**
	0.4nm,0.3s,baz=232,slow=27,SNR=4.2						
BRTR	**Keskin Array B**	**5.14**	**57**	P	**Pn**	**22 45 33.9**	**+1.0**
BRTR						22 46 34.4	
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BRTR	**Keskin Array B**	**5.14**	**57**	Pn	**Pn**	**22 45 33.8**	**+0.9**
BRTR				Sn	**Sn**	**22 46 34.3**	**+1.8**
MMAI	**Mount Meron Ar**	**7.25**	**122**	Pn	**Pn**	**22 46 00.6**	**-1.3**
	comp=Z,7.0nm,0.3s,baz=310,slow=12,SNR=48						
MMAI				Sn	**Sn**	**22 47 21.2**	**-3.4**
	comp=Z,6.1nm,0.3s,baz=305,slow=23,SNR=13						
MLR	**Muntele Rosu**	**8.58**	**350**	Pn	**Pn**	**22 46 21.7**	**+1.6**
	baz=164,slow=20						
MLR				LR	LR	22 50 04.9	
	comp=Z,60nm,21.8s,baz=153,slow=40						
MLR	**Muntele Rosu**	**8.58**	**350**	P	**Pn**	**22 46 21.7**	**+1.6**
	comp=Z,60nm,21.8s						
ASF	**Jabal al Asfar**	**8.77**	**121**	Pn	**Pn**	**22 46 22.9**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=164,slow=5.4,SNR=5.9						
ASF				Sn	**Sn**	**22 47 56.2**	**-5.7**
	comp=Z,0.2nm,0.3s,baz=264,slow=19,SNR=2.1						
ASF	**Jabal al Asfar**	**8.77**	**121**	P	**Pn**	**22 46 22.9**	**+0.2**
ASF						22 47 56.2	
ASF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GERES	**GERESS Array B**	**15.75**	**323**	Pn	**Pn**	**22 48 02.4**	**+4.5**
	comp=Z,0.0nm,0.3s,baz=125,slow=12,SNR=5.5						
MBDF	**Montbardon**	**17.79**	**302**	*e*P	**Pn**	**22 48 26.3**	**+2.7**
	comp=Z,5.9nm,0.8s						
MBDF	**Montbardon**	**17.79**	**302**	*e*P	**Pn**	**22 48 26.3**	**+2.7**
MBDF				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MBDF	**Montbardon**	**17.79**	**302**	*e*P	**Pn**	**22 48 26.3**	**+2.7**
	comp=Z,3.0nm,0.8s						
LPG	**La Plagne**	**18.05**	**304**	*e*P	**Pn**	**22 48 28.7**	**+1.8**
	comp=Z,6.1nm,1.0s						
LPG	**La Plagne**	**18.05**	**304**	*e*P	**Pn**	**22 48 28.7**	**+1.8**
LPG				pmax	pmax		
	comp=Z,3.0nm,1.0s						
LPG	**La Plagne**	**18.05**	**304**	*e*P	**Pn**	**22 48 28.7**	**+1.8**
	comp=Z,3.0nm,1.0s						
LPL	**La Plagne**	**18.07**	**305**	*e*P	**Pn**	**22 48 29.0**	**+1.9**
	comp=Z,7.9nm,1.1s						
LPL	**La Plagne**	**18.07**	**305**	*e*P	**Pn**	**22 48 29.0**	**+1.9**
LPL				pmax	pmax		
	comp=Z,4.0nm,1.1s						
LPL	**La Plagne**	**18.07**	**305**	*e*P	**Pn**	**22 48 29.0**	**+1.9**
	comp=Z,4.0nm,1.1s						
CABF	**La Chapelle**	**18.89**	**307**	*e*P	**Pn**	**22 48 37.6**	**+0.5**
	comp=Z,6.7nm,0.8s						
CABF	**La Chapelle**	**18.89**	**307**	*e*P	**Pn**	**22 48 37.6**	**+0.5**
CABF				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CABF	**La Chapelle**	**18.89**	**307**	*e*P	**Pn**	**22 48 37.6**	**+0.5**
	comp=Z,3.3nm,0.8s						
CDF	**Champ du Feu**	**18.95**	**313**	*e*P	**Pn**	**22 48 37.8**	**0.0**
SMF	**Signal de Mont**	**20.35**	**306**	*e*P	**P**	**22 48 52.3**	**-0.2**
	comp=Z,8.8nm,0.8s						
SMF	**Signal de Mont**	**20.35**	**306**	*e*P	**P**	**22 48 52.3**	**-0.2**
SMF				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SMF	**Signal de Mont**	**20.35**	**306**	*e*P	**P**	**22 48 52.3**	**-0.2**
	comp=Z,4.4nm,0.8s						
LOR	**Lormes**	**20.55**	**307**	*e*P	**P**	**22 48 54.9**	**+0.2**
	comp=Z,5.6nm,0.8s						
LOR	**Lormes**	**20.55**	**307**	*e*P	**P**	**22 48 54.9**	**+0.2**
LOR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LOR	**Lormes**	**20.55**	**307**	*e*P	**P**	**22 48 54.9**	**+0.2**
	comp=Z,2.8nm,0.8s						
SSF	**Saint Saulge**	**20.71**	**307**	*e*P	**P**	**22 48 56.8**	**+0.4**
	comp=Z,5.4nm,0.8s						
SSF	**Saint Saulge**	**20.71**	**307**	*e*P	**P**	**22 48 56.8**	**+0.4**
SSF				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SSF	**Saint Saulge**	**20.71**	**307**	*e*P	**P**	**22 48 56.8**	**+0.4**
	comp=Z,2.7nm,0.8s						
AVF	**Avril sur Loir**	**20.72**	**306**	*e*P	**P**	**22 48 56.9**	**+0.4**
TCF	**Toulx Ste Croi**	**21.31**	**304**	*e*P	**P**	**22 49 03.7**	**+0.8**
TORD	**Torodi Ar. Bea**	**33.49**	**232**	P	**P**	**22 50 54.2**	**-1.3**
	comp=Z,0.5nm,0.5s,mb3.8,baz=31,slow=9.0,SNR=12						
MKAR	**Makanchi Array**	**40.79**	**59**	P	**P**	**22 51 55.7**	**-1.8**
	comp=Z,0.6nm,0.8s,mb3.3,baz=252,slow=6.6,SNR=3.3						
MKAR	**Makanchi Array**	**40.79**	**59**	P	**P**	**22 51 55.7**	**-1.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**40.79**	**59**	P	**P**	**22 51 55.6**	**-1.8**

*ISCJB **12** 22:57:01.8±3.5, 59S±02×1486E±03, h11km±22km, mb3.8/3, Error ellipse: s-maj=53.8km s-min=16.5km az=45.1*
*IDC **12** 22:57:10.7±2.3, 637S×14902E, h76km±19km, mb3.6/3, mb1 3.8/5, mb1mx3.5/14, mbtmp3.9/5, Error ellipse: s-maj=71.7km s-min=13.9km az=124.0*
*NEIC **12** 22:57:11.3±2.7, 661S×14921E, h90km±28km, mb4.2/2, Error ellipse: s-maj=105.9km s-min=21.2km az=132.0*

ISC 12 22:57:07.8±2.1, 60S±03×1487E±04, h51km±21km, n8, σ1§29/10, mb3.8/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.68**	**204**	P	**Pn**	**22 58 03.0**	**+0.8**
	22nm,0.3s,baz=32,slow=5.1,SNR=38						
PMG				S	**Sn**	**22 58 44.8**	**+0.5**
	35nm,0.3s,baz=142,slow=22,SNR=9.7						
WRAB	**Tennant Creek**	**19.63**	**224**	*e*P	**Pn**	**23 01 32.2**	**-1.5**
	5.3nm,0.4s						
WB2	**Warramunga Arr**	**19.64**	**224**	*e*P	**Pn**	**23 01 31.9**	**-1.9**
WRA	**Warramunga Arr**	**19.64**	**224**	P	**Pn**	**23 01 32.9**	**-1.0**
	0.4nm,0.3s,baz=51,slow=11,SNR=5.6						
WRA				S	**S**	**23 05 12.4**	**+1.4**
	0.2nm,0.3s,baz=38,slow=18,SNR=4.5						
ASAR	**Alice Springs**	**22.58**	**218**	P	**P**	**23 02 03.5**	**-0.2**
	1.6nm,0.5s,mb3.7,baz=57,slow=9.4,SNR=18						
ASAR				S	**S**	**23 06 06.1**	**-1.8**
	1.3nm,0.8s,baz=30,slow=21,SNR=6.9						
FITZ	**Fitzroy Crossi**	**25.50**	**240**	P	**P**	**23 02 33.4**	**+2.2**
	3.1nm,0.8s,mb3.9,baz=56,slow=9.0,SNR=10.0						
ILAR	**Eielson Array**	**84.85**	**23**	P	**P**	**23 09 37.4**	**+0.5**
	0.5nm,0.8s,mb3.7,baz=242,slow=4.6,SNR=4.5						
TORD	**Torodi Ar. Bea**	**146.72**	**285**	PKPbc	PKPbc	23 16 46.0	+2.1
	0.5nm,0.6s,baz=89,slow=2.8,SNR=18						

*ISCJB **12** 23:09:40.9±0.4, 4699N±003×1324E±003, h9km, Error ellipse: s-maj=4.1km s-min=2.9km az=21.9*
*VIE **12** 23:09:40.7±0.1, 4700N×1327E, h9km±2km, mb1.6/2, ML2.3/7, Error ellipse: s-maj=1.7km s-min=0.6km az=11.0*
8 km E of Mallnitz felt 3 EMS98 at Obervellach / CARINTHIA
*PRU **12** 23:09:41.7, 4695N×1306E, h0km*
*ROM **12** 23:09:45.0±1.0, 4684N×1305E, h10km, Md2.3/4, Ml1.6/4, Error ellipse: s-maj=17.9km s-min=4.2km az=28.0*

ISC 12 23:09:41.9±0.4, 4700N±003×1326E±003, h9km, n17, σ1§00/28, 7C-9D, Austria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBA	**Koelnbreinsper**	**0.10**	**351**	*e*Pg	**Pg**	**23 09 43.8**	**-0.5**
	comp=Z,45nm,0.1s,SNR=192						
KBA				⇓*i* Sg	**Sg**	**23 09 45.4**	**-0.7**
	comp=N,246nm,0.1s						
FVI	**Forni Avoltri**	**0.52**	**220**	Pg	**Pg**	**23 09 51.7**	**-0.3**
	29nm,0.3s						
PTCC	**Patocco-Chiusa**	**0.59**	**174**	Pg	**Pg**	**23 09 54.5**	**+1.

IZEF eSn Sn 23 20 01.7 +2.2
IZEF Zefreh 2.19 57 Pn Pn **23 19 34.2 +1.9**
IZEF Sn Sn **23 20 01.6 +2.1**
NASN Na'in 2.50 63 ePN Pn **23 19 38.6 +2.0**
NASN eSg Sg **23 20 16.2 +0.1**
UMR Umm Al-Rimmam 3.00 225 eP Pn **23 19 46.0 +2.5**
UMR AML AML 23 20 31.7
comp=Z,369nm,0.4s
UMR Umm Al-Rimmam 3.00 225 eP Pn **23 19 46.0 +2.4**
UMR eS Sn **23 20 24.3 +4.7**
MIB Mutribah 3.08 233 eP Pn **23 19 47.0 +2.5**
MIB AML AML 23 20 28.4
comp=Z,620nm,0.5s
MIB Mutribah 3.08 233 eP Pn **23 19 47.0 +2.4**
MIB eS Sn **23 20 26.1 +4.6**
ISFB Sefidab 3.17 33 ePn Pn **23 19 47.4 +1.6**
KBD Kabd 3.30 221 eP Pn **23 19 49.9 +2.3**
KBD AML AML 23 20 38.4
comp=Z,874nm,0.3s
KBD Kabd 3.30 221 eP Pn **23 19 49.9 +2.3**
KBD eS Sn **23 20 29.3 +2.4**
NAY Al-Naaiem 3.51 227 eP Pn **23 19 52.8 +2.3**
NAY AML AML 23 20 34.9
comp=Z,105nm,0.5s
NAY Al-Naaiem 3.51 227 eP Pn **23 19 52.8 +2.3**
NAY eS Sn **23 20 35.8 +3.7**
QRN Al-Qurain 3.53 214 eP Pn **23 19 52.2 +1.4**
QRN AML AML 23 20 39.9
comp=Z,260nm,0.3s
IVRN Varamin 3.54 21 ePn Pn **23 19 53.0 +2.1**
IVRN Varamin 3.54 21 Pn Pn **23 19 52.9 +2.0**
RDF Al-Radifah 3.57 220 eP Pn **23 19 53.4 +2.0**
RDF AML AML 23 20 41.5
comp=Z,264nm,0.3s
RDF Al-Radifah 3.57 220 eP Pn **23 19 53.4 +2.0**
RDF eS Sn **23 20 37.3 +3.7**
ICHK Chekchek 3.65 80 ePn Pn **23 19 54.0 +1.6**
IRAZ Razeghan 3.70 357 ePn Pn **23 19 55.9 +2.8**
IRAZ Razeghan 3.70 357 Pn Pn **23 19 55.8 +2.7**
IMEH Mehriz 3.81 94 ePn Pn **23 19 56.2 +1.5**
IGHG Ghaleghazi 3.99 312 ePn Pn **23 19 58.2 +1.0**
IGHG eSn Sn **23 20 44.1 +0.1**
IGHG Ghaleghazi 3.99 312 Pn Pn **23 19 58.2 +1.0**
IGHG Sn Sn **23 20 44.0 0.0**
IMHD Mahdasht 3.99 6 ePn Pn **23 19 59.3 +2.1**
SNGE Sanandaj 4.12 326 ePN Pn **23 20 00.4 +1.5**
SNGE AML AML 23 21 18.7
comp=N,388nm,0.7s
SNGE AML AML 23 21 19.4
comp=E,417nm,0.6s
ILIN Laeen 4.18 321 ePn Pn **23 20 00.7 +1.0**
ILIN eSn Sn **23 20 48.1 -0.4**
DAMV Damavand 4.20 21 ePN Pn **23 20 02.3 +2.3**
DAMV AML AML 23 21 19.1
comp=N,241nm,0.7s
DAMV AML AML 23 21 19.6
comp=E,306nm,0.6s
GHIR Ghir-Karzin 4.20 144 ePN Pn **23 19 59.5 -0.4**
GHIR eSG Sg **23 21 01.4 -9.3**
GHIR Ghir-Karzin 4.20 144 ePn Pn **23 19 59.5 -0.5**
SNR=54
GHIR eSg Sg **23 21 01.5 -9.2**
SNR=92
THKV Tehran--Karaj 4.24 8 ePN Pn **23 20 03.0 +2.4**
THKV AML AML 23 21 30.2
comp=N,250nm,0.6s
THKV AML AML 23 21 32.2
comp=E,281nm,0.7s
THKV Tehran--Karaj 4.24 8 ePn Pn **23 20 03.0 +2.4**
SNR=54
CHTH Charan 4.27 11 ePN Pn **23 20 03.2 +2.3**
IAFJ Afjeh 4.34 17 ePn Pn **23 20 04.1 +2.2**
IDHR Dehrash 4.35 314 ePn Pn **23 20 03.1 +1.0**
IDHR eSn Sn **23 20 52.3 -0.5**
IDHR Dehrash 4.35 314 Pn Pn **23 20 03.0 +0.9**
IDHR Sn Sn **23 20 52.2 -0.6**
ILAS Lasjerd 4.35 32 ePn Pn **23 20 04.5 +2.4**
ILAS eSn Sn **23 20 53.3 +0.5**
ILAS Lasjerd 4.35 32 Pn Pn **23 20 04.5 +2.4**
ILAS Sn Sn **23 20 53.2 +0.4**
IFIR Firoozkooh 4.48 28 ePn Pn **23 20 06.1 +2.2**
IBAF Bafgh 4.61 90 ePn Pn **23 20 06.9 +1.2**
IBAF eSn Sn **23 20 56.8 -2.5**
IBAF Bafgh 4.61 90 Pn Pn **23 20 06.9 +1.2**
IBAF Sn Sn **23 20 56.7 -2.6**
IPRN Paran-Amol 4.85 20 ePn Pn **23 20 12.5 +3.6**
ISHM Shahmirzad 4.85 32 ePn Pn **23 20 11.0 +2.0**
ISHM eSn Sn **23 21 05.4 +0.2**
ISHM Shahmirzad 4.85 32 Pn Pn **23 20 10.9 +1.9**
ISHM Sn Sn **23 21 05.3 +0.1**
IANJ Anjiloo 4.89 39 ePn Pn **23 20 10.6 +1.1**
IANJ eSn Sn **23 21 06.2 +0.1**
IANJ Anjiloo 4.89 39 Pn Pn **23 20 10.5 +1.0**
IANJ Sn Sn **23 21 06.1 0.0**
BHD Baghdad 5.13 289 ex x 23 20 16.0
BHD ex x 23 20 35.0
BHD ex x 23 20 43.0
BHD ex x 23 21 20.0
BHD ex x 23 21 38.0
BHD ex x 23 21 56.0
IKIA Kiasar 5.36 32 ePn Pn **23 20 17.8 +1.8**
IKIA eSn Sn **23 21 16.9 -0.9**
IKIA Kiasar 5.36 32 Pn Pn **23 20 17.8 +1.8**
IKIA Sn Sn **23 21 16.8 -1.0**
IGLO Galoogah 5.36 30 ePn Pn **23 20 22.5 +6.5**
IGLO Galoogah 5.36 30 Pn Pn **23 20 22.4 +6.4**
KRBR Kerman 5.93 105 ePN Pn **23 20 25.0 +1.2**
MSL Mosul 7.44 310 ex x 23 20 48.0
MSL ex x 23 22 11.0
BANOM Banah 7.88 135 P Pn **23 20 48.2 -2.4**
SNR=29
ASHO Ashiyiah 8.71 142 P Pn **23 21 01.2 -0.8**
SNR=13
GNI Garni 9.50 334 Pn Pn **23 21 17.3 +4.6**
comp=E,0.1nm,0.3s,baz=156,slow=20,SNR=1.6
GNI Garni 9.50 334 P Pn **23 21 17.3 +4.5**
MARD Mardin 9.55 308 *i* P Pn **23 21 12.3 -1.1**
BEST Besiri 9.56 313 *i* P Pn **23 21 13.7 0.0**
BEST Besiri 9.56 313 *i* P Pn **23 21 13.6 0.0**
ARQ Araqi 10.06 144 P Pn **23 21 21.5 +1.0**
SNR=13
BSY Bisya 10.90 143 P Pn **23 21 32.5 +0.6**
SNR=30
BSYO Bisya 10.93 143 P Pn **23 21 32.5 +0.1**
SNR=30
SMDO Samad 11.10 139 P Pn **23 21 34.9 +0.3**
SNR=10
ASF Jabal al Asfar 11.28 276 Pn Pn **23 21 35.8 -1.3**
comp=E,4.0nm,0.3s,baz=323,slow=11,SNR=67
ASF Sn Sn **23 23 35.9 -7.3**
comp=E,1.0nm,0.3s,baz=149,slow=17,SNR=4.4
ASF Lg 23 25 13.1
baz=181,slow=22,SNR=3.5
ASF Jabal al Asfar 11.28 276 P Pn **23 21 35.8 -1.3**
ASF 23 23 35.9
ASF pmax pmax
comp=Z,4.0nm,0.3s
ASF smax
comp=N,1.0nm,0.3s
WSAR Wadi Sarin 11.29 136 Pn Pn **23 21 34.3 -3.1**
comp=N,1.3nm,0.3s,baz=309,slow=8.3,SNR=26
WSAR Sn Sn **23 23 35.1 -8.4**
comp=N,1.0nm,0.3s,baz=136,slow=13,SNR=6.5
WSAR LR LR 23 26 31.9
comp=N,242nm,20.2s,baz=325,slow=40
MALT Malatya 11.66 308 eP Pn **23 21 41.6 -0.7**
MALT 23 23 53.4
MALT pmax pmax
comp=Z,7.0nm,0.8s
MALT Malatya 11.66 308 ePn Pn **23 21 41.6 -0.7**
comp=Z,6.9nm,0.8s
MALT Sn Sn **23 23 53.4 +1.0**
JMDO Jabal Madar 11.68 141 P Pn **23 21 42.8 +0.1**
SNR=6.5
JMDO Jabal Madar 11.68 141 P Pn **23 21 42.6 0.0**
SNR=9.9
JMDO Jabal Madar 11.68 141 P Pn **23 21 42.6 0.0**
SNR=9.9
COBT Iskenderun 12.48 296 *i* P Pn **23 21 52.4 -1.2**
MMAI Mount Meron Ar 12.55 280 Pn Pn **23 21 52.9 -1.5**
comp=Z,1.0nm,0.3s,baz=84,slow=17,SNR=12
MMAI Sn Sn **23 24 10.3 -3.9**
comp=Z,1.3nm,0.3s,baz=89,slow=25,SNR=3.8
MMAI Lg 23 25 48.5
baz=138,slow=35,SNR=2.1
EIL Elat 13.25 265 ePn Pn **23 22 02.3 -1.7**
comp=Z,199nm,0.6s
EIL eSn Sn **23 24 14.5 -17**
EIL Elat 13.25 265 ePn Pn **23 22 02.3 -1.7**
comp=Z,199nm,0.6s
KIV Kislovodsk 13.57 336⇑ eP Pn **23 22 12.9 +4.4**
KIV pmax pmax
comp=Z,20nm,1.5s
KIV Kislovodsk 13.57 336 ePn Pn **23 22 12.7 +4.2**
comp=Z,16nm,1.0s
KIV Kislovodsk 13.57 336 eP Pn **23 22 12.9 +4.4**
comp=Z,20nm,1.5s
WHFO Wadi Hawf 14.11 166 P Pn **23 22 13.3 -2.5**
SNR=24
WHFO P 23 22 13.6
SNR=15
SOC Sochi 14.44 328 eP Pn **23 22 23.6 +3.3**
SOC e 23 25 00.6
SOC pmax pmax
comp=Z,11nm,0.9s
SOC MLR MLR
comp=Z,219nm,11.0s
SOC Sochi 14.44 328 ePn Pn **23 22 23.6 +3.3**
comp=Z,11nm,0.9s
ABTO Aybut 14.57 168 P Pn **23 22 18.9 -3.2**
SNR=21
RBK Rabkut 14.61 165 P Pn **23 22 19.7 -2.9**
SNR=9.2
CDAG Cicekdag 15.06 306 *i* P Pn **23 22 29.4 +0.7**
ERMK Ermenek 15.10 294 *i* P Pn **23 22 34.2 +5.0**
BRTR Keskin Array B 15.61 305 Pn Pn **23 22 36.2 +0.3**
comp=Z,1.8nm,0.3s,baz=137,slow=13,SNR=40
BRTR ScP ScP 23 31 11.2 -0.4
comp=Z,0.1nm,0.3s,baz=135,slow=4.5,SNR=4.3
BOYT Boyabat 15.61 313 *i* P Pn **23 22 37.2 +1.3**
BR131 Keskin Array S 15.61 305 ePn Pn **23 22 36.9 +0.9**
comp=Z,14nm,0.6s
ELDT Eldivan 16.10 308 *i* P Pn **23 22 47.2 +4.9**
ANTO Ankara 16.26 305 eP Pn **23 22 44.7 +0.3**
ANTO pmax pmax
comp=Z,20nm,0.8s
ANTO Ankara 16.26 305 ePn Pn **23 22 44.7 +0.3**
comp=Z,20nm,0.8s
ANTO Ankara 16.26 305 eP Pn **23 22 44.7 +0.3**
comp=Z,20nm,0.8s
ANN Anapa 16.43 326 eP Pn **23 22 44.5 -2.0**
ANN eS Sn **23 25 42.0 -6.9**
ANN pmax pmax
comp=Z,57nm,1.2s
BALT Daday 16.64 311 *i* P Pn **23 22 49.8 +0.6**
SGKT Sivrigoynuk 17.07 306 *i* P Pn **23 22 54.8 +0.2**
TKTP Tekketepe 17.45 297 *i* P Pn **23 23 01.9 +2.5**
ESKT Eskisehir 17.51 302 *i* P Pn **23 23 02.9 +2.8**
SEYT Eskypehyr 17.51 302 *i* P Pn **23 23 02.9 +2.8**
HENT Hendek 17.97 306 *i* P Pn **23 23 06.8 +0.9**
ULDT Uludag 18.96 302 *i* P Pn **23 23 18.4 +0.5**
AB31 Akbulak array 19.02 20 *i* P Pn **23 23 17.7 -0.9**
AB31 pmax pmax
comp=Z,2.0nm,0.6s
AB31 Akbulak array 19.02 20 *i* P Pn **23 23 17.7 -0.9**
comp=Z,2.0nm,0.6s
AKTK Aktyubinsk 19.61 15 P Pn **23 23 23.9 -1.7**
AKTK LR LR 23 32 51.0
AKTK Aktyubinsk 19.61 15 P Pn **23 23 25.4 -0.3**
comp=Z,7.0nm,2.0s
AKTO Aktyubinsk 19.61 15 P Pn **23 23 23.9 -1.7**
comp=Z,0.1nm,0.3s,baz=216,slow=14,SNR=6.9
AKTO LR LR 23 32 50.9
comp=Z,106nm,19.2s,baz=0.0,slow=43
AKTO Aktyubinsk 19.61 15 P Pn **23 23 25.4 -0.3**
AKTO pmax pmax
comp=Z,7.0nm,2.0s
KDAG Bornova 19.87 296 *i* P Pn **23 23 28.3 -0.5**
ORR Orenburg 20.18 8⇑ *i*P P **23 23 30.7 +0.1**
ORR pmax pmax
comp=Z,50nm,1.2s
ORR Orenburg 20.18 8 *i* P P **23 23 30.7 +0.1**
comp=Z,50nm,1.2s
VRHR Novokhopersk 20.38 344 eP P **23 23 32.5 -0.2**
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=Z,30nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.9s
CHOS Chios island 20.80 295 eP P **23 23 38.8 +1.5**
LAST Lasithi 20.87 286 eP P **23 23 39.7 +1.6**
SANT Santorini 20.97 290 eP P **23 23 39.3 +0.2**
THR1 Thera Island 20.97 290 eP P **23 23 39.3 +0.2**
APE Apeiranthos 20.99 292 eP P **23 23 40.1 +0.7**
THR3 Thira Island, 21.02 290 eP P **23 23 42.0 +2.3**
PSN Preselentsi 21.03 311 eP P **23 23 41.0 +1.2**
ATD Arta Tunnel 21.18 200 P P **23 23 43.0 +1.6**
comp=E,2.8nm,0.7s,mb3.7,baz=0.0,slow=18,SNR=2.7
ATD LR LR 23 32 39.1
comp=E,168nm,19.1s,MS3.4,baz=9.6,slow=39
TIRR Tirgusor 21.26 313 eP P **23 23 41.7 -0.5**
IDI Anoyia 21.36 286 P P **23 23 44.5 +1.2**
comp=E,35nm,0.7s,mb4.8,baz=89,slow=10,SNR=38
SIVA Sivas 21.41 286 eP P **23 23 46.4 +2.5**
ALN Alexandroupoli 21.44 302 eP P **23 23 44.9 +0.7**
LOS Limnos 21.88 299 eP P **23 23 52.1 +3.2**
GVD Gavdhos 22.00 285 eP P **23 23 52.3 +2.0**
KDZ Kurdzhali 22.12 304 eP P **23 23 52.3 +0.8**
AAK Ala-Archa 22.18 54 eP P **23 23 53.8 +1.7**
AAK pmax pmax
comp=Z,11nm,1.1s,mb4.2
AAK Ala-Archa 22.18 54 eP P **23 23 53.8 +1.7**
comp=Z,11nm,1.1s,mb4.2
AAK Ala-Archa 22.18 54 eP P **23 23 53.8 +1.7**
comp=Z,11nm,1.1s,mb4.2
KSH Kashi 22.34 62 eP P **23 23 54.2 +0.4**
KSH eAP 23 24 03.5
KSH eXP sP 23 24 07.2 +9.2
KSH AMB AMB
comp=Z,42nm,1.8s,mb4.6
KSH LR LR
comp=N,508nm,10.6s
KSH LR LR
comp=E,209nm,5.7s
KSH LR LR
comp=Z,241nm,5.4s
SZH Strazhica 22.34 308 eP P **23 23 53.9 +0.1**
AOS Alonnisos 22.62 297 eP P **23 23 58.3 +1.5**
RZN Rozhen 22.63 303 P P **23 23 59.8 +2.9**
OUR Ouranopolis 22.80 299 eP P **23 23 58.8 +0.2**
PAIG Paliouri 22.93 298 eP P **23 23 59.7 -0.3**
XOR Xorichti 23.18 297 eP P **23 24 02.6 -0.1**
SRS Serrai 23.28 301 eP P **23 24 03.2 -0.5**
MLR Muntele Rosu 23.29 313 P P **23 24 05.0 +1.1**
comp=Z,14nm,0.8s,mb4.5,baz=172,slow=5.4,SNR=12
MLR Muntele Rosu 23.29 313 P P **23 24 05.0 +1.1**
MLR pmax pmax
comp=Z,14nm,0.8s
PGB Panagyurishte 23.29 305 eP P **23 24 03.7 -0.2**
SOH Sokhos 23.38 300 eP P **23 24 04.8 0.0**
NDI New Delhi 23.56 90 ex P **23 24 06.0 -0.7**
THE Thessaloniki 23.62 300 eP P **23 24 07.3 +0.1**
AGG Agios Georgios 23.78 296 eP P **23 24 09.0 +0.3**
KNT Kendrikon 23.80 301 eP P **23 24 08.7 -0.1**
LIT Litokhoron 23.86 298 eP P **23 24 09.4 0.0**
DDI Dehra Dun 23.93 86 ex P **23 24 07.0 -3.0**
VAY Valandovo 24.08 301 ePn P **23 24 11.4 0.0**
VAY Valandovo 24.08 301 ePn P **23 24 11.4 0.0**
GRG Griva 24.11 300 eP P **23 24 11.6 -0.1**
AKASG Malin Array Be 24.52 327 P P **23 24 14.4 -1.1**
comp=Z,3.6nm,0.4s,mb4.2,baz=134,slow=8.7,SNR=36
AKASG Malin Array Be 24.52 327 P P **23 24 14.4 -1.0**
AKASG pmax pmax
comp=Z,4.0nm,0.4s
FNA Florina 24.83 299 eP P **23 24 19.2 +0.9**
BIA Bitola 24.92 300 ePn P **23 24 19.5 +0.4**
BIA Bitola 24.92 300 ePn P **23 24 19.4 +0.3**
LKD Levkas 25.03 294 eP P **23 24 20.1 0.0**
LKD Levkas 25.03 294 eP P **23 24 20.1 0.0**
ZRNK Zerenda 25.25 27 eP P **23 24 21.4 -0.7**
ZRNK pmax pmax
comp=Z,8.0nm,1.0s,mb4.2
ZRNK Zerenda 25.25 27 eP P **23 24 21.4 -0.7**
comp=Z,8.0nm,1.0s,mb4.2
ZRNK Zerenda 25.25 27 eP P **23 24 21.4 -0.7**
comp=Z,8.0nm,1.0s,mb4.2
OBN Obninsk 25.31 342⇓ eP P **23 24 21.8 -0.8**
OBN *i* 23 24 32.0
OBN pmax pmax
comp=Z,32nm,1.2s,mb4.7
OBN Obninsk 25.31 342 eP P **23 24 21.8 -0.8**
comp=Z,32nm,1.2s,mb4.7
OHR Ohrid 25.33 300 ePn P **23 24 23.3 +0.5**
OHR Ohrid 25.33 300 ePn P **23 24 23.2 +0.4**
IGT Igoumenitsa 25.39 296 eP P **23 24 22.6 -0.8**
ARU Arti 25.41 11⇓ iP P **23 24 22.7 -0.8**
ARU *e* 23 25 04.6
ARU eS S **23 28 41.4 -8.8**
ARU eSS 23 29 46.0
ARU pmax pmax
comp=Z,20nm,1.4s,mb4.5
ARU Arti 25.41 11 eP P **23 24 19.4 -4.2**
comp=Z,12nm,0.7s,mb4.5
ARU Arti 25.41 11 *i* P P **23 24 22.7 -0.8**
comp=Z,20nm,1.4s,mb4.5
MOS Moscow 25.60 343 eP P **23 24 25.1 -0.1**
MOS *e* 23 24 42.0
MOS *e* 23 25 08.5
MOS pmax pmax
comp=Z,47nm,0.9s,mb5.0
MOS Moscow 25.60 343 eP P **23 24 25.1 -0.1**
comp=Z,47nm,0.9s,mb5.0
BRVK Borovoye 25.84 28 eP P **23 24 26.3 -1.2**
BRVK pmax pmax
comp=Z,3.0nm,1.0s,mb3.8
BRVK Borovoye 25.84 28 eP P **23 24 26.3 -1.1**
comp=Z,3.2nm,1.0s,mb3.8
BRVK Borovoye 25.84 28 eP P **23 24 26.3 -1.2**
comp=Z,3.0nm,1.0s,mb3.8
BVA0 Borovoye Array 25.86 29 *i* P P **23 24 26.9 -0.7**
BVA0 pmax pmax
comp=Z,1.0nm,1.0s,mb3.3
BVA0 Borovoye Array 25.86 29 *i* P P **23 24 26.9 -0.7**
comp=Z,1.0nm,1.0s,mb3.3
BVAR Borovoye Array 25.86 29 P P **23 24 27.1 -0.5**
comp=Z,3.6nm,0.7s,mb4.0,baz=218,slow=8.9,SNR=22
BVAR ScP ScP 23 31 33.4 -2.8
comp=Z,0.8nm,0.6s,baz=234,slow=2.8,SNR=7.8
BVAR Borovoye Array 25.86 29 P P **23 24 27.1 -0.5**
BVAR pmax pmax
comp=Z,4.0nm,0.7s
BVAR pmax pmax
comp=N,1.0nm,0.6s
VOSK Vostochnaya 25.88 30 P P **23 24 26.8 -1.1**
VOSK pmax pmax
comp=Z,1.0nm,0.8s,mb3.4
VOSK Vostochnaya 25.88 30 P P **23 24 26.8 -1.1**
comp=Z,1.0nm,0.8s,mb3.4
LVV L'vov 26.61 320 eP P **23 24 28.5 -5.9**
LVV *e* 23 25 28.7
LVV *e* 23 28 00.9
LVV eS S **23 29 05.1 -4.0**
LVV eSS 23 30 17.0
LVV MLR MLR
comp=N,30nm,15.0s,MS3.4
LVV MLR MLR
comp=E,70nm,15.0s,MS3.4
LVV MLR MLR
comp=Z,50nm,15.0s,MS3.2
DIVS Divcibare 26.67 306 eP P **23 24 35.4 +0.5**
KOLS Kolonicke sedl 27.13 317 eP P **23 24 43.9 +4.8**
comp=Z,7.7nm,0.8s,mb4.3
KOLS *e* 23 24 51.5
CRVS Cervenica-Dubn 27.59 317 eP P **23 24 50.0 +6.8**
CRVS Cervenica-Dubn 27.59 317 eP P **23 24 45.4 +2.2**
STHS Stebnicka Huta 27.96 318 eP P **23 24 45.2 -1.3**
comp=Z,2.1nm,0.8s,mb3.8
KECS Kecovo 27.98 315 eP P **23 24 45.4 -1.3**
comp=Z,2.3nm,0.8s,mb3.9
TIP Timpagrande 28.10 295 eP P **23 24 47.2 -0.6**
KURK Kurchatov 28.35 40 eP P **23 24 49.6 -0.4**
KURK pmax pmax
comp=Z,7.0nm,1.3s,mb4.1
KURK Kurchatov 28.35 40 eP P **23 24 49.6 -0.4**
comp=Z,7.4nm,1.3s,mb4.2
KURK Kurchatov 28.35 40 eP P **23 24 49.6 -0.4**
comp=Z,7.0nm,1.3s,mb4.1
MKAR Makanchi Array 28.85 49 P P **23 24 54.3 -0.2**
comp=Z,1.8nm,0.8s,mb3.9,baz=244,slow=8.6,SNR=10
MKAR Makanchi Array 28.85 49 P P **23 24 54.3 -0.1**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
OJC Ojcow 29.16 318 eP P **23 24 57.0 -0.2**
KOLN Koldanda 29.23 89 eP P **23 24 58.2 +0.3**
HYB Hyderabad 29.37 112 *i* P P **23 25 00.0 +0.9**
SUW Suwalki 29.48 327 eP P **23 24 57.7 -2.4**
SUW pmax pmax
comp=Z,19nm,1.0s,mb4.8
SUW Suwalki 29.48 327 eP P **23 24 57.7 -2.4**
comp=Z,19nm,1.0s,mb4.8
OKC Ostrava-Krasne 29.95 317 eP P **23 25 03.5 -0.7**
KLMR Klimovskoe 29.99 350⇓ *i*P P **23 25 03.2 -1.4**
KLMR pmax pmax
comp=Z,20nm,1.6s,mb4.6
KLMR Klimovskoe 29.99 350 *i* P P **23 25 03.2 -1.4**
comp=Z,20nm,1.6s,mb4.6
GKN Gorkha 30.06 88 eP P **23 25 04.2 -1.0**
comp=Z,22nm,1.2s,mb4.8
DMN Daman 30.56 89 eP P **23 25 08.8 -0.8**
comp=Z,20nm,0.9s,mb4.9
KKN Kakani 30.66 88 eP P **23 25 08.8 -1.7**
comp=Z,28nm,1.1s,mb5.0
PKI Pulchoki 30.83 89 eP P **23 25 10.9 -1.1**
comp=Z,22nm,1.1s,mb4.9
AQU L'Aquila 30.99 301 eP P **23 25 13.2 -0.2**
AQU pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
AQU L'Aquila 30.99 301 eP P **23 25 13.2 -0.3**
comp=Z,7.0nm,0.8s,mb4.5
AQU L'Aquila 30.99 301 eP P **23 25 13.2 -0.2**
comp=Z,7.0nm,0.8s,mb4.5
GUN Gumba 31.14 88 eP P **23 25 13.6 -1.1**
comp=Z,32nm,0.9s,mb5.2
DPC Dobruska-Polom 31.23 317 eP P **23 25 14.6 -0.9**
JIRN Jiri 31.47 88 eP P **23 25 16.7 -1.0**
comp=Z,20nm,1.0s,mb4.9
MOA Molln 31.61 311⇑ *i*P P **23 25 18.8 0.0**
comp=Z,4.4nm,0.7s,mb4.4
KBA Koelnbreinsper 31.99 309⇑ *i*P P **23 25 22.5 +0.3**
comp=Z,16nm,0.9s,mb4.9
KBA Koelnbreinsper 31.99 309⇑ *i*P P **23 25 22.5 +0.3**
KBA pmax pmax
comp=Z,17nm,0.9s,mb4.9
PRU Pruhonice 32.15 315 eP P **23 25 23.6 0.0**
GERES GERESS Array B 32.28 313 P P **23 25 23.9 -0.8**
comp=Z,0.4nm,0.5s,mb3.5,baz=108,slow=8.6,SNR=6.1
GERES PcP PcP 23 28 12.3 -0.6
comp=Z,0.6nm,0.6s,baz=151,slow=3.0,SNR=6.0
GERES GERESS Array B 32.28 313 P P **23 25 23.9 -0.8**
GERES 23 28 12.3
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 32.28 313 P P **23 25 23.9 -0.8**
GERES PcP PcP 23 28 12.3 -0.6
GERES GERESS Array B 32.28 313 P P **23 25 23.9 -0.8**
comp=Z,1.0nm,0.6s,mb3.8
GERES GERESS Array B 32.28 313 PcP PcP 23 28 12.3 -0.6
KHC Kasperske Hory 32.45 313 eP P **23 25 24.6 -1.6**
WTTA Wattenberg 33.16 309 *i* P P **23 25 32.0 -0.5**
comp=Z,19nm,1.3s,mb4.9,SNR=10.0
WTTA Wattenberg 33.16 309 *i* P P **23 25 32.0 -0.5**
WTTA pmax pmax
comp=Z,19nm,1.3s,mb4.9
WATA Walderalm 33.22 309⇑ *i*P P **23 25 32.2 -0.8**
comp=Z,11nm,1.0s,mb4.7,SNR=7.7
WATA Walderalm 33.22 309⇑ *i*P P **23 25 32.3 -0.7**
WATA pmax pmax
comp=Z,11nm,1.0s,mb4.7
WATA Walderalm 33.22 309 P P **23 25 32.2 -0.8**
comp=Z,11nm,1.0s,mb4.7,SNR=7.7
ZAL Zalesovo 33.24 38 LR LR 23 39 57.8
comp=Z,69nm,18.4s,MS3.4,baz=86,slow=38
SQTA Sankt Quirin 33.44 309⇑ *i*P P **23 25 34.3 -0.6**
comp=Z,6.6nm,0.8s,mb4.6,SNR=11
SQTA Sankt Quirin 33.44 309⇑ *i*P P **23 25 34.3 -0.6**
SQTA pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
JOF Joensuu 33.47 344 *ep* P **23 25 33.7 -1.5**
ROTZ Rotzenmuhle 33.49 314 eP P **23 25 35.2 -0.2**
comp=Z,4.0nm,1.2s,mb4.2
MOTA Moosalm 33.54 309⇑ *i*P P **23 25 34.8 -1.0**
comp=Z,11nm,0.9s,mb4.8,SNR=15

MOTA Moosalm 33.54 309⇑ *iP* **P 23 25 34.8 -1.0**
MOTA pmax pmax
comp=Z,11nm,0.9s,mb4.8
CLL Collm 33.54 317 *eP* **P 23 25 35.0 -0.8**
FUR Furstenfeldbru 33.63 311 *eP* **P 23 25 35.9 -0.6**
comp=Z,21nm,1.2s,mb4.9
FUR Furstenfeldbru 33.63 311 *eP* **P 23 25 35.9 -0.6**
FUR pmax pmax
comp=Z,21nm,1.2s,mb4.9
FINES FINESS Array B 33.64 339 P P **23 25 35.7 -0.9**
comp=Z,2.7nm,0.4s,mb4.5,baz=144,slow=9.5,SNR=52
FINES PcP PcP 23 28 15.2 -1.5
comp=Z,0.6nm,0.5s,baz=113,slow=5.0,SNR=3.7
FINES LR LR 23 41 02.0
comp=Z,70nm,18.4s,MS3.4,baz=180,slow=40
FINES FINESS Array B 33.64 339 P P **23 25 35.7 -0.9**
FINES 23 28 15.2
FINES pmax pmax
comp=Z,3.0nm,0.4s
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES MLR MLR
comp=Z,70nm,18.4s
FINES FINESS Array B 33.64 339 P P **23 25 35.7 -0.9**
FINES PcP PcP 23 28 15.2 -1.5
FINES LR LR 23 41 02.0
FINES FINESS Array B 33.64 339 PcP PcP 23 28 15.1 -1.5
GRA1 Grafenberg Arr 34.08 313 *eP* **P 23 25 39.7 -0.8**
comp=Z,5.0nm,1.1s,mb4.4
GRF Grafenberg Arr 34.08 313 *eP* **P 23 25 39.7 -0.8**
comp=Z,5.0nm,1.1s,mb4.4
GRF Grafenberg Arr 34.08 313 *eP* **P 23 25 39.7 -0.8**
GRF pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
KAF Kangasniemi 34.10 340 *ep* **P 23 25 39.7 -0.9**
BSD Bornholm Skovb 34.11 324 *i P* **P 23 25 39.1 -1.6**
comp=Z,16nm,0.7s,mb5.1
BSD Bornholm Skovb 34.11 324 *i P* **P 23 25 39.1 -1.6**
BSD pmax pmax
comp=Z,16nm,0.7s,mb5.1
DAVA Damuels 34.34 309⇓ *iP* **P 23 25 41.9 -0.7**
comp=Z,13nm,0.5s,mb5.1,SNR=9.4
DAVA Damuels 34.34 309 P P **23 25 41.9 -0.8**
comp=Z,13nm,0.5s,mb5.1,SNR=9.4
KMBO Kilima Mbogo 34.87 203 LR LR 23 40 21.6
comp=Z,108nm,18.8s,MS3.6,baz=93,slow=37
CLZ Clausthal 35.26 317 *eP* **P 23 25 51.1 +0.4**
comp=Z,4.0nm,0.7s,mb4.5
CLZ Clausthal 35.26 317 *eP* **P 23 25 51.1 +0.4**
CLZ pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
SBF Sospel 35.51 302 *eP* **P 23 25 52.7 -0.1**
comp=Z,23nm,0.8s,mb4.9
SBF Sospel 35.51 302 *eP* **P 23 25 52.7 -0.1**
SBF pmax pmax
comp=Z,12nm,0.8s,mb4.9
SBF Sospel 35.51 302 *eP* **P 23 25 52.7 -0.1**
comp=Z,12nm,0.8s,mb4.9
MBDF Montbardon 36.07 304⇑ *iP* **P 23 25 57.2 -0.4**
comp=Z,12nm,0.7s,mb4.7
MBDF Montbardon 36.07 304⇑ *iP* **P 23 25 57.2 -0.4**
MBDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
MBDF Montbardon 36.07 304⇑ *iP* **P 23 25 57.2 -0.4**
comp=Z,6.2nm,0.7s,mb4.7
BNI Bardonecchia 36.17 304 *eP* **P 23 25 57.6 -0.9**
BNI *e**PP pP 23 26 03.2 +1.6
BNI pmax pmax
comp=Z,17nm,0.8s,mb5.0
BNI Bardonecchia 36.17 304 *eP* **P 23 25 57.6 -0.8**
comp=Z,17nm,0.8s,mb5.0
BNI *ep*P pP 23 26 03.2 +1.7
BNI Bardonecchia 36.17 304 *eP* **P 23 25 57.6 -0.9**
comp=Z,17nm,0.8s,mb5.0
BNI *ep*P pP 23 26 03.2 +1.6
LPG La Plagne 36.17 305 *eP* **P 23 25 58.1 -0.4**
comp=Z,22nm,0.7s,mb4.9
LPG La Plagne 36.17 305 *eP* **P 23 25 58.1 -0.4**
LPG pmax pmax
comp=Z,11nm,0.7s,mb4.9
LPG La Plagne 36.17 305 *eP* **P 23 25 58.1 -0.4**
comp=Z,11nm,0.7s,mb4.9
LPL La Plagne 36.19 305 *eP* **P 23 25 58.2 -0.4**
comp=Z,28nm,0.9s,mb4.9
LPL La Plagne 36.19 305 *eP* **P 23 25 58.2 -0.4**
LPL pmax pmax
comp=Z,14nm,0.9s,mb4.9
LPL La Plagne 36.19 305 *eP* **P 23 25 58.2 -0.4**
comp=Z,14nm,0.9s,mb4.9
CDF Champ du Feu 36.28 310 *eP* **P 23 25 57.8 -1.7**
HINF Hinteralfeld 36.45 309 *eP* **P 23 25 59.6 -1.3**
ORIF Oris-en-Rattie 36.72 304 *eP* **P 23 26 01.5 -1.7**
comp=Z,6.8nm,0.8s,mb4.2
ORIF Oris-en-Rattie 36.72 304 *eP* **P 23 26 01.5 -1.7**
ORIF pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
ORIF Oris-en-Rattie 36.72 304 *eP* **P 23 26 01.5 -1.7**
comp=Z,3.4nm,0.8s,mb4.2
CABF La Chapelle 36.77 307⇑ *iP* **P 23 26 03.3 -0.3**
comp=Z,46nm,0.9s,mb5.0
CABF La Chapelle 36.77 307⇑ *iP* **P 23 26 03.3 -0.3**
CABF pmax pmax
comp=Z,23nm,0.9s,mb5.0
CABF La Chapelle 36.77 307⇑ *iP* **P 23 26 03.3 -0.3**
comp=Z,23nm,0.9s,mb5.0
HAU Haudompre 36.82 309 *eP* **P 23 26 03.5 -0.5**
SMRF Simiane la Rot 36.86 302 *eP* **P 23 26 04.7 +0.3**
VIVF Saint-Julien-l 37.57 304 *eP* **P 23 26 09.4 -1.0**
comp=Z,6.1nm,0.7s,mb4.1
VIVF Saint-Julien-l 37.57 304 *eP* **P 23 26 09.4 -1.0**
VIVF pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
VIVF Saint-Julien-l 37.57 304 *eP* **P 23 26 09.4 -1.0**
comp=Z,3.0nm,0.7s,mb4.1
MUD Monsted U'grnd 37.61 323 *i P* **P 23 26 01.9 -8.9**
comp=Z,13nm,1.1s,mb4.6
MEZF Maizieres J'vi 37.76 310 *eP* **P 23 26 11.1 -0.9**
LASF Ste Croix 38.10 302 *eP* **P 23 26 14.0 -0.9**
comp=Z,12nm,0.9s,mb4.3
LASF Ste Croix 38.10 302 *eP* **P 23 26 14.0 -0.9**
comp=Z,6.0nm,0.9s,mb4.3
SMF Signal de Mont 38.31 307⇑ *iP* **P 23 26 15.7 -1.0**
comp=Z,31nm,0.7s,mb4.9
SMF Signal de Mont 38.31 307⇑ *iP* **P 23 26 15.7 -1.0**
SMF pmax pmax
comp=Z,16nm,0.7s,mb4.9
SMF Signal de Mont 38.31 307⇑ *iP* **P 23 26 15.7 -1.0**
comp=Z,16nm,0.7s,mb4.9
LOR Lormes 38.37 308⇑ *iP* **P 23 26 15.8 -1.4**
comp=Z,11nm,0.9s,mb4.3
LOR Lormes 38.37 308⇑ *iP* **P 23 26 15.8 -1.4**
LOR pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
LOR Lormes 38.37 308⇑ *iP* **P 23 26 15.8 -1.4**
comp=Z,5.4nm,0.9s,mb4.3
BAIF Baives 38.57 312 *eP* **P 23 26 17.5 -1.4**
SSF Saint Saulge 38.59 307 *eP* **P 23 26 18.0 -1.0**
comp=Z,17nm,0.9s,mb4.5
SSF Saint Saulge 38.59 307 *eP* **P 23 26 18.0 -1.0**
SSF pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
SSF Saint Saulge 38.59 307 *eP* **P 23 26 18.0 -1.0**
comp=Z,8.6nm,0.9s,mb4.5
AVF Avril sur Loir 38.66 307 *eP* **P 23 26 18.3 -1.3**
NB2 NORSAR Subarra 38.79 331 P P **23 26 19.0 -1.7**
comp=Z,4.2nm,0.7s,mb4.3,baz=122,slow=7.9
NOA NORSAR Array B 38.79 331 P P **23 26 19.3 -1.3**
comp=Z,4.5nm,0.7s,mb4.3,baz=122,slow=8.3,SNR=20
NOA NORSAR Array B 38.79 331 P P **23 26 19.3 -1.4**
NOA pmax pmax
comp=Z,5.0nm,0.7s
BGF Bois d'Agland 38.99 306 *eP* **P 23 26 21.3 -1.1**
comp=Z,8.2nm,0.7s,mb4.3
BGF Bois d'Agland 38.99 306 *eP* **P 23 26 21.3 -1.1**
BGF pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
BGF Bois d'Agland 38.99 306 *eP* **P 23 26 21.3 -1.1**
comp=Z,4.1nm,0.7s,mb4.3
MTLF Montolieu 39.27 301 *eP* **P 23 26 24.8 +0.1**
comp=Z,5.5nm,0.9s,mb4.0
MTLF Montolieu 39.27 301 *eP* **P 23 26 24.8 +0.1**
MTLF pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
MTLF Montolieu 39.27 301 *eP* **P 23 26 24.8 +0.1**
comp=Z,2.8nm,0.9s,mb4.0
TCF Toulx Ste Croi 39.40 306⇑ *iP* **P 23 26 25.1 -0.7**

CAF Calviac 39.42 304 *eP* **P 23 26 25.3 -0.7**
comp=Z,4.7nm,0.8s,mb4.0
CAF Calviac 39.42 304 *eP* **P 23 26 25.3 -0.7**
CAF pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
CAF Calviac 39.42 304 *eP* **P 23 26 25.3 -0.7**
comp=Z,2.3nm,0.8s,mb4.0
RJF Les Rejaudoux 39.83 304⇑ *iP* **P 23 26 28.8 -0.6**
comp=Z,7.2nm,0.7s,mb4.2
RJF Les Rejaudoux 39.83 304⇑ *iP* **P 23 26 28.8 -0.6**
RJF pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
RJF Les Rejaudoux 39.83 304⇑ *iP* **P 23 26 28.8 -0.6**
comp=Z,3.6nm,0.7s,mb4.2
EIBI Ibiza 40.08 294 P P **23 26 32.1 +0.7**
comp=Z,10nm,0.5s,mb4.8
EIBI Ibiza 40.08 294 P P **23 26 32.1 +0.6**
comp=Z,10nm,0.5s,mb4.8
EPOB Poblet 40.14 298 P P **23 26 32.0 +0.1**
comp=Z,7.4nm,0.8s,mb4.5
EPOB Poblet 40.14 298 P P **23 26 32.0 +0.1**
comp=Z,7.4nm,0.8s,mb4.5
ARCES ARCESS Array B 40.36 347 LR LR 23 45 57.1
comp=Z,66nm,18.8s,MS3.5,baz=57,slow=40
LFF La Frestale 40.36 304⇑ *iP* **P 23 26 33.2 -0.6**
comp=Z,8.5nm,0.7s,mb4.3
LFF La Frestale 40.36 304⇑ *iP* **P 23 26 33.2 -0.6**
LFF pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
LFF La Frestale 40.36 304⇑ *iP* **P 23 26 33.2 -0.6**
comp=Z,4.2nm,0.7s,mb4.3
EBR Ebro Roquetas 40.60 297 *eP* **P 23 26 37.0 +1.2**
EGRA Graus 40.67 299 P P **23 26 36.3 0.0**
comp=Z,4.4nm,0.6s,mb4.3
EGRA Graus 40.67 299 P P **23 26 36.3 -0.1**
comp=Z,4.4nm,0.6s,mb4.3
GTA Gaotai 40.70 65 *eP* **P 23 26 37.6 +1.0**
GTA AP pP 23 26 46.4 +6.7
GTA XP sP 23 26 50.9 +10
GTA AMB AMB
comp=Z,6.0nm,0.8s,mb4.3
ERTA Horta de San J 40.72 297 P P **23 26 37.4 +0.6**
comp=Z,24nm,0.6s,mb5.0
ERTA Horta de San J 40.72 297 P P **23 26 37.4 +0.7**
comp=Z,24nm,0.6s,mb5.0
MFF Saint Martin d 41.05 306 *eP* **P 23 26 38.2 -1.3**
comp=Z,12nm,0.8s,mb4.3
MFF Saint Martin d 41.05 306 *eP* **P 23 26 38.2 -1.3**
MFF pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
MFF Saint Martin d 41.05 306 *eP* **P 23 26 38.2 -1.3**
comp=Z,5.8nm,0.8s,mb4.3
LDF La Druitiere 41.18 309⇑ *iP* **P 23 26 38.9 -1.6**
comp=Z,3.7nm,0.4s,mb4.1
LDF La Druitiere 41.18 309⇑ *iP* **P 23 26 38.9 -1.6**
comp=Z,1.9nm,0.4s,mb4.1
ETSF Etsaut 41.30 300 *eP* **P 23 26 42.7 +1.2**
comp=Z,6.5nm,0.8s,mb4.0
ETSF Etsaut 41.30 300 *eP* **P 23 26 42.7 +1.2**
ETSF pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
ETSF Etsaut 41.30 300 *eP* **P 23 26 42.7 +1.2**
comp=Z,3.2nm,0.8s,mb4.0
EBEN Beniarda 41.33 294 P P **23 26 42.8 +1.0**
comp=Z,22nm,0.8s,mb4.8
EBEN Beniarda 41.33 294 P P **23 26 42.8 +1.0**
comp=Z,22nm,0.8s,mb4.8
EMOS Mosqueruela 41.37 297 P P **23 26 43.7 +1.6**
comp=Z,28nm,0.6s,mb5.1
EMOS Mosqueruela 41.37 297 P P **23 26 43.7 +1.6**
comp=Z,28nm,0.6s,mb5.1
FLN La Foliniere 41.43 309⇑ *iP* **P 23 26 41.1 -1.5**
comp=Z,7.1nm,0.4s,mb4.3
FLN La Foliniere 41.43 309⇑ *iP* **P 23 26 41.1 -1.5**
comp=Z,3.5nm,0.4s,mb4.3
GRR Gorron 41.65 309⇑ *iP* **P 23 26 42.7 -1.7**
comp=Z,7.0nm,0.4s,mb4.3
GRR Gorron 41.65 309⇑ *iP* **P 23 26 42.7 -1.7**
comp=Z,3.5nm,0.4s,mb4.3
SJPF Ste Jean 41.78 301 *eP* **P 23 26 45.2 -0.3**
comp=Z,4.6nm,0.7s,mb3.9
SJPF Ste Jean 41.78 301 *eP* **P 23 26 45.2 -0.3**
SJPF pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
SJPF Ste Jean 41.78 301 *eP* **P 23 26 45.2 -0.3**
comp=Z,2.3nm,0.7s,mb3.9
ECHE Chera 41.81 296 P P **23 26 47.4 +1.6**
ECHE pmax pmax
comp=Z,8.0nm,0.8s,mb4.4
ECHE Chera 41.81 296 P P **23 26 47.4 +1.7**
comp=Z,8.2nm,0.8s,mb4.4
ECHE Chera 41.81 296 P P **23 26 47.4 +1.6**
comp=Z,8.0nm,0.8s,mb4.4
ETOB Tobarra 42.37 294 P P **23 26 51.6 +1.4**
comp=Z,34nm,1.2s,mb4.8
ETOB Tobarra 42.37 294 P P **23 26 51.6 +1.4**
comp=Z,34nm,1.2s,mb4.8
SGMF Saint Gilles 42.77 308⇑ *iP* **P 23 26 52.3 -1.2**
comp=Z,11nm,0.6s,mb4.5
SGMF Saint Gilles 42.77 308⇑ *iP* **P 23 26 52.3 -1.2**
SGMF pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
SGMF Saint Gilles 42.77 308⇑ *iP* **P 23 26 52.3 -1.2**
comp=Z,5.3nm,0.6s,mb4.5
EVIA Vianos 43.11 294 P P **23 26 57.9 +1.6**
EVIA pmax pmax
comp=Z,26nm,0.8s,mb5.0
EVIA Vianos 43.11 294 P P **23 26 57.9 +1.6**
comp=Z,26nm,0.8s,mb5.0
EVIA Vianos 43.11 294 P P **23 26 57.9 +1.6**
comp=Z,26nm,0.8s,mb5.0
QUIF Quistinic 43.16 308⇑ *iP* **P 23 26 55.3 -1.4**
comp=Z,15nm,0.5s,mb4.7
QUIF Quistinic 43.16 308⇑ *iP* **P 23 26 55.3 -1.4**
QUIF pmax pmax
comp=Z,8.0nm,0.5s,mb4.7
QUIF Quistinic 43.16 308⇑ *iP* **P 23 26 55.3 -1.4**
comp=Z,7.6nm,0.5s,mb4.7
ZAK Zakamensk 43.18 48 *eP* **P 23 26 56.9 0.0**
ZAK pmax pmax
comp=Z,3.0nm,1.7s,mb3.8
ZAK Zakamensk 43.18 48 *eP* **P 23 26 56.9 0.0**
comp=Z,3.0nm,1.7s,mb3.8
ROSF Rostrenen 43.25 309⇑ *iP* **P 23 26 56.2 -1.2**
ELAN Lanestosa 43.39 301 P P **23 26 58.3 -0.3**
comp=Z,15nm,1.5s,mb4.5
EQES Quesada 43.67 293 P P **23 27 01.0 +0.2**
comp=Z,8.5nm,0.7s,mb4.6
EQES Quesada 43.67 293 P P **23 27 01.0 +0.2**
comp=Z,8.5nm,0.7s,mb4.6
ESDC Sonseca Array 44.10 296 P P **23 27 03.5 -0.8**
comp=Z,3.0nm,0.8s,mb4.1,baz=71,slow=8.0,SNR=12
ESDC Sonseca Array 44.10 296 P P **23 27 04.5 +0.2**
comp=Z,2.2nm,0.7s,mb4.0
ESDC Sonseca Array 44.10 296 P P **23 27 04.5 +0.2**
comp=Z,2.2nm,0.7s,mb4.0
ESLA Sonseca Array 44.10 296 *eP* **P 23 27 04.5 +0.2**
comp=Z,0.8nm,0.8s,mb3.5
ESLA Sonseca Array 44.10 296 *eP* **P 23 27 04.5 +0.2**
comp=Z,0.8nm,0.8s,mb3.5
GUD Guadarrama 44.14 297 P P **23 27 04.6 0.0**
GUD pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
GUD Guadarrama 44.14 297 P P **23 27 04.6 0.0**
comp=Z,3.3nm,0.5s,mb4.3
GUD Guadarrama 44.14 297 P P **23 27 04.6 0.0**
comp=Z,3.0nm,0.5s,mb4.3
EARI Arriondas 44.68 301 P P **23 27 08.4 -0.5**
comp=Z,15nm,0.8s,mb4.9
EARI Arriondas 44.68 301 P P **23 27 08.4 -0.5**
comp=Z,15nm,0.8s,mb4.9
EADA Adamuz 44.79 294 P P **23 27 10.2 +0.4**
comp=Z,13nm,1.1s,mb4.7
EADA Adamuz 44.79 294 P P **23 27 10.2 +0.4**
comp=Z,13nm,1.1s,mb4.7
SONM Songino Array 45.12 52 P P **23 27 12.4 -0.1**
comp=Z,0.6nm,0.6s,mb3.6,baz=266,slow=8.4,SNR=7.2
SONM LR LR 23 47 57.1
comp=Z,78nm,18.1s,MS3.7,baz=226,slow=39
SONM Songino Array 45.12 52 P P **23 27 12.4 0.0**
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM MLR MLR
comp=Z,78nm,18.1s
EMIJ Mijas 45.21 292 P P **23 27 12.7 -0.4**
comp=Z,11nm,0.7s,mb4.8
EMIJ Mijas 45.21 292 P P **23 27 12.7 -0.5**
comp=Z,11nm,0.7s,mb4.8
ULN Ulaanbaatar 45.56 52 *eP* **P 23 27 15.1 -0.8**
ULN *e**PP pP 23 27 20.9 +1.8
ULN pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
ULN Ulaanbaatar 45.56 52 *eP* **P 23 27 15.1 -0.9**
comp=Z,3.4nm,0.9s,mb4.3
ULN *ep*P pP 23 27 20.9 +1.8
ULN Ulaanbaatar 45.56 52 *eP* **P 23 27 15.1 -0.8**
comp=Z,3.0nm,0.9s,mb4.2
ULN *ep*P pP 23 27 20.9 +1.8
EJIF Jimena Fronter 45.79 292 P P **23 27 17.1 -0.6**
EJIF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
EJIF Jimena Fronter 45.79 292 P P **23 27 17.1 -0.6**
comp=Z,3.9nm,0.6s,mb4.5
EJIF Jimena Fronter 45.79 292 P P **23 27 17.1 -0.6**
comp=Z,4.0nm,0.6s,mb4.5
ECAL Calabor 45.93 300 P P **23 27 19.3 +0.4**
comp=Z,13nm,1.0s,mb4.8
ECAL Calabor 45.93 300 P P **23 27 19.3 +0.5**
comp=Z,13nm,1.0s,mb4.8
PBRG Braganca 45.95 299 *eP* **P 23 27 18.2 -0.8**
comp=Z,12nm,1.3s,mb4.7
ESPR Espera 46.01 292 P P **23 27 19.0 -0.4**
comp=Z,6.6nm,0.9s,mb4.6
ESPR Espera 46.01 292 P P **23 27 19.0 -0.5**
comp=Z,6.6nm,0.9s,mb4.6
EPON Pontenova 46.09 302 P P **23 27 19.8 -0.3**
comp=Z,47nm,1.3s,mb5.3
EPON Pontenova 46.09 302 P P **23 27 19.8 -0.3**
comp=Z,47nm,1.3s,mb5.3
EMIN Mina Concepcio 46.49 294 P P **23 27 23.3 +0.1**
comp=Z,16nm,1.0s,mb4.9
EMIN Mina Concepcio 46.49 294 P P **23 27 23.3 +0.1**
comp=Z,16nm,1.0s,mb4.9
EBAD Badajoz 46.58 295 P P **23 27 23.6 -0.3**
comp=Z,16nm,1.1s,mb4.9
MTE Manteigas 46.73 298 *eP* **P 23 27 25.0 -0.1**
comp=Z,22nm,1.1s,mb5.0
MTE Manteigas 46.73 298 *eP* **P 23 27 25.0 -0.1**
comp=Z,14nm,1.0s,mb4.8
MTE *ep*P pP 23 27 29.9 +1.6
PVRL Vila Real 46.74 299 *eP* **P 23 27 25.7 +0.5**
comp=Z,17nm,0.8s,mb5.0
PCBR Castelo Branco 46.76 297 *eP* **P 23 27 26.1 +0.7**
comp=Z,38nm,0.8s,mb5.4
PCAB Cabril 46.91 299 *eP* **P 23 27 25.9 -0.7**
comp=Z,19nm,1.0s,mb5.0
ELOB Lobios 46.92 300 P P **23 27 27.4 +0.8**
comp=Z,19nm,1.0s,mb5.0
PVIS Viseu 46.95 298 *eP* **P 23 27 27.2 +0.4**
comp=Z,12nm,1.0s,mb4.8
PBEJ Beja 47.37 294 *eP* **P 23 27 30.5 +0.4**
comp=Z,11nm,1.4s,mb4.6
EMAZ Mazaricos 47.46 301 P P **23 27 30.4 -0.4**
comp=Z,18nm,1.1s,mb4.9
PTOM Tomar 47.51 297 *eP* **P 23 27 30.9 -0.3**
comp=Z,17nm,0.6s,mb5.2
TORD Torodi Ar. Bea 48.03 259 P P **23 27 35.1 -0.1**
comp=Z,3.4nm,0.7s,mb4.5,baz=55,slow=8.1,SNR=30
TORD PcP PcP 23 29 01.1 -2.0
comp=Z,0.9nm,0.9s,baz=62,slow=6.7,SNR=1.9
GYA Guiyang 49.20 81 P P **23 27 43.6 -0.6**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
BOD Bodaibo 50.00 39 *eP* **P 23 27 45.6 -4.7**
BOD pmax pmax
comp=Z,4.0nm,1.7s,mb4.2
OPO Ambohidratompo 50.07 184 P P **23 27 52.2 +1.4**
comp=Z,2.4nm,0.9s,mb4.2,baz=20,slow=8.4,SNR=4.1
NJ2 Nanjing 57.37 70 *eP* **P 23 28 44.4 0.0**
NJ2 PP PP 23 30 54.6 +3.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
NJ2 AMB AMB
comp=Z,80nm,8.6s
NJ2 LR LR
comp=N,910nm,32.8s
NJ2 LR LR
comp=E,1μm,24.0s
NJ2 LR LR
comp=Z,730nm,22.8s
JOW Kunigami 66.94 72 LR LR 00 05 14.3
comp=Z,70nm,18.2s,MS3.9,baz=164,slow=42
SCHQ Scheffervill 78.30 328 P P **23 30 54.6 -1.6**
comp=Z,4.4nm,0.8s,mb4.4,baz=74,slow=7.8,SNR=7.1
ILAR Eielson Array 82.92 7 P P **23 31 19.1 -1.9**
comp=Z,0.8nm,0.7s,mb3.9,baz=328,slow=4.0,SNR=9.9
ILAR LR LR 00 19 51.9
comp=Z,17nm,18.9s,MS3.4,baz=179,slow=44
YKA Yellowknife Ar 85.33 353 P P **23 31 31.4 -1.8**
comp=Z,1.3nm,0.7s,mb4.2,baz=14,slow=5.6,SNR=19
YKA Yellowknife Ar 85.33 353 P P **23 31 31.4 -1.8**
YKA pmax pmax
comp=Z,1.0nm,0.7s
ULM Lac du Bonnet 93.03 339 LR LR 00 19 39.6
comp=Z,36nm,19.0s,MS3.8,baz=341,slow=39

IDC ***12*** *23:26:00.8±0.9, 1998S×174.73W, h0km, mb4.1/7, mb1 4.3/9, mb1mx4.1/17, mbtmp4.1/9, ML3.5/2, MS3.2/1, Ms1 3.2/1, ms1mx2.7/24, Error ellipse: s-maj=48.2km s-min=18.7km az=130.0*
ISCJB ***12*** *23:26:04.0±0.7, 2005S×174.56W×0.2, h33km, mb4.1/10, Error ellipse: s-maj=24.0km s-min=10.3km az=67.1*
NEIC ***12*** *23:26:05.7±0.5, 2001S×174.56W, h35km, mb4.3/3, Error ellipse: s-maj=21.2km s-min=9.9km az=125.0*

ISC 12 23:26:05.9±0.7, 201S±01×1745W±02, h35km, n20, σ0§90/18, mb4.1/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.65**	**24**	Pn		**Pn**	**Pn**	**23 27 41.6**	**+0.6**
	8.2nm,0.3s,baz=355,slow=21,SNR=6.5								
AFI				Sn		**Sn**	**Sn**	**23 28 50.5**	**-5.0**
	5.2nm,0.3s,baz=143,slow=20,SNR=2.6								
AFI				LR		LR		23 29 57.8	
	comp=Z,174nm,18.8s,baz=14,slow=36								
AFI				T				23 35 04.3	
	8.4nm,0.3s,baz=112,slow=7.9,SNR=5.4								
AFI	**Afiamalu**	**6.65**	**24**	*e*Pn		**Pn**	**Pn**	**23 27 40.2**	**-0.9**
	14nm,0.4s								
AFI				*e*Sn		**Sn**	**Sn**	**23 28 53.5**	**-2.1**
AFI				LR		LR		23 29 57.8	
RAR	**Rarotonga**	**13.85**	**97**	Pn		**Pn**	**Pn**	**23 29 12.4**	**-7.1**
	1.7nm,0.3s,baz=192,slow=5.0,SNR=3.9								
RAR				T				23 43 34.5	
	8.3nm,0.3s,baz=160,slow=11,SNR=6.5								
URZ	**Urewera**	**19.54**	**200**	P		**Pn**	**Pn**	**23 30 30.1**	**-1.7**
	0.8nm,0.3s,baz=18,slow=6.4,SNR=3.6								
RPZ	**Rata Peaks**	**26.50**	**204**	P		**P**	**P**	**23 31 40.5**	**+0.6**
	16nm,1.1s,mb4.5,baz=265,slow=19,SNR=3.5								
CTAO	**Charters Tower**	**36.79**	**263**	*eP*		**P**	**P**	**23 33 11.0**	**+0.8**
	5.5nm,0.8s,mb4.4								
STKA	**Stephens Creek**	**40.93**	**244**	P		**P**	**P**	**23 33 43.5**	**-1.4**
	1.2nm,0.7s,mb3.7,baz=74,slow=9.9,SNR=3.3								
STKA	**Stephens Creek**	**40.93**	**244**	*eP*		**P**	**P**	**23 33 45.3**	**+0.4**
ASAR	**Alice Springs**	**47.80**	**256**	P		**P**	**P**	**23 34 39.2**	**-0.6**
	0.9nm,0.6s,mb4.0,baz=98,slow=7.8,SNR=5.4								
WRAB	**Tennant Creek**	**47.90**	**261**	P		**P**	**P**	**23 34 40.9**	**+0.3**
	0.7nm,0.4s,mb4.0								
WRA	**Warramunga Arr**	**47.91**	**261**	P		**P**	**P**	**23 34 40.4**	**-0.2**
	0.4nm,0.4s,mb3.8,baz=96,slow=7.8,SNR=2.3								
QSPA	**South Pole Qui**	**70.01**	**180**	*eP*		**P**	**P**	**23 37 14.0**	**+0.1**
	2.6nm,0.8s,mb4.2								
NVAR	**Mina Array Bea**	**78.48**	**42**	P		**P**	**P**	**23 38 04.8**	**+1.5**
	1.4nm,0.8s,mb4.0,baz=209,slow=7.7,SNR=10								
ILAR	**Eielson Array**	**87.19**	**11**	P		**P**	**P**	**23 38 48.9**	**+0.4**
	1.4nm,0.8s,mb4.2,baz=212,slow=5.8,SNR=11								
YKA	**Yellowknife Ar**	**94.77**	**24**	P		**P**	**P**	**23 39 23.9**	**+0.2**
	0.5nm,0.8s,mb4.0,baz=244,slow=4.5,SNR=8.2								
YKA	**Yellowknife Ar**	**94.77**	**24**	P		**P**	**P**	**23 39 23.9**	**+0.2**
AKASG	**Malin Array Be**	**144.13**	**334**	PKP		PKPdf	PKPdf	23 45 35.6	-2.2
	0.7nm,0.4s,baz=40,slow=4.5,SNR=8.0								
BRTR	**Keskin Array B**	**148.90**	**315**	PKPbc		PKPbc	PKPbc	23 45 49.3	-0.6
	0.5nm,0.6s,baz=97,slow=5.1,SNR=4.2								
KHC	**Kasperske Hory**	**150.28**	**349**	*e*PKPbc		PKPbc	PKPbc	23 45 53.0	-0.2
GERES	**GERESS Array B**	**150.53**	**349**	PKPbc		PKPbc	PKPbc	23 45 52.8	-1.1
	0.9nm,0.8s,baz=29,slow=3.0,SNR=8.4								

CSEM ***12*** *23:42:07.0±0.7, 3855N×3003W, h5km, MD3.4, Error ellipse: s-maj=57.8km s-min=8.0km az=180.0, After PDA*
PDA ***12*** *23:42:07.0±0.7, 3855N×3003W, h5km, MD3.4, Error*

ellipse: s-maj=57.8km s-min=8.0km az=180.0

SVSA 12 23:42:07.0±0.7, 3855N×3003W, h5km, MD3.4, Error ellipse: s-maj=57.8km s-min=8.0km az=180.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CALA	**Caldeira**	**1.04**	**88**	*eP*		Pg	23 42 23.1	-3.9
CALA				*eS*		Sg	23 42 36.0	-4.5
HOR	**Horta**	**1.10**	**91**	*eP*		Pg	23 42 24.4	-3.7
HOR				*eS*		Sg	23 42 36.6	-5.8
PICO	**Pico**	**1.26**	**92**	*eP*		Pg	23 42 26.5	-4.7
PICO				*eS*		Sg	23 42 41.2	-6.3

*IDC **12** 23:53:30.4±0.9, 366N×12647E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.8/19, mbtmp3.8/7, Error ellipse: s-maj=69.9km s-min=17.6km az=73.0*

*ISCJB **12** 23:53:33.5±0.7, 36N±01×1263E±03, h33km, mb3.9/10, Error ellipse: s-maj=52.5km s-min=11.2km az=143.1*

*NEIC **12** 23:53:34.8±0.5, 365N×12646E, h30km, mb4.3/4, Error ellipse: s-maj=38.2km s-min=8.6km az=72.0*

ISC 12 23:53:35.6±0.7, 37N±01×1265E±03, h35km, n13, σ0§49/13, mb3.9/10, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.63**	**182**	P		P	**23 58 23.3**	**+0.6**
	1.9nm,0.8s,mb3.6,baz=342,slow=19,SNR=2.5							
WRAB	**Tennant Creek**	**24.69**	**162**	*eP*		P	**23 58 52.9**	**-0.4**
	3.5nm,0.4s,mb4.2							
WRA	**Warramunga Arr**	**24.69**	**162**	P		P	**23 58 53.1**	**-0.2**
	2.6nm,0.6s,mb3.9,baz=342,slow=10,SNR=8.4							
WB2	**Warramunga Arr**	**24.70**	**162**	*eP*		P	**23 58 53.3**	**0.0**
ASAR	**Alice Springs**	**28.11**	**165**	P		P	**23 59 24.8**	**+0.7**
	0.3nm,0.4s,mb3.3,baz=341,slow=9.3,SNR=6.5							
STKA	**Stephens Creek**	**38.15**	**159**	*eP*		P	**00 00 50.6**	**-0.9**
STKA	**Stephens Creek**	**38.15**	**159**	P		P	**00 00 50.6**	**-0.9**
	2.3nm,0.7s,mb4.0,baz=334,slow=7.8,SNR=6.1							
STKA	**Stephens Creek**	**38.15**	**159**	*eP*		P	**00 00 50.5**	**-1.0**
SONM	**Songino Array**	**47.28**	**342**	P		P	**00 02 05.3**	**-0.2**
	0.3nm,0.5s,mb3.5,baz=157,slow=8.6,SNR=5.5							
MKAR	**Makanchi Array**	**57.46**	**325**	P		P	**00 03 21.1**	**+0.1**
	1.2nm,0.4s,mb4.3,baz=120,slow=7.5,SNR=31							
KURK	**Kurchatov**	**61.66**	**328**	*eP*		P	**00 03 49.9**	**0.0**
	3.2nm,0.6s,mb4.6							
ZRNK	**Zerenda**	**67.96**	**327**	*eP*		P	**00 04 30.6**	**-0.4**
	1.6nm,0.6s,mb4.2							
ILAR	**Eielson Array**	**85.29**	**25**	P		P	**00 06 09.6**	**+0.7**
	0.2nm,0.4s,mb3.6,baz=252,slow=5.8,SNR=5.5							

*IDC **13** 00:16:16.7±0.5, 372N×12657E, h0km, mb4.5/22, mb1 4.5/22, mb1mx4.5/24, mbtmp4.4/22, MS3.6/6, Ms1 3.6/6, ms1mx3.1/25, Error ellipse: s-maj=25.7km s-min=11.4km az=79.0*

*ISCJB **13** 00:16:18.1±0.3, 371N±004×12656E±008, h20km, mb4.6/58, MS3.5/9, Error ellipse: s-maj=11.7km s-min=5.3km az=141.8*

*BJI **13** 00:16:18.5, 386N×12637E, h11km, mB4.9, mb4.9, Ms3.8, Msz3.7*

*NEIC **13** 00:16:20.1±0.3, 369N×12666E, mb4.8/15, Error ellipse: s-maj=15.3km s-min=6.1km az=78.0*

*MOS **13** 00:16:20.2±0.9, 372N×12650E, h33km, mb4.7/35, Error ellipse: s-maj=16.1km s-min=7.1km az=112.4*

ISC 13 00:16:20.2±0.3, 372N±004×12665E±008, h21km, h21km±2.5km:pP-P, n115, σ0§99/113, mb4.6/58, MS3.5/9, 4C-5D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
DAV	**Davao City (W)**	**3.49**	**342**	*e*Pn		**Pn**	**00 17 16.2**	**+3.0**
DAV				*e*Sn		**Sn**	**00 18 06.5**	**+13**
BUKP	**Musuan**	**4.42**	**339**	*eP*		**Pn**	**00 17 29.3**	**+3.4**
BIPH	**Bislig**	**4.44**	**356**	*eP*		**Pn**	**00 17 30.8**	**+4.6**
BIPH				*eS*		**Sn**	**00 18 28.4**	**+11**
PAGZ	**Pagadian**	**5.23**	**322**	*eP*		**Pn**	**00 17 41.1**	**+4.0**
SWI	**Sorong**	**6.48**	**135**	P		**Pn**	**00 17 55.8**	**+1.5**
	167nm,1.0s							
BAKI	**Biak**	**10.64**	**117**	P		**Pn**	**00 19 03.5**	**+12**
	58nm,1.1s							
TLE	**Tual**	**11.11**	**147**	P		**Pn**	**00 19 02.7**	**+5.0**
	105nm,1.1s							
JAY	**Jayapura**	**15.36**	**114**	P		**Pn**	**00 20 00.7**	**+5.2**
	61nm,0.9s							
KSM	**Kuching**	**16.47**	**263**	*e*Pn		**Pn**	**00 20 16.1**	**+6.2**
KAKA	**Kakadu**	**17.31**	**161**	*eP*		**Pn**	**00 20 17.9**	**-2.5**
	18nm,0.6s							
GUMO	**Guam**	**20.49**	**60**	LR		LR	00 27 27.7	
	comp=Z,127nm,19.8s,MS3.3,baz=240,slow=33							
FITZ	**Fitzroy Crossi**	**21.71**	**183**	*eP*		**P**	**00 21 10.4**	**+0.7**
	6.6nm,0.6s,mb4.2							
FITZ	**Fitzroy Crossi**	**21.71**	**183**	P		**P**	**00 21 09.1**	**-0.6**
	4.5nm,0.6s,mb4.1,baz=23,slow=8.1,SNR=12							
JOW	**Kunigami**	**23.03**	**4**	P		**P**	**00 21 22.6**	**-1.2**
	14nm,0.7s,mb4.5,baz=123,slow=18,SNR=3.3							
WRAB	**Tennant Creek**	**24.70**	**162**	*eP*		**P**	**00 21 39.8**	**+0.2**
WRAB				*eS*		**S**	**00 25 54.9**	**-5.4**
WRAB				pmax		pmax		
	comp=Z,51nm,0.8s,mb5.1							
WRAB	**Tennant Creek**	**24.70**	**162**	*eP*		**P**	**00 21 39.8**	**+0.1**
	comp=Z,51nm,0.8s,mb5.1							
WRAB				*eS*		**S**	**00 25 54.9**	**-5.4**
WRA	**Warramunga Arr**	**24.70**	**162**	P		**P**	**00 21 40.1**	**+0.4**
	comp=Z,31nm,0.7s,mb4.9,baz=343,slow=10,SNR=88							
WRA	**Warramunga Arr**	**24.70**	**162**	P		**P**	**00 21 40.1**	**+0.4**
WRA				pmax		pmax		
	comp=Z,31nm,0.7s							
WB2	**Warramunga Arr**	**24.71**	**162**	*eP*		**P**	**00 21 39.1**	**-0.6**
CBIJ	**Chichi jima**	**27.58**	**31**	LR		LR	00 31 47.8	
	comp=Z,85nm,18.5s,MS3.4,baz=139,slow=34							
PSI	**Prapat**	**27.69**	**269**	P		**P**	**00 22 07.4**	**+0.7**
	comp=Z,3.1nm,0.5s,mb4.2,baz=348,slow=3.7,SNR=3.8							
PSI				LR		LR	00 33 09.9	
	comp=Z,152nm,20.2s,MS3.6,baz=277,slow=37							
PSI	**Prapat**	**27.69**	**269**	P		**P**	**00 22 07.4**	**+0.7**
PSI				pmax		pmax		
	comp=Z,3.0nm,0.5s,mb4.2							
PSI				MLR		MLR		
	comp=Z,152nm,20.2s,MS3.6							
SSE	**Sheshan**	**27.71**	**350**	P		**P**	**00 22 06.8**	**0.0**
SSE				AMB		AMB		
	comp=Z,48nm,0.7s,mb5.2							
SSE				AMB		AMB		
	comp=Z,22µm,3.0s							
SSE				LR		LR		
	comp=N,31nm,24.3s,MS3.0							
SSE				LR		LR		
	comp=E,36nm,24.3s,MS3.0							
SSE				LR		LR		
	comp=Z,54nm,19.8s,MS3.1							
ASAR	**Alice Springs**	**28.13**	**166**	P		**P**	**00 22 10.4**	**-0.1**
	comp=Z,1.0nm,0.6s,mb3.7,baz=351,slow=7.3,SNR=26							
ASAR				PcP		PcP	00 25 24.9	+0.6
	comp=Z,1.2nm,0.7s,baz=7.1,slow=2.9,SNR=5.4							
NJ2	**Nanjing**	**29.11**	**346**	*eP*		**P**	**00 22 18.6**	**-0.8**
NJ2				PP		PP	00 23 13.8	-11
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb4.7							
NJ2				AMB		AMB		
	comp=Z,80nm,10.2s							
NJ2				LR		LR		
	comp=N,730nm,30.1s							
NJ2				LR		LR		
	comp=E,860nm,36.2s							
NJ2				LR		LR		
	comp=Z,580nm,31.3s,MS4.0							
FORT	**Forrest**	**34.34**	**178**	*eP*		**P**	**00 23 05.5**	**+0.3**
	comp=Z,11nm,0.7s,mb4.9							
MJAR	**Matsushiro Arr**	**34.35**	**17**	P		**P**	**00 23 04.2**	**-1.2**
	comp=Z,1.9nm,0.5s,mb4.2,baz=183,slow=10,SNR=4.9							
MJAR				LR		LR	00 36 44.4	
	comp=Z,95nm,19.4s,MS3.5,baz=205,slow=36							
MJAR	**Matsushiro Arr**	**34.35**	**17**	P		**P**	**00 23 04.2**	**-1.1**
MJAR				pmax		pmax		
	comp=Z,2.0nm,0.5s							
MJAR				MLR		MLR		
	comp=Z,95nm,19.4s							
XAN	**Xi'an**	**34.38**	**333**	P		**P**	**00 23 05.1**	**-0.5**
XAN				AP		pP	00 23 08.9	-3.3
PBA	**Port Blair**	**34.48**	**285**	*eP*		x	00 24 05.3	
PBA				*eS*		x	00 24 15.4	
PBA				*ex*		x	00 24 16.7	
	comp=N,6µm,0.3s							
PBA				*ex*		x	00 24 16.7	
	comp=E,5µm,0.3s							
HNR	**Honiara**	**35.66**	**112**	LR		LR	00 37 28.5	
	comp=E,74nm,18.3s,MS3.5,baz=358,slow=36							
KLBR	**Kellerberrin**	**36.12**	**193**	*eP*		**P**	**00 23 21.7**	**+1.1**
	comp=E,50nm,1.7s,mb5.2							
BJT	**Baijiatuau**	**37.35**	**347**	*eP*		**P**	**00 23 32.9**	**+1.8**
BJT				pmax		pmax		
	comp=Z,25nm,0.7s							
BJT	**Baijiatuau**	**37.35**	**347**	*eP*		**P**	**00 23 32.9**	**+1.9**
	comp=Z,25nm,0.7s,mb5.2							
BJI	**Beijing**	**37.37**	**347**	P		**P**	**00 23 30.6**	**-0.6**
BJI				AMB		AMB		
	comp=Z,41nm,0.7s,mb5.4							
BJI				LR		LR		
	comp=Z,73nm,20.2s,MS3.5							
NWAO	**Narrogin (SRO)**	**37.53**	**193**	P		**P**	**00 23 33.5**	**+0.9**
	comp=Z,1.8nm,0.4s,mb4.2,baz=359,slow=13,SNR=4.8							
NWAO	**Narrogin (SRO)**	**37.53**	**193**	P		**P**	**00 23 33.5**	**+1.0**
NWAO				pmax		pmax		
	comp=Z,2.0nm,0.4s							
NWAO	**Narrogin (SRO)**	**37.53**	**193**	P		**P**	**00 23 33.5**	**+0.9**
STKA	**Stephens Creek**	**38.15**	**159**	*eP*		**P**	**00 23 36.8**	**-1.0**
	comp=Z,14nm,0.6s,mb4.9							
STKA	**Stephens Creek**	**38.15**	**159**	P		**P**	**00 23 37.0**	**-0.9**
	comp=Z,17nm,0.7s,mb4.9,baz=335,slow=9.1,SNR=32							
MDJ	**Mudanjiang**	**40.81**	**3**	*eP*		**P**	**00 24 01.6**	**+1.6**
	comp=Z,11nm,0.8s,mb4.5							
LSA	**Lhasa**	**42.38**	**311**	*eP*		**P**	**00 24 15.0**	**+2.1**
LSA	**Lhasa**	**42.38**	**311**	*eP*		**P**	**00 24 14.5**	**+1.6**
LSA				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb4.4							
LSA	**Lhasa**	**42.38**	**311**	*eP*		**P**	**00 24 14.5**	**+1.7**
	comp=Z,5.9nm,0.6s,mb4.4							
ASAJ	**Asahikawa**	**42.62**	**17**	P		**P**	**00 24 16.6**	**+1.8**
	comp=Z,3.3nm,0.3s,mb4.5,baz=242,slow=19,SNR=4.7							
ASAJ				LR		LR	00 39 10.4	
	comp=Z,73nm,21.7s,MS3.5,baz=149,slow=32							
JIRN	**Jiri**	**45.31**	**306**	*eP*		**P**	**00 24 37.0**	**+0.6**
	comp=Z,9.9nm,0.6s,mb4.8							
KLR	**Kul'dur**	**45.55**	**5**	*eP*		**P**	**00 24 35.8**	**-2.5**
GUN	**Gumba**	**45.66**	**306**	*eP*		**P**	**00 24 39.8**	**+0.6**
	comp=Z,10nm,0.4s,mb5.1							
PKI	**Pulchoki**	**45.91**	**305**	*eP*		**P**	**00 24 41.3**	**+0.2**
GKN	**Gorkha**	**46.70**	**306**	*eP*		**P**	**00 24 47.3**	**-0.1**
	comp=Z,5.0nm,0.3s,mb5.0							
ULN	**Ulaanbaatar**	**47.10**	**342**	*eP*		**P**	**00 24 50.0**	**-0.5**
SONM	**Songino Array**	**47.28**	**341**	P		**P**	**00 24 52.3**	**+0.4**
	comp=Z,2.0nm,0.7s,mb4.2,baz=157,slow=8.6,SNR=24							
SONM				PcP		PcP	00 26 23.5	+0.7
	comp=Z,1.4nm,0.8s,baz=168,slow=3.3,SNR=4.3							
SONM	**Songino Array**	**47.28**	**341**	P		**P**	**00 24 52.3**	**+0.4**
SONM							00 26 23.5	
SONM				pmax		pmax		
	comp=Z,2.0nm,0.7s							
SONM				pmax		pmax		
	comp=Z,1.0nm,0.8s							
KOLN	**Koldanda**	**47.46**	**305**	*eP*		**P**	**00 24 53.7**	**+0.4**
	comp=Z,12nm,0.5s,mb5.1							
TLY	**Talaya**	**51.51**	**342**	*eP*		**P**	**00 25 21.8**	**-2.4**
TLY				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.4							
BOD	**Bodaibo**	**54.86**	**352**	*eP*		**P**	**00 25 49.5**	**+0.7**
BOD				pmax		pmax		
	comp=Z,3.0nm,1.9s,mb4.0							
MK31	**Makanchi Array**	**57.51**	**325**	P		**P**	**00 26 07.6**	**-0.2**
MK31				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.2							
MKAR	**Makanchi Array**	**57.51**	**325**	P		**P**	**00 26 07.8**	**0.0**
	comp=Z,2.6nm,0.5s,mb4.5,baz=120,slow=7.7,SNR=44							
MKAR	**Makanchi Array**	**57.51**	**325**	P		**P**	**00 26 07.8**	**0.0**
MKAR				pmax		pmax		
	comp=Z,3.0nm,0.5s							
YAK	**Yakutsk**	**58.22**	**2**	*d iP*		**P**	**00 26 14.1**	**+1.4**
YAK				pmax		pmax		
	comp=Z,22nm,0.8s,mb5.2							
AAK	**Ala-Archa**	**60.30**	**318**	*eP*		**P**	**00 26 27.9**	**+0.7**
AAK				pmax		pmax		
	comp=Z,5.0nm,2.5s,mb4.1							
ZAL	**Zalesovo**	**60.56**	**333**	P		**P**	**00 26 28.1**	**-0.8**
	comp=Z,1.1nm,0.5s,mb4.3,baz=171,slow=23,SNR=5.7							
ZAL	**Zalesovo**	**60.56**	**333**	P		**P**	**00 26 28.1**	**-0.8**
ZAL				pmax		pmax		
	comp=Z,1.0nm,0.5s							
KURK	**Kurchatov**	**61.70**	**328**	*eP*		**P**	**00 26 36.3**	**-0.4**
KURK				*e**SP		sP	00 26 45.0	-1.1
KURK				pmax		pmax		
	comp=Z,10.0nm,0.6s,mb5.1							
KURK	**Kurchatov**	**61.70**	**328**	*eP*		**P**	**00 26 36.3**	**-0.4**
	comp=Z,10nm,0.6s,mb5.1							
KURK				*ep*P		pP	00 26 42.5	-1.0
KURK				*es*P		sP	00 26 45.0	-1.1
NVS	**Novosibirsk**	**61.84**	**333**	*eP*		**P**	**00 26 36.6**	**-1.0**
NVS				pmax		pmax		
	comp=N,2.0nm,1.0s							
NVS				pmax		pmax		
	comp=E,3.0nm,1.0s							
NVS				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.6							
KK31	**Karatay Array**	**63.18**	**317**	*i* P		**P**	**00 26 46.4**	**-0.1**
KK31				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.5							
KKAR	**Karatay Array**	**63.18**	**317**	*i* P		**P**	**00 26 46.4**	**-0.1**
KKAR				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb4.2							
VOSK	**Vostochnaya**	**66.83**	**327**	P		**P**	**00 27 09.0**	**-1.2**
VOSK				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.5							
BVA0	**Borovoye Array**	**67.28**	**327**	*i* P		**P**	**00 27 13.7**	**+0.6**
BVA0				pmax		pmax		
	comp=Z,1.0nm,1.1s,mb3.8							
BVAR	**Borovoye Array**	**67.28**	**327**	P		**P**	**00 27 12.6**	**-0.5**
	comp=Z,6.7nm,0.9s,mb4.7,baz=125,slow=9.3,SNR=28							
BVAR	**Borovoye Array**	**67.28**	**327**	P		**P**	**00 27 12.6**	**-0.5**
BVAR				pmax		pmax		
	comp=Z,7.0nm,0.9s							
BRVK	**Borovoye**	**67.35**	**327**	*eP*		**P**	**00 27 13.4**	**-0.2**
BRVK				*e**SP		sP	00 27 24.8	+1.7
BRVK				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.5							
BRVK	**Borovoye**	**67.35**	**327**	*eP*		**P**	**00 27 13.4**	**-0.2**
	comp=Z,5.2nm,0.9s,mb4.6							
BRVK				*ep*P		pP	00 27 21.4	+0.9
BRVK				*es*P		sP	00 27 24.8	+1.7
TIXI	**Tiksi**	**67.85**	**1**	*d iP*		**P**	**00 27 16.9**	**+0.2**
TIXI				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.6							
ZRNK	**Zerenda**	**68.00**	**327**	*eP*		**P**	**00 27 17.4**	**-0.3**
ZRNK				pmax		pmax		
	comp=Z,8.0nm,0.7s,mb4.9							
ZRNK	**Zerenda**	**68.00**	**327**	*eP*		**P**	**00 27 17.4**	**-0.4**
	comp=Z,8.0nm,0.7s,mb4.9							
AB31	**Akbulak array**	**72.10**	**321**	*i* P		**P**	**00 27 42.1**	**-0.8**
AB31				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.5							
AKTK	**Aktyubinsk**	**73.61**	**322**	P		**P**	**00 27 51.4**	**-0.4**
AKTO	**Aktyubinsk**	**73.61**	**322**	P		**P**	**00 27 51.4**	**-0.4**
	comp=Z,4.9nm,0.8s,mb4.5,baz=107,slow=6.5,SNR=24							
AKTO	**Aktyubinsk**	**73.61**	**322**	P		**P**	**00 27 51.4**	**-0.4**
AKTO				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.5							
ARU	**Arti**	**74.90**	**328**	*i* P		**P**	**00 27 59.5**	**+0.2**
ARU				*e*			00 30 42.9	
ARU				*e*S		S	00 37 22.2	-13
ARU				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.6							
TTA	**Tatalina**	**80.94**	**27**	*eP*		**P**	**00 28 34.9**	**+2.0**
TTA				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.5							
TTA	**Tatalina**	**80.94**	**27**	*eP*		**P**	**00 28 34.9**	**+2.0**
	comp=Z,4.6nm,0.8s,mb4.5							
KIV	**Kislovodsk**	**83.08**	**314**	*eP*		**P**	**00 28 42.7**	**-1.4**
KIV				pmax		pmax		
	comp=Z,8.0nm,1.7s,mb4.5							
SLKM	**Skilak Lake**	**83.39**	**30**	*eP*		**P**	**00 28 46.2**	**+0.5**
SLKM				*e**PP		pP	00 28 53.0	+0.2
VNDA	**Vanda**	**83.43**	**173**	P		**P**	**00 28 45.8**	**-0.1**
	comp=Z,0.5nm,0.5s,mb3.8,baz=9.5,slow=6.1,SNR=3.0							
VNDA	**Vanda**	**83.43**	**173**	P		**P**	**00 28 45.8**	**-0.1**
VNDA				pmax		pmax		
	comp=Z,1.0nm,0.5s							
PMR	**Palmer**	**83.99**	**29**	*eP*		**P**	**00 28 44.3**	**-4.5**
PMR				pmax		pmax		
	comp=Z,9.0nm,0.8s,mb5.0							
PMR	**Palmer**	**83.99**	**29**	*eP*		**P**	**00 28 44.3**	**-4.5**
	comp=Z,9.3nm,0.8s,mb5.0							
PMR				*e*PcP		PcP	00 28 48.7	-4.0
VRHR	**Novokhopersk**	**83.99**	**321**	*eP*		**P**	**00 28 48.6**	**-0.2**
VRHR				pmax		pmax		
	comp=Z,8.0nm,0.6s,mb5.0							
VRHR				pmax		pmax		
	comp=N,4.0nm,0.8s							
VRHR				pmax		pmax		
	comp=E,3.0nm,0.7s							
ILAR	**Eielson Array**	**85.14**	**25**	P		**P**	**00 28 55.8**	**+1.2**
	comp=E,1.7nm,0.6s,mb4.3,baz=248,slow=6.0,SNR=18							
ILAR	**Eielson Array**	**85.14**	**25**	P		**P**	**00 28 55.8**	**+1.2**
ILAR				pmax		pmax		
	comp=Z,2.0nm,0.6s							
KLMR	**Klimovskoe**	**85.37**	**331**	*eP*		**P**	**00 28 55.8**	**0.0**
KLMR				pmax		pmax		
	comp=Z,20nm,1.4s,mb5.0							
ANN	**Anapa**	**86.84**	**315**	*eP*		pP	00 29 10.4	+0.3
OBN	**Obninsk**	**87.02**	**325**	⇑P		**P**	**00 29 04.0**	**+0.1**
OBN				pmax		pmax		
	comp=Z,4.0nm,0.4s,mb5.0							
KMBO	**Kilima Mbogo**	**89.47**	**269**	P		**P**	**00 29 16.3**	**+0.8**
	comp=Z,0.7nm,0.3s,mb4.4,baz=113,slow=7.7,SNR=4.7							
KMBO	**Kilima Mbogo**	**89.47**	**269**	P		**P**	**00 29 16.3**	**+0.8**
KMBO				pmax		pmax		
	comp=Z,1.0nm,0.4s							
KMBO	**Kilima Mbogo**	**89.47**	**269**	P		**P**	**00 29 16.3**	**+0.7**
BR131	**Keskin Array S**	**89.96**	**310**	*eP*		**P**	**00 29 17.6**	**-0.2**
	comp=Z,3.0nm,0.9s,mb4.6							
BRTR	**Keskin Array B**	**89.96**	**310**	P		**P**	**00 29 17.6**	**-0.2**
	comp=Z,2.0nm,0.8s,mb4.5,baz=117,slow=4.4,SNR=14							
BRTR	**Keskin Array B**	**89.96**	**310**	P		**P**	**00 29 17.6**	**-0.2**
BRTR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
INK	**Inuvik**	**90.20**	**21**	*eP*		**P**	**00 29 17.8**	**-1.1**
ARCES	**ARCESS Array B**	**90.43**	**340**	P		**P**	**00 29 19.1**	**-0.8**
	comp=Z,3.3nm,0.7s,mb4.8,baz=90,slow=7.3,SNR=8.2							
ARCES	**ARCESS Array B**	**90.43**	**340**	P		**P**	**00 29 19.2**	**-0.8**
ARCES				pmax		pmax		
	comp=Z,3.0nm,0.7s							
FINES	**FINESS Array B**	**91.80**	**332**	P		**P**	**00 29 25.8**	**-0.6**
	comp=Z,0.8nm,0.6s,mb4.2,baz=72,slow=6.2,SNR=9.1							
FINES	**FINESS Array B**	**91.80**	**332**	P		**P**	**00 29 25.8**	**-0.6**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**91.84**	**321**	P		**P**	**00 29 25.9**	**-0.7**
	comp=Z,0.4nm,0.4s,mb4.1,baz=73,slow=4.3,SNR=5.3							
RES	**Resolute Bay**	**97.83**	**10**	*eP*		**P**	**00 29 52.8**	**-1.2**
NB2	**NORSAR Subarra**	**98.76**	**334**	P		**P**	**00 29 56.7**	**-1.4**
	comp=Z,2.0nm,0.8s,mb4.7,baz=67,slow=4.6							
NOA	**NORSAR Array B**	**98.76**	**334**	P		**P**	**00 29 57.2**	**-0.9**
	comp=Z,1.8nm,0.8s,mb4.7,baz=67,slow=4.5,SNR=5.6							
NOA	**NORSAR Array B**	**98.76**	**334**	P		**P**	**00 29 57.3**	**-0.8**
NOA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
YKA	**Yellowknife Ar**	**99.54**	**24**	P		**P**	**00 30 02.7**	**+1.2**
	comp=Z,0.4nm,0.8s,mb3.9,baz=300,slow=4.7,SNR=6.4							
YKA	**Yellowknife Ar**	**99.54**	**24**	P		**P**	**00 30 02.7**	**+1.1**
TORD	**Torodi Ar. Bea**	**122.84**	**288**	PKP		PKPdf	00 35 15.9	+1.4
	comp=Z,0.8nm,0.8s,baz=42,slow=1.6,SNR=6.5							

*IDC **13** 00:20:32.3±1.2, 374N×12681E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/21, mbtmp3.8/8, Error ellipse: s-maj=94.4km s-min=16.1km az=70.0*

*MOS **13** 00:20:36.1±0.9, 358N×126.16E, h33km, mb4.7/3, Error ellipse: s-maj=99.9km s-min=26.8km az=113.5*

*NEIC **13** 00:20:37.4±0.5, 368N×12675E, h35km, mb4.7/4, Error ellipse: s-maj=29.3km s-min=7.4km az=69.0*

*ISCJB **13** 00:20:38.4±2.1, 37N±01×1267E±03, h61km±20km, mb4.1/12, Error ellipse: s-maj=47.7km s-min=10.6km az=138.0*

ISC 13 00:20:39.9±1.9, 37N±01×1268E±03, h57km±19km, n20, σ0§49/20, mb4.1/12, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
BUKP	**Musuan**	**4.51**	**338**	*eP*		**Pn**	**00 21 45.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**21.66**	**183**	P		**P**	**00 25 25.0**	**-0.6**
	2.5nm,0.9s,mb3.6,baz=12,slow=19,SNR=3.1							
WRAB	**Tennant Creek**	**24.61**	**163**	*eP*		**P**	**00 25 54.6**	**-0.2**
WRAB				pmax		pmax		
	comp=Z,14nm,0.8s,mb4.5							
WRAB	**Tennant Creek**	**24.61**	**163**	*eP*		**P**	**00 25 54.6**	**-0.1**
	comp=Z,14nm,0.8s,mb4.6							
WRA	**Warramunga Arr**	**24.62**	**163**	P		**P**	**00 25 54.7**	**-0.1**
	comp=Z,2.9nm,0.4s,mb4.2,baz=344,slow=10,SNR=5.7							
WB2	**Warramunga Arr**	**24.62**	**163**	*eP*		**P**	**00 25 55.0**	**+0.2**
ASAR	**Alice Springs**	**28.05**	**166**	P		**P**	**00 26 27.1**	**+1.4**
	comp=Z,0.5nm,0.3s,mb3.5,baz=347,slow=12,SNR=7.9

Error ellipse: s-maj=8.4km s-min=2.1km az=3.0
MDD 13 00:28:58.7±0.3, 4273N×041W, h0km±9km, mbLg1.1/7, Error ellipse: s-maj=3.2km s-min=1.7km az=25.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDAF	**Les Forges d'A**	**0.15**	**306**	Pg	Pg	00 29 00.9	-0.6
FDAF				Lg		00 29 03.3	
ETSF	**Etsaut**	**0.20**	**326**	*e*Pg	Pg	00 29 02.0	-0.5
ETSF				*e*Sg	Sg	00 29 05.4	+0.3
	34nm,0.3s						
ETSF	**Etsaut**	**0.20**	**326**	Pg	Pg	00 29 02.0	-0.5
ETSF				Lg		00 29 05.4	
	17nm,0.3s						
REYF	**Montagne du Re**	**0.34**	**2**	Pg	Pg	00 29 05.0	-0.2
REYF				Lg		00 29 09.9	
VIEF	**Viey**	**0.35**	**64**	Pg	Pg	00 29 05.0	-0.4
VIEF				Lg		00 29 10.0	
EBIE	**Bielsa**	**0.41**	**96**	Pg	Pg	00 29 05.7	-0.8
	SNR=7.9						
EBIE				Lg		00 29 11.4	
	3.1nm,0.1s,SNR=6.7						
ATE	**Arette**	**0.41**	**328**	Pg	Pg	00 29 05.7	-0.9
ATE				Lg		00 29 11.6	
EPF	**Esparros**	**0.62**	**61**	*e*Pg	Pg	00 29 10.0	-0.7
EPF				*e*Sg	Sg	00 29 18.6	-0.1
	2.9nm,0.2s						
EPF	**Esparros**	**0.62**	**61**	Pg	Pg	00 29 10.0	-0.7
EPF				Lg		00 29 18.6	
	1.4nm,0.2s						
SJPF	**Ste Jean**	**0.71**	**303**	*e*Pg	Pg	00 29 12.5	+0.1
SJPF	**Ste Jean**	**0.71**	**303**	*e*Pn	Pg	00 29 14.7	+2.4
SJPF				*e*Sg	Sg	00 29 21.8	+0.2
	1.5nm,0.2s						
SJPF	**Ste Jean**	**0.71**	**303**	Pg	Pg	00 29 12.5	+0.1
SJPF				Lg		00 29 21.8	
	0.8nm,0.2s						
EGRA	**Graus**	**0.76**	**135**	Pg	Pg	00 29 13.3	+0.1
	2.6nm,0.8s,SNR=10.0						
EGRA				Lg		00 29 24.0	
	4.9nm,1.0s						
ELIZ	**Elizondo**	**0.93**	**298**	Pg	Pg	00 29 16.1	-0.4
	1.5nm,0.6s,SNR=7.9						
ELIZ				Lg		00 29 29.6	
	0.4nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**0.94**	**301**	Pg	Pg	00 29 17.4	+0.6
	1.8nm,0.5s,SNR=9.1						
EALK				Lg		00 29 28.4	
	2.4nm,0.2s,SNR=8.1						
ESAC	**San Caprasio**	**1.01**	**183**	Pg	Pg	00 29 16.3	-1.8
	6.8nm,0.2s,SNR=5.7						
ESAC				Lg		00 29 29.7	
	4.5nm,0.3s						
EMIR	**Miracle**	**1.65**	**119**	Sn	Sn	00 29 50.7	-0.1
	SNR=7.9						
ERTA	**Horta de San J**	**1.86**	**162**	Sn	Sn	00 29 53.7	-2.3
	0.7nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**2.02**	**72**	*e*Pg	Pg	00 29 36.3	-1.1
CAF	**Calviac**	**2.83**	**38**	*e*Sn	Sn	00 30 15.6	-4.3
	1.0nm,0.3s						
CAF	**Calviac**	**2.83**	**38**	Sn	Sn	00 30 15.6	-4.3
	0.5nm,0.3s						

*ISCJB **13** 00:34:35.9±0.5, 4071N×003×2369E×004, h10km±6km, Error ellipse: s-maj=5.2km s-min=3.8km az=83.4*
*ATH **13** 00:34:36.0, 4069N×2383E, h4km, MD3.1/3*
*CSEM **13** 00:34:36.8±0.1, 4071N×2370E, h5km, ML2.7, Error ellipse: s-maj=1.7km s-min=1.3km az=41.0*
*THE **13** 00:34:36.8, 4070N×2366E, h6km, ML2.7*
ISC 13 00:34:36.4±0.5, 4072N±003×2370E±004, h13km±6km, n16, σ0§46/26, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOH	**Sokhos**	**0.28**	**292**	*e*Pg	**Pg**	**00 34 42.3**	**+0.1**
SOH				*e*Sg	**Sg**	**00 34 46.4**	**+0.3**
PLG	**Polygyros**	**0.39**	**209**	*e*PG	**Pg**	**00 34 44.2**	**-0.1**
PLG				*e*SG	**Sg**	**00 34 49.4**	**-0.1**
SRS	**Serrai**	**0.41**	**349**	*e*Pg	**Pg**	**00 34 44.5**	**0.0**
OUR	**Ouranopolis**	**0.44**	**150**	*e*Pg	**Pg**	**00 34 45.0**	**-0.2**
OUR				*e*Sg	**Sg**	**00 34 51.2**	**+0.2**
THE	**Thessaloniki**	**0.56**	**262**	*e*Pg	**Pg**	**00 34 47.1**	**-0.3**
THE				*e*Sg	**Sg**	**00 34 55.0**	**+0.1**
NVR	**Nevrokopi**	**0.65**	**11**	*e*PG	**Pg**	**00 34 48.7**	**-0.3**
KNT	**Kendrikon**	**0.75**	**307**	*e*Pg	**Pg**	**00 34 51.3**	**+0.3**
KNT				*e*Sg	**Sg**	**00 35 01.3**	**+0.5**
PAIG	**Paliouri**	**0.79**	**181**	*e*Pg	**Pg**	**00 34 51.1**	**-0.6**
PAIG				*e*Sg	**Sg**	**00 35 03.1**	**+1.0**
GRG	**Griva**	**1.01**	**284**	*e*Pg	**Pg**	**00 34 55.3**	**-0.6**
GRG				*e*Sg	**Sg**	**00 35 09.1**	**0.0**
LIT	**Litokhoron**	**1.11**	**237**	*e*Pg	**Pg**	**00 34 57.4**	**-0.3**
LIT				*e*Sg	**Sg**	**00 35 12.6**	**+0.4**
LOS	**Limnos**	**1.32**	**126**	*e*Pg	**Pg**	**00 35 00.9**	**-0.8**
LOS				*e*Sg	**Sg**	**00 35 19.0**	**+0.2**
XOR	**Xorichti**	**1.40**	**196**	*e*Pg	**Pn**	**00 35 01.6**	**-0.1**
RDO	**Rodhopi**	**1.46**	**72**	*e*PB	**Pn**	**00 35 01.9**	**-0.6**
AOS	**Alonnisos**	**1.55**	**175**	*e*Pg	**Pn**	**00 35 03.2**	**-0.6**
ALN	**Alexandroupoli**	**1.79**	**83**	*e*Pb	**Pn**	**00 35 08.0**	**+0.9**
ALN				*e*Sb	**Sb**	**00 35 32.1**	**+0.6**
AGG	**Agios Georgios**	**1.99**	**212**	*e*Pb	**Pn**	**00 35 10.1**	**+0.2**

*LDG **13** 00:41:55.3±0.4, 4271N×040W, h2km, Md1.9/2, Ml1.9/2, Error ellipse: s-maj=7.9km s-min=2.2km az=5.0*
*STR **13** 00:41:55.1±0.1, 4273N×044W, h2km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 13 00:41:56.0±0.3, 4274N×040W, h0km±11km, mbLg1.3/8, Error ellipse: s-maj=2.7km s-min=1.4km az=19.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDAF	**Les Forges d'A**	**0.14**	**301**	Pg	Pg	00 41 58.2	-0.7
FDAF				Lg		00 42 00.8	
ETSF	**Etsaut**	**0.19**	**322**	*e*Pg	Pg	00 41 59.2	-0.6
ETSF				*e*Sg	Sg	00 42 02.6	+0.3
	50nm,0.3s						
ETSF	**Etsaut**	**0.19**	**322**	Pg	Pg	00 41 59.2	-0.6
ETSF				Lg		00 42 02.6	
	25nm,0.3s						
REYF	**Montagne du Re**	**0.33**	**1**	Pg	Pg	00 42 02.1	-0.1
REYF				Lg		00 42 07.1	
VIEF	**Viey**	**0.34**	**66**	Pg	Pg	00 42 02.0	-0.3
VIEF				Sg	Sg	00 42 07.5	+0.5
VIEF	**Viey**	**0.34**	**66**	Pg	Pg	00 42 02.3	-0.2
VIEF				Lg		00 42 07.4	
EBIE	**Bielsa**	**0.40**	**98**	Pg	Pg	00 42 02.9	-0.9
	0.7nm,0.0s,SNR=7.9						
EBIE				Lg		00 42 08.7	
	3.2nm,0.1s,SNR=9.2						
ATE	**Arette**	**0.41**	**327**	Pg	Pg	00 42 03.0	-0.8
ATE				Lg		00 42 08.9	
LABF	**Labassere**	**0.46**	**49**	Pg	Pg	00 42 04.5	-0.4
LABF				Sg	Sg	00 42 11.3	+0.5
LABF	**Labassere**	**0.46**	**49**	Pg	Pg	00 42 04.6	-0.3
LABF				Lg		00 42 10.8	
LARF	**Larrau**	**0.52**	**304**	Pg	Pg	00 42 04.6	-1.5
LARF				Lg		00 42 12.7	
EPF	**Esparros**	**0.61**	**62**	*e*Pg	Pg	00 42 07.2	-0.6
EPF				*e*Sg	Sg	00 42 15.8	+0.1
	3.5nm,0.2s						
EPF	**Esparros**	**0.61**	**62**	Pg	Pg	00 42 07.2	-0.6
EPF				Lg		00 42 15.8	
	1.8nm,0.2s						
SJPF	**Ste Jean**	**0.71**	**302**	*e*Pg	Pg	00 42 09.5	-0.2
SJPF	**Ste Jean**	**0.71**	**302**	*e*Pn	Pg	00 42 12.4	+2.7
SJPF				*e*Sg	Sg	00 42 18.9	0.0
	2.4nm,0.2s						
SJPF	**Ste Jean**	**0.71**	**302**	Pg	Pg	00 42 09.5	-0.2
SJPF				Lg		00 42 18.9	
	1.2nm,0.2s						
EGRA	**Graus**	**0.76**	**136**	Pg	Pg	00 42 10.4	-0.3
	1.0nm,0.4s,SNR=5.5						
EGRA				Lg		00 42 21.1	
	0.4nm,0.2s,SNR=12						
IUNC	**Unciti**	**0.81**	**271**	Lg		00 42 22.3	
	0.6nm,0.1s,SNR=7.9						
MELF	**Melles**	**0.86**	**81**	Lg		00 42 22.9	
EARA	**Aranguren**	**0.87**	**272**	Lg		00 42 24.9	
	2.7nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**0.93**	**297**	Lg		00 42 26.8	
	0.8nm,0.1s,SNR=4.0						
EALK	**Alkurruntz**	**0.94**	**301**	Pg	Pg	00 42 15.4	+1.3
	2.4nm,0.5s,SNR=12						
EALK				Lg		00 42 26.7	
	2.7nm,0.2s,SNR=9.2						
ESAC	**San Caprasio**	**1.02**	**183**	Pg	Pg	00 42 16.2	+0.6
	SNR=7.9						
ESAC				Lg		00 42 27.6	
	9.1nm,0.2s,SNR=8.2						
SALF	**Salau**	**1.17**	**89**	Lg		00 42 31.8	
EMIR	**Miracle**	**1.65**	**120**	Pg	Pg	00 42 26.5	-1.2
	0.2nm,0.1s,SNR=7.9						
EMIR				Lg		00 42 48.1	
	1.4nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**1.77**	**141**	Pg	Pg	00 42 29.1	-0.9
	SNR=7.9						
EPOB				Sn	Sn	00 42 51.8	+0.7
	SNR=4.0						
ERTA	**Horta de San J**	**1.87**	**163**	Sn	Sn	00 42 53.0	-0.4
	SNR=7.9						
MTLF	**Montolieu**	**2.01**	**72**	*e*Pg	Pg	00 42 32.6	-1.9
MTLF				*e*Sg	Sg	00 42 57.7	-2.9
	0.7nm,0.3s						
MTLF	**Montolieu**	**2.01**	**72**	Pg	Pg	00 42 32.6	-1.9
MTLF				Sn	Sn	00 42 57.7	+0.8
	0.3nm,0.3s						
EMOS	**Mosqueruela**	**2.38**	**181**	Sn	Sn	00 43 06.9	+0.8
	SNR=7.9						
CAF	**Calviac**	**2.82**	**38**	*e*Sn	Sn	00 43 12.7	-4.2
	1.3nm,0.3s						
CAF	**Calviac**	**2.82**	**38**	Sn	Sn	00 43 12.7	-4.2
	0.6nm,0.3s						

*ISCJB **13** 01:04:44.3±0.3, 2768S×003×13563E×004, h10km, mb4.5/11, MS3.6/2, Error ellipse: s-maj=4.9km s-min=4.0km az=166.4*
*IDC **13** 01:04:46.8±1.4, 2797S×13576E, h0km, mb4.1/2, mb1 4.7/7, mb1mx4.4/12, mbtmp4.6/7, ML5.2/5, MS3.4/5, Ms1 3.3/5, ms1mx3.1/22, Error ellipse: s-maj=32.3km s-min=16.9km az=52.0*
*NEIC **13** 01:04:46.0, 2772S×13599E, h1km, mb4.3/8, ML5.1(AUST), After AUST.*
*AUST **13** 01:04:46.7, 2766S×13572E, h7km, ML5.1*
ISC 13 01:04:46.9±0.3, 2771S±003×13560E±004, h10km, n63, σ1§44/103, mb4.5/11, MS3.6/2, 1C-5D, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**4.30**	**339**	Pn	**Pn**	**01 05 58.0**	**+5.6**
	37nm,0.3s,baz=158,slow=13,SNR=663						
ASAR				Pg	**Pg**	**01 06 12.0**	**+2.6**
	50nm,0.3s,baz=159,slow=16,SNR=39						
ASAR				Sn	**Sn**	**01 06 47.8**	**+5.1**
	60nm,0.3s,baz=156,slow=17,SNR=4.9						
ASAR				Lg		01 07 12.4	
	40nm,0.3s,baz=156,slow=24,SNR=4.2						
BBOO	**Buckleboo**	**5.10**	**176**	*e*P	**Pn**	**01 06 04.0**	**+0.6**
BBOO				*e*S	**Sn**	**01 07 03.3**	**+1.0**
	92nm,0.3s						
BBOO	**Buckleboo**	**5.10**	**176**	*e*P	**Pn**	**01 06 04.0**	**+0.6**
	92nm,0.3s						
BBOO				*e*S	**Sn**	**01 07 03.3**	**+1.0**
STKA	**Stephens Creek**	**6.67**	**130**	*e*P	**Pn**	**01 06 22.4**	**-2.5**
STKA				*e*S	**Sn**	**01 07 33.2**	**-7.7**
	161nm,0.3s						
STKA	**Stephens Creek**	**6.67**	**130**	Pn	**Pn**	**01 06 22.9**	**-1.9**
	16nm,0.3s,baz=306,slow=12,SNR=117						
STKA				Sn	**Sn**	**01 07 32.4**	**-8.5**
	70nm,0.3s,baz=285,slow=7.0,SNR=10						
STKA				Lg		01 08 08.6	
	42nm,0.3s,baz=315,slow=16,SNR=3.8						
STKA				LR	LR	01 09 06.7	
	comp=Z,262nm,19.0s,baz=110,slow=41						
STKA	**Stephens Creek**	**6.67**	**130**	*e*Pn	**Pn**	**01 06 22.6**	**-2.3**
STKA				*e*Sn	**Sn**	**01 07 32.3**	**-8.6**
FORT	**Forrest**	**7.26**	**243**	*e*P	**Pn**	**01 06 34.7**	**+1.7**
QLP	**Quilpie**	**7.78**	**84**	*i*P	**Pn**	**01 06 41.7**	**+1.5**
WB2	**Warramunga Arr**	**7.81**	**351**	⇑*i*P	**Pn**	**01 06 44.8**	**+4.2**
WB2				*e*S	**Sn**	**01 08 08.4**	**-0.7**
WRA	**Warramunga Arr**	**7.82**	**351**	Pn	**Pn**	**01 06 45.2**	**+4.5**
	29nm,0.3s,baz=171,slow=13,SNR=144						
WRA				Sn	**Sn**	**01 08 08.7**	**-0.5**
	19nm,0.3s,baz=170,slow=24,SNR=6.3						
WRA				Lg		01 08 58.7	
	9.9nm,0.3s,baz=169,slow=30,SNR=4.8						
WRAB	**Tennant Creek**	**7.82**	**351**	*e*Pn	**Pn**	**01 06 44.8**	**+4.0**
WRAB				*e*Sn	**Sn**	**01 08 10.4**	**+1.1**
QIS	**Mount Isa**	**8.00**	**28**	*i*P	**Pn**	**01 06 43.5**	**+0.2**
QIS				*e*S	**Sn**	**01 08 13.0**	**-0.8**
	30nm,0.3s						
QIS	**Mount Isa**	**8.00**	**28**	⇓*i*P	**Pn**	**01 06 43.5**	**+0.2**
	30nm,0.3s						
QIS				*e*S	**Sn**	**01 08 13.0**	**-0.8**
ARPS	**Mount Arapiles**	**10.46**	**151**	*e*P	**Pn**	**01 07 15.9**	**-1.1**
ARPS				*e*S	**Sn**	**01 09 05.1**	**-9.1**
	72nm,0.3s						
ARPS	**Mount Arapiles**	**10.46**	**151**	*e*P	**Pn**	**01 07 15.9**	**-1.1**
	72nm,0.3s						
ARPS				*e*S	**Sn**	**01 09 05.1**	**-9.1**
RMQ	**Roma**	**11.79**	**87**	*e*P	**Pn**	**01 07 34.3**	**-0.8**
CTA	**Charters Tower**	**12.35**	**54**	*e*P	**Pn**	**01 07 43.9**	**+1.2**
CTA	**Charters Tower**	**12.35**	**54**	Pn	**Pn**	**01 07 43.7**	**+0.9**
	9.6nm,0.3s,baz=218,slow=13,SNR=78						
CTA				Sn	**Sn**	**01 09 55.0**	**-5.3**
	1.6nm,0.3s,baz=202,slow=11,SNR=2.6						
CTA				Lg		01 11 28.4	
	3.0nm,0.3s,baz=301,slow=20,SNR=2.9						
CTAO	**Charters Tower**	**12.35**	**54**	*e*Pn	**Pn**	**01 07 43.7**	**+0.9**
MTSU	**Mount Surprise**	**12.45**	**42**	*e*P	**Pn**	**01 07 45.5**	**+1.4**
KMBL	**Kambalda**	**12.48**	**250**	*e*P	**Pn**	**01 07 45.7**	**+1.1**
KMBL				*e*S	**Sn**	**01 09 57.6**	**-6.1**
	112nm,0.5s						
KMBL	**Kambalda**	**12.48**	**250**	*e*P	**Pn**	**01 07 45.7**	**+1.1**
	112nm,0.5s						
KMBL				*e*S	**Sn**	**01 09 57.6**	**-6.1**
YNG	**Young**	**12.79**	**124**	*e*P	**Pn**	**01 07 48.3**	**-0.5**
YNG				*e*S	**Sn**	**01 10 05.5**	**-5.7**
	7.7nm,0.3s						
YNG	**Young**	**12.79**	**124**	*e*P	**Pn**	**01 07 48.3**	**-0.5**
	7.7nm,0.3s						
YNG				*e*S	**Sn**	**01 10 05.5**	**-5.7**
TOO	**Toolangi**	**12.88**	**142**	*e*P	**Pn**	**01 07 49.3**	**-0.8**
TOO				*e*S	**Sn**	**01 10 01.6**	**-12**
	16nm,0.4s						
TOO	**Toolangi**	**12.88**	**142**	*e*P	**Pn**	**01 07 49.3**	**-0.8**
	16nm,0.4s						
TOO				*e*S	**Sn**	**01 10 01.6**	**-12**
FITZ	**Fitzroy Crossi**	**13.24**	**314**	⇓*i*P	**Pn**	**01 07 57.7**	**+2.7**
FITZ				*e*S	**Sn**	**01 10 17.9**	**-4.4**
	36nm,0.6s						
FITZ	**Fitzroy Crossi**	**13.24**	**314**	Pn	**Pn**	**01 07 58.0**	**+3.0**
	39nm,0.3s,baz=130,slow=9.7,SNR=734						
FITZ				Sn	**Sn**	**01 10 18.3**	**-3.9**
	2.7nm,0.3s,baz=285,slow=18,SNR=4.1						
FITZ				Lg		01 11 49.7	
	baz=262,slow=20,SNR=2.7						
FITZ				LR	LR	01 13 29.4	
	comp=Z,60nm,18.7s,baz=294,slow=39						
FITZ	**Fitzroy Crossi**	**13.24**	**314**	⇓*i*P	**Pn**	**01 07 57.7**	**+2.7**
	36nm,0.6s						
FITZ				*e*S	**Sn**	**01 10 17.9**	**-4.4**
KNA	**Kununurra**	**13.48**	**331**	*e*P	**Pn**	**01 07 58.9**	**+0.7**
KNA				*e*S	**Sn**	**01 10 21.6**	**-6.5**
	9.8nm,0.6s						
KNA	**Kununurra**	**13.48**	**331**	*e*P	**Pn**	**01 07 58.9**	**+0.7**
	9.8nm,0.6s						
KNA				*e*S	**Sn**	**01 10 21.6**	**-6.5**
CNB	**Canberra Magne**	**13.97**	**126**	*e*P	**Pn**	**01 08 04.9**	**0.0**
CNB				*e*S	**Sn**	**01 10 32.4**	**-7.6**
	11nm,0.5s						
CNB	**Canberra Magne**	**13.97**	**126**	*e*P	**Pn**	**01 08 04.9**	**0.0**
	11nm,0.5s						
CNB				*e*S	**Sn**	**01 10 32.4**	**-7.6**
EIDS	**Eidsvold**	**14.06**	**84**	*e*P	**Pn**	**01 08 04.4**	**-1.7**
MGCD	**Mangrove Creek**	**14.45**	**116**	*e*P	**Pn**	**01 08 11.7**	**+0.2**
MEEK	**Meekatharra**	**15.15**	**270**	*e*P	**Pn**	**01 08 18.8**	**-2.2**
MEEK				*e*S	**Sn**	**01 11 00.9**	**-7.9**
KAKA	**Kakadu**	**15.21**	**348**	*e*P	**Pn**	**01 08 19.9**	**-1.8**
KAKA				*e*S	**Sn**	**01 11 03.8**	**-6.4**
	44nm,0.5s						
KAKA	**Kakadu**	**15.21**	**348**	*e*P	**Pn**	**01 08 19.9**	**-1.8**
	44nm,0.5s						
KAKA				*e*S	**Sn**	**01 11 03.8**	**-6.4**
MBWA	**Marble Bar**	**15.84**	**291**	*e*P	**Pn**	**01 08 28.7**	**-1.3**
MBWA				*e*S	**Sn**	**01 11 15.3**	**-10**
KLBR	**Kellerberrin**	**15.98**	**252**	*e*P	**Pn**	**01 08 30.9**	**-0.9**
KLBR				*e*S	**Sn**	**01 11 16.6**	**-12**
	7.6nm,0.2s						
KLBR	**Kellerberrin**	**15.98**	**252**	*e*P	**Pn**	**01 08 30.9**	**-0.9**
	7.6nm,0.2s						
KLBR				*e*S	**Sn**	**01 11 16.6**	**-12**
NWAO	**Narrogin (SRO)**	**16.68**	**247**	*e*P	**Pn**	**01 08 43.7**	**+3.0**
NWAO				*e*S	**Sn**	**01 11 40.2**	**-5.8**
	32nm,0.2s						
NWAO	**Narrogin (SRO)**	**16.68**	**247**	Pn	**Pn**	**01 08 41.9**	**+1.2**
	0.6nm,0.3s,baz=76,slow=11,SNR=3.4						
NWAO				Sn	**Sn**	**01 11 35.7**	**-10**
	1.5nm,0.3s,baz=55,slow=2.9,SNR=3.3						
NWAO				Lg		01 13 20.5	
	5.1nm,0.3s,baz=1.9,slow=19,SNR=5.4						
NWAO				LR	LR	01 15 03.8	
	comp=Z,81nm,20.6s,baz=105,slow=37						
NWAO	**Narrogin (SRO)**	**16.68**	**247**	*e*P	**Pn**	**01 08 43.7**	**+3.0**
	32nm,0.2s						
NWAO				*e*S	**Sn**	**01 11 40.2**	**-5.8**
BLDU	**Ballidu**	**16.75**	**256**	*e*P	**Pn**	**01 08 39.8**	**-1.8**
BLDU				*e*S	**Sn**	**01 11 32.7**	**-15**
	3.2nm,0.3s						
BLDU	**Ballidu**	**16.75**	**256**	*e*P	**Pn**	**01 08 39.8**	**-1.8**
	3.2nm,0.3s						
BLDU				*e*S	**Sn**	**01 11 32.7**	**-15**
MORW	**Morawa**	**17.26**	**261**	*e*P	**Pn**	**01 08 45.6**	**-2.5**
MORW				*e*S	**Sn**	**01 11 44.7**	**-15**
	10nm,0.2s						
MORW	**Morawa**	**17.26**	**261**	*e*P	**Pn**	**01 08 45.6**	**-2.5**
	10nm,0.2s						
MORW				*e*S	**Sn**	**01 11 44.7**	**-15**
RKGY	**Rocky Gully**	**17.34**	**242**	*e*P	**Pn**	**01 08 50.1**	**+1.0**
MUN	**Mundaring**	**17.35**	**251**	*e*P	**Pn**	**01 08 48.9**	**-0.2**
MUN				*e*S	**Sn**	**01 11 50.6**	**-12**
PSI	**Prapat**	**46.54**	**305**	LR	LR	01 36 18.1	
	comp=Z,82nm,18.2s,MS3.7,baz=300,slow=40						
VNDA	**Vanda**	**51.36**	**173**	P	**P**	**01 13 54.1**	**+2.5**
	0.5nm,0.6s,mb3.6						
QSPA	**South Pole Qui**	**62.38**	**180**	*e*P	**P**	**01 15 10.6**	**+0.8**
	1.2nm,0.8s,mb4.1						
MJAR	**Matsushiro Arr**	**63.95**	**2**	LR	LR	01 40 41.7	
	comp=Z,41nm,21.0s,MS3.6,baz=30,slow=34						
JIRN	**Jiri**	**72.65**	**315**	*e*P	**P**	**01 16 18.2**	**+3.5**
	4.7nm,0.5s,mb4.7						
GUN	**Gumba**	**73.02**	**315**	*e*P	**P**	**01 16 21.2**	**+4.3**
	8.4nm,0.5s,mb5.0						
PKI	**Pulchoki**	**73.08**	**315**	*e*P	**P**	**01 16 20.9**	**+3.6**
	14nm,0.6s,mb5.1						
DMN	**Daman**	**73.30**	**314**	*e*P	**P**	**01 16 22.5**	**+3.9**
	7.4nm,0.4s,mb5.0						
KKN	**Kakani**	**73.32**	**315**	*e*P	**P**	**01 16 22.6**	**+3.9**
	10nm,0.4s,mb5.1						
GKN	**Gorkha**	**73.87**	**314**	*e*P	**P**	**01 16 25.5**	**+3.6**
	6.8nm,0.3s,mb5.1						
SNAA	**Sanae**	**76.77**	**192**	*e*P	**P**	**01 16 39.6**	**+1.0**
	1.6nm,1.0s,mb3.9						
SONM	**Songino Array**	**79.65**	**340**	P	**P**	**01 16 58.0**	**+3.4**
	0.9nm,0.6s,mb3.9,baz=161,slow=6.3,SNR=9.8						
MKAR	**Makanchi Array**	**88.40**	**327**	P	**P**	**01 17 41.9**	**+2.8**
	0.7nm,0.5s,mb4.2,baz=137,slow=6.2,SNR=5.8						

*ISCJB **13** 01:12:41.2±0.9, 3731N×006×849W×005, h10km, Error ellipse: s-maj=7.9km s-min=5.3km az=179.1*
*MDD **13** 01:12:42.5±0.5, 3734N×854W, h10km±2km, mbLg1.3/4, Error ellipse: s-maj=5.6km s-min=4.3km az=87.0, PRXIMO*
*IGIL **13** 01:12:44.0, 3735N×858W, h2km, ML0.8*
ISC 13 01:12:41.9±0.8, 3734N±005×851W±005, h10km, n9, σ0§62/18, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**0.12**	**253**	*e*P	**Pg**	**01 12 44.8**	**0.0**
MORF				*e*S	**Sg**	**01 12 46.9**	**+0.1**
MORF				*e*S	**Sg**	**01 12 47.0**	**+0.1**
MORF				AML	AML	01 12 47.3	
	comp=E,104nm,0.1s						
MORF	**Marmelete**	**0.12**	**253**	*e*P	**Pg**	**01 12 44.8**	**0.0**
MORF				*e*S	**Sg**	**01 12 46.9**	**+0.1**
PTEO	**Sao Teotonio**	**0.27**	**320**	*i* Pg	**Pg**	**01 12 47.5**	**+0.2**
PTEO				*e*Sg	**Sg**	**01 12 51.2**	**+0.3**
PTEO							
	comp=E,7.2nm,0.2s						
EGRO	**El Granado**	**0.84**	**76**	Pg	**Pg**	**01 12 58.4**	**+0.3**
	comp=E,0.4nm,0.1s,SNR=7.9						
EGRO				Lg		01 13 09.4	
	comp=E,4.3nm,0.1s,SNR=16						
PBEJ	**Beja**	**0.85**	**37**	*e*P	**Pg**	**01 12 58.9**	**+0.5**
PBEJ				*e*S	**Sg**	**01 13 10.7**	**+1.2**
PBEJ							
	comp=E,1.3nm,0.1s						
MOE	**Montemor**	**1.19**	**6**	*e*P	**Pb**	**01 13 03.8**	**-0.7**
MOE				*e*S	**Sb**	**01 13 19.4**	**-0.4**
EMIN	**Mina Concepcio**	**1.52**	**73**	Pg	**Pg**	**01 13 10.2**	**-0.9**
	comp=E,0.2nm,0.2s,SNR=7.9						
EMIN				Lg		01 13 30.7	
	comp=E,0.9nm,0.1s,SNR=8.1						
EBAD	**Badajoz**	**1.84**	**39**	Pg	**Pg**	**01 13 16.2**	**-1.1**
	comp=E,0.2nm,0.1s,SNR=4.0						
EBAD				Lg		01 13 39.8	
	comp=E,1.1nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.17**	**102**	Pg	**Pg**	**01 13 24.1**	**+0.5**
	comp=E,0.1nm,0.1s,S

EKS2					⇑S		Sn	01 21 17.7	-1.6
	12nm,0.2s								
UCH	**Uchtor**	**2.00**	**51**	⇑P			**Pn**	**01 20 54.7**	**-0.5**
	10nm,0.2s,SNR=17								
UCH					⇑S		**Sn**	**01 21 19.1**	**-1.2**
	21nm,0.2s								
AAK	**Ala-Archa**	**2.26**	**42**	⇓P			**Pn**	**01 20 58.7**	**-0.1**
	8.2nm,0.2s,SNR=11								
AAK					⇑S		**Sn**	**01 21 26.8**	**+0.1**
	44nm,0.4s								
KZA	**Kyzart**	**2.39**	**62**	⇑P			**Pn**	**01 21 00.6**	**+0.1**
	15nm,0.3s,SNR=33								
KZA					⇑S		**Sn**	**01 21 31.0**	**+1.1**
	13nm,0.2s								
KBK	**Karagaybulak**	**2.52**	**48**	⇑P			**Pn**	**01 21 03.1**	**+0.7**
	6.6nm,0.1s,SNR=10								
KBK					⇓S		**Sn**	**01 21 34.7**	**+1.6**
	65nm,0.4s								
KK31	**Karatay Array**	**2.56**	**327**	Pn			**Pn**	**01 21 04.0**	**+1.2**
	3.4nm,0.5s,baz=137,slow=13,SNR=27								
KK31					⇑Lg			01 21 37.4	
	7.7nm,0.4s,baz=143,slow=30,SNR=11								
USP	**Ospenovka**	**2.76**	**33**	⇓P			**Pn**	**01 21 05.4**	**-0.2**
	8.1nm,0.2s,SNR=8.9								
USP					⇓S		**Sn**	**01 21 40.3**	**+1.3**
	16nm,0.3s								
TKM2	**Tokmak 2**	**3.06**	**50**	⇓P			**Pn**	**01 21 09.9**	**+0.1**
	5.0nm,0.3s,SNR=5.4								
TKM2	**Tokmak 2**	**3.06**	**50**	⇓Pn			**Pn**	**01 21 09.2**	**-0.6**
	0.1nm,0.3s								
TKM2					⇑Lg			01 21 49.6	
	2.5nm,0.8s								

IDC ***13*** *01:21:39.9±35.0, 707N×12254E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/18, mbtmp3.8/3, Error ellipse: s-maj=604.1km s-min=225.7km az=153.0*
ISCJB ***13*** *01:21:55.7±1.2, 75N±0.1×1242E±0.1, h150km, mb4.2/7, Error ellipse: s-maj=23.0km s-min=11.9km az=86.2*
NEIC ***13*** *01:21:58.5±1.6, 767N×12521E, h145km±9km, mb4.5/5, Error ellipse: s-maj=90.4km s-min=15.4km az=84.0*

ISC 13 01:21:58.0±1.2, 76N±01×1243E±01, h150km, n12, σ0§94/13, mb4.2/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.40**	**110**	*e*P	**Pn**	**01 22 20.0**	**-6.5**
DAV	**Davao City (W)**	**1.40**	**110**	*e*Pn	**Pn**	**01 22 20.6**	**-5.9**
BIPH	**Bislig**	**2.18**	**73**	*e*P	**Pn**	**01 22 36.8**	**+1.6**
BIPH				*e*S	**Sn**	**01 23 03.4**	**-0.5**
FITZ	**Fitzroy Crossi**	**25.53**	**177**	*e*P	**P**	**01 27 14.6**	**+2.0**
	3.3nm,0.4s,mb4.3						
WRAB	**Tennant Creek**	**29.07**	**160**	*e*P	**P**	**01 27 43.8**	**-0.4**
	1.3nm,0.4s,mb4.0						
WRA	**Warramunga Arr**	**29.07**	**160**	P	**P**	**01 27 43.3**	**-0.9**
	0.4nm,0.3s,mb3.6,baz=335,slow=10,SNR=4.6						
WRA	**Warramunga Arr**	**29.07**	**160**	P	**P**	**01 27 43.3**	**-0.9**
ASAR	**Alice Springs**	**32.43**	**163**	P	**P**	**01 28 13.8**	**+0.1**
	0.4nm,0.5s,mb3.4,baz=342,slow=7.4,SNR=9.0						
STKA	**Stephens Creek**	**42.56**	**158**	*e*P	**P**	**01 29 38.6**	**-0.3**
	2.8nm,0.9s,mb3.9						
STKA	**Stephens Creek**	**42.56**	**158**	P	**P**	**01 29 38.8**	**-0.2**
	2.1nm,0.7s,mb3.9,baz=346,slow=8.3,SNR=7.1						
TAU	**Tasmania Unive**	**54.44**	**159**	P	**P**	**01 31 08.8**	**-0.8**
	52nm,1.2s,mb5.1						
YAK	**Yakutsk**	**54.52**	**3**	*e*P	**P**	**01 31 09.8**	**-0.4**
	22nm,0.4s,mb5.2						

ISCJB ***13*** *01:23:15.4±0.6, 2425S±005×6694W±009, h177km±16km, mb3.0/1, Error ellipse: s-maj=14.1km s-min=7.1km az=18.9*
IDC ***13*** *01:23:15.9±1.0, 2421S×6693W, h168km±20km, mb3.0/1, mb1 3.3/6, mb1mx3.1/16, mbtmp3.7/6, Error ellipse: s-maj=24.5km s-min=14.2km az=79.0*
NEIC ***13*** *01:23:16.4±0.6, 2419S×6682W, h156km±30km, mb3.6/1, Error ellipse: s-maj=16.6km s-min=10.1km az=100.0*
GUC ***13*** *01:23:18.0±0.5, 2416S×6742W, h200km, ML4.0*

ISC 13 01:23:16.4±0.6, 2426S±004×6691W±009, h165km±17km, n15, σ1§08/25, mb3.0/1, 3C, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.46**	**311**	⇑*i*P	**Pn**	**01 23 59.0**	**+1.3**
LVC				*i* S	**Sn**	**01 24 29.9**	**+0.2**
LVC	**Limon Verde**	**2.46**	**311**	P	**Pn**	**01 23 59.0**	**+1.3**
	20nm,0.3s,baz=122,slow=9.7,SNR=358						
LVC				S	**Sn**	**01 24 29.4**	**-0.4**
	60nm,0.3s,baz=306,slow=21,SNR=66						
LVC	**Limon Verde**	**2.46**	**311**	*e*Pn	**Pn**	**01 23 58.8**	**+1.0**
LVC				*e*Sn	**Sn**	**01 24 29.5**	**-0.2**
CEN1	**Los Morros**	**3.13**	**285**	*e*P	**Pn**	**01 24 07.5**	**+1.6**
CEN1				*i* S	**Sn**	**01 24 44.3**	**-0.2**
CEN1				AML	AML	01 24 46.7	
	comp=N,311nm,0.4s						
CPN1	**Cerro Paranal**	**3.21**	**263**	⇑*i*P	**Pn**	**01 24 07.9**	**+1.1**
CPN1				AML	AML	01 24 46.8	
	comp=E,213nm,0.2s						
ANCH	**Antofagasta**	**3.25**	**279**	*e*P	**Pn**	**01 24 08.8**	**+1.3**
ANCH				*i* S	**Sn**	**01 24 45.9**	**-1.3**
CRCH	**Chaqaral**	**3.95**	**237**	*e*P	**Pn**	**01 24 17.2**	**+0.8**
CRCH				*i* S	**Sn**	**01 25 02.4**	**-0.7**
CDCH	**Caldera**	**4.51**	**231**	⇑*i*P	**Pn**	**01 24 23.6**	**0.0**
CDCH				*i* S	**Sn**	**01 25 14.1**	**-2.0**
CFAA	**Coronel Fontan**	**7.41**	**189**	P	**Pn**	**01 25 03.6**	**+1.7**
	comp=E,0.0nm,0.3s,baz=22,slow=12,SNR=8.1						
CFAA				S	**Sn**	**01 26 24.3**	**-0.6**
	comp=E,0.1nm,0.3s,baz=234,slow=19,SNR=6.4						
LPAZ	**La Paz**	**8.01**	**352**	P	**Pn**	**01 25 09.1**	**-0.7**
	comp=E,0.3nm,0.3s,baz=141,slow=9.6,SNR=9.4						
LPAZ				S	**Sn**	**01 26 31.5**	**-7.8**
	comp=E,0.1nm,0.3s,baz=197,slow=12,SNR=2.2						
LPAZ	**La Paz**	**8.01**	**352**	*e*Pn	**Pn**	**01 25 09.7**	**-0.1**
	comp=E,0.9nm,0.5s						
LPAZ				*e*Sn	**Sn**	**01 26 38.5**	**-0.8**
CPUP	**Villa Florida**	**8.91**	**105**	P	**Pn**	**01 25 21.3**	**-0.4**
	comp=E,0.2nm,0.3s,baz=294,slow=3.5,SNR=2.7						
SIV	**San Ignacio**	**9.88**	**35**	P	**Pn**	**01 25 32.5**	**-2.0**
	comp=E,0.3nm,0.3s,baz=218,slow=13,SNR=16						
BDFB	**Brasilia**	**19.70**	**68**	P	**P**	**01 27 33.6**	**+0.6**
	comp=E,0.6nm,0.3s,baz=241,slow=9.4,SNR=14						
TORD	**Torodi Ar. Bea**	**76.58**	**69**	P	**P**	**01 34 48.1**	**-0.5**
	comp=E,0.2nm,0.6s,mb3.0,baz=261,slow=6.2,SNR=9.2						

ISCJB ***13*** *01:24:48.8±0.7, 1094N±004×6198W±004, h79km±8km, Error ellipse: s-maj=7.0km s-min=4.9km az=109.6*
FUNV ***13*** *01:24:50.9, 1097N×6193W, h62km, MW3.0*
TRN ***13*** *01:24:51.8, 1115N×6183W, h17km, MD3.2*

ISC 13 01:24:50.1±0.7, 1096N±004×6198W±003, h70km±9km, n16, σ0§87/26, 2C, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.39**	**218**	*e*P	**Pn**	**01 25 01.7**	**-0.2**
GUIV				*e*S	**Sn**	**01 25 10.4**	**-0.2**
TRN	**Trinidad (W)**	**0.64**	**118**	⇑*e*P	**Pn**	**01 25 04.8**	**+0.4**
TRN				*e*S	**Sn**	**01 25 14.4**	**-0.5**
TPP	**Pointe-a-Pierr**	**0.82**	**141**	*e*P	**Pn**	**01 25 09.4**	**+3.1**
TBH	**Brigand Hill**	**1.01**	**118**	*e*P	**Pn**	**01 25 11.9**	**+3.2**
ITEV	**Isla Los Testi**	**1.20**	**289**	*e*S	**Sn**	**01 25 27.1**	**+0.3**
TPR	**Prospect**	**1.20**	**79**	*e*P	**Pn**	**01 25 10.4**	**-0.7**
TPR				*e*S	**Sn**	**01 25 26.4**	**-0.5**
GUNV	**Guanoco**	**1.23**	**230**	*e*P	**Pn**	**01 25 12.6**	**+1.0**
GUNV				*e*S	**Sn**	**01 25 28.5**	**+0.9**
GRW	**Mount Saint Ca**	**1.24**	**15**	⇑*i*P	**Pn**	**01 25 11.0**	**-0.6**
GRW				*e*S	**Sn**	**01 25 26.9**	**-0.8**
BOT	**Bacolet**	**1.25**	**80**	*e*P	**Pn**	**01 25 11.8**	**0.0**
CRUV	**Carupano**	**1.27**	**257**	*e*P	**Pn**	**01 25 12.3**	**+0.3**
CRUV				*e*S	**Sn**	**01 25 28.3**	**-0.1**
SVB	**Belmont**	**2.41**	**17**	*e*P	**Pn**	**01 25 28.1**	**+0.9**
SVB				*e*S	**Sn**	**01 25 56.6**	**+0.8**
SSV	**Crater Summit**	**2.48**	**18**	*e*P	**Pn**	**01 25 27.7**	**-0.5**
IBAV	**Isla La Blanqu**	**2.69**	**289**	*e*P	**Pn**	**01 25 31.4**	**+0.4**
IBAV				*e*S	**Sn**	**01 26 01.8**	**-0.8**
GURV	**El Guri**	**3.36**	**199**	*e*P	**Pn**	**01 25 40.5**	**+0.4**
GURV				*e*S	**Sn**	**01 26 16.8**	**-2.0**
CAOV	**Caicara del Or**	**5.60**	**230**	*e*P	**Pn**	**01 26 10.3**	**-0.5**
CAOV				*e*S	**Sn**	**01 27 09.1**	**-4.7**
BAUV	**El Baul**	**6.30**	**252**	*e*P	**Pn**	**01 26 19.9**	**-0.4**

MAN 13 02:02:38.7, 1136N×12678E, h13km, mb2.7, ML4.2, MS7.6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**1.78**	**264**	*e*P	Pn	02 03 09.2	+0.1
PLP				*e*S	Sn	02 03 19.6	-12
SCPH	**Surigao**	**2.02**	**219**	*e*P	Pn	02 03 12.4	-0.1

ISCJB ***13*** *02:18:20.8±4.0, 1175S±02×1158E±02, h18km±31km, mb4.5/11, MS3.0/1, Error ellipse: s-maj=44.4km s-min=10.2km az=87.3*
IDC ***13*** *02:18:22.0±1.1, 1121S×11608E, h0km, mb4.0/6, mb1 4.0/7, mb1mx3.9/15, mbtmp3.9/7, ML3.8/1, MS2.9/2, Ms1 2.9/2, ms1mx2.5/22, Error ellipse: s-maj=54.5km s-min=17.7km az=59.0*
NEIC ***13*** *02:18:25.7±7.3, 1125S×11605E, h25km±55km, mb4.2/3, Error ellipse: s-maj=24.0km s-min=11.0km az=225.0*

ISC 13 02:18:26.3±1.9, 118S±02×1159E±02, h49km±23km, n20, σ1§05/24, mb4.5/11, MS3.0/1, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**10.03**	**159**	*e*Pn	**Pn**	**02 20 47.5**	**-0.1**
MBWA				*e*Sn	**Sn**	**02 22 33.2**	**-5.5**
FITZ	**Fitzroy Crossi**	**11.32**	**125**	Pn	**Pn**	**02 21 04.1**	**-1.1**
	0.6nm,0.3s,baz=312,slow=11,SNR=15						
FITZ				Sn	**Sn**	**02 23 03.2**	**-7.0**
	0.5nm,0.3s,baz=193,slow=23,SNR=9.8						
FITZ				LR	LR	02 24 57.7	
	comp=Z,37nm,19.8s,baz=275,slow=34						
WRA	**Warramunga Arr**	**19.50**	**117**	P	**Pn**	**02 22 52.0**	**+1.2**
	0.3nm,0.3s,baz=294,slow=12,SNR=7.3						
WRA				S	**S**	**02 26 17.0**	**-10**
	0.2nm,0.3s,baz=26,slow=29,SNR=3.7						
WRAB	**Tennant Creek**	**19.50**	**117**	*e*P	**Pn**	**02 22 52.6**	**+1.7**
	6.4nm,0.9s						
ASAR	**Alice Springs**	**20.80**	**127**	P	**P**	**02 23 08.3**	**+5.0**
	1.0nm,0.6s,baz=302,slow=10,SNR=14						
ASAR				S	**S**	**02 26 51.0**	**-1.8**
	1.6nm,1.0s,baz=293,slow=23,SNR=5.6						
ASAR	**Alice Springs**	**20.80**	**127**	P	**P**	**02 23 08.3**	**+5.0**
ASAR				S	**S**	**02 26 51.0**	**-1.8**
NWAO	**Narrogin (SRO)**	**21.09**	**177**	P	**P**	**02 23 13.7**	**+7.2**
	3.0nm,0.5s,mb3.9,baz=350,slow=18,SNR=3.2						
PSI	**Prapat**	**22.24**	**310**	LR	LR	02 33 30.0	
	comp=Z,47nm,18.0s,MS3.0,baz=190,slow=41						
KULM	**Kulim**	**22.75**	**317**	*e*P	**P**	**02 23 23.2**	**-0.9**
STKA	**Stephens Creek**	**30.99**	**134**	P	**P**	**02 24 43.1**	**+4.3**
	2.2nm,0.9s,mb4.0,baz=304,slow=7.3,SNR=4.0						
JIRN	**Jiri**	**48.64**	**324**	*e*P	**P**	**02 27 06.3**	**+1.1**
	18nm,0.6s,mb5.3						
GUN	**Gumba**	**49.01**	**324**	*e*P	**P**	**02 27 09.2**	**+1.2**
	20nm,0.5s,mb5.4						
PKI	**Pulchoki**	**49.03**	**323**	*e*P	**P**	**02 27 07.9**	**-0.2**
DMN	**Daman**	**49.23**	**323**	*e*P	**P**	**02 27 09.9**	**+0.2**
	18nm,0.7s,mb5.2						
KOLN	**Koldanda**	**50.25**	**322**	*e*P	**P**	**02 27 16.3**	**-1.1**
	12nm,0.4s,mb5.3						
SONM	**Songino Array**	**59.94**	**353**	P	**P**	**02 28 25.4**	**-1.9**
	1.0nm,0.7s,mb3.9,baz=168,slow=8.9,SNR=8.3						
MKAR	**Makanchi Array**	**65.61**	**335**	P	**P**	**02 29 05.7**	**+0.6**
	3.3nm,0.6s,mb4.5,baz=148,slow=7.5,SNR=21						
AAK	**Ala-Archa**	**66.10**	**328**	*e*P	**P**	**02 29 08.8**	**+0.6**
	1.4nm,0.7s,mb4.1						
ZAL	**Zalesovo**	**70.60**	**341**	P	**P**	**02 29 35.9**	**-0.4**
	1.0nm,0.5s,mb4.0,baz=329,slow=3.3,SNR=6.3						
ZRNK	**Zerenda**	**75.91**	**333**	*e*P	**P**	**02 30 08.0**	**+0.3**
	2.0nm,0.6s,mb4.2						

SKHL 13 02:31:56.0±0.2, 5409N×12747E, h10km±1km, mb3.9/4, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZEA	**Zeya**	**0.38**	**200**	*i* Pg	Pg	02 32 02.3	-1.1
ZEA				*i* Sg	Sg	02 32 07.0	-1.4
ZEA				A		02 32 07.1	
	2μm,0.4s						
ZEA				A		02 32 07.1	
	510nm,0.4s						
KROS	**Kirovskiy**	**0.45**	**320**	*i* Pg	Pg	02 32 04.0	-0.8
KROS				AMB	AMB	02 32 04.6	
	160nm,0.4s						
KROS				pPg		02 32 06.6	
KROS				*i* Sg	Sg	02 32 09.7	-1.1
KROS				A		02 32 10.5	
	280nm,0.4s						
KROS				A		02 32 10.5	
	420nm,0.4s						
YASR	**Yasnyy**	**0.86**	**159**	*e*Pg	Pg	02 32 11.5	-1.0
YASR				AMB	AMB	02 32 13.2	
	19nm,0.2s						
YASR				AMB	AMB	02 32 13.2	
	18nm,0.2s						
YASR				AMB	AMB	02 32 13.2	
	60nm,0.2s						
YASR				pPg		02 32 14.5	
YASR				*e*Sg	Sg	02 32 22.5	-1.2
YASR				A		02 32 29.6	
	120nm,0.3s						
YASR				A		02 32 29.6	
	60nm,0.3s						
YASR				A		02 32 29.6	
	40nm,0.3s						
BMKR	**Bomnak**	**1.01**	**52**	*e*Pg	Pg	02 32 14.4	-1.1
BMKR				pPg		02 32 16.6	
BMKR				*e*Sg	Sg	02 32 27.9	-0.8
BMKR				A		02 32 32.5	
	220nm,0.4s						
BMKR				A		02 32 32.5	
	150nm,0.4s						
EKMR	**Ekimchan**	**3.42**	**105**	*e*Pn	Pn	02 32 50.0	+0.6
EKMR				sPn		02 32 54.1	
EKMR				*e*Pg	Pg	02 32 57.0	-4.6
EKMR				AMB	AMB	02 32 58.8	
	6.0nm,0.2s						
EKMR				*e*Sg	Sg	02 33 41.5	-4.4
EKMR				A		02 33 47.0	
	31nm,0.5s						
EKMR				A		02 33 47.0	
	19nm,0.5s						
EKMR				A		02 33 47.0	
	12nm,0.5s						
TUP	**Tupik**	**4.42**	**277**	*e*Pn	Pn	02 33 06.0	+2.9
TUP				*e*Pg	Pg	02 33 17.7	-3.0
TUP				AMB	AMB	02 33 27.7	
	4.0nm,0.4s						
TUP				*e*Sg	Sg	02 34 14.3	-3.6
TUP				A		02 34 17.9	
	36nm,0.7s						

MAN 13 02:47:20.9, 1154N×12543E, h17km, mb2.7, ML4.2, MS3.5, Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**0.58**	**230**	*i* P	Pg	02 47 33.0	+0.7
PLP				*e*S	Sg	02 47 43.6	+3.5
SCPH	**Surigao**	**1.75**	**178**	*e*P	Pn	02 47 49.4	-1.0
SCPH				*i* S	Sn	02 48 13.3	+1.1

LDG ***13*** *02:58:08.1±0.3, 4476N×761E, h6km, Md2.1/2, Ml2.1/7, Error ellipse: s-maj=5.0km s-min=2.3km az=72.0*
ISCJB ***13*** *02:58:09.4±0.5, 4473N±002×749E±005, h23km±5km, Error ellipse: s-maj=5.9km s-min=3.7km az=145.5*
ROM ***13*** *02:58:09.6±0.3, 4472N×752E, h10km, Md2.0/3, Ml1.1/2, Error ellipse: s-maj=4.6km s-min=2.8km az=50.0*
STR ***13*** *02:58:11.5±0.7, 4462N×769E, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 13 02:58:09.4±0.5, 4474N±002×751E±005, h22km±5km, n19, σ0§79/35, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DOI	**San Damiano**	**0.30**	**219**	Pg	**Pb**	**02 58 16.1**	**-0.1**
DOI				Sg	**Sb**	**02 58 20.8**	**0.0**
	25nm,0.2s						
MONC	**Moncucco Torin**	**0.45**	**41**	Pg	**Pb**	**02 58 19.5**	**+0.8**
MONC				Sg	**Sb**	**02 58 24.9**	**-0.1**
	10.0nm,0.6s						
MBDF	**Montbardon**	**0.53**	**269**	*e*Pg	**Pb**	**02 58 20.0**	**0.0**
MBDF				*e*Sg	**Sb**	**02 58 27.8**	**+0.6**
	7.5nm,0.2s						
FIN	**Finale Ligure**	**0.72**	**136**	Pg	**Pb**	**02 58 23.6**	**+0.3**
FIN				Sg	**Sb**	**02 58 33.0**	**+0.1**
	1.0nm,0.1s						
AUTN	**L'Aution**	**0.74**	**185**	Pg	**Pb**	**02 58 23.3**	**-0.3**
AUTN				Sg	**Sb**	**02 58 32.6**	**-0.7**
SAOF	**Saorge**	**0.75**	**178**	Pg	**Pb**	**02 58 23.2**	**-0.6**
SAOF				Sg	**Sb**	**02 58 32.9**	**-0.6**
SBF	**Sospel**	**0.87**	**184**	*e*Pg	**Pb**	**02 58 25.1**	**-0.8**
SBF				*e*Sg	**Sb**	**02 58 36.2**	**-0.9**
	12nm,0.3s						
MVIF	**Mont Vial**	**0.88**	**197**	Pg	**Pb**	**02 58 27.2**	**+1.3**
LPG	**La Plagne**	**0.93**	**325**	*e*Pg	**Pb**	**02 58 26.4**	**-0.5**
LPG				*e*Sg	**Sb**	**02 58 37.7**	**-1.1**
	5.3nm,0.3s						
LPL	**La Plagne**	**0.96**	**325**	*e*Pg	**Pb**	**02 58 27.0**	**-0.3**
LPL				*e*Sg	**Sb**	**02 58 38.6**	**-0.9**
	5.3nm,0.3s						
REVF	**Revere**	**1.00**	**186**	Pg	**Pb**	**02 58 29.1**	**+1.1**
REVF				Sg	**Sb**	**02 58 41.1**	**+0.3**
ORIF	**Oris-en-Rattie**	**1.18**	**280**	*e*Pg	**Pb**	**02 58 32.0**	**+1.5**
ORIF				*e*Sg	**Sb**	**02 58 47.1**	**+1.3**
	4.3nm,0.4s						
FRF	**La Foret Royal**	**1.33**	**208**	*e*Pn	**Pn**	**02 58 32.5**	**-0.1**
FRF				*e*Sn	**Sn**	**02 58 49.5**	**-0.1**
	5.5nm,0.2s						
LMR	**La Mourre**	**1.58**	**208**	*e*Pn	**Pn**	**02 58 35.6**	**-0.4**
LMR	**La Mourre**	**1.58**	**208**	*e*Pg	**Pn**	**02 58 38.1**	**+2.1**
LMR				*e*Sn	**Sn**	**02 58 55.1**	**-0.6**
	3.4nm,0.3s						
SMRF	**Simiane la Rot**	**1.58**	**242**	*e*Pn	**Pn**	**02 58 36.8**	**+0.7**
SMRF				*e*Sn	**Sn**	**02 58 57.2**	**+1.4**
SMRF				*e*Sg	**Sn**	**02 59 01.1**	**+5.3**
	1.9nm,0.3s						
VIVF	**Saint-Julien-l**	**2.02**	**274**	*e*Pn	**Pn**	**02 58 42.4**	**+0.3**
VIVF	**Saint-Julien-l**	**2.02**	**274**	*e*Pg	**Pn**	**02 58 46.6**	**+4.5**
VIVF				*e*Sn	**Sn**	**02 59 06.0**	**-0.7**
LASF	**Ste Croix**	**2.70**	**257**	*e*Sn	**Sn**	**02 59 22.1**	**-1.3**

ATH ***13*** *02:59:33.8, 3634N×2809E, h35km, MD3.2/3*
ISCJB ***13*** *02:59:35.6±0.9, 3625N±005×2789E±007, h19km±10km, Error ellipse: s-maj=10.5km s-min=7.1km az=96.0*
ISK ***13*** *02:59:35.5, 3628N×2793E, h32km, MD3.1*
CSEM ***13*** *02:59:35.2±0.1, 3636N×2793E, h20km, MD3.1, Error ellipse: s-maj=3.7km s-min=2.8km az=38.0*

ISC 13 02:59:35.2±1.0, 3626N±005×2785E±006, h7km±8km, n11, σ1§10/17, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.23**	**102**	*e*PB	**Pg**	**02 59 40.6**	**+0.9**
ARG				*e*SB	**Sg**	**02 59 44.9**	**+2.1**
DALT	**Dalyan (Mudla)**	**0.81**	**51**	*e*PG	**Pg**	**02 59 49.2**	**-1.6**
DALT				*e*SG	**Sg**	**03 00 00.7**	**-0.6**
BDRM	**Kayabasi**	**0.86**	**338**	*i* P	**Pg**	**02 59 51.7**	**-0.1**
BDRM				*i* S	**Sg**	**03 00 04.2**	**+1.2**
BODT	**Bodrum**	**0.91**	**332**	*e*PG	**Pg**	**02 59 52.4**	**-0.2**
BODT				*e*SG	**Sg**	**03 00 05.1**	**+0.7**
KARP	**Karpathos**	**0.91**	**218**	*e*PN	**Pn**	**02 59 54.3**	**-0.1**
YER	**Yerkesik**	**0.94**	**22**	*e*PG	**Pg**	**02 59 52.7**	**-0.5**
MLSB	**Milas**	**1.03**	**357**	*e*PG	**Pg**	**02 59 53.9**	**-1.1**
FETY	**Fethiye**	**1.06**	**69**	*e*PG	**Pg**	**02 59 54.1**	**-1.5**
AYDN	**Tasoluk**	**1.40**	**1**	*i* P	**Pn**	**03 00 01.0**	**-0.1**
AYDN				*i* S	**Sb**	**03 00 20.8**	**+1.2**
SMG	**Samos**	**1.66**	**331**	*e*PN	**Pn**	**03 00 02.9**	**-1.7**
MANT	**Manisa**	**2.29**	**14**	*i* P	**Pn**	**03 00 14.9**	**+1.5**
MANT				*i* S	**Sn**	**03 00 47.5**	**+5.6**

SKHL 13 03:06:06.1±0.2, 5367N×12469E, h9km±2km, mb3.6/4, 1D, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZEA	**Zeya**	**1.52**	**86**	*e*Pg	Pg	03 06 34.6	-0.7
ZEA				*e*Sg	Sg	03 06 55.0	-0.1
ZEA				A		03 06 56.9	
	170nm,0.5s						
ZEA				A		03 06 56.9	
	160nm,0.5s						
ZEA				A		03 06 56.9	
	48nm,0.5s						
KROS	**Kirovskiy**	**1.55**	**59**	⇓*i* Pg	Pg	03 06 34.4	-1.4
KROS				AMB	AMB	03 06 35.4	
	48nm,0.4s						
KROS				pPg		03 06 37.0	
KROS				*e*Sg	Sg	03 06 55.0	-0.8
KROS				A		03 06 57.8	
	150nm,0.5s						
KROS				A		03 06 57.8	
	130nm,0.5s						
KROS				A		03 06 57.8	
	53nm,0.5s						
YASR	**Yasnyy**	**2.00**	**100**	*e*Pn	Pn	03 06 41.9	+1.8
YASR				*e*Pg	Pg	03 06 42.6	-1.9
YASR				AMB	AMB	03 06 43.2	
	5.0nm,0.4s						
YASR				AMB	AMB	03 06 43.2	
	10.0nm,0.4s						
YASR				AMB	AMB	03 06 43.2	
	15nm,0.4s						
YASR				pPg		03 06 45.8	
YASR				*e*Sg	Sg	03 07 08.8	-1.7
YASR				A		03 07 12.6	
	43nm,0.6s						
YASR				A		03 07 12.6	
	60nm,0.6s						
YASR				A		03 07 12.6	
	14nm,0.6s						
BMKR	**Bomnak**	**2.65**	**65**	*e*Pn	Pn	03 06 48.4	-0.6
BMKR				*e*Pg	Pg	03 06 53.5	-3.4
BMKR				AMB	AMB	03 06 54.2	
	16nm,0.4s						
BMKR				*e*Sg	Sg	03 07 28.0	-3.3
BMKR				A		03 07 29.4	
	22nm,0.5s						
TUP	**Tupik**	**2.89**	**287**	*e*Pn	Pn	03 06 54.9	+2.6

0.5nm,0.3s,baz=332,slow=21,SNR=6.2
WB2 Warramunga Arr 14.53 154 ↓ *i*P P **03 10 14.3 +0.1**
WB2 *e*S S **03 12 46.6 -1.6**
MBWA Marble Bar 16.02 207 *e*P P **03 10 30.3 +0.2**
3.7nm,0.5s
ASAR Alice Springs 17.73 160 P P **03 10 48.9 +0.8**
5.3nm,0.3s,baz=348,slow=12,SNR=325
ASAR S S **03 13 51.3 +1.2**
0.3nm,0.3s,baz=346,slow=20,SNR=11
ASAR ScP ScP 03 17 59.0 +4.3
baz=337,slow=1.4,SNR=4.5
PMG Port Moresby 19.60 99 P P **03 11 07.2 +1.0**
1.3nm,0.3s,baz=304,slow=11,SNR=4.0
PMG Port Moresby 19.60 99 *e*P P **03 11 06.9 +0.6**
8.0nm,0.6s
CTA Charters Tower 22.39 128 P P **03 11 34.3 +2.7**
5.8nm,0.7s,mb4.1,baz=321,slow=11,SNR=5.1
CTAO Charters Tower 22.39 128 *e*P P **03 11 34.4 +2.8**
34nm,1.4s,mb4.6
STKA Stephens Creek 28.08 154 *e*P P **03 12 21.8 -0.4**
7.7nm,0.4s,mb4.4
STKA Stephens Creek 28.08 154 P P **03 12 21.9 -0.3**
9.9nm,0.4s,mb4.5,baz=330,slow=8.9,SNR=48
STKA Stephens Creek 28.08 154 *e*P P **03 12 21.6 -0.6**
HYB Hyderabad 54.08 297 *i* P P **03 15 51.5 +1.6**
SONM Songino Array 57.63 343 P P **03 16 14.6 -0.1**
0.4nm,0.5s,mb3.0,baz=165,slow=8.2,SNR=6.2
MKAR Makanchi Array 66.84 328 P P **03 17 14.4 -0.4**
1.0nm,0.4s,mb3.8,baz=120,slow=7.9,SNR=15
KURK Kurchatov 71.19 330 *e*P P **03 17 40.0 -1.2**
5.1nm,1.0s,mb4.0
ZRNK Zerenda 77.39 328 *e*P P **03 18 15.4 -1.1**
1.4nm,0.7s,mb3.7

SZGRF ***13*** *03:11:27.4, 4.69N×95.14E, h36km, mb6.1, MS4.9, Northern Sumatera, Indonesia*
MOS ***13*** *03:11:40.3±0.9, 5.62N×94.46E, h33km, mb6.2/135, MS5.0/41, Error ellipse: s-maj=7.1km s-min=3.2km az=124.9*
BJI ***13*** *03:11:40.9, 5.37N×94.33E, h55km, mB5.7, mb6.1, Ms5.5, Msz5.3*
CRAAG ***13*** *03:11:41.0, 5.58N×94.45E, Mb5.8*
NEIC ***13*** *03:11:41.6±0.1, 5.52N×94.43E, h34km, mb6.0/191, ME6.0, MS4.9/18, MW5.6, Error ellipse: s-maj=3.5km s-min=2.0km az=211.0, Moment Tensor Solution. s30 Moment tensor: Scale 10^{17}Nm; M_r1.78; $M_{\theta\theta}$-0.89; $M_{\phi\phi}$-0.89; $M_{r\theta}$1.56; $M_{\theta\phi}$0.66; $M_{\phi r}$-1.52; Best double couple: M_o2.70000×10^{17} NP1:ϕs315.00000°,δ19.00000°,λ91.00000°. Principal axes: T 2.8600, Plg64.0000°, Azm44.0000°; N -0.2300, Plg0.0000°, Azm134.0000°; P -2.6300, Plg26.0000°, Azm225.0000°; Broadband fault plane solution: P waves. NP1:ϕs14.00000°,δ36.00000°,λ144.00000°. NP2: ϕs135.00000°,δ70.00000°,λ60.00000°. Principal axes: T Plg55.0000°, Azm7.0000°; N Plg0.0000°, Azm0.0000°; P Plg19.0000°, Azm247.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] at Banda Aceh.
ISCJB ***13*** *03:11:41.4±0.1, 5.52N±.002×94.45E±.002, h45km, mb6.0/346, MS5.1/83 Error ellipse: s-maj=3.3km s-min=2.3km az=35.0*
HRVD ***13*** *03:11:42.9±0.1, 5.33N×94.30E, h43km, MW5.7/108, Centroid moment Tensor Solution. LP body waves: s95,c177;Mantle waves: s108,c258; Half duration: 1s6 Moment tensor: Scale 10^{17}Nm; M_r3.01±.05; $M_{\theta\theta}$-1.22±.03; $M_{\phi\phi}$-1.78±.04; $M_{r\theta}$1.47±.04; $M_{\theta\phi}$1.80±.03; $M_{\phi r}$-1.66±.05; Best double couple: M_o3.86500×10^{17} NP1:ϕs320.00000°,δ28.00000°,λ91.00000°. NP2: ϕs139.00000°,δ63.00000°,λ89.00000°. Principal axes: T 3.7090, Plg72.0000°, Azm47.0000°; N 0.3210, Plg1.0000°, Azm139.0000°; P -4.0210, Plg18.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
BGS ***13*** *03:11:42.9, 5.51N×94.44E, h45km, mb5.6*
IDC ***13*** *03:11:43.9±0.5, 5.54N×94.57E, h58km±3km, mb5.3/29, mb1 5.4/30, mb1mx5.4/30, mbtmp5.6/30, MS5.1/19, Ms1 5.1/19, ms1mx5.0/22, Error ellipse: s-maj=8.4km s-min=5.1km az=41.0*
ISC 13 03:11:43.6±0.1, 554N±002×9444E±002, h47km, h47km±1.7km; pP-P, n1290, σ0s93/1144, mb6.0/346, MS5.1/83, 423C-37D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
PKT	**Phuket**	**4.50**	**56**	P	**Pn**	**03 12 53.0**	**+3.9**
PSI	**Prapat**	**5.23**	**121**	P	**Pn**	**03 13 00.4**	**+1.2**
	88nm,0.3s,baz=297,slow=11,SNR=276						
PSI				S	**Sn**	**03 13 56.6**	**-1.6**
	58nm,0.3s,baz=53,slow=0.6,SNR=6.8						
PSI				LR	LR	03 15 19.5	
	comp=Z,24μm,18.7s,baz=290,slow=42						
PSI				ScS	ScS	03 27 08.7	-0.8
	0.3nm,0.3s,baz=60,slow=23,SNR=14						
PSI	**Prapat**	**5.23**	**121**	P	**Pn**	**03 13 00.4**	**+1.2**
PSI				S	**Sn**	**03 13 56.7**	**-1.5**
PSI				pmax	pmax		
	comp=Z,88nm,0.3s						
PSI				smax			
	comp=N,59nm,0.3s						
PSI				MLR	MLR		
	comp=Z,24μm,18.7s						
KULM	**Kulim**	**6.18**	**92**	↓ *i*Pn	**Pn**	**03 13 12.7**	**+0.4**
KULM				*e*Sn	**Sn**	**03 14 21.4**	**-0.3**
SNG	**Songkhla**	**6.35**	**75**	P	**Pn**	**03 13 13.0**	**-1.6**
	comp=Z,802nm,1.0s						
IPM	**Ipoh**	**6.64**	**99**	P	**Pn**	**03 13 19.5**	**+0.9**
NNT	**Nongplab**	**8.74**	**36**	P	**Pn**	**03 13 50.5**	**+3.2**
KGM	**Kluang**	**9.52**	**111**	P	**Pn**	**03 13 59.1**	**+1.1**
NST	**Nakhon Sawan**	**11.52**	**29**	P	**Pn**	**03 14 28.3**	**+3.0**
	comp=Z,272nm,0.5s						
PALK	**Pallekele**	**13.76**	**278**	Pn	**Pn**	**03 14 56.2**	**+0.2**
	comp=Z,703nm,0.8s,SNR=18						
PALK	**Pallekele**	**13.76**	**278**	↓ *i*Pn	**Pn**	**03 14 54.8**	**-1.1**
	comp=Z,87nm,0.6s						
PALK				*e*Sn	**Sn**	**03 17 13.1**	**-14**
CHG	**Chiang Mai**	**13.91**	**18**	↑P	**Pn**	**03 15 00.0**	**+2.1**
	comp=Z,150nm,1.5s						
CHTO	**Chiang Mai**	**13.91**	**18**	*e*P	**Pn**	**03 14 59.7**	**+1.8**
CHTO				pmax	pmax		
	comp=Z,740nm,0.8s						
CHTO	**Chiang Mai**	**13.91**	**18**	*e*Pn	**Pn**	**03 14 59.7**	**+1.8**
	comp=Z,752nm,0.8s						
CHTO				*e*pP		03 15 06.9	
NANT	**Nan**	**14.53**	**24**	↑↑P	**Pn**	**03 15 10.0**	**+3.8**
	comp=Z,2μm,0.5s						
CHRT	**Chiangrai**	**15.16**	**20**	↑P	**Pn**	**03 15 17.0**	**+2.4**
	comp=Z,3μm,0.8s						
MDRS	**Chennai**	**15.87**	**299**	*e*P	**Pn**	**03 15 22.6**	**-1.1**
VIS	**Vishakhapatnam**	**16.27**	**319**	*e*P	**Pn**	**03 15 27.5**	**-1.2**
VIS				AMb	AMB	03 15 47.6	
	comp=Z,498nm,1.4s						
VIS				*e*S	S	03 18 17.4	-22
KSM	**Kuching**	**16.34**	**104**	*e*P	**Pn**	**03 15 29.2**	**-0.4**
VJD	**Vijayawada**	**17.37**	**310**	*e*P	**Pn**	**03 15 43.0**	**+0.5**
VJD				*ex*	x	03 18 40.0	
TRD	**Trivandrum**	**17.60**	**281**	*e*P	**Pn**	**03 15 45.5**	**+0.2**
TRD				AMb	AMB	03 15 49.9	
	comp=Z,488nm,1.7s						
COCO	**West Island**	**17.77**	**172**	Pn	**Pn**	**03 15 46.0**	**-1.4**
	comp=Z,4μm,1.0s,SNR=14						
COCO	**West Island**	**17.77**	**172**	↓ *i*P	**Pn**	**03 15 45.0**	**-2.5**
	comp=Z,1μm,1.2s						
COCO				*e*pP	pP	03 15 50.2	-8.5
CAL	**Calcutta**	**17.90**	**341**	↑ *i*P	**Pn**	**03 15 47.4**	**-1.7**
CAL				AMP		03 15 49.9	
	comp=Z,383nm,0.3s						
CAL				*ex*	x	03 19 14.3	
IMP	**Imphal**	**19.14**	**359**	*ex*	x	03 16 24.0	
IMP				*i* S	**S**	**03 19 32.0**	**-5.3**
HYB	**Hyderabad**	**19.52**	**309**	↑ *i*P	**Pn**	**03 16 08.5**	**0.0**
	comp=Z,260nm,1.0s						
HYB				*e*sP	sP	03 16 21.0	-2.9
HYB				*e*PP		03 16 26.5	
HYB				*e*		03 19 26.0	
HYB				*e*S	**S**	**03 19 41.0**	**-3.8**
HYB				*e*SS		03 20 08.0	
HYB				LR	LR	03 22 04.0	
	comp=Z,7.1nm,20.0s						
HYB				*e*PcS	PcS	03 24 10.5	+7.4
HYB				*e*ScS	ScS	03 27 38.0	-2.0
HYB	**Hyderabad**	**19.52**	**309**	*e*P	**Pn**	**03 16 08.5**	**0.0**
HYB				*e*S	**S**	**03 19 44.0**	**-0.8**
HYB				pmax	pmax		
	comp=Z,260nm,1.0s						
HYB	**Hyderabad**	**19.52**	**309**	*e*P	**Pn**	**03 16 08.5**	**0.0**
	comp=Z,260nm,1.0s						
HYB				*e*S	**S**	**03 19 44.0**	**-0.8**
BOK	**Bokaro**	**19.93**	**336**	*e*P	**Pn**	**03 16 11.8**	**-1.6**
BOK				AMb	AMB	03 16 15.9	
	comp=Z,1μm,1.6s						
BOK				*e*S	**S**	**03 19 47.0**	**-6.1**
SHL	**Shillong**	**20.07**	**353**	*e*P	**P**	**03 16 13.5**	**+0.6**
SHL				*ex*	x	03 19 49.0	
QIZ	**Qiongzhong**	**20.13**	**47**	P	**P**	**03 16 15.9**	**+2.4**
QIZ				AP		03 16 24.4	
QIZ				XP	sP	03 16 29.5	-1.1
QIZ				S	**S**	**03 19 57.1**	**+0.1**
QIZ				XS	sS	03 20 08.3	-6.5
QIZ				AMB	AMB		
	comp=Z,679nm,1.1s						
QIZ				AMB	AMB		
	comp=Z,2μm,3.2s						
QIZ				LR	LR		
	comp=N,10μm,18.7s,MS5.3						
QIZ				LR	LR		
	comp=E,8μm,18.4s,MS5.3						
QIZ				LR	LR		
	comp=Z,13μm,19.7s,MS5.3						
QIZ	**Qiongzhong**	**20.13**	**47**	⇑ *i*P	**P**	**03 16 15.8**	**+2.3**
	comp=Z,641nm,1.0s						
MNGI	**Mangalore**	**20.70**	**292**	*e*P	**P**	**03 16 22.0**	**+2.2**
MNGI				AMb	AMB	03 16 43.4	
	comp=Z,876nm,1.1s						
KMI	**Kunming**	**21.04**	**21**	⇑P	**P**	**03 16 26.3**	**+2.9**
KMI				AP		03 16 38.0	
KMI				XP	sP	03 16 43.8	+3.4
KMI				PP		03 16 51.0	
KMI				PPP		03 17 00.6	
KMI				S	**S**	**03 20 14.3**	**-0.6**
KMI				PCP	PcP	03 20 30.9	+2.2
KMI				XS	sS	03 20 33.5	+0.5
KMI				SS		03 20 49.8	
KMI				SSS		03 21 04.5	
KMI				SCP	ScP	03 24 02.5	+0.9
KMI				PCS	PcS	03 24 07.8	+1.1
KMI				AMB	AMB		
	comp=Z,643nm,1.1s,mb5.9						
KMI				AMB	AMB		
	comp=Z,2μm,3.1s						
KMI				LR	LR		
	comp=N,6μm,19.0s,MS5.2						
KMI				LR	LR		
	comp=E,6μm,17.5s,MS5.2						
KMI				LR	LR		
	comp=Z,7μm,24.8s						
NGP	**Nagpur**	**21.53**	**318**	*e*P	**P**	**03 16 30.5**	**+1.8**
NGP				AMb	AMB	03 16 47.3	
	comp=Z,724nm,1.0s,mb6.1						
LATR	**Latur**	**21.64**	**308**	*e*P	**P**	**03 16 31.0**	**+1.1**
KKM	**Kota Kinabalu**	**21.67**	**88**	P	**P**	**03 16 31.5**	**+1.3**
KKM	**Kota Kinabalu**	**21.67**	**88**	↑ *i*P	**P**	**03 16 30.4**	**+0.2**
KKM				*e*ScP	ScP	03 24 02.7	-0.4
GTK	**Gangtok**	**22.37**	**346**	*ex*	x	03 17 00.0	
JBP	**Jabalpur**	**22.40**	**323**	*e*P	**P**	**03 16 38.8**	**+0.9**
JBP				*e*S	**S**	**03 20 39.4**	**-2.0**
GOA	**Goa**	**22.53**	**298**	*i* P	**P**	**03 16 41.0**	**+1.7**
GOA				*ex*	x	03 20 54.0	
JIRN	**Jiri**	**23.36**	**341**	*e*P	**P**	**03 16 46.8**	**-1.1**
	comp=Z,1μm,0.8s,mb6.3						
TSM	**Tawau**	**23.38**	**92**	P	**P**	**03 16 47.5**	**-0.6**
PKI	**Pulchoki**	**23.54**	**340**	*e*P	**P**	**03 16 48.7**	**-0.9**
	comp=Z,1μm,1.2s,mb6.1						
DMN	**Daman**	**23.68**	**339**	*e*P	**P**	**03 16 50.2**	**-0.7**
	comp=Z,539nm,0.7s,mb6.1						
GUN	**Gumba**	**23.69**	**341**	*e*P	**P**	**03 16 50.2**	**-0.8**
	comp=Z,2μm,1.3s,mb6.4						
KKN	**Kakani**	**23.78**	**340**	*e*P	**P**	**03 16 51.0**	**-0.8**
	comp=Z,2μm,1.4s,mb6.4						
GYA	**Guiyang**	**23.85**	**28**	↑ *i*P	**P**	**03 16 53.3**	**+0.8**
GYA				AP		03 17 04.6	
GYA				XP	sP	03 17 10.3	0.0
GYA				PP		03 17 25.9	
GYA				PCP	PcP	03 20 35.8	+1.4
GYA				S	**S**	**03 21 04.9**	**-0.2**
GYA				SCP	ScP	03 24 09.9	+1.1
GYA				PCS	PcS	03 24 14.1	+0.1
GYA				SCS	ScS	03 27 55.6	-0.2
GYA				AMB	AMB		
	comp=Z,170nm,1.0s,mb5.4						
GYA				AMB	AMB		
	comp=Z,2μm,6.0s						
GYA				LR	LR		
	comp=N,8μm,20.6s,MS5.3						
GYA				LR	LR		
	comp=E,6μm,19.1s,MS5.3						
GYA				LR	LR		
	comp=Z,9μm,21.2s,MS5.2						
POO	**Poona**	**23.88**	**304**	↓ *i*P	**P**	**03 16 54.0**	**+1.3**
POO				*ex*	x	03 17 30.5	
POO				*i* x	x	03 21 10.0	
POO				*ex*	x	03 23 07.0	
POO				*ex*	x	03 24 10.0	
BHPL	**Bhopal**	**24.06**	**319**	*e*P	**P**	**03 16 56.2**	**+1.8**
BHPL				AMb	AMB	03 17 00.3	
	comp=Z,432nm,1.3s,mb5.7						
GKN	**Gorkha**	**24.21**	**338**	*e*P	**P**	**03 16 55.7**	**0.0**
LSA	**Lhasa**	**24.23**	**353**	P	**P**	**03 16 55.6**	**-0.3**
LSA				AP		03 17 10.3	
LSA				S	**S**	**03 21 09.4**	**-1.8**
LSA				AMB	AMB		
	comp=Z,410nm,1.4s,mb5.7						
LSA				AMB	AMB		
	comp=Z,1μm,6.0s						
LSA				LR	LR		
	comp=N,3μm,29.1s,MS4.7						
LSA				LR	LR		
	comp=E,3μm,30.3s,MS4.7						
LSA				LR	LR		
	comp=Z,5μm,29.1s,MS4.8						
LSA	**Lhasa**	**24.23**	**353**	⇑ *e*P	**P**	**03 16 55.5**	**-0.4**
LSA				*e*S	**S**	**03 21 12.5**	**+1.3**
LSA				pmax	pmax		
	comp=Z,333nm,0.7s,mb5.9						
LSA	**Lhasa**	**24.23**	**353**	⇑ *e*P	**P**	**03 16 55.5**	**-0.4**
	comp=Z,333nm,0.7s,mb5.9						
LSA				*e*S	**S**	**03 21 12.5**	**+1.3**
LSA				*e*ScP	ScP	03 24 11.8	+1.9
KOLN	**Koldanda**	**24.39**	**336**	*e*P	**P**	**03 16 58.0**	**+0.6**
	comp=Z,4μm,1.5s,mb6.6						
BOM	**Bombay**	**24.92**	**304**	*e*P	**P**	**03 17 06.0**	**+3.8**
BOM				*ex*	x	03 17 19.3	
	comp=Z,1μm,2.3s						
BOM				*e*S	**S**	**03 21 22.6**	**+0.4**
GZH	**Guangzhou**	**25.23**	**44**	P	**P**	**03 17 06.0**	**+1.0**
GZH				S	**S**	**03 21 32.1**	**+4.9**
GZH				LR	LR		
	comp=N,6μm,15.5s,MS5.4						
GZH				LR	LR		
	comp=E,7μm,13.7s,MS5.4						
GZH				LR	LR		
	comp=Z,14μm,14.6s,MS5.6						
HKC	**Hong Kong**	**25.33**	**47**	*i* P	**P**	**03 17 07.0**	**+1.1**
HKC				S	sS	03 22 14.0	+25
DGAR	**Diego Garcia**	**25.43**	**240**	P	**P**	**03 17 06.8**	**0.0**
	comp=Z,2μm,1.4s,mb6.5,SNR=8.1						
DGAR	**Diego Garcia**	**25.43**	**240**	P	**P**	**03 17 07.1**	**+0.3**
DGAR				pmax	pmax		
	comp=Z,780nm,1.3s,mb6.1						
DGAR	**Diego Garcia**	**25.43**	**240**	*e*P	**P**	**03 17 06.5**	**-0.4**
	comp=Z,782nm,1.4s,mb6.0						
CD2	**Chengdu**	**26.71**	**18**	⇑ *i*P	**P**	**03 17 18.4**	**0.0**
CD2				XP	sP	03 17 35.9	-0.4
CD2				PP		03 18 02.8	
CD2				S	**S**	**03 21 48.3**	**-2.3**
CD2				SS		03 23 01.8	
CD2				AMB	AMB		
	comp=Z,610nm,2.3s,mb5.7						
CD2				LR	LR		
	comp=N,3μm,16.2s						
CD2				LR	LR		
	comp=Z,2μm,16.2s,MS4.8						
OTRP	**Odiongan**	**28.05**	**74**	*e*P	**P**	**03 17 31.5**	**+1.1**
AJM	**Ajmer**	**28.12**	**320**	*i* P	**P**	**03 17 32.0**	**+1.0**
AJM				*e*P		03 17 32.1	
AJM				AMb	AMB	03 17 35.7	
	comp=Z,170nm,1.3s,mb5.5						
NDI	**New Delhi**	**28.22**	**327**	*e*P	**P**	**03 17 31.8**	**-0.1**
NDI				*ex*	x	03 22 28.0	
KALP	**Kalibo**	**28.23**	**76**	*e*P	**P**	**03 17 33.7**	**+1.7**
GUIM	**Jordan**	**28.31**	**78**	*e*P	**P**	**03 17 33.9**	**+1.2**
ABRA	**Dolores**	**28.36**	**63**	*e*P	**P**	**03 17 34.4**	**+1.3**
RCP	**Roxas**	**28.61**	**76**	*e*P	**P**	**03 17 37.0**	**+1.7**
PAGZ	**Pagadian**	**28.83**	**84**	*e*P	**P**	**03 17 38.5**	**+1.2**
APYP	**Conner**	**28.91**	**63**	*e*P	**P**	**03 17 38.9**	**+0.9**
APYP	**Conner**	**28.91**	**63**	*e*P	**P**	**03 17 38.7**	**+0.7**
DDI	**Dehra Dun**	**29.09**	**330**	*e*P	**P**	**03 17 42.5**	**+2.9**
DDI				*ex*	x	03 23 51.5	
CVP	**Callao Caves**	**29.36**	**63**	↓ *e*P	**P**	**03 17 43.0**	**+1.0**
TBP	**Tagbilaran**	**29.44**	**80**	*e*P	**P**	**03 17 43.1**	**+0.4**
LLP	**Lapu-Lapu**	**29.61**	**79**	⇑ *e*P	**P**	**03 17 44.9**	**+0.7**
QZH	**Quanzhou**	**30.15**	**48**	⇑ *i*P	**P**	**03 17 50.6**	**+1.6**
QZH				AP	pP	03 18 03.5	+2.2
QZH				PP	PP	03 18 54.3	-3.3
QZH				PCP	PcP	03 20 50.3	+0.9
QZH				S	**S**	**03 22 45.0**	**+0.4**
QZH				XS	sS	03 23 08.3	+2.9
QZH				AMB	AMB		
	comp=Z,440nm,1.0s,mb6.1						
QZH				AMB	AMB		
	comp=Z,2μm,3.8s						
QZH				LR	LR		
	comp=N,10μm,15.1s,MS5.7						
QZH				LR	LR		
	comp=E,6μm,11.2s,MS5.7						
QZH				LR	LR		
	comp=E,18μm,18.3s						
SMLA	**Simla**	**30.18**	**330**	*e*P	**P**	**03 17 47.8**	**-1.5**
PVCP	**Virac**	**30.34**	**73**	*e*P	**P**	**03 17 50.9**	**+0.2**
BUKP	**Musuan**	**30.49**	**84**	*e*P	**P**	**03 17 53.2**	**+1.1**
SDNR	**Sundarnagar**	**30.58**	**330**	*e*P	**P**	**03 17 53.5**	**+0.7**
PLP	**Palo**	**30.71**	**78**	*e*P	**P**	**03 17 54.3**	**+0.3**
BHK	**Bhakra**	**30.80**	**329**	*ex*	x	03 18 01.2	
SCPH	**Surigao**	**31.05**	**80**	*e*P	**P**	**03 17 56.5**	**-0.4**
WHN	**Wuhan**	**31.14**	**35**	P	**P**	**03 17 58.0**	**+0.3**
XAN	**Xi'an**	**31.38**	**23**	P	**P**	**03 17 59.5**	**-0.3**
XAN				AP	pP	03 18 12.6	+0.4
XAN				S	**S**	**03 22 58.8**	**-5.1**
XAN				AMB	AMB		
	comp=Z,710nm,1.2s,mb6.4						
XAN				AMB	AMB		
	comp=Z,602nm,7.7s						
XAN				LR	LR		
	comp=N,2μm,22.1s,MS5.1						
XAN				LR	LR		
	comp=E,4μm,21.1s,MS5.1						
XAN				LR	LR		
	comp=Z,7μm,20.2s,MS5.3						
PONG	**Pong**	**31.46**	**329**	*ex*	x	03 18 15.0	
MATI	**Mati**	**31.65**	**86**	*e*P	**P**	**03 18 03.0**	**+0.7**
NACB	**Ninganchiao**	**32.01**	**52**	*e*P	**P**	**03 18 05.7**	**+0.3**
YHNB	**Yeheng**	**32.09**	**51**	⇑ *i*P	**P**	**03 18 07.6**	**+1.5**
TATO	**Taipei**	**32.34**	**50**	⇑ *i*P	**P**	**03 18 10.1**	**+1.8**
	comp=Z,342nm,1.1s,mb6.1						
GTA	**Gaotai**	**34.07**	**7**	⇑ *i*P	**P**	**03 18 23.5**	**+0.2**
GTA				AP	pP	03 18 36.3	+0.5
GTA				XP	sP	03 18 41.3	-0.1
GTA				PP	PP	03 19 38.6	-2.5
GTA				PPP		03 19 56.8	
GTA				PCP	PcP	03 21 00.8	+0.7
GTA				S	**S**	**03 23 44.3**	**-1.4**
GTA				XS	sS	03 24 04.8	-1.8
GTA				SCP	ScP	03 24 41.3	+0.3
GTA				PCS	PcS	03 24 45.6	-0.6
GTA				SS	SS	03 25 53.9	-20
GTA				SCS	ScS	03 28 41.6	-1.5
GTA				AMB	AMB		
	comp=Z,330nm,1.1s,mb6.2						
GTA				AMB	AMB		
	comp=Z,1μm,5.8s						
GTA				LR	LR		
	comp=N,3μm,23.6s,MS5.0						
GTA				LR	LR		
	comp=E,2μm,21.3s,MS5.0						
GTA				LR	LR		
	comp=Z,3μm,22.7s,MS5.0						
NIL	**Nilore**	**34.20**	**328**	P	**P**	**03 18 24.0**	**-0.5**
	comp=Z,174nm,0.8s,mb6.0,SNR=5.7						
NJ2	**Nanjing**	**34.88**	**38**	*e*P	**P**	**03 18 31.5**	**+1.1**
NJ2				AP	pP	03 18 43.3	+0.4
NJ2				XP	sP	03 18 47.4	-1.1
NJ2				PP	PP	03 19 50.5	+0.4
NJ2				S	**S**	**03 23 59.0**	**+0.7**
NJ2				XS	sS	03 24 22.0	+2.8
NJ2				AMB	AMB		
	comp=Z,330nm,0.8s,mb6.3						
NJ2				AMB	AMB		
	comp=Z,220nm,10.8s						
NJ2				LR	LR		
	comp=N,11μm,17.6s,MS5.8						
NJ2				LR	LR		
	comp=E,10μm,17.8s,MS5.8						
NJ2				LR	LR		
	comp=Z,7μm,13.4s,MS5.6						
SSE	**Sheshan**	**35.73**	**41**	P	**P**	**03 18 38.9**	**+1.3**
SSE				AP	pP	03 18 51.9	+1.8
SSE				XP	sP	03 18 58.1	+2.4
SSE				PP	PP	03 20 00.8	+1.4
SSE				S	**S**	**03 24 12.6**	**+1.4**
SSE				XS	sS	03 24 35.8	+3.6
SSE				SCS	ScS	03 28 52.6	+0.5
SSE				AMB	AMB		
	comp=Z,232nm,0.8s,mb6.2						
SSE				AMB	AMB		
	comp=Z,477nm,5.6s						
SSE				LR	LR		
	comp=N,2μm,22.2s,MS5.1						
SSE				LR	LR		
	comp=E,3μm,22.3s,MS5.1						
SSE				LR	LR		
	comp=Z,4μm,22.1s,MS5.2						
MBWA	**Marble Bar**	**36.33**	**138**	⇑ *i*P	**P**	**03 18 41.1**	**-1.6**
	comp=Z,96nm,1.0s,mb5.7						
TIA	**Tai'an**	**36.95**	**31**	⇑P	**P**	**03 18 48.8**	**+0.7**
TIA				S	**S**	**03 24 27.8**	**-2.1**
TIA				AMB	AMB		
	comp=Z,564nm,1.2s,mb6.3						
TIA				LR	LR		
	comp=N,5μm,19.0s,MS5.5						
TIA				LR	LR		
	comp=E,5μm,16.0s,MS5.5						
BTO	**Baotou**	**37.61**	**20**	*e*P	**P**	**03 18 53.5**	**-0.2**
BTO				AMB	AMB		
	comp=Z,193nm,0.7s,mb5.9						
BTO				LR	LR		
	comp=N,4μm,16.5s,MS5.5						
BTO				LR	LR		
	comp=E,4μm,14.9s,MS5.5						
KSH	**Kashi**	**37.71**	**336**	⇑ *i*P	**P**	**03 18 54.8**	**+0.3**
KSH				*e*AP	pP	03 19 06.0	-1.1
KSH				*e*XP	sP	03 19 11.4	-1.3
KSH				*e*PP	PP	03 20 23.4	+2.1
KSH				*e*PPP		03 20 44.1	
KSH				*e*PCP	PcP	03 21 11.3	+0.4
KSH				*e*S	**S**	**03 24 40.3**	**-1.2**
KSH				*e*SCP	ScP	03 24 53.1	-1.3
KSH				*e*PCS	PcS	03 24 58.1	-1.5
KSH				XS	sS	03 25 00.6	-2.0
KSH				*e*SS	SS	03 27 15.3	-13
KSH				*e*SCS	ScS	03 29 01.8	-1.4
KSH				AMB	AMB		
	comp=Z,846nm,3.9s						
KSH				LR	LR		
	comp=N,1μm,13.4s,MS5.1						
KSH				LR	LR		
	comp=E,2μm,16.6s,MS5.1						
KSH				LR	LR		
	comp=Z,2μm,21.5s,MS4.9						
WBK	**Wadi Bani Khal**	**38.21**	**300**	P	**P**	**03 19 02.3**	**+3.5**
	SNR=8.0						
HHC	**Hu-ho-hao-te**	**

HHC SCP ScP 03 24 58.3 +1.5
HHC PCS PcS 03 25 02.4 +0.4
HHC XS sS 03 25 12.9 +0.5
HHC SS SS 03 27 33.5 -7.9
HHC SCS ScS 03 29 05.5 -1.4
HHC AMB AMB
comp=Z,2μm,1.2s,mb6.7
HHC LR LR
comp=N,6μm,17.7s,MS5.6
HHC LR LR
comp=E,4μm,15.7s,MS5.6
HHC LR LR
comp=Z,5μm,18.8s,MS5.4
JOW Kunigami 38.57 53 P **P 03 19 02.1 +0.4**
comp=Z,205nm,0.5s,mb6.1,baz=242,slow=7.7,SNR=102
JOW SS SS 03 27 37.8 -7.8
comp=Z,12nm,0.9s,baz=40,slow=7.4,SNR=2.4
JOW LR LR 03 34 25.4
comp=Z,5μm,21.7s,MS5.3,baz=282,slow=35
WMQ Urumqi 38.59 352⇑*iP* **P 03 19 02.8 +0.9**
WMQ AP pP 03 19 13.9 -0.6
WMQ XP sP 03 19 18.4 -1.7
WMQ PP PP 03 20 35.8 +5.0
WMQ PPP 03 20 58.8
WMQ PCP PcP 03 21 14.8 +1.2
WMQ SCP ScP 03 24 58.3 +0.6
WMQ PCS PcS 03 25 03.6 +0.7
WMQ XS sS 03 25 16.3 +0.5
WMQ SS SS 03 27 38.3 -7.6
WMQ SCS ScS 03 29 07.4 -0.8
WMQ AMB AMB
comp=Z,244nm,1.0s,mb5.9
WMQ AMB AMB
comp=Z,304nm,8.8s
WMQ LR LR
comp=N,2μm,19.1s
WMQ LR LR
comp=E,1μm,24.5s
WMQ LR LR
comp=Z,1μm,21.8s,MS4.8
FITZ Fitzroy Crossi 38.72 128*iP* **P 03 19 01.8 -1.2**
comp=Z,130nm,0.8s,mb5.7
FITZ *e*PCP PcP 03 21 14.3 +0.3
FITZ *i*S **S 03 24 53.5 -3.2**
FITZ Fitzroy Crossi 38.72 128 P **P 03 19 01.8 -1.2**
comp=Z,56nm,0.8s,mb5.4,baz=309,slow=7.2,SNR=75
FITZ S **S 03 24 50.7 -5.9**
comp=Z,8.7nm,1.2s,baz=294,slow=16,SNR=2.5
FITZ ScP ScP 03 24 57.5 -0.7
comp=Z,24nm,1.0s,baz=270,slow=4.9,SNR=5.3
FITZ ScS ScS 03 29 07.2 -1.7
comp=Z,6.8nm,1.1s,baz=96,slow=16,SNR=3.3
FITZ LR LR 03 36 13.9
comp=Z,998nm,21.7s,MS4.6,baz=167,slow=38
WSAR Wadi Sarin 38.73 301 P **P 03 19 05.2 +2.2**
comp=Z,12nm,0.7s,baz=146,slow=11,SNR=13
WSAR S **S 03 24 56.1 -0.8**
comp=Z,11nm,1.0s,baz=197,slow=5.8,SNR=3.9
WSAR SS SS 03 27 45.3 -3.5
comp=Z,3.3nm,0.9s,baz=236,slow=17,SNR=1.9
WSAR ScS ScS 03 29 06.4 -2.6
comp=Z,2.5nm,0.8s,baz=162,slow=23,SNR=2.4
BIDO Bidbid 39.26 301 P **P 03 19 11.0 +3.5**
SNR=12
BJT Baijiatuau 39.51 27⇑*iP* **P 03 19 11.1 +1.5**
BJT pmax pmax
comp=Z,1μm,1.2s
BJT Baijiatuau 39.51 27⇑*iP* **P 03 19 11.1 +1.5**
comp=Z,1μm,1.2s,mb6.4
BJI Beijing 39.53 27 P **P 03 19 11.3 +1.5**
BJI PP PP 03 20 50.6 +9.5
BJI S **S 03 24 59.9 -9.0**
BJI AMB AMB
comp=Z,602nm,1.1s,mb6.2
BJI AMB AMB
comp=Z,2μm,3.8s
BJI LR LR
comp=N,7μm,20.7s,MS5.5
BJI LR LR
comp=E,3μm,20.7s,MS5.5
BJI LR LR
comp=Z,5μm,25.4s,MS5.2
BSY Bisya 39.79 299 P **P 03 19 15.4 +3.5**
SNR=19
ULHL Ulahol 39.97 339 P **P 03 19 14.4 +1.0**
SNR=13
HOQ Hoqain 39.98 300 P **P 03 19 17.0 +3.4**
SNR=15
KZA Kyzart 40.19 338 P **P 03 19 16.3 +1.1**
SNR=126
ARQ Araqi 40.58 300 P **P 03 19 21.2 +2.7**
SNR=9.9
UCH Uchtor 40.60 337 P **P 03 19 19.9 +1.2**
SNR=170
AAA Alma-Ata 40.63 340 *i*P **P 03 19 20.1 +1.2**
AAA *i*S **S 03 25 27.2 +1.8**
AAA pmax pmax
comp=Z,3μm,4.4s
AAA smax
comp=N,2μm,9.2s
AAA MLR MLR
comp=Z,2μm,18.4s,MS5.0
AAA Alma-Ata 40.63 340 *e*P **P 03 19 20.0 +1.1**
TKM2 Tokmak 2 40.80 339 P **P 03 19 21.1 +0.8**
SNR=78
KBK Karagaybulak 40.80 338 P **P 03 19 21.7 +1.3**
SNR=194
AML Almayashu 40.84 336 P **P 03 19 21.9 +1.2**
SNR=287
AAK Ala-Archa 40.96 337 P **P 03 19 22.8 +1.2**
SNR=100
AAK Ala-Archa 40.96 337 P **P 03 19 21.7 +0.1**
comp=Z,784nm,1.4s,mb6.2,SNR=72
AAK Ala-Archa 40.96 337⇑*iP* **P 03 19 21.5 -0.1**
AAK *e**PP pP 03 19 36.4 +2.1
AAK *e* 03 20 56.1
AAK pmax pmax
comp=Z,483nm,1.2s,mb6.0
AAK Ala-Archa 40.96 337⇑*iP* **P 03 19 21.5 0.0**
comp=Z,483nm,1.2s,mb6.0
AAK *e*PP pP 03 19 36.4 +2.1
AAK *e*PP PP 03 20 56.1 -0.6
AAK *e*ScP ScP 03 25 07.3 +0.4
FRU Bishkek 41.08 338⇑*iP* **P 03 19 23.2 +0.6**
FRU *i* pP 03 19 32.5 -2.8
FRU *i* pP 03 19 37.0 +1.7
FRU *e* 03 25 34.0
FRU pmax pmax
comp=Z,706nm,2.2s,mb5.9
FRU MLR MLR
comp=Z,2μm,19.0s,MS5.1
CHMS Chumysh 41.17 338 P **P 03 19 23.7 +0.3**
SNR=48
EKS2 Erkin-Say 41.26 337 P **P 03 19 25.3 +1.2**
SNR=69
DL2 Dalian 41.34 33⇑*iP* **P 03 19 26.0 +1.3**
DL2 PP PP 03 21 06.5 +5.7
DL2 SCP ScP 03 25 09.1 +0.7
DL2 PCS PcS 03 25 12.5 -1.1
DL2 S **S 03 25 36.4 +0.6**
DL2 XS sS 03 26 00.3 +3.2
DL2 SS SS 03 28 36.0 -4.8
DL2 SSS 03 28 47.3
DL2 SCS ScS 03 29 20.5 -4.0
DL2 AMB AMB
comp=Z,440nm,0.9s,mb6.1
DL2 AMB AMB
comp=Z,410nm,3.0s
DL2 LR LR
comp=N,2μm,18.5s,MS5.1
DL2 LR LR
comp=E,1μm,17.0s,MS5.1
DL2 LR LR
comp=Z,2μm,17.3s,MS5.0
ASHO Ashiyiah 41.44 301 P **P 03 19 28.1 +2.5**
SNR=7.4
USP Ospenovka 41.50 338 P **P 03 19 26.4 +0.4**
SNR=158
WHFO Wadi Hawf 41.57 291 P **P 03 19 29.4 +2.8**
SNR=9.1
BANOM Banah 41.70 303 P **P 03 19 30.8 +3.2**
SNR=5.9
KAKA Kakadu 41.89 116 *e*P **P 03 19 27.4 -1.8**
comp=Z,86nm,0.6s,mb5.6
KAKA *e*PCP PcP 03 21 24.7 +0.5
KAKA *i*S ScP 03 25 10.4 -0.2
ABTO Aybut 41.90 290 P **P 03 19 32.3 +3.0**
SNR=8.5
MK31 Makanchi Array 42.42 348 P **P 03 19 33.9 +0.4**
MK31 pmax pmax
comp=Z,205nm,0.6s,mb5.9
MKAR Makanchi Array 42.42 348 P **P 03 19 33.9 +0.3**
comp=Z,360nm,0.6s,mb6.2,baz=170,slow=7.9,SNR=1466
MKAR ScP ScP 03 25 13.5 +0.8
comp=Z,5.0nm,0.8s,baz=145,slow=5.3,SNR=3.4
MKAR S **S 03 25 50.3 -1.5**
comp=Z,3.5nm,1.0s,baz=207,slow=18,SNR=2.2
MKAR Makanchi Array 42.42 348 P **P 03 19 33.9 +0.4**
MKAR S **S 03 25 50.3 -1.5**
MKAR pmax pmax
comp=Z,360nm,0.6s
MKAR pmax pmax
comp=N,5.0nm,0.8s
MKAR smax
comp=N,4.0nm,1.0s
MUN Mundaring 42.68 152 *e*P **P 03 19 35.3 -0.4**
MUN *i*S **S 03 25 51.8 -3.9**
KK31 Karatay Array 42.98 334 *i*P **P 03 19 37.8 -0.3**
KK31 pmax pmax
comp=Z,139nm,0.8s,mb5.7
KKAR Karatay Array 42.98 334 *i*P **P 03 19 37.8 -0.3**
KKAR pmax pmax
comp=Z,118nm,0.9s,mb5.6
KLBR Kellerberrin 43.10 150⇑*iP* **P 03 19 38.1 -1.0**
comp=Z,62nm,0.8s,mb5.4
INCN Inchon 43.26 38⇑*iP* **P 03 19 40.0 -0.3**
comp=Z,307nm,1.0s,mb6.0
SONM Songino Array 43.37 12 P **P 03 19 41.1 -0.1**
comp=Z,206nm,1.0s,mb5.8,baz=196,slow=8.3,SNR=831
SONM pP pP 03 19 54.3 +0.3
comp=Z,82nm,0.8s,baz=193,slow=8.8,SNR=7.9
SONM PcP PcP 03 21 26.7 -2.5
comp=Z,43nm,0.7s,baz=196,slow=3.6,SNR=8.0
SONM pPcP 03 21 42.5
comp=Z,30nm,0.7s,baz=199,slow=3.2,SNR=4.2
SONM ScP ScP 03 25 16.5 -0.1
comp=Z,28nm,0.9s,baz=209,slow=2.9,SNR=13
SONM S **S 03 26 03.5 -2.2**
comp=Z,2.2nm,1.0s,baz=278,slow=3.5,SNR=1.6
SONM ScS ScS 03 29 33.9 -3.1
comp=Z,2.2nm,0.9s,baz=152,slow=6.7,SNR=4.0
SONM LR LR 03 39 54.6
comp=Z,3μm,21.0s,MS5.2,baz=197,slow=39
SONM Songino Array 43.37 12 P **P 03 19 41.1 -0.1**
SONM *PP pP 03 19 54.3 +0.3
SONM 03 21 26.7
SONM S **S 03 26 03.5 -2.2**
SONM 03 29 33.9
SONM pmax pmax
comp=Z,206nm,1.0s
SONM smax
comp=N,2.0nm,1.0s
SONM MLR MLR
comp=Z,3μm,21.0s
ULN Ulaanbaatar 43.53 12⇑*iP* **P 03 19 42.1 -0.5**
ULN pmax pmax
comp=Z,95nm,0.6s,mb5.7
ULN Ulaanbaatar 43.53 12⇑*iP* **P 03 19 42.1 -0.4**
comp=Z,96nm,0.6s,mb5.7
JNU Nakatsue 43.60 46 P **P 03 19 43.8 +0.7**
comp=Z,242nm,0.9s,mb5.9,baz=147,slow=3.2,SNR=12
NWAO Narrogin (SRO) 43.95 152 P **P 03 19 45.2 -0.7**
comp=Z,19nm,0.9s,baz=322,slow=9.0,SNR=7.5
NWAO S **S 03 26 10.4 -3.9**
comp=Z,8.0nm,0.9s,baz=201,slow=4.5,SNR=2.3
NWAO SS SS 03 29 29.8 -2.3
comp=Z,10nm,1.1s,baz=250,slow=24,SNR=1.6
NWAO LR LR 03 38 29.6
comp=Z,1μm,19.9s,baz=325,slow=37
NWAO Narrogin (SRO) 43.95 152 P **P 03 19 45.2 -0.7**
NWAO S **S 03 26 10.4 -3.9**
NWAO SS SS 03 29 29.8 -2.3
NWAO pmax pmax
comp=Z,190nm,0.9s
NWAO smax
comp=N,8.0nm,0.9s
NWAO MLR MLR
comp=Z,1μm,19.9s
NWAO Narrogin (SRO) 43.95 152⇑*iP* **P 03 19 44.7 -1.3**
comp=Z,57nm,0.9s,mb5.3
NWAO LR LR
comp=Z,1μm,19.0s,MS4.8
KS15 Wonju Array Si 44.02 39⇑*eP* **P 03 19 46.4 0.0**
KS15 *e*ScP ScP 03 25 17.7 -1.5
SNY Shenyang 44.48 31⇑↑P **P 03 19 50.3 +0.2**
SNY AP pP 03 20 02.3 -0.6
SNY XP sP 03 20 06.8 -1.6
SNY PP PP 03 21 36.0 +1.5
SNY S **S 03 26 20.3 -1.6**
SNY XS sS 03 26 48.8 +5.5
SNY AMB AMB
comp=Z,324nm,1.2s,mb5.9
SNY AMB AMB
comp=Z,732nm,8.3s
SNY LR LR
comp=N,3μm,16.7s
SNY LR LR
comp=E,2μm,22.6s
SNY LR LR
comp=Z,3μm,17.6s,MS5.3
ZAK Zakamensk 45.30 8⇓*iP* **P 03 19 56.4 -0.3**
ZAK *e* 03 21 36.0
ZAK pmax pmax
comp=Z,32nm,1.8s
ABKT Ailbek 46.14 319 P **P 03 20 04.8 +1.5**
comp=Z,714nm,0.7s,mb6.7,SNR=34
MOY Mondy 46.30 6 *e*P **P 03 20 03.3 -1.2**
MOY pmax pmax
comp=Z,169nm,2.7s,mb5.5
TLY Talaya 46.62 8 P **P 03 20 07.6 +0.5**
comp=Z,672nm,1.2s,mb6.5,SNR=42
TLY Talaya 46.62 8*c iP* **P 03 20 06.4 -0.7**
TLY *e* 03 21 40.1
TLY *e*S **S 03 26 44.9 -7.9**
TLY *e*SS SS 03 29 55.3 -24
TLY pmax pmax
comp=Z,174nm,1.2s,mb5.9
TLY MLR MLR
comp=Z,3μm,20.0s,MS5.2
TLY Talaya 46.62 8⇑*iP* **P 03 20 07.5 +0.4**
comp=Z,176nm,1.2s,mb5.9
TLY *e*PcP PcP 03 21 39.8 -0.6
TLY *e*ScP ScP 03 25 30.2 +0.2
WRA Warramunga Arr 46.69 124 P **P 03 20 06.9 -0.8**
comp=Z,262nm,0.9s,mb6.2,baz=304,slow=9.1,SNR=464
WRA ScP ScP 03 25 28.8 -1.5
comp=Z,9.2nm,1.0s,baz=303,slow=3.5,SNR=4.8
WRA S **S 03 26 49.9 -3.8**
comp=Z,18nm,1.0s,baz=301,slow=16,SNR=10
WRA ScS ScS 03 29 55.8 -2.4
comp=Z,1.1nm,0.8s,baz=299,slow=14,SNR=4.8
WRA Warramunga Arr 46.69 124 P **P 03 20 06.9 -0.7**
WRA S **S 03 26 49.9 -3.9**
WRA 03 29 55.8
WRA pmax pmax
comp=Z,262nm,0.9s
WRA smax
comp=N,18nm,1.0s
WRAB Tennant Creek 46.70 124 P **P 03 20 07.0 -0.6**
comp=N,3μm,0.9s
WRAB Tennant Creek 46.70 124*c iP* **P 03 20 07.4 -0.2**
WRAB Tennant Creek 46.70 124⇑*iP* **P 03 20 07.3 -0.3**
comp=N,441nm,0.9s,mb6.4
WRAB *e*S **S 03 26 52.4 -1.5**
WRAB LR LR
comp=Z,1μm,20.0s,MS4.8
WB2 Warramunga Arr 46.70 124⇑*iP* **P 03 20 07.3 -0.4**
WB2 *e*S **S 03 26 50.4 -3.5**
CN2 Changchun 46.85 31⇑↑P **P 03 20 09.1 +0.2**
CN2 *e*AP pP 03 20 22.3 +0.6
CN2 *e*XP sP 03 20 24.9 -2.3
CN2 PP PP 03 22 00.3 +0.7
CN2 *e*SCP ScP 03 25 29.3 -1.6
CN2 *e*S **S 03 26 56.1 0.0**
CN2 *e*SS SS 03 30 17.3 -5.7
CN2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,3μm,19.0s,MS5.3
CN2 LR LR
comp=E,2μm,19.0s,MS5.3
CN2 LR LR
comp=Z,3μm,18.0s,MS5.3
KURK Kurchatov 46.94 346 P **P 03 20 10.4 +0.9**
comp=Z,5μm,0.9s
KURK Kurchatov 46.94 346⇑*iP* **P 03 20 10.1 +0.6**
KURK *e*S **S 03 26 59.2 +1.9**
KURK pmax pmax
comp=Z,2μm,1.3s,mb6.8
KURK MLR MLR
comp=Z,1μm,20.0s,MS4.9
KURK Kurchatov 46.94 346⇑*iP* **P 03 20 10.1 +0.6**
comp=Z,2μm,1.3s,mb6.8
KURK *e*S **S 03 26 59.2 +2.0**
KURK LR LR
comp=Z,1μm,20.0s,MS4.9
IRK Irkutsk 47.26 8 *e*P **P 03 20 11.9 -0.1**
IRK *e* 03 22 06.6
IRK *e*S **S 03 27 01.0 -0.9**
IRK pmax pmax
comp=Z,436nm,1.8s,mb6.1
ASAR Alice Springs 48.21 129 P **P 03 20 18.7 -0.8**
comp=Z,76nm,0.8s,mb5.8,baz=299,slow=7.3,SNR=401
ASAR S **S 03 27 12.5 -2.9**
comp=Z,11nm,0.9s,baz=295,slow=13,SNR=13
ASAR ScS ScS 03 30 06.3 -2.0
comp=Z,3.1nm,0.9s,baz=285,slow=7.5,SNR=4.1
ASAR Alice Springs 48.21 129 P **P 03 20 18.7 -0.7**
ASAR S **S 03 27 12.5 -2.9**
ASAR 03 30 06.3
ASAR pmax pmax
comp=Z,77nm,0.8s
ASAR smax
comp=N,11nm,0.9s
ASAR Alice Springs 48.21 129 P **P 03 20 18.7 -0.8**
ASAR S **S 03 27 12.5 -2.9**
ASAR ScS ScS 03 30 06.3 -2.0
FORT Forrest 48.35 140 *eP* **P 03 20 20.2 -0.3**
comp=N,272nm,0.8s,mb6.3
HIA Hailar 48.55 22 *iP* **P 03 20 22.0 0.0**
HIA Hailar 48.55 22⇑*iP* **P 03 20 21.9 -0.1**
comp=N,200nm,1.0s,mb6.1
CIT Chita 48.96 16⇑*iP* **P 03 20 25.4 +0.2**
CIT *e* pP 03 20 38.4 +0.3
CIT *e* 03 21 49.2
CIT *e* 03 27 28.2
CIT *e*S ScS 03 30 10.6 -2.7
CIT pmax pmax
comp=Z,658nm,1.4s,mb6.5
LBOS 49.11 283 *eP* **P 03 20 28.4 +2.1**
MDJ Mudanjiang 49.58 33 P **P 03 20 30.8 +0.9**
MDJ AP pP 03 20 42.1 -0.8
MDJ XP sP 03 20 47.1 -1.2
MDJ PP PP 03 22 25.4 +0.9
MDJ SCP ScP 03 25 43.1 +0.6
MDJ PCS PcS 03 25 48.0 +0.3
MDJ S **S 03 27 37.5 +2.9**
MDJ XS sS 03 27 56.8 +0.5
MDJ AMB AMB
comp=Z,304nm,1.0s,mb6.3
MDJ AMB AMB
comp=Z,629nm,4.2s
MDJ LR LR
comp=N,1μm,20.2s,MS5.3
MDJ LR LR
comp=E,3μm,18.0s,MS5.3
MDJ LR LR
comp=Z,3μm,15.2s,MS5.4
QRN Al-Qurain 49.66 303 *eP* **P 03 20 31.2 +0.7**
QRN AMb AMB 03 20 46.8
comp=Z,157nm,1.2s,mb5.9
VLA Vladivostok 49.92 36*d iP* **P 03 20 32.0 -0.5**
VLA pmax pmax
comp=Z,563nm,1.7s,mb6.3
VLA MLR MLR
comp=Z,5μm,18.0s,MS5.6
VLA Vladivostok 49.92 36 *i*Pr **P 03 20 32.0 -0.5**
NVS Novosibirsk 49.98 352 *eP* **P 03 20 31.7 -1.3**
NVS *e*S **S 03 27 31.7 -8.5**
NVS pmax pmax
comp=N,494nm,1.2s
NVS pmax pmax
comp=E,330nm,1.2s
NVS pmax pmax
comp=Z,643nm,1.2s,mb6.5
NVS smax
comp=N,366nm,1.7s
NVS smax
comp=E,232nm,2.3s
KBD Kabd 49.99 304 *eP* **P 03 20 34.0 +0.9**
KBD AMb AMB 03 20 35.5
comp=Z,561nm,0.9s,mb6.6
DHBB Dhamar BB 50.00 284⇑*eP* **P 03 20 36.0 +2.9**
RDF Al-Radifah 50.03 303 *eP* **P 03 20 34.2 +0.9**
RDF AMb AMB 03 20 35.8
comp=Z,290nm,1.1s,mb6.2
CBIJ Chichi jima 50.20 59 P **P 03 20 32.6 -2.0**
comp=Z,307nm,0.6s,mb6.5,baz=242,slow=3.7,SNR=34
GUMO Guam 50.28 77 P **P 03 20 34.6 -0.6**
comp=Z,154nm,1.2s,mb5.9,baz=41,slow=22,SNR=4.7
GUMO S **S 03 27 41.5 -3.0**
comp=Z,16nm,0.3s,baz=226,slow=22,SNR=2.0
GUMO Guam 50.28 77 P **P 03 20 34.6 -0.6**
GUMO S **S 03 27 41.5 -2.9**
GUMO pmax pmax
comp=Z,154nm,1.2s,mb5.9
GUMO smax
comp=N,16nm,0.3s
GUMO Guam 50.28 77 P **P 03 20 34.6 -0.6**
GUMO S **S 03 27 41.5 -3.0**
NAY Al-Naaiem 50.38 304 *eP* **P 03 20 36.8 +0.8**
NAY AMb AMB 03 20 52.2
comp=Z,117nm,0.8s,mb6.0
MIB Mutribah 50.48 304 *eP* **P 03 20 37.5 +0.8**
MIB AMb AMB 03 20 39.1
comp=Z,295nm,0.9s,mb6.3
MAJO Matsushiro 50.52 46⇑*iP* **P 03 20 36.6 -0.5**
MAJO *e* 03 21 54.3
MAJO pmax pmax
comp=Z,440nm,1.7s,mb6.1
MAJO Matsushiro 50.52 46⇑*iP* **P 03 20 36.6 -0.5**
comp=Z,453nm,1.7s,mb6.1
MAJO *e*PcP PcP 03 21 54.3 -0.1
MAJO *e*ScP ScP 03 25 45.1 -1.4
MAT Matsushiro 50.52 46 P **P 03 20 36.7 -0.4**
MAT *S* **S 03 27 52.0 +4.2**
MAT Matsushiro 50.52 46 *eP* **P 03 20 37.0 -0.1**
MAT *e*S **S 03 27 52.0 +4.2**
MAT pmax pmax
comp=Z,278nm,1.5s,mb6.0
MAT MLR MLR
comp=Z,4μm,20.0s,MS5.4
MAT Matsushiro 50.52 46 *eP* **P 03 20 37.0 -0.1**
comp=Z,278nm,1.5s,mb6.0
MAT *e*S **S 03 27 52.0 +4.2**
MAT LR LR
comp=Z,4μm,20.0s,MS5.4
MJAR Matsushiro Arr 50.52 46 P **P 03 20 36.7 -0.4**
comp=Z,77nm,1.1s,mb5.5,baz=248,slow=6.4,SNR=64
MJAR pP pP 03 20 50.3 +0.3
comp=Z,7.1nm,0.8s,baz=136,slow=30,SNR=5.2
MJAR PcP PcP 03 21 54.4 -0.1
comp=Z,40nm,0.9s,baz=244,slow=4.6,SNR=10
MJAR pPcP 03 22 09.1
comp=Z,44nm,0.8s,baz=241,slow=3.7,SNR=12
MJAR ScP ScP 03 25 44.6 -1.9
comp=Z,14nm,1.1s,baz=233,slow=3.7,SNR=8.9
MJAR S **S 03 27 51.2 +3.5**
comp=Z,0.8nm,0.3s,baz=225,slow=38,SNR=4.4
MJAR ScS ScS 03 30 19.2 -4.7
comp=Z,0.4nm,0.4s,baz=356,slow=14,SNR=3.2
MJAR LR LR 03 44 57.1
comp=Z,3μm,18.2s,MS5.3,baz=245,slow=40
MJAR Matsushiro Arr 50.52 46 P **P 03 20 36.7 -0.4**
MJAR *PP pP 03 20 50.3 +0.2
MJAR 03 21 54.4
MJAR S **S 03 27 51.2 +3.4**
MJAR 03 30 19.3
MJAR pmax pmax
comp=Z,77nm,1.1s
MJAR smax
comp=N,1.0nm,0.3s
MJAR MLR MLR
comp=Z,3μm,18.2s
MJAR Matsushiro Arr 50.52 46 P **P 03 20 36.7 -0.4**

MJAR pP pP 03 20 50.3 +0.3
MJAR PcP PcP 03 21 54.4 -0.1
MJAR pPcP 03 22 09.1
MJAR ScP ScP 03 25 44.6 -1.9
MJAR S **S** **03 27 51.2 +3.4**
MJAR ScS ScS 03 30 19.2 -4.7
MJAR LR LR 03 44 57.1

VOSK Vostochnaya 50.84 342 P **P** **03 20 39.3 -0.1**
VOSK pmax pmax
comp=Z,100nm,0.7s,mb5.8

BVA0 Borovoye Array 51.28 342 *i* P **P** **03 20 42.6 -0.2**
BVA0 pmax pmax
comp=Z,39nm,0.9s,mb5.3

BRVK Borovoye 51.34 342 P **P** **03 20 43.2 0.0**
comp=Z,2μm,0.6s

BRVK Borovoye 51.34 342⇑ *i*P **P** **03 20 42.8 -0.4**
BRVK *e*S **S** **03 27 58.5 -0.6**
BRVK pmax pmax
comp=Z,135nm,0.6s,mb6.0

BRVK Borovoye 51.34 342⇑ *i*P **P** **03 20 42.8 -0.5**
comp=Z,210nm,0.6s,mb6.2
BRVK *e*S **S** **03 27 58.5 -0.7**

ZRNK Zerenda 51.67 341 *i* P **P** **03 20 45.4 -0.2**
ZRNK pmax pmax
comp=Z,308nm,0.9s,mb6.2

ZRNK Zerenda 51.67 341⇑ *i*P **P** **03 20 45.4 -0.2**
comp=Z,215nm,0.7s,mb6.2
ZRNK *e*pP pP 03 21 00.8 +2.1

AB31 Akbulak array 52.42 332 *i* P **P** **03 20 51.2 0.0**
AB31 pmax pmax
comp=Z,7.0nm,0.3s,mb5.1

KLR Kul'dur 53.74 30⇓ *i*P **P** **03 20 57.7 -3.3**
KLR *e* pP 03 21 11.8 -2.3
KLR *e*S **S** **03 28 28.5 -3.4**
KLR *e*SS SS 03 32 10.0 -3.0
KLR pmax pmax
comp=E,170nm,1.6s
KLR pmax pmax
comp=Z,540nm,1.6s,mb6.2
KLR MLR MLR
comp=N,2μm,16.0s,MS5.4
KLR MLR MLR
comp=E,2μm,16.0s,MS5.4

BHD Baghdad 54.01 307 *i* x x 03 21 01.0
BHD *i* x x 03 21 14.0
BHD *i* x x 03 22 05.0
BHD *ex* x x 03 23 07.0
BHD *ex* x x 03 28 30.0
BHD *ex* x x 03 30 42.0

AKTO Aktyubinsk 54.13 332 *i* P **P** **03 21 03.2 -0.6**
AKTO pmax pmax
comp=Z,45nm,0.9s,mb5.4

BOD Bodaibo 54.34 13⇓ *i*P **P** **03 21 04.4 -0.9**
BOD *e* 03 28 37.4
BOD pmax pmax
comp=Z,392nm,1.3s,mb6.2

PMG Port Moresby 54.59 106 P **P** **03 21 07.0 -0.1**
comp=Z,136nm,0.7s,mb6.1,baz=322,slow=2.4,SNR=52
PMG ScP ScP 03 26 04.4 +0.2
comp=Z,56nm,1.2s,baz=295,slow=4.1,SNR=4.9

PMG Port Moresby 54.59 106⇑ *i*P **P** **03 21 06.5 -0.6**
PMG pmax pmax
comp=Z,250nm,1.0s

PMG Port Moresby 54.59 106⇑ *i*P **P** **03 21 06.5 -0.6**
comp=Z,251nm,0.9s,mb6.2
PMG *e*ScP ScP 03 26 03.8 -0.4

HABR Khabarovsk 54.94 32⇑ *i*P **P** **03 21 11.0 +1.3**
HABR *e*S **S** **03 28 50.5 +2.5**
HABR pmax pmax
comp=Z,433nm,1.3s,mb6.3
HABR MLR MLR
comp=Z,3μm,19.0s,MS5.4

MAK Makhachkala 55.66 319*c* *i*P **P** **03 21 13.5 -1.4**
MAK *e* 03 23 15.4
MAK *i* S **S** **03 28 54.5 -3.2**
MAK *e*SS SS 03 32 45.7 +2.4
MAK pmax pmax
comp=Z,214nm,1.2s,mb6.0

MSL Mosul 56.03 310 *ex* x 03 21 18.5
MSL *ex* x 03 29 03.0
MSL *ex* x 03 31 04.0

GNI Garni 56.29 315⇑ *i*P **P** **03 21 19.2 -0.1**
comp=Z,169nm,1.0s,mb6.0
GNI LR LR
comp=Z,762nm,20.0s,MS4.8

DGRG David-gareji 56.40 317 P **P** **03 21 20.4 +0.3**
ORR Orenburg 56.46 331 *e*P **P** **03 21 20.0 -0.6**
ORR *e* 03 21 38.3
ORR S **S** **03 29 02.9 -5.3**
ORR MLR MLR
comp=Z,2μm,22.0s,MS5.1

CLNS Chul'man 56.52 20⇑ *i*P **P** **03 21 21.0 0.0**
CLNS *e**PP pP 03 21 32.0 -2.1
CLNS *e* 03 22 24.8
CLNS *e*S **S** **03 28 58.1 -11**
CLNS pmax pmax
comp=Z,172nm,1.2s,mb6.0
CLNS pmax pmax
comp=N,91nm,1.0s
CLNS pmax pmax
comp=E,94nm,1.1s
CLNS smax
comp=E,275nm,13.4s
CLNS smax
comp=Z,153nm,11.9s
CLNS smax
comp=N,69nm,11.8s

TVAN Van 56.60 313 *i* P **P** **03 21 22.2 +0.7**
MTA Mtatsminda 56.89 317 P **P** **03 21 23.6 0.0**
CTA Charters Tower 56.93 118⇑ *i*P **P** **03 21 23.5 -0.4**
comp=N,73nm,1.3s,mb5.5
CTA *e*S **S** **03 29 12.0 -2.4**

CTA Charters Tower 56.93 118 P **P** **03 21 23.5 -0.4**
comp=N,100nm,1.1s,mb5.8,baz=300,slow=9.2,SNR=22
CTA ScP ScP 03 26 14.2 -0.3
comp=N,24nm,1.1s,baz=245,slow=5.3,SNR=3.3
CTA S **S** **03 29 12.7 -1.7**
comp=N,5.0nm,1.0s,baz=236,slow=13,SNR=2.5
CTA LR LR 03 46 47.6
comp=N,2μm,21.4s,MS5.2,baz=286,slow=37

CTA Charters Tower 56.93 118 P **P** **03 21 23.5 -0.4**
CTA S **S** **03 29 12.7 -1.7**
CTA pmax pmax
comp=N,24nm,1.1s
CTA pmax pmax
comp=Z,100nm,1.1s
CTA smax
comp=N,5.0nm,1.0s
CTA MLR MLR
comp=Z,2μm,21.4s

CTAO Charters Tower 56.93 118⇑ *i*P **P** **03 21 23.2 -0.7**
CTAO pmax pmax
comp=Z,200nm,1.3s,mb6.0

CTAO Charters Tower 56.93 118⇑ *i*P **P** **03 21 23.2 -0.7**
comp=Z,201nm,1.3s,mb6.0

TBLG Delisi 56.95 317 P **P** **03 21 23.6 -0.4**
DIGO Kars 57.35 315 *i* P **P** **03 21 26.4 -0.5**
KMBO Kilima Mbogo 57.49 265 P **P** **03 21 29.1 +1.2**
comp=Z,31nm,1.1s,mb5.2,baz=50,slow=9.0,SNR=25
KMBO S **S** **03 29 24.9 +3.0**
comp=Z,0.5nm,0.3s,baz=95,slow=23,SNR=3.0
KMBO LR LR 03 42 05.1
comp=Z,3μm,21.8s,MS5.4,baz=77,slow=32

KMBO Kilima Mbogo 57.49 265 P **P** **03 21 29.1 +1.2**
KMBO S **S** **03 29 24.9 +3.0**
KMBO pmax pmax
comp=Z,31nm,1.1s
KMBO smax
comp=N,1.0nm,0.3s

AKH Akhalkalaki 57.66 316 P **P** **03 21 29.3 +0.2**
BTMT Batman 57.89 312 P **P** **03 21 30.4 -0.2**
ZEI Tsey 57.95 318 *eP* **P** **03 21 31.4 +0.3**
ZEI *e**PP pP 03 21 40.9 -3.4
ZEI *e* pP 03 21 44.7 +0.4
ZEI pmax pmax
comp=Z,56nm,1.1s,mb5.5

MARD Mardin 58.12 311 *i* P **P** **03 21 32.1 -0.1**
ARU Arti 58.15 337 P **P** **03 21 32.3 -0.1**
comp=Z,776nm,1.1s,mb6.7,SNR=24

ARU Arti 58.15 337⇑ *i*P **P** **03 21 31.9 -0.5**
ARU *e**PP pP 03 21 47.1 +1.4
ARU pmax pmax
comp=Z,410nm,1.3s,mb6.3

ARU Arti 58.15 337⇑ *i*P **P** **03 21 31.9 -0.6**
comp=Z,407nm,1.3s,mb6.3

ARU *ep*P pP 03 21 47.0 +1.4
ONI Oni 58.17 318 P **P** **03 21 32.0 -0.6**
STKA Stephens Creek 58.30 133⇑ *i*P **P** **03 21 30.8 -2.7**
comp=Z,53nm,0.7s,mb5.7
STKA *i* S **S** **03 29 28.3 -4.0**

STKA Stephens Creek 58.30 133 P **P** **03 21 31.1 -2.4**
comp=Z,73nm,0.9s,mb5.7,baz=309,slow=7.4,SNR=115
STKA S **S** **03 29 28.7 -3.7**
comp=Z,1.2nm,0.3s,baz=208,slow=21,SNR=2.3
STKA ScS ScS 03 31 13.4 -5.8
comp=Z,0.9nm,0.3s,baz=178,slow=22,SNR=2.7
STKA LR LR 03 49 43.9
comp=Z,1μm,19.4s,MS5.0,baz=300,slow=39

BNGL BINGOL 58.40 313 *i* P **P** **03 21 34.5 +0.3**
YSS Yuzh-Sakhalins 58.44 37α *i*P **P** **03 21 34.0 -0.5**
YSS *i* *PP pP 03 21 47.3 -0.5
YSS *e* 03 22 21.0
YSS S **S** **03 29 35.0 +0.7**
YSS *e*SS SS 03 33 29.0 +2.0
YSS pmax pmax
comp=Z,370nm,1.1s,mb6.3
YSS MLR MLR
comp=N,2μm,20.0s,MS5.4
YSS MLR MLR
comp=E,2μm,20.0s,MS5.4
YSS MLR MLR
comp=Z,2μm,20.0s,MS5.3

YSS Yuzh-Sakhalins 58.44 37⇑ *i*P **P** **03 21 34.6 +0.1**
comp=Z,429nm,1.1s,mb6.4
YSS *e*PcP PcP 03 22 22.0 -2.8

ERZM Erzurum 58.58 314 *i* P **P** **03 21 35.8 +0.3**
EZM Erzurum 58.59 314 P **P** **03 21 35.0 -0.6**
ARTV Artvin 58.66 315 *i* P **P** **03 21 35.7 -0.3**
DRBT Darb Altahta 58.71 310⇑ P **P** **03 21 43.7 +7.4**
KIV Kislovodsk 59.25 319 P **P** **03 21 39.3 -0.8**
comp=Z,581nm,0.9s,mb6.6,SNR=17

KIV Kislovodsk 59.25 319α *i*P **P** **03 21 39.7 -0.4**
KIV *e* pP 03 21 54.4 +1.0
KIV 03 23 53.0
KIV *i* S **S** **03 29 42.6 -2.1**
KIV *e* 03 29 57.3
KIV *i* 03 31 25.5
KIV SS SS 03 33 38.0 -1.7
KIV pmax pmax
comp=Z,208nm,1.4s,mb6.0
KIV MLR MLR
comp=Z,600nm,22.0s,MS4.7

JHLN Al Jahlan 59.41 308⇑ P **P** **03 21 42.8 +1.5**
GOF Gofitskoye 59.49 320 *eP* **P** **03 21 37.5 -4.3**
GOF *i* S **S** **03 29 44.0 -3.8**
GOF pmax pmax
comp=Z,70nm,1.7s,mb5.4
GOF smax
comp=N,580nm,2.5s

URFA Urfa 59.64 310 P **P** **03 21 43.5 +0.7**
ELZG Elazig 59.85 312 *i* P **P** **03 21 44.4 +0.2**
ROOS tl alroos 59.92 306⇑ P **P** **03 21 47.3 +2.5**
ATAB Bozova 60.05 310 *i* P **P** **03 21 46.3 +0.7**
GUMT Gumushane 60.13 314 P **P** **03 21 46.7 +0.5**
MALT Malatya 60.21 311 *eP* **P** **03 21 47.0 +0.3**
MALT Malatya 60.21 311⇑ P **P** **03 21 46.7 0.0**
MYA Malataya 60.21 311 P **P** **03 21 47.8 +1.1**
TOTH TOTAH 60.41 305⇑ P **P** **03 21 50.0 +1.9**
GZT Gaziantep 60.57 310 *i* P **P** **03 21 50.0 +0.8**
KFRA Kufra 60.58 307⇑ P **P** **03 21 50.5 +1.2**
TCHB Talchebab 60.63 304⇑ P **P** **03 21 51.9 +2.4**
GAZ Gaziantep 60.79 310 P **P** **03 21 52.1 +1.5**
BRBR Barbar 60.81 305⇑ P **P** **03 21 53.0 +2.1**
EIL Elat 60.85 301⇑ *i*P **P** **03 21 52.2 +1.0**
comp=N,2μm,1.3s
BIDA Albida 60.91 307⇑ P **P** **03 21 52.7 +1.2**
WRDH Warideh 60.96 308⇑ P **P** **03 21 52.8 +0.9**
DRWD Darouich 61.06 309⇑ P **P** **03 21 53.5 +1.1**
BTCH Batrach 61.06 308⇑ P **P** **03 21 53.5 +1.0**
SOC Sochi 61.08 317*c* *i*P **P** **03 21 51.3 -1.4**
SOC *e* pP 03 22 05.4 -0.6
SOC *e* 03 22 38.5
SOC *e*PPP 03 25 33.8
SOC *i* S **S** **03 30 02.0 -6.2**
SOC *e* 03 31 35.6
SOC *e*SS SS 03 34 05.4 -3.0
SOC pmax pmax
comp=Z,111nm,1.3s,mb5.8
SOC pmax pmax
comp=Z,509nm,2.9s,mb6.1

SOC Sochi 61.08 317 *i* P **P** **03 21 51.1 -1.6**
SLNF Sienfeh 61.13 308⇑ P **P** **03 21 54.1 +1.1**
GRSN GIRESUNGRSN 61.16 314 *i* P **P** **03 21 52.3 -0.9**
BHL Bhannes 61.17 306 *eP* **P** **03 21 55.0 +1.7**
HTY Hatay 61.33 308 *eP* **P** **03 21 55.9 +1.6**
COBT Iskenderun 61.35 309 *i* P **P** **03 21 55.4 +0.9**
ARNB Al Arnab 61.40 308⇑ P **P** **03 21 56.0 +1.2**
SVST Sivas 61.74 312 *i* P **P** **03 21 57.7 +0.5**
SVSK Karacayir 61.76 313 *eP* **P** **03 21 57.7 +0.5**
CEYT Ceyhan 61.87 309 *eP* **P** **03 21 59.1 +1.1**
KOZT Kozan 61.94 310 *eP* **P** **03 21 59.0 +0.5**
YAK Yakutsk 62.10 18*c* *i*P **P** **03 21 58.5 -1.1**
YAK *e**PP pP 03 22 07.0 -5.9
YAK *e* 03 22 38.3
YAK *e* 03 24 14.1
YAK *e*S **S** **03 30 16.1 -5.1**
YAK pmax pmax
comp=Z,171nm,1.0s,mb6.1
YAK pmax pmax
comp=N,100nm,1.3s
YAK pmax pmax
comp=E,91nm,1.4s
YAK smax
comp=E,27nm,1.1s
YAK smax
comp=Z,4.0nm,0.8s
YAK smax
comp=N,15nm,1.3s
YAK MLR MLR
comp=Z,2μm,14.0s,MS5.4
YAK MLR MLR
comp=N,1μm,17.0s,MS5.3
YAK MLR MLR
comp=E,1μm,15.0s,MS5.3

YAK Yakutsk 62.10 18⇑ *i*P **P** **03 21 58.1 -1.5**
comp=E,318nm,0.8s,mb6.5

BNN Bunyan 62.30 311 *eP* **P** **03 22 01.5 +0.6**
KARA Karaisali 62.47 309 *eP* **P** **03 22 02.7 +0.7**
PHNC Paralimni 62.73 307 P **P** **03 22 04.0 +0.3**
MERS Mersin 62.78 309 *eP* **P** **03 22 04.6 +0.5**
KVT Kavak 62.80 314 *eP* **P** **03 22 03.2 -1.0**
YOZ Yozgat 62.91 312 *eP* **P** **03 22 04.4 -0.6**
MEST Erdemli 63.01 308 *i* P **P** **03 22 05.5 0.0**
VRHR Novokhopersk 63.02 326 *eP* **P** **03 22 04.2 -1.4**
VRHR *e*S **S** **03 30 24.7 -7.9**
VRHR pmax pmax
comp=Z,210nm,1.0s,mb6.2
VRHR pmax pmax
comp=N,100nm,1.6s
VRHR pmax pmax
comp=E,110nm,1.2s
VRHR smax
comp=N,100nm,1.7s
VRHR smax
comp=Z,80nm,2.5s
VRHR smax
comp=E,160nm,1.4s
VRHR MLR MLR
comp=Z,750nm,21.0s,MS4.8
VRHR MLR MLR
comp=N,3μm,25.0s

AVNT Avonos 63.02 311 *i* P pP 03 22 22.6 +3.5
ANN Anapa 63.05 318⇓ *i*P **P** **03 22 03.5 -2.4**
ANN *e*S **S** **03 30 33.3 +0.3**
ANN pmax pmax
comp=Z,87nm,1.4s,mb5.7
ANN MLR MLR
comp=N,501nm,18.0s,MS4.9
ANN MLR MLR
comp=E,615nm,18.0s,MS4.9
ANN MLR MLR
comp=Z,162nm,18.0s,MS4.2

CSS Prodhromos 63.28 306⇑ P **P** **03 22 07.9 +0.5**
comp=Z,2.4nm,1.0s

CSS Prodhromos 63.28 306⇑ *eP* **P** **03 22 07.9 +0.5**
IKL Isikli 63.28 308 *eP* **P** **03 22 07.9 +0.5**
BSTP Nigde 63.37 310 *i* P **P** **03 22 08.7 +0.7**
MAMC Mammari 63.41 307⇑ P **P** **03 22 09.4 +1.1**
MAMC Mammari 63.41 307⇑ *eP* **P** **03 22 09.4 +1.1**

CTKT Corum 63.58 313 *i* P **P** **03 22 09.1 -0.3**
CDAG Cicekdag 63.61 312 *i* P **P** **03 22 09.2 -0.4**
BOYT Boyabat 63.72 314 *i* P **P** **03 22 09.9 -0.4**
BYBT Boyabat 63.84 314 *eP* **P** **03 22 11.3 +0.2**
ALFC Alevga 63.91 306⇑ P **P** **03 22 11.9 +0.4**
comp=Z,3.9nm,0.7s

ALFC Alevga 63.91 306⇑ *eP* **P** **03 22 11.9 +0.4**
ERMK Ermenek 63.98 308 *i* P **P** **03 22 12.4 +0.4**
KAMT Kaman 64.03 311 P **P** **03 22 12.0 -0.4**
PPCY Paphos 64.05 306⇑ P **P** **03 22 12.3 -0.2**
PPCY Paphos 64.05 306⇑ *eP* **P** **03 22 12.3 -0.2**
BRTR Keskin Array B 64.18 312 P **P** **03 22 12.7 -0.7**
comp=Z,33nm,0.8s,mb5.4,baz=120,slow=7.3,SNR=240
BRTR pP pP 03 22 28.2 +1.5
comp=Z,40nm,0.8s,baz=131,slow=5.8,SNR=14
BRTR S **S** **03 30 44.4 -2.8**
comp=Z,0.2nm,0.6s,baz=61,slow=34,SNR=2.4
BRTR ScS ScS 03 32 03.1 -0.3
comp=Z,0.2nm,0.5s,baz=183,slow=6.2,SNR=2.3
BRTR PKPPKP 03 51 05.5
comp=Z,0.9nm,1.1s,baz=307,slow=2.6,SNR=5.3

BR131 Keskin Array S 64.18 312⇑ *i*P **P** **03 22 12.4 -0.9**
comp=Z,33nm,0.8s,mb5.4

TOS Tosya 64.25 313 P **P** **03 22 13.4 -0.4**
PECR Pechory 64.31 332⇓ *i*P **P** **03 22 12.8 -1.4**
PECR *i* 03 22 31.6
PECR *i* 03 22 41.6
PECR *e*S **S** **03 30 40.0 -8.7**
PECR pmax pmax
comp=Z,800nm,2.0s,mb6.4
PECR MLR MLR
comp=Z,1μm,20.0s,MS5.1
PECR MLR MLR
comp=E,1μm,19.0s,MS5.2
PECR MLR MLR
comp=N,1μm,16.0s,MS5.2

CANT Cankiri 64.43 313 P **P** **03 22 15.2 +0.3**
ELDT Eldivan 64.54 312 *i* P **P** **03 22 15.4 -0.2**
VOR Voronezh 64.66 326⇑ *i*P **P** **03 22 13.8 -2.6**
VOR S **S** **03 30 48.0 -5.0**
VOR pmax pmax
comp=Z,450nm,1.4s,mb6.3
VOR smax
comp=N,170nm,1.4s

KONT Konya--Tatoy 64.71 309 P **P** **03 22 18.6 +1.8**
ANTO Ankara 64.85 312 P **P** **03 22 17.4 -0.3**
ANTO pmax pmax
comp=Z,110nm,1.1s,mb5.8

ANTO Ankara 64.85 312⇑ *i*P **P** **03 22 17.1 -0.6**
comp=Z,113nm,1.1s,mb5.8

LOD Lodumlu 64.88 312 P **P** **03 22 18.1 +0.2**
SAFT Safranbolu 65.28 313 P **P** **03 22 20.4 -0.1**
KIZT Kizilcal 65.30 310 P **P** **03 22 20.0 -0.6**
ARMA Armidale 65.31 127⇑ *i*P **P** **03 22 21.8 +1.1**
SIM Simferopol' 65.33 317*c* *i*P **P** **03 22 20.1 -0.7**
SIM *i* S S 03 30 58.0 -3.2
SIM pmax pmax
comp=Z,95nm,1.3s,mb5.7
SIM MLR MLR
comp=Z,1μm,24.0s,MS5.0

SGKT Sivrigoynuk 65.57 312 *i* P **P** **03 22 22.1 -0.3**
CNB Canberra Magne 65.63 133 *eP* **P** **03 22 22.7 0.0**
comp=Z,168nm,1.4s,mb5.9

BCK Bucak 65.98 309 P **P** **03 22 20.2 -4.8**
ISP Isparta 66.12 309*c* *i*P **P** **03 22 25.2 -0.7**
ISP Isparta 66.12 309⇑ *i*P **P** **03 22 25.2 -0.6**
comp=Z,607nm,1.6s,mb6.4

TKTP Tekketepe 66.31 309 *i* P **P** **03 22 26.6 -0.5**
RIV Riverview 66.32 131 *eP* **P** **03 22 27.8 +0.6**
ELL Elmali 66.37 308 P **P** **03 22 28.6 +1.1**
HENT Hendek 66.48 312 *i* P **P** **03 22 27.5 -0.7**
BORA Eskisehir 66.60 311 *i* P **P** **03 22 28.0 -0.9**
ALT Altintas 66.68 310 P **P** **03 22 29.7 +0.2**
HNR Honiara 66.95 103 P **P** **03 22 29.3 -1.8**
comp=Z,528nm,1.0s,mb6.5,baz=233,slow=1.2,SNR=9.3
HNR S S 03 31 15.0 -5.9
comp=Z,30nm,0.4s,baz=89,slow=6.3,SNR=2.3

HNR Honiara 66.95 103 P **P** **03 22 31.3 +0.1**
HNR pmax pmax
comp=Z,320nm,0.9s,mb6.3

HNR Honiara 66.95 103⇑ *i*P **P** **03 22 30.7 -0.4**
comp=Z,370nm,0.8s,mb6.5

FETY Fethiye 67.00 307 P **P** **03 22 31.2 -0.2**
GDZ Gediz 67.17 310 *i* P **P** **03 22 32.1 -0.4**
MOS Moscow 67.22 329 *eP* **P** **03 22 30.1 -2.8**
MOS *e* 03 23 00.2
MOS *e*S S 03 31 18.9 -5.3
MOS pmax pmax
comp=E,300nm,1.7s
MOS pmax pmax
comp=Z,1μm,1.7s,mb6.7
MOS pmax pmax
comp=Z,682nm,1.4s,mb6.5
MOS pmax pmax
comp=E,159nm,1.2s
MOS MLR MLR
comp=N,1μm,21.0s,MS5.2
MOS MLR MLR
comp=E,700nm,21.0s,MS5.2
MOS MLR MLR
comp=Z,2μm,21.0s,MS5.3

DENT Denizli 67.25 309 P **P** **03 22 31.5 -1.6**
DALT Dalyan (Mudla) 67.37 307 *eP* **P** **03 22 34.0 +0.1**
HRT Hereke 67.39 312 *eP* **P** **03 22 31.5 -2.5**
IZI Iznik 67.44 311 *eP* **P** **03 22 34.7 +0.4**
OBN Obninsk 67.50 328 P **P** **03 22 33.9 -0.8**
comp=Z,1μm,1.4s,mb6.8,SNR=20

OBN Obninsk 67.50 328α *i*P **P** **03 22 33.5 -1.2**
OBN *i* *PP pP 03 22 48.2 0.0
OBN *e* 03 23 01.2
OBN *i* S S 03 31 22.6 -5.0
OBN pmax pmax
comp=Z,596nm,1.7s,mb6.3
OBN MLR MLR
comp=Z,1μm,21.0s,MS5.1

OBN Obninsk 67.50 328⇑ *i*P **P** **03 22 33.5 -1.2**
comp=Z,357nm,1.2s,mb6.3
OBN LR LR
comp=Z,1μm,20.0s,MS5.1

YLV Yalova 67.56 312 *eP* **P** **03 22 34.1 -0.9**
ULDT Uludag 67.64 311 *i* P **P** **03 22 35.5 -0.1**
ARG Arkhangelos 67.68 307 *eP* **P** **03 22 36.1 +0.3**
YER Yerkesik 67.72 308 *eP* **P** **03 22 34.9 -1.2**
MANT Manisa 67.75 309 *i* P **P** **03 22 36.2 0.0**
ORLT Orhaneli 67.81 311 *eP* **P** **03 22 36.0 -0.6**
DST Dursunbey 67.92 310 *eP* **P** **03 22 36.8 -0.5**
SKR Severo-Kuril's 68.01 37 *eP* **P** **03 22 33.5 -4.4**
SKR *e* pP 03 22 50.4 -1.0
SKR pmax pmax
comp=Z,190nm,0.8s,mb6.2
SKR pmax pmax
comp=N,220nm,1.0s
SKR pmax pmax
comp=E,220nm,1.0s
SKR MLR MLR
comp=Z,4μm,18.0s,MS5.6

AYDN Tasoluk 68.13 308 *i* P **P** **03 22 38.1 -0.5**
MLSB Milas 68.14 308 *eP* **P** **03 22 38.7 0.0**
KARP Karpathos 68.35 306 *eP* **P** **03 22 40.5 +0.5**
BDRM Kayabasi 68.37 308 *i* P **P** **03 22 39.7 -0.4**
ELBA Catalca 68.38 312 *i* P **P** **03 22 39.6 -0.6**
CTT Catalca 68.38 312 *eP* **P** **03 22 38.3 -1.9**
AKS Akhisar 68.40 310 *eP* **P** **03 22 38.3 -2.0**
BTOK Tokmak 68.40 311 *i* P **P** **03 22 40.2 -0.1**
BODT Bodrum 68.47 308 *eP* **P** **03 22 39.4 -1.4**
BALB Balikesir 68.49 310 *eP* **P** **03 22 40.4 -0.5**
BNT Bandirma 68.60 311 *eP* **P** **03 22 40.4 -1.1**
KLMR Klimovskoe 68.68 335*c* *i*P **P** **03 22 40.9 -1.1**
KLMR *e*S S 03 31 37.9 -3.7
KLMR pmax pmax
comp=Z,320nm,1.2s,mb6.1
KLMR MLR MLR
comp=Z,840nm,20.0s,MS5.0

KDAG Bornova 68.73 309 *i* P **P** **03 22 42.9 +0.5**
IZM Izmir 68.74 309 *eP* **P** **03 22 42.3 -0.1**
LSZ Lusaka 68.79 251⇓ *i*P **P** **03 22 43.7 +0.9**
LSZ *e**PP pP 03 22 54.5 -1.8
LSZ *e**SP sP 03 22 59.2 -2.4
LSZ pmax pmax
comp=Z,82nm,1.2s,mb5.5
LSZ MLR MLR
comp=Z,5μm,20.0s,MS5.7

LSZ Lusaka 68.79 251⇓ *i*P **P** **03 22 43.7 +0.9**
comp=Z,82nm,1.2s,mb5.5

LSZ ePP pP 03 22 54.5 -1.8
LSZ eSP sP 03 22 59.2 -2.5
LSZ LR LR
comp=Z,5µm,20.0s,MS5.7
MRMT Marmara Adasi 68.89 311 eP **P 03 22 41.0 -2.4**
SMG Samos 68.95 308 eP **P 03 22 44.0 +0.2**
ZKR Zakros 69.05 305 eP **P 03 22 44.7 +0.4**
PSN Preselentsi 69.10 315 eP **P 03 22 44.0 -0.7**
TIRR Tirgusor 69.11 316⇑ iP **P 03 22 44.2 -0.6**
TIRR Tirgusor 69.11 316⇑ iP **P 03 22 43.8 -1.0**
comp=Z,135nm,1.3s,mb5.7
MFT Murefte 69.16 312 eP **P 03 22 42.8 -2.2**
URLA Izmir 69.25 309 i P **P 03 22 46.0 +0.5**
AYVA Ayvalik 69.34 310 i P **P 03 22 46.2 +0.1**
XRY Khrisi 69.44 305 eP **P 03 22 46.7 -0.1**
KIS Kishinev 69.45 318 c iP **P 03 22 44.0 -2.8**
KIS i *PP pP 03 23 14.0 +14
KIS e 03 25 22.0
KIS i S S 03 31 44.0 -6.6
KIS i *SS sS 03 32 40.0 +27
KIS MLR MLR
comp=E,700nm,20.0s
KIS MLR MLR
comp=E,1µm,20.0s,MS5.1
KIS MLR MLR
comp=E,2µm,20.0s
TIXI Tiksi 69.45 11 eP **P 03 22 38.7 -8.1**
TIXI e*PP pP 03 22 56.1 -4.3
TIXI ePPP 03 26 53.8
TIXI eS S 03 31 40.0 -11
TIXI e*SS sS 03 32 11.1 -2.2
TIXI e 03 32 31.3
TIXI pmax pmax
comp=N,54nm,0.7s
TIXI pmax pmax
comp=E,47nm,0.7s
TIXI pmax pmax
comp=Z,288nm,0.7s,mb6.3
TIXI pmax pmax
comp=Z,1µm,1.7s,mb6.6
TIXI smax
comp=N,50nm,10.3s
TIXI smax
comp=E,84nm,9.6s
TIXI MLR MLR
comp=Z,3µm,19.0s,MS5.6
TIXI MLR MLR
comp=N,1µm,17.0s,MS5.4
TIXI MLR MLR
comp=E,1µm,18.0s,MS5.4
TIXI Tiksi 69.45 11⇑ iP **P 03 22 45.1 -1.7**
CFR Carcaliu 69.47 316⇓ iP **P 03 22 46.4 -0.6**
HARR Harsova 69.50 316⇑ iP **P 03 22 46.8 -0.4**
NPS Neapolis 69.56 305 eP **P 03 22 48.1 +0.6**
PRK Paraskevi 69.65 310 eP **P 03 22 48.5 +0.5**
LAST Lasithi 69.65 305 eP **P 03 22 48.5 +0.4**
CHOS Chios island 69.67 309 eP **P 03 22 48.8 +0.6**
EDRB Edirne 69.76 313 eP **P 03 22 47.6 -1.2**
SANT Santorini 69.83 307 eP **P 03 22 48.2 -1.0**
SANT Santorini 69.83 307 P **P 03 22 47.2 -2.0**
THR1 Thera Island 69.83 307 eP **P 03 22 48.5 -0.7**
APE Apeiranthos 69.88 307 eP **P 03 22 49.2 -0.3**
APE Apeiranthos 69.88 307⇑ iP **P 03 22 48.7 -0.8**
APE Apeiranthos 69.88 307 eP **P 03 22 49.0 -0.5**
APE Apeiranthos 69.88 307 c iP **P 03 22 48.6 -0.9**
THR3 Thira Island, 69.89 307 eP **P 03 22 48.8 -0.7**
BOZC Bozcaada 69.91 310 i P **P 03 22 49.5 -0.2**
JMB Yambol 70.00 313 eP **P 03 22 50.0 -0.2**
JMB Yambol 70.00 313 eP **P 03 22 49.9 -0.3**
ALN Alexandroupoli 70.10 311 eP **P 03 22 50.5 -0.3**
IDI Anoyia 70.15 305 LR LR 03 59 57.3
comp=E,559nm,19.3s,MS4.8,baz=91,slow=41
AKASG Malin Array Be 70.17 322 P **P 03 22 49.7 -1.5**
comp=E,38nm,0.7s,mb5.4,baz=92,slow=4.9,SNR=237
AKASG S S 03 31 54.0 -5.1
comp=E,0.2nm,0.4s,baz=101,slow=10,SNR=7.6
AKASG ScS ScS 03 32 46.2 -3.7
comp=E,1.0nm,0.7s,baz=289,slow=35,SNR=3.6
SIVA Sivas 70.18 305 eP **P 03 22 51.9 +0.5**
PET Petropavlovsk 70.25 35 eP **P 03 22 49.8 -1.9**
PET e 03 23 08.2
PET e 03 25 29.3
PET eS S 03 32 07.0 +7.0
PET ePPS 03 32 49.4
PET pmax pmax
comp=Z,900nm,3.8s
PET pmax pmax
comp=Z,121nm,1.5s,mb5.6
PET pmax pmax
comp=Z,200nm,13.3s
PET smax
comp=E,200nm,23.3s
PET Petropavlovsk 70.25 35 eP **P 03 22 50.5 -1.2**
comp=E,60nm,0.7s,mb5.6
RDO Rodhopi 70.52 312 eP **P 03 22 53.0 -0.4**
VRI Vrincioaia 70.59 317⇓ iP **P 03 22 54.2 +0.4**
VRI Vrincioaia 70.59 317 P **P 03 22 54.2 +0.4**
PLOR Plostina 70.64 317⇓ iP **P 03 22 54.5 +0.4**
LOS Limnos 70.67 310 eP **P 03 22 54.1 -0.2**
KDZ Kurdzhali 70.70 312 eP **P 03 22 54.0 -0.5**
VAM Vamos 70.72 305 eP **P 03 22 55.1 +0.5**
GVD Gavdhos 70.74 305 eP **P 03 22 54.8 0.0**
GVD Gavdhos 70.74 305 eP **P 03 22 55.0 +0.2**
BUC1 Bucharest 70.76 315 P **P 03 22 55.5 +0.6**
PVL Pavlikeni 71.04 314 eP **P 03 22 57.0 +0.4**
MLR Muntele Rosu 71.05 316 PKPPKP 03 50 48.9
comp=E,3.1nm,1.0s,baz=274,slow=2.1,SNR=8.1
MLR LR LR 03 59 29.5
comp=E,1µm,21.1s,MS5.1,baz=229,slow=40
MLR Muntele Rosu 71.05 316⇑ iP **P 03 22 56.9 +0.3**
MLR Muntele Rosu 71.05 316 P **P 03 22 57.0 +0.4**
PTL Penteli 71.33 308 eP **P 03 22 57.5 -0.8**
ATH Athens Observa 71.43 308 eP **P 03 22 57.9 -1.0**
AOS Alonnisos 71.47 309 eP **P 03 22 58.9 -0.3**
OUR Ouranopolis 71.56 311 eP **P 03 22 58.4 -1.3**
MTUR Matau 71.61 316⇑ iP **P 03 23 00.2 +0.2**
MTUR Matau 71.61 316⇑ P **P 03 23 00.2 +0.2**
CRA Chernovtsy 71.64 319 P **P 03 23 04.8 +4.6**
VOIR 71.65 316⇑ iP **P 03 22 59.4 -0.9**
PAIG Paliouri 71.73 310 eP **P 03 22 59.7 -1.0**
KYTH Kithira 71.76 306 eP **P 03 23 00.5 -0.4**
NVR Nevrokopi 71.80 312 eP **P 03 23 00.6 -0.6**
VLI Veliai 71.89 307 eP **P 03 23 01.5 -0.2**
MIR Mirnyy 71.92 181⇓ iP **P 03 23 02.5 +0.6**
MIR pmax pmax
comp=Z,593nm,1.8s,mb6.2
MMB Musomiste 71.94 312 eP **P 03 23 01.0 -1.0**
SRS Serrai 71.97 311 eP **P 03 23 01.1 -1.1**
PLG Polygyros 71.97 311 eP **P 03 23 01.5 -0.7**
BURAR Bucovina Array 71.97 318⇑ iP **P 03 23 02.5 +0.3**
BURAR Bucovina Array 71.97 318⇑ P **P 03 23 02.5 +0.3**
NEO Neokhori 71.99 309 eP **P 03 23 00.8 -1.5**
XOR Xorichti 72.03 309 eP **P 03 23 00.2 -2.3**
MNK Minsk 72.04 326⇑ iP **P 03 23 00.0 -2.6**
MNK e pP 03 23 18.0 +1.8
MNK eS S 03 32 12.0 -8.8
MNK pmax pmax
comp=Z,1µm,1.0s,mb6.8
LKR Lokris 72.08 309 eP **P 03 23 01.1 -1.7**
SOH Sokhos 72.11 311 eP **P 03 23 01.6 -1.3**
THE Thessaloniki 72.37 311 eP **P 03 23 02.7 -1.9**
PUL Pulkovo 72.39 331 eP **P 03 23 03.9 -0.8**
PUL e 03 25 40.2
PUL ePPP 03 27 23.0
PUL eS S 03 32 15.8 -9.0
PUL pmax pmax
comp=Z,554nm,1.4s,mb6.3
PUL pmax pmax
comp=N,192nm,1.1s
PUL pmax pmax
comp=E,802nm,1.5s
PUL smax
comp=N,406nm,12.4s
PUL smax
comp=Z,99nm,13.6s
PUL smax
comp=E,287nm,15.1s
PUL MLR MLR
comp=N,718nm,22.0s,MS5.2
PUL MLR MLR
comp=Z,1µm,22.0s,MS5.2
PUL MLR MLR
comp=E,1µm,25.0s,MS5.2

PUL Pulkovo 72.39 331⇑ eP **P 03 23 04.2 -0.5**
VTS Vitosha 72.47 313 eP **P 03 23 05.0 -0.2**
VTS Vitosha 72.47 313 eP **P 03 23 04.8 -0.4**
VTS Vitosha 72.47 313⇑ iP **P 03 23 04.9 -0.3**
VTS Vitosha 72.47 313 P **P 03 23 05.2 0.0**
KNT Kendrikon 72.50 311 eP **P 03 23 04.3 -1.0**
CASY Casey 72.59 173 eP **P 03 23 05.5 -0.4**
AGG Agios Georgios 72.65 309 eP **P 03 23 04.7 -1.5**
LIT Litokhoron 72.66 310 eP **P 03 23 04.9 -1.4**
ITM Ithomi 72.75 307 eP **P 03 23 06.1 -0.7**
VAY Valandovo 72.76 311⇑ iP **P 03 23 05.3 -1.6**
GRG Griva 72.84 311 eP **P 03 23 06.2 -1.1**
IDID Didziasalis 72.87 326 eP **P 03 23 06.9 -0.6**
IDID AMb AMB 03 23 08.2
comp=Z,3µm,0.9s
EVR Evrytania 73.04 309 eP **P 03 23 07.4 -1.1**
JOF Joensuu 73.07 335 ep **P 03 23 08.1 -0.6**
comp=Z,344nm,1.5s,mb6.1
JOF Joensuu 73.07 335 eP **P 03 23 08.1 -0.6**
JOF pmax pmax
comp=Z,344nm,1.5s,mb6.1
STIP Stip 73.10 312⇑ iP **P 03 23 07.1 -1.8**
IIGN Ignalina 73.16 326 eP **P 03 23 08.6 -0.6**
IIGN AMb AMB 03 23 10.2
comp=Z,3µm,1.4s,mb7.0
LVV L'vov 73.19 320 eP **P 03 23 08.1 -1.3**
LVV e pP 03 23 23.9 +0.9
LVV e 03 25 49.9
LVV ePPP 03 27 38.3
LVV i S S 03 32 28.7 -5.2
LVV MLR MLR
comp=N,80nm,20.0s,MS4.2
LVV MLR MLR
comp=Z,100nm,20.0s,MS4.1
LVV MLR MLR
comp=E,100nm,18.0s,MS4.2
RLS Riolos of Patr 73.21 308 eP **P 03 23 09.2 -0.3**
KZN Kozani 73.23 310 eP **P 03 23 08.5 -1.2**
IZAR Zarasai 73.25 327 eP **P 03 23 09.0 -0.8**
IZAR AMb AMB 03 23 10.6
comp=Z,2µm,1.3s,mb6.9
ISAL Salakas 73.27 327 eP **P 03 23 09.1 -0.8**
ISAL AMb AMB 03 23 10.7
comp=Z,2µm,1.4s,mb6.9
LBTB Lobatse 73.41 242 P **P 03 23 11.8 +1.1**
LBTB Lobatse 73.41 242 P **P 03 23 11.9 +1.2**
LBTB pmax pmax
comp=Z,78nm,1.0s,mb5.6
LBTB Lobatse 73.41 242⇓ eP **P 03 23 11.7 +1.0**
comp=Z,78nm,1.0s,mb5.6
LBTB epP pP 03 23 22.3 -2.0
LBTB LR LR
comp=Z,4µm,20.0s,MS5.7
DRGR 73.50 317⇑ iP **P 03 23 11.4 +0.2**
DRGR 73.50 317⇑ P **P 03 23 11.4 +0.2**
BOLS Boljevac 73.56 314⇓ iP **P 03 23 10.4 -1.2**
FNA Florina 73.59 311 eP **P 03 23 10.0 -1.7**
BIA Bitola 73.66 311⇑ iP **P 03 23 10.0 -2.2**
SKO Skopje 73.69 312 eP **P 03 23 11.1 -1.3**
SKO Skopje 73.69 312⇑ iP **P 03 23 11.2 -1.1**
VSU Vasula 73.74 330 c iP **P 03 23 11.6 -1.0**
LVZ Lovozero 73.84 340 P **P 03 23 12.1 -1.2**
comp=Z,310nm,0.7s,mb6.3,SNR=5.5
LVZ Lovozero 73.84 340 c iP **P 03 23 07.6 -5.7**
LVZ e 03 25 56.8
LVZ eS S 03 32 34.2 -7.1
LVZ eSSS 03 40 38.4
LVZ pmax pmax
comp=Z,525nm,2.8s,mb6.0
LVZ pmax pmax
comp=N,176nm,2.9s
LVZ pmax pmax
comp=E,190nm,3.3s
LVZ smax
comp=N,370nm,3.4s
LVZ smax
comp=Z,212nm,2.5s
LVZ smax
comp=E,240nm,3.5s
LVZ MLR MLR
comp=N,851nm,23.0s,MS5.1
LVZ MLR MLR
comp=Z,1µm,23.0s,MS5.2
LVZ MLR MLR
comp=E,716nm,22.0s,MS5.1
LVZ Lovozero 73.84 340⇑ iP **P 03 23 11.7 -1.6**
JAN Janina 73.86 310 eP **P 03 23 13.0 -0.3**
VLS Valsamata 73.91 308 eP **P 03 23 12.5 -1.1**
LKD Levkas 73.91 309 eP **P 03 23 13.0 -0.6**
KWP Kalwaria 74.00 320 ePc **P 03 23 14.2 0.0**
comp=Z,0.8nm,1.6s
KWP ePcP PcP 03 23 32.5 +3.3
KWP L 03 57 43.7
comp=Z,0.8nm,24.9s
KWP Kalwaria 74.00 320⇑ eP **P 03 23 14.2 0.0**
KWP e 03 23 32.5
KWP pmax pmax
comp=Z,800nm,1.6s,mb6.4
KWP MLR MLR
comp=Z,800nm,24.9s,MS4.9
KWP Kalwaria 74.00 320⇑ eP **P 03 23 14.2 0.0**
KWP ePcP PcP 03 23 32.5 +3.3
BZS Buzias 74.06 316⇓ iP **P 03 23 14.2 -0.3**
BZS Buzias 74.06 316 P **P 03 23 14.5 0.0**
APA Apatity 74.13 340⇓ iP **P 03 23 14.4 -0.5**
APA i pP 03 23 30.4 +1.9
APA i S S 03 32 40.0 -4.5
APA pmax pmax
comp=Z,110nm,1.2s,mb5.7
KOLS Kolonicke sedl 74.15 319 i P **P 03 23 15.7 +0.6**
comp=Z,65nm,1.4s,mb5.4
KOLS e pP 03 23 25.9 -2.8
KOLS eS S 03 32 42.1 -2.7
IGT Igoumenitsa 74.24 309 eP **P 03 23 14.0 -1.6**
SUW Suwalki 74.57 325 ePc **P 03 23 16.6 -0.9**
comp=Z,0.8nm,1.1s
SUW eS S 03 32 45.0 -4.4
SUW eSKS 03 33 20.2
SUW L 04 00 18.8
comp=Z,0.7nm,21.8s
SUW Suwalki 74.57 325⇑ eP **P 03 23 16.6 -0.9**
SUW eS S 03 32 45.0 -4.4
SUW eSKS 03 33 20.2
KEK Kerkira 74.67 310 eP **P 03 23 17.0 -1.1**
CRVS Cervenica-Dubn 74.68 319 eP **P 03 23 18.5 +0.4**
CRVS eS S 03 32 46.7 -3.9
CRVS Cervenica-Dubn 74.68 319 eP **P 03 23 18.5 +0.4**
comp=Z,90nm,1.5s,mb5.5
CRVS eS S 03 32 46.7 -3.9
CRVS LR LR
comp=Z,250nm,22.4s,MS4.5
QSH Qafa e Shtames 74.78 311 i p **P 03 23 17.0 -1.7**
TIR Tirane 74.79 311 eP **P 03 23 17.3 -1.5**
PVY Plav 74.84 313⇑ iP **P 03 23 18.3 -0.8**
STHS Stebnicka Huta 74.90 320 i P **P 03 23 19.7 +0.3**
comp=Z,80nm,1.0s,mb5.6
STHS e pP 03 23 33.5 +0.4
FINES FINESS Array B 74.91 332 P **P 03 23 18.5 -0.9**
comp=Z,30nm,0.7s,mb5.3,baz=92,slow=5.5,SNR=114
FINES S S 03 32 48.7 -4.4
comp=Z,1.5nm,0.9s,baz=90,slow=3.8,SNR=2.3
FINES LR LR 04 00 23.3
comp=Z,1µm,21.3s,MS5.1,baz=269,slow=39
FINES FINESS Array B 74.91 332 i P **P 03 23 18.5 -0.9**
FINES pmax pmax
comp=Z,300nm,0.7s
FINES FINESS Array B 74.91 332 P **P 03 23 18.5 -0.9**
FINES S S 03 32 48.7 -4.4
FINES LR LR 04 00 23.4
IVA Berane 74.93 313⇑ iP **P 03 23 19.0 -0.6**
KAF Kangasniemi 75.00 333 ep **P 03 23 19.2 -0.7**
comp=Z,416nm,1.4s,mb6.2,baz=104,slow=4.7
KAF Kangasniemi 75.00 333 eP **P 03 23 19.2 -0.7**
KAF pmax pmax
comp=Z,416nm,1.4s,mb6.2
DIVS Divcibare 75.00 314 i P **P 03 23 19.9 -0.1**
DIVS Divcibare 75.00 314 eP **P 03 23 19.4 -0.6**
KECS Kecovo 75.25 319 i P **P 03 23 21.4 0.0**
comp=Z,43nm,0.9s,mb5.4
KECS e pP 03 23 36.6 +1.5
ULC Ulcinj 75.31 312⇑ iP **P 03 23 21.2 -0.6**
PLE Pljevlja 75.35 313⇑ iP **P 03 23 22.2 +0.2**
TTG Podgorica 75.35 312⇑ iP **P 03 23 21.0 -1.0**
PKSN Nyarlorinc 75.44 317 eP **P 03 23 23.2 +0.7**

NIE Niedzica 75.50 320 i Pc **P 03 23 23.4 +0.6**
WAR Warsaw 75.51 323 eP **P 03 23 22.9 0.0**
WAR ePcP PcP 03 23 40.9 +5.2
WAR eS S 03 32 56.4 -3.4
WAR eSKS 03 33 33.3
WAR L 04 01 10.2
comp=Z,1.3nm,23.0s
DZM Mont Dzumac 75.55 114 P **P 03 23 24.0 +0.8**
comp=Z,63nm,1.1s,mb5.5,baz=294,slow=5.0,SNR=19
PSZ Piszkesteto 75.56 318⇓ iP **P 03 23 23.3 +0.1**
PSZ Piszkesteto 75.56 318⇓ iP **P 03 23 23.3 +0.1**
PSZ Piszkesteto 75.56 318 P **P 03 23 23.2 0.0**
PSZ pmax pmax
comp=Z,150nm,1.2s,mb5.8
NKY Niksic 75.58 313⇑ iP **P 03 23 22.6 -0.7**
BUM Brajici-Budva 75.60 312⇑ iP **P 03 23 22.7 -0.7**
UPM Unac-Piva 75.69 313⇑ iP **P 03 23 23.3 -0.6**
HCY Herceg Novi 75.91 312⇑ iP **P 03 23 24.3 -0.9**
BRY Bratogost 75.92 313⇑ iP **P 03 23 24.2 -1.1**
PKS7 Kunszentmiklos 75.94 317⇑ eP **P 03 23 25.2 -0.2**
OJC Ojcow 75.95 320 i Pc **P 03 23 25.4 0.0**
OJC eS S 03 33 00.6 -4.1
OJC L 04 00 32.2
comp=Z,2.6nm,22.9s
LCI Lecce 76.02 310 P **P 03 23 25.3 -0.5**
LCI pmax pmax
comp=Z,280nm,1.7s,mb5.9
LCI Lecce 76.02 310 P **P 03 23 25.3 -0.5**
comp=Z,280nm,1.7s,mb5.9
BUD Budapest 76.09 317⇑ eP **P 03 23 26.2 0.0**
BUD Budapest 76.09 317⇑ iP **P 03 23 26.2 0.0**
PKSM Moragy 76.20 316⇑ iP **P 03 23 26.5 -0.3**
LIKS Likavka 76.23 319 i P **P 03 23 29.1 +2.1**
LIKS Likavka 76.23 319 eP **P 03 23 26.7 -0.3**
comp=Z,48nm,0.8s,mb5.5
MAW Mawson 76.32 192 eP **P 03 23 28.2 +0.7**
comp=Z,19nm,0.8s,mb5.1
MAW Mawson 76.32 192 P **P 03 23 28.2 +0.7**
comp=Z,18nm,0.6s,mb5.2,baz=27,slow=7.4,SNR=38
MAW S S 03 33 07.5 -1.4
comp=Z,1.7nm,1.0s,baz=242,slow=19,SNR=1.7
MAW LR LR 03 51 52.8
comp=Z,2µm,20.1s,MS5.3,baz=21,slow=32
MAW Mawson 76.32 192 P **P 03 23 28.2 +0.7**
MAW S S 03 33 07.5 -1.3
MAW pmax pmax
comp=Z,180nm,0.6s
MAW smax
comp=N,2.0nm,1.0s
BKM Butte a Klehm 76.36 110⇑ iP **P 03 23 28.4 +0.7**
STON Ston 76.54 313⇑ iP **P 03 23 27.3 -1.4**
SRO2 Moca 76.55 318 i P **P 03 23 29.1 +0.3**
SRO2 eSP sP 03 23 44.6 -3.2
RHK1 Bakonya 76.58 316⇓ eP **P 03 23 28.5 -0.5**
SRO Srobarova 76.61 318 i P **P 03 23 29.5 +0.4**
comp=N,312nm,1.3s,mb6.1
SRO e pP 03 23 44.9 +2.1
SRO1 Iza 76.65 318 i P **P 03 23 29.7 +0.3**
SRO1 eSP sP 03 23 44.4 -4.0
BRT Bari-Castellan 76.75 311 P **P 03 23 29.8 -0.1**
BRT pmax pmax
comp=Z,162nm,1.4s,mb5.8
BRT Bari-Castellan 76.75 311 P **P 03 23 29.8 -0.1**
comp=Z,162nm,1.4s,mb5.8
RAC Raciborz 76.95 320 eP **P 03 23 31.9 +0.8**
RAC MLR MLR
comp=Z,600nm,23.4s,MS4.8
OKC Ostrava-Krasne 76.95 320 i P **P 03 23 31.3 +0.2**
OKC epP pP 03 23 41.6 -3.2
OKC eS S 03 33 11.7 -4.0
OKC eSKS 03 33 35.8
OKC AMS AMS 04 02 20.0
comp=Z,400nm,17.4s
OKC Ostrava-Krasne 76.95 320 i P **P 03 23 31.3 +0.2**
OKC epP pP 03 23 41.6 -3.2
OKC eS S 03 33 11.7 -4.0
OKC e 03 33 35.8
TIP Timpagrande 76.98 309⇑ iP **P 03 23 31.3 +0.1**
KEV Kevo 77.12 341 ep **P 03 23 31.2 -0.9**
comp=Z,265nm,1.5s,mb6.0
KEV Kevo 77.12 341⇑ iP **P 03 23 31.1 -1.0**
KEV e*PP pP 03 23 46.6 +0.8
KEV pmax pmax
comp=Z,82nm,0.9s,mb5.7
GRI Girifalco 77.22 308 P **P 03 23 33.3 +0.7**
comp=Z,92nm,1.2s,mb5.6
ORI Oriolo Calabro 77.27 310 P **P 03 23 33.6 +0.7**
comp=Z,384nm,1.5s,mb6.1
SMOL Smolenice 77.27 318 i P **P 03 23 33.0 +0.1**
MORC Moravsky Berou 77.33 320⇑ iP **P 03 23 33.6 +0.4**
MORC Moravsky Berou 77.33 320 P **P 03 23 33.4 +0.2**
MORC pmax pmax
comp=Z,200nm,1.2s,mb5.9
MORC Moravsky Berou 77.33 320⇑ iP **P 03 23 33.1 -0.2**
comp=Z,204nm,1.2s,mb5.9
MORC e pP 03 23 44.0 -3.0
ZST Bratislava 77.45 318 i P **P 03 23 34.4 +0.5**
ZST eSP sP 03 23 49.7 -3.2
ZST ePP PP 03 26 25.9 -3.0
ZST eS S 03 33 15.7 -5.5
ZST Bratislava 77.45 318 i P **P 03 23 34.4 +0.5**
comp=Z,415nm,1.3s,mb6.2
ZST e pP 03 23 49.7 +2.1
ZST ePP PP 03 26 25.9 -3.0
ZST eS S 03 33 15.7 -5.5
ZST LR LR
comp=Z,80nm,18.4s,MS4.1
SOI Samo 77.47 308 P **P 03 23 34.6 +0.6**
SOI pmax pmax
comp=Z,77nm,1.2s,mb5.5
SOI Samo 77.47 308 P **P 03 23 34.6 +0.6**
comp=Z,77nm,1.2s,mb5.5
ARCES ARCESS Array B 77.55 340 P **P 03 23 33.9 -0.6**
comp=Z,14nm,0.5s,mb5.2,baz=92,slow=5.7,SNR=112
ARCES pP pP 03 23 49.2 +1.1
comp=Z,60nm,0.8s,baz=89,slow=5.3,SNR=11
ARCES S S 03 33 22.1 -0.1
comp=Z,3.8nm,0.9s,baz=84,slow=15,SNR=4.5
ARCES LR LR 04 00 21.7
comp=Z,1µm,21.3s,MS5.2,baz=113,slow=38
ARCES ARCESS Array B 77.55 340 P **P 03 23 33.9 -0.5**
ARCES *PP pP 03 23 49.2 +1.0
ARCES S S 03 33 22.1 -0.1
ARCES pmax pmax
comp=Z,140nm,0.5s
ARCES smax
comp=N,4.0nm,0.9s
ARCES MLR MLR
comp=Z,1µm,21.3s
ARE0 ARCESS Array S 77.55 340⇑ iP **P 03 23 34.0 -0.4**
PTRP Pietrapertosa 77.59 310 P **P 03 23 35.6 +0.9**
comp=Z,255nm,5.5s
CEL Celeste 77.60 308 P **P 03 23 35.4 +0.7**
comp=Z,150nm,1.2s,mb5.8
SCLL Scilla 77.74 308 P **P 03 23 36.5 +1.0**
comp=Z,18nm,0.7s,mb5.1
FGMS Monte Sant'Ang 77.74 311 P **P 03 23 34.9 -0.6**
comp=Z,39nm,0.7s,mb5.4
MTTG Motta San Giov 77.75 308 P **P 03 23 36.8 +1.3**
comp=Z,82nm,0.8s,mb5.7
CUC Castrocucco 77.75 310 P **P 03 23 35.2 -0.4**
SOP Sopron 77.77 317⇑ iP **P 03 23 35.8 +0.1**
VRAC Vranov 77.90 319⇓ iP **P 03 23 36.5 +0.1**
VRAC Vranov 77.90 319⇓ P **P 03 23 36.5 +0.1**
GKP Gorka Klasztor 77.93 323 eP **P 03 23 36.3 -0.3**
GKP eS S 03 33 24.0 -2.3
GKP L 04 03 43.0
comp=Z,0.7nm,21.8s
GKP Gorka Klasztor 77.93 323 eP **P 03 23 36.3 -0.3**
GKP eS S 03 33 24.0 -2.3
MGR Morigerati 77.96 310 P **P 03 23 36.0 -0.7**
comp=Z,102nm,1.6s,mb5.5
VKA Vienna 77.98 318 i P **P 03 23 38.4 +1.6**
BILL Bilibino 78.14 21 c iP **P 03 23 36.2 -1.5**
BILL pmax pmax
comp=Z,226nm,1.7s,mb5.8
BILL MLR MLR
comp=Z,5µm,21.0s,MS5.8
BILL Bilibino 78.14 21⇑ iP **P 03 23 36.0 -1.7**
comp=Z,147nm,1.1s,mb5.8
KTK1 Kautokeino 78.17 340⇑ iP **P 03 23 37.0 -0.9**
KTK1 AMb AMB 03 23 39.4
comp=Z,153nm,1.5s,mb5.7
KTK1 epP pP 03 23 49.2 -2.5

KTK1 *e*sP sP 03 23 52.6 -4.3
KTK1 Kautokeino 78.17 340⇑*i*P **P 03 23 37.0 -0.9**
comp=Z,153nm,1.5s,mb5.7
DPC Dobruska-Polom 78.18 320 *i* P **P 03 23 38.6 +0.7**
DPC *e*pP pP 03 23 48.3 -3.4
DPC *e*S S 03 33 26.1 -2.9
DPC AMS AMS 04 03 00.0
comp=Z,500nm,18.4s
KSP Ksiaz 78.24 321 *e*Pc **P 03 23 39.0 +0.7**
comp=Z,0.9nm,1.6s
KSP *e*S S 03 33 25.8 -3.9
KSP *e*SKS 03 33 48.4
KSP L 04 05 11.1
comp=Z,1.0nm,20.3s
KSP Ksiaz 78.24 321⇑*e*P **P 03 23 38.6 +0.3**
KSP *e*PcP PcP 03 23 48.4 +0.8
KSP *e*pP pP 03 23 57.6 +5.6
KSP *e*S S 03 33 26.0 -3.7
UPC Upice 78.39 320 *i* P **P 03 23 39.6 +0.5**
UPC *e*pP pP 03 23 50.5 -2.3
ARSA Arzberg 78.43 317 *i* P **P 03 23 39.8 +0.4**
comp=Z,712nm,1.9s,mb6.3,SNR=62
BOJS Bojanci 78.50 315 *i* P **P 03 23 39.7 0.0**
BOJS *e* pP 03 23 54.3 +0.9
BISS Bistriski jare 78.66 316⇑*i*P **P 03 23 40.9 +0.3**
PERS Pernice 78.67 316 *i* P **P 03 23 41.0 +0.4**
PERS *i* 03 23 48.8
NVLJ Novalja 78.71 314⇑*i*P **P 03 23 39.6 -1.2**
PDKS Podkum 78.71 316⇑*i*P **P 03 23 41.2 +0.4**
LJU Ljubljana 79.04 316 *e*P **P 03 23 43.0 +0.4**
LJU *e* pP 03 23 57.1 +0.8
LJU *e* 03 24 02.0
LJU Ljubljana 79.04 316 *e*P **P 03 23 43.0 +0.4**
LJU *e* pP 03 23 57.2 +0.8
OBKA Obir 79.05 316 *i* P **P 03 23 43.1 +0.4**
comp=Z,736nm,1.9s,mb6.3,SNR=65
DRV Dumont d'Urvil 79.07 163 P **P 03 23 41.0 -1.8**
DRV S S 03 33 37.0 -1.5
SUR Sutherland 79.27 236 P **P 03 23 45.8 +1.9**
comp=Z,450nm,0.9s,mb6.4,SNR=11
PRU Pruhonice 79.29 320 *i* P **P 03 23 44.3 +0.3**
PRU *e*pP pP 03 23 53.8 -4.0
PRU *e*S S 03 33 38.0 -2.8
PRU *e*SKS 03 33 56.3
PRU AMS AMS 04 03 50.0
comp=Z,600nm,22.8s
MOA Molln 79.32 318 *i* P **P 03 23 44.0 -0.2**
comp=Z,344nm,1.9s,mb6.0,SNR=45
SMY Shemya 79.35 38 P **P 03 23 44.1 -0.3**
SMY pmax pmax
comp=Z,280nm,1.0s,mb6.2
SMY Shemya 79.35 38⇑*i*P **P 03 23 43.5 -0.8**
comp=Z,295nm,1.0s,mb6.2
PRA Prague 79.36 320 P **P 03 23 45.0 +0.6**
PRA *ex* x 03 24 03.0
VOY Vojsko 79.48 316 *e*P **P 03 23 44.9 -0.1**
VOY *e* pP 03 24 00.6 +1.8
TSUM Tsumeb 79.48 249⇑*e*P **P 03 23 47.1 +2.1**
comp=Z,22nm,0.8s,mb5.1
BSD Bornholm Skovb 79.49 325⇑*i*P **P 03 23 44.0 -1.1**
comp=Z,129nm,1.1s,mb5.8
BSD *i* 03 26 45.2
BSD *i* S S 03 33 39.5 -3.4
BSD
comp=Z,770nm,19.0s
BSD Bornholm Skovb 79.49 325⇑*i*P **P 03 23 44.0 -1.1**
comp=Z,129nm,1.1s,mb5.8
BSD *i* 03 26 45.2
BSD *i* S S 03 33 39.5 -3.4
AQU L'Aquila 79.67 312⇑*i*P **P 03 23 46.2 +0.1**
AQU L'Aquila 79.67 312 P **P 03 23 46.1 0.0**
AQU pmax pmax
comp=Z,170nm,1.0s,mb5.9
AQU L'Aquila 79.67 312⇑*i*P **P 03 23 45.8 -0.3**
comp=Z,172nm,1.0s,mb5.9
BRG Berggiesshubel 79.73 321 *e*P **P 03 23 46.8 +0.4**
comp=Z,301nm,1.6s,mb6.0
BRG Berggiesshubel 79.73 321⇑*i*P **P 03 23 46.9 +0.5**
comp=Z,179nm,1.6s,mb5.7
BRG *i* pP pP 03 23 57.4 -2.8
comp=Z,28nm,0.9s
BRG *i* sP sP 03 24 05.8 +0.3
comp=Z,85nm,1.4s
BRG S S 03 33 34.0 -11
BRG
comp=N,495nm,24.5s
BRG
comp=E,293nm,19.7s
BRG
comp=Z,418nm,18.2s
BRG Berggiesshubel 79.73 321⇑*i*P **P 03 23 46.9 +0.5**
BRG *i* *PP pP 03 23 57.4 -2.8
BRG *i* *SP sP 03 24 05.8 +0.3
BRG pmax pmax
comp=Z,179nm,1.7s,mb5.7
BRG MLR MLR
comp=N,495nm,24.5s,MS4.9
BRG MLR MLR
comp=E,293nm,19.7s,MS4.9
BRG MLR MLR
comp=Z,418nm,18.3s,MS4.8
GEC2 GERESS Array S 79.76 319 *e*P **P 03 23 47.1 +0.5**
comp=Z,352nm,1.3s,mb6.1
GEC2 *e*S S 03 33 44.5 -1.3
GEC2 GERESS Array S 79.76 319 *e*P **P 03 23 47.1 +0.5**
GEC2 *e*S S 03 33 44.5 -1.3
GEC2 pmax pmax
comp=Z,352nm,1.3s,mb6.1
GERES GERESS Array B 79.76 319 P **P 03 23 47.0 +0.4**
comp=Z,91nm,0.7s,mb5.8,baz=91,slow=5.5,SNR=818
GERES S S 03 33 43.7 -2.1
comp=Z,0.8nm,0.9s,baz=64,slow=15,SNR=3.4
GERES ScS ScS 03 34 06.0 -1.0
comp=Z,0.2nm,0.6s,baz=286,slow=9.6,SNR=2.1
GERES LR LR 04 04 11.3
comp=Z,409nm,20.3s,MS4.8,baz=96,slow=39
GERES GERESS Array B 79.76 319 P **P 03 23 47.0 +0.4**
GERES S S 03 33 43.7 -2.1
GERES 03 34 06.0
GERES pmax pmax
comp=Z,91nm,0.7s
GERES smax
comp=N,1.0nm,0.9s
KHC Kasperske Hory 79.86 319 *i* P **P 03 23 47.2 +0.1**
KHC *e*pP pP 03 23 57.9 -3.0
KHC *e*S S 03 33 44.5 -2.3
KHC *e*SKS 03 34 04.0
KHC AMS AMS 04 04 00.0
comp=N,700nm,22.9s
KBA Koelnbreinsper 79.91 317 *i* P **P 03 23 47.2 -0.2**
comp=N,235nm,1.7s,mb5.8,SNR=44
KBA Koelnbreinsper 79.91 317 *i* P **P 03 23 47.2 -0.2**
KBA pmax pmax
comp=Z,235nm,1.7s,mb5.8
RUE Ruedersdorf 79.94 322 *e*P **P 03 23 47.6 0.0**
comp=Z,288nm,0.9s,mb6.2
RUE *e*S S 03 33 44.2 -3.5
RUE Ruedersdorf 79.94 322⇑*i*P **P 03 23 47.3 -0.3**
comp=Z,245nm,0.8s,mb6.2
WET Wettzell 80.32 319 *e*P **P 03 23 49.6 0.0**
comp=Z,148nm,1.0s,mb5.9
WET *e*S S 03 33 51.4 -0.3
WET Wettzell 80.32 319 *e*P **P 03 23 49.6 0.0**
WET *e*S S 03 33 51.4 -0.3
WET pmax pmax
comp=Z,148nm,1.0s,mb5.9
CLL Collm 80.35 321⇑*i*P **P 03 23 49.5 -0.3**
comp=Z,141nm,1.3s,mb5.7
CLL *e*pP pP 03 23 59.9 -3.6
CLL *e* 03 24 08.0
CLL *e*PP PP 03 26 56.3 +3.3
CLL *e*PPP 03 28 39.0
CLL *e*S S 03 33 49.5 -2.5
CLL *e*SKSac SKSac 03 34 04.5 +0.8
CLL *e*(SS) 03 38 49.8
CLL *e*L 04 06 01.3
comp=Z,788nm,20.0s
CLL Collm 80.35 321⇑*i*P **P 03 23 49.5 -0.3**
comp=Z,110nm,1.1s,mb5.7
CLL *e*pP pP 03 24 00.0 -3.5
CLL *ex* x 03 24 08.0
CLL *e*PP PP 03 26 57.0 +4.0
CLL *e*PPP 03 28 39.0
CLL *e*S S 03 33 48.0 -4.0
CLL *e*SKSac SKSac 03 34 06.0 +2.3
CLL *ex* x 03 38 42.0
CLL LmV 04 06 00.0
comp=Z,700nm,21.0s
CLL Collm 80.35 321⇑*i*P **P 03 23 49.5 -0.3**
CLL *e**PP pP 03 24 00.0 -3.5
CLL *e*S S 03 33 48.0 -4.0
CLL *e* 03 34 06.0
CLL pmax pmax
comp=Z,110nm,1.1s,mb5.7
CLL Collm 80.35 321⇑*i*P **P 03 23 49.5 -0.3**
comp=Z,110nm,1.1s,mb5.7
CLL *e*pP pP 03 24 00.0 -3.5
CLL *e*S S 03 33 48.0 -4.0
CLL *e*SKS 03 34 06.0
RGN Rugen 80.36 324 *e*P **P 03 23 50.1 +0.3**
comp=Z,181nm,1.1s,mb5.9
RGN *e*S S 03 33 51.0 -1.1
RGN Rugen 80.36 324⇑*i*P **P 03 23 49.7 -0.1**
comp=Z,187nm,1.3s,mb5.9
HFS Hagfors 80.61 330 LR LR 04 04 33.9
comp=Z,2µm,20.2s,MS5.3,baz=92,slow=39
NKC Novy Kostel 80.65 320 *i* P **P 03 23 51.4 0.0**
NKC AMS AMS 04 05 10.0
comp=Z,500nm,20.2s
WERD Werda 80.75 320 *e*P **P 03 23 52.0 +0.1**
comp=Z,168nm,1.5s,mb5.8
ROTZ Rotzenmuhle 80.78 319 *e*P **P 03 23 51.8 -0.3**
comp=Z,134nm,1.0s,mb5.8
ROTZ *e*S S 03 33 56.8 +0.3
MANZ Manzenberg 80.86 320 *e*P **P 03 23 52.6 +0.1**
comp=Z,248nm,1.2s,mb6.0
MANZ *e*S S 03 33 57.4 +0.1
MOR8 Moi Rana 80.92 336⇑*i*P **P 03 23 51.3 -1.5**
MOR8 AMb AMB 03 23 53.9
comp=Z,104nm,1.8s,mb5.5
MOR8 Moi Rana 80.92 336⇑*i*P **P 03 23 51.3 -1.5**
comp=Z,104nm,1.8s,mb5.5
COP Copenhagen 80.95 325⇑*i*P **P 03 23 52.9 -0.1**
comp=Z,29nm,1.1s,mb5.1
COP *i* 03 24 38.5
COP *i* S S 03 33 57.0 -1.2
COP
comp=Z,310nm,20.0s
COP Copenhagen 80.95 325⇑*i*P **P 03 23 52.9 -0.1**
COP *i* S S 03 33 57.0 -1.2
COP pmax pmax
comp=Z,29nm,1.1s,mb5.1
COP MLR MLR
comp=Z,310nm,20.0s,MS4.7
WTTA Wattenberg 81.08 317 *i* P **P 03 23 53.3 -0.4**
comp=Z,456nm,1.6s,mb6.2,SNR=83
WTTA Wattenberg 81.08 317 *i* P **P 03 23 53.3 -0.4**
WTTA pmax pmax
comp=Z,456nm,1.6s,mb6.2
WATA Walderalm 81.12 317⇑*i*P **P 03 23 53.3 -0.6**
comp=Z,187nm,1.4s,mb5.8,SNR=35
WATA Walderalm 81.12 317⇑*i*P **P 03 23 53.3 -0.6**
WATA pmax pmax
comp=Z,187nm,1.4s,mb5.8
MOX Moxa 81.19 320 *e*P **P 03 23 54.1 -0.2**
comp=Z,308nm,2.0s,mb5.9
MOX *e*S S 03 33 59.5 -1.3
MOX Moxa 81.19 320 *e*P **P 03 23 54.3 0.0**
comp=Z,192nm,1.6s,mb5.8
MOX *e* 03 24 12.9
MOX
comp=Z,500nm,21.0s
MOX Moxa 81.19 320 *e*P **P 03 23 54.3 0.0**
MOX *e* 03 24 12.9
MOX pmax pmax
comp=Z,192nm,1.6s,mb5.8
MOX MLR MLR
comp=Z,500nm,21.0s,MS4.8
FUR Furstenfeldbru 81.34 318 *e*P **P 03 23 54.7 -0.4**
comp=Z,609nm,2.1s,mb6.2
FUR *e*S S 03 33 59.8 -2.6
FUR Furstenfeldbru 81.34 318 *e*P **P 03 23 54.7 -0.4**
FUR *e*S S 03 33 59.8 -2.6
FUR pmax pmax
comp=Z,609nm,2.1s,mb6.2
SQTA Sankt Quirin 81.37 317 *i* P **P 03 23 54.9 -0.3**
comp=Z,266nm,1.5s,mb5.9,SNR=54
SQTA Sankt Quirin 81.37 317 *i* P **P 03 23 54.9 -0.3**
SQTA pmax pmax
comp=Z,266nm,1.5s,mb6.0
GRA1 Grafenberg Arr 81.42 319 *e*P **P 03 23 55.9 +0.4**
comp=Z,60nm,0.9s,mb5.5
GRA1 *e*pP pP 03 24 05.7 -3.6
GRA1 *e* pP 03 24 14.2 +4.9
GRF Grafenberg Arr 81.42 319 *e*P **P 03 23 55.9 +0.4**
comp=Z,60nm,0.9s,mb5.5
GRF *e*pP pP 03 24 05.7 -3.6
GRF *e* pP 03 24 14.2 +4.9
GRF Grafenberg Arr 81.42 319 *e*P **P 03 23 55.9 +0.4**
GRF *e**PP pP 03 24 05.7 -3.6
GRF *e* pP 03 24 14.2 +4.9
GRF pmax pmax
comp=Z,60nm,0.9s,mb5.5
GRF Grafenberg Arr 81.42 319 *e*P **P 03 23 55.9 +0.4**
GRF *e**PP pP 03 24 05.7 -3.6
GRF *e* pP 03 24 14.2 +4.9
GRF pmax pmax
comp=Z,60nm,0.9s,mb5.5
GRFO Grafenberg 81.42 319 *e*L 04 07 15.4
comp=Z,523nm,21.4s
MOTA Moosalm 81.44 317 *i* P **P 03 23 55.1 -0.5**
comp=Z,179nm,1.2s,mb5.9,SNR=56
MOTA Moosalm 81.44 317 *i* P **P 03 23 55.1 -0.5**
MOTA pmax pmax
comp=Z,179nm,1.2s,mb5.9
NB2 NORSAR Subarra 81.90 331 P **P 03 23 56.5 -1.5**
comp=Z,54nm,1.1s,mb5.4,baz=95,slow=5.6
NOA NORSAR Array B 81.90 331 P **P 03 23 56.8 -1.2**
comp=Z,26nm,1.0s,mb5.1,baz=95,slow=5.2,SNR=28
NOA LR LR 04 05 57.7
comp=Z,861nm,20.4s,MS5.1,baz=65,slow=40
VLC Villacollemand 81.91 314⇑*i*P **P 03 23 57.4 -0.7**
comp=Z,202nm,1.6s,mb5.8
FUORN Ofenpass 82.01 316⇑*i*P **P 03 23 53.3 -5.3**
comp=Z,1µm,2.2s,mb6.4
FUORN Ofenpass 82.01 316⇑*i*P **P 03 23 59.1 +0.5**
CLZ Clausthal 82.01 321 *e*P **P 03 23 58.8 +0.2**
comp=Z,222nm,1.4s,mb5.9
CLZ *e*S S 03 34 06.3 -2.9
CLZ Clausthal 82.01 321 *e*P **P 03 23 58.8 +0.2**
CLZ *e*S S 03 34 06.3 -2.9
CLZ pmax pmax
comp=Z,222nm,1.4s,mb5.9
NAO01 NORSAR Array S 82.05 331 *e*P **P 03 23 57.6 -1.2**
comp=Z,36nm,1.1s,mb5.2
NAO01 LR LR
comp=Z,1µm,20.0s,MS5.3
BSEG Bad Segeberg 82.09 324 *e*P **P 03 23 59.3 +0.3**
comp=Z,324nm,1.4s,mb6.1
BSEG *e*S S 03 34 08.4 -1.7
BSEG Bad Segeberg 82.09 324 *e*P **P 03 23 59.3 +0.3**
BSEG *e*S S 03 34 08.4 -1.7
BSEG pmax pmax
comp=Z,324nm,1.4s,mb6.1
BERNI Berninapass 82.17 316⇑*i*P **P 03 23 59.1 -0.3**
comp=Z,2µm,1.8s,mb6.6
BERNI Berninapass 82.17 316⇑*i*P **P 03 24 00.2 +0.8**
UBBA Unterbreizbach 82.23 320 *e*P **P 03 24 00.4 +0.7**
comp=Z,120nm,1.8s,mb5.5
GTTG Gyttingen 82.26 321 *e*P **P 03 24 00.0 +0.1**
comp=Z,118nm,1.1s,mb5.7
DAVOX Davos 82.27 316⇑*i*P **P 03 24 00.0 0.0**
comp=Z,479nm,1.2s,mb6.3
DAVOX Davos 82.27 316⇑*i*P **P 03 24 00.5 +0.5**
DAVA Damuels 82.27 317 *i* P **P 03 24 00.1 +0.1**
comp=Z,426nm,1.5s,mb6.2,SNR=92
LIENZ Alp Oberkamor 82.54 317⇑*i*P **P 03 24 00.2 -1.1**
comp=Z,1µm,2.5s,mb6.4
LIENZ Alp Oberkamor 82.54 317⇑*i*P **P 03 24 01.5 +0.2**
VDL Val di Lei 82.56 316⇑*i*P **P 03 24 00.5 -0.9**
comp=Z,547nm,2.6s,mb6.1
VDL Val di Lei 82.56 316⇑*i*P **P 03 24 01.6 +0.2**
PLONS Plons 82.61 317⇑*i*P **P 03 24 01.5 -0.2**
comp=Z,964nm,1.9s,mb6.5
PLONS Plons 82.61 317⇑*i*P **P 03 24 01.9 +0.2**
KONO Kongsberg 82.64 329*c* *i*P **P 03 24 01.0 -0.9**
KONO Kongsberg 82.64 329 *e*P **P 03 24 00.9 -1.0**
comp=Z,153nm,1.5s,mb5.8
VSL Villasalto 82.70 309⇑*i*P **P 03 24 02.0 -0.2**
comp=Z,158nm,1.0s,mb6.0
STU Stuttgart 82.73 318 *e*P **P 03 24 01.9 -0.5**
comp=Z,92nm,1.0s,mb5.8
STU *e*S S 03 34 13.9 -2.8
STU Stuttgart 82.73 318⇑*i*P **P 03 24 02.1 -0.3**
STU pmax pmax
comp=Z,52nm,0.8s,mb5.6
STU Stuttgart 82.73 318⇑*i*P **P 03 24 02.0 -0.3**
comp=Z,52nm,0.8s,mb5.6
MUD Monsted U'grnd 82.80 326⇑*i*P **P 03 24 02.8 +0.1**
comp=Z,66nm,1.1s,mb5.6
MUD *i* 03 27 09.1
MUD *i* S S 03 34 15.7 -1.6
MUD
comp=Z,710nm,20.0s
MUD Monsted U'grnd 82.80 326⇑*i*P **P 03 24 02.8 +0.1**
MUD *i* S S 03 34 15.7 -1.6
MUD pmax pmax
comp=Z,66nm,1.1s,mb5.6
MUD MLR MLR
comp=Z,720nm,20.0s,MS5.0
MUD Monsted U'grnd 82.80 326⇑*i*P **P 03 24 02.8 +0.1**
comp=Z,66nm,1.1s,mb5.6
MUD *i* 03 27 09.1
MUD *i* S S 03 34 15.7 -1.6
CORF Corte 82.82 312⇑*e*P **P 03 24 02.9 +0.1**
MUGIO Muggio 82.86 315⇑*i*P **P 03 24 02.1 -0.9**
comp=Z,212nm,0.8s,mb6.2
LLS Linth-Limmern 82.87 316⇑*i*P **P 03 24 01.9 -1.2**
comp=Z,664nm,2.4s,mb6.2
LLS Linth-Limmern 82.87 316⇑*i*P **P 03 24 03.2 +0.1**
WEIN Weingarten 82.88 317⇑*i*P **P 03 24 01.6 -1.5**
comp=Z,613nm,2.4s,mb6.2
WEIN Weingarten 82.88 317⇑*i*P **P 03 24 02.9 -0.2**
WILA Wila 82.94 317⇑*i*P **P 03 24 02.9 -0.5**
comp=Z,866nm,2.3s,mb6.4
WILA Wila 82.94 317⇑*i*P **P 03 24 03.3 -0.1**
STEIN Stein am Rhein 82.96 317⇑*i*P **P 03 24 03.2 -0.3**
comp=Z,620nm,1.5s,mb6.4
STEIN Stein am Rhein 82.96 317⇑*i*P **P 03 24 03.3 -0.2**
TODI Tromm 82.99 319⇑*e*P **P 03 24 03.3 -0.4**
SPAK Spaichingen-Ko 83.01 318⇑*e*P **P 03 24 04.0 +0.2**
FUSIO Fusio 83.11 316⇑*i*P **P 03 24 03.3 -1.0**
comp=Z,263nm,1.9s,mb6.0
FUSIO Fusio 83.11 316⇑*i*P **P 03 24 03.9 -0.4**
MUO Muotathal 83.12 317⇑*i*P **P 03 24 03.3 -1.1**
comp=Z,1µm,1.8s,mb6.6
MUO Muotathal 83.12 317⇑*i*P **P 03 24 04.8 +0.4**
KBS Kingsbay 83.16 349⇑*i*P **P 03 24 02.8 -1.7**
KBS pmax pmax
comp=Z,64nm,1.0s,mb5.6
KBS Kingsbay 83.16 349⇑*i*P **P 03 24 02.8 -1.8**
comp=Z,64nm,1.0s,mb5.6
ZUR Zurich 83.16 317⇑*i*P **P 03 24 04.2 -0.4**
comp=Z,631nm,2.4s,mb6.2
ZUR Zurich 83.16 317⇑*i*P **P 03 24 04.4 -0.2**
FLACH Flaach 83.16 317⇑*i*P **P 03 24 04.2 -0.4**
SLE Schleitheim 83.21 317⇑*i*P **P 03 24 04.4 -0.4**
comp=Z,504nm,1.9s,mb6.2
TNS Taunus Mts 83.22 320 *e*P **P 03 24 04.5 -0.4**
comp=Z,106nm,1.0s,mb5.8
TNS *e*S S 03 34 19.8 -1.7
TNS Taunus Mts 83.22 320 *e*P **P 03 24 04.5 -0.4**
TNS *e*S S 03 34 19.8 -1.7
TNS pmax pmax
comp=Z,106nm,1.0s,mb5.8
BNALP Bannalp 83.27 316⇑*i*P **P 03 24 04.4 -0.7**
comp=Z,423nm,1.9s,mb6.2
BNALP Bannalp 83.27 316⇑*i*P **P 03 24 05.2 +0.1**
SYO Syowa Base 83.28 197⇓*i*P **P 03 24 05.2 0.0**
SYO Syowa Base 83.28 197⇓*i*PcP PcP 03 24 09.8 +0.2
BFO Black Forest 83.31 318 *e*P **P 03 24 05.0 -0.4**
comp=Z,91nm,1.0s,mb5.8
BFO *e*S S 03 34 19.7 -2.8
BFO Black Forest 83.31 318 P **P 03 24 05.5 +0.1**
comp=Z,486nm,0.8s,mb6.6,SNR=37
BFO Black Forest 83.31 318 *e*P **P 03 24 05.0 -0.4**
BFO *e*S S 03 34 19.7 -2.8
BFO pmax pmax
comp=Z,91nm,1.0s,mb5.8
HASLI Hasliberg 83.46 316⇑*i*P **P 03 24 05.2 -0.9**
comp=Z,560nm,2.1s,mb6.2
HASLI Hasliberg 83.46 316⇑*i*P **P 03 24 06.0 -0.1**
SULZ Sulz-Cheisache 83.47 317⇑*i*P **P 03 24 05.1 -1.1**
comp=Z,510nm,1.6s,mb6.3
SULZ Sulz-Cheisache 83.47 317⇑*i*P **P 03 24 05.8 -0.4**
HLG Helgoland 83.53 324 *e*P **P 03 24 06.5 0.0**
comp=Z,110nm,1.1s,mb5.9
HLG *e*S S 03 34 23.5 -1.2
FELD Feldberg im Sc 83.54 317⇑*e*P **P 03 24 06.1 -0.4**
IBBN Ibbenburen 83.63 322 *e*P **P 03 24 06.9 -0.1**
comp=Z,164nm,1.1s,mb6.1
IBBN *e*S S 03 34 23.1 -2.6
LANF Langenberg 83.65 319⇑*e*P **P 03 24 07.2 +0.1**
STR Strasbourg 83.69 318⇑*e*P **P 03 24 07.2 -0.1**
BALST Balsthal 83.76 317⇑*i*P **P 03 24 05.8 -1.9**
comp=Z,585nm,2.4s,mb6.3
BALST Balsthal 83.76 317⇑*i*P **P 03 24 07.3 -0.4**
ABH Alteburg 83.80 319⇑*e*P **P 03 24 08.1 +0.2**
LIBD Limburg 83.80 318⇑*e*P **P 03 24 07.9 0.0**
WIMIS Wimmis 83.83 316⇑*i*P **P 03 24 06.4 -1.6**
comp=Z,440nm,2.4s,mb6.2
WIMIS Wimmis 83.83 316⇑*i*P **P 03 24 07.9 -0.1**
LKBD Leukerbad 83.83 316⇑*i*P **P 03 24 07.3 -0.7**
comp=Z,493nm,0.9s,mb6.6
LKBD Leukerbad 83.83 316⇑*i*P **P 03 24 08.3 +0.3**
BBS Basel-Blauen 83.88 317⇑*e*P **P 03 24 07.9 -0.4**
BUG Bochum--Univer 83.94 321 *e*P **P 03 24 08.8 +0.2**
comp=Z,219nm,1.4s,mb6.1
BUG *e*S S 03 34 27.1 -1.8
SAOF Saorge 83.95 314⇑*e*P **P 03 24 08.7 +0.1**
WLS Welschbruch 83.96 318⇑*e*P **P 03 24 08.1 -0.6**
DIX Grande Dixence 83.99 316⇑*i*P **P 03 24 07.9 -0.9**
comp=Z,801nm,1.7s,mb6.6
DIX Grande Dixence 83.99 316⇑*i*P **P 03 24 09.6 +0.8**
CDF Champ du Feu 84.01 318⇑*i*P **P 03 24 08.4 -0.6**
comp=Z,143nm,1.1s,mb5.7
CDF Champ du Feu 84.01 318⇑*i*P **P 03 24 08.4 -0.6**
CDF pmax pmax
comp=Z,72nm,1.1s,mb5.7
CDF Champ du Feu 84.01 318⇑*i*P **P 03 24 08.4 -0.6**
comp=Z,72nm,1.1s,mb5.7
SBF Sospel 84.04 313⇑*i*P **P 03 24 09.1 0.0**
comp=Z,510nm,1.1s,mb6.2
SBF Sospel 84.04 313⇑*i*P **P 03 24 09.1 0.0**
SBF pmax pmax
comp=Z,255nm,1.1s,mb6.3
SBF Sospel 84.04 313⇑*i*P **P 03 24 09.1 0.0**
comp=Z,255nm,1.1s,mb6.3
AUTN L'Aution 84.04 314⇑*e*P **P 03 24 09.5 +0.4**
SENIN Lac Senin 84.06 316⇑*i*P **P 03 24 08.8 -0.4**
comp=Z,701nm,2.0s,mb6.5
SENIN Lac Senin 84.06 316⇑*i*P **P 03 24 09.5 +0.3**
BOURR Bourrignon 84.07 317⇑*i*P **P 03 24 08.3 -1.0**
comp=Z,328nm,1.9s,mb6.1
BOURR Bourrignon 84.07 317⇑*i*P **P 03 24 08.8 -0.5**
REVF Revere 84.10 313⇑*e*P **P 03 24 09.4 0.0**
ECH Echery 84.10 318⇑*e*P **P 03 24 08.9 -0.5**
RUP Ruppelstein 84.12 319⇑*e*P **P 03 24 09.6 +0.1**
MOF Molkenrain 84.13 317⇑*e*P **P 03 24 08.9 -0.6**
GRYON Gryon 84.19 316⇑*i*P **P 03 24 09.5 -0.4**
comp=Z,683nm,2.7s,mb6.3
GRYON Gryon 84.19 316⇑*i*P **P 03 24 10.0 +0.1**
WTSB Winterswijk 84.22 322⇑*i*P **P 03 24 10.0 0.0**
comp=Z,166nm,1.6s,mb5.9
WTSB pP pP 03 24 20.4 -3.5
WTSB sP sP 03 24 28.4 -0.8
BLS5 Blasjo 84.25 329⇑*i*P **P 03 24 10.7 +0.6**
BLS5 AMb AMB 03 24 12.8
comp=Z,51nm,1.5s,mb5.4
BLS5 Blasjo 84.25 329⇑*i*P **P 03 24 10.7 +0.6**
comp=Z,51nm,1.5s,mb5.4
MVIF Mont Vial 84.25 313⇑*e*P **P 03 24 10.5 +0.4**
TORNY Torny 84.28 316⇑*i*P **P 03 24 09.6 -0.7**
comp=Z,719nm,2.0s,mb6.5
TORNY Torny 84.28 316⇑*i*P **P 03 24 10.4 +0.1**
WIT Witteveen 84.28 322⇑*i*P **P 03 24 10.8 +0.5**
comp=Z,597nm,1.4s,mb6.5
WIT pP pP 03 24 21.4 -2.8
WIT sP sP 03 24 29.7 +0.2
SALAN Lac Salanfe 84.29 316⇑*i*P **P 03 24 10.4 0.0**
comp=Z,711nm,2.3s,mb6.4
SALAN Lac Salanfe 84.29 316⇑*i*P **P 03 24 10.6 +0.2**
AIGLE Aigle 84.30 316⇑*i*P **P 03 24 10.0 -0.4**
comp=Z,593nm,2.0s,mb6.4

AIGLE **Aigle** 84.30 316⇑*iP* P 03 24 10.4 0.0
ABSA **Djebel Ababsia** 84.31 306 P P 03 24 13.0 +2.5
HINF **Hinteralfeld** 84.32 317⇑*iP* P 03 24 09.7 -0.8
CMAH **Djebel Manchou** 84.34 306 P P 03 24 12.0 +1.4
EMV **Vieux Emosson** 84.35 316⇑*iP* P 03 24 10.4 -0.2
comp=Z,575nm,1.8s,mb6.4
EMV **Vieux Emosson** 84.35 316⇑*iP* P 03 24 11.0 +0.4
LOMF **Lomont** 84.35 317⇑*eP* P 03 24 10.2 -0.5
SURF **Saint Ours** 84.47 314⇑*eP* P 03 24 11.8 +0.6
LPG **La Plagne** 84.47 315⇑*iP* P 03 24 11.6 +0.3
comp=Z,248nm,0.9s,mb6.0
LPG **La Plagne** 84.47 315⇑*iP* P 03 24 11.6 +0.3
LPG pmax pmax
comp=Z,124nm,0.9s,mb6.0
LPG **La Plagne** 84.47 315⇑*iP* P 03 24 11.6 +0.3
comp=Z,124nm,0.9s,mb6.0
LPL **La Plagne** 84.48 315⇑*iP* P 03 24 11.6 +0.3
comp=Z,358nm,1.0s,mb6.2
LPL **La Plagne** 84.48 315⇑*iP* P 03 24 11.6 +0.3
LPL pmax pmax
comp=Z,179nm,1.0s,mb6.2
LPL **La Plagne** 84.48 315⇑*iP* P 03 24 11.6 +0.3
comp=Z,179nm,1.0s,mb6.2
MBDF **Montbardon** 84.49 314⇑*iP* P 03 24 10.8 -0.5
comp=Z,170nm,1.3s,mb5.7
MBDF **Montbardon** 84.49 314⇑*iP* P 03 24 10.8 -0.5
MBDF pmax pmax
comp=Z,85nm,1.3s,mb5.7
MBDF **Montbardon** 84.49 314⇑*iP* P 03 24 10.8 -0.5
comp=Z,85nm,1.3s,mb5.7
BNI **Bardonecchia** 84.54 315⇑*iP* P 03 24 11.2 -0.4
BNI pmax pmax
comp=Z,120nm,1.1s,mb5.9
BNI **Bardonecchia** 84.54 315⇑*iP* P 03 24 11.2 -0.4
comp=Z,120nm,1.1s,mb5.9
BRANT **Les Verrieres** 84.61 317⇑*iP* P 03 24 10.6 -1.4
comp=Z,339nm,2.0s,mb6.1
BRANT **Les Verrieres** 84.61 317⇑*iP* P 03 24 11.9 -0.1
FRF **La Foret Royal** 84.63 313⇑*iP* P 03 24 12.2 +0.2
comp=Z,528nm,1.2s,mb6.2
FRF **La Foret Royal** 84.63 313⇑*iP* P 03 24 12.2 +0.2
FRF pmax pmax
comp=Z,264nm,1.2s,mb6.2
FRF **La Foret Royal** 84.63 313⇑*iP* P 03 24 12.2 +0.2
comp=Z,264nm,1.2s,mb6.2
HAU **Haudompre** 84.65 318⇑*iP* P 03 24 12.6 +0.4
comp=Z,274nm,0.9s,mb6.1
HAU *eR*
comp=Z,403nm,20.0s
HAU **Haudompre** 84.65 318⇑*iP* P 03 24 12.6 +0.4
HAU pmax pmax
comp=Z,137nm,0.9s,mb6.1
HAU MLR MLR
comp=Z,400nm,20.0s,MS4.8
HAU **Haudompre** 84.65 318⇑*iP* P 03 24 12.6 +0.4
comp=Z,137nm,0.9s,mb6.1
HAU LR LR
comp=Z,400nm,20.0s,MS4.8
WLF **Walferdange** 84.71 319 *eP* P 03 24 13.1 +0.6
comp=Z,140nm,1.2s,mb6.0
WLF *eS* 03 34 35.7
WLF **Walferdange** 84.71 319 P P 03 24 12.8 +0.3
comp=Z,36nm,1.2s,mb5.4
WLF **Walferdange** 84.71 319⇑*iP* P 03 24 12.5 0.0
WLF pmax pmax
comp=Z,159nm,1.3s,mb6.0
WLF **Walferdange** 84.71 319⇑*iP* P 03 24 12.5 0.0
comp=Z,159nm,1.3s,mb6.0
LMR **La Mourre** 84.74 313⇑*iP* P 03 24 12.7 +0.1
comp=Z,267nm,1.2s,mb6.0
LMR **La Mourre** 84.74 313⇑*iP* P 03 24 12.7 +0.1
LMR pmax pmax
comp=Z,134nm,1.2s,mb6.0
LMR **La Mourre** 84.74 313⇑*iP* P 03 24 12.7 +0.1
comp=Z,134nm,1.2s,mb6.0
GIMEL **Gimel** 84.77 316⇑*iP* P 03 24 11.0 -1.8
comp=Z,351nm,1.8s,mb6.2
GIMEL **Gimel** 84.77 316⇑*iP* P 03 24 12.9 +0.1
HGN **Heimansgroeve** 84.81 320⇑*iP* P 03 24 12.5 -0.5
comp=Z,80nm,1.5s,mb5.6
HGN pP pP 03 24 22.4 -4.5
HGN sP sP 03 24 30.6 -1.5
HGN **Heimansgroeve** 84.81 320 *e*SKS 03 34 36.4
THEF **They Montfort** 84.88 318⇑*eP* P 03 24 12.8 -0.5
CABF **La Chapelle** 84.89 316⇑*iP* P 03 24 13.5 +0.1
comp=Z,286nm,1.1s,mb6.0
CABF **La Chapelle** 84.89 316⇑*iP* P 03 24 13.5 +0.1
CABF pmax pmax
comp=Z,143nm,1.1s,mb6.0
CABF **La Chapelle** 84.89 316⇑*iP* P 03 24 13.5 +0.1
comp=Z,143nm,1.1s,mb6.0
CKFL **Kef-Lekhel** 84.92 306 P P 03 24 15.0 +1.5
GDM **Grand'Maison** 84.93 315⇑*eP* P 03 24 13.8 +0.2
BEBN **Eben Emael** 84.97 320 P P 03 24 13.4 -0.3
TAVF **Tavernes** 85.05 313⇑*eP* P 03 24 15.0 +0.8
ORIF **Oris-en-Rattie** 85.11 315⇑*iP* P 03 24 14.3 -0.2
comp=Z,80nm,0.8s,mb5.6
ORIF *eR*
comp=Z,526nm,21.8s
ORIF **Oris-en-Rattie** 85.11 315⇑*iP* P 03 24 14.3 -0.2
ORIF pmax pmax
comp=Z,40nm,0.8s,mb5.6
ORIF **Oris-en-Rattie** 85.11 315⇑*iP* P 03 24 14.3 -0.2
comp=Z,40nm,0.8s,mb5.6
CASM **Ain Smara** 85.11 306 P P 03 24 16.0 +1.5
STOF **St-Etienne Org** 85.14 314⇑*eP* P 03 24 15.7 +1.1
CTEI **Djebel Teioual** 85.19 306 P P 03 24 17.5 +2.6
GRN **Grenoble** 85.19 315⇑*eP* P 03 24 15.4 +0.5
VILF **Villemus** 85.29 313⇑*eP* P 03 24 16.3 +0.9
PUYF **Puyloubier** 85.31 313⇑*eP* P 03 24 16.3 +0.8
BERF **Bertagne** 85.33 313⇑*eP* P 03 24 16.3 +0.7
SMRF **Simiane la Rot** 85.38 314⇑*iP* P 03 24 16.5 +0.7
comp=Z,309nm,1.3s,mb6.0
SMRF **Simiane la Rot** 85.38 314⇑*iP* P 03 24 16.5 +0.7
comp=Z,309nm,1.3s,mb6.3
MEZF **Maizieres J'vi** 85.49 318⇑*iP* P 03 24 16.1 -0.3
comp=Z,211nm,1.3s,mb5.8
MEZF **Maizieres J'vi** 85.49 318⇑*iP* P 03 24 16.1 -0.3
comp=Z,211nm,1.3s,mb6.1
GELF **Grande-Etoile** 85.52 313⇑*eP* P 03 24 17.2 +0.7
TREF **Trevaresse** 85.54 313⇑*eP* P 03 24 17.4 +0.8
GIVF **Givet** 85.55 320⇑*iP* P 03 24 16.5 -0.2
comp=Z,139nm,1.2s,mb5.8
GIVF **Givet** 85.55 320⇑*iP* P 03 24 16.5 -0.2
GIVF pmax pmax
comp=Z,70nm,1.2s,mb5.8
GIVF **Givet** 85.55 320⇑*iP* P 03 24 16.5 -0.2
comp=Z,70nm,1.2s,mb5.8
DFRA **Djebel Bou Aff** 85.59 306 P P 03 24 18.0 +1.1
CMER **Merouana** 85.63 305 P P 03 24 19.0 +1.9
PRAF **Pradon** 85.68 313⇑*eP* P 03 24 18.0 +0.7
DOU **Dourbes** 85.70 320 P P 03 24 17.1 -0.3
comp=Z,17nm,1.1s,mb5.2
DOU AP pP 03 24 27.7 -3.6
DOU E pP 03 24 34.9 +3.6
UCC **Uccle** 85.80 320 P P 03 24 17.2 -0.7
UCC XP sP 03 24 36.1 -1.0
SNF **Seneffe** 85.87 320 P P 03 24 18.1 -0.2
comp=Z,26nm,1.1s,mb5.4
SNF AP pP 03 24 29.0 -3.2
SNF E pP 03 24 33.3 +1.2
CKHR **Kef el Ahmar** 85.92 306 P P 03 24 20.0 +1.5
BAIF **Baives** 85.95 320⇑*iP* P 03 24 18.7 +0.1
comp=Z,247nm,1.2s,mb6.0
BAIF **Baives** 85.95 320⇑*iP* P 03 24 18.7 +0.1
BAIF pmax pmax
comp=Z,123nm,1.2s,mb6.0
BAIF **Baives** 85.95 320⇑*iP* P 03 24 18.7 +0.1
comp=Z,123nm,1.2s,mb6.0
VIVF **Saint-Julien-l** 85.97 315⇑*iP* P 03 24 18.8 0.0
comp=Z,233nm,1.2s,mb6.0
VIVF **Saint-Julien-l** 85.97 315⇑*iP* P 03 24 18.8 0.0
VIVF pmax pmax
comp=Z,117nm,1.2s,mb6.0
VIVF **Saint-Julien-l** 85.97 315⇑*iP* P 03 24 18.8 0.0
comp=Z,117nm,1.2s,mb6.0
SET **Setif** 86.00 306 P P 03 24 21.0 +2.1
LOR **Lormes** 86.37 317⇑*iP* P 03 24 20.4 -0.3
comp=Z,382nm,1.2s,mb6.2
LOR *eR*
comp=Z,542nm,23.0s
LOR **Lormes** 86.37 317⇑*iP* P 03 24 20.4 -0.3
LOR pmax pmax
comp=Z,191nm,1.2s,mb6.2
LOR MLR MLR
comp=Z,540nm,23.0s,MS4.9
LOR **Lormes** 86.37 317⇑*iP* P 03 24 20.4 -0.3
comp=Z,191nm,1.2s,mb6.2
LOR LR LR
comp=Z,540nm,23.0s,MS4.9
SMF **Signal de Mont** 86.43 316⇑*iP* P 03 24 20.7 -0.3
comp=Z,285nm,1.1s,mb6.1
SMF **Signal de Mont** 86.43 316⇑*iP* P 03 24 20.7 -0.3
SMF pmax pmax
comp=Z,142nm,1.1s,mb6.1
SMF **Signal de Mont** 86.43 316⇑*iP* P 03 24 20.7 -0.3
comp=Z,142nm,1.1s,mb6.1
LASF **Ste Croix** 86.61 314⇑*iP* P 03 24 22.3 +0.4
comp=Z,436nm,1.5s,mb6.2
SSF **Saint Saulge** 86.63 317⇑*iP* P 03 24 21.8 -0.2
comp=Z,220nm,1.3s,mb5.9
SSF **Saint Saulge** 86.63 317⇑*iP* P 03 24 21.8 -0.2
SSF pmax pmax
comp=Z,110nm,1.3s,mb5.9
SSF **Saint Saulge** 86.63 317⇑*iP* P 03 24 21.8 -0.2
comp=Z,110nm,1.3s,mb5.9
PLDF **La Plantade** 86.63 316⇑*eP* P 03 24 22.2 +0.2
AVF **Avril sur Loir** 86.75 317⇑*iP* P 03 24 22.3 -0.3
comp=Z,220nm,1.1s,mb6.0
AVF **Avril sur Loir** 86.75 317⇑*iP* P 03 24 22.3 -0.3
AVF pmax pmax
comp=Z,110nm,1.1s,mb6.0
AVF **Avril sur Loir** 86.75 317⇑*iP* P 03 24 22.3 -0.3
comp=Z,110nm,1.1s,mb6.0
LBL **Lubilhac** 86.95 315 *eP* P 03 24 23.9 +0.3
AGO **Saint Agoulin** 86.97 316 *eP* P 03 24 23.9 +0.3
PYM **Petit Puy Mans** 87.08 316 *eP* P 03 24 24.3 +0.1
BGF **Bois d'Agland** 87.12 316⇑*iP* P 03 24 24.5 +0.1
comp=Z,394nm,1.3s,mb6.2
BGF **Bois d'Agland** 87.12 316⇑*iP* P 03 24 24.5 +0.1
BGF pmax pmax
comp=Z,197nm,1.3s,mb6.2
BGF **Bois d'Agland** 87.12 316⇑*iP* P 03 24 24.5 +0.1
comp=Z,197nm,1.3s,mb6.2
HYF **Humbligny** 87.20 317⇑*iP* P 03 24 25.1 +0.3
MENF **Mencas** 87.22 320⇑*eP* P 03 24 25.1 +0.2
EJON **La Jonquera** 87.45 312 P P 03 24 24.9 -1.1
comp=Z,106nm,1.5s,mb5.8
SJAF **Saint Jean de** 87.45 312 *eP* P 03 24 25.8 -0.2
TCF **Toulx Ste Croi** 87.58 316⇑*iP* P 03 24 26.8 +0.2
comp=Z,242nm,1.6s,mb5.9
TCF **Toulx Ste Croi** 87.58 316⇑*iP* P 03 24 26.8 +0.2
TCF pmax pmax
comp=Z,121nm,1.6s,mb5.9
TCF **Toulx Ste Croi** 87.58 316⇑*iP* P 03 24 26.8 +0.2
comp=Z,121nm,1.6s,mb5.9
LRDF **Laroque-de-Fa** 87.66 313⇑*eP* P 03 24 27.5 +0.5
FILF **Fillols** 87.68 312 *eP* P 03 24 28.0 +0.9
ETOS **Mallorca** 87.75 310 P P 03 24 27.4 0.0
comp=Z,239nm,1.7s,mb6.2
CAF **Calviac** 87.81 315⇑*iP* P 03 24 28.2 +0.5
comp=Z,148nm,1.2s,mb5.8
CAF **Calviac** 87.81 315⇑*iP* P 03 24 28.2 +0.5
CAF pmax pmax
comp=Z,74nm,1.2s,mb5.8
CAF **Calviac** 87.81 315⇑*iP* P 03 24 28.2 +0.5
comp=Z,74nm,1.2s,mb5.8
ABA **Alger-Bouzarea** 87.85 307 P P 03 24 28.0 +0.1
MTLF **Montolieu** 87.86 313⇑*iP* P 03 24 28.2 +0.3
comp=Z,237nm,1.3s,mb6.0
MTLF **Montolieu** 87.86 313⇑*iP* P 03 24 28.2 +0.3
MTLF pmax pmax
comp=Z,118nm,1.3s,mb6.0
MTLF **Montolieu** 87.86 313⇑*iP* P 03 24 28.2 +0.3
comp=Z,118nm,1.3s,mb6.0
EMHD **Djebel Mahouad** 87.97 306 P P 03 24 30.0 +1.5
LRW **Lerwick** 88.04 330 *eP* P 03 24 27.8 -1.0
VALF **Valcebollere** 88.10 312⇑*eP* P 03 24 30.1 +1.0
RJF **Les Rejaudoux** 88.16 315⇑*iP* P 03 24 29.9 +0.5
comp=Z,308nm,1.4s,mb6.0
RJF *eR*
comp=Z,350nm,21.2s
RJF **Les Rejaudoux** 88.16 315⇑*iP* P 03 24 29.9 +0.5
RJF pmax pmax
comp=Z,154nm,1.4s,mb6.0
RJF MLR MLR
comp=Z,350nm,21.3s,MS4.7
RJF **Les Rejaudoux** 88.16 315⇑*iP* P 03 24 29.9 +0.5
comp=Z,154nm,1.4s,mb6.0
RJF LR LR
comp=Z,350nm,21.3s,MS4.7
EMIR **Miracle** 88.51 312 P P 03 24 31.5 +0.5
comp=Z,429nm,1.9s,mb6.5
SALF **Salau** 88.67 313 *eP* P 03 24 31.3 -0.5
MLS **Moulis** 88.72 313⇑*eP* P 03 24 31.8 -0.2
LFF **La Frestale** 88.75 315⇑*iP* P 03 24 32.8 +0.7
comp=Z,248nm,1.3s,mb6.1
LFF **La Frestale** 88.75 315⇑*iP* P 03 24 32.8 +0.7
LFF pmax pmax
comp=Z,124nm,1.3s,mb6.1
LFF **La Frestale** 88.75 315⇑*iP* P 03 24 32.8 +0.7
comp=Z,124nm,1.3s,mb6.1
EPOB **Poblet** 88.90 311 P P 03 24 32.5 -0.4
comp=Z,346nm,1.9s,mb6.4
LDF **La Druitiere** 88.91 319⇑*iP* P 03 24 32.8 -0.1
comp=Z,236nm,1.1s,mb6.1
LDF **La Druitiere** 88.91 319⇑*iP* P 03 24 32.8 -0.1
LDF pmax pmax
comp=Z,118nm,1.1s,mb6.1
LDF **La Druitiere** 88.91 319⇑*iP* P 03 24 32.8 -0.1
comp=Z,118nm,1.1s,mb6.1
EIBI **Ibiza** 88.96 309 P P 03 24 33.3 +0.2
comp=Z,358nm,1.8s,mb6.4
MELF **Melles** 88.97 313 *eP* P 03 24 33.0 -0.2
EBNR **Beni Rached** 89.10 306 P P 03 24 35.0 +1.2
FLN **La Foliniere** 89.12 319⇑*iP* P 03 24 33.9 0.0
comp=Z,229nm,1.1s,mb6.1
FLN *eR*
comp=Z,823nm,21.8s
FLN **La Foliniere** 89.12 319⇑*iP* P 03 24 33.9 0.0
FLN pmax pmax
comp=Z,115nm,1.1s,mb6.1
FLN MLR MLR
comp=Z,820nm,21.8s,MS5.1
FLN **La Foliniere** 89.12 319⇑*iP* P 03 24 33.9 0.0
comp=Z,115nm,1.1s,mb6.1
FLN LR LR
comp=Z,820nm,21.8s,MS5.1
MFF **Saint Martin d** 89.17 317⇑*iP* P 03 24 34.2 +0.1
comp=Z,236nm,1.3s,mb6.0
MFF **Saint Martin d** 89.17 317⇑*iP* P 03 24 34.2 +0.1
MFF pmax pmax
comp=Z,118nm,1.3s,mb6.1
MFF **Saint Martin d** 89.17 317⇑*iP* P 03 24 34.2 +0.1
comp=Z,118nm,1.3s,mb6.1
KBI1 **Birley Grange** 89.17 323⇑*iP* P 03 24 33.9 -0.2
ECHA **Ech Chlef** 89.25 306 P P 03 24 36.0 +1.5
EPF **Esparros** 89.26 313⇑*iP* P 03 24 34.3 -0.2
comp=Z,134nm,1.7s,mb5.7
EPF **Esparros** 89.26 313⇑*iP* P 03 24 34.3 -0.2
EPF pmax pmax
comp=Z,67nm,1.7s,mb5.7
EPF **Esparros** 89.26 313⇑*iP* P 03 24 34.3 -0.2
comp=Z,67nm,1.7s,mb5.7
RESF **Ens** 89.28 313⇑*eP* P 03 24 35.7 +1.0
LHO **Holmfirth** 89.33 324⇑*iP* P 03 24 34.8 0.0
EGRA **Graus** 89.37 312 P P 03 24 35.4 +0.3
comp=Z,188nm,1.6s,mb6.2
ETRT **Tiaret** 89.39 305 P P 03 24 37.5 +2.4
KWE **Weaver Farm** 89.40 323⇑*iP* P 03 24 35.2 0.0
EBR **Ebro Roquetas** 89.40 311 *eP* P 03 24 36.3 +1.1
GRR **Gorron** 89.42 318⇑*iP* P 03 24 35.4 +0.1
comp=Z,293nm,1.4s,mb6.1
GRR **Gorron** 89.42 318⇑*iP* P 03 24 35.4 +0.1
GRR pmax pmax
comp=Z,146nm,1.4s,mb6.1
GRR **Gorron** 89.42 318⇑*iP* P 03 24 35.4 +0.1
comp=Z,146nm,1.4s,mb6.1
EBIE **Bielsa** 89.44 313 P P 03 24 35.4 0.0
comp=Z,202nm,1.9s,mb6.1
LABF **Labassere** 89.45 313 *eP* P 03 24 35.4 0.0
MCD **Coleburn Disti** 89.49 328⇑*eP* P 03 24 35.1 -0.5
EANR 'Ain N'Sour 89.49 306 P P 03 24 37.0 +1.4
VIEF **Viey** 89.50 313 *eP* P 03 24 36.7 +1.0
ERTA **Horta de San J** 89.51 311 P P 03 24 35.6 -0.1
comp=Z,408nm,1.7s,mb6.5
SWN1 **Swindon** 89.59 322 *eP* P 03 24 35.7 -0.4
ORE **Reay** 89.59 329 *eP* P 03 24 36.5 +0.4
EBL **Broad Law** 89.67 326⇑*eP* P 03 24 36.2 -0.3
EBL AMb AMB 03 24 38.9
comp=Z,52nm,1.6s,mb5.6
EDI **Edinburgh** 89.72 326⇑*eP* P 03 24 36.8 +0.1
EDI AMb AMB 03 24 41.4
comp=Z,44nm,1.3s,mb5.6
DAG **Danmarks Havn** 89.81 348⇓*iP* P 03 24 35.7 -1.4
comp=Z,23nm,0.8s,mb5.6
DAG **Danmarks Havn** 89.81 348⇓*iP* P 03 24 35.7 -1.4
DAG pmax pmax
comp=Z,23nm,0.8s,mb5.6
ECK **Cauldkaine Hil** 89.81 325⇑*eP* P 03 24 36.8 -0.4
ECK AMb AMB 03 24 38.5
comp=Z,66nm,1.6s,mb5.7
ESK **Eskdalemuir** 89.83 325 P P 03 24 36.6 -0.6
comp=Z,276nm,1.2s,mb6.5,SNR=6.2
ESK **Eskdalemuir** 89.83 325 *eP* P 03 24 36.8 -0.4
ESK *eP* 03 24 37.1
ESK AMb AMB 03 24 38.7
comp=Z,82nm,1.6s,mb5.8
ESK **Eskdalemuir** 89.83 325 P P 03 24 37.1 -0.1
ESK AMb AMB 03 24 38.7
comp=Z,82nm,1.6s,mb5.8
ESK **Eskdalemuir** 89.83 325 P P 03 24 37.2 0.0
ESK pmax pmax
comp=Z,67nm,1.3s,mb5.8
ESK **Eskdalemuir** 89.83 325⇑*iP* P 03 24 37.0 -0.3
comp=Z,67nm,1.4s,mb5.8
EAU **Auchinoon** 89.88 326 *eP* P 03 24 37.6 +0.2
EAU AMb AMB 03 24 39.9
comp=Z,70nm,2.0s,mb5.7
ETSF **Etsaut** 89.93 313⇑*iP* P 03 24 38.6 +0.9
comp=Z,92nm,0.9s,mb5.8
ETSF **Etsaut** 89.93 313⇑*iP* P 03 24 38.6 +0.9
ETSF pmax pmax
comp=Z,46nm,0.9s,mb5.8
ETSF **Etsaut** 89.93 313⇑*iP* P 03 24 38.6 +0.9
comp=Z,46nm,0.9s,mb5.8
HAE **Alders End** 89.97 322⇑*iP* P 03 24 37.7 -0.1
HAE AMb AMB 03 24 40.2
comp=Z,151nm,1.6s,mb6.1
ATE **Arette** 90.01 313 *eP* P 03 24 38.5 +0.5
ESAC **San Caprasio** 90.01 312 P P 03 24 37.7 -0.3
comp=Z,173nm,1.0s,mb6.3
OLEF **Ile d'Oleron** 90.08 316 *eP* P 03 24 39.3 +0.9
HLM1 **Long Mynd** 90.09 323⇑*iP* P 03 24 38.5 0.0
HLM1 AMb AMB 03 24 41.0
comp=Z,101nm,1.6s,mb5.9
BWH **Wardlaw** 90.11 325⇑*eP* P 03 24 38.5 0.0
LRYF **La Roche-sur-Y** 90.13 317⇑*eP* P 03 24 38.9 +0.3
HGH **Gray Hill** 90.19 322⇑*iP* P 03 24 38.8 -0.1
HGH AMb AMB 03 24 41.1
comp=Z,189nm,1.6s,mb6.2
EMOS **Mosqueruela** 90.19 310 P P 03 24 39.7 +0.8
comp=Z,551nm,1.6s,mb6.6
EBEN **Beniarda** 90.21 309 P P 03 24 39.6 +0.6
comp=Z,522nm,2.6s,mb6.4
LARF **Larrau** 90.22 313⇑*eP* P 03 24 40.2 +1.2
MCH1 **Michaelchurch** 90.25 322⇑*eP* P 03 24 38.9 -0.3
SSP1 **Stoney Pound** 90.25 323⇑*iP* P 03 24 39.4 +0.2
SSP1 AMb AMB 03 24 41.8
comp=Z,129nm,1.7s,mb6.0
SBD1 **Bryn Du** 90.26 323⇑*eP* P 03 24 39.4 +0.2
EAB **Aberfoyle** 90.31 326⇑*eP* P 03 24 39.5 0.0
EAB AMb AMB 03 24 41.2
comp=Z,78nm,1.6s,mb5.8
SJPF **Ste Jean** 90.38 313⇑*iP* P 03 24 40.7 +0.9
comp=Z,177nm,1.3s,mb5.9
SJPF **Ste Jean** 90.38 313⇑*iP* P 03 24 40.7 +0.9
SJPF pmax pmax
comp=Z,89nm,1.3s,mb5.9
SJPF **Ste Jean** 90.38 313⇑*iP* P 03 24 40.7 +0.9
comp=Z,89nm,1.3s,mb5.9
OSSF **Osses** 90.39 313⇑*eP* P 03 24 39.9 +0.1
PGBU **Glenifferbraes** 90.46 326 *eP* P 03 24 39.9 -0.2
SGMF **Saint Gilles** 90.56 318⇑*iP* P 03 24 40.7 +0.1
comp=Z,314nm,1.4s,mb6.2
SGMF **Saint Gilles** 90.56 318⇑*iP* P 03 24 40.7 +0.1
SGMF pmax pmax
comp=Z,157nm,1.4s,mb6.2
SGMF **Saint Gilles** 90.56 318⇑*iP* P 03 24 40.7 +0.1
comp=Z,157nm,1.4s,mb6.2
EALK **Alkurruntz** 90.57 313 P P 03 24 40.6 0.0
comp=Z,245nm,2.1s,mb6.2
WPM1 **Penmaenmawr** 90.58 324⇑*eP* P 03 24 40.6 -0.1
VNDA **Vanda** 90.60 168 P P 03 24 40.1 -0.6
comp=Z,7.8nm,0.9s,mb5.0,baz=304,slow=4.4,SNR=19
VNDA PKKP PKKPbc 03 42 04.2 -3.1
comp=Z,1.6nm,0.9s,baz=21,slow=3.6,SNR=3.1
VNDA LR LR 04 02 32.2
comp=Z,1µm,18.0s,MS5.4,baz=296,slow=34
VNDA **Vanda** 90.60 168 *eP* P 03 24 40.1 -0.7
comp=Z,29nm,1.2s,mb5.5
ELIZ **Elizondo** 90.60 313 P P 03 24 41.2 +0.4
ELIZ pmax pmax
comp=Z,33nm,1.2s,mb5.5
ELIZ **Elizondo** 90.60 313 P P 03 24 41.2 +0.4
comp=Z,33nm,1.2s,mb5.5
ECHE **Chera** 90.67 310 P P 03 24 42.3 +1.2
ECHE pmax pmax
comp=Z,42nm,0.9s,mb5.8
ECHE **Chera** 90.67 310 P P 03 24 42.3 +1.2
comp=Z,42nm,0.9s,mb5.8
GIM **North Isle of** 90.73 325⇑*eP* P 03 24 41.5 +0.2
WLF1 **Llynfaes** 90.87 324⇑*eP* P 03 24 42.1 +0.1
WLF1 AMb AMB 03 24 44.8
comp=Z,106nm,1.5s,mb5.9
HEX **Exmoor** 90.90 321⇑*eP* P 03 24 41.6 -0.5
CART **Cartagena** 90.96 308 *eP* pP 03 24 57.6 +1.1
YRC **Rhoscolyn** 90.98 324⇑*eP* P 03 24 42.4 -0.2
YRC AMb AMB 03 24 45.3
comp=Z,115nm,1.7s,mb5.9
HSA **Swansea** 91.00 322⇑*eP* P 03 24 42.8 +0.1
QUIF **Quistinic** 91.02 318⇑*iP* P 03 24 42.6 -0.1
comp=Z,217nm,1.3s,mb6.0
QUIF **Quistinic** 91.02 318⇑*iP* P 03 24 42.6 -0.1
QUIF pmax pmax
comp=Z,108nm,1.3s,mb6.0
QUIF **Quistinic** 91.02 318⇑*iP* P 03 24 42.6 -0.1
comp=Z,108nm,1.3s,mb6.0
ROSF **Rostrenen** 91.02 319⇑*iP* P 03 24 42.9 +0.2
comp=Z,271nm,1.3s,mb6.1
ROSF **Rostrenen** 91.02 319⇑*iP* P 03 24 42.9 +0.2
ROSF pmax pmax
comp=Z,135nm,1.3s,mb6.1
ROSF **Rostrenen** 91.02 319⇑*iP* P 03 24 42.9 +0.2
comp=Z,135nm,1.3s,mb6.1
EMUR **La Murta** 91.12 308 P P 03 24 43.5 +0.3
comp=Z,217nm,2.0s,mb6.1
ETOB **Tobarra** 91.25 309 P P 03 24 44.3 +0.5
comp=Z,496nm,2.3s,mb6.4
AKUT **Akutan** 91.26 35 *eP* P 03 24 41.5 -2.4
comp=Z,347nm,1.3s,mb6.5
TORD **Torodi Ar. Bea** 91.42 283 P P 03 24 45.6 +1.0
comp=Z,11nm,1.1s,mb5.1,baz=84,slow=3.8,SNR=44
TORD pP pP 03 25 00.2 +1.6
comp=Z,23nm,1.0s,baz=89,slow=3.4,SNR=9.7
TORD PP PP 03 28 19.9 -2.7
comp=Z,3.2nm,1.1s,baz=98,slow=10,SNR=3.7
TORD S 03 35 11.8
comp=Z,1.0nm,1.1s,baz=57,slow=5.5,SNR=3.0
TORD ScS ScS 03 35 43.7 +0.6
comp=Z,1.2nm,1.2s,baz=277,slow=1.2,SNR=2.5
TORD PKKPbc PKKPbc 03 42 06.0 +0.9
comp=Z,0.7nm,0.5s,baz=301,slow=2.6,SNR=11
ALE **Alert** 91.44 357 P P 03 24 44.0 -0.7
comp=Z,425nm,0.8s,mb6.8,SNR=63
SBA **Scott Base** 91.70 168 P P 03 24 46.4 +0.5
SBA pmax pmax
comp=Z,110nm,1.7s,mb5.9
SBA **Scott Base** 91.70 168 *eP* P 03 24 46.0 +0.1
comp=Z,113nm,1.7s,mb5.9
ELAN **Lanestosa** 91.96 314 P P 03 24 46.9 -0.2
comp=Z,302nm,2.2s,mb6.2
EVIA **Vianos** 91.98 309 P P 03 24 47.8 +0.6
EVIA pmax pmax
comp=Z,75nm,1.4s,mb5.8
EVIA **Vianos** 91.98 309 P P 03 24 47.8 +0.6
comp=Z,75nm,1.4s,mb5.8
ENIJ **Nijar** 92.00 307 P P 03 24 47.5 +0.2
ENIJ pmax pmax
comp=Z,50nm,1.2s,mb5.7
ENIJ **Nijar** 92.00 307 P P 03 24 47.5 +0.2
comp=Z,50nm,1.2s,mb5.7
DLF **Lyons Farm** 92.12 324 *eP* P 03 24 46.7 -1.2
EHUE **Huescar** 92.18 308 P P 03 24 48.8 +0.7
EHUE pmax pmax
comp=Z,103nm,1.2s,mb6.0
EHUE **Huescar** 92.18 308 P P 03 24 48.8 +0.6

comp=Z,103nm,1.2s,mb6.0
DCN Croghan 92.55 324 *e*P **P** 03 24 48.7 **-1.1**
EQES Quesada 92.56 308 P **P** 03 24 49.5 **-0.4**
comp=Z,351nm,2.4s,mb6.4
NVL N'lazarevskaya 92.75 199 ⇓*i*P **P** 03 24 52.1 **+1.3**
NVL *i* *PP pP 03 25 02.7 -2.0
NVL *e*SP sP 03 25 08.1 -1.9
NVL *i* S 03 35 56.2
NVL *e*SS SS 03 42 18.9 +13
NVL pmax pmax
comp=Z,23nm,0.9s,mb5.6
MAIT Maitri 92.79 199 *e*P **P** 03 24 52.9 **+2.0**
GUD Guadarrama 92.92 311 P **P** 03 24 52.5 **+0.9**
GUD pmax pmax
comp=Z,63nm,0.9s,mb6.0
GUD Guadarrama 92.92 311 P **P** 03 24 52.5 **+0.9**
comp=Z,63nm,0.9s,mb6.0
ESDC Sonseca Array 92.94 310 P **P** 03 24 52.3 **+0.7**
comp=Z,10.0nm,0.7s,mb5.3,baz=61,slow=4.4,SNR=56
ESDC S 03 35 22.2
comp=Z,0.3nm,0.6s,baz=359,slow=10,SNR=2.3
ESDC ScS ScS 03 35 54.2 -1.5
comp=Z,1.0nm,0.7s,baz=296,slow=38,SNR=3.2
ESDC PKKP PKKPbc 03 41 59.0 -2.3
comp=Z,0.9nm,0.7s,baz=277,slow=38,SNR=6.1
ESDC PKKPbc PKKPbc 03 42 02.3 +1.0
comp=Z,2.5nm,0.8s,baz=268,slow=2.4,SNR=12
ESDC Sonseca Array 92.94 310 P **P** 03 24 52.1 **+0.5**
comp=Z,29nm,1.2s,mb5.6
ESLA Sonseca Array 92.94 310 ⇑*i*P **P** 03 24 51.9 **+0.3**
comp=Z,26nm,1.4s,mb5.5
ECOG Cogollos-Vega 93.03 308 P **P** 03 24 51.8 **-0.2**
ECOG pmax pmax
comp=Z,18nm,1.0s,mb5.5
ECOG Cogollos-Vega 93.03 308 P **P** 03 24 51.8 **-0.2**
comp=Z,18nm,1.0s,mb5.5
EBAN Banos Encina 93.06 309 P **P** 03 24 52.7 **+0.5**
EBAN pmax pmax
comp=Z,24nm,0.8s,mb5.7
EBAN Banos Encina 93.06 309 P **P** 03 24 52.7 **+0.5**
comp=Z,24nm,0.8s,mb5.7
EGUA Guajares 93.10 307 P **P** 03 24 52.5 **+0.1**
EGUA pmax pmax
comp=Z,6.0nm,0.7s,mb5.1
EGUA Guajares 93.10 307 P **P** 03 24 52.5 **+0.2**
comp=Z,5.7nm,0.7s,mb5.1
EARI Arriondas 93.23 314 P **P** 03 24 52.6 **-0.3**
comp=Z,101nm,1.4s,mb6.1
ERON Agron 93.26 307 P **P** 03 24 52.9 **-0.1**
comp=Z,3.3nm,0.6s,mb4.9
ELOJ Sierra Loja 93.51 308 P **P** 03 24 53.3 **-1.0**
comp=Z,9.5nm,1.0s,mb5.2
ELUQ Luque 93.53 308 P **P** 03 24 53.6 **-0.8**
comp=Z,17nm,1.0s,mb5.4
EADA Adamuz 93.67 309 P **P** 03 24 55.0 **0.0**
comp=Z,241nm,1.8s,mb6.3
TTA Tatalina 93.85 26 *e*P **P** 03 24 56.0 **+0.2**
EMIJ Mijas 94.10 307 P **P** 03 24 55.5 **-1.5**
comp=Z,36nm,1.1s,mb5.6
ECAL Calabor 94.60 313 P **P** 03 24 58.6 **-0.6**
comp=Z,83nm,1.2s,mb6.0
MDT Midelt 94.60 303 S 03 35 31.8
comp=Z,0.7nm,0.9s,baz=155,slow=22,SNR=1.8
MDT ScS ScS 03 36 10.1 +0.5
comp=Z,1.5nm,1.2s,baz=40,slow=18,SNR=1.9
MDT PKKPbc PKKPbc 03 41 57.6 +0.7
comp=Z,2.5nm,0.9s,baz=291,slow=4.6,SNR=4.7
EPON Pontenova 94.61 314 P **P** 03 24 58.8 **-0.5**
comp=Z,156nm,1.7s,mb6.2
PBRG Braganca 94.63 313 *e*P **P** 03 24 59.8 **+0.4**
comp=Z,42nm,1.9s,mb5.5
SVW2 Sparrevohn 94.67 27 *e*P **P** 03 24 59.7 **+0.1**
EJIF Jimena Fronter 94.67 307 P **P** 03 24 59.5 **0.0**
comp=Z,37nm,1.1s,mb5.7
CHGN Chignik 94.82 32 *e*P **P** 03 24 59.0 **-1.2**
ESPR Espera 94.90 308 P **P** 03 24 59.9 **-0.7**
comp=Z,60nm,1.2s,mb5.9
EMIN Mina Concepcio 95.37 309 P **P** 03 25 02.4 **-0.4**
comp=Z,34nm,1.3s,mb5.6
EBAD Badajoz 95.44 310 P **P** 03 25 02.8 **-0.3**
PVRL Vila Real 95.45 312 *e*P **P** 03 25 03.0 **-0.2**
comp=Z,44nm,1.9s,mb5.6
QSPA South Pole Qui 95.45 180 P **P** 03 25 05.0 **+1.8**
comp=Z,17nm,1.1s,mb5.4
MTE Manteigas 95.51 311 *e*P **P** 03 25 04.3 **+0.9**
comp=Z,45nm,1.5s,mb5.7
MTE Manteigas 95.51 311 *e*PP PP 03 28 52.9 -1.7
MTE *e*SKS 03 36 15.9
MTE Manteigas 95.51 311 *e*LQ 03 50 11.7
PCBR Castelo Branco 95.57 311 *e*P **P** 03 25 04.6 **+0.9**
comp=Z,33nm,1.6s,mb5.5
ELOB Lobios 95.58 313 P **P** 03 25 03.5 **-0.2**
comp=Z,60nm,1.5s,mb5.8
PCAB Cabril 95.59 313 *e*P **P** 03 25 04.9 **+1.1**
comp=Z,43nm,1.7s,mb5.6
PVIS Viseu 95.70 312 *e*P **P** 03 25 05.1 **+0.8**
comp=Z,36nm,1.9s,mb5.5
STS Santiago 95.71 314 P **P** 03 25 03.9 **-0.4**
STS pmax pmax
comp=Z,30nm,0.7s,mb5.8
STS Santiago 95.71 314 P **P** 03 25 03.9 **-0.4**
comp=Z,3.2nm,0.7s,mb4.9
EGRO El Granado 96.05 309 P **P** 03 25 05.3 **-0.6**
comp=Z,68nm,1.3s,mb5.9
PBEJ Beja 96.24 309 *e*P **P** 03 25 07.8 **+1.0**
comp=Z,25nm,1.8s,mb5.3
PTOM Tomar 96.32 311 *e*P **P** 03 25 07.9 **+0.8**
comp=Z,54nm,1.9s,mb5.7
COLA College 96.37 22*c* *i*P **P** 03 25 05.6 **-1.7**
COLA College 96.37 22 *e*P **P** 03 25 05.5 **-1.9**
comp=Z,8.3nm,0.8s,mb5.2
COLA *e*PP PP 03 28 59.7 -1.6
SUMG Summit 96.47 347 ⇑*i*P **P** 03 25 07.4 **-0.4**
comp=Z,28nm,1.0s,mb5.7
SUMG *e*PP PP 03 29 02.0 -0.1
ILAR Eielson Array 96.78 22 P **P** 03 25 07.0 **-2.2**
comp=Z,10.0nm,0.6s,mb5.5,baz=316,slow=3.1,SNR=163
ILAR PP PP 03 28 59.6 -4.8
comp=Z,2.7nm,0.9s,baz=319,slow=9.4,SNR=4.2
ILAR S 03 35 36.3
comp=Z,0.7nm,0.9s,baz=292,slow=4.8,SNR=4.3
ILAR PKKP PKKPbc 03 41 49.5 -1.6
comp=Z,0.8nm,1.0s,baz=150,slow=2.5,SNR=4.2
ILAR LR LR 04 13 48.9
comp=Z,1μm,20.6s,MS5.3,baz=323,slow=38
ILAR Eielson Array 96.78 22 P **P** 03 25 07.0 **-2.2**
ILAR 03 28 59.7
ILAR S 03 35 36.3
ILAR pmax pmax
comp=Z,10.0nm,0.6s
KDAK Kodiak Island 97.31 30 P **P** 03 25 11.0 **-0.6**
comp=Z,234nm,1.2s,mb6.5,SNR=6.4
SLKM Skilak Lake 97.32 27 *e*P **P** 03 25 10.1 **-1.5**
PMR Palmer 97.33 26 *e*P **P** 03 25 10.8 **-0.9**
comp=Z,61nm,1.0s,mb6.0
PMR LR LR
comp=Z,1μm,21.0s,MS5.3
SNAA Sanae 97.52 198 ⇓*i*Pdiff **P** 03 25 13.7 **+1.2**
SNAA *e* 03 25 16.4
SNAA *e* 03 25 22.1
SNAA *e* pP 03 25 23.3 -3.2
SNAA *e* pP 03 25 27.8 +1.3
SNAA *e* pP 03 25 28.6 +2.1
SNAA *e* 03 25 33.6
SNAA *e* 03 25 36.3
SNAA ⇓*i* 03 41 48.0
SNAA *e* 03 41 50.0
SNAA *e* 03 42 02.8
SNAA *e* 03 42 16.8
SNAA Sanae 97.52 198 *e*P **P** 03 25 13.5 **+1.0**
comp=Z,17nm,1.4s,mb5.4
MENT Mentasta 98.91 23 *e*P **P** 03 25 18.9 **+0.1**
VNA2 Neumayer--Watz 99.07 199 ⇓*i*Pdiff **P** 03 25 21.9 **+2.4**
VNA2 *e* 03 25 22.4
VNA2 *e* 03 25 24.0
VNA2 *e* 03 25 25.9
VNA2 *e* 03 25 29.7
VNA2 *e* pP 03 25 31.4 -2.1
VNA2 *e* pP 03 25 35.6 +2.1
VNA2 *e* pP 03 25 36.9 +3.4
VNA2 *e* 03 25 41.9
VNA2 *e* 03 25 44.0
VNA2 *e* 03 25 46.2
VNA2 *e* 03 25 48.1
VNA2 *e* 03 25 53.3
VNA2 *e* 03 25 58.4
VNA2 ⇓*i* 03 26 03.5
VNA2 *e* 03 26 08.7
VNA2 *e* 03 26 13.9
VNA2 *e* 03 26 19.2
VNA2 *e* 03 26 24.5
VNA2 *e* 03 26 29.8
VNA2 *e* 03 26 35.1
VNA2 *e* 03 26 40.4
VNA2 *e* 03 26 45.7
VNA2 *e* 03 26 51.0
VNA2 *e* 03 26 56.3
VNA2 *e* 03 27 01.6
VNA2 *e* 03 27 07.0
VNA2 *e* 03 27 12.3
VNA2 *e* 03 27 17.6
VNA2 *e* 03 27 22.9
VNA2 ⇓*i* 03 41 44.0
VNA2 *e* 03 41 47.1
VNA2 *e* 03 41 58.8
VNA2 *e* 03 42 10.0
VNA2 *e* 03 42 24.3
INK Inuvik 99.14 16 P **P** 03 25 19.0 **-0.8**
INK pmax pmax
comp=Z,76nm,1.1s
INK Inuvik 99.14 16 *e*Pdif **P** 03 25 18.8 **-1.0**
comp=Z,2μm,1.1s
INK *e*PP PP 03 29 22.9 +0.4
EYAK Cordova Ski Ar 99.28 26 *e*Pdif **P** 03 25 20.5 **+0.1**
VNA1 Neumayer--Stat 99.40 199 ⇓*i*Pdiff **P** 03 25 23.5 **+2.5**
VNA1 *e* 03 25 24.2
VNA1 *e* 03 25 26.1
VNA1 *e* 03 25 31.3
VNA1 *e* pP 03 25 33.9 -1.1
VNA1 *e* pP 03 25 37.4 +2.4
VNA1 *e* pP 03 25 38.3 +3.3
VNA1 *e* 03 25 43.5
VNA1 *e* 03 25 46.6
VNA1 *e* 03 25 47.9
VNA1 *e* 03 25 54.6
VNA1 *e* 03 29 50.3
VNA1 *e* 03 42 09.4
RES Resolute Bay 99.71 3 P Pdif 03 25 21.5 -0.8
RES pmax pmax
comp=Z,73nm,1.0s,mb6.1
RES Resolute Bay 99.71 3 *i* Pdif Pdif 03 25 21.6 -0.7
comp=Z,2μm,1.0s
RES *e*PP PP 03 29 21.8 -5.0
VNA3 Neumayer Olymp 99.74 199 ⇓*i*Pdiff Pdif 03 25 23.8 +1.3
VNA3 *e* 03 25 28.4
VNA3 *e* 03 25 37.9
VNA3 *e* 03 25 41.0
VNA3 *e* 03 25 44.2
VNA3 *e* 03 25 47.5
VNA3 *e* 03 29 51.9
VNA3 ⇓*i* 03 41 41.9
VNA3 *e* 03 41 46.5
VNA3 *e* 03 41 57.1
VNA3 *e* 03 42 07.1
DAWY Dawson 99.92 21 *i* Pdif Pdif 03 25 22.4 -0.8
SFJD Kangerlussuaq 103.45 347 *i* P PKiKP 03 29 53.7 -3.9
comp=Z,18nm,0.8s
DLBC Dease Lake 106.98 23 *e*PKP PKiKP 03 30 03.7 -0.4
YKW3 Yellowknife Ar 108.55 14 *e*Pdif Pdif 03 26 01.7 +0.1
YKW3 *e*PKP PKiKP 03 30 06.3 -0.8
YKW3 *e*PP PP 03 30 26.8 -5.9
YKA Yellowknife Ar 108.61 14 Pdiff Pdif 03 26 01.2 -0.7
comp=Z,2.9nm,0.7s,baz=327,slow=4.3,SNR=49
YKA PKiKP PKiKP 03 30 05.9 -1.3
comp=Z,1.5nm,0.6s,baz=319,slow=2.2,SNR=9.3
YKA PP PP 03 30 22.8 -10
comp=Z,1.2nm,0.7s,baz=333,slow=7.7,SNR=7.4
YKA PKKPbc PKKPbc 03 41 15.3 -0.9
comp=Z,0.8nm,0.7s,baz=151,slow=2.8,SNR=11
YKA Yellowknife Ar 108.61 14 Pdif Pdif 03 26 01.2 -0.6
YKA PKPdf PKiKP 03 30 05.9 -1.3
YKA PP PP 03 30 22.8 -10
YKA PKKPbc PKKPbc 03 41 15.3 -0.9
FCC Fort Churchill 115.54 5 PKIKP PKPdf 03 30 19.2 -1.1
FCC Fort Churchill 115.54 5 *e*PKPdf PKPdf 03 30 19.0 -1.3
FCC *e*PP PP 03 31 18.9 -3.8
TBI Tubuai 116.12 113 *e*PP PP 03 31 22.4 -4.3
comp=Z,140nm,31.2s
TBI Tubuai 116.12 113 *e*PS PS 03 41 09.1 +0.5
comp=Z,598nm,29.2s
TBI Tubuai 116.12 113 *e*LR LR 04 05 34.1
comp=Z,1μm,23.5s
PPT Papeete 116.41 107 *e*PP PP 03 31 20.3 -8.4
comp=Z,132nm,27.2s
PPT Papeete 116.41 107 *e*PS PS 03 41 13.0 +1.8
comp=Z,1μm,27.0s
PPT Papeete 116.41 107 *e*LR LR 04 05 47.7
comp=Z,685nm,25.0s
OTR Olympics--Tyee 116.69 28 P PKPdf 03 30 23.7 +1.2
OBC Olympics--Boni 116.85 28 P PKPdf 03 30 24.1 +1.3
EDM Edmonton 116.93 18 PKIKP PKPdf 03 30 22.6 -0.4
EDM Edmonton 116.93 18 *e*PKPdf PKPdf 03 30 22.3 -0.7
EDM *e*PP PP 03 31 30.7 -1.6
CMW Cultus Mountai 117.46 27 P PKPdf 03 30 24.2 +0.2
SCHQ Schefferville 117.86 348 PKP PKPdf 03 30 24.4 -0.4
comp=Z,5.5nm,0.6s,baz=31,slow=3.4,SNR=21
SCHQ PKKPbc PKKPbc 03 40 44.5 -0.7
comp=Z,1.5nm,0.8s,baz=35,slow=12,SNR=2.5
SCHQ Schefferville 117.86 348 *e*PKPdf PKPdf 03 30 24.2 -0.5
SCHQ *e*PP PP 03 31 35.4 -3.5
FFC Flin Flon 118.41 11 *e*PKPdf PKPdf 03 30 24.9 -0.9
FFC *e*PP PP 03 31 38.0 -4.7
FFC *e*SKPdf SKPdf 03 33 57.1 -0.2
FMW Mount Fremont 118.77 27 P PKPdf 03 30 26.6 +0.1
TBM Table Mountain 119.08 27 P PKPdf 03 30 27.4 +0.3
MXC Moxie City 119.66 27 P PKPdf 03 30 28.7 +0.5
OD2 Odessa Site #2 119.73 25 P PKPdf 03 30 28.3 0.0
WRD Warden 120.00 26 P PKPdf 03 30 29.3 +0.4
VFP Flag Point 120.06 29 P PKPdf 03 30 29.6 +0.6
HAWA Hanford 120.14 27 *e*PKPdf PKPdf 03 30 29.2 0.0
HAWA *e*SKPdf SKPdf 03 34 01.8 +1.1
WALA Waterton Lakes 120.27 21 *e*PKPdf PKPdf 03 30 29.2 -0.2
WALA *e*PP PP 03 31 54.4 -1.1
IRO Indian Ridge 120.63 30 P PKPdf 03 30 30.3 +0.2
HBO Huckleberry Mo 120.72 30 P PKPdf 03 30 30.8 +0.5
HUMO Hull Mountain 121.28 32 *e*PKPdf PKPdf 03 30 31.9 +0.5
HUMO *e*PP PP 03 32 01.6 -0.8
HUMO *e*SKPdf SKPdf 03 34 04.3 +1.4
YBH Yreka Blue Hor 122.02 32 PKIKP PKPdf 03 30 33.3 +0.5
YBH Yreka Blue Hor 122.02 32 *e*PKPdf PKPdf 03 30 32.8 0.0
MSO Missoula 122.11 23 *e*PKPdf PKPdf 03 30 32.4 -0.5
MSO *e*PP PP 03 32 07.4 -0.6
MSO *e*SKPdf SKPdf 03 34 03.8 -0.7
CHMT Chamberlain Mo 122.30 22 *e*PKPdf PKPdf 03 30 32.7 -0.6
CHMT *e*PP PP 03 32 09.0 -0.4
CHMT *e*SKPdf SKPdf 03 34 05.4 +0.6
BMO Blue Mountains 122.32 26 *e*PKIKP PKPdf 03 30 32.6 -0.8
LASM Arnica Sink 122.71 32 P PKPdf 03 30 34.7 +0.6
WDC Whiskeytown Da 122.92 33 PKIKP PKPdf 03 30 34.3 -0.2
WDC Whiskeytown Da 122.92 33 *e*PKPdf PKPdf 03 30 33.9 -0.6
KIPM Iron Peak 122.94 34 *e*PKPdf PKPdf 03 30 35.7 +1.2
HRY Holter Researc 123.00 21 *e*PKPdf PKPdf 03 30 34.3 -0.3
HRY *e*PP PP 03 32 13.4 -0.7
MOD Modoc 123.15 31 *e*PKPdf PKPdf 03 30 35.7 +0.8
WVR Wild Horse Val 123.57 29 *e*PKPdf PKPdf 03 30 36.7 +0.9
ULM Lac du Bonnet 123.72 8 PKP PKPdf 03 30 35.3 -0.8
comp=Z,38nm,0.8s,baz=344,slow=2.7,SNR=48
ULM PP PP 03 32 12.2 -6.7
comp=Z,22nm,1.1s,baz=320,slow=3.8,SNR=5.0
ULM PKKPbc PKKPbc 03 40 22.4 -0.7
comp=Z,1.5nm,0.4s,baz=186,slow=3.9,SNR=3.6
HOPS Hopland 123.72 35 *e*PKPdf PKPdf 03 30 36.3 +0.3
DLMT Dillon 123.85 23 *e*PKPdf PKPdf 03 30 36.7 +0.4
DLMT *e*PP PP 03 32 19.0 -0.8
DLMT *e*SKPdf SKPdf 03 34 08.7 +0.9
MCMT McKenzie Canyo 124.20 23 *e*PKPdf PKPdf 03 30 37.5 +0.6
MCMT *e*PP PP 03 32 22.6 +0.5
NSHM Saint Helena R 124.31 35 *e*PKPdf PKPdf 03 30 37.5 +0.3
OHCM Honcut 124.37 33 *e*PKPdf PKPdf 03 30 37.3 0.0
OHCM *e*PP PP 03 32 22.1 -1.2
GCMT Greycliff 124.56 20 *e*PKPdf PKPdf 03 30 37.9 +0.2
HLID Hailey 124.61 25 *e*PKPdf PKPdf 03 30 38.4 +0.7
QLMT Earthquake Lak 124.75 22 *e*PKPdf PKPdf 03 30 38.9 +0.9
QLMT *e*PP PP 03 32 25.6 -0.2
QLMT *e*SKPdf SKPdf 03 34 12.1 +2.6
YMR Madison River 125.06 22 *e*PKPdf PKPdf 03 30 39.8 +1.2
PAHR Pah Rah Range 125.23 32 *e*PKPdf PKPdf 03 30 39.3 +0.4
PAHR *e*PP PP 03 32 29.3 +0.3
PAHR *e*SKPdf SKPdf 03 34 11.7 +1.2
YFT Old Faithful 125.29 22 *e*PKPdf PKPdf 03 30 41.0 +1.9
YFT *e*PP PP 03 32 29.2 -0.2
LKWY Lake 125.36 22 PKIKP PKPdf 03 30 41.5 +2.3
LKWY Lake 125.36 22 *e*PKPdf PKPdf 03 30 41.1 +1.9
LKWY *e*PP PP 03 32 27.6 -2.2
LKWY *e*SKPdf SKPdf 03 34 13.1 +2.5
FLWY Flagg Ranch 125.66 22 *e*PKPdf PKPdf 03 30 40.4 +0.6
FLWY *e*PP PP 03 32 31.6 -0.3
IMW Indian Meadow 125.72 22 *e*PKPdf PKPdf 03 30 40.6 +0.7
IMW *e*PP PP 03 32 33.6 +1.3
BMN Battle Mountai 125.79 30 PKIKP PKPdf 03 30 41.4 +1.4
BMN Battle Mountai 125.79 30 *e*PKPdf PKPdf 03 30 40.8 +0.8
BMN *e*PP PP 03 32 32.6 -0.1
DCID1 Drake Creek 125.89 23 *e*PKPdf PKPdf 03 30 40.6 +0.4
CMB Columbia Colle 125.90 34 *e*PKPdf PKPdf 03 30 40.2 0.0
CMB *e*PP PP 03 32 33.4 -0.1
MOOW Moose Ponds 125.92 22 *e*PKPdf PKPdf 03 30 40.5 +0.3
MOOW *e*PP PP 03 32 31.8 -1.9
TPAW Teton Pass 126.07 23 *e*PKPdf PKPdf 03 30 41.0 +0.5
TPAW *e*PP PP 03 32 33.8 -0.8
TPAW *e*SKPdf SKPdf 03 34 14.6 +2.6
REDW Red Top Meadow 126.21 23 *e*PKPdf PKPdf 03 30 41.5 +0.7
REDW *e*PP PP 03 32 30.9 -4.7
REDW *e*SKPdf SKPdf 03 34 13.3 +1.1
EYMN Ely 126.49 5 *e*PKPdf PKPdf 03 30 41.2 -0.2
EYMN *e*PP PP 03 32 32.1 -5.3
ELK Elko 126.49 28 *e*PKIKP PKPdf 03 30 42.0 +0.6
AHID Auburn Hatcher 126.62 23 *e*PKPdf PKPdf 03 30 41.9 +0.3
NVAR Mina Array Bea 126.74 32 PKP PKPdf 03 30 42.8 +0.9
comp=Z,32nm,0.8s,baz=338,slow=1.0,SNR=156
HVU Hansel Valley 126.76 25 *e*PKIKP PKPdf 03 30 42.5 +0.6
MNV Mina 126.82 32 *e*PKIKP PKPdf 03 30 42.8 +0.8
PDAR Pinedale Array 127.21 22 PKP PKPdf 03 30 43.0 +0.3
comp=Z,58nm,1.0s,baz=316,slow=0.2,SNR=181
PDAR PP PP 03 32 40.9 -1.2
comp=Z,5.1nm,1.1s,baz=354,slow=1.8,SNR=3.6
SPUT South Promonto 127.28 25 *e*PKPdf PKPdf 03 30 43.0 +0.1
HWUT Hardware Ranch 127.41 24 *e*PKPdf PKPdf 03 30 43.2 +0.1
HWUT *e*PP PP 03 32 41.0 -2.4
TPW Tonopah 127.57 32 PKIKP PKPdf 03 30 44.9 +1.5
TPH Tonopah 127.57 32 *e*PKPdf PKPdf 03 30 44.1 +0.6
PTRM Twissleman Ran 127.68 36 *e*PKPdf PKPdf 03 30 45.0 +1.4
RSSD Black Hills 127.84 17 *e*PKIKP PKPdf 03 30 44.0 +0.1
RSSD *e* 03 32 44.2
TCUT Toone Canyon 127.88 25 *e*PKPdf PKPdf 03 30 44.6 +0.6
NOQ North Oquirrh 127.97 26 *e*PKPdf PKPdf 03 30 44.5 +0.4
DUG Dugway 128.04 26 *e*PKPdf PKPdf 03 30 45.1 +0.8
CTU Camp Tracy 128.09 25 *e*PKPdf PKPdf 03 30 44.5 +0.1
DAU Daniels Canyon 128.53 25 *e*PKIKP PKPdf 03 30 46.2 +1.0
NLU North Lily Min 128.56 26 *e*PKPdf PKPdf 03 30 46.2 +0.9
MPU Maple Canyon 128.70 26 *e*PKPdf PKPdf 03 30 46.2 +0.7
MPU *e*PP PP 03 32 51.3 -0.7
DAC Darwin (Calif) 128.71 33 *e*PKIKP PKPdf 03 30 46.2 +0.6
DAC *e* 03 32 52.7
LBNH Lisbon 128.95 347 *e*PKIKP PKPdf 03 30 46.1 +0.1
RWWY Rawlins 129.01 21 *e*PKPdf PKPdf 03 30 45.6 -0.5
RKT Rikitea 129.32 115 *e*PP PP 03 32 55.5 -0.5
comp=Z,140nm,35.0s
RKT Rikitea 129.32 115 *e*PS PS 03 43 03.6 -2.1
comp=Z,194nm,27.0s
RKT Rikitea 129.32 115 *e*LR LR 04 11 39.0
comp=Z,743nm,32.2s
MIV Mineville/With 129.44 349 *e*PKPdf PKPdf 03 30 46.6 -0.4
TMUT Trail Mountain 129.48 26 *e*PKPdf PKPdf 03 30 48.2 +1.1
TMUT *e*PP PP 03 32 56.3 -0.7
NCB Newcomb 129.67 349 *e*PKPdf PKPdf 03 30 48.0 +0.6
ARUT Antelope Range 129.69 29 *e*PKIKP PKPdf 03 30 48.3 +0.9
ARUT *e* 03 32 56.9
MSU Marysvale 129.69 27 *e*PKPdf PKPdf 03 30 48.8 +1.3
MSU *e* 03 34 05.2
CCUT Cedar City 129.91 29 *e*PKPdf PKPdf 03 30 49.0 +1.2
SRU San Rafael 129.93 25 PKIKP PKPdf 03 30 47.7 -0.2
SRU San Rafael 129.93 25 *e*PKPdf PKPdf 03 30 47.9 0.0
SRU *e*SKP 03 34 06.7
PHWY Pilot Hill 129.95 20 *e*PKPdf PKPdf 03 30 47.9 -0.1
NEN Nelson 130.65 32 *e*PKPdf PKPdf 03 30 50.1 +0.9
NEN *e*SKPbc SKPbc 03 34 08.9 -0.2
PV10 Paradox Valley 131.17 25 *e*PKPdf PKPdf 03 30 50.2 0.0
PV10 *e*SKPbc SKPbc 03 34 11.2 +0.2
ISCO Idaho Springs 131.24 21 *e*PKIKP PKPdf 03 30 50.8 +0.4
ISCO *e* 03 33 07.9
ISCO Idaho Springs 131.24 21 *e*PKPdf PKPdf 03 30 50.8 +0.4
ISCO *e*PP PP 03 33 07.9 -0.6
ISCO *e*SKPbc SKPbc 03 34 11.2 -0.1
SMCO Snowmass 131.30 22 *e*PKPdf PKPdf 03 30 51.0 +0.5
SMCO *e*PP PP 03 33 03.1 -5.8
SMCO *e*SKPbc SKPbc 03 34 11.9 +0.3
PV01 Paradox Valley 131.57 24 *e*PKPdf PKPdf 03 30 51.9 +0.9
PV01 *e*SKPbc SKPbc 03 34 12.4 -0.1
ERPA Erie 132.30 354 *e*PKPdf PKPdf 03 30 52.4 +0.1
ERPA *e*SKPbc SKPbc 03 34 15.2 0.0
MVCO Mesa Verde 132.39 25 *e*PKPdf PKPdf 03 30 52.8 +0.2
MVCO *e*SKPbc SKPbc 03 34 15.0 -0.4
WUAZ Wupatki 132.50 29 *e*PKPdf PKPdf 03 30 53.7 +1.0
WUAZ *e*SKPbc SKPbc 03 34 16.0 +0.2
MVL Millersville 133.90 350 *e*PKPdf PKPdf 03 30 55.3 -0.1
MVL *e*SKPbc SKPbc 03 34 21.1 +0.6
CBKS Cedar Bluff 133.96 15 *e*PKPdf PKPdf 03 30 56.1 +0.6
CBKS *e*SKPbc SKPbc 03 34 21.2 +0.5
ACSO Alum Creek Sta 134.40 357 *e*PKPdf PKPdf 03 30 56.0 -0.4
ACSO *e*PP PP 03 33 27.4 -1.2
ACSO *e*SKPbc SKPbc 03 34 22.9 +0.8
KSU1 Kansas State U 134.42 12 *e*PKPdf PKPdf 03 30 56.2 -0.1
KSU1 *e*PP PP 03 33 19.0 -10
KSU1 *e*SKPbc SKPbc 03 34 22.8 +0.5
ANMO Albuquerque 135.17 25*c* *i*PKIKP PKPdf 03 30 58.7 +0.9
ANMO Albuquerque 135.17 25 *e*PKPdf PKPdf 03 30 58.8 +1.0
ANMO *e*PP PP 03 33 29.6 -3.9
ANMO *e*SKPbc SKPbc 03 34 25.5 +0.9
LAZ Ladron 135.35 26 *e*PKPdf PKPdf 03 30 59.3 +1.2
LAZ *e*SKPbc SKPbc 03 34 26.7 +1.5
TUC Tucson 135.36 31 *e*PKPdf PKPdf 03 30 58.8 +0.6
TUC *e*SKPbc SKPbc 03 34 25.3 +0.1
BLO Bloomington 135.51 1 *e*PKPdf PKPdf 03 30 57.3 -1.1
BLO *e*PP PP 03 33 28.2 -7.5
BLO *e*SKPbc SKPbc 03 34 25.8 +0.1
LENM Lemitar 135.62 26 *e*PKPdf PKPdf 03 30 59.4 +0.8
LENM *e*SKPbc SKPbc 03 34 27.8 +1.7
LPM Los Pinos Moun 135.65 25 *e*PKPdf PKPdf 03 30 59.0 +0.3
LPM *e*PP PP 03 33 34.5 -2.1
LPM *e*SKPbc SKPbc 03 34 27.2 +1.1
BNM Barren Site 135.79 25 *e*PKPdf PKPdf 03 30 59.5 +0.5
BNM *e*SKPbc SKPbc 03 34 27.5 +1.0
WCI Wyandotte Cave 136.45 1 *e*PKPpre 03 30 50.2
WCI *e*PKPdf PKPdf 03 31 00.2 0.0
WCI *e*SKPbc SKPbc 03 34 28.6 0.0
FVM French Village 136.47 6 *e*PKPdf PKPdf 03 30 59.3 -0.9
FVM *e*PP PP 03 33 37.5 -4.2
FVM *e*SKPbc SKPbc 03 34 28.1 -0.5
FWV Forest Hill 136.88 354 *e*PKPdf PKPdf 03 31 01.4 +0.4
FWV *e*SKPbc SKPbc 03 34 29.7 -0.1
AMTX Amarillo 137.02 20 *e*PKPpre 03 30 51.6
AMTX *e*PP PP 03 33 34.2 -11
AMTX *e*SKPbc SKPbc 03 34 30.7 +0.4
BLA Blacksburg 137.20 354 PKIKP PKPdf 03 31 02.1 +0.5
BLA Blacksburg 137.20 354 *e*PKPdf PKPdf 03 31 00.9 -0.6
BLA *e*SKPbc SKPbc 03 34 30.9 +0.1
ELN Prospectdale 137.22 354 *e*PKPdf PKPdf 03 31 01.1 -0.4
ELN *e*SKPbc SKPbc 03 34 30.8 -0.1
BBSR BB Station 137.39 334 *e*PKPdf PKPdf 03 31 02.8 +0.8
BBSR *e*SKPbc SKPbc 03 34 33.3 +1.9
PARMO Parma 137.84 5 *e*PKPdf PKPdf 03 31 03.3 +0.6
PARMO *e*SKPbc SKPbc 03 34 33.5 +0.8
CPRX Cap Rock 137.89 23 *e*PKPpre 03 30 54.5
CPRX *e*PKPdf PKPdf 03 31 03.3 +0.5
CPRX *e*SKPbc SKPbc 03 34 33.2 +0.4
TZTN Tazewell 138.10 358 *e*PKPpre 03 30 52.7
TZTN *e*PKPdf PKPdf 03 31 03.6 +0.4
TZTN *e*SKPbc SKPbc 03 34 34.1 +0.7
UTMT University of 138.22 4 *e*PKPdf PKPdf 03 31 04.0 +0.6
GLAT Glass 138.27 5 *e*PKPdf PKPdf 03 31 03.8 +0.3
GLAT *e*SKPbc SKPbc 03 34 35.0 +1.1
GDL2 Guadalupe Moun 138.42 24 *e*PKPpre 03 30 55.8
GDL2 *e*PKPdf PKPdf 03 31 04.1 +0.3
GDL2 *e*SKPbc SKPbc 03 34 35.0 +0.6
MNTX Cornudas Mount 138.42 26 *e*PKPpre 03 30 54.4
MNTX *e*PKPdf PKPdf 03 31 02.8 -1.0
MNTX *e*PP PP 03 33 53.7 -0.2
MNTX *e*SKPbc SKPbc 03 34 35.6 +1.3
CLNB Carlsbad 138.56 24 *e*PKPdf PKPdf 03 31 04.7 +0.6
CLNB *e*SKP 03 34 36.2
HBAR Harrisburg 138.85 6 *e*PKPdf PKPdf 03 31 05.8 +1.2
CPCT Cooper Cave 139.22 359 *e*PKPpre 03 30 56.7
CPCT *e*PKPdf PKPdf 03 31 05.4 +0.2
CPCT *e*SKPbc SKPbc 03 34 36.3 -0.3
UALR University of 139.40 9 *e*PKPpre 03 30 55.2
UALR *e*PKPdf PKPdf 03 31 05.7 +0.1
UALR *e*SKPbc SKPbc 03 34 37.6 +0.5
MIAR Mount Ida 139.42 10 *e*PKPpre 03 30 56.2
MIAR *e*PKPdf PKPdf 03 31 05.9 +0.3
SWET Sewanee 139.46 0 *e*PKPpre 03 30 57.6
SWET *e*PKPdf PKPdf 03 31 05.3 -0.4
SWET *e*PP PP 03 33 56.8 -3.6

SWET				*e*SKPbc	SKPbc	03 34 37.2	0.0	
PLAL	**Pickwick Lake**	**139.63**	**3**	*e*PKPpre		03 30 55.7		
PLAL				*e*PKPdf	PKPdf	03 31 05.6	-0.4	
PLAL				*e*PP	PP	03 33 57.8	-3.6	
PLAL				*e*SKPbc	SKPbc	03 34 37.0	-0.6	
JSC	**Jenkinsville**	**140.19**	**354**	*e*PKPdf	PKPdf	03 31 07.2	+0.2	
JSC				*e*PP	PP	03 34 02.8	-2.0	
JSC				*e*SKPdf	SKPdf	03 34 39.1	+1.3	
COW	**Cow Castle Cre**	**141.02**	**354**	*e*PKPdf	PKPdf	03 31 09.1	+0.6	
COW				*e*SKPbc	SKPbc	03 34 43.0	+1.7	
TRQA	**Tornquist**	**141.17**	**210**	*e*PKPpre		03 31 03.2		
TRQA				*e*PKPdf	PKPdf	03 31 09.3	+0.5	
TRQA				*e*SKP		03 34 40.8		
LRAL	**Lakeview Retre**	**141.62**	**2**	*e*PKPpre		03 31 02.5		
LRAL				*e*PKPdf	PKPdf	03 31 09.8	+0.2	
LRAL				*e*PP	PP	03 34 11.8	-1.7	
LRAL				*e*SKPbc	SKPbc	03 34 43.5	+0.6	
JCT	**Junction City**	**141.68**	**20**	*e*PKPpre		03 31 03.5		
JCT				*e*PKPdf	PKPdf	03 31 10.3	+0.6	
JCT				*e*PP	PP	03 34 11.8	-2.0	
JCT				*e*SKPdf	SKPdf	03 34 41.9	+1.4	
BDFB	**Brasilia**	**141.82**	**252**	PKP	PKPdf	03 31 09.2	-0.8	
	comp=Z,5.0nm,0.5s,baz=81,slow=1.2,SNR=8.0							
BDFB	**Brasilia**	**141.82**	**252**	PKIKP	PKPdf	03 31 09.2	-0.8	
BDFB				pmax	pmax			
	comp=Z,5.0nm,0.5s							
NATX	**Nacogdoches**	**141.91**	**13**	*e*PKPpre		03 31 05.0		
NATX				*e*SKPbc	SKPbc	03 34 45.0	+1.4	
PLCA	**Paso Flores**	**142.46**	**199**	PKIKP	PKPdf	03 31 07.3	-3.8	
PLCA	**Paso Flores**	**142.46**	**199**	*e*PKPpre		03 31 07.0		
HKT	**Hockley**	**143.36**	**15**	PKIKP	PKPdf	03 31 09.1	-3.6	
HKT	**Hockley**	**143.36**	**15**	*e*PKPpre		03 31 08.7		
HKT				*e*PKPdf	PKPdf	03 31 13.5	+0.8	
HKT				*e*PP	PP	03 34 22.3	-1.8	
HKT				*e*SKPbc	SKPbc	03 34 48.9	+1.7	
MAIG	**Mazatlaan**	**144.92**	**35**	*i* P	PKPdf	03 31 16.0	+0.6	
CPUP	**Villa Florida**	**146.03**	**229**	PKPbc	PKPbc	03 31 18.6	+0.4	
	comp=Z,30nm,0.6s,baz=92,slow=2.8,SNR=53							
CPUP	**Villa Florida**	**146.03**	**229**	PKP2	PKPab	03 31 18.6	-0.2	
CPUP				pmax	pmax			
	comp=Z,30nm,0.6s							
CPUP	**Villa Florida**	**146.03**	**229**	*e*PKPdf	PKPdf	03 31 18.1	+0.8	
DWPF	**Disney**	**146.31**	**353**	PKPdf	PKPdf	03 31 19.8	+2.0	
DWPF	**Disney**	**146.31**	**353**	*e*PKPbc	PKPbc	03 31 19.1	0.0	
CCHI	**Chillan**	**146.71**	**200**	*e*P	PKPdf	03 31 16.7	-1.7	
CPB	**Codrington**	**147.14**	**315**	*e*P	PKPdf	03 31 21.4	+2.2	
DEG	**La Desirade**	**147.46**	**312**	*e*P	PKPdf	03 31 20.7	+1.0	
BPA	**Boggy Peak**	**147.56**	**314**	*e*P	PKPdf	03 31 22.4	+2.5	
SEG	**Port Louis**	**147.73**	**313**	*e*P	PKPdf	03 31 24.1	+4.0	
PHG	**Guadaloupe-2**	**148.08**	**312**	*e*P	PKPdf	03 31 24.0	+3.3	
LZG	**Guadaloupe-1**	**148.10**	**313**	*e*P	PKPdf	03 31 25.0	+4.2	
TBG	**Guadaloupe-3**	**148.19**	**312**	*e*P	PKPdf	03 31 24.8	+3.9	
BBL	**Barber's Block**	**148.26**	**312**	*e*P	PKPdf	03 31 25.7	+4.7	
CRM	**Caravelle**	**148.32**	**310**	*e*P	PKPdf	03 31 25.4	+4.3	
MVM	**Montagne Vaucl**	**148.43**	**309**	*e*P	PKPdf	03 31 26.3	+5.0	
FDF	**Fort de France**	**148.52**	**310**	*e*P	PKPdf	03 31 26.4	+4.9	
BIM	**Bigot**	**148.59**	**310**	*e*P	PKPdf	03 31 26.9	+5.4	
FCH	**Farellones**	**148.91**	**205**	*e*P	PKPdf	03 31 22.8	+0.7	
SFJM	**Santa Fe**	**148.95**	**33**	*i* P	PKPdf	03 31 25.0	+2.8	
CLCH	**Cerro Calan**	**148.96**	**205**	*e*P	PKPdf	03 31 22.5	+0.3	
MTP	**Monte Pirata**	**149.33**	**320**	*e*PKPdf	PKPdf	03 31 27.5	+0.7	
MTP				*e*PKPbc	PKPbc	03 31 27.4	+0.3	
SSV	**Crater Summit**	**149.39**	**308**↑	*e*P	PKPdf	03 31 29.4	+6.5	
CFAA	**Coronel Fontan**	**149.41**	**210**	PKP	PKPdf	03 31 23.5	+0.6	
	comp=Z,5.5nm,0.7s,baz=137,slow=1.8,SNR=17							
CFAA				PKPbc	PKPbc	03 31 28.1	+0.8	
	comp=Z,6.5nm,0.7s,baz=161,slow=2.5,SNR=70							
CFAA				pPKP	pPKPdf	03 31 37.8	+0.5	
	comp=Z,8.3nm,0.9s,baz=173,slow=2.9,SNR=11							
CFAA	**Coronel Fontan**	**149.41**	**210**	PKP	PKPdf	03 31 23.5	+0.6	
CFAA				PKPbc	PKPbc	03 31 28.1	+0.8	
CFAA				pPKP	pPKPdf	03 31 37.8	+0.5	
SVV	**Soufriere Volc**	**149.42**	**308**	*e*P	PKPdf	03 31 29.2	+6.3	
CPD	**Cerro la Pandu**	**149.59**	**321**	PKHKP		03 31 24.2		
CPD	**Cerro la Pandu**	**149.59**	**321**	*e*PKPdf	PKPdf	03 31 23.9	+0.8	
CPD				*e*PKPbc	PKPbc	03 31 28.2	+0.4	
SJG	**San Juan**	**149.69**	**321**	PKPdf	PKPdf	03 31 24.0	+0.7	
SJG	**San Juan**	**149.69**	**321**	*e*PKPdf	PKPdf	03 31 24.2	+0.9	
SJG				*e*PKPbc	PKPbc	03 31 28.4	+0.4	
TPR	**Prospect**	**150.26**	**304**	*e*P	PKPab	03 31 32.8	-2.9	
GRW	**Mount Saint Ca**	**150.44**	**307**	*e*P	PKPab	03 31 32.1	-4.3	
MRX	**Morelia**	**150.57**	**31**	*e*P	PKPdf	03 31 27.5	+2.8	
TBH	**Brigand Hill**	**150.88**	**303**	*e*P	PKPab	03 31 35.3	-3.0	
TRN	**Trinidad (W)**	**151.07**	**304**	*e*P	PKPab	03 31 34.7	-4.3	
TLL	**Tololo Astrono**	**151.83**	**208**	*e*P	PKPdf	03 31 33.0	+6.3	
MOAC	**Moa**	**151.96**	**339**	*e*P	PKPdf	03 31 29.0	+2.2	
MGV	**Manicaragua**	**151.99**	**349**	*e*P	PKPdf	03 31 29.1	+2.2	
MASC	**Masc**	**152.13**	**337**	*e*P	PKPdf	03 31 29.3	+2.2	
HLGC	**Holguin**	**152.13**	**341**	*e*P	PKPdf	03 31 28.8	+1.7	
CCCC	**Cccc**	**152.35**	**344**	*e*P	PKPdf	03 31 28.5	+1.1	
LMGC	**Las Mercedes**	**153.20**	**342**	*e*P	PKPdf	03 31 28.6	+2.9	
SIV	**San Ignacio**	**153.83**	**245**	PKP	PKPdf	03 31 29.9	+0.3	
	comp=Z,4.4nm,0.9s,baz=78,slow=4.4,SNR=20							
SIV				PKPbc	PKPbc	03 31 37.7	+0.2	
	comp=Z,4.7nm,0.7s,baz=102,slow=3.6,SNR=20							
SIV				PKPab	PKPab	03 31 52.1	+1.4	
	comp=Z,11nm,0.9s,baz=118,slow=3.0,SNR=11							
LVC	**Limon Verde**	**156.62**	**222**	PKP	PKPdf	03 31 35.4	+2.1	
	comp=Z,5.0nm,0.9s,baz=195,slow=4.4,SNR=6.1							
LVC	**Limon Verde**	**156.62**	**222**	*e*PKPdf	PKPdf	03 31 34.9	+1.5	
SAML	**Samuel**	**157.55**	**260**	*e*PKPdf	PKPdf	03 31 35.3	+0.7	
SAML				*e*PKPbc	PKPdf	03 31 46.2	+12	
SAML				*e*PKPab	PKPab	03 32 07.8	+1.2	
SDV	**Santo Domingo**	**159.34**	**314**	PKP	PKPdf	03 31 37.6	+0.9	
	comp=Z,3.8nm,0.3s							
SDV				pPKP	pPKPdf	03 31 52.2	+1.0	
	comp=Z,6.0nm,0.3s,baz=248,slow=4.1,SNR=2.7							
SDV				PKPab	PKPab	03 32 15.5	+1.1	
	comp=Z,4.9nm,0.3s,baz=139,slow=0.3,SNR=5.5							
SDV	**Santo Domingo**	**159.34**	**314**	*e*PKPdf	PKPdf	03 31 37.4	+0.7	
SDV				*e*PKPab	PKPab	03 32 15.3	+0.9	
LPAZ	**La Paz**	**159.85**	**237**	PKPdf	PKPdf	03 31 39.3	+2.0	
LPAZ	**La Paz**	**159.85**	**237**	PKP	PKPdf	03 31 39.1	+1.9	
	comp=Z,5.7nm,0.8s,baz=68,slow=1.8,SNR=27							
LPAZ	**La Paz**	**159.85**	**237**	PKIKP	PKPdf	03 31 39.2	+1.9	
LPAZ				pmax	pmax			
	comp=Z,6.0nm,0.8s							
LPAZ	**La Paz**	**159.85**	**237**	*e*PKPdf	PKPdf	03 31 38.7	+1.4	
ARE	**Arequipa**	**162.45**	**231**	*e*P	PKPdf	03 31 42.0	+2.0	
ROSC	**El Rosal**	**164.76**	**312**	PKP	PKPdf	03 31 44.0	+1.9	
	comp=Z,32nm,0.9s,baz=132,slow=3.5,SNR=37							
ROSC				PKPab	PKPab	03 32 37.4	-0.7	
	comp=Z,19nm,1.0s,baz=100,slow=12,SNR=3.5							
OTAV	**Otavalo**	**170.88**	**309**	*e*PKPdf	PKPdf	03 31 47.9	+1.4	
OTAV				*e*PKPab	PKPab	03 33 07.0	+1.9	

*ISCJB **13** 03:20:18.1±0.6, 3354N±004×4881E±004, h10km, Error ellipse: s-maj=5.9km s-min=4.7km az=60.2*
*THR **13** 03:20:18.0±0.3, 3368N×4882E, h18km, ML3.4*
*TEH **13** 03:20:18.3, 3336N×4865E, h20km, Mn3.7*
*CSEM **13** 03:20:19.6±0.2, 3357N×4870E, h40km, ML3.4, Error ellipse: s-maj=6.0km s-min=5.1km az=17.0*

ISC 13 03:20:18.5±1.0, 3358N±005×4872E±007, h12km±12km, n17, σ1§30/25, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.47**	**177**	*e*PG	**Pg**	**03 20 46.7**	**0.0**
SHGR				*e*Sg	**Sg**	**03 21 07.8**	**+1.9**
SNGE	**Sanandaj**	**1.89**	**323**	*e*Pg	**Pg**	**03 20 52.2**	**-2.5**
SNGE				*e*Sg	**Sg**	**03 21 17.1**	**-2.2**
SNGE				AML	AML	03 21 33.5	
	comp=E,318nm,0.6s						
SNGE	**Sanandaj**	**1.89**	**323**	*e*Pg	**Pg**	**03 20 52.2**	**-2.5**
	SNR=91						
SNGE				*e*Sg	**Sg**	**03 21 17.0**	**-2.2**
	SNR=91						
IGHG	**Ghaleghazi**	**1.94**	**293**	*e*Pn	**Pn**	**03 20 52.2**	**+1.0**
IPIR	**Pirpir**	**2.03**	**116**	*e*Pn	**Pn**	**03 20 50.8**	**-1.7**
IPIR				*e*Sn	**Sn**	**03 21 15.2**	**-2.5**
IDHR	**Dehrash**	**2.23**	**301**	*e*Pn	**Pn**	**03 20 55.2**	**-0.1**
IKLH	**Kalahroud**	**2.40**	**95**	*e*Pn	**Pn**	**03 20 57.5**	**0.0**
IKLH				*e*Sn	**Sn**	**03 21 26.3**	**-0.6**
IMHD	**Mahdasht**	**2.64**	**37**	*e*Pn	**Pn**	**03 21 02.6**	**+1.7**
IVRN	**Varamin**	**2.86**	**60**	*e*Pn	**Pn**	**03 21 04.8**	**+0.9**
IVRN				*e*Sn	**Sn**	**03 21 39.6**	**+1.4**
ISFB	**Sefidab**	**3.02**	**74**	*e*Pn	**Pn**	**03 21 06.4**	**+0.3**
ISFB				*e*Sn	**Sn**	**03 21 42.4**	**+0.2**
IZEF	**Zefreh**	**3.10**	**102**	*e*Pn	**Pn**	**03 21 06.1**	**-1.1**
IZEF				*e*Sn	**Sn**	**03 21 41.6**	**-2.5**
IAFJ	**Afjeh**	**3.35**	**47**	*e*Pn	**Pn**	**03 21 12.0**	**+1.4**
DAMV	**Damavand**	**3.37**	**52**	*e*Pn	**Pn**	**03 21 10.5**	**-0.4**
DAMV				AML	AML	03 22 10.4	
	comp=N,94nm,0.6s						
IDMV	**Damavand**	**3.38**	**53**	*e*Pn	**Pn**	**03 21 12.2**	**+1.2**
NASN	**Na'in**	**3.51**	**102**	*e*Pn	**Pn**	**03 21 13.2**	**+0.4**
NASN	**Na'in**	**3.51**	**102**	*e*Pn	**Pn**	**03 21 13.2**	**+0.3**
	SNR=52						
IFIR	**Firoozkooh**	**3.91**	**57**	*e*Pn	**Pn**	**03 21 19.2**	**+0.9**

MOS 13 03:21:03.9±0.5, 4412N×4441E, h14km, mb3.8/1, 5C-2D, Error ellipse: s-maj=24.4km s-min=10.9km az=81.3, Ukraine - Moldova - Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSR	**Komsomolskaya**	**0.75**	**187**↑	*i*PG	Pg	03 21 21.1	+2.5
KMSR				*i* S	Sg	03 21 33.5	+5.0
ARNR	**Ardon**	**0.94**	**186**↓	*i*PG	Pg	03 21 24.0	+2.0
ARNR				*i* S	Sb	03 21 38.6	+4.5
KORR	**Kora**	**1.06**	**194**↑	*i*PG	Pg	03 21 26.4	+2.0
KORR				*i* S	Sb	03 21 42.8	+5.0
SNJR	**Sundja**	**1.09**	**164**↑	*i*PG	Pg	03 21 25.3	+0.4
SNJR				*i* S	Sb	03 21 41.0	+2.4
VLKR	**Vladikavkaz**	**1.09**	**170**↑	*i*PG	Pg	03 21 25.6	+0.7
VLKR				*i* S	Sb	03 21 41.5	+2.9
LACR	**Lac**	**1.30**	**184**↓	*i*PG	Pg	03 21 29.5	+0.6
LACR				*i* S	Sb	03 21 48.3	+3.8
ZEI	**Tsey**	**1.40**	**196**↑	*i*PG	Pg	03 21 31.2	+0.4
ZEI				*i* S	Sn	03 21 51.5	+4.2

*NEIC **13** 03:30:53.6, 1586N×9858W, h13km, MD4.2(MEX), After MEX.*

MEX 13 03:30:54.7±0.7, 1617N×9867W, h5km±14km, MD4.2, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.56**	**66**	*i* P	Pg	03 31 05.3	-0.3
PNIG				*i* S	Sg	03 31 13.5	+0.6
PNIG	**Pinotepa**	**0.56**	**66**	*i* P	Pg	03 31 05.2	-0.4
PNIG				*i* S	Sg	03 31 14.2	+1.2
ACX	**Acapulco**	**1.39**	**300**	*i* S	Sb	03 31 38.5	-0.5
CAIG	**El Cayaco**	**1.77**	**300**	*i* P	Pn	03 31 22.8	-3.1
CAIG				*i* S	Sn	03 31 43.9	-4.8
UTMO	**Huajuapan**	**1.85**	**26**	*i* P	Pn	03 31 22.0	-5.0
UTMO				*i* S	Sn	03 31 46.3	-4.4
MEIG	**Mezcala**	**1.97**	**333**	*i* P	Pn	03 31 27.1	-1.6
MEIG				*i* S	Sn	03 31 48.2	-5.6
VHO	**Vista Hermosa**	**2.06**	**64**	*i* P	Pn	03 31 26.0	-3.9
VHO				*i* S	Sn	03 31 52.0	-4.0
VHO	**Vista Hermosa**	**2.06**	**64**	*i* P	Pn	03 31 26.0	-3.9
VHO				*i* S	Sn	03 31 50.9	-5.1
OXX	**Oaxaca**	**2.07**	**64**	*i* P	Pn	03 31 42.5	+12
PLIG	**Platanillo**	**2.35**	**340**	*i* P	Pn	03 31 36.3	+2.3
PLIG	**Platanillo**	**2.35**	**340**	*i* P	Pn	03 31 36.2	+2.2
YAIG	**Yautepec**	**2.71**	**352**	*i* P	Pn	03 31 34.9	-3.9
YAIG				*i* S	Sn	03 32 10.3	-1.7
YAIG	**Yautepec**	**2.71**	**352**	*i* P	Pn	03 31 34.8	-4.0
PPM	**Popocatepetl**	**2.88**	**1**	*i* P	Pn	03 31 29.2	-12
UNM	**Universidad Na**	**3.18**	**351**	*i* P	Pn	03 31 35.5	-10
EVV	**El Vigia**	**3.90**	**54**	*e*P	Pn	03 31 40.0	-15
LVIG	**Laguna Verde**	**4.13**	**31**	*i* P	Pn	03 31 46.7	-12

WEL 13 03:37:46.2±0.7, 3494S×17836E, h284km±4km, ML3.6/1, Error ellipse: s-maj=32.8km s-min=15.9km az=90.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**3.45**	**191**	*e*PN	Pn	03 38 45.7	+0.1
URZ	**Urewera**	**3.46**	**196**	PN	Pn	03 38 45.9	+0.3
URZ				*e*SN	S	03 39 32.4	-0.7
URZ				SN	S	03 39 32.7	-0.4
PXZ	**Pawanui**	**5.22**	**193**	*e*PN	Pn	03 39 05.5	-0.2
TIWZ	**Tintock**	**6.14**	**198**	*e*PN	Pn	03 39 17.4	+0.6
MQZ	**McQueen's Vall**	**9.80**	**205**	SN	S	03 41 50.3	-2.2

*ISCJB **13** 03:47:35.0±0.8, 1915S±005×688W±0.1, h129km±8km, mb4.0/5, Error ellipse: s-maj=18.0km s-min=7.5km az=12.6*
*IDC **13** 03:47:35.3±0.8, 1915S×6884W, h127km±6km, mb3.9/3, mb1 3.9/7, mb1mx3.7/17, mbtmp4.3/7, MS3.2/2, Ms1 3.2/2, ms1mx2.8/22, Error ellipse: s-maj=23.2km s-min=8.5km az=97.0*
*NEIC **13** 03:47:36.1±0.8, 1913S×6880W, h132km±8km, mb4.3/5, Error ellipse: s-maj=11.8km s-min=7.9km az=91.0*

ISC 13 03:47:36.1±0.8, 1915S±005×688W±01, h123km±8km, n22, σ0§93/22, mb4.0/5, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.91**	**13**	P	**Pn**	**03 48 22.4**	**+1.0**
	25nm,0.3s,baz=210,slow=6.9,SNR=951						
LPAZ				S	**Sn**	**03 48 56.1**	**-0.1**
	3.6nm,0.3s,baz=294,slow=15,SNR=4.7						
LVC	**Limon Verde**	**3.45**	**182**	P	**Pn**	**03 48 29.4**	**+1.0**
	7.9nm,0.3s,baz=336,slow=9.6,SNR=82						
LVC				S	**Sn**	**03 49 07.8**	**-1.0**
	68nm,0.3s,baz=61,slow=24,SNR=24						
SIV	**San Ignacio**	**8.00**	**68**	P	**Pn**	**03 49 28.7**	**-1.0**
	6.6nm,0.3s,baz=265,slow=10,SNR=203						
SAML	**Samuel**	**11.50**	**29**	*e*Pn	**Pn**	**03 50 12.1**	**-4.4**
	3.6nm,0.6s						
CFAA	**Coronel Fontan**	**12.41**	**178**	P	**Pn**	**03 50 23.5**	**-5.0**
	0.0nm,0.3s,baz=346,slow=11,SNR=5.7						
CFAA				S	**Sn**	**03 52 31.1**	**-14**
	0.0nm,0.3s,baz=252,slow=22,SNR=3.7						
CFAA	**Coronel Fontan**	**12.41**	**178**	P	**Pn**	**03 50 23.5**	**-5.0**
CFAA				S	**Sn**	**03 52 31.1**	**-14**
CPUP	**Villa Florida**	**12.76**	**126**	P	**Pn**	**03 50 32.5**	**-0.5**
	1.0nm,0.3s,baz=273,slow=11,SNR=9.0						
CPUP				LR	LR	03 55 07.3	
	comp=Z,70nm,21.1s,baz=291,slow=35						
TRQA	**Tornquist**	**19.75**	**164**	*e*P	**P**	**03 51 56.3**	**0.0**
	19nm,0.7s						
BDFB	**Brasilia**	**20.13**	**83**	P	**P**	**03 52 01.1**	**+0.7**
	7.6nm,0.4s,baz=258,slow=8.1,SNR=21						
OTAV	**Otavalo**	**21.47**	**333**	*e*P	**P**	**03 52 14.8**	**+0.1**
	3.1nm,0.8s,mb3.7						
PLCA	**Paso Flores**	**21.57**	**184**	*e*P	**P**	**03 52 15.5**	**-0.2**
	15nm,0.9s,mb4.3						
SDV	**Santo Domingo**	**27.91**	**356**	LR	LR	04 04 33.1	
	comp=Z,72nm,19.4s,baz=221,slow=36						
RCBR	**Riachuelo**	**34.65**	**72**	*e*P	**P**	**03 54 14.1**	**+0.5**
	3.8nm,0.7s,mb4.3						
VNA3	**Neumayer Olymp**	**62.26**	**162**	*e*	**P**	**03 57 45.1**	**+0.2**
VNA1	**Neumayer--Stat**	**62.46**	**161**	*e*	**P**	**03 57 48.6**	**+2.4**
VNA2	**Neumayer--Watz**	**62.83**	**161**	*e*	**P**	**03 57 49.0**	**+0.3**
	baz=298,slow=8.3						
SNAA	**Sanae**	**64.46**	**161**	*e*	**P**	**03 57 59.3**	**-0.1**
TORD	**Torodi Ar. Bea**	**76.47**	**71**	P	**P**	**03 59 11.6**	**-0.7**
	2.8nm,0.5s,mb4.2,baz=249,slow=5.3,SNR=25						
TORD				pP	pP	03 59 45.1	+1.9
	1.0nm,0.9s,baz=250,slow=6.4,SNR=2.1						
YKA	**Yellowknife Ar**	**89.02**	**341**	P	**P**	**04 00 14.8**	**-2.2**
	0.5nm,0.7s,mb3.7,baz=132,slow=4.7,SNR=9.8						
YKA				pP	pP	04 00 47.6	-1.2
	0.9nm,0.9s,baz=136,slow=4.7,SNR=4.4						
ASAR	**Alice Springs**	**132.03**	**208**	PKP	PKPdf	04 06 34.5	-0.6
	0.3nm,0.5s,baz=135,slow=1.4,SNR=7.8						
WRA	**Warramunga Arr**	**135.02**	**212**	PKP	PKPdf	04 06 40.5	-0.2
	0.7nm,0.6s,baz=152,slow=1.8,SNR=4.4						
SONM	**Songino Array**	**151.12**	**7**	PKPbc	PKPbc	04 07 13.8	-0.9
	0.6nm,0.6s,baz=4.9,slow=1.9,SNR=4.8						
SONM				pPKPbc	pPKPbc	04 07 48.2	+0.5
	0.7nm,0.8s,baz=321,slow=1.2,SNR=3.3						

*NEIC **13** 05:26:32.6, 3754N×2097E, h5km, MD3.6(ATH), After ATH.*
*ATH **13** 05:26:32.6, 3754N×2096E, h5km±1km, MD3.6/12*
*ISCJB **13** 05:26:33.5±0.8, 3758N±004×2094E±005, h5km, Error ellipse: s-maj=7.4km s-min=4.0km az=100.5*
*CSEM **13** 05:26:34.5±0.2, 3762N×2095E, h2km, MD3.6, Error ellipse: s-maj=5.0km s-min=2.3km az=53.0*
*THE **13** 05:26:34.3, 3759N×2089E, h6km, ML3.3*

ISC 13 05:26:34.3±0.8, 3758N±004×2095E±006, h5km, n31, σ1§23/41, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.63**	**41**	*e*PG	**Pg**	**05 26 45.1**	**-1.3**
RLS				*e*SB	**Sg**	**05 26 54.7**	**+0.1**
VLS	**Valsamata**	**0.66**	**335**	*e*PG	**Pg**	**05 26 46.1**	**-0.8**
VLS				*e*SB	**Sg**	**05 26 56.8**	**+1.3**
ITM	**Ithomi**	**0.88**	**117**	*e*PB	**Pg**	**05 26 48.9**	**-2.2**
ITM				*e*SB	**Sg**	**05 27 01.0**	**-1.5**
LKD	**Levkas**	**1.15**	**348**	*e*Pg	**Pg**	**05 26 54.3**	**-2.0**
LKD				*e*Sg	**Sg**	**05 27 12.4**	**+1.2**
LKD	**Levkas**	**1.15**	**348**	*e*Pg	**Pg**	**05 26 54.3**	**-2.0**
LKD				*e*Sg	**Sg**	**05 27 12.4**	**+1.2**
EVR	**Evrytania**	**1.50**	**27**	*e*PB	**Pb**	**05 27 01.7**	**-0.9**
AGG	**Agios Georgios**	**1.81**	**37**	*e*Pb	**Pb**	**05 27 06.7**	**-1.1**
	comp=Z,3.1nm,0.6s						
AGG				*e*Sb	**Sb**	**05 27 29.2**	**-1.5**
AGG	**Agios Georgios**	**1.81**	**37**	*e*Pb	**Pb**	**05 27 06.7**	**-1.1**
	3.1nm,0.6s						
AGG				*e*Sb	**Sb**	**05 27 29.2**	**-1.5**
VLI	**Veliai**	**1.81**	**118**	*e*PN	**Pn**	**05 27 06.7**	**+0.6**
MGER	**Gerania Oros**	**1.88**	**77**	*e*PN	**Pn**	**05 27 07.8**	**+0.8**
JAN	**Janina**	**2.08**	**358**	*e*PN	**Pn**	**05 27 11.4**	**+1.7**
KYTH	**Kithira**	**2.12**	**127**	*e*PN	**Pn**	**05 27 11.0**	**+0.7**
ATH	**Athens Observa**	**2.23**	**79**	*e*PN	**Pn**	**05 27 13.1**	**+1.2**
ATH				*e*SN	**Sn**	**05 27 42.4**	**+2.6**
KVR	**Kavouri**	**2.25**	**83**	*e*PN	**Pn**	**05 27 13.5**	**+1.3**
KEK	**Kerkira**	**2.31**	**338**	*e*PN	**Pn**	**05 27 14.9**	**+1.9**
PTL	**Penteli**	**2.36**	**78**	*e*PN	**Pn**	**05 27 14.3**	**+0.7**
NEO	**Neokhori**	**2.48**	**45**	*e*PN	**Pn**	**05 27 17.4**	**+2.0**
XOR	**Xorichti**	**2.51**	**44**	*e*Pn	**Pn**	**05 27 15.6**	**-0.1**
	comp=Z,2.0nm,0.7s						
LIT	**Litokhoron**	**2.79**	**25**	*e*Pn	**Pn**	**05 27 19.2**	**-0.4**
AOS	**Alonnisos**	**2.80**	**55**	*e*Pn	**Pn**	**05 27 19.1**	**-0.6**
AOS				*e*Sn	**Sn**	**05 27 55.3**	**+1.5**
PAIG	**Paliouri**	**3.17**	**42**	*e*Pn	**Pn**	**05 27 24.3**	**-0.5**
FNA	**Florina**	**3.22**	**6**	*e*Pn	**Pn**	**05 27 25.3**	**-0.1**
BIA	**Bitola**	**3.45**	**5**	*e*Pn	**Pn**	**05 27 27.7**	**-0.9**
OHR	**Ohrid**	**3.53**	**358**	*e*Pn	**Pn**	**05 27 27.6**	**-2.1**
GRG	**Griva**	**3.56**	**18**	*e*Pn	**Pn**	**05 27 29.6**	**-0.5**
OUR	**Ouranopolis**	**3.63**	**40**	*e*Pn	**Pn**	**05 27 30.4**	**-0.7**
SOH	**Sokhos**	**3.74**	**29**	*e*Pn	**Pn**	**05 27 32.9**	**+0.3**
SOH				*e*Sn	**Sn**	**05 28 17.6**	**+0.5**
KNT	**Kendrikon**	**3.88**	**22**	*e*Pn	**Pn**	**05 27 34.6**	**0.0**
VAY	**Valandovo**	**3.94**	**18**	*e*Pn	**Pn**	**05 27 32.8**	**-2.6**
VAY	**Valandovo**	**3.94**	**18**	*e*Pn	**Pn**	**05 27 32.7**	**-2.7**
CHOS	**Chios island**	**4.12**	**77**	*e*Pn	**Pn**	**05 27 38.6**	**+0.8**

*IDC **13** 05:40:05.5±0.9, 3093N×8365E, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.8/21, mbtmp3.8/11, Error ellipse: s-maj=36.6km s-min=17.8km az=46.0*
*ISCJB **13** 05:40:11.2±2.5, 3099N±0.1×8365E±0.2, h53km±21km, mb3.8/12, Error ellipse: s-maj=29.7km s-min=12.6km az=85.0*
*MOS **13** 05:40:11.0±1.0, 3095N×8356E, h53km

GKN	Gorkha	25.20	338	*e*P		P		05 48 57.2	-0.2
KOLN	Koldanda	25.40	336	*e*P		P		05 49 00.2	+1.0
	comp=Z,23nm,0.7s,mb4.8								
FITZ	Fitzroy Crossi	37.72	128	P		P		05 50 46.0	-1.4
	comp=Z,4.1nm,1.2s,mb4.0,baz=301,slow=12,SNR=2.7								
BJT	Baijiatuau	39.97	25	*e*P		P		05 51 06.8	+0.5
BJT				pmax	pmax				
	comp=Z,6.0nm,0.4s								
BJT	Baijiatuau	39.97	25	*e*P		P		05 51 06.8	+0.5
	comp=Z,6.0nm,0.4s,mb4.7								
AAK	Ala-Archa	41.96	337	*e*P		P		05 51 23.6	+1.0
AAK				pmax	pmax				
	comp=Z,10.0nm,1.1s,mb4.4								
AAK	Ala-Archa	41.96	337	*e*P		P		05 51 23.6	+1.0
	comp=Z,10nm,1.1s,mb4.4								
MKAR	Makanchi Array	43.36	347	P		P		05 51 33.3	-0.6
	comp=Z,1.9nm,0.3s,mb4.3,baz=163,slow=8.5,SNR=48								
KK31	Karatay Array	43.99	334	*i* P		P		05 51 39.9	+0.9
KK31				pmax	pmax				
	comp=Z,2.0nm,0.4s,mb4.2								
KKAR	Karatay Array	43.99	334	*i* P		P		05 51 39.9	+0.9
KKAR				pmax	pmax				
	comp=Z,1.0nm,0.4s,mb3.9								
SONM	Songino Array	44.05	11	P		P		05 51 38.3	-1.2
	comp=Z,0.5nm,0.6s,mb3.4,baz=201,slow=6.8,SNR=4.4								
SONM				PcP	PcP			05 53 24.4	-0.1
	comp=Z,0.6nm,0.4s,baz=195,slow=3.6,SNR=5.3								
WRA	Warramunga Arr	45.72	124	P		P		05 51 52.9	+0.1
	comp=Z,11nm,0.8s,mb4.8,baz=303,slow=9.1,SNR=33								
WRAB	Tennant Creek	45.72	124	*e*P		P		05 51 52.9	+0.1
WRAB				pmax	pmax				
	comp=Z,11nm,0.7s,mb4.9								
WRAB	Tennant Creek	45.72	124	*e*P		P		05 51 52.9	+0.1
	comp=Z,11nm,0.7s,mb4.9								
ASAR	Alice Springs	47.22	128	P		P		05 52 04.8	+0.2
	comp=Z,1.5nm,0.7s,mb4.1,baz=297,slow=7.9,SNR=13								
KURK	Kurchatov	47.88	346⇑	*e*P		P		05 52 09.7	0.0
KURK	Kurchatov	47.88	346	*e*P		P		05 52 09.5	-0.2
	comp=Z,2.4nm,0.7s,mb4.3								
KURK				*e*		pP		05 52 22.3	+2.2
ZAL	Zalesovo	49.78	352	P		P		05 52 23.6	-0.7
	comp=Z,1.8nm,0.6s,mb4.3,baz=297,slow=4.7,SNR=3.6								
VOSK	Vostochnaya	51.82	342	P		P		05 52 39.5	-0.1
VOSK				pmax	pmax				
	comp=Z,7.0nm,0.8s,mb4.6								
BVA0	Borovoye Array	52.26	341	*i* P		P		05 52 42.9	0.0
BVA0				pmax	pmax				
	comp=Z,1.0nm,0.8s,mb3.8								
BVAR	Borovoye Array	52.26	341	P		P		05 52 42.7	-0.2
	comp=Z,8.0nm,0.7s,mb4.8,baz=144,slow=8.4,SNR=42								
BRVK	Borovoye	52.32	341	*e*P		P		05 52 43.3	-0.1
BRVK				*e*				05 52 58.1	
BRVK				pmax	pmax				
	comp=Z,9.0nm,1.1s,mb4.6								
BRVK	Borovoye	52.32	341	*e*P		P		05 52 43.3	-0.1
	comp=Z,9.0nm,1.1s,mb4.6								
BRVK				*e*				05 52 58.1	
ZRNK	Zerenda	52.65	340	*i* P		P		05 52 45.6	-0.2
ZRNK				pmax	pmax				
	comp=Z,6.0nm,0.9s,mb4.5								
ZRNK	Zerenda	52.65	340	*e*P		P		05 52 45.5	-0.3
	comp=Z,5.9nm,0.3s,mb5.0								
AB31	Akbulak array	53.43	332	*i* P		P		05 52 52.3	+0.7
AKTK	Aktyubinsk	55.15	332	P		P		05 53 04.4	+0.3
AKTO	Aktyubinsk	55.15	332	P		P		05 53 04.4	+0.3
	comp=Z,0.5nm,0.3s,mb4.1,baz=135,slow=7.1,SNR=4.3								
CTA	Charters Tower	55.99	118	LR		LR		06 17 49.5	
	comp=Z,98nm,21.8s,MS3.9,baz=228,slow=37								
KMBO	Kilima Mbogo	58.05	266	LR		LR		06 11 58.9	
	comp=Z,60nm,20.9s,MS3.7,baz=269,slow=29								
KIV	Kislovodsk	60.28	319	P		P		05 53 40.0	-0.1
BR131	Keskin Aray S	65.19	312	*e*P		P		05 54 12.4	-0.5
	comp=Z,0.9nm,0.6s,mb4.0								
BRTR	Keskin Array B	65.19	312	P		P		05 54 12.6	-0.3
	comp=Z,1.7nm,0.6s,mb4.2,baz=120,slow=7.2,SNR=10								
OBN	Obninsk	68.53	328	P		P		05 54 34.0	-0.1
TIXI	Tiksi	70.14	11⇑	*e*P		P		05 54 42.1	-1.9
TIXI				pmax	pmax				
	comp=Z,5.0nm,1.0s,mb4.4								
AKASG	Malin Array Be	71.19	322	P		P		05 54 49.4	-1.0
	comp=Z,1.6nm,0.5s,mb4.2,baz=94,slow=5.5,SNR=13								
AKASG	Malin Array Be	71.19	322	P		P		05 54 49.4	-1.0
JOF	Joensuu	74.08	335	*e*p		P		05 55 04.6	-3.0
	comp=Z,6.2nm,0.7s,mb4.7								
JOF	Joensuu	74.08	335	*e*P		P		05 55 04.6	-3.0
JOF				pmax	pmax				
	comp=Z,6.0nm,0.7s,mb4.6								
FINES	FINESS Array B	75.92	332	P		P		05 55 17.7	-0.5
	comp=Z,1.4nm,0.3s,mb4.3,baz=104,slow=5.3,SNR=36								
KAF	Kangasniemi	76.01	333	*e*p		P		05 55 17.6	-1.1
	comp=Z,3.3nm,0.6s,mb4.4								
KAF	Kangasniemi	76.01	333	*e*P		P		05 55 17.6	-1.1
KAF				pmax	pmax				
	comp=Z,3.0nm,0.6s,mb4.4								
OJC	Ojcow	76.98	320	*e*P		P		05 55 24.8	+0.6
ARCES	ARCESS Array B	78.53	340	P		P		05 55 32.6	-0.2
	comp=Z,1.5nm,0.3s,mb4.3,baz=98,slow=6.7,SNR=27								
GERES	GERESS Array B	80.79	319	P		P		05 55 46.0	+0.9
	comp=Z,2.3nm,0.8s,mb4.2,baz=84,slow=5.5,SNR=14								
PDAR	Pinedale Array	127.73	23	PKP		PKPdf		06 02 37.5	+0.7
	comp=Z,0.2nm,0.5s,baz=132,slow=2.2,SNR=3.8								

NEIC ***13*** *06:03:25.8, 1680N×10027W, h3km, MD3.9(MEX), After MEX.*

MEX 13 06:03:25.8±0.8, 1680N×10026W, h3km±5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.24	359	*i* P	Pg	06 03 30.2	-0.3
CAIG				*i* S	Sg	06 03 33.9	+0.2
ACX	Acapulco	0.34	79	*i* P	Pg	06 03 32.5	+0.2
ACX				*i* S	Sg	06 03 37.0	+0.3
MEIG	Mezcala	1.28	29	*i* P	Pg	06 03 46.9	-3.4
MEIG				*i* S	Sg	06 04 04.0	-2.8
ZIIG	Zihuatanejo	1.40	305	*i* P	Pn	06 03 48.1	-4.1
ZIIG				*i* S	Sg	06 04 08.1	-2.7
PLIG	Platanillo	1.74	25	*i* P	Pn	06 03 53.9	-3.0
PLIG				*i* S	Sn	06 04 14.3	-5.4
UTMO	Huajuapan	2.56	66	*i* P	Pn	06 04 04.8	-3.4
UTMO				*i* S	Sn	06 04 34.8	-5.1
PPM	Popocatepetl	2.74	34	*i* P	Pn	06 04 07.7	-3.0
PPM				*i* S	Sn	06 04 40.7	-3.6
PPM	Popocatepetl	2.74	34	*i* P	Pn	06 04 07.7	-3.0
PPM				*i* S	Sn	06 04 44.6	+0.3

IDC ***13*** *06:05:18.3±0.5, 1962S×17473W, h0km, mb4.4/11, mb1 4.6/13, mb1mx4.6/16, mbtmp4.4/13, MS3.8/8, Ms1 3.8/8, ms1mx3.4/29, Error ellipse: s-maj=24.9km s-min=14.3km az=123.0*

SZGRF ***13*** *06:05:18.3, 20.79S×173.30W, h12km, Tonga Islands*

NEIC ***13*** *06:05:20.5±0.2, 1962S×17479W, mb4.7/26, Error ellipse: s-maj=10.4km s-min=5.2km az=132.0*

ISCJB ***13*** *06:05:22.2±0.2, 1969S±006×174.80W±007, h33km, mb4.7/46, MS4.0/12, Error ellipse: s-maj=10.9km s-min=6.4km az=74.8*

BJI ***13*** *06:05:23.1, 19.10S×175.21W, h12km, mB5.2, mb5.1, Ms5.0, Msz4.6*

MOS ***13*** *06:05:26.4±1.9, 1878S×174.95W, h33km, mb4.9/18, Error ellipse: s-maj=18.3km s-min=11.5km az=63.5*

ISC 13 06:05:24.0±0.2, 1971S±005×17476W±007, h35km, (h8km±2.7km:pP-P), n187, σ0.89/98, mb4.7/46, MS4.0/12, 1C-4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	6.43	27	Pn	Pn	06 06 51.8	-4.4
	8.6nm,0.3s,baz=297,slow=21,SNR=9.8						
AFI				Sn	Sn	06 08 06.8	-1.5
	14nm,0.3s,baz=82,slow=23,SNR=5.6						
AFI	Afiamalu	6.43	27	*e*P	Pn	06 06 51.5	-4.7
AFI				pmax	pmax		
	comp=Z,33nm,0.4s						
AFI	Afiamalu	6.43	27	*e*Pn	Pn	06 06 51.5	-4.7
	comp=Z,33nm,0.4s						
RAO	Raoul Island	9.93	196	LR	LR	06 11 00.8	
	comp=Z,834nm,19.2s,baz=347,slow=34						
RAR	Rarotonga	14.12	99	Pn	Pn	06 08 28.8	-13
	comp=Z,5.8nm,0.3s,baz=263,slow=7.6,SNR=25						
DZM	Mont Dzumac	17.73	259	P	Pn	06 09 33.1	+5.2
	comp=Z,0.8nm,0.3s,baz=88,slow=16,SNR=9.5						
URZ	Urewera	19.79	199	P	Pn	06 09 50.9	-2.0
	comp=Z,3.0nm,0.3s,baz=328,slow=2.9,SNR=8.3						
SNZO	South Karori	23.33	200	P	P	06 10 29.9	+0.8
	comp=Z,70nm,1.2s,mb5.0						
TBI	Tubuai	23.80	103	*e*LQ		06 15 01.3	
	comp=Z,732nm,27.8s						
TBI				*e*LR	LR	06 15 46.3	
	comp=Z,192nm,31.0s						
PAE	Paea	23.93	89	*e*P	P	06 10 29.8	-4.9
	comp=Z,40nm,1.1s,mb4.8						
PPT	Papeete	23.95	89	*e*P	P	06 10 30.2	-4.6
	comp=Z,28nm,1.2s,mb4.6						
PPT	Papeete	23.95	89	*e*LQ		06 15 02.9	
	comp=Z,515nm,27.0s						
PPT				*e*LR	LR	06 15 57.9	
	comp=Z,83nm,25.8s						
RPZ	Rata Peaks	26.73	203	P	P	06 11 01.7	+1.6
	comp=Z,14nm,0.5s,mb4.7,baz=57,slow=6.0,SNR=10						
CTA	Charters Tower	36.61	263	*e*P	P	06 12 28.0	+1.2
	comp=Z,6.1nm,0.9s,mb4.4						
CTA	Charters Tower	36.61	263	P	P	06 12 27.3	+0.5
	comp=Z,7.1nm,0.6s,mb4.7,baz=113,slow=9.9,SNR=7.5						
CTA	Charters Tower	36.61	263	*e*P	P	06 12 28.0	+1.2
CTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CTAO	Charters Tower	36.61	263	*e*P	P	06 12 28.0	+1.2
CTAO				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.8						
CTAO	Charters Tower	36.61	263	*e*P	P	06 12 28.0	+1.2
	comp=Z,16nm,1.1s,mb4.8						
PMG	Port Moresby	38.17	280	LR	LR	06 24 53.3	
	comp=Z,62nm,21.5s,MS3.4,baz=70,slow=31						
STKA	Stephens Creek	40.88	244	P	P	06 13 00.2	-2.3
	comp=Z,2.7nm,0.9s,mb3.9,baz=86,slow=11,SNR=3.9						
STKA				PcP	PcP	06 15 01.8	-1.0
	comp=Z,1.3nm,0.5s,baz=318,slow=2.6,SNR=3.0						
STKA	Stephens Creek	40.88	244	P	P	06 13 00.7	-1.8
ASAR	Alice Springs	47.67	256	P	P	06 13 55.9	-1.0
	comp=Z,1.8nm,0.6s,mb4.2,baz=91,slow=7.7,SNR=15						
ASAR				PcP	PcP	06 15 26.4	+0.4
	comp=Z,2.5nm,0.6s,baz=103,slow=4.1,SNR=12						
WB2	Warramunga Arr	47.72	261	*e*P	P	06 13 57.5	+0.2
WRAB	Tennant Creek	47.73	261	P	P	06 13 56.4	-0.9
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
WRAB	Tennant Creek	47.73	261	P	P	06 13 56.4	-0.9
	comp=Z,6.2nm,0.9s,mb4.6						
WRA	Warramunga Arr	47.73	261	P	P	06 13 56.5	-0.9
	comp=Z,1.9nm,0.6s,mb4.3,baz=96,slow=5.6,SNR=12						
WRA				PcP	PcP	06 15 26.6	+0.4
	comp=Z,2.2nm,0.7s,baz=93,slow=3.8,SNR=6.2						
KAKA	Kakadu	51.02	269	*e*P	P	06 14 22.5	0.0
	comp=Z,6.6nm,0.7s,mb4.7						
GUMO	Guam	51.71	307	LR	LR	06 32 12.4	
	comp=Z,30nm,19.1s,MS3.3,baz=180,slow=31						
SBA	Scott Base	58.88	185	*e*P	P	06 15 20.6	+1.3
	comp=Z,86nm,2.1s,mb5.4						
VNDA	Vanda	58.98	186	P	P	06 15 20.1	+0.1
	comp=Z,2.4nm,0.7s,mb4.3,baz=14,slow=5.8,SNR=10						
VNDA				LR	LR	06 34 41.4	
	comp=Z,99nm,21.5s,MS3.9,baz=340,slow=30						
VNDA	Vanda	58.98	186	*e*P	P	06 15 20.6	+0.6
	comp=Z,1.6nm,0.8s,mb4.1						
CBIJ	Chichi jima	62.50	317	LR	LR	06 39 53.5	
	comp=Z,78nm,18.5s,MS3.9,baz=145,slow=33						
CASY	Casey	65.98	205	*e*P	P	06 16 06.0	-0.7
CASY				*e*pP	pP	06 16 10.2	-7.3
QSPA	South Pole Qui	70.36	180	*e*P	P	06 16 34.0	-0.2
	comp=Z,28nm,1.1s,mb5.1						
MJAR	Matsushiro Arr	71.43	322	P	P	06 16 41.1	+0.4
	comp=Z,2.5nm,0.6s,mb4.3,baz=158,slow=6.0,SNR=6.8						
CMB	Columbia Colle	76.84	41	*e*P	P	06 17 12.0	-0.2
CMB				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
CMB	Columbia Colle	76.84	41	*e*P	P	06 17 11.9	-0.3
	comp=Z,6.4nm,1.2s,mb4.4						
NVAR	Mina Array Bea	78.38	42	P	P	06 17 20.5	-0.3
	comp=Z,2.3nm,0.8s,mb4.2,baz=214,slow=6.9,SNR=20						
MNV	Mina	78.47	42	*e*P	P	06 17 21.3	0.0
MNV				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
MNV	Mina	78.47	42	*e*P	P	06 17 21.3	0.0
	comp=Z,7.4nm,1.1s,mb4.5						
TPH	Tonopah	78.85	43	*e*P	P	06 17 23.3	-0.1
TPH				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
TPH	Tonopah	78.85	43	*e*P	P	06 17 23.3	-0.1
	comp=Z,7.6nm,1.1s,mb4.5						
NEN	Nelson	79.04	46	*e*P	P	06 17 24.6	+0.2
SHPR	Sheep Range	79.30	45	P	P	06 17 26.5	+0.7
SSE	Sheshan	79.56	308	P	P	06 17 28.3	+1.0
SSE				AMB	AMB		
	comp=Z,17nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,110nm,5.3s						
TUC	Tucson	80.11	51	*e*P	P	06 17 30.9	+0.6
TUC				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
TUC	Tucson	80.11	51	*e*P	P	06 17 30.9	+0.7
	comp=Z,2.4nm,0.8s,mb4.2						
WVOR	Wild Horse Val	80.59	39	*e*P	P	06 17 32.8	-0.1
WVOR				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
WVOR	Wild Horse Val	80.59	39	*e*P	P	06 17 32.8	0.0
	comp=Z,5.9nm,1.2s,mb4.4						
HABR	Khabarovsk	81.31	329	*e*P	P	06 17 36.0	-0.7
HABR				*e*S	S	06 27 46.2	+1.4
ELK	Elko	81.65	41	*e*P	P	06 17 38.1	-0.4
ELK				pmax	pmax		
	comp=Z,10.0nm,1.7s						
ELK	Elko	81.65	41	*e*P	P	06 17 38.1	-0.4
	comp=Z,9.7nm,1.7s,mb4.5						
MDJ	Mudanjiang	81.66	323	P	P	06 17 39.8	+1.2
MDJ				AP	pP	06 17 43.0	-6.6
MDJ				XP	sP	06 17 44.3	-9.3
MDJ				PP	PP	06 20 46.3	+0.8
MDJ				S	S	06 27 53.3	+4.8
MDJ				XS	sS	06 27 58.6	-8.1
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,61nm,5.0s						
MDJ				LR	LR		
	comp=Z,68nm,26.6s,MS3.9						
NJ2	Nanjing	81.76	308	*e*P	P	06 17 38.3	-0.8
NJ2				AP	pP	06 17 42.1	-8.0
NJ2				XP	sP	06 17 45.5	-8.6
NJ2				PP	PP	06 20 46.0	-0.2
NJ2				S	S	06 27 49.0	-0.5
NJ2				XS	sS	06 27 57.0	-11
NJ2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,190nm,4.9s						
NJ2				LR	LR		
	comp=N,1μm,38.5s						
NJ2				LR	LR		
	comp=E,890nm,33.2s						
NJ2				LR	LR		
	comp=Z,320nm,21.6s						
MSU	Marysvale	82.38	45	*e*P	P	06 17 43.5	+1.2
MAW	Mawson	83.32	199	P	P	06 17 47.4	+0.2
	comp=Z,3.7nm,0.8s,mb4.5,baz=135,slow=12,SNR=6.5						
MAW				LR	LR	06 50 33.4	
	comp=Z,100nm,18.2s,MS4.2,baz=249,slow=33						
MAW	Mawson	83.32	199	*e*P	P	06 17 47.0	-0.2
MAW				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MAW	Mawson	83.32	199	*e*P	P	06 17 47.0	-0.2
	comp=Z,2.9nm,0.7s,mb4.4						
EYAK	Cordova Ski Ar	83.35	14	*e*P	P	06 17 46.8	-0.6
KLR	Kul'dur	83.44	328	*e*P	P	06 17 50.0	+2.2
TMUT	Trail Mountain	83.44	44	P	P	06 17 49.0	+1.2
CN2	Changchun	83.57	321	*e*P	P	06 17 54.8	+6.3
CN2				*e*XP	sP	06 18 01.8	-1.7
PMR	Palmer	83.58	12	*e*P	P	06 17 47.8	-0.7
PMR				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
PMR	Palmer	83.58	12	*e*P	P	06 17 47.8	-0.7
	comp=Z,4.3nm,0.9s,mb4.6						
TTA	Tatalina	83.68	9	*e*P	P	06 17 49.4	+0.4
LAZ	Ladron	83.79	50	*e*P	P	06 17 50.7	+1.1
SRU	San Rafael	83.80	45	*e*P	P	06 17 50.0	+0.4
SRU				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
SRU	San Rafael	83.80	45	*e*P	P	06 17 50.0	+0.4
	comp=Z,3.9nm,0.9s,mb4.5						
MNTX	Cornudas Mount	83.82	53	*e*P	P	06 17 49.5	-0.3
	comp=Z,10nm,1.1s,mb4.9						
BNM	Barren Site	84.04	51	*e*P	P	06 17 51.2	+0.3
LPM	Los Pinos Moun	84.12	51	*e*P	P	06 17 52.2	+1.0
PV10	Paradox Valley	84.42	46	*e*P	P	06 17 53.1	+0.3
ANMO	Albuquerque	84.55	50	*e*P	P	06 17 54.2	+0.8
ANMO				pmax	pmax		
	comp=Z,11nm,1.0s						
ANMO	Albuquerque	84.55	50	*e*P	P	06 17 54.2	+0.7
	comp=Z,11nm,1.0s,mb5.0						
PV01	Paradox Valley	84.61	46	*e*P	P	06 17 54.1	+0.3
GDL2	Guadalupe Moun	84.82	53	*e*P	P	06 17 55.7	+0.9
MCMT	McKenzie Canyo	85.40	39	*e*P	P	06 17 58.1	+0.4
REDW	Red Top Meadow	85.82	41	P	P	06 17 59.7	-0.1
	comp=Z,8.5nm,1.2s,mb4.8						
DLMT	Dillon	85.84	39	P	P	06 18 00.0	+0.1
	comp=Z,7.0nm,1.1s,mb4.8						
IMW	Indian Meadow	86.05	41	P	P	06 18 01.3	+0.3
	comp=Z,12nm,1.5s,mb4.9						
BW06	Boulder Array	86.31	42	P	P	06 18 01.0	-1.3
	comp=Z,12nm,1.8s,mb4.8						
PDAR	Pinedale Array	86.31	42	P	P	06 18 01.9	-0.4
	comp=Z,1.2nm,0.8s,mb4.2,baz=241,slow=3.1,SNR=11						
COLA	College	86.81	11	*e*P	P	06 18 04.1	-0.6
COLA				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.2						
COLA	College	86.81	11	*e*P	P	06 18 04.1	-0.6
	comp=Z,16nm,0.9s,mb5.3						
ILAR	Eielson Array	86.90	12	P	P	06 18 04.3	-0.8
	comp=Z,4.7nm,1.0s,mb4.7,baz=234,slow=5.8,SNR=29						
WALA	Waterton Lakes	87.16	35	*e*P	P	06 18 06.0	-0.4
	comp=Z,4.2nm,1.0s,mb4.6						
DAWY	Dawson	87.89	15	*e*P	P	06 18 10.1	+0.1
DAWY				*e*pP	pP	06 18 13.5	-7.5
BILL	Bilibino	88.59	353	*i* P	P	06 18 11.3	-1.9
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.9						
SNAA	Sanae	88.69	177⇓	*i* P	P	06 18 12.1	-1.6
SNAA				*e*		06 18 13.3	
SNAA				*e*		06 18 15.9	
SNAA				*e*		06 18 18.3	
SNAA	Sanae	88.69	177	*e*P	P	06 18 12.5	-1.2
SNAA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SNAA	Sanae	88.69	177	*e*P	P	06 18 12.4	-1.2
	comp=Z,8.4nm,1.0s,mb5.0						
VNA3	Neumayer Olymp	88.70	175⇓	*i* P	P	06 18 12.5	-1.2
VNA3				*e*		06 18 13.6	
VNA3				*e*		06 18 17.5	
VNA3				*e*		06 18 19.1	
VNA2	Neumayer--Watz	89.18	176⇓	*i* P	P	06 18 15.2	-0.8
	baz=192,slow=3.3						
VNA2				*e*		06 18 16.2	
VNA2				*e*		06 18 19.5	
VNA2				*e*		06 18 20.8	
VNA1	Neumayer--Stat	89.39	176	*e*P	P	06 18 16.8	-0.2
VNA1				*e*		06 18 17.9	
VNA1				*e*		06 18 22.2	
HHC	Hu-ho-hao-te	91.01	313	*e*P	P	06 18 24.8	+0.3
HHC				AP	pP	06 18 29.8	-5.8
HHC				XP	sP	06 18 31.8	-7.8
HHC				PP	PP	06 22 03.0	+2.0
HHC				SKS		06 28 54.3	
HHC				S		06 29 20.4	
HHC				XS	sS	06 29 29.3	-8.6
HHC				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb5.0						
HHC				AMB	AMB		
	comp=Z,79nm,4.8s						
HHC				LR	LR		
	comp=N,179nm,17.7s,MS4.8						
HHC				LR	LR		
	comp=E,202nm,16.2s,MS4.8						
HHC				LR	LR		
	comp=Z,87nm,17.1s,MS4.3						
KMI	Kunming	91.73	296	P	P	06 18 29.4	+1.6
KMI				AP	pP	06 18 33.6	-5.4
KMI				XP	sP	06 18 35.3	-7.7
KMI				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb5.1						
KMI				LR	LR		
	comp=Z,101nm,18.8s,MS4.3						
INK	Inuvik	92.74	14	*e*P	P	06 18 31.8	-0.7
CD2	Chengdu	92.95	302	*e*P	P	06 18 34.1	+0.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
YKA	Yellowknife Ar	94.54	24	P	P	06 18 40.1	-0.8
	comp=Z,1.1nm,0.7s,mb4.4,baz=239,slow=4.5,SNR=21						
YKA				LR	LR	06 54 28.7	
	comp=Z,32nm,19.7s,MS3.8,baz=0.0,slow=31						
LZH	Lanzhou	94.73	307	*e*P	P	06 18 42.5	+0.8
LZH				AP	pP	06 18 46.8	-6.0
LZH				XP	sP	06 18 48.3	-8.5
LZH				PP	PP	06 22 33.5	+3.3
LZH				AMB	AMB		
	comp=Z,19nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,63nm,8.9s						
LZH				LR	LR		
	comp=N,238nm,18.6s						
LZH				LR	LR		
	comp=Z,298nm,19.7s,MS4.8						
ULN	Ulaanbaatar	96.78	318	*i* P	P	06 18 50.8	-0.2
SONM	Songino Array	97.18	318	P	P	06 18 54.3	+1.5
	comp=Z,0.3nm,0.6s,mb3.9,baz=90,slow=3.4,SNR=4.0						
ULM	Lac du Bonnet	98.07	40	LR	LR

UPC				*e*PKPab	PKPab	06 25 09.6	+0.8
COBT	**Iskenderun**	**148.11**	**308**	*i* P	PKPbc	06 25 07.2	+1.3
BRG	**Berggiesshubel**	**148.15**	**350**	*e*PKPbc	PKPbc	06 25 06.5	+0.5
BRG	**Berggiesshubel**	**148.15**	**350**	*e*PKP	PKPdf	06 25 06.6	+3.8
	comp=Z,11nm,1.6s						
BRG	**Berggiesshubel**	**148.15**	**350**	*e*PKP2	PKPab	06 25 06.6	-2.4
BRG				pmax	pmax		
	comp=Z,11nm,1.6s						
DPC	**Dobruska-Polom**	**148.18**	**346**	*e*PKPbc	PKPbc	06 25 07.1	+1.0
DPC				*e*PKPab	PKPab	06 25 10.1	+1.0
OKC	**Ostrava-Krasne**	**148.22**	**344**	*e*PKPbc	PKPbc	06 25 06.7	+0.5
ELDT	**Eldivan**	**148.23**	**317**	*i* P	PKPbc	06 25 07.6	+1.3
MORC	**Moravsky Berou**	**148.43**	**345**	PKP2	PKPab	06 25 07.3	-2.8
BRTR	**Keskin Array B**	**148.49**	**315**	PKPbc	PKPbc	06 25 06.6	-0.3
	comp=Z,3.1nm,0.7s,baz=113,slow=2.6,SNR=17						
MOX	**Moxa**	**148.72**	**352**	*e*PKPbc	PKPbc	06 25 07.8	+0.3
MOX	**Moxa**	**148.72**	**352**	*e*PKP	PKPdf	06 25 07.7	+4.0
KECS	**Kecovo**	**148.76**	**340**	*e*PKP	PKPdf	06 25 04.3	+0.5
KECS				*e*		06 25 08.1	
WERD	**Werda**	**148.82**	**351**	*e*PKPbc	PKPbc	06 25 08.3	+0.5
PRU	**Pruhonice**	**148.89**	**348**	*e*PKPbc	PKPbc	06 25 08.3	+0.4
NKC	**Novy Kostel**	**149.01**	**351**	*e*PKPbc	PKPbc	06 25 10.2	+2.0
SGKT	**Sivrigoynuk**	**149.06**	**318**	*i* P	PKPbc	06 25 09.0	+0.6
MANZ	**Manzenberg**	**149.30**	**351**	*e*PKPbc	PKPbc	06 25 09.5	+0.5
TNS	**Taunus Mts**	**149.45**	**356**	*e*PKPbc	PKPbc	06 25 09.0	-0.3
PSZ	**Piszkesteto**	**149.45**	**340**	*e*PKPbc	PKPbc	06 25 09.9	+0.6
PSZ				*e*PKPab	PKPab	06 25 14.5	+0.3
ROTZ	**Rotzenmuhle**	**149.50**	**351**	*e*PKPbc	PKPbc	06 25 09.8	+0.3
GIVF	**Givet**	**149.67**	**1**	*e*PKP1	PKPbc	06 25 09.6	-0.3
DOU	**Dourbes**	**149.68**	**1**	PKPbc	PKPbc	06 25 10.3	+0.4
GRF	**Grafenberg Arr**	**149.70**	**352**	*e*PKPbc	PKPbc	06 25 10.6	+0.6
BAIF	**Baives**	**149.71**	**1**	*e*PKP1	PKPbc	06 25 09.8	-0.2
	comp=Z,30nm,1.3s						
KHC	**Kasperske Hory**	**149.89**	**349**	*e*PKPbc	PKPbc	06 25 10.7	+0.3
WET	**Wettzell**	**150.00**	**350**	*e*PKPbc	PKPbc	06 25 10.3	-0.4
WLF	**Walferdange**	**150.10**	**359**	*e*PKPbc	PKPbc	06 25 11.2	+0.3
WLF	**Walferdange**	**150.10**	**359**	PKPbc	PKPbc	06 25 11.6	+0.7
GEC2	**GERESS Array S**	**150.14**	**349**	*e*PKPbc	PKPbc	06 25 11.6	+0.6
GERES	**GERESS Array B**	**150.14**	**349**	*e*PKPbc	PKPbc	06 25 10.4	-0.6
	comp=Z,1.4nm,0.6s,baz=38,slow=2.4,SNR=15						
ESKT	**Eskisehir**	**150.42**	**317**	*i* P	PKPbc	06 25 11.9	+0.3
ROSF	**Rostrenen**	**150.62**	**12**	*e*PKP1	PKPbc	06 25 11.3	-0.9
	comp=Z,50nm,1.3s						
FLN	**La Foliniere**	**150.65**	**8**	*e*PKP1	PKPbc	06 25 11.5	-0.7
	comp=Z,52nm,1.1s						
FLN				*e*R			
	comp=Z,53nm,21.8s						
SGMF	**Saint Gilles**	**150.83**	**11**	*e*PKP1	PKPbc	06 25 11.2	-1.5
LDF	**La Druitiere**	**150.86**	**7**	*e*PKP1	PKPbc	06 25 11.7	-1.0
	comp=Z,59nm,1.4s						
GRR	**Gorron**	**150.97**	**8**	*e*PKP1	PKPbc	06 25 12.3	-0.7
QUIF	**Quistinic**	**151.04**	**12**	*e*PKP1	PKPbc	06 25 12.9	-0.3
	comp=Z,47nm,1.3s						
ULDT	**Uludag**	**151.12**	**320**	*i* P	PKPbc	06 25 14.1	+0.8
MEZF	**Maizieres J'vi**	**151.28**	**0**	*e*PKP1	PKPbc	06 25 13.5	-0.2
EIL	**Elat**	**151.32**	**296**	*e*PKPbc	PKPbc	06 25 15.1	+1.3
CDF	**Champ du Feu**	**151.32**	**357**	*e*PKP1	PKPbc	06 25 13.3	-0.5
	comp=Z,20nm,1.2s						
BFO	**Black Forest**	**151.34**	**356**	*e*PKPbc	PKPbc	06 25 13.7	-0.1
HAU	**Haudompre**	**151.76**	**358**	*e*PKP1	PKPbc	06 25 15.3	+0.5
HAU				*e*R			
	comp=Z,58nm,22.0s						
LOR	**Lormes**	**152.49**	**2**	*e*PKP1	PKPbc	06 25 16.1	-0.4
LOR				*e*R			
	comp=Z,92nm,20.8s						
SSF	**Saint Saulge**	**152.68**	**3**	*e*PKP1	PKPbc	06 25 16.6	-0.3
	comp=Z,29nm,1.3s						
MFF	**Saint Martin d**	**152.81**	**8**	*e*PKP1	PKPbc	06 25 16.3	-0.9
AVF	**Avril sur Loir**	**152.94**	**3**	*e*PKP1	PKPbc	06 25 16.7	-0.8
SMF	**Signal de Mont**	**153.11**	**2**	*e*PKP1	PKPbc	06 25 17.2	-0.6
BGF	**Bois d'Agland**	**153.15**	**4**	*e*PKP1	PKPbc	06 25 17.4	-0.5
CABF	**La Chapelle**	**153.16**	**359**	*e*PKP1	PKPbc	06 25 18.1	+0.2
	comp=Z,33nm,1.4s						
TCF	**Toulx Ste Croi**	**153.37**	**5**	*e*PKP1	PKPbc	06 25 17.6	-0.8
ESDC	**Sonseca Array**	**158.58**	**20**	PKPab	PKPab	06 25 54.6	+1.7
	comp=Z,0.2nm,0.3s,baz=302,slow=7.4,SNR=4.6						
TORD	**Torodi Ar. Bea**	**172.64**	**152**	PKP	PKPdf	06 25 28.3	-0.9
	comp=Z,1.0nm,0.8s,baz=334,slow=0.1,SNR=6.5						
TORD				PKPab	PKPab	06 26 54.3	-0.5
	comp=Z,1.0nm,0.9s,baz=243,slow=2.6,SNR=4.2						

IDC 13 06:18:36.6±4.4, 1232S×11510E, h0km, mb3.3/3, mb1 3.5/5, mb1mx3.4/14, mbtmp3.3/5, ML2.9/2, Error ellipse: s-maj=191.4km s-min=22.7km az=47.0, Northwest of Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.68**	**121**	Pn	Pn	06 21 23.3	-1.1
	0.2nm,0.3s,baz=71,slow=19,SNR=7.5						
FITZ				Sn	Sn	06 23 24.2	-11
	0.3nm,0.3s,baz=203,slow=19,SNR=4.7						
WRA	**Warramunga Arr**	**19.96**	**115**	P	Pn	06 23 11.4	-0.4
	0.0nm,0.3s,baz=296,slow=12,SNR=3.1						
WRA				S	Sn	06 26 35.8	-21
	baz=13,slow=27,SNR=2.1						
ASAR	**Alice Springs**	**21.11**	**125**	P	P	06 23 22.9	+0.2
	0.3nm,0.5s,baz=300,slow=9.4,SNR=3.1						
ASAR				S	S	06 27 11.8	-6.7
	0.5nm,0.9s,baz=59,slow=34,SNR=3.3						
SONM	**Songino Array**	**60.39**	**353**	P	P	06 28 47.5	0.0
	0.2nm,0.4s,baz=113,slow=26,SNR=3.2						
MKAR	**Makanchi Array**	**65.78**	**336**	P	P	06 29 23.6	+0.2
	0.3nm,0.3s,baz=144,slow=10.0,SNR=4.1						

IDC 13 06:30:34.9±4.1, 224S×10004E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/17, mbtmp3.7/4, MS3.9/2, Ms1 3.8/2, ms1mx3.0/23, Error ellipse: s-maj=165.9km s-min=23.4km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**37.84**	**120**	P	P	06 37 53.9	+0.7
	0.9nm,0.5s,baz=302,slow=9.3,SNR=3.2						
ASAR	**Alice Springs**	**39.08**	**126**	P	P	06 38 03.6	0.0
	0.4nm,0.7s,baz=299,slow=7.5,SNR=6.6						
SONM	**Songino Array**	**50.18**	**6**	P	P	06 39 32.8	+0.6
	1.1nm,0.6s,baz=184,slow=9.5,SNR=10						
MKAR	**Makanchi Array**	**51.27**	**344**	P	P	06 39 40.1	-0.4
	0.7nm,0.5s,baz=145,slow=8.1,SNR=8.4						
ZAL	**Zalesovo**	**57.40**	**349**	LR	LR	07 07 43.8	
	comp=Z,50nm,19.9s,baz=269,slow=3						
SUR	**Sutherland**	**79.70**	**238**	LR	LR	07 12 21.1	
	comp=Z,114nm,18.0s,baz=135,slow=31						

IDC 13 06:45:48.5±3.2, 1476N×9145W, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/19, mbtmp3.6/5, ML3.2/1, Error ellipse: s-maj=144.4km s-min=31.6km az=43.0
ISCJB 13 06:45:50.1±1.3, 1392N±010×91.99W±008, h53km±11km, mb3.7/5, Error ellipse: s-maj=19.1km s-min=9.3km az=73.1
CASC 13 06:45:50.0±3.4, 1394N×9201W, h37km±45km, MD4.0, mb3.5(NEIC)
NEIC 13 06:45:53.0±1.2, 1405N×9187W, h61km±13km, mb3.5/1, Error ellipse: s-maj=30.1km s-min=11.2km az=220.0

ISC 13 06:45:52.2±1.2, 140N±01×9191W±009, h51km±11km, n21, σ0.99/19, mb3.7/5, 2C-4D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.41**	**40⇑**	*e*P	**Pn**	**06 46 02.6**	**+0.1**
JAT				*e*S	**Sn**	**06 46 08.4**	**-1.4**
FUG	**Fuego 3**	**1.13**	**67⇓**	*i* P	**Pn**	**06 46 11.2**	**-0.4**
TPZ	**Tecpan 2**	**1.16**	**48⇓**	*e*P	**Pn**	**06 46 11.6**	**-0.5**
PCG	**Pacaya**	**1.32**	**73⇓**	*e*P	**Pn**	**06 46 14.4**	**+0.1**
PCG				*e*S	**Sn**	**06 46 34.6**	**+3.9**
IXG	**Ixpaco**	**1.42**	**83⇑**	*e*P	**Pn**	**06 46 13.6**	**-2.0**
IXG				*e*S	**Sn**	**06 46 34.9**	**+1.7**
RBDL	**Robledal**	**2.16**	**87**	*e*P	Px	06 46 53.0	
RBDL				*e*S	Px	06 47 21.4	
SBLS	**San Blas**	**2.23**	**94**	*e*P	Px	06 46 53.5	
SBLS				*e*S	Px	06 47 20.2	
CCIG	**Comitan**	**2.28**	**355**	*i* P	**Pn**	**06 46 27.9**	**+0.6**
CCIG				*i* S	**Sn**	**06 46 55.0**	**+0.8**
BOQS	**Boqueron**	**2.57**	**96**	*e*P	Px	06 46 58.1	
BOQS				*e*S	Px	06 47 28.1	
LFRS	**El Faro**	**2.79**	**97**	*e*P	Px	06 47 00.8	
LFRS				*e*S	Px	06 47 36.5	
LBRS	**Las Brisas**	**2.80**	**95**	*e*P	Px	06 47 00.4	
LBRS				*e*S	Px	06 47 35.9	
SNVI	**San Vicente**	**3.01**	**97⇓**	*e*P	Px	06 47 07.6	
SNVI				*e*S	Px	06 47 44.2	
OXX	**Oaxaca**	**5.56**	**304**	*e*P	**Pn**	**06 47 13.0**	**+0.7**
JTS	**JuntasAbangare**	**7.74**	**118**	Pn	**Pn**	**06 47 43.0**	**+0.9**
	0.4nm,0.3s,baz=281,slow=14,SNR=3.2						
GDL2	**Guadalupe Moun**	**21.40**	**330**	*e*P	**P**	**06 50 36.1**	**+0.6**
MNTX	**Cornudas Mount**	**21.51**	**327**	*e*P	**P**	**06 50 36.6**	**-0.2**
	1.7nm,0.8s,mb3.5						
ANMO	**Albuquerque**	**24.65**	**330**	P	**P**	**06 51 08.0**	**+0.1**
	1.4nm,0.7s,mb3.6,baz=157,slow=12,SNR=7.9						
ANMO	**Albuquerque**	**24.65**	**330**	P	**P**	**06 51 08.0**	**+0.1**
NVAR	**Mina Array Bea**	**33.73**	**321**	P	**P**	**06 52 29.3**	**+0.7**
	0.7nm,0.7s,mb3.7,baz=139,slow=9.2,SNR=6.5						
YKA	**Yellowknife Ar**	**51.05**	**347**	P	**P**	**06 54 47.3**	**-1.9**
	0.7nm,0.6s,mb3.8,baz=151,slow=7.4,SNR=16						
ILAR	**Eielson Array**	**62.87**	**337**	P	**P**	**06 56 12.2**	**-0.7**
	0.8nm,1.0s,mb3.8,baz=140,slow=4.4,SNR=7.1						

LDG 13 06:47:01.9±0.0, 4301N×0.14E, h12km, Md1.7/2, Error ellipse: s-maj=1.3km s-min=0.8km az=1.0
CSEM 13 06:47:02.1±0.0, 4301N×0.14E, h12km, ML2.0
MDD 13 06:47:03.1±0.3, 4299N×0.16E, h0km, mbLg1.0/3, Error ellipse: s-maj=2.4km s-min=1.9km az=7.0, PRXIMO

STR 13 06:47:02.2±0.0, 4299N×014E, h7km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.07**	**320**	Pg	Pg	06 47 04.7	+0.6
LABF				Sg	Sg	06 47 06.4	+1.0
LABF	**Labassere**	**0.07**	**320**	Pg	Pg	06 47 04.8	+0.7
LABF				Lg		06 47 06.5	
VIEF	**Viey**	**0.14**	**219**	Pg	Pg	06 47 05.6	+0.5
VIEF				Sg	Sg	06 47 08.2	+1.2
VIEF	**Viey**	**0.14**	**219**	Pg	Pg	06 47 05.7	+0.6
VIEF				Lg		06 47 08.2	
EPF	**Esparros**	**0.15**	**74**	*e*Pg	Pg	06 47 05.6	+0.2
EPF				*e*Sg	Sg	06 47 07.8	+0.3
	29nm,0.3s						
EPF	**Esparros**	**0.15**	**74**	*e*Pg	Pg	06 47 05.6	+0.2
EPF				*e*Sg	Sg	06 47 07.8	+0.3
	15nm,0.3s						
RESF	**Ens**	**0.23**	**141**	Pg	Pg	06 47 07.3	+0.5
RESF				Sg	Sg	06 47 11.1	+1.1
RESF	**Ens**	**0.23**	**141**	Pg	Pg	06 47 07.4	+0.5
RESF				Lg		06 47 11.0	
EBIE	**Bielsa**	**0.30**	**180**	Pg	Pg	06 47 08.5	+0.4
	1.1nm,0.1s,SNR=7.9						
EBIE				Lg		06 47 12.8	
	3.7nm,0.0s,SNR=7.9						
MELF	**Melles**	**0.47**	**104**	Pg	Pg	06 47 11.2	-0.1
MELF				Lg		06 47 17.2	
ETSF	**Etsaut**	**0.52**	**260**	*e*Pg	Pg	06 47 12.1	-0.2
ETSF				*e*Sg	Sg	06 47 19.4	+0.3
	2.6nm,0.2s						
ETSF	**Etsaut**	**0.52**	**260**	*e*Pg	Pg	06 47 12.1	-0.2
ETSF				*e*Sg	Sg	06 47 19.4	+0.3
	1.3nm,0.2s						

IDC 13 06:51:39.1±0.7, 2044S×174.10W, h0km, mb4.1/9, mb1 4.4/10, mb1mx4.3/15, mbtmp4.1/10, ML4.0/1, MS3.6/2, Ms1 3.6/2, ms1mx2.9/26, Error ellipse: s-maj=33.1km s-min=18.0km az=137.0
NEIC 13 06:51:41.3±0.4, 2024S×174.30W, h15km, mb4.7/5, Error ellipse: s-maj=18.3km s-min=8.6km az=125.0
ISCJB 13 06:51:42.6±0.4, 205S±0.1×174.3W±0.1, h33km, mb4.3/15, MS3.5/2, Error ellipse: s-maj=19.5km s-min=10.9km az=76.7
MOS 13 06:51:42.6±1.9, 2022S×174.25W, h33km, mb4.7/3, Error ellipse: s-maj=28.9km s-min=16.7km az=62.2

ISC 13 06:51:44.5±0.5, 204S±01×1742W±01, h35km, n37, σ0.93/33, mb4.3/15, MS3.5/2, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.89**	**20**	Pn	**Pn**	**06 53 17.5**	**-5.5**
	2.2nm,0.3s,baz=164,slow=9.7,SNR=3.7						
AFI				Sn	**Sn**	**06 54 30.8**	**-9.3**
	8.9nm,0.3s,baz=345,slow=21,SNR=6.0						
AFI	**Afiamalu**	**6.89**	**20**	Pn	**Pn**	**06 53 17.5**	**-5.5**
AFI				*e*Sn	**Sn**	**06 54 28.5**	**-12**
AFI				Sn	**Sn**	**06 54 30.8**	**-9.3**
RAR	**Rarotonga**	**13.52**	**96**	Pn	**Pn**	**06 54 39.7**	**-14**
	5.7nm,0.3s,baz=222,slow=4.7,SNR=7.8						
DZM	**Mont Dzumac**	**18.11**	**261**	P	**Pn**	**06 55 59.8**	**+6.6**
	0.5nm,0.3s,baz=70,slow=17,SNR=7.6						
URZ	**Urewera**	**19.29**	**201**	P	**Pn**	**06 56 06.6**	**-0.9**
	0.5nm,0.3s,baz=229,slow=3.0,SNR=3.7						
TBI	**Tubuai**	**23.14**	**102**	*e*LQ		07 00 48.3	
	180nm,27.2s						
TBI				*e*LR	LR	07 01 58.2	
	170nm,26.0s						
PPT	**Papeete**	**23.46**	**87**	*e*LQ		07 00 52.0	
	270nm,26.8s						
PPT				*e*LR	LR	07 02 02.9	
	161nm,25.0s						
PPT	**Papeete**	**23.46**	**87**	LR	LR	07 03 28.4	
	comp=Z,94nm,21.6s,MS3.2,baz=229,slow=30						
RKT	**Rikitea**	**36.46**	**102**	*e*LR	LR	07 08 03.7	
	120nm,27.0s						
STKA	**Stephens Creek**	**41.02**	**245**	P	**P**	**06 59 23.0**	**-1.2**
	5.0nm,1.0s,mb4.1,baz=81,slow=10,SNR=4.3						
STKA	**Stephens Creek**	**41.02**	**245**	P	**P**	**06 59 23.0**	**-1.3**
ASAR	**Alice Springs**	**47.99**	**256**	P	**P**	**07 00 20.7**	**+0.8**
	3.2nm,0.8s,mb4.4,baz=91,slow=7.9,SNR=26						
WRAB	**Tennant Creek**	**48.12**	**261**	*e*P	**P**	**07 00 19.6**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.8						
WRAB	**Tennant Creek**	**48.12**	**261**	*e*P	**P**	**07 00 19.6**	**-1.2**
	comp=Z,14nm,1.3s,mb4.8						
WRA	**Warramunga Arr**	**48.13**	**261**	P	**P**	**07 00 21.3**	**+0.3**
	comp=Z,2.2nm,0.9s,mb4.2,baz=96,slow=8.9,SNR=10						
SBA	**Scott Base**	**58.20**	**185**	*e*P	**P**	**07 01 36.3**	**+1.2**
SBA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
SBA	**Scott Base**	**58.20**	**185**	*e*P	**P**	**07 01 36.3**	**+1.2**
	comp=Z,3.2nm,0.8s,mb4.4						
VNDA	**Vanda**	**58.32**	**186**	P	**P**	**07 01 36.4**	**+0.5**
	comp=Z,2.4nm,1.1s,mb4.1,baz=27,slow=6.1,SNR=6.6						
MBWA	**Marble Bar**	**61.33**	**256**	*e*P	**P**	**07 01 57.6**	**+1.0**
	comp=Z,4.2nm,0.7s,mb4.7						
CASY	**Casey**	**65.55**	**205**	*e*P	**P**	**07 02 24.3**	**-0.1**
QSPA	**South Pole Qui**	**69.64**	**180**	*e*P	**P**	**07 02 50.1**	**-0.2**
	comp=Z,6.1nm,1.0s,mb4.5						
MJAR	**Matsushiro Arr**	**72.32**	**321**	P	**P**	**07 03 08.8**	**+2.2**
	comp=Z,1.3nm,0.3s,mb4.3,baz=163,slow=5.8,SNR=6.0						
MJAR	**Matsushiro Arr**	**72.32**	**321**	P	**P**	**07 03 08.8**	**+2.2**
ASAJ	**Asahikawa**	**75.42**	**329**	LR	LR	07 32 01.4	
	comp=Z,61nm,20.5s,MS3.9,baz=125,slow=32						
NVAR	**Mina Array Bea**	**78.57**	**42**	P	**P**	**07 03 42.1**	**-0.3**
	comp=Z,3.6nm,0.8s,mb4.3,baz=217,slow=8.1,SNR=24						
NEN	**Nelson**	**79.17**	**46**	*e*P	**P**	**07 03 45.7**	**0.0**
MSU	**Marysvale**	**82.54**	**44**	*e*P	**P**	**07 04 04.9**	**+1.2**
HLID	**Hailey**	**83.99**	**39**	*e*P	**P**	**07 04 11.6**	**+0.5**
HLID				*e*		07 04 18.7	
ANMO	**Albuquerque**	**84.62**	**50**	P	**P**	**07 04 14.2**	**-0.1**
	comp=Z,2.6nm,1.0s,mb4.3,baz=213,slow=7.7,SNR=7.4						
PDAR	**Pinedale Array**	**86.51**	**42**	P	**P**	**07 04 23.4**	**-0.4**
	comp=Z,0.8nm,0.9s,mb4.0,baz=205,slow=3.1,SNR=6.0						
COLA	**College**	**87.42**	**11**	*e*P	**P**	**07 04 26.4**	**-1.8**
COLA				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.6						
COLA	**College**	**87.42**	**11**	*e*P	**P**	**07 04 26.4**	**-1.8**
	comp=Z,3.7nm,1.1s,mb4.5						
ILAR	**Eielson Array**	**87.50**	**11**	P	**P**	**07 04 28.1**	**-0.5**
	comp=Z,0.6nm,0.8s,mb3.9,baz=225,slow=6.2,SNR=8.5						
YKA	**Yellowknife Ar**	**94.99**	**24**	P	**P**	**07 05 03.0**	**-0.4**
	comp=Z,0.4nm,0.7s,mb3.9,baz=235,slow=4.4,SNR=9.0						
YKA	**Yellowknife Ar**	**94.99**	**24**	P	**P**	**07 05 03.0**	**-0.4**
AKASG	**Malin Array Be**	**144.59**	**334**	PKP	PKPdf	07 11 16.3	-0.9
	comp=Z,1.3nm,0.7s,baz=38,slow=4.1,SNR=5.7						
BRTR	**Keskin Array B**	**149.37**	**315**	PKPbc	PKPbc	07 11 30.9	+1.2
	comp=Z,0.5nm,0.6s,baz=35,slow=5.3,SNR=3.6						

NIED 13 07:24:00, 33.10N×137.00E, h20km, Mw3.8 Best double couple: M○6.50000×10^14 NP1:φ=269.00000°, δ=45.00000°, λ=90.00000°. NP2:φ=90.00000°, δ=45.00000°, λ=90.00000°.
IDC 13 07:24:16.9±1.0, 3311N×137.17E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/22, mbtmp3.6/6, ML3.0/1, Error ellipse: s-maj=25.8km s-min=24.1km az=27.0
ISCJB 13 07:24:20.4±0.7, 3313N±005×13698E±003, h36km±9km, mb3.5/5, Error ellipse: s-maj=7.7km s-min=4.3km az=168.3
JMA 13 07:24:20.6±0.1, 3314N×13695E, h37km±4km, M4.0
NEIC 13 07:24:20.6, 33.14N×13695E, h37km, MG4.0(JMA), After JMA.

ISC 13 07:24:20.3±1.0, 3315N±004×13695E±003, h23km±7km, n24, σ0.91/42, mb3.5/5, 10D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	**0.81**	**41**	P	**Pb**	**07 24 35.7**	**0.0**
TK01				S	**Sb**	**07 24 46.0**	**-0.2**
TK02	**Tokai 2**	**1.04**	**40**	⇓P	**Pn**	**07 24 39.0**	**-0.5**
TK02				S	**Sb**	**07 24 52.7**	**-0.1**
JWZ	**Kozaga**	**1.10**	**290**	⇓P	**Pn**	**07 24 39.9**	**-0.5**
JWZ				S	**Sb**	**07 24 53.4**	**-1.3**
JKN2	**Miekihoku**	**1.22**	**333**	⇓P	**Pn**	**07 24 42.1**	**+0.1**
JKN2				S	**Sn**	**07 24 56.5**	**-1.3**
JIE	**Ise**	**1.25**	**351**	⇓P	**Pn**	**07 24 42.8**	**+0.4**
TK04	**Tokai 4**	**1.45**	**32**	⇓P	**Pn**	**07 24 45.2**	**+0.1**
TK04				S	**Sn**	**07 25 03.2**	**-0.2**
JWM	**Minabe**	**1.51**	**298**	⇓P	**Pn**	**07 24 45.9**	**0.0**
JWM				S	**Sn**	**07 25 04.0**	**-0.8**
JWY	**Kouya**	**1.56**	**314**	⇓P	**Pn**	**07 24 47.3**	**+0.7**
JWY				S	**Sn**	**07 25 05.8**	**-0.2**
TSUJ	**Tsu 2**	**1.62**	**344**	⇓P	**Pn**	**07 24 47.9**	**+0.5**
TSUJ				S	**Sn**	**07 25 07.1**	**-0.4**
JHE	**Heguri**	**1.83**	**325**	⇓P	**Pn**	**07 24 51.1**	**+0.7**
JHE				S	**Sn**	**07 25 12.7**	**-0.1**
JAJ2	**Tsuna**	**2.14**	**307**	⇓P	**Pn**	**07 24 55.5**	**+0.9**
JAJ2				S	**Sn**	**07 25 20.3**	**-0.1**
SHZ3	**Shizuoka 3**	**2.17**	**28**	P	**Pn**	**07 24 55.0**	**-0.1**
SHZ3				S	**Sn**	**07 25 19.3**	**-2.0**
JAI	**Aioi**	**2.19**	**288**	P	**Pn**	**07 24 55.8**	**+0.5**
JAI				S	**Sn**	**07 25 20.3**	**-1.3**
JIZS	**Izushimoda**	**2.24**	**45**	P	**Pn**	**07 24 57.2**	**+1.3**
JHJ	**Hachijo jima 2**	**2.37**	**90**	Pn	**Pn**	**07 24 55.0**	**-2.8**
	9.5nm,0.3s,baz=59,slow=19,SNR=2.2						
JHJ				Sn	**Sn**	**07 25 24.1**	**-2.2**
	56nm,0.3s,baz=79,slow=20,SNR=7.2						
MJAR	**Matsushiro Arr**	**3.54**	**17**	Pn	**Pn**	**07 25 09.7**	**-4.1**
	5.8nm,0.3s,baz=193,slow=10.0,SNR=15						
MJAR				Pg	**Pn**	**07 25 14.7**	**+0.9**
	15nm,0.3s,baz=170,slow=11,SNR=58						
MJAR				Sn	**Sn**	**07 25 56.3**	**+1.4**
	12nm,0.3s,baz=275,slow=13,SNR=10						
MAJO	**Matsushiro**	**3.54**	**17**	*e*Pn	**Pn**	**07 25 15.2**	**+1.4**
MAJO				*e*Sn	**Sn**	**07 25 54.9**	**0.0**
MAT	**Matsushiro**	**3.54**	**17**	P	**Pn**	**07 25 15.2**	**+1.4**
MAT				S	**Sn**	**07 25 54.8**	**-0.1**
MAT	**Matsushiro**	**3.54**	**17**	P	**Pn**	**07 25 15.0**	**+1.2**
MAT				*e*S	**Sn**	**07 25 55.0**	**+0.1**
MKAR	**Makanchi Array**	**43.21**	**305**	P	**P**	**07 32 21.1**	**+1.6**
	0.6nm,0.8s,mb3.4,baz=89,slow=9.8,SNR=4.5						
WRA	**Warramunga Arr**	**52.85**	**183**	P	**P**	**07 33 34.0**	**-0.2**
	0.6nm,0.5s,mb3.8,baz=359,slow=7.5,SNR=4.5						
ASAR	**Alice Springs**	**56.58**	**183**	P	**P**	**07 34 01.2**	**+0.2**
	0.6nm,0.7s,mb3.7,baz=12,slow=9.5,SNR=8.3						
YKA	**Yellowknife Ar**	**68.97**	**28**	P	**P**	**07 35 23.5**	**-0.1**
	0.2nm,0.8s,mb3.1,baz=312,slow=6.4,SNR=3.6						
GERES	**GERESS Array B**	**83.99**	**326**	P	**P**	**07 36 49.6**	**+0.9**
	0.2nm,0.3s,mb3.8,baz=31,slow=8.0,SNR=4.2						

*MOS 13 07:34:43.4±2.5, 5470N×11230E, h60km, mb4.3/1, Error ellipse: s-maj=20

comp=N,32nm,0.4s
MXMB Smax
comp=N,299nm,0.7s
NLYR Nelyaty 2.63 46 *e*Pg Pg 07 35 30.1 -3.6
NLYR *e* 07 35 31.6
NLYR *e*Sg Sg 07 36 05.7 -2.0
NLYR max
comp=N,54nm,0.4s
NLYR Smax
comp=N,210nm,1.0s
NLYR Nelyaty 2.63 46 *e*P Pn 07 35 29.9 +3.6
NLYR *e* 07 36 05.3
NLYR pmax pmax
comp=Z,53nm,0.5s
NLYR smax
comp=N,208nm,1.0s
CIT Chita 2.79 164 *e*Pg Pg 07 35 33.2 -3.8
CIT *e* 07 35 39.1
CIT *e*Sg Sg 07 36 10.3 -2.9
CIT *e*SgSg 07 36 19.8
CIT max
comp=N,21nm,0.5s
CIT Smax
comp=N,286nm,0.4s
OGRR Ongureny 2.97 251 *e*Pn Pn 07 35 31.6 +0.6
OGRR *e*Pg Pg 07 35 36.1 -4.2
OGRR *e*PgPg 07 35 39.7
OGRR *e* 07 36 10.1
OGRR *e*Sg Sg 07 36 15.3 -3.5
OGRR Pmax
comp=N,12nm,0.2s
OGRR Smax
comp=N,68nm,0.3s
KELR Kotokel 3.18 234 *e*Pn Pn 07 35 34.4 +0.4
KELR *e*Pg Pg 07 35 40.7 -3.7
KELR *e*Sg Sg 07 36 22.7 -2.9
KELR Pmax
comp=N,53nm,0.5s
KELR Smax
comp=N,207nm,0.4s
BOD Bodaibo 3.26 16 *e*Pn Pn 07 35 35.3 +0.3
BOD *e*Pg Pg 07 35 40.4 -5.4
BOD *e*Sg Sg 07 36 23.0 -5.0
BOD Pmax
comp=N,8.0nm,0.7s
BOD Smax
comp=N,190nm,0.7s
BOD Bodaibo 3.26 16 *e*P Pn 07 35 33.6 -1.4
BOD pmax pmax
comp=Z,9.0nm,0.3s
TRTB Turuntaevo 3.74 230 *e*Pn Pn 07 35 42.2 +0.6
TRTB *e*Pg Pg 07 35 50.3 -4.8
TRTB *e*PgPg 07 35 51.3
TRTB *e*Sg Sg 07 36 40.1 -3.4
TRTB max
comp=Z,18nm,0.8s
TRTB Smax
comp=Z,47nm,1.1s
ZRHB Zarechye 3.75 237 *e*Pg Pg 07 35 51.9 -3.4
ZRHB *e*Sg Sg 07 36 40.7 -3.3
ZRHB Pmax
comp=Z,37nm,0.8s
ZRHB Smax
comp=Z,171nm,1.0s
CRS Chara 4.01 54 *e*Pn Pn 07 35 47.0 +1.6
CRS *e*Pg Pg 07 35 54.9 -5.4
CRS *e*Sg Sg 07 36 48.2 -4.2
CRS Pmax
comp=Z,16nm,1.1s
CRS Smax
comp=Z,80nm,1.6s
CRS Chara 4.01 54 *e*P Pn 07 35 45.7 +0.3
CRS pmax pmax
comp=Z,28nm,1.7s
TRG Tyrgan 4.04 244 *e*Pn Pn 07 35 46.2 +0.4
TRG *e*Pg Pg 07 35 55.6 -5.3
TRG *e*Sg Sg 07 36 47.8 -5.5
TRG Pmax
comp=Z,6.0nm,0.3s
TRG Smax
comp=Z,36nm,0.3s
TUP Tupik 4.46 91 *e*Pn Pn 07 35 51.8 +0.3
TUP *e*Pg Pg 07 36 03.0 -5.8
TUP *e*Sn Sn 07 36 41.5 -2.2
TUP *e*Sg Sg 07 37 01.0 -5.6
TUP Pmax
comp=Z,9.0nm,0.4s
TUP Smax
comp=Z,140nm,0.7s
TUP Tupik 4.46 91 *e*P Pn 07 35 51.6 +0.1
TUP *e*S Sn 07 36 43.4 -0.3
TUP pmax pmax
comp=Z,9.0nm,0.6s
TUP smax
comp=N,141nm,0.8s
KPC Khapcheranga 5.01 179 *e*Pn Pn 07 35 58.9 -0.3
KPC *e*Pg Pg 07 36 13.3 -6.2
KPC *e*Sg Sg 07 37 17.7 -6.7
KPC Pmax
comp=N,3.0nm,0.2s
KPC Smax
comp=N,103nm,1.1s
KPC Khapcheranga 5.01 179 *e*P Pg 07 36 14.6 -4.9
KPC pmax pmax
comp=Z,6.0nm,0.9s
TLY Talaya 6.03 243 *e*Sg Sg 07 37 49.9 -7.0
ARS Arshan 6.55 249 *e*Sg Sg 07 38 04.2 -9.5
ARS Smax
comp=Z,63nm,0.8s
ZAK Zakamensk 7.01 235 *e*Sg Sg 07 38 21.3 -7.0
ZAK Smax
comp=Z,9.0nm,1.2s
MOY Mondy 7.45 250 *e* Pn 07 36 40.8 +8.2
MOY *e*Sg Sg 07 38 32.9 -10
MOY Smax
comp=Z,23nm,1.7s
ORL Orlik 7.75 259 *e*Pn Pn 07 36 37.3 +0.6
ORL *e*Pg Pg 07 37 03.0 -8.7
ORL *e*Sn Sn 07 38 01.1 -3.6
ORL *e*Sg Sg 07 38 42.0 -10
ORL Pmax
comp=Z,5.0nm,0.8s
ORL Smax
comp=Z,22nm,1.4s

NEIC ***13*** *07:39:17.5±3.3, 5.47S×145.22E, h85km±33km, mb3.9/1, Error ellipse: s-maj=29.5km s-min=19.9km az=156.0*
ISCJB ***13*** *07:39:19.9±2.7, 59S±02×1455E±0.1, h132km±27km, mb3.6/5, Error ellipse: s-maj=27.2km s-min=19.0km az=141.8*
IDC ***13*** *07:39:21.8±3.9, 5.88S×145.61E, h139km±41km, mb3.4/6, mb1 3.5/7, mb1mx3.4/15, mbtmp3.8/7, Error ellipse: s-maj=40.2km s-min=24.7km az=124.0*

ISC 13 07:39:20.4±2.6, 58S±02×1455E±0.1, h124km±26km, n17, σ0§63/18, mb3.7/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.96**	**155**	P	**Pn**	**07 40 20.0**	**+0.6**
	7.8nm,0.3s,baz=13,slow=4.3,SNR=22						
PMG				S	**Sn**	**07 41 04.7**	**-0.5**
	11nm,0.3s,baz=151,slow=23,SNR=21						
PMG	**Port Moresby**	**3.96**	**155**	*e*Pn	**Pn**	**07 40 19.4**	**-0.1**
PMG				P		07 40 20.1	
PMG				S	**Sn**	**07 41 04.7**	**-0.5**
PMG				*e*Sn	**Sn**	**07 41 06.2**	**+1.0**
CTA	**Charters Tower**	**14.22**	**177**	P	**Pn**	**07 42 42.1**	**+6.0**
	1.4nm,0.3s,baz=7.4,slow=15,SNR=15						
CTAO	**Charters Tower**	**14.22**	**177**	*e*Pn	**Pn**	**07 42 40.3**	**+4.1**
KAKA	**Kakadu**	**14.57**	**241**	*e*P	**Pn**	**07 42 39.6**	**-0.9**
	6.0nm,0.6s						
WRAB	**Tennant Creek**	**17.73**	**217**	*e*P	**Pn**	**07 43 19.7**	**+0.4**
	4.6nm,0.6s						
WB2	**Warramunga Arr**	**17.73**	**217**	*e*P	**Pn**	**07 43 19.2**	**-0.2**
WRA	**Warramunga Arr**	**17.74**	**217**	P	**Pn**	**07 43 13.0**	**-6.5**
	0.1nm,0.3s,baz=40,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**20.96**	**211**	P	**P**	**07 43 54.0**	**+0.4**
	0.3nm,0.5s,baz=41,slow=7.6,SNR=8.7						
FITZ	**Fitzroy Crossi**	**22.90**	**236**	P	**P**	**07 44 13.9**	**+0.5**
	1.7nm,0.6s,mb3.5,baz=46,slow=12,SNR=4.2						
STKA	**Stephens Creek**	**26.20**	**187**	P	**P**	**07 44 42.8**	**-0.6**
	0.6nm,0.5s,mb3.3,baz=4.1,slow=14,SNR=2.1						
MKAR	**Makanchi Array**	**76.38**	**321**	P	**P**	**07 50 56.7**	**+0.7**
	0.8nm,0.6s,mb3.7,baz=96,slow=8.1,SNR=8.9						
MKAR	**Makanchi Array**	**76.38**	**321**	P	**P**	**07 50 56.7**	**+0.7**
BVAR	**Borovoye Array**	**85.71**	**324**	P	**P**	**07 51 45.8**	**+0.4**
	1.2nm,0.7s,mb4.0,baz=121,slow=7.1,SNR=6.0						
ILAR	**Eielson Array**	**85.90**	**23**	P	**P**	**07 51 45.4**	**-0.9**
	1.0nm,0.7s,mb3.9,baz=254,slow=4.9,SNR=14						
TORD	**Torodi Ar. Bea**	**143.56**	**284**	PKP	PKPdf	07 58 38.8	-1.6
	0.6nm,0.5s,baz=61,slow=3.9,SNR=10						
DBIC	**Dimbokro**	**150.49**	**273**	PKPbc	PKPbc	07 58 59.6	+2.3
	1.9nm,0.6s,baz=128,slow=2.4,SNR=5.1						

NIED ***13*** *07:40:00, 22.30N×121.30E, h35km, Mw4.0 Best double couple: M0 1.18000×10^15 NP1:ϑ0=78.00000°, δ=80.00000°, λ=130.00000°. NP2:ϑ0=180.00000°, δ=41.00000°, λ=16.00000°.*

JMA 13 07:40:04.1±0.5, 22.30N×121.34E, h0km, M3.7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**2.64**	**35**	P	Pn	07 40 48.8	+0.8
YOJ				*e*S	Sn	07 41 23.0	+2.3
HATJ	**Hateruma jima**	**2.86**	**52**	*e*S	Sn	07 41 27.0	+0.8
IRIF	**Iriomote-Funau**	**2.99**	**47**	P	Pn	07 40 54.2	+1.5
IRIF				*e*S	Sn	07 41 29.8	+0.6
JKRS	**Kuro-shima**	**3.12**	**51**	P	Pn	07 40 55.8	+1.3
JKRS				*e*S	Sn	07 41 35.0	+2.5
JIJ	**Ishigaki jima**	**3.29**	**51**	P	Pn	07 40 58.6	+1.7
JIJ				*e*S	Sn	07 41 37.0	+0.2
JTJ	**Tarama**	**3.87**	**52**	*e*S	Sn	07 41 52.3	+1.4

ISCJB ***13*** *08:07:42.6±0.4, 37.14N±003×4497E±004, h10km, Error ellipse: s-maj=5.7km s-min=3.6km az=87.6*
CSEM ***13*** *08:07:42.5±0.1, 37.24N×45.10E, h14km, ML3.7, Error ellipse: s-maj=2.4km s-min=2.0km az=63.0*
KISR ***13*** *08:07:43.9±0.6, 36.55N×44.13E, h34km, ML3.9*
TEH ***13*** *08:07:43.8, 37.28N×45.10E, h10km, Mn3.7*
THR ***13*** *08:07:45.6±0.4, 37.11N×45.28E, h18km, ML3.1*

ISC 13 08:07:43.5±0.4, 37.16N±003×4497E±004, h10km, n32, σ1§23/42, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IAZR	**Azarshahr**	**0.95**	**57**	*e*Pg	**Pg**	**08 07 58.4**	**-3.5**
CUKT	**Cukurca**	**1.09**	**275**	*i* PN	**Pn**	**08 08 04.3**	**-0.6**
IMRD	**Marand**	**1.65**	**20**	*e*Pn	**Pn**	**08 08 11.1**	**-1.5**
MSL	**Mosul**	**1.75**	**241**	*e*x	x	08 08 17.0	
MSL				*i* x	x	08 08 41.5	
MSL				*i* x	x	08 08 43.5	
TVAN	**Van**	**1.84**	**318**	*i* P	**Pg**	**08 08 20.4**	**+1.6**
ISRB	**Sarab**	**2.24**	**72**	*e*Pn	**Pn**	**08 08 20.1**	**-0.6**
IDHR	**Dehrash**	**2.71**	**155**	*e*Pn	**Pn**	**08 08 28.4**	**+1.2**
IDHR				*e*Sn	**Sn**	**08 09 01.1**	**+1.0**
ILIN	**Laeen**	**2.76**	**144**	*e*Pn	**Pn**	**08 08 28.6**	**+0.8**
ILIN				*e*Sn	**Sn**	**08 09 01.0**	**-0.2**
SNGE	**Sanandaj**	**2.82**	**136**	*e*PN	**Pn**	**08 08 29.4**	**+0.7**
SNGE				*e*SG	**Sb**	**08 09 07.7**	**-0.9**
GRMI	**Germi**	**2.83**	**54**	*e*PN	**Pn**	**08 08 30.0**	**+1.2**
GRMI				*e*SG	**Sb**	**08 09 09.4**	**+0.5**
GRMI				AML	AML	08 09 17.0	
	comp=E,68nm,0.5s						
GRMI				AML	AML	08 09 26.0	
	comp=N,102nm,0.6s						
GRMI	**Germi**	**2.83**	**54**	*e*Pn	**Pn**	**08 08 30.0**	**+1.2**
	SNR=52						
GRMI				*e*Sg	**Sb**	**08 09 09.4**	**+0.5**
	SNR=91						
BTMT	**Batman**	**2.95**	**291**	PN	**Pb**	**08 08 35.9**	**-0.3**
BEST	**Besiri**	**3.03**	**285**	*i* P	**Pg**	**08 08 40.2**	**-1.5**
IVIS	**Veys**	**3.04**	**149**	*e*Pn	**Pn**	**08 08 32.5**	**+0.8**
IVIS				*e*Sn	**Sn**	**08 09 08.4**	**+0.2**
IGHG	**Ghaleghazi**	**3.11**	**155**	*e*Pn	**Pn**	**08 08 33.5**	**+0.8**
IGHG				*e*Sn	**Sn**	**08 09 10.3**	**+0.4**
MARD	**Mardin**	**3.35**	**274**	*i* P	**Pn**	**08 08 37.4**	**+1.4**
MARD	**Mardin**	**3.35**	**274**	*i* P	**Pn**	**08 08 37.3**	**+1.4**
BNGL	**BINGOL**	**3.51**	**302**	*i* P	**Pg**	**08 08 48.2**	**-2.5**
IKOM	**Komasi**	**3.63**	**144**	*e*Pn	**Pn**	**08 08 41.8**	**+2.0**
IKOM				*e*Sn	**Sn**	**08 09 21.7**	**-0.9**
BHD	**Baghdad**	**3.92**	**187**	*e*x	x	08 08 42.0	
BHD				*e*x	x	08 09 28.0	
URFA	**Urfa**	**4.91**	**275**	*e*PN	**Pn**	**08 08 58.4**	**+0.9**
THKV	**Tehran--Karaj**	**4.92**	**103**	*e*PN	**Pn**	**08 08 57.6**	**+0.1**
ELZG	**Elazig**	**4.92**	**287**	*i* P	**Pb**	**08 09 07.1**	**-2.7**
CHTH	**Charan**	**5.11**	**102**	*e*PN	**Pn**	**08 08 60.0**	**-0.2**
MALT	**Malatya**	**5.31**	**284**	*e*PN	**Pn**	**08 09 05.2**	**+2.3**
DAMV	**Damavand**	**5.85**	**103**	*e*PN	**Pn**	**08 09 10.4**	**+0.1**
DAMV				AML	AML	08 10 50.9	
	comp=E,7.0nm,0.5s						
DAMV				AML	AML	08 10 55.1	
	comp=N,7.3nm,0.6s						
GZT	**Gaziantep**	**5.91**	**274**	*i* P	**Pb**	**08 09 29.7**	**+3.0**
IPIR	**Pirpir**	**6.60**	**131**	*e*Pn	**Pn**	**08 09 20.2**	**-0.4**
UMR	**Umm Al-Rimmam**	**7.93**	**162**	*e*P	**Pn**	**08 09 37.7**	**-1.2**
UMR				*e*S	**Sn**	**08 11 03.1**	**-5.5**
UMR				AML	AML	08 11 08.6	
	comp=Z,23nm,0.4s						
NAY	**Al-Naaiem**	**8.12**	**166**	*e*P	**Pn**	**08 09 39.5**	**-1.9**
NAY				*e*S	**Sn**	**08 11 06.6**	**-6.7**
NAY				AML	AML	08 11 08.4	
	comp=Z,4.8nm,0.6s						
RDF	**Al-Radifah**	**8.49**	**165**	*e*P	**Pn**	**08 09 45.2**	**-1.4**
RDF				*e*S	**Sn**	**08 11 15.7**	**-6.8**
RDF				AML	AML	08 11 19.2	
	comp=Z,11nm,0.4s						
QRN	**Al-Qurain**	**8.75**	**163**	*e*P	**Pn**	**08 09 49.0**	**-1.1**
QRN				*e*S	**Sn**	**08 11 22.9**	**-6.0**
QRN				AML	AML	08 11 26.0	
	comp=Z,12nm,0.4s						

IDC ***13*** *08:16:02.6±4.0, 20.50S×174.08W, h32km±29km, mb4.4/12, mb1 4.6/13, mb1mx4.5/16, mbtmp4.6/13, ML4.6/1, MS4.1/15, Ms1 4.1/15, ms1mx3.9/23, Error ellipse: s-maj=27.6km s-min=14.2km az=140.0*
ISCJB ***13*** *08:16:03.1±0.2, 20.53S±007×174.13W±006, h45km, mb4.9/57, MS4.3/20, Error ellipse: s-maj=11.6km s-min=6.1km az=108.0*
MOS ***13*** *08:16:03.3±3.2, 20.53S×174.06W, h33km, mb5.1/25, Error ellipse: s-maj=14.8km s-min=10.4km az=139.6*
BJI ***13*** *08:16:04.9, 20.50S×174.10W, h48km, mB5.3, mb4.9, Ms5.2, Msz4.6*
NEIC ***13*** *08:16:05.0±0.2, 20.47S×174.12W, mb4.9/37, Error ellipse: s-maj=9.5km s-min=4.3km az=144.0*
SZGRF ***13*** *08:16:06.1, 20.11S×174.65W, h33km, Tonga Islands*

ISC 13 08:16:05.0±0.2, 20.56S±007×174.05W±006, h47km, h47km±2.2km: pP-P, n199, σ0§79/131, mb4.9/57, MS4.3/20, 1C-3D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.96**	**19**	Pn	**Pn**	**08 17 35.6**	**-8.7**
	7.5nm,0.3s,baz=294,slow=5.6,SNR=14						
AFI				Sn	**Sn**	**08 18 48.7**	**-14**
	25nm,0.3s,baz=236,slow=23,SNR=8.6						
AFI	**Afiamalu**	**6.96**	**19**	*e*P	**Pn**	**08 17 36.4**	**-8.0**
AFI				pmax	pmax		
	comp=Z,75nm,0.6s						
AFI	**Afiamalu**	**6.96**	**19**	*e*Pn	**Pn**	**08 17 36.4**	**-8.0**
	comp=Z,75nm,0.6s						
AFI				*e*Sn	**Sn**	**08 18 47.8**	**-14**
RAR	**Rarotonga**	**13.36**	**95**	Pn	**Pn**	**08 18 58.5**	**-13**
	comp=Z,12nm,0.3s,baz=222,slow=4.8,SNR=21						
RAR				LR	LR	08 23 12.4	
	comp=Z,874nm,20.7s,baz=259,slow=32						
RAR	**Rarotonga**	**13.36**	**95**	P	**Pn**	**08 18 58.5**	**-13**
RAR				pmax	pmax		
	comp=Z,12nm,0.3s						
RAR				MLR	MLR		
	comp=Z,874nm,20.7s						
DZM	**Mont Dzumac**	**18.24**	**262**	LR	LR	08 26 07.5	
	comp=Z,581nm,19.4s,baz=206,slow=33						
URZ	**Urewera**	**19.23**	**202**	P	**Pn**	**08 20 24.8**	**-1.6**
	comp=Z,1.9nm,0.3s,baz=352,slow=6.0,SNR=6.3						
TBI	**Tubuai**	**22.97**	**101**	*e*LQ		08 25 05.3	
	comp=Z,897nm,27.5s						
TBI				*e*LR	LR	08 26 16.9	
	comp=Z,963nm,26.8s,baz=283						
PAE	**Paea**	**23.29**	**87**	*e*P	**P**	**08 21 03.4**	**-5.3**
	comp=Z,99nm,1.3s,mb5.1						
PPT	**Papeete**	**23.32**	**87**	*e*P	**P**	**08 21 03.9**	**-5.0**
	comp=Z,57nm,1.3s,mb4.9						
PPT	**Papeete**	**23.32**	**87**	*e*LQ		08 25 23.0	
	comp=Z,1μm,25.8s						
PPT				*e*LR	LR	08 26 19.2	
	comp=Z,860nm,26.0s,baz=257						
PPT	**Papeete**	**23.32**	**87**	P	**P**	**08 21 04.7**	**-4.2**
	comp=Z,49nm,1.1s,mb4.8,baz=238,slow=5.4,SNR=8.5						
PPT				LR	LR	08 28 07.2	
	comp=Z,392nm,18.7s,MS3.9,baz=262,slow=31						
TVO	**Taravao**	**23.58**	**87**	*e*P	**P**	**08 21 06.0**	**-5.3**
	comp=Z,111nm,1.2s,mb5.2						
PMOR	**Pomariorio Ree**	**25.50**	**82**	*e*P	**P**	**08 21 23.9**	**-4.8**
	comp=Z,43nm,1.2s,mb4.8						
HNR	**Honiara**	**27.40**	**290**	LR	LR	08 31 14.7	
	comp=Z,310nm,18.5s,MS3.9,baz=178,slow=33						
TAOE	**Nuku Hiva Isla**	**34.71**	**75**	*e*LR	LR	08 31 47.1	
	comp=Z,1μm,24.0s						
RKT	**Rikitea**	**36.29**	**101**	*e*LR	LR	08 32 25.0	
	comp=Z,619nm,26.5s						
CTA	**Charters Tower**	**37.16**	**264**	*e*P	**P**	**08 23 11.2**	**-0.1**
	comp=Z,6.4nm,0.9s,mb4.5						
CTA	**Charters Tower**	**37.16**	**264**	*e*P	**P**	**08 23 11.2**	**-0.1**
CTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CTAO	**Charters Tower**	**37.16**	**264**	*e*P	**P**	**08 23 11.6**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.6						
CTAO	**Charters Tower**	**37.16**	**264**	*e*P	**P**	**08 23 11.6**	**+0.3**
	comp=Z,8.7nm,0.9s,mb4.6						
PMG	**Port Moresby**	**38.98**	**281**	LR	LR	08 38 21.0	
	comp=Z,213nm,18.1s,MS4.0,baz=173,slow=34						
STKA	**Stephens Creek**	**41.10**	**245**	*e*P	**P**	**08 23 42.3**	**-1.8**
	comp=Z,13nm,1.0s,mb4.5						
STKA	**Stephens Creek**	**41.10**	**245**	P	**P**	**08 23 42.0**	**-2.1**
	comp=Z,17nm,1.0s,mb4.6,baz=97,slow=8.3,SNR=22						
STKA				LR	LR	08 39 42.4	
	comp=Z,217nm,18.4s,MS4.0,baz=28,slow=34						
ASAR	**Alice Springs**	**48.10**	**256**	P	**P**	**08 24 39.0**	**-0.9**
	comp=Z,16nm,1.0s,mb5.0,baz=88,slow=8.3,SNR=70						
ASAR				S	**S**	**08 31 36.6**	**+1.5**
	comp=Z,0.7nm,0.9s,baz=110,slow=19,SNR=5.5						
ASAR	**Alice Springs**	**48.10**	**256**	P	**P**	**08 24 39.1**	**-0.8**
ASAR				S	**S**	**08 31 36.7**	**+1.5**
ASAR				pmax	pmax		
	comp=Z,16nm,1.0s						
ASAR				smax			
	comp=N,1.0nm,0.9s						
WB2	**Warramunga Arr**	**48.24**	**261**	*e*P	**P**	**08 24 40.4**	**-0.6**
WRAB	**Tennant Creek**	**48.25**	**261**	*e*P	**P**	**08 24 40.5**	**-0.5**
WRA	**Warramunga Arr**	**48.26**	**261**	P	**P**	**08 24 39.9**	**-1.2**
	comp=N,9.5nm,1.0s,mb4.8,baz=92,slow=6.0,SNR=50						
WRA	**Warramunga Arr**	**48.26**	**261**	P	**P**	**08 24 39.9**	**-1.2**
WRA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KAKA	**Kakadu**	**51.68**	**270**	*e*P	**P**	**08 25 07.1**	**0.0**
	comp=Z,34nm,1.1s,mb5.2						
FORT	**Forrest**	**52.67**	**246**	*e*P	**P**	**08 25 14.2**	**-0.2**
	comp=Z,14nm,0.7s,mb5.0						
FITZ	**Fitzroy Crossi**	**56.68**	**261**	*e*P	**P**	**08 25 43.8**	**+0.3**
	comp=Z,9.4nm,1.3s,mb4.7						
FITZ	**Fitzroy Crossi**	**56.68**	**261**	P	**P**	**08 25 44.3**	**+0.8**
	comp=Z,2.6nm,0.7s,mb4.4,baz=95,slow=14,SNR=8.7						
FITZ				LR	LR	08 50 02.4	
	comp=Z,192nm,18.1s,MS4.2,baz=278,slow=36						
SBA	**Scott Base**	**58.08**	**185**	*e*P	**P**	**08 25 55.0**	**+1.6**
SBA				*e**PP	pP	08 26 07.5	+0.9
SBA				pmax	pmax		
	comp=Z,20nm,1.4s,mb5.0						
SBA	**Scott Base**	**58.08**	**185**	*e*P	**P**	**08 25 55.0**	**+1.6**
	comp=Z,20nm,1.4s,mb5.0						
SBA				*e*pP	pP	08 26 07.5	+0.9
VNDA	**Vanda**	**58.21**	**186**	P	**P**	**08 25 54.4**	**+0.2**
	comp=Z,4.0nm,1.1s,mb4.4,baz=12,slow=5.7,SNR=9.0						
VNDA				LR	LR	08 46 13.3	
	comp=Z,154nm,18.5s,MS4.2,baz=288,slow=31						
VNDA	**Vanda**	**58.21**	**186**	*e*P	**P**	**08 25 55.2**	**+1.0**
VNDA				*e**PP	pP	08 26 08.7	+1.2
VNDA				pmax	pmax		
	comp=Z,8.0nm,1.3s						
VNDA	**Vanda**	**58.21**	**186**	*e*P	**P**	**08 25 55.2**	**+1.0**
	comp=Z,7.7nm,1.3s,mb4.6						
VNDA				*e*pP	pP	08 26 08.7	+1.2
KLBR	**Kellerberrin**	**61.38**	**245**	*e*P	**P**	**08 26 16.9**	**+0.9**
	comp=Z,54nm,1.5s,mb5.5						
MBWA	**Marble Bar**	**61.45**	**257**	*e*P	**P**	**08 26 16.5**	**+0.1**
NWAO	**Narrogin (SRO)**	**61.64**	**243**	P	**P**	**08 26 16.9**	**-0.9**
	comp=Z,8.2nm,1.1s,mb4.8,baz=48,slow=4.0,SNR=3.9						
NWAO				LR	LR	08 53 18.6	
	comp=Z,164nm,20.0s,MS4.2,baz=78,slow=36						
NWAO	**Narrogin (SRO)**	**61.64**	**243**	*e*P	**P**	**08 26 17.2**	**-0.6**
NWAO				pmax	pmax		
	comp=Z,18nm,1.1s						
NWAO	**Narrogin (SRO)**	**61.64**	**243**	*e*P	**P**	**08 26 17.2**	**-0.6**
	comp=Z,18nm,1.1s,mb5.1						
MUN	**Mundaring**	**62.63**	**244**	*e*P	**P**	**08 26 26.0**	**+1.6**
QSPA	**South Pole Qui**	**69.51**	**180**	*e*P	**P**	**08 27 09.3**	**+0.7**
	comp=Z,14nm,1.0s,mb4.8						
MJAR	**Matsushiro Arr**	**72.51**	**321**	P	**P**	**08 27 26.9**	**+0.2**
	comp=Z,3.7nm,0.7s,mb4.4,baz=161,slow=6.0,SNR=8.8						
MJAR				LR	LR	08 52 33.0	
	comp=Z,99nm,20.7s,MS4.1,baz=135,slow=30						
MAJO	**Matsushiro**	**72.51**	**321**	*e*P	**P**	**08 27 26.3**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
MAJO	**Matsushiro**	**72.51**	**321**	*e*P	**P**	**08 27 26.2**	**-0.5**
	comp=Z,4.9nm,0.7s,mb4.5						
ASAJ	**Asahikawa**	**75.61**	**329**	LR	LR	08 55 08.8	
	comp=Z,66nm,20.8s,MS3.9,baz=178,slow=31						
ISA	**Isabella**	**76.78**	**44**	*e*P	**P**	**08 27 51.6**	**+0.1**
ISA				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
ISA	**Isabella**	**76.78**	**44**	*e*P	**P**	**08 27 51.6**	**+0.2**
	comp=Z,15nm,1.0s,mb4.9						
CMB	**Columbia Colle**	**77.04**	**41**	*e*P	**P**	**08 27 52.7**	**-0.2**
CMB				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.9						
CMB	**Columbia Colle**	**77.04**	**41**	*e*P	**P**	**08 27 52.7**	**-0.3**
	comp=Z,20nm,1.2s,mb4.9						
OHCM	**Honcut**	**77.21**	**39**	*e*P	**P**	**08 27 53.5**	**-0.4**
YSS	**Yuzh-Sakhalins**	**77.67**	**331**	*e*P	**P**	**08 27 55.0**	**-1.4**
YSS				*e*	pP	08 28 05.0	-5.2
DAC	**Darwin (Calif)**	**77.72**	**44**	*e*P	**P**	**08 27 56.7**	**0.0**
DAC				pmax	pmax		
	comp=Z,20nm,1.4s,mb4.8						
DAC	**Darwin (Calif)**	**77.72**	**44**	*e*P	**P**	**08 27 56.7**	**0.0**
	comp=Z,20nm,1.4s,mb4.8						
NVAR	**Mina Array Bea**	**78.57**	**41**	P	**P**	**08 28 00.9**	**-0.6**
	comp=Z,15nm,0.9s,mb4.9,baz=212,slow=7.3,SNR=73						
MNV	**Mina**	**78.67**	**42**	*e*P	**P**	**08 28 01.7**	**-0.3**
MNV				pmax	pmax		
	comp=Z,41nm,1.2s,mb5.2						
MNV	**Mina**	**78.67**	**42**	*e*P	**P**	**08 28 01.7**	**-0.2**
	comp=Z,41nm,1.2s,mb5.2						
PAHR	**Pah Rah Range**	**78.70**	**40**	*e*P	**P**	**08 28 02.2**	**+0.1**
	comp=Z,27nm,1.3s,mb5.0						
TPH	**Tonopah**	**79.03**	**42**	*e*P	**P**	**08 28 04.2**	**+0.2**
TPH				pmax	pmax		
	comp=Z,41nm,1.4s,mb5.2						
TPH	**Tonopah**	**79.03**	**42**	*e*P	**P**	**08 28 04.2**	**+0.2**
	comp=Z,41nm,1.4s,mb5.2						
NEN	**Nelson**	**79.16**	**45**	*e*P	**P**	**08 28 04.2**	**-0.4**
TUC	**Tucson**	**80.14**	**50**	*e*P	**P**	**08 28 09.9**	**-0.1**
TUC				pmax	pmax		
	comp=Z,28nm,1.4s,mb5.0						
TUC	**Tucson**	**80.14**	**50**	*e*P	**P**	**08 28 09.9**	**-0.1**
	comp=Z,28nm,1.4s,mb5.0						
BMN	**Battle Mountai**	**80.45**	**40**	*e*P	**P**	**08 28 11.8**	**+0.1**
BMN				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8

MSU	**Marysvale**	**82.53**	**44**	*eP*	**P**	**08 28 23.8 +1.2**		
MAW	**Mawson**	**82.73**	**199**	P	**P**	**08 28 23.6 -0.1**		
	comp=Z,1.9nm,0.8s,mb4.2,baz=187,slow=5.9,SNR=4.3							
MAW				LR	LR	09 02 49.4		
	comp=Z,176nm,18.6s,MS4.5,baz=235,slow=34							
MAW	**Mawson**	**82.73**	**199**	*eP*	**P**	**08 28 23.9 +0.2**		
MAW				pmax	pmax			
	comp=Z,10.0nm,1.2s							
MAW	**Mawson**	**82.73**	**199**	*eP*	**P**	**08 28 23.9 +0.2**		
	comp=Z,10nm,1.2s,mb4.7							
MDJ	**Mudanjiang**	**82.74**	**323**	P	**P**	**08 28 25.3 +1.6**		
MDJ				AP	pP	08 28 37.4 -0.2		
MDJ				XP	sP	08 28 42.1 -0.8		
MDJ				AMB	AMB			
	comp=Z,6.0nm,0.9s,mb4.6							
MDJ				AMB	AMB			
	comp=Z,101nm,6.2s							
MDJ				LR	LR			
	comp=Z,82nm,24.7s,MS4.0							
MDJ	**Mudanjiang**	**82.74**	**323**	*eP*	**P**	**08 28 22.5 -1.3**		
	comp=Z,5.7nm,0.8s,mb4.7							
NJ2	**Nanjing**	**82.80**	**308**	*eP*	**P**	**08 28 25.8 +1.7**		
NJ2				AP	pP	08 28 37.8 -0.2		
NJ2				XP	sP	08 28 45.1 +1.8		
NJ2				PP	PP	08 31 36.9 +2.3		
NJ2				S	S	08 38 39.0 +0.3		
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.7s,mb5.0							
NJ2				AMB	AMB			
	comp=Z,230nm,6.0s							
NJ2				LR	LR			
	comp=N,490nm,28.3s							
NJ2				LR	LR			
	comp=E,860nm,37.7s							
NJ2				LR	LR			
	comp=Z,480nm,28.5s,MS4.7							
TMUT	**Trail Mountain**	**83.59**	**44**	*eP*	**P**	**08 28 29.0 +0.9**		
MPU	**Maple Canyon**	**83.71**	**43**	*eP*	**P**	**08 28 29.1 +0.4**		
	comp=Z,15nm,1.3s,mb5.0							
MPU				*e*pP	pP	08 28 43.4 +0.8		
MNTX	**Cornudas Mount**	**83.80**	**53**	*eP*	**P**	**08 28 28.5 -0.7**		
	comp=Z,17nm,1.3s,mb5.0							
LAZ	**Ladron**	**83.83**	**50**	*eP*	**P**	**08 28 30.1 +0.7**		
SRU	**San Rafael**	**83.94**	**44**	*eP*	**P**	**08 28 30.2 +0.3**		
SRU				pmax	pmax			
	comp=Z,43nm,1.4s,mb5.4							
SRU	**San Rafael**	**83.94**	**44**	*eP*	**P**	**08 28 30.2 +0.3**		
	comp=Z,43nm,1.4s,mb5.4							
HLID	**Hailey**	**84.00**	**39**	*eP*	**P**	**08 28 30.1 -0.1**		
	comp=Z,16nm,1.1s,mb5.0							
HLID				*e*pP	pP	08 28 45.4 +1.2		
CTU	**Camp Tracy**	**84.00**	**43**	*eP*	**P**	**08 28 30.3 0.0**		
	comp=Z,10nm,1.0s,mb4.9							
BNM	**Barren Site**	**84.07**	**50**	*eP*	**P**	**08 28 31.1 +0.5**		
LPM	**Los Pinos Moun**	**84.15**	**50**	*eP*	**P**	**08 28 31.5 +0.5**		
DAU	**Daniels Canyon**	**84.17**	**43**	*eP*	**P**	**08 28 31.4 +0.3**		
TTA	**Tatalina**	**84.42**	**8**	*eP*	**P**	**08 28 32.5 +0.1**		
TTA				pmax	pmax			
	comp=Z,32nm,1.6s,mb5.2							
TTA	**Tatalina**	**84.42**	**8**	*eP*	**P**	**08 28 32.5 +0.1**		
	comp=Z,32nm,1.6s,mb5.2							
TCUT	**Toone Canyon**	**84.45**	**42**	*eP*	**P**	**08 28 32.6 +0.1**		
PV10	**Paradox Valley**	**84.53**	**46**	*eP*	**P**	**08 28 32.5 -0.4**		
ANMO	**Albuquerque**	**84.59**	**50**	*eP*	**P**	**08 28 33.4 +0.2**		
ANMO				pmax	pmax			
	comp=Z,23nm,1.3s							
ANMO	**Albuquerque**	**84.59**	**50**	*eP*	**P**	**08 28 33.4 +0.2**		
	comp=Z,23nm,1.3s,mb5.1							
HWUT	**Hardware Ranch**	**84.62**	**42**	*eP*	**P**	**08 28 32.5 -0.8**		
	comp=Z,3.3nm,0.8s,mb4.5							
HWUT				*e*PP	PP	08 31 47.8 -1.7		
CN2	**Changchun**	**84.65**	**321**	*eP*	**P**	**08 28 37.8 +4.3**		
CN2				*e*AP	pP	08 28 51.3 +3.9		
CN2				*e*S		08 38 59.9		
CN2				AMB	AMB			
	comp=Z,10.0nm,0.7s,mb5.0							
CN2				LR	LR			
	comp=Z,200nm,21.0s,MS4.5							
SNY	**Shenyang**	**84.68**	**318**	*eP*	**P**	**08 28 40.0 +6.4**		
SNY				AMB	AMB			
	comp=Z,6.0nm,1.2s,mb4.6							
PV01	**Paradox Valley**	**84.72**	**46**	*eP*	**P**	**08 28 34.1 +0.2**		
GDL2	**Guadalupe Moun**	**84.80**	**53**	*eP*	**P**	**08 28 34.2 0.0**		
CPRX	**Cap Rock**	**85.56**	**52**	*eP*	**P**	**08 28 38.1 +0.1**		
CPRX				*e*pP	pP	08 28 50.6 -1.5		
MCMT	**McKenzie Canyo**	**85.64**	**39**	*eP*	**P**	**08 28 38.3 -0.2**		
MCMT				*e*pP	pP	08 28 53.2 +0.8		
SKAG	**Skagway**	**85.80**	**19**	*eP*	**P**	**08 28 39.3 0.0**		
DLMT	**Dillon**	**86.09**	**38**	*eP*	**P**	**08 28 40.5 -0.2**		
	comp=Z,7.6nm,1.2s,mb4.8							
SMCO	**Snowmass**	**86.33**	**46**	*eP*	**P**	**08 28 41.9 0.0**		
	comp=Z,7.9nm,1.1s,mb4.9							
QLMT	**Earthquake Lak**	**86.48**	**39**	*eP*	**P**	**08 28 43.2 +0.5**		
PDAR	**Pinedale Array**	**86.50**	**42**	P	**P**	**08 28 41.6 -1.1**		
	comp=Z,2.5nm,0.9s,mb4.4,baz=228,slow=3.8,SNR=14							
PDAR				LR	LR	09 03 25.0		
	comp=Z,122nm,18.1s,MS4.3,baz=73,slow=33							
CHMT	**Chamberlain Mo**	**86.60**	**37**	*eP*	**P**	**08 28 42.3 -0.9**		
SYO	**Syowa Base**	**87.44**	**192**⇑	*eP*	**P**	**08 28 47.0 -0.3**		
COLA	**College**	**87.52**	**11**	*eP*	**P**	**08 28 46.6 -1.1**		
COLA				pmax	pmax			
	comp=Z,16nm,1.0s,mb5.2							
COLA	**College**	**87.52**	**11**	*eP*	**P**	**08 28 46.6 -1.0**		
	comp=Z,16nm,1.0s,mb5.2							
ILAR	**Eielson Array**	**87.60**	**11**	P	**P**	**08 28 47.2 -0.8**		
	comp=Z,3.2nm,1.0s,mb4.5,baz=210,slow=5.4,SNR=22							
ILAR	**Eielson Array**	**87.60**	**11**	P	**P**	**08 28 47.2 -0.8**		
ILAR				pmax	pmax			
	comp=Z,3.0nm,1.0s							
VNA3	**Neumayer Olymp**	**87.80**	**175**⇓	*i*P	**P**	**08 28 48.8 -0.2**		
VNA3				*e*		08 28 50.2		
VNA3				*e*		08 28 55.0		
VNA3				*e*	pP	08 28 59.8 -3.2		
VNA3				*e*	pP	08 29 02.9 -0.1		
VNA3				*e*	pP	08 29 05.4 +2.4		
VNA3				*e*		08 29 08.0		
VNA3				*e*		08 29 12.6		
VNA3				*e*		08 29 18.3		
VNA3				*e*		08 29 27.9		
VNA3				*e*		08 29 35.1		
SNAA	**Sanae**	**87.81**	**177**⇓	*i*P	**P**	**08 28 48.9 -0.1**		
SNAA				*e*		08 28 50.5		
SNAA				*e*	pP	08 28 59.9 -3.2		
SNAA				*e*	pP	08 29 02.7 -0.4		
SNAA				*e*	pP	08 29 05.0 +1.9		
SNAA				*e*		08 29 08.2		
SNAA				*e*		08 29 12.6		
SNAA				*e*		08 29 19.1		
SNAA				*e*		08 29 26.9		
SNAA				*e*		08 29 34.0		
SNAA	**Sanae**	**87.81**	**177**	*eP*	**P**	**08 28 48.1 -0.9**		
SNAA				*e**PP	pP	08 29 03.3 +0.2		
SNAA				pmax	pmax			
	comp=Z,5.0nm,1.2s							
SNAA	**Sanae**	**87.81**	**177**	*eP*	**P**	**08 28 48.1 -0.9**		
	comp=Z,5.4nm,1.2s,mb4.7							
SNAA				*e*pP	pP	08 29 03.3 +0.3		
PSI	**Prapat**	**88.19**	**274**	P	**P**	**08 28 51.7 +0.8**		
	comp=Z,1.4nm,0.2s,mb4.8,baz=334,slow=20,SNR=6.2							
PSI	**Prapat**	**88.19**	**274**	P	**P**	**08 28 51.7 +0.9**		
PSI				pmax	pmax			
	comp=Z,1.0nm,0.3s,mb4.5							
PSI	**Prapat**	**88.19**	**274**	P	**P**	**08 28 51.7 +0.8**		
VNA2	**Neumayer--Watz**	**88.28**	**176**⇓	*i*P	**P**	**08 28 51.1 -0.2**		
VNA2				*e*		08 28 52.7		
VNA2				*e*		08 28 57.6		
VNA2				*e*	pP	08 29 01.5 -3.8		
VNA2				*e*	pP	08 29 04.4 -0.9		
VNA2				*e*	pP	08 29 07.6 +2.3		
VNA2				*e*		08 29 11.0		
VNA2				*e*		08 29 16.1		
VNA2				*e*		08 29 21.0		
VNA2				*e*		08 29 31.3		
VNA2				*e*		08 29 36.7		
GYA	**Guiyang**	**89.92**	**298**	P	**P**	**08 28 58.8 -0.2**		
GYA				AP	pP	08 29 12.3 -0.7		
GYA				XP	sP	08 29 17.6 -0.7		
GYA				PP	PP	08 32 33.8 +1.7		
GYA				SKS		08 39 23.5		
GYA				S		08 39 45.0		
GYA				AMB	AMB			
	comp=Z,10.0nm,1.0s,mb5.1							
GYA				AMB	AMB			
	comp=Z,90nm,4.8s							
GYA				LR	LR			
	comp=N,420nm,20.9s,MS5.0							
GYA				LR	LR			
	comp=E,410nm,21.8s,MS5.0							
GYA				LR	LR			
	comp=Z,430nm,22.0s,MS4.8							
LAO	**LASA Array**	**90.56**	**40**	*eP*	**P**	**08 29 02.2 +0.3**		
	comp=Z,30nm,1.6s,mb5.4							
HHC	**Hu-ho-hao-te**	**92.07**	**313**	*eP*	**P**	**08 29 11.3 +2.3**		
HHC				AP	pP	08 29 25.1 +2.1		
HHC				XP	sP	08 29 30.0 +1.7		
HHC				PP	PP	08 32 54.3 +5.2		
HHC				SKS		08 39 38.8		
HHC				S		08 40 08.8		
HHC				XS	sS	08 40 29.8 -1.4		
HHC				PS	PS	08 41 29.5 +6.0		
HHC				AMB	AMB			
	comp=Z,10.0nm,1.3s,mb5.0							
HHC				AMB	AMB			
	comp=Z,63nm,3.7s							
HHC				LR	LR			
	comp=N,183nm,21.4s,MS5.0							
HHC				LR	LR			
	comp=E,608nm,23.5s,MS5.0							
HHC				LR	LR			
	comp=Z,114nm,20.2s,MS4.3							
KMI	**Kunming**	**92.69**	**296**	P	**P**	**08 29 12.6 +0.8**		
KMI				AP	pP	08 29 27.1 +1.2		
KMI				AMB	AMB			
	comp=Z,7.0nm,0.9s,mb5.1							
KMI				LR	LR			
	comp=Z,139nm,16.6s,MS4.5							
CD2	**Chengdu**	**93.96**	**301**	*eP*	**P**	**08 29 17.8 +0.1**		
CD2				AMB	AMB			
	comp=Z,20nm,0.8s,mb5.6							
YKA	**Yellowknife Ar**	**95.05**	**24**	P	**P**	**08 29 20.6 -2.1**		
	comp=Z,1.1nm,0.9s,mb4.3,baz=236,slow=4.1,SNR=18							
YKA				LR	LR	09 06 27.4		
	comp=Z,67nm,18.3s,MS4.2,baz=260,slow=32							
YKA	**Yellowknife Ar**	**95.05**	**24**	P	**P**	**08 29 20.6 -2.1**		
YKA				LR	LR	09 06 27.4		
LZH	**Lanzhou**	**95.77**	**306**	*eP*	**P**	**08 29 30.8 +4.9**		
LZH				AP	pP	08 29 45.3 +5.3		
LZH				XP	sP	08 29 50.3 +5.0		
LZH				PP	PP	08 33 25.4 +7.4		
LZH				AMB	AMB			
	comp=Z,25nm,1.5s,mb5.4							
LZH				AMB	AMB			
	comp=Z,78nm,9.3s							
LZH				LR	LR			
	comp=N,267nm,18.2s							
LZH				LR	LR			
	comp=Z,325nm,19.8s,MS4.8							
ULN	**Ulaanbaatar**	**97.85**	**318**	*i* P	**P**	**08 29 34.3 -1.1**		
ULM	**Lac du Bonnet**	**98.30**	**39**	LR	LR	09 12 40.0		
	comp=Z,100nm,18.9s,MS4.3,baz=24,slow=35							
WMQ	**Urumqi**	**109.77**	**310**	PDIF	Pdif	08 30 28.1 -0.3		
WMQ				PP	PP	08 35 05.6 +2.7		
WMQ				PP	PP			
	comp=Z,44nm,4.6s							
WMQ				LR	LR			
	comp=N,94nm,29.4s							
WMQ				LR	LR			
	comp=Z,44nm,23.4s							
MKAR	**Makanchi Array**	**113.94**	**313**	PKiKP	PKiKP	08 34 38.1 -0.5		
	comp=Z,0.3nm,0.5s,baz=78,slow=1.7,SNR=4.0							
MKAR	**Makanchi Array**	**113.94**	**313**	*i* PKIKP	PKiKP	08 34 38.1 -0.5		
KURK	**Kurchatov**	**116.55**	**317**	*i* PKIKP	PKPdf	08 34 38.2 -5.4		
MAK	**Makhachkala**	**138.75**	**312**	*e*PKHKP		08 35 12.8		
AKASG	**Malin Array Be**	**144.77**	**334**	PKP	PKPdf	08 35 36.2 -0.3		
	comp=Z,1.9nm,0.4s,baz=38,slow=4.2,SNR=23							
AKASG	**Malin Array Be**	**144.77**	**334**	PKIKP	PKPdf	08 35 36.2 -0.3		
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.4s							
AKASG	**Malin Array Be**	**144.77**	**334**	PKP	PKPdf	08 35 36.2 -0.3		
BSEG	**Bad Segeberg**	**146.52**	**355**	*e*PKPbc	PKPbc	08 35 42.0 +1.0		
MALT	**Malatya**	**146.87**	**309**	*e*PKP2	PKPab	08 35 44.4 +1.0		
LVV	**L'vov**	**147.46**	**338**	*e*PKP2	PKPab	08 35 44.9 -0.8		
IBBN	**Ibbenburen**	**148.28**	**358**	*e*PKPbc	PKPbc	08 35 47.0 +1.2		
CLZ	**Clausthal**	**148.59**	**355**	*e*PKPbc	PKPbc	08 35 47.4 +0.8		
KSP	**Ksiaz**	**148.70**	**347**	*e*PKP2	PKPbc	08 35 48.0 +1.1		
STHS	**Stebnicka Huta**	**148.73**	**341**	*e*PKP	PKPab	08 35 52.8 +2.0		
KOLS	**Kolonicke sedl**	**148.82**	**339**	*e*PKP	PKPab	08 35 53.2 +2.1		
CLL	**Collm**	**148.82**	**351**	*e*PKPbc	PKPbc	08 35 47.0 -0.2		
	comp=Z,10.0nm,1.1s							
CLL				*i* pPKPdf	pPKPdf	08 35 55.6 -2.2		
CLL				*e*sPKPdf		08 36 02.0		
CLL	**Collm**	**148.82**	**351**	*e*PKP2	PKPbc	08 35 47.0 -0.2		
CLL				pmax	pmax			
	comp=Z,10.0nm,1.1s							
GTTG	**Gyttingen**	**148.92**	**355**	*e*PKPbc	PKPbc	08 35 49.0 +1.5		
UPC	**Upice**	**149.08**	**347**	*e*PKPbc	PKPbc	08 35 49.5 +1.6		
UPC				*e*PKPab	PKPab	08 35 53.9 +1.7		
BRG	**Berggiesshubel**	**149.10**	**350**	*e*PKPbc	PKPbc	08 35 48.5 +0.6		
BRG	**Berggiesshubel**	**149.10**	**350**	*e*PKP	PKPbc	08 35 48.6 +0.7		
	comp=Z,5.5nm,1.4s							
BRG	**Berggiesshubel**	**149.10**	**350**	*e*PKP2	PKPbc	08 35 48.6 +0.7		
BRG				pmax	pmax			
	comp=Z,6.0nm,1.4s							
DPC	**Dobruska-Polom**	**149.16**	**347**	*e*PKPbc	PKPbc	08 35 49.3 +1.2		
DPC				*e*PKPab	PKPab	08 35 53.9 +1.4		
OKC	**Ostrava-Krasne**	**149.22**	**344**	*e*PKPbc	PKPbc	08 35 50.3 +2.1		
MORC	**Moravsky Berou**	**149.42**	**345**	*e*PKP2	PKPbc	08 35 49.5 +0.8		
BR131	**Keskin Array S**	**149.56**	**315**	*e*PKPbc	PKPbc	08 35 50.6 +1.5		
BRTR	**Keskin Array B**	**149.56**	**315**	PKPbc	PKPbc	08 35 49.4 +0.3		
	comp=Z,2.2nm,0.9s,baz=122,slow=4.7,SNR=6.4							
BRTR	**Keskin Array B**	**149.56**	**315**	PKHKP		08 35 49.4		
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
MOX	**Moxa**	**149.65**	**353**	*e*PKPbc	PKPbc	08 35 49.9 +0.6		
MOX	**Moxa**	**149.65**	**353**	*e*PKP	PKPbc	08 35 50.4 +1.1		
	comp=Z,8.0nm,0.8s							
MOX	**Moxa**	**149.65**	**353**	*e*PKP2	PKPbc	08 35 50.4 +1.1		
MOX				pmax	pmax			
	comp=Z,8.0nm,0.8s							
WERD	**Werda**	**149.76**	**352**	*e*PKPbc	PKPbc	08 35 49.9 +0.4		
KECS	**Kecovo**	**149.79**	**341**	*e*PKP	PKPab	08 35 55.6 +0.5		
PRU	**Pruhonice**	**149.85**	**349**	*e*PKPbc	PKPbc	08 35 50.1 +0.3		
MANZ	**Manzenberg**	**150.23**	**352**	*e*PKPbc	PKPbc	08 35 51.7 +1.0		
ROTZ	**Rotzenmuhle**	**150.44**	**352**	*e*PKPbc	PKPbc	08 35 51.9 +0.7		
DOU	**Dourbes**	**150.51**	**2**	PKPbc	PKPbc	08 35 51.5 +0.1		
GIVF	**Givet**	**150.51**	**1**	*e*PKP1	PKPbc	08 35 51.8 +0.4		
BAIF	**Baives**	**150.53**	**2**	*e*PKP1	PKPbc	08 35 52.0 +0.6		
	comp=Z,26nm,1.2s							
GRF	**Grafenberg Arr**	**150.63**	**353**	*e*PKPbc	PKPbc	08 35 53.2 +1.6		
KHC	**Kasperske Hory**	**150.85**	**350**	*e*PKPbc	PKPbc	08 35 51.4 -0.8		
KHC				*e*PKPab	PKPab	08 35 57.4 -2.1		
WET	**Wettzell**	**150.95**	**351**	*e*PKPbc	PKPbc	08 35 53.8 +1.4		
WLF	**Walferdange**	**150.96**	**360**	*e*PKPbc	PKPbc	08 35 53.5 +1.1		
WLF	**Walferdange**	**150.96**	**360**	PKPbc	PKPbc	08 35 53.5 +1.1		
GEC2	**GERESS Array S**	**151.10**	**349**	*e*PKPbc	PKPbc	08 35 53.4 +0.6		
GERES	**GERESS Array B**	**151.10**	**349**	PKPbc	PKPbc	08 35 52.2 -0.5		
	comp=Z,1.8nm,0.9s,baz=52,slow=2.2,SNR=13							
GERES	**GERESS Array B**	**151.10**	**349**	PKIKP	PKPbc	08 35 52.2 -0.6		
GERES				pmax	pmax			
	comp=Z,2.0nm,0.9s							
ROSF	**Rostrenen**	**151.31**	**13**	*e*PKP1	PKPbc	08 35 53.1 -0.1		
FLN	**La Foliniere**	**151.39**	**9**	*e*PKP1	PKPbc	08 35 53.4 0.0		
FLN				*e*R				
	comp=Z,68nm,21.2s							
SGMF	**Saint Gilles**	**151.53**	**12**	*e*PKP1	PKPbc	08 35 53.2 -0.6		
LDF	**La Druitiere**	**151.61**	**8**	*e*PKP1	PKPbc	08 35 53.8 -0.1		
	comp=Z,31nm,1.2s							
GRR	**Gorron**	**151.70**	**10**	*e*PKP1	PKPbc	08 35 54.1 0.0		
MEZF	**Maizieres J'vi**	**152.12**	**1**	*e*PKP1	PKPbc	08 35 55.7 +0.6		
CDF	**Champ du Feu**	**152.19**	**358**	*e*PKP1	PKPbc	08 35 55.6 +0.3		
	comp=Z,16nm,1.2s							
HAU	**Haudompre**	**152.62**	**359**	*e*PKP1	PKPbc	08 35 57.6 +1.4		
HAU				*e*R				
	comp=Z,72nm,21.0s							
HINF	**Hinteralfeld**	**152.80**	**359**	*e*PKP1	PKPbc	08 35 56.8 +0.2		
LOR	**Lormes**	**153.31**	**3**	*e*PKP1	PKPbc	08 35 58.1 +0.4		
LOR				*e*R				
	comp=Z,107nm,19.8s							
SSF	**Saint Saulge**	**153.49**	**4**	*e*PKP1	PKPbc	08 35 58.5 +0.4		
	comp=Z,11nm,1.0s							
MFF	**Saint Martin d**	**153.55**	**9**	*e*PKP1	PKPbc	08 35 58.3 0.0		
SMF	**Signal de Mont**	**153.93**	**3**	*e*PKP1	PKPbc	08 35 59.2 +0.1		
CABF	**La Chapelle**	**154.02**	**360**	*e*PKP1	PKPbc	08 36 00.4 +1.1		
	comp=Z,11nm,1.1s							
TORD	**Torodi Ar. Bea**	**171.58**	**150**	PKP	PKPdf	08 36 06.8 -1.3		
	comp=Z,0.9nm,0.9s,baz=310,slow=0.6,SNR=5.2							

IDC 13 08:29:13.5±2.5, 1989S×17437W, h0km, mb3.7/3, mb1 4.1/4, mb1mx3.8/15, mbtmp3.8/4, ML2.2/1, Error ellipse: s-maj=113.2km s-min=26.5km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.45**	**23**	Pn	Pn	08 30 50.4	+0.8
	2.9nm,0.3s,baz=205,slow=14,SNR=4.7						
ASAR	**Alice Springs**	**47.98**	**256**	P	P	08 37 54.4	+0.4
	1.2nm,0.9s,baz=97,slow=7.3,SNR=7.2						
WRA	**Warramunga Arr**	**48.06**	**261**	P	P	08 37 55.0	+0.4
	0.5nm,0.6s,baz=96,slow=7.2,SNR=6.9						
NVAR	**Mina Array Bea**	**78.27**	**42**	P	P	08 41 15.5	+0.3
	0.8nm,0.8s,baz=240,slow=12,SNR=6.1						

ISCJB ***13*** *09:11:56.3±0.3, 5019N±002×1839E±002, h0km, Error ellipse: s-maj=3.4km s-min=1.9km az=31.7*
NEIC ***13*** *09:11:57.6, 5009N×1841E, h2km, ML3.0(BRA), ML3.4(CSEM), After CSEM.*
MOS ***13*** *09:11:57.1±1.4, 5019N×1849E, h10km, mb4.0/1, Error ellipse: s-maj=8.2km s-min=6.1km az=97.2*
IPEC ***13*** *09:11:58.8±0.2, 5010N×1846E, h8km±1km, ML2.9/3, Error ellipse: s-maj=1.1km s-min=1.0km az=174.0*
CSEM ***13*** *09:11:58.7±0.1, 5008N×1840E, h1km, ML3.9/5*
WAR ***13*** *09:11:59.2, 5006N×1844E, ML3.2, Mining Induced*
IDC ***13*** *09:11:59.3±0.8, 4996N×1837E, h0km, mb1 3.4/6, mb1mx3.2/21, mbtmp3.3/6, ML3.1/6, Error ellipse: s-maj=14.2km s-min=7.5km az=150.0*
PRU ***13*** *09:11:59.8, 5009N×1837E, h0km*
VIE ***13*** *09:12:00.1±1.4, 5011N×1810E, h0km, mb2.8/4, ML3.2/5, Error ellipse: s-maj=8.2km s-min=6.2km az=13.0 32 km NNW of Ostrava Suspected Mining Induced.*

ISC 13 09:11:58.1±0.3, 5013N±002×1839E±002, h0km, n67, σ18 17/119, 6C-5D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.14**	**250**⇓	*i* Pg	**Pg**	**09 12 03.0**	**+2.3**
RAC				*e*Sg	**Sg**	**09 12 06.2**	**+3.7**
OKC	**Ostrava-Krasne**	**0.33**	**209**	*e*PG	**Pg**	**09 12 05.1**	**+0.6**
OKC				*e*SG	**Sg**	**09 12 09.9**	**+1.1**
	3μm,1.1s						
OKC	**Ostrava-Krasne**	**0.33**	**209**	*e*Sg	**Sg**	**09 12 09.8**	**+1.0**
MORC	**Moravsky Berou**	**0.65**	**238**⇓	*i* P	**Pg**	**09 12 11.2**	**+0.6**
MORC	**Moravsky Berou**	**0.65**	**238**	*e*Pg	**Pg**	**09 12 11.0**	**+0.4**
MORC				*e*Sg	**Sg**	**09 12 17.2**	**-1.9**
MORC	**Moravsky Berou**	**0.65**	**238**	*e*Pg	**Pg**	**09 12 11.0**	**+0.4**
MORC				*e*Sg	**Sg**	**09 12 20.7**	**+1.6**
	175nm,0.3s						
OJC	**Ojcow**	**0.91**	**84**	*i* Pg	**Pg**	**09 12 15.7**	**+0.2**
OJC				*e*Sg	**Sg**	**09 12 28.4**	**+1.1**
LIKS	**Likavka**	**1.18**	**157**	*e*PN	**Pn**	**09 12 21.1**	**-0.7**
LIKS				*e*SN	**Sn**	**09 12 38.6**	**+0.1**
LIKS	**Likavka**	**1.18**	**157**	*e*Pn	**Pn**	**09 12 21.1**	**-0.7**
LIKS				*e*Sn	**Sn**	**09 12 38.6**	**+0.1**
LIKS				*e*Lg		09 12 50.0	
DPC	**Dobruska-Polom**	**1.35**	**280**	*e*PG	**Pg**	**09 12 24.5**	**+0.5**
DPC				*e*SG	**Sg**	**09 12 43.1**	**+1.6**
	615nm,0.6s						
DPC	**Dobruska-Polom**	**1.35**	**280**	*e*P	**Pg**	**09 12 24.5**	**+0.5**
DPC				*e*		09 12 43.1	
DPC				smax			
	comp=N,615nm,0.6s						
DPC	**Dobruska-Polom**	**1.35**	**280**	*e*Pg	**Pg**	**09 12 24.5**	**+0.5**
DPC				*e*Sg	**Sg**	**09 12 43.0**	**+1.5**
JAVC	**Velka Javorina**	**1.36**	**201**	*e*Pn	**Pn**	**09 12 24.2**	**-0.1**
VRAC	**Vranov**	**1.43**	**236**	Pg	**Pg**	**09 12 24.9**	**-0.6**
	comp=N,20nm,0.3s,baz=60,slow=14,SNR=196						
VRAC				Lg		09 12 43.2	
	comp=N,65nm,0.3s,baz=138,slow=22,SNR=29						
VRAC	**Vranov**	**1.43**	**236**⇓	*i* P	**Pn**	**09 12 24.8**	**-0.5**
VRAC	**Vranov**	**1.43**	**236**	Pg	**Pg**	**09 12 24.9**	**-0.6**
VRAC				*e*Sg	**Sg**	**09 12 43.6**	**-0.4**
	comp=N,188nm,0.3s						
NIE	**Niedzica**	**1.43**	**119**	*e*P	**Pn**	**09 12 24.7**	**-0.6**
NIE				*i* Pg	**Pg**	**09 12 25.7**	**+0.1**
NIE				*e*Sg	**Sg**	**09 12 45.5**	**+1.3**
KSP	**Ksiaz**	**1.52**	**299**	*e*Pn	**Pn**	**09 12 27.0**	**+0.5**
KSP				*e*Sn	**Sn**	**09 12 49.4**	**+2.4**
KSP	**Ksiaz**	**1.52**	**299**	*e*Pn	**Pn**	**

ARSA	**Arzberg**	**3.45**	**215**	*i* Pn		**Pn**	**09 12 53.4**	**+0.3**
	SNR=6.0							
ARSA				⇑*i*Sg		**Sg**	**09 13 48.6**	**-0.5**
	comp=N,20nm,0.5s							
MOA	**Molln**	**3.55**	**232**	⇓*i*Pn		**Pn**	**09 12 54.1**	**-0.3**
MOA				⇓*i*Sg		**Sg**	**09 13 50.7**	**-1.5**
	comp=N,46nm,0.5s							
CLL	**Collm**	**3.62**	**291**	*e*Pg		**Pg**	**09 13 09.0**	**+1.4**
CLL				*e*Sg		**Sg**	**09 13 57.0**	**+2.5**
	comp=Z,54nm,0.5s							
PKSM	**Moragy**	**3.92**	**177**	⇑*i*P		**Pn**	**09 12 59.0**	**-0.6**
PKSM	**Moragy**	**3.92**	**177**	*e*P		**Pn**	**09 12 59.1**	**-0.5**
PERS	**Pernice**	**4.12**	**213**	*i* Pn		**Pn**	**09 13 02.1**	**-0.2**
MOX	**Moxa**	**4.37**	**279**	*e*PN		**Pn**	**09 13 06.4**	**+0.7**
MOX				*e*PG		**Pg**	**09 13 21.7**	**-0.1**
MOX				*e*SG		**Sg**	**09 14 20.1**	**+1.6**
MOX	**Moxa**	**4.37**	**279**	*e*Pn		**Pn**	**09 13 06.4**	**+0.7**
MOX				*e*Pg		**Pg**	**09 13 21.7**	**-0.1**
MOX				*e*Sg		**Sg**	**09 14 20.1**	**+1.6**
DRGR		**4.41**	**138**	⇑*i*P		**Pn**	**09 13 06.0**	**-0.2**
GOLS	**Golise**	**4.52**	**205**	*e*Pn		**Pn**	**09 13 08.0**	**+0.2**
GORS	**Gorjuse**	**4.82**	**219**	*e*Pn		**Pn**	**09 13 13.6**	**+1.7**
BZS	**Buzias**	**5.01**	**153**	⇑*i*P		**Pn**	**09 13 13.6**	**-0.9**
BURAR	**Bucovina Array**	**5.16**	**117**	⇑*i*P		**Pn**	**09 13 17.1**	**+0.6**
BSD	**Bornholm Skovb**	**5.42**	**338**	*i* P		**Pn**	**09 13 20.8**	**+0.6**
BSD				*e*S		**Sn**	**09 14 19.2**	**-4.1**
DAVOX	**Davos**	**6.58**	**243**	Pn		**Pn**	**09 13 37.1**	**+1.1**
	comp=Z,1.2nm,0.3s,baz=69,slow=8.6,SNR=7.4							
DAVOX				Lg			09 15 24.7	
	comp=Z,0.8nm,0.3s,baz=264,slow=19,SNR=9.0							
AKASG	**Malin Array Be**	**6.95**	**81**	Pn		**Pn**	**09 13 39.1**	**-2.0**
	comp=Z,0.6nm,0.3s,baz=263,slow=13,SNR=4.3							
AKASG				Pg		**Pg**	**09 13 58.5**	**-13**
	comp=Z,0.4nm,0.3s,baz=269,slow=14,SNR=4.3							
AKASG				Sn		**Sn**	**09 14 57.5**	**-3.4**
	comp=Z,1.0nm,0.3s,baz=260,slow=23,SNR=3.9							
AKASG	**Malin Array Be**	**6.95**	**81**	P		**Pn**	**09 13 39.1**	**-2.0**
AKASG							09 14 57.5	
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.3s							
AKASG				smax				
	comp=N,1.0nm,0.3s							
HFS	**Hagfors**	**10.38**	**347**	Pn		**Pn**	**09 14 26.3**	**-1.9**
	comp=N,0.2nm,0.3s,baz=175,slow=17,SNR=3.6							
NOA	**NORSAR Array B**	**11.65**	**342**	Pn		**Pn**	**09 14 43.8**	**-1.9**
	comp=N,0.2nm,0.3s,baz=153,slow=12,SNR=3.6							
FINES	**FINESS Array B**	**12.12**	**18**	Pn		**Pn**	**09 14 49.2**	**-2.8**
	comp=N,0.2nm,0.3s,baz=200,slow=15,SNR=6.8							

NNC 13 09:15:02.1±19.0, 3709N×7058E, h118km±412km, mb2.7, mpv3.1, 1C-3D, Error ellipse: s-maj=164.1km s-min=105.6km az=12.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.01**	**360**	P	Pn	09 16 30.2	+1.6
	2.6nm,0.5s,baz=180,slow=13,SNR=40						
KK31				⇓S	Sn	09 17 38.9	+2.8
	0.9nm,0.2s,baz=187,slow=26,SNR=5.5						
TKM2	**Tokmak 2**	**6.98**	**32**	⇓P	Pn	09 16 40.7	-1.1
	0.4nm,0.7s						
TKM2				⇑S	Sn	09 17 57.0	-2.7
	0.2nm,0.6s						
AB31	**Akbulak array**	**14.41**	**331**	P	Pn	09 18 22.6	+2.2
	0.6nm,0.5s,baz=138,slow=14,SNR=15						
AB31				⇓S	Sn	09 20 56.9	-2.6
	0.3nm,0.6s,baz=0.0,slow=0.1,SNR=36						

ISCJB ***13*** *09:42:50.6±2.3, 1835S×1005×7122W×008, h15km±17km, mb4.5/23, MS4.3/14, Error ellipse: s-maj=13.4km s-min=7.0km az=143.6*

IDC ***13*** *09:42:50.3±0.7, 1826S×7117W, h0km, mb4.5/10, mb1 4.6/12, mb1mx4.4/17, mbtmp4.5/12, ML4.5/1, MS4.0/11, Ms1 4.0/11, ms1mx3.8/17, Error ellipse: s-maj=25.8km s-min=14.4km az=64.0*

MOS ***13*** *09:42:51.0±1.2, 1828S×7116W, h10km, mb4.8/12, Error ellipse: s-maj=24.3km s-min=13.1km az=123.7*

GUC ***13*** *09:42:56.9±0.3, 1897S×7165W, h202km±64km*

NEIC ***13*** *09:42:58.3±0.3, 1853S×7126W, mb4.6/18, Error ellipse: s-maj=11.4km s-min=6.4km az=61.0*

BJI ***13*** *09:42:58.3, 1850S×7130W, h63km, mB4.9, Ms4.9, Msz4.6*

ISC 13 09:42:51.5±3.0, 1834S±004×7119W±008, h5km±18km, h8km±.6km:pP-P, n94, σ1§15/70, mb4.5/23, MS4.3/14, 2C-5D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.56**	**56**	Pn	**Pn**	**09 43 54.2**	**+6.8**
	4.5nm,0.3s,baz=236,slow=16,SNR=122						
LPAZ	**La Paz**	**3.56**	**56**	*e*Pn	**Pn**	**09 43 54.5**	**+7.1**
LVC	**Limon Verde**	**4.76**	**154**	⇑*i*P	**Pn**	**09 44 06.3**	**+2.5**
LVC	**Limon Verde**	**4.76**	**154**	Pn	**Pn**	**09 44 06.3**	**+2.5**
	29nm,0.3s,baz=329,slow=8.9,SNR=311						
LVC				Sn	**Sn**	**09 45 00.8**	**+1.4**
	40nm,0.3s,baz=56,slow=23,SNR=10						
LVC				Lg		09 45 21.2	
	64nm,0.3s,baz=175,slow=18,SNR=7.6						
LVC	**Limon Verde**	**4.76**	**154**	*e*Pn	**Pn**	**09 44 06.3**	**+2.5**
CEN1	**Los Morros**	**5.11**	**170**	*e*P	**Pn**	**09 44 09.8**	**+1.1**
ANCH	**Antofagasta**	**5.37**	**172**	⇓*i*P	**Pn**	**09 44 11.1**	**-1.0**
ANCH				*i* S	**Sn**	**09 45 07.2**	**-7.1**
CPN1	**Cerro Paranal**	**6.30**	**173**	⇓*i*P	**Pn**	**09 44 23.7**	**-1.3**
CPN1				*i* S	**Sn**	**09 45 29.4**	**-7.9**
CPN1				*e*S	**Sn**	**09 45 29.4**	**-7.9**
NNA	**Nana**	**8.35**	**318**	*e*Pn	**Pn**	**09 44 58.0**	**+4.9**
SIV	**San Ignacio**	**9.95**	**78**	Pn	**Pn**	**09 45 20.3**	**+5.3**
	5.1nm,0.3s,baz=265,slow=12,SNR=102						
SAML	**Samuel**	**12.14**	**41**	*e*Pn	**Pn**	**09 45 45.3**	**+0.1**
	19nm,0.9s						
CFAA	**Coronel Fontan**	**13.48**	**169**	Pn	**Pn**	**09 46 02.5**	**-0.9**
	0.1nm,0.3s,baz=346,slow=12,SNR=6.8						
CFAA				LR	LR	09 51 23.3	
	comp=Z,67nm,18.7s,baz=345,slow=38						
CPUP	**Villa Florida**	**15.08**	**124**	Pn	**Pn**	**09 46 24.1**	**-1.1**
	0.5nm,0.3s,baz=279,slow=9.6,SNR=5.7						
CPUP	**Villa Florida**	**15.08**	**124**	*e*P	**Pn**	**09 46 25.2**	**0.0**
CPUP				pmax	pmax		
	comp=Z,23nm,0.7s						
CPUP	**Villa Florida**	**15.08**	**124**	*e*P	**Pn**	**09 46 25.1**	**0.0**
	comp=Z,23nm,0.7s						
OTAV	**Otavalo**	**19.79**	**338**	P	**Pn**	**09 47 25.9**	**+1.8**
	comp=Z,16nm,1.1s						
TRQA	**Tornquist**	**21.23**	**160**	*e*P	**P**	**09 47 38.7**	**+0.5**
	comp=Z,27nm,0.8s,mb4.6						
BDFB	**Brasilia**	**22.32**	**87**	P	**P**	**09 47 51.0**	**+1.1**
	comp=Z,26nm,0.6s,mb4.8,baz=266,slow=11,SNR=31						
BDFB				LR	LR	09 57 24.2	
	comp=Z,614nm,18.8s,MS4.0,baz=275,slow=39						
BDFB	**Brasilia**	**22.32**	**87**	P	**P**	**09 47 51.0**	**+1.1**
BDFB				pmax	pmax		
	comp=Z,26nm,0.6s						
BDFB				MLR	MLR		
	comp=Z,614nm,18.8s						
PLCA	**Paso Flores**	**22.32**	**179**	*e*P	**P**	**09 47 50.8**	**+0.9**
PLCA				pmax	pmax		
	comp=Z,27nm,1.1s						
PLCA	**Paso Flores**	**22.32**	**179**	*e*P	**P**	**09 47 50.8**	**+0.8**
	comp=Z,27nm,1.1s,mb4.6						
BAO	**Brasilia Array**	**22.34**	**87**	P	**P**	**09 47 48.0**	**-2.1**
SDV	**Santo Domingo**	**27.06**	**1**	P	**P**	**09 48 33.3**	**-1.4**
	comp=Z,6.4nm,0.2s,mb4.8,baz=205,slow=4.2,SNR=3.1						
JTS	**JuntasAbangare**	**31.52**	**333**	P	**P**	**09 49 15.0**	**+0.6**
JTS				pmax	pmax		
	comp=Z,21nm,0.8s						
JTS	**JuntasAbangare**	**31.52**	**333**	P	**P**	**09 49 15.0**	**+0.6**
	comp=Z,21nm,0.8s,mb5.0						
RPN	**Rapa Nui**	**36.14**	**249**	LR	LR	10 00 42.8	
	comp=Z,877nm,19.2s,MS4.5,baz=113,slow=30						
USHA	**Ushuaia**	**36.49**	**177**	LR	LR	10 05 39.9	
	comp=Z,367nm,20.8s,MS4.1,baz=202,slow=38						
MIAR	**Mount Ida**	**56.74**	**338**	P	**P**	**09 52 35.3**	**-0.9**
MIAR				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
MIAR	**Mount Ida**	**56.74**	**338**	P	**P**	**09 52 35.2**	**-1.0**
	comp=Z,5.4nm,0.9s,mb4.6						
ACSO	**Alum Creek Sta**	**59.29**	**350**	*e*P	**P**	**09 52 55.4**	**+1.3**
ACSO				*e*pP	pP	09 53 12.5	+17
RKT	**Rikitea**	**59.45**	**254**	*e*S	**S**	**10 01 09.5**	**+4.6**
RKT				*e*LR	LR	10 10 38.4	
	comp=Z,326nm,27.8s						
	comp=Z,173nm,21.5s						

VNA3	**Neumayer Olymp**	**63.74**	**162**	⇓*i*P		**P**	**09 53 22.6**	**-1.6**
VNA3				*e*		pP	09 53 24.8	-1.1
VNA3				*e*			09 53 34.7	
VNA3				*e*			09 53 38.4	
VNA3				*e*			09 53 41.1	
VNA3				*e*			09 53 45.4	
VNA3				*e*			09 53 58.9	
VNA1	**Neumayer--Stat**	**63.96**	**161**	⇓*i*P		**P**	**09 53 24.6**	**-1.1**
VNA1				*e*		pP	09 53 27.5	+0.2
VNA1				*e*			09 53 35.9	
VNA1				*e*			09 53 40.2	
VNA1				*e*			09 53 42.7	
VNA1				*e*			09 53 47.1	
VNA1				*e*			09 53 59.4	
VNA1				*e*			09 54 33.8	
VNA2	**Neumayer--Watz**	**64.33**	**161**	⇑*i*P		**P**	**09 53 26.4**	**-1.6**
VNA2				*e*		pP	09 53 29.0	-0.7
VNA2				*e*			09 53 38.1	
VNA2				*e*			09 53 42.5	
VNA2				*e*			09 53 45.6	
VNA2				*e*			09 53 49.7	
VNA2				*e*			09 54 00.5	
VNA2				*e*			09 54 36.5	
SNAA	**Sanae**	**65.95**	**161**	P		**P**	**09 53 39.2**	**+0.6**
	comp=Z,3.6nm,0.8s,mb4.4,baz=290,slow=4.5,SNR=27							
SNAA	**Sanae**	**65.95**	**161**	⇓*i*P		**P**	**09 53 36.8**	**-1.8**
SNAA				*e*		pP	09 53 38.9	-1.4
SNAA				*e*			09 53 50.0	
SNAA				*e*			09 53 53.2	
SNAA				*e*			09 54 00.0	
SNAA				*e*			09 54 07.6	
SNAA	**Sanae**	**65.95**	**161**	P		**P**	**09 53 39.2**	**+0.6**
SNAA				pmax	pmax			
	comp=Z,4.0nm,0.8s							
SNAA	**Sanae**	**65.95**	**161**	*e*P		**P**	**09 53 38.4**	**-0.2**
	comp=Z,26nm,1.4s,mb5.1							
ISCO	**Idaho Springs**	**66.16**	**332**	*e*P		**P**	**09 53 39.6**	**-0.3**
ISCO				pmax	pmax			
	comp=Z,3.0nm,1.2s,mb4.2							
ISCO	**Idaho Springs**	**66.16**	**332**	*e*P		**P**	**09 53 39.5**	**-0.4**
	comp=Z,2.9nm,1.2s,mb4.2							
PV01	**Paradox Valley**	**66.24**	**328**	*e*P		**P**	**09 53 41.0**	**+0.5**
MSU	**Marysvale**	**68.37**	**326**	*e*P		**P**	**09 53 54.9**	**+0.9**
ARUT	**Antelope Range**	**68.52**	**325**	P		**P**	**09 53 56.8**	**+1.9**
RSSD	**Black Hills**	**69.04**	**335**	*e*P		**P**	**09 53 58.1**	**0.0**
DAC	**Darwin (Calif)**	**69.82**	**321**	P		**P**	**09 53 59.3**	**-3.6**
DAC				pmax	pmax			
	comp=Z,6.0nm,1.3s,mb4.4							
DAC	**Darwin (Calif)**	**69.82**	**321**	P		**P**	**09 53 59.2**	**-3.7**
	comp=Z,6.3nm,1.3s,mb4.4							
DBIC	**Dimbokro**	**69.96**	**76**	P		**P**	**09 54 03.6**	**-0.2**
	comp=Z,9.9nm,0.8s,mb4.8,baz=222,slow=6.7,SNR=8.1							
DBIC				LR			10 24 11.9	
	comp=Z,184nm,18.6s,MS4.4,baz=228,slow=36							
DBIC	**Dimbokro**	**69.96**	**76**	*e*P		**P**	**09 54 03.2**	**-0.6**
	comp=Z,10nm,0.8s,mb4.8							
PDAR	**Pinedale Array**	**70.32**	**331**	P		**P**	**09 54 05.0**	**-1.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=113,slow=8.7,SNR=4.9							
PDAR				LR		LR	10 26 46.8	
	comp=Z,76nm,18.6s,MS4.0,baz=322,slow=38							
HWUT	**Hardware Ranch**	**70.38**	**329**	P		**P**	**09 54 05.7**	**-0.7**
	comp=Z,3.5nm,0.8s,mb4.3							
ULM	**Lac du Bonnet**	**71.68**	**344**	LR		LR	10 28 16.6	
	comp=Z,83nm,18.9s,MS4.0,baz=211,slow=38							
NVAR	**Mina Array Bea**	**71.69**	**323**	P		**P**	**09 54 15.3**	**+0.9**
	comp=Z,0.8nm,0.8s,mb3.7,baz=132,slow=6.4,SNR=4.7							
NVAR	**Mina Array Bea**	**71.69**	**323**	P		**P**	**09 54 15.3**	**+0.9**
IMW	**Indian Meadow**	**71.83**	**331**	*e*P		**P**	**09 54 14.8**	**-0.4**
	comp=Z,9.3nm,1.4s,mb4.5							
QSPA	**South Pole Qui**	**71.84**	**180**	*e*P		**P**	**09 54 16.2**	**+1.0**
	comp=Z,7.0nm,0.8s,mb4.6							
TBI	**Tubuai**	**72.50**	**251**	*e*S		S	10 03 48.8	+4.8
	comp=Z,95nm,26.5s							
TBI				*e*LR		LR	10 16 41.5	
	comp=Z,240nm,27.2s							
SCHQ	**Schefferville**	**72.97**	**3**	LR		LR	10 26 48.3	
	comp=Z,59nm,20.3s,MS3.9,baz=97,slow=36							
HLID	**Hailey**	**73.24**	**329**	*e*P		**P**	**09 54 24.3**	**+0.7**
	comp=Z,4.4nm,1.0s,mb4.3							
MCMT	**McKenzie Canyo**	**73.43**	**330**	P		**P**	**09 54 25.0**	**+0.4**
PPT	**Papeete**	**73.97**	**256**	*e*S		S	10 04 04.8	+4.2
	comp=Z,270nm,27.5s							
PPT				*e*LR		LR	10 17 21.8	
	comp=Z,112nm,24.0s							
PPT	**Papeete**	**73.97**	**256**	LR		LR	10 17 32.9	
	comp=Z,100nm,20.2s,MS4.1,baz=91,slow=28							
TORD	**Torodi Ar. Bea**	**78.37**	**72**	P		**P**	**09 54 52.4**	**-0.5**
	comp=Z,5.9nm,0.8s,mb4.6,baz=256,slow=5.1,SNR=31							
VNDA	**Vanda**	**79.57**	**190**	LR		LR	10 23 38.4	
	comp=Z,104nm,21.5s,MS4.1,baz=144,slow=31							
TSUM	**Tsumeb**	**83.02**	**108**	*e*P		**P**	**09 55 19.8**	**+2.0**
	comp=Z,24nm,1.2s,mb5.1							
ESDC	**Sonseca Array**	**85.13**	**46**	P		**P**	**09 55 28.4**	**-0.1**
	comp=Z,0.8nm,0.5s,mb4.1,baz=240,slow=5.5,SNR=14							
ESLA	**Sonseca Array**	**85.13**	**46**	*e*P		**P**	**09 55 29.9**	**+1.3**
	comp=Z,2.9nm,1.2s,mb4.3							
YKA	**Yellowknife Ar**	**87.51**	**341**	P		**P**	**09 55 38.7**	**-1.6**
	comp=Z,2.6nm,0.7s,mb4.6,baz=136,slow=4.8,SNR=52							
YKA				LR		LR	10 39 36.3	
	comp=Z,67nm,19.6s,MS4.1,baz=95,slow=39							
YKA	**Yellowknife Ar**	**87.51**	**341**	P		**P**	**09 55 38.7**	**-1.6**
YKA				LR		LR	10 39 36.3	
YKW3	**Yellowknife Ar**	**87.57**	**341**	*e*P		**P**	**09 55 38.9**	**-1.6**
MAW	**Mawson**	**87.95**	**164**	P		**P**	**09 55 42.1**	**-0.3**
	comp=Z,6.6nm,1.0s,mb4.8,baz=242,slow=7.5,SNR=7.2							
MAW	**Mawson**	**87.95**	**164**	P		**P**	**09 55 42.1**	**-0.3**
MAW				pmax	pmax			
	comp=Z,7.0nm,1.0s							
MAW	**Mawson**	**87.95**	**164**	*e*P		**P**	**09 55 40.5**	**-1.9**
	comp=Z,13nm,1.4s,mb5.0							
LBTB	**Lobatse**	**88.30**	**116**	*e*P		**P**	**09 55 44.3**	**+0.3**
LBTB				pmax	pmax			
	comp=Z,6.0nm,1.2s,mb4.7							
LBTB	**Lobatse**	**88.30**	**116**	*e*P		**P**	**09 55 44.2**	**+0.2**
	comp=Z,5.6nm,1.2s,mb4.7							
LBTB				*e*pP		pP	09 56 01.9	+16
ASAR	**Alice Springs**	**131.60**	**211**	PKP		PKPdf	10 02 03.9	-1.4
	comp=Z,0.4nm,0.8s,baz=166,slow=2.1,SNR=4.4							
WB2	**Warramunga Arr**	**134.45**	**215**	*e*P		PKPdf	10 02 11.5	+0.8
WRA	**Warramunga Arr**	**134.45**	**215**	PKP		PKPdf	10 02 10.7	0.0
	comp=Z,1.1nm,0.8s,baz=141,slow=1.6,SNR=11							
WRA	**Warramunga Arr**	**134.45**	**215**	PKIKP		PKPdf	10 02 10.7	0.0
WRA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**144.21**	**32**	PKP		PKPdf	10 02 26.4	-2.0
	comp=Z,2.2nm,0.7s,baz=312,slow=3.4,SNR=21							
MKAR	**Makanchi Array**	**144.21**	**32**	PKIKP		PKPdf	10 02 26.4	-2.0
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
IRK	**Irkutsk**	**145.98**	**5**	*e*PKP2		PKPab	10 02 32.2	-0.5
IRK				pmax	pmax			
	comp=Z,28nm,1.8s							
TLY	**Talaya**	**146.48**	**6**	*e*PKPbc		PKPbc	10 02 32.7	-1.0
TLY				*e*PKPab		PKPab	10 02 34.5	-0.1
ZAK	**Zakamensk**	**147.73**	**7**	*e*PKP2		PKPab	10 02 35.3	-4.2
ZAK				pmax	pmax			
	comp=Z,10.0nm,2.1s							
MJAR	**Matsushiro Arr**	**148.41**	**311**	PKPbc		PKPbc	10 02 39.0	-0.1
	comp=Z,4.2nm,1.0s,baz=85,slow=2.7,SNR=6.7							
MJAR	**Matsushiro Arr**	**148.41**	**311**	PKP2		PKPab	10 02 39.0	-3.3
MJAR				pmax	pmax			
	comp=Z,4.0nm,1.0s							
MDJ	**Mudanjiang**	**148.55**	**331**	PKP		PKPdf	10 02 35.1	-0.7
MDJ				LR	LR			
	comp=N,34nm,21.6s,MS4.1							
MDJ				LR	LR			
	comp=E,21nm,26.4s,MS4.1							
MDJ				LR	LR			
	comp=Z,40nm,21.6s,MS4.2							
WMQ	**Urumqi**	**149.00**	**30**	PKP		PKPdf	10 02 32.9	-3.6
WMQ				PKP2		PKPab	10 02 43.5	-1.1
WMQ				APKP			10 02 49.9	
WMQ				XPKP			10 02 57.4	
WMQ				PP		PP	10 06 12.0	+0.7
WMQ				PP		PP		
	comp=Z,8.0nm,7.6s							
WMQ				LR		LR		
	comp=N,87nm,26.3s							
WMQ				LR		LR		
	comp=Z,92nm,23.1s,MS4.5							
SONM	**Songino Array**	**150.51**	**3**	PKP		PKPdf	10 02 39.3	+0.4
	comp=Z,2.6nm,1.1s,baz=130,slow=2.3,SNR=5.0							
SONM				PKPbc		PKPbc	10 02 44.4	+0.2
	comp=Z,4.4nm,1.0s,baz=335,slow=1.7,SNR=19							
CN2	**Changchun**	**151.00**	**335**	*e*PKP		PKPdf	10 02 34.8	-4.9
CN2				LR		LR		
	comp=N,200nm,17.0s,MS5.1							
CN2				LR		LR		
	comp=E,200nm,17.0s,MS5.1							
SNY	**Shenyang**	**153.41**	**335**	*e*PKP		PKPdf	10 02 45.1	+1.9
HHC	**Hu-ho-hao-te**	**157.44**	**355**	*e*PKP		PKPdf	10 02 46.0	-2.7
HHC				PKP2		PKPab	10 03 19.3	-0.9
HHC				PKS			10 06 19.0	
HHC				PP		PP	10 07 01.8	+2.8
HHC				SKS		SKSdf	10 09 47.3	-7.9
HHC				SKKS		SKKSac	10 13 44.0	-5.2
HHC				PP		PP		
	comp=Z,47nm,9.6s							
HHC				LR		LR		
	comp=N,68nm,21.6s,MS4.8							
HHC				LR		LR		
	comp=E,126nm,22.1s,MS4.8							
HHC				LR		LR		
	comp=Z,75nm,22.6s,MS4.5							
LZH	**Lanzhou**	**161.78**	**13**	*e*PKP		PKPdf	10 02 52.5	-1.1
LZH				LR		LR		
	comp=E,136nm,18.7s							
LZH				LR		LR		
	comp=Z,275nm,20.3s							
NJ2	**Nanjing**	**163.61**	**328**	*e*PKP		PKPdf	10 02 49.3	-6.1
NJ2				PKP2		PKPab	10 03 43.1	-4.0
NJ2				PKS			10 06 22.0	
NJ2				PP		PP	10 07 29.0	-3.3
NJ2				PP		PP		
	comp=Z,190nm,6.4s							
NJ2				LR		LR		
	comp=N,1μm,30.0s							
NJ2				LR		LR		
	comp=E,1μm,32.7s							
NJ2				LR		LR		
	comp=Z,330nm,32.8s							
CD2	**Chengdu**	**166.67**	**19**	*e*PKP		PKPdf	10 02 53.8	-4.2

IDC 13 09:53:25.7±3.7, 1857S×7129W, h85km±30km, mb3.5/3, mb1 3.6/6, mb1mx3.4/16, mbtmp3.8/6, Error ellipse: s-maj=41.7km s-min=20.1km az=91.0, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.77**	**54**	P	Pn	09 54 23.1	+1.6
	1.2nm,0.3s,baz=245,slow=10.0,SNR=17						
LVC	**Limon Verde**	**4.60**	**151**	P	Pn	09 54 32.2	-0.6
	4.6nm,0.3s,baz=342,slow=9.1,SNR=42						
LVC				S	Sn	09 55 26.3	+1.4
	4.2nm,0.3s,baz=78,slow=21,SNR=11						
SIV	**San Ignacio**	**10.09**	**77**	P	Pn	09 55 46.9	-0.7
	1.2nm,0.3s,baz=272,slow=12,SNR=20						
BDFB	**Brasilia**	**22.43**	**86**	P	P	09 58 18.1	+0.7
	2.1nm,0.5s,baz=260,slow=11,SNR=4.1						
TORD	**Torodi Ar. Bea**	**78.53**	**72**	P	P	10 05 18.1	+0.5
	0.6nm,0.9s,baz=252,slow=5.2,SNR=4.5						
YKA	**Yellowknife Ar**	**87.70**	**341**	P	P	10 06 04.6	-0.3
	0.5nm,0.7s,baz=135,slow=4.8,SNR=9.5						

NEIC ***13*** *09:55:41.3±0.7, 5564S×2693W, h10km, mb4.3/2, Error ellipse: s-maj=26.8km s-min=13.6km az=224.0*

ISCJB ***13*** *09:55:49.5±2.5, 5605S±0.1×2811W±0.3, h87km±25km, mb4.0/5, Error ellipse: s-maj=33.6km s-min=12.4km az=92.6*

IDC ***13*** *09:55:54.2±11.0, 5601S×2745W, h106km±99km, mb3.8/4, mb1 3.9/5, mb1mx3.6/14, mbtmp4.1/5, ML3.8/1, Error ellipse: s-maj=52.2km s-min=28.7km az=104.0*

ISC 13 09:55:50.6±2.3, 5605S±02×280W±03, h83km±23km, n17, σ1§15/14, mb4.0/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.15**	**286**	*e*Pn	**Pn**	**09 57 06.3**	**+1.2**
	47nm,0.4s						
HOPE				*e*Sn	**Sn**	**09 58 02.1**	**-1.0**
VNA1	**Neumayer--Stat**	**17.04**	**157**	*e*	**Pn**	**09 59 46.2**	**+2.8**
VNA1				*e*		09 59 49.8	
VNA1				*e*		09 59 52.3	
VNA1				*e*		09 59 55.6	
VNA1				*e*		10 00 03.6	
VNA1				*e*		10 00 07.5	
VNA3	**Neumayer Olymp**	**17.21**	**160**	*e*	**Pn**	**09 59 45.6**	**0.0**
VNA3				*e*		09 59 49.0	
VNA3				*e*		09 59 51.7	
VNA3				*e*		09 59 55.3	
VNA2	**Neumayer--Watz**	**17.43**	**157**	*e*	**Pn**	**09 59 47.5**	**-0.8**
VNA2				*e*		09 59 50.4	
VNA2				*e*		09 59 53.0	
VNA2				*e*		09 59 57.0	

OLEF				Sg		Sg	10 01 11.9	+1.3	
CHIF	**Chize**	**1.04**	**143**	Pg		Pg	10 00 58.7	+1.1	
CHIF				Sg		Sg	10 01 13.0	+1.8	
RENF	**Rennes**	**1.17**	**349**	Pg		Pg	10 01 00.5	+0.5	
RENF				Sg		Sg	10 01 16.3	+1.1	
GRR	**Gorron**	**1.45**	**12**	*e*Pg		Pg	10 01 05.8	+0.4	
GRR				*e*Sg		Sg	10 01 25.1	+0.9	
	35nm,0.2s								
GRR	**Gorron**	**1.45**	**12**	*e*Pn		Pn	10 01 04.6	0.0	
GRR				*e*Pg		Sg	10 01 05.8	+0.4	
GRR				*e*Sg		Sg	10 01 25.1	+0.9	
GRR	**Gorron**	**1.45**	**12**	*e*Pg		Pg	10 01 05.8	+0.4	
GRR				*e*Sg		Sg	10 01 25.1	+0.9	
	18nm,0.2s								
SGMF	**Saint Gilles**	**1.54**	**327**	*e*Pg		Pg	10 01 06.9	-0.2	
SGMF				*e*Sg		Sg	10 01 26.3	-0.7	
	57nm,0.3s								
SGMF	**Saint Gilles**	**1.54**	**327**	*e*Pn		Pn	10 01 05.7	-0.1	
SGMF				*e*Pg		Pg	10 01 06.9	-0.2	
SGMF				*e*Sg		Sg	10 01 26.3	-0.7	
SGMF	**Saint Gilles**	**1.54**	**327**	*e*Pg		Pg	10 01 06.9	-0.2	
SGMF				*e*Sg		Sg	10 01 26.3	-0.7	
	28nm,0.3s								
QUIF	**Quistinic**	**1.58**	**308**	*e*Pg		Pg	10 01 07.6	-0.2	
QUIF				*e*Sg		Sg	10 01 28.0	-0.3	
	22nm,0.2s								
QUIF	**Quistinic**	**1.58**	**308**	*e*Pn		Pn	10 01 05.7	-0.6	
QUIF				*e*Pg		Pg	10 01 07.6	-0.2	
QUIF				*e*Sg		Sg	10 01 28.0	-0.3	
QUIF	**Quistinic**	**1.58**	**308**	*e*Pg		Pg	10 01 07.6	-0.2	
QUIF				*e*Sg		Sg	10 01 28.0	-0.3	
	11nm,0.2s								
LDF	**La Druitiere**	**1.81**	**26**	*e*Pg		Pg	10 01 12.1	-0.2	
LDF				*e*Sg		Sg	10 01 36.2	+0.4	
	12nm,0.2s								
LDF	**La Druitiere**	**1.81**	**26**	*e*Pn		Pn	10 01 09.6	+0.1	
LDF				*e*Pg		Pg	10 01 12.1	-0.2	
LDF				*e*Sg		Sg	10 01 36.2	+0.4	
LDF	**La Druitiere**	**1.81**	**26**	*e*Pg		Pg	10 01 12.1	-0.2	
LDF				*e*Sg		Sg	10 01 36.2	+0.4	
	5.8nm,0.2s								
FLN	**La Foliniere**	**1.88**	**17**	*e*Pg		Pg	10 01 13.2	-0.4	
FLN				*e*Sg		Sg	10 01 37.8	-0.1	
	17nm,0.2s								
FLN	**La Foliniere**	**1.88**	**17**	*e*Pn		Pn	10 01 10.4	-0.1	
FLN				*e*Pg		Pg	10 01 13.2	-0.4	
FLN				*e*Sg		Sg	10 01 37.8	-0.1	
FLN	**La Foliniere**	**1.88**	**17**	*e*Pg		Pg	10 01 13.2	-0.4	
FLN				*e*Sg		Sg	10 01 37.8	-0.1	
	8.6nm,0.2s								
ROSF	**Rostrenen**	**1.91**	**317**	*e*Pg		Pg	10 01 13.5	-0.6	
ROSF				*e*Sg		Sg	10 01 37.8	-1.0	
	16nm,0.3s								
ROSF	**Rostrenen**	**1.91**	**317**	*e*Pn		Pn	10 01 10.6	-0.2	
ROSF				*e*Pg		Pg	10 01 13.5	-0.6	
ROSF				*e*Sg		Sg	10 01 37.8	-1.0	
ROSF	**Rostrenen**	**1.91**	**317**	*e*Pg		Pg	10 01 13.5	-0.6	
ROSF				*e*Sg		Sg	10 01 37.8	-1.0	
	8.2nm,0.3s								
LFF	**La Frestale**	**2.48**	**144**	*e*Pg		Pg	10 01 25.0	-0.2	
LFF				*e*Sg		Sg	10 01 57.6	+0.2	
	20nm,0.3s								
LFF	**La Frestale**	**2.48**	**144**	*e*Pn		Pn	10 01 19.0	+0.2	
LFF				*e*Pg		Pg	10 01 25.0	-0.2	
LFF				*e*Sg		Sg	10 01 57.6	+0.2	
LFF	**La Frestale**	**2.48**	**144**	*e*Pg		Pg	10 01 25.0	-0.2	
LFF				*e*Sg		Sg	10 01 57.6	+0.2	
	10.0nm,0.3s								
TCF	**Toulx Ste Croi**	**2.52**	**104**	*e*Pg		Pg	10 01 25.9	0.0	
TCF				*e*Sg		Sg	10 01 56.4	-2.1	
	10nm,0.2s								
TCF	**Toulx Ste Croi**	**2.52**	**104**	*e*Pn		Pn	10 01 20.5	+1.2	
TCF				*e*Pg		Pg	10 01 25.9	0.0	
TCF				*e*Sg		Sg	10 01 56.4	-2.1	
TCF	**Toulx Ste Croi**	**2.52**	**104**	*e*Pg		Pg	10 01 25.9	0.0	
TCF				*e*Sg		Sg	10 01 56.4	-2.1	
	5.1nm,0.2s								
RJF	**Les Rejaudoux**	**2.58**	**129**	*e*Pg		Pg	10 01 26.5	-0.5	
RJF				*e*Sg		Sg	10 02 00.3	-0.1	
	13nm,0.2s								
RJF	**Les Rejaudoux**	**2.58**	**129**	*e*Pn		Pn	10 01 20.1	0.0	
RJF				*e*Pg		Pg	10 01 26.5	-0.5	
RJF				*e*Sg		Sg	10 02 00.3	-0.1	
RJF	**Les Rejaudoux**	**2.58**	**129**	*e*Pg		Pg	10 01 26.5	-0.5	
RJF				*e*Sg		Sg	10 02 00.3	-0.1	
	6.5nm,0.2s								
HYF	**Humbligny**	**2.71**	**82**	*e*Pg		Pg	10 01 31.9	+2.3	
HYF				*e*Sg		Sg	10 02 04.4	-0.4	
BGF	**Bois d'Agland**	**2.89**	**97**	*e*Pg		Pg	10 01 33.8	+0.9	
BGF				*e*Sg		Sg	10 02 07.6	-2.7	
	30nm,0.3s								
BGF	**Bois d'Agland**	**2.89**	**97**	*e*Pn		Pn	10 01 24.9	+0.6	
BGF				*e*Pg		Pg	10 01 33.8	+0.9	
BGF				*e*Sg		Sg	10 02 07.6	-2.7	
BGF	**Bois d'Agland**	**2.89**	**97**	*e*Pg		Pg	10 01 33.8	+0.9	
BGF				*e*Sg		Sg	10 02 07.6	-2.7	
	15nm,0.3s								
CAF	**Calviac**	**3.12**	**130**	*e*Sg		Sg	10 02 17.3	-0.5	
AVF	**Avril sur Loir**	**3.20**	**92**	*e*Pn		Pn	10 01 28.7	0.0	
AVF				*e*Sg		Sg	10 02 16.8	-3.7	
	6.2nm,0.3s								
AVF	**Avril sur Loir**	**3.20**	**92**	*e*Pn		Pn	10 01 28.7	0.0	
AVF				*e*Sg		Sg	10 02 16.8	-3.7	
	3.1nm,0.3s								
SSF	**Saint Saulge**	**3.29**	**87**	*e*Pg		Pg	10 01 41.0	+0.2	
SSF				*e*Sg		Sg	10 02 19.1	-4.4	
	6.7nm,0.3s								
SSF	**Saint Saulge**	**3.29**	**87**	*e*Pn		Pn	10 01 30.6	+0.6	
SSF				*e*Pg		Pg	10 01 41.0	+0.2	
SSF				*e*Sg		Sg	10 02 19.1	-4.4	
SSF	**Saint Saulge**	**3.29**	**87**	*e*Pg		Pg	10 01 41.0	+0.2	
SSF				*e*Sg		Sg	10 02 19.1	-4.4	
	3.3nm,0.3s								
LOR	**Lormes**	**3.54**	**83**	*e*Pg		Pg	10 01 45.9	+0.4	
LOR				*e*Sg		Sg	10 02 26.7	-4.7	
	6.1nm,0.2s								
LOR	**Lormes**	**3.54**	**83**	*e*Pn		Pn	10 01 33.3	0.0	
LOR				*e*Pg		Pg	10 01 45.9	+0.4	
LOR				*e*Sg		Sg	10 02 26.7	-4.7	
LOR	**Lormes**	**3.54**	**83**	*e*Pg		Pg	10 01 45.9	+0.4	
LOR				*e*Sg		Sg	10 02 26.7	-4.7	
	3.0nm,0.2s								
SMF	**Signal de Mont**	**3.55**	**93**	*e*Pg		Pg	10 01 45.2	-0.5	
SMF				*e*Sg		Sg	10 02 27.5	-4.2	
	5.1nm,0.3s								
SMF	**Signal de Mont**	**3.55**	**93**	*e*Pg		Pg	10 01 45.2	-0.5	
SMF				*e*Sg		Sg	10 02 27.5	-4.2	
	2.5nm,0.3s								
LBL	**Lubilhac**	**3.62**	**117**	Pn		Pn	10 01 35.1	+0.7	
EPF	**Esparros**	**4.11**	**163**	*e*Pg		Pg	10 01 54.9	-1.5	
EPF				*e*Sn		Sn	10 02 25.0	-4.7	
EPF				*e*Sg		Sg	10 02 48.6	-1.0	
	3.7nm,0.3s								
EPF	**Esparros**	**4.11**	**163**	*e*Pn		Pn	10 01 40.7	-0.5	
EPF				*e*Pg		Pg	10 01 54.9	-1.5	
EPF				*e*Sn		Sn	10 02 25.0	-4.7	
EPF				*e*Sg		Sg	10 02 48.6	-1.0	
EPF	**Esparros**	**4.11**	**163**	*e*Pg		Pg	10 01 54.9	-1.5	
EPF				*e*Sn		Sn	10 02 25.0	-4.7	
EPF				*e*Sg		Sg	10 02 48.6	-1.0	
	1.9nm,0.3s								
MTLF	**Montolieu**	**4.40**	**144**	*e*Pn		Pn	10 01 45.2	0.0	
MTLF				*e*Sg		Sg	10 02 57.7	-1.4	
	2.2nm,0.4s								
MTLF	**Montolieu**	**4.40**	**144**	*e*Pn		Pn	10 01 45.2	0.0	
MTLF				*e*Sg		Sg	10 02 57.7	-1.4	
	1.1nm,0.4s								
BAIF	**Baives**	**4.79**	**48**	*e*Pn		Pn	10 01 50.4	-0.2	
SMRF	**Simiane la Rot**	**5.69**	**119**	*e*Pn		Pn	10 02 00.7	-2.2	
SMRF				*e*Pg		Pg	10 02 23.3	-3.4	
SEYT	**Eskypehyr**	**24.45**	**96**	*i* P		P	10 06 00.8	+3.4	

IDC 13 10:09:13.8±5.7, 2808N×5165E, h33km±48km, mb3.6/10, mb1 3.8/13, mb1mx3.6/25, mbtmp3.8/13, ML3.7/3, Error ellipse: s-maj=27.6km s-min=19.3km az=2.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSAR	**Wadi Sarin**	**7.93**	**126**	Pn	Pn	10 11 07.5	+0.8
	0.9nm,0.3s,baz=312,slow=11,SNR=11						
WSAR					Sn	10 12 34.6	-0.6
	0.4nm,0.3s,baz=240,slow=20,SNR=3.8						
ASF	**Jabal al Asfar**	**13.40**	**291**	Pn	Pn	10 12 20.7	-0.9
	1.5nm,0.3s,baz=222,slow=13,SNR=7.7						
BRTR	**Keskin Array B**	**18.89**	**313**	P	Pn	10 13 32.5	+0.4
	0.1nm,0.3s,baz=136,slow=14,SNR=6.9						
AKTO	**Aktyubinsk**	**22.84**	**11**	P	P	10 14 14.2	+0.2
	1.2nm,0.6s,baz=192,slow=14,SNR=8.2						
BVAR	**Borovoye Array**	**28.52**	**24**	P	P	10 15 05.7	-0.5
	0.7nm,0.5s,baz=224,slow=7.5,SNR=3.2						
MKAR	**Makanchi Array**	**30.39**	**44**	P	P	10 15 22.7	-0.1
	1.0nm,0.8s,baz=238,slow=7.0,SNR=8.4						
ZAL	**Zalesovo**	**35.40**	**34**	P	P	10 16 06.3	-0.2
	1.5nm,0.6s,baz=162,slow=19,SNR=3.1						
FINES	**FINESS Array B**	**37.47**	**340**	P	P	10 16 22.6	-1.6
	1.9nm,0.8s,baz=134,slow=8.2,SNR=4.6						
NOA	**NORSAR Array B**	**42.58**	**332**	P	P	10 17 06.9	+0.4
	0.9nm,0.8s,baz=121,slow=8.2,SNR=3.0						
SONM	**Songino Array**	**46.39**	**49**	P	P	10 17 37.1	+0.1
	0.4nm,0.6s,baz=278,slow=10,SNR=3.7						
TORD	**Torodi Ar. Bea**	**48.73**	**263**	P	P	10 17 55.2	0.0
	0.6nm,0.7s,baz=57,slow=7.5,SNR=4.9						
SCHQ	**Schefferville**	**82.06**	**329**	P	P	10 21 30.8	+0.1
	1.6nm,0.8s,baz=66,slow=2.9,SNR=4.4						
YKA	**Yellowknife Ar**	**89.07**	**354**	P	P	10 22 05.4	-0.2
	0.5nm,0.7s,baz=7.5,slow=5.0,SNR=10						

NIED ***13*** *10:14:00, 3400N×129.10E, h8km, Mw3.7 Best double couple: M○3.79000×10^14 NP1:φ○s306.00000°, δ81.00000°, λ18.00000°. NP2:φ○s213.00000°, δ72.00000°, λ171.00000°.*

ISCJB ***13*** *10:14:31.0±0.9, 3408N±004×129.16E±009, h32km±7km, mb4.3/1, Error ellipse: s-maj=13.1km s-min=5.5km az=132.6*

JMA ***13*** *10:14:31.0, 3404N×129.14E, h20km±1km, M3.9*

JMA Felt I J1.

NEIC ***13*** *10:14:31.0, 3405N×129.14E, h20km, MG4.3(JMA), After JMA.*

ISC 13 10:14:31.5±1.1, 3406N±004×12918E±009, h25km±9km, n11, σ○s86/17, mb4.3/1, 4C-1D, South Korea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTU	**Tsushima**	**0.50**	**21**	⇑P	**Pb**	10 14 41.3	**-0.3**
JTU				S	**Sb**	10 14 48.7	**+0.2**
JII	**Iki**	**0.53**	**120**	⇓P	**Pb**	10 14 41.7	**-0.4**
JII				S	**Sb**	10 14 49.1	**-0.3**
JUR	**Ureshino**	**1.16**	**146**	⇑P	**Pn**	10 14 51.9	**-0.2**
JUR				S	**Sn**	10 15 06.8	**-0.3**
JFI	**Itaya**	**1.19**	**122**	P	**Pn**	10 14 52.6	**+0.1**
JFI				S	**Sn**	10 15 08.8	**+1.0**
JFU	**Fukue jima 2**	**1.45**	**195**	⇑P	**Pn**	10 14 55.8	**-0.2**
JFU				S	**Sn**	10 15 14.4	**+0.2**
JTA	**Tamana**	**1.57**	**134**	⇑P	**Pn**	10 14 58.0	**+0.2**
KS15	**Wonju Array Si**	**3.54**	**343**	*e*Pn	**Pn**	10 15 26.6	**+1.8**
KS15				*e*Sn	**Sn**	10 16 04.2	**-1.5**
INCN	**Inchon**	**4.00**	**330**	*e*Pn	**Pn**	10 15 33.0	**+1.9**
INCN				*e*Lg		10 16 34.1	
WRAB	**Tennant Creek**	**53.91**	**174**	*e*P	**P**	10 23 52.8	**0.0**
CTAO	**Charters Tower**	**56.25**	**161**	*e*P	**P**	10 24 09.2	**-0.4**
MORC	**Moravsky Berou**	**76.94**	**322**	*e*P	**P**	10 26 20.3	**-1.5**
	2.3nm,0.6s,mb4.3						

IDC ***13*** *10:17:29.6±0.9, 3436N×14199E, h0km, mb3.7/6, mb1 3.9/10, mb1mx3.8/25, mbtmp3.9/10, ML3.8/4, MS3.6/1, Ms1 3.6/1, ms1mx2.5/27, Error ellipse: s-maj=24.7km s-min=16.6km az=86.0*

ISCJB ***13*** *10:17:31.6±1.4, 3435N±005×14197E±007, h32km±10km, mb3.7/6, Error ellipse: s-maj=10.7km s-min=7.4km az=121.7*

NEIC ***13*** *10:17:31.1, 3430N×14202E, h44km, MG3.6(JMA), After JMA.*

MOS ***13*** *10:17:31.6±1.1, 3442N×14203E, h33km, mb4.2/3, Error ellipse: s-maj=28.4km s-min=14.3km az=122.6*

JMA ***13*** *10:17:31.1±0.4, 3430N×14202E, h44km, M3.6*

ISC 13 10:17:32.4±1.5, 3434N±005×14191E±007, h21km±11km, n33, σ○s80/39, mb3.7/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.83**	**293**	P	**Pn**	10 17 47.9	**-0.2**
BSO2	**Boso 2**	**1.04**	**294**	*e*S	**Sb**	10 18 06.4	**+1.5**
BSO3	**Boso 3**	**1.24**	**292**	P	**Pn**	10 17 54.4	**-0.2**
BSO4	**Boso 4**	**1.45**	**297**	P	**Pn**	10 17 57.6	**+0.2**
JIM2	**Oshima 3**	**2.08**	**281**	P	**Pn**	10 18 05.3	**-0.8**
JHJ2	**Mitsune**	**2.13**	**236**	P	**Pn**	10 18 06.9	**+0.1**
JHJ	**Hachijo jima 2**	**2.15**	**236**	Pn	**Pn**	10 18 07.0	**0.0**
	126nm,0.3s,baz=101,slow=12,SNR=71						
JHJ				Sn	**Sn**	10 18 32.1	**-0.9**
	94nm,0.3s,baz=59,slow=22,SNR=8.4						
JOD2	**Odawara 2**	**2.50**	**293**	P	**Pn**	10 18 11.2	**-0.6**
JIZS	**Izushimoda**	**2.53**	**279**	P	**Pn**	10 18 11.8	**-0.5**
JAG	**Ashikaga**	**2.89**	**317**	P	**Pn**	10 18 16.9	**-0.3**
JRY	**Ryogami san**	**2.98**	**305**	P	**Pn**	10 18 18.4	**0.0**
JYN	**Shimob**	**3.00**	**294**	P	**Pn**	10 18 18.8	**+0.1**
JYN				*e*S	**Sn**	10 18 52.7	**-1.3**
MJAR	**Matsushiro Arr**	**3.74**	**307**	Pn	**Pn**	10 18 29.3	**+0.4**
	7.0nm,0.3s,baz=150,slow=12,SNR=37						
MJAR				Sn	**Sn**	10 19 12.8	**+0.5**
	5.4nm,0.3s,baz=144,slow=19,SNR=8.5						
MJAR	**Matsushiro Arr**	**3.74**	**307**	P	**Pn**	10 18 29.3	**+0.4**
MJAR						10 19 12.8	
MJAR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
MJAR				smax			
	comp=N,5.0nm,0.3s						
MJAR	**Matsushiro Arr**	**3.74**	**307**	Pn	**Pn**	10 18 29.3	**+0.4**
MJAR				Sn	**Sn**	10 19 12.8	**+0.5**
MAJO	**Matsushiro**	**3.74**	**307**	*e*P	**Pn**	10 18 27.7	**-1.2**
MAT	**Matsushiro**	**3.74**	**307**	P	**Pn**	10 18 29.6	**+0.7**
MAT				S	**Sn**	10 19 12.5	**+0.2**
MAT	**Matsushiro**	**3.74**	**307**	*e*P	**Pn**	10 18 30.0	**+1.1**
MAT				*e*S	**Sn**	10 19 13.0	**+0.7**
CBIJ	**Chichi jima**	**7.22**	**178**	Pn	**Pn**	10 19 16.1	**-0.6**
	comp=N,3.9nm,0.3s,baz=313,slow=23,SNR=12						
CBIJ				Sn	**Sn**	10 20 30.1	**-8.1**
	comp=N,7.9nm,0.3s,baz=273,slow=23,SNR=6.8						
ASAJ	**Asahikawa**	**9.78**	**3**	Pn	**Pn**	10 19 50.2	**-1.6**
	comp=N,0.9nm,0.3s,baz=240,slow=17,SNR=5.9						
ASAJ				Sn	**Sn**	10 21 33.4	**-7.6**
	comp=N,0.3nm,0.3s,baz=72,slow=20,SNR=3.0						
ASAJ	**Asahikawa**	**9.78**	**3**	P	**Pn**	10 19 50.3	**-1.5**
ASAJ						10 21 33.4	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM	**Songino Array**	**29.69**	**308**	P	**P**	10 23 37.9	**+1.1**
	comp=Z,0.3nm,0.4s,mb3.4,baz=122,slow=12,SNR=4.3						
MKAR	**Makanchi Array**	**45.93**	**304**	P	**P**	10 25 54.2	**+0.5**
	comp=Z,0.4nm,0.5s,mb3.6,baz=81,slow=11,SNR=5.5						
MKAR	**Makanchi Array**	**45.93**	**304**	P	**P**	10 25 54.2	**+0.5**
HNR	**Honiara**	**46.77**	**155**	LR	LR	10 41 40.8	
	comp=Z,73nm,19.9s,baz=178,slow=31						
ILAR	**Eielson Array**	**51.57**	**31**	P	**P**	10 26 36.9	**-0.1**
	comp=Z,0.9nm,0.9s,mb3.7,baz=258,slow=5.8,SNR=9.6						
ILAR	**Eielson Array**	**51.57**	**31**	P	**P**	10 26 36.9	**-0.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**54.40**	**199**	P	**P**	10 26 59.8	**+1.9**
	comp=Z,2.7nm,1.1s,mb4.1,baz=355,slow=12,SNR=4.3						
WRA	**Warramunga Arr**	**54.45**	**189**	P	**P**	10 26 58.5	**+0.3**
	comp=Z,0.8nm,0.5s,mb3.9,baz=3.4,slow=7.7,SNR=19						
WRA	**Warramunga Arr**	**54.45**	**189**	P	**P**	10 26 58.5	**+0.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**58.18**	**189**	P	**P**	10 27 25.4	**+0.5**
	comp=Z,0.5nm,0.6s,mb3.8,baz=358,slow=4.8,SNR=9.3						
ASAR	**Alice Springs**	**58.18**	**189**	P	**P**	10 27 25.4	**+0.6**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LPAZ	**La Paz**	**147.61**	**64**	PKPbc	PKPbc	10 37 16.3	+1.1
	comp=Z,0.4nm,0.5s,baz=225,slow=2.9,SNR=4.2						

IDC 13 10:37:25.7±12.0, 2072S×17700W, h474km±113km, mb3.1/4, mb1 3.3/4, mb1mx3.1/12, mbtmp3.9/4, Error ellipse: s-maj=129.6km s-min=45.5km az=133.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.54**	**245**	P	P	10 44 06.3	0.0
	0.6nm,0.5s,baz=68,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**45.38**	**257**	P	P	10 45 01.1	+0.6
	1.7nm,0.6s,baz=97,slow=7.4,SNR=26						
ASAR				PcP	PcP	10 46 31.4	+1.2
	0.4nm,0.5s,baz=109,slow=4.0,SNR=6.0						
WB2	**Warramunga Arr**	**45.49**	**262**	*e*P	P	10 45 01.2	-0.2
WRA	**Warramunga Arr**	**45.50**	**262**	P	P	10 45 01.3	-0.1
	1.1nm,0.3s,baz=96,slow=7.5,SNR=56						
ILAR	**Eielson Array**	**88.32**	**12**	P	P	10 49 26.1	+0.1
	0.2nm,0.4s,baz=217,slow=5.7,SNR=9.2						
AKASG	**Malin Array Be**	**143.65**	**332**	PKP	PKPdf	10 56 03.6	-2.3
	0.7nm,0.3s,baz=43,slow=4.2,SNR=7.8						
BRTR	**Keskin Array B**	**147.68**	**313**	PKPbc	PKPbc	10 56 16.8	+0.6
	0.7nm,0.4s,baz=142,slow=4.2,SNR=4.3						
GERES	**GERESS Array B**	**150.65**	**346**	PKPbc	PKPbc	10 56 22.1	-1.3
	0.4nm,0.5s,baz=106,slow=2.9,SNR=4.6						

MOS 13 10:42:13.7±0.8, 4410N×4209E, h5km, mb3.5/1, 3C, Error ellipse: s-maj=85.5km s-min=19.5km az=27.8, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIV	**Kislovodsk**	**0.45**	**108**	⇑*i*PG	Pg	10 42 22.8	+0.4
KIV				*e*S	Sg	10 42 29.3	+0.9
KIV0	**Kislovodsk Arr**	**0.46**	**108**	⇑*i*PG	Pg	10 42 22.9	+0.3
KIV0				*e*S	Sg	10 42 29.5	+1.0
BEYR	**Belyy Ugol+**	**0.53**	**99**	*e*PG	Pg	10 42 24.3	+0.4
BEYR				*e*S	Sg	10 42 32.0	+1.2
SHAR	**Shatzhatmas**	**0.55**	**130**	*e*PG	Pg	10 42 25.0	+0.7
SHAR				*e*S	Sg	10 42 32.3	+0.9
KUBR	**Kubataba**	**1.00**	**107**	⇑*e*PG	Pg	10 42 32.5	-0.4
KUBR				*e*S	Sg	10 42 47.6	+1.8

IDC ***13*** *10:49:45.2±1.2, 2465N×12197E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.5/21, mbtmp3.8/5, ML4.2/1, Error ellipse: s-maj=42.8km s-min=23.6km az=60.0*

ISCJB ***13*** *10:49:57.9±0.5, 2491N±008×12260E±004, h131km±5km, mb3.4/5, Error ellipse: s-maj=12.8km s-min=6.4km az=166.0*

NEIC ***13*** *10:49:58.8±0.5, 2489N×12263E, h124km±6km, mb3.7/2, Error ellipse: s-maj=11.8km s-min=9.9km az=150.0*

JMA ***13*** *10:50:00.0±0.3, 2500N×12264E, h114km±4km, M3.1*

ISC 13 10:49:58.9±0.5, 2493N±007×12259E±004, h124km±5km, n24, σ○s71/31, mb3.4/5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.60**	**140**	P	**Pn**	10 50 18.3	**+0.3**
YOJ				S	**Sn**	10 50 32.5	**+0.1**
TATO	**Taipei**	**1.00**	**273**	*e*Pn	**Pn**	10 50 20.7	**-0.6**
YHNB	**Yeheng**	**1.13**	**257**	*e*Pn	**Pn**	10 50 23.6	**+1.0**
NACB	**Ninganchiao**	**1.18**	**230**	*e*Pn	**Pn**	10 50 23.1	**+0.1**
NACB				*e*Sn	**Sn**	10 50 40.2	**-1.2**
IRIF	**Iriomote-Funau**	**1.20**	**119**	P	**Pn**	10 50 23.5	**+0.2**
IRIF				S	**Sn**	10 50 41.5	**-0.3**
HATJ	**Hateruma jima**	**1.41**	**128**	P	**Pn**	10 50 26.5	**+0.9**
HATJ				*e*S	**Sn**	10 50 46.1	**+0.2**
JKRS	**Kuro-shima**	**1.47**	**118**	P	**Pn**	10 50 27.1	**+0.9**
JKRS				S	**Sn**	10 50 46.9	**-0.1**
JIJ	**Ishigaki jima**	**1.52**	**111**	P	**Pn**	10 50 27.3	**+0.4**
JIJ				S	**Sn**	10 50 47.0	**-1.2**
JTJ	**Tarama**	**1.94**	**98**	P	**Pn**	10 50 32.9	**+1.0**
JTJ				*e*S	**Sn**	10 50 56.6	**-0.5**
JOGS	**Gusukube**	**2.57**	**93**	*e*S	**Sn**	10 51 11.5	**+0.4**
JKE	**Kume jima 2**	**4.04**	**69**	P	**Pn**	10 50 59.9	**+0.9**
JAGN	**Aguni-jima**	**4.51**	**68**	P	**Pn**	10 51 06.2	**+0.8**
JIH	**Iheya**	**5.28**	**65**	P	**Pn**	10 51 15.5	**-0.1**
JOW	**Kunigami**	**5.46**	**68**	Pn	**Pn**	10 51 17.9	**-0.3**
	14nm,0.3s,baz=214,slow=14,SNR=70						
JOW	**Kunigami**	**5.46**	**68**	P	**Pn**	10 51 17.7	**-0.4**
JTK	**Tokunoshima**	**6.38**	**62**	P	**Pn**	10 51 29.2	**-1.3**
JAM	**Amami Oshima**	**7.17**	**60**	P	**Pn**	10 51 39.7	**-1.5**
MAJO	**Matsushiro**	**17.70**	**45**	*e*Pn	**Pn**	10 53 56.9	**-0.7**
	2.5nm,0.4s						
SONM

URLA				*i*	S	**Sg**	**11 01 42.5**	**-1.6**
URLA	**Izmir**	**0.41**	**209**	*i*	P	**Pg**	**11 01 38.8**	**+0.2**
KDAG	**Bornova**	**0.45**	**133**	*i*	P	**Pg**	**11 01 39.6**	**+0.1**
KDAG				*i*	S	**Sg**	**11 01 45.8**	**+0.2**
IZM	**Izmir**	**0.46**	**134**		PG	**Pg**	**11 01 39.6**	**+0.1**
IZM					SG	**Sg**	**11 01 46.4**	**+0.8**
AYVA	**Ayvalik**	**0.60**	**349**	*i*	P	**Pg**	**11 01 42.6**	**+0.3**
AYVA				*i*	S	**Sg**	**11 01 52.1**	**+1.8**
PRK	**Paraskevi**	**0.69**	**320**	*e*	PB	**Pg**	**11 01 44.4**	**+0.4**
PRK				*e*	SB	**Sg**	**11 01 54.0**	**+0.9**
AKS	**Akhisar**	**0.77**	**77**	*e*	PG	**Pg**	**11 01 45.3**	**-0.2**
AKS				*e*	SG	**Sg**	**11 01 55.7**	**0.0**
SMG	**Samos**	**1.00**	**180**	*e*	PB	**Pg**	**11 01 48.9**	**-1.0**
SMG				*e*	SB	**Sg**	**11 02 01.8**	**-1.2**
SMG	**Samos**	**1.00**	**180**	*e*	P	**Pb**	**11 01 49.2**	**-0.5**
SMG				*e*	S	**Sb**	**11 02 04.7**	**+1.9**
EZN	**Ezine**	**1.18**	**340**	*e*	PN	**Pn**	**11 01 51.9**	**-0.7**
BALB	**Balikesir**	**1.23**	**41**	*e*	PN	**Pn**	**11 01 52.7**	**-0.5**
BALB				*e*	SN	**Sn**	**11 02 08.7**	**-0.9**
MANT	**Manisa**	**1.36**	**99**	*i*	P	**Pn**	**11 01 55.3**	**+0.3**
MANT				*i*	S	**Sn**	**11 02 13.7**	**+0.8**
BTOK	**Tokmak**	**1.39**	**41**	*i*	P	**Pn**	**11 01 55.6**	**+0.1**
BTOK				*i*	S	**Sn**	**11 02 13.8**	**+0.1**
DST	**Dursunbey**	**1.65**	**57**	*e*	PN	**Pn**	**11 01 57.9**	**-1.1**
BDRM	**Kayabasi**	**1.71**	**164**	*i*	P	**Pn**	**11 02 02.1**	**+2.2**
BDRM				*i*	S	**Sn**	**11 02 22.7**	**+1.1**
EDC	**Edincik**	**1.81**	**25**	*e*	PN	**Pn**	**11 02 00.4**	**-0.9**
BNT	**Bandirma**	**1.84**	**27**	*e*	PN	**Pn**	**11 02 01.3**	**-0.3**
KCT	**Karacabey**	**1.94**	**37**		PN	**Pn**	**11 02 03.3**	**+0.2**
APE	**Apeiranthos**	**1.94**	**213**	*e*	PB	**Pn**	**11 02 01.8**	**-1.3**
APE	**Apeiranthos**	**1.94**	**213**	*e*	P	**Pn**	**11 02 03.1**	**0.0**
MRMT	**Marmara Adasi**	**1.97**	**17**	*e*	PN	**Pn**	**11 02 02.7**	**-0.8**
ORI	**Orhaneli**	**2.07**	**49**	*e*	PN	**Pn**	**11 02 04.4**	**-0.5**
GDZ	**Gediz**	**2.09**	**79**	*i*	P	**Pn**	**11 02 05.1**	**0.0**
GDZ				*i*	S	**Sg**	**11 02 37.2**	**-0.5**
MFT	**Murefte**	**2.10**	**9**	*e*	PN	**Pn**	**11 02 05.0**	**-0.2**
YLV	**Yalova**	**2.69**	**46**	*e*	PN	**Pn**	**11 02 14.0**	**+0.7**

MEX 13 11:31:25.8±0.8, 1840N×10334W, h9km±13km, MD4.1,
Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CJM	**Chamela**	**1.95**	**304**	*i* P	Pn	11 31 56.0	-3.0
CJM				*i* S	Sn	11 32 18.7	-4.9
SFJM	**Santa Fe**	**2.10**	**8**	*i* P	Pn	11 31 57.5	-3.6
SFJM				*i* S	Sn	11 32 23.5	-3.7
MOIG	**Morelia**	**2.40**	**58**	*i* P	Pn	11 32 02.6	-2.6
MOIG				*i* S	Sn	11 32 31.1	-3.6
MEIG	**Mezcala**	**3.57**	**97**	*i* S	Sn	11 33 00.4	-3.1
PLIG	**Platanillo**	**3.64**	**89**	*i* P	Pn	11 32 21.9	-0.4
PLIG				*i* S	Sn	11 32 60.0	-5.4

*ISCJB **13** 11:41:50.7±0.6, 5782N×2182E×006, h0km, Error ellipse: s-maj=6.9km s-min=3.5km az=120.0*
*HEL **13** 11:41:51.1±0.2, 5767N×2187E, h0km, ML2.2, ML2.8(UPP), ML2.5(BER), Explosion*
*NAO **13** 11:41:51.7±2.0, 5777N×2196E, ML2.4*
*CSEM **13** 11:41:52.8±0.1, 5780N×2158E, h1km, ML2.8, Error ellipse: s-maj=3.8km s-min=1.8km az=163.0, Mining explosion.*
*UPP **13** 11:41:52.4, 5776N×2172E, h0km, ML2.8, Mining explosion.*
*BER **13** 11:41:52.5±3.5, 5767N×2196E, h0km, ML2.5, ML2.4(NAO), Suspected explosion*
*IDC **13** 11:41:52.0±2.2, 5781N×2194E, h0km, mb1 3.2/4, mb1mx3.0/19, mbtmp3.2/4, ML3.0/4, Error ellipse: s-maj=22.6km s-min=8.2km az=166.0*
*NEIC **13** 11:41:52.6, 5768N×2196E, h0km, ML2.5(BER), After BER.*

ISC 13 11:41:51.5±0.5, 5779N±004×2186E±006, h0km, n60,
σ1§06/93, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GOTU	**Gotland**	**1.77**	**268**	*e* P	**Pn**	**11 42 22.9**	**-0.4**
NYNU	**Nynaeshamn**	**2.37**	**303**	*e* P	**Pn**	**11 42 32.3**	**+0.8**
NRTU	**Norrtaelje**	**2.53**	**320**	*e* P	**Pn**	**11 42 34.5**	**+0.7**
AAL	**Aland**	**2.58**	**339**	*e* P	**Pn**	**11 42 34.6**	**+0.1**
BYXU	**Byxelkrok**	**2.66**	**261**	*e* P	**Pn**	**11 42 35.6**	**0.0**
VSU	**Vasula**	**2.67**	**73**	*e* P	**Pn**	**11 42 35.7**	**-0.1**
VSU				*e* SB	**Sb**	**11 43 12.8**	**-0.7**
VSU	**Vasula**	**2.67**	**73**	Pn	**Pn**	**11 42 37.1**	**+1.4**
VSU				Lg		11 43 13.3	
VSU	**Vasula**	**2.67**	**73**	P	**Pn**	**11 42 35.6**	**-0.2**
VSU	**Vasula**	**2.67**	**73**	Pn	**Pn**	**11 42 37.1**	**+1.3**
MEF	**Metsahovi**	**2.77**	**27**	*e* P	**Pn**	**11 42 39.3**	**+2.2**
MEF				*e* SB	**Sb**	**11 43 17.2**	**+0.9**
MEF	**Metsahovi**	**2.77**	**27**	P	**Pn**	**11 42 39.2**	**+2.1**
VSTU	**Vaestervik**	**2.86**	**270**	*e* P	**Pn**	**11 42 38.9**	**+0.6**
GRAU	**Graesoe**	**3.08**	**328**	*e* P	**Pn**	**11 42 41.4**	**+0.1**
FLYU	**Flymyra**	**3.12**	**320**	*e* P	**Pn**	**11 42 42.6**	**+0.7**
OSKU	**Oskarshamn**	**3.17**	**262**	*e* P	**Pn**	**11 42 42.3**	**-0.2**
ESKU	**Eskilstuna**	**3.21**	**299**	*e* P	**Pn**	**11 42 43.9**	**+0.8**
RAF	**Rauma**	**3.25**	**359**	*e* P	**Pn**	**11 42 44.4**	**+0.8**
RAF				*e* SG	**Sg**	**11 43 36.0**	**+0.2**
RAF	**Rauma**	**3.25**	**359**	P	**Pn**	**11 42 44.4**	**+0.8**
RAF				Sg	**Sg**	**11 43 35.9**	**+0.1**
LNKU	**Linkoeping**	**3.41**	**280**	*e* P	**Pn**	**11 42 46.2**	**+0.3**
PVF	**Pernaja**	**3.45**	**35**	*e* P	**Pn**	**11 42 47.9**	**+1.5**
PVF				*e* SG	**Sg**	**11 43 40.1**	**-2.2**
PVF	**Pernaja**	**3.45**	**35**	P	**Pn**	**11 42 47.9**	**+1.5**
PVF				Sg	**Sg**	**11 43 40.0**	**-2.3**
OSTU	**Oestervaala**	**3.46**	**317**	*e* P	**Pn**	**11 42 47.1**	**+0.6**
EKSU	**Eksjoe**	**3.53**	**269**	*e* P	**Pn**	**11 42 47.5**	**+0.1**
EKSU	**Eksjoe**	**3.53**	**269**	P	**Pn**	**11 42 47.5**	**0.0**
BLEU	**Blekinge**	**3.62**	**248**	*e* P	**Pn**	**11 42 48.0**	**-0.8**
VXJU	**Vaexsjoe**	**3.85**	**260**	*e* P	**Pn**	**11 42 51.5**	**-0.4**
ASKU	**Askersund**	**3.87**	**290**	*e* P	**Pn**	**11 42 52.7**	**+0.6**
VJF	**Virojoki**	**4.03**	**44**	*e* P	**Pn**	**11 42 52.8**	**-1.5**
VJF				*e* SG	**Sg**	**11 43 59.4**	**-1.4**
FALU	**Falun**	**4.12**	**314**	*e* P	**Pn**	**11 42 56.0**	**+0.3**
FIA0	**FINESS Array S**	**4.25**	**29**	Pn	**Pn**	**11 42 57.1**	**-0.3**
	baz=216,slow=12						
FIA0				Pg	**Pg**	**11 43 07.6**	**-5.3**
	baz=201,slow=16						
FIA0				Sn	**Sn**	**11 43 48.1**	**+0.5**
	baz=214,slow=22						
FIA0				Lg		11 44 05.1	
	baz=212,slow=28						
FIA0	**FINESS Array S**	**4.25**	**29**	*e* P	**Pn**	**11 42 58.2**	**+0.8**
FIA0				*e* S	**Sn**	**11 43 50.3**	**+2.6**
FIA0				*e* SG	**Sg**	**11 44 06.7**	**-1.2**
FIA0	**FINESS Array S**	**4.25**	**29**	P	**Pn**	**11 42 58.1**	**+0.7**
FIA0	**FINESS Array S**	**4.25**	**29**	Pg	**Pg**	**11 43 07.6**	**-5.3**
FIA0				Sn	**Sn**	**11 43 48.2**	**+0.5**
	SNR=50						
FIA0				S	**Sn**	**11 43 50.2**	**+2.5**
FIA0				Sg	**Sg**	**11 44 06.7**	**-1.2**
FINES	**FINESS Array B**	**4.25**	**29**	Pn	**Pn**	**11 42 57.1**	**-0.3**
	0.4nm,0.3s,baz=210,slow=12,SNR=24						
FINES				Pg	**Pg**	**11 43 07.0**	**-5.8**
	0.3nm,0.3s,baz=214,slow=12,SNR=8.6						
FINES				Sn	**Sn**	**11 43 48.0**	**+0.3**
	0.9nm,0.3s,baz=213,slow=17,SNR=7.0						
FINES				Lg		11 44 04.5	
	3.0nm,0.3s,baz=221,slow=26,SNR=20						
FINES	**FINESS Array B**	**4.25**	**29**	Pn	**Pn**	**11 42 57.1**	**-0.3**
FINES				Pg	**Pg**	**11 43 07.0**	**-5.8**
FINES				Sn	**Sn**	**11 43 48.0**	**+0.3**
FINES				Lg		11 44 04.5	
FINES	**FINESS Array B**	**4.25**	**29**	Pg	**Pg**	**11 43 07.0**	**-5.9**
ARNU	**Arnoeviken**	**4.52**	**332**	*e* P	**Pn**	**11 43 01.5**	**+0.3**
KEF	**Keuruu**	**4.65**	**18**	*e* P	**Pn**	**11 43 04.2**	**+1.3**
KEF				*e* SG	**Sg**	**11 44 18.3**	**-2.5**
KEF				MSG		11 44 18.4	
	comp=Z,3.2nm,0.1s						
KEF	**Keuruu**	**4.65**	**18**	P	**Pn**	**11 43 04.1**	**+1.2**
KEF				Sg	**Sg**	**11 44 18.2**	**-2.5**
	comp=Z,3.2nm,0.1s						
BSD	**Bornholm Skovb**	**4.69**	**238**	*i* P	**Pn**	**11 43 01.4**	**-2.1**
BSD				*i*		11 43 13.7	
BSD				*i* S	**Sn**	**11 43 53.1**	**-5.5**
HFS	**Hagfors**	**4.84**	**303**	Pn	**Pn**	**11 43 05.7**	**+0.2**
	baz=113,slow=14						
HFS				Sn	**Sn**	**11 44 02.9**	**+0.7**
	baz=132,slow=28						
HFS				Lg		11 44 23.4	
	baz=117,slow=37						
HFS	**Hagfors**	**4.84**	**303**	*e* P	**Pn**	**11 43 05.7**	**+0.2**
HFS				*e* S	**Sn**	**11 44 02.9**	**+0.7**
HFS				*e* SG	**Sg**	**11 44 23.4**	**-3.4**
HFS	**Hagfors**	**4.84**	**303**	Pn	**Pn**	**11 43 05.6**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=110,slow=15,SNR=28						
HFS				Pg	**Pg**	**11 43 14.4**	**-10**
	comp=Z,0.3nm,0.3s,baz=128,slow=13,SNR=7.0						
HFS				Sn	**Sn**	**11 44 02.9**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=115,slow=28,SNR=6.4						
HFS				Lg		11 44 22.7	
	comp=Z,1.4nm,0.3s,baz=116,slow=30,SNR=7.8						
KAF	**Kangasniemi**	**4.88**	**25**	*e* P	**Pn**	**11 43 06.2**	**+0.1**
KAF				*e* S	**Sn**	**11 44 05.3**	**+2.1**
KAF				MSG		11 44 28.0	
	comp=Z,3.0nm,0.2s						
KAF	**Kangasniemi**	**4.88**	**25**	P	**Pn**	**11 43 06.2**	**+0.1**
KAF				S	**Sn**	**11 44 05.3**	**+2.0**
	comp=Z,3.0nm,0.2s						
HASU	**Hassela**	**5.11**	**331**	*e* P	**Pn**	**11 43 09.3**	**+0.1**
VAF	**Ylistaro**	**5.29**	**4**	*e* P	**Pn**	**11 43 11.9**	**+0.2**
SUF	**Sumiainen**	**5.39**	**22**	*e* P	**Pn**	**11 43 13.8**	**+0.7**
SUF				*e* S	**Sn**	**11 44 16.1**	**+0.3**
SUF				MSG		11 44 40.2	
	comp=Z,2.1nm,0.2s						
NB2	**NORSAR Subarra**	**6.33**	**305**	Pn	**Pn**	**11 43 25.2**	**-0.9**
	baz=126,slow=14						
NB2				Lg		11 45 12.4	
	baz=118,slow=28						
NB2	**NORSAR Subarra**	**6.33**	**305**	*e* P	**Pn**	**11 43 25.2**	**-0.9**
NOA	**NORSAR Array B**	**6.33**	**305**	Pn	**Pn**	**11 43 25.0**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=112,slow=17,SNR=2.4						
NOA				Sn	**Sn**	**11 44 36.5**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=137,slow=24,SNR=2.4						
NOA				Lg		11 45 10.1	
	comp=Z,0.9nm,0.3s,baz=83,slow=18,SNR=7.1						
NOA	**NORSAR Array B**	**6.33**	**305**	Pn	**Pn**	**11 43 25.0**	**-1.1**
NOA				Sn	**Sn**	**11 44 36.5**	**-2.6**
NOA				Lg		11 45 10.1	
KJN	**Kajaani**	**6.93**	**22**	*e* P	**Pn**	**11 43 34.0**	**-0.3**
KMY	**Karmoy**	**8.81**	**286**	*e* P	**Pn**	**11 43 58.4**	**-1.7**
KMY				*e* Sn	**Sn**	**11 45 35.4**	**-4.8**
KMY				AML	AML	11 45 41.9	
	comp=N,4.1nm,0.7s						
KMY	**Karmoy**	**8.81**	**286**	*e* P	**Pn**	**11 43 58.4**	**-1.7**
KMY				*e* Sn	**Sn**	**11 45 35.4**	**-4.8**
MOR8	**Moi Rana**	**9.10**	**341**	*e* P	**Pn**	**11 44 04.0**	**-0.1**
ARA0	**ARCESS Array S**	**11.90**	**6**	Pn	**Pn**	**11 44 38.7**	**-3.7**
	baz=183,slow=14						
ARA0	**ARCESS Array S**	**11.90**	**6**	*e* P	**Pn**	**11 44 38.7**	**-3.7**
ARCES	**ARCESS Array B**	**11.90**	**6**	Pn	**Pn**	**11 44 38.2**	**-4.2**
	comp=N,0.2nm,0.3s,baz=184,slow=14,SNR=13						
ARCES	**ARCESS Array B**	**11.90**	**6**	Pn	**Pn**	**11 44 38.2**	**-4.2**

*VIE **13** 12:01:06.3±0.1, 4698N×1325E, h7km±2km, mb2.1/3, ML3.0/7, Error ellipse: s-maj=1.8km s-min=0.7km az=9.0*
6 km N of Nieder Falkenstein felt 3-4 EMS98 at Obervellach / CARINTHIA
*ISCJB **13** 12:01:06.5±0.2, 4701N±001×1324E±002, h7km, Error ellipse: s-maj=1.8km s-min=1.6km az=179.6*
*CSEM **13** 12:01:07.1±0.1, 4699N×1327E, h2km, ML3.4/9, Error ellipse: s-maj=1.3km s-min=1.0km az=56.0*
*IPEC **13** 12:01:07.2±0.1, 4701N×1325E, h2km, ML2.2/2, Error ellipse: s-maj=0.9km s-min=0.8km az=60.0*
*PRU **13** 12:01:07.4, 4690N×1329E, h0km*
*BGR **13** 12:01:07.9±0.4, 4701N×1335E, h10km, ML2.5, Error ellipse: s-maj=10.0km s-min=7.8km az=40.0*
*NEIC **13** 12:01:08.8, 4691N×1319E, h10km, ML2.3(ROM), ML2.5(SZGRF), ML3.1(LDG), After ROM.*
*ROM **13** 12:01:08.8±0.5, 4691N×1319E, h10km, Ml2.3/4, Error ellipse: s-maj=6.7km s-min=2.9km az=38.0*
*LDG **13** 12:01:09.6±0.3, 4687N×1321E, h2km, Ml3.1/4, Error ellipse: s-maj=8.7km s-min=2.8km az=50.0*

ISC 13 12:01:07.6±0.2, 4700N±001×1326E±002, h7km, n81,
σ0§91/145, 20C-11D, Austria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBA	**Koelnbreinsper**	**0.10**	**37**	⇑*e* Pg	**Pg**	**12 01 09.6**	**-0.3**
	comp=Z,152nm,0.1s,SNR=1782						
KBA				⇓*i* Sg	**Sg**	**12 01 11.0**	**-0.5**
	comp=N,1μm,0.1s						
KBA	**Koelnbreinsper**	**0.10**	**37**	*e* Pg	**Pg**	**12 01 08.8**	**-1.1**
KBA				*e* Sg	**Sg**	**12 01 10.9**	**-0.6**
KBA	**Koelnbreinsper**	**0.10**	**37**	⇑*e* Pg	**Pg**	**12 01 09.6**	**-0.3**
KBA				*i* Sg	**Sg**	**12 01 11.0**	**-0.5**
KBA	**Koelnbreinsper**	**0.10**	**37**	*e* Pg	**Pg**	**12 01 09.5**	**-0.4**
KBA				Sg	**Sg**	**12 01 10.9**	**-0.6**
PLRO	**Paularo**	**0.45**	**189**	⇑*i* Pg	**Pg**	**12 01 16.0**	**-0.3**
PLRO				*i* Sg	**Sg**	**12 01 22.0**	**-0.3**
ZOU	**Zoufplan**	**0.48**	**204**	⇑*e* Pg	**Pg**	**12 01 16.6**	**-0.3**
ZOU				*e* Sg	**Sg**	**12 01 22.7**	**-0.4**
FVI	**Forni Avoltri**	**0.52**	**219**	Pg	**Pg**	**12 01 17.4**	**-0.1**
FVI				Sg	**Sg**	**12 01 24.5**	**+0.3**
	131nm,0.3s						
LSR	**Lussari**	**0.55**	**160**	⇑*e* Pg	**Pg**	**12 01 17.9**	**-0.3**
LSR				*e* Sg	**Sg**	**12 01 25.0**	**-0.5**
PTCC	**Patocco-Chiusa**	**0.59**	**173**	Pg	**Pg**	**12 01 18.9**	**-0.1**
PTCC				Sg	**Sg**	**12 01 26.4**	**-0.4**
	31nm,0.3s						
CSMI	**Casera Mimoias**	**0.64**	**221**	*e* Pg	**Pg**	**12 01 19.4**	**-0.4**
CSMI				*e* Sg	**Sg**	**12 01 27.5**	**-0.6**
BOO	**Bordano**	**0.68**	**189**	⇑*i* Pg	**Pg**	**12 01 20.5**	**-0.2**
GMNA	**Gemona**	**0.72**	**181**	Pg	**Pg**	**12 01 21.8**	**+0.4**
GMNA				Sg	**Sg**	**12 01 30.4**	**-0.4**
	195nm,0.8s						
SEST	**Monte Rota**	**0.75**	**251**	Pg	**Pg**	**12 01 21.7**	**-0.4**
SEST				Sg	**Sg**	**12 01 31.1**	**-0.8**
	85nm,0.3s						
BAD	**Bernadia**	**0.76**	**181**	⇓*e* Pg	**Pg**	**12 01 21.9**	**-0.3**
BAD				*e* Sg	**Sg**	**12 01 31.9**	**-0.2**
MPRI	**Monte Prat**	**0.78**	**194**	⇑*e* Pg	**Pg**	**12 01 22.4**	**-0.1**
MPRI				*e* Sg	**Sg**	**12 01 33.0**	**+0.4**
GORS	**Gorjuse**	**0.85**	**143**	*i* Pg	**Pg**	**12 01 23.1**	**-0.8**
GORS				*i* Sg	**Sg**	**12 01 34.4**	**-0.5**
GORS							
	comp=Z,28nm,0.2s						
GORS	**Gorjuse**	**0.85**	**143**	*i* Pg	**Pg**	**12 01 23.1**	**-0.8**
GORS				*i* Sg	**Sg**	**12 01 34.4**	**-0.5**
	comp=Z,28nm,0.2s						
DRE	**Drenchia**	**0.86**	**162**	⇓*e* Pg	**Pg**	**12 01 25.2**	**+1.0**
DRE				*e* Sg	**Sg**	**12 01 36.7**	**+1.2**
AFL	**Alpe Faloria**	**0.87**	**238**	⇑*e* Pg	**Pg**	**12 01 24.1**	**-0.3**
MLNI	**Malnisio**	**0.96**	**208**	*e* Pg	**Pg**	**12 01 25.8**	**-0.1**
MLNI				*e* Sg	**Sg**	**12 01 39.1**	**+0.8**
CSO	**Casso**	**0.97**	**222**	⇑*e* Pg	**Pg**	**12 01 25.5**	**-0.6**
CSO				*e* Sg	**Sg**	**12 01 38.3**	**-0.4**
OBKA	**Obir**	**1.01**	**118**	⇑*e* Pg	**Pg**	**12 01 25.8**	**-1.2**
	comp=Z,12nm,0.2s,SNR=26						
OBKA				⇑*i* Sg	**Sg**	**12 01 39.9**	**-0.3**
	comp=Z,48nm,0.2s						
OBKA	**Obir**	**1.01**	**118**	*e* Pg	**Pg**	**12 01 25.4**	**-1.6**
OBKA				*e* Sg	**Sg**	**12 01 39.5**	**-0.7**
OBKA	**Obir**	**1.01**	**118**	Pg	**Pg**	**12 01 25.8**	**-1.2**
	comp=Z,12nm,0.2s,SNR=26						
OBKA				Sg	**Sg**	**12 01 39.5**	**-0.7**
VOJS	**Vojsko**	**1.06**	**156**	*i* Pg	**Pg**	**12 01 28.1**	**+0.2**
VOJS				*i* Sg	**Sg**	**12 01 41.2**	**-0.4**
BRES	**Bressanone**	**1.08**	**255**	Pg	**Pg**	**12 01 27.9**	**-0.5**
	comp=Z,100nm,0.9s						
MOA	**Molln**	**1.10**	**38**	⇑*e* Pg	**Pg**	**12 01 28.0**	**-0.6**
	comp=Z,9.1nm,0.2s,SNR=58						
MOA				⇑*i* Sg	**Sg**	**12 01 43.3**	**+0.4**
	comp=Z,197nm,0.4s						
MOA	**Molln**	**1.10**	**38**	*e* Pn	**Pn**	**12 01 29.3**	**-0.1**
	SNR=3.5						
MOA	**Molln**	**1.10**	**38**	Pn	**Pn**	**12 01 29.3**	**0.0**
	SNR=3.5						
MOA				Sg	**Sg**	**12 01 43.3**	**+0.5**
	comp=Z,197nm,0.4s						
WTTA	**Wattenberg**	**1.14**	**284**	⇓*e* Pg	**Pg**	**12 01 28.6**	**-0.8**
	comp=Z,40nm,0.1s,SNR=22						
WTTA				⇓*i* Sg	**Sg**	**12 01 43.9**	**-0.3**
	comp=Z,112nm,0.4s						
WTTA	**Wattenberg**	**1.14**	**284**	*e* Pg	**Pg**	**12 01 28.8**	**-0.6**
WTTA	**Wattenberg**	**1.14**	**284**	Pg	**Pg**	**12 01 28.8**	**-0.6**
WTTA				Sg	**Sg**	**12 01 43.9**	**-0.3**
	comp=Z,112nm,0.4s						
CAE	**Caneva**	**1.14**	**210**	*e* Pg	**Pg**	**12 01 31.7**	**+2.2**
CAE				*e* Sg	**Sg**	**12 01 47.4**	**+3.2**
WATA	**Walderalm**	**1.20**	**287**	⇑*e* Pg	**Pg**	**12 01 29.8**	**-0.7**
	comp=Z,76nm,0.2s,SNR=20						
WATA				⇓*i* Sg	**Sg**	**12 01 46.2**	**+0.2**
	comp=Z,53nm,0.2s						
TRI	**Trieste**	**1.33**	**164**	*e* Pn	**Pn**	**12 01 33.7**	**+1.1**
SQTA	**Sankt Quirin**	**1.42**	**280**	⇑*e* Pg	**Pg**	**12 01 33.7**	**-1.0**
	comp=Z,33nm,0.2s,SNR=40						
SQTA				⇓*i* Sg	**Sg**	**12 01 53.1**	**0.0**
	comp=Z,116nm,0.3s						
APPI	**Appiano**	**1.49**	**250**	Pg	**Pg**	**12 01 35.5**	**-0.6**
	comp=Z,77nm,0.3s						
CEY	**Cerknica**	**1.50**	**147**	*e* Pn	**Pn**	**12 01 35.4**	**+0.6**
CEY				*e* Sg	**Sg**	**12 01 55.4**	**-0.3**
CGRP	**Cima Grappa**	**1.50**	**223**	⇓*e* Pg	**Pg**	**12 01 37.0**	**+0.6**
CGRP				*e* Sg	**Sg**	**12 01 57.7**	**+1.9**
MOTA	**Moosalm**	**1.51**	**284**	⇑*e* Pg	**Pg**	**12 01 35.4**	**-1.1**
	comp=Z,7.6nm,0.1s,SNR=17						
MOTA				⇓*i* Sg	**Sg**	**12 01 56.4**	**+0.4**
	comp=Z,139nm,0.4s						
ARSA	**Arzberg**	**1.57**	**80**	⇓*e* Pn	**Pn**	**12 01 34.4**	**-1.4**
	SNR=19						
ARSA				⇓*i* Pg	**Pg**	**12 01 36.8**	**-0.8**
	comp=Z,9.8nm,0.3s						
ARSA				⇑*i* Sn	**Sn**	**12 01 55.8**	**-0.6**
ARSA				⇑*i* Sg	**Sg**	**12 01 58.0**	**0.0**
	comp=Z,18nm,0.3s						
ARSA	**Arzberg**	**1.57**	**80**	*e* Pn	**Pn**	**12 01 35.7**	**-0.1**
	SNR=2.5						
VISS	**Visnje**	**1.62**	**137**	*e* Pn	**Pn**	**12 01 36.6**	**+0.1**
VISS				*i* Sn	**Sn**	**12 01 59.0**	**+1.3**
FUR	**Furstenfeldbru**	**1.78**	**312**	e(Pg)	**Pg**	**12 01 41.7**	**0.0**
FUR				*e* Sg	**Sg**	**12 02 05.3**	**+0.5**
GEC2	**GERESS Array S**	**1.88**	**9**	*e* Pn	**Pn**	**12 01 40.7**	**+0.6**
GEC2				*e* Sg	**Sg**	**12 02 06.9**	**-0.9**
GEC2	**GERESS Array S**	**1.88**	**9**	*e* Pn	**Pn**	**12 01 40.7**	**+0.6**
GEC2				*e* Sg	**Sg**	**12 02 06.9**	**-0.9**
CRES	**Cresnjev**	**1.92**	**127**	*e* Sg	**Sg**	**12 02 08.2**	**-1.1**
KHC	**Kasperske Hory**	**2.15**	**6**	*e* PN	**Pn**	**12 01 45.1**	**+1.3**
KHC				*e* PG	**Pg**	**12 01 48.8**	**+0.1**
KHC				*e* SN	**Sn**	**12 02 12.4**	**+1.7**
KHC	**Kasperske Hory**	**2.15**	**6**	*e* Pn	**Pn**	**12 01 45.0**	**+1.2**
KHC				*e* Sn	**Sn**	**12 02 12.4**	**+1.7**
WET	**Wettzell**	**2.17**	**353**	*e* Pn	**Pn**	**12 01 45.1**	**+1.1**
	SNR=2.1						
WET				*e* Sg	**Sg**	**12 02 13.4**	**-3.7**
DAVA	**Damuels**	**2.32**	**278**	⇑*e* Pg	**Pg**	**12 01 50.7**	**-1.3**
	comp=Z,15nm,0.2s,SNR=24						
DAVA				⇑*i* Sg	**Sg**	**12 02 23.2**	**+1.1**
	comp=Z,102nm,0.5s						
DAVA	**Damuels**	**2.32**	**278**	*e* Pg	**Pg**	**12 01 51.0**	**-1.1**
DAVA				*e* Sg	**Sg**	**12 02 24.0**	**+1.9**
ROTZ	**Rotzenmuhle**	**2.86**	**346**	*e* Sn	**Sn**	**12 02 29.1**	**+0.8**
ZST	**Bratislava**	**2.87**	**64**	*e* SG	**Sg**	**12 02 39.1**	**-0.6**
KRUC	**Moravsky**	**2.95**	**44**	*e* Pn	**Pn**	**12 01 55.7**	**+0.8**
KRUC				*e* Sn	**Sn**	**12 02 31.5**	**+0.9**
	comp=Z,6.9nm,0.4s						
PRU	**Pruhonice**	**3.12**	**15**	*e* SG	**Sg**	**12 02 46.9**	**-0.7**
	comp=Z,10.0nm,0.4s						
VRAC	**Vranov**	**3.22**	**43**	*e* Pn	**Pn**	**12 01 58.9**	**+0.4**
VRAC				*e* Sn	**Sn**	**12 02 38.2**	**+1.1**
NKC	**Novy Kostel**	**3.28**	**351**	*e* PN	**Pn**	**12 02 01.3**	**+1.9**
NKC				*e* SN	**Sn**	**12 02 40.0**	**+1.3**
BFO	**Black Forest**	**3.59**	**294**	*e* Pn	**Pn**	**12 02 03.2**	**-0.4**
BFO				*e* Pg	**Pg**	**12 02 15.2**	**-1.1**
BFO				*e* Sg	**Sg**	**12 03 03.1**	**+0.4**
BFO	**Black Forest**	**3.59**	**294**	*e* Pn	**Pn**	**12

MPRI				*i* Sg	**Sg**	**12 07 32.5**	**+0.3**
MPRI	**Monte Prat**	**0.77**	**195**	*i* Pg	**Pg**	**12 07 21.8**	**-0.3**
MPRI				*i* Sg	**Sg**	**12 07 32.5**	**+0.3**
BUA	**Buia**	**0.78**	**188**⇓	*e*Pg	**Pg**	**12 07 22.4**	**+0.2**
BUA				*e*Sg	**Sg**	**12 07 32.9**	**+0.5**
CADS	**Cadrg**	**0.83**	**157**	*i* Pg	**Pg**	**12 07 23.3**	**+0.2**
CADS				*i* Sg	**Sg**	**12 07 33.7**	**-0.2**
CADS	comp=Z,44nm,0.2s						
CADS	**Cadrg**	**0.83**	**157**	*i* Pg	**Pg**	**12 07 23.3**	**+0.2**
CADS	comp=Z,44nm,0.2s			*i* Sg	**Sg**	**12 07 33.7**	**-0.2**
GORS	**Gorjuse**	**0.84**	**143**	*i* Pg	**Pg**	**12 07 22.7**	**-0.7**
GORS				*i* Sg	**Sg**	**12 07 33.9**	**-0.3**
DRE	**Drenchia**	**0.86**	**162**⇑	*e*Pg	**Pg**	**12 07 24.4**	**+0.7**
MLNI	**Malnisio**	**0.96**	**209**⇓	*e*Pg	**Pg**	**12 07 25.4**	**-0.2**
MLNI				*e*Sg	**Sg**	**12 07 38.7**	**+0.6**
CSO	**Casso**	**0.97**	**223**	*e*Pg	**Pg**	**12 07 25.0**	**-0.9**
CSO				*e*Sg	**Sg**	**12 07 38.4**	**-0.1**
OBKA	**Obir**	**1.00**	**118**	*e*Pg	**Pg**	**12 07 25.3**	**-1.1**
OBKA	comp=Z,8.0nm,0.1s,SNR=23			⇑*i*Sg	**Sg**	**12 07 39.3**	**-0.2**
OBKA	comp=Z,125nm,0.4s						
OBKA	**Obir**	**1.00**	**118**	*e*Pg	**Pg**	**12 07 25.4**	**-1.1**
OBKA	**Obir**	**1.00**	**118**	Pg	**Pg**	**12 07 25.4**	**-1.1**
OBKA				Sg	**Sg**	**12 07 39.3**	**-0.2**
VOY	**Vojsko**	**1.05**	**156**	*e*Pg	**Pg**	**12 07 28.2**	**+0.8**
VOY				*e*Sg	**Sg**	**12 07 41.9**	**+0.8**
MOA	**Molln**	**1.09**	**38**⇓	*e*Pg	**Pg**	**12 07 27.3**	**-0.9**
MOA	comp=Z,84nm,0.3s			⇓*i*Sg	**Sg**	**12 07 42.7**	**+0.2**
MOA	**Molln**	**1.09**	**38**	*e*(Pn)	**Pn**	**12 07 30.6**	**+2.0**
MOA	SNR=8.3			*e*Sg	**Sg**	**12 07 48.9**	**+6.5**
MOA	**Molln**	**1.09**	**38**	Pn	**Pn**	**12 07 30.6**	**+2.1**
MOA	SNR=8.3			Sg	**Sg**	**12 07 42.7**	**+0.3**
BRES	**Bressanone**	**1.09**	**255**	Pg	**Pg**	**12 07 27.5**	**-0.7**
WTTA	comp=Z,84nm,0.3s **Wattenberg**	**1.15**	**284**	*e*Pg	**Pg**	**12 07 28.2**	**-1.1**
WTTA	comp=Z,45nm,0.3s comp=Z,24nm,0.1s,SNR=35			⇑*i*Sg	**Sg**	**12 07 43.7**	**-0.5**
WTTA	comp=Z,68nm,0.4s **Wattenberg**	**1.15**	**284**	*e*(Pg)	**Pg**	**12 07 28.3**	**-1.0**
WATA	**Walderalm**	**1.21**	**287**⇓	*e*Pg	**Pg**	**12 07 29.4**	**-1.0**
WATA	comp=Z,22nm,0.1s,SNR=15			⇑*i*Sg	**Sg**	**12 07 45.7**	**-0.4**
PERS	comp=Z,30nm,0.3s **Pernice**	**1.32**	**105**	*i* Pg	**Pg**	**12 07 30.5**	**-1.9**
PERS				*i* Sg	**Sg**	**12 07 48.6**	**-1.0**
PERS	comp=Z,55nm,0.2s						
PERS	**Pernice**	**1.32**	**105**	*i* Pg	**Pg**	**12 07 30.5**	**-1.9**
PERS				*i* Sg	**Sg**	**12 07 48.6**	**-1.0**
PERS	**Pernice**	**1.32**	**105**	*i* Pg	**Pg**	**12 07 30.5**	**-2.0**
PERS				*i* Sg	**Sg**	**12 07 48.6**	**-0.9**
TRI	**Trieste**	**1.33**	**165**	Pg	**Pg**	**12 07 33.2**	**+0.5**
SQTA	comp=Z,64nm,0.6s **Sankt Quirin**	**1.43**	**280**⇓	*e*Pg	**Pg**	**12 07 33.4**	**-1.2**
SQTA	comp=Z,18nm,0.2s,SNR=22			⇓*i*Sg	**Sg**	**12 07 53.4**	**+0.2**
APPI	comp=Z,68nm,0.4s **Appiano**	**1.50**	**251**	Pg	**Pg**	**12 07 34.9**	**-1.0**
CGRP	comp=Z,61nm,0.4s **Cima Grappa**	**1.51**	**223**⇓	*i*Pg	**Pg**	**12 07 36.5**	**+0.4**
CGRP				*i* Sg	**Sg**	**12 07 57.8**	**+2.1**
MOTA	**Moosalm**	**1.52**	**284**	*e*Pg	**Pg**	**12 07 34.9**	**-1.4**
MOTA	comp=Z,8.4nm,0.2s,SNR=12			⇑*i*Sg	**Sg**	**12 07 56.5**	**+0.4**
ARSA	comp=Z,76nm,0.3s **Arzberg**	**1.56**	**80**⇓	*e*Pg	**Pg**	**12 07 35.3**	**-1.8**
ARSA	comp=Z,9.2nm,0.3s,SNR=14			⇑*i*Sg	**Sg**	**12 07 56.0**	**-1.3**
ARSA	comp=Z,14nm,0.3s **Arzberg**	**1.56**	**80**	*e*Pn	**Pn**	**12 07 35.6**	**+0.6**
ARSA	SNR=1.2 **Arzberg**	**1.56**	**80**	Pn	**Pn**	**12 07 35.6**	**+0.6**
ARSA	SNR=1.2			Sg	**Sg**	**12 07 56.0**	**-1.4**
VISS	comp=Z,14nm,0.3s **Visnje**	**1.61**	**137**	*i* Pn	**Pn**	**12 07 36.6**	**+1.0**
VISS				*i* Sn	**Sn**	**12 07 58.7**	**+2.3**
FUR	**Furstenfeldbru**	**1.79**	**312**	*e*Sg	**Sg**	**12 08 06.4**	**+1.7**
GEC2	**GERESS Array S**	**1.88**	**9**	*e*(Pn)	**Pn**	**12 07 41.3**	**+2.0**
TEOL	SNR=1.9 **Teolo**	**1.97**	**215**⇓	*e*Pn	**Pn**	**12 07 44.0**	**+3.3**
TEOL				*e*Sn	**Sn**	**12 08 08.7**	**+3.2**
FUORN	**Ofenpass**	**2.10**	**261**	Pg	**Pg**	**12 07 45.5**	**-1.9**
KHC	**Kasperske Hory**	**2.15**	**5**	*e*PN	**Pn**	**12 07 44.6**	**+1.5**
KHC				*e*SN	**Sn**	**12 08 12.1**	**+2.3**
WET	**Wettzell**	**2.17**	**353**	*e*Pn	**Pn**	**12 07 44.8**	**+1.4**
WET	SNR=1.4			*e*(Sn)	**Sn**	**12 08 11.7**	**+1.4**
DAVA	**Damuels**	**2.33**	**279**⇑	*e*Pg	**Pg**	**12 07 50.7**	**-1.3**
DAVA	comp=Z,14nm,0.3s,SNR=16			⇓*i*Sg	**Sg**	**12 08 23.4**	**+1.2**
DAVA	comp=Z,63nm,0.5s **Damuels**	**2.33**	**279**	*e*Pg	**Pg**	**12 07 51.1**	**-0.8**
ZST	**Bratislava**	**2.86**	**64**	*e*SG	**Sg**	**12 08 38.4**	**-0.7**
PRU	**Pruhonice**	**3.12**	**15**	*e*SG	**Sg**	**12 08 46.4**	**-0.9**
NKC	comp=Z,12nm,0.6s **Novy Kostel**	**3.29**	**351**	*e*PN	**Pn**	**12 08 00.1**	**+1.3**
MOX	**Moxa**	**3.82**	**344**	*e*Pn	**Pn**	**12 08 07.5**	**+1.5**
BRG	SNR=5.4 **Berggiesshubel**	**3.91**	**6**	SG	**Sg**	**12 09 12.2**	**-0.7**
DPC	comp=Z,2.0nm,0.7s **Dobruska-Polom**	**3.92**	**30**	*e*SG	**Sg**	**12 09 10.5**	**-2.7**
NRCA	**Norcia**	**4.16**	**182**	Pg	**Pn**	**12 08 12.5**	**+1.8**
CDF	comp=Z,1.0nm,0.2s **Champ du Feu**	**4.29**	**292**	*e*Pg	**Pg**	**12 08 28.5**	**-0.9**
CDF				*e*Sg	**Sg**	**12 09 23.0**	**-2.0**
CDF	comp=Z,7.1nm,0.6s **Champ du Feu**	**4.29**	**292**	*e*Pn	**Pn**	**12 08 14.5**	**+2.0**
CDF				*e*Pg	**Pg**	**12 08 28.5**	**-0.9**
CDF				*e*Sg	**Sg**	**12 09 23.0**	**-2.0**
CDF	**Champ du Feu**	**4.29**	**292**	*e*Pg	**Pg**	**12 08 28.5**	**-0.9**
CDF	comp=Z,3.5nm,0.6s			*e*Sg	**Sg**	**12 09 23.0**	**-2.0**
CLL	**Collm**	**4.33**	**358**	*e*Pn	**Pn**	**12 08 16.0**	**+3.0**
CLL				*e*Sg	**Sg**	**12 09 28.0**	**+1.9**
HINF	**Hinteralfeld**	**4.44**	**283**	*e*Pg	**Pg**	**12 08 32.1**	**-0.1**
HINF				*e*Sn	**Sn**	**12 09 04.3**	**-1.9**
HINF	comp=Z,16nm,0.5s **Hinteralfeld**	**4.44**	**283**	*e*Pn	**Pn**	**12 08 15.7**	**+1.2**
HINF				*e*Pg	**Pg**	**12 08 32.1**	**-0.1**
HINF				*e*Sn	**Sn**	**12 09 04.3**	**-1.9**
HINF	**Hinteralfeld**	**4.44**	**283**	*e*Pg	**Pg**	**12 08 32.1**	**-0.1**
HINF	comp=Z,7.8nm,0.5s			*e*Sn	**Sn**	**12 09 04.3**	**-1.9**
LPG	**La Plagne**	**4.76**	**254**	*e*P	**Pn**	**12 08 24.7**	**+5.7**
LPL	**La Plagne**	**4.77**	**254**	*e*P	**Pn**	**12 08 24.8**	**+5.7**
HAU	**Haudompre**	**4.80**	**285**	*e*Pg	**Pg**	**12 08 38.4**	**-0.8**
HAU	comp=Z,12nm,0.5s			*e*Sn	**Sn**	**12 09 14.2**	**-1.0**
HAU	**Haudompre**	**4.80**	**285**	*e*Pn	**Pn**	**12 08 21.1**	**+1.6**
HAU				*e*Pg	**Pg**	**12 08 38.4**	**-0.8**
HAU				*e*Sn	**Sn**	**12 09 14.2**	**-1.0**
ORIF	**Oris-en-Rattie**	**5.55**	**251**	*e*P	**Pn**	**12 08 34.9**	**+5.0**

IDC ***13*** *12:34:06.9±1.3,292S×128.11E,h0km,mb3.9/4,mb1 4.1/6, mb1mx4.0/16,mbtmp4.0/6,ML3.8/2,MS3.1/2,Ms1 3.1/2, ms1mx2.5/20,Error ellipse: s-maj=99.7km s-min=19.7km az=70.0*

ISCJB ***13*** *12:34:18.1±3.3,31S±01×1280E±01,h119km±33km, mb4.2/10,Error ellipse: s-maj=23.9km s-min=18.1km az=142.0*

NEIC ***13*** *12:34:20.0±2.4,3.14S×12804E,h118km±23km,mb4.4/9, Error ellipse: s-maj=16.2km s-min=11.5km az=68.0*

ISC 13 12:34:19.8±3.0,32S±01×1280E±01,h115km±29km,n19, σ0s69/18,mb4.2/10,1D,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**10.45**	**156**	*e*P	**Pn**	**12 36 46.9**	**+0.5**
	12nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.05**	**189**	Pn	**Pn**	**12 37 45.7**	**-0.6**
	0.1nm,0.3s,baz=3.4,slow=19,SNR=3.6						
FITZ				LR	LR	12 44 02.2	
	comp=Z,50nm,18.6s,baz=95,slow=39						
WRAB	**Tennant Creek**	**17.79**	**160**	*e*P	**Pn**	**12 38 18.6**	**-1.4**
	9.1nm,0.7s						
WRA	**Warramunga Arr**	**17.79**	**160**	P	**Pn**	**12 38 20.1**	**+0.2**
	0.8nm,0.3s,baz=342,slow=13,SNR=27						
WB2	**Warramunga Arr**	**17.79**	**160**⇓	*i*P	**Pn**	**12 38 20.2**	**+0.2**
MBWA	**Marble Bar**	**19.64**	**204**	*e*P	**P**	**12 38 39.1**	**-0.3**
	3.7nm,0.8s						
ASAR	**Alice Springs**	**21.17**	**165**	P	**P**	**12 38 57.5**	**+1.7**
	12nm,0.8s,mb4.2,baz=344,slow=10,SNR=105						
ASAR				S	**S**	**12 42 53.4**	**+8.7**
	0.5nm,0.7s,baz=356,slow=22,SNR=5.3						
CTAO	**Charters Tower**	**24.48**	**135**	P	**P**	**12 39 28.2**	**+0.2**
	25nm,1.3s,mb4.4						
JOW	**Kunigami**	**29.80**	**0**	LR	LR	12 50 10.1	
	comp=Z,41nm,20.0s,baz=261,slow=33						
STKA	**Stephens Creek**	**31.30**	**157**	P	**P**	**12 40 28.6**	**-0.3**
	1.6nm,0.6s,mb4.0,baz=310,slow=6.6,SNR=5.4						
STKA	**Stephens Creek**	**31.30**	**157**	*e*P	**P**	**12 40 28.5**	**-0.3**
NWAO	**Narrogin (SRO)**	**31.31**	**198**	P	**P**	**12 40 29.3**	**+0.3**
	62nm,1.9s,mb5.0						
HNR	**Honiara**	**32.30**	**103**	*e*P	**P**	**12 40 37.0**	**-0.6**
	24nm,1.0s,mb4.9						
DZM	**Mont Dzumac**	**41.74**	**120**	LR	LR	12 55 56.0	
	comp=Z,790nm,20.6s,baz=322,slow=31						
ULN	**Ulaanbaatar**	**54.02**	**343**	*e*P	**P**	**12 43 31.7**	**-0.3**
	0.8nm,0.5s,mb4.0						
SONM	**Songino Array**	**54.20**	**342**	P	**P**	**12 43 34.3**	**+1.0**
	0.5nm,0.9s,mb3.6,baz=142,slow=5.6,SNR=4.2						
MKAR	**Makanchi Array**	**63.95**	**327**	P	**P**	**12 44 39.9**	**-0.7**
	0.7nm,0.8s,mb3.6,baz=118,slow=9.7,SNR=7.6						
KURK	**Kurchatov**	**68.23**	**329**	*e*P	**P**	**12 45 08.2**	**+0.2**
	3.0nm,1.0s,mb4.1						
MAW	**Mawson**	**77.82**	**201**	*e*P	**P**	**12 46 04.3**	**-0.1**
	5.0nm,1.0s,mb4.2						

ISCJB ***13*** *12:35:51.3±0.8,5146N±004×1604E±004,h0km,Error ellipse: s-maj=5.9km s-min=3.2km az=39.0*

NEIC ***13*** *12:35:52.0±1.5,5155N×1614E,h5km,MG2.5(WAR), Error ellipse: s-maj=16.6km s-min=8.7km az=200.0*

CSEM ***13*** *12:35:52.9±0.2,5152N×1605E,h1km±1km,ML3.0/4,Error ellipse: s-maj=3.8km s-min=2.0km az=20.0*

PRU ***13*** *12:35:53.5,5148N×1606E,h0km*

WAR ***13*** *12:35:53.2,5154N×1607E,ML2.5,Mining Induced*

IPEC ***13*** *12:35:53.1±0.3,5152N×1611E,h7km±1km,ML2.1/3,Error ellipse: s-maj=2.1km s-min=0.9km az=30.0*

VIE ***13*** *12:35:55.8±0.5,5127N×1620E,h0km,mb1.8/3,ML2.7/3, Error ellipse: s-maj=3.1km s-min=3.1km az=101.0 59 km WNW of Breslau Suspected Mining induced.*

ISC 13 12:35:52.0±0.8,5151N±004×1607E±004,h0km,n19, σ0s87/42,2C,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.69**	**168**	*e*Pg	**Pg**	**12 36 06.1**	**+0.9**
KSP				*e*Sg	**Sg**	**12 36 15.5**	**+1.5**
KSP	**Ksiaz**	**0.69**	**168**	*e*Pg	**Pg**	**12 36 06.0**	**+0.8**
KSP				*e*Sg	**Sg**	**12 36 15.2**	**+1.2**
UPC	**Upice**	**1.01**	**182**	*e*PG	**Pg**	**12 36 12.1**	**+0.8**
DPC	**Dobruska-Polom**	**1.18**	**172**	*e*PG	**Pg**	**12 36 14.9**	**+0.4**
DPC				*e*SG	**Sg**	**12 36 30.0**	**+0.2**
	32nm,0.3s						
PRU	**Pruhonice**	**1.81**	**213**	*e*PN	**Pn**	**12 36 24.9**	**+0.5**
PRU				*e*PG	**Pg**	**12 36 26.2**	**-0.5**
PRU				*e*SG	**Sg**	**12 36 50.2**	**+0.1**
	25nm,0.2s						
PRU	**Pruhonice**	**1.81**	**213**	*e*Pn	**Pn**	**12 36 24.4**	**0.0**
CLL	**Collm**	**1.93**	**265**	*e*Pn	**Pn**	**12 36 26.0**	**-0.1**
CLL				*e*Pg	**Pg**	**12 36 28.0**	**-1.0**
CLL				*ex*	x	12 36 30.0	
CLL				*e*Sg	**Sg**	**12 36 54.0**	**0.0**
	comp=Z,19nm,0.5s						
CLL	**Collm**	**1.93**	**265**	*e*Pn	**Pn**	**12 36 26.0**	**-0.1**
CLL				*e*Pg	**Pg**	**12 36 28.0**	**-1.0**
CLL				*e*Sg	**Sg**	**12 36 54.0**	**0.0**
MORC	**Moravsky Berou**	**1.98**	**151**	*e*Pn	**Pn**	**12 36 24.5**	**-2.2**
MORC				*e*Sn	**Sn**	**12 36 51.4**	**-0.8**
MORC	**Moravsky Berou**	**1.98**	**151**	*e*Pn	**Pn**	**12 36 26.8**	**+0.1**
MORC				*e*Sn	**Sn**	**12 36 51.4**	**-0.8**
MORC				*e*Sg	**Sg**	**12 36 54.4**	**-1.1**
	comp=Z,11nm,0.2s						
OKC	**Ostrava-Krasne**	**2.14**	**141**	*e*SG	**Sg**	**12 36 59.5**	**-1.2**
VRAC	**Vranov**	**2.23**	**171**	*e*Pn	**Pn**	**12 36 30.9**	**+0.7**
VRAC				*e*Sg	**Sg**	**12 37 02.4**	**-1.4**
	comp=Z,10nm,0.3s						
KRUC	**Moravsky**	**2.46**	**175**	*e*Pn	**Pn**	**12 36 34.7**	**+1.3**
KRUC				*e*Sg	**Sg**	**12 37 10.9**	**-0.2**
	comp=Z,8.7nm,0.3s						
NKC	**Novy Kostel**	**2.62**	**242**	*e*PN	**Pn**	**12 36 36.2**	**+0.6**
NKC				*e*SG	**Sg**	**12 37 18.0**	**+1.6**
	comp=Z,21nm,0.5s						
OJC	**Ojcow**	**2.70**	**117**	*e*Pg	**Pg**	**12 36 44.0**	**+0.3**
OJC				*e*Sg	**Sg**	**12 37 19.4**	**+0.8**
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PN	**Pn**	**12 36 38.1**	**-0.9**
KHC				*e*PG	**Pg**	**12 36 45.3**	**-1.7**
KHC				*e*SN	**Sn**	**12 37 14.5**	**+0.3**
KHC				*e*SG	**Sg**	**12 37 23.4**	**-0.8**
	comp=Z,8.1nm,0.7s						
KHC	**Kasperske Hory**	**2.87**	**215**	*e*Pg	**Pg**	**12 36 45.3**	**-1.7**
KHC				*e*Sn	**Sn**	**12 37 14.5**	**+0.3**
KHC				*e*Sg	**Sg**	**12 37 24.0**	**-0.2**
MOX	**Moxa**	**2.94**	**255**	*e*Pg	**Pg**	**12 36 47.9**	**-0.4**
MOX				*e*Sg	**Sg**	**12 37 25.6**	**-0.8**
MOA	**Molln**	**3.85**	**198**	⇑*i*Pn	**Pn**	**12 36 53.4**	**+1.0**
MOA				⇑*i*Sg	**Sg**	**12 37 56.4**	**+0.8**
	comp=Z,4.7nm,0.5s						

IDC 13 12:37:12.4±23.0,2004S×17703W,h442km±256km, mb3.1/6,mb1 3.3/6,mb1mx3.1/15,mbtmp3.9/6,MS3.5/1, Ms1 3.5/1,ms1mx2.6/25,Error ellipse: s-maj=132.0km s-min=75.1km az=130.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**34.44**	**263**	P	P	12 43 22.4	+1.1
	3.7nm,0.5s,baz=83,slow=8.1,SNR=6.1						
CTA				LR	LR	12 55 16.1	
	comp=Z,65nm,18.8s,baz=54,slow=32						
STKA	**Stephens Creek**	**38.80**	**244**	P	P	12 43 57.5	0.0
	1.0nm,0.6s,baz=84,slow=9.2,SNR=3.5						
ASAR	**Alice Springs**	**45.51**	**256**	P	P	12 44 50.5	-0.1
	0.4nm,0.3s,baz=86,slow=8.4,SNR=14						
WRA	**Warramunga Arr**	**45.56**	**261**	P	P	12 44 50.7	-0.4
	0.4nm,0.3s,baz=97,slow=7.6,SNR=20						
FITZ	**Fitzroy Crossi**	**53.99**	**262**	P	P	12 45 54.7	+1.3
	2.5nm,1.0s,baz=124,slow=15,SNR=2.9						
ILAR	**Eielson Array**	**87.67**	**12**	P	P	12 49 12.2	-0.5
	0.2nm,0.5s,baz=212,slow=5.6,SNR=4.8						

IDC 13 12:53:38.9±2.1,070N×9730E,h0km,mb3.4/4,mb1 3.5/5, mb1mx3.4/18,mbtmp3.4/5,ML2.8/1,Error ellipse: s-maj=58.9km s-min=23.8km az=64.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.65**	**38**	Pn	Pn	12 54 23.1	+0.3
	1.9nm,0.3s,baz=161,slow=23,SNR=7.3						
WRA	**Warramunga Arr**	**41.69**	**122**	P	P	13 01 29.3	0.0
	0.3nm,0.5s,baz=303,slow=8.9,SNR=4.5						
ASAR	**Alice Springs**	**43.02**	**127**	P	P	13 01 40.9	+0.7
	0.2nm,0.6s,baz=296,slow=7.9,SNR=6.3						
SONM	**Songino Array**	**47.61**	**8**	P	P	13 02 14.9	-1.7
	0.1nm,0.3s,baz=178,slow=10,SNR=3.7						
MKAR	**Makanchi Array**	**47.75**	**346**	P	P	13 02 18.5	+0.8
	0.8nm,0.5s,baz=156,slow=9.8,SNR=9.8						

NEIC ***13*** *12:54:47.7,1675N×10100W,h14km,MD4.0(MEX),After MEX.*

MEX 13 12:54:47.7±1.1,1674N×10101W,h15km±19km,MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.77**	**66**	*i* P	Pg	12 54 59.6	-3.2
CAIG				*i* S	Sg	12 55 08.9	-4.0
ZIIG	**Zihuatanejo**	**0.97**	**333**	*i* P	Pb	12 55 02.0	-4.2
ZIIG				*i* S	Sb	12 55 15.5	-3.3
ACX	**Acapulco**	**1.05**	**83**	*i* P	Pb	12 55 05.0	-2.6
ACX				*i* S	Sb	12 55 16.5	-4.6
MEIG	**Mezcala**	**1.78**	**48**	*i* P	Pn	12 55 14.8	-3.0
MEIG				*i* S	Sn	12 55 36.7	-3.4
PLIG	**Platanillo**	**2.19**	**41**	*e*P	Pn	12 55 20.9	-2.5
PLIG				*i* S	Sn	12 55 45.4	-4.8
YAIG	**Yautepec**	**2.81**	**41**	*i* P	Pn	12 55 30.8	-1.2
YAIG				*i* S	Sn	12 56 02.2	-3.3
YAIG	**Yautepec**	**2.81**	**41**	*i* P	Pn	12 55 30.8	-1.2
YAIG				*i* S	Sn	12 56 05.1	-0.5
MOIG	**Morelia**	**2.93**	**357**	*i* P	Pn	12 55 32.9	-0.8
MOIG				*i* S	Sn	12 56 06.8	-1.8
PPM	**Popocatepetl**	**3.24**	**44**	*e*P	Pn	12 55 35.7	-2.3
PPM				*i* S	Sn	12 56 14.8	-1.5
PPM	**Popocatepetl**	**3.24**	**44**	*e*P	Pn	12 55 33.0	-5.0
PPM				*i* S	Sn	12 56 14.8	-1.5
UTMO	**Huajuapan**	**3.25**	**70**	*e*P	Pn	12 55 36.0	-2.0
UTMO				*i* S	Sn	12 56 14.2	-2.2

IDC 13 13:23:19.8±3.9,1804S×17594W,h0km,mb3.9/3, mb1 4.1/4,mb1mx3.7/14,mbtmp4.0/4,ML1.8/1,Error ellipse: s-maj=196.5km s-min=25.6km az=143.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.74**	**45**	Pn	Pn	13 24 47.1	+0.9
	1.5nm,0.3s,baz=354,slow=22,SNR=3.8						
AFI				Sn	Sn	13 25 51.8	-0.9
	2.5nm,0.3s,baz=130,slow=22,SNR=2.6						
STKA	**Stephens Creek**	**40.63**	**242**	P	P	13 31 01.1	-0.4
	0.9nm,0.4s,baz=73,slow=11,SNR=3.2						
WRA	**Warramunga Arr**	**46.92**	**259**	P	P	13 31 52.3	+0.2
	0.5nm,0.7s,baz=96,slow=7.8,SNR=6.5						
ASAR	**Alice Springs**	**47.02**	**254**	P	P	13 31 53.6	+0.8
	2.0nm,0.4s,baz=90,slow=8.4,SNR=65						

CSEM ***13*** *13:23:45.9,3762N×2097E,h5km,MD3.6/5,After ATH*

NEIC ***13*** *13:23:45.9,3762N×2097E,h5km,MD3.6(ATH),After ATH.*

ATH 13 13:23:45.9,3762N×2097E,h5km±2km,MD3.6/5,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.59**	**42**	*e*PB	Pg	13 23 57.2	0.0
RLS				*e*SB	Sg	13 24 05.8	+1.0
VLS	**Valsamata**	**0.63**	**332**	*e*PG	Pg	13 23 57.9	-0.1
VLS				*e*SB	Sg	13 24 07.6	+1.3
ITM	**Ithomi**	**0.88**	**120**	*e*PG	Pg	13 24 02.4	-0.4
ITM				*e*SB	Sb	13 24 15.1	-0.6
EVR	**Evrytania**	**1.45**	**27**	*e*PG	Pg	13 24 03.2	-0.8
VLI	**Veliai**	**1.81**	**119**	*e*PN	Pn	13 24 20.1	+2.4
LKR	**Lokris**	**1.90**	**57**	*e*PN	Pn	13 24 20.8	+1.8
KEK	**Kerkira**	**2.28**	**337**	*e*PN	Pn	13 24 26.9	+2.7

IDC ***13*** *14:16:50.8±0.7,670N×12698E,h0km,mb4.1/11, mb1 4.2/11,mb1mx4.1/22,mbtmp4.1/11,MS3.4/2, Ms1 3.4/2,ms1mx2.8/30,Error ellipse: s-maj=38.3km s-min=14.7km az=89.0*

MOS ***13*** *14:16:53.5±1.4,673N×12687E,h33km,mb4.7/7,Error ellipse: s-maj=30.1km s-min=12.0km az=95.3*

ISCJB ***13*** *14:16:54.4±0.4,667N±005×12723E±007,h33km, mb4.3/21,MS3.4/2,Error ellipse: s-maj=11.1km s-min=5.2km az=120.9*

NEIC ***13*** *14:16:57.5±1.9,671N×12700E,h49km±18km,mb4.5/11, Error ellipse: s-maj=19.0km s-min=7.2km az=79.0*

MAN ***13*** *14:16:59.5,665N×12669E,h12km,mb3.6,ML4.8,MS6.3*

ISC 13 14:16:56.4±0.4,669N±005×12721E±007,h35km,n43, σ1s06/44,mb4.3/21,MS3.4/2,1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.66**	**283**	*e*Pn	**Pn**	**14 17 21.6**	**-1.4**
BIPH	**Bislig**	**1.71**	**331**⇑	*e*P	**Pn**	**14 17 24.6**	**+1.0**
BIPH				*e*S	**Sn**	**14 17 44.4**	**+0.2**
BUKP	**Musuan**	**2.44**	**299**	*e*P	**Pn**	**14 17 33.7**	**+0.1**
BUTP	**Butuan**	**2.76**	**325**	*e*P	**Pn**	**14 17 41.6**	**+3.5**
BUTP				*e*S	**Sn**	**14 18 18.3**	**+8.1**
PAGZ	**Pagadian**	**3.97**	**287**	*e*P	**Pn**	**14 17 54.7**	**+0.1**
MSLP	**Maasin**	**4.14**	**326**	*e*P	**Pn**	**14 17 50.2**	**-6.8**
TBP	**Tagbilaran**	**4.46**	**312**	*e*P	**Pn**	**14 18 02.9**	**+1.4**
TBP				*e*S	**Sn**	**14 18 52.8**	**+0.8**
KAKA	**Kakadu**	**19.96**	**165**	*e*P	**Pn**	**14 21 26.9**	**-0.4**
	6.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.68**	**184**	*e*P	**P**	**14 22 13.9**	**0.0**
	9.1nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**24.68**	**184**	P	**P**	**14 22 13.9**	**0.0**
	5.1nm,1.1s,mb4.0,baz=354,slow=10,SNR=5.8						
WRAB	**Tennant Creek**	**27.37**	**165**	P	**P**	**14 22 36.7**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.3						
WRAB	**Tennant Creek**	**27.37**	**165**	P	**P**	**14 22 36.7**	**-1.5**
	comp=

comp=Z,2.0nm,0.9s,mb4.2
BILL Bilibino 66.59 15 P **P** **14 27 42.6 -0.4**
comp=Z,1.8nm,0.9s,mb4.1
ARU Arti 72.72 327 P **P** **14 28 16.3 -4.4**
ARU pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
ARU Arti 72.72 327 P **P** **14 28 16.3 -4.5**
comp=Z,3.3nm,0.7s,mb4.4
KDAK Kodiak Island 79.15 33 P **P** **14 28 59.0 +1.5**
comp=Z,5.3nm,0.6s,mb4.6,baz=325,slow=12,SNR=6.8
KDAK Kodiak Island 79.15 33 P **P** **14 28 59.0 +1.5**
ILAR Eielson Array 82.25 26 P **P** **14 29 13.8 -0.1**
comp=Z,1.3nm,0.6s,mb4.0,baz=241,slow=4.9,SNR=24
INK Inuvik 87.25 22 P **P** **14 29 38.9 -0.3**
comp=Z,0.6nm,0.6s,mb4.0,baz=290,slow=5.0
FINES FINESS Array B 89.47 332 LR LR 15 12 25.5
comp=Z,16nm,18.4s,MS3.5,baz=181,slow=37
AKASG Malin Array Be 89.91 321 P **P** **14 29 52.0 +0.3**
comp=Z,0.5nm,0.3s,mb4.2,baz=134,slow=14,SNR=4.4
YKA Yellowknife Ar 96.62 24 P **P** **14 30 23.0 +0.3**
comp=Z,0.5nm,0.7s,mb4.1,baz=299,slow=4.8,SNR=7.6
TORD Torodi Ar. Bea 122.41 290 PKP PKPdf 14 35 46.7 -1.1
comp=Z,0.6nm,0.8s,baz=63,slow=1.7,SNR=3.8

IDC ***13*** *14:20:49.8±1.5, 2078S×1740W, h0km, mb4.0/7, mb1 4.3/7, mb1mx4.2/13, mbtmp4.0/7, MS3.6/2, Ms1 3.6/2, ms1mx3.0/20, Error ellipse: s-maj=73.6km s-min=21.3km az=150.0*

NEIC ***13*** *14:20:52.1±0.6, 2016S×1743.1W, h10km, mb4.7/9, Error ellipse: s-maj=29.6km s-min=14.6km az=131.0*

ISCJB ***13*** *14:20:53.9±0.5, 2045S±0.1×1743.1W±0.1, h33km, mb4.3/17, MS3.8/1, Error ellipse: s-maj=22.8km s-min=12.7km az=99.1*

MOS ***13*** *14:20:53.9±2.3, 2010S×1742.3W, h33km, mb4.8/5, Error ellipse: s-maj=27.8km s-min=15.6km az=61.2*

ISC 13 14:20:56.1±0.5, 2025S±0.1×1743W±0.1, h35km, n35, σ1°50/30, mb4.3/17, MS3.8/1, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**6.66**	**22**	Pn		**Pn**	**14 22 29.4**	**-2.0**
	2.8nm,0.3s,baz=168,slow=19,SNR=3.8							
AFI				Sn		**Sn**	**14 23 41.4**	**-4.6**
	6.4nm,0.3s,baz=58,slow=20,SNR=4.2							
AFI	**Afiamalu**	**6.66**	**22**	*e*Pn		**Pn**	**14 22 26.6**	**-4.8**
AFI				*e*Sn		**Sn**	**14 23 41.8**	**-4.3**
RAR	**Rarotonga**	**13.63**	**97**	Pn		**Pn**	**14 23 50.8**	**-16**
	3.5nm,0.3s,baz=266,slow=9.6,SNR=5.9							
DZM	**Mont Dzumac**	**18.08**	**261**	LR		LR	14 29 39.5	
	comp=Z,115nm,18.7s,baz=15,slow=29							
TBI	**Tubuai**	**23.27**	**102**	eLR		LR	14 30 53.7	
	116nm,26.0s							
PPT	**Papeete**	**23.52**	**88**	*e*LQ			14 30 04.6	
	194nm,25.5s							
PPT				*e*LR		LR	14 31 00.5	
	131nm,25.2s							
STKA	**Stephens Creek**	**41.07**	**244**	P		**P**	**14 28 34.8**	**-1.4**
	3.0nm,1.0s,mb3.9,baz=123,slow=7.2,SNR=3.6							
STKA	**Stephens Creek**	**41.07**	**244**	*e*P		**P**	**14 28 34.4**	**-1.9**
ASAR	**Alice Springs**	**47.88**	**256**	P		**P**	**14 29 32.3**	**+0.9**
	2.4nm,1.0s,mb4.2,baz=92,slow=8.3,SNR=11							
WRAB	**Tennant Creek**	**48.09**	**261**	P		**P**	**14 29 31.4**	**-0.8**
WRAB				pmax		pmax		
	comp=Z,20nm,1.3s,mb5.0							
WRAB	**Tennant Creek**	**48.09**	**261**	P		**P**	**14 29 31.4**	**-0.8**
	comp=Z,20nm,1.3s,mb5.0							
WRA	**Warramunga Ar**	**48.09**	**261**	P		**P**	**14 29 32.5**	**+0.2**
	comp=Z,1.0nm,0.8s,mb3.9,baz=95,slow=5.2,SNR=8.6							
SBA	**Scott Base**	**58.47**	**185**	*e*P		**P**	**14 30 46.1**	**-2.4**
SBA				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.5							
SBA	**Scott Base**	**58.47**	**185**	*e*P		**P**	**14 30 46.0**	**-2.5**
	comp=Z,3.9nm,0.9s,mb4.4							
VNDA	**Vanda**	**58.58**	**186**	P		**P**	**14 30 50.2**	**+0.9**
VNDA				pmax		pmax		
	comp=Z,4.0nm,1.2s							
VNDA	**Vanda**	**58.58**	**186**	P		**P**	**14 30 50.2**	**+0.9**
	comp=Z,3.8nm,1.2s,mb4.3							
MBWA	**Marble Bar**	**61.32**	**256**	P		**P**	**14 31 08.5**	**+0.4**
	comp=Z,7.8nm,0.9s,mb4.8							
QSPA	**South Pole Qui**	**69.91**	**180**	*e*P		**P**	**14 32 01.0**	**-2.5**
	comp=Z,15nm,1.2s,mb4.8							
MJAR	**Matsushiro Arr**	**72.06**	**321**	P		**P**	**14 32 19.6**	**+3.0**
	comp=Z,0.6nm,0.5s,mb3.8,baz=297,slow=14,SNR=4.0							
CMB	**Columbia Colle**	**76.89**	**41**	P		**P**	**14 32 44.9**	**+0.3**
CMB				pmax		pmax		
	comp=Z,7.0nm,1.2s,mb4.5							
CMB	**Columbia Colle**	**76.89**	**41**	P		**P**	**14 32 44.9**	**+0.3**
	comp=Z,7.3nm,1.2s,mb4.5							
YBH	**Yreka Blue Hor**	**77.89**	**37**	LR		LR	15 00 49.2	
	comp=Z,50nm,20.0s,MS3.8,baz=162,slow=31							
NVAR	**Mina Array Bea**	**78.42**	**42**	P		**P**	**14 32 53.4**	**+0.2**
	comp=Z,4.1nm,0.8s,mb4.4,baz=212,slow=7.2,SNR=17							
MSU	**Marysvale**	**82.40**	**44**	*e*P		**P**	**14 33 15.3**	**+0.8**
HLID	**Hailey**	**83.83**	**39**	*e*P		**P**	**14 33 22.3**	**+0.4**
	comp=Z,3.5nm,1.1s,mb4.4							
ANMO	**Albuquerque**	**84.50**	**50**	*e*P		**P**	**14 33 24.9**	**-0.4**
ANMO	**Albuquerque**	**84.50**	**50**	*e*P		**P**	**14 33 25.0**	**-0.3**
	comp=Z,5.1nm,1.2s,mb4.5							
PDAR	**Pinedale Array**	**86.36**	**42**	P		**P**	**14 33 36.9**	**+2.3**
	comp=Z,1.2nm,0.8s,mb4.2,baz=225,slow=2.5,SNR=7.3							
COLA	**College**	**87.17**	**11**	P		**P**	**14 33 33.9**	**-4.6**
COLA				pmax		pmax		
	comp=Z,11nm,1.7s,mb4.8							
COLA	**College**	**87.17**	**11**	P		**P**	**14 33 33.9**	**-4.6**
	comp=Z,11nm,1.7s,mb4.8							
ILAR	**Eielson Array**	**87.25**	**11**	P		**P**	**14 33 40.2**	**+1.3**
	comp=Z,0.5nm,0.7s,mb3.8,baz=223,slow=4.8,SNR=6.3							
YKA	**Yellowknife Ar**	**94.77**	**24**	P		**P**	**14 34 16.0**	**+2.1**
	comp=Z,0.2nm,0.6s,mb3.8,baz=238,slow=4.9,SNR=3.7							
AKASG	**Malin Array Be**	**144.31**	**334**	PKP		PKPdf	14 40 27.3	-1.0
	comp=Z,2.9nm,0.7s,baz=43,slow=4.2,SNR=10							
CLL	**Collm**	**148.39**	**351**	*e*(PKPbc)		PKPbc	14 40 41.0	+2.2
GERES	**GERESS Array B**	**150.67**	**349**	PKPbc		PKPbc	14 40 45.7	+1.3
	comp=Z,0.2nm,0.5s,baz=146,slow=2.6,SNR=4.4							

IDC ***13*** *14:32:32.8±1.0, 6012N×1534.9W, h103km±11km, mb3.9/16, mb1 4.1/21, mb1mx4.0/27, mbtmp4.3/21, MS3.2/2, Ms1 3.2/2, ms1mx2.5/30, Error ellipse: s-maj=9.7km s-min=8.4km az=147.0*

ISCJB ***13*** *14:32:33.9±0.2, 6008N±0.003×1534.7W±0.05, h130km, mb4.4/43, Error ellipse: s-maj=4.4km s-min=3.2km az=156.6*

NEIC ***13*** *14:32:36.3, 6000N×1532.9W, h138km, mb4.4/18, After AEIC.*

NEIC Felt [III] at Anchorage and [II] at Homer. Also felt at Anchor Point, Eagle River, Girdwood and Kenai.

BJI ***13*** *14:32:38.2, 6085N×1542.0W, h137km, mB4.8, mb4.9*

ISC 13 14:32:35.3±0.2, 6008N±0.003×1534.2W±0.05, h132km, h132km±2.4km:pP-P, n108, σ1°00/118, mb4.4/43, 4C-1D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SVW2	**Sparrevohn**	**1.48**	**315**	*e*P		**Pn**	**14 33 03.6**	**+0.4**
SLKM	**Skilak Lake**	**1.65**	**74**	P		**Pn**	**14 33 05.1**	**-0.1**
FIB	**Fire Island**	**1.93**	**54**	P		**Pn**	**14 33 10.2**	**+1.6**
FIB				S		**Sn**	**14 33 36.6**	**+2.6**
SEW	**Seward**	**1.99**	**88**	P		**Pn**	**14 33 08.6**	**-0.6**
RC01	**Rabbit Creek A**	**2.08**	**59**	P		**Pn**	**14 33 10.5**	**+0.2**
KDAK	**Kodiak Island**	**2.35**	**169**	P		**Pn**	**14 33 11.6**	**-2.1**
	92nm,0.3s,baz=11,slow=7.6,SNR=871							
KDAK				S		**Sn**	**14 33 39.2**	**-3.8**
	547nm,0.3s,baz=20,slow=10,SNR=66							
KDAK	**Kodiak Island**	**2.35**	**169**	P		**Pn**	**14 33 11.6**	**-2.0**
PMR	**Palmer**	**2.59**	**52**	*e*P		**Pn**	**14 33 15.9**	**-0.8**
GHO	**Glory Hole Cre**	**2.77**	**50**	P		**Pn**	**14 33 18.5**	**-0.5**
KNK	**Knik Glacier**	**2.78**	**59**	P		**Pn**	**14 33 18.6**	**-0.5**
SML	**Sawmill**	**3.03**	**53**	P		**Pn**	**14 33 21.9**	**-0.4**
TT01	**Tatalina**	**3.10**	**337**	P		**Pn**	**14 33 24.4**	**+1.1**
TTA	**Tatalina**	**3.12**	**338**	*e*P		**Pn**	**14 33 24.5**	**+1.0**
MID	**Middleton Isla**	**3.64**	**97**	*e*P		**Pn**	**14 33 29.0**	**-1.3**
KTH	**Kantishna Hill**	**3.68**	**18**	P		**Pn**	**14 33 31.4**	**+0.6**
TRF	**Thorofare Moun**	**3.69**	**22**	P		**Pn**	**14 33 31.5**	**+0.5**
EYAK	**Cordova Ski Ar**	**3.84**	**80**	P		**Pn**	**14 33 32.3**	**-0.7**
MCK	**McKinley**	**4.23**	**28**	P		**Pn**	**14 33 38.9**	**+0.7**
BMRM	**Bremner River**	**4.45**	**75**	P		**Pn**	**14 33 40.2**	**-0.8**
CHGN	**Chignik**	**4.62**	**217**	*e*P		**Pn**	**14 33 42.3**	**-1.0**
PAX	**Paxson**	**4.78**	**49**	P		**Pn**	**14 33 45.9**	**+0.4**
MENT	**Mentasta**	**5.46**	**54**	*e*P		**Pn**	**14 33 54.3**	**-0.2**
COLA	**College**	**5.46**	**26**	P		**Pn**	**14 33 54.5**	**0.0**
ILAR	**Eielson Array**	**5.60**	**30**	P		**Pn**	**14 33 55.2**	**-1.2**
	100nm,0.3s,baz=216,slow=13,SNR=4773							
ILAR				S		**Sn**	**14 34 55.4**	**-4.2**
	35nm,0.3s,baz=219,slow=18,SNR=4.8							
ILAR				ScP		ScP	14 44 06.3	-3.4
	baz=289,slow=2.6,SNR=4.2							
IL1	**Eielson Array**	**5.60**	**30**	P		**Pn**	**14 33 56.1**	**-0.3**
DOT	**Dot Lake**	**5.69**	**47**	P		**Pn**	**14 33 57.7**	**0.0**
IM3	**Indian Mountai**	**5.93**	**359**	P		**Pn**	**14 34 02.2**	**+1.4**
SDPT	**Sand Point**	**6.07**	**222**	*e*P		**Pn**	**14 34 03.5**	**+0.8**
PNL	**Peninsula**	**7.07**	**87**	P		**Pn**	**14 34 15.1**	**-1.1**
COLD	**Coldfoot**	**7.31**	**10**	P		**Pn**	**14 34 19.7**	**+0.2**
FALS	**False Pass**	**7.51**	**230**	P		**Pn**	**14 34 21.4**	**-0.7**
DAWY	**Dawson**	**7.70**	**53**	P		**Pn**	**14 34 24.2**	**-0.5**
BM3	**Burnt Mountain**	**8.33**	**24**	P		**Pn**	**14 34 31.9**	**-1.2**
AKUT	**Akutan**	**8.97**	**234**	*e*Pn		**Pn**	**14 34 41.5**	**-0.3**
AKUT				*e*Sn		**Sn**	**14 36 15.1**	**-6.1**
AKLV	**Akutan Long Va**	**9.03**	**234**	P		**Pn**	**14 34 42.1**	**-0.5**
SKAG	**Skagway**	**9.15**	**86**	*e*P		**Pn**	**14 34 43.5**	**-0.6**
	1.9nm,0.3s							
WHY	**Whitehorse**	**9.20**	**78**	P		**Pn**	**14 34 43.6**	**-1.2**
UNV	**Unalaska Valle**	**9.48**	**235**	P		**Pn**	**14 34 47.4**	**-1.2**
SIT	**Sitka**	**9.92**	**100**	*e*P		**Pn**	**14 34 54.0**	**-0.5**
	6.2nm,0.6s							
CRAG	**Craig**	**11.76**	**104**	*e*Pn		**Pn**	**14 35 16.9**	**-1.9**
CRAG				*e*P			14 35 23.2	
CRAG				*e*Sn		**Sn**	**14 37 18.1**	**-10**
INK	**Inuvik**	**11.90**	**38**	P		**Pn**	**14 35 20.1**	**-0.6**
	2.9nm,0.3s,baz=230,slow=16,SNR=91							
INK				S		**Sn**	**14 37 29.3**	**-2.6**
	0.4nm,0.3s,baz=332,slow=16,SNR=3.8							
INK				ScP		ScP	14 44 13.5	-3.1
	0.1nm,0.3s,baz=246,slow=3.3,SNR=6.4							
DLBC	**Dease Lake**	**12.06**	**88**	P		**Pn**	**14 35 23.4**	**+0.5**
	baz=272,slow=13							
DLBC				S		**Sn**	**14 37 31.8**	**-4.0**
	0.9nm,0.3s,baz=153,slow=20,SNR=2.1							
DLBC				ScP		ScP	14 44 14.8	-2.0
	0.1nm,0.3s,baz=229,slow=1.5,SNR=6.6							
BBB	**Bella Bella**	**16.09**	**108**	P		**Pn**	**14 36 17.6**	**+3.7**
	0.8nm,0.3s,baz=333,slow=12,SNR=8.9							
BBB				S		**Sn**	**14 39 10.7**	**-2.6**
	0.3nm,0.3s,baz=153,slow=23,SNR=4.2							
YKW3	**Yellowknife Ar**	**18.59**	**66**	*e*P		**P**	**14 36 42.3**	**+0.1**
YKA	**Yellowknife Ar**	**18.61**	**66**	P		**P**	**14 36 42.7**	**+0.3**
	baz=278,slow=11,SNR=230							
YKA				S		**S**	**14 40 09.0**	**+1.4**
	baz=285,slow=20,SNR=3.8							
YKA				PcP		PcP	14 41 04.5	-1.1
	baz=273,slow=1.4,SNR=6.6							
YKA				ScP		ScP	14 44 26.4	-2.4
	baz=288,slow=2.1,SNR=18							
YKA	**Yellowknife Ar**	**18.61**	**66**	P		**P**	**14 36 42.7**	**+0.3**
YKA				S		**S**	**14 40 09.0**	**+1.4**
YKA				PcP		PcP	14 41 04.5	-1.1
YKA				ScP		ScP	14 44 26.4	-2.4
BILL	**Bilibino**	**19.00**	**312**	*e*P		**P**	**14 36 47.1**	**+0.5**
	12nm,1.0s							
FX1	**Attu Island--F**	**19.64**	**263**	P		**P**	**14 36 53.2**	**-0.3**
	6.9nm,0.3s,baz=256,slow=1.8,SNR=12							
FX1	**Attu Island--F**	**19.64**	**263**	*e*P		**P**	**14 36 53.1**	**-0.5**
NEW	**Newport**	**23.98**	**103**	P		**P**	**14 37 38.5**	**+1.1**
	2.4nm,0.7s,mb3.8,baz=316,slow=10,SNR=5.3							
NEW				LR		LR	14 47 43.9	
	comp=Z,62nm,18.4s,baz=205,slow=38							
YBH	**Yreka Blue Hor**	**26.31**	**120**	P		**P**	**14 38 00.2**	**+1.6**
	1.3nm,0.6s,mb3.8,baz=194,slow=3.4,SNR=3.4							
YBH				LR		LR	14 47 01.3	
	comp=Z,32nm,18.2s,baz=326,slow=33							
FLWY	**Flagg Ranch**	**30.08**	**103**	*e*P		**P**	**14 38 33.4**	**+1.3**
	3.9nm,0.8s,mb4.2							
MOOW	**Moose Ponds**	**30.31**	**103**	*e*P		**P**	**14 38 34.7**	**+0.6**
	2.4nm,0.9s,mb3.9							
MOOW				*ep*P		pP	14 39 03.5	+1.0
TPAW	**Teton Pass**	**30.40**	**104**	*e*P		**P**	**14 38 36.6**	**+1.8**
	8.5nm,0.9s,mb4.5							
TPAW				*ep*P		pP	14 39 06.4	+3.1
NVAR	**Mina Array Bea**	**30.95**	**119**	P		**P**	**14 38 41.0**	**+1.3**
	1.0nm,0.7s,mb3.6,baz=324,slow=7.9,SNR=10.0							
NVAR				PcP		PcP	14 41 32.9	0.0
	1.1nm,0.6s,baz=333,slow=1.2,SNR=7.5							
NVAR	**Mina Array Bea**	**30.95**	**119**	P		**P**	**14 38 41.0**	**+1.3**
NVAR				PcP		PcP	14 41 32.9	0.0
PDAR	**Pinedale Array**	**31.62**	**103**	P		**P**	**14 38 46.7**	**+1.1**
	0.3nm,0.5s,baz=308,slow=3.6,SNR=5.4							
DAC	**Darwin (Calif)**	**33.05**	**120**	P		**P**	**14 38 59.5**	**+1.3**
	2.2nm,0.9s,mb3.9							
DAC				*ep*P		pP	14 39 31.1	+4.4
ULM	**Lac du Bonnet**	**33.27**	**81**	P		**P**	**14 39 00.5**	**+0.5**
	2.4nm,0.6s,mb4.1,baz=305,slow=12,SNR=4.8							
ULM	**Lac du Bonnet**	**33.27**	**81**	P		**P**	**14 39 00.5**	**+0.5**
RSSD	**Black Hills**	**33.35**	**96**	*e*P		**P**	**14 39 02.2**	**+1.5**
	1.9nm,0.6s,mb4.0							
MSU	**Marysvale**	**33.67**	**111**	P		**P**	**14 39 14.5**	**+11**
MSU				*ep*P		pP	14 39 34.8	+2.7
SRU	**San Rafael**	**33.97**	**109**	*e*P		**P**	**14 39 08.0**	**+2.0**
	5.1nm,0.8s,mb4.3							
SRU				*ep*P		pP	14 39 35.2	+0.5
NEN	**Nelson**	**34.79**	**117**	*e*P		**P**	**14 39 15.3**	**+2.2**
NEN				*ep*P		pP	14 39 44.6	+2.7
PV01	**Paradox Valley**	**35.67**	**108**	*e*P		**P**	**14 39 22.1**	**+1.4**
PV01				*ep*P		pP	14 39 49.1	-0.4
DAG	**Danmarks Havn**	**40.47**	**15**	*i* P		**P**	**14 39 59.9**	**-1.0**
	2.7nm,0.7s,mb4.0							
DAG	**Danmarks Havn**	**40.47**	**15**	*e*P		**P**	**14 39 59.9**	**-1.0**
	2.7nm,0.7s,mb4.0							
ASAJ	**Asahikawa**	**40.66**	**277**	P		**P**	**14 40 02.8**	**+0.3**
	10nm,0.7s,mb4.6,baz=323,slow=3.3,SNR=10.0							
SCHQ	**Schefferville**	**43.70**	**57**	P		**P**	**14 40 26.9**	**-0.2**
	2.2nm,0.4s,mb4.1,baz=320,slow=7.7,SNR=14							
MIAR	**Mount Ida**	**45.87**	**96**	*e*P		**P**	**14 40 44.5**	**+0.2**
	11nm,0.9s,mb4.5							
MIAR				*ep*P		pP	14 41 11.8	-2.5
MDJ	**Mudanjiang**	**46.67**	**287**	P		**P**	**14 40 52.8**	**+2.3**
MDJ				AP		pP	14 41 16.3	-4.3
MDJ				AMB		AMB		
	comp=Z,6.0nm,0.7s,mb4.3							
MDJ				AMB		AMB		
	comp=Z,53nm,4.4s							
HIA	**Hailar**	**47.79**	**298**	*e*P		**P**	**14 40 59.5**	**+0.4**
	comp=Z,9.4nm,0.7s,mb4.5							
PLAL	**Pickwick Lake**	**48.27**	**91**	*e*P		**P**	**14 41 03.4**	**+0.5**
PLAL				*ep*P		pP	14 41 32.2	-1.0
HKT	**Hockley**	**48.47**	**102**	*ep*P		pP	14 41 36.6	+1.9
MAT	**Matsushiro**	**48.57**	**273**	P		**P**	**14 41 05.2**	**0.0**
MAT	**Matsushiro**	**48.57**	**273**	*e*P		**P**	**14 41 05.0**	**-0.2**
	comp=Z,24nm,1.0s,mb4.8							
MJAR	**Matsushiro Arr**	**48.57**	**273**	P		**P**	**14 41 04.9**	**-0.3**
	comp=Z,11nm,1.0s,mb4.4,baz=12,slow=7.2,SNR=24							
CN2	**Changchun**	**49.25**	**289**	*e*P		**P**	**14 41 10.8**	**+0.4**
CN2				*e*S		**S**	**14 48 06.8**	**+0.5**
CN2				AMB		AMB		
	comp=Z,80nm,0.7s							
ARCES	**ARCESS Array B**	**50.67**	**0**	P		**P**	**14 41 20.9**	**-0.2**
	comp=Z,4.4nm,0.9s,mb4.1,baz=0.0,slow=6.3,SNR=3.7							
SNY	**Shenyang**	**51.65**	**289**	⇑P		**P**	**14 41 28.9**	**+0.5**
SNY				AMB		AMB		
	comp=Z,14nm,0.7s,mb4.7							
SNY				AMB		AMB		
	comp=Z,47nm,4.1s							
SONM	**Songino Array**	**54.57**	**306**	P		**P**	**14 41 50.6**	**+0.8**
	comp=Z,16nm,0.8s,mb4.8,baz=39,slow=7.3,SNR=124							
SONM				PcP		PcP	14 42 51.3	-0.1
	comp=Z,2.2nm,0.7s,baz=57,slow=1.9,SNR=5.0							
BJI	**Beijing**	**56.52**	**293**	P		**P**	**14 42 03.8**	**+0.1**
BJI				AMB		AMB		
	comp=Z,17nm,0.7s,mb5.0							
ZAL	**Zalesovo**	**57.20**	**323**	P		**P**	**14 42 07.9**	**-0.6**
	comp=Z,7.4nm,0.7s,mb4.6,baz=79,slow=7.6,SNR=41							
HHC	**Hu-ho-hao-te**	**57.96**	**297**	*e*P		**P**	**14 42 14.5**	**+0.7**
HHC				AP		pP	14 42 44.8	-0.3
HHC				XP		sP	14 42 59.0	-0.6
HHC				PCP		PcP	14 43 06.0	+1.5
HHC				PP		PP	14 44 26.0	+2.4
HHC				SCP		ScP	14 46 52.6	+0.4
HHC				PCS		PcS	14 47 07.1	+1.1
HHC				S		**S**	**14 50 01.6**	**-2.1**
HHC				XS		sS	14 50 53.4	-4.3
HHC				SCS		ScS	14 51 48.3	-2.1
HHC				SS		SS	14 53 53.4	-3.3
HHC				AMB		AMB		
	comp=Z,28nm,1.2s,mb5.0							
HHC				AMB		AMB		
	comp=Z,64nm,5.0s							
HHC				LR		LR		
	comp=N,111nm,20.8s							
HHC				LR		LR		
	comp=E,90nm,18.0s							
HHC				LR		LR		
	comp=Z,82nm,20.8s							
NOA	**NORSAR Array B**	**58.63**	**9**	P		**P**	**14 42 18.0**	**-0.5**
	comp=Z,0.8nm,0.8s,mb3.6,baz=348,slow=7.2,SNR=3.6							
FINES	**FINESS Array B**	**58.80**	**0**	P		**P**	**14 42 19.4**	**-0.2**
	comp=Z,1.7nm,0.9s,mb3.9,baz=342,slow=12,SNR=4.2							
BTO	**Baotou**	**58.84**	**298**	*e*P		**P**	**14 42 19.6**	**-0.4**
ARU	**Arti**	**61.10**	**340**	*e*P		**P**	**14 42 34.2**	**-1.1**
	comp=Z,4.2nm,0.6s,mb4.5							
JOW	**Kunigami**	**61.36**	**274**	P		**P**	**14 42 37.2**	**+0.1**
	comp=Z,37nm,0.9s,mb5.2,baz=52,slow=7.3,SNR=4.1							
NJ2	**Nanjing**	**61.72**	**286**	*e*P		**P**	**14 42 39.8**	**+0.3**
NJ2				AP		pP	14 43 14.1	+3.0
NJ2				XS		sS	14 51 40.0	-6.3
NJ2				AMB		AMB		
	comp=Z,30nm,1.0s,mb5.1							
NJ2				AMB		AMB		
	comp=Z,80nm,10.6s							
NJ2				LR		LR		
	comp=N,480nm,26.4s							
NJ2				LR		LR		
	comp=E,830nm,33.8s							
NJ2				LR		LR		
	comp=Z,490nm,35.6s							
KURK	**Kurchatov**	**61.84**	**325**	*e*P		**P**	**14 42 39.5**	**-0.8**
	comp=Z,4.8nm,0.8s,mb4.4							
KURK				*ep*P		pP	14 43 13.2	+1.2
BVAR	**Borovoye Array**	**61.90**	**332**	P		**P**	**14 42 40.3**	**-0.4**
	comp=Z,6.4nm,0.7s,mb4.5,baz=30,slow=6.8,SNR=32							
ZRNK	**Zerenda**	**62.29**	**333**	*e*P		**P**	**14 42 42.3**	**-1.1**
	comp=Z,11nm,1.0s,mb4.6							
GTA	**Gaotai**	**64.21**	**305**	*e*P		**P**	**14 42 56.3**	**+0.3**
GTA				AMB		AMB		
	comp=Z,15nm,1.0s,mb4.8							
MKAR	**Makanchi Array**	**64.24**	**321**	P		**P**	**14 42 55.5**	**-0.6**
	comp=Z,2.3nm,0.7s,mb4.1,baz=46,slow=5.2,SNR=22							
WMQ	**Urumqi**	**65.06**	**316**	⇑P		**P**	**14 43 01.9**	**+0.4**
WMQ				AP		pP	14 43 32.4	-1.0
WMQ				PCP		PcP	14 43 33.4	+0.2
WMQ				XP		sP	14 43 46.4	-1.3
WMQ				PP		PP	14 45 28.4	+2.3
WMQ				AMB		AMB		
	comp=Z,14nm,1.0s,mb4.8							
WMQ				LR		LR		
	comp=N,59nm,24.2s							
WMQ				LR		LR		
	comp=Z,15nm,18.2s							
WHN	**Wuhan**	**65.12**	**288**	⇑P		**P**	**14 43 01.5**	**-0.4**
LZH	**Lanzhou**	**65.30**	**300**	⇑P		**P**	**14 43 03.8**	**+0.8**
LZH				AP		pP	14 43 34.8	-0.2
LZH				XP		sP	14 43 48.5	-0.8
LZH				PP		PP	14 45 30.4	+2.1
LZH				AMB		AMB		
	comp=Z,32nm,1.2s,mb5.0							
LZH				AMB		AMB		
	comp=Z,69nm,7.5s							
AKTK	**Aktyubinsk**	**66.94**	**339**	P		**P**	**14 43 12.3**	**-1.2**
AKTO	**Aktyubinsk**	**66.94**	**339**	P		**P**	**14 43 12.3**	**-1.2**
	comp=Z,2.1nm,0.5s,mb4.2,baz=26,slow=4.7,SNR=12							
AKASG	**Malin Array Be**	**69.55**	**358**	P		**P**	**14 43 28.4**	**-1.4**
	comp=Z,0.8nm,0.6s,mb3.7,baz=358,slow=5.7,SNR=3.7							
CD2	**Chengdu**	**69.72**	**297**	*e*P		**P**	**14 43 30.0**	**-0.8**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.5							
AAK	**Ala-Archa**	**70.37**	**324**	*e*P		**P**	**14 43 33.7**	**-1.0**
	comp=Z,5.6nm,1.2s,mb4.2							
GYA	**Guiyang**	**72.18**	**292**	⇓*i* P		**P**	**14 43 45.8**	**+0.1**
GYA				AP		pP	14 44 17.0	-1.2
GYA				XP		sP	14 44 30.

MOS 13 14:53:28.8±0.9, 4320N×4350E, h28km, mb3.5/1, 5C, Error ellipse: s-maj=49.9km s-min=27.9km az=26.8, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KORR	**Kora**	**0.43**	**105**	⇑*i*	PG	14 53 38.0	0.0
KORR				*i*	S	14 53 44.7	+0.4
ZEI	**Tsey**	**0.52**	**146**	⇑*i*	PG	14 53 39.2	-0.3
ZEI				*i*	S	14 53 46.7	0.0
ARNR	**Ardon**	**0.57**	**91**	⇑*i*	PG	14 53 40.3	0.0
ARNR				*i*	S	14 53 48.7	+0.6
KMSR	**Komsomolskaya**	**0.60**	**73**	⇑*i*	PG	14 53 41.0	+0.2
KMSR				*i*	S	14 53 49.8	+0.8
LACR	**Lac**	**0.69**	**122**	⇑*i*	PG	14 53 42.3	0.0
LACR				*i*	S	14 53 52.0	+0.4

IDC 13 14:57:34.4±7.9, 816S×12733E, h154km±67km, mb3.5/1, mb1 3.7/4, mb1mx3.3/14, mbtmp4.1/4, Error ellipse: s-maj=66.5km s-min=55.3km az=51.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.02**	**189**	P	Pn	14 59 54.8	+0.2
	1.2nm,0.3s,baz=24,slow=12,SNR=51						
FITZ				S	Sn	15 01 45.7	+0.1
	0.6nm,0.3s,baz=62,slow=22,SNR=3.5						
WRA	**Warramunga Arr**	**13.54**	**151**	P	Pn	15 00 40.9	+0.6
	0.6nm,0.3s,baz=327,slow=14,SNR=22						
WRA				S	Sn	15 03 10.4	+0.2
	0.8nm,0.3s,baz=332,slow=22,SNR=9.7						
ASAR	**Alice Springs**	**16.66**	**159**	P	Pn	15 01 20.3	+1.5
	0.9nm,0.3s,baz=337,slow=12,SNR=92						
ASAR				S	S	15 04 25.5	+1.5
	0.1nm,0.3s,baz=327,slow=23,SNR=4.4						
STKA	**Stephens Creek**	**27.08**	**153**	P	P	15 03 02.0	-0.5
	0.9nm,0.5s,baz=319,slow=13,SNR=3.6						

IDC 13 15:08:25.8±7.8, 1760S×17467W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/13, mbtmp3.8/3, Error ellipse: s-maj=339.7km s-min=35.1km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**48.19**	**259**	P	P	15 17 07.8	-0.1
	0.4nm,0.4s,baz=96,slow=6.8,SNR=14						
ASAR	**Alice Springs**	**48.30**	**254**	P	P	15 17 09.6	+0.8
	1.1nm,0.5s,baz=88,slow=8.8,SNR=34						
ILAR	**Eielson Array**	**84.83**	**12**	P	P	15 21 01.8	-0.4
	0.3nm,0.4s,baz=220,slow=5.2,SNR=9.4						

*LDG **13** 15:29:23.5±0.2, 4276N×109W, h2km, Md1.9/2, Ml1.8/1, Error ellipse: s-maj=3.2km s-min=1.3km az=27.0*
*STR **13** 15:29:23.9±0.2, 4281N×109W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 13 15:29:25.2±0.3, 4284N×106W, h0km, mbLg1.2/9, 1C, Error ellipse: s-maj=2.3km s-min=1.5km az=158.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LARF	**Larrau**	**0.21**	**16**	Pg	Pg	15 29 28.8	-0.3
LARF				Sg	Sg	15 29 32.6	+0.8
LARF	**Larrau**	**0.21**	**16**	P	Pg	15 29 28.8	-0.3
LARF				Lg		15 29 32.7	
IPRE	**Itoiz**	**0.22**	**261**	Pg	Pg	15 29 28.5	-0.8
	1.4nm,0.1s,SNR=7.9						
IPRE				Lg		15 29 32.2	
	9.1nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**0.30**	**337**	*e*Pg	Pg	15 29 30.6	-0.3
SJPF				*e*Sg	Sg	15 29 35.2	+0.4
	12nm,0.2s						
SJPF	**Ste Jean**	**0.30**	**337**	Pg	Pg	15 29 30.6	-0.3
SJPF				Lg		15 29 35.2	
	5.9nm,0.2s						
IUNC	**Unciti**	**0.33**	**256**	Pg	Pg	15 29 31.4	-0.1
	1.5nm,0.1s,SNR=7.9						
IUNC				Lg		15 29 36.7	
	6.0nm,0.1s,SNR=7.9						
ATE	**Arette**	**0.36**	**47**	Pg	Pg	15 29 31.7	-0.4
ATE				Sg	Sg	15 29 37.4	+0.6
ATE	**Arette**	**0.36**	**47**	Pg	Pg	15 29 31.7	-0.4
ATE				Lg		15 29 37.4	
ETSF	**Etsaut**	**0.38**	**81**	*e*Pg	Pg	15 29 31.4	-1.0
ETSF				*e*Sg	Sg	15 29 37.0	-0.2
	7.4nm,0.3s						
ETSF	**Etsaut**	**0.38**	**81**	Pg	Pg	15 29 31.4	-1.0
ETSF				Lg		15 29 37.0	
	3.7nm,0.3s						
ORDF	**Ordiarp**	**0.39**	**14**	Pg	Pg	15 29 32.6	0.0
ORDF				Lg		15 29 38.1	
EARA	**Aranguren**	**0.39**	**260**	Pg	Pg	15 29 32.2	-0.3
	1.4nm,0.1s,SNR=7.9						
EARA				Lg		15 29 38.4	
	14nm,0.2s,SNR=7.9						
OSSF	**Osses**	**0.44**	**341**	Pg	Pg	15 29 32.9	-0.7
OSSF	**Osses**	**0.44**	**341**	Pg	Pg	15 29 32.9	-0.7
OSSF				Lg		15 29 38.6	
ELIZ	**Elizondo**	**0.47**	**314**	⇑Pg	Pg	15 29 33.4	-0.8
	9.5nm,0.2s,SNR=18						
ELIZ				Lg		15 29 40.5	
	5.2nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**0.50**	**320**	Pg	Pg	15 29 33.9	-0.9
	2.4nm,0.2s,SNR=7.9						
EALK				Lg		15 29 40.6	
	5.1nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**0.90**	**99**	Pg	Pg	15 29 43.8	+1.4
	0.6nm,0.2s,SNR=7.9						
EBIE				Lg		15 29 58.3	
	1.0nm,0.1s,SNR=7.9						
EPF	**Esparros**	**1.05**	**79**	*e*Pg	Pg	15 29 44.0	-1.3
EPF				*e*Sg	Sg	15 29 58.2	-0.6
	1.5nm,0.2s						
EPF	**Esparros**	**1.05**	**79**	Pg	Pg	15 29 44.0	-1.3
EPF				Lg		15 29 58.2	
	0.8nm,0.2s						
ESAC	**San Caprasio**	**1.20**	**158**	Pg	Pg	15 29 47.7	-0.5
	2.8nm,0.2s,SNR=6.9						
ESAC				Lg		15 30 04.3	
	15nm,0.3s,SNR=7.9						

*HLW **13** 15:32:26.3, 3884N×2238E, h33km, Mb3.9*
*ISCJB **13** 15:32:29.6±0.3, 3886N±002×2202E±002, h96km±3km, mb3.6/5, Error ellipse: s-maj=3.5km s-min=3.1km az=169.9*
*CSEM **13** 15:32:29.6±0.1, 3889N×2201E, h85km±1km, ML3.5, Error ellipse: s-maj=1.5km s-min=1.2km az=3.0*
*ATH **13** 15:32:30.8, 3885N×2212E, h82km±1km, ML3.8*
*NEIC **13** 15:32:30.8, 3885N×2212E, h82km, MG3.8(ATH), After ATH.*
*THE **13** 15:32:31.6, 3889N×2210E, h78km, ML3.5*
*IDC **13** 15:32:35.7±10.0, 3924N×2210E, h118km±35km, mb3.3/5, mb1 3.3/7, mb1mx3.1/22, mbtmp3.6/7, Error ellipse: s-maj=167.3km s-min=24.4km az=31.0*
*SOF **13** 15:32:36.4, 3949N×2249E, h2km, MD2.6*

ISC 13 15:32:30.6±0.3, 3886N±002×2203E±002, h90km±3km, n88, σ0§97/129, mb3.6/5, 5C-4D, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.18**	**289**	⇑*i*P	Pn	15 32 43.5	0.0
EVR				*e*S	Sn	15 32 52.7	-0.4
AGG	**Agios Georgios**	**0.29**	**55**	*e*Pg	Pn	15 32 44.0	0.0
AGG				*e*Sg	Sn	15 32 52.6	-1.2
LKR	**Lokris**	**0.78**	**105**	⇓*i*P	Pn	15 32 47.8	-0.2
LKR				*e*S	Sn	15 32 59.9	-1.0
RLS	**Riolos of Patr**	**0.91**	**209**	*e*P	Pn	15 32 50.0	+0.7
RLS				*e*S	Sn	15 33 04.3	+1.0
NEO	**Neokhori**	**1.03**	**64**	⇓*i*P	Pn	15 32 50.8	+0.1
NEO				*e*S	Sn	15 33 04.5	-1.2
XOR	**Xorichti**	**1.04**	**60**	*e*Pg	Pn	15 32 50.9	+0.1
	comp=Z,19nm,0.4s						
XOR				*e*Sg	Sn	15 33 03.5	-2.3
LKD	**Levkas**	**1.09**	**263**	*e*Pg	Pn	15 32 52.0	+0.6
LKD				*e*Sg	Sn	15 33 07.8	+0.9
JAN	**Janina**	**1.22**	**311**	⇓*i*P	Pn	15 32 54.4	+1.6
LIT	**Litokhoron**	**1.29**	**16**	*e*Pg	Pn	15 32 54.2	+0.4
LIT				*e*Sg	Sn	15 33 11.2	0.0
MGER	**Gerania Oros**	**1.30**	**132**	*e*P	Pn	15 32 53.5	-0.4
KZN	**Kozani**	**1.46**	**352**	⇓*i*P	Pn	15 32 56.9	+1.0
KZN				*e*S	Sn	15 33 16.4	+1.4
AOS	**Alonnisos**	**1.47**	**77**	*e*Pg	Pn	15 32 56.1	+0.1
AOS				*e*Sg	Sn	15 33 14.7	-0.6
IGT	**Igoumenitsa**	**1.48**	**298**	*e*Pg	Pn	15 32 56.5	+0.4
IGT				*e*Sg	Sn	15 33 15.6	+0.1
ATH	**Athens Observa**	**1.59**	**123**	*e*P	Pn	15 32 57.9	+0.4
ATH				*e*S	Sn	15 33 17.0	-0.9
PTL	**Penteli**	**1.65**	**119**	*e*P	Pn	15 32 58.5	+0.2
PAIG	**Paliouri**	**1.67**	**50**	*e*Pg	Pn	15 32 58.4	0.0
PAIG				*e*Sg	Sn	15 33 18.4	-1.2
ITM	**Ithomi**	**1.68**	**183**	*e*P	Pn	15 32 59.8	+1.2
KVR	**Kavouri**	**1.71**	**126**	*e*P	Pn	15 32 59.0	0.0
PLG	**Polygyros**	**1.87**	**35**	*e*P	Pn	15 33 01.2	+0.1
PLG				*e*S	Sn	15 33 23.3	-1.0
SRN	**Sarande**	**1.88**	**304**	*i* Pn	Pn	15 33 01.7	+0.5
SRN				*i* Sn	Sn	15 33 21.9	-2.6
SRN	**Sarande**	**1.88**	**304**	*e*Pn	Pn	15 33 01.7	+0.5
SRN				*i* Sn	Sn	15 33 21.9	-2.6
THE	**Thessaloniki**	**1.91**	**22**	*e*Pb	Pn	15 33 01.7	0.0
THE				*e*Sb	Sn	15 33 24.2	-1.2
FNA	**Florina**	**1.99**	**346**	*e*Pb	Pn	15 33 03.4	+0.7
FNA				*e*Sb	Sn	15 33 28.9	+1.8
OUR	**Ouranopolis**	**2.11**	**45**	*e*Pn	Pn	15 33 04.6	+0.3
GRG	**Griva**	**2.12**	**8**	*e*Pn	Pn	15 33 05.1	+0.7
GRG				*e*Sn	Sn	15 33 31.2	+1.1
SOH	**Sokhos**	**2.21**	**27**	*e*Pn	Pn	15 33 06.4	+0.8
SOH				*e*Sn	Sn	15 33 32.6	+0.3
VLI	**Veliai**	**2.25**	**161**	*e*P	Pn	15 33 06.6	+0.5
KNT	**Kendrikon**	**2.40**	**16**	*e*Pn	Pn	15 33 09.2	+1.1
KNT				*e*Sn	Sn	15 33 35.9	-0.8
SRS	**Serrai**	**2.56**	**27**	*e*Pn	Pn	15 33 10.6	+0.4
SRS				*e*Sn	Sn	15 33 40.2	-0.3
LOS	**Limnos**	**2.60**	**65**	*e*Pn	Pn	15 33 11.0	+0.3
KYTH	**Kithira**	**2.69**	**162**	*e*P	Pn	15 33 13.5	+1.5
NVR	**Nevrokopi**	**2.86**	**29**	*e*P	Pn	15 33 14.8	+0.6
NVR				*e*S	Sn	15 33 48.1	+0.3
MMB	**Musomiste**	**3.02**	**25**	*i* P	Pn	15 33 16.9	+0.5
KKB	**Krupnik**	**3.11**	**15**	*i* P	Pn	15 33 18.8	+1.2
QSH	**Qafa e Shtames**	**3.12**	**329**	*i* Pn	Pn	15 33 18.0	+0.2
QSH				*i* Sn	Sn	15 33 55.0	+0.9
QSH	**Qafa e Shtames**	**3.12**	**329**	*e*Pn	Pn	15 33 18.0	+0.2
QSH				*i* Sn	Sn	15 33 55.0	+0.9
CHOS	**Chios island**	**3.19**	**97**	*e*Pn	Pn	15 33 19.9	+1.3
APE	**Apeiranthos**	**3.29**	**122**	*e*Pn	Pn	15 33 20.8	+0.7
LCI	**Lecce**	**3.37**	**297**	Pn	Pn	15 33 20.7	-0.4
LCI				Sn	Sn	15 33 58.7	-1.4
RZN	**Rozhen**	**3.50**	**35**	*i* P	Pn	15 33 24.3	+1.5
RDO	**Rodhopi**	**3.53**	**49**	*e*P	Pn	15 33 23.6	+0.3
RDO				*e*S	Sn	15 34 03.4	-0.6
THR1	**Thera Island**	**3.68**	**131**	*e*Pn	Pn	15 33 26.7	+1.3
ALN	**Alexandroupoli**	**3.70**	**55**	*e*Pn	Pn	15 33 25.9	+0.3
ALN				*e*Sn	Sn	15 34 07.4	-0.7
KDZ	**Kurdzhali**	**3.81**	**42**	*i* P	Pn	15 33 27.0	0.0
VTS	**Vitosha**	**3.84**	**13**	*i* P	Pn	15 33 29.0	+1.6
VTS	**Vitosha**	**3.84**	**13**	*e*Pn	Pn	15 33 29.0	+1.6
PE1	**Pezze di Greco**	**4.05**	**300**	*e*Pn	Pn	15 33 29.4	-0.9
TIP	**Timpagrande**	**4.12**	**276**	*e*Pn	Pn	15 33 30.9	-0.4
TIP				*e*Sn	Sn	15 34 10.7	-7.6
TIP	**Timpagrande**	**4.12**	**276**	*e*Pn	Pn	15 33 30.9	-0.4
TIP				*e*Sn	Sn	15 34 10.7	-7.6
BRT	**Bari-Castellan**	**4.23**	**300**	Pn	Pn	15 33 32.5	-0.2
BRT				Sn	Sn	15 34 16.0	-4.9
GVD	**Gavdhos**	**4.34**	**157**	*e*Pn	Pn	15 33 33.0	-1.2
GVD				*e*Sn	Sn	15 34 20.5	-3.1
GVD	**Gavdhos**	**4.34**	**157**	*e*Pn	Pn	15 33 33.0	-1.2
GVD				*e*Sn	Sn	15 34 20.5	-3.0
SG1	**Sgolgore (BA)**	**4.57**	**297**	*e*Pn	Pn	15 33 36.6	-0.8
SOI	**Samo**	**4.76**	**262**	Pn	Pn	15 33 39.3	-0.6
TREB	**Trebinje**	**4.76**	**325**	P	Pn	15 33 38.1	-1.9
TREB				S	Sn	15 34 30.1	-3.8
CEL	**Celeste**	**4.85**	**265**	Pn	Pn	15 33 41.0	-0.2
CEL				Sn	Sn	15 34 32.2	-3.8
CUC	**Castrocucco**	**4.95**	**285**	Pn	Pn	15 33 43.4	+0.9
CUC				Sn	Sn	15 34 32.9	-5.5
CDT	**Castel del Mon**	**4.95**	**298**	*e*Pn	Pn	15 33 41.8	-0.7
SCLL	**Scilla**	**4.99**	**265**	Pn	Pn	15 33 42.8	-0.3
	7.3nm,0.2s						
ZKR	**Zakros**	**5.02**	**137**	*e*Pn	Pn	15 33 45.2	+1.8
MTTG	**Motta San Giov**	**5.05**	**262**	Pn	Pn	15 33 43.1	-0.8
	54nm,0.5s						
MGR	**Morigerati**	**5.17**	**286**	Pn	Pn	15 33 46.0	+0.4
	45nm,0.3s						
SLCN	**Sala Consilina**	**5.17**	**289**	Pn	Pn	15 33 46.2	+0.6
	81nm,0.3s						
STON	**Ston**	**5.18**	**322**	*i* Pn	Pn	15 33 43.8	-1.9
STON				*i* Sn	Sn	15 34 38.1	-6.1
STON	**Ston**	**5.18**	**322**	*i* Pn	Pn	15 33 43.8	-1.9
STON				*i* Sn	Sn	15 34 38.0	-6.2
MS1	**Monte Sant'Ang**	**5.46**	**303**	*e*Pn	Pn	15 33 48.2	-1.2
TIRR	**Tirgusor**	**7.36**	**38**	P	Pn	15 34 16.4	+1.1
TIRR	**Tirgusor**	**7.36**	**38**	P	Pn	15 34 16.4	+1.1
SLUM		**7.79**	**160**	⇑P	Pn	15 34 16.8	-4.5
SLUM				S	Sn	15 35 37.0	-11
NVLJ	**Novalja**	**7.82**	**319**	*i* Pn	Pn	15 33 19.9	-1.7
NVLJ				*i* Sn	Sn	15 35 42.7	-5.8
HMAT	**Matruh**	**8.79**	**150**	⇑P	Pn	15 34 29.9	-4.9
BR131	**Keskin Array S**	**9.04**	**81**	*e*Pn	Pn	15 34 39.5	+1.2
BRTR	**Keskin Array B**	**9.04**	**81**	P	Pn	15 34 42.2	+3.9
	0.4nm,0.3s,baz=257,slow=13,SNR=9.0						
DABA	**Dabaa**	**9.36**	**145**	P	Pn	15 34 37.7	-4.8
CSS	**Prodhromos**	**9.85**	**110**	P	Pn	15 34 48.6	-0.6
CSS	**Prodhromos**	**9.85**	**110**	P	Pn	15 34 48.6	-0.6
SWA2		**10.00**	**163**	⇑P	Pn	15 34 47.3	-4.0
SWA2				S	Sn	15 36 31.1	-11
SWA1		**10.04**	**161**	⇑P	Pn	15 34 47.8	-4.1
GERES	**GERESS Array B**	**11.65**	**332**	P	Pn	15 35 13.5	-0.2
	0.1nm,0.3s,baz=158,slow=14,SNR=3.2						
AWBH		**11.96**	**149**	P	Pn	15 35 13.7	-4.3
FINES	**FINESS Array B**	**22.75**	**5**	P	P	15 37 23.5	-1.8
	1.3nm,0.9s,mb3.3,baz=186,slow=10,SNR=6.0						
FINES	**FINESS Array B**	**22.75**	**5**	P	P	15 37 23.5	-1.8
NOA	**NORSAR Array B**	**23.21**	**347**	P	P	15 37 29.3	-0.4
	0.3nm,0.5s,mb2.9,baz=160,slow=9.4,SNR=3.2						
NOA	**NORSAR Array B**	**23.21**	**347**	P	P	15 37 29.3	-0.4
MKAR	**Makanchi Array**	**43.94**	**59**	P	P	15 40 28.8	+0.3
	2.2nm,0.4s,mb4.2,baz=278,slow=7.8,SNR=60						
ZAL	**Zalesovo**	**44.34**	**49**	P	P	15 40 31.2	-0.6
	1.1nm,0.4s,mb4.0,baz=190,slow=6.2,SNR=4.9						
ZAL	**Zalesovo**	**44.34**	**49**	P	P	15 40 31.2	-0.6
SONM	**Songino Array**	**59.11**	**51**	P	P	15 42 21.2	-0.4
	0.3nm,0.5s,mb3.6,baz=292,slow=9.9,SNR=3.7						

*NEIC **13** 15:37:08.0, 1573N×6131W, h38km, MD3.3(TRN), After TRN.*

TRN 13 15:37:05.3, 1578N×6164W, h17km, MD3.3, M3.8(FDF), M3.0(FDF), 8C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TBG	**Guadaloupe-3**	**0.07**	**357**	⇑*i*P	Pg	15 37 08.4	-0.1
HMG	**Houelmont**	**0.21**	**344**	⇑*e*P	Pg	15 37 11.6	+1.4
PHG	**Guadaloupe-2**	**0.23**	**360**	⇑*e*P	Pg	15 37 12.1	+1.5
SCG	**Saint Claude**	**0.25**	**351**	⇑*e*P	Pg	15 37 12.3	+1.5
DOG	**Dongo Capester**	**0.25**	**5**	⇑*e*P	Pg	15 37 12.2	+1.3
BBL	**Barber's Block**	**0.30**	**147**	⇓*e*P	Pg	15 37 13.9	+2.1
BCG	**Bois Riant Cap**	**0.30**	**4**	*e*P	Pg	15 37 13.7	+2.0
MGG	**Marie-Galante**	**0.34**	**66**	⇑*e*P	Pg	15 37 13.9	+1.5
LZG	**Guadaloupe-1**	**0.38**	**340**	⇑*e*P	Pg	15 37 14.7	+1.5
DWS	**Wesley**	**0.38**	**124**	⇑*i*P	Pg	15 37 15.8	+2.7
DWS				*e*S	Sg	15 37 21.9	+3.4
MDN	**Morne-Daniel**	**0.52**	**152**	*i* P	Pg	15 37 18.8	+3.2
MDN				*e*S	Sg	15 37 27.0	+4.4
DBCT	**Belle View Cho**	**0.58**	**151**	*e*P	Pg	15 37 19.5	+2.7
DBCT				*e*S	Sg	15 37 27.8	+3.2
DSHT	**Scott's Head**	**0.62**	**155**	*e*P	Pg	15 37 20.6	+3.1
DSHT				*e*S	Sg	15 37 29.4	+3.6
DEG	**La Desirade**	**0.77**	**47**	*e*P	Pb	15 37 20.6	+0.4
FDF	**Fort de France**	**1.15**	**155**	⇓*e*P	Pn	15 37 27.5	+1.1
FDF				*e*S	Sb	15 37 45.6	+4.5
CRM	**Caravelle**	**1.24**	**145**	*e*P	Pn	15 37 29.2	+1.4
CRM				*e*S	Sb	15 37 46.7	+2.8
BPA	**Boggy Peak**	**1.27**	**351**	*e*P	Pn	15 37 32.4	+4.1
BPA				*e*S	Sb	15 37 48.3	+3.4
MVM	**Montagne Vaucl**	**1.42**	**149**	*e*P	Pn	15 37 32.0	+1.8
MVM				*e*S	Sn	15 37 51.9	+3.4
CPB	**Codrington**	**1.86**	**355**	*e*P	Pn	15 37 40.0	+3.7
CPB				*e*S	Sn	15 38 04.0	+4.7

IDC 13 15:39:29.9±87.0, 1408S×16620E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/14, mbtmp3.8/3, Error ellipse: s-maj=1463.0km s-min=117.8km az=63.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**28.64**	**228**	P	P	15 45 28.3	+0.1
	0.7nm,0.4s,baz=54,slow=9.1,SNR=5.5						
WRA	**Warramunga Arr**	**30.99**	**255**	P	P	15 45 49.4	+0.4
	0.4nm,0.5s,baz=85,slow=9.2,SNR=4.9						
ASAR	**Alice Springs**	**31.95**	**248**	P	P	15 45 57.8	+0.4
	0.7nm,0.4s,baz=76,slow=9.2,SNR=25						

*ISCJB **13** 15:44:00.9±0.3, 4520N±002×7346E±003, h9km±3km, Error ellipse: s-maj=3.9km s-min=2.5km az=12.2*
*CSEM **13** 15:44:00.4±0.1, 4514N×767E, h5km, ML2.4/5, Error ellipse: s-maj=2.2km s-min=1.7km az=97.0*
*NEIC **13** 15:44:01.8, 4524N×731E, h10km, ML2.0(ROM), ML2.3(STR), ML2.5(LDG), After ROM.*
*GEN **13** 15:44:01.6, 4522N×747E, h16km, ML2.0*
*ROM **13** 15:44:01.8±0.3, 4524N×731E, h10km, Md2.3/7, Ml2.0/3, Error ellipse: s-maj=6.0km s-min=2.7km az=110.0*
*STR **13** 15:44:02.9±0.5, 4514N×747E, h10km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ZUR **13** 15:44:03.4, 4535N×751E, h10km, ML1.8/5*
*LDG **13** 15:44:03.1±0.2, 4514N×748E, h2km, Md2.5/1, Ml2.5/7, Error ellipse: s-maj=5.0km s-min=2.8km az=96.0*

ISC 13 15:44:01.3±0.3, 4519N±001×750E±003, h8km±3km, n59, σ1§12/94, 2C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSP	**Reno Superiore**	**0.17**	**256**	P	Pg	15 44 06.0	+1.0
RSP	**Reno Superiore**	**0.17**	**256**	P	Pg	15 44 06.0	+1.0
RSP				S	Sg	15 44 08.6	+1.2
MONC	**Moncucco Torin**	**0.33**	**111**	Pg	Pg	15 44 11.5	+3.7
MONC				Sg	Sg	15 44 19.1	+6.9
	92nm,0.3s						
FENE	**Fenestrelle**	**0.35**	**242**	P	Pg	15 44 08.6	+0.5
TRAV		**0.36**	**29**	P	Pg	15 44 08.9	+0.4
ORX	**Oropa**	**0.56**	**38**	P	Pg	15 44 12.2	+0.1
RRL	**Cesana Torines**	**0.57**	**242**	P	Pg	15 44 12.6	+0.2
MRGE	**Morge**	**0.65**	**332**	Pg	Pg	15 44 13.7	-0.2
MRGE				Sg	Sg	15 44 21.0	-1.4
	50nm,0.2s						
MBDF	**Montbardon**	**0.69**	**228**	*e*Pg	Pg	15 44 15.5	+0.8
MBDF				*e*Sg	Sg	15 44 25.1	+1.3
	48nm,0.3s						
MBDF	**Montbardon**	**0.69**	**228**	*e*Pg	Pg	15 44 15.5	+0.8
MBDF				*e*Sg	Sg	15 44 25.1	+1.3
	24nm,0.3s						
DOI	**San Damiano**	**0.71**	**194**	Pg	Pg	15 44 14.9	-0.2
	62nm,0.3s						
PZZ	**Prazzo**	**0.74**	**202**	P	Pg	15 44 15.6	-0.1
SURF	**Saint Ours**	**0.86**	**214**	Pg	Pg	15 44 18.3	+0.4
DIX	**Grande Dixence**	**0.89**	**356**	Pg	Pg	15 44 17.7	-0.7
DIX				Sg	Sg	15 44 28.6	-1.4
DIX	**Grande Dixence**	**0.89**	**356**	⇑*i*Pg	Pg	15 44 17.6	-0.8
	103nm,0.3s						
DIX				*e*Sg	Sg	15 44 29.0	-1.0
	103nm,0.3s						
DIX	**Grande Dixence**	**0.89**	**356**	⇑*i*Pg	Pg	15 44 17.6	-0.8
	103nm,0.3s						
DIX				Sg	Sg	15 44 28.6	-1.4
MMK	**Mattmark**	**0.92**	**21**	*e*Pg	Pg	15 44 18.5	-0.5
	62nm,0.1s						
MMK	**Mattmark**	**0.92**	**21**	Pg	Pg	15 44 19.0	0.0
MMK				Sg	Sg	15 44 31.8	+0.8
ROB	**Roburent**	**0.94**	**163**	P	Pg	15 44 19.5	+0.1
ROB				S	Sg	15 44 31.8	+0.2
STV	**Sta Anna Valdi**	**0.96**	**187**	P	Pg	15 44 18.3	-1.4
EMV	**Vieux Emosson**	**0.96**	**335**	Pg	Pg	15 44 19.9	0.0
EMV	**Vieux Emosson**	**0.96**	**335**	*e*Pg	Pg	15 44 19.5	-0.4
	31nm,0.6s						
ENR	**Entracque**	**0.97**	**183**	P	Pg	15 44 19.2	-0.8
SALAN	**Lac Salanfe**	**1.02**	**339**	*e*Pg	Pg	15 44 20.6	-0.3
FIN	**Finale Ligure**	**1.11**	**152**	Pg	Pg	15 44 24.6	+2.0
FIN				Sg	Sg	15 44 39.9	+2.9
	5.0nm,0.2s						
FIN	**Finale Ligure**	**1.11**	**152**	P	Pb	15 44 21.6	-1.1
MONE	**Monesi**	**1.13**	**170**	P	Pb	15 44 21.7	-1.4
MONE				S	Sg	15 44 35.6	-2.1
RORO		**1.16**	**159**	P	Pb	15 44 21.7	-1.8
ORIF	**Oris-en-Rattie**	**1.18**	**257**	*e*Pn	Pn	15 44 24.1	0.0
ORIF				*e*Sg	Sg	15 44

*BJI **13** 15:48:08.2, 3050S×17790W, h10km, mB5.2, mb4.7, Ms4.8, Ms24.2*
*NEIC **13** 15:48:11.3±1.0, 3049S×17794W, h10km, mb4.8/10, Error ellipse: s-maj=24.3km s-min=12.9km az=93.0*
*MOS **13** 15:48:12.6±2.6, 3033S×17768W, h33km, mb4.8/9, Error ellipse: s-maj=20.6km s-min=16.8km az=114.1*
*ISCJB **13** 15:48:14.5±2.1, 3080S±005×1782W±01, h32km±15km, mb4.7/14, MS3.8/3, Error ellipse: s-maj=19.1km s-min=6.8km az=32.5*

ISC 13 15:48:15.5±2.2, 3076S±005×1781W±01, h30km±16km, n66, σ1§20/59, mb4.7/14, MS3.8/3, 1C-1D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.50**	**5**	Pn		**Pn**	**Pn**	**15 48 32.7**	**-7.7**
	1µm,0.3s,baz=89,slow=14,SNR=58								
RAO				Sn			**Sn**	**15 48 47.4**	**-12**
	3µm,0.3s,baz=157,slow=23,SNR=31								
RAO	**Raoul Island**	**1.50**	**5**	*e*Pn		**Pn**	**Pn**	**15 48 33.0**	**-7.4**
RAO				*e*Sn			**Sn**	**15 48 45.6**	**-13**
PUZ	**Puketiti**	**7.91**	**202**	*e*PN		**Pn**	**Pn**	**15 50 07.9**	**-0.5**
PUZ				SN			**Sn**	**15 51 40.9**	**+4.1**
MWZ	**Matawai**	**8.39**	**204**	*e*PN		**Pn**	**Pn**	**15 50 14.9**	**-0.1**
URZ	**Urewera**	**8.48**	**207**	Pn		**Pn**	**Pn**	**15 50 16.9**	**+0.7**
	0.7nm,0.3s,baz=182,slow=22,SNR=14								
URZ				Sn			**Sn**	**15 51 56.9**	**+6.1**
	5.6nm,0.3s,baz=175,slow=20,SNR=13								
URZ	**Urewera**	**8.48**	**207**	*e*PN		**Pn**	**Pn**	**15 50 16.5**	**+0.3**
URZ				SN			**Sn**	**15 51 56.0**	**+5.2**
KNZ	**Kokohu**	**8.96**	**202**	*e*PN		**Pn**	**Pn**	**15 50 23.8**	**+1.0**
PXZ	**Pawanui**	**10.14**	**203**	SN		**Sn**	**Sn**	**15 52 32.8**	**+1.2**
TSZ	**Takapari Road**	**10.48**	**206**	*e*PN		**Pn**	**Pn**	**15 50 41.2**	**-2.5**
TSZ				SN			**Sn**	**15 52 42.2**	**+2.1**
KIW	**Kapiti Island**	**11.58**	**208**	SN		**Sn**	**Sn**	**15 53 06.7**	**-0.2**
TCW	**Tory Channel**	**12.13**	**209**	SN		**Sn**	**Sn**	**15 53 19.7**	**-0.8**
TUWZ	**Tuamarina**	**12.45**	**209**	SN		**Sn**	**Sn**	**15 53 26.9**	**-1.4**
NNZ	**Nelson**	**12.52**	**211**	*e*PN		**Pn**	**Pn**	**15 51 11.9**	**+0.3**
NNZ				SN			**Sn**	**15 53 29.6**	**-0.4**
NNZ				SN			**Sn**	**15 53 30.1**	**+0.1**
THZ	**Tophouse**	**13.17**	**211**	*e*PN		**Pn**	**Pn**	**15 51 21.2**	**+0.7**
THZ				SN			**Sn**	**15 53 45.5**	**-0.4**
KHZ	**Kahutara**	**13.44**	**208**	*e*PN		**Pn**	**Pn**	**15 51 23.5**	**-0.7**
KHZ				SN			**Sn**	**15 53 49.3**	**-3.1**
LTZ	**Lake Taylor**	**14.27**	**210**	SN		**Sn**	**Sn**	**15 54 07.1**	**-5.6**
MQZ	**McQueen's Vall**	**14.88**	**207**	SN		**Sn**	**Sn**	**15 54 20.2**	**-7.3**
WVZ	**Waitaha Valley**	**15.20**	**213**	*e*PN		**Pn**	**Pn**	**15 51 47.5**	**-0.4**
RPZ	**Rata Peaks**	**15.55**	**211**	Pn		**Pn**	**Pn**	**15 51 51.8**	**-0.7**
	0.5nm,0.3s,baz=0.0,slow=6.1,SNR=2.7								
RPZ				Sn			**Sn**	**15 54 36.5**	**-7.3**
	1.0nm,0.3s,baz=14,slow=23,SNR=8.0								
DZM	**Mont Dzumac**	**16.34**	**298**	LR		LR	LR	15 55 37.9	
	comp=Z,70nm,20.6s,baz=142,slow=27								
TBI	**Tubuai**	**26.47**	**81**	*e*LR		LR	LR	16 00 07.3	
	89nm,28.0s								
PPT	**Papeete**	**29.02**	**70**	*e*LR		LR	LR	16 01 19.5	
	100nm,26.2s								
CTA	**Charters Tower**	**33.80**	**280**	*e*P		**P**	**P**	**15 54 57.2**	**+2.4**
	6.8nm,0.7s,mb4.7								
CTA	**Charters Tower**	**33.80**	**280**	P		**P**	**P**	**15 54 56.9**	**+2.1**
	9.6nm,0.8s,mb4.8,baz=90,slow=4.0,SNR=8.4								
CTA				LR		LR	LR	16 06 15.3	
	comp=Z,84nm,18.6s,MS3.5,baz=50,slow=32								
CTAO	**Charters Tower**	**33.80**	**280**	*e*P		**P**	**P**	**15 54 57.2**	**+2.4**
CTAO				pmax		pmax			
	comp=Z,14nm,0.9s,mb4.9								
CTAO	**Charters Tower**	**33.80**	**280**	*e*P		**P**	**P**	**15 54 57.2**	**+2.4**
	comp=Z,14nm,0.9s,mb4.9								
STKA	**Stephens Creek**	**34.35**	**257**	*e*P		**P**	**P**	**15 55 00.6**	**+1.1**
	comp=Z,3.2nm,0.3s,mb4.7								
STKA	**Stephens Creek**	**34.35**	**257**	P		**P**	**P**	**15 55 01.0**	**+1.5**
	comp=Z,6.5nm,0.5s,mb4.8,baz=103,slow=10,SNR=36								
STKA				LR		LR	LR	16 07 30.1	
	comp=Z,77nm,18.9s,MS3.5,baz=193,slow=33								
ASAR	**Alice Springs**	**43.04**	**267**	P		**P**	**P**	**15 56 13.1**	**+0.7**
	comp=Z,1.6nm,0.3s,mb4.2,baz=107,slow=7.2,SNR=78								
ASAR	**Alice Springs**	**43.04**	**267**	P		**P**	**P**	**15 56 13.1**	**+0.7**
ASAR				pmax		pmax			
	comp=Z,2.0nm,0.3s								
WB2	**Warramunga Arr**	**44.05**	**273**	*e*P		**P**	**P**	**15 56 20.8**	**+0.3**
WRAB	**Tennant Creek**	**44.05**	**273**	*e*P		**P**	**P**	**15 56 21.1**	**+0.6**
WRAB				pmax		pmax			
	comp=Z,10.0nm,0.7s,mb4.7								
WRAB	**Tennant Creek**	**44.05**	**273**	*e*P		**P**	**P**	**15 56 21.1**	**+0.6**
	comp=Z,10nm,0.7s,mb4.7								
WRA	**Warramunga Arr**	**44.06**	**273**	P		**P**	**P**	**15 56 20.7**	**+0.1**
	comp=Z,4.7nm,0.3s,mb4.7,baz=110,slow=8.1,SNR=105								
WRA	**Warramunga Arr**	**44.06**	**273**	P		**P**	**P**	**15 56 20.7**	**+0.1**
WRA				pmax		pmax			
	comp=Z,5.0nm,0.3s								
SBA	**Scott Base**	**47.68**	**184**	*e*P		**P**	**P**	**15 56 53.7**	**+4.6**
SBA				pmax		pmax			
	comp=Z,2.0nm,0.5s,mb4.4								
SBA	**Scott Base**	**47.68**	**184**	*e*P		**P**	**P**	**15 56 53.7**	**+4.6**
	comp=Z,2.3nm,0.5s,mb4.5								
CASY	**Casey**	**54.80**	**208**	*e*P		**P**	**P**	**15 57 43.8**	**+1.3**
	comp=Z,14nm,0.5s,mb5.3								
MBWA	**Marble Bar**	**56.13**	**264**	*e*P		**P**	**P**	**15 57 51.5**	**-0.7**
	comp=Z,19nm,1.2s,mb5.0								
QSPA	**South Pole Qui**	**59.36**	**180**	*e*P		**P**	**P**	**15 58 16.8**	**+2.1**
	comp=Z,9.1nm,0.5s,mb5.1								
MAW	**Mawson**	**71.96**	**201**	*e*P		**P**	**P**	**15 59 36.9**	**+0.8**
MAW				pmax		pmax			
	comp=Z,5.0nm,0.9s								
MAW	**Mawson**	**71.96**	**201**	*e*P		**P**	**P**	**15 59 36.9**	**+0.8**
	comp=Z,4.6nm,0.9s,mb4.4								
SYO	**Syowa Base**	**76.76**	**193**	⇓*e*P		**P**	**P**	**16 00 04.0**	**0.0**
SYO	**Syowa Base**	**76.76**	**193**	⇑*e*pP		pP	pP	16 00 26.8	+13
SNAA	**Sanae**	**77.80**	**178**	*e*P		**P**	**P**	**16 00 10.0**	**+0.1**
SNAA				pmax		pmax			
	comp=Z,6.0nm,1.2s								
SNAA	**Sanae**	**77.80**	**178**	*e*P		**P**	**P**	**16 00 10.0**	**+0.1**
	comp=Z,6.2nm,1.2s,mb4.4								
VNA3	**Neumayer Olymp**	**77.95**	**176**	*e*		**P**	**P**	**16 00 09.5**	**-1.2**
VNA3				*e*				16 00 11.9	
VNA3				*e*		pP		16 00 19.1	-1.2
VNA3				*e*				16 00 30.7	
VNA2	**Neumayer--Watz**	**78.39**	**177**	*e*		**P**	**P**	**16 00 13.3**	**+0.2**
VNA2				*e*				16 00 15.6	
VNA2				*e*		pP		16 00 21.6	-1.1
VNA2				*e*				16 00 32.5	
VNA1	**Neumayer--Stat**	**78.62**	**177**	*e*		**P**	**P**	**16 00 04.1**	**-10**
VNA1				*e*				16 00 06.4	
MDJ	**Mudanjiang**	**88.89**	**326**	P		**P**	**P**	**16 01 03.3**	**-3.5**
MDJ				AMB		AMB			
	comp=Z,3.0nm,0.6s,mb4.8								
MDJ				AMB		AMB			
	comp=Z,59nm,4.6s								
KMI	**Kunming**	**93.93**	**297**	P		**P**	**P**	**16 01 27.8**	**-2.5**
KMI				AMB		AMB			
	comp=Z,6.0nm,2.0s,mb4.7								
HHC	**Hu-ho-hao-te**	**96.44**	**314**	*e*P		**P**	**P**	**16 01 38.8**	**-2.9**
HHC				PP		PP		16 05 35.4	-0.3
HHC				AMB		AMB			
	comp=Z,14nm,1.2s,mb5.3								
HHC				AMB		AMB			
	comp=Z,61nm,4.2s								
HHC				LR		LR			
	comp=N,171nm,23.1s,MS4.6								
HHC				LR		LR			
	comp=E,141nm,21.4s,MS4.6								
HHC				LR		LR			
	comp=Z,71nm,18.1s,MS4.2								
ARCES	**ARCESS Array B**	**138.93**	**348**	PKP		PKPdf	PKPdf	16 07 33.9	-5.0
	comp=Z,2.3nm,0.8s,baz=51,slow=4.8,SNR=4.2								
ARCES	**ARCESS Array B**	**138.93**	**348**	PKIKP		PKPdf	PKPdf	16 07 33.9	-5.0
ARCES				pmax		pmax			
	comp=Z,2.0nm,0.8s								
KAF	**Kangasniemi**	**144.87**	**340**	*e*p		PKPdf	PKPdf	16 07 43.6	-5.9
FINES	**FINESS Array B**	**145.46**	**340**	PKP		PKPdf	PKPdf	16 07 46.0	-4.5
	comp=Z,3.5nm,0.5s,baz=55,slow=3.6,SNR=42								
FINES	**FINESS Array B**	**145.46**	**340**	PKIKP		PKPdf	PKPdf	16 07 46.0	-4.5
FINES				pmax		pmax			
	comp=Z,4.0nm,0.5s								
NB2	**NORSAR Subarra**	**149.09**	**351**	PKPa		PKPbc	PKPbc	16 07 56.6	-4.1
	comp=Z,0.5nm,0.4s,baz=10,slow=3.2								
NOA	**NORSAR Array B**	**149.09**	**351**	PKPbc		PKPbc	PKPbc	16 07 56.6	-4.1
	comp=Z,1.0nm,0.5s,baz=14,slow=4.2,SNR=4.3								
NOA	**NORSAR Array B**	**149.09**	**351**	PKP2		PKPbc	PKPbc	16 07 56.6	-4.1
NOA				pmax		pmax			
	comp=Z,1.0nm,0.5s								
HFS	**Hagfors**	**149.58**	**348**	PKPbc		PKPbc	PKPbc	16 07 57.3	-4.6
	comp=Z,1.9nm,0.6s,baz=53,slow=5.7,SNR=5.9								
HFS	**Hagfors**	**149.58**	**348**	PKP2		PKPbc	PKPbc	16 07 57.3	-4.6
HFS				pmax		pmax			
	comp=Z,2.0nm,0.6s								
MMAI	**Mount Meron Ar**	**151.56**	**283**	PKPbc		PKPbc	PKPbc	16 08 05.6	-1.0
	comp=Z,1.8nm,0.4s,baz=73,slow=5.6,SNR=9.1								
BRTR	**Keskin Array B**	**152.72**	**298**	PKPbc		PKPbc	PKPbc	16 08 06.5	-2.7
	comp=Z,1.0nm,0.5s,baz=143,slow=6.3,SNR=6.2								
BRTR	**Keskin Array B**	**152.72**	**298**	PKIKP		PKPbc	PKPbc	16 08 06.5	-2.7
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.5s								
TORD	**Torodi Ar. Bea**	**162.47**	**179**	PKPab		PKPab	PKPab	16 09 02.3	+0.2
	comp=Z,0.5nm,0.6s,baz=178,slow=3.4,SNR=5.7								

*NEIC **13** 15:50:32.3, 1501N×9528W, h16km, MD3.9(MEX), After MEX.*

MEX 13 15:50:31.9±0.6, 1498N×9530W, h19km±60km, MD3.9, Off coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.10**	**315**	*i* P			Pn	15 50 49.0	-3.3
HUIG				*i* S			Sb	15 51 02.0	-4.4
VHO	**Vista Hermosa**	**2.49**	**327**	*i* P			Pn	15 51 09.9	-1.5
VHO				*i* S			Sn	15 51 39.1	-2.2
OXX	**Oaxaca**	**2.50**	**327**	*e*P			Pn	15 51 11.5	+0.1
OXX				*i* S			Sn	15 51 40.0	-1.3
CCIG	**Comitan**	**3.31**	**67**	*i* P			Pn	15 51 20.6	-1.9
CCIG				*i* S			Sn	15 51 58.3	-3.0
CCIG	**Comitan**	**3.31**	**67**	*i* P			Pn	15 51 20.6	-1.9
CCIG				*i* S			Sn	15 51 57.1	-4.2
UTMO	**Huajuapan**	**3.71**	**320**	*e*P			Pn	15 51 27.7	-0.5
UTMO				*i* S			Sn	15 52 09.1	-2.3

JMA 13 15:55:32.9±0.2, 4329N×14678E, h43km±2km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.76**	**276**	P			Pn	15 55 47.4	+0.2
NEM2				*e*S			Sn	15 55 57.9	+0.4
JRA	**Rausu**	**1.37**	**299**	P			Pn	15 55 56.0	+0.5
JRA				*e*S			Sn	15 56 12.7	+0.3
JNK	**Nakash**	**1.53**	**282**	P			Pn	15 55 58.1	+0.4
JNK				*e*S			Sn	15 56 17.0	+0.6
JAK	**Akkeshi**	**1.55**	**260**	P			Pn	15 55 58.6	+0.6
JOB	**Onbets**	**2.19**	**261**	P			Pn	15 56 08.2	+1.4
JOB				*e*S			Sn	15 56 34.5	+1.8
JTKR	**Abashiri--Toko**	**2.19**	**289**	P			Pn	15 56 08.5	+1.7
JTKR				*e*S			Sn	15 56 35.4	+2.7
JAR	**Ashorobuto**	**2.20**	**271**	P			Pn	15 56 08.3	+1.4
JAR				*e*S			Sn	15 56 34.8	+2.0
JMP	**Maruseppu**	**2.58**	**287**	P			Pn	15 56 14.0	+1.8
JCH	**Churui**	**2.60**	**256**	P			Pn	15 56 13.7	+1.3
JCH				*e*S			Sn	15 56 44.5	+1.8

IDC 13 15:59:30.9±1.0, 1077S×6666E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/20, mbtmp4.0/4, MS3.5/9, Ms1 3.5/9, ms1mx3.2/24, Error ellipse: s-maj=40.9km s-min=28.7km az=9.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**30.74**	**286**	LR		LR	LR	16 15 51.9	
	comp=Z,41nm,18.5s,baz=90,slow=32								
ATD	**Arta Tunnel**	**32.41**	**312**	LR		LR	LR	16 16 25.2	
	comp=Z,31nm,19.6s,baz=295,slow=31								
PSI	**Prapat**	**34.83**	**69**	LR		LR		16 17 27.0	
	comp=Z,101nm,18.5s,baz=173,slow=31								
LSZ	**Lusaka**	**37.71**	**259**	P		P		16 06 49.1	+0.9
	1.8nm,0.8s,baz=106,slow=9.9,SNR=4.0								
LSZ				LR		LR	LR	16 19 32.9	
	comp=Z,83nm,20.5s,baz=115,slow=32								
MATP	**Matopo**	**37.90**	**251**	LR		LR	LR	16 20 29.3	
	comp=Z,61nm,20.0s,baz=145,slow=33								
LBTB	**Lobatse**	**41.38**	**244**	LR		LR	LR	16 24 18.9	
	comp=Z,50nm,18.9s,baz=318,slow=36								
SUR	**Sutherland**	**47.30**	**236**	LR		LR	LR	16 25 41.4	
	comp=Z,55nm,19.4s,baz=71,slow=33								
FITZ	**Fitzroy Crossi**	**57.39**	**105**	LR		LR	LR	16 28 16.5	
	comp=Z,50nm,19.6s,baz=263,slow=30								
ASAR	**Alice Springs**	**65.01**	**111**	P		P	P	16 10 13.4	+0.7
	1.0nm,0.8s,baz=273,slow=6.2,SNR=12								
WRA	**Warramunga Arr**	**65.55**	**107**	P		P	P	16 10 17.0	+0.8
	2.0nm,0.8s,baz=275,slow=5.5,SNR=4.8								
SONM	**Songino Array**	**68.16**	**28**	P		P	P	16 10 33.5	+0.6
	1.7nm,0.8s,baz=215,slow=6.4,SNR=17								
DBIC	**Dimbokro**	**73.26**	**280**	LR		LR	LR	16 41 02.4	
	comp=Z,41nm,20.1s,baz=345,slow=34								
PDAR	**Pinedale Array**	**147.95**	**355**	PKPbc		PKPbc	PKPbc	16 19 17.5	-0.6
	0.9nm,1.0s,baz=42,slow=2.4,SNR=4.5								
NVAR	**Mina Array Bea**	**152.10**	**8**	PKPbc		PKPbc	PKPbc	16 19 28.2	0.0
	0.4nm,0.5s,baz=346,slow=2.2,SNR=4.3								

*MOS **13** 16:07:04.6±1.2, 5157N×1607E, h10km, mb4.0/4, Error ellipse: s-maj=7.6km s-min=4.3km az=84.1*
*ISCJB **13** 16:07:04.4±0.3, 5143N±002×1609E±002, h0km, mb3.6/6, Error ellipse: s-maj=2.5km s-min=1.7km az=16.2*
*NEIC **13** 16:07:05.8±0.3, 5152N×1614E, h5km, mb3.9/3, ML3.0(CLL), ML3.2(BRA), ML3.3(FUR), ML3.5(SZGRF), Error ellipse: s-maj=4.5km s-min=4.1km az=53.0*
*BGR **13** 16:07:05.2±0.6, 5146N×1625E, h1km, ML3.4/10, Error ellipse: s-maj=7.8km s-min=5.6km az=100.0*
*IPEC **13** 16:07:05.8±0.3, 5152N×1624E, h8km±1km, ML2.8/3, Error ellipse: s-maj=2.0km s-min=0.8km az=33.0*
*CSEM **13** 16:07:05.1±0.1, 5152N×1619E, h0km, mb3.8/4, ML3.8/11, Error ellipse: s-maj=1.4km s-min=1.2km az=167.0*
*LDG **13** 16:07:06.2±0.3, 5141N×1622E, h1km, Ml3.9/8, Error ellipse: s-maj=8.5km s-min=5.3km az=174.0, Suspected Mining induced.*
*IDC **13** 16:07:06.3±0.6, 5141N×1623E, h0km, mb3.5/3, mb1 3.6/10, mb1mx3.5/23, mbtmp3.5/10, ML3.3/7, Error ellipse: s-maj=13.6km s-min=6.8km az=103.0*
*VIE **13** 16:07:07.7±0.7, 5132N×1608E, h0km, mb2.9/5, ML3.3/5, Error ellipse: s-maj=4.7km s-min=3.0km az=18.0 69 km WNW of Breslau Suspected Mining induced.*
*WAR **13** 16:07:07.1, 5148N×1610E, ML3.3, Mining Induced*
*PRU **13** 16:07:07.6, 5143N×1606E, h0km*
*UPP **13** 16:07:47.1, 5453N×1589E, h0km, ML2.8, Suspected Mining explosion.*

ISC 13 16:07:05.5±0.2, 5149N±002×1611E±002, h0km, n127, σ1§11/202, mb3.6/6, 5C-6D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**170**	*i* Pgd		**Pg**	**Pg**	**16 07 18.9**	**+0.8**
KSP				*e*				16 07 26.6	
KSP				*e*Sg		**Sg**	**Sg**	**16 07 27.6**	**+0.9**
KSP				*e*L				16 07 31.0	
KSP	**Ksiaz**	**0.66**	**170**	⇓*i*P		**Pg**	**Pg**	**16 07 18.9**	**+0.8**
KSP				*e*				16 07 27.6	
KSP	**Ksiaz**	**0.66**	**170**	⇓*i*Pg		**Pg**	**Pg**	**16 07 18.9**	**+0.8**
KSP				*e*				16 07 26.6	
KSP				*e*Sg		**Sg**	**Sg**	**16 07 27.6**	**+0.9**
KSP				*e*				16 07 31.0	
KSP	**Ksiaz**	**0.66**	**170**	*e*Pg		**Pg**	**Pg**	**16 07 18.8**	**+0.7**
KSP				*e*Sg		**Sg**	**Sg**	**16 07 27.5**	**+0.8**
UPC	**Upice**	**0.99**	**184**	*e*PG		**Pg**	**Pg**	**16 07 24.9**	**+0.5**
UPC	**Upice**	**0.99**	**184**	*e*Pg		**Pg**	**Pg**	**16 07 24.8**	**+0.4**
DPC	**Dobruska-Polom**	**1.15**	**173**	*e*PG		**Pg**	**Pg**	**16 07 27.7**	**+0.1**
DPC				*e*SG		**Sg**	**Sg**	**16 07 42.6**	**+0.1**
	137nm,0.6s								
DPC	**Dobruska-Polom**	**1.15**	**173**	*e*P		**Pg**	**Pg**	**16 07 27.7**	**+0.1**
DPC				*e*				16 07 42.6	
DPC				smax					
	comp=N,137nm,0.6s								
DPC	**Dobruska-Polom**	**1.15**	**173**	*e*Pg		**Pg**	**Pg**	**16 07 27.6**	**0.0**
DPC				*e*Sg		**Sg**	**Sg**	**16 07 42.6**	**+0.1**
BRG	**Berggiesshubel**	**1.50**	**246**	*e*Pn		**Pn**	**Pn**	**16 07 33.5**	**-0.2**
BRG	**Berggiesshubel**	**1.50**	**246**	PN		**Pn**	**Pn**	**16 07 33.1**	**-0.5**
BRG				PG		**Pg**	**Pg**	**16 07 34.6**	**+0.4**
BRG				SG		**Sg**	**Sg**	**16 07 54.6**	**+1.0**
	comp=N,89nm,0.3s								
BRG	**Berggiesshubel**	**1.50**	**246**	P		**Pn**	**Pn**	**16 07 33.1**	**-0.5**
BRG								16 07 54.7	
BRG				smax					
	comp=N,89nm,0.3s								
BRG	**Berggiesshubel**	**1.50**	**246**	Pn		**Pn**	**Pn**	**16 07 33.5**	**-0.1**
BRG				S		**Sg**	**Sg**	**16 07 54.7**	**+1.0**
	comp=N,89nm,0.3s								

RUE	**Ruedersdorf**	**1.75**	**305**	*e*Pn		**Pn**	**Pn**	**16 07 36.8**	**-0.2**
RUE				*e*Sg		**Sg**	**Sg**	**16 08 04.4**	**+2.8**
RUE	**Ruedersdorf**	**1.75**	**305**	*e*Pn		**Pn**	**Pn**	**16 07 36.8**	**-0.3**
RUE				*e*Sg		**Sg**	**Sg**	**16 08 04.4**	**+2.7**
RUE	**Ruedersdorf**	**1.75**	**305**	*e*Pn		**Pn**	**Pn**	**16 07 36.7**	**-0.4**
RUE				Sg		**Sg**	**Sg**	**16 08 04.4**	**+2.7**
PRA	**Prague**	**1.78**	**217**	PG		**Pg**	**Pg**	**16 07 38.0**	**-1.6**
PRA				SG		**Sg**	**Sg**	**16 08 01.0**	**-1.6**
PRU	**Pruhonice**	**1.81**	**214**	*e*PN		**Pn**	**Pn**	**16 07 37.5**	**-0.4**
PRU				*e*PG		**Pg**	**Pg**	**16 07 39.7**	**-0.4**
PRU				*e*SG		**Sg**	**Sg**	**16 08 02.7**	**-0.8**
	comp=N,95nm,0.9s								
PRU	**Pruhonice**	**1.81**	**214**	*e*P		**Pn**	**Pn**	**16 07 37.5**	**-0.4**
PRU				*e*				16 08 02.7	
PRU				smax					
	comp=N,95nm,0.9s								
RAC	**Raciborz**	**1.93**	**136**	*e*Pg		**Pg**	**Pg**	**16 07 42.1**	**-0.4**
RAC				*e*Sg		**Sg**	**Sg**	**16 08 07.1**	**-0.5**
MORC	**Moravsky Berou**	**1.94**	**152**	⇓*i*P		**Pn**	**Pn**	**16 07 39.5**	**-0.2**
MORC	**Moravsky Berou**	**1.94**	**152**	*e*Pn		**Pn**	**Pn**	**16 07 39.2**	**-0.6**
MORC				*e*Sn		**Sn**	**Sn**	**16 08 05.4**	**+0.6**
MORC	**Moravsky Berou**	**1.94**	**152**	*e*Pn		**Pn**	**Pn**	**16 07 39.2**	**-0.5**
MORC				*e*Sn		**Sn**	**Sn**	**16 08 05.4**	**+0.5**
MORC				*e*Sg		**Sg**	**Sg**	**16 08 06.5**	**-1.5**
	comp=N,48nm,0.3s								
CLL	**Collm**	**1.96**	**266**	*e*Pn		**Pn**	**Pn**	**16 07 39.5**	**-0.5**
CLL	**Collm**	**1.96**	**266**	*e*Pn		**Pn**	**Pn**	**16 07 40.0**	**+0.1**
CLL				*e*Pg		**Pg**	**Pg**	**16 07 42.0**	**-1.0**
CLL				*ex*			x	16 07 46.0	
CLL				*e*Sg		**Sg**	**Sg**	**16 08 10.0**	**+1.6**
	comp=Z,96nm,0.8s								
CLL	**Collm**	**1.96**	**266**	*e*Pn		**Pn**	**Pn**	**16 07 40.0**	**+0.1**
CLL				*e*Pg		**Pg**	**Pg**	**16 07 42.0**	**-1.0**
CLL				*e*Sg		**Sg**	**Sg**	**16 08 10.0**	**+1.6**
CLL	**Collm**	**1.96**	**266**	*e*Pg		**Pg**	**Pg**	**16 07 42.0**	**-1.0**
CLL				*e*S		**Sg**	**Sg**	**16 08 10.0**	**+1.6**
OKC	**Ostrava-Krasne**	**2.10**	**141**	*e*PN		**Pn**	**Pn**	**16 07 41.4**	**-0.5**
OKC				*e*PG		**Pg**	**Pg**	**16 07 45.7**	**-0.1**
OKC				*e*SG		**Sg**	**Sg**	**16 08 12.1**	**-1.0**
VRAC	**Vranov**	**2.21**	**172**	Pg		**Pg**	**Pg**	**16 07 44.7**	**-3.1**
	comp=Z,4.5nm,0.3s,baz=337,slow=15,SNR=25								
VRAC				Lg				16 08 12.5	
	comp=Z,4.3nm,0.3s,baz=62,slow=16,SNR=5.3								
VRAC	**Vranov**	**2.21**	**172**	⇓*i*P		**Pn**	**Pn**	**16 07 44.8**	**+1.4**
VRAC	**Vranov**	**2.21**	**172**	*e*Pn		**Pn**	**Pn**	**16 07 43.1**	**-0.3**
VRAC	**Vranov**	**2.21**	**172**	Pg		**Pn**	**Pn**	**16 07 44.7**	**+1.3**
VRAC				*e*Sg		**Sg**	**Sg**	**16 08 15.0**	**-1.5**
	comp=Z,32nm,0.3s								
KRUC	**Moravsky**	**2.44**	**176**	P		**Pn**	**Pn**	**16 07 47.1**	**+0.5**
KRUC	**Moravsky**	**2.44**	**176**	*e*Pn		**Pn**	**Pn**	**16 07 46.8**	**+0.2**
KRUC	**Moravsky**	**2.44**	**176**	*e*Pg		**Pg**	**Pg**	**16 07 51.0**	**-1.3**
KRUC				*e*Sg		**Sg**	**Sg**	**16 08 23.1**	**-0.8**
	comp=Z,72nm,0.6s								
WERD	**Werda**	**2.62**	**248**	*e*Pn		**Pn**	**Pn**	**16 07 49.6**	**+0.5**
WERD				*e*Sg		**Sg**	**Sg**	**16 08 29.8**	**0.0**
NKC	**Novy Kostel**	**2.64**	**243**	*e*PN		**Pn**	**Pn**	**16 07 50.2**

STU	**Stuttgart**	**5.22**	**241**	P	**Pn**	**16 08 24.2**	**-0.5**
STU				pmax	pmax			
	comp=Z,11nm,0.6s							
STU	**Stuttgart**	**5.22**	**241**	Pn	**Pn**	**16 08 24.2**	**-0.5**
	comp=Z,11nm,0.6s							
STU				*e*	**Pg**	**16 08 45.2**	**-0.2**
STU				*e*S	**Sg**	**16 09 54.4**	**+1.3**
STU	**Stuttgart**	**5.22**	**241**	Pn	**Pn**	**16 08 24.2**	**-0.5**
STU	**Stuttgart**	**5.22**	**241**	P	**Pn**	**16 08 24.2**	**-0.5**
	comp=Z,11nm,0.6s							
LVV	**L'vov**	**5.31**	**105**	*e*P	**Pn**	**16 08 26.3**	**+0.3**
LVV				*i* S	**Sn**	**16 09 28.3**	**+0.4**
PKSM	**Moragy**	**5.54**	**162**	⇑*i*P	**Pn**	**16 08 30.1**	**+0.9**
PKSM	**Moragy**	**5.54**	**162**	*e*P	**Pn**	**16 08 30.0**	**+0.8**
PKSM				*e*S	**Sn**	**16 09 38.8**	**+5.2**
BFO	**Black Forest**	**5.94**	**241**	*e*Pn	**Pn**	**16 08 32.1**	**-2.6**
DAVOX	**Davos**	**6.24**	**223**	Pn	**Pn**	**16 08 39.8**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=68,slow=16,SNR=4.2							
DAVOX				Lg		16 10 17.4		
	comp=Z,0.5nm,0.3s,baz=210,slow=18,SNR=2.9							
CDF	**Champ du Feu**	**6.48**	**245**	*e*Pn	**Pn**	**16 08 42.3**	**+0.2**
CDF				*e*Sg	**Sg**	**16 10 29.7**	**-4.0**
	comp=Z,96nm,1.3s							
CDF	**Champ du Feu**	**6.48**	**245**	*e*Pn	**Sg**	**16 08 42.3**	**+0.2**
CDF				*e*Sg	**Sg**	**16 10 29.7**	**-4.0**
	comp=Z,48nm,1.3s							
HINF	**Hinteralfeld**	**7.05**	**242**	*e*Pn	**Pn**	**16 08 50.2**	**+0.3**
HINF				*e*Sg	**Sg**	**16 10 45.6**	**-6.2**
	comp=Z,30nm,0.9s							
HINF	**Hinteralfeld**	**7.05**	**242**	*e*Pn	**Pn**	**16 08 50.2**	**+0.3**
HINF				*e*Sg	**Sg**	**16 10 45.6**	**-6.2**
	comp=Z,15nm,0.9s							
BURAR	**Bucovina Array**	**7.08**	**120**	⇑*i*P	**Pn**	**16 08 50.2**	**-0.1**
HAU	**Haudompre**	**7.22**	**245**	*e*Pn	**Pn**	**16 08 54.0**	**+1.7**
HAU				*e*Sn	**Sn**	**16 10 11.3**	**-3.7**
	comp=Z,4.1nm,0.2s							
DOU	**Dourbes**	**7.43**	**264**	P	**Pn**	**16 08 57.3**	**+2.1**
DOU	**Dourbes**	**7.43**	**264**	P	**Pn**	**16 08 57.2**	**+2.0**
SFTF	**Sexfontaines**	**7.88**	**250**	*e*Sg	**Sg**	**16 11 11.9**	**-6.5**
	comp=Z,70nm,1.4s							
SFTF	**Sexfontaines**	**7.88**	**250**	*e*Sg	**Sg**	**16 11 11.9**	**-6.5**
	comp=Z,35nm,1.4s							
CABF	**La Chapelle**	**8.20**	**237**	*e*Sg	**Sg**	**16 11 24.6**	**-4.1**
	comp=Z,44nm,1.1s							
CABF	**La Chapelle**	**8.20**	**237**	*e*Sg	**Sg**	**16 11 24.6**	**-4.1**
	comp=Z,22nm,1.1s							
AKASG	**Malin Array Be**	**8.29**	**90**	Pn	**Pn**	**16 09 03.8**	**-3.2**
	comp=Z,1.8nm,0.3s,baz=278,slow=12,SNR=6.6							
AKASG				Lg		16 11 33.6		
	comp=Z,0.5nm,0.3s,baz=266,slow=28,SNR=5.5							
LPG	**La Plagne**	**8.63**	**230**	*e*Pn	**Pn**	**16 09 12.5**	**+0.8**
HFS	**Hagfors**	**8.77**	**352**	Pn	**Pn**	**16 09 11.7**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=165,slow=15,SNR=5.2							
AQU	**L'Aquila**	**9.33**	**192**	P	**Pn**	**16 09 17.5**	**-3.7**
AQU				pmax	pmax			
	comp=Z,9.0nm,0.9s							
AQU	**L'Aquila**	**9.33**	**192**	P	**Pn**	**16 09 17.4**	**-3.7**
	comp=Z,8.8nm,0.9s							
NOA	**NORSAR Array B**	**9.95**	**346**	Pn	**Pn**	**16 09 28.1**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=154,slow=9.3,SNR=3.8							
FRF	**La Foret Royal**	**10.19**	**223**	*e*Pn	**Pn**	**16 09 32.0**	**-0.9**
LMR	**La Mourre**	**10.43**	**222**	*e*Pn	**Pn**	**16 09 35.2**	**-1.1**
FINES	**FINESS Array B**	**11.38**	**25**	Pn	**Pn**	**16 09 47.0**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=201,slow=11,SNR=7.9							
FINES	**FINESS Array B**	**11.38**	**25**	Pn	**Pn**	**16 09 47.0**	**-2.3**
EKA	**Eskdalemuir Ar**	**12.12**	**296**	Pn	**Pn**	**16 09 56.3**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=104,slow=13,SNR=3.9							
ARCES	**ARCESS Array B**	**18.64**	**10**	Pn	**Pn**	**16 11 20.7**	**-4.2**
	comp=Z,0.4nm,0.3s,baz=196,slow=12,SNR=11							
ARU	**Arti**	**25.15**	**62**	*e*P	**P**	**16 12 32.3**	**+0.1**
ARU				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.1							
ARU	**Arti**	**25.15**	**62**	*e*P	**P**	**16 12 32.3**	**0.0**
	comp=Z,3.4nm,0.8s,mb4.1							
ARU	**Arti**	**25.15**	**62**	*e*P	**P**	**16 12 32.3**	**+0.1**
	comp=Z,3.0nm,0.8s,mb4.1							
ZRNK	**Zerenda**	**31.83**	**66**	*e*P	**P**	**16 13 33.4**	**+1.5**
ZRNK				pmax	pmax			
	comp=Z,1.0nm,0.9s,mb3.8							
ZRNK	**Zerenda**	**31.83**	**66**	*e*P	**P**	**16 13 33.4**	**+1.5**
	comp=Z,1.0nm,0.9s,mb3.8							
KURK	**Kurchatov**	**38.19**	**66**	*e*P	**P**	**16 14 26.4**	**-0.4**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.8s,mb3.6							
KURK	**Kurchatov**	**38.19**	**66**	*e*P	**P**	**16 14 26.4**	**-0.4**
	comp=Z,1.4nm,0.8s,mb3.7							
KURK	**Kurchatov**	**38.19**	**66**	*e*P	**P**	**16 14 26.4**	**-0.4**
	comp=Z,1.0nm,0.8s,mb3.6							
TORD	**Torodi Ar. Bea**	**39.98**	**202**	P	**P**	**16 14 41.8**	**0.0**
	comp=Z,0.4nm,0.7s,mb3.2,baz=9.1,slow=6.8,SNR=3.8							
SONM	**Songino Array**	**54.92**	**55**	P	**P**	**16 16 39.3**	**+1.3**
	comp=Z,0.1nm,0.6s,mb3.0,baz=289,slow=9.2,SNR=4.1							
YKA	**Yellowknife Ar**	**59.88**	**336**	P	**P**	**16 17 13.5**	**+0.5**
	comp=Z,0.5nm,0.6s,mb3.7,baz=53,slow=6.8,SNR=6.3							
YKA	**Yellowknife Ar**	**59.88**	**336**	P	**P**	**16 17 13.5**	**+0.5**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**59.88**	**336**	P	**P**	**16 17 13.5**	**+0.5**

IDC 13 16:14:18.1±2.3, 001N×9842E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.5/19, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=87.5km s-min=21.4km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.82**	**10**	Pn	Pn	16 15 03.9	-0.5
	7.4nm,0.3s,baz=218,slow=4.0,SNR=34						
WRA	**Warramunga Arr**	**40.38**	**122**	P	P	16 21 57.6	-0.1
	0.2nm,0.3s,baz=303,slow=9.1,SNR=4.5						
ASAR	**Alice Springs**	**41.71**	**127**	P	P	16 22 09.6	+0.9
	0.2nm,0.3s,baz=296,slow=7.8,SNR=5.3						
MKAR	**Makanchi Array**	**48.69**	**345**	P	P	16 23 04.5	+0.5
	0.9nm,0.5s,baz=150,slow=8.6,SNR=14						
ZAL	**Zalesovo**	**54.91**	**350**	P	P	16 23 49.6	-0.9
	0.7nm,0.4s,baz=304,slow=5.8,SNR=2.6						

MOS ***13*** *16:20:52.7±1.1, 44.38N×12.17E, h10km, mb4.0/1, Error ellipse: s-maj=11.9km s-min=7.1km az=23.2*
CSEM ***13*** *16:20:56.3±0.1, 44.17N×12.08E, h12km, ML2.9/12, Error ellipse: s-maj=2.1km s-min=1.3km az=35.0*
LDG ***13*** *16:20:56.2±0.7, 44.34N×12.19E, h10km, Ml2.8/12, Error ellipse: s-maj=13.5km s-min=7.5km az=118.0*
NEIC ***13*** *16:20:56.5, 44.14N×12.06E, h3km, ML2.3(ROM), ML2.8(LDG), After ROM.*
ROM 13 16:20:56.5±0.2, 4414N×1206E, h3km, Md2.6/11, Ml2.3/4, Error ellipse: s-maj=2.2km s-min=2.0km az=179.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRSN	**Barisano**	**0.14**	**6**	Pg	Pg	16 20 59.6	+0.3
BRSN				Sg	Sg	16 21 02.6	+1.4
	813nm,0.2s						
SFI	**Santa Sofia**	**0.28**	**212**	Pg	Pg	16 21 02.9	+1.0
SFI				Sg	Sg	16 21 07.7	+2.2
VMG	**Vicchio**	**0.41**	**244**	Pg	Pg	16 21 04.7	+0.3
VMG				Sg	Sg	16 21 12.0	+2.3
	71nm,0.1s						
SEI	**Scarperia**	**0.51**	**260**	Pg	Pg	16 21 06.3	0.0
SEI				Sg	Sg	16 21 15.4	+2.5
	220nm,0.2s						
PESA	**Pesaro**	**0.60**	**109**	Pg	Pg	16 21 08.4	+0.4
PESA				Sg	Sg	16 21 18.1	+2.3
	192nm,0.4s						
BADI	**Badiali**	**0.65**	**168**	Pg	Pg	16 21 09.5	+0.6
	172nm,0.6s						
ZCCA	**Zocca**	**0.80**	**285**	Pg	Pg	16 21 12.8	+0.9
	20nm,0.4s						
CSNT	**Castellina Chi**	**0.87**	**220**	Pg	Pg	16 21 14.8	+1.6
	86nm,0.6s						
ARV	**Arcevia**	**0.91**	**135**	Pg	Pg	16 21 14.4	+0.5
ARV				Sg	Sg	16 21 28.2	+2.5
	55nm,0.5s						
BDI	**Bagni Di Lucca**	**1.05**	**266**	Pg	Pg	16 21 17.6	+0.9
	59nm,0.5s						
GSCL	**Gusciola**	**1.07**	**282**	Pg	Pg	16 21 18.4	+1.3
	25nm,0.9s						
SNTG	**Esanatoglia**	**1.09**	**144**	Pg	Pg	16 21 18.0	+0.5
SNTG				Sg	Sg	16 21 34.9	+3.2
	60nm,0.3s						
MAIM		**1.15**	**259**	P	Pg	16 21 18.3	-0.3
PII	**Pisa**	**1.18**	**250**	Pg	Pg	16 21 19.2	0.0
	38nm,0.2s						
VINC	**Vinca**	**1.37**	**271**	P	Pn	16 21 22.1	-0.4
BACM		**1.43**	**276**	P	Pn	16 21 23.7	+0.3
GRAM		**1.47**	**284**	P	Pn	16 21 23.0	-0.9
NRCA	**Norcia**	**1.52**	**149**	Pg	Pg	16 21 25.3	-0.3
	9.0nm,0.4s						
CODM		**1.60**	**280**	P	Pn	16 21 25.3	-0.5
NVLJ	**Novalja**	**2.06**	**77**	*i* Pn	Pn	16 21 29.1	-3.0
NVLJ				*i* Sn	Sn	16 21 54.2	-4.2
NVLJ	**Novalja**	**2.06**	**77**	*i* Pn	Pn	16 21 29.1	-3.0
NVLJ				*i* Sn	Sn	16 21 54.1	-4.2
JAVS	**Javornik**	**2.26**	**38**	*i* Pn	Pn	16 21 30.2	-4.6
JAVS				*i* Sn	Sn	16 21 57.0	-6.1
VOJS	**Vojsko**	**2.29**	**34**	*i* Pn	Pn	16 21 31.0	-4.3
VOJS				*i* Sn	Sn	16 21 58.5	-5.4
VOJS	**Vojsko**	**2.29**	**34**	*i* Pn	Pn	16 21 31.0	-4.2
VOJS				*i* Sn	Sn	16 21 58.5	-5.4
SBF	**Sospel**	**3.34**	**267**	*e*Pn	Pn	16 21 48.3	-1.4
SBF				*e*Sn	Sn	16 22 27.8	-2.2
	5.6nm,0.3s						
SBF	**Sospel**	**3.34**	**267**	*e*Pn	Pn	16 21 48.3	-1.4
SBF				*e*Sn	Sn	16 22 27.8	-2.2
	2.8nm,0.3s						
MBDF	**Montbardon**	**3.83**	**281**	*e*Pn	Pn	16 21 53.7	-2.7
FRF	**La Foret Royal**	**3.96**	**263**	*e*Pn	Pn	16 21 56.6	-1.5
FRF				*e*Sn	Sn	16 22 42.3	-2.7
	3.9nm,0.4s						
FRF	**La Foret Royal**	**3.96**	**263**	*e*Pn	Pn	16 21 56.6	-1.5
FRF				*e*Sn	Sn	16 22 42.3	-2.7
	2.0nm,0.4s						
LPG	**La Plagne**	**4.01**	**292**	*e*Pn	Pn	16 21 55.5	-3.3
LPL	**La Plagne**	**4.03**	**292**	*e*Pn	Pn	16 21 56.1	-3.0
LPL				*e*Sn	Sn	16 22 40.7	-6.1
	2.8nm,0.4s						
LPL	**La Plagne**	**4.03**	**292**	*e*Pn	Pn	16 21 56.1	-3.0
LPL				*e*Sn	Sn	16 22 40.7	-6.1
	1.4nm,0.4s						
LMR	**La Mourre**	**4.10**	**261**	*e*Pn	Pn	16 21 58.4	-1.7
LMR				*e*Sn	Sn	16 22 45.8	-2.8
	3.1nm,0.6s						
LMR	**La Mourre**	**4.10**	**261**	*e*Pn	Pn	16 21 58.4	-1.7
LMR				*e*Sn	Sn	16 22 45.8	-2.8
	1.5nm,0.6s						
ORIF	**Oris-en-Rattie**	**4.48**	**282**	*e*Pn	Pn	16 22 04.1	-1.3
ORIF				*e*Sn	Sn	16 22 52.4	-5.6
	3.3nm,0.4s						
ORIF	**Oris-en-Rattie**	**4.48**	**282**	*e*Pn	Pn	16 22 04.1	-1.3
ORIF				*e*Sn	Sn	16 22 52.4	-5.6
	1.6nm,0.4s						
SMRF	**Simiane la Rot**	**4.67**	**270**	*e*Pn	Pn	16 22 07.2	-0.8
CABF	**La Chapelle**	**4.88**	**303**	*e*Pn	Pn	16 22 08.1	-2.6
CABF				*e*Sn	Sn	16 23 02.2	-5.5
	5.9nm,0.7s						
CABF	**La Chapelle**	**4.88**	**303**	*e*Pn	Pn	16 22 08.1	-2.6
CABF				*e*Sn	Sn	16 23 02.2	-5.5
	3.0nm,0.7s						
HINF	**Hinteralfeld**	**5.16**	**317**	*e*Pn	Pn	16 22 10.9	-3.8
HINF				*e*Sn	Sn	16 23 04.4	-10
	5.3nm,0.3s						
HINF	**Hinteralfeld**	**5.16**	**317**	*e*Pn	Pn	16 22 10.9	-3.8
HINF				*e*Sn	Sn	16 23 04.4	-10
	2.7nm,0.3s						
VIVF	**Saint-Julien-l**	**5.33**	**280**	*e*Pn	Pn	16 22 14.4	-2.6
VIVF				*e*Sn	Sn	16 23 12.3	-6.6
	1.4nm,0.3s						
VIVF	**Saint-Julien-l**	**5.33**	**280**	*e*Pn	Pn	16 22 14.4	-2.6
VIVF				*e*Sn	Sn	16 23 12.3	-6.6
	0.7nm,0.3s						
CDF	**Champ du Feu**	**5.40**	**324**	*e*Pn	Pn	16 22 14.6	-3.4
CDF				*e*Sn	Sn	16 23 11.6	-9.2
	2.5nm,0.3s						
CDF	**Champ du Feu**	**5.40**	**324**	*e*Pn	Pn	16 22 14.6	-3.4
CDF				*e*Sn	Sn	16 23 11.6	-9.2
	1.2nm,0.3s						
HAU	**Haudompre**	**5.54**	**316**	*e*Pn	Pn	16 22 17.3	-2.6
HAU				*e*Sn	Sn	16 23 15.3	-8.8
	9.5nm,0.3s						
HAU	**Haudompre**	**5.54**	**316**	*e*Pn	Pn	16 22 17.3	-2.6
HAU				*e*Sn	Sn	16 23 15.3	-8.8
	4.8nm,0.3s						
SMF	**Signal de Mont**	**6.30**	**296**	*e*Pn	Pn	16 22 27.2	-3.1
LOR	**Lormes**	**6.54**	**301**	*e*Pn	Pn	16 22 30.3	-3.2
LOR				*e*Sn	Sn	16 23 40.7	-7.9
	3.6nm,0.3s						
LOR	**Lormes**	**6.54**	**301**	*e*Pn	Pn	16 22 30.3	-3.2
LOR				*e*Sn	Sn	16 23 40.7	-7.9
	1.8nm,0.3s						
AVF	**Avril sur Loir**	**6.67**	**296**	*e*Pn	Pn	16 22 32.2	-3.2
SSF	**Saint Saulge**	**6.67**	**299**	*e*Pn	Pn	16 22 32.0	-3.4
SSF				*e*Sn	Sn	16 23 42.4	-10
	1.6nm,0.4s						
SSF	**Saint Saulge**	**6.67**	**299**	*e*Pn	Pn	16 22 32.0	-3.4
SSF				*e*Sn	Sn	16 23 42.4	-10
	0.8nm,0.4s						
BGF	**Bois d'Agland**	**6.92**	**294**	*e*Pn	Pn	16 22 35.5	-3.4
CAF	**Calviac**	**7.18**	**280**	*e*Pn	Pn	16 22 40.1	-2.4
TCF	**Toulx Ste Croi**	**7.28**	**291**	*e*Pn	Pn	16 22 39.8	-3.9

MOS ***13*** *16:22:15.9±1.3, 44.35N×1201E, h10km, mb4.3/1, Error ellipse: s-maj=5.6km s-min=3.7km az=122.8*
ISCJB ***13*** *16:22:17.8±0.3, 44.30N±0.002×1201E±0.002, h24km±3km, Error ellipse: s-maj=3.2km s-min=2.1km az=122.1*
CSEM ***13*** *16:22:17.1±0.1, 44.19N×1221E, h15km, ML3.7/18, Error ellipse: s-maj=1.7km s-min=1.1km az=141.0*
LDG ***13*** *16:22:17.7±0.1, 44.28N×12.17E, h10km, Ml3.7/23, Error ellipse: s-maj=3.8km s-min=2.1km az=47.0*
PRU ***13*** *16:22:17.0, 44.31N×1256E, h0km*
SZGRF ***13*** *16:22:17.8, 44.22N×1232E, h10km, mb3.7, Northern Italy*
ROM ***13*** *16:22:18.0±0.1, 44.13N×1204E, h1km, Md3.1/15, Ml3.0/16, Error ellipse: s-maj=2.1km s-min=1.6km az=29.0*
NEIC ***13*** *16:22:18.0, 44.13N×1204E, h1km, ML3.4(ROM), ML3.7(SZGRF), ML3.7(LDG), ML3.9(STR), After ROM.*
VIE ***13*** *16:22:18.8±0.5, 44.29N×12.15E, h10km, mb2.9/5, ML3.8/7, Error ellipse: s-maj=4.6km s-min=2.3km az=143.0 49 km NNW of San Marino*
GEN ***13*** *16:22:19.0, 44.42N×12.10E, h12km, ML3.0*
STR ***13*** *16:22:20.5±0.8, 44.30N×1206E, h15km±1km, Ml3.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 13 16:22:18.4±0.3, 4429N±002×1206E±002, h18km±2km, n202, σ1§12/292, 17C-15D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRSN	**Barisano**	**0.02**	**103**	Pg	**Pg**	**16 22 21.6**	**0.0**
BRSN				Sg	**Sg**	**16 22 23.0**	**-0.7**
RSM	**Repubblica di**	**0.46**	**141**	Pg	**Pg**	**16 22 26.6**	**-1.1**
	2µm,0.7s						
SEI	**Scarperia**	**0.56**	**245**	Pg	**Pg**	**16 22 28.2**	**-1.3**
SEI				Sg	**Sg**	**16 22 37.5**	**+0.5**
PESA	**Pesaro**	**0.66**	**121**	Pg	**Pg**	**16 22 30.1**	**-1.4**
PESA				Sg	**Sg**	**16 22 41.4**	**+1.0**
	2µm,0.4s						
ZCCA	**Zocca**	**0.78**	**275**	Pg	**Pg**	**16 22 34.6**	**+1.0**
	67nm,1.1s						
BADI	**Badiali**	**0.79**	**170**	Pg	**Pg**	**16 22 31.3**	**-2.6**
	2µm,0.7s						
RAVA	**Ravarino**	**0.82**	**305**	Pg	**Pg**	**16 22 36.6**	**+2.2**
	461nm,0.6s						
CSNT	**Castellina Chi**	**0.98**	**214**	Pg	**Pg**	**16 22 35.6**	**-2.0**
	1µm,0.6s						
ARVD	**Arcevia**	**1.02**	**141**	Pg	**Pg**	**16 22 36.2**	**-2.0**
	897nm,0.7s						
GSCL	**Gusciola**	**1.05**	**274**	Pg	**Pg**	**16 22 38.8**	**-0.1**
	110nm,0.4s						
BDI	**Bagni Di Lucca**	**1.07**	**258**	Pg	**Pg**	**16 22 38.7**	**-0.5**
	597nm,0.5s						
TEOL	**Teolo**	**1.11**	**346**	⇓*i*Pg	**Pg**	**16 22 38.7**	**-1.2**
TEOL				*i* Sg	**Sg**	**16 22 53.9**	**-0.5**
ERBM	**Eremo**	**1.19**	**277**	Pg	**Pn**	**16 22 42.1**	**+2.1**
	259nm,0.7s						
MAIM		**1.19**	**252**	P	**Pn**	**16 22 40.3**	**+0.2**
VLC	**Villacollemand**	**1.21**	**264**	*e*Pg	**Sg**	**16 22 41.1**	**-0.6**
VLC				*e*Sg	**Sg**	**16 22 59.3**	**+1.7**
VLC	**Villacollemand**	**1.21**	**264**	*e*Pg	**Sg**	**16 22 41.1**	**-0.7**
VLC				*e*Sg	**Sg**	**16 22 59.3**	**+1.7**
CING	**Cingoli**	**1.23**	**137**	Pg	**Pn**	**16 22 40.3**	**-0.3**
	944nm,0.6s						
PII	**Pisa**	**1.24**	**243**	Pg	**Pn**	**16 22 40.1**	**-0.7**
IESO	**Jesolo**	**1.28**	**16**	*e*Pg	**Pn**	**16 22 41.4**	**+0.1**
VALM		**1.30**	**273**	P	**Pn**	**16 22 42.4**	**+0.8**
VINC	**Vinca**	**1.38**	**265**	P	**Pn**	**16 22 43.7**	**+1.0**
BACM		**1.43**	**270**	P	**Pn**	**16 22 44.8**	**+1.5**
GRAM		**1.44**	**279**	P	**Pn**	**16 22 44.7**	**+1.1**
SACS	**San Casciano d**	**1.44**	**184**	Pg	**Pn**	**16 22 42.6**	**-1.0**
	188nm,0.4s						
ARCI	**Arcidosso**	**1.50**	**197**	Pg	**Pn**	**16 22 43.5**	**-0.8**
	4.0nm,1.2s						
MTLO	**Montello**	**1.53**	**1**	⇓*i*Pg	**Pn**	**16 22 44.4**	**-0.3**
CODM		**1.59**	**274**	P	**Pn**	**16 22 47.1**	**+1.5**
CGRP	**Cima Grappa**	**1.60**	**354**	⇓*i*Pg	**Pn**	**16 22 45.5**	**-0.2**
CGRP				*i* Sg	**Sn**	**16 23 05.5**	**-0.5**
CGRP	**Cima Grappa**	**1.60**	**354**	*i* Pg	**Pn**	**16 22 45.5**	**-0.3**
CGRP				*i* Sg	**Sn**	**16 23 05.5**	**-0.5**
CAE	**Caneva**	**1.74**	**9**	⇑*i*Pn	**Pn**	**16 22 47.2**	**-0.5**
TLI	**Talmassons**	**1.79**	**24**	⇑*i*Pn	**Pn**	**16 22 48.0**	**-0.4**
SC2M	**Scurtabr**	**1.81**	**275**	P	**Pn**	**16 22 50.2**	**+1.5**
MLNI	**Malnisio**	**1.90**	**12**	⇑*i*Pn	**Pn**	**16 22 49.5**	**-0.4**
MLNI				*i* Sn	**Sn**	**16 23 13.6**	**+0.2**
FAU	**Forcella Aurin**	**1.94**	**358**	*e*Pn	**Pn**	**16 22 50.6**	**+0.2**
FAU				*e*Sn	**Sn**	**16 23 14.9**	**+0.6**
MNS	**Montasola**	**1.96**	**166**	Pg	**Pn**	**16 22 51.4**	**+0.8**
	78nm,0.5s						
CSO	**Casso**	**2.00**	**5**	⇑*i*Pn	**Pn**	**16 22 50.8**	**-0.4**
CSO				*i* S	**Sn**	**16 23 15.1**	**-0.6**
TERO	**Teramo**	**2.01**	**145**	Pg	**Pn**	**16 22 51.2**	**-0.2**
	728nm,0.9s						
NVLJ	**Novalja**	**2.04**	**81**	*i* Pn	**Pn**	**16 22 50.8**	**-0.9**
NVLJ				*i* Sn	**Sn**	**16 23 15.9**	**-0.8**
MPRI	**Monte Prat**	**2.06**	**18**	⇓*i*Pn	**Pn**	**16 22 52.1**	**0.0**
MPRI				*i* Sn	**Sn**	**16 23 18.3**	**+0.9**
KNDS	**Knezji Dol**	**2.07**	**52**	*i* Pn	**Pn**	**16 22 51.3**	**-0.8**
KNDS				*i* Sn	**Sn**	**16 23 17.2**	**-0.2**
KNDS	**Knezji Dol**	**2.07**	**52**	*i* Pn	**Pn**	**16 22 51.3**	**-0.8**
KNDS				*i* Sn	**Sn**	**16 23 17.2**	**-0.2**
BUA	**Buia**	**2.07**	**21**	⇓*e*Pn	**Pn**	**16 22 52.0**	**-0.2**
BAD	**Bernadia**	**2.12**	**23**	⇓*i*Pn	**Pn**	**16 22 52.4**	**-0.5**
BAD				*i* Sn	**Sn**	**16 23 18.4**	**-0.4**
JAVS	**Javornik**	**2.15**	**41**	*i* Pn	**Pn**	**16 22 52.3**	**-0.9**
JAVS				*i* Sn	**Sn**	**16 23 19.1**	**-0.3**
BOO	**Bordano**	**2.16**	**20**	⇑*i*Pn	**Pn**	**16 22 53.0**	**-0.4**
FIAM	**Fiamignano**	**2.16**	**159**	Pg	**Pn**	**16 22 54.5**	**+1.0**
	257nm,0.8s						
AQU	**L'Aquila**	**2.17**	**153**	*e*Pn	**Pn**	**16 22 54.2**	**+0.6**
VOY	**Vojsko**	**2.17**	**36**	*e*Pn	**Pn**	**16 22 52.8**	**-0.9**
VOY				*e*(Sn)	**Sn**	**16 23 20.8**	**+0.7**
VOY				*e*		16 23 31.9	
VOY	**Vojsko**	**2.17**	**36**	*e*Pn	**Pn**	**16 22 52.8**	**-0.9**
VOY				Sn	**Sn**	**16 23 20.8**	**+0.7**
DRE	**Drenchia**	**2.19**	**30**	⇓*i*Pn	**Pn**	**16 22 53.4**	**-0.6**
DRE	**Drenchia**	**2.19**	**30**	*i* Pn	**Pn**	**16 22 53.3**	**-0.6**
AFL	**Alpe Faloria**	**2.24**	**2**	⇓*i*Pn	**Pn**	**16 22 55.2**	**+0.6**
ZOU	**Zoufplan**	**2.36**	**16**	⇑*i*Pn	**Pn**	**16 22 56.3**	**+0.1**
PLRO	**Paularo**	**2.39**	**18**	⇑*i*Pn	**Pn**	**16 22 56.6**	**0.0**
LSR	**Lussari**	**2.42**	**25**	⇑*e*Pn	**Pn**	**16 22 56.7**	**-0.3**
CERT	**Cerreto**	**2.43**	**164**	Pg	**Pn**	**16 22 57.4**	**+0.2**
	78nm,0.5s						
GORS	**Gorjuse**	**2.45**	**33**	*i* Pn	**Pn**	**16 22 57.1**	**-0.3**
GORS				*i* Sn	**Sn**	**16 23 27.7**	**+0.9**
LJU	**Ljubljana**	**2.48**	**44**	*i* Pn	**Pn**	**16 22 57.5**	**-0.3**
LJU				*i* Sn	**Sn**	**16 23 28.3**	**+0.7**
LJU	**Ljubljana**	**2.48**	**44**	*i* Pn	**Pn**	**16 22 57.5**	**-0.3**
LJU				*i* Sn	**Sn**	**16 23 28.3**	**+0.7**
BOJS	**Bojanci**	**2.58**	**61**	*i* Pn	**Pg**	**16 23 07.6**	**-0.2**
BOJS				*i* Sn	**Sg**	**16 23 43.0**	**+1.7**
VVLD	**Villa Vallelon**	**2.67**	**154**	Pg	**Pn**	**16 23 01.2**	**+0.7**
	168nm,0.8s						
FIN	**Finale Ligure**	**2.77**	**270**	P	**Pn**	**16 23 02.0**	**+0.2**

BERF	**Bertagne**	**4.71**	**260**	Pn		**Pn**	**16 23 29.6**	**+1.1**
LOMF	**Lomont**	**4.77**	**312**	Pn		**Pn**	**16 23 29.3**	**0.0**
BFO	**Black Forest**	**4.80**	**329**	*e*Pn		**Pn**	**16 23 29.7**	**0.0**
CABF	**La Chapelle**	**4.80**	**301**	*e*Pn		**Pn**	**16 23 30.1**	**+0.4**
CABF				*e*Sn		**Sn**	**16 24 23.8**	**-1.0**
	18nm,0.3s							
CABF	**La Chapelle**	**4.80**	**301**	*e*Pn		**Pn**	**16 23 30.1**	**+0.4**
CABF				*e*Sn		**Sn**	**16 24 23.8**	**-1.0**
	9.1nm,0.3s							
OCF	**Saint Nazaire**	**4.85**	**276**	Pn		**Pn**	**16 23 31.2**	**+0.8**
OG26	**St.-Nazaire-De**	**4.85**	**276**	Pn		**Pn**	**16 23 31.2**	**+0.8**
TREF	**Trevaresse**	**4.86**	**264**	Pn		**Pn**	**16 23 32.0**	**+1.4**
GELF	**Grande-Etoile**	**4.88**	**262**	Pn		**Pn**	**16 23 31.7**	**+0.9**
WET	**Wettzell**	**4.89**	**6**	*e*Pn		**Pn**	**16 23 30.7**	**-0.3**
WET				*e*Sn		**Sn**	**16 24 24.2**	**-2.9**
MOF	**Molkenrain**	**4.94**	**318**	Pn		**Pn**	**16 23 31.8**	**+0.1**
KHC	**Kasperske Hory**	**4.96**	**12**	*e*Pn		**Pn**	**16 23 31.4**	**-0.5**
	1.1nm,0.3s							
KHC				*e*			16 23 39.9	
KHC				*e*			16 23 50.9	
KHC				*e*Sn		**Sn**	**16 24 25.3**	**-3.4**
OG05	**Jujurieux**	**4.98**	**293**	Pn		**Pn**	**16 23 32.3**	**0.0**
HINF	**Hinteralfeld**	**5.06**	**316**	*e*Pn		**Pn**	**16 23 33.0**	**-0.3**
HINF				*e*Sn		**Sn**	**16 24 26.5**	**-4.7**
	60nm,0.4s							
HINF	**Hinteralfeld**	**5.06**	**316**	*e*Pn		**Pn**	**16 23 33.0**	**-0.3**
HINF				*e*Sn		**Sn**	**16 24 26.5**	**-4.7**
	30nm,0.4s							
ECH	**Echery**	**5.19**	**321**	Pn		**Pn**	**16 23 35.2**	**+0.1**
ZST	**Bratislava**	**5.25**	**40**	*e*SG		**Sg**	**16 25 09.7**	**+2.9**
WLS	**Welschbruch**	**5.25**	**323**	Pn		**Pn**	**16 23 36.2**	**+0.2**
CDF	**Champ du Feu**	**5.29**	**323**	*e*Pn		**Pn**	**16 23 36.7**	**+0.3**
CDF				*e*Sn		**Sn**	**16 24 33.6**	**-3.3**
	29nm,0.3s							
CDF	**Champ du Feu**	**5.29**	**323**	*e*Pn		**Pn**	**16 23 36.7**	**+0.3**
CDF				*e*Sn		**Sn**	**16 24 33.6**	**-3.3**
	14nm,0.3s							
VIVF	**Saint-Julien-l**	**5.30**	**279**	*e*Pn		**Pn**	**16 23 36.3**	**-0.4**
VIVF				*e*Sn		**Sn**	**16 24 34.7**	**-2.6**
	13nm,0.3s							
VIVF	**Saint-Julien-l**	**5.30**	**279**	*e*Pn		**Pn**	**16 23 36.3**	**-0.4**
VIVF				*e*Sn		**Sn**	**16 24 34.7**	**-2.6**
	6.3nm,0.3s							
HAU	**Haudompre**	**5.44**	**315**	*e*Pn		**Pn**	**16 23 39.3**	**+0.8**
HAU				*e*Sn		**Sn**	**16 24 37.2**	**-3.3**
	92nm,0.4s							
HAU	**Haudompre**	**5.44**	**315**	*e*Pn		**Pn**	**16 23 39.3**	**+0.8**
HAU				*e*Sn		**Sn**	**16 24 37.2**	**-3.3**
	46nm,0.4s							
GRA1	**Grafenberg Arr**	**5.44**	**354**	*e*Sn		**Sn**	**16 24 37.1**	**-3.5**
GRF	**Grafenberg Arr**	**5.44**	**354**	*e*Sn		**Sn**	**16 24 37.1**	**-3.5**
ROTZ	**Rotzenmuhle**	**5.48**	**1**	*e*Sn		**Sn**	**16 24 37.9**	**-3.8**
MANZ	**Manzenberg**	**5.70**	**0**	*e*Sn		**Sn**	**16 24 43.5**	**-3.6**
THEF	**They Montfort**	**5.76**	**315**	Pn		**Pn**	**16 23 43.3**	**+0.3**
LASF	**Ste Croix**	**5.90**	**271**	*e*Pn		**Pn**	**16 23 44.4**	**-0.5**
LASF				*e*Sn		**Sn**	**16 24 49.6**	**-2.4**
	5.2nm,0.5s							
LASF	**Ste Croix**	**5.90**	**271**	*e*Pn		**Pn**	**16 23 44.4**	**-0.5**
LASF				*e*Sn		**Sn**	**16 24 49.6**	**-2.4**
	2.6nm,0.5s							
PRU	**Pruhonice**	**5.95**	**16**	*e*PN		**Pn**	**16 23 44.8**	**-0.7**
PRU				*e*PG		**Pn**	**16 24 09.3**	**+24**
PRU				*ex*		x	16 24 48.2	
NKC	**Novy Kostel**	**5.95**	**2**	*e*PN		**Pn**	**16 23 45.6**	**0.0**
NKC				*e*PG		**Pn**	**16 24 11.4**	**+26**
NKC				*ex*		x	16 24 49.0	
COLF	**Collangettes**	**6.07**	**285**	Pn		**Pn**	**16 23 46.4**	**-0.7**
TANN	**Tannenbergstha**	**6.14**	**2**	*e*Sn		**Sn**	**16 24 53.8**	**-4.0**
SMF	**Signal de Mont**	**6.24**	**295**	*e*Pn		**Pn**	**16 23 49.2**	**-0.3**
SMF				*e*Sn		**Sn**	**16 24 55.8**	**-4.5**
	31nm,0.4s							
SMF	**Signal de Mont**	**6.24**	**295**	*e*Pn		**Pn**	**16 23 49.2**	**-0.3**
SMF				*e*Sn		**Sn**	**16 24 55.8**	**-4.5**
	16nm,0.4s							
LBL	**Lubilhac**	**6.34**	**282**	Pn		**Pn**	**16 23 50.6**	**-0.3**
MOX	**Moxa**	**6.37**	**357**	*e*Sn		**Sn**	**16 24 57.6**	**-5.9**
MOX	**Moxa**	**6.37**	**357**	(PN)		**Pn**	**16 23 50.0**	**-1.3**
MOX				*e*SN		**Sn**	**16 24 59.0**	**-4.5**
MOX				(SG)		Sn	16 25 44.9	+41
MOX	**Moxa**	**6.37**	**357**	P		**Pn**	**16 23 50.0**	**-1.3**
MOX				*e*			16 24 59.0	
MOX	**Moxa**	**6.37**	**357**	Pn		**Pn**	**16 23 50.0**	**-1.3**
MOX				*e*Sn		**Sn**	**16 24 59.0**	**-4.5**
MOX				Sg		Sn	16 25 44.9	+41
MOX	**Moxa**	**6.37**	**357**	Pn		**Pn**	**16 23 50.0**	**-1.3**
MOX				*e*Sn		**Sn**	**16 24 57.6**	**-5.9**
ABH	**Alteburg**	**6.39**	**333**	Pn		**Pn**	**16 23 52.3**	**+0.8**
RUP	**Ruppelstein**	**6.40**	**330**	Pn		**Pn**	**16 23 52.6**	**+0.8**
MEZF	**Maizieres J'vi**	**6.42**	**314**	*e*Pn		**Pn**	**16 23 52.9**	**+0.9**
MEZF				*e*Sn		**Sn**	**16 25 00.3**	**-4.5**
	25nm,0.4s							
MEZF	**Maizieres J'vi**	**6.42**	**314**	*e*Pn		**Pn**	**16 23 52.9**	**+0.9**
MEZF				*e*Sn		**Sn**	**16 25 00.3**	**-4.5**
	12nm,0.4s							
LOR	**Lormes**	**6.46**	**300**	*e*Pn		**Pn**	**16 23 52.3**	**-0.3**
LOR				*e*Sn		**Sn**	**16 25 02.2**	**-3.6**
	42nm,0.3s							
LOR	**Lormes**	**6.46**	**300**	*e*Pn		**Pn**	**16 23 52.3**	**-0.3**
LOR				*e*Sn		**Sn**	**16 25 02.2**	**-3.6**
	21nm,0.3s							
PYM	**Petit Puy Mans**	**6.58**	**286**	Pn		**Pn**	**16 23 53.5**	**-0.7**
SSF	**Saint Saulge**	**6.60**	**298**	*e*Pn		**Pn**	**16 23 54.0**	**-0.5**
SSF				*e*Sn		**Sn**	**16 25 04.2**	**-5.0**
	16nm,0.5s							
SSF	**Saint Saulge**	**6.60**	**298**	*e*Pn		**Pn**	**16 23 54.0**	**-0.5**
SSF				*e*Sn		**Sn**	**16 25 04.2**	**-5.0**
	8.1nm,0.5s							
AVF	**Avril sur Loir**	**6.60**	**295**	*e*Pn		**Pn**	**16 23 54.3**	**-0.2**
AVF				*e*Sn		**Sn**	**16 25 02.5**	**-6.8**
	11nm,0.5s							
AVF	**Avril sur Loir**	**6.60**	**295**	*e*Pn		**Pn**	**16 23 54.3**	**-0.2**
AVF				*e*Sn		**Sn**	**16 25 02.5**	**-6.8**
	5.7nm,0.5s							
BRG	**Berggiesshubel**	**6.71**	**10**	PN		**Pn**	**16 23 56.5**	**+0.5**
BRG				PG		Pn	16 24 25.9	+30
BRG				SN		**Sn**	**16 25 10.2**	**-1.7**
BRG				SG		Sn	16 25 53.5	+41
	6.0nm,0.7s							
BRG	**Berggiesshubel**	**6.71**	**10**	P		**Pn**	**16 23 56.5**	**+0.5**
BRG							16 25 10.2	
BRG				smax				
	comp=N,6.0nm,0.7s							
DPC	**Dobruska-Polom**	**6.72**	**24**	*e*Pn		**Pn**	**16 23 56.1**	**0.0**
DPC				*e*Sn		**Sn**	**16 25 06.8**	**-5.4**
WLF	**Walferdange**	**6.72**	**325**	S		**Sn**	**16 25 10.4**	**-1.8**
WLF	**Walferdange**	**6.72**	**325**	P		**Pn**	**16 23 55.7**	**-0.5**
UPC	**Upice**	**6.78**	**22**	*e*PN		**Pn**	**16 23 56.0**	**-0.9**
BGF	**Bois d'Agland**	**6.87**	**293**	*e*Pn		**Pn**	**16 23 57.6**	**-0.5**
BGF				*e*Sn		**Sn**	**16 25 12.0**	**-3.8**
	comp=N,26nm,0.3s							
BGF	**Bois d'Agland**	**6.87**	**293**	*e*Pn		**Pn**	**16 23 57.6**	**-0.5**
BGF				*e*Sn		**Sn**	**16 25 12.0**	**-3.8**
	comp=N,13nm,0.3s							
CLL	**Collm**	**7.05**	**5**	*e*Pn		**Pn**	**16 24 00.0**	**-0.7**
CLL				*ex*		x	16 25 17.0	
CLL				*e*(Sn)		**Sn**	**16 25 38.0**	**+18**
CLL				*e*Sg		Sn	16 26 10.0	+50
CLL	**Collm**	**7.05**	**5**	*e*P		**Pn**	**16 24 00.0**	**-0.7**
CLL				*e*			16 25 17.0	
CLL	**Collm**	**7.05**	**5**	*e*Pg		**Pn**	**16 24 00.0**	**-0.7**
CLL				*e*Sg		**Sn**	**16 25 17.0**	**-3.4**
CLL				*e*Sg		Sn	16 26 11.0	+51
CAF	**Calviac**	**7.16**	**279**	*e*Pn		**Pn**	**16 24 02.0**	**-0.2**
MTLF	**Montolieu**	**7.18**	**266**	*e*Pn		**Pn**	**16 24 03.3**	**+0.9**
MTLF				*e*Sn		**Sn**	**16 25 20.4**	**-3.1**
	comp=N,4.4nm,0.5s							
MTLF	**Montolieu**	**7.18**	**266**	*e*Pn		**Pn**	**16 24 03.3**	**+0.9**
MTLF				*e*Sn		**Sn**	**16 25 20.4**	**-3.1**
	comp=N,2.2nm,0.5s							
HYF	**Humbligny**	**7.23**	**298**	*e*Pn		**Pn**	**16 24 03.7**	**+0.6**
HYF				*e*Sn		**Sn**	**16 25 19.8**	**-4.8**
TCF	**Toulx Ste Croi**	**7.23**	**290**	*e*Pn		**Pn**	**16 24 02.4**	**-0.7**
TCF				*e*Sn		**Sn**	**16 25 20.0**	**-4.7**
	comp=N,11nm,0.4s							
TCF	**Toulx Ste Croi**	**7.23**	**290**	*e*Pn		**Pn**	**16 24 02.4**	**-0.7**
TCF				*e*Sn		**Sn**	**16 25 20.0**	**-4.7**
	comp=N,5.7nm,0.4s							
GIVF	**Givet**	**7.62**	**322**	*e*Pn		**Pn**	**16 24 10.0**	**+1.5**
DOU	**Dourbes**	**7.72**	**321**	P		**Pn**	**16 24 12.2**	**+2.4**
DOU				S		**Sn**	**16 25 32.0**	**-4.7**
DOU	**Dourbes**	**7.72**	**321**	AP		**Pn**	**16 24 12.2**	**+2.4**
BAIF	**Baives**	**7.87**	**320**	*e*Pn		**Pn**	**16 24 13.4**	**+1.5**
BAIF				*e*Sn		**Sn**	**16 25 35.7**	**-4.7**
	comp=N,3.6nm,0.5s							
BAIF	**Baives**	**7.87**	**320**	*e*Pn		**Pn**	**16 24 13.4**	**+1.5**
BAIF				*e*Sn		**Sn**	**16 25 35.7**	**-4.7**
	comp=N,1.8nm,0.5s							
SNF	**Seneffe**	**8.15**	**322**	P		**Pn**	**16 24 17.5**	**+1.7**
SNF	**Seneffe**	**8.15**	**322**	P		**Pn**	**16 24 17.4**	**+1.6**
MFF	**Saint Martin d**	**8.89**	**289**	*e*Pn		**Pn**	**16 24 24.7**	**-1.1**
LDF	**La Druitiere**	**9.44**	**301**	*e*Pn		**Pn**	**16 24 32.4**	**-1.1**
FLN	**La Foliniere**	**9.73**	**302**	*e*Pn		**Pn**	**16 24 36.2**	**-1.2**
GRR	**Gorron**	**9.83**	**299**	*e*Pn		**Pn**	**16 24 37.5**	**-1.2**
SGMF	**Saint Gilles**	**10.86**	**297**	*e*Pn		**Pn**	**16 24 51.6**	**-1.3**
QUIF	**Quistinic**	**11.17**	**294**	*e*Pn		**Pn**	**16 24 55.2**	**-2.0**
ROSF	**Rostrenen**	**11.35**	**296**	*e*Pn		**Pn**	**16 24 57.4**	**-2.1**

*ISCJB **13** 16:45:10.2±0.6, 4566N±003×1579E±004, h8km, Error ellipse: s-maj=4.6km s-min=3.5km az=53.7*
*LJU **13** 16:45:10.4, 4566N×1579E, h7km, ML1.6*
*CSEM **13** 16:45:10.5±0.1, 4565N×1579E, h2km, ML1.6, Error ellipse: s-maj=1.8km s-min=1.4km az=33.0*
*VIE **13** 16:45:11.6±0.4, 4569N×1573E, h8km, mb1.7/1, ML2.6/1, Error ellipse: s-maj=2.5km s-min=1.6km az=131.0 24 km WSW of Zagreb*

ISC 13 16:45:10.9±0.6, 4566N±003×1579E±004, h1km±7km, n28, σ0§78/48, 8C-3D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCIS	**Gornji Cirnik**	**0.24**	**331**	⇑*i* Pg	**Pg**	**16 45 15.3**	**-0.2**
GCIS				*i* Sg	**Sg**	**16 45 19.5**	**+0.9**
GCIS							
	comp=Z,69nm,0.1s						
GCIS	**Gornji Cirnik**	**0.24**	**331**	Pg	**Pg**	**16 45 15.3**	**-0.2**
GCIS				*i* Sg	**Sg**	**16 45 19.5**	**+0.9**
	comp=Z,69nm,0.1s						
CRES	**Cresnjev**	**0.29**	**306**	⇑*i* Pg	**Pg**	**16 45 16.2**	**-0.2**
CRES				*i* Sg	**Sg**	**16 45 20.6**	**+0.4**
CRES							
	comp=Z,33nm,0.2s						
CRES	**Cresnjev**	**0.29**	**306**	⇑*i* Pg	**Pg**	**16 45 16.2**	**-0.2**
CRES				*i* Sg	**Sg**	**16 45 20.6**	**+0.4**
	comp=Z,33nm,0.2s						
GOLS	**Golise**	**0.38**	**342**	*i* Pg	**Pg**	**16 45 17.7**	**-0.3**
BOJS	**Bojanci**	**0.41**	**249**	⇑*i* Pg	**Pg**	**16 45 18.3**	**-0.4**
BOJS				*i* Sg	**Sg**	**16 45 23.8**	**-0.2**
BOJS							
	comp=Z,22nm,0.1s						
BOJS	**Bojanci**	**0.41**	**249**	⇑*i* Pg	**Pg**	**16 45 18.3**	**-0.4**
BOJS				*i* Sg	**Sg**	**16 45 23.8**	**-0.2**
	comp=Z,22nm,0.1s						
LEGS	**Legarje**	**0.44**	**312**	*i* Pg	**Pg**	**16 45 18.9**	**-0.4**
LEGS				*i* Sg	**Sg**	**16 45 25.2**	**+0.1**
LEGS	**Legarje**	**0.44**	**312**	*i* Pg	**Pg**	**16 45 19.0**	**-0.4**
LEGS				*i* Sg	**Sg**	**16 45 25.2**	**+0.1**
SISC	**Sisak**	**0.45**	**114**	*e*Pg	**Pg**	**16 45 18.9**	**-0.5**
SISC				Sg	**Sg**	**16 45 25.9**	**+0.6**
SISC	**Sisak**	**0.45**	**114**	*e*Pg	**Pg**	**16 45 18.9**	**-0.5**
SISC				Sg	**Sg**	**16 45 25.8**	**+0.6**
DOBS	**Dobrina**	**0.54**	**336**	⇓*i* Pg	**Pg**	**16 45 21.1**	**-0.1**
DOBS				*i* Sg	**Sg**	**16 45 28.8**	**+0.5**
DOBS							
	comp=Z,14nm,0.1s						
DOBS	**Dobrina**	**0.54**	**336**	⇓*i* Pg	**Pg**	**16 45 21.1**	**-0.2**
DOBS				*i* Sg	**Sg**	**16 45 28.8**	**+0.5**
	comp=Z,14nm,0.1s						
VISS	**Visnje**	**0.68**	**283**	⇑*i* Pg	**Pg**	**16 45 23.7**	**-0.3**
PDKS	**Podkum**	**0.69**	**306**	*i* Pg	**Pg**	**16 45 24.0**	**-0.1**
PDKS				*i* Sg	**Sg**	**16 45 33.0**	**0.0**
PDKS							
	comp=Z,13nm,0.1s						
PDKS	**Podkum**	**0.69**	**306**	*i* Pg	**Pg**	**16 45 24.0**	**-0.1**
PDKS				*i* Sg	**Sg**	**16 45 33.0**	**0.0**
	comp=Z,13nm,0.1s						
GROS	**Grobnik**	**0.83**	**346**	*i* Pg	**Pg**	**16 45 26.8**	**0.0**
GROS							
	comp=Z,12nm,0.1s						
GROS	**Grobnik**	**0.83**	**346**	*i* Pg	**Pg**	**16 45 26.8**	**0.0**
	comp=Z,12nm,0.1s						
CEY	**Cerknica**	**0.96**	**275**	*i* Pg	**Pg**	**16 45 29.2**	**-0.1**
CEY				*i* Sg	**Sg**	**16 45 44.1**	**+2.4**
LJU	**Ljubljana**	**0.97**	**294**	*i* Pg	**Pg**	**16 45 29.2**	**-0.2**
KNDS	**Knezji Dol**	**1.00**	**263**	*e*Sg	**Sg**	**16 45 44.6**	**+1.6**
PERS	**Pernice**	**1.09**	**335**	*i* Pg	**Pg**	**16 45 31.5**	**-0.3**
PERS				*i* Sg	**Sg**	**16 45 45.8**	**0.0**
OBKA	**Obir**	**1.22**	**315**	⇓*i* Pg	**Pg**	**16 45 34.0**	**-0.2**
OBKA				⇑*i* Sg	**Sg**	**16 45 50.2**	**+0.3**
	comp=Z,42nm,0.5s						
JAVS	**Javornik**	**1.23**	**282**	*i* Pg	**Pg**	**16 45 33.6**	**-0.9**
JAVS				*i* Sg	**Sg**	**16 45 51.5**	**+1.0**
VOJS	**Vojsko**	**1.39**	**286**	*i* Pg	**Pg**	**16 45 35.8**	**-1.6**
GORS	**Gorjuse**	**1.42**	**298**	*i* Pg	**Pg**	**16 45 36.6**	**-1.4**
GORS				*i* Sg	**Sg**	**16 45 56.0**	**-0.4**
CADS	**Cadrg**	**1.54**	**293**	*i* Pn	**Pn**	**16 45 39.2**	**-0.4**
CADS				*i* Sn	**Sn**	**16 45 59.4**	**-0.8**
RHK1	**Bakonya**	**1.65**	**74**	⇑*e*P	**Pn**	**16 45 43.1**	**+2.1**

*NIED **13** 17:02:00, 4540N×15020E, h56km, Mw4.1 Best double couple: M0 1.65000×10^15 NP1:φ=91.00000°, δ=83.00000°, λ=45.00000°. NP2:φ=354.00000°, δ=45.00000°, λ=170.00000°.*
*SKHL **13** 17:02:54.7±3.0, 4537N×15021E, h30km±12km, mb5.0/3*
*MOS **13** 17:02:54.2±1.5, 4509N×15009E, h45km, mb4.2/7, Error ellipse: s-maj=11.6km s-min=9.2km az=72.5*
*NEIC **13** 17:02:55.9±1.3, 4502N×150.11E, h51km±13km, mb4.6/4, Error ellipse: s-maj=22.3km s-min=11.1km az=148.0*
*JMA **13** 17:02:56.6±0.6, 45.36N×150.19E, h30km, M4.7*
*ISCJB **13** 17:02:57.9±0.8, 4520N±007×14997E±007, h70km±7km, mb4.1/25, Error ellipse: s-maj=12.2km s-min=6.4km az=115.2*
*IDC **13** 17:02:58.3±0.8, 4544N×149.87E, h55km±6km, mb3.6/12, mb1 3.9/13, mb1mx3.7/23, mbtmp4.0/13, MS3.2/3, Ms1 3.2/3, ms1mx2.7/28, Error ellipse: s-maj=23.2km s-min=15.0km az=150.0*

ISC 13 17:02:58.0±0.7, 4530N±006×15005E±007, h57km±6km, h55km±2.7km; pP-P, n101, σ1§28/110, mb4.2/25, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.55**	**268**	*i* P	**Pn**	**17 03 20.0**	**-3.2**
KUR				*i* P		17 03 20.0	
KUR				AMB	AMB	17 03 21.0	
	1μm,1.0s						
KUR				AMB	AMB	17 03 21.0	
	160nm,0.5s						
KUR				AMB	AMB	17 03 21.0	
	150nm,0.5s						
KUR				AMB	AMB	17 03 21.0	
	560nm,0.5s						
KUR				*i* S	**Sn**	**17 03 39.0**	**-3.2**
KUR				A		17 03 40.0	
	6μm,0.5s						
KUR				A		17 03 40.0	
	3μm,0.5s						
KUR				A		17 03 40.0	
	8μm,0.6s						
KUR				A		17 03 40.0	
	4μm,0.6s						
KUR	**Kuril'sk**	**1.55**	**268**	*α i* PN	**Pn**	**17 03 20.0**	**-3.2**
KUR				*i* S	**Sn**	**17 03 39.0**	**-3.2**
KUR				pmax	pmax		
	comp=N,160nm,0.5s						
KUR				pmax	pmax		
	comp=E,150nm,0.5s						
KUR				pmax	pmax		
	comp=Z,550nm,0.5s						
KUR				pmax	pmax		
	comp=Z,1μm,1.0s						
KUR				smax			
	comp=N,6μm,0.5s						
KUR				smax			
	comp=E,3μm,0.5s						
KUR				smax			
	comp=N,8μm,0.6s						
KUR				smax			
	comp=E,4μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**3.25**	**249**	*i* P	**Pn**	**17 03 43.0**	**-3.4**
YUK				AMB	AMB	17 03 50.3	
	comp=E,420nm,0.5s						
YUK				AMB	AMB	17 03 50.3	
	comp=E,180nm,0.4s						
YUK				AMB	AMB	17 03 50.3	
	comp=E,150nm,0.4s						
YUK				*e*S	**Sn**	**17 04 24.0**	**+0.2**
YUK				A		17 04 37.0	
	comp=E,2μm,0.9s						
YUK				A		17 04 37.0	
	comp=E,3μm,0.9s						
YUK				A		17 04 37.1	
	comp=E,1μm,0.5s						
YUK				A		17 04 37.1	
	comp=E,2μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.25**	**249**	⇓*i* PN	**Pn**	**17 03 43.0**	**-3.4**
YUK				*e*S	**Sn**	**17 04 24.0**	**+0.2**
YUK				pmax	pmax		
	comp=Z,420nm,0.5s						
YUK				pmax	pmax		
	comp=N,180nm,0.4s						
YUK				pmax	pmax		
	comp=E,150μm,0.4s						
YUK				smax			
	comp=N,2μm,0.9s						
YUK				smax			
	comp=E,3μm,0.9s						
YUK				smax			
	comp=N,1μm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
NEM2	**Nemuro 2**	**3.65**	**239**	P	**Pn**	**17 03 51.4**	**-0.5**
NEM2				*e*S	**Sn**	**17 04 31.9**	**-1.8**
JRA	**Rausu**	**3.78**	**251**	P	**Pn**	**17 03 55.8**	**+2.2**
JRA				*e*S	**Sn**	**17 04 41.3**	**+4.5**
JNK	**Nakash**	**4.19**	**248**	P	**Pn**	**17 04 00.6**	**+1.3**
JNK				*e*S	**Sn**	**17 04 48.8**	**+1.9**
JAK	**Akkeshi**	**4.49**	**241**	P	**Pn**	**17 04 03.3**	**-0.1**
JAK				*e*S	**Sn**	**17 04 53.3**	**-1.1**
JTKR	**Abashiri--Toko**	**4.58**	**255**	P	**Pn**	**17 04 06.6**	**+1.9**
JAR	**Ashorobuto**	**4.94**	**248**	P	**Pn**	**17 04 11.6**	**+2.1**
JAR				*e*S	**Sn**	**17 05 07.7**	**+2.4**
JOB	**Onbets**	**5.08**	**244**	P	**Pn**	**17 04 12.6**	**+1.1**
JOB				*e*S	**Sn**	**17 05 07.9**	**-0.9**
YSS	**Yuzh-Sakhalins**	**5.34**	**291**	*e*P	**Pn**	**17 04 20.0**	**+5.0**
YSS				*e*S	**Sn**	**17 05 17.0**	**+1.9**
YSS				A		17 05 19.8	
	comp=E,20nm,0.6s						
YSS	**Yuzh-Sakhalins**	**5.34**	**291**	*e*PN	**Pn**	**17 04 17.1**	**+2.1**
YSS				pmax	pmax		
	comp=Z,11nm,0.4s						
YSS	**Yuzh-Sakhalins**	**5.34**	**291**	*e*Pn	**Pn**	**17 04 17.1**	**+2.0**
	comp=Z,11nm,0.4s						
YSS				*e*Sn	**Sn**	**17 05 15.7**	**+0.6**
JKK2	**Kamakawa 2**	**5.41**	**257**	P	**Pn**	**17 04 18.5**	**+2.5**
ASAJ	**Asahikawa**	**5.45**	**260**	P	**Pn**	**17 04 17.9**	**+1.4**
	comp=Z,1.6nm,0.3s,baz=86,slow=14,SNR=14						
ASAJ				LR	LR	17 06 26.4	
	comp=Z,84nm,21.5s,baz=170,slow=39						
ASAJ	**Asahikawa**	**5.45**	**260**	P	**Pn**	**17 04 20.3**	**+3.8**
ASAJ	**Asahikawa**	**5.45**	**260**	PN	**Pn**	**17 04 18.0**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,84nm,21.5s						
JCH	**Churui**	**5.53**	**243**	P	**Pn**	**17 04 18.1**	**+0.5**
JCH				*e*S	**Sn**	**17 05 18.7**	**-1.1**
JFR	**Furan**	**5.77**	**251**	P	**Pn**	**17 04 23.9**	**+2.9**
JEM	**Erimo**	**5.98**	**239**	*e*S	**Sn**	**17 05 31.8**	**+0.8**
JNBK	**Urakawa-nobuka**	**6.09**	**243**	*e*S	**Sn**	**17 05 33.0**	**-0.6**
JBT2	**Biratori 2**	**6.09**	**248**	P	**Pn**	**17 04 26.4**	**+1.3**
JBT2				*e*S	**Sn**	**17 05 37.8**	**+4.2**
SKR	**Severo-Kuril's**	**6.75**	**35**	*e*P	**Pn**	**17 04 32.0**	**-2.3**
SKR				AMB	AMB	17 04 33.3	
	comp=Z,160nm,0.9s						
SKR				*e*S	**Sn**	**17 05 40.0**	**-10**
SKR				A		17 05 55.6	
	comp=Z,80nm,0.5s						
SKR				A		17 05 55.6	
	comp=Z,70nm,0.5s						
JNB	**Noboribetsu**	**7.10**	**250**	*e*S	**Sn**	**17 05 58.1**	**-0.4**
JKB	**Kayabe**	**7.38**	**246**	*e*S	**Sn**	**17 06 02.3**	**-3.1**
JANG	**Nango**	**7.97**	**235**	*e*S	**Sn**	**17 06 12.0**	**-7.9**
JTM	**Tenmabayashi**	**7.98**	**239**	*e*S	**Sn**	**17 06 13.2**	**-6.8**
JTH	**Tanohata**	**8.07**	**231**	*e*S	**Sn**	**17 06 13.3**	**-9.0**
OFUJ	**Ofunato**	**8.79**	**228**	P	**Pn**	**17 04 59.8**	**-2.6**
OFUJ				*e*S	**Sn**	**17 06 31.1**	**-8.9**
JRG	**Rokugo**	**9.13**	**233**	P	**Pn**	**17 05 05.4**	**-1.6**
JRG				*e*S	**Sn**	**17 06 42.4**	**-5.9**
JIO	**Ouri**	**9.43**	**227**	*e*S	**Sn**	**17 06 47.0**	**-8.5**
PET	**Petropavlovsk**	**9.56**	**33**	*e*PN	**Pn**	**17 05 18.3**	**+5.5**
PET				MLR	MLR		
	comp=Z,100nm,19.0s						
PET	**Petropavlovs

comp=Z,4.0nm,0.4s,mb4.8
KOLN Koldanda 54.68 275 *e*P **P 17 12 21.8 +0.7**
FINES FINESS Array B 64.42 334 P **P 17 13 25.6 -2.5**
comp=Z,0.8nm,0.5s,mb4.0,baz=28,slow=4.9,SNR=7.7
FINES FINESS Array B 64.42 334 P P **17 13 25.7 -2.5**
FINES pmax pmax
comp=Z,1.0nm,0.5s
NVAR Mina Array Bea 65.00 60 P **P 17 13 33.2 +1.3**
comp=Z,1.6nm,0.6s,mb4.2,baz=302,slow=5.8,SNR=12
NVAR pP pP 17 13 48.1 +0.6
comp=Z,0.7nm,0.6s,baz=284,slow=9.1,SNR=3.3
NVAR Mina Array Bea 65.00 60 P **P 17 13 33.2 +1.3**
NVAR pP pP 17 13 48.1 +0.6
WRA Warramunga Arr 66.49 196 pP pP 17 13 55.8 -1.3
comp=Z,1.3nm,0.7s,baz=16,slow=6.9,SNR=7.1
PDAR Pinedale Array 67.32 52 P **P 17 13 48.0 +1.1**
comp=Z,1.4nm,0.8s,mb4.0,baz=323,slow=2.2,SNR=12
PDAR pP pP 17 14 02.5 0.0
comp=Z,0.7nm,0.7s,baz=316,slow=4.1,SNR=3.7
ASAR Alice Springs 70.20 196 P **P 17 14 05.9 +1.2**
comp=Z,0.2nm,0.6s,mb3.2,baz=12,slow=5.6,SNR=4.8
ASAR pP pP 17 14 20.8 +0.4
comp=Z,0.7nm,0.7s,baz=12,slow=5.5,SNR=6.1
ASAR Alice Springs 70.20 196 P **P 17 14 05.9 +1.2**
ASAR *PP pP 17 14 20.8 +0.4
ASAR pmax pmax
comp=Z,1.0nm,0.7s
MIB Mutribah 77.57 300 *e*P **P 17 14 48.0 +0.2**
MIB AMb AMB 17 14 48.8
comp=Z,15nm,0.5s,mb5.1
BRTR Keskin Array B 77.95 315 P **P 17 14 50.0 +0.2**
comp=Z,0.6nm,0.7s,mb3.7,baz=84,slow=1.5,SNR=4.7
BRTR Keskin Array B 77.95 315 P **P 17 14 50.1 +0.2**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
NAY Al-Naaiem 78.02 299 *e*P **P 17 14 50.4 +0.1**
NAY AMb AMB 17 14 51.3
comp=Z,7.1nm,0.7s,mb4.7
RDF Al-Radifah 78.06 299 *e*P **P 17 14 51.0 +0.5**
RDF AMb AMB 17 14 51.8
comp=Z,17nm,0.6s,mb5.2
KHC Kasperske Hory 78.58 333 *e*P **P 17 14 53.2 -0.2**
GERES GERESS Array B 78.78 332 P **P 17 14 53.6 -0.9**
comp=Z,0.6nm,0.5s,mb3.8,baz=38,slow=6.8,SNR=8.2
GERES GERESS Array B 78.78 332 P **P 17 14 53.6 -0.9**
GERES pmax pmax
comp=Z,1.0nm,0.5s
CDF Champ du Feu 81.15 336 *e*P **P 17 15 06.1 -1.2**
comp=Z,1.5nm,0.5s,mb3.9
LOR Lormes 83.14 338 *e*P **P 17 15 17.1 -0.6**
GRR Gorron 83.28 341 *e*P **P 17 15 18.0 -0.4**
comp=Z,9.8nm,0.6s,mb4.7
SSF Saint Saulge 83.43 338 *e*P **P 17 15 18.5 -0.7**
AVF Avril sur Loir 83.72 338 *e*P **P 17 15 20.1 -0.6**
comp=Z,4.3nm,0.8s,mb4.3
LPL La Plagne 83.93 335 *e*P **P 17 15 21.9 +0.2**
comp=Z,2.0nm,0.5s,mb4.2
LPG La Plagne 83.94 335 *e*P **P 17 15 22.1 +0.3**
TCF Toulx Ste Croi 84.48 338 *e*P **P 17 15 24.3 -0.3**
ORIF Oris-en-Rattie 84.72 335 *e*P **P 17 15 26.5 +0.7**
MFF Saint Martin d 84.79 340 *e*P **P 17 15 26.0 -0.1**
comp=Z,6.9nm,0.7s,mb4.6
MFF Saint Martin d 84.79 340 *e*P **P 17 15 26.0 -0.1**
MFF pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
MFF Saint Martin d 84.79 340 *e*P **P 17 15 26.0 -0.1**
comp=Z,3.5nm,0.7s,mb4.6
CAF Calviac 85.79 338 *e*P **P 17 15 31.6 +0.5**
LFF La Frestale 86.12 339 *e*P **P 17 15 33.1 +0.4**
comp=Z,10.0nm,0.6s,mb4.9
LFF La Frestale 86.12 339 *e*P **P 17 15 33.1 +0.4**
LFF pmax pmax
comp=Z,5.0nm,0.6s,mb4.9
LFF La Frestale 86.12 339 *e*P **P 17 15 33.1 +0.4**
comp=Z,5.0nm,0.6s,mb4.9
CFAA Coronel Fontan 147.36 79 PKPbc PKPbc 17 22 35.2 0.0
comp=Z,0.5nm,0.4s,baz=208,slow=0.4,SNR=6.9
SNAA Sanae 150.56 197 *e* PKPbc 17 22 42.1 -1.2
SNAA *e* 17 22 44.8
SNAA *e* 17 22 58.0
VNA2 Neumayer--Watz 152.05 196 *e* PKPbc 17 22 46.1 -0.7
baz=46,slow=0.3
VNA2 *e* 17 22 48.8
VNA2 *e* 17 22 57.3
VNA2 *e* 17 23 00.9
VNA3 Neumayer Olymp 152.19 194 *e* PKPbc 17 22 46.3 -0.8
VNA3 *e* 17 22 49.3
VNA3 *e* 17 22 57.9
VNA3 *e* 17 23 01.6
VNA1 Neumayer--Stat 152.44 195 *e* PKPbc 17 22 46.9 -0.7
VNA1 *e* 17 23 02.7

IDC 13 17:12:50.3±8.3, 617S×14989E, h67km±63km, mb2.6/2, mb1 3.1/3, mb1mx3.0/14, mbtmp3.2/3, ML2.8/1, Error ellipse: s-maj=143.2km s-min=54.8km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.21**	**220**	P	Pn	17 13 52.1	+0.2
	4.4nm,0.3s,baz=0.8,slow=9.7,SNR=24						
PMG				S	Sn	17 14 40.5	+0.7
	7.6nm,0.3s,baz=189,slow=19,SNR=8.7						
WRA	**Warramunga Arr**	**20.40**	**226**	P	P	17 17 22.2	+0.5
	0.4nm,0.5s,baz=52,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**23.23**	**220**	P	P	17 17 52.0	+0.4
	0.1nm,0.6s,baz=55,slow=8.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**147.92**	**285**	PKPbc	PKPbc	17 32 28.2	+0.4
	0.2nm,0.4s,baz=54,slow=2.3,SNR=4.7						

IDC 13 17:13:54.3±4.0, 2108S×17925W, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.8/13, mbtmp4.0/4, ML2.8/1, Error ellipse: s-maj=183.3km s-min=34.3km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**10.07**	**46**	Pn	Pn	17 16 20.3	+0.1
	4.5nm,0.3s,baz=95,slow=20,SNR=4.2						
STKA	**Stephens Creek**	**36.49**	**245**	P	P	17 20 60.0	-1.2
	0.6nm,0.4s,baz=115,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**43.25**	**257**	P	P	17 21 57.8	+0.4
	1.0nm,0.7s,baz=103,slow=7.4,SNR=15						
WRA	**Warramunga Arr**	**43.37**	**263**	P	P	17 21 59.6	+1.3
	0.4nm,0.4s,baz=96,slow=8.0,SNR=7.1						

IDC ***13*** *17:13:48.5±1.1, 7.49S×76.47W, h0km, mb3.7/6, mb1 3.9/9, mb1mx3.8/20, mbtmp3.8/9, ML3.9/3, MS3.3/4, Ms1 3.3/4, ms1mx2.9/25, Error ellipse: s-maj=46.9km s-min=18.5km az=62.0*
ISCJB ***13*** *17:13:52.1±2.6, 7.46S±0.06×76.14W±0.07, h33km±20km, mb4.1/15, Error ellipse: s-maj=12.5km s-min=8.3km az=109.4*
NEIC ***13*** *17:13:54.5±1.1, 7.49S×76.18W, h38km±12km, mb4.5/9, Error ellipse: s-maj=15.5km s-min=7.9km az=71.0*
ISC 13 17:13:54.3±2.7, 751S±0.06×7620W±0.07, h32km±20km, n28, σ1§12/28, mb4.1/15, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.50**	**188**	*e*Pn	**Pn**	**17 14 59.7**	**-0.4**
OTAV	**Otavalo**	**8.02**	**344**	*e*Pn	**Pn**	**17 15 48.8**	**+0.4**
	9.0nm,0.8s						
LPAZ	**La Paz**	**11.76**	**139**	Pn	**Pn**	**17 16 42.5**	**+2.7**
	0.1nm,0.3s,baz=324,slow=20,SNR=8.4						
LPAZ				Lg		17 19 58.0	
	0.1nm,0.3s,baz=220,slow=19,SNR=3.2						
LPAZ				LR	LR	17 21 43.4	
	comp=Z,87nm,20.6s,baz=128,slow=40						
LPAZ	**La Paz**	**11.76**	**139**	Pn	**Pn**	**17 16 42.5**	**+2.7**
LPAZ				Lg		17 19 58.0	
LPAZ				LR	LR	17 21 43.4	
ROSC	**El Rosal**	**12.42**	**9**	Lg		17 20 33.3	
	0.6nm,0.3s,baz=118,slow=19,SNR=1.9						
SAML	**Samuel**	**12.96**	**97**	*e*Pn	**Pn**	**17 16 55.0**	**-1.1**
SAML				*e*Sn	**Sn**	**17 19 18.8**	**-0.4**
LVC	**Limon Verde**	**16.57**	**156**	Pn	**Pn**	**17 17 44.5**	**+0.3**
	0.2nm,0.3s,baz=222,slow=21,SNR=1.9						
LVC				LR	LR	17 25 12.7	
	comp=Z,90nm,18.8s,baz=12,slow=41						
SIV	**San Ignacio**	**17.03**	**121**	P	**Pn**	**17 17 49.3**	**-0.5**
	0.4nm,0.3s,baz=294,slow=13,SNR=21						
SIV				Lg		17 22 37.2	
	0.2nm,0.3s,baz=253,slow=13,SNR=3.0						
SDV	**Santo Domingo**	**17.20**	**19**	P	**Pn**	**17 17 52.3**	**+0.2**
	0.7nm,0.3s,baz=212,slow=4.8,SNR=6.3						
SDV				Lg		17 22 44.6	
	0.8nm,0.3s,baz=206,slow=4.3,SNR=2.8						
SDV	**Santo Domingo**	**17.20**	**19**	P	**Pn**	**17 17 52.3**	**+0.2**
SDV				Lg		17 22 44.6	
CFAA	**Coronel Fontan**	**25.10**	**164**	P	**P**	**17 19 15.9**	**-0.1**
	0.4nm,0.7s,mb3.0,baz=327,slow=9.0,SNR=7.8						
SJG	**San Juan**	**27.32**	**21**	P	**P**	**17 19 36.7**	**+0.7**
	21nm,1.1s,mb4.6						
PLCA	**Paso Flores**	**33.47**	**172**	P	**P**	**17 20 29.4**	**-0.9**
	3.4nm,1.0s,mb4.2						
WMOK	**Wichita Mounta**	**47.13**	**334**	P	**P**	**17 22 23.7**	**+0.3**
	3.0nm,1.1s,mb4.1						
ANMO	**Albuquerque**	**50.99**	**328**	P	**P**	**17 22 51.1**	**-1.8**
	1.5nm,0.9s,mb3.9,baz=243,slow=2.3,SNR=2.6						
PV01	**Paradox Valley**	**54.51**	**329**	*e*P	**P**	**17 23 19.0**	**+0.1**
PDAR	**Pinedale Array**	**58.53**	**332**	P	**P**	**17 23 45.5**	**-2.0**
	0.7nm,0.8s,mb3.7,baz=148,slow=8.7,SNR=4.5						
HWUT	**Hardware Ranch**	**58.63**	**329**	*e*P	**P**	**17 23 50.3**	**+2.1**
	2.2nm,0.7s,mb4.3						
ULM	**Lac du Bonnet**	**60.01**	**346**	P	**P**	**17 23 55.6**	**-2.1**
	3.7nm,1.1s,mb4.3,baz=189,slow=4.4,SNR=2.5						
GCMT	**Greycliff**	**60.92**	**334**	*e*P	**P**	**17 24 04.2**	**+0.2**
DBIC	**Dimbokro**	**72.53**	**81**	P	**P**	**17 25 18.0**	**0.0**
	6.0nm,0.9s,mb4.5						
YKA	**Yellowknife Ar**	**75.77**	**343**	P	**P**	**17 25 36.2**	**-0.7**
	0.2nm,0.6s,mb3.3,baz=140,slow=5.6,SNR=5.6						
YKA	**Yellowknife Ar**	**75.77**	**343**	P	**P**	**17 25 36.2**	**-0.7**
SNAA	**Sanae**	**77.70**	**162**	*e*P	**P**	**17 25 48.2**	**+0.5**
	2.2nm,0.8s,mb4.1						
TORD	**Torodi Ar. Bea**	**80.02**	**75**	P	**P**	**17 26 01.9**	**+1.4**
	1.2nm,0.9s,mb3.8,baz=270,slow=5.6,SNR=5.3						
QSPA	**South Pole Qui**	**82.60**	**180**	*e*P	**P**	**17 26 15.0**	**+0.9**
	4.9nm,0.9s,mb4.5						
SUMG	**Summit**	**83.54**	**11**	P	**P**	**17 26 21.4**	**+2.4**
	7.2nm,1.1s,mb4.7						
TSUM	**Tsumeb**	**91.11**	**109**	P	**P**	**17 26 54.6**	**-1.1**
	3.3nm,1.1s,mb4.6						

MOS ***13*** *17:30:59.9±0.5, 54.56N×161.87E, h16km, mb4.2/1, Error ellipse: s-maj=35.6km s-min=13.6km az=78.5*
KRSC 13 17:31:00.1±0.5, 5459N×16175E, h7km±2km, ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TUMR	**Tumrok**	**1.16**	**308**	*i* P	Pn	17 31 22.0	-0.7
TUMR				*e*S	Sn	17 31 38.0	-0.8
KMNR	**Kamenistaya**	**1.46**	**324**	*i* P	Pn	17 31 27.0	+0.2
KMNR				*e*S	Sn	17 31 46.9	+0.8
ZLN	**Zelenaya**	**1.53**	**340**	*i* P	Pn	17 31 28.4	+0.6
ZLN				*i* S	Sn	17 31 49.5	+1.6
LGNR	**Loginova**	**1.61**	**338**	*e*P	Pn	17 31 30.0	+1.0
LGNR				*e*S	Sn	17 31 52.2	+2.2
CIRR	**Tsirk**	**1.63**	**340**	*e*P	Pn	17 31 30.0	+0.8
CIRR				*e*S	Sn	17 31 52.2	+1.7
KPT	**Kopyto**	**1.63**	**328**	*i* P	Pn	17 31 30.2	+1.0
KPT				*e*S	Sn	17 31 52.6	+2.1
KBTR	**Krutoberegovo**	**1.73**	**20**	P	Pn	17 31 30.0	-0.6
KBTR				S	Sn	17 31 52.1	-0.9
KBTR	**Krutoberegovo**	**1.73**	**20**	*e*P	Pn	17 31 30.0	-0.6
KBTR				*e*S	Sn	17 31 52.3	-0.7
KBG	**Krutoberegovo**	**1.75**	**18**	*e*P	Pn	17 31 32.1	+1.2
KBG				*e*S	Sn	17 31 55.7	+2.2
KBG				Smax			
	720nm,1.0s						
KRSR	**Krestovskiy**	**1.77**	**338**	*e*P	Pn	17 31 31.3	+0.2
KRSR				*e*S	Sn	17 31 54.0	+0.2
SPN	**Mys Shipunski**	**1.81**	**215**	P	Pn	17 31 30.6	-1.1
SPN				S	Sn	17 31 52.5	-2.4
SPN	**Mys Shipunski**	**1.81**	**215**	*e*P	Pn	17 31 31.1	-0.6
SPN				*e*S	Sn	17 31 53.3	-1.6
KOZR	**Kozyr**	**1.82**	**325**	PN	Pn	17 31 33.0	+1.2
KOZR				S	Sn	17 31 57.6	+2.5
KOZ	**Kozyrevsk**	**1.82**	**325**	P	Pn	17 31 33.0	+1.2
KOZ				S	Sn	17 31 57.6	+2.5
KOZ	**Kozyrevsk**	**1.82**	**325**	*e*P	Pn	17 31 33.0	+1.2
KLY	**Klyuchi**	**1.84**	**341**	P	Pn	17 31 32.0	0.0
KLY				S	Sn	17 31 55.3	-0.2
KLY	**Klyuchi**	**1.84**	**341**	*i* P	Pn	17 31 32.0	0.0
KLY				*e*S	Sn	17 31 55.1	-0.4
SMKR	**Semkarok**	**2.00**	**356**	*i* P	Pn	17 31 35.4	+1.1
SMKR				*e*S	Sn	17 32 01.4	+1.8
BDR	**Baidarnaya**	**2.01**	**351**	*i* P	Pn	17 31 35.7	+1.3
BDR				*e*S	Sn	17 32 01.7	+2.0
NLC	**Nalytchevo**	**2.01**	**226**	P	Pn	17 31 34.7	+0.2
NLC				S	Sn	17 31 59.5	-0.4
NLC	**Nalytchevo**	**2.01**	**226**	*e*P	Pn	17 31 34.9	+0.4
NLC				*e*S	Sn	17 32 00.5	+0.6
SRDR	**Sredinnyy**	**2.08**	**327**	*e*P	Pn	17 31 36.3	+0.9
SRDR				*e*S	Sn	17 32 02.7	+1.1
SRKR	**Sorokina**	**2.10**	**351**	*e*P	Pn	17 31 36.9	+1.3
SRKR				*e*S	Sn	17 32 03.6	+1.7
SDLR	**Sedlovina**	**2.15**	**233**	*i* P	Pn	17 31 37.8	+1.5
SDLR				*e*S	Sn	17 32 04.6	+1.5
SMAR	**Somma**	**2.19**	**234**	*e*P	Pn	17 31 38.4	+1.5
SMAR				*e*S	Sn	17 32 05.5	+1.2
ESO	**Esso**	**2.20**	**309**	*e*P	Pn	17 31 39.3	+2.3
ESO				*e*S	Sn	17 32 07.7	+3.2
ESO				Smax			
	120nm,0.9s						
UGLR	**Uglovaya**	**2.22**	**233**	*i* P	Pn	17 31 38.9	+1.6
UGLR				*e*S	Sn	17 32 06.7	+1.8
AVH	**Avacha**	**2.22**	**235**	*e*P	Pn	17 31 39.1	+1.8
KOK	**Koryaka**	**2.25**	**236**	*e*P	Pn	17 31 39.2	+1.4
GNL	**Ganaly**	**2.41**	**250**	*e*P	Pn	17 31 41.8	+1.8
PET	**Petropavlovsk**	**2.42**	**231**	P	Pn	17 31 41.0	+1.0
PET				S	Sn	17 32 10.9	+1.1
PET	**Petropavlovsk**	**2.42**	**231**	*e*P	Pn	17 31 41.1	+1.1
PET				*e*S	Sn	17 32 11.2	+1.4
BKI	**Bering**	**2.52**	**74**	P	Pn	17 31 42.3	+0.9
BKI				*e*S	Sn	17 32 13.3	+1.0
KRMR	**Karymshinskiy**	**2.78**	**232**	*e*P	Pn	17 31 47.3	+2.3
KRMR				*e*S	Sn	17 32 21.3	+2.5
RUS	**Russkaya**	**2.90**	**223**	P	Pn	17 31 47.1	+0.4
RUS				S	Sn	17 32 21.7	0.0
RUS	**Russkaya**	**2.90**	**223**	*e*P	Pn	17 31 47.3	+0.6
RUS				*e*S	Sn	17 32 21.8	+0.1
GRL	**Gorelyy**	**3.00**	**229**	P	Pn	17 31 50.3	+2.3
GRL				*e*S	Sn	17 32 27.4	+3.3
APC	**Apacha**	**3.20**	**240**	P	Pn	17 31 54.1	+3.4
MIPR	**Malaya Ipel'ka**	**3.78**	**234**	*e*P	Pn	17 31 59.5	+0.7

ISCJB ***13*** *17:46:27.5±0.7, 24.19S±0.04×673W±0.1, h202km±15km, mb3.8/2, Error ellipse: s-maj=18.4km s-min=6.8km az=14.9*
IDC ***13*** *17:46:27.5±1.3, 24.21S×66.98W, h155km±20km, mb3.3/1, mb1 3.6/5, mb1mx3.4/15, mbtmp4.0/5, Error ellipse: s-maj=26.8km s-min=13.9km az=87.0*
NEIC ***13*** *17:46:28.2±0.9, 24.10S×67.18W, h184km±18km, mb3.9/3, Error ellipse: s-maj=22.6km s-min=11.5km az=100.0*
GUC ***13*** *17:46:29.9±1.6, 20.95S×70.03W, h200km, ML4.2*
ISC 13 17:46:28.7±0.7, 2414S±0.05×673W±0.1, h195km±15km, n20, σ1§39/32, mb3.8/2, 3C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.14**	**315**	*i*P	**Pn**	**17 47 09.4**	**+1.2**
LVC				*i* S	**Sn**	**17 47 40.1**	**+1.1**
LVC	**Limon Verde**	**2.14**	**315**	P	**Pn**	**17 47 09.4**	**+1.2**
	11nm,0.3s,baz=130,slow=5.7,SNR=304						
LVC				S	**Sn**	**17 47 39.1**	**+0.1**
	46nm,0.3s,baz=17,slow=23,SNR=38						
LVC	**Limon Verde**	**2.14**	**315**	P	**Pn**	**17 47 09.4**	**+1.2**
LVC				*e*Sn	**Sn**	**17 47 37.2**	**-1.8**
CEN1	**Los Morros**	**2.78**	**285**	*i*P	**Pn**	**17 47 17.4**	**+2.0**
CEN1				*i* S	**Sn**	**17 47 53.4**	**+1.5**
CEN1				AML	AML	17 47 55.3	
	comp=N,260nm,0.2s						
CPN1	**Cerro Paranal**	**2.89**	**260**	*i*P	**Pn**	**17 47 17.7**	**+0.9**
CPN1				*i* S	**Sn**	**17 47 54.0**	**-0.2**
CPN1				AML	AML	17 47 56.7	
	comp=E,250nm,0.3s						
ANCH	**Antofagasta**	**2.90**	**278**	*i*P	**Pn**	**17 47 18.0**	**+1.2**
ANCH				*i* S	**Sn**	**17 47 53.5**	**-1.0**
ANCH				AML	AML	17 47 55.6	
	comp=E,614nm,0.2s						
ANCH	**Antofagasta**	**2.90**	**278**	*i*P	**Pn**	**17 47 18.0**	**+1.2**
ANCH				*i* S	**Sn**	**17 47 53.5**	**+1.0**
CRCH	**Chaqaral**	**3.74**	**233**	*i* P	**Pn**	**17 47 26.9**	**-0.1**
CRCH				*e*S	**Sn**	**17 48 10.7**	**-2.0**
CDCH	**Caldera**	**4.34**	**227**	*i*P	**Pn**	**17 47 32.9**	**-1.5**
CDCH				*i* S	**Sn**	**17 48 22.2**	**-3.9**
CFAA	**Coronel Fontan**	**7.48**	**186**	P	**Pn**	**17 48 14.7**	**-0.4**
	comp=E,0.1nm,0.3s,baz=348,slow=15,SNR=8.3						
CFAA				S	**Sn**	**17 49 34.9**	**-4.7**
	comp=E,0.1nm,0.3s,baz=261,slow=19,SNR=7.2						
CFAA	**Coronel Fontan**	**7.48**	**186**	P	**Pn**	**17 48 14.7**	**-0.4**
CFAA				S	**Sn**	**17 49 34.9**	**-4.7**
LPAZ	**La Paz**	**7.86**	**354**	P	**Pn**	**17 48 21.4**	**+1.4**
	comp=E,1.6nm,0.3s,baz=163,slow=9.7,SNR=35						
LPAZ				S	**Sn**	**17 49 47.6**	**-0.8**
	comp=E,0.2nm,0.3s,baz=336,slow=23,SNR=3.4						
LPAZ	**La Paz**	**7.86**	**354**	*e*Pn	**Pn**	**17 48 20.6**	**+0.7**
LPAZ				S	**Sn**	**17 49 47.6**	**-0.8**
SIV	**San Ignacio**	**9.98**	**37**	P	**Pn**	**17 48 45.2**	**-2.5**
	comp=E,1.1nm,0.3s,baz=248,slow=11,SNR=21						
TRQA	**Tornquist**	**14.59**	**163**	*e*Pn	**Pn**	**17 49 47.7**	**+1.7**
	comp=E,7.5nm,1.2s						
SAML	**Samuel**	**15.61**	**15**	*e*P	**Pn**	**17 49 56.7**	**-1.7**
	comp=E,1.7nm,0.7s						
BDFB	**Brasilia**	**19.97**	**69**	P	**P**	**17 50 46.4**	**+0.4**
	comp=E,0.9nm,0.3s,baz=240,slow=9.5,SNR=15						
SJG	**San Juan**	**42.01**	**2**	*e*P	**P**	**17 53 59.3**	**-1.5**
	comp=E,9.1nm,0.9s,mb4.2						
TORD	**Torodi Ar. Bea**	**76.86**	**69**	P	**P**	**17 58 01.1**	**+2.1**
	comp=E,0.4nm,0.4s,mb3.4,baz=268,slow=5.6,SNR=4.8						
MKAR	**Makanchi Array**	**146.79**	**39**	PKPbc	PKPbc	18 05 50.4	+2.7
	comp=E,0.5nm,0.6s,baz=297,slow=3.1,SNR=7.2						

ISCJB ***13*** *17:59:52.9±3.8, 7.87S±0.09×127.1E±0.2, h14km±24km, mb3.6/2, Error ellipse: s-maj=33.0km s-min=13.0km az=155.5*
IDC ***13*** *17:59:59.3±7.5, 7.95S×127.26E, h53km±85km, mb3.4/2, mb1 3.6/5, mb1mx3.5/14, mbtmp3.6/5, ML3.2/3, Error ellipse: s-maj=58.7km s-min=40.2km az=59.0*
ISC 13 18:00:02.7±2.3, 81S±0.1×1275E±0.2, h95km±22km, n5, σ1§33/8, mb3.5/2, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.16**	**190**	P	**Pn**	**18 02 23.7**	**-1.8**
	0.1nm,0.3s,baz=12,slow=20,SNR=2.6						
FITZ				S	**Sn**	**18 04 18.4**	**+0.9**
	0.1nm,0.3s,baz=1.2,slow=15,SNR=2.3						
WRA	**Warramunga Arr**	**13.56**	**151**	P	**Pn**	**18 03 11.2**	**+0.1**
	0.3nm,0.3s,baz=322,slow=14,SNR=6.1						
WRA				S	**Sn**	**18 05 39.9**	**-0.3**
	0.2nm,0.3s,baz=324,slow=24,SNR=4.9						
ASAR	**Alice Springs**	**16.70**	**159**	P	**Pn**	**18 03 52.6**	**+1.8**
	0.1nm,0.3s,baz=336,slow=11,SNR=6.0						
ASAR				S	**S**	**18 07 00.5**	**-0.7**
	0.1nm,0.3s,baz=100,slow=20,SNR=4.3						
SONM	**Songino Array**	**58.69**	**344**	P	**P**	**18 09 50.4**	**+0.1**
	0.6nm,0.9s,mb3.6,baz=145,slow=5.3,SNR=5.9						
MKAR	**Makanchi Array**	**67.77**	**328**	P	**P**	**18 10 50.2**	**-0.1**
	0.7nm,0.9s,mb3.5,baz=145,slow=5.3,SNR=5.6						

IDC ***13*** *18:01:58.5±2.8, 4294N×105.19W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, ML2.4/1, Error ellipse: s-maj=52.5km s-min=8.4km az=159.0*
ISCJB ***13*** *18:02:03.8±0.5, 4381N±0.04×10521W±0.06, h0km, mb4.2/2, Error ellipse: s-maj=6.4km s-min=5.1km az=32.5*
NEIC ***13*** *18:02:05.5±0.5, 4378N×10520W, h0km, ML3.3, Error ellipse: s-maj=7.0km s-min=6.0km az=123.0, Suspected Mining explosion.*
NEIC 60 km [40 miles] SSE of Gillette.
ISC 13 18:02:05.7±0.4, 4379N±0.04×10521W±0.05, h0km, n45, σ1§07/55, mb4.2/2, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.91**	**68**	*e*Pg	**Pg**	**18 02 24.6**	**+1.5**
PHWY	**Pilot Hill**	**2.50**	**184**	*e*Pn	**Pn**	**18 02 47.6**	**+0.1**
PHWY				*e*Sn	**Sn**	**18 03 19.8**	**+1.1**
RWWY	**Rawlins**	**2.57**	**216**	*e*Pn	**Pn**	**18 02 48.9**	**+0.3**
RWWY				*e*Sn	**Sn**	**18 03 20.2**	**-0.3**
BW06	**Boulder Array**	**3.34**	**254**	*e*Pn	**Pn**	**18 02 58.7**	**-0.4**
BW06				*e*Sn	**Sn**	**18 03 39.0**	**-0.4**
PDAR	**Pinedale Array**	**3.34**	**254**	Pg	**Pn**	**18 02 59.0**	**-0.1**
	5.4nm,0.3s,baz=71,slow=16,SNR=74						
PDAR				Lg		18 03 39.7	
	3.2nm,0.3s,baz=70,slow=26,SNR=7.3						
GCMT	**Greycliff**	**3.75**	**304**	*e*Pn	**Pn**	**18 03 05.8**	**+1.0**
LKWY	**Lake**	**3.81**	**283**	*e*Pn	**Pn**	**18 03 07.4**	**+1.8**
FLWY	**Flagg Ranch**	**3.98**	**276**	*e*Pn	**Pn**	**18 03 07.5**	**-0.4**
FLWY				*e*S	**Sg**	**18 04 07.1**	**-6.4**
ISCO	**Idaho Springs**	**4.00**	**184**	*e*Pn	**Pn**	**18 03 08.8**	**+0.6**
ISCO				*e*Sn	**Sg**	**18 04 04.2**	**-10**
MOOW	**Moose Ponds**	**4.01**	**271**	*e*Pn	**Pn**	**18 03 09.1**	**+0.7**
YFT	**Old Faithful**	**4.11**	**281**	*e*Pn	**Pg**	**18 03 17.9**	**-6.4**
YFT				*e*Sn	**Sg**	**18 04 11.7**	**-5.9**
REDW	**Red Top Meadow**	**4.12**	**266**	*e*Pn	**Pn**	**18 03 12.4**	**+2.5**
IMW	**Indian Meadow**	**4.15**	**273**	*e*Pn	**Pn**	**18 03 11.9**	**+1.7**
TPAW	**Teton Pass**	**4.18**	**268**	*e*Pn	**Pn**	**18 03 10.9**	**+0.2**
YMR	**Madison River**	**4.23**	**284**	Pn	**Pn**	**18 03 19.9**	**+8.5**
AHID	**Auburn Hatcher**	**4.42**	**259**	Pn	**Pn**	**18 03 19.5**	**+5.5**
QLMT	**Earthquake Lak**	**4.58**	**285**	*e*Pn	**Pn**	**18 03 15.7**	**-0.5**
SMCO	**Snowmass**

CACH	**El Canelo**	**1.57**	**69**	⇑*i*P		Pn	18 05 42.9	+1.2	
CACH				*e*S		Sn	18 06 05.3	+4.0	
TACH	**Talagante**	**1.57**	**49**	*e*P		Pn	18 05 41.4	-0.4	
TACH				*e*S		Sn	18 06 02.9	+1.5	
CHCH	**Chadas Angostu**	**1.61**	**62**	⇑*i*P		Pn	18 05 42.9	+0.6	
CHCH				*e*S		Sn	18 06 03.5	+1.3	
PCH	**Pirque**	**1.87**	**56**	*i* S		Sn	18 06 11.6	+2.9	
LMEL	**Las Melosas**	**1.98**	**65**	⇑*i*P		Pn	18 05 49.2	+1.8	
LMEL				*i* S		Sn	18 06 14.6	+3.1	
LMEL				AML		AML	18 06 18.1		
	comp=N,90nm,0.2s								
LMEL	**Las Melosas**	**1.98**	**65**	⇑*i*P		Pn	18 05 49.2	+1.8	
LMEL				*i* S		Sn	18 06 14.6	+3.1	
FCH	**Farellones**	**2.20**	**52**	*e*P		Pn	18 05 52.6	+2.2	
FCH				*e*S		Sn	18 06 20.2	+3.4	
FCH				AML		AML	18 06 26.1		
	comp=N,36nm,0.2s								

NEIC ***13*** *18:46:15.1, 4493S×16747E, h107km, MG3.8(WEL), After WEL.*

WEL 13 18:46:16.1±0.6, 4495S×16754E, h98km±4km, ML3.6/10, 1C-3D, Error ellipse: s-maj=4.4km s-min=2.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.39**	**45**	PN	Pn	18 46 31.0	+0.1
MSZ				SN	Sn	18 46 42.0	0.0
MSZ	**Milford Sound**	**0.39**	**45**	P	Pn	18 46 31.1	+0.2
DCZ	**Deep Cove**	**0.59**	**207**	PN	Pn	18 46 31.9	-0.5
DCZ				SN	Sn	18 46 43.7	-0.8
DCZ	**Deep Cove**	**0.59**	**207**	P	Pn	18 46 32.0	-0.4
DCZ				S	Sn	18 46 44.0	-0.5
MLZ	**Mavora Lakes**	**0.60**	**132**	⇓PN	Pn	18 46 32.3	-0.1
MLZ	**Mavora Lakes**	**0.60**	**132**	P	Pn	18 46 32.3	-0.1
WHZ	**Wether Hill Ro**	**0.98**	**163**	PN	Pn	18 46 36.0	-0.2
WHZ	**Wether Hill Ro**	**0.98**	**163**	P	Pn	18 46 36.1	-0.1
WKZ	**Wanaka**	**1.06**	**84**	PN	Pn	18 46 37.1	+0.1
WKZ	**Wanaka**	**1.06**	**84**	P	Pn	18 46 37.2	+0.2
JCZ	**Jackson Bay**	**1.24**	**45**	⇑PN	Pn	18 46 38.7	-0.3
JCZ				SN	Sn	18 46 54.4	-1.9
JCZ	**Jackson Bay**	**1.24**	**45**	P	Pn	18 46 38.7	-0.4
EAZ	**Earnscleugh**	**1.28**	**103**	⇓PN	Pn	18 46 39.5	-0.1
EAZ	**Earnscleugh**	**1.28**	**103**	P	Pn	18 46 39.6	0.0
TUZ	**Tuapeka**	**1.78**	**125**	PN	Pn	18 46 45.6	-0.2
TUZ				SN	Sn	18 47 06.0	-2.3
TUZ	**Tuapeka**	**1.78**	**125**	P	Pn	18 46 45.7	-0.1
APZ	**The Paps**	**1.91**	**171**	PN	Pn	18 46 47.1	-0.3
SYZ	**Scrubby Hill**	**1.94**	**145**	PN	Pn	18 46 47.6	-0.2
LBZ	**Lake Benmore**	**1.97**	**74**	PN	Pn	18 46 46.9	-1.3
FOZ	**Fox Glacier**	**2.08**	**49**	PN	Pn	18 46 49.2	-0.4
FOZ	**Fox Glacier**	**2.08**	**49**	*e*P	Pn	18 46 49.3	-0.3
ODZ	**Otahua Downs**	**2.21**	**93**	⇓PN	Pn	18 46 50.2	-1.1
ODZ	**Otahua Downs**	**2.21**	**93**	P	Pn	18 46 50.2	-1.0
HHSZ	**Highcliff Hill**	**2.35**	**114**	PN	Pn	18 46 52.8	-0.3
RPZ	**Rata Peaks**	**2.81**	**65**	PN	Pn	18 46 57.1	-2.2
WVZ	**Waitaha Valley**	**2.97**	**52**	PN	Pn	18 46 59.0	-2.4
MQZ	**McQueen's Vall**	**3.88**	**73**	*e*PN	Pn	18 47 11.6	-1.9
LTZ	**Lake Taylor**	**4.05**	**59**	PN	Pn	18 47 12.9	-3.0

NEIC ***13*** *19:15:24.4, 3679N×976W, h0km, MN2.7(MDD), After MDD.*
IGIL ***13*** *19:15:24.6, 3640N×980W, h31km, ML2.2*
CSEM ***13*** *19:15:24.1±0.3, 3655N×949W, h2km, ML3.2/4, Error ellipse: s-maj=6.0km s-min=3.7km az=46.0*
INMG ***13*** *19:15:25.4±1.0, 3662N×976W, h10km, ML2.1, Error ellipse: s-maj=5.1km s-min=3.3km az=65.0*

MDD 13 19:15:24.6±1.7, 3662N×979W, h11km±14km, mb3.5/8, Error ellipse: s-maj=18.2km s-min=10.3km az=41.0, PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**1.14**	**53**	*e*P	Pb	19 15 45.2	-1.0
MORF				*e*S	Sb	19 16 00.3	-0.8
MORF				*e*S	Sb	19 16 00.3	-0.7
MORF				AML	AML	19 16 02.8	
	comp=E,31nm,0.1s						
MORF	**Marmelete**	**1.14**	**53**	*e*P	Pb	19 15 45.2	-1.0
MORF				*e*S	Sb	19 16 00.3	-0.7
PTEO	**Sao Teotonio**	**1.25**	**42**	*e*P	Pn	19 15 46.8	-1.2
PTEO				*e*S	Sb	19 16 03.5	-0.9
PTEO							
	comp=E,18nm,0.2s						
PTEO	**Sao Teotonio**	**1.25**	**42**	*e*P	Pn	19 15 46.8	-1.2
PTEO				*e*S	Sb	19 16 03.5	-0.9
	comp=E,18nm,0.2s						
EGRO	**El Granado**	**2.06**	**63**	P	Pn	19 15 57.9	-1.1
	comp=E,0.3nm,0.1s,SNR=11						
EGRO				S	Sn	19 16 22.5	-2.2
	comp=E,14nm,0.1s,SNR=6.3						
EGRO	**El Granado**	**2.06**	**63**	P	Pn	19 15 57.9	-1.1
EGRO				S	Sn	19 16 22.5	-2.2
EGRO	**El Granado**	**2.06**	**63**	P	Pn	19 15 57.9	-1.1
	comp=E,0.3nm,0.1s,SNR=11						
EGRO				S	Sn	19 16 22.5	-2.2
	comp=E,14nm,0.1s,SNR=6.3						
PBEJ	**Beja**	**2.08**	**47**	*e*Pn	Pn	19 15 57.9	-1.4
PBEJ				*e*Sn	Sn	19 16 22.8	-2.4
PBEJ							
	comp=E,4.9nm,0.1s						
PBEJ	**Beja**	**2.08**	**47**	*e*Pn	Pn	19 15 57.9	-1.4
PBEJ				*e*Sn	Sn	19 16 22.8	-2.4
	comp=E,4.9nm,0.1s						
MOE	**Montemor**	**2.22**	**31**	*e*Pn	Pn	19 16 00.5	-0.7
MOE				*e*Sn	Sn	19 16 26.5	-2.1
PLOU	**Loures**	**2.32**	**12**	*e*Pn	Pn	19 16 01.5	-1.1
PLOU				*e*Sn	Sn	19 16 29.3	-1.8
PLOU							
	comp=E,15nm,0.1s						
PLOU	**Loures**	**2.32**	**12**	*e*Pn	Pn	19 16 01.5	-1.1
PLOU				*e*Sn	Sn	19 16 29.3	-1.8
	comp=E,15nm,0.1s						
EMIN	**Mina Concepcio**	**2.74**	**64**	P	Pn	19 16 07.1	-1.3
	comp=E,0.7nm,0.1s,SNR=8.7						
EMIN				S	Sn	19 16 38.8	-2.7
	comp=E,3.5nm,0.1s,SNR=10						
EMIN	**Mina Concepcio**	**2.74**	**64**	P	Pn	19 16 07.1	-1.3
	comp=E,0.7nm,0.1s,SNR=8.7						
EMIN				S	Sn	19 16 38.8	-2.7
	comp=E,3.5nm,0.1s,SNR=10						
EBAD	**Badajoz**	**3.06**	**45**	P	Pn	19 16 11.0	-1.9
	comp=E,0.8nm,0.1s,SNR=18						
EBAD				S	Sn	19 16 46.4	-3.2
	comp=E,2.1nm,0.1s,SNR=9.0						
EBAD	**Badajoz**	**3.06**	**45**	P	Pn	19 16 11.0	-1.9
	comp=E,0.8nm,0.1s,SNR=18						
EBAD				S	Sn	19 16 46.4	-3.1
	comp=E,2.1nm,0.1s,SNR=9.0						
ESPR	**Espera**	**3.17**	**84**	P	Pn	19 16 12.8	-1.5
	comp=E,2.0nm,0.1s,SNR=12						
ESPR				S	Sn	19 16 48.9	-3.2
	comp=E,35nm,0.3s,SNR=4.6						
ESPR	**Espera**	**3.17**	**84**	P	Pn	19 16 12.8	-1.5
	comp=E,2.0nm,0.1s,SNR=12						
ESPR				S	Sn	19 16 48.9	-3.2
	comp=E,35nm,0.3s,SNR=4.6						
PTOM	**Tomar**	**3.18**	**19**	*e*Pn	Pn	19 16 14.0	-0.6
PTOM				*e*Sn	Sn	19 16 50.0	-2.5
PTOM							
	comp=E,5.5nm,0.3s						
PTOM	**Tomar**	**3.18**	**19**	*e*Pn	Pn	19 16 14.0	-0.6
PTOM				*e*Sn	Sn	19 16 50.0	-2.5
	comp=E,5.5nm,0.3s						
PCBR	**Castelo Branco**	**3.69**	**29**	*e*Pn	Pn	19 16 20.6	-1.0
PCBR				*e*Sn	Sn	19 17 01.1	-4.0
PCBR							
	comp=E,1.5nm,0.3s						
PCBR	**Castelo Branco**	**3.69**	**29**	*e*Pn	Pn	19 16 20.6	-1.0
PCBR				*e*Sn	Sn	19 17 01.1	-4.0
	comp=E,1.5nm,0.3s						
EMIJ	**Mijas**	**4.03**	**89**	S	Sn	19 17 11.5	-2.0
	comp=E,1.9nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**4.16**	**24**	*e*Sn	Sn	19 17 14.4	-2.3
PVIS	**Viseu**	**4.35**	**19**	*e*Pn	Pn	19 16 29.4	-1.2
PVIS				*e*Sn	Sn	19 17 17.8	-3.5
PVIS							
	comp=E,5.2nm,0.1s						
EADA	**Adamuz**	**4.43**	**68**	P	Pn	19 16 30.8	-0.9
	comp=E,0.8nm,0.1s,SNR=18						
EADA				S	Sn	19 17 19.0	-4.2
	comp=E,3.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.43**	**68**	P	Pn	19 16 30.8	-0.8
	comp=E,0.8nm,0.1s,SNR=18						
EADA				S	Sn	19 17 19.0	-4.2
	comp=E,3.2nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**4.92**	**18**	*e*Sn	Sn	19 17 30.8	-4.6
PVRL							
	comp=E,4.3nm,0.1s						
PVRL	**Vila Real**	**4.92**	**18**	S	Sn	19 17 30.8	-4.6
	comp=E,2.2nm,0.1s						
PCAB	**Cabril**	**5.26**	**15**	*e*Sn	Sn	19 17 39.3	-4.5
PCAB							
	comp=E,2.4nm,0.2s						
PCAB	**Cabril**	**5.26**	**15**	S	Sn	19 17 39.3	-4.5
	comp=E,1.2nm,0.2s						
ELOB	**Lobios**	**5.41**	**14**	S	Sn	19 17 41.2	-6.2
	comp=E,0.9nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**5.51**	**55**	P	Pn	19 16 45.1	-1.4
	comp=E,1.5nm,0.2s,baz=243,slow=13,SNR=4.2						
ESDC	**Sonseca Array**	**5.51**	**55**	P	Pn	19 16 45.1	-1.4
	comp=E,1.5nm,0.2s,SNR=4.2						
PBRG	**Braganca**	**5.69**	**24**	*e*Pn	Pn	19 16 47.9	-1.1
PBRG				*e*Sn	Sn	19 17 48.7	-5.7
PBRG							
	comp=E,1.1nm,0.1s						
ECAL	**Calabor**	**5.82**	**23**	P	Pn	19 16 49.6	-1.2
	comp=E,0.6nm,0.1s,SNR=7.9						
ECAL				S	Sn	19 17 53.2	-4.3
	comp=E,1.5nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.35**	**5**	S	Sn	19 18 03.4	-7.2
	comp=E,1.2nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**6.84**	**70**	P	Pn	19 17 04.2	-0.7
	comp=E,0.1nm,0.2s,SNR=7.9						
ETOB				S	Sn	19 18 17.1	-5.6
	comp=E,0.9nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**6.84**	**70**	P	Pn	19 17 04.2	-0.6
	comp=E,0.1nm,0.2s,SNR=7.9						

BJI ***13*** *19:48:57.1, 1436N×14797E, h35km, mB4.8, mb4.6, Ms4.4, Ms2.4*
IDC ***13*** *19:49:00.2±0.8, 1471N×147.15E, h0km, mb4.3/15, mb1 4.4/16, mb1mx4.3/24, mbtmp4.3/16, ML4.6/1, Error ellipse: s-maj=23.9km s-min=13.5km az=101.0*
ISCJB ***13*** *19:49:01.6±3.1, 1477N±005×14720E±007, h20km±22km, mb4.6/48, MS4.0/2, Error ellipse: s-maj=11.7km s-min=8.4km az=21.8*
MOS ***13*** *19:49:03.8±1.0, 1480N×14702E, h33km, mb4.7/21, Error ellipse: s-maj=13.3km s-min=8.7km az=111.0*
NEIC ***13*** *19:49:05.5±0.5, 1476N×14706E, h35km, mb4.7/14, Error ellipse: s-maj=15.6km s-min=7.8km az=94.0*

ISC 13 19:49:02.6±3.5, 1477N±005×14720E±007, h14km±22km, h36km±1.6km: pP-P, n86, σ1s09/87, mb4.6/48, MS4.0/2, 1C, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.55**	**243**	Pn	**Pn**	**19 49 42.0**	**-1.5**
	122nm,0.3s,baz=80,slow=4.1,SNR=68						
GUMO				Sn	**Sn**	19 50 14.6	+0.4
	107nm,0.3s,baz=10,slow=22,SNR=7.0						
GUMO	**Guam**	**2.55**	**243**	P	**Pn**	**19 49 42.0**	**-1.5**
GUMO						19 50 14.6	
GUMO				pmax	pmax		
	comp=Z,122nm,0.3s						
GUMO				smax			
	comp=N,107nm,0.3s						
JOW	**Kunigami**	**21.35**	**307**	P	**P**	**19 53 49.8**	**+0.5**
	comp=N,20nm,0.5s,mb4.7,baz=122,slow=16,SNR=9.5						
MJAR	**Matsushiro Arr**	**23.13**	**341**	P	**P**	**19 54 06.4**	**-1.9**
	comp=N,1.3nm,0.5s,mb3.7,baz=167,slow=10.0,SNR=11						
MJAR	**Matsushiro Arr**	**23.13**	**341**	P	**P**	**19 54 06.4**	**-1.9**
MJAR				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MAJO	**Matsushiro**	**23.13**	**341**	*e*P	**P**	**19 54 05.5**	**-2.8**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.1						
MAJO	**Matsushiro**	**23.13**	**341**	*e*P	**P**	**19 54 05.5**	**-2.8**
	comp=Z,6.2nm,0.8s,mb4.1						
PMG	**Port Moresby**	**24.01**	**180**	*e*P	**P**	**19 54 17.4**	**+0.5**
PMG				pmax	pmax		
	comp=Z,31nm,0.8s						
PMG	**Port Moresby**	**24.01**	**180**	*e*P	**P**	**19 54 17.4**	**+0.4**
	comp=Z,31nm,0.8s,mb4.8						
KS15	**Wonju Array Si**	**28.36**	**326**	P	**P**	**19 54 55.1**	**-1.1**
ASAJ	**Asahikawa**	**29.52**	**353**	P	**P**	**19 55 08.2**	**+1.7**
	comp=Z,5.6nm,0.7s,mb4.4,baz=233,slow=12,SNR=4.3						
ASAJ	**Asahikawa**	**29.52**	**353**	P	**P**	**19 55 08.2**	**+1.7**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MDJ	**Mudanjiang**	**33.30**	**337**	P	**P**	**19 55 41.4**	**+1.6**
MDJ				AP	pP	19 55 50.1	+6.0
MDJ				XP	sP	19 55 54.1	+8.2
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,38nm,4.8s						
KLR	**Kul'dur**	**36.63**	**343**	*e*P	**P**	**19 56 05.0**	**-3.5**
WRAB	**Tennant Creek**	**36.72**	**200**	*e*P	**P**	**19 56 09.6**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.6						
WRAB	**Tennant Creek**	**36.72**	**200**	*e*P	**P**	**19 56 09.6**	**+0.3**
	comp=Z,12nm,1.1s,mb4.6						
WRA	**Warramunga Arr**	**36.74**	**200**	P	**P**	**19 56 08.8**	**-0.6**
	comp=Z,1.6nm,0.7s,mb3.9,baz=20,slow=9.4,SNR=6.6						
WRA				PcP	PcP	19 58 30.6	-1.1
	comp=Z,0.4nm,0.3s,baz=341,slow=12,SNR=5.9						
WRA	**Warramunga Arr**	**36.74**	**200**	P	**P**	**19 56 08.8**	**-0.6**
WRA						19 58 30.6	
WRA				pmax	pmax		
	comp=Z,20nm,0.7s						
BJT	**Baijiatuan**	**36.98**	**319**	P	**P**	**19 56 10.3**	**-1.2**
BJT				pmax	pmax		
	comp=Z,11nm,0.9s						
BJT	**Baijiatuan**	**36.98**	**319**	P	**P**	**19 56 10.2**	**-1.3**
	comp=Z,11nm,0.9s,mb4.7						
BJI	**Beijing**	**36.99**	**319**	P	**P**	**19 56 11.9**	**+0.3**
BJI				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.4						
BKM	**Butte a Klehm**	**38.33**	**146**	⇑*i*P	**P**	**19 56 24.2**	**+1.3**
KSM	**Kuching**	**38.75**	**253**	P	**P**	**19 56 25.5**	**-0.9**
FITZ	**Fitzroy Crossi**	**38.97**	**214**	P	**P**	**19 56 28.1**	**-0.1**
	comp=Z,3.7nm,0.7s,mb4.2,baz=98,slow=8.6,SNR=10.0						
GYA	**Guiyang**	**39.53**	**294**	P	**P**	**19 56 34.4**	**+1.5**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
ASAR	**Alice Springs**	**40.35**	**199**	P	**P**	**19 56 39.9**	**+0.1**
	comp=Z,0.6nm,0.7s,mb3.5,baz=22,slow=8.7,SNR=9.3						
ASAR	**Alice Springs**	**40.35**	**199**	P	**P**	**19 56 39.9**	**+0.2**
ASAR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**40.41**	**317**	*e*P	**P**	**19 56 41.1**	**+0.9**
HHC				AP	pP	19 56 50.9	+6.3
HHC				XP	sP	19 56 55.4	+9.0
HHC				PP	PP	19 58 19.5	+6.2
HHC				PCS	PcS	20 02 34.5	+0.8
HHC				S	**S**	**20 02 46.3**	**-1.7**
HHC				ScS	ScS	20 06 41.4	-4.6
HHC				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.5						
HHC				AMB	AMB		
	comp=Z,49nm,6.5s						
HHC				LR	LR		
	comp=N,203nm,14.1s,MS4.2						
HHC				LR	LR		
	comp=E,192nm,15.5s,MS4.2						
HHC				LR	LR		
	comp=Z,136nm,17.0s,MS3.9						
BTO	**Baotou**	**41.32**	**316**	*e*P	**P**	**19 56 48.3**	**+0.5**
CD2	**Chengdu**	**42.85**	**300**	*e*P	**P**	**19 56 58.5**	**-1.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
KMI	**Kunming**	**42.88**	**291**	P	**P**	**19 57 02.1**	**+1.6**
KMI				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.2						
LZH	**Lanzhou**	**44.09**	**307**	*e*P	**P**	**19 57 11.9**	**+1.7**
LZH				AP	pP	19 57 22.5	+7.8
LZH				XP	sP	19 57 26.8	+10
LZH				AMB	AMB		
	comp=Z,26nm,1.3s,mb4.8						
MBWA	**Marble Bar**	**44.74**	**218**	P	**P**	**19 57 14.4**	**-1.1**
	comp=Z,7.0nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**46.69**	**187**	P	**P**	**19 57 29.5**	**-1.3**
	comp=Z,2.1nm,1.1s,mb4.0,baz=64,slow=14,SNR=4.6						
STKA	**Stephens Creek**	**46.69**	**187**	P	**P**	**19 57 29.5**	**-1.3**
ULN	**Ulaanbaatar**	**46.75**	**323**	*e*P	**P**	**19 57 31.9**	**+0.6**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
ULN	**Ulaanbaatar**	**46.75**	**323**	*e*P	**P**	**19 57 31.9**	**+0.5**
	comp=Z,5.3nm,0.6s,mb4.7						
SONM	**Songino Array**	**47.12**	**323**	P	**P**	**19 57 34.7**	**+0.5**
	comp=Z,4.0nm,0.7s,mb4.5,baz=137,slow=8.9,SNR=42						
SONM	**Songino Array**	**47.12**	**323**	P	**P**	**19 57 34.7**	**+0.5**
SONM				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GTA	**Gaotai**	**48.12**	**310**	*e*P	**P**	**19 57 42.8**	**+0.8**
GTA				AP	pP	19 57 54.0	+7.5
GTA				XP	sP	19 57 59.9	+12
GTA				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.6						
YAK	**Yakutsk**	**48.83**	**349**	P	**P**	**19 57 45.8**	**-1.7**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
YAK	**Yakutsk**	**48.83**	**349**	P	**P**	**19 57 45.8**	**-1.7**
	comp=Z,8.3nm,0.8s,mb4.8						
PSI	**Prapat**	**49.05**	**261**	P	**P**	**19 57 48.4**	**-0.8**
	comp=Z,3.6nm,0.5s,mb4.7,baz=189,slow=11,SNR=3.2						
PSI	**Prapat**	**49.05**	**261**	P	**P**	**19 57 48.4**	**-0.8**
PSI				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
ZAK	**Zakamensk**	**50.16**	**325**	*e*P	**P**	**19 57 57.7**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.3						
LSA	**Lhasa**	**53.49**	**296**	P	**P**	**19 58 25.1**	**+2.6**
LSA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
LSA	**Lhasa**	**53.49**	**296**	*e*P	**P**	**19 58 24.2**	**+1.7**
LSA				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.1						
LSA	**Lhasa**	**53.49**	**296**	*e*P	**P**	**19 58 24.2**	**+1.7**
	comp=Z,16nm,0.6s,mb5.1						
BILL	**Bilibino**	**54.65**	**9**	*e*P	**P**	**19 58 32.0**	**+1.1**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
BILL	**Bilibino**	**54.65**	**9**	*e*P	**P**	**19 58 32.0**	**+1.0**
	comp=Z,6.3nm,1.0s,mb4.6						
JIRN	**Jiri**	**57.80**	**294**	*e*P	**P**	**19 58 54.5**	**+1.0**
	comp=Z,28nm,0.8s,mb5.4						
TIXI	**Tiksi**	**57.92**	**353**	*e*P	**P**	**19 58 50.3**	**-4.0**
TIXI				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.1						
TIXI				MLR	MLR		
	comp=Z,99nm,19.0s,MS3.9						
GUN	**Gumba**	**58.08**	**294**	*e*P	**P**	**19 58 56.7**	**+1.3**
	comp=Z,40nm,0.8s,mb5.5						
PKI	**Pulchoki**	**58.50**	**293**	*e*P	**P**	**19 58 58.6**	**+0.3**
	comp=Z,20nm,1.0s,mb5.1						
KKN	**Kakani**	**58.61**	**294**	*e*P	**P**	**19 58 59.2**	**+0.1**
	comp=Z,21nm,1.0s,mb5.1						
DMN	**Daman**	**58.77**	**293**	*e*P	**P**	**19 59 00.8**	**+0.6**
	comp=Z,33nm,1.0s,mb5.3						
GKN	**Gorkha**	**59.17**	**294**	*e*P	**P**	**19 59 03.5**	**+0.5**
	comp=Z,46nm,1.0s,mb5.5						
KOLN	**Koldanda**	**60.10**	**294**	*e*P	**P**	**19 59 10.0**	**+0.6**
	comp=Z,18nm,0.8s,mb5.1						
ZAL	**Zalesovo**	**62.02**	**324**	P	**P**	**19 59 21.3**	**-1.1**
	comp=Z,2.5nm,0.3s,mb4.9,baz=30,slow=1.8,SNR=7.4						
ZAL	**Zalesovo**	**62.02**	**324**	P	**P**	**19 59 21.3**	**-1.1**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MKAR	**Makanchi Array**	**62.23**	**315**	P	**P**	**19 59 24.6**	**+0.7**
	comp=Z,5.1nm,0.5s,mb4.9,baz=91,slow=8.5,SNR=109						
MKAR	**Makanchi Array**	**62.23**	**315**	P	**P**	**19 59 24.6**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NVS	**Novosibirsk**	**63.12**	**324**	*i* P	**P**	**19 59 28.4**	**-1.3**
NVS				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.9						
NVS				pmax	pmax		
	comp=E,8.0nm,1.5s						
KURK	**Kurchatov**	**65.16**	**319**	*e*P	**P**	**19 59 43.2**	**0.0**
KURK				*e*		19 59 53.0	
KURK				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.1						
KURK	**Kurchatov**	**65.16**	**319**	*e*P	**P**	**19 59 43.2**	**0.0**
	comp=Z,19nm,0.9s,mb5.1						
KURK				*e*		19 59 53.0	
HYB	**Hyderabad**	**65.69**	**283**	*i* P	**P**	**19 59 47.5**	**+0.9**
HYB	**Hyderabad**	**65.69**	**283**	*e*P	**P**	**19 59 47.5**	**+0.9**
ILAR	**Eielson Array**	**66.55**	**25**	P	**P**	**19 59 52.6**	**+0.5**
	comp=Z,1.2nm,1.0s,mb3.9,baz=254,slow=6.1,SNR=7.5						
ILAR	**Eielson Array**	**66.55**	**25**	P	**P**	**19 59 52.6**	**+0.5**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
AAK	**Ala-Archa**	**67.47**	**310**	*e*P	**P**	**19 59 55.3**	**-2.7**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
AAK	**Ala-Archa**	**67.47**	**310**	*e*P	**P**	**19 59 55.3**	**-2.7**
	comp=Z,2.1nm,0.7s,mb4.3						
BRVK	**Borovoye**	**70.48**	**321**	*e*P	**P**	**20 00 16.3**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
BRVK	**Borovoye**	**70.48**	**321**	*e*P	**P**	**20 00 16.3**	**-0.4**
	comp=Z,3.3nm,0.9s,mb4.3						
ZRNK	**Zerenda**	**71.25**	**321**	*e*P	**P**	**20 00 20.8**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
ZRNK	**Zerenda**	**71.25**	**321**	*e*P	**P**	**20 00 20.8**	**-0.6**
	comp=Z,5.3nm,0.9s,mb4.5	

ISC 13 19:55:43.0±0.2, 2017S±004×16914E±004, h35km, (h32km±8km: pP-P), n543, σ1°12/196, mb5.2/87, MS4.7/40, 118C-9D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.14**	**233**	P		**Pn**	**19 56 28.8**	**-1.2**
	108nm,0.3s,baz=73,slow=18,SNR=452							
DZM				S		**Sn**	**19 57 04.3**	**-2.0**
	330nm,0.3s,baz=304,slow=23,SNR=8.1							
DZM				LR		LR	19 57 40.6	
	comp=Z,12μm,19.4s,baz=38,slow=37							
HNR	**Honiara**	**13.88**	**319**	P		**Pn**	**19 59 00.7**	**+3.5**
	4.9nm,0.3s,baz=260,slow=1.1,SNR=7.0							
HNR				LR		LR	20 03 48.6	
	comp=Z,1μm,18.9s,baz=178,slow=35							
HNR	**Honiara**	**13.88**	**319**	*e*Pn		**Pn**	**19 59 00.7**	**+3.6**
	218nm,1.1s							
HNR				*e*Sn		**Sn**	**20 01 36.6**	**+6.6**
RAO	**Raoul Island**	**14.82**	**130**	LR		LR	20 03 52.4	
	comp=Z,3μm,21.1s,baz=321,slow=32							
ARMA	**Armidale**	**18.81**	**234**	*e*P		**Pn**	**20 00 02.8**	**+2.6**
AFI	**Afiamalu**	**19.27**	**74**	P		**Pn**	**20 00 09.6**	**+3.9**
	1.9nm,0.3s,baz=292,slow=21,SNR=2.7							
AFI				LR		LR	20 06 09.9	
	comp=Z,4μm,19.2s,baz=243,slow=32							
AFI	**Afiamalu**	**19.27**	**74**	P		**Pn**	**20 00 09.6**	**+3.8**
AFI				pmax		pmax		
	comp=Z,2.0nm,0.3s							
AFI				MLR		MLR		
	comp=Z,4μm,19.2s							
AFI	**Afiamalu**	**19.27**	**74**	*e*P		**Pn**	**20 00 08.9**	**+3.2**
	comp=Z,111nm,0.9s							
AFI				LR		LR	20 06 09.9	
URZ	**Urewera**	**19.31**	**161**	P		**Pn**	**20 00 07.5**	**+1.3**
	comp=Z,2.3nm,0.3s,baz=346,slow=6.5,SNR=15							
URZ				LR		LR	20 06 24.7	
	comp=Z,3μm,20.0s,baz=237,slow=33							
CTA	**Charters Tower**	**21.48**	**266**	*e*P		**P**	**20 00 31.6**	**+3.1**
	comp=Z,38nm,0.8s,mb4.8							
CTA	**Charters Tower**	**21.48**	**266**	P		**P**	**20 00 30.4**	**+1.9**
	comp=Z,42nm,0.7s,mb4.8,baz=89,slow=11,SNR=30							
CTA				LR		LR	20 08 00.0	
	comp=Z,3μm,21.9s,MS4.6,baz=85,slow=34							
CTA	**Charters Tower**	**21.48**	**266**	*e*P		**P**	**20 00 31.6**	**+3.1**
CTA				pmax		pmax		
	comp=Z,38nm,0.8s							
CTAO	**Charters Tower**	**21.48**	**266**	*e*P		**P**	**20 00 30.8**	**+2.3**
CTAO				pmax		pmax		
	comp=Z,35nm,0.7s,mb4.8							
CTAO	**Charters Tower**	**21.48**	**266**	*e*P		**P**	**20 00 30.8**	**+2.3**
	comp=Z,35nm,0.7s,mb4.8							
SNZO	**South Karori**	**21.60**	**169**	*e*P		**P**	**20 00 32.4**	**+2.6**
CNB	**Canberra Magne**	**23.04**	**225**	*e*P		**P**	**20 00 46.7**	**+1.6**
	comp=Z,55nm,1.0s,mb4.9							
RPZ	**Rata Peaks**	**23.53**	**177**	P		**P**	**20 00 52.3**	**+2.2**
	comp=Z,35nm,0.8s,mb4.8,baz=44,slow=2.0,SNR=9.3							
RPZ				LR		LR	20 09 13.4	
	comp=Z,4μm,20.3s,MS4.9,baz=340,slow=34							
PMG	**Port Moresby**	**23.76**	**294**	P		**P**	**20 00 52.7**	**+0.6**
	comp=Z,32nm,0.8s,mb4.8,baz=106,slow=4.8,SNR=11							
PMG				LR		LR	20 09 13.8	
	comp=Z,2μm,18.2s,MS4.6,baz=313,slow=34							
PMG	**Port Moresby**	**23.76**	**294**	P		**P**	**20 00 52.7**	**+0.6**
PMG				pmax		pmax		
	comp=Z,32nm,0.8s							
PMG				MLR		MLR		
	comp=Z,2μm,18.2s							
PMG	**Port Moresby**	**23.76**	**294**	*e*P		**P**	**20 00 52.5**	**+0.4**
	comp=Z,50nm,0.9s,mb5.0							
TOO	**Toolangi**	**26.89**	**225**	*e*P		**P**	**20 01 21.2**	**+0.7**
	comp=Z,13nm,1.2s,mb4.3							
TOO	**Toolangi**	**26.89**	**225**	*e*P		**P**	**20 01 21.2**	**+0.7**
TOO				pmax		pmax		
	comp=Z,13nm,1.2s,mb4.3							
STKA	**Stephens Creek**	**27.28**	**239**	*e*P		**P**	**20 01 23.1**	**-0.9**
	comp=Z,13nm,0.9s,mb4.5							
STKA				*i* PCP		PcP	20 04 41.7	-1.4
STKA	**Stephens Creek**	**27.28**	**239**	P		**P**	**20 01 23.1**	**-0.9**
	comp=Z,5.1nm,0.6s,mb4.2,baz=69,slow=8.6,SNR=10							
STKA				PcP		PcP	20 04 41.8	-1.3
	comp=Z,6.2nm,0.6s,baz=70,slow=4.7,SNR=5.2							
STKA				LR		LR	20 11 36.7	
	comp=Z,3μm,20.6s,MS4.8,baz=73,slow=35							
RAR	**Rarotonga**	**29.08**	**98**	LR		LR	20 11 02.7	
	comp=Z,843nm,20.6s,MS4.3,baz=44,slow=31							
WB2	**Warramunga Arr**	**32.64**	**264**	*e*P		**P**	**20 02 10.2**	**-1.3**
WB2				*i* PCP		PcP	20 04 57.3	+0.4
WRAB	**Tennant Creek**	**32.64**	**264**	P		**P**	**20 02 10.5**	**-1.0**
	comp=Z,159nm,1.1s,mb5.9,SNR=6.1							
WRAB	**Tennant Creek**	**32.64**	**264**	*e*P		**P**	**20 02 10.2**	**-1.3**
WRAB				pmax		pmax		
	comp=Z,43nm,1.0s,mb5.3							
WRAB	**Tennant Creek**	**32.64**	**264**	*e*P		**P**	**20 02 10.2**	**-1.3**
	comp=Z,43nm,1.0s,mb5.3							
WRA	**Warramunga Arr**	**32.65**	**264**	P		**P**	**20 02 10.7**	**-0.9**
	comp=Z,10nm,0.8s,mb4.8,baz=96,slow=8.9,SNR=33							
WRA				PcP		PcP	20 04 57.2	+0.2
	comp=Z,4.3nm,0.7s,baz=92,slow=2.9,SNR=7.5							
WRA	**Warramunga Arr**	**32.65**	**264**	P		**P**	**20 02 10.7**	**-0.9**
WRA							20 04 57.2	
WRA				pmax		pmax		
	comp=Z,10.0nm,0.8s							
ASAR	**Alice Springs**	**32.82**	**257**	P		**P**	**20 02 12.9**	**-0.1**
	comp=Z,39nm,0.7s,mb5.5,baz=86,slow=8.9,SNR=318							
ASAR				PcP		PcP	20 04 57.5	0.0
	comp=Z,5.5nm,0.8s,baz=99,slow=3.5,SNR=6.2							
ASAR	**Alice Springs**	**32.82**	**257**	P		**P**	**20 02 12.9**	**-0.1**
ASAR							20 04 57.5	
ASAR				pmax		pmax		
	comp=Z,39nm,0.7s							
FORT	**Forrest**	**38.37**	**246**	⇑*i*P		**P**	**20 03 00.5**	**-0.2**
	comp=Z,39nm,0.7s,mb5.2							
TBI	**Tubuai**	**38.49**	**102**	*e*S		**S**	**20 08 55.0**	**+0.2**
	comp=Z,447nm,31.0s							
TBI				*e*LQ			20 11 58.5	
	comp=Z,2μm,32.5s							
TBI				*e*LR		LR	20 13 54.0	
	comp=Z,2μm,26.8s,baz=266							
PPT	**Papeete**	**39.09**	**93**	*e*S		**S**	**20 09 01.9**	**-1.9**
	comp=Z,554nm,27.2s							
PPT				*e*LQ			20 12 24.1	
	comp=Z,3μm,31.0s							
PPT				*e*LR		LR	20 13 59.2	
	comp=Z,3μm,26.2s,baz=256							
PPT	**Papeete**	**39.09**	**93**	LR		LR	20 15 06.1	
	comp=Z,1μm,19.2s,MS4.8,baz=260,slow=30							
FITZ	**Fitzroy Crossi**	**41.06**	**265**	*e*P		**P**	**20 03 22.4**	**-0.7**
	comp=Z,54nm,1.1s,mb5.1							
FITZ	**Fitzroy Crossi**	**41.06**	**265**	P		**P**	**20 03 23.6**	**+0.6**
	comp=Z,14nm,0.8s,mb4.7,baz=116,slow=10,SNR=21							
FITZ				LR		LR	20 19 34.7	
	comp=Z,1μm,21.2s,MS4.8,baz=99,slow=35							
GUMO	**Guam**	**41.17**	**323**	LR		LR	20 17 43.1	
	comp=Z,673nm,20.6s,MS4.5,baz=142,slow=32							
MBWA	**Marble Bar**	**46.09**	**260**	*e*P		**P**	**20 04 03.8**	**+0.3**
	comp=Z,48nm,1.0s,mb5.4							
MBWA				*e*		pP	20 04 11.7	-2.2
KLBR	**Kellerberrin**	**47.23**	**245**	*e*P		**P**	**20 04 11.5**	**-1.0**
	comp=Z,39nm,0.7s,mb5.4							
NWAO	**Narrogin (SRO)**	**47.71**	**243**	P		**P**	**20 04 16.1**	**0.0**
	comp=Z,36nm,0.8s,mb5.5,baz=83,slow=6.5,SNR=21							
NWAO				LR		LR	20 24 29.3	
	comp=Z,3μm,19.9s,MS5.3,baz=89,slow=36							
NWAO	**Narrogin (SRO)**	**47.71**	**243**	P		**P**	**20 04 16.1**	**-0.1**
NWAO				pmax		pmax		
	comp=Z,36nm,0.8s							
NWAO				MLR		MLR		
	comp=Z,3μm,19.9s							
MUN	**Mundaring**	**48.55**	**245**	*e*P		**P**	**20 04 21.2**	**-1.5**
MUN				*i* S		**S**	**20 11 19.0**	**-2.8**
TAOE	**Nuku Hiva Isla**	**50.19**	**85**	*e*LR		LR	20 19 07.4	
	comp=Z,3μm,26.3s							
RKT	**Rikitea**	**51.77**	**104**	*e*S		**S**	**20 12 04.3**	**-2.3**
	comp=Z,504nm,26.5s							
RKT				*e*LR		LR	20 20 02.4	
	comp=Z,1μm,25.8s,baz=258							
CBIJ	**Chichi jima**	**53.76**	**330**	LR		LR	20 26 00.3	
	comp=Z,433nm,20.1s,MS4.5,baz=152,slow=34							
TSM	**Tawau**	**55.90**	**290**	P		**P**	**20 05 18.2**	**+0.9**
VNDA	**Vanda**	**57.50**	**182**	P		**P**	**20 05 28.5**	**-0.1**
	comp=Z,3.0nm,0.6s,mb4.5,baz=4.8,slow=7.4,SNR=23							
VNDA				LR		LR	20 26 44.3	
	comp=Z,560nm,20.2s,MS4.7,baz=16,slow=32							
VNDA	**Vanda**	**57.50**	**182**	P		**P**	**20 05 28.5**	**-0.1**
VNDA				pmax		pmax		
	comp=Z,30nm,0.6s							
VNDA				MLR		MLR		
	comp=Z,560nm,20.2s							
VNDA	**Vanda**	**57.50**	**182**	*e*P		**P**	**20 05 28.3**	**-0.3**
	comp=Z,9.9nm,1.2s,mb4.7							
SBA	**Scott Base**	**57.73**	**181**	*e*P		**P**	**20 05 31.0**	**+0.7**
SBA				pmax		pmax		
	comp=Z,39nm,0.9s,mb5.4							
SBA	**Scott Base**	**57.73**	**181**	*e*P		**P**	**20 05 31.0**	**+0.8**
	comp=Z,39nm,0.9s,mb5.4							
SBA				*e*		pP	20 05 40.6	-0.3
KKM	**Kota Kinabalu**	**58.17**	**291**	P		**P**	**20 05 34.9**	**+1.6**
CASY	**Casey**	**59.24**	**204**	*e*P		**P**	**20 05 39.0**	**-1.7**
JOW	**Kunigami**	**61.25**	**318**	P		**P**	**20 05 54.7**	**+0.2**
	comp=Z,50nm,0.8s,mb5.7,baz=197,slow=12,SNR=5.5							
JOW				LR		LR	20 31 17.3	
	comp=Z,288nm,19.3s,MS4.4,baz=341,slow=35							
KSM	**Kuching**	**61.49**	**283**	*e*P		**P**	**20 05 56.4**	**+0.3**
MJAR	**Matsushiro Arr**	**63.53**	**332**	P		**P**	**20 06 09.2**	**-0.6**
	comp=Z,9.2nm,0.8s,mb4.9,baz=166,slow=7.3,SNR=33							
MJAR	**Matsushiro Arr**	**63.53**	**332**	P		**P**	**20 06 09.2**	**-0.5**
MJAR				pmax		pmax		
	comp=Z,9.0nm,0.8s							
MAJO	**Matsushiro**	**63.53**	**332**	*e*P		**P**	**20 06 09.3**	**-0.5**
MAJO				pmax		pmax		
	comp=Z,19nm,0.8s,mb5.2							
MAJO	**Matsushiro**	**63.53**	**332**	*e*P		**P**	**20 06 09.3**	**-0.5**
	comp=Z,19nm,0.8s,mb5.2							
MAT	**Matsushiro**	**63.53**	**332**	P		**P**	**20 06 09.3**	**-0.5**
MAT				S		**S**	**20 14 39.0**	**-1.7**
MAT	**Matsushiro**	**63.53**	**332**	*e*P		**P**	**20 06 09.0**	**-0.8**
MAT				*e*S		**S**	**20 14 39.0**	**-1.7**
YHNB	**Yeheng**	**64.39**	**312**	*e*P		**P**	**20 06 13.5**	**-1.9**
MIR	**Mirnyy**	**66.15**	**205**	*e*P		**P**	**20 06 27.5**	**+0.7**
MIR				*i*			20 06 47.0	
MIR				pmax		pmax		
	comp=Z,210nm,1.6s,mb5.9							
KGM	**Kluang**	**68.12**	**281**	P		**P**	**20 06 41.1**	**+1.8**
ASAJ	**Asahikawa**	**68.44**	**340**	P		**P**	**20 06 42.0**	**+0.7**
	comp=Z,13nm,0.6s,mb5.2,baz=196,slow=8.4,SNR=16							
ASAJ				LR		LR	20 31 21.9	
	comp=Z,1μm,21.9s,MS5.0,baz=180,slow=31							
ASAJ	**Asahikawa**	**68.44**	**340**	P		**P**	**20 06 42.0**	**+0.7**
ASAJ				pmax		pmax		
	comp=Z,13nm,0.6s							
ASAJ				MLR		MLR		
	comp=Z,1μm,21.9s							
SSE	**Sheshan**	**68.68**	**317**	P		**P**	**20 06 44.8**	**+2.0**
SSE				AP		pP	20 07 10.0	+16
SSE				XP		sP	20 07 21.1	+23
SSE				S		S	20 15 39.5	-3.9
SSE				XS		sS	20 16 23.8	+23
SSE				SS		SS	20 20 06.9	-1.3
SSE				AMB		AMB		
	comp=Z,27nm,0.7s,mb5.3							
SSE				AMB		AMB		
	comp=Z,158nm,8.2s							
SSE				LR		LR		
	comp=N,126nm,23.8s,MS4.3							
SSE				LR		LR		
	comp=E,200nm,23.7s,MS4.3							
SSE				LR		LR		
	comp=Z,218nm,18.2s							
QSPA	**South Pole Qui**	**69.89**	**180**	⇑*i*P		**P**	**20 06 50.4**	**+0.1**
	comp=Z,34nm,0.8s,mb5.3							
QIZ	**Qiongzhong**	**69.96**	**300**	P		**P**	**20 06 51.9**	**+1.2**
QIZ				PP		PP	20 09 27.3	+1.6
QIZ				S		S	20 15 47.9	-11
QIZ				XS		sS	20 16 32.0	+16
QIZ				AMB		AMB		
	comp=Z,346nm,3.9s							
QIZ				LR		LR		
	comp=E,102nm,21.9s							
QIZ				LR		LR		
	comp=Z,188nm,22.8s,MS4.3							
NJ2	**Nanjing**	**70.81**	**316**	*e*P		**P**	**20 06 56.3**	**+0.4**
NJ2				XP		sP	20 07 32.0	+21
NJ2				PP		PP	20 09 36.3	+3.3
NJ2				S		S	20 16 02.0	-6.4
NJ2				XS		sS	20 16 49.0	+23
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb4.8							
NJ2				AMB		AMB		
	comp=Z,170nm,10.3s							
NJ2				LR		LR		
	comp=N,900nm,25.5s							
NJ2				LR		LR		
	comp=E,910nm,36.4s							
NJ2				LR		LR		
	comp=Z,460nm,29.8s,MS4.6							
YSS	**Yuzh-Sakhalins**	**70.93**	**341**	*e*P		**P**	**20 06 57.0**	**+0.4**
YSS	**Yuzh-Sakhalins**	**70.93**	**341**	*e*P		**P**	**20 06 57.3**	**+0.7**
	comp=Z,7.3nm,0.4s,mb5.0							
YSS				*e*pP		pP	20 07 07.0	-0.5
IPM	**Ipoh**	**71.18**	**282**	P		**P**	**20 06 59.4**	**+1.2**
KULM	**Kulim**	**71.84**	**283**	*e*P		**P**	**20 07 02.2**	**0.0**
PSI	**Prapat**	**72.48**	**280**	P		**P**	**20 07 05.3**	**-0.7**
	comp=Z,19nm,0.9s,mb5.0,baz=136,slow=3.7,SNR=12							
PSI	**Prapat**	**72.48**	**280**	P		**P**	**20 07 05.3**	**-0.7**
PSI				pmax		pmax		
	comp=Z,19nm,0.9s,mb5.0							
FX1	**Attu Island--F**	**72.83**	**3**	LR		LR	20 34 57.0	
	comp=Z,28nm,21.2s,MS3.5,baz=203,slow=32							
WHN	**Wuhan**	**72.90**	**312**	P		**P**	**20 07 08.0**	**-0.5**
DL2	**Dalian**	**73.70**	**323**	P		**P**	**20 07 13.9**	**+0.7**
DL2				S		S	20 16 41.6	+0.1
DL2				AMB		AMB		
	comp=Z,50nm,0.8s,mb5.5							
DL2				AMB		AMB		
	comp=Z,240nm,5.4s							
DL2				LR		LR		
	comp=N,150nm,16.5s,MS4.5							
DL2				LR		LR		
	comp=E,130nm,18.0s,MS4.5							
DL2				LR		LR		
	comp=Z,310nm,19.7s,MS4.6							
RPN	**Rapa Nui**	**73.81**	**113**	LR		LR	20 31 26.3	
	comp=Z,552nm,19.7s,MS4.8,baz=165,slow=29							
MDJ	**Mudanjiang**	**73.89**	**332**	P		**P**	**20 07 14.8**	**+0.5**
MDJ				PP		PP	20 10 01.4	+2.0
MDJ				S		S	20 16 42.9	-0.8
MDJ				XS		sS	20 17 21.6	+20
MDJ				SS		SS	20 21 26.4	-1.8
MDJ				AMB		AMB		
	comp=Z,20nm,0.9s,mb5.0							
MDJ				AMB		AMB		
	comp=Z,145nm,5.2s							
MDJ				LR		LR		
	comp=N,196nm,23.5s,MS4.3							
MDJ				LR		LR		
	comp=E,79nm,25.6s,MS4.3							
MDJ				LR		LR		
	comp=Z,271nm,25.6s,MS4.4							
MDJ	**Mudanjiang**	**73.89**	**332**	*e*P		**P**	**20 07 14.7**	**+0.4**
	comp=Z,31nm,1.3s,mb5.1							
MDJ				*e*		pP	20 07 24.7	-0.5
TIA	**Tai'an**	**74.57**	**319**	⇑P		**P**	**20 07 18.1**	**-0.2**
TIA				AMB		AMB		
	comp=Z,22nm,1.0s,mb5.0							
SNY	**Shenyang**	**74.70**	**326**	⇑P		**P**	**20 07 18.3**	**-0.7**
SNY				S		S	20 16 46.3	-6.4
SNY				SS		SS	20 21 38.4	-2.1
SNY				AMB		AMB		
	comp=Z,16nm,0.7s,mb5.1							
SNY				AMB		AMB		
	comp=Z,221nm,11.3s							
SNY				LR		LR		
	comp=E,189nm,18.1s							
SNY				LR		LR		
	comp=Z,251nm,20.5s,MS4.5							
HABR	**Khabarovsk**	**74.82**	**337**	⇑*i*P		**P**	**20 07 20.2**	**+0.5**
HABR				*e*S		S	20 16 55.5	+1.5
CN2	**Changchun**	**75.20**	**329**	*e*P		**P**	**20 07 22.4**	**+0.5**
CN2				*e*AP		pP	20 07 47.3	+14
CN2				*e*S		S	20 16 52.9	-5.4
CN2				AMB		AMB		
	comp=Z,40nm,0.9s,mb5.3							
CN2				AMB		AMB		
	comp=Z,200nm,3.0s							
CN2				LR		LR		
	comp=N,200nm,22.0s,MS4.5							
CN2				LR		LR		
	comp=E,200nm,22.0s,MS4.5							
CN2				LR		LR		
	comp=Z,300nm,21.0s,MS4.6							
KLR	**Kul'dur**	**76.68**	**336**	*e*P		**P**	**20 07 27.6**	**-2.7**
KLR				pmax		pmax		
	comp=Z,120nm,2.0s,mb5.5							
NANT	**Nan**	**77.45**	**296**	P		**P**	**20 07 37.0**	**+2.3**
MAW	**Mawson**	**77.54**	**202**	⇑*i*P		**P**	**20 07 35.5**	**+0.3**
	comp=Z,9.4nm,0.8s,mb4.8							
MAW	**Mawson**	**77.54**	**202**	P		**P**	**20 07 35.4**	**+0.3**
	comp=Z,11nm,0.8s,mb4.9,baz=122,slow=6.6,SNR=14							
MAW				LR		LR	20 37 37.0	
	comp=Z,563nm,18.2s,MS4.9,baz=92,slow=32							
MAW	**Mawson**	**77.54**	**202**	⇑*i*P		**P**	**20 07 35.5**	**+0.3**
MAW				pmax		pmax		
	comp=Z,9.0nm,0.8s							
BJT	**Baijiatuau**	**77.59**	**321**	*e*P		**P**	**20 07 35.7**	**+0.3**
BJT				pmax		pmax		
	comp=Z,32nm,0.8s							
BJT	**Baijiatuau**	**77.59**	**321**	*e*P		**P**	**20 07 35.7**	**+0.3**
	comp=Z,32nm,0.8s,mb5.3							
BJI	**Beijing**	**77.60**	**321**	P		**P**	**20 07 36.1**	**+0.6**
BJI				AP		pP	20 08 03.9	+17
BJI				XP		sP	20 08 15.8	+25
BJI				S		S	20 17 23.5	-1.0
BJI				SS		SS	20 22 20.5	-3.8
BJI				AMB		AMB		
	comp=Z,43nm,0.7s,mb5.5							
BJI				AMB		AMB		
	comp=Z,262nm,6.2s							
BJI				LR		LR		
	comp=N,327nm,21.0s,MS4.7							
BJI				LR		LR		
	comp=E,211nm,21.0s,MS4.7							
BJI				LR		LR		
	comp=Z,317nm,21.6s,MS4.6							
XAN	**Xi'an**	**78.67**	**313**	P		**P**	**20 07 42.3**	**+0.9**
XAN				AMB		AMB		
	comp=Z,19nm,0.8s,mb5.1							
KMI	**Kunming**	**78.68**	**302**	P		**P**	**20 07 43.0**	**+1.5**
KMI				PCP		PcP	20 07 51.9	+1.6
KMI				AP		pP	20 08 07.4	+15
KMI				PP		PP	20 10 43.8	+4.1
KMI				S		S	20 17 31.3	-4.9
KMI				SKS			20 17 44.6	
KMI				SCS		ScS	20 17 52.9	-7.3
KMI				SS		SS	20 22 39.8	-0.8
KMI				AMB		AMB		
	comp=Z,12nm,1.5s,mb4.6							
KMI				AMB		AMB		
	comp=Z,126nm,3.5s							
KMI				LR		LR		
	comp=N,303nm,8.1s							
KMI				LR		LR		
	comp=E,209nm,9.9s							
KMI				LR		LR		
	comp=Z,251nm,17.6s,MS4.6							
CHG	**Chiang Mai**	**78.95**	**295**	⇑P		**P**	**20 07 44.5**	**+1.5**
	comp=Z,12nm,0.7s,mb4.9							
CHTO	**Chiang Mai**	**78.95**	**295**	*e*P		**P**	**20 07 44.1**	**+1.1**
CHTO				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.6							
CHTO	**Chiang Mai**	**78.95**	**295**	*e*P		**P**	**20 07 44.1**	**+1.1**
	comp=Z,7.1nm,0.8s,mb4.7							
CD2	**Chengdu**	**80.72**	**308**	*e*P		**P**	**20 07 51.4**	**-1.2**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.8							
HHC	**Hu-ho-hao-te**	**80.86**	**320**	⇑P		**P**	**20 07 54.5**	**+1.2**
HHC				AP		pP	20 08 20.5	+16
HHC				XP		sP	20 08 31.1	+23
HHC				PP		PP	20 11 03.0	+5.1
HHC				S		S	20 17 53.8	-5.4
HHC				SKS			20 17 55.3	
HHC				XS		sS	20 18 37.5	+20
HHC				PS			20 18 55.0	
HHC				AMB		AMB		
	comp=Z,21nm,1.2s,mb4.9							
HHC				AMB		AMB		
	comp=Z,246nm,7.3s							
HHC				LR		LR		
	comp=N,178nm,23.1s,MS4.5							
HHC				LR		LR		
	comp=E,213nm,22.7s,MS4.5							
HHC				LR		LR		
	comp=Z,305nm,24.3s,MS4.6							
HIA	**Hailar**	**81.86**	**330**	*e*P		**P**	**20 07 58.4**	**-0.2**
HIA	**Hailar**	**81.86**	**330**	*e*P		**P**	**20 07 58.1**	**-0.5**
	comp=Z,5.9nm,0.7s,mb4.6							
LZH	**Lanzhou**	**83.28**	**312**	*e*P		**P**	**20 08 07.5**	**+1.5**
LZH				AP		pP	20 08 32.6	+16
LZH				XP		sP	20 08 43.1	+22
LZH				PP		PP	20 11 18.6	+0.9
LZH				SKS			20 18 17.6	
LZH				*e*S		S	20 18 19.5	-4.5
LZH				XS		sS	20 19 02.8	+20
LZH				PS			20 19 25.8	
LZH				*e*SS		SS	20 23 49.3	+0.1
LZH				AMB		AMB		
	comp=Z,51nm,1.5s,mb5.3							
LZH				AMB		AMB		
	comp=Z,246nm,8.7s							
LZH				LR		LR		
	comp=E,217nm,18.3s							
LZH				LR		LR		
	comp=Z,398nm,19.5s,MS4.8							
KDAK	**Kodiak Island**	**83.94**	**19**	P		**P**	**20 08 09.0**	**-0.4**
	comp=Z,107nm,0.7s,mb6.1,SNR=8.0							
KDAK	**Kodiak Island**	**83.94**	**19**	P		**P**	**20 08 08.7**	**-0.7**
	comp=Z,12nm,0.6s,mb5.2,baz=113,slow=2.6,SNR=12							
SYO	**Syowa Base**	**84.02**	**196**	⇓*e*P		**P**	**20 08 07.8**	**-2.0**
SYO	**Syowa Base**	**84.02**	**196**	⇓*e*PcP		PcP	20 08 09.2	-4.4
SYO	**Syowa Base**	**84.02**	**196**	⇓*e*pP		pP	20 08 30.0	+9.2
SVW2	**Sparrevohn**	**85.82**	**16**	*e*P		**P**	**20 08 17.0**	**-1.8**
KIPM	**Iron Peak**	**86.58**	**45**	*e*P		**P**	**20 08 22.0**	**-0.6**
CIT	**Chita**	**86.64**	**329**	*e*P		**P**	**20 08 21.5**	**-1.4**
CIT				pmax		pmax		
	comp=Z,54nm,2.6s,mb5.3							
SLKM	**Skilak Lake**	**86.86**	**19**	*e*P		**P**	**20 08 21.9**	**-2.0**
KHMM	**Horse Mountain**	**86.94**	**44**	*e*P		**P**	**20 08 25.2**	**+0.9**
TTA	**Tatalina**	**87.25**	**15**	*e*P		**P**	**20 08

comp=Z,19nm,0.9s,mb5.3
BILL Bilibino 87.98 359 *e*P **P** **20 08 27.8 -1.5**
YBH Yreka Blue Hor 88.03 44 P **P** **20 08 30.5 +0.9**
comp=Z,7.7nm,0.6s,mb5.1,baz=191,slow=1.9,SNR=19
YBH Yreka Blue Hor 88.03 44 P **P** **20 08 30.5 +0.9**
YBH pmax pmax
comp=Z,8.0nm,0.6s
SNAA Sanae 88.23 183⇑*i*P **P** **20 08 29.4 -1.1**
SNAA *e* 20 08 30.6
SNAA *e* pP 20 08 38.9 -2.7
SNAA *e* 20 08 55.4
SNAA Sanae 88.23 183 *e*P **P** **20 08 29.1 -1.4**
SNAA pmax pmax
comp=Z,18nm,0.8s
SNAA Sanae 88.23 183 *e*P **P** **20 08 29.1 -1.4**
comp=Z,18nm,0.8s,mb5.3
HUMO Hull Mountain 88.30 43 *e*P **P** **20 08 31.6 +0.8**
comp=Z,11nm,0.7s,mb5.2
BUOR Burton Butte 88.60 44 P **P** **20 08 33.3 +1.0**
LASM Arnica Sink 88.71 45 P **P** **20 08 33.9 +1.1**
VNA3 Neumayer Olymp 88.82 180⇑*i*P **P** **20 08 32.5 -0.8**
VNA3 *e* pP 20 08 42.2 -2.2
VNA3 *e* 20 08 56.2
DAC Darwin (Calif) 89.05 51 *e*P **P** **20 08 34.7 +0.3**
DAC pmax pmax
comp=Z,4.0nm,0.6s,mb4.9
DAC Darwin (Calif) 89.05 51 *e*P **P** **20 08 34.7 +0.4**
comp=Z,3.9nm,0.6s,mb4.9
VNA2 Neumayer--Watz 89.11 181⇑*i*P **P** **20 08 34.2 -0.5**
baz=177,slow=4.5
VNA2 *e* 20 08 35.6
VNA2 *e* pP 20 08 44.1 -1.7
VNA2 *e* 20 08 58.5
PAHR Pah Rah Range 89.31 47 *e*P **P** **20 08 35.2 -0.4**
comp=Z,7.3nm,1.0s,mb5.0
PAHR *e* pP 20 08 46.1 -0.6
VNA1 Neumayer--Stat 89.41 181⇑*i*P **P** **20 08 35.8 -0.2**
VNA1 *e* 20 08 37.3
VNA1 *e* pP 20 08 45.7 -1.5
VNA1 *e* 20 08 58.1
IRO Indian Ridge 89.43 42 P **P** **20 08 36.5 +0.3**
BROR Big Rock Looko 89.43 42 P **P** **20 08 36.6 +0.5**
NVAR Mina Array Bea 89.49 49 P **P** **20 08 37.1 +0.7**
comp=Z,6.3nm,0.8s,mb5.0,baz=221,slow=6.8,SNR=39
MNV Mina 89.59 49 *e*P **P** **20 08 37.3 +0.4**
MNV pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
MNV Mina 89.59 49 *e*P **P** **20 08 37.3 +0.4**
comp=Z,6.1nm,0.7s,mb5.0
MOD Modoc 89.70 45 *e*P **P** **20 08 37.7 +0.3**
comp=Z,8.2nm,0.6s,mb5.2
LSA Lhasa 89.93 302 *e*P **P** **20 08 40.0 +1.5**
LSA Lhasa 89.93 302 *e*P **P** **20 08 38.5 0.0**
LSA pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
LSA Lhasa 89.93 302 *e*P **P** **20 08 38.5 0.0**
comp=Z,5.7nm,0.8s,mb5.0
TPH Tonopah 90.10 49 *e*P **P** **20 08 39.4 +0.1**
TPH pmax pmax
comp=Z,7.0nm,0.6s,mb5.2
TPH Tonopah 90.10 49 *e*P **P** **20 08 39.4 +0.1**
comp=Z,7.1nm,0.6s,mb5.2
OOW Octopus West 90.11 38 P **P** **20 08 40.4 +1.1**
OCWA Octopus Mounta 90.12 38 *e*P **P** **20 08 40.4 +1.0**
comp=Z,37nm,0.7s,mb5.8
BOD Bodaibo 90.12 334⇓*i*P **P** **20 08 37.8 -1.6**
BOD pmax pmax
comp=Z,12nm,1.3s,mb5.1
OTR Olympics--Tyee 90.19 38 P **P** **20 08 41.0 +1.2**
COLA College 90.96 17 *e*P **P** **20 08 41.4 -1.9**
COLA College 90.96 17 *e*P **P** **20 08 40.7 -2.6**
comp=Z,5.3nm,0.8s,mb4.9
PGC Sidney 90.99 38 *e*P **P** **20 08 41.5 -2.0**
comp=Z,24nm,0.8s,mb5.6
ZAK Zakamensk 90.99 324 *e*P **P** **20 08 42.2 -1.2**
ZAK pmax pmax
comp=Z,25nm,1.9s,mb5.2
WVOR Wild Horse Val 91.04 45 *e*P **P** **20 08 43.9 +0.2**
WVOR pmax pmax
comp=Z,9.0nm,0.6s,mb5.3
WVOR Wild Horse Val 91.04 45 *e*P **P** **20 08 43.9 +0.3**
comp=Z,9.3nm,0.6s,mb5.3
BMN Battle Mountai 91.12 47 *e*P **P** **20 08 43.9 -0.1**
BMN pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
BMN Battle Mountai 91.12 47 *e*P **P** **20 08 43.9 -0.1**
comp=Z,5.9nm,0.8s,mb5.0
ILAR Eielson Array 91.14 17 P **P** **20 08 41.9 -2.3**
comp=Z,4.3nm,0.8s,mb4.9,baz=230,slow=5.2,SNR=26
ILAR LR LR 20 42 50.0
comp=Z,557nm,21.4s,MS5.0,baz=207,slow=31
ILAR Eielson Array 91.14 17 P **P** **20 08 41.9 -2.3**
ILAR pmax pmax
comp=Z,4.0nm,0.8s
ILAR MLR MLR
comp=Z,557nm,21.4s
SKAG Skagway 91.33 25 *e*P **P** **20 08 43.8 -1.2**
TLY Talaya 91.47 325 *e*P **P** **20 08 44.9 -0.8**
TLY *e*PPS 20 20 47.4
TLY *e*SS SS 20 25 56.0 +7.1
TLY pmax pmax
comp=Z,11nm,0.7s,mb5.3
TLY Talaya 91.47 325 *e*P **P** **20 08 45.3 -0.3**
comp=Z,10nm,0.6s,mb5.3
TUC Tucson 92.60 57 *e*P **P** **20 08 51.4 +0.5**
TUC pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
TUC Tucson 92.60 57 *e*P **P** **20 08 51.4 +0.5**
comp=Z,4.0nm,0.8s,mb4.9
TUC *e* pP 20 09 01.3 -0.7
CCUT Cedar City 92.66 51 *e*P **P** **20 08 52.1 +0.9**
MOY Mondy 92.89 325 *e*P **P** **20 08 52.5 +0.3**
MOY pmax pmax
comp=Z,35nm,3.0s
DAWY Dawson 92.90 20 P **P** **20 08 50.4 -1.9**
DLBC Dease Lake 92.91 27 *e*P **P** **20 08 51.4 -0.9**
JIRN Jiri 93.21 298 *e*P **P** **20 08 54.5 +0.8**
comp=Z,25nm,1.1s,mb5.6
WUAZ Wupatki 93.35 53 *e*P **P** **20 08 55.0 +0.7**
comp=Z,8.0nm,0.9s,mb5.2
GUN Gumba 93.55 298 *e*P **P** **20 08 55.9 +0.6**
comp=Z,16nm,0.7s,mb5.5
PKI Pulchoki 93.82 298 *e*P **P** **20 08 57.0 +0.5**
comp=Z,26nm,0.9s,mb5.7
MSU Marysvale 93.90 50 *e*P **P** **20 08 57.4 +0.5**
KKN Kakani 94.01 298 *e*P **P** **20 08 57.8 +0.4**
comp=Z,25nm,0.9s,mb5.7
DMN Daman 94.09 298 *e*P **P** **20 08 58.2 +0.5**
comp=Z,52nm,1.0s,mb5.9
GKN Gorkha 94.62 298 *e*P **P** **20 09 00.0 -0.2**
comp=Z,20nm,0.8s,mb5.6
HVU Hansel Valley 94.73 47 *e*P **P** **20 09 00.7 0.0**
HVU pmax pmax
comp=Z,4.0nm,0.7s,mb5.0
HVU Hansel Valley 94.73 47 *e*P **P** **20 09 00.7 0.0**
comp=Z,4.3nm,0.7s,mb5.0
SRU San Rafael 95.32 50 *e*P **P** **20 09 02.1 -1.3**
SRU pmax pmax
comp=Z,2.0nm,0.6s,mb4.7
SRU San Rafael 95.32 50 *e*P **P** **20 09 02.1 -1.3**
comp=Z,2.1nm,0.6s,mb4.7
KOLN Koldanda 95.40 297 *e*P **P** **20 09 03.7 0.0**
comp=Z,13nm,0.9s,mb5.4
TIXI Tiksi 95.63 348 *e*P **P** **20 09 00.4 -4.4**
TIXI pmax pmax
comp=Z,2.0nm,1.1s,mb4.5
DLMT Dillon 96.22 44 *e*P **P** **20 09 07.0 -0.5**
comp=Z,3.0nm,0.5s,mb5.0
PDAR Pinedale Array 97.32 47 P **P** **20 09 14.9 +2.4**
comp=Z,1.0nm,0.6s,mb4.4,baz=258,slow=4.4,SNR=4.7
PDAR LR LR 20 50 43.3
comp=Z,190nm,18.1s,MS4.6,baz=252,slow=34
INK Inuvik 97.46 18 P **P** **20 09 10.8 -2.2**
comp=Z,1.0nm,0.5s,mb4.5,baz=286,slow=1.6,SNR=4.9
INK Inuvik 97.46 18 P **P** **20 09 10.9 -2.2**
INK pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 97.46 18 *e*P **P** **20 09 10.1 -3.0**
comp=Z,8.1nm,1.3s,mb5.0
WMQ Urumqi 97.78 314 ⇑P **P** **20 09 14.3 -0.2**
WMQ AP pP 20 09 40.3 +15
WMQ XP sP 20 09 50.6 +21
WMQ PP PP 20 13 15.8 +3.0
WMQ SKS 20 19 41.4
WMQ S 20 20 27.6

WMQ AMB AMB
comp=Z,11nm,1.1s,mb5.3
WMQ AMB AMB
comp=Z,134nm,3.8s
WMQ LR LR
comp=N,130nm,20.8s,MS4.7
WMQ LR LR
comp=E,263nm,22.8s,MS4.7
WMQ LR LR
comp=Z,297nm,23.5s,MS4.7
YKA Yellowknife Ar 101.54 27 P Pdif 20 09 30.7 -0.6
comp=Z,0.8nm,0.5s,baz=257,slow=4.9,SNR=11
YKA Yellowknife Ar 101.54 27 P Pdif 20 09 30.7 -0.6
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 101.54 27 P Pdif 20 09 30.7 -0.6
MKAR Makanchi Array 102.33 315 P Pdif 20 09 35.0 +0.2
comp=Z,1.6nm,0.7s,baz=102,slow=5.7,SNR=16
MKAR Makanchi Array 102.33 315 P Pdif 20 09 35.0 +0.2
MKAR pmax pmax
comp=Z,2.0nm,0.7s
ZAL Zalesovo 102.81 323 P Pdif 20 09 35.4 -1.6
comp=Z,0.9nm,0.6s,baz=340,slow=5.9,SNR=7.0
ZAL Zalesovo 102.81 323 *i* P Pdif 20 09 35.4 -1.5
ZAL pmax pmax
comp=Z,1.0nm,0.6s
RES Resolute Bay 110.88 16 *e*PKIKP PKiKP 20 14 09.2 -3.1
ZRNK Zerenda 111.89 320 *e*PKIKP PKiKP 20 14 12.4 -1.8
LPAZ La Paz 113.10 119 PKiKP PKiKP 20 14 17.8 +1.3
comp=Z,0.8nm,0.7s,baz=264,slow=5.5,SNR=4.4
LPAZ La Paz 113.10 119 *i* PKIKP PKiKP 20 14 17.8 +1.3
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
CPUP Villa Florida 115.43 134 PKiKP PKiKP 20 14 20.8 -0.2
comp=Z,0.5nm,0.4s,baz=321,slow=2.3,SNR=3.9
CPUP Villa Florida 115.43 134 *i* PKIKP PKPdf 20 14 20.8 -0.2
CPUP pmax pmax
comp=Z,1.0nm,0.4s
ARU Arti 117.93 324 *i* PKIKP PKPdf 20 14 24.3 -1.5
ARU *e* 20 15 36.3
ARU *e*PPP 20 18 09.1
ARU *e* 20 21 14.6
ARU *e*SP SP 20 25 17.2 -4.2
ARU *e*PS PS 20 25 27.2 +1.6
ARU *e*SS SS 20 31 58.0 +6.7
ARU MLR MLR
comp=Z,200nm,19.0s,MS4.8
ARU MLR MLR
comp=N,200nm,20.0s,MS4.8
ARU MLR MLR
comp=E,90nm,17.0s,MS4.8
ARU Arti 117.93 324 *e*PKPdf PKPdf 20 14 24.2 -1.6
AKTK Aktyubinsk 118.69 317 PKP PKPdf 20 14 26.5 -0.8
AKTO Aktyubinsk 118.69 317 PKP PKPdf 20 14 26.5 -0.8
comp=E,3.3nm,0.6s,baz=91,slow=3.2,SNR=14
AKTO Aktyubinsk 118.69 317 PKIKP PKPdf 20 14 26.5 -0.8
AKTO pmax pmax
comp=Z,3.0nm,0.6s
ORR Orenburg 120.65 319 *e*PKIKP PKPdf 20 14 29.1 -1.9
ORR pmax pmax
comp=Z,8.0nm,0.9s
SDV Santo Domingo 121.33 92 *e*PKPdf PKPdf 20 14 31.7 -0.6
SDV *e* 20 14 41.5
DAG Danmarks Havn 123.22 2⇑*i*P PKPdf 20 14 31.5 -4.5
comp=Z,3.4nm,0.4s
DAG Danmarks Havn 123.22 2⇑*e*PKIKP PKPdf 20 14 31.5 -4.5
DAG pmax pmax
comp=Z,3.0nm,0.4s
SUMG Summit 125.29 10 *e*PKPdf PKPdf 20 14 38.2 -1.8
SUMG *e* 20 14 47.7
KEV Kevo 125.41 345 *ep* PKPdf 20 14 41.7 +1.5
SCHQ Schefferville 125.72 36 PKP PKPdf 20 14 38.4 -2.4
comp=Z,2.5nm,0.8s,baz=260,slow=8.1,SNR=4.3
ARCES ARCESS Array B 125.94 345 PKP PKPdf 20 14 39.5 -1.7
comp=Z,6.0nm,0.5s,baz=81,slow=2.6,SNR=30
ARCES ARCESS Array B 125.94 345 PKIKP PKPdf 20 14 39.5 -1.7
ARCES pmax pmax
comp=Z,6.0nm,0.5s
ARCES ARCESS Array B 125.94 345 PKP PKPdf 20 14 39.5 -1.7
ARE0 ARCESS Array S 125.94 345 *e*PKPdf PKPdf 20 14 39.0 -2.2
KLMR Klimovskoe 126.31 332 *i* PKIKP PKPdf 20 14 40.6 -1.3
KLMR pmax pmax
comp=Z,30nm,1.7s
SJG San Juan 127.93 82 *e*PKPdf PKPdf 20 14 43.3 -1.7
SJG *e* 20 14 53.2
KMBO Kilima Mbogo 128.34 252 PKP PKPdf 20 14 46.3 +0.5
comp=Z,14nm,0.6s,baz=69,slow=19,SNR=4.7
KMBO Kilima Mbogo 128.34 252 PKIKP PKPdf 20 14 46.3 +0.5
KMBO pmax pmax
comp=Z,10.0nm,0.6s
JOF Joensuu 128.57 337 *ep* PKPdf 20 14 44.5 -1.7
comp=Z,12nm,0.6s
JOF Joensuu 128.57 337 *e*PKIKP PKPdf 20 14 44.5 -1.7
JOF pmax pmax
comp=Z,12nm,0.6s
GNI Garni 128.82 306 *i* PKIKP PKPdf 20 14 47.4 +0.7
GNI Garni 128.82 306 *e*PKP PKPdf 20 14 47.4 +0.7
BDFB Brasilia 129.02 132 PKP PKPdf 20 14 47.3 +0.2
comp=Z,8.4nm,0.7s,baz=189,slow=2.6,SNR=12
BDFB Brasilia 129.02 132 PKIKP PKPdf 20 14 47.3 +0.2
BDFB pmax pmax
comp=Z,8.0nm,0.7s
ZEI Tsey 129.13 309 *e*PKIKP PKPdf 20 14 47.8 +0.5
KIV Kislovodsk 129.81 311 *i* PKIKP PKPdf 20 14 49.0 +0.4
KIV pmax pmax
comp=Z,9.0nm,1.8s
KIV Kislovodsk 129.81 311 *e*PKP PKPdf 20 14 48.3 -0.3
OBN Obninsk 130.22 326 *i* PKIKP PKPdf 20 14 48.0 -1.3
OBN pmax pmax
comp=Z,9.0nm,0.7s
OBN MLR MLR
comp=Z,200nm,21.0s,MS4.8
OBN Obninsk 130.22 326 *e*PKP PKPdf 20 14 48.8 -0.5
OBN LR LR
comp=Z,200nm,20.0s,MS4.8
KAF Kangasniemi 130.88 338 *ep* PKPdf 20 14 45.8 -4.8
comp=Z,5.6nm,0.6s
KAF Kangasniemi 130.88 338 *e*PKIKP PKPdf 20 14 45.8 -4.8
KAF pmax pmax
comp=Z,6.0nm,0.6s
FINES FINESS Array B 131.41 337 PKhKP 20 14 43.6
comp=Z,2.8nm,0.9s,baz=127,slow=5.0,SNR=4.3
FINES PKP PKPdf 20 14 49.5 -2.1
comp=Z,1.8nm,0.5s,baz=106,slow=6.3,SNR=12
FINES FINESS Array B 131.41 337 *i* PKIKP 20 14 43.6
FINES pmax pmax
comp=Z,3.0nm,0.9s
FINES pmax pmax
comp=Z,2.0nm,0.5s
ANN Anapa 133.29 313 *i* PKIKP PKPdf 20 14 54.8 -0.3
ANN pmax pmax
comp=Z,26nm,1.1s
ASF Jabal al Asfar 135.82 296 PKP PKPdf 20 15 01.9 +2.0
comp=Z,2.3nm,0.7s,baz=266,slow=3.7,SNR=5.0
ASF Jabal al Asfar 135.82 296 PKIKP PKPdf 20 15 01.9 +2.0
ASF pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 136.19 324 PKP PKPdf 20 14 59.6 -1.0
comp=Z,2.9nm,0.7s,baz=59,slow=1.6,SNR=7.5
AKASG Malin Array Be 136.19 324 PKIKP PKPdf 20 14 59.6 -1.0
AKASG pmax pmax
comp=Z,3.0nm,0.7s
NB2 NORSAR Subarra136.31 345 PKPd 20 14 50.8
comp=Z,1.5nm,0.7s,baz=31,slow=1.9
NOA NORSAR Array B136.31 345 PKhKP 20 14 52.5
comp=Z,1.5nm,0.6s,baz=260,slow=3.2,SNR=5.3
NOA PKP PKPdf 20 15 00.8 0.0
comp=Z,1.8nm,0.7s,baz=30,slow=2.6,SNR=9.4
NOA NORSAR Array B136.31 345 *i* PKHKP 20 14 52.5
NOA 20 15 00.9
NOA pmax pmax
comp=Z,2.0nm,0.6s
BR131 Keskin Array S 137.30 307 *e*PKPdf PKPdf 20 14 59.2 -3.4
BRTR Keskin Array B 137.30 307 PKP PKPdf 20 15 03.3 +0.7
comp=Z,1.7nm,0.7s,baz=116,slow=2.5,SNR=11
BRTR Keskin Array B 137.30 307 PKIKP PKPdf 20 15 03.3 +0.7
BRTR pmax pmax
comp=Z,2.0nm,0.7s
CVD Cernavoda 139.77 316⇑*i*P PKPdf 20 15 04.8 -2.4
CVD Cernavoda 139.77 316⇑P PKPdf 20 15 04.8 -2.4
BURAR Bucovina Array 140.00 322⇑P PKPdf 20 15 02.6 -5.0
BURAR Bucovina Array 140.00 322⇑P PKPdf 20 15 02.6 -5.0
MLR Muntele Rosu 140.60 318 PKhKP 20 15 05.0
comp=Z,3.5nm,0.7s,baz=193,slow=12,SNR=4.3
MLR Muntele Rosu 140.60 318⇑*i*P PKPdf 20 15 04.3 -4.4

MLR Muntele Rosu 140.60 318 *i* PKIKP PKPdf 20 15 05.0 -3.7
MLR pmax pmax
comp=Z,4.0nm,0.7s
MLR Muntele Rosu 140.60 318⇑P PKPdf 20 15 04.3 -4.4
KOLS Kolonicke sedl 140.94 325 *e*PKP PKPdf 20 15 10.9 +1.6
STHS Stebnicka Huta 141.19 326 *e*PKP PKPdf 20 15 05.0 -4.7
CRVS Cervenica-Dubn 141.39 326 *e*PKP PKPdf 20 15 08.0 -2.1
CRVS Cervenica-Dubn 141.39 326 *e*PKIKP PKPdf 20 15 10.9 +0.8
CRVS Cervenica-Dubn 141.39 326 *e*PKP PKPdf 20 15 08.1 -2.0
OJC Ojcow 141.43 328 *e*PKP PKPdf 20 15 04.8 -5.4
NIE Niedzica 141.67 327 *e*PKP PKPdf 20 15 06.8 -3.8
DRGR 141.89 322⇑*i*P PKPdf 20 15 05.9 -5.1
DRGR 141.89 322⇑P PKPdf 20 15 05.9 -5.1
KECS Kecovo 142.16 326 *e*PKP PKPdf 20 15 07.3 -4.2
KECS Kecovo 142.16 326 *e*PKP PKPdf 20 15 07.4 -4.1
OKC Ostrava-Krasne 142.48 329 *e*PKP PKPdf 20 15 14.8 +2.8
OKC *ex* x 20 15 25.6
OKC *e*SKP 20 18 38.2
OKC AMS AMS 21 15 40.0
comp=Z,400nm,31.8s
OKC Ostrava-Krasne 142.48 329 *e*PKP PKPdf 20 15 14.8 +2.8
OKC *e* 20 15 25.6
OKC *e*PP PP 20 18 38.2 +19
LIKS Likavka 142.52 327 *e*PKIKP PKPdf 20 15 12.1 0.0
MORC Moravsky Berou 142.81 329 *e*PKPpre 20 15 07.8
MORC *e*PKPdf PKPdf 20 15 12.6 -0.1
DPC Dobruska-Polom 142.99 331 *e*PKP PKPdf 20 15 09.5 -3.4
DPC *ex* x 20 15 19.6
DPC *e*SKP 20 18 40.1
DPC AMS AMS 21 19 00.0
comp=Z,400nm,24.6s
UPC Upice 143.02 331 *e*PKP PKPdf 20 15 09.4 -3.6
BZS Buzias 143.17 321⇑*i*P PKPdf 20 15 08.6 -4.6
BZS Buzias 143.17 321⇑P PKPdf 20 15 08.6 -4.6
CHOS Chios island 143.34 308 *e*P PKPdf 20 15 10.8 -2.7
LOS Limnos 143.51 311 *e*P PKPdf 20 15 11.1 -2.7
VRAC Vranov 143.59 329⇑*i*P PKPdf 20 15 11.1 -2.9
VRAC Vranov 143.59 329⇑P PKPdf 20 15 11.1 -2.9
BRG Berggiesshubel 143.66 333 *e*PKPbc PKPdf 20 15 11.2 -2.9
BRG Berggiesshubel 143.66 333 *e*PKP PKPdf 20 15 11.1 -3.0
comp=Z,1.1nm,1.0s
BRG PP PP 20 18 10.0 -17
BRG
comp=N,118nm,25.4s
BRG
comp=E,120nm,26.8s
BRG
comp=Z,157nm,19.1s
BRG Berggiesshubel 143.66 333 *e*PKIKP PKPdf 20 15 11.1 -3.0
BRG pmax pmax
comp=Z,11nm,1.0s
BRG MLR MLR
comp=N,118nm,25.4s,MS4.7
BRG MLR MLR
comp=E,120nm,26.8s,MS4.7
BRG MLR MLR
comp=Z,157nm,19.1s
VTS Vitosha 143.69 316 *e*P PKPdf 20 15 11.9 -2.3
VTS Vitosha 143.69 316⇓*i*P PKPdf 20 15 11.9 -2.3
SRO Srobarova 143.71 326 *e*PKP PKPdf 20 15 12.1 -2.1
CLL Collm 143.72 335 *e*PKPbc PKPdf 20 15 11.3 -2.9
CLL Collm 143.72 335 *i* PKPdf PKPdf 20 15 11.3 -2.9
comp=Z,17nm,0.9s
CLL *i* x x 20 15 21.3
CLL *e*PP PP 20 18 28.0 +1.0
CLL LmV 21 20 00.0
comp=Z,200nm,22.0s
CLL Collm 143.72 335 *i* PKP PKPdf 20 15 11.3 -2.9
CLL *i* 20 15 21.3
SRO1 Iza 143.79 326 *e*PKP PKPdf 20 15 12.7 -1.6
NVR Nevrokopi 143.79 313 *e*P PKPdf 20 15 11.8 -2.6
BOLS Boljevac 143.89 318⇓*i*P PKPdf 20 15 12.5 -2.0
PRA Prague 144.04 332 PKP PKPdf 20 15 12.0 -2.8
PRU Pruhonice 144.05 332 *e*PKP PKPdf 20 15 12.5 -2.3
PRU *ex* x 20 15 23.0
PRU *e*SKP 20 18 38.1
PRU AMS AMS 21 15 20.0
comp=Z,500nm,25.8s
SRS Serrai 144.08 313 *e*P PKPdf 20 15 12.2 -2.6
ZST Bratislava 144.09 328 *e*PKP PKPdf 20 15 13.3 -1.6
ZST LR LR
comp=Z,50nm,22.1s,MS4.2
SVIS Svilajnac 144.11 319⇑*i*P PKPdf 20 15 12.7 -2.2
OUR Ouranopolis 144.13 312 *e*P PKPdf 20 15 12.8 -2.1
APE Apeiranthos 144.15 306 *e*P PKPdf 20 15 12.8 -2.2
ZKR Zakros 144.16 302 *e*P PKPdf 20 15 13.2 -1.8
BEO Belgrade 144.29 321⇓*i*P PKPdf 20 15 13.5 -1.7
CLZ Clausthal 144.30 337 *e*PKPbc PKPdf 20 15 13.4 -1.8
RCBR Riachuelo 144.31 134 *e*PKPdf PKPdf 20 15 12.4 -2.9
SOH Sokhos 144.37 313 *e*P PKPdf 20 15 13.0 -2.3
PLG Polygyros 144.49 312 *e*P PKPdf 20 15 13.4 -2.2
PAIG Paliouri 144.50 311 *e*P PKPdf 20 15 13.4 -2.2
PKSM Moragy 144.53 324⇑*i*P PKPdf 20 15 13.6 -2.0
PKSM Moragy 144.53 324⇑P PKPdf 20 15 14.3 -1.3
KNT Kendrikon 144.53 314 *e*P PKPdf 20 15 13.8 -1.8
NPS Neapolis 144.60 303 *e*P PKPdf 20 15 15.3 -0.5
BWH Wardlaw 144.63 353 *e*P PKPdf 20 15 13.9 -1.9
GRUS Gruza 144.63 319 *i* P PKPdf 20 15 14.5 -1.3
AOS Alonnisos 144.66 310 *e*P PKPdf 20 15 13.9 -1.9
GMK Mull of Kintyr 144.66 355 *e*P PKPdf 20 15 13.6 -2.2
WERD Werda 144.66 334 *e*PKPbc PKPdf 20 15 14.8 -1.1
VAY Valandovo 144.68 314 *e*PKP PKPdf 20 15 13.6 -2.3
GTTG Gvttingen 144.69 337 *e*PKPbc PKPdf 20 15 14.8 -1.1
SOP Sopron 144.70 327⇑*i*PKP/p PKPdf 20 15 15.2 -0.7
THE Thessaloniki 144.71 313 *e*P PKPdf 20 15 13.9 -2.0
LAST Lasithi 144.74 303 *e*P PKPdf 20 15 15.3 -0.7
NKC Novy Kostel 144.77 334 *e*PKP PKPdf 20 15 15.4 -0.6
NKC *ex* x 20 15 25.4
NKC *e*SKP 20 18 35.6
NKC AMS AMS 21 19 00.0
comp=Z,200nm,16.7s
NKC Novy Kostel 144.77 334 *e*PKP PKPdf 20 15 15.4 -0.6
NKC *e* 20 15 25.4
NKC *e*PP PP 20 18 35.6 +2.4
MOX Moxa 144.78 335 *e*PKPbc PKPdf 20 15 14.8 -1.3
MOX Moxa 144.78 335 *e*PKP PKPdf 20 15 14.9 -1.2
comp=Z,83nm,0.9s
MOX *e* 20 15 25.0
MOX
comp=Z,100nm,21.0s
MOX Moxa 144.78 335 *e*PKIKP PKPdf 20 15 14.9 -1.2
MOX pmax pmax
comp=Z,83nm,0.9s
MOX MLR MLR
comp=Z,100nm,21.0s,MS4.6
IBBN Ibbenburen 144.80 340 *e*PKPbc PKPdf 20 15 14.8 -1.3
BDL Dobcross Hall 144.91 352 *e*P PKPdf 20 15 15.5 -0.8
RHK1 Bakonya 144.91 324⇓*e*P PKPdf 20 15 16.0 -0.3
GRG Griva 144.96 314 *e*P PKPdf 20 15 15.0 -1.3
DIVS Divcibare 144.96 320 *i* P PKPdf 20 15 14.5 -1.9
DIVS Divcibare 144.96 320 *e*P PKPdf 20 15 15.7 -0.7
BBO1 Bothel 145.01 352⇑*e*P PKPbc 20 15 15.1 -0.7
LWH Whinny Nab 145.02 350⇑*e*P PKPbc 20 15 14.7 -1.2
GAL1 Galloway 145.05 354⇑*e*P PKPbc 20 15 15.5 -0.5
XOR Xorichti 145.07 311 *e*P PKPbc 20 15 14.9 -1.1
NEO Neokhori 145.07 311 *e*P PKPbc 20 15 15.1 -1.0
MANZ Manzenberg 145.10 334 *e*PKPbc PKPbc 20 15 16.5 +0.4
KHC Kasperske Hory 145.11 332 *e*PKP PKPdf 20 15 16.4 -0.2
KHC *ex* x 20 15 26.3
KHC *e*SKP 20 18 40.5
KHC AMS AMS 21 15 30.0
comp=Z,400nm,25.1s
SKO Skopje 145.13 316 *e*P PKPbc 20 15 17.1 +0.8
SKO Skopje 145.13 316 *e*PKP PKPdf 20 15 16.8 +0.1
CKE Keswick 145.14 352⇑*e*P PKPbc 20 15 15.4 -0.9
ATH Athens Observa 145.21 308 *e*P PKPbc 20 15 15.3 -1.2
ROTZ Rotzenmuhle 145.22 334 *e*PKPbc PKPbc 20 15 16.8 +0.3
GEC2 GERESS Array S 145.26 331 *e*PKPbc PKPbc 20 15 16.7 0.0
GERES GERESS Array B 145.26 331 PKPbc PKPbc 20 15 16.7 0.0
comp=Z,45nm,0.6s,baz=35,slow=3.9,SNR=519
GERES GERESS Array B 145.26 331 PKIKP PKPdf 20 15 16.7 -0.2
GERES pmax pmax
comp=Z,45nm,0.6s
XDE Dent Fell 145.27 352⇑*e*P PKPbc 20 15 16.0 -0.7
LIT Litokhoron 145.27 312 *e*P PKPbc 20 15 16.0 -0.7
SIVA Sivas 145.30 303 *e*P PKPbc 20 15 17.4 +0.6
WTSB Winterswijk 145.40 341⇑*i*PKiKP PKiKP 20 15 15.8 -5.3
comp=Z,38nm,2.2s
WTSB *ex* x 20 15 26.2
WET Wettzell 145.41 332 *e*PKPbc PKPbc 20 15 17.3 +0.2
LKR Lokris 145.49 310 *e*P PKPdf 20 15 16.3 -1.0
ARSA Arzberg 145.51 328⇑*i*P PKPdf 20 15 17.5 +0.2

comp=Z,383nm,2.6s,SNR=30
GIM North Isle of 145.59 353⇑ *e*P PKPdf 20 15 16.6 -0.9
BIA Bitola 145.66 314 *e*PKP PKPdf 20 15 16.8 -0.8
IVA Berane 145.67 318⇑ *i*PKP PKPdf 20 15 18.2 +0.6
VAM Vamos 145.67 304 *e*P PKPdf 20 15 18.6 +1.0
KZN Kozani 145.68 313 *e*P PKPdf 20 15 16.0 -1.6
GRA1 Grafenberg Arr 145.69 334 *e*PKPbc PKPbc 20 15 18.1 +0.1
GRA1 *ep*PKPbc pPKPbc 20 15 28.0 -1.4
GRF Grafenberg Arr 145.69 334 *e*PKPbc PKPbc 20 15 18.1 +0.1
GRF *ep*PKPbc pPKPbc 20 15 28.0 -1.4
GRFO Grafenberg 145.69 334 *e*L 21 23 48.5
comp=Z,141nm,20.6s
BUG Bochum--Univer 145.70 340 *e*PKPbc PKPbc 20 15 17.4 -0.7
MOA Molln 145.71 329⇑ *i*P PKPdf 20 15 18.3 +0.6
comp=Z,94nm,1.5s,SNR=124
FNA Florina 145.73 314 *e*P PKPdf 20 15 16.7 -1.0
PLE Pljevlja 145.74 319⇑ *i*PKP PKPdf 20 15 18.4 +0.7
WIM Isle of Man 145.75 354⇑ *e*P PKPdf 20 15 17.2 -0.6
WIM AMb AMB 20 15 18.7
comp=Z,69nm,0.7s
PVY Plav 145.77 318⇑ *i*PKP PKPdf 20 15 20.0 +2.3
AGG Agios Georgios 145.82 311 *e*P PKPdf 20 15 17.5 -0.4
GVD Gavdhos 145.92 303 *e*P PKPdf 20 15 19.0 +1.0
OHR Ohrid 145.97 315 *e*PKP PKPdf 20 15 17.8 -0.3
LHO Holmfirth 145.97 350⇑ *i*P PKPdf 20 15 18.0 -0.1
UPM Unac-Piva 146.11 319⇑ *i*PKP PKPdf 20 15 19.1 +0.7
VLI Veliai 146.23 306 *e*P PKPdf 20 15 19.1 +0.5
EVR Evrytania 146.24 311 *e*P PKPdf 20 15 19.6 +1.0
NKY Niksic 146.26 319⇑ *i*PKP PKPdf 20 15 19.8 +1.2
AEU East Anglia Un 146.28 347 *e*P PKPdf 20 15 19.4 +0.8
TTG Podgorica 146.30 318⇑ *i*PKP PKPdf 20 15 19.6 +1.0
TNS Taunus Mts 146.33 337 *e*PKPbc PKPbc 20 15 19.5 -0.4
GCIS Gornji Cirnik 146.38 326 *i* PKP PKPdf 20 15 20.2 +1.4
WME Myndd Eilian 146.45 353 *e*P PKPdf 20 15 19.3 +0.4
TIR Tirane 146.47 316 *e*P PKPdf 20 15 20.1 +1.1
BRY Bratogost 146.50 319⇑ *i*PKP PKPdf 20 15 20.4 +1.4
WCB1 Church Bay 146.50 353⇑ *e*P PKPdf 20 15 19.2 +0.2
WCB1 AMb AMB 20 15 20.2
comp=Z,61nm,0.8s
OBKA Obir 146.51 328⇓ *i*P PKPdf 20 15 20.7 +1.7
comp=Z,155nm,2.7s,SNR=13
WPM1 Penmaenmawr 146.54 352⇑ *e*P PKPdf 20 15 19.6 +0.6
ULC Ulcinj 146.56 317⇑ *i*PKP PKPdf 20 15 20.2 +1.1
WLF1 Llynfaes 146.57 353⇑ *e*P PKPdf 20 15 19.2 +0.1
WLF1 AMb AMB 20 15 20.6
comp=Z,88nm,0.8s
JAN Janina 146.60 313 *e*P PKPdf 20 15 21.1 +1.9
BUM Brajici-Budva 146.60 318⇑ *i*PKP PKPdf 20 15 20.4 +1.2
YRC Rhoscolyn 146.63 353⇑ *e*P PKPdf 20 15 19.6 +0.4
YRC AMb AMB 20 15 20.6
comp=Z,81nm,0.8s
YLL Llanberis 146.69 353⇑ *e*P PKPdf 20 15 20.0 +0.7
YLL AMb AMB 20 15 24.5
comp=Z,89nm,1.2s
KBA Koelnbreinsper 146.70 329 *i* P PKPdf 20 15 20.6 +1.2
comp=Z,170nm,3.2s,SNR=15
TOD Tromm 146.70 336 PKP2 PKPab 20 15 21.0 -1.2
HGN Heimansgroeve 146.71 340⇑ *i*PKiKP PKiKP 20 15 20.6 -3.2
comp=Z,23nm,1.4s
HGN *ex* x 20 15 31.2
BEBN Eben Emael 146.76 341 PKPab PKPab 20 15 20.9 -1.6
BEBN E 20 15 30.4
DLF Lyons Farm 146.77 355 *e*P PKPdf 20 15 20.2 +0.7
HCY Herceg Novi 146.77 319⇑ *i*PKP PKPdf 20 15 20.7 +1.3
DCN Croghan 146.77 356 *e*P PKPdf 20 15 20.4 +0.9
SBD1 Bryn Du 146.80 352⇑ *i*P PKPdf 20 15 20.7 +1.2
SBD1 AMb AMB 20 15 21.5
comp=Z,111nm,0.7s
BOJS Bojanci 146.81 326 *e*PKPdf PKPdf 20 15 21.6 +2.0
BOJS *i* PKPbc PKPbc 20 15 32.0 +11
BOJS *e* 20 18 38.2
ITM Ithomi 146.83 308 *e*P PKPdf 20 15 21.5 +1.9
RLS Riolos of Patr 146.83 310 *e*P PKPdf 20 15 21.9 +2.3
LJU Ljubljana 146.83 327 *i* PKPdf PKPdf 20 15 21.4 +1.8
LJU *e*PKPbc PKPbc 20 15 32.6 +11
FUR Furstenfeldbru 146.84 333 *e*PKPbc PKPbc 20 15 21.5 +0.1
ABH Alteburg 146.93 338 PKP PKPdf 20 15 21.7 +2.0
IGT Igoumenitsa 147.01 313 *e*P PKPdf 20 15 21.8 +1.9
STON Ston 147.03 320⇑ *i*P PKPdf 20 15 21.1 +1.2
CADS Cadrg 147.11 328 *i* PKPdf PKPdf 20 15 21.3 +1.2
CADS *e*PKPbc PKPbc 20 15 32.5 +10
HLM1 Long Mynd 147.12 351⇑ *e*P PKPdf 20 15 21.3 +1.3
HLM1 AMb AMB 20 15 22.2
comp=Z,34nm,0.8s
LKD Levkas 147.15 311 *e*P PKPdf 20 15 22.5 +2.4
UCC Uccle 147.16 342 PKPab PKPab 20 15 22.0 -2.0
UCC E 20 15 32.0
VOY Vojsko 147.16 327 *e*PKPdf PKPdf 20 15 21.7 +1.6
VOY *e*PKPbc PKPbc 20 15 30.4 +8.0
VOY *e* 20 15 49.4
PTCC Patocco-Chiusa 147.17 328 PKP PKPdf 20 15 21.5 +1.4
KTD Kalmit 147.21 337 PKP2 PKPab 20 15 22.6 -1.6
STU Stuttgart 147.23 335 *e*PKPbc PKPbc 20 15 22.6 +0.1
STU Stuttgart 147.23 335 *e*PKPbc PKPbc 20 15 22.6 0.0
STU *e* 20 15 33.1
RUP Ruppelstein 147.25 338 PKP2 PKPab 20 15 22.6 -1.8
SSP1 Stoney Pound 147.25 351⇑ *i*P PKPdf 20 15 21.9 +1.7
SSP1 AMb AMB 20 15 22.8
comp=Z,71nm,0.8s
KEK Kerkira 147.29 313 *e*P PKPdf 20 15 22.5 +2.2
GMNA Gemona 147.32 328 PKP PKPdf 20 15 20.6 +0.2
WATA Walderalm 147.34 331⇑ *i*P PKPdf 20 15 22.5 +2.1
comp=Z,14nm,0.9s,SNR=15
WTTA Wattenberg 147.36 331 *i* P PKPdf 20 15 22.9 +2.5
comp=Z,270nm,2.7s,SNR=15
VLS Valsamata 147.41 310 *e*P PKPdf 20 15 22.5 +2.0
SNF Seneffe 147.44 342 PKPab PKPbc 20 15 22.6 -0.5
SNF E 20 15 32.3
SSW Stow on the Wo 147.49 350⇑ *i*P PKPdf 20 15 23.0 +2.3
HAE Alders End 147.54 350⇑ *i*P PKPdf 20 15 22.5 +1.8
HAE AMb AMB 20 15 25.9
comp=Z,101nm,1.4s
MOTA Moosalm 147.54 332⇑ *i*P PKPdf 20 15 23.2 +2.4
comp=Z,29nm,0.8s,SNR=47
SKP1 Kophill 147.54 348⇑ *i*P PKPdf 20 15 22.4 +1.6
LANF Langenberg 147.59 337 PKP PKPdf 20 15 23.4 +2.6
SQTA Sankt Quirin 147.59 331 *i* P PKPdf 20 15 23.5 +2.6
comp=Z,24nm,0.7s,SNR=57
SQTA Sankt Quirin 147.59 331 *i* P PKPdf 20 15 23.4 +2.6
WLF Walferdange 147.59 339 *e*PKPbc PKPbc 20 15 22.6 +0.1
WLF Walferdange 147.59 339 PKPbc PKPbc 20 15 22.2 -1.3
WLF PKPab PKPab 20 15 24.0 -1.8
WLF E 20 15 33.9
WLF Walferdange 147.59 339 *e*PKPbc PKPbc 20 15 24.0 +0.5
WLF *e* 20 15 34.1
GIVF Givet 147.64 341⇑ *i*PKP1 PKPbc 20 15 23.5 -0.2
comp=Z,142nm,0.7s
MCH1 Michaelchurch 147.65 351⇑ *i*P PKPdf 20 15 22.8 +1.9
DOU Dourbes 147.71 341 PKPab PKPab 20 15 23.8 -2.4
DOU E 20 15 33.7
BAIF Baives 147.86 342⇑ *i*PKP1 PKPbc 20 15 24.2 -0.1
comp=Z,103nm,0.8s
SWN1 Swindon 147.92 349⇑ *i*P PKPbc 20 15 24.0 -0.4
BFO Black Forest 147.93 336 *e*PKPbc PKPbc 20 15 23.9 -0.5
SPAK Spaichingen-Ko 147.93 335 PKP PKPbc 20 15 24.5 +0.1
STR Strasbourg 147.93 336 PKP PKPbc 20 15 24.9 +0.5
HGH Gray Hill 147.97 351⇑ *i*P PKPdf 20 15 23.6 +2.1
HGH AMb AMB 20 15 26.9
comp=Z,74nm,1.6s
MENF Mencas 147.97 344 PKP PKPdf 20 15 22.6 +1.1
DAVA Damuels 148.12 333 *i* P PKPbc 20 15 25.0 0.0
comp=Z,95nm,1.4s,SNR=23
APPI Appiano 148.13 331 PKP PKPbc 20 15 24.0 -1.0
WLS Welschbruch 148.23 337 PKP PKPbc 20 15 25.0 -0.2
CDF Champ du Feu 148.26 337⇑ *i*PKP1 PKPbc 20 15 25.1 -0.2
comp=Z,72nm,0.8s
FELD Feldberg im Sc 148.42 335 PKP PKPbc 20 15 24.8 -0.9
BRT Bari-Castellan 148.43 317 PKP2 PKPbc 20 15 25.6 -0.2
ECH Echery 148.46 337 PKP PKPbc 20 15 25.5 -0.3
MOF Molkenrain 148.78 336 PKP PKPbc 20 15 26.0 -0.6
THEF They Montfort 148.88 338 PKP PKPbc 20 15 26.7 -0.2
HINF Hinteralfeld 148.91 337⇑ *i*PKP1 PKPbc 20 15 26.6 -0.4
comp=Z,40nm,0.9s
HAU Haudompre 148.94 337⇑ *i*PKP1 PKPbc 20 15 27.8 +0.7
comp=Z,78nm,0.7s
HAU *e*R
comp=Z,248nm,22.5s
HAU Haudompre 148.94 337⇑ PKP PKPbc 20 15 27.8 +0.7
HAU LR LR
comp=Z,250nm,22.5s,MS5.0
BBS Basel-Blauen 148.95 336 PKP2 PKPbc 20 15 26.6 -0.5
MEZF Maizieres J'vi 148.96 339⇑ *i*PKP1 PKPbc 20 15 27.3 +0.2
comp=Z,124nm,0.8s
TUE Stuetta 148.99 332 PKP PKPbc 20 15 27.2 0.0
RGNG Rignano Grg 149.00 320 PKP PKPbc 20 15 27.0 -0.2
LOMF Lomont 149.31 336 PKP PKPbc 20 15 27.9 -0.1
CSA1 St Austell 149.51 352⇑ *i*P PKPbc 20 15 27.6 -0.9
TIP Timpagrande 149.61 315 *e*PKPdf PKPdf 20 15 22.8 -1.3
TIP *e*PKPbc PKPbc 20 15 28.9 +0.1
TIP *e* 20 15 37.9
CCA1 Carnmenellis 149.72 353⇑ *e*P PKPbc 20 15 28.2 -0.8
CPZ Penzance 149.79 353⇑ *e*P PKPbc 20 15 28.2 -0.9
CPZ AMb AMB 20 15 29.5
comp=Z,42nm,1.0s
CGW Gweek 149.80 353⇑ *i*P PKPbc 20 15 28.5 -0.7
CMA1 Manaccan 149.81 353⇑ *i*P PKPbc 20 15 28.6 -0.6
CGH1 Goonhilly 149.84 353⇑ *i*P PKPbc 20 15 28.7 -0.6
AQU L'Aquila 149.87 323⇑ *i*P PKPbc 20 15 29.2 -0.2
AQU L'Aquila 149.87 323 *e*PKPbc PKPbc 20 15 29.1 -0.2
CABF La Chapelle 150.20 336⇑ *i*PKP1 PKPbc 20 15 30.5 +0.3
comp=Z,72nm,0.7s
OG01 Vacheresse 150.21 335 PKP PKPbc 20 15 30.0 -0.2
VLC Villacollemand 150.24 328 *e*PKPbc PKPbc 20 15 29.6 -0.7
FLN La Foliniere 150.28 346⇑ *i*PKP1 PKPbc 20 15 29.7 -0.7
comp=Z,82nm,0.7s
FLN *e*R
comp=Z,375nm,23.0s
FLN La Foliniere 150.28 346⇑ *i*PKP PKPbc 20 15 29.7 -0.7
FLN LR LR
comp=Z,380nm,23.0s,MS5.1
LDF La Druitiere 150.35 346⇑ *i*PKP1 PKPbc 20 15 29.8 -0.7
comp=Z,59nm,0.7s
LOR Lormes 150.43 339⇑ *i*PKP1 PKPbc 20 15 30.5 -0.2
comp=Z,76nm,0.8s
LOR *e*R
comp=Z,244nm,22.2s
LOR Lormes 150.43 339⇑ *i*PKP PKPbc 20 15 30.5 -0.2
LOR LR LR
comp=Z,240nm,22.3s,MS5.0
GRR Gorron 150.72 346⇑ *i*PKP1 PKPbc 20 15 30.9 -0.5
comp=Z,64nm,0.7s
SSF Saint Saulge 150.73 340⇑ *i*PKP1 PKPbc 20 15 31.2 -0.2
comp=Z,70nm,0.8s
RSL Roselend 150.75 334 PKP PKPbc 20 15 31.2 -0.3
HYF Humbligny 150.82 341 *e*PKP1 PKPbc 20 15 31.8 +0.2
LPL La Plagne 150.85 334⇑ *i*PKP1 PKPbc 20 15 32.0 +0.3
comp=Z,50nm,0.7s
LPG La Plagne 150.86 334⇑ *i*PKP1 PKPbc 20 15 32.2 +0.5
comp=Z,59nm,0.6s
OG05 Jujurieux 150.92 336 PKP PKPbc 20 15 31.9 0.0
SMF Signal de Mont 150.98 339⇑ *i*PKP1 PKPbc 20 15 31.6 -0.4
comp=Z,29nm,0.9s
AVF Avril sur Loir 151.02 340⇑ *i*PKP1 PKPbc 20 15 31.5 -0.6
comp=Z,30nm,0.9s
SGMF Saint Gilles 151.19 348⇑ *i*PKP1 PKPbc 20 15 31.7 -0.8
comp=Z,77nm,0.6s
ROSF Rosfenen 151.24 349⇑ *i*PKP1 PKPbc 20 15 31.7 -0.9
comp=Z,45nm,0.6s
BNI Bardonecchia 151.25 334 *e*PKPdf PKPdf 20 15 25.4 -1.3
BNI *e*PKPbc PKPbc 20 15 32.8 +0.1
GDM Grand'Maison 151.36 334 PKP PKPbc 20 15 33.0 +0.1
BGF Bois d'Agland 151.39 340⇑ *i*PKP1 PKPbc 20 15 32.6 -0.4
comp=Z,54nm,0.7s
MBDF Montbardon 151.47 333⇑ *i*PKP1 PKPbc 20 15 32.8 -0.4
comp=Z,28nm,0.6s
GRN Grenoble 151.47 335 PKP PKPbc 20 15 33.4 +0.2
QUIF Quistinic 151.63 349⇑ *i*PKP1 PKPbc 20 15 32.5 -1.0
comp=Z,26nm,0.6s
PLDF La Plantade 151.65 338 PKP PKPbc 20 15 33.7 +0.1
SURF Saint Ours 151.65 333 PKP PKPbc 20 15 33.9 +0.3
ORIF Oris-en-Rattie 151.69 334⇑ *i*PKP1 PKPbc 20 15 33.5 -0.1
comp=Z,68nm,0.7s
ORIF *e*R
comp=Z,242nm,20.8s
SAOF Saorge 151.72 331 PKP PKPbc 20 15 32.8 -0.9
AGO Saint Agoulin 151.74 339 PKP PKPbc 20 15 31.4 -2.4
AUTN L'Aution 151.76 331 PKP PKPbc 20 15 33.4 -0.4
TCF Toulx Ste Croi 151.83 341⇑ *i*PKP1 PKPbc 20 15 33.6 -0.4
comp=Z,40nm,0.8s
SBF Sospel 151.87 331⇑ *i*PKP1 PKPbc 20 15 33.4 -0.7
comp=Z,41nm,0.6s
COLF Collangettes 152.01 338 PKP PKPbc 20 15 34.2 -0.2
PYM Petit Puy Mans 152.05 339 PKP PKPbc 20 15 34.9 +0.4
OG25 Le Caire 152.06 334 PKP PKPbc 20 15 33.8 -0.7
OCF Saint Nazaire 152.20 335 PKP PKPbc 20 15 34.9 +0.1
OG26 St.-Nazaire-De 152.20 335 PKP PKPbc 20 15 34.9 +0.1
MFF Saint Martin d 152.22 344⇑ *i*PKP1 PKPbc 20 15 34.4 -0.4
comp=Z,31nm,0.5s
VIVF Saint-Julien-l 152.22 336⇑ *i*PKP1 PKPbc 20 15 34.7 -0.1
comp=Z,26nm,0.8s
LBL Lublhac 152.42 338 PKP PKPbc 20 15 35.6 +0.3
STOF St-Etienne Org 152.43 333 PKP PKPbc 20 15 35.2 -0.1
FRF La Foret Royal 152.46 332⇑ *i*PKP1 PKPbc 20 15 34.8 -0.6
comp=Z,24nm,0.7s
SMRF Simiane la Rot 152.58 334⇑ *i*PKP1 PKPbc 20 15 35.8 +0.1
comp=Z,30nm,0.8s
VILF Villemus 152.63 333 PKP PKPbc 20 15 35.6 -0.2
OSPF L'Ospedale 152.65 326 PKP PKPbc 20 15 35.2 -0.6
TAVF Tavernes 152.67 333 PKP PKPbc 20 15 35.2 -0.7
LMR La Mourre 152.70 332⇑ *i*PKP1 PKPbc 20 15 35.4 -0.5
comp=Z,30nm,0.8s
PRAF Pradon 152.89 334 PKP PKPbc 20 15 36.1 -0.3
RJF Les Rejaudoux 152.93 341⇑ *i*PKP1 PKPbc 20 15 36.1 -0.3
comp=Z,21nm,0.9s
RJF *e*R
comp=Z,269nm,21.2s
RJF Les Rejaudoux 152.93 341⇑ *i*PKP PKPbc 20 15 36.1 -0.3
RJF LR LR
comp=Z,270nm,21.3s,MS5.0
CAF Calviac 153.09 339⇑ *i*PKP1 PKPbc 20 15 36.7 -0.1
comp=Z,7.7nm,0.8s
LASF Ste Croix 153.19 336⇑ *i*PKP1 PKPbc 20 15 36.9 -0.1
comp=Z,17nm,0.8s
LFF La Frestale 153.49 341⇑ *i*PKP1 PKPbc 20 15 37.3 -0.4
comp=Z,16nm,0.5s
MTLF Montolieu 154.43 338⇑ *i*PKP1 PKPbc 20 15 39.3 -0.4
comp=Z,9.3nm,0.8s
EPF Esparros 155.34 340 *e*PKP1 PKPdf 20 15 41.7 +9.1
comp=Z,7.1nm,1.0s
SJPF Ste Jean 155.74 343 *e*PKP1 PKPdf 20 15 42.9 +10
comp=Z,5.9nm,0.9s
ETSF Etsaut 155.74 341 *e*PKP1 PKPdf 20 15 42.7 +10
comp=Z,7.1nm,0.9s
PVRL Vila Real 158.79 353 *e*PKPab PKPab 20 16 12.7 -0.1
MTE Manteigas 159.64 353 *e*PKPab PKPab 20 16 16.3 -0.2
ESDC Sonseca Array 159.68 345 PKPab PKPab 20 16 16.4 -0.3
comp=Z,0.7nm,0.5s,baz=15,slow=4.1,SNR=6.7
TORD Torodi Ar. Bea 166.09 242 PKP PKPdf 20 15 43.8 -0.4
comp=Z,1.0nm,0.8s,baz=285,slow=0.6,SNR=6.5
TORD PKPab PKPab 20 16 45.2 +0.4
comp=Z,2.7nm,0.8s,baz=116,slow=3.9,SNR=7.3

BJI **13** *20:09:23.0, 7.14S× 13066E, h29km, mB5.1, mb5.0*
ISCJB **13** *20:09:27.9±0.3, 649S±004× 13070E±007, h33km, mb4.9/45, MS4.7/5, Error ellipse: s-maj=10.1km s-min=4.6km az=144.1*
NEIC **13** *20:09:28.7±0.2, 642S× 13073E, mb4.8/15, Error ellipse: s-maj=9.4km s-min=5.0km az=81.0*
MOS **13** *20:09:28.5±0.7, 639S× 13064E, h33km, mb4.9/23, Error ellipse: s-maj=16.3km s-min=8.0km az=111.7*
IDC **13** *20:09:31.2±2.9, 646S× 13070E, h46km±27km, mb4.5/15, mb1 4.5/16, mb1mx4.5/19, mbtmp4.7/16, ML5.7/3, MS4.5/3, Ms1 4.4/3, ms1mx3.6/25, Error ellipse: s-maj=19.2km s-min=13.3km az=76.0*
ISC 13 20:09:30.0±0.3, 646S±004× 13082E±007, h35km, (h32km±4.8km:pP-P), n175, σ1§03/130, mb4.9/45, MS4.7/5, 13C-4D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon** 516nm,0.8s	**3.80**	**316**	P		**Pn**	**20 10 32.1**	**+6.1**
SWI	**Sorong** 2µm,0.5s	**5.58**	**4**	P		**Pn**	**20 10 55.5**	**+5.1**
KAKA	**Kakadu** 770nm,0.4s	**6.41**	**166**	*e*P		**Pn**	**20 11 06.8**	**+4.8**
KAKA				*e*S		**Sn**	**20 12 13.2**	**-0.7**
KAKA	**Kakadu** 770nm,0.4s	**6.41**	**166**	*e*P		**Pn**	**20 11 07.0**	**+5.0**
KAKA				*e*S		**Sn**	**20 12 14.7**	**+0.8**
KAKA	**Kakadu** 770nm,0.4s	**6.41**	**166**	*e*P		**Pn**	**20 11 07.0**	**+5.0**
KAKA				*e*S		**Sn**	**20 12 14.7**	**+0.8**
JAY	**Jayapura** 37nm,0.8s	**10.60**	**69**	P		**Pn**	**20 12 07.1**	**+7.7**

PCI Palu 12.27 296 P **Pn** **20 12 31.3 +9.1**
74nm,1.1s
FITZ Fitzroy Crossi 12.63 203 *e*P **Pn** **20 12 26.4 -0.7**
180nm,0.3s
FITZ *e*S **Sn** **20 14 37.9 -8.6**
FITZ Fitzroy Crossi 12.63 203 P **Pn** **20 12 26.8 -0.3**
42nm,0.3s,baz=30,slow=11,SNR=358
FITZ S **Sn** **20 14 37.6 -8.8**
24nm,0.3s,baz=210,slow=13,SNR=7.1
FITZ Fitzroy Crossi 12.63 203 *e*P **Pn** **20 12 26.4 -0.7**
180nm,0.3s
FITZ *e*S **Sn** **20 14 37.9 -8.6**
FITZ *e*S **Sn** **20 14 39.2 -7.3**
WRAB Tennant Creek 13.82 166 *e*P **Pn** **20 12 43.0 -0.4**
WRAB Tennant Creek 13.82 166 *e*Pn **Pn** **20 12 42.9 -0.6**
263nm,0.6s
WRAB *e*Sn **Sn** **20 15 09.3 -6.4**
WRA Warramunga Arr 13.83 166 P **Pn** **20 12 43.2 -0.3**
31nm,0.3s,baz=351,slow=13,SNR=178
WRA S **Sn** **20 15 08.5 -7.3**
23nm,0.3s,baz=353,slow=22,SNR=7.0
WB2 Warramunga Arr 13.84 166 *e*P **Pn** **20 12 41.3 -2.3**
WB2 *e*S **Sn** **20 15 08.9 -7.0**
WB2 Warramunga Arr 13.84 166 *e*P **Pn** **20 12 42.5 -1.1**
WB2 *e*S **Sn** **20 15 08.9 -7.0**
PMG Port Moresby 16.44 101 P **Pn** **20 13 24.9 +7.0**
2.1nm,0.3s,baz=284,slow=9.2,SNR=12
PMG Port Moresby 16.44 101 P **Pn** **20 13 24.9 +6.9**
PMG pmax pmax
comp=Z,2.0nm,0.3s
ASAR Alice Springs 17.36 170 P **Pn** **20 13 30.5 +1.0**
comp=Z,21nm,0.3s,baz=21,slow=13,SNR=610
ASAR S S 20 16 26.8 -23
baz=330,slow=14,SNR=4.2
ASAR Alice Springs 17.36 170 P **Pn** **20 13 30.5 +1.0**
ASAR pmax pmax
comp=Z,21nm,0.3s
MBWA Marble Bar 18.14 215 *e*Pn **Pn** **20 13 39.7 +0.7**
comp=Z,36nm,0.6s
MBWA *e*Sn **Sn** **20 16 45.7 -15**
KKM Kota Kinabalu 19.15 310 *e*Pn **Pn** **20 13 49.9 -1.5**
CTA Charters Tower 20.20 134 *e*P **P** **20 14 06.0 +4.3**
comp=Z,19nm,1.4s
CTA *e*S **S** **20 17 45.1 -1.3**
CTA Charters Tower 20.20 134 *e*P **P** **20 14 06.3 +4.6**
comp=Z,19nm,1.4s
CTA *e*S **S** **20 17 39.7 -6.7**
CTA Charters Tower 20.20 134 P **P** **20 14 06.1 +4.4**
comp=Z,13nm,0.9s,baz=320,slow=15,SNR=7.1
CTA Charters Tower 20.20 134 P **P** **20 14 06.1 +4.4**
CTA pmax pmax
comp=Z,13nm,0.9s
BJII Banjamegara 20.98 266 P **P** **20 14 15.1 +5.0**
comp=Z,30nm,1.6s
JCJI Jatiwangi 22.41 269 P **P** **20 14 27.9 +2.5**
comp=Z,133nm,1.0s,mb5.3
FORT Forrest 24.33 186 *e*P **P** **20 14 45.8 +1.4**
comp=Z,82nm,0.7s,mb5.3
FORT *e*S **S** **20 19 11.2 +10**
STKA Stephens Creek 27.22 160⇑ *i*P **P** **20 15 09.7 -0.8**
comp=Z,3.1nm,0.4s,mb4.2
STKA *e*S S 20 20 14.7 +28
STKA Stephens Creek 27.22 160 *e*P **P** **20 15 09.9 -0.6**
comp=Z,3.6nm,0.4s,mb4.2
STKA *e*S S 20 20 14.7 +28
STKA Stephens Creek 27.22 160 P **P** **20 15 09.9 -0.6**
comp=Z,3.2nm,0.5s,mb4.1,baz=349,slow=9.0,SNR=19
STKA Stephens Creek 27.22 160 *e*P **P** **20 15 09.9 -0.6**
STKA *e*S S 20 20 14.7 +28
KLBR Kellerberrin 27.83 204 *e*P **P** **20 15 16.5 +0.5**
comp=Z,10.0nm,0.7s,mb4.5
KLBR *e*S S 20 20 35.4 +39
MUN Mundaring 28.83 206 *e*P **P** **20 15 25.1 +0.2**
MUN *e*S S 20 20 57.5 +45
HNR Honiara 28.99 98 P **P** **20 15 28.6 +2.3**
comp=Z,42nm,0.6s,mb5.3,baz=88,slow=0.5,SNR=4.3
HNR Honiara 28.99 98 P **P** **20 15 28.6 +2.3**
HNR pmax pmax
comp=Z,42nm,0.6s,mb5.3
NWAO Narrogin (SRO) 29.21 204 P **P** **20 15 29.1 +0.8**
comp=Z,4.6nm,0.4s,mb4.6,baz=10,slow=12,SNR=13
NWAO Narrogin (SRO) 29.21 204 P **P** **20 15 29.1 +0.8**
NWAO pmax pmax
comp=Z,5.0nm,0.4s
NWAO Narrogin (SRO) 29.21 204 *e*P **P** **20 15 25.4 -2.9**
PPI Padang Panjang 30.94 280 P **P** **20 15 42.3 -1.2**
comp=Z,39nm,0.7s,mb5.3
DZM Mont Dzumac 37.72 118 P **P** **20 16 45.1 +3.0**
comp=Z,4.7nm,0.7s,mb4.3,baz=274,slow=16,SNR=7.3
WHN Wuhan 40.04 338⇓ P **P** **20 17 03.0 +1.4**
CHG Chiang Mai 40.23 309⇑ P **P** **20 17 03.4 +0.2**
comp=Z,16nm,0.7s,mb4.8
CHTO Chiang Mai 40.23 309 *e*P **P** **20 17 03.3 +0.1**
CHTO *e**PP pP 20 17 11.1 -2.3
CHTO *e* 20 19 03.0
CHTO pmax pmax
comp=Z,13nm,0.9s,mb4.7
CHTO Chiang Mai 40.23 309 *e*P **P** **20 17 03.3 +0.1**
comp=Z,13nm,0.9s,mb4.7
CHTO *ep*P pP 20 17 11.1 -2.4
CHTO *e*PcP PcP 20 19 03.0 -3.7
MJAR Matsushiro Arr 43.33 9 P **P** **20 17 28.8 +0.2**
comp=Z,3.0nm,0.7s,mb4.1,baz=191,slow=8.9,SNR=10
MJAR Matsushiro Arr 43.33 9 P **P** **20 17 28.8 +0.2**
MJAR pmax pmax
comp=Z,3.0nm,0.7s
XAN Xi'an 45.30 334 P **P** **20 17 44.3 0.0**
XAN AMB AMB
comp=Z,16nm,0.8s,mb4.9
LSA Lhasa 52.38 315⇑ *e*P **P** **20 18 39.6 +1.0**
LSA *e**PP pP 20 18 49.1 -0.1
LSA pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
LSA Lhasa 52.38 315⇑ *e*P **P** **20 18 39.6 +0.9**
comp=Z,5.4nm,0.5s,mb4.7
LSA *ep*P pP 20 18 49.0 -0.1
JIRN Jiri 54.85 310 *e*P **P** **20 18 56.8 0.0**
comp=Z,27nm,0.6s,mb5.5
GUN Gumba 55.22 310 *e*P **P** **20 18 59.4 0.0**
comp=Z,71nm,0.6s,mb5.8
PKI Pulchoki 55.40 310 *e*P **P** **20 19 00.3 -0.4**
comp=Z,17nm,0.5s,mb5.3
KKN Kakani 55.61 310 *e*P **P** **20 19 01.7 -0.5**
comp=Z,29nm,0.6s,mb5.5
DMN Daman 55.65 310 *e*P **P** **20 19 02.6 +0.1**
comp=Z,14nm,0.6s,mb5.2
TRD Trivandrum 55.72 285⇓ *e*P **P** **20 19 12.4 +9.4**
GKN Gorkha 56.21 310 *e*P **P** **20 19 06.1 -0.4**
comp=Z,52nm,0.6s,mb5.7
HYB Hyderabad 56.82 296 *i* P **P** **20 19 10.5 -0.3**
HYB *e* pP 20 19 15.0 -6.4
KOLN Koldanda 56.89 309 *e*P **P** **20 19 11.3 0.0**
comp=Z,36nm,0.7s,mb5.5
ULN Ulaanbaatar 58.01 341 *e*P **P** **20 19 20.3 +1.1**
ULN pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
ULN Ulaanbaatar 58.01 341 *e*P **P** **20 19 20.3 +1.1**
comp=Z,5.1nm,0.6s,mb4.7
SONM Songino Array 58.20 341 P **P** **20 19 21.7 +1.2**
comp=Z,2.6nm,0.6s,mb4.4,baz=165,slow=7.0,SNR=36
SONM Songino Array 58.20 341 P **P** **20 19 21.7 +1.2**
SONM pmax pmax
comp=Z,3.0nm,0.6s
CASY Casey 61.36 189 *e*P **P** **20 19 42.1 -0.2**
CASY *ep*P pP 20 19 51.8 -1.2
CASY *es*P sP 20 19 56.1 -1.0
ZAK Zakamensk 61.43 340 *e*P **P** **20 19 43.4 +0.6**
ZAK pmax pmax
comp=Z,6.0nm,1.7s,mb4.5
MOY Mondy 63.29 340 *e*P **P** **20 19 56.4 +1.2**
BOD Bodaibo 65.50 350 *e*P **P** **20 20 09.6 -0.1**
BOD *e* 20 20 40.4
BOD pmax pmax
comp=Z,3.0nm,1.3s,mb4.2
BOD pmax pmax
comp=Z,4.0nm,1.2s,mb4.3
MKAR Makanchi Array 68.23 326 P **P** **20 20 27.4 +0.4**
comp=Z,46nm,0.4s,mb5.8,baz=113,slow=8.6,SNR=790
MKAR Makanchi Array 68.23 326 P **P** **20 20 27.4 +0.4**
MKAR pmax pmax
comp=Z,46nm,0.4s
MKAR Makanchi Array 68.23 326 P **P** **20 20 27.4 +0.4**
YAK Yakutsk 68.29 359*c* *i*P **P** **20 20 27.4 0.0**
YAK pmax pmax
comp=Z,15nm,1.0s,mb5.0

RAR	**Rarotonga**	**68.51**	**110**	LR	LR	20 44 37.2	
	comp=Z,950nm,19.9s,MS5.0,baz=224,slow=31						
ULHL	**Ulahol**	**69.34**	**320**	P	**P**	**20 20 34.8**	**+0.8**
	SNR=13						
KZA	**Kyzart**	**69.90**	**319**	P	**P**	**20 20 38.8**	**+1.4**
	SNR=42						
TKM2	**Tokmak 2**	**70.09**	**320**	P	**P**	**20 20 39.3**	**+0.8**
	SNR=20						
KBK	**Karagaybulak**	**70.38**	**320**	P	**P**	**20 20 41.2**	**+0.8**
	SNR=17						
UCH	**Uchtor**	**70.45**	**319**	P	**P**	**20 20 42.2**	**+1.4**
	SNR=33						
AAK	**Ala-Archa**	**70.66**	**319**	P	**P**	**20 20 43.0**	**+0.9**
	SNR=21						
AAK	**Ala-Archa**	**70.66**	**319**	*c i*P	**P**	**20 20 41.8**	**-0.2**
AAK				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.0						
AAK	**Ala-Archa**	**70.66**	**319**	*e*P	**P**	**20 20 41.6**	**-0.4**
	comp=Z,20nm,0.8s,mb5.1						
CHMS	**Chumysh**	**70.67**	**320**	P	**P**	**20 20 41.9**	**-0.2**
	SNR=6.2						
AML	**Almayashu**	**70.94**	**319**	P	**P**	**20 20 45.1**	**+1.4**
	SNR=38						
USP	**Ospenovka**	**70.96**	**320**	P	**P**	**20 20 44.3**	**+0.5**
	SNR=43						
EKS2	**Erkin-Say**	**71.14**	**319**	P	**P**	**20 20 46.0**	**+1.1**
	SNR=34						
ZAL	**Zalesovo**	**71.47**	**333**	P	**P**	**20 20 45.5**	**-1.4**
	comp=Z,4.5nm,0.7s,mb4.5,baz=354,slow=5.5,SNR=30						
ZAL				LR	LR	20 55 58.4	
	comp=Z,222nm,20.7s,MS4.4,baz=6.8,slow=39						
ZAL	**Zalesovo**	**71.47**	**333**	*i*P	**P**	**20 20 45.5**	**-1.4**
ZAL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KURK	**Kurchatov**	**72.49**	**328**	*c i*P	**P**	**20 20 52.6**	**-0.4**
KURK	**Kurchatov**	**72.49**	**328**	⇑*e*P	**P**	**20 20 52.3**	**-0.7**
	comp=Z,17nm,0.8s,mb5.0						
NVS	**Novosibirsk**	**72.75**	**333**	*i*P	**P**	**20 20 52.4**	**-2.2**
NVS				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
NVS				pmax	pmax		
	comp=N,6.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.0s						
VNDA	**Vanda**	**72.88**	**173**	P	**P**	**20 20 55.3**	**-0.1**
	comp=E,3.1nm,0.4s,mb4.6,baz=319,slow=7.0,SNR=27						
VNDA	**Vanda**	**72.88**	**173**	P	**P**	**20 20 55.3**	**-0.1**
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MAW	**Mawson**	**75.75**	**201**	P	**P**	**20 21 10.6**	**-1.4**
	comp=Z,5.5nm,0.7s,mb4.6,baz=69,slow=5.6,SNR=11						
MAW	**Mawson**	**75.75**	**201**	*e*P	**P**	**20 21 10.8**	**-1.3**
MAW				*e*	pP	20 21 22.9	-0.1
MAW				pmax	pmax		
	comp=E,8.0nm,0.8s						
MAW	**Mawson**	**75.75**	**201**	*e*P	**P**	**20 21 10.8**	**-1.2**
	comp=E,8.0nm,0.8s,mb4.7						
MAW				*e*PcP	PcP	20 21 22.9	-1.8
WSAR	**Wadi Sarin**	**76.37**	**296**	P	**P**	**20 21 16.0**	**+0.4**
	comp=Z,3.8nm,0.5s,mb4.6,baz=98,slow=22,SNR=8.7						
TIXI	**Tiksi**	**77.96**	**359**	*i*P	**P**	**20 21 23.0**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
BRVK	**Borovoye**	**78.12**	**328**	*e*P	**P**	**20 21 24.1**	**-1.3**
BRVK				pmax	pmax		
	comp=E,8.0nm,0.9s,mb4.7						
BRVK	**Borovoye**	**78.12**	**328**	*e*P	**P**	**20 21 24.1**	**-1.3**
	comp=E,8.2nm,0.9s,mb4.7						
ZRNK	**Zerenda**	**78.75**	**327**	*e*P	**P**	**20 21 28.1**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
ZRNK	**Zerenda**	**78.75**	**327**	*e*P	**P**	**20 21 28.1**	**-0.8**
	comp=Z,15nm,0.8s,mb5.0						
OPO	**Ambohidratompo**	**81.96**	**252**	P	**P**	**20 21 46.8**	**+0.6**
	comp=Z,2.2nm,0.7s,mb4.2,baz=89,slow=3.5,SNR=8.6						
QSPA	**South Pole Qui**	**83.51**	**180**	*e*P	**P**	**20 21 53.8**	**-0.4**
	comp=Z,14nm,0.6s,mb5.3						
AKTK	**Aktyubinsk**	**84.15**	**322**	P	**P**	**20 21 57.0**	**-0.4**
AKTK				LR	LR	21 02 45.9	
AKTO	**Aktyubinsk**	**84.15**	**322**	P	**P**	**20 21 57.0**	**-0.4**
	comp=Z,5.6nm,0.8s,mb4.8,baz=116,slow=7.4,SNR=18						
AKTO				LR	LR	21 02 45.9	
	comp=Z,95nm,20.4s,MS4.2,baz=342,slow=38						
AKTO	**Aktyubinsk**	**84.15**	**322**	P	**P**	**20 21 57.1**	**-0.4**
AKTO				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
AKTO				MLR	MLR		
	comp=Z,95nm,20.4s,MS4.2						
ARU	**Arti**	**85.68**	**328**	⇑*i*P	**P**	**20 22 03.9**	**-1.3**
ARU				*e*		20 25 26.4	
ARU				*e*PPP		20 27 14.3	
ARU				*e*S		20 32 17.0	
ARU				*e*SS	SS	20 38 12.9	+1.2
ARU				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb5.0						
ARU	**Arti**	**85.68**	**328**	*e*P	**P**	**20 22 03.7**	**-1.4**
	comp=Z,11nm,0.9s,mb5.1						
ORR	**Orenburg**	**86.46**	**323**	⇓*i*P	**P**	**20 22 07.5**	**-1.5**
ORR				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.3						
TTA	**Tatalina**	**88.15**	**26**	*e*P	**P**	**20 22 18.0**	**+0.8**
TTA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.5						
TTA	**Tatalina**	**88.15**	**26**	*e*P	**P**	**20 22 18.0**	**+0.8**
	comp=Z,2.4nm,0.6s,mb4.6						
KDAK	**Kodiak Island**	**88.33**	**31**	P	**P**	**20 22 16.7**	**-1.3**
	comp=Z,5.2nm,0.7s,mb4.9,baz=146,slow=5.3,SNR=4.6						
ATD	**Arta Tunnel**	**89.30**	**282**	P	**P**	**20 22 21.9**	**-0.7**
	comp=Z,2.3nm,0.3s,mb4.9,baz=133,slow=21,SNR=3.8						
ILAR	**Eielson Array**	**92.51**	**25**	P	**P**	**20 22 35.4**	**-2.1**
	comp=Z,2.0nm,0.7s,mb4.7,baz=267,slow=4.4,SNR=33						
ILAR	**Eielson Array**	**92.51**	**25**	P	**P**	**20 22 35.4**	**-2.1**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	**Inuvik**	**98.06**	**22**	P	**P**	**20 23 01.6**	**-1.3**
	comp=Z,1.3nm,0.7s,mb4.6,baz=263,slow=7.4,SNR=7.7						
INK	**Inuvik**	**98.06**	**22**	P	**P**	**20 23 01.6**	**-1.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**101.36**	**340**	PKiKP	PKiKP	20 27 41.9	+0.1
	comp=Z,8.0nm,1.1s,baz=87,slow=2.6,SNR=4.1						
AKASG	**Malin Array Be**	**102.32**	**320**	PKiKP	PKiKP	20 27 43.0	-0.5
	comp=Z,0.3nm,0.4s,baz=92,slow=3.4,SNR=4.2						
FINES	**FINESS Array B**	**102.68**	**332**	PKiKP	PKiKP	20 27 43.1	-1.0
	comp=Z,0.6nm,0.5s,baz=67,slow=5.0,SNR=6.0						
MLR	**Muntele Rosu**	**105.00**	**315**	PKiKP	PKiKP	20 27 48.6	+0.2
	comp=Z,0.9nm,0.5s,baz=217,slow=6.1,SNR=3.1						
YKA	**Yellowknife Ar**	**106.91**	**26**	PKiKP	PKiKP	20 27 50.6	-1.3
	comp=Z,0.6nm,0.6s,baz=288,slow=1.7,SNR=7.1						
GERES	**GERESS Array B**	**112.53**	**320**	PKiKP	PKiKP	20 28 01.6	-0.8
	comp=Z,2.5nm,0.5s,baz=74,slow=1.7,SNR=36						
GERES	**GERESS Array B**	**112.53**	**320**	*i* PKiKP	PKiKP	20 28 01.6	-0.9
GERES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
WTTA	**Wattenberg**	**114.32**	**319**	⇑*i*P	PKiKP	20 28 05.2	-0.7
	comp=Z,3.0nm,0.5s						
WATA	**Walderalm**	**114.34**	**319**	⇓*i*P	PKiKP	20 28 04.8	-1.1
	comp=Z,3.5nm,1.1s						
SQTA	**Sankt Quirin**	**114.61**	**319**	⇑*i*P	PKiKP	20 28 05.6	-0.9
	comp=Z,4.9nm,1.3s						
MOTA	**Moosalm**	**114.64**	**319**	⇑*i*P	PKiKP	20 28 05.6	-1.0
	comp=Z,1.3nm,0.6s						
DAVA	**Damuels**	**115.45**	**320**	⇑*i*P	PKPdf	20 28 07.4	-0.7
	comp=Z,0.9nm,0.5s						
DAVOX	**Davos**	**115.62**	**319**	PKP	PKPdf	20 28 07.8	-0.6
	comp=Z,4.7nm,0.3s,baz=181,slow=1.9,SNR=18						
PDAR	**Pinedale Array**	**115.93**	**45**	PKKPbc	PKKPbc	20 38 40.0	+0.1
	comp=Z,0.6nm,0.8s,baz=104,slow=4.7,SNR=5.0						
CDF	**Champ du Feu**	**116.69**	**322**	*e*PKiKP	PKPdf	20 28 08.1	-2.4
HINF	**Hinteralfeld**	**117.18**	**321**	*e*PKiKP	PKPdf	20 28 10.2	-1.2
	comp=Z,8.6nm,0.6s						
HAU	**Haudompre**	**117.42**	**321**	*e*PKiKP	PKPdf	20 28 11.8	-0.1
HAU				*e*R			
	comp=Z,248nm,22.5s						
HAU	**Haudompre**	**117.42**	**321**	*e*PKPdf	PKPdf	20 28 11.8	-0.1
HAU				LR	LR		
	comp=Z,250nm,22.5s,MS4.8						
BAIF	**Baives**	**117.87**	**324**	*e*PKiKP	PKPdf	20 28 12.1	-0.6
	comp=Z,14nm,1.0s						
LPG	**La Plagne**	**118.10**	**319**	*e*PKiKP	PKPdf	20 28 12.8	-0.4
	comp=Z,7.7nm,0.5s						
LPL	**La Plagne**	**118.11**	**319**	*e*PKiKP	PKPdf	20 28 12.8	-0.4
	comp=Z,10nm,0.4s						
CABF	**La Chapelle**	**118.12**	**320**	*e*PKiKP	PKPdf	20 28 12.7	-0.5
	comp=Z,19nm,0.5s						
MBDF	**Montbardon**	**118.36**	**318**	*e*PKiKP	PKPdf	20 28 13.3	-0.4
	comp=Z,5.3nm,0.6s						

FRF	**La Foret Royal**	**118.85**	**317**	*e*PKiKP	PKPdf	20 28 13.7	-0.9
	comp=Z,3.8nm,0.5s						
ORIF	**Oris-en-Rattie**	**118.88**	**318**	*e*PKiKP	PKPdf	20 28 13.9	-0.8
	comp=Z,6.4nm,0.5s						
ORIF				*e*R			
	comp=Z,210nm,20.0s						
EKA	**Eskdalemuir Ar**	**119.08**	**332**	PKP	PKPdf	20 28 13.9	-1.1
	comp=Z,1.6nm,0.5s,baz=30,slow=2.8,SNR=18						
EKA	**Eskdalemuir Ar**	**119.08**	**332**	PKiKP	PKPdf	20 28 14.0	-1.1
EKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
LOR	**Lormes**	**119.26**	**321**	*e*PKiKP	PKPdf	20 28 14.5	-0.9
	comp=Z,2.3nm,0.5s						
LOR				*e*R			
	comp=Z,354nm,22.5s						
LOR	**Lormes**	**119.26**	**321**	*e*PKPdf	PKPdf	20 28 14.5	-0.9
LOR				LR	LR		
	comp=Z,350nm,22.5s,MS4.9						
SMRF	**Simiane la Rot**	**119.43**	**317**	*e*PKiKP	PKPdf	20 28 15.4	-0.3
	comp=Z,14nm,0.9s						
SMF	**Signal de Mont**	**119.53**	**321**	*e*PKiKP	PKPdf	20 28 14.9	-1.0
	comp=Z,3.1nm,0.4s						
SSF	**Saint Saulge**	**119.56**	**321**	*e*PKiKP	PKPdf	20 28 15.3	-0.7
	comp=Z,11nm,0.6s						
VIVF	**Saint-Julien-l**	**119.70**	**319**	*e*PKiKP	PKPdf	20 28 15.5	-0.8
	comp=Z,5.2nm,0.6s						
AVF	**Avril sur Loir**	**119.77**	**321**	*e*PKiKP	PKPdf	20 28 15.3	-1.1
	comp=Z,4.7nm,0.4s						
BGF	**Bois d'Agland**	**120.19**	**321**	*e*PKiKP	PKPdf	20 28 16.7	-0.5
	comp=Z,18nm,0.5s						
LASF	**Ste Croix**	**120.54**	**318**	*e*PKiKP	PKPdf	20 28 17.1	-0.8
TCF	**Toulx Ste Croi**	**120.70**	**321**	*e*PKiKP	PKPdf	20 28 17.6	-0.6
	comp=Z,8.2nm,0.6s						
CAF	**Calviac**	**121.37**	**320**	*e*PKiKP	PKPdf	20 28 19.2	-0.3
	comp=Z,3.4nm,0.6s						
MTLF	**Montolieu**	**121.92**	**318**	*e*PKiKP	PKPdf	20 28 19.8	-0.7
	comp=Z,2.5nm,0.4s						
MFF	**Saint Martin d**	**122.02**	**322**	*e*PKiKP	PKPdf	20 28 20.0	-0.7
	comp=Z,17nm,0.5s						
LFF	**La Frestale**	**122.22**	**320**	*e*PKiKP	PKPdf	20 28 20.8	-0.3
	comp=Z,5.5nm,0.6s						
SGMF	**Saint Gilles**	**122.63**	**325**	*e*PKiKP	PKPdf	20 28 20.9	-1.0
	comp=Z,5.7nm,0.4s						
ROSF	**Rostrenen**	**123.00**	**325**	*e*PKiKP	PKPdf	20 28 21.5	-1.1
QUIF	**Quistinic**	**123.16**	**325**	*e*PKiKP	PKPdf	20 28 21.9	-1.0
	comp=Z,16nm,0.8s						
EPF	**Esparros**	**123.30**	**318**	*e*PKiKP	PKPdf	20 28 22.7	-0.5
	comp=Z,4.2nm,0.4s						
ETSF	**Etsaut**	**123.95**	**318**	*e*PKiKP	PKPdf	20 28 24.8	+0.4
	comp=Z,7.6nm,0.8s						
SJPF	**Ste Jean**	**124.30**	**319**	*e*PKiKP	PKPdf	20 28 25.7	+0.6
	comp=Z,3.3nm,0.5s						
ESDC	**Sonseca Array**	**127.69**	**316**	PKP	PKPdf	20 28 31.9	+0.4
	comp=Z,0.2nm,0.5s,baz=17,slow=2.0,SNR=4.6						
TORD	**Torodi Ar. Bea**	**129.50**	**282**	PKP	PKPdf	20 28 34.9	-0.2
	comp=Z,4.1nm,0.5s,baz=112,slow=2.2,SNR=54						
TORD				SKPbc		20 31 46.0	
	comp=Z,0.6nm,0.6s,baz=71,slow=3.4,SNR=7.2						
SCHQ	**Schefferville**	**129.72**	**13**	PKP	PKPdf	20 28 35.0	-0.4
	comp=Z,1.0nm,0.8s,baz=273,slow=3.6,SNR=3.7						
MDT	**Midelt**	**131.03**	**308**	PKP	PKPdf	20 28 39.2	+1.3
	comp=Z,1.7nm,0.5s,baz=97,slow=3.0,SNR=6.9						
JTS	**JuntasAbangare**	**144.42**	**81**	*e*PKiKP	PKPdf	20 29 02.6	+0.1
LVC	**Limon Verde**	**145.25**	**147**	*e*P	PKPbc	20 29 06.2	+2.6
CPUP	**Villa Florida**	**146.46**	**167**	PKPbc	PKPbc	20 29 06.8	-0.5
	comp=Z,3.5nm,0.5s,baz=201,slow=2.0,SNR=17						
CPUP	**Villa Florida**	**146.46**	**167**	PKiKP	PKPdf	20 29 06.8	+0.8
CPUP				pmax	pmax		
	comp=Z,4.0nm,0.5s						
CPUP	**Villa Florida**	**146.46**	**167**	*e*P	PKPdf	20 29 06.3	+0.4
LPAZ	**La Paz**	**150.63**	**141**	PKPbc	PKPbc	20 29 20.8	+2.6
	comp=Z,7.1nm,0.4s,baz=50,slow=1.9,SNR=62						
LPAZ	**La Paz**	**150.63**	**141**	PKiKP	PKPdf	20 29 20.8	+8.0
LPAZ				pmax	pmax		
	comp=Z,7.0nm,0.4s						
LPAZ	**La Paz**	**150.63**	**141**	PKPbc	PKPbc	20 29 20.8	+2.5

IDC ***13*** *20:18:56.9±0.9, 4867Nₓ142.32E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.7/21, mbtmp3.7/7, ML3.7/1, Error ellipse: s-maj=25.5km s-min=22.6km az=118.0*
MOS ***13*** *20:18:56.8±0.7, 4867Nₓ142.39E, h13km, mb4.1/4, Error ellipse: s-maj=27.3km s-min=12.1km az=97.8*
ISCJB ***13*** *20:18:58.9±1.3, 4866N±005ₓ142.4E±02, h27km±10km, mb3.8/6, Error ellipse: s-maj=18.9km s-min=8.2km az=154.3*
NEIC ***13*** *20:18:58.4±0.6, 4865Nₓ142.33E, h10km, Error ellipse: s-maj=16.4km s-min=10.6km az=89.0*

ISC 13 20:18:58.4±1.7, 4865N±006ₓ1425E±02, h11km±11km, n16, σ0s81/18, mb3.8/6, 1C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UGL	**Uglegorsk**	**0.50**	**329**	⇑*i*PN	**Pg**	**20 19 07.0**	**-1.2**
UGL				*e*S	**Sg**	**20 19 15.5**	**+0.7**
UGL				pmax	pmax		
	comp=Z,2μm,0.3s						
UGL				smax			
	comp=N,5μm,0.4s						
UGL				smax			
	comp=E,6μm,0.5s						
YSS	**Yuzh-Sakhalins**	**1.71**	**173**	*e*PN	**Pn**	**20 19 27.8**	**-0.3**
YSS				*e*Sn	**Sn**	**20 19 49.5**	**-0.4**
ASAJ	**Asahikawa**	**4.54**	**179**	Pn	**Pn**	**20 20 07.7**	**+0.7**
	comp=E,3.0nm,0.3s,baz=22,slow=12,SNR=22						
ASAJ	**Asahikawa**	**4.54**	**179**	PN	**Pn**	**20 20 07.7**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KLR	**Kul'dur**	**7.08**	**279**	*e*PN	**Pn**	**20 20 43.2**	**+1.3**
MAJO	**Matsushiro**	**12.50**	**196**	*e*PN	**Pn**	**20 21 56.4**	**+0.3**
SONM	**Songino Array**	**23.90**	**282**	P	**P**	**20 24 10.7**	**-1.4**
	comp=Z,5.1nm,1.4s,mb3.8,baz=63,slow=8.7,SNR=4.7						
SONM	**Songino Array**	**23.90**	**282**	P	**P**	**20 24 10.7**	**-1.4**
SONM				pmax	pmax		
	comp=Z,5.0nm,1.4s						
MKAR	**Makanchi Array**	**39.60**	**291**	P	**P**	**20 26 30.0**	**+0.2**
	comp=Z,0.4nm,0.7s,mb3.3,baz=76,slow=8.7,SNR=2.7						
ILAR	**Eielson Array**	**39.61**	**39**	P	**P**	**20 26 30.0**	**+0.2**
	comp=Z,1.2nm,0.6s,mb3.8,baz=282,slow=8.9,SNR=20						
ILAR	**Eielson Array**	**39.61**	**39**	P	**P**	**20 26 30.0**	**+0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**59.02**	**330**	P	**P**	**20 28 57.0**	**-1.1**
	comp=Z,1.9nm,0.7s,mb4.2,baz=37,slow=6.6,SNR=7.5						
FINES	**FINESS Array B**	**59.02**	**330**	P	**P**	**20 28 57.0**	**-1.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PDAR	**Pinedale Array**	**69.17**	**49**	P	**P**	**20 30 05.8**	**+1.0**
	comp=Z,0.9nm,0.8s,mb3.8,baz=307,slow=1.9,SNR=6.1						
ASAR	**Alice Springs**	**72.39**	**188**	P	**P**	**20 30 24.4**	**0.0**
	comp=Z,0.5nm,0.6s,mb3.6,baz=2.2,slow=5.1,SNR=11						
ASAR	**Alice Springs**	**72.39**	**188**	P	**P**	**20 30 24.5**	**0.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

NEIC ***13*** *20:44:43.9±1.1, 3047Sₓ17865W, h200km±16km, mb3.9/2, Error ellipse: s-maj=46.2km s-min=14.8km az=107.0*
ISCJB ***13*** *20:44:45.2±0.7, 3062S±007ₓ1792W±02, h195km±10km, mb3.4/3, Error ellipse: s-maj=27.3km s-min=6.7km az=39.4*
IDC ***13*** *20:44:46.5±0.9, 3061Sₓ17892W, h201km±12km, mb3.2/2, mb1 3.5/3, mb1mx3.3/12, mbtmp3.9/3, Error ellipse: s-maj=33.3km s-min=17.1km az=113.0*

ISC 13 20:44:46.1±0.7, 3072S±007ₓ1792W±02, h186km±9km, n23, σ1s47/33, mb3.6/3, 2C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.85**	**38**	P	**Pn**	**20 45 22.7**	**+0.7**
	118nm,0.3s,baz=72,slow=22,SNR=7.9						
RAO				S	**Sn**	**20 45 48.2**	**-1.6**
	438nm,0.3s,baz=81,slow=22,SNR=14						
RAO	**Raoul Island**	**1.85**	**38**	*e*Pn	**Pn**	**20 45 16.6**	**-5.4**
RAO				*e*Sn	**Sn**	**20 45 49.9**	**0.0**
PUZ	**Puketiti**	**7.62**	**195**	PN	**Pn**	**20 46 35.5**	**+1.1**
PUZ				SN	**Sn**	**20 48 02.9**	**+2.7**
MWZ	**Matawai**	**8.05**	**198**	*e*PN	**Pn**	**20 46 41.6**	**+1.5**
MWZ				SN	**Sn**	**20 48 13.8**	**+3.3**
URZ	**Urewera**	**8.11**	**201**	P	**Pn**	**20 46 43.4**	**+2.7**
	1.8nm,0.3s,baz=120,slow=23,SNR=9.3						
URZ				S	**Sn**	**20 48 15.4**	**+3.7**
	5.2nm,0.3s,baz=258,slow=22,SNR=14						
URZ	**Urewera**	**8.11**	**201**	*e*PN	**Pn**	**20 46 42.9**	**+2.2**
URZ				SN	**Sn**	**20 48 15.2**	**+3.6**
KNZ	**Kokohu**	**8.66**	**196**	*e*PN	**Pn**	**20 46 49.2**	**+1.2**
MRZ	**Mangatainoka R**	**10.78**	**202**	*e*PN	**Pn**	**20 47 13.5**	**-2.1**
MRZ				SN	**Sn**	**20 49 15.5**	**0.0**
KIW	**Kapiti Island**	**11.18**	**204**	*e*PN	**Pn**	**20 47 19.9**	**-0.9**
CAW	**Cannon Point**	**11.35**	**202**	*e*PN	**Pn**	**20 47 20.6**	**-2.3**
SNZO	**South Karori**	**11.65**	**203**	Pn	**Pn**	**20 47 30.2**	**+3.4**
	3.8nm,0.5s						
SNZO				*e*Sn	**Sn**	**20 49 35.4**	**-0.9**
TCW	**Tory Channel**	**11.71**	**205**	*e*PN	**Pn**	**20 47 25.9**	**-1.7**
TCW				SN	**Sn**	**20 49 35.9**	**-1.9**
NNZ	**Nelson**	**12.06**	**208**	*e*PN	**Pn**	**20 47 32.5**	**+0.4**
NNZ				SN	**Sn**	**20 49 45.7**	**-0.5**
THZ	**Tophouse**	**12.71**	**208**	*e*PN	**Pn**	**20 47 39.8**	**-0.6**
THZ				SN	**Sn**	**20 50 02.1**	**+0.3**
KHZ	**Kahutara**	**13.04**	**204**	*e*PN	**Pn**	**20 47 42.6**	**-1.8**
KHZ				SN	**Sn**	**20 50 05.9**	**-3.5**
MQZ	**McQueen's Vall**	**14.48**	**204**	SN	**Sn**	**20 50 35.9**	**-8.0**
ASAR	**Alice Springs**	**42.03**	**268**	P	**P**	**20 52 21.5**	**+2.3**
	0.4nm,0.5s,mb3.3,baz=111,slow=8.0,SNR=5.8						
WRAB	**Tennant Creek**	**43.04**	**273**	P	**P**	**20 52 26.9**	**-0.5**
	1.0nm,0.4s,mb3.8						
WRA	**Warramunga Arr**	**43.05**	**273**	P	**P**	**20 52 28.2**	**+0.8**
	0.7nm,0.4s,mb3.7,baz=112,slow=7.8,SNR=7.0						
VNA3	**Neumayer Olymp**	**78.06**	**177**	⇑*i*	**P**	**20 56 23.7**	**-0.4**
VNA3				*e*		20 56 28.4	
VNA2	**Neumayer--Watz**	**78.48**	**177**	⇑*i*	**P**	**20 56 26.7**	**+0.3**
	baz=314,slow=1.4						
VNA2				*e*		20 56 30.8	
FINES	**FINESS Array B**	**145.07**	**339**	PKP	PKPdf	21 03 56.3	-4.9
	0.8nm,0.4s,baz=56,slow=4.4,SNR=18						
TORD	**Torodi Ar. Bea**	**162.49**	**183**	PKPab	PKPab	21 05 14.7	+0.2
	1.3nm,0.8s,baz=176,slow=3.4,SNR=7.2						

ISCJB ***13*** *21:40:28.3±0.7, 2422S±005ₓ67.1W±0.1, h174km±17km, mb3.1/1, Error ellipse: s-maj=15.4km s-min=8.5km az=25.2*
NEIC ***13*** *21:40:29.2±0.7, 2419Sₓ6693W, h164km±15km, mb3.9/3, Error ellipse: s-maj=13.4km s-min=10.9km az=97.0*
IDC ***13*** *21:40:30.8±2.5, 2404Sₓ6705W, h177km±26km, mb3.0/1, mb1 3.3/5, mb1mx3.2/15, mbtmp3.8/5, Error ellipse: s-maj=38.4km s-min=27.8km az=152.0*
GUC ***13*** *21:40:32.2±0.3, 2413Sₓ6753W, h190km, ML4.0*

ISC 13 21:40:29.2±0.7, 2423S±005ₓ6701W±010, h160km±17km, n16, σ1s30/24, mb3.1/1, 2C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.38**	**312**	⇑*i*P	**Pn**	**21 41 11.2**	**+2.0**
LVC				*i* S	**Sn**	**21 41 41.2**	**+0.9**
LVC				AML	AML	21 41 45.3	
	comp=N,181nm,0.6s						
LVC	**Limon Verde**	**2.38**	**312**	P	**Pn**	**21 41 11.2**	**+1.9**
	comp=N,33nm,0.3s,baz=137,slow=5.7,SNR=291						
LVC				S	**Sn**	**21 41 41.3**	**+1.0**
	comp=N,29nm,0.3s,baz=281,slow=19,SNR=17						
LVC	**Limon Verde**	**2.38**	**312**	*e*Pn	**Pn**	**21 41 10.7**	**+1.4**
LVC				*e*Sn	**Sn**	**21 41 41.8**	**+1.5**
CEN1	**Los Morros**	**3.04**	**285**	⇓*i*P	**Pn**	**21 41 19.4**	**+1.9**
CEN1				*i* S	**Sn**	**21 41 54.5**	**-0.4**
CEN1				AML	AML	21 41 56.2	
	comp=N,349nm,0.5s						
CPN1	**Cerro Paranal**	**3.12**	**262**	⇑*i*P	**Pn**	**21 41 19.5**	**+1.0**
CPN1				*i* S	**Sn**	**21 41 55.4**	**-1.2**
CPN1				AML	AML	21 41 58.5	
	comp=E,440nm,0.2s						
ANCH	**Antofagasta**	**3.16**	**279**	⇓*i*P	**Pn**	**21 41 19.9**	**+1.0**
ANCH				*i* S	**Sn**	**21 41 55.2**	**-2.4**
CRCH	**Chaqaral**	**3.89**	**236**	⇓*i*P	**Pn**	**21 41 28.6**	**+0.3**
CRCH				*i* S	**Sn

Ms1 4.0/15,ms1mx3.8/22,Error ellipse: s-maj=14.9km s-min=10.6km az=120.0

ISC 13 22:51:58.8±0.3,**494S**±004×**15247E**±005,**h36**km, **h36**km±2.3km:**pP-P,n260,**σ1**06**/142,**mb5.0**/62,**MS4.1**/26, **5C-2D,New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.88**	**230**	P		**Pn**	**22 53 41.6**	**+4.4**
	13nn,0.3s,baz=32,slow=9.0,SNR=26							
PMG				S		**Sn**	**22 54 57.4**	**+3.2**
	27nn,0.3s,baz=201,slow=19,SNR=12							
PMG	**Port Moresby**	**6.88**	**230**	*e*P		**Pn**	**22 53 41.3**	**+4.2**
PMG				*e*			22 54 58.1	
PMG				pmax	pmax			
	comp=Z,165nn,0.8s							
PMG	**Port Moresby**	**6.88**	**230**	*e*Pn		**Pn**	**22 53 41.3**	**+4.2**
	comp=Z,165nn,0.8s							
PMG				*e*Sn		**Sn**	**22 54 58.1**	**+3.9**
HNR	**Honiara**	**8.66**	**121**	P		**Pn**	**22 54 08.5**	**+7.0**
	comp=Z,9.8nn,0.3s,baz=255,slow=3.3,SNR=8.0							
HNR				LR		LR	22 56 44.0	
	comp=Z,254nn,20.8s,baz=356,slow=32							
HNR	**Honiara**	**8.66**	**121**	*e*P		**Pn**	**22 54 07.6**	**+6.1**
HNR				pmax	pmax			
	comp=Z,196nn,0.9s							
HNR	**Honiara**	**8.66**	**121**	*e*Pn		**Pn**	**22 54 07.6**	**+6.1**
	comp=Z,196nn,0.9s							
CTA	**Charters Tower**	**16.22**	**201**	LR		LR	23 01 18.7	
	comp=Z,539nn,20.0s,baz=30,slow=34							
GUMO	**Guam**	**19.89**	**338**	P		**Pn**	**22 56 28.9**	**0.0**
	comp=Z,4.0nn,0.3s,baz=156,slow=10.0,SNR=7.1							
GUMO	**Guam**	**19.89**	**338**	P		**Pn**	**22 56 28.9**	**0.0**
GUMO				pmax	pmax			
	comp=Z,4.0nm,0.3s							
KAKA	**Kakadu**	**21.23**	**247**↑	*i*P		**P**	**22 56 41.1**	**-0.4**
	comp=Z,77nn,0.5s,mb5.3							
DZM	**Mont Dzumac**	**21.75**	**143**	P		**P**	**22 56 49.4**	**+2.3**
	comp=Z,16nm,0.5s,mb4.7,baz=267,slow=14,SNR=21							
DZM				LR		LR	23 03 58.4	
	comp=Z,573nn,18.4s,MS4.0,baz=19,slow=33							
WRAB	**Tennant Creek**	**23.09**	**228**	P		**P**	**22 57 01.0**	**-0.3**
	comp=Z,498nn,0.5s,SNR=71							
WRAB	**Tennant Creek**	**23.09**	**228***c*	*i*P		**P**	**22 57 01.4**	**+0.1**
WRAB	**Tennant Creek**	**23.09**	**228**↑	*i*P		**P**	**22 57 01.3**	**0.0**
	comp=Z,68nn,0.6s,mb5.3							
WB2	**Warramunga Arr**	**23.09**	**228**↑	*i*P		**P**	**22 57 01.5**	**+0.2**
WB2				*e*S		**S**	**23 01 07.9**	**-1.9**
WRA	**Warramunga Arr**	**23.10**	**228**	P		**P**	**22 57 01.6**	**+0.1**
	comp=Z,32nn,0.5s,mb5.0,baz=54,slow=10,SNR=49							
WRA				S		**S**	**23 01 10.1**	**+0.1**
	comp=Z,6.9nn,1.0s,baz=55,slow=18,SNR=12							
WRA	**Warramunga Arr**	**23.10**	**228**	P		**P**	**22 57 01.6**	**+0.2**
WRA				S		**S**	**23 01 10.1**	**+0.1**
WRA				pmax	pmax			
	comp=Z,32nn,0.5s							
WRA				smax				
	comp=N,7.0nn,1.0s							
ASAR	**Alice Springs**	**25.82**	**222**	P		**P**	**22 57 26.9**	**+0.3**
	comp=N,11nn,0.6s,mb4.6,baz=57,slow=8.5,SNR=43							
ASAR	**Alice Springs**	**25.82**	**222**	P		**P**	**22 57 26.9**	**+0.3**
ASAR				pmax	pmax			
	comp=Z,11nn,0.6s							
STKA	**Stephens Creek**	**28.67**	**200**	*e*P		**P**	**22 57 49.9**	**-2.2**
	comp=Z,4.7nn,0.6s,mb4.4							
STKA	**Stephens Creek**	**28.67**	**200**	P		**P**	**22 57 50.2**	**-1.9**
	comp=Z,5.6nn,0.7s,mb4.4,baz=4.8,slow=6.6,SNR=12							
STKA				LR		LR	23 09 19.3	
	comp=Z,266nn,19.8s,MS3.9,baz=124,slow=36							
FITZ	**Fitzroy Crossi**	**29.30**	**241**↑	*i*P		**P**	**22 57 57.1**	**-0.6**
	comp=Z,57nn,0.8s,mb5.4							
FITZ	**Fitzroy Crossi**	**29.30**	**241**	P		**P**	**22 57 57.3**	**-0.5**
	comp=Z,26nn,0.6s,mb5.1,baz=76,slow=7.9,SNR=71							
FITZ				LR		LR	23 11 03.2	
	comp=Z,199nn,19.4s,MS3.8,baz=262,slow=39							
FORT	**Forrest**	**34.47**	**219**	*e*P		**P**	**22 58 42.7**	**-0.4**
	comp=Z,50nn,0.6s,mb5.6							
MBWA	**Marble Bar**	**35.61**	**240**	*e*P		**P**	**22 58 52.0**	**-1.0**
	comp=Z,30nn,0.7s,mb5.3							
JOW	**Kunigami**	**39.31**	**325**	LR		LR	23 12 09.0	
	comp=Z,189nn,21.5s,MS3.9,baz=317,slow=31							
URZ	**Urewera**	**40.03**	**149**	P		**P**	**22 59 31.2**	**+0.9**
	comp=Z,8.1nn,0.6s,mb4.6,baz=17,slow=5.1,SNR=3.8							
KLBR	**Kellerberrin**	**41.97**	**227**	*e*P		**P**	**22 59 45.1**	**-1.1**
	comp=Z,56nn,1.8s,mb4.9							
NWAO	**Narrogin (SRO)**	**43.05**	**225**	LR		LR	23 18 05.7	
	comp=Z,206nn,21.5s,MS4.0,baz=51,slow=36							
MUN	**Mundaring**	**43.29**	**227**	*e*P		**P**	**22 59 56.4**	**-0.5**
MJAR	**Matsushiro Arr**	**43.37**	**343**	P		**P**	**22 59 56.4**	**-1.2**
	comp=Z,3.7nn,0.9s,mb4.1,baz=170,slow=7.1,SNR=11							
MJAR				PcP		PcP	23 01 45.4	-0.3
	comp=Z,2.3nn,0.8s,baz=158,slow=3.6,SNR=5.3							
MJAR				LR		LR	23 16 01.6	
	comp=Z,90nn,20.8s,MS3.6,baz=190,slow=33							
MJAR	**Matsushiro Arr**	**43.37**	**343**	P		**P**	**22 59 56.4**	**-1.2**
MJAR							23 01 45.4	
MJAR				pmax	pmax			
	comp=Z,4.0nm,0.9s							
MJAR				MLR	MLR			
	comp=Z,90nm,20.8s							
SSE	**Sheshan**	**46.65**	**322**	P		**P**	**23 00 23.8**	**+0.2**
SSE				AP		pP	23 00 35.1	+0.9
SSE				XP		sP	23 00 40.3	+1.9
SSE				PP		PP	23 02 12.8	-0.7
SSE				S		**S**	**23 07 09.4**	**-1.0**
SSE				XS		sS	23 07 29.3	+1.5
SSE				AMB	AMB			
	comp=Z,51nn,0.7s,mb5.6							
SSE				AMB	AMB			
	comp=Z,104nn,5.1s							
SSE				LR		LR		
	comp=N,42nn,20.3s,MS3.8							
SSE				LR		LR		
	comp=E,104nn,20.3s,MS3.8							
SSE				LR		LR		
	comp=Z,120nn,20.1s,MS3.9							
NJ2	**Nanjing**	**48.74**	**321**	*e*P		**P**	**23 00 41.5**	**+1.6**
NJ2				AP		pP	23 00 48.9	-1.6
NJ2				XP		sP	23 00 51.9	-2.8
NJ2				PP		PP	23 02 33.6	+0.5
NJ2				S		**S**	**23 07 43.0**	**+2.8**
NJ2				XS		sS	23 08 00.0	+2.4
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.9							
NJ2				AMB	AMB			
	comp=Z,140nm,4.1s							
NJ2				LR		LR		
	comp=N,890nm,25.7s,MS4.8							
NJ2				LR		LR		
	comp=E,790nm,26.0s,MS4.8							
NJ2				LR		LR		
	comp=Z,420nm,27.9s,MS4.3							
MDJ	**Mudanjiang**	**53.44**	**340**	P		**P**	**23 01 16.0**	**+0.9**
MDJ				AP		pP	23 01 25.1	-0.7
MDJ				XP		sP	23 01 28.8	-1.2
MDJ				PP		PP	23 03 16.5	+0.8
MDJ				SCP		ScP	23 06 18.1	+1.2
MDJ				PCS		PcS	23 06 21.8	+0.9
MDJ				S		**S**	**23 08 46.6**	**+1.6**
MDJ				XS		sS	23 09 02.5	-0.1
MDJ				SCS		ScS	23 11 03.1	+1.3
MDJ				AMB	AMB			
	comp=Z,7.0nm,0.9s,mb4.6							
MDJ				AMB	AMB			
	comp=Z,52nn,4.5s							
MDJ				LR		LR		
	comp=N,70nm,27.5s,MS3.7							
MDJ				LR		LR		
	comp=E,68nm,24.3s,MS3.7							
MDJ				LR		LR		
	comp=Z,123nm,29.1s,MS3.8							
CN2	**Changchun**	**54.29**	**336**	*e*P		**P**	**23 01 23.8**	**+2.4**
CN2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.8							
CN2				LR		LR		
	comp=Z,200nn,19.0s,MS4.2							
XAN	**Xi'an**	**56.49**	**317**	P		**P**	**23 01 37.8**	**+0.6**
KMI	**Kunming**	**56.79**	**304**	P		**P**	**23 01 41.1**	**+1.8**
KMI				LR		LR		
	comp=Z,237nn,15.7s,MS4.4							
KLR	**Kul'dur**	**56.89**	**344**	*e*P		**P**	**23 01 36.7**	**-3.3**
KLR				*e*			23 01 53.0	
PET	**Petropavlovsk**	**57.98**	**4**	*e*P		**P**	**23 01 50.9**	**+3.2**
PET				*e*S		**S**	**23 09 42.0**	**-3.6**
PET				MLR	MLR			
	comp=Z,100nn,22.0s,MS3.9							
PPT	**Papeete**	**58.00**	**108**	*e*LR		LR	23 18 58.8	
	comp=Z,75nm,22.5s							
PPT	**Papeete**	**58.00**	**108**	LR		LR	23 24 53.3	
	comp=Z,154nn,18.9s,MS4.1,baz=346,slow=34							
CD2	**Chengdu**	**58.58**	**311**	*e*P		**P**	**23 01 51.3**	**-0.6**
CD2				AP		pP	23 02 01.4	-1.3
CD2				XP		sP	23 02 05.3	-1.6
CD2				PP		PP	23 04 02.3	+0.7
CD2				S		**S**	**23 09 50.1**	**-3.2**
CD2				XS		sS	23 10 06.9	-4.2
CD2				SS		SS	23 13 44.1	-2.2
CD2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.9							
CD2				AMB	AMB			
	comp=Z,60nm,5.3s							
CD2				LR		LR		
	comp=E,250nm,12.0s							
CD2				LR		LR		
	comp=Z,160nm,18.0s							
TBI	**Tubuai**	**58.80**	**114**	*e*LR		LR	23 19 25.0	
	comp=Z,294nn,29.0s							
HHC	**Hu-ho-hao-te**	**58.97**	**325**	*e*P		**P**	**23 01 55.5**	**+0.9**
HHC				AP		pP	23 02 06.8	+1.4
HHC				XP		sP	23 02 09.6	0.0
HHC				PP		PP	23 04 02.8	-2.3
HHC				S		**S**	**23 09 57.6**	**-0.8**
HHC				SCS		ScS	23 11 39.1	-2.6
HHC				AMB	AMB			
	comp=Z,9.0nm,1.1s,mb4.7							
HHC				AMB	AMB			
	comp=Z,136nm,5.1s							
HHC				LR		LR		
	comp=N,198nm,18.8s,MS4.4							
HHC				LR		LR		
	comp=E,171nm,20.0s,MS4.4							
HHC				LR		LR		
	comp=Z,238nm,17.8s,MS4.4							
BTO	**Baotou**	**59.72**	**323**	*e*P		**P**	**23 01 58.3**	**-1.5**
LZH	**Lanzhou**	**61.10**	**316**	*e*P		**P**	**23 02 09.9**	**+0.7**
LZH				AP		pP	23 02 20.8	+0.8
LZH				XP		sP	23 02 24.5	+0.3
LZH				PP		PP	23 04 26.3	+2.4
LZH				*e*S		**S**	**23 10 24.6**	**-1.2**
LZH				XS		sS	23 10 42.1	-1.6
LZH				PS			23 10 45.4	
LZH				*e*SS		SS	23 14 24.8	-1.1
LZH				AMB	AMB			
	comp=Z,23nm,1.3s,mb5.2							
LZH				AMB	AMB			
	comp=Z,113nm,7.5s							
LZH				LR		LR		
	comp=E,498nm,16.1s							
LZH				LR		LR		
	comp=Z,885nn,18.6s,MS4.9							
GTA	**Gaotai**	**65.53**	**317**	*e*P		**P**	**23 02 39.0**	**+0.4**
GTA				AP		pP	23 02 50.8	+1.3
GTA				XP		sP	23 02 55.6	+2.0
GTA				PP		PP	23 05 06.3	+3.4
GTA				PPP			23 06 40.1	
GTA				S		S	23 11 21.8	+0.7
GTA				XS		sS	23 11 37.8	-1.3
GTA				PS			23 11 46.6	
GTA				SS		SS	23 15 36.3	+1.2
GTA				AMB	AMB			
	comp=Z,5.0nm,1.5s,mb4.3							
GTA				AMB	AMB			
	comp=Z,27nm,6.2s							
GTA				LR		LR		
	comp=N,109nm,15.8s,MS4.3							
GTA				LR		LR		
	comp=E,112nm,19.2s,MS4.3							
GTA				LR		LR		
	comp=Z,118nm,16.5s,MS4.2							
ULN	**Ulaanbaatar**	**65.94**	**328**	*e*P		**P**	**23 02 41.4**	**+0.2**
ULN				*e**PP		pP	23 02 57.6	+5.5
ULN				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.4							
ULN	**Ulaanbaatar**	**65.94**	**328**	*e*P		**P**	**23 02 41.4**	**+0.2**
	comp=Z,2.9nm,0.8s,mb4.4							
ULN				*e*pP		pP	23 02 57.6	+5.5
SONM	**Songino Array**	**66.27**	**328**	P		**P**	**23 02 43.9**	**+0.6**
	comp=Z,1.8nn,0.5s,mb4.3,baz=144,slow=5.3,SNR=18							
SONM				LR		LR	23 30 15.6	
	comp=Z,101nn,18.2s,MS4.1,baz=116,slow=35							
SONM	**Songino Array**	**66.27**	**328**	P		**P**	**23 02 43.9**	**+0.6**
SONM				pmax	pmax			
	comp=Z,20nm,0.5s							
SONM				MLR	MLR			
	comp=Z,101nn,18.2s							
LSA	**Lhasa**	**68.04**	**305**	*e*P		**P**	**23 02 55.4**	**+0.9**
LSA				pmax	pmax			
	comp=Z,8.0nm,0.6s,mb4.9							
LSA	**Lhasa**	**68.04**	**305**	*e*P		**P**	**23 02 55.4**	**+0.8**
	comp=Z,8.4nn,0.6s,mb5.0							
ZAK	**Zakamensk**	**69.44**	**329**	*e*P		**P**	**23 03 03.5**	**+0.3**
ZAK				pmax	pmax			
	comp=Z,9.0nn,1.5s,mb4.5							
BOD	**Bodaibo**	**69.80**	**339**	*e*P		**P**	**23 03 04.1**	**-1.4**
MOY	**Mondy**	**71.36**	**329**	*e*P		**P**	**23 03 15.5**	**+0.5**
JIRN	**Jiri**	**71.58**	**301**	*e*P		**P**	**23 03 16.7**	**+0.4**
	comp=Z,13nn,0.6s,mb5.0							
GUN	**Gumba**	**71.91**	**301**	*e*P		**P**	**23 03 18.3**	**0.0**
	comp=Z,37nn,0.6s,mb5.5							
RKT	**Rikitea**	**72.04**	**113**	*e*LR		LR	23 25 33.5	
	comp=Z,188nn,27.5s							
PKI	**Pulchoki**	**72.22**	**301**	*e*P		**P**	**23 03 19.7**	**-0.4**
	comp=Z,14nn,0.7s,mb5.0							
KKN	**Kakani**	**72.39**	**301**	*e*P		**P**	**23 03 21.0**	**-0.1**
	comp=Z,26nn,0.6s,mb5.3							
DMN	**Daman**	**72.49**	**301**	*e*P		**P**	**23 03 21.5**	**-0.2**
	comp=Z,48nn,0.8s,mb5.5							
VNDA	**Vanda**	**72.70**	**178**	P		**P**	**23 03 23.1**	**+0.1**
	comp=Z,6.3nn,0.7s,mb4.7,baz=313,slow=8.7,SNR=3.6							
VNDA	**Vanda**	**72.70**	**178**	P		**P**	**23 03 23.1**	**+0.1**
VNDA				pmax	pmax			
	comp=Z,6.0nm,0.7s							
VNDA	**Vanda**	**72.70**	**178**	*e*P		**P**	**23 03 23.0**	**+0.1**
	comp=Z,6.6nn,0.8s,mb4.6							
GKN	**Gorkha**	**72.99**	**301**	*e*P		**P**	**23 03 24.3**	**-0.4**
	comp=Z,30nn,0.7s,mb5.3							
BILL	**Bilibino**	**73.46**	**5**	*e*P		**P**	**23 03 26.7**	**-0.8**
BILL				pmax	pmax			
	comp=Z,14nn,1.2s,mb4.8							
BILL	**Bilibino**	**73.46**	**5**	*e*P		**P**	**23 03 26.7**	**-0.8**
	comp=Z,13nn,0.9s,mb4.8							
KOLN	**Koldanda**	**73.82**	**301**	*e*P		**P**	**23 03 29.2**	**-0.4**
	comp=Z,34nn,0.8s,mb5.3							
WMQ	**Urumqi**	**75.62**	**317**	⇓P		**P**	**23 03 40.3**	**+0.3**
WMQ				AP		pP	23 03 50.3	-0.8
WMQ				PCP		PcP	23 03 53.8	+1.0
WMQ				XP		sP	23 03 55.3	+0.1
WMQ				PP		PP	23 06 31.3	+1.6
WMQ				S		S	23 13 16.1	-2.5
WMQ				XS		sS	23 13 33.3	-3.6
WMQ				SKS			23 13 42.1	
WMQ				AMB	AMB			
	comp=Z,9.0nm,1.2s,mb4.6							
WMQ				LR		LR		
	comp=N,45nm,21.2s,MS3.9							
WMQ				LR		LR		
	comp=E,53nm,20.6s,MS3.9							
WMQ				LR		LR		
	comp=Z,71nm,22.8s,MS3.9							
KDAK	**Kodiak Island**	**76.45**	**27**	P		**P**	**23 03 44.0**	**-0.8**
	comp=Z,131nn,1.1s,mb5.8,SNR=5.4							
SVW2	**Sparrevohn**	**77.08**	**23**	*e*P		**P**	**23 03 48.3**	**0.0**
TIXI	**Tiksi**	**77.99**	**353**	*e*P		**P**	**23 03 47.5**	**-5.9**
TIXI				*e*			23 06 44.7	
TIXI				*e*S		S	23 13 34.9	-10
TIXI				*e*SS		SS	23 18 40.4	-5.5
TIXI				pmax	pmax			
	comp=Z,3.0nm,1.1s,mb4.1							
TIXI				smax				
	comp=N,33nm,10.9s							
TIXI				smax				
	comp=E,11nm,10.3s							
TTA	**Tatalina**	**78.02**	**21**	*e*P		**P**	**23 03 53.2**	**-0.4**
TTA				*e*		pP	23 04 02.6	-2.1
TTA				pmax	pmax			
	comp=Z,47nn,1.3s,mb5.3							
TTA	**Tatalina**	**78.02**	**21**	*e*P		**P**	**23 03 53.2**	**-0.4**
	comp=Z,47nn,1.3s,mb5.2							
TTA				*e*PcP		PcP	23 04 02.6	-0.6
SLKM	**Skilak Lake**	**78.94**	**25**	*e*P		**P**	**23 03 57.8**	**-0.8**
PMR	**Palmer**	**79.95**	**24**	*e*P		**P**	**23 04 03.2**	**-0.9**
PMR				pmax	pmax			
	comp=Z,49nn,1.2s,mb5.3							
PMR	**Palmer**	**79.95**	**24**	*e*P		**P**	**23 04 03.2**	**-0.9**
	comp=Z,49nn,1.2s,mb5.3							
MKAR	**Makanchi Array**	**80.21**	**319**	P		**P**	**23 04 05.0**	**-0.6**
	comp=Z,3.7nn,0.6s,mb4.5,baz=103,slow=6.3,SNR=37							
MKAR	**Makanchi Array**	**80.21**	**319**	P		**P**	**23 04 05.0**	**-0.5**
MKAR				pmax	pmax			
	comp=Z,4.0nm,0.6s							
MKAR	**Makanchi Array**	**80.21**	**319**	P		**P**	**23 04 05.0**	**-0.6**
EYAK	**Cordova Ski Ar**	**80.89**	**26**	*e*P		**P**	**23 04 08.5**	**-0.7**
ZAL	**Zalesovo**	**81.09**	**326**	P		**P**	**23 04 09.2**	**-1.1**
	comp=Z,2.9nn,0.5s,mb4.4,baz=348,slow=6.3,SNR=18							
ZAL				LR		LR	23 42 38.3	
	comp=Z,90nn,18.4s,MS4.2,baz=175,slow=38							
ZAL	**Zalesovo**	**81.09**	**326**	P		**P**	**23 04 09.2**	**-1.0**
ZAL				pmax	pmax			
	comp=Z,3.0nm,0.5s							
ZAL				MLR	MLR			
	comp=Z,90nn,18.4s							
COLA	**College**	**82.11**	**22**	*e*P		**P**	**23 04 13.9**	**-1.7**
COLA				pmax	pmax			
	comp=Z,56nn,0.9s,mb5.5							
COLA	**College**	**82.11**	**22**	*e*P		**P**	**23 04 13.9**	**-1.7**
	comp=Z,56nn,0.9s,mb5.5							
ILAR	**Eielson Array**	**82.42**	**22**	P		**P**	**23 04 15.2**	**-2.0**
	comp=Z,29nn,0.8s,mb5.3,baz=253,slow=5.3,SNR=208							
ILAR				LR		LR	23 38 22.2	
	comp=Z,87nn,19.7s,MS4.1,baz=179,slow=34							
ILAR	**Eielson Array**	**82.42**	**22**	P		**P**	**23 04 15.2**	**-2.0**
ILAR				pmax	pmax			
	comp=Z,29nn,0.8s							
ILAR				MLR	MLR			
	comp=Z,87nn,19.7s							
KSH	**Kashi**	**82.77**	**311**	*e*P		**P**	**23 04 21.3**	**+2.2**
KSH				*e*AP		pP	23 04 32.1	+1.8
KSH				*e*XP		sP	23 04 36.1	+1.7
KSH				*e*S		S	23 14 35.1	+0.5
KSH				*e*XS		sS	23 14 54.0	+0.9
KSH				AMB	AMB			
	comp=Z,131nm,4.0s							
KSH				LR		LR		
	comp=N,150nm,4.6s							
KSH				LR		LR		
	comp=E,169nm,4.3s							
KSH				LR		LR		
	comp=Z,179nm,5.9s							
ULHL	**Ulahol**	**83.17**	**313**	P		**P**	**23 04 23.8**	**+2.6**
	SNR=14							
KURK	**Kurchatov**	**83.67**	**322**	*e*P		**P**	**23 04 22.9**	**-0.8**
KURK				pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.8							
KURK	**Kurchatov**	**83.67**	**322**	*e*P		**P**	**23 04 22.9**	**-0.8**
	comp=Z,6.8nn,1.0s,mb4.7							
TKM2	**Tokmak 2**	**83.79**	**314**	P		**P**	**23 04 24.7**	**+0.4**
	SNR=14							
KZA	**Kyzart**	**83.86**	**313**	P		**P**	**23 04 28.3**	**+3.7**
	SNR=14							
KBK	**Karagaybulak**	**84.20**	**314**	P		**P**	**23 04 28.1**	**+1.7**
	SNR=5.7							
CHMS	**Chumysh**	**84.41**	**314**	P		**P**	**23 04 27.3**	**-0.2**
	SNR=5.2							
UCH	**Uchtor**	**84.42**	**313**	P		**P**	**23 04 28.9**	**+1.4**
	SNR=6.3							
AAK	**Ala-Archa**	**84.52**	**314**	P		**P**	**23 04 29.6**	**+1.6**
	SNR=5.8							
AAK	**Ala-Archa**	**84.52**	**314**	*e*P		**P**	**23 04 27.5**	**-0.5**
AAK				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.8							
AAK	**Ala-Archa**	**84.52**	**314**	*e*P		**P**	**23 04 27.5**	**-0.5**
	comp=Z,4.6nn,0.6s,mb4.8							
USP	**Ospenovka**	**84.65**	**314**	P		**P**	**23 04 28.9**	**+0.3**
	SNR=9.5							
AML	**Almayashu**	**85.00**	**313**	P		**P**	**23 04 31.2**	**+0.8**
	SNR=27							
QSPA	**South Pole Qui**	**85.02**	**180**	*e*P		**P**	**23 04 30.4**	**-0.1**
	comp=Z,9.8nn,0.7s,mb5.0							
EKS2	**Erkin-Say**	**85.05**	**313**	P		**P**	**23 04 33.3**	**+2.6**
	SNR=13							
DAWY	**Dawson**	**85.05**	**24**	*e*P		**P**	**23 04 30.8**	**+0.1**
MAW	**Mawson**	**85.31**	**203**	P		**P**	**23 04 31.8**	**-0.2**
	comp=Z,14nm,0.7s,mb5.2,baz=97,slow=6.3,SNR=23							
MAW	**Mawson**	**85.31**	**203**	P		**P**	**23 04 31.8**	**-0.2**
MAW				pmax	pmax			
	comp=Z,14nm,0.7s							
KK31	**Karatay Array**	**87.48**	**313**	*i* P		**P**	**23 04 42.4**	**-0.3**
KK31				pmax	pmax			
	comp=Z,10.0nm,0.4s,mb5.4							
INK	**Inuvik**	**88.71**	**21**	*e*P		**P**	**23 04 47.2**	**-1.3**
INK				pmax	pmax			
	comp=Z,39nn,1.1s							
INK	**Inuvik**	**88.71**	**21**	*e*P		**P**	**23 04 47.2**	**-1.3**
	comp=Z,39nn,1.1s,mb5.7							
BRVK	**Borovoye**	**89.22**	**323**	*e*P		**P**	**23 04 49.9**	**-1.0**
BRVK				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.9							
BRVK	**Borovoye**	**89.22**	**323**	*e*P		**P**	**23 04 49.9**	**-1.0**
	comp=Z,5.4nn,0.8s,mb4.9							
HUMO	**Hull Mountain**	**89.33**	**47**	*e*P		**P**	**23 04 52.7**	**+1.4**
	comp=Z,12nn,1.2s,mb5.1							
ZRNK	**Zerenda**	**89.97**	**323**	*i* P		**P**	**23 04 52.8**	**-1.6**
ZRNK				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.8							
ZRNK	**Zerenda**	**89.97**	**323**	*e*P		**P**	**23 04 52.7**	**-1.7**
	comp=Z,5.2nn,0.8s,mb4.9							
MOD	**Modoc**	**91.20**	**48**	*e*P		**P**	**23 05 00.7**	**+0.6**
	comp=Z,9.8nn,1.2s,mb5.0							
NVAR	**Mina Array Bea**	**92.43**	**52**	P		**P**	**23 05 07.6**	**+1.8**
	comp=Z,1.5nn,0.6s,mb4.5,baz=251,slow=3.7,SNR=13							
WVOR	**Wild Horse Val**	**92.48**	**48**	*e*P		**P**	**23 05 04.7**	**-1.4**
WVOR				pmax	pmax			
	comp=Z,10.0nm,1.2s,mb5.0							
WVOR	**Wild Horse Val**	**92.48**	**48**	*e*P		**P**	**23 05 04.7**	**-1.4**
	comp=Z,10nm,1.2s,mb5.0							
MNV	**Mina**	**92.55**	**52**	*e*P		**P**	**23 05 07.0**	**+0.6**
MNV				pmax	pmax			
	comp=Z,5.0nm,1.1s,mb4.9							
MNV

FINES	**FINES Array B**	**111.04**	**336**	P	Pdif	23 06 29.6	+0.4
FINES				pmax	pmax			
	comp=Z,2.0nm,0.9s							
ANN	**Anapa**	**111.11**	**316**	*e*PKIKP	PKiKP	23 10 21.3	-7.2
AKASG	**Malin Array Be**	**114.42**	**324**	PKiKP	PKiKP	23 10 34.2	-0.6
	comp=Z,0.3nm,0.3s,baz=58,slow=1.8,SNR=4.8							
AKASG	**Malin Array Be**	**114.42**	**324**	*i* PKIKP	PKiKP	23 10 34.2	-0.6
AKASG	**Malin Array Be**	**114.42**	**324**	PKPdf	PKiKP	23 10 34.2	-0.6
BRTR	**Keskin Array B**	**115.15**	**312**	PKP	PKiKP	23 10 35.5	-0.7
	comp=Z,0.4nm,0.5s,baz=117,slow=3.7,SNR=5.6							
HFS	**Hagfors**	**116.69**	**338**	PKP	PKPdf	23 10 37.7	-1.4
	comp=Z,1.4nm,0.7s,baz=192,slow=4.1,SNR=5.7							
HFS	**Hagfors**	**116.69**	**338**	PKIKP	PKPdf	23 10 37.7	-1.4
HFS				pmax	pmax			
	comp=Z,1.0nm,0.7s							
NB2	**NORSAR Subarra**	**116.93**	**340**	PKPd	PKPdf	23 10 38.5	-1.1
	comp=Z,0.9nm,0.6s,baz=45,slow=1.9							
NOA	**NORSAR Array B**	**116.93**	**340**	PKP	PKPdf	23 10 38.5	-1.1
	comp=Z,1.5nm,0.7s,baz=46,slow=2.0,SNR=4.7							
NOA	**NORSAR Array B**	**116.93**	**340**	PKIKP	PKPdf	23 10 38.5	-1.1
NOA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
OKC	**Ostrava-Krasne**	**121.06**	**327**	*e*PKPDF	PKPdf	23 10 47.4	-0.1
DPC	**Dobruska-Polom**	**121.73**	**329**	*e*PKPDF	PKPdf	23 10 48.9	+0.1
UPC	**Upice**	**121.80**	**329**	*e*PKPDF	PKPdf	23 10 54.2	+5.2
BSEG	**Bad Segeberg**	**122.29**	**335**	*e*PKPdf	PKPdf	23 10 49.6	-0.3
BRG	**Berggiesshubel**	**122.63**	**330**	*e*PKPdf	PKPdf	23 10 50.2	-0.3
BRG	**Berggiesshubel**	**122.63**	**330**	*e*PKP	PKPdf	23 10 50.3	-0.2
	comp=Z,3.6nm,1.0s							
BRG	**Berggiesshubel**	**122.63**	**330**	*e*PKIKP	PKPdf	23 10 50.3	-0.2
BRG				pmax	pmax			
	comp=Z,4.0nm,1.0s							
CLL	**Collm**	**122.81**	**331**	*e*PKPdf	PKPdf	23 10 50.3	-0.6
CLL	**Collm**	**122.81**	**331**	*e*PKPdf	PKPdf	23 10 51.0	+0.1
	comp=Z,6.0nm,0.8s							
CLL	**Collm**	**122.81**	**331**	*e*PKIKP	PKPdf	23 10 51.0	+0.1
CLL				pmax	pmax			
	comp=Z,6.0nm,0.8s							
PRU	**Pruhonice**	**122.87**	**329**	*e*PKPDF	PKPdf	23 10 50.7	-0.3
CLZ	**Clausthal**	**123.70**	**333**	*e*PKPdf	PKPdf	23 10 52.6	0.0
WERD	**Werda**	**123.70**	**331**	*e*PKPdf	PKPdf	23 10 51.8	-0.8
SDMD	**Soldier's Deli**	**123.88**	**45**	*e*PKPdf	PKPdf	23 10 52.6	-0.3
KHC	**Kasperske Hory**	**123.89**	**329**	*e*PKPDF	PKPdf	23 10 52.6	-0.4
MOX	**Moxa**	**123.91**	**331**	*e*PKPdf	PKPdf	23 10 52.6	-0.4
MOX	**Moxa**	**123.91**	**331**	*e*PKP	PKPdf	23 10 52.2	-0.8
	comp=Z,5.0nm,1.3s							
MOX	**Moxa**	**123.91**	**331**	*e*PKIKP	PKPdf	23 10 52.2	-0.8
MOX				pmax	pmax			
	comp=Z,5.0nm,1.3s							
GEC2	**GERESS Array S**	**124.00**	**328**	*e*PKPdf	PKPdf	23 10 52.7	-0.5
GERES	**GERESS Array B**	**124.00**	**328**	PKP	PKPdf	23 10 53.0	-0.2
	comp=Z,2.9nm,0.7s,baz=67,slow=1.5,SNR=36							
GERES	**GERESS Array B**	**124.00**	**328**	PKIKP	PKPdf	23 10 53.0	-0.2
GERES				pmax	pmax			
	comp=Z,3.0nm,0.7s							
GTTG	**Gvttingen**	**124.09**	**333**	*e*PKPdf	PKPdf	23 10 53.4	+0.1
MANZ	**Manzenberg**	**124.10**	**330**	*e*PKPdf	PKPdf	23 10 53.3	-0.1
WET	**Wettzell**	**124.24**	**329**	*e*PKPdf	PKPdf	23 10 53.2	-0.4
IBBN	**Ibbenburen**	**124.53**	**334**	*e*PKPdf	PKPdf	23 10 54.0	-0.2
GRA1	**Grafenberg Arr**	**124.73**	**330**	*e*PKPdf	PKPdf	23 10 54.2	-0.4
GRF	**Grafenberg Arr**	**124.73**	**330**	*e*PKPdf	PKPdf	23 10 54.2	-0.4
BUG	**Bochum--Univer**	**125.36**	**334**	*e*PKPdf	PKPdf	23 10 55.7	-0.1
FUR	**Furstenfeldbru**	**125.69**	**329**	*e*PKPdf	PKPdf	23 10 55.7	-0.7
EKA	**Eskdalemuir Ar**	**126.07**	**343**	PKP	PKPdf	23 10 57.1	0.0
	comp=Z,3.8nm,0.9s,baz=21,slow=2.8,SNR=8.5							
EKA	**Eskdalemuir Ar**	**126.07**	**343**	PKIKP	PKPdf	23 10 57.2	+0.1
EKA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
STU	**Stuttgart**	**126.33**	**331**	*e*PKPdf	PKPdf	23 10 57.4	-0.2
BFO	**Black Forest**	**127.05**	**331**	*e*PKPdf	PKPdf	23 10 58.4	-0.6
WLF	**Walferdange**	**127.14**	**333**	*e*PKPdf	PKPdf	23 11 00.1	+0.9
SNF	**Seneffe**	**127.33**	**335**	PKP	PKPdf	23 10 59.2	-0.3
GIVF	**Givet**	**127.41**	**334**	*e*PKIKP	PKPdf	23 10 59.8	+0.1
CDF	**Champ du Feu**	**127.51**	**331**	*e*PKIKP	PKPdf	23 10 59.4	-0.5
DOU	**Dourbes**	**127.51**	**334**	PKP	PKPdf	23 10 59.8	-0.1
BAIF	**Baives**	**127.70**	**335**	*e*PKIKP	PKPdf	23 11 00.4	+0.1
	comp=Z,10nm,0.9s							
HINF	**Hinteralfeld**	**128.12**	**331**	*e*PKIKP	PKPdf	23 11 00.7	-0.4
	comp=Z,18nm,1.0s							
HAU	**Haudompre**	**128.23**	**332**	*e*PKIKP	PKPdf	23 11 02.1	+0.8
	comp=Z,18nm,1.0s							
HAU				*e*R				
	comp=Z,66nm,18.2s							
HAU	**Haudompre**	**128.23**	**332**	*e*PKPdf	PKPdf	23 11 02.1	+0.8
HAU				LR	LR			
	comp=Z,70nm,18.3s,MS4.4							
MEZF	**Maizieres J'vi**	**128.48**	**333**	*e*PKIKP	PKPdf	23 11 01.1	-0.6
	comp=Z,14nm,1.0s							
CABF	**La Chapelle**	**129.34**	**330**	*e*PKIKP	PKPdf	23 11 03.8	+0.4
	comp=Z,12nm,0.8s							
LPL	**La Plagne**	**129.78**	**329**	*e*PKIKP	PKPdf	23 11 03.4	-0.8
	comp=Z,6.9nm,0.8s							
LPG	**La Plagne**	**129.78**	**329**	*e*PKIKP	PKPdf	23 11 03.8	-0.4
	comp=Z,8.0nm,0.9s							
LOR	**Lormes**	**129.93**	**332**	*e*PKIKP	PKPdf	23 11 04.7	+0.2
	comp=Z,9.8nm,0.8s							
LOR				*e*R				
	comp=Z,67nm,18.8s							
LOR	**Lormes**	**129.93**	**332**	*e*PKPdf	PKPdf	23 11 04.7	+0.2
LOR				LR	LR			
	comp=Z,70nm,18.8s,MS4.4							
SSF	**Saint Saulge**	**130.25**	**332**	*e*PKIKP	PKPdf	23 11 05.5	+0.4
	comp=Z,16nm,1.1s							
MBDF	**Montbardon**	**130.29**	**328**	*e*PKIKP	PKPdf	23 11 05.0	-0.2
	comp=Z,3.5nm,0.7s							
SMF	**Signal de Mont**	**130.40**	**332**	*e*PKIKP	PKPdf	23 11 05.6	+0.2
	comp=Z,7.8nm,0.9s							
HYF	**Humbligny**	**130.49**	**333**	*e*PKIKP	PKPdf	23 11 06.3	+0.8
SBF	**Sospel**	**130.51**	**327**	*e*PKIKP	PKPdf	23 11 05.0	-0.6
	comp=Z,27nm,1.1s							
AVF	**Avril sur Loir**	**130.52**	**332**	*e*PKIKP	PKPdf	23 11 05.6	0.0
	comp=Z,9.1nm,1.1s							
ORIF	**Oris-en-Rattie**	**130.62**	**329**	*e*PKIKP	PKPdf	23 11 05.2	-0.6
	comp=Z,5.4nm,0.6s							
ORIF				*e*R				
	comp=Z,83nm,21.5s							
LDF	**La Druitiere**	**130.63**	**336**	*e*PKIKP	PKPdf	23 11 06.1	+0.3
FLN	**La Foliniere**	**130.64**	**337**	*e*PKIKP	PKPdf	23 11 06.0	+0.2
	comp=Z,28nm,1.0s							
FLN				*e*R				
	comp=Z,69nm,20.0s							
FLN	**La Foliniere**	**130.64**	**337**	*e*PKPdf	PKPdf	23 11 06.0	+0.2
FLN				LR	LR			
	comp=Z,70nm,20.0s,MS4.4							
BGF	**Bois d'Agland**	**130.92**	**332**	*e*PKIKP	PKPdf	23 11 06.0	-0.4
	comp=Z,7.9nm,0.7s							
GRR	**Gorron**	**131.09**	**337**	*e*PKIKP	PKPdf	23 11 06.5	-0.2
	comp=Z,9.4nm,0.7s							
FRF	**La Foret Royal**	**131.14**	**327**	*e*PKIKP	PKPdf	23 11 05.8	-1.0
VIVF	**Saint-Julien-l**	**131.28**	**330**	*e*PKIKP	PKPdf	23 11 06.7	-0.4
	comp=Z,6.9nm,0.9s							
LMR	**La Mourre**	**131.37**	**327**	*e*PKIKP	PKPdf	23 11 05.7	-1.5
TCF	**Toulx Ste Croi**	**131.42**	**333**	*e*PKIKP	PKPdf	23 11 07.8	+0.5
	comp=Z,26nm,1.2s							
SMRF	**Simiane la Rot**	**131.43**	**328**	*e*PKIKP	PKPdf	23 11 07.3	0.0
	comp=Z,42nm,1.5s							
SGMF	**Saint Gilles**	**131.85**	**338**	*e*PKIKP	PKPdf	23 11 08.2	+0.1
	comp=Z,11nm,0.7s							
ROSF	**Rostrenen**	**132.05**	**338**	*e*PKIKP	PKPdf	23 11 07.3	-1.2
MFF	**Saint Martin d**	**132.22**	**335**	*e*PKIKP	PKPdf	23 11 09.2	+0.4
	comp=Z,6.3nm,0.8s							
LASF	**Ste Croix**	**132.25**	**330**	*e*PKIKP	PKPdf	23 11 08.6	-0.3
	comp=Z,8.3nm,0.8s							
QUIF	**Quistinic**	**132.36**	**338**	*e*PKIKP	PKPdf	23 11 08.5	-0.6
CAF	**Calviac**	**132.50**	**332**	*e*PKIKP	PKPdf	23 11 08.7	-0.7
LFF	**La Frestale**	**133.11**	**333**	*e*PKIKP	PKPdf	23 11 10.5	0.0
MTLF	**Montolieu**	**133.60**	**330**	*e*PKIKP	PKPdf	23 11 11.7	+0.3
	comp=Z,17nm,1.4s							
LPAZ	**La Paz**	**134.64**	**119**	PKP	PKPdf	23 11 16.1	+2.7
	comp=Z,3.6nm,0.7s,baz=292,slow=1.3,SNR=20							
LPAZ	**La Paz**	**134.64**	**119**	PKIKP	PKPdf	23 11 16.1	+2.7
LPAZ				pmax	pmax			
	comp=Z,4.0nm,0.7s							
EPF	**Esparros**	**134.75**	**331**	*e*PKIKP	PKPdf	23 11 14.0	+0.4
ETSF	**Etsaut**	**135.28**	**332**	*e*PKIKP	PKPdf	23 11 14.5	-0.1
SJPF	**Ste Jean**	**135.42**	**332**	*e*PKIKP	PKPdf	23 11 15.0	+0.2
	comp=Z,14nm,1.1s							
SDV	**Santo Domingo**	**137.06**	**82**	*e*PKPdf	PKPdf	23 11 19.3	+1.4
CPUP	**Villa Florida**	**137.58**	**139**	PKP	PKPdf	23 11 19.8	+1.0
	comp=Z,3.0nm,0.7s,baz=274,slow=1.0,SNR=10							
CPUP	**Villa Florida**	**137.58**	**139**	PKIKP	PKPdf	23 11 19.8	+1.0
CPUP				pmax	pmax			
	comp=Z,3.0nm,0.7s							
CPUP	**Villa Florida**	**137.58**	**139**	*e*PKPdf	PKPdf	23 11 18.7	-0.1
PBRG	**Braganca**	**138.87**	**336**	*e*PKP	PKPdf	23 11 22.6	+1.4
ESDC	**Sonseca Array**	**139.40**	**332**	PKP	PKPdf	23 11 22.4	+0.2
	comp=Z,0.5nm,0.7s,baz=24,slow=2.5,SNR=5.6							
PVRL	**Vila Real**	**139.71**	**337**	*e*PKP	PKPdf	23 11 25.0	+2.3
PVIS	**Viseu**	**140.25**	**336**	*e*PKP	PKPdf	23 11 23.6	-0.1
MTE	**Manteigas**	**140.38**	**336**	*e*PKP	PKPdf	23 11 24.8	+0.8
PCBR	**Castelo Branco**	**140.82**	**335**	*e*PKP	PKPdf	23 11 25.6	+0.8
PTOM	**Tomar**	**141.40**	**336**	*e*PKP	PKPdf	23 11 26.6	+0.8
LZG	**Guadaloupe-1**	**144.61**	**69**	*e*P	PKPdf	23 11 31.9	+0.4
PHG	**Guadaloupe-2**	**144.77**	**69**	*e*P	PKPdf	23 11 32.1	+0.4
SEG	**Port Louis**	**144.79**	**68**	*e*P	PKPdf	23 11 31.2	-0.6
TBG	**Guadaloupe-3**	**144.80**	**69**	*e*P	PKPdf	23 11 31.8	0.0
BBL	**Barber's Block**	**145.05**	**70**	*e*P	PKPbc	23 11 32.6	+1.0
MGG	**Marie-Galante**	**145.09**	**69**	*e*P	PKPbc	23 11 32.6	+0.8
FDF	**Fort de France**	**145.53**	**71**	*e*P	PKPdf	23 11 34.4	+1.3
CRM	**Caravelle**	**145.75**	**71**	*e*P	PKPdf	23 11 34.7	+1.3
TPP	**Pointe-a-Pierr**	**145.98**	**79**	*e*P	PKPdf	23 11 36.2	+2.4
TRN	**Trinidad (W)**	**145.99**	**78**	*e*P	PKPdf	23 11 36.1	+2.3
TBH	**Brigand Hill**	**146.34**	**79**	*e*P	PKPdf	23 11 37.4	+3.0
TPR	**Prospect**	**146.53**	**77**	*e*P	PKPdf	23 11 38.1	+3.3
TORD	**Torodi Ar. Bea**	**150.03**	**288**	PKPbc	PKPbc	23 11 45.4	-0.1
	comp=Z,28nm,0.7s,baz=43,slow=1.8,SNR=83							
PMPS	**Porto Santo**	**150.14**	**341**	*e*PKPbc	PKPbc	23 11 46.3	+0.6
BDFB	**Brasilia**	**151.20**	**136**	PKP	PKPdf	23 11 44.2	+1.9
	comp=Z,6.4nm,0.9s,baz=208,slow=0.9,SNR=8.5							
BDFB				PKPbc	PKPbc	23 11 49.3	+1.1
	comp=Z,16nm,0.7s,baz=276,slow=1.7,SNR=23							
BAO	**Brasilia Array**	**151.22**	**136**	PKPdf	PKPdf	23 11 47.0	+4.7

*ISCJB **13** 22:56:40.5±0.6, 2431S×004×6716W×009, h191km±12km, mb3.7/2, Error ellipse: s-maj=12.9km s-min=6.7km az=13.9*
*IDC **13** 22:56:41.4±1.0, 2426S×67.14W, h175km±12km, mb3.7/2, mb1 3.7/6, mb1mx3.4/15, mbtmp4.1/6, Error ellipse: s-maj=21.0km s-min=13.5km az=68.0*
*NEIC **13** 22:56:41.3±0.7, 2421S×6705W, h176km±11km, mb4.5/1, Error ellipse: s-maj=14.1km s-min=10.9km az=125.0*
*GUC **13** 22:56:42.9±0.8, 2419S×6747W, h200km, ML4.3*

ISC 13 22:56:41.3±0.6, 2431S×004×6714W×008, h182km±11km, n23, σ1s23/34, mb3.7/2, 4C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.35**	**316**	⇑*i*P	**Pn**	**22 57 23.4**	**+1.0**
LVC				*i* S	**Sn**	**22 57 53.5**	**-0.8**
LVC				AML	AML	22 57 56.2	
	comp=E,531nm,0.3s						
LVC	**Limon Verde**	**2.35**	**316**	P	**Pn**	**22 57 23.4**	**+1.0**
	comp=E,63nm,0.3s,baz=136,slow=6.1,SNR=153						
LVC				S	**Sn**	**22 57 53.5**	**-0.7**
	comp=E,85nm,0.3s,baz=15,slow=23,SNR=30						
LVC	**Limon Verde**	**2.35**	**316**	⇑*i*Pn	**Pn**	**22 57 23.2**	**+0.9**
LVC				*e*Sn	**Sn**	**22 57 54.4**	**+0.2**
CEN1	**Los Morros**	**2.95**	**287**	⇓*i*P	**Pn**	**22 57 31.4**	**+2.0**
CEN1				*i* S	**Sn**	**22 58 07.3**	**+0.4**
CEN1				AML	AML	22 58 10.1	
	comp=E,277nm,0.4s						
CPN1	**Cerro Paranal**	**3.00**	**263**	*e*P	**Pn**	**22 57 31.2**	**+1.2**
CPN1				*e*S	**Sn**	**22 58 07.4**	**-0.5**
CPN1				AML	AML	22 58 08.2	
	comp=E,484nm,0.5s						
CRCH	**Chaqaral**	**3.75**	**237**	⇓*i*P	**Pn**	**22 57 40.1**	**+0.8**
CRCH				*i* S	**Sn**	**22 58 23.7**	**-0.9**
CRCH				AML	AML	22 58 25.6	
	comp=N,629nm,0.3s						
CRCH	**Chaqaral**	**3.75**	**237**	⇓*i*P	**Pn**	**22 57 40.1**	**+0.8**
CRCH				*i* S	**Sn**	**22 58 23.7**	**-0.9**
CDCH	**Caldera**	**4.32**	**230**	⇑*i*P	**Pn**	**22 57 46.5**	**-0.1**
CDCH				*i* S	**Sn**	**22 58 35.6**	**-2.0**
CDCH				AML	AML	22 58 37.6	
	comp=E,184nm,0.3s						
CDCH	**Caldera**	**4.32**	**230**	⇑*i*P	**Pn**	**22 57 46.5**	**-0.1**
CDCH				*i* S	**Sn**	**22 58 35.6**	**-2.0**
CFAA	**Coronel Fontan**	**7.33**	**187**	P	**Pn**	**22 58 28.1**	**+2.3**
	comp=E,0.1nm,0.3s,baz=23,slow=13,SNR=3.7						
CFAA				S	**Sn**	**22 59 47.5**	**-0.9**
	comp=E,0.2nm,0.3s,baz=315,slow=13,SNR=7.1						
CFAA	**Coronel Fontan**	**7.33**	**187**	P	**Pn**	**22 58 28.1**	**+2.3**
CFAA				S	**Sn**	**22 59 47.5**	**-0.9**
LPAZ	**La Paz**	**8.04**	**353**	P	**Pn**	**22 58 35.6**	**+0.6**
	comp=E,0.9nm,0.3s,baz=176,slow=8.2,SNR=25						
LPAZ	**La Paz**	**8.04**	**353**	P	**Pn**	**22 58 35.6**	**+0.6**
LPAZ				*e*Sn	**Sn**	**23 00 04.0**	**-1.1**
CPUP	**Villa Florida**	**9.10**	**105**	P	**Pn**	**22 58 49.7**	**+0.7**
	comp=E,0.2nm,0.3s,baz=281,slow=13,SNR=6.1						
CPUP	**Villa Florida**	**9.10**	**105**	*e*Pn	**Pn**	**22 58 49.2**	**+0.2**
	comp=E,7.4nm,0.4s						
SIV	**San Ignacio**	**10.04**	**36**	P	**Pn**	**22 58 58.3**	**-3.0**
	comp=E,0.5nm,0.3s,baz=218,slow=11,SNR=12						
SIV				S	**Sn**	**23 00 39.5**	**-14**
	comp=E,0.3nm,0.3s,baz=235,slow=20,SNR=3.5						
BDFB	**Brasilia**	**19.92**	**68**	P	**P**	**23 00 59.7**	**+0.7**
	comp=E,1.9nm,0.3s,baz=248,slow=10,SNR=32						
BAO	**Brasilia Array**	**19.94**	**68**	P	**P**	**23 00 57.0**	**-2.2**
TORD	**Torodi Ar. Bea**	**76.80**	**69**	P	**P**	**23 08 13.7**	**+0.9**
	comp=E,0.8nm,0.6s,mb3.5,baz=261,slow=6.1,SNR=25						
ULM	**Lac du Bonnet**	**78.48**	**342**	P	**P**	**23 08 21.5**	**-0.6**
	comp=E,1.5nm,0.5s,mb3.9,baz=120,slow=5.1,SNR=3.2						
ULM	**Lac du Bonnet**	**78.48**	**342**	P	**P**	**23 08 21.5**	**-0.6**
ASAR	**Alice Springs**	**128.12**	**205**	PKP	PKPdf	23 15 28.4	+2.8
	comp=E,0.4nm,0.5s,baz=110,slow=1.8,SNR=5.4						
MKAR	**Makanchi Array**	**146.84**	**40**	PKPbc	PKPbc	23 16 02.4	+0.4
	comp=E,0.5nm,0.6s,baz=306,slow=3.3,SNR=6.3						

*THE **13** 23:11:20.0, 3747N×2067E, h10km*
*ISCJB **13** 23:11:20.2±1.4, 3754N±006×205E±0.1, h10km, Error ellipse: s-maj=14.5km s-min=7.2km az=123.0*
*NEIC **13** 23:11:21.7, 3763N×2046E, h24km, MD3.6(ATH), After ATH.*
*ATH **13** 23:11:22.9, 3768N×2057E, h24km±2km, MD3.6/6*
*CSEM **13** 23:11:24.6±0.6, 3768N×2067E, h20km, MD3.6, Error ellipse: s-maj=12.9km s-min=3.3km az=63.0*

ISC 13 23:11:21.3±1.4, 3754N±007×206E±01, h10km, n21, σ0s98/25, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.64**	**3**	*e*PB	**Pg**	**23 11 33.4**	**-0.3**
VLS				*e*SB	**Sg**	**23 11 41.4**	**-0.6**
ITM	**Ithomi**	**1.15**	**108**	*e*PN	**Pn**	**23 11 45.5**	**+2.0**
LKD	**Levkas**	**1.17**	**4**	*e*Pg	**Pg**	**23 11 42.0**	**-1.8**
LKD				*e*Sg	**Sg**	**23 12 00.7**	**+1.8**
EVR	**Evrytania**	**1.69**	**35**	*e*PN	**Pn**	**23 11 52.0**	**+1.0**
IGT	**Igoumenitsa**	**2.00**	**355**	*e*Pn	**Pn**	**23 11 56.1**	**+1.0**
IGT				*e*Sn	**Sn**	**23 12 23.8**	**+3.6**
AGG	**Agios Georgios**	**2.04**	**43**	*e*Pn	**Pn**	**23 11 55.1**	**-0.6**
AGG				*e*Sn	**Sn**	**23 12 21.9**	**+0.8**
MGER	**Gerania Oros**	**2.19**	**77**	*e*PB	**Pb**	**23 12 00.0**	**-1.1**
KEK	**Kerkira**	**2.25**	**345**	*e*PN	**Pn**	**23 11 58.0**	**-0.6**
PTL	**Penteli**	**2.67**	**78**	*e*Pn	**Pn**	**23 12 05.5**	**+1.1**
XOR	**Xorichti**	**2.76**	**48**	*e*Pn	**Pn**	**23 12 05.2**	**-0.4**
LIT	**Litokhoron**	**2.97**	**30**	*e*Pn	**Pn**	**23 12 08.6**	**+0.1**
AOS	**Alonnisos**	**3.08**	**57**	*e*Pn	**Pn**	**23 12 09.1**	**-0.9**
FNA	**Florina**	**3.30**	**11**	*e*Pn	**Pn**	**23 12 14.0**	**+0.9**
PAIG	**Paliouri**	**3.42**	**45**	*e*Pn	**Pn**	**23 12 13.4**	**-1.2**
THE	**Thessaloniki**	**3.62**	**31**	*e*Pn	**Pn**	**23 12 17.3**	**0.0**
GRG	**Griva**	**3.70**	**22**	*e*Pn	**Pn**	**23 12 19.1**	**+0.5**
GRG	**Griva**	**3.70**	**22**	*e*Pn	**Pn**	**23 12 19.0**	**+0.4**
OUR	**Ouranopolis**	**3.87**	**43**	*e*Pn	**Pn**	**23 12 19.9**	**-0.9**
SOH	**Sokhos**	**3.94**	**33**	*e*Pn	**Pn**	**23 12 21.9**	**+0.1**
KNT	**Kendrikon**	**4.05**	**26**	*e*Pn	**Pn**	**23 12 22.9**	**-0.4**
SRS	**Serrai**	**4.28**	**32**	*e*Pn	**Pn**	**23 12 26.1**	**-0.5**

*MOS **13** 23:14:11.9±0.9, 1975N×12123E, h33km, mb4.6/8, Error ellipse: s-maj=26.0km s-min=10.3km az=112.1*
*BJI **13** 23:14:12.8, 1992N×12129E, h25km, mB4.4, mb4.5*
*IDC **13** 23:14:14.4±0.7, 1974N×12128E, h41km±5km, mb3.8/14, mb1 4.0/15, mb1mx3.9/22, mbtmp4.1/15, ML4.2/1, MS3.6/5, Ms1 3.6/5, ms1mx3.1/29, Error ellipse: s-maj=24.6km s-min=13.7km az=67.0*
*NEIC **13** 23:14:14.5±0.3, 1976N×12134E, mb4.5/6, Error ellipse: s-maj=11.3km s-min=6.4km az=81.0*
*ISCJB **13** 23:14:14.2±0.3, 1996N±003×12123E±008, h42km, mb4.1/25, MS3.6/5, Error ellipse: s-maj=11.4km s-min=3.9km az=161.1*
*MAN **13** 23:14:34.7, 1841N×12157E, h12km, mb3.2, ML4.5, MS2.2*

ISC 13 23:14:15.8±0.3, 1991N±003×12126E±008, h44km, h44km±1.2km: pP-P, n56, σ1s10/57, mb4.1/25, MS3.6/5, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.82**	**156**	*e*P	**Pn**	**23 14 45.1**	**+0.5**
SGCP				*e*S	**Sn**	**23 15 08.2**	**+1.7**
APYP	**Conner**	**2.04**	**181**	*e*P	**Pn**	**23 14 47.2**	**-0.5**
APYP				*e*S	**Sn**	**23 15 12.8**	**+0.9**
CVP	**Callao Caves**	**2.26**	**166**	⇓*e*P	**Pn**	**23 14 51.0**	**+0.3**
CVP				*i* S	**Sn**	**23 15 22.0**	**+4.7**
ABRA	**Dolores**	**2.31**	**193**	*e*P	**Pn**	**23 14 54.5**	**+3.1**
CAUP	**Cauayan**	**3.00**	**170**	*e*P	**Pn**	**23 15 02.0**	**+1.2**
PALP	**Palanan**	**3.04**	**159**	*e*P	**Pn**	**23 15 01.2**	**-0.2**
BALP	**Baler**	**4.16**	**176**	*e*P	**Pn**	**23 15 18.0**	**+1.2**
NACB	**Ninganchiao**	**4.25**	**4**	*e*Pn	**Pn**	**23 15 16.9**	**-1.1**
NACB				*e*Sn	**Sn**	**23 16 07.9**	**+1.6**
YHNB	**Yeheng**	**4.73**	**1**	*e*Pn	**Pn**	**23 15 26.3**	**+1.7**
YHNB				*e*Sn	**Sn**	**23 16 24.2**	**+5.9**
JOW	**Kunigami**	**9.43**	**42**	P	**Pn**	**23 16 29.1**	**+0.1**
	4.6nm,0.3s,baz=289,slow=26,SNR=6.2						
JOW				LR	LR	23 20 30.2	
	comp=Z,192nm,19.3s,baz=308,slow=39						
KS15	**Wonju Array Si**	**18.39**	**17**	*e*P	**Pn**	**23 18 27.0**	**-0.5**
BJT	**Baijiatuau**	**20.51**	**349**	*e*P	**P**	**23 18 50.7**	**+0.5**
BJT				pmax	pmax		
	comp=Z,27nm,0.9s						
BJT	**Baijiatuau**	**20.51**	**349**	*e*P	**P**	**23 18 50.7**	**+0.5**
	comp=Z,27nm,0.9s						
BJI	**Beijing**	**20.53**	**349**	P	**P**	**23 18 50.8**	**+0.4**
BJI				AMB	AMB		
	comp=Z,19nm,1.0s						
BJI				AMB	AMB		
	comp=Z,91nm,5.5s						
LZH	**Lanzhou**	**22.22**	**320**	*e*P	**P**	**23 19 08.6**	**+0.1**
LZH				AP		23 19 20.1	
LZH				XP	sP	23 19 24.5	-0.2
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.5						
MJAR	**Matsushiro Arr**	**22.24**	**38**	P	**P**	**23 19 10.4**	**+1.6**
	comp=Z,1.1nm,0.8s,mb3.4,baz=240,slow=13,SNR=3.1						
HHC	**Hu-ho-hao-te**	**22.45**	**340**	*e*P	**P**	**23 19 10.5**	**-0.5**
HHC				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.0						
HHC				AMB	AMB		
	comp=Z,95nm,4.4s						
GUMO	**Guam**	**23.45**	**102**	LR	LR	23 26 03.7	
	comp=Z,121nm,20.6s,MS3.3,baz=218,slow=30						
LSA	**Lhasa**	**28.95**	**296**	*e*P	**

CSEM ***13*** *23:53:22.2, 56.07S, 27.56W, h33km, mb5.6*
MOS ***13*** *23:53:27.5±0.8, 56.09S, 27.64W, h72km, mb5.3/14, Error ellipse: s-maj=22.3km s-min=11.1km az=105.2*
ISCJB ***13*** *23:53:29.4±1.7, 56.09S±0.005, 27.77W±0.1, h90km±16km, mb5.2/31, Error ellipse: s-maj=12.1km s-min=6.5km az=107.6*
HRVD ***13*** *23:53:31.8±0.2, 56.32S, 27.40W, h90km±2km, MW5.1/77, Centroid moment Tensor Solution. LP body waves: s44,c59; Mantle waves: s77,c112; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=3.17±.16; Mθθ=2.67±.17; Mϕϕ=0.50±.16; Mrθ=-2.24±.11; Mrϕ=2.56±.14; Mθϕ=1.75±.10; Best double couple: M=4.72300×10^16 NP1: ϕs=242.00000°, δ=27.00000°, λ=-82.00000°. NP2: ϕs=53.00000°, δ=64.00000°, λ=-94.00000°. Principal axes: T 5.3140, Plg18.0000°, Azm146.0000°; N -1.1780, Plg4.0000°, Azm55.0000°; P -4.1320, Plg71.0000°, Azm314.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***13*** *23:53:31.8±0.1, 56.05S, 27.61W, mb5.3/23 Error ellipse: s-maj=7.4km s-min=5.4km az=208.0*
BJI ***13*** *23:53:31.7, 56.00S, 27.60W, h101km, mB5.3*
IDC ***13*** *23:53:32.3±0.6, 56.16S, 27.74W, h105km±4km, mb4.6/15, mb1 4.7/16, mb1mx4.7/17, mbtmp5.0/16, MS4.0/7, Ms1 4.0/7, ms1mx3.9/11, Error ellipse: s-maj=14.1km s-min=10.7km az=38.0*
ISC 13 23:53:31.1±1.4, 5622S±005×277W±01, h95km±13km, h99km±3.2km; pP-P, n216, σ0≈91/70, mb5.2/31, 9C-15D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**5.38**	**287**	⇑	*e*Pn	**Pn**	**23 54 49.7**	**+0.8**
	372nm,0.5s							
HOPE					*e*Sn	**Sn**	**23 55 46.1**	**-3.3**
EFI	**East Falkland**	**18.34**	**272**		*e*P	**Pn**	**23 57 38.9**	**-0.3**
EFI					pmax	pmax		
	comp=Z,151nm,0.6s							
EFI	**East Falkland**	**18.34**	**272**		*e*Pn	**Pn**	**23 57 38.9**	**-0.3**
	comp=Z,150nm,0.6s							
SNAA	**Sanae**	**18.71**	**155**		P	**Pn**	**23 57 42.8**	**-0.7**
	comp=Z,21nm,0.3s,baz=307,slow=10,SNR=1801							
SNAA					PcP	PcP	00 02 05.9	-0.3
	comp=Z,0.4nm,0.3s,baz=232,slow=9.6,SNR=3.8							
SNAA					ScP	ScP	00 05 29.4	-3.7
	comp=Z,0.2nm,0.3s,baz=260,slow=1.3,SNR=11							
SNAA	**Sanae**	**18.71**	**155**	⇑	*i*P	**Pn**	**23 57 42.9**	**-0.6**
SNAA					*e*S	**S**	**00 01 08.7**	**-1.4**
PMSA	**Palmer Station**	**19.57**	**229**		*e*P	**Pn**	**23 57 54.6**	**+1.0**
	comp=Z,218nm,0.7s							
MAIT	**Maitri**	**22.26**	**146**	⇑	*i*P	**P**	**23 58 20.0**	**-0.3**
NVL	**N'lazarevskaya**	**22.29**	**146**		*c*P	**P**	**23 58 19.8**	**-0.7**
NVL					*e**SP		23 58 33.1	
NVL					pmax	pmax		
	comp=Z,30nm,0.6s,mb4.8							
USHA	**Ushuaia**	**22.86**	**256**		P	**P**	**23 58 26.5**	**-0.1**
	comp=Z,81nm,0.9s,mb5.0,baz=78,slow=7.7,SNR=22							
TRQA	**Tornquist**	**29.12**	**294**	⇓	*e*P	**P**	**23 59 22.6**	**-0.3**
	comp=Z,41nm,0.6s,mb5.2							
TRQA					*e*pP	pP	23 59 45.1	+0.9
SYO	**Syowa Base**	**31.64**	**141**	⇓	*e*P	**P**	**23 59 44.6**	**-0.6**
SYO	**Syowa Base**	**31.64**	**141**	⇓	*e*ScP	ScP	00 06 05.8	-3.9
PLCA	**Paso Flores**	**31.74**	**281**		*e*P	**P**	**23 59 44.8**	**-1.2**
PLCA					pmax	pmax		
	comp=Z,18nm,0.8s							
PLCA	**Paso Flores**	**31.74**	**281**		*e*P	**P**	**23 59 44.8**	**-1.2**
	comp=Z,18nm,0.8s,mb4.9							
CAM4	**Nova Friburgo**	**35.55**	**336**	⇓	*i*P	**P**	**00 00 20.7**	**+1.6**
CAM4					*i*		00 00 22.6	
CAM4					*i*		00 00 26.7	
CAM3	**Guarapari**	**36.70**	**340**	⇓	*i*P	**P**	**00 00 29.7**	**+0.8**
CAM3					*i*		00 00 35.2	
CPUP	**Villa Florida**	**36.70**	**312**		P	**P**	**00 00 28.4**	**-0.5**
	comp=Z,11nm,0.5s,mb5.0,baz=134,slow=7.2,SNR=62							
CPUP					pP	pP	00 00 50.5	-0.2
	comp=Z,12nm,0.8s,baz=134,slow=8.1,SNR=3.7							
CPUP					PcP	PcP	00 02 49.2	-0.4
	comp=Z,4.5nm,0.4s,baz=154,slow=1.7,SNR=13							
CPUP					ScP	ScP	00 06 23.9	-3.8
	comp=Z,5.2nm,1.1s,baz=141,slow=4.6,SNR=3.7							
CPUP	**Villa Florida**	**36.70**	**312**	⇓	*i*P	**P**	**00 00 28.2**	**-0.6**
	comp=Z,159nm,1.0s,mb5.9							
CPUP					*e*pP	pP	00 00 49.1	-1.6
CPUP					*i* PcP	PcP	00 02 49.3	-0.3
MAW	**Mawson**	**40.19**	**144**		*e*P	**P**	**00 00 58.5**	**+0.4**
	comp=Z,22nm,0.6s,mb5.2							
MAW	**Mawson**	**40.19**	**144**		P	**P**	**00 00 58.6**	**+0.5**
	comp=Z,24nm,0.6s,mb5.2,baz=233,slow=7.8,SNR=68							
MAW					PcP	PcP	00 03 00.6	+0.1
	comp=Z,3.4nm,0.5s,baz=225,slow=1.4,SNR=2.8							
MAW					ScP	ScP	00 06 37.9	-3.1
	comp=Z,17nm,0.8s,baz=264,slow=6.5,SNR=15							
MAW					LR	LR	00 14 37.4	
	comp=Z,211nm,21.6s,baz=255,slow=31							
MAW	**Mawson**	**40.19**	**144**		P	**P**	**00 00 58.6**	**+0.5**
MAW							00 03 00.6	
MAW					pmax	pmax		
	comp=Z,24nm,0.6s							
SUR	**Sutherland**	**40.97**	**75**		P	**P**	**00 01 05.5**	**+1.0**
	comp=Z,3.5nm,0.7s,mb4.3,baz=196,slow=13,SNR=6.0							
SUR					pP	pP	00 01 29.1	+2.5
	comp=Z,22nm,0.9s,baz=221,slow=6.0,SNR=7.8							
SUR					PcP	PcP	00 03 03.9	+0.9
	comp=Z,7.8nm,0.8s,baz=225,slow=4.3,SNR=4.5							
SUR					LR	LR	00 15 15.7	
	comp=Z,230nm,18.6s,baz=329,slow=32							
SUR	**Sutherland**	**40.97**	**75**		*e*P	**P**	**00 01 04.6**	**+0.1**
	comp=Z,35nm,1.1s,mb5.1							
SUR					*e*pP	pP	00 01 29.9	+3.3
BAO	**Brasilia Array**	**43.36**	**331**		P	**P**	**00 01 22.0**	**-1.9**
BDFB	**Brasilia**	**43.36**	**331**		P	**P**	**00 01 24.9**	**+1.0**
	comp=Z,15nm,0.6s,mb4.9,baz=153,slow=5.3,SNR=22							
BDFB					PcP	PcP	00 03 11.8	+0.8
	comp=Z,4.8nm,0.6s,baz=58,slow=1.6,SNR=2.7							
BDFB					LR	LR	00 17 49.1	
	comp=Z,134nm,19.9s,baz=220,slow=34							
LVC	**Limon Verde**	**45.13**	**301**	⇓	*i*P	**P**	**00 01 38.9**	**+0.9**
	comp=Z,84nm,0.6s,mb5.7							
LVC					*e*PcP	PcP	00 03 17.5	+0.5
SBA	**Scott Base**	**45.89**	**184**		*e*P	**P**	**00 01 45.6**	**+1.5**
SBA					*e*		00 03 21.0	
SBA					pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8							
SBA	**Scott Base**	**45.89**	**184**		*e*P	**P**	**00 01 45.6**	**+1.5**
	comp=Z,16nm,0.9s,mb4.8							
SBA					*e*PcP	PcP	00 03 20.9	+1.3
VNDA	**Vanda**	**46.39**	**183**		P	**P**	**00 01 49.0**	**+1.0**
	comp=Z,25nm,0.7s,mb5.0,baz=188,slow=7.5,SNR=104							
VNDA					ScP	ScP	00 07 02.7	-3.4
	comp=Z,4.5nm,1.0s,baz=220,slow=3.7,SNR=4.3							
VNDA	**Vanda**	**46.39**	**183**		P	**P**	**00 01 49.0**	**+1.0**
VNDA					pmax	pmax		
	comp=Z,25nm,0.7s							
VNDA					pmax	pmax		
	comp=N,5.0nm,1.0s							
VNDA	**Vanda**	**46.39**	**183**		*e*P	**P**	**00 01 49.0**	**+1.0**
	comp=N,20nm,0.6s,mb5.0							
VNDA					ScP	ScP	00 07 02.7	-3.4
LBTB	**Lobatse**	**49.34**	**74**		P	**P**	**00 02 10.5**	**-0.2**
	comp=N,17nm,0.7s,mb5.1,baz=231,slow=8.4,SNR=47							
LBTB					pP	pP	00 02 35.3	+1.8
	comp=N,20nm,0.8s,baz=229,slow=8.5,SNR=7.8							
LBTB					ScP	ScP	00 07 16.1	-2.5
	comp=N,2.6nm,0.7s,baz=209,slow=5.2,SNR=6.4							
LBTB	**Lobatse**	**49.34**	**74**	⇓	*e*P	**P**	**00 02 10.3**	**-0.4**
LBTB					*e**PP	pP	00 02 35.3	+1.9
LBTB					*e*		00 03 30.3	
LBTB					pmax	pmax		
	comp=Z,26nm,0.9s,mb5.2							
LBTB	**Lobatse**	**49.34**	**74**		P	**P**	**00 02 10.5**	**-0.2**
LBTB					*PP	pP	00 02 35.3	+1.9
LBTB					pmax	pmax		
	comp=Z,17nm,0.7s,mb5.1							
LBTB	**Lobatse**	**49.34**	**74**	⇓	*e*P	**P**	**00 02 10.3**	**-0.4**
	comp=Z,26nm,0.9s,mb5.2							
LBTB					*e*pP	pP	00 02 35.3	+1.9
LBTB					*e*PcP	PcP	00 03 30.3	-1.6
MIR	**Mirnyy**	**49.77**	**153**	⇑	*i*P	**P**	**00 02 14.0**	**0.0**
MIR					pmax	pmax		
	comp=Z,250nm,0.9s,mb6.1							
TSUM	**Tsumeb**	**50.02**	**61**		*e*P	**P**	**00 02 15.8**	**-0.1**
	comp=Z,18nm,0.8s,mb5.0							
LPAZ	**La Paz**	**50.23**	**306**		P	**P**	**00 02 18.8**	**+1.3**
	comp=Z,32nm,0.4s,mb5.6,baz=120,slow=5.6,SNR=194							
LPAZ					PcP	PcP	00 03 36.7	+1.5
	comp=Z,7.0nm,0.4s,baz=221,slow=3.4,SNR=2.1							
LPAZ					LR	LR	00 22 30.5	
	comp=Z,78nm,20.1s,baz=2.8,slow=35							
RCBR	**Riachuelo**	**50.67**	**349**		*e*P	**P**	**00 02 18.9**	**-1.8**
	comp=Z,11nm,0.6s,mb5.1							
RCBR					*e*pP	pP	00 02 43.0	-0.6
RCBR					*e*sP	sP	00 02 53.1	-1.1
RCBR					*e*PcP	PcP	00 03 35.8	-1.0
CASY	**Casey**	**53.85**	**161**		*e*P	**P**	**00 02 45.0**	**+0.7**
SAML	**Samuel**	**54.71**	**315**	⇓	*e*P	**P**	**00 02 50.0**	**-0.6**
	comp=Z,54nm,1.0s,mb5.5							
NNA	**Nana**	**58.07**	**299**		*e*P	**P**	**00 03 14.5**	**+0.1**
	comp=Z,61nm,0.9s,mb5.6							
LSZ	**Lusaka**	**58.71**	**69**		*e*P	**P**	**00 03 18.6**	**-0.2**
LSZ					*e**PP	pP	00 03 43.3	+1.1
LSZ					*e*		00 04 07.6	
LSZ					*e*		00 05 27.1	
LSZ					pmax	pmax		
	comp=Z,27nm,0.8s,mb5.3							
LSZ	**Lusaka**	**58.71**	**69**		*e*P	**P**	**00 03 18.6**	**-0.2**
	comp=Z,27nm,0.8s,mb5.3							
LSZ					*e*pP	pP	00 03 43.3	+1.1
LSZ					*e*PcP	PcP	00 04 07.6	-0.1
LSZ					*e*PP	PP	00 05 27.1	-2.4
OTAV	**Otavalo**	**69.50**	**304**	⇓	*i*P	**P**	**00 04 30.2**	**+0.8**
	comp=Z,106nm,1.1s,mb5.6							
OTAV					*e*PcP	PcP	00 04 49.9	-2.2
ROSC	**El Rosal**	**71.78**	**310**		P	**P**	**00 04 43.5**	**+0.2**
	comp=Z,8.5nm,0.4s,mb5.0,baz=73,slow=3.7,SNR=12							
ROSC					LR	LR	00 34 20.1	
	comp=Z,88nm,21.7s,baz=19,slow=34							
TORD	**Torodi Ar. Bea**	**73.34**	**30**		P	**P**	**00 04 52.6**	**+0.1**
	comp=Z,138nm,0.6s,mb6.0,baz=200,slow=6.6,SNR=1597							
SDV	**Santo Domingo**	**73.92**	**316**	⇓	*i*P	**P**	**00 04 55.7**	**-0.2**
	comp=Z,47nm,0.9s,mb5.2							
KMBO	**Kilima Mbogo**	**75.37**	**69**		P	**P**	**00 05 05.6**	**+1.3**
	comp=Z,1.1nm,0.5s,baz=228,slow=19,SNR=3.7							
KMBO					LR	LR	00 35 41.3	
	comp=Z,95nm,18.3s,baz=94,slow=34							
BBL	**Barber's Block**	**76.87**	**327**		*e*P	**P**	**00 05 12.9**	**+0.2**
SCG	**Saint Claude**	**77.41**	**327**		*e*P	**P**	**00 05 16.6**	**+0.8**
DEG	**La Desirade**	**77.49**	**327**		*e*P	**P**	**00 05 16.6**	**+0.3**
SEG	**Port Louis**	**77.71**	**327**		*e*P	**P**	**00 05 17.4**	**0.0**
MTP	**Monte Pirata**	**80.58**	**324**		*e*P	**P**	**00 05 31.4**	**-1.7**
SJG	**San Juan**	**80.80**	**323**		*e*P	**P**	**00 05 32.6**	**-1.7**
SJG					pmax	pmax		
	comp=Z,24nm,1.1s							
SJG	**San Juan**	**80.80**	**323**		*e*P	**P**	**00 05 32.6**	**-1.7**
	comp=Z,24nm,1.1s,mb4.9							
TAU	**Tasmania Unive**	**81.16**	**176**		*e*P	**P**	**00 05 36.7**	**+0.5**
TAU					*e**PP	pP	00 05 59.7	-1.1
JTS	**JuntasAbangare**	**81.36**	**303**		P	**P**	**00 05 37.4**	**+0.2**
	comp=Z,391nm,1.1s,mb6.2,SNR=9.8							
JTS	**JuntasAbangare**	**81.36**	**303**		*e*P	**P**	**00 05 37.3**	**+0.1**
JTS					pmax	pmax		
	comp=Z,97nm,1.2s							
JTS	**JuntasAbangare**	**81.36**	**303**		*e*P	**P**	**00 05 37.2**	**0.0**
	comp=Z,97nm,1.2s,mb5.5							
URZ	**Urewera**	**83.55**	**199**		P	**P**	**00 05 48.5**	**-0.2**
	comp=Z,11nm,0.9s,mb4.7,baz=185,slow=4.9,SNR=4.8							
NWAO	**Narrogin (SRO)**	**86.33**	**151**		P	**P**	**00 06 03.0**	**+0.5**
	comp=Z,4.2nm,0.6s,mb4.6,baz=210,slow=21,SNR=5.1							
NWAO	**Narrogin (SRO)**	**86.33**	**151**		P	**P**	**00 06 03.0**	**+0.5**
NWAO					pmax	pmax		
	comp=Z,4.0nm,0.6s							
TBI	**Tubuai**	**86.75**	**232**		*e*LR	LR	00 32 29.2	
	comp=Z,87nm,34.5s							
MUN	**Mundaring**	**86.94**	**150**		*e*P	**P**	**00 06 06.3**	**+0.8**
KLBR	**Kellerberrin**	**87.73**	**151**		*e*P	**P**	**00 06 10.1**	**+0.8**
	comp=Z,14nm,1.0s,mb5.0							
STKA	**Stephens Creek**	**91.79**	**171**		*e*P	**P**	**00 06 26.3**	**-2.0**
	comp=Z,1.7nm,0.6s,mb4.5							
STKA	**Stephens Creek**	**91.79**	**171**		P	**P**	**00 06 26.5**	**-1.8**
	comp=Z,2.6nm,0.6s,mb4.6,baz=185,slow=5.6,SNR=7.0							
PPT	**Papeete**	**91.86**	**234**		*e*LR	LR	00 34 51.1	
	comp=Z,109nm,30.5s							
PPT	**Papeete**	**91.86**	**234**		LR	LR	00 38 44.5	
	comp=Z,220nm,19.4s,baz=185,slow=30							
ESDC	**Sonseca Array**	**97.63**	**18**		P	**P**	**00 06 54.3**	**-0.7**
	comp=Z,1.6nm,0.7s,mb4.6,baz=186,slow=4.6,SNR=17							
ASAR	**Alice Springs**	**98.92**	**163**		P	**P**	**00 07 00.5**	**-0.3**
	comp=Z,2.7nm,0.8s,mb4.8,baz=192,slow=4.3,SNR=19							
ASAR					pP	pP	00 07 26.3	+0.4
	comp=Z,2.0nm,0.8s,baz=178,slow=4.8,SNR=4.5							
ASAR					PP	PP	00 11 00.1	-3.4
	comp=Z,1.4nm,0.6s,baz=191,slow=6.4,SNR=7.2							
ASAR					PKKPbc	PKKPbc	00 23 25.6	-1.4
	comp=Z,1.5nm,0.6s,baz=19,slow=2.1,SNR=23							
TIP	**Timpagrande**	**102.24**	**34**		*e*Pdif	Pdif	00 07 16.0	+0.5
WRA	**Warramunga Arr**	**102.84**	**163**		PKKPbc	PKKPbc	00 23 15.2	-1.1
	comp=Z,1.8nm,0.3s,baz=0.1,slow=3.2,SNR=7.6							
BRTR	**Keskin Array B**	**108.75**	**46**		PKKPab	PKKPab	00 23 10.0	-0.8
	comp=Z,0.7nm,0.9s,baz=64,slow=2.9,SNR=4.7							
GERES	**GERESS Array B**	**110.24**	**28**		PKiKP	PKiKP	00 11 49.9	-2.0
	comp=Z,0.5nm,0.6s,baz=205,slow=5.4,SNR=4.4							
GERES	**GERESS Array B**	**110.24**	**28**	*i*	PKiKP	PKiKP	00 11 49.9	-2.0
GERES					pmax	pmax		
	comp=Z,1.0nm,0.6s							
CLL	**Collm**	**112.33**	**26**		*e*PP	PP	00 12 40.0	-2.4
EKA	**Eskdalemuir Ar**	**112.97**	**15**		PKiKP	PKiKP	00 11 54.5	-2.6
	comp=Z,1.2nm,0.8s,baz=217,slow=2.6,SNR=3.9							
EKA					PKKPbc	PKKPbc	00 22 43.1	-0.7
	comp=Z,0.6nm,0.4s,baz=349,slow=3.1,SNR=5.8							
EKA	**Eskdalemuir Ar**	**112.97**	**15**	*i*	PKiKP	PKiKP	00 11 54.5	-2.6
EKA					pmax	pmax		
	comp=Z,1.0nm,0.8s							
EKA					pmax	pmax		
	comp=Z,1.0nm,0.4s							
KULM	**Kulim**	**114.91**	**121**		PKPdf	PKiKP	00 11 59.4	-1.4
SCHQ	**Scheiferville**	**115.20**	**336**		PKP	PKPdf	00 11 58.1	-3.2
	comp=Z,3.7nm,0.5s,baz=204,slow=0.6,SNR=14							
SMCO	**Snowmass**	**116.16**	**302**		*e*PKPdf	PKPdf	00 12 02.4	-0.9
SMCO					*e*PP	PP	00 13 08.1	-1.4
AKASG	**Malin Array Be**	**116.51**	**37**		PKP	PKPdf	00 12 01.2	-2.6
	comp=Z,2.0nm,0.6s,baz=252,slow=1.4,SNR=9.0							
AKASG	**Malin Array Be**	**116.51**	**37**		PKiKP	PKPdf	00 12 01.2	-2.7
AKASG					pmax	pmax		
	comp=Z,2.0nm,0.6s							
SRU	**San Rafael**	**117.82**	**299**		*e*PKiKP	PKPdf	00 12 04.8	-1.6
MSU	**Marysvale**	**118.17**	**298**		*e*PKiKP	PKPdf	00 12 06.6	-0.5
RSSD	**Black Hills**	**118.70**	**307**		*e*PKPdf	PKPdf	00 12 06.1	-2.0
RSSD					SKPdf	SKPdf	00 13 32.4	-2.5
DUG	**Dugway**	**119.78**	**298**		*e*PKiKP	PKPdf	00 12 09.4	-0.8
TCUT	**Toone Canyon**	**119.80**	**300**		*e*PKPdf	PKPdf	00 12 09.6	-0.6
ULM	**Lac du Bonnet**	**120.17**	**316**		PKP	PKPdf	00 12 08.1	-2.8
	comp=Z,6.2nm,0.5s,baz=154,slow=2.1,SNR=14							
PDAR	**Pinedale Array**	**120.18**	**303**		PKP	PKPdf	00 12 09.1	-1.9
	comp=Z,1.6nm,0.5s,baz=134,slow=4.3,SNR=16							
PDAR					PP	PP	00 13 36.3	-1.0
	comp=Z,1.7nm,1.1s,baz=134,slow=6.4,SNR=4.6							
BW06	**Boulder Array**	**120.18**	**303**		*e*PKPdf	PKPdf	00 12 09.6	-1.3
HWUT	**Hardware Ranch**	**120.25**	**300**		*e*PKPdf	PKPdf	00 12 10.0	-1.0
HWUT					*e*pPKPdf	pPKPdf	00 12 36.0	-1.2
HWUT					*e*SKPdf	SKPdf	00 15 35.6	-2.3
BGU	**Big Grassy Mou**	**120.44**	**299**		*e*PKPdf	PKPdf	00 12 17.3	-5.9
SPUT	**South Promonto**	**120.45**	**300**		*e*PKPdf	PKPdf	00 12 10.4	-1.1
NB2	**NORSAR Subarra**	**120.86**	**21**		PKPd	PKPdf	00 12 09.8	-2.5
	comp=Z,0.7nm,0.6s,baz=202,slow=1.9							
NOA	**NORSAR Array B**	**120.86**	**21**		PKP	PKPdf	00 12 10.3	-1.9
	comp=Z,2.2nm,0.5s,baz=205,slow=2.0,SNR=9.2							
NOA					PKKPbc	PKKPbc	00 22 15.0	-1.0
	comp=Z,1.3nm,0.7s,baz=22,slow=3.1,SNR=4.2							
NOA	**NORSAR Array B**	**120.86**	**21**		PKiKP	PKPdf	00 12 10.3	-2.0
NOA					pmax	pmax		
	comp=Z,2.0nm,0.5s							
NOA					pmax	pmax		
	comp=Z,1.0nm,0.7s							
NOA	**NORSAR Array B**	**120.86**	**21**		PKP	PKPdf	00 12 10.3	-1.9
NOA					PKKPbc	PKKPbc	00 22 15.0	-1.0
HVU	**Hansel Valley**	**120.97**	**300**		*e*PKiKP	PKPdf	00 12 11.3	-1.1
MNV	**Mina**	**121.12**	**293**		*e*PKiKP	PKPdf	00 12 12.0	-0.7
NVAR	**Mina Array Bea**	**121.19**	**293**		PKP	PKPdf	00 12 13.0	+0.1
	comp=Z,1.4nm,0.4s,baz=122,slow=4.1,SNR=14							
NVAR	**Mina Array Bea**	**121.19**	**293**		PKP	PKPdf	00 12 13.0	+0.1
ELK	**Elko**	**121.39**	**297**		*e*PKiKP	PKPdf	00 12 12.5	-0.8
ELK					*e*		00 13 50.1	
ELK	**Elko**	**121.39**	**297**		*e*PKPdf	PKPdf	00 12 12.5	-0.8
ELK					*e*PP	PP	00 13 50.1	+4.5
ELK					SKPdf	SKPdf	00 15 36.8	-3.3
TPAW	**Teton Pass**	**121.39**	**302**		*e*PKPdf	PKPdf	00 12 12.6	-0.7
MOOW	**Moose Ponds**	**121.49**	**302**		*e*PKPdf	PKPdf	00 12 12.3	-1.2
MOOW					*e*pPKPdf	pPKPdf	00 12 38.3	-1.3
IMW	**Indian Meadow**	**121.70**	**302**		*e*PKPdf	PKPdf	00 12 13.3	-0.6
IMW					*e*PP	PP	00 13 48.9	+1.2
IMW					*e*SKPdf	SKPdf	00 15 37.6	-3.1
FLWY	**Flagg Ranch**	**121.72**	**303**		*e*PKPdf	PKPdf	00 12 13.2	-0.7
CMB	**Columbia Colle**	**121.97**	**292**		*e*PKiKP	PKPdf	00 12 13.9	-0.5
BMN	**Battle Mountai**	**122.15**	**296**		*e*PKiKP	PKPdf	00 12 13.9	-0.8
GCMT	**Greycliff**	**122.54**	**305**		*e*PKPdf	PKPdf	00 12 14.4	-1.1
QLMT	**Earthquake Lak**	**122.63**	**303**		*e*PKPdf	PKPdf	00 12 15.6	0.0
HLID	**Hailey**	**123.10**	**300**		*e*PKPdf	PKPdf	00 12 15.9	-0.7
HLID					*e*PP	PP	00 13 59.0	+1.9
DLMT	**Dillon**	**123.58**	**303**		*e*PKPdf	PKPdf	00 12 16.8	-0.7
HRY	**Holter Researc**	**124.22**	**304**		*e*PKPdf	PKPdf	00 12 18.1	-0.6
WVOR	**Wild Horse Val**	**124.35**	**296**		*e*PKiKP	PKPdf	00 12 18.8	-0.1
KOLN	**Koldanda**	**124.36**	**91**		*e*P	PKPdf	00 12 17.7	-1.3
	comp=Z,17nm,0.6s							
LBCM	**Butte Creek Ri**	**124.55**	**293**		P	PKPdf	00 12 19.1	-0.3
FINES	**FINESS Array B**	**124.67**	**28**		PKP	PKPdf	00 12 17.2	-2.3
	comp=Z,10nm,0.5s,baz=161,slow=0.9,SNR=120							
FINES					PKKPbc		00 22 00.5	
	comp=Z,1.9nm,0.9s,baz=103,slow=4.1,SNR=4.2							
FINES	**FINESS Array B**	**124.67**	**28**	⇑	*i*PKiKP	PKPdf	00 12 17.2	-2.3
LTIM	**Timbered Crate**	**124.87**	**293**		P	PKPdf	00 12 19.8	-0.1
WDC	**Whiskeytown Da**	**124.98**	**292**		*e*PKiKP	PKPdf	00 12 18.6	-1.5
DMN	**Daman**	**125.07**	**92**		*e*P	PKPdf	00 12 19.5	-0.8
	comp=Z,18nm,0.8s							
GKN	**Gorkha**	**125.12**	**91**		*e*P	PKPdf	00 12 19.2	-1.2
	comp=Z,21nm,0.8s							
PKI	**Pulchoki**	**125.21**	**92**		*e*P	PKPdf	00 12 19.7	-0.9
	comp=Z,14nm,0.6s							
LASM	**Arnica Sink**	**125.23**	**294**		P	PKPdf	00 12 20.6	-0.1
KAF	**Kangasniemi**	**125.29**	**28**		*e*P	PKPdf	00 12 17.3	-3.4
	comp=Z,11nm,0.3s							
KAF	**Kangasniemi**	**125.29**	**28**		*e*PKiKP	PKPdf	00 12 17.3	-3.4
KAF					pmax	pmax		
	comp=Z,11nm,0.3s							
KKN	**Kakani**	**125.31**	**92**		*e*P	PKPdf	00 12 19.5	-1.3
	comp=Z,16nm,0.8s							
JIRN	**Jiri**	**125.72**	**93**		*e*P	PKPdf	00 12 21.0	-0.6
	comp=Z,25nm,0.5s							
GUN	**Gumba**	**125.74**	**92**		*e*P	PKPdf	00 12 20.8	-0.8
	comp=Z,22nm,0.8s							
YBH	**Yreka Blue Hor**	**125.90**	**293**		PKP	PKPdf	00 12 20.9	-1.0
	comp=Z,4.1nm,0.8s,baz=54,slow=6.0,SNR=8.6							
YBH	**Yreka Blue Hor**	**125.90**	**293**		PKiKP	PKPdf	00 12 20.9	-1.0
YBH					pmax	pmax		
	comp=Z,4.0nm,0.8s							
FCC	**Fort Churchill**	**126.24**	**324**		*e*PKiKP	PKPdf	00 12 19.3	-3.3
HUMO	**Hull Mountain**	**126.66**	**294**		*e*PKPdf	PKPdf	00 12 22.4	-1.0
WALA	**Waterton Lakes**	**126.89**	**305**		*e*PKPdf	PKPdf	00 12 22.2	-1.6
ORR

comp=N,28nm,17.5s
WMQ LR LR
comp=Z,20nm,23.3s
DLBC Dease Lake 140.18 307 PKhKP 00 12 39.9
comp=Z,3.1nm,0.7s,baz=129,slow=5.3,SNR=4.8
DLBC SKPbc SKPbc 00 16 10.2 -6.0
comp=Z,3.2nm,0.8s,baz=179,slow=1.3,SNR=11
LZH Lanzhou 141.87 101 ePKP PKPdf 00 12 50.9 -0.8
LZH XPKP 00 13 31.5
LZH PP PP 00 16 01.6 +4.3
LZH PKS 00 16 25.3
LZH SKKS SKKSac 00 22 39.1 -2.6
LZH SS SS 00 34 23.3 +1.3
LZH PP PP
comp=Z,159nm,7.6s
LZH LR LR
comp=E,418nm,18.7s
LZH LR LR
comp=Z,746nm,20.1s
GTA Gaotai 142.01 94 ePKP PKPdf 00 12 50.3 -1.7
NVS Novosibirsk 142.38 62⇑*i* PKHKP 00 12 46.4
NVS *i* 00 15 58.3
NVS pmax pmax
comp=Z,26nm,1.0s
NVS pmax pmax
comp=N,12nm,1.4s
NVS pmax pmax
comp=E,9.0nm,1.1s
ZAL Zalesovo 142.69 64 PKhKP 00 12 46.9
comp=E,5.6nm,0.4s,baz=251,slow=2.3,SNR=25
ZAL SKPbc SKPbc 00 16 17.1 -5.5
comp=E,1.2nm,0.4s,baz=148,slow=3.4,SNR=3.0
ZAL Zalesovo 142.69 64 *i* PKHKP 00 12 46.9
ZAL pmax pmax
comp=Z,6.0nm,0.4s
ZAL pmax pmax
comp=N,1.0nm,0.4s
XAN Xi'an 143.07 108 PKP PKPdf 00 12 52.8 -1.1
SKAG Skagway 143.07 306 *e*PKPdf PKPdf 00 12 49.2 -4.7
INK Inuvik 145.74 321 *e*PKP2 PKPab 00 12 56.7 -2.9
NJ2 Nanjing 146.50 122 *e*PKP PKPdf 00 13 00.3 +0.5
NJ2 PKP2 PKPab 00 13 05.1 +2.6
NJ2 APKP 00 13 27.1
NJ2 XPKP 00 13 37.3
NJ2 PP PP 00 16 31.0 +6.0
NJ2 PKS 00 16 36.0
NJ2 PP PP
comp=Z,200nm,5.7s
NJ2 LR LR
comp=N,2μm,37.6s
NJ2 LR LR
comp=E,1μm,31.3s
NJ2 LR LR
comp=Z,520nm,33.1s
DAWY Dawson 146.68 312 *e*PKPbc PKPbc 00 12 59.8 -2.1
DAWY *e*SKPbc SKPbc 00 16 27.1 -4.8
EYAK Cordova Ski Ar 148.30 304 *e*PKPbc PKPbc 00 13 05.0 -1.3
BTO Baotou 148.48 102 *e*PKP PKPdf 00 13 04.8 +1.7
HHC Hu-ho-hao-te 149.50 103 *e*PKP PKPdf 00 13 08.1 +3.4
HHC APKP 00 13 35.0
HHC PKS 00 16 42.8
HHC SKS SKSdf 00 20 04.1 0.0
HHC SKKS SKKSac 00 23 28.6 +3.8
HHC LR LR
comp=N,141nm,22.8s
HHC LR LR
comp=E,129nm,21.6s
HHC LR LR
comp=Z,103nm,19.2s
ILAR Eielson Array 150.00 312 PKP PKPdf 00 13 00.8 -4.8
comp=Z,3.7nm,0.8s,baz=308,slow=1.1,SNR=42
ILAR PKPbc PKPbc 00 13 08.6 -2.0
comp=Z,70nm,0.7s,baz=133,slow=2.4,SNR=295
ILAR pPKPbc pPKPbc 00 13 36.1 -0.4
comp=Z,21nm,1.0s,baz=126,slow=1.8,SNR=2.1
ILAR Eielson Array 150.00 312 PKIKP PKPdf 00 13 00.8 -4.7
ILAR pmax pmax
comp=Z,4.0nm,0.8s
ILAR pmax pmax
comp=Z,70nm,0.7s
ILAR pmax pmax
comp=Z,21nm,1.0s
MOY Mondy 150.05 77 *e*PKHKP 00 13 04.7
MOY pmax pmax
comp=Z,43nm,1.5s
PMR Palmer 150.19 305 *e*PKIKP PKPdf 00 13 09.2 +3.4
SLKM Skilak Lake 150.38 302 *e*PKIKP PKPdf 00 13 09.9 +3.8
SLKM *e* 00 13 17.0
COLA College 150.43 312 *e*PKIKP PKPdf 00 13 09.2 +3.0
COLA *e* 00 13 16.7
KDAK Kodiak Island 150.63 296 PKPbc PKPbc 00 13 10.7 -1.4
comp=Z,49nm,0.4s,baz=110,slow=1.8,SNR=106
ZAK Zakamensk 150.66 81⇓*e*PKIKP PKPdf 00 13 04.5 -2.0
ZAK pmax pmax
comp=Z,48nm,1.3s
SONM Songino Array 151.03 87 PKP PKPdf 00 13 05.6 -1.5
comp=Z,1.3nm,0.9s,baz=219,slow=1.4,SNR=13
SONM PKPbc PKPbc 00 13 11.8 -1.2
comp=Z,47nm,0.6s,baz=222,slow=3.7,SNR=289
SONM pPKPbc pPKPbc 00 13 38.9 -0.1
comp=Z,4.4nm,0.6s,baz=219,slow=4.2,SNR=2.1
SONM Songino Array 151.03 87 PKIKP PKPdf 00 13 05.6 -1.5
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM pmax pmax
comp=Z,47nm,0.6s
SONM pmax pmax
comp=Z,4.0nm,0.6s
ULN Ulaanbaatar 151.41 88 *e*PKIKP PKPdf 00 13 12.3 +4.6
TLY Talaya 151.50 78 *e*PKIKP PKPdf 00 13 12.8 +5.0
SVW2 Sparrevohn 153.07 302 *e*PKPbc PKPbc 00 13 15.3 -2.3
TTA Tatalina 153.62 306 *e*PKPbc PKPbc 00 13 17.3 -1.5
TTA *e*PKPab PKPab 00 13 29.4 -2.3
SNY Shenyang 156.53 116 *e*PKP PKPdf 00 13 15.5 +0.6
CIT Chita 157.13 84 *e*PKP2 PKPab 00 13 45.1 -1.6
CIT pmax pmax
comp=Z,21nm,1.5s
MJAR Matsushiro Arr 158.14 148 PKP PKPdf 00 13 15.7 -1.2
comp=Z,1.3nm,0.9s,baz=135,slow=0.9,SNR=4.9
MJAR Matsushiro Arr 158.14 148 PKIKP PKPdf 00 13 15.7 -1.2
MJAR pmax pmax
comp=Z,1.0nm,0.9s
CN2 Changchun 158.91 115 *e*PKP PKPdf 00 13 18.3 +0.5
BOD Bodaibo 159.28 70 *e*PKIKP PKPdf 00 13 13.2 -5.1
BOD *e* 00 13 54.1
BOD pmax pmax
comp=Z,4.0nm,0.8s
MDJ Mudanjiang 161.56 119 PKP PKPdf 00 13 19.9 -0.9
MDJ PKS 00 16 53.0
MDJ PP PP 00 17 48.8 -0.7
MDJ SKS SKSdf 00 20 15.8 -1.3
MDJ SS SS 00 37 58.3 -0.6
MDJ PP PP
comp=Z,47nm,3.9s
TIXI Tiksi 161.64 24 *e*PKP2 PKPab 00 14 03.6 -2.7
TIXI pmax pmax
comp=Z,14nm,0.8s
KLR Kul'dur 165.76 111 *e*PKIKP PKPdf 00 13 18.0 -6.7

*CSEM **13** 23:56:23.1±0.5, 3858N×2859W, h15km±5km, ML1.3, Error ellipse: s-maj=3.7km s-min=2.0km az=46.0, After PDA*
*PDA **13** 23:56:23.1±0.5, 3858N×2859W, h15km±5km, MD2.9, ML1.3, Error ellipse: s-maj=3.7km s-min=2.0km az=46.0*
SVSA 13 23:56:23.1±0.5, 3858N×2859W, h15km±5km, MD2.9, ML1.3, Error ellipse: s-maj=3.7km s-min=2.0km az=46.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOR	**Horta**	**0.06**	**212**	*e*P	Pg	23 56 25.5	-0.5
CALA	**Caldeira**	**0.09**	**271**	*e*S	Sg	23 56 28.0	-0.4
PCED	**Cedros**	**0.10**	**298**	*e*P	Pg	23 56 26.0	-0.3
PCED				*e*S	Sg	23 56 28.2	-0.5
PCED	22nm,0.1s						
PCED	**Cedros**	**0.10**	**298**	*e*P	Pg	23 56 26.0	-0.3
PCED				*e*S	Sg	23 56 28.2	-0.5
PCND	**Candelaria**	**0.15**	**139**	*e*P	Pg	23 56 27.4	+0.5
PCND				*e*S	Sg	23 56 30.1	+0.5
PCND	24nm,0.2s						
PICO	**Pico**	**0.15**	**122**	*e*P	Pg	23 56 26.6	-0.3
PICO				*e*S	Sg	23 56 29.2	-0.5
PTCA	**Ponta do Capel**	**0.16**	**272**	*erx*		23 56 31.0	
ROSA	**Rosais**	**0.30**	**63**	*e*P	Pg	23 56 28.7	-0.8
ROSA				*e*S	Sg	23 56 32.5	-1.2
PID	**Ribeirinha**	**0.39**	**110**	*erx*		23 56 29.1	

*NEIC **14** 00:08:51.2, 3296S×7206W, h19km, ML2.6(GUC), After GUC.*
GUC 14 00:08:51.2±0.8, 3296S×7206W, h19km±24km, MD3.7, ML2.6, 4C-8D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.36**	**100**	⇓*i* P	Pg	00 08 58.9	+0.1
IHA				*i* S	Sg	00 09 04.1	+0.3
LCCH	**Las Cruces**	**0.66**	**141**	⇑*i* P	Pb	00 09 03.4	-0.6
LNV	**Longovilo**	**1.13**	**151**	⇓*i* P	Pn	00 09 10.9	-1.1
LNV				*i* S	Sb	00 09 24.8	-1.6
TACH	**Talagante**	**1.17**	**127**	⇓*i* P	Pn	00 09 11.8	-0.7
TACH				*i* S	Sb	00 09 26.9	-0.5
PEL	**Peldehue**	**1.17**	**99**	⇑*i* P	Pn	00 09 12.2	-0.3
PEL				*i* S	Sb	00 09 27.8	+0.3
PEL				AML	AML	00 09 32.0	
	comp=E,410nm,0.4s						
PEL	**Peldehue**	**1.17**	**99**	⇑*i* P	Pn	00 09 12.2	-0.3
PEL				*i* S	Sb	00 09 27.8	+0.3
RCDM	**Rinconada Maip**	**1.18**	**117**	*e*P	Pn	00 09 11.5	-1.2
RCDM				AML	AML	00 09 31.4	
	comp=E,142nm,0.2s						
CHNG	**Los Chungos**	**1.18**	**24**	*i* S	Sb	00 09 27.2	-0.6
CHNG				AML	AML	00 09 29.5	
	comp=E,101nm,0.2s						
JACH	**Jahuel**	**1.27**	**78**	⇑*i* P	Pn	00 09 13.4	-0.6
JACH				*i* S	Sb	00 09 29.9	-0.5
CLCH	**Cerro Calan**	**1.35**	**109**	⇓*i* P	Pn	00 09 15.0	-0.1
CLCH				AML	AML	00 09 37.2	
	comp=N,128nm,0.2s						
PCH	**Pirque**	**1.45**	**117**	*e*P	Pn	00 09 16.0	-0.4
PCH				*i* S	Sn	00 09 35.1	+0.1
CHCH	**Chadas Angostu**	**1.52**	**130**	⇓*i* P	Pn	00 09 17.6	+0.2
CHCH				*i* S	Sn	00 09 37.4	+0.7
FCH	**Farellones**	**1.53**	**104**	⇓*i* P	Pn	00 09 17.8	+0.3
FCH				*i* S	Sn	00 09 38.5	+1.6
FCH				AML	AML	00 09 44.5	
	comp=E,114nm,0.4s						
CACH	**El Canelo**	**1.68**	**134**	*e*P	Pn	00 09 20.3	+0.8
CACH				*i* S	Sn	00 09 42.6	+2.1
LMEL	**Las Melosas**	**1.79**	**120**	⇓*i* P	Pn	00 09 22.0	+0.9
LMEL				*i* S	Sn	00 09 44.6	+1.4
LMEL				AML	AML	00 09 52.8	
	comp=N,156nm,0.1s						
LMEL	**Las Melosas**	**1.79**	**120**	⇓*i* P	Pn	00 09 22.0	+0.9
LMEL				*i* S	Sn	00 09 44.6	+1.4
SFDO	**San Fernando**	**1.86**	**152**	*e*P	Pn	00 09 22.6	+0.5
SFDO				*i* S	Sn	00 09 45.6	+0.5
CMCH	**Combarbala**	**2.00**	**27**	*e*P	Pn	00 09 24.3	+0.3
CMCH				*i* S	Sn	00 09 48.5	0.0
CMCH				AML	AML	00 10 00.1	
	comp=N,305nm,0.6s						
CMCH	**Combarbala**	**2.00**	**27**	*e*P	Pn	00 09 24.3	+0.3
CMCH				S	Sn	00 09 48.5	0.0

*IDC **14** 00:43:41.6±5.9, 2.10S×13358E, h31km±41km, mb3.9/3, mb1 4.1/5, mb1mx3.8/15, mbtmp4.1/5, ML3.9/2, Error ellipse: s-maj=92.8km s-min=17.0km az=81.0*
*NEIC **14** 00:43:42.5±1.4, 2.13S×13335E, h35km, mb3.9/2, Error ellipse: s-maj=46.8km s-min=15.4km az=80.0*
*ISCJB **14** 00:43:44.3±2.8, 2.29S±0.10×1329E±0.02, h62km±28km, mb4.0/3, Error ellipse: s-maj=33.8km s-min=15.8km az=4.5*
ISC 14 00:43:50.2±2.8, 26S±01×1323E±03, h86km±29km, n9, σ0991/12, mb3.8/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**10.05**	**179**	*e*P	**Pn**	**00 46 10.6**	**-1.0**
	11nm,0.6s						
FITZ	**Fitzroy Crossi**	**16.73**	**202**	*e*P	**Pn**	**00 47 44.7**	**+5.6**
	7.6nm,0.9s						
FITZ	**Fitzroy Crossi**	**16.73**	**202**	P	**Pn**	**00 47 44.6**	**+5.5**
	0.3nm,0.3s,baz=47,slow=12,SNR=19						
FITZ				S	**S**	**00 50 50.2**	**0.0**
	0.2nm,0.3s,baz=155,slow=18,SNR=5.3						
WRAB	**Tennant Creek**	**17.35**	**173**	*e*Pn	**Pn**	**00 47 46.9**	**+0.1**
	7.8nm,0.7s						
WRAB				*e*Sn	**Sn**	**00 50 59.2**	**-0.2**
WRA	**Warramunga Arr**	**17.36**	**173**	P	**Pn**	**00 47 47.5**	**+0.7**
	0.4nm,0.3s,baz=353,slow=12,SNR=9.8						
WB2	**Warramunga Arr**	**17.36**	**173**	*e*P	**Pn**	**00 47 47.3**	**+0.4**
ASAR	**Alice Springs**	**21.00**	**176**	P	**P**	**00 48 28.1**	**+1.5**
	12nm,0.9s,mb4.2,baz=5.0,slow=12,SNR=48						
ASAR				S	**S**	**00 52 24.8**	**+9.0**
	1.2nm,1.0s,baz=0.0,slow=16,SNR=4.7						
MKAR	**Makanchi Array**	**65.88**	**325**	P	**P**	**00 54 27.0**	**+0.3**
	1.3nm,0.7s,mb3.8,baz=117,slow=8.3,SNR=12						
VNDA	**Vanda**	**76.53**	**174**	P	**P**	**00 55 28.9**	**-2.1**
	0.7nm,0.8s,mb3.4,baz=314,slow=3.5,SNR=3.6						

MEX 14 01:16:25.0±0.9, 1582N×9893W, h8km±29km, MD4.1, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.96**	**53**	*i* P	Pg	01 16 39.9	-3.5
PNIG				*i* S	Sg	01 16 53.9	-1.9
ACX	**Acapulco**	**1.41**	**318**	*i* P	Pn	01 16 47.5	-3.4
MEIG	**Mezcala**	**2.20**	**343**	*i* P	Pn	01 16 57.7	-4.0
MEIG				*i* S	Sn	01 17 24.6	-4.4
UTMO	**Huajuapan**	**2.27**	**28**	*i* P	Pn	01 17 00.2	-2.5
UTMO				*i* S	Sn	01 17 26.2	-4.7
VHO	**Vista Hermosa**	**2.45**	**59**	*i* P	Pn	01 17 02.6	-2.6
VHO				*i* S	Sn	01 17 31.1	-4.1
OXX	**Oaxaca**	**2.46**	**59**	*i* P	Pn	01 17 03.0	-2.3
OXX				*i* S	Sn	01 17 31.5	-4.0
PLIG	**Platanillo**	**2.62**	**348**	*i* P	Pn	01 17 05.3	-2.2
PLIG				*i* S	Sn	01 17 34.0	-5.5
PPM	**Popocatepetl**	**3.24**	**5**	*e*P	Pn	01 17 14.9	-1.2
PPM				*i* S	Sn	01 17 51.9	-3.0

*IDC **14** 01:20:01.8±0.5, 11.18S×11602E, h0km, mb4.5/13, mb1 4.5/14, mb1mx4.5/16, mbtmp4.5/14, ML4.3/1, MS3.7/7, Ms1 3.7/7, ms1mx3.4/18, Error ellipse: s-maj=22.7km s-min=13.3km az=66.0*
*ISCJB **14** 01:20:04.3±0.2, 11.23S±0.04×116.16E±0.05, h32km, mb4.9/57, MS3.8/17, Error ellipse: s-maj=7.6km s-min=4.7km az=115.0*
*MOS **14** 01:20:04.8±1.1, 11.16S×116.14E, h33km, mb5.0/23, Error ellipse: s-maj=14.4km s-min=7.2km az=112.1*
*NEIC **14** 01:20:07.0±0.2, 1124S×11601E, mb4.9/27, Error ellipse: s-maj=8.5km s-min=4.9km az=60.0*
*BJI **14** 01:20:06.9, 1120S×11600E, h33km, mB5.0, mb4.8, Ms4.7, Msz4.1*
ISC 14 01:20:06.7±0.2, 1123S±004×11617E±005, h34km, h34km±.5km: pP-P, n158, σ090/144, mb4.9/57, MS3.8/17, 1C-6D, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMMI	**Kalianget**	**4.69**	**332**	P	**Pn**	**01 21 15.0**	**0.0**
	247nm,0.9s						
BJII	**Banjamegara**	**7.46**	**301**	P	**Pn**	**01 21 51.7**	**-1.4**
	190nm,1.4s						
MBWA	**Marble Bar**	**10.45**	**161**	*e*Pn	**Pn**	**01 22 26.5**	**-7.5**
	39nm,0.4s						
MBWA				*e*Sn	**Sn**	**01 24 12.8**	**-17**
PCI	**Palu**	**10.88**	**20**	P	**Pn**	**01 22 46.9**	**+6.8**
	146nm,1.6s						
FITZ	**Fitzroy Crossi**	**11.43**	**128**	*e*P	**Pn**	**01 22 43.2**	**-4.3**
	26nm,0.6s						
FITZ				*e*S	**Sn**	**01 24 42.6**	**-11**
FITZ	**Fitzroy Crossi**	**11.43**	**128**	Pn	**Pn**	**01 22 43.6**	**-3.8**
	1.3nm,0.3s,baz=304,slow=12,SNR=37						
FITZ				Sn	**Sn**	**01 24 43.7**	**-10**
	1.4nm,0.3s,baz=211,slow=17,SNR=6.8						
FITZ				LR	LR	01 26 59.0	
	comp=Z,145nm,20.2s,baz=299,slow=36						
KSM	**Kuching**	**13.90**	**335**	*e*Pn	**Pn**	**01 23 20.4**	**-0.9**
KSM				*e*pP		01 23 30.3	
KSI	**Kapahiang**	**15.42**	**298**	P	**Pn**	**01 23 35.6**	**-6.0**
	265nm,0.7s						
KAKA	**Kakadu**	**15.99**	**97**	*e*P	**Pn**	**01 23 49.7**	**+0.7**
	13nm,0.6s						
KKM	**Kota Kinabalu**	**17.16**	**0**	Pn	**Pn**	**01 24 04.7**	**+0.9**
TLE	**Tual**	**17.30**	**73**	P	**Pn**	**01 24 04.4**	**-1.1**
	134nm,1.1s						
SWI	**Sorong**	**18.18**	**57**	P	**Pn**	**01 24 16.5**	**+0.1**
	117nm,1.3s						
COCO	**West Island**	**18.96**	**265**	*e*P	**Pn**	**01 24 18.5**	**-7.3**
	48nm,0.5s						
WRA	**Warramunga Arr**	**19.51**	**119**	P	**Pn**	**01 24 32.1**	**-0.4**
	0.9nm,0.3s,baz=294,slow=14,SNR=19						
WRA				S	**Sn**	**01 27 55.8**	**-15**
	0.6nm,0.3s,baz=276,slow=21,SNR=6.0						
WRAB	**Tennant Creek**	**19.52**	**119**	*e*P	**Pn**	**01 24 32.5**	**0.0**
WRAB				pmax	pmax		
	comp=Z,42nm,0.8s						
WRAB	**Tennant Creek**	**19.52**	**119**	*e*P	**Pn**	**01 24 32.5**	**0.0**
	comp=Z,42nm,0.8s						
WB2	**Warramunga Arr**	**19.52**	**119**	*e*P	**Pn**	**01 24 32.1**	**-0.5**
WB2				*e*S	**Sn**	**01 27 54.1**	**-17**
KLBR	**Kellerberrin**	**20.32**	**176**	*e*P	**P**	**01 24 38.0**	**-1.8**
	comp=Z,10nm,0.4s						
KLBR				*e*S	S	01 28 01.3	-24
MUN	**Mundaring**	**20.65**	**180**	*e*P	**P**	**01 24 43.3**	**-0.1**
MUN				*e*S	**S**	**01 28 11.4**	**-21**
ASAR	**Alice Springs**	**20.93**	**129**	P	**P**	**01 24 47.9**	**+1.5**
	comp=Z,7.5nm,0.7s,baz=300,slow=9.7,SNR=72						
ASAR				S	**S**	**01 28 28.1**	**-10**
	comp=Z,12nm,1.0s,baz=291,slow=19,SNR=11						
NWAO	**Narrogin (SRO)**	**21.62**	**178**	P	**P**	**01 24 54.1**	**+0.3**
	comp=Z,18nm,0.7s,mb4.6,baz=356,slow=13,SNR=12						
NWAO				LR	LR	01 33 27.2	
	comp=Z,232nm,19.1s,MS3.6,baz=22,slow=37						
NWAO	**Narrogin (SRO)**	**21.62**	**178**	*e*P	**P**	**01 24 53.7**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,12nm,0.6s						
NWAO	**Narrogin (SRO)**	**21.62**	**178**	*e*P	**P**	**01 24 53.6**	**-0.2**
	comp=Z,12nm,0.6s,mb4.5						
PSI	**Prapat**	**22.10**	**308**	P	**P**	**01 24 55.1**	**-3.9**
	comp=Z,8.8nm,0.7s,mb4.3,baz=128,slow=12,SNR=3.8						
PSI				LR	LR	01 35 48.1	
	comp=Z,134nm,18.1s,MS3.4,baz=137,slow=43						
FORT	**Forrest**	**22.36**	**152**	*e*P	**P**	**01 25 02.2**	**+0.4**
	comp=Z,34nm,0.7s,mb4.9						
FORT				*e*S	**S**	**01 28 57.6**	**-8.2**
KULM	**Kulim**	**22.54**	**316**	*e*P	**P**	**01 25 02.0**	**-1.6**
KULM				epP		01 25 12.4	
TSI	**Tuntungan**	**22.82**	**309**	P	**P**	**01 25 05.9**	**-0.8**
	comp=Z,280nm,0.9s,mb5.7						
BSI	**Banda Aceh**	**26.60**	**308**	P	**P**	**01 25 42.0**	**+0.2**
	comp=Z,45nm,0.9s,mb5.0						
STKA	**Stephens Creek**	**31.18**	**135**	P	**P**	**01 26 22.7**	**+0.2**
	comp=Z,3.8nm,0.7s,mb4.3,baz=303,slow=8.5,SNR=8.8						
STKA				LR	LR	01 39 31.9	
	comp=Z,131nm,18.1s,MS3.6,baz=207,slow=37						
STKA	**Stephens Creek**	**31.18**	**135**	*e*P	**P**	**01 26 22.0**	**-0.5**
	comp=Z,7.2nm,0.8s,mb4.5						
STKA				*e*P		01 26 22.2	
NACB	**Ninganchiao**	**35.58**	**9**	*e*P	**P**	**01 27 01.3**	**+0.4**
NACB				pP	pP	01 27 11.5	+0.8
YHNB	**Yeheng**	**36.04**	**8**	*e*P	**P**	**01 27 05.4**	**+0.6**
KMI	**Kunming**	**38.43**	**340**	P	**P**	**01 27 27.0**	**+1.9**
KMI				AP	pP	01 27 36.4	+1.4
KMI				XP	sP	01 27 42.0	+3.0
KMI				PP	PP	01 28 58.0	+4.7
KMI				S	**S**	**01 33 23.8**	**+5.9**
KMI				XS	sS	01 33 39.6	+5.4
KMI				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.7						
KMI				AMB	AMB		
	comp=Z,94nm,4.1s						
KMI				LR	LR		
	comp=N,232nm,13.9s,MS4.2						
KMI				LR	LR		
	comp=E,115nm,13.9s,MS4.2						
KMI				LR	LR		
	comp=Z,127nm,19.3s						
SSE	**Sheshan**	**42.36**	**6**	P	**P**	**01 28 01.8**	**+4.3**
SSE				XP	sP	01 28 17.8	+6.2
SSE				PP	PP	01 29 40.3	+4.3
SSE				S	**S**	**01 34 22.3**	**+5.8**
SSE				AMB	AMB		
	comp=Z,42nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,121nm,3.5s						
SSE				LR	LR		
	comp=Z,38nm,19.9s,MS3.3						
NJ2	**Nanjing**	**43.11**	**3**	*e*P	**P**	**01 28 04.4**	**+0.7**
NJ2				AP	pP	01 28 13.4	-0.3
NJ2				XP	sP	01 28 17.3	-0.4
NJ2				PP	PP	01 29 48.8	+4.7
NJ2				S	**S**	**01 34 31.0**	**+3.5**
NJ2				XS	sS	01 34 49.0	+5.0
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,200nm,5.9s						
NJ2				LR	LR		
	comp=N,1μm,33.8s,MS4.5						
NJ2				LR	LR		
	comp=E,580nm,35.4s,MS4.5						
NJ2				LR	LR		
	comp=Z,290nm,24.3s						
CD2	**Chengdu**	**43.56**	**344**	⇓*i* P	**P**	**01 28 07.4**	**+0.1**
CD2				AP	pP	01 28 17.3	0.0
CD2				XP	sP	01 28 21.3	0.0
CD2				PP	PP	01 29 51.3	+2.4
CD2				S	**S**	**01 34 35.4**	**+1.3**
CD2				XS	sS	01 34 51.8	+1.2
CD2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.2						
CD2				AMB	AMB		
	comp=Z,80nm,5.3s						
CD2				LR	LR		
	comp=N,110nm,10.8s						
CD2				LR	LR		
	comp=Z,60nm,12.0s,MS3.7						
XAN	**Xi'an**	**45.54**	**352**	P	**P**	**01 28 22.8**	**-0.3**
XAN				AP	pP	01 28 31.3	-1.9
XAN				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.9						
HYB	**Hyderabad**	**46.81**	**307**	*i* P	**P**	**01 28 32.0**	**-1.1**
HYB				*e*	pP	01 28 42.0	-1.2
HYB	**Hyderabad**	**46.81**	**307**	*e*P	**P**	**01 28 32.0**	**-1.1**
LSA	**Lhasa**	**47.30**	**330**	P	**P**	**01 28 37.8**	**+0.9**
LSA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
LSA	**Lhasa**	**47.30**	**330**	*e*P	**P**	**01 28 37.8**	**+0.9**
LSA				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
LSA	**Lhasa**	**47.30**	**330**	*e*P	**P**	**01 28 37.8**	**+0.9**
	comp=Z,14nm,0.8s,mb4.9						
JIRN	**Jiri**	**48.36**	**324**	*e*P	**P**	**01 28 45.3**	**+0.2**
	comp=Z,138nm,0.7s						
LZH	**Lanzhou**	**48.48**	**347**	*e*P	**P**	**01 28 51.3**	**+5.3**
LZH				AP	pP	01 29 01.3	+5.2
LZH				XP	sP	01 29 05.3	+5.2
LZH				PP	PP	01 30 44.5	+5.6
LZH				*e*S	**S**	**01 35 50.3**	**+5.6**
LZH				XS	sS	01 36 07.5	+6.1
LZH				AMB	AMB		
	comp=Z,32nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,89nm,6.7s						
LZH				LR	LR		
	comp=E,598nm,16.3s						
LZH				LR	LR		
	comp=Z,857nm,17.8s,MS4.8						
GUN	**Gumba**	**48.73**	**324**	*e*P	**P**	**01 28 47.9**	**0.0**
	comp=Z,118nm,0.7s,mb6.0						
PKI	**Pulchoki**	**48.75**	**323**	*e*P	**P**	**01 28 47.5**	**-0.6**
	comp=Z,43nm,0.8s,mb5.5						
PKI	**Pulchoki**	**48.75**	**323**	*e*P	**P**	**01 28 47.5**	**-0.6**
PKI				pmax	pmax		
	comp=Z,43nm,0.8s,mb5.5						
DMN	**Daman**	**48.96**	**323**	*e*P	**P**	**01 28 49.4**	**-0.3**
	comp=Z,102nm,0.8s,mb5.9						
KKN	**Kakani**	**48.99**	**323**	*e*P	**P**	**01 28 49.6**	**-0.3**
	comp=Z,43nm,0.7s,mb5.6						
KKN	**Kakani**	**48.99**	**323**	*e*P	**P**	**01 28 49.6**	**-0.3**
KKN				pmax	pmax		
	comp=Z,43nm,0.7s,mb5.6						
GKN	**Gorkha**	**49.53**	**323**	*e*P	**P**	**01 28 53.7**	**-0.4**

KOLN Koldanda 49.99 321 *e*P **P** **01 28 57.1 -0.4**
comp=Z,74nm,0.7s,mb5.8
BJT Baijiatuau 50.98 360 *e*P **P** **01 29 06.3 +1.2**
BJT pmax pmax
comp=Z,6.0nm,0.3s
BJT Baijiatuau 50.98 360 *e*P **P** **01 29 06.3 +1.2**
comp=Z,6.1nm,0.3s,mb5.0
BJI Beijing 51.01 0 *e*P **P** **01 29 05.8 +0.6**
BJI AMB AMB
comp=Z,12nm,0.5s,mb5.1
BJI LR LR
comp=Z,63nm,21.8s,MS3.6
POO Poona 51.16 305 *ex* x 01 29 04.0
MAT Matsushiro 51.85 23 P **P** **01 29 10.8 -0.8**
MAT Matsushiro 51.85 23 *e*P **P** **01 29 11.0 -0.6**
MAT pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
MAT Matsushiro 51.85 23 *e*P **P** **01 29 11.0 -0.6**
comp=Z,4.1nm,0.7s,mb4.5
MJAR Matsushiro Arr 51.85 23 P **P** **01 29 11.0 -0.6**
comp=Z,8.8nm,0.8s,mb4.7,baz=197,slow=7.7,SNR=28
MJAR LR LR 01 48 20.4
comp=Z,61nm,21.8s,MS3.6,baz=260,slow=33
MJAR Matsushiro Arr 51.85 23 P **P** **01 29 11.0 -0.6**
MJAR LR LR 01 48 20.4
HHC Hu-ho-hao-te 51.99 356 *e*P **P** **01 29 16.8 +4.2**
HHC AP pP 01 29 27.0 +4.2
HHC XP sP 01 29 30.3 +3.5
HHC PP PP 01 31 16.5 +5.7
HHC PCS PcS 01 34 24.8 +2.0
HHC S **S** **01 36 37.8 +4.2**
HHC PS 01 36 51.3
HHC XS sS 01 36 54.3 +3.9
HHC AMB AMB
comp=Z,14nm,1.1s,mb4.8
HHC AMB AMB
comp=Z,70nm,5.8s
HHC LR LR
comp=N,132nm,13.4s,MS4.3
HHC LR LR
comp=E,137nm,14.6s,MS4.3
HHC LR LR
comp=Z,91nm,13.5s,MS4.0
GTA Gaotai 52.63 344 *e*P **P** **01 29 18.1 +0.8**
GTA AP pP 01 29 27.8 +0.3
GTA XP sP 01 29 32.8 +1.3
GTA PP PP 01 31 18.3 +1.7
GTA S **S** **01 36 42.8 +0.4**
GTA AMB AMB
comp=Z,12nm,1.1s,mb4.7
GTA AMB AMB
comp=Z,112nm,4.6s
GTA LR LR
comp=N,71nm,15.7s,MS4.0
GTA LR LR
comp=E,93nm,19.2s,MS4.0
GTA LR LR
comp=Z,105nm,11.1s
NDI New Delhi 54.69 317 *e*P **P** **01 29 29.0 -3.4**
CN2 Changchun 55.41 8 *e*P **P** **01 29 42.4 +4.7**
MDJ Mudanjiang 56.90 11 P **P** **01 29 48.3 0.0**
MDJ AP pP 01 29 57.3 -1.3
MDJ XP sP 01 30 01.0 -1.5
MDJ PP PP 01 31 54.8 -0.1
MDJ SCP ScP 01 34 40.8 +0.3
MDJ PCS PcS 01 34 44.5 +0.2
MDJ AMB AMB
comp=Z,9.0nm,0.8s,mb4.8
MDJ AMB AMB
comp=Z,82nm,5.9s
MDJ LR LR
comp=N,32nm,26.9s,MS3.4
MDJ LR LR
comp=E,21nm,26.9s,MS3.4
MDJ LR LR
comp=Z,36nm,26.9s,MS3.3
MDJ Mudanjiang 56.90 11 *e*P **P** **01 29 48.1 -0.1**
MDJ *e*pP pP 01 29 57.4 -1.1
ULN Ulaanbaatar 59.39 353 *e*P **P** **01 30 06.1 +0.4**
ULN pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ULN Ulaanbaatar 59.39 353 *e*P **P** **01 30 06.1 +0.5**
comp=Z,8.2nm,0.9s,mb4.8
SONM Songino Array 59.44 352 P **P** **01 30 06.3 +0.3**
comp=Z,9.5nm,0.8s,mb4.8,baz=171,slow=7.8,SNR=58
WMQ Urumqi 60.61 337 ⇓*i*P **P** **01 30 14.4 +0.3**
WMQ AP pP 01 30 24.4 0.0
WMQ XP sP 01 30 28.8 +0.4
WMQ PCP PcP 01 30 58.4 +0.2
WMQ PP PP 01 32 30.0 +2.2
WMQ S **S** **01 38 26.6 -1.3**
WMQ XS sS 01 38 43.3 -1.7
WMQ AMB AMB
comp=Z,15nm,0.7s,mb5.2
WMQ AMB AMB
comp=Z,109nm,3.3s
WMQ LR LR
comp=N,64nm,24.9s
WMQ LR LR
comp=E,75nm,31.1s
WMQ LR LR
comp=Z,41nm,22.8s,MS3.5
HABR Khabarovsk 61.75 14 *e*P **P** **01 30 20.0 -1.8**
HABR *e*S **S** **01 38 40.7 -1.7**
ZAK Zakamensk 62.38 351 ⇓*i*P **P** **01 30 25.8 -0.2**
ZAK pmax pmax
comp=Z,14nm,1.7s,mb4.8
YSS Yuzh-Sakhalins 62.61 20 ⇓*e*P **P** **01 30 27.5 0.0**
CIT Chita 63.03 358 *e*P **P** **01 30 29.9 -0.4**
CIT *e* 01 31 13.0
CIT pmax pmax
comp=Z,27nm,1.8s,mb5.1
TLY Talaya 63.58 351 *e*P **P** **01 30 34.6 +0.6**
TLY *e* 01 30 49.9
TLY pmax pmax
comp=Z,13nm,1.0s,mb4.9
TLY Talaya 63.58 351 *e*P **P** **01 30 34.5 +0.5**
comp=Z,8.3nm,1.0s,mb4.7
MOY Mondy 64.00 350 *e*P **P** **01 30 37.6 +0.8**
MOY pmax pmax
comp=Z,23nm,2.8s,mb4.7
ULHL Ulahol 64.59 328 P **P** **01 30 40.9 +0.2**
SNR=12
KZA Kyzart 64.99 327 P **P** **01 30 44.3 +1.0**
SNR=28
MKAR Makanchi Array 65.22 335 P **P** **01 30 44.8 +0.1**
comp=Z,22nm,0.8s,mb5.2,baz=147,slow=7.7,SNR=146
TKM2 Tokmak 2 65.41 328 P **P** **01 30 46.4 +0.4**
SNR=6.5
UCH Uchtor 65.49 327 P **P** **01 30 47.4 +1.0**
SNR=8.1
KBK Karagaybulak 65.56 328 P **P** **01 30 47.8 +0.9**
SNR=15
AAK Ala-Archa 65.78 327 P **P** **01 30 48.9 +0.6**
SNR=11
AAK Ala-Archa 65.78 327 *e*P **P** **01 30 47.8 -0.5**
AAK pmax pmax
comp=Z,12nm,0.9s,mb4.9
AAK Ala-Archa 65.78 327 *e*P **P** **01 30 47.8 -0.6**
comp=Z,12nm,0.9s,mb4.9
AML Almayashu 65.86 327 P **P** **01 30 49.7 +0.8**
SNR=16
EKS2 Erkin-Say 66.18 327 P **P** **01 30 51.3 +0.4**
SNR=12
MAW Mawson 66.21 200 P **P** **01 30 50.6 -0.5**
comp=Z,3.6nm,0.8s,mb4.4,baz=38,slow=9.3,SNR=3.6
MAW LR LR 01 56 28.2
comp=Z,76nm,18.7s,MS3.9,baz=249,slow=33
USP Ospenovka 66.22 328 P **P** **01 30 51.2 0.0**
SNR=8.6
OPO Ambohidratompo 66.73 255 P **P** **01 30 55.4 +1.0**
comp=Z,1.1nm,0.7s,mb4.0,baz=31,slow=5.9,SNR=3.2
BOD Bodaibo 68.82 359 *e*P **P** **01 31 07.1 -0.5**
BOD pmax pmax
comp=Z,17nm,1.0s,mb4.9
KURK Kurchatov 69.81 336 *e*P **P** **01 31 13.5 -0.2**
KURK pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
KURK Kurchatov 69.81 336 *e*P **P** **01 31 13.5 -0.2**
comp=Z,10nm,0.8s,mb4.8
ZAL Zalesovo 70.17 341 P **P** **01 31 14.7 -1.2**
comp=Z,10nm,0.7s,mb4.9,baz=329,slow=4.2,SNR=65
VNDA Vanda 70.25 170 P **P** **01 31 16.6 +0.2**
comp=Z,3.2nm,0.8s,mb4.3,baz=316,slow=5.3,SNR=14
VNDA LR LR 02 01 29.8
comp=Z,106nm,18.9s,MS4.1,baz=342,slow=35
VNDA Vanda 70.25 170 *e*P **P** **01 31 16.5 +0.1**
VNDA pmax pmax
comp=Z,6.0nm,0.8s
VNDA Vanda 70.25 170 *e*P **P** **01 31 16.5 +0.1**
comp=Z,5.9nm,0.8s,mb4.6
SBA Scott Base 71.27 170 P **P** **01 31 23.8 +1.2**
NVS Novosibirsk 71.43 341 ⇓*i*P **P** **01 31 21.6 -2.0**
NVS pmax pmax
comp=Z,20nm,1.1s,mb5.0
NVS pmax pmax
comp=N,12nm,1.3s
NVS pmax pmax
comp=E,12nm,1.3s
BRVK Borovoye 75.05 333 *e*P **P** **01 31 45.2 +0.3**
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BRVK Borovoye 75.05 333 *e*P **P** **01 31 45.2 +0.3**
comp=Z,3.9nm,0.8s,mb4.4
ZRNK Zerenda 75.55 333 *e*P **P** **01 31 47.6 -0.2**
ZRNK pmax pmax
comp=Z,12nm,0.8s,mb4.9
ZRNK Zerenda 75.55 333 *e*P **P** **01 31 47.5 -0.2**
comp=Z,12nm,0.8s,mb4.9
KMBO Kilima Mbogo 78.91 271 P **P** **01 32 07.2 +0.5**
comp=Z,0.5nm,0.3s,mb3.9,baz=49,slow=18,SNR=5.0
ORR Orenburg 81.87 326 ⇓*i*P **P** **01 32 23.1 +0.5**
ORR pmax pmax
comp=Z,20nm,1.6s,mb4.8
ARU Arti 82.47 332 ⇓*i*P **P** **01 32 24.9 -0.8**
ARU *e* 01 35 33.4
ARU *e*PPP 01 37 21.1
ARU *e*S S 01 42 38.7 -1.1
ARU *e*SS SS 01 47 58.4 -2.8
ARU pmax pmax
comp=Z,18nm,1.3s,mb4.8
ARU Arti 82.47 332 *e*P **P** **01 32 25.2 -0.5**
comp=Z,20nm,1.1s,mb5.0
TIXI Tiksi 83.13 4 *e*P **P** **01 32 26.7 -2.4**
TIXI pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
TIXI MLR MLR
comp=Z,42nm,16.0s,MS3.9
TIXI Tiksi 83.13 4 P **P** **01 32 28.7 -0.4**
GNI Garni 83.38 313 *e*P **P** **01 32 31.2 +0.8**
ZEI Tsey 84.89 315 *e*P **P** **01 32 39.5 +1.4**
ZEI pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
LBTB Lobatse 85.84 245 *e*P **P** **01 32 42.4 -0.4**
LBTB pmax pmax
comp=Z,8.0nm,1.3s,mb4.8
LBTB Lobatse 85.84 245 *e*P **P** **01 32 42.4 -0.4**
comp=Z,7.6nm,1.3s,mb4.8
BILL Bilibino 86.71 17 *e*P **P** **01 32 45.5 -1.6**
BILL pmax pmax
comp=Z,1.0nm,0.7s,mb4.2
MALT Malatya 87.45 310 *e*P **P** **01 32 52.1 +1.4**
MALT *e**PP pP 01 33 02.4 +0.9
MALT pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
MALT Malatya 87.45 310 *e*P **P** **01 32 52.1 +1.4**
comp=Z,6.4nm,0.9s,mb4.8
MALT *e*pP pP 01 33 02.4 +0.9
EIL Elat 87.99 301 *e*P **P** **01 32 53.8 +0.6**
comp=Z,241nm,1.4s
EIL *e*pP pP 01 33 04.7 +0.7
SNAA Sanae 88.11 196 *e*P **P** **01 32 53.7 -0.1**
SNAA *e**PP pP 01 33 03.7 -0.9
SNAA *e**SP sP 01 33 08.0 -0.5
SNAA pmax pmax
comp=Z,27nm,1.6s
SNAA Sanae 88.11 196 *e*P **P** **01 32 53.7 -0.2**
comp=Z,27nm,1.6s,mb5.2
SNAA *e*pP pP 01 33 03.6 -1.0
SNAA *e*sP sP 01 33 08.0 -0.5
SUR Sutherland 88.53 237 *e*P **P** **01 32 57.7 +1.9**
comp=Z,58nm,1.8s,mb5.6
VRHR Novokhopersk 89.16 323 *e*P **P** **01 32 58.8 0.0**
VRHR pmax pmax
comp=Z,20nm,0.9s,mb5.5
VRHR pmax pmax
comp=N,8.0nm,0.4s
BR131 Keskin Array S 91.42 310 *e*P **P** **01 33 09.2 -0.2**
comp=N,2.3nm,0.8s,mb4.6
BRTR Keskin Array B 91.42 310 P **P** **01 33 09.7 +0.4**
comp=N,2.9nm,0.9s,mb4.6,baz=122,slow=4.6,SNR=17
OBN Obninsk 93.25 326 *e*P **P** **01 33 16.2 -1.6**
OBN *e* 01 37 00.5
OBN pmax pmax
comp=Z,5.0nm,0.9s,mb4.9
AKASG Malin Array Be 96.67 320 P **P** **01 33 32.3 -1.1**
comp=Z,1.5nm,0.7s,mb4.5,baz=85,slow=4.8,SNR=6.1
AKASG Malin Array Be 96.67 320 *i* P **P** **01 33 32.2 -1.2**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
TORD Torodi Ar. Bea 116.08 279 PKP PKPdf 01 38 47.2 +1.1
comp=Z,0.8nm,0.7s,baz=59,slow=1.4,SNR=10
YKA Yellowknife Ar 117.35 24 PKP PKPdf 01 38 49.0 +0.4
comp=Z,1.0nm,0.6s,baz=305,slow=2.1,SNR=10
YKA Yellowknife Ar 117.35 24 PKP PKPdf 01 38 49.0 +0.4
ESDC Sonseca Array 120.21 309 PKP PKPdf 01 38 55.3 +1.2
comp=Z,0.2nm,0.5s,baz=1.8,slow=4.7,SNR=4.2
BSMT Bassoo Peak 124.01 39 PKPdf PKPdf 01 39 03.1 +1.7
NVAR Mina Array Bea 124.58 51 PKP PKPdf 01 39 06.1 +3.6
comp=Z,0.8nm,0.8s,baz=243,slow=4.0,SNR=4.0
HLID Hailey 125.86 44 PKPdf PKPdf 01 39 08.2 +3.2
PDAR Pinedale Array 129.44 43 PKP PKPdf 01 39 14.2 +2.4
comp=Z,0.6nm,1.0s,baz=304,slow=0.5,SNR=4.2
CPUP Villa Florida 142.13 190 PKP PKPdf 01 39 36.7 +1.4
comp=Z,1.1nm,0.7s,baz=312,slow=2.2,SNR=4.9
CPUP Villa Florida 142.13 190 PKP PKPdf 01 39 36.7 +1.3
FVM French Village 144.27 37 PKIKP PKPdf 01 39 38.7 -0.4
MIAR Mount Ida 144.33 45 *e*PKIKP PKPdf 01 39 39.9 +0.7
HKT Hockley 144.91 53 *e*PKIKP PKPdf 01 39 43.1 +2.9
UALR University of 145.04 43 *e*PKPbc PKPbc 01 39 42.4 +2.6
SIUC Southern Illin 145.16 37 PKPab PKPab 01 39 42.3 +2.0
BLO Bloomington 145.62 32 *e*PKP2 PKPab 01 39 43.4 +1.4
LVC Limon Verde 146.00 172 *e*PKPbc PKPbc 01 39 45.5 +2.6
NCB Newcomb 146.16 14 *e*PKPbc PKPbc 01 39 45.3 +1.9
WCI Wyandotte Cave 146.44 33 *e*PKP2 PKPab 01 39 45.8 +0.7
WCI *e* 01 43 15.2
ACSO Alum Creek Sta 146.51 27 PKPdf PKPdf 01 39 46.3 +3.4
BINY Binghamton 147.37 17 *e*PKPbc PKPbc 01 39 48.6 +1.8
PLAL Pickwick Lake 147.67 39 *e*PKPbc PKPbc 01 39 48.7 +1.1
PLAL *e*PKPab PKPab 01 39 51.6 +1.7
SWET Sewanee 148.80 36 *e*PKPdf PKPdf 01 39 49.2 +2.4
SWET *e*PKPbc PKPbc 01 39 51.9 +1.2
SWET *e*PKPab PKPab 01 39 56.5 +2.0
BDFB Brasilia 149.05 211 PKPbc PKPbc 01 39 53.3 +2.1
comp=Z,4.5nm,0.7s,baz=173,slow=0.4,SNR=8.0
TZTN Tazewell 149.15 32 PKPdf PKPbc 01 39 53.5 +2.0
CPCT Cooper Cave 149.44 35 *e*PKPbc PKPbc 01 39 53.9 +1.7
CPCT *e*PKPab PKPab 01 39 59.4 +2.3
LRAL Lakeview Retre 149.62 41 *e*PKPbc PKPbc 01 39 54.3 +1.7
FWV Forest Hill 149.65 27 *e*PKPbc PKPbc 01 39 54.3 +1.6
FWV *e*PKPab PKPab 01 39 59.7 +1.8
ELN Prospectdale 149.97 28 *e*PKPbc PKPbc 01 39 54.0 +0.5
ELN *e*PKPab PKPab 01 40 00.7 +1.4
LPAZ La Paz 152.33 171 PKPbc PKPbc 01 40 01.2 +2.2
comp=Z,2.8nm,0.8s,baz=88,slow=0.8,SNR=13
LPAZ PKPab PKPab 01 40 11.9 +2.9
comp=Z,2.0nm,0.8s,baz=177,slow=4.5,SNR=6.1
16nm,0.3s,baz=190,slow=5.7,SNR=14
LPIG LR LR 01 25 30.3
comp=Z,487nm,21.3s,baz=204,slow=34
ZAIG Zacatecas 6.66 61 *i* P **Pn** **01 24 35.4 +0.8**
TUC Tucson 12.74 353 *e*Pn **Pn** **01 25 59.4 +1.5**
9.1nm,1.0s
BNM Barren Site 14.59 7 *e*Pn **Pn** **01 26 25.4 +2.2**
ANMO Albuquerque 15.40 7 Pn **Pn** **01 26 28.9 -5.1**
0.1nm,0.3s,baz=182,slow=16,SNR=1.6
ANMO Albuquerque 15.40 7 *e*Pn **Pn** **01 26 35.0 +1.0**
5.1nm,1.1s
WUAZ Wupatki 15.97 353 *e*Pn **Pn** **01 26 42.6 +1.1**
15nm,1.0s
MVCO Mesa Verde 17.51 1 *e*Pn **Pn** **01 27 02.4 +1.5**
CCUT Cedar City 18.27 349 *e*Pn **Pn** **01 27 11.8 +1.5**
PV01 Paradox Valley 18.43 1 *e*P **Pn** **01 27 13.4 +1.1**
ARUT Antelope Range 18.52 349 *e*P **Pn** **01 27 12.4 -0.9**
PV10 Paradox Valley 18.67 360 *e*P **Pn** **01 27 13.4 -1.8**
MSU Marysvale 19.03 352 *e*P **Pn** **01 27 20.4 +0.9**
SRU San Rafael 19.46 356 *e*P **Pn** **01 27 24.1 -0.6**
4.8nm,1.1s
SMCO Snowmass 19.54 4 *e*P **Pn** **01 27 24.6 -1.1**
12nm,1.3s
ISCO Idaho Springs 20.29 7 *e*P **P** **01 27 31.4 -1.2**
7.8nm,1.2s
MNV Mina 20.39 339 *e*P **P** **01 27 33.0 -0.7**
220nm,1.2s
NVAR Mina Array Bea 20.44 338 P **P** **01 27 34.1 -0.1**
2.5nm,0.9s,baz=154,slow=12,SNR=13
DUG Dugway 20.77 351 *e*P **P** **01 27 37.6 -0.1**
18nm,1.2s
DAU Daniels Canyon 20.81 355 *e*P **P** **01 27 38.8 +0.7**
ELK Elko 21.73 347 *e*P **P** **01 27 47.0 -1.1**
7.9nm,1.3s,mb4.0
PDAR Pinedale Array 23.07 359 P **P** **01 28 01.8 -0.6**
0.8nm,0.8s,mb3.2,baz=162,slow=8.1,SNR=6.5
LRAL Lakeview Retre 23.65 51 *e*P **P** **01 28 07.5 -0.8**
4.9nm,1.0s,mb3.9
TPAW Teton Pass 23.85 356 *e*P **P** **01 28 09.2 -0.9**
16nm,1.5s,mb4.2
WVOR Wild Horse Val 24.18 342 P **P** **01 28 13.9 +0.7**
4.9nm,0.9s,mb3.9
HLID Hailey 24.30 350 *e*P **P** **01 28 13.9 -0.4**
3.2nm,1.0s,mb3.7
YBH Yreka Blue Hor 24.97 335 LR LR 01 37 38.3
comp=Z,56nm,21.9s,MS3.0,baz=150,slow=35
NEW Newport 29.33 349 LR LR 01 40 38.9
comp=Z,62nm,19.5s,MS3.2,baz=46,slow=36
OTAV Otavalo 35.50 119 *e*P **P** **01 29 55.3 +1.8**
4.6nm,0.9s,mb4.4
FCC Fort Churchill 40.53 12 *e*P **P** **01 30 36.1 +0.1**
2.9nm,0.9s,mb3.9
YKA Yellowknife Ar 43.00 356 P **P** **01 30 52.9 -3.3**
0.7nm,0.8s,mb3.5,baz=172,slow=8.0,SNR=8.8
YKA LR LR 01 49 21.3
comp=Z,34nm,19.5s,MS3.3,baz=130,slow=37
NNA Nana 44.53 132 P **P** **01 31 09.3 +0.8**
3.8nm,0.6s,mb4.4
ILAR Eielson Array 51.68 340 P **P** **01 32 04.1 +0.3**
1.2nm,0.9s,mb3.8,baz=144,slow=5.1,SNR=12
LPAZ La Paz 53.65 129 P **P** **01 32 19.4 +1.1**
0.9nm,0.8s,mb3.8,baz=25,slow=2.7,SNR=5.0
LPAZ LR LR 01 50 18.2
comp=Z,43nm,19.8s,MS3.5,baz=157,slow=31
LPAZ La Paz 53.65 129 P **P** **01 32 19.7 +1.3**
1.0nm,0.8s,mb3.8
CPUP Villa Florida 67.75 131 P **P** **01 33 53.5 -1.0**
1.8nm,0.8s,mb4.2,baz=296,slow=7.7,SNR=4.3
JHJ Hachijo jima 2 96.10 308 LR LR 02 13 37.0
comp=Z,72nm,20.6s,MS4.1,baz=112,slow=32
MDJ Mudanjiang 96.79 322 P **P** **01 36 27.1 -0.6**
MDJ AP pP 01 36 36.9 +5.8
MDJ XP sP 01 36 40.5 +8.3
HHC Hu-ho-hao-te 109.06 329 *e*PDIF Pdif 01 37 23.0 +0.6
HHC PP PP 01 41 58.3 +3.8
HHC SS SS 01 57 13.5 -0.3
HHC PP PP
comp=Z,73nm,10.2s
HHC LR LR
comp=N,66nm,17.3s,MS4.5
HHC LR LR
comp=E,86nm,18.1s,MS4.5
HHC LR LR
comp=Z,72nm,20.2s,MS4.2
NJ2 Nanjing 111.22 318 *e*PKP PKiKP 01 41 31.1 +0.4
WMQ Urumqi 115.05 347 PKP PKiKP 01 41 36.3 -1.7
WMQ PP PP 01 42 40.8 +3.4
WMQ LR LR
comp=N,21nm,21.9s
WMQ LR LR
comp=Z,17nm,22.0s,MS3.6
LZH Lanzhou 116.52 331 *e*PKP PKPdf 01 41 41.8 +1.0
LZH LR LR
comp=N,135nm,18.2s
LZH LR LR
comp=Z,227nm,20.1s,MS4.8
CD2 Chengdu 120.76 327 *e*PKP PKPdf 01 41 47.3 -1.7

ECX 14 01:25:20.6±0.5, 3246N×11539W, h5km, MD3.2, ML3.5, 5C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.34**	**304**	⇑*e*P	Pg	01 25 26.6	-0.6
COK	**Cook Ranch**	**0.48**	**324**	⇓*e*P	Pg	01 25 29.2	-0.6
YUH	**Yuha Desert**	**0.49**	**293**	⇑*e*P	Pg	01 25 29.0	-1.0
CRR	**Carrizo Plain**	**0.65**	**311**	⇓*e*P	Pg	01 25 32.0	-1.0
RDX	**Rancho Dowling**	**0.71**	**222**	⇑*e*P	Pg	01 25 33.0	-1.1
RDX				*e*S	Sg	01 25 42.2	-1.2
RDX				⇓*e*		01 25 43.7	
	comp=N,1μm,0.3s						
GLA	**Glamis**	**0.76**	**39**	⇑*e*P	Pg	01 25 33.4	-1.7
CBX	**Cerro Bola**	**1.09**	**263**	⇑*e*P	Pg	01 25 39.9	-1.6
CBX				*e*S	Sg	01 25 54.3	-1.2
ENX	**Ensenada**	**1.22**	**242**	⇓*e*P	Pg	01 25 42.1	-2.0
ENX				*e*S	Sg	01 25 58.2	-1.8
PBX	**Punta Banda**	**1.34**	**238**	*e*P	Pn	01 25 43.9	-2.1
PBX				*e*S	Sb	01 26 01.9	-1.7
SPX	**San Pedro Mart**	**1.41**	**183**	*e*P	Pn	01 25 44.2	-2.7
SPX				*e*S	Sb	01 26 04.1	-1.6

CSEM **14** *01:25:08.0±0.2, 3690N×1497W, h10km, ML2.3, Error ellipse: s-maj=6.2km s-min=2.4km az=117.0*
NEIC **14** *01:25:11.3±0.8, 3686N×1485W, h10km, MG3.8(MDD), Error ellipse: s-maj=14.4km s-min=5.9km az=118.0*
IGIL **14** *01:25:15.9, 3693N×1435W, h0km, ML2.3*
INMG **14** *01:25:22.3±2.1, 3699N×1443W, h10km±24km, ML2.3, Error ellipse: s-maj=8.5km s-min=8.4km az=111.0*
MDD 14 01:25:21.1±2.3, 3720N×1403W, h0km, mb3.9/10, Error ellipse: s-maj=22.1km s-min=18.4km az=35.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLOU	**Loures**	**4.20**	**65**	*e*Pn	Pn	01 26 25.8	-0.7
PLOU							
	5.2nm,0.2s						
PLOU	**Loures**	**4.20**	**65**	*e*P	Pn	01 26 25.8	-0.7
	5.2nm,0.2s						
PTEO	**Sao Teotonio**	**4.24**	**84**	*e*Pn	Pn	01 26 25.6	-1.4
PTEO				*e*Sn	Sn	01 27 12.2	-4.9
PTEO							
	4.6nm,0.6s						
MORF	**Marmelete**	**4.29**	**87**	*e*P	Pn	01 26 24.2	-3.5
MORF				*e*S	Sn	01 27 14.3	-4.1
MORF				*e*S	Sn	01 27 14.4	-4.0
MORF				AML	AML	01 27 17.6	
	comp=E,5.3nm,0.2s						
MORF	**Marmelete**	**4.29**	**87**	*e*P	Pn	01 26 24.2	-3.5
MORF				*e*S	Sn	01 27 14.3	-4.1
PMPS	**Porto Santo**	**4.54**	**205**	*e*Sn	Pg	01 27 03.9	+16
PMPS							
	comp=E,7.7nm,0.3s						
MOE	**Montemor**	**4.68**	**72**	*e*Pn	Pn	01 26 32.2	-0.9
MOE				*e*Sn	Sn	01 27 23.7	-4.4
PBEJ	**Beja**	**4.96**	**79**	*e*Pn	Pn	01 26 35.6	-1.3
PBEJ				*e*Sn	Sn	01 27 30.3	-4.7
PBEJ							
	comp=E,1.9nm,0.1s						
PTOM	**Tomar**	**5.03**	**60**	*e*Pn	Pn	01 26 37.0	-0.8
PTOM				*e*Sn	Sn	01 27 32.8	-3.9
EGRO	**El Granado**	**5.22**	**84**	P	Pn	01 26 39.4	-1.1
	comp=E,0.9nm,0.1s,SNR=7.9						

ISCJB **14** *01:22:54.6±0.8, 1961N±008×1089W±0.1, h10km, mb3.9/13, MS3.7/8, Error ellipse: s-maj=17.0km s-min=7.8km az=113.7*
IDC **14** *01:22:55.8±2.0, 1995N×108.33W, h0km, mb3.7/6, mb1 4.1/8, mb1mx3.9/19, mbtmp3.8/8, ML3.7/2, MS3.5/6, Ms1 3.5/6, ms1mx3.1/26, Error ellipse: s-maj=99.1km s-min=19.2km az=62.0*
NEIC **14** *01:22:57.0±1.0, 1970N×10875W, h10km, mb4.0/15, Error ellipse: s-maj=23.7km s-min=8.8km az=54.0*
BJI **14** *01:22:56.9, 1970N×10870W, h10km, mB5.1, mb4.8, Ms4.7, Msz4.2*
ISC 14 01:22:56.7±0.8, 1964N±008×1089W±01, h10km, n44, σ1§23/37, mb3.9/13, MS3.7/8, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CJM	**Chamela**	**3.62**	**92**	*i* P	**Pn**	**01 23 49.1**	**-3.6**
CJM				*i* S	**Sn**	**01 24 29.4**	**-6.1**
LPIG	**La Paz**	**4.64**	**344**	Pn	**Pn**	**01 24 04.0**	**-2.8**

EGRO					S		Sn	01 27 36.8	-4.7
	comp=E,4.0nm,0.2s,SNR=7.9								
EGRO	**El Granado**	**5.22**	**84**	P		Pn		01 26 39.4	-1.1
	comp=E,0.9nm,0.1s,SNR=7.9								
EGRO					S		Sn	01 27 36.8	-4.6
	comp=E,4.0nm,0.2s,SNR=7.9								
EBAD	**Badajoz**	**5.76**	**72**	S		Sn		01 27 49.5	-5.1
	comp=E,2.9nm,0.4s,SNR=7.9								
EBAD	**Badajoz**	**5.76**	**72**	S		Sn		01 27 49.5	-5.0
	comp=E,2.9nm,0.4s,SNR=7.9								
PCBR	**Castelo Branco**	**5.78**	**61**	*e*Pn		Pn		01 26 47.5	-0.6
PCBR				*e*Sn		Sn		01 27 50.7	-4.3
PCBR									
	comp=E,0.8nm,0.2s								
EMIN	**Mina Concepcio**	**5.88**	**82**	P		Pn		01 26 48.5	-1.0
	comp=E,0.7nm,0.2s,SNR=7.9								
EMIN					S		Sn	01 27 51.9	-5.6
	comp=E,0.8nm,0.2s,SNR=7.9								
EMIN	**Mina Concepcio**	**5.88**	**82**	P		Pn		01 26 48.5	-1.0
	comp=E,0.7nm,0.2s,SNR=7.9								
EMIN					S		Sn	01 27 51.9	-5.6
	comp=E,0.8nm,0.2s,SNR=7.9								
PVIS	**Viseu**	**5.93**	**52**	*e*Pn		Pn		01 26 49.1	-1.1
PVIS				*e*Sn		Sn		01 27 54.2	-4.7
PVIS									
	comp=E,2.2nm,0.1s								
MTE	**Manteigas**	**5.99**	**56**	*e*Sn		Sn		01 27 55.9	-4.4
MTE									
	comp=E,1.8nm,0.6s								
MTE	**Manteigas**	**5.99**	**56**	S		Sn		01 27 55.9	-4.4
	comp=E,0.9nm,0.6s								
PVRL	**Vila Real**	**6.37**	**48**	*e*Pn		Pn		01 26 55.1	-1.2
PVRL									
	comp=E,2.1nm,0.1s								
PCAB	**Cabril**	**6.47**	**44**	*e*Pn		Pn		01 26 56.0	-1.6
PCAB				*e*Sn		Sn		01 28 06.8	-5.4
PCAB									
	comp=E,2.4nm,0.2s								
ESPR	**Espera**	**6.54**	**90**	P		Pn		01 26 57.5	-1.2
	comp=E,0.3nm,0.1s,SNR=7.9								
ESPR					S		Sn	01 28 10.6	-3.4
	comp=E,4.4nm,0.4s,SNR=7.9								
ESPR	**Espera**	**6.54**	**90**	P		Pn		01 26 57.5	-1.2
ESPR					S		Sn	01 28 11.3	-2.7
ESPR	**Espera**	**6.54**	**90**	P		Pn		01 26 57.5	-1.1
	comp=E,0.3nm,0.1s,SNR=7.9								
ESPR					S		Sn	01 28 11.3	-2.7
	comp=E,4.4nm,0.4s,SNR=7.9								
ELOB	**Lobios**	**6.56**	**43**	P		Pn		01 26 57.3	-1.6
	comp=E,1.5nm,0.4s,SNR=13								
ELOB					S		Sn	01 28 07.5	-6.8
	comp=E,11nm,1.1s								
ELOB	**Lobios**	**6.56**	**43**	P		Pn		01 26 57.3	-1.6
ELOB					S		Sn	01 28 05.9	-8.5
ELOB	**Lobios**	**6.56**	**43**	P		Pn		01 26 57.3	-1.5
	comp=E,1.5nm,0.4s,SNR=13								
ELOB					S		Sn	01 28 05.9	-8.4
	comp=E,11nm,1.1s								
EMAZ	**Mazaricos**	**6.93**	**32**	P		Pn		01 27 02.0	-2.0
	comp=E,0.8nm,0.1s,SNR=7.9								
EMAZ					S		Sn	01 28 14.8	-8.7
	comp=E,2.6nm,0.6s,SNR=4.8								
EMAZ	**Mazaricos**	**6.93**	**32**	P		Pn		01 27 02.0	-2.0
EMAZ					S		Sn	01 28 12.9	-11
EMAZ	**Mazaricos**	**6.93**	**32**	P		Pn		01 27 02.0	-1.9
	comp=E,0.8nm,0.1s,SNR=7.9								
EMAZ					S		Sn	01 28 12.9	-11
	comp=E,2.6nm,0.6s,SNR=4.8								
PBRG	**Braganca**	**7.27**	**48**	*e*Pn		Pn		01 27 07.6	-1.0
ECAL	**Calabor**	**7.36**	**48**	P		Pn		01 27 08.9	-0.9
	comp=E,3.6nm,0.4s,SNR=9.2								
ECAL					S		Sn	01 28 26.6	-7.5
	comp=E,14nm,1.2s								
ECAL	**Calabor**	**7.36**	**48**	P		Pn		01 27 08.9	-0.9
	comp=E,3.6nm,0.4s,SNR=9.2								
ECAL					S		Sn	01 28 26.6	-7.4
	comp=E,14nm,1.2s								
EADA	**Adamuz**	**7.56**	**80**	P		Pn		01 27 10.9	-1.6
	comp=E,0.6nm,0.3s,SNR=7.3								
EADA					S		Sn	01 28 33.1	-5.8
	comp=E,0.7nm,0.3s,SNR=6.2								
EADA	**Adamuz**	**7.56**	**80**	P		Pn		01 27 10.9	-1.6
	comp=E,0.6nm,0.3s,SNR=7.3								
EPON	**Pontenova**	**8.07**	**38**	P		Pn		01 27 17.9	-1.7
EPON	**Pontenova**	**8.07**	**38**	P		Pn		01 27 17.9	-1.7
ESDC	**Sonseca Array**	**8.28**	**70**	P		Pn		01 27 21.1	-1.3
	comp=E,0.4nm,0.2s,baz=254,slow=13,SNR=14								
ESDC	**Sonseca Array**	**8.28**	**70**	P		Pn		01 27 21.1	-1.3
EQES	**Quesada**	**8.73**	**83**	P		Pn		01 27 27.8	-0.8
EQES	**Quesada**	**8.73**	**83**	P		Pn		01 27 27.8	-0.8
EARI	**Arriondas**	**9.09**	**45**	P		Pn		01 27 32.7	-0.8
	comp=E,0.4nm,0.2s,SNR=8.0								
EARI	**Arriondas**	**9.09**	**45**	P		Pn		01 27 32.7	-0.8
ETOB	**Tobarra**	**9.97**	**78**	P		Pn		01 27 44.0	-1.6
	comp=E,0.5nm,0.2s,SNR=4.0								
ETOB	**Tobarra**	**9.97**	**78**	P		Pn		01 27 44.0	-1.6
	comp=E,0.5nm,0.2s								
EJON	**La Jonquera**	**14.01**	**63**	P		Pn		01 28 39.0	-1.9

IDC 14 01:37:20.3±3.4, 1941S×17756W, h596m±42km, mb2.8/4, mb1 3.1/5, mb1mx2.9/14, mbtmp3.9/5, Error ellipse: s-maj=42.7km s-min=19.7km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**19.35**	**193**	P	P	01 41 07.8	-0.4
	0.7nm,0.3s,baz=0.6,slow=9.8,SNR=4.0						
STKA	**Stephens Creek**	**38.65**	**243**	P	P	01 43 54.0	-0.1
	0.5nm,0.3s,baz=107,slow=11,SNR=2.8						
WRA	**Warramunga Arr**	**45.18**	**261**	P	P	01 44 45.3	+0.1
	0.7nm,0.4s,baz=97,slow=7.7,SNR=6.6						
ASAR	**Alice Springs**	**45.19**	**256**	P	P	01 44 46.0	+0.7
	1.1nm,0.6s,baz=88,slow=8.2,SNR=13						
ASAR				PcP	PcP	01 46 13.2	+0.7
	0.4nm,0.5s,baz=102,slow=3.7,SNR=5.5						
ASAR				S	S	01 50 42.9	+0.3
	0.8nm,0.8s,baz=92,slow=15,SNR=6.1						
ILAR	**Eielson Array**	**87.16**	**13**	P	P	01 49 01.9	-2.1
	0.2nm,0.5s,baz=226,slow=4.4,SNR=4.1						
ARCES	**ARCESS Array B**	**127.93**	**350**	PKP	PKPdf	01 55 18.4	-0.9
	3.4nm,0.9s,baz=15,slow=5.0,SNR=3.7						
BRTR	**Keskin Array B**	**146.40**	**314**	PKPbc	PKPbc	01 55 55.7	+0.3
	0.6nm,0.8s,baz=119,slow=4.4,SNR=3.6						
GERES	**GERESS Array B**	**149.26**	**345**	PKPbc	PKPbc	01 56 02.9	+0.2
	0.6nm,0.6s,baz=48,slow=2.0,SNR=7.4						

CASC 14 01:41:35.0±2.4, 1330N×9003W, h22km±12km, MD3.5, 1C-5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**0.67**	**36**	*e*P	Pb	01 41 54.0	+6.1
SBLS				*e*S	Sb	01 42 03.8	+7.0
SNJE	**San Jose**	**0.70**	**36**⇓	*e*P	Pb	01 41 54.6	+6.1
SNJE				*e*S	Sb	01 42 04.6	+6.8
BOQS	**Boqueron**	**0.85**	**59**	*e*P	Pb	01 41 56.1	+5.0
BOQS				*e*S	Sb	01 42 08.2	+6.3
RBDL	**Robledal**	**0.88**	**22**⇓	*e*P	Pb	01 41 57.6	+6.1
RBDL				*e*S	Sb	01 42 11.0	+8.2
IXG	**Ixpaco**	**0.97**	**335**⇓	*e*P	Pb	01 41 52.3	-0.7
IXG				*e*S	Sb	01 42 05.9	+0.5
LFRS	**El Faro**	**0.99**	**71**⇓	*e*P	Pb	01 41 57.6	+4.1
LFRS				*e*S	Sb	01 42 10.7	+4.5
LFU	**La Fuente**	**0.99**	**63**⇑	*e*P	Pb	01 41 58.1	+4.5
LFU				*e*S	Sb	01 42 13.4	+7.2
LBRS	**Las Brisas**	**1.05**	**65**	*e*P	Pn	01 41 58.7	+4.2
LBRS				*e*S	Sb	01 42 12.9	+5.0
LCBS	**La Ceiba**	**1.08**	**71**⇓	*e*P	Pn	01 41 58.9	+4.0
LCBS				*e*S	Sb	01 42 13.3	+4.7
MTO2	**Montecristo 2**	**1.27**	**30**	*e*P	Pn	01 42 03.2	+5.7
FUG	**Fuego 3**	**1.39**	**325**	*e*P	Pn	01 41 59.7	+0.6
FUG				*e*S	Sn	01 42 17.6	+0.8
TP2	**Tecpan 2**	**1.77**	**327**	*e*P	Pn	01 42 05.7	+1.4
TP2				*e*S	Sn	01 42 27.9	+1.9

ISCJB 14 01:52:00.6±2.5, 122N±0.1×144.1E±0.3, h37km±26km, mb3.8/6, Error ellipse: s-maj=58.8km s-min=16.6km az=36.3
IDC 14 01:52:01.7±7.1, 1226N×14424E, h30km±54km, mb3.4/5, mb1 3.7/5, mb1mx3.5/19, mbtmp3.6/5, MS3.4/1, Ms1 3.4/1, ms1mx2.7/14, Error ellipse: s-maj=49.2km s-min=16.9km az=108.0
NEIC 14 01:52:02.2±0.6, 1225N×14426E, h35km, mb4.4/1, Error ellipse: s-maj=36.4km s-min=10.1km az=109.0

ISC 14 01:52:00.8±6.5, 123N±01×1442E±03, h23km±48km, n9, σ0§43/10, mb3.8/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.48**	**26**	Pn	**Pn**	**01 52 25.8**	**-0.2**
	78nm,0.3s,baz=210,slow=3.1,SNR=36						
GUMO				Sn	**Sn**	**01 52 45.2**	**+0.6**
	64nm,0.3s,baz=43,slow=19,SNR=4.7						
GUMO	**Guam**	**1.48**	**26**	Pn	**Pn**	**01 52 25.8**	**-0.2**
GUMO				Sn	**Sn**	**01 52 45.2**	**+0.6**
CBIJ	**Chichi jima**	**14.89**	**353**	LR	LR	02 00 09.1	
	comp=Z,150nm,20.4s,baz=123,slow=33						
WRAB	**Tennant Creek**	**33.42**	**197**	*e*P	**P**	**01 58 37.7**	**0.0**
	3.6nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**33.43**	**197**	P	**P**	**01 58 38.0**	**+0.2**
	0.9nm,0.5s,mb4.0,baz=19,slow=9.5,SNR=4.8						
ASAR	**Alice Springs**	**37.09**	**196**	P	**P**	**01 59 09.7**	**+0.4**
	0.7nm,0.7s,mb3.6,baz=21,slow=10,SNR=12						
MKAR	**Makanchi Array**	**62.00**	**317**	P	**P**	**02 02 19.2**	**+0.1**
	0.2nm,0.3s,mb3.7,baz=90,slow=8.6,SNR=3.4						
ILAR	**Eielson Array**	**70.05**	**25**	P	**P**	**02 03 09.8**	**-1.0**
	0.3nm,0.7s,mb3.3,baz=249,slow=5.8,SNR=3.8						
YKA	**Yellowknife Ar**	**84.34**	**27**	P	**P**	**02 04 30.9**	**-0.1**
	0.7nm,0.9s,mb3.8,baz=284,slow=5.3,SNR=6.8						

THE 14 02:05:33.8, 3748N×2073E, h10km
ISCJB 14 02:05:34.3±0.9, 3755N±005×2091E±007, h7km, Error ellipse: s-maj=9.8km s-min=4.5km az=102.6
NEIC 14 02:05:35.5, 3761N×2100E, h5km, MD3.7(ATH), After ATH.
ATH 14 02:05:35.2, 3759N×2095E, h7km±2km, MD3.7/7
CSEM 14 02:05:36.6±0.2, 3766N×2095E, h2km, MD3.7, Error ellipse: s-maj=4.9km s-min=2.0km az=54.0
SKO 14 02:05:49.1, 3868N×2106E, h0km

ISC 14 02:05:35.7±0.9, 3759N±005×2095E±007, h7km, n28, σ1§39/34, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.62**	**41**	*e*PG	**Pg**	**02 05 46.8**	**-0.8**
RLS				*e*SB	**Sb**	**02 05 55.8**	**-2.0**
RLS	**Riolos of Patr**	**0.62**	**41**	*e*Pb	**Pb**	**02 05 47.0**	**-1.8**
VLS	**Valsamata**	**0.65**	**334**	*e*PG	**Pg**	**02 05 47.5**	**-0.8**
VLS				*e*SB	**Sb**	**02 05 57.9**	**-0.8**
ITM	**Ithomi**	**0.88**	**117**	*e*PG	**Pg**	**02 05 51.6**	**-0.9**
ITM				*e*SB	**Sb**	**02 06 04.2**	**-0.9**
LKD	**Levkas**	**1.14**	**348**	*e*Pg	**Pg**	**02 05 55.8**	**-1.8**
LKD				*e*Sg	**Sg**	**02 06 14.9**	**+2.5**
EVR	**Evrytania**	**1.49**	**27**	*e*PG	**Pg**	**02 06 02.3**	**-1.9**
EVR				*e*SB	**Sb**	**02 06 24.0**	**+1.3**
AGG	**Agios Georgios**	**1.80**	**37**	*e*Pn	**Pn**	**02 06 08.5**	**+1.5**
AGG				*e*Sn	**Sn**	**02 06 34.9**	**+4.8**
VLI	**Veliai**	**1.81**	**118**	*e*PG	**Pg**	**02 06 09.4**	**-0.9**
LKR	**Lokris**	**1.93**	**56**	*e*PN	**Pn**	**02 06 10.5**	**+1.6**
IGT	**Igoumenitsa**	**2.00**	**346**	*e*Pn	**Pn**	**02 06 10.0**	**+0.2**
JAN	**Janina**	**2.07**	**358**	*e*PG	**Pg**	**02 06 13.0**	**-2.3**
JAN	**Janina**	**2.07**	**358**	*e*Pg	**Pg**	**02 06 13.5**	**-1.8**
KYTH	**Kithira**	**2.12**	**127**	*e*PN	**Pn**	**02 06 13.5**	**+2.0**
KEK	**Kerkira**	**2.31**	**337**	*e*PB	**Pb**	**02 06 14.9**	**-2.7**
NEO	**Neokhori**	**2.48**	**45**	*e*PB	**Pb**	**02 06 17.4**	**-3.1**
XOR	**Xorichti**	**2.50**	**44**	*e*Pn	**Pn**	**02 06 17.8**	**+1.1**
LIT	**Litokhoron**	**2.78**	**25**	*e*Pn	**Pn**	**02 06 22.4**	**+1.9**
PAIG	**Paliouri**	**3.16**	**42**	*e*Pn	**Pn**	**02 06 26.1**	**+0.2**
FNA	**Florina**	**3.21**	**6**	*e*Pn	**Pn**	**02 06 27.6**	**+1.1**
PLG	**Polygyros**	**3.39**	**34**	*e*PN	**Pn**	**02 06 29.9**	**+0.9**
THE	**Thessaloniki**	**3.42**	**27**	*e*Pn	**Pn**	**02 06 30.1**	**+0.7**
THE	**Thessaloniki**	**3.42**	**27**	*e*Pn	**Pn**	**02 06 30.0**	**+0.6**
BIA	**Bitola**	**3.44**	**5**	*e*Pn	**Pn**	**02 06 29.4**	**-0.2**
GRG	**Griva**	**3.55**	**18**	*e*Pn	**Pn**	**02 06 31.4**	**+0.3**
SOH	**Sokhos**	**3.73**	**29**	*e*Pn	**Pn**	**02 06 35.2**	**+1.6**
KNT	**Kendrikon**	**3.88**	**22**	*e*Pn	**Pn**	**02 06 36.5**	**+0.9**
VAY	**Valandovo**	**3.93**	**18**	*e*Pn	**Pn**	**02 06 35.2**	**-1.2**
SRS	**Serrai**	**4.08**	**29**	*e*Pn	**Pn**	**02 06 39.6**	**+1.3**

ISCJB 14 02:11:55.6±0.6, 3671N±004×2722E±008, h7km±8km, Error ellipse: s-maj=11.1km s-min=6.2km az=45.1
ATH 14 02:11:55.7, 3671N×2723E, h5km, MD3.0/5
ISK 14 02:11:55.4, 3685N×2704E, h25km, MD3.1
CSEM 14 02:11:56.1±0.2, 3672N×2724E, h5km, MD3.1, Error ellipse: s-maj=5.6km s-min=4.4km az=110.0

ISC 14 02:11:55.8±0.6, 3670N±004×2720E±008, h10km±6km, n10, σ0§81/12, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NISR	**Nisiros**	**0.10**	**215**	*e*PG	**Pg**	**02 11 58.5**	**+0.1**
NISR				*e*SG	**Sg**	**02 12 00.0**	**-0.2**
BODT	**Bodrum**	**0.38**	**13**	*i* PG	**Pg**	**02 12 02.7**	**-0.4**
BODT				*i* SG	**Sg**	**02 12 08.4**	**+0.3**
MLSB	**Milas**	**0.75**	**37**	*i* PG	**Pg**	**02 12 11.0**	**+0.7**
ARG	**Arkhangelos**	**0.89**	**123**	*e*PB	**Pb**	**02 12 12.8**	**-0.4**
YER	**Yerkesik**	**0.97**	**63**	PG	**Pg**	**02 12 14.3**	**-0.1**
SMG	**Samos**	**1.05**	**344**	*e*PG	**Pg**	**02 12 15.5**	**-0.5**
KARP	**Karpathos**	**1.15**	**182**	*e*PN	**Pn**	**02 12 17.5**	**-0.4**
APE	**Apeiranthos**	**1.39**	**286**	*e*PB	**Pb**	**02 12 23.0**	**+1.1**
FETY	**Fethiye**	**1.51**	**92**	*e*PN	**Pn**	**02 12 24.0**	**+1.1**
IZM	**Izmir**	**1.70**	**2**	*e*PN	**Pn**	**02 12 22.5**	**-3.0**

CASC 14 02:42:47.6±2.2, 829N×8291W, h5km, MD3.9, 3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DVD	**David**	**0.48**	**72**⇓	*i* P	Pg	02 42 56.8	0.0
DVD				*e*S	Sg	02 43 05.4	+2.4
BUS	**Buena Vista**	**1.51**	**326**	*e*P	Pn	02 43 13.6	-1.8
BUS				*e*S	Sn	02 43 36.4	+1.0
URSC	**Urasca**	**1.76**	**331**	*e*P	Pn	02 43 17.6	-1.1
URSC				*e*S	Sn	02 43 43.3	+1.8
LCR2	**La Lucha 2**	**1.80**	**323**	*e*P	Pn	02 43 18.5	-0.8
LCR2				*e*S	Sn	02 43 44.7	+2.1
VTU	**Volcan Turrial**	**1.92**	**334**	*e*P	Pn	02 43 21.8	+0.9
VTU				*i* P		02 43 22.1	
IRZ2	**Volcan Irazu 2**	**1.93**	**330**	*i* P	Pn	02 43 21.6	+0.5
IRZ2				*e*S	Sn	02 43 49.9	+4.1
PRS1	**Puriscal**	**2.18**	**321**⇓	*e*P	Pn	02 43 23.0	-1.5
PRS1				*e*S	Sn	02 43 53.0	+1.1
AZU	**Azuero**	**2.66**	**101**	*e*P	Pn	02 43 31.7	+0.7
AZU				*e*S	Sn	02 44 03.4	-0.3
PTP	**Ponta Puerca**	**19.50**	**58**⇓	*i* P		02 42 49.5	
PTP				*e*S		02 42 52.6	

NEIC 14 02:45:49.6±8.9, 075S×12793E, h11km±57km, mb4.6/7, Error ellipse: s-maj=18.1km s-min=9.0km az=56.0
ISCJB 14 02:45:50.8±0.6, 078S±009×1280E±02, h33km, mb4.3/12, MS3.1/1, Error ellipse: s-maj=24.0km s-min=8.2km az=131.2
IDC 14 02:45:54.4±3.2, 081S×12784E, h45km±30km, mb3.8/7, mb1 4.0/8, mb1mx3.8/16, mbtmp4.1/8, ML3.6/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/24, Error ellipse: s-maj=37.0km s-min=13.0km az=73.0

ISC 14 02:45:52.8±3.8, 077S±009×1280E±02, h32km±27km, n25, σ0§61/24, mb4.3/12, MS3.1/1, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**17.37**	**187**	*e*P	**Pn**	**02 49 53.5**	**+0.7**
	6.5nm,0.9s						
FITZ	**Fitzroy Crossi**	**17.37**	**187**	P	**Pn**	**02 49 53.2**	**+0.4**
	0.2nm,0.3s,baz=330,slow=16,SNR=5.6						
WRAB	**Tennant Creek**	**20.04**	**162**	*e*P	**P**	**02 50 22.2**	**-0.9**
	8.3nm,0.6s						
WRA	**Warramunga Arr**	**20.05**	**162**	P	**P**	**02 50 23.0**	**-0.2**
	4.0nm,0.6s,baz=333,slow=12,SNR=17						
WB2	**Warramunga Arr**	**20.05**	**162**	*e*P	**P**	**02 50 22.9**	**-0.3**
ASAR	**Alice Springs**	**23.47**	**166**	P	**P**	**02 50 59.8**	**0.0**
	7.9nm,0.7s,mb4.2,baz=342,slow=11,SNR=108						
ASAR				PcP	PcP	02 54 44.5	-0.4
	0.3nm,0.6s,baz=338,slow=1.6,SNR=4.4						
ASAR				S	**S**	**02 55 10.9**	**0.0**
	1.5nm,0.9s,baz=353,slow=22,SNR=7.5						
PSI	**Prapat**	**29.25**	**277**	P	**P**	**02 51 51.0**	**-0.9**
	4.2nm,0.7s,mb4.3,baz=76,slow=6.7,SNR=5.5						
CBIJ	**Chichi jima**	**30.90**	**25**	LR	LR	03 02 15.5	
	comp=Z,42nm,19.4s,MS3.1,baz=334,slow=32						
STKA	**Stephens Creek**	**33.51**	**159**	P	**P**	**02 52 30.2**	**+0.9**
	1.2nm,0.5s,mb4.1,baz=343,slow=12,SNR=4.7						
MJAR	**Matsushiro Arr**	**38.33**	**13**	P	**P**	**02 53 10.8**	**+0.2**
	1.5nm,0.8s,mb3.8,baz=181,slow=9.6,SNR=5.2						
MJAR	**Matsushiro Arr**	**38.33**	**13**	P	**P**	**02 53 10.8**	**+0.2**
JIRN	**Jiri**	**49.07**	**309**	*e*P	**P**	**02 54 37.5**	**+0.6**
	22nm,0.7s,mb5.3						
GUN	**Gumba**	**49.43**	**309**	*e*P	**P**	**02 54 40.6**	**+0.9**
	26nm,0.7s,mb5.4						
PKI	**Pulchoki**	**49.64**	**308**	*e*P	**P**	**02 54 41.3**	**0.0**
KKN	**Kakani**	**49.84**	**308**	*e*P	**P**	**02 54 43.5**	**+0.7**
DMN	**Daman**	**49.89**	**308**	*e*P	**P**	**02 54 43.3**	**+0.1**
GKN	**Gorkha**	**50.44**	**308**	*e*P	**P**	**02 54 47.2**	**-0.2**
KOLN	**Koldanda**	**51.16**	**307**	*e*P	**P**	**02 54 52.8**	**0.0**
	26nm,0.8s,mb5.2						
SONM	**Songino Array**	**51.93**	**342**	P	**P**	**02 54 59.0**	**+0.4**
	0.6nm,0.8s,mb3.6,baz=160,slow=6.2,SNR=5.5						
MKAR	**Makanchi Array**	**61.95**	**326**	P	**P**	**02 56 09.3**	**-0.2**
	0.9nm,0.5s,mb4.2,baz=116,slow=8.2,SNR=13						
KURK	**Kurchatov**	**66.19**	**328**	*e*P	**P**	**02 56 36.3**	**-1.1**
	1.8nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**72.47**	**327**	*e*P	**P**	**02 57 15.1**	**-1.1**
	1.7nm,0.8s,mb4.0						
VNDA	**Vanda**	**78.83**	**173**	P	**P**	**02 57 53.2**	**+0.5**
	0.5nm,0.6s,mb3.6,baz=336,slow=6.9,SNR=4.3						
VNDA	**Vanda**	**78.83**	**173**	P	**P**	**02 57 53.2**	**+0.5**
TORD	**Torodi Ar. Bea**	**125.40**	**286**	PKP	PKPdf	03 04 51.3	+0.8
	0.8nm,1.2s,baz=99,slow=0.8,SNR=4.3						

NEIC 14 03:07:36.4, 1763N×6835W, h5km, MD3.6(RSPR), After RSPR.

RSPR 14 03:07:36.4, 1763N×6835W, h5km±15km, MD3.6/9, MD3.6/9, 16C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRPR	**Cabo Rojo, PR**	**1.24**	**72**⇑	*e*P	Pg	03 07 56.7	-3.4
CRPR				*e*S	Sg	03 08 13.0	-3.1
MGP	**Maguayo**	**1.26**	**72**⇑	*e*P	Pg	03 07 56.9	-3.5
MGP				*e*S	Sg	03 08 13.4	-3.3
LSP	**Las Mesas**	**1.32**	**65**⇑	*e*P	Pn	03 07 58.5	-2.9
LSP				*e*S	Sb	03 08 15.7	-3.1
AGPR	**Aguadilla, PR**	**1.44**	**54**⇑	*e*P	Pn	03 07 60.0	-3.1
AGPR				*e*S	Sb	03 08 18.6	-3.7
LRS	**Lares**	**1.58**	**65**⇑	*e*P	Pn	03 08 01.6	-3.3
LRS				*e*S	Sn	03 08 21.7	-3.9
AOPR	**Arecibo Observ**	**1.68**	**64**⇑	*e*P	Pn	03 08 03.4	-3.0
AOPR				*e*S	Sn	03 08 23.8	-4.4
OBIP	**Obispado Ponce**	**1.71**	**76**⇑	*e*P	Pn	03 08 03.7	-3.0
CELP	**Cerrillos**	**1.74**	**75**⇑	*e*P	Pn	03 08 04.1	-3.1
ICM	**Isla Caja Muer**	**1.76**	**81**⇑	*e*P	Pn	03 08 04.8	-2.6
ICM				*e*S	Sn	03 08 26.0	-4.2
SJG	**San Juan**	**2.15**	**77**⇑	*e*P	Pn	03 08 10.3	-2.4
SJG				*e*S	Sn	03 08 35.9	-3.8
CPD	**Cerro la Pandu**	**2.35**	**80**⇑	*e*P	Pn	03 08 12.5	-3.1
CPD				*e*S	Sn	03 08 41.1	-3.7
HUMP	**Col San Antoni**	**2.43**	**77**⇑	*e*P	Pn	03 08 14.4	-2.3
HUMP				*e*S	Sn	03 08 43.5	-3.3
CBYP	**Canovanas**	**2.46**	**74**⇑	*e*P	Pn	03 08 14.3	-2.7
CBYP				*e*S	Sn	03 08 44.0	-3.4
MTP	**Monte Pirata**	**2.70**	**80**⇑	*e*P	Pn	03 08 17.7	-2.7
MTP				*e*S	Sn	03 08 50.4	-2.9
CULB	**Culebra**	**2.95**	**76**⇑	*e*P	Pn	03 08 21.3	-2.5
CULB	**Culebra**	**2.95**	**76**	*e*S	Sn	03 08 56.5	-3.0
STVI	**Saint Thomas**	**3.30**	**77**⇑	*e*P	Pn	03 08 26.2	-2.4
STVI				*e*S	Sn	03 09 05.6	-2.6
TBVI	**Tortola**	**3.64**	**77**	*e*S	Sn	03 09 13.4	-3.2

NNC 14 03:18:11.8±2.2, 4157N×7641E, h0km, mb2.0, mpv1.9, Error ellipse: s-maj=19.1km s-min=13.7km az=91.0
ISCJB 14 03:18:12.1±1.8, 4161N±008×767E±0.1, h10km, Error ellipse: s-maj=13.6km s-min=10.8km az=16.1
*KNET 14 03:18:13.2±0.5, 4164N×7628E, h0km±3km, ml2.1, Error ellipse: s-maj=3.4

2.5nm,0.5s,mb4.4,baz=252,slow=5.9,SNR=50

ZRNK	**Zerenda**	**71.04**	**322**	*e*P	**P**	**03 36 40.0**	**-0.3**
	0.8nm,0.5s,mb3.9							
YKA	**Yellowknife Ar**	**85.00**	**27**	P	**P**	**03 37 58.0**	**+0.3**
	0.3nm,0.5s,mb3.7,baz=285,slow=5.3,SNR=6.2							
YKA	**Yellowknife Ar**	**85.00**	**27**	P	**P**	**03 37 58.0**	**+0.3**
ARCES	**ARCESS Array B**	**88.12**	**342**	P	**P**	**03 38 12.6**	**-0.5**
	3.8nm,0.8s,mb4.7,baz=69,slow=6.6,SNR=5.4							
ARCES	**ARCESS Array B**	**88.12**	**342**	P	**P**	**03 38 12.6**	**-0.5**
NVAR	**Mina Array Bea**	**89.15**	**51**	P	**P**	**03 38 20.8**	**+2.9**
	1.2nm,0.6s,mb4.4,baz=264,slow=5.3,SNR=5.4							
FINES	**FINESS Array B**	**91.94**	**335**	P	**P**	**03 38 29.6**	**-1.3**
	0.6nm,0.4s,mb4.3,baz=61,slow=4.6,SNR=15							

NEIC ***14*** *03:38:16.5, 37.70N×22.77E, h77km, MG3.4(ATH), After ATH.*
ATH ***14*** *03:38:16.4, 37.73N×22.76E, h78km±4km, ML3.4*
ISCJB ***14*** *03:38:17.2±0.5, 37.72N±003×22.76E±004, h74km±6km, Error ellipse: s-maj=5.1km s-min=4.2km az=173.8*
CSEM ***14*** *03:38:17.2±0.1, 37.74N×22.78E, h60km, ML3.4, Error ellipse: s-maj=1.7km s-min=1.4km az=42.0*
SKO ***14*** *03:38:23.8, 38.46N×22.47E, h0km*

ISC 14 03:38:18.2±0.5, 37.72N±002×22.75E±004, h67km±8km, n45, σ0.72/66, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MGER	**Gerania Oros**	**0.49**	**56**	*e*P		**Pn**		**03 38 30.0**	**-0.6**
MGER				*e*S		**Sn**		**03 38 40.0**	**+0.4**
MGER	**Gerania Oros**	**0.49**	**56**	*e*P		**Pn**		**03 38 30.0**	**-0.6**
MGER				*e*S		**Sn**		**03 38 40.5**	**+0.9**
ATH	**Athens Observa**	**0.81**	**71**	*e*P		**Pn**		**03 38 34.0**	**-0.1**
ATH				*e*S		**Sn**		**03 38 45.4**	**-0.5**
ATH	**Athens Observa**	**0.81**	**71**	*e*P		**Pn**		**03 38 34.1**	**0.0**
ATH				*e*S		**Sn**		**03 38 45.8**	**-0.1**
KVR	**Kavouri**	**0.82**	**82**	*e*P		**Pn**		**03 38 33.7**	**-0.5**
KVR				*e*S		**Sn**		**03 38 47.0**	**+0.9**
ITM	**Ithomi**	**0.84**	**231**	*e*P		**Pn**		**03 38 35.0**	**+0.4**
ITM				*e*S		**Sn**		**03 38 47.3**	**+0.6**
PTL	**Penteli**	**0.94**	**69**	*e*P		**Pn**		**03 38 35.5**	**-0.3**
PTL				*e*S		**Sn**		**03 38 48.0**	**-0.8**
PTL	**Penteli**	**0.94**	**69**	*e*P		**Pn**		**03 38 35.5**	**-0.3**
PTL				*e*S		**Sn**		**03 38 48.5**	**-0.3**
LKR	**Lokris**	**0.95**	**12**	*e*P		**Pn**		**03 38 35.6**	**-0.3**
LKR				*e*S		**Sn**		**03 38 49.3**	**+0.2**
VLI	**Veliai**	**1.01**	**171**	*e*P		**Pn**		**03 38 35.8**	**-0.8**
VLI				*e*S		**Sn**		**03 38 49.4**	**-0.8**
RLS	**Riolos of Patr**	**1.07**	**289**	*e*P		**Pn**		**03 38 38.0**	**+0.6**
RLS	**Riolos of Patr**	**1.07**	**289**	*e*P		**Pn**		**03 38 38.1**	**+0.7**
AGG	**Agios Georgios**	**1.35**	**346**	*e*P		**Pn**		**03 38 40.7**	**-0.3**
AGG				*e*S		**Sn**		**03 38 57.3**	**-0.8**
EVR	**Evrytania**	**1.41**	**329**	*e*P		**Pn**		**03 38 41.6**	**-0.2**
EVR	**Evrytania**	**1.41**	**329**	*e*P		**Pn**		**03 38 43.4**	**+1.6**
KYTH	**Kithira**	**1.45**	**171**	*e*P		**Pn**		**03 38 43.5**	**+1.1**
KYTH	**Kithira**	**1.45**	**171**	*e*P		**Pn**		**03 38 43.0**	**+0.6**
NEO	**Neokhori**	**1.63**	**13**	*e*P		**Pn**		**03 38 44.3**	**-0.5**
XOR	**Xorichti**	**1.69**	**12**	*e*P		**Pn**		**03 38 45.5**	**0.0**
AOS	**Alonnisos**	**1.70**	**31**	*e*P		**Pn**		**03 38 45.1**	**-0.7**
VLS	**Valsamata**	**1.77**	**286**	*e*P		**Pn**		**03 38 45.6**	**-1.0**
LKD	**Levkas**	**1.93**	**302**	*e*P		**Pn**		**03 38 48.5**	**-0.3**
LKD				*e*S		**Sn**		**03 39 12.2**	**+0.2**
APE	**Apeiranthos**	**2.31**	**105**	*e*P		**Pn**		**03 38 53.8**	**-0.1**
APE	**Apeiranthos**	**2.31**	**105**	*e*P		**Pn**		**03 38 53.8**	**-0.1**
PAIG	**Paliouri**	**2.33**	**18**	*e*P		**Pn**		**03 38 53.6**	**-0.5**
PAIG				*e*S		**Sn**		**03 39 21.0**	**-0.7**
LIT	**Litokhoron**	**2.39**	**355**	*e*P		**Pn**		**03 38 54.9**	**-0.2**
VAM	**Vamos**	**2.58**	**153**	*e*P		**Pn**		**03 38 56.8**	**-0.9**
IGT	**Igoumenitsa**	**2.62**	**315**	*e*P		**Pn**		**03 38 58.9**	**+0.7**
IGT				*e*S		**Sn**		**03 39 29.1**	**+0.2**
CHOS	**Chios island**	**2.69**	**75**	*e*P		**Pn**		**03 38 59.1**	**0.0**
OUR	**Ouranopolis**	**2.79**	**20**	*e*P		**Pn**		**03 39 00.3**	**-0.1**
THE	**Thessaloniki**	**2.92**	**3**	*e*P		**Pn**		**03 39 02.3**	**+0.1**
SRN	**Sarande**	**3.05**	**316**	*e*Pn		**Pn**		**03 39 03.5**	**-0.5**
SRN				*i* Sn		**Sn**		**03 39 35.7**	**-3.5**
KEK	**Kerkira**	**3.05**	**312**	*e*P		**Pn**		**03 39 03.3**	**-0.7**
GVD	**Gavdhos**	**3.07**	**159**	*e*P		**Pn**		**03 39 05.9**	**+1.7**
SOH	**Sokhos**	**3.14**	**8**	*e*P		**Pn**		**03 39 05.2**	**0.0**
SOH				*e*S		**Sn**		**03 39 42.2**	**+0.7**
SIVA	**Sivas**	**3.17**	**148**	*e*P		**Pn**		**03 39 06.4**	**+0.9**
FNA	**Florina**	**3.24**	**341**	*e*P		**Pn**		**03 39 07.5**	**+0.8**
FNA				*e*S		**Sn**		**03 39 45.1**	**+1.0**
GRG	**Griva**	**3.25**	**355**	*e*P		**Pn**		**03 39 07.0**	**+0.3**
GRG				*e*S		**Sn**		**03 39 44.9**	**+0.7**
KNT	**Kendrikon**	**3.44**	**2**	*e*P		**Pn**		**03 39 09.9**	**+0.5**
KNT				*e*S		**Sn**		**03 39 49.4**	**+0.5**
SRS	**Serrai**	**3.46**	**11**	*e*P		**Pn**		**03 39 09.3**	**-0.3**
SRS				*e*S		**Sn**		**03 39 50.0**	**+0.6**
BIA	**Bitola**	**3.48**	**342**	*e*Pn		**Pn**		**03 39 08.6**	**-1.2**
VAY	**Valandovo**	**3.60**	**358**	*e*Pn		**Pn**		**03 39 10.8**	**-0.7**
VAY	**Valandovo**	**3.60**	**358**	*e*Pn		**Pn**		**03 39 10.8**	**-0.8**
ALN	**Alexandroupoli**	**4.08**	**38**	*e*P		**Pn**		**03 39 19.3**	**+1.2**
STON	**Ston**	**6.43**	**325**	*i* Pn		**Pn**		**03 39 46.9**	**-3.4**
STON				*i* Sn		**Sn**		**03 40 53.6**	**-8.7**

CASC 14 03:45:52.7±3.0, 8.79N×82.45W, h6km, MD3.6, 2C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.36**	**180⇑**	*e*P		Pg	03 46 00.1	+0.5
BUS	**Buena Vista**	**1.50**	**300**	*e*P		Pn	03 46 19.0	-1.0
BUS				*e*S		Sn	03 46 40.5	+0.6
URSC	**Urasca**	**1.67**	**308⇓**	*e*P		Pn	03 46 22.1	-0.4
URSC				*e*S		Sn	03 46 44.1	-0.1
LCR2	**La Lucha 2**	**1.80**	**302⇑**	*e*P		Pn	03 46 24.7	+0.4
LCR2				*e*S		Sn	03 46 48.6	+1.2
ICR	**Volcan Irazu**	**1.80**	**311**	*e*P		Pn	03 46 24.5	+0.2
ICR				*e*S		Sn	03 46 49.0	+1.6
LAJ	**Bijagual**	**1.96**	**303**	*e*P		Pn	03 46 31.7	+5.3
LAJ				*e*S		Sn	03 47 00.7	+9.3
PRS1	**Puriscal**	**2.18**	**303**	*e*P		Pn	03 46 29.4	-0.1
PRS1				*e*S		Sn	03 46 59.0	+2.2
CGA2	**Cerro Gallo 2**	**2.33**	**302**	*e*P		Pn	03 46 32.8	+1.3
CGA2				*e*S		Sn	03 47 03.2	+2.7
AZU	**Azuero**	**2.37**	**115⇓**	*e*P		Pn	03 46 33.6	+1.5
AZU				*e*S		Sn	03 47 04.5	+2.9
PTP	**Ponta Puerca**	**18.85**	**58**	*e*P			03 46 06.5	
PTP				*e*S			03 46 18.6	

MOS ***14*** *04:12:56.6±0.9, 6.90S×129.61E, h33km, mb5.2/39, Error ellipse: s-maj=11.1km s-min=6.2km az=111.2*
ISCJB ***14*** *04:12:59.4±0.2, 7.01S±003×129.79E±004, h64km, mb5.0/72, Error ellipse: s-maj=6.2km s-min=4.1km az=138.7*
IDC ***14*** *04:13:00.9±1.7, 6.93S×129.58E, h57km±14km, mb4.8/20, mb1 4.9/23, mb1mx4.8/24, mbtmp5.1/23, MS4.0/9, Ms1 4.0/9, ms1mx3.7/23, Error ellipse: s-maj=15.6km s-min=10.4km az=67.0*
BJI ***14*** *04:13:01.5, 7.00S×129.70E, h66km, mB5.0, mb5.1, Ms4.8, Msz4.3*
NEIC ***14*** *04:13:01.5±0.8, 6.97S×129.66E, h67km±7km, mb5.0/35, Error ellipse: s-maj=6.7km s-min=4.5km az=52.0*
HRVD ***14*** *04:13:01.5±0.2, 6.93S×129.68E, h110km±1km, MW5.2/94, Centroid moment Tensor Solution. LP body waves: s69,c87;Mantle waves: s94,c150; Half duration: 1s0 Moment tensor: Scale 10^{16}Nm; Mrr-2.50±.17; Mθθ-2.02±.17; Mϕϕ4.52±.20; Mrθ-2.44±.11; Mθϕ5.44±.18; Mϕr4.55±.14; Best double couple: M08.46300×10^{16} NP1:ϕs170.00000°,δ76.00000°,λ-139.00000°. Principal axes: T 8.3990, Plg16.0000°, Azm294.0000°; N 0.1270, Plg48.0000°, Azm186.0000°; P -8.5260, Plg38.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 14 04:13:01.0±0.2, 7.01S±003×129.94E±004, h66km, h66km±2.8km: pP-P, n269, σ1s01/190, mb5.0/72, 4C-8D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.73**	**332**	P		**Pn**		**04 14 01.6**	**+5.5**
	1μm,0.8s								
KAKA	**Kakadu**	**6.17**	**157**	*e*P		**Pn**		**04 14 34.3**	**+4.8**
	429nm,0.1s								
SWI	**Sorong**	**6.25**	**12**	P		**Pn**		**04 14 35.0**	**+4.5**
	680nm,0.9s								
BAKI	**Biak**	**8.44**	**47**	P		**Pn**		**04 15 08.5**	**+8.0**
	3μm,1.0s								
WSI	**Waingapu**	**9.90**	**254**	P		**Pn**		**04 15 21.1**	**+0.7**
	2μm,1.0s								
MMPI	**Merauke**	**10.45**	**99**	P		**Pn**		**04 15 34.4**	**+6.5**
	3μm,1.0s								
PCI	**Palu**	**11.76**	**301**	P		**Pn**		**04 15 51.0**	**+5.2**
	354nm,1.3s								
FITZ	**Fitzroy Crossi**	**11.79**	**200**	*e*P		**Pn**		**04 15 45.2**	**-1.0**
	333nm,0.5s								
FITZ				*e*S		**Sn**		**04 17 45.3**	**-11**
FITZ	**Fitzroy Crossi**	**11.79**	**200**	P		**Pn**		**04 15 45.0**	**-1.2**
	23nm,0.3s,baz=30,slow=11,SNR=264								
FITZ				S		**Sn**		**04 17 45.1**	**-11**
	145nm,0.3s,baz=70,slow=17,SNR=14								
FITZ				LR		LR		04 21 03.2	
	comp=Z,385nm,18.5s,baz=31,slow=41								
WRAB	**Tennant Creek**	**13.54**	**162**	Pn		**Pn**		**04 16 10.0**	**+0.1**
	1μm,0.5s								
WRAB	**Tennant Creek**	**13.54**	**162**	*e*P		**Pn**		**04 16 09.7**	**-0.2**
WRAB				pmax		pmax			
	comp=Z,192nm,0.6s								
WRAB	**Tennant Creek**	**13.54**	**162**	*e*Pn		**Pn**		**04 16 09.7**	**-0.2**
	comp=Z,192nm,0.6s								
WRAB				*e*Sn		**Sn**		**04 18 32.2**	**-6.3**
WRA	**Warramunga Arr**	**13.54**	**162**	P		**Pn**		**04 16 09.9**	**-0.1**
	comp=Z,28nm,0.3s,baz=347,slow=13,SNR=103								
WRA				S		**Sn**		**04 18 29.4**	**-9.3**
	comp=Z,72nm,0.3s,baz=342,slow=21,SNR=14								
WB2	**Warramunga Arr**	**13.55**	**162⇑**	*i*P		**Pn**		**04 16 09.8**	**-0.2**
WB2				*e*S		**Sn**		**04 18 26.7**	**-12**
KMMI	**Kalianget**	**15.85**	**269**	P		**Pn**		**04 16 44.3**	**+4.3**
	comp=Z,141nm,1.5s								
ASAR	**Alice Springs**	**16.99**	**167**	P		**Pn**		**04 16 55.5**	**+1.3**
	comp=Z,8.9nm,0.3s,baz=338,slow=9.4,SNR=295								
ASAR				S		**S**		**04 19 51.7**	**-17**
	comp=Z,14nm,0.3s,baz=322,slow=16,SNR=5.6								
ASAR				ScP		ScP		04 25 01.2	-4.5
	comp=Z,2.4nm,0.3s,baz=354,slow=1.5,SNR=4.1								
MBWA	**Marble Bar**	**17.18**	**214**	*e*P		**Pn**		**04 16 55.8**	**-0.7**
	comp=Z,5.3nm,0.2s								
MBWA				*e*Sn		**Sn**		**04 19 49.4**	**-18**
PMG	**Port Moresby**	**17.21**	**99**	P		**Pn**		**04 17 02.3**	**+5.5**
	comp=Z,2.0nm,0.3s,baz=289,slow=7.7,SNR=4.3								
PMG				S		**S**		**04 20 06.5**	**-6.6**
	comp=Z,6.0nm,0.3s,baz=160,slow=8.0,SNR=8.0								
PMG	**Port Moresby**	**17.21**	**99**	P		**Pn**		**04 17 02.3**	**+5.5**
PMG				S		**S**		**04 20 06.5**	**-6.7**
PMG				pmax		pmax			
	comp=Z,2.0nm,0.3s								
PMG				smax					
	comp=N,6.0nm,0.3s								
PMG	**Port Moresby**	**17.21**	**99**	*e*P		**Pn**		**04 17 01.4**	**+4.6**
	comp=N,225nm,0.9s								
PMG				*e*Sn		**Sn**		**04 20 06.3**	**-1.3**
TBP	**Tagbilaran**	**17.66**	**340**	*e*P		**Pn**		**04 17 04.1**	**+1.6**
KKM	**Kota Kinabalu**	**18.86**	**313**	P		**Pn**		**04 17 21.1**	**+4.1**
KKM	**Kota Kinabalu**	**18.86**	**313**	*e*P		**Pn**		**04 17 16.6**	**-0.3**
BJII	**Banjamegara**	**20.07**	**268**	P		**P**		**04 17 33.5**	**+4.6**
	comp=N,53nm,1.2s								
CTA	**Charters Tower**	**20.48**	**131**	*e*P		**P**		**04 17 39.3**	**+6.1**
	comp=N,58nm,1.0s								
CTA				*e*S		**S**		**04 21 17.6**	**-1.1**
CTA	**Charters Tower**	**20.48**	**131**	P		**P**		**04 17 38.9**	**+5.6**
	comp=N,45nm,0.8s,baz=311,slow=14,SNR=18								
CTA				S		**S**		**04 21 13.8**	**-5.0**
	comp=N,11nm,0.6s,baz=250,slow=23,SNR=1.6								
CTA				LR		LR		04 26 49.4	
	comp=N,795nm,18.2s,baz=309,slow=40								
CTA	**Charters Tower**	**20.48**	**131**	P		**P**		**04 17 38.9**	**+5.7**
CTA				S		**S**		**04 21 13.8**	**-4.9**
CTA				pmax		pmax			
	comp=Z,45nm,0.8s								
CTA				smax					
	comp=N,11nm,0.6s								
CTA				MLR		MLR			
	comp=Z,795nm,18.2s								
CTAO	**Charters Tower**	**20.48**	**131**	*e*P		**P**		**04 17 36.4**	**+3.2**
CTAO				*e*S		**S**		**04 21 18.0**	**-0.7**
CTAO				pmax		pmax			
	comp=Z,621nm,1.9s								
CTAO	**Charters Tower**	**20.48**	**131**	*e*P		**P**		**04 17 36.4**	**+3.1**
	comp=Z,621nm,1.9s								
CTAO				*e*S		**S**		**04 21 18.0**	**-0.7**
KSM	**Kuching**	**21.33**	**293**	*e*P		**P**		**04 17 41.4**	**-1.0**
GUMO	**Guam**	**25.27**	**36**	P		**P**		**04 18 24.2**	**+3.2**
	comp=Z,30nm,0.3s,mb5.1,baz=185,slow=6.3,SNR=6.8								
GUMO	**Guam**	**25.27**	**36**	P		**P**		**04 18 24.2**	**+3.2**
GUMO				pmax		pmax			
	comp=Z,30nm,0.3s,mb5.2								
GUMO	**Guam**	**25.27**	**36**	P		**P**		**04 18 24.2**	**+3.2**
KLBR	**Kellerberrin**	**26.97**	**203**	*e*P		**P**		**04 18 37.2**	**+0.9**
	comp=Z,26nm,0.7s,mb4.9								
KLBR				*e*sP		sP		04 19 09.3	+9.3
KLBR				*e*S		sS		04 23 38.5	+2.4
STKA	**Stephens Creek**	**27.02**	**158**	*e*P		**P**		**04 18 37.8**	**+1.0**
	comp=Z,20nm,0.8s,mb4.7								
STKA				*e*pP		pP		04 18 59.5	+6.9
STKA	**Stephens Creek**	**27.02**	**158**	P		**P**		**04 18 37.9**	**+1.1**
	comp=Z,22nm,0.7s,mb4.8,baz=334,slow=8.6,SNR=36								
STKA				S		sS		04 23 43.6	+6.8
	comp=Z,38nm,0.8s,baz=294,slow=9.3,SNR=3.8								
STKA				LR		LR		04 28 37.3	
	comp=Z,216nm,20.3s,baz=142,slow=34								
MUN	**Mundaring**	**27.95**	**205**	*e*P		**P**		**04 18 46.0**	**+1.0**
NWAO	**Narrogin (SRO)**	**28.36**	**203**	P		**P**		**04 18 50.1**	**+1.4**
	comp=Z,12nm,0.5s,mb4.7,baz=34,slow=8.5,SNR=23								
NWAO				LR		LR		04 30 04.4	
	comp=Z,244nm,20.7s,baz=259,slow=36								
NWAO	**Narrogin (SRO)**	**28.36**	**203**	*e*P		**P**		**04 18 48.7**	**0.0**
NWAO				pmax		pmax			
	comp=Z,38nm,1.2s								
NWAO	**Narrogin (SRO)**	**28.36**	**203**	*e*P		**P**		**04 18 48.7**	**0.0**
	comp=Z,38nm,1.2s,mb4.8								
NWAO				*e*pP		pP		04 19 11.5	+6.9
PPI	**Padang Panjang**	**30.17**	**281**	P		**P**		**04 19 04.2**	**-0.6**
	comp=Z,36nm,1.2s,mb4.9								
IPM	**Ipoh**	**31.03**	**291**	P		**P**		**04 19 11.9**	**-0.4**
KULM	**Kulim**	**31.68**	**292**	*e*P		**P**		**04 19 16.0**	**-2.1**
KULM				*e*pP		pP		04 19 41.3	+7.2
PSI	**Prapat**	**32.45**	**286**	P		**P**		**04 19 23.5**	**-1.3**
	comp=Z,84nm,0.9s,mb5.5,baz=134,slow=4.6,SNR=45								
PSI				LR		LR		04 32 17.9	
	comp=Z,351nm,19.4s,baz=28,slow=36								
PSI	**Prapat**	**32.45**	**286**	P		**P**		**04 19 23.5**	**-1.3**
PSI				pmax		pmax			
	comp=Z,84nm,0.9s,mb5.5								
PSI				MLR		MLR			
	comp=Z,351nm,19.5s								
CNB	**Canberra Magne**	**33.34**	**150**	*e*P		**P**		**04 19 37.8**	**+5.2**
	comp=Z,7.2nm,0.6s,mb4.7								
JOW	**Kunigami**	**33.68**	**357**	LR		LR		04 31 34.5	
	comp=Z,188nm,20.3s,baz=146,slow=33								
BSI	**Banda Aceh**	**36.74**	**289**	P		**P**		**04 20 00.5**	**-1.3**
	comp=Z,44nm,1.3s,mb5.2								
DZM	**Mont Dzumac**	**38.24**	**117**	P		**P**		**04 20 19.3**	**+4.8**
	comp=Z,21nm,1.0s,mb4.9,baz=304,slow=5.2,SNR=7.9								
NANT	**Nan**	**38.59**	**312**	⇓P		**P**		**04 20 17.5**	**+0.1**
	comp=Z,338nm,0.5s								
SSE	**Sheshan**	**38.81**	**348**	P		**P**		**04 20 17.4**	**-1.8**
SSE				AP		pP		04 20 32.5	-3.1
SSE				PCP		PcP		04 22 27.6	-1.8
SSE				S		**S**		**04 26 11.3**	**-0.7**
SSE				XS		sS		04 26 37.9	-2.0
SSE				AMB		AMB			
	comp=Z,47nm,0.8s,mb5.4								
SSE				AMB		AMB			
	comp=Z,73nm,8.8s								
SSE				LR		LR			
	comp=N,41nm,25.2s								
SSE				LR		LR			
	comp=E,126nm,25.2s								
SSE				LR		LR			
	comp=Z,90nm,23.7s								
CHG	**Chiang Mai**	**39.91**	**311**	⇓P		**P**		**04 20 28.5**	**+0.1**
	comp=Z,28nm,0.9s,mb5.1								
CHTO	**Chiang Mai**	**39.91**	**311**	*e*P		**P**		**04 20 28.1**	**-0.3**
CHTO				pmax		pmax			
	comp=Z,21nm,0.8s,mb5.0								
CHTO	**Chiang Mai**	**39.91**	**311**	*e*P		**P**		**04 20 28.1**	**-0.3**
	comp=Z,21nm,0.8s,mb5.0								
CHRT	**Chiangrai**	**39.93**	**313**	⇓P		**P**		**04 20 29.0**	**+0.4**
	comp=Z,145nm,0.9s,mb5.8								
GYA	**Guiyang**	**40.21**	**327**	P		**P**		**04 20 31.8**	**+0.9**
GYA				AP		pP		04 20 47.0	-0.4
GYA				XP		sP		04 20 54.3	-0.7
GYA				PP		PP		04 22 09.4	+4.9
GYA				PCP		PcP		04 22 35.5	+1.7
GYA				SCP		ScP		04 26 18.1	+0.9
GYA				S		**S**		**04 26 34.0**	**+0.9**
GYA				XS		sS		04 27 01.4	+0.4
GYA				AMB		AMB			
	comp=Z,20nm,0.8s,mb5.0								
GYA				AMB		AMB			
	comp=Z,110nm,4.0s								
GYA				LR		LR			
	comp=N,670nm,17.6s								
GYA				LR		LR			
	comp=E,540nm,17.2s								
GYA				LR		LR			
	comp=Z,580nm,17.0s								
WHN	**Wuhan**	**40.22**	**339**	⇑P		**P**		**04 20 32.0**	**+1.0**
NJ2	**Nanjing**	**40.26**	**345**	*e*P		**P**		**04 20 32.6**	**+1.3**
NJ2				AP		pP		04 20 46.6	-1.2
NJ2				XP		sP		04 20 54.9	-0.5
NJ2				PP		PP		04 22 10.6	+5.6
NJ2				S		**S**		**04 26 36.0**	**+2.2**
NJ2				XS		sS		04 27 00.0	-1.8
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.7s,mb4.8								
NJ2				AMB		AMB			
	comp=Z,110nm,5.8s								
NJ2				LR		LR			
	comp=N,1μm,35.6s								
NJ2				LR		LR			
	comp=E,540nm,24.0s								
NJ2				LR		LR			
	comp=Z,420nm,37.5s								
KMI	**Kunming**	**41.49**	**321**	P		**P**		**04 20 43.0**	**+1.6**
KMI				AP		pP		04 20 58.3	+0.4
KMI				XP		sP		04 21 04.8	-0.8
KMI				PP		PP		04 22 21.4	+3.1
KMI				S		**S**		**04 26 53.9**	**+1.8**
KMI				XS		sS		04 27 24.3	+4.2
KMI				SS		SS		04 29 53.9	-4.7
KMI				AMB		AMB			
	comp=Z,6.0nm,1.3s,mb4.3								
KMI				AMB		AMB			
	comp=Z,145nm,4.3s								
KMI				LR		LR			
	comp=N,296nm,14.2s								
KMI				LR		LR			
	comp=E,187nm,15.0s								
KMI				LR		LR			
	comp=Z,232nm,18.5s								
MJAR	**Matsushiro Arr**	**44.01**	**10**	P		**P**		**04 21 01.8**	**0.0**
	comp=Z,25nm,0.9s,mb4.9,baz=188,slow=9.5,SNR=51								
MJAR	**Matsushiro Arr**	**44.01**	**10**	P		**P**		**04 21 01.8**	**-0.1**
MJAR				pmax		pmax			
	comp=Z,25nm,0.9s								
MAJO	**Matsushiro**	**44.02**	**10**	*e*P		**P**		**04 21 01.5**	**-0.4**
MAJO				pmax		pmax			
	comp=Z,28nm,0.9s,mb5.0								
MAJO	**Matsushiro**	**44.02**	**10**	*e*P		**P**		**04 21 01.5**	**-0.4**
	comp=Z,28nm,0.9s,mb5.0								
MAT	**Matsushiro**	**44.02**	**10**	P		**P**		**04 21 01.5**	**-0.4**
MAT				*e*S		**S**		**04 27 16.6**	**-13**
MAT	**Matsushiro**	**44.02**	**10**	*e*P		**P**		**04 21 02.0**	**+0.1**
MAT				pmax		pmax			
	comp=Z,28nm,1.0s,mb5.0								
MAT	**Matsushiro**	**44.02**	**10**	*e*P		**P**		**04 21 02.0**	**+0.1**
	comp=Z,28nm,1.0s,mb5.0								
MAT				S		**S**		**04 27 17.0**	**-12**
BJT	**Baijiatuan**	**48.49**	**346**	*e*P		**P**		**04 21 36.9**	**-0.1**
BJT				pmax		pmax			
	comp=Z,16nm,0.8s								
BJT	**Baijiatuan**	**48.49**	**346**	*e*P		**P**		**04 21 36.9**	**-0.1**
	comp=Z,16nm,0.8s,mb4.9								
BJI	**Beijing**	**48.51**	**346**	*e*P		**P**		**04 21 37.6**	**+0.4**
BJI				XP		sP		04 22 00.6	-1.0
BJI				S		**S**		**04 28 33.3**	**-0.2**
BJI				XS		sS		04 29 03.1	+1.0
BJI				AMB		AMB			
	comp=Z,35nm,0.7s,mb5.4								
BJI				AMB		AMB			
	comp=Z,133nm,2.9s,mb5.4								
BJI				LR		LR			
	comp=Z,106nm,23.8s								
LZH	**Lanzhou**	**49.39**	**332**	*e*P		**P**		**04 21 47.1**	**+3.3**
LZH				AP		pP		04 22 03.5	+2.8
LZH				XP		sP		04 22 10.4	+2.1
LZH				PP		PP		04 23 42.5	+4.1
LZH				*e*S		**S**		**04 28 49.3**	**+3.5**

GTA LR LR
comp=E,154nm,12.7s
GTA LR LR
comp=Z,153nm,11.9s
JIRN Jiri 54.55 311 *e*P **P 04 22 21.8 -0.4**
comp=Z,17nm,0.2s,mb5.7
GUN Gumba 54.92 311 *e*P **P 04 22 24.7 -0.2**
comp=Z,40nm,0.4s,mb5.8
YSS Yuzh-Sakhalins 54.92 11 *e*P **P 04 22 24.5 -0.4**
PKI Pulchoki 55.09 311 *e*P **P 04 22 26.1 0.0**
comp=Z,19nm,0.4s,mb5.4
PKI Pulchoki 55.09 311 *e*P **P 04 22 26.1 0.0**
PKI pmax pmax
comp=Z,19nm,0.4s,mb5.5
KKN Kakani 55.30 311 *e*P **P 04 22 27.2 -0.4**
DMN Daman 55.34 310 *e*P **P 04 22 27.0 -0.9**
comp=Z,17nm,0.5s,mb5.3
HABR Khabarovsk 55.43 4 *e*P **P 04 22 29.8 +1.2**
HABR *e*S **S 04 30 12.3 +3.9**
GKN Gorkha 55.90 311 *e*P **P 04 22 30.8 -1.1**
comp=Z,30nm,0.3s,mb5.9
KLR Kul'dur 56.03 1 *e*P **P 04 22 30.0 -2.8**
KLR pmax pmax
comp=Z,50nm,1.8s,mb5.2
HYB Hyderabad 56.27 296 *i* P **P 04 22 36.0 +1.5**
HYB Hyderabad 56.27 296 *e*P **P 04 22 36.0 +1.5**
KOLN Koldanda 56.56 310 *e*P **P 04 22 36.0 -0.6**
comp=Z,15nm,0.2s,mb5.6
ULN Ulaanbaatar 58.26 342 *e*P **P 04 22 49.2 +0.6**
ULN pmax pmax
comp=Z,13nm,0.7s,mb5.1
ULN Ulaanbaatar 58.26 342 *e*P **P 04 22 49.2 +0.6**
comp=Z,13nm,0.7s,mb5.1
SONM Songino Array 58.44 342 P **P 04 22 51.0 +1.2**
comp=Z,2.4nm,0.3s,mb4.7,baz=157,slow=5.2,SNR=27
SONM Songino Array 58.44 342 P **P 04 22 51.0 +1.2**
SONM pmax pmax
comp=Z,2.0nm,0.3s
CIT Chita 60.46 348 *e*P **P 04 23 05.0 +1.3**
CIT pmax pmax
comp=Z,29nm,1.8s,mb5.0
CASY Casey 60.68 189 *e*P **P 04 23 05.8 +0.6**
comp=Z,7.0nm,0.8s,mb4.7
ZAK Zakamensk 61.66 341 *e*P **P 04 23 12.2 +0.3**
ZAK pmax pmax
comp=Z,21nm,1.9s,mb4.8
TLY Talaya 62.67 342 *e*P **P 04 23 18.9 +0.3**
TLY *e* 04 24 03.8
TLY *e*PPP 04 27 03.2
TLY *e*S **S 04 31 34.1 -7.9**
TLY pmax pmax
comp=Z,11nm,1.0s,mb4.7
TLY Talaya 62.67 342 *e*P **P 04 23 18.8 +0.2**
comp=Z,2.9nm,0.5s,mb4.5
WMQ Urumqi 63.37 327 ||P **P 04 23 23.8 +0.5**
WMQ AP pP 04 23 40.3 -0.5
WMQ XP sP 04 23 47.8 -0.4
WMQ PCP PcP 04 24 00.5 +0.8
WMQ PP PP 04 25 44.8 +1.5
WMQ S **S 04 31 49.0 -1.8**
WMQ XS sS 04 32 16.8 -3.6
WMQ AMB AMB
comp=Z,18nm,0.7s,mb5.1
WMQ AMB AMB
comp=Z,135nm,5.2s
WMQ LR LR
comp=N,148nm,20.3s
WMQ LR LR
comp=E,142nm,20.3s
WMQ LR LR
comp=Z,68nm,20.3s
MOY Mondy 63.51 340 *e*P **P 04 23 25.0 +0.8**
MOY pmax pmax
comp=Z,47nm,2.0s,mb5.0
BOD Bodaibo 65.90 351 *e*P **P 04 23 39.7 -0.1**
BOD pmax pmax
comp=Z,14nm,1.4s,mb4.6
KSH Kashi 67.99 318 *e*P **P 04 23 52.1 -0.9**
KSH *e*AP pP 04 24 08.0 -2.7
KSH *e*PCP PcP 04 24 18.4 -0.5
KSH *e*PP PP 04 26 23.4 -0.2
KSH *e*SCP 04 28 15.1
KSH *e*PCS 04 28 22.3
KSH *e*SCS ScS 04 33 41.3 -4.8
KSH *e*SS SS 04 37 05.1 -5.0
KSH AMB AMB
comp=Z,72nm,4.2s
KSH LR LR
comp=N,180nm,5.7s
KSH LR LR
comp=E,208nm,4.4s
KSH LR LR
comp=Z,215nm,5.0s
MKAR Makanchi Array 68.20 327 P **P 04 23 54.5 +0.1**
comp=Z,12nm,0.4s,mb5.1,baz=114,slow=8.4,SNR=198
MKAR Makanchi Array 68.20 327 P **P 04 23 54.5 +0.1**
MKAR pmax pmax
comp=Z,12nm,0.4s
YAK Yakutsk 68.84 360 *e*P **P 04 23 59.5 +1.2**
YAK *e* pP 04 24 21.2 +5.1
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=Z,28nm,0.9s,mb5.1
YAK pmax pmax
comp=N,12nm,1.1s
YAK Yakutsk 68.84 360 *e*P **P 04 23 57.6 -0.7**
comp=N,42nm,0.8s,mb5.3
YAK *e*pP pP 04 24 19.5 +3.5
AAK Ala-Archa 70.51 320 *e*P **P 04 24 08.3 -0.3**
AAK pmax pmax
comp=Z,13nm,1.8s,mb4.5
AAK Ala-Archa 70.51 320 *e*P **P 04 24 08.0 -0.6**
comp=Z,8.0nm,0.8s,mb4.6
ZAL Zalesovo 71.57 334 P **P 04 24 13.5 -1.5**
VNDA Vanda 72.44 173 P **P 04 24 20.8 +0.6**
comp=Z,3.3nm,0.8s,mb4.2,baz=320,slow=6.6,SNR=18
VNDA PKKP PKKPbc 04 43 54.7 -8.9
comp=Z,0.7nm,0.8s,baz=207,slow=2.0,SNR=3.7
VNDA LR LR 04 51 51.3
comp=Z,179nm,20.7s,baz=339,slow=32
VNDA Vanda 72.44 173 *e*P **P 04 24 21.2 +1.0**
VNDA pmax pmax
comp=Z,7.0nm,1.0s
VNDA Vanda 72.44 173 *e*P **P 04 24 21.2 +1.0**
comp=Z,6.6nm,1.0s,mb4.4
KURK Kurchatov 72.50 329 P **P 04 24 20.6 0.0**
comp=Z,140nm,1.1s,mb5.7,SNR=12
KURK Kurchatov 72.50 329 *e*P **P 04 24 19.9 -0.7**
KURK *PP pP 04 24 40.6 +2.2
KURK pmax pmax
comp=Z,25nm,1.0s,mb5.0
KURK Kurchatov 72.50 329 *e*P **P 04 24 19.9 -0.6**
comp=Z,25nm,1.0s,mb5.0
KURK pP pP 04 24 40.6 +2.1
NVS Novosibirsk 72.85 334 ||*i*P **P 04 24 20.6 -2.1**
NVS pmax pmax
comp=Z,28nm,1.4s,mb4.9
NVS pmax pmax
comp=N,20nm,1.5s
NVS pmax pmax
comp=E,19nm,1.6s
MAW Mawson 74.92 201 P **P 04 24 35.6 +0.9**
comp=E,15nm,0.9s,mb4.7,baz=58,slow=7.2,SNR=16
MAW LR LR 04 52 28.6
comp=E,122nm,20.9s,baz=252,slow=32
WSAR Wadi Sarin 75.82 296 P **P 04 24 39.8 -0.1**
comp=E,15nm,0.8s,mb4.8,baz=84,slow=8.8,SNR=12
BRVK Borovoye 78.11 328 P **P 04 24 52.0 -0.8**
comp=E,86nm,1.0s,mb5.4,SNR=8.6
BRVK Borovoye 78.11 328 *e*P **P 04 24 52.4 -0.4**
BRVK pmax pmax
comp=Z,13nm,1.1s,mb4.6
BRVK Borovoye 78.11 328 *e*P **P 04 24 52.4 -0.4**
comp=Z,13nm,1.1s,mb4.6
BRVK *e*pP pP 04 25 12.4 +1.5
TIXI Tiksi 78.50 360 *e*P **P 04 24 52.4 -2.5**
TIXI pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
TBI Tubuai 78.65 112 *e*LR LR 04 49 18.8
comp=Z,174nm,32.8s
ZRNK Zerenda 78.74 327 *e*P **P 04 24 55.5 -0.7**
ZRNK pmax pmax
comp=Z,12nm,0.7s,mb4.8
ZRNK Zerenda 78.74 327 *e*P **P 04 24 55.5 -0.8**
comp=Z,12nm,0.7s,mb4.8

PAE Paea 78.87 107 *e*P **P 04 25 01.5 +4.6**
comp=Z,48nm,1.2s,mb5.2
PPT Papeete 78.88 106 *e*P **P 04 25 01.8 +4.8**
comp=Z,25nm,1.1s,mb5.0
PPT Papeete 78.88 106 *e*LR LR 04 49 43.2
comp=Z,169nm,31.8s
PPT Papeete 78.88 106 P **P 04 25 01.7 +4.8**
comp=Z,12nm,0.6s,mb4.9,baz=201,slow=4.4,SNR=3.8
PPT Papeete 78.88 106 P **P 04 25 01.7 +4.7**
PPT pmax pmax
comp=Z,12nm,0.6s
BILL Bilibino 79.14 13 *e*P **P 04 24 56.8 -1.6**
BILL pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
PMOR Pomariorio Ree 80.68 104 *e*P **P 04 25 11.5 +4.8**
comp=Z,32nm,1.1s,mb5.1
QSPA South Pole Qui 82.96 180 *e*P **P 04 25 19.2 +0.5**
comp=Z,12nm,0.8s,mb4.8
SYO Syowa Base 83.63 201||*e*P **P 04 25 21.8 -0.3**
AKTK Aktyubinsk 84.05 322 P **P 04 25 23.8 -0.5**
AKTO Aktyubinsk 84.05 322 P **P 04 25 23.8 -0.5**
comp=Z,3.1nm,0.3s,mb4.6,baz=102,slow=6.0,SNR=23
AKTO Aktyubinsk 84.05 322 P **P 04 25 23.8 -0.5**
AKTO pmax pmax
comp=Z,3.0nm,0.3s,mb4.6
ARU Arti 85.69 328 ||*i*P **P 04 25 31.6 -0.9**
ARU *e* 04 28 49.7
ARU *e*S 04 35 53.1
ARU *e*SS SS 04 41 34.6 -2.5
ARU pmax pmax
comp=Z,15nm,0.9s,mb4.9
ARU Arti 85.69 328 *e*P **P 04 25 31.6 -0.9**
comp=Z,12nm,0.9s,mb4.8
ORR Orenburg 86.36 323 *e*P **P 04 25 35.6 -0.3**
ORR pmax pmax
comp=Z,40nm,1.7s,mb5.1
TTA Tatalina 89.03 26 *e*P **P 04 25 49.3 +0.7**
TTA pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
TTA Tatalina 89.03 26 *e*P **P 04 25 49.3 +0.7**
comp=Z,9.6nm,1.0s,mb4.8
KDAK Kodiak Island 89.26 32 P **P 04 25 49.9 +0.2**
comp=Z,7.5nm,1.1s,mb4.7,baz=172,slow=1.7,SNR=3.6
KMBO Kilima Mbogo 92.53 269 P **P 04 26 05.0 +0.1**
comp=Z,1.8nm,0.9s,mb4.4,baz=36,slow=6.6,SNR=5.1
KMBO LR LR 05 08 43.9
comp=Z,54nm,18.4s,baz=267,slow=36
KMBO Kilima Mbogo 92.53 269 P **P 04 26 05.0 +0.1**
KMBO pmax pmax
comp=Z,2.0nm,0.9s
KMBO MLR MLR
comp=Z,54nm,18.5s
COLA College 93.00 25 *e*P **P 04 26 06.1 -0.9**
COLA pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
COLA College 93.00 25 *e*P **P 04 26 06.1 -1.0**
comp=Z,2.1nm,0.6s,mb4.6
ILAR Eielson Array 93.39 25 P **P 04 26 07.3 -1.5**
comp=Z,3.9nm,1.0s,mb4.7,baz=263,slow=4.5,SNR=28
ILAR Eielson Array 93.39 25 P **P 04 26 07.3 -1.5**
ILAR pmax pmax
comp=Z,4.0nm,1.0s
SNAA Sanae 95.64 193 P **P 04 26 19.4 +0.2**
comp=Z,2.4nm,0.9s,mb4.6,baz=123,slow=5.1,SNR=10
SNAA Sanae 95.64 193 P **P 04 26 19.4 +0.3**
SNAA pmax pmax
comp=Z,2.0nm,0.9s
SNAA Sanae 95.64 193 *e*P **P 04 26 19.4 +0.2**
comp=Z,6.2nm,0.9s,mb5.0
ASF Jabal al Asfar 96.25 302 P **P 04 26 22.4 +0.4**
comp=Z,1.1nm,0.4s,mb4.6,baz=296,slow=3.2,SNR=4.6
ASF Jabal al Asfar 96.25 302 P **P 04 26 22.4 +0.5**
ASF pmax pmax
comp=Z,1.0nm,0.4s
DAWY Dawson 96.55 26 *e*P **P 04 26 22.7 -0.6**
DAWY *e* 04 26 54.2
OBN Obninsk 97.63 325 *e*P **P 04 26 27.8 -0.4**
OBN *e*SS SS 04 44 30.3 +1.4
OBN pmax pmax
comp=Z,4.0nm,0.8s,mb5.0
INK Inuvik 98.90 22 P **P 04 26 33.5 -0.4**
comp=Z,3.3nm,1.1s,mb4.8,baz=268,slow=5.1,SNR=6.5
INK Inuvik 98.90 22 P **P 04 26 33.5 -0.3**
INK pmax pmax
comp=Z,3.0nm,1.1s
INK Inuvik 98.90 22 *e*P **P 04 26 33.5 -0.3**
comp=Z,8.6nm,1.3s,mb5.1
LSZ Lusaka 99.40 253 *e*P **P 04 26 36.2 +0.1**
LSZ pmax pmax
comp=Z,4.0nm,1.1s,mb4.9
LSZ Lusaka 99.40 253 *e*P **P 04 26 36.2 +0.1**
comp=Z,3.7nm,1.1s,mb4.8
JOF Joensuu 100.14 333 *e*p Pdif 04 26 34.4 -5.0
ARCES ARCESS Array B 101.57 340 P Pdif 04 26 43.8 -1.9
comp=Z,5.0nm,1.0s,baz=101,slow=5.0,SNR=6.1
ARCES ARCESS Array B 101.57 340 P Pdif 04 26 43.8 -1.9
ARCES pmax pmax
comp=Z,5.0nm,1.0s
FINES FINESS Array B 102.75 331 P Pdif 04 26 48.9 -2.1
comp=Z,0.8nm,0.7s,baz=41,slow=6.1,SNR=4.8
FINES PKIKP PKiKP 04 31 12.2 +0.9
comp=Z,0.7nm,0.7s,baz=96,slow=1.4,SNR=3.8
FINES FINESS Array B 102.75 331 P Pdif 04 26 48.9 -2.1
FINES *i* 04 31 12.3
FINES pmax pmax
comp=Z,1.0nm,0.7s
BURAR Bucovina Array 105.07 317 ||*i*P Pdif 04 27 01.5 +0.2
BURAR Bucovina Array 105.07 317 ||P Pdif 04 27 01.5 +0.2
YKA Yellowknife Ar 107.79 26 PKiKP PKiKP 04 31 20.5 -0.2
comp=Z,0.6nm,0.5s,baz=287,slow=1.9,SNR=15
YKA PKKPbc PKKPbc 04 42 33.2 -0.7
comp=Z,1.0nm,0.7s,baz=102,slow=3.0,SNR=15
YKA Yellowknife Ar 107.79 26 PKPdf PKiKP 04 31 20.5 -0.1
YKA PKKPbc PKKPbc 04 42 33.2 -0.7
NOA NORSAR Array B 109.76 333 PKKPbc PKKPbc 04 42 31.3 +3.6
comp=Z,1.1nm,0.9s,baz=233,slow=1.1,SNR=3.7
NVAR Mina Array Bea 111.35 52 PP PP 04 32 10.2 +2.0
comp=Z,0.8nm,0.5s,baz=261,slow=6.4,SNR=5.1
GERES GERESS Array B 112.39 320 PKiKP PKiKP 04 31 29.1 -0.2
comp=Z,1.0nm,0.6s,baz=74,slow=2.0,SNR=16
GERES GERESS Array B 112.39 320 *i* PKIKP PKiKP 04 31 29.1 -0.2
GERES pmax pmax
comp=Z,1.0nm,0.6s
CHMT Chamberlain Mo 113.28 42 *e*PKP PKiKP 04 31 31.8 +0.8
HLID Hailey 113.31 46 *e*PKP PKiKP 04 31 33.0 +2.0
MCMT McKenzie Canyo 114.09 44 *e*PKP PKiKP 04 31 34.4 +1.9
DUG Dugway 115.22 49 *e*PKIKP PKPdf 04 31 36.9 +2.2
EGMT Eagleton 115.22 40 *e*PKPdf PKPdf 04 31 35.5 +0.8
DAVOX Davos 115.46 319 PKP PKPdf 04 31 35.3 +0.1
comp=Z,3.1nm,0.6s,baz=190,slow=2.5,SNR=7.6
DCID1 Drake Creek 115.57 45 *e*PKPdf PKPdf 04 31 37.5 +2.1
IMW Indian Meadow 115.66 44 *e*PKPdf PKPdf 04 31 37.7 +2.1
TPAW Teton Pass 115.76 45 *e*PKPdf PKPdf 04 31 38.1 +2.3
HWUT Hardware Ranch 115.81 47 *e*PKPdf PKPdf 04 31 37.1 +1.2
MOOW Moose Ponds 115.84 45 *e*PKPdf PKPdf 04 31 37.9 +2.0
CDF Champ du Feu 116.58 321 *e*PKIKP PKPdf 04 31 37.2 -0.1
BW06 Boulder Array 116.94 45 *e*PKPdf PKPdf 04 31 39.6 +1.5
PDAR Pinedale Array 116.94 45 PKP PKPdf 04 31 39.8 +1.7
comp=Z,2.7nm,0.7s,baz=255,slow=1.1,SNR=21
PDAR PKKPbc PKKPbc 04 42 04.6 +1.1
comp=Z,0.4nm,0.7s,baz=128,slow=2.4,SNR=3.8
FFC Flin Flon 117.00 31 *e*PKIKP PKPdf 04 31 38.8 +0.6
HINF Hinteralfeld 117.05 321 *e*PKIKP PKPdf 04 31 37.7 -0.6
comp=Z,4.0nm,0.7s
SRU San Rafael 117.19 50 *e*PKIKP PKPdf 04 31 40.4 +1.9
HAU Haudompre 117.30 321 *e*PKIKP PKPdf 04 31 39.4 +0.7
HAU *e*R
comp=Z,42nm,20.8s
HAU Haudompre 117.30 321 *e*PKPdf PKPdf 04 31 39.4 +0.7
HAU LR LR
comp=Z,40nm,20.8s
GIVF Givet 117.42 324 *e*PKIKP PKPdf 04 31 39.1 +0.1
LPG La Plagne 117.93 318 *e*PKIKP PKPdf 04 31 40.2 +0.3
comp=Z,5.4nm,0.7s
LPL La Plagne 117.94 318 *e*PKIKP PKPdf 04 31 40.1 +0.1
comp=Z,5.8nm,0.7s
LAO LASA Array 117.94 40 *e*PKPdf PKPdf 04 31 41.8 +1.8
CABF La Chapelle 117.97 320 *e*PKIKP PKPdf 04 31 40.1 +0.1
comp=Z,5.8nm,0.6s
MBDF Montbardon 118.18 317 *e*PKIKP PKPdf 04 31 40.1 -0.3
comp=Z,5.7nm,0.8s
FCC Fort Churchill 118.39 24 *e*PKIKP PKPdf 04 31 40.3 -0.5
PV10 Paradox Valley 118.50 50 *e*PKPdf PKPdf 04 31 43.1 +2.0
ORIF Oris-en-Rattie 118.71 318 *e*PKIKP PKPdf 04 31 41.3 -0.1
comp=Z,6.4nm,0.8s

ORIF *e*R
comp=Z,58nm,22.8s
PV01 Paradox Valley 118.91 50 *e*PKPdf PKPdf 04 31 43.5 +1.7
RWWY Rawlins 118.92 46 *e*PKPdf PKPdf 04 31 43.6 +1.7
LOR Lormes 119.14 321 *e*PKIKP PKPdf 04 31 42.1 -0.2
comp=Z,3.5nm,0.8s
LOR *e*R
comp=Z,50nm,21.0s
LOR Lormes 119.14 321 *e*PKPdf PKPdf 04 31 42.1 -0.2
LOR LR LR
comp=Z,50nm,21.0s
EKA Eskdalemuir Ar 119.15 331 PKP PKPdf 04 31 42.8 +0.5
comp=Z,0.5nm,0.4s,baz=23,slow=3.9,SNR=6.7
EKA Eskdalemuir Ar 119.15 331 PKIKP PKPdf 04 31 42.8 +0.5
EKA pmax pmax
comp=Z,10.0nm,0.4s
MVCO Mesa Verde 119.20 51 *e*PKPdf PKPdf 04 31 44.3 +1.9
SMF Signal de Mont 119.39 320 *e*PKIKP PKPdf 04 31 42.6 -0.2
SSF Saint Saulge 119.44 321 *e*PKIKP PKPdf 04 31 42.8 -0.1
comp=Z,8.6nm,0.8s
VIVF Saint-Julien-l 119.53 318 *e*PKIKP PKPdf 04 31 42.9 -0.1
AVF Avril sur Loir 119.65 321 *e*PKIKP PKPdf 04 31 42.8 -0.4
SMCO Snowmass 119.84 49 *e*PKPdf PKPdf 04 31 46.2 +2.6
BGF Bois d'Agland 120.06 321 *e*PKIKP PKPdf 04 31 44.2 +0.2
comp=Z,12nm,0.8s
RSSD Black Hills 120.31 42 *e*PKIKP PKPdf 04 31 45.3 +0.8
TCF Toulx Ste Croi 120.57 320 *e*PKIKP PKPdf 04 31 45.1 +0.1
comp=Z,6.5nm,0.8s
ISCO Idaho Springs 120.66 48 *e*PKIKP PKPdf 04 31 47.2 +2.0
CAF Calviac 121.22 319 *e*PKIKP PKPdf 04 31 46.7 +0.4
comp=Z,6.2nm,1.0s
ANMO Albuquerque 121.36 53 *e*PKIKP PKPdf 04 31 48.8 +2.3
LPM Los Pinos Moun 121.38 54 *e*PKPdf PKPdf 04 31 49.1 +2.6
RJF Les Rejaudoux 121.42 320 *e*PKIKP PKPdf 04 31 46.1 -0.6
RJF *e*R
comp=Z,77nm,22.5s
RJF Les Rejaudoux 121.42 320 *e*PKPdf PKPdf 04 31 46.1 -0.6
RJF LR LR
comp=Z,80nm,22.5s
BNM Barren Site 121.42 54 *e*PKPdf PKPdf 04 31 49.2 +2.6
GRR Gorron 121.52 324 *e*PKIKP PKPdf 04 31 46.7 -0.1
MTLF Montolieu 121.74 317 *e*PKIKP PKPdf 04 31 47.2 -0.1
comp=Z,8.8nm,0.9s
MFF Saint Martin d 121.91 322 *e*PKIKP PKPdf 04 31 47.5 -0.1
comp=Z,7.1nm,0.7s
LFF La Frestale 122.07 319 *e*PKIKP PKPdf 04 31 47.2 -0.7
ULM Lac du Bonnet 122.49 33 PKP PKPdf 04 31 48.8 +0.1
comp=Z,4.5nm,0.5s,baz=309,slow=3.5,SNR=11
SGMF Saint Gilles 122.57 324 *e*PKIKP PKPdf 04 31 48.5 -0.4
comp=Z,12nm,0.9s
MNTX Cornudas Mount 123.01 57 *e*PKPdf PKPdf 04 31 51.6 +1.9
QUIF Quistinic 123.09 324 *e*PKIKP PKPdf 04 31 49.6 -0.3
EPF Esparros 123.12 318 *e*PKIKP PKPdf 04 31 50.1 +0.2
comp=Z,8.9nm,1.0s
ETSF Etsaut 123.78 318 *e*PKIKP PKPdf 04 31 50.9 -0.3
comp=Z,6.7nm,0.9s
SJPF Ste Jean 124.13 318 *e*PKIKP PKPdf 04 31 51.4 -0.5
AMTX Amarillo 125.15 52 *e*PKPdf PKPdf 04 31 56.1 +2.3
CBKS Cedar Bluff 125.28 47 *e*PKIKP PKPdf 04 31 55.9 +1.8
ESDC Sonseca Array 127.47 316 PKP PKPdf 04 31 59.6 +1.3
comp=Z,0.6nm,0.9s,baz=80,slow=1.7,SNR=5.6
JCT Junction City 127.95 57 *e*PKIKP PKPdf 04 32 00.8 +1.6
TORD Torodi Ar. Bea 128.75 281 PKP PKPdf 04 32 01.9 +1.2
comp=Z,4.4nm,0.7s,baz=98,slow=2.0,SNR=33
TORD SKPbc 04 35 09.8
comp=Z,4.7nm,1.0s,baz=88,slow=3.2,SNR=12
PLCA Paso Flores 128.88 160 *e*PKIKP PKPdf 04 32 02.8 +1.9
SCHQ Schefferville 130.45 13 SKPbc SKPbc 04 35 16.7 -4.9
comp=Z,11nm,1.0s,baz=355,slow=4.9,SNR=13
MDT Midelt 130.68 308 PKP PKPdf 04 32 06.0 +1.6
comp=Z,1.4nm,0.7s,baz=102,slow=4.8,SNR=6.1
MDT SKPbc SKPbc 04 35 18.1 -4.3
comp=Z,5.4nm,0.9s,baz=91,slow=0.8,SNR=7.9
TRQA Tornquist 133.81 167 *e*PKPdf PKPdf 04 32 12.1 +1.9
WCI Wyandotte Cave 134.86 41 *e*PKIKP PKPdf 04 32 14.1 +1.9
PLAL Pickwick Lake 135.35 46 *e*PKPdf PKPdf 04 32 13.6 +0.5
SWET Sewanee 136.74 44 *e*PKPdf PKPdf 04 32 16.5 +0.8
LRAL Lakeview Retre 137.08 48 *e*PKPdf PKPdf 04 32 17.3 +1.0
CPCT Cooper Cave 137.58 43 *e*PKPdf PKPdf 04 32 18.3 +1.0
COW Cow Castle Cre 141.35 43 *e*PKPdf PKPdf 04 32 26.7 +2.5
LVC Limon Verde 145.25 148 *e*PKPbc PKPbc 04 32 34.3 +3.5
LVC *e*SKP 04 36 02.1
JTS JuntasAbangare 145.37 82 *e*PKIKP PKPdf 04 32 32.7 +1.5
CPUP Villa Florida 146.11 168 PKPbc PKPbc 04 32 35.4 +1.9
comp=Z,32nm,0.6s,baz=183,slow=2.0,SNR=148
CPUP SKP 04 36 03.5
comp=Z,16nm,0.7s,baz=190,slow=1.4,SNR=17
CPUP Villa Florida 146.11 168 PKP2 PKPab 04 32 35.4 +1.2
CPUP 04 36 03.6
CPUP pmax pmax
comp=Z,32nm,0.6s
CPUP Villa Florida 146.11 168 *e*PKPdf PKPdf 04 32 33.9 +1.4
CPUP *e*PKPbc PKPbc 04 32 35.2 +1.7
NNA Nana 147.36 125 *e*PKPbc PKPbc 04 32 40.1 +3.0
CAM4 Nova Friburgo 149.90 194 *e*P PKPdf 04 32 46.0 +7.3
CAM4 *i* 04 32 49.0
CAM4 *i* 04 33 44.2
LPAZ La Paz 150.75 142 PKP PKPdf 04 32 43.6 +3.6
comp=Z,22nm,0.4s,baz=102,slow=0.1,SNR=17
LPAZ PKPbc PKPbc 04 32 49.7 +4.1
comp=Z,22nm,0.4s,baz=46,slow=2.9,SNR=219
LPAZ La Paz 150.75 142 PKIKP PKPdf 04 32 43.6 +3.6
LPAZ 04 32 49.7
LPAZ pmax pmax
comp=Z,22nm,0.4s
LPAZ La Paz 150.75 142 *e*PKPdf PKPdf 04 32 43.1 +3.1
LPAZ *e*PKPbc PKPbc 04 32 49.4 +3.7
LPAZ *e*PKPab PKPab 04 32 57.9 +5.1
OTAV Otavalo 150.90 102 *e*PKPdf PKPdf 04 32 43.4 +3.1
OTAV *e*PKPbc PKPbc 04 32 49.1 +3.2
OTAV *e*PKPab PKPab 04 32 57.8 +4.4
SIV San Ignacio 154.68 155 PKP PKPdf 04 32 48.6 +2.8
comp=Z,2.8nm,0.6s,baz=235,slow=1.1
SIV PKPbc PKPbc 04 32 56.8 +2.5
baz=212,slow=4.1
SIV PKPab PKPab 04 33 12.2 +2.9
comp=Z,13nm,0.8s,baz=206,slow=4.4,SNR=6.8
ROSC El Rosal 155.77 94 PKPab PKPab 04 33 18.9 +4.9
comp=Z,5.6nm,0.7s,baz=245,slow=3.1,SNR=6.9
BDFB Brasilia 157.40 185 PKP PKPdf 04 32 51.6 +2.3
comp=Z,2.8nm,0.7s,baz=233,slow=3.2,SNR=5.0
BDFB PKPab PKPab 04 33 22.8 +1.8
comp=Z,5.3nm,0.9s,baz=172,slow=7.1,SNR=4.8
SAML Samuel 159.45 140 *e*PKPdf PKPdf 04 32 53.6 +1.8
SDV Santo Domingo 159.54 83 *e*PKPdf PKPdf 04 32 53.7 +1.7
RCBR Riachuelo 160.96 228 *e*PKPab PKPab 04 33 37.4 +0.8

IDC **14** *04:36:11.7±0.9, 2322N×94.14E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.7/20, mbtmp3.9/7, MS3.7/4, Ms1 3.7/4, ms1mx3.1/35, Error ellipse: s-maj=49.3km s-min=19.8km az=55.0*

ISCJB **14** *04:36:13.9±0.9, 229N±0.1×936E±0.3, h33km, mb3.9/9, MS3.8/4, Error ellipse: s-maj=37.7km s-min=14.9km az=127.9*

NEIC **14** *04:36:23.9±0.6, 2334N×9427E, h100km, mb3.9/2, Error ellipse: s-maj=30.6km s-min=11.7km az=60.0*

ISC 14 04:36:16.7±0.9, 230N±01×937E±03, h35km, n14, σ0967/10, mb3.9/9, MS3.8/4, 1C, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.80**	**6**	||i/P	**Pn**	**04 36 46.0**	**+0.8**
MKAR	**Makanchi Array**	**25.49**	**342**		P	**P**	**04 41 41.5**	**-0.1**
	2.7nm,0.6s,mb3.9,baz=148,slow=10,SNR=26							
KURK	**Kurchatov**	**30.09**	**341**		*e*P	**P**	**04 42 21.9**	**-0.8**
	1.7nm,0.8s,mb3.8							
ZRNK	**Zerenda**	**35.36**	**334**		*e*P	**P**	**04 43 08.4**	**-0.4**
	0.9nm,0.5s,mb4.0							
AKASG	**Malin Array Be**	**56.51**	**317**		P	**P**	**04 45 55.3**	**0.0**
	0.6nm,0.3s,mb4.1,baz=82,slow=6.4,SNR=5.5							
WRA	**Warramunga Arr**	**58.22**	**134**		P	**P**	**04 46 07.4**	**0.0**
	0.3nm,0.5s,mb3.6,baz=322,slow=7.5,SNR=3.4							
FINES	**FINESS Array B**	**59.42**	**329**		LR	LR	05 16 53.2	
	comp=Z,47nm,20.6s,MS3.6,baz=133,slow=41							
ASAR	**Alice Springs**	**60.61**	**137**		P	**P**	**04 46 23.8**	**-0.1**
	0.2nm,0.4s,mb3.6,baz=318,slow=6.2,SNR=4.8							
ARCES	**ARCESS Array B**	**61.08**	**338**		P	**P**	**04 46 26.4**	**-0.6**
	3.5nm,0.9s,mb4.5,baz=102,slow=8.4,SNR=4.4							
NOA	**NORSAR Array B**	**66.58**	**328**		LR	LR	05 17 38.0	
	comp=Z,27nm,18.4s,MS3.5,baz=155,slow=37							
GERES	**GERESS Array B**	**66.62**	**315**		P	**P**	**04 47 04.5**	**+0.9**
	0.4nm,0.5s,mb3.7,baz=79,slow=6.9,SNR=5.9							
DAVOX	**Davos**	**69.53**	**313**		LR	LR	05 22 32.2	

comp=Z,40nm,20.5s,MS3.6,baz=232,slow=40
MATP Matopo 76.86 241 P **P** **04 48 09.2 +4.1**
1.9nm,0.8s,mb4.1,baz=106,slow=3.9,SNR=4.7
BBB Bella Bella 96.70 24 LR LR 05 34 41.4
comp=Z,86nm,19.1s,MS4.2,baz=238,slow=36

IDC ***14*** *04:54:09.6±0.6,2008S×17464W,h0km,mb4.5/10, mb1 4.7/11,mb1mx4.6/15,mbtmp4.5/11,ML4.8/1,MS4.0/14, Ms1 4.0/14,ms1mx3.8/27,Error ellipse: s-maj=24.0km s-min=16.4km az=131.0*

ISCJB ***14*** *04:54:14.2±0.2,2022S±006×17455W±006,h47km, mb4.8/57,MS4.2/20,Error ellipse: s-maj=10.0km s-min=5.7km az=90.0*

SZGRF ***14*** *04:54:15.5,2096S×17369W,h33km,Tonga Islands*

BJI ***14*** *04:54:16.2,2010S×17460W,h49km,mB5.2,mb5.0,Ms5.0, Msz4.7*

HRVD ***14*** *04:54:16.3±0.4,2020S×17390W,h30km±2km,MW5.0/54, Centroid moment Tensor Solution. LP body waves: s18,c23;Mantle waves: s54,c61; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.38±.34; $M_{\theta\theta}$2.49±.23; $M_{\phi\phi}$-1.11±.21; $M_{r\theta}$1.82±.42; $M_{r\phi}$2.37±.16; $M_{\theta\phi}$-0.94±.35; Best double couple: Mw3.79400×10^{16} NP1:ϕ_s24.00000°,δ52.00000°,λ-160.00000°. NP2: ϕ_s282.00000°,δ74.00000°,λ-39.00000°. Principal axes: T 3.9650, Plg14.0000°, Azm337.0000°; N -0.3420, Plg48.0000°, Azm83.0000°; P -3.6230, Plg39.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***14*** *04:54:16.3±0.2,2009S×17461W,mb4.8/36 Error ellipse: s-maj=10.2km s-min=5.3km az=141.0*

MOS ***14*** *04:54:22.2±1.9, 1859S×17598W,h33km,mb4.9/27,Error ellipse: s-maj=15.5km s-min=14.3km az=9.5*

ISC 14 04:54:15.6±0.2,2036S±005×17441W±006,h49km, h49km±1.4km:pP-P,n259,σ1§09/112,mb4.8/57,MS4.2/20, 19C-18D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.89**	**22**	Pn	**Pn**	**04 55 46.2**	**-7.9**
	48nm,0.3s,baz=103,slow=1.7,SNR=29						
AFI				Sn	**Sn**	**04 56 56.5**	**-15**
	24nm,0.3s,baz=36,slow=17,SNR=4.2						
AFI	**Afiamalu**	**6.89**	**22**	*e*Pn	**Pn**	**04 55 45.5**	**-8.6**
	121nm,0.4s						
AFI				*e*Sn	**Sn**	**04 56 52.6**	**-19**
RAO	**Raoul Island**	**9.40**	**199**	Sn	**Sn**	**04 58 11.5**	**-1.2**
	65nm,0.3s,baz=82,slow=23,SNR=2.3						
RAR	**Rarotonga**	**13.72**	**96**	Pn	**Pn**	**04 57 18.6**	**-8.8**
	8.1nm,0.3s,baz=265,slow=12,SNR=57						
RAR				Sn	Sn	04 59 37.4	-21
	6.6nm,0.3s,baz=98,slow=21,SNR=5.9						
RAR				LR	LR	05 01 03.5	
	comp=Z,575nm,20.9s,baz=44,slow=30						
DZM	**Mont Dzumac**	**17.93**	**261**	P	**Pn**	**04 58 24.1**	**+2.8**
	1.9nm,0.3s,baz=76,slow=17,SNR=18						
URZ	**Urewera**	**19.29**	**201**	P	**Pn**	**04 58 37.9**	**+0.2**
	2.9nm,0.3s,baz=352,slow=2.3,SNR=13						
URZ				S	**S**	**05 02 10.1**	**-1.9**
	1.9nm,0.3s,baz=95,slow=23,SNR=7.3						
URZ				LR	LR	05 05 22.8	
	comp=Z,347nm,19.7s,baz=355,slow=35						
TBI	**Tubuai**	**23.34**	**102**	*e*LQ		05 03 46.3	
	3μm,29.0s						
TBI				*e*LR	LR	05 04 40.6	
	380nm,24.2s						
PAE	**Paea**	**23.63**	**88**	*e*P	**P**	**04 59 19.4**	**-2.8**
	47nm,1.1s,mb4.8						
PPT	**Papeete**	**23.65**	**87**	*e*P	**P**	**04 59 19.9**	**-2.5**
	19nm,1.1s,mb4.4						
PPT	**Papeete**	**23.65**	**87**	*e*LQ		05 03 51.4	
	2μm,27.2s						
PPT				*e*LR	LR	05 04 46.7	
	650nm,23.5s						
PPT	**Papeete**	**23.65**	**87**	LR	LR	05 05 46.0	
	comp=Z,455nm,20.0s,MS3.9,baz=260,slow=29						
PMOR	**Pomariorio Ree**	**25.80**	**82**	*e*P	**P**	**04 59 38.9**	**-3.2**
	12nm,0.9s,mb4.4						
RPZ	**Rata Peaks**	**26.26**	**204**	P	**P**	**04 59 50.6**	**+4.4**
	31nm,0.7s,mb4.9,baz=17,slow=3.9,SNR=8.8						
RPZ				LR	LR	05 09 17.1	
	comp=Z,566nm,21.4s,MS4.1,baz=192,slow=34						
HNR	**Honiara**	**27.01**	**290**	LR	LR	05 07 10.2	
	comp=Z,88nm,18.9s,MS3.4,baz=357,slow=29						
TAOE	**Nuku Hiva Isla**	**34.99**	**76**	*e*LR	LR	05 10 07.1	
	1μm,24.8s						
CNB	**Canberra Magne**	**35.11**	**237**	*e*P	**P**	**05 01 04.9**	**+0.7**
	27nm,1.3s,mb5.0						
RKT	**Rikitea**	**36.66**	**102**	*e*LR	LR	05 10 47.0	
	288nm,27.8s						
CTA	**Charters Tower**	**36.85**	**263**	*e*P	**P**	**05 01 19.5**	**+0.4**
	13nm,1.1s,mb4.7						
CTA	**Charters Tower**	**36.85**	**263**	*e*P	**P**	**05 01 19.5**	**+0.4**
CTA				pmax	pmax		
	comp=Z,13nm,1.1s						
CTAO	**Charters Tower**	**36.85**	**263**	*e*P	**P**	**05 01 18.1**	**-1.0**
CTAO				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.8						
CTAO	**Charters Tower**	**36.85**	**263**	*e*P	**P**	**05 01 18.1**	**-1.0**
	comp=Z,9.5nm,0.6s,mb4.8						
PMG	**Port Moresby**	**38.61**	**281**	P	**P**	**05 01 31.6**	**-2.4**
	comp=Z,9.8nm,1.0s,mb4.5,baz=124,slow=23,SNR=2.2						
PMG				LR	LR	05 15 06.1	
	comp=Z,78nm,20.9s,MS3.5,baz=360,slow=33						
PMG	**Port Moresby**	**38.61**	**281**	*e*P	**P**	**05 01 33.0**	**-0.9**
PMG				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PMG	**Port Moresby**	**38.61**	**281**	*e*P	**P**	**05 01 33.0**	**-0.9**
	comp=Z,9.5nm,0.8s,mb4.6						
TOO	**Toolangi**	**38.71**	**235**	*e*P	**P**	**05 01 35.4**	**+0.6**
	comp=Z,6.8nm,0.7s,mb4.5						
TOO	**Toolangi**	**38.71**	**235**	*e*P	**P**	**05 01 35.4**	**+0.6**
TOO				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**40.88**	**245**	*e*P	**P**	**05 01 51.0**	**-1.8**
	comp=Z,5.8nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**40.88**	**245**	P	**P**	**05 01 51.1**	**-1.7**
	comp=Z,6.6nm,0.5s,mb4.5,baz=101,slow=10,SNR=14						
STKA				LR	LR	05 17 20.0	
	comp=Z,251nm,18.3s,MS4.1,baz=34,slow=34						
ASAR	**Alice Springs**	**47.82**	**256**	P	**P**	**05 02 47.6**	**-0.6**
	comp=Z,6.1nm,0.8s,mb4.7,baz=94,slow=8.2,SNR=54						
ASAR				PcP	PcP	05 04 19.1	+2.7
	comp=Z,2.2nm,0.6s,baz=106,slow=3.6,SNR=4.4						
ASAR	**Alice Springs**	**47.82**	**256**	P	**P**	**05 02 47.7**	**-0.6**
ASAR						05 04 19.2	
ASAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WB2	**Warramunga Arr**	**47.94**	**261**	⇑*i*P	**P**	**05 02 48.2**	**-1.0**
WRAB	**Tennant Creek**	**47.94**	**261**	*e*P	**P**	**05 02 48.2**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
WRAB	**Tennant Creek**	**47.94**	**261**	*e*P	**P**	**05 02 48.2**	**-1.0**
	comp=Z,14nm,0.9s,mb5.0						
WRA	**Warramunga Arr**	**47.95**	**261**	P	**P**	**05 02 48.4**	**-0.9**
	comp=Z,3.3nm,0.5s,mb4.6,baz=100,slow=8.7,SNR=16						
WRA				PcP	PcP	05 04 19.7	+2.7
	comp=Z,2.9nm,0.9s,baz=97,slow=4.5,SNR=2.8						
WRA	**Warramunga Arr**	**47.95**	**261**	P	**P**	**05 02 48.4**	**-0.8**
WRA						05 04 19.7	
WRA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KAKA	**Kakadu**	**51.34**	**270**	*e*P	**P**	**05 03 14.2**	**-0.8**
	comp=Z,28nm,1.1s,mb5.1						
FITZ	**Fitzroy Crossi**	**56.38**	**261**	*e*P	**P**	**05 03 52.3**	**+0.5**
	comp=Z,11nm,1.2s,mb4.8						
FITZ	**Fitzroy Crossi**	**56.38**	**261**	LR	LR	05 25 26.4	
	comp=Z,96nm,19.0s,MS3.9,baz=95,slow=33						
VNDA	**Vanda**	**58.37**	**186**	P	**P**	**05 04 08.8**	**+3.0**
	comp=Z,8.1nm,1.1s,mb4.7,baz=13,slow=5.9,SNR=18						
VNDA				LR	LR	05 25 00.2	
	comp=Z,131nm,20.8s,MS4.0,baz=12,slow=32						
VNDA	**Vanda**	**58.37**	**186**	*e*P	**P**	**05 04 09.3**	**+3.4**
	comp=Z,12nm,1.2s,mb4.8						
KLBR	**Kellerberrin**	**61.16**	**244**	*e*P	**P**	**05 04 24.8**	**-0.2**
	comp=Z,12nm,0.9s,mb5.0						
MUN	**Mundaring**	**62.41**	**244**	*e*P	**P**	**05 04 34.2**	**+0.8**
CASY	**Casey**	**65.53**	**205**	*e*P	**P**	**05 04 54.7**	**+0.8**
	comp=Z,12nm,1.0s,mb4.9						
QSPA	**South Pole Qui**	**69.71**	**180**	*e*P	**P**	**05 05 22.9**	**+2.6**
	comp=Z,18nm,0.9s,mb5.0						
MJAR	**Matsushiro Arr**	**72.14**	**321**	P	**P**	**05 05 34.4**	**-0.6**
	comp=Z,6.7nm,0.8s,mb4.7,baz=158,slow=6.1,SNR=12						
MJAR	**Matsushiro Arr**	**72.14**	**321**	P	**P**	**05 05 34.4**	**-0.7**
MJAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MAJO	**Matsushiro**	**72.15**	**321**	*e*P	**P**	**05 05 32.5**	**-2.6**
MAJO				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.0						
MAJO	**Matsushiro**	**72.15**	**321**	*e*P	**P**	**05 05 32.5**	**-2.6**
	comp=Z,18nm,1.0s,mb5.0						
MAT	**Matsushiro**	**72.15**	**321**	P	**P**	**05 05 33.8**	**-1.3**
MAT	**Matsushiro**	**72.15**	**321**	P	**P**	**05 05 34.0**	**-1.1**
ASAJ	**Asahikawa**	**75.26**	**329**	LR	LR	05 33 28.3	
	comp=Z,160nm,19.4s,MS4.3,baz=160,slow=32						
KSM	**Kuching**	**76.73**	**277**	*e*P	**P**	**05 06 00.3**	**-1.4**
YSS	**Yuzh-Sakhalins**	**77.33**	**331**	*e*P	**P**	**05 06 09.0**	**+4.0**
YSS				*e*		05 06 15.0	
YBH	**Yreka Blue Hor**	**78.12**	**37**	*e*P	**P**	**05 06 09.7**	**+0.2**
YBH				pmax	pmax		
	comp=Z,8.0nm,1.2s						
YBH	**Yreka Blue Hor**	**78.12**	**37**	*e*P	**P**	**05 06 09.7**	**+0.2**
	comp=Z,7.8nm,1.2s,mb4.5						
NVAR	**Mina Array Bea**	**78.65**	**42**	P	**P**	**05 06 12.7**	**+0.3**
	comp=Z,4.5nm,0.7s,mb4.5,baz=215,slow=7.4,SNR=22						
MNV	**Mina**	**78.75**	**42**	*e*P	**P**	**05 06 12.7**	**-0.2**
MNV				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
MNV	**Mina**	**78.75**	**42**	*e*P	**P**	**05 06 12.7**	**-0.2**
	comp=Z,6.0nm,0.9s,mb4.5						
NEN	**Nelson**	**79.26**	**46**	*e*P	**P**	**05 06 15.6**	**-0.1**
NEN				*e*pP	pP	05 06 28.2	-1.7
SSE	**Sheshan**	**80.21**	**308**	P	**P**	**05 06 21.9**	**+1.0**
SSE				AP	pP	05 06 36.1	+1.1
SSE				XP	sP	05 06 41.8	+1.3
SSE				S	S	05 16 21.3	-1.0
SSE				SCS	ScS	05 16 41.3	-1.0
SSE				XS	sS	05 16 47.3	+1.3
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,147nm,6.3s						
SSE				LR	LR		
	comp=N,90nm,20.7s,MS4.2						
SSE				LR	LR		
	comp=E,82nm,20.7s,MS4.2						
SSE				LR	LR		
	comp=Z,82nm,17.6s,MS4.1						
TUC	**Tucson**	**80.28**	**50**	*e*P	**P**	**05 06 21.6**	**+0.4**
	comp=Z,3.8nm,1.0s,mb4.3						
WVOR	**Wild Horse Val**	**80.90**	**38**	*e*P	**P**	**05 06 24.1**	**-0.5**
WVOR				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
WVOR	**Wild Horse Val**	**80.90**	**38**	*e*P	**P**	**05 06 24.1**	**-0.5**
	comp=Z,7.4nm,1.1s,mb4.5						
ARUT	**Antelope Range**	**81.39**	**44**	*e*P	**P**	**05 06 27.3**	**+0.1**
MDJ	**Mudanjiang**	**82.38**	**323**	P	**P**	**05 06 33.5**	**+1.1**
MDJ				AP	pP	05 06 45.3	-1.3
MDJ				XP	sP	05 06 50.4	-1.6
MDJ				PP	PP	05 09 42.1	+0.5
MDJ				S	S	05 16 46.3	+1.6
MDJ				XS	sS	05 17 07.6	-1.0
MDJ				SS	SS	05 22 08.5	+2.5
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,38nm,3.8s						
MDJ				LR	LR		
	comp=N,156nm,18.7s,MS4.7						
MDJ				LR	LR		
	comp=E,254nm,19.4s,MS4.7						
MDJ				LR	LR		
	comp=Z,179nm,18.7s,MS4.5						
NJ2	**Nanjing**	**82.41**	**308**	*e*P	**P**	**05 06 32.9**	**+0.4**
NJ2				AP	pP	05 06 45.3	-1.4
NJ2				XP	sP	05 06 50.1	-2.1
NJ2				PP	PP	05 09 43.0	+1.1
NJ2				S	S	05 16 42.0	-3.1
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,90nm,10.0s						
NJ2				LR	LR		
	comp=N,580nm,32.4s						
NJ2				LR	LR		
	comp=E,640nm,23.7s						
NJ2				LR	LR		
	comp=Z,320nm,28.7s,MS4.5						
SVW2	**Sparrevohn**	**82.58**	**9**	P	**P**	**05 06 32.0**	**-1.4**
MAW	**Mawson**	**82.81**	**199**	P	**P**	**05 06 37.0**	**+2.4**
	comp=Z,2.2nm,0.8s,mb4.2,baz=90,slow=8.1,SNR=4.4						
MAW				LR	LR	05 40 30.1	
	comp=Z,185nm,19.1s,MS4.5,baz=252,slow=34						
SLKM	**Skilak Lake**	**82.94**	**12**	*e*P	**P**	**05 06 34.8**	**-0.5**
DUG	**Dugway**	**83.14**	**43**	*e*P	**P**	**05 06 36.4**	**+0.1**
DUG				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
DUG	**Dugway**	**83.14**	**43**	*e*P	**P**	**05 06 36.4**	**+0.1**
	comp=Z,1.4nm,0.8s,mb4.0						
BMO	**Blue Mountains**	**83.15**	**37**	*e*P	**P**	**05 06 35.0**	**-1.3**
BMO				pmax	pmax		
	comp=Z,11nm,1.6s,mb4.6						
BMO	**Blue Mountains**	**83.15**	**37**	*e*P	**P**	**05 06 35.0**	**-1.4**
	comp=Z,12nm,1.6s,mb4.7						
MNTX	**Cornudas Mount**	**83.95**	**53**	*e*P	**P**	**05 06 40.4**	**-0.1**
	comp=Z,3.9nm,1.1s,mb4.5						
LAZ	**Ladron**	**83.96**	**50**	*e*P	**P**	**05 06 41.6**	**+1.1**
LAZ				*e*pP	pP	05 06 56.2	+1.4
SRU	**San Rafael**	**84.03**	**45**	*e*P	**P**	**05 06 40.6**	**-0.3**
SRU				*e**PP	pP	05 06 56.6	+1.5
SRU				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.9						
SRU	**San Rafael**	**84.03**	**45**	*e*P	**P**	**05 06 40.6**	**-0.3**
	comp=Z,12nm,1.1s,mb4.9						
SRU				*e*pP	pP	05 06 56.6	+1.5
HLID	**Hailey**	**84.06**	**39**	*e*P	**P**	**05 06 41.2**	**+0.2**
	comp=Z,5.5nm,0.9s,mb4.7						
PMR	**Palmer**	**84.15**	**12**	*e*P	**P**	**05 06 40.2**	**-1.3**
PMR				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.7						
PMR	**Palmer**	**84.15**	**12**	*e*P	**P**	**05 06 40.2**	**-1.2**
	comp=Z,4.3nm,0.6s,mb4.8						
BNM	**Barren Site**	**84.21**	**51**	*e*P	**P**	**05 06 42.8**	**+1.0**
BNM				*e*pP	pP	05 06 57.3	+1.3
TTA	**Tatalina**	**84.28**	**8**	*e*P	**P**	**05 06 42.4**	**+0.3**
TTA				pmax	pmax		
	comp=Z,16nm,1.4s,mb5.0						
TTA	**Tatalina**	**84.28**	**8**	*e*P	**P**	**05 06 42.4**	**+0.3**
	comp=Z,16nm,1.4s,mb5.0						
CN2	**Changchun**	**84.28**	**321**	*e*P	**P**	**05 06 43.3**	**+1.2**
CN2				*e*AP	pP	05 06 54.9	-1.5
CN2				*e*S		05 17 03.0	
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
LPM	**Los Pinos Moun**	**84.28**	**50**	*e*P	**P**	**05 06 42.8**	**+0.7**
LPM				*e*pP	pP	05 06 57.4	+1.0
TCUT	**Toone Canyon**	**84.54**	**43**	*e*P	**P**	**05 06 43.9**	**+0.5**
HWUT	**Hardware Ranch**	**84.70**	**42**	*e*P	**P**	**05 06 43.8**	**-0.5**
	comp=Z,2.9nm,0.8s,mb4.5						
ANMO	**Albuquerque**	**84.72**	**50**	LR	LR	05 37 47.6	
	comp=Z,79nm,18.1s,MS4.1,baz=194,slow=31						
ANMO	**Albuquerque**	**84.72**	**50**	*e*P	**P**	**05 06 45.0**	**+0.6**
ANMO				*e**PP	pP	05 06 59.3	+0.7
ANMO				pmax	pmax		
	comp=Z,16nm,1.4s						
ANMO	**Albuquerque**	**84.72**	**50**	*e*P	**P**	**05 06 45.0**	**+0.6**
	comp=Z,16nm,1.4s,mb5.0						
ANMO				*e*pP	pP	05 06 59.3	+0.7
PV01	**Paradox Valley**	**84.83**	**46**	*e*P	**P**	**05 06 45.2**	**+0.3**
PV01				*e*pP	pP	05 07 00.2	+1.0
GDL2	**Guadalupe Moun**	**84.95**	**53**	*e*P	**P**	**05 06 46.2**	**+0.7**
NEW	**Newport**	**85.33**	**34**	LR	LR	05 37 15.3	
	comp=Z,122nm,19.5s,MS4.3,baz=235,slow=30						
MCMT	**McKenzie Canyo**	**85.70**	**39**	*e*P	**P**	**05 06 49.4**	**+0.2**
MCMT				*e*pP	pP	05 07 04.4	+0.8
SKAG	**Skagway**	**85.73**	**19**	*e*P	**P**	**05 06 49.6**	**+0.2**
SKAG				*e*pP	pP	05 07 04.0	+0.4
TPAW	**Teton Pass**	**86.11**	**41**	*e*P	**P**	**05 06 51.6**	**+0.3**
	comp=Z,2.9nm,0.9s,mb4.5						
DLMT	**Dillon**	**86.15**	**39**	*e*P	**P**	**05 06 51.7**	**+0.2**
	comp=Z,4.3nm,0.9s,mb4.7						
IMW	**Indian Meadow**	**86.33**	**40**	*e*P	**P**	**05 06 53.0**	**+0.6**
	comp=Z,2.8nm,0.9s,mb4.5						
SMCO	**Snowmass**	**86.44**	**46**	*e*P	**P**	**05 06 53.1**	**+0.3**
	comp=Z,5.8nm,1.0s,mb4.8						
PDAR	**Pinedale Array**	**86.59**	**42**	P	**P**	**05 06 53.9**	**+0.3**
	comp=Z,0.9nm,0.8s,mb4.1,baz=211,slow=2.6,SNR=7.7						
PLCA	**Paso Flores**	**86.90**	**132**	*e*P	**P**	**05 06 56.6**	**+1.4**
	comp=Z,9.4nm,1.1s,mb4.9						
COLA	**College**	**87.39**	**11**	*e*P	**P**	**05 06 56.6**	**-0.9**
COLA				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.2						
COLA	**College**	**87.39**	**11**	*e*P	**P**	**05 06 56.6**	**-0.9**
	comp=Z,12nm,0.8s,mb5.2						
ILAR	**Eielson Array**	**87.47**	**11**	P	**P**	**05 06 57.0**	**-0.9**
	comp=Z,2.9nm,0.8s,mb4.5,baz=228,slow=5.0,SNR=21						
ILAR	**Eielson Array**	**87.47**	**11**	P	**P**	**05 06 57.1**	**-0.8**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SYO	**Syowa Base**	**87.57**	**192**	‖*e*PcP	PcP	05 07 00.2	-0.1
SNAA	**Sanae**	**88.02**	**177**	*e*P	**P**	**05 07 01.9**	**+1.4**
	comp=Z,4.5nm,1.0s,mb4.7						
SNAA				*e*pP	pP	05 07 15.3	+0.4
BJI	**Beijing**	**88.19**	**314**	*e*P	**P**	**05 07 02.8**	**+1.5**
BJI				XP	sP	05 07 23.8	+2.7
BJI				S		05 17 41.5	
BJI				AMB	AMB		
	comp=Z,9.0nm,1.4s,mb4.8						
BJI				AMB	AMB		
	comp=Z,133nm,2.9s,mb5.7						
BJI				LR	LR		
	comp=N,202nm,16.4s,MS4.9						
BJI				LR	LR		
	comp=E,259nm,13.7s,MS4.9						
BJI				LR	LR		
	comp=Z,103nm,15.1s,MS4.4						
DAWY	**Dawson**	**88.44**	**15**	*e*P	**P**	**05 07 02.5**	**-0.1**
BILL	**Bilibino**	**89.28**	**353**	*e*P	**P**	**05 07 06.6**	**+0.1**
BILL				*e*		05 10 34.2	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.5						
HHC	**Hu-ho-hao-te**	**91.69**	**313**	*e*P	**P**	**05 07 19.0**	**+1.3**
HHC				AP	pP	05 07 32.3	+0.2
HHC				XP	sP	05 07 37.6	+0.1
HHC				PP	PP	05 10 59.9	+3.3
HHC				SKS		05 17 46.0	
HHC				S		05 18 13.8	
HHC				XS	sS	05 18 34.3	-4.3
HHC				PS	PS	05 19 29.3	-0.5
HHC				AMB	AMB		
	comp=Z,18nm,1.3s,mb5.2						
HHC				AMB	AMB		
	comp=Z,99nm,6.7s						
HHC				LR	LR		
	comp=N,197nm,19.2s,MS4.8						
HHC				LR	LR		
	comp=E,258nm,17.8s,MS4.8						
HHC				LR	LR		
	comp=Z,288nm,16.2s,MS4.8						
KMI	**Kunming**	**92.30**	**296**	P	**P**	**05 07 23.8**	**+3.3**
KMI				AP	pP	05 07 36.8	+1.9
KMI				XP	sP	05 07 42.1	+1.8
KMI				PP	PP	05 11 02.8	+1.4
KMI				PPP		05 12 57.1	
KMI				SKS		05 17 53.0	
KMI				S		05 18 19.6	
KMI				XS	sS	05 18 41.4	-2.8
KMI				PS	PS	05 19 33.9	-2.7
KMI				AMB	AMB		
	comp=Z,12nm,1.5s,mb5.0						
KMI				AMB	AMB		
	comp=Z,83nm,3.8s						
KMI				LR	LR		
	comp=N,196nm,17.4s,MS4.8						
KMI				LR	LR		
	comp=E,179nm,16.2s,MS4.8						
KMI				LR	LR		
	comp=Z,85nm,15.0s,MS4.3						
INK	**Inuvik**	**93.29**	**14**	*e*P	**P**	**05 07 23.9**	**-1.2**
INK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
INK	**Inuvik**	**93.29**	**14**	*e*P	**P**	**05 07 23.9**	**-1.2**
	comp=Z,9.7nm,1.3s,mb5.1						
CHTO	**Chiang Mai**	**93.37**	**289**	*e*P	**P**	**05 07 27.1**	**+1.6**
CHTO				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb5.1						
CHTO	**Chiang Mai**	**93.37**	**289**	*e*P	**P**	**05 07 27.1**	**+1.6**
	comp=Z,8.1nm,1.0s,mb5.1						
CD2	**Chengdu**	**93.57**	**302**	*e*P	**P**	**05 07 25.8**	**-0.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
YKA	**Yellowknife Ar**	**95.01**	**24**	P	**P**	**05 07 32.0**	**-1.0**
	comp=Z,8.9nm,0.8s,mb4.2,baz=239,slow=4.2,SNR=11						
YKA	**Yellowknife Ar**	**95.01**	**24**	P	**P**	**05 07 32.0**	**-1.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LZH	**Lanzhou**	**95.38**	**306**	*e*P	**P**	**05 07 34.5**	**-0.1**
LZH				AP	pP	05 07 49.3	+0.3
LZH				XP	sP	05 07 54.9	+0.5
LZH				PP	PP	05 11 27.5	+2.0
LZH				AMB	AMB		
	comp=Z,20nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,71nm,9.4s						
LZH				LR	LR		
	comp=N,263nm,18.5s						
LZH				LR	LR		
	comp=Z,349nm,19.8s,MS4.8						
ULM	**Lac du Bonnet**	**98.37**	**39**	LR	LR	05 47 38.2	
	comp=Z,101nm,20.4s,MS4.3,baz=281,slow=33						
WMQ	**Urumqi**	**109.39**	**311**	PDIF	Pdif	05 08 37.5	+0.3
WMQ				PP	PP	05 13 6.6	+3.0
WMQ				PP	PP		
	comp=Z,88nm,5.6s						
WMQ				LR	LR		
	comp=N,50nm,20.0s						
WMQ				LR	LR		
	comp=Z,73nm,18.3s,MS4.3						
ZRNK	**Zerenda**	**121.97**	**320**	*e*PKIKP	PKPdf	05 13 04.7	+0.2
ARU	**Arti**	**126.98**	**326**	*e*PKIKP	PKPdf	05 13 23.4	+9.3
ARCES	**ARCESS Array B**	**129.35**	**351**	PKP	PKPdf	05 13 20.1	+1.5
	comp=Z,3.1nm,0.8s,baz=336,slow=2.7,SNR=5.1						
ARCES	**ARCESS Array B**	**129.

BURAR	**Bucovina Array**	**148.50**	**334**	⇑P		PKPbc	05 14 00.2 +3.3
KOLS	**Kolonicke sedl**	**148.51**	**339**	*e*PKP		PKPbc	05 14 02.0 +5.1
KOLS				*e*			05 14 15.7
CLL	**Collm**	**148.57**	**351**	*e*PKPbc		PKPbc	05 13 58.0 +0.9
CLL	**Collm**	**148.57**	**351**	*i* PKPbc		PKPbc	05 13 57.4 +0.3
	comp=Z,15nm,1.0s						
CLL				*i* pPKPbc		pPKPbc	05 14 11.7 -0.1
CLL	**Collm**	**148.57**	**351**	*i* PKIKP		PKPbc	05 13 57.4 +0.3
CLL				*i*			05 14 11.7
CLL				pmax		pmax	
	comp=Z,15nm,1.0s						
GTTG	**Gvttingen**	**148.69**	**355**	*e*PKPbc		PKPbc	05 13 58.2 +0.8
NIE	**Niedzica**	**148.71**	**341**	*e*PKP		PKPbc	05 13 59.3 +1.9
COBT	**Iskenderun**	**148.77**	**308**	*i* P		PKPdf	05 13 53.9 +0.2
CRVS	**Cervenica-Dubn**	**148.81**	**340**	*e*		PKPab	05 14 05.3 +3.7
CRVS	**Cervenica-Dubn**	**148.81**	**340**	*e*PKP2		PKPab	05 14 02.0 +0.4
UPC	**Upice**	**148.81**	**347**	*e*PKPbc		PKPbc	05 13 59.4 +1.7
AVNT	**Avonos**	**148.82**	**312**	*i* P		PKPab	05 14 13.0 +11
BRG	**Berggiesshubel**	**148.85**	**350**	*e*PKPbc		PKPbc	05 13 58.9 +1.1
BRG	**Berggiesshubel**	**148.85**	**350**	*e*PKP		PKPbc	05 13 60.0 +2.2
	comp=Z,9.4nm,1.3s						
BRG	**Berggiesshubel**	**148.85**	**350**	*e*PKIKP		PKPbc	05 14 00.0 +2.2
BRG				pmax		pmax	
	comp=Z,9.0nm,1.3s						
DPC	**Dobruska-Polom**	**148.89**	**347**	*e*PKPbc		PKPbc	05 13 58.8 +0.9
ELDT	**Eldivan**	**148.93**	**316**	*i* P		PKPbc	05 13 59.2 +1.2
OKC	**Ostrava-Krasne**	**148.94**	**344**	*e*PKPbc		PKPbc	05 13 59.5 +1.5
BUG	**Bochum--Univer**	**148.96**	**358**	*e*PKPbc		PKPbc	05 13 58.5 +0.5
CFR	**Carcaliu**	**149.03**	**328**	⇓*i* P		PKPbc	05 14 00.5 +2.3
CFR	**Carcaliu**	**149.03**	**328**	⇓P		PKPbc	05 14 00.5 +2.3
MORC	**Moravsky Berou**	**149.15**	**345**	⇑*i* P		PKPbc	05 13 59.3 +0.8
MORC	**Moravsky Berou**	**149.15**	**345**	*e*PKPdf		PKPdf	05 13 53.7 -0.6
MORC				*e*PKPbc		PKPbc	05 13 59.2 +0.7
VRI	**Vrincioaia**	**149.20**	**331**	⇓*i* P		PKPbc	05 14 00.5 +1.9
VRI	**Vrincioaia**	**149.20**	**331**	⇓P		PKPbc	05 14 00.5 +1.8
PLOR	**Plostina**	**149.25**	**331**	⇓*i* P		PKPbc	05 14 01.3 +2.5
LIKS	**Likavka**	**149.40**	**342**	*e*PKP2		PKPbc	05 14 04.7 +5.6
TIRR	**Tirgusor**	**149.40**	**327**	⇓*i* P		PKPbc	05 14 01.5 +2.4
TIRR	**Tirgusor**	**149.40**	**327**	⇓P		PKPbc	05 14 01.5 +2.3
MOX	**Moxa**	**149.41**	**352**	*e*PKPbc		PKPbc	05 13 59.9 +0.7
MOX	**Moxa**	**149.41**	**352**	*e*PKP		PKPbc	05 14 00.0 +0.8
	comp=Z,13nm,1.5s						
MOX	**Moxa**	**149.41**	**352**	*e*PKIKP		PKPbc	05 14 00.0 +0.8
MOX				pmax		pmax	
	comp=Z,13nm,1.5s						
HARR	**Harsova**	**149.48**	**328**	⇓*i* P		PKPbc	05 14 00.0 +0.7
HARR	**Harsova**	**149.48**	**328**	⇓P		PKPbc	05 14 00.0 +0.7
KECS	**Kecovo**	**149.49**	**340**	*e*PKP		PKPbc	05 14 00.0 +0.6
KECS				*e*			05 14 05.5
KECS				*e*			05 14 11.4
WERD	**Werda**	**149.51**	**352**	*e*PKPbc		PKPbc	05 13 59.8 +0.4
PRU	**Pruhonice**	**149.59**	**349**	*e*PKPbc		PKPbc	05 14 00.9 +1.3
PRU				*ep*PKP		pPKPdf	05 14 12.6 +2.7
ASF	**Jabal al Asfar**	**149.67**	**299**	PKPbc		PKPbc	05 13 59.9 0.0
	comp=Z,2.1nm,0.7s,baz=316,slow=0.6,SNR=7.0						
ASF	**Jabal al Asfar**	**149.67**	**299**	PKHKP		PKPbc	05 13 59.9 +0.1
ASF				pmax		pmax	
	comp=Z,2.0nm,0.7s						
NKC	**Novy Kostel**	**149.70**	**351**	*e*PKPbc		PKPbc	05 14 01.6 +1.7
SGKT	**Sivrigoynuk**	**149.76**	**318**	*i* P		PKPdf	05 13 54.0 -1.2
VRAC	**Vranov**	**149.81**	**346**	PKPbc		PKPbc	05 14 01.7 +1.6
	comp=Z,2.1nm,0.7s,baz=50,slow=2.6,SNR=6.6						
VRAC	**Vranov**	**149.81**	**346**	⇑*i* P		PKPbc	05 14 01.4 +1.2
VRAC	**Vranov**	**149.81**	**346**	⇑P		PKPbc	05 14 01.4 +1.3
MLR	**Muntele Rosu**	**149.84**	**331**	PKPbc		PKPbc	05 14 01.5 +1.3
	comp=Z,4.3nm,0.8s,baz=15,slow=2.6,SNR=11						
MLR	**Muntele Rosu**	**149.84**	**331**	⇑*i* P		PKPbc	05 14 02.8 +2.6
MLR	**Muntele Rosu**	**149.84**	**331**	⇑P		PKPbc	05 14 02.9 +2.6
MANZ	**Manzenberg**	**149.99**	**352**	*e*PKPbc		PKPbc	05 14 01.7 +1.1
TNS	**Taunus Mts**	**150.12**	**356**	*e*PKPbc		PKPbc	05 14 01.6 +0.7
DRGR		**150.16**	**336**	⇓*i* P		PKPbc	05 14 01.9 +0.9
DRGR		**150.16**	**336**	⇓P		PKPbc	05 14 01.9 +0.9
PSZ	**Piszkesteto**	**150.17**	**340**	⇓*e*PKP/F		PKPbc	05 14 02.6 +1.6
ROTZ	**Rotzenmuhle**	**150.19**	**351**	*e*PKPbc		PKPbc	05 14 01.9 +0.8
VOIR		**150.29**	**332**	⇑*i* P		PKPbc	05 14 03.5 +2.2
VOIR		**150.29**	**332**	⇑P		PKPbc	05 14 03.5 +2.1
GIVF	**Givet**	**150.32**	**1**	*e*PKP1		PKPbc	05 14 01.3 -0.1
SMOL	**Smolenice**	**150.34**	**344**	*e*PKP		PKPbc	05 14 04.4 +3.0
BAIF	**Baives**	**150.35**	**2**	*e*PKP1		PKPbc	05 14 01.5 0.0
	comp=Z,23nm,0.9s						
GRA1	**Grafenberg Arr**	**150.39**	**353**	*e*PKPbc		PKPbc	05 14 02.5 +0.9
GRF	**Grafenberg Arr**	**150.39**	**353**	*e*PKPbc		PKPbc	05 14 02.5 +0.9
KHC	**Kasperske Hory**	**150.59**	**349**	*e*PKPbc		PKPbc	05 14 02.9 +0.9
KHC				*ep*PKP		pPKPdf	05 14 16.5 +5.0
MMAI	**Mount Meron Ar**	**150.64**	**302**	PKPbc		PKPbc	05 14 03.6 +1.5
	comp=Z,9.8nm,0.8s,baz=84,slow=2.6,SNR=11						
WET	**Wettzell**	**150.70**	**350**	*e*PKPbc		PKPbc	05 14 02.7 +0.4
ZST	**Bratislava**	**150.72**	**344**	*e*PKP		PKPbc	05 14 03.7 +1.4
SRO	**Srobarova**	**150.74**	**342**	*e*PKP		PKPbc	05 14 04.7 +2.3
WLF	**Walferdange**	**150.76**	**359**	*e*PKPbc		PKPbc	05 14 03.8 +1.4
WLF	**Walferdange**	**150.76**	**359**	PKPbc		PKPbc	05 14 04.1 +1.7
WLF	**Walferdange**	**150.76**	**359**	*e*PKPdf		PKPdf	05 13 56.7 -0.2
WLF				*e*PKPbc		PKPbc	05 14 03.2 +0.8
GEC2	**GERESS Array S**	**150.85**	**349**	*e*PKPbc		PKPbc	05 14 03.3 +0.7
GERES	**GERESS Array B**	**150.85**	**349**	*e*PKPbc		PKPbc	05 14 03.7 +1.1
	comp=Z,4.6nm,0.9s,baz=20,slow=2.0,SNR=29						
GERES	**GERESS Array B**	**150.85**	**349**	PKIKP		PKPbc	05 14 03.7 +1.1
GERES				pmax		pmax	
	comp=Z,5.0nm,0.9s						
ERMK	**Ermenek**	**151.16**	**310**	*i* P		PKPdf	05 13 60.0 +2.5
ROSF	**Rostrenen**	**151.19**	**12**	*e*PKP1		PKPbc	05 14 02.3 -1.1
	comp=Z,20nm,1.1s						
FLN	**La Foliniere**	**151.25**	**8**	*e*PKP1		PKPbc	05 14 03.1 -0.5
	comp=Z,26nm,0.9s						
SOP	**Sopron**	**151.33**	**344**	⇑*e*PKP/F		PKPbc	05 14 04.9 +1.1
SGMF	**Saint Gilles**	**151.41**	**11**	*e*PKP1		PKPbc	05 14 03.1 -0.8
	comp=Z,23nm,1.0s						
LDF	**La Druitiere**	**151.46**	**8**	*e*PKP1		PKPbc	05 14 03.5 -0.6
	comp=Z,41nm,1.1s						
ZIMR		**151.50**	**329**	⇑*i* P		PKPdf	05 13 59.9 +1.9
ZIMR		**151.50**	**329**	⇑P		PKPdf	05 13 59.9 +1.9
STU	**Stuttgart**	**151.51**	**355**	*e*PKPbc		PKPbc	05 14 04.9 +0.7
BZS	**Buzias**	**151.56**	**336**	⇑*i* P		PKPbc	05 14 05.6 +1.3
BZS	**Buzias**	**151.56**	**336**	⇑P		PKPbc	05 14 05.6 +1.3
GRR	**Gorron**	**151.56**	**9**	*e*PKP1		PKPbc	05 14 03.8 -0.5
	comp=Z,30nm,1.0s						
QUIF	**Quistinic**	**151.62**	**12**	*e*PKP1		PKPbc	05 14 03.6 -0.8
MOA	**Molln**	**151.69**	**348**	⇑*i* P		PKPbc	05 14 06.3 +1.7
	comp=Z,7.2nm,1.0s						
FUR	**Furstenfeldbru**	**151.89**	**352**	*e*PKPbc		PKPbc	05 14 05.8 +0.8
MEZF	**Maizieres J'vi**	**151.93**	**1**	*e*PKP1		PKPbc	05 14 05.3 +0.2
	comp=Z,20nm,0.9s						
CDF	**Champ du Feu**	**151.99**	**358**	*e*PKP1		PKPbc	05 14 05.0 -0.3
	comp=Z,12nm,0.9s						
BFO	**Black Forest**	**152.01**	**356**	*e*PKPbc		PKPbc	05 14 06.1 +0.8
PKSM	**Moragy**	**152.08**	**340**	⇓*i* P		PKPbc	05 14 05.4 -0.1
PKSM	**Moragy**	**152.08**	**340**	⇓*e*P		PKPbc	05 14 06.1 +0.6
HAU	**Haudompre**	**152.42**	**359**	*e*PKP1		PKPbc	05 14 07.0 +0.8
	comp=Z,14nm,0.9s						
HINF	**Hinteralfeld**	**152.59**	**358**	*e*PKP1		PKPbc	05 14 06.2 -0.4
	comp=Z,6.4nm,0.8s						
MOTA	**Moosalm**	**152.71**	**352**	⇓*i* P		PKPbc	05 14 07.3 +0.4
	comp=Z,5.6nm,1.1s						
WTTA	**Wattenberg**	**152.72**	**351**	⇓*i* P		PKPbc	05 14 07.0 +0.1
	comp=Z,12nm,0.8s						
LOR	**Lormes**	**153.13**	**3**	*e*PKP1		PKPbc	05 14 07.6 -0.2
	comp=Z,7.5nm,0.8s						
SSF	**Saint Saulge**	**153.31**	**3**	*e*PKP1		PKPbc	05 14 08.2 0.0
	comp=Z,20nm,1.1s						
VTS	**Vitosha**	**153.33**	**330**	⇓*i* P		PKPbc	05 14 07.5 -0.8
VTS	**Vitosha**	**153.33**	**330**	⇓P		PKPbc	05 14 07.5 -0.8
MFF	**Saint Martin d**	**153.41**	**9**	*e*PKP1		PKPbc	05 14 07.9 -0.5
	comp=Z,23nm,1.3s						
DAVOX	**Davos**	**153.42**	**353**	PKPbc		PKPbc	05 14 09.6 +1.2
	comp=Z,4.9nm,0.6s,baz=358,slow=11,SNR=8.0						
AVF	**Avril sur Loir**	**153.58**	**3**	*e*PKP1		PKPbc	05 14 08.4 -0.4
	comp=Z,6.9nm,1.0s						
SMF	**Signal de Mont**	**153.75**	**3**	*e*PKP1		PKPbc	05 14 08.8 -0.4
BGF	**Bois d'Agland**	**153.78**	**4**	*e*PKP1		PKPbc	05 14 09.0 -0.2
	comp=Z,10nm,0.9s						
CABF	**La Chapelle**	**153.82**	**359**	*e*PKP1		PKPbc	05 14 09.7 +0.4
	comp=Z,24nm,1.3s						
TCF	**Toulx Ste Croi**	**154.00**	**5**	*e*PKP1		PKPbc	05 14 09.3 -0.4
	comp=Z,24nm,1.4s						
RJF	**Les Rejaudoux**	**154.90**	**7**	*e*PKP1		PKPbc	05 14 10.9 -0.7
TORD	**Torodi Ar. Bea**	**171.91**	**152**	PKP		PKPdf	05 14 19.4 +0.6
	comp=Z,0.9nm,1.1s,baz=212,slow=2.8,SNR=4.2						
TORD				PKPab		PKPab	05 15 42.5 +0.9
	comp=Z,1.7nm,1.1s,baz=225,slow=3.4,SNR=3.8						

MAN 14 04:55:50.9, 948N×12606E, h31km, mb3.3, ML4.5, MS1.7, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.64**	**298**	⇓*e*P	Pb	04 56 03.5	-0.1
SCPH				*e*S	Sb	04 56 14.3	+2.2
BUTP	**Butuan**	**0.67**	**220**	*e*P	Pb	04 56 04.2	+0.2
BUTP				*e*S	Sb	04 56 15.9	+2.9
BIPH	**Bislig**	**1.32**	**167**	⇓*i*P	Pn	04 56 12.1	-1.0
BIPH				*i* S	Sn	04 56 28.1	-1.6
MSLP	**Maasin**	**1.35**	**299**	*e*P	Pn	04 56 14.8	+1.2
CGP	**Cagayan de Oro**	**1.69**	**233**	⇑*i*P	Pn	04 56 16.6	-1.6
CGP				*i* S	Sn	04 56 39.4	+0.6
BUKP	**Musuan**	**1.87**	**212**	*e*P	Pn	04 56 22.6	+1.9
PLP	**Palo**	**1.98**	**328**	*e*P	Pn	04 56 22.2	-0.1
PLP				*e*S	Sn	04 56 47.3	+1.3
TBP	**Tagbilaran**	**2.18**	**276**	*e*P	Pn	04 56 25.9	+1.0
TBP				*e*S	Sn	04 56 51.0	+0.2
LLP	**Lapu-Lapu**	**2.22**	**292**	*e*P	Pn	04 56 26.5	+1.0
LLP				*e*S	Sn	04 56 52.5	+0.5
PAGZ	**Pagadian**	**3.10**	**239**	*e*P	Pn	04 56 39.5	+1.8
GUIM	**Jordan**	**3.60**	**289**	*e*P	Pn	04 56 45.2	+0.7
PVCP	**Virac**	**4.50**	**336**	*e*P	Pn	04 57 02.1	+5.2

*IDC **14** 05:06:48.4±2.3, 288S×12938E, h0km, mb3.9/2, mb1 4.1/4, mb1mx3.8/16, mbtmp3.9/4, ML3.8/2, Error ellipse: s-maj=119.3km s-min=26.6km az=72.0*
*ISCJB **14** 05:06:50.5±1.2, 28S±0.1×1298E±0.4, h33km, mb4.0/3, Error ellipse: s-maj=53.1km s-min=13.2km az=143.6*
*NEIC **14** 05:06:53.0±1.1, 287S×12968E, h35km, mb4.0/2, Error ellipse: s-maj=51.2km s-min=12.8km az=72.0*

ISC 14 05:06:55.7±4.6, 30S±02×1297E±04, h64km±47km, n9, σ0s79/9, mb4.0/2, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.06**	**165**	*e*P	**Pn**	**05 09 18.0**	**+0.7**
	9.7nm,0.9s						
FITZ	**Fitzroy Crossi**	**15.58**	**195**	*e*P	**Pn**	**05 10 30.9**	**-0.4**
	7.1nm,1.5s						
FITZ	**Fitzroy Crossi**	**15.58**	**195**	Pn	**Pn**	**05 10 31.4**	**+0.1**
	0.2nm,0.3s,baz=32,slow=13,SNR=5.7						
WRAB	**Tennant Creek**	**17.47**	**165**	*e*P	**Pn**	**05 10 54.5**	**-0.4**
	2.6nm,0.6s						
WRA	**Warramunga Arr**	**17.48**	**165**	P	**Pn**	**05 10 54.0**	**-1.0**
	0.5nm,0.3s,baz=345,slow=12,SNR=6.2						
WB2	**Warramunga Arr**	**17.48**	**165**	*e*P	**Pn**	**05 10 54.4**	**-0.6**
ASAR	**Alice Springs**	**20.98**	**169**	P	**P**	**05 11 35.4**	**+1.7**
	5.0nm,0.4s,baz=345,slow=9.9,SNR=35						
MKAR	**Makanchi Array**	**64.73**	**326**	P	**P**	**05 17 26.9**	**-0.3**
	0.3nm,0.4s,mb3.6,baz=116,slow=6.6,SNR=4.8						
KURK	**Kurchatov**	**68.95**	**328**	*e*P	**P**	**05 17 54.2**	**+0.2**
	4.0nm,1.1s,mb4.3						

*NEIC **14** 05:07:57.6, 4189N×2564E, h7km, MD3.0(SOF), MD3.4(ATH), ML3.3(THE), After ATH.*
NEIC Felt in the Kurdzhali area, Bulgaria.
*SOF **14** 05:08:00.0, 4164N×2552E, h9km, MD3.0*
*CSEM **14** 05:08:01.1±0.1, 4176N×2553E, h8km, MD3.0, Error ellipse: s-maj=2.6km s-min=2.2km az=157.0*
*ATH **14** 05:08:01.2, 4167N×2545E, h12km±1km, MD3.4/4*
*ISCJB **14** 05:08:01.9±0.3, 4166N±003×2550E±003, h10km, Error ellipse: s-maj=3.9km s-min=2.6km az=116.4*
*SKO **14** 05:08:02.7, 4176N×2538E, h0km*
*THE **14** 05:08:04.3, 4161N×2567E, h21km, ML3.4*

ISC 14 05:08:02.2±0.3, 4168N±003×2550E±003, h10km, n43, σ1s06/59, 3C-1D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDZ	**Kurdzhali**	**0.07**	**248**	*i* Pg	**Pg**	**05 08 03.2**	**-1.2**
DIM	**Dimitrovgrad**	**0.38**	**4**	*i* Pg	**Pg**	**05 08 08.8**	**-0.8**
RDO	**Rodhopi**	**0.53**	**177**	⇑*i*PB	**Pg**	**05 08 11.7**	**-0.8**
RDO				*e*SB	**Sg**	**05 08 18.9**	**-0.6**
RDO	**Rodhopi**	**0.53**	**177**	*e*Pb	**Pg**	**05 08 11.7**	**-0.8**
RZN	**Rozhen**	**0.59**	**271**	*i* Pg	**Pg**	**05 08 11.8**	**-1.9**
PLD	**Plovdiv**	**0.73**	**306**	*i* Pg	**Pg**	**05 08 15.0**	**-1.4**
ALN	**Alexandroupoli**	**0.88**	**152**	*e*Pg	**Pg**	**05 08 18.5**	**-0.6**
EDRB	**Edirne**	**0.94**	**79**	PN	**Pg**	**05 08 19.1**	**-1.3**
EDRB				SN	**Sg**	**05 08 34.2**	**+1.5**
JMB	**Yambol**	**1.13**	**45**	*e*Pg	**Pb**	**05 08 22.6**	**-1.2**
JMB				*e*Sg	**Sb**	**05 08 36.6**	**-2.0**
JMB	**Yambol**	**1.13**	**45**	*i* Pg	**Pb**	**05 08 22.4**	**-1.4**
JMB				*e*Sg	**Sb**	**05 08 36.6**	**-2.0**
NVR	**Nevrokopi**	**1.27**	**256**	*e*Pb	**Pn**	**05 08 24.6**	**-1.5**
NVR				*e*Sb	**Sb**	**05 08 41.4**	**-1.3**
PGB	**Panagyurishte**	**1.32**	**312**	*i* P	**Pn**	**05 08 25.5**	**-1.3**
MMB	**Musomiste**	**1.33**	**267**	*i* P	**Pn**	**05 08 25.7**	**-1.2**
SRS	**Serrai**	**1.54**	**249**	*e*Pb	**Pn**	**05 08 29.4**	**-0.4**
SRS				*e*Sb	**Sn**	**05 08 51.0**	**+1.2**
PVL	**Pavlikeni**	**1.54**	**355**	P	**Pn**	**05 08 29.5**	**-0.3**
MFT	**Murefte**	**1.61**	**123**	PN	**Pn**	**05 08 31.8**	**+1.1**
SZH	**Strazhica**	**1.62**	**11**	*i* P	**Pn**	**05 08 31.7**	**+0.8**
OUR	**Ouranopolis**	**1.77**	**221**	*e*Pb	**Pn**	**05 08 31.9**	**-0.9**
OUR				*e*Sb	**Sb**	**05 08 55.9**	**-1.0**
KKB	**Krupnik**	**1.82**	**277**	*i* P	**Pn**	**05 08 34.5**	**+0.9**
SOH	**Sokhos**	**1.83**	**243**	*e*Pb	**Pn**	**05 08 34.5**	**+0.8**
SOH				*e*Sb	**Sn**	**05 08 57.7**	**+0.7**
MRMT	**Marmara Adasi**	**1.91**	**123**	PN	**Pn**	**05 08 34.6**	**-0.2**
VTS	**Vitosha**	**1.94**	**299**	*i* P	**Pn**	**05 08 35.2**	**0.0**
VTS	**Vitosha**	**1.94**	**299**	*e*Pn	**Pn**	**05 08 36.0**	**+0.8**
KNT	**Kendrikon**	**2.02**	**256**	*e*Pn	**Pn**	**05 08 37.2**	**+0.8**
	comp=Z,10nm,0.5s						
KNT				*e*Sn	**Sn**	**05 09 03.1**	**+1.3**
PLG	**Polygyros**	**2.03**	**231**	*e*PN	**Pn**	**05 08 36.8**	**+0.4**
PLG				*e*SN	**Sn**	**05 09 02.4**	**+0.6**
PLG	**Polygyros**	**2.03**	**231**	*e*Pn	**Pn**	**05 08 36.8**	**+0.4**
PLG				*e*Sn	**Sb**	**05 09 05.5**	**+1.1**
THE	**Thessaloniki**	**2.18**	**242**	*e*Pn	**Pn**	**05 08 40.1**	**+1.6**
THE				*e*Sn	**Sn**	**05 09 06.1**	**+0.5**
PAIG	**Paliouri**	**2.23**	**219**	*e*Pn	**Pn**	**05 08 38.3**	**-0.9**
PAIG				*e*Sn	**Sn**	**05 09 05.4**	**-1.3**
VAY	**Valandovo**	**2.23**	**262**	*e*Pn	**Pn**	**05 08 40.0**	**+0.8**
BNT	**Bandirma**	**2.25**	**125**	*e*PN	**Pn**	**05 08 41.2**	**+1.6**
CTT	**Catalca**	**2.26**	**103**	*e*PN	**Pn**	**05 08 40.1**	**+0.4**
GRG	**Griva**	**2.44**	**254**	*e*Pn	**Pb**	**05 08 46.0**	**-0.2**
GRG				*e*Sn	**Sn**	**05 09 13.2**	**+1.2**
PRK	**Paraskevi**	**2.50**	**166**	*e*PB	**Pn**	**05 08 43.5**	**+0.6**
LIT	**Litokhoron**	**2.77**	**236**	*e*Pn	**Pn**	**05 08 47.7**	**+1.0**
XOR	**Xorichti**	**2.90**	**218**	*e*Pn	**Pn**	**05 08 47.8**	**-0.7**
XOR				*e*Sn	**Sn**	**05 09 22.1**	**-1.3**
BIA	**Bitola**	**3.21**	**260**	*e*Pn	**Pn**	**05 08 53.0**	**+0.3**
BIA	**Bitola**	**3.21**	**260**	*e*Pn	**Pn**	**05 08 53.0**	**+0.3**
FNA	**Florina**	**3.24**	**255**	*e*Pn	**Pn**	**05 08 55.0**	**+1.9**
CHOS	**Chios island**	**3.31**	**172**	*e*Pn	**Pn**	**05 08 54.2**	**+0.1**
TIRR	**Tirgusor**	**3.50**	**37**	⇓*i*P	**Pb**	**05 09 05.5**	**+1.2**
AGG	**Agios Georgios**	**3.59**	**223**	*e*Pn	**Pn**	**05 08 58.4**	**+0.4**
AGG				*e*Sn	**Sn**	**05 09 39.8**	**-0.6**
MLR	**Muntele Rosu**	**3.83**	**5**	⇑*i*P	**Pn**	**05 09 03.1**	**+1.9**
MLR	**Muntele Rosu**	**3.83**	**5**	⇑P	**Pn**	**05 09 03.1**	**+1.9**

ISC 14 05:08:39.4±1.7, 4836N±009×227E±01, h4km±13km, n6, σ0s94/10, 2D, Ukraine - Moldova - Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOLS	**Kolonicke sedl**	**0.64**	**333**	*e*PG	**Pg**	**05 08 51.9**	**+0.1**
KOLS				*e*SG	**Sg**	**05 09 00.7**	**+0.6**
CRVS	**Cervenica-Dubn**	**0.99**	**303**	*e*PN	**Pn**	**05 08 58.4**	**-1.7**
CRVS				*e*SN	**Sn**	**05 09 13.6**	**-0.9**
STHS	**Stebnicka Huta**	**1.43**	**318**	*e*PN	**Pn**	**05 09 05.6**	**-0.6**
STHS				*e*SN	**Sn**	**05 09 26.4**	**+1.0**
KECS	**Kecovo**	**1.49**	**275**	*e*PN	**Pn**	**05 09 06.0**	**-1.0**
KECS				*e*SN	**Sn**	**05 09 28.4**	**+1.6**
DRGR		**1.57**	**180**	⇓*i*P	**Pn**	**05 09 08.5**	**+0.4**
BURAR	**Bucovina Array**	**1.84**	**113**	⇓*i*P	**Pn**	**05 09 12.2**	**+0.5**

CASC 14 05:13:32.8±2.3, 878N×8247W, h0km±4km, MD3.7, 2C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.34**	**177**	⇑*i*P	Pg	05 13 41.3	+1.9
DVD				*e*S	Sg	05 13 46.7	+2.8
BUS	**Buena Vista**	**1.48**	**301**	*e*P	Pn	05 14 00.6	-0.2
BUS				*e*S	Sg	05 14 22.1	+1.5
URSC	**Urasca**	**1.66**	**309**	⇓*e*P	Pn	05 14 03.2	0.0
URSC				*e*S	Sn	05 14 25.5	+0.3
LCR2	**La Lucha 2**	**1.79**	**302**	⇑*e*P	Pn	05 14 05.6	+0.7
LCR2				*e*S	Sn	05 14 29.7	+1.4
ICR	**Volcan Irazu**	**1.79**	**312**	*e*P	Pn	05 14 06.2	+1.2
ICR				*e*S	Sn	05 14 30.2	+1.8
LAJ	**Bijagual**	**1.95**	**304**	*e*P	Pn	05 14 13.0	+5.9
LAJ				*e*S	Sn	05 14 42.4	+10
PRS1	**Puriscal**	**2.17**	**303**	*e*P	Pn	05 14 10.7	+0.5
PRS1				*e*S	Sn	05 14 39.9	+2.1
CGA2	**Cerro Gallo 2**	**2.32**	**302**	⇓*e*P	Pn	05 14 14.0	+1.8
CGA2				*e*S	Sn	05 14 44.2	+2.8
AZU	**Azuero**	**2.39**	**114**	⇓*e*P	Pn	05 14 14.4	+1.3
AZU				*e*S	Sn	05 14 45.4	+2.3
PTP	**Ponta Puerca**	**18.87**	**58**	*e*P		05 13 46.6	
PTP				*e*S		05 13 57.9	

*MOS **14** 05:16:47.2±1.0, 6076N×16597E, h10km, mb4.7/47, MS3.7/11, Error ellipse: s-maj=12.0km s-min=5.9km az=80.2*
*IDC **14** 05:16:47.9±0.5, 6082N×16594E, h0km, mb4.3/27, mb1 4.5/28, mb1mx4.5/33, mbtmp4.3/28, ML4.2/1, MS3.7/10, Ms1 3.7/10, ms1mx3.4/30, Error ellipse: s-maj=12.8km s-min=10.9km az=30.0*
*KRSC **14** 05:16:47.8±0.5, 6074N×16600E, h10km±2km, ML4.6*
*ISCJB **14** 05:16:48.6±0.8, 6074N±003×16600E±004, h17km±5km, mb4.5/101, MS4.0/25, Error ellipse: s-maj=4.9km s-min=3.2km az=119.9*
*BJI **14** 05:16:49.6, 6071N×16522E, h13km, mB4.7, mb4.6, Ms4.6, Msz4.3*
*NEIC **14** 05:16:49.8±0.3, 6081N×16590E, mb4.7/61, Error ellipse: s-maj=7.6km s-min=4.4km az=183.0*

ISC 14 05:16:50.3±0.8, 6078N±002×16598E±004, h18km±5km, h15km±.7km:pP-P, n255, σ1s06/268, mb4.5/101, MS4.0/25, 4C-2D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.35**	**174**	*i* P	**Pg**	**05 16 54.8**	**-2.8**
TILR				*i* S	**Sg**	**05 17 00.1**	**-2.5**
KAMR	**Kamenskoye**	**1.69**	**4**	*i* P	**Pn**	**05 17 18.3**	**-0.6**
KAMR				*i* S	**Sn**	**05 17 40.2**	**+0.1**
KAMR				Smax			
	8µm,1.1s						
OSSR	**Ossora**	**2.12**	**225**	*e*P	**Pn**	**05 17 23.2**	**-1.6**
EVNR	**Evensk

MDJ S **S** **05 27 04.8 -0.9**
MDJ XS sS 05 27 10.1 -4.5
MDJ SCP ScP 05 29 31.3 -0.1
MDJ PCS PcS 05 29 32.8 -0.6
MDJ AMB AMB
comp=Z,4.0nm,0.9s,mb4.0
MDJ AMB AMB
comp=Z,85nm,5.9s
MDJ LR LR
comp=N,254nm,13.2s,MS4.0
MDJ LR LR
comp=E,175nm,17.1s,MS4.0
MDJ LR LR
comp=Z,145nm,14.5s,MS3.7
SKAG Skagway 28.44 66 *e*P **P** **05 22 44.9 +0.9**
comp=Z,9.5nm,1.0s,mb4.4
SKAG LR LR
comp=Z,500nm,18.0s,MS4.2
CN2 Changchun 29.42 253 *e*P **P** **05 22 53.0 +0.3**
CN2 *e*XP sP 05 23 00.5 +0.2
CN2 *e*S **S** **05 27 43.8 -2.0**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
CN2 LR LR
comp=Z,200nm,21.0s,MS3.7
CIT Chita 29.55 277 *e*P **P** **05 22 53.8 0.0**
SIT Sitka 29.65 71 *e*P **P** **05 22 55.6 +0.9**
SIT pmax pmax
comp=Z,36nm,1.1s,mb5.0
SIT Sitka 29.65 71 *e*P **P** **05 22 55.6 +0.9**
comp=Z,36nm,1.1s,mb5.0
MJAR Matsushiro Arr 29.98 229 P **P** **05 22 58.0 +0.4**
comp=Z,1.8nm,0.9s,mb3.8,baz=26,slow=7.9,SNR=5.4
MJAR LR LR 05 36 12.1
comp=Z,156nm,19.1s,MS3.7,baz=30,slow=39
MJAR Matsushiro Arr 29.98 229 P **P** **05 22 58.0 +0.4**
MJAR pmax pmax
comp=Z,2.0nm,0.9s
MJAR MLR MLR
comp=Z,156nm,19.1s
DLBC Dease Lake 31.33 65 P **P** **05 23 11.1 +1.6**
comp=Z,6.5nm,0.8s,mb4.5,baz=294,slow=11,SNR=23
DLBC Dease Lake 31.33 65 *e*P **P** **05 23 11.1 +1.6**
ULN Ulaanbaatar 35.44 276 *e*P **P** **05 23 44.8 -0.6**
ULN *e* 05 26 14.2
ULN pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
ULN Ulaanbaatar 35.44 276 *e*P **P** **05 23 44.8 -0.6**
comp=Z,6.4nm,0.9s,mb4.5
ULN *e*PcP PcP 05 26 14.2 -0.7
YKW3 Yellowknife Ar 35.52 52 *e*P **P** **05 23 45.1 -0.9**
YKA Yellowknife Ar 35.56 52 P **P** **05 23 46.0 -0.4**
comp=Z,4.2nm,0.6s,mb4.5,baz=303,slow=8.3,SNR=42
YKA PcP PcP 05 26 14.0 -1.2
comp=Z,1.9nm,0.7s,baz=311,slow=3.6,SNR=14
YKA LR LR 05 40 48.1
comp=Z,95nm,18.5s,MS3.6,baz=285,slow=40
YKA Yellowknife Ar 35.56 52 P **P** **05 23 46.0 -0.4**
YKA 05 26 14.0
YKA pmax pmax
comp=Z,4.0nm,0.6s
YKA MLR MLR
comp=Z,95nm,18.5s
YKA Yellowknife Ar 35.56 52 P **P** **05 23 46.0 -0.4**
YKA PcP PcP 05 26 14.1 -1.2
YKA LR LR 05 40 48.1
SONM Songino Array 35.78 276 P **P** **05 23 49.4 +1.1**
comp=Z,3.2nm,0.8s,mb4.3,baz=58,slow=9.4,SNR=12
SONM LR LR 05 38 30.6
comp=Z,177nm,21.6s,MS3.8,baz=166,slow=36
SONM Songino Array 35.78 276 P **P** **05 23 49.4 +1.1**
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONM MLR MLR
comp=Z,177nm,21.6s
SONM Songino Array 35.78 276 P **P** **05 23 49.4 +1.1**
SONM LR LR 05 38 30.6
MOY Mondy 35.81 285 *e*P **P** **05 23 51.4 +2.8**
BJI Beijing 36.73 259 *e*P **P** **05 23 58.0 +1.6**
BJI S **S** **05 29 40.3 +1.1**
BJI AMB AMB
comp=Z,21nm,0.8s,mb5.0
BJI LR LR
comp=N,260nm,14.0s,MS4.3
BJI LR LR
comp=E,228nm,14.0s,MS4.3
BJI LR LR
comp=Z,103nm,15.1s,MS3.7
HHC Hu-ho-hao-te 38.34 264 *e*P **P** **05 24 09.0 -1.1**
HHC AP pP 05 24 14.3 -1.2
HHC XP sP 05 24 16.0 -1.7
HHC PP PP 05 25 41.3 +3.5
HHC PCP PcP 05 26 22.3 -1.3
HHC S **S** **05 30 03.0 -0.7**
HHC SCP ScP 05 30 09.8 -0.8
HHC SS SS 05 32 39.9 -12
HHC SCS ScS 05 34 18.3 -2.2
HHC AMB AMB
comp=Z,11nm,1.1s,mb4.5
HHC AMB AMB
comp=Z,100nm,6.7s
HHC LR LR
comp=N,271nm,13.7s,MS4.5
HHC LR LR
comp=E,385nm,12.8s,MS4.5
HHC LR LR
comp=Z,307nm,12.1s,MS4.3
ZAL Zalesovo 41.65 298 LR LR 05 44 11.2
comp=Z,258nm,18.6s,MS4.1,baz=72,slow=40
NVS Novosibirsk 41.70 300 *i*P **P** **05 24 38.0 0.0**
NVS pmax pmax
comp=Z,13nm,0.9s,mb4.6
NVS pmax pmax
comp=N,7.0nm,1.1s
NVS pmax pmax
comp=E,10.0nm,1.1s
SSE Sheshan 41.71 245 P **P** **05 24 38.0 0.0**
SSE AMB AMB
comp=Z,31nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,69nm,7.0s
EDM Edmonton 41.93 63 *e*P **P** **05 24 39.8 0.0**
EDM *e* 05 26 34.1
NJ2 Nanjing 41.95 249 *e*P **P** **05 24 38.6 -1.4**
NJ2 AP pP 05 24 42.5 -3.0
NJ2 XP sP 05 24 45.5 -2.2
NJ2 PP PP 05 26 19.8 +2.7
NJ2 S **S** **05 30 57.0 -0.7**
NJ2 XS sS 05 31 07.0 +0.2
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.7
NJ2 AMB AMB
comp=Z,160nm,11.0s
NJ2 LR LR
comp=N,850nm,15.4s
NJ2 LR LR
comp=E,1µm,24.0s
NJ2 LR LR
comp=Z,440nm,15.4s,MS4.5
NEW Newport 43.73 70 P **P** **05 24 55.2 +0.7**
comp=Z,3.6nm,0.9s,mb4.1,baz=327,slow=4.3,SNR=5.4
NEW Newport 43.73 70 P **P** **05 24 55.2 +0.7**
NEW pmax pmax
comp=Z,4.0nm,0.9s
WALA Waterton Lakes 44.63 67 *e*P **P** **05 25 01.7 0.0**
comp=Z,24nm,1.3s,mb4.9
WALA *e*PcP PcP 05 26 44.0 -0.3
BSMT Bassoo Peak 45.11 69 *e*P **P** **05 25 06.2 +0.7**
BSMT *e*PcP PcP 05 26 45.1 -0.8
GTA Gaotai 45.20 273 *e*P **P** **05 25 07.5 +1.3**
GTA XP sP 05 25 17.3 +3.4
GTA PP PP 05 26 54.8 +2.8
GTA S **S** **05 31 49.1 +3.9**
GTA XS sS 05 31 55.6 +1.2
GTA AMB AMB
comp=Z,7.0nm,1.0s,mb4.5
GTA AMB AMB
comp=Z,56nm,6.9s
GTA LR LR
comp=N,216nm,15.4s,MS4.3
GTA LR LR
comp=E,221nm,19.6s,MS4.3
GTA LR LR
comp=Z,188nm,15.4s,MS4.1
FFC Flin Flon 45.61 54 *e*P **P** **05 25 08.5 -0.9**
FFC *e* 05 26 46.3
FFC pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
FFC Flin Flon 45.61 54 *e*P **P** **05 25 08.5 -0.9**
comp=Z,6.4nm,1.1s,mb4.5
FFC *e*PcP PcP 05 26 46.3 -1.3
FCC Fort Churchill 45.61 46 *e*P **P** **05 25 08.3 -1.1**
FCC *e**PP pP 05 25 12.4 -2.6
FCC *e* 05 26 46.0
FCC pmax pmax
comp=Z,16nm,0.9s,mb5.0
FCC Fort Churchill 45.61 46 *e*P **P** **05 25 08.3 -1.2**
comp=Z,16nm,0.9s,mb5.0
FCC *e*pP pP 05 25 12.3 -2.7
FCC *e*PcP PcP 05 26 46.0 -1.6
LZH Lanzhou 45.83 267 *e*P **P** **05 25 11.0 -0.2**
LZH AP pP 05 25 15.5 -1.2
LZH XP sP 05 25 18.1 -0.8
LZH PP PP 05 26 58.3 -0.3
LZH AMB AMB
comp=Z,24nm,1.4s,mb4.9
LZH AMB AMB
comp=Z,75nm,7.3s
LZH LR LR
comp=N,421nm,15.4s
LZH LR LR
comp=Z,795nm,18.7s,MS4.7
SUMG Summit 45.88 10 *e*P **P** **05 25 11.0 -0.5**
comp=Z,5.5nm,0.8s,mb4.5
YBH Yreka Blue Hor 45.93 81 P **P** **05 25 13.0 +1.0**
comp=Z,3.0nm,0.7s,mb4.3,baz=348,slow=3.6,SNR=8.0
YBH LR LR 05 42 04.5
comp=Z,108nm,20.0s,MS3.8,baz=315,slow=33
YBH Yreka Blue Hor 45.93 81 *e*P **P** **05 25 13.2 +1.3**
comp=Z,4.8nm,1.1s,mb4.3
CHMT Chamberlain Mo 46.51 69 *e*P **P** **05 25 16.1 -0.4**
CHMT *e*PcP PcP 05 26 49.5 -1.2
KURK Kurchatov 46.61 299 *e*P **P** **05 25 16.5 -0.8**
KURK *e* 05 27 03.7
KURK pmax pmax
comp=Z,25nm,0.8s,mb5.2
KURK Kurchatov 46.61 299 *e*P **P** **05 25 16.5 -0.8**
comp=Z,25nm,0.8s,mb5.2
KURK *e*PP PP 05 27 03.7 -3.1
WDC Whiskeytown Da 46.90 82 *e*P **P** **05 25 19.8 +0.2**
WDC pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
WDC Whiskeytown Da 46.90 82 *e*P **P** **05 25 19.8 +0.2**
comp=Z,7.3nm,1.1s,mb4.5
ARCES ARCESS Array B 46.96 342 P **P** **05 25 20.2 +0.2**
comp=Z,6.5nm,1.0s,mb4.5,baz=31,slow=10,SNR=4.3
ARCES LR LR 05 48 57.3
comp=Z,49nm,18.9s,MS3.5,baz=14,slow=41
ARCES ARCESS Array B 46.96 342 P **P** **05 25 20.3 +0.3**
ARCES pmax pmax
comp=Z,7.0nm,1.0s
ARCES MLR MLR
comp=Z,49nm,18.9s
MOD Modoc 46.97 79 *e*P **P** **05 25 20.7 +0.6**
comp=Z,2.5nm,0.7s,mb4.2
MOD *e*PcP PcP 05 26 52.3 -0.1
EGMT Eagleton 47.26 65 *e*P **P** **05 25 22.0 -0.4**
comp=Z,5.6nm,0.8s,mb4.5
EGMT *e*PcP PcP 05 26 52.8 -0.6
HRY Holter Researc 47.30 68 *e*P **P** **05 25 23.1 +0.3**
WVOR Wild Horse Val 47.36 77 *e*P **P** **05 25 23.4 +0.3**
WVOR pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
WVOR Wild Horse Val 47.36 77 *e*P **P** **05 25 23.4 +0.3**
comp=Z,2.8nm,0.8s,mb4.2
WMQ Urumqi 47.68 287 ⇓P **P** **05 25 26.4 +0.8**
WMQ AP pP 05 25 30.9 -0.3
WMQ XP sP 05 25 33.4 0.0
WMQ PCP PcP 05 26 56.4 +1.5
WMQ PP PP 05 27 17.4 +0.2
WMQ S **S** **05 32 20.4 -0.3**
WMQ XS sS 05 32 28.0 -1.8
WMQ AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
WMQ AMB AMB
comp=Z,54nm,3.6s
WMQ LR LR
comp=N,128nm,20.0s,MS4.0
WMQ LR LR
comp=E,99nm,21.0s,MS4.0
WMQ LR LR
comp=Z,119nm,19.2s,MS3.9
MKAR Makanchi Array 47.92 293 P **P** **05 25 25.8 -1.7**
comp=Z,4.8nm,0.6s,mb4.7,baz=52,slow=7.2,SNR=42
MKAR PP PP 05 27 16.2 -3.3
comp=Z,1.0nm,0.7s,baz=51,slow=8.5,SNR=3.8
MKAR Makanchi Array 47.92 293 P **P** **05 25 25.8 -1.7**
MKAR 05 27 16.2
MKAR pmax pmax
comp=Z,5.0nm,0.6s
DLMT Dillon 47.97 70 *e*P **P** **05 25 28.5 +0.6**
comp=Z,7.6nm,1.0s,mb4.7
DLMT *e*pP pP 05 25 32.4 -1.1
MCMT McKenzie Canyo 48.26 70 *e*P **P** **05 25 30.0 -0.2**
MCMT *e*pP pP 05 25 34.5 -1.2
MCMT *e*PcP PcP 05 26 57.0 0.0
BRVK Borovoye 48.29 306 *e*P **P** **05 25 30.0 -0.4**
BRVK pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
BRVK Borovoye 48.29 306 *e*P **P** **05 25 29.9 -0.5**
comp=Z,10nm,0.8s,mb4.9
OHCM Honcut 48.38 82 *e*P **P** **05 25 30.9 -0.1**
HLID Hailey 48.50 73 *e*P **P** **05 25 32.4 +0.4**
comp=Z,2.0nm,0.7s,mb4.3
HLID *e*PcP PcP 05 26 58.2 +0.4
ZRNK Zerenda 48.88 307 *e*P **P** **05 25 34.1 -0.8**
ZRNK pmax pmax
comp=Z,11nm,0.8s,mb4.9
ZRNK Zerenda 48.88 307 *e*P **P** **05 25 34.1 -0.8**
comp=Z,11nm,0.8s,mb4.9
QLMT Earthquake Lak 48.91 69 *e*P **P** **05 25 36.1 +1.0**
GCMT Greycliff 48.98 67 *e*P **P** **05 25 36.6 +0.9**
FRB Frobisher Bay 49.18 29 P **P** **05 25 35.5 -1.7**
comp=Z,3.9nm,0.7s,mb4.5,baz=330,slow=7.8,SNR=5.4
FRB Frobisher Bay 49.18 29 P **P** **05 25 35.5 -1.7**
FRB pmax pmax
comp=Z,4.0nm,0.7s
FRB Frobisher Bay 49.18 29 P **P** **05 25 35.5 -1.7**
LKWY Lake 49.59 69 *e*P **P** **05 25 42.1 +1.8**
LKWY pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
LKWY Lake 49.59 69 *e*P **P** **05 25 42.1 +1.8**
comp=Z,9.6nm,0.8s,mb4.9
SFJD Kangerlussuaq 49.73 18 LR LR 05 46 20.5
comp=Z,32nm,18.7s,MS3.3,baz=210,slow=36
FLWY Flagg Ranch 49.82 70 *e*P **P** **05 25 43.6 +1.5**
comp=Z,20nm,1.0s,mb5.1
IMW Indian Meadow 49.85 70 *e*P **P** **05 25 43.2 +0.9**
comp=Z,5.7nm,0.8s,mb4.7
IMW *e*PcP PcP 05 27 03.3 +0.6
DCID1 Drake Creek 49.97 70 *e*P **P** **05 25 44.3 +1.0**
ARU Arti 49.99 316 ⇑*i*P **P** **05 25 44.2 +0.8**
ARU *e* 05 27 03.0
ARU *e* 05 27 35.5
ARU *e*S **S** **05 32 56.9 +3.6**
ARU pmax pmax
comp=Z,8.0nm,1.5s,mb4.5
ARU Arti 49.99 316 *e*P **P** **05 25 42.8 -0.6**
comp=Z,4.4nm,0.7s,mb4.6
MOOW Moose Ponds 50.06 70 *e*P **P** **05 25 44.3 +0.4**
comp=Z,2.7nm,1.0s,mb4.2
CD2 Chengdu 50.06 263 *e*P **P** **05 25 42.0 -1.9**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
TPAW Teton Pass 50.16 70 *e*P **P** **05 25 45.5 +0.8**
comp=Z,3.7nm,0.6s,mb4.6
TPAW *e*PcP PcP 05 27 04.2 +0.4
REDW Red Top Meadow 50.31 70 *e*P **P** **05 25 46.7 +0.9**
comp=Z,7.5nm,1.1s,mb4.6
REDW *e*PcP PcP 05 27 04.2 -0.2
NVAR Mina Array Bea 50.62 80 P **P** **05 25 46.6 -1.6**
comp=Z,1.8nm,0.8s,mb4.1,baz=320,slow=6.2,SNR=7.0
HVU Hansel Valley 50.64 73 *e*P **P** **05 25 49.1 +0.8**
HVU pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
HVU Hansel Valley 50.64 73 *e*P **P** **05 25 49.1 +0.8**
comp=Z,5.0nm,0.9s,mb4.4
HWUT Hardware Ranch 51.34 72 *e*P **P** **05 25 54.5 +1.0**
comp=Z,9.8nm,1.3s,mb4.6
HWUT *e*PcP PcP 05 27 08.0 -0.2
BW06 Boulder Array 51.37 70 *e*P **P** **05 25 54.1 +0.3**
comp=Z,1nm,1.1s,mb4.7
BW06 *e*PcP PcP 05 27 07.1 -1.2
PDAR Pinedale Array 51.37 70 P **P** **05 25 54.4 +0.6**
comp=Z,6.1nm,0.7s,mb4.6,baz=321,slow=3.1,SNR=51
ULM Lac du Bonnet 51.44 54 P **P** **05 25 53.2 -1.1**
comp=Z,3.7nm,0.7s,mb4.4,baz=319,slow=7.6,SNR=6.5
ULM PcP PcP 05 27 06.8 -1.8
comp=Z,3.5nm,0.6s,baz=333,slow=6.5,SNR=4.5
ULM Lac du Bonnet 51.44 54 P **P** **05 25 53.2 -1.1**
ULM PcP PcP 05 27 06.8 -1.8
DUG Dugway 51.86 74 *e*P **P** **05 25 58.0 +0.5**
DUG pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
DUG Dugway 51.86 74 *e*P **P** **05 25 58.0 +0.5**
comp=Z,2.0nm,0.8s,mb4.1
RSSD Black Hills 52.80 65 *e*P **P** **05 26 04.5 0.0**
RSSD *e* 05 27 13.8
RSSD pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
RSSD Black Hills 52.80 65 *e*P **P** **05 26 04.5 0.0**
comp=Z,9.6nm,0.9s,mb4.7
RSSD *e*PcP PcP 05 27 13.8 +0.1
ARUT Antelope Range 53.47 77 *e*P **P** **05 26 10.2 +0.8**
SRU San Rafael 53.80 73 *e*P **P** **05 26 11.9 +0.1**
SRU pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
SRU San Rafael 53.80 73 *e*P **P** **05 26 11.9 +0.2**
comp=Z,4.6nm,0.7s,mb4.5
GSC Goldstone 53.84 81 *e*P **P** **05 26 12.9 +0.8**
TKM2 Tokmak 2 53.93 295 P **P** **05 26 13.9 +1.2**
SNR=6.5
USP Ospenovka 54.14 296 P **P** **05 26 16.2 +1.9**
SNR=10
ULHL Ulahol 54.17 294 P **P** **05 26 16.4 +1.9**
SNR=6.0
FINES FINESS Array B 54.28 338 P **P** **05 26 13.5 -1.8**
comp=Z,2.1nm,0.9s,mb4.1,baz=18,slow=8.0,SNR=5.7
FINES LR LR 05 51 32.8
comp=Z,42nm,18.1s,MS3.5,baz=179,slow=38
FINES FINESS Array B 54.28 338 P **P** **05 26 13.5 -1.8**
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES MLR MLR
comp=Z,42nm,18.2s
NEN Nelson 54.51 79 *e*P **P** **05 26 18.1 +1.1**
AAK Ala-Archa 54.65 295 P **P** **05 26 20.0 +2.0**
SNR=7.1
AAK Ala-Archa 54.65 295⇓*e*P **P** **05 26 18.5 +0.5**
AAK pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
AAK MLR MLR
comp=Z,100nm,18.0s,MS3.9
AAK Ala-Archa 54.65 295 *e*P **P** **05 26 18.1 +0.1**
comp=Z,6.8nm,0.8s,mb4.7
KZA Kyzart 54.75 294 P **P** **05 26 21.1 +2.3**
SNR=9.7
EKS2 Erkin-Say 54.94 296 P **P** **05 26 21.7 +1.6**
SNR=11
EYMN Ely 55.01 53 *e*P **P** **05 26 20.1 -0.5**
comp=Z,5.6nm,0.7s,mb4.7
EYMN *e*PcP PcP 05 27 21.4 -0.7
AKTK Aktyubinsk 55.03 312 P **P** **05 26 20.8 0.0**
AKTO Aktyubinsk 55.03 312 P **P** **05 26 20.8 0.0**
comp=Z,2.6nm,0.6s,mb4.4,baz=43,slow=7.4,SNR=6.6
AKTO Aktyubinsk 55.03 312 P **P** **05 26 20.8 0.0**
AKTO pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
ORR Orenburg 55.22 315 *e*P **P** **05 26 23.5 +1.4**
ORR pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
ORR MLR MLR
comp=Z,170nm,19.0s,MS4.1
KMI Kunming 55.38 260 P **P** **05 26 22.9 -0.3**
KMI AP pP 05 26 27.5 -1.4
KMI XP sP 05 26 29.4 -1.6
KMI PP PP 05 28 27.8 +0.8
KMI S **S** **05 34 05.9 -0.9**
KMI XS sS 05 34 11.4 -4.7
KMI SS SS 05 37 44.9 -6.4
KMI AMB AMB
comp=Z,6.0nm,1.2s,mb4.5
KMI AMB AMB
comp=Z,68nm,3.1s
KMI LR LR
comp=N,307nm,11.0s,MS4.8
KMI LR LR
comp=E,264nm,10.2s,MS4.8
KMI LR LR
comp=Z,207nm,14.9s,MS4.3
SMCO Snowmass 55.40 71 *e*P **P** **05 26 24.1 +0.7**
comp=Z,2.8nm,0.8s,mb4.3
SMCO *e*PcP PcP 05 27 24.1 +0.4
AML Almayashu 55.40 295 P **P** **05 26 26.0 +2.5**
SNR=6.1
PV01 Paradox Valley 55.49 73 *e*P **P** **05 26 24.8 +0.7**
PV01 *e*PcP PcP 05 27 23.4 -0.6
ISCO Idaho Springs 55.53 69 *e*P **P** **05 26 24.8 +0.5**
ISCO pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
ISCO Idaho Springs 55.53 69 *e*P **P** **05 26 24.8 +0.5**
comp=Z,3.5nm,1.0s,mb4.3
WUAZ Wupatki 56.28 77 *e*P **P** **05 26 30.2 +0.5**
comp=Z,6.1nm,0.8s,mb4.7
GLA Glamis 56.62 81 *e*P **P** **05 26 32.6 +0.5**
NB2 NORSAR Subarra 56.97 346 P **P** **05 26 33.1 -1.5**
comp=Z,2.2nm,0.5s,mb4.4,baz=14,slow=7.4
NOA NORSAR Array B 56.97 346 P **P** **05 26 33.1 -1.5**
comp=Z,2.7nm,0.7s,mb4.4,baz=14,slow=7.3,SNR=7.2
NOA NORSAR Array B 56.97 346 P **P** **05 26 33.1 -1.5**
NOA pmax pmax
comp=Z,3.0nm,0.7s
SCHQ Schefferville 57.38 33 P **P** **05 26 36.6 -0.9**
comp=Z,7.7nm,0.8s,mb4.8,baz=340,slow=7.6,SNR=17
SCHQ Schefferville 57.38 33 *e*P **P** **05 26 36.1 -1.4**
comp=Z,15nm,1.1s,mb4.9
CBKS Cedar Bluff 58.99 65 *e*P **P** **05 26 48.3 -0.5**
CBKS pmax pmax
comp=Z,12nm,0.7s,mb5.0
CBKS Cedar Bluff 58.99 65 *e*P **P** **05 26 48.3 -0.5**
comp=Z,12nm,0.7s,mb5.0
ANMO Albuquerque 59.07 73 P **P** **05 26 49.6 +0.3**
comp=Z,0.7nm,0.7s,mb3.8,baz=309,slow=9.2,SNR=4.7
ANMO Albuquerque 59.07 73 *e*P **P** **05 26 49.6 +0.3**
ANMO pmax pmax
comp=Z,1.0nm,0.7s
ANMO Albuquerque 59.07 73 *e*P **P** **05 26 49.8 +0.4**
comp=Z,0.9nm,0.5s,mb4.1
TUC Tucson 59.18 78 *e*P **P** **05 26 50.4 +0.3**
TUC pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
TUC Tucson 59.18 78 *e*P **P** **05 26 50.4 +0.4**
comp=Z,1.8nm,1.0s,mb4.1
KSU1 Kansas State U 60.13 63 *e*P **P** **05 26 55.9 -0.8**
MNTX Cornudas Mount 62.26 74 *e*P **P** **05 27 11.6 +0.5**
comp=Z,5.2nm,1.2s,mb4.5
WMOK Wichita Mounta 62.79 67 *e*P **P** **05 27 13.8 -0.8**
WMOK pmax pmax
comp=Z,13nm,0.9s,mb5.1
WMOK Wichita Mounta 62.79 67 *e*P **P** **05 27 13.8 -0.8**
comp=Z,13nm,0.9s,mb5.1
CCM Cathedral Cave 63.31 60 *e*P **P** **05 27 16.6 -1.5**
CCM pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
CCM Cathedral Cave 63.31 60 *e*P **P** **05 27 16.6 -1.5**
comp=Z,9.0nm,1.0s,mb4.8
AKASG Malin Array Be 63.57 331 P **P** **05 27 18.4 -1.4**
comp=Z,2.6nm,0.8s,mb4.3,baz=26,slow=6.4,SNR=6.5
AKASG Malin Array Be 63.57 331 P **P** **05 27 18.4 -1.4**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
FVM French Village 63.72 59 *e*P **P** **05 27 19.7 -1.1**
FVM pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
FVM French Village 63.72 59 *e*P **P** **05 27 19.6 -1.1**
comp=Z,5.1nm,0.5s,mb4.8
EKA Eskdalemuir Ar 63.92 353 P **P** **05 27 23.4 +1.3**
comp=Z,1.7nm,0.8s,mb4.1,baz=17,slow=6.1,SNR=6.0
EKA Eskdalemuir Ar 63.92 353 P **P** **05 27 23.4 +1.3**
EKA pmax pmax
comp=Z,2.0nm,0.8s
BLO Bloomington 64.32 55 *e*P **P** **05 27 24.0 -0.7**
BLO pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
BLO Bloomington 64.32 55 *e*P **P** **05 27 24.0 -0.7**
comp=Z,5.9nm,0.6s,mb4.8

SIUC	**Southern Illin**	**64.45**	**58**	*e*P		**P**	**05 27 24.5**	**-1.1**
	comp=Z,14nm,0.7s,mb5.1								
ALLY	**Alegheny Colle**	**64.66**	**49**	*e*P		**P**	**05 27 25.7**	**-1.2**
WCI	**Wyandotte Cave**	**65.21**	**56**	*e*P		**P**	**05 27 28.8**	**-1.8**
WCI				pmax	pmax				
	comp=Z,3.0nm,0.6s,mb4.5								
WCI	**Wyandotte Cave**	**65.21**	**56**	*e*P		**P**	**05 27 28.8**	**-1.8**
	comp=Z,3.2nm,0.6s,mb4.5								
MIAR	**Mount Ida**	**65.27**	**63**	*e*P		**P**	**05 27 30.6**	**-0.3**
MIAR				pmax	pmax				
	comp=Z,5.0nm,0.9s,mb4.5								
MIAR	**Mount Ida**	**65.27**	**63**	*e*P		**P**	**05 27 30.6**	**-0.3**
	comp=Z,4.7nm,0.9s,mb4.5								
UALR	**University of**	**65.61**	**62**	*e*P		**P**	**05 27 32.1**	**-1.0**
	comp=Z,7.2nm,0.8s,mb4.8								
KIV	**Kislovodsk**	**65.91**	**319**	*e*P		**P**	**05 27 36.6**	**+1.5**
KIV				pmax	pmax				
	comp=Z,5.0nm,0.9s,mb4.5								
KIV				MLR	MLR				
	comp=Z,56nm,16.0s,MS3.9								
CLL	**Collm**	**66.18**	**342**	*e*P		**P**	**05 27 37.0**	**+0.2**
MCWV	**Mont Chateau**	**66.50**	**50**	*e*P		**P**	**05 27 37.1**	**-1.8**
	comp=Z,14nm,0.9s,mb5.0								
ZEI	**Tsey**	**66.57**	**317**	*e*P		**P**	**05 27 37.7**	**-1.6**
ZEI				*e*			05 28 06.5		
ZEI				pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.4								
MORC	**Moravsky Berou**	**66.90**	**338**	*e*P		**P**	**05 27 40.0**	**-1.4**
MORC				pmax	pmax				
	comp=Z,2.0nm,0.9s,mb4.2								
MORC	**Moravsky Berou**	**66.90**	**338**	*e*P		**P**	**05 27 40.0**	**-1.4**
	comp=Z,2.2nm,0.9s,mb4.2								
WES	**Weston**	**67.12**	**43**	*e*P		**P**	**05 27 41.9**	**-0.9**
WES				pmax	pmax				
	comp=Z,21nm,0.9s,mb5.2								
WES	**Weston**	**67.12**	**43**	*e*P		**P**	**05 27 41.9**	**-1.0**
	comp=Z,21nm,0.9s,mb5.2								
NATX	**Nacogdoches**	**67.15**	**66**	*e*P		**P**	**05 27 42.9**	**-0.1**
	comp=Z,6.9nm,0.6s,mb4.9								
SOC	**Sochi**	**67.19**	**321**	*c i*P		**P**	**05 27 43.1**	**-0.1**
SOC				*e*			05 30 17.2		
SOC				*e*S	S		05 36 36.9	-0.1	
SOC				pmax	pmax				
	comp=Z,23nm,1.0s,mb5.2								
SOC				MLR	MLR				
	comp=Z,144nm,18.0s,MS4.2								
PLAL	**Pickwick Lake**	**67.26**	**59**	*e*P		**P**	**05 27 42.4**	**-1.3**
	comp=Z,6.9nm,0.7s,mb4.8								
TZTN	**Tazewell**	**67.77**	**55**	*e*P		**P**	**05 27 45.9**	**-1.0**
FWV	**Forest Hill**	**67.94**	**52**	*e*P		**P**	**05 27 46.6**	**-1.4**
SWET	**Sewanee**	**67.95**	**57**	*e*P		**P**	**05 27 46.2**	**-1.8**
CPCT	**Cooper Cave**	**68.33**	**56**	*e*P		**P**	**05 27 49.0**	**-1.4**
BLA	**Blacksburg**	**68.42**	**52**	*e*P		**P**	**05 27 49.9**	**-1.1**
BLA				pmax	pmax				
	comp=Z,10.0nm,0.7s,mb5.0								
BLA	**Blacksburg**	**68.42**	**52**	*e*P		**P**	**05 27 49.9**	**-1.1**
	comp=Z,0.7nm,0.7s,mb3.8								
GERES	**GERESS Array B**	**68.46**	**341**	P		**P**	**05 27 50.2**	**-1.1**
	comp=Z,1.0nm,0.8s,mb3.9,baz=32,slow=5.2,SNR=8.7								
GERES	**GERESS Array B**	**68.46**	**341**	P		**P**	**05 27 50.2**	**-1.0**
GERES				pmax	pmax				
	comp=Z,10.0nm,0.8s								
BAIF	**Baives**	**68.55**	**347**	*e*P		**P**	**05 27 46.6**	**-5.2**
MLR	**Muntele Rosu**	**69.22**	**331**	P		**P**	**05 27 57.0**	**+1.0**
	comp=Z,2.6nm,0.7s,mb4.3,baz=114,slow=4.7,SNR=8.6								
MLR	**Muntele Rosu**	**69.22**	**331**	P		**P**	**05 27 57.0**	**+1.0**
MLR				pmax	pmax				
	comp=Z,3.0nm,0.7s								
LRAL	**Lakeview Retre**	**69.39**	**59**	*e*P		**P**	**05 27 54.8**	**-2.2**
	comp=Z,9.8nm,0.7s,mb4.8								
CDF	**Champ du Feu**	**69.81**	**345**	*e*P		**P**	**05 27 55.2**	**-4.4**
	comp=Z,7.4nm,1.2s,mb4.2								
CDF	**Champ du Feu**	**69.81**	**345**	*e*P		**P**	**05 27 55.2**	**-4.4**
CDF				pmax	pmax				
	comp=Z,4.0nm,1.2s,mb4.2								
CDF	**Champ du Feu**	**69.81**	**345**	*e*P		**P**	**05 27 55.2**	**-4.4**
	comp=Z,3.7nm,1.2s,mb4.2								
LOR	**Lormes**	**71.34**	**347**	*e*P		**P**	**05 28 04.0**	**-4.9**
	comp=Z,8.9nm,1.1s,mb4.3								
LOR	**Lormes**	**71.34**	**347**	*e*P		**P**	**05 28 04.0**	**-4.9**
LOR				pmax	pmax				
	comp=Z,4.0nm,1.1s,mb4.3								
LOR	**Lormes**	**71.34**	**347**	*e*P		**P**	**05 28 04.0**	**-4.9**
	comp=Z,4.4nm,1.1s,mb4.3								
SSF	**Saint Saulge**	**71.58**	**347**	*e*P		**P**	**05 28 05.6**	**-4.8**
MMAI	**Mount Meron Ar**	**78.21**	**319**	P		**P**	**05 28 49.5**	**+0.8**
	comp=Z,1.9nm,0.7s,mb4.1,baz=30,slow=12,SNR=4.0								
ASF	**Jabal al Asfar**	**78.50**	**318**	P		**P**	**05 28 52.1**	**+1.8**
	comp=Z,1.3nm,0.4s,mb4.2,baz=42,slow=4.8,SNR=3.8								
ASF	**Jabal al Asfar**	**78.50**	**318**	P		**P**	**05 28 52.1**	**+1.8**
ASF				pmax	pmax				
	comp=Z,1.0nm,0.4s								
ESDC	**Sonseca Array**	**79.56**	**352**	P		**P**	**05 28 55.9**	**-0.3**
	comp=Z,1.4nm,0.7s,mb4.0,baz=1.6,slow=5.5,SNR=11								
WRAB	**Tennant Creek**	**84.39**	**210**	*e*P		**P**	**05 29 21.0**	**-0.5**
WRAB				pmax	pmax				
	comp=Z,6.0nm,1.0s,mb4.7								
WRAB	**Tennant Creek**	**84.39**	**210**	*e*P		**P**	**05 29 21.0**	**-0.5**
	comp=Z,6.4nm,1.0s,mb4.7								
WRA	**Warramunga Arr**	**84.40**	**210**	P		**P**	**05 29 20.7**	**-0.9**
	comp=Z,1.3nm,0.7s,mb4.2,baz=14,slow=5.5,SNR=5.6								
WRA	**Warramunga Arr**	**84.40**	**210**	P		**P**	**05 29 20.7**	**-0.9**
WRA				pmax	pmax				
	comp=Z,10.0nm,0.7s								
ASAR	**Alice Springs**	**88.08**	**209**	P		**P**	**05 29 40.5**	**+0.9**
	comp=Z,0.4nm,0.7s,mb3.8,baz=12,slow=4.8,SNR=6.7								
CPD	**Cerro la Pandu**	**91.14**	**48**	*e*P		**P**	**05 29 53.9**	**-0.1**
QSPA	**South Pole Qui**	**150.54**	**180**	*e*P		PKPdf	05 36 38.1	+2.6	

*ISCJB **14** 05:19:57.9±1.5,244S±0.1×674W±03,h201km±31km, mb3.3/1,Error ellipse: s-maj=40.6km s-min=15.1km az=37.4*
*GUC **14** 05:19:59.2±0.8,2422S×6752W,h200km,ML3.6*
*IDC **14** 05:20:06.6±10.0,2364S×6684W,h223km±76km,mb3.1/1, mb1 3.3/3,mb1mx3.0/13,mbtmp3.8/3,Error ellipse: s-maj=110.0km s-min=48.3km az=28.0*

ISC 14 05:19:58.5±1.5,244S±01×673W±02,h181km±31km,n8, σ0°82/12,mb3.3/1,3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.33**	**319**	⇓*i*P	**Pn**	**05 20 39.7**	**+0.5**
CEN1	**Los Morros**	**2.87**	**290**	⇓*i*P	**Pn**	**05 20 46.9**	**+1.4**
CEN1				*i* S	**Sn**	**05 21 22.0**	**-0.1**
CEN1				AML	AML	05 21 23.4	
	comp=N,155nm,0.6s						
CPN1	**Cerro Paranal**	**2.87**	**265**	*e*P	**Pn**	**05 20 46.6**	**+1.1**
CPN1				*i* S	**Sn**	**05 21 22.0**	**-0.2**
CPN1				AML	AML	05 21 23.4	
	comp=E,119nm,0.5s						
ANCH	**Antofagasta**	**2.96**	**283**	⇓*i*P	**Pn**	**05 20 46.6**	**-0.1**
ANCH				*i* S	**Sn**	**05 21 22.8**	**-1.4**
CRCH	**Chaqaral**	**3.60**	**237**	*i* S	**Sn**	**05 21 38.0**	**-0.4**
LPAZ	**La Paz**	**8.11**	**354**	P	**Pn**	**05 21 52.9**	**-0.1**
	comp=E,0.6nm,0.3s,baz=183,slow=12,SNR=27						
LPAZ				S	**Sn**	**05 23 18.3**	**-5.6**
	comp=E,0.0nm,0.3s,baz=99,slow=23,SNR=4.1						
BDFB	**Brasilia**	**20.06**	**68**	P	**P**	**05 24 16.4**	**-1.3**
	comp=E,0.4nm,0.3s,baz=239,slow=9.2,SNR=3.1						
TORD	**Torodi Ar. Bea**	**76.94**	**69**	P	**P**	**05 31 31.4**	**+0.5**
	comp=E,0.3nm,0.4s,mb3.3,baz=259,slow=6.0,SNR=4.4						

WEL 14 05:43:40.4±0.7,3562S×17792E,h33km,ML3.7/3,Error ellipse: s-maj=11.0km s-min=5.1km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**2.47**	**174**	PN	Pn	05 44 17.7	-0.6
PUZ				SN	Sn	05 44 45.6	-1.6
URZ	**Urewera**	**2.72**	**194**	P*	Pb	05 44 22.0	-6.3
MWZ	**Matawai**	**2.73**	**186**	P*	Pb	05 44 22.3	-6.2
MWZ				S*	Sb	05 44 53.7	-7.8
KNZ	**Kokohu**	**3.40**	**183**	PN	Pn	05 44 28.7	-2.4

CASC 14 05:47:34.1±2.2,881N×8247W,h1km±5km,MD4.0,2C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DVD	**David**	**0.38**	**177**	⇑*i*P	Pg	05 47 42.1	+0.8
DVD				*e*S	Sg	05 47 50.0	+3.8
BUS	**Buena Vista**	**1.47**	**300**	*e*P	Pn	05 48 01.1	-0.6
BUS				*e*S	Sg	05 48 22.4	+1.2
URSC	**Urasca**	**1.64**	**308**	⇓*e*P	Pn	05 48 04.0	-0.1
URSC				*e*S	Sn	05 48 26.3	+0.5
LCR2	**La Lucha 2**	**1.77**	**302**	*e*P	Pn	05 48 06.4	+0.5
LCR2				*e*S	Sn	05 48 30.2	+1.2
ICR	**Volcan Irazu**	**1.77**	**311**	*e*P	Pn	05 48 06.4	+0.5
ICR				*e*S	Sn	05 48 30.9	+1.8
LAJ	**Bijagual**	**1.93**	**303**	*e*P	Pn	05 48 13.4	+5.2
LAJ				*e*S	Sn	05 48 43.3	+10
PRS1	**Puriscal**	**2.15**	**303**	*e*P	Pn	05 48 11.7	+0.5
PRS1				*e*S	Sn	05 48 40.7	+2.2
CGA2	**Cerro Gallo 2**	**2.30**	**301**	⇑*e*P	Pn	05 48 14.8	+1.6
CGA2				*e*S	Sn	05 48 44.6	+2.4
AZU	**Azuero**	**2.40**	**115**	⇓*e*P	Pn	05 48 15.4	+0.8
AZU				*e*S	Sn	05 48 46.7	+2.0
PTP	**Ponta Puerca**	**18.86**	**58**	⇓*e*P		05 47 47.6	
PTP				*e*S		05 48 00.6	

*STR **14** 06:00:06.9±0.4,4673N×151W,h2km±1km,Ml1.9,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ISCJB **14** 06:00:08.3±0.6,4664N±006×143W±005,h6km±6km,Error ellipse: s-maj=10.3km s-min=4.3km az=50.2*
*LDG **14** 06:00:09.1±0.3,4649N×156W,h2km,Md2.1/1,Ml1.7/4, Error ellipse: s-maj=9.4km s-min=2.9km az=35.0*

ISC 14 06:00:08.9±0.9,4656N±009×151W±009,h10km±4km,n8, σ0°83/16,France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LRYF	**La Roche-sur-Y**	**0.03**	**304**	Pg	**Pg**	**06 00 09.9**	**-0.9**
LRYF				Sg	**Sg**	**06 00 12.4**	**+0.2**
CHIF	**Chize**	**0.87**	**119**	Pg	**Pg**	**06 00 25.3**	**-0.4**
CHIF				Sg	**Sg**	**06 00 38.5**	**+1.5**
MFF	**Saint Martin d**	**0.94**	**87**	*e*Pg	**Pg**	**06 00 27.7**	**+0.8**
MFF				*e*Sn	**Sn**	**06 00 42.3**	**+0.8**
	1.4nm,0.2s						
QUIF	**Quistinic**	**1.77**	**321**	*e*Pn	**Pn**	**06 00 39.0**	**-0.4**
QUIF				*e*Sn	**Sn**	**06 01 02.2**	**+0.3**
	0.5nm,0.2s						
SGMF	**Saint Gilles**	**1.84**	**338**	*e*Pn	**Pn**	**06 00 41.2**	**+0.8**
SGMF				*e*Sg	**Sg**	**06 01 08.3**	**+0.3**
	1.0nm,0.2s						
ROSF	**Rostrenen**	**2.14**	**327**	*e*Pn	**Pn**	**06 00 45.9**	**+1.3**
ROSF				*e*Sn	**Sn**	**06 01 10.2**	**-1.0**
TCF	**Toulx Ste Croi**	**2.58**	**95**	*e*Pn	**Pn**	**06 00 50.3**	**-0.4**
TCF	**Toulx Ste Croi**	**2.58**	**95**	*e*Pg	**Pg**	**06 00 57.0**	**-1.4**
TCF				*e*Sn	**Sn**	**06 01 21.1**	**-1.0**
TCF				*e*Sg	**Sg**	**06 01 31.6**	**-0.3**
	0.6nm,0.3s						

IDC 14 06:00:13.2±1.1,1918S×17484W,h0km,mb3.7/5, mb1 4.0/5,mb1mx3.9/14,mbtmp3.7/5,MS3.6/1,Ms1 3.6/1, ms1mx2.8/19,Error ellipse: s-maj=42.6km s-min=27.5km az=132.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PPT	**Papeete**	**24.02**	**90**	LR	LR	06 12 59.1	
	comp=Z,134nm,19.0s,baz=145,slow=32						
ASAR	**Alice Springs**	**47.73**	**255**	P	P	06 08 52.2	+0.5
	0.3nm,0.5s,baz=96,slow=7.8,SNR=3.7						
WRA	**Warramunga Arr**	**47.74**	**260**	P	P	06 08 52.3	+0.4
	0.2nm,0.3s,baz=97,slow=7.3,SNR=5.4						
VNDA	**Vanda**	**59.50**	**186**	P	P	06 10 17.7	-0.4
	0.7nm,0.3s,baz=31,slow=3.0,SNR=13						
NVAR	**Mina Array Bea**	**78.04**	**42**	P	P	06 12 14.3	+0.6
	0.8nm,0.7s,baz=214,slow=8.0,SNR=3.7						
ILAR	**Eielson Array**	**86.40**	**12**	P	P	06 12 57.5	0.0
	0.3nm,0.8s,baz=214,slow=6.9,SNR=4.8						
GERES	**GERESS Array B**	**149.61**	**349**	PKPbc	PKPbc	06 20 03.4	-1.2
	0.2nm,0.5s,baz=29,slow=3.0,SNR=3.5						

*IDC **14** 06:01:38.8±3.6,6001N×16572E,h0km,mb3.6/5, mb1 3.9/5,mb1mx3.6/21,mbtmp3.6/5,MS3.5/5,Ms1 3.5/5, ms1mx3.0/33,Error ellipse: s-maj=118.6km s-min=26.3km az=172.0*
*KRSC **14** 06:01:40.6±0.4,6074N×16597E,h4km±2km,ML4.2*
*NEIC **14** 06:01:40.1±0.7,6017N×16552E,h10km,mb4.5/3,Error ellipse: s-maj=17.1km s-min=10.7km az=157.0*
*ISCJB **14** 06:01:41.8±1.1,6075N±003×16578E±009,h9km±8km, mb4.0/12,MS3.6/7,Error ellipse: s-maj=8.0km s-min=4.8km az=43.6*
*BJI **14** 06:01:41.1,6020N×16550E,h10km,mB4.9,mb4.7,Ms4.3, Msz4.0*
*MOS **14** 06:01:42.2±1.4,6084N×16550E,h10km,mb4.1/7, MS3.3/5,Error ellipse: s-maj=22.9km s-min=10.3km az=85.2*

ISC 14 06:01:42.4±1.4,6077N±003×16579E±009,h3km±10km, n49,σ1°28/53,mb4.0/12,MS3.6/7,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TILR	**Tilichiki**	**0.36**	**158**	*i* P	**Pg**	**06 01 48.0**	**-1.3**
TILR				*e*S	**Sg**	**06 01 53.0**	**-1.0**
KAMR	**Kamenskoye**	**1.71**	**7**	*i* P	**Pn**	**06 02 12.0**	**-1.0**
KAMR				*i* S	**Sn**	**06 02 35.0**	**-0.4**
KAMR				Smax			
	5μm,1.4s						
OSSR	**Ossora**	**2.05**	**223**	*e*P	**Pn**	**06 02 16.9**	**-0.8**
OSSR				*e*S	**Sn**	**06 02 43.3**	**-0.4**
EVNR	**Evensk**	**3.35**	**293**	*i* P	**Pn**	**06 02 36.8**	**+1.2**
EVNR				*e*S	**Sn**	**06 03 17.6**	**+1.7**
SMKR	**Semkarok**	**4.76**	**210**	*e*P	**Pn**	**06 02 56.0**	**+1.0**
SRKR	**Sorokina**	**4.78**	**212**	P	**Pn**	**06 02 56.6**	**+1.4**
KBG	**Krutoberegovo**	**4.80**	**201**	*e*P	**Pn**	**06 02 55.6**	**0.0**
KBTR	**Krutoberegovo**	**4.83**	**200**	P	**Pn**	**06 02 55.8**	**-0.1**
KBTR				S	**Sn**	**06 03 52.4**	**0.0**
KBTR	**Krutoberegovo**	**4.83**	**200**	*e*P	**Pn**	**06 02 56.4**	**+0.5**
KBTR				*e*S	**Sn**	**06 03 51.8**	**-0.6**
BDR	**Baidarnaya**	**4.84**	**212**	P	**Pn**	**06 02 56.5**	**+0.4**
KRSR	**Krestovskiy**	**5.32**	**213**	P	**Pn**	**06 03 04.5**	**+1.8**
CIRR	**Tsirk**	**5.36**	**212**	P	**Pn**	**06 03 04.1**	**+0.8**
ZLN	**Zelenaya**	**5.43**	**211**	P	**Pn**	**06 03 04.0**	**-0.3**
SRDR	**Sredinnyy**	**5.48**	**218**	P	**Pn**	**06 03 05.5**	**+0.7**
BKI	**Bering**	**5.58**	**179**	*e*P	**Pn**	**06 03 07.3**	**+1.1**
KMNR	**Kamenistaya**	**5.81**	**213**	P	**Pn**	**06 03 12.2**	**+2.7**
SEY	**Seymchan**	**6.71**	**295**	*e*P	**Pn**	**06 03 23.1**	**+1.4**
BILL	**Bilibino**	**7.31**	**1**	*e*PN	**Pn**	**06 03 32.6**	**+2.6**
BILL				pmax	pmax		
	comp=Z,30nm,1.1s						
BILL	**Bilibino**	**7.31**	**1**	*e*Pn	**Pn**	**06 03 32.6**	**+2.7**
	comp=Z,30nm,1.1s						
BILL	**Bilibino**	**7.31**	**1**	*e*P	**Pn**	**06 03 31.9**	**+1.9**
SPN	**Mys Shipunski**	**8.30**	**205**	P	**Pn**	**06 03 47.5**	**+3.8**
PET	**Petropavlovsk**	**8.68**	**210**	*e*PN	**Pn**	**06 03 53.2**	**+4.3**
PET				MLR	MLR		
	comp=Z,700nm,14.0s						
PET				MLR	MLR		
	comp=N,500nm,11.0s						
PET				MLR	MLR		
	comp=E,500nm,11.0s						
YAK	**Yakutsk**	**17.20**	**290**	*e*P	**Pn**	**06 05 41.4**	**-2.2**
YAK				pmax	pmax		
	comp=Z,32nm,0.7s						
YAK	**Yakutsk**	**17.20**	**290**	*e*Pn	**Pn**	**06 05 41.4**	**-2.2**
	comp=Z,32nm,0.7s						
TIXI	**Tiksi**	**18.07**	**322**	*e*P	**Pn**	**06 05 55.5**	**+1.1**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.1s						
TIXI				MLR	MLR		
	comp=Z,82nm,11.0s						
COLA	**College**	**21.18**	**59**	*e*P	**P**	**06 06 30.6**	**+1.8**
ILAR	**Eielson Array**	**21.60**	**59**	P	**P**	**06 06 34.3**	**+0.9**
	comp=Z,1.6nm,0.7s,mb3.6,baz=274,slow=9.6,SNR=19						
ILAR				LR	LR	06 15 41.1	
	comp=Z,70nm,19.5s,MS3.1,baz=325,slow=38						
ILAR	**Eielson Array**	**21.60**	**59**	P	**P**	**06 06 34.3**	**+0.9**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILAR				MLR	MLR		
	comp=Z,70nm,19.5s						
KLR	**Kul'dur**	**22.40**	**254**	*e*P	**P**	**06 06 39.2**	**-2.7**
DAWY	**Dawson**	**24.93**	**59**	*e*P	**P**	**06 07 06.5**	**-0.3**
BOD	**Bodaibo**	**26.04**	**287**	*e*P	**P**	**06 07 15.1**	**-1.7**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.6s,mb3.9						
INK	**Inuvik**	**26.09**	**47**	P	**P**	**06 07 17.4**	**+0.1**
	comp=Z,1.2nm,0.8s,mb3.5,baz=277,slow=8.1,SNR=3.3						
INK	**Inuvik**	**26.09**	**47**	P	**P**	**06 07 17.4**	**+0.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MJAR	**Matsushiro Arr**	**29.90**	**228**	LR	LR	06 20 56.4	
	comp=Z,68nm,19.2s,MS3.3,baz=340,slow=39						
YKA	**Yellowknife Ar**	**35.64**	**52**	P	**P**	**06 08 41.8**	**+0.3**
	comp=Z,0.4nm,0.7s,mb3.5,baz=300,slow=7.8,SNR=4.5						
YKA				LR	LR	06 25 08.3	
	comp=Z,46nm,18.9s,MS3.3,baz=180,slow=39						
YKA	**Yellowknife Ar**	**35.64**	**52**	P	**P**	**06 08 41.8**	**+0.3**
YKA				LR	LR	06 25 08.2	
ZAL	**Zalesovo**	**41.58**	**298**	LR	LR	06 28 57.9	
	comp=Z,142nm,19.2s,MS3.9,baz=168,slow=39						
SSE	**Sheshan**	**41.62**	**245**	P	**P**	**06 09 29.0**	**-2.7**
SSE				AMB	AMB		
	comp=Z,25nm,0.8s,mb4.9						
SSE				AMB	AMB		
	comp=Z,77nm,3.9s						
NJ2	**Nanjing**	**41.86**	**248**	*e*P	**P**	**06 09 33.3**	**-0.4**
NJ2				S	**S**	**06 15 48.0**	**-4.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,70nm,5.4s						
NJ2				LR	LR		
	comp=N,910nm,28.9s						
NJ2				LR	LR		
	comp=E,640nm,36.0s						
NJ2				LR	LR		
	comp=Z,370nm,26.2s,MS4.1						
KURK	**Kurchatov**	**46.53**	**299**	*e*P	**P**	**06 10 09.5**	**-1.6**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
KURK	**Kurchatov**	**46.53**	**299**	*e*P	**P**	**06 10 09.5**	**-1.6**
	comp=Z,3.6nm,0.7s,mb4.4						
MKAR	**Makanchi Array**	**47.84**	**293**	P	**P**	**06 10 19.6**	**-1.7**
	comp=Z,0.6nm,0.6s,mb3.8,baz=40,slow=6.9,SNR=8.4						
MKAR	**Makanchi Array**	**47.84**	**293**	P	**P**	**06 10 19.6**	**-1.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZRNK	**Zerenda**	**48.81**	**307**	*e*P	**P**	**06 10 27.6**	**-1.2**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**48.81**	**307**	*e*P	**P**	**06 10 27.6**	**-1.2**
	comp=Z,1.6nm,0.8s,mb4.1						
PDAR	**Pinedale Array**	**51.46**	**70**	P	**P**	**06 10 49.5**	**+0.6**
	comp=Z,0.6nm,0.6s,mb3.7,baz=352,slow=4.6,SNR=4.0						
AAK	**Ala-Archa**	**54.57**	**295**	*i* P	**P**	**06 11 10.2**	**-1.6**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
AAK				MLR	MLR		
	comp=Z,100nm,23.0s,MS3.8						
OBN	**Obninsk**	**57.67**	**328**	*e*P	**P**	**06 11 33.1**	**-1.0**
OBN				pmax	pmax		
	comp=Z,4.0nm,1.5s,mb4.2						
HNR	**Honiara**	**70.12**	**186**	LR	LR	06 41 04.2	
	comp=Z,56nm,19.2s,MS3.8,baz=0.5,slow=34						

*SZGRF **14** 06:24:13.4,2472S×17927E,h33km,South of Fiji Islands*
*ISCJB **14** 06:25:13.3±1.3,2355S±01×17999E±009,h544km±17km, mb4.2/18,Error ellipse: s-maj=17.3km s-min=12.7km az=0.3*
*IDC **14** 06:25:13.5±1.5,2343S×17996W,h530km±16km,mb3.5/11, mb1 3.7/13,mb1mx3.6/17,mbtmp4.5/13,Error ellipse: s-maj=17.7km s-min=14.3km az=157.0*
*NEIC **14** 06:25:13.4±0.8,2343S×17995W,h537km±9km,mb4.2/10, Error ellipse: s-maj=9.8km s-min=7.9km az=170.0*

ISC 14 06:25:13.8±1.2,235S±01×17994W±009,h538km±15km, n128,σ0°88/27,mb4.2/18,14C-12D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**6.01**	**163**	P	**P**	**06 26 51.7**	**-0.2**
	157nm,0.3s,baz=264,slow=23,SNR=5.6						
DZM	**Mont Dzumac**	**12.64**	**274**	P	**P**	**06 27 60.0**	**+1.0**
	1.1nm,0.3s,baz=80,slow=17,SNR=11						
URZ	**Urewera**	**14.93**	**189**	P	**P**	**06 28 21.0**	**-1.6**
	13nm,0.3s,baz=36,slow=3.1,SNR=52						
RPZ	**Rata Peaks**	**21.48**	**198**	P	**P**	**06 29 25.3**	**+1.5**
	12nm,0.6s,mb4.7,baz=168,slow=19,SNR=7.7						
CTA	**Charters Tower**	**31.53**	**270**	*e*P	**P**	**06 30 52.9**	**+0.9**
	7.3nm,0.3s,mb4.7						
CTA	**Charters Tower**	**31.53**	**270**	P	**P**	**06 30 53.0**	**+1.1**
	9.3nm,0.4s,mb4.7,baz=95,slow=11,SNR=34						
CTAO	**Charters Tower**	**31.53**	**270**	*e*P	**P**	**06 30 51.3**	**-0.7**
	9.0nm,0.4s,mb4.7						
PMG	**Port Moresby**	**34.42**	**289**	P	**P**	**06 31 17.1**	**+0.7**
	20nm,0.8s,mb4.7,baz=144,slow=4.8,SNR=4.6						
STKA	**Stephens Creek**	**34.92**	**248**	*e*P	**P**	**06 31 19.2**	**-1.4**
	1.3nm,0.4s,mb3.8						
STKA	**Stephens Creek**	**34.92**	**248**	P	**P**	**06 31 19.4**	**-1.2**
	1.5nm,0.4s,mb3.9,baz=98,slow=10,SNR=7.6						
ASAR	**Alice Springs**	**42.16**	**260**	P	**P**	**06 32 19.6**	**

TIRR	Tirgusor	148.79 319	⇓	iP	PKPbc	06 44 00.8	+0.1
TIRR	Tirgusor	148.79 319	⇓	P	PKPbc	06 44 00.8	0.0
VRI	Vrincioaia	148.97 323	⇑	iP	PKPbc	06 44 00.9	-0.3
VRI	Vrincioaia	148.97 323	⇑	P	PKPbc	06 44 00.9	-0.3
KOLS	Kolonicke sedl	149.15 331		ePKP	PKPbc	06 44 02.7	+1.1
OJC	Ojcow	149.20 335		ePX	PKPbc	06 44 01.7	0.0
RUE	Ruedersdorf	149.22 344		ePKPbc	PKPbc	06 44 01.8	0.0
STHS	Stebnicka Huta	149.24 333		i PKP	PKPbc	06 44 02.4	+0.6
CRVS	Cervenica-Dubn	149.54 332		ePKP	PKPbc	06 44 03.1	+0.6
CRVS	Cervenica-Dubn	149.54 332		eP	PKPbc	06 44 03.2	+0.7
NIE	Niedzica	149.63 333		eP	PKPbc	06 44 03.4	+0.7
MLR	Muntele Rosu	149.63 323		PKPbc	PKPbc	06 44 02.5	-0.3
	comp=Z,1.3nm,0.3s,baz=327,slow=5.7,SNR=6.7						
MLR	Muntele Rosu	149.63 323	⇓	iP	PKPbc	06 44 02.4	-0.4
MLR	Muntele Rosu	149.63 323	⇓	P	PKPbc	06 44 02.4	-0.4
KSP	Ksiaz	149.94 339		ePKP	PKPbc	06 44 03.6	+0.1
OKC	Ostrava-Krasne	150.14 336	⇑	ePKPB	PKPbc	06 44 04.2	+0.3
OKC				ex	x	06 44 16.3	
KECS	Kecovo	150.28 332		ePKP	PKPab	06 44 12.9	0.0
UPC	Upice	150.32 339	⇑	ePKPB	PKPbc	06 44 04.6	+0.2
DPC	Dobruska-Polom	150.35 339	⇑	ePKPB	PKPbc	06 44 04.7	+0.3
DPC				ePKPAB	PKPab	06 44 14.0	+0.8
DPC				AMS	AMS	08 02 10.0	
DPC	Dobruska-Polom	150.35 339		ePKP	PKPbc	06 44 04.7	+0.3
DPC				e		06 44 14.0	
MORC	Moravsky Berou	150.41 337	⇓	iP	PKPbc	06 44 04.9	+0.3
MORC	Moravsky Berou	150.41 337	⇓	P	PKPbc	06 44 04.9	+0.3
DRGR		150.49 328	⇓	iP	PKPbc	06 44 04.6	-0.1
DRGR		150.49 328	⇓	P	PKPbc	06 44 04.6	-0.1
CLL	Collm	150.49 343		ePKPbc	PKPbc	06 44 04.6	-0.2
CLL	Collm	150.49 343	⇓	iPKPbc	PKPbc	06 44 04.5	-0.3
	comp=Z,16nm,0.8s						
CLL				ePKPab	PKPab	06 44 13.0	-0.8
CLZ	Clausthal	150.62 347		ePKPbc	PKPbc	06 44 04.9	-0.1
BRG	Berggiesshubel	150.63 342		ePKPbc	PKPbc	06 44 05.1	0.0
BRG	Berggiesshubel	150.63 342		i PKP	PKPbc	06 44 05.2	+0.1
	comp=Z,6.7nm,0.7s						
IBBN	Ibbenburen	150.64 350		ePKPbc	PKPbc	06 44 05.8	+0.7
FBE	Freiberg	150.75 343		ePKPbc	PKPbc	06 44 05.4	0.0
NEUB	Neuenburg	150.89 345		ePKPbc	PKPbc	06 44 05.6	-0.1
GTTG	Gyttingen	150.98 347		ePKPbc	PKPbc	06 44 05.6	-0.3
VRAC	Vranov	151.14 337		PKPbc	PKPbc	06 44 06.3	0.0
	comp=Z,2.4nm,0.6s,baz=22,slow=11,SNR=2.2						
VRAC				PKPab	PKPab	06 44 17.0	+0.4
	comp=Z,5.0nm,0.6s,baz=2.6,slow=2.6,SNR=5.6						
VRAC	Vranov	151.14 337	⇓	iP	PKPab	06 44 17.3	+0.8
PRU	Pruhonice	151.24 340	⇑	ePKPB		06 44 07.1	
PRU				AMS	AMS	08 02 40.0	
TANN	Tannenbergstha	151.45 343		ePKPbc	PKPbc	06 44 06.8	-0.1
MOX	Moxa	151.45 345		ePKPbc	PKPbc	06 44 06.6	-0.3
MOX	Moxa	151.45 345		ePKP	PKPbc	06 44 06.7	-0.2
WERD	Werda	151.46 344		ePKPbc	PKPbc	06 44 06.8	-0.2
NKC	Novy Kostel	151.62 343	⇑	ePKPB		06 44 09.1	
NKC				ePKPAB	PKPab	06 44 18.9	+0.3
NKC				AMS	AMS	08 02 30.0	
NKC	Novy Kostel	151.62 343		ePKP	PKPbc	06 44 09.1	+1.8
NKC				e		06 44 18.9	
BZS	Buzias	151.85 327	⇑	iP	PKPbc	06 44 07.5	-0.3
BZS	Buzias	151.85 327	⇑	P	PKPbc	06 44 07.5	-0.3
MANZ	Manzenberg	151.93 343		ePKPbc	PKPbc	06 44 07.9	-0.1
KHC	Kasperske Hory	152.29 341	⇑	ePKPB		06 44 08.6	
KHC				ePKPAB	PKPab	06 44 21.9	+0.5
KHC				AMS	AMS	08 02 30.0	
KHC	Kasperske Hory	152.29 341		ePKP	PKPbc	06 44 08.6	-0.2
KHC				e		06 44 21.9	
GRA1	Grafenberg Arr	152.43 344		ePKPab	PKPab	06 44 22.6	+0.6
GRF	Grafenberg Arr	152.43 344		ePKPab	PKPab	06 44 22.6	+0.6
WET	Wettzell	152.48 342		ePKPab	PKPab	06 44 22.6	+0.4
GEC2	GERESS Array S	152.50 340		ePKPbc	PKPbc	06 44 08.6	-0.7
GERES	GERESS Array B	152.50 340		PKPbc	PKPbc	06 44 08.9	-0.4
	comp=Z,1.2nm,0.8s,baz=48,slow=2.0,SNR=11						
GERES				PKPab	PKPab	06 44 22.4	+0.1
	comp=Z,0.6nm,0.6s,baz=35,slow=4.9,SNR=4.3						
TNS	Taunus Mts	152.53 348		ePKPbc	PKPbc	06 44 09.4	+0.1
TNS				ePKPab	PKPab	06 44 22.2	-0.2
PKSM	Moragy	152.82 331	⇓	iP	PKPbc	06 44 09.2	-0.8
PKSM	Moragy	152.82 331	⇓	P	PKPbc	06 44 09.2	-0.8
BAIF	Baives	153.29 354		ePKP2	PKPab	06 44 24.6	-1.1
FUR	Furstenfeldbru	153.82 343		ePKPab	PKPab	06 44 28.1	+0.2
BFO	Black Forest	154.37 347		ePKPab	PKPab	06 44 29.8	-0.5
CDF	Champ du Feu	154.49 349		ePKP2	PKPab	06 44 29.8	-1.0
	comp=Z,4.5nm,0.7s						
MEZF	Maizieres J'vi	154.74 352		ePKP2	PKPab	06 44 31.0	-0.9
	comp=Z,12nm,0.8s						
FLN	La Foliniere	154.79 1		ePKP2	PKPab	06 44 29.8	-2.3
LDF	La Druitiere	154.96 0		ePKP2	PKPab	06 44 30.9	-1.9
	comp=Z,8.6nm,0.8s						
HAU	Haudompre	155.04 350		ePKP2	PKPab	06 44 33.1	-0.1
	comp=Z,10nm,0.7s						
HINF	Hinteralfeld	155.14 349		ePKP2	PKPab	06 44 32.2	-1.4
	comp=Z,6.3nm,1.0s						
GRR	Gorron	155.15 1		ePKP2	PKPab	06 44 31.3	-2.4
DAVOX	Davos	155.47 344		PKPbc	PKPdf	06 44 14.3	+8.4
	comp=Z,1.1nm,0.4s,baz=25,slow=4.7,SNR=3.7						
DAVOX				PKPab	PKPab	06 44 35.7	+0.7
	comp=Z,5.4nm,0.6s,baz=360,slow=4.6,SNR=11						
DAVOX	Davos	155.47 344		PKPbc	PKPdf	06 44 14.3	+8.4
DAVOX				PKPab	PKPab	06 44 35.7	+0.7
LOR	Lormes	156.09 354		ePKP2	PKPab	06 44 36.4	-1.3
	comp=Z,5.3nm,0.8s						
SSF	Saint Saulge	156.33 354		ePKP2	PKPab	06 44 37.8	-0.9
	comp=Z,6.8nm,0.6s						
CABF	La Chapelle	156.44 350		ePKP2	PKPab	06 44 38.4	-0.8
AVF	Avril sur Loir	156.61 354		ePKP2	PKPab	06 44 38.7	-1.3
SMF	Signal de Mont	156.71 353		ePKP2	PKPab	06 44 39.3	-1.1
	comp=Z,21nm,1.0s						
BGF	Bois d'Agland	156.89 355		ePKP2	PKPab	06 44 39.8	-1.4
TCF	Toulx Ste Croi	157.20 356		ePKP2	PKPab	06 44 41.2	-1.3
LPL	La Plagne	157.38 348		ePKP2	PKPab	06 44 43.3	0.0
	comp=Z,1.6nm,0.4s						
LPG	La Plagne	157.39 348		ePKP2	PKPab	06 44 43.5	+0.1
ORIF	Oris-en-Rattie	158.11 349		ePKP2	PKPab	06 44 46.2	-0.3
	comp=Z,4.9nm,0.7s						
RJF	Les Rejaudoux	158.22 357		ePKP2	PKPab	06 44 45.6	-1.4
VIVF	Saint-Julien-l	158.37 351		ePKP2	PKPab	06 44 47.0	-0.6
CAF	Calviac	158.57 356		ePKP2	PKPab	06 44 46.6	-1.9
LFF	La Frestale	158.61 359		ePKP2	PKPab	06 44 46.9	-1.8
ESDC	Sonseca Array	163.52 11		PKPab	PKPab	06 45 09.5	-0.7
	comp=Z,0.7nm,0.6s,baz=356,slow=3.6,SNR=7.3						

*TRN **14** 06:47:49.7, 1581N×6157W, h23km, MD3.5, M3.0(FDF)*
*ISCJB **14** 06:47:51.6±0.4, 1582N±003×6160W±006, h19km±4km, Error ellipse: s-maj=9.7km s-min=2.9km az=138.0*
*NEIC **14** 06:47:51.9±0.3, 1582N×6154W, h17km±4km, MD3.2(FDF), MD3.4(TRN), Error ellipse: s-maj=7.3km s-min=3.5km az=68.0*
NEIC Felt [III] on Guadeloupe.

ISC 14 06:47:51.8±0.3, 1582N±002×6156W±005, h18km±2km, n25, σ0§65/37, 12C-4D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TBG	Guadaloupe-3	0.09	289	⇓ iP		Pg	06 47 54.4	-0.9
PHG	Guadaloupe-2	0.21	337	⇑ iP		Pg	06 47 56.9	0.0
HMG	Houelmont	0.21	319	⇑ eP		Pg	06 47 56.5	-0.4
DOG	Dongo Capester	0.21	345	⇑ iP		Pg	06 47 56.9	0.0
SCG	Saint Claude	0.24	330	⇑ iP		Pg	06 47 57.1	-0.2
MGG	Marie-Galante	0.25	68	⇑ iP		Pg	06 47 58.1	+0.6
BCG	Bois Riant Cap	0.27	347	⇑ eP		Pg	06 47 57.7	-0.1
BBL	Barber's Block	0.31	164	⇑ iP		Pg	06 47 58.8	+0.3
BBL				eS		Sg	06 48 03.5	+0.5
DWS	Wesley	0.35	137	eP		Pg	06 47 59.7	+0.5
DWS				eS		Sg	06 48 05.1	+1.0
LZG	Guadaloupe-1	0.38	327	⇑ iP		Pg	06 47 59.4	-0.3
MDN	Morne-Daniel	0.53	162	⇑ iP		Pg	06 48 02.5	+0.2
MDN				eS		Sg	06 48 10.3	+0.8
SFG	Saint Francois	0.55	39	eP		Pg	06 48 02.9	0.0
SEG	Port Louis	0.58	5	⇑ iP		Pg	06 48 03.1	-0.2
DBCT	Belle View Cho	0.59	159	eP		Pg	06 48 03.6	+0.1
DBCT				eS		Sg	06 48 10.7	-0.7
DSHT	Scott's Head	0.63	164	eP		Pg	06 48 04.3	0.0
DSHT				eS		Sg	06 48 12.0	-0.8
DEG	La Desirade	0.68	44	⇑ eP		Pb	06 48 04.6	-0.7
FDF	Fort de France	1.15	160	⇓ eP		Pn	06 48 12.2	-0.9
FDF				eS		Sb	06 48 27.7	-0.2
CRM	Caravelle	1.23	150	⇓ iP		Pn	06 48 13.9	-0.2
CRM				eS		Sb	06 48 30.5	+0.4
BPA	Boggy Peak	1.25	347	eP		Pn	06 48 14.0	-0.4
BPA				eS		Sb	06 48 30.1	-0.5
BIM	Bigot	1.38	160	⇓ eP		Pn	06 48 15.8	-0.5
BIM				eS		Sn	06 48 32.8	-1.2
MVM	Montagne Vaucl	1.42	153	⇑ eP		Pn	06 48 16.7	0.0
MVM				eS		Sn	06 48 35.5	+0.7
CPB	Codrington	1.82	352	eP		Pn	06 48 22.0	-0.3
CPB				eS		Sn	06 48 45.0	+0.1
SKI	Saint Kitts	1.88	323	eP		Pn	06 48 26.1	+3.1
SKI				eS		Sn	06 48 48.1	+1.7
MTP	Monte Pirata	4.44	301	ePn		Pn	06 48 58.6	+0.3
SJG	San Juan	4.95	298	ePn		Pn	06 49 05.6	+0.4

*IDC **14** 06:49:25.5±0.9, 2065Sx17405W, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.1/15, mbtmp4.0/8, Error ellipse: s-maj=46.4km s-min=20.2km az=146.0*
*ISCJB **14** 06:49:26.4±0.7, 208S±0.1×1737W±0.1, h33km, mb4.0/8, Error ellipse: s-maj=19.6km s-min=13.1km az=101.7*
*NEIC **14** 06:49:29.3±0.6, 208S±01×1738W±01, h35km, Error ellipse: s-maj=17.0km s-min=11.0km az=148.0*

ISC 14 06:49:29.3±0.6, 208S±01×1738W±01, h35km, n24, σ1§23/23, mb4.0/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.11	16	Pn		Pn	06 51 07.2	-3.6
	12nm,0.3s,baz=114,slow=23,SNR=6.9							
AFI				Sn		Sn	06 52 20.1	-10
	2.4nm,0.3s,baz=72,slow=21,SNR=2.2							
AFI	Afiamalu	7.11	16	ePn		Pn	06 51 10.9	+0.1
AFI				Sn		Sn	06 52 20.1	-10
RAR	Rarotonga	13.08	94	Pn		Pn	06 52 24.6	-7.9
	6.0nm,0.3s,baz=290,slow=10,SNR=7.9							
RAR	Rarotonga	13.08	94	eP		Pn	06 52 31.8	-0.7
DZM	Mont Dzumac	18.46	262	P		Pn	06 53 47.9	+5.6
	0.2nm,0.3s,baz=86,slow=17,SNR=5.7							
STKA	Stephens Creek	41.24	245	P		P	06 57 09.4	-1.4
	1.7nm,0.7s,mb3.8,baz=121,slow=13,SNR=4.9							
STKA	Stephens Creek	41.24	245	eP		P	06 57 10.7	-0.1
ASAR	Alice Springs	48.30	256	P		P	06 58 07.3	+0.3
	2.9nm,0.8s,mb4.3,baz=87,slow=8.6,SNR=24							
WRAB	Tennant Creek	48.47	261	eP		P	06 58 09.2	+0.8
WRA	Warramunga Arr	48.48	261	P		P	06 58 07.9	-0.5
	0.5nm,0.6s,mb3.7,baz=92,slow=7.3,SNR=9.8							
FITZ	Fitzroy Crossi	56.91	261	P		P	06 59 11.4	+0.7
	4.5nm,1.2s,mb4.4,baz=258,slow=6.2,SNR=3.9							
SBA	Scott Base	57.87	185	eP		P	06 59 17.2	-0.3
VNDA	Vanda	57.99	186	P		P	06 59 21.4	+3.0
	0.6nm,0.7s,mb3.7,baz=350,slow=4.7,SNR=3.7							
VNDA	Vanda	57.99	186	eP		P	06 59 17.0	-1.4
MBWA	Marble Bar	61.65	257	eP		P	06 59 42.0	-1.4
NWAO	Narrogin (SRO)	61.77	243	eP		P	06 59 44.9	+0.6
MAJO	Matsushiro	72.86	321	eP		P	07 00 54.1	-0.5
NVAR	Mina Array Bea	78.58	41	P		P	07 01 29.6	+2.4
	1.7nm,0.8s,mb4.0,baz=211,slow=7.3,SNR=11							
MSU	Marysvale	82.52	44	eP		P	07 01 46.8	-1.5
PDAR	Pinedale Array	86.51	42	P		P	07 02 10.3	+1.8
	0.7nm,0.8s,mb3.9,baz=193,slow=6.1,SNR=4.4							
ILAR	Eielson Array	87.78	11	P		P	07 02 15.7	+1.0
	0.4nm,0.7s,mb3.7,baz=231,slow=5.7,SNR=6.7							
MKAR	Makanchi Array	114.29	313	PKP	PKiKP		07 08 06.1	+1.0
	0.3nm,0.6s,baz=130,slow=1.9,SNR=4.5							
AKASG	Malin Array Be	145.10	334	PKP	PKPdf		07 09 03.1	+0.2
	1.0nm,0.5s,baz=42,slow=4.4,SNR=8.3							
GERES	GERESS Array B	151.39	350	PKPbc	PKPbc		07 09 21.6	+2.3
	0.6nm,0.8s,baz=11,slow=2.7,SNR=6.4							

*NIED **14** 07:14:00, 4170N×144.30E, h17km, Mw4.2 Best double couple: M0 2.64000×10^15 NP1:φs 13.00000°, δ 78.00000°, λ 51.00000°. NP2:φs 269.00000°, δ 41.00000°, λ 161.00000°.*
*ISCJB **14** 07:14:24.5±1.4, 4165N±004×144.43E±008, h23km±9km, mb4.2/27, Error ellipse: s-maj=10.9km s-min=5.5km az=60.5*
*MOS **14** 07:14:26.6±1.0, 4164N×144.21E, h33km, mb4.5/20, Error ellipse: s-maj=11.5km s-min=8.1km az=93.5*
*JMA **14** 07:14:26.9±0.3, 4170N×144.31E, h25km±3km, M4.2*
*BJI **14** 07:14:26.2, 4176N×144.34E, h38km, mB4.8, mb4.5, Ms3.7, Msz3.5*
*NEIC **14** 07:14:28.5±0.5, 4169N×144.22E, mb4.5/13, MW4.2(NIED), Error ellipse: s-maj=11.9km s-min=6.9km az=122.0*
*IDC **14** 07:14:29.5±2.5, 4167N×144.28E, h43km±21km, mb3.7/11, mb1 3.9/12, mb1mx3.7/21, mbtmp4.0/12, ML3.6/2, MS3.2/1, Ms1 3.2/1, ms1mx2.4/42, Error ellipse: s-maj=24.0km s-min=14.5km az=90.0*
*SZGRF **14** 07:14:38.8, 4364N×144.77E, h33km, mb4.4, Hokkaido, Japan, region*

ISC 14 07:14:25.2±2.2, 4172N±004×14444E±007, h14km±13km, h31km±2.5km:pP-P, n76, σ0§96/85, mb4.2/27, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JEM	Erimo	1.00	288	P		Pb	07 14 44.6	+0.2
JCH	Churui	1.20	318	P		Pn	07 14 47.3	-0.3
JOB	Onbets	1.27	339	P		Pn	07 14 48.5	0.0
JAK	Akkeshi	1.29	8	P		Pn	07 14 49.1	+0.3
JAK				eS		Sb	07 15 06.1	+0.4
JNBK	Urakawa-nobuka	1.38	295	P		Pn	07 14 50.3	+0.3
YUK	Yuzh-Kuril'sk	2.54	24	eP		Pn	07 15 10.4	+4.4
YUK				eS		Sn	07 15 35.0	-1.7
YUK				pmax	pmax			
	comp=Z,140nm,0.5s							
YUK				pmax	pmax			
	comp=N,110nm,0.4s							
YUK				smax				
	comp=N,2μm,0.8s							
YUK				smax				
	comp=E,2μm,0.6s							
ASAJ	Asahikawa	2.75	331	P		Pn	07 15 09.3	+0.4
	comp=E,8.3nm,0.3s,baz=192,slow=10,SNR=22							
ASAJ				S		Sn	07 15 43.5	+1.6
	comp=E,14nm,0.3s,baz=156,slow=30,SNR=4.5							
KUR	Kuril'sk	4.31	34	eP		Pn	07 15 31.3	+1.0
KUR				eS		Sn	07 16 19.0	-1.3
KUR				pmax	pmax			
	comp=Z,90nm,0.5s							
KUR				smax				
	comp=N,150nm,0.5s							
KUR				smax				
	comp=E,140nm,0.5s							
MAJO	Matsushiro	7.08	225	eP		Pn	07 16 07.4	-1.0
MAJO				pmax	pmax			
	comp=Z,15nm,0.6s							
MAJO	Matsushiro	7.08	225	ePn		Pn	07 16 07.4	-1.0
	comp=Z,15nm,0.6s							
MAT	Matsushiro	7.08	225	P		Pn	07 16 08.4	0.0
MAT				eS		Sn	07 17 28.7	0.0
MAT	Matsushiro	7.08	225	eP		Pn	07 16 08.0	-0.4
MAT				S		Sn	07 17 29.0	+0.3
MAT				pmax	pmax			
	comp=Z,5.0nm,0.7s							
MAT	Matsushiro	7.08	225	eP		Pn	07 16 08.0	-0.4
	comp=Z,5.5nm,0.7s							
MAT				S		Sn	07 17 29.0	+0.3
MJAR	Matsushiro Arr	7.08	225	P		Pn	07 16 08.5	+0.1
	comp=Z,1.0nm,0.3s,baz=27,slow=14,SNR=15							
MJAR				S		Sn	07 17 32.1	+3.4
	comp=Z,8.9nm,0.3s,baz=106,slow=9.2,SNR=2.7							
MJAR				LR	LR		07 19 18.6	
	comp=Z,207nm,21.5s,baz=40,slow=42							
MJAR	Matsushiro Arr	7.08	225	P		Pn	07 16 08.5	+0.1
MJAR				S		Sn	07 17 32.1	+3.4
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MJAR				smax				
	comp=N,9.0nm,0.3s							
MJAR				MLR	MLR			
	comp=Z,207nm,21.5s							
KLR	Kul'dur	11.64	314	eP		Pn	07 17 10.8	-0.1
HIA	Hailar	18.83	302	eP		Pn	07 18 43.1	-2.0
HIA				pmax	pmax			
	comp=Z,7.0nm,0.5s							
HIA	Hailar	18.83	302	eP		Pn	07 18 43.1	-2.0
	comp=Z,6.5nm,0.5s							
BJI	Beijing	21.40	275	eP		P	07 19 11.3	-1.2
BJI				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.2							
BJI				AMB	AMB			
	comp=Z,200nm,4.5s							
BJI				LR	LR			
	comp=N,160nm,18.1s							
BJI				LR	LR			
	comp=E,126nm,15.1s							
BJI				LR	LR			
	comp=Z,126nm,15.0s							
CIT	Chita	23.33	307	eP		P	07 19 31.6	-1.4
CIT				pmax	pmax			
	comp=Z,30nm,2.7s,mb4.2							
BOD	Bodaibo	25.11	320	eP		P	07 19 45.2	-4.3
ULN	Ulaanbaatar	27.04	296	eP		P	07 20 06.8	-0.2
ULN				pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.2							
ULN	Ulaanbaatar	27.04	296	eP		P	07 20 06.8	-0.2
	comp=Z,7.7nm,1.0s,mb4.2							
SONM	Songino Array	27.48	296	P		P	07 20 12.6	+1.6
	comp=Z,2.8nm,0.6s,mb4.0,baz=86,slow=9.6,SNR=16							
SONM	Songino Array	27.48	296	P		P	07 20 12.6	+1.6
SONM				pmax	pmax			
	comp=Z,3.0nm,0.6s							
TLY	Talaya	29.35	304	eP		P	07 20 27.8	+0.2
TLY				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.3							
TLY				MLR	MLR			
	comp=Z,49nm,15.0s							
ZAK	Zakamensk	29.53	301	eP		P	07 20 29.7	+0.6
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.3s,mb4.0							
MOY	Mondy	31.00	304	eP		P	07 20 44.0	+1.8
ZAL	Zalesovo	40.68	308	P		P	07 22 04.4	-0.7
	comp=Z,2.5nm,0.5s,mb4.1,baz=12,slow=8.5,SNR=9.5							
ZAL	Zalesovo	40.68	308	P		P	07 22 04.4	-0.7
ZAL				pmax	pmax			
	comp=Z,3.0nm,0.5s							
MKAR	Makanchi Array	43.78	299	P		P	07 22 29.9	-0.4
	comp=Z,2.4nm,0.9s,mb3.9,baz=79,slow=8.8,SNR=20							
MKAR	Makanchi Array	43.78	299	P		P	07 22 29.9	-0.5
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
MKAR	Makanchi Array	43.78	299	P		P	07 22 29.9	-0.5
COLA	College	43.88	35	eP		P	07 22 33.5	+2.3
COLA				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.0							
COLA	College	43.88	35	eP		P	07 22 33.5	+2.3
	comp=Z,1.9nm,0.7s,mb3.9							
ILAR	Eielson Array	44.30	35	P		P	07 22 36.0	+1.5
	comp=Z,0.5nm,0.7s,mb3.4,baz=262,slow=6.3,SNR=8.0							
ILAR	Eielson Array	44.30	35	P		P	07 22 36.0	+1.5
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
KURK	Kurchatov	45.03	305	eP		P	07 22 38.1	-2.3
KURK				e	pP		07 22 43.4	-1.4
KURK				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.5							
KURK	Kurchatov	45.03	305	eP		P	07 22 38.1	-2.3
	comp=Z,6.4nm,0.8s,mb4.5							
KURK				e	pP		07 22 43.4	-1.4
JIRN	Jiri	49.04	273	eP		P	07 23 12.4	+0.7
	comp=Z,7.9nm,0.8s,mb4.8							
GUN	Gumba	49.14	273	eP		P	07 23 13.0	+0.6
	comp=Z,15nm,0.4s,mb5.3							
INK	Inuvik	49.16	29	P		P	07 23 13.6	+1.0
	comp=Z,1.7nm,0.5s,mb4.4,baz=286,slow=7.1,SNR=13							
INK	Inuvik	49.16	29	P		P	07 23 13.6	+1.0
INK				pmax	pmax			
	comp=Z,2.0nm,0.5s							
INK	Inuvik	49.16	29	eP		P	07 23 13.2	+0.6
	comp=Z,3.3nm,0.5s,mb4.6							
INK				epP	pP		07 23 24.0	+7.0
DMN	Daman	49.88	273	eP		P	07 23 18.6	+0.5
GKN	Gorkha	50.02	274	eP		P	07 23 19.4	+0.3
ZRNK	Zerenda	50.08	310	eP		P	07 23 19.2	-0.4
ZRNK				pmax	pmax			
	comp=Z,7.0nm,1.1s,mb4.6							
ZRNK	Zerenda	50.08	310	eP		P	07 23 19.2	-0.4
	comp=Z,7.0nm,1.1s,mb4.6							
KOLN	Koldanda	50.91	274	eP		P	07 23 25.2	-0.7
ARU	Arti	54.47	317	iP		P	07 23 52.0	-0.2
ARU	Arti	54.47	317	eP		P	07 23 50.8	-1.5
	comp=Z,5.4nm,0.7s,mb4.6							
RES	Resolute Bay	57.48	16	eP		P	07 24 13.4	-0.3
RES				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.5							
RES	Resolute Bay	57.48	16	eP		P	07 24 13.4	-0.3
	comp=Z,4.8nm,0.9s,mb4.5							
WRA	Warramunga Arr	62.06	191	P		P	07 24 44.8	-0.5
	comp=Z,0.2nm,0.4s,mb3.6,baz=8.2,slow=6.8,SNR=7.2							
FINES	FINESS Array B	65.76	332	P		P	07 25 08.7	-1.0
	comp=Z,1.4nm,0.5s,mb4.2,baz=59,slow=7.8,SNR=13							
FINES	FINESS Array B	65.76	332	P		P	07 25 08.7	-1.0
FINES				pmax	pmax			
	comp=Z,1.0nm,0.5s

KARP				*e*SN	**Sn**	07 18 52.5	-6.0
YER	**Yerkesik**	**2.25**	**336**	PN	**Pn**	07 18 40.8	+0.5
AKMC	**Akamas**	**2.38**	**91**⇑	*i*P	**Pn**	07 18 42.4	+0.2
PPCY	**Paphos**	**2.41**	**94**	P	**Pn**	07 18 43.0	+0.5
BDRM	**Kayabasi**	**2.55**	**322**	*i* P	**Pn**	07 18 44.7	+0.2
BCK	**Bucak**	**2.55**	**21**	PN	**Pn**	07 18 44.6	+0.1
MLSB	**Milas**	**2.58**	**329**	PN	**Pn**	07 18 44.8	-0.1
ALFC	**Alevga**	**2.60**	**87**⇑	*i*P	**Pn**	07 18 45.4	+0.2
	10.0nm,0.1s						
ALFC				S	**Sn**	07 19 15.3	-0.3
BODT	**Bodrum**	**2.61**	**320**	PN	**Pn**	07 18 45.2	-0.2
LEF	**Lefka**	**2.84**	**88**	*e*PN	**Pn**	07 18 48.0	-0.5
AYDN	**Tasoluk**	**2.86**	**335**	*i* P	**Pn**	07 18 50.3	+1.6
AYDN				*i* S	**Sn**	07 19 20.0	-1.9
SZAC	**Souni-Zanaja**	**2.86**	**96**	P	**Pn**	07 18 49.5	+0.7
SZAC				S	**Sn**	07 19 20.9	-1.1
ISP	**Isparta**	**2.89**	**17**	*e*Pn	**Pn**	07 18 51.5	+2.3
XRY	**Khrisi**	**3.07**	**267**	*e*PB	**Pn**	07 18 53.2	+1.5
MAMC	**Mammari**	**3.11**	**87**	P	**Pn**	07 18 52.9	+0.7
NPS	**Neapolis**	**3.13**	**274**	*e*PB	**Pn**	07 18 53.3	+0.8
NPS				*e*SN	**Sn**	07 19 22.8	-5.8
CSS	**Prodhromos**	**3.21**	**91**	P	**Pn**	07 18 53.6	+0.1
	2.0nm,0.2s						
CSS				S	**Sn**	07 19 30.4	-0.1
ERMK	**Ermenek**	**3.23**	**60**	*i* P	**Pn**	07 18 54.7	+0.8
ERMK				*i* S	**Sn**	07 19 32.2	+1.1
ERMK	**Ermenek**	**3.23**	**60**	*i* P	**Pn**	07 18 54.7	+0.8
ERMK				*i* S	**Sn**	07 19 32.2	+1.1
IKL	**Isikli**	**3.66**	**70**	*e*PN	**Pn**	07 18 59.9	+0.2
KONT	**Konya--Tatoy**	**3.71**	**39**	*e*PN	**Pn**	07 19 00.2	-0.2
MEST	**Erdemli**	**4.12**	**67**	*i* P	**Pn**	07 19 06.7	+0.6
MEST				*i* S	**Sn**	07 19 51.8	-1.2
KIZT	**Kizilcal**	**4.27**	**27**	*e*PN	**Pn**	07 19 08.6	+0.5
VAM	**Vamos**	**4.29**	**276**	*e*PN	**Pn**	07 19 09.8	+1.4
MERS	**Mersin**	**4.50**	**65**	*e*PN	**Pn**	07 19 12.0	+0.7
SLUM		**5.03**	**226**	⇑P	**Pn**	07 19 18.7	+0.2
SLUM				S	**Sn**	07 20 11.4	-4.0
KARA	**Karaisali**	**5.04**	**63**	*e*PN	**Pn**	07 19 19.6	+0.8
HMYD	**Mayadein**	**5.40**	**167**	P	**Pn**	07 19 23.4	-0.3
SQR		**5.40**	**163**	⇑P	**Pn**	07 19 23.4	-0.3
AMAG	**Maghara**	**5.45**	**143**	⇓P	**Pn**	07 19 24.4	0.0
KOT	**Kottamia**	**5.53**	**158**	⇑P	**Pn**	07 19 25.3	-0.1
HNAT	**Natroun**	**5.53**	**169**	⇑P	**Pn**	07 19 25.1	-0.3
FYM	**Al Fayyum**	**5.55**	**165**	⇓P	**Pn**	07 19 25.6	-0.1
FYM				S	**Sn**	07 20 23.7	-4.5
AYT	**Al 'Ayyat**	**5.56**	**164**	P	**Pn**	07 19 25.6	-0.3
HHAG	**Hagoal**	**5.59**	**155**	⇑P	**Pn**	07 19 26.3	0.0
BR131	**Keskin Array S**	**5.72**	**35**	*e*Pn	**Pn**	07 19 29.9	+1.8
COBT	**Iskenderun**	**5.73**	**74**	*i* P	**Pn**	07 19 18.6	-10
COBT				*i* S	**Sn**	07 20 31.0	-1.8
HSAF	**As Saff**	**5.74**	**161**	⇑P	**Pn**	07 19 28.3	0.0
GLL	**Jalalah**	**5.82**	**160**	⇓P	**Pn**	07 19 29.3	-0.1
HBNS	**Bani Suwayf**	**6.30**	**166**	⇑P	**Pn**	07 19 35.8	-0.2
SWA1		**6.60**	**210**	⇑P	**Pn**	07 19 40.0	-0.1
SWA1				S	**Sn**	07 20 48.3	-5.9
SWA1		**6.60**	**210**	P	**Pn**	07 19 40.0	-0.2
SWA2		**6.72**	**211**	⇑P	**Pn**	07 19 41.5	-0.4
HBST	**Basata**	**7.38**	**141**	⇓P	**Pn**	07 19 51.2	+0.3
HKAT	**Jabal Katrina**	**7.61**	**148**	⇑P	**Pn**	07 19 53.9	-0.1
HDHB	**Dhahab**	**7.73**	**144**	⇑P	**Pn**	07 19 55.4	-0.2
HFRF	**Wahat Farafira**	**7.97**	**187**	⇑P	**Pn**	07 19 58.4	-0.6
TIP	**Timpagrande**	**10.90**	**296**	*e*Pn	**Pn**	07 20 37.4	-1.8
KWP	**Kalwaria**	**15.35**	**343**	*e*P	**Pn**	07 21 39.7	+0.1

NEIC ***14*** *07:26:25.8, 41.11S×17456E, h41km, ML3.8(WEL), After WEL.*

WEL 14 07:26:26.0±0.1, 4111S×17457E, h40km, ML3.7/16, 1D, Error ellipse: s-maj=0.7km s-min=0.6km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRW	**Makara Radio**	**0.15**	**139**	P*	Pn	07 26 32.9	-0.1
MRW				S*	Sn	07 26 38.0	+0.3
MRW	**Makara Radio**	**0.15**	**139**	P	Pn	07 26 32.9	0.0
MRW				S	Sn	07 26 38.0	+0.3
SNZO	**South Karori**	**0.22**	**152**	P*	Pn	07 26 33.3	-0.2
SNZO				S*	Sn	07 26 39.4	+0.7
SNZO	**South Karori**	**0.22**	**152**	P	Pn	07 26 33.3	-0.2
SNZO				S	Sn	07 26 39.3	+0.6
WEL	**Wellington**	**0.23**	**139**	P*	Pn	07 26 33.4	-0.1
WEL				S*	Sn	07 26 39.5	+0.7
WEL	**Wellington**	**0.23**	**139**	P	Pn	07 26 33.4	-0.1
TCW	**Tory Channel**	**0.24**	**245**	P*	Pn	07 26 33.2	-0.4
TCW				S*	Sn	07 26 38.6	-0.4
TCW	**Tory Channel**	**0.24**	**245**	P	Pn	07 26 33.2	-0.4
TCW				S	Sn	07 26 38.6	-0.3
KIW	**Kapiti Island**	**0.36**	**46**	P*	Pn	07 26 34.9	0.0
KIW				S*	Sn	07 26 41.6	+0.4
KIW	**Kapiti Island**	**0.36**	**46**	P	Pn	07 26 34.9	0.0
KIW				S	Sn	07 26 41.6	+0.4
BHW	**Baring Head**	**0.38**	**142**	P*	Pn	07 26 35.0	-0.1
BHW				S*	Sn	07 26 41.8	+0.3
BHW	**Baring Head**	**0.38**	**142**	P	Pn	07 26 35.0	-0.1
CAW	**Cannon Point**	**0.38**	**90**	P*	Pn	07 26 35.2	0.0
CAW				S*	Sn	07 26 42.2	+0.7
CAW	**Cannon Point**	**0.38**	**90**	P	Pn	07 26 35.2	0.0
TUWZ	**Tuamarina**	**0.57**	**236**	*e*P*	Pn	07 26 37.0	-0.6
TUWZ				S*	Sn	07 26 45.2	-0.7
DUWZ	**D'Urville Isla**	**0.58**	**302**	⇓P*	Pn	07 26 37.6	-0.1
DUWZ				S*	Sn	07 26 46.0	-0.1
MSWZ	**Moikau Station**	**0.60**	**121**	P*	Pn	07 26 37.9	-0.1
MSWZ				S*	Sn	07 26 47.1	+0.5
PAWZ	**Paruwai Farm**	**0.70**	**113**	P*	Pn	07 26 39.1	-0.3
PAWZ				S*	Sn	07 26 49.2	+0.1
PAWZ	**Paruwai Farm**	**0.70**	**113**	P	Pn	07 26 39.1	-0.3
MTW	**Mount Morrison**	**0.71**	**94**	P*	Pn	07 26 39.3	-0.2
BSWZ	**Blackbirch Sta**	**0.80**	**221**	P*	Pn	07 26 40.5	-0.2
MRZ	**Mangatainoka R**	**0.89**	**60**	P*	Pn	07 26 42.0	0.0
MRZ	**Mangatainoka R**	**0.89**	**60**	P	Pn	07 26 42.0	0.0
TRWZ	**Traveller**	**0.89**	**109**	P*	Pn	07 26 41.7	-0.4
NNZ	**Nelson**	**0.90**	**263**	PN	Pn	07 26 41.8	-0.4
NNZ	**Nelson**	**0.90**	**263**	P	Pn	07 26 41.8	-0.4
TIWZ	**Tintock**	**1.05**	**72**	PN	Pn	07 26 43.8	-0.4
BFZ	**Birch Farm**	**1.34**	**72**	PN	Pn	07 26 47.2	-1.0
BFZ	**Birch Farm**	**1.34**	**72**	P	Pn	07 26 47.2	-1.0
WAZ	**Wanganui**	**1.39**	**13**	PN	Pn	07 26 50.5	+1.6
WAZ	**Wanganui**	**1.39**	**13**	*e*P	Pn	07 26 50.5	+1.6
THZ	**Tophouse**	**1.41**	**242**	PN	Pn	07 26 48.9	-0.2
THZ	**Tophouse**	**1.41**	**242**	*e*P	Pn	07 26 48.9	-0.2
TSZ	**Takapari Road**	**1.50**	**46**	PN	Pn	07 26 49.9	-0.4
TSZ	**Takapari Road**	**1.50**	**46**	P	Pn	07 26 49.9	-0.4
KHZ	**Kahutara**	**1.51**	**210**	PN	Pn	07 26 50.0	-0.5
KHZ	**Kahutara**	**1.51**	**210**	*e*P	Pn	07 26 50.0	-0.5
QRZ	**Quartz Range**	**1.57**	**280**	PN	Pn	07 26 51.8	+0.4
QRZ	**Quartz Range**	**1.57**	**280**	P	Pn	07 26 51.8	+0.5
RAEZ	**Rainy Point**	**1.83**	**356**	PN	Pn	07 26 57.0	+2.1
RAEZ	**Rainy Point**	**1.83**	**356**	P	Pn	07 26 57.0	+2.1
NRZ	**Ngariki Road**	**1.84**	**345**	PN	Pn	07 26 56.5	+1.5
NRZ	**Ngariki Road**	**1.84**	**345**	P	Pn	07 26 56.5	+1.5
MTVZ	**Mangateitei**	**1.86**	**22**	PN	Pn	07 26 57.7	+2.4
NEZ	**North Egmont**	**1.87**	**349**	PN	Pn	07 26 56.5	+1.0
MOVZ	**Moawhango**	**1.93**	**28**	PN	Pn	07 26 56.3	0.0
MOVZ	**Moawhango**	**1.93**	**28**	P	Pn	07 26 56.3	0.0
TRVZ	**Turoa**	**1.96**	**23**	PN	Pn	07 26 57.9	+1.2
PKE	**Pukeiti**	**1.97**	**347**	PN	Pn	07 26 58.4	+1.6
PKE	**Pukeiti**	**1.97**	**347**	P	Pn	07 26 58.4	+1.6
VRZ	**Vera Road**	**1.99**	**4**	PN	Pn	07 26 58.7	+1.6
VRZ	**Vera Road**	**1.99**	**4**	P	Pn	07 26 58.7	+1.6
FWVZ	**Far West T-bar**	**2.00**	**22**	PN	Pn	07 26 58.6	+1.3
FWVZ	**Far West T-bar**	**2.00**	**22**	P	Pn	07 26 58.6	+1.3
TUVZ	**Tukino**	**2.02**	**25**	PN	Pn	07 26 58.4	+0.8
TUVZ	**Tukino**	**2.02**	**25**	P	Pn	07 26 58.4	+0.9
WPVZ	**Whakapapa**	**2.05**	**22**	P	Pn	07 27 01.6	+3.7
NGZ	**Ngauruhoe**	**2.09**	**23**	P	Pn	07 27 01.4	+2.9
DSZ	**Denniston Nort**	**2.17**	**252**	*e*P	Pn	07 26 59.5	-0.1
LTZ	**Lake Taylor**	**2.39**	**225**	*e*P	Pn	07 27 01.7	-0.9
BKZ	**Black Stump Fm**	**2.44**	**38**	*e*P	Pn	07 27 02.1	-1.2
HIZ	**Hauiti**	**2.60**	**5**	*e*P	Pn	07 27 07.3	+1.8
JCZ	**Jackson Bay**	**5.21**	**233**	*e*P	Pn	07 27 39.7	-1.6

CSEM ***14*** *07:27:26.2, 4278N×4688E, h29km, mb4.0, After OBN*
MOS ***14*** *07:27:26.2±1.4, 4278N×4688E, h29km, mb4.0/1, Error ellipse: s-maj=14.2km s-min=11.2km az=39.5*
TIF ***14*** *07:27:26.3, 4274N×4643E, h7km±3km*
ISCJB ***14*** *07:27:28.6±0.6, 4272N±003×4656E±0.1, h22km±10km, Error ellipse: s-maj=16.3km s-min=5.4km az=179.2*

ISC 14 07:27:28.8±0.5, 4272N±003×4650E±007, h10km±8km, n22, σ1§19/38, 2C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNCR	**Uncukul**	**0.22**	**92**	*i* PG	**Pg**	07 27 31.5	-1.8
UNCR				*e*S	**Sg**	07 27 36.5	+0.1
UNCR				pmax	pmax		
	comp=Z,251nm,0.2s						
UNCR	**Uncukul**	**0.22**	**92**	*i* Pg	**Pg**	07 27 31.5	-1.8
	comp=Z,251nm,0.2s						
UNCR				*e*Sg	**Sg**	07 27 36.5	+0.1
XNZR	**Khunzakh**	**0.23**	**140**⇓	*i* PG	**Pg**	07 27 33.4	-0.2
XNZR				*i* S	**Sg**	07 27 37.9	+1.0
XNZR				pmax	pmax		
	comp=Z,267nm,0.3s						
XNZR	**Khunzakh**	**0.23**	**140**	*i* Pg	**Pg**	07 27 33.4	-0.2
	comp=Z,267nm,0.3s						
XNZR				*i* Sg	**Sg**	07 27 37.9	+1.0
DLMR	**Dylym**	**0.36**	**15**	*i* PG	**Pg**	07 27 33.5	-2.4
DLMR				*i* S	**Sg**	07 27 42.5	+1.7
DLMR				pmax	pmax		
	comp=Z,458nm,0.5s						
DLMR	**Dylym**	**0.36**	**15**	*i* Pg	**Pg**	07 27 33.5	-2.4
	comp=Z,458nm,0.5s						
DLMR				*i* Sg	**Sg**	07 27 42.5	+1.7
DBC	**Dubki**	**0.39**	**39**⇑	*i*PG	**Pg**	07 27 34.0	-2.4
DBC				*i* S	**Sg**	07 27 41.8	+0.3
DBC				pmax	pmax		
	comp=Z,86nm,0.4s						
DBC	**Dubki**	**0.39**	**39**	*i* Pg	**Pg**	07 27 34.0	-2.4
	comp=Z,86nm,0.4s						
DBC				*i* Sg	**Sg**	07 27 41.8	+0.3
GNBR	**Gunib**	**0.48**	**134**⇑	*i*PG	**Pg**	07 27 37.7	-0.4
GNBR				*i* S	**Sg**	07 27 46.3	+1.9
GNBR				pmax	pmax		
	comp=Z,127nm,0.3s						
GNBR	**Gunib**	**0.48**	**134**	*i* Pg	**Pg**	07 27 37.7	-0.4
	comp=Z,127nm,0.3s						
GNBR				*i* Sg	**Sg**	07 27 46.3	+1.9
SNJR	**Sundja**	**1.29**	**286**	*i* Pg	**Pg**	07 27 52.2	-1.3
VLKR	**Vladikavkaz**	**1.38**	**284**	*e*Pn	**Pn**	07 27 53.7	-0.3
DGRG	**David-gareji**	**1.52**	**214**	P	**Pn**	07 27 55.8	-0.2
DGRG				S	**Sn**	07 28 16.5	+0.7
SAMG	**Sameba**	**1.62**	**231**	P	**Pn**	07 27 58.0	+0.7
SAMG				S	**Sn**	07 28 16.1	-2.1
LACR	**Lac**	**1.63**	**274**	*e*Pn	**Pn**	07 27 56.8	-0.6
MTA	**Mtatsminda**	**1.63**	**232**	P	**Pn**	07 27 56.4	-1.1
MTA				S	**Sn**	07 28 17.6	-1.0
TRKR	**Terskaya**	**1.64**	**308**	*e*Pn	**Pn**	07 27 59.2	+1.6
TRKR				*e*Sg	**Sg**	07 28 22.8	+1.4
TBLG	**Delisi**	**1.64**	**233**	P	**Pn**	07 27 57.8	+0.1
TBLG				S	**Sn**	07 28 19.6	+0.8
KMSR	**Komsomolskaya**	**1.74**	**293**	*e*Pn	**Pn**	07 27 59.7	+0.6
KORR	**Kora**	**1.82**	**282**	*e*Pn	**Pn**	07 28 00.1	-0.1
ZEI	**Tsey**	**1.92**	**272**	*e*Pn	**Pn**	07 28 01.1	-0.3
ONI	**Oni**	**2.25**	**267**	P	**Pn**	07 28 07.6	+1.5
ONI				S	**Sn**	07 28 37.6	+3.7

MOS ***14*** *07:38:02.9±0.9, 1439N×9228W, h10km, mb5.0/78, MS4.8/11, Error ellipse: s-maj=8.1km s-min=4.6km az=100.9*
IDC ***14*** *07:38:03.6±0.5, 1452N×9229W, h0km, mb4.6/22, mb1 4.8/22, mb1mx4.8/24, mbtmp4.6/22, MS4.7/26, Ms1 4.7/26, ms1mx4.6/35, Error ellipse: s-maj=23.9km s-min=10.7km az=58.0*
CASC ***14*** *07:38:05.3±2.2, 1443N×9293W, h11km±18km, MD4.8, ML5.2, mb4.9(NEIC)*
MEX ***14*** *07:38:07.1±0.5, 1399N×9276W, h20km±21km, MD5.1*
ISCJB ***14*** *07:38:08.7±0.2, 1440N±003×9262W±002, h51km, mb4.9/143, MS4.8/39, Error ellipse: s-maj=4.5km s-min=2.0km az=60.5*
HRVD ***14*** *07:38:09.9±0.2, 1430N×9297W, h31km, MW5.4/96, Centroid moment Tensor Solution. LP body waves: s96,c175;Mantle waves: s96,c173; Half duration: 1s2 Moment tensor: Scale 10¹⁷Nm; Mrr1.36±.03; Mθθ-1.05±.02; Mϕϕ-0.31±.02; Mrθ0.78±.02; Mϕθ0.53±.01; Mϕr-0.53±.03; Best double couple: M◎1.63900×10¹⁷ NP1:ϕ◎294.00000°, δ28.00000°, λ83.00000°. NP2: ϕs121.00000°, δ63.00000°, λ94.00000°. Principal axes: T 1.6600, Plg72.0000°, Azm40.0000°; N -0.0440, Plg3.0000°, Azm300.0000°; P -1.6190, Plg17.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***14*** *07:38:09.8±0.2, 1440N×9240W, mb4.9/122, MS4.9/9, MD5.1(MEX) Error ellipse: s-maj=6.5km s-min=3.6km az=218.0*
NEIC Felt at San Pedro La Laguna, Guatemala.
BJI ***14*** *07:38:09.8, 1440N×9240W, h48km, mB5.4, Ms5.6, Msz5.2*
SZGRF ***14*** *07:38:11.3, 1424N×9097W, h33km, mb4.8, MS4.8, Guatemala*

ISC 14 07:38:10.9±0.2, 1442N±003×9259W±002, h53km, h53km±2.6km:pP-P, n493, σ1§47/477, mb4.9/143, MS4.8/39, 34C-7D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.93**	**96**⇑	*e*P	**Pn**	07 38 28.8	+1.1
JAT				*e*S	**Sn**	07 38 44.7	+4.5
TP2	**Tecpan 2**	**1.56**	**77**⇓	*e*P	**Pn**	07 38 37.4	+1.1
TP2				*e*S	**Sn**	07 39 01.1	+5.7
FUG	**Fuego 3**	**1.69**	**89**⇓	*e*P	**Pn**	07 38 38.6	+0.5
CCIG	**Comitan**	**1.90**	**13**	*i* P	**Pn**	07 38 42.7	+1.8
CCIG				*i* S	**Sn**	07 39 07.7	+6.1
PCG	**Pacaya**	**1.92**	**91**	*e*P	**Pn**	07 38 42.3	+1.1
PCG				*e*S	**Sn**	07 39 10.6	+6.4
GCG	**Guatemala City**	**2.00**	**85**⇓	*e*P	**Pn**	07 38 43.5	+1.2
GCG				*e*		07 38 43.5	
IXG	**Ixpaco**	**2.09**	**97**	*e*P	**Pn**	07 38 43.6	+0.2
IXG				*e*S	**Sn**	07 39 13.3	+5.1
SCX	**San Cristobal**	**2.30**	**359**	*i* P	**Pn**	07 38 48.0	+1.7
SCX				*i* S	**Sn**	07 39 20.0	+6.6
LFRS	**El Faro**	**3.52**	**103**	*e*P	Px	07 39 11.3	
LFRS				*e*S	Sx	07 39 59.0	
HUIG	**Huatulco**	**3.65**	**292**	*i* P	**Pn**	07 39 01.0	-3.9
HUIG				*i* S	**Sn**	07 39 40.7	-6.0
SNVI	**San Vicente**	**3.73**	**102**	*e*P	Px	07 39 16.7	
SNVI				*e*S	Sx	07 40 07.0	
TUIG	**Tuzandepetl**	**4.00**	**334**	*i* P	**Pn**	07 39 07.7	-1.9
TUIG				*i* S	**Sn**	07 39 57.1	+1.9
TUIG	**Tuzandepetl**	**4.00**	**334**	*i* P	**Pn**	07 39 05.5	-4.1
TUIG				*i* S	**Sn**	07 39 57.1	+1.9
SCIG		**4.71**	**16**	*i* P	**Pn**	07 39 19.8	+0.3
SCIG				*i* S	**Sn**	07 40 20.4	+7.6
CNCH	**Conchagua**	**4.76**	**103**⇑	*e*P	Px	07 39 28.9	
CNCH				*e*S	Sx	07 40 27.9	
OXX	**Oaxaca**	**4.78**	**304**	*i* P	**Pn**	07 39 19.0	-1.3
VHO	**Vista Hermosa**	**4.78**	**304**	*i* P	**Pn**	07 39 19.0	-1.4
VHO				*i* S	**Sn**	07 40 12.2	-2.2
VHO	**Vista Hermosa**	**4.78**	**304**	*i* P	**Pn**	07 39 19.0	-1.4
VHO				*i* S	**Sn**	07 40 05.4	-9.0
EVV	**El Vigia**	**4.80**	**327**	*i* P	**Pn**	07 39 18.0	-2.7
CRIN	**San Cristobal**	**5.65**	**107**⇑	*e*P	**Pn**	07 39 34.2	+1.9
PNIG	**Pinotepa**	**5.69**	**291**	*i* P	**Pn**	07 39 30.1	-2.6
PNIG				*i* S	**Sn**	07 40 31.0	-5.7
TEL3	**Telica 3**	**5.88**	**108**⇑	*e*P	**Pn**	07 39 36.0	+0.5
TELN	**Telica**	**5.89**	**107**	*e*P	**Pn**	07 39 36.7	+1.1
LEON	**Leon**	**5.89**	**109**	*e*P	**Pn**	07 39 37.1	+1.5
LEON				*e*S	**Sn**	07 40 49.3	+7.5
CNGN	**Cerro Negro**	**6.04**	**108**	*e*P	**Pn**	07 39 40.8	+3.1
UTMO	**Huajuapan**	**6.05**	**305**	*e*P	**Pn**	07 39 35.6	-2.1
UTMO				*i* S	**Sn**	07 40 46.5	+1.0
MIRN	**Miramar**	**6.05**	**108**⇑	*e*P	**Pn**	07 39 38.3	+0.5
MOMJ	**Momotombo**	**6.22**	**108**⇑	*e*P	**Pn**	07 39 42.0	+1.9
MOMJ				*e*S	**Sn**	07 40 58.7	+8.9
COPN	**Copaltepe**	**6.25**	**110**⇓	*e*P	**Pn**	07 39 41.8	+1.2
LVIG	**Laguna Verde**	**6.42**	**326**	*i* P	**Pn**	07 39 39.2	-3.5
LVIG				*i* S	**Sn**	07 40 54.7	+0.1
LVIG	**Laguna Verde**	**6.42**	**326**	*i* P	**Pn**	07 39 40.3	-2.5
LVIG				*i* S	**Sn**	07 40 49.8	-4.8
APYN	**Apoyeque**	**6.45**	**109**	*e*P	**Pn**	07 39 44.9	+1.7
XAVN	**Gruta Xavier**	**6.50**	**110**⇑	*e*P	**Pn**	07 39 45.5	+1.5
TISN	**Laguna Tiscapa**	**6.56**	**109**	*e*P	**Pn**	07 39 46.3	+1.6
TISN				*e*S	**Sn**	07 41 05.4	+7.2
MGAN	**Managua**	**6.58**	**109**⇑	*e*P	**Pn**	07 39 46.4	+1.4
MGAN				*e*S	**Sn**	07 41 05.3	+6.7
TICN	**Ticuantepe**	**6.63**	**110**	*e*P	**Pn**	07 39 48.8	+3.0
MASN	**Masaya**	**6.72**	**110**	*e*P	**Pn**	07 39 48.6	+1.7
APON	**Apoyo**	**6.83**	**111**⇑	*e*P	**Pn**	07 39 51.1	+2.7
SSNN	**San Juan del S**	**7.28**	**115**	*e*P	**Pn**	07 39 57.4	+2.8
SSNN				*e*S	**Sn**	07 41 23.1	+7.3
CONN	**Concepcion**	**7.36**	**112**	*e*P	**Pn**	07 39 58.3	+2.6
PPM	**Popocatepetl**	**7.40**	**309**	*e*P	**Pn**	07 39 55.7	-0.6
PPM				*i* S	**Sn**	07 41 21.1	+2.3
ACX	**Acapulco**	**7.46**	**290**	*i* P	**Pn**	07 39 54.5	-2.6
MEIG	**Mezcala**	**7.60**	**298**	*e*P	**Pn**	07 39 56.8	-2.2
MEIG				*i* S	**Sn**	07 41 23.6	-0.1
YAIG	**Yautepec**	**7.62**	**306**	*e*P	**Pn**	07 39 57.5	-1.7
YAIG				*i* S	**Sn**	07 41 25.5	+1.4
PLIG	**Platanillo**	**7.72**	**302**	*i* P	**Pn**	07 39 59.1	-1.5
PLIG				*i* S	**Sn**	07 41 24.9	-1.7
CAIG	**El Cayaco**	**7.84**	**290**	*i* P	**Pn**	07 39 59.8	-2.5
CAIG				*i* S	**Sn**	07 41 27.2	-2.4
UNM	**Universidad Na**	**7.97**	**309**	*e*P	**Pn**	07 40 01.4	-2.7
UNM				*i* S	**Sn**	07 41 33.3	+0.5
VCR	**Vista de Mar**	**8.03**	**121**	*e*P	**Pn**	07 40 07.1	+2.2
JTS	**JuntasAbangare**	**8.52**	**118**	Pn	**Pn**	07 40 13.0	+1.4
	2.5nm,0.3s,baz=312,slow=19,SNR=18						
JTS				Sn	**Sn**	07 41 42.2	-4.1
	baz=225,slow=17,SNR=1.3						
JTS				LR	LR	07 43 41.2	
	comp=Z,4μm,18.6s,baz=293,slow=41						
JTS	**JuntasAbangare**	**8.52**	**118**	*e*P	**Pn**	07 40 11.4	-0.2
JTS				*e*		07 41 40.9	
JTS				pmax	pmax		
	comp=Z,470nm,1.0s						
JTS	**JuntasAbangare**	**8.52**	**118**	*e*Pn	**Pn**	07 40 11.4	-0.2
JTS				*e*Sn	**Sn**	07 41 40.9	-5.4
CGA2	**Cerro Gallo 2**	**9.07**	**118**	*e*P	**Pn**	07 40 19.9	+0.8
CGA2	**Cerro Gallo 2**	**9.07**	**118**	*e*P	**Pn**	07 40 22.3	+3.1
PRS1	**Puriscal**	**9.22**	**118**	*e*P	**Pn**	07 40 23.2	+2.1
PRS1	**Puriscal**	**9.22**	**118**	*e*P	**Pn**	07 40 23.8	+2.6
LAJ	**Bijagual**	**9.44**	**118**	*e*P	**Pn**	07 40 23.2	-1.0
LAJ	**Bijagual**	**9.44**	**118**	*e*P	**Pn**	07 40 21.4	-2.7
LCR2	**La Lucha 2**	**9.60**	**118**	*e*P	**Pn**	07 40 28.9	+2.6
URSC	**Urasca**	**9.75**	**117**	*e*P	**Pn**	07 40 29.7	+1.3
URSC	**Urasca**	**9.75**	**117**	*e*P	**Pn**	07 40 30.0	+1.6
BUS	**Buena Vista**	**9.90**	**118**	*e*P	**Pn**	07 40 32.3	+1.8
BUS	**Buena Vista**	**9.90**	**118**	*e*P	**Pn**	07 40 32.3	+1.8
SFJM	**Santa Fe**	**11.65**	**303**	*i* P	**Pn**	07 40 53.0	-1.4
SOR	**Soroa**	**12.31**	**46**	*e*P	**Pn**	07 41 04.7	+1.2
SOR				*e*S	**Sn**	07 43 20.5	+1.4
	comp=N,2.5nm,1.0s						
SOR				*e*			
	comp=E,2.4nm,1.0s						
CJM	**Chamela**	**12.94**	**295**	*i* P	**Pn**	07 41 10.2	-1.7
CJM				*i* S	**Sn**	07 43 31.6	-2.7
MGV	**Manicaragua**	**14.20**	**56**	*e*P	**Pn**	07 41 29.7	+0.6
MGV				*e*S	**Sn**	07 44 04.7	-0.4
	comp=N,1μm,4.3s						
MGV				*e*			
	comp=E,2μm,13.1s						
CCCC	**Cccc**	**15.64**	**62**	*e*P	**Pn**	07 41 50.9	+3.1
HKT	**Hockley**

comp=Z,154nm,1.1s,mb5.3
SLM Saint Louis 24.21 5 *e*P P **07 43 22.2 -0.3**
comp=Z,154nm,1.1s,mb5.3
SLM *e* 07 43 34.8
TUC Tucson 24.34 320 P P **07 43 24.7 +1.0**
TUC pmax pmax
comp=Z,36nm,1.0s,mb4.8
TUC Tucson 24.34 320⇑ *e*P P **07 43 24.6 +0.9**
comp=Z,36nm,1.0s,mb4.8
TUC *e*PcP PcP 07 47 03.3 +1.2
WCI Wyandotte Cave 24.36 12 *e*P P **07 43 22.5 -1.4**
WCI pmax pmax
comp=Z,137nm,1.0s,mb5.3
WCI Wyandotte Cave 24.36 12 *e*P P **07 43 22.5 -1.4**
comp=Z,137nm,1.0s,mb5.3
WCI *e* 07 43 36.6
KSU1 Kansas State U 24.84 353 *e*P P **07 43 27.1 -1.1**
KSU1 *e* 07 43 44.0
KSU1 *e*PcP PcP 07 47 05.6 +2.3
ELN Prospectdale 25.04 23 *e*P P **07 43 28.9 -1.2**
CBKS Cedar Bluff 25.10 347 P P **07 43 30.7 +0.1**
CBKS pmax pmax
comp=Z,110nm,1.1s,mb5.3
CBKS Cedar Bluff 25.10 347⇑ *e*P P **07 43 30.2 -0.4**
comp=Z,109nm,1.1s,mb5.3
BLA Blacksburg 25.15 23 P P **07 43 30.7 -0.4**
BLA pmax pmax
comp=Z,5.0nm,1.0s,mb4.0
BLA Blacksburg 25.15 23 *e*P P **07 43 29.6 -1.5**
comp=Z,5.1nm,0.9s,mb4.0
BLO Bloomington 25.23 11 *e*P P **07 43 30.9 -0.9**
BLO pmax pmax
comp=Z,94nm,1.0s,mb5.3
BLO Bloomington 25.23 11 *e*P P **07 43 30.9 -0.8**
comp=Z,94nm,1.0s,mb5.3
FWV Forest Hill 25.33 22 *e*P P **07 43 31.5 -1.2**
SJG San Juan 25.64 78 P P **07 43 37.3 +1.8**
comp=Z,10.0nm,0.8s,mb4.4,baz=306,slow=12,SNR=4.7
SJG PcP PcP 07 47 04.4 -0.6
comp=Z,12nm,0.8s,baz=219,slow=1.4,SNR=4.1
SJG San Juan 25.64 78 P P **07 43 37.3 +1.8**
SJG 07 47 04.4
SJG pmax pmax
comp=Z,10.0nm,0.8s
SJG pmax pmax
comp=Z,12nm,0.8s
MVCO Mesa Verde 26.75 331⇑ *e*P P **07 43 47.0 +1.5**
WUAZ Wupatki 26.94 325⇑ *i*P P **07 43 48.6 +1.3**
comp=Z,33nm,1.0s,mb4.8
ACSO Alum Creek Sta 27.05 16 *e*P P **07 43 47.7 -0.5**
comp=Z,28nm,0.9s,mb4.8
ACSO *e* 07 44 09.8
CBN Corbin 27.25 27 *e*P P **07 43 49.3 -0.8**
comp=Z,39nm,0.7s,mb5.0
GLA Glamis 27.43 316⇑ *e*P P **07 43 52.8 +1.1**
PV01 Paradox Valley 27.54 332 *e*P P **07 43 54.5 +1.9**
SMCO Snowmass 27.72 335 *e*P P **07 43 55.9 +1.6**
comp=Z,104nm,1.5s,mb5.2
SMCO *e*ScP PcS 07 51 00.2 +8.4
ISCO Idaho Springs 27.74 338⇑ *i*P P **07 43 55.5 +1.1**
ISCO *e* 07 47 11.3
ISCO pmax pmax
comp=Z,67nm,1.6s,mb5.0
ISCO Idaho Springs 27.74 338⇑ *i*P P **07 43 55.5 +1.0**
comp=Z,67nm,1.6s,mb5.0
ISCO *e*PcP PcP 07 47 11.3 +1.3
PV10 Paradox Valley 27.95 332 *e*P P **07 43 57.1 +0.9**
PHWY Pilot Hill 29.02 340 *e*P P **07 44 06.8 +1.0**
PHWY *e*PcP PcP 07 47 14.0 +0.9
NEN Nelson 29.08 321 *e*P P **07 44 07.8 +1.5**
MVL Millersville 29.18 26 *e*P P **07 44 06.1 -1.2**
SRU San Rafael 29.23 331 P P **07 44 09.0 +1.4**
SRU pmax pmax
comp=Z,13nm,0.8s,mb4.7
SRU San Rafael 29.23 331 *e*P P **07 44 08.8 +1.2**
comp=Z,13nm,0.8s,mb4.7
CCUT Cedar City 29.52 325 *e*P P **07 44 11.7 +1.6**
CCUT *e*PcP PcP 07 47 16.5 +2.1
MSU Marysvale 29.59 328 *e*P P **07 44 12.5 +1.7**
MSU *e* 07 47 16.0
TMUT Trail Mountain 29.70 330 *e*P P **07 44 13.2 +1.3**
TMUT *e*PcP PcP 07 47 14.9 0.0
ARUT Antelope Range 29.73 325 P P **07 44 14.4 +2.3**
ARUT Antelope Range 29.73 325 *e*P P **07 44 14.2 +2.2**
RWWY Rawlins 29.98 338 *e*P P **07 44 16.0 +1.7**
comp=Z,40nm,0.9s,mb5.2
RWWY *e*PcP PcP 07 47 16.9 +1.3
MPU Maple Canyon 30.47 330 *e*P P **07 44 20.3 +1.7**
comp=Z,33nm,0.9s,mb5.1
MPU *e*PcP PcP 07 47 17.4 +0.5
DAU Daniels Canyon 30.60 331 *e*P P **07 44 21.9 +2.1**
NLU North Lily Min 30.64 330 P P **07 44 20.9 +0.8**
NLU *e*PcP PcP 07 47 18.4 +1.1
CTU Camp Tracy 31.05 331 *e*P P **07 44 25.9 +2.1**
comp=Z,25nm,1.1s,mb5.0
CTU *e*pP pP 07 44 42.2 +4.9
RSSD Black Hills 31.17 344 *e*P P **07 44 25.5 +0.7**
RSSD pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
RSSD Black Hills 31.17 344 *e*P P **07 44 25.5 +0.7**
comp=Z,10nm,0.8s,mb4.7
BINY Binghamton 31.18 24 *e*P P **07 44 23.4 -1.5**
comp=Z,45nm,1.0s,mb5.2
DUG Dugway 31.18 329 *e*P P **07 44 26.7 +1.8**
DUG *e* 07 47 19.7
DUG pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
DUG Dugway 31.18 329 *e*P P **07 44 26.7 +1.8**
comp=Z,8.9nm,0.9s,mb4.6
DUG *e*PcP PcP 07 47 19.7 +1.0
NOQ North Oquirrh 31.20 331 *e*P P **07 44 26.6 +1.6**
comp=Z,33nm,0.9s,mb5.2
DAC Darwin (Calif) 31.20 319 *e*P P **07 44 26.4 +1.3**
DAC *e* 07 47 20.2
DAC pmax pmax
comp=Z,13nm,0.9s,mb4.8
DAC Darwin (Calif) 31.20 319 *e*P P **07 44 26.4 +1.3**
comp=Z,13nm,0.9s,mb4.8
DAC *e*PcP PcP 07 47 20.2 +1.4
TCUT Toone Canyon 31.23 332 *e*P P **07 44 27.3 +1.9**
HWUT Hardware Ranch 31.70 332 *e*P P **07 44 30.5 +1.1**
comp=Z,80nm,1.5s,mb5.3
HWUT *e*PcP PcP 07 47 20.5 +0.4
BW06 Boulder Array 31.80 336 *e*P P **07 44 30.6 +0.2**
comp=Z,16nm,1.1s,mb4.8
PDAR Pinedale Array 31.80 336 P P **07 44 30.9 +0.6**
comp=Z,10nm,0.9s,mb4.7,baz=132,slow=8.9,SNR=63
PDAR PcP PcP 07 47 20.7 +0.3
comp=Z,0.7nm,0.4s,baz=156,slow=6.7,SNR=4.3
PDAR ScP ScP 07 51 13.0 +14
comp=Z,2.8nm,0.9s,baz=134,slow=4.3,SNR=8.5
PDAR LR LR 07 59 16.2
comp=Z,1μm,18.2s,MS4.6,baz=156,slow=40
BGU Big Grassy Mou 31.85 330 *e*P P **07 44 39.4 +8.6**
BGU *e*PP PP 07 45 41.0 -2.4
SPUT South Promonto 31.86 331 *e*P P **07 44 32.5 +1.6**
SPUT *e*PcP PcP 07 47 21.6 +1.1
TPH Tonopah 32.10 322 P P **07 44 35.3 +2.3**
TPH pmax pmax
comp=Z,79nm,1.9s,mb5.2
TPH Tonopah 32.10 322 *e*P P **07 44 34.8 +1.8**
comp=Z,79nm,2.0s,mb5.2
SADO Sadowa 32.33 18 P P **07 44 33.5 -1.6**
comp=Z,10nm,0.8s,mb4.7,baz=218,slow=6.7,SNR=5.3
HVU Hansel Valley 32.39 331 *e*P P **07 44 36.8 +1.3**
HVU *e* 07 47 22.7
HVU pmax pmax
comp=Z,40nm,1.0s,mb5.2
HVU Hansel Valley 32.39 331 *e*P P **07 44 36.8 +1.3**
comp=Z,40nm,1.0s,mb5.2
HVU *e*pP pP 07 44 52.1 +3.1
HVU *e*PcP PcP 07 47 22.7 +0.7
AHID Auburn Hatcher 32.43 334 *e*P P **07 44 36.8 +0.9**
comp=Z,48nm,0.9s,mb5.3
REDW Red Top Meadow 32.82 335 *e*P P **07 44 40.8 +1.5**
comp=Z,198nm,1.0s
ELK Elko 32.83 327 P P **07 44 41.2 +1.9**
ELK pmax pmax
comp=Z,18nm,1.0s
MNV Mina 32.89 321 *e*P P **07 44 41.9 +2.0**
MNV *e* 07 47 24.0
MNV pmax pmax
comp=Z,40nm,0.9s,mb5.3
MNV Mina 32.89 321 *e*P P **07 44 41.9 +1.9**
comp=Z,40nm,0.9s,mb5.3
MNV *e*PcP PcP 07 47 24.0 +0.6
TPAW Teton Pass 32.96 335 *e*P P **07 44 42.0 +1.5**
comp=Z,84nm,0.9s,mb5.7
TPAW *e*PcP PcP 07 47 25.0 +1.4
NVAR Mina Array Bea 32.98 321 P P **07 44 43.0 +2.4**
comp=Z,26nm,0.8s,mb5.2,baz=128,slow=9.7,SNR=179
NVAR PcP PcP 07 47 25.3 +1.6
comp=Z,6.8nm,0.8s,baz=125,slow=5.1,SNR=7.6
NVAR ScP ScP 07 51 16.9 +14
comp=Z,1.8nm,0.8s,baz=191,slow=4.6,SNR=8.8
MOOW Moose Ponds 33.10 336 *e*P P **07 44 42.8 +1.1**
comp=Z,42nm,0.9s,mb5.4
MOOW *e*PcP PcP 07 47 24.5 +0.5
DCID1 Drake Creek 33.15 335 *e*P P **07 44 43.6 +1.5**
IMW Indian Meadow 33.30 336 *e*P P **07 44 44.6 +1.1**
comp=Z,41nm,0.9s,mb5.4
IMW PcP PcP 07 47 26.1 +1.5
IMW ScP ScP 07 51 18.1 +14
FLWY Flagg Ranch 33.36 336 *e*P P **07 44 45.5 +1.6**
comp=Z,56nm,0.8s,mb5.5
FLWY *e*PP PP 07 46 03.1 +3.0
FLWY *e*PcP PcP 07 47 28.2 +3.5
FLWY ScP ScP 07 51 18.1 +13
NCB Newcomb 33.37 24 *e*P P **07 44 41.1 -3.0**
comp=Z,14nm,0.6s,mb5.1
NCB *e*PcP PcP 07 47 25.2 +0.4
LKWY Lake 33.65 337 P P **07 44 48.8 +2.3**
LKWY pmax pmax
comp=Z,41nm,1.0s,mb5.3
LKWY Lake 33.65 337⇑ *e*P P **07 44 48.5 +2.1**
comp=Z,41nm,1.0s,mb5.3
LKWY *e*pP pP 07 45 01.2 +1.2
BMN Battle Mountai 33.68 325 *e*P P **07 44 48.1 +1.4**
BMN *e* 07 47 25.8
BMN pmax pmax
comp=Z,14nm,0.8s,mb4.9
BMN Battle Mountai 33.68 325 *e*P P **07 44 48.1 +1.4**
comp=Z,14nm,0.8s,mb5.0
BMN *e*pP pP 07 45 06.4 +6.2
BMN *e*sP sP 07 45 14.8 +8.3
BMN *e*PP PP 07 46 10.4 +6.8
BMN *e*PcP PcP 07 47 25.8 +0.2
YFT Old Faithful 33.72 336 *e*P P **07 44 49.8 +2.7**
YFT *e*PP PP 07 46 05.7 +1.6
YFT *e*PcP PcP 07 47 27.9 +2.2
YFT *e*ScP ScP 07 51 21.6 +16
YMR Madison River 33.95 336 *e*P P **07 44 51.1 +2.0**
comp=Z,68nm,0.9s,mb5.6
YMR *e*pP pP 07 45 04.5 +1.8
YMR *e*sP sP 07 45 09.8 +1.0
YMR *e*PP PP 07 45 58.1 -8.6
YMR *e*PcP PcP 07 47 26.4 0.0
CMB Columbia Colle 34.04 319 *e*P P **07 44 51.0 +1.1**
CMB *e* 07 46 11.3
CMB pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CMB Columbia Colle 34.04 319 *e*P P **07 44 51.0 +1.2**
comp=Z,9.9nm,0.9s,mb4.7
CMB *e*pP pP 07 45 08.5 +5.1
CMB *e*sP sP 07 45 18.2 +8.6
CMB *e*PP PP 07 46 11.3 +3.7
CMB *e*PcP PcP 07 47 42.2 +16
LAO LASA Array 34.13 343⇑ *i*P P **07 44 50.3 -0.4**
comp=Z,18nm,1.0s,mb5.0
QLMT Earthquake Lak 34.27 336 *e*P P **07 44 54.1 +2.2**
QLMT *e*pP pP 07 45 08.2 +2.7
QLMT *e*sP sP 07 45 15.1 +3.5
QLMT *e*PP PP 07 46 08.6 -1.6
QLMT *e*PcP PcP 07 47 29.3 +2.0
GCMT Greycliff 34.42 339 *e*P P **07 44 54.3 +1.1**
GCMT *e*PP PP 07 46 03.6 -8.4
GCMT *e*PcP PcP 07 47 28.9 +1.1
PAHR Pah Rah Range 34.44 322 *e*P P **07 44 55.2 +1.8**
comp=Z,11nm,0.9s,mb4.8
PAHR *e*PP PP 07 45 56.3 -16
HLID Hailey 34.53 332 *e*P P **07 44 55.5 +1.4**
comp=Z,40nm,1.1s,mb5.3
HLID *e*pP pP 07 45 08.8 +1.2
HLID *e*sP sP 07 45 15.1 +1.2
HLID *e*PP PP 07 46 07.6 -5.5
HLID *e*PcP PcP 07 47 29.3 +1.2
LBNH Lisbon 34.55 27 P P **07 44 54.3 0.0**
MCMT McKenzie Canyo 34.84 334 *e*P P **07 44 59.3 +2.5**
MCMT *e*PP PP 07 45 57.3 -19
MCMT *e*PcP PcP 07 47 42.7 +14
DLMT Dillon 35.17 335 *e*P P **07 45 01.4 +1.7**
comp=Z,108nm,1.1s,mb5.7
DLMT *e*pP pP 07 45 14.4 +1.2
DLMT *e*sP sP 07 45 22.5 +3.1
DLMT *e*PP PP 07 46 12.5 -7.7
DLMT *e*PcP PcP 07 47 33.9 +3.9
OHCM Honcut 35.50 320 *e*P P **07 45 03.9 +1.4**
OHCM *e*pP pP 07 45 21.6 +5.5
OHCM *e*sP sP 07 45 29.5 +7.2
OHCM *e*PP PP 07 46 28.2 +4.4
OHCM *e*PcP PcP 07 47 31.9 +1.0
WVOR Wild Horse Val 35.82 326⇑ *e*P P **07 45 06.0 +0.8**
WVOR *e* 07 46 29.9
WVOR *e* 07 47 33.2
WVOR pmax pmax
comp=Z,29nm,1.0s,mb5.2
WVOR Wild Horse Val 35.82 326⇑ *e*P P **07 45 06.0 +0.7**
comp=Z,29nm,1.0s,mb5.2
WVOR *e*pP pP 07 45 17.5 -1.3
WVOR *e*PP PP 07 46 29.9 +2.5
WVOR *e*PcP PcP 07 47 33.2 +1.4
ULM Lac du Bonnet 35.83 356 P P **07 45 03.9 -1.4**
comp=Z,15nm,0.8s,mb5.0,baz=175,slow=8.7,SNR=28
ULM PcP PcP 07 47 31.3 -0.5
comp=Z,8.7nm,0.9s,baz=126,slow=7.3,SNR=4.4
ULM ScP ScP 07 51 22.9 +9.4
comp=Z,12nm,1.0s,baz=169,slow=1.7,SNR=10
ULM LR LR 08 03 02.9
comp=Z,835nm,18.5s,MS4.5,baz=16,slow=42
ULM Lac du Bonnet 35.83 356 P P **07 45 03.9 -1.4**
ULM PcP PcP 07 47 31.3 -0.5
ULM ScP ScP 07 51 22.9 +9.4
ULM LR LR 08 03 02.9
HRY Holter Researc 35.99 337 *e*P P **07 45 07.7 +1.0**
HRY *e*pP pP 07 45 20.3 0.0
HRY *e*PP PP 07 46 31.7 +2.4
HRY *e*PcP PcP 07 47 33.7 +1.4
MOD Modoc 36.39 324⇑ *i*P P **07 45 10.9 +0.8**
comp=Z,13nm,0.9s,mb4.8
MOD *e*PP PP 07 46 39.8 +6.2
MOD *e*PcP PcP 07 47 35.1 +1.6
CHMT Chamberlain Mo 36.71 336 *e*P P **07 45 13.7 +0.9**
CHMT *e*PP PP 07 46 34.3 -2.9
CHMT *e*PcP PcP 07 47 30.5 -3.9
BMO Blue Mountains 36.87 330 *e*P P **07 45 14.2 +0.1**
BMO *e*pP pP 07 45 27.3 -0.5
BMO *e*PP PP 07 46 45.8 +6.9
WDC Whiskeytown Da 36.89 321 P P **07 45 13.7 -0.6**
WDC pmax pmax
comp=Z,8.0nm,1.1s,mb4.5
WDC Whiskeytown Da 36.89 321 *e*P P **07 45 13.4 -1.0**
comp=Z,5.3nm,1.2s,mb4.2
WDC *e*PcP PcP 07 47 35.5 +0.4
SAML Samuel 37.28 127 *e*P P **07 45 16.1 -1.6**
comp=Z,29nm,1.1s,mb5.0
YBH Yreka Blue Hor 37.68 322 P P **07 45 20.1 -0.9**
comp=Z,5.0nm,0.7s,mb4.4,baz=90,slow=6.2,SNR=19
YBH PcP PcP 07 47 37.9 +0.4
comp=Z,3.5nm,0.8s,baz=75,slow=1.8,SNR=4.2
YBH LR LR 08 03 02.3
comp=Z,2μm,18.4s,MS5.0,baz=148,slow=40
YBH Yreka Blue Hor 37.68 322 P P **07 45 20.4 -0.7**
YBH pmax pmax
comp=Z,5.0nm,0.8s
YBH Yreka Blue Hor 37.68 322 *e*P P **07 45 20.4 -0.6**
comp=Z,4.9nm,0.8s,mb4.3
YBH *e*PP PP 07 46 34.3 -13
YBH *e*PcP PcP 07 47 38.0 +0.5
KHMM Horse Mountain 37.80 320 *e*P P **07 45 23.5 +1.5**
KHMM *e*PP PP 07 46 55.7 +6.6
KHMM *e*PcP PcP 07 47 39.9 +2.1
WALA Waterton Lakes 38.73 338 *e*P P **07 45 31.2 +1.3**
comp=Z,11nm,0.9s,mb4.6
WALA *e*pP pP 07 45 42.8 -0.7
WALA *e*PP PP 07 46 53.8 -5.4
WALA *e*PcP PcP 07 47 44.1 +3.4
HBO Huckleberry Mo 38.77 325 P P **07 45 31.3 +1.1**
LPAZ La Paz 38.92 141 P P **07 45 31.7 +0.2**
comp=Z,2.2nm,0.6s,mb4.0,baz=332,slow=9.1,SNR=16
LPAZ ScP ScP 07 51 41.0 +16
comp=Z,0.8nm,0.7s,baz=354,slow=6.9,SNR=3.6
LPAZ LR LR 08 01 07.8
comp=Z,1μm,20.7s,MS4.7,baz=87,slow=36
LPAZ La Paz 38.92 141 *e*P P **07 45 31.5 0.0**
LPAZ *e* 07 47 17.6
LPAZ pmax pmax
comp=Z,10.0nm,1.1s
LPAZ MLR MLR
comp=Z,1μm,20.0s
LPAZ La Paz 38.92 141 *e*P P **07 45 31.5 0.0**
comp=Z,9.6nm,1.1s,mb4.4
LPAZ *e*pP pP 07 45 42.1 -3.1
LPAZ *e*sP sP 07 45 51.4 0.0
LPAZ *e*PP PP 07 46 43.9 -18
LPAZ *e*PcP PcP 07 47 17.6 -24
LPAZ LR LR
comp=Z,1μm,20.0s,MS4.7
HAWA Hanford 39.06 330 *e*P P **07 45 32.5 -0.1**
comp=Z,0.8nm,0.7s,mb3.6
HAWA *e*pP pP 07 45 45.0 -1.4
HAWA *e*sP sP 07 45 53.0 +0.4
HAWA *e*PP PP 07 47 13.0 +10
HAWA *e*PcP PcP 07 47 41.3 -0.4
BROR Big Rock Looko 39.12 325 P P **07 45 33.9 +0.7**
NEW Newport 39.37 334 LR LR 08 04 26.0
comp=Z,2μm,19.4s,MS5.0,baz=34,slow=40
OD2 Odessa Site #2 39.40 332 P P **07 45 36.0 +0.5**
VLL Laurance Lake 39.49 327 P P **07 45 38.5 +2.3**
EBG Ellensburg 39.93 330 P P **07 45 41.3 +1.4**
TBM Table Mountain 40.13 330 P P **07 45 42.9 +1.3**
WTV Waterville 40.20 331 P P **07 45 43.7 +1.5**
WRW Wenatchee Ridg 40.75 331 P P **07 45 48.2 +1.5**
FFC Flin Flon 40.88 352 *e*P P **07 45 46.7 -1.0**
FFC *e* 07 47 31.4
FFC pmax pmax
comp=Z,15nm,0.9s,mb4.6
FFC Flin Flon 40.88 352 *e*P P **07 45 46.7 -1.0**
comp=Z,15nm,0.9s,mb4.6
FFC *e*pP pP 07 45 59.6 -1.8
FFC *e*sP sP 07 46 09.0 +1.3
FFC *e*PP PP 07 47 31.4 +8.7
EDM Edmonton 42.05 341 *e*P P **07 45 57.1 -0.2**
OCWA Octopus Mounta 42.30 328⇑ *e*P P **07 46 00.5 +1.2**
comp=Z,32nm,1.0s,mb4.9
PGC Sidney 42.54 330 *e*P P **07 46 01.8 +0.5**
comp=Z,64nm,0.8s,mb5.4
SIV San Ignacio 43.40 133 P P **07 46 07.7 -0.6**
comp=Z,9.6nm,0.7s,mb4.7,baz=308,slow=8.5,SNR=42
SIV ScP ScP 07 51 56.1 +13
comp=Z,3.0nm,0.9s,baz=288,slow=3.0,SNR=5.6
LVC Limon Verde 43.51 147 P P **07 46 10.3 +1.2**
comp=Z,3.5nm,0.9s,mb4.1,baz=321,slow=6.8,SNR=4.4
LVC LR LR 08 03 36.9
comp=Z,976nm,18.4s,MS4.7,baz=325,slow=35
LVC Limon Verde 43.51 147 *e*P P **07 46 09.4 +0.3**
comp=Z,27nm,1.4s,mb4.8
LVC *e*pP pP 07 46 20.0 -3.0
LVC LR LR
comp=Z,1μm,19.0s,MS4.8
FCC Fort Churchill 44.27 359 *e*P P **07 46 14.6 -0.7**
FCC pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
FCC Fort Churchill 44.27 359 *e*P P **07 46 14.6 -0.7**
comp=Z,10.0nm,0.8s,mb4.6
FCC *e*PcP PcP 07 47 58.4 -0.5
RPN Rapa Nui 44.39 202 LR LR 07 59 44.1
comp=Z,1μm,21.3s,MS4.8,baz=204,slow=29
SCHQ Schefferville 45.03 21 P P **07 46 19.2 -2.1**
comp=Z,11nm,0.9s,mb4.7,baz=202,slow=6.4,SNR=19
SCHQ PcP PcP 07 48 01.4 -0.1
comp=Z,16nm,0.8s,baz=204,slow=2.2,SNR=9.1
SCHQ LR LR 08 06 43.0
comp=Z,2μm,18.3s,MS5.0,baz=210,slow=38
SCHQ Schefferville 45.03 21 *e*P P **07 46 18.7 -2.6**
comp=Z,18nm,1.0s,mb4.8
SCHQ *e*PcP PcP 07 48 01.4 -0.1
YKA Yellowknife Ar 50.48 347 P P **07 47 03.1 -0.4**
comp=Z,66nm,0.7s,mb5.8,baz=150,slow=7.5,SNR=445
YKA PcP PcP 07 48 22.4 +1.5
comp=Z,2.5nm,0.7s,baz=175,slow=31,SNR=5.0
YKA ScP ScP 07 52 22.6 +10
comp=Z,2.9nm,0.8s,baz=142,slow=4.1,SNR=15
YKA LR LR 08 10 14.9
comp=Z,381nm,21.4s,MS4.4,baz=135,slow=38
YKA Yellowknife Ar 50.48 347 P P **07 47 03.1 -0.4**
YKA 07 48 22.4
YKA pmax pmax
comp=Z,66nm,0.7s
YKA MLR MLR
comp=Z,381nm,21.4s
YKA Yellowknife Ar 50.48 347 P P **07 47 03.1 -0.4**
YKA PcP PcP 07 48 22.4 +1.5
YKA ScP ScP 07 52 22.6 +10
YKA LR LR 08 10 14.9
YKW3 Yellowknife Ar 50.55 347⇑ *e*P P **07 47 03.6 -0.3**
CFAA Coronel Fontan 51.39 153 P P **07 47 09.8 -0.5**
comp=Z,0.6nm,0.7s,mb3.6,baz=325,slow=6.9,SNR=19
CFAA LR LR 08 04 26.7
comp=Z,105nm,20.7s,MS3.9,baz=360,slow=31
CRAG Craig 51.48 332 *e*P P **07 47 12.5 +1.5**
comp=Z,50nm,1.6s,mb5.2
DLBC Dease Lake 52.03 336⇑ *i*P P **07 47 16.9 +1.8**
TAOE Nuku Hiva Isla 52.53 247 *e*S S **07 54 48.2 +6.5**
comp=Z,2μm,24.8s
TAOE *e*LR LR 08 02 24.4
comp=Z,3μm,25.3s,baz=62
CPUP Villa Florida 53.07 140 P P **07 47 20.7 -2.1**
comp=Z,1.9nm,0.7s,mb4.1,baz=308,slow=8.9,SNR=8.7
CPUP LR LR 08 11 13.5
comp=Z,818nm,18.5s,MS4.8,baz=311,slow=38
CPUP Villa Florida 53.07 140 *e*P P **07 47 20.9 -1.9**
CPUP pmax pmax
comp=Z,19nm,0.9s
CPUP Villa Florida 53.07 140 *e*P P **07 47 20.9 -1.9**
comp=Z,19nm,0.9s,mb5.0
BDFB Brasilia 53.23 122 P P **07 47 23.7 -0.2**
comp=Z,17nm,1.0s,mb4.9,baz=300,slow=9.1,SNR=12
BDFB ScP ScP 07 52 38.0 +14
comp=Z,3.5nm,1.0s,baz=320,slow=0.6,SNR=3.6
BDFB LR LR 08 10 50.1
comp=Z,816nm,18.9s,MS4.8,baz=305,slow=37
BDFB Brasilia 53.23 122 P P **07 47 23.7 -0.3**
BDFB pmax pmax
comp=Z,17nm,1.0s
BDFB pmax pmax
comp=N,4.0nm,1.0s
BDFB MLR MLR
comp=Z,816nm,18.9s
SKAG Skagway 54.81 335 *e*P P **07 47 37.0 +1.5**
comp=Z,108nm,2.6s,mb5.4
RKT Rikitea 55.79 229 *e*S S **07 55 35.0 +9.4**
comp=Z,1μm,29.2s
RKT *e*LR LR 08 04 10.1
comp=Z,2μm,25.8s
PLCA Paso Flores 58.56 160 P P **07 48 02.2 +0.1**
PLCA pmax pmax
comp=Z,22nm,1.3s
DAWY Dawson 59.07 338 *e*P P **07 48 05.7 0.0**
DAWY *e*PcP PcP 07 48 54.2 +0.3
DAWY *e*PP PP 07 50 08.8 -7.8
TRQA Tornquist 59.58 152 *e*P P **07 48 08.1 -1.0**
comp=Z,12nm,1.4s,mb4.7
RCBR Riachuelo 59.71 106 *e*P P **07 48 10.7 +0.7**
comp=Z,56nm,0.8s,mb5.6
EYAK Cordova Ski Ar 59.85 333 *e*P P **07 48 12.4 +1.4**
EYAK *e*PcP PcP 07 49 03.0 +5.9
INK Inuvik 59.87 344 LR LR 08 17 20.1
comp=Z,761nm,18.1s,MS4.9,baz=141,slow=39
INK Inuvik 59.87 344 P P **07 48 11.2 +0.1**
INK pmax pmax
comp=Z,99nm,1.2s
INK Inuvik 59.87 344⇑ *i*P P **07 48 11.0 -0.1**
comp=Z,99nm,1.3s,mb5.7
INK *e*PcP PcP 07 48 56.9 -0.3
INK *e*PP PP 07 50 42.0 +18
MENT Mentasta 60.12 336 *e*P P **07 48 13.3 +0.5**
RES Resolute Bay 60.27 359 *e*P P **07 48 13.1 -0.8**
RES *e* 07 48 59.2
RES pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
RES Resolute Bay 60.27 359 *e*P P **07 48 13.1 -0.8**
comp=Z,7.9nm,0.6s,mb4.9
RES *e*PcP PcP 07 48 59.2 +0.5
PMR Palmer 61.78 333 P P **07 48 24.4 +0.3**

PMR Palmer 61.78 333 *e*P P **07 48 24.2 +0.1**
comp=Z,40nm,1.3s,mb5.4
PMR *e*PcP PcP 07 49 16.4 +12
SLKM Skilak Lake 61.85 332 *e*P P **07 48 25.0 +0.4**
SLKM *e*pP pP 07 48 42.5 +3.4
SLKM *e*sP sP 07 48 50.4 +5.3
SLKM PcP PcP 07 49 07.0 +1.9
KDAK Kodiak Island 62.06 328 P P **07 48 26.5 +0.5**
comp=Z,12nm,0.8s,mb5.0,baz=80,slow=3.1,SNR=8.8
KDAK LR LR 08 15 03.6
comp=Z,582nm,20.9s,MS4.7,baz=121,slow=36
ILAR Eielson Array 62.23 337 P P **07 48 26.9 -0.2**
comp=Z,24nm,0.9s,mb5.3,baz=128,slow=4.6,SNR=177
ILAR LR LR 08 17 34.2
comp=Z,870nm,20.5s,MS4.9,baz=142,slow=38
ILAR Eielson Array 62.23 337 P P **07 48 26.9 -0.2**
ILAR pmax pmax
comp=Z,24nm,1.0s
ILAR MLR MLR
comp=Z,870nm,20.5s
ILAR Eielson Array 62.23 337 P P **07 48 26.9 -0.2**
ILAR LR LR 08 17 34.2
COLA College 62.64 337⇑ *i*P P **07 48 29.7 -0.2**
COLA College 62.64 337 *e*P P **07 48 29.5 -0.4**
comp=Z,18nm,0.8s,mb5.2
COLA *e*PcP PcP 07 49 07.1 -1.2
COLA LR LR
comp=Z,862nm,20.0s,MS4.9
SVW2 Sparrevohn 64.53 331 *e*P P **07 48 41.5 -0.8**
PPT Papeete 64.58 242 *e*S S **07 57 27.4 +9.2**
comp=Z,335nm,25.0s
PPT *e*LR LR 08 07 47.1
comp=Z,974nm,24.5s,baz=61
PPT Papeete 64.58 242 LR LR 08 09 30.0
comp=Z,541nm,19.6s,MS4.8,baz=232,slow=29
TTA Tatalina 65.26 333 *e*P P **07 48 46.3 -0.8**
TBI Tubuai 67.10 237 *e*S S 07 57 56.5 +7.6
comp=Z,289nm,26.0s
TBI *e*LR LR 08 09 11.0
comp=Z,1μm,27.0s,baz=62
BORG Borgarnes 66.08 26 LR LR 08 20 00.6
comp=Z,494nm,18.2s,MS4.8,baz=224,slow=37
USHA Ushuaia 71.97 166 LR LR 08 15 57.7
comp=Z,1μm,19.1s,MS5.2,baz=314,slow=32
DAG Danmarks Havn 72.39 13⇑ *i*P P **07 49 29.5 -1.9**
comp=Z,5.0nm,0.9s,mb4.4
DAG Danmarks Havn 72.39 13 *i*P P **07 49 29.5 -1.9**
DAG pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
JMIC Jan Mayen 74.54 20 AMS AMS 08 23 26.2
comp=Z,879nm,21.4s,MS5.0
JMIC Jan Mayen 74.54 20 LR LR 08 23 10.7
comp=Z,942nm,20.4s,MS5.1,baz=266,slow=36
PTOM Tomar 76.52 52 *e*P P **07 49 53.9 -1.5**
comp=Z,12nm,0.8s,mb4.9
PVIS Viseu 76.77 51 *e*P P **07 49 54.2 -2.5**
comp=Z,12nm,1.4s,mb4.6
PVRL Vila Real 76.83 50 *e*P P **07 49 55.1 -2.0**
comp=Z,17nm,1.4s,mb4.8
MTE Manteigas 77.08 51 *e*P P **07 49 56.7 -1.8**
comp=Z,15nm,1.1s,mb4.8
MTE *e*S S 07 59 48.7 +5.4
MTE Manteigas 77.08 51 *e*LQ 08 10 26.7
MTE *e*LR LR 08 15 38.1
PBEJ Beja 77.16 54 *e*P P **07 49 57.6 -1.4**
comp=Z,13nm,1.4s,mb4.7
PCBR Castelo Branco 77.20 52 *e*P P **07 49 58.0 -1.2**
comp=Z,12nm,1.2s,mb4.7
PBRG Braganca 77.48 50 *e*P P **07 49 59.2 -1.5**
comp=Z,9.5nm,1.3s,mb4.6
ESK Eskdalemuir 77.94 36 *e*P P **07 50 01.4 -1.9**
ESK *e* pP 07 50 13.0 -5.3
ESK *e* 07 53 01.8
ESK pmax pmax
comp=Z,16nm,0.9s,mb5.0
ESK Eskdalemuir 77.94 36 *e*P P **07 50 01.4 -1.9**
comp=Z,16nm,0.9s,mb5.0
ESK *e*PcP PcP 07 50 13.0 +0.1
ESK *e*PP PP 07 53 01.8 +2.1
KBS Kingsbay 78.71 11 *e*P P **07 50 09.2 +1.7**
KBS *e* 07 59 25.5
KBS AMS AMS 08 28 28.9
comp=Z,439nm,18.4s,MS4.8
ROSF Rostrenen 78.93 43 *e*P P **07 50 06.5 -2.2**
comp=Z,27nm,1.2s,mb4.7
ROSF Rostrenen 78.93 43 *e*P P **07 50 06.5 -2.2**
ROSF pmax pmax
comp=Z,14nm,1.2s,mb4.8
ROSF Rostrenen 78.93 43 *e*P P **07 50 06.5 -2.2**
comp=Z,14nm,1.2s,mb4.8
QUIF Quistinic 79.07 43 *e*P P **07 50 06.4 -3.1**
comp=Z,20nm,1.0s,mb4.7
QUIF Quistinic 79.07 43 *e*P P **07 50 06.4 -3.1**
QUIF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
QUIF Quistinic 79.07 43 *e*P P **07 50 06.4 -3.1**
comp=Z,9.8nm,1.0s,mb4.7
SGMF Saint Gilles 79.41 43 *e*P P **07 50 08.7 -2.7**
ESDC Sonseca Array 79.90 52 P P **07 50 12.7 -1.4**
comp=Z,5.8nm,0.9s,mb4.5,baz=292,slow=5.7,SNR=22
ESLA Sonseca Array 79.90 52 *e*P P **07 50 12.4 -1.7**
comp=Z,1.9nm,1.0s,mb4.0
GRR Gorron 80.50 42 *e*P P **07 50 15.2 -2.1**
comp=Z,17nm,0.8s,mb4.7
GRR Gorron 80.50 42 *e*P P **07 50 15.2 -2.1**
GRR pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
GRR Gorron 80.50 42 *e*P P **07 50 15.2 -2.1**
comp=Z,8.4nm,0.8s,mb4.7
MDT Midelt 80.66 59 P P **07 50 17.3 -0.8**
comp=Z,4.9nm,0.9s,mb4.4,baz=285,slow=6.0,SNR=8.3
MDT LR LR 08 22 11.1
comp=Z,441nm,19.7s,MS4.8,baz=287,slow=33
FLN La Foliniere 80.68 42 *e*P P **07 50 15.4 -2.8**
comp=Z,29nm,1.2s,mb4.8
FLN *e*R
comp=Z,809nm,22.0s
FLN La Foliniere 80.68 42 *e*P P **07 50 15.4 -2.8**
FLN pmax pmax
comp=Z,14nm,1.2s,mb4.8
FLN MLR MLR
comp=Z,810nm,22.0s,MS5.0
FLN La Foliniere 80.68 42 *e*P P **07 50 15.4 -2.8**
comp=Z,14nm,1.2s,mb4.8
FLN LR LR
comp=Z,810nm,22.0s,MS5.0
BILL Bilibino 80.85 338*c i*P P **07 50 19.6 +0.4**
BILL pmax pmax
comp=Z,73nm,0.8s,mb5.7
BILL Bilibino 80.85 338 *e*P P **07 50 19.3 +0.2**
comp=Z,73nm,0.9s,mb5.6
LDF La Druitiere 80.94 42 *e*P P **07 50 17.7 -1.9**
comp=Z,32nm,1.1s,mb4.9
LDF La Druitiere 80.94 42 *e*P P **07 50 17.7 -1.9**
LDF pmax pmax
comp=Z,16nm,1.1s,mb4.9
LDF La Druitiere 80.94 42 *e*P P **07 50 17.7 -1.9**
comp=Z,16nm,1.1s,mb4.9
SJPF Ste Jean 81.28 48 *e*P P **07 50 19.3 -2.1**
comp=Z,29nm,1.4s,mb4.7
SJPF Ste Jean 81.28 48 *e*P P **07 50 19.3 -2.1**
SJPF pmax pmax
comp=Z,15nm,1.4s,mb4.7
SJPF Ste Jean 81.28 48 *e*P P **07 50 19.3 -2.1**
comp=Z,15nm,1.4s,mb4.7
MFF Saint Martin d 81.33 44 *e*P P **07 50 19.4 -2.3**
comp=Z,22nm,1.1s,mb4.7
MFF Saint Martin d 81.33 44 *e*P P **07 50 19.4 -2.3**
MFF pmax pmax
comp=Z,11nm,1.1s,mb4.7
MFF Saint Martin d 81.33 44 *e*P P **07 50 19.4 -2.3**
comp=Z,11nm,1.1s,mb4.7
BER Bergen 81.46 30 AMS AMS 08 24 09.8
comp=Z,384nm,21.1s,MS4.7
ETSF Etsaut 81.80 48 *e*P P **07 50 22.4 -1.8**
comp=Z,12nm,0.9s,mb4.5
ETSF Etsaut 81.80 48 *e*P P **07 50 22.4 -1.8**
ETSF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
ETSF Etsaut 81.80 48 *e*P P **07 50 22.4 -1.8**
comp=Z,5.8nm,0.9s,mb4.5
LFF La Frestale 82.28 46 *e*P P **07 50 24.7 -2.0**
EPF Esparros 82.42 48 *e*P P **07 50 25.7 -1.7**
comp=Z,16nm,1.1s,mb4.6
EPF Esparros 82.42 48 *e*P P **07 50 25.7 -1.7**
EPF pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
EPF Esparros 82.42 48 *e*P P **07 50 25.7 -1.7**
comp=Z,7.8nm,1.1s,mb4.5
RJF Les Rejaudoux 82.74 45 *e*P P **07 50 26.9 -2.2**
RJF *e*R
comp=Z,842nm,21.5s
RJF Les Rejaudoux 82.74 45 *e*P P **07 50 26.9 -2.2**
RJF LR LR
comp=Z,840nm,21.5s,MS5.1
TCF Toulx Ste Croi 82.99 44 *e*P P **07 50 28.0 -2.4**
comp=Z,13nm,0.9s,mb4.7
TCF Toulx Ste Croi 82.99 44 *e*P P **07 50 28.0 -2.4**
TCF pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
TCF Toulx Ste Croi 82.99 44 *e*P P **07 50 28.0 -2.4**
comp=Z,6.6nm,0.9s,mb4.7
CAF Calviac 83.20 45 *e*P P **07 50 29.3 -2.2**
comp=Z,11nm,1.1s,mb4.5
CAF Calviac 83.20 45 *e*P P **07 50 29.3 -2.2**
CAF pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
CAF Calviac 83.20 45 *e*P P **07 50 29.3 -2.2**
comp=Z,5.7nm,1.1s,mb4.5
BGF Bois d'Agland 83.35 44 *e*P P **07 50 30.0 -2.2**
comp=Z,31nm,0.9s,mb5.0
BGF Bois d'Agland 83.35 44 *e*P P **07 50 30.0 -2.2**
BGF pmax pmax
comp=Z,15nm,0.9s,mb5.0
BGF Bois d'Agland 83.35 44 *e*P P **07 50 30.0 -2.2**
comp=Z,15nm,0.9s,mb5.0
BAIF Baives 83.38 40 *e*P P **07 50 30.4 -2.0**
comp=Z,16nm,1.1s,mb4.7
BAIF Baives 83.38 40 *e*P P **07 50 30.4 -2.0**
BAIF pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
BAIF Baives 83.38 40 *e*P P **07 50 30.4 -2.0**
comp=Z,7.8nm,1.1s,mb4.7
DOU Dourbes 83.61 40 P P **07 50 31.4 -2.2**
comp=Z,10.0nm,0.9s,mb4.4
AVF Avril sur Loir 83.63 43 *e*P P **07 50 31.1 -2.6**
comp=Z,12nm,0.9s,mb4.7
AVF Avril sur Loir 83.63 43 *e*P P **07 50 31.1 -2.6**
AVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
AVF Avril sur Loir 83.63 43 *e*P P **07 50 31.1 -2.6**
comp=Z,5.8nm,0.9s,mb4.7
SSF Saint Saulge 83.67 43 *e*P P **07 50 31.5 -2.4**
comp=Z,13nm,0.9s,mb4.8
SSF Saint Saulge 83.67 43 *e*P P **07 50 31.5 -2.4**
SSF pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
SSF Saint Saulge 83.67 43 *e*P P **07 50 31.5 -2.4**
comp=Z,6.7nm,0.9s,mb4.8
MTLF Montolieu 83.68 47 *e*P P **07 50 32.0 -1.9**
comp=Z,24nm,1.2s,mb4.9
MTLF Montolieu 83.68 47 *e*P P **07 50 32.0 -1.9**
MTLF pmax pmax
comp=Z,12nm,1.2s,mb4.9
MTLF Montolieu 83.68 47 *e*P P **07 50 32.0 -1.9**
comp=Z,12nm,1.2s,mb4.9
KONO Kongsberg 83.72 30 *e*S S 08 00 52.7 -0.2
GIVF Givet 83.75 40 *e*P P **07 50 31.8 -2.5**
LOR Lormes 83.85 43 *e*P P **07 50 32.7 -2.1**
comp=Z,21nm,0.9s,mb5.0
LOR *e*R
comp=Z,560nm,21.2s
LOR Lormes 83.85 43 *e*P P **07 50 32.7 -2.1**
LOR pmax pmax
comp=Z,11nm,0.9s,mb5.0
LOR MLR MLR
comp=Z,560nm,21.3s,MS4.9
LOR Lormes 83.85 43 *e*P P **07 50 32.7 -2.1**
comp=Z,10nm,0.9s,mb5.0
LOR LR LR
comp=Z,560nm,21.3s,MS4.9
SMF Signal de Mont 84.00 44 *e*P P **07 50 33.0 -2.5**
comp=Z,9.2nm,0.8s,mb4.6
SMF Signal de Mont 84.00 44 *e*P P **07 50 33.0 -2.5**
SMF pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
SMF Signal de Mont 84.00 44 *e*P P **07 50 33.0 -2.5**
comp=Z,4.6nm,0.8s,mb4.7
NB2 NORSAR Subarra 84.05 28 P P **07 50 34.9 -0.9**
comp=Z,2.3nm,0.8s,mb4.4,baz=290,slow=5.3
NOA NORSAR Array B 84.05 28 P P **07 50 35.3 -0.5**
comp=Z,3.4nm,0.8s,mb4.5,baz=290,slow=5.1,SNR=8.9
NOA LR LR 08 26 00.7
comp=Z,398nm,21.3s,MS4.8,baz=295,slow=34
MEZF Maizieres J'vi 84.31 41 *e*P P **07 50 35.3 -1.8**
comp=Z,15nm,0.8s,mb4.8
MEZF Maizieres J'vi 84.31 41 *e*P P **07 50 35.3 -1.8**
comp=Z,15nm,0.8s,mb5.2
LASF Ste Croix 84.66 46 *e*P P **07 50 36.7 -2.2**
WLF Walferdange 84.70 40 P P **07 50 35.5 -3.5**
IBBN Ibbenburen 84.92 37 *e*P P **07 50 39.0 -1.2**
VIVF Saint-Julien-l 85.02 45 *e*P P **07 50 38.8 -1.9**
comp=Z,22nm,1.1s,mb4.9
VIVF Saint-Julien-l 85.02 45 *e*P P **07 50 38.8 -1.9**
VIVF pmax pmax
comp=Z,11nm,1.1s,mb4.9
VIVF Saint-Julien-l 85.02 45 *e*P P **07 50 38.8 -1.9**
comp=Z,11nm,1.1s,mb4.9
HAU Haudompre 85.28 42 *e*P P **07 50 41.2 -0.8**
comp=Z,24nm,1.0s,mb5.0
HAU *e*R
comp=Z,540nm,20.5s
HAU Haudompre 85.28 42 *e*P P **07 50 41.2 -0.8**
HAU pmax pmax
comp=Z,12nm,1.0s,mb5.0
HAU MLR MLR
comp=Z,540nm,20.5s,MS4.9
HAU Haudompre 85.28 42 *e*P P **07 50 41.2 -0.8**
comp=Z,12nm,1.0s,mb5.0
HAU LR LR
comp=Z,540nm,20.5s,MS4.9
CABF La Chapelle 85.50 43 *e*P P **07 50 42.7 -0.4**
comp=Z,25nm,1.3s,mb4.9
CABF La Chapelle 85.50 43 *e*P P **07 50 42.7 -0.4**
CABF pmax pmax
comp=Z,13nm,1.3s,mb4.9
CABF La Chapelle 85.50 43 *e*P P **07 50 42.7 -0.4**
comp=Z,13nm,1.3s,mb4.9
HINF Hinteralfeld 85.66 42 *e*P P **07 50 41.9 -2.0**
comp=Z,14nm,1.1s,mb4.8
HINF Hinteralfeld 85.66 42 *e*P P **07 50 41.9 -2.0**
HINF pmax pmax
comp=Z,7.0nm,1.1s,mb4.8
HINF Hinteralfeld 85.66 42 *e*P P **07 50 41.9 -2.0**
comp=Z,7.2nm,1.1s,mb4.8
CDF Champ du Feu 85.76 41 *e*P P **07 50 42.8 -1.6**
comp=Z,18nm,1.1s,mb4.9
CDF Champ du Feu 85.76 41 *e*P P **07 50 42.8 -1.6**
CDF pmax pmax
comp=Z,9.0nm,1.1s,mb4.9
CDF Champ du Feu 85.76 41 *e*P P **07 50 42.8 -1.6**
comp=Z,9.1nm,1.1s,mb4.9
ORIF Oris-en-Rattie 85.83 45 *e*P P **07 50 43.6 -1.1**
comp=Z,12nm,0.9s,mb4.8
ORIF *e*R
comp=Z,769nm,21.2s
ORIF Oris-en-Rattie 85.83 45 *e*P P **07 50 43.6 -1.1**
ORIF pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
ORIF Oris-en-Rattie 85.83 45 *e*P P **07 50 43.6 -1.1**
comp=Z,5.9nm,0.9s,mb4.8
SMRF Simiane la Rot 85.88 46 *e*P P **07 50 43.4 -1.6**
BSEG Bad Segeberg 85.89 35 *e*P P **07 50 44.5 -0.6**
comp=Z,21nm,0.9s,mb5.4
BSEG Bad Segeberg 85.89 35 *e*P P **07 50 44.5 -0.6**
BSEG pmax pmax
comp=Z,21nm,0.9s,mb5.4
ARCES ARCESS Array B 85.92 18 P P **07 50 44.4 -0.8**
comp=Z,6.0nm,0.8s,mb4.8,baz=288,slow=4.8,SNR=9.4
ARCES ARCESS Array B 85.92 18 P P **07 50 44.4 -0.8**
ARCES pmax pmax
comp=Z,6.0nm,0.9s
TNS Taunus Mts 85.95 39 *e*P P **07 50 44.2 -1.2**
comp=Z,16nm,0.9s,mb5.2
TNS Taunus Mts 85.95 39 *e*P P **07 50 44.2 -1.2**
TNS pmax pmax
comp=Z,16nm,0.9s,mb5.2
DBIC Dimbokro 86.18 84 LR LR 08 24 02.6
comp=Z,440nm,21.9s,MS4.8,baz=325,slow=32
LPL La Plagne 86.24 44 *e*P P **07 50 45.2 -1.5**
comp=Z,14nm,1.1s,mb4.8
LPL La Plagne 86.24 44 *e*P P **07 50 45.2 -1.5**
LPL pmax pmax
comp=Z,7.0nm,1.1s,mb4.8
LPL La Plagne 86.24 44 *e*P P **07 50 45.2 -1.5**
comp=Z,6.8nm,1.1s,mb4.8
LPG La Plagne 86.25 44 *e*P P **07 50 45.2 -1.6**
comp=Z,19nm,1.2s,mb4.9
LPG La Plagne 86.25 44 *e*P P **07 50 45.2 -1.6**
LPG pmax pmax
comp=Z,9.0nm,1.2s,mb4.9
LPG La Plagne 86.25 44 *e*P P **07 50 45.2 -1.6**
comp=Z,9.3nm,1.2s,mb4.9
BFO Black Forest 86.45 41 *e*P P **07 50 46.7 -1.1**
comp=Z,6.0nm,1.0s,mb4.8
BFO Black Forest 86.45 41 *e*P P **07 50 46.7 -1.1**
BFO pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
MBDF Montbardon 86.49 45 *e*P P **07 50 46.1 -1.9**
comp=Z,17nm,0.9s,mb5.0
MBDF Montbardon 86.49 45 *e*P P **07 50 46.1 -1.9**
MBDF pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
MBDF Montbardon 86.49 45 *e*P P **07 50 46.1 -1.9**
comp=Z,8.6nm,0.9s,mb5.0
CLZ Clausthal 86.60 37 *e*P P **07 50 47.5 -1.0**
comp=Z,18nm,1.3s,mb5.1
CLZ Clausthal 86.60 37 *e*P P **07 50 47.5 -1.0**
CLZ pmax pmax
comp=Z,18nm,1.3s,mb5.1
LMR La Mourre 86.71 46 *e*P P **07 50 47.5 -1.6**
comp=Z,18nm,0.9s,mb5.0
LMR La Mourre 86.71 46 *e*P P **07 50 47.5 -1.6**
LMR pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
LMR La Mourre 86.71 46 *e*P P **07 50 47.5 -1.6**
comp=Z,9.1nm,0.9s,mb5.0
FRF La Foret Royal 86.74 46 *e*P P **07 50 47.8 -1.4**
comp=Z,29nm,0.9s,mb5.2
FRF La Foret Royal 86.74 46 *e*P P **07 50 47.8 -1.4**
FRF pmax pmax
comp=Z,15nm,0.9s,mb5.2
FRF La Foret Royal 86.74 46 *e*P P **07 50 47.8 -1.4**
comp=Z,15nm,0.9s,mb5.2
STU Stuttgart 86.86 40 *e*P P **07 50 48.3 -1.5**
comp=Z,11nm,0.8s,mb5.1
MOX Moxa 87.74 38 *e*P P **07 50 53.3 -0.7**
comp=Z,2.0nm,0.9s,mb4.3
MOX Moxa 87.74 38 *e*P P **07 50 53.3 -0.7**
MOX
comp=Z,300nm,21.0s
GRFO Grafenberg 87.82 39 *e*PP PP 07 54 20.2 -0.5
GRFO *e*L 08 25 53.6
comp=Z,395nm,21.6s
GRA1 Grafenberg Arr 87.82 39 *e*P P **07 50 53.7 -0.7**
comp=Z,7.0nm,1.1s,mb4.8
GRF Grafenberg Arr 87.82 39 *e*P P **07 50 53.7 -0.7**
comp=Z,7.0nm,1.1s,mb4.8
GRF Grafenberg Arr 87.82 39 *e*P P **07 50 53.7 -0.7**
GRF pmax pmax
comp=Z,7.0nm,1.1s,mb4.8
GRF Grafenberg Arr 87.82 39 *e*P P **07 50 53.7 -0.7**
GRF pmax pmax
comp=Z,7.0nm,1.1s,mb4.8
WERD Werda 88.22 38 *e*P P **07 50 55.9 -0.4**
comp=Z,9.0nm,1.5s,mb4.8
MANZ Manzenberg 88.26 39 *e*P P **07 50 55.3 -1.2**
comp=Z,8.0nm,1.5s,mb4.7
CLL Collm 88.33 37 *e*P P **07 50 56.0 -0.8**
comp=Z,3.0nm,0.6s,mb4.7
CLL *ex* x 07 51 02.0
CLL *e*PP PP 07 54 30.0 +5.2
CLL *e*PPS 08 03 12.0
CLL LmV 08 28 00.0
comp=Z,300nm,19.8s
CLL Collm 88.33 37 *e*P P **07 50 56.0 -0.8**
CLL *e* 07 51 02.0
CLL pmax pmax
comp=Z,3.0nm,0.6s,mb4.7
CLL Collm 88.33 37 *e*P P **07 50 56.0 -0.8**
comp=Z,3.0nm,0.6s,mb4.7
CLL *e* 07 51 02.0
BRG Berggiesshubel 89.04 37 *e*P P **07 50 59.3 -0.9**
comp=Z,4.0nm,0.9s,mb4.8
BRG Berggiesshubel 89.04 37 *e*PKP P **07 50 59.4 -0.8**
comp=Z,2.4nm,0.9s,mb4.5
BRG Berggiesshubel 89.04 37 *e*P P **07 50 59.4 -0.8**
BRG pmax pmax
comp=Z,2.0nm,0.9s,mb4.5
PET Petropavlovsk 89.48 325*c i*P P **07 51 02.8 +0.6**
PET *e* 07 54 41.2
PET *e*S 08 01 45.4
PET *e*PPS 08 03 24.1
PET *e*SS SS 08 07 46.3 +1.4
PET pmax pmax
comp=Z,300nm,13.6s
PET MLR MLR
comp=Z,200nm,21.0s,MS4.5
PET Petropavlovsk 89.48 325 *e*P P **07 51 02.4 +0.1**
comp=Z,4.5nm,0.5s,mb5.0
GEC2 GERESS Array S 89.64 39 *e*P P **07 51 01.9 -1.1**
comp=Z,5.0nm,1.2s,mb4.7
GEC2 GERESS Array S 89.64 39 *e*P P **07 51 01.9 -1.1**
GEC2 pmax pmax
comp=Z,5.0nm,1.2s,mb4.7
GERES GERESS Array B 89.64 39 P P **07 51 02.2 -0.8**
comp=Z,2.0nm,0.9s,mb4.5,baz=291,slow=4.0,SNR=14
GERES LR LR 08 29 57.8
comp=Z,499nm,19.1s,MS5.0,baz=297,slow=35
GERES GERESS Array B 89.64 39 P P **07 51 02.2 -0.8**
GERES pmax pmax
comp=Z,2.0nm,0.9s
GERES MLR MLR
comp=Z,499nm,19.1s
TIXI Tiksi 89.73 348 *e*P P **07 50 59.1 -4.3**
TIXI *e* 07 54 31.7
TIXI *e*PS PS 08 03 03.9 +0.9
TIXI pmax pmax
comp=Z,14nm,0.8s,mb5.3
TIXI Tiksi 89.73 348⇑ *i*P P **07 51 02.2 -1.2**
FINES FINESS Array B 90.36 25 P P **07 51 04.7 -1.7**
comp=Z,4.0nm,0.9s,mb4.7,baz=270,slow=0.6,SNR=5.5
FINES LR LR 08 34 42.7
comp=Z,386nm,18.3s,MS4.9,baz=171,slow=38
FINES FINESS Array B 90.36 25 P P **07 51 04.7 -1.7**
FINES pmax pmax
comp=Z,4.0nm,0.9s
FINES MLR MLR
comp=Z,386nm,18.3s
TORD Torodi Ar. Bea 90.84 76 P P **07 51 07.5 -1.1**
comp=Z,0.8nm,0.6s,mb4.2,baz=291,slow=4.6,SNR=4.9
MORC Moravsky Berou 91.59 38 *e*P P **07 51 11.2 -0.9**
MORC pmax pmax
comp=Z,1.0nm,0.7s,mb4.2
MORC Moravsky Berou 91.59 38 *e*P P **07 51 11.2 -0.9**
comp=Z,1.5nm,0.7s,mb4.4
YAK Yakutsk 96.88 341 *i* P P **07 51 36.7 +0.4**
AKASG Malin Array Be 97.69 33 P P **07 51 37.7 -2.3**
comp=Z,0.2nm,0.2s,mb4.2,baz=297,slow=3.1,SNR=4.5
YSS Yuzh-Sakhalins 101.37 325 *e*P Pdif 07 52 03.5 +7.1
YSS pmax pmax
comp=Z,50nm,1.0s
HABR Khabarovsk 104.46 329 *e*P Pdif 07 52 14.0 +3.9
CN2 Changchun 112.44 331 *e*PDIF Pdif 07 52 45.9 +0.3
CN2 *e*PP PP 07 57 30.9 +3.4
CN2 PP PP
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,200nm,18.0s,MS4.9
CN2 LR LR
comp=E,200nm,18.0s,MS4.9
CN2 LR LR
comp=Z,200nm,18.0s,MS4.8
TLY Talaya 112.67 349 *e*P Pdif 07 52 46.4 -0.2
SONM Songino Array 115.75 346 PKP PKPdf 07 56 50.3 +2.9
comp=Z,1.5nm,0.7s,baz=334,slow=1.6,SNR=4.4
SONM Songino Array 115.75 346 PKIKP PKPdf 07 56 50.3 +2.9
SONM pmax pmax
comp=Z,2.0nm,0.7s
LBTB Lobatse 121.29 111 *e*PKIKP PKPdf 07 56 58.1 +0.1
AAK Ala-Archa 122.00 11 P Pdif 07 53 28.8 +0.7
SNR=34
WMQ Urumqi 122.04 360 PKP PKPdf 07 56 57.8 -1.7
WMQ PP PP 07 58 37.0 +2.7
WMQ PP PP
comp=Z,22nm,8.2s
WMQ LR LR
comp=N,70nm,25.3s,MS4.7
WMQ LR LR

comp=E,209nm,29.0s,MS4.7
WMQ LR LR
comp=Z,157nm,29.0s,MS4.5
NJ2 Nanjing 124.83 327 *e*PKP PKPdf 07 57 09.1 +4.3
NJ2 XPKP 07 57 23.3
NJ2 PP PP 07 59 02.3 +9.2
NJ2 PKS 08 00 44.0
NJ2 PPP 08 01 42.0
NJ2 PP PP
comp=Z,160nm,10.0s
NJ2 LR LR
comp=N,910nm,28.9s,MS5.4
NJ2 LR LR
comp=E,640nm,26.0s,MS5.4
NJ2 LR LR
comp=Z,370nm,26.2s,MS4.9
GTA Gaotai 125.21 348 PKP PKPdf 07 57 05.9 +0.4
GTA XPKP 07 57 20.8
LZH Lanzhou 127.42 343 *e*PKP PKPdf 07 57 07.8 -2.0
LZH PKS 08 00 43.1
LZH SKS SKSdf 08 04 10.3 -6.7
LZH SKKS SKKSac 08 05 54.9 -8.4
LZH PP PP
comp=Z,237nm,7.8s
LZH LR LR
comp=N,695nm,18.5s
LZH LR LR
comp=Z,997nm,20.3s,MS5.5
STKA Stephens Creek 127.77 241 *e*PKPdf PKPdf 07 57 07.4 -3.1
CD2 Chengdu 132.26 341 *e*PKP PKPdf 07 57 16.0 -3.0
CD2 PP PP 07 59 42.3 +0.5
CD2 SKS SKSdf 08 04 18.9 -7.0
CD2 PP PP
comp=Z,60nm,9.5s
CD2 LR LR
comp=N,170nm,14.4s
CD2 LR LR
comp=Z,120nm,20.4s
WB2 Warramunga Arr 134.93 256 *e*P PKPdf 07 57 25.1 +1.1
WRAB Tennant Creek 134.93 256 *e*PKIKP PKPdf 07 57 23.6 -0.4
WRAB MLR MLR
comp=Z,500nm,21.0s,MS5.2
WRA Warramunga Arr 134.94 256 PKP PKPdf 07 57 24.2 +0.2
comp=Z,2.4nm,0.8s,baz=81,slow=1.9,SNR=11
WRA Warramunga Arr 134.94 256 PKIKP PKPdf 07 57 24.2 +0.2
WRA pmax pmax
comp=Z,2.0nm,0.8s
GYA Guiyang 135.26 335 PKP PKPdf 07 57 26.8 +2.2
GYA PKS 08 01 01.4
GYA PP PP
comp=Z,160nm,7.8s
GYA LR LR
comp=N,1μm,20.4s,MS5.8
GYA LR LR
comp=E,1μm,20.6s,MS5.8
GYA LR LR
comp=Z,1μm,20.8s,MS5.6
ASAR Alice Springs 135.26 251 PKP PKPdf 07 57 26.0 +1.4
comp=Z,1.4nm,0.7s,baz=126,slow=2.4,SNR=5.1
ASAR Alice Springs 135.26 251 PKIKP PKPdf 07 57 26.0 +1.4
ASAR pmax pmax
comp=Z,1.0nm,0.7s
NDI New Delhi 136.03 13 *ex* PKPdf 07 57 25.5 -0.5
FITZ Fitzroy Crossi 143.16 259 PKhKP 07 57 35.0
comp=Z,18nm,1.4s,baz=64,slow=10,SNR=3.0
NANT Nan 144.49 338 ⇓P PKPdf 07 57 41.0 -0.3
comp=Z,88nm,0.5s
POO Poona 144.63 23 *i* P PKPdf 07 57 40.0 -1.6
comp=Z,50nm,1.0s
CHG Chiang Mai 145.07 341 ⇓P PKPbc 07 57 41.3 -0.5
comp=Z,17nm,1.0s
CHTO Chiang Mai 145.07 341 *e*PKIKP PKPdf 07 57 41.7 -0.6
HYB Hyderabad 147.18 16 *i* PKP PKPbc 07 57 48.5 +0.3
comp=Z,70nm,1.0s
HYB Hyderabad 147.18 16 *e*P PKPbc 07 57 48.5 +0.3
NWAO Narrogin (SRO) 147.23 231 PKPbc PKPbc 07 57 48.0 -0.3
comp=Z,4.0nm,0.6s,baz=204,slow=2.3,SNR=4.4
NWAO Narrogin (SRO) 147.23 231 PKP2 PKPab 07 57 48.0 -2.1
NWAO pmax pmax
comp=Z,4.0nm,0.6s
GOA Goa 147.38 25 *e*P PKPbc 07 57 51.0 +2.3
NST Nakhon Sawan 147.56 337 P PKPbc 07 57 50.0 +0.8
MUN Mundaring 148.43 231 *e*P PKPbc 07 57 51.0 -0.5
MBWA Marble Bar 148.54 253 *e*PKPdf PKPdf 07 57 48.6 +0.5
MBWA *e*PKPbc PKPbc 07 57 51.7 -0.1
MBWA *e*PKPab PKPab 07 57 54.9 -0.4
MNT Nongplab 150.51 335 P PKPbc 07 57 59.0 +2.3
KSM Kuching 152.36 303 *e*PKPbc PKPbc 07 58 02.4 +1.5
PSI Prapat 159.43 325 PKPab PKPab 07 58 42.0 +0.6
comp=Z,15nm,0.9s,baz=280,slow=3.7,SNR=8.4
PSI Prapat 159.43 325 PKP2 PKPab 07 58 42.0 +0.6
PSI pmax pmax
comp=Z,15nm,0.9s

*ISCJB **14** 07:38:25.9±2.3, 364N±0.10×786W±0.2, h53km±17km, mb3.5/3, Error ellipse: s-maj=29.5km s-min=9.5km az=56.9*
*NEIC **14** 07:38:27.4±2.1, 356N×7860W, h49km±16km, mb3.8/2, Error ellipse: s-maj=30.1km s-min=12.3km az=111.0*
*IDC **14** 07:38:28.8±5.8, 365N×7855W, h58km±45km, mb3.4/3, mb1 3.7/6, mb1mx3.6/23, mbtmp3.9/6, ML3.0/2, Error ellipse: s-maj=45.9km s-min=26.1km az=105.0*
ISC 14 07:38:27.9±2.1, 361N±0.10×786W±0.2, h52km±15km, n11, s0f9o12, mb3.5/3, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTAV	**Otavalo**	**3.36**	**177**	*e*Pn	**Pn**	**07 39 17.2**	**-0.6**
OTAV				*e*S	**Sn**	**07 39 57.1**	**+0.7**
ROSC	**El Rosal**	**4.45**	**74**	P	**Pn**	**07 39 32.1**	**-0.7**
	4.2nm,0.3s,baz=5.1,slow=2.2,SNR=16						
ROSC				S	**Sn**	**07 40 24.0**	**+0.7**
	2.0nm,0.3s,baz=262,slow=24,SNR=4.0						
SDV	**Santo Domingo**	**9.51**	**56**	P	**Pn**	**07 40 41.9**	**-0.2**
	1.1nm,0.3s,baz=207,slow=5.5,SNR=3.0						
SJG	**San Juan**	**18.89**	**39**	P	**Pn**	**07 42 45.8**	**+0.9**
	0.2nm,0.3s,baz=337,slow=18,SNR=2.4						
SAML	**Samuel**	**19.81**	**129**	*e*P	**Pn**	**07 42 54.4**	**-1.5**
	5.6nm,0.8s						
LPAZ	**La Paz**	**22.33**	**153**	P	**P**	**07 43 23.1**	**+2.1**
	0.9nm,0.7s,mb3.3,baz=329,slow=13,SNR=6.5						
LPAZ	**La Paz**	**22.33**	**153**	*e*P	**P**	**07 43 20.9**	**-0.1**
	2.2nm,0.9s,mb3.6						
SIV	**San Ignacio**	**26.09**	**139**	P	**P**	**07 43 57.3**	**+0.7**
	0.8nm,0.5s,mb3.5,baz=334,slow=8.9,SNR=8.7						
RCBR	**Riachuelo**	**43.68**	**102**	P	**P**	**07 46 26.3**	**-1.2**
TORD	**Torodi Ar. Bea**	**79.76**	**77**	P	**P**	**07 50 30.6**	**+0.3**
	0.7nm,0.8s,mb3.6,baz=280,slow=5.1,SNR=3.9						
WRA	**Warramunga Arr**	**144.01**	**241**	PKP	PKPdf	07 57 57.8	+0.3
	2.8nm,1.0s,baz=106,slow=3.3,SNR=7.3						

GUC 14 07:41:42.1±0.9, 3265S×7158W, h8km±2km, MD3.7, ML2.4, 2C-9D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.38**	**187**	⇓*i*	P	g 07 41 50.0	+0.6
IHA				*i*	S	g 07 41 55.5	+1.1
ROCH	**El Roble**	**0.58**	**124**	⇑*i*	P	g 07 41 54.6	+1.4
ROCH				*i*	S	g 07 42 03.5	+2.7
CHNG	**Los Chungos**	**0.77**	**5**	*i*	S	g 07 42 08.3	+1.4
CHNG				AML	AML	07 42 10.4	
	comp=E,101nm,0.3s						
LCCH	**Las Cruces**	**0.82**	**179**	*e*P	P	g 07 41 57.2	-0.7
JACH	**Jahuel**	**0.84**	**92**	*e*P	P	g 07 41 58.3	+0.1
JACH				*i*	S	g 07 42 10.2	+1.1
RCDM	**Rinconada Maip**	**1.06**	**142**	⇓*i*	P	g 07 42 01.4	-1.1
RCDM				*i*	S	g 07 42 15.6	-0.6
RCDM				AML	AML	07 42 18.4	
	comp=E,275nm,0.1s						
TACH	**Talagante**	**1.14**	**152**	⇓*i*	P	g 07 42 02.6	-1.3
CLCH	**Cerro Calan**	**1.15**	**130**	⇓*i*	P	g 07 42 03.3	-0.9
CLCH				*i*	S	g 07 42 19.4	+0.2
CLCH				AML	AML	07 42 19.9	
	comp=E,113nm,0.3s						
FCH	**Farellones**	**1.28**	**122**	⇓*i*	P	n 07 42 05.5	-0.7
FCH				*i*	S	b 07 42 23.1	+0.1
FCH				AML	AML	07 42 24.4	
	comp=N,116nm,0.3s						
PCH	**Pirque**	**1.32**	**137**	⇑*i*	P	n 07 42 06.2	-0.6
PCH				*i*	S	b 07 42 24.9	+0.7
CHCH	**Chadas Angostu**	**1.50**	**149**	⇓*i*	P	n 07 42 08.8	-0.4
CHCH				*i*	S	n 07 42 29.2	+0.3
CMCH	**Combarbala**	**1.56**	**19**	⇓*i*	P	n 07 42 09.8	-0.2
CMCH				*i*	S	n 07 42 30.1	-0.2
CMCH				AML	AML	07 42 33.2	
	comp=E,246nm,0.8s						
LMEL	**Las Melosas**	**1.66**	**136**	⇓*i*	P	n 07 42 11.9	+0.4
LMEL				*i*	S	n 07 42 34.0	+1.0
LMEL				AML	AML	07 42 37.1	
	comp=N,196nm,0.2s						
CACH	**El Canelo**	**1.68**	**151**	⇓*i*	P	n 07 42 11.9	+0.2
CACH				*i*	S	n 07 42 35.6	+2.2
CICH	**Cipreses**	**1.93**	**150**	*e*P	P	n 07 42 15.2	+0.1
SFDO	**San Fernando**	**2.01**	**166**	*e*P	P	n 07 42 15.1	-1.3
SFDO				*i*	S	n 07 42 42.1	+0.4

*BJI **14** 07:42:44.1, 202S×128 30E, h34km, mB5.3, mb5.3, Ms4.8, Msz4.5*
*IDC **14** 07:42:47.7±0.4, 141S×127 38E, h0km, mb4.9/20, mb1 5.0/21, mb1mx5.0/22, mbtmp4.9/21, ML5.2/1, MS4.4/13, Ms1 4.4/13, ms1mx4.1/31, Error ellipse: s-maj=21.8km s-min=9.7km az=71.0*
*ISCJB **14** 07:42:51.4±0.7, 132S±003×12772E±004, h38km±6km, mb5.3/86, MS4.5/26, Error ellipse: s-maj=6.5km s-min=4.5km az=122.4*
*MOS **14** 07:42:52.5±1.1, 104S×127 58E, h33km, mb5.2/29, MS4.5/7, Error ellipse: s-maj=12.0km s-min=6.7km az=108.9*
*NEIC **14** 07:42:53.3±0.1, 127S×127 67E, mb5.2/32, MS4.8/3, Error ellipse: s-maj=7.2km s-min=4.7km az=69.0*
NEIC Felt [III] at Labuha, Pulau Bacan.
*HRVD **14** 07:42:53.3±0.1, 124S×127 75E, h20km, MW5.3/88, Centroid moment Tensor Solution. LP body waves: s67,c104;Mantle waves: s88,c159; Half duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr-1.04±.03; Mθθ-0.14±.02; Mφφ 1.19±.02; Mrθ-0.27±.04; Mrφ0.43±.02; Mθφ0.08±.04; Best double couple: M0 1.22400×10^17 NP1:φs 34.00000°, δ48.00000°, λ-65.00000°. NP2: φs 179.00000°, δ48.00000°, λ-115.00000°. Principal axes: T 1.3180, Plg0.0000°, Azm287.0000°; N -0.1810, Plg18.0000°, Azm196.0000°; P -1.1300, Plg72.0000°, Azm17.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 14 07:42:53.2±0.6, 131S±003×12783E±004, h37km±6km, h37km±3.1km: pP-P, n344, σ1s25/227, mb5.3/86, MS4.5/26, 8C-7D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**2.39**	**171**	P	**Pn**	**07 43 31.3**	**+1.5**
	3μm,1.0s						
SWI	**Sorong**	**3.46**	**83**	P	**Pn**	**07 43 44.6**	**0.0**
	4μm,1.1s						
TLE	**Tual**	**6.52**	**131**	P	**Pn**	**07 44 27.3**	**+0.8**
	1μm,1.4s						
PCI	**Palu**	**8.00**	**273**	P	**Pn**	**07 44 45.8**	**-1.1**
	1μm,1.0s						
BAKI	**Biak**	**8.28**	**89**	P	**Pn**	**07 44 54.3**	**+3.6**
	369nm,1.4s						
BUKP	**Musuan**	**9.54**	**343**	*e*P	**Pn**	**07 45 09.4**	**+1.4**
KAKA	**Kakadu**	**12.21**	**158**	*e*P	**Pn**	**07 45 42.5**	**-2.1**
	92nm,0.6s						
KAKA				*e*S	**Sn**	**07 47 54.5**	**-4.9**
KKM	**Kota Kinabalu**	**13.71**	**302**	*e*Pn	**Pn**	**07 46 04.2**	**-0.8**
FITZ	**Fitzroy Crossi**	**16.82**	**187**	*e*P	**Pn**	**07 46 45.4**	**-0.5**
	53nm,0.6s						
FITZ	**Fitzroy Crossi**	**16.82**	**187**	Pn	**Pn**	**07 46 46.1**	**+0.3**
	0.9nm,0.3s,baz=360,slow=16,SNR=20						
FITZ				LR	LR	07 53 28.5	
	comp=Z,771nm,20.2s,baz=8.5,slow=38						
KSM	**Kuching**	**17.74**	**279**	*e*P	**Pn**	**07 46 55.9**	**-1.3**
BJII	**Banjamegara**	**19.02**	**251**	P	**Pn**	**07 47 15.6**	**+2.7**
	168nm,1.9s						
WRAB	**Tennant Creek**	**19.58**	**161**	P	**Pn**	**07 47 17.0**	**-2.5**
	711nm,1.0s,SNR=95						
WRAB	**Tennant Creek**	**19.58**	**161**	*e*P	**Pn**	**07 47 17.2**	**-2.3**
WRAB				pmax	pmax		
	comp=Z,322nm,1.2s						
WRAB	**Tennant Creek**	**19.58**	**161**	*e*P	**Pn**	**07 47 17.2**	**-2.3**
	comp=Z,322nm,1.2s						
WRAB				*e*S	**S**	**07 50 46.0**	**-11**
WRA	**Warramunga Arr**	**19.58**	**161**	P	**Pn**	**07 47 16.8**	**-2.8**
	comp=Z,7.3nm,0.3s,baz=335,slow=13,SNR=150						
WRA				S	**S**	**07 50 49.9**	**-7.1**
	comp=Z,0.7nm,0.3s,baz=341,slow=20,SNR=6.8						
WB2	**Warramunga Arr**	**19.59**	**161**	⇑*i*	**Pn**	**07 47 17.1**	**-2.5**
WB2				*e*S	**S**	**07 50 50.7**	**-6.4**
PMG	**Port Moresby**	**20.84**	**113**	P	**P**	**07 47 36.1**	**+4.4**
	comp=Z,33nm,0.9s,baz=288,slow=11,SNR=7.8						
PMG	**Port Moresby**	**20.84**	**113**	P	**P**	**07 47 36.1**	**+4.4**
PMG				pmax	pmax		
	comp=Z,33nm,0.9s						
PMG	**Port Moresby**	**20.84**	**113**	*e*P	**P**	**07 47 35.6**	**+4.0**
	comp=Z,113nm,1.2s						
MBWA	**Marble Bar**	**21.25**	**201**	*e*P	**P**	**07 47 34.8**	**-1.3**
	comp=Z,115nm,1.3s,mb5.0						
GUMO	**Guam**	**22.46**	**48**	LR	LR	07 55 57.2	
	comp=Z,1μm,20.5s,MS4.3,baz=228,slow=34						
ASAR	**Alice Springs**	**22.99**	**166**	P	**P**	**07 47 54.1**	**-0.5**
	comp=Z,39nm,0.7s,mb4.9,baz=344,slow=11,SNR=238						
ASAR				PcP	PcP	07 51 45.3	+1.8
	comp=Z,6.9nm,0.9s,baz=7.4,slow=3.3,SNR=4.3						
ASAR				S	**S**	**07 52 02.8**	**+0.4**
	comp=Z,43nm,1.1s,baz=348,slow=22,SNR=9.8						
ASAR	**Alice Springs**	**22.99**	**166**	P	**P**	**07 47 54.1**	**-0.5**
ASAR						07 51 45.3	
ASAR				S	**S**	**07 52 02.8**	**+0.4**
ASAR				pmax	pmax		
	comp=Z,39nm,0.7s						
ASAR				smax			
	comp=N,43nm,1.2s						
KLI	**Kotabumi**	**23.20**	**261**	P	**P**	**07 48 02.7**	**+5.8**
	comp=N,328nm,1.3s,mb5.6						
KSI	**Kapahiang**	**25.32**	**264**	P	**P**	**07 48 21.8**	**+5.4**
	comp=N,231nm,0.9s,mb5.7						
CTA	**Charters Tower**	**25.94**	**137**	*e*P	**P**	**07 48 27.0**	**+5.0**
	comp=N,32nm,1.1s,mb4.8						
CTA	**Charters Tower**	**25.94**	**137**	P	**P**	**07 48 24.9**	**+3.0**
	comp=N,20nm,0.8s,mb4.7,baz=298,slow=7.7,SNR=7.3						
CTA	**Charters Tower**	**25.94**	**137**	P	**P**	**07 48 25.0**	**+3.0**
CTA				pmax	pmax		
	comp=Z,20nm,0.8s						
CTAO	**Charters Tower**	**25.94**	**137**	*e*P	**P**	**07 48 24.0**	**+2.0**
CTAO				pmax	pmax		
	comp=Z,57nm,1.0s,mb5.1						
CTAO	**Charters Tower**	**25.94**	**137**	*e*P	**P**	**07 48 23.9**	**+2.0**
	comp=Z,57nm,1.0s,mb5.1						
YHNB	**Yeheng**	**26.57**	**347**	*e*P	**P**	**07 48 28.8**	**+1.1**
MEEK	**Meekatharra**	**26.69**	**199**	*e*P	**P**	**07 48 28.7**	**-0.1**
	comp=Z,23nm,1.0s,mb4.7						
QIZ	**Qiongzhong**	**26.85**	**320**	P	**P**	**07 48 32.5**	**+2.3**
QIZ				XP	sP	07 48 43.8	-1.3
QIZ				S	**S**	**07 53 07.0**	**+2.9**
QIZ				LR	LR		
	comp=N,376nm,21.8s,MS4.0						
QIZ				LR	LR		
	comp=E,338nm,22.1s,MS4.0						
QIZ				LR	LR		
	comp=Z,793nm,18.3s,MS4.3						
PPI	**Padang Panjang**	**27.44**	**272**	P	**P**	**07 48 36.3**	**+0.8**
	comp=Z,101nm,1.1s,mb5.3						
KULM	**Kulim**	**27.93**	**284**	*e*P	**P**	**07 48 40.4**	**+0.5**
JOW	**Kunigami**	**27.98**	**1**	LR	LR	07 58 18.0	
	comp=Z,931nm,20.2s,MS4.4,baz=68,slow=33						
GZH	**Guangzhou**	**28.05**	**331**	P	**P**	**07 48 42.0**	**+1.0**
GZH				S	**S**	**07 53 27.4**	**+4.3**
GZH				LR	LR		
	comp=N,837nm,23.0s,MS4.5						
GZH				LR	LR		
	comp=E,1μm,19.9s,MS4.5						
GZH				LR	LR		
	comp=Z,1μm,21.8s,MS4.5						
PSI	**Prapat**	**29.18**	**278**	P	**P**	**07 48 51.3**	**+0.3**
	comp=Z,30nm,0.9s,mb5.0,baz=105,slow=4.1,SNR=23						
PSI				LR	LR	08 01 41.5	
	comp=Z,1μm,20.7s,MS4.5,baz=142,slow=40						
PSI	**Prapat**	**29.18**	**278**	P	**P**	**07 48 51.3**	**+0.3**
PSI				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.0						
PSI				MLR	MLR		
	comp=Z,1μm,20.7s,MS4.5						
FORT	**Forrest**	**29.31**	**180**	*e*P	**P**	**07 48 51.3**	**-0.8**
	comp=Z,55nm,0.7s,mb5.4						
TSI	**Tuntungan**	**29.64**	**279**	P	**P**	**07 49 00.5**	**+5.4**
	comp=Z,95nm,0.9s,mb5.5						
KKTK	**Khon Kaen**	**30.28**	**306**	P	**P**	**07 49 02.0**	**+1.2**
	comp=Z,370nm,0.5s,mb6.4						
CBIJ	**Chichi jima**	**31.45**	**25**	P	**P**	**07 49 14.7**	**+3.7**
	comp=Z,26nm,0.6s,mb5.2,baz=276,slow=16,SNR=3.0						
CBIJ				LR	LR	08 02 08.2	
	comp=Z,454nm,18.2s,MS4.2,baz=212,slow=37						
KLBR	**Kellerberrin**	**31.59**	**197**	*e*P	**P**	**07 49 13.7**	**+1.4**
	comp=Z,16nm,0.7s,mb5.0						
NST	**Nakhon Sawan**	**32.16**	**303**	P	**P**	**07 49 18.0**	**+0.7**
MUN	**Mundaring**	**32.41**	**199**	*e*P	**P**	**07 49 21.5**	**+2.0**
SSE	**Sheshan**	**32.84**	**349**	P	**P**	**07 49 26.1**	**+2.8**
SSE				AP	pP	07 49 37.3	+3.5
SSE				XP	sP	07 49 41.6	+3.3
SSE				S	**S**	**07 54 41.0**	**+2.9**
SSE				XS	sS	07 55 00.3	+4.8
SSE				AMB	AMB		
	comp=Z,22nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,78nm,10.8s						
SSE				LR	LR		
	comp=N,287nm,24.3s,MS4.0						
SSE				LR	LR		
	comp=E,226nm,24.3s,MS4.0						
SSE				LR	LR		
	comp=Z,416nm,26.4s,MS4.0						
NWAO	**Narrogin (SRO)**	**32.99**	**196**	P	**P**	**07 49 26.4**	**+1.9**
	comp=Z,16nm,0.7s,mb5.0,baz=18,slow=8.5,SNR=9.4						
NWAO				LR	LR	08 04 32.0	
	comp=Z,626nm,19.3s,MS4.3,baz=8.6,slow=40						
NWAO	**Narrogin (SRO)**	**32.99**	**196**	*e*P	**P**	**07 49 27.1**	**+2.6**
NWAO				*e**PP	pP	07 49 38.2	+3.1
NWAO				*e**SP	sP	07 49 43.3	+3.7
NWAO				pmax	pmax		
	comp=Z,13nm,0.8s						
NWAO	**Narrogin (SRO)**	**32.99**	**196**	*e*P	**P**	**07 49 27.1**	**+2.5**
	comp=Z,13nm,0.8s,mb4.9						
NWAO				*e*pP	pP	07 49 38.2	+3.1
NWAO				*e*sP	sP	07 49 43.3	+3.7
STKA	**Stephens Creek**	**33.06**	**158**	⇑*i*	**P**	**07 49 24.2**	**-1.0**
	comp=Z,25nm,0.8s,mb5.2						
STKA				*e*S	**S**	**07 54 40.6**	**-0.9**
STKA	**Stephens Creek**	**33.06**	**158**	P	**P**	**07 49 24.4**	**-0.8**
	comp=Z,37nm,0.9s,mb5.3,baz=329,slow=9.3,SNR=59						
STKA				LR	LR	08 04 04.9	
	comp=Z,1μm,20.0s,MS4.7,baz=333,slow=38						
BSI	**Banda Aceh**	**33.19**	**282**	P	**P**	**07 49 28.5**	**+2.2**
	comp=Z,38nm,1.1s,mb5.2						
NANT	**Nan**	**33.32**	**308**	⇑P	**P**	**07 49 28.5**	**+1.0**
	comp=Z,262nm,0.5s,mb6.4						
WHN	**Wuhan**	**34.18**	**339**	⇑P	**P**	**07 49 36.0**	**+1.1**
WHN				PCP	PcP	07 52 12.0	+0.8
WHN				AMB	AMB		
	comp=Z,127nm,1.5s,mb5.6						
CHG	**Chiang Mai**	**34.73**	**307**	⇓P	**P**	**07 49 40.4**	**+0.8**
	comp=Z,62nm,1.1s,mb5.5						
CHTO	**Chiang Mai**	**34.73**	**307**	*e*P	**P**	**07 49 40.1**	**+0.5**
CHTO				*e*		07 50 57.5	
CHTO				*e*		07 52 14.3	
CHTO				pmax	pmax		
	comp=Z,80nm,1.2s,mb5.5						
CHTO	**Chiang Mai**	**34.73**	**307**	*e*P	**P**	**07 49 40.1**	**+0.4**
	comp=Z,80nm,1.2s,mb5.5						
CHTO				*e*PP	PP	07 50 57.5	-1.3
CHTO				*e*PcP	PcP	07 52 14.3	+1.5
KMI	**Kunming**	**35.79**	**319**	P	**P**	**07 49 50.5**	**+1.7**
KMI				AP	pP	07 50 04.6	+5.2
KMI				PP	PP	07 51 11.4	+0.9
KMI				S	**S**	**07 55 20.5**	**-3.1**
KMI				XS	sS	07 55 43.3	+2.2
KMI				SCS	ScS	08 00 03.0	-1.2
KMI				AMB	AMB		
	comp=Z,129nm,1.4s,mb5.7						
KMI				AMB	AMB		
	comp=Z,493nm,3.1s						
KMI				LR	LR		
	comp=N,353nm,20.2s,MS4.4						
KMI				LR	LR		
	comp=E,500nm,19.4s,MS4.4						
KMI				LR	LR		
	comp=Z,555nm,26.1s						
JHJ	**Hachijo jima 2**	**36.06**	**17**	LR	LR	08 04 50.2	
	comp=Z,566nm,18.1s,MS4.4,baz=111,slow=36						
ARMA	**Armidale**	**36.72**	**144**	*e*P	**P**	**07 49 59.8**	**+3.1**
MAJO	**Matsushiro**	**38.88**	**13**	*e*P	**P**	**07 50 15.2**	**+0.2**
MAJO				*e*		07 52 26.7	
MAJO				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.7						
MAJO	**Matsushiro**	**38.88**	**13**	*e*P	**P**	**07 50 15.2**	**+0.2**
	comp=Z,13nm,0.8s,mb4.7						
MAJO				*e*PcP	PcP	07 52 26.7	+1.3
MAT	**Matsushiro**	**38.88**	**13**	P	**P**	**07 50 14.2**	**-0.8**
MAT				S	**S**	**07 56 10.8**	**+0.3**
MAT	**Matsushiro**	**38.88**	**13**	*e*P	**P**	**07 50 14.0**	**-1.0**
MAT				*e*S	**S**	**07 56 11.0**	**+0.5**
MAT				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.7						
MAT				MLR	MLR		
	comp=Z,710nm,20.0s,MS4.5						
MAT	**Matsushiro**	**38.88**	**13**	*e*P	**P**	**07 50 14.0**	**-1.0**
	comp=Z,14nm,1.0s,mb4.7						
MAT				*e*S	**S**	**07 56 11.0**	**+0.5**
MAT				LR	LR		
	comp=Z,710nm,20.0s,MS4.5						
MJAR	**Matsushiro Arr**	**38.88**	**13**	P	**P**	**07 50 14.8**	**-0.2**
	comp=Z,14nm,0.7s,mb4.8,baz=186,slow=9.4,SNR=2.2						
MJAR				PP	PP	07 51 54.1	+10
	comp=Z,47nm,0.5s,baz=167,slow=7.7,SNR=4.1						
MJAR				PcP	PcP	07 52 26.8	+1.4
	comp=Z,26nm,0.9s,baz=205,slow=3.1,SNR=6.7						
MJAR				LR	LR	08 05 36.9	
	comp=Z,519nm,20.6s,MS4.3,baz=190,slow=35						
MJAR	**Matsushiro Arr**	**38.88**	**13**	P	**P**	**07 50 14.8**	**-0.2**
MJAR						07 51 54.1	
MJAR						07 52 26.8	
MJAR				pmax	pmax		
	comp=Z,14nm,0.7s						
MJAR				MLR	MLR		
	comp=Z,519nm,20.7s						
CNB	**Canberra Magne**	**39.32**	**152**	*e*P	**P**	**07 50 22.4**	**+3.8**
	comp=Z,56nm,1.6s,mb5.0						
TOO	**Toolangi**	**39.58**	**158**	*e*P	**P**	**07 50 24.7**	**+3.9**
	comp=Z,16nm,0.6s,mb4.9						
TOO	**Toolangi**	**39.58**	**158**	*e*P	**P**	**07 50 24.7**	**+3.9**
TOO				pmax	pmax		
	comp=Z,16nm,0.6s,mb4.9						
BJI	**Beijing**	**42.51**	**347**	*e*P	**P**	**07 50 43.8**	**-1.1**
BJI				XP	sP	07 50 57.3	-2.8
BJI				PP	PP	07 52 32.0	+8.1
BJI				SS	SS	08 00 17.3	+2.4
BJI				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.5						
BJI				LR	LR		
	comp=N,354nm,12.0s,MS4.6						
BJI				LR	LR		
	comp=E,272nm,11.4s,MS4.6						
BJI				LR	LR		
	comp=Z,291nm,22.2s						
DZM	**Mont Dzumac**	**42.85**	**122**	P	**P**	**07 50 51.3**	**+3.6**
	comp=Z,16nm,1.0s,mb4.7,baz=255,slow=6.0,SNR=7.6						
SNY	**Shenyang**	**43.11**	**355**	⇓P	**P**	**07 50 48.5**	**-1.3**
SNY				AMB	AMB		
	comp=Z,18nm,2.0s,mb4.5						
SNY				AMB	AMB		
	comp=Z,144nm,5.1s						
SNY				LR	LR		
	comp=N,376nm,20.4s,MS4.5						
SNY				LR	LR		
	comp=E,398nm,17.4s,MS4.5						
SNY				LR	LR		
	comp=Z,463nm,24.0s						
HHC	**Hu-ho-hao-te**	**44.50**	**342**	*e*P	**P**	**07 51 00.4**	**-0

comp=Z,180nm,8.8s
HHC LR LR
comp=N,301nm,11.2s,MS4.7
HHC LR LR
comp=E,481nm,15.7s,MS4.7
HHC LR LR
comp=Z,355nm,16.1s,MS4.4
MDJ Mudanjiang 45.75 2 P **P** 07 51 11.3 +0.4
MDJ AP pP 07 51 19.5 -2.2
MDJ XP sP 07 51 23.9 -2.2
MDJ PCP PcP 07 52 49.1 +0.9
MDJ PP PP 07 52 58.1 -0.3
MDJ XS sS 07 58 08.0 -1.7
MDJ SS SS 08 01 17.6 +1.2
MDJ AMB AMB
comp=Z,16nm,0.8s,mb5.0
MDJ AMB AMB
comp=Z,154nm,6.2s
MDJ LR LR
comp=N,414nm,20.4s,MS4.4
MDJ LR LR
comp=E,163nm,17.0s,MS4.4
MDJ LR LR
comp=Z,536nm,22.1s
MDJ Mudanjiang 45.75 2 *e*P **P** 07 51 11.1 +0.2
comp=Z,20nm,1.0s,mb5.0
LSA Lhasa 46.66 314 P **P** 07 51 20.3 +2.3
LSA AMB AMB
comp=Z,180nm,1.0s,mb6.0
LSA Lhasa 46.66 314 *e*P **P** 07 51 19.7 +1.7
LSA pmax pmax
comp=Z,174nm,0.8s,mb6.0
LSA Lhasa 46.66 314 *e*P **P** 07 51 19.7 +1.7
comp=Z,174nm,0.8s,mb6.0
ASAJ Asahikawa 47.12 15 LR LR 08 10 50.0
comp=Z,455nm,20.4s,MS4.4,baz=183,slow=36
VIS Vishakhapatnam 47.72 295 *e*P **P** 07 51 27.5 +1.2
VIS AMb AMB 07 51 30.5
comp=Z,135nm,1.5s,mb5.8
BOK Bokaro 47.78 304 *e*P **P** 07 51 28.0 +1.3
BOK AMb AMB 07 51 30.0
comp=Z,101nm,1.1s,mb5.8
BOK *ex* x 07 56 26.7
PALK Pallekele 47.78 281 *e*P **P** 07 51 27.0 +0.2
comp=Z,58nm,1.3s,mb5.5
JIRN Jiri 49.29 309 *e*P **P** 07 51 39.6 +1.2
comp=Z,404nm,1.0s,mb6.4
GUN Gumba 49.65 309 *e*P **P** 07 51 42.2 +1.1
comp=Z,259nm,0.7s,mb6.4
YSS Yuzh-Sakhalins 49.82 13 *e*P **P** 07 51 44.0 +1.6
YSS pmax pmax
comp=Z,60nm,1.4s,mb5.4
YSS Yuzh-Sakhalins 49.82 13 *i* P **P** 07 51 44.0 +1.6
PKI Pulchoki 49.86 308 *e*P **P** 07 51 43.3 +0.6
HABR Khabarovsk 49.98 6 *e*P **P** 07 51 44.1 +0.5
HABR *e*S **S** 07 58 55.8 +4.1
HABR pmax pmax
comp=Z,54nm,1.4s,mb5.4
KKN Kakani 50.06 309 *e*P **P** 07 51 45.0 +0.8
comp=Z,386nm,1.2s,mb6.3
KKN Kakani 50.06 309 *e*P **P** 07 51 45.0 +0.8
KKN pmax pmax
comp=Z,386nm,1.2s,mb6.3
DMN Daman 50.11 308 *e*P **P** 07 51 45.5 +0.9
comp=Z,464nm,1.1s,mb6.4
KLR Kul'dur 50.46 3 *e*P **P** 07 51 43.2 -4.0
KLR *e* 07 53 02.0
GKN Gorkha 50.66 309 *e*P **P** 07 51 49.4 +0.6
comp=Z,364nm,1.0s,mb6.2
KOLN Koldanda 51.37 308 *e*P **P** 07 51 55.2 +1.1
comp=Z,686nm,1.0s
TRD Trivandrum 51.63 282 *e*P **P** 07 51 56.6 +0.6
TRD AMb AMB 07 51 60.0
comp=Z,128nm,1.4s,mb5.7
HYB Hyderabad 51.98 293 *i* P **P** 07 51 59.0 +0.4
HYB *e* pP 07 52 08.5 -1.1
HYB *e*S **S** 07 59 20.0 +0.7
ULN Ulaanbaatar 52.22 342 *e*P **P** 07 51 59.9 -0.5
ULN *e* 07 53 12.2
ULN pmax pmax
comp=Z,17nm,0.9s,mb5.0
ULN Ulaanbaatar 52.22 342 *e*P **P** 07 51 59.9 -0.6
comp=Z,17nm,0.9s,mb5.0
ULN *e*PcP PcP 07 53 12.2 +0.6
SONM Songino Array 52.40 342 P **P** 07 52 00.3 -1.4
comp=Z,3.8nm,0.7s,mb4.4,baz=160,slow=7.5,SNR=26
SONM PcP PcP 07 53 12.2 -0.1
comp=Z,6.5nm,0.8s,baz=150,slow=6.1,SNR=4.4
SONM LR LR 08 15 45.0
comp=Z,236nm,19.9s,MS4.2,baz=279,slow=38
SONM Songino Array 52.40 342 P **P** 07 52 00.3 -1.4
SONM 07 53 12.2
SONM pmax pmax
comp=Z,4.0nm,0.7s
SONM MLR MLR
comp=Z,236nm,19.9s
MNGI Mangalore 54.45 287 *e*P **P** 07 52 16.8 0.0
MNGI AMb AMB 07 52 18.8
comp=Z,77nm,1.3s,mb5.5
CIT Chita 54.49 349 *e*P **P** 07 52 16.1 -1.0
CIT *e* 07 52 34.0
CIT *e* 07 53 15.8
CIT pmax pmax
comp=Z,44nm,1.8s,mb5.1
BHPL Bhopal 54.75 300 *e*P **P** 07 52 18.9 -0.1
BHPL *ex* x 08 06 54.2
BHPL AMb AMB 08 06 55.0
LGTI Lohaghat 54.76 308 *i* P **P** 07 52 17.0 -2.0
ZAK Zakamensk 55.62 341 *e*P **P** 07 52 24.1 -1.1
GOA Goa 55.91 290 *e*P **P** 07 52 28.0 +0.6
KAD Karad 55.99 292 *e*P **P** 07 52 27.1 -0.8
POO Poona 56.59 293↓ *i*P **P** 07 52 30.0 -2.2
comp=Z,50nm,1.0s,mb5.5
POO AMb AMB 07 53 07.9
comp=Z,59nm,1.0s,mb5.6
TLY Talaya 56.63 342 *e*P **P** 07 52 32.3 -0.2
TLY pmax pmax
comp=Z,20nm,1.3s,mb5.0
TLY Talaya 56.63 342 *e*P **P** 07 52 32.2 -0.2
comp=Z,18nm,1.1s,mb5.0
TLY *e*pP pP 07 52 41.1 -2.4
TLY *e*sP sP 07 52 46.4 -1.6
TLY *e*PP PP 07 54 37.8 -0.8
SONA Sohna 56.81 305 *e*P **P** 07 52 32.9 -0.8
DDI Dehra Dun 56.85 308 *e*P **P** 07 52 33.0 -1.0
AYAN Aya Nagar 56.87 306 *e*P **P** 07 52 33.2 -0.9
NDI New Delhi 56.87 306 *e*P **P** 07 52 32.0 -2.2
NDI *e*P 07 52 33.1
NDI AMb AMB 07 52 35.0
comp=Z,103nm,1.3s,mb5.7
NDI *ex* x 08 00 24.0
RPZ Rata Peaks 57.05 144 P **P** 07 52 38.4 +3.0
comp=Z,28nm,1.0s,mb5.3,baz=321,slow=4.7,SNR=3.7
KLP Kalpa 57.20 309 *e*P **P** 07 52 36.7 +0.2
KUDL Kundal 57.26 305 *e*P **P** 07 52 35.5 -1.5
MOY Mondy 57.47 341 *e*P **P** 07 52 38.0 -0.4
MOY pmax pmax
comp=Z,58nm,1.9s,mb5.3
BOM Bombay 57.63 293 *e*P **P** 07 52 39.5 0.0
RTK Rohtak 57.65 306 *e*P **P** 07 52 39.0 -0.7
KKR Kurukshetra 57.68 307 *e*P **P** 07 52 40.0 +0.1
KHET Khetri 57.79 305 *e*P **P** 07 52 39.8 -0.9
SMLA Simla 57.88 308 *e*P **P** 07 52 39.9 -1.4
AJM Ajmer 58.21 302 *i* P **P** 07 52 43.0 -0.6
DLH Dalhousie 59.38 309 *e*P **P** 07 52 49.0 -2.8
PET Petropavlovsk 59.97 21*d* *i*P **P** 07 52 56.9 +1.1
PET *e*S **S** 08 01 08.0 +2.5
PET pmax pmax
comp=Z,38nm,2.0s,mb5.1
PET MLR MLR
comp=Z,200nm,19.0s,MS4.3
BOD Bodaibo 59.98 352 *e*P **P** 07 52 54.4 -1.4
BOD *e* 07 53 38.8
BOD pmax pmax
comp=Z,10.0nm,1.5s,mb4.6
MKAR Makanchi Array 62.32 326 P **P** 07 53 11.1 -0.6
comp=Z,45nm,0.7s,mb5.7,baz=126,slow=7.9,SNR=345
MKAR Makanchi Array 62.32 326 P **P** 07 53 11.1 -0.6
MKAR pmax pmax
comp=Z,45nm,0.7s
KSH Kashi 62.40 317 *i* PR **P** 07 53 13.0 +0.7
KSH *e*AP pP 07 53 23.3 -0.2
KSH *e*XP sP 07 53 26.1 -1.7
KSH *e*PCP PcP 07 53 53.3 +1.8
KSH *e*PP PP 07 55 31.1 +1.3
KSH *e*SCP ScP 07 57 50.3 -0.3
KSH *e*PCS PcS 07 57 53.0 -1.8
KSH *e*S **S** **08 01 32.8 -3.7**
KSH *e*PS 08 01 53.3
KSH *e*SCS ScS 08 02 57.3 -4.3
KSH AMB AMB
comp=Z,276nm,1.6s,mb6.1
KSH LR LR
comp=N,174nm,5.3s
KSH LR LR
comp=E,209nm,5.2s
KSH LR LR
comp=Z,199nm,10.4s,MS4.6
YAK Yakutsk 63.19 1*d* *i*P **P** **07 53 17.1 -0.4**
YAK *e* 07 53 54.5
YAK *e*S **S** **08 01 45.4 -0.9**
YAK *e**SS sS 08 02 19.1 +14
YAK pmax pmax
comp=Z,64nm,1.0s,mb5.7
YAK pmax pmax
comp=N,17nm,1.2s
YAK pmax pmax
comp=E,8.0nm,1.3s
YAK smax
comp=N,2.0nm,0.5s
YAK smax
comp=Z,3.0nm,0.5s
YAK smax
comp=E,2.0nm,0.7s
YAK Yakutsk 63.19 1 *e*P **P** **07 53 17.3 -0.2**
comp=E,63nm,0.8s,mb5.8
ULHL Ulahol 63.51 319 P **P** **07 53 20.0 +0.3**
SNR=7.7
KZA Kyzart 64.08 319 P **P** **07 53 24.5 +1.1**
SNR=88
TKM2 Tokmak 2 64.26 320 P **P** **07 53 24.8 +0.2**
SNR=35
KBK Karagaybulak 64.55 319 P **P** **07 53 26.5 0.0**
SNR=17
UCH Uchtor 64.64 319 P **P** **07 53 28.0 +1.0**
SNR=76
AAK Ala-Archa 64.84 319 P **P** **07 53 27.6 -0.7**
comp=E,234nm,1.1s,mb6.1,SNR=28
AAK Ala-Archa 64.84 319 *i* Pr **P** **07 53 27.6 -0.7**
CHMS Chumysh 64.84 320 P **P** **07 53 28.1 -0.2**
SNR=14
FRU Bishkek 64.85 319 *e*P **P** **07 53 29.0 +0.6**
FRU *e* 07 53 58.0
FRU pmax pmax
comp=Z,60nm,2.0s,mb5.3
USP Ospenovka 65.13 320 P **P** **07 53 30.1 -0.1**
SNR=125
AML Almayashu 65.13 318 P **P** **07 53 31.0 +0.7**
SNR=99
EKS2 Erkin-Say 65.32 319 P **P** **07 53 31.8 +0.4**
SNR=58
ZAL Zalesovo 65.56 334 P **P** **07 53 30.6 -2.4**
comp=Z,10nm,0.9s,mb4.8,baz=358,slow=6.8,SNR=52
ZAL Zalesovo 65.56 334 P **P** **07 53 30.6 -2.4**
ZAL pmax pmax
comp=Z,10.0nm,0.9s
CASY Casey 65.99 188 *e*P **P** **07 53 36.1 +0.3**
KURK Kurchatov 66.57 328 P **P** **07 53 38.9 -0.6**
comp=Z,874nm,0.9s
KURK Kurchatov 66.57 328 *e*P **P** **07 53 38.7 -0.8**
KURK pmax pmax
comp=Z,149nm,0.9s,mb6.0
KURK Kurchatov 66.57 328 *e*P **P** **07 53 38.7 -0.8**
comp=Z,149nm,0.9s,mb6.0
NVS Novosibirsk 66.84 334↓ *i*P **P** **07 53 38.1 -3.1**
NVS *e**PP pP 07 53 53.6 +1.1
NVS *e*S S 08 02 24.6 -6.6
NVS pmax pmax
comp=N,45nm,1.4s
NVS pmax pmax
comp=E,50nm,1.4s
NVS pmax pmax
comp=Z,76nm,1.4s,mb5.5
NVS smax
comp=N,27nm,2.0s
NVS smax
comp=E,40nm,2.0s
KK31 Karatay Array 67.67 318 *i* P **P** **07 53 45.5 -1.0**
MIR Mirnyy 69.56 194 *e*P **P** **07 53 59.0 +0.8**
MIR pmax pmax
comp=Z,36nm,1.5s,mb5.1
MIR Mirnyy 69.56 194 *e*P **P** **07 53 59.0 +0.8**
MIR pmax pmax
comp=Z,360nm,1.5s,mb6.1
WSAR Wadi Sarin 71.48 295 LR LR 08 25 36.6
comp=Z,178nm,22.0s,MS4.3,baz=344,slow=36
BRVK Borovoye 72.20 328 P **P** **07 54 13.9 -0.4**
comp=Z,508nm,1.0s,mb6.4,SNR=31
BRVK Borovoye 72.20 328 *e*P **P** **07 54 13.3 -1.0**
BRVK pmax pmax
comp=Z,51nm,0.9s,mb5.5
BRVK Borovoye 72.20 328 *e*P **P** **07 54 13.3 -1.0**
comp=Z,51nm,0.9s,mb5.5
TIXI Tiksi 72.84 0 *e*P **P** **07 54 15.0 -3.1**
TIXI *e* 07 54 31.1
TIXI *e* 07 56 56.1
TIXI *e*SSS 08 11 23.5
TIXI pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
TIXI MLR MLR
comp=Z,567nm,19.0s,MS4.9
TIXI Tiksi 72.84 0 *i* P **P** **07 54 16.8 -1.3**
ZRNK Zerenda 72.84 327 *e*P **P** **07 54 17.1 -1.0**
ZRNK pmax pmax
comp=Z,85nm,0.9s,mb5.7
ZRNK Zerenda 72.84 327 *e*P **P** **07 54 17.1 -1.0**
comp=Z,85nm,0.9s,mb5.7
BILL Bilibino 74.13 14 *i* P **P** **07 54 25.4 -0.3**
BILL pmax pmax
comp=Z,32nm,2.6s,mb4.8
ABKT Ailbek 74.92 310 P **P** **07 54 30.9 +0.6**
comp=Z,162nm,1.1s,mb5.9,SNR=11
AKTO Aktyubinsk 78.28 322 *i* P **P** **07 54 47.6 -1.7**
AKTO pmax pmax
comp=Z,24nm,1.1s,mb5.0
VNDA Vanda 78.32 173 P **P** **07 54 49.7 +0.2**
comp=Z,6.8nm,0.8s,mb4.7,baz=310,slow=6.7,SNR=28
VNDA Vanda 78.32 173 P **P** **07 54 49.7 +0.2**
VNDA pmax pmax
comp=Z,7.0nm,0.8s
VNDA Vanda 78.32 173 *e*P **P** **07 54 49.7 +0.2**
comp=Z,9.3nm,0.9s,mb4.7
MAW Mawson 79.45 201 *e*P **P** **07 54 58.4 +2.7**
comp=Z,4.2nm,0.6s,mb4.5
MAW Mawson 79.45 201 P **P** **07 54 55.5 -0.2**
comp=Z,5.1nm,0.8s,mb4.5,baz=49,slow=8.4,SNR=4.1
MAW Mawson 79.45 201 *e*P **P** **07 54 58.4 +2.7**
MAW pmax pmax
comp=Z,4.0nm,0.6s
ARU Arti 79.76 328 P **P** **07 54 55.8 -1.6**
comp=Z,297nm,0.9s,mb6.2,SNR=11
ARU Arti 79.76 328↑ *i*P **P** **07 54 55.5 -1.9**
ARU *e* 07 57 57.2
ARU *e*PPP 07 59 42.5
ARU *e*S S 08 04 57.4 -0.1
ARU *e*SS SS 08 10 03.8 -2.9
ARU pmax pmax
comp=Z,46nm,0.9s,mb5.4
ARU Arti 79.76 328 *e*P **P** **07 54 55.8 -1.6**
comp=Z,38nm,0.9s,mb5.3
SDPT Sand Point 80.75 33 *e*P **P** **07 55 01.2 -1.5**
CHGN Chignik 82.13 33 *e*P **P** **07 55 10.7 +0.7**
PPT Papeete 82.55 107 *e*LR LR 08 21 13.9
comp=Z,320nm,23.5s
PPT Papeete 82.55 107 LR LR 08 25 27.6
comp=Z,222nm,19.4s,MS4.5,baz=107,slow=31
TBI Tubuai 82.79 113 *e*LR LR 08 21 22.3
comp=Z,288nm,31.8s
SVW2 Sparrevohn 84.68 28 *e*P **P** **07 55 24.7 +1.6**
TTA Tatalina 84.88 26 *e*P **P** **07 55 25.3 +1.2**
KDAK Kodiak Island 85.55 32 P **P** **07 55 28.9 +1.4**
comp=Z,220nm,1.1s,mb6.3,SNR=5.2
KDAK Kodiak Island 85.55 32 P **P** **07 55 28.6 +1.2**
comp=Z,23nm,0.9s,mb5.4,baz=141,slow=2.2,SNR=11
ZEI Tsey 86.42 313 *i* P **P** **07 55 31.1 -0.7**
ZEI *e**PP pP 07 55 41.0 -2.4
ZEI *e* 07 58 55.0
ZEI pmax pmax
comp=Z,24nm,1.4s,mb5.2
SLKM Skilak Lake 87.16 29 *e*P **P** **07 55 35.7 +0.3**
KIV Kislovodsk 87.40 314 *e*P **P** **07 55 37.1 +0.6**
KIV *e* 07 59 00.7
KIV *e* 08 06 01.7
KIV pmax pmax
comp=Z,3.0nm,0.5s,mb4.8
PMR Palmer 87.82 28 *e*P **P** **07 55 38.6 0.0**
PMR pmax pmax
comp=Z,21nm,1.2s,mb5.2
PMR Palmer 87.82 28 *e*P **P** **07 55 38.6 0.0**
comp=Z,20nm,1.2s,mb5.2
SYO Syowa Base 88.15 201↑ *e*P **P** **07 55 41.6 +1.5**
SYO Syowa Base 88.15 201↓ *e*pP pP 07 55 52.5 +0.7
QSPA South Pole Qui 88.63 180 *e*P **P** **07 55 42.9 +0.5**
comp=Z,36nm,1.0s,mb5.7
COLA College 88.76 25 *i* P **P** **07 55 41.6 -1.4**
ILAR Eielson Array 89.16 25 P **P** **07 55 44.3 -0.6**
comp=Z,4.2nm,0.9s,mb4.8,baz=229,slow=5.8,SNR=29
ILAR PP PP 07 59 13.9 -1.4
comp=Z,2.2nm,1.2s,baz=258,slow=7.6,SNR=4.8
ILAR Eielson Array 89.16 25 P **P** **07 55 44.3 -0.6**
ILAR 07 59 13.9
ILAR pmax pmax
comp=Z,4.0nm,0.9s
VOR Voronezh 90.17 322 P **P** **07 55 47.0 -2.6**
VOR pmax pmax
comp=Z,350nm,1.6s,mb6.4
MENT Mentasta 90.45 27 *e*P **P** **07 55 51.6 +0.7**
KMBO Kilima Mbogo 90.55 269 P **P** **07 55 52.2 +0.9**
comp=Z,1.5nm,0.4s,mb4.6,baz=56,slow=20,SNR=6.5
KMBO Kilima Mbogo 90.55 269 P **P** **07 55 52.2 +0.8**
KMBO pmax pmax
comp=Z,2.0nm,0.4s
KMBO Kilima Mbogo 90.55 269 P **P** **07 55 52.2 +0.8**
OBN Obninsk 91.79 325↑ *e*P **P** **07 55 55.3 -1.8**
OBN *e* 08 06 25.3
OBN *e*SS SS 08 13 03.8 +0.5
OBN pmax pmax
comp=Z,25nm,0.9s,mb5.5
OBN MLR MLR
comp=Z,400nm,22.0s,MS4.8
OBN Obninsk 91.79 325↑ *e*P **P** **07 55 55.4 -1.7**
OBN LR LR
comp=Z,400nm,22.0s,MS4.8
DAWY Dawson 92.39 26 *e*P **P** **07 56 00.5 +0.6**
BRTR Keskin Array B 94.06 310 P **P** **07 56 06.2 -1.4**
comp=Z,1.1nm,0.8s,mb4.3,baz=119,slow=4.0,SNR=6.2
BRTR PP PP 07 59 51.2 -2.8
comp=Z,1.8nm,0.9s,baz=106,slow=11,SNR=4.5
BRTR Keskin Array B 94.06 310 P **P** **07 56 06.2 -1.4**
BRTR 07 59 51.3
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR pmax pmax
comp=Z,2.0nm,0.9s
INK Inuvik 94.42 22 *e*P **P** **07 56 08.6 -0.6**
INK pmax pmax
comp=Z,40nm,1.4s
INK Inuvik 94.42 22 *e*P **P** **07 56 08.6 -0.7**
comp=Z,40nm,1.4s,mb5.7
SKAG Skagway 94.61 31 *e*P **P** **07 56 11.6 +1.5**
comp=Z,46nm,2.0s,mb5.6
ARCES ARCESS Array B 95.53 340 P **P** **07 56 12.2 -2.1**
comp=Z,5.8nm,0.8s,mb5.1,baz=89,slow=6.1,SNR=11
ARCES ARCESS Array B 95.53 340 P **P** **07 56 12.2 -2.1**
ARCES pmax pmax
comp=Z,6.0nm,0.8s
AKASG Malin Array Be 96.47 321 P **P** **07 56 16.1 -2.4**
comp=Z,0.2nm,0.2s,baz=72,slow=4.7,SNR=4.8
AKASG PP PP 08 00 05.1 -7.6
comp=Z,0.2nm,0.3s,baz=70,slow=6.7,SNR=4.4
FINES FINESS Array B 96.76 332 P **P** **07 56 17.4 -2.5**
comp=Z,0.6nm,0.4s,mb4.3,baz=84,slow=7.9,SNR=6.6
FINES FINESS Array B 96.76 332 P **P** **07 56 17.4 -2.5**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 96.76 332 P **P** **07 56 17.4 -2.5**
MLR Muntele Rosu 99.26 316 PP PP 08 00 38.2 +4.0
baz=45,slow=6.5
YKA Yellowknife Ar 103.59 25 Pdiff Pdif 07 56 50.4 0.0
comp=Z,0.6nm,0.8s,baz=295,slow=4.3,SNR=8.7
YKA PKiKP PKiKP 08 01 12.6 +3.9
comp=Z,0.4nm,0.5s,baz=295,slow=1.7,SNR=6.8
YKA PKKPbc PKKPbc 08 12 43.6 +1.0
comp=Z,0.5nm,0.8s,baz=113,slow=2.4,SNR=5.2
YKA Yellowknife Ar 103.59 25 P Pdif 07 56 50.4 0.0
YKA *i* 08 01 12.6
YKA pmax pmax
comp=Z,1.0nm,0.8s
OKC Ostrava-Krasne 103.61 321 AMS AMS 08 36 30.0
comp=Z,300nm,18.0s
NOA NORSAR Array B 103.76 333 Pdiff Pdif 07 56 48.6 -2.5
comp=Z,1.6nm,0.9s,baz=76,slow=4.1,SNR=3.6
NOA PKiKP PKiKP 08 01 08.9 -0.1
comp=Z,1.9nm,0.9s,baz=195,slow=1.7,SNR=3.3
NOA NORSAR Array B 103.76 333 P Pdif 07 56 48.6 -2.5
NOA *i* 08 01 08.9
NOA pmax pmax
comp=Z,2.0nm,0.9s
DPC Dobruska-Polom 104.61 322 *e*PKP PKiKP 08 01 11.9 +1.3
DPC AMS AMS 08 32 30.0
comp=Z,400nm,17.0s
UPC Upice 104.76 322 *e*PP PP 08 01 18.2 +2.7
PRU Pruhonice 105.81 322 *ex* x 08 01 02.2
PRU *e*PKP PKiKP 08 01 13.5 +0.7
PRU AMS AMS 08 35 00.0
comp=Z,400nm,19.1s
BRG Berggiesshubel 105.91 323 *e*P Pdif 07 57 00.0 -0.7
comp=Z,3.8nm,1.4s
BRG *e* 08 01 41.0
BRG
comp=N,45nm,17.9s
BRG
comp=E,202nm,18.9s
BRG
comp=Z,281nm,16.5s
BRG Berggiesshubel 105.91 323 *e*P Pdif 07 57 00.0 -0.7
BRG pmax pmax
comp=Z,40nm,1.4s
BRG MLR MLR
comp=N,450nm,17.9s,MS5.1
BRG MLR MLR
comp=E,202nm,18.9s,MS5.1
BRG MLR MLR
comp=Z,281nm,16.5s,MS4.9
CLL Collm 106.33 324 *e*PP PP 08 01 28.0 +0.9
KHC Kasperske Hory 106.67 321 *e*PKP PKiKP 08 01 15.0 +0.6
KHC *e*PP PP 08 01 32.2 +2.6
KHC AMS AMS 08 30 00.0
comp=Z,500nm,16.6s
GERES GERESS Array B 106.68 321 PKiKP PKiKP 08 01 13.8 -0.6
comp=Z,0.6nm,0.7s,baz=87,slow=2.8,SNR=5.8
GERES PKKPbc PKKPbc 08 12 37.6 +4.4
comp=Z,0.5nm,0.9s,baz=228,slow=1.6,SNR=4.1
NKC Novy Kostel 107.02 323 *e*PKP PKiKP 08 01 12.3 -2.7
NKC AMS AMS 08 33 00.0
comp=Z,500nm,20.4s
NEW Newport 107.44 39 PKiKP PKiKP 08 01 17.3 +1.4
comp=Z,2.7nm,1.1s,baz=315,slow=3.7,SNR=3.3
NEW Newport 107.44 39 PKPdf PKiKP 08 01 17.3 +1.4
NVAR Mina Array Bea 109.38 50 PKiKP PKiKP 08 01 21.4 +1.9
comp=Z,0.6nm,0.7s,baz=240,slow=0.6,SNR=5.5
DAVOX Davos 109.79 320 PKiKP PKiKP 08 01 21.3 +1.0
comp=Z,3.8nm,0.8s,baz=320,slow=4.1,SNR=5.0
HLID Hailey 110.74 43 *e*PKPdf PKiKP 08 01 24.7 +2.7
CDF Champ du Feu 110.83 322 *e*PKIKP PKiKP 08 01 20.9 -1.3
HINF Hinteralfeld 111.32 322 *e*PKIKP PKiKP 08 01 22.6 -0.5
comp=Z,13nm,1.2s
MCMT McKenzie Canyo 111.37 42 *e*PKPdf PKiKP 08 01 25.2 +2.0
HAU Haudompre 111.56 322 *e*PKIKP PKiKP 08 01 23.2 -0.4
GIVF Givet 111.60 324 *e*PKIKP PKiKP 08 01 23.9 +0.3
BAIF Baives 111.97 325 *e*PKIKP PKiKP 08 01 24.6 +0.2
comp=Z,9.2nm,1.1s
CABF La Chapelle 112.28 321 *e*PKIKP PKiKP 08 01 25.4 +0.5
comp=Z,15nm,1.1s
LPG La Plagne 112.28 319 *e*PKIKP PKiKP 08 01 25.5 +0.6
comp=Z,7.8nm,1.0s
LPL La Plagne 112.28 319 *e*PKIKP PKiKP 08 01 25.3 +0.3
comp=Z,7.1nm,1.0s
DCID1 Drake Creek 112.93 43 *e*PKPdf PKiKP 08 01 28.3 +2.1
DUG Dugway 112.96 46 *e*PKIKP PKiKP 08 01 27.6 +1.4
IMW Indian Meadow 112.98 42 *e*PKPdf PKiKP 08 01 28.7 +2.4
ORIF Oris-en-Rattie 113.07 319 *e*PKIKP PKiKP 08 01 26.4 0.0
comp=Z,6.2nm,0.8s
FRF La Foret Royal 113.07 317 *e*PKIKP PKiKP 08 01 26.5 0.0
comp=Z,29nm,1.3s
GCMT Greycliff 113.09 40 *e*PKPdf PKiKP 08 01 29.2 +2.7

TPAW	**Teton Pass**	**113.12**	**43**	*e*PKPdf	PKiKP	08 01 29.0	+2.5
EKA	**Eskdalemuir Ar**	**113.16**	**332**	PKiKP	PKiKP	08 01 27.4	+0.8
	comp=Z,4.5nm,1.1s,baz=40,slow=1.4,SNR=7.0						
EKA				PKKPbc	PKKPbc	08 12 14.4	+2.1
	comp=Z,1.3nm,1.0s,baz=237,slow=5.2,SNR=3.8						
EKA	**Eskdalemuir Ar**	**113.16**	**332**	*i* PKiKP	PKiKP	08 01 27.4	+0.8
EKA				pmax	pmax		
	comp=Z,50nm,1.1s						
REDW	**Red Top Meadow**	**113.24**	**43**	*e*PKPdf	PKiKP	08 01 29.2	+2.4
LOR	**Lormes**	**113.40**	**322**	*e*PKIKP	PKiKP	08 01 27.0	-0.1
	comp=Z,24nm,1.5s						
SMF	**Signal de Mont**	**113.67**	**321**	*e*PKIKP	PKiKP	08 01 27.5	-0.1
	comp=Z,16nm,1.2s						
SSF	**Saint Saulge**	**113.70**	**322**	*e*PKIKP	PKiKP	08 01 27.8	+0.1
	comp=Z,16nm,1.1s						
MPU	**Maple Canyon**	**113.87**	**46**	*e*PKPdf	PKiKP	08 01 26.0	-2.0
VIVF	**Saint-Julien-l**	**113.88**	**319**	*e*PKIKP	PKiKP	08 01 28.1	+0.1
	comp=Z,14nm,1.2s						
AVF	**Avril sur Loir**	**113.92**	**322**	*e*PKIKP	PKiKP	08 01 27.9	-0.2
	comp=Z,12nm,1.3s						
MSU	**Marysvale**	**113.97**	**48**	*e*PKIKP	PKiKP	08 01 31.2	+3.0
DAU	**Daniels Canyon**	**114.01**	**46**	*e*PKIKP	PKiKP	08 01 29.5	+1.3
BGF	**Bois d'Agland**	**114.33**	**322**	*e*PKIKP	PKiKP	08 01 29.1	+0.2
PDAR	**Pinedale Array**	**114.34**	**43**	PKP	PKiKP	08 01 30.6	+1.7
	comp=Z,2.2nm,1.0s,baz=222,slow=2.0,SNR=18						
PDAR				PKKPbc	PKKPbc	08 12 11.2	+3.0
	comp=Z,0.6nm,0.9s,baz=130,slow=4.6,SNR=3.9						
LASF	**Ste Croix**	**114.73**	**319**	*e*PKIKP	PKiKP	08 01 29.8	+0.2
	comp=Z,35nm,1.4s						
TCF	**Toulx Ste Croi**	**114.84**	**322**	*e*PKIKP	PKiKP	08 01 30.1	+0.3
	comp=Z,28nm,1.2s						
LDF	**La Druitiere**	**115.16**	**325**	*e*PKIKP	PKiKP	08 01 30.8	+0.3
	comp=Z,55nm,1.8s						
CAF	**Calviac**	**115.54**	**320**	*e*PKIKP	PKPdf	08 01 31.7	+0.5
	comp=Z,21nm,1.2s						
GRR	**Gorron**	**115.69**	**325**	*e*PKIKP	PKPdf	08 01 31.2	-0.3
RJF	**Les Rejaudoux**	**115.72**	**321**	*e*PKIKP	PKPdf	08 01 31.9	+0.4
	comp=Z,19nm,1.3s						
MTLF	**Montolieu**	**116.12**	**319**	*e*PKIKP	PKPdf	08 01 32.3	0.0
	comp=Z,25nm,1.2s						
MFF	**Saint Martin d**	**116.14**	**323**	*e*PKIKP	PKPdf	08 01 32.3	0.0
	comp=Z,27nm,1.2s						
RWWY	**Rawlins**	**116.37**	**43**	*e*PKPdf	PKPdf	08 01 33.4	+0.6
LFF	**La Frestale**	**116.37**	**321**	*e*PKIKP	PKPdf	08 01 33.3	+0.5
	comp=Z,24nm,1.1s						
SGMF	**Saint Gilles**	**116.73**	**325**	*e*PKIKP	PKPdf	08 01 33.2	-0.3
	comp=Z,25nm,1.2s						
PV01	**Paradox Valley**	**116.76**	**47**	*e*PKPdf	PKPdf	08 01 35.6	+2.1
PV01				*e*PP	PP	08 02 36.1	-5.8
ROSF	**Rostrenen**	**117.10**	**326**	*e*PKIKP	PKPdf	08 01 34.0	-0.2
	comp=Z,39nm,1.4s						
MVCO	**Mesa Verde**	**117.14**	**48**	*e*PKPdf	PKPdf	08 01 37.3	+3.0
RSSD	**Black Hills**	**117.41**	**40**	*e*PKIKP	PKPdf	08 01 35.4	+0.6
EPF	**Esparros**	**117.49**	**319**	*e*PKIKP	PKPdf	08 01 35.2	+0.3
	comp=Z,21nm,1.2s						
ETSF	**Etsaut**	**118.14**	**319**	*e*PKIKP	PKPdf	08 01 37.1	+0.9
	comp=Z,40nm,1.4s						
ISCO	**Idaho Springs**	**118.25**	**45**	*e*PKIKP	PKPdf	08 01 38.6	+2.2
ULM	**Lac du Bonnet**	**118.78**	**30**	PKP	PKPdf	08 01 37.1	-0.3
	comp=Z,5.0nm,0.9s,baz=289,slow=3.1,SNR=8.2						
LAZ	**Ladron**	**119.15**	**51**	*e*PKPdf	PKPdf	08 01 40.9	+2.8
ANMO	**Albuquerque**	**119.49**	**50**	PKP	PKPdf	08 01 41.0	+2.2
	comp=Z,7.8nm,1.0s,baz=203,slow=2.7,SNR=14						
ANMO	**Albuquerque**	**119.49**	**50**	*e*PKPdf	PKPdf	08 01 40.1	+1.3
LPM	**Los Pinos Moun**	**119.59**	**51**	*e*PKPdf	PKPdf	08 01 41.7	+2.8
BNM	**Barren Site**	**119.65**	**51**	*e*PKPdf	PKPdf	08 01 41.9	+2.8
MNTX	**Cornudas Mount**	**121.48**	**53**	*e*PKPdf	PKPdf	08 01 44.8	+2.2
ESDC	**Sonseca Array**	**121.92**	**317**	PKP	PKPdf	08 01 44.2	+0.8
	comp=Z,0.8nm,0.7s,baz=27,slow=2.4,SNR=13						
ESDC				PP	PP	08 03 17.2	-0.2
	comp=Z,1.3nm,0.8s,baz=59,slow=7.0,SNR=8.9						
PVRL	**Vila Real**	**123.56**	**321**	*e*PKPdf	PKPdf	08 01 48.0	+1.4
MTE	**Manteigas**	**123.92**	**320**	*e*PKPdf	PKPdf	08 01 48.9	+1.6
MTE	**Manteigas**	**123.92**	**320**	*e*PKPdf	PKPdf	08 01 48.7	+1.4
PCBR	**Castelo Branco**	**124.17**	**319**	*e*PKPdf	PKPdf	08 01 48.8	+1.0
KSU1	**Kansas State U**	**124.73**	**42**	*e*PKPdf	PKPdf	08 01 50.3	+1.4
PTOM	**Tomar**	**124.90**	**319**	*e*PKPdf	PKPdf	08 01 50.2	+1.0
SCHQ	**Schefferville**	**125.32**	**10**	PKP	PKPdf	08 01 51.0	+1.0
	comp=Z,13nm,1.0s,baz=13,slow=4.2,SNR=12						
SCHQ	**Schefferville**	**125.32**	**10**	*e*PKPdf	PKPdf	08 01 49.7	-0.3
PBEJ	**Beja**	**125.38**	**317**	*e*PKPdf	PKPdf	08 01 51.6	+1.5
TORD	**Torodi Ar. Bea**	**125.41**	**285**	PKP	PKPdf	08 01 51.4	+1.2
	comp=Z,13nm,1.0s,baz=49,slow=1.5,SNR=32						
TORD				PP	PP	08 03 46.3	+5.4
	comp=Z,3.2nm,1.2s,baz=98,slow=6.1,SNR=4.4						
TORD				PKKPbc		08 11 31.2	
	comp=Z,1.3nm,0.9s,baz=274,slow=3.3,SNR=4.9						
MDT	**Midelt**	**125.48**	**310**	PKP	PKPdf	08 01 51.3	+1.0
	comp=Z,5.8nm,1.0s,baz=73,slow=1.4,SNR=9.8						
JCT	**Junction City**	**126.38**	**52**	*e*PKIKP	PKPdf	08 01 54.0	+2.0
JCT				*e*		08 03 48.9	
MIAR	**Mount Ida**	**129.19**	**45**	*e*PKIKP	PKPdf	08 01 58.6	+1.3
MIAR				*e*		08 04 03.1	
FVM	**French Village**	**129.37**	**39**	*e*PKPdf	PKPdf	08 01 58.8	+1.1
FVM				*e*SKPdf	SKPdf	08 05 20.2	-10
HKT	**Hockley**	**129.72**	**51**	*e*PKIKP	PKPdf	08 02 01.1	+2.7
PARMO	**Parma**	**130.59**	**40**	*e*PKPdf	PKPdf	08 02 01.5	+1.5
BLO	**Bloomington**	**130.99**	**36**	*e*PKIKP	PKPdf	08 02 02.3	+1.5
USIN	**University of**	**131.09**	**38**	*e*PKPdf	PKPdf	08 02 02.0	+1.0
USIN				*e*SKPbc	SKPbc	08 05 26.7	+4.1
ACSO	**Alum Creek Sta**	**132.22**	**32**	*e*PKPdf	PKPdf	08 02 04.2	+1.1
PLAL	**Pickwick Lake**	**132.68**	**41**	*e*PKPdf	PKPdf	08 02 04.0	0.0
PLAL				*e*SKPbc	SKPbc	08 05 32.5	+4.2
TZTN	**Tazewell**	**134.49**	**36**	*e*PKPdf	PKPdf	08 02 09.0	+1.7
TZTN				*e*SKPbc	SKPbc	08 05 37.8	+3.5
LRAL	**Lakeview Retre**	**134.56**	**42**	*e*PKPdf	PKPdf	08 02 08.0	+0.5
CPCT	**Cooper Cave**	**134.64**	**38**	*e*PKPdf	PKPdf	08 02 09.0	+1.3
CPCT				*e*SKPbc	SKPbc	08 05 36.7	+1.9
FWV	**Forest Hill**	**135.31**	**33**	*e*PKPdf	PKPdf	08 02 10.7	+1.8
ELN	**Prospectdale**	**135.60**	**33**	*e*PKPdf	PKPdf	08 02 11.2	+1.8
ELN				*e*SKPbc	SKPbc	08 05 41.7	+3.9
BLA	**Blacksburg**	**135.79**	**33**	*e*PKIKP	PKPdf	08 02 10.1	+0.3
SOR	**Soroa**	**143.22**	**52**	*e*P	PKPdf	08 02 21.4	-1.9
CFAA	**Coronel Fontan**	**143.89**	**156**	PKP	PKPdf	08 02 23.7	-0.8
	comp=Z,1.6nm,0.8s,baz=225,slow=2.8,SNR=40						
MGV	**Manicaragua**	**145.95**	**51**	*e*P	PKPdf	08 02 31.7	+3.7
JTS	**JuntasAbangare**	**146.22**	**73**	PKPbc	PKPbc	08 02 32.3	+2.7
	comp=Z,76nm,0.8s,baz=319,slow=3.5,SNR=56						
JTS	**JuntasAbangare**	**146.22**	**73**	PKP2	PKPab	08 02 32.3	+1.9
JTS				pmax	pmax		
	comp=Z,76nm,0.8s						
JTS	**JuntasAbangare**	**146.22**	**73**	*e*PKPdf	PKPdf	08 02 30.8	+2.3
JTS				*e*PKPbc	PKPbc	08 02 32.8	+3.2
CCCC	**Cccc**	**148.16**	**50**	*e*P	PKPdf	08 02 34.0	+2.3
LMGC	**Las Mercedes**	**149.39**	**51**	*e*P	PKPdf	08 02 41.7	+8.0
HLGC	**Holguin**	**149.63**	**49**	*e*P	PKPdf	08 02 39.6	+5.5
MOAC	**Moa**	**150.59**	**48**	*e*P	PKPdf	08 02 43.9	+8.3
LVC	**Limon Verde**	**151.16**	**147**	PKP	PKPdf	08 02 40.1	+3.6
	comp=Z,3.8nm,1.1s,baz=149,slow=13,SNR=3.4						
LVC				PKPbc	PKPbc	08 02 46.4	+4.1
	comp=Z,19nm,0.8s,baz=252,slow=2.6,SNR=20						
LVC	**Limon Verde**	**151.16**	**147**	*e*PKPdf	PKPdf	08 02 40.5	+4.0
LVC				*e*PKPbc	PKPbc	08 02 46.4	+4.0
LVC				*e*PKPab	PKPab	08 02 52.2	+2.0
CPUP	**Villa Florida**	**152.07**	**170**	PKP	PKPdf	08 02 40.6	+2.7
	comp=Z,1.8nm,0.8s,baz=153,slow=5.1,SNR=6.0						
CPUP				PKPbc	PKPbc	08 02 47.5	+3.1
	comp=Z,19nm,0.9s,baz=174,slow=1.6,SNR=34						
CPUP	**Villa Florida**	**152.07**	**170**	*e*PKPdf	PKPdf	08 02 41.0	+3.1
CPUP				*e*PKPbc	PKPbc	08 02 47.4	+2.9
NNA	**Nana**	**152.16**	**119**	*e*PKPbc	PKPbc	08 02 47.9	+3.2
OTAV	**Otavalo**	**153.70**	**92**	*e*PKPdf	PKPdf	08 02 43.8	+3.6
OTAV				*e*PKPbc	PKPbc	08 02 52.6	+4.5
LPAZ	**La Paz**	**156.46**	**139**	PKP	PKPdf	08 02 47.9	+3.9
	comp=Z,2.8nm,1.1s,baz=182,slow=2.9,SNR=7.2						
LPAZ	**La Paz**	**156.46**	**139**	*e*PKPdf	PKPdf	08 02 47.3	+3.3
ROSC	**El Rosal**	**157.60**	**80**	PKP	PKPdf	08 02 48.6	+3.1
	comp=Z,1.9nm,0.7s,baz=284,slow=22,SNR=4.4						
SJG	**San Juan**	**158.39**	**39**	PKP	PKPdf	08 02 48.1	+1.7
	comp=Z,8.5nm,0.7s,baz=326,slow=3.0,SNR=5.8						
SJG	**San Juan**	**158.39**	**39**	PKIKP	PKPdf	08 02 48.1	+1.7
SJG				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SDV	**Santo Domingo**	**160.14**	**67**	PKP	PKPdf	08 02 50.5	+2.0
	comp=Z,9.0nm,0.2s,baz=215,slow=5.6,SNR=19						
SDV				PKPab	PKPab	08 03 31.9	+3.3
	comp=Z,7.7nm,0.2s,baz=214,slow=4.3,SNR=4.4						
SDV	**Santo Domingo**	**160.14**	**67**	*e*PKPdf	PKPdf	08 02 50.3	+1.9
SDV				*e*PKPab	PKPab	08 03 31.6	+2.9
SIV	**San Ignacio**	**160.69**	**153**	PKP	PKPdf	08 02 51.9	+2.9
	comp=Z,3.0nm,0.8s,baz=208,slow=1.5,SNR=16						
SIV				PKPab	PKPab	08 03 33.5	+2.5
	comp=Z,4.1nm,0.7s,baz=224,slow=4.2,SNR=11						
BDFB	**Brasilia**	**162.66**	**194**	PKP	PKPdf	08 02 53.6	+2.5
	comp=Z,8.2nm,1.1s,baz=27,slow=2.3,SNR=7.0						
BDFB	**Brasilia**	**162.66**	**194**	PKIKP	PKPdf	08 02 53.6	+2.5
BDFB				pmax	pmax		
	comp=Z,8.0nm,1.1s						
SAML	**Samuel**	**165.02**	**133**	*e*PKPdf	PKPdf	08 02 55.7	+2.4
SAML				*e*PKPab	PKPab	08 03 53.0	+2.9

PRE ***14*** *08:12:13.6±1.2,2087S×3329E,h5km,ML5.1*
ISCJB ***14*** *08:12:17.5±2.2,2124S±005×3321E±006,h9km±15km, mb4.1/4,Error ellipse: s-maj=9.8km s-min=8.0km az=84.5*
IDC ***14*** *08:12:19.4±1.5,2107S×3322E,h0km,mb3.9/2,mb1 4.3/7, mb1mx3.9/24,mbtmp4.2/7,ML4.2/5,MS3.5/2,Ms1 3.5/2, ms1mx3.1/19,Error ellipse: s-maj=38.0km s-min=23.5km az=169.0*
NEIC ***14*** *08:12:20.4±0.7,2112S×3320E,h10km,mb4.5/2,Error ellipse: s-maj=20.2km s-min=11.1km az=167.0*

ISC 14 08:12:19.5±2.6,2120S±005×3322E±006,h9km±17km,n26, σ1s00/32,mb4.1/4,Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATP	**Matopo**	**4.49**	**279**	Pn	**Pn**	**08 13 28.7**	**+1.1**
	5.5nm,0.3s,baz=99,slow=14,SNR=90						
MATP				Sn	**Sn**	**08 14 19.6**	**-0.3**
	25nm,0.3s,baz=222,slow=22,SNR=6.4						
MATP				Lg		08 14 37.1	
	89nm,0.3s,baz=358,slow=22,SNR=14						
MATP				LR	LR	08 15 20.6	
	comp=Z,878nm,19.1s,baz=161,slow=41						
POGA	**Pongola**	**6.31**	**193**	*e*P	**Pn**	**08 13 51.4**	**-1.4**
POGA				*e*S	**Sn**	**08 15 04.5**	**-0.5**
POGA				AML	AML	08 15 51.6	
	comp=Z,175nm,0.6s						
SLR	**Silverton**	**6.40**	**224**	*e*P	**Pn**	**08 13 53.7**	**-0.2**
SLR				*e*S	**Sn**	**08 15 06.8**	**-0.3**
SLR				AML	AML	08 15 51.3	
	comp=Z,252nm,0.5s						
LSZ	**Lusaka**	**7.59**	**320**	Pn	**Pn**	**08 14 09.2**	**-1.1**
	comp=Z,5.9nm,0.3s,baz=151,slow=13,SNR=40						
LSZ				Sn	**Sn**	**08 15 29.8**	**-6.6**
	comp=Z,20nm,0.3s,baz=192,slow=11,SNR=7.8						
LSZ				Lg		08 16 09.5	
	comp=Z,24nm,0.3s,baz=68,slow=14,SNR=4.9						
LSZ				LR	LR	08 17 13.9	
	comp=Z,256nm,20.6s,baz=66,slow=39						
LBTB	**Lobatse**	**7.98**	**240**	*e*P	**Pn**	**08 14 14.9**	**-0.7**
LBTB				*e*S	**Sn**	**08 15 41.8**	**-4.1**
LBTB				AML	AML	08 16 35.3	
	comp=Z,104nm,0.6s						
LBTB	**Lobatse**	**7.98**	**240**	Pn	**Pn**	**08 14 17.3**	**+1.7**
	comp=Z,4.2nm,0.3s,baz=60,slow=14,SNR=48						
LBTB				Sn	**Sn**	**08 15 44.4**	**-1.6**
	comp=Z,5.4nm,0.3s,baz=150,slow=20,SNR=3.4						
LBTB				Lg		08 16 29.0	
	comp=Z,12nm,0.3s,baz=155,slow=20,SNR=12						
LBTB	**Lobatse**	**7.98**	**240**	*e*Pn	**Pn**	**08 14 16.6**	**+1.0**
LBTB				*e*Sn	**Sn**	**08 15 42.0**	**-4.0**
PKA	**Prieska**	**12.66**	**226**	*e*P	**Pn**	**08 15 20.0**	**+0.2**
OPO	**Ambohidratompo**	**13.40**	**81**	Pn	**Pn**	**08 15 28.9**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=266,slow=15,SNR=6.3						
OPO				Sn	**Sn**	**08 17 49.5**	**-9.3**
	comp=Z,1.2nm,0.3s,baz=131,slow=20,SNR=5.1						
TSUM	**Tsumeb**	**14.82**	**275**	Pn	**Pn**	**08 15 47.5**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=98,slow=9.8,SNR=22						
TSUM				Sn	**Sn**	**08 18 28.0**	**-5.4**
	comp=Z,0.6nm,0.3s,baz=97,slow=19,SNR=4.1						
TSUM				Lg		08 20 04.1	
	comp=Z,0.7nm,0.3s,baz=255,slow=12,SNR=5.8						
SUR	**Sutherland**	**15.69**	**222**	*e*P	**Pn**	**08 16 02.5**	**+1.7**
SUR				*e*S	**Sn**	**08 18 49.3**	**-5.4**
SUR	**Sutherland**	**15.69**	**222**	Pn	**Pn**	**08 16 02.2**	**+1.5**
	comp=Z,1.4nm,0.3s,baz=46,slow=12,SNR=17						
SUR				Sn	**Sn**	**08 18 48.0**	**-6.7**
	comp=Z,0.9nm,0.3s,baz=348,slow=20,SNR=3.4						
SUR				Lg		08 20 31.9	
	comp=Z,1.3nm,0.3s,baz=148,slow=23,SNR=5.5						
SUR	**Sutherland**	**15.69**	**222**	*e*Pn	**Pn**	**08 16 01.8**	**+1.1**
	comp=Z,34nm,1.0s						
SUR				*e*Sn	**Sn**	**08 18 56.2**	**+1.5**
SUR				Lg		08 20 31.9	
CVNA	**Calvinia**	**15.81**	**227**	*e*P	**Pn**	**08 16 03.4**	**+1.1**
CVNA				*e*S	**Sn**	**08 18 51.0**	**-6.6**
CVNA				AML	AML	08 19 12.3	
	comp=Z,12nm,0.5s						
KMBO	**Kilima Mbogo**	**20.34**	**12**	Lg		08 22 45.6	
	comp=Z,9.0nm,1.2s,baz=51,slow=22,SNR=6.4						
DGAR	**Diego Garcia**	**40.28**	**76**	*e*P	**P**	**08 19 57.8**	**+0.9**
TORD	**Torodi Ar. Bea**	**46.09**	**315**	P	**P**	**08 20 45.0**	**+1.2**
	comp=Z,2.3nm,0.9s,mb4.1,baz=124,slow=6.6,SNR=9.4						
BDFB	**Brasilia**	**76.51**	**258**	P	**P**	**08 24 15.1**	**+5.2**
	comp=Z,4.2nm,0.8s,mb4.4,baz=162,slow=5.4,SNR=5.4						
MKAR	**Makanchi Array**	**80.86**	**32**	P	**P**	**08 24 34.1**	**+0.2**
	comp=Z,0.5nm,0.7s,mb3.6,baz=213,slow=4.2,SNR=5.4						
KURK	**Kurchatov**	**82.01**	**27**	*e*P	**P**	**08 24 39.5**	**-0.4**
	comp=Z,4.2nm,1.1s,mb4.3						
ILAR	**Eielson Array**	**136.45**	**0**	PKP	PKPdf	08 31 43.8	+2.0
	comp=Z,0.5nm,1.0s,baz=341,slow=3.1,SNR=4.1						
MSU	**Marysvale**	**145.64**	**308**	*e*PKPdf	PKPdf	08 31 59.7	+1.4
TUC	**Tucson**	**146.16**	**297**	*e*PKPbc	PKPbc	08 32 03.4	+3.3
TUC				*e*PKPab	PKPab	08 32 06.0	+5.2
BMO	**Blue Mountains**	**146.16**	**321**	*e*PKPbc	PKPbc	08 32 02.2	+2.1
NVAR	**Mina Array Bea**	**150.09**	**311**	PKPbc	PKPbc	08 32 13.1	+2.5
	comp=Z,0.5nm,0.6s,baz=81,slow=2.8,SNR=4.2						
NVAR	**Mina Array Bea**	**150.09**	**311**	PKPbc	PKPbc	08 32 13.1	+2.5

ISCJB ***14*** *09:23:14.9±0.4,4125N±002×2097E±003,h5km±5km, Error ellipse: s-maj=3.9km s-min=3.8km az=171.8*
SKO ***14*** *09:23:14.7,4122N×2096E,h15km,M1.5,ML2.3*
CSEM ***14*** *09:23:15.1±0.2,4128N×2093E,h4km±1km,ML2.3,Error ellipse: s-maj=2.2km s-min=1.9km az=17.0*
THE ***14*** *09:23:15.2,4128N×2098E,h10km,ML2.7*

ISC 14 09:23:15.6±0.4,4125N±002×2097E±003,h4km±5km,n27, σ1s07/41,2D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHR	**Ohrid**	**0.19**	**225**	*e*Pg	**Pg**	**09 23 18.5**	**-0.8**
OHR				*e*Sg	**Sg**	**09 23 22.2**	**+0.4**
BIA	**Bitola**	**0.35**	**131**	*e*Pg	**Pg**	**09 23 21.9**	**-0.4**
SAMO	**Samokov**	**0.46**	**15**	*i*Pg	**Pg**	**09 23 24.7**	**+0.2**
SAMO				*i* Sg	**Sg**	**09 23 31.3**	**+0.8**
BELI	**Belica**	**0.49**	**27**	*i*Pg	**Pg**	**09 23 25.9**	**+0.9**
BELI				*i*		09 23 26.1	
BELI				*i* Sg	**Sg**	**09 23 33.4**	**+1.9**
FNA	**Florina**	**0.55**	**147**	*e*Pg	**Pg**	**09 23 26.2**	**0.0**
FNA				*e*Sg	**Sg**	**09 23 34.9**	**+1.4**
KBN	**Korca**	**0.64**	**193**	*e*Pn	**Pg**	**09 23 28.8**	**+0.9**
SKO	**Skopje**	**0.81**	**26**	*e*Pg	**Pg**	**09 23 31.3**	**+0.3**
SKO				*e*Sg	**Sg**	**09 23 42.5**	**+1.0**
SKO	**Skopje**	**0.81**	**26**	*e*Pg	**Pg**	**09 23 31.1**	**0.0**
SKO				*e*Sg	**Sg**	**09 23 42.4**	**+0.9**
SKO				*e*Lg		09 23 42.7	
	comp=E,44nm,0.3s						
SKO				*e*Lg		09 23 43.3	
	comp=N,96nm,0.3s						
SKO	**Skopje**	**0.81**	**26**	*e*Pg	**Pg**	**09 23 31.0**	**-0.1**
SKO				*e*Sg	**Sg**	**09 23 42.5**	**+1.0**
TIR	**Tirane**	**0.84**	**277**	*e*Pg	**Pg**	**09 23 30.7**	**-1.1**
TIR				*e*Sg	**Sg**	**09 23 43.0**	**+0.3**
KKS	**Kukesi**	**0.93**	**333**	*e*Pg	**Pg**	**09 23 32.3**	**-1.2**
KKS				*i* Sg	**Sg**	**09 23 45.9**	**+0.4**
GRG	**Griva**	**1.12**	**105**	*e*Pg	**Pg**	**09 23 36.5**	**-0.5**
GRG				*e*Sg	**Sg**	**09 23 51.6**	**+0.1**
VAY	**Valandovo**	**1.21**	**86**	*i* Pg	**Pg**	**09 23 37.5**	**-1.2**
KNT	**Kendrikon**	**1.45**	**93**	*e*Pg	**Pg**	**09 23 42.1**	**-1.3**
	comp=N,2.7nm,0.5s						
KNT				*e*Sg	**Sg**	**09 24 02.9**	**+0.5**
LIT	**Litokhoron**	**1.62**	**134**	*e*Pb	**Pb**	**09 23 44.9**	**-1.2**
LIT				*e*Sb	**Sb**	**09 24 08.2**	**+1.3**
THE	**Thessaloniki**	**1.63**	**111**	*e*Pb	**Pb**	**09 23 43.7**	**-2.5**
IGT	**Igoumenitsa**	**1.78**	**196**	*e*Pb	**Pb**	**09 23 45.5**	**-3.3**
IGT				*e*Sb	**Sb**	**09 24 12.9**	**+1.5**
SOH	**Sokhos**	**1.85**	**102**	*e*Pb	**Pb**	**09 23 47.1**	**-2.9**
SRS	**Serrai**	**1.98**	**93**	*e*Pn	**Pn**	**09 23 49.0**	**-0.9**
PAIG	**Palouri**	**2.44**	**122**	*e*Pn	**Pn**	**09 23 56.1**	**-0.2**
AGG	**Agios Georgios**	**2.45**	**154**	*e*Pn	**Pn**	**09 23 56.3**	**-0.1**
AGG				*e*Sn	**Sn**	**09 24 29.4**	**+2.6**
OUR	**Ouranopolis**	**2.46**	**111**	*e*Pn	**Pn**	**09 23 56.4**	**-0.1**
OUR	**Ouranopolis**	**2.46**	**111**	*e*Pn	**Pn**	**09 23 56.3**	**-0.1**
XOR	**Xorichti**	**2.53**	**137**	*e*Pn	**Pn**	**09 23 57.1**	**-0.3**
LKD	**Levkas**	**2.55**	**186**	*e*Pn	**Pn**	**09 23 58.2**	**+0.6**
LKD	**Levkas**	**2.55**	**186**	*e*Pn	**Pn**	**09 23 58.2**	**+0.5**
DIVS	**Divcibare**	**2.94**	**346**	*e*Pn	**Pn**	**09 24 02.8**	**-0.3**

NEIC ***14*** *09:27:46.0,1833S×12731E,h0km,ML2.7(AUST),After AUST.*

AUST 14 09:27:46.0,1833S×12731E,h0km,ML2.7,1D,Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**1.60**	**278**	*i*P	Pn	09 28 14.2	-1.4
FITZ				*e*S	Sn	09 28 35.4	-1.6
	154nm,0.2s						
KNA	**Kununurra**	**2.92**	**29**	*e*P	Pn	09 28 31.6	-2.1
KNA				*i* S	Sn	09 29 06.8	-2.6
WRAB	**Tennant Creek**	**6.84**	**105**	*e*Pn	Pn	09 29 24.1	-3.5
WB2	**Warramunga Arr**	**6.85**	**105**	*e*P	Pn	09 29 24.7	-3.0
WB2				*e*S	Sn	09 30 38.6	-7.7
KAKA	**Kakadu**	**7.46**	**42**	*e*P	Pn	09 29 33.2	-2.9
KAKA				*e*S	Sn	09 30 51.4	-10
	8.9nm,0.4s						
KAKA	**Kakadu**	**7.46**	**42**	*e*P	Pn	09 29 33.2	-2.9
	8.9nm,0.4s						
KAKA				*e*S	Sn	09 30 51.4	-10
MBWA	**Marble Bar**	**7.67**	**247**	*e*P	Pn	09 29 35.9	-3.1
MBWA				*e*S	Sn	09 30 59.1	-7.6
MEEK	**Meekatharra**	**11.53**	**223**	*e*P	Pn	09 30 27.8	-4.1
MEEK				*e*S	Sn	09 32 29.3	-12
	5.2nm,0.5s						
MEEK	**Meekatharra**	**11.53**	**223**	*e*P	Pn	09 30 27.8	-4.1
	5.2nm,0.5s						
MEEK				*e*S	Sn	09 32 29.3	-12

ATH ***14*** *09:30:04.8,38.18N×20.16E,h13km±2km,MD3.5/5*
NEIC ***14*** *09:30:04.5,38.15N×20.17E,h14km,MD3.5(ATH),After ATH.*
ISCJB ***14*** *09:30:06.5±0.7,3821N±004×2023E±004,h10km,Error ellipse: s-maj=6.7km s-min=4.3km az=53.2*
CSEM ***14*** *09:30:06.4±0.2,3826N×2029E,h2km±1km,MD3.5,Error ellipse: s-maj=4.4km s-min=2.7km az=56.0*
THE ***14*** *09:30:09.7,3843N×2031E,h10km,ML3.0*

**ISC 14 09:30:07.1±0.7,3825

PRS1	**Puriscal**	**2.18**	**303**	*eP*	Pn	10 17 46.0	+1.0
PRS1				*eS*	Sn	10 18 14.2	+1.8
PTP	**Ponta Puerca**	**18.86**	**58**	*eP*		10 17 20.8	

JMA 14 10:46:03.4±0.1,3899N×14062E,h1km±1km,M0.4, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYK	**Kaneyama**	**0.22**	**251**	P	Pg	10 46 07.8	+0.3
JYK				S	Sg	10 46 10.8	+0.5
JRG	**Rokugo**	**0.41**	**2**	*eS*	Sg	10 46 17.9	+1.5

*NIED **14** 10:46:00.3900N×14060E,h11km,Mw3.9 Best double couple: M0:8.81000×10^14 NP1:φs51.00000°,δ88.00000°, λ169.00000°. NP2:φs141.00000°,δ79.00000°,λ2.00000°.*
*JMA **14** 10:46:46.7±0.1,3899N×14062E,h1km±1km,M4.4 Broadband fault plane solution: P waves. NP1: φs97.00000°,δ46.00000°,λ-110.00000°. NP2: φs304.00000°,δ48.00000°,λ-71.00000°. Principal axes: T Plg1.0000°, Azm21.0000°; N Plg14.0000°, Azm111.0000°; P Plg76.0000°, Azm287.0000°;*
JMA Felt II J1.
*ISCJB **14** 10:46:46.3±0.3,3897N±003×14062E±003,h1km, mb4.1/23,MS3.1/2 Error ellipse: s-maj=4.3km s-min=3.2km az=116.8*
*IDC **14** 10:46:47.3±0.7,3891N×14050E,h0km,mb3.9/9, mb1 4.2/11,mb1mx3.9/23,mbtmp3.9/11,ML3.4/2,MS3.2/4, Ms1 3.2/4,ms1mx2.7/30,Error ellipse: s-maj=23.8km s-min=16.4km az=112.0*
*MOS **14** 10:46:50.7±1.1,3897N×14035E,h33km,mb4.3/15,Error ellipse: s-maj=19.6km s-min=9.4km az=72.4*
*NEIC **14** 10:46:53.6±1.3,3888N×14036E,h46km±13km,mb4.1/14, Error ellipse: s-maj=10.6km s-min=10.4km az=56.0*

ISC 14 10:46:47.5±0.3,3896N±003×14062E±003,h1km,n63, σ0s92/67,mb4.1/23,MS3.1/2,6C-2D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYK	**Kaneyama**	**0.20**	**258**	⇓P	**Pg**	**10 46 51.1**	**-0.3**
JYK				S	**Sg**	**10 46 54.2**	**+0.1**
JRG	**Rokugo**	**0.44**	**2**	⇑P	**Pg**	**10 46 55.0**	**-0.9**
JRG				S	**Sg**	**10 47 01.4**	**-0.1**
JMK	**Ichinoseki**	**0.47**	**91**	⇑P	**Pg**	**10 46 55.9**	**-0.6**
JMK				S	**Sg**	**10 47 02.3**	**-0.3**
JOU	**Okura**	**0.59**	**176**	⇑P	**Pg**	**10 46 59.0**	**+0.1**
JOM	**Ohasama**	**0.73**	**45**	⇑P	**Pg**	**10 47 00.4**	**-1.2**
JOM				S	**Sg**	**10 47 10.0**	**-1.1**
JIO	**Ouri**	**0.76**	**131**	⇑P	**Pg**	**10 47 01.4**	**-0.7**
JIO				S	**Sg**	**10 47 11.9**	**-0.1**
JYA	**Atsumi**	**0.80**	**243**	⇓P	**Pg**	**10 47 02.2**	**-0.5**
JYA				S	**Sg**	**10 47 13.6**	**+0.6**
JYS	**Shiratake**	**0.85**	**211**	⇑P	**Pg**	**10 47 03.6**	**-0.3**
MAJO	**Matsushiro**	**3.08**	**219**	*eP*	**Pn**	**10 47 37.4**	**+0.2**
MAT	**Matsushiro**	**3.08**	**219**	P	**Pn**	**10 47 37.5**	**+0.3**
MAT				S	**Sn**	**10 48 21.5**	**+6.9**
MAT	**Matsushiro**	**3.08**	**219**	*eP*	**Pn**	**10 47 37.0**	**-0.2**
MAT				*eS*	**Sn**	**10 48 22.0**	**+7.4**
MJAR	**Matsushiro Arr**	**3.08**	**219**	Pn	**Pn**	**10 47 37.5**	**+0.3**
	15nm,0.3s,baz=25,slow=15,SNR=11						
MJAR				LR	LR	10 49 00.6	
	comp=Z,555nm,18.0s,baz=20,slow=45						
MJAR	**Matsushiro Arr**	**3.08**	**219**	P	**Pn**	**10 47 37.5**	**+0.3**
MJAR				pmax	pmax		
	comp=Z,15nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,555nm,18.0s						
MJAR	**Matsushiro Arr**	**3.08**	**219**	Pn	**Pn**	**10 47 37.5**	**+0.3**
MJAR				LR	LR	10 49 00.6	
ASAJ	**Asahikawa**	**5.36**	**15**	Pn	**Pn**	**10 48 09.4**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=219,slow=6.4,SNR=8.1						
ASAJ				LR	LR	10 50 21.0	
	comp=Z,239nm,19.7s,baz=0.0,slow=39						
ASAJ	**Asahikawa**	**5.36**	**15**	P	**Pn**	**10 48 09.5**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,239nm,19.7s						
GUMO	**Guam**	**25.55**	**170**	LR	LR	11 01 06.1	
	comp=Z,45nm,20.1s,MS3.0,baz=114,slow=34						
ZAL	**Zalesovo**	**40.18**	**311**	P	**P**	**10 54 23.8**	**-1.5**
	comp=Z,1.9nm,0.9s,mb3.7,baz=323,slow=5.1,SNR=9.2						
ZAL	**Zalesovo**	**40.18**	**311**	P	**P**	**10 54 23.8**	**-1.5**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ZAL	**Zalesovo**	**40.18**	**311**	P	**P**	**10 54 23.8**	**-1.5**
MKAR	**Makanchi Array**	**42.59**	**300**	P	**P**	**10 54 43.9**	**-1.2**
	comp=Z,0.8nm,0.8s,mb3.5,baz=93,slow=8.9,SNR=6.9						
MKAR	**Makanchi Array**	**42.59**	**300**	P	**P**	**10 54 43.9**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KURK	**Kurchatov**	**44.27**	**306**	*eP*	**P**	**10 54 56.3**	**-2.3**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
KURK	**Kurchatov**	**44.27**	**306**	*eP*	**P**	**10 54 56.3**	**-2.3**
	comp=Z,8.0nm,0.8s,mb4.5						
ILAR	**Eielson Array**	**48.22**	**33**	P	**P**	**10 55 29.7**	**0.0**
	comp=Z,1.5nm,0.9s,mb4.1,baz=276,slow=5.9,SNR=13						
ILAR	**Eielson Array**	**48.22**	**33**	P	**P**	**10 55 29.7**	**0.0**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AAK	**Ala-Archa**	**49.04**	**297**	*eP*	**P**	**10 55 34.6**	**-1.4**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
AAK	**Ala-Archa**	**49.04**	**297**	*eP*	**P**	**10 55 34.6**	**-1.5**
	comp=Z,1.2nm,0.7s,mb4.0						
ZRNK	**Zerenda**	**49.66**	**311**	*eP*	**P**	**10 55 40.0**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
ZRNK	**Zerenda**	**49.66**	**311**	*eP*	**P**	**10 55 40.0**	**-0.7**
	comp=Z,1.5nm,0.8s,mb4.0						
INK	**Inuvik**	**52.97**	**28**	P	**P**	**10 56 05.7**	**+0.1**
	comp=Z,2.3nm,0.9s,mb4.1,baz=271,slow=6.3,SNR=7.5						
INK	**Inuvik**	**52.97**	**28**	*eP*	**P**	**10 56 06.0**	**+0.4**
INK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
INK	**Inuvik**	**52.97**	**28**	*eP*	**P**	**10 56 06.0**	**+0.4**
	comp=Z,4.0nm,1.1s,mb4.3						
AKTK	**Aktyubinsk**	**56.93**	**311**	P	**P**	**10 56 35.2**	**+1.0**
AKTO	**Aktyubinsk**	**56.93**	**311**	P	**P**	**10 56 35.2**	**+1.0**
	comp=Z,0.4nm,0.4s,mb3.8,baz=67,slow=16,SNR=4.6						
WRAB	**Tennant Creek**	**58.87**	**187**	*eP*	**P**	**10 56 46.8**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
WRAB	**Tennant Creek**	**58.87**	**187**	*eP*	**P**	**10 56 46.8**	**-1.1**
	comp=Z,3.7nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**58.88**	**187**	P	**P**	**10 56 47.0**	**-1.0**
	comp=Z,2.7nm,0.7s,mb4.4,baz=3.8,slow=7.4,SNR=36						
WRA	**Warramunga Arr**	**58.88**	**187**	P	**P**	**10 56 47.0**	**-1.0**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
RES	**Resolute Bay**	**60.90**	**15**	*eP*	**P**	**10 57 03.4**	**+1.6**
RES				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
RES	**Resolute Bay**	**60.90**	**15**	*eP*	**P**	**10 57 03.4**	**+1.6**
	comp=Z,4.6nm,0.9s,mb4.6						
ARCES	**ARCESS Array B**	**61.98**	**339**	LR	LR	11 25 00.3	
	comp=Z,17nm,20.0s,MS3.2,baz=22,slow=37						
ASAR	**Alice Springs**	**62.61**	**187**	P	**P**	**10 57 12.9**	**-0.5**
	comp=Z,1.3nm,0.7s,mb4.2,baz=7.7,slow=5.5,SNR=22						
ASAR	**Alice Springs**	**62.61**	**187**	P	**P**	**10 57 12.9**	**-0.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WVOR	**Wild Horse Val**	**71.74**	**50**	*eP*	**P**	**10 58 12.4**	**+1.1**
WVOR				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.2						
WVOR	**Wild Horse Val**	**71.74**	**50**	*eP*	**P**	**10 58 12.4**	**+1.1**
	comp=Z,2.1nm,1.1s,mb4.2						
AKASG	**Malin Array Be**	**72.40**	**322**	P	**P**	**10 58 20.2**	**+4.9**
	comp=Z,0.4nm,0.3s,mb4.0,baz=46,slow=5.4,SNR=3.6						
FFC	**Flin Flon**	**72.43**	**33**	*eP*	**P**	**10 58 15.3**	**-0.2**
FFC				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.1						
FFC	**Flin Flon**	**72.43**	**33**	*eP*	**P**	**10 58 15.2**	**-0.2**
	comp=Z,1.3nm,0.6s,mb4.2						
FCC	**Fort Churchill**	**72.56**	**26**	*eP*	**P**	**10 58 15.9**	**-0.4**
FCC				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.3						
FCC	**Fort Churchill**	**72.56**	**26**	*eP*	**P**	**10 58 15.9**	**-0.3**
	comp=Z,3.2nm,1.1s,mb4.4						
DLMT	**Dillon**	**73.42**	**45**	*eP*	**P**	**10 58 22.3**	**+0.9**
	comp=Z,3.8nm,1.0s,mb4.5						
NVAR	**Mina Array Bea**	**74.34**	**53**	P	**P**	**10 58 28.4**	**+1.7**
	comp=Z,1.3nm,0.9s,mb4.0,baz=296,slow=4.3,SNR=10						
HWUT	**Hardware Ranch**	**76.39**	**47**	*eP*	**P**	**10 58 40.1**	**+1.6**
	comp=Z,3.0nm,1.1s,mb4.3						
DUG	**Dugway**	**76.57**	**49**	*eP*	**P**	**10 58 40.1**	**+0.6**
DUG				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.2						
DUG	**Dugway**	**76.57**	**49**	*eP*	**P**	**10 58 40.0**	**+0.5**
	comp=Z,2.2nm,1.1s,mb4.2						
BW06	**Boulder Array**	**76.77**	**45**	*eP*	**P**	**10 58 41.3**	**+0.6**
	comp=Z,0.5nm,0.5s,mb3.9						
PDAR	**Pinedale Array**	**76.77**	**45**	P	**P**	**10 58 41.5**	**+0.9**
	comp=Z,0.5nm,0.9s,mb3.6,baz=318,slow=2.0,SNR=4.9						
PV10	**Paradox Valley**	**79.97**	**48**	*eP*	**P**	**10 58 59.4**	**+1.0**
ANMO	**Albuquerque**	**83.82**	**50**	*eP*	**P**	**10 59 20.5**	**+1.9**
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ANMO	**Albuquerque**	**83.82**	**50**	*eP*	**P**	**10 59 20.5**	**+1.8**
	comp=Z,0.8nm,0.8s,mb4.1						
LPAZ	**La Paz**	**146.20**	**56**	PKPbc	PKPbc	11 06 29.8	+0.2
	comp=Z,1.9nm,0.9s,baz=5.4,slow=3.9,SNR=6.5						
LPAZ	**La Paz**	**146.20**	**56**	PKP2	PKPbc	11 06 29.8	+0.2
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						

IDC 14 10:52:34.1±4.4,566S×10065E,h0km,mb3.4/4,mb1 3.5/4, mb1mx3.5/16,mbtmp3.4/4,Error ellipse: s-maj=168.5km s-min=24.2km az=55.0,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.69**	**117**	P	P	10 59 36.0	+1.9
	0.4nm,0.8s,baz=290,slow=11,SNR=4.0						
ASAR	**Alice Springs**	**36.66**	**123**	P	P	10 59 41.5	-1.0
	0.3nm,0.7s,baz=295,slow=7.7,SNR=10						
SONM	**Songino Array**	**53.51**	**5**	P	P	11 01 56.5	+0.2
	0.3nm,0.7s,baz=206,slow=9.6,SNR=3.3						
MKAR	**Makanchi Array**	**54.71**	**345**	P	P	11 02 05.0	-0.1
	0.3nm,0.5s,baz=156,slow=9.3,SNR=4.5						

*MOS **14** 11:21:48.2±1.3,706S×15490E,h33km,mb5.0/12,Error ellipse: s-maj=12.4km s-min=12.0km az=171.8*
*BJI **14** 11:21:51.5,641S×15547E,h55km,mB4.9,mb4.7,Msz3.8*
*ISCJB **14** 11:21:52.8±1.6,740S±009×15501E±006,h85km±15km, mb4.5/34,Error ellipse: s-maj=15.9km s-min=8.8km az=152.1*
*IDC **14** 11:21:53.2±2.9,731S×15490E,h72km±26km,mb4.2/12, mb1 4.4/14,mb1mx4.3/18,mbtmp4.5/14,MS3.8/8, Ms1 3.8/8,ms1mx3.4/29,Error ellipse: s-maj=24.8km s-min=16.9km az=145.0*
*NEIC **14** 11:21:53.4±1.3,734S×14595E,h75km±13km,mb4.7/15, Error ellipse: s-maj=13.3km s-min=8.2km az=157.0*

ISC 14 11:21:54.6±1.3,741S±009×15505E±006,h86km±13km, n71,σ1s25/65,mb4.5/34,1C,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.25**	**113**	P	**Pn**	**11 23 11.5**	**+1.0**
	8.6nm,0.3s,baz=259,slow=9.0,SNR=3.4						
HNR				S	Sn	11 24 31.9	+22
	7.5nm,0.3s,baz=90,slow=16,SNR=3.4						
HNR				LR	LR	11 24 54.2	
	comp=Z,395nm,21.6s,baz=352,slow=33						
PMG	**Port Moresby**	**8.05**	**255**	P	**Pn**	**11 23 47.4**	**-1.3**
	2.9nm,0.3s,baz=53,slow=8.3,SNR=16						
PMG				S	**Sn**	**11 25 20.3**	**+2.2**
	2.5nm,0.3s,baz=144,slow=22,SNR=7.1						
PMG				LR	LR	11 26 34.0	
	comp=Z,360nm,20.5s,baz=71,slow=35						
PMG	**Port Moresby**	**8.05**	**255**	P	**Pn**	**11 23 47.4**	**-1.3**
PMG				S	**Sn**	**11 25 20.3**	**+2.2**
CTA	**Charters Tower**	**15.21**	**213**	LR	LR	11 30 25.3	
	comp=Z,481nm,21.4s,baz=47,slow=34						
KAKA	**Kakadu**	**22.87**	**255**	*eP*	**P**	**11 26 49.0**	**-1.8**
	12nm,0.7s,mb4.3						
WRAB	**Tennant Creek**	**23.61**	**236**	*eP*	**P**	**11 26 56.5**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,39nm,1.2s,mb4.6						
WRAB	**Tennant Creek**	**23.61**	**236**	*eP*	**P**	**11 26 56.5**	**-1.1**
	comp=Z,39nm,1.2s,mb4.6						
WB2	**Warramunga Arr**	**23.62**	**236**	*eP*	**P**	**11 26 57.1**	**-0.6**
WRA	**Warramunga Arr**	**23.63**	**236**	P	**P**	**11 26 57.0**	**-0.8**
	comp=Z,16nm,1.0s,mb4.3,baz=62,slow=9.5,SNR=41						
ASAR	**Alice Springs**	**25.94**	**229**	P	**P**	**11 27 18.2**	**-0.5**
	comp=Z,5.6nm,1.0s,mb4.0,baz=66,slow=8.9,SNR=50						
STKA	**Stephens Creek**	**27.38**	**205**	P	**P**	**11 27 31.6**	**-0.1**
	comp=Z,7.8nm,0.9s,mb4.2,baz=21,slow=11,SNR=10						
STKA				LR	LR	11 37 57.5	
	comp=Z,326nm,20.8s,baz=23,slow=35						
STKA	**Stephens Creek**	**27.38**	**205**	*eP*	**P**	**11 27 31.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**30.54**	**247**	*eP*	**P**	**11 27 59.3**	**-0.4**
	comp=Z,8.4nm,0.6s,mb4.7						
MBWA	**Marble Bar**	**36.74**	**244**	*eP*	**P**	**11 28 51.4**	**-2.2**
	comp=Z,16nm,1.0s,mb4.9						
NWAO	**Narrogin (SRO)**	**43.26**	**229**	LR	LR	11 47 40.0	
	comp=Z,94nm,21.1s,baz=6.1,slow=36						
SSE	**Sheshan**	**50.16**	**322**	P	**P**	**11 30 40.8**	**-0.5**
SSE				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,60nm,4.3s						
NJ2	**Nanjing**	**52.27**	**321**	*eP*	**P**	**11 30 57.1**	**+0.1**
NJ2				AP	pP	11 31 06.9	-11
NJ2				PP	PP	11 32 56.1	-0.1
NJ2				S	**S**	**11 38 19.0**	**+3.5**
NJ2				XS	sS	11 38 36.0	-16
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,120nm,10.0s						
NJ2				LR	LR		
	comp=Z,250nm,14.2s						
PPT	**Papeete**	**54.83**	**106**	*e*LR	LR	11 47 06.1	
	comp=Z,60nm,26.5s						
KULM	**Kulim**	**55.72**	**282**	*eP*	**P**	**11 31 22.6**	**+0.4**
PMOR	**Pomariorio Ree**	**56.35**	**103**	*eP*	**P**	**11 31 28.7**	**+2.1**
	comp=Z,11nm,0.9s,mb4.9						
KLR	**Kul'dur**	**59.98**	**343**	*eP*	**P**	**11 31 54.0**	**+2.1**
KMI	**Kunming**	**60.29**	**304**	P	**P**	**11 31 55.3**	**+1.2**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.5s,mb4.6						
KMI				LR	LR		
	comp=Z,24nm,27.1s						
GTA	**Gaotai**	**69.08**	**317**	*eP*	**P**	**11 32 52.4**	**+1.2**
GTA				AP	pP	11 33 01.3	-12
GTA				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.4						
ULN	**Ulaanbaatar**	**69.38**	**328**	*eP*	**P**	**11 32 53.6**	**+0.5**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
ULN	**Ulaanbaatar**	**69.38**	**328**	*eP*	**P**	**11 32 53.6**	**+0.5**
	comp=Z,2.9nm,0.8s,mb4.2						
SONM	**Songino Array**	**69.71**	**327**	P	**P**	**11 32 55.2**	**+0.1**
	comp=Z,2.2nm,0.7s,mb4.1,baz=136,slow=6.0,SNR=24						
SONM				LR	LR	12 04 57.9	
	comp=Z,42nm,19.0s,baz=60,slow=37						
YAK	**Yakutsk**	**71.97**	**348**	*eP*	**P**	**11 33 07.7**	**-1.1**
YAK				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.9						
YAK	**Yakutsk**	**71.97**	**348**	*eP*	**P**	**11 33 07.7**	**-1.1**
	comp=Z,15nm,0.8s,mb4.9						
ZAK	**Zakamensk**	**72.87**	**328**	*eP*	**P**	**11 33 13.8**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.2						
MOY	**Mondy**	**74.79**	**328**	*eP*	**P**	**11 33 25.9**	**+0.5**
JIRN	**Jiri**	**75.04**	**301**	*eP*	**P**	**11 33 29.0**	**+2.2**
	comp=Z,22nm,1.0s,mb4.8						
GUN	**Gumba**	**75.38**	**301**	*eP*	**P**	**11 33 30.3**	**+1.6**
PKI	**Pulchoki**	**75.68**	**301**	*eP*	**P**	**11 33 31.3**	**+0.8**
BILL	**Bilibino**	**75.69**	**4**	*c iP*	**P**	**11 33 29.5**	**-1.0**
BILL				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.5						
BILL	**Bilibino**	**75.69**	**4**	*eP*	**P**	**11 33 29.3**	**-1.2**
	comp=Z,8.5nm,0.9s,mb4.5						
KKN	**Kakani**	**75.85**	**301**	*eP*	**P**	**11 33 32.2**	**+0.8**
	comp=Z,9.7nm,0.6s,mb4.7						
KKN	**Kakani**	**75.85**	**301**	*eP*	**P**	**11 33 32.2**	**+0.8**
KKN				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.7						
DMN	**Daman**	**75.95**	**301**	*eP*	**P**	**11 33 33.3**	**+1.3**
GKN	**Gorkha**	**76.46**	**301**	*eP*	**P**	**11 33 35.7**	**+0.8**
KOLN	**Koldanda**	**77.28**	**301**	*eP*	**P**	**11 33 41.0**	**+1.5**
SVW2	**Sparrevohn**	**78.36**	**22**	*eP*	**P**	**11 33 45.3**	**-0.2**
TTA	**Tatalina**	**79.39**	**21**	*eP*	**P**	**11 33 50.3**	**-0.8**
TTA				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.7						
TTA	**Tatalina**	**79.39**	**21**	*eP*	**P**	**11 33 50.3**	**-0.8**
	comp=Z,13nm,1.0s,mb4.7						
SLKM	**Skilak Lake**	**80.10**	**24**	*eP*	**P**	**11 33 54.1**	**-0.8**
TIXI	**Tiksi**	**80.77**	**352**	*eP*	**P**	**11 33 56.5**	**-2.1**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.5s,mb3.9						
PMR	**Palmer**	**81.15**	**24**	*eP*	**P**	**11 33 59.3**	**-1.2**
PMR				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.4						
PMR	**Palmer**	**81.15**	**24**	*eP*	**P**	**11 33 59.3**	**-1.3**
	comp=Z,3.4nm,0.5s,mb4.4						
QSPA	**South Pole Qui**	**82.57**	**180**	*eP*	**P**	**11 34 10.8**	**+2.8**
	comp=Z,8.3nm,0.9s,mb4.6						
COLA	**College**	**83.45**	**21**	*eP*	**P**	**11 34 10.7**	**-1.8**
COLA				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.9						
COLA	**College**	**83.45**	**21**	*eP*	**P**	**11 34 10.7**	**-1.9**
	comp=Z,15nm,0.8s,mb4.9						
ILAR	**Eielson Array**	**83.74**	**21**	P	**P**	**11 34 12.2**	**-1.9**
	comp=Z,3.3nm,0.5s,mb4.4,baz=250,slow=5.4,SNR=53						
ILAR				LR	LR	12 07 45.8	
	comp=Z,53nm,18.3s,baz=180,slow=33						
ILAR	**Eielson Array**	**83.74**	**21**	P	**P**	**11 34 12.2**	**-1.9**
ILAR				LR	LR	12 07 45.8	
MKAR	**Makanchi Array**	**83.75**	**319**	P	**P**	**11 34 14.3**	**+0.2**
	comp=Z,3.5nm,0.8s,mb4.2,baz=105,slow=5.5,SNR=28						
ZAL	**Zalesovo**	**84.56**	**326**	P	**P**	**11 34 15.8**	**-2.3**
	comp=Z,1.0nm,0.6s,mb4.0,baz=334,slow=4.2,SNR=3.3						
KURK	**Kurchatov**	**87.19**	**322**	*eP*	**P**	**11 34 29.7**	**-1.5**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
KURK	**Kurchatov**	**87.19**	**322**	*eP*	**P**	**11 34 29.7**	**-1.5**
	comp=Z,2.8nm,0.6s,mb4.4						
AAK	**Ala-Archa**	**88.07**	**313**	*i P*	**P**	**11 34 36.4**	**+1.0**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
DLBC	**Dease Lake**	**88.47**	**31**	P	**P**	**11 34 38.1**	**+0.8**
	comp=Z,1.6nm,0.9s,mb4.0,baz=282,slow=7.0,SNR=5.6						
INK	**Inuvik**	**90.09**	**21**	P	**P**	**11 34 44.3**	**-0.6**
	comp=Z,3.2nm,0.5s,mb4.7,baz=247,slow=5.3,SNR=21						
INK	**Inuvik**	**90.09**	**21**	*eP*	**P**	**11 34 43.8**	**-1.0**
INK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
INK	**Inuvik**	**90.09**	**21**	*eP*	**P**	**11 34 43.8**	**-1.1**
	comp=Z,3.3nm,0.5s,mb4.7						
NVAR	**Mina Array Bea**	**91.94**	**52**	P	**P**	**11 34 55.3**	**+1.9**
	comp=Z,1.6nm,0.9s,mb4.2,baz=257,slow=3.8,SNR=12						
NEW	**Newport**	**94.03**	**42**	LR	LR	12 14 57.5	
	comp=Z,79nm,18.7s,baz=242,slow=34						
YKA	**Yellowknife Ar**	**96.68**	**28**	P	**P**	**11 35 14.7**	**-0.4**
	comp=Z,1.2nm,0.7s,mb4.4,baz=266,slow=4.5,SNR=16						
YKA	**Yellowknife Ar**	**96.68**	**28**	P	**P**	**11 35 14.7**	**-0.4**
PDAR	**Pinedale Array**	**98.94**	**48**	P	**P**	**11 35 25.1**	**-0.2**
	comp=Z,0.2nm,0.4s,mb4.0,baz=233,slow=1.5,SNR=4.1						
OBN	**Obninsk**	**112.12**	**327**	*eP*	Pdif	11 36 20.8	-3.1
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GERES	**GERESS Array B**	**127.43**	**329**	PKP	PKPdf	11 40 50.9	+1.5
	comp=Z,0.3nm,0.7s,baz=306,slow=2.3,SNR=3.2						
LPAZ	**La Paz**	**131.21**	**119**	PKP	PKPdf	11 40 59.9	+3.3
	comp=Z,1.1nm,0.9s,baz=39,slow=2.1,SNR=4.8						
BDFB	**Brasilia**	**147.65**	**135**	PKPbc	PKPbc	11 41 30.8	+1.8
	comp=Z,4.1nm,0.8s,baz=180,slow=5.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**153.18**	**284**	PKP	PKPdf	11 41 36.0	+1.2
	comp=Z,0.4nm,0.7s,baz=48,slow=2.1,SNR=3.0						
TORD				PKPbc	PKPbc	11 41 44.0	+1.7
	comp=Z,2.7nm,0.9s,baz=55,slow=2.5,SNR=12						
TORD				PKPab	PKPab	11 41 53.2	-1.1
	comp=Z,2.9nm,0.9s,baz=59,slow=1.7,SNR=6.4						

FUNV 14 11:45:23.7,889N×7123W,h4km,MW3.4,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIGV	**El Vigia**	**0.14**	**251**	*eP*	Pg	11 45 26.7	+0.2
VIGV				*eS*	Sg	11 45 29.1	+0.8
SOCV	**Socops**	**0.70**	**148**	*eP*	Pg	11 45 36.7	-0.5
CAPV	**Capacho**	**1.48**	**227**	*eP*	Pn	11 45 50.8	-0.2
CAPV				*eS*	Sn	11 46 11.0	+0.2
QARV	**Quebrada Arrib**	**1.49**	**28**	*eP*	Pn	11 45 50.4	-0.7
QARV				*eS*	Sn	11 46 10.5	-0.4
CURV	**Curarigua**	**1.68**	**48**	*eP*	Pn	11 45 53.0	-0.8
CURV				*eS*	Sn	11 46 15.7	0.0
DABV	**Dabajuro**	**2.11**	**16**	*eP*	Pn	11

GUMO	**Guam**		**35.78**	**321**	LR	LR	12 22 17.0			
	comp=Z,45nm,18.1s,baz=87,slow=34									
FITZ	**Fitzroy Crossi**		**39.77**	**259**	*e*P	**P**	**12 09 36.0**	**+0.8**		
	4.1nm,0.6s,mb4.4									
FITZ	**Fitzroy Crossi**		**39.77**	**259**	LR	LR	12 23 02.4			
	comp=Z,44nm,19.0s,baz=94,slow=32									
NWAO	**Narrogin (SRO)**		**48.48**	**239**	LR	LR	12 29 05.7			
	comp=Z,56nm,19.9s,baz=211,slow=33									
JHJ	**Hachijo jima 2**		**54.35**	**332**	LR	LR	12 34 53.4			
	comp=Z,96nm,18.8s,baz=60,slow=36									
MJAR	**Matsushiro Arr**		**57.91**	**333**	P	**P**	**12 11 53.5**	**-0.5**		
	1.4nm,0.8s,mb4.0,baz=161,slow=8.8,SNR=4.4									
VNDA	**Vanda**		**62.73**	**181**	P	**P**	**12 12 27.1**	**+0.3**		
	2.4nm,0.6s,mb4.3,baz=348,slow=5.4,SNR=9.1									
VNDA	**Vanda**		**62.73**	**181**	*e*P	**P**	**12 12 26.9**	**+0.1**		
	3.0nm,0.8s,mb4.3									
ASAJ	**Asahikawa**		**62.79**	**340**	LR	LR	12 35 37.7			
	comp=Z,27nm,19.9s,baz=121,slow=32									
SBA	**Scott Base**		**63.01**	**180**	*e*P	**P**	**12 12 29.1**	**+0.5**		
	10nm,0.6s,mb4.9									
FX1	**Attu Island--F**		**67.67**	**4**	P	**P**	**12 13 00.1**	**+1.4**		
	16nm,0.7s,mb5.0,baz=207,slow=16,SNR=3.4									
QSPA	**South Pole Qui**		**75.17**	**180**	*e*P	**P**	**12 13 44.0**	**+0.1**		
	9.4nm,1.0s,mb4.5									
ULN	**Ulaanbaatar**		**82.11**	**324**	P	**P**	**12 14 23.2**	**+1.2**		
	0.9nm,0.3s,mb4.1									
YBH	**Yreka Blue Hor**		**85.67**	**45**	P	**P**	**12 14 40.8**	**+0.7**		
	2.3nm,0.5s,mb4.4,baz=164,slow=14,SNR=5.7									
COLA	**College**		**86.51**	**18**	*e*P	**P**	**12 14 42.8**	**-1.4**		
	1.7nm,0.8s,mb4.0									
ILAR	**Eielson Array**		**86.72**	**18**	P	**P**	**12 14 44.0**	**-1.2**		
	2.3nm,0.8s,mb4.2,baz=239,slow=4.5,SNR=26									
ILAR					LR	LR	12 51 54.5			
	comp=Z,27nm,19.2s,baz=0.2,slow=34									
BBB	**Bella Bella**		**87.01**	**34**	LR	LR	12 48 51.7			
	comp=Z,33nm,18.0s,baz=257,slow=32									
PDAR	**Pinedale Array**		**95.20**	**47**	LR	LR	12 49 00.7			
	comp=Z,72nm,21.6s,baz=80,slow=30									
MKAR	**Makanchi Array**		**97.14**	**316**	P	**P**	**12 15 33.0**	**-0.6**		
	0.5nm,0.8s,mb4.0,baz=98,slow=7.5,SNR=4.6									
YKA	**Yellowknife Ar**		**97.77**	**27**	P	**P**	**12 15 35.4**	**-1.0**		
	0.4nm,0.8s,mb4.0,baz=255,slow=5.0,SNR=4.4									
ARCES	**ARCESS Array B**		**120.32**	**345**	PKP	PKPdf	12 20 51.3	-0.8		
	4.2nm,1.0s,baz=58,slow=1.2,SNR=7.6									
HINF	**Hinteralfeld**		**143.26**	**338**	*e*PKP1	PKPdf	12 21 34.3	-0.8		
MEZF	**Maizieres J'vi**		**143.31**	**340**	*e*PKP1	PKPdf	12 21 34.9	-0.3		
	7.2nm,0.8s									
CABF	**La Chapelle**		**144.56**	**337**	*e*PKP1	PKPdf	12 21 37.8	+0.5		
FLN	**La Foliniere**		**144.67**	**346**	*e*PKP1	PKPdf	12 21 37.6	+0.1		
LDF	**La Druitiere**		**144.74**	**345**	*e*PKP1	PKPdf	12 21 37.9	+0.2		
	5.9nm,0.8s									
LOR	**Lormes**		**144.78**	**340**	*e*PKP1	PKPdf	12 21 38.1	+0.4		
	3.2nm,0.7s									
SSF	**Saint Saulge**		**145.08**	**340**	*e*PKP1	PKPbc	12 21 39.2	+1.3		
	17nm,1.0s									
GRR	**Gorron**		**145.10**	**346**	*e*PKP1	PKPbc	12 21 39.4	+1.5		
	14nm,0.7s									
LPL	**La Plagne**		**145.22**	**335**	*e*PKP1	PKPbc	12 21 40.0	+1.7		
	12nm,1.0s									
LPG	**La Plagne**		**145.22**	**335**	*e*PKP1	PKPbc	12 21 40.2	+1.9		
	7.3nm,0.7s									
SMF	**Signal de Mont**		**145.33**	**339**	*e*PKP1	PKPbc	12 21 39.7	+1.0		
	9.6nm,0.9s									
AVF	**Avril sur Loir**		**145.37**	**340**	*e*PKP1	PKPbc	12 21 39.7	+0.9		
	9.5nm,1.0s									
SGMF	**Saint Gilles**		**145.61**	**348**	*e*PKP1	PKPbc	12 21 40.2	+0.7		
	13nm,0.7s									
ROSF	**Rostrenen**		**145.67**	**349**	*e*PKP1	PKPbc	12 21 40.4	+0.7		
	37nm,1.2s									
BGF	**Bois d'Agland**		**145.74**	**340**	*e*PKP1	PKPbc	12 21 41.1	+1.2		
	16nm,0.9s									
MBDF	**Montbardon**		**145.85**	**335**	*e*PKP1	PKPbc	12 21 42.0	+1.7		
ORIF	**Oris-en-Rattie**		**146.05**	**336**	*e*PKP1	PKPbc	12 21 42.3	+1.4		
	14nm,0.7s									
QUIF	**Quistinic**		**146.05**	**348**	*e*PKP1	PKPbc	12 21 41.3	+0.4		
TCF	**Toulx Ste Croi**		**146.18**	**341**	*e*PKP1	PKPbc	12 21 42.3	+1.0		
	7.0nm,1.0s									
SBF	**Sospel**		**146.26**	**333**	*e*PKP1	PKPbc	12 21 42.3	+0.8		
	28nm,0.8s									
VIVF	**Saint-Julien-l**		**146.57**	**337**	*e*PKP1	PKPbc	12 21 43.7	+1.3		
MFF	**Saint Martin d**		**146.58**	**344**	*e*PKP1	PKPbc	12 21 44.1	+1.6		
	24nm,0.8s									
FRF	**La Foret Royal**		**146.84**	**334**	*e*PKP1	PKPbc	12 21 44.8	+1.6		
	26nm,1.1s									
SMRF	**Simiane la Rot**		**146.95**	**335**	*e*PKP1	PKPbc	12 21 45.7	+2.2		
	8.7nm,0.8s									
RJF	**Les Rejaudoux**		**147.28**	**341**	*e*PKP1	PKPbc	12 21 44.8	+0.4		
	9.8nm,0.9s									
CAF	**Calviac**		**147.44**	**340**	*e*PKP1	PKPbc	12 21 46.3	+1.5		
LASF	**Ste Croix**		**147.54**	**337**	*e*PKP1	PKPbc	12 21 46.4	+1.3		
	14nm,1.1s									
LFF	**La Frestale**		**147.85**	**342**	*e*PKP1	PKPbc	12 21 47.2	+1.2		
	12nm,0.8s									
MTLF	**Montolieu**		**148.78**	**338**	*e*PKP1	PKPbc	12 21 49.6	+1.2		
	9.1nm,0.9s									
ETSF	**Etsaut**		**150.09**	**342**	*e*PKP1	PKPbc	12 21 53.4	+1.8		
	4.1nm,0.6s									

*ISCJB **14** 12:05:18.1±1.1,3761N±004×2079E±006,h3^{km}±7^{km}, Error ellipse: s-maj=9.1km s-min=4.5km az=99.4*
*NEIC **14** 12:05:20.7,3767N×2092E,h15^{km},MD3.5(ATH), After ATH.*
*THE **14** 12:05:20.5,3769N×2073E,h4^{km},ML3.0*
*ATH **14** 12:05:20.1,3764N×2090E,h12^{km}±2^{km},MD3.5/7*
*CSEM **14** 12:05:20.2±0.2,3762N×2086E,h2^{km},MD3.5, Error ellipse: s-maj=4.0km s-min=2.0km az=39.0*
*SKO **14** 12:05:28.8,3827N×2140E,h0^{km}*
ISC 14 12:05:19.4±1.0,**3761N**±004×**2088E**±005,**h1**km±6km,**n29,** σ0**86**/40,**1D,Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.62**	**338**	*e*PB	**Pg**	**12 05 31.5**	**+0.3**
VLS				*e*SB	**Sg**	**12 05 40.0**	**+0.8**
VLS	**Valsamata**	**0.62**	**338**	*e*Pn	**Pg**	**12 05 31.4**	**+0.2**
VLS				*e*Sn	**Sg**	**12 05 40.8**	**+1.6**
RLS	**Riolos of Patr**	**0.65**	**46**	*i*/PB	**Pg**	**12 05 31.4**	**-0.4**
RLS				*e*SB	**Sg**	**12 05 40.4**	**+0.2**
RLS	**Riolos of Patr**	**0.65**	**46**	*e*Pn	**Pg**	**12 05 31.4**	**-0.4**
RLS				*e*Sn	**Sg**	**12 05 40.6**	**+0.4**
ITM	**Ithomi**	**0.93**	**117**	*e*PB	**Pb**	**12 05 38.0**	**-0.4**
ITM				*e*SB	**Sb**	**12 05 51.3**	**0.0**
ITM	**Ithomi**	**0.93**	**117**	*e*Pb	**Pb**	**12 05 38.0**	**-0.4**
ITM				*e*Sn	**Sn**	**12 05 52.3**	**-1.4**
LKD	**Levkas**	**1.12**	**351**	*e*Pg	**Pg**	**12 05 39.9**	**-0.8**
LKD				*e*Sg	**Sg**	**12 05 54.1**	**-1.1**
EVR	**Evrytania**	**1.50**	**29**	*e*PB	**Pb**	**12 05 48.0**	**0.0**
EVR				*e*SB	**Sb**	**12 06 08.0**	**+0.5**
AGG	**Agios Georgios**	**1.82**	**38**	*e*Pb	**Pb**	**12 05 52.4**	**-1.1**
AGG				*e*Sb	**Sb**	**12 06 16.8**	**+0.1**
VLI	**Veliai**	**1.86**	**118**	*e*PG	**Pg**	**12 05 55.2**	**+0.1**
MGER	**Gerania Oros**	**1.92**	**78**	*e*PN	**Pn**	**12 05 54.0**	**+0.8**
LKR	**Lokris**	**1.97**	**57**	*e*PN	**Pn**	**12 05 54.4**	**+0.5**
IGT	**Igoumenitsa**	**1.97**	**348**	*e*Pb	**Pb**	**12 05 51.4**	**-4.7**
IGT				*e*Sb	**Sb**	**12 06 17.8**	**-3.4**
JAN	**Janina**	**2.05**	**359**	*e*PN	**Pn**	**12 05 55.9**	**+0.9**
KEK	**Kerkira**	**2.27**	**338**	*e*PN	**Pn**	**12 05 59.9**	**+1.9**
PTL	**Penteli**	**2.40**	**78**	*e*PN	**Pn**	**12 06 01.0**	**+1.2**
NEO	**Neokhori**	**2.50**	**47**	*e*PB	**Pb**	**12 06 01.7**	**-3.4**
XOR	**Xorichti**	**2.53**	**45**	*e*Pn	**Pn**	**12 06 01.9**	**+0.4**
LIT	**Litokhoron**	**2.79**	**26**	*e*Pn	**Pn**	**12 06 05.5**	**+0.3**
PAIG	**Paliouri**	**3.19**	**42**	*e*Pn	**Pn**	**12 06 10.2**	**-0.5**
FNA	**Florina**	**3.20**	**7**	*e*Pn	**Pn**	**12 06 11.0**	**+0.3**
FNA				*e*Sn	**Sn**	**12 06 48.7**	**-0.9**
BIA	**Bitola**	**3.43**	**6**	*e*Pn	**Pn**	**12 06 13.2**	**-0.7**
GRG	**Griva**	**3.55**	**19**	*e*Pn	**Pn**	**12 06 16.1**	**+0.5**
GRG	**Griva**	**3.55**	**19**	*e*Pn	**Pn**	**12 06 16.0**	**+0.4**
SOH	**Sokhos**	**3.74**	**30**	*e*Pn	**Pn**	**12 06 19.3**	**+1.1**
KNT	**Kendrikon**	**3.88**	**23**	*e*Pn	**Pn**	**12 06 20.7**	**+0.5**
VAY	**Valandovo**	**3.94**	**19**	*e*Pn	**Pn**	**12 06 20.5**	**-0.4**
PE1	**Pezze di Greco**	**4.17**	**321**	*e*Pn	**Pn**	**12 06 23.2**	**-1.0**
SG1	**Sgolgore (BA)**	**4.59**	**316**	*e*Pn	**Pn**	**12 06 29.5**	**-0.4**

*BJI **14** 12:21:11.2,023S×9681E,h30^{km},mB5.0,mb4.7,Ms4.8, Msz4.5*
*ISCJB **14** 12:21:16.1±3.6,072N±007×9696E±008,h10^{km}±22^{km}, mb4.2/16,MS4.0/1, Error ellipse: s-maj=13.4km s-min=11.8km az=87.0*
*IDC **14** 12:21:16.5±0.9,069N×9697E,h0^{km},mb4.2/9,mb1 4.3/10, mb1mx4.1/20,mbtmp4.2/10,ML3.6/1,MS3.6/2,Ms1 3.6/2, ms1mx2.8/33,Error ellipse: s-maj=31.7km s-min=16.7km az=57.0*
*MOS **14** 12:21:20.3±0.7,081N×9705E,h33^{km},mb4.5/5,Error ellipse: s-maj=20.4km s-min=14.8km az=97.5*
*NEIC **14** 12:21:21.1±0.5,074N×9702E,h30^{km},mb4.3/2,Error ellipse: s-maj=12.2km s-min=9.3km az=56.0*
ISC 14 12:21:16.8±3.3,**073N**±007×**9696E**±008,**h1**km±21km,**n33,** σ0**88**/31,**mb4.3**/16,**MS4.0**/1,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.84**	**44**	Pn	**Pn**	**12 22 02.6**	**-0.7**
	9.8nm,0.3s,baz=238,slow=5.6,SNR=56						
PSI				Sn	**Sn**	**12 22 37.5**	**-0.7**
	7.0nm,0.3s,baz=181,slow=19,SNR=5.4						
PSI				LR	LR	12 23 22.3	
	comp=Z,330nm,18.1s,baz=158,slow=45						
PSI	**Prapat**	**2.84**	**44**	P	**Pn**	**12 22 02.6**	**-0.7**
PSI						12 22 37.5	
IPM	**Ipoh**	**5.51**	**47**	P	**Pn**	**12 22 40.7**	**+0.7**
KULM	**Kulim**	**5.84**	**39**	*e*P	**Pn**	**12 22 44.1**	**-0.4**
KGM	**Kluang**	**6.49**	**79**	P	**Pn**	**12 22 54.7**	**+1.3**
KKM	**Kota Kinabalu**	**19.93**	**74**	P	**Pn**	**12 25 47.1**	**-4.5**
KKM	**Kota Kinabalu**	**19.93**	**74**	*e*P	**Pn**	**12 25 51.5**	**-0.1**
HYB	**Hyderabad**	**24.55**	**313**	*i* P	**P**	**12 26 45.0**	**+7.0**
KMI	**Kunming**	**24.88**	**13**	P	**P**	**12 26 43.3**	**+2.3**
KMI				AP		12 26 52.0	
KMI				XP	sP	12 26 57.1	+16
KMI				PP		12 27 23.9	
KMI				S	**S**	**12 31 07.1**	**+2.2**
KMI				XS	sS	12 31 22.1	+17
KMI				SS		12 32 10.0	
KMI				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.5						
KMI				AMB	AMB		
	comp=Z,139nm,5.0s						
KMI				LR	LR		
	comp=N,274nm,5.5s						
KMI				LR	LR		
	comp=E,389nm,5.8s						
KMI				LR	LR		
	comp=Z,323nm,6.4s						
NJ2	**Nanjing**	**37.39**	**31**	*e*P	**P**	**12 28 31.1**	**0.0**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
WRA	**Warramunga Arr**	**42.00**	**121**	P	**P**	**12 29 09.5**	**0.0**
	comp=Z,1.9nm,0.6s,mb4.0,baz=303,slow=9.0,SNR=16						
WRAB	**Tennant Creek**	**42.01**	**121**	*e*P	**P**	**12 29 09.9**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
WRAB	**Tennant Creek**	**42.01**	**121**	*e*P	**P**	**12 29 09.9**	**+0.3**
	comp=Z,3.4nm,0.7s,mb4.2						
ASAR	**Alice Springs**	**43.31**	**127**	P	**P**	**12 29 20.7**	**+0.5**
	comp=Z,1.9nm,0.8s,mb3.9,baz=300,slow=8.0,SNR=19						
SONM	**Songino Array**	**47.62**	**9**	P	**P**	**12 29 54.7**	**+0.3**
	comp=Z,1.1nm,0.5s,mb4.3,baz=192,slow=9.4,SNR=12						
SONM				PcP	PcP	12 31 24.7	+0.6
	comp=Z,1.0nm,0.5s,baz=191,slow=4.5,SNR=6.2						
MKAR	**Makanchi Array**	**47.63**	**346**	P	**P**	**12 29 55.1**	**+0.6**
	comp=Z,3.5nm,0.5s,mb4.7,baz=160,slow=8.3,SNR=48						
CBIJ	**Chichi jima**	**50.69**	**55**	LR	LR	12 47 42.8	
	comp=Z,153nm,21.4s,MS4.0,baz=175,slow=31						
KURK	**Kurchatov**	**52.18**	**345**	*e*P	**P**	**12 30 29.3**	**+0.3**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
KURK	**Kurchatov**	**52.18**	**345**	*e*P	**P**	**12 30 29.3**	**+0.3**
	comp=Z,6.2nm,1.1s,mb4.5						
STKA	**Stephens Creek**	**53.23**	**132**	P	**P**	**12 30 35.9**	**-0.9**
	comp=Z,3.0nm,0.9s,mb4.2,baz=326,slow=10.0,SNR=5.8						
ZAL	**Zalesovo**	**53.97**	**351**	P	**P**	**12 30 41.8**	**-0.4**
	comp=Z,4.9nm,0.5s,mb4.8,baz=303,slow=5.9,SNR=16						
KLR	**Kul'dur**	**56.78**	**27**	*e*P	**P**	**12 31 00.0**	**-2.5**
BOD	**Bodaibo**	**58.51**	**11**	*e*P	**P**	**12 31 14.1**	**-0.6**
AKTK	**Aktyubinsk**	**59.52**	**332**	P	**P**	**12 31 21.3**	**-0.4**
AKTO	**Aktyubinsk**	**59.52**	**332**	P	**P**	**12 31 21.3**	**-0.4**
	comp=Z,0.7nm,0.5s,mb3.9,baz=41,slow=7.1,SNR=4.0						
OBN	**Obninsk**	**72.88**	**328**	*e*P	**P**	**12 32 47.0**	**-0.5**
OBN				*e*		12 33 03.0	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
TIXI	**Tiksi**	**73.68**	**10**	*e*P	**P**	**12 32 45.9**	**-6.3**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
BILL	**Bilibino**	**81.68**	**21**	*e*P	**P**	**12 33 35.9**	**-0.9**
BILL				*e*		12 36 40.7	
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.9						
ARCES	**ARCESS Array B**	**82.89**	**340**	P	**P**	**12 33 43.3**	**+0.2**
	comp=Z,19nm,1.3s,mb5.2,baz=76,slow=5.1,SNR=4.3						
GERES	**GERESS Array B**	**85.00**	**319**	P	**P**	**12 33 54.8**	**+0.9**
	comp=Z,0.4nm,0.8s,mb3.7,baz=188,slow=2.7,SNR=3.6						
CPUP	**Villa Florida**	**144.50**	**222**	PKP	PKPdf	12 40 54.4	-0.6
	comp=Z,0.8nm,0.6s,baz=340,slow=1.1,SNR=3.0						
CPUP	**Villa Florida**	**144.50**	**222**	PKP	PKPdf	12 40 54.4	-0.6
CPUP				*e*PKPdf	PKPdf	12 40 54.5	-0.5
JCT	**Junction City**	**145.10**	**26**	*e*PKIKP	PKPdf	12 40 56.0	0.0

*IDC **14** 12:24:11.1±0.9,2156N×121.17E,h0^{km},mb3.7/8, mb1 3.9/9,mb1mx3.7/20,mbtmp3.7/9,ML3.1/1,MS3.1/1, Ms1 3.1/1,ms1mx1.7/36,Error ellipse: s-maj=30.9km s-min=19.6km az=69.0*
*NEIC **14** 12:24:16.7±2.1,2155N×12121E,h38^{km}±20^{km},mb4.1/2, Error ellipse: s-maj=27.7km s-min=12.2km az=58.0*
*ISCJB **14** 12:24:17.2±1.5,2155N±008×12119E±008,h58^{km}±14^{km}, mb3.7/10,Error ellipse: s-maj=13.0km s-min=12.5km az=173.7*
*JMA **14** 12:24:19.2±0.3,2152N×12136E,h107^{km},M3.5*
ISC 14 12:24:18.5±1.5,**2155N**±008×**12116E**±008,**h54**km±14km, **n22,** σ0**95**/27,**mb3.7**/10,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**2.64**	**9**	*e*P	**Pn**	**12 24 56.5**	**-2.2**
YHNB	**Yeheng**	**3.11**	**4**	*e*P	**Pn**	**12 25 05.0**	**-0.1**
YHNB				*e*S	**Sn**	**12 25 40.9**	**-0.1**
YOJ	**Yonaguni jima**	**3.37**	**30**	*e*S	**Sn**	**12 25 49.2**	**+1.9**
TATO	**Taipei**	**3.42**	**5**	*e*Pn	**Pn**	**12 25 05.9**	**-3.5**
HATJ	**Hateruma jima**	**3.49**	**44**	P	**Pn**	**12 25 11.2**	**+0.9**
HATJ				*e*S	**Sn**	**12 25 50.2**	**-0.2**
IRIF	**Iriomote-Funau**	**3.65**	**40**	P	**Pn**	**12 25 13.1**	**+0.6**
JKRS	**Kuro-shima**	**3.75**	**44**	P	**Pn**	**12 25 14.7**	**+0.8**
JKRS				*e*S	**Sn**	**12 25 56.7**	**-0.1**
JIJ	**Ishigaki jima**	**3.93**	**44**	P	**Pn**	**12 25 17.1**	**+0.8**
JIJ				*e*S	**Sn**	**12 26 00.7**	**-0.4**
JTJ	**Tarama**	**4.49**	**46**	P	**Pn**	**12 25 24.6**	**+0.6**
JTJ				*e*S	**Sn**	**12 26 15.6**	**+0.8**
JOW	**Kunigami**	**8.36**	**50**	Pn	**Pn**	**12 26 15.3**	**-1.7**
	0.5nm,0.3s,baz=292,slow=19,SNR=3.0						
JOW				Sn	**Sn**	**12 27 48.1**	**-1.8**
	0.4nm,0.3s,baz=143,slow=20,SNR=1.8						
GUMO	**Guam**	**23.93**	**105**	LR	LR	12 38 23.7	
	comp=Z,50nm,20.2s,baz=207,slow=36						
MKAR	**Makanchi Array**	**40.24**	**318**	P	**P**	**12 31 49.9**	**-0.1**
	0.5nm,0.6s,mb3.4,baz=122,slow=9.3,SNR=2.8						
ZAL	**Zalesovo**	**42.46**	**329**	P	**P**	**12 32 07.1**	**-1.0**
	1.2nm,0.7s,mb3.6,baz=3.2,slow=13,SNR=3.4						
ZAL	**Zalesovo**	**42.46**	**329**	P	**P**	**12 32 07.1**	**-1.0**
WRA	**Warramunga Arr**	**43.20**	**162**	P	**P**	**12 32 13.7**	**-0.5**
	0.7nm,0.5s,mb3.6,baz=345,slow=9.0,SNR=5.2						
KURK	**Kurchatov**	**44.11**	**322**	*e*P	**P**	**12 32 21.9**	**+0.4**
	1.3nm,0.4s,mb4.0						
ASAR	**Alice Springs**	**46.62**	**164**	P	**P**	**12 32 41.7**	**+0.3**
	0.3nm,0.3s,mb3.7,baz=343,slow=7.8,SNR=6.6						
BRVK	**Borovoye**	**49.78**	**322**	*e*P	**P**	**12 33 06.5**	**+0.8**
	1.0nm,0.6s,mb4.0						
ILAR	**Eielson Array**	**71.56**	**27**	P	**P**	**12 35 33.1**	**-0.8**
	0.2nm,0.6s,mb3.2,baz=277,slow=5.5,SNR=4.5						
FINES	**FINESS Array B**	**73.70**	**330**	P	**P**	**12 35 47.3**	**+0.7**
	0.9nm,0.8s,mb3.7,baz=116,slow=4.4,SNR=4.8						
AKASG	**Malin Array Be**	**74.82**	**319**	P	**P**	**12 35 52.9**	**-0.3**
	0.3nm,0.3s,mb3.8,baz=59,slow=4.2,SNR=6.3						
GERES	**GERESS Array B**	**84.86**	**321**	P	**P**	**12 36 48.0**	**+0.7**
	0.2nm,0.5s,mb3.5,baz=343,slow=1.4,SNR=3.8						

IDC 14 12:24:50.5±1.2,**012N**×**12614E**,**h0**km,**mb3.8**/4,**mb1 4.0**/4, **mb1mx3.7**/16,**mbtmp3.8**/4,**Error ellipse: s-maj=133.6km s-min=20.6km az=68.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.50**	**159**	P	P	12 29 41.4	+0.6
	2.1nm,0.4s,baz=336,slow=10,SNR=27						
ASAR	**Alice Springs**	**24.82**	**163**	P	P	12 30 14.4	+0.1
	2.0nm,0.4s,baz=342,slow=11,SNR=27						
SONM	**Songino Array**	**50.53**	**343**	P	P	12 33 49.9	-0.7
	0.3nm,0.5s,baz=170,slow=6.3,SNR=3.2						
MKAR	**Makanchi Array**	**60.20**	**327**	P	P	12 35 01.0	+0.8
	0.7nm,0.3s,baz=112,slow=8.1,SNR=12						

*ISCJB **14** 12:40:05.2±2.9,440N±0.1×1287W±0.1,h4^{km}±25^{km}, mb3.2/2,Error ellipse: s-maj=21.3km s-min=10.8km az=86.9*
*IDC **14** 12:40:06.7±2.9,4399N×12861W,h0^{km},mb3.2/3, mb1 3.5/7,mb1mx3.4/24,mbtmp3.3/7,ML3.5/4,MS3.1/2, Ms1 3.1/2,ms1mx2.4/17,Error ellipse: s-maj=48.1km s-min=18.6km az=55.0*
*NEIC **14** 12:40:08.0±1.6,4398N×12871W,h10^{km},Error ellipse: s-maj=22.0km s-min=9.1km az=53.0*
ISC 14 12:40:08.4±3.8,**440N**±01×**1288W**±01,**h17**km±32km,**n20,** σ1§**02**/21,**mb3.2**/2,**Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MPOR	**Mary's Peak**	**3.80**	**80**	P	**Pn**	**12 41 04.3**	**-1.7**
COR	**Corvallis**	**3.98**	**79**	*e*Pn	**Pn**	**12 41 07.3**	**-1.2**
COR				*e*S	**Sn**	**12 41 55.3**	**+0.6**
HSO	**Harness Mounta**	**4.14**	**94**	P	**Pn**	**12 41 10.6**	**-0.2**
HUMO	**Hull Mountain**	**4.46**	**106**	*e*Pn	**Pn**	**12 41 13.7**	**-1.4**
BBOR	**Butler Butte**	**4.57**	**101**	P	**Pn**	**12 41 16.2**	**-0.4**
HBO	**Huckleberry Mo**	**4.67**	**89**	P	**Pn**	**12 41 19.4**	**+1.4**
OCWA	**Octopus Mounta**	**4.97**	**39**	*e*Pn	**Pn**	**12 41 21.4**	**-0.7**
YBH	**Yreka Blue Hor**	**4.99**	**114**	Pn	**Pn**	**12 41 22.3**	**0.0**
	0.3nm,0.3s,baz=227,slow=13,SNR=6.2						
YBH	**Yreka Blue Hor**	**4.99**	**114**	*e*Pn	**Pn**	**12 41 22.4**	**0.0**
VLL	**Laurance Lake**	**5.28**	**71**	P	**Pn**	**12 41 26.8**	**+0.4**
MEW	**McNeil Island**	**5.39**	**51**	P	**Pn**	**12 41 28.8**	**+0.9**
BBB	**Bella Bella**	**8.24**	**3**	Pn	**Pn**	**12 42 08.4**	**+1.3**
	0.5nm,0.3s,baz=233,slow=5.9,SNR=26						
NEW	**Newport**	**9.17**	**58**	Pn	**Pn**	**12 42 19.1**	**-0.6**
	0.6nm,0.3s,baz=268,slow=11,SNR=5.6						
NEW				LR	LR	12 45 44.6	
	comp=Z,93nm,19.7s,baz=210,slow=37						
NEW	**Newport**	**9.17**	**58**	*e*Pn	**Pn**	**12 42 19.4**	**-0.3**
	3.0nm,0.7s						
NVAR	**Mina Array Bea**	**9.63**	**121**	Pn	**Pn**	**12 42 27.7**	**+1.6**
	0.1nm,0.3s,baz=287,slow=13,SNR=2.6						
HLID	**Hailey**	**10.40**	**87**	P	**Pn**	**12 42 38.4**	**+1.7**
	2.1nm,0.9s						
YKA	**Yellowknife Ar**	**20.32**	**19**	P	**P**	**12 44 43.4**	**-0.1**
	1.0nm,0.8s,baz=206,slow=10,SNR=7.5						
YKA	**Yellowknife Ar**	**20.32**	**19**	P	**P**	**12 44 43.4**	**-0.1**
ULM	**Lac du Bonnet**	**23.13**	**63**	P	**P**	**12 45 12.3**	**-1.3**
	0.8nm,0.4s,mb3.5,baz=257,slow=12,SNR=3.2						
ILAR	**Eielson Array**	**23.20**	**340**	P	**P**	**12 45 14.0**	**-0.3**
	0.5nm,1.0s,mb2.9,baz=147,slow=8.7,SNR=5.7						

*ISCJB **14** 12:46:13.8±1.3,190S±02×1776W±01,h551^{km}±24^{km}, mb4.0/11,Error ellipse: s-maj=34.2km s-min=19.0km az=145.6*
*IDC **14** 12:46:14.9±1.6,1908S×17767W,h550^{km}±16^{km},mb3.5/5, mb1 3.6/6,mb1mx3.3/15,mbtmp4.5/6,Error ellipse: s-maj=38.5km s-min=13.0km az=151.0*
*NEIC **14** 12:46:14.9±0.9,1919S×17757W,h555^{km}±11^{km},mb4.1/8, Error ellipse: s-maj=18.

s-maj=18.2km s-min=13.6km az=51.0

ISC 14 12:47:00.0±1.7, 5594S±008×277W±02, h75km±18km, n35, σ0870/29, mb4.3/15, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.29**	**285**	*eP*	**Pn**	**12 48 16.0**	**-0.4**
	314nm,0.8s						
HOPE				*eS*	**Sn**	**12 49 09.8**	**-6.3**
VNA1	**Neumayer--Stat**	**17.01**	**158**	*e*	**Pn**	**12 50 54.1**	**+1.0**
VNA1				*e*		12 50 59.1	
VNA1				*e*		12 51 01.0	
VNA3	**Neumayer Olymp**	**17.20**	**160**	*e*	**Pn**	**12 50 56.0**	**+0.7**
VNA3				*e*		12 51 01.5	
VNA2	**Neumayer--Watz**	**17.41**	**158**	*e*	**Pn**	**12 50 57.8**	**-0.1**
VNA2				*e*		12 51 02.4	
VNA2				*e*		12 51 05.3	
SNAA	**Sanae**	**18.97**	**156**	P	**Pn**	**12 51 15.4**	**-1.3**
	6.8nm,0.3s,baz=303,slow=11,SNR=169						
SNAA	**Sanae**	**18.97**	**156**	*e*	**Pn**	**12 51 15.2**	**-1.5**
SNAA				*e*		12 51 17.5	
SNAA				*e*		12 51 18.2	
SNAA				*e*		12 51 20.0	
SNAA				*e*		12 51 22.2	
QSPA	**South Pole Qui**	**34.31**	**180**	*eP*	**P**	**12 53 39.8**	**+0.6**
	19nm,0.5s,mb5.2						
CPUP	**Villa Florida**	**36.51**	**312**	P	**P**	**12 53 57.8**	**-0.2**
	0.9nm,0.4s,mb4.0,baz=134,slow=8.1,SNR=6.9						
CPUP	**Villa Florida**	**36.51**	**312**	*eP*	**P**	**12 53 57.6**	**-0.5**
	14nm,1.0s,mb4.8						
MAW	**Mawson**	**40.42**	**144**	P	**P**	**12 54 30.8**	**-0.1**
	4.8nm,0.6s,mb4.5,baz=353,slow=16,SNR=13						
BDFB	**Brasilia**	**43.12**	**331**	P	**P**	**12 54 53.8**	**+1.0**
	1.1nm,0.5s,mb3.8,baz=146,slow=7.8,SNR=4.3						
SBA	**Scott Base**	**46.17**	**184**	*eP*	**P**	**12 55 17.5**	**+0.3**
	3.1nm,0.6s,mb4.2						
VNDA	**Vanda**	**46.67**	**183**	P	**P**	**12 55 21.1**	**0.0**
	6.3nm,0.7s,mb4.5,baz=185,slow=5.8,SNR=33						
VNDA	**Vanda**	**46.67**	**183**	*eP*	**P**	**12 55 21.1**	**0.0**
	7.2nm,0.8s,mb4.5						
SIV	**San Ignacio**	**47.28**	**314**	P	**P**	**12 55 25.3**	**-0.5**
	0.5nm,0.6s,mb3.4,baz=178,slow=7.6,SNR=3.9						
LBTB	**Lobatse**	**49.28**	**74**	P	**P**	**12 55 40.0**	**-1.2**
	2.5nm,0.7s,mb4.3,baz=239,slow=8.8,SNR=6.9						
LBTB	**Lobatse**	**49.28**	**74**	*eP*	**P**	**12 55 41.4**	**+0.2**
	2.7nm,0.7s,mb4.3						
TSUM	**Tsumeb**	**49.90**	**61**	P	**P**	**12 55 46.6**	**+0.6**
	1.3nm,0.7s,mb4.0,baz=53,slow=16,SNR=3.9						
TSUM	**Tsumeb**	**49.90**	**61**	*eP*	**P**	**12 55 46.5**	**+0.5**
	2.0nm,0.7s,mb4.2						
LPAZ	**La Paz**	**50.06**	**306**	P	**P**	**12 55 48.4**	**+1.2**
	3.5nm,0.6s,mb4.5,baz=223,slow=7.8,SNR=18						
LPAZ	**La Paz**	**50.06**	**306**	*eP*	**P**	**12 55 47.9**	**+0.8**
SAML	**Samuel**	**54.51**	**315**	*eP*	**P**	**12 56 19.7**	**-0.4**
	1.5nm,0.6s,mb4.2						
MATP	**Matopo**	**54.55**	**73**	P	**P**	**12 56 20.2**	**-0.2**
	2.1nm,0.5s,mb4.4,baz=225,slow=6.8,SNR=8.6						
MATP	**Matopo**	**54.55**	**73**	*eP*	**P**	**12 56 20.2**	**-0.2**
DBIC	**Dimbokro**	**55.20**	**25**	P	**P**	**12 57 33.8**	**+0.4**
	2.2nm,0.7s,mb4.1,baz=153,slow=10,SNR=3.5						
DBIC	**Dimbokro**	**65.20**	**25**	*eP*	**P**	**12 57 33.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**73.11**	**30**	P	**P**	**12 58 22.4**	**+0.1**
	5.1nm,0.6s,mb4.6,baz=200,slow=6.4,SNR=49						
ASAR	**Alice Springs**	**99.19**	**163**	P	**P**	**13 00 31.8**	**-1.5**
	0.7nm,1.0s,mb4.1,baz=190,slow=4.5,SNR=6.3						
WRA	**Warramunga Arr**	**102.91**	**163**	P	Pdif	13 00 49.6	-0.1
	0.6nm,1.1s,baz=200,slow=4.4,SNR=2.9						
FINES	**FINESS Array B**	**124.43**	**28**	PKP	PKPdf	13 05 47.8	-2.7
	1.3nm,0.5s,baz=115,slow=1.0,SNR=12						
ARCES	**ARCESS Array B**	**130.96**	**22**	PKP	PKPdf	13 06 00.5	-2.4
	10nm,1.2s,baz=315,slow=0.2,SNR=6.4						
YKA	**Yellowknife Ar**	**135.88**	**318**	PKP	PKPdf	13 06 09.4	-2.8
	0.7nm,0.6s,baz=128,slow=2.0,SNR=7.9						
ILAR	**Eielson Array**	**149.81**	**312**	PKPbc	PKPbc	13 06 39.0	-2.5
	3.5nm,0.8s,baz=130,slow=1.8,SNR=24						
KDAK	**Kodiak Island**	**150.49**	**297**	PKPbc	PKPbc	13 06 41.4	-1.7
	5.7nm,0.4s,baz=309,slow=0.7,SNR=11						
SONM	**Songino Array**	**151.03**	**87**	PKPbc	PKPbc	13 06 42.5	-1.8
	4.0nm,0.6s,baz=219,slow=3.8,SNR=44						

*ISCJB **14** 12:53:39.0±0.6, 2792S±004×6688W±008, h158km±12km, mb3.9/4, Error ellipse: s-maj=11.9km s-min=5.9km az=178.2*
*IDC **14** 12:53:39.4±1.1, 2792S×6679W, h144km±13km, mb3.8/3, mb1 3.8/6, mb1mx3.5/17, mbtmp4.2/6, Error ellipse: s-maj=23.2km s-min=10.8km az=93.0*
*NEIC **14** 12:53:39.8±0.4, 2792S×6679W, h149km±6km, mb3.9/4, Error ellipse: s-maj=7.8km s-min=5.5km az=89.0*
*GUC **14** 12:53:43.8±0.7, 2766S×6705W, h140km±76km, ML4.7*

ISC 14 12:53:39.9±0.6, 2791S±004×6687W±008, h149km±12km, n30, σ1804/38, mb3.9/4, 9C-2D, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**3.14**	**279**	↑*iP*	**Pn**	**12 54 30.5**	**+1.6**
CPCH				*i* S	**Sn**	**12 55 06.6**	**-0.3**
CPCH				AML	AML	12 55 10.6	
	comp=E,5µm,0.1s						
CPCH	**Copiapo**	**3.14**	**279**	↑*iP*	**Pn**	**12 54 30.5**	**+1.6**
CPCH				*i* S	**Sn**	**12 55 06.6**	**-0.3**
CDCH	**Caldera**	**3.61**	**282**	↑*iP*	**Pn**	**12 54 35.0**	**-0.1**
CDCH				*i* S	**Sn**	**12 55 14.7**	**-3.2**
CDCH				AML	AML	12 55 15.9	
	comp=N,477nm,0.5s						
CDCH	**Caldera**	**3.61**	**282**	↑*iP*	**Pn**	**12 54 35.0**	**-0.1**
CDCH				*i* S	**Sn**	**12 55 14.7**	**-3.2**
CRCH	**Chaqaral**	**3.69**	**294**	↑*iP*	**Pn**	**12 54 37.0**	**+1.0**
CRCH				*i* S	**Sn**	**12 55 17.1**	**-2.4**
CRCH				AML	AML	12 55 24.8	
	comp=E,425nm,0.3s						
CRCH	**Chaqaral**	**3.69**	**294**	↑*iP*	**Pn**	**12 54 37.0**	**+1.0**
CRCH				*i* S	**Sn**	**12 55 17.1**	**-2.4**
CFAA	**Coronel Fontan**	**3.87**	**198**	P	**Pn**	**12 54 39.5**	**+1.1**
	comp=E,1.2nm,0.3s,baz=14,slow=12,SNR=36						
CFAA				S	**Sn**	**12 55 23.3**	**-0.5**
	comp=E,9.4nm,0.3s,baz=17,slow=14,SNR=11						
CFAA	**Coronel Fontan**	**3.87**	**198**	P	**Pn**	**12 54 39.5**	**+1.1**
CFAA				S	**Sn**	**12 55 23.3**	**-0.5**
TLL	**Tololo Astrono**	**4.11**	**236**	↑*iP*	**Pn**	**12 54 42.5**	**+1.0**
TLL				*i* S	**Sn**	**12 55 30.5**	**+1.0**
CPN1	**Cerro Paranal**	**4.56**	**315**	↑*iP*	**Pn**	**12 54 49.1**	**+1.7**
CMCH	**Combarbala**	**4.85**	**227**	↓*iP*	**Pn**	**12 54 50.9**	**-0.3**
CMCH				*i* S	**Sn**	**12 55 46.1**	**-0.7**
ANCH	**Antofagasta**	**5.28**	**322**	*eP*	**Pn**	**12 54 57.4**	**+0.4**
ANCH				*i* S	**Sn**	**12 55 54.0**	**-3.2**
CEN1	**Los Morros**	**5.41**	**326**	↑*iP*	**Pn**	**12 54 58.5**	**-0.3**
LVC	**Limon Verde**	**5.59**	**340**	↓*iP*	**Pn**	**12 55 02.4**	**+1.3**
LVC	**Limon Verde**	**5.59**	**340**	P	**Pn**	**12 55 02.7**	**+1.6**
	comp=E,9.6nm,0.3s,baz=177,slow=8.2,SNR=72						
LVC				S	**Sn**	**12 56 04.5**	**0.0**
	comp=E,4.1nm,0.3s,baz=290,slow=20,SNR=11						
CPUP	**Villa Florida**	**8.65**	**82**	P	**Pn**	**12 55 40.9**	**-1.0**
	comp=E,0.8nm,0.3s,baz=230,slow=10,SNR=9.4						
TRQA	**Tornquist**	**10.92**	**159**	*eP*	**Pn**	**12 56 11.2**	**-0.8**
	comp=E,2.5nm,0.6s						
LPAZ	**La Paz**	**11.63**	**354**	P	**Pn**	**12 56 21.6**	**+0.4**
	comp=E,1.9nm,0.3s,baz=146,slow=6.2,SNR=23						
LPAZ	**La Paz**	**11.63**	**354**	*eP*	**Pn**	**12 56 21.6**	**+0.3**
PLCA	**Paso Flores**	**13.14**	**192**	P	**Pn**	**12 56 40.3**	**-0.6**
SAML	**Samuel**	**19.18**	**11**	*eP*	**P**	**12 57 52.0**	**0.0**
	comp=E,1.2nm,0.5s						
BDFB	**Brasilia**	**21.31**	**59**	P	**P**	**12 58 14.0**	**-0.8**
	comp=E,2.6nm,0.4s,mb3.9,baz=228,slow=7.8,SNR=5.1						
SNAA	**Sanae**	**55.65**	**160**	*eP*	**P**	**13 03 00.5**	**+0.1**
	comp=E,1.2nm,0.5s,mb4.0						
TORD	**Torodi Ar. Bea**	**77.39**	**68**	P	**P**	**13 05 20.9**	**-0.3**
	Dimp=E,1.8nm,0.6s,mb3.9,baz=250,slow=4.3,SNR=24						
LBTB	**Lobatse**	**80.72**	**113**	P	**P**	**13 05 37.0**	**+0.5**
	comp=E,0.5nm,0.3s,mb3.6,baz=250,slow=7.8,SNR=4.1						
LBTB	**Lobatse**	**80.72**	**113**	*eP*	**P**	**13 05 36.9**	**+0.4**
	comp=E,1.0nm,0.4s,mb3.8						
WRA	**Warramunga Arr**	**128.19**	**206**	PKP	PKPdf	13 12 28.6	+0.2
	comp=E,0.2nm,0.7s,baz=156,slow=2.0,SNR=4.9						
AAK	**Ala-Archa**	**145.53**	**54**	*e*PKPdf	PKPdf	13 13 01.0	+0.8
ZAL	**Zalesovo**	**146.73**	**31**	PKPbc	PKPbc	13 13 03.6	-0.6
	comp=E,1.1nm,0.5s,baz=170,slow=2.3,SNR=4.3						
MKAR	**Makanchi Array**	**149.36**	**44**	PKPbc	PKPbc	13 13 10.9	-0.3
	comp=E,1.0nm,0.6s,baz=305,slow=2.6,SNR=12						

CASC 14 13:04:24.5±2.3, 1393N×9103W, h82km±28km, MD3.5, 1C-5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.55**	**19**	↓*eP*	**Pn**	13 04 39.7	+0.8
IXG	**Ixpaco**	**0.61**	**66**	↓*eP*	**Pn**	13 04 39.3	-0.1
IXG				*eS*	**Sn**	13 04 50.2	-0.3
PCG	**Pacaya**	**0.62**	**41**	*eP*	**Pn**	13 04 41.1	+1.5
PCG				*eS*	**Sn**	13 04 53.3	+2.7
JAT	**Jato**	**0.71**	**303**	↑*eP*	**Pn**	13 04 41.6	+1.2
TP2	**Tecpan 2**	**0.85**	**0**	↓*eP*	**Pn**	13 04 42.7	+0.7
TP2				*eS*	**Sn**	13 04 56.9	+1.9
RBDL	**Robledal**	**1.32**	**82**	↓*eP*	**Pn**	13 04 58.5	+11
RBDL				*eS*	**Sn**	13 05 16.5	+12
SBLS	**San Blas**	**1.37**	**94**	*eP*	**Pn**	13 04 59.4	+11
SBLS				*eS*	**Sn**	13 05 18.2	+12
SNJE	**San Jose**	**1.38**	**92**	*eP*	**Pn**	13 04 59.4	+11
SNJE				*eS*	**Sn**	13 05 18.6	+12
BOQS	**Boqueron**	**1.71**	**96**	↓*eP*	**Pn**	13 05 04.5	+12
BOQS				*eS*	**Sn**	13 05 27.6	+14
LFRS	**El Faro**	**1.94**	**99**	*eP*	**Pn**	13 05 06.9	+11
LFRS				*eS*	**Sn**	13 05 32.2	+13
LCBS	**La Ceiba**	**2.01**	**98**	*eP*	**Pn**	13 05 07.0	+10
LCBS				*eS*	**Sn**	13 05 33.5	+12

IDC 14 13:04:35.0±1.9, 324N×12616E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, Error ellipse: s-maj=114.4km s-min=23.9km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.21**	**181**	P	P	13 09 21.2	-1.0
	2.3nm,1.0s,baz=0.0,slow=20,SNR=7.8						
WRA	**Warramunga Arr**	**24.40**	**161**	P	P	13 09 55.7	+0.8
	0.5nm,0.5s,baz=342,slow=9.1,SNR=20						
ASAR	**Alice Springs**	**27.79**	**165**	P	P	13 10 25.0	-0.6
	0.1nm,0.3s,baz=335,slow=7.9,SNR=4.6						
MKAR	**Makanchi Array**	**57.63**	**326**	P	P	13 14 27.9	+1.1
	0.3nm,0.4s,baz=123,slow=8.6,SNR=5.9						

*ISCJB **14** 13:06:24.6±0.9, 02N×03×1219E±06, h200km, mb3.1/5, Error ellipse: s-maj=94.6km s-min=13.9km az=139.2*
*IDC **14** 13:06:26.9±6.8, 023N×12203E, h205km±70km, mb2.8/4, mb1 2.9/5, mb1mx2.9/18, mbtmp3.4/5, MS2.8/1, Ms1 2.8/1, ms1mx2.6/5, Error ellipse: s-maj=93.1km s-min=17.3km az=66.0*
*NEIC **14** 13:06:26.4±0.6, 025N×12204E, h200km, mb3.5/1, Error ellipse: s-maj=41.1km s-min=10.2km az=68.0*

ISC 14 13:06:26.6±0.8, 03N±02×1221E±06, h200km, n7, σ0806/7, mb3.1/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.58**	**169**	P	**P**	**13 10 28.7**	**0.0**
	0.1nm,0.3s,baz=0.0,slow=20,SNR=2.6						
FITZ				LR	LR	13 18 55.0	
	comp=Z,31nm,20.2s,baz=278,slow=40						
WRA	**Warramunga Arr**	**23.41**	**150**	P	**P**	**13 11 17.7**	**+0.1**
	0.3nm,0.5s,mb3.1,baz=325,slow=11,SNR=6.5						
ASAR	**Alice Springs**	**26.42**	**155**	P	**P**	**13 11 44.7**	**-0.1**
	0.2nm,0.8s,mb2.8,baz=334,slow=14,SNR=4.0						
ASAR				PcP	PcP	13 15 04.5	-0.2
	0.1nm,0.3s,baz=344,slow=2.2,SNR=7.4						
ULN	**Ulaanbaatar**	**49.18**	**347**	*eP*	**P**	**13 14 54.4**	**+0.1**
	1.0nm,0.5s,mb3.4						
SONM	**Songino Array**	**49.30**	**346**	P	**P**	**13 14 55.2**	**-0.1**
	0.5nm,0.6s,mb3.0,baz=167,slow=8.0,SNR=6.5						
MKAR	**Makanchi Array**	**57.90**	**329**	P	**P**	**13 15 57.7**	**0.0**
	0.5nm,0.4s,mb3.5,baz=125,slow=8.8,SNR=7.6						
MKAR	**Makanchi Array**	**57.90**	**329**	P	**P**	**13 15 57.7**	**0.0**

IDC 14 13:08:10.0±7.1, 1825S×17615W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/14, mbtmp3.6/4, ML1.7/1, Error ellipse: s-maj=326.8km s-min=24.4km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.02**	**45**	Pn	Pn	13 09 42.0	+1.7
	1.1nm,0.3s,baz=234,slow=17,SNR=2.9						
AFI				Sn	Sn	13 10 49.9	0.0
	0.4nm,0.3s,baz=216,slow=19,SNR=2.0						
WRA	**Warramunga Arr**	**46.69**	**260**	P	P	13 16 40.9	+0.5
	0.2nm,0.8s,baz=96,slow=8.2,SNR=5.6						
ASAR	**Alice Springs**	**46.77**	**254**	P	P	13 16 41.6	+0.5
	0.4nm,0.8s,baz=94,slow=9.0,SNR=4.5						
ILAR	**Eielson Array**	**85.75**	**12**	P	P	13 20 50.0	-1.0
	0.5nm,0.8s,baz=208,slow=4.0,SNR=5.9						

*ISCJB **14** 13:10:38.3±0.5, 208S±01×1743W±01, h45km, mb4.4/22, MS3.9/9, Error ellipse: s-maj=19.8km s-min=9.4km az=105.6*
*IDC **14** 13:10:38.4±1.2, 2132S×17399W, h42km±5km, mb4.0/9, mb1 4.2/9, mb1mx4.1/15, mbtmp4.2/9, MS3.7/5, Ms1 3.7/5, ms1mx3.3/31, Error ellipse: s-maj=55.1km s-min=16.5km az=150.0*
*BJI **14** 13:10:40.2, 2070S×17430W, h45km, mB4.8, mb4.7, Ms4.3, Msz4.0*
*SZGRF **14** 13:10:40.5, 2064S×17559W, h33km, Tonga Islands*
*NEIC **14** 13:10:40.3±0.4, 2068S×17427W, mb4.6/9, MS4.3/3, Error ellipse: s-maj=19.1km s-min=8.8km az=139.0*
*MOS **14** 13:10:49.8±1.1, 1777S×17660W, h33km, mb4.6/4, Error ellipse: s-maj=33.4km s-min=16.5km az=147.2*

ISC 14 13:10:40.3±0.5, 208S±01×1742W±01, h47km, h47km±1.5km: pP-P, n83, σ099/40, mb4.4/22, MS3.9/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.21**	**19**	P	**Pn**	**13 12 17.2**	**-5.7**
	6.2nm,0.3s,baz=0.4,slow=22,SNR=10						
AFI				S	**Sn**	**13 13 29.9**	**-14**
	2.1nm,0.3s,baz=198,slow=20,SNR=2.5						
AFI	**Afiamalu**	**7.21**	**19**	*eP*	**Pn**	**13 12 17.3**	**-5.7**
AFI				pmax	pmax		
	comp=Z,79nm,0.9s						
AFI	**Afiamalu**	**7.21**	**19**	*e*Pn	**Pn**	**13 12 17.3**	**-5.7**
	comp=Z,79nm,0.9s						
RAR	**Rarotonga**	**13.44**	**94**	P	**Pn**	**13 13 34.1**	**-14**
	comp=Z,2.5nm,0.3s,baz=263,slow=13,SNR=12						
RAR				S	Sn	13 15 48.2	-28
	comp=Z,1.0nm,0.3s,baz=94,slow=19,SNR=2.7						
DZM	**Mont Dzumac**	**18.11**	**262**	P	**Pn**	**13 14 50.5**	**+2.2**
	comp=Z,0.5nm,0.3s,baz=92,slow=22,SNR=9.7						
URZ	**Urewera**	**18.98**	**202**	P	**Pn**	**13 14 58.9**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=40,slow=1.5,SNR=5.3						
URZ				S	**S**	**13 18 11.7**	**-19**
	comp=Z,0.4nm,0.3s,baz=123,slow=16,SNR=3.5						
TBI	**Tubuai**	**23.02**	**101**	*e*LQ		13 19 53.2	
	comp=Z,235nm,29.2s						
TBI				*e*LR	LR	13 20 51.4	
	comp=Z,254nm,26.8s						
PPT	**Papeete**	**23.42**	**86**	*e*LQ		13 20 04.8	
	comp=Z,276nm,26.8s						
PPT				*e*LR	LR	13 20 57.4	
	comp=Z,307nm,25.8s						
PPT	**Papeete**	**23.42**	**86**	LR	LR	13 21 27.8	
	comp=Z,190nm,20.1s,MS3.5,baz=346,slow=28						
RPZ	**Rata Peaks**	**25.98**	**205**	P	**P**	**13 16 11.5**	**+3.0**
	comp=Z,21nm,0.9s,mb4.7,baz=18,slow=9.6,SNR=3.4						
HNR	**Honiara**	**27.39**	**290**	LR	LR	13 25 40.3	
	comp=Z,113nm,18.1s,MS3.5,baz=179,slow=32						
RKT	**Rikitea**	**36.34**	**101**	*e*LR	LR	13 27 00.9	
	comp=Z,158nm,26.2s						
STKA	**Stephens Creek**	**40.92**	**245**	P	**P**	**13 18 15.5**	**-2.4**
	comp=Z,2.6nm,0.7s,mb4.0,baz=86,slow=9.9,SNR=7.3						
STKA	**Stephens Creek**	**40.92**	**245**	*eP*	**P**	**13 18 15.8**	**-2.2**
ASAR	**Alice Springs**	**47.96**	**256**	P	**P**	**13 19 13.4**	**-0.7**
	comp=Z,3.6nm,0.7s,mb4.5,baz=92,slow=8.2,SNR=26						
ASAR				PcP	PcP	13 20 42.1	+0.3
	comp=Z,0.9nm,0.8s,baz=115,slow=5.2,SNR=2.2						
WB2	**Warramunga Arr**	**48.12**	**261**	*eP*	**P**	**13 19 14.9**	**-0.5**
WRAB	**Tennant Creek**	**48.12**	**261**	*eP*	**P**	**13 19 14.9**	**-0.5**
WRA	**Warramunga Arr**	**48.13**	**261**	P	**P**	**13 19 14.3**	**-1.2**
	comp=Z,2.5nm,0.8s,mb4.3,baz=96,slow=7.6,SNR=26						
FORT	**Forrest**	**52.49**	**247**	*eP*	**P**	**13 19 48.2**	**-0.2**
	comp=Z,12nm,0.6s,mb5.0						
GUMO	**Guam**	**52.81**	**307**	LR	LR	13 36 53.4	
	comp=Z,75nm,21.3s,MS3.7,baz=346,slow=30						
FITZ	**Fitzroy Crossi**	**56.56**	**262**	P	**P**	**13 20 16.7**	**-1.2**
	comp=Z,2.3nm,0.8s,mb4.2,baz=165,slow=16,SNR=5.1						
FITZ				LR	LR	13 45 09.6	
	comp=Z,62nm,18.9s,MS3.7,baz=277,slow=37						
KLBR	**Kellerberrin**	**61.20**	**245**	*eP*	**P**	**13 20 50.9**	**+0.8**
	comp=Z,8.1nm,0.7s,mb5.0						
MBWA	**Marble Bar**	**61.30**	**257**	*eP*	**P**	**13 20 51.2**	**+0.4**
	comp=Z,14nm,1.1s,mb5.0						
QSPA	**South Pole Qui**	**69.29**	**180**	*eP*	**P**	**13 21 42.6**	**+0.1**
	comp=Z,11nm,1.0s,mb4.7						
MJAR	**Matsushiro Arr**	**72.63**	**321**	P	**P**	**13 22 04.0**	**+1.3**
	comp=Z,1.7nm,0.7s,mb4.1,baz=153,slow=6.1,SNR=6.2						
MJAR				pP	pP	13 22 17.1	+0.7
	comp=Z,1.6nm,0.5s,baz=157,slow=5.4,SNR=4.4						
ASAJ	**Asahikawa**	**75.75**	**329**	LR	LR	13 54 40.3	
	comp=Z,51nm,18.2s,MS3.9,baz=145,slow=35						
NVAR	**Mina Array Bea**	**78.80**	**41**	P	**P**	**13 22 38.5**	**+0.5**
	comp=Z,2.4nm,0.7s,mb4.2,baz=213,slow=7.2,SNR=16						
MNV	**Mina**	**78.90**	**42**	*eP*	**P**	**13 22 38.9**	**+0.4**
MNV				pmax	pmax		
	comp=Z,22nm,1.8s,mb4.8						
MNV	**Mina**	**78.90**	**42**	*eP*	**P**	**13 22 38.9**	**+0.3**
	comp=Z,22nm,1.8s,mb4.8						
ELK	**Elko**	**82.08**	**41**	*eP*	**P**	**13 22 55.9**	**+0.3**
ELK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ELK	**Elko**	**82.08**	**41**	*eP*	**P**	**13 22 55.9**	**+0.2**
	comp=Z,0.7nm,0.6s,mb3.8						
MSU	**Marysvale**	**82.75**	**44**	*eP*	**P**	**13 22 59.6**	**+0.5**
MDJ	**Mudanjiang**	**82.86**	**323**	P	**P**	**13 23 00.5**	**+0.8**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,47nm,5.2s						
MDJ				LR	LR		
	comp=N,16nm,19.2s,MS3.6						
MDJ				LR	LR		
	comp=E,23nm,21.9s,MS3.6						
MDJ				LR	LR		
	comp=Z,32nm,30.2s						
HLID	**Hailey**	**84.23**	**39**	*eP*	**P**	**13 23 06.6**	**-0.1**
	comp=Z,4.4nm,1.0s,mb4.5						
ANMO	**Albuquerque**	**84.80**	**50**	*eP*	**P**	**13 23 09.4**	**-0.2**
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ANMO	**Albuquerque**	**84.80**	**50**	*eP*	**P**	**13 23 09.4**	**-0.2**
	comp=Z,3.6nm,1.1s,mb4.4						
BW06	**Boulder Array**	**86.73**	**42**	*eP*	**P**	**13 23 18.6**	**-0.6**
	comp=Z,1.6nm,1.0s,mb4.2						
BW06				pP	pP	13 23 31.9	-1.3
PDAR	**Pinedale Array**	**86.73**	**42**	P	**P**	**13 23 18.4**	**-0.8**
	comp=Z,1.2nm,0.9s,mb4.1,baz=222,slow=2.0,SNR=7.9						
PDAR				pP	pP	13 23 32.0	-1.1
	comp=Z,0.9nm,0.9s,baz=158,slow=1.6,SNR=4.4						
COLA	**College**	**87.76**	**11**	*eP*	**P**	**13 23 23.6**	**-0.5**
COLA				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.6						
COLA	**College**	**87.76**	**11**	*eP*	**P**	**13 23 23.6**	**-0.5**
	comp=Z,3.8nm,1.0s,mb4.6						
ILAR	**Eielson Array**	**87.84**	**11**	P	**P**	**13 23 25.6**	**+1.1**
	comp=Z,0.6nm,0.6s,mb4.0,baz=307,slow=3.1,SNR=14						
ILAR				pP	pP	13 23 38.4	-0.1
	comp=Z,0.5nm,0.7s,baz=222,slow=5.7,SNR=3.9						
PSI	**Prapat**	**88.11**	**274**	P	**P**	**13 23 27.2**	**+1.4**
	comp=Z,3.6nm,0.8s,mb4.7,baz=208,slow=9.0,SNR=4.4						
CD2	**Chengdu**	**94.00**	**301**	*eP*	**P**	**13 23 51.8**	**-1.3**
YKA	**Yellowknife Ar**	**95.29**	**24**	P	**P**	**13 23 58.0**	**-1.0**
	comp=Z,0.4nm,0.7s,mb4.0,baz=239,slow=4.0,SNR=5.2						
YKA				pP	pP	13 24 12.8	-0.3
	comp=Z,0.4nm,0.9s,baz=238,slow=4.2,SNR=2.6						
YKA	**Yellowknife Ar**	**95.29**	**24**	P	**P**	**13 23 58.0**	**-1.0**
YKA				pP	pP	13 24 12.8	-0.3
NVS	**Novosibirsk**	**113.95**	**322**	*e*PKIKP	PKiKP	13 29 05.1	-8.8
EKA	**Eskdalemuir Ar**	**144.84**	**9**	PKPbc	PKPdf	13 30 10.8	-1.1
	comp=Z,1.7nm,0.8s,baz=39,slow=4.3,SNR=4.4						
AKASG	**Malin Array Be**	**144.93**	**334**	PKPbc	PKPdf	13 30 12.

ASAR	**Alice Springs**	**21.88**	**200**	P	**P**	**13 33 07.8**	**+0.7**
	0.5nm,0.7s,mb3.1,baz=29,slow=11,SNR=9.7						
SONM	**Songino Array**	**59.49**	**333**	P	**P**	**13 38 17.5**	**+0.5**
	0.3nm,0.6s,mb3.5,baz=154,slow=8.6,SNR=3.6						
MKAR	**Makanchi Array**	**72.09**	**321**	P	**P**	**13 39 38.5**	**+0.4**
	0.5nm,0.9s,mb3.5,baz=116,slow=6.6,SNR=3.3						
ILAR	**Eielson Array**	**84.86**	**24**	P	**P**	**13 40 47.6**	**-0.8**
	0.8nm,0.7s,mb4.0,baz=261,slow=4.4,SNR=9.4						

*IDC **14** 13:36:45.5±0.8,2162S×7045W,h32km±5km,mb3.7/5, mb1 4.0/7,mb1mx3.8/16,mbtmp4.0/7,ML4.6/2,MS3.5/5, Ms1 3.5/5,ms1mx3.2/14,Error ellipse: s-maj=25.0km s-min=16.2km az=38.0*

*NEIC **14** 13:36:48.7±1.8,2175S×7027W,h66km±15km,mb3.6/1, Error ellipse: s-maj=24.5km s-min=12.0km az=91.0*

*ISCJB **14** 13:36:49.1±1.6,2170S±007×702W±0.1,h80km±14km, mb3.7/5,Error ellipse: s-maj=18.7km s-min=11.7km az=24.5*

ISC 14 13:36:42.6±3.3,2160S±006×7052W±008,h12km±22km, n23,σ0§71/19,mb3.9/5,MS3.5/4,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.80**	**124**	Pn	**Pn**	**13 37 15.0**	**+1.6**
	92nm,0.3s,baz=290,slow=12,SNR=732						
LVC				Sn	**Sn**	**13 37 35.9**	**-0.3**
	296nm,0.3s,baz=60,slow=20,SNR=28						
LVC				LR	LR	13 38 03.3	
	comp=Z,2µm,18.5s,baz=155,slow=45						
LPAZ	**La Paz**	**5.74**	**24**	Pn	**Pn**	**13 38 13.8**	**+6.3**
	1.1nm,0.3s,baz=214,slow=7.2,SNR=31						
LPAZ	**La Paz**	**5.74**	**24**	Pn	**Pn**	**13 38 13.8**	**+6.3**
CFAA	**Coronel Fontan**	**10.18**	**169**	Pn	**Pn**	**13 39 08.5**	**+0.1**
	0.0nm,0.3s,baz=344,slow=18,SNR=2.8						
CFAA				Sn	**Sn**	**13 41 10.3**	**+7.9**
	0.0nm,0.3s,baz=261,slow=19,SNR=2.7						
CFAA	**Coronel Fontan**	**10.18**	**169**	Pn	**Pn**	**13 39 08.5**	**+0.1**
CFAA				Sn	**Sn**	**13 41 10.3**	**+7.9**
SIV	**San Ignacio**	**10.54**	**60**	Pn	**Pn**	**13 39 13.8**	**+0.4**
	2.5nm,0.3s,baz=244,slow=12,SNR=67						
SIV				Sn	**Sn**	**13 41 11.6**	**+0.3**
	baz=315,slow=20,SNR=5.3						
CPUP	**Villa Florida**	**12.95**	**114**	Pn	**Pn**	**13 39 45.7**	**-0.6**
	0.7nm,0.3s,baz=311,slow=4.0,SNR=2.3						
CPUP				LR	LR	13 45 44.8	
	comp=Z,227nm,18.9s,baz=44,slow=42						
CPUP	**Villa Florida**	**12.95**	**114**	Pn	**Pn**	**13 39 45.7**	**-0.6**
CPUP				LR	LR	13 45 44.8	
SAML	**Samuel**	**14.42**	**30**	*eP*	**Pn**	**13 40 05.3**	**-1.1**
TRQA	**Tornquist**	**17.98**	**158**	*eP*	**Pn**	**13 40 51.8**	**-0.5**
	3.7nm,0.8s						
BDFB	**Brasilia**	**22.12**	**78**	P	**P**	**13 41 37.9**	**+0.1**
	4.0nm,0.8s,mb3.9,baz=259,slow=10,SNR=4.7						
BDFB				LR	LR	13 51 17.5	
	comp=Z,172nm,20.0s,MS3.5,baz=294,slow=40						
ROSC	**El Rosal**	**26.55**	**351**	LR	LR	13 54 32.4	
	comp=Z,47nm,18.0s,MS3.1,baz=196,slow=40						
SDV	**Santo Domingo**	**30.29**	**360**	LR	LR	13 56 27.8	
	comp=Z,117nm,18.8s,MS3.5,baz=237,slow=39						
SNAA	**Sanae**	**62.68**	**161**	P	**P**	**13 47 07.0**	**-0.1**
	0.8nm,0.8s,mb3.9,baz=316,slow=8.9,SNR=4.4						
DBIC	**Dimbokro**	**70.20**	**74**	LR	LR	14 17 01.6	
	comp=Z,46nm,19.2s,MS3.8,baz=285,slow=34						
PDAR	**Pinedale Array**	**73.45**	**331**	P	**P**	**13 48 15.9**	**+1.2**
	0.3nm,0.9s,mb3.2,baz=148,slow=8.6,SNR=2.9						
TORD	**Torodi Ar. Bea**	**78.80**	**71**	P	**P**	**13 48 44.5**	**-0.7**
	3.3nm,0.8s,mb4.3,baz=253,slow=5.3,SNR=15						
TORD				pP	pP	13 48 56.3	+7.0
	2.6nm,0.7s,baz=255,slow=5.6,SNR=8.8						
YKA	**Yellowknife Ar**	**90.78**	**341**	P	**P**	**13 49 45.3**	**-0.2**
	0.6nm,0.7s,mb4.0,baz=137,slow=4.4,SNR=9.2						
YKA				pP	pP	13 49 54.3	+4.6
	0.8nm,0.9s,baz=139,slow=4.6,SNR=5.2						
ASAR	**Alice Springs**	**129.12**	**209**	PKP	PKPdf	13 55 48.3	-2.1
	0.4nm,0.9s,baz=126,slow=1.6,SNR=4.9						
ZAL	**Zalesovo**	**142.66**	**24**	PKP	PKPdf	13 56 12.4	-3.2
	0.9nm,0.5s,baz=233,slow=5.1,SNR=3.5						
MKAR	**Makanchi Array**	**146.58**	**35**	PKPbc	PKPbc	13 56 21.9	-1.9
	1.7nm,0.7s,baz=309,slow=2.6,SNR=15						
MKAR				pPKPbc	pPKPbc	13 56 33.4	+5.3
	3.6nm,0.9s,baz=316,slow=3.3,SNR=12						
MJAR	**Matsushiro Arr**	**150.94**	**307**	PKPbc	PKPbc	13 56 35.8	+0.6
	0.5nm,0.7s,baz=116,slow=1.6,SNR=5.5						
MJAR				PKPab	PKPab	13 56 44.0	+1.5
	0.8nm,0.9s,baz=149,slow=15,SNR=5.0						
SONM	**Songino Array**	**153.70**	**5**	PKPbc	PKPbc	13 56 41.7	+0.4
	0.6nm,0.8s,baz=353,slow=1.2,SNR=4.4						
SONM				PKPab	PKPab	13 56 54.4	+0.3
	1.1nm,0.9s,baz=343,slow=2.9,SNR=4.9						

IDC 14 13:44:45.5±3.9,108N×9748E,h0km,mb3.6/5,mb1 3.8/5, mb1mx3.6/19,mbtmp3.6/5,Error ellipse: s-maj=161.6km s-min=22.6km az=58.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.74**	**122**	P	P	13 52 36.5	+0.3
	0.4nm,0.7s,baz=302,slow=9.2,SNR=3.7						
ASAR	**Alice Springs**	**43.10**	**127**	P	P	13 52 47.8	+0.4
	0.1nm,0.8s,baz=316,slow=7.8,SNR=4.2						
SONM	**Songino Array**	**47.21**	**8**	P	P	13 53 20.9	+0.9
	0.4nm,0.8s,baz=190,slow=7.5,SNR=4.3						
MKAR	**Makanchi Array**	**47.42**	**346**	P	P	13 53 21.6	-0.1
	0.9nm,0.7s,baz=158,slow=8.3,SNR=8.9						
ZAL	**Zalesovo**	**53.71**	**351**	P	P	13 54 08.6	-0.6
	1.2nm,0.6s,baz=332,slow=7.2,SNR=4.7						

*NEIC **14** 13:46:55.4,19.1N×6599W,h18km,MD3.0(RSPR),After RSPR.*

RSPR 14 13:46:55.4,1911N×6599W,h18km±7km,MD3.0/9, MD3.0/9,17C-6D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBYP	**Canovanas**	**0.84**	**171**	*eS*	Sb	13 47 20.4	-2.0
CBYP	**Canovanas**	**0.84**	**171**	⇓*eP*	Pb	13 47 09.2	-2.3
CBYP	**Canovanas**	**0.84**	**171**	*eS*	Sb	13 47 21.5	-0.9
CBYP	**Canovanas**	**0.84**	**171**	⇓*eP*	Pb	13 47 09.3	-2.1
CBYP	**Canovanas**	**0.84**	**171**	⇓*eP*	Pb	13 47 09.3	-2.1
CBYP				*eS*	Sb	13 47 21.5	-0.9
SJG	**San Juan**	**1.01**	**189**	⇑*eP*	Pb	13 47 12.4	-1.7
SJG	**San Juan**	**1.01**	**189**	⇑*eP*	Pb	13 47 12.1	-2.1
SJG				*eS*	Sb	13 47 25.1	-1.9
SJG	**San Juan**	**1.01**	**189**	⇑*eP*	Pb	13 47 12.5	-1.7
SJG	**San Juan**	**1.01**	**189**	⇑*eP*	Pb	13 47 12.5	-1.7
SJG				*eS*	Sb	13 47 25.7	-1.4
CULB	**Culebra**	**1.01**	**142**	⇑*eP*	Pb	13 47 11.8	-2.5
CULB	**Culebra**	**1.01**	**142**	*eS*	Sb	13 47 25.5	-1.7
CULB	**Culebra**	**1.01**	**142**	⇑*eP*	Pb	13 47 11.8	-2.5
CULB	**Culebra**	**1.01**	**142**	*eS*	Sb	13 47 26.8	-0.4
AOPR	**Arecibo Observ**	**1.05**	**224**	⇑*eP*	Pb	13 47 11.8	-3.1
AOPR	**Arecibo Observ**	**1.05**	**224**	*eS*	Sb	13 47 25.0	-3.3
AOPR	**Arecibo Observ**	**1.05**	**224**	⇑*eP*	Pb	13 47 11.9	-3.1
AOPR	**Arecibo Observ**	**1.05**	**224**	*eS*	Sb	13 47 25.9	-2.5
AOPR	**Arecibo Observ**	**1.05**	**224**	⇑*eP*	Pb	13 47 11.9	-3.1
AOPR				*eS*	Sb	13 47 25.9	-2.5
MTP	**Monte Pirata**	**1.09**	**158**	⇑*eP*	Pb	13 47 12.3	-3.4
MTP	**Monte Pirata**	**1.09**	**158**	*eS*	Sb	13 47 26.2	-3.3
MTP	**Monte Pirata**	**1.09**	**158**	⇑*eP*	Pb	13 47 12.8	-2.9
MTP	**Monte Pirata**	**1.09**	**158**	*eS*	Sb	13 47 27.3	-2.2
MTP	**Monte Pirata**	**1.09**	**158**	⇑*eP*	Pb	13 47 12.8	-2.9
MTP				*eS*	Sb	13 47 27.3	-2.2
OBIP	**Obispado Ponce**	**1.21**	**209**	⇑*eP*	Pn	13 47 15.1	-2.2
OBIP				*eS*	Sb	13 47 29.6	-3.5
STVI	**Saint Thomas**	**1.23**	**128**	⇑*eP*	Pn	13 47 15.7	-1.9
STVI	**Saint Thomas**	**1.23**	**128**	*eS*	Sb	13 47 29.7	-3.8
STVI	**Saint Thomas**	**1.23**	**128**	⇓*eP*	Pn	13 47 14.9	-2.7
STVI				*eS*	Sb	13 47 30.7	-2.8
STVI	**Saint Thomas**	**1.23**	**128**	*eS*	Sb	13 47 30.7	-2.8
LSP	**Las Mesas**	**1.40**	**228**	⇑*eP*	Pn	13 47 16.7	-3.2
LSP	**Las Mesas**	**1.40**	**228**	*eS*	Sn	13 47 34.1	-3.7
LSP	**Las Mesas**	**1.40**	**228**	⇓*eP*	Pn	13 47 17.5	-2.3
LSP	**Las Mesas**	**1.40**	**228**	*eS*	Sn	13 47 35.4	-2.4
LSP	**Las Mesas**	**1.40**	**228**	⇓*eP*	Pn	13 47 17.5	-2.3
LSP				*eS*	Sn	13 47 35.4	-2.4
TBVI	**Tortola**	**1.48**	**118**	⇑*eP*	Pn	13 47 18.9	-2.1
TBVI				*eS*	Sn	13 47 36.7	-3.1
CRPR	**Cabo Rojo, PR**	**1.53**	**224**	⇑*eP*	Pn	13 47 19.5	-2.2
CRPR				*eS*	Sn	13 47 38.5	-2.6

*IDC **14** 14:03:08.1±1.3,3359N×9120E,h0km,mb3.7/3,mb1 3.7/5, mb1mx3.4/21,mbtmp3.6/5,ML2.8/2,MS3.3/2,Ms1 3.3/2, ms1mx2.6/25,Error ellipse: s-maj=44.6km s-min=26.9km az=66.0*

*ISCJB **14** 14:03:11.5±0.6,3371N±007×912E±0.1,h33km,mb3.7/3, MS3.1/1,Error ellipse: s-maj=16.0km s-min=6.8km az=55.6*

*MOS **14** 14:03:12.3±2.2,3379N×9110E,h39km,mb3.9/3,Error ellipse: s-maj=20.9km s-min=10.6km az=81.1*

*NEIC **14** 14:03:14.9±1.6,3372N×9116E,h50km±26km,mb3.4/3, Error ellipse: s-maj=18.0km s-min=13.5km az=80.0*

ISC 14 14:03:14.1±0.6,3379N±006×912E±01,h35km,n23, σ1§11/23,mb3.7/3,MS3.1/1,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**4.08**	**180**	*eP*	**Pn**	**14 04 16.5**	**+2.6**
LSA				*eS*	**Sn**	**14 05 10.0**	**+10**
GUN	**Gumba**	**7.42**	**219**	*eP*	**Pn**	**14 05 00.2**	**+0.4**
	40nm,0.9s						
JIRN	**Jiri**	**7.46**	**216**	*eP*	**Pn**	**14 05 00.8**	**+0.4**
	9.0nm,0.6s						
KKN	**Kakani**	**7.84**	**222**	*eP*	**Pn**	**14 05 05.0**	**-0.6**
PKI	**Pulchoki**	**7.94**	**220**	*eP*	**Pn**	**14 05 06.2**	**-0.8**
	16nm,0.6s						
PKI	**Pulchoki**	**7.94**	**220**	*eP*	**Pn**	**14 05 06.2**	**-0.8**
PKI				pmax	pmax		
	comp=Z,16nm,0.6s						
GKN	**Gorkha**	**8.05**	**226**	*eP*	**Pn**	**14 05 08.3**	**-0.2**
	comp=Z,24nm,0.9s						
DMN	**Daman**	**8.07**	**222**	*eP*	**Pn**	**14 05 08.2**	**-0.6**
MKAR	**Makanchi Array**	**14.64**	**335**	Pn	**Pn**	**14 06 36.1**	**-2.5**
	comp=Z,0.0nm,0.3s,baz=145,slow=13,SNR=5.0						
AAK	**Ala-Archa**	**15.79**	**309**	P	**Pn**	**14 06 55.0**	**+1.3**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AAK	**Ala-Archa**	**15.79**	**309**	P	**Pn**	**14 06 55.0**	**+1.3**
	comp=Z,3.0nm,0.8s						
SONM	**Songino Array**	**18.11**	**35**	P	**Pn**	**14 07 21.5**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=213,slow=11,SNR=8.3						
SONM				LR	LR	14 14 57.7	
	comp=Z,98nm,18.7s,baz=163,slow=39						
ULN	**Ulaanbaatar**	**18.44**	**36**	P	**Pn**	**14 07 26.6**	**-0.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ULN	**Ulaanbaatar**	**18.44**	**36**	P	**Pn**	**14 07 26.6**	**-0.2**
	comp=Z,1.7nm,1.0s						
ZAK	**Zakamensk**	**18.82**	**25**	*eP*	**Pn**	**14 07 32.6**	**+1.2**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
ZAL	**Zalesovo**	**20.64**	**349**	P	**P**	**14 07 52.2**	**+1.6**
	comp=Z,0.9nm,0.5s,baz=297,slow=12,SNR=5.6						
ZAL	**Zalesovo**	**20.64**	**349**	P	**P**	**14 07 52.2**	**+1.6**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**24.36**	**329**	*eP*	**P**	**14 08 28.9**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.5						
BRVK	**Borovoye**	**24.36**	**329**	*eP*	**P**	**14 08 28.9**	**+0.1**
	comp=Z,1.6nm,0.9s,mb3.5						
AKTO	**Aktyubinsk**	**29.38**	**315**	LR	LR	14 22 41.9	
	comp=Z,40nm,18.8s,MS3.1,baz=0.0,slow=40						
ASAR	**Alice Springs**	**70.12**	**139**	P	**P**	**14 14 21.8**	**-1.0**
	comp=Z,1.6nm,1.0s,mb3.9,baz=323,slow=5.9,SNR=12						
ASAR	**Alice Springs**	**70.12**	**139**	P	**P**	**14 14 21.8**	**-1.0**
ASAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**82.39**	**281**	P	**P**	**14 15 32.2**	**-0.2**
	comp=Z,0.9nm,0.9s,mb3.7,baz=51,slow=4.6,SNR=5.3						

*NNC **14** 14:17:56.2±3.0,4216N×7678E,h7km±9km,mb2.4,mpv2.0, Error ellipse: s-maj=21.9km s-min=16.5km az=148.0*

*ISCJB **14** 14:17:57.8±1.5,4214N±009×768E±0.1,h10km,Error ellipse: s-maj=12.6km s-min=10.6km az=49.1*

*KNET **14** 14:17:58.2±0.6,4219N×7662E,h9km±2km,ml2.0,Error ellipse: s-maj=3.2km s-min=2.7km az=81.0*

ISC 14 14:17:58.9±1.6,4216N±009×767E±01,h10km,n13, σ1§45/21,10C-12D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**0.37**	**284**	P	**Pg**	**14 18 04.4**	**-1.8**
	49nm,0.1s,SNR=57						
ULHL				⇑S	**Sg**	**14 18 10.4**	**-0.8**
	235nm,0.2s						
KNDC	**Almaty**	**1.07**	**9**	⇓Lg		14 18 31.8	
	30nm,0.2s						
KZA	**Kyzart**	**1.10**	**266**	⇓P	**Pb**	**14 18 17.4**	**-2.6**
	7.7nm,0.1s,SNR=20						
KZA				⇑S	**Sg**	**14 18 33.2**	**-1.2**
	29nm,0.2s						
TKM2	**Tokmak 2**	**1.13**	**313**	⇓P	**Pb**	**14 18 18.2**	**-2.2**
	14nm,0.1s,SNR=112						
TKM2				⇓S	**Sb**	**14 18 34.5**	**-0.8**
	48nm,0.1s						
TKM2	**Tokmak 2**	**1.13**	**313**	⇑P	**Pb**	**14 18 18.0**	**-2.5**
	0.1nm,0.2s						
TKM2				⇑S	**Sb**	**14 18 34.2**	**-1.1**
	0.7nm,0.3s						
KBK	**Karagaybulak**	**1.41**	**291**	⇓P	**Pn**	**14 18 23.3**	**-1.3**
	16nm,0.1s,SNR=15						
KBK				⇑S	**Sn**	**14 18 43.4**	**+0.2**
	27nm,0.2s						
UCH	**Uchtor**	**1.65**	**273**	⇑P	**Pn**	**14 18 27.1**	**-0.7**
	9.8nm,0.2s,SNR=40						
UCH				⇓S	**Sn**	**14 18 50.8**	**+1.7**
	6.1nm,0.2s						
CHMS	**Chumysh**	**1.69**	**301**	⇓P	**Pn**	**14 18 27.7**	**-0.7**
	5.9nm,0.1s,SNR=11						
CHMS				⇑S	**Sn**	**14 18 50.6**	**+0.6**
	24nm,0.2s						
AAK	**Ala-Archa**	**1.72**	**287**	⇑P	**Pn**	**14 18 28.8**	**-0.1**
	7.2nm,0.1s,SNR=8.0						
AAK				⇓S	**Sn**	**14 18 52.4**	**+1.5**
	9.2nm,0.2s						
USP	**Ospenovka**	**1.98**	**305**	⇓P	**Pn**	**14 18 32.9**	**+0.5**
	38nm,0.2s,SNR=45						
USP				⇑S	**Sn**	**14 19 00.1**	**+2.8**
	16nm,0.2s						
EKS2	**Erkin-Say**	**2.24**	**284**	⇓P	**Pn**	**14 18 37.4**	**+1.4**
	4.2nm,0.1s,SNR=9.3						
AML	**Almayashu**	**2.26**	**270**	⇑P	**Pn**	**14 18 38.4**	**+2.1**
	14nm,0.3s,SNR=18						
KK31	**Karatay Array**	**4.68**	**284**	⇓Pg	**Pb**	**14 19 23.2**	**+2.2**
	0.5nm,0.5s,baz=97,slow=17,SNR=9.4						
KK31				⇓Lg		14 20 24.8	
	1.3nm,0.5s,baz=94,slow=28						

*ISCJB **14** 14:25:33.7±3.4, 15.1S±02×167.1E±0.3,h120km±41km, mb3.3/3,Error ellipse: s-maj=47.2km s-min=24.3km az=67.9*

*IDC **14** 14:25:36.2±9.8, 15.1S×167.18E,h132km±106km,mb3.1/3, mb1 3.5/4,mb1mx3.3/15,mbtmp3.7/4,ML4.1/1,Error ellipse: s-maj=88.8km s-min=32.7km az=157.0*

ISC 14 14:25:35.3±3.6,151S±02×1673E±03,h124km±44km,n5, σ0§41/7,mb3.4/3,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**2.77**	**160**	*i* P	**Pn**	**14 26 18.4**	**-0.3**
BKM				S	**Sn**	**14 26 52.2**	**0.0**
DZM	**Mont Dzumac**	**7.02**	**186**	P	**Pn**	**14 27 16.0**	**+0.5**
	3.3nm,0.3s,baz=346,slow=23,SNR=51						
DZM				S	**Sn**	**14 28 33.7**	**-0.2**
	6.6nm,0.3s,baz=142,slow=19,SNR=12						
WRA	**Warramunga Arr**	**31.73**	**256**	P	**P**	**14 31 46.8**	**-0.4**
	0.5nm,0.8s,mb3.3,baz=81,slow=7.0,SNR=10						
ASAR	**Alice Springs**	**32.54**	**250**	P	**P**	**14 31 54.6**	**+0.3**
	0.2nm,0.4s,mb3.3,baz=75,slow=9.9,SNR=7.7						
ILAR	**Eielson Array**	**86.84**	**18**	P	**P**	**14 38 05.8**	**0.0**
	0.5nm,0.8s,mb3.5,baz=234,slow=6.2,SNR=6.4						

*ISCJB **14** 14:26:16.1±0.2,5413N±002×10919E±0.04,h10km, mb3.8/4,MS3.1/1,Error ellipse: s-maj=3.7km s-min=1.8km az=86.1*

*MOS **14** 14:26:17.4±1.1,5412N×10914E,h10km,mb4.2/3,Error ellipse: s-maj=12.1km s-min=6.3km az=62.1*

*IDC **14** 14:26:18.0±1.6,5403N×10952E,h0km,mb3.5/2, mb1 3.7/5,mb1mx3.4/23,mbtmp3.6/5,ML3.5/3,MS3.0/2, Ms1 3.0/2,ms1mx2.4/22,Error ellipse: s-maj=28.8km s-min=19.5km az=122.0*

*NEIC **14** 14:26:18.4±1.2,5414N×10915E,h10km,mb4.1/3,Error ellipse: s-maj=18.8km s-min=14.6km az=83.0*

*BYKL **14** 14:26:18.9±0.2,5420N×10906E,h9km±19km*

ISC 14 14:26:18.0±0.2,5415N±002×10916E±003,h10km,n64, σ1§42/126,mb3.8/4,MS3.1/1,12C-6D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SYVR	**Suvo**	**0.70**	**135**	⇓*i*Pg	**Pg**	**14 26 32.9**	**+1.3**
	1µm,0.5s						
SYVR				⇑*i*Pg	**Pg**	**14 26 32.9**	**+1.3**
	1µm,0.5s						
SYVR				⇑*i*Pg	**Pg**	**14 26 32.9**	**+1.3**
	3µm,0.5s						
SYVR				Pmax		14 26 33.1	
	4µm,0.6s						
SYVR				*e*Sg	**Sg**	**14 26 42.8**	**+2.0**
SYVR				Smax		14 26 43.1	
	3µm,0.8s						
SYVR	**Suvo**	**0.70**	**135**	*e*PG	**Pg**	**14 26 32.9**	**+1.3**
SYVR				*e*		14 26 42.8	
SYVR				pmax	pmax		
	comp=Z,4µm,0.5s						
SYVR				smax			
	comp=N,3µm,0.3s						
MXMB	**Maximikha**	**0.93**	**195**	⇓*i*Pg	**Pg**	**14 26 36.7**	**+0.8**
MXMB				Pmax		14 26 39.4	
	comp=N,264nm,0.1s						
MXMB				*e*Sg	**Sg**	**14 26 49.8**	**+1.9**
MXMB				Smax		14 26 50.3	
	comp=N,7µm,0.8s						
OGRR	**Ongureny**	**1.06**	**242**	⇑*i*Pg	**Pg**	**14 26 37.8**	**-0.6**
OGRR				*e*Pb	**Pb**	**14 26 38.5**	**+0.1**
OGRR				max		14 26 38.9	
	comp=N,350nm,0.2s						
OGRR				*e*Sg	**Sg**	**14 26 52.0**	**-0.1**
OGRR				Smax		14 26 55.8	
	comp=N,2µm,0.3s						
OGRR	**Ongureny**	**1.06**	**242**	*e*PG	**Pg**	**14 26 37.8**	**-0.6**
OGRR				*e*		14 26 52.2	
OGRR				pmax	pmax		
	comp=Z,431nm,0.3s						
OGRR				smax			
	comp=E,2µm,0.3s						
YLYR	**Ulyunkhan**	**1.37**	**57**	⇑*i*Pg	**Pg**	**14 26 43.9**	**-0.5**
	comp=E,105nm,0.4s						
YLYR				⇑*i*Pg	**Pg**	**14 26 43.9**	**-0.5**
	comp=E,132nm,0.4s						
YLYR				⇑*i*Pg	**Pg**	**14 26 43.9**	**-0.5**
	comp=E,164nm,0.4s						
YLYR				Pmax		14 26 44.1	
	comp=E,180nm,0.4s						
YLYR				*e*Sg	**Sg**	**14 27 02.6**	**+0.3**
YLYR				Smax		14 27 03.3	
	comp=E,6µm,0.9s						
YLYR	**Ulyunkhan**	**1.37**	**57**	⇑*i*PG	**Pg**	**14 26 43.9**	**-0.5**
YLYR				*e*		14 27 02.7	
YLYR				pmax	pmax		
	comp=Z,201nm,0.2s						
YLYR				smax			
	comp=N,6µm,0.8s						
KELR	**Kotokel**	**1.54**	**205**	*e*Pg	**Pg**	**14 26 47.0**	**-0.6**
KELR				Pmax		14 26 47.3	
	comp=N,330nm,0.5s						
KELR				*e*Sg	**Sg**	**14 27 07.7**	**+0.2**
KELR				Smax		14 27 11.8	
	comp=N,4µm,0.4s						
NIZ	**Nizh Angarsk**	**1.64**	**8**	*e*Pg	**Pg**	**14 26 47.9**	**-1.6**
NIZ				*e*Pb	**Pb**	**14 26 48.7**	**+0.4**
NIZ				max		14 26 49.6	
	comp=N,646nm,0.3s						
NIZ				*e*Sg	**Sg**	**14 27 09.4**	**-1.4**
NIZ				Smax		14 27 10.9	
	comp=N,4µm,0.9s						
NIZ	**Nizh Angarsk**	**1.64**	**8**	*e*PN	**Pn**	**14 26 48.4**	**+1.5**
NIZ				*e*		14 27 09.7	
NIZ				pmax	pmax		
	comp=Z,641nm,0.3s						
NIZ				smax			
	comp=N,4µm,0.5s						
ZRHB	**Zarechye**	**2.00**	**218**	*e*Pn	**Pn**	**14 26 53.8**	**+1.9**
ZRHB				*e*Pg	**Pg**	**14 26 55.4**	**-1.1**
ZRHB				Pmax		14 27 01.3	
	comp=N,419nm,0.6s						
ZRHB				*e*Sg	**Sg**	**14 27 22.1**	**-0.3**
ZRHB				Smax		14 27 26.6	
	comp=N,5µm,0.7s						
KMO	**Kumora**	**2.10**	**33**	*e*Pn	**Pn**	**14 26 54.5**	**+1.3**
KMO				⇑*i*Pg	**Pg**	**14 26 56.5**	**-1.8**
KMO				Pmax		14 26 56.8	
	comp=N,2µm,0.4s						
KMO				*e*Sg	**Sg**	**14 27 24.7**	**-0.8**
KMO				Smax		14 27 25.7	
	comp=N,2µm,1.0s						
KMO	**Kumora**	**2.10**	**33**	*e*PN	**Pn**	**14 26 54.3**	**+1.1**
KMO				*e*		14 26 56.4	
KMO				*e*S	**Sn**	**14 27 20.6**	**+1.3**
KMO				*e*		14 27 23.4	
KMO				pmax	pmax		
	comp=Z,2µm,0.4s						
KMO				smax			
	comp=N,2µm,0.8s						
TRTB	**Turuntaevo**	**2.14**	**206**	*e*Pn	**Pn**	**14 26 55.0**	**+1.3**
TRTB				*e*Pg	**Pg**	**14 26 58.1**	**-0.9**
TRTB				Pmax		14 27 02.5	
	comp=N,190nm,0.4s	

comp=N,894nm,1.3s
UKT Uakit 2.91 61 *e*PN **Pn** **14 27 05.8 +1.4**
UKT *e* 14 27 11.2
UKT *e*S **Sn** **14 27 40.5 +1.1**
UKT *e* 14 27 48.4
UKT pmax pmax
comp=Z,65nm,0.3s
UKT smax
comp=N,873nm,0.5s
SVKR Severomuysk 3.20 50 *e*Pn **Pn** **14 27 10.3 +1.9**
SVKR *e*Pg **Pg** **14 27 17.2 -2.2**
SVKR Pmax 14 27 24.0
comp=N,209nm,0.6s
SVKR *e*Sg **Sg** **14 27 59.8 -1.1**
SVKR Smax 14 28 01.9
comp=N,3μm,0.7s
SVKR Severomuysk 3.20 50 *e*PN **Pn** **14 27 10.2 +1.8**
SVKR *e* 14 27 17.0
SVKR *e* 14 27 57.3
SVKR pmax pmax
comp=Z,209nm,0.6s
SVKR smax
comp=N,3μm,0.7s
CIT Chita 3.40 127 *e*Pn **Pn** **14 27 13.9 +2.7**
CIT *e*Pg **Pg** **14 27 20.7 -2.6**
CIT Pmax 14 27 22.7
comp=N,182nm,0.6s
CIT *e*Sn **Sn** **14 27 52.6 +1.0**
CIT *e*Sg **Sg** **14 28 05.8 -1.6**
CIT *e*SgSg 14 28 10.3
CIT max 14 28 13.0
comp=N,462nm,0.7s
TLY Talaya 4.16 236 *e*Pn **Pn** **14 27 21.8 +0.2**
TLY *e*Pg **Pg** **14 27 32.7 -5.0**
TLY *e*Sg **Sg** **14 28 23.8 -7.7**
NLYR Nelyaty 4.41 55⇓*i*Pn **Pn** **14 27 26.0 +1.0**
NLYR max 14 27 52.7
comp=N,63nm,0.8s
NLYR *e*Sg **Sg** **14 28 36.5 -3.2**
NLYR Smax 14 28 42.5
comp=N,608nm,1.3s
NLYR Nelyaty 4.41 55 *e*PN **Pn** **14 27 25.6 +0.6**
NLYR *e* 14 27 38.9
NLYR *e* 14 28 36.4
NLYR pmax pmax
comp=Z,29nm,0.3s
NLYR smax
comp=E,605nm,1.2s
BOD Bodaibo 4.57 35⇓*i*Pn **Pn** **14 27 27.8 +0.6**
BOD max 14 27 46.0
comp=E,29nm,0.7s
BOD *e*Sn **Sn** **14 28 21.1 +0.7**
BOD *e*Sg **Sg** **14 28 38.7 -6.1**
BOD Smax 14 28 44.9
comp=E,225nm,1.4s
BOD Bodaibo 4.57 35 *e*PN **Pn** **14 27 26.9 -0.3**
BOD *e* 14 27 40.0
BOD *e*S **Sn** **14 28 19.5 -0.9**
BOD *e* 14 28 37.9
BOD pmax pmax
comp=Z,29nm,0.6s
BOD smax
comp=E,170nm,1.0s
ARS Arshan 4.64 244 *e*Pn **Pn** **14 27 29.1 +0.9**
ARS *e* 14 27 45.8
ARS max 14 27 54.7
comp=E,146nm,0.5s
ARS *e*Sg **Sg** **14 28 41.1 -5.9**
ARS Smax 14 28 44.2
comp=E,2μm,0.7s
ARS Arshan 4.64 244 *e*PN **Pn** **14 27 29.4 +1.2**
ARS *e* 14 27 41.9
ARS *e* 14 28 41.1
ARS pmax pmax
comp=Z,147nm,0.4s
ARS smax
comp=E,2μm,0.5s
KPC Khapcheranga 4.88 155 *e*Pn **Pn** **14 27 31.7 +0.2**
KPC *e*Pg **Pg** **14 27 47.4 -4.2**
KPC Pmax 14 27 50.7
comp=E,51nm,0.9s
KPC *e*Sn **Sn** **14 28 26.4 -1.7**
KPC *e*Sg **Sg** **14 28 50.6 -4.2**
KPC Smax 14 28 52.8
comp=E,567nm,1.2s
KPC Khapcheranga 4.88 155 *e*PN **Pn** **14 27 31.7 +0.2**
KPC *e* 14 27 46.0
KPC *e* 14 28 50.6
KPC pmax pmax
comp=Z,51nm,0.8s
KPC smax
comp=E,565nm,1.2s
ZAK Zakamensk 5.22 226 *e*Pn **Pn** **14 27 40.4 +4.2**
ZAK *e*Pg **Pg** **14 27 52.6 -5.5**
ZAK Pmax 14 28 09.8
comp=E,18nm,0.4s
ZAK *e*Sg **Sg** **14 28 59.8 -5.9**
ZAK Smax 14 29 03.0
comp=E,161nm,1.4s
ZAK Zakamensk 5.22 226 *e*PN **Pn** **14 27 40.4 +4.2**
ZAK *e* 14 27 52.6
ZAK *e*S **Sg** **14 28 59.7 -6.0**
ZAK pmax pmax
comp=Z,21nm,0.9s
ZAK smax
comp=E,139nm,0.9s
MOY Mondy 5.53 247 *e*Pn **Pn** **14 27 42.5 +2.1**
MOY *e* 14 27 49.2
MOY max 14 28 05.5
comp=E,53nm,0.4s
MOY *e*Sn **Sn** **14 28 44.1 0.0**
MOY *e*Sg **Sg** **14 29 08.3 -7.4**
MOY Smax 14 29 13.9
comp=E,429nm,0.9s
MOY Mondy 5.53 247 *e*PN **Pn** **14 27 42.4 +2.0**
MOY *e* 14 27 58.3
MOY *e*S **Sn** **14 28 44.1 0.0**
MOY *e* 14 29 08.0
MOY pmax pmax
comp=Z,54nm,0.4s
MOY smax
comp=Z,421nm,0.8s
ORL Orlik 5.83 258⇑*i*Pn **Pn** **14 27 46.7 +2.2**
comp=Z,55nm,1.0s
ORL ⇑*i*Pn **Pn** **14 27 46.7 +2.2**
comp=Z,105nm,1.0s
ORL ⇓*i*Pn **Pn** **14 27 46.7 +2.2**
comp=Z,92nm,1.0s
ORL max 14 27 47.5
comp=Z,148nm,0.6s
ORL *e*Sn **Sn** **14 28 51.3 -0.1**
ORL *e*Sg **Sg** **14 29 17.1 -8.0**
ORL Smax 14 29 24.5
comp=Z,334nm,1.2s
ORL Orlik 5.83 258 *e*PN **Pn** **14 27 46.7 +2.2**
ORL *e* 14 28 04.4
ORL *e* 14 29 18.9
ORL pmax pmax
comp=Z,150nm,0.5s
ORL smax
comp=N,332nm,1.1s
CRS Chara 5.86 58 *e*Pn **Pn** **14 27 46.1 +1.2**
CRS *e*Pg **Pg** **14 28 05.6 -4.7**
CRS Pmax 14 28 12.7
comp=N,36nm,0.7s
CRS *e*Sg **Sg** **14 29 21.0 -5.2**
CRS Smax 14 29 32.3
comp=N,311nm,2.0s
CRS Chara 5.86 58 *e*PN **Pn** **14 27 45.9 +1.0**
CRS *e* 14 28 05.7
CRS *e* 14 29 20.7
CRS pmax pmax
comp=Z,36nm,0.8s
CRS smax
comp=N,313nm,1.5s
TUP Tupik 6.33 83 *e*Pn **Pn** **14 27 52.4 +1.0**
TUP *e*Pg **Pg** **14 28 13.3 -5.9**
TUP Pmax 14 28 14.4
comp=N,15nm,0.7s
TUP *e* 14 28 59.3
TUP *e*Sg **Sg** **14 29 36.5 -4.7**
TUP Smax 14 29 49.6
comp=N,285nm,1.8s
TUP Tupik 6.33 83 *e*PN **Pn** **14 27 52.3 +0.9**
TUP *e* 14 28 13.4
TUP *e*S **Sn** **14 29 04.6 +0.9**
TUP *e* 14 29 34.9
TUP pmax pmax
comp=Z,13nm,0.6s
TUP smax
comp=N,268nm,0.8s
ULN Ulaanbaatar 6.44 193 *e*PN **Pn** **14 27 51.0 -1.8**
ULN *e* 14 29 37.2
ULN pmax pmax
comp=Z,7.0nm,0.4s
ULN Ulaanbaatar 6.44 193 *e*Pn **Pn** **14 27 51.0 -1.8**
comp=Z,6.8nm,0.4s
ULN *e*Sg **Sg** **14 29 37.2 -7.4**
SONM Songino Array 6.56 197 Pn **Pn** **14 27 56.5 +1.9**
comp=Z,0.9nm,0.3s,baz=9.9,slow=13,SNR=22
SONM Sn **Sn** **14 29 10.0 +0.6**
comp=Z,1.8nm,0.3s,baz=14,slow=21,SNR=2.4
SONM Lg 14 29 44.5
comp=Z,9.3nm,0.3s,baz=12,slow=29,SNR=12
SONM LR LR 14 30 41.3
comp=Z,68nm,19.3s,baz=34,slow=40
SONM Songino Array 6.56 197 PN **Pn** **14 27 56.5 +1.9**
SONM 14 29 10.0
SONM pmax pmax
comp=Z,1.0nm,0.3s
SONM smax
comp=N,2.0nm,0.3s
SONM MLR MLR
comp=Z,68nm,19.3s
TDJR Todzha 8.02 263 *e*Pn **Pn** **14 28 16.4 +1.8**
TDJR *e*Pg Pn 14 28 43.0 +28
TDJR *e*Sg Sn 14 30 24.6 +39
ZAL Zalesovo 14.30 279 Pn **Pn** **14 29 40.8 +0.3**
comp=Z,0.3nm,0.3s,baz=38,slow=12,SNR=7.3
ZAL Lg 14 33 39.4
comp=Z,0.1nm,0.3s,baz=106,slow=20,SNR=2.6
MKAR Makanchi Array 18.54 258 P **Pn** **14 30 36.3 +1.4**
comp=Z,0.3nm,0.3s,baz=61,slow=10.0,SNR=11
MKAR Makanchi Array 18.54 258 P **Pn** **14 30 36.3 +1.4**
KURK Kurchatov 18.86 272 P **Pn** **14 30 37.9 -0.9**
KURK pmax pmax
comp=Z,8.0nm,0.8s
KURK Kurchatov 18.86 272 P **Pn** **14 30 37.9 -0.9**
comp=Z,8.2nm,0.8s
TIXI Tiksi 19.53 19⇑*i*P **Pn** **14 30 43.4 -3.4**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
TIXI MLR MLR
comp=Z,24nm,11.0s
BRVK Borovoye 22.90 283 *e*P **P** **14 31 21.3 -0.6**
BRVK pmax pmax
comp=Z,9.0nm,0.9s,mb4.2
BRVK Borovoye 22.90 283 *e*P **P** **14 31 21.3 -0.6**
comp=Z,9.4nm,0.9s,mb4.2
ZRNK Zerenda 23.67 284 *e*P **P** **14 31 29.2 -0.6**
ZRNK pmax pmax
comp=Z,4.0nm,0.6s,mb4.0
ZRNK Zerenda 23.67 284 *e*P **P** **14 31 29.2 -0.6**
comp=Z,3.6nm,0.6s,mb4.0
JOW Kunigami 30.72 145 LR LR 14 43 35.1
comp=Z,42nm,20.9s,MS3.1,baz=67,slow=34
FINES FINESS Array B 41.99 315 P **P** **14 34 13.2 +3.9**
comp=Z,0.4nm,0.6s,mb3.2,baz=64,slow=8.9,SNR=3.6
ILAR Eielson Array 47.94 34 P **P** **14 34 57.0 +0.3**
comp=Z,0.9nm,0.7s,mb3.9,baz=297,slow=6.0,SNR=16
ILAR Eielson Array 47.94 34 P **P** **14 34 57.0 +0.3**
ILAR pmax pmax
comp=Z,1.0nm,0.7s

IDC 14 14:27:46.6±2.4, 1989S×17470W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.7/15, mbtmp3.7/4, ML2.1/1, Error ellipse: s-maj=95.2km s-min=23.9km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.57**	**26**	Pn	Pn	14 29 26.2	+1.7
	2.4nm,0.3s,baz=115,slow=18,SNR=5.2						
AFI				Sn	Sn	14 30 40.9	+0.8
	1.4nm,0.3s,baz=150,slow=20,SNR=2.7						
ASAR	**Alice Springs**	**47.67**	**256**	P	P	14 36 24.9	+0.2
	0.5nm,0.6s,baz=97,slow=8.1,SNR=6.9						
WRA	**Warramunga Arr**	**47.75**	**261**	P	P	14 36 26.0	+0.6
	0.2nm,0.5s,baz=96,slow=7.7,SNR=8.3						
NVAR	**Mina Array Bea**	**78.48**	**42**	P	P	14 39 49.5	+0.1
	0.5nm,0.6s,baz=223,slow=8.6,SNR=5.0						

*ISCJB **14** 14:32:21.9±0.6, 2983N±007×1395E±02, h426km±11km, mb3.0/2, Error ellipse: s-maj=22.8km s-min=9.1km az=153.3*
*JMA **14** 14:32:21.6±0.2, 2988N×13962E, h441km, M3.5*
*IDC **14** 14:32:23.0±1.1, 2995N×13938E, h422km±46km, mb2.9/2, mb1 3.1/4, mb1mx2.7/21, mbtmp4.0/4, Error ellipse: s-maj=61.9km s-min=43.8km az=159.0*
ISC 14 14:32:23.1±0.6, 2986N±006×1396E±02, h416km±11km, n16, σ0°78/21, mb3.0/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**3.25**	**4**	P	P	14 33 30.7	+1.2
JHJ	**Hachijo jima 2**	**3.26**	**3**	P	P	14 33 30.9	+1.3
	19nm,0.3s,baz=225,slow=21,SNR=12						
JHJ				S	S	14 34 22.5	-1.0
	4.0nm,0.3s,baz=44,slow=12,SNR=2.8						
CBIJ	**Chichi jima**	**3.58**	**140**	P	P	14 33 32.9	+0.5
CBIJ				eS	S	14 34 27.8	-0.8
BSO1	**Boso 1**	**4.93**	**14**	P	P	14 33 45.9	+0.8
BSO1				S	S	14 34 51.9	+0.1
BSO3	**Boso 3**	**4.99**	**9**	P	P	14 33 46.4	+0.7
BSO3				S	S	14 34 52.3	-0.7
JIE	**Ise**	**5.13**	**332**	P	P	14 33 48.0	+0.8
HMMJ	**Hamamatsu 2**	**5.22**	**343**	P	P	14 33 48.5	+0.4
JNY	**Yasuok**	**5.67**	**346**	P	P	14 33 53.4	+0.7
JHU	**Hanno**	**5.98**	**358**	P	P	14 33 54.9	-1.1
JRY	**Ryogami san**	**6.17**	**355**	P	P	14 33 58.0	0.0
JAG	**Ashikaga**	**6.55**	**359**	P	P	14 34 01.1	-1.0
JAG				eS	S	14 35 17.3	-5.8
MJAR	**Matsushiro Arr**	**6.76**	**351**	P	P	14 34 03.3	-1.2
	0.7nm,0.3s,baz=167,slow=10.0,SNR=7.4						
JHO	**Hitachi**	**6.79**	**7**	P	P	14 34 04.7	0.0
JOW	**Kunigami**	**10.40**	**256**	P	P	14 34 44.0	-0.7
	1.5nm,0.3s,baz=29,slow=19,SNR=5.1						
WRA	**Warramunga Arr**	**49.77**	**186**	P	P	14 40 35.5	-0.1
	0.4nm,0.3s,mb3.2,baz=1.1,slow=7.7,SNR=32						
ASAR	**Alice Springs**	**53.49**	**186**	P	P	14 41 02.8	+0.1
	0.4nm,0.6s,mb2.9,baz=0.3,slow=6.9,SNR=9.6						

*ISCJB **14** 14:50:05.4±0.4, 3825±005×10362W±005, h10km, mb4.9/72, MS4.8/29, Error ellipse: s-maj=8.3km s-min=6.7km az=82.4*
*IDC **14** 14:50:05.6±0.7, 3715S×10362W, h0km, mb4.2/16, mb1 4.4/16, mb1mx4.4/19, mbtmp4.2/16, MS4.7/16, Ms1 4.7/16, ms1mx4.5/23, Error ellipse: s-maj=24.4km s-min=13.7km az=54.0*
*MOS **14** 14:50:06.2±1.1, 3705S×10352W, h10km, mb5.1/29, MS4.6/7, Error ellipse: s-maj=15.8km s-min=6.8km az=92.5*
*HRVD **14** 14:50:07.2±0.2, 3715S×10353W, h16km, MW5.3/105, Centroid moment Tensor Solution. LP body waves: s71,c103;Mantle waves: s105,c187; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.08±.02; $M_{\theta\theta}$0.24±.02; $M_{\phi\phi}$-0.16±.02; $M_{r\theta}$0.33±.05; $M_{\theta\phi}$0.97±.02; $M_{r\phi}$0.02±.06; Best double couple: $M_0$1.04300×10^{17} NP1:ϕ_S96.00000°,δ89.00000°,λ18.00000°. NP2: ϕ_S6.00000°,δ72.00000°,λ179.00000°. Principal axes: T 1.0950, Plg13.0000°, Azm322.0000°; N -0.1040, Plg72.0000°, Azm98.0000°; P -0.9900, Plg12.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **14** 14:50:07.2±0.3, 3815S×10360W, h10km, mb5.0/60, MS4.6/9 Error ellipse: s-maj=9.1km s-min=5.0km az=48.0*
*BJI **14** 14:50:07.2, 3805S×10360W, h10km, mB5.2, Ms5.3, Msz4.9*
ISC 14 14:50:07.4±0.4, 383S±005×10365W±005, h10km, n175, σ0°93/147, mb4.9/72, MS4.8/29, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAYG	**Puerto Ayora**	**13.72**	**77**	*e*P	**Pn**	**14 53 21.3**	**-0.6**
JTS	**JuntasAbangare**	**23.31**	**53**	P	**P**	**14 55 16.3**	**+0.7**
	262nm,1.5s,mb5.4,SNR=16						
JTS	**JuntasAbangare**	**23.31**	**53**	P	**P**	**14 55 15.9**	**+0.3**
	14nm,1.1s,mb4.3,baz=234,slow=3.5,SNR=17						
JTS				LR	LR	15 01 51.5	
	comp=Z,4μm,20.4s,MS4.9,baz=300,slow=30						
JTS	**JuntasAbangare**	**23.31**	**53**	*e*P	**P**	**14 55 15.6**	**0.0**
JTS				pmax	pmax		
	comp=Z,838nm,2.5s						
JTS	**JuntasAbangare**	**23.31**	**53**	*e*P	**P**	**14 55 15.6**	**0.0**
	comp=Z,838nm,2.5s,mb5.7						
RPN	**Rapa Nui**	**23.80**	**193**	LR	LR	15 02 09.0	
	comp=Z,994nm,18.4s,MS4.3,baz=189,slow=30						
LPIG	**La Paz**	**28.51**	**347**	LR	LR	15 04 29.3	
	comp=Z,2μm,20.8s,MS4.7,baz=173,slow=30						
ROSC	**El Rosal**	**30.54**	**74**	P	**P**	**14 56 22.7**	**+1.8**
	comp=Z,6.2nm,0.7s,mb4.5,baz=78,slow=23,SNR=8.3						
ROSC				LR	LR	15 06 09.8	
	comp=Z,1μm,21.8s,MS4.4,baz=18,slow=32						
JCT	**Junction City**	**34.31**	**6**	*e*P	**P**	**14 56 54.0**	**0.0**
JCT				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
JCT	**Junction City**	**34.31**	**6**	*e*P	**P**	**14 56 54.0**	**0.0**
	comp=Z,21nm,0.9s,mb5.1						
HKT	**Hockley**	**34.41**	**12**	P	**P**	**14 56 55.3**	**+0.5**
HKT				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.8						
HKT	**Hockley**	**34.41**	**12**	P	**P**	**14 56 55.2**	**+0.4**
	comp=Z,20nm,1.5s,mb4.8						
SDV	**Santo Domingo**	**35.26**	**69**	*e*P	**P**	**14 57 02.3**	**+0.1**
	comp=Z,52nm,1.0s,mb5.4						
MNTX	**Cornudas Mount**	**35.37**	**357**	*e*P	**P**	**14 57 02.8**	**-0.3**
	comp=Z,8.3nm,0.9s,mb4.7						
MNTX				LR	LR		
	comp=Z,915nm,22.0s,MS4.5						
CCCC	**Cccc**	**35.53**	**45**	*e*P	**P**	**14 57 06.9**	**+2.4**
RKT	**Rikitea**	**35.84**	**235**	*e*S	**S**	**15 02 43.5**	**-1.3**
	comp=Z,284nm,25.0s						
RKT				eLR	LR	15 06 40.3	
	comp=Z,3μm,26.8s						
NATX	**Nacogdoches**	**36.41**	**13**	P	**P**	**14 57 13.9**	**+1.9**
	comp=Z,38nm,0.8s,mb5.4						
TAOE	**Nuku Hiva Isla**	**36.60**	**260**	*e*LR	LR	15 06 55.7	
	comp=Z,4μm,26.5s						
LPAZ	**La Paz**	**37.02**	**112**	P	**P**	**14 57 18.8**	**+1.5**
	comp=Z,1.4nm,0.8s,mb3.9,baz=288,slow=3.6,SNR=7.2						
LPAZ				LR	LR	15 09 48.5	
	comp=Z,983nm,19.5s,MS4.6,baz=277,slow=32						
LPAZ	**La Paz**	**37.02**	**112**	*e*P	**P**	**14 57 18.4**	**+1.2**
LPAZ				pmax	pmax		
	comp=Z,15nm,1.6s						
LPAZ				MLR	MLR		
	comp=Z,1μm,20.0s						
LPAZ	**La Paz**	**37.02**	**112**	*e*P	**P**	**14 57 18.4**	**+1.2**
	comp=Z,15nm,1.6s,mb4.6						
LPAZ				LR	LR		
	comp=Z,1μm,20.0s,MS4.6						
LVC	**Limon Verde**	**38.46**	**122**	P	**P**	**14 57 31.6**	**+2.1**
	comp=Z,5.7nm,0.7s,mb4.4,baz=286,slow=6.7,SNR=10						
LVC	**Limon Verde**	**38.46**	**122**	*e*P	**P**	**14 57 31.3**	**+1.8**
	comp=Z,23nm,1.1s,mb4.8						
AMTX	**Amarillo**	**38.55**	**3**	*e*P	**P**	**14 57 30.6**	**+0.4**
	comp=Z,13nm,0.8s,mb4.7						
ANMO	**Albuquerque**	**38.66**	**356**	*e*P	**P**	**14 57 32.0**	**+0.9**
ANMO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ANMO				MLR	MLR		
	comp=Z,512nm,20.0s						
ANMO	**Albuquerque**	**38.66**	**356**	*e*P	**P**	**14 57 32.0**	**+0.9**
	comp=Z,4.4nm,0.9s,mb4.2						
ANMO				LR	LR		
	comp=Z,512nm,20.0s,MS4.3						
MIAR	**Mount Ida**	**39.33**	**13**	*e*P	**P**	**14 57 37.5**	**+0.8**
MIAR				pmax	pmax		
	comp=Z,52nm,0.9s,mb5.3						
MIAR	**Mount Ida**	**39.33**	**13**	*e*P	**P**	**14 57 37.5**	**+0.8**
	comp=Z,52nm,0.9s,mb5.3						
WUAZ	**Wupatki**	**39.80**	**350**	*e*P	**P**	**14 57 41.4**	**+0.8**
	comp=Z,17nm,1.0s,mb4.7						
LRAL	**Lakeview Retre**	**39.91**	**22**	*e*P	**P**	**14 57 42.0**	**+0.4**
	comp=Z,23nm,1.2s,mb4.8						
SAML	**Samuel**	**40.52**	**99**	*e*P	**P**	**14 57 45.4**	**-1.1**
	comp=Z,31nm,1.1s,mb4.8						
NEN	**Nelson**	**40.65**	**346**	*e*P	**P**	**14 57 48.0**	**+0.3**
MVCO	**Mesa Verde**	**41.08**	**354**	*e*P	**P**	**14 57 51.7**	**+0.6**
PLAL	**Pickwick Lake**	**41.29**	**20**	*e*P	**P**	**14 57 52.5**	**-0.4**
	comp=Z,49nm,0.9s,mb5.1						
DAC	**Darwin (Calif)**	**41.97**	**343**	*e*P	**P**	**14 57 58.9**	**+0.4**
DAC				pmax	pmax		
	comp=Z,28nm,1.6s,mb4.6						
DAC	**Darwin (Calif)**	**41.97**	**343**	*e*P	**P**	**14 57 58.9**	**+0.4**
	comp=Z,28nm,1.6s,mb4.6						
PV01	**Paradox Valley**	**42.00**	**354**	*e*P	**P**	**14 57 59.2**	**+0.5**
CCUT	**Cedar City**	**42.15**	**348**	*e*P	**P**	**14 58 01.4**	**+1.4**
SWET	**Sewanee**	**42.25**	**22**	*e*P	**P**	**14 58 00.4**	**-0.4**
PV10	**Paradox Valley**	**42.28**	**354**	*e*P	**P**	**14 58 00.5**	**-0.6**
MSU	**Marysvale**	**42.86**	**350**	*e*P	**P**	**14 58 06.7**	**+1.0**
SMCO	**Snowmass**	**42.90**	**356**	*e*P	**P**	**14 58 06.8**	**+0.7**
	comp=Z,15nm,1.1s,mb4.6						
SJG	**San Juan**	**42.91**	**58**	P	**P**	**14 58 04.5**	**-1.6**
	comp=Z,11nm,0.9s,mb4.6,baz=290,slow=6.0,SNR=5.4						
CPCT	**Cooper Cave**	**43.00**	**23**	*e*P	**P**	**14 58 07.2**	**+0.3**
SRU	**San Rafael**	**43.19**	**352**	*e*P	**P**	**14 58 09.1**	**+0.7**
SRU				pmax	pmax		
	comp=Z,23nm,1.0s,mb4.9						
SRU	**San Rafael**	**43.19**	**352**	*e*P	**P**	**14 58 09.1**	**+0.6**
	comp=Z,23nm,1.0s,mb4.9						
KSU1	**Kansas State U**	**43.21**	**8**	P	**P**	**14 58 07.4**	**-1.1**
CFAA	**Coronel Fontan**	**43.24**	**134**	P	**P**	**14 58 09.1**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=300,slow=7.0,SNR=13						
FVM	**French Village**	**43.37**	**15**	*e*P	**P**	**14 58 09.7**	**-0.2**
FVM				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.0						
FVM	**French Village**	**43.37**	**15**	*e*P	**P**	**14 58 09.7**	**-0.2**
	comp=Z,30nm,0.9s,mb5.0						
JSC	**Jenkinsville**	**43.38**	**27**	*e*P	**P**	**14 58 10.3**	**+0.3**
ISCO	**Idaho Springs**	**43.45**	**358**	*e*P	**P**	**14 58 09.7**	**-0.8**
ISCO				pmax	pmax		
	comp=Z,24nm,1.3s,mb4.8						
ISCO	**Idaho Springs**	**43.45**	**358**	*e*P	**P**	**14 58 09.7**	**-0.8**
	comp=Z,24nm,1.3s,mb4.8						
SIUC	**Southern Illin**	**43.45**	**17**	*e*P	**P**	**14 58 10.8**	**+0.2**
	comp=Z,38nm,0.9s,mb5.1						
TMUT	**Trail Mountain**	**43.47**	**351**	*e*P	**P**	**14 58 12.1**	**+1.4**
SIV	**San Ignacio**	**43.55**	**109**	P	**P**	**14 58 10.9**	**-0.4**
	comp=Z,2.1nm,0.7s,mb4.0,baz=279,slow=9.4,SNR=14						
SLM	**Saint Louis**	**44.04**	**15**	*e*P	**P**	**14 58 14.2**	**-1.0**
SLM				pmax	pmax		
	comp=Z,12nm,0.4s,mb5.0						
SLM	**Saint Louis**	**44.04**	**15**	*e*P	**P**	**14 58 14.2**	**-1.0**
	comp=Z,12nm,0.4s,mb5.0						
MNV	**Mina**	**44.14**	**344**	*e*P	**P**	**14 58 17.4**	**+1.3**
MNV				pmax	pmax		
	comp=Z,27nm,1.8s,mb4.7						
MNV	**Mina**	**44.14**	**344**	*e*P	**P**	**14 58 17.4**	**+1.3**
	comp=Z,27nm,1.8s,mb4.7						
USIN	**University of**	**44.15**	**18**	*e*P	**P**	**14 58 16.6**	**+0.4**
	comp=Z,52nm,0.9s,mb5.3						
NVAR	**Mina Array Bea**	**44.18**	**343**	P	**P**	**14 58 17.1**	**+0.7**
	comp=Z,1.4nm,0.9s,baz=157,slow=8.5,SNR=9.6						
MPU	**Maple Canyon**	**44.24**	**351**	*e*P	**P**	**14 58 16.9**	**+0.1**
	comp=Z,26nm,1.0s,mb4.9						
NLU	**North Lily Min**	**44.25**	**351**	*e*P	**P**	**14 58 12.3**	**-4.6**
TZTN	**Tazewell**	**44.33**	**23**	*e*P	**P**	**14 58 17.8**	**+0.2**
CMB	**Columbia Colle**	**44.45**	**341**	*e*P	**P**	**14 58 18.9**	**+0.3**
CMB				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.6						
CMB	**Columbia Colle**	**44.45**	**341**	*e*P	**P**	**14 58 18.9**	**+0.4**
	comp=Z,16nm,1.3s,mb4.6						
DAU	**Daniels Canyon**	**44.57**	**352**	*e*P	**P**	**14 58 20.5**	**+1.0**
DUG	**Dugway**	**44.61**	**350**	*e*P	**P**	**14 58 20.6**	**+0.8**
DUG				pmax	pmax		
	comp=Z,22nm,1.2s,mb4.9						
DUG				MLR	MLR		
	comp=Z,541nm,20.0s,MS4.5						
DUG	**Dugway**	**44.61**	**350**	*e*P	**P**	**14 58 20.6**	**+0.8**
	comp=Z,22nm,1.2s,mb4.9						
DUG				LR	LR		
	comp=Z,541nm,20.0s,MS4.5						
WCI	**Wyandotte Cave**	**44.83**	**19**	*e*P	**P**	**14 58 21.2**	**-0.4**
WCI				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.0						
WCI	**Wyandotte Cave**	**44.83**	**19**	*e*P	**P**	**14 58 21.2**	**-0.4**
	comp=Z,23nm,1.0s,mb5.0						
NOQ	**North Oquirrh**	**44.94**	**351**	P	**P**	**14 58 23.9**	**+1.4**
	comp=Z,10.0nm,0.7s,mb4.8						

PHWY **Pilot Hill** **44.94 358** *eP* **P** **14 58 23.3 +0.9**
PMOR **Pomariorio Ree** **44.94 253** *eP* **P** **14 58 23.7 +1.2**
comp=Z,57nm,1.5s,mb5.2
TCUT **Toone Canyon** **45.29 352** *eP* **P** **14 58 25.9 +0.6**
RWWY **Rawlins** **45.41 356** *eP* **P** **14 58 26.5 +0.3**
comp=Z,15nm,1.0s,mb4.8
ELK **Elko** **45.61 348** *eP* **P** **14 58 28.3 +0.5**
ELK pmax pmax
comp=Z,25nm,1.7s
ELK MLR MLR
comp=Z,932nm,19.0s
ELK **Elko** **45.61 348** *eP* **P** **14 58 28.3 +0.5**
comp=Z,25nm,1.7s,mb4.9
ELK LR LR
comp=Z,932nm,19.0s,MS4.7
BLO **Bloomington** **45.61 19** *eP* **P** **14 58 27.6 -0.2**
BLO pmax pmax
comp=Z,22nm,0.8s,mb5.1
BLO **Bloomington** **45.61 19** *eP* **P** **14 58 27.6 -0.2**
comp=Z,22nm,0.8s,mb5.1
NSHM **Saint Helena R** **45.64 339** P **P** **14 58 27.7 -0.3**
PAHR **Pah Rah Range** **45.67 343** *eP* **P** **14 58 29.2 +0.9**
comp=Z,14nm,1.0s,mb4.8
BMN **Battle Mountai** **45.77 346** *eP* **P** **14 58 29.6 +0.6**
BMN pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
BMN **Battle Mountai** **45.77 346** *eP* **P** **14 58 29.6 +0.6**
comp=Z,9.6nm,1.0s,mb4.7
HWUT **Hardware Ranch** **45.79 352** *eP* **P** **14 58 29.7 +0.5**
comp=Z,19nm,1.0s,mb5.0
ELN **Prospectdale** **46.07 26** *eP* **P** **14 58 31.4 -0.1**
HVU **Hansel Valley** **46.14 351** *eP* **P** **14 58 32.5 +0.5**
HVU pmax pmax
comp=Z,13nm,0.9s,mb4.9
HVU **Hansel Valley** **46.14 351** *eP* **P** **14 58 32.5 +0.5**
comp=Z,13nm,0.9s,mb4.9
FWV **Forest Hill** **46.35 25** *eP* **P** **14 58 33.2 -0.3**
FWV *e* 14 58 39.0
PDAR **Pinedale Array** **46.68 354** P **P** **14 58 36.2 0.0**
comp=Z,4.4nm,0.7s,mb4.5,baz=165,slow=6.2,SNR=40
PDAR LR LR 15 15 44.1
comp=Z,444nm,19.2s,MS4.4,baz=181,slow=33
PPT **Papeete** **47.00 250** *eS* **S** **15 05 29.7 -0.5**
comp=Z,278nm,24.8s
PPT *e*LQ 15 09 44.1
comp=Z,2μm,29.8s
PPT *e*LR LR 15 11 51.5
comp=Z,2μm,25.2s
PPT **Papeete** **47.00 250** LR LR 15 12 49.3
comp=Z,884nm,20.4s,MS4.7,baz=84,slow=29
REDW **Red Top Meadow** **47.42 353** *eP* **P** **14 58 41.8 -0.1**
comp=Z,16nm,0.9s,mb5.0
TPAW **Teton Pass** **47.56 353** *eP* **P** **14 58 42.7 -0.3**
comp=Z,19nm,1.0s,mb5.1
DCID1 **Drake Creek** **47.69 353** *eP* **P** **14 58 44.7 +0.6**
RSSD **Black Hills** **47.73 360** *eP* **P** **14 58 42.6 -1.8**
RSSD pmax pmax
comp=Z,14nm,1.1s,mb4.9
RSSD **Black Hills** **47.73 360** *eP* **P** **14 58 42.6 -1.8**
comp=Z,14nm,1.1s,mb4.9
MOOW **Moose Ponds** **47.79 353** *eP* **P** **14 58 44.4 -0.4**
comp=Z,14nm,1.0s,mb5.0
IMW **Indian Meadow** **47.96 353** *eP* **P** **14 58 45.2 -0.9**
comp=Z,25nm,0.8s,mb5.3
MOD **Modoc** **47.97 343** *eP* **P** **14 58 47.1 +0.8**
comp=Z,45nm,1.6s,mb5.2
WVOR **Wild Horse Val** **48.01 345** *eP* **P** **14 58 46.9 +0.3**
WVOR pmax pmax
comp=Z,35nm,1.6s,mb5.1
WVOR **Wild Horse Val** **48.01 345** *eP* **P** **14 58 46.9 +0.3**
comp=Z,35nm,1.6s,mb5.1
FLWY **Flagg Ranch** **48.11 353** *eP* **P** **14 58 47.6 +0.2**
comp=Z,34nm,0.8s,mb5.4
HLID **Hailey** **48.16 350** *eP* **P** **14 58 48.3 +0.5**
comp=Z,13nm,0.9s,mb5.0
TBI **Tubuai** **48.29 242** *e*S **S** **15 05 47.8 -0.7**
comp=Z,383nm,26.8s
TBI *e*LQ 15 10 24.9
comp=Z,455nm,37.5s
TBI *e*LR LR 15 12 26.6
comp=Z,2μm,29.0s
MCWV **Mont Chateau** **48.50 25** *eP* **P** **14 58 49.8 -0.6**
comp=Z,31nm,1.1s,mb5.3
LKWY **Lake** **48.55 354** *eP* **P** **14 58 51.8 +1.0**
LKWY pmax pmax
comp=Z,22nm,0.9s,mb5.2
LKWY **Lake** **48.55 354** *eP* **P** **14 58 51.8 +1.0**
comp=Z,22nm,0.9s,mb5.2
YBH **Yreka Blue Hor** **48.55 341** P **P** **14 58 49.3 -1.4**
YBH pmax pmax
comp=Z,6.0nm,0.9s
YBH MLR MLR
comp=Z,959nm,22.0s
YBH **Yreka Blue Hor** **48.55 341** P **P** **14 58 49.3 -1.5**
comp=Z,5.9nm,0.9s,mb4.6
YBH LR LR
comp=Z,959nm,22.0s,MS4.7
YMR **Madison River** **48.72 353** *eP* **P** **14 58 53.6 +1.6**
comp=Z,48nm,1.2s,mb5.4
QLMT **Earthquake Lak** **48.94 353** *eP* **P** **14 58 54.5 +0.8**
MCMT **McKenzie Canyo** **49.13 351** *eP* **P** **14 58 55.2 0.0**
DLMT **Dillon** **49.62 352** *eP* **P** **14 58 58.9 0.0**
comp=Z,15nm,1.2s,mb4.9
CPUP **Villa Florida** **49.64 122** P **P** **14 58 58.4 -0.7**
comp=Z,2.0nm,0.7s,mb4.3,baz=276,slow=7.5,SNR=12
CPUP LR LR 15 16 51.2
comp=Z,646nm,19.1s,MS4.6,baz=274,slow=32
CPUP **Villa Florida** **49.64 122** *eP* **P** **14 58 59.1 0.0**
CPUP pmax pmax
comp=Z,67nm,1.4s
CPUP MLR MLR
comp=Z,157nm,21.0s
CPUP **Villa Florida** **49.64 122** *eP* **P** **14 58 59.1 +0.1**
comp=Z,68nm,1.4s,mb5.5
CPUP LR LR
comp=Z,157nm,21.0s,MS4.0
GCMT **Greycliff** **49.69 354** *eP* **P** **14 58 58.7 -0.8**
ALLY **Alegheny Colle** **50.07 23** P **P** **14 59 01.1 -1.3**
LAO **LASA Array** **50.35 358** *eP* **P** **14 59 04.2 -0.3**
comp=Z,92nm,1.8s,mb5.5
HRY **Holter Researc** **50.84 353** *eP* **P** **14 59 07.3 -0.9**
CHMT **Chamberlain Mo** **51.23 352** *eP* **P** **14 59 10.3 -0.9**
HAWA **Hanford** **51.95 346** *eP* **P** **14 59 16.3 -0.2**
comp=Z,0.8nm,0.9s
EYMN **Ely** **52.65 10** *eP* **P** **14 59 20.7 -1.0**
comp=Z,23nm,1.0s,mb5.1
WALA **Waterton Lakes** **53.42 352** *eP* **P** **14 59 26.4 -1.0**
comp=Z,9.0nm,0.9s,mb4.7
ULM **Lac du Bonnet** **54.28 6** P **P** **14 59 32.7 -0.9**
comp=Z,9.8nm,0.9s,mb4.7,baz=197,slow=8.2,SNR=16
ULM LR LR 15 21 37.2
comp=Z,966nm,19.1s,MS4.9,baz=219,slow=35
ULM **Lac du Bonnet** **54.28 6** P **P** **14 59 32.7 -0.9**
ULM LR LR 15 21 37.2
BDFB **Brasilia** **55.92 106** P **P** **14 59 45.1 -0.4**
comp=Z,6.7nm,0.9s,mb4.7,baz=264,slow=9.7,SNR=6.2
BDFB LR LR 15 21 55.1
comp=Z,613nm,19.9s,MS4.7,baz=283,slow=34
EDM **Edmonton** **57.42 353** *eP* **P** **14 59 54.9 -1.3**
USHA **Ushuaia** **58.28 157** LR LR 15 19 22.4
comp=Z,2μm,19.9s,MS5.2,baz=266,slow=30
FFC **Flin Flon** **58.36 1** *eP* **P** **15 00 01.5 -1.3**
FFC pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
FFC MLR MLR
comp=Z,1μm,20.0s,MS5.0
FFC **Flin Flon** **58.36 1** *eP* **P** **15 00 01.5 -1.3**
comp=Z,9.6nm,1.0s,mb4.8
FFC LR LR
comp=Z,1μm,20.0s,MS5.0
FCC **Fort Churchill** **62.86 6** *eP* **P** **15 00 31.9 -1.6**
FCC pmax pmax
comp=Z,11nm,0.9s,mb5.0
FCC **Fort Churchill** **62.86 6** *eP* **P** **15 00 31.9 -1.6**
comp=Z,11nm,0.9s,mb5.0
DLBC **Dease Lake** **65.56 345** *eP* **P** **15 00 50.5 -0.6**
SCHQ **Schefferville** **65.92 22** P **P** **15 00 50.9 -2.6**
comp=Z,0.9nm,0.5s,mb4.1,baz=241,slow=9.0,SNR=3.5
SCHQ LR LR 15 28 57.6
comp=Z,689nm,18.9s,MS4.9,baz=109,slow=35
YKA **Yellowknife Ar** **66.66 354** P **P** **15 00 56.2 -2.1**
comp=Z,1.4nm,0.8s,mb4.0,baz=163,slow=6.4,SNR=11
YKA LR LR 15 27 30.2
comp=Z,708nm,21.9s,MS4.8,baz=120,slow=34
YKA **Yellowknife Ar** **66.66 354** P **P** **15 00 56.2 -2.1**
YKA LR LR 15 27 30.2
YKW3 **Yellowknife Ar** **66.73 354** *eP* **P** **15 00 57.2 -1.5**

AFI **Afiamalu** **67.86 257** LR LR 15 24 28.2
comp=Z,587nm,19.8s,MS4.8,baz=297,slow=30
DAWY **Dawson** **72.75 344** *eP* **P** **15 01 34.2 -1.5**
PMR **Palmer** **73.96 339** *eP* **P** **15 01 43.1 +0.2**
PMR pmax pmax
comp=Z,89nm,2.6s,mb5.2
PMR MLR MLR
comp=Z,500nm,19.0s,MS4.8
PMR **Palmer** **73.96 339** *eP* **P** **15 01 43.1 +0.2**
comp=Z,88nm,2.6s,mb5.2
PMR LR LR
comp=Z,500nm,19.0s,MS4.8
INK **Inuvik** **74.92 349** *eP* **P** **15 01 47.3 -1.2**
INK pmax pmax
comp=Z,19nm,1.4s
INK **Inuvik** **74.92 349** *eP* **P** **15 01 47.2 -1.3**
comp=Z,19nm,1.4s,mb4.8
ILAR **Eielson Array** **75.42 342** P **P** **15 01 50.2 -1.2**
comp=Z,3.2nm,0.8s,mb4.3,baz=150,slow=4.8,SNR=44
SVW2 **Sparrevohn** **76.06 337** *eP* **P** **15 01 53.2 -1.8**
RES **Resolute Bay** **78.57 2** *eP* **P** **15 02 08.1 -1.0**
RES pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
RES **Resolute Bay** **78.57 2** *eP* **P** **15 02 08.1 -1.0**
comp=Z,10nm,1.1s,mb4.7
URZ **Urewera** **79.19 232** LR LR 15 29 06.3
comp=Z,733nm,18.8s,MS5.0,baz=41,slow=30
QSPA **South Pole Qui** **86.22 180** *eP* **P** **15 02 55.7 +6.6**
comp=Z,24nm,1.2s,mb5.3
VNDA **Vanda** **87.27 193** P **P** **15 02 55.7 +1.5**
comp=Z,0.8nm,1.1s,mb3.9,baz=156,slow=2.3,SNR=3.0
BILL **Bilibino** **93.55 338** *i* P **P** **15 03 24.0 +0.4**
BILL pmax pmax
comp=Z,9.0nm,1.7s,mb4.9
DBIC **Dimbokro** **99.16 84** LR LR 15 47 47.6
comp=Z,140nm,19.5s,MS4.5,baz=246,slow=35
MDJ **Mudanjiang** **118.22 320** PKP PKPdf 15 08 54.1 -0.7
WRA **Warramunga Arr** **118.36 245** PKP PKPdf 15 08 55.0 0.0
comp=Z,0.4nm,0.9s,baz=101,slow=2.5,SNR=3.2
CN2 **Changchun** **121.25 320** *e*PKP PKPdf 15 08 57.4 -3.2
CN2 LR LR
comp=N,200nm,21.0s,MS5.0
CN2 LR LR
comp=E,300nm,21.0s,MS5.0
ARU **Arti** **125.66 12** *i* PKIKP PKPdf 15 09 12.1 +3.0
ARU *e* 15 11 06.3
ARU *e* 15 16 13.2
ARU *e*SS SS 15 28 02.7 +2.3
BRTR **Keskin Array B** **127.42 41** PKP PKPdf 15 09 13.4 +1.0
comp=E,1.4nm,0.8s,baz=340,slow=1.6,SNR=5.9
ZAK **Zakamensk** **128.35 338** *e*PKIKP PKPdf 15 09 16.8 +2.6
ZAK pmax pmax
comp=Z,5.0nm,1.7s
SONM **Songino Array** **129.12 334** PKP PKPdf 15 09 15.9 +0.2
comp=Z,1.2nm,1.0s,baz=49,slow=2.5,SNR=5.2
ZAL **Zalesovo** **129.57 354** PKP PKPdf 15 09 15.2 -1.4
comp=Z,0.8nm,0.7s,baz=65,slow=5.7,SNR=3.8
SSE **Sheshan** **129.87 308** PKP PKPdf 15 09 19.0 +1.9
ZRNK **Zerenda** **130.66 6** *e*PKIKP PKPdf 15 09 19.2 +0.6
NJ2 **Nanjing** **131.27 310** *e*PKP PKPdf 15 09 16.0 -3.8
NJ2 PP PP 15 11 39.0 +1.4
NJ2 PKS 15 12 53.0
NJ2 PP PP
comp=Z,260nm,5.8s
NJ2 LR LR
comp=N,2μm,31.7s,MS5.8
NJ2 LR LR
comp=E,2μm,34.0s,MS5.8
NJ2 LR LR
comp=Z,1μm,29.9s,MS5.4
HHC **Hu-ho-hao-te** **131.42 324** *e*PKP PKPdf 15 09 19.0 -1.1
HHC PP PP 15 11 40.3 +1.7
HHC PKS 15 12 53.9
HHC PP PP
comp=Z,54nm,9.0s
HHC LR LR
comp=N,216nm,18.7s,MS5.0
HHC LR LR
comp=E,245nm,19.5s,MS5.0
HHC LR LR
comp=Z,144nm,20.2s,MS4.7
MKAR **Makanchi Array** **136.89 354** PKhKP 15 09 25.4
comp=Z,0.3nm,0.7s,baz=28,slow=2.9,SNR=3.6
MKAR PKP PKPdf 15 09 30.3 0.0
comp=Z,0.8nm,0.7s,baz=31,slow=2.8,SNR=8.6
MKAR **Makanchi Array** **136.89 354** PKP PKPdf 15 09 25.4 -4.9
MKAR PKP PKPdf 15 09 30.3 0.0
WMQ **Urumqi** **138.93 347** PKP PKPdf 15 09 34.3 +0.3
WMQ XPKP 15 09 42.3
WMQ PP PP 15 12 31.0 +5.0
WMQ PP PP
comp=Z,19nm,9.1s
WMQ LR LR
comp=N,235nm,23.5s,MS4.9
WMQ LR LR
comp=E,134nm,21.8s,MS4.9
WMQ LR LR
comp=Z,202nm,22.9s,MS4.8
LZH **Lanzhou** **139.10 325** *e*PKP PKPdf 15 09 40.3 +5.9
LZH PP PP
comp=Z,87nm,8.2s
LZH LR LR
comp=E,167nm,18.7s
LZH LR LR
comp=Z,349nm,20.5s,MS5.1
CD2 **Chengdu** **142.68 319** *e*PKP PKPdf 15 09 36.8 -4.0
GYA **Guiyang** **143.28 311** *e*PKP PKPdf 15 09 44.5 +2.6
GYA PP PP 15 13 01.3 +8.8
GYA PKS 15 13 18.8
GYA SKS SKSdf 15 16 52.5 +0.9
GYA SKKS SKKSac 15 19 50.4 +4.7
GYA PP PP
comp=Z,110nm,8.0s
GYA LR LR
comp=N,120nm,20.8s,MS4.9
GYA LR LR
comp=E,160nm,21.0s,MS4.9
GYA LR LR
comp=Z,150nm,21.4s,MS4.7
KMI **Kunming** **146.95 312** PKP PKPdf 15 09 50.8 +2.6
LSA **Lhasa** **150.69 333** *e*PKIKP PKPdf 15 10 01.9 +7.6

MOS **14** *15:05:05.7±0.9, 602S×14731E, h33km, mb5.3/42, MS4.6/11, Error ellipse: s-maj=9.9km s-min=6.1km az=97.7*
IDC **14** *15:05:09.2±0.5, 6.11S×147.38E, h53km±3km, mb4.7/15, mb1 4.9/19, mb1mx4.9/20, mbtmp5.0/19, MS4.4/12, Ms1 4.4/12, ms1mx4.1/23, Error ellipse: s-maj=12.6km s-min=8.4km az=117.0*
BJI **14** *15:05:10.6, 6.45S×147.87E, h118km, mB5.2, mb5.0*
ISCJB **14** *15:05:12.2±0.2, 6.20S±003×147.40E±004, h97km, mb5.0/72, Error ellipse: s-maj=6.1km s-min=4.3km az=4.6*
HRVD **14** *15:05:13.4±0.1, 6.46S×147.49E, h89km±1km, MW5.4/99, Centroid moment Tensor Solution. LP body waves: s89,c156;Mantle waves: s99,c189; Half duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr0.82±.03; Mθθ-0.81±.02; Mϕϕ-0.01±.03; Mrθ0.90±.01; Mθϕ-0.57±.02; Mϕr0.05±.02; Best double couple: M0 1.33100×10^17 NP1:ϕs219.00000°, δ29.00000°, λ.52.00000°. NP2: ϕs81.00000°, δ68.00000°, λ108.00000°. Principal axes: T 1.2490, Plg63.0000°, Azm20.0000°; N 0.1640, Plg17.0000°, Azm254.0000°; P -1.4140, Plg21.0000°, Azm157.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC **14** *15:05:13.4±0.1, 6.25S×147.39E, mb5.1/39 Error ellipse: s-maj=6.2km s-min=4.4km az=96.0*
ISC 14 15:05:14.0±0.2, 623S±003×14747E±004, h99km, h99km±2.0km:pP-P, n289, σ1s20/190, mb5.0/72, 15C-11D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time	Res	ISC
PMG	**Port Moresby**	**3.17**	**186**	P		**Pn**	**15 05 57.9**	**-4.1**	
	157nm,0.3s,baz=6.1,slow=8.4,SNR=836								
PMG				S		**Sn**	**15 06 42.0**	**+2.9**	
	378nm,0.3s,baz=107,slow=14,SNR=7.5								
PMG				LR		LR	15 07 04.9		
	comp=Z,7μm,19.2s,baz=241,slow=35								
PMG	**Port Moresby**	**3.17**	**186**	P		**Pn**	**15 05 57.9**	**-4.1**	
PMG				S		**Sn**	**15 06 42.0**	**+2.9**	
PMG				pmax	pmax				
	comp=Z,157nm,0.3s								
PMG				smax					
	comp=N,379nm,0.3s								
PMG				MLR	MLR				
	comp=Z,7μm,19.2s								
PMG	**Port Moresby**	**3.17**	**186**	*e*Pn		**Pn**	**15 05 57.8**	**-4.2**	
HNR	**Honiara**	**12.77**	**105**	P		**Pn**	**15 08 10.7**	**-1.1**	
	comp=Z,4.3nm,0.3s,baz=209,slow=0.4,SNR=13								
HNR				S		**Sn**	**15 10 34.5**	**+2.5**	
	comp=Z,0.3nm,0.3s,baz=84,slow=19,SNR=2.3								
HNR	**Honiara**	**12.77**	**105**	*e*P		**Pn**	**15 08 11.4**	**-0.4**	
HNR				*e*S		**Sn**	**15 10 42.0**	**+10**	
HNR				pmax	pmax				
	comp=Z,134nm,0.8s								
HNR	**Honiara**	**12.77**	**105**	*e*Pn		**Pn**	**15 08 11.4**	**-0.4**	
	comp=Z,134nm,0.8s								
HNR				*e*S		**Sn**	**15 10 42.0**	**+10**	
CTA	**Charters Tower**	**13.83**	**185**	*e*P		**Pn**	**15 08 24.2**	**-1.5**	
	comp=Z,26nm,0.8s								
CTA				*e*S		**Sn**	**15 10 50.9**	**-6.9**	
CTA	**Charters Tower**	**13.83**	**185**	P		**Pn**	**15 08 24.6**	**-1.0**	
	comp=Z,2.7nm,0.3s,baz=6.2,slow=14,SNR=36								
CTA				LR		LR	15 13 39.1		
	comp=Z,626nm,20.1s,baz=5.1,slow=37								
CTA	**Charters Tower**	**13.83**	**185**	*e*P		**Pn**	**15 08 24.2**	**-1.5**	
CTA				*e*S		**Sn**	**15 10 50.9**	**-6.9**	
CTA				pmax	pmax				
	comp=Z,26nm,0.8s								
CTAO	**Charters Tower**	**13.83**	**185**	*e*P		**Pn**	**15 08 24.6**	**-1.1**	
CTAO				pmax	pmax				
	comp=Z,56nm,1.0s								
CTAO	**Charters Tower**	**13.83**	**185**	*e*P		**Pn**	**15 08 24.6**	**-1.0**	
	comp=Z,56nm,1.0s								
KAKA	**Kakadu**	**16.16**	**245**	*e*P		**Pn**	**15 08 53.3**	**-1.9**	
	comp=Z,95nm,0.6s								
WRAB	**Tennant Creek**	**18.66**	**222**	P		**Pn**	**15 09 22.0**	**-3.5**	
	comp=Z,443nm,0.8s,SNR=40								
WRAB	**Tennant Creek**	**18.66**	**222**	*e*P		**Pn**	**15 09 22.8**	**-2.7**	
WRAB				pmax	pmax				
	comp=Z,141nm,0.8s								
WRAB	**Tennant Creek**	**18.66**	**222**	*e*P		**Pn**	**15 09 22.8**	**-2.7**	
	comp=Z,141nm,0.8s								
WB2	**Warramunga Arr**	**18.66**	**222**	*e*P		**Pn**	**15 09 23.0**	**-2.6**	
WB2				*e*S		**S**	**15 12 47.1**	**-4.3**	
WRA	**Warramunga Arr**	**18.67**	**222**	P		**Pn**	**15 09 23.5**	**-2.1**	
	comp=Z,6.1nm,0.3s,baz=44,slow=12,SNR=100								
WRA				pP		pP	15 09 36.9	-6.0	
	comp=Z,4.4nm,0.3s,baz=44,slow=12,SNR=12								
WRA				sP		sP	15 09 42.2	-13	
	comp=Z,6.8nm,0.3s,baz=44,slow=12,SNR=8.7								
WRA				S		**S**	**15 12 53.6**	**+2.0**	
	baz=42,slow=21,SNR=5.1								
WRA				PcP		PcP	15 13 50.9	+2.5	
	comp=Z,1.1nm,0.3s,baz=27,slow=1.8,SNR=6.5								
WRA				ScP		ScP	15 17 21.1	+6.2	
	comp=Z,0.2nm,0.3s,baz=34,slow=2.3,SNR=7.2								
WRA				PKiKP		PKiKP	15 21 39.2	+0.2	
	comp=Z,0.1nm,0.3s,baz=315,slow=1.2,SNR=13								
WRA	**Warramunga Arr**	**18.67**	**222**	P		**Pn**	**15 09 23.5**	**-2.2**	
WRA				S		**S**	**15 12 53.6**	**+2.0**	
WRA				pmax	pmax				
	comp=Z,6.0nm,0.3s								
WRA	**Warramunga Arr**	**18.67**	**222**	P		**Pn**	**15 09 23.5**	**-2.1**	
WRA				pP		pP	15 09 36.9	-6.0	
WRA				sP		sP	15 09 42.2	-13	
WRA				S		**S**	**15 12 53.6**	**+2.0**	
WRA				PcP		PcP	15 13 50.9	+2.5	
WRA				ScP		ScP	15 17 21.1	+6.2	
GUMO	**Guam**	**19.85**	**353**	P		**Pn**	**15 09 37.7**	**-1.9**	
	comp=Z,7.9nm,0.3s,baz=190,slow=11,SNR=6.1								
GUMO				LR		LR	15 16 35.8		
	comp=Z,426nm,19.4s,baz=132,slow=35								
GUMO	**Guam**	**19.85**	**353**	P		**Pn**	**15 09 37.7**	**-1.8**	
GUMO				pmax	pmax				
	comp=Z,8.0nm,0.3s								
GUMO				MLR	MLR				
	comp=Z,4μm,19.4s								
ASAR	**Alice Springs**	**21.70**	**216**	P		**Pn**	**15 09 56.1**	**-0.7**	
	comp=Z,40nm,0.5s,mb5.0,baz=54,slow=8.1,SNR=308								
ASAR				S		**S**	**15 13 54.1**	**+2.9**	
	comp=Z,17nm,0.9s,baz=36,slow=19,SNR=6.3								
ASAR				ScP		ScP	15 17 28.6	+6.6	
	comp=Z,9.3nm,0.8s,baz=49,slow=2.7,SNR=11								
ASAR				PKiKP		PKiKP	15 21 40.4	+0.1	
	comp=Z,0.9nm,0.7s,baz=154,slow=0.9,SNR=5.8								
DZM	**Mont Dzumac**	**24.17**	**133**	P		**P**	**15 10 20.9**	**0.0**	
	comp=Z,35nm,0.9s,mb4.7,baz=278,slow=22,SNR=17								
DZM				LR		LR	15 18 35.5		
	comp=Z,3μm,21.6s,baz=324,slow=33								
FITZ	**Fitzroy Crossi**	**24.35**	**239**	*e*P		**P**	**15 10 22.6**	**0.0**	
	comp=Z,143nm,0.7s,mb5.4								
FITZ				*e*S		**S**	**15 14 34.7**	**0.0**	
FITZ	**Fitzroy Crossi**	**24.35**	**239**	P		**P**	**15 10 22.8**	**+0.2**	
	comp=Z,38nm,0.4s,mb5.1,baz=60,slow=9.1,SNR=217								
FITZ				LR		LR	15 21 29.4		
	comp=Z,1μm,19.1s,baz=65,slow=40								
ARMA	**Armidale**	**24.38**	**171**	*e*P		**P**	**15 10 23.0**	**+0.1**	
ARMA				*e*S		**S**	**15 14 46.0**	**+11**	
STKA	**Stephens Creek**	**26.10**	**191**	*e*P		**P**	**15 10 35.2**	**-3.3**	
	comp=Z,43nm,0.8s,mb4.9								
STKA				*e*PCP		PcP	15 14 06.3	+2.8	
STKA				*e*S		**S**	**15 14 57.9**	**-4.6**	
STKA	**Stephens Creek**	**26.10**	**191**	P		**P**	**15 10 36.0**	**-2.4**	
	comp=Z,54nm,0.7s,mb5.1,baz=354,slow=8.3,SNR=76								
STKA				ScP		ScP	15 17 39.6	+5.6	
	comp=Z,11nm,1.2s,baz=357,slow=3.1,SNR=4.9								
STKA				LR		LR	15 21 58.5		
	comp=Z,470nm,20.0s,baz=11,slow=38								
RIV	**Riverview**	**27.68**	**173**	*e*P		**P**	**15 10 56.0**	**+3.4**	
CNB	**Canberra Magne**	**29.00**	**177**	*i* P		**P**	**15 11 04.7**	**+0.4**	
	comp=Z,40nm,1.0s,mb5.0								
FORT	**Forrest**	**30.47**	**214**	*e*P		**P**	**15 11 16.7**	**-0.6**	
	comp=Z,47nm,0.6s,mb5.3								
MBWA	**Marble Bar**	**30.68**	**238**	*e*P		**P**	**15 11 19.0**	**-0.2**	
	comp=Z,33nm,0.9s,mb5.1								
KLBR	**Kellerberrin**	**37.53**	**224**	*e*P		**P**	**15 12 17.8**	**-0.5**	
	comp=Z,40nm,0.7s,mb5.4								
KSM	**Kuching**	**37.88**	**280**	*e*P		**P**	**15 12 22.2**	**+0.9**	
KSM				*e*PcP		PcP	15 14 37.9	+2.4	
NWAO	**Narrogin (SRO)**	**38.68**	**223**	P		**P**	**15 12 27.9**	**-0.1**	
	comp=Z,13nm,0.5s,mb5.0,baz=41,slow=10,SNR=22								
NWAO				LR		LR	15 29 22.8		
	comp=Z,996nm,20.8s,baz=46,slow=38								
NWAO	**Narrogin (SRO)**	**38.68**	**223**	P		**P**	**15 12 27.9**	**0.0**	
NWAO				pmax	pmax				
	comp=Z,13nm,0.5s								
NWAO				MLR	MLR				
	comp=Z,996nm,20.8s								
NWAO	**Narrogin (SRO)**	**38.68**	**223**	*e*P		**P**	**15 12 27.8**	**-0.1**	
	comp=Z,26nm,0.9s,mb5.1								
MUN	**Mundaring**	**38.83**	**225**	*e*P		**P**	**15 12 29.4**	**+0.2**	
MUN				*i* S		**S**	**15 18 26.0**	**+6.4**	
TATO	**Taipei**	**40.02**	**322**	*e*P		**P**	**15 12 39.3**	**+0.3**	
	comp=Z,116nm,0.8s,mb5.8								
TATO				*e*pP		pP	15 13 02.3	+0.3	
AFI	**Afiamalu**	**40.80**	**104**	P		**P**	**15 12 46.8**	**+1.3**	
	comp=Z,15nm,0.7s,mb5.0,baz=321,slow=17,SNR=4.3								
QZH	**Quanzhou**	**41.83**	**319**	*i* P		**P**	**15 12 57.5**	**+3.5**	
QZH				AMB	AMB				
	comp=Z,170nm,1.2s,mb5.7								
RPZ	**Rata Peaks**	**42.71**	**155**	P		**P**	**15 13 02.3**	**+1.3**	
	comp=Z,57nm,0.9s,mb5.3,baz=18,slow=4.1,SNR=11								
MJAR	**Matsushiro Arr**	**43.42**	**349**	P		**P**	**15 13 06.5**	**-0.3**	
	comp=Z,10nm,0.8s,mb4.6,baz=182,slow=10,SNR=23								
MJAR	**Matsushiro Arr**	**43.42**	**349**	P		**P**	**15 13 06.5**	**-0.3**	
MJAR				pmax	pmax				
	comp=Z,10.0nm,0.9s								
MAJO	**Matsushiro**	**43.42**	**349**	*e*P		**P**	**15 13 06.1**	**-0.7**	
MAJO				pmax	pmax				
	comp=Z,30nm,0.9s,mb5.0								
MAJO	**Matsushiro**	**43.42**	**349**	*e*P		**P**	**15 13 06.1**	**-0.7**	
	comp=Z,30nm,0.9s,mb5.0								
MAT	**Matsushiro**	**43.42**	**349**	P		**P**	**15 13 06.1**	**-0.7**	
MAT				S		**S**	**15 19 31.0**	**+3.4**	
MAT	**Matsushiro**	**43.42**	**349**	*e*P		**P**	**15 13 06.0**	**-0.8**	
MAT				*e*S		**S**	**15 19 31.0**	**+3.4**	
MAT				pmax	pmax				
	comp=Z,16nm,0.8s,mb4.8								
MAT				MLR	MLR				
	comp=Z,350nm,20.0s								
MAT	**Matsushiro**	**43.42**	**349**	*e*P		**P**	**15 13 06.0**	**-0.8**	
	comp=Z,16nm,0.8s,mb4.8								
MAT				*e*S		**S**	**15 19 31.0**	**+3.4**	
MAT				LR	LR				
	comp=Z,350nm,20.0s								
QIZ	**Qiongzhong**	**44.77**	**305**	P		**P**	**15 13 20.3**	**+2.7**	

QIZ PP PP 15 15 03.9 0.0
QIZ S **S** **15 19 49.8 +2.7**
QIZ LR LR
comp=N,311nm,26.2s
QIZ LR LR
comp=Z,413nm,24.7s
SSE Sheshan 44.82 327 P **P** **15 13 19.5 +1.5**
SSE AP pP 15 13 42.8 +1.5
SSE XP sP 15 13 54.6 +2.0
SSE PP PP 15 15 06.8 +2.3
SSE S **S** **15 19 50.3 +2.4**
SSE XS sS 15 20 32.3 +4.2
SSE AMB AMB
comp=Z,80nm,0.8s,mb5.5
SSE AMB AMB
comp=Z,96nm,4.9s
SSE LR LR
comp=N,466nm,27.1s
SSE LR LR
comp=E,427nm,27.1s
SSE LR LR
comp=Z,763nm,22.6s
KGM Kluang 44.83 279 P **P** **15 13 20.2 +2.1**
NJ2 Nanjing 46.83 326 *e*P **P** **15 13 34.3 +0.5**
NJ2 AP pP 15 13 58.6 +1.3
NJ2 PP PP 15 15 24.5 -0.5
NJ2 S **S** **15 20 16.0 -0.7**
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb4.9
NJ2 AMB AMB
comp=Z,450nm,5.7s
NJ2 LR LR
comp=N,2µm,19.0s
NJ2 LR LR
comp=E,3µm,38.4s
NJ2 LR LR
comp=Z,1µm,30.2s
KS15 Wonju Array Si 47.13 339 *e*P **P** **15 13 36.1 0.0**
KS15 *e*pP pP 15 13 58.9 -0.8
IPM Ipoh 47.57 282 P **P** **15 13 40.5 +1.0**
INCN Inchon 47.63 337 *e*P **P** **15 13 40.5 +0.4**
comp=Z,33nm,0.6s,mb5.3
INCN *e*pP pP 15 14 03.2 -0.4
KULM Kulim 48.12 283 *e*P **P** **15 13 44.3 +0.5**
WHN Wuhan 48.40 321 *e*P **P** **15 13 46.0 +0.1**
TIA Tai'an 50.91 328 *e*P **P** **15 14 04.3 -0.7**
NST Nakhon Sawan 51.68 295 P **P** **15 14 13.0 +2.3**
NANT Nan 52.37 299 P **P** **15 14 16.5 +0.7**
SNY Shenyang 52.57 338 ⇓P **P** **15 14 17.0 -0.3**
SNY AP pP 15 14 43.5 +2.2
SNY XP sP 15 14 55.5 +3.1
SNY PP PP 15 16 18.3 +1.1
SNY S **S** **15 21 42.1 +5.4**
SNY AMB AMB
comp=Z,16nm,1.0s,mb5.0
SNY AMB AMB
comp=Z,201nm,10.8s
SNY LR LR
comp=N,571nm,27.9s
SNY LR LR
comp=Z,1µm,33.0s
MDJ Mudanjiang 53.10 344 P **P** **15 14 21.1 -0.1**
MDJ PCP PcP 15 15 27.9 -0.4
MDJ PP PP 15 16 21.6 -0.4
MDJ PCS PcS 15 19 26.3 -0.9
MDJ S **S** **15 21 48.9 +4.9**
MDJ XS sS 15 22 27.3 +2.2
MDJ AMB AMB
comp=Z,12nm,1.1s,mb4.8
MDJ AMB AMB
comp=Z,151nm,7.4s
MDJ LR LR
comp=N,488nm,34.0s
MDJ LR LR
comp=E,348nm,29.7s
MDJ LR LR
comp=Z,803nm,26.9s
YSS Yuzh-Sakhalins 53.11 356 *e*P **P** **15 14 21.5 +0.2**
YSS *e* 15 14 30.5
YSS *e* 15 14 36.8
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 53.11 356 *e*P **P** **15 14 21.2 0.0**
comp=Z,33nm,1.1s,mb5.3
KMI Kunming 53.50 307 P **P** **15 14 25.1 +0.9**
KMI AP pP 15 14 50.5 +2.3
KMI PP PP 15 16 27.3 +1.7
KMI S **S** **15 21 55.3 +6.0**
KMI AMB AMB
comp=Z,9.0nm,1.0s,mb4.8
KMI AMB AMB
comp=Z,161nm,5.7s
KMI LR LR
comp=N,379nm,31.9s
KMI LR LR
comp=E,314nm,26.3s
KMI LR LR
comp=Z,618nm,30.1s
CHRT Chiangrai 53.59 300 ⇓P **P** **15 14 25.0 +0.2**
CN2 Changchun 53.63 340 *e*P **P** **15 14 27.3 +2.2**
CN2 *e*AP pP 15 14 49.8 +0.7
CN2 PCP PcP 15 15 29.8 -0.5
CN2 *e*S **S** **15 21 53.3 +2.3**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CN2 LR LR
comp=N,500nm,20.0s
CN2 LR LR
comp=E,300nm,20.0s
CN2 LR LR
comp=Z,600nm,21.0s
CHTO Chiang Mai 53.90 299 *e*P **P** **15 14 27.7 +0.6**
CHTO pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
CHTO Chiang Mai 53.90 299 *e*P **P** **15 14 27.7 +0.7**
comp=Z,5.1nm,0.8s,mb4.6
CHTO *e*pP pP 15 14 51.4 +0.3
XAN Xi'an 54.15 320 P **P** **15 14 28.3 -0.6**
XAN AMB AMB
comp=Z,27nm,1.1s,mb5.2
BJT Baijiatuau 54.31 331 *e*P **P** **15 14 29.6 -0.4**
BJT pmax pmax
comp=Z,40nm,1.0s
BJT Baijiatuau 54.31 331 *e*P **P** **15 14 29.6 -0.4**
comp=Z,40nm,1.0s,mb5.4
BJI Beijing 54.33 331 P **P** **15 14 29.6 -0.5**
BJI AP pP 15 15 02.5 +8.3
BJI PP PP 15 16 38.1 +5.1
BJI AMB AMB
comp=Z,34nm,1.0s,mb5.3
BJI AMB AMB
comp=Z,365nm,6.8s
BJI LR LR
comp=N,411nm,18.2s
BJI LR LR
comp=E,484nm,22.4s
BJI LR LR
comp=Z,689nm,24.7s
HABR Khabarovsk 55.55 350 *i* P **P** **15 14 39.8 +0.9**
HABR *e*S **S** **15 22 21.6 +4.8**
HABR pmax pmax
comp=Z,29nm,0.8s,mb5.4
KLR Kul'dur 56.91 348 *e*P **P** **15 14 45.0 -3.6**
KLR *e*S S 15 22 58.5 +24
KLR pmax pmax
comp=Z,110nm,1.6s,mb5.6
HHC Hu-ho-hao-te 57.27 328 ⇑P **P** **15 14 51.5 +0.3**
HHC AP pP 15 15 15.1 -0.4
HHC PCP PcP 15 15 44.5 +0.1
HHC PP PP 15 17 02.3 +3.1
HHC SCP ScP 15 19 33.5 -1.5
HHC PCS PcS 15 19 44.3 -1.2
HHC S **S** **15 22 38.9 -0.6**
HHC SCS ScS 15 24 29.3 -1.7
HHC SS SS 15 26 30.6 +0.5
HHC AMB AMB
comp=Z,16nm,1.4s,mb4.9
HHC AMB AMB
comp=Z,290nm,6.2s
HHC LR LR
comp=N,311nm,19.0s
HHC LR LR
comp=E,318nm,19.0s
HHC LR LR
comp=Z,410nm,21.4s

BTO Baotou 57.92 327 *e*P **P** **15 14 53.8 -1.9**
LZH Lanzhou 58.68 319 *e*P **P** **15 15 06.5 +5.5**
LZH AP pP 15 15 29.6 +4.2
LZH XP sP 15 15 40.3 +3.9
LZH PP PP 15 17 19.5 +7.7
LZH *e*S **S** **15 23 03.4 +5.5**
LZH PS 15 23 32.8
LZH XS sS 15 23 44.6 +4.8
LZH AMB AMB
comp=Z,28nm,1.4s,mb5.1
LZH AMB AMB
comp=Z,119nm,7.6s
LZH LR LR
comp=E,567nm,15.6s
LZH LR LR
comp=Z,878nm,18.2s
PET Petropavlovsk 59.78 8*c i*P **P** **15 15 07.9 -0.7**
PET *e*S **S** **15 23 12.4 +0.3**
PET pmax pmax
comp=Z,25nm,0.8s,mb5.3
PET pmax pmax
comp=Z,200nm,14.8s
PET MLR MLR
comp=Z,100nm,22.0s
PPT Papeete 62.38 106 *e*S **S** **15 23 50.6 +5.5**
comp=Z,480nm,24.8s
PPT *e*LQ 15 31 11.9
comp=Z,359nm,25.0s
PPT *e*LR LR 15 33 58.8
comp=Z,526nm,26.5s
FX1 Attu Island--F 62.79 17 *e*P **P** **15 15 30.5 +1.6**
TBI Tubuai 62.85 113 *e*S **S** **15 23 56.3 +5.3**
comp=Z,415nm,37.0s
TBI *e*LR LR 15 34 08.0
comp=Z,730nm,36.5s
GTA Gaotai 63.21 320 *e*P **P** **15 15 31.6 -0.1**
GTA PP PP 15 17 52.8 +1.1
GTA S **S** **15 23 54.4 -1.1**
GTA SS SS 15 28 04.0 +0.8
GTA AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
GTA AMB AMB
comp=Z,132nm,3.8s
GTA LR LR
comp=N,197nm,20.0s
GTA LR LR
comp=E,186nm,17.7s
GTA LR LR
comp=Z,215nm,14.2s
PMOR Pomariorio Ree 63.95 104 *e*P **P** **15 15 39.7 +3.2**
comp=Z,57nm,1.0s,mb5.3
ULN Ulaanbaatar 64.53 331 *e*P **P** **15 15 40.8 +0.5**
ULN pmax pmax
comp=Z,29nm,0.8s,mb5.2
ULN Ulaanbaatar 64.53 331 *e*P **P** **15 15 40.8 +0.4**
comp=Z,29nm,0.8s,mb5.2
LSA Lhasa 64.75 307 *e*P **P** **15 15 43.3 +1.6**
LSA Lhasa 64.75 307 *e*P **P** **15 15 41.9 +0.2**
LSA pmax pmax
comp=Z,16nm,0.8s,mb4.9
LSA Lhasa 64.75 307 *e*P **P** **15 15 41.9 +0.2**
comp=Z,16nm,0.8s,mb4.9
SONM Songino Array 64.83 331 P **P** **15 15 42.8 +0.6**
comp=Z,19nm,1.1s,mb4.8,baz=144,slow=8.0,SNR=44
SONM pP pP 15 15 56.5 -11
comp=Z,6.9nm,1.0s,baz=104,slow=4.7,SNR=4.8
SONM PKPPKP 15 44 33.7
comp=Z,3.4nm,1.1s,baz=300,slow=1.6,SNR=10.0
SONM LR LR 15 44 44.5
comp=Z,307nm,18.6s,baz=282,slow=37
CIT Chita 64.84 338 *e*P **P** **15 15 42.8 +0.5**
CIT *e* pP 15 16 10.8 +3.6
CIT pmax pmax
comp=Z,121nm,1.5s,mb5.5
CASY Casey 65.16 196 *e*P **P** **15 15 43.9 -0.5**
CLNS Chul'man 65.51 347 *e*P **P** **15 15 47.3 +0.6**
CLNS pmax pmax
comp=N,30nm,0.8s
CLNS pmax pmax
comp=E,15nm,0.8s
CLNS pmax pmax
comp=Z,59nm,0.8s,mb5.5
JIRN Jiri 68.04 303 *e*P **P** **15 16 02.9 +0.2**
comp=Z,16nm,0.6s,mb5.0
ZAK Zakamensk 68.06 331⇑ *i*P **P** **15 16 02.9 +0.1**
ZAK *i* pP 15 16 26.8 -1.1
ZAK pmax pmax
comp=Z,50nm,1.5s,mb5.1
GUN Gumba 68.38 303 *e*P **P** **15 16 05.3 +0.5**
comp=Z,32nm,0.5s,mb5.4
PKI Pulchoki 68.66 303 *e*P **P** **15 16 06.5 -0.1**
comp=Z,18nm,0.6s,mb5.1
PKI Pulchoki 68.66 303 *e*P **P** **15 16 06.5 -0.1**
PKI pmax pmax
comp=Z,18nm,0.6s,mb5.1
TLY Talaya 68.76 332 P **P** **15 16 07.8 +0.6**
comp=Z,98nm,1.1s,mb5.5,SNR=6.3
TLY Talaya 68.76 332 *e*P **P** **15 16 07.1 -0.1**
TLY *e* 15 25 39.3
TLY pmax pmax
comp=Z,16nm,0.9s,mb4.8
TLY Talaya 68.76 332 *e*P **P** **15 16 07.4 +0.2**
comp=Z,15nm,0.9s,mb4.8
KKN Kakani 68.84 303 *e*P **P** **15 16 07.7 0.0**
comp=Z,34nm,0.7s,mb5.3
KKN Kakani 68.84 303 *e*P **P** **15 16 07.7 0.0**
KKN pmax pmax
comp=Z,34nm,0.7s,mb5.3
DMN Daman 68.92 303 *e*P **P** **15 16 08.5 +0.3**
comp=Z,51nm,0.9s,mb5.4
BOD Bodaibo 69.34 342 *e*P **P** **15 16 09.9 -0.9**
BOD pmax pmax
comp=Z,26nm,0.9s,mb5.1
YAK Yakutsk 69.43 351 *e*P **P** **15 16 11.1 -0.3**
YAK *e**PP pP 15 16 23.2 -13
YAK *e* pP 15 16 37.3 +0.8
YAK *e* 15 18 43.4
YAK *e*S S 15 25 05.5 -5.2
YAK *e**SS sS 15 25 32.3 -21
YAK *e* 15 25 50.5
YAK pmax pmax
comp=N,17nm,1.3s
YAK pmax pmax
comp=Z,41nm,1.3s,mb5.1
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK smax
comp=N,2.0nm,1.7s
YAK smax
comp=E,1.0nm,1.0s
YAK MLR MLR
comp=Z,310nm,20.0s
YAK MLR MLR
comp=N,513nm,51.0s
YAK MLR MLR
comp=E,1µm,55.0s
YAK Yakutsk 69.43 351 *e*P **P** **15 16 10.7 -0.7**
comp=E,71nm,0.8s,mb5.5
GKN Gorkha 69.45 303 *e*P **P** **15 16 11.3 -0.1**
comp=E,31nm,0.7s,mb5.2
MOY Mondy 69.99 331 *e*P **P** **15 16 15.3 +0.5**
MOY pmax pmax
comp=Z,28nm,1.4s,mb4.9
KOLN Koldanda 70.24 302 *e*P **P** **15 16 16.2 -0.1**
comp=Z,43nm,0.7s,mb5.4
VNDA Vanda 71.66 177 P **P** **15 16 25.8 +0.9**
comp=Z,6.3nm,0.8s,mb4.5,baz=328,slow=6.4,SNR=21
VNDA Vanda 71.66 177 P **P** **15 16 25.8 +0.9**
VNDA pmax pmax
comp=Z,6.0nm,0.8s
HYB Hyderabad 71.98 290 *i* P **P** **15 16 28.5 +1.7**
HYB *e* 15 16 46.5
HYB Hyderabad 71.98 290 *e*P **P** **15 16 28.5 +1.7**
BILL Bilibino 75.28 7*c i*P **P** **15 16 46.5 +0.4**
BILL pmax pmax
comp=Z,19nm,1.1s,mb4.7
BILL Bilibino 75.28 7 *e*P **P** **15 16 46.1 0.0**
comp=Z,21nm,1.0s,mb4.8
NDI New Delhi 75.89 301 *e*P **P** **15 16 45.0 -4.6**
RKT Rikitea 76.16 112 *e*LR LR 15 40 19.1
comp=Z,803nm,36.5s
POO Poona 76.58 291⇓ *i*P **P** **15 16 53.0 -0.5**
comp=Z,50nm,1.0s,mb5.2
MKAR Makanchi Array 77.97 320 P **P** **15 17 00.9 -0.3**
comp=Z,6.6nm,0.6s,mb4.6,baz=105,slow=6.2,SNR=59
MKAR PKKPbc PKKPbc 15 36 04.8 +4.0
comp=Z,0.3nm,0.7s,baz=336,slow=1.9,SNR=4.9
MKAR PKPPKP 15 44 12.1
comp=Z,0.8nm,1.1s,baz=318,slow=1.6,SNR=4.1
TIXI Tiksi 78.68 354 *e*P **P** **15 17 02.7 -2.5**
TIXI *e*S S 15 26 50.1 -4.2
TIXI *e* 15 27 15.7
TIXI *e* 15 27 56.7
TIXI pmax pmax
comp=Z,12nm,0.8s,mb4.8
TIXI MLR MLR
comp=Z,165nm,18.0s
ZAL Zalesovo 79.45 328 P **P** **15 17 07.8 -1.6**
comp=Z,10nm,0.6s,mb4.8,baz=7.5,slow=7.0,SNR=38
ZAL pP pP 15 17 23.7 -11
comp=Z,3.2nm,0.7s,baz=21,slow=11,SNR=3.4
ZAL sP sP 15 17 29.7 -16
comp=Z,3.7nm,0.8s,baz=12,slow=6.7,SNR=3.1
ZAL LR LR 15 50 30.3
comp=Z,259nm,19.8s,baz=48,slow=34
ZAL Zalesovo 79.45 328 P **P** **15 17 07.8 -1.6**
ZAL *PP pP 15 17 23.7 -11
ZAL pmax pmax
comp=Z,10.0nm,0.6s
ZAL Zalesovo 79.45 328 P **P** **15 17 07.8 -1.6**
ZAL pP pP 15 17 23.7 -11
ZAL sP sP 15 17 29.7 -16
ZAL LR LR 15 50 30.3
KSH Kashi 79.87 312 *e*P **P** **15 17 13.1 +1.4**
KSH *e*AP pP 15 17 38.0 +0.6
KSH *e*XP sP 15 17 49.3 +1.3
KSH *e*PP PP 15 20 17.3 +3.0
KSH *e*PPP 15 22 08.0
KSH *e*S S 15 27 05.1 -1.8
KSH *e*SKS 15 27 16.3
KSH *e*SCS ScS 15 27 24.9 -2.5
KSH LR LR
comp=N,198nm,5.5s
KSH LR LR
comp=E,189nm,5.7s
KSH LR LR
comp=Z,206nm,5.4s
SVW2 Sparrevohn 80.26 24 *e*P **P** **15 17 14.3 +0.6**
NVS Novosibirsk 80.67 328 *i* P **P** **15 17 13.1 -2.8**
NVS *e*S S 15 27 22.5 +7.2
NVS pmax pmax
comp=Z,15nm,1.1s,mb4.7
NVS pmax pmax
comp=N,9.0nm,1.2s
NVS pmax pmax
comp=E,17nm,1.2s
NVS smax
comp=N,6.0nm,1.2s
NVS smax
comp=E,18nm,1.8s
TTA Tatalina 81.08 23 *e*P **P** **15 17 19.0 +0.9**
KURK Kurchatov 81.67 323 P **P** **15 17 20.5 -0.7**
comp=E,140nm,1.0s,mb5.8,SNR=13
KURK Kurchatov 81.67 323 *e*P **P** **15 17 19.8 -1.4**
KURK pmax pmax
comp=Z,22nm,0.9s,mb5.0
KURK Kurchatov 81.67 323 *e*P **P** **15 17 19.8 -1.4**
comp=Z,22nm,0.9s,mb5.0
AAK Ala-Archa 81.83 315 P **P** **15 17 21.9 -0.2**
comp=Z,56nm,1.0s,mb5.3,SNR=6.6
AAK Ala-Archa 81.83 315 *e*P **P** **15 17 21.4 -0.7**
AAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
AAK Ala-Archa 81.83 315 *e*P **P** **15 17 21.4 -0.7**
comp=Z,7.2nm,0.8s,mb4.5
MAW Mawson 82.22 203 *e*P **P** **15 17 25.2 +1.1**
comp=Z,4.7nm,0.7s,mb4.4
MAW Mawson 82.22 203 P **P** **15 17 24.7 +0.6**
comp=Z,5.1nm,0.9s,mb4.3,baz=65,slow=10.0,SNR=5.1
MAW pP pP 15 17 40.0 -10
comp=Z,7.5nm,0.9s,baz=74,slow=4.6,SNR=4.4
MAW LR LR 15 49 22.1
comp=Z,453nm,18.3s,baz=154,slow=32
MAW Mawson 82.22 203 *e*P **P** **15 17 25.2 +1.1**
MAW pmax pmax
comp=Z,5.0nm,0.7s
PMR Palmer 83.21 26 *e*P **P** **15 17 27.5 -1.7**
PMR pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
PMR Palmer 83.21 26 *e*P **P** **15 17 27.5 -1.8**
comp=Z,5.2nm,0.6s,mb4.5
QSPA South Pole Qui 83.74 180 *e*P **P** **15 17 32.3 +0.3**
comp=Z,25nm,0.7s,mb5.2
COLA College 85.17 23 *e*P **P** **15 17 37.0 -2.2**
COLA pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
COLA College 85.17 23 *e*P **P** **15 17 37.0 -2.2**
comp=Z,9.9nm,0.7s,mb4.8
ILAR Eielson Array 85.50 23 P **P** **15 17 38.9 -2.0**
comp=Z,8.9nm,0.7s,mb4.8,baz=254,slow=4.5,SNR=84
ILAR sP sP 15 18 02.1 -15
comp=Z,3.5nm,0.7s,baz=258,slow=5.1,SNR=3.3
ILAR PKKPbc PKKPbc 15 35 44.8 +1.1
comp=Z,0.6nm,0.6s,baz=350,slow=1.9,SNR=9.3
ILAR LR LR 15 49 25.2
comp=Z,158nm,20.6s,baz=90,slow=31
BRVK Borovoye 87.29 324 P **P** **15 17 48.7 -0.9**
comp=Z,72nm,0.8s,mb5.7,SNR=6.0
BRVK Borovoye 87.29 324 *e*P **P** **15 17 47.8 -1.8**
BRVK pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BRVK Borovoye 87.29 324 *e*P **P** **15 17 47.8 -1.8**
comp=Z,8.0nm,0.9s,mb4.7
ZRNK Zerenda 88.02 324 *e*P **P** **15 17 51.2 -1.8**
ZRNK pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
ZRNK Zerenda 88.02 324 *e*P **P** **15 17 51.2 -1.9**
comp=Z,6.1nm,0.6s,mb4.8
DAWY Dawson 88.28 25 *e*P **P** **15 17 54.0 -0.3**
DAWY *e*pP pP 15 18 16.4 -4.0
SKAG Skagway 88.86 30 P **P** **15 17 57.0 0.0**
SYO Syowa Base 90.54 200⇑ *i*P **P** **15 18 05.6 +0.8**
INK Inuvik 91.69 21 *e*P **P** **15 18 08.8 -1.4**
INK pmax pmax
comp=Z,9.0nm,1.1s
INK Inuvik 91.69 21 *e*P **P** **15 18 08.8 -1.4**
comp=Z,8.8nm,1.1s,mb4.9
ARU Arti 94.53 326⇑ *i*P **P** **15 18 20.8 -2.5**
ARU *e* 15 22 10.3
ARU *e*PPP 15 24 10.2
ARU *e*S 15 28 47.6
ARU *e*SS SS 15 35 53.7 +1.6
ARU pmax pmax
comp=Z,7.0nm,0.8s,mb5.1
ARU Arti 94.53 326 *e*P **P** **15 18 20.6 -2.7**
comp=Z,9.6nm,0.9s,mb5.2
NVAR Mina Array Bea 97.14 52 P **P** **15 18 37.8 +2.7**
comp=Z,1.2nm,0.8s,mb4.4,baz=240,slow=5.6,SNR=10.0
NVAR sP sP 15 18 58.6 -13
comp=Z,0.4nm,0.6s,baz=61,slow=20,SNR=2.7
YKA Yellowknife Ar 99.15 28 P **P** **15 18 43.9 -0.2**
comp=Z,1.2nm,1.0s,mb4.4,baz=275,slow=4.5,SNR=11
YKA PP PP 15 22 44.9 -2.7
comp=Z,1.2nm,0.9s,baz=275,slow=7.4,SNR=7.6
YKA PKKPbc PKKPbc 15 35 13.1 +4.5
comp=Z,0.9nm,0.7s,baz=87,slow=2.9,SNR=9.4
YKA LR LR 16 04 15.7
comp=Z,137nm,18.3s,baz=270,slow=36
YKA Yellowknife Ar 99.15 28 P **P** **15 18 43.9 -0.2**
YKA 15 22 44.9
YKA pmax pmax
comp=Z,1.0nm,1.0s
YKA MLR MLR
comp=Z,137nm,18.3s
YKA Yellowknife Ar 99.15 28 P **P** **15 18 43.9 -0.2**
YKA PP PP 15 22 44.9 -2.8
YKA PKKPbc PKKPbc 15 35 13.1 +4.5
YKA LR LR 16 04 15.7
MAK Makhachkala 101.50 312 *e*P Pdif 15 18 56.6 +2.0
PDAR Pinedale Array 103.72 48 Pdiff Pdif 15 19 04.5 0.0
comp=Z,0.7nm,0.6s,baz=253,slow=1.5,SNR=6.1
ARCES ARCESS Array B 106.61 342 Pdiff Pdif 15 19 16.8 -0.6
comp=Z,3.8nm,0.8s,baz=64,slow=9.5,SNR=5.8
ARCES PKiKP PKiKP 15 23 26.7 -0.7
comp=Z,4.6nm,0.9s,baz=58,slow=1.9,SNR=6.7
ARCES PKKPbc PKKPbc 15 34 53.1 +6.5
comp=Z,2.1nm,0.9s,baz=268,slow=2.4,SNR=5.3
FINES FINESS Array B 110.08 334 Pdiff Pdif 15 19 31.0 -1.7
comp=Z,1.3nm,0.6s,baz=0.0,slow=1.9,SNR=11
FINES PKiKP PKiKP 15 23 33.3 -0.6
comp=Z,1.2nm,0.6s,baz=108,slow=0.6,SNR=7.1
ULM Lac du Bonnet 111.65 38 PKiKP PKiKP 15 23 38.0 +1.1

comp=Z,2.4nm,0.4s,baz=318,slow=1.7,SNR=5.3
ULM Lac du Bonnet 111.65 38 PKPdf PKiKP 15 23 38.0 +1.1
BRTR Keskin Array B 112.23 310 PKiKP PKiKP 15 23 38.9 +0.9
comp=Z,0.9nm,0.8s,baz=124,slow=3.3,SNR=5.3
BRTR Keskin Array B 112.23 310 *i* PKiKP PKiKP 15 23 38.9 +0.9
BRTR pmax pmax
comp=Z,1.0nm,0.8s
AKASG Malin Array Be 112.48 323 PKiKP PKiKP 15 23 38.6 +0.1
comp=Z,2.6nm,0.8s,baz=64,slow=2.4,SNR=9.7
AKASG PP PP 15 24 24.9 -1.0
comp=Z,1.0nm,0.7s,baz=62,slow=6.1,SNR=7.6
AKASG Malin Array Be 112.48 323 *i* PKIKP PKiKP 15 23 38.6 +0.1
AKASG 15 24 24.9
AKASG pmax pmax
comp=Z,3.0nm,0.8s
BURAR Bucovina Array 115.99 320⇑ *i*P PKPdf 15 23 47.9 +2.7
BURAR Bucovina Array 115.99 320 ⇑P PKPdf 15 23 47.9 +2.7
LSZ Lusaka 116.17 250 *e*PKIKP PKPdf 15 23 47.6 +2.1
MLR Muntele Rosu 116.25 318⇑ *i*P PKPdf 15 23 45.8 +0.1
MLR Muntele Rosu 116.25 318 ⇑P PKPdf 15 23 45.8 +0.1
NOA NORSAR Array B 116.34 338 PKP PKPdf 15 23 46.4 +0.6
comp=Z,2.4nm,1.0s,baz=48,slow=2.0,SNR=3.2
NOA NORSAR Array B 116.34 338 PKIKP PKPdf 15 23 46.4 +0.5
NOA pmax pmax
comp=Z,2.0nm,1.0s
STHS Stebnicka Huta 117.73 323 *e*PKP PKPdf 15 23 48.3 -0.2
STHS Stebnicka Huta 117.73 323 *e*PKP PKPdf 15 23 48.4 -0.1
DRGR 117.89 320⇓ *i*P PKPdf 15 23 49.6 +0.8
DRGR 117.89 320 ⇓P PKPdf 15 23 49.6 +0.8
BZS Buzias 119.04 319⇑ *i*P PKPdf 15 23 50.7 -0.3
BZS Buzias 119.04 319 ⇑P PKPdf 15 23 50.7 -0.3
LIKS Likavka 119.15 324 *e*PKIKP PKPdf 15 23 54.7 +3.4
OKC Ostrava-Krasne 119.34 325 *e*PKPdf PKPdf 15 23 51.7 +0.1
MORC Moravsky Berou 119.71 325⇓ *i*P PKPdf 15 23 54.9 +2.6
MORC Moravsky Berou 119.71 325 ⇓P PKPdf 15 23 54.9 +2.5
VAY Valandovo 119.95 315 *e*PKP PKPdf 15 23 50.6 -2.2
DPC Dobruska-Polom 120.12 326 *e*PKPdf PKPdf 15 23 52.9 -0.2
SRO Srobarova 120.18 323 *e*PKP PKPdf 15 23 54.7 +1.5
UPC Upice 120.21 326 *e*PKPdf PKPdf 15 23 55.7 +2.4
SKO Skopje 120.52 316 *e*PKP PKPdf 15 23 51.7 -2.2
ZST Bratislava 120.72 324 *e*PKP PKPdf 15 23 54.4 +0.1
BIA Bitola 120.94 315 *e*PKP PKPdf 15 23 52.5 -2.2
BRG Berggiesshubel 121.14 328 *e*PKPdf PKPdf 15 23 54.7 -0.4
BRG Berggiesshubel 121.14 328 *e*PKP PKPdf 15 23 54.8 -0.3
comp=Z,4.6nm,0.8s
BRG
comp=N,148nm,25.5s
BRG
comp=E,159nm,31.6s
BRG
comp=Z,257nm,27.1s
OHR Ohrid 121.28 315 *e*PKP PKPdf 15 23 53.1 -2.3
PRU Pruhonice 121.29 326 *e*PKPdf PKPdf 15 23 55.2 -0.2
CLL Collm 121.40 328 *e*PKPdf PKPdf 15 23 55.0 -0.6
comp=Z,10.0nm,0.9s
CLL LmV 16 16 00.0
comp=Z,200nm,21.6s
BLO Bloomington 121.47 48 *e*PKIKP PKPdf 15 23 56.6 +0.9
WCI Wyandotte Cave 121.95 48 *e*PKIKP PKPdf 15 23 55.2 -1.5
WERD Werda 122.25 328 *e*PKPdf PKPdf 15 23 57.3 +0.1
KHC Kasperske Hory 122.27 326 *e*PKPdf PKPdf 15 23 57.0 -0.3
KHC *ex* x 15 24 18.0
NKC Novy Kostel 122.29 328 *e*PKPdf PKPdf 15 23 57.2 -0.1
GEC2 GERESS Array S 122.36 326 *e*PKPdf PKPdf 15 23 57.4 0.0
GERES GERESS Array B 122.36 326 PKP PKPdf 15 23 57.4 0.0
comp=Z,4.1nm,0.7s,baz=73,slow=1.7,SNR=24
GERES GERESS Array B 122.36 326 PKIKP PKPdf 15 23 57.4 0.0
GERES pmax pmax
comp=Z,4.0nm,0.7s
CLZ Clausthal 122.43 330 *e*PKPdf PKPdf 15 23 57.9 +0.3
MOX Moxa 122.50 328 *e*PKPdf PKPdf 15 23 57.2 -0.5
MOX Moxa 122.50 328 *e*PKP PKPdf 15 23 58.0 +0.3
comp=Z,7.0nm,1.2s
MOX Moxa 122.50 328 *e*PKIKP PKPdf 15 23 58.0 +0.3
MOX pmax pmax
comp=Z,7.0nm,1.2s
MANZ Manzenberg 122.61 327 *e*PKPdf PKPdf 15 23 58.3 +0.4
WET Wettzell 122.65 326 *e*PKPdf PKPdf 15 23 57.9 -0.1
GRA1 Grafenberg Arr 123.25 328 *e*PKPdf PKPdf 15 23 58.7 -0.4
GRF Grafenberg Arr 123.25 328 *e*PKPdf PKPdf 15 23 58.7 -0.4
IBBN Ibbenburen 123.41 332 *e*PKPdf PKPdf 15 23 59.1 -0.4
KBA Koelnbreinsper 123.48 324⇓ *i*P PKPdf 15 24 01.4 +1.8
comp=Z,9.7nm,1.1s
ACSO Alum Creek Sta 123.64 45 *e*PKPdf PKPdf 15 24 00.7 +0.8
SCHQ Schefferville 124.27 23 PKP PKPdf 15 24 01.0 -0.1
comp=Z,2.0nm,0.8s,baz=274,slow=7.1,SNR=4.4
WTTA Wattenberg 124.37 325⇑ *i*P PKPdf 15 24 01.5 +0.2
comp=Z,14nm,0.7s
TNS Taunus Mts 124.38 329 *e*PKPdf PKPdf 15 24 01.9 +0.6
TSUM Tsumeb 124.56 242 *e*PKPdf PKPdf 15 24 04.4 +2.7
MOTA Moosalm 124.63 325⇓ *i*P PKPdf 15 24 01.7 -0.1
comp=Z,8.1nm,0.8s
SQTA Sankt Quirin 124.64 325 ⇓P PKPdf 15 24 02.0 +0.2
comp=Z,5.7nm,0.9s
STU Stuttgart 124.87 328 *e*PKPdf PKPdf 15 24 02.6 +0.4
MEM Membach 125.35 331 PKP PKPdf 15 24 02.6 -0.6
DAVA Damuels 125.35 326⇑ *i*P PKPdf 15 24 03.8 +0.6
comp=Z,12nm,0.8s
BFO Black Forest 125.59 328 *e*PKIKP PKPdf 15 24 03.5 -0.1
CDF Champ du Feu 126.10 328 *e*PKIKP PKPdf 15 24 04.8 +0.2
comp=Z,9.3nm,1.0s
SNF Seneffe 126.24 332 PKP PKPdf 15 24 05.2 +0.4
GIVF Givet 126.25 331 *e*PKIKP PKPdf 15 24 05.2 +0.3
comp=Z,13nm,0.8s
DOU Dourbes 126.36 331 PKP PKPdf 15 24 05.7 +0.6
BAIF Baives 126.58 331 *e*PKIKP PKPdf 15 24 04.9 -0.6
comp=Z,17nm,1.1s
HINF Hinteralfeld 126.69 328 *e*PKIKP PKPdf 15 24 04.7 -1.0
comp=Z,19nm,0.9s
HAU Haudompre 126.84 328 *e*PKIKP PKPdf 15 24 06.3 +0.3
comp=Z,22nm,0.9s
HAU *e*R
comp=Z,203nm,22.2s
HAU Haudompre 126.84 328 *e*PKPdf PKPdf 15 24 06.3 +0.3
HAU LR LR
comp=Z,200nm,22.3s
JSC Jenkinsville 127.12 51 *e*PKIKP PKPdf 15 24 07.6 +1.1
MEZF Maizieres J'vi 127.19 329 *e*PKIKP PKPdf 15 24 07.3 +0.6
comp=Z,14nm,0.8s
CABF La Chapelle 127.84 327 *e*PKIKP PKPdf 15 24 07.8 -0.1
comp=Z,24nm,1.0s
MIV Mineville/With 127.99 37 PKPdf PKPdf 15 24 09.8 +1.6
JTS JuntasAbangare 128.01 82 PKP PKPdf 15 24 10.0 +1.8
comp=Z,14nm,0.8s,baz=157,slow=22,SNR=9.8
JTS JuntasAbangare 128.01 82 PKPdf PKPdf 15 24 09.9 +1.6
LPL La Plagne 128.16 326 *e*PKIKP PKPdf 15 24 08.3 -0.2
comp=Z,25nm,1.2s
LPG La Plagne 128.16 326 *e*PKIKP PKPdf 15 24 08.4 -0.1
comp=Z,7.1nm,0.6s
LOR Lormes 128.60 329 *e*PKIKP PKPdf 15 24 08.7 -0.7
LOR *e*R
comp=Z,239nm,21.2s
LOR Lormes 128.60 329 *e*PKPdf PKPdf 15 24 08.7 -0.7
LOR LR LR
comp=Z,240nm,21.3s
MBDF Montbardon 128.60 325 *e*PKIKP PKPdf 15 24 09.3 -0.1
comp=Z,12nm,0.9s
SSF Saint Saulge 128.92 329 *e*PKIKP PKPdf 15 24 10.6 +0.6
comp=Z,13nm,1.0s
ORIF Oris-en-Rattie 129.00 325 *e*PKIKP PKPdf 15 24 10.6 +0.5
comp=Z,6.8nm,0.7s
ORIF *e*R
comp=Z,141nm,22.2s
SMF Signal de Mont 129.02 328 *e*PKIKP PKPdf 15 24 09.4 -0.8
comp=Z,8.2nm,0.7s
AVF Avril sur Loir 129.18 329 *e*PKIKP PKPdf 15 24 10.1 -0.4
comp=Z,3.2nm,0.7s
FRF La Foret Royal 129.36 324 *e*PKIKP PKPdf 15 24 10.3 -0.5
comp=Z,11nm,0.8s
LMR La Mourre 129.58 323 *e*PKIKP PKPdf 15 24 10.8 -0.4
comp=Z,20nm,1.0s
LDF La Druitiere 129.63 332 *e*PKIKP PKPdf 15 24 10.5 -0.8
FLN La Foliniere 129.67 333 *e*PKIKP PKPdf 15 24 10.9 -0.5
FLN *e*R
comp=Z,246nm,23.0s
FLN La Foliniere 129.67 333 *e*PKPdf PKPdf 15 24 10.9 -0.5
FLN LR LR
comp=Z,250nm,23.0s
VIVF Saint-Julien-l 129.71 326 *e*PKIKP PKPdf 15 24 12.2 +0.7
SMRF Simiane la Rot 129.74 325 *e*PKIKP PKPdf 15 24 11.3 -0.2
comp=Z,16nm,1.0s
TCF Toulx Ste Croi 130.10 329 *e*PKIKP PKPdf 15 24 12.0 -0.2
comp=Z,8.4nm,0.6s
GRR Gorron 130.11 333 *e*PKIKP PKPdf 15 24 12.2 0.0
LASF Ste Croix 130.66 326 *e*PKIKP PKPdf 15 24 13.1 -0.2
comp=Z,15nm,1.1s
SGMF Saint Gilles 130.97 334 *e*PKIKP PKPdf 15 24 14.3 +0.4
comp=Z,6.0nm,0.5s
MFF Saint Martin d 131.06 331 *e*PKIKP PKPdf 15 24 13.8 -0.2
comp=Z,16nm,1.1s
RJF Les Rejaudoux 131.12 328 *e*PKIKP PKPdf 15 24 14.1 -0.1
comp=Z,3.3nm,0.5s
RJF *e*R
comp=Z,198nm,22.8s
RJF Les Rejaudoux 131.12 328 *e*PKPdf PKPdf 15 24 14.1 -0.1
RJF LR LR
comp=Z,200nm,22.8s
EPF Esparros 133.28 327 *e*PKIKP PKPdf 15 24 18.6 +0.4
comp=Z,8.6nm,0.9s
ETSF Etsaut 133.85 327 *e*PKIKP PKPdf 15 24 19.3 0.0
comp=Z,16nm,1.0s
SJPF Ste Jean 134.06 328 *e*PKIKP PKPdf 15 24 19.0 -0.7
comp=Z,20nm,1.1s
LPAZ La Paz 138.27 123 PKP PKPdf 15 24 31.7 +4.2
comp=Z,8.8nm,0.8s,baz=353,slow=3.9,SNR=7.8
LPAZ SKPbc SKPbc 15 27 59.9 +7.1
comp=Z,4.7nm,0.8s,baz=79,slow=5.5,SNR=3.7
LPAZ La Paz 138.27 123 PKP PKPdf 15 24 31.7 +4.2
LPAZ SKPbc SKPbc 15 27 59.9 +7.1
ROSC El Rosal 138.38 90 PKP PKPdf 15 24 31.0 +3.2
comp=Z,26nm,0.6s,baz=267,slow=10,SNR=15
ROSC SKPbc SKPbc 15 27 60.0 +6.9
comp=Z,5.9nm,0.6s,baz=80,slow=19,SNR=4.0
CPUP Villa Florida 139.68 144 PKhKP 15 24 28.4
comp=Z,2.2nm,0.6s,baz=232,slow=1.9,SNR=9.6
CPUP PKP PKPdf 15 24 32.8 +2.7
comp=Z,4.0nm,0.7s,baz=254,slow=1.3,SNR=15
CPUP SKPbc SKPbc 15 28 03.9 +7.2
comp=Z,0.7nm,0.6s,baz=312,slow=1.8,SNR=4.1
CPUP Villa Florida 139.68 144 *i* PKIKP PKPdf 15 24 28.5 -1.6
CPUP 15 24 32.8
CPUP pmax pmax
comp=Z,2.0nm,0.6s
CPUP Villa Florida 139.68 144 *e*PKPpre 15 24 28.1
CPUP PKP PKPdf 15 24 32.8 +2.7
CPUP SKPbc SKPbc 15 28 03.9 +7.2
SDV Santo Domingo 142.15 84 PKP PKPdf 15 24 34.4 -0.1
comp=Z,38nm,0.6s,baz=323,slow=4.0,SNR=28
SDV SKPbc SKPbc 15 28 08.9 +5.8
comp=Z,7.7nm,0.2s,baz=219,slow=4.1,SNR=5.6
SDV Santo Domingo 142.15 84 *e*PKPpre 15 24 31.6
SIV San Ignacio 144.15 128 PKP PKPdf 15 24 38.1 +0.1
comp=Z,10nm,0.5s,baz=243,slow=6.8,SNR=7.5
SIV SKPbc SKPbc 15 28 13.7 +5.8
comp=Z,6.9nm,1.1s,baz=240,slow=5.7,SNR=4.3
SJG San Juan 145.15 67 PKPbc PKPbc 15 24 40.5 +1.0
comp=Z,50nm,0.6s,baz=355,slow=0.7,SNR=21
SJG San Juan 145.15 67 *e*PKP PKPdf 15 24 40.5 +0.8
CPD Cerro la Pandu 145.39 67 *e*PKP2 PKPab 15 24 41.2 +0.6
TORD Torodi Ar. Bea 145.60 284 PKPbc PKPbc 15 24 42.4 +1.4
comp=Z,79nm,0.6s,baz=70,slow=3.7,SNR=218
TORD pPKPbc pPKPbc 15 24 57.2 -11
comp=Z,13nm,0.7s,baz=77,slow=4.3,SNR=3.8
TORD sPKPbc 15 25 03.2
comp=Z,39nm,0.9s,baz=77,slow=4.0,SNR=8.4
MTP Monte Pirata 145.70 67 *e*PKPdf PKPdf 15 24 41.8 +1.0
SAML Samuel 145.93 116 *e*PKPdf PKPdf 15 24 42.9 +1.8
LZG Guadaloupe-1 149.71 69 *e*P PKPdf 15 24 54.5 +7.1
TBG Guadaloupe-3 149.91 69 *e*P PKPdf 15 24 54.6 +6.9
DBIC Dimbokro 152.50 272 PKP PKPdf 15 24 53.8 +2.2
comp=Z,13nm,0.6s,baz=17,slow=7.1,SNR=3.9
DBIC PKPbc PKPbc 15 25 01.1 +2.5
comp=Z,24nm,0.7s,baz=92,slow=2.5,SNR=29
DBIC PKPab PKPab 15 25 10.2 +0.9
comp=Z,33nm,0.8s,baz=85,slow=4.8,SNR=14
DBIC Dimbokro 152.50 272 PKPdf PKPdf 15 24 53.7 +2.1
DBIC *e*PKPbc PKPbc 15 25 00.7 +2.1
BDFB Brasilia 153.41 145 PKP PKPdf 15 24 56.0 +3.0
comp=Z,5.8nm,0.8s,baz=210,slow=0.6,SNR=7.5
BDFB PKPbc PKPbc 15 25 02.8 +2.2
comp=Z,26nm,0.6s,baz=213,slow=0.7,SNR=29
BAO Brasilia Array 153.43 145 PKPdf PKPdf 15 24 51.0 -2.0

ISC 14 15:06:30.4±0.7,**3980N**±005×**3301E**±004,**h10**km,**n8,** σ1§**10**/14,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTO	**Ankara**	**0.18**	**294**	*i* P	**Pg**	**15 06 33.7**	**-0.5**
ANTO				*i* S	**Sg**	**15 06 37.1**	**+0.3**
LOD	**Lodumlu**	**0.21**	**297**	PG	**Pg**	**15 06 34.3**	**-0.5**
LOD				SG	**Sg**	**15 06 38.1**	**+0.4**
KAMT	**Kaman**	**0.69**	**128**	*e*PG	**Pg**	**15 06 43.8**	**0.0**
ELDT	**Eldivan**	**0.77**	**25**	*i* P	**Pg**	**15 06 42.9**	**-2.3**
ELDT				*i* S	**Sg**	**15 06 55.0**	**-0.2**
SGKT	**Sivrigoynuk**	**1.06**	**317**	*i* P	**Pg**	**15 06 49.5**	**-1.4**
SGKT				*i* S	**Sg**	**15 07 08.2**	**+3.5**
CDAG	**Cicekdag**	**1.07**	**99**	*i* P	**Pg**	**15 06 49.7**	**-1.3**
CDAG				*i* S	**Sg**	**15 07 06.1**	**+1.3**
KIZT	**Kizilcal**	**1.26**	**224**	*e*PN	**Pn**	**15 06 54.7**	**+0.6**
BALT	**Daday**	**1.76**	**9**	*i* P	**Pn**	**15 07 02.0**	**+1.1**
BALT				*i* S	**Sn**	**15 07 24.7**	**+1.2**

*NEIC **14** 15:12:27.2, 3336S×7239W, h27km, ML2.8(GUC), After GUC.*

GUC 14 15:12:27.2±0.7,**3336S×7239W,h27**km±9km,**MD3.7, ML2.8,4C-3D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.70**	**100**⇑ *i*P		Pb	15 12 40.0	-0.8
LCCH				*i* S	Sb	15 12 50.1	0.0
LNV	**Longovilo**	**1.01**	**126**	*e*P	Pn	15 12 45.3	-0.3
LNV				*i* S	Sn	15 12 58.4	-0.6
TACH	**Talagante**	**1.25**	**104**⇓ *i*P		Pn	15 12 49.1	+0.2
TACH				*i* S	Sn	15 13 05.2	+0.3
RCDM	**Rinconada Maip**	**1.33**	**96**⇑ *i*P		Pn	15 12 50.3	+0.2
RCDM				*i* S	Sn	15 13 07.2	+0.3
SAN	**Santiago**	**1.45**	**94**	*i* S	Sn	15 13 11.9	+2.1
SAN				AML	AML	15 13 19.0	
comp=N,221nm,0.8s							
CLCH	**Cerro Calan**	**1.55**	**92**	*e*P	Pn	15 12 54.0	+0.9
CLCH				AML	AML	15 13 22.8	
comp=E,198nm,0.4s							
CHCH	**Chadas Angostu**	**1.56**	**112**	*e*P	Pn	15 12 54.0	+0.8
CHCH				*i* S	Sn	15 13 13.8	+1.4
PCH	**Pirque**	**1.59**	**100**	*e*P	Pn	15 12 54.5	+0.9
PCH				*i* S	Sn	15 13 16.1	+2.9
JACH	**Jahuel**	**1.66**	**66**	*i* S	Sn	15 13 16.8	+1.9
CACH	**El Canelo**	**1.67**	**117**⇑ *i*P		Pn	15 12 56.8	+2.1
CACH				*i* S	Sn	15 13 18.8	+3.5
SFDO	**San Fernando**	**1.70**	**138**	*e*P	Pn	15 12 55.9	+0.9
FCH	**Farellones**	**1.76**	**89**	*e*P	Pn	15 12 57.7	+1.8
FCH				*i* S	Sn	15 13 20.7	+3.3
FCH				AML	AML	15 13 26.7	
comp=N,133nm,0.4s							
LMEL	**Las Melosas**	**1.89**	**105**⇓ *i*P		Pn	15 12 59.3	+1.6
LMEL				*i* S	Sn	15 13 21.6	+1.0
LMEL				AML	AML	15 13 30.2	
comp=N,143nm,0.4s							
LMEL	**Las Melosas**	**1.89**	**105**⇓ *i*P		Pn	15 12 59.3	+1.6
LMEL				S	Sn	15 13 21.6	+1.0
CMCH	**Combarbala**	**2.48**	**29**	*e*P	Pn	15 13 07.1	+1.3
TLL	**Tololo Astrono**	**3.46**	**23**⇑ *i*P		Pn	15 13 21.2	+2.0

*ISCJB **14** 15:19:24.0±1.3, 41.15N±008×73.14E±009, h10km, Error ellipse: s-maj=12.0km s-min=8.8km az=117.6*
*KNET **14** 15:19:23.7±0.5, 4123N×7339E, h0km, ml3.2, Error ellipse: s-maj=3.1km s-min=2.6km az=83.0*
*NNC **14** 15:19:25.1±2.2, 41.35N×73.17E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=22.9km s-min=8.0km az=172.0*

ISC 14 15:19:25.2±1.2,**4121N**±008×**7315E**±008,**h10**km,**n19,** σ1§**42**/21,**13C-14D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.01**	**24**	P	**Pg**	**15 19 42.1**	**-2.4**
187nm,0.2s,SNR=306							
AML				⇑S	**Sg**	**15 19 56.3**	**-1.3**
455nm,0.4s							
UCH	**Uchtor**	**1.44**	**45**⇓	P	**Pn**	**15 19 49.1**	**-2.2**
43nm,0.2s,SNR=47							
UCH				⇓S	**Sn**	**15 20 08.7**	**-1.6**
138nm,0.2s							
EKS2	**Erkin-Say**	**1.53**	**18**⇓	P	**Pn**	**15 19 51.5**	**-1.0**
50nm,0.2s,SNR=57							
EKS2				⇓S	**Sn**	**15 20 13.0**	**+0.6**
86nm,0.2s							
AAK	**Ala-Archa**	**1.74**	**35**⇑	P	**Pn**	**15 19 54.7**	**-0.7**
58nm,0.2s,SNR=85							
AAK				⇓S	**Sn**	**15 20 18.8**	**+1.1**
134nm,0.2s							
KZA	**Kyzart**	**1.80**	**60**⇑	P	**Pn**	**15 19 54.7**	**-1.6**
82nm,0.3s,SNR=40							
KZA				⇑S	**Sn**	**15 20 19.7**	**+0.6**
106nm,0.2s							
KBK	**Karagaybulak**	**1.97**	**42**⇓	P	**Pn**	**15 19 58.9**	**+0.2**
36nm,0.2s,SNR=78							
KBK				⇓S	**Sn**	**15 20 25.8**	**+2.3**
410nm,0.5s							
CHMS	**Chumysh**	**2.15**	**33**⇑	P	**Pn**	**15 20 02.4**	**+1.3**
40nm,0.2s,SNR=56							
CHMS				⇑S	**Sn**	**15 20 31.4**	**+3.6**
92nm,0.2s							
USP	**Ospenovka**	**2.29**	**26**⇓	P	**Pn**	**15 20 04.9**	**+2.0**
101nm,0.4s,SNR=52							
TKM2	**Tokmak 2**	**2.50**	**46**⇑	P	**Pn**	**15 20 07.3**	**+1.4**
49nm,0.3s,SNR=54							
TKM2	**Tokmak 2**	**2.50**	**46**⇑	Pn	**Pn**	**15 20 07.1**	**+1.3**
2.9nm,0.5s							
TKM2				⇓Lg		15 20 41.1	
20nm,0.6s							
ULHL	**Ulahol**	**2.54**	**65**⇓	P	**Pn**	**15 20 06.3**	**-0.1**
17nm,0.2s,SNR=38							
KK31	**Karatay Array**	**2.73**	**315**⇓	Pn	**Pn**	**15 20 10.5**	**+1.5**
27nm,0.6s,baz=128,slow=13,SNR=182							
KK31				⇑Lg		15 20 50.9	
34nm,0.5s,baz=138,slow=27,SNR=11							
KNDC	**Almaty**	**3.47**	**53**⇑	Pg	**Pg**	**15 20 26.9**	**-4.8**
23nm,0.5s							
KNDC				⇓Lg		15 21 10.7	
185nm,0.8s							
MK05	**Makanchi Array**	**8.63**	**47**	Lg		15 23 54.5	
baz=235,slow=28							
KURK	**Kurchatov**	**10.24**	**20**⇑	Lg		15 24 46.0	
7.4nm,0.9s							
VOSK	**Vostochnaya**	**11.61**	**353**⇑	Lg		15 25 28.3	
3.3nm,0.8s							
BVA0	**Borovoye Array**	**11.97**	**352**⇑	Lg		15 25 37.1	
1.3nm,0.9s							
ZRNK	**Zerenda**	**12.08**	**348**⇓	Lg		15 25 48.4	
9.6nm,1.3s							
AB31	**Akbulak array**	**12.29**	**315**⇓	P	**Pn**	**15 22 19.2**	**-1.1**
0.5nm,0.5s,baz=122,slow=13,SNR=8.8							

*IDC **14** 15:25:34.5±0.8, 7.40S×126.22E, h0km, mb4.2/5, mb1 4.3/8, mb1mx4.1/14, mbtmp4.1/8, ML4.0/3, Error ellipse: s-maj=52.3km s-min=17.6km az=71.0*
*ISCJB **14** 15:25:36.5±2.1, 7.58S±008×129.9E±0.1, h34km±21km, mb4.4/15, Error ellipse: s-maj=21.4km s-min=10.0km az=128.3*
*MOS **14** 15:25:36.2±1.0, 7.51S×125.97E, h33km, mb4.8/6, Error ellipse: s-maj=38.7km s-min=11.1km az=114.2*
*BJI **14** 15:25:38.7, 7.01S×126.03E, h20km, mB4.9, mb4.6, Ms4.6, Ms4.3*
*NEIC **14** 15:25:40.4±1.7, 7.55S×125.88E, h49km±20km, mb4.6/7, Error ellipse: s-maj=16.3km s-min=12.0km az=222.0*

ISC 14 15:25:43.5±1.9,**7.78S**±008×**126.1E**±0.1,**h93**km±21km,**n36,** σ1§**07**/41,**mb4.3**/15,**1C,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.94**	**129**	*e*P	**Pn**	**15 27 37.5**	**+1.4**
5.5nm,0.3s							
FITZ	**Fitzroy Crossi**	**10.27**	**182**	*e*P	**Pn**	**15 28 07.7**	**-0.2**
6.0nm,0.4s							
FITZ				*e*S	**Sn**	**15 29 59.8**	**-1.3**
FITZ	**Fitzroy Crossi**	**10.27**	**182**	Pn	**Pn**	**15 28 07.5**	**-0.4**
0.9nm,0.3s,baz=15,slow=8.1,SNR=22							
FITZ				Sn	**Sn**	**15 30 02.0**	**+0.9**
0.5nm,0.3s,baz=105,slow=10,SNR=4.5							
WRAB	**Tennant Creek**	**14.49**	**147**	*e*P	**Pn**	**15 29 04.7**	**+0.7**
WRAB				pmax	pmax		
comp=Z,16nm,0.9s							
WRAB	**Tennant Creek**	**14.49**	**147**	*e*P	**Pn**	**15 29 04.7**	**+0.7**
comp=Z,16nm,0.9s							
WRA	**Warramunga Arr**	**14.49**	**147**	Pn	**Pn**	**15 29 03.5**	**-0.4**
comp=Z,0.5nm,0.3s,baz=324,slow=13,SNR=39							
WRA				Sn	**Sn**	**15 31 41.2**	**-2.3**
comp=Z,0.2nm,0.3s,baz=323,slow=23,SNR=3.9							
WB2	**Warramunga Ar**	**14.50**	**147**	*e*P	**Pn**	**15 29 03.2**	**-0.9**
WB2				*e*S	**Sn**	**15 31 39.9**	**-3.8**
ASAR	**Alice Springs**	**17.48**	**156**	P	**Pn**	**15 29 44.2**	**+2.9**
comp=Z,0.8nm,0.3s,baz=322,slow=10,SNR=33							
ASAR				S	**S**	**15 32 57.5**	**+1.0**
comp=Z,0.1nm,0.3s,baz=314,slow=19,SNR=4.1							
FORT	**Forrest**	**22.96**	**176**	*e*P	**P**	**15 30 47.4**	**+7.4**
comp=Z,9.0nm,0.6s,mb4.3							
STKA	**Stephens Creek**	**27.99**	**151**⇑ *i*P		**P**	**15 31 29.7**	**+4.3**
comp=Z,4.1nm,1.3s,mb3.8							
STKA	**Stephens Creek**	**27.99**	**151**	P	**P**	**15 31 29.7**	**+4.3**
comp=Z,1.8nm,0.3s,mb4.0,baz=330,slow=8.9,SNR=17							
MJAR	**Matsushiro Arr**	**45.53**	**14**	P	**P**	**15 33 52.9**	**-0.8**
comp=Z,5.2nm,1.1s,mb4.2,baz=185,slow=10.0,SNR=7.5							
JIRN	**Jiri**	**52.26**	**314**	*e*P	**P**	**15 34 45.0**	**-0.1**
GUN	**Gumba**	**52.62**	**314**	*e*P	**P**	**15 34 47.8**	**-0.1**
PKI	**Pulchoki**	**52.76**	**313**	*e*P	**P**	**15 34 48.8**	**-0.1**
GTA	**Gaotai**	**52.89**	**335**	*e*P	**P**	**15 34 50.1**	**+0.3**
GTA				AMB	AMB		
comp=Z,5.0nm,0.9s,mb4.5							
KKN	**Kakani**	**52.98**	**314**	*e*P	**P**	**15 34 50.5**	**0.0**
comp=Z,8.8nm,0.8s,mb4.9							
KKN	**Kakani**	**52.98**	**314**	*e*P	**P**	**15 34 50.5**	**0.0**
KKN				pmax	pmax		
comp=Z,9.0nm,0.8s,mb4.8							
DMN	**Daman**	**53.00**	**313**	*e*P	**P**	**15 34 50.9**	**+0.2**
GKN	**Gorkha**	**53.57**	**313**	*e*P	**P**	**15 34 54.8**	**0.0**
KOLN	**Koldanda**	**54.19**	**312**	*e*P	**P**	**15 34 59.5**	**+0.2**
comp=Z,23nm,0.9s,mb5.2							
ULN	**Ulaanbaatar**	**57.90**	**345**	*e*P	**P**	**15 35 24.8**	**-1.0**
ULN				pmax	pmax		
comp=Z,6.0nm,1.3s,mb4.5							
ULN	**Ulaanbaatar**	**57.90**	**345**	*e*P	**P**	**15 35 24.8**	**-1.0**
comp=Z,6.0nm,1.3s,mb4.5							
SONM	**Songino Array**	**58.05**	**344**	P	**P**	**15 35 27.3**	**+0.6**
comp=Z,2.3nm,0.9s,mb4.2,baz=160,slow=7.6,SNR=16							
SONM				PcP	PcP	15 36 19.8	+2.1
comp=Z,0.9nm,0.7s,baz=167,slow=2.1,SNR=4.1							
BOD	**Bodaibo**	**66.11**	**353**	*e*P	**P**	**15 36 20.3**	**-0.4**
BOD				pmax	pmax		
comp=Z,8.0nm,0.9s,mb4.5							
MKAR	**Makanchi Array**	**66.82**	**329**	P	**P**	**15 36 25.4**	**+0.2**
comp=Z,2.9nm,0.9s,mb4.1,baz=129,slow=8.3,SNR=20							
MKAR				PcP	PcP	15 36 55.7	+2.4
comp=Z,0.9nm,0.9s,baz=123,slow=4.5,SNR=3.5							
MKAR	**Makanchi Array**	**66.82**	**329**	P	**P**	**15 36 25.4**	**+0.2**
MKAR				PcP	PcP	15 36 55.7	+2.4
YAK	**Yakutsk**	**69.65**	**2**	*e*P	**P**	**15 36 44.4**	**

n14,σ0ᵍ68/23,mb3.7/3,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TATO	**Taipei**	**0.50**	**306**	*eP*	**Pn**	**15 29 36.0**	**0.0**
TATO				*eS*	**Sn**	**15 29 47.5**	**+0.2**
YHNB	**Yeheng**	**0.51**	**269**	*eP*	**Pn**	**15 29 36.9**	**+0.8**
YHNB				*eS*	**Sn**	**15 29 47.1**	**-0.3**
NACB	**Ninganchiao**	**0.59**	**211**	*eP*	**Pn**	**15 29 37.5**	**+0.8**
NACB				*eS*	**Sn**	**15 29 47.1**	**-1.6**
YOJ	**Yonaguni jima**	**1.01**	**102**	P	**Pn**	**15 29 41.3**	**+0.4**
YOJ				S	**Sn**	**15 29 56.4**	**+0.4**
IRIF	**Iriomote-Funau**	**1.68**	**102**	P	**Pn**	**15 29 49.1**	**+0.2**
IRIF				*eS*	**Sn**	**15 30 10.5**	**+0.2**
HATJ	**Hateruma jima**	**1.82**	**110**	P	**Pn**	**15 29 51.4**	**+0.6**
HATJ				*eS*	**Sn**	**15 30 14.2**	**+0.6**
JKRS	**Kuro-shima**	**1.94**	**103**	P	**Pn**	**15 29 52.9**	**+0.5**
JKRS				S	**Sn**	**15 30 16.3**	**-0.2**
JIJ	**Ishigaki jima**	**2.04**	**98**	P	**Pn**	**15 29 53.6**	**0.0**
JIJ				*eS*	**Sn**	**15 30 17.7**	**-1.0**
JTJ	**Tarama**	**2.52**	**90**	P	**Pn**	**15 30 00.4**	**+0.4**
JTJ				S	**Sn**	**15 30 30.0**	**-0.1**
JOW	**Kunigami**	**6.11**	**68**	Pn	**Pn**	**15 30 46.3**	**-2.1**
	2.4nm,0.3s,baz=151,slow=12,SNR=9.5						
ZAL	**Zalesovo**	**40.21**	**326**	P	**P**	**15 36 47.9**	**+0.1**
	1.6nm,0.8s,mb3.9,baz=343,slow=6.7,SNR=9.4						
WRAB	**Tennant Creek**	**45.96**	**164**	*eP*	**P**	**15 37 33.9**	**-0.3**
WRA	**Warramunga Arr**	**45.97**	**164**	P	**P**	**15 37 34.2**	**0.0**
	1.1nm,0.7s,mb3.7,baz=345,slow=8.5,SNR=7.6						
ASAR	**Alice Springs**	**49.44**	**166**	P	**P**	**15 38 01.1**	**+0.1**
	0.5nm,0.7s,mb3.5,baz=337,slow=6.7,SNR=6.1						

*IDC **14** 15:33:14.3±0.9, 1425N×9393E, h0ᵏᵐ, mb3.8/9, mb1 3.9/9, mb1mx3.8/18, mbtmp3.8/9, MS4.1/2, Ms1 4.1/2, ms1mx3.1/28, Error ellipse: s-maj=42.8km s-min=18.5km az=51.0*

*BJI **14** 15:33:15.2, 1400N×9300E, h30ᵏᵐ, mB4.6, mb4.2*

*NEIC **14** 15:33:15.2±0.9, 1395N×9301E, h30ᵏᵐ, mb4.0/2, Error ellipse: s-maj=23.1km s-min=9.3km az=50.0*

*ISCJB **14** 15:33:17.1±1.0, 142N±0.1×9299E±006, h33ᵏᵐ, mb3.8/13, MS4.2/2, Error ellipse: s-maj=16.5km s-min=8.3km az=17.7*

ISC 14 15:33:20.4±0.9,1437N±010×9305E±005,h35ᵏᵐ,n29, σ1ᵍ15/32,mb3.8/13,MS4.2/2,1C,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**2.71**	**186**	*eP*	x	15 33 24.8	
PBA				*eS*	x	15 33 52.2	
PBA				*ex*	x	15 34 12.1	
	comp=E,2μm,0.7s						
PBA				*ex*	x	15 34 12.4	
	comp=N,1μm,0.6s						
NST	**Nakhon Sawan**	**6.97**	**78**	P	**Pn**	**15 35 00.0**	**0.0**
CHG	**Chiang Mai**	**7.17**	**51**	⇑P	**Pn**	**15 35 12.8**	**+10**
	comp=N,19nm,0.6s						
CHTO	**Chiang Mai**	**7.17**	**51**	*eP*	**Pn**	**15 35 01.8**	**-1.0**
	comp=N,9.7nm,0.6s						
CHTO				*eS*	**Sn**	**15 36 21.7**	**-1.4**
VIS	**Vishakhapatnam**	**9.92**	**291**	*i* P	**Pn**	**15 35 39.2**	**-1.2**
VIS				*i* S	**Sn**	**15 37 24.0**	**-6.5**
HYB	**Hyderabad**	**14.27**	**284**	*i* P	**Pn**	**15 36 39.5**	**-0.4**
HYB				*e*		15 36 49.0	
HYB				*eS*	**Sn**	**15 39 16.0**	**-0.8**
JIRN	**Jiri**	**14.69**	**335**	*eP*	**Pn**	**15 36 45.1**	**-0.5**
PKI	**Pulchoki**	**14.94**	**333**	*eP*	**Pn**	**15 36 48.3**	**-0.6**
DMN	**Daman**	**15.11**	**332**	*eP*	**Pn**	**15 36 51.0**	**-0.2**
KKN	**Kakani**	**15.19**	**333**	*eP*	**Pn**	**15 36 51.5**	**-0.7**
LSA	**Lhasa**	**15.36**	**354**	P	**Pn**	**15 37 01.8**	**+7.4**
LSA				AMB	AMB		
	comp=Z,10.0nm,0.7s						
LSA	**Lhasa**	**15.36**	**354**	*eP*	**Pn**	**15 37 01.5**	**+7.1**
	comp=Z,7.7nm,0.6s						
GKN	**Gorkha**	**15.66**	**331**	*eP*	**Pn**	**15 36 58.4**	**+0.1**
GKN				*eS*	**S**	**15 39 46.0**	**-19**
KOLN	**Koldanda**	**15.97**	**328**	*eP*	**Pn**	**15 37 03.0**	**+0.6**
KOLN				*eS*	**S**	**15 39 54.0**	**-17**
GTA	**Gaotai**	**25.65**	**12**	*eP*	**P**	**15 38 49.3**	**+2.6**
GTA				AP	pP	15 38 56.4	-0.3
GTA				XP	sP	15 39 01.1	+0.1
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb3.7						
MKAR	**Makanchi Array**	**33.56**	**347**	P	**P**	**15 39 57.5**	**+0.6**
	comp=Z,1.6nm,0.8s,mb4.0,baz=161,slow=8.9,SNR=17						
SONM	**Songino Array**	**35.16**	**16**	P	**P**	**15 40 10.4**	**-0.4**
	comp=Z,0.2nm,0.3s,mb3.5,baz=211,slow=10,SNR=6.7						
KURK	**Kurchatov**	**38.09**	**345**	*eP*	**P**	**15 40 36.7**	**+0.9**
	comp=Z,2.5nm,0.9s,mb3.9						
WRA	**Warramunga Arr**	**53.03**	**129**	P	**P**	**15 42 27.9**	**-6.0**
	comp=Z,0.5nm,0.7s,mb3.5,baz=302,slow=10,SNR=9.7						
WRAB	**Tennant Creek**	**53.03**	**129**	*eP*	**P**	**15 42 27.4**	**-6.5**
ASAR	**Alice Springs**	**55.00**	**133**	P	**P**	**15 42 42.4**	**-5.8**
	comp=Z,0.6nm,0.5s,mb3.9,baz=308,slow=7.2,SNR=34						
BRTR	**Keskin Array B**	**57.50**	**308**	P	**P**	**15 43 10.7**	**+4.7**
	comp=Z,0.3nm,0.5s,mb3.6,baz=101,slow=7.5,SNR=2.2						
PMG	**Port Moresby**	**58.63**	**111**	LR	LR	16 12 01.4	
	comp=Z,108nm,18.2s,MS4.0,baz=192,slow=40						
AKASG	**Malin Array Be**	**62.47**	**320**	P	**P**	**15 43 45.2**	**+5.1**
	comp=Z,0.2nm,0.4s,mb3.6,baz=84,slow=7.2,SNR=4.0						
STKA	**Stephens Creek**	**65.41**	**135**	P	**P**	**15 43 57.6**	**-1.9**
	comp=Z,1.0nm,0.8s,mb3.9,baz=342,slow=8.1,SNR=3.3						
FINES	**FINESS Array B**	**66.52**	**331**	P	**P**	**15 44 08.0**	**+1.4**
	comp=Z,1.6nm,0.9s,mb4.0,baz=108,slow=6.2,SNR=4.5						
GERES	**GERESS Array B**	**72.33**	**317**	P	**P**	**15 44 45.2**	**+2.7**
	comp=Z,0.8nm,0.6s,mb3.8,baz=318,slow=1.8,SNR=3.5						
GERES				LR	LR	16 17 15.0	
	comp=Z,180nm,21.6s,MS4.3,baz=71,slow=36						
TORD	**Torodi Ar. Bea**	**88.08**	**283**	P	**P**	**15 46 12.8**	**+5.6**
	comp=Z,0.4nm,0.6s,mb3.8,baz=74,slow=4.9,SNR=4.0						
ILAR	**Eielson Array**	**89.16**	**22**	P	**P**	**15 46 14.3**	**+2.0**
	comp=Z,0.4nm,0.8s,mb3.8,baz=295,slow=3.9,SNR=5.1						

IDC 14 16:06:11.0±1.4,887S×12370E,h0ᵏᵐ,mb4.1/2,mb1 4.1/5, mb1mx3.8/15,mbtmp3.9/5,ML3.8/3,Error ellipse: s-maj=123.7km s-min=24.0km az=64.0,Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**9.37**	**169**	*eP*	Pn	16 08 26.8	-0.4
	4.7nm,0.4s						
FITZ				*eS*	Sn	16 09 59.8	-13
FITZ	**Fitzroy Crossi**	**9.37**	**169**	Pn	Pn	16 08 27.0	-0.2
	0.8nm,0.3s,baz=350,slow=13,SNR=59						
FITZ				Sn	Sn	16 09 59.6	-14
	4.1nm,0.3s,baz=199,slow=9.3,SNR=18						
KAKA	**Kakadu**	**9.40**	**115**	*eS*	Sn	16 10 09.7	-4.3
WRA	**Warramunga Arr**	**15.07**	**138**	Pn	Pn	16 09 44.9	-0.2
	0.4nm,0.3s,baz=318,slow=14,SNR=11						
WRA				Sn	Sn	16 12 16.9	-16
	0.9nm,0.3s,baz=311,slow=24,SNR=8.4						
ASAR	**Alice Springs**	**17.66**	**148**	P	Pn	16 10 19.0	+0.7
	0.4nm,0.3s,baz=318,slow=11,SNR=22						
ASAR				S	Sn	16 13 20.0	-16
	0.3nm,0.3s,baz=316,slow=22,SNR=7.3						
MKAR	**Makanchi Array**	**66.55**	**330**	P	P	16 17 03.5	+0.7
	0.8nm,0.5s,baz=133,slow=7.7,SNR=13						
ZAL	**Zalesovo**	**70.66**	**337**	P	P	16 17 27.4	-1.0
	1.1nm,0.4s,baz=85,slow=4.3,SNR=3.9						

*NIED **14** 16:42:00, 3420N×13520E, h5ᵏᵐ, Mw4.3 Best double couple: M₀3.75000×10¹⁵ NP1:φ₀342.00000°, δ62.00000°, λ53.00000°. NP2:φ₀221.00000°, δ45.00000°, λ139.00000°.*

*BJI **14** 16:42:05.8, 3384N×136.16E, h18ᵏᵐ, mB4.7, mb4.5, Ms4.2, Msz3.8*

*ISCJB **14** 16:42:11.6±0.7, 3414N±003×135.18E±003, h3ᵏᵐ±3ᵏᵐ, mb4.4/60, MS3.8/9, Error ellipse: s-maj=5.6km s-min=3.9km az=6.6*

*JMA **14** 16:42:13.0, 3422N×13522E, h3ᵏᵐ±1ᵏᵐ, M4.5 Broadband fault plane solution: P waves. NP1: φs232.00000°, δ60.00000°, λ151.00000°. NP2: φs338.00000°, δ65.00000°, λ34.00000°. Principal axes: T Plg41.0000°, Azm197.0000°; N Plg49.0000°, Azm11.0000°; P Plg3.0000°, Azm104.0000°;*

JMA Felt IV J1.

*IDC **14** 16:42:15.2±2.3, 3417N×13522E, h19ᵏᵐ±15ᵏᵐ, mb4.1/18, mb1 4.3/21, mb1mx4.3/25, mbtmp4.3/21, ML4.1/3, MS3.2/5, Ms1 3.3/5, ms1mx2.9/31 Error ellipse: s-maj=13.1km s-min=10.8km az=139.0*

*NEIC **14** 16:42:15.4±2.5, 3414N×135.19E, h19ᵏᵐ±15ᵏᵐ, mb4.5/30, MW4.3(NIED), Error ellipse: s-maj=7.3km s-min=5.0km az=159.0*

NEIC Felt at Kobe. Recorded [4 JMA] in Wakayama; [3 JMA] in Nara and Osaka; [2 JMA] in Hyogo; [1 JMA] in Kyoto, Mie, Okayama and Shiga Prefectures. Also recorded [1 JMA] in Kagawa, Kochi and Tokushima Prefectures, Shikoku.

*MOS **14** 16:42:15.9±1.1, 3420N×135.14E, h33ᵏᵐ, mb4.7/23, Error ellipse: s-maj=11.0km s-min=7.4km az=94.9*

ISC 14 16:42:13.3±0.5,3420N±003×13521E±003,h3ᵏᵐ±3ᵏᵐ, h12ᵏᵐ±1.4ᵏᵐ:pP-P,n123,σ1ᵍ00/138,mb4.4/60,MS3.8/9, 1C-7D,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWY	**Kouya**	**0.32**	**86**	⇓P	**Pg**	**16 42 18.8**	**-0.6**
JWY				*eS*	**Sg**	**16 42 23.6**	**0.0**
JAJ2	**Tsuna**	**0.35**	**310**	⇓P	**Pg**	**16 42 19.9**	**-0.1**
JAJ2				S	**Sg**	**16 42 25.1**	**+0.6**
JWM	**Minabe**	**0.37**	**161**	⇑P	**Pg**	**16 42 20.9**	**+0.5**
JWM				S	**Sg**	**16 42 26.4**	**+1.2**
JHE	**Heguri**	**0.60**	**41**	⇓P	**Pg**	**16 42 24.3**	**-0.5**
JHE				S	**Sg**	**16 42 32.2**	**-0.5**
JMIK	**Miki**	**0.62**	**348**	P	**Pg**	**16 42 25.1**	**-0.1**
JMIK				S	**Sg**	**16 42 33.3**	**0.0**
MAJO	**Matsushiro**	**3.39**	**45**	*eP*	**Pn**	**16 43 07.4**	**+0.4**
MAJO				*eS*	**Sn**	**16 43 56.6**	**+8.9**
MAT	**Matsushiro**	**3.39**	**45**	P	**Pn**	**16 43 07.2**	**+0.2**
MAT				*eS*	**Sn**	**16 43 50.6**	**+2.9**
MAT	**Matsushiro**	**3.39**	**45**	*eP*	**Pn**	**16 43 07.0**	**0.0**
MAT				S	**Sn**	**16 43 58.0**	**+10**
MJAR	**Matsushiro Arr**	**3.39**	**45**	Pn	**Pn**	**16 43 07.8**	**+0.8**
	12nm,0.3s,baz=243,slow=14,SNR=85						
MJAR				Pg	**Pg**	**16 43 16.8**	**-1.4**
	20nm,0.3s,baz=225,slow=15,SNR=44						
MJAR				Lg		16 44 03.5	
	16nm,0.3s,baz=218,slow=30,SNR=7.1						
MJAR				LR	LR	16 44 29.6	
	comp=Z,139nm,18.9s,baz=225,slow=39						
JNU	**Nakatsue**	**3.77**	**255**	Pn	**Pn**	**16 43 13.1**	**+0.9**
	18nm,0.3s,baz=206,slow=0.1,SNR=16						
JNU				Pg	**Pg**	**16 43 23.9**	**-1.6**
	90nm,0.3s,baz=311,slow=0.6,SNR=39						
JNU				Lg		16 44 16.1	
	66nm,0.3s,baz=176,slow=13,SNR=7.4						
JHJ	**Hachijo jima 2**	**3.96**	**104**	Pn	**Pn**	**16 43 15.1**	**+0.1**
	52nm,0.3s,baz=235,slow=22,SNR=19						
JHJ				Sn	**Sn**	**16 44 00.7**	**-1.2**
	16nm,0.3s,baz=182,slow=21,SNR=3.9						
JHJ				LR	LR	16 44 36.1	
	comp=Z,589nm,19.9s,baz=80,slow=35						
KS15	**Wonju Array Si**	**6.77**	**301**	*eP*	**Pn**	**16 43 54.5**	**+1.0**
CBIJ	**Chichi jima**	**9.28**	**138**	LR	LR	16 46 40.0	
	comp=Z,45nm,20.2s,baz=359,slow=29						
MDJ	**Mudanjiang**	**11.27**	**339**	P	**Pn**	**16 44 56.8**	**+1.6**
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,86nm,5.2s						
MDJ				LR	LR		
	comp=N,238nm,12.0s						
MDJ				LR	LR		
	comp=E,464nm,12.0s						
MDJ				LR	LR		
	comp=Z,108nm,7.7s						
SSE	**Sheshan**	**12.22**	**259**	P	**Pn**	**16 45 08.8**	**+0.7**
SSE				AMB	AMB		
	comp=Z,33nm,0.8s						
SSE				AMB	AMB		
	comp=Z,85nm,5.9s						
SSE				LR	LR		
	comp=N,271nm,20.0s						
SSE				LR	LR		
	comp=E,66nm,20.1s						
SSE				LR	LR		
	comp=Z,279nm,17.6s						
CN2	**Changchun**	**12.22**	**325**	*eP*	**Pn**	**16 45 11.1**	**+2.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CN2				LR	LR		
	comp=N,500nm,15.0s						
CN2				LR	LR		
	comp=E,600nm,15.0s						
CN2				LR	LR		
	comp=Z,200nm,17.0s						
NJ2	**Nanjing**	**13.87**	**266**	*eP*	**Pn**	**16 45 30.6**	**-0.2**
NJ2				AP		16 45 36.3	
NJ2				AMB	AMB		
	comp=Z,110nm,11.1s						
NJ2				LR	LR		
	comp=N,1μm,14.1s						
NJ2				LR	LR		
	comp=E,1μm,16.5s						
NJ2				LR	LR		
	comp=Z,380nm,15.0s						
HABR	**Khabarovsk**	**14.26**	**360**	*eP*	**Pn**	**16 45 44.9**	**+8.8**
HABR				*eS*	**Sn**	**16 48 23.9**	**+9.1**
KLR	**Kul'dur**	**15.24**	**351**	*eP*	**Pn**	**16 45 47.8**	**-1.5**
BJI	**Beijing**	**16.25**	**297**	*eP*	**Pn**	**16 46 10.8**	**+8.3**
BJI				AMB	AMB		
	comp=Z,11nm,0.8s						
BJI				LR	LR		
	comp=N,467nm,15.6s						
BJI				LR	LR		
	comp=E,129nm,16.1s						
BJI				LR	LR		
	comp=Z,176nm,18.2s						
WHN	**Wuhan**	**17.99**	**264**	*eP*	**Pn**	**16 46 28.0**	**+3.7**
HIA	**Hailar**	**18.91**	**327**	*eP*	**Pn**	**16 46 36.9**	**+1.3**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HIA	**Hailar**	**18.91**	**327**	*eP*	**Pn**	**16 46 36.9**	**+1.2**
	comp=Z,6.8nm,0.8s						
HHC	**Hu-ho-hao-te**	**19.86**	**296**	⇓P	**Pn**	**16 46 47.8**	**+0.8**
HHC				PP		16 47 06.6	
HHC				S	**Sn**	**16 50 29.3**	**-1.3**
HHC				AMB	AMB		
	comp=Z,25nm,1.3s						
HHC				AMB	AMB		
	comp=Z,195nm,5.1s						
HHC				LR	LR		
	comp=N,241nm,13.1s						
HHC				LR	LR		
	comp=E,291nm,13.3s						
HHC				LR	LR		
	comp=Z,272nm,12.5s						
BTO	**Baotou**	**20.97**	**295**	*eP*	**P**	**16 46 57.6**	**+0.1**
XAN	**Xi'an**	**21.75**	**277**	P	**P**	**16 47 09.6**	**+3.7**
XAN				AMB	AMB		
	comp=Z,19nm,1.1s,mb4.4						
CIT	**Chita**	**23.67**	**325**	*eP*	**P**	**16 47 25.5**	**-0.6**
CIT				*e*		16 51 43.5	
CIT				pmax	pmax		
	comp=Z,22nm,2.2s,mb4.2						
SONM	**Songino Array**	**25.48**	**311**	P	**P**	**16 47 42.8**	**+0.1**
	comp=Z,12nm,1.0s,mb4.4,baz=125,slow=8.4,SNR=43						
SONM				LR	LR	16 58 25.3	
	comp=Z,89nm,18.1s,MS3.3,baz=77,slow=38						
LZH	**Lanzhou**	**25.66**	**283**	*eP*	**P**	**16 47 45.5**	**+1.2**
LZH				AP	pP	16 47 47.6	+2.4
LZH				PP		16 48 25.3	
LZH				AMB	AMB		
	comp=Z,23nm,1.3s,mb4.5						
LZH				AMB	AMB		
	comp=Z,54nm,4.5s						
LZH				LR	LR		
	comp=N,506nm,11.3s						
LZH				LR	LR		
	comp=Z,739nm,15.2s,MS4.3						
CD2	**Chengdu**	**26.66**	**272**	*eP*	**P**	**16 47 51.5**	**-1.8**
CD2				S	**S**	**16 52 24.5**	**-4.5**
CD2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.6						
CD2				LR	LR		
	comp=N,210nm,12.0s						
CD2				LR	LR		
	comp=Z,300nm,13.2s,MS4.0						
ZAK	**Zakamensk**	**28.34**	**315**	*eP*	**P**	**16 48 10.1**	**+1.7**
ZAK				*e*		16 49 01.4	
ZAK				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.3						
GTA	**Gaotai**	**28.69**	**291**	*eP*	**P**	**16 48 11.6**	**+0.1**
GTA				AP	pP	16 48 15.3	+2.9
GTA				XP	sP	16 48 17.3	+4.5
GTA				PP	PP	16 49 05.6	-11
GTA				S	**S**	**16 53 02.9**	**+1.8**
GTA				SS	SS	16 54 35.6	-27
GTA				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.4						
GTA				AMB	AMB		
	comp=Z,116nm,5.8s						
GTA				LR	LR		
	comp=N,163nm,17.7s,MS4.0						
GTA				LR	LR		
	comp=E,276nm,13.4s,MS4.0						
GTA				LR	LR		
	comp=Z,366nm,12.3s,MS4.2						
KMI	**Kunming**	**29.53**	**261**	P	**P**	**16 48 18.6**	**-0.3**
KMI				AP	pP	16 48 22.3	+2.4
KMI				XP	sP	16 48 23.8	+3.6
KMI				PP	PP	16 49 14.8	-11
KMI				S	**S**	**16 53 12.8**	**-1.4**
KMI				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.0						
KMI				AMB	AMB		
	comp=Z,64nm,3.9s						
KMI				LR	LR		
	comp=N,443nm,19.0s						
KMI				LR	LR		
	comp=E,426nm,13.3s						
KMI				LR	LR		
	comp=Z,455nm,13.3s						
TIXI	**Tiksi**	**37.67**	**357**	⇓*i* P	**P**	**16 49 27.1**	**-2.6**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
TIXI				MLR	MLR		
	comp=Z,82nm,13.0s,MS3.7						
WMQ	**Urumqi**	**37.70**	**299**	⇓*i* P	**P**	**16 49 31.8**	**+1.9**
WMQ				AP	pP	16 49 35.8	+4.9
WMQ				XP	sP	16 49 38.3	+7.0
WMQ				PP	PP	16 51 00.6	+4.7
WMQ				*eS*	**S**	**16 55 21.3**	**+0.6**
WMQ				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,105nm,5.2s						
WMQ				LR	LR		
	comp=N,163nm,23.2s,MS3.8						
WMQ				LR	LR		
	comp=E,71nm,23.2s,MS3.8						
WMQ				LR	LR		
	comp=Z,52nm,16.7s						
BILL	**Bilibino**	**38.24**	**18**	*i* P	**P**	**16 49 34.5**	**0.0**
BILL				pmax	pmax		
	comp=Z,13nm,2.1s,mb4.3						
BILL				MLR	MLR		
	comp=Z,100nm,25.0s,MS3.5						
BILL	**Bilibino**	**38.24**	**18**	*eP*	**P**	**16 49 34.5**	**0.0**
	comp=Z,3.1nm,0.8s,mb4.1						
ZAL	**Zalesovo**	**40.23**	**315**	P	**P**	**16 49 50.1**	**-1.0**
	comp=Z,1.0nm,0.2s,mb4.1,baz=174,slow=3.5,SNR=3.0						
ZAL				LR	LR	17 07 58.7	
	comp=Z,108nm,18.9s,MS3.7,baz=209,slow=38						
MKAR	**Makanchi Array**	**41.42**	**304**	P	**P**	**16 50 01.1**	**+0.2**
	comp=Z,6.0nm,0.9s,mb4.2,baz=92,slow=9.3,SNR=37						
JIRN	**Jiri**	**42.23**	**275**	*eP*	**P**	**16 50 08.2**	**+0.6**
	comp=Z,9.5nm,0.6s,mb4.6						
GUN	**Gumba**	**42.39**	**275**	*eP*	**P**	**16 50 10.7**	**+1.8**
KKN	**Kakani**	**42.93**	**276**	*eP*	**P**	**16 50 13.5**	**+0.2**
GKN	**Gorkha**	**43.38**	**276**	*eP*	**P**	**16 50 17.9**	**+0.9**
KURK	**Kurchatov**	**43.78**	**310**	*eP*	**P**	**16 50 19.1**	**-1.0**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.4						
KURK	**Kurchatov**	**43.78**	**310**	*eP*	**P**	**16 50 19.1**	**-1.1**
	comp=Z,8.2nm,1.1s,mb4.4						
KOLN	**Koldanda**	**44.32**	**276**	*eP*	**P**	**16 50 24.7**	**+0.2**
	comp=Z,12nm,1.1s,mb4.5						
AAK	**Ala-Archa**	**47.41**	**299**	*eP*	**P**	**16 50 48.2**	**-0.7**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
AAK	**Ala-Archa**	**47.41**	**299**	*eP*	**P**	**16 50 48.2**	**-0.7**
	comp=Z,5.6nm,1.0s,mb4.5						
ZRNK	**Zerenda**	**49.63**	**313**	*eP*	**P**	**16 51 05.1**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
ZRNK	**Zerenda**	**49.63**	**313**	*eP*	**P**	**16 51 05.1**	**-0.9**
	comp=Z,5.3nm,0.9s,mb4.6						
FITZ	**Fitzroy Crossi**	**52.80**	**191**	*eP*	**P**	**16 51 28.8**	**-1.0**
	comp=Z,7.0nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**52.80**	**191**	P	**P**	**16 51 29.5**	**-0.3**
	comp=Z,4.0nm,0.7s,mb4.5,baz=11,slow=6.1,SNR=12						
WRAB	**Tennant Creek**	**53.83**	**181**	*eP*	**P**	**16 51 36.1**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.1						
WRAB	**Tennant Creek**	**53.83**	**181**	*eP*	**P**	**16 51 36.1**	**-1.3**
	comp=Z,23nm,1.0s,mb5.1						
WB2	**Warramunga Arr**	**53.84**	**181**	*eP*	**P**	**16 51 36.7**	**-0.8**
WRA	**Warramunga Arr**	**53.84**	**181**	P	**P**	**16 51 36.9**	**-0.6**
	comp=Z,17nm,0.9s,mb5.0,baz=355,slow=7.7,SNR=102						
COLA	**College**	**54.14**	**31**	*eP*	**P**	**16 51 40.1**	**+0.5**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
COLA	**College**	**54.14**	**31**	*eP*	**P**	**16 51 40.1**	**+0.5**
	comp=Z,2.6nm,0.6s,mb4.3						
ILAR	**Eielson Array**	**54.56**	**31**	P	**P**	**16 51 42.0**	**-0.7**
	comp=Z,2.0nm,0.8s,mb4.2,baz=281,slow=6.3,SNR=37						
ARU	**Arti**	**55.14**	**319**	⇓*i* P	**P**	**16 51 45.9**	**-1.0**
ARU				*e*		16 52 40.7	
ARU				*e*		16 53 49.8	
ARU				*eS*	**S**	**16 59 29.1**	**-1.5**
ARU				*e*SS	SS	17 03 13.1	-1.3
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
ARU	**Arti**	**55.14**	**319**	*eP*	**P**	**16 51 45.4**	**-1.5**
	comp=Z,9.9nm,1.3s,mb4.7						
ASAR	**Alice Springs**	**57.56**	**181**	P	**P**	**16 52 03.9**	**-0.3**
	comp=Z,2.7nm,0.6s,mb4.5,baz=2.1,slow=6.2,SNR=39						
ARCES	**ARCESS Array B**	**64.82**	**339**	P	**P**	**16 52 52.8**	**-0.6**
	comp=Z,3.9nm,0.9s,mb4.5,baz=62,slow=8.4,SNR=3.5						
STKA	**Stephens Creek**	**66.00**	**174**	*eP*	**P**	**16 52 58.2**	**-2.8**
	comp=Z,4.3nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**66.00**	**174**	P	**P**	**16 52 59.0**	**-2.0**
	comp=Z,5.5nm,0.7s,mb4.7,baz=336,slow=5.8,SNR=14						
VRSR	**Storozhevoye**	**67.65**	**317**	*eP*	**P**	**16 53 10.5**	**-1.1**
VRSR				pmax	pmax		
	comp=N,1.0nm,0.7

comp=Z,3.0nm,0.9s,mb4.2
BMO Blue Mountains 77.52 44 *e*P **P 16 54 10.6 +0.3**
comp=Z,3.0nm,0.9s,mb4.2
WVOR Wild Horse Val 78.15 47 *e*P **P 16 54 14.6 +0.8**
WVOR pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
WVOR Wild Horse Val 78.15 47 *e*P **P 16 54 14.6 +0.7**
comp=Z,3.9nm,0.8s,mb4.4
FCC Fort Churchill 78.71 24 *e*P **P 16 54 16.2 -0.7**
FCC pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
FCC Fort Churchill 78.71 24 *e*P **P 16 54 16.2 -0.7**
comp=Z,3.3nm,0.8s,mb4.3
PAHR Pah Rah Range 79.28 49 *e*P **P 16 54 20.2 +0.1**
comp=Z,4.7nm,0.8s,mb4.5
DLMT Dillon 79.86 42 *e*P **P 16 54 23.2 0.0**
comp=Z,5.5nm,0.9s,mb4.5
HLID Hailey 79.96 44 *e*P **P 16 54 24.4 +0.7**
comp=Z,0.9nm,0.7s,mb3.8
NVAR Mina Array Bea 80.70 50 P **P 16 54 29.2 +1.4**
comp=Z,2.3nm,0.8s,mb4.2,baz=294,slow=3.3,SNR=11
NVAR Mina Array Bea 80.70 50 P **P 16 54 29.2 +1.4**
CLL Collm 80.90 327 *e*P **P 16 54 28.0 -0.8**
GCMT Greycliff 81.17 40 *e*P **P 16 54 30.9 +0.6**
ELK Elko 81.20 46 *e*P **P 16 54 31.9 +1.5**
ELK pmax pmax
comp=Z,3.0nm,0.9s
ELK Elko 81.20 46 *e*P **P 16 54 31.9 +1.4**
comp=Z,2.9nm,0.9s,mb4.2
TPH Tonopah 81.60 50 *e*P **P 16 54 33.9 +1.4**
TPH pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
TPH Tonopah 81.60 50 *e*P **P 16 54 33.9 +1.3**
comp=Z,7.7nm,0.8s,mb4.7
IMW Indian Meadow 81.71 42 *e*P **P 16 54 35.1 +2.0**
comp=Z,4.2nm,1.1s,mb4.3
GERES GERESS Array B 82.31 325 P **P 16 54 37.2 +0.9**
comp=Z,0.4nm,0.8s,mb3.4,baz=48,slow=1.5,SNR=3.8
DAC Darwin (Calif) 82.44 51 *e*P **P 16 54 36.3 -0.7**
DAC pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
DAC Darwin (Calif) 82.44 51 *e*P **P 16 54 36.3 -0.6**
comp=Z,3.5nm,0.8s,mb4.3
HWUT Hardware Ranch 82.82 44 *e*P **P 16 54 39.9 +0.9**
comp=Z,3.7nm,1.0s,mb4.4
DUG Dugway 82.99 46 *e*P **P 16 54 40.8 +1.0**
DUG pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
DUG Dugway 82.99 46 *e*P **P 16 54 40.8 +1.0**
comp=Z,4.5nm,0.9s,mb4.5
PDAR Pinedale Array 83.21 42 P **P 16 54 41.1 +0.2**
comp=Z,1.2nm,0.8s,mb4.0,baz=310,slow=3.3,SNR=8.7
DAU Daniels Canyon 83.77 45 *e*P **P 16 54 44.5 +0.7**
MSU Marysvale 84.44 47 *e*P **P 16 54 48.7 +1.5**
ULM Lac du Bonnet 84.57 30 P **P 16 54 47.3 -0.6**
comp=Z,2.4nm,0.8s,mb4.4,baz=324,slow=4.6,SNR=3.8
NEN Nelson 84.59 50 *e*P **P 16 54 48.4 +0.4**
SRU San Rafael 85.04 45 *e*P **P 16 54 50.7 +0.4**
SRU pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
SRU San Rafael 85.04 45 *e*P **P 16 54 50.7 +0.4**
comp=Z,6.8nm,0.9s,mb4.8
CDF Champ du Feu 85.54 328 *e*P **P 16 54 52.0 -0.8**
comp=Z,12nm,1.3s,mb4.7
CDF Champ du Feu 85.54 328 *e*P **P 16 54 52.0 -0.8**
CDF pmax pmax
comp=Z,6.0nm,1.3s,mb4.7
CDF Champ du Feu 85.54 328 *e*P **P 16 54 52.0 -0.8**
comp=Z,6.2nm,1.3s,mb4.7
SMCO Snowmass 87.06 44 *e*P **P 16 55 00.9 +0.7**
comp=Z,3.1nm,0.8s,mb4.6
LPL La Plagne 87.98 327 *e*P **P 16 55 03.8 -0.9**
comp=Z,5.0nm,0.9s,mb4.5
LPL La Plagne 87.98 327 *e*P **P 16 55 03.8 -0.9**
LPL pmax pmax
comp=Z,3.0nm,0.9s,mb4.5
LPL La Plagne 87.98 327 *e*P **P 16 55 03.8 -0.9**
comp=Z,2.5nm,0.9s,mb4.4
LPG La Plagne 87.99 327 *e*P **P 16 55 03.5 -1.2**
comp=Z,5.7nm,0.9s,mb4.5
LPG La Plagne 87.99 327 *e*P **P 16 55 03.5 -1.2**
LPG pmax pmax
comp=Z,3.0nm,0.9s,mb4.5
LPG La Plagne 87.99 327 *e*P **P 16 55 03.5 -1.2**
comp=Z,2.8nm,0.9s,mb4.5
SAML Samuel 149.72 38 *e*PKPbc PKPbc 17 02 04.6 +0.1
LPAZ La Paz 152.48 55 PKPbc PKPbc 17 02 10.8 -0.1
comp=Z,2.0nm,0.9s,baz=315,slow=4.3,SNR=9.3

CNRM ***14*** *16:52:27.8,3471N×288W,h6km,MD3.0*
ISCJB ***14*** *16:52:30.1±1.1,3483N±006×297W±004,h6km, Error ellipse: s-maj=8.4km s-min=4.4km az=144.3*
CSEM ***14*** *16:52:31.3±0.9,3486N×3.18W,h2km,MD3.0, Error ellipse: s-maj=17.6km s-min=11.1km az=159.0*
MDD ***14*** *16:52:33.6±1.9,3490N×282W,h3km±7km,mb3.5/4, Error ellipse: s-maj=12.7km s-min=7.7km az=174.0,PRXIMO*
NEIC ***14*** *16:52:33.3,3486N×293W,h0km,MG3.5(MDD), After MDD.*

ISC 14 16:52:31.5±1.2,3485N±006×294W±004,h6km±4km,n25, σ1§42/45,Morocco

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
ZAI	**Zaio**	**0.20**	**52**	*i* P		**Pg**	**16 52 33.5**	**-1.9**
ZAI				*i* S		**Sg**	**16 52 36.5**	**-1.6**
EMEL	**Melilla**	**0.45**	**358**	P		**Pg**	**16 52 41.5**	**+1.3**
	30nm,0.1s,SNR=7.9							
EMEL				S		**Sg**	**16 52 47.1**	**+1.1**
	645nm,0.2s,SNR=7.9							
EMLI	**Melilla**	**0.45**	**359**	P		**Pg**	**16 52 41.5**	**+1.4**
	30nm,0.1s,SNR=7.9							
EMLI				S		**Sg**	**16 52 47.1**	**+1.1**
	645nm,0.2s,SNR=7.9							
TOU	**Touzarine**	**0.68**	**280**	*i* P		**Pg**	**16 52 41.0**	**-3.5**
TOU				*i* S		**Sg**	**16 52 52.0**	**-1.3**
MPAL	**Palemas**	**0.91**	**295**	*e*P		**Pg**	**16 52 46.0**	**-2.8**
MPAL				*e*S		**Sg**	**16 52 59.5**	**-1.1**
EMIJ	**Mijas**	**2.27**	**319**	P		**Pn**	**16 53 10.0**	**+0.5**
	0.3nm,0.1s,SNR=7.9							
EMIJ				S		**Sn**	**16 53 37.8**	**-0.1**
	0.9nm,0.2s,SNR=7.9							
EQUE	**Quentar**	**2.39**	**350**	S		**Sn**	**16 53 39.4**	**-1.3**
	1.4nm,0.1s,SNR=7.9							
EQES	**Quesada**	**2.95**	**358**	P		**Pn**	**16 53 21.0**	**+2.1**
	0.7nm,0.1s,SNR=7.9							
EQES				S		**Sn**	**16 53 55.4**	**+0.7**
	5.6nm,0.3s,SNR=6.1							
EQES	**Quesada**	**2.95**	**358**	P		**Pn**	**16 53 22.9**	**+4.0**
EQES				S		**Sn**	**16 53 55.4**	**+0.7**
EQES	**Quesada**	**2.95**	**358**	P		**Pn**	**16 53 22.9**	**+4.0**
	0.7nm,0.1s,SNR=7.9							
EQES				S		**Sn**	**16 53 55.4**	**+0.8**
	5.6nm,0.3s,SNR=6.1							
EMUR	**La Murta**	**3.29**	**24**	P		**Pn**	**16 53 23.6**	**+0.1**
	5.0nm,0.3s,SNR=7.9							
EMUR				S		**Sn**	**16 54 00.6**	**-2.4**
	SNR=7.9							
EMUR	**La Murta**	**3.29**	**24**	P		**Pn**	**16 53 23.6**	**+0.1**
	5.0nm,0.3s,SNR=7.9							
EADA	**Adamuz**	**3.57**	**339**	P		**Pn**	**16 53 29.8**	**+2.5**
	1.0nm,0.3s,SNR=4.0							
EADA				S		**Sn**	**16 54 08.3**	**-1.5**
	6.5nm,0.8s,SNR=7.9							
EADA	**Adamuz**	**3.57**	**339**	P		**Pn**	**16 53 29.8**	**+2.4**
EADA				S		**Sn**	**16 54 08.3**	**-1.5**
EADA	**Adamuz**	**3.57**	**339**	P		**Pn**	**16 53 29.8**	**+2.5**
	1.0nm,0.3s,SNR=4.0							
EADA				S		**Sn**	**16 54 08.3**	**-1.5**
	6.5nm,0.8s,SNR=7.9							
ETOB	**Tobarra**	**3.95**	**16**	P		**Pn**	**16 53 33.6**	**+1.0**
	0.1nm,0.1s,SNR=7.9							
ETOB				S		**Sn**	**16 54 18.1**	**-1.2**
	0.3nm,0.2s,SNR=7.9							
ETOB	**Tobarra**	**3.95**	**16**	P		**Pn**	**16 53 34.3**	**+1.7**
ETOB				S		**Sn**	**16 54 18.1**	**-1.2**
ETOB	**Tobarra**	**3.95**	**16**	P		**Pn**	**16 53 34.3**	**+1.7**
	0.1nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**4.19**	**315**	P		**Pn**	**16 53 37.8**	**+1.8**
	0.1nm,0.1s,SNR=7.9							
EMIN				S		**Sn**	**16 54 25.1**	**-0.2**
	0.1nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**4.19**	**315**	P		**Pn**	**16 53 36.9**	**+0.9**
EMIN				S		**Sn**	**16 54 25.1**	**-0.2**
EMIN	**Mina Concepcio**	**4.19**	**315**	P		**Pn**	**16 53 36.9**	**+0.9**
	0.1nm,0.1s,SNR=7.9							
EMIN				S		**Sn**	**16 54 25.1**	**-0.2**
	0.1nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**4.55**	**307**	P		**Pn**	**16 53 42.6**	**+1.8**
	1.2nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**4.55**	**307**	P		**Pn**	**16 53 42.7**	**+1.8**
	1.2nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**5.09**	**321**	P		**Pn**	**16 53 49.8**	**+1.5**
	0.3nm,0.2s,SNR=7.9							
EBAD				S		**Sn**	**16 54 46.5**	**-0.9**
	0.4nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**5.09**	**321**	P		**Pn**	**16 53 49.8**	**+1.5**
	0.3nm,0.2s,SNR=7.9							
EBAD				S		**Sn**	**16 54 46.5**	**-0.9**

MOS ***14*** *17:04:57.7±1.0,2091S×6878W,h64km,mb5.4/31, Error ellipse: s-maj=12.9km s-min=7.9km az=108.8*
ISCJB ***14*** *17:05:02.1±0.2,2109S±003×6878W±004,h109km, mb4.9/94, Error ellipse: s-maj=5.7km s-min=4.1km az=1.7*
NEIC ***14*** *17:05:03.7±0.2,2107S×6871W,mb5.0/79, Error ellipse: s-maj=6.3km s-min=4.4km az=62.0*
HRVD ***14*** *17:05:03.7±0.2,2125S×6914W,h125km±1km,MW5.2/85, Centroid moment Tensor Solution. LP body waves: s66,c90;Mantle waves: s85,c144; Half duration: 1s0 Moment tensor: Scale 1017Nm; Mrr~0.42±.02; Mθθ~0.21±.02; Mφφ 0.63±.02; Mrθ 0.29±.01; Mrφ 0.12±.02; Mθφ~0.64±.02; Best double couple: M0 0.90500×1017 NP1:ϕ=219.00000°,δ28.00000°,λ-36.00000°. NP2: ϕ=341.00000°,δ74.00000°,λ-114.00000°. Principal axes: T 0.9340, Plg25.0000°, Azm89.0000°; N -0.0580, Plg23.0000°, Azm348.0000°; P -0.8760, Plg55.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***14*** *17:05:03.7±0.3,2113S×6885W,h109km±3km, mb4.6/13, mb1 4.7/15,mb1mx4.7/17,mbtmp5.0/15,MS3.8/14, Ms1 3.8/14,ms1mx3.7/22 Error ellipse: s-maj=15.2km s-min=5.7km az=90.0*
GUC ***14*** *17:05:03.8±1.0,2128S×6925W,h110km,ML5.1*
BJI ***14*** *17:05:03.1,2139S×6783W,h109km,mB5.3*
LDG ***14*** *17:05:06.1±0.9, 1993S×6897W,h105km,Mb5.0/5, Ms3.8/6, Error ellipse: s-maj=89.5km s-min=22.4km az=168.0*

ISC 14 17:05:03.8±0.2,2114S±003×6874W±004,h111km, h111km±.5km:pP-P,n303,σ1§06/241,mb4.9/94,6C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
LVC	**Limon Verde**	**1.48**	**186**	*e*P		**Pn**	**17 05 29.6**	**-0.8**
LVC				*i* S		**Sn**	**17 05 50.4**	**-0.2**
LVC				AML	AML		17 05 54.4	
	comp=E,19μm,0.3s							
LVC	**Limon Verde**	**1.48**	**186**	P		**Pn**	**17 05 29.7**	**-0.7**
	comp=E,228nm,0.3s,baz=2.7,slow=9.7,SNR=2565							
LVC				S		**Sn**	**17 05 50.7**	**+0.2**
	comp=E,3μm,0.3s,baz=106,slow=20,SNR=96							
LVC	**Limon Verde**	**1.48**	**186**	*e*Pn		**Pn**	**17 05 29.5**	**-0.9**
LVC				*e*Sn		**Sn**	**17 05 49.5**	**-1.0**
CEN1	**Los Morros**	**2.62**	**211**	⇑*i*P		**Pn**	**17 05 44.1**	**-0.7**
CEN1				*i* S		**Sn**	**17 06 14.8**	**-1.5**
CEN1				AML	AML		17 06 47.9	
	comp=E,4μm,0.6s							
ANCH	**Antofagasta**	**2.97**	**211**	⇑*i*P		**Pn**	**17 05 46.0**	**-3.3**
ANCH				*i* S		**Sn**	**17 06 17.8**	**-6.7**
ANCH				AML	AML		17 06 39.3	
	comp=N,13μm,0.6s							
ANCH	**Antofagasta**	**2.97**	**211**	⇑*i*P		**Pn**	**17 05 46.0**	**-3.3**
ANCH				*i* S		**Sn**	**17 06 17.8**	**-6.7**
CPN1	**Cerro Paranal**	**3.80**	**204**	*e*P		**Pn**	**17 05 57.0**	**-3.4**
CPN1				*i* S		**Sn**	**17 06 38.0**	**-6.2**
CPN1				AML	AML		17 07 04.6	
	comp=E,3μm,0.5s							
LPAZ	**La Paz**	**4.86**	**7**	P		**Pn**	**17 06 16.7**	**+2.0**
	comp=E,11nm,0.3s,baz=194,slow=7.8,SNR=244							
LPAZ				S		**Sn**	**17 07 11.6**	**+1.7**
	comp=E,20nm,0.3s,baz=147,slow=7.7,SNR=3.7							
LPAZ	**La Paz**	**4.86**	**7**	*e*Pn		**Pn**	**17 06 16.5**	**+1.8**
LPAZ				Sn		**Sn**	**17 06 59.3**	**-11**
SIV	**San Ignacio**	**8.89**	**56**	P		**Pn**	**17 07 07.9**	**-1.4**
	comp=E,54nm,0.3s,baz=248,slow=11,SNR=974							
SIV				S		**Sn**	**17 08 45.6**	**-2.0**
	comp=E,0.2nm,0.3s,baz=298,slow=18,SNR=4.2							
CFAA	**Coronel Fontan**	**10.43**	**178**	P		**Pn**	**17 07 25.4**	**-4.9**
	comp=E,0.6nm,0.3s,baz=351,slow=13,SNR=101							
CFAA				LR	LR		17 11 18.4	
	comp=E,66nm,18.7s,baz=336,slow=36							
CPUP	**Villa Florida**	**11.65**	**119**	P		**Pn**	**17 07 46.0**	**-0.6**
	comp=E,6.5nm,0.3s,baz=281,slow=12,SNR=57							
CPUP				LR	LR		17 13 21.9	
	comp=E,492nm,18.0s,baz=289,slow=42							
CPUP	**Villa Florida**	**11.65**	**119**	P		**Pn**	**17 07 46.0**	**-0.5**
CPUP				pmax	pmax			
	comp=Z,7.0nm,0.3s							
CPUP				MLR	MLR			
	comp=Z,492nm,18.0s							
CPUP	**Villa Florida**	**11.65**	**119**	⇑*e*P		**Pn**	**17 07 45.0**	**-1.5**
	comp=Z,88nm,0.5s							
NNA	**Nana**	**11.96**	**318**	*e*Pn		**Pn**	**17 07 46.8**	**-3.9**
	comp=Z,47nm,0.6s							
NNA				*e*S		**Sn**	**17 09 54.4**	**-7.8**
SAML	**Samuel**	**13.25**	**25**	*e*P		**Pn**	**17 08 04.4**	**-3.1**
	comp=Z,43nm,0.8s							
TRQA	**Tornquist**	**17.84**	**162**	*e*P		**Pn**	**17 09 03.5**	**-1.4**
	comp=Z,66nm,1.0s							
PLCA	**Paso Flores**	**19.59**	**184**	*e*P		**P**	**17 09 23.1**	**-0.1**
PLCA				pmax	pmax			
	comp=Z,146nm,0.8s							
PLCA	**Paso Flores**	**19.59**	**184**	*e*P		**P**	**17 09 23.1**	**-0.1**
	comp=Z,146nm,0.8s							
BDFB	**Brasilia**	**20.40**	**78**	P		**P**	**17 09 32.4**	**+0.4**
	comp=Z,132nm,0.5s,baz=261,slow=10,SNR=226							
BDFB				LR	LR		17 18 19.6	
	comp=Z,315nm,19.1s,baz=79,slow=39							
BDFB	**Brasilia**	**20.40**	**78**	P		**P**	**17 09 32.4**	**+0.4**
BDFB				LR	LR		17 18 19.6	
BAO	**Brasilia Array**	**20.42**	**78**	P		**P**	**17 09 32.0**	**-0.1**
ROSC	**El Rosal**	**26.41**	**347**	P		**P**	**17 10 30.5**	**+0.5**
	comp=Z,9.9nm,0.5s,mb4.5,baz=94,slow=21,SNR=5.6							
ROSC				LR	LR		17 22 24.4	
	comp=Z,264nm,19.2s,baz=13,slow=40							
SDV	**Santo Domingo**	**29.89**	**356**	P		**P**	**17 10 58.9**	**-2.1**
	comp=Z,8.4nm,0.2s,mb5.0,baz=225,slow=5.0,SNR=6.5							
SDV				LR	LR		17 24 02.2	
	comp=Z,221nm,18.3s,baz=25,slow=38							
SDV	**Santo Domingo**	**29.89**	**356**	*e*P		**P**	**17 10 58.9**	**-2.1**
	comp=Z,14nm,0.8s,mb4.6							
USHA	**Ushuaia**	**33.64**	**180**	P		**P**	**17 11 33.8**	**0.0**
	comp=Z,35nm,0.9s,mb5.2,baz=0.1,slow=6.0,SNR=10							
USHA				LR	LR		17 26 48.4	
	comp=Z,226nm,18.3s,baz=24,slow=39							
RPN	**Rapa Nui**	**37.41**	**253**	LR	LR		17 24 31.9	
	comp=Z,256nm,18.3s,baz=196,slow=31							
CPD	**Cerro la Pandu**	**39.03**	**4**	*e*P		**P**	**17 12 17.3**	**-2.3**
SJG	**San Juan**	**39.09**	**4**	*e*P		**P**	**17 12 17.4**	**-2.7**
SJG				pmax	pmax			
	comp=Z,59nm,0.8s							
SJG	**San Juan**	**39.09**	**4**	*e*P		**P**	**17 12 17.4**	**-2.7**
	comp=Z,59nm,0.8s,mb5.5							
MGV	**Manicaragua**	**44.37**	**345**	*e*P		**P**	**17 13 03.2**	**+0.1**
DWPF	**Disney**	**50.48**	**345**	*e*P		**P**	**17 13 49.9**	**-0.4**
	comp=Z,49nm,0.8s,mb5.5							
DWPF				*e*		pP	17 14 16.2	-0.3
NHSC	**New Hope**	**55.04**	**348**	*e*P		**P**	**17 14 23.8**	**-0.1**
	comp=Z,93nm,0.8s,mb5.9							
NHSC				*e*pP		pP	17 14 50.8	+0.3
NHSC				*e*sP		sP	17 15 02.3	-0.4
COW	**Cow Castle Cre**	**55.40**	**348**	*e*P		**P**	**17 14 26.9**	**+0.4**
JSC	**Jenkinsville**	**56.39**	**348**	*e*P		**P**	**17 14 32.6**	**-0.9**
JSC				*e**PP		pP	17 15 00.3	+0.1
LRAL	**Lakeview Retre**	**56.62**	**342**	*e*P		**P**	**17 14 33.5**	**-1.7**
	comp=Z,14nm,0.9s,mb5.0							
LRAL				*e*pP		pP	17 15 00.2	-1.7
NATX	**Nacogdoches**	**58.17**	**334**	*e*P		**P**	**17 14 46.5**	**+0.5**
	comp=Z,15nm,0.6s,mb5.2							
CPCT	**Cooper Cave**	**58.24**	**345**	*e*P		**P**	**17 14 45.1**	**-1.4**
CPCT				*e*pP		pP	17 15 13.0	-0.4
SWET	**Sewanee**	**58.37**	**343**	*e*P		**P**	**17 14 46.0**	**-1.5**
PLAL	**Pickwick Lake**	**58.76**	**341**	*e*P		**P**	**17 14 48.1**	**-2.1**
	comp=Z,16nm,0.8s,mb5.1							
TZTN	**Tazewell**	**59.05**	**346**	*e*P		**P**	**17 14 50.7**	**-1.5**
BLA	**Blacksburg**	**59.07**	**349**	*e*P		**P**	**17 14 52.1**	**-0.2**
BLA				pmax	pmax			
	comp=Z,10.0nm,0.7s,mb5.0							
BLA	**Blacksburg**	**59.07**	**349**	*e*P		**P**	**17 14 52.1**	**-0.2**
	comp=Z,1.2nm,0.7s,mb4.0							
ELN	**Prospectdale**	**59.15**	**349**	*e*P		**P**	**17 14 52.8**	**0.0**
ELN				*e*pP		pP	17 15 19.8	+0.1
JCT	**Junction City**	**59.38**	**329**	*e*P		**P**	**17 14 53.2**	**-1.2**
JCT				pmax	pmax			
	comp=Z,24nm,0.8s,mb5.3							
JCT	**Junction City**	**59.38**	**329**	*e*P		**P**	**17 14 53.2**	**-1.2**
	comp=Z,24nm,0.8s,mb5.3							
FWV	**Forest Hill**	**59.50**	**349**	*e*P		**P**	**17 14 55.0**	**-0.3**
WVT	**Waverly**	**59.76**	**342**	*e*P		**P**	**17 14 54.8**	**-2.2**
WVT				*e**PP		pP	17 15 21.4	-2.6
WVT				pmax	pmax			
	comp=Z,33nm,0.8s,mb5.4							
WVT	**Waverly**	**59.76**	**342**	*e*P		**P**	**17 14 54.8**	**-2.2**
	comp=Z,33nm,0.8s,mb5.4							
WVT				*e*pP		pP	17 15 21.4	-2.6
UALR	**University of**	**59.96**	**338**	*e*P		**P**	**17 14 57.0**	**-1.4**
	comp=Z,15nm,1.0s,mb5.0							
UALR				*e*pP		pP	17 15 24.6	-0.8
MIAR	**Mount Ida**	**60.20**	**336**	*e*P		**P**	**17 14 58.9**	**-1.2**
MIAR				pmax	pmax			
	comp=Z,19nm,0.7s,mb5.2							
MIAR	**Mount Ida**	**60.20**	**336**	*e*P		**P**	**17 14 58.9**	**-1.2**
	comp=Z,19nm,0.7s,mb5.2							
RKT	**Rikitea**	**60.91**	**255**	*e*S		**S**	**17 23 21.7**	**+7.6**
	comp=Z,350nm,25.8s							
RKT				*e*LR		LR	17 33 08.9	
	comp=Z,778nm,33.8s							
WCI	**Wyandotte Cave**	**61.31**	**344**	*e*P		**P**	**17 15 05.3**	**-2.3**
WCI				pmax	pmax			
	comp=Z,29nm,0.7s,mb5.4							
WCI	**Wyandotte Cave**	**61.31**	**344**	*e*P		**P**	**17 15 05.3**	**-2.3**
	comp=Z,29nm,0.7s,mb5.4							
MCWV	**Mont Chateau**	**61.36**	**350**	*e*P		**P**	**17 15 07.6**	**-0.4**
	comp=Z,56nm,0.7s,mb5.7							
MCWV				*e*pP		pP	17 15 34.9	-0.1
USIN	**University of**	**61.43**	**343**	*e*P		**P**	**17 15 06.5**	**-1.9**
	comp=Z,31nm,0.8s,mb5.4							
FVM	**French Village**	**62.24**	**341**	*e*P		**P**	**17 15 12.6**	**-1.2**
FVM				*e**PP		pP	17 15 38.9	-2.1
FVM				pmax	pmax			
	comp=Z,61nm,0.8s,mb5.7							
FVM	**French Village**	**62.24**	**341**	*e*P		**P**	**17 15 12.6**	**-1.2**
	comp=Z,61nm,0.8s,mb5.7							
FVM				*e*pP		pP	17 15 38.9	-2.1
BLO	**Bloomington**	**62.26**	**344**	*e*P		**P**	**17 15 12.1**	**-1.9**
BLO				*e**PP		pP	17 15 40.2	-0.9
BLO				pmax	pmax			
	comp=Z,43nm,0.6s,mb5.7							
BLO	**Bloomington**	**62.26**	**344**	*e*P		**P**	**17 15 12.1**	**-1.9**
	comp=Z,43nm,0.6s,mb5.7							
BLO				*e*pP		pP	17 15 40.2	-0.9
ACSO	**Alum Creek Sta**	**62.48**	**348**	*e*P		**P**	**17 15 14.2**	**-1.2**
	comp=Z,29nm,1.0s,mb5.3							
ACSO				*e*pP		pP	17 15 41.1	-1.4
SNAA	**Sanae**	**62.57**	**161**	LR		LR	17 41 21.6	
	comp=Z,43nm,20.0s,baz=21,slow=35							
SNAA	**Sanae**	**62.57**	**161**	*e*P		**P**	**17 15 16.2**	**+0.2**
SNAA				pmax	pmax			
	comp=Z,38nm,0.8s							
SNAA	**Sanae**	**62.57**	**161**	*e*P		**P**	**17 15 16.2**	**+0.2**
	comp=Z,38nm,0.8s,mb5.4							
GDL2	**Guadalupe Moun**	**63.05**	**326**	*e*P		**P**	**17 15 19.0**	**-0.2**
MNTX	**Cornudas Mount**	**63.19**	**325**	*e*P		**P**	**17 15 18.6**	**-1.5**
	comp=Z,12nm,0.8s,mb4.9							
ALLY	**Alegheny Colle**	**63.36**	**350**	*e*P		**P**	**17 15 20.4**	**-0.8**
ALLY				*e*pP		pP	17 15 47.6	-0.8
BINY	**Binghamton**	**63.37**	**354**	*e*P		**P**	**17 15 21.2**	**-0.1**
	comp=Z,26nm,0.8s,mb5.2							
BINY				*e*pP		pP	17 15 48.4	-0.1
BINY				*e*sP		sP	17 15 59.9	-0.8
HRV	**Harvard--Oak R**	**63.38**	**358**	*e*pP		pP	17 15 48.5	-0.1
	comp=Z,40nm,0.9s							
ERPA	**Erie**	**63.79**	**351**	*e*P		**P**	**17 15 23.4**	**-0.6**
	comp=Z,39nm,0.7s,mb5.3							
ERPA				*e*pP		pP	17 15 50.7	-0.7
ERPA				*e*sP		sP	17 16 02.7	-0.8
AMTX	**Amarillo**	**63.90**	**330**	*e*P		**P**	**17 15 23.2**	**-1.5**
	comp=Z,8.6nm,0.6s,mb4.8							
NCB	**Newcomb**	**64.98**	**356**	P		**P**	**17 15 32.7**	**+0.9**
	comp=Z,35nm,1.4s,mb5.0							
BNM	**Barren Site**	**65.76**	**326**	*e*P		**P**	**17 15 37.2**	**+0.4**
FRNY	**Flat Rock**	**65.80**	**356**	*e*P		**P**	**17 15 37.4**	**+0.3**
FRNY				*e*pP		pP	17 16 04.2	-0.3
LPM	**Los Pinos Moun**	**65.88**	**326**	*e*P		**P**	**17 15 38.0**	**+0.4**
LAZ	**Ladron**	**66.22**	**326**	*e*P		**P**	**17 15 40.9**	**+1.1**
LAZ				*e*pP		pP	17 16 07.5	+0.3
LAZ				*e*sP		sP	17 16 18.5	-0.8
ANMO	**Albuquerque**	**66.29**	**327**	*c i*P		**P**	**17 15 40.6**	**+0.4**
ANMO	**Albuquerque**	**66.29**	**327**	*e*P		**P**	**17 15 40.2**	**0.0**
	comp=Z,11nm,0.8s,mb4.8							
TUC	**Tucson**	**66.65**	**322**	*e*P		**P**	**17 15 42.9**	**+0.4**
TUC				*e**PP		pP	17 16 10.3	+0.3
TUC				pmax	pmax			
	comp=Z,17nm,1.3s,mb4.7							
TUC	**Tucson**	**66.65**	**322**	*e*P		**P**	**17 15 42.9**	**+0.3**
	comp=Z,17nm,1.3s,mb4.7							
TUC				*e*pP		pP	17 16 10.3	+0.3
TUC				*e*sP		sP	17 16 21.1	-0.9
NVL	**N'lazarevskaya**	**67.11**	**159**	*d i*P		**P**	**17 15 46.1**	**+0.7**
NVL				pmax	pmax			
	comp=Z,40nm,0.8s,mb5.3							
NVL				pmax	pmax			
	comp=N,11nm,1.3s							
NVL		

NLU North Lily Min 72.99 327 *e*P P **17 16 22.1 +0.8**
DAC Darwin (Calif) 73.44 321 *e*P P **17 16 24.7 +0.7**
DAC *e* 17 16 40.4
DAC *e**PP pP 17 16 52.1 +0.2
DAC pmax pmax
comp=Z,20nm,0.8s,mb5.0
DAC Darwin (Calif) 73.44 321 *e*P P **17 16 24.7 +0.7**
comp=Z,20nm,0.8s,mb5.0
DAC *e*PcP PcP 17 16 40.4 +0.9
DAC *e*pP pP 17 16 52.1 +0.2
DAC *e*sP sP 17 17 03.1 -0.7
TCUT Toone Canyon 73.52 328 *e*P P **17 16 24.9 +0.5**
DUG Dugway 73.55 326 *e*P P **17 16 25.0 +0.4**
DUG pmax pmax
comp=Z,20nm,1.1s,mb4.8
DUG Dugway 73.55 326 *e*P P **17 16 25.0 +0.4**
comp=Z,20nm,1.1s,mb4.8
TBI Tubuai 73.77 251 *e*S S 17 25 55.6 +7.5
comp=Z,147nm,23.0s
PDAR Pinedale Array 73.88 330 P P **17 16 26.4 -0.2**
comp=Z,3.4nm,0.8s,mb4.1,baz=142,slow=7.5,SNR=18
PDAR pP pP 17 16 54.1 -0.4
comp=Z,3.1nm,0.7s,baz=134,slow=6.4,SNR=3.2
PDAR sP sP 17 17 05.7 -0.8
comp=Z,3.4nm,0.7s,baz=144,slow=5.5,SNR=3.9
HWUT Hardware Ranch 73.96 328 *e*P P **17 16 26.7 -0.3**
comp=Z,23nm,0.7s,mb5.0
HWUT *e*pP pP 17 16 55.1 +0.1
TPH Tonopah 74.45 322 *e*P P **17 16 30.5 +0.6**
TPH pmax pmax
comp=Z,31nm,1.4s,mb4.8
TPH Tonopah 74.45 322 *e*P P **17 16 30.5 +0.7**
comp=Z,30nm,1.4s,mb4.8
AHID Auburn Hatcher 74.61 329 *e*P P **17 16 31.1 +0.3**
comp=Z,28nm,0.9s,mb5.0
AHID *e*pP pP 17 16 59.1 +0.3
HVU Hansel Valley 74.70 327 *e*P P **17 16 31.4 +0.1**
HVU pmax pmax
comp=Z,17nm,0.9s,mb4.8
HVU Hansel Valley 74.70 327 *e*P P **17 16 31.4 +0.1**
comp=Z,16nm,0.9s,mb4.8
PMOR Pomariorio Ree 74.82 260 *e*P P **17 16 33.9 +1.9**
comp=Z,30nm,1.0s,mb5.0
REDW Red Top Meadow 74.94 330 *e*P P **17 16 32.9 +0.2**
comp=Z,36nm,1.2s,mb5.0
ULM Lac du Bonnet 75.02 342 P P **17 16 31.6 -1.5**
comp=Z,12nm,0.7s,mb4.8,baz=154,slow=5.9,SNR=22
ULM pP pP 17 17 00.8 -0.3
comp=Z,7.3nm,0.6s,baz=151,slow=6.0,SNR=4.2
ULM LR LR 17 53 07.8
comp=Z,43nm,20.1s,baz=255,slow=38
TPAW Teton Pass 75.09 330 *e*P P **17 16 34.1 +0.5**
comp=Z,14nm,0.7s,mb4.8
MOOW Moose Ponds 75.19 330 *e*P P **17 16 33.6 -0.5**
comp=Z,7.4nm,0.8s,mb4.5
ELK Elko 75.22 325 *e*P P **17 16 34.4 +0.1**
ELK pmax pmax
comp=Z,11nm,0.9s
ELK Elko 75.22 325 *e*P P **17 16 34.4 +0.1**
comp=Z,11nm,0.9s,mb4.6
MNV Mina 75.23 322 *e*P P **17 16 34.7 +0.4**
MNV pmax pmax
comp=Z,11nm,0.9s,mb4.6
MNV Mina 75.23 322 *e*P P **17 16 34.7 +0.3**
comp=Z,11nm,0.9s,mb4.6
DCID1 Drake Creek 75.28 330 P P **17 16 34.1 -0.5**
NVAR Mina Array Bea 75.31 322 P P **17 16 35.4 +0.6**
comp=Z,8.8nm,0.8s,mb4.5,baz=135,slow=6.9,SNR=42
NVAR pP pP 17 17 02.9 0.0
comp=Z,3.6nm,0.8s,baz=128,slow=3.9,SNR=4.2
NVAR Mina Array Bea 75.31 322 P P **17 16 35.4 +0.6**
NVAR pP pP 17 17 02.9 0.0
IMW Indian Meadow 75.39 330 *e*P P **17 16 35.6 +0.4**
comp=Z,36nm,1.1s,mb5.0
IMW *e*pP pP 17 17 03.5 +0.2
FLWY Flagg Ranch 75.42 330 *e*P P **17 16 36.0 +0.6**
comp=Z,50nm,0.8s,mb5.3
FLWY *e*pP pP 17 17 04.0 +0.5
FLWY *e*sP sP 17 17 14.4 -1.0
PPT Papeete 75.56 257 *e*P P **17 16 38.4 +2.1**
comp=Z,33nm,1.3s,mb4.9
PPT Papeete 75.56 257 *e*S S 17 26 15.9 +7.8
comp=Z,121nm,26.2s
PPT *e*LR LR 17 39 57.6
comp=Z,324nm,34.5s
LKWY Lake 75.65 331 *e*P P **17 16 38.3 +1.5**
LKWY pmax pmax
comp=Z,20nm,0.8s,mb4.9
LKWY Lake 75.65 331 *e*P P **17 16 38.3 +1.5**
comp=Z,20nm,0.8s,mb4.9
SCHQ Schefferville 75.68 1 P P **17 16 36.0 -1.0**
comp=Z,3.8nm,0.7s,mb4.2,baz=159,slow=3.5,SNR=9.9
SCHQ pP pP 17 17 03.6 -1.3
comp=Z,9.4nm,0.8s,baz=151,slow=6.0,SNR=5.7
SCHQ Schefferville 75.68 1 *e*P P **17 16 36.0 -0.9**
comp=Z,16nm,0.8s,mb4.8
SCHQ *e*pP pP 17 17 04.6 -0.4
SCHQ sP sP 17 17 16.2 -0.7
YFT Old Faithful 75.77 330 *e*P P **17 16 39.1 +1.7**
YMR Madison River 75.99 330 *e*P P **17 16 40.5 +1.8**
comp=Z,12nm,0.4s,mb5.0
SBA Scott Base 76.21 190 *e*P P **17 16 41.2 +1.3**
SBA pmax pmax
comp=Z,28nm,1.1s,mb4.9
SBA Scott Base 76.21 190 *e*P P **17 16 41.2 +1.3**
comp=Z,28nm,1.1s,mb4.9
CMB Columbia Colle 76.27 320 *e*P P **17 16 40.4 +0.1**
CMB pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
CMB Columbia Colle 76.27 320 *e*P P **17 16 40.4 +0.1**
comp=Z,4.7nm,0.9s,mb4.2
GCMT Greycliff 76.27 332 *e*P P **17 16 40.6 +0.3**
QLMT Earthquake Lak 76.33 330 *e*P P **17 16 41.8 +1.2**
SYO Syowa Base 76.78 159‖ *e*P P **17 16 40.4 -2.8**
SYO Syowa Base 76.78 159‖ *e*pP pP 17 17 07.0 -4.3
PAHR Pah Rah Range 76.79 322 *e*P P **17 16 44.2 +1.0**
comp=Z,51nm,0.8s,mb5.3
PAHR *e*pP pP 17 17 11.8 +0.4
HLID Hailey 76.83 328 *e*P P **17 16 43.9 +0.5**
comp=Z,25nm,0.9s,mb5.0
HLID *e*pP pP 17 17 11.9 +0.3
HLID *e*sP sP 17 17 23.0 -0.4
MCMT McKenzie Canyo 77.00 329 *e*P P **17 16 45.3 +1.0**
TORD Torodi Ar. Bea 77.08 70 P P **17 16 45.5 +0.7**
comp=Z,24nm,0.7s,mb5.1,baz=255,slow=5.3,SNR=106
TORD pP pP 17 17 13.5 +0.5
comp=Z,18nm,0.7s,baz=251,slow=4.9,SNR=3.7
VNDA Vanda 77.23 190 LR LR 17 51 39.5
comp=Z,114nm,20.7s,baz=134,slow=36
VNDA Vanda 77.23 190 P P **17 16 43.1 -2.6**
VNDA pmax pmax
comp=Z,7.0nm,0.7s
VNDA Vanda 77.23 190 P P **17 16 43.1 -2.6**
comp=Z,7.4nm,0.7s,mb4.5
DLMT Dillon 77.28 330 *e*P P **17 16 46.0 +0.1**
comp=Z,28nm,1.2s,mb4.9
OHCM Honcut 77.77 321 *e*P P **17 16 48.7 0.0**
NSHM Saint Helena R 77.91 320 *e*P P **17 16 50.4 +0.9**
HRY Holter Researc 77.94 331 *e*P P **17 16 50.0 +0.4**
WVOR Wild Horse Val 78.22 325 *e*P P **17 16 51.2 0.0**
WVOR pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
WVOR Wild Horse Val 78.22 325 *e*P P **17 16 51.2 0.0**
comp=Z,4.3nm,0.8s,mb4.2
CHMT Chamberlain Mo 78.74 331 *e*P P **17 16 54.2 +0.2**
MOD Modoc 78.78 323 *e*P P **17 16 54.6 +0.4**
comp=Z,22nm,0.9s,mb5.0
WDC Whiskeytown Da 79.19 321 *e*P P **17 16 55.1 -1.4**
WDC pmax pmax
comp=Z,15nm,0.7s,mb4.9
WDC Whiskeytown Da 79.19 321 *e*P P **17 16 55.0 -1.4**
comp=Z,15nm,0.7s,mb4.9
BMO Blue Mountains 79.20 327 *e*P P **17 16 56.7 +0.2**
comp=Z,25nm,0.9s,mb5.0
BMO *e*pP pP 17 17 24.7 -0.1
BMO *e*sP sP 17 17 34.9 -1.8
LHEM Herd Peak 79.68 322 P P **17 16 59.4 +0.3**
TSUM Tsumeb 79.99 107 *e*P P **17 17 02.8 +2.0**
comp=Z,20nm,0.8s,mb5.0
YBH Yreka Blue Hor 80.03 322 *e*P P **17 17 00.1 -0.9**
YBH pmax pmax
comp=Z,9.0nm,0.8s
YBH Yreka Blue Hor 80.03 322 *e*P P **17 17 00.1 -0.9**
comp=Z,8.9nm,0.8s,mb4.7
KHMM Horse Mountain 80.08 321 *e*P P **17 17 01.8 +0.5**
KTRM Thompson Ridge 80.52 322 P P **17 17 04.3 +0.7**

WALA Waterton Lakes 80.63 332 *e*P P **17 17 03.1 -1.1**
comp=Z,17nm,0.9s,mb4.9
WALA *e*pP pP 17 17 32.0 -0.6
WALA *e*sP sP 17 17 43.1 -1.3
HUMO Hull Mountain 80.73 323 *e*P P **17 17 03.9 -0.9**
comp=Z,3.6nm,0.7s,mb4.3
FFC Flin Flon 80.74 341 P P **17 17 04.4 -0.4**
comp=Z,40nm,1.3s,mb5.1,SNR=5.0
FFC Flin Flon 80.74 341 *e*P P **17 17 03.5 -1.3**
FFC pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
FFC Flin Flon 80.74 341 *e*P P **17 17 03.5 -1.4**
comp=Z,8.7nm,1.1s,mb4.5
BBOR Butler Butte 80.75 323 P P **17 17 04.7 -0.2**
WIFE Three Sisters- 81.04 324 P P **17 17 07.6 +1.2**
PTEO Sao Teotonio 81.18 44 *e*- 17 17 15.8
MDT Midelt 81.39 50 P P **17 17 10.1 +1.8**
comp=Z,4.0nm,0.9s,mb4.2,baz=252,slow=6.7,SNR=3.8
HAWA Hanford 81.39 327 *e*P P **17 17 08.4 +0.1**
comp=Z,2.0nm,0.8s,mb4.0
HAWA *e*pP pP 17 17 36.4 -0.3
PBEJ Beja 82.01 44 *e*P P **17 17 13.3 +1.8**
comp=Z,6.0nm,1.4s,mb4.2
COR Corvallis 82.19 324 *e*P P **17 17 13.7 +1.2**
COR pmax pmax
comp=Z,10.0nm,1.3s,mb4.5
COR Corvallis 82.19 324 *e*P P **17 17 13.7 +1.2**
comp=Z,94nm,1.3s,mb5.5
MPOR Mary's Peak 82.27 324 P P **17 17 13.8 +0.9**
FCC Fort Churchill 82.32 347 *e*P P **17 17 12.2 -0.9**
FCC *e**PP pP 17 17 40.5 -1.1
FCC pmax pmax
comp=Z,19nm,0.7s,mb5.0
FCC Fort Churchill 82.32 347 *e*P P **17 17 12.2 -1.0**
comp=Z,19nm,0.7s,mb5.0
FCC *e*pP pP 17 17 40.5 -1.1
FCC *e*sP sP 17 17 51.0 -2.4
PTOM Tomar 82.57 43 *e*P P **17 17 17.5 +3.1**
comp=Z,21nm,1.5s,mb4.8
RVC Mount Rainier- 83.01 326 P P **17 17 17.4 +0.7**
PCBR Castelo Branco 83.29 43 *e*P P **17 17 19.3 +1.2**
comp=Z,16nm,1.6s,mb4.6
EDM Edmonton 83.51 335 *e*P P **17 17 16.7 -1.7**
MTE Manteigas 83.56 42 *e*P P **17 17 20.9 +1.3**
comp=Z,14nm,1.1s,mb4.7
PCAB Cabril 84.01 41 *e*P P **17 17 22.8 +1.0**
MAW Mawson 84.63 163 *e*P P **17 17 25.5 +0.6**
comp=Z,12nm,0.6s,mb5.0
MAW Mawson 84.63 163 P P **17 17 26.1 +1.1**
comp=Z,24nm,0.9s,mb5.1,baz=211,slow=5.8,SNR=34
MAW pP pP 17 17 54.1 +0.6
comp=Z,5.3nm,0.7s,baz=275,slow=7.1,SNR=2.2
MAW Mawson 84.63 163 P P **17 17 26.1 +1.2**
MAW *PP pP 17 17 54.1 +0.6
MAW pmax pmax
comp=Z,24nm,0.9s
PBRG Braganca 84.86 42 *e*P P **17 17 27.4 +1.3**
comp=Z,20nm,1.6s,mb4.8
PBRG *e*pP pP 17 17 56.4 +1.7
LBTB Lobatse 85.02 115 *e*P P **17 17 29.1 +2.2**
LBTB *e**PP pP 17 17 57.8 +2.3
LBTB pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
LBTB Lobatse 85.02 115 *e*P P **17 17 29.1 +2.2**
comp=Z,9.9nm,0.7s,mb4.8
LBTB *e*pP pP 17 17 57.8 +2.3
ESDC Sonseca Array 85.46 44 P P **17 17 30.4 +1.3**
comp=Z,2.1nm,0.8s,mb4.1,baz=238,slow=5.7,SNR=16
ESDC pP pP 17 17 59.0 +1.3
comp=Z,6.1nm,1.0s,baz=239,slow=5.4,SNR=4.6
ESLA Sonseca Array 85.46 44 P P **17 17 28.4 -0.7**
comp=Z,1.4nm,0.9s,mb3.9
ESLA *e*pP pP 17 17 57.4 -0.3
SJPF Ste Jean 89.01 43 *e*P P **17 17 47.5 +1.3**
SJPF *e*pP pP 17 18 15.6 +0.6
EPF Esparros 89.96 43 *e*P P **17 17 51.3 +0.7**
YKA Yellowknife Ar 90.90 341 P P **17 17 53.8 -1.2**
comp=Z,7.5nm,0.7s,mb4.9,baz=135,slow=4.5,SNR=92
YKA pP pP 17 18 23.2 -0.7
comp=Z,17nm,0.9s,baz=124,slow=4.5,SNR=13
YKA LR LR 18 03 28.2
comp=Z,41nm,18.4s,baz=95,slow=39
YKA Yellowknife Ar 90.90 341 P P **17 17 53.9 -1.1**
YKA *PP pP 17 18 23.2 -0.7
YKW3 Yellowknife Ar 90.96 341 *e*P P **17 17 54.3 -0.9**
LFF La Frestale 91.14 42 *e*P P **17 17 56.2 +0.1**
MTLF Montolieu 91.31 44 *e*P P **17 17 57.4 +0.5**
MFF Saint Martin d 91.42 40 *e*P P **17 17 57.6 +0.2**
comp=Z,20nm,1.2s,mb4.8
MFF *e*pP pP 17 18 25.5 -0.8
MFF Saint Martin d 91.42 40 *e*P P **17 17 57.6 +0.2**
MFF *e**PP pP 17 18 25.5 -0.8
MFF pmax pmax
comp=Z,10.0nm,1.2s,mb4.8
MFF Saint Martin d 91.42 40 *e*P P **17 17 57.6 +0.2**
comp=Z,10nm,1.2s,mb4.8
MFF *e*pP pP 17 18 25.5 -0.8
RJF Les Rejaudoux 91.80 42 *e*P P **17 17 59.1 -0.1**
RJF *e*R
comp=Z,111nm,22.5s
RJF Les Rejaudoux 91.80 42 *e*P P **17 17 59.1 -0.1**
RJF LR LR
comp=Z,110nm,22.5s
FLN La Foliniere 92.29 38 *e*P P **17 18 01.1 -0.3**
FLN *e*R
comp=Z,107nm,22.2s
FLN La Foliniere 92.29 38 *e*P P **17 18 01.1 -0.3**
FLN LR LR
comp=Z,110nm,22.3s
TCF Toulx Ste Croi 92.69 41 *e*P P **17 18 03.2 -0.1**
comp=Z,16nm,1.3s,mb4.9
TCF *e*pP pP 17 18 31.2 -1.0
TCF Toulx Ste Croi 92.69 41 *e*P P **17 18 03.2 -0.1**
TCF *e**PP pP 17 18 31.2 -1.0
TCF pmax pmax
comp=Z,8.0nm,1.3s,mb4.9
TCF Toulx Ste Croi 92.69 41 *e*P P **17 18 03.2 -0.1**
comp=Z,7.9nm,1.3s,mb4.9
TCF *e*pP pP 17 18 31.2 -1.0
CASY Casey 92.85 180 *e*P P **17 18 05.2 +1.2**
BGF Bois d'Agland 93.21 41 *e*P P **17 18 05.7 +0.1**
BGF *e*pP pP 17 18 33.8 -0.8
AVF Avril sur Loir 93.62 41 *e*P P **17 18 07.4 -0.2**
comp=Z,3.3nm,0.9s,mb4.4
AVF *e*pP pP 17 18 35.5 -1.0
AVF Avril sur Loir 93.62 41 *e*P P **17 18 07.4 -0.2**
AVF *e**PP pP 17 18 35.5 -1.0
AVF pmax pmax
comp=Z,2.0nm,0.9s,mb4.5
AVF Avril sur Loir 93.62 41 *e*P P **17 18 07.4 -0.2**
comp=Z,1.6nm,0.9s,mb4.3
AVF *e*pP pP 17 18 35.5 -1.0
SSF Saint Saulge 93.84 41 *e*P P **17 18 08.2 -0.4**
SSF *e*pP pP 17 18 36.3 -1.2
SMF Signal de Mont 93.86 41 *e*P P **17 18 08.9 +0.3**
comp=Z,19nm,1.2s,mb5.0
SMF *e*pP pP 17 18 36.9 -0.6
SMF Signal de Mont 93.86 41 *e*P P **17 18 08.9 +0.3**
SMF *e**PP pP 17 18 36.9 -0.6
SMF pmax pmax
comp=Z,10.0nm,1.2s,mb5.0
SMF Signal de Mont 93.86 41 *e*P P **17 18 08.9 +0.3**
comp=Z,9.5nm,1.2s,mb5.0
SMF *e*pP pP 17 18 36.9 -0.6
DLBC Dease Lake 93.96 332 *e*P P **17 18 09.0 -0.1**
DLBC *e*pP pP 17 18 37.3 -0.8
DLBC *e*sP sP 17 18 48.5 -1.2
LOR Lormes 94.15 41 *e*P P **17 18 09.7 -0.3**
LOR *e*R
comp=Z,77nm,22.2s
LOR Lormes 94.15 41 *e*P P **17 18 09.7 -0.3**
LOR LR LR
comp=Z,80nm,22.3s
URZ Urewera 94.57 226 LR LR 17 54 34.2
comp=Z,164nm,19.3s,baz=330,slow=31
RPZ Rata Peaks 95.38 219 LR LR 17 50 06.5
comp=Z,28nm,20.9s,baz=99,slow=28
MEZF Maizieres J'vi 95.42 40 *e*P P **17 18 15.7 -0.1**
BAIF Baives 95.60 38 *e*P P **17 18 15.6 -1.0**
CDF Champ du Feu 96.72 41 *e*P P **17 18 21.6 -0.1**
AFI Afiamalu 96.83 252 LR LR 17 52 28.0
comp=Z,90nm,19.1s,baz=44,slow=29
CLL Collm 101.24 39 *e*Pdif Pdif 17 18 42.0 +0.1
CLL *e*PP PP 17 23 00.0 +7.9
BRG Berggiesshubel 101.65 40 *e*P Pdif 17 18 42.8 -0.9

comp=Z,0.3nm,0.6s
ILAR Eielson Array 103.99 334 PP PP 17 23 07.6 -5.1
comp=Z,0.6nm,0.9s,baz=96,slow=6.5,SNR=5.3
AKASG Malin Array Be 111.03 42 PP PP 17 24 00.0 -4.1
comp=Z,0.2nm,0.2s,baz=253,slow=8.6,SNR=7.0
BRTR Keskin Array B 112.49 55 PP PP 17 24 13.0 -1.6
comp=Z,0.6nm,0.8s,baz=241,slow=5.9,SNR=5.7
KIV Kislovodsk 119.62 51 *e*PKIKP PKPdf 17 23 48.3 +7.7
KIV pmax pmax
comp=Z,20nm,0.6s
STKA Stephens Creek 119.81 210 PKP PKPdf 17 23 39.6 -1.3
comp=Z,1.8nm,0.7s,baz=141,slow=1.0,SNR=4.9
FORT Forrest 125.92 198 *e*PDIF PKPdf 17 23 53.4 +0.7
comp=Z,5.8nm,0.5s
KLBR Kellerberrin 127.20 187 *e*PDIF PKPdf 17 23 56.0 +0.9
comp=Z,17nm,0.7s
ARU Arti 127.76 34 *i* PKIKP PKPdf 17 23 56.8 +0.6
ARU *e* 17 25 57.0
ARU *e* 17 30 52.8
ARU *e*SS SS 17 43 00.9 -1.4
ARU Arti 127.76 34 *e*PKPdf PKPdf 17 23 56.2 +0.1
ARU *ep*PKPdf pPKPdf 17 24 26.6 +0.3
TIXI Tiksi 128.46 353 *i* PKIKP PKPdf 17 23 55.3 -2.2
TIXI *e* 17 26 01.2
TIXI pmax pmax
comp=Z,30nm,1.0s
ASAR Alice Springs 130.31 208 PKP PKPdf 17 24 01.9 +0.9
comp=Z,6.6nm,0.9s,baz=155,slow=2.5,SNR=33
ASAR pPKP pPKPdf 17 24 30.4 -0.7
comp=Z,3.7nm,1.1s,baz=135,slow=2.7,SNR=3.2
WB2 Warramunga Arr 133.34 210 *e*PDIF PKPdf 17 24 07.7 +1.0
WRA Warramunga Arr 133.35 210 PKP PKPdf 17 24 07.4 +0.7
comp=Z,6.2nm,0.8s,baz=158,slow=1.6,SNR=33
WRA pPKP pPKPdf 17 24 36.2 -0.7
comp=Z,1.5nm,0.8s,baz=155,slow=1.8,SNR=2.3
ZRNK Zerenda 134.71 35 *e*PKPdf PKPdf 17 24 10.1 +0.8
ZRNK *ep*PKPdf pPKPdf 17 24 40.3 +0.8
MBWA Marble Bar 137.16 192 *e*PKPdf PKPdf 17 24 15.3 +1.5
NVS Novosibirsk 140.27 25 *e*PKIKP PKPdf 17 24 18.9 -0.7
KURK Kurchatov 140.94 33 *e*PKPpre 17 24 18.4
KURK *ep*PKPdf pPKPdf 17 24 51.0 +0.1
ZAL Zalesovo 141.56 25 PKP PKPdf 17 24 22.2 +0.3
comp=Z,4.4nm,0.7s,baz=100,slow=3.3,SNR=5.1
ZAL pPKP pPKPdf 17 24 52.3 +0.3
comp=Z,6.2nm,0.7s,baz=156,slow=2.9,SNR=4.7
ZAL Zalesovo 141.56 25 PKP PKPdf 17 24 22.2 +0.3
ZAL pPKP pPKPdf 17 24 52.3 +0.3
AAK Ala-Archa 142.54 47 *e*PKIKP PKPdf 17 24 24.3 +0.7
BOD Bodaibo 143.31 358 *e*PKHKP 17 24 20.1
BOD pmax pmax
comp=Z,11nm,1.4s
KSH Kashi 144.75 51 *e*PKP PKPdf 17 24 29.3 +1.8
KSH *e*APKP 17 24 55.0
KSH *e*XPKP 17 25 06.4
KSH *e*PP PP 17 27 46.8 +1.3
KSH *e*PKS 17 28 03.1
KSH *e*SKS SKSdf 17 31 26.4 -0.2
KSH PP PP
comp=Z,114nm,4.0s
KSH LR LR
comp=N,173nm,5.6s
KSH LR LR
comp=E,160nm,5.1s
KSH LR LR
comp=Z,132nm,4.9s
MKAR Makanchi Array 145.25 36 PKPbc PKPbc 17 24 28.9 +0.6
comp=Z,10nm,0.7s,baz=329,slow=3.1,SNR=137
MKAR pPKPbc pPKPbc 17 24 57.7 -0.2
comp=Z,18nm,0.8s,baz=322,slow=3.7,SNR=8.8
MKAR Makanchi Array 145.25 36 PKPbc PKPbc 17 24 28.9 +0.6
MKAR pPKPbc pPKPbc 17 24 57.7 -0.2
HABR Khabarovsk 146.73 331 *e*PKP2 PKPab 17 24 32.9 -1.2
KLR Kul'dur 147.57 335 *e*PKHKP 17 24 30.2
KLR pmax pmax
comp=Z,62nm,1.6s
NDI New Delhi 148.30 69 *e*P 17 24 23.0
IRK Irkutsk 148.48 8 *e*PKP2 PKPab 17 24 38.7 -2.4
IRK pmax pmax
comp=Z,90nm,1.8s
MOY Mondy 148.49 12 *e*PKP2 PKPab 17 24 38.7 -2.5
MOY pmax pmax
comp=Z,25nm,2.1s
DDI Dehra Dun 148.81 66 *e*PN PKPbc 17 24 41.0 +2.7
DDI *e*SN pPKPab 17 25 13.7 +2.0
HYB Hyderabad 148.93 91 *i* PKP PKPdf 17 24 35.0 +0.5
HYB *e* 17 24 45.0
HYB *e* 17 24 56.5
HYB *e* 17 25 07.5
HYB Hyderabad 148.93 91 *e*P PKPdf 17 24 35.0 +0.5
TLY Talaya 148.94 9 *e*PKP2 PKPbc 17 24 39.1 +0.5
TLY pmax pmax
comp=Z,7.0nm,0.7s
TLY Talaya 148.94 9 *e*PKPbc PKPbc 17 24 38.8 +0.2
CIT Chita 149.12 357 *e*PKP2 PKPbc 17 24 39.1 0.0
CIT pmax pmax
comp=Z,42nm,1.6s
WMQ Urumqi 150.08 35 PKP PKPdf 17 24 33.8 -2.5
WMQ PKP2 PKPab 17 24 46.8 -0.9
WMQ APKP 17 25 01.3
WMQ XPKP 17 25 12.8
WMQ PP PP 17 28 16.8 +0.1
WMQ PP PP
comp=Z,111nm,4.7s
WMQ LR LR
comp=N,94nm,27.6s
WMQ LR LR
comp=E,28nm,30.7s
WMQ LR LR
comp=Z,54nm,26.0s
ZAK Zakamensk 150.14 10 *e*PKHKP 17 24 38.0
ZAK pmax pmax
comp=Z,4.0nm,1.9s
HIA Hailar 151.13 348 *e*PKIKP PKPdf 17 24 43.7 +5.7
MJAR Matsushiro Arr 151.97 309 PKPbc PKPbc 17 24 45.5 -0.4
comp=Z,14nm,0.8s,baz=88,slow=1.5,SNR=48
MJAR PKPab PKPab 17 24 54.9 -0.6
comp=Z,4.8nm,0.7s,baz=67,slow=2.2,SNR=8.5
MJAR pPKPbc pPKPbc 17 25 15.3 -0.6
comp=Z,4.5nm,0.8s,baz=108,slow=1.3,SNR=2.7
MJAR Matsushiro Arr 151.97 309 PKIKP PKPbc 17 24 45.5 -0.3
MJAR 17 24 54.9
MAJO Matsushiro 151.97 309 *e*PKIKP PKPbc 17 24 45.5 -0.3
MDJ Mudanjiang 152.11 331 PKP PKPdf 17 24 40.3 +0.9
MDJ LR LR
comp=N,27nm,34.6s
MDJ LR LR
comp=E,47nm,29.7s
MDJ LR LR
comp=Z,33nm,34.6s
SONM Songino Array 153.08 7 PKP PKPdf 17 24 42.2 +1.4
comp=Z,2.8nm,0.8s,baz=308,slow=1.3,SNR=26
SONM PKPbc PKPbc 17 24 48.5 +0.2
comp=Z,4.9nm,0.9s,baz=303,slow=1.2,SNR=14
SONM PKPab PKPab 17 25 00.7 +0.5
comp=Z,2.8nm,0.9s,baz=322,slow=1.9,SNR=5.2
SONM pPKP pPKPdf 17 25 09.2 -1.9
comp=Z,3.0nm,0.6s,baz=297,slow=1.2,SNR=5.0
SONM pPKPbc pPKPbc 17 25 17.9 -0.4
comp=Z,8.0nm,0.7s,baz=312,slow=2.0,SNR=9.0
SONM pPKPab pPKPab 17 25 28.1 -1.2
comp=Z,2.7nm,0.8s,baz=359,slow=1.8,SNR=2.0
SONM Songino Array 153.08 7 PKIKP PKPdf 17 24 42.2 +1.3
SONM 17 25 00.7
SONM 17 25 09.2
ULN Ulaanbaatar 153.12 6 *e*PKPdf PKPdf 17 24 42.2 +1.3
ULN *e*PKPbc PKPbc 17 24 49.2 +0.8
ULN PKPab PKPab 17 25 01.1 +0.7
KOLN Koldanda 154.00 70 *e*P PKPab 17 25 06.0 +1.9
comp=Z,6.5nm,0.5s
CN2 Changchun 154.50 336 *e*PKP PKPdf 17 24 40.8 -2.1
CN2 *e*PKP2 PKPab 17 25 05.9 -0.3
CN2 *e*PP PP 17 28 42.5 +0.7
GKN Gorkha 154.87 69 *e*P PKPab 17 25 10.5 +2.7
comp=Z,12nm,0.3s
DMN Daman 155.34 70 *e*P PKPab 17 25 10.8 +1.0
comp=Z,5.8nm,0.2s
KKN Kakani 155.47 69 *e*P PKPab 17 25 11.6 +1.2
comp=Z,27nm,0.6s
PKI Pulchoki 155.62 70 *e*P PKPab 17 25 11.7 +0.7
comp=Z,8.4nm,0.4s
GUN Gumba 155.97 69 *e*P PKPab 17 25 13.8 +1.3
comp=Z,17nm,0.4s
JIRN Jiri 156.28 69 *e*P PKPab 17 25 14.2 +0.3
GTA Gaotai 159.31 26 *e*PKP PKPdf 17 24 50.8 +1.8
HHC Hu-ho-hao-te 160.35 359 *e*PKP PKPdf 17 24 50.4 +0.2

HHC				APKP		17 25 16.8		
HHC				XPKP		17 25 27.4		
HHC				PKP2	PKPab	17 25 34.3	+2.8	
HHC				PKS		17 28 23.0		
HHC				PP	PP	17 29 13.6	-0.3	
HHC				SKS	SKSdf	17 31 45.1	-0.1	
HHC				SKKS	SKKSac	17 35 52.8	+0.7	
HHC				SS	SS	17 49 15.4	-0.3	
HHC				PP	PP			
	comp=Z,78nm,7.7s							
HHC				LR	LR			
	comp=N,394nm,20.4s							
HHC				LR	LR			
	comp=E,176nm,20.8s							
HHC				LR	LR			
	comp=Z,258nm,23.8s							
LZH	**Lanzhou**	**163.75**	**22**	*e*PKP	PKPdf	17 24 51.3	-2.3	
LZH				APKP		17 25 21.5		
LZH				XPKP		17 25 33.6		
LZH				PKS		17 28 23.3		
LZH				PP	PP	17 29 32.5	+0.5	
LZH				SKS	SKSdf	17 31 43.3	-4.6	
LZH				SKKS	SKKSac	17 36 07.3	-2.3	
LZH				SS	SS	17 49 47.8	-3.3	
LZH				PP	PP			
	comp=Z,97nm,8.2s							
LZH				LR	LR			
	comp=E,107nm,18.6s							
LZH				LR	LR			
	comp=Z,157nm,20.5s							
NJ2	**Nanjing**	**167.19**	**330**	*e*PKP	PKPdf	17 24 57.5	+1.0	
NJ2				APKP		17 25 24.1		
NJ2				XPKP		17 25 35.1		
NJ2				PKP2	PKPab	17 26 03.3	+1.7	
NJ2				PKS		17 28 30.0		
NJ2				PP	PP	17 29 55.0	+5.1	
NJ2				PP	PP			
	comp=Z,360nm,5.9s							
NJ2				LR	LR			
	comp=N,780nm,33.9s							
NJ2				LR	LR			
	comp=E,1μm,31.0s							
NJ2				LR	LR			
	comp=Z,500nm,34.1s							
CD2	**Chengdu**	**168.16**	**33**	*e*PKP	PKPdf	17 24 55.5	-1.7	
KMI	**Kunming**	**171.21**	**62**	PKP	PKPdf	17 24 58.0	-1.0	
GYA	**Guiyang**	**173.23**	**38**	*e*PKP	PKPdf	17 25 01.6	+1.7	
GYA				APKP		17 25 28.9		
GYA				XPKP		17 25 39.1		
GYA				PKS		17 28 32.4		
GYA				PP	PP			
	comp=Z,120nm,8.0s							
GYA				LR	LR			
	comp=N,160nm,21.0s							
GYA				LR	LR			
	comp=E,140nm,21.4s							
GYA				LR	LR			
	comp=Z,130nm,22.0s							

SOF ***14*** *17:10:06.4, 41.70N×25.51E, h11km, MD2.7*
NEIC ***14*** *17:10:07.4±0.7, 41.73N×25.54E, h10km, MD2.7(SOF), Error ellipse: s-maj=9.1km s-min=7.7km az=121.0*
ISCJB ***14*** *17:10:07.1±0.5, 41.67N±0.003×25.52E±0.004, h10km, Error ellipse: s-maj=5.0km s-min=3.9km az=111.8*
CSEM ***14*** *17:10:07.8±0.2, 41.72N×25.55E, h6km±2km, MD2.7, Error ellipse: s-maj=5.5km s-min=3.8km az=93.0*
SKO ***14*** *17:10:09.6, 41.82N×25.40E, h0km*
THE ***14*** *17:10:10.3, 41.64N×25.62E, h21km, ML3.0*

ISC 14 17:10:07.7±0.5, 4166N±003×2551E±004, h10km, n22, σ1§22/35, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDZ	**Kurdzhali**	**0.07**	**260**	*i* Pg	**Pg**	**17 10 10.0**	**+0.1**
DIM	**Dimitrovgrad**	**0.39**	**3**	*i* Pg	**Pg**	**17 10 15.0**	**-0.4**
RZN	**Rozhen**	**0.59**	**273**	*i* Pg	**Pg**	**17 10 17.9**	**-1.3**
PLD	**Plovdiv**	**0.74**	**307**	Pg	**Pg**	**17 10 19.0**	**-3.1**
ALN	**Alexandroupoli**	**0.87**	**152**	*e*Pg	**Pg**	**17 10 24.6**	**+0.2**
ALN				*e*Sg	**Sg**	**17 10 36.9**	**+1.2**
ALN	**Alexandroupoli**	**0.87**	**152**	*e*Pg	**Pg**	**17 10 24.6**	**+0.2**
ALN				*e*Sg	**Sg**	**17 10 36.9**	**+1.2**
JMB	**Yambol**	**1.14**	**45**	Pg	**Pg**	**17 10 27.0**	**-2.6**
JMB	**Yambol**	**1.14**	**45**	*e*Pg	**Pg**	**17 10 28.4**	**-1.2**
JMB				*e*Sg	**Sg**	**17 10 43.2**	**-1.1**
MMB	**Musomiste**	**1.33**	**267**	*i* P	**Pn**	**17 10 31.7**	**-0.7**
SRS	**Serrai**	**1.54**	**250**	*e*Pg	**Pg**	**17 10 35.5**	**-1.8**
SRS				*e*Sg	**Sg**	**17 10 55.6**	**-1.6**
SZH	**Strazhica**	**1.64**	**11**	P	**Pn**	**17 10 39.0**	**+2.5**
OUR	**Ouranopolis**	**1.76**	**222**	*e*Pb	**Pb**	**17 10 39.4**	**-0.7**
OUR				*e*Sb	**Sb**	**17 11 01.7**	**-0.5**
KKB	**Krupnik**	**1.82**	**277**	*i* P	**Pn**	**17 10 40.0**	**+0.9**
SOH	**Sokhos**	**1.83**	**243**	*e*Pb	**Pb**	**17 10 40.0**	**-1.3**
SOH				*e*Sb	**Sb**	**17 11 03.7**	**-0.5**
VTS	**Vitosha**	**1.94**	**299**	*e*Pn	**Pn**	**17 10 43.1**	**+2.3**
VTS				*e*Sn	**Sn**	**17 11 06.3**	**+1.1**
VTS	**Vitosha**	**1.94**	**299**	P	**Pn**	**17 10 42.5**	**+1.7**
VTS	**Vitosha**	**1.94**	**299**	*e*Pn	**Pn**	**17 10 43.1**	**+2.3**
VTS				*e*Sn	**Sn**	**17 11 06.3**	**+1.0**
KNT	**Kendrikon**	**2.02**	**257**	*e*Pn	**Pn**	**17 10 43.5**	**+1.6**
	comp=Z,4.7nm,0.5s						
KNT				*e*Sn	**Sn**	**17 11 08.2**	**+0.9**
PAIG	**Paliouri**	**2.22**	**219**	*e*Pn	**Pn**	**17 10 44.8**	**+0.2**
PAIG				*e*Sn	**Sn**	**17 11 11.0**	**-1.1**
VAY	**Valandovo**	**2.23**	**262**	*e*Pn	**Pn**	**17 10 46.1**	**+1.4**
VAY				*e*Sg	**Sg**	**17 11 19.8**	**+0.4**
VAY	**Valandovo**	**2.23**	**262**	*e*Pn	**Pn**	**17 10 46.1**	**+1.4**
VAY				*e*Sg	**Sg**	**17 11 19.7**	**+0.3**
GRG	**Griva**	**2.44**	**254**	*e*Pn	**Pn**	**17 10 48.3**	**+0.6**
GRG				*e*Sn	**Sn**	**17 11 19.1**	**+1.5**

ISCJB ***14*** *17:21:03.8±0.6, 2791S±003×6652W±007, h168km±9km, mb4.1/8, Error ellipse: s-maj=10.4km s-min=5.1km az=13.3*
NEIC ***14*** *17:21:04.5±0.5, 2791S×6641W, h161km±6km, mb4.5/4, Error ellipse: s-maj=8.9km s-min=5.7km az=110.0*
IDC ***14*** *17:21:05.3±1.5, 2787S×6637W, h167km±14km, mb3.8/6, mb1 3.9/11, mb1mx3.7/19, mbtmp4.3/11, Error ellipse: s-maj=22.9km s-min=13.8km az=111.0*
GUC ***14*** *17:21:07.2±0.7, 2778S×6669W, h170km±55km, ML5.0*

ISC 14 17:21:04.7±0.6, 2791S±003×6649W±007, h160km±9km, n44, σ1§02/41, mb4.1/8, 5C-2D, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**3.47**	**278**	*i* P	**Pn**	**17 21 59.8**	**+1.4**
CPCH				*i* S	**Sn**	**17 22 39.5**	**-0.5**
CPCH				AML	AML	17 22 46.3	
	comp=E,2μm,0.1s						
CPCH	**Copiapo**	**3.47**	**278**	*i* P	**Pn**	**17 21 59.8**	**+1.4**
CPCH				*i* S	**Sn**	**17 22 39.5**	**-0.5**
CDCH	**Caldera**	**3.94**	**281**	*i* P	**Pn**	**17 22 04.3**	**-0.1**
CDCH				*i* S	**Sn**	**17 22 48.1**	**-2.7**
CFAA	**Coronel Fontan**	**3.98**	**202**	P	**Pn**	**17 22 05.6**	**+0.7**
	comp=E,26nm,0.3s,baz=20,slow=14,SNR=1987						
CFAA				S	**Sn**	**17 22 50.8**	**-1.0**
	comp=E,51nm,0.3s,baz=241,slow=16,SNR=68						
CFAA	**Coronel Fontan**	**3.98**	**202**	P	**Pn**	**17 22 05.6**	**+0.7**
CFAA				S	**Sn**	**17 22 50.8**	**-1.0**
CRCH	**Chaqaral**	**4.00**	**292**	*i* P	**Pn**	**17 22 06.0**	**+0.9**
CRCH				*i* S	**Sn**	**17 22 50.6**	**-1.5**
TLL	**Tololo Astrono**	**4.39**	**238**	*i* P	**Pn**	**17 22 11.1**	**+0.8**
TLL				*i* S	**Sn**	**17 23 01.6**	**+0.1**
CPN1	**Cerro Paranal**	**4.80**	**312**	*i* P	**Pn**	**17 22 17.8**	**+2.2**
CMCH	**Combarbala**	**5.10**	**229**	*i* P	**Pn**	**17 22 19.0**	**-0.5**
CMCH				*i* S	**Sn**	**17 23 16.9**	**-1.1**
ANCH	**Antofagasta**	**5.50**	**319**	*e*P	**Pn**	**17 22 25.8**	**+1.1**
CEN1	**Los Morros**	**5.61**	**323**	*e*P	**Pn**	**17 22 26.4**	**+0.2**
LVC	**Limon Verde**	**5.71**	**337**	*i* P	**Pn**	**17 22 29.6**	**+2.0**
LVC				*i* S	**Sn**	**17 23 32.8**	**+0.2**
LVC	**Limon Verde**	**5.71**	**337**	P	**Pn**	**17 22 29.6**	**+2.1**
	comp=E,15nm,0.3s,baz=161,slow=8.4,SNR=83						
LVC				S	**Sn**	**17 23 31.5**	**-1.0**
	comp=E,23nm,0.3s,baz=16,slow=23,SNR=18						
FCH	**Farellones**	**6.31**	**210**	*e*P	**Pn**	**17 22 36.5**	**+0.9**
FCH				*i* S	**Sn**	**17 23 47.2**	**+0.3**
CPUP	**Villa Florida**	**8.31**	**81**	P	**Pn**	**17 23 02.1**	**0.0**
	comp=E,0.6nm,0.3s,baz=248,slow=12,SNR=7.8						
CPUP	**Villa Florida**	**8.31**	**81**	*e*Pn	**Pn**	**17 23 00.8**	**-1.3**
LPAZ	**La Paz**	**11.67**	**352**	P	**Pn**	**17 23 46.9**	**+0.6**
	comp=E,1.6nm,0.3s,baz=155,slow=6.9,SNR=38						
LPAZ				S	**Sn**	**17 25 51.8**	**-3.6**
	comp=E,0.1nm,0.3s,baz=32,slow=22,SNR=4.2						
SIV	**San Ignacio**	**12.88**	**24**	P	**Pn**	**17 24 01.6**	**-0.3**
	comp=E,1.1nm,0.3s,baz=212,slow=14,SNR=30						
PLCA	**Paso Flores**	**13.22**	**194**	*e*P	**Pn**	**17 24 06.0**	**-0.2**
SAML	**Samuel**	**19.12**	**10**	*e*P	**P**	**17 25 13.6**	**-1.6**
	comp=E,14nm,0.6s						
BDFB	**Brasilia**	**21.03**	**58**	P	**P**	**17 25 34.6**	**-1.1**
	comp=E,26nm,0.7s,mb4.7,baz=235,slow=10,SNR=32						
SNAA	**Sanae**	**55.53**	**160**	P	**P**	**17 30 22.7**	**-0.4**
	comp=E,1.1nm,0.6s,mb3.9,baz=197,slow=22,SNR=6.7						
QSPA	**South Pole Qui**	**62.31**	**180**	*e*P	**P**	**17 31 10.0**	**+0.2**
	comp=E,4.7nm,0.6s,mb4.5						
SBA	**Scott Base**	**69.95**	**190**	*e*P	**P**	**17 31 58.7**	**+0.3**
	comp=E,1.7nm,0.7s,mb3.9						
VNDA	**Vanda**	**70.94**	**190**	P	**P**	**17 32 05.4**	**+0.9**
	comp=E,1.1nm,0.9s,mb3.6,baz=131,slow=5.6,SNR=10						
VNDA	**Vanda**	**70.94**	**190**	*e*P	**P**	**17 32 05.3**	**+0.8**
	comp=E,35nm,2.4s,mb4.7						
TORD	**Torodi Ar. Bea**	**77.58**	**68**	P	**P**	**17 32 41.9**	**-1.0**
	comp=E,7.2nm,0.6s,mb4.5,baz=266,slow=5.6,SNR=60						
MDT	**Midelt**	**84.25**	**48**	P	**P**	**17 33 18.5**	**+0.2**
	comp=E,1.7nm,0.8s,mb3.8,baz=137,slow=2.7,SNR=4.5						
ESDC	**Sonseca Array**	**88.91**	**43**	P	**P**	**17 33 41.3**	**+0.4**
	comp=E,0.3nm,0.4s,mb3.5,baz=244,slow=4.1,SNR=5.0						
ASAR	**Alice Springs**	**125.08**	**203**	PKP	PKPdf	17 39 45.5	-0.4
	comp=E,0.7nm,0.6s,baz=133,slow=1.7,SNR=24						
WRA	**Warramunga Arr**	**128.34**	**205**	PKP	PKPdf	17 39 51.6	-0.4
	comp=E,0.5nm,0.3s,baz=155,slow=2.0,SNR=20						
WRAB	**Tennant Creek**	**128.34**	**205**	*e*P	PKPdf	17 39 51.9	-0.2
KURK	**Kurchatov**	**145.18**	**40**	*e*P	PKPbc	17 40 22.8	-0.2
AAK	**Ala-Archa**	**145.25**	**55**	P	PKPdf	17 40 24.3	+1.1
	SNR=5.8						
AAK	**Ala-Archa**	**145.25**	**55**	*e*P	PKPdf	17 40 23.0	-0.1
UCH	**Uchtor**	**145.35**	**55**	P	PKPdf	17 40 25.1	+1.8
	SNR=8.6						
KBK	**Karagaybulak**	**145.57**	**54**	P	PKPdf	17 40 25.5	+1.8
	SNR=6.5						
KZA	**Kyzart**	**145.92**	**55**	P	PKPdf	17 40 26.8	+2.5
	SNR=7.7						
TKM2	**Tokmak 2**	**145.98**	**54**	P	PKPdf	17 40 26.2	+1.8
	SNR=8.6						
ZAL	**Zalesovo**	**146.56**	**31**	PKPbc	PKPbc	17 40 26.1	-1.1
	comp=E,1.5nm,0.4s,baz=142,slow=2.9,SNR=6.1						
ULHL	**Ulahol**	**146.60**	**55**	P	PKPdf	17 40 28.2	+2.7
	SNR=8.2						
MKAR	**Makanchi Array**	**149.13**	**44**	PKPbc	PKPbc	17 40 33.5	-0.5
	comp=E,1.6nm,0.4s,baz=287,slow=3.7,SNR=25						
MKAR	**Makanchi Array**	**149.13**	**44**	PKPbc	PKPbc	17 40 33.5	-0.5
SONM	**Songino Array**	**159.35**	**14**	PKPab	PKPab	17 41 20.2	-2.0
	comp=E,0.2nm,0.4s,baz=295,slow=3.4,SNR=3.2						

NEIC 14 17:26:48.0, 3569N×12153W, h9km, ML3.5 (NCEDC), After NCEDC., Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LRV	**Little Rabbit**	**0.84**	**29**	*e*Pg	Pg	17 27 03.7	-0.5
LRV				*e*Sg	Sg	17 27 14.9	-0.2
PTRM	**Twissleman Ran**	**1.07**	**92**	*e*P	Pg	17 27 07.3	-1.3
PTRM				S	Sg	17 27 21.5	-1.0
SAO	**San Andreas Ge**	**1.07**	**3**	*e*P	Pg	17 27 06.7	-1.9
SAO				*e*S	Sg	17 27 22.1	-0.5
SAC	**San Andreas**	**2.02**	**339**	*e*P	Pn	17 27 23.9	+1.7
ISA	**Isabella**	**2.48**	**90**	*e*Pn	Pn	17 27 27.4	-1.3
ISA				*e*S	Sn	17 27 53.1	-1.9
CMB	**Columbia Colle**	**2.51**	**21**	*e*Pn	Pn	17 27 27.3	-1.7
CMB				*e*Sg	Sg	17 28 06.5	-2.2
DAC	**Darwin (Calif)**	**3.24**	**78**	*e*Pn	Pn	17 27 39.2	+0.2
OHCM	**Honcut**	**3.64**	**1**	*e*Pn	Pn	17 27 44.0	-0.5
MNV	**Mina**	**3.84**	**44**	*e*Pn	Pn	17 27 46.4	-0.8
GSC	**Goldstone**	**3.87**	**94**	*e*Pn	Pn	17 27 46.0	-1.7

ISCJB ***14*** *17:32:35.5±0.3, 4102S±003×17445E±005, h78km±4km, mb4.3/3, Error ellipse: s-maj=7.1km s-min=3.2km az=62.7*
IDC ***14*** *17:32:37.3±1.9, 4384S×17163E, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.8/9, mbtmp4.0/2, MS3.5/1, Ms1 3.4/1, ms1mx2.7/16, Error ellipse: s-maj=111.4km s-min=42.7km az=31.0*
WEL ***14*** *17:32:38.0±0.1, 4094S×17445E, h59km±1km, ML5.0/23, Error ellipse: s-maj=0.5km s-min=0.5km az=90.0, reported intensity MM 5.*
WEL Felt from Wanganui to Canterbury, and from Nelson to Hawke's Bay, maximum.
NEIC ***14*** *17:32:38.2, 4093S×17446E, h57km, mb4.9/1, ML5.0(WEL), After WEL.*
NEIC Felt at Lower Hutt and Wellington.

ISC 14 17:32:36.6±0.3, 4101S±003×17447E±005, h71km±4km, n122, σ0§88/127, mb4.3/3, 22C-14D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TCW	**Tory Channel**	**0.25**	**216**	⇑P	**Pn**	**17 32 47.7**	**+0.2**
TCW				SN	**Sn**	**17 32 54.7**	**-1.0**
TCW	**Tory Channel**	**0.25**	**216**	P	**Pn**	**17 32 47.8**	**+0.2**
TCW				S	**Sn**	**17 32 54.8**	**-0.8**
MRW	**Makara Radio**	**0.28**	**143**	⇑P	**Pn**	**17 32 48.2**	**+0.5**
MRW				SN	**Sn**	**17 32 55.4**	**-0.5**
MRW	**Makara Radio**	**0.28**	**143**	P	**Pn**	**17 32 48.2**	**+0.5**
MRW				S	**Sn**	**17 32 55.5**	**-0.4**
SNZO	**South Karori**	**0.35**	**150**	⇑P	**Pn**	**17 32 48.8**	**+0.6**
SNZO				SN	**Sn**	**17 32 56.8**	**+0.1**
WEL	**Wellington**	**0.36**	**142**	⇑P	**Pn**	**17 32 48.9**	**+0.6**
WEL				SN	**Sn**	**17 32 56.8**	**0.0**
WEL	**Wellington**	**0.36**	**142**	P	**Pn**	**17 32 48.9**	**+0.6**
KIW	**Kapiti Island**	**0.36**	**66**	⇓PN	**Pn**	**17 32 48.1**	**-0.2**
KIW				SN	**Sn**	**17 32 55.4**	**-1.4**
KIW	**Kapiti Island**	**0.36**	**66**	P	**Pn**	**17 32 48.1**	**-0.2**
KIW				S	**Sn**	**17 32 55.5**	**-1.3**
CAW	**Cannon Point**	**0.46**	**103**	⇓PN	**Pn**	**17 32 49.5**	**+0.4**
CAW	**Cannon Point**	**0.46**	**103**	P	**Pn**	**17 32 49.5**	**+0.4**
DUWZ	**D'Urville Isla**	**0.47**	**296**	⇓PN	**Pn**	**17 32 48.2**	**-0.9**
BHW	**Baring Head**	**0.50**	**143**	⇑PN	**Pn**	**17 32 50.2**	**+0.7**
BHW				SN	**Sn**	**17 32 59.2**	**+0.2**
TUWZ	**Tuamarina**	**0.58**	**223**	⇑PN	**Pn**	**17 32 51.2**	**+0.9**
MSWZ	**Moikau Station**	**0.71**	**125**	⇓PN	**Pn**	**17 32 52.5**	**+0.8**
MSWZ	**Moikau Station**	**0.71**	**125**	P	**Pn**	**17 32 52.6**	**+0.9**
CMWZ	**Cape Campbell**	**0.77**	**195**	⇑PN	**Pn**	**17 32 54.2**	**+1.9**
CMWZ	**Cape Campbell**	**0.77**	**195**	P	**Pn**	**17 32 54.3**	**+2.0**
MTW	**Mount Morrison**	**0.79**	**101**	⇓PN	**Pn**	**17 32 53.1**	**+0.5**
MTW	**Mount Morrison**	**0.79**	**101**	P	**Pn**	**17 32 53.1**	**+0.5**
PAWZ	**Paruwai Farm**	**0.81**	**118**	⇓PN	**Pn**	**17 32 53.5**	**+0.7**
PAWZ	**Paruwai Farm**	**0.81**	**118**	P	**Pn**	**17 32 53.6**	**+0.8**
BSWZ	**Blackbirch Sta**	**0.84**	**212**	⇑PN	**Pn**	**17 32 54.5**	**+1.4**
BSWZ	**Blackbirch Sta**	**0.84**	**212**	P	**Pn**	**17 32 54.5**	**+1.4**
NNZ	**Nelson**	**0.85**	**255**	⇓PN	**Pn**	**17 32 53.8**	**+0.5**
MRZ	**Mangatainoka R**	**0.91**	**68**	⇓PN	**Pn**	**17 32 54.1**	**+0.1**
MRZ	**Mangatainoka R**	**0.91**	**68**	P	**Pn**	**17 32 54.1**	**+0.1**
TRWZ	**Traveller**	**1.00**	**114**	⇓PN	**Pn**	**17 32 55.6**	**+0.6**
TIWZ	**Tintock**	**1.09**	**78**	⇓PN	**Pn**	**17 32 56.5**	**+0.2**
WAZ	**Wanganui**	**1.31**	**18**	⇑PN	**Pn**	**17 32 59.4**	**+0.4**
WAZ	**Wanganui**	**1.31**	**18**	P	**Pn**	**17 32 59.5**	**+0.4**
BFZ	**Birch Farm**	**1.38**	**77**	⇓PN	**Pn**	**17 32 59.8**	**-0.2**
THZ	**Tophouse**	**1.40**	**237**	⇑PN	**Pn**	**17 33 01.4**	**+1.1**
THZ	**Tophouse**	**1.40**	**237**	P	**Pn**	**17 33 01.4**	**+1.1**
TSZ	**Takapari Road**	**1.48**	**51**	⇓PN	**Pn**	**17 33 00.9**	**-0.3**
TSZ	**Takapari Road**	**1.48**	**51**	P	**Pn**	**17 33 01.0**	**-0.3**
QRZ	**Quartz Range**	**1.48**	**276**	⇓PN	**Pn**	**17 33 01.5**	**+0.2**
QRZ	**Quartz Range**	**1.48**	**276**	P	**Pn**	**17 33 01.5**	**+0.1**
KHZ	**Kahutara**	**1.57**	**206**	⇑PN	**Pn**	**17 33 04.1**	**+1.5**
KHZ	**Kahutara**	**1.57**	**206**	P	**Pn**	**17 33 04.1**	**+1.6**
RAEZ	**Rainy Point**	**1.72**	**358**	⇑PN	**Pn**	**17 33 05.0**	**+0.6**
RAEZ	**Rainy Point**	**1.72**	**358**	P	**Pn**	**17 33 05.1**	**+0.6**
NRZ	**Ngariki Road**	**1.72**	**346**	PN	**Pn**	**17 33 04.8**	**+0.3**
NRZ	**Ngariki Road**	**1.72**	**346**	P	**Pn**	**17 33 04.9**	**+0.4**
NEZ	**North Egmont**	**1.76**	**350**	P	**Pn**	**17 33 05.4**	**+0.4**
MTVZ	**Mangateitei**	**1.79**	**26**	⇑PN	**Pn**	**17 33 05.8**	**+0.4**
NWEZ	**Newall Road**	**1.79**	**345**	⇑PN	**Pn**	**17 33 05.7**	**+0.2**
NWEZ	**Newall Road**	**1.79**	**345**	P	**Pn**	**17 33 05.7**	**+0.3**
PKVZ	**Pukaka**	**1.84**	**22**	⇑PN	**Pn**	**17 33 06.0**	**-0.1**
PKE	**Pukeiti**	**1.85**	**348**	⇑PN	**Pn**	**17 33 06.3**	**+0.1**
PKE	**Pukeiti**	**1.85**	**348**	P	**Pn**	**17 33 06.4**	**+0.2**
MOVZ	**Moawhango**	**1.87**	**32**	⇑PN	**Pn**	**17 33 06.2**	**-0.3**
MOVZ	**Moawhango**	**1.87**	**32**	P	**Pn**	**17 33 06.2**	**-0.3**
WNVZ	**Wahianoa**	**1.89**	**28**	PN	**Pn**	**17 33 07.0**	**+0.3**
WNVZ	**Wahianoa**	**1.89**	**28**	P	**Pn**	**17 33 07.2**	**+0.5**
VRZ	**Vera Road**	**1.89**	**7**	⇑PN	**Pn**	**17 33 07.3**	**+0.5**
VRZ	**Vera Road**	**1.89**	**7**	P	**Pn**	**17 33 07.3**	**+0.5**
TRVZ	**Turoa**	**1.89**	**26**	PN	**Pn**	**17 33 07.4**	**+0.6**
DRZ	**Dome Shelter**	**1.92**	**26**	PN	**Pn**	**17 33 07.6**	**+0.5**
DRZ	**Dome Shelter**	**1.92**	**26**	P	**Pn**	**17 33 08.0**	**+0.8**
FWVZ	**Far West T-bar**	**1.93**	**26**	PN	**Pn**	**17 33 07.8**	**+0.4**
FWVZ	**Far West T-bar**	**1.93**	**26**	P	**Pn**	**17 33 07.9**	**+0.5**
TUVZ	**Tukino**	**1.96**	**28**	P	**Pn**	**17 33 08.2**	**+0.5**
WPVZ	**Whakapapa**	**1.98**	**25**	P	**Pn**	**17 33 08.3**	**+0.4**
NGZ	**Ngauruhoe**	**2.02**	**26**	PN	**Pn**	**17 33 09.1**	**+0.5**
OTVZ	**Oturere**	**2.06**	**27**	⇑PN	**Pn**	**17 33 09.5**	**+0.6**
WTVZ	**West Tongariro**	**2.07**	**25**	P	**Pn**	**17 33 09.5**	**+0.3**
DSZ	**Denniston Nort**	**2.14**	**249**	PN	**Pn**	**17 33 10.9**	**+0.8**
DSZ	**Denniston Nort**	**2.14**	**249**	P	**Pn**	**17 33 11.0**	**+0.9**
KATZ	**Kakaramea**	**2.23**	**25**	P	**Pn**	**17 33 11.6**	**+0.2**
RITZ	**Rihia Road**	**2.29**	**28**	P	**Pn**	**17 33 12.3**	**+0.2**
RATZ	**Rangitukua**	**2.36**	**25**	P	**Pn**	**17 33 13.3**	**+0.2**
BKZ	**Black Stump Fm**	**2.40**	**41**	⇓PN	**Pn**	**17 33 12.8**	**-0.9**
BKZ	**Black Stump Fm**	**2.40**	**41**	P	**Pn**	**17 33 12.8**	**-0.9**
LTZ	**Lake Taylor**	**2.42**	**222**	⇑PN	**Pn**	**17 33 14.8**	**+0.9**
LTZ	**Lake Taylor**	**2.42**	**222**	P	**Pn**	**17 33 14.8**	**+0.9**
HATZ	**Hinemaiaia**	**2.45**	**31**	P	**Pn**	**17 33 13.9**	**-0.4**
WATZ	**Wairara**	**2.49**	**23**	P	**Pn**	**17 33 14.9**	**0.0**
HIZ	**Hauiti**	**2.51**	**7**	⇑PN	**Pn**	**17 33 15.4**	**+0.3**
HIZ	**Hauiti**	**2.51**	**7**	P	**Pn**	**17 33 15.4**	**+0.3**
WHTZ	**Whakaora**	**2.60**	**27**	P	**Pn**	**17 33 16.7**	**+0.3**
CRLZ	**Canterbury Las**	**2.91**	**208**	PN	**Pn**	**17 33 20.1**	**-0.5**
CRLZ	**Canterbury Las**	**2.91**	**208**	*e*P	**Pn**	**17 33 20.1**	**-0.5**
PATZ	**Paeroa**	**2.96**	**28**	P	**Pn**	**17 33 32.3**	**+11**
MQZ	**McQueen's Vall**	**3.02**	**206**	P	**Pn**	**17 33 21.3**	**-0.7**
KNZ	**Kokohu**	**3.16**	**52**	P	**Pn**	**17 33 21.6**	**-2.3**
TAZ	**Tarawera**	**3.19**	**30**	P	**Pn**	**17 33 23.4**	**-0.9**
LIRZ	**Lichensteins R**	**3.34**	**27**	P	**Pn**	**17 33 26.1**	**-0.3**
TOZ	**Tahuroa Road**	**3.37**	**14**	*e*P	**Pn**	**17 33 26.6**	**-0.2**
URZ	**Urewera**	**3.42**	**37**	P	**Pn**	**17 33 25.0**	**-2.4**
WVZ	**Waitaha Valley**	**3.47**	**232**	*e*P	**Pn**	**17 33 28.2**	**+0.1**
TGRZ	**Tauranga**	**3.55**	**24**	P	**Pn**	**17 33 28.8**	**-0.5**
MWZ	**Matawai**	**3.56**	**42**	P	**Pn**	**17 33 26.8**	**-2.6**
RPZ	**Rata Peaks**	**3.71**	**222**	*e*P	**Pn**	**17 33 31.0**	**-0.4**
MKAZ	**Moumakai**	**3.93**	**8**	P	**Pn**	**17 33 34.6**	**+0.2**
WTAZ	**Waiatarua**	**4.07**	**1**	P	**Pn**	**17 33 37.1**	**+0.8**
PUZ	**Puketiti**	**4.14**	**46**	*e*P	**Pn**	**17 33 34.1**	**-3.2**
KAAZ	**Kauri Point**	**4.18**	**3**	P	**Pn**	**17 33 39.0**	**+1.1**
MTAZ	**Motutapu**	**4.23**	**5**	P	**Pn**	**17 33 37.8**	**-0.7**
KUZ	**Kuaotunu**	**4.36**	**13**	P	**Pn**	**17 33 39.8**	**-0.6**
FOZ	**Fox Glacier**	**4.37**	**233**	*e*P	**Pn**	**17 33 38.7**	**-1.8**
MXZ	**Matakaoa Point**	**4.55**	**42**	P	**Pn**	**17 33 40.4**	**-2.5**
LBZ	**Lake Benmore**	**4.63**	**222**	*e*P	**Pn**	**17 33 43.1**	**-0.9**
ODZ	**Otahua Downs**	**4.92**	**214**	*e*P	**Pn**	**17 33 47.1**	**-0.8**
WCZ	**Waipu Caves**	**5.06**	**359**	*e*P	**Pn**	**17 33 49.9**	**0.0**
JCZ	**Jackson Bay**	**5.22**	**232**	*e*P	**Pn**	**17 33 50.6**	**-1.4**
WKZ	**Wanaka**	**5.53**	**225**	*e*P	**Pn**	**17 33 53.8**	**-2.6**
EAZ	**Ear

σ0$50/14, **mb3.8**/9,**1D**, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.86**	**252**	P	**P**	**18 12 39.6**	**+0.9**
	0.4nm,0.3s,baz=86,slow=13,SNR=6.3						
CTA	**Charters Tower**	**33.50**	**261**	P	**P**	**18 15 23.1**	**-0.1**
	5.2nm,1.0s,mb4.1,baz=102,slow=13,SNR=3.3						
PMG	**Port Moresby**	**34.55**	**280**	*eP*	**P**	**18 15 32.2**	**+0.2**
STKA	**Stephens Creek**	**38.63**	**241**	⇓*iP*	**P**	**18 16 04.6**	**-0.8**
	3.9nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**38.63**	**241**	P	**P**	**18 16 04.8**	**-0.6**
	4.7nm,0.5s,mb4.3,baz=97,slow=9.4,SNR=19						
WB2	**Warramunga Arr**	**44.67**	**260**	*eP*	**P**	**18 16 52.2**	**-0.5**
WRAB	**Tennant Creek**	**44.67**	**260**	*eP*	**P**	**18 16 52.4**	**-0.4**
	2.3nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**44.68**	**260**	P	**P**	**18 16 52.5**	**-0.3**
	2.6nm,0.7s,mb3.9,baz=96,slow=7.0,SNR=61						
ASAR	**Alice Springs**	**44.83**	**254**	P	**P**	**18 16 54.5**	**+0.5**
	17nm,0.6s,mb4.8,baz=89,slow=8.3,SNR=179						
KAKA	**Kakadu**	**47.65**	**269**	*eP*	**P**	**18 17 14.7**	**-0.5**
	4.6nm,0.4s,mb4.4						
FITZ	**Fitzroy Crossi**	**53.08**	**261**	P	**P**	**18 17 55.4**	**+0.8**
	0.5nm,0.4s,mb3.2,baz=127,slow=5.1,SNR=7.5						
VNDA	**Vanda**	**60.33**	**185**	P	**P**	**18 18 44.2**	**+0.1**
	0.4nm,0.5s,mb2.9,baz=359,slow=10,SNR=3.7						
VNDA	**Vanda**	**60.33**	**185**	P	**P**	**18 18 44.2**	**+0.1**
ILAR	**Eielson Array**	**85.99**	**13**	P	**P**	**18 21 09.9**	**0.0**
	0.2nm,0.4s,mb3.1,baz=222,slow=5.0,SNR=8.0						
BRTR	**Keskin Array B**	**144.92**	**315**	PKP	PKPdf	18 28 03.2	+1.6
	0.3nm,0.4s,baz=99,slow=3.9,SNR=3.7						

*NEIC **14** 18:32:12.3, 3220S×7109W, h78km, MG2.7(GUC), After GUC.*

GUC 14 18:32:12.3±0.7, 3220S×7109W, h78km±4km, MD3.7, ML2.7, 9C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.45**	**221**	⇑*iP*	Pn	18 32 25.9	+0.6
PACH				*i* S	Sn	18 32 39.2	+1.2
CHNG	**Los Chungos**	**0.47**	**312**	⇓*iP*	Pn	18 32 26.6	+1.0
CHNG				*i* S	Sn	18 32 39.6	+1.6
CHNG				AML	AML	18 32 37.8	
	comp=N,132nm,0.5s						
JACH	**Jahuel**	**0.64**	**139**	⇑*iP*	Pn	18 32 27.8	+0.7
JACH				*i* S	Sn	18 32 38.7	+0.7
ROCH	**El Roble**	**0.77**	**175**	*eP*	Pn	18 32 29.1	+0.6
ROCH				*i* S	Sn	18 32 42.0	+1.4
CMCH	**Combarbala**	**1.03**	**4**	⇑*iP*	Pn	18 32 31.8	+0.3
CMCH				*i* S	Sn	18 32 46.4	+0.5
CMCH				AML	AML	18 32 48.5	
	comp=E,793nm,0.5s						
CMCH	**Combarbala**	**1.03**	**4**	⇑*iP*	Pn	18 32 31.8	+0.3
CMCH				*i* S	Sn	18 32 46.4	+0.5
CLCH	**Cerro Calan**	**1.28**	**159**	*eP*	Pn	18 32 35.1	+0.5
CLCH				*i* S	Sn	18 32 52.1	+0.7
CLCH				AML	AML	18 32 53.5	
	comp=E,112nm,0.4s						
RCDM	**Rinconada Maip**	**1.31**	**170**	⇑*iP*	Pn	18 32 35.5	+0.5
RCDM				AML	AML	18 32 54.6	
	comp=E,338nm,0.1s						
FCH	**Farellones**	**1.31**	**149**	⇑*iP*	Pn	18 32 36.2	+1.2
FCH				*i* S	Sn	18 32 54.5	+2.4
FCH				AML	AML	18 32 55.5	
	comp=E,114nm,0.1s						
LCCH	**Las Cruces**	**1.33**	**198**	⇓*iP*	Pn	18 32 35.4	+0.1
LCCH				*i* S	Sn	18 32 52.9	+0.2
TACH	**Talagante**	**1.46**	**175**	⇑*iP*	Pn	18 32 37.4	+0.5
TACH				*i* S	Sn	18 32 56.1	+0.7
PCH	**Pirque**	**1.50**	**161**	⇓*iP*	Pn	18 32 38.0	+0.5
PCH				*i* S	Sn	18 32 57.4	+0.9
CHCH	**Chadas Angostu**	**1.77**	**168**	⇓*iP*	Pn	18 32 41.4	+0.4
CHCH				*i* S	Sn	18 33 03.4	+0.6
LMEL	**Las Melosas**	**1.80**	**156**	⇑*iP*	Pn	18 32 42.7	+1.2
LMEL				*i* S	Sn	18 33 05.4	+1.8
LMEL				AML	AML	18 33 10.1	
	comp=N,116nm,0.1s						
LMEL	**Las Melosas**	**1.80**	**156**	⇑*iP*	Pn	18 32 42.7	+1.2
LMEL				*i* S	Sn	18 33 05.4	+1.8
CACH	**El Canelo**	**1.96**	**168**	*eP*	Pn	18 32 44.5	+1.1
CACH				*eS*	Sn	18 33 08.9	+1.7
TLL	**Tololo Astrono**	**2.04**	**7**	*eP*	Pn	18 32 46.0	+1.3
TLL				*eS*	Sn	18 33 10.8	+1.5
TLL				AML	AML	18 33 16.5	
	comp=N,93nm,0.5s						
TLL	**Tololo Astrono**	**2.04**	**7**	*eP*	Pn	18 32 46.0	+1.3
TLL				*eS*	Sn	18 33 10.8	+1.5

*IDC **14** 18:49:23.9±1.3, 983S×7549W, h0km, mb4.0/5, mb1 4.1/7, mb1mx3.8/18, mbtmp3.9/7, ML3.6/2, MS3.1/3, Ms1 3.1/3, ms1mx2.7/23, Error ellipse: s-maj=58.3km s-min=20.0km az=58.0*

*ISCJB **14** 18:49:26.0±4.1, 987S±009×7533W±009, h21km±32km, mb3.8/6, MS3.2/1, Error ellipse: s-maj=17.8km s-min=11.2km az=82.5*

*NEIC **14** 18:49:29.2±5.3, 994S×7538W, h35km±42km, Error ellipse: s-maj=18.3km s-min=15.4km az=126.0*

ISC 14 18:49:28.7±4.3, 989S±008×7541W±010, h30km±33km, n17, σ1$08/16, mb3.8/6, MS3.2/1, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.52**	**214**	*ePn*	**Pn**	**18 50 07.2**	**-0.3**
NNA				*eSn*	**Sn**	**18 50 37.4**	**+0.3**
NNA				*eSg*	**Sn**	**18 51 41.4**	**+4.2**
LPAZ	**La Paz**	**9.52**	**133**	Pn	**Pn**	**18 51 45.8**	**+2.1**
	0.1nm,0.3s,baz=317,slow=9.7,SNR=9.0						
LPAZ				Lg		18 54 26.2	
	0.3nm,0.3s,baz=233,slow=20,SNR=3.9						
LPAZ	**La Paz**	**9.52**	**133**	*ePn*	**Pn**	**18 51 45.0**	**+1.3**
	2.5nm,0.6s						
LPAZ				Lg		18 54 26.2	
SAML	**Samuel**	**12.10**	**87**	*ePn*	**Pn**	**18 52 17.8**	**-1.1**
	7.6nm,0.6s						
LVC	**Limon Verde**	**14.10**	**155**	Pn		18 52 59.7	
	0.2nm,0.3s,baz=304,slow=8.6,SNR=5.0						
ROSC	**El Rosal**	**14.69**	**4**	LR	LR	18 59 05.8	
	comp=Z,55nm,18.5s,baz=34,slow=40						
SIV	**San Ignacio**	**15.23**	**115**	Pn	**Pn**	**18 53 00.1**	**-1.3**
	0.4nm,0.3s,baz=294,slow=14,SNR=12						
SIV				Lg		18 57 19.6	
	0.3nm,0.3s,baz=202,slow=24,SNR=5.2						
SDV	**Santo Domingo**	**19.25**	**14**	P	**Pn**	**18 53 53.5**	**+1.9**
	0.5nm,0.3s,baz=224,slow=5.3,SNR=6.3						
SDV				LR	LR	19 02 17.5	
	comp=Z,74nm,18.1s,baz=278,slow=40						
CFAA	**Coronel Fontan**	**22.61**	**164**	P	**P**	**18 54 26.5**	**-0.3**
	0.3nm,0.7s,mb2.8,baz=324,slow=7.7,SNR=4.6						
CFAA	**Coronel Fontan**	**22.61**	**164**	P	**P**	**18 54 26.5**	**-0.3**
CPUP	**Villa Florida**	**23.67**	**136**	P	**P**	**18 54 38.1**	**+0.5**
	0.6nm,0.4s,mb3.3,baz=313,slow=8.4,SNR=6.2						
ULM	**Lac du Bonnet**	**62.49**	**345**	P	**P**	**18 59 47.6**	**-1.6**
	2.4nm,0.6s,mb4.5,baz=142,slow=5.1,SNR=4.0						
YKA	**Yellowknife Ar**	**78.26**	**343**	P	**P**	**19 01 25.2**	**-0.4**
	0.5nm,0.6s,mb3.6,baz=141,slow=6.1,SNR=8.2						
YKA	**Yellowknife Ar**	**78.26**	**343**	P	**P**	**19 01 25.2**	**-0.4**
TORD	**Torodi Ar. Bea**	**79.88**	**75**	P	**P**	**19 01 35.5**	**+1.0**
	1.5nm,0.8s,mb4.0,baz=276,slow=6.2,SNR=8.4						
RAR	**Rarotonga**	**81.28**	**250**	LR	LR	19 27 44.9	
	comp=Z,10.0nm,20.4s,MS3.2,baz=44,slow=28						
INK	**Inuvik**	**87.99**	**342**	P	**P**	**19 02 15.8**	**+0.1**
	2.9nm,1.0s,mb4.5,baz=112,slow=5.4,SNR=4.4						

IDC 14 18:50:28.8±5.4, 1824S×17709E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/12, mbtmp3.6/2, Error ellipse: s-maj=303.5km s-min=72.1km az=154.0, Low Confidence, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.36**	**260**	P	P	18 58 07.9	-0.3
	0.4nm,1.0s,baz=95,slow=7.4,SNR=5.3						
ASAR	**Alice Springs**	**40.58**	**255**	P		18 58 10.7	+0.8
	1.5nm,0.6s,baz=90,slow=7.8,SNR=40						
NOA	**NORSAR Array B**	**136.09**	**350**	PKP	PKPdf	19 09 51.2	-0.6
	0.9nm,0.9s,baz=30,slow=5.1,SNR=3.4						

*ISCJB **14** 18:56:30.7±1.0, 609N±0.1×1673E±03, h10km, mb3.7/4, Error ellipse: s-maj=22.4km s-min=12.7km az=118.9*

*MOS **14** 18:56:30.6±1.5, 6094N×167.35E, h10km, mb3.9/3, Error ellipse: s-maj=67.5km s-min=20.3km az=94.6*

*IDC **14** 18:56:32.2±1.3, 6112N×167.47E, h0km, mb3.6/5, mb1 4.0/6, mb1mx3.6/24, mbtmp3.8/6, ML4.0/1, Error ellipse: s-maj=35.2km s-min=16.0km az=79.0*

ISC 14 18:56:32.6±1.0, 611N±01×1673E±03, h10km, n12, σ0$69/12, mb3.7/4, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BILL	**Bilibino**	**7.01**	**357**	*ePN*	**Pn**	**18 58 20.0**	**+4.8**
FX1	**Attu Island--F**	**8.82**	**156**	Pn	**Pn**	**18 58 39.8**	**-0.3**
	5.2nm,0.3s,baz=334,slow=5.9,SNR=26						
FX1	**Attu Island--F**	**8.82**	**156**	PN	**Pn**	**18 58 39.8**	**-0.3**
FX1				pmax	pmax		
	comp=Z,5.0nm,0.3s						
TIXI	**Tiksi**	**18.28**	**321**	*eP*	**Pn**	**19 00 45.7**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ILAR	**Eielson Array**	**20.82**	**60**	P	**P**	**19 01 13.9**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=266,slow=9.2,SNR=15						
ILAR	**Eielson Array**	**20.82**	**60**	P	**P**	**19 01 13.9**	**-0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
INK	**Inuvik**	**25.34**	**48**	P	**P**	**19 01 58.7**	**-0.9**
	comp=Z,2.2nm,0.7s,mb3.8,baz=290,slow=8.4,SNR=10						
INK	**Inuvik**	**25.34**	**48**	P	**P**	**19 01 58.7**	**-0.9**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PDAR	**Pinedale Array**	**50.66**	**71**	P	**P**	**19 05 33.1**	**+1.1**
	comp=Z,0.5nm,0.7s,mb3.5,baz=336,slow=3.3,SNR=4.3						
FINES	**FINESS Array B**	**54.25**	**338**	P	**P**	**19 05 59.5**	**+0.8**
	comp=Z,2.2nm,0.9s,mb4.1,baz=30,slow=9.6,SNR=3.4						
FINES	**FINESS Array B**	**54.25**	**338**	P	**P**	**19 05 59.5**	**+0.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GERES	**GERESS Array B**	**68.38**	**342**	P	**P**	**19 07 34.5**	**+0.1**
	comp=Z,0.1nm,0.3s,mb3.3,baz=31,slow=5.9,SNR=3.6						

*ISCJB **14** 19:00:14.4±1.0, 3483N±008×2465E±004, h10km, Error ellipse: s-maj=12.0km s-min=4.4km az=156.2*

*NEIC **14** 19:00:14.2, 3482N×2461E, h28km, MD3.2(ATH), After ATH.*

*ATH **14** 19:00:14.2, 3482N×2461E, h28km±16km, MD3.2/4*

*THE **14** 19:00:15.3, 3493N×2460E, h19km*

*CSEM **14** 19:00:15.0±0.2, 3477N×2466E, h2km, MD3.2, Error ellipse: s-maj=4.8km s-min=1.9km az=169.0*

ISC 14 19:00:14.3±1.1, 3477N±007×2468E±004, h10km, n8, σ0$69/14, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.27**	**24**	*ePg*	**Pg**	**19 00 20.2**	**+0.4**
SIVA				*eSg*	**Sg**	**19 00 24.1**	**+0.7**
GVD	**Gavdhos**	**0.49**	**278**	*ePg*	**Pg**	**19 00 24.2**	**+0.4**
GVD				*eSg*	**Sg**	**19 00 30.8**	**+0.5**
GVD	**Gavdhos**	**0.49**	**278**	*ePb*	**Pg**	**19 00 23.9**	**+0.1**
GVD	**Gavdhos**	**0.49**	**278**	*ePg*	**Pg**	**19 00 24.2**	**+0.4**
GVD				*eSg*	**Sg**	**19 00 30.8**	**+0.6**
VAM	**Vamos**	**0.75**	**329**	*ePN*	**Pg**	**19 00 27.8**	**-0.9**
VAM				*eSN*	**Sg**	**19 00 38.0**	**-0.4**
LAST	**Lasithi**	**0.77**	**59**	*ePg*	**Pg**	**19 00 29.6**	**+0.5**
LAST				*eSg*	**Sg**	**19 00 39.9**	**+0.8**
XRY	**Khrisi**	**0.84**	**83**	*ePB*	**Pb**	**19 00 31.0**	**0.0**
NPS	**Neapolis**	**0.91**	**57**	*ePN*	**Pn**	**19 00 32.5**	**-0.7**
NPS				*eSN*	**Sn**	**19 00 45.0**	**-1.4**

MEX 14 19:02:00.7±0.9, 1667N×9973W, h17km±999km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.64**	**306**	*i*P	Pg	19 02 11.1	-2.2
CAIG				*i* S	Sg	19 02 19.3	-2.6
MEIG	**Mezcala**	**1.26**	**5**	*i*P	Pn	19 02 19.4	-4.1
MEIG				*i* S	Sb	19 02 35.0	-4.9
PNIG	**Pinotepa**	**1.56**	**100**	*i*P	Pn	19 02 24.2	-3.5
PNIG				*i* S	Sn	19 02 42.5	-5.0
PLIG	**Platanillo**	**1.73**	**7**	*i*P	Pn	19 02 27.8	-2.3
PLIG				*i* S	Sn	19 02 47.3	-4.4
UTMO	**Huajuapan**	**2.17**	**57**	*eP*	Pn	19 02 33.5	-2.6
UTMO				*i* S	Sn	19 02 58.4	-4.2

*ISCJB **14** 19:17:16.5±1.7, 2165N±010×1432E±03, h279km±16km, mb3.4/9, Error ellipse: s-maj=41.6km s-min=16.0km az=1.0*

*IDC **14** 19:17:17.0±2.0, 2165N×14320E, h268km±19km, mb3.1/8, mb1 3.3/9, mb1mx3.2/20, mbtmp3.8/9, Error ellipse: s-maj=30.9km s-min=12.7km az=90.0*

*NEIC **14** 19:17:17.6±3.8, 2163N×14320E, h276km±38km, mb4.0/1, Error ellipse: s-maj=34.6km s-min=11.2km az=92.0*

ISC 14 19:17:17.5±1.7, 217N±01×1432E±03, h274km±16km, n11, σ0$83/12, mb3.4/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.45**	**351**	P	**Pn**	**19 18 41.3**	**+1.9**
	5.5nm,0.3s,baz=334,slow=23,SNR=4.4						
CBIJ				S	**S**	**19 19 43.9**	**-1.2**
	2.4nm,0.3s,baz=276,slow=22,SNR=4.1						
MJAR	**Matsushiro Arr**	**15.41**	**345**	P	**Pn**	**19 20 40.9**	**-0.7**
	0.4nm,0.3s,baz=130,slow=1.7,SNR=5.4						
SONM	**Songino Array**	**39.34**	**320**	P	**P**	**19 24 21.9**	**+1.4**
	0.2nm,0.3s,mb3.0,baz=125,slow=7.4,SNR=7.4						
WRAB	**Tennant Creek**	**42.27**	**192**	*eP*	**P**	**19 24 44.0**	**-0.3**
	4.5nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**42.28**	**192**	P	**P**	**19 24 44.2**	**-0.2**
	1.4nm,0.4s,mb3.5,baz=16,slow=9.8,SNR=37						
ASAR	**Alice Springs**	**45.99**	**192**	P	**P**	**19 25 13.4**	**-0.3**
	0.5nm,0.5s,mb3.1,baz=16,slow=12,SNR=16						
MKAR	**Makanchi Array**	**54.70**	**313**	P	**P**	**19 26 18.6**	**0.0**
	0.2nm,0.5s,mb2.8,baz=106,slow=7.7,SNR=2.7						
ILAR	**Eielson Array**	**62.04**	**27**	P	**P**	**19 27 09.1**	**-0.1**
	0.4nm,0.7s,mb3.1,baz=251,slow=5.7,SNR=4.8						
YKA	**Yellowknife Ar**	**76.45**	**28**	P	**P**	**19 28 37.6**	**+0.5**
	0.4nm,0.5s,mb3.3,baz=293,slow=5.8,SNR=4.8						
ARCES	**ARCESS Array B**	**78.92**	**341**	P	**P**	**19 28 50.6**	**-0.1**
	7.0nm,1.0s,mb4.3,baz=40,slow=8.5,SNR=3.6						
FINES	**FINESS Array B**	**83.18**	**334**	P	**P**	**19 29 12.2**	**-0.8**
	1.0nm,0.8s,mb3.7,baz=57,slow=7.0,SNR=7.5						

*ISCJB **14** 19:39:46.3±0.6, 3935N±003×2099E±004, h3km±5km, Error ellipse: s-maj=4.7km s-min=4.2km az=148.3*

*NEIC **14** 19:39:46.9, 3934N×2100E, h17km, MD3.2(ATH), After ATH.*

*THE **14** 19:39:46.7, 3938N×2097E, h10km, ML2.1*

*ATH **14** 19:39:46.9, 3933N×2100E, h16km±5km, MD3.2/4*

*CSEM **14** 19:39:46.7±0.1, 3936N×2096E, h10km, MD3.2, Error ellipse: s-maj=1.9km s-min=1.7km az=27.0*

ISC 14 19:39:47.0±0.5, 3935N±003×2098E±004, h8km±5km, n19, σ0$77/30, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.32**	**342**	*ePB*	**Pg**	**19 39 53.2**	**0.0**
JAN				*eSB*	**Sg**	**19 39 59.1**	**+1.6**
IGT	**Igoumenitsa**	**0.53**	**290**	*ePg*	**Pg**	**19 39 56.2**	**-1.0**
IGT				*eSg*	**Sg**	**19 40 04.2**	**0.0**
IGT	**Igoumenitsa**	**0.53**	**290**	P	**Pg**	**19 39 56.2**	**-1.0**
LKD	**Levkas**	**0.69**	**202**	*ePg*	**Pg**	**19 39 60.0**	**-0.3**
LKD				*eSg*	**Sg**	**19 40 11.4**	**+2.1**
LKD	**Levkas**	**0.69**	**202**	P	**Pg**	**19 39 60.0**	**-0.3**
LKD				S	**Sg**	**19 40 11.4**	**+2.1**
EVR	**Evrytania**	**0.78**	**124**	*ePN*	**Pg**	**19 40 01.5**	**-0.5**
KEK	**Kerkira**	**0.98**	**292**	*ePN*	**Pn**	**19 40 06.0**	**-0.9**
AGG	**Agios Georgios**	**1.10**	**107**	*ePg*	**Pg**	**19 40 07.3**	**-0.8**
AGG				*eSg*	**Sg**	**19 40 22.9**	**+0.4**
AGG	**Agios Georgios**	**1.10**	**107**	P	**Pg**	**19 40 07.2**	**-0.9**
AGG				S	**Sg**	**19 40 22.4**	**0.0**
KZN	**Kozani**	**1.13**	**32**	*ePN*	**Pn**	**19 40 09.5**	**+0.4**
KZN				*eSN*	**Sn**	**19 40 24.5**	**-0.3**
VLS	**Valsamata**	**1.21**	**195**	*ePN*	**Pn**	**19 40 09.7**	**-0.4**
VLS				*eSN*	**Sn**	**19 40 26.8**	**+0.1**
LIT	**Litokhoron**	**1.39**	**57**	*ePg*	**Pg**	**19 40 12.7**	**-0.8**
LIT	**Litokhoron**	**1.39**	**57**	P	**Pn**	**19 40 12.4**	**-0.2**
FNA	**Florina**	**1.46**	**12**	*ePg*	**Pn**	**19 40 13.5**	**-0.1**
FNA				*eSg*	**Sg**	**19 40 33.8**	**-0.2**
FNA	**Florina**	**1.46**	**12**	P	**Pn**	**19 40 13.4**	**-0.2**
FNA				S	**Sn**	**19 40 33.8**	**+0.9**
XOR	**Xorichti**	**1.72**	**89**	*ePb*	**Pn**	**19 40 16.9**	**-0.2**
XOR				*eSb*	**Sb**	**19 40 41.8**	**+1.3**
XOR	**Xorichti**	**1.72**	**89**	P	**Pn**	**19 40 16.7**	**-0.4**
GRG	**Griva**	**1.94**	**34**	*ePb*	**Pn**	**19 40 20.0**	**-0.1**
GRG	**Griva**	**1.94**	**34**	P	**Pn**	**19 40 19.9**	**-0.2**

GUC 14 19:42:07.8±0.9, 3315S×7024W, h3km±3km, MD3.5, ML1.7, 5C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.18**	**192**	⇑*iP*	Pg	19 42 12.2	+0.9
FCH				*i* S	Sg	19 42 15.1	+1.3
FCH				AML	AML	19 42 15.7	
	comp=E,424nm,0.3s						
CLCH	**Cerro Calan**	**0.35**	**225**	⇑*iP*	Pg	19 42 15.6	+1.1
CLCH				*eS*	Sg	19 42 20.4	+1.4
CLCH				AML	AML	19 42 23.2	
	comp=N,195nm,0.5s						
PCH	**Pirque**	**0.52**	**206**	⇑*iP*	Pg	19 42 18.7	+0.9
JACH	**Jahuel**	**0.55**	**328**	⇓*iP*	Pg	19 42 19.2	+0.8
JACH				*i* S	Sg	19 42 27.4	+1.9
RCDM	**Rinconada Maip**	**0.58**	**234**	⇑*iP*	Pg	19 42 19.9	+1.0
RCDM				AML	AML	19 42 29.0	
	comp=E,57nm,0.1s						
LMEL	**Las Melosas**	**0.70**	**177**	⇑*iP*	Pg	19 42 21.5	+0.3
LMEL				AML	AML	19 42 34.2	
	comp=N,55nm,0.1s						
CACH	**El Canelo**	**1.01**	**197**	*eP*	Pg	19 42 28.2	+1.0
CICH	**Cipreses**	**1.18**	**187**	*i* S	Sg	19 42 46.7	+1.1
LNV	**Longovilo**	**1.26**	**230**	*eP*	Pg	19 42 31.1	-1.0
LNV				*i* S	Sg	19 42 48.2	-0.2

*NEIC **14** 19:57:11.8, 3749N×2204E, h16km, ML3.4(ATH), After ATH.*

*ATH **14** 19:57:11.8, 3749N×2204E, h16km±2km, MD3.5/12, ML3.4*

*ISCJB **14** 19:57:12.3±0.4, 3748N±003×2205E±004, h10km, Error ellipse: s-maj=5.2km s-min=3.5km az=156.0*

*CSEM **14** 19:57:12.4±0.1, 3749N×2210E, h0km, ML3.4, Error ellipse: s-maj=2.2km s-min=1.5km az=72.0*

*THE **14** 19:57:12.4, 3753N×2223E, h10km, ML2.9*

ISC 14 19:57:12.8±0.4, 3747N±003×2206E±004, h10km, n24, σ1$18/33, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.31**	**200**	*ePB*	**Pg**	**19 57 18.0**	**-1.0**
ITM				*eSB*	**Sg**	**19 57 23.5**	**+0.3**
RLS	**Riolos of Patr**	**0.75**	**321**	*ePB*	**Pg**	**19 57 25.3**	**-2.0**
RLS				*eSN*	**Sg**	**19 57 36.9**	**-0.3**
VLI	**Veliai**	**1.03**	**137**	*ePN*	**Pn**	**19 57 32.3**	**-0.9**
VLI				*eSN*	**Sn**	**19 57 46.7**	**-1.0**
MGER	**Gerania Oros**	**1.08**	**61**	*ePN*	**Pn**	**19 57 32.5**	**-1.5**
VLS	**Valsamata**	**1.36**	**302**	*ePN*	**Pn**	**19 57 37.9**	**0.0**
LKR	**Lokris**	**1.39**	**32**	*ePN*	**Pn**	**19 57 37.6**	**-0.7**
LKR				*eSN*	**Sn**	**19 57 57.4**	**+0.7**
KVR	**Kavouri**	**1.40**	**75**	*ePN*	**Pn**	**19 57 39.0**	**+0.6**
ATH	**Athens Observa**	**1.40**	**69**	*ePN*	**Pn**	**19 57 38.8**	**+0.4**
ATH				*eSN*	**Sn**	**19 57 57.9**	**+0.9**
KYTH	**Kithira**	**1.42**	**146**	*ePN*	**Pn**	**19 57 40.0**	**+1.3**
EVR	**Evrytania**	**1.46**	**352**	*ePN*	**Pn**	**19 57 38.1**	**-1.1**
EVR				*eSN*	**Sn**	**19 57 58.2**	**-0.1**
PTL	**Penteli**	**1.54**	**67**	*ePN*	**Pn**	**19 57 40.5**	**+0.2**
AGG	**Agios Georgios**	**1.56**	**8**	*ePg*	**Pg**	**19 57 41.4**	**-1.5**
	comp=Z,2.5nm,0.9s						
AGG				*eSg*	**Sg**	**19 58 03.1**	**0.0**
AGG	**Agios Georgios**	**1.56**	**8**	*ePg*	**Pg**	**19 57 41.3**	**-1.5**
	2.5nm,0.9s						
AGG				*eSg*	**Sg**	**19 58 03.1**	**0.0**
LKD	**Levkas**	**1.66**	**318**	*ePB*	**Pb**	**19 57 44.8**	**+1.3**
LKD				*eSb*	**Sb**	**19 58 07.9**	**+3.4**
NEO	**Neokhori**	**2.05**	**26**	*ePB*	**Pb**	**19 57 47.0**	**-3.1**
XOR	**Xorichti**	**2.09**	**25**	*ePn*	**Pn**	**19 57 48.1**	**+0.2**
AOS	**Alonnisos**	**2.22**	**40**	*ePn*	**Pn**	**19 57 49.4**	**-0.3**
IGT	**Igoumenitsa**	**2.47**	**327**	*ePn*	**Pn**	**19 57 55.7**	**+2.7**
VAM	**Vamos**	**2.69**	**139**	*ePB*	**Pb**	**19 57 58.0**	**-3.0**
PAIG	**Paliouri**	**2.76**	**27**	*ePn*	**Pn**	**19 57 57.6**	**+0.5**
APE	**Apeiranthos**	**2.80**	**97**	*ePn*	**Pn**	**19 57 58.7**	**+1.1**
APE	**Apeiranthos**	**2.80**	**97**	*ePN*	**Pn**	**19 57 59.0**	**+1.4**
GVD	**Gavdhos**	**3.10**	**147**	*ePn*	**Pn**	**19 58 03.6**	**+1.9**
KNT	**Kendrikon**	**3.74**	**10**	*ePn*	**Pn**	**19 58 11.1**	**+0.5**

*ISCJB **14** 20:02:04.1±0.4, 4385N±003×708E±003, h7km±5km, Error ellipse: s-maj=4.8km s-min=3.7km az=141.0*

*STR **14** 20:02:04.3±0.3, 4386N×7.10E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **14** 20:02:04.9±0.1, 4382N×7.14E, h2km, Md2.2/2, Ml1.9/5, Error ellipse: s-maj=1.9km s-min=1.3km az=159.0*

ISC 14 20:02:04.6±0.4, 4383N±003×712E±003, h9km±4km, n16, σ0$59/28, Near south coast of France

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC

0.4nm,0.6s,baz=306,slow=8.5,SNR=9.3
FINES FINESS Array B 69.63 332 P P 20 16 52.4 -0.4
1.0nm,0.7s,baz=132,slow=2.8,SNR=8.0
GERES GERESS Array B 75.13 318 P P 20 17 26.3 +0.7
0.5nm,0.6s,baz=77,slow=6.0,SNR=6.6

*IDC **14** 20:28:34.7±5.6, 1964S×17574W, h0km, mb4.4/3, mb1 4.6/3, mb1mx3.9/13, mbtmp4.4/3, Error ellipse: s-maj=173.9km s-min=90.3km az=142.0*
*ISCJB **14** 20:28:37.0±1.2, 195S±02×1757W±02, h33km, mb4.4/8, Error ellipse: s-maj=32.9km s-min=24.1km az=139.8*
*NEIC **14** 20:28:39.3±0.9, 1955S×17574W, h35km, mb4.4/6, Error ellipse: s-maj=26.9km s-min=20.5km az=161.0*
ISC 14 20:28:39.1±1.1**, 196S**±02×**1757W**±02**, h35**km**, n14, σ0s95/13, mb4.4/8, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**37.32**	**280**	P		**P**		**20 35 47.8**	**-0.1**
STKA	**Stephens Creek**	**40.17**	**244**	*eP*		**P**		**20 36 11.3**	**-0.6**
	1.6nm,0.6s,mb3.9								
STKA	**Stephens Creek**	**40.17**	**244**	P		**P**		**20 36 11.5**	**-0.4**
	1.9nm,0.5s,mb4.1,baz=86,slow=12,SNR=12								
ASAR	**Alice Springs**	**46.88**	**256**	P		**P**		**20 37 06.7**	**+0.8**
	8.4nm,0.6s,mb4.9,baz=98,slow=7.5,SNR=153								
WB2	**Warramunga Arr**	**46.91**	**261**	*eP*		**P**		**20 37 04.8**	**-1.3**
WRAB	**Tennant Creek**	**46.91**	**261**	*eP*		**P**		**20 37 06.7**	**+0.6**
	3.0nm,0.6s,mb4.4								
WRA	**Warramunga Arr**	**46.92**	**261**	P		**P**		**20 37 06.8**	**+0.6**
	2.0nm,0.5s,mb4.3,baz=97,slow=7.6,SNR=29								
FITZ	**Fitzroy Crossi**	**55.34**	**261**	*eP*		**P**		**20 38 09.2**	**-0.2**
	3.7nm,0.5s,mb4.7								
SBA	**Scott Base**	**58.94**	**184**	*eP*		**P**		**20 38 33.2**	**-1.6**
MBWA	**Marble Bar**	**60.21**	**256**	*eP*		**P**		**20 38 43.0**	**-0.6**
	3.3nm,0.5s,mb4.6								
CASY	**Casey**	**65.73**	**205**	*eP*		**P**		**20 39 22.2**	**+2.0**
	1.2nm,0.5s,mb4.2								
QSPA	**South Pole Qui**	**70.49**	**180**	*eP*		**P**		**20 39 57.1**	**+7.0**
	2.0nm,0.6s,mb4.2								
HUMO	**Hull Mountain**	**78.63**	**37**	*eP*		**P**		**20 40 37.4**	**+0.1**
AKASG	**Malin Array Be**	**143.23**	**333**	PKP		PKPdf		20 48 10.0	+0.5
	0.4nm,0.4s,baz=41,slow=4.0,SNR=7.0								

*CSEM **14** 20:31:32.3±0.6, 3674N×2421W, h10km, ML2.5, Error ellipse: s-maj=6.9km s-min=4.0km az=64.0, After PDA*
*PDA **14** 20:31:32.3±0.6, 3674N×2421W, h10km, MD2.8, ML2.5, Error ellipse: s-maj=6.9km s-min=4.0km az=64.0*
SVSA 14 20:31:32.3±0.6**, 3674N×2421W, h10**km**, MD2.8, ML2.5, Error ellipse: s-maj=6.9km s-min=4.0km az=64.0, Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.74**	**291**	*eP*			Pg	20 31 44.0	-2.5
PSMN				*eS*			Sg	20 31 52.8	-3.4
MIRA	**Miradouro**	**1.35**	**321**	*iP*			Pn	20 31 52.4	-4.8
MIRA				*eS*			Sb	20 32 07.5	-7.5
FRA1	**Furnas**	**1.36**	**318**	*eS*			Sb	20 32 08.2	-7.0
PCNG	**Congro**	**1.40**	**318**	*erx*				20 32 09.6	
VIF	**Vila Franca**	**1.41**	**316**	*eS*			Sn	20 32 08.9	-7.6
VIF									
	24nm,0.2s								
PFAD	**Fenais da Ajud**	**1.41**	**321**	*eP*			Pn	20 31 53.4	-4.6
PFAD				*eS*			Sn	20 32 09.4	-7.3
PRCH	**Ribeira Ch**	**1.42**	**315**	*eS*			Sn	20 32 09.5	-7.3
PRCH									
	35nm,0.2s								
MESC	**Monte Escuro**	**1.44**	**317**	*eP*			Pn	20 31 54.2	-4.3
MESC				*eS*			Sn	20 32 10.1	-7.3
LFA	**Lagoa do Fogo**	**1.45**	**316**	*eP*			Pn	20 31 54.1	-4.4
PMAT	**Coroa da Mata**	**1.47**	**317**	*erx*				20 32 12.0	
CML	**Cha da Maceia**	**1.48**	**314**	*eS*			Sn	20 32 11.1	-7.3
FAC	**Faja de Cima**	**1.55**	**312**	*eS*			Sn	20 32 12.8	-7.2

*KRSC **14** 20:40:18.1±1.4, 6079N×16594E, h5km±2km, ML3.9*
*ISCJB **14** 20:40:19.2±1.2, 6080N±004×1659E±0.1, h9km±9km, mb3.6/5, Error ellipse: s-maj=9.9km s-min=6.2km az=52.3*
*MOS **14** 20:40:21.7±1.8, 6082N×16668E, h10km, mb4.0/2, Error ellipse: s-maj=49.9km s-min=19.4km az=85.3*
*IDC **14** 20:40:23.7±10.0, 6081N×16673E, h0km, mb3.4/3, mb1 3.9/4, mb1mx3.4/22, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=219.7km s-min=22.1km az=95.0*
*NEIC **14** 20:40:25.3±1.0, 6103N×16646E, h10km, mb4.0/3, Error ellipse: s-maj=24.2km s-min=14.9km az=148.0*
ISC 14 20:40:20.1±1.4**, 6081N**×004×**1659E**±01**, h5**km±10km**, n25, σ1s20/29, mb3.6/5, Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.40**	**165**	*iP*			**Pg**	**20 40 26.6**	**-1.2**
TILR				*iS*			**Sg**	**20 40 32.6**	**-0.4**
KAMR	**Kamenskoye**	**1.66**	**6**	*iP*			**Pn**	**20 40 49.0**	**-0.9**
KAMR				*iS*			**Sn**	**20 41 10.4**	**-1.2**
KAMR				Smax					
	790nm,0.5s								
OSSR	**Ossora**	**2.10**	**223**	*eP*			**Pn**	**20 40 55.6**	**-0.4**
OSSR				*eS*			**Sn**	**20 41 21.2**	**-1.3**
OSSR				Smax					
	850nm,0.5s								
EVNR	**Evensk**	**3.36**	**292**	*iP*			**Pn**	**20 41 13.9**	**+0.6**
EVNR				*iS*			**Sn**	**20 41 55.5**	**+2.0**
SMKR	**Semkarok**	**4.82**	**210**	*eP*			**Pn**	**20 41 33.3**	**0.0**
SMKR				*eS*			**Sn**	**20 42 26.6**	**-2.9**
KBTR	**Krutoberegovo**	**4.88**	**200**	*iP*			**Pn**	**20 41 34.9**	**+0.7**
ZLN	**Zelenaya**	**5.49**	**211**	*eP*			**Pn**	**20 41 44.1**	**+1.5**
SRDR	**Sredinnyy**	**5.53**	**218**	*eP*			**Pn**	**20 41 43.6**	**+0.5**
KMNR	**Kamenistaya**	**5.87**	**213**	*eP*			**Pn**	**20 41 49.7**	**+1.9**
SEY	**Seymchan**	**6.71**	**294**	*iP*			**Pn**	**20 41 59.5**	**+0.1**
SEY				*iS*			**Sn**	**20 43 14.1**	**-2.1**
BILL	**Bilibino**	**7.26**	**1**	*ePN*			**Pn**	**20 42 07.6**	**+0.7**
BILL				pmax		pmax			
	comp=Z,3.0nm,0.4s								
BILL	**Bilibino**	**7.26**	**1**	*ePn*			**Pn**	**20 42 07.6**	**+0.8**
	comp=Z,2.5nm,0.4s								
BILL				*eSn*			**Sn**	**20 43 22.9**	**-6.8**
BILL	**Bilibino**	**7.26**	**1**	*iP*			**Pn**	**20 42 07.0**	**+0.1**
BILL				*iS*			**Sn**	**20 43 28.4**	**-1.3**
FX1	**Attu Island--F**	**8.90**	**150**	Pn			**Pn**	**20 42 29.1**	**-0.2**
	comp=Z,1.6nm,0.3s,baz=128,slow=15,SNR=6.2								
FX1	**Attu Island--F**	**8.90**	**150**	PN			**Pn**	**20 42 29.1**	**-0.2**
FX1				pmax		pmax			
	comp=Z,2.0nm,0.3s								
YSS	**Yuzh-Sakhalins**	**19.29**	**234**	*eP*			pP	20 44 53.2	+6.0
YSS				pmax		pmax			
	comp=Z,5.0nm,0.3s								
YSS	**Yuzh-Sakhalins**	**19.29**	**234**	*eP*			pP	20 44 53.2	+6.0
	comp=Z,5.0nm,0.3s								
ILAR	**Eielson Array**	**21.55**	**59**	P			**P**	**20 45 10.5**	**+0.1**
	comp=Z,1.5nm,0.7s,mb3.5,baz=272,slow=7.2,SNR=26								
INK	**Inuvik**	**26.04**	**48**	*eP*			**P**	**20 45 55.3**	**+1.1**
INK				pmax		pmax			
	comp=Z,1.0nm,0.3s								
INK	**Inuvik**	**26.04**	**48**	*eP*			**P**	**20 45 55.3**	**+1.0**
	comp=Z,0.6nm,0.3s,mb3.6								
YKA	**Yellowknife Ar**	**35.58**	**52**	P			**P**	**20 47 17.6**	**-0.9**
	comp=Z,0.1nm,0.4s,mb3.1,baz=306,slow=7.7,SNR=4.3								
YKA	**Yellowknife Ar**	**35.58**	**52**	P			**P**	**20 47 17.6**	**-0.9**
BRVK	**Borovoye**	**48.22**	**306**	*eP*			pP	20 49 07.7	+4.4
BRVK				pmax		pmax			
	comp=Z,1.0nm,0.3s,mb4.3								
BRVK	**Borovoye**	**48.22**	**306**	*eP*			pP	20 49 07.7	+4.4
	comp=Z,0.4nm,0.3s								
PDAR	**Pinedale Array**	**51.41**	**70**	P			**P**	**20 49 28.8**	**+2.7**
	comp=Z,0.5nm,0.7s,mb3.6,baz=309,slow=2.8,SNR=3.8								

*NEIC **14** 20:54:03.0±0.8, 424N×9632E, h30km, mb3.8/5, Error ellipse: s-maj=24.7km s-min=10.9km az=54.0*
*ISCJB **14** 20:54:04.3±3.3, 4 0N±02×959E±03, h73km±28km, mb3.6/10, Error ellipse: s-maj=50.1km s-min=14.0km az=113.2*
*IDC **14** 20:54:04.4±5.0, 396N×9581E, h58km±44km, mb3.4/6, mb1 3.5/7, mb1mx3.3/19, mbtmp3.6/7, ML3.5/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/15, Error ellipse: s-maj=57.6km s-min=20.8km az=48.0*
ISC 14 20:54:05.9±3.2**, 40N**±02×**959E**±03**, h66**km±27km**, n16, σ0s56/17, mb3.6/10, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.26**	**111**	P		**P**	**Pn**	**20 54 54.6**	**0.0**
	5.1nm,0.3s,baz=318,slow=13,SNR=29								
PSI				S			**Sn**	**20 55 41.4**	**+9.2**
	3.3nm,0.3s,baz=181,slow=21,SNR=4.1								
PSI				LR		LR		20 56 33.1	
	comp=Z,191nm,21.1s,baz=292,slow=44								
KULM	**Kulim**	**4.92**	**75**	*ePn*			**Pn**	**20 55 07.6**	**-10**
LSA	**Lhasa**	**25.94**	**351**	*eP*			**P**	**20 59 32.2**	**+0.2**
	0.8nm,0.5s,mb3.4								
MBWA	**Marble Bar**	**34.23**	**138**	P			**P**	**21 00 45.5**	**+0.2**
SONM	**Songino Array**	**44.59**	**10**	P			**P**	**21 02 11.6**	**+0.2**
	0.3nm,0.8s,mb3.1,baz=198,slow=7.2,SNR=3.8								
WRA	**Warramunga Arr**	**44.65**	**124**	P			**P**	**21 02 11.3**	**-0.6**
	0.7nm,0.6s,mb3.6,baz=302,slow=9.2,SNR=8.0								
WRAB	**Tennant Creek**	**44.66**	**124**	*eP*			**P**	**21 02 12.4**	**+0.4**
	2.6nm,0.7s,mb4.1								
WRAB				*epP*			pP	21 02 25.3	-3.2
WB2	**Warramunga Arr**	**44.66**	**124**	*eP*			**P**	**21 02 18.4**	**+6.4**
ASAR	**Alice Springs**	**46.14**	**128**	P			**P**	**21 02 24.6**	**+0.9**
	1.2nm,0.6s,mb3.8,baz=298,slow=7.9,SNR=20								
KURK	**Kurchatov**	**48.76**	**345**	*eP*			**P**	**21 02 44.3**	**+0.3**
	0.5nm,0.5s,mb3.7								
BRVK	**Borovoye**	**53.25**	**341**	*eP*			**P**	**21 03 17.5**	**-0.1**
	0.3nm,0.4s,mb3.7								
ZRNK	**Zerenda**	**53.58**	**340**	*eP*			**P**	**21 03 19.8**	**-0.4**
STKA	**Stephens Creek**	**56.21**	**133**	*eP*			**P**	**21 03 37.8**	**-1.3**
	1.7nm,1.2s,mb4.0								
STKA	**Stephens Creek**	**56.21**	**133**	P			**P**	**21 03 38.2**	**-0.9**
	0.7nm,0.6s,mb3.9,baz=312,slow=11,SNR=4.9								
BRTR	**Keskin Array B**	**66.27**	**312**	P			**P**	**21 04 46.4**	**-0.7**
	0.2nm,0.4s,mb3.3,baz=87,slow=7.4,SNR=2.3								
TORD	**Torodi Ar. Bea**	**93.17**	**283**	P			**P**	**21 07 13.6**	**+0.8**
	0.3nm,0.6s,mb3.8,baz=59,slow=4.7,SNR=4.8								

*TRN **14** 21:02:45.6, 1782N×6256W, h81km, MD3.9*
TRN Felt (II) & (III) in St. Barths. and (III)in St.Martin.
*ISCJB **14** 21:02:46.2±0.3, 1772N±005×6266W±004, h96km±3km, mb3.9/13, Error ellipse: s-maj=9.4km s-min=4.0km az=80.2*
*NEIC **14** 21:02:47.5, 1784N×6260W, h65km, MD4.0(TRN), MD4.5(FDF), After TRN.*
NEIC Felt [III] on Saint-Barthelemy. Also felt at Philipsburg, St. Maarten.
*IDC **14** 21:02:47.3±3.0, 1763N×6270W, h92km±29km, mb3.6/13, mb1 3.9/15, mb1mx3.7/23, mbtmp4.1/15, Error ellipse: s-maj=23.4km s-min=12.3km az=80.0*
ISC 14 21:02:47.2±0.3**, 1774N**±004×**6263W**±004**, h88**km±3km**, h77**km±1.5km**:pP-P, n47, σ0s72/65, mb3.9**/13**, 7C-10D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKDB	**Saint Kitts 2**	**0.38**	**206**	*eP*			**Pn**	**21 03 01.1**	**+0.3**
STAT	**Sint Eustatius**	**0.41**	**234**	*i/P*			**Pn**	**21 03 01.9**	**+0.8**
STAT				*eS*			**Sn**	**21 03 11.7**	**+0.3**
SKI	**Saint Kitts**	**0.42**	**194**	*i/P*			**Pn**	**21 03 01.6**	**+0.4**
SKI				*eS*			**Sn**	**21 03 11.6**	**+0.1**
BSK	**Brimstone Hill**	**0.44**	**207**	*i/eP*			**Pn**	**21 03 01.9**	**+0.6**
BSK				*eS*			**Sn**	**21 03 12.7**	**+1.0**
SKTB	**Turtle Beach**	**0.53**	**179**	*i/P*			**Pn**	**21 03 02.6**	**+0.6**
SKTB				*eS*			**Sn**	**21 03 13.6**	**+0.6**
STMA	**St. Maarten, A**	**0.55**	**303**	*i/P*			**Pn**	**21 03 01.8**	**-0.4**
STMA				*eS*			**Sn**	**21 03 11.2**	**-1.9**
NVRH	**Round Hill, Ne**	**0.56**	**177**	*i/P*			**Pn**	**21 03 02.6**	**+0.4**
NVRH				*eS*			**Sn**	**21 03 13.5**	**+0.1**
SABS	**Saba**	**0.60**	**258**	*eP*			**Pn**	**21 03 02.9**	**+0.4**
SABS				*eS*			**Sn**	**21 03 13.5**	**-0.5**
SABT	**Saba**	**0.60**	**258**	*eP*			**Pn**	**21 03 02.9**	**+0.4**
SABT				*eS*			**Sn**	**21 03 13.5**	**-0.5**
NVBH	**Bath Hotel, Ne**	**0.62**	**179**	*i/P*			**Pn**	**21 03 03.3**	**+0.6**
CPB	**Codrington**	**0.77**	**98**	*i/P*			**Pn**	**21 03 03.7**	**-0.6**
CPB				*eS*			**Sn**	**21 03 14.9**	**-2.0**
BPA	**Boggy Peak**	**1.01**	**133**	*i/P*			**Pn**	**21 03 07.1**	**+0.2**
BPA				*eS*			**Sn**	**21 03 21.4**	**-0.2**
SEG	**Port Louis**	**1.71**	**141**	*i/eP*			**Pn**	**21 03 15.3**	**-0.3**
SEG				*eS*			**Sn**	**21 03 37.5**	**+0.5**
LZG	**Guadaloupe-1**	**1.79**	**153**	*i/eP*			**Pn**	**21 03 16.6**	**0.0**
LZG				*eS*			**Sn**	**21 03 40.0**	**+1.1**
BCG	**Bois Riant Cap**	**1.91**	**149**	*i/eP*			**Pn**	**21 03 18.4**	**+0.2**
SCG	**Saint Claude**	**1.93**	**152**	*eP*			**Pn**	**21 03 18.6**	**+0.2**
DOG	**Dongo Capester**	**1.96**	**150**	*i/eP*			**Pn**	**21 03 18.7**	**-0.1**
PHG	**Guadaloupe-2**	**1.96**	**151**	*i/eP*			**Pn**	**21 03 19.1**	**+0.3**
HMG	**Houelmont**	**1.96**	**153**	*eP*			**Pn**	**21 03 19.2**	**+0.3**
SFG	**Saint Francois**	**2.02**	**137**	*eP*			**Pn**	**21 03 19.4**	**-0.1**
DEG	**La Desirade**	**2.07**	**133**	*i/P*			**Pn**	**21 03 19.4**	**-0.8**
DEG				*eS*			**Sn**	**21 03 44.8**	**-0.6**
TBG	**Guadaloupe-3**	**2.10**	**153**	*eP*			**Pn**	**21 03 20.9**	**+0.2**
MGG	**Marie-Galante**	**2.21**	**145**	*i/P*			**Pn**	**21 03 22.4**	**+0.4**
MGG				*eS*			**Sn**	**21 03 49.1**	**+0.4**
BBL	**Barber's Block**	**2.47**	**153**	*eP*			**Pn**	**21 03 25.9**	**+0.4**
DWS	**Wesley**	**2.50**	**150**	*eP*			**Pn**	**21 03 26.1**	**+0.1**
DWS				*eS*			**Sn**	**21 03 55.1**	**-0.6**
FDF	**Fort de France**	**3.31**	**154**	*i/eP*			**Pn**	**21 03 37.3**	**+0.5**
FDF				*eS*			**Sn**	**21 04 15.5**	**+0.2**
SJG	**San Juan**	**3.37**	**277**	P			**Pn**	**21 03 37.6**	**-0.1**
	100nm,0.3s,baz=100,slow=11,SNR=177								
SJG				S			**Sn**	**21 04 16.3**	**-0.3**
	91nm,0.3s,baz=140,slow=19,SNR=18								
CRM	**Caravelle**	**3.40**	**151**	*eP*			**Pn**	**21 03 37.7**	**-0.3**
CRM				*eS*			**Sn**	**21 04 15.5**	**-1.8**
BIM	**Bigot**	**3.54**	**155**	*eP*			**Pn**	**21 03 40.5**	**+0.5**
MVM	**Montagne Vaucl**	**3.58**	**152**	*eP*			**Pn**	**21 03 40.5**	**0.0**
MVM				*eS*			**Sn**	**21 04 21.4**	**-0.4**
SDV	**Santo Domingo**	**11.75**	**223**	P			**Pn**	**21 05 29.6**	**-2.1**
	0.8nm,0.3s,baz=74,slow=7.5,SNR=5.9								
SIV	**San Ignacio**	**33.56**	**177**	P			**P**	**21 09 18.1**	**-0.5**
	1.8nm,0.4s,mb4.2,baz=5.6,slow=8.0,SNR=22								
LPAZ	**La Paz**	**34.25**	**189**	P			**P**	**21 09 24.4**	**-0.2**
	0.4nm,0.4s,mb3.6,baz=27,slow=4.5,SNR=3.0								
LVC	**Limon Verde**	**40.58**	**189**	P			**P**	**21 10 16.4**	**-1.6**
	1.7nm,0.4s,mb4.2,baz=5.8,slow=6.7,SNR=10.0								
ULM	**Lac du Bonnet**	**41.93**	**328**	*pP*			pP	21 10 47.1	-2.9
	1.1nm,0.5s,baz=127,slow=7.0,SNR=3.1								
BNM	**Barren Site**	**42.46**	**301**	*eP*			**P**	**21 10 34.5**	**+1.1**
BNM				*epP*			pP	21 10 52.8	-1.5
CPUP	**Villa Florida**	**44.11**	**173**	P			**P**	**21 10 45.5**	**-1.2**
	1.2nm,0.5s,mb3.9,baz=344,slow=5.9,SNR=9.7								
CPUP	**Villa Florida**	**44.11**	**173**	P			**P**	**21 10 45.5**	**-1.2**
PDAR	**Pinedale Array**	**46.83**	**312**	P			**P**	**21 11 09.0**	**+0.9**
	0.5nm,0.5s,mb3.5,baz=110,slow=10.0,SNR=4.4								
PDAR				*pP*			pP	21 11 27.2	-2.1
	0.9nm,0.5s,baz=117,slow=8.7,SNR=6.2								
PDAR				*PcP*			PcP	21 12 40.6	+0.8
	0.7nm,0.5s,baz=118,slow=5.2,SNR=4.6								
PDAR				*pPcP*				21 13 01.1	
	0.7nm,0.6s,baz=116,slow=4.4,SNR=4.9								
YKA	**Yellowknife Ar**	**57.26**	**334**	P			**P**	**21 12 24.5**	**-0.9**
	1.8nm,0.6s,mb4.3,baz=108,slow=7.4,SNR=22								
YKA				*pP*			pP	21 12 44.6	-2.8
	1.1nm,0.7s,baz=111,slow=7.6,SNR=7.8								
TORD	**Torodi Ar. Bea**	**61.92**	**84**	P			**P**	**21 12 58.1**	**+0.6**
	0.8nm,0.7s,mb3.9,baz=290,slow=7.8,SNR=9.4								
INK	**Inuvik**	**66.60**	**337**	P			**P**	**21 13 27.3**	**-0.8**
	3.4nm,1.0s,mb4.2,baz=41,slow=9.3,SNR=3.6								
NOA	**NORSAR Array B**	**66.82**	**31**	P			**P**	**21 13 29.8**	**+0.4**
	1.2nm,0.9s,mb3.7,baz=266,slow=6.2,SNR=2.6								
GERES	**GERESS Array B**	**67.90**	**44**	P			**P**	**21 13 36.8**	**+0.5**
	0.3nm,0.6s,mb3.3,baz=291,slow=3.7,SNR=3.7								
ARCES	**ARCESS Array B**	**72.88**	**22**	P			**P**	**21 14 07.0**	**+0.5**
	3.8nm,1.1s,mb4.2,baz=286,slow=3.4,SNR=2.8								
FINES	**FINESS Array B**	**73.98**	**30**	P			**P**	**21 14 13.5**	**+0.4**
	1.1nm,0.6s,mb3.8,baz=256,slow=3.1,SNR=10								
BRTR	**Keskin Array B**	**83.54**	**50**	P			**P**	**21 15 06.5**	**+1.1**
	1.1nm,0.6s,mb3.8,baz=273,slow=4.9,SNR=10								

*KRSC **14** 21:09:00.6±0.7, 6134N×16774E, h0km±3km, ML3.9*
*ISCJB **14** 21:09:02.5±0.5, 6127N±004×1679E±0.1, h10km, mb3.8/5, Error ellipse: s-maj=7.7km s-min=5.0km az=42.0*
*IDC **14** 21:09:07.4±7.2, 6110N×16927E, h0km, mb3.9/3, mb1 4.2/5, mb1mx3.6/23, mbtmp3.9/5, ML3.7/2, MS2.7/1, Ms1 2.8/1, ms1mx1.7/33, Error ellipse: s-maj=160.7km s-min=17.7km az=101.0*
*NEIC **14** 21:09:09.0±0.9, 6134N×16892E, h10km, mb4.1/3, Error ellipse: s-maj=31.9km s-min=15.1km az=169.0*
*MOS **14** 21:09:15.3±1.1, 6298N×16876E, h10km, mb4.1/3, Error ellipse: s-maj=46.3km s-min=17.1km az=94.5*
ISC 14 21:09:04.1±0.5**, 6131N**±004×**1678E**±01**, h10**km**, n37, σ1s06/44, mb3.8/5, Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**1.22**	**225**	*iP*			**Pn**	**21 09 24.9**	**-2.4**
TILR				*eS*			**Sb**	**21 09 43.1**	**0.0**
TILR	**Tilichiki**	**1.22**	**225**	*eP*			**Pn**	**21 09 25.3**	**-2.0**
TILR				*eS*			**Sb**	**21 09 42.7**	**-0.4**
KAMR	**Kamenskoye**	**1.38**	**328**	*eP*			**Pn**	**21 09 27.9**	**-1.5**
KAMR				*iS*			**Sb**	**21 09 47.7**	**+0.1**
KAMR				Smax					
	3µm,0.6s								
KAMR	**Kamenskoye**	**1.38**	**328**	*iP*			**Pn**	**21 09 28.0**	**-1.4**
KAMR				*iS*			**Sb**	**21 09 47.4**	**-0.2**
KAMR				Smax					
	2µm,0.7s								
OSSR	**Ossora**	**3.13**	**231**	*eP*			**Pn**	**21 09 53.0**	**-0.5**
OSSR	**Ossora**	**3.13**	**231**	*eP*			**Pn**	**21 09 53.1**	**-0.4**
OSSR				*iS*			**Sn**	**21 10 29.7**	**-1.3**
OSSR				Smax					
	500nm,0.4s								
EVNR	**Evensk**	**4.12**	**282**	*eP*			**Pn**	**21 10 07.0**	**-0.1**
KBG	**Krutoberegovo**	**5.71**	**210**	*eP*			**Pn**	**21 10 28.7**	**-0.3**
KBTR	**Krutoberegovo**	**5.73**	**209**	*iP*			**Pn**	**21 10 29.3**	**+0.1**
KBTR	**Krutoberegovo**	**5.73**	**209**	*eP*			**Pn**	**21 10 29.5**	**+0.3**
SMKR	**Semkarok**	**5.76**	**217**	*iP*			**Pn**	**21 10 30.5**	**+0.9**
SRKR	**Sorokina**	**5.79**	**219**	*eP*			**Pn**	**21 10 29.9**	**-0.1**
BDR	**Baidarnaya**	**5.85**	**219**	*eP*			**Pn**	**21 10 31.7**	**+0.9**
BKI	**Bering**	**6.20**	**190**	*eP*			**Pn**	**21 10 36.5**	**+0.9**
CIRR	**Tsirk**	**6.37**	**218**	*eP*			**Pn**	**21 10 38.7**	**+0.7**
ZLN	**Zelenaya**	**6.43**	**218**	*eP*			**Pn**	**21 10 39.5**	**+0.6**
ZLN	**Zelenaya**	**6.43**	**218**	*eP*			**Pn**	**21 10 40.0**	**+1.1**
BILL	**Bilibino**	**6.79**	**355**	*eP*			**Pn**	**21 10 34.3**	**-10**
BILL	**Bilibino**	**6.79**	**355**	*ePn*			**Pn**	**21 10 34.3**	**-10**
BILL				*eSn*			**Sn**	**21 12 15.9**	**+15**
BILL	**Bilibino**	**6.79**	**355**	*eP*			**Pn**	**21 10 43.7**	**-0.1**
BILL				Smax					
	40nm,1.2s								
BILL	**Bilibino**	**6.79**	**355**	*eP*			**Pn**	**21 10 43.2**	**-0.6**
BILL				*eS*			**Sn**	**21 11 58.0**	**-3.2**
KMNR	**Kamenistaya**	**6.83**	**219**	*eP*			**Pn**	**21 10 44.7**	**+0.4**
KMNR	**Kamenistaya**	**6.83**	**219**	*iP*			**Pn**	**21 10 46.5**	**+2.2**
SEY	**Seymchan**	**7.41**	**289**	*eP*			**Pn**	**21 10 52.7**	**+0.4**
FX1	**Attu Island--F**	**8.94**	**159**	Pn			**Pn**	**21 11 10.6**	**-2.6**
	2.6nm,0.3s,baz=53,slow=19,SNR=10								
TIXI	**Tiksi**	**18.26**	**321**	*eP*			**Pn**	**21 13 19.5**	**+2.0**
TIXI				pmax		pmax			
	comp=Z,3.0nm,1.0s								
TIXI				MLR		MLR			
	comp=Z,37nm,11.0s								
ILAR	**Eielson Array**	**20.49**	**61**	P			**P**	**21 13 41.6**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=270,slow=9.5,SNR=29								
ILAR				LR		LR		21 21 16.1	
	comp=Z,26nm,22.0s,baz=178,slow=36								
INK	**Inuvik**	**25.00**	**49**	P			**P**	**21 14 27.6**	**-0.5**
	comp=Z,9.6nm,0.9s,mb4.3,baz=291,slow=9.0,SNR=11								
INK	**Inuvik**	**25.00**	**49**	*eP*			**P**	**21 14 27.7**	**-0.4**
INK				pmax		pmax			
	comp=Z,5.0nm,0.6s								
INK	**Inuvik**	**25.00**	**49**	*eP*			**P**	**21 14 27.7**	**-0.3**
	comp=Z,5.2nm,0.6s,mb4.2								
YKA	**Yellowknife Ar**	**34.53**	**53**

MOS 14 21:16:45.5±1.7, 2000S×17404W, h33km, mb4.4/1, Error ellipse: s-maj=23.4km s-min=18.9km az=154.4
NEIC 14 21:16:49.5±0.7, 1972S×17447W, h35km, mb4.6/2, Error ellipse: s-maj=27.6km s-min=11.8km az=128.0
ISC 14 21:16:47.6±0.6, 200S±01×17406W±010, h35km, n29, σ1§15/19, mb4.1/9, MS3.6/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.42**	**20**	Pn		**Pn**		**21 18 18.1**	**-1.5**
	16nm,0.3s,baz=171,slow=19,SNR=15								
AFI				Sn		**Sn**		**21 19 24.5**	**-7.1**
	29nm,0.3s,baz=132,slow=22,SNR=6.3								
RAR	**Rarotonga**	**13.44**	**98**	Pn		**Pn**		**21 19 54.9**	**-0.7**
	3.6nm,0.3s,baz=261,slow=15,SNR=12								
RAR				Sn		**Sn**		**21 22 10.2**	**-14**
	1.7nm,0.3s,baz=18,slow=20,SNR=3.2								
RAR				LR		LR		21 24 29.9	
	comp=Z,194nm,18.7s,baz=46,slow=34								
DZM	**Mont Dzumac**	**18.32**	**260**	P		**Pn**		**21 20 59.2**	**+0.4**
	0.1nm,0.3s,baz=46,slow=12,SNR=2.3								
URZ	**Urewera**	**19.76**	**201**	P		**Pn**		**21 21 16.5**	**+0.4**
	1.6nm,0.3s,baz=321,slow=13,SNR=6.6								
TBI	**Tubuai**	**23.10**	**103**	*e*LQ				21 26 15.9	
	408nm,27.2s								
PPT	**Papeete**	**23.30**	**88**	*e*LQ				21 26 25.0	
	542nm,27.5s								
PPT				*e*LR		LR		21 27 25.8	
	61nm,23.0s								
PPT	**Papeete**	**23.30**	**88**	LR		LR		21 29 08.8	
	comp=Z,131nm,19.1s,MS3.4,baz=10,slow=31								
STKA	**Stephens Creek**	**41.34**	**244**	P		**P**		**21 24 26.9**	**-3.1**
	1.1nm,0.7s,mb3.6,baz=101,slow=16,SNR=3.1								
ASAR	**Alice Springs**	**48.23**	**256**	P		**P**		**21 25 24.6**	**-0.2**
	0.9nm,0.7s,mb3.9,baz=90,slow=8.2,SNR=10.0								
WRAB	**Tennant Creek**	**48.33**	**261**	*e*P		**P**		**21 25 25.5**	**-0.1**
WRAB					pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.4								
WRAB	**Tennant Creek**	**48.33**	**261**	*e*P		**P**		**21 25 25.5**	**-0.1**
	comp=Z,1.6nm,0.5s,mb4.3								
WRA	**Warramunga Arr**	**48.34**	**261**	P		**P**		**21 25 24.1**	**-1.5**
	comp=Z,0.5nm,0.3s,mb4.1,baz=96,slow=7.5,SNR=29								
CBIJ	**Chichi jima**	**63.14**	**316**	LR		LR		21 48 45.1	
	comp=Z,31nm,20.0s,MS3.5,baz=81,slow=31								
QSPA	**South Pole Qui**	**70.09**	**180**	P		**P**		**21 28 00.5**	**+4.4**
	comp=Z,10nm,1.0s,mb4.7								
MJAR	**Matsushiro Arr**	**72.05**	**321**	P		**P**		**21 28 08.2**	**+0.2**
	comp=Z,3.6nm,0.8s,mb4.3,baz=155,slow=6.5,SNR=10								
NVAR	**Mina Array Bea**	**78.14**	**42**	P		**P**		**21 28 46.2**	**+3.1**
	comp=Z,2.1nm,0.8s,mb4.1,baz=216,slow=7.1,SNR=12								
PDAR	**Pinedale Array**	**86.08**	**42**	P		**P**		**21 29 28.2**	**+3.5**
	comp=Z,0.5nm,0.8s,mb3.8,baz=240,slow=2.7,SNR=4.0								
PDAR	**Pinedale Array**	**86.08**	**42**	P		**P**		**21 29 28.2**	**+3.5**
ILAR	**Eielson Array**	**87.03**	**11**	P		**P**		**21 29 30.5**	**+1.1**
	comp=Z,0.5nm,0.6s,mb3.9,baz=234,slow=6.3,SNR=12								
INK	**Inuvik**	**92.84**	**14**	*e*P		**P**		**21 29 57.3**	**+0.7**
ULN	**Ulaanbaatar**	**97.41**	**318**	*e*P		**P**		**21 30 18.3**	**+0.8**
ULM	**Lac du Bonnet**	**97.86**	**39**	LR		LR		22 09 16.2	
	comp=Z,33nm,18.8s,MS3.8,baz=1,9,slow=32								
KURK	**Kurchatov**	**116.12**	**317**	*e*PKIKP		PKPdf		21 35 28.4	+1.5
AKASG	**Malin Array Be**	**144.25**	**335**	PKhKP				21 36 17.2	
	comp=Z,0.1nm,0.2s,baz=341,slow=2.3,SNR=3.2								
CLL	**Collm**	**148.25**	**352**	*e*PKPbc		PKPbc		21 36 32.0	+2.1
CLL				*es*PKPbc				21 36 48.0	
BRTR	**Keskin Array B**	**149.14**	**316**	PKPbc		PKPbc		21 36 34.0	+1.8
	comp=Z,0.4nm,0.6s,baz=126,slow=2.0,SNR=3.5								
KHC	**Kasperske Hory**	**150.28**	**350**	*e*PKPbc		PKPbc		21 36 37.5	+2.6
KHC				pPKP		pPKPdf		21 36 53.5	+12
KHC	**Kasperske Hory**	**150.28**	**350**	*e*P		PKPbc		21 36 37.5	+2.6
KHC				*e*		pPKPdf		21 36 53.5	+12
GERES	**GERESS Array B**	**150.53**	**350**	PKPbc		PKPbc		21 36 37.4	+1.9
	comp=Z,0.5nm,0.8s,baz=355,slow=2.8,SNR=5.0								

IDC 14 21:22:24.8±13.0, 258N×12423E, h604km±208km, mb2.7/5, mb1 2.9/5, mb1mx2.6/17, mbtmp3.7/5, Error ellipse: s-maj=115.9km s-min=34.1km az=49.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.60**	**176**	P		P		21 26 23.9	+0.3
	4.9nm,0.5s,baz=355,slow=7.2,SNR=38								
WRA	**Warramunga Arr**	**24.48**	**157**	P		P		21 26 58.1	-0.1
	0.8nm,0.3s,baz=334,slow=10,SNR=9.9								
ASAR	**Alice Springs**	**27.74**	**161**	P		P		21 27 27.2	+0.6
	0.2nm,0.4s,baz=343,slow=6.9,SNR=4.1								
STKA	**Stephens Creek**	**38.03**	**156**	P		P		21 28 53.0	0.0
	0.8nm,0.7s,baz=285,slow=12,SNR=3.2								
MKAR	**Makanchi Array**	**57.11**	**327**	P		P		21 31 15.0	0.0
	0.3nm,0.4s,baz=123,slow=7.7,SNR=11								

NEIC 14 21:35:44.1±1.4, 0.83N×98.12E, h30km, mb4.2/1, Error ellipse: s-maj=37.5km s-min=15.7km az=76.0
ISCJB 14 21:35:51.7±2.7, 12N±02×988E±02, h99km±19km, mb3.8/4, Error ellipse: s-maj=46.1km s-min=21.8km az=112.3
IDC 14 21:35:52.7±5.0, 1.12N×9873E, h95km±31km, mb3.4/3, mb1 3.5/3, mb1mx3.1/18, mbtmp3.7/3, Error ellipse: s-maj=80.8km s-min=23.6km az=62.0
ISC 14 21:35:52.8±3.0, 12N±02×987E±02, h90km±23km, n8, σ0§54/9, mb3.8/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.61**	**7**	P		**Pn**		**21 36 19.4**	**-0.4**
	37nm,0.3s,baz=177,slow=6.0,SNR=135								
PSI				S		**Sn**		**21 36 40.4**	**+0.1**
	18nm,0.3s,baz=276,slow=2.1,SNR=6.9								
KULM	**Kulim**	**4.49**	**25**	*e*Pn		**Pn**		**21 36 59.0**	**+0.6**
KKM	**Kota Kinabalu**	**18.09**	**74**	P		**Pn**		**21 39 57.3**	**-0.7**
WRA	**Warramunga Arr**	**40.73**	**123**	P		**P**		**21 43 24.2**	**-0.5**
	0.6nm,0.4s,mb3.8,baz=303,slow=9.0,SNR=6.7								
WRAB	**Tennant Creek**	**40.74**	**123**	*e*P		**P**		**21 43 25.8**	**+1.1**
	1.6nm,0.3s,mb4.3								
SONM	**Songino Array**	**46.93**	**7**	P		**P**		**21 44 14.5**	**+0.3**
	0.5nm,0.3s,mb3.7,baz=190,slow=9.4,SNR=11								
MKAR	**Makanchi Array**	**47.63**	**345**	P		**P**		**21 44 19.4**	**-0.3**
	0.3nm,0.3s,mb3.5,baz=153,slow=8.0,SNR=10								
TAU	**Tasmania Unive**	**61.84**	**141**	P		**P**		**21 46 02.2**	**-0.2**

ISCJB 14 22:01:16.6±0.6, 2797S±004×6671W±008, h182km±13km, mb3.9/3, Error ellipse: s-maj=12.1km s-min=6.2km az=5.8
IDC 14 22:01:16.6±1.1, 2796S×6661W, h156km±14km, mb3.4/2, mb1 3.2/7, mb1mx3.2/17, mbtmp3.7/7, Error ellipse: s-maj=23.4km s-min=10.7km az=96.0
NEIC 14 22:01:17.5±0.5, 2797S×6665W, h171km±9km, mb4.0/2, Error ellipse: s-maj=10.0km s-min=7.1km az=104.0
GUC 14 22:01:17.2±0.6, 2794S×6673W, h170km, ML5.2
ISC 14 22:01:17.4±0.6, 2797S±004×6667W±008, h169km±14km, n23, σ0§93/28, mb3.9/3, 5C, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**3.32**	**280**	⇑*i*P		**Pn**		**22 02 09.7**	**+0.2**
CPCH				*i*S		**Sn**		**22 02 48.9**	**-1.1**
CPCH				AML		AML		22 02 51.6	
	comp=N,3μm,0.1s								
CPCH				AML		AML		22 02 52.7	
	comp=E,3μm,0.1s								
CPCH	**Copiapo**	**3.32**	**280**	⇑*i*P		**Pn**		**22 02 09.7**	**+0.2**
CPCH				*i*S		**Sn**		**22 02 48.9**	**-1.1**
LCO	**Las Campanas**	**3.70**	**253**	⇑*i*P		**Pn**		**22 02 15.2**	**+1.0**
LCO				*i*S		**Sn**		**22 02 59.0**	**+0.5**
CDCH	**Caldera**	**3.80**	**283**	⇑*i*P		**Pn**		**22 02 15.3**	**-0.3**
CDCH				*i*S		**Sn**		**22 02 57.3**	**-3.6**
CFAA	**Coronel Fontan**	**3.87**	**200**	P		**Pn**		**22 02 17.0**	**+0.5**
	comp=E,2.3nm,0.3s,baz=22,slow=14,SNR=231								
CFAA				S		**Sn**		**22 03 01.6**	**-1.0**
	comp=E,2.6nm,0.3s,baz=357,slow=10,SNR=20								
TLL	**Tololo Astrono**	**4.23**	**238**	⇑*i*P		**Pn**		**22 02 21.9**	**+0.8**
TLL				*i*S		**Sn**		**22 03 11.6**	**+0.8**
CPN1	**Cerro Paranal**	**4.72**	**314**	*e*P		**Pn**		**22 02 28.6**	**+1.2**
CEN1	**Los Morros**	**5.56**	**324**	*e*P		**Pn**		**22 02 37.9**	**-0.5**
LVC	**Limon Verde**	**5.70**	**339**	P		**Pn**		**22 02 41.4**	**+1.1**
	comp=E,4.7nm,0.3s,baz=174,slow=9.4,SNR=34								
LVC				S		**Sn**		**22 03 44.1**	**-1.3**
	comp=E,3.1nm,0.3s,baz=42,slow=22,SNR=16								
RCDM	**Rinconada Maip**	**6.55**	**212**	*e*P		**Pn**		**22 02 51.4**	**-0.2**
RCDM				*i*S		**Sn**		**22 04 04.8**	**-0.8**
CPUP	**Villa Florida**	**8.48**	**81**	P		**Pn**		**22 03 15.7**	**-1.3**
	comp=E,0.3nm,0.3s,baz=248,slow=7.5,SNR=3.8								
CPUP	**Villa Florida**	**8.48**	**81**	*e*Pn		**Pn**		**22 03 16.1**	**-0.9**
TRQA	**Tornquist**	**10.80**	**160**	*e*P		**Pn**		**22 03 48.9**	**+1.4**
LPAZ	**La Paz**	**11.70**	**353**	P		**Pn**		**22 03 59.4**	**+0.2**
	comp=E,0.4nm,0.3s,baz=169,slow=7.8,SNR=6.9								
LPAZ	**La Paz**	**11.70**	**353**	*e*Pn		**Pn**		**22 03 59.5**	**+0.4**
SIV	**San Ignacio**	**12.99**	**25**	P		**Pn**		**22 04 16.2**	**+0.4**
	comp=E,0.1nm,0.3s,baz=236,slow=20,SNR=4.3								
SAML	**Samuel**	**19.20**	**11**	*e*P		**P**		**22 05 28.4**	**+0.2**
	comp=E,0.7nm,0.5s								
BDFB	**Brasilia**	**21.19**	**59**	P		**P**		**22 05 49.4**	**-0.1**
	comp=E,2.9nm,0.8s,mb3.6,baz=216,slow=11,SNR=5.0								
PMSA	**Palmer Station**	**36.86**	**178**	*e*P		**P**		**22 08 06.7**	**-2.6**
	comp=E,7.5nm,0.5s,mb4.6								
TORD	**Torodi Ar. Bea**	**77.75**	**68**	P		**P**		**22 12 55.7**	**+0.2**
	comp=E,0.8nm,0.7s,mb3.5,baz=271,slow=6.9,SNR=6.2								
WRA	**Warramunga Arr**	**128.22**	**205**	PKP		PKPdf		22 20 04.9	+1.4
	comp=E,0.3nm,0.3s,baz=154,slow=1.9,SNR=7.1								
MKAR	**Makanchi Array**	**149.28**	**44**	PKPbc		PKPbc		22 20 46.5	+0.5
	comp=E,0.2nm,0.5s,baz=329,slow=1.7,SNR=3.0								
MKAR	**Makanchi Array**	**149.28**	**44**	PKPbc		PKPbc		22 20 46.5	+0.5

BJI 14 22:15:36.1, 21.10N×9775E, h23km, mB4.8, mb4.2, ML4.7, Ms4.1, Ms3.9
IDC 14 22:15:36.9±0.7, 2133N×9745E, h0km, mb4.0/14, mb1 4.1/15, mb1mx4.0/24, mbtmp4.0/15, ML3.8/1, MS3.5/4, Ms1 3.5/4, ms1mx3.1/23, Error ellipse: s-maj=29.8km s-min=13.8km az=53.0
ISCJB 14 22:15:36.6±0.2, 2143N±003×9763E±004, h10km, mb4.2/37, MS3.5/9, Error ellipse: s-maj=5.8km s-min=3.7km az=127.1
NEIC 14 22:15:38.6±0.3, 2132N×9742E, h10km, mb4.1/9, Error ellipse: s-maj=12.8km s-min=5.6km az=47.0
MOS 14 22:15:40.0±1.6, 2138N×9759E, h33km, mb4.4/15, Error ellipse: s-maj=19.6km s-min=7.9km az=119.9
SZGRF 14 22:15:50.4, 2379N×9837E, h33km, mb4.4, Myanmar-China border region
ISC 14 22:15:38.4±0.2, 2141N±003×9763E±004, h10km, n87, σ1§29/101, mb4.2/37, MS3.5/9, 6C-6D, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHRT	**Chiangrai**	**2.53**	**127**	⇓P	N	**Pn**		**22 16 17.5**	**-2.0**
CHRT					PG	**Pg**		**22 16 19.5**	**-7.4**
CHRT					SG	**Pb**		**22 16 22.5**	**-1.4**
CHG	**Chiang Mai**	**2.86**	**154**		PG	**Pn**		**22 16 24.5**	**+0.4**
CHG					SG	**Pb**		**22 16 32.1**	**+2.6**
CHTO	**Chiang Mai**	**2.86**	**154**	⇑*e*P	n	**Pn**		**22 16 24.2**	**+0.1**
CHTO				⇑*i*P	g	**Pg**		**22 16 32.0**	**-1.3**
CHTO				*e*S	g	**Sg**		**22 17 11.6**	**+1.3**
KMI	**Kunming**	**5.98**	**51**	PG		**Pg**		**22 17 27.0**	**-5.9**
KMI				SG		**Sg**		**22 18 42.4**	**-8.0**
KMI				Smax					
	comp=N,302nm,1.0s								
KMI				Smax					
	comp=E,164nm,1.2s								
KMI				LR		LR			
	comp=N,1μm,5.7s								
KMI				LR		LR			
	comp=E,1μm,4.8s								
KMI				LR		LR			
	comp=Z,587nm,6.5s								
NST	**Nakhon Sawan**	**6.18**	**157**	PN		**Pn**		**22 17 10.0**	**+0.3**
NST				PG		**Pg**		**22 17 35.0**	**-1.7**
NST				SG		**Sg**		**22 18 55.0**	**-1.7**
KKTK	**Khon Kaen**	**7.04**	**135**	P		**Pn**		**22 17 30.0**	**+8.4**
	comp=Z,31nm,15.0s								
NNT	**Nongplab**	**9.00**	**167**	P		**Pn**		**22 17 52.0**	**+3.6**
LSA	**Lhasa**	**10.12**	**326**	*e*P		**Pn**		**22 18 05.6**	**+1.9**
LSA	**Lhasa**	**10.12**	**326**	*e*Pn		**Pn**		**22 18 05.7**	**+2.0**
	comp=Z,8.1nm,0.5s								
LSA				*e*Sn		**Sn**		**22 20 04.9**	**+7.7**
CD2	**Chengdu**	**10.94**	**29**	*e*P		**Pn**		**22 18 21.1**	**+6.1**
CD2				S		**Sn**		**22 20 18.3**	**+0.8**
CD2				LR		LR			
	comp=E,240nm,10.8s								
CD2				LR		LR			
	comp=Z,340nm,8.4s								
JIRN	**Jiri**	**12.13**	**303**	*e*P		**Pn**		**22 18 30.0**	**-1.2**
	comp=Z,16nm,0.4s								
GUN	**Gumba**	**12.49**	**304**	*e*P		**Pn**		**22 18 35.3**	**-0.8**
	comp=Z,105nm,0.9s								
PKI	**Pulchoki**	**12.70**	**301**	*e*P		**Pn**		**22 18 37.4**	**-1.7**
	comp=Z,37nm,0.5s								
KKN	**Kakani**	**12.90**	**302**	*e*P		**Pn**		**22 18 40.6**	**-1.2**
	comp=Z,31nm,0.5s								
DMN	**Daman**	**12.96**	**301**	*e*P		**Pn**		**22 18 41.2**	**-1.4**
	comp=Z,34nm,0.7s								
GKN	**Gorkha**	**13.51**	**302**	*e*P		**Pn**		**22 18 48.3**	**-1.7**
KOLN	**Koldanda**	**14.24**	**299**	*e*P		**Pn**		**22 18 57.6**	**-2.5**
	comp=Z,72nm,0.9s								
LZH	**Lanzhou**	**15.60**	**19**	*e*P		**Pn**		**22 19 18.5**	**+0.2**
LZH				PP				22 19 31.4	
LZH				*e*S		**Sn**		**22 22 10.5**	**-0.7**
LZH				SS				22 22 28.3	
LZH				AMB		AMB			
	comp=Z,19nm,1.2s								
LZH				AMB		AMB			
	comp=Z,56nm,4.3s								
LZH				LR		LR			
	comp=E,302nm,8.3s								
LZH				LR		LR			
	comp=Z,635nm,12.4s								
GTA	**Gaotai**	**18.04**	**5**	*e*P		**Pn**		**22 19 52.9**	**+3.7**
GTA				AP		pP		22 19 59.3	+6.9
GTA				XP		sP		22 20 03.3	+10
GTA				AMB		AMB			
	comp=Z,2.0nm,0.9s								
HYB	**Hyderabad**	**18.42**	**261**	*i* P		**Pn**		**22 19 55.0**	**+1.1**
HYB				*e*				22 20 00.0	
HYB	**Hyderabad**	**18.42**	**261**	*e*P		**Pn**		**22 20 00.0**	**+6.1**
PSI	**Prapat**	**18.54**	**176**	P		**Pn**		**22 19 55.6**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=318,slow=12,SNR=2.8								
PSI				LR		LR		22 28 18.6	
	comp=Z,127nm,19.1s,baz=343,slow=41								
NDI	**New Delhi**	**19.85**	**295**	*e*P		**Pn**		**22 20 12.0**	**+1.0**
NJ2	**Nanjing**	**21.68**	**56**	*e*P		**P**		**22 20 27.8**	**-1.5**
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.9s,mb4.2								
BTO	**Baotou**	**21.84**	**26**	*e*P		**P**		**22 20 30.6**	**-0.4**
HHC	**Hu-ho-hao-te**	**22.70**	**28**	*e*P		**P**		**22 20 39.1**	**-1.1**
HHC				AP				22 20 43.4	
HHC				XP		sP		22 20 46.1	+1.8
HHC				PP				22 21 07.3	
HHC				PCP		PcP		22 24 31.3	-1.0
HHC				S		**S**		**22 24 43.8**	**-5.1**
HHC				SS				22 25 25.0	
HHC				SCP		ScP		22 28 09.3	-0.8
HHC				PCS		PcS		22 28 10.8	-0.4
HHC				AMB		AMB			
	comp=Z,11nm,1.2s,mb4.2								
HHC				AMB		AMB			
	comp=Z,145nm,5.7s								
HHC				LR		LR			
	comp=N,346nm,11.5s,MS4.1								
HHC				LR		LR			
	comp=E,254nm,11.0s,MS4.1								
HHC				LR		LR			
	comp=Z,144nm,12.3s,MS3.6								
WMQ	**Urumqi**	**23.83**	**342**	⇑P		**P**		**22 20 51.8**	**+0.2**
WMQ				AP				22 20 56.3	
WMQ				XP		sP		22 20 58.8	+2.9
WMQ				PP				22 21 25.1	
WMQ				PPP				22 21 35.3	
WMQ				AMB		AMB			
	comp=Z,7.0nm,1.0s,mb4.0								
WMQ				AMB		AMB			
	comp=Z,153nm,3.9s								
WMQ				LR		LR			
	comp=N,108nm,22.8s,MS3.5								
WMQ				LR		LR			
	comp=E,175nm,23.4s,MS3.5								
WMQ				LR		LR			
	comp=Z,80nm,20.3s,MS3.2								
BJI	**Beijing**	**24.39**	**36**	*e*P		**P**		**22 20 56.1**	**-0.7**
BJI				S		**S**		**22 25 19.8**	**+3.5**
BJI				AMB		AMB			
	comp=Z,5.0nm,0.9s,mb3.9								
BJI				LR		LR			
	comp=Z,87nm,15.5s,MS3.4								
SONM	**Songino Array**	**27.30**	**13**	P		**P**		**22 21 24.9**	**+1.8**
	comp=Z,0.7nm,0.8s,mb3.3,baz=194,slow=11,SNR=3.6								
SONM				LR		LR		22 33 44.1	
	comp=Z,71nm,18.1s,MS3.3,baz=194,slow=40								
ULN	**Ulaanbaatar**	**27.47**	**14**	*e*P		**P**		**22 21 24.6**	**0.0**
ULN				pmax		pmax			
	comp=Z,1.0nm,0.7s,mb3.5								
ULN	**Ulaanbaatar**	**27.47**	**14**	*e*P		**P**		**22 21 24.6**	**0.0**
	comp=Z,1.2nm,0.7s,mb3.5								
MKAR	**Makanchi Array**	**28.23**	**337**	P		**P**		**22 21 31.8**	**+0.4**
	comp=Z,1.4nm,0.7s,mb3.7,baz=149,slow=9.0,SNR=12								
AAK	**Ala-Archa**	**28.69**	**323**	*e*P		**P**		**22 21 35.3**	**-0.2**
AAK				pmax		pmax			
	comp=Z,3.0nm,0.9s,mb4.0								
AAK	**Ala-Archa**	**28.69**	**323**	*e*P		**P**		**22 21 35.3**	**-0.2**
	comp=Z,3.4nm,0.9s,mb4.1								
ZAK	**Zakamensk**	**29.26**	**7**	*e*P		**P**		**22 21 35.9**	**-4.7**
ZAK				pmax		pmax			
	comp=Z,5.0nm,2.1s,mb3.9								
KURK	**Kurchatov**	**32.84**	**338**	*e*P		**P**		**22 22 12.4**	**+0.2**
KURK				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb4.4								
KURK	**Kurchatov**	**32.84**	**338**	*e*P		**P**		**22 22 12.4**	**+0.3**
	comp=Z,2.6nm,0.6s,mb4.3								
MDJ	**Mudanjiang**	**35.05**	**41**	P		**P**		**22 22 29.5**	**-1.9**
MDJ				PP		PP		22 23 48.3	-2.6
MDJ				S		**S**		**22 28 01.5**	**-2.2**
MDJ				SCP		ScP		22 28 48.1	-0.7
MDJ				PCS		PcS		22 28 49.3	-0.7
MDJ				AMB		AMB			
	comp=Z,5.0nm,0.7s,mb4.5								
MDJ				AMB		AMB			
	comp=Z,138nm,5.7s								
MDJ				LR		LR			
	comp=N,55nm,20.9s,MS3.3								
MDJ				LR		LR			
	comp=E,21nm,20.9s,MS3.3								
MDJ				LR		LR			
	comp=Z,29nm,15.7s								
NVS	**Novosibirsk**	**35.10**	**346**	*i* P		**P**		**22 22 34.2**	**+2.4**
BRVK	**Borovoye**	**37.92**	**333**	*e*P		**P**		**22 22 54.4**	**-1.4**
BRVK				pmax		pmax			
	comp=Z,1.0nm,0.7s,mb3.6								
BRVK	**Borovoye**	**37.92**	**333**	*e*P		**P**		**22 22 54.4**	**-1.4**
	comp=Z,1.3nm,0.7s,mb3.8								
MJAR	**Matsushiro Arr**	**38.27**	**58**	P		**P**		**22 23 00.1**	**+1.2**
	comp=Z,2.6nm,0.8s,mb4.0,baz=270,slow=10,SNR=7.8								
ZRNK	**Zerenda**	**38.39**	**332**	*e*P		**P**		**22 23 00.2**	**+0.4**
ZRNK				pmax		pmax			
	comp=Z,2.0nm,0.7s,mb4.0								
ZRNK	**Zerenda**	**38.39**	**332**	*e*P		**P**		**22 23 00.2**	**+0.4**
	comp=Z,2.0nm,0.7s,mb4.0								
AKTK	**Aktyubinsk**	**42.43**	**323**	P		**P**		**22 23 32.8**	**-0.5**
AKTO	**Aktyubinsk**	**42.43**	**323**	P		**P**		**22 23 32.8**	**-0.5**
	comp=Z,2.9nm,0.9s,mb3.9,baz=117,slow=8.3,SNR=8.6								
ORR	**Orenburg**	**44.81**	**323**	*i* P		**P**		**22 23 51.7**	**-0.7**
ORR				pmax		pmax			
	comp=Z,8.0nm,1.0s,mb4.5								
ARU	**Arti**	**45.28**	**330**	⇓*i*P		**P**		**22 23 58.6**	**+2.4**
ARU				*e*				22 25 44.3	
ARU				*e*PPP				22 26 23.9	
ARU				*e*S		**S**		**22 30 39.2**	**+2.7**
ARU				pmax		pmax			
	comp=Z,3.0nm,0.7s,mb4.2								
RDF	**Al-Radifah**	**45.67**	**290**	*e*P		**P**		**22 23 59.4**	**+0.1**
MIB	**Mutribah**	**45.82**	**291**	*e*P		**P**		**22 24 01.1**	**+0.6**
MIB				AMb		AMB		22 24 05.8	
	comp=Z,21nm,0.8s,mb5.1								
NAY	**Al-Naaiem**	**45.92**	**290**	*e*P		**P**		**22 24 02.0**	**+0.7**
NAY				AMb		AMB		22 24 07.4	
	comp=Z,14nm,0.7s,mb5.0								
MBWA	**Marble Bar**	**47.50**	**152**	*e*P		**P**		**22 24 14.1**	**+0.5**
ZEI	**Tsey**	**49.35**	**309**	*e*P		**P**		**22 24 28.0**	**+0.1**
KIV	**Kislovodsk**	**50.39**	**310**	*e*P		**P**		**22 24 35.8**	**0.0**
KIV				pmax		pmax			
	comp=Z,10.0nm,1.2s,mb4.7								
KIV				MLR		MLR			
	comp=Z,56nm,16.0s,MS3.7								
MALT	**Malatya**	**53.18**	**302**	*e*P		**P**		**22 25 00.1**	**+3.5**
MALT				pmax		pmax			
	comp=Z,1.0nm,0.4s,mb4.1								
MALT	**Malatya**	**53.18**	**302**	*e*P		**P**		**22 25 00.1**	**+3.5**
	comp=Z,0.7nm,0.4s,mb3.9								
TIXI	**Tiksi**	**53.38**	**12**	*e*P		**P**		**22 24 55.4**	**-2.7**
TIXI				pmax		pmax			
	comp=Z,1.0nm,0.9s,mb3.8								
TIXI				MLR		MLR			
	comp=Z,58nm,12.0s,MS3.9								
WRA	**Warramunga Arr**	**54.57**	**136**	P		**P**		**22 25 06.5**	**-0.2**
	comp=Z,1

1.8nm,0.2s
WMOK Wichita Mounta 22.45 342 P P 22 22 30.3 +0.7
MNTX Cornudas Mount 22.66 326 *eP* **P 22 22 31.2 -0.7**
1.6nm,0.8s,mb3.5
NVAR Mina Array Bea 34.94 320 P P 22 24 22.4 +0.5
2.1nm,0.9s,mb4.1,baz=134,slow=8.9,SNR=10
SIV San Ignacio 41.34 134 P P 22 25 15.4 -0.2
0.7nm,0.4s,mb3.3,baz=309,slow=14,SNR=2.9
SCHQ Schefferville 45.29 19 P P 22 25 47.7 +0.3
1.1nm,0.3s,mb4.2,baz=231,slow=9.4,SNR=9.7
SCHQ Schefferville 45.29 19 P P 22 25 47.7 +0.3
ILAR Eielson Array 63.88 337 P P 22 28 01.7 -0.3
0.4nm,0.8s,mb3.5,baz=147,slow=4.7,SNR=4.9

*ISCJB **14** 22:25:56.7±0.3,3677N×003×541E±003,h10km,mb3.2/3, Error ellipse: s-maj=4.3km s-min=3.1km az=80.6*
*IDC **14** 22:25:56.8±1.6,3653N×537E,h0km,mb3.2/3,mb1 3.2/4, mb1mx3.1/22,mbtmp3.2/4,ML3.6/1,MS2.8/3,Ms1 2.8/3, ms1mx2.5/13,Error ellipse: s-maj=38.8km s-min=28.5km az=140.0*
*CRAAG **14** 22:25:56.3,3659N×543E,Ml4.1*
*CSEM **14** 22:25:56.5±0.1,3666N×544E,h8km,ML3.4/4,Error ellipse: s-maj=2.0km s-min=1.7km az=9.0*
*MDD **14** 22:25:58.8±1.1,3663N×546E,h9km±13km,mb4.3/18, Error ellipse: s-maj=8.5km s-min=5.4km az=171.0, PRXIMO*
*NEIC **14** 22:25:59.7,3674N×541E,h0km,MG3.8(MDD),After MDD.*
*LDG **14** 22:26:03.3±0.5,3699N×492E,h8km,Ml3.4/4,Error ellipse: s-maj=9.5km s-min=4.4km az=156.0*
*STR **14** 22:26:39.3±7.2,3974N×484E,h10km±1km,Ml3.4,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 14 22:25:57.8±0.3,3666N±003×540E±003,h10km,n85, σ1§42/115,mb3.2/3,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
DFRA	**Djebel Bou Aff**	**0.40**	**107**	P	**Pg**	**22 26 05.6**	**-0.1**
SET	**Setif**	**0.46**	**180**	P	**Pg**	**22 26 06.5**	**-0.3**
CKHR	**Kef el Ahmar**	**0.65**	**172**	P	**Pg**	**22 26 09.5**	**-0.9**
CASM	**Ain Smara**	**0.96**	**114**	P	**Pg**	**22 26 15.0**	**-1.4**
CTEI	**Djebel Teioual**	**1.01**	**126**	P	**Pg**	**22 26 16.0**	**-1.2**
CKFL	**Kef-Lekhel**	**1.09**	**103**	P	**Pb**	**22 26 18.0**	**-0.8**
CMER	**Merouana**	**1.12**	**159**	P	**Pb**	**22 26 19.5**	**+0.3**
CAEH	**'Ain El Ouahch**	**1.17**	**84**	P	**Pb**	**22 26 19.0**	**-1.1**
ABMS	**Boumerdes**	**1.55**	**274**	P	**Pn**	**22 26 25.2**	**-0.2**
ABMS	**Boumerdes**	**1.55**	**274**	P	**Pn**	**22 26 25.2**	**-0.2**
ABA	**Alger-Bouzarea**	**1.91**	**275**	P	**Pn**	**22 26 30.0**	**-0.4**
EMHD	**Djebel Mahouad**	**2.03**	**258**	P	**Pn**	**22 26 33.0**	**+1.0**
EBNR	**Beni Rached**	**3.14**	**264**	P	**Pg**	**22 26 56.0**	**-2.0**
ECHA	**Ech Chlef**	**3.29**	**262**	P	**Pg**	**22 26 58.0**	**-3.0**
EANR	**'Ain N'Sour**	**3.55**	**260**	P	**Pn**	**22 26 57.0**	**+4.1**
ETRT	**Tiaret**	**3.56**	**250**	P	**Pn**	**22 26 52.0**	**-1.1**
ETOS	**Mallorca**	**3.71**	**327**	P	**Pn**	**22 26 55.8**	**+0.6**
	50nm,0.6s,SNR=62						
ETOS				S	**Sn**	**22 27 37.5**	**-1.5**
	14nm,0.3s,SNR=11						
ETOS	**Mallorca**	**3.71**	**327**	P	**Pn**	**22 26 55.8**	**+0.6**
	50nm,0.6s,SNR=62						
ETOS				S	**Sn**	**22 27 37.5**	**-1.4**
	14nm,0.3s,SNR=11						
EIBI	**Ibiza**	**3.99**	**308**	P	**Pn**	**22 27 00.0**	**+1.1**
	9.3nm,0.2s,SNR=26						
EIBI				S	**Sn**	**22 27 44.7**	**-1.0**
	11nm,0.3s,SNR=7.5						
EIBI	**Ibiza**	**3.99**	**308**	P	**Pn**	**22 27 00.0**	**+1.0**
	9.3nm,0.2s,SNR=26						
EIBI				S	**Sn**	**22 27 44.7**	**-1.0**
	11nm,0.3s,SNR=7.5						
VSL	**Villasalto**	**4.22**	**47**	*e*Pn	**Pn**	**22 27 02.0**	**-0.2**
VSL				*e*Sn	**Sn**	**22 27 48.4**	**-3.2**
VSL	**Villasalto**	**4.22**	**47**	*e*Pn	**Pn**	**22 27 02.0**	**-0.2**
VSL				*e*Sn	**Sn**	**22 27 48.4**	**-3.2**
EBEN	**Beniarda**	**4.91**	**296**	P	**Pn**	**22 27 13.2**	**+1.6**
	3.8nm,0.3s,SNR=10						
EBEN				S	**Sn**	**22 28 07.5**	**-0.9**
	3.8nm,0.3s,SNR=7.4						
EBEN	**Beniarda**	**4.91**	**296**	P	**Pn**	**22 27 13.2**	**+1.6**
	3.8nm,0.3s,SNR=10						
EBEN				S	**Sn**	**22 28 07.5**	**-0.9**
	3.8nm,0.3s,SNR=7.4						
EMUR	**La Murta**	**5.43**	**285**	P	**Pn**	**22 27 20.0**	**+1.2**
	4.2nm,0.3s,SNR=12						
EMUR				S	**Sn**	**22 28 20.2**	**-1.1**
	3.4nm,0.3s,SNR=4.6						
EMUR	**La Murta**	**5.43**	**285**	P	**Pn**	**22 27 20.0**	**+1.2**
	4.2nm,0.3s,SNR=12						
EMUR				S	**Sn**	**22 28 20.2**	**-1.1**
	3.4nm,0.3s,SNR=4.6						
EPOB	**Poblet**	**5.77**	**326**	P	**Pn**	**22 27 23.9**	**+0.5**
	1.7nm,0.1s,SNR=16						
EPOB				S	**Sn**	**22 28 25.3**	**-4.4**
	1.8nm,0.2s,SNR=7.9						
ECHE	**Chera**	**5.81**	**302**	P	**Pn**	**22 27 25.5**	**+1.4**
	5.5nm,0.5s,SNR=8.8						
ERTA	**Horta de San J**	**5.83**	**319**	P	**Pn**	**22 27 25.2**	**+0.9**
	1.6nm,0.3s,SNR=7.4						
ERTA				S	**Sn**	**22 28 28.4**	**-2.9**
	1.3nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**5.83**	**319**	P	**Pn**	**22 27 25.2**	**+0.8**
	1.6nm,0.3s,SNR=7.4						
ETOB	**Tobarra**	**5.86**	**292**	P	**Pn**	**22 27 25.8**	**+1.1**
	3.0nm,0.3s,SNR=12						
ETOB				S	**Sn**	**22 28 29.3**	**-2.6**
	2.1nm,0.3s,SNR=4.5						
ETOB	**Tobarra**	**5.86**	**292**	P	**Pn**	**22 27 25.8**	**+1.1**
	3.0nm,0.3s,SNR=12						
EMOS	**Mosqueruela**	**5.90**	**311**	P	**Pn**	**22 27 27.0**	**+1.7**
	5.9nm,0.4s,SNR=7.6						
EMOS				S	**Sn**	**22 28 30.4**	**-2.7**
	4.6nm,0.4s,SNR=6.3						
EMOS	**Mosqueruela**	**5.90**	**311**	P	**Pn**	**22 27 27.0**	**+1.7**
EMOS				S	**Sn**	**22 28 30.4**	**-2.7**
EMOS	**Mosqueruela**	**5.90**	**311**	P	**Pn**	**22 27 27.0**	**+1.7**
	5.9nm,0.4s,SNR=7.6						
EMIR	**Miracle**	**6.04**	**331**	P	**Pn**	**22 27 29.0**	**+1.7**
	8.7nm,0.2s,SNR=24						
EMIR				S	**Sn**	**22 28 33.6**	**-2.9**
	8.1nm,0.3s,SNR=5.1						
EMIR	**Miracle**	**6.04**	**331**	P	**Pn**	**22 27 29.0**	**+1.7**
	8.7nm,0.2s,SNR=24						
EJON	**La Jonquera**	**6.10**	**342**	P	**Pn**	**22 27 28.4**	**+0.4**
	1.8nm,0.2s,SNR=7.9						
EJON				S	**Sn**	**22 28 35.5**	**-2.2**
	3.8nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**6.10**	**342**	P	**Pn**	**22 27 28.4**	**+0.4**
EJON				S	**Sn**	**22 28 35.5**	**-2.2**
EJON	**La Jonquera**	**6.10**	**342**	P	**Pn**	**22 27 28.4**	**+0.4**
	1.8nm,0.2s,SNR=7.9						
FILF	**Fillols**	**6.29**	**340**	P	**Pn**	**22 27 31.4**	**+0.8**
VALF	**Valcebollere**	**6.30**	**337**	P	**Pn**	**22 27 31.9**	**+1.1**
LRDF	**Laroque-de-Fa**	**6.64**	**342**	P	**Pn**	**22 27 35.9**	**+0.4**
LMR	**La Mourre**	**6.72**	**7**	*e*Pn	**Pn**	**22 27 36.0**	**-0.5**
LMR				*e*Sn	**Sn**	**22 28 47.1**	**-6.0**
	2.9nm,0.2s						
LMR	**La Mourre**	**6.72**	**7**	*e*Pn	**Pn**	**22 27 36.0**	**-0.5**
LMR				*e*Sn	**Sn**	**22 28 47.1**	**-6.0**
	1.5nm,0.2s						
EGRA	**Graus**	**6.78**	**326**	P	**Pn**	**22 27 39.1**	**+1.7**
	2.1nm,0.3s,SNR=9.9						
EGRA				S	**Sn**	**22 28 50.7**	**-3.9**
	2.0nm,0.3s,SNR=7.3						
ESAC	**San Caprasio**	**6.80**	**320**	P	**Pn**	**22 27 37.9**	**+0.2**
	4.7nm,0.1s,SNR=4.0						
ESAC				S	**Sn**	**22 28 52.2**	**-3.0**
	32nm,0.6s,SNR=7.9						
ESAC	**San Caprasio**	**6.80**	**320**	P	**Pn**	**22 27 37.9**	**+0.2**
	4.7nm,0.1s,SNR=4.0						
EQES	**Quesada**	**6.86**	**282**	P	**Pn**	**22 27 40.8**	**+2.4**
	4.5nm,0.3s,SNR=16						
EQES				S	**Sn**	**22 28 54.7**	**-1.7**
	4.6nm,0.4s,SNR=8.6						
EQES	**Quesada**	**6.86**	**282**	P	**Pn**	**22 27 40.8**	**+2.4**
	4.5nm,0.3s,SNR=16						
SALF	**Salau**	**6.90**	**333**	P	**Pn**	**22 27 41.6**	**+2.6**
FRF	**La Foret Royal**	**6.96**	**7**	*e*Pn	**Pn**	**22 27 39.0**	**-0.8**
FRF				*e*Sn	**Sn**	**22 28 52.5**	**-6.4**
	4.2nm,0.2s						
FRF	**La Foret Royal**	**6.96**	**7**	*e*Pn	**Pn**	**22 27 39.0**	**-0.8**
FRF				*e*Sn	**Sn**	**22 28 52.5**	**-6.4**
	2.1nm,0.2s						
TAVF	**Tavernes**	**6.96**	**4**	P	**Pn**	**22 27 40.3**	**+0.4**
MTLF	**Montolieu**	**7.10**	**341**	*e*P	**Pn**	**22 27 42.9**	**+1.1**
MTLF				*e*Sn	**Sn**	**22 28 54.8**	**-7.8**
	5.1nm,0.5s						
MTLF	**Montolieu**	**7.10**	**341**	*e*P	**Pn**	**22 27 42.9**	**+1.1**
MTLF				*e*Sn	**Sn**	**22 28 54.8**	**-7.8**
	2.5nm,0.5s						
MLS	**Moulis**	**7.11**	**334**	P	**Pn**	**22 27 45.0**	**+3.2**
VAE	**Valguarnera**	**7.25**	**81**	LR	LR	22 31 12.1	
	comp=Z,126nm,18.1s,baz=356,slow=44						
EBIE	**Bielsa**	**7.25**	**328**	P	**Pn**	**22 27 45.5**	**+1.6**
	1.2nm,0.2s,SNR=5.9						
EBIE				S	**Sn**	**22 29 03.3**	**-3.0**
	3.1nm,0.7s,SNR=7.9						
EBIE	**Bielsa**	**7.25**	**328**	P	**Pn**	**22 27 45.5**	**+1.6**
EBIE				S	**Sn**	**22 29 05.2**	**-1.1**
EBIE	**Bielsa**	**7.25**	**328**	P	**Pn**	**22 27 45.5**	**+1.6**
	1.2nm,0.2s,SNR=5.9						
SMRF	**Simiane la Rot**	**7.31**	**1**	*e*Pn	**Pn**	**22 27 43.2**	**-1.4**
SBF	**Sospel**	**7.36**	**12**	*e*Pn	**Pn**	**22 27 45.2**	**-0.1**
SBF				*e*Sn	**Sn**	**22 29 03.9**	**-4.9**
	5.2nm,0.2s						
SBF	**Sospel**	**7.36**	**12**	*e*Pn	**Pn**	**22 27 45.2**	**-0.1**
SBF				*e*Sn	**Sn**	**22 29 03.9**	**-4.9**
	2.6nm,0.2s						
EPF	**Esparros**	**7.46**	**330**	*e*P	**Pn**	**22 27 49.0**	**+2.4**
LASF	**Ste Croix**	**7.50**	**351**	*e*Pn	**Pn**	**22 27 47.3**	**+0.1**
ETSF	**Etsaut**	**7.73**	**325**	*e*P	**Pn**	**22 27 52.7**	**+2.2**
ESDC	**Sonseca Array**	**7.96**	**295**	Pn	**Pn**	**22 27 54.9**	**+1.2**
	0.2nm,0.3s,baz=110,slow=13,SNR=3.5						
VIVF	**Saint-Julien-l**	**8.20**	**356**	*e*Pn	**Pn**	**22 27 55.8**	**-1.1**
SJPF	**Ste Jean**	**8.21**	**324**	*e*P	**Pn**	**22 27 59.4**	**+2.4**
ELIZ	**Elizondo**	**8.39**	**323**	P	**Pn**	**22 28 00.7**	**+1.1**
	1.0nm,0.2s,SNR=8.2						
ELIZ				S	**Sn**	**22 29 29.6**	**-4.7**
	0.2nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**8.43**	**323**	P	**Pn**	**22 28 01.9**	**+2.0**
	4.4nm,0.4s,SNR=6.1						
EALK				S	**Sn**	**22 29 30.2**	**-4.9**
	SNR=6.5						
LPG	**La Plagne**	**8.89**	**6**	*e*Pn	**Pn**	**22 28 07.4**	**+1.1**
LPL	**La Plagne**	**8.90**	**6**	*e*Pn	**Pn**	**22 28 06.7**	**+0.2**
MDT	**Midelt**	**9.09**	**248**	LR	LR	22 32 01.2	
	comp=Z,50nm,20.8s,baz=34,slow=40						
ELAN	**Lanestosa**	**9.43**	**317**	P	**Pn**	**22 28 15.6**	**+1.9**
	0.9nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**9.43**	**317**	P	**Pn**	**22 28 15.6**	**+1.8**
DAVOX	**Davos**	**10.65**	**17**	LR	LR	22 32 19.7	
	comp=Z,36nm,21.0s,baz=216,slow=36						
HINF	**Hinteralfeld**	**11.20**	**5**	*e*Pn	**Pn**	**22 28 36.9**	**-1.0**
HAU	**Haudompre**	**11.36**	**3**	*e*Pn	**Pn**	**22 28 39.6**	**-0.5**
CDF	**Champ du Feu**	**11.82**	**6**	*e*Pn	**Pn**	**22 28 45.3**	**-1.2**
ROSF	**Rostrenen**	**13.29**	**334**	*e*Pn	**Pn**	**22 29 06.1**	**-0.5**
BRTR	**Keskin Array B**	**22.37**	**74**	P	**P**	**22 30 58.1**	**+2.1**
	0.5nm,0.7s,mb3.0,baz=276,slow=11,SNR=4.2						
TORD	**Torodi Ar. Bea**	**23.65**	**189**	P	**P**	**22 31 08.4**	**-1.0**
	0.4nm,0.6s,mb3.0,baz=359,slow=9.5,SNR=5.1						
MKAR	**Makanchi Array**	**56.13**	**54**	P	**P**	**22 35 38.0**	**+0.5**
	0.2nm,0.5s,mb3.4,baz=302,slow=5.2,SNR=4.8						

*IDC **14** 22:46:17.2±2.1,693S×129.16E,h0km,mb3.6/1,mb1 4.1/4, mb1mx3.8/14,mbtmp3.9/4,ML4.0/3,Error ellipse: s-maj=87.4km s-min=27.5km az=76.0*
*ISCJB **14** 22:46:19.5±1.1,70S±01×1291E±02,h33km,mb3.7/1, Error ellipse: s-maj=27.6km s-min=11.6km az=128.8*
*NEIC **14** 22:46:19.0±0.8,693S×129.13E,h15km,mb3.3/1,Error ellipse: s-maj=21.4km s-min=9.0km az=65.0*

ISC 14 22:46:21.8±1.1,70S±01×1291E±02,h35km,n8,σ0§61/11, mb3.7/1,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
FITZ	**Fitzroy Crossi**	**11.58**	**197**	Pn	**Pn**	**22 49 04.9**	**+0.4**
	1.4nm,0.3s,baz=32,slow=10,SNR=79						
FITZ				Sn	**Sn**	**22 51 02.6**	**-10**
	0.9nm,0.3s,baz=116,slow=22,SNR=5.5						
WRAB	**Tennant Creek**	**13.86**	**159**	*e*P	**Pn**	**22 49 35.5**	**-0.2**
WRA	**Warramunga Arr**	**13.86**	**159**	Pn	**Pn**	**22 49 34.9**	**-0.8**
	0.5nm,0.3s,baz=341,slow=13,SNR=8.0						
WRA				Sn	**Sn**	**22 51 57.8**	**-11**
	2.0nm,0.3s,baz=333,slow=23,SNR=13						
MBWA	**Marble Bar**	**16.78**	**212**	*e*Pn	**Pn**	**22 50 14.0**	**0.0**
	1.7nm,0.6s						
ASAR	**Alice Springs**	**17.23**	**165**	P	**Pn**	**22 50 19.8**	**+0.1**
	0.4nm,0.3s,baz=335,slow=9.0,SNR=16						
ASAR				S	**S**	**22 53 19.9**	**-19**
	0.4nm,0.3s,baz=314,slow=17,SNR=6.9						
KKM	**Kota Kinabalu**	**18.24**	**315**	P	**Pn**	**22 50 31.1**	**-0.9**
TAU	**Tasmania Unive**	**39.23**	**159**	P	**P**	**22 53 47.3**	**+0.5**
MKAR	**Makanchi Array**	**67.72**	**327**	P	**P**	**22 57 16.6**	**+1.0**
	0.3nm,0.4s,mb3.7,baz=122,slow=8.1,SNR=7.7						

CASC 14 22:59:48.9±2.7,1160N×8703W,h27km±9km,MD3.7, 6C-7D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
COPN	**Copaltepe**	**0.72**	**37**	*e*P		23 00 04.3	+1.4
LEON	**Leon**	**0.82**	**10**	*i*P		23 00 05.3	+0.7
LEON				*e*S		23 00 19.1	+3.8
XAVN	**Gruta Xavier**	**0.88**	**52**	*e*P		23 00 05.0	-0.6
XAVN				*e*S		23 00 18.4	+1.4
MIRN	**Miramar**	**0.90**	**21**	*e*P		23 00 05.1	-0.6
MIRN				*e*S		23 00 18.1	+0.7
TICN	**Ticuantepe**	**0.90**	**61**	*e*P		23 00 05.7	-0.1
TICN				*e*S		23 00 20.3	+3.0
APYN	**Apoyeque**	**0.92**	**46**	*e*P		23 00 04.8	-1.2
TISN	**Laguna Tiscapa**	**0.92**	**54**	*i*P		23 00 05.1	-1.0
TISN				*e*S		23 00 17.6	-0.6
MOMJ	**Momotombo**	**0.94**	**31**	*e*P		23 00 04.8	-1.5
MOMJ				*e*S		23 00 18.8	+0.2
MGAN	**Managua**	**0.94**	**55**	*i*P		23 00 05.2	-1.2
MGAN				*e*S		23 00 17.9	-0.8
CNGN	**Cerro Negro**	**0.95**	**20**	*e*P		23 00 05.2	-1.3
TEL3	**Telica 3**	**0.99**	**11**	*e*P		23 00 06.4	-0.6
TEL3				*e*S		23 00 20.7	+0.7
TELN	**Telica**	**1.02**	**11**	*e*P		23 00 06.5	-1.0
CRIN	**San Cristobal**	**1.10**	**359**	*e*P		23 00 07.9	-0.6
CRIN				*e*S		23 00 23.2	+0.4
SSNN	**San Juan del S**	**1.20**	**105**	*e*P		23 00 11.7	+1.8
CONN	**Concepcion**	**1.38**	**91**	*e*P		23 00 11.5	-0.8
MADN	**Villa Maderas**	**1.48**	**97**	*e*P		23 00 13.1	-0.7
CGA2	**Cerro Gallo 2**	**2.97**	**122**	*e*P		23 00 36.0	+1.7
CGA2				*e*S		23 01 10.2	+1.2
PRS1	**Puriscal**	**3.12**	**121**	*e*P		23 00 37.1	+0.8
PRS1				*e*S		23 01 14.6	+2.0
LCR2	**La Lucha 2**	**3.50**	**121**	*e*P		23 00 41.4	-0.2
LCR2				*e*S		23 01 21.8	-0.3
URSC	**Urasca**	**3.65**	**118**	*e*P		23 00 42.4	-1.1
BUS	**Buena Vista**	**3.81**	**122**	*e*P		23 00 46.4	+0.6
BUS				*e*S		23 01 31.5	+1.9

*IDC **14** 23:08:17.7±74.0,2400S×17737W,h0km,mb3.9/3, mb1 4.0/3,mb1mx3.8/12,mbtmp3.9/3,Error ellipse: s-maj=1360.0km s-min=177.8km az=89.0*
*ISCJB **14** 23:08:22.8±3.5,2435S±05×17754W±04,h33km,mb4.0/5, Error ellipse: s-maj=84.7km s-min=35.2km az=65.5*
*NEIC **14** 23:08:23.7±3.3,2421S×17736W,h35km,mb4.4/2,Error ellipse: s-maj=79.9km s-min=33.3km az=213.0*

ISC 14 23:08:23.6±3.5,242S±05×1773W±04,h35km,n7,σ0§87/7, mb4.0/5,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
CTAO	**Charters Tower**	**33.94**	**270**	*e*P	**P**	**23 15 05.5**	**+2.0**
	3.3nm,0.4s,mb4.6						
TAU	**Tasmania Unive**	**34.54**	**229**	P	**P**	**23 15 09.1**	**+0.5**
STKA	**Stephens Creek**	**36.89**	**249**	P	**P**	**23 15 28.1**	**-0.7**
	0.7nm,0.3s,mb3.9,baz=102,slow=10,SNR=5.9						
ASAR	**Alice Springs**	**44.41**	**260**	P	**P**	**23 16 30.4**	**-0.4**
	0.4nm,0.4s,mb3.5,baz=95,slow=7.9,SNR=8.0						
WRAB	**Tennant Creek**	**44.83**	**266**	*e*P	**P**	**23 16 33.8**	**-0.4**
	1.0nm,0.3s,mb4.1						
WRA	**Warramunga Arr**	**44.84**	**266**	P	**P**	**23 16 33.5**	**-0.8**
	1.2nm,0.5s,mb4.0,baz=103,slow=8.2,SNR=5.8						
SNAA	**Sanae**	**84.28**	**178**	P	**P**	**23 20 51.8**	**+0.1**

IDC 15 00:05:22.3±7.0,1903S×17483W,h0km,mb3.5/3, mb1 3.8/3,mb1mx3.7/14,mbtmp3.5/3,Error ellipse:
s-maj=330.3km s-min=35.7km az=144.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
AFI	**Afiamalu**	**5.87**	**30**	Sn	**Sn**	**00 07 59.8**	**+1.2**
	3.5nm,0.3s,baz=17,slow=19,SNR=4.0						
ASAR	**Alice Springs**	**47.77**	**255**	P	P	**00 14 01.8**	**+0.6**
	0.3nm,0.6s,baz=89,slow=8.4,SNR=4.2						
WRA	**Warramunga Arr**	**47.77**	**260**	P	P	**00 14 01.7**	**+0.4**
	0.3nm,0.4s,baz=96,slow=7.6,SNR=5.0						
ILAR	**Eielson Array**	**86.25**	**12**	P	P	**00 18 06.0**	**+0.1**
	0.6nm,0.7s,baz=211,slow=6.4,SNR=11						
GERES	**GERESS Array B**	**149.46**	**349**	PKPbc	PKPbc	**00 25 12.1**	**-1.4**
	0.5nm,0.7s,baz=20,slow=3.1,SNR=4.0						

*MOS **15** 00:09:23.8±1.1,1437N×9224W,h10km,mb5.0/22, MS4.6/4,Error ellipse: s-maj=10.0km s-min=5.5km az=104.6*
*ISCJB **15** 00:09:27.7±0.2,1428N±003×9280W±002,h36km, mb4.7/57,MS4.6/32,Error ellipse: s-maj=5.0km s-min=2.3km az=61.6*
*CASC **15** 00:09:28.9±1.8,1430N×9279W,h25km±65km,MD4.5, mb4.9(NEIC)*
*SZGRF **15** 00:09:29.6,14.13N×9252W,h33km,mb4.6,Near coast of Chiapas, Mexico*
*HRVD **15** 00:09:29.1±0.2,1431N×9294W,h31km,MW5.2/85, Centroid moment Tensor Solution. LP body waves: s85,c141;Mantle waves: s84,c144; Half duration: 1§0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.71±.02; $M_{\theta\theta}$-0.57±.01; $M_{\phi\phi}$-0.13±.02; $M_{r\theta}$0.44±.02; $M_{\theta\phi}$0.30±.01; $M_{\phi r}$-0.30±.02; Best double couple: M0.89500×10^{17} NP1:ϕ292.00000°,δ27.00000°,λ82.00000°. NP2: ϕ122.00000°,δ63.00000°,λ94.00000°. Principal axes: T 0.8850, Plg71.0000°, Azm41.0000°; N 0.0190, Plg4.0000°, Azm300.0000°; P -0.9040, Plg18.0000°, Azm208.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **15** 00:09:29.1,1420N×9300W,h22km,mB5.3,Ms5.1,Msz4.7*
*NEIC **15** 00:09:29.1,1423N×9297W,h23km,mb4.9/40,MS4.7/3, MD5.1(MEX),After MEX.*
*MEX **15** 00:09:29.0±0.8,1423N×9298W,h26km±58km,MD5.1*
*IDC **15** 00:09:30.4±2.7,1450N×9235W,h43km±24km,mb4.1/20, mb1 4.3/22,mb1mx4.3/24,mbtmp4.3/22,ML4.2/2,MS4.5/23, Ms1 4.5/23,ms1mx4.3/35,Error ellipse: s-maj=24.4km s-min=10.3km az=55.0*

ISC 15 00:09:30.6±0.2,1437N±003×9274W±002,h38km, h38km±1.2km:pP-P,n290,σ1§53/282,mb4.6/56,MS4.6/32, 1C-1D,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
JAT	**Jato**	**1.07**	**92**	*e*P	**Pn**	**00 09 49.6**	**+0.5**
TP2	**Tecpan 2**	**1.72**	**76**	*e*P	**Pn**	**00 09 58.1**	**+0.1**
TP2				*e*S	**Sn**	**00 10 21.2**	**+2.5**
FUG	**Fuego 3**	**1.84**	**87**	*e*P	**Pn**	**00 10 00.3**	**-0.4**
CCIG	**Comitan**	**1.99**	**17**	*i*P	**Pn**	**00 10 02.5**	**+0.8**
CCIG				*i*S	**Sn**	**00 10 27.0**	**+1.5**
PCG	**Pacaya**	**2.07**	**89**	*e*P	**Pn**	**00 10 03.1**	**+0.3**
GCG	**Guatemala City**	**2.15**	**84**	*e*P	**Pn**	**00 10 04.3**	**+0.4**
GCG				*e*P		00 10 04.5	
IXG	**Ixpaco**	**2.23**	**95**	*e*P	**Pn**	**00 10 04.7**	**-0.2**
IXG				*e*S	**Sn**	**00 10 33.0**	**+1.8**
SCX	**San Cristobal**	**2.36**	**3**	*e*P	**Pn**	**00 10 08.0**	**+1.2**
SCX				*i*S	**Sn**	**00 10 38.5**	**+4.0**
HUIG	**Huatulco**	**3.54**	**294**	*e*P	**Pn**	**00 10 18.8**	**-4.2**
HUIG				*i*S	**Sn**	**00 10 55.8**	**-7.7**
SNVI	**San Vicente**	**3.86**	**101**	*e*P	Px	00 10 42.7	
SNVI				*e*S	Sx	00 11 28.9	
TUIG	**Tuzandepetl**	**3.99**	**336**	*e*P	**Pn**	**00 10 26.9**	**-2.2**
TUIG				*i*S	**Sn**	**00 11 13.4**	**-1.3**
BLLM	**Bellamira**	**4.47**	**101**	*e*P	Px	00 10 51.4	
BLLM				*e*S	Sx	00 11 44.1	
OXX	**Oaxaca**	**4.69**	**306**	*e*P	**Pn**	**00 10 40.0**	**+1.2**
OXX				*i*S	**Sn**	**00 11 35.0**	**+3.1**
VHO	**Vista Hermosa**	**4.69**	**306**	*e*P	**Pn**	**00 10 33.0**	**-5.8**
VHO				*i*S	**Sn**	**00 11 26.6**	**-5.4**
EVV	**El Vigia**	**4.78**	**329**	*i*P	**Pn**	**00 10 38.0**	**-2.0**
SCIG		**4.81**	**18**	*e*P	**Pn**	**00 10 40.4**	**-0.1**
SCIG				*i*S	**Sn**	**00 11 35.8**	**+0.8**
CNCH	**Conchagua**	**4.89**	**102**	*e*P	Px	00 10 56.7	
CNCH				*e*S	Sx	00 11 54.2	
PNIG	**Pinotepa**	**5.57**	**292**	*i*P	**Pn**	**00 10 49.0**	**-1.9**
PNIG				*i*S	**Sn**	**00 11 47.6**	**-6.1**
PNIG	**Pinotepa**	**5.57**	**292**	*i*P	**Pn**	**00 10 49.9**	**-1.0**
PNIG				*i*S	**Sn**	**00 11 47.6**	**-6.1**
CRIN	**San Cristobal**	**5.78**	**106**	*e*P	**Pn**	**00 10 55.1**	**+1.3**
UTMO	**Huajuapan**

comp=E,2.5nm,3.6s
LPIG La Paz 19.19 303 P **Pn 00 13 53.5 +1.4**
comp=E,2.2nm,0.3s,baz=307,slow=1.2,SNR=4.5
LPIG S **S 00 17 28.5 +2.2**
comp=E,1.2nm,0.3s,baz=185,slow=19,SNR=1.9
LRAL Lakeview Retre 19.31 15 Pn **Pn 00 13 52.7 -0.8**
MIAR Mount Ida 20.11 358 P **P 00 14 01.0 0.0**
MIAR pmax pmax
comp=Z,45nm,0.8s
MIAR Mount Ida 20.11 358 P **P 00 14 01.0 0.0**
comp=Z,45nm,0.8s
UALR University of 20.32 1 P **P 00 14 02.7 -0.6**
UALR *e* 00 14 18.0
ROSC El Rosal 20.45 116 P **P 00 14 04.1 -0.6**
comp=Z,18nm,0.9s,baz=286,slow=21,SNR=28
ROSC S **S 00 18 00.2 +8.6**
comp=Z,3.3nm,0.4s,baz=116,slow=23,SNR=2.3
GDL2 Guadalupe Moun 20.68 331 P **P 00 14 08.8 +1.5**
MNTX Cornudas Mount 20.77 328 P **P 00 14 09.0 +0.8**
comp=Z,32nm,1.1s
PLAL Pickwick Lake 20.95 11 P **P 00 14 08.8 -1.4**
comp=Z,32nm,1.1s
WMOK Wichita Mounta 21.00 346 *e*P **P 00 14 10.6 -0.1**
WMOK *e*S **S 00 17 59.7 -2.8**
WMOK pmax pmax
comp=Z,15nm,0.8s,mb4.4
WMOK Wichita Mounta 21.00 346 *e*P **P 00 14 10.6 -0.1**
comp=Z,15nm,0.8s,mb4.4
WMOK *e*S **S 00 17 59.7 -2.8**
CPRX Cap Rock 21.16 333 *e*P **P 00 14 13.9 +1.5**
SWET Sewanee 21.65 15 P **P 00 14 16.8 -0.9**
NHSC New Hope 21.88 29 P **P 00 14 18.4 -1.7**
AMTX Amarillo 21.96 340 P **P 00 14 21.3 +0.3**
CPCT Cooper Cave 22.26 18 P **P 00 14 23.4 -0.8**
CPCT *e* 00 14 36.4
SDV Santo Domingo 22.32 102 P **P 00 14 22.0 -2.8**
comp=Z,18nm,0.7s,mb4.6,baz=328,slow=6.1,SNR=26
SDV Santo Domingo 22.32 102 P **P 00 14 24.6 -0.2**
comp=Z,14nm,0.6s,mb4.6
JSC Jenkinsville 22.38 26 *e*P **P 00 14 24.9 -0.6**
BNM Barren Site 23.36 330 P **P 00 14 36.4 +0.6**
SIUC Southern Illin 23.46 7 P **P 00 14 36.1 -0.6**
LPM Los Pinos Moun 23.50 330 P **P 00 14 37.4 +0.3**
LENM Lemitar 23.55 329 P **P 00 14 39.4 +1.9**
TZTN Tazewell 23.57 19 P **P 00 14 36.2 -1.5**
TZTN *e* 00 14 50.4
LAZ Ladron 23.82 329 *e*P **P 00 14 41.5 +1.5**
USIN University of 23.93 10 P **P 00 14 42.4 +1.3**
ANMO Albuquerque 23.94 331 P **P 00 14 40.4 -0.7**
comp=Z,8.6nm,0.7s,mb4.3,baz=128,slow=11,SNR=20
ANMO PcP PcP 00 18 22.4 -0.4
comp=Z,0.8nm,0.4s,baz=180,slow=5.1,SNR=1.9
ANMO S **S 00 18 57.3 +2.3**
comp=Z,0.7nm,0.5s,baz=320,slow=11,SNR=1.6
ANMO LR LR 00 25 53.7
comp=Z,589nm,18.1s,MS4.1,baz=38,slow=41
ANMO Albuquerque 23.94 331 P **P 00 14 42.4 +1.4**
SLM Saint Louis 24.28 5 P **P 00 14 43.4 -0.7**
SLM pmax pmax
comp=Z,28nm,0.6s,mb4.9
SLM Saint Louis 24.28 5 P **P 00 14 43.4 -0.8**
comp=Z,28nm,0.6s,mb4.9
TUC Tucson 24.29 320 P **P 00 14 45.6 +1.3**
TUC pmax pmax
comp=Z,78nm,1.6s,mb4.9
TUC Tucson 24.29 320 P **P 00 14 45.6 +1.3**
comp=Z,78nm,1.6s,mb4.9
WCI Wyandotte Cave 24.45 12 P **P 00 14 44.1 -1.6**
WCI pmax pmax
comp=Z,39nm,0.8s,mb4.9
WCI Wyandotte Cave 24.45 12 P **P 00 14 44.1 -1.6**
comp=Z,39nm,0.8s,mb4.9
WCI *e* 00 14 58.7
KSU1 Kansas State U 24.87 353 P **P 00 14 48.5 -1.1**
KSU1 *e* 00 14 59.9
ELN Prospectdale 25.15 23 *e*P **P 00 14 50.8 -1.4**
BLA Blacksburg 25.26 24 *e*P **P 00 14 51.5 -1.6**
BLA *e**PP pP 00 14 58.8 -4.9
BLA pmax pmax
comp=Z,3.0nm,1.1s,mb3.7
BLA Blacksburg 25.26 24 *e*P **P 00 14 51.5 -1.7**
comp=Z,3.5nm,1.1s,mb3.8
BLA *e*pP pP 00 14 58.8 -4.9
BLO Bloomington 25.31 11 P **P 00 14 51.9 -1.7**
BLO pmax pmax
comp=Z,34nm,0.8s,mb4.9
BLO Bloomington 25.31 11 P **P 00 14 51.9 -1.6**
comp=Z,34nm,0.8s,mb4.9
BLO *e* 00 15 07.1
FWV Forest Hill 25.44 22 *e*P **P 00 14 52.5 -2.2**
FWV *e*pP pP 00 15 03.7 -1.6
SJG San Juan 25.79 78 PcP PcP 00 18 25.5 -1.3
comp=Z,3.7nm,0.4s,baz=90,slow=4.0,SNR=3.5
MVCO Mesa Verde 26.73 331 *e*P **P 00 15 07.4 +1.0**
WUAZ Wupatki 26.90 325 P **P 00 15 09.9 +2.0**
comp=Z,22nm,1.0s,mb4.7
ACSO Alum Creek Sta 27.15 17 P **P 00 15 08.9 -1.3**
CBN Corbin 27.37 27 *e*P **P 00 15 08.7 -3.4**
PV01 Paradox Valley 27.52 332 *e*P **P 00 15 15.2 +1.8**
SMCO Snowmass 27.71 336 P **P 00 15 16.4 +1.2**
comp=Z,40nm,1.4s,mb4.8
ISCO Idaho Springs 27.74 338 P **P 00 15 16.3 +0.8**
PV10 Paradox Valley 27.93 332 *e*P **P 00 15 18.0 +0.8**
NEN Nelson 29.03 321 P **P 00 15 28.9 +2.0**
SRU San Rafael 29.21 331 P **P 00 15 30.3 +1.8**
MSU Marysvale 29.56 328 P **P 00 15 34.0 +2.4**
MSU pP pP 00 15 44.2 +1.9
ARUT Antelope Range 29.69 326 *e*P **P 00 15 35.0 +2.2**
ARUT *e**PP pP 00 15 44.1 +0.7
SHPR Sheep Range 29.79 322 P **P 00 15 35.7 +2.1**
SHPR pP pP 00 15 47.0 +2.7
MPU Maple Canyon 30.45 331 P **P 00 15 41.5 +2.1**
MPU pP pP 00 15 52.0 +1.9
DAU Daniels Canyon 30.58 332 P **P 00 15 42.3 +1.6**
NLU North Lily Min 30.61 330 P **P 00 15 41.7 +0.8**
TPNV Topopah Spring 30.74 321 *e*P **P 00 15 44.4 +2.4**
TPNV pmax pmax
comp=Z,74nm,2.0s,mb5.2
TPNV Topopah Spring 30.74 321 *e*P **P 00 15 44.4 +2.4**
comp=Z,74nm,2.0s,mb5.2
TPNV *e*pP pP 00 15 53.8 +1.1
CTU Camp Tracy 31.03 331 *e*P **P 00 15 46.5 +1.9**
comp=Z,22nm,1.2s,mb4.9
CTU *e*pP pP 00 15 56.8 +1.4
DAC Darwin (Calif) 31.15 319 P **P 00 15 47.5 +1.9**
DAC pP pP 00 15 58.1 +1.8
DUG Dugway 31.16 329 P **P 00 15 48.0 +2.3**
DUG pmax pmax
comp=Z,24nm,1.7s,mb4.8
DUG Dugway 31.16 329 P **P 00 15 48.0 +2.3**
comp=Z,24nm,1.7s,mb4.8
TCUT Toone Canyon 31.21 332 P **P 00 15 48.5 +2.3**
BINY Binghamton 31.29 24 P **P 00 15 45.2 -1.8**
comp=Z,12nm,0.6s,mb4.9
HWUT Hardware Ranch 31.68 333 P **P 00 15 52.1 +1.8**
PDAR Pinedale Array 31.79 336 P **P 00 15 51.9 +0.5**
comp=Z,2.5nm,0.9s,mb4.0,baz=134,slow=8.6,SNR=14
PDAR PcP PcP 00 18 41.6 -0.3
comp=Z,0.7nm,0.6s,baz=198,slow=4.6,SNR=2.6
PDAR LR LR 00 30 36.0
comp=Z,560nm,18.4s,MS4.3,baz=155,slow=40
TPH Tonopah 32.06 322 *e*P **P 00 15 55.8 +2.1**
HVU Hansel Valley 32.37 331 P **P 00 15 58.0 +1.6**
SADO Sadowa 32.43 18 P **P 00 15 53.2 -3.7**
comp=Z,3.0nm,0.4s,mb4.4,baz=213,slow=9.2,SNR=5.5
SADO LR LR 00 31 01.0
comp=Z,974nm,18.0s,MS4.5,baz=205,slow=40
ELK Elko 32.80 328 P **P 00 16 01.9 +1.8**
REDW Red Top Meadow 32.81 335 P **P 00 16 01.2 +1.0**
MNV Mina 32.85 322 P **P 00 16 02.1 +1.5**
MNV pmax pmax
comp=Z,17nm,1.0s,mb4.9
MNV Mina 32.85 322 P **P 00 16 02.1 +1.5**
comp=Z,18nm,1.0s,mb4.9
NVAR Mina Array Bea 32.94 321 P **P 00 16 03.5 +2.1**
comp=Z,7.1nm,0.6s,mb4.8,baz=128,slow=9.4,SNR=38
NVAR PcP PcP 00 18 46.2 +1.2
comp=Z,2.2nm,0.8s,baz=147,slow=2.2,SNR=4.1
NVAR Mina Array Bea 32.94 321 P **P 00 16 03.5 +2.1**
NVAR PcP PcP 00 18 46.2 +1.2
TPAW Teton Pass 32.95 335 P **P 00 16 02.9 +1.4**
MOOW Moose Ponds 33.09 336 P **P 00 16 03.4 +0.7**
comp=Z,16nm,0.9s,mb5.0
DCID1 Drake Creek 33.14 335 P **P 00 16 04.8 +1.7**

IMW Indian Meadow 33.29 336 P **P 00 16 05.5 +1.1**
comp=Z,8.6nm,0.6s,mb4.9
FLWY Flagg Ranch 33.35 336 P **P 00 16 06.3 +1.4**
comp=Z,16nm,0.8s,mb5.0
NCB Newcomb 33.48 25 *e*P **P 00 16 03.3 -2.8**
YFT Old Faithful 33.71 336 P **P 00 16 09.6 +1.5**
YFT pP pP 00 16 19.6 +0.8
YMR Madison River 33.95 336 *e*P **P 00 16 11.4 +1.3**
comp=Z,38nm,1.2s,mb5.2
QLMT Earthquake Lak 34.26 336 P **P 00 16 14.7 +1.8**
PAHR Pah Rah Range 34.40 322 P **P 00 16 16.7 +2.7**
comp=Z,16nm,1.0s,mb4.9
PAHR pP pP 00 16 27.2 +2.4
GCMT Greycliff 34.42 339 *e*P **P 00 16 14.8 +0.5**
GCMT *e*pP pP 00 16 24.8 -0.3
HLID Hailey 34.51 332 P **P 00 16 16.1 +1.0**
comp=Z,22nm,1.2s,mb5.0
MCMT McKenzie Canyo 34.83 335 *e*P **P 00 16 19.5 +1.6**
MCMT *e*pP pP 00 16 29.1 +0.6
DLMT Dillon 35.16 335 P **P 00 16 22.5 +1.8**
LRM Limekiln Ridge 35.49 336 P **P 00 16 24.4 +0.9**
WVOR Wild Horse Val 35.79 326 *e*P **P 00 16 27.1 +1.0**
WVOR pmax pmax
comp=Z,19nm,1.0s,mb5.0
WVOR Wild Horse Val 35.79 326 *e*P **P 00 16 27.1 +1.0**
comp=Z,19nm,1.0s,mb5.0
WVOR *e*pP pP 00 16 38.0 +1.2
ULM Lac du Bonnet 35.88 357 P **P 00 16 24.1 -2.7**
comp=Z,2.1nm,0.4s,mb4.4,baz=171,slow=9.9,SNR=8.7
ULM PcP PcP 00 18 52.5 -0.9
comp=Z,2.7nm,0.7s,baz=140,slow=4.8,SNR=2.7
ULM LR LR 00 34 23.1
comp=Z,442nm,18.8s,MS4.2,baz=48,slow=42
HRY Holter Researc 35.99 337 P **P 00 16 28.7 +1.0**
MOD Modoc 36.35 324 P **P 00 16 31.9 +1.0**
comp=Z,11nm,1.1s,mb4.7
CHMT Chamberlain Mo 36.70 336 P **P 00 16 34.0 +0.2**
BMO Blue Mountains 36.84 330 P **P 00 16 35.0 0.0**
SAML Samuel 37.37 127 P **P 00 16 37.2 -2.3**
comp=Z,13nm,1.1s,mb4.7
SAML pP pP 00 16 46.9 -3.3
KHMM Horse Mountain 37.74 320 *e*P **P 00 16 44.1 +1.4**
KHMM *e*pP pP 00 16 55.4 +1.9
BSMT Bassoo Peak 38.07 336 P **P 00 16 45.8 +0.4**
WALA Waterton Lakes 38.72 338 P **P 00 16 51.8 +0.9**
comp=Z,23nm,1.5s,mb4.7
LPAZ La Paz 38.97 141 P **P 00 16 51.8 -1.2**
comp=Z,0.9nm,0.6s,mb3.6,baz=343,slow=9.1,SNR=7.3
LPAZ LR LR 00 32 28.9
comp=Z,562nm,21.0s,MS4.4,baz=99,slow=36
LPAZ La Paz 38.97 141 P **P 00 16 52.1 -0.9**
LPAZ pP pP 00 17 02.1 -1.8
HAWA Hanford 39.04 330 P **P 00 16 54.6 +1.0**
NEW Newport 39.35 334 LR LR 00 35 45.5
comp=Z,1µm,19.2s,MS4.7,baz=135,slow=40
LON Longmire 40.41 329 P **P 00 17 05.9 +1.0**
LON pP pP 00 17 16.4 +0.6
FFC Flin Flon 40.91 352 P **P 00 17 08.0 -1.1**
EDM Edmonton 42.06 342 P **P 00 17 18.1 -0.4**
EDM pP pP 00 17 29.1 -0.3
PGC Sidney 42.51 330 P **P 00 17 22.6 +0.4**
comp=Z,29nm,0.9s,mb5.0
SIV San Ignacio 43.47 133 P **P 00 17 28.3 -1.7**
comp=Z,6.5nm,0.8s,mb4.4,baz=307,slow=9.9,SNR=36
LVC Limon Verde 43.54 147 P **P 00 17 30.1 -0.4**
comp=Z,1.3nm,0.8s,mb3.7,baz=355,slow=11,SNR=2.1
FCC Fort Churchill 44.33 359 P **P 00 17 34.8 -2.0**
FCC pP pP 00 17 49.3 +1.5
SCHQ Schefferville 45.13 21 P **P 00 17 39.9 -3.4**
comp=Z,2.6nm,0.6s,mb4.3,baz=216,slow=8.0,SNR=9.1
SCHQ PcP PcP 00 19 22.6 -0.7
comp=Z,5.9nm,0.7s,baz=237,slow=2.0,SNR=9.8
SCHQ LR LR 00 38 12.8
comp=Z,995nm,18.1s,MS4.8,baz=127,slow=38
BBB Bella Bella 47.09 331 LR LR 00 42 15.9
comp=Z,476nm,18.2s,MS4.5,baz=338,slow=42
YKA Yellowknife Ar 50.51 347 P **P 00 18 23.7 -1.1**
comp=Z,15nm,0.6s,mb5.1,baz=151,slow=7.4,SNR=194
YKA PcP PcP 00 19 41.9 -0.5
comp=Z,1.1nm,0.7s,baz=153,slow=3.3,SNR=4.0
YKA LR LR 00 44 39.2
comp=Z,230nm,19.8s,MS4.2,baz=135,slow=42
YKA Yellowknife Ar 50.51 347 P **P 00 18 23.8 -1.1**
YKA 00 19 41.9
YKA Yellowknife Ar 50.51 347 P **P 00 18 23.8 -1.1**
YKA PcP PcP 00 19 41.9 -0.5
YKA LR LR 00 44 39.2
YKW3 Yellowknife Ar 50.57 347 P **P 00 18 24.4 -0.9**
DLBC Dease Lake 52.03 336 LR LR 00 44 37.1
comp=Z,668nm,18.3s,MS4.7,baz=320,slow=40
DLBC Dease Lake 52.03 336 pP pP 00 18 49.0 +1.6
CPUP Villa Florida 53.13 139 P **P 00 18 42.2 -2.2**
comp=Z,1.0nm,0.6s,mb3.9,baz=318,slow=6.6,SNR=6.6
CPUP LR LR 00 42 44.0
comp=Z,483nm,19.0s,MS4.6,baz=313,slow=38
CPUP Villa Florida 53.13 139 P **P 00 18 41.7 -2.7**
CPUP pP pP 00 18 51.0 -4.5
BDFB Brasilia 53.33 122 P **P 00 18 44.1 -1.7**
comp=Z,7.0nm,1.0s,mb4.5,baz=269,slow=7.5,SNR=7.8
BDFB LR LR 00 42 11.0
comp=Z,478nm,19.1s,MS4.6,baz=300,slow=37
RKT Rikitea 55.64 229 *e*S **S 00 26 50.0 +3.9**
comp=Z,243nm,29.0s
RKT *e*LR LR 00 35 21.3
comp=Z,1µm,25.5s,baz=52
DAWY Dawson 59.07 338 *e*P **P 00 19 26.4 -0.4**
DAWY *e*pP pP 00 19 37.5 -0.6
RCBR Riachuelo 59.83 106 P **P 00 19 31.9 -0.2**
INK Inuvik 59.89 344 P **P 00 19 31.1 -1.3**
comp=Z,8.6nm,0.6s,mb5.0,baz=139,slow=7.9,SNR=20
INK Inuvik 59.89 344 P pP 00 19 43.4 -0.4
INK Inuvik 59.89 344 pP pP 00 19 43.4 -0.4
PMR Palmer 61.77 333 P **P 00 19 45.3 0.0**
SLKM Skilak Lake 61.83 332 *e*P **P 00 19 45.4 -0.3**
ILAR Eielson Array 62.22 337 P **P 00 19 47.4 -1.0**
comp=Z,5.0nm,0.9s,mb4.6,baz=131,slow=4.5,SNR=48
ILAR LR LR 00 48 53.7
comp=Z,471nm,20.4s,MS4.6,baz=312,slow=38
COLA College 62.64 337 *e*P **P 00 19 50.8 -0.3**
COLA pmax pmax
comp=Z,15nm,1.1s,mb5.0
COLA College 62.64 337 *e*P **P 00 19 50.8 -0.3**
comp=Z,15nm,1.1s,mb5.0
COLA *e*pP pP 00 20 01.6 -0.9
PPT Papeete 64.42 242 *e*S **S 00 28 45.4 +6.6**
comp=Z,164nm,24.0s
PPT *e*LR LR 00 39 20.3
comp=Z,589nm,24.5s,baz=56
PPT Papeete 64.42 242 LR LR 00 40 28.9
comp=Z,366nm,19.4s,MS4.6,baz=52,slow=29
SVW2 Sparrevohn 64.50 331 *e*P **P 00 20 02.3 -1.1**
TTA Tatalina 65.25 333 *e*P **P 00 20 07.2 -1.1**
TTA *e* 00 20 07.8
TBI Tubuai 66.94 237 *e*LR LR 00 40 30.6
comp=Z,603nm,27.5s,baz=59
DAG Danmarks Havn 72.48 13 *i*P **P 00 20 50.1 -3.1**
DAG Danmarks Havn 72.48 13 *e*P **P 00 20 50.1 -3.1**
JMIC Jan Mayen 74.64 20 LR LR 00 54 31.3
comp=Z,539nm,19.9s,MS4.8,baz=89,slow=36
ESDC Sonseca Array 80.06 52 P **P 00 21 32.7 -3.5**
comp=Z,1.1nm,0.7s,mb3.9,baz=290,slow=5.9,SNR=13
GRR Gorron 80.65 42 *e*P **P 00 21 36.1 -3.3**
MDT Midelt 80.81 58 LR LR 00 49 23.8
comp=Z,83nm,21.1s,MS4.1,baz=306,slow=30
BILL Bilibino 80.85 338 *e*P **P 00 21 40.0 -0.5**
BILL pmax pmax
comp=Z,31nm,0.9s,mb5.2
BILL Bilibino 80.85 338 *e*P **P 00 21 40.0 -0.5**
comp=Z,31nm,0.9s,mb5.2
BILL *e*pP pP 00 21 51.4 -0.8
LDF La Druitiere 81.09 42 *e*P **P 00 21 38.4 -3.3**
SJPF Ste Jean 81.43 48 *e*P **P 00 21 39.8 -3.7**
MFF Saint Martin d 81.47 44 *e*P **P 00 21 39.9 -3.9**
ETSF Etsaut 81.95 48 *e*P **P 00 21 42.3 -4.0**
comp=Z,4.9nm,0.8s,mb4.2
ETSF Etsaut 81.95 48 *e*P **P 00 21 42.3 -4.0**
ETSF pmax pmax
comp=Z,20nm,0.8s,mb5.1
ETSF Etsaut 81.95 48 *e*P **P 00 21 42.3 -4.0**
comp=Z,2.5nm,0.8s,mb4.2
LFF La Frestale 82.43 46 *e*P **P 00 21 45.0 -3.8**
EPF Esparros 82.56 48 *e*P **P 00 21 46.3 -3.2**
RJF Les Rejaudoux 82.88 45 *e*P **P 00 21 46.9 -4.3**
RJF *e*R
comp=Z,482nm,22.0s

RJF Les Rejaudoux 82.88 45 *e*P **P 00 21 46.9 -4.3**
RJF LR LR
comp=Z,480nm,22.0s,MS4.8
AFI Afiamalu 83.10 254 LR LR 00 49 22.5
comp=Z,180nm,19.2s,MS4.5,baz=38,slow=29
TCF Toulx Ste Croi 83.13 44 *e*P **P 00 21 48.8 -3.7**
comp=Z,15nm,1.3s,mb4.6
TCF Toulx Ste Croi 83.13 44 *e*P **P 00 21 48.8 -3.7**
TCF pmax pmax
comp=Z,8.0nm,1.3s,mb4.6
TCF Toulx Ste Croi 83.13 44 *e*P **P 00 21 48.8 -3.7**
comp=Z,7.6nm,1.3s,mb4.6
CAF Calviac 83.35 45 *e*P **P 00 21 49.2 -4.4**
BGF Bois d'Agland 83.49 44 *e*P **P 00 21 50.6 -3.7**
BAIF Baives 83.52 40 *e*P **P 00 21 51.0 -3.5**
comp=Z,36nm,1.5s,mb5.0
BAIF Baives 83.52 40 *e*P **P 00 21 51.0 -3.5**
BAIF pmax pmax
comp=Z,18nm,1.5s,mb5.0
BAIF Baives 83.52 40 *e*P **P 00 21 51.0 -3.5**
comp=Z,18nm,1.5s,mb5.0
AVF Avril sur Loir 83.78 43 *e*P **P 00 21 51.8 -4.0**
comp=Z,18nm,1.3s,mb4.8
AVF Avril sur Loir 83.78 43 *e*P **P 00 21 51.8 -4.0**
AVF pmax pmax
comp=Z,9.0nm,1.3s,mb4.7
AVF Avril sur Loir 83.78 43 *e*P **P 00 21 51.8 -4.0**
comp=Z,9.1nm,1.3s,mb4.8
SSF Saint Saulge 83.81 43 *e*P **P 00 21 52.0 -4.0**
MTLF Montolieu 83.83 47 *e*P **P 00 21 51.9 -4.2**
LOR Lormes 83.99 43 *e*P **P 00 21 53.5 -3.4**
comp=Z,15nm,1.1s,mb4.7
LOR *e*R
comp=Z,310nm,21.5s
LOR Lormes 83.99 43 *e*P **P 00 21 53.5 -3.4**
LOR pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
LOR MLR MLR
comp=Z,310nm,21.5s,MS4.7
LOR Lormes 83.99 43 *e*P **P 00 21 53.5 -3.4**
comp=Z,7.4nm,1.1s,mb4.7
LOR LR LR
comp=Z,310nm,21.5s,MS4.7
SMF Signal de Mont 84.14 43 *e*P **P 00 21 53.6 -4.0**
NB2 NORSAR Subarra 84.17 28 P **P 00 21 56.5 -1.3**
comp=Z,4.9nm,1.0s,mb4.6,baz=291,slow=5.3
NOA NORSAR Array B 84.17 28 P **P 00 21 56.4 -1.4**
comp=Z,2.0nm,0.8s,mb4.3,baz=290,slow=5.2,SNR=7.0
NOA LR LR 00 57 22.0
comp=Z,234nm,21.4s,MS4.5,baz=285,slow=34
LASF Ste Croix 84.80 46 *e*P **P 00 21 57.1 -3.9**
HAU Haudompre 85.42 42 *e*P **P 00 22 01.9 -2.2**
HAU *e*R
comp=Z,265nm,20.5s
HAU Haudompre 85.42 42 *e*P **P 00 22 01.9 -2.2**
HAU LR LR
comp=Z,260nm,20.5s,MS4.6
CDF Champ du Feu 85.90 41 *e*P **P 00 22 03.3 -3.2**
ORIF Oris-en-Rattie 85.97 45 *e*P **P 00 22 04.1 -2.7**
ORIF *e*R
comp=Z,425nm,21.5s
ARCES ARCESS Array B 86.02 18 P **P 00 22 05.2 -1.9**
comp=Z,48nm,1.4s,mb5.5,baz=324,slow=6.0,SNR=7.2
ARCES LR LR 01 00 54.1
comp=Z,304nm,18.1s,MS4.7,baz=27,slow=36
SMRF Simiane la Rot 86.02 46 *e*P **P 00 22 03.6 -3.5**
LPL La Plagne 86.38 44 *e*P **P 00 22 05.9 -2.9**
MBDF Montbardon 86.63 45 *e*P **P 00 22 06.4 -3.7**
LMR La Mourre 86.85 46 *e*P **P 00 22 08.4 -2.7**
FRF La Foret Royal 86.88 46 *e*P **P 00 22 08.5 -2.8**
GRA1 Grafenberg Arr 87.96 39 *e*P **P 00 22 16.1 -0.4**
comp=Z,4.0nm,1.4s,mb4.5
GRF Grafenberg Arr 87.96 39 *e*P **P 00 22 16.1 -0.4**
comp=Z,4.0nm,1.4s,mb4.5
GRF Grafenberg Arr 87.96 39 *e*P **P 00 22 16.1 -0.4**
GRF pmax pmax
comp=Z,4.0nm,1.4s,mb4.5
GRF Grafenberg Arr 87.96 39 *e*P **P 00 22 16.1 -0.4**
GRF pmax pmax
comp=Z,4.0nm,1.4s,mb4.5
CLL Collm 88.46 37 *e*P **P 00 22 22.0 +3.2**
CLL *e*SKSac SKSac 00 32 45.0 +0.1
CLL *e*sS sS 00 33 18.0 -3.4
CLL *e*SP 00 34 00.0
CLL *e*PS 00 34 10.0
CLL *es*SS 00 39 13.0
CLL *es*SSS 00 42 48.0
CLL LmV 01 00 00.0
comp=Z,200nm,20.4s
CLL Collm 88.46 37 *i*P **P 00 22 18.2 -0.6**
CLL pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
CLL Collm 88.46 37 *i*P **P 00 22 18.2 -0.6**
comp=Z,3.0nm,0.8s,mb4.6
BRG Berggiesshubel 89.17 37 *e*P **P 00 22 21.2 -1.0**
comp=Z,2.5nm,1.2s,mb4.4
BRG
comp=N,90nm,22.5s
BRG
comp=E,121nm,16.0s
BRG
comp=Z,185nm,14.2s
BRG Berggiesshubel 89.17 37 *e*P **P 00 22 21.2 -1.0**
BRG pmax pmax
comp=Z,3.0nm,1.2s,mb4.5
BRG MLR MLR
comp=N,90nm,22.5s
BRG MLR MLR
comp=E,121nm,16.0s
BRG MLR MLR
comp=Z,185nm,14.2s
PET Petropavlovsk 89.44 325 *e*P **P 00 22 24.4 +0.9**
PET *e*S 00 33 15.8
PET *e*PS PS 00 34 19.1 -1.5
PET *e*SS SS 00 39 05.9 -0.7
PET pmax pmax
comp=Z,100nm,14.3s
PET smax
comp=E,100nm,12.8s
PET smax
comp=N,100nm,13.2s
TIXI Tiksi 89.75 348 *e*P **P 00 22 21.8 -3.1**
TIXI *e* 00 25 53.0
TIXI *e*S 00 32 47.4
TIXI *e*PS PS 00 34 17.8 -6.2
TIXI pmax pmax
comp=Z,22nm,1.7s,mb5.2
TIXI smax
comp=N,49nm,14.9s
TIXI smax
comp=E,19nm,8.3s
TIXI Tiksi 89.75 348 P **P 00 22 23.9 -1.0**
TIXI Tiksi 89.75 348 P **P 00 22 23.9 -1.0**
TIXI pP pP 00 22 34.9 -1.8
GERES GERESS Array B 89.78 39 P **P 00 22 24.4 -2.6**
comp=E,0.6nm,0.8s,mb4.0,baz=302,slow=5.6,SNR=4.5
GERES LR LR 01 01 18.9
comp=E,291nm,19.3s,MS4.7,baz=274,slow=35
FINES FINESS Array B 90.47 25 P **P 00 22 26.2 -2.0**
comp=E,1.4nm,0.8s,mb4.4,baz=96,slow=1.9,SNR=4.2
FINES LR LR 01 05 54.4
comp=E,171nm,18.4s,MS4.5,baz=165,slow=38
TORD Torodi Ar. Bea 90.99 76 P **P 00 22 29.3 -1.4**
comp=E,0.4nm,0.7s,mb3.9,baz=296,slow=5.6,SNR=3.7
AKASG Malin Array Be 97.82 33 *i*P **P 00 23 05.0 +3.1**
URZ Urewera 98.86 233 LR LR 00 57 13.0
comp=E,278nm,20.1s,MS4.8,baz=327,slow=29
SNY Shenyang 114.82 331 *e*PKP PKiKP 00 28 04.0 -3.1
SONM Songino Array 115.77 346 PKP PKPdf 00 28 08.2 -0.7
comp=E,0.7nm,0.6s,baz=343,slow=2.4,SNR=7.5
SONM PP PP 00 29 09.0 -3.2
comp=E,0.5nm,0.9s,baz=19,slow=5.0,SNR=5.5
MKAR Makanchi Array 118.96 4 PKP PKPdf 00 28 13.7 -1.4
comp=E,0.5nm,0.7s,baz=20,slow=3.9,SNR=5.0
BJI Beijing 119.56 335 PKP PKPdf 00 28 16.0 -0.2
BJI LR LR
comp=Z,150nm,23.8s,MS4.5
HHC Hu-ho-hao-te 120.62 339 *e*PKP PKPdf 00 28 18.4 +0.2
HHC XPKP 00 28 33.0
HHC PP PP 00 29 49.8 +3.9
HHC PKS 00 31 53.6
HHC SKS SKSdf 00 35 25.8 -1.4
HHC SKKS SKKSac 00 36 38.4 -4.2
HHC SS SS 00 46 17.9 +4.9
HHC PP PP

comp=Z,145nm,6.7s
HHC LR LR
comp=N,189nm,24.3s,MS4.7
HHC LR LR
comp=E,122nm,24.1s,MS4.7
HHC LR LR
comp=Z,149nm,23.8s,MS4.5
WMQ Urumqi 122.10 360 PKP PKPdf 00 28 19.1 -1.9
WMQ XPKP 00 28 34.1
WMQ PP PP 00 29 58.3 +2.4
WMQ PP PP
comp=Z,23nm,8.4s
WMQ LR LR
comp=N,42nm,24.5s,MS4.5
WMQ LR LR
comp=E,120nm,25.2s,MS4.5
WMQ LR LR
comp=Z,75nm,25.2s,MS4.2
LSZ Lusaka 123.05 99 *e*PKIKP PKPdf 00 28 21.7 -1.2
NJ2 Nanjing 124.80 327 *e*PKP PKPdf 00 28 27.6 +1.4
NJ2 XPKP 00 28 42.1
NJ2 PP PP 00 30 18.0 +3.9
NJ2 PKS 00 32 02.0
NJ2 PP PP
comp=Z,430nm,5.0s
NJ2 LR LR
comp=N,710nm,32.4s,MS5.3
NJ2 LR LR
comp=E,700nm,27.8s,MS5.3
NJ2 LR LR
comp=Z,520nm,31.6s,MS5.0
GTA Gaotai 125.24 348 PKP PKPdf 00 28 26.8 -0.3
CASY Casey 125.85 191 *e*Pdif Pdif 00 25 04.3 -2.3
LZH Lanzhou 127.43 343 *e*PKP PKPdf 00 28 33.0 +1.7
LZH PP PP 00 30 36.0 +4.4
LZH SKKS SKKSac 00 37 25.5 -0.7
LZH PP PP
comp=Z,62nm,5.3s
LZH LR LR
comp=E,240nm,18.8s
LZH LR LR
comp=Z,370nm,19.7s,MS5.1
STKA Stephens Creek 127.61 241 *e*PKP PKPdf 00 28 29.2 -2.4
comp=Z,2.4nm,0.7s
STKA Stephens Creek 127.61 241 *e*PKP PKPdf 00 28 29.7 -1.9
comp=Z,2.3nm,0.7s,baz=16,slow=4.6,SNR=5.7
STKA Stephens Creek 127.61 241 *e*PKP PKPdf 00 28 29.2 -2.4
STKA *e*PKPdf PKPdf 00 28 29.4 -2.2
STKA PKP PKPdf 00 28 29.7 -1.9
CD2 Chengdu 132.27 341 *e*PKP PKPdf 00 28 38.6 -1.8
WRA Warramunga Arr 134.78 256 PKP PKPdf 00 28 44.5 -0.6
comp=Z,0.4nm,0.3s,baz=86,slow=2.5,SNR=7.6
ASAR Alice Springs 135.11 251 PKP PKPdf 00 28 45.3 -0.5
comp=Z,0.6nm,0.6s,baz=98,slow=1.8,SNR=7.8
GYA Guiyang 135.25 335 *e*PKP PKPdf 00 28 50.0 +4.0
GYA PKS 00 32 24.8
GYA PP PP
comp=Z,110nm,7.8s
GYA LR LR
comp=N,130nm,20.4s,MS4.8
GYA LR LR
comp=E,160nm,20.8s,MS4.8
GYA LR LR
comp=Z,140nm,20.6s,MS4.7
KMI Kunming 137.95 339 PKP PKPdf 00 28 51.0 0.0
KMI PP PP 00 31 43.5 +4.5
KMI SS SS 00 49 49.3 +2.7
KMI PP PP
comp=Z,291nm,5.6s
KMI LR LR
comp=N,386nm,24.0s,MS5.2
KMI LR LR
comp=E,307nm,20.9s,MS5.2
KMI LR LR
comp=Z,325nm,26.4s
HYB Hyderabad 147.27 16 *i* PKP PKPdf 00 29 08.0 +0.5
HYB *e*PKPAB PKPab 00 29 14.0 +2.3
HYB Hyderabad 147.27 16 *e*P PKPdf 00 29 08.0 +0.5
MUN Mundaring 148.28 231 *e*PKP PKPdf 00 29 12.2 +3.0

*ISCJB **15** 00:18:17.7±5.9, 61.10N±0.10×1673E±0.2, h8km±41km, mb3.7/4, Error ellipse: s-maj=16.5km s-min=14.6km az=26.4*
*MOS **15** 00:18:17.7±0.5, 61.10N×167.27E, h10km, mb4.1/2, Error ellipse: s-maj=40.2km s-min=18.8km az=97.3*
*IDC **15** 00:18:19.1±1.5, 61.23N×167.30E, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.5/23, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=31.1km s-min=19.0km az=84.0*
*NEIC **15** 00:18:19.9±0.8, 61.14N×167.24E, h10km, mb4.0/2, Error ellipse: s-maj=29.7km s-min=9.5km az=170.0*
ISC 15 00:18:22.8±4.4, 6113N±010×1672E±02, h33km±35km, n14, σ0§41/14, mb3.7/4, 1D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BILL	**Bilibino**	**6.95**	**357**	*de*PN	**Pn**	**00 20 02.9**	**+0.5**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
FX1	**Attu Island--F**	**8.87**	**156**	Pn	**Pn**	**00 20 28.7**	**+0.1**
FX1				pmax	pmax		
	comp=Z,2.0nm,0.3s						
YAK	**Yakutsk**	**17.74**	**289**	P	**Pn**	**00 22 26.8**	**-0.4**
ILAR	**Eielson Array**	**20.81**	**60**	P	**P**	**00 23 00.7**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=267,slow=9.6,SNR=8.1						
INK	**Inuvik**	**25.32**	**48**	P	**P**	**00 23 46.4**	**-0.1**
	comp=Z,2.2nm,0.6s,mb3.8,baz=314,slow=8.0,SNR=3.6						
INK	**Inuvik**	**25.32**	**48**	P	**P**	**00 23 46.4**	**-0.1**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**25.32**	**48**	*e*P	**P**	**00 23 46.5**	**0.0**
	comp=Z,2.1nm,0.6s,mb3.8						
ULN	**Ulaanbaatar**	**36.01**	**276**	P	**P**	**00 25 20.4**	**-0.4**
KURK	**Kurchatov**	**46.97**	**300**	*e*P	**P**	**00 26 50.3**	**-0.3**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
KURK	**Kurchatov**	**46.97**	**300**	*e*P	**P**	**00 26 50.2**	**-0.3**
	comp=Z,0.6nm,0.4s,mb3.9						
NACB	**Ninganchiao**	**48.24**	**241**	*e*P	**P**	**00 27 00.9**	**+0.5**
MKAR	**Makanchi Array**	**48.35**	**294**	P	**P**	**00 27 01.6**	**+0.4**
	comp=Z,0.3nm,0.6s,mb3.5,baz=46,slow=6.2,SNR=3.1						
PDAR	**Pinedale Array**	**50.67**	**71**	P	**P**	**00 27 19.3**	**+0.4**
	comp=Z,0.5nm,0.6s,mb3.6,baz=267,slow=1.8,SNR=4.4						

*NEIC **15** 00:24:42.2, 71.45N×70.74W, h18km, mb4.0/6, MN4.2(OTT), After OTT.*
*OTT **15** 00:24:42.1±0.3, 71.43N×70.67W, h18km, MN4.5/5, 131km northwest from Clyde River, Nu Eastern Arctic Background Seismic Zone.*
*IDC **15** 00:24:43.5±3.4, 71.30N×70.98W, h12km±21km, mb3.6/9, mb1 3.9/13, mb1mx3.7/25, mbtmp3.8/13, ML3.5/4, MS4.1/2, Ms1 4.1/2, ms1mx3.0/24, Error ellipse: s-maj=16.2km s-min=12.7km az=121.0*
ISC 15 00:24:41.1±1.4, 7126N±004×7107W±010, h6km±9km, n64, σ1§53/99, mb3.8/11, MS4.1/2, 2D, Baffin Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PINU	**Pond Inlet**	**2.58**	**307**	PN	**Pn**	**00 25 23.1**	**-0.3**
PINU				SN	**Sn**	**00 25 53.3**	**-1.8**
PINU				SG	**Sg**	**00 25 59.4**	**-4.7**
PINU				Trac		00 26 05.4	
	comp=Z,187nm,0.1s						
GIFN	**Gifford Fjord,**	**3.74**	**255**	PN	**Pn**	**00 25 41.1**	**+1.8**
GIFN				SN	**Sn**	**00 26 24.6**	**+1.0**
GIFN				SG	**Sg**	**00 26 41.6**	**+0.3**
GIFN				Trac		00 26 42.0	
	comp=Z,2μm,0.8s						
GIFN	**Gifford Fjord,**	**3.74**	**255**	Pn	**Pn**	**00 25 41.2**	**+1.9**
GIFN				Sn	**Sn**	**00 26 24.6**	**+1.0**
ILON	**Igloolik, Nuna**	**4.10**	**248**	PN	**Pn**	**00 25 46.1**	**+1.9**
ILON				SN	**Sn**	**00 26 33.0**	**+0.5**
ILON				SG	Sg	00 26 52.3	-0.5
ILON				Trac		00 26 53.3	
	comp=Z,2μm,0.4s						
ILON	**Igloolik, Nuna**	**4.10**	**248**	Pn	**Pn**	**00 25 46.1**	**+1.9**
ILON				Sn	**Sn**	**00 26 33.0**	**+0.5**
QILN	**Qililugaq Expl**	**7.17**	**237**	PN	**Pn**	**00 26 26.9**	**+0.5**
QILN				SN	**Sn**	**00 27 46.5**	**-1.7**
QILN				LG		00 28 25.6	
QILN				Trac		00 28 30.8	
	comp=Z,503nm,0.7s						
QILN	**Qililugaq Expl**	**7.17**	**237**	Pn	**Pn**	**00 26 27.1**	**+0.7**
QILN				Sn	**Sn**	**00 27 46.5**	**-1.7**
FRB	**Frobisher Bay**	**7.61**	**171**	Pn	**Pn**	**00 26 34.1**	**+1.6**
	2.1nm,0.3s,baz=351,slow=13,SNR=28						
FRB				Sn	**Sn**	**00 27 56.5**	**-2.5**
	18nm,0.3s,baz=84,slow=22,SNR=9.9						
FRB				Lg		00 28 39.3	
	23nm,0.3s,baz=259,slow=22,SNR=3.6						
FRB	**Frobisher Bay**	**7.61**	**171**	PN	**Pn**	**00 26 33.6**	**+1.2**
FRB				SN	**Sn**	**00 27 57.8**	**-1.3**
FRB				LG		00 28 41.1	
FRB				Trac		00 28 45.9	
	comp=Z,236nm,0.3s						
FRB	**Frobisher Bay**	**7.61**	**171**	Pn	**Pn**	**00 26 33.6**	**+1.2**
FRB				Pn	**Pn**	**00 26 34.1**	**+1.6**
FRB				Sn	**Sn**	**00 27 56.5**	**-2.5**
FRB				Sn	**Sn**	**00 27 56.6**	**-2.4**
FRB				Lg		00 28 39.3	
FRB				Lg		00 28 45.1	
RES	**Resolute Bay**	**7.75**	**307**	PN	**Pn**	**00 26 32.4**	**-1.9**
RES				SN	**Sn**	**00 27 54.8**	**-7.5**
RES				LG		00 28 44.0	
RES				Trac		00 29 03.9	
	comp=Z,25nm,1.1s						
RES	**Resolute Bay**	**7.75**	**307**	Pn	**Pn**	**00 26 32.4**	**-1.9**
RES				Sn	**Sn**	**00 27 54.8**	**-7.5**
SFJD	**Kangerlussuaq**	**8.43**	**110**	Pn	**Pn**	**00 26 43.2**	**-0.5**
	0.5nm,0.3s,baz=322,slow=9.4,SNR=4.5						
SFJD				Sn	**Sn**	**00 28 10.8**	**-8.4**
	0.7nm,0.3s,baz=201,slow=24,SNR=3.2						
SFJD	**Kangerlussuaq**	**8.43**	**110**	*i* P	**Pn**	**00 26 43.6**	**-0.1**
SFJD				*i* S	**Sn**	**00 28 12.9**	**-6.3**
SFJD	**Kangerlussuaq**	**8.43**	**110**	PN	**Pn**	**00 26 42.9**	**-0.8**
SFJD				SN	**Sn**	**00 28 10.6**	**-8.6**
EUNU	**Eureka**	**9.56**	**344**	PN	**Pn**	**00 26 55.8**	**-3.4**
EUNU				SN	**Sn**	**00 28 31.6**	**-15**
SUMG	**Summit**	**10.14**	**67**	*e*Pn	**Pn**	**00 27 05.2**	**-1.9**
	36nm,0.8s						
SUMG				*e*S	**Sn**	**00 28 47.1**	**-14**
YRTN	**Rankin Inlet**	**11.72**	**234**	PN	**Pn**	**00 27 28.6**	**-0.3**
YRTN				SN	**Sn**	**00 29 30.4**	**-9.5**
YRTN				LG		00 30 43.6	
YRTN				Trac		00 31 18.5	
	comp=Z,292nm,0.7s						
YRTN	**Rankin Inlet**	**11.72**	**234**	Pn	**Pn**	**00 27 29.6**	**+0.8**
YRTN				Sn	**Sn**	**00 29 34.8**	**-5.1**
KUQ	**Kuujjuuaa**	**13.26**	**174**	PN	**Pn**	**00 27 49.1**	**-0.6**
KUQ				SN	**Sn**	**00 30 09.9**	**-7.5**
KUQ				LG		00 31 35.3	
KUQ				Trac		00 31 46.5	
	comp=Z,79nm,0.5s						
KUQ	**Kuujjuuaa**	**13.26**	**174**	Pn	**Pn**	**00 27 49.9**	**+0.2**
KUQ				Sn	**Sn**	**00 30 09.9**	**-7.5**
DAG	**Danmarks Havn**	**14.92**	**45**	*i* P	**Pn**	**00 28 04.8**	**-7.6**
	2.2nm,0.8s						
DAG	**Danmarks Havn**	**14.92**	**45**	*e*P	**Pn**	**00 28 04.8**	**-7.6**
	2.2nm,0.8s						
LUPN	**Lupin Mine**	**15.46**	**269**	LG		00 32 36.1	
GLWN	**Glow Worm Lake**	**15.50**	**264**	PN	**Pn**	**00 28 15.2**	**-4.9**
GLWN				SN	**Sn**	**00 31 03.8**	**-8.3**
GLWN				LG		00 32 34.6	
GLWN				Trac		00 32 45.5	
	comp=Z,170nm,0.9s						
FCC	**Fort Churchill**	**15.70**	**229**	PN	**Pn**	**00 28 20.5**	**-2.3**
FCC				SN	**Sn**	**00 31 08.1**	**-9.0**
FCC				LG		00 32 49.1	
FCC				Trac		00 32 60.0	
	comp=Z,57nm,0.7s						
FCC	**Fort Churchill**	**15.70**	**229**	*e*Pn	**Pn**	**00 28 20.1**	**-2.6**
	11nm,0.6s						
FCC				*e*Sn	**Sn**	**00 31 10.6**	**-6.5**
SCHQ	**Schefferville**	**16.60**	**171**	Pn	**Pn**	**00 28 30.9**	**-3.4**
	0.5nm,0.3s,baz=2.6,slow=10.0,SNR=10						
SCHQ				Sn	**Sn**	**00 31 27.9**	**-11**
	1.0nm,0.3s,baz=218,slow=14,SNR=3.8						
SCHQ				Lg		00 33 14.5	
	1.2nm,0.3s,baz=182,slow=16,SNR=2.1						
SCHQ	**Schefferville**	**16.60**	**171**	*e*Pn	**Pn**	**00 28 28.6**	**-5.8**
	3.6nm,0.4s						
SCHQ				*e*Sn	**Sn**	**00 31 27.2**	**-12**
LG4Q	**La Grande 4**	**17.75**	**186**	PN	**Pn**	**00 28 48.6**	**-0.2**
LG4Q				SN	**Sn**	**00 31 54.5**	**-12**
LG4Q	**La Grande 4**	**17.75**	**186**	Pn	**Pn**	**00 28 49.1**	**+0.3**
LG4Q				Sn	**Sn**	**00 31 54.5**	**-12**
SILO	**Sutton Inlier**	**17.90**	**207**	PN	**Pn**	**00 28 48.3**	**-2.3**
SILO				SN	**Sn**	**00 32 01.5**	**-8.9**
SILO	**Sutton Inlier**	**17.90**	**207**	Pn	**Pn**	**00 28 48.7**	**-1.9**
SILO				Sn	**Sn**	**00 32 01.5**	**-8.9**
WEMQ	**Wemindji, Queb**	**18.53**	**193**	PN	**Pn**	**00 28 58.2**	**-0.1**
WEMQ				SN	**Sn**	**00 32 15.3**	**-10**
WEMQ				Trac		00 33 32.0	
	comp=Z,2.7nm,0.3s						
WEMQ	**Wemindji, Queb**	**18.53**	**193**	Pn	**Pn**	**00 28 59.5**	**+1.1**
WEMQ				Sn	**Sn**	**00 32 15.3**	**-10**
YKW3	**Yellowknife Ar**	**18.70**	**264**	PN	**Pn**	**00 28 56.0**	**-4.4**
YKW3				SN	**Sn**	**00 32 20.0**	**-10**
YKW3	**Yellowknife Ar**	**18.70**	**264**	*e*P	**Pn**	**00 28 52.2**	**-8.2**
YKA	**Yellowknife Ar**	**18.75**	**264**	Pn	**Pn**	**00 28 57.9**	**-3.1**
	baz=44,slow=12,SNR=23						
YKA				Sn	**Sn**	**00 32 11.7**	**-19**
	baz=297,slow=37,SNR=3.3						
YKA				Lg		00 34 14.2	
	baz=44,slow=29,SNR=7.0						
VIMO	**Victor Mine**	**19.36**	**204**	PN	**Pn**	**00 29 06.8**	**-1.6**
VIMO	**Victor Mine**	**19.36**	**204**	Pn	**Pn**	**00 29 07.9**	**-0.5**
INK	**Inuvik**	**20.92**	**293**	P	**P**	**00 29 24.8**	**+0.6**
	1.8nm,0.9s,baz=75,slow=16,SNR=2.0						
INK				S	S	00 32 54.0	-24
	1.1nm,0.6s,baz=263,slow=3.7,SNR=2.3						
INK				Lg		00 35 22.4	
	2.2nm,0.7s,baz=344,slow=28,SNR=2.3						
INK	**Inuvik**	**20.92**	**293**	*e*P	**P**	**00 29 24.7**	**+0.4**
	2.5nm,0.7s						
FFC	**Flin Flon**	**21.30**	**235**	PN	**P**	**00 29 29.9**	**+1.5**
FFC	**Flin Flon**	**21.30**	**235**	*e*P	**P**	**00 29 29.8**	**+1.5**
	5.2nm,0.8s,mb3.9						
FFC				*e*S	**S**	**00 33 22.4**	**-2.8**
ULM	**Lac du Bonnet**	**23.95**	**222**	P	**P**	**00 29 56.2**	**+0.2**
	1.5nm,0.4s,mb3.7,baz=5.3,slow=9.7,SNR=4.0						
ULM				S	**S**	**00 34 14.6**	**+1.8**
	0.8nm,0.4s,baz=145,slow=5.9,SNR=1.9						
ULM				Lg		00 37 00.9	
	32nm,1.2s,baz=99,slow=16,SNR=5.5						
ULM	**Lac du Bonnet**	**23.95**	**222**	P	**P**	**00 29 56.2**	**+0.2**
ULM				S	**S**	**00 34 14.6**	**+1.8**
ULM				Lg		00 37 00.9	
EYMN	**Ely**	**25.29**	**213**	*e*P	**P**	**00 30 10.1**	**+1.9**
	2.8nm,0.6s,mb4.0						
EYMN				*e*PcP	PcP	00 33 45.1	+3.9
DAWY	**Dawson**	**25.52**	**288**	*e*P	**P**	**00 30 12.1**	**+1.9**
EDM	**Edmonton**	**25.85**	**248**	*e*P	**P**	**00 30 09.7**	**-3.6**
DLBC	**Dease Lake**	**26.81**	**272**	Lg		00 38 28.4	
	1.5nm,0.9s,baz=118,slow=24,SNR=3.2						
DLBC	**Dease Lake**	**26.81**	**272**	P	**P**	**00 30 23.3**	**+1.4**
SADO	**Sadowa**	**26.86**	**193**	Lg		00 38 26.9	
	15nm,1.0s,baz=99,slow=18,SNR=5.7						
ILAR	**Eielson Array**	**27.26**	**295**	P	**P**	**00 30 27.2**	**+1.2**
	0.3nm,0.8s,mb2.9,baz=42,slow=8.7,SNR=3.3						
NEW	**Newport**	**31.36**	**248**	Lg		00 40 56.3	
	4.2nm,0.9s,baz=83,slow=21,SNR=3.8						
RSSD	**Black Hills**	**31.59**	**228**	*e*P	**P**	**00 31 08.0**	**+3.6**
	4.6nm,0.9s,mb4.3						
NOA	**NORSAR Array B**	**32.03**	**65**	P	**P**	**00 31 08.1**	**-0.1**
	0.5nm,0.6s,mb3.5,baz=316,slow=8.3,SNR=2.2						
PGC	**Sidney**	**32.95**	**255**	P	**P**	**00 31 19.6**	**+3.3**
PDAR	**Pinedale Array**	**34.26**	**234**	P	**P**	**00 31 31.1**	**+3.4**
	2.7nm,0.6s,mb4.3,baz=41,slow=6.2,SNR=22						
PDAR				Lg		00 42 18.4	
	0.7nm,0.9s,baz=55,slow=42,SNR=2.9						
KDAK	**Kodiak Island**	**34.45**	**290**	LR	LR	00 46 23.3	
	comp=Z,314nm,20.8s,MS4.0,baz=106,slow=38						
GERES	**GERESS Array B**	**43.12**	**74**	P	**P**	**00 32 43.5**	**+1.3**
	0.6nm,0.8s,mb3.4,baz=330,slow=7.7,SNR=5.7						
ESDC	**Sonseca Array**	**45.67**	**96**	P	**P**	**00 33 03.5**	**+1.0**
	1.6nm,0.7s,mb4.0,baz=335,slow=8.1,SNR=12						
BRTR	**Keskin Array B**	**57.38**	**62**	P	**P**	**00 34 31.5**	**+1.3**
	0.5nm,0.7s,mb3.6,baz=342,slow=7.2,SNR=3.8						
MKAR	**Makanchi Array**	**60.72**	**21**	P	**P**	**00 34 53.3**	**0.0**
	0.6nm,0.8s,mb3.8,baz=0.0,slow=5.1,SNR=4.8						
MJAR	**Matsushiro Arr**	**70.49**	**335**	LR	LR	01 10 58.5	
	comp=Z,151nm,19.8s,MS4.2,baz=45,slow=39						

*LDG **15** 00:37:16.7±0.8, 12.17S×167.15E, h10km, Mb4.7/4, Error ellipse: s-maj=80.6km s-min=45.0km az=2.0*
*IDC **15** 00:37:47.9±2.1, 11.65S×166.68E, h239km±19km, mb3.9/10, mb1 4.0/12, mb1mx3.9/16, mbtmp4.5/12, Error ellipse: s-maj=18.3km s-min=13.6km az=80.0*
*ISCJB **15** 00:37:48.7±1.6, 11.75S±0.07×166.7E±0.1, h258km±15km, mb4.2/24, Error ellipse: s-maj=18.2km s-min=9.8km az=136.8*
*NEIC **15** 00:37:49.8±2.0, 11.64S×166.70E, h264km±17km, mb4.3/7, Error ellipse: s-maj=19.1km s-min=12.8km az=70.0*
*BJI **15** 00:37:49.9, 11.49S×166.84E, h263km, mB4.7, mb4.6*
ISC 15 00:37:48.9±1.7, 1171S±007×1667E±01, h245km±16km, h245km±5.1km: pP-P, n58, σ1§01/31, mb4.2/24, 11C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.05**	**288**	P	**Pn**	**00 39 30.0**	**-0.1**
	8.0nm,0.3s,baz=280,slow=1.0,SNR=10						
HNR	**Honiara**	**7.05**	**288**	*e*P	**Pn**	**00 39 30.1**	**0.0**
	113nm,0.8s						
DZM	**Mont Dzumac**	**10.30**	**182**	P	**Pn**	**00 40 12.4**	**+1.1**
	3.8nm,0.3s,baz=17,slow=14,SNR=38						
DZM				S	**S**	**00 42 03.6**	**-3.3**
	0.6nm,0.3s,baz=117,slow=21,SNR=2.9						
URZ	**Urewera**	**28.02**	**162**	P	**P**	**00 43 17.2**	**-0.1**
	10.0nm,0.3s,mb4.9,baz=207,slow=4.2,SNR=7.9						
SNZO	**South Karori**	**30.30**	**168**	*e*P	**P**	**00 43 37.5**	**+0.1**
	39nm,0.7s,mb5.1						
STKA	**Stephens Creek**	**30.64**	**225**	P	**P**	**00 43 39.2**	**-1.2**
	1.6nm,0.6s,mb3.9,baz=75,slow=10,SNR=4.3						
STKA	**Stephens Creek**	**30.64**	**225**	*e*P	**P**	**00 43 39.3**	**-1.2**
RPZ	**Rata Peaks**	**32.10**	**174**	P	**P**	**00 43 53.6**	**+0.4**
	28nm,0.8s,mb4.9,baz=196,slow=2.8,SNR=10						
WRAB	**Tennant Creek**	**32.16**	**251**	*e*P	**P**	**00 43 54.0**	**+0.3**
WRA	**Warramunga Arr**	**32.18**	**251**	P	**P**	**00 43 52.8**	**-1.1**
	0.4nm,0.5s,mb3.2,baz=84,slow=8.9,SNR=3.4						
ASAR	**Alice Springs**	**33.37**	**245**	P	**P**	**00 44 03.4**	**-0.8**
	0.5nm,0.6s,mb3.3,baz=71,slow=10.0,SNR=5.9						
ASAR				pP	pP	00 44 51.5	-1.9
	2.3nm,0.8s,baz=75,slow=9.8,SNR=10						
ASAR				ScP	ScP	00 50 03.1	+2.7
	1.1nm,0.8s,baz=81,slow=2.3,SNR=8.2						
FITZ	**Fitzroy Crossi**	**40.15**	**256**	P	**P**	**00 45 00.8**	**-0.4**
	1.5nm,0.6s,mb3.6,baz=66,slow=10.0,SNR=6.1						
MBWA	**Marble Bar**	**45.91**	**252**	*e*P	**P**	**00 45 48.0**	**+0.9**
	1.9nm,0.3s,mb3.9						
MJAR	**Matsushiro Arr**	**55.01**	**332**	P	**P**	**00 46 53.8**	**-1.2**
	4.1nm,0.7s,mb4.1,baz=166,slow=8.2,SNR=9.0						
NJ2	**Nanjing**	**63.17**	**315**	*e*P	**P**	**00 47 51.3**	**+0.4**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
MDJ	**Mudanjiang**	**65.39**	**332**	P	**P**	**00 48 07.0**	**+1.8**
MDJ				AP	pP	00 49 02.0	+0.9
MDJ				PP	PP	00 50 34.4	+2.0
MDJ				S	S	00 56 33.3	+3.9
MDJ				XS	sS	00 58 09.9	+2.4
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,59nm,4.6s						
MDJ				LR	LR		
	comp=N,47nm,32.4s						
MDJ				LR	LR		
	comp=E,93nm,26.5s						
MDJ				LR	LR		
	comp=Z,67nm,23.5s						
VNDA	**Vanda**	**65.85**	**181**	*e*P	**P**	**00 48 09.4**	**+1.2**
	comp=Z,1.6nm,0.6s,mb3.8						
CN2	**Changchun**	**66.81**	**329**	*e*P	**P**	**00 48 14.5**	**+0.3**
CN2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.9						
HHC	**Hu-ho-hao-te**	**72.97**	**319**	*e*P	**P**	**00 48 53.8**	**+2.2**
HHC				PCP	PcP	00 49 08.9	+1.8
HHC				AP	pP	00 49 53.3	+4.6
HHC				XP	sP	00 50 20.5	+5.6
HHC				PP	PP	00 51 42.9	+5.4
HHC				S	S	00 57 59.3	+1.4
HHC				SKS		00 58 30.0	
HHC				SCS	ScS	00 58 34.6	-1.4
HHC				PS		00 59 12.6	
HHC				XS	sS	00 59 43.0	+4.9
HHC				SS	SS	01 02 48.8	+5.0
HHC				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.4						
HHC				AMB	AMB		
	comp=Z,174nm,5.0s						
HHC				LR	LR		
	comp=N,166nm,17.5s						
HHC				LR	LR		
	comp=E,192nm,17.5s						
HHC				LR	LR		
	comp=Z,142nm,19.4s						
QSPA	**South Pole Qui**	**78.30**	**180**	*e*P	**P**	**00 49 22.0**	**+0.3**
	comp=Z,3.3nm,1.0s,mb3.9						
ULN	**Ulaanbaatar**	**79.41**	**324**	*e*P	**P**	**00 49 28.3**	**+0.5**
	comp=Z,5.0nm,0.8s,mb4.2						
BILL	**Bilibino**	**79.54**	**360**	*e*P	**P**	**00 49 27.8**	**-0.7**
	comp=Z,9.5nm,0.9s,mb4.4						
SONM	**Songino Array**	**79.78**	**323**	P	**P**	**00 49 28.4**	**-1.4**
	comp=Z,1.8nm,0.6s,mb3.9,baz=141,slow=6.0,SNR=11						
GTA	**Gaotai**	**80.22**	**314**	*e*P	**P**	**00 49 33.6**	**+1.5**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.0						
ILAR	**Eielson Array**	**83.84**	**18**	P	**P**	**00 49 49.8**	**-1.1**
	comp=Z,7.8nm,0.7s,mb4.6,baz=239,slow=5.1,SNR=143						
NVAR	**Mina Array Bea**	**85.71**	**50**	P	**P**	**00 50 00.5**	**+0.3**
	comp=Z,0.8nm,0.7s,mb3.5,baz=234,slow=12,SNR=5.0						
NVAR	**Mina Array Bea**	**85.71**	**50**	*e*P	**P**	**00 50 00.5**	**+0.3**
WMQ	**Urumqi**	**90.25**	**315**	⇑P	**P**	**00 50 21.8**	**+0.1**
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.6						
MKAR	**Makanchi Array**	**94.67**	**317**	P	**P**	**00 50 42.0**	**-0.1**
	comp=Z,4.2nm,0.7s,mb4.7,baz=92,slow=6.5,SNR=36						
YKA	**Yellowknife Ar**	**95.12**	**27**	P	**P**	**00 50 42.1**	**-2.0**
	comp=Z,1.0nm,0.5s,mb4.2,baz=258,slow=4.7,SNR=19						
ARCES	**ARCESS Array B**	**117.22**	**346**	PKP	PKPdf	00 56 02.7	-2.2
	comp=Z,3.2nm,0.8s,baz=56,slow=2.4,SNR=12						
ARCES	**ARCESS Array B**	**117.22**	**346**	PKP	PKPdf	00 56 02.7	-2.2
FINES	**FINESS Array B**	**122.74**	**339**	PKP	PKPdf	00 56 14.8	-0.7
	comp=Z,0.9nm,0.7s,baz=66,slow=1.8,SNR=12						
NOA	**NORSAR Array B**	**127.59**	**345**	PKP	PKPdf	00 56 23.9	-0.9
	comp=Z,1.4nm,0.9s,baz=34,slow=2.0,SNR=4.0						
GERES	**GERESS Array B**	**136.73**	**334**	PKP	PKPdf	00 56 42.4	+0.5
	comp=Z,0.4nm,0.6s,baz=62,slow=3.2,SNR=5.3						
SSF	**Saint Saulge**	**142.03**	**341**	*e*PKP1	PKPdf	00

ESDC	**Sonseca Array**	**150.96**	**345**	PKPbc	PKPbc	00 57 13.4	+0.9	
	comp=Z,1.1nm,0.7s,baz=20,slow=2.0,SNR=13							
ESDC				PKPab	PKPab	00 57 21.5	+0.6	
	comp=Z,1.3nm,0.6s,baz=14,slow=3.8,SNR=18							

IDC 15 00:49:52.3±15.0, 420S×10347W, h0km, mb3.3/3, mb1 3.7/3, mb1mx3.5/13, mbtmp3.3/3, Error ellipse: s-maj=555.8km s-min=215.8km az=113.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDAR	**Pinedale Array**	**47.07**	**354**	P	P	00 58 25.9	+0.2
	0.3nm,0.5s,baz=173,slow=8.7,SNR=2.9						
YKA	**Yellowknife Ar**	**67.05**	**354**	P	P	01 00 47.3	+0.1
	0.1nm,0.5s,baz=164,slow=6.0,SNR=3.3						
ILAR	**Eielson Array**	**75.83**	**342**	P	P	01 01 39.9	-0.4
	0.2nm,0.6s,baz=161,slow=5.7,SNR=2.6						

GUC 15 01:28:11.4±0.9, 2276S×6981W, h60km, MD3.6, ML2.6, 2C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEN1	**Los Morros**	**0.72**	**210**	⇑*i*P	Pn	01 28 29.3	+3.4
CEN1				*i* S	Sn	01 28 42.5	+6.0
CEN1				AML	AML	01 28 43.3	
	comp=N,229nm,0.3s						
LVC	**Limon Verde**	**0.84**	**80**	*e*P	Pn	01 28 28.4	+1.0
LVC				*i* S	Sn	01 28 40.8	+1.7
LVC				AML	AML	01 28 41.6	
	comp=E,215nm,0.5s						
ANCH	**Antofagasta**	**1.07**	**211**	⇑*i*P	Pn	01 28 31.1	+0.7
ANCH				*i* S	Sn	01 28 45.0	+0.5
CPN1	**Cerro Paranal**	**1.94**	**196**	*e*P	Pn	01 28 45.3	+3.3
CPN1				*i* S	Sn	01 29 10.5	+5.2
CPN1				AML	AML	01 29 15.2	
	comp=E,129nm,0.3s						

NIED ***15*** *01:35:00.2770N×129.40E, h8km, Mw3.8 Best double couple: M0 6.27000×10^14 NP1:φs=340.00000°, δ68.00000°, λ-148.00000°. NP2:φs=237.00000°, δ61.00000°, λ-25.00000°.*

IDC ***15*** *01:35:48.7±1.2, 2775N×12956E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/19, mbtmp3.7/5, Error ellipse: s-maj=33.8km s-min=21.0km az=101.0*

ISCJB ***15*** *01:35:51.8±0.6, 2760N±004×12965E±005, h35km±9km, mb3.7/5, Error ellipse: s-maj=7.6km s-min=5.5km az=76.4*

JMA ***15*** *01:35:52.4±0.1, 2761N×12959E, h44km±4km, M3.7*

ISC 15 01:35:52.1±1.0, 2760N±005×12964E±005, h27km±8km, n15, σ0§82/23, mb3.7/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**0.64**	**287**	P	**Pb**	**01 36 04.6**	**-0.1**
JTK				*e*S	**Sb**	**01 36 13.1**	**-0.2**
JAM	**Amami Oshima**	**0.81**	**358**	P	**Pb**	**01 36 07.4**	**-0.2**
JAM				*e*S	**Sb**	**01 36 18.6**	**+0.4**
JOW	**Kunigami**	**1.44**	**238**	Pn	**Pn**	**01 36 16.9**	**+0.6**
	71nm,0.3s,baz=104,slow=23,SNR=177						
JOW				Sn	**Sn**	**01 36 35.5**	**+1.2**
	101nm,0.3s,baz=94,slow=28,SNR=10						
JOW	**Kunigami**	**1.44**	**238**	P	**Pn**	**01 36 16.4**	**+0.1**
JIH	**Iheya**	**1.59**	**250**	P	**Pn**	**01 36 18.2**	**-0.3**
JIH				*e*S	**Sn**	**01 36 37.9**	**-0.2**
JNN	**Nakanoshima**	**2.24**	**5**	P	**Pn**	**01 36 27.8**	**+0.3**
JMZ	**Minamidaito 2**	**2.27**	**141**	P	**Pn**	**01 36 28.2**	**+0.4**
JMZ				*e*S	**Sn**	**01 36 52.9**	**-1.9**
JAGN	**Aguni-jima**	**2.36**	**245**	P	**Pn**	**01 36 28.9**	**-0.2**
JAGN				*e*S	**Sn**	**01 36 56.6**	**-0.5**
JKE	**Kume jima 2**	**2.84**	**244**	P	**Pn**	**01 36 35.3**	**-0.4**
JKE				*e*S	**Sn**	**01 37 08.2**	**-0.9**
JTN	**Tanegashima 3**	**3.26**	**21**	P	**Pn**	**01 36 42.0**	**+0.5**
JTN				*e*S	**Sn**	**01 37 18.2**	**-1.2**
WRA	**Warramunga Arr**	**47.48**	**174**	P	**P**	**01 44 25.6**	**+1.0**
	0.6nm,0.6s,mb3.7,baz=354,slow=8.3,SNR=3.3						
ASAR	**Alice Springs**	**51.13**	**175**	P	**P**	**01 44 55.2**	**+2.7**
	0.3nm,0.4s,mb3.5,baz=7.2,slow=15,SNR=5.5						
FINES	**FINESS Array B**	**72.29**	**331**	P	**P**	**01 47 14.9**	**-0.2**
	0.6nm,0.4s,mb3.9,baz=66,slow=7.7,SNR=11						
BRTR	**Keskin Array B**	**77.19**	**308**	P	**P**	**01 47 44.1**	**+0.7**
	0.7nm,0.8s,mb3.6,baz=74,slow=3.8,SNR=5.5						
NOA	**NORSAR Array B**	**78.64**	**334**	P	**P**	**01 47 51.0**	**-0.6**
	0.7nm,0.7s,mb3.7,baz=54,slow=5.4,SNR=2.7						

ISCJB ***15*** *01:57:21.7±0.6, 2426S±005×677W±0.1, h233km±14km, mb3.5/1, Error ellipse: s-maj=18.3km s-min=7.7km az=19.5*

NEIC ***15*** *01:57:22.6, 2434S×6746W, h170km, mb3.6/2, After GUC.*

GUC ***15*** *01:57:22.5±0.8, 2435S×6745W, h170km, ML4.0*

IDC ***15*** *01:57:31.2±4.3, 2357S×6678W, h234km±27km, mb3.3/1, mb1 3.4/4, mb1mx3.1/14, mbtmp3.9/4, Error ellipse: s-maj=56.8km s-min=21.4km az=44.0*

ISC 15 01:57:22.6±0.6, 2424S±005×677W±01, h223km±14km, n15, σ1§37/22, mb3.5/1, 1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.98**	**325**	*e*P	**Pn**	**01 58 02.7**	**+0.1**
LVC				*i* S	**S**	**01 58 32.8**	**-1.2**
LVC				AML	AML	01 58 34.6	
	comp=N,421nm,0.4s						
LVC	**Limon Verde**	**1.98**	**325**	*e*P	**Pn**	**01 58 02.7**	**+0.1**
LVC				*i* S	**S**	**01 58 32.8**	**-1.2**
CEN1	**Los Morros**	**2.46**	**290**	⇓*i*P	**Pn**	**01 58 10.0**	**+2.5**
CEN1				*i* S	**S**	**01 58 45.2**	**+2.3**
CEN1				AML	AML	01 58 46.6	
	comp=N,420nm,0.7s						
CPN1	**Cerro Paranal**	**2.52**	**261**	*e*P	**Pn**	**01 58 09.4**	**+1.3**
CPN1				*i* S	**S**	**01 58 44.7**	**+0.8**
CPN1				AML	AML	01 58 50.5	
	comp=E,220nm,0.5s						
ANCH	**Antofagasta**	**2.56**	**282**	⇑*i*P	**Pn**	**01 58 12.5**	**+3.9**
ANCH				*i* S	**S**	**01 58 43.6**	**-1.2**
CRCH	**Chaqaral**	**3.39**	**231**	*e*P	**Pn**	**01 58 18.1**	**+0.1**
CRCH				*i* S	**S**	**01 59 01.1**	**-0.6**
CRCH				AML	AML	01 59 01.2	
	comp=N,244nm,0.4s						
CDCH	**Caldera**	**4.01**	**225**	*e*P	**Pn**	**01 58 24.3**	**-1.0**
CDCH				*i* S	**S**	**01 59 12.3**	**-2.6**
LPAZ	**La Paz**	**7.92**	**357**	P	**Pn**	**01 59 15.4**	**+0.7**
	comp=N,1.2nm,0.3s,baz=178,slow=12,SNR=26						
LPAZ				S	**S**	**02 00 43.3**	**-1.3**
	comp=N,0.1nm,0.3s,baz=336,slow=20,SNR=4.5						
CPUP	**Villa Florida**	**9.59**	**105**	P	**Pn**	**01 59 38.0**	**+1.8**
	comp=N,0.4nm,0.3s,baz=272,slow=14,SNR=7.4						
TRQA	**Tornquist**	**14.61**	**162**	*e*Pn	**Pn**	**02 00 38.6**	**-0.4**
SAML	**Samuel**	**15.80**	**17**	*e*Pn	**Pn**	**02 00 52.6**	**-0.8**
	comp=N,0.9nm,0.4s						
PLCA	**Paso Flores**	**16.63**	**188**	*e*Pn	**Pn**	**02 01 12.5**	**+9.3**
	comp=N,2.0nm,0.5s						
BDFB	**Brasilia**	**20.35**	**69**	P	**P**	**02 01 39.9**	**-2.1**
	comp=N,0.7nm,0.3s,baz=242,slow=10,SNR=15						
TORD	**Torodi Ar. Bea**	**77.23**	**69**	P	**P**	**02 08 53.3**	**+1.3**
	comp=N,1.1nm,0.9s,mb3.5,baz=256,slow=5.0,SNR=9.2						
MKAR	**Makanchi Array**	**147.10**	**39**	PKPbc	PKPbc	02 16 44.2	+5.1
	comp=N,0.5nm,0.6s,baz=306,slow=2.3,SNR=5.8						

IDC ***15*** *02:06:13.5±2.4, 608S×130.40E, h0km, mb3.4/1, mb1 4.0/4, mb1mx3.7/14, mbtmp3.8/4, ML4.1/3, Error ellipse: s-maj=93.6km s-min=29.7km az=77.0*

NEIC ***15*** *02:06:19.1±1.4, 621S×130.18E, h35km, Error ellipse: s-maj=39.1km s-min=15.7km az=72.0*

ISCJB ***15*** *02:06:33.1±4.3, 70S±02×1299E±03, h207km±46km, mb3.0/1, Error ellipse: s-maj=63.9km s-min=18.3km az=118.2*

ISC 15 02:06:30.1±2.6, 68S±02×1299E±03, h151km±25km, n5, σ1§43/8, mb3.1/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.02**	**200**	Pn	**Pn**	**02 09 16.3**	**-0.2**
	0.7nm,0.3s,baz=26,slow=15,SNR=21						
FITZ				Sn	Sx	02 11 21.1	
	0.6nm,0.3s,baz=69,slow=16,SNR=7.3						
WRAB	**Tennant Creek**	**13.76**	**162**	*e*Pn	**Pn**	**02 09 39.1**	**+0.2**
	5.2nm,0.6s						
WRAB				*e*Sn	**Sn**	**02 12 04.2**	**-7.0**
WRA	**Warramunga Arr**	**13.77**	**162**	Pn	**Pn**	**02 09 37.4**	**-1.5**
	1.0nm,0.3s,baz=349,slow=13,SNR=13						
WRA				Sn	**Sn**	**02 12 04.7**	**-6.7**
	1.1nm,0.3s,baz=334,slow=23,SNR=7.3						
ASAR	**Alice Springs**	**17.22**	**168**	P	**Pn**	**02 10 23.5**	**+2.1**
	0.5nm,0.3s,baz=350,slow=10,SNR=17						
ASAR				S	**S**	**02 13 31.8**	**-0.2**
	0.3nm,0.3s,baz=2.0,slow=29,SNR=5.4						
MKAR	**Makanchi Array**	**68.01**	**327**	P	**P**	**02 17 12.7**	**-0.1**
	0.2nm,0.5s,mb3.1,baz=115,slow=7.9,SNR=3.5						

ISCJB ***15*** *02:17:18.5±2.0, 300N±002×1425E±05, h33km, mb3.7/6, Error ellipse: s-maj=69.6km s-min=13.5km az=137.6*

IDC ***15*** *02:17:18.6±4.4, 2969N×14166E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/19, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=182.4km s-min=22.8km az=73.0*

NEIC ***15*** *02:17:21.2±1.5, 2994N×14245E, h35km, mb4.1/1, Error ellipse: s-maj=54.3km s-min=11.4km az=69.0*

ISC 15 02:17:19.8±1.8, 299N±002×1425E±06, h23km±55km, n8, σ1§07/8, mb3.7/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**7.49**	**333**	Pn	**Pn**	**02 19 07.5**	**-0.2**
	1.0nm,0.3s,baz=155,slow=12,SNR=5.4						
KS15	**Wonju Array Si**	**14.25**	**306**	*e*P	**Pn**	**02 20 40.6**	**+0.5**
SONM	**Songino Array**	**32.90**	**313**	P	**P**	**02 23 51.7**	**-0.5**
	0.6nm,0.9s,mb3.5,baz=119,slow=7.7,SNR=3.8						
MKAR	**Makanchi Array**	**48.90**	**308**	P	**P**	**02 26 02.9**	**-0.9**
	0.4nm,0.6s,mb3.7,baz=94,slow=9.1,SNR=4.9						
WRAB	**Tennant Creek**	**50.19**	**190**	*e*P	**P**	**02 26 13.6**	**0.0**
	1.2nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**50.20**	**190**	P	**P**	**02 26 12.7**	**-1.0**
	0.5nm,0.5s,mb3.9,baz=8.0,slow=7.8,SNR=3.6						
ASAR	**Alice Springs**	**53.92**	**190**	P	**P**	**02 26 42.2**	**+0.9**
	0.2nm,0.6s,mb3.2,baz=20,slow=12,SNR=4.0						
BRTR	**Keskin Array B**	**84.26**	**313**	P	**P**	**02 29 50.8**	**+1.2**
	0.6nm,0.7s,mb3.8,baz=64,slow=4.6,SNR=5.4						

IDC 15 03:02:02.7±62.0, 1568S×17103W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.8/15, mbtmp4.1/3, Error ellipse: s-maj=1214.0km s-min=210.5km az=80.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**45.88**	**241**	P	P	03 10 26.6	-0.2
	0.6nm,0.4s,baz=85,slow=11,SNR=3.4						
WRA	**Warramunga Arr**	**52.00**	**257**	P	P	03 11 14.2	+0.4
	0.5nm,0.4s,baz=93,slow=6.8,SNR=6.3						
ASAR	**Alice Springs**	**52.20**	**252**	P	P	03 11 15.9	+0.7
	4.9nm,0.5s,baz=90,slow=7.8,SNR=88						

NEIC ***15*** *03:20:47.4±1.1, 3628N×7162E, h84km±15km, mb3.8/3, Error ellipse: s-maj=10.5km s-min=6.8km az=63.0*

ISCJB ***15*** *03:20:47.6±0.6, 3633N±003×7166E±005, h106km±8km, mb4.0/21, Error ellipse: s-maj=7.1km s-min=4.3km az=154.3*

MOS ***15*** *03:20:47.4±1.5, 3634N×7164E, h98km, mb4.0/7, Error ellipse: s-maj=13.3km s-min=7.2km az=97.6*

IDC ***15*** *03:20:48.5±4.4, 3631N×7144E, h96km±41km, mb3.5/10, mb1 3.7/13, mb1mx3.5/20, mbtmp3.9/13, Error ellipse: s-maj=20.8km s-min=16.1km az=159.0*

BJI ***15*** *03:20:49.1, 3647N×7152E, h81km, mB4.8, mb4.6, Ms4.0, Msz4.3*

NNC ***15*** *03:20:52.9±9.0, 3674N×7085E, h116km±100km, mb3.2, mpv4.0, Error ellipse: s-maj=68.8km s-min=40.4km az=14.0*

ISC 15 03:20:49.5±0.5, 3633N±003×7169E±005, h112km±7km, n78, σ1§29/95, mb4.0/21, 9C-11D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.50**	**176**	⇑P	**Pn**	**03 21 30.4**	**+1.4**
CEP				S	**Sn**	**03 22 01.0**	**+1.6**
CHCP	**Chirah Chowk**	**2.96**	**154**	P	**Pn**	**03 21 38.0**	**+3.0**
THW	**Thamme Wali**	**3.52**	**179**	P	**Pn**	**03 21 43.0**	**+0.5**
SARP	**Sargodha**	**4.47**	**169**	P	**Pn**	**03 21 55.0**	**-0.1**
KSH	**Kashi**	**4.65**	**45**	P	**Pn**	**03 22 01.6**	**+4.0**
KSH				S	**Sn**	**03 22 53.5**	**+3.0**
KSH				Smax			
	comp=N,747nm,0.4s						
KSH				Smax			
	comp=E,717nm,0.2s						
PONG	**Pong**	**5.62**	**140**	*e*P	**Pn**	**03 22 13.0**	**+2.4**
PONG				*e*S	**Sn**	**03 23 14.0**	**+0.2**
SDNR	**Sundarnagar**	**6.52**	**136**	*e*P	**Pn**	**03 22 23.2**	**+0.4**
SDNR				*e*S	**Sn**	**03 23 34.0**	**-1.7**
AAK	**Ala-Archa**	**6.66**	**18**	⇓*e*PN	**Pn**	**03 22 24.8**	**+0.1**
AAK				pmax	pmax		
	comp=Z,45nm,0.6s						
AAK	**Ala-Archa**	**6.66**	**18**	⇓*e*Pn	**Pn**	**03 22 24.8**	**+0.1**
	comp=Z,45nm,0.6s						
AAK				*e*Sn	**Sn**	**03 23 38.6**	**-0.5**
KK31	**Karatay Array**	**6.83**	**353**	⇑P	**Pn**	**03 22 25.9**	**-1.1**
	comp=Z,7.2nm,0.2s,baz=178,slow=13,SNR=259						
KK31				⇑S	**Sn**	**03 23 38.0**	**-5.2**
	comp=Z,25nm,0.4s,baz=183,slow=27						
KK31	**Karatay Array**	**6.83**	**353**	*i* PN	**Pn**	**03 22 25.9**	**-1.1**
KK31				pmax	pmax		
	comp=Z,18nm,0.1s						
SMLA	**Simla**	**6.91**	**137**	*e*P	**Pn**	**03 22 27.4**	**-0.7**
SMLA				*i* P		03 22 27.8	
SMLA				*e*S	**Sn**	**03 23 43.6**	**-1.5**
SMLA				*i* S	**Sn**	**03 23 44.2**	**-0.9**
SMLA				AML	AML	03 23 47.2	
	comp=E,110nm,0.2s						
SMLA				AML	AML	03 23 47.5	
	comp=N,119nm,0.2s						
TKM2	**Tokmak 2**	**7.24**	**23**	⇓P	**Pn**	**03 22 33.8**	**+1.2**
	comp=N,2.5nm,0.6s						
TKM2				⇓S	**Sn**	**03 23 53.1**	**-0.1**
	comp=N,1.0nm,0.7s						
KLP	**Kalpa**	**7.25**	**129**	*e*P	**Pn**	**03 22 34.3**	**+1.5**
KLP				*e*S	**Sn**	**03 23 51.6**	**-1.9**
JOSI	**Joshimath**	**8.74**	**129**	*ex*	x	03 22 44.2	
JOSI				*ex*	x	03 24 13.3	
NDI	**New Delhi**	**8.94**	**147**	*e*P	**Pn**	**03 22 55.3**	**-0.3**
NDI				*e*S	**Sn**	**03 24 28.4**	**-6.0**
NDI				AML	AML	03 24 35.0	
	comp=N,21nm,0.3s						
NDI				AML	AML	03 24 35.6	
	comp=E,32nm,0.4s						
SONA	**Sohna**	**9.26**	**149**	*e*P	**Pn**	**03 23 00.2**	**+0.3**
SONA				*e*S	**Sn**	**03 24 35.7**	**-6.5**
SONA				AML	AML	03 24 41.1	
	comp=N,22nm,0.4s						
SONA				AML	AML	03 24 43.1	
	comp=E,40nm,0.5s						
AGRA	**Agra**	**10.51**	**148**	*e*S	**Sn**	**03 25 05.9**	**-6.8**
AGRA				AML	AML	03 25 25.5	
	comp=N,64nm,0.4s						
AGRA				AML	AML	03 25 25.7	
	comp=E,54nm,0.3s						
MK05	**Makanchi Array**	**13.12**	**34**	⇑P	**Pn**	**03 23 52.4**	**+1.0**
	comp=E,2.0nm,0.7s						
MKAR	**Makanchi Array**	**13.12**	**34**	P	**Pn**	**03 23 50.8**	**-0.6**
	comp=E,0.4nm,0.3s,baz=214,slow=14,SNR=35						
KOLN	**Koldanda**	**13.21**	**127**	*e*P	**Pn**	**03 23 51.5**	**-1.2**
	comp=E,12nm,0.3s						
GKN	**Gorkha**	**13.74**	**123**	*e*P	**Pn**	**03 23 59.1**	**-0.4**
	comp=E,43nm,0.3s						
DMN	**Daman**	**14.32**	**124**	*e*P	**Pn**	**03 24 06.0**	**-0.9**
	comp=E,26nm,0.3s						
KKN	**Kakani**	**14.32**	**123**	*e*P	**Pn**	**03 24 06.0**	**-0.9**
	comp=E,21nm,0.4s						
KKN	**Kakani**	**14.32**	**123**	*e*P	**Pn**	**03 24 06.0**	**-0.9**
KKN				pmax	pmax		
	comp=Z,21nm,0.4s						
PKI	**Pulchoki**	**14.54**	**123**	*e*P	**Pn**	**03 24 09.1**	**-0.7**
	comp=Z,26nm,0.4s						
PKI	**Pulchoki**	**14.54**	**123**	*e*P	**Pn**	**03 24 09.1**	**-0.7**
PKI				pmax	pmax		
	comp=Z,27nm,0.4s						
GUN	**Gumba**	**14.65**	**121**	*e*P	**Pn**	**03 24 10.5**	**-0.6**
	comp=Z,20nm,0.3s						
JIRN	**Jiri**	**15.02**	**121**	*e*P	**Pn**	**03 24 15.1**	**-0.7**
	comp=Z,46nm,0.4s						
KURK	**Kurchatov**	**15.22**	**17**	P	**Pn**	**03 24 21.0**	**+2.6**
KURK	**Kurchatov**	**15.22**	**17**	*e*P	**Pn**	**03 24 20.1**	**+1.8**
KURK				pmax	pmax		
	comp=Z,12nm,0.8s						
KURK	**Kurchatov**	**15.22**	**17**	*e*Pn	**Pn**	**03 24 20.1**	**+1.7**
	comp=Z,12nm,0.8s						
AB31	**Akbulak array**	**15.51**	**330**	⇓P	**Pn**	**03 24 18.1**	**-3.8**
	comp=Z,0.6nm,0.3s						
AB31				⇑S	S	03 26 56.7	-25
	comp=Z,1.9nm,0.5s,baz=153,slow=23,SNR=7.0						
VOSK	**Vostochnaya**	**16.40**	**358**	⇓P	**Pn**	**03 24 30.2**	**-2.7**
	comp=Z,3.8nm,0.9s						
BVA0	**Borovoye Array**	**16.72**	**357**	⇑P	**Pn**	**03 24 32.2**	**-4.7**
	comp=Z,0.8nm,0.8s						
ZRNK	**Zerenda**	**16.73**	**354**	⇓P	**Pn**	**03 24 36.1**	**-0.9**
	comp=Z,4.8nm,1.1s						
ZRNK	**Zerenda**	**16.73**	**354**	*e*P	**Pn**	**03 24 36.2**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZRNK	**Zerenda**	**16.73**	**354**	*e*Pn	**Pn**	**03 24 36.1**	**-0.8**
	comp=Z,3.1nm,0.6s						
BRVK	**Borovoye**	**16.76**	**357**	*e*P	**Pn**	**03 24 35.9**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRVK	**Borovoye**	**16.76**	**357**	*e*Pn	**Pn**	**03 24 35.9**	**-1.4**
	comp=Z,4.2nm,0.8s						
AKTK	**Aktyubinsk**	**17.21**	**329**	P	**Pn**	**03 24 41.0**	**-1.8**
AKTK				S	**S**	**03 27 40.4**	**-14**
AKTO	**Aktyubinsk**	**17.21**	**329**	⇑P	**Pn**	**03 24 41.1**	**-1.7**
	comp=Z,0.1nm,0.6s						
AKTO				⇓S	**S**	**03 27 38.4**	**-16**
	comp=Z,0.1nm,0.8s						
AKTO	**Aktyubinsk**	**17.21**	**329**	P	**Pn**	**03 24 41.0**	**-1.8**
	comp=Z,1.1nm,0.3s,baz=136,slow=13,SNR=15						
AKTO				S	**S**	**03 27 40.4**	**-14**
	comp=Z,0.3nm,0.3s,baz=9.0,slow=19,SNR=3.1						
AKTO	**Aktyubinsk**	**17.21**	**329**	P	**Pn**	**03 24 41.0**	**-1.8**
AKTO				S	**S**	**03 27 40.4**	**-14**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WSAR	**Wadi Sarin**	**17.25**	**224**	P	**Pn**	**03 24 43.4**	**0.0**
	comp=Z,0.5nm,0.3s,baz=97,slow=10,SNR=6.5						
ZAL	**Zalesovo**	**19.83**	**23**	P	**P**	**03 25 11.6**	**+0.3**
	comp=Z,21nm,0.3s,baz=257,slow=6.3,SNR=58						
NVS	**Novosibirsk**	**20.15**	**20**	*e*P	**P**	**03 25 13.9**	**-0.8**
NVS				pmax	pmax		
	comp=Z,13nm,0.7s						
NVS				pmax	pmax		
	comp=N,8.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.6s						
MIB	**Mutribah**	**21.39**	**259**	*e*P	**P**	**03 25 26.8**	**-1.2**
MIB				AMb	AMB	03 25 27.9	
	comp=Z,30nm,0.6s,mb4.8						
GNI	**Garni**	**21.47**	**288**	P	**P**	**03 25 30.5**	**+1.7**
	comp=Z,6.3nm,0.6s,mb4.2,baz=123,slow=16,SNR=3.6						
GNI	**Garni**	**21.47**	**288**	*i* P	**P**	**03 25 30.8**	**+1.9**
GNI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
RDF	**Al-Radifah**	**21.59**	**257**	*e*P	**P**	**03 25 28.9**	**-1.3**
RDF				AMb	AMB	03 25 29.9	
	comp=Z,24nm,0.6s,mb4.7						
NAY	**Al-Naaiem**	**21.70**	**258**	*e*P	**P**	**03 25 29.9**	**-1.3**
NAY				AMb	AMB	03 25 32.1	
	comp=Z,12nm,0.9s,mb4.2						
ARU	**Arti**	**21.98**	**340**	⇓*i*P	**P**	**03 25 36.1**	**+1.9**
ARU				*e*		03 25 57.4	
ARU				*e*S	**S**	**03 29 37.3**	**+7.7**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb3.8						
ZEI	**Tsey**	**22.31**	**295**	*e*P	**P**	**03 25 39.2**	**+1.4**
ZEI				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.5						
GTA	**Gaotai**	**22.38**	**74**	*e*P	**P**	**03 25 43.9**	**+5.4**
GTA				AP		03 25 56.5	
GTA				AMB	AMB		
	comp=Z,17nm,0.7s,mb4.5						
MOY	**Mondy**	**25.84**	**44**	*e*P	**P**	**03 26 17.2**	**+6.9**
SONM	**Songino Array**	**27.98**	**55**	P	**P**	**03 26 32.4**	**+2.9**
	comp=Z,1.2nm,0.6s,mb3.6,baz=259,slow=8.2,SNR=6.7						
ULN	**Ulaanbaatar**	**28.42**	**55**	⇑*e*P	**P**	**03 26 39.5**	**+6.1**
OBN	**Obninsk**	**30.43**	**319**	⇓*e*P	**P**	**03 26 52.2**	**+1.0**
OBN				*e**PP	pP	03 27 20.9	+5.0
OBN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
AKASG	**Malin Array Be**	**33.48**	**309**	P	**P**	**03 27 17.4**	**-0.6**
	comp=Z,0.4nm,0.4s,mb3.6,baz=79,slow=7.9,SNR=4.4						
FINES	**FINESS Array B**	**37.94**	**326**	P	**P**	**03 27 56.5**	**+0.6**
	comp=Z,0.7nm,0.5s,mb3.8,baz=120,slow=8.6,SNR=12						
NJ2	**Nanjing**	**38.95**	**82**	*e*P	**P**	**03 28 11.8**	**+7.4**
NJ2				AP	pP	03 28 26.1	-3.7
NJ2				PP	PP	03 29 47.4	+12
NJ2				S	**S**	**03 34 11.0**	**+16**
NJ2				LR	LR		
	comp=N,660nm,26.6s						
NJ2				LR	LR		
	comp=E,600nm,30.2s						
NJ2				LR	LR		
	comp=Z,670nm,30.9s						
SNY	**Shenyang**	**40.15**	**66**	⇓P	**P**	**03 28 21.1**	**+6.7**
SNY				AMB	AMB		
	comp=Z,5.0nm,0.5s,mb4.6						
SSE	**Sheshan**	**41.15**	**82**	P	**P**	**03 28 27.6**	**+5.0**
ARCES	**ARCESS Array B**	**41.52**	**337**	P	**P**	**03 28 26.1**	**+0.5**
	comp=Z,1.7nm,0.6s,mb4.0,baz=116,slow=9.6,SNR=9.7						
NB2	**NORSAR Subarra**	**44.85**	**323**	P	**P**	**03 28 51.9**	**-0.5**
	comp=Z,1.1nm,0.5s,mb3.8,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.85**	**323**	P	**P**	**03 28 51.4**	**-0.9**
	comp=Z,1.0nm,0.5s,mb3.9,baz=96,slow=7.7,SNR=10						
NOA	**NORSAR Array B**	**44.85**	**323**	P	**P**	**03 28 51.4**

BDRM	**Kayabasi**	**2.42**	**273**	*i* P		**Pn**	**03 43 03.0**	**+0.6**
BDRM				*i* S		**Sn**	**03 43 29.3**	**-1.9**
BODT	**Bodrum**	**2.53**	**272**	*e*PN		**Pn**	**03 43 04.8**	**+1.0**
ESKT	**Eskisehir**	**2.54**	**7**	*i* P		**Pn**	**03 43 03.3**	**-0.6**
ESKT				*i* S		**Sn**	**03 43 30.1**	**-3.9**
SEYT	**Eskypehyr**	**2.54**	**7**	*i* P		**Pn**	**03 43 03.3**	**-0.6**
SEYT				*i* S		**Sn**	**03 43 30.1**	**-3.9**
IKL	**Isikli**	**2.70**	**105**	*e*PN		**Pn**	**03 43 07.8**	**+1.8**
AKS	**Akhisar**	**2.82**	**313**	*e*PN		**Pn**	**03 43 08.3**	**+0.6**
IZM	**Izmir**	**2.90**	**300**	*e*PN		**Pn**	**03 43 09.9**	**+1.1**
KAMT	**Kaman**	**3.49**	**46**	*e*PN		**Pn**	**03 43 16.8**	**+0.1**
AMAG	**Maghara**	**6.73**	**159**	⇑P		**Pn**	**03 43 59.5**	**-1.3**
AMAG	**Maghara**	**6.73**	**159**	P		**Pn**	**03 43 59.5**	**-1.4**
SLUM		**7.00**	**220**	⇓P		**Pn**	**03 44 03.7**	**-0.9**
SLUM				S		**Sn**	**03 45 17.3**	**-5.3**
KOT	**Kottamia**	**7.14**	**170**	⇑P		**Pn**	**03 44 05.6**	**-0.9**
HHAG	**Hagoal**	**7.15**	**169**	P		**Pn**	**03 44 06.1**	**-0.5**
HNAT	**Natroun**	**7.34**	**179**	P		**Pn**	**03 44 09.9**	**+0.7**
HSAF	**As Saff**	**7.41**	**173**	P		**Pn**	**03 44 09.5**	**-0.6**
GLL	**Jalalah**	**7.47**	**172**	P		**Pn**	**03 44 10.4**	**-0.5**
SWA1		**8.68**	**209**	⇓P		**Pn**	**03 44 26.9**	**-0.5**
SWA1				S		**Sn**	**03 45 58.8**	**-4.8**
SWA2		**8.80**	**210**	⇓P		**Pn**	**03 44 28.6**	**-0.5**
HKAT	**Jabal Katrina**	**8.95**	**160**	⇑P		**Pn**	**03 44 30.9**	**-0.2**
HFRF	**Wahat Farafira**	**9.99**	**191**	P		**Pn**	**03 44 43.9**	**-1.4**

ATH ***15*** *03:45:45.4, 3672N×2879E, h24km±7km, MD3.1/4*
NEIC ***15*** *03:45:45.2, 3675N×2884E, h27km, MD3.2(ATH), After ATH.*
ISCJB ***15*** *03:45:46.9±0.5, 3670N±004×2890E±004, h32km±4km, Error ellipse: s-maj=6.4km s-min=4.8km az=58.3*
CSEM ***15*** *03:45:46.3±0.1, 3678N×2895E, h25km, MD3.0, Error ellipse: s-maj=2.0km s-min=1.2km az=32.0*
ISK ***15*** *03:45:46.7, 3673N×2890E, h28km, MD3.0*
ISC 15 03:45:47.0±0.5, 3668N±004×2890E±004, h31km±3km, n20, o0°92/30, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.16**	**106**	*i* PG	**Pb**	**03 45 52.3**	**-0.6**
FETY				*i* SG	**Sb**	**03 45 57.6**	**+0.7**
DALT	**Dalyan (Mudla)**	**0.23**	**294**	*e*PG	**Pb**	**03 45 53.1**	**-0.5**
DALT				*e*SG	**Sb**	**03 45 58.2**	**+0.1**
YER	**Yerkesik**	**0.67**	**313**	*i* PG	**Pb**	**03 45 59.7**	**-0.6**
YER				*i* SG	**Sb**	**03 46 10.3**	**+1.0**
KSL	**Kastellorizon**	**0.77**	**133**	*e*PB	**Pb**	**03 46 01.5**	**-0.4**
KSL				*e*SN	**Sn**	**03 46 14.5**	**+2.3**
KSL	**Kastellorizon**	**0.77**	**133**	*e*Pb	**Pb**	**03 46 01.0**	**-0.9**
KSL				*e*Sn	**Sn**	**03 46 14.5**	**+2.3**
ARG	**Arkhangelos**	**0.77**	**234**	*e*PN	**Pn**	**03 46 00.5**	**-1.3**
ARG				*e*SN	**Sn**	**03 46 10.5**	**-1.8**
ARG	**Arkhangelos**	**0.77**	**234**	*e*Pn	**Pn**	**03 46 01.0**	**-0.8**
ELL	**Elmali**	**0.82**	**85**	*e*PG	**Pn**	**03 46 02.2**	**-0.2**
DENT	**Denizli**	**1.08**	**6**	PG	**Pn**	**03 46 05.8**	**-0.2**
MLSB	**Milas**	**1.09**	**305**	*e*PG	**Pn**	**03 46 06.6**	**+0.5**
BDRM	**Kayabasi**	**1.23**	**289**	*i* P	**Pn**	**03 46 08.6**	**+0.6**
BDRM				*i* S	**Sn**	**03 46 24.3**	**+0.8**
AYDN	**Tasoluk**	**1.27**	**321**	*i* P	**Pn**	**03 46 09.1**	**+0.4**
AYDN				*i* S	**Sn**	**03 46 25.6**	**+0.9**
BODT	**Bodrum**	**1.33**	**287**	*e*PN	**Pn**	**03 46 09.9**	**+0.5**
ISP	**Isparta**	**1.74**	**47**	*e*Pn	**Pn**	**03 46 13.5**	**-1.5**
ISP	**Isparta**	**1.74**	**47**	*e*Pn	**Pn**	**03 46 13.5**	**-1.5**
TKTP	**Tekketepe**	**1.77**	**39**	*i* P	**Pn**	**03 46 17.0**	**+1.5**
TKTP				*i* S	**Sn**	**03 46 36.9**	**-0.1**
KARP	**Karpathos**	**1.80**	**232**	*e*PN	**Pn**	**03 46 16.5**	**+0.6**
MANT	**Manisa**	**1.83**	**352**	*i* P	**Pn**	**03 46 14.9**	**-1.4**
MANT				*i* S	**Sn**	**03 46 37.3**	**-1.1**
SMG	**Samos**	**1.94**	**303**	*e*PN	**Pn**	**03 46 18.0**	**+0.2**
AKS	**Akhisar**	**2.36**	**339**	*e*PN	**Pn**	**03 46 23.4**	**-0.2**

BJI ***15*** *04:22:37.4, 3592N×2546E, h86km, mB5.0, mb4.9, Ms5.0, Msz4.6*
ISCJB ***15*** *04:22:38.0±0.2, 3555N±001×2595E±001, h80km±2km, mb4.5/105, Error ellipse: s-maj=2.5km s-min=1.6km az=48.3*
PDG ***15*** *04:22:38.9±0.3, 3509N×2389E, h11km±1km*
CSEM ***15*** *04:22:38.0, 3563N×2595E, h80km, mb4.5*
MOS ***15*** *04:22:39.9±1.3, 3572N×2587E, h88km, mb4.5/39, Error ellipse: s-maj=3.9km s-min=2.3km az=109.1*
GRAL ***15*** *04:22:39.6±1.4, 3437N×2625E, h0km±999km, MD4.7*
IDC ***15*** *04:22:40.4±0.6, 3591N×2584E, h77km±6km, mb4.3/19, mb1 4.4/24, mb1mx4.3/28, mbtmp4.6/24, MS2.8/7, Ms1 2.8/7, ms1mx2.6/28, Error ellipse: s-maj=14.9km s-min=8.5km az=149.0*
NEIC ***15*** *04:22:40.9, 3577N×2599E, h70km, mb4.4/85, After ATH.*
HLW ***15*** *04:22:41.5, 3536N×2647E, h9km, Mb5.3*
ATH ***15*** *04:22:41.0, 3577N×2599E, h70km±2km, ML4.5*
THE ***15*** *04:22:42.8, 3574N×2603E, h58km, ML4.4*
NIC ***15*** *04:22:44.7±0.3, 3552N×2649E, h25km, mb4.6, ML4.2, MW3.7*
NSSC ***15*** *04:22:52.0, 3556N×2733E, h40km*
ISC 15 04:22:39.9±0.1, 3559N±001×2596E±001, h82km±1km, h77km±2.1km:pP-P, n735, σ1♀37/817, mb4.5/105, 76C-44D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.43**	**220**	⇑*i*P	**Pn**	**04 22 55.2**	**+2.0**
NPS				*e*S	**Sn**	**04 23 04.9**	**+1.8**
LAST	**Lasithi**	**0.58**	**222**	*e*Pg	**Pn**	**04 22 56.7**	**+2.2**
LAST				*e*Sg	**Sn**	**04 23 07.9**	**+2.6**
XRY	**Khrisi**	**0.75**	**197**	⇑P	**Pn**	**04 22 59.2**	**+3.0**
SANT	**Santorini**	**0.88**	**333**	*e*Pg	**Pn**	**04 22 57.5**	**0.0**
SANT				*e*Sg	**Sn**	**04 23 09.3**	**-1.5**
SANT	**Santorini**	**0.88**	**333**	⇓*i*Pg	**Pn**	**04 22 57.5**	**-0.1**
SANT				*e*Sg	**Sn**	**04 23 09.0**	**-1.7**
IDI	**Anoyia**	**0.92**	**251**	P	**Pn**	**04 23 00.1**	**+2.0**
	430nm,0.3s,baz=51,slow=13,SNR=1814						
IDI				S	**Sn**	**04 23 13.3**	**+1.6**
	3μm,0.3s,baz=131,slow=20,SNR=161						
THR3	**Thira Island,**	**0.93**	**331**	*e*Pg	**Pn**	**04 22 58.3**	**+0.1**
KARP	**Karpathos**	**0.98**	**92**	⇓*i*P	**Pn**	**04 23 00.2**	**+1.4**
KARP				*e*S	**Sn**	**04 23 14.0**	**+1.0**
SIVA	**Sivas**	**1.10**	**239**	*e*Pg	**Pn**	**04 23 03.5**	**+3.3**
SIVA				*e*Sg	**Sn**	**04 23 19.5**	**+4.1**
VAM	**Vamos**	**1.45**	**263**	⇓*i*P	**Pn**	**04 23 05.9**	**+1.5**
VAM	**Vamos**	**1.45**	**263**	⇓P	**Pn**	**04 23 05.9**	**+1.4**
APE	**Apeiranthos**	**1.51**	**347**	*e*Pg	**Pn**	**04 23 05.3**	**-0.1**
APE				*e*Sg	**Sn**	**04 23 22.9**	**-1.8**
APE	**Apeiranthos**	**1.51**	**347**	⇓*i*P	**Sn**	**04 23 22.5**	**-2.2**
APE	**Apeiranthos**	**1.51**	**347**	⇑*i*P	**Pn**	**04 23 05.2**	**-0.2**
APE				*e*S	**Sn**	**04 23 22.7**	**-2.0**
APE	**Apeiranthos**	**1.51**	**347**	*e*Pg	**Pn**	**04 23 05.3**	**-0.1**
APE				*e*Sg	**Sn**	**04 23 22.9**	**-1.8**
GVD	**Gavdhos**	**1.71**	**244**	*e*Pb	**Pn**	**04 23 11.4**	**+3.5**
GVD				*e*Sb	**Sn**	**04 23 33.6**	**+4.5**
GVD	**Gavdhos**	**1.71**	**244**	*e*P	**Pn**	**04 23 11.5**	**+3.6**
BODT	**Bodrum**	**1.83**	**36**	*i* PN	**Pn**	**04 23 09.6**	**+0.1**
BODT				*i* SN	**Sn**	**04 23 29.9**	**-2.2**
ARG	**Arkhangelos**	**1.87**	**70**	⇓*i*P	**Pn**	**04 23 11.2**	**+1.2**
ARG				*e*S	**Sn**	**04 23 32.5**	**-0.5**
BDRM	**Kayabasi**	**1.90**	**39**	*i* P	**Pn**	**04 23 10.8**	**+0.3**
BDRM				*i* S	**Sn**	**04 23 31.9**	**-1.8**
SMG	**Samos**	**2.23**	**18**	⇑*i*P	**Pn**	**04 23 14.5**	**-0.3**
SMG				*e*S	**Sn**	**04 23 39.5**	**-2.0**
MLSB	**Milas**	**2.25**	**40**	*i* PN	**Pn**	**04 23 16.1**	**+1.0**
YER	**Yerkesik**	**2.43**	**50**	*i* PN	**Pn**	**04 23 19.3**	**+1.8**
DALT	**Dalyan (Mudla)**	**2.47**	**61**	*i* PN	**Pn**	**04 23 19.4**	**+1.3**
DALT	**Dalyan (Mudla)**	**2.47**	**61**	Pn	**Pn**	**04 23 19.3**	**+1.3**
KYTH	**Kithira**	**2.47**	**287**	⇓*i*P	**Pn**	**04 23 19.5**	**+1.5**
KYTH	**Kithira**	**2.47**	**287**	⇓*i*P	**Pn**	**04 23 19.0**	**+1.0**
AYDN	**Tasoluk**	**2.58**	**36**	*i* P	**Pn**	**04 23 20.6**	**+1.1**
AYDN				*i* S	**Sn**	**04 23 41.0**	**-9.0**
VLI	**Veliai**	**2.69**	**296**	⇓*i*P	**Pn**	**04 23 22.1**	**+1.1**
VLI				*e*S	**Sn**	**04 23 53.0**	**+0.4**
FETY	**Fethiye**	**2.74**	**67**	*i* PN	**Pn**	**04 23 22.9**	**+1.2**
CHOS	**Chios island**	**2.79**	**2**	*e*Pn	**Pn**	**04 23 22.4**	**0.0**
URLA	**Izmir**	**2.81**	**10**	*i* P	**Pn**	**04 23 22.2**	**-0.4**
URLA				*i* S	**Sn**	**04 23 52.9**	**-2.6**
PTL	**Penteli**	**2.97**	**326**	*e*P	**Pn**	**04 23 26.5**	**+1.7**
PTL				*e*S	**Sn**	**04 23 58.0**	**-1.4**
ATH	**Athens Observa**	**2.98**	**324**	⇓*i*P	**Pn**	**04 23 26.5**	**+1.6**
ATH				*e*S	**Sn**	**04 23 58.7**	**-0.9**
IZM	**Izmir**	**2.99**	**20**	*i* PN	**Pn**	**04 23 25.6**	**+0.5**
IZM	**Izmir**	**2.99**	**20**	Pn	**Pn**	**04 23 25.5**	**+0.4**
KDAG	**Bornova**	**2.99**	**20**	*i* P	**Pn**	**04 23 25.3**	**+0.2**
DENT	**Denizli**	**3.28**	**48**	*i* PN	**Pn**	**04 23 30.6**	**+1.6**
ELL	**Elmali**	**3.40**	**69**	*i* PN	**Pn**	**04 23 32.4**	**+1.8**
MANT	**Manisa**	**3.56**	**35**	*i* P	**Pn**	**04 23 34.1**	**+1.3**
MANT				*i* S	**Sn**	**04 24 09.9**	**-4.0**
AKS	**Akhisar**	**3.60**	**24**	*i* PN	**Pn**	**04 23 34.0**	**+0.7**
ITM	**Ithomi**	**3.62**	**297**	*e*P	**Pn**	**04 23 35.3**	**+1.7**
PRK	**Paraskevi**	**3.66**	**4**	⇑*i*P	**Pn**	**04 23 34.1**	**0.0**
AYVA	**Ayvalik**	**3.75**	**9**	*i* P	**Pn**	**04 23 35.0**	**-0.4**
LKR	**Lokris**	**3.86**	**323**	⇓*i*P	**Pn**	**04 23 38.4**	**+1.5**
AOS	**Alonnisos**	**3.94**	**336**	*e*Pn	**Pn**	**04 23 39.2**	**+1.3**
KHL	**Karahalli**	**3.95**	**45**	*i* PN	**Pn**	**04 23 39.7**	**+1.6**
ANTB	**Antalya**	**4.01**	**70**	*i* PN	**Pn**	**04 23 41.2**	**+2.2**
SLUM		**4.14**	**189**	⇑P	**Pn**	**04 23 42.5**	**+1.9**
SLUM				S	**Sn**	**04 24 27.3**	**-0.5**
BCK	**Bucak**	**4.17**	**62**	*i* PN	**Pn**	**04 23 43.3**	**+2.2**
BCK	**Bucak**	**4.17**	**62**	Pn	**Pn**	**04 23 43.2**	**+2.1**
EZN	**Ezine**	**4.24**	**4**	*i* PN	**Pn**	**04 23 42.4**	**+0.4**
EZN	**Ezine**	**4.24**	**4**	Pn	**Pn**	**04 23 42.3**	**+0.3**
BOZC	**Bozcaada**	**4.24**	**1**	*i* P	**Pn**	**04 23 41.8**	**-0.2**
TKTP	**Tekketepe**	**4.27**	**54**	*i* P	**Pn**	**04 23 43.6**	**+1.1**
ISP	**Isparta**	**4.29**	**57**	*d*iP	**Pn**	**04 23 43.2**	**+0.4**
ISP	**Isparta**	**4.29**	**57**	⇓*i*P	**Pn**	**04 23 43.3**	**+0.5**
ISP	**Isparta**	**4.29**	**57**	⇓*i*Pg	**Pn**	**04 23 43.3**	**+0.5**
NEO	**Neokhori**	**4.30**	**330**	*e*P	**Pn**	**04 23 44.2**	**+1.4**
BALB	**Balikesir**	**4.32**	**20**	PN	**Pn**	**04 23 44.1**	**+1.0**
RLS	**Riolos of Patr**	**4.36**	**306**	*e*P	**Pn**	**04 23 45.8**	**+2.1**
RLS				*e*S	**Sn**	**04 24 33.7**	**+0.4**
XOR	**Xorichti**	**4.36**	**331**	*e*Pn	**Pn**	**04 23 45.3**	**+1.6**
BTOK	**Tokmak**	**4.47**	**21**	*i* P	**Pn**	**04 23 45.9**	**+0.6**
BTOK				*i* S	**Sn**	**04 24 34.4**	**-1.6**
GDZ	**Gediz**	**4.48**	**38**	*i* P	**Pn**	**04 23 46.7**	**+1.4**
AGG	**Agios Georgios**	**4.48**	**321**	*e*Pn	**Pn**	**04 23 47.1**	**+1.8**
AGG				*e*Sn	**Sn**	**04 24 36.6**	**+0.5**
DST	**Dursunbey**	**4.53**	**27**	PN	**Pn**	**04 23 47.0**	**+1.0**
DST	**Dursunbey**	**4.53**	**27**	Pn	**Pn**	**04 23 46.9**	**+0.9**
EVR	**Evrytania**	**4.69**	**316**	*e*P	**Pn**	**04 23 50.7**	**+2.6**
PAIG	**Paliouri**	**4.69**	**338**	*e*Pn	**Pn**	**04 23 49.4**	**+1.3**
ALT	**Altintas**	**4.79**	**43**	PN	**Pn**	**04 23 50.1**	**+0.6**
ALT	**Altintas**	**4.79**	**43**	Pn	**Pn**	**04 23 50.0**	**+0.5**
EDC	**Edincik**	**4.98**	**17**	PN	**Pn**	**04 23 53.1**	**+1.0**
OUR	**Ouranopolis**	**4.98**	**342**	*e*Pn	**Pn**	**04 23 53.5**	**+1.3**
BNT	**Bandirma**	**5.00**	**17**	PN	**Pn**	**04 23 53.2**	**+0.7**
BNT	**Bandirma**	**5.00**	**17**	Pn	**Pn**	**04 23 53.1**	**+0.7**
VLS	**Valsamata**	**5.01**	**303**	P	**Pn**	**04 23 52.5**	**-0.1**
ORLT	**Orhaneli**	**5.02**	**27**	PN	**Pn**	**04 23 54.1**	**+1.5**
MRMT	**Marmara Adasi**	**5.17**	**14**	PN	**Pn**	**04 23 55.1**	**+0.5**
PLG	**Polygyros**	**5.17**	**338**	*e*P	**Pn**	**04 23 55.8**	**+1.1**
ULDT	**Uludag**	**5.19**	**28**	*i* P	**Pn**	**04 23 56.0**	**+1.0**
AKMC	**Akamas**	**5.24**	**94**	P	**Pn**	**04 23 54.7**	**+0.1**
LKD	**Levkas**	**5.25**	**308**	*e*Pn	**Pn**	**04 23 56.8**	**+0.9**
LKD				*e*Sn	**Sn**	**04 24 53.6**	**-1.4**
LIT	**Litokhoron**	**5.27**	**330**	*e*Pn	**Pn**	**04 23 57.8**	**+1.7**
PPCY	**Paphos**	**5.28**	**96**	P	**Pn**	**04 23 55.1**	**-1.1**
MFT	**Murefte**	**5.29**	**11**	PN	**Pn**	**04 23 56.3**	**-0.1**
MFT	**Murefte**	**5.29**	**11**	Pn	**Pn**	**04 23 56.2**	**-0.1**
ALN	**Alexandroupoli**	**5.30**	**1**	*e*Pn	**Pn**	**04 23 56.9**	**+0.5**
ALFC	**Alevga**	**5.45**	**93**	⇓*i*P	**Pn**	**04 23 57.4**	**-1.1**
	47nm,0.3s						
ALFC				S	**Sn**	**04 24 54.2**	**-5.5**
ESKT	**Eskisehir**	**5.52**	**43**	*i* P	**Pn**	**04 24 00.6**	**+1.1**
RDO	**Rodhopi**	**5.55**	**357**	⇑*i*P	**Pn**	**04 24 00.4**	**+0.5**
BORA	**Eskisehir**	**5.57**	**38**	*i* P	**Pn**	**04 24 01.5**	**+1.4**
BORA				*i* S	**Sn**	**04 25 01.2**	**-1.6**
SOH	**Sokhos**	**5.61**	**339**	*e*Pn	**Pn**	**04 24 01.5**	**+1.5**
YLV	**Yalova**	**5.65**	**27**	PN	**Pn**	**04 24 01.7**	**+0.4**
YLV	**Yalova**	**5.65**	**27**	Pn	**Pn**	**04 24 01.6**	**+0.4**
KONT	**Konya--Tatoy**	**5.65**	**64**	PN	**Pn**	**04 24 02.9**	**+1.6**
KONT	**Konya--Tatoy**	**5.65**	**64**	Pn	**Pn**	**04 24 02.8**	**+1.5**
ERMK	**Ermenek**	**5.73**	**77**	*i* P	**Pn**	**04 24 03.5**	**+1.2**
JAN	**Janina**	**5.73**	**317**	*e*P	**Pn**	**04 24 03.0**	**+0.6**
JAN	**Janina**	**5.73**	**317**	*e*P	**Pn**	**04 24 02.9**	**+0.5**
SZAC	**Souni-Zanaja**	**5.73**	**96**	P	**Pn**	**04 24 01.5**	**-0.9**
KZN	**Kozani**	**5.75**	**326**	*e*P	**Pn**	**04 24 05.6**	**+3.0**
KIZT	**Kizilcal**	**5.75**	**53**	PN	**Pn**	**04 24 04.1**	**+1.4**
KIZT	**Kizilcal**	**5.75**	**53**	Pn	**Pn**	**04 24 04.0**	**+1.3**
SRS	**Serrai**	**5.82**	**342**	*e*Pn	**Pn**	**04 24 04.9**	**+1.4**
ELBA	**Catalca**	**5.88**	**19**	*i* P	**Pn**	**04 24 04.5**	**+0.1**
MAMC	**Mammari**	**5.95**	**92**	P	**Pn**	**04 24 04.8**	**-0.5**
IGT	**Igoumenitsa**	**5.95**	**313**	*e*Pn	**Pn**	**04 24 05.0**	**-0.4**
NVR	**Nevrokopi**	**5.98**	**345**	*e*P	**Pn**	**04 24 07.0**	**+1.3**
HRT	**Hereke**	**5.98**	**28**	*e*PN	**Pn**	**04 24 06.3**	**+0.5**
HRT	**Hereke**	**5.98**	**28**	Pn	**Pn**	**04 24 06.8**	**+1.0**
GRG	**Griva**	**6.04**	**333**	*e*Pn	**Pn**	**04 24 08.5**	**+1.9**
KNT	**Kendrikon**	**6.06**	**338**	*e*Pn	**Pn**	**04 24 08.2**	**+1.4**
KDZ	**Kurdzhali**	**6.06**	**356**	*i* P	**Pn**	**04 24 07.0**	**+0.1**
CSS	**Prodhromos**	**6.07**	**94**	P	**Pn**	**04 24 05.6**	**-1.3**
	12nm,0.3s						
CSS				S	**Sn**	**04 25 10.6**	**-4.3**
RZN	**Rozhen**	**6.16**	**351**	*i* P	**Pn**	**04 24 07.6**	**-0.6**
MMB	**Musomiste**	**6.24**	**344**	*i* P	**Pn**	**04 24 10.0**	**+0.8**
EDRB	**Edirne**	**6.28**	**5**	PN	**Pn**	**04 24 10.0**	**+0.2**
IKL	**Isikli**	**6.30**	**82**	PN	**Pn**	**04 24 10.4**	**+0.2**
VAY	**Valandovo**	**6.30**	**336**	*i* Pn	**Pn**	**04 24 11.9**	**+1.7**
VAY	**Valandovo**	**6.30**	**336**	*i* Pn	**Pn**	**04 24 11.8**	**+1.6**
FNA	**Florina**	**6.31**	**327**	*e*Pn	**Pn**	**04 24 11.8**	**+1.5**
SWA1		**6.32**	**182**	⇑P	**Pn**	**04 24 12.0**	**+1.7**
SWA1				S	**Sn**	**04 25 17.0**	**-4.0**
SWA2		**6.35**	**184**	⇑P	**Pn**	**04 24 12.1**	**+1.8**
KEK	**Kerkira**	**6.38**	**312**	P	**Pn**	**04 24 09.3**	**-2.0**
MDU	**Mudurnu**	**6.39**	**39**	PN	**Pn**	**04 24 13.2**	**+1.8**
DIM	**Dimitrovgrad**	**6.46**	**357**	P	**Pn**	**04 24 13.0**	**+0.8**
HENT	**Hendek**	**6.51**	**35**	*i* P	**Pn**	**04 24 14.3**	**+1.3**
BIA	**Bitola**	**6.53**	**327**	*i* Pn	**Pn**	**04 24 13.6**	**+0.4**
BIA	**Bitola**	**6.53**	**327**	*i* Pn	**Pn**	**04 24 13.5**	**+0.3**
PLD	**Plovdiv**	**6.58**	**352**	*i* P	**Pn**	**04 24 24.1**	**+10**
PHNC	**Paralimni**	**6.63**	**93**	P	**Pn**	**04 24 14.4**	**-0.2**
KKB	**Krupnik**	**6.65**	**341**	*i* P	**Pn**	**04 24 14.2**	**-0.8**
MEST	**Erdemli**	**6.71**	**79**	*i* P	**Pn**	**04 24 16.3**	**+0.6**
MEST				*i* S	**Sn**	**04 25 10.2**	**-20**
STIP	**Stip**	**6.77**	**335**	*i* Pn	**Pn**	**04 24 18.6**	**+2.1**
STIP	**Stip**	**6.77**	**335**	*i* Pn	**Pn**	**04 24 18.5**	**+2.0**
OHR	**Ohrid**	**6.84**	**325**	*i* Pn	**Pn**	**04 24 17.1**	**-0.4**
OHR	**Ohrid**	**6.84**	**325**	*i* Pn	**Pn**	**04 24 17.0**	**-0.5**
JMB	**Yambol**	**6.88**	**4**	*i* P	**Pn**	**04 24 18.0**	**-0.1**
JMB	**Yambol**	**6.88**	**4**	*e*Pn	**Pn**	**04 24 18.5**	**+0.4**
LOD	**Lodumlu**	**6.89**	**49**	PN	**Pn**	**04 24 18.4**	**+0.2**
LOD	**Lodumlu**	**6.89**	**49**	Pn	**Pn**	**04 24 18.3**	**+0.1**
ANTO	**Ankara**	**6.90**	**50**	⇑*i*P	**Pn**	**04 24 20.4**	**+2.1**
ANTO	**Ankara**	**6.90**	**50**	⇑*i*P	**Pn**	**04 24 20.3**	**+2.0**
ANTO				pmax	pmax		
	comp=Z,28nm,0.6s						
ANTO	**Ankara**	**6.90**	**50**	⇑*i*Pn	**Pn**	**04 24 20.3**	**+2.1**
	comp=Z,28nm,0.6s						
SGKT	**Sivrigoynuk**	**6.92**	**42**	*i* P	**Pn**	**04 24 21.2**	**+2.7**
MERS	**Mersin**	**7.04**	**77**	PN	**Pn**	**04 24 21.6**	**+1.4**
HMYD	**Mayadein**	**7.08**	**143**	P	**Pn**	**04 24 19.7**	**-1.0**
PGB	**Panagyurishte**	**7.08**	**349**	*i* P	**Pn**	**04 24 20.4**	**-0.4**
HNAT	**Natroun**	**7.12**	**145**	P	**Pn**	**04 24 20.1**	**-1.3**
SQR		**7.20**	**141**	P	**Pn**	**04 24 20.8**	**-1.5**
KAMT	**Kaman**	**7.23**	**56**	PN	**Pn**	**04 24 24.3**	**+1.5**
FYM	**Al Fayyum**	**7.28**	**142**	⇓P	**Pn**	**04 24 22.4**	**-1.1**
FYM				S	**Sn**	**04 25 36.3**	**-8.3**
VTS	**Vitosha**	**7.31**	**344**	*i* P	**Pn**	**04 24 26.0**	**+2.1**
VTS	**Vitosha**	**7.31**	**344**	⇓*i*P	**Pn**	**04 24 27.1**	**+3.2**
AYT	**Al 'Ayyat**	**7.33**	**142**	P	**Pn**	**04 24 23.3**	**-0.8**
BR131	**Keskin Array S**	**7.36**	**54**	*e*Pn	**Pn**	**04 24 25.5**	**+1.0**
	comp=Z,9.7nm,0.5s						
BR131				*e*Sn	**Sn**	**04 25 44.6**	**-1.9**
BR131	**Keskin Array S**	**7.36**	**54**	*e*Pn	**Pn**	**04 24 25.5**	**+1.0**
	comp=Z,9.7nm,0.5s						
BR131				*e*Sn	**Sn**	**04 25 44.6**	**-1.9**
BRTR	**Keskin Array B**	**7.36**	**54**	P	**Pn**	**04 24 25.4**	**+0.8**
	comp=Z,1.3nm,0.3s,baz=232,slow=14,SNR=39						
BRTR				S	**Sn**	**04 25 43.0**	**-3.4**
	comp=Z,3.0nm,0.3s,baz=225,slow=24,SNR=11						
TIR	**Tirane**	**7.47**	**322**	P	**Pn**	**04 24 28.0**	**+1.9**
KOT	**Kottamia**	**7.51**	**137**	⇓P	**Pn**	**04 24 25.1**	**-1.5**
KARA	**Karaisali**	**7.52**	**75**	PN	**Pn**	**04 24 28.4**	**+1.6**
HSAF	**As Saff**	**7.60**	**140**	P	**Pn**	**04 24 26.6**	**-1.3**
PVL	**Pavlikeni**	**7.63**	**357**	*i* P	**Pn**	**04 24 28.0**	**-0.3**
HHAG	**Hagoal**	**7.64**	**136**	⇓P	**Pn**	**04 24 26.9**	**-1.4**
ELDT	**Eldivan**	**7.66**	**48**	*i* P	**Pn**	**04 24 30.4**	**+1.8**
KRTS	**Karatas**	**7.69**	**80**	PN	**Pn**	**04 24 30.0**	**+0.9**
GLL	**Jalalah**	**7.71**	**139**	⇓P	**Pn**	**04 24 28.6**	**-0.9**
GLL	**Jalalah**	**7.71**	**139**	P	**Pn**	**04 24 28.5**	**-0.9**
LCI	**Lecce**	**7.79**	**310**	P	**Pn**	**04 24 28.6**	**-1.9**
CDAG	**Cicekdag**	**7.80**	**56**	*i* P	**Pn**	**04 24 31.7**	**+1.2**
AMAG	**Maghara**	**7.83**	**127**	P	**Pn**	**04 24 29.4**	**-1.6**
MATL	**Matirih**	**8.01**	**102**	*e*Pn	**Pn**	**04 24 31.5**	**-2.0**
CEYT	**Ceyhan**	**8.03**	**77**	PN	**Pn**	**04 24 33.4**	**-0.4**
OFRI	**'Ofer**	**8.05**	**109**	P	**Pn**	**04 24 31.8**	**-2.2**
TIP	**Timpagrande**	**8.15**	**299**	⇓*i*Pn	**Pn**	**04 24 34.3**	**-1.1**
TIP				*e*Sn	**Sn**	**04 25 52.9**	**-13**
TIP	**Timpagrande**	**8.15**	**299**	⇓*i*Pn	**Pn**	**04 24 34.3**	**-1.0**
ARNB	**Al Arnab**	**8.15**	**85**	⇑P	**Pn**	**04 24 34.2**	**-1.2**
ARNB	**Al Arnab**	**8.15**	**85**	⇑*i*P	**Pn**	**04 24 34.2**	**-1.2**
BHL	**Bhannes**	**8.16**	**99**	*e*Pn	**Pn**	**04 24 33.2**	**-2.3**
BHL				Sn	**Sn**	**04 25 57.2**	**-8.8**
BHL	**Bhannes**	**8.16**	**99**	*e*Pn	**Pn**	**04 24 33.2**	**-2.3**
BHL				Sn	**Sn**	**04 25 57.2**	**-8.8**
KOZT	**Kozan**	**8.16**	**74**	PN	**Pn**	**04 24 35.6**	**0.0**
MMAI	**Mount Meron Ar**	**8.23**	**106**	P	**Pn**	**04 24 34.5**	**-1.9**
	comp=Z,79nm,0.3s,baz=305,slow=12,SNR=256						
MMAI				S	**Sn**	**04 26 03.5**	**-4.2**
	comp=Z,79nm,0.3s,baz=294,slow=24,SNR=11						
ULC	**Ulcinj**	**8.24**	**323**	⇑*i*Pn	**Pn**

VRI Vrincioaia 10.28 3 ⇓*i*P Pn 04 25 07.1 +2.7
VRI Vrincioaia 10.28 3 ⇓P Pn 04 25 07.1 +2.7
VRI Vrincioaia 10.28 3 P Pn 04 25 05.1 +0.7
MALT Malatya 10.34 71 ⇓*i*P Pn 04 25 05.8 +0.5
MALT Malatya 10.34 71 P Pn 04 25 06.5 +1.2
MALT Malatya 10.34 71 *e*Pn Pn 04 25 05.3 0.0
MALT ⇓P 04 25 05.8
SHRM 10.36 136 P Pn 04 25 04.5 -0.9
PSB1 Pescosannita 10.39 306 P Pn 04 25 04.8 -1.1
CLTB Caltabellotta 10.44 285 P Pn 04 25 06.4 -0.1
BZS Buzias 10.54 343 ⇓*i*P Pn 04 25 10.0 +2.1
BZS Buzias 10.54 343 ⇓P Pn 04 25 10.0 +2.1
CIGN Sant'Elia a Pi 10.55 308 P Pn 04 25 07.5 -0.6
HHRG Al Ghardaqah 10.58 140 ⇑P Pn 04 25 07.2 -1.2
USI Ustica 10.66 291 P Pn 04 25 07.1 -2.5
SGG Gregorio Mates 10.76 306 P Pn 04 25 09.9 -1.0
MIDA Miranda 10.96 307 P Pn 04 25 14.7 +1.0
CII Carovilli 10.97 307 P Pn 04 25 14.1 +0.3
RFI Roccamonfina 10.98 305 P Pn 04 25 14.2 +0.3
ERC Erice 10.99 287 P Pn 04 25 14.1 0.0
RNI2 Rionero Sannit 11.06 307 P Pn 04 25 15.9 +0.9
SIM Simferopol' 11.23 31 P Pn 04 25 19.2 +1.9
SIM S Sn 04 27 17.0 -3.9
SIM pmax pmax
comp=Z,17nm,0.8s
SIM MLR MLR
comp=Z,40nm,18.0s
SIM Simferopol' 11.23 31 P Pn 04 25 19.2 +1.9
comp=Z,17nm,0.8s
SDI San Donato 11.29 306 P Pn 04 25 16.4 -1.7
HSFG 11.29 141 ⇓P Pn 04 25 16.7 -1.5
PTS Pantelleria 11.35 280 P Pn 04 25 19.4 +0.5
INTR Introdacqua 11.37 308 P Pn 04 25 18.1 -1.2
DRGR 11.45 349 ⇑*i*P Pn 04 25 31.2 +11
VVLD Villa Vallelon 11.49 307 P Pn 04 25 19.6 -1.2
TERO Teramo 11.88 310 P Pn 04 25 26.2 0.0
FIAM Fiamignano 12.01 308 P Pn 04 25 29.4 +1.5
BURAR Bucovina Array 12.02 358 ⇑*i*P Pn 04 25 32.5 +4.3
BURAR Bucovina Array 12.02 358 ⇑P Pn 04 25 32.5 +4.3
MARD Mardin 12.06 77 *i*P Pn 04 25 27.8 -0.9
NRCA Norcia 12.30 310 P Pn 04 25 30.6 -1.3
NVLJ Novalja 12.33 320 *i*Pn Pn 04 25 28.4 -3.9
NVLJ *i*Sn Sn 04 27 35.6 -12
MNS Montasola 12.35 307 P Pn 04 25 32.7 +0.1
SNTG Esanatoglia 12.63 311 P Pn 04 25 34.7 -1.7
EMRS Mersa Alam 13.03 142 P Pn 04 25 42.3 +0.7
PSZ Piszkesteto 13.11 342 *e*P Pn 04 25 43.5 +0.8
PSZ pmax pmax
comp=Z,9.0nm,0.7s
PSZ Piszkesteto 13.11 342 *e*Pn Pn 04 25 43.5 +0.8
comp=Z,9.3nm,0.7s
PSZ Piszkesteto 13.11 342 *e*P Pn 04 25 43.5 +0.8
comp=Z,9.0nm,0.7s
ASHG Umm Shaghir 13.25 157 ⇓P Pn 04 25 45.9 +1.4
KECS Kecovo 13.50 344 *e*PN Pn 04 25 44.3 -3.6
KECS *e* 04 25 54.3
KECS *e* 04 45 47.8
KECS Kecovo 13.50 344 *e*Pn Pn 04 25 44.3 -3.6
KECS *e* 04 25 54.3
KOLS Kolonicke sedl 13.60 350 *e*PN Pn 04 25 46.3 -2.9
KOLS *e* 04 25 55.7
KOLS Kolonicke sedl 13.60 350 *e*Pn Pn 04 25 46.3 -2.9
KOLS *e* 04 25 55.7
HMSM Jabal Masmas 13.68 156 ⇑P Pn 04 25 51.9 +1.7
CRVS Cervenica-Dubn 13.71 347 *e*PN Pn 04 25 48.1 -2.4
CRVS *e* 04 25 56.7
CRVS Cervenica-Dubn 13.71 347 *e*Pn Pn 04 25 48.1 -2.4
CRVS *e* 04 25 56.7
VSL Villasalto 13.72 291 P Pn 04 25 48.9 -1.8
HKFR Khafra 13.77 159 P Pn 04 25 53.4 +2.0
VOY Vojsko 13.85 323 *e*P Pn 04 25 49.4 -3.0
VOY *e* 04 26 12.3
VOY *e*S Sn 04 28 14.2 -10
ZST Bratislava 14.20 335 *e*PN Pn 04 25 59.1 +2.1
STHS Stebnicka Huta 14.24 347 *e*P Pn 04 26 03.2 +5.7
LVV L'vov 14.29 355 ⇑*i*P Pn 04 26 03.2 +5.1
NIE Niedzica 14.42 345 *e*P Pn 04 26 04.8 +4.9
KBA Koelnbreinsper 14.86 324 ⇓*i*Pn Pn 04 26 02.6 -2.9
KBA ⇓*i*Sn Sn 04 28 39.5 -10
HSHL Bi'r Shalatayn 14.91 144 P Pn 04 26 07.9 +1.8
AKASG Malin Array Be 15.29 8 P Pn 04 26 08.4 -2.6
comp=Z,5.3nm,0.3s,baz=195,slow=11,SNR=170
AKASG S S 04 29 04.0 -6.9
baz=190,slow=22,SNR=12
OJC Ojcow 15.29 345 *e*P Pn 04 26 13.4 +2.4
KIV Kislovodsk 15.32 52 *e*P Pn 04 26 15.8 +4.4
KIV *e*S S 04 29 01.9 -10
KIV pmax pmax
comp=Z,31nm,1.0s
KIV Kislovodsk 15.32 52 *e*Pn Pn 04 26 15.5 +4.1
comp=Z,24nm,0.7s
VRAC Vranov 15.33 336 P Pn 04 26 13.4 +1.9
comp=Z,1.7nm,0.3s,baz=136,slow=11,SNR=5.9
VRAC LR LR 04 32 17.4
comp=Z,38nm,18.0s,baz=158,slow=38
OKC Ostrava-Krasne 15.34 341 *e*P Pn 04 26 14.1 +2.5
OKC *e*pP pP 04 26 28.8 -1.7
BHD Baghdad 15.38 93 *ex* x 04 26 13.7
MORC Moravsky Berou 15.45 339 ⇓*i*P Pn 04 26 15.4 +2.4
MORC Moravsky Berou 15.45 339 ⇓P Pn 04 26 15.4 +2.4
MORC Moravsky Berou 15.45 339 *e*P Pn 04 26 15.0 +2.0
GNI Garni 15.51 67 P Pn 04 26 15.0 +1.2
comp=Z,0.5nm,0.3s,baz=162,slow=13,SNR=3.2
GNI LR LR 04 33 28.7
comp=Z,50nm,18.5s,baz=299,slow=42
ZEI Tsey 15.63 57 *e*P Pn 04 26 17.5 +2.1
GEC2 GERESS Array S 16.02 329 *e*P Pn 04 26 22.0 +1.7
comp=Z,8.0nm,1.3s
GEC2 *e*S S 04 29 43.0 +17
GEC2 GERESS Array S 16.02 329 *e*P Pn 04 26 22.0 +1.7
GEC2 pmax pmax
comp=Z,8.0nm,1.3s
GERES GERESS Array B 16.02 329 P Pn 04 26 17.5 -2.8
comp=Z,0.1nm,0.3s,baz=144,slow=17,SNR=3.9
GERES LR LR 04 33 07.7
comp=Z,26nm,20.0s,baz=138,slow=40
GERES ScP ScP 04 34 39.4 +0.2
comp=Z,0.2nm,0.3s,baz=146,slow=2.6,SNR=6.4
GERES GERESS Array B 16.02 329 P Pn 04 26 17.5 -2.8
GERES LR LR 04 33 07.7
GERES ScP ScP 04 34 39.4 +0.2
KHC Kasperske Hory 16.30 330 *e*P Pn 04 26 26.4 +2.7
KHC *e*sP sP 04 26 52.3 +0.7
KHC Kasperske Hory 16.30 330 P Pn 04 26 25.2 +1.5
DPC Dobruska-Polom 16.32 338 *e*P Pn 04 26 25.3 +1.3
DPC *e*sP sP 04 26 49.4 -2.4
DPC Dobruska-Polom 16.32 338 P Pn 04 26 24.5 +0.5
SAOF Saorge 16.42 306 *e*P Pn 04 26 26.2 +1.1
DAVOX Davos 16.44 318 P Pn 04 26 24.4 -1.0
comp=Z,0.2nm,0.3s,baz=177,slow=19,SNR=2.7
DAVOX S S 04 29 17.0 -17
comp=Z,0.3nm,0.3s,baz=330,slow=20,SNR=2.7
SBF Sospel 16.45 306 *e*P Pn 04 26 24.4 -1.1
comp=Z,67nm,0.6s
SBF Sospel 16.45 306 *e*P Pn 04 26 24.4 -1.1
SBF pmax pmax
comp=Z,34nm,0.6s
SBF Sospel 16.45 306 *e*P Pn 04 26 24.4 -1.1
comp=Z,34nm,0.6s
AUTN L'Aution 16.50 306 *e*P Pn 04 26 28.0 +1.8
UPC Upice 16.56 337 *e*P Pn 04 26 28.7 +1.8
WET Wettzell 16.60 329 *e*P Pn 04 26 28.4 +1.0
comp=Z,5.0nm,1.0s
WET *e*S S 04 29 52.3 +15
WET Wettzell 16.60 329 *e*P Pn 04 26 28.4 +1.0
WET pmax pmax
comp=Z,5.0nm,1.0s
FUR Furstenfeldbru 16.61 324 *e*S S 04 29 52.1 +14
PRU Pruhonice 16.62 333 *e*P Pn 04 26 28.7 +1.1
PRU *e*sP sP 04 26 55.2 +0.1
PRU Pruhonice 16.62 333 P Pn 04 26 28.5 +0.9
DAVA Damuels 16.75 319 ⇑*i*Pn Pn 04 26 28.7 -0.6
DAVA ⇑*i*Sn Sn 04 29 27.5 -7.3
FRF La Foret Royal 16.86 304 *e*P Pn 04 26 30.3 -0.3
comp=Z,20nm,0.7s
FRF La Foret Royal 16.86 304 *e*P Pn 04 26 30.3 -0.3
FRF pmax pmax
comp=Z,10.0nm,0.7s
FRF La Foret Royal 16.86 304 *e*P Pn 04 26 30.3 -0.3
comp=Z,9.8nm,0.7s
LMR La Mourre 16.87 303 *e*P Pn 04 26 29.5 -1.2
MBDF Montbardon 17.24 308 ⇑*i*P Pn 04 26 35.3 0.0
comp=Z,21nm,0.7s
MBDF Montbardon 17.24 308 ⇑*i*P Pn 04 26 35.3 0.0
MBDF pmax pmax
comp=Z,10.0nm,0.7s
MBDF Montbardon 17.24 308 ⇑*i*P Pn 04 26 35.3 0.0
comp=Z,10nm,0.7s
TAVF Tavernes 17.27 304 *e*P Pn 04 26 36.4 +0.7
ROTZ Rotzenmuhle 17.36 329 *e*S S 04 30 10.1 +17
BERF Bertagne 17.42 302 *e*P Pn 04 26 38.2 +0.7
BRG Berggiesshubel 17.57 334 *e*P Pn 04 26 38.2 -1.1
comp=Z,2.9nm,0.9s
BRG Berggiesshubel 17.57 334 P Pn 04 26 39.5 +0.2
MANZ Manzenberg 17.57 329 *e*P Pn 04 26 38.8 -0.5
comp=Z,3.0nm,0.7s
LPG La Plagne 17.59 310 *e*P Pn 04 26 40.6 +1.0
comp=Z,15nm,0.5s
LPG La Plagne 17.59 310 *e*P Pn 04 26 40.6 +1.0
LPG pmax pmax
comp=Z,7.0nm,0.5s
LPG La Plagne 17.59 310 *e*P Pn 04 26 40.6 +1.0
comp=Z,7.4nm,0.5s
LPL La Plagne 17.61 310 *e*P Pn 04 26 40.6 +0.7
comp=Z,17nm,0.5s
LPL La Plagne 17.61 310 *e*P Pn 04 26 40.6 +0.7
LPL pmax pmax
comp=Z,9.0nm,0.5s
LPL La Plagne 17.61 310 *e*P Pn 04 26 40.6 +0.7
comp=Z,8.5nm,0.5s
NKC Novy Kostel 17.62 330 *e*P Pn 04 26 40.7 +0.8
NKC *e*sP sP 04 27 01.7 -4.5
NKC Novy Kostel 17.62 330 P Pn 04 26 39.7 -0.2
GELF Grande-Etoile 17.62 302 *e*P Pn 04 26 41.1 +1.1
GRA1 Grafenberg Arr 17.73 327 *e*P Pn 04 26 41.2 -0.1
comp=Z,8.0nm,0.7s
GRF Grafenberg Arr 17.73 327 *e*P Pn 04 26 41.2 -0.1
comp=Z,8.0nm,0.7s
GRF Grafenberg Arr 17.73 327 *e*P Pn 04 26 41.2 -0.1
GRF pmax pmax
comp=Z,8.0nm,0.7s
GRF Grafenberg Arr 17.73 327 *e*P Pn 04 26 41.2 -0.1
GRF pmax pmax
comp=Z,8.0nm,0.7s
GRFO Grafenberg 17.73 327 *e*P Pn 04 26 42.3 +1.0
SMRF Simiane la Rot 17.73 304 *e*P Pn 04 26 41.0 -0.3
comp=Z,12nm,0.8s
SMRF Simiane la Rot 17.73 304 *e*P Pn 04 26 41.0 -0.3
comp=Z,6.2nm,0.8s
WERD Werda 17.84 331 *e*P Pn 04 26 41.8 -0.8
comp=Z,8.0nm,0.9s
WERD *e*S S 04 30 15.8 +14
ORIF Oris-en-Rattie 17.89 307 *e*P Pn 04 26 40.8 -2.4
comp=Z,9.1nm,0.6s
ORIF *e*R
comp=Z,52nm,21.5s
ORIF Oris-en-Rattie 17.89 307 *e*P Pn 04 26 40.8 -2.4
ORIF pmax pmax
comp=Z,5.0nm,0.6s
ORIF Oris-en-Rattie 17.89 307 *e*P Pn 04 26 40.8 -2.4
comp=Z,4.6nm,0.6s
BBS Basel-Blauen 18.15 316 *e*P Pn 04 26 50.2 +3.8
CLL Collm 18.26 333 *e*P Pn 04 26 46.3 -1.4
CLL Collm 18.26 333 ⇑*i*P Pn 04 26 46.4 -1.3
comp=Z,8.0nm,0.8s
CLL Collm 18.26 333 ⇑*i*P Pn 04 26 46.4 -1.3
CLL pmax pmax
comp=Z,8.0nm,0.8s
MOX Moxa 18.28 330 *e*P Pn 04 26 47.8 -0.1
comp=Z,12nm,0.8s
MOX Moxa 18.28 330 *e*P Pn 04 26 47.9 0.0
comp=Z,17nm,0.9s
MOX Moxa 18.28 330 *e*P Pn 04 26 47.9 0.0
MOX pmax pmax
comp=Z,17nm,0.9s
VRSR Storozhevoye 18.29 27 *e*P Pn 04 26 47.4 -0.6
VRSR pmax pmax
comp=Z,8.0nm,0.9s
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=E,4.0nm,0.7s
VRSR Storozhevoye 18.29 27 *e*P Pn 04 26 47.4 -0.6
comp=E,10.0nm,0.8s
SUW Suwalki 18.52 355 *e*P Pn 04 26 48.4 -2.4
SUW *e*S S 04 30 13.4 -3.2
CABF La Chapelle 18.53 313 *e*P Pn 04 26 49.1 -1.8
comp=E,19nm,0.5s
CABF La Chapelle 18.53 313 *e*P Pn 04 26 49.1 -1.8
CABF pmax pmax
comp=Z,10.0nm,0.5s
CABF La Chapelle 18.53 313 *e*P Pn 04 26 49.1 -1.8
comp=Z,9.6nm,0.5s
MOF Molkenrain 18.58 317 *e*P Pn 04 26 54.7 +3.2
VIVF Saint-Julien-l 18.66 306 *e*P Pn 04 26 49.8 -2.6
comp=Z,2.1nm,0.8s
VIVF Saint-Julien-l 18.66 306 *e*P Pn 04 26 49.8 -2.6
VIVF pmax pmax
comp=Z,12nm,0.8s
VIVF Saint-Julien-l 18.66 306 *e*P Pn 04 26 49.8 -2.6
comp=Z,12nm,0.8s
GKP Gorka Klasztor 18.71 344 *e*P Pn 04 26 50.8 -2.3
GKP *e*S S 04 30 18.5 -2.0
HINF Hinteralfeld 18.72 317 *e*P Pn 04 26 51.2 -1.9
comp=Z,7.0nm,0.5s
HINF Hinteralfeld 18.72 317 *e*P Pn 04 26 51.2 -1.9
HINF pmax pmax
comp=Z,4.0nm,0.5s
HINF Hinteralfeld 18.72 317 *e*P Pn 04 26 51.2 -1.9
comp=Z,3.5nm,0.5s
ETOS Mallorca 18.77 290 P Pn 04 26 51.8 -2.0
comp=Z,48nm,2.6s
ETOS Mallorca 18.77 290 P Pn 04 26 51.8 -2.0
comp=Z,48nm,2.6s
CDF Champ du Feu 18.82 319 *e*P Pn 04 26 52.3 -2.1
comp=Z,11nm,0.6s
CDF Champ du Feu 18.82 319 *e*P Pn 04 26 52.3 -2.1
CDF pmax pmax
comp=Z,6.0nm,0.6s
CDF Champ du Feu 18.82 319 *e*P Pn 04 26 52.3 -2.1
comp=Z,5.7nm,0.6s
MIB Mutribah 18.89 102 *e*P Pn 04 26 55.8 +0.6
MIB AMb AMB 04 26 59.5
comp=Z,75nm,0.6s
LANF Langenberg 18.89 321 *e*P Pn 04 27 02.9 +7.7
LASF Ste Croix 18.93 303 *e*P Pn 04 26 53.9 -1.7
comp=Z,25nm,1.0s
LASF Ste Croix 18.93 303 *e*P Pn 04 26 53.9 -1.7
comp=Z,13nm,1.0s
MNK Minsk 18.95 3 *e*P Pn 04 26 49.0 -6.9
NAY Al-Naaiem 19.04 103 *e*P Pn 04 26 57.5 +0.5
NAY AMb AMB 04 26 58.9
comp=Z,62nm,0.4s
HAU Haudompre 19.11 316 *e*P Pn 04 26 57.9 +0.2
comp=Z,15nm,0.6s
HAU *e*R
comp=Z,58nm,21.5s
HAU Haudompre 19.11 316 *e*P Pn 04 26 57.9 +0.2
HAU pmax pmax
comp=Z,8.0nm,0.6s
HAU Haudompre 19.11 316 *e*P Pn 04 26 57.9 +0.2
comp=Z,7.5nm,0.6s
EJON La Jonquera 19.15 298 P Pn 04 26 55.7 -2.7
comp=Z,12nm,0.7s
EJON La Jonquera 19.15 298 P Pn 04 26 55.7 -2.6
comp=Z,12nm,0.7s
VRHR Novokhopersk 19.17 31 *e*P Pn 04 26 56.3 -2.2
VRHR pmax pmax
comp=Z,110nm,0.6s
VRHR pmax pmax
comp=N,40nm,1.4s
VRHR pmax pmax
comp=E,50nm,1.4s
VRHR Novokhopersk 19.17 31 *e*P Pn 04 26 56.3 -2.2
comp=E,110nm,0.6s
UMR Umm Al-Rimmam 19.29 102 *e*P Pn 04 27 00.2 +0.3
UMR AMb AMB 04 27 00.9
comp=Z,119nm,0.4s
TNS Taunus Mts 19.38 324 *e*P Pn 04 26 58.9 -2.0
RDF Al-Radifah 19.41 104 *e*P Pn 04 27 01.7 +0.3
RDF AMb AMB 04 27 03.1
comp=Z,45nm,0.4s
KBD Kabd 19.42 103 *e*P Pn 04 27 01.9 +0.4
KBD AMb AMB 04 27 03.4
comp=Z,85nm,0.5s
THEF They Montfort 19.43 317 *e*P Pn 04 26 59.8 -1.8
COLF Collangettes 19.55 307 *e*P Pn 04 27 01.2 -1.8
COLF Collangettes 19.55 307 *e*P Pn 04 27 01.3 -1.7
GTTG Gvttingen 19.64 329 *e*P Pn 04 27 01.7 -2.3
comp=Z,42nm,1.0s
CLZ Clausthal 19.70 330 *e*P Pn 04 27 01.5 -3.2
comp=Z,14nm,0.9s
CLZ Clausthal 19.70 330 *e*P Pn 04 27 01.5 -3.2
CLZ pmax pmax
comp=Z,14nm,0.9s
RUP Ruppelstein 19.72 321 *e*P Pn 04 27 02.4 -2.6
IDID Didziasalis 19.73 1 *e*P Pn 04 27 01.1 -4.0
IDID AMb AMB 04 27 01.7
comp=Z,1μm,0.4s
IDID Didziasalis 19.73 1 *e*P Pn 04 27 01.1 -4.0
comp=Z,1μm,0.4s,SNR=33
IIGN Ignalina 19.76 0 *e*P Pn 04 27 01.9 -3.6
PLDF La Plantade 19.77 308 *e*P Pn 04 27 03.3 -2.3
MTLF Montolieu 19.85 300 *e*P Pn 04 27 04.0 -2.5
comp=Z,9.3nm,0.7s
MTLF Montolieu 19.85 300 *e*P Pn 04 27 04.0 -2.5
MTLF pmax pmax
comp=Z,5.0nm,0.7s
MTLF Montolieu 19.85 300 *e*P Pn 04 27 04.0 -2.5
comp=Z,4.7nm,0.7s
SMF Signal de Mont 19.92 310 *e*P Pn 04 27 03.5 -3.8
comp=Z,16nm,0.5s
SMF Signal de Mont 19.92 310 *e*P Pn 04 27 03.5 -3.8
SMF pmax pmax
comp=Z,8.0nm,0.5s
SMF Signal de Mont 19.92 310 *e*P Pn 04 27 03.5 -3.8
comp=Z,8.0nm,0.5s
ISAL Salakas 19.98 0 *e*P Pn 04 27 03.7 -4.3
ISAL AMb AMB 04 27 05.2
comp=Z,2μm,0.4s
ISAL Salakas 19.98 0 *e*P Pn 04 27 03.7 -4.3
comp=Z,2μm,0.4s,SNR=28
EMIR Miracle 20.04 296 P P 04 27 06.3 +0.1
comp=Z,13nm,0.5s
EMIR Miracle 20.04 296 P P 04 27 06.3 +0.1
comp=Z,13nm,0.5s
PYM Petit Puy Mans 20.08 307 *e*P P 04 27 07.4 +0.7
MEZF Maizieres J'vi 20.10 316 *e*P P 04 27 07.7 +0.8
comp=Z,18nm,0.4s
MEZF Maizieres J'vi 20.10 316 *e*P P 04 27 07.7 +0.8
comp=Z,9.0nm,0.4s
AGO Saint Agoulin 20.12 308 *e*P P 04 27 07.5 +0.4
IZAR Zarasai 20.16 0 *e*P P 04 27 05.8 -1.8
IZAR AMb AMB 04 27 07.3
comp=Z,3μm,0.5s
IZAR Zarasai 20.16 0 *e*P P 04 27 05.8 -1.7
comp=Z,3μm,0.5s,SNR=28
WLF Walferdange 20.16 320 P P 04 27 07.4 -0.2
LOR Lormes 20.19 312 ⇑*i*P P 04 27 08.0 +0.2
comp=Z,22nm,0.4s
LOR *e*R
comp=Z,76nm,22.0s
LOR Lormes 20.19 312 ⇑*i*P P 04 27 08.0 +0.2
LOR pmax pmax
comp=Z,11nm,0.4s
LOR MLR MLR
comp=Z,80nm,22.0s
LOR Lormes 20.19 312 ⇑*i*P P 04 27 08.0 +0.2
comp=Z,11nm,0.4s
LOR LR LR
comp=Z,80nm,22.0s
FRNF Fournols 20.24 306 *e*P P 04 27 08.4 0.0
EPOB Poblet 20.28 294 P P 04 27 09.2 +0.4
comp=Z,24nm,0.7s
EPOB Poblet 20.28 294 P P 04 27 09.2 +0.4
comp=Z,24nm,0.7s
AVF Avril sur Loir 20.29 310 *e*P P 04 27 08.5 -0.4
comp=Z,8.7nm,0.4s
AVF Avril sur Loir 20.29 310 *e*P P 04 27 08.5 -0.4
comp=Z,4.3nm,0.4s
SSF Saint Saulge 20.31 311 ⇑*i*P P 04 27 09.4 +0.3
comp=Z,53nm,0.6s
SSF Saint Saulge 20.31 311 ⇑*i*P P 04 27 09.4 +0.3
SSF pmax pmax
comp=Z,27nm,0.6s
SSF Saint Saulge 20.31 311 ⇑*i*P P 04 27 09.4 +0.3
comp=Z,26nm,0.6s
CAF Calviac 20.42 304 *e*P P 04 27 10.8 +0.5
comp=Z,8.0nm,0.5s
CAF Calviac 20.42 304 *e*P P 04 27 10.8 +0.5
CAF pmax pmax
comp=Z,4.0nm,0.5s
CAF Calviac 20.42 304 *e*P P 04 27 10.8 +0.5
comp=Z,4.0nm,0.5s
BGF Bois d'Agland 20.50 309 ⇑*i*P P 04 27 11.6 +0.3
comp=Z,18nm,0.4s
BGF Bois d'Agland 20.50 309 ⇑*i*P P 04 27 11.6 +0.3
comp=Z,9.0nm,0.4s
ERTA Horta de San J 20.78 293 P P 04 27 15.0 +0.7
comp=Z,13nm,0.6s
ERTA Horta de San J 20.78 293 P P 04 27 15.0 +0.7
comp=Z,13nm,0.6s
TCF Toulx Ste Croi 20.80 308 *e*P P 04 27 13.1 -1.4
comp=Z,8.3nm,0.7s
TCF Toulx Ste Croi 20.80 308 *e*P P 04 27 13.1 -1.4
TCF pmax pmax
comp=Z,4.0nm,0.7s
TCF Toulx Ste Croi 20.80 308 *e*P P 04 27 13.1 -1.4
comp=Z,4.2nm,0.7s
MEM Membach 20.82 322 P P 04 27 15.5 +0.9
OBN Obninsk 20.85 17 ⇑*e*P P 04 27 13.2 -1.8
OBN *e*PP 04 27 46.8
OBN *e*S S 04 30 59.7 -3.3
OBN pmax pmax
comp=Z,21nm,0.8s
OBN Obninsk 20.85 17 *e*P P 04 27 16.3 +1.3
comp=Z,33nm,0.6s
OBN Obninsk 20.85 17 *e*P P 04 27 16.3 +1.3
comp=Z,33nm,0.6s
RJF Les Rejaudoux 20.91 305 ⇑*i*P P 04 27 16.5 +0.9
comp=Z,41nm,0.6s
RJF *e*R
comp=Z,60nm,22.8s
RJF Les Rejaudoux 20.91 305 ⇑*i*P P 04 27 16.5 +0.9
RJF pmax pmax
comp=Z,21nm,0.6s
RJF MLR MLR
comp=Z,60nm,22.8s
RJF Les Rejaudoux 20.91 305 ⇑*i*P P 04 27 16.5 +0.9
comp=Z,21nm,0.6s
RJF LR LR
comp=Z,60nm,22.8s
HGN Heimansgroeve 20.95 323 ⇑*e*P P 04 27 18.7 +2.6
comp=Z,20nm,0.7s
BSD Bornholm Skovb 20.96 342 *i*P P 04 27 13.5 -2.6
comp=Z,5.6nm,0.3s
BSD Bornholm Skovb 20.96 342 *i*P P 04 27 13.5 -2.6
BSD pmax pmax
comp=Z,6.0nm,0.3s
EGRA Graus 20.97 296 P P 04 27 16.1 -0.2
comp=Z,31nm,2.1s
EBEN Beniarda 21.08 286 P P 04 27 19.0 +1.6
comp=Z,33nm,0.6s,mb4.8
EBEN Beniarda 21.08 286 P P 04 27 19.0 +1.6
comp=Z,33nm,0.6s,mb4.8
EPF Esparros 21.11 298 *e*P P 04 27 16.7 -1.1
comp=Z,8.1nm,0.7s,mb3.9
EPF Esparros 21.11 298 *e*P P 04 27 16.7 -1.1
EPF pmax pmax
comp=Z,4.0nm,0.7s,mb3.9
EPF Esparros 21.11 298 *e*P P 04 27 16.7 -1.1
comp=Z,4.1nm,0.7s,mb3.9
EBIE Bielsa 21.19 297 P P 04 27 18.5 -0.1
comp=Z,5.3nm,0.5s,mb4.1
EBIE Bielsa 21.19 297 P P 04 27 18.5 -0.1
comp=Z,5.3nm,0.5s,mb4.1
DOU Dourbes 21.23 320 P P 04 27 19.1 0.0
DOU Dourbes 21.23 320 P P 04 27 19.0 -0.1
LFF La Frestale 21.32 304 *e*P P 04 27 20.0 0.0
WTSB Winterswijk 21.32 326 *e*P P 04 27 19.3 -0.8
comp=Z,22nm,1.0s,mb4.4
BSEG Bad Segeberg 21.35 334 *e*P P 04 27 18.4 -2.0
comp=Z,12nm,0.7s,mb4.3
BAIF Baives 21.42 319 *e*P P 04 27 20.7 -0.4
comp=Z,17nm,0.6s,mb4.3
BAIF Baives 21.42 319 *e*P P 04 27 20.7 -0.4
BAIF pmax pmax
comp=Z,8.0nm,0.6s,mb4.2
BAIF Baives 21.42 319 *e*P P 04 27 20.7 -0.4
comp=Z,8.3nm,0.6s,mb4.3
ECHE Chera 21.67 289 P P 04 27 25.1 +1.3
ECHE pmax pmax
comp=Z,13nm,0.9s,mb4.3
ECHE Chera 21.67 289 P P 04 27 25.1 +1.3
comp=Z,13nm,0.9s,mb4.3

MOS **Moscow** 21.68 18 *e*P P 04 27 20.0 -3.8
ETSF **Etsaut** 21.73 298 *e*P P 04 27 24.6 +0.2
comp=Z,6.8nm,0.5s,mb4.0
ETSF **Etsaut** 21.73 298 *e*P P 04 27 24.6 +0.2
ETSF pmax pmax
comp=Z,3.0nm,0.5s,mb3.9
ETSF **Etsaut** 21.73 298 *e*P P 04 27 24.6 +0.2
comp=Z,3.4nm,0.5s,mb4.0
EMUR **La Murta** 21.89 284 P P 04 27 26.8 +0.7
comp=Z,90nm,3.7s
EMUR **La Murta** 21.89 284 P P 04 27 26.8 +0.7
comp=Z,90nm,3.7s
ETOB **Tobarra** 22.11 286 P P 04 27 28.5 0.0
comp=Z,4.3nm,0.6s,mb4.0
ETOB **Tobarra** 22.11 286 P P 04 27 28.5 +0.1
comp=Z,4.3nm,0.6s,mb4.0
SJPF **Ste Jean** 22.25 298 *e*P P 04 27 31.4 +1.4
comp=Z,30nm,0.8s,mb4.4
SJPF **Ste Jean** 22.25 298 *e*P P 04 27 31.4 +1.4
SJPF pmax pmax
comp=Z,15nm,0.8s,mb4.4
SJPF **Ste Jean** 22.25 298 *e*P P 04 27 31.4 +1.4
comp=Z,15nm,0.8s,mb4.4
MFF **Saint Martin d** 22.43 307 *e*P P 04 27 31.3 -0.5
comp=Z,14nm,0.6s,mb4.2
MFF **Saint Martin d** 22.43 307 *e*P P 04 27 31.3 -0.5
MFF pmax pmax
comp=Z,7.0nm,0.6s,mb4.2
MFF **Saint Martin d** 22.43 307 *e*P P 04 27 31.3 -0.5
comp=Z,7.1nm,0.6s,mb4.2
ELIZ **Elizondo** 22.48 298 P P 04 27 31.8 -0.6
ELIZ pmax pmax
comp=Z,144nm,6.5s
ELIZ **Elizondo** 22.48 298 P P 04 27 31.8 -0.6
comp=Z,144nm,6.5s
ELIZ **Elizondo** 22.48 298 P P 04 27 31.8 -0.6
comp=Z,144nm,6.5s
ENIJ **Nijar** 22.72 282 P P 04 27 35.5 +0.7
ENIJ pmax pmax
comp=Z,16nm,0.6s,mb4.5
ENIJ **Nijar** 22.72 282 P P 04 27 35.5 +0.7
comp=Z,16nm,0.6s,mb4.5
ENIJ **Nijar** 22.72 282 P P 04 27 35.5 +0.7
comp=Z,16nm,0.6s,mb4.5
EVIA **Vianos** 22.86 286 P P 04 27 38.3 +2.0
EVIA pmax pmax
comp=Z,18nm,0.7s,mb4.5
EVIA **Vianos** 22.86 286 P P 04 27 38.3 +2.0
comp=Z,18nm,0.7s,mb4.5
VSU **Vasula** 22.89 1 *i* P P 04 27 35.1 -1.5
LDF **La Druitiere** 23.17 312⇑ *i*P P 04 27 38.4 -0.9
comp=Z,14nm,0.4s,mb4.3
LDF **La Druitiere** 23.17 312⇑ *i*P P 04 27 38.4 -0.9
LDF pmax pmax
comp=Z,7.0nm,0.4s,mb4.3
LDF **La Druitiere** 23.17 312⇑ *i*P P 04 27 38.4 -0.9
comp=Z,6.9nm,0.4s,mb4.3
EQES **Quesada** 23.34 284 P P 04 27 42.5 +1.6
comp=Z,16nm,0.6s,mb4.5
EQES **Quesada** 23.34 284 P P 04 27 42.5 +1.7
comp=Z,16nm,0.6s,mb4.5
FLN **La Foliniere** 23.46 312⇑ *i*P P 04 27 41.1 -0.8
comp=Z,20nm,0.5s,mb4.4
FLN *e*R
comp=Z,69nm,22.8s
FLN **La Foliniere** 23.46 312⇑ *i*P P 04 27 41.1 -0.8
FLN pmax pmax
comp=Z,10.0nm,0.5s,mb4.4
FLN MLR MLR
comp=Z,70nm,22.8s
FLN **La Foliniere** 23.46 312⇑ *i*P P 04 27 41.1 -0.8
comp=Z,10.0nm,0.5s,mb4.4
FLN LR LR
comp=Z,70nm,22.8s
GRR **Gorron** 23.54 311 *e*P P 04 27 41.5 -1.2
comp=Z,26nm,0.4s,mb4.7
GRR **Gorron** 23.54 311 *e*P P 04 27 41.5 -1.2
GRR pmax pmax
comp=Z,13nm,0.4s,mb4.6
GRR **Gorron** 23.54 311 *e*P P 04 27 41.5 -1.2
comp=Z,13nm,0.4s,mb4.7
ELAN **Lanestosa** 23.87 298 P P 04 27 47.7 +2.0
comp=Z,28nm,1.0s,mb4.5
ELAN **Lanestosa** 23.87 298 P P 04 27 47.7 +2.0
comp=Z,28nm,1.0s,mb4.5
EBAN **Banos Encina** 23.88 285 P P 04 27 47.4 +1.6
EBAN pmax pmax
comp=Z,8.0nm,0.5s,mb4.3
EBAN **Banos Encina** 23.88 285 P P 04 27 47.4 +1.6
comp=Z,8.4nm,0.5s,mb4.3
EBAN **Banos Encina** 23.88 285 P P 04 27 47.4 +1.6
comp=Z,8.4nm,0.5s,mb4.3
ERON **Agron** 23.99 282 P P 04 27 49.6 +2.9
comp=Z,7.0nm,0.6s,mb4.2
ESDC **Sonseca Array** 23.99 289 P P 04 27 47.1 +0.3
comp=Z,5.0nm,0.6s,mb4.0,baz=81,slow=10,SNR=44
ESDC **Sonseca Array** 23.99 289 P P 04 27 47.6 +0.8
comp=Z,4.0nm,0.5s,mb4.0
ESDC **Sonseca Array** 23.99 289 P P 04 27 47.6 +0.9
comp=Z,4.0nm,0.5s,mb4.0
ESLA **Sonseca Array** 23.99 289 *e*P P 04 27 47.6 +0.9
comp=Z,0.9nm,0.5s
ESLA **Sonseca Array** 23.99 289 *e*P P 04 27 47.7 +1.0
comp=Z,0.9nm,0.5s
ELUQ **Luque** 24.30 284 P P 04 27 50.2 +0.6
ELUQ pmax pmax
comp=Z,10.0nm,0.8s,mb4.2
ELUQ **Luque** 24.30 284 P P 04 27 50.2 +0.5
comp=Z,9.7nm,0.8s,mb4.2
ELUQ **Luque** 24.30 284 P P 04 27 50.2 +0.6
comp=Z,9.7nm,0.8s,mb4.2
EADA **Adamuz** 24.51 285 P P 04 27 53.0 +1.5
comp=Z,5.8nm,0.7s,mb4.1
EADA **Adamuz** 24.51 285 P P 04 27 53.0 +1.5
comp=Z,5.8nm,0.7s,mb4.1
SGMF **Saint Gilles** 24.54 310 *e*P P 04 27 51.4 -0.4
comp=Z,11nm,0.5s,mb4.2
SGMF **Saint Gilles** 24.54 310 *e*P P 04 27 51.4 -0.4
SGMF pmax pmax
comp=Z,6.0nm,0.5s,mb4.3
SGMF **Saint Gilles** 24.54 310 *e*P P 04 27 51.4 -0.4
comp=Z,5.6nm,0.5s,mb4.2
EMIJ **Mijas** 24.81 281 P P 04 27 55.4 +1.2
comp=Z,41nm,0.5s,mb5.1
EMIJ **Mijas** 24.81 281 P P 04 27 55.4 +1.2
comp=Z,41nm,0.5s,mb5.1
QUIF **Quistinic** 24.81 309 *e*P P 04 27 54.2 -0.1
comp=Z,23nm,0.6s,mb4.5
QUIF **Quistinic** 24.81 309 *e*P P 04 27 54.2 -0.1
QUIF pmax pmax
comp=Z,11nm,0.6s,mb4.5
QUIF **Quistinic** 24.81 309 *e*P P 04 27 54.2 -0.1
comp=Z,11nm,0.6s,mb4.5
ROSF **Rostrenen** 25.02 310 *e*P P 04 27 55.6 -0.5
comp=Z,13nm,0.7s,mb4.2
ROSF **Rostrenen** 25.02 310 *e*P P 04 27 55.6 -0.5
ROSF pmax pmax
comp=Z,6.0nm,0.6s,mb4.2
ROSF **Rostrenen** 25.02 310 *e*P P 04 27 55.6 -0.5
comp=Z,6.4nm,0.7s,mb4.2
EARI **Arriondas** 25.16 297 P P 04 27 59.1 +1.7
comp=Z,10.0nm,0.7s,mb4.3
EARI **Arriondas** 25.16 297 P P 04 27 59.1 +1.7
comp=Z,10.0nm,0.7s,mb4.3
EJIF **Jimena Fronter** 25.38 281 P P 04 28 01.9 +2.5
EJIF pmax pmax
comp=Z,15nm,0.7s,mb4.5
EJIF **Jimena Fronter** 25.38 281 P P 04 28 01.9 +2.5
comp=Z,14nm,0.7s,mb4.5
EJIF **Jimena Fronter** 25.38 281 P P 04 28 01.9 +2.5
comp=Z,14nm,0.7s,mb4.5
MDT **Midelt** 25.39 273 P P 04 27 59.3 -0.2
comp=Z,14nm,0.8s,mb4.4,baz=82,slow=11,SNR=26
MDT LR LR 04 38 08.4
comp=Z,61nm,21.0s,baz=123,slow=37
HFS **Hagfors** 25.81 346 P P 04 28 00.9 -2.4
comp=Z,4.9nm,0.3s,mb4.4,baz=155,slow=11,SNR=36
HFS LR LR 04 37 47.9
comp=Z,32nm,20.5s,baz=163,slow=36
HFS **Hagfors** 25.81 346 P P 04 28 00.9 -2.4
HFS LR LR 04 37 47.9
HFA0 **Hagfors New Ar** 25.82 346 P P 04 28 01.2 -2.2
FINES **FINESS Array B** 25.87 0 P P 04 28 01.4 -2.5
comp=Z,5.6nm,0.4s,mb4.3,baz=166,slow=9.5,SNR=27
FINES ScP ScP 04 35 01.6 -1.6
comp=Z,2.2nm,0.6s,baz=132,slow=2.8,SNR=7.1
FINES **FINESS Array B** 25.87 0 *i* P P 04 28 01.6 -2.2
FINES pmax pmax
comp=Z,6.0nm,0.4s
ORR **Orenburg** 26.06 43 *e*P P 04 28 05.5 -0.1
ORR pmax pmax
comp=Z,30nm,0.4s,mb5.1
ORR **Orenburg** 26.06 43 *e*P P 04 28 05.5 -0.1
comp=Z,30nm,0.4s,mb5.1
PBRG **Braganca** 26.16 294 *e*P P 04 28 07.3 +0.9
comp=Z,15nm,1.1s,mb4.3
ECAL **Calabor** 26.16 294 P P 04 28 08.9 +2.4
comp=Z,11nm,0.5s,mb4.5
ECAL **Calabor** 26.16 294 P P 04 28 08.9 +2.4
comp=Z,11nm,0.5s,mb4.5
EMIN **Mina Concepcio** 26.19 284 P P 04 28 07.9 +1.1
comp=Z,15nm,0.5s,mb4.7
EMIN **Mina Concepcio** 26.19 284 P P 04 28 07.9 +1.2
comp=Z,15nm,0.5s,mb4.7
EBAD **Badajoz** 26.38 287 P P 04 28 09.2 +0.8
comp=Z,12nm,0.5s,mb4.6
EBAD **Badajoz** 26.38 287 P P 04 28 09.2 +0.8
comp=Z,12nm,0.5s,mb4.6
KAF **Kangasniemi** 26.54 0 *e*p P 04 28 07.5 -2.4
comp=Z,9.1nm,0.6s,mb4.5,baz=178,slow=9.1
KAF **Kangasniemi** 26.54 0 *e*P P 04 28 07.5 -2.4
KAF pmax pmax
comp=Z,9.0nm,0.6s,mb4.5
PCBR **Castelo Branco** 26.69 289 *e*P P 04 28 12.0 +0.7
comp=Z,11nm,2.2s,mb4.0
PCBR **Castelo Branco** 26.69 289 *e*P P 04 28 12.3 +1.0
KLMR **Klimovskoe** 26.73 15 *e*P P 04 28 10.2 -1.4
KLMR pmax pmax
comp=Z,30nm,2.6s,mb4.4
KLMR **Klimovskoe** 26.73 15 *e*P P 04 28 10.2 -1.4
comp=Z,30nm,2.6s,mb4.4
MTE **Manteigas** 26.73 290 *e*P P 04 28 12.2 +0.6
comp=Z,14nm,1.2s,mb4.4
EGRO **El Granado** 26.85 284 P P 04 28 13.6 +0.9
comp=Z,12nm,0.5s,mb4.7
EGRO **El Granado** 26.85 284 P P 04 28 13.6 +0.9
comp=Z,12nm,0.5s,mb4.7
PVRL **Vila Real** 26.87 292 *e*P P 04 28 13.7 +0.9
PVIS **Viseu** 27.00 291 *e*P P 04 28 15.3 +1.3
comp=Z,17nm,1.2s,mb4.5
PVIS **Viseu** 27.00 291 *e*P P 04 28 15.2 +1.2
NAO01 **NORSAR Array S** 27.05 344 *e*P P 04 28 11.5 -2.9
comp=Z,2.8nm,0.4s,mb4.2
PBEJ **Beja** 27.11 285 *e*P P 04 28 16.2 +1.2
comp=Z,8.9nm,1.0s,mb4.2
PBEJ **Beja** 27.11 285 *e*P P 04 28 16.3 +1.3
PCAB **Cabril** 27.11 293 *e*P P 04 28 16.2 +1.2
comp=Z,13nm,0.8s,mb4.5
PCAB **Cabril** 27.11 293 *e*P P 04 28 16.1 +1.1
NB2 **NORSAR Subarra** 27.15 344 P P 04 28 13.0 -2.4
comp=Z,1.7nm,0.5s,mb3.8,baz=158,slow=10
NOA **NORSAR Array B** 27.15 344 P P 04 28 11.8 -3.5
comp=Z,1.6nm,0.6s,mb3.8,baz=157,slow=10,SNR=8.1
NOA ScP ScP 04 35 05.8 -1.1
comp=Z,1.2nm,0.6s,baz=137,slow=3.4,SNR=3.6
PTOM **Tomar** 27.42 289 *e*P P 04 28 18.8 +1.0
comp=Z,20nm,1.6s,mb4.4
PTOM **Tomar** 27.42 289 *e*P P 04 28 18.7 +0.9
MOE **Montemor** 27.44 286 *e*P P 04 28 20.4 +2.4
AKTK **Aktyubinsk** 27.48 47 P P 04 28 17.4 -0.9
AKTK **Aktyubinsk** 27.48 47 *i* P P 04 28 18.0 -0.3
comp=Z,2.0nm,0.7s,mb3.8
AKTO **Aktyubinsk** 27.48 47 P P 04 28 17.4 -0.9
comp=Z,5.9nm,0.3s,mb4.6,baz=254,slow=8.7,SNR=35
AKTO **Aktyubinsk** 27.48 47 *i* P P 04 28 18.0 -0.3
AKTO pmax pmax
comp=Z,2.0nm,0.7s,mb3.8
JOF **Joensuu** 27.55 5 *e*p P 04 28 17.3 -1.7
PTEO **Sao Teotonio** 27.83 284 *e*P P 04 28 22.9 +1.5
comp=Z,15nm,1.1s,mb4.4
EKA **Eskdalemuir Ar** 28.07 324 P P 04 28 22.7 -0.9
comp=Z,7.6nm,0.5s,mb4.5,baz=132,slow=11,SNR=42
EKA PcP PcP 04 31 37.5 +1.3
comp=Z,1.1nm,0.5s,baz=124,slow=2.5,SNR=4.7
EKA ScP ScP 04 35 09.4 -0.3
comp=Z,1.0nm,0.9s,baz=115,slow=5.1,SNR=3.5
EKA **Eskdalemuir Ar** 28.07 324 P P 04 28 22.7 -0.9
EKA 04 31 37.5
ARU **Arti** 30.32 36⇓ *i*P P 04 28 42.8 -0.7
ARU *e* 04 29 43.4
ARU *e*S S 04 33 39.2 +1.5
ARU *e*SS SS 04 35 19.5 -30
ARU pmax pmax
comp=Z,9.0nm,1.2s,mb4.3
ARU **Arti** 30.32 36 *e*P P 04 28 42.9 -0.6
comp=Z,11nm,0.4s,mb4.8
ARU **Arti** 30.32 36 *e*P P 04 28 42.9 -0.6
comp=Z,11nm,0.4s,mb4.8
TORD **Torodi Ar. Bea** 31.27 230 P P 04 28 54.4 +2.5
comp=Z,6.5nm,0.7s,mb4.5,baz=32,slow=8.9,SNR=111
ARCES **ARCESS Array B** 34.00 360 P P 04 29 13.3 -2.4
comp=Z,3.5nm,0.4s,mb4.5,baz=183,slow=8.1,SNR=52
ARCES PP PP 04 30 28.6 -5.5
comp=Z,3.4nm,0.6s,baz=187,slow=9.4,SNR=4.0
ARCES ScP ScP 04 35 27.5 -1.9
comp=Z,2.3nm,0.7s,baz=177,slow=1.5,SNR=3.7
ARCES LR LR 04 44 04.3
comp=Z,4.0nm,20.9s,baz=327,slow=38
ARCES **ARCESS Array B** 34.00 360 P P 04 29 13.3 -2.4
ARCES 04 30 28.6
ARCES **ARCESS Array B** 34.00 360 P P 04 29 13.3 -2.4
ARCES PP PP 04 30 28.6 -5.5
ARCES ScP ScP 04 35 27.5 -1.9
ARCES LR LR 04 44 04.3
KEV **Kevo** 34.22 1 *e*p P 04 29 15.8 -1.8
comp=Z,0.8nm,0.3s,mb4.0
KEV **Kevo** 34.22 1 *e*P P 04 29 15.8 -1.8
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.1
ZRNK **Zerenda** 34.74 46 *i* P P 04 29 22.8 +0.7
ZRNK pmax pmax
comp=Z,32nm,0.6s,mb5.3
ZRNK **Zerenda** 34.74 46⇑ *i*P P 04 29 22.7 +0.5
comp=Z,40nm,0.6s,mb5.4
ZRNK pP pP 04 29 41.0 -0.3
ZRNK **Zerenda** 34.74 46⇑ *i*P P 04 29 22.7 +0.6
comp=Z,40nm,0.6s,mb5.4
KK31 **Karatay Array** 34.93 64 *i* P P 04 29 25.0 +1.3
KK31 pmax pmax
comp=Z,5.0nm,0.3s,mb4.8
KK31 **Karatay Array** 34.93 64 *i* P P 04 29 25.0 +1.3
comp=Z,5.0nm,0.3s,mb4.8
BRVK **Borovoye** 35.52 47⇑ *e*P P 04 29 28.9 +0.1
BRVK pmax pmax
comp=Z,11nm,0.8s,mb4.8
BRVK **Borovoye** 35.52 47⇑ *e*P P 04 29 28.9 +0.1
comp=Z,11nm,0.8s,mb4.8
BRVK **Borovoye** 35.52 47⇑ *e*P P 04 29 28.9 +0.1
comp=Z,11nm,0.8s,mb4.8
AAK **Ala-Archa** 37.88 64 *c i*P P 04 29 50.1 +1.2
AAK pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
AAK **Ala-Archa** 37.88 64⇑ *i*P P 04 29 50.0 +1.1
comp=Z,13nm,0.6s,mb4.9
AAK **Ala-Archa** 37.88 64⇑ *i*P P 04 29 50.0 +1.1
comp=Z,13nm,0.6s,mb4.9
FRU **Bishkek** 37.95 64 *e*P P 04 29 52.0 +2.5
FRU pmax pmax
comp=Z,40nm,1.2s,mb5.1
FRU **Bishkek** 37.95 64 *e*P P 04 29 52.0 +2.5
comp=Z,40nm,1.2s,mb5.1
TKM2 **Tokmak 2** 38.66 64 *i* P P 04 29 57.2 +1.8
TKM2 pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
TKM2 **Tokmak 2** 38.66 64 *i* P P 04 29 57.2 +1.8
comp=Z,7.0nm,0.6s,mb4.7
KURK **Kurchatov** 40.40 51⇑ *i*P P 04 30 10.3 +0.4
KURK *PP pP 04 30 28.3 -1.1
KURK *e* 04 31 46.2
KURK pmax pmax
comp=Z,38nm,0.8s,mb5.3
KURK **Kurchatov** 40.40 51⇑ *i*P P 04 30 10.3 +0.5
comp=Z,38nm,0.8s,mb5.3
KURK *e*pP pP 04 30 27.9 -1.5
KURK pP pP 04 30 28.3 -1.1
KURK *e*PP PP 04 31 46.2 +1.9
KURK **Kurchatov** 40.40 51⇑ *i*P P 04 30 10.3 +0.4
comp=Z,38nm,0.8s,mb5.3
KURK *e*pP pP 04 30 27.9 -1.5
MKAR **Makanchi Array** 42.99 57 P P 04 30 32.2 +1.2
comp=Z,22nm,0.3s,mb5.3,baz=274,slow=7.5,SNR=263
MKAR ScP ScP 04 36 03.8 +0.1
comp=Z,0.6nm,0.7s,baz=261,slow=5.7,SNR=4.8
MKAR S S 04 36 48.2 -2.2
comp=Z,0.1nm,0.3s,baz=259,slow=17,SNR=3.6
MKAR **Makanchi Array** 42.99 57 P P 04 30 32.2 +1.2
MKAR ScP ScP 04 36 03.8 +0.1
MKAR S S 04 36 48.2 -2.2
NVS **Novosibirsk** 43.32 45 *i* P P 04 30 33.4 -0.3
NVS *i* *PP pP 04 30 51.5 -1.9
NVS *i* S S 04 36 54.3 -0.9
NVS pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
NVS pmax pmax
comp=N,9.0nm,0.5s
NVS pmax pmax
comp=E,3.0nm,1.0s
ZAL **Zalesovo** 44.22 47 P P 04 30 40.2 -0.7
comp=E,9.6nm,0.5s,mb4.8,baz=206,slow=7.9,SNR=23
ZAL **Zalesovo** 44.22 47 P P 04 30 40.2 -0.7
SUMG **Summit** 48.81 339 *e*P P 04 31 16.1 -0.7
comp=E,5.6nm,0.8s,mb4.5
KOLN **Koldanda** 49.08 82 *e*P P 04 31 20.5 +1.7
comp=E,5.9nm,0.4s,mb4.8
GKN **Gorkha** 49.82 81 *e*P P 04 31 26.1 +1.7
comp=E,20nm,0.4s,mb5.4
DMN **Daman** 50.36 82 *e*P P 04 31 30.3 +1.8
comp=E,22nm,0.6s,mb5.3
KKN **Kakani** 50.42 81 *e*P P 04 31 30.5 +1.5
PKI **Pulchoki** 50.62 82 *e*P P 04 31 31.3 +0.8
comp=E,22nm,0.8s,mb5.2
PKI **Pulchoki** 50.62 82 *e*P P 04 31 31.3 +0.8
PKI pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
GUN **Gumba** 50.86 81 *e*P P 04 31 34.1 +1.9
comp=Z,12nm,0.5s,mb5.2
JIRN **Jiri** 51.21 81 *e*P P 04 31 36.7 +1.8
comp=Z,9.7nm,0.4s,mb5.2
SFJD **Kangerlussuaq** 52.62 331 P P 04 31 42.7 -2.6
comp=Z,5.3nm,0.6s,mb4.8,baz=51,slow=2.2,SNR=4.0
SFJD S S 04 39 00.6 -5.8
comp=Z,2.7nm,0.4s,baz=199,slow=10,SNR=5.8
MOY **Mondy** 54.24 48 *e*P P 04 31 58.7 +1.5
ZAK **Zakamensk** 55.97 49 *e*P P 04 32 10.6 +0.9
ZAK pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
GTA **Gaotai** 57.19 62⇑ *i*P P 04 32 19.9 +1.6
GTA AP pP 04 32 38.4 -0.5
GTA XP sP 04 32 49.1 +1.1
GTA AMB AMB
comp=Z,19nm,0.7s,mb5.2
SONM **Songino Array** 58.71 51 P P 04 32 29.9 +0.9
comp=Z,6.2nm,0.7s,mb4.8,baz=289,slow=7.5,SNR=35
ULN **Ulaanbaatar** 59.12 51 *e*P P 04 32 32.6 +0.8
ULN *e*PP pP 04 32 51.0 -1.5
ULN pmax pmax
comp=Z,11nm,0.9s,mb4.9
ULN **Ulaanbaatar** 59.12 51 *e*P P 04 32 32.6 +0.8
comp=Z,11nm,0.9s,mb4.9
ULN *e*pP pP 04 32 51.0 -1.5
BOD **Bodaibo** 59.71 38 *e*P P 04 32 34.3 -1.6
BOD pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
TIXI **Tiksi** 60.53 21⇑ *e*P P 04 32 40.4 -1.1
TIXI pmax pmax
comp=Z,12nm,0.9s,mb4.9
LZH **Lanzhou** 61.42 64 *e*P P 04 32 49.5 +2.0
LZH AP pP 04 33 09.5 +1.2
LZH XP sP 04 33 17.1 -0.3
LZH PCP PcP 04 33 32.8 +3.9
LZH *e*S S 04 41 01.8 -0.4
LZH SS SS 04 45 03.0 -1.1
LZH AMB AMB
comp=Z,23nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,80nm,5.0s
SCHQ **Schefferville** 63.28 320 P P 04 32 59.9 0.0
comp=Z,12nm,0.4s,mb5.1,baz=61,slow=5.2,SNR=81
SCHQ **Schefferville** 63.28 320 P P 04 32 59.9 0.0
CD2 **Chengdu** 63.63 70 *e*P P 04 33 01.5 -0.7
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
HHC **Hu-ho-hao-te** 64.86 57 *e*P P 04 33 11.3 +1.1
HHC AP pP 04 33 30.6 -0.6
HHC XP sP 04 33 39.0 -1.2
HHC PCP PcP 04 33 43.6 +0.7
HHC PP PP 04 35 36.1 +2.4
HHC SCP 04 37 37.6
HHC PCS 04 37 46.4
HHC S S 04 41 44.8 -0.2
HHC PS 04 42 15.0
HHC XS sS 04 42 19.8 -1.0
HHC SCS ScS 04 42 54.8 -2.7
HHC SS SS 04 46 00.1 +2.4
HHC AMB AMB
comp=Z,25nm,1.2s,mb4.9
HHC AMB AMB
comp=Z,98nm,4.9s
HHC LR LR
comp=N,298nm,22.4s
HHC LR LR
comp=E,664nm,22.4s
HHC LR LR
comp=Z,223nm,20.4s
KMI **Kunming** 65.57 76 P P 04 33 18.4 +3.6
KMI AMB AMB
comp=Z,6.0nm,1.0s,mb4.4
BJI **Beijing** 68.35 56 *e*P P 04 33 33.5 +1.0
BJI AMB AMB
comp=Z,13nm,0.7s,mb4.9
SNY **Shenyang** 72.29 51 ⇓P P 04 33 56.1 -0.4
SNY AMB AMB
comp=Z,12nm,0.4s,mb5.1
CN2 **Changchun** 72.40 49 *e*P P 04 33 57.4 +0.2
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
BILL **Bilibino** 72.48 15⇓ *e*P P 04 33 56.6 -1.0
BILL *e*PP pP 04 34 26.2 +7.2
BILL *e* 04 36 37.8
BILL *e*S S 04 43 10.5 -4.8
BILL pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
FCC **Fort Churchill** 73.63 332 *e*P P 04 34 04.1 -0.3
FCC pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
FCC **Fort Churchill** 73.63 332 *e*P P 04 34 04.1 -0.3
comp=Z,2.9nm,0.8s,mb4.1
NJ2 **Nanjing** 74.28 62 *e*P P 04 34 11.0 +2.8
NJ2 AP pP 04 34 31.4 +1.8
NJ2 XP sP 04 34 40.9 +2.4
NJ2 PP PP 04 37 01.1 +6.2
NJ2 S S 04 43 38.0 +2.5
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
NJ2 AMB AMB
comp=Z,450nm,4.5s
NJ2 LR LR
comp=N,230nm,25.3s
NJ2 LR LR
comp=E,630nm,24.5s
NJ2 LR LR
comp=Z,450nm,26.8s
MDJ **Mudanjiang** 74.43 46 P P 04 34 09.3 +0.2
MDJ AP pP 04 34 28.0 -2.5
MDJ XP sP 04 34 36.0 -3.5
MDJ PP PP 04 36 55.3 -1.0
MDJ S S 04 43 37.8 +0.5
MDJ XS sS 04 44 10.3 -3.6
MDJ SCS ScS 04 44 13.3 +0.4
MDJ SS SS 04 48 25.3 +0.2
MDJ AMB AMB
comp=Z,6.0nm,0.7s,mb4.4
MDJ AMB AMB
comp=Z,73nm,5.7s
SSE **Sheshan** 76.47 61 P P 04 34 20.0 -0.7
SSE AMB AMB
comp=Z,36nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,257nm,6.1s
YKW3 **Yellowknife Ar** 77.18 342 *e*P P 04 34 23.2 -1.6
YKW3 *e*pP pP 04 34 47.4 +1.0
YKA **Yellowknife Ar** 77.24 342 P P 04 34 24.4 -0.6
comp=Z,4.5nm,0.6s,mb4.3,baz=29,slow=5.2,SNR=55
KS15 **Wonju Array Si** 77.48 53 *e*P P 04 34 27.1 +0.7
FFC **Flin Flon** 79.55 332 *e*P P 04 34 37.6 -0.2
FFC pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
FFC **Flin Flon** 79.55 332 *e*P P 04 34 37.6 -0.2

comp=Z,4.7nm,0.6s,mb4.5
ILAR Eielson Array 79.81 357 P **P** **04 34 38.2 -0.9**
comp=Z,1.5nm,0.6s,mb4.0,baz=346,slow=3.4,SNR=22
DAWY Dawson 80.00 354 *e*P **P** **04 34 40.0 -0.2**
ULM Lac du Bonnet 80.31 326 P **P** **04 34 41.7 -0.2**
comp=Z,7.3nm,0.5s,mb4.8,baz=43,slow=4.6,SNR=17
MENT Mentasta 81.46 355 *e*P **P** **04 34 48.9 +0.9**
PMR Palmer 83.08 358 *e*P **P** **04 34 55.5 -0.9**
PMR pmax pmax
comp=Z,19nm,1.2s,mb4.8
PMR Palmer 83.08 358 *e*P **P** **04 34 55.5 -0.9**
comp=Z,18nm,1.2s,mb4.8
SVW2 Sparrevohn 83.65 1 *e*P **P** **04 34 59.4 0.0**
DLBC Dease Lake 84.19 348 *e*P **P** **04 35 03.1 +1.0**
MJAR Matsushiro Arr 84.55 48 P **P** **04 35 04.6 +0.6**
comp=Z,6.3nm,0.8s,mb4.6,baz=312,slow=5.0,SNR=13
BDFB Brasilia 86.47 248 P **P** **04 35 16.1 +2.6**
comp=Z,1.8nm,0.8s,mb4.0,baz=119,slow=5.0,SNR=2.5
LAO LASA Array 87.50 329 *e*P **P** **04 35 19.1 +0.6**
comp=Z,15nm,0.9s,mb5.0
WALA Waterton Lakes 88.48 335 *e*P **P** **04 35 23.3 +0.1**
comp=Z,2.7nm,0.6s,mb4.5
RSSD Black Hills 88.58 326 *e*P **P** **04 35 24.5 +0.9**
RSSD pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
RSSD Black Hills 88.58 326 *e*P **P** **04 35 24.5 +0.9**
comp=Z,3.4nm,0.6s,mb4.5
CHMT Chamberlain Mo 90.07 333 *e*P **P** **04 35 30.4 -0.1**
PHWY Pilot Hill 91.45 326 *e*P **P** **04 35 38.1 +1.2**
PDAR Pinedale Array 92.07 329 *e*P **P** **04 35 39.6 -0.3**
comp=Z,0.8nm,0.7s,mb4.0,baz=48,slow=4.4,SNR=7.7
HWUT Hardware Ranch 93.87 329 *e*P **P** **04 35 48.6 +0.5**
comp=Z,1.6nm,0.6s,mb4.5
ASAR Alice Springs 117.49 100 PKP PKPdf 04 41 17.5 +1.4
comp=Z,0.3nm,0.5s,baz=303,slow=1.8,SNR=5.7

NEIC ***15*** *04:29:33.8±1.4, 3861S×17567E, h183km±12km, MG4.0(WEL), Error ellipse: s-maj=18.5km s-min=5.8km az=136.0*

WEL 15 04:29:37.7±0.5, 3859S×17581E, h145km±3km, ML3.9/15, **4C-1D, Error ellipse: s-maj=3.5km s-min=3.3km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVZ	**Karewarewa**	**0.52**	**194**	PN	Pn	04 29 58.8	+0.2
OTVZ	**Oturere**	**0.58**	**191**	PN	Pn	04 29 59.5	+0.5
NGZ	**Ngauruhoe**	**0.61**	**195**	PN	Pn	04 29 59.3	+0.2
NGZ	**Ngauruhoe**	**0.61**	**195**	P	Pn	04 29 59.3	+0.2
FWVZ	**Far West T-bar**	**0.69**	**197**	PN	Pn	04 29 59.8	+0.2
FWVZ	**Far West T-bar**	**0.69**	**197**	P	Pn	04 29 59.8	+0.2
TRVZ	**Turoa**	**0.74**	**196**	PN	Pn	04 30 00.2	+0.3
WNVZ	**Wahianoa**	**0.76**	**192**	⇑PN	Pn	04 30 00.3	+0.2
WNVZ	**Wahianoa**	**0.76**	**192**	P	Pn	04 30 00.3	+0.3
BKZ	**Black Stump Fm**	**0.79**	**137**	⇑PN	Pn	04 30 00.6	+0.3
BKZ				SN	Sn	04 30 17.5	+0.1
BKZ	**Black Stump Fm**	**0.79**	**137**	P	Pn	04 30 00.6	+0.4
BKZ				S	Sn	04 30 17.5	+0.1
PKVZ	**Pokaka**	**0.79**	**207**	PN	Pn	04 29 59.5	-0.7
MOVZ	**Moawhango**	**0.82**	**183**	⇑PN	Pn	04 30 00.3	-0.2
MOVZ				SN	Sn	04 30 16.8	-1.1
MOVZ	**Moawhango**	**0.82**	**183**	P	Pn	04 30 00.3	-0.2
MTVZ	**Mangateitei**	**0.84**	**198**	PN	Pn	04 30 00.6	0.0
URZ	**Urewera**	**1.07**	**73**	⇓PN	Pn	04 30 02.5	-0.2
URZ				SN	Sn	04 30 21.2	-0.5
URZ	**Urewera**	**1.07**	**73**	P	Pn	04 30 02.5	-0.1
WAZ	**Wanganui**	**1.33**	**209**	PN	Pn	04 30 04.3	-0.7
WAZ	**Wanganui**	**1.33**	**209**	*e*P	Pn	04 30 04.3	-0.8
MWZ	**Matawai**	**1.37**	**80**	PN	Pn	04 30 05.6	0.0
MWZ				SN	Sn	04 30 26.5	-0.3
MWZ	**Matawai**	**1.37**	**80**	P	Pn	04 30 05.8	+0.3
TSZ	**Takapari Road**	**1.47**	**175**	PN	Pn	04 30 06.1	-0.5
TSZ	**Takapari Road**	**1.47**	**175**	P	Pn	04 30 06.1	-0.5
KNZ	**Kokohu**	**1.52**	**107**	PN	Pn	04 30 07.4	+0.4
KNZ	**Kokohu**	**1.52**	**107**	*e*P	Pn	04 30 07.4	+0.3
MRZ	**Mangatainoka R**	**2.08**	**185**	⇑PN	Pn	04 30 11.7	-1.7
MRZ				SN	Sn	04 30 37.1	-3.8
MRZ	**Mangatainoka R**	**2.08**	**185**	P	Pn	04 30 11.7	-1.7
MRZ				S	Sn	04 30 38.4	-2.4
BFZ	**Birch Farm**	**2.12**	**171**	PN	Pn	04 30 12.5	-1.4
BFZ	**Birch Farm**	**2.12**	**171**	*e*P	Pn	04 30 12.5	-1.4
TIWZ	**Tintock**	**2.19**	**178**	PN	Pn	04 30 13.2	-1.5
TIWZ				SN	Sn	04 30 40.9	-2.3
MXZ	**Matakaoa Point**	**2.22**	**63**	PN	Pn	04 30 15.1	-0.1
MXZ	**Matakaoa Point**	**2.22**	**63**	*e*P	Pn	04 30 15.1	0.0
KIW	**Kapiti Island**	**2.37**	**197**	PN	Pn	04 30 14.7	-2.3
KIW	**Kapiti Island**	**2.37**	**197**	P	Pn	04 30 14.7	-2.3
MTW	**Mount Morrison**	**2.58**	**185**	PN	Pn	04 30 16.7	-2.8
MTW	**Mount Morrison**	**2.58**	**185**	P	Pn	04 30 16.7	-2.8
CAW	**Cannon Point**	**2.58**	**193**	PN	Pn	04 30 17.0	-2.5
CAW	**Cannon Point**	**2.58**	**193**	P	Pn	04 30 17.0	-2.5
DUWZ	**D'Urville Isla**	**2.65**	**213**	PN	Pn	04 30 17.5	-2.9
MRW	**Makara Radio**	**2.77**	**198**	PN	Pn	04 30 19.1	-2.9
MRW	**Makara Radio**	**2.77**	**198**	P	Pn	04 30 19.1	-2.8
PAWZ	**Paruwai Farm**	**2.81**	**186**	PN	Pn	04 30 19.5	-2.8
PAWZ	**Paruwai Farm**	**2.81**	**186**	P	Pn	04 30 19.5	-2.8
TRWZ	**Traveller**	**2.81**	**182**	PN	Pn	04 30 19.8	-2.6
MSWZ	**Moikau Station**	**2.85**	**188**	PN	Pn	04 30 20.0	-3.0
MSWZ	**Moikau Station**	**2.85**	**188**	P	Pn	04 30 20.0	-3.0
TCW	**Tory Channel**	**2.87**	**204**	PN	Pn	04 30 20.4	-2.8
TCW	**Tory Channel**	**2.87**	**204**	P	Pn	04 30 20.4	-2.8
TUWZ	**Tuamarina**	**3.18**	**206**	PN	Pn	04 30 23.6	-3.5
NNZ	**Nelson**	**3.22**	**215**	PN	Pn	04 30 24.1	-3.5
NNZ	**Nelson**	**3.22**	**215**	*e*P	Pn	04 30 24.1	-3.6
QRZ	**Quartz Range**	**3.38**	**228**	PN	Pn	04 30 25.3	-4.3
THZ	**Tophouse**	**3.87**	**214**	PN	Pn	04 30 32.2	-3.9
KHZ	**Kahutara**	**4.20**	**204**	PN	Pn	04 30 36.4	-3.9
LTZ	**Lake Taylor**	**4.98**	**212**	PN	Pn	04 30 46.1	-4.6

SOF ***15*** *04:35:54.2, 4005N×23.18E, h7km, MD2.6*
ATH ***15*** *04:35:54.8, 3996N×2375E, h16km±15km, MD3.0/4*
ISCJB ***15*** *04:35:55.2±0.5, 3998N±003×2361E±006, h14km±5km, Error ellipse: s-maj=7.5km s-min=4.1km az=20.5*
NEIC ***15*** *04:35:55.1, 3999N×2355E, h29km, MD3.0(ATH),After ATH.*
CSEM ***15*** *04:35:55.9±0.1, 4006N×2308E, h15km, MD3.0, Error ellipse: s-maj=6.1km s-min=1.9km az=96.0*

ISC 15 04:35:55.7±0.5, 3998N±003×2364E±006, h13km±5km, n16, σ0§56/22, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.07**	**151**	*e*Pg	**Pg**	**04 35 58.1**	**-0.1**
PAIG				*e*Sg	**Sg**	**04 35 59.6**	**-0.6**
PLG	**Polygyros**	**0.42**	**339**	⇑*i*PB	**Pg**	**04 36 04.1**	**+0.1**
PLG				*e*SB	**Sg**	**04 36 09.8**	**+0.2**
OUR	**Ouranopolis**	**0.44**	**37**	*e*Pg	**Pg**	**04 36 05.3**	**+1.0**
XOR	**Xorichti**	**0.71**	**209**	*e*Pg	**Pg**	**04 36 09.6**	**+0.1**
XOR				*e*Sg	**Sg**	**04 36 19.4**	**+0.7**
NEO	**Neokhori**	**0.75**	**205**	*e*PN	**Pg**	**04 36 10.2**	**0.0**
NEO				*e*SN	**Sg**	**04 36 19.9**	**-0.2**
AOS	**Alonnisos**	**0.83**	**167**	*e*Pg	**Pg**	**04 36 12.0**	**+0.2**
AOS				*e*Sg	**Sg**	**04 36 22.9**	**+0.1**
SOH	**Sokhos**	**0.86**	**346**	*e*Pg	**Pg**	**04 36 12.6**	**+0.2**
LIT	**Litokhoron**	**0.89**	**278**	*e*Pg	**Pg**	**04 36 13.4**	**+0.5**
SRS	**Serrai**	**1.13**	**358**	*e*Pg	**Pg**	**04 36 17.1**	**-0.4**
GRG	**Griva**	**1.35**	**316**	*e*Pg	**Pg**	**04 36 21.4**	**-0.3**
NVR	**Nevrokopi**	**1.38**	**7**	*e*PN	**Pn**	**04 36 20.7**	**+0.1**
AGG	**Agios Georgios**	**1.40**	**227**	*e*Pg	**Pg**	**04 36 21.0**	**-1.6**
AGG				*e*Sg	**Sg**	**04 36 41.2**	**+0.6**
MMB	**Musomiste**	**1.60**	**2**	*i* P	**Pn**	**04 36 24.0**	**+0.3**
RDO	**Rodhopi**	**1.85**	**51**	*e*PN	**Pn**	**04 36 27.3**	**+0.1**
KKB	**Krupnik**	**1.93**	**348**	*i* P	**Pn**	**04 36 27.0**	**-1.2**
KDZ	**Kurdzhali**	**2.14**	**38**	*e*P	**Pn**	**04 36 36.0**	**+4.9**

SZGRF ***15*** *04:42:31.4, 3389N×2407E, h10km, mb4.5, MS3.5, Central Mediterranean Sea*
HLW ***15*** *04:42:45.2, 3502N×2348E, h33km, Mb4.1*
ISCJB ***15*** *04:42:45.5±0.3, 3481N±002×2330E±002, h42km±3km, mb4.6/75, MS4.0/19, Error ellipse: s-maj=3.9km s-min=2.3km az=65.0*
ATH ***15*** *04:42:47.4, 3492N×2333E, h80km±3km, ML4.5*
NEIC ***15*** *04:42:48.4, 3502N×2340E, h85km, mb4.4/69, After ATH.*
IDC ***15*** *04:42:49.7±1.6, 3501N×2333E, h54km±15km, mb4.0/15, mb1 4.2/20, mb1mx4.1/27, mbtmp4.3/20, ML3.8/4, MS3.9/12, Ms1 3.9/12, ms1mx3.6/21, Error ellipse: s-maj=19.9km s-min=12.0km az=175.0*
MOS ***15*** *04:42:49.1±1.1, 3516N×2332E, h58km, mb4.8/27, Error ellipse: s-maj=4.7km s-min=2.7km az=102.4*
CSEM ***15*** *04:42:50.2, 3520N×2348E, h60km, mb4.5*
PDG ***15*** *04:42:50.7±1.0, 3518N×2340E, h41km±11km*
BJI ***15*** *04:42:51.2, 3527N×2342E, h77km, mB5.1, mb4.7, Ms5.0, Msz4.4*

ISC 15 04:42:47.4±0.3, 3480N±002×2328E±002, h42km±2km, h53km±6.6km: pP-P, n504, σ1§32/543, mb4.6/75, MS4.0/19, 43C-18D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.67**	**87**	*e*Pg	**Pn**	**04 43 00.9**	**+0.4**
GVD				*e*Sg	**Sn**	**04 43 10.9**	**+1.1**
GVD	**Gavdhos**	**0.67**	**87**	*e*P	**Pn**	**04 42 59.7**	**-0.7**
VAM	**Vamos**	**0.97**	**51**	⇑*i*P	**Pn**	**04 43 05.1**	**+0.6**
VAM				*e*S	**Sn**	**04 43 19.4**	**+2.3**
VAM	**Vamos**	**0.97**	**51**	*e*P	**Pn**	**04 43 05.1**	**+0.6**
SIVA	**Sivas**	**1.28**	**80**	*e*Pg	**Pn**	**04 43 11.1**	**+2.3**
SIVA				*e*Sg	**Sn**	**04 43 29.6**	**+4.9**
IDI	**Anoyia**	**1.41**	**69**	P	**Pn**	**04 43 11.8**	**+1.2**
IDI	60nm,0.3s,baz=253,slow=14,SNR=304			S	**Sn**	**04 43 28.4**	**+0.5**
	100nm,0.3s,baz=263,slow=19,SNR=13						
KYTH	**Kithira**	**1.49**	**353**	*e*P	**Pn**	**04 43 12.5**	**+0.9**
KYTH	**Kithira**	**1.49**	**353**	*e*P	**Pn**	**04 43 13.0**	**+1.4**
LAST	**Lasithi**	**1.84**	**78**	*e*Pb	**Pn**	**04 43 18.4**	**+1.8**
LAST				*e*Sb	**Sn**	**04 43 43.8**	**+5.2**
VLI	**Veliai**	**1.93**	**352**	⇑*i*P	**Pn**	**04 43 18.7**	**+1.0**
VLI				*e*S	**Sn**	**04 43 40.3**	**-0.4**
VLI	**Veliai**	**1.93**	**352**	⇑*i*P	**Pn**	**04 43 19.0**	**+1.3**
NPS	**Neapolis**	**1.97**	**76**	*e*P	**Pn**	**04 43 19.5**	**+1.2**
NPS				*e*S	**Sn**	**04 43 41.6**	**-0.2**
NPS	**Neapolis**	**1.97**	**76**	*e*P	**Pn**	**04 43 20.5**	**+2.2**
XRY	**Khrisi**	**1.99**	**87**	*e*P	**Pn**	**04 43 20.0**	**+1.5**
SANT	**Santorini**	**2.37**	**48**	⇑*e*Pn	**Pn**	**04 43 23.6**	**-0.2**
SANT				*e*Sn	**Sn**	**04 43 32.2**	**-19**
SANT	**Santorini**	**2.37**	**48**	⇑*e*Pn	**Pn**	**04 43 23.6**	**-0.1**
ITM	**Ithomi**	**2.61**	**336**	*e*P	**Pn**	**04 43 27.7**	**+0.6**
ITM	**Ithomi**	**2.61**	**336**	*e*P	**Pn**	**04 43 28.0**	**+0.9**
APE	**Apeiranthos**	**2.91**	**38**	*e*Pn	**Pn**	**04 43 31.4**	**+0.3**
APE	**Apeiranthos**	**2.91**	**38**	*e*P	**Pn**	**04 43 30.9**	**-0.2**
APE	**Apeiranthos**	**2.91**	**38**	*e*P	**Pn**	**04 43 30.6**	**-0.5**
KVR	**Kavouri**	**3.04**	**7**	*e*P	**Pn**	**04 43 33.0**	**0.0**
MGER	**Gerania Oros**	**3.18**	**360**	*e*P	**Pn**	**04 43 35.0**	**+0.2**
ATH	**Athens Observa**	**3.18**	**6**	*e*P	**Pn**	**04 43 35.3**	**+0.4**
ATH	**Athens Observa**	**3.18**	**6**	*e*P	**Pn**	**04 43 35.0**	**+0.1**
KARP	**Karpathos**	**3.27**	**76**	*e*P	**Pn**	**04 43 36.6**	**+0.5**
KARP	**Karpathos**	**3.27**	**76**	*e*P	**Pn**	**04 43 36.5**	**+0.4**
RLS	**Riolos of Patr**	**3.56**	**336**	*e*P	**Pn**	**04 43 41.3**	**+1.2**
RLS	**Riolos of Patr**	**3.56**	**336**	*e*P	**Pn**	**04 43 41.2**	**+1.1**
SLUM		**3.68**	**153**	⇓P	**Pn**	**04 43 41.6**	**-0.1**
SLUM				S	**Sn**	**04 44 22.8**	**-1.1**
LKR	**Lokris**	**3.85**	**357**	*e*P	**Pn**	**04 43 44.3**	**+0.3**
LKR	**Lokris**	**3.85**	**357**	*e*P	**Pn**	**04 43 44.0**	**0.0**
BODT	**Bodrum**	**3.98**	**54**	*e*PN	**Pn**	**04 43 46.6**	**+0.8**
VLS	**Valsamata**	**4.00**	**328**	*e*P	**Pn**	**04 43 45.8**	**-0.4**
BDRM	**Kayabasi**	**4.07**	**55**	*i* P	**Pn**	**04 43 47.4**	**+0.3**
SMG	**Samos**	**4.08**	**44**	*e*P	**Pn**	**04 43 49.0**	**+1.7**
SMG	**Samos**	**4.08**	**44**	*e*P	**Pn**	**04 43 47.5**	**+0.2**
ARG	**Arkhangelos**	**4.20**	**69**	*e*P	**Pn**	**04 43 49.9**	**+1.0**
ARG	**Arkhangelos**	**4.20**	**69**	*e*P	**Pn**	**04 43 49.3**	**+0.4**
CHOS	**Chios island**	**4.22**	**31**	*e*Pn	**Pn**	**04 43 49.3**	**+0.2**
EVR	**Evrytania**	**4.27**	**344**	⇓*i*P	**Pn**	**04 43 53.1**	**+1.7**
EVR	**Evrytania**	**4.27**	**344**	*e*P	**Pn**	**04 43 52.2**	**+2.4**
AGG	**Agios Georgios**	**4.28**	**350**	*e*Pn	**Pn**	**04 43 50.4**	**+0.5**
AGG				*e*Sn	**Sn**	**04 44 38.8**	**+0.2**
AOS	**Alonnisos**	**4.39**	**6**	*e*Pn	**Pn**	**04 43 51.5**	**+0.1**
MLSB	**Milas**	**4.41**	**54**	*e*PN	**Pn**	**04 43 53.6**	**+1.8**
URLA	**Izmir**	**4.44**	**36**	*i* P	**Pn**	**04 43 52.7**	**+0.5**
NEO	**Neokhori**	**4.50**	**359**	*e*P	**Pn**	**04 43 53.3**	**+0.4**
NEO	**Neokhori**	**4.50**	**359**	*e*P	**Pn**	**04 43 52.1**	**-0.8**
YER	**Yerkesik**	**4.68**	**59**	*i* PN	**Pn**	**04 43 57.5**	**+2.0**
AYDN	**Tasoluk**	**4.69**	**51**	*i* P	**Pn**	**04 43 57.6**	**+2.0**
DALT	**Dalyan (Mudla)**	**4.78**	**64**	*e*PN	**Pn**	**04 43 57.6**	**+0.8**
IZM	**Izmir**	**4.81**	**41**	*e*PN	**Pn**	**04 43 58.9**	**+1.7**
KDAG	**Bornova**	**4.82**	**41**	*i* P	**Pn**	**04 44 00.3**	**+3.0**
PRK	**Paraskevi**	**5.04**	**28**	*e*P	**Pn**	**04 44 00.0**	**-0.4**
FETY	**Fethiye**	**5.07**	**67**	PN	**Pn**	**04 43 59.8**	**-1.0**
JAN	**Janina**	**5.22**	**339**	*e*P	**Pn**	**04 44 03.6**	**+0.8**
JAN	**Janina**	**5.22**	**339**	*e*P	**Pn**	**04 44 03.2**	**+0.4**
AYVA	**Ayvalik**	**5.26**	**30**	*i* P	**Pn**	**04 44 02.7**	**-1.4**
KSL	**Kastellorizon**	**5.32**	**74**	*e*P	**Pn**	**04 44 00.0**	**-4.8**
BOZC	**Bozcaada**	**5.50**	**23**	*i* P	**Pn**	**04 44 06.2**	**-0.4**
PLG	**Polygyros**	**5.56**	**1**	*e*P	**Pn**	**04 44 07.3**	**-0.3**
PLG	**Polygyros**	**5.56**	**1**	⇑*i*P	**Pn**	**04 44 07.1**	**-0.5**
MANT	**Manisa**	**5.62**	**48**	*i* P	**Pn**	**04 44 09.2**	**+0.9**
KZN	**Kozani**	**5.62**	**348**	*e*P	**Pn**	**04 44 08.7**	**+0.3**
KZN	**Kozani**	**5.62**	**348**	*e*P	**Pn**	**04 44 07.8**	**-0.6**
KEK	**Kerkira**	**5.63**	**332**	*e*P	**Pn**	**04 44 08.9**	**+0.4**
KEK	**Kerkira**	**5.63**	**332**	*e*P	**Pn**	**04 44 08.1**	**-0.4**
ELL	**Elmali**	**5.73**	**68**	*e*PN	**Pn**	**04 44 10.6**	**+0.7**
SWA2		**5.84**	**161**	P	**Pn**	**04 44 11.9**	**+0.4**
SWA1		**5.90**	**159**	⇓P	**Pn**	**04 44 12.6**	**+0.5**
SWA1				S	**Sn**	**04 45 15.8**	**-2.6**
KHL	**Karahalli**	**6.13**	**53**	*e*PN	**Pn**	**04 44 15.7**	**+0.3**
FNA	**Florina**	**6.16**	**346**	*e*Pn	**Pn**	**04 44 16.0**	**+0.2**
GRG	**Griva**	**6.18**	**354**	*e*Pn	**Pn**	**04 44 16.1**	**0.0**
BTOK	**Tokmak**	**6.23**	**36**	*i* P	**Pn**	**04 44 18.0**	**+1.2**
BIA	**Bitola**	**6.39**	**347**	*i* Pn	**Pn**	**04 44 18.6**	**-0.4**
VAY	**Valandovo**	**6.53**	**355**	*i* Pn	**Pn**	**04 44 20.3**	**-0.5**
TKTP	**Tekketepe**	**6.53**	**58**	*i* P	**Pn**	**04 44 21.8**	**+0.9**
NVR	**Nevrokopi**	**6.55**	**4**	⇑*i*P	**Pn**	**04 44 20.3**	**-0.9**
NVR	**Nevrokopi**	**6.55**	**4**	⇑*i*P	**Pn**	**04 44 20.9**	**-0.3**
GDZ	**Gediz**	**6.56**	**47**	*i* P	**Pn**	**04 44 22.4**	**+1.2**
ISP	**Isparta**	**6.58**	**60**	*e*P	**Pn**	**04 44 22.2**	**+0.7**
ISP				pmax	pmax		
	comp=Z,83nm,1.3s						
ISP	**Isparta**	**6.58**	**60**	*e*Pn	**Pn**	**04 44 22.2**	**+0.6**
	comp=Z,83nm,1.3s						
ISP	**Isparta**	**6.58**	**60**	*e*Pn	**Pn**	**04 44 22.2**	**+0.7**
	comp=Z,83nm,1.3s						
RDO	**Rodhopi**	**6.58**	**15**	*e*P	**Pn**	**04 44 21.0**	**-0.5**
RDO	**Rodhopi**	**6.58**	**15**	*e*P	**Pn**	**04 44 20.9**	**-0.6**
OHR	**Ohrid**	**6.59**	**343**	*i* Pn	**Pn**	**04 44 20.8**	**-1.0**
MRMT	**Marmara Adasi**	**6.73**	**29**	*e*PN	**Pn**	**04 44 23.1**	**-0.4**
MMB	**Musomiste**	**6.79**	**3**	*i* P	**Pn**	**04 44 24.0**	**-0.4**
TIP	**Timpagrande**	**6.80**	**312**	*e*Pn	**Pn**	**04 44 23.5**	**-1.1**
TIP				*e*Sn	**Sn**	**04 45 33.3**	**-7.4**
TIP	**Timpagrande**	**6.80**	**312**	*e*Pn	**Pn**	**04 44 23.5**	**-1.1**
STIP	**Stip**	**6.93**	**353**	*e*Pn	**Pn**	**04 44 26.1**	**-0.3**
RZN	**Rozhen**	**6.97**	**9**	*i* P	**Pn**	**04 44 26.5**	**-0.3**
KDZ	**Kurdzhali**	**7.04**	**13**	*e*P	**Pn**	**04 44 26.0**	**-1.9**
KKB	**Krupnik**	**7.05**	**359**	*e*P	**Pn**	**04 44 29.4**	**+1.3**
ULDT	**Uludag**	**7.08**	**39**	*i* P	**Pn**	**04 44 29.6**	**+1.2**
PLD	**Plovdiv**	**7.38**	**8**	*e*P	**Pn**	**04 44 32.3**	**-0.2**
YLV	**Yalova**	**7.51**	**38**	*e*PN	**Pn**	**04 44 34.0**	**-0.3**
ELBA	**Catalca**	**7.53**	**31**	*i* P		04 44 46.8	
PE1	**Pezze di Greco**	**7.57**	**324**	*e*Pn	**Pn**	**04 44 37.8**	**+0.1**
BORA	**Eskisehir**	**7.64**	**46**	*i* P	**Pn**	**04 44 37.0**	**+0.9**
VAE	**Valguarnera**	**7.65**	**293**	P	**Pn**	**04 44 44.9**	**+8.7**
	comp=Z,2.6nm,0.3s,baz=100,slow=11,SNR=3.9						
VAE				S	**Sn**	**04 45 56.8**	**-4.8**
	comp=Z,3.7nm,0.3s,baz=251,slow=2.6,SNR=3.6						
ESKT	**Eskisehir**	**7.66**	**50**	*i* P	**Pn**	**04 44 37.8**	**+1.4**
VTS	**Vitosha**	**7.78**	**360**	*i* P	**Pn**	**04 44 38.0**	**0.0**
VTS	**Vitosha**	**7.78**	**360**	⇑*i*P	**Pn**	**04 44 39.1**	**+1.1**
ULC	**Ulcinj**	**7.82**	**337**	⇑*i*Pn	**Pn**	**04 44 37.0**	**-1.5**
ULC				*e*Sn	**Sn**	**04 45 59.6**	**-6.0**
SG1	**Sgolgore (BA)**	**7.97**	**321**	*e*Pn	**Pn**	**04 44 40.0**	**-0.6**
KIZT	**Kizilcal**	**8.01**	**57**	*e*PN	**Pn**	**04 44 41.8**	**+0.7**
ERMK	**Ermenek**	**8.05**	**74**	*i* P	**Pn**	**04 44 42.5**	**+0.8**
HNAT	**Natroun**	**8.08**	**128**	P	**Pn**	**04 44 42.3**	**+0.2**
PVY	**Plav**	**8.20**	**343**	⇑*i*Pn	**Pn**	**04 44 43.0**	**-0.7**
PVY				*e*Sn	**Sn**	**04 46 07.6**	**-7.4**
BUM	**Brajici-Budva**	**8.23**	**337**	⇑*i*Pn	**Pn**	**04 44 43.1**	**-1.1**
BUM				*e*Sn	**Sn**	**04 46 08.8**	**-7.1**
TTG	**Podgorica**	**8.24**	**339**	⇑*i*Pn	**Pn**	**04 44 44.3**	**0.0**
TTG				*e*Sn	**Sn**	**04 46 08.8**	**-7.2**
CSS	**Prodhromos**	**8.27**	**86**	*e*Pn	**Pn**	**04 44 44.3**	**-0.3**
	comp=Z,14nm,0.6s						
CSS				*e*Sn	**Sn**	**04 46 10.9**	**-5.8**
FYM	**Al Fayyum**	**8.32**	**126**	P	**Pn**	**04 44 43.8**	**-1.6**
AYT	**Al 'Ayyat**	**8.38**	**125**	P	**Pn**	**04 44 45.9**	**-0.4**
IVA	**Berane**	**8.48**	**343**	⇑*i*Pn	**Pn**	**04 44 46.6**	**-0.9**
IVA				*e*Sn	**Sn**	**04 46 14.4**	**-7.4**
HCY	**Herceg Novi**	**8.50**	**335**	⇑*i*Pn	**Pn**	**04 44 46.1**	**-1.7**
HCY				*e*Sn	**Sn**	**04 46 15.7**	**-6.7**
PVL	**Pavlikeni**	**8.55**	**10**	*e*P	**Pn**	**04 44 45.0**	**-3.6**
IKL	**Isikli**	**8.61**	**77**	*e*PN	**Pn**	**04 44 47.0**	**-2.3**
NKY	**Niksic**	**8.66**	**339**	⇑*i*Pn	**Pn**	**04 44 48.4**	**-1.7**
NKY				*e*Sn	**Sn**	**04 46 19.2**	**-7.3**
HSAF	**As Saff**	**8.71**	**124**	P	**Pn**	**04 44 49.5**	**-1.2**
KOT	**Kottamia**	**8.71**	**122**	⇑P	**Pn**	**04 44 49.4**	**-1.4**
KOT				S	**Sn**	**04 46 20.7**	**-7.0**
HFRF	**Wahat Farafira**	**8.77**	**149**	P	**Pn**	**04 44 51.6**	**+0.1**
GLL	**Jalalah**	**8.84**	**124**	P	**Pn**	**04 44 51.5**	**-1.1**
BRY	**Bratogost**	**8.89**	**337**	⇑*i*Pn	**Pn**	**04 44 52.9**	**-0.3**
BRY				*e*Sn	**Sn**	**04 46 24.5**	**-7.5**
HHAG	**Hagoal**	**8.89**	**121**	P	**Pn**	**04 44 51.6**	**-1.6**
PLE	**Pljevlja**	**9.03**	**342**	⇑*i*Pn	**Pn**	**04 44 53.7**	**-1.4**
PLE				*e*Sn	**Sn**	**04 46 28.4**	**-7.1**
UPM	**Unac-Piva**	**9.05**	**339**	⇑*i*Pn	**Pn**	**04 44 55.3**	**-0.1**
UPM				*e*Sn	**Sn**	**04 46 28.6**	**-7.3**
ANTO	**Ankara**	**9.11**	**54**	⇓*i*P		04 45 07.3	
ANTO	**Ankara**	**9.11**	**54**	*e*P	**Pn**	**04 44 57.0**	**+0.8**
ANTO				pmax	pmax		
	comp=Z,48nm,1.1s						
ANTO	**Ankara**	**9.11**	**54**	*e*Pn	**Pn**	**04 44 57.0**	**+0.7**
	comp=Z,48nm,1.1s						
ANTO	**Ankara**	**9.11**	**54**	*e*Pn	**Pn**	**04 44 57.0**	**+0.8**
	comp=Z,48nm,1.1s						
STON	**Ston**	**9.15**	**333**	*i* Pn	**Pn**	**04 44 54.0**	**-2.8**
STON				*i* Sn	**Sn**	**04 46 27.8**	**-11**
GRUS	**Gruza**	**9.29**	**348**	⇓*i*Pn	**Pn**	**04 44 55.5**	**-3.2**
AMAG	**Maghara**	**9.34**	**114**	⇑P	**Pn**	**04 44 56.9**	**-2.5**
MERS	**Mersin**	**9.36**	**74**	*e*PN	**Pn**	**04 44 58.0**	**-1.7**
BBLS	**Bajina Basta -**	**9.53**	**343**	*i* Pn	**Pn**	**04 44 59.8**	**-2.2**
BR131	**Keskin Array S**	**9.61**	**56**	*e*Pn	**Pn**	**04 45 03.8**	**+0.7**
	comp=Z,16nm,0.8s						
BRTR	**Keskin Array B**	**9.61**	**56**	P	**Pn**	**04 45 03.3**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=239,slow=16,SNR=16						
DIVS	**Divcibare**	**9.

GEC2 pmax pmax
comp=Z,31nm,1.0s
GERES GERESS Array B 15.72 336 P **Pn 04 46 23.8 -1.9**
comp=Z,0.3nm,0.3s,baz=156,slow=13,SNR=12
GERES S S 04 49 05.5 -27
comp=Z,0.2nm,0.3s,baz=151,slow=19,SNR=3.8
HSHL Bi'r Shalatayn 15.74 135 P **Pn 04 46 27.7 +1.6**
KHC Kasperske Hory 16.01 336 *eP* **Pn 04 46 33.9 +4.4**
KHC *epP* pP 04 46 39.0 -3.6
KHC AMS AMS 04 53 30.0
comp=Z,900nm,28.5s
DAVA Damuels 16.02 325 ⇓ *i*Pn **Pn 04 46 31.5 +1.9**
SNR=5.4
FUR Furstenfeldbru 16.07 330 *eP* **Pn 04 46 34.1 +3.9**
comp=Z,65nm,1.0s
FUR Furstenfeldbru 16.07 330 *eP* **Pn 04 46 34.1 +3.9**
FUR pmax pmax
comp=Z,65nm,1.0s
MBDF Montbardon 16.07 313 *eP* **Pn 04 46 31.2 +0.9**
comp=Z,47nm,1.2s
MBDF Montbardon 16.07 313 *eP* **Pn 04 46 31.2 +0.9**
MBDF pmax pmax
comp=Z,24nm,1.2s
MBDF Montbardon 16.07 313 *eP* **Pn 04 46 31.2 +0.9**
comp=Z,24nm,1.2s
WET Wettzell 16.26 335 *eP* **Pn 04 46 35.7 +3.1**
comp=Z,64nm,1.1s
WET Wettzell 16.26 335 *eP* **Pn 04 46 35.7 +3.1**
WET pmax pmax
comp=Z,64nm,1.1s
DPC Dobruska-Polom 16.35 344 *eP* **Pn 04 46 36.9 +3.1**
DPC *epP* pP 04 46 41.8 -4.5
DPC AMS AMS 04 53 50.0
comp=Z,1μm,26.4s
AKASG Malin Array Be 16.47 13 P **Pn 04 46 31.4 -3.9**
comp=Z,1.0nm,0.3s,baz=202,slow=12,SNR=23
AKASG S **S 04 49 28.2 -19**
comp=Z,0.8nm,0.3s,baz=321,slow=30,SNR=4.3
AKASG Malin Array Be 16.47 13 P **Pn 04 46 31.4 -3.9**
AKASG S **S 04 49 28.2 -19**
PRU Pruhonice 16.47 340 *eP* **Pn 04 46 38.1 +2.8**
PRU *epP* pP 04 46 42.9 -4.8
PRU AMS AMS 04 53 40.0
comp=Z,800nm,22.3s
LPG La Plagne 16.51 315 *eP* **Pn 04 46 35.4 -0.4**
comp=Z,12nm,0.9s
LPG La Plagne 16.51 315 *eP* **Pn 04 46 35.4 -0.4**
LPG pmax pmax
comp=Z,6.0nm,0.9s
LPG La Plagne 16.51 315 *eP* **Pn 04 46 35.4 -0.4**
comp=Z,5.9nm,0.9s
LPL La Plagne 16.53 315 *eP* **Pn 04 46 35.4 -0.7**
UPC Upice 16.57 344 *eP* **Pn 04 46 39.5 +3.0**
UPC *epP* pP 04 46 44.6 -4.2
PRA Prague 16.57 340 P **Pn 04 46 37.0 +0.4**
ORIF Oris-en-Rattie 16.71 312 *eP* **Pn 04 46 38.7 +0.3**
ORIF *eR*
comp=Z,592nm,22.0s
KSP Ksiaz 16.82 345 *eP* **Pn 04 46 42.4 +2.7**
KSP Ksiaz 16.82 345 *eP* **Pn 04 46 41.6 +1.9**
KSP *epP* pP 04 46 51.7 +0.2
ROTZ Rotzenmuhle 17.02 335 *eP* **Pn 04 46 43.9 +1.7**
comp=Z,44nm,1.4s
ROTZ *eS* **S 04 50 12.5 +14**
SPAK Spaichingen-Ko 17.12 325 *eP* **Pn 04 46 46.9 +3.4**
MANZ Manzenberg 17.24 335 *eP* **Pn 04 46 45.8 +0.9**
comp=Z,47nm,1.1s
BBS Basel-Blauen 17.31 322 *eP* **Pn 04 46 48.3 +2.5**
GRA1 Grafenberg Arr 17.31 333 *eP* **Pn 04 46 47.8 +1.9**
comp=Z,69nm,1.4s
GRF Grafenberg Arr 17.31 333 *eP* **Pn 04 46 47.8 +1.9**
comp=Z,69nm,1.4s
GRF Grafenberg Arr 17.31 333 *eP* **Pn 04 46 47.8 +1.9**
GRF pmax pmax
comp=Z,69nm,1.4s
GRF Grafenberg Arr 17.31 333 *eP* **Pn 04 46 47.8 +1.9**
GRF pmax pmax
comp=Z,69nm,1.4s
GRFO Grafenberg 17.31 333 *eP* **Pn 04 46 47.8 +1.9**
comp=Z,151nm,1.4s
GRFO *eL* 04 54 20.7
comp=Z,309nm,24.4s
NKC Novy Kostel 17.33 336 *eP* **Pn 04 46 48.7 +2.6**
NKC AMS AMS 04 54 30.0
comp=Z,800nm,23.0s
FELD Feldberg im Sc 17.34 323 *eP* **Pn 04 46 46.2 +0.1**
VIVF Saint-Julien-l 17.43 311 *eP* **Pn 04 46 44.2 -3.0**
BRG Berggiesshubel 17.43 340 *eP* **Pn 04 46 48.7 +1.4**
comp=Z,53nm,1.6s
BRG Berggiesshubel 17.43 340 *eP* **Pn 04 46 47.0 -0.4**
comp=Z,32nm,1.7s
BRG
comp=N,372nm,23.5s
BRG
comp=E,174nm,15.5s
BRG
comp=Z,526nm,23.5s
BRG Berggiesshubel 17.43 340 *eP* **Pn 04 46 47.0 -0.3**
BRG pmax pmax
comp=Z,32nm,1.7s
BRG MLR MLR
comp=N,372nm,23.5s
BRG MLR MLR
comp=Z,526nm,23.5s
BRG MLR MLR
comp=E,174nm,15.5s
BFO Black Forest 17.50 325 *eP* **Pn 04 46 47.9 -0.2**
comp=Z,14nm,1.3s
BFO Black Forest 17.50 325 *eP* **Pn 04 46 47.9 -0.2**
BFO pmax pmax
comp=Z,14nm,1.3s
CABF La Chapelle 17.53 317 *eP* **Pn 04 46 47.6 -1.0**
comp=Z,22nm,1.0s
CABF La Chapelle 17.53 317 *eP* **Pn 04 46 47.6 -1.0**
CABF pmax pmax
comp=Z,11nm,1.0s
CABF La Chapelle 17.53 317 *eP* **Pn 04 46 47.6 -1.0**
comp=Z,11nm,1.0s
KIV Kislovodsk 17.54 53 *eP* **Pn 04 46 49.5 +0.9**
KIV *eS* **S 04 50 03.3 -6.0**
KIV pmax pmax
comp=Z,44nm,1.0s
KIV MLR MLR
comp=Z,202nm,14.0s
KIV Kislovodsk 17.54 53 *ePn* **Pn 04 46 49.7 +1.1**
comp=Z,60nm,1.2s
KIV Kislovodsk 17.54 53 *eP* **Pn 04 46 49.5 +0.9**
comp=Z,44nm,1.0s
WERD Werda 17.56 336 *eP* **Pn 04 46 49.6 +0.7**
comp=Z,89nm,2.0s
LASF Ste Croix 17.59 308 *eP* **Pn 04 46 48.4 -0.9**
MOF Molkenrain 17.75 322 *eP* **Pn 04 46 51.4 +0.1**
GNI Garni 17.84 66 P **Pn 04 46 51.9 -0.4**
comp=Z,1.3nm,0.3s,baz=5.5,slow=6.0,SNR=5.3
GNI LR LR 04 55 01.6
comp=Z,814nm,18.6s,baz=263,slow=41
GNI Garni 17.84 66 P **Pn 04 46 52.0 -0.4**
GNI *ePn* **Pn 04 46 52.3 0.0**
GNI LR LR 04 55 01.6
HINF Hinteralfeld 17.87 322 *eP* **Pn 04 46 50.3 -2.5**
comp=Z,18nm,1.0s
HINF Hinteralfeld 17.87 322 *eP* **Pn 04 46 50.3 -2.5**
HINF pmax pmax
comp=Z,9.0nm,1.0s
HINF Hinteralfeld 17.87 322 *eP* **Pn 04 46 50.3 -2.5**
comp=Z,9.1nm,1.0s
ZEI Tsey 17.91 58 *eP* **Pn 04 46 53.9 +0.7**
MOX Moxa 17.96 335 *eP* **Pn 04 46 54.6 +0.7**
comp=Z,36nm,1.4s
MOX
comp=Z,400nm,23.0s
MOX Moxa 17.96 335 *eP* **Pn 04 46 54.6 +0.7**
MOX pmax pmax
comp=Z,36nm,1.4s
MOX MLR MLR
comp=Z,400nm,23.0s
MOX Moxa 17.96 335 *eP* **Pn 04 46 54.4 +0.5**
comp=Z,22nm,1.1s
ECH Echery 17.98 323 *eP* **Pn 04 46 51.8 -2.3**
CDF Champ du Feu 18.06 324 *eP* **Pn 04 46 51.3 -3.7**
comp=Z,20nm,0.9s
CDF Champ du Feu 18.06 324 *eP* **Pn 04 46 51.3 -3.7**
CDF pmax pmax
comp=Z,10.0nm,0.9s
CDF Champ du Feu 18.06 324 *eP* **Pn 04 46 51.3 -3.7**
comp=Z,10nm,0.9s

CLL Collm 18.09 339 *eP* **Pn 04 46 55.1 -0.3**
comp=Z,29nm,1.1s
CLL Collm 18.09 339 ⇑ *iP* **Pn 04 46 55.7 +0.3**
comp=Z,30nm,1.2s
CLL LmV 04 55 00.0
comp=Z,800nm,21.2s
LANF Langenberg 18.20 326 *eP* **Pn 04 46 57.8 +1.0**
TOD Tromm 18.22 329 *eP* **Pn 04 46 59.3 +2.3**
HAU Haudompre 18.25 321 *eP* **Pn 04 46 56.6 -0.8**
comp=Z,30nm,1.0s
HAU *eR*
comp=Z,368nm,19.2s
HAU Haudompre 18.25 321 *eP* **Pn 04 46 56.6 -0.8**
HAU pmax pmax
comp=Z,15nm,1.0s
HAU Haudompre 18.25 321 *eP* **Pn 04 46 56.6 -0.8**
comp=Z,15nm,1.0s
MTLF Montolieu 18.40 304 *eP* **Pn 04 46 59.4 +0.2**
comp=Z,28nm,1.4s
MTLF Montolieu 18.40 304 *eP* **Pn 04 46 59.4 +0.2**
MTLF pmax pmax
comp=Z,14nm,1.4s
MTLF Montolieu 18.40 304 *eP* **Pn 04 46 59.4 +0.2**
comp=Z,14nm,1.4s
THEF They Montfort 18.58 321 *eP* **Pn 04 47 01.5 +0.1**
SMF Signal de Mont 18.83 315 *eP* **Pn 04 47 02.7 -1.7**
TNS Taunus Mts 18.84 329 *eP* **Pn 04 47 04.9 +0.5**
comp=Z,26nm,1.3s
TNS Taunus Mts 18.84 329 *eP* **Pn 04 47 04.9 +0.5**
TNS pmax pmax
comp=Z,26nm,1.3s
RUE Ruedersdorf 18.93 342 *eP* **Pn 04 47 04.5 -1.1**
comp=Z,66nm,1.2s
GKP Gorka Klasztor 18.95 349 *eP* **Pn 04 47 05.1 -0.7**
RUP Ruppelstein 19.06 326 *eP* **Pn 04 47 07.3 +0.2**
CAF Calviac 19.11 308 *eP* **Pn 04 47 08.7 +0.9**
comp=Z,26nm,1.3s
CAF Calviac 19.11 308 *eP* **Pn 04 47 08.7 +0.9**
CAF pmax pmax
comp=Z,13nm,1.3s
CAF Calviac 19.11 308 *eP* **Pn 04 47 08.7 +0.9**
comp=Z,13nm,1.3s
LOR Lormes 19.16 316 *eP* **Pn 04 47 07.3 -1.0**
comp=Z,51nm,1.5s
LOR *eR*
comp=Z,161nm,19.0s
LOR Lormes 19.16 316 *eP* **Pn 04 47 07.3 -1.0**
LOR pmax pmax
comp=Z,25nm,1.5s
LOR Lormes 19.16 316 *eP* **Pn 04 47 07.3 -1.0**
comp=Z,26nm,1.5s
AVF Avril sur Loir 19.20 315 *eP* **Pn 04 47 07.5 -1.3**
comp=Z,5.6nm,0.7s
AVF Avril sur Loir 19.20 315 *eP* **Pn 04 47 07.5 -1.3**
AVF pmax pmax
comp=Z,3.0nm,0.7s
AVF Avril sur Loir 19.20 315 *eP* **Pn 04 47 07.5 -1.3**
comp=Z,2.8nm,0.7s
SUW Suwalki 19.21 360 *eP* **Pn 04 47 06.4 -2.5**
MEZF Maizieres J'vi 19.24 321 *eP* **Pn 04 47 03.3 -2.0**
SSF Saint Saulge 19.25 315 *eP* **Pn 04 47 08.3 -1.1**
comp=Z,27nm,1.2s
SSF Saint Saulge 19.25 315 *eP* **Pn 04 47 08.3 -1.1**
SSF pmax pmax
comp=Z,13nm,1.2s
SSF Saint Saulge 19.25 315 *eP* **Pn 04 47 08.3 -1.1**
comp=Z,13nm,1.2s
GTTG Gyttingen 19.29 334 *eP* **Pn 04 47 09.9 0.0**
comp=Z,21nm,1.3s
BGF Bois d'Agland 19.38 313 *eP* **Pn 04 47 10.4 -0.5**
EGRA Graus 19.39 299 P **Pn 04 47 14.3 +3.2**
comp=Z,7.8nm,1.0s
CLZ Clausthal 19.39 335 *eP* **Pn 04 47 10.0 -1.1**
comp=Z,18nm,1.1s
CLZ Clausthal 19.39 335 *eP* **Pn 04 47 10.0 -1.1**
CLZ pmax pmax
comp=Z,18nm,1.1s
WLF Walferdange 19.46 325 P **Pn 04 47 10.8 -1.1**
WLF E 04 47 13.9
WLF AP pP 04 47 19.5 -1.2
WLF Walferdange 19.46 325 *eP* **Pn 04 47 09.5 -2.4**
WLF pmax pmax
comp=Z,43nm,1.2s
WLF Walferdange 19.46 325 *eP* **Pn 04 47 09.5 -2.4**
comp=Z,43nm,1.2s
WLF Walferdange 19.46 325 *eP* **Pn 04 47 09.5 -2.4**
comp=Z,43nm,1.2s
EPF Esparros 19.60 302 *eP* **Pn 04 47 13.3 -0.3**
comp=Z,30nm,1.3s
EPF Esparros 19.60 302 *eP* **Pn 04 47 13.3 -0.3**
EPF pmax pmax
comp=Z,15nm,1.3s
EPF Esparros 19.60 302 *eP* **Pn 04 47 13.3 -0.3**
comp=Z,15nm,1.3s
RJF Les Rejaudoux 19.62 309 *eP* **Pn 04 47 13.3 -0.6**
RJF *eR*
comp=Z,307nm,19.2s
TCF Toulx Ste Croi 19.63 312 *eP* **Pn 04 47 12.0 -1.9**
EBIE Bielsa 19.64 301 P **Pn 04 47 14.9 +0.8**
comp=Z,11nm,1.2s
EBIE Bielsa 19.64 301 P **Pn 04 47 14.9 +0.8**
comp=Z,11nm,1.2s
ECHE Chera 19.87 291 P **Pn 04 47 22.9 +6.1**
ECHE pmax pmax
comp=Z,5.0nm,0.7s
ECHE Chera 19.87 291 P **Pn 04 47 22.9 +6.1**
comp=Z,4.6nm,0.7s
MNK Minsk 19.95 8 *eP* **Pn 04 47 11.0 -6.7**
LFF La Frestale 19.98 307 *eP* **Pn 04 47 17.4 -0.7**
VRSR Storozhevoye 20.04 30 *eP* **P 04 47 17.9 +1.2**
VRSR pmax pmax
comp=E,2.0nm,1.0s
VRSR pmax pmax
comp=Z,4.0nm,1.0s
VRSR pmax pmax
comp=N,1.0nm,0.5s
VRSR Storozhevoye 20.04 30 *eP* **P 04 47 17.9 +1.2**
comp=N,1.0nm,0.5s
MEM Membach 20.18 327 AP pP 04 47 25.0 -3.7
MEM XP sP 04 47 32.0 -2.0
ETSF Etsaut 20.20 301 *eP* **P 04 47 20.4 +1.9**
comp=N,59nm,1.4s
ETSF Etsaut 20.20 301 *eP* **P 04 47 20.4 +1.9**
ETSF pmax pmax
comp=Z,30nm,1.4s
ETSF Etsaut 20.20 301 *eP* **P 04 47 20.4 +1.9**
comp=Z,30nm,1.4s
HGN Heimansgroeve 20.33 327 *eP* **P 04 47 22.9 +3.0**
comp=Z,26nm,1.5s
GIVF Givet 20.39 324 *eP* **P 04 47 21.1 +0.6**
comp=Z,16nm,0.6s
GIVF Givet 20.39 324 *eP* **P 04 47 21.1 +0.6**
GIVF pmax pmax
comp=Z,8.0nm,0.6s
GIVF Givet 20.39 324 *eP* **P 04 47 21.1 +0.6**
comp=Z,8.1nm,0.6s
DOU Dourbes 20.49 324 P **P 04 47 22.5 +0.9**
DOU AP 04 47 30.5
MAK Makhachkala 20.50 59 *eP* **P 04 47 24.7 +3.0**
MAK *i* 04 47 50.8
MAK *eSS* 04 51 37.1
MAK pmax pmax
comp=Z,119nm,1.4s
MAK MLR MLR
comp=Z,190nm,16.0s,MS3.5
BAIF Baives 20.66 323 *eP* **P 04 47 21.2 -2.2**
comp=Z,31nm,0.8s
BAIF Baives 20.66 323 *eP* **P 04 47 21.2 -2.2**
BAIF pmax pmax
comp=Z,15nm,0.8s
BAIF Baives 20.66 323 *eP* **P 04 47 21.2 -2.2**
comp=Z,15nm,0.8s
SJPF Ste Jean 20.73 301 *eP* **P 04 47 26.7 +2.5**
comp=Z,83nm,1.4s
SJPF Ste Jean 20.73 301 *eP* **P 04 47 26.7 +2.5**
SJPF pmax pmax
comp=Z,42nm,1.4s
SJPF Ste Jean 20.73 301 *eP* **P 04 47 26.7 +2.5**
comp=Z,42nm,1.4s
ENIJ Nijar 20.74 283 P **P 04 47 28.2 +3.8**
ENIJ pmax pmax
comp=Z,16nm,1.0s
ENIJ Nijar 20.74 283 P **P 04 47 28.2 +3.8**
comp=Z,16nm,1.0s
SNF Seneffe 20.92 324 P **P 04 47 27.1 +0.9**
SNF E 04 47 31.4

EALK Alkurruntz 20.96 301 P **P 04 47 30.4 +3.7**
comp=Z,23nm,1.3s
ELIZ Elizondo 20.96 301 P **P 04 47 33.6 +6.9**
NAY Al-Naaiem 21.04 99 *eP* **P 04 47 27.9 +0.3**
NAY AMb AMB 04 47 29.0
comp=Z,27nm,0.5s,mb4.8
EHUE Huescar 21.04 286 P **P 04 47 32.7 +5.1**
EHUE pmax pmax
comp=Z,6.0nm,0.9s,mb3.9
EHUE Huescar 21.04 286 P **P 04 47 32.7 +5.1**
comp=Z,5.5nm,0.9s,mb3.9
UCC Uccle 21.07 325 P **P 04 47 29.2 +1.3**
BSD Bornholm Skovb 21.12 347 ⇓ *i*P **P 04 47 26.7 -1.8**
comp=Z,48nm,0.9s,mb4.8
BSD
comp=Z,320nm,20.0s
BSEG Bad Segeberg 21.19 338 *eP* **P 04 47 28.2 -1.0**
comp=Z,85nm,1.0s,mb5.0
MFF Saint Martin d 21.23 311 *eP* **P 04 47 30.0 +0.4**
UMR Umm Al-Rimmam 21.32 97 *eP* **P 04 47 30.9 +0.4**
UMR AMb AMB 04 47 32.1
comp=Z,122nm,0.4s,mb5.6
RDF Al-Radifah 21.41 99 *eP* **P 04 47 31.7 +0.2**
EQES Quesada 21.42 286 P **P 04 47 33.8 +2.1**
comp=Z,23nm,1.0s,mb4.5
EQES Quesada 21.42 286 P **P 04 47 33.8 +2.1**
comp=Z,23nm,1.0s,mb4.5
ECOG Cogollos-Vega 21.82 284 P **P 04 47 39.7 +3.8**
ECOG pmax pmax
comp=Z,8.0nm,0.8s,mb4.2
ECOG Cogollos-Vega 21.82 284 P **P 04 47 39.7 +3.8**
comp=Z,8.1nm,0.8s,mb4.2
EBAN Banos Encina 21.99 287 P **P 04 47 39.9 +2.2**
EBAN pmax pmax
comp=Z,6.0nm,0.8s,mb4.1
EBAN Banos Encina 21.99 287 P **P 04 47 39.9 +2.2**
comp=Z,5.6nm,0.8s,mb4.0
EBAN Banos Encina 21.99 287 P **P 04 47 39.9 +2.2**
comp=Z,5.6nm,0.8s,mb4.0
ERON Agron 22.02 284 P **P 04 47 40.0 +1.9**
comp=Z,3.7nm,0.7s,mb3.9
ERON Agron 22.02 284 P **P 04 47 40.0 +1.9**
comp=Z,3.7nm,0.7s,mb3.9
LDF La Druitiere 22.14 316 *eP* **P 04 47 37.4 -1.9**
comp=Z,26nm,0.7s,mb4.5
LDF La Druitiere 22.14 316 *eP* **P 04 47 37.4 -1.9**
LDF pmax pmax
comp=Z,13nm,0.7s,mb4.5
LDF La Druitiere 22.14 316 *eP* **P 04 47 37.4 -1.9**
comp=Z,13nm,0.7s,mb4.5
ESDC Sonseca Array 22.18 291 P **P 04 47 41.4 +1.6**
comp=Z,3.3nm,0.9s,mb3.7,baz=92,slow=10,SNR=11
ESDC Sonseca Array 22.18 291 P **P 04 47 41.6 +1.7**
comp=Z,3.6nm,1.1s,mb3.7
ESDC Sonseca Array 22.18 291 P **P 04 47 41.6 +1.8**
comp=Z,3.6nm,1.1s,mb3.7
ESLA Sonseca Array 22.18 291 *eP* **P 04 47 40.5 +0.7**
comp=Z,3.3nm,1.1s,mb3.7
ESLA Sonseca Array 22.18 291 *eP* **P 04 47 40.5 +0.7**
comp=Z,3.3nm,1.1s,mb3.7
OBN Obninsk 22.31 20 *ceP* **P 04 47 40.1 -1.0**
OBN *eS* **S 04 51 39.5 -4.7**
OBN pmax pmax
comp=Z,100nm,1.6s,mb5.0
OBN MLR MLR
comp=Z,300nm,16.0s,MS3.8
OBN Obninsk 22.31 20 *eP* **P 04 47 39.1 -2.0**
comp=Z,120nm,1.4s,mb5.1
OBN Obninsk 22.31 20 *eP* **P 04 47 40.1 -1.0**
comp=Z,100nm,1.6s,mb5.0
ELAN Lanestosa 22.32 300 P **P 04 47 43.9 +2.6**
comp=Z,21nm,1.2s,mb4.4
ELUQ Luque 22.37 285 P **P 04 47 43.6 +1.8**
ELUQ pmax pmax
comp=Z,5.0nm,1.4s,mb3.8
ELUQ Luque 22.37 285 P **P 04 47 43.6 +1.8**
comp=Z,4.6nm,1.4s,mb3.7
ELUQ Luque 22.37 285 P **P 04 47 43.6 +1.8**
comp=Z,4.6nm,1.4s,mb3.7
GUD Guadarrama 22.42 293 P **P 04 47 43.3 +1.0**
GUD pmax pmax
comp=Z,10.0nm,1.1s,mb4.2
GUD Guadarrama 22.42 293 P **P 04 47 43.3 +1.0**
comp=Z,9.8nm,1.1s,mb4.2
GUD Guadarrama 22.42 293 P **P 04 47 43.3 +1.0**
comp=Z,9.8nm,1.1s,mb4.2
FLN La Foliniere 22.43 316 *eP* **P 04 47 39.8 -2.6**
comp=Z,77nm,1.1s,mb4.7
FLN *eR*
comp=Z,234nm,23.0s
FLN La Foliniere 22.43 316 *eP* **P 04 47 39.8 -2.6**
FLN pmax pmax
comp=Z,38nm,1.1s,mb4.7
FLN MLR MLR
comp=Z,230nm,23.0s,MS3.5
FLN La Foliniere 22.43 316 *eP* **P 04 47 39.8 -2.6**
comp=Z,38nm,1.1s,mb4.7
FLN LR LR
comp=Z,230nm,23.0s,MS3.5
GRR Gorron 22.46 314 *eP* **P 04 47 40.6 -2.2**
comp=Z,92nm,1.2s,mb4.8
GRR Gorron 22.46 314 *eP* **P 04 47 40.6 -2.2**
GRR pmax pmax
comp=Z,46nm,1.2s,mb4.8
GRR Gorron 22.46 314 *eP* **P 04 47 40.6 -2.2**
comp=Z,46nm,1.2s,mb4.8
EADA Adamuz 22.61 287 P **P 04 47 45.9 +1.5**
comp=Z,18nm,1.4s,mb4.3
EADA Adamuz 22.61 287 P **P 04 47 45.9 +1.6**
comp=Z,18nm,1.4s,mb4.3
EMIJ Mijas 22.82 283 P **P 04 47 51.5 +4.9**
comp=Z,14nm,1.0s,mb4.3
MOS Moscow 23.15 21 *eP* **P 04 47 46.8 -3.3**
MOS *e* 04 48 02.6
MOS *e* 04 48 34.7
MOS *eS* **S 04 51 56.6 -1.7**
MOS pmax pmax
comp=Z,115nm,1.2s,mb5.2
MOS Moscow 23.15 21 *eP* **P 04 47 46.8 -3.3**
comp=Z,115nm,1.2s,mb5.2
MDT Midelt 23.23 273 P **P 04 47 53.1 +2.3**
comp=Z,1.5nm,0.9s,baz=108,slow=16,SNR=2.8
MDT LR LR 04 59 01.9
comp=Z,292nm,21.6s,MS3.7,baz=91,slow=42
SGMF Saint Gilles 23.41 313 *eP* **P 04 47 50.7 -2.0**
QUIF Quistinic 23.64 312 *eP* **P 04 47 53.1 -1.7**
comp=Z,84nm,1.2s,mb4.8
QUIF Quistinic 23.64 312 *eP* **P 04 47 53.1 -1.7**
QUIF pmax pmax
comp=Z,42nm,1.2s,mb4.7
QUIF Quistinic 23.64 312 *eP* **P 04 47 53.1 -1.7**
comp=Z,42nm,1.2s,mb4.8
ESPR Espera 23.67 283 P **P 04 47 55.8 +0.8**
comp=Z,6.0nm,0.9s,mb4.0
ESPR Espera 23.67 283 P **P 04 47 55.8 +0.8**
comp=Z,6.0nm,0.9s,mb4.0
VSU Vasula 23.78 5 *dP* **P 04 47 53.4 -2.6**
VSU Vasula 23.78 5 *iP* **P 04 47 53.4 -2.6**
ROSF Rostrenen 23.88 313 *eP* **P 04 47 54.5 -2.5**
EBAD Badajoz 24.52 288 P **P 04 48 03.8 +1.0**
comp=Z,8.3nm,0.8s,mb4.3
PCBR Castelo Branco 24.90 291 *eP* **P 04 48 07.9 +1.7**
comp=Z,14nm,1.7s,mb4.2
PBEJ Beja 25.21 286 *eP* **P 04 48 10.8 +1.8**
comp=Z,14nm,1.4s,mb4.3
PVIS Viseu 25.26 293 *eP* **P 04 48 10.8 +1.3**
comp=Z,20nm,1.7s,mb4.4
PTOM Tomar 25.61 290 *eP* **P 04 48 14.9 +2.2**
comp=Z,10nm,1.1s,mb4.3
PTEO Sao Teotonio 25.91 285 *eP* **P 04 48 19.3 +3.9**
comp=Z,16nm,1.0s,mb4.5
HFS Hagfors 26.10 349 P **P 04 48 16.0 -1.1**
comp=Z,7.2nm,0.5s,mb4.5,baz=157,slow=13,SNR=31
FINES FINESS Array B 26.72 3 P **P 04 48 20.4 -2.3**
comp=Z,6.7nm,1.0s,mb4.1,baz=161,slow=11,SNR=12
FINES LR LR 05 00 12.8
comp=Z,488nm,19.3s,MS4.1,baz=184,slow=39
FINES FINESS Array B 26.72 3 P **P 04 48 20.4 -2.3**
FINES LR LR 05 00 12.8
NAO01 NORSAR Array S 27.26 347 *eP* **P 04 48 26.6 -0.9**
comp=Z,21nm,1.0s,mb4.6
NAO01 NORSAR Array S 27.26 347 *eP* **P 04 48 26.6 -0.9**
comp=Z,21nm,1.0s,mb4.6
NB2 NORSAR Subarra 27.38 347 P **P 04 48 27.6 -1.0**
comp=Z,6.8nm,0.8s,mb4.2,baz=158,slow=10
NOA NORSAR Array B 27.38 347 P **P 04 48 27.7 -0.9**
comp=Z,8.3nm,0.9s,mb4.3,baz=159,slow=9.9,SNR=15

NOA LR LR 04 59 27.2
comp=Z,30nm,21.4s,baz=175,slow=37
KAF Kangasniemi 27.40 3 *ep* **P 04 48 29.0 +0.2**
comp=Z,13nm,0.8s,mb4.5,baz=178,slow=5.5
KAF Kangasniemi 27.40 3 *eP* **P 04 48 29.0 +0.2**
KAF pmax pmax
comp=Z,13nm,0.8s,mb4.5
EKA Eskdalemuir Ar 27.46 327 P **P 04 48 29.3 -0.1**
comp=Z,9.4nm,0.9s,mb4.3,baz=126,slow=8.4,SNR=12
KLMR Klimovskoe 28.09 17 *eP* **P 04 48 32.9 -2.1**
KLMR pmax pmax
comp=Z,40nm,1.9s,mb4.7
JOF Joensuu 28.59 8 *ep* **P 04 48 37.2 -2.2**
TORD Torodi Ar. Bea 29.09 227 P **P 04 48 45.6 +1.7**
comp=Z,1.2nm,0.5s,mb3.9,baz=29,slow=8.5,SNR=33
AKTK Aktyubinsk 29.63 47 P **P 04 48 47.0 -1.6**
AKTK LR LR 05 03 35.8
AKTK Aktyubinsk 29.63 47 P **P 04 48 47.0 -1.6**
AKTO Aktyubinsk 29.63 47 P **P 04 48 47.0 -1.6**
comp=Z,0.8nm,0.4s,mb3.9,baz=228,slow=8.7,SNR=4.4
AKTO LR LR 05 03 35.8
comp=Z,110nm,21.0s,MS3.5,baz=0.0,slow=42
AKTO Aktyubinsk 29.63 47 P **P 04 48 47.1 -1.5**
AKTO pmax pmax
comp=Z,10.0nm,0.4s,mb4.9
AKTO MLR MLR
comp=Z,110nm,21.0s,MS3.5
ARU Arti 32.27 37⇑ *iP* **P 04 49 09.9 -2.0**
ARU *e* 04 50 14.2
ARU *eS* **S 04 54 21.1 -1.3**
ARU *eSS* SS 04 56 16.0 -26
ARU pmax pmax
comp=Z,16nm,1.0s,mb4.8
ARU Arti 32.27 37 *eP* **P 04 49 09.6 -2.2**
comp=Z,7.0nm,0.3s,mb5.0
ARU Arti 32.27 37 *eP* **P 04 49 09.6 -2.3**
comp=Z,7.0nm,0.3s,mb5.0
ARU *eS* **S 04 54 21.1 -1.3**
ARCES ARCESS Array B 34.81 1 P **P 04 49 32.0 -2.0**
comp=Z,2.3nm,0.8s,mb4.2,baz=186,slow=9.1,SNR=14
ARCES LR LR 05 05 03.7
comp=Z,519nm,20.1s,MS4.3,baz=75,slow=39
ARCES ARCESS Array B 34.81 1 P **P 04 49 32.0 -2.0**
ARCES LR LR 05 05 03.7
KEV Kevo 35.07 2 *ep* **P 04 49 34.9 -1.3**
ZRNK Zerenda 36.88 46 *eP* **P 04 49 51.1 -0.6**
ZRNK pmax pmax
comp=Z,25nm,1.1s,mb5.0
ZRNK Zerenda 36.88 46 *eP* **P 04 49 51.1 -0.6**
comp=Z,25nm,1.1s,mb5.0
BRVK Borovoye 37.66 46 *eP* **P 04 49 57.7 -0.6**
BRVK *PP pP 04 50 15.4 +5.4
BRVK *SP sP 04 50 24.3 +9.3
BRVK pmax pmax
comp=Z,11nm,1.4s,mb4.4
BRVK Borovoye 37.66 46 *eP* **P 04 49 57.7 -0.6**
comp=Z,11nm,1.4s,mb4.4
BRVK pP pP 04 50 15.4 +5.5
BRVK sP sP 04 50 24.2 +9.3
BRVK *e* 04 50 24.6
BRVK Borovoye 37.66 46 *eP* **P 04 49 57.7 -0.6**
comp=Z,11nm,1.4s,mb4.4
KMBO Kilima Mbogo 38.07 157 LR LR 05 08 11.1
comp=Z,165nm,18.1s,MS3.9,baz=95,slow=40
AAK Ala-Archa 40.20 63 *eP* **P 04 50 19.5 -0.1**
AAK pmax pmax
comp=Z,11nm,1.1s,mb4.5
AAK Ala-Archa 40.20 63 *eP* **P 04 50 19.5 -0.1**
comp=Z,11nm,1.1s,mb4.5
AAK Ala-Archa 40.20 63 *eP* **P 04 50 19.5 -0.1**
comp=Z,11nm,1.1s,mb4.5
FRU Bishkek 40.27 63 *eP* **P 04 50 21.0 +0.8**
FRU *e* 04 50 40.5
FRU pmax pmax
comp=Z,60nm,1.9s,mb5.0
KURK Kurchatov 42.60 51*c iP* **P 04 50 38.2 -1.1**
KURK Kurchatov 42.60 51 *eP* **P 04 50 38.4 -0.9**
comp=Z,23nm,1.3s,mb4.8
KURK Kurchatov 42.60 51 *eP* **P 04 50 38.4 -0.9**
comp=Z,23nm,1.3s,mb4.8
KBS Kingsbay 44.48 357*c iP* **P 04 50 53.9 -0.6**
MKAR Makanchi Array 45.26 56 P **P 04 51 00.4 -0.2**
comp=Z,4.2nm,0.3s,mb4.8,baz=264,slow=7.4,SNR=81
NVS Novosibirsk 45.43 45 *iP* **P 04 51 00.3 -1.7**
NVS *iS* **S 04 57 36.9 -3.5**
NVS *i* *SS sS 04 58 05.0 +4.9
NVS pmax pmax
comp=Z,41nm,1.5s,mb5.0
NVS pmax pmax
comp=N,9.0nm,1.2s
NVS pmax pmax
comp=E,9.0nm,0.8s
NVS smax
comp=N,32nm,2.1s
NVS smax
comp=E,6.0nm,1.1s
DAG Danmarks Havn 46.06 348 *iP* **P 04 51 06.5 -0.5**
DAG Danmarks Havn 46.06 348 *eP* **P 04 51 06.5 -0.5**
ZAL Zalesovo 46.35 46 LR LR 05 13 12.5
comp=E,85nm,21.6s,MS3.7,baz=218,slow=40
KOLN Koldanda 51.37 80 *eP* **P 04 51 48.4 +0.7**
comp=E,30nm,1.3s,mb5.1
GKN Gorkha 52.11 80 *eP* **P 04 51 53.9 +0.7**
DMN Daman 52.65 80 *eP* **P 04 51 58.1 +0.9**
comp=E,52nm,1.1s,mb5.4
KKN Kakani 52.72 79 *eP* **P 04 51 57.9 +0.2**
comp=E,51nm,1.2s,mb5.3
KKN Kakani 52.72 79 *eP* **P 04 51 57.9 +0.2**
KKN pmax pmax
comp=Z,51nm,1.2s,mb5.3
PKI Pulchoki 52.91 80 *eP* **P 04 51 59.8 +0.6**
comp=Z,18nm,0.7s,mb5.1
PKI Pulchoki 52.91 80 *eP* **P 04 51 59.8 +0.6**
PKI pmax pmax
comp=Z,18nm,0.7s,mb5.1
GUN Gumba 53.16 79 *eP* **P 04 52 01.3 +0.3**
comp=Z,38nm,1.1s,mb5.3
JIRN Jiri 53.51 79 *eP* **P 04 52 04.4 +0.9**
comp=Z,14nm,0.7s,mb5.0
MOY Mondy 56.39 47 *eP* **P 04 52 25.1 +0.7**
TLY Talaya 57.97 46*c iP* **P 04 52 35.6 +0.1**
TLY pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
ZAK Zakamensk 58.14 48 *eP* **P 04 52 36.7 0.0**
ZAK pmax pmax
comp=Z,13nm,1.3s,mb4.8
GTA Gaotai 59.49 61 *eP* **P 04 52 46.3 +0.2**
GTA AMB AMB
comp=Z,5.0nm,1.5s,mb4.3
SONM Songino Array 60.91 50 P **P 04 52 55.8 +0.1**
comp=Z,4.1nm,0.6s,mb4.7,baz=283,slow=9.1,SNR=36
ULN Ulaanbaatar 61.31 50*c iP* **P 04 52 58.5 0.0**
ULN Ulaanbaatar 61.31 50 *eP* **P 04 52 58.6 +0.1**
comp=Z,13nm,1.1s,mb5.0
ULN Ulaanbaatar 61.31 50 *eP* **P 04 52 58.6 +0.1**
comp=Z,13nm,1.1s,mb5.0
BOD Bodaibo 61.68 37 *eP* **P 04 52 59.3 -1.7**
BOD pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
TIXI Tiksi 62.04 20 *eP* **P 04 53 00.0 -3.4**
TIXI pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
TIXI MLR MLR
comp=Z,151nm,17.0s,MS4.2
SCHQ Schefferville 62.45 319 P **P 04 53 07.0 +0.8**
comp=Z,2.2nm,0.7s,mb4.4,baz=70,slow=11,SNR=4.2
LZH Lanzhou 63.74 63 *eP* **P 04 53 15.8 +1.1**
LZH AMB AMB
comp=Z,20nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,94nm,5.0s
CD2 Chengdu 65.96 68 *eP* **P 04 53 29.5 +0.3**
CD2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
HHC Hu-ho-hao-te 67.12 55 *eP* **P 04 53 38.3 +1.7**
HHC AP pP 04 53 53.0 +4.0
HHC PCP PcP 04 54 07.4 +2.9
HHC PP PP 04 56 09.1 +4.4
HHC PCS 04 58 11.3
HHC S S 05 02 27.3 -0.4
HHC AMB AMB
comp=Z,15nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,235nm,5.6s
HHC LR LR
comp=N,215nm,21.0s,MS4.7
HHC LR LR
comp=E,443nm,20.6s,MS4.7
HHC LR LR
comp=Z,189nm,19.9s,MS4.3
KMI Kunming 67.90 74 P **P 04 53 41.8 +0.3**
KMI LR LR
comp=Z,44nm,26.8s,MS3.6
BILL Bilibino 73.78 14⇓ *eP* **P 04 54 14.7 -2.5**
BILL *eS* S 05 03 32.3 -13
BILL pmax pmax
comp=Z,4.0nm,1.4s,mb4.2
BILL MLR MLR
comp=Z,100nm,19.0s,MS4.1
SNY Shenyang 74.48 50⇑ **P P 04 54 20.3 -1.0**
SNY AMB AMB
comp=Z,5.0nm,0.2s,mb5.1
KLR Kul'dur 75.04 40 *eP* **P 04 54 20.7 -3.9**
MDJ Mudanjiang 76.55 45 P **P 04 54 33.3 +0.1**
MDJ PP PP 04 57 24.3 -1.2
MDJ S S 05 04 15.9 -0.2
MDJ AMB AMB
comp=Z,4.0nm,1.1s,mb4.3
MDJ AMB AMB
comp=Z,59nm,4.8s
MDJ LR LR
comp=N,66nm,25.1s,MS3.9
MDJ LR LR
comp=E,24nm,25.1s,MS3.9
MDJ LR LR
comp=Z,40nm,18.8s
NJ2 Nanjing 76.58 60 *eP* **P 04 54 36.3 +3.0**
NJ2 AP pP 04 54 49.9 +4.0
NJ2 PP PP 04 57 29.1 +3.3
NJ2 S S 05 04 18.0 +1.6
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
NJ2 AMB AMB
comp=Z,410nm,4.4s
NJ2 LR LR
comp=N,950nm,16.3s
NJ2 LR LR
comp=E,630nm,18.5s
NJ2 LR LR
comp=Z,530nm,16.8s,MS4.9
YKW3 Yellowknife Ar 77.25 341 *eP* **P 04 54 37.0 -0.1**
YKW3 *ePcP* PcP 04 54 46.3 -1.4
YKW3 Yellowknife Ar 77.25 341 *eP* **P 04 54 37.0 -0.1**
YKW3 Yellowknife Ar 77.25 341 *ePcP* PcP 04 54 46.3 -1.3
YKA Yellowknife Ar 77.30 341 P **P 04 54 37.7 +0.3**
comp=Z,2.1nm,0.9s,mb4.0,baz=38,slow=5.5,SNR=29
YKA LR LR 05 30 12.8
comp=Z,58nm,18.5s,MS3.9,baz=35,slow=37
YKA Yellowknife Ar 77.30 341 P **P 04 54 37.7 +0.3**
YKA LR LR 05 30 12.8
FFC Flin Flon 79.21 331 *eP* **P 04 54 48.9 +1.0**
FFC pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
FFC Flin Flon 79.21 331 *eP* **P 04 54 48.9 +1.0**
comp=Z,3.7nm,1.0s,mb4.3
FFC Flin Flon 79.21 331 *eP* **P 04 54 48.9 +1.0**
comp=Z,3.7nm,1.0s,mb4.3
ULM Lac du Bonnet 79.73 325 P **P 04 54 51.7 +0.9**
comp=Z,1.8nm,0.8s,mb4.0,baz=52,slow=4.4,SNR=4.0
ULM Lac du Bonnet 79.73 325 P **P 04 54 51.7 +0.9**
ILAR Eielson Array 80.45 356 P **P 04 54 55.5 +0.8**
comp=Z,1.6nm,1.0s,mb3.9,baz=2.8,slow=4.4,SNR=17
ILAR LR LR 05 29 36.4
comp=Z,40nm,19.5s,MS3.8,baz=177,slow=35
DAWY Dawson 80.51 352 *eP* **P 04 54 56.2 +1.2**
DAWY Dawson 80.51 352 *eP* **P 04 54 56.2 +1.2**
PMR Palmer 83.75 356 *eP* **P 04 55 11.7 -0.2**
PMR pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
PMR Palmer 83.75 356 *eP* **P 04 55 11.7 -0.2**
comp=Z,7.0nm,1.1s,mb4.7
PMR Palmer 83.75 356 *eP* **P 04 55 11.7 -0.2**
comp=Z,7.0nm,1.1s,mb4.7
EDM Edmonton 84.59 335 *eP* **P 04 55 17.3 +1.1**
MJAR Matsushiro Arr 86.71 47 P **P 04 55 27.1 +0.3**
comp=Z,2.7nm,0.8s,mb4.5,baz=305,slow=5.0,SNR=6.2
MJAR LR LR 05 38 47.8
comp=Z,55nm,18.3s,MS4.0,baz=275,slow=39
LAO LASA Array 87.03 328 *eP* **P 04 55 29.2 +0.9**
comp=Z,12nm,1.1s,mb5.0
LAO *epP* pP 04 55 42.4 +1.3
LAO LASA Array 87.03 328 *eP* **P 04 55 29.2 +0.9**
comp=Z,12nm,1.1s,mb5.0
PDAR Pinedale Array 91.58 327 LR LR 05 36 41.9
comp=Z,103nm,21.5s,MS4.2,baz=181,slow=35

*NEIC **15** 06:34:17.4, 3986N×2079E, h16km, MD3.4(ATH), After ATH.*
*ATH **15** 06:34:17.5, 3985N×2080E, h16km±3km, MD3.4/4*
*SKO **15** 06:34:18.6, 3987N×2072E, h2km*
*ISCJB **15** 06:34:18.3±0.4, 3984N±002×2076E±003, h5km±5km, Error ellipse: s-maj=4.0km s-min=3.9km az=91.9*
*CSEM **15** 06:34:18.7±0.2, 3988N×2070E, h15km, MD3.4, Error ellipse: s-maj=4.4km s-min=3.9km az=121.0*
*THE **15** 06:34:19.1, 3988N×2067E, h6km, ML3.1*

ISC 15 06:34:19.0±0.4, 3984N±002×2074E±003, h8km±5km, n22, σ1§02/39, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.20**	**154**	*e*PB	**Pg**	**06 34 22.0**	**-1.2**
JAN				*e*SB	**Sg**	**06 34 25.6**	**-0.3**
LSK	**Leskovik**	**0.33**	**341**	*i* Pg	**Pg**	**06 34 24.5**	**-0.9**
LSK				*i* Sg	**Sg**	**06 34 30.8**	**+1.1**
LSK	**Leskovik**	**0.33**	**341**	*e*Pg	**Pg**	**06 34 24.5**	**-0.9**
LSK				*i* Sg	**Sg**	**06 34 30.8**	**+1.1**
IGT	**Igoumenitsa**	**0.44**	**225**	*e*Pg	**Pg**	**06 34 27.2**	**-0.3**
IGT				*e*Sg	**Sg**	**06 34 33.6**	**+0.3**
SRN	**Sarande**	**0.57**	**274**	*i* Pg	**Pg**	**06 34 28.8**	**-1.2**
SRN				*i* Sg	**Sg**	**06 34 38.5**	**+1.1**
SRN	**Sarande**	**0.57**	**274**	*e*Pg	**Pg**	**06 34 28.8**	**-1.2**
SRN				*i* Sg	**Sg**	**06 34 38.5**	**+1.1**
KEK	**Kerkira**	**0.73**	**260**	*e*PN	**Pg**	**06 34 31.5**	**-1.6**
KEK				*e*SN	**Sg**	**06 34 44.0**	**+1.3**
KEK	**Kerkira**	**0.73**	**260**	*e*Pn	**Pg**	**06 34 31.3**	**-1.8**
KEK				*e*Sn	**Sg**	**06 34 43.7**	**+1.0**
KZN	**Kozani**	**0.92**	**59**	*e*PN	**Pn**	**06 34 34.4**	**-3.9**
FNA	**Florina**	**1.06**	**27**	*e*Pg	**Pg**	**06 34 39.2**	**-0.2**
FNA				*e*Sg	**Sg**	**06 34 53.9**	**+0.7**
FNA	**Florina**	**1.06**	**27**	*e*Pg	**Pg**	**06 34 39.2**	**-0.2**
FNA				*e*Sg	**Sg**	**06 34 53.8**	**+0.6**
LKD	**Levkas**	**1.13**	**183**	*e*Pg	**Pg**	**06 34 41.1**	**+0.3**
LKD				*e*Sg	**Sg**	**06 34 58.2**	**+2.7**
EVR	**Evrytania**	**1.24**	**138**	*e*PN	**Pn**	**06 34 40.5**	**-2.2**
BIA	**Bitola**	**1.26**	**21**	*e*Pn	**Pn**	**06 34 42.2**	**-0.7**
BIA				*e*Sn	**Sn**	**06 34 59.5**	**-0.6**
BIA	**Bitola**	**1.26**	**21**	*e*Pn	**Pn**	**06 34 42.2**	**-0.7**
BIA				*e*Sn	**Sn**	**06 34 59.4**	**-0.7**
OHR	**Ohrid**	**1.27**	**2**	*e*Pn	**Pn**	**06 34 43.7**	**+0.6**
OHR				*e*Sn	**Sn**	**06 35 00.5**	**+0.2**
LIT	**Litokhoron**	**1.37**	**79**	*e*Pg	**Pg**	**06 34 44.7**	**-0.6**
LIT				*e*Sg	**Sg**	**06 35 04.1**	**+1.0**
AGG	**Agios Georgios**	**1.48**	**123**	*e*Pg	**Pg**	**06 34 46.2**	**-1.2**
AGG				*e*Sg	**Sg**	**06 35 07.6**	**+1.0**
VLS	**Valsamata**	**1.67**	**184**	*e*PN	**Pn**	**06 34 48.9**	**+0.4**
KNT	**Kendrikon**	**2.11**	**51**	*e*Pn	**Pn**	**06 34 54.8**	**+0.1**
PAIG	**Paliouri**	**2.27**	**87**	*e*Pn	**Pn**	**06 34 57.0**	**+0.3**
PAIG				*e*Sn	**Sn**	**06 35 26.4**	**+1.5**
PAIG	**Paliouri**	**2.27**	**87**	*e*Pn	**Pn**	**06 34 57.0**	**+0.2**

IDC 15 06:38:52.3±6.7, 609S×12798E, h483km±90km, mb2.8/2, mb1 2.9/5, mb1mx2.8/14, mbtmp3.7/5, Error ellipse: s-maj=95.7km s-min=31.4km az=54.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.15**	**191**	P	P	06 41 31.3	-1.2
	0.1nm,0.3s,baz=9.1,slow=19,SNR=5.0						
WRA	**Warramunga Arr**	**15.09**	**156**	P	P	06 42 04.1	+0.5
	0.4nm,0.3s,baz=334,slow=11,SNR=13						
WRA				S	S	06 44 43.4	+1.8
	0.1nm,0.3s,baz=341,slow=20,SNR=3.6						
ASAR	**Alice Springs**	**18.38**	**163**	P	P	06 42 38.4	+1.4
	0.3nm,0.3s,baz=339,slow=11,SNR=16						
STKA	**Stephens Creek**	**28.64**	**155**	P	P	06 44 07.8	-0.9
	1.2nm,0.5s,baz=342,slow=16,SNR=6.2						
MKAR	**Makanchi Array**	**66.38**	**328**	P	P	06 48 52.6	+0.2
	0.2nm,0.4s,baz=110,slow=8.4,SNR=4.4						

WEL 15 06:50:43.5±0.5, 3955S×17445E, h210km±3km, ML3.7/15, 1D, Error ellipse: s-maj=5.5km s-min=3.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WAZ	**Wanganui**	**0.46**	**116**	PN	Pn	06 51 12.0	+0.5
WAZ				SN	Sn	06 51 34.0	+0.6
VRZ	**Vera Road**	**0.49**	**29**	PN	Pn	06 51 10.8	-0.9
VRZ				SN	Sn	06 51 32.4	-1.2
WNVZ	**Wahianoa**	**0.92**	**76**	PN	Pn	06 51 13.8	+0.1
WNVZ				SN	Sn	06 51 36.4	-0.9
MOVZ	**Moawhango**	**1.02**	**82**	PN	Pn	06 51 14.0	-0.4
MOVZ				SN	Sn	06 51 36.4	-2.0
TSZ	**Takapari Road**	**1.27**	**114**	PN	Pn	06 51 16.5	+0.3
TSZ				SN	Sn	06 51 34.6	-7.0
DUWZ	**D'Urville Isla**	**1.31**	**198**	PN	Pn	06 51 16.2	-0.3
KIW	**Kapiti Island**	**1.35**	**165**	PN	Pn	06 51 16.9	+0.1
KIW				SN	Sn	06 51 41.7	-1.1
MRZ	**Mangatainoka R**	**1.41**	**142**	PN	Pn	06 51 17.2	0.0
MRZ				SN	Sn	06 51 43.1	-0.4
CAW	**Cannon Point**	**1.62**	**163**	PN	Pn	06 51 19.1	0.0
BKZ	**Black Stump Fm**	**1.63**	**77**⇓	PN	Pn	06 51 18.6	-0.6
TIWZ	**Tintock**	**1.65**	**138**	PN	Pn	06 51 19.6	+0.3
TCW	**Tory Channel**	**1.66**	**185**	PN	Pn	06 51 19.5	0.0
MRW	**Makara Radio**	**1.69**	**174**	PN	Pn	06 51 19.5	-0.1
MTW	**Mount Morrison**	**1.79**	**154**	PN	Pn	06 51 20.6	0.0
NNZ	**Nelson**	**1.85**	**206**	PN	Pn	06 51 20.5	-0.8
NNZ				SN	Sn	06 51 48.3	-2.4
TUWZ	**Tuamarina**	**1.92**	**191**	PN	Pn	06 51 21.4	-0.4
QRZ	**Quartz Range**	**1.94**	**229**	PN	Pn	06 51 20.2	-2.0
MSWZ	**Moikau Station**	**1.96**	**162**	PN	Pn	06 51 22.0	-0.3
PAWZ	**Paruwai Farm**	**1.97**	**158**	PN	Pn	06 51 22.3	-0.2
BSWZ	**Blackbirch Sta**	**2.20**	**191**	PN	Pn	06 51 24.9	+0.1
URZ	**Urewera**	**2.44**	**59**	PN	Pn	06 51 25.2	-2.2

*ISCJB **15** 06:59:36.5±0.3, 4936N±002×686E±003, h0km, Error ellipse: s-maj=2.7km s-min=2.5km az=0.9*
*NEIC **15** 06:59:38.1, 4939N×690E, h1km, ML2.8(LDG), After LDG.*
*BGR **15** 06:59:38.6±0.5, 4937N×685E, h1km, ML2.0, Error ellipse: s-maj=7.8km s-min=5.6km az=33.0*
*CSEM **15** 06:59:38.0±0.1, 4939N×691E, h1km, ML2.8/8, Error ellipse: s-maj=1.5km s-min=1.3km az=93.0*
*LDG **15** 06:59:38.1±0.1, 4939N×690E, h1km, Ml2.8/7, Error ellipse: s-maj=2.1km s-min=1.5km az=45.0, Suspected Mining induced.*

ISC 15 06:59:37.5±0.3, 4937N±002×686E±003, h0km, n31, σ0§70/59, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUP	**Ruppelstein**	**0.36**	**21**	Pg	**Pg**	**06 59 44.4**	**+0.1**
RUP				Sg	**Sg**	**06 59 49.6**	**+0.6**
WLF	**Walferdange**	**0.55**	**303**	*e*Pg	**Pg**	**06 59 49.3**	**+1.4**
WLF				*e*Sg	**Sg**	**06 59 55.0**	**-0.1**
LANF	**Langenberg**	**0.73**	**122**	Pg	**Pg**	**06 59 51.3**	**-0.2**
LANF				Sg	**Sg**	**07 00 00.4**	**-0.6**
KTD	**Kalmit**	**0.80**	**93**	Pg	**Pg**	**06 59 53.6**	**+0.8**
CDF	**Champ du Feu**	**1.00**	**164**	*e*Pg	**Pg**	**06 59 57.4**	**+0.8**
CDF				*e*Sg	**Sg**	**07 00 09.6**	**+0.1**
	24nm,0.3s						
CDF	**Champ du Feu**	**1.00**	**164**	*e*Pg	**Pg**	**06 59 57.4**	**+0.8**
CDF				*e*Sg	**Sg**	**07 00 09.6**	**+0.1**
	12nm,0.3s						
WLS	**Welschbruch**	**1.01**	**161**	Pg	**Pg**	**06 59 57.6**	**+0.8**
WLS				Sg	**Sg**	**07 00 10.7**	**+0.8**
ECH	**Echery**	**1.17**	**170**	Pg	**Pg**	**07 00 00.4**	**+0.5**
ECH				Sg	**Sg**	**07 00 15.1**	**0.0**
RFYF	**Reffroy**	**1.18**	**231**	*e*Pn	**Pn**	**07 00 00.0**	**-1.2**
RFYF				*e*Sg	**Sg**	**07 00 17.2**	**+1.9**
	22nm,0.3s						
RFYF	**Reffroy**	**1.18**	**231**	*e*Pn	**Pn**	**07 00 00.0**	**-1.2**
RFYF				*e*Sg	**Sg**	**07 00 17.2**	**+1.9**
	11nm,0.3s						
THEF	**They Montfort**	**1.28**	**207**	Pg	**Pg**	**07 00 02.0**	**0.0**
THEF				Sg	**Sg**	**07 00 18.9**	**+0.2**
TOD	**Tromm**	**1.29**	**79**	Pg	**Pg**	**07 00 01.4**	**-0.8**
TOD				Sg	**Sg**	**07 00 18.7**	**-0.2**
TNS	**Taunus Mts**	**1.34**	**50**	*e*Pg	**Pg**	**07 00 02.7**	**-0.4**
TNS				*e*Sg	**Sg**	**07 00 21.2**	**+0.8**
TNS	**Taunus Mts**	**1.34**	**50**	*e*Pg	**Pg**	**07 00 02.7**	**-0.4**
TNS				*e*Sg	**Sg**	**07 00 21.2**	**+0.8**
HAU	**Haudompre**	**1.41**	**194**	*e*Pg	**Pg**	**07 00 05.3**	**+0.9**
HAU				*e*Sg	**Sg**	**07 00 22.8**	**+0.1**
	25nm,0.3s						
HAU	**Haudompre**	**1.41**	**194**	*e*Pg	**Pg**	**07 00 05.3**	**+0.9**
HAU				*e*Sg	**Sg**	**07 00 22.8**	**+0.1**
	13nm,0.3s						
BFO	**Black Forest**	**1.42**	**136**	*e*Pg	**Pg**	**07 00 04.9**	**+0.1**
BFO				*e*Sg	**Sg**	**07 00 23.2**	**+0.1**
	224nm,3.1s						
GIVF	**Givet**	**1.51**	**300**	*e*Pg	**Pg**	**07 00 06.2**	**-0.3**
GIVF				*e*Sg	**Sg**	**07 00 26.0**	**-0.1**
	22nm,0.4s						
GIVF	**Givet**	**1.51**	**300**	*e*Pg	**Pg**	**07 00 06.2**	**-0.3**
GIVF				*e*Sg	**Sg**	**07 00 26.0**	**-0.1**
	11nm,0.4s						
MOF	**Molkenrain**	**1.53**	**173**	Pg	**Pg**	**07 00 06.6**	**-0.2**
MOF				Sg	**Sg**	**07 00 26.9**	**+0.3**
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pg	**Pg**	**07 00 07.2**	**-0.1**
HINF				*e*Sg	**Sg**	**07 00 27.2**	**-0.2**
	52nm,0.2s						
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pg	**Pg**	**07 00 07.2**	**-0.1**
HINF				*e*Sg	**Sg**	**07 00 27.2**	**-0.2**
	26nm,0.2s						
FELD	**Feldberg im Sc**	**1.68**	**153**	Pg	**Pg**	**07 00 09.3**	**-0.3**
FELD				Sg	**Sg**	**07 00 30.9**	**-0.4**
SFTF	**Sexfontaines**	**1.68**	**227**	*e*Pn	**Pn**	**07 00 07.6**	**-0.5**
SFTF				*e*Sn	**Sn**	**07 00 28.8**	**-1.4**
SFTF				*e*Sg	**Sg**	**07 00 32.3**	**+0.9**
	13nm,0.4s						
SFTF	**Sexfontaines**	**1.68**	**227**	*e*Pn	**Pn**	**07 00 07.6**	**-0.5**
SFTF				*e*Sn	**Sn**	**07 00 28.8**	**-1.4**
SFTF				*e*Sg	**Sg**	**07 00 32.3**	**+0.9**
	6.6nm,0.4s						
BAIF	**Baives**	**1.86**	**293**	*e*Pg	**Pg**	**07 00 13.1**	**+0.1**
CABF	**La Chapelle**	**2.81**	**191**	*e*Pn	**Pn**	**07 00 23.1**	**-0.5**
CABF				*e*Sg	**Sg**	**07 01 07.7**	**0.0**
	2.6nm,0.3s						
CABF	**La Chapelle**	**2.81**	**191**	*e*Pn	**Pn**	**07 00 23.1**	**-0.5**
CABF				*e*Sg	**Sg**	**07 01 07.7**	**0.0**
	1.3nm,0.3s						
SMF	**Signal de Mont**	**3.40**	**218**	*e*Pn	**Pn**	**07 00 30.4**	**-1.3**
AVF	**Avril sur Loir**	**3.49**	**224**	*e*Pn	**Pn**	**07 00 31.7**	**-1.3**
BGF	**Bois d'Agland**	**3.90**	**225**	*e*Pn	**Pn**	**07 00 37.6**	**-1.0**

SSNC 15 06:59:46.9, 1908N×7270W, h0km, MD3.7, ML2.4, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASC	**Masc**	**1.81**	**307**	*e*P	Pn	07 00 16.5	-2.8
MASC				*e*S	Sn	07 00 37.7	-5.3
	comp=N,1.9nm,0.1s						
MASC				*e*			
	comp=E,2.2nm,0.1s						
MOAC	**Moa**	**2.65**	**307**	*i* P	Pn	07 00 28.5	-2.3
	baz=110						
MOAC				*i* S	Sn	07 00 59.1	-4.5
	comp=N,3.9nm,0.4s						
MOAC				*e*			
	comp=E,3.2nm,0.2s						
RCC	**Rio Carpintero**	**2.97**	**288**	*e*P	Pn	07 00 35.7	+0.5
	baz=137						
RCC				*e*S	Sn	07 01 07.9	-3.7
	comp=N,109nm,0.3s						
RCC				*e*			
	comp=E,122nm,0.3s						
HLGC	**Holguin**	**3.64**	**300**	*e*P	Pn	07 00 43.5	-1.0
	baz=103						
HLGC				*e*S	Sn	07 01 26.5	-1.6
	comp=N,4.0nm,0.6s						
HLGC				*e*			
	comp=E,3.8nm,0.2s						
LMGC	**Las Mercedes**	**4.18**	**284**	*e*P	Pn	07 00 51.3	-0.5
	baz=151						
LMGC				*e*S	Sn	07 01 37.3	-4.0
	comp=N,32nm,0.3s						

LMGC *e*
comp=E,38nm,0.6s
CCCC Cccc 5.21 295 *e*P Pn 07 00 58.4 -7.6
CCCC *e*S Sn 07 01 54.0 -13
comp=N,0.2nm,0.2s
CCCC *e*
comp=E,0.3nm,0.1s

IDC 15 07:24:45.1±9.3, 710S×13136E, h179km±70km, mb3.4/1, mb1 3.4/3, mb1mx3.1/11, mbtmp3.8/3, Error ellipse: s-maj=250.4km s-min=64.4km az=85.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.28**	**206**	*e*P	Pn	07 27 20.2	-14
	8.5nm,1.4s						
FITZ				*e*S	Sn	07 29 21.8	-29
WRA	**Warramunga Arr**	**13.09**	**168**	P	Pn	07 27 44.1	-0.4
	0.4nm,0.3s,baz=341,slow=13,SNR=19						
WRA				S	Sn	07 30 10.3	+0.4
	0.7nm,0.3s,baz=336,slow=21,SNR=8.2						
WB2	**Warramunga Arr**	**13.10**	**168**	*e*P	Pn	07 27 44.3	-0.2
WB2				*e*S	Sn	07 30 07.5	-2.5
ASAR	**Alice Springs**	**16.66**	**172**	P	Pn	07 28 29.3	+1.0
	0.3nm,0.3s,baz=349,slow=9.8,SNR=23						
ASAR				S	S	07 31 33.4	+1.0
	0.1nm,0.3s,baz=347,slow=28,SNR=3.8						
STKA	**Stephens Creek**	**26.44**	**160**	P	P	07 30 05.1	-0.2
	0.6nm,0.4s,baz=327,slow=13,SNR=3.0						

ISCJB 15 07:51:25.2±0.5, 3867N×002×2257E±003, h4km±4km, mb3.7/3, Error ellipse: s-maj=4.2km s-min=3.3km az=50.1
ATH 15 07:51:26.1, 3869N×2256E, h22km±1km, MD3.7/18, ML3.7
THE 15 07:51:26.9, 3871N×2264E, h10km, ML3.6
NEIC 15 07:51:26.1, 3869N×2256E, h21km, ML3.7(ATH), After ATH.
CSEM 15 07:51:26.6±0.1, 3870N×2256E, h12km, ML3.7, Error ellipse: s-maj=1.7km s-min=1.3km az=26.0
IDC 15 07:51:30.6±5.3, 3873N×2252E, h46km±59km, mb3.5/3, mb1 3.5/4, mb1mx3.2/21, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=54.9km s-min=27.2km az=143.0
SKO 15 07:51:31.2, 3912N×2261E, h0km
ISC 15 07:51:25.6±0.6, 3864N±002×2255E±003, h2km±4km, n48, σ1§04/59, mb3.7/3, 4C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.35**	**88**	*e*PB	**Pg**	**07 51 33.5**	**+1.2**
LKR				*e*SB	**Sg**	**07 51 39.6**	**+2.7**
AGG	**Agios Georgios**	**0.42**	**336**	*e*Pg	**Pg**	**07 51 33.9**	**+0.2**
EVR	**Evrytania**	**0.65**	**296**	*e*PB	**Pg**	**07 51 38.2**	**+0.2**
EVR				*e*SN	**Sg**	**07 51 47.2**	**+0.9**
NEO	**Neokhori**	**0.85**	**38**	↑*i*PN	**Pg**	**07 51 41.7**	**-0.2**
NEO				*e*SN	**Sg**	**07 51 53.1**	**+0.2**
XOR	**Xorichti**	**0.88**	**34**	*e*Pg	**Pg**	**07 51 42.6**	**+0.1**
RLS	**Riolos of Patr**	**1.03**	**236**	*e*PN	**Pn**	**07 51 46.4**	**-0.7**
RLS				*e*SN	**Sn**	**07 52 01.5**	**-0.7**
ATH	**Athens Observa**	**1.13**	**126**	*e*PN	**Pn**	**07 51 48.6**	**+0.1**
ATH				*e*SN	**Sn**	**07 52 03.9**	**-0.7**
AOS	**Alonnisos**	**1.16**	**62**	*e*Pg	**Pg**	**07 51 48.0**	**0.0**
AOS				*e*Sg	**Sg**	**07 52 02.6**	**-0.5**
PTL	**Penteli**	**1.19**	**119**	*e*PN	**Pn**	**07 51 49.5**	**+0.2**
KVR	**Kavouri**	**1.25**	**130**	*e*PN	**Pn**	**07 51 50.0**	**-0.2**
KVR				*e*SN	**Sn**	**07 52 09.0**	**+1.3**
LIT	**Litokhoron**	**1.46**	**358**	*e*Pg	**Pg**	**07 51 52.3**	**-1.4**
LIT				*e*Sg	**Sg**	**07 52 13.3**	**+0.7**
LKD	**Levkas**	**1.49**	**273**	*e*Pg	**Pg**	**07 51 54.8**	**+0.6**
ITM	**Ithomi**	**1.54**	**199**	*e*PN	**Pn**	**07 51 55.1**	**+1.0**
PAIG	**Paliouri**	**1.56**	**34**	*e*Pg	**Pg**	**07 51 52.9**	**-2.5**
VLS	**Valsamata**	**1.61**	**254**	*e*PN	**Pn**	**07 51 55.5**	**+0.4**
JAN	**Janina**	**1.67**	**308**	*e*PN	**Pn**	**07 51 56.7**	**+0.8**
KZN	**Kozani**	**1.77**	**340**	*e*PN	**Pn**	**07 51 57.4**	**+0.1**
KZN				*e*SN	**Sn**	**07 52 20.6**	**+0.1**
PLG	**Polygyros**	**1.86**	**21**	*e*PB	**Pb**	**07 51 57.1**	**-3.3**
VLI	**Velia**	**1.94**	**171**	↑*i*PB	**Pb**	**07 51 59.8**	**-1.9**
IGT	**Igoumenitsa**	**1.94**	**298**	*e*Pb	**Pb**	**07 52 02.2**	**+0.4**
IGT				*e*Sb	**Sb**	**07 52 27.3**	**+0.8**
LSK	**Leskovik**	**2.14**	**316**	*e*Pg	**Pg**	**07 52 05.9**	**-0.7**
SOH	**Sokhos**	**2.27**	**16**	*e*Pn	**Pn**	**07 52 04.0**	**-0.1**
GRG	**Griva**	**2.32**	**357**	*e*Pn	**Pn**	**07 52 04.1**	**-0.7**
FNA	**Florina**	**2.33**	**337**	*e*Pn	**Pn**	**07 52 05.1**	**+0.1**
FNA				*e*Sn	**Sn**	**07 52 35.8**	**+1.7**
KYTH	**Kithira**	**2.38**	**171**	*e*PB	**Pb**	**07 52 08.0**	**-1.3**
KEK	**Kerkira**	**2.39**	**297**	*e*PB	**Pb**	**07 52 07.4**	**-2.1**
BIA	**Bitola**	**2.56**	**339**	*e*Pn	**Pn**	**07 52 08.4**	**+0.3**
VAY	**Valandovo**	**2.68**	**0**	*e*Pn	**Pn**	**07 52 08.7**	**-1.1**
CHOS	**Chios island**	**2.76**	**94**	*e*Pn	**Pn**	**07 52 11.2**	**+0.3**
OHR	**Ohrid**	**2.81**	**332**	*e*Pn	**Pn**	**07 52 12.4**	**+0.8**
APE	**Apeiranthos**	**2.83**	**123**	*e*PN	**Pn**	**07 52 12.3**	**+0.4**
NVR	**Nevrokopi**	**2.89**	**20**	*e*PN	**Pn**	**07 52 11.7**	**-1.0**
PRK	**Paraskevi**	**2.96**	**77**	*e*PN	**Pn**	**07 52 13.4**	**-0.3**
MMB	**Musomiste**	**3.08**	**17**	*i*P	**Pn**	**07 52 14.0**	**-1.3**
KKB	**Krupnik**	**3.25**	**7**	*e*P	**Pn**	**07 52 13.0**	**-4.6**
RZN	**Rozhen**	**3.47**	**28**	*i*P	**Pn**	**07 52 19.4**	**-1.2**
VAM	**Vamos**	**3.48**	**157**	*e*PN	**Pn**	**07 52 22.5**	**+1.6**
KDZ	**Kurdzhali**	**3.72**	**35**	*i*P	**Pn**	**07 52 20.3**	**-3.8**
VTS	**Vitosha**	**3.98**	**7**	*e*P	**Pn**	**07 52 28.0**	**+0.3**
TIP	**Timpagrande**	**4.55**	**279**	*e*Pn	**Pn**	**07 52 37.0**	**+1.4**
TIP	**Timpagrande**	**4.55**	**279**	*e*Pn	**Pn**	**07 52 37.0**	**+1.5**
MLR	**Muntele Rosu**	**7.30**	**19**	↑*i*P	**Pn**	**07 53 14.2**	**+1.0**
PLOR	**Plostina**	**7.82**	**22**	↓*i*P	**Pn**	**07 53 26.1**	**+5.7**
VRI	**Vrincioaia**	**7.86**	**22**	↑*i*P	**Pn**	**07 53 22.5**	**+1.6**
BRTR	**Keskin Array B**	**8.68**	**79**	P	**Pn**	**07 53 33.8**	**+1.5**
	0.5nm,0.3s,baz=262,slow=13,SNR=8.8						
TORD	**Torodi Ar. Bea**	**31.41**	**222**	P	**P**	**07 57 47.9**	**-0.2**
	0.4nm,0.6s,mb3.5,baz=35,slow=9.1,SNR=5.3						
MKAR	**Makanchi Array**	**43.70**	**59**	P	**P**	**07 59 30.7**	**-1.3**
	0.5nm,0.4s,mb3.6,baz=277,slow=7.5,SNR=11						
SCHQ	**Schefferville**	**59.20**	**318**	P	**P**	**08 01 26.0**	**-2.2**
	0.8nm,0.6s,mb4.0,baz=70,slow=6.1,SNR=4.0						

IDC 15 07:53:14.9±2.2, 1031N×12644E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/20, mbtmp3.8/5, Error ellipse: s-maj=134.0km s-min=26.1km az=67.0
ISCJB 15 07:53:22.3±1.1, 1019N±005×12622E±009, h68km±11km, mb3.7/5, Error ellipse: s-maj=15.6km s-min=7.9km az=165.7
MAN 15 07:53:23.1, 1020N×12613E, h21km, mb3.3, ML4.6, MS3.5
ISC 15 07:53:23.7±1.1, 1019N±005×1262E±01, h60km±13km, n19, σ1§17/24, mb3.8/5, 2C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.81**	**240**	↓*e*P	**Pn**	**07 53 36.4**	**-2.9**
SCPH				*e*S	**Sn**	**07 53 49.7**	**-1.0**
MSLP	**Maasin**	**1.32**	**268**	*e*P	**Pn**	**07 53 44.7**	**-1.3**
MSLP				*e*S	**Sn**	**07 54 02.1**	**-0.5**
BUTP	**Butuan**	**1.34**	**205**	*e*P	**Pn**	**07 53 45.1**	**-1.2**
PLP	**Palo**	**1.54**	**309**	*e*P	**Pn**	**07 53 48.8**	**-0.1**
PLP				*e*S	**Sn**	**07 54 08.0**	**+0.1**
BESP	**Borongan**	**1.58**	**332**	*e*P	**Pn**	**07 53 49.1**	**-0.4**
LLP	**Lapu-Lapu**	**2.20**	**273**	*e*P	**Pn**	**07 53 57.7**	**-0.2**
LLP				*e*S	**Sn**	**07 54 21.9**	**-2.1**
CGP	**Cagayan de Oro**	**2.28**	**221**	↑*i*P	**Pn**	**07 53 59.1**	**+0.2**
CGP				*i*S	**Sn**	**07 54 26.6**	**+0.8**
BUKP	**Musuan**	**2.56**	**206**	*e*P	**Pn**	**07 54 04.5**	**+1.7**
SNPH	**Sibulan**	**3.04**	**254**	*e*P	**Pn**	**07 54 11.5**	**+2.2**
DCPH	**Dipolog City**	**3.23**	**241**	↓*e*P	**Pn**	**07 54 12.3**	**+0.4**
GUIM	**Jordan**	**3.58**	**277**	*e*P	**Pn**	**07 54 18.4**	**+1.7**
PAGZ	**Pagadian**	**3.63**	**230**	*e*P	**Pn**	**07 54 19.1**	**+1.7**
RCP	**Roxas**	**3.65**	**292**	↑*i*P	**Pn**	**07 54 19.3**	**+1.6**
PVCP	**Virac**	**3.93**	**330**	*e*P	**Pn**	**07 54 22.2**	**+0.7**
FITZ	**Fitzroy Crossi**	**28.12**	**181**	P	**P**	**07 59 10.3**	**+0.4**
	1.1nm,0.5s,mb3.8,baz=17,slow=18,SNR=5.6						
WRA	**Warramunga Arr**	**31.00**	**165**	P	**P**	**07 59 34.6**	**-0.8**
	0.8nm,0.7s,mb3.7,baz=343,slow=9.4,SNR=7.0						
ASAR	**Alice Springs**	**34.48**	**167**	P	**P**	**08 00 05.8**	**0.0**
	0.5nm,0.4s,mb3.8,baz=353,slow=6.7,SNR=18						
STKA	**Stephens Creek**	**44.35**	**161**	P	**P**	**08 01 26.3**	**-1.6**
	1.1nm,0.5s,mb3.9,baz=333,slow=10,SNR=5.2						
MKAR	**Makanchi Array**	**52.05**	**323**	P	**P**	**08 02 26.8**	**-0.4**
	0.5nm,0.7s,mb3.6,baz=132,slow=7.2,SNR=4.4						

MOS 15 08:08:49.6±1.4, 2516N×12624E, h33km, mb4.5/12, Error ellipse: s-maj=35.1km s-min=13.4km az=116.4

NIED 15 08:09:00, 2640N×126.10E, h119km, Mw4.3 Best double couple: M0 3.03000×10^15 NP1:φ0=33.00000°, δ78.00000°, λ=-58.00000°. NP2:φ0=141.00000°, δ34.00000°, λ=-158.00000°.
BJI 15 08:09:05.9, 2599N×12635E, h158km, mB4.7, mb4.3
IDC 15 08:09:06.4±2.9, 2618N×12621E, h123km±19km, mb3.8/10, mb1 3.9/10, mb1mx3.8/20, mbtmp4.1/10, Error ellipse: s-maj=51.6km s-min=21.7km az=2.0
ISCJB 15 08:09:06.3±0.2, 2630N±007×126.12E±006, h125km±5km, mb4.1/17, Error ellipse: s-maj=14.6km s-min=3.1km az=110.3
NEIC 15 08:09:07.4±0.9, 2609N×12620E, h129km±9km, mb4.3/6, Error ellipse: s-maj=28.2km s-min=9.2km az=154.0
JMA 15 08:09:07.8±0.3, 2635N×12606E, h115km±3km, M4.1
ISC 15 08:09:07.3±0.2, 2628N±007×12614E±006, h123km±5km, n61, σ0§93/78, mb4.1/17, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.58**	**85**	P	**Pn**	**08 09 26.6**	**+0.5**
JKE				S	**Sn**	**08 09 40.3**	**-0.1**
JAGN	**Aguni-jima**	**1.04**	**73**	P	**Pn**	**08 09 30.3**	**+0.3**
JAGN				S	**Sn**	**08 09 46.8**	**-0.3**
NAH1	**Naha**	**1.40**	**93**	P	**Pn**	**08 09 35.0**	**+1.2**
NAH1				S	**Sn**	**08 09 54.2**	**+0.3**
JJT2	**Tamagusuku 2**	**1.46**	**95**	P	**Pn**	**08 09 35.9**	**+1.5**
JJT2				S	**Sn**	**08 09 56.6**	**+1.5**
JMJ	**Miyako jima 2**	**1.65**	**208**	P	**Pn**	**08 09 37.4**	**+0.8**
JMJ				S	**Sn**	**08 09 58.9**	**-0.1**
JOGS	**Gusukube**	**1.65**	**204**	P	**Pn**	**08 09 37.6**	**+0.9**
JOGS				S	**Sn**	**08 09 59.7**	**+0.6**
JIH	**Iheya**	**1.80**	**65**	P	**Pn**	**08 09 39.2**	**+0.7**
JIH				S	**Sn**	**08 10 01.5**	**-0.8**
JOW	**Kunigami**	**1.99**	**74**	P	**Pn**	**08 09 41.4**	**+0.5**
	72nm,0.3s,baz=164,slow=11,SNR=237						
JOW				S	**Sn**	**08 10 05.1**	**-1.4**
	1µm,0.3s,baz=112,slow=25,SNR=105						
JOW	**Kunigami**	**1.99**	**74**	P	**Pn**	**08 09 41.3**	**+0.5**
JOW				S	**Sn**	**08 10 05.3**	**-1.2**
JTJ	**Tarama**	**2.08**	**219**	P	**Pn**	**08 09 42.3**	**+0.3**
JTJ				S	**Sn**	**08 10 07.6**	**-0.9**
JIJ	**Ishigaki jima**	**2.63**	**224**	P	**Pn**	**08 09 48.5**	**+0.3**
JIJ				S	**Sn**	**08 10 18.1**	**-2.7**
JKRS	**Kuro-shima**	**2.80**	**224**	P	**Pn**	**08 09 50.9**	**-0.2**
JKRS				S	**Sn**	**08 10 24.0**	**-0.8**
IRIF	**Iriomote-Funau**	**2.92**	**229**	P	**Pn**	**08 09 52.2**	**-0.4**
IRIF				S	**Sn**	**08 10 26.0**	**-1.5**
JTK	**Tokunoshima**	**2.92**	**59**	P	**Pn**	**08 09 52.5**	**-0.2**
JTK				S	**Sn**	**08 10 25.9**	**-1.8**
HATJ	**Hateruma jima**	**3.06**	**224**	P	**Pn**	**08 09 54.9**	**+0.4**
HATJ				S	**Sn**	**08 10 30.6**	**-0.3**
YOJ	**Yonaguni jima**	**3.36**	**238**	P	**Pn**	**08 09 58.9**	**+0.5**
YOJ				*e*S	**Sn**	**08 10 38.6**	**+0.8**
JAM	**Amami Oshima**	**3.75**	**55**	P	**Pn**	**08 10 03.2**	**-0.3**
JAM				S	**Sn**	**08 10 45.1**	**-1.9**
JZK	**Kikaishima**	**3.97**	**58**	P	**Pn**	**08 10 06.5**	**0.0**
JZK				S	**Sn**	**08 10 52.0**	**-0.4**
TATO	**Taipei**	**4.39**	**254**	*e*Pn	**Pn**	**08 10 13.2**	**+1.1**
YHNB	**Yeheng**	**4.59**	**251**	*e*Pn	**Pn**	**08 10 15.7**	**+0.9**
JMZ	**Minamidaito 2**	**4.60**	**95**	P	**Pn**	**08 10 14.6**	**-0.3**
JMZ				S	**Sn**	**08 11 02.0**	**-5.4**
NACB	**Ninganchiao**	**4.62**	**244**	*e*Pn	**Pn**	**08 10 13.8**	**-1.3**
JNN	**Nakanoshima**	**4.85**	**42**	P	**Pn**	**08 10 18.6**	**+0.4**
JNU	**Nakatsue**	**7.97**	**30**	P	**Pn**	**08 11 01.8**	**+1.4**
	768nm,0.3s,SNR=6.7						
LZH	**Lanzhou**	**21.39**	**303**	*e*P	**P**	**08 13 45.5**	**+0.5**
LZH				AMB	AMB		
	comp=Z,24nm,1.0s,mb4.5						
LZH				AMB	AMB		
	comp=Z,168nm,6.2s						
ULN	**Ulaanbaatar**	**26.25**	**330**	*e*P	**P**	**08 14 34.3**	**+3.5**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb3.8						
ULN	**Ulaanbaatar**	**26.25**	**330**	*e*P	**P**	**08 14 34.3**	**+3.4**
	comp=Z,4.8nm,1.4s,mb3.7						
SONM	**Songino Array**	**26.52**	**329**	P	**P**	**08 14 35.2**	**+1.9**
	comp=Z,3.1nm,0.7s,mb4.0,baz=146,slow=11,SNR=20						
MKAR	**Makanchi Array**	**40.10**	**312**	P	**P**	**08 16 29.6**	**-1.2**
	comp=Z,1.2nm,0.5s,mb4.0,baz=100,slow=11,SNR=17						
MKAR				PcP	PcP	08 18 33.8	+0.8
	comp=Z,1.0nm,0.7s,baz=78,slow=3.9,SNR=7.3						
WRA	**Warramunga Arr**	**46.63**	**169**	pP	pP	08 17 49.8	-1.7
	comp=Z,0.6nm,0.8s,baz=352,slow=8.7,SNR=3.3						
ZRNK	**Zerenda**	**49.80**	**318**	*e*P	**P**	**08 17 47.5**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**49.80**	**318**	*e*P	**P**	**08 17 47.5**	**0.0**
	comp=Z,3.1nm,0.6s,mb4.4						
ASAR	**Alice Springs**	**50.22**	**171**	pP	pP	08 18 19.2	-0.1
	comp=Z,0.5nm,0.7s,baz=354,slow=7.5,SNR=3.8						
AKTK	**Aktyubinsk**	**56.46**	**315**	P	**P**	**08 18 36.6**	**+0.3**
AKTO	**Aktyubinsk**	**56.46**	**315**	P	**P**	**08 18 36.6**	**+0.3**
	comp=Z,2.4nm,0.7s,mb4.3,baz=98,slow=12,SNR=9.3						
AKTO	**Aktyubinsk**	**56.46**	**315**	P	**P**	**08 18 36.6**	**+0.4**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
ILAR	**Eielson Array**	**65.28**	**28**	P	**P**	**08 19 34.0**	**-2.0**
	comp=Z,0.8nm,0.8s,mb3.6,baz=258,slow=4.3,SNR=12						
ILAR	**Eielson Array**	**65.28**	**28**	P	**P**	**08 19 34.0**	**-1.9**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**71.89**	**330**	P	**P**	**08 20 15.7**	**-1.2**
	comp=Z,1.7nm,0.6s,mb4.0,baz=64,slow=4.4,SNR=5.0						
FINES	**FINESS Array B**	**71.89**	**330**	P	**P**	**08 20 15.7**	**-1.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MALT	**Malatya**	**72.53**	**305**	*e*P	**P**	**08 20 21.5**	**+0.7**
MALT				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
MALT	**Malatya**	**72.53**	**305**	*e*P	**P**	**08 20 21.5**	**+0.7**
	comp=Z,3.1nm,0.7s,mb4.2						
AKASG	**Malin Array Be**	**74.27**	**319**	P	**P**	**08 20 29.2**	**-1.8**
	comp=Z,2.2nm,0.6s,mb4.0,baz=58,slow=5.8,SNR=8.6						
AKASG	**Malin Array Be**	**74.27**	**319**	P	**P**	**08 20 29.2**	**-1.7**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
DLBC	**Dease Lake**	**74.84**	**32**	*e*P	**P**	**08 20 35.0**	**+0.7**
BRTR	**Keskin Array B**	**75.51**	**307**	P	**P**	**08 20 38.2**	**+0.2**
	comp=Z,2.8nm,0.8s,mb4.1,baz=110,slow=5.5,SNR=13						
BRTR	**Keskin Array B**	**75.51**	**307**	P	**P**	**08 20 38.3**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
RES	**Resolute Bay**	**75.84**	**10**	*e*P	**P**	**08 20 40.3**	**+0.3**
RES				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
RES	**Resolute Bay**	**75.84**	**10**	*e*P	**P**	**08 20 40.3**	**+0.4**
	comp=Z,9.6nm,1.0s,mb4.5						
SUW	**Suwalki**	**76.31**	**324**	*e*P	**P**	**08 20 42.5**	**-0.1**
SUW				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.0						
SUW	**Suwalki**	**76.31**	**324**	*e*P	**P**	**08 20 42.5**	**-0.1**
	comp=Z,25nm,0.8s,mb5.0						
NB2	**NORSAR Subarra**	**78.43**	**333**	P	**P**	**08 20 53.7**	**-0.7**
	comp=Z,4.3nm,1.1s,mb4.1,baz=55,slow=5.6						
NOA	**NORSAR Array B**	**78.43**	**333**	P	**P**	**08 20 53.7**	**-0.7**
	comp=Z,1.2nm,0.8s,mb3.7,baz=55,slow=5.4,SNR=4.5						
NOA	**NORSAR Array B**	**78.43**	**333**	P	**P**	**08 20 53.7**	**-0.7**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKW3	**Yellowknife Ar**	**79.22**	**24**	*e*P	**P**	**08 20 59.4**	**+0.7**
YKA	**Yellowknife Ar**	**79.26**	**24**	P	**P**	**08 20 59.6**	**+0.7**
	comp=Z,2.7nm,0.7s,mb4.2,baz=303,slow=5.5,SNR=48						
YKA	**Yellowknife Ar**	**79.26**	**24**	P	**P**	**08 20 59.6**	**+0.6**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GERES	**GERESS Array B**	**84.02**	**322**	P	**P**	**08 21 24.1**	**+0.1**
	comp=Z,0.5nm,0.4s,mb3.7,baz=49,slow=6.1,SNR=4.7						
GERES	**GERESS Array B**	**84.02**	**322**	P	**P**	**08 21 24.1**	**+0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FCC	**Fort Churchill**	**88.94**	**20**	*e*P	**P**	**08 21 47.3**	**-0.6**
FCC				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
FCC	**Fort Churchill**	**88.94**	**20**	*e*P	**P**	**08 21 47.3**	**-0.6**
	comp=Z,1.5nm,0.6s,mb4.2						

MOS 15 08:19:28.9±0.7, 5611N×16333E, h10km, mb4.0/1, Error ellipse: s-maj=23.2km s-min=12.6km az=64.0
ISCJB 15 08:19:29.6±0.7, 5609N±003×16335E±005, h13km±4km, mb3.3/4, Error ellipse: s-maj=6.0km s-min=3.9km az=59.7
KRSC 15 08:19:29.8±1.6, 5614N×16324E, h13km±2km, ML4.5

IDC 15 08:19:32.1±8.7, 5729N×16227E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/21, mbtmp3.3/4, Error ellipse: s-maj=309.7km s-min=25.9km az=167.0
ISC 15 08:19:30.2±0.7, 5616N±003×16335E±005, h14km±4km, n45, σ1§20/78, mb3.3/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.30**	**280**	*i*P	**Pg**	**08 19 35.9**	**-0.6**
KBTR				*i*S	**Sg**	**08 19 40.4**	**-0.3**
KBG	**Krutoberegovo**	**0.37**	**286**	*i*P	**Pg**	**08 19 37.1**	**-0.7**
KBG				*e*S	**Sg**	**08 19 42.9**	**+0.1**
KBG				Smax			
	21µm,0.8s						
SMKR	**Semkarok**	**1.13**	**293**	*i*P	**Pb**	**08 19 49.9**	**-1.6**
SMKR				*e*S	**Sb**	**08 20 05.1**	**-0.9**
BDR	**Baidarnaya**	**1.26**	**290**	*i*P	**Pn**	**08 19 52.1**	**-1.2**
BDR				*e*S	**Sb**	**08 20 07.7**	**-2.1**
SRKR	**Sorokina**	**1.31**	**293**	*i*P	**Pn**	**08 19 53.2**	**-0.8**
SRKR				*e*S	**Sb**	**08 20 11.0**	**-0.2**
ZLN	**Zelenaya**	**1.43**	**265**	*i*P	**Pn**	**08 19 55.7**	**0.0**
ZLN				*e*S	**Sn**	**08 20 15.1**	**+0.8**
CIRR	**Tsirk**	**1.45**	**269**	*i*P	**Pn**	**08 19 55.9**	**-0.1**
CIRR				*e*S	**Sn**	**08 20 12.7**	**-2.2**
LGNR	**Loginova**	**1.49**	**268**	*i*P	**Pn**	**08 19 56.6**	**+0.1**
LGNR				*e*S	**Sn**	**08 20 16.6**	**+0.9**
KLY	**Klyuchi**	**1.51**	**277**	P	**Pn**	**08 19 54.4**	**-2.4**
KLY				S	**Sn**	**08 20 12.9**	**-3.4**
KLY	**Klyuchi**	**1.51**	**277**	*i*P	**Pn**	**08 19 54.4**	**-2.4**
KLY				*e*S	**Sn**	**08 20 13.0**	**-3.3**
KRSR	**Krestovskiy**	**1.56**	**273**	*e*P	**Pn**	**08 19 57.1**	**-0.3**
KRSR				*e*S	**Sn**	**08 20 17.0**	**-0.4**
KPT	**Kopyto**	**1.76**	**265**	*i*P	**Pn**	**08 20 00.3**	**0.0**
KPT				*e*S	**Sn**	**08 20 23.8**	**+1.3**
BKI	**Bering**	**1.77**	**122**	*i*P	**Pn**	**08 19 58.9**	**-1.4**
BKI				*i*S	**Sn**	**08 20 21.2**	**-1.4**
BKI				Smax			
	290nm,0.5s						
KMNR	**Kamenistaya**	**1.79**	**258**	*e*P	**Pn**	**08 20 01.6**	**+0.9**
KMNR				*e*S	**Sn**	**08 20 23.6**	**+0.4**
MKZ	**Mys Kozlova**	**1.85**	**211**	P	**Pn**	**08 20 00.1**	**-1.4**
MKZ				S	**Sn**	**08 20 21.7**	**-2.9**
MKZ	**Mys Kozlova**	**1.85**	**211**	*e*P	**Pn**	**08 20 00.6**	**-0.9**
MKZ				*e*S	**Sn**	**08 20 23.6**	**-1.0**
KOZR	**Kozyr**	**1.93**	**269**	PN	**Pn**	**08 20 03.6**	**+1.0**
KOZR				S	**Sn**	**08 20 28.4**	**+1.7**
KOZ	**Kozyrevsk**	**1.95**	**269**	P	**Pn**	**08 20 03.6**	**+0.8**
KOZ				S	**Sn**	**08 20 28.4**	**+1.4**
KOZ	**Kozyrevsk**	**1.95**	**269**	*e*P	**Pn**	**08 20 03.6**	**+0.8**
KOZ				*e*S	**Sn**	**08 20 28.2**	**+1.2**
TUMR	**Tumrok**	**2.01**	**246**	*i*P	**Pn**	**08 20 04.9**	**+1.2**
TUMR				*e*S	**Sn**	**08 20 28.1**	**-0.5**
SRDR	**Sredinnyy**	**2.03**	**276**	*i*P	**Pn**	**08 20 04.7**	**+0.7**
SRDR				*e*S	**Sn**	**08 20 31.0**	**+1.9**
ESO	**Esso**	**2.62**	**267**	*i*P	**Pn**	**08 20 13.6**	**+1.6**
ESO				*e*S	**Sn**	**08 20 42.5**	**-1.1**
SPN	**Mys Shipunski**	**3.62**	**214**	P	**Pn**	**08 20 24.8**	**-1.0**
SPN				S	**Sn**	**08 21 04.2**	**-4.2**
SPN	**Mys Shipunski**	**3.62**	**214**	*i*P	**Pn**	**08 20 25.2**	**-0.6**
SPN				*e*S	**Sn**	**08 21 06.2**	**-2.2**
NLC	**Nalytchevo**	**3.79**	**219**	P	**Pn**	**08 20 28.2**	**+0.1**
NLC				S	**Sn**	**08 21 11.1**	**-1.3**
NLC	**Nalytchevo**	**3.79**	**219**	*i*P	**Pn**	**08 20 28.7**	**+0.6**
NLC				*e*S	**Sn**	**08 21 11.6**	**-0.8**
SDLR	**Sedlovina**	**3.87**	**224**	*e*P	**Pn**	**08 20 29.8**	**+0.5**
SDLR				*e*S	**Sn**	**08 21 12.7**	**-1.9**
SMAR	**Somma**	**3.92**	**224**	*e*P	**Pn**	**08 20 30.8**	**+0.

345nm,31.2s
CTA Charters Tower 37.00 265 P **P** **08 56 37.8 -1.0**
9.1nm,1.0s,mb4.5,baz=99,slow=14,SNR=4.0
PMG Port Moresby 39.02 282 P **P** **08 56 53.1 -2.7**
18nm,0.8s,mb4.8,baz=94,slow=3.9,SNR=5.7
PMG Port Moresby 39.02 282 *e*P **P** **08 56 54.5 -1.4**
PMG pmax pmax
comp=Z,29nm,1.1s
PMG Port Moresby 39.02 282 *e*P **P** **08 56 54.5 -1.4**
comp=Z,29nm,1.1s,mb4.9
STKA Stephens Creek 40.72 246 *e*P **P** **08 57 07.0 -2.9**
comp=Z,7.0nm,0.9s,mb4.3
STKA Stephens Creek 40.72 246 P **P** **08 57 06.9 -3.0**
comp=Z,7.9nm,0.9s,mb4.3,baz=76,slow=9.6,SNR=15
STKA LR LR 09 12 10.7
comp=Z,295nm,19.8s,MS4.1,baz=32,slow=34
ASAR Alice Springs 47.84 257 P **P** **08 58 06.1 -0.8**
comp=Z,26nm,0.9s,mb5.3,baz=91,slow=8.2,SNR=157
ASAR S **S** **09 04 58.8 -1.9**
comp=Z,0.7nm,0.9s,baz=87,slow=16,SNR=3.6
WB2 Warramunga Arr 48.04 262 *e*P **P** **08 58 06.2 -2.3**
WRAB Tennant Creek 48.05 262 *e*P **P** **08 58 06.4 -2.1**
WRAB Tennant Creek 48.05 262 *e*P **P** **08 58 06.2 -2.3**
comp=Z,38nm,1.0s,mb5.4
WRA Warramunga Ar 48.05 262 P **P** **08 58 07.1 -1.5**
comp=Z,14nm,0.8s,mb5.0,baz=99,slow=7.3,SNR=60
FITZ Fitzroy Crossi 56.49 262 *e*P **P** **08 59 10.5 -0.6**
comp=Z,14nm,1.5s,mb4.8
FITZ Fitzroy Crossi 56.49 262 P **P** **08 59 10.3 -0.8**
comp=Z,6.1nm,1.1s,mb4.5,baz=110,slow=9.0,SNR=5.5
VNDA Vanda 57.48 186 P **P** **08 59 19.1 +1.0**
comp=Z,2.3nm,1.0s,mb4.2,baz=8.5,slow=8.4,SNR=7.5
VNDA LR LR 09 19 21.9
comp=Z,144nm,21.5s,MS4.0,baz=303,slow=31
VNDA Vanda 57.48 186 *e*P **P** **08 59 20.0 +1.9**
VNDA *e**PP pP 08 59 32.9 +2.2
VNDA pmax pmax
comp=Z,5.0nm,1.2s
VNDA Vanda 57.48 186 *e*P **P** **08 59 20.0 +1.9**
comp=Z,5.5nm,1.2s,mb4.5
VNDA *ep*P pP 08 59 32.9 +2.1
KLBR Kellerberrin 60.98 245 *e*P **P** **08 59 42.2 -0.1**
comp=Z,24nm,0.8s,mb5.4
CASY Casey 64.80 206 *e*P **P** **09 00 08.3 +0.5**
comp=Z,5.9nm,0.8s,mb4.7
CASY *ep*P pP 09 00 21.6 +1.0
QSPA South Pole Qui 68.79 180 *e*P **P** **09 00 33.4 +0.3**
comp=Z,9.8nm,1.2s,mb4.6
MJAR Matsushiro Arr 73.02 322 P **P** **09 00 58.6 -0.2**
comp=Z,29nm,0.3s,mb5.7,baz=154,slow=6.0,SNR=4.1
MJAR LR LR 09 30 27.2
comp=Z,126nm,19.8s,MS4.2,baz=115,slow=34
MAJO Matsushiro 73.02 322 *e*P **P** **09 00 58.4 -0.4**
MAJO pmax pmax
comp=Z,13nm,1.0s,mb4.8
MAJO Matsushiro 73.02 322 *e*P **P** **09 00 58.4 -0.4**
comp=Z,13nm,1.0s,mb4.8
MAT Matsushiro 73.02 322 P **P** **09 00 58.4 -0.4**
MAT S S 09 10 32.0 +9.5
MAT Matsushiro 73.02 322 *e*P **P** **09 00 58.0 -0.8**
MAT *e*S S 09 10 32.0 +9.5
ASAJ Asahikawa 76.18 329 LR LR 09 29 42.8
comp=Z,126nm,21.0s,MS4.2,baz=149,slow=32
SAO San Andreas Ge 76.19 41 *e*P **P** **09 01 17.9 +0.8**
SAO *e**PP pP 09 01 30.8 +0.6
SAO pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
SAO San Andreas Ge 76.19 41 *e*P **P** **09 01 17.9 +0.7**
comp=Z,8.3nm,0.7s,mb4.8
SAO *ep*P pP 09 01 30.8 +0.5
CMB Columbia Colle 77.65 41 *e*P **P** **09 01 25.6 +0.2**
CMB *e**PP pP 09 01 37.7 -0.8
CMB pmax pmax
comp=Z,11nm,1.1s,mb4.7
CMB Columbia Colle 77.65 41 *e*P **P** **09 01 25.6 +0.2**
comp=Z,11nm,1.1s,mb4.7
CMB *ep*P pP 09 01 37.7 -0.8
WDC Whiskeytown Da 78.04 38 *e*P **P** **09 01 28.3 +0.8**
WDC *e**PP pP 09 01 40.2 -0.4
WDC pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
WDC Whiskeytown Da 78.04 38 *e*P **P** **09 01 28.3 +0.8**
comp=Z,7.7nm,0.9s,mb4.6
WDC *ep*P pP 09 01 40.2 -0.4
GSC Goldstone 78.23 45 P **P** **09 01 28.9 +0.3**
YSS Yuzh-Sakhalins 78.25 331*d* *i*P **P** **09 01 29.5 +0.8**
YSS pmax pmax
comp=Z,13nm,0.9s,mb4.9
YSS Yuzh-Sakhalins 78.25 331 *e*P **P** **09 01 29.2 +0.5**
comp=Z,54nm,1.3s,mb5.3
DAC Darwin (Calif) 78.31 44 *e*P **P** **09 01 30.0 +1.0**
DAC pmax pmax
comp=Z,4.0nm,1.4s,mb4.2
DAC Darwin (Calif) 78.31 44 *e*P **P** **09 01 30.0 +1.0**
comp=Z,4.0nm,1.4s,mb4.2
HUMO Hull Mountain 79.16 36 *e*P **P** **09 01 34.9 +1.2**
comp=Z,10nm,1.3s,mb4.6
HUMO *ep*P pP 09 01 46.6 -0.2
NVAR Mina Array Bea 79.17 41 P **P** **09 01 34.0 +0.2**
comp=Z,7.6nm,1.0s,mb4.6,baz=215,slow=7.3,SNR=28
MNV Mina 79.27 42 *e*P **P** **09 01 34.2 -0.1**
MNV *e**PP pP 09 01 47.3 -0.1
MNV pmax pmax
comp=Z,14nm,1.1s,mb4.8
MNV Mina 79.27 42 *e*P **P** **09 01 34.2 -0.1**
comp=Z,14nm,1.1s,mb4.8
MNV *ep*P pP 09 01 47.2 -0.2
PAHR Pah Rah Range 79.32 40 *e*P **P** **09 01 34.8 +0.2**
comp=Z,6.3nm,0.9s,mb4.5
PAHR *ep*P pP 09 01 47.1 -0.6
TPNV Topopah Spring 79.57 44 *e*P **P** **09 01 36.2 +0.3**
TPNV pmax pmax
comp=Z,11nm,1.3s,mb4.6
TPNV Topopah Spring 79.57 44 *e*P **P** **09 01 36.2 +0.3**
comp=Z,11nm,1.3s,mb4.6
NEN Nelson 79.73 45 *e*P **P** **09 01 37.1 +0.3**
KS15 Wonju Array Si 79.91 317 *e*P **P** **09 01 38.8 +1.0**
SHPR Sheep Range 80.02 45 P **P** **09 01 39.8 +1.4**
SHPR pP pP 09 01 52.3 +0.8
TUC Tucson 80.67 50 *e*P **P** **09 01 41.2 -0.7**
TUC *e**PP pP 09 01 54.7 -0.4
TUC pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
TUC Tucson 80.67 50 *e*P **P** **09 01 41.2 -0.6**
comp=Z,4.2nm,1.1s,mb4.3
TUC *ep*P pP 09 01 54.7 -0.3
SSE Sheshan 80.97 308 P **P** **09 01 43.8 +0.3**
SSE AMB AMB
comp=Z,28nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,395nm,6.5s
WVOR Wild Horse Val 81.47 38 *e*P **P** **09 01 45.7 -0.4**
WVOR pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
WVOR Wild Horse Val 81.47 38 *e*P **P** **09 01 45.7 -0.4**
comp=Z,9.7nm,1.2s,mb4.6
WUAZ Wupatki 81.99 47 *e*P **P** **09 01 49.1 +0.2**
comp=Z,4.8nm,1.1s,mb4.3
WUAZ *ep*P pP 09 02 02.0 0.0
ELK Elko 82.46 41 *e*P **P** **09 01 51.0 -0.3**
ELK *e**PP pP 09 02 03.4 -1.1
ELK pmax pmax
comp=Z,11nm,1.5s
ELK Elko 82.46 41 *e*P **P** **09 01 51.0 -0.3**
comp=Z,11nm,1.5s,mb4.6
ELK *ep*P pP 09 02 03.4 -1.1
LON Longmire 82.55 33 P **P** **09 01 51.7 0.0**
LON *PP pP 09 02 03.2 -1.8
GNW Green Mountain 82.58 32 P **P** **09 01 52.4 +0.5**
GNW pP pP 09 02 04.3 -0.8
HABR Khabarovsk 82.94 329 *e*P **P** **09 01 54.2 +0.4**
PGC Sidney 83.02 31 *e*P **P** **09 01 53.7 -0.5**
comp=Z,8.9nm,0.6s,mb5.0
PGC *ep*P pP 09 02 06.8 -0.6
MSU Marysvale 83.11 44 *e*P **P** **09 01 55.7 +1.0**
MSU *e**PP pP 09 02 07.7 -0.2
NJ2 Nanjing 83.17 308 *e*P **P** **09 01 55.8 +0.8**
NJ2 AP pP 09 02 08.1 -0.1
NJ2 XP sP 09 02 13.8 +0.6
NJ2 PP PP 09 05 08.8 +2.2
NJ2 S S 09 12 12.0 +0.3
NJ2 XS sS 09 12 31.0 -2.8
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
NJ2 AMB AMB
comp=Z,370nm,4.7s
NJ2 LR LR
comp=N,1µm,27.0s,MS5.2
NJ2 LR LR
comp=E,910nm,27.8s,MS5.2
NJ2 LR LR
comp=Z,390nm,28.0s,MS4.6
MDJ Mudanjiang 83.26 323 P **P** **09 01 56.6 +1.1**
MDJ AP pP 09 02 08.8 +0.1
MDJ XP sP 09 02 13.5 -0.2
MDJ PP PP 09 05 08.0 +0.7
MDJ S S 09 12 15.5 +2.9
MDJ XS sS 09 12 35.3 +0.6
MDJ SS SS 09 17 40.6 +2.7
MDJ AMB AMB
comp=Z,12nm,0.9s,mb4.9
MDJ AMB AMB
comp=Z,181nm,5.1s
MDJ LR LR
comp=N,50nm,17.7s,MS4.2
MDJ LR LR
comp=E,86nm,17.7s,MS4.2
MDJ LR LR
comp=Z,144nm,20.3s,MS4.3
MDJ Mudanjiang 83.26 323 *e*P **P** **09 01 55.5 +0.1**
comp=Z,7.6nm,0.6s,mb4.9
SVW2 Sparrevohn 83.45 9 *e*P **P** **09 01 55.6 -0.8**
HAWA Hanford 83.50 35 *e*P **P** **09 01 56.6 0.0**
comp=Z,2.0nm,1.4s,mb4.0
HAWA *ep*P pP 09 02 09.3 -0.6
HAWA *es*P sP 09 02 12.6 -2.3
TMUT Trail Mountain 84.17 44 *e*P **P** **09 02 00.9 +0.8**
MNTX Cornudas Mount 84.31 53 *e*P **P** **09 02 00.3 -0.5**
comp=Z,4.2nm,1.1s,mb4.5
SRU San Rafael 84.52 44 *e*P **P** **09 02 02.2 +0.3**
SRU *e**PP pP 09 02 15.4 +0.3
SRU pmax pmax
comp=Z,11nm,1.2s,mb4.9
SRU San Rafael 84.52 44 *e*P **P** **09 02 02.2 +0.4**
comp=Z,11nm,1.2s,mb4.9
SRU *ep*P pP 09 02 15.4 +0.3
HLID Hailey 84.62 39 *e*P **P** **09 02 02.3 0.0**
comp=Z,11nm,1.2s,mb4.9
HLID *ep*P pP 09 02 16.1 +0.5
KLR Kul'dur 85.07 328 *e*P **P** **09 02 02.0 -2.6**
PV10 Paradox Valley 85.10 46 *e*P **P** **09 02 04.8 0.0**
ANMO Albuquerque 85.12 50*c i*P **P** **09 02 05.2 +0.3**
CN2 Changchun 85.15 321 *e*P **P** **09 02 07.0 +2.0**
TTA Tatalina 85.15 8 *e*P **P** **09 02 05.5 +0.5**
SNY Shenyang 85.15 318 ⇑P **P** **09 02 05.6 +0.6**
SNY AMB AMB
comp=Z,10.0nm,0.4s,mb5.3
PV01 Paradox Valley 85.29 46 *e*P **P** **09 02 06.1 +0.4**
GDL2 Guadalupe Moun 85.31 53 *e*P **P** **09 02 05.9 0.0**
WHN Wuhan 85.83 305 *e*P **P** **09 02 10.3 +1.9**
CPRX Cap Rock 86.07 52 *e*P **P** **09 02 09.2 -0.4**
MCMT McKenzie Canyo 86.27 39 *e*P **P** **09 02 10.3 -0.2**
SKAG Skagway 86.52 19 *e*P **P** **09 02 15.3 +3.5**
comp=Z,25nm,1.6s,mb5.2
SYO Syowa Base 86.72 192⇑ *e*P **P** **09 02 14.2 +1.4**
SYO Syowa Base 86.72 192⇑ *ep*P pP 09 02 27.6 +1.5
VNA3 Neumayer Olymp 87.09 175 *e*P **P** **09 02 14.4 -0.2**
VNA3 *e* 09 02 16.6
VNA3 *e* 09 02 18.2
VNA3 *e* pP 09 02 22.6 -5.3
VNA3 *e* pP 09 02 27.8 -0.1
VNA3 *e* pP 09 02 32.2 +4.3
VNA3 *e* 09 02 35.8
VNA3 *e* 09 02 41.1
VNA3 *e* 09 02 44.2
VNA3 *e* 09 02 47.2
VNA3 *e* 09 02 50.8
VNA3 *e* 09 02 58.3
VNA3 *e* 09 03 02.6
SNAA Sanae 87.09 177 *e*P **P** **09 02 14.3 -0.3**
SNAA *e* 09 02 17.5
SNAA *e* pP 09 02 27.3 -0.6
SNAA *e* 09 02 32.4
SNAA *e* 09 02 35.4
SNAA *e* 09 02 38.7
SNAA *e* 09 02 46.0
BW06 Boulder Array 87.11 42 *e*P **P** **09 02 13.5 -1.2**
comp=Z,2.9nm,1.1s,mb4.4
PDAR Pinedale Array 87.11 42 P **P** **09 02 13.4 -1.3**
comp=Z,1.7nm,1.0s,mb4.2,baz=242,slow=3.2,SNR=9.2
PDAR LR LR 09 35 58.5
comp=Z,82nm,18.1s,MS4.2,baz=86,slow=32
CHMT Chamberlain Mo 87.24 37 P **P** **09 02 16.5 +1.2**
CHMT *ep*P pP 09 02 27.4 -1.2
DLBC Dease Lake 87.41 22 *ep*P pP 09 02 28.6 -0.9
VNA2 Neumayer--Watz 87.57 176 *e*P **P** **09 02 16.9 0.0**
VNA2 *e* 09 02 18.8
VNA2 *e* 09 02 20.8
VNA2 *e* pP 09 02 25.6 -4.6
VNA2 *e* pP 09 02 30.6 +0.4
VNA2 *e* 09 02 35.0
VNA2 *e* 09 02 38.6
VNA2 *e* 09 02 41.4
VNA2 *e* 09 02 44.2
VNA2 *e* 09 02 47.4
VNA2 *e* 09 02 53.7
VNA2 *e* 09 03 01.8
VNA2 *e* 09 03 06.1
VNA1 Neumayer--Stat 87.78 175 *e*P **P** **09 02 19.1 +1.2**
VNA1 *e* 09 02 20.4
VNA1 *e* pP 09 02 31.1 -0.1
VNA1 *e* pP 09 02 36.2 +5.0
VNA1 *e* 09 02 39.9
VNA1 *e* 09 02 42.8
VNA1 *e* 09 02 46.3
VNA1 *e* 09 02 49.9
VNA1 *e* 09 02 56.8
WALA Waterton Lakes 88.13 35 *e*P **P** **09 02 18.6 -1.0**
comp=Z,3.8nm,1.0s,mb4.6
WALA *ep*P pP 09 02 31.4 -1.6
PSI Prapat 88.14 274 P **P** **09 02 19.7 +0.1**
comp=Z,14nm,0.9s,mb5.2,baz=211,slow=4.0,SNR=9.7
COLA College 88.25 11 *e*P **P** **09 02 19.3 -0.8**
COLA *e**PP pP 09 02 31.7 -1.8
COLA pmax pmax
comp=Z,19nm,1.2s,mb5.2
COLA College 88.25 11 *e*P **P** **09 02 19.3 -0.8**
comp=Z,19nm,1.2s,mb5.2
COLA *ep*P pP 09 02 31.7 -1.8
ILAR Eielson Array 88.33 11 P **P** **09 02 19.2 -1.3**
comp=Z,3.1nm,0.9s,mb4.5,baz=212,slow=5.9,SNR=22
BJI Beijing 89.00 314 *e*P **P** **09 02 26.8 +3.1**
BJI AMB AMB
comp=Z,10.0nm,0.6s,mb5.3
DAWY Dawson 89.27 15 *e*P **P** **09 02 24.8 -0.2**
DAWY *ep*P pP 09 02 37.2 -1.1
GYA Guiyang 90.18 298 *e*P **P** **09 02 28.8 -0.4**
GYA AP pP 09 02 42.3 -0.2
GYA XP sP 09 02 47.5 0.0
GYA PP PP 09 06 03.8 +0.7
GYA SKS 09 12 53.5
GYA S 09 13 15.0
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb5.2
GYA AMB AMB
comp=Z,80nm,3.8s
GYA LR LR
comp=N,340nm,18.4s,MS4.9
GYA LR LR
comp=E,310nm,18.6s,MS4.9
GYA LR LR
comp=Z,350nm,17.9s,MS4.8
BILL Bilibino 90.22 353*ce*P **P** **09 02 28.5 -0.9**
BILL pmax pmax
comp=Z,11nm,1.0s,mb5.1
BILL Bilibino 90.22 353 *e*P **P** **09 02 28.2 -1.2**
comp=Z,35nm,1.2s,mb5.6
HIA Hailar 91.45 323 *e*P **P** **09 02 33.4 -1.7**
XAN Xi'an 91.49 306 P **P** **09 02 36.5 +1.2**
XAN AMB AMB
comp=Z,10.0nm,1.2s,mb5.0
NANT Nan 92.34 289 ⇓P **P** **09 02 39.5 +0.3**
comp=Z,78nm,1.0s
HHC Hu-ho-hao-te 92.50 313 *e*P **P** **09 02 40.6 +0.7**
HHC AP pP 09 02 53.9 +0.6
HHC XP sP 09 02 59.1 +0.8
HHC PP PP 09 06 27.3 +5.9
HHC SKS 09 13 08.1
HHC S 09 13 38.4
HHC XS sS 09 14 01.1 -1.9
HHC AMB AMB
comp=Z,16nm,1.3s,mb5.2
HHC AMB AMB
comp=Z,112nm,6.1s
HHC LR LR
comp=N,125nm,15.1s,MS4.9
HHC LR LR
comp=E,319nm,16.2s,MS4.9
HHC LR LR
comp=Z,168nm,18.4s,MS4.5
KMI Kunming 92.92 296 P **P** **09 02 44.4 +2.5**
KMI AP pP 09 02 58.4 +3.1
KMI XP sP 09 03 02.3 +2.1
KMI PP PP 09 06 27.5 +2.7
KMI S 09 13 46.3
KMI XS sS 09 14 05.0 -1.8
KMI SS SS 09 19 58.8 +0.1
KMI AMB AMB
comp=Z,14nm,1.2s,mb5.3
KMI AMB AMB
comp=Z,427nm,5.6s
KMI LR LR
comp=Z,80nm,22.6s,MS4.1
CHRT Chiangrai 93.54 290 ⇓P **P** **09 02 49.0 +4.2**
comp=Z,126nm,0.9s
CHTO Chiang Mai 93.90 289 *e*P **P** **09 02 48.6 +2.2**
CHTO pmax pmax
comp=Z,7.0nm,0.8s,mb5.1
CHTO Chiang Mai 93.90 289 *e*P **P** **09 02 48.6 +2.2**
comp=Z,6.9nm,0.8s,mb5.1
INK Inuvik 94.12 14 *e*P **P** **09 02 46.3 -1.1**
INK pmax pmax
comp=Z,4.0nm,0.8s
INK Inuvik 94.12 14 *e*P **P** **09 02 46.3 -1.1**
comp=Z,3.8nm,0.8s,mb4.9
CD2 Chengdu 94.25 301 *e*P **P** **09 02 46.8 -1.2**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
YKA Yellowknife Ar 95.75 24 P **P** **09 02 54.1 -0.7**
comp=Z,1.1nm,0.8s,mb4.3,baz=236,slow=4.4,SNR=22
YKA LR LR 09 43 48.6
comp=Z,110nm,18.0s,MS4.4,baz=250,slow=34
LZH Lanzhou 96.12 306 *e*P **P** **09 02 55.6 -1.0**
LZH AP pP 09 03 11.9 +2.0
LZH XP sP 09 03 15.6 +0.7
LZH PP PP 09 06 51.4 +1.7
LZH SKS 09 13 25.3
LZH *e*S 09 14 10.0
LZH XS sS 09 14 33.0 -1.8
LZH *e*SS SS 09 20 45.0 +0.8
LZH AMB AMB
comp=Z,11nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,65nm,6.4s
LZH LR LR
comp=E,390nm,18.5s
LZH LR LR
comp=Z,581nm,19.4s,MS5.1
ULN Ulaanbaatar 98.33 318 *e*P **P** **09 03 07.6 +1.1**
ULN pmax pmax
comp=Z,6.0nm,1.4s,mb4.9
ULN Ulaanbaatar 98.33 318 *e*P **P** **09 03 07.6 +1.1**
comp=Z,5.6nm,1.4s,mb4.9
LPAZ La Paz 98.43 111 LR LR 09 38 58.8
comp=Z,137nm,18.8s,MS4.5,baz=307,slow=30
SONM Songino Array 98.73 318 P **P** **09 03 09.0 +0.7**
comp=Z,0.9nm,0.9s,mb4.3,baz=113,slow=3.0,SNR=6.7
ULM Lac du Bonnet 98.92 40 LR LR 09 42 10.7
comp=Z,138nm,19.3s,MS4.5,baz=255,slow=32
TIXI Tiksi 100.45 344 *e*P Pdif 09 03 14.0 -2.0
MKAR Makanchi Array 114.36 313 PKP PKiKP 09 08 08.1 -0.4
comp=Z,0.7nm,0.8s,baz=101,slow=1.2,SNR=4.1
KURK Kurchatov 117.01 317 *i* PKIKP PKPdf 09 08 11.6 -1.9
AAK Ala-Archa 119.61 308 *i* PKIKP PKPdf 09 08 09.8 -8.7
ZRNK Zerenda 122.83 320 *e*PKIKP PKPdf 09 08 23.9 -0.8
ARU Arti 127.88 326 *i* PKIKP PKPdf 09 08 33.3 -1.1
ARU *e* 09 10 36.6
OBN Obninsk 139.12 333⇓ *i* PKIKP PKPdf 09 08 51.0 -4.4
OBN *e* 09 11 47.8
OBN *e*SS SS 09 30 06.4 +4.2
OBN pmax pmax
comp=Z,9.0nm,0.5s
GNI Garni 142.01 309 *i* PKIKP PKPdf 09 08 59.4 -1.3
SUW Suwaki 144.76 342 *e*PKIKP PKPdf 09 09 04.7 -0.8
SUW *e* 09 09 17.6
MUD Monsted U'grnd 144.79 357 *i* P PKPdf 09 09 09.0 +3.4
comp=Z,46nm,1.1s
MUD Monsted U'grnd 144.79 357 *i* PKIKP PKPdf 09 09 09.0 +3.4
MUD pmax pmax
comp=Z,46nm,1.1s
ANN Anapa 144.99 319 *i* PKIKP PKPdf 09 09 05.6 -0.3
ANN pmax pmax
comp=Z,84nm,1.4s
BNGL BINGOL 145.03 308 *i* P PKPbc 09 09 05.0 -0.5
AKASG Malin Array Be 145.38 334 PKPbc PKPbc 09 09 05.5 -1.1
comp=Z,13nm,0.8s,baz=39,slow=4.1,SNR=47
AKASG Malin Array Be 145.38 334 PKIKP PKPdf 09 09 05.5 -1.1
AKASG pmax pmax
comp=Z,13nm,0.8s
BSD Bornholm Skovb 145.54 351 *i* P PKiKP 09 09 20.0 +9.1
comp=Z,44nm,0.9s
MARD Mardin 145.84 306 *i* P PKPdf 09 09 09.0 +1.7
SIM Simferopol' 146.87 322 PKHKP 09 09 01.4
SIM pmax pmax
comp=Z,7.0nm,0.5s
BSEG Bad Segeberg 147.23 355 *e*PKPab PKPab 09 09 13.6 -0.2
MALT Malatya 147.25 308⇓ *i*P PKPab 09 09 14.0 +0.1
MALT Malatya 147.25 308 *e*PKPab PKPab 09 09 13.0 -0.1
LVV L'vov 148.09 338 *e*PKP2 PKPab 09 09 17.4 +0.2
GZT Gaziantep 148.24 307 *i* P PKPbc 09 09 16.3 +1.6
BOYT Boyabat 148.32 316 *i* P PKPbc 09 09 16.3 +1.4
IBBN Ibbenburen 149.00 358 *e*PKPab PKPab 09 09 21.5 +0.6
CLZ Clausthal 149.30 355 *e*PKPab PKPab 09 09 21.8 -0.3
WTSB Winterswijk 149.37 359 *e*PKP PKPab 09 09 24.6 +2.2
comp=Z,23nm,1.4s
WTSB *ex* x 09 09 34.7
comp=Z,39nm,1.5s
STHS Stebnicka Huta 149.38 340 *e*PKP PKPab 09 09 23.8 +1.4
KSP Ksiaz 149.38 347 *e*PKP PKPab 09 09 22.8 +0.3
KSP Ksiaz 149.38 347 *e*PKP2 PKPab 09 09 22.4 -0.1
BURAR Bucovina Array 149.43 334⇑ *i*P PKPbc 09 09 20.3 +2.5
CLL Collm 149.52 351 *e*PKPab PKPab 09 09 21.7 -1.3
CLL *ep*PKPab pPKPab 09 09 34.8 -1.7
CLL Collm 149.52 351 *e*PKPbc PKPbc 09 09 19.0 +1.0
comp=Z,5.0nm,0.6s
CLL *i* PKPab PKPab 09 09 22.5 -0.5
comp=Z,28nm,1.0s
CLL *es*PKPbc 09 09 35.0
CLL *es*PKPab 09 09 38.0
CLL LmV 10 16 00.0
comp=Z,100nm,18.5s
AVNT Avonos 149.61 311 *i* P 09 09 35.3
GTTG Gvttingen 149.63 355 *e*PKPab PKPab 09 09 23.4 -0.1
CRVS Cervenica-Dubn 149.75 339 *e*PKP PKPab 09 09 25.7 +1.7
CRVS *e* 09 09 30.3
CRVS Cervenica-Dubn 149.75 339 *e*PKP2 PKPab 09 09 23.4 -0.6
ELDT Eldivan 149.76 315 *i* P PKPbc 09 09 19.8 +1.2
UPC Upice 149.76 347 *e*PKPAB PKPab 09 09 23.7 -0.3
BRG Berggiesshubel 149.79 350 *e*PKPab PKPab 09 09 23.1 -1.1
BRG Berggiesshubel 149.79 350 *i* PKP PKPab 09 09 23.4 -0.8
comp=Z,9.8nm,1.4s
BRG *e* 09 09 35.9
comp=Z,8.7nm,1.0s
DPC Dobruska-Polom 149.84 347⇑ *e*PKPB PKPbc 09 09 20.0 +1.2
DPC *ep*PKP pPKPdf 09 09 28.1 +0.3
OKC Ostrava-Krasne 149.89 344⇑ *e*PKPB PKPbc 09 09 23.1 +4.2
OKC *ep*PKP pPKPdf 09 09 29.3 +1.4
BRTR Keskin Array B 150.00 314 PKPbc PKPbc 09 09 20.1 +0.9
comp=Z,5.1nm,0.8s,baz=116,slow=2.9,SNR=28
BRTR Keskin Array B 150.00 314 PKP2 PKPbc 09 09 20.1 +0.9
BRTR pmax pmax
comp=Z,5.0nm,0.8s
MORC Moravsky Berou 150.09 345⇓ *i*P PKPbc 09 09 21.0 +1.6
MORC Moravsky Berou 150.09 345 *e*PKPbc PKPbc 09 09 19.5 +0.1
MORC *e*PKPab PKPab 09 09 24.0 -1.4
TIRR Tirgusor 150.30 326 *e*PKIKP PKPbc 09 09 19.7 -0.2
MOX Moxa 150.35 353 *e*PKPab PKPab 09 09 25.6 -0.8
MOX Moxa 150.35 353 *e*PKP PKPab 09 09 25.7 -0.7
comp=Z,25nm,1.5s
KECS Kecovo 150.44 340 *e* PKPbc 09 09 23.4 +3.2
KECS Kecovo 150.44 340 *e*PKP PKPab 09 09 27.3 +0.5
ANTO Ankara 150.49 315 *e*PKIKP PKPbc 09 09 21.1 +0.8

PRU	**Pruhonice**	**150.54**	**349**↑	*e*PKPB	PKPbc	09 09 28.3	+7.8
PRU				*ep*PKP	pPKPdf	09 09 38.0	+9.1
HGN	**Heimansgroeve**	**150.58**	**360**	*e*PKP	PKPab	09 09 26.5	-0.9
	comp=Z,13nm,1.4s						
HGN				*ex*	x	09 09 38.5	
	comp=Z,5.4nm,0.4s						
SGKT	**Sivrigoynuk**	**150.60**	**317**	*i* P	PKPbc	09 09 20.9	+0.2
VRAC	**Vranov**	**150.76**	**346**↓	*i* P	PKPab	09 09 29.0	+0.9
MLR	**Muntele Rosu**	**150.76**	**330**↓	*i* P	PKPbc	09 09 21.9	+0.9
MEST	**Erdemli**	**151.06**	**308**	*i* P	PKPbc	09 09 22.1	+0.4
PSZ	**Piszkesteto**	**151.12**	**340**	*e*PKIKP	PKPab	09 09 30.0	+0.4
ROTZ	**Rotzenmuhle**	**151.14**	**351**	*e*PKPab	PKPab	09 09 29.6	-0.1
HENT	**Hendek**	**151.19**	**318**	*i* P	PKPbc	09 09 22.6	+0.7
DOU	**Dourbes**	**151.23**	**2**	PKP	PKPdf	09 09 15.2	-0.9
DOU				PKPbc	PKPbc	09 09 20.8	-1.3
DOU				PKPab	PKPab	09 09 29.4	-0.7
GRF	**Grafenberg Arr**	**151.34**	**353**	*e*PKPab	PKPab	09 09 31.4	+0.9
GRF				*ep*PKPab	pPKPab	09 09 43.3	-0.7
KHC	**Kasperske Hory**	**151.54**	**349**↑	*e*PKPB	PKPbc	09 09 21.1	-1.7
KHC				*e*PKPAB	PKPab	09 09 31.8	+0.4
GEC2	**GERESS Array S**	**151.79**	**349**	*e*PKPab	PKPab	09 09 32.8	+0.4
GERES	**GERESS Array B**	**151.79**	**349**	PKPbc	PKPbc	09 09 23.9	+0.5
	comp=Z,0.6nm,0.2s,baz=52,slow=2.2,SNR=6.4						
GERES	**GERESS Array B**	**151.79**	**349**	PKIKP	PKPbc	09 09 23.9	+0.5
GERES				pmax	pmax		
	comp=Z,1.0nm,0.2s						
ERMK	**Ermenek**	**151.94**	**309**	*i* P	PKPbc	09 09 23.3	-0.4
EIL	**Elat**	**152.49**	**294**	*e*PKPbc	PKPbc	09 09 25.8	+0.9
CDF	**Champ du Feu**	**152.91**	**358**	*e*PKP2	PKPab	09 09 36.0	-1.1
BFO	**Black Forest**	**152.94**	**356**	*e*PKPab	PKPab	09 09 37.2	-0.1
HAU	**Haudompre**	**153.34**	**359**	*e*PKP2	PKPab	09 09 38.7	-0.2
HAU				*e*R			
	comp=Z,95nm,20.2s						
HINF	**Hinteralfeld**	**153.52**	**358**	*e*PKP2	PKPab	09 09 39.4	-0.3
PERS	**Pernice**	**153.61**	**346**	*e*PKPdf	PKPab	09 09 40.4	+0.3
LOR	**Lormes**	**154.03**	**3**	*e*PKP2	PKPab	09 09 40.6	-1.3
LOR				*e*R			
	comp=Z,90nm,19.5s						
SSF	**Saint Saulge**	**154.22**	**4**	*e*PKP2	PKPab	09 09 41.5	-1.2
	comp=Z,28nm,1.2s						
VISS	**Visnje**	**154.46**	**345**	*i* PKPdf	PKPab	09 09 43.7	0.0
AVF	**Avril sur Loir**	**154.48**	**4**	*e*PKP2	PKPab	09 09 42.3	-1.5
	comp=Z,16nm,1.0s						
BOJS	**Bojanci**	**154.64**	**344**	*e*PKPdf	PKPab	09 09 44.5	+0.1
LPL	**La Plagne**	**155.82**	**358**	*e*PKP2	PKPab	09 09 49.5	0.0
LPG	**La Plagne**	**155.84**	**358**	*e*PKP2	PKPab	09 09 49.8	+0.2
	comp=Z,18nm,1.0s						
ORIF	**Oris-en-Rattie**	**156.43**	**360**	*e*PKP2	PKPab	09 09 49.8	-2.3
	comp=Z,18nm,0.9s						
ORIF				*e*R			
	comp=Z,87nm,22.0s						
VIVF	**Saint-Julien-l**	**156.47**	**2**	*e*PKP2	PKPab	09 09 51.5	-0.8
	comp=Z,23nm,1.0s						
SMRF	**Simiane la Rot**	**157.37**	**1**	*e*PKP2	PKPab	09 09 54.1	-2.1
	comp=Z,16nm,0.8s						
TORD	**Torodi Ar. Bea**	**170.99**	**153**	PKPab	PKPab	09 10 55.4	-0.6
	comp=Z,1.7nm,1.0s,baz=231,slow=4.0,SNR=4.3						

IDC 15 09:01:22.6±3.5, 1545S×17322W, h0km, mb3.4/4, mb1 3.8/5, mb1mx3.7/16, mbtmp3.5/5, MS3.3/1, Ms1 3.3/1, ms1mx2.7/15, Error ellipse: s-maj=189.6km s-min=22.6km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.08**	**43**	Pn	Pn	09 01 57.9	-0.8
	123nm,0.3s,baz=168,slow=1.4,SNR=164						
AFI				Sn	Sn	09 02 18.3	-6.9
	133nm,0.3s,baz=74,slow=23,SNR=11						
AFI				LR	LR	09 02 42.5	
	comp=Z,654nm,18.0s,baz=191,slow=38						
WRA	**Warramunga Arr**	**50.00**	**257**	P	P	09 10 18.9	+0.3
	0.3nm,0.8s,baz=96,slow=7.5,SNR=4.6						
ASAR	**Alice Springs**	**50.26**	**252**	P	P	09 10 20.9	+0.3
	0.7nm,0.7s,baz=85,slow=8.0,SNR=13						
NVAR	**Mina Array Bea**	**74.25**	**42**	P	P	09 13 02.6	+1.1
	0.3nm,0.6s,baz=226,slow=9.9,SNR=3.0						
ILAR	**Eielson Array**	**82.46**	**11**	P	P	09 13 46.8	-0.2
	0.3nm,0.6s,baz=233,slow=6.3,SNR=4.2						

IDC 15 09:11:11.8±6.2, 6025N×16623E, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.5/22, mbtmp3.6/4, Error ellipse: s-maj=138.4km s-min=44.6km az=15.0
ISCJB 15 09:11:14.7±5.7, 6074N±0.1°×166.1E±0.2, h20km±41km, mb3.9/6, Error ellipse: s-maj=17.5km s-min=13.9km az=98.4
MOS 15 09:11:14.3±2.3, 6102N×16632E, h10km, mb4.1/5, Error ellipse: s-maj=27.5km s-min=14.3km az=88.6

ISC 15 09:11:15.3±5.8, 6066N±009×1661E±02, h15km±38km, n16, σ0°87/17, mb3.9/6, 1C, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BILL	**Bilibino**	**7.41**	**0**↑	*e*PN	**Pn**	**09 13 02.8**	**-0.1**
BILL				*e*S	**Sn**	**09 14 26.7**	**0.0**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,100nm,12.0s						
TIXI	**Tiksi**	**18.26**	**322**	*e*P	**Pn**	**09 15 28.6**	**+0.5**
TIXI				pmax	pmax		
	comp=Z,5.0nm,2.5s						
COLA	**College**	**21.09**	**59**	*e*P	**P**	**09 15 55.2**	**-3.9**
ILAR	**Eielson Array**	**21.52**	**59**	P	**P**	**09 16 03.5**	**-0.2**
	comp=Z,2.1nm,0.8s,mb3.6,baz=274,slow=8.5,SNR=24						
ILAR	**Eielson Array**	**21.52**	**59**	P	**P**	**09 16 03.5**	**-0.2**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BOD	**Bodaibo**	**26.23**	**287**	*e*P	**P**	**09 16 52.9**	**+3.3**
HIA	**Hailar**	**28.34**	**267**	*e*P	**P**	**09 17 08.7**	**+0.2**
ULN	**Ulaanbaatar**	**35.52**	**276**	*e*P	**P**	**09 18 11.5**	**0.0**
YKA	**Yellowknife Ar**	**35.58**	**52**	P	**P**	**09 18 11.3**	**-0.6**
	comp=Z,0.5nm,0.8s,mb3.5,baz=303,slow=8.1,SNR=7.2						
YKA	**Yellowknife Ar**	**35.58**	**52**	*i* P	**P**	**09 18 11.6**	**-0.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KRAR	**Krasnoyarsk**	**36.89**	**296**	*e*P	**P**	**09 18 22.2**	**-1.0**
KRAR				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
KURK	**Kurchatov**	**46.73**	**299**	*e*P	**P**	**09 19 42.2**	**-1.5**
PDAR	**Pinedale Array**	**51.34**	**70**	P	**P**	**09 20 19.9**	**+0.9**
	comp=Z,0.6nm,0.8s,mb3.6,baz=333,slow=5.8,SNR=3.7						
AAK	**Ala-Archa**	**54.76**	**295**	*e*P	**P**	**09 20 44.4**	**+0.2**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb4.0						
NOA	**NORSAR Array B**	**57.10**	**346**	P	**P**	**09 21 01.8**	**+0.8**
	comp=Z,1.1nm,0.7s,mb4.0,baz=14,slow=7.2,SNR=3.3						
NOA	**NORSAR Array B**	**57.10**	**346**	P	**P**	**09 21 01.8**	**+0.8**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						

FUNV 15 09:19:44.2, 652N×73.18W, h146km, MW3.6
ISCJB 15 09:19:45.1±0.8, 67N±0.1°×729W±0.1, h173km±9km, mb3.6/2, Error ellipse: s-maj=28.2km s-min=6.9km az=92.8
IDC 15 09:19:48.1±3.2, 671N×7340W, h178km±26km, mb3.3/2, mb1 3.5/3, mb1mx3.0/20, mbtmp3.9/3, Error ellipse: s-maj=117.5km s-min=35.7km az=105.0

ISC 15 09:19:46.2±0.8, 67N±01°×729W±01, h167km±9km, n10, σ0°65/16, mb3.6/2, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**2.33**	**219**	P	**Pn**	**09 20 27.0**	**+0.9**
	50nm,0.3s,baz=322,slow=4.3,SNR=113						
ROSC				S	**Sn**	**09 20 55.8**	**-1.1**
	27nm,0.3s,baz=98,slow=20,SNR=6.7						
SOCV	**Socops**	**2.55**	**51**	*e*P	**Pn**	**09 20 29.9**	**+1.2**
SOCV				*e*S	**Sn**	**09 21 01.8**	**+0.2**
VIGV	**El Vigia**	**2.61**	**34**	*e*P	**Pn**	**09 20 29.6**	**+0.2**
VIGV				*e*S	**Sn**	**09 21 02.7**	**-0.3**
SANV	**Sanarito**	**4.32**	**49**	*e*P	**Pn**	**09 20 51.5**	**+0.5**
SANV				*e*S	**Sn**	**09 21 41.9**	**+0.3**
CURV	**Curarigua**	**4.38**	**41**	*e*P	**Pn**	**09 20 51.8**	**0.0**
CURV				*e*S	**Sn**	**09 21 42.0**	**-1.1**
TEPV	**Terepaima**	**4.88**	**48**	*e*P	**Pn**	**09 20 58.9**	**+0.6**
TEPV				*e*S	**Sn**	**09 21 54.6**	**-0.1**
BAUV	**El Baul**	**5.28**	**64**	*e*P	**Pn**	**09 21 03.2**	**-0.2**
BAUV				*e*S	**Sn**	**09 22 03.1**	**-0.8**
SCHQ	**Schefferville**	**48.26**	**5**	P	**P**	**09 28 10.5**	**+0.3**
	1.3nm,0.6s,mb3.7,baz=190,slow=6.1,SNR=4.3						
YKA	**Yellowknife Ar**	**63.49**	**340**	P	**P**	**09 29 57.6**	**-0.8**
	0.4nm,0.5s,mb3.5,baz=133,slow=6.6,SNR=15						
WRA	**Warramunga Arr**	**150.50**	**241**	PKPbc	PKPbc	09 39 18.2	+0.3
	0.3nm,0.7s,baz=107,slow=2.8,SNR=3.7						

MAN 15 09:36:52.8, 989N×12194E, h15km, mb3.0, ML4.4, MS2.7, 1D, Sulu Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.97**	**41**	*e*P	Pb	09 37 09.5	-1.9
GUIM				*e*S	Sb	09 37 20.7	-3.4
CUYO	**Cuyo Island**	**1.32**	**317**	*e*P	Pn	09 37 16.4	-0.3
SNPH	**Sibulan**	**1.39**	**113**↓	*e*P	Pn	09 37 17.5	-0.1
RCP	**Roxas**	**1.84**	**25**	*e*P	Sn	09 37 47.7	+0.8
TBP	**Tagbilaran**	**1.90**	**96**	*e*P	Pn	09 37 24.5	-0.2
TBP				*e*S	Sn	09 37 49.2	+0.7
IPIL	**Ipil**	**2.18**	**163**	*e*P	Pn	09 37 27.8	-0.7
PAGZ	**Pagadian**	**2.48**	**145**	*e*P	Pn	09 37 33.7	+1.1
BUSP	**Coron**	**2.71**	**321**	*e*P	Pn	09 37 36.0	+0.1
ENPP	**El Nido**	**2.80**	**298**	*e*P	Pn	09 37 37.7	+0.7
MSLP	**Maasin**	**2.89**	**85**	*e*P	Pn	09 37 39.3	+1.0

IDC 15 09:37:17.4±14.0, 3206S×5949E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.3/18, mbtmp3.5/2, Error ellipse: s-maj=943.9km s-min=55.4km az=31.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**65.17**	**103**	P	P	09 48 01.2	+1.0
	0.2nm,0.6s,baz=242,slow=5.9,SNR=4.9						
WRA	**Warramunga Arr**	**67.18**	**100**	P	P	09 48 13.0	-0.2
	0.7nm,1.0s,baz=245,slow=5.7,SNR=4.2						
YKA	**Yellowknife Ar**	**149.32**	**355**	PKPbc	PKPbc	09 57 06.8	-1.3
	0.3nm,0.7s,baz=357,slow=2.6,SNR=5.4						

NEIC 15 09:49:12.4, 1668N×9440W, h117km, MD3.9(MEX), After MEX.

MEX 15 09:49:12.4±1.4, 1670N×9440W, h116km±31km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCX	**San Cristobal**	**1.70**	**88**	*i* S	Sn	09 50 03.0	-1.3
HUIG	**Huatulco**	**1.88**	**241**	*i* P	Pn	09 49 41.8	-2.3
HUIG				*i* S	Sn	09 50 07.6	-0.8
CCIG	**Comitan**	**2.21**	**100**	*i* P	Pn	09 49 48.4	+0.1
CCIG				*i* S	Sn	09 50 14.0	-1.8
OXX	**Oaxaca**	**2.25**	**280**	*i* P	Pn	09 49 48.5	-0.3
OXX				*e*S	Sn	09 50 14.5	-2.2
VHO	**Vista Hermosa**	**2.26**	**280**	*i* P	Pn	09 49 48.3	-0.6
VHO				*i* S	Sn	09 50 15.3	-1.6
UTMO	**Huajuapan**	**3.44**	**290**	*i* P	Pn	09 50 03.0	-1.4
UTMO				*i* S	Sn	09 50 41.4	-3.0

IDC 15 09:57:52.2±1.2, 5937N×2690E, h0km, mb1 3.4/3, mb1mx3.1/19, mbtmp3.3/3, ML2.9/3, Error ellipse: s-maj=33.9km s-min=9.2km az=80.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FINES	**FINESS Array B**	**2.12**	**349**	Pn	Pn	09 58 28.6	-0.3
	1.5nm,0.3s,baz=167,slow=16,SNR=34						
FINES				Pg	Pg	09 58 30.4	-2.5
	1.5nm,0.3s,baz=164,slow=16,SNR=34						
FINES				Lg		09 58 59.4	
	3.3nm,0.3s,baz=169,slow=27,SNR=17						
HFS	**Hagfors**	**6.72**	**282**	Lg		10 01 24.4	
	0.5nm,0.3s,baz=93,slow=31,SNR=5.3						
AKASG	**Malin Array Be**	**8.79**	**170**	Pn	Pn	09 59 55.7	-4.7
	1.2nm,0.3s,baz=356,slow=14,SNR=5.4						
ARCES	**ARCESS Array B**	**10.23**	**357**	Pn	Pn	10 00 17.7	-2.5
	0.1nm,0.3s,baz=172,slow=14,SNR=5.3						

JMA 15 10:07:37.0±0.2, 2216N×12151E, h107km, M3.5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**2.67**	**31**	P	Pn	10 08 19.2	+0.6
YOJ				*e*S	Sn	10 08 51.0	+0.4
HATJ	**Hateruma jima**	**2.83**	**48**	P	Pn	10 08 21.3	+0.6
HATJ				S	Sn	10 08 55.0	+0.7
IRIF	**Iriomote-Funau**	**2.98**	**43**	P	Pn	10 08 23.3	+0.7
IRIF				S	Sn	10 08 58.7	+1.0
JKRS	**Kuro-shima**	**3.09**	**48**	P	Pn	10 08 24.9	+0.8
JKRS				S	Sn	10 09 01.7	+1.2
JIJ	**Ishigaki jima**	**3.27**	**47**	P	Pn	10 08 26.9	+0.5
JIJ				S	Sn	10 09 05.0	+0.4
JTJ	**Tarama**	**3.83**	**49**	P	Pn	10 08 34.8	+0.8
JTJ				S	Sn	10 09 19.9	+1.7

IDC 15 10:07:44.5±1.5, 222N×8487W, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.8/19, mbtmp3.8/7, ML3.6/2, MS3.7/12, Ms1 3.7/12, ms1mx3.5/23, Error ellipse: s-maj=61.8km s-min=23.5km az=59.0
ISCJB 15 10:07:47.4±0.8, 23N±0.1°×848W±0.1, h24km, mb3.8/9, MS3.8/10, Error ellipse: s-maj=21.2km s-min=11.4km az=78.9
NEIC 15 10:07:48.9±0.8, 223N×8471W, mb4.1/3, Error ellipse: s-maj=23.1km s-min=12.2km az=46.0

ISC 15 10:07:49.6±0.9, 23N±01°×847W±01, h26km, h26km±1.2km: pP-P, n25, σ1°15/16, mb3.8/9, MS3.8/10, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**7.97**	**358**	P	**Pn**	**10 09 42.9**	**-0.9**
	1.0nm,0.3s,baz=126,slow=22,SNR=9.1						
JTS				LR	LR	10 12 41.7	
	comp=Z,1μm,18.1s,baz=203,slow=37						
ROSC	**El Rosal**	**10.68**	**76**	Pn	**Pn**	**10 10 26.1**	**+5.3**
	1.0nm,0.3s,baz=271,slow=23,SNR=6.0						
SDV	**Santo Domingo**	**15.47**	**64**	Pn	**Pn**	**10 11 27.4**	**+1.5**
	0.2nm,0.3s,baz=267,slow=8.2,SNR=4.3						
SDV				LR	LR	10 17 21.9	
	comp=Z,113nm,20.9s,baz=40,slow=37						
SDV	**Santo Domingo**	**15.47**	**64**	Pn	**Pn**	**10 11 27.4**	**+1.5**
SAML	**Samuel**	**24.18**	**118**	*e*P	**P**	**10 13 02.4**	**-1.3**
	3.6nm,0.9s,mb3.8						
LPAZ	**La Paz**	**24.66**	**139**	P	**P**	**10 13 08.7**	**+0.5**
	5.0nm,1.0s,mb4.0,baz=333,slow=11,SNR=13						
CPUP	**Villa Florida**	**39.84**	**139**	LR	LR	10 31 33.9	
	comp=Z,138nm,21.8s,MS3.7,baz=300,slow=37						
BDFB	**Brasilia**	**40.41**	**117**	LR	LR	10 31 40.3	
	comp=Z,132nm,21.0s,MS3.8,baz=39,slow=35						
SMCO	**Snowmass**	**41.97**	**334**	*e*P	**P**	**10 15 39.3**	**+0.9**
	4.2nm,0.9s,mb4.1						
SMCO				*ep*P	pP	10 15 47.1	+1.1
HWUT	**Hardware Ranch**	**46.01**	**332**	P	**P**	**10 16 11.8**	**+1.1**
	1.9nm,0.6s,mb4.2						
PDAR	**Pinedale Array**	**46.03**	**335**	P	**P**	**10 16 10.8**	**-0.1**
	0.4nm,0.6s,mb3.5,baz=140,slow=7.7,SNR=3.6						
PDAR				LR	LR	10 35 59.2	
	comp=Z,111nm,21.4s,MS3.8,baz=151,slow=37						
NVAR	**Mina Array Bea**	**47.31**	**324**	P	**P**	**10 16 23.0**	**+2.0**
	0.2nm,0.5s,mb3.3,baz=142,slow=7.5,SNR=2.8						
ULM	**Lac du Bonnet**	**48.74**	**350**	P	**P**	**10 16 30.4**	**-1.7**
	0.8nm,0.5s,mb4.0,baz=168,slow=10,SNR=3.3						
ULM				LR	LR	10 35 57.8	
	comp=Z,64nm,19.0s,MS3.6,baz=210,slow=35						
SCHQ	**Schefferville**	**54.39**	**13**	LR	LR	10 39 40.9	
	comp=Z,66nm,21.8s,MS3.7,baz=266,slow=35						
RKT	**Rikitea**	**55.06**	**240**	*e*LR	LR	10 33 42.5	
	137nm,30.8s						
EDM	**Edmonton**	**56.03**	**340**	*e*P	**P**	**10 17 26.2**	**+0.1**
EDM				*ep*P	pP	10 17 32.9	-1.2
YKA	**Yellowknife Ar**	**64.09**	**345**	P	**P**	**10 18 20.3**	**-1.0**
	0.7nm,0.9s,mb3.7,baz=137,slow=6.5,SNR=12						
YKA				LR	LR	10 47 32.9	
	comp=Z,61nm,19.6s,MS3.8,baz=110,slow=37						
YKA	**Yellowknife Ar**	**64.09**	**345**	P	**P**	**10 18 20.3**	**-1.0**
DLBC	**Dease Lake**	**66.23**	**336**	*e*P	**P**	**10 18 35.9**	**+0.6**
DLBC				*ep*P	pP	10 18 43.5	+0.2
PPT	**Papeete**	**66.85**	**250**	*e*LR	LR	10 39 11.6	
	168nm,25.2s						
PPT	**Papeete**	**66.85**	**250**	LR	LR	10 40 00.2	
	comp=Z,19nm,19.4s,MS3.3,baz=112,slow=29						
TBI	**Tubuai**	**67.90**	**244**	*e*LR	LR	10 39 40.0	
	163nm,27.5s						
ILAR	**Eielson Array**	**76.39**	**337**	P	**P**	**10 19 35.0**	**-1.6**
	0.6nm,0.9s,mb3.5,baz=114,slow=3.6,SNR=6.8						
ILAR				LR	LR	10 54 14.7	
	comp=Z,83nm,21.9s,MS4.0,baz=175,slow=36						
NOA	**NORSAR Array B**	**90.91**	**29**	LR	LR	10 57 28.2	
	comp=Z,19nm,21.5s,MS3.5,baz=50,slow=33						
VNDA	**Vanda**	**97.17**	**192**	LR	LR	10 55 22.8	
	comp=Z,109nm,19.5s,MS4.3,baz=204,slow=29						

IDC 15 10:32:46.9±5.8, 2224S×17495W, h0km, mb4.3/4, mb1 4.5/4, mb1mx4.0/15, mbtmp4.3/4, 1D, Error ellipse: s-maj=244.1km s-min=53.5km az=149.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.18**	**266**	*e*P	P	10 39 52.7	+1.7
	3.1nm,0.4s						
CTA	**Charters Tower**	**36.18**	**266**	P	P	10 39 52.1	+1.1
	4.7nm,0.5s,baz=87,slow=9.6,SNR=12						
ASAR	**Alice Springs**	**46.91**	**258**	P	P	10 41 19.4	+0.4
	1.2nm,0.3s,baz=96,slow=8.3,SNR=36						
WB2	**Warramunga Arr**	**47.18**	**263**↓	P	P	10 41 20.9	-0.3
WRA	**Warramunga Arr**	**47.19**	**263**	P	P	10 41 20.8	-0.4
	2.3nm,0.3s,baz=102,slow=8.5,SNR=333						
KAKA	**Kakadu**	**50.85**	**272**	*e*P	P	10 41 49.4	+0.1
	6.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**55.62**	**263**	P	P	10 42 24.9	+0.5
	3.5nm,0.9s,baz=170,slow=21,SNR=11						
AKASG	**Malin Array Be**	**145.88**	**332**	PKPbc	PKPbc	10 52 27.2	-1.0
	0.4nm,0.3s,baz=29,slow=2.7,SNR=6.2						

IDC 15 10:55:44.6±8.3, 636S×15031E, h59km±61km, mb3.5/4, mb1 3.8/5, mb1mx3.5/14, mbtmp3.8/5, ML3.1/1, Error ellipse: s-maj=56.9km s-min=51.3km az=98.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.35**	**226**	P	Pn	10 56 48.3	+0.2
	7.7nm,0.3s,baz=358,slow=5.8,SNR=27						
PMG				S	Sn	10 57 38.3	+0.8
	12nm,0.3s,baz=116,slow=17,SNR=11						
WRA	**Warramunga Arr**	**20.57**	**227**	P	P	11 00 19.1	+0.7
	3.8nm,0.7s,baz=52,slow=11,SNR=32						
ASAR	**Alice Springs**	**23.35**	**221**	P	P	11 00 48.0	+0.3
	1.4nm,0.9s,baz=58,slow=9.1,SNR=16						
STKA	**Stephens Creek**	**26.66**	**197**	P	P	11 01 17.6	-0.2
	1.2nm,0.6s,baz=13,slow=13,SNR=6.4						
FITZ	**Fitzroy Crossi**	**26.74**	**242**	P	P	11 01 19.2	+0.6
	0.6nm,0.3s,baz=60,slow=15,SNR=8.8						
TORD	**Torodi Ar. Bea**	**148.37**	**285**	PKPbc	PKPbc	11 15 24.7	+0.4
	0.8nm,0.4s,baz=78,slow=2.3,SNR=9.1						

IDC 15 11:00:29.3±9.5, 209N×12702E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/15, mbtmp3.5/4, Error ellipse: s-maj=147.3km s-min=108.9km az=146.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.11**	**184**	P	P	11 05 05.8	+1.2
	1.1nm,0.7s,baz=18,slow=20,SNR=3.0						
WRA	**Warramunga Arr**	**23.04**	**162**	P	P	11 05 36.2	+0.1
	0.5nm,0.3s,baz=340,slow=11,SNR=22						
WB2	**Warramunga Arr**	**23.04**	**162**	*e*P	P	11 05 36.5	+0.4
ASAR	**Alice Springs**	**26.46**	**166**	P	P	11 06 09.0	+1.0
	0.1nm,0.4s,baz=337,slow=7.5,SNR=5.2						
STKA	**Stephens Creek**	**36.50**	**159**	P	P	11 07 35.4	-0.9
	0.9nm,0.7s,baz=0.0,slow=12,SNR=2.6						

MEX 15 11:15:59.2±0.4, 1578N×9644W, h22km±43km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.32**	**92**	*i* P	Pn	11 16 05.1	-1.2
HUIG				*i* S	Sb	11 16 09.8	-1.2
VHO	**Vista Hermosa**	**1.31**	**348**	*i* P	Pn	11 16 19.6	-2.6
VHO				*i* S	Sn	11 16 35.2	-3.9
OXX	**Oaxaca**	**1.32**	**348**	*i* P	Pn	11 16 20.0	-2.3
OXX				*i* S	Sn	11 16 36.0	-3.3
UTMO	**Huajuapan**	**2.42**	**327**	*e*P	Pn	11 16 34.9	-2.6
UTMO				*i* S	Sn	11 17 04.0	-2.4

ISCJB 15 11:32:35.6±2.9, 1852S±009×713W±02, h71km±22km, mb3.9/4, Error ellipse: s-maj=36.8km s-min=14.5km az=2.7
IDC 15 11:32:37.1±3.8, 1852S×7132W, h77km±31km, mb3.7/3, mb1 3.8/7, mb1mx3.6/16, mbtmp3.9/7, MS2.8/1, Ms1 3.0/1, ms1mx2.5/16, Error ellipse: s-maj=40.5km s-min=20.2km az=90.0

ISC 15 11:32:36.8±2.8, 1850S±009×714W±02, h75km±22km, n9, σ0°91/9, mb3.9/4, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.81**	**55**	P	**Pn**	**11 33 33.6**	**+0.6**
	2.0nm,0.3s,baz=243,slow=11,SNR=51						
LPAZ				LR	LR	11 35 21.1	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.36**	**42**	P	**P**	**12 37 05.0**	**+2.4**
	4.5nm,0.3s,baz=63,slow=20,SNR=5.9						
AFI				S	**S**	**12 38 38.5**	**-2.0**
	12nm,0.3s,baz=177,slow=21,SNR=9.8						
AFI	**Afiamalu**	**8.36**	**42**	*eP*	**P**	**12 37 05.8**	**+3.2**
AFI				*eS*	**S**	**12 38 39.8**	**-0.7**
DZM	**Mont Dzumac**	**15.07**	**260**	P	**P**	**12 38 15.8**	**+0.6**
	0.4nm,0.3s,baz=83,slow=18,SNR=6.5						
URZ	**Urewera**	**18.55**	**193**	P		**12 38 50.9**	**-0.4**
	2.5nm,0.3s,baz=282,slow=4.4,SNR=11						
CTA	**Charters Tower**	**33.96**	**264**	*eP*	**P**	**12 41 08.5**	**+0.8**
	4.6nm,0.4s,mb4.3						
CTAO	**Charters Tower**	**33.96**	**264**	*eP*	**P**	**12 41 07.8**	**+0.1**
	6.5nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**38.30**	**244**	*eP*	**P**	**12 41 42.2**	**-1.6**
	1.9nm,0.5s,mb3.8						
STKA	**Stephens Creek**	**38.30**	**244**	P	**P**	**12 41 41.7**	**-2.1**
	3.0nm,0.6s,mb3.9,baz=92,slow=11,SNR=7.5						
ASAR	**Alice Springs**	**45.01**	**256**	P	**P**	**12 42 37.4**	**+0.2**
	5.9nm,0.7s,mb4.1,baz=93,slow=8.2,SNR=142						
ASAR				PcP	PcP	12 44 09.6	+0.6
	1.5nm,0.6s,baz=106,slow=3.9,SNR=10						
WB2	**Warramunga Arr**	**45.07**	**262**	*eP*	**P**	**12 42 37.1**	**-0.5**
WRAB	**Tennant Creek**	**45.07**	**262**	*eP*	**P**	**12 42 37.3**	**-0.4**
WRA	**Warramunga Arr**	**45.08**	**262**	P	**P**	**12 42 37.5**	**-0.2**
	1.7nm,0.4s,mb3.9,baz=92,slow=5.0,SNR=128						
KAKA	**Kakadu**	**48.42**	**271**	*eP*	**P**	**12 43 03.2**	**+0.1**
	3.8nm,0.7s,mb3.8						
FORT	**Forrest**	**49.81**	**246**	*eP*	**P**	**12 43 13.1**	**-0.3**
	7.3nm,0.5s,mb4.3						
MUN	**Mundaring**	**59.84**	**244**	*eP*	**P**	**12 44 24.9**	**+0.8**
QSPA	**South Pole Qui**	**69.82**	**180**	*eP*	**P**	**12 45 28.8**	**+1.4**
	1.6nm,0.5s,mb3.8						
ILAR	**Eielson Array**	**87.97**	**13**	P	**P**	**12 47 04.9**	**+0.6**
	0.1nm,0.5s,baz=201,slow=7.6,SNR=4.3						
VNA3	**Neumayer Olymp**	**88.36**	**176**	*e*	**P**	**12 47 06.2**	**+0.1**
VNA2	**Neumayer--Watz**	**88.81**	**177**	*e*	**P**	**12 47 09.0**	**+0.8**
VNA1	**Neumayer--Stat**	**89.04**	**176**	*e*	**P**	**12 47 07.3**	**-2.0**
AKASG	**Malin Array Be**	**143.01**	**332**	PKP	PKPdf	12 53 42.4	-2.5
	1.6nm,0.3s,baz=43,slow=4.2,SNR=20						
BRTR	**Keskin Array B**	**147.00**	**313**	PKPbc	PKPbc	12 53 54.9	+0.4
	1.7nm,0.6s,baz=130,slow=4.5,SNR=9.4						
CLL	**Collm**	**147.91**	**348**	i/PKPbc	PKPbc	12 53 58.2	+1.3
GERES	**GERESS Array B**	**150.07**	**345**	PKPbc	PKPbc	12 54 03.9	+1.7
	0.8nm,0.6s,baz=126,slow=1.8,SNR=5.6						

IDC ***15*** *12:44:42.6±0.9, 2494N×1284E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.7/18, mbtmp3.6/7, Error ellipse: s-maj=43.0km s-min=17.0km az=78.0*
NEIC ***15*** *12:44:43.6±0.7, 2496N×1282.4E, h10km, MG3.5(JMA), Error ellipse: s-maj=19.5km s-min=14.0km az=90.0*
ISCJB ***15*** *12:44:44.1±0.5, 2500N±003×1283.4E±004, h33km, mb3.6/7, Error ellipse: s-maj=5.4km s-min=3.6km az=86.9*
JMA ***15*** *12:44:44.2±0.2, 2501N×1283.9E, h66km, M3.5*
ISC 15 12:44:44.9±1.7, 2505N±003×12830E±004, h24km±14km, n26, σ1§06/43, mb3.6/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**1.19**	**335**	P	**Pn**	**12 45 06.5**	**+0.4**
JJT2				S	**Sn**	**12 45 22.9**	**+1.4**
NAH1	**Naha**	**1.27**	**334**	P	**Pn**	**12 45 07.5**	**+0.3**
NAH1				S	**Sn**	**12 45 24.2**	**+0.7**
JOW	**Kunigami**	**1.77**	**359**	Pn	**Pn**	**12 45 14.1**	**0.0**
	22nm,0.3s,baz=176,slow=13,SNR=44						
JOW				Sn	**Sn**	**12 45 34.7**	**-1.2**
	44nm,0.3s,baz=130,slow=27,SNR=16						
JOW	**Kunigami**	**1.77**	**359**	P	**Pn**	**12 45 14.0**	**-0.1**
JOW				S	**Sn**	**12 45 35.6**	**-0.3**
JAGN	**Aguni-jima**	**1.81**	**328**	P	**Pn**	**12 45 15.1**	**+0.6**
JAGN				S	**Sn**	**12 45 36.6**	**0.0**
JKE	**Kume jima 2**	**1.87**	**313**	P	**Pn**	**12 45 15.5**	**+0.2**
JKE				*eS*	**Sn**	**12 45 38.7**	**+0.6**
JIH	**Iheya**	**2.00**	**351**	P	**Pn**	**12 45 17.8**	**+0.6**
JIH				S	**Sn**	**12 45 40.5**	**-0.9**
JOGS	**Gusukube**	**2.65**	**264**	P	**Pn**	**12 45 26.6**	**+0.5**
JOGS				S	**Sn**	**12 45 57.2**	**-0.2**
JMJ	**Miyako jima 2**	**2.74**	**266**	P	**Pn**	**12 45 27.9**	**+0.5**
JMJ				S	**Sn**	**12 45 59.7**	**0.0**
JMZ	**Minamidaito 2**	**2.75**	**73**	P	**Pn**	**12 45 25.2**	**-2.3**
JMZ				S	**Sn**	**12 45 55.5**	**-4.4**
JTK	**Tokunoshima**	**2.79**	**12**	P	**Pn**	**12 45 28.1**	**+0.1**
JTK				S	**Sn**	**12 45 58.2**	**-2.6**
JTJ	**Tarama**	**3.30**	**264**	P	**Pn**	**12 45 35.0**	**0.0**
JTJ				S	**Sn**	**12 46 12.0**	**-1.4**
JAM	**Amami Oshima**	**3.54**	**19**	P	**Pn**	**12 45 39.1**	**+0.7**
JAM				S	**Sn**	**12 46 18.5**	**-1.1**
JZK	**Kikaishima**	**3.58**	**24**	P	**Pn**	**12 45 39.1**	**+0.2**
JZK				S	**Sn**	**12 46 19.7**	**-0.7**
JIJ	**Ishigaki jima**	**3.84**	**261**	P	**Pn**	**12 45 42.0**	**-0.5**
JIJ				S	**Sn**	**12 46 23.5**	**-3.4**
JKRS	**Kuro-shima**	**3.99**	**259**	P	**Pn**	**12 45 44.3**	**-0.2**
JKRS				S	**Sn**	**12 46 28.2**	**-2.3**
IRIF	**Iriomote-Funau**	**4.22**	**261**	P	**Pn**	**12 45 48.1**	**+0.4**
IRIF				*eS*	**Sn**	**12 46 36.9**	**+0.7**
NACB	**Ninganchiao**	**6.17**	**263**	*ePn*	**Pn**	**12 46 13.2**	**-1.2**
SONM	**Songino Array**	**28.58**	**328**	P	**P**	**12 50 43.3**	**+4.3**
	0.5nm,0.6s,mb3.5,baz=137,slow=10,SNR=3.3						
MKAR	**Makanchi Array**	**42.37**	**313**	P	**P**	**12 52 39.9**	**+2.7**
	1.3nm,0.5s,mb3.8,baz=98,slow=10,SNR=19						
MKAR	**Makanchi Array**	**42.37**	**313**	P	**P**	**12 52 39.9**	**+2.7**
WRA	**Warramunga Arr**	**45.11**	**172**	P	**P**	**12 52 59.8**	**+0.6**
	1.7nm,0.9s,mb3.9,baz=354,slow=8.7,SNR=8.8						
ASAR	**Alice Springs**	**48.73**	**173**	P	**P**	**12 53 28.1**	**+0.6**
	0.4nm,0.6s,mb3.6,baz=3.7,slow=13,SNR=12						
STKA	**Stephens Creek**	**58.02**	**167**	P	**P**	**12 54 34.8**	**-1.0**
	1.1nm,0.9s,mb3.9,baz=335,slow=14,SNR=3.3						
ILAR	**Eielson Array**	**65.44**	**28**	P	**P**	**12 55 27.6**	**+1.9**
	0.2nm,0.6s,mb3.3,baz=275,slow=4.4,SNR=4.2						
YKA	**Yellowknife Ar**	**79.56**	**25**	P	**P**	**12 56 51.9**	**+2.0**
	0.2nm,0.7s,mb3.2,baz=303,slow=5.5,SNR=4.1						

GUC 15 12:52:18.4±0.9, 2530S×7056W, h51km±52km, MD3.9, ML2.7, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**0.69**	**12**	*eP*	Pn	12 52 33.5	+1.5
CPN1				*i* S	Sn	12 52 44.0	+2.1
CPN1				AML	AML	12 52 45.2	
	comp=N,652nm,0.2s						
CRCH	**Chaqaral**	**1.04**	**183**	*eP*	Pn	12 52 37.3	+0.6
CRCH				*i* S	Sn	12 52 51.0	+0.8
CDCH	**Caldera**	**1.78**	**188**	i/P	Pn	12 52 47.1	+0.3
CDCH				*i* S	Sn	12 53 07.2	-1.0
CEN1	**Los Morros**	**1.93**	**10**	*eP*	Pn	12 52 46.9	-1.9
CEN1				*i* S	Sn	12 53 07.5	-4.4

ISCJB ***15*** *12:53:04.5±1.1, 352N±0.1×892E±0.2, h10km, mb3.4/5, Error ellipse: s-maj=30.6km s-min=15.3km az=117.4*
NEIC ***15*** *12:53:06.5±1.1, 3519N×8930E, h10km, mb3.5/2, Error ellipse: s-maj=29.2km s-min=14.2km az=57.0*
IDC ***15*** *12:53:11.2±6.4, 3520N×8953E, h38km±54km, mb3.2/4, mb1 3.5/6, mb1mx3.3/19, mbtmp3.4/6, ML2.9/2, MS3.1/1, Ms1 3.1/1, ms1mx2.3/12, Error ellipse: s-maj=73.3km s-min=29.8km az=74.0*
ISC 15 12:53:06.5±1.1, 352N±01×893E±02, h10km, n9, σ0§92/8, mb3.4/5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.72**	**338**	Pn	**Pn**	**12 56 07.8**	**+0.3**
	0.0nm,0.3s,baz=150,slow=12,SNR=3.3						
KURK	**Kurchatov**	**17.33**	**337**	*eP*	**Pn**	**12 57 06.5**	**-2.0**
	1.9nm,0.8s						
SONM	**Songino Array**	**17.93**	**40**	P	**Pn**	**12 57 16.2**	**+0.4**
	0.2nm,0.3s,baz=221,slow=13,SNR=7.0						
ZAL	**Zalesovo**	**19.00**	**352**	LR	LR	13 05 47.9	
	comp=Z,61nm,21.5s,baz=294,slow=40						
BRVK	**Borovoye**	**22.35**	**329**	*eP*	**P**	**12 58 06.1**	**+1.6**
	1.6nm,0.6s,mb3.6						
WRA	**Warramunga Arr**	**69.52**	**135**	P	**P**	**13 04 14.9**	**-0.4**
	0.3nm,0.7s,mb3.4,baz=328,slow=6.8,SNR=6.4						
ILAR	**Eielson Array**	**71.14**	**22**	P	**P**	**13 04 24.8**	**-0.5**
	0.5nm,1.0s,mb3.4,baz=292,slow=4.8,SNR=4.1						
ASAR	**Alice Springs**	**72.21**	**137**	P	**P**	**13 04 31.9**	**+0.3**
	0.2nm,0.7s,mb3.2,baz=325,slow=6.5,SNR=5.7						
YKA	**Yellowknife Ar**	**80.76**	**11**	P	**P**	**13 05 20.1**	**+0.1**
	0.4nm,0.9s,mb3.4,baz=334,slow=5.8,SNR=5.3						

ISCJB ***15*** *13:11:49.2±0.8, 1163N±006×8832W±004, h40km±11km, mb3.8/4, Error ellipse: s-maj=11.2km s-min=5.3km az=58.9*
CASC ***15*** *13:11:50.4±2.0, 1171N×8830W, h35km±14km, MD4.1, ML3.6, mb3.7(NEIC)*
IDC ***15*** *13:11:55.9±4.3, 1220N×8764W, h48km±52km, mb3.5/3, mb1 3.8/5, mb1mx3.5/19, mbtmp3.8/5, ML3.4/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/15, Error ellipse: s-maj=54.8km s-min=33.6km az=41.0*
NEIC ***15*** *13:11:56.3±2.6, 1206N×8767W, h57km±25km, mb3.7/2, Error ellipse: s-maj=34.2km s-min=15.3km az=53.0*
ISC 15 13:11:49.1±1.9, 1171N±007×8827W±004, h16km±14km, n45, σ1§02/41, mb3.8/4, 8C-7D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**1.52**	**62**	i/P	**Pn**	**13 12 15.3**	**-0.3**
LEON				*eS*	**Sn**	**13 12 36.2**	**+1.1**
CRIN	**San Cristobal**	**1.54**	**50**	*eP*	**Pn**	**13 12 16.4**	**+0.3**
CNCH	**Conchagua**	**1.62**	**15**	*eP*	Px	13 12 13.0	
CNCH				*eS*	Sx	13 12 34.0	
TEL3	**Telica 3**	**1.63**	**58**	*eP*	**Pn**	**13 12 16.9**	**-0.3**
TELN	**Telica**	**1.66**	**57**	*eP*	**Pn**	**13 12 17.4**	**-0.2**
MIRN	**Miramar**	**1.69**	**64**	*eP*	**Pn**	**13 12 17.6**	**-0.3**
COPN	**Copaltepe**	**1.70**	**74**	i/P	**Pn**	**13 12 18.0**	**-0.2**
COPN				*eS*	**Sn**	**13 12 40.9**	**+1.2**
VSM	**San Miguel**	**1.71**	**360**	*eP*	Px	13 12 14.6	
VSM				*eS*	Sx	13 12 35.8	
BLLM	**Bellamira**	**1.73**	**1**	*eP*	Px	13 12 14.5	
BLLM				*eS*	Sx	13 12 35.2	
APYN	**Apoyeque**	**1.95**	**74**	*eP*	**Pn**	**13 12 21.2**	**-0.3**
APYN				*eS*	**Sn**	**13 12 46.1**	**+0.5**
XAVN	**Gruta Xavier**	**1.95**	**77**	*eP*	**Pn**	**13 12 21.3**	**-0.2**
SNVI	**San Vicente**	**1.98**	**344**	*eP*	Px	13 12 17.9	
TISN	**Laguna Tiscapa**	**2.00**	**77**	*eP*	**Pn**	**13 12 21.8**	**-0.5**
TICN	**Ticuantepe**	**2.02**	**80**	*eP*	**Pn**	**13 12 21.8**	**-0.7**
MGAN	**Managua**	**2.02**	**77**	*eP*	**Pn**	**13 12 22.1**	**-0.4**
MGAN				*eS*	**Sn**	**13 12 47.7**	**+0.1**
	comp=N,591nm,0.3s						
LCBS	**La Ceiba**	**2.06**	**340**	*eP*	Px	13 12 18.7	
LFRS	**El Faro**	**2.06**	**338**	*eP*	Px	13 12 18.5	
MASN	**Masaya**	**2.09**	**82**	*eP*	**Pn**	**13 12 23.6**	**+0.2**
LBRS	**Las Brisas**	**2.16**	**339**	*eP*	Px	13 12 20.3	
APON	**Apoyo**	**2.16**	**84**	*eP*	**Pn**	**13 12 23.9**	**-0.5**
BOQS	**Boqueron**	**2.25**	**334**	*eP*	Px	13 12 21.6	
BOQS				*eS*	Sx	13 12 48.5	
SSNN	**San Juan del S**	**2.40**	**100**	*eP*	**Pn**	**13 12 27.3**	**-0.5**
SBLS	**San Blas**	**2.50**	**328**	*eP*	Px	13 12 25.4	
SBLS				*eS*	Sx	13 12 55.3	
SNJE	**San Jose**	**2.52**	**329**	*eP*	Px	13 12 25.4	
CONN	**Concepcion**	**2.59**	**93**	*eP*	**Pn**	**13 12 29.5**	**-0.9**
MADN	**Villa Maderas**	**2.69**	**96**	*eP*	**Pn**	**13 12 31.1**	**-0.7**
IXG	**Ixpaco**	**3.25**	**319**	*eP*	**Pn**	**13 12 39.9**	**+0.4**
IXG				*eS*	**Sn**	**13 13 15.5**	**-2.3**
JTS	**JuntasAbangare**	**3.54**	**113**	P	**Pn**	**13 12 44.1**	**+0.7**
	comp=N,5.2nm,0.3s,baz=317,slow=18,SNR=20						
JTS				S	**Sn**	**13 13 22.4**	**-2.6**
	comp=N,12nm,0.3s,baz=100,slow=23,SNR=6.9						
JTS	**JuntasAbangare**	**3.54**	**113**	*ePn*	**Pn**	**13 12 43.9**	**+0.4**
JTS				S	**Sn**	**13 13 22.4**	**-2.6**
TP2	**Tecpan 2**	**4.07**	**319**	*eP*	**Pn**	**13 12 51.5**	**+0.8**
TP2				*eS*	**Sn**	**13 13 38.8**	**+0.8**
PRS1	**Puriscal**	**4.24**	**113**	*eP*	**Pn**	**13 12 54.9**	**+1.8**
LAJ	**Bijagual**	**4.46**	**114**	*eP*	**Pn**	**13 12 52.6**	**-3.5**
LCR2	**La Lucha 2**	**4.62**	**115**	*eP*	**Pn**	**13 12 59.4**	**+1.1**
URSC	**Urasca**	**4.78**	**112**	*eP*	**Pn**	**13 13 02.1**	**+1.6**
BUS	**Buena Vista**	**4.92**	**115**	*eP*	**Pn**	**13 13 04.0**	**+1.6**
SDV	**Santo Domingo**	**17.57**	**98**	P	**Pn**	**13 15 52.0**	**-1.3**
	comp=N,0.1nm,0.3s,baz=278,slow=7.1,SNR=3.8						
SDV				LR	LR	13 23 26.4	
	comp=N,34nm,18.0s,baz=181,slow=40						
SDV	**Santo Domingo**	**17.57**	**98**	*eP*	**Pn**	**13 15 52.3**	**-1.0**
	comp=N,1.7nm,0.7s						
SDV				LR	LR	13 23 26.4	
WMOK	**Wichita Mounta**	**24.85**	**339**	*eP*	**P**	**13 17 11.5**	**+0.7**
SAML	**Samuel**	**32.30**	**128**	*eP*	**P**	**13 18 17.0**	**-0.2**
	comp=N,2.5nm,0.9s,mb4.0						
NVAR	**Mina Array Bea**	**37.75**	**320**	P	**P**	**13 19 07.8**	**+3.6**
	comp=N,0.9nm,0.8s,mb3.5,baz=129,slow=9.1,SNR=6.4						
MCMT	**McKenzie Canyo**	**39.16**	**332**	*eP*	**P**	**13 19 20.4**	**+4.3**
SCHQ	**Schefferville**	**46.22**	**17**	P	**P**	**13 20 11.2**	**-2.2**
	comp=N,3.4nm,0.8s,mb4.3,baz=198,slow=7.2,SNR=7.7						
YKA	**Yellowknife Ar**	**54.12**	**345**	P	**P**	**13 21 12.9**	**-0.4**
	comp=N,0.2nm,0.6s,mb3.2,baz=138,slow=7.6,SNR=6.0						
YKA				PcP	PcP	13 22 18.1	+0.2
	comp=N,0.2nm,0.6s,baz=143,slow=3.7,SNR=6.4						
ASAR	**Alice Springs**	**138.25**	**248**	PKP	PKPdf	13 31 17.5	+4.0
	comp=N,0.1nm,0.5s,baz=105,slow=3.0,SNR=4.5						
WRA	**Warramunga Arr**	**138.29**	**253**	PKP	PKPdf	13 31 17.8	+4.2
	comp=N,0.2nm,0.7s,baz=86,slow=3.3,SNR=3.4						

IDC ***15*** *13:12:15.6±1.4, 424S×102.17E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/15, mbtmp3.9/7, Error ellipse: s-maj=70.8km s-min=18.2km az=50.0*
ISCJB ***15*** *13:12:19.3±1.1, 4.1S±0.3×1024E±0.3, h33km, mb4.2/11, Error ellipse: s-maj=60.4km s-min=10.3km az=98.4*
NEIC ***15*** *13:12:20.5±0.9, 422S×10230E, h30km, mb4.4/4, Error ellipse: s-maj=49.2km s-min=8.3km az=49.0*
ISC 15 13:12:21.8±1.1, 42S±03×1024E±03, h35km, n17, σ0§94/17, mb4.2/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.88**	**119**	P	**P**	**13 19 10.0**	**+0.3**
	0.7nm,0.4s,mb4.0,baz=302,slow=9.1,SNR=16						
WRAB	**Tennant Creek**	**34.89**	**119**	*eP*	**P**	**13 19 09.6**	**-0.1**
	2.0nm,0.4s,mb4.4						
WB2	**Warramunga Arr**	**34.89**	**119**	*eP*	**P**	**13 19 10.3**	**+0.5**
JIRN	**Jiri**	**35.28**	**335**	*eP*	**P**	**13 19 14.5**	**+1.4**
GUN	**Gumba**	**35.63**	**334**	*eP*	**P**	**13 19 17.1**	**+1.0**
	11nm,0.4s,mb5.1						
KKN	**Kakani**	**35.78**	**334**	*eP*	**P**	**13 19 18.2**	**+0.7**
ASAR	**Alice Springs**	**36.09**	**125**	P	**P**	**13 19 20.9**	**+0.8**
	0.6nm,0.5s,mb3.8,baz=294,slow=7.4,SNR=12						
KOLN	**Koldanda**	**36.54**	**331**	*eP*	**P**	**13 19 25.1**	**+1.1**
STKA	**Stephens Creek**	**45.96**	**132**	P	**P**	**13 20 40.4**	**-0.9**
	0.7nm,0.6s,mb3.8,baz=288,slow=9.6,SNR=3.0						
STKA	**Stephens Creek**	**45.96**	**132**	P	**P**	**13 20 40.4**	**-0.9**
SONM	**Songino Array**	**51.90**	**3**	P	**P**	**13 21 27.2**	**+0.3**
	1.2nm,0.6s,mb4.0,baz=185,slow=8.7,SNR=5.8						
MKAR	**Makanchi Array**	**53.75**	**343**	P	**P**	**13 21 40.0**	**-0.5**
	1.5nm,0.5s,mb4.2,baz=148,slow=9.7,SNR=12						
KURK	**Kurchatov**	**58.35**	**343**	*eP*	**P**	**13 22 12.3**	**-1.0**
	1.3nm,0.7s,mb4.1						
ZAL	**Zalesovo**	**59.73**	**348**	P	**P**	**13 22 21.2**	**-1.7**
	2.1nm,0.3s,mb4.6,baz=328,slow=5.8,SNR=3.8						
ZAL	**Zalesovo**	**59.73**	**348**	P	**P**	**13 22 21.2**	**-1.7**
CHKZ	**Chkalovo**	**63.47**	**340**	*eP*	**P**	**13 22 46.5**	**-1.7**
	1.6nm,0.5s,mb4.4						
BRTR	**Keskin Array B**	**76.51**	**312**	P	**P**	**13 24 07.8**	**-0.3**
	0.5nm,0.7s,mb3.6,baz=103,slow=6.4,SNR=3.7						

NIED ***15*** *13:33:00, 24.10N×122.60E, h29km, Mw4.0 Best double couple: M0 1.12000×10^15 NP1:φs70.00000°, δ81.00000°, λ68.00000°. NP2:φs319.00000°, δ24.00000°, λ157.00000°.*
MOS ***15*** *13:33:49.0±2.3, 2391N×12222E, h33km, mb4.3/3, Error ellipse: s-maj=33.7km s-min=16.1km az=114.8*
ISCJB ***15*** *13:33:50.2±0.6, 2403N±007×12266E±003, h53km±6km, mb4.1/14, MS3.2/3, Error ellipse: s-maj=11.4km s-min=4.7km az=6.8*
JMA ***15*** *13:33:50.0±0.2, 2406N×1226.4E, h39km±5km, M4.2*
NEIC ***15*** *13:33:51.0±1.0, 2408N×12270E, h44km±8km, mb4.6/6, Error ellipse: s-maj=12.4km s-min=9.0km az=199.0*
IDC ***15*** *13:33:51.4±4.2, 2412N×12276E, h46km±42km, mb3.7/8, mb1 3.8/9, mb1mx3.7/20, mbtmp4.0/9, ML3.8/1, MS3.2/4, Ms1 3.3/4, ms1mx2.9/25, Error ellipse: s-maj=40.0km s-min=16.0km az=68.0*
ISC 15 13:33:51.1±0.7, 2402N±007×12265E±003, h42km±8km, n40, σ1§05/47, mb4.1/14, MS3.2/3, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.55**	**37**	P	**Pn**	**13 34 01.0**	**-1.6**
YOJ				S	**Sn**	**13 34 08.6**	**-2.1**
NACB	**Ninganchiao**	**0.97**	**279**	i/Pn	**Pn**	**13 34 07.4**	**-0.9**
IRIF	**Iriomote-Funau**	**1.04**	**72**	P	**Pn**	**13 34 08.1**	**-1.1**
IRIF				S	**Sn**	**13 34 22.8**	**+0.3**
HATJ	**Hateruma jima**	**1.06**	**88**	P	**Pn**	**13 34 08.8**	**-0.7**
HATJ				S	**Sn**	**13 34 22.8**	**-0.2**
JKRS	**Kuro-shima**	**1.26**	**80**	P	**Pn**	**13 34 12.0**	**-0.3**
JKRS				S	**Sn**	**13 34 28.7**	**+0.7**
YHNB	**Yeheng**	**1.33**	**299**	*ePn*	**Pn**	**13 34 13.4**	**+0.2**
JIJ	**Ishigaki jima**	**1.41**	**76**	P	**Pn**	**13 34 13.6**	**-0.7**
JIJ				S	**Sn**	**13 34 31.1**	**-0.5**
TATO	**Taipei**	**1.42**	**312**	*ePn*	**Pn**	**13 34 15.9**	**+1.4**
TATO				*eSn*	**Sn**	**13 34 33.5**	**+1.6**
JTJ	**Tarama**	**1.97**	**71**	P	**Pn**	**13 34 22.0**	**0.0**
JTJ				S	**Sn**	**13 34 46.5**	**+1.0**
JMJ	**Miyako jima 2**	**2.54**	**71**	S	**Sn**	**13 35 00.4**	**+0.9**
JOGS	**Gusukube**	**2.62**	**73**	P	**Pn**	**13 34 31.6**	**+0.7**
JOGS				S	**Sn**	**13 35 02.5**	**+1.0**
JKE	**Kume jima 2**	**4.40**	**58**	P	**Pn**	**13 34 54.9**	**-0.4**
JKE				*eS*	**Sn**	**13 35 45.1**	**-0.2**
JAGN	**Aguni-jima**	**4.88**	**57**	P	**Pn**	**13 35 03.5**	**+1.5**
JAGN				S	**Sn**	**13 35 59.8**	**+2.6**
JOW	**Kunigami**	**5.81**	**60**	P	**Pn**	**13 35 13.5**	**-1.2**
	5.9nm,0.3s,baz=193,slow=12,SNR=18						
KS15	**Wonju Array Si**	**14.11**	**17**	P	**Pn**	**13 37 12.4**	**+4.1**
JHJ	**Hachijo jima 2**	**17.55**	**55**	LR	LR	13 45 08.4	
	comp=Z,36nm,18.2s,baz=132,slow=39						
GUMO	**Guam**	**23.42**	**112**	LR	LR	13 47 32.5	
	comp=Z,44nm,18.3s,MS3.0,baz=239,slow=35						
ASAJ	**Asahikawa**	**25.86**	**34**	LR	LR	13 48 08.0	
	comp=Z,37nm,20.5s,MS2.9,baz=282,slow=33						
ULN	**Ulaanbaatar**	**26.83**	**336**	*eP*	**P**	**13 39 26.5**	**-1.1**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.7						
ULN	**Ulaanbaatar**	**26.83**	**336**	*eP*	**P**	**13 39 26.5**	**-1.0**
	comp=Z,1.1nm,0.4s,mb3.7						
SONM	**Songino Array**	**27.05**	**336**	P	**P**	**13 39 28.7**	**-0.9**
	comp=Z,1.3nm,0.5s,mb3.7,baz=152,slow=9.5,SNR=7.8						
JIRN	**Jiri**	**32.94**	**284**	*eP*	**P**	**13 40 23.5**	**+1.9**
	comp=Z,8.0nm,0.7s,mb4.8						
GUN	**Gumba**	**33.20**	**285**	*eP*	**P**	**13 40 25.2**	**+1.3**
KKN	**Kakani**	**33.74**	**285**	*eP*	**P**	**13 40 29.7**	**+1.1**
	comp=Z,6.3nm,0.5s,mb4.8						
KKN	**Kakani**	**33.74**	**285**	*eP*	**P**	**13 40 29.7**	**+1.1**
KKN				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.8						
DMN	**Daman**	**33.90**	**284**	*eP*	**P**	**13 40 29.8**	**-0.2**
	comp=Z,4.7nm,0.5s,mb4.7						
GKN	**Gorkha**	**34.30**	**285**	*eP*	**P**	**13 40 33.3**	**-0.1**
	comp=Z,5.8nm,0.3s,mb5.0						
KOLN	**Koldanda**	**35.23**	**285**	*eP*	**P**	**13 40 40.1**	**-1.3**
SKR	**Severo-Kuril's**	**37.10**	**36**	*eP*	**P**	**13 41 04.5**	**+7.0**
MKAR	**Makanchi Array**	**39.39**	**315**	P	**P**	**13 41 16.6**	**-0.2**
	comp=Z,1.5nm,0.6s,mb3.9,baz=111,slow=9.7,SNR=18						
MKAR				PcP	PcP	13 43 24.4	+0.1
	comp=Z,1.0nm,0.7s,baz=102,slow=5.1,SNR=8.1						
KURK	**Kurchatov**	**43.08**	**320**	*eP*	**P**	**13 41 46.1**	**-0.9**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
KURK	**Kurchatov**	**43.08**	**320**	*eP*	**P**	**13 41 46.1**	**-0.9**
	comp=Z,1.3nm,0.6s,mb3.8						
WRA	**Warramunga Arr**	**45.16**	**164**	P	**P**	**13 42 03.8**	**+0.1**
	comp=Z,0.8nm,0.6s,mb3.7,baz=347,slow=8.8,SNR=12						
ASAR	**Alice Springs**	**48.64**	**166**	P	**P**	**13 42 31.9**	**+1.0**
	comp=Z,0

mb4.3/22,MS4.0/6,Error ellipse: s-maj=7.7km s-min=5.4km az=84.5

*IDC **15** 13:56:11.4±0.7,2142S×3354E,h0km,mb4.2/14, mb1 4.4/18,mb1mx4.3/24,mbtmp4.3/18,ML4.3/4,MS4.0/8, Ms1 4.0/8,ms1mx3.7/18,Error ellipse: s-maj=20.3km s-min=17.4km az=72.0*

*NEIC **15** 13:56:12.9±0.4,2143S×3348E,h10km,mb4.6/11,Error ellipse: s-maj=11.6km s-min=10.7km az=125.0*

ISC 15 13:56:12.2±0.3,2152S±004×3335E±005,h10km, (h14km±7km:pP-P),n76,σ1♀47/77,mb4.3/22,MS4.0/6, 3C-1D,Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATP	**Matopo**	**4.66**	**283**	Pn	**Pn**	**13 57 23.6**	**+1.0**
	7.5nm,0.3s,baz=105,slow=14,SNR=143						
MATP				Sn	**Sn**	**13 58 15.8**	**-0.9**
	37nm,0.3s,baz=195,slow=22,SNR=11						
MATP				Lg		13 58 35.2	
	58nm,0.3s,baz=180,slow=17,SNR=6.8						
MATP	**Matopo**	**4.66**	**283**	Pn	**Pn**	**13 57 23.6**	**+1.0**
MATP				Sn	**Sn**	**13 58 15.8**	**-0.9**
MATP				Lg		13 58 35.2	
POGA	**Pongola**	**6.04**	**195**	*eP*	**Pn**	**13 57 41.6**	**+0.1**
POGA				*eS*	**Sn**	**13 58 48.3**	**-2.3**
POGA				AML	AML	13 59 07.6	
	comp=Z,242nm,0.5s						
SLR	**Silverton**	**6.26**	**227**	*eP*	**Pn**	**13 57 46.3**	**+1.7**
SLR				*eS*	**Sn**	**13 58 55.8**	**-0.4**
SLR				AML	AML	13 59 42.9	
	comp=Z,960nm,0.6s						
LSZ	**Lusaka**	**7.91**	**321**	Pn	**Pn**	**13 58 06.4**	**-0.7**
	comp=Z,20nm,0.3s,baz=153,slow=13,SNR=47						
LSZ				Sn	**Sn**	**13 59 31.8**	**-4.9**
	comp=Z,5.8nm,0.3s,baz=65,slow=22,SNR=4.7						
LSZ				Lg		14 00 15.6	
	comp=Z,18nm,0.3s,baz=230,slow=20,SNR=9.7						
LSZ	**Lusaka**	**7.91**	**321**	*eP*	**Pn**	**13 58 05.4**	**-1.7**
LSZ				*e*		13 59 29.3	
LSZ				pmax	pmax		
	comp=Z,70nm,0.5s						
LSZ	**Lusaka**	**7.91**	**321**	*ePn*	**Pn**	**13 58 05.4**	**-1.7**
	comp=Z,70nm,0.5s						
LSZ				*eSn*	**Sn**	**13 59 29.3**	**-7.3**
LSZ				*eSg*	Sn	14 00 15.7	+39
LBTB	**Lobatse**	**7.93**	**242**	*eP*	**Pn**	**13 58 07.9**	**+0.4**
LBTB				*eS*	**Sn**	**13 59 34.6**	**-2.7**
LBTB				AML	AML	13 59 50.2	
	comp=Z,124nm,0.5s						
LBTB	**Lobatse**	**7.93**	**242**	Pn	**Pn**	**13 58 08.8**	**+1.4**
	comp=Z,8.9nm,0.3s,baz=66,slow=13,SNR=85						
LBTB				Sn	**Sn**	**13 59 36.9**	**-0.4**
	comp=Z,25nm,0.3s,baz=327,slow=8.9,SNR=7.2						
LBTB				Lg		14 00 20.8	
	comp=Z,34nm,0.3s,baz=165,slow=12,SNR=7.9						
LBTB				LR	LR	14 01 14.5	
	comp=Z,1μm,20.3s,baz=78,slow=37						
LBTB	**Lobatse**	**7.93**	**242**	*eP*	**Pn**	**13 58 08.1**	**+0.6**
LBTB				*e*		13 59 35.2	
LBTB				pmax	pmax		
	comp=Z,12nm,0.5s						
LBTB	**Lobatse**	**7.93**	**242**	*ePn*	**Pn**	**13 58 08.1**	**+0.6**
	comp=Z,12nm,0.5s						
LBTB				*eSn*	**Sn**	**13 59 35.2**	**-2.0**
LBTB				*eSg*	Sn	14 00 19.0	+42
OPO	**Ambohidratompo**	**13.33**	**80**	Pn	**Pn**	**13 59 18.6**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=276,slow=18,SNR=2.5						
OPO				Sn	**Sn**	**14 01 39.2**	**-10**
	comp=Z,2.2nm,0.3s,baz=144,slow=21,SNR=6.3						
TSUM	**Tsumeb**	**14.96**	**276**	Pn	**Pn**	**13 59 41.8**	**-1.9**
	comp=Z,0.9nm,0.3s,baz=102,slow=12,SNR=14						
TSUM				Sn	**Sn**	**14 02 13.8**	**-16**
	comp=Z,0.5nm,0.3s,baz=132,slow=7.1,SNR=3.2						
TSUM				Lg		14 03 56.3	
	comp=Z,1.0nm,0.3s,baz=158,slow=14,SNR=4.7						
TSUM				LR	LR	14 06 01.0	
	comp=Z,215nm,19.2s,baz=317,slow=39						
TSUM	**Tsumeb**	**14.96**	**276**	*eP*	**Pn**	**13 59 41.3**	**-2.4**
	comp=Z,21nm,0.8s						
TSUM				*eS*	**Sn**	**14 02 12.0**	**-17**
SUR	**Sutherland**	**15.54**	**223**	*eP*	**Pn**	**13 59 53.6**	**+2.3**
SUR				*eS*	**Sn**	**14 02 38.3**	**-5.2**
SUR	**Sutherland**	**15.54**	**223**	Pn	**Pn**	**13 59 50.2**	**-1.1**
	comp=Z,3.3nm,0.3s,baz=53,slow=12,SNR=27						
SUR				Sn	**Sn**	**14 02 34.6**	**-8.9**
	comp=Z,1.9nm,0.3s,baz=147,slow=23,SNR=10						
SUR				Lg		14 04 12.6	
	comp=Z,2.8nm,0.3s,baz=145,slow=20,SNR=4.9						
SUR				LR	LR	14 06 06.1	
	comp=Z,809nm,18.8s,baz=180,slow=38						
SUR	**Sutherland**	**15.54**	**223**	*eP*	**Pn**	**13 59 50.1**	**-1.2**
	comp=Z,52nm,0.8s						
SUR				*eS*	**Sn**	**14 02 32.8**	**-11**
KMBO	**Kilima Mbogo**	**20.62**	**11**	P	**P**	**14 00 51.4**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=200,slow=21,SNR=5.2						
KMBO				Lg		14 06 44.5	
	comp=Z,1.0nm,0.5s,baz=221,slow=18,SNR=3.4						
KMBO				LR	LR	14 08 37.8	
	comp=Z,144nm,21.0s,MS3.3,baz=88,slow=36						
KMBO	**Kilima Mbogo**	**20.62**	**11**	*i* P	pP	14 01 02.5	+8.1
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MBAR	**Mbarara**	**20.94**	**353**	*eP*	**P**	**14 00 59.0**	**+3.9**
TORD	**Torodi Ar. Bea**	**46.39**	**315**	P	**P**	**14 04 40.6**	**+1.9**
	comp=Z,6.0nm,0.8s,mb4.6,baz=126,slow=6.9,SNR=27						
TORD				PP	PP	14 06 27.1	-0.4
	comp=Z,1.9nm,0.9s,baz=144,slow=7.9,SNR=3.6						
DBIC	**Dimbokro**	**46.78**	**303**	P	**P**	**14 04 43.4**	**+1.6**
	comp=Z,9.3nm,1.0s,mb4.7,baz=354,slow=18,SNR=4.9						
DBIC	**Dimbokro**	**46.78**	**303**	*eP*	**P**	**14 04 43.9**	**+2.1**
DBIC				pmax	pmax		
	comp=Z,32nm,1.3s						
DBIC	**Dimbokro**	**46.78**	**303**	*eP*	**P**	**14 04 43.9**	**+2.1**
	comp=Z,32nm,1.3s,mb5.1						
SYO	**Syowa Base**	**47.65**	**177**	*eP*	**P**	**14 04 51.0**	**+2.5**
MAW	**Mawson**	**49.66**	**166**	P	**P**	**14 05 04.6**	**+0.6**
	comp=Z,4.3nm,0.8s,mb4.5,baz=332,slow=4.3,SNR=5.5						
MAW	**Mawson**	**49.66**	**166**	*eP*	**P**	**14 05 04.6**	**+0.6**
MAW				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MAW	**Mawson**	**49.66**	**166**	*eP*	**P**	**14 05 04.6**	**+0.6**
	comp=Z,9.2nm,1.1s,mb4.7						
SNAA	**Sanae**	**54.29**	**193**	*eP*	**P**	**14 05 37.6**	**-0.9**
SNAA				*e*	pP	14 05 42.1	+0.4
SNAA				*e*		14 05 52.1	
SNAA				*e*		14 06 02.8	
SNAA				*e*		14 06 13.7	
SNAA	**Sanae**	**54.29**	**193**	*eP*	**P**	**14 05 37.6**	**-0.9**
SNAA				*e*	pP	14 05 42.1	+0.4
VNA2	**Neumayer--Watz**	**54.81**	**195**	*eP*	**P**	**14 05 43.4**	**+1.2**
VNA2				*e*	pP	14 05 47.3	+1.9
VNA2				*e*		14 05 52.1	
VNA2				*e*		14 05 57.6	
VNA2				*e*		14 06 08.8	
VNA2				*e*		14 06 21.0	
VNA1	**Neumayer--Stat**	**54.84**	**196**	*eP*	**P**	**14 05 44.1**	**+1.6**
VNA1				*e*	pP	14 05 48.1	+2.4
VNA1				*e*		14 05 52.3	
VNA1				*e*		14 05 59.6	
VNA1				*e*		14 06 09.6	
VNA1				*e*		14 06 21.5	
VNA3	**Neumayer Olymp**	**55.58**	**196**	*eP*	**P**	**14 05 43.1**	**-4.7**
VNA3				*e*	pP	14 05 46.7	-4.3
VNA3				*e*		14 05 51.3	
VNA3				*e*		14 05 56.6	
VNA3				*e*		14 06 08.9	
VNA3				*e*		14 06 20.6	
BRTR	**Keskin Array B**	**60.92**	**0**	P	**P**	**14 06 26.3**	**+1.1**
	comp=Z,1.9nm,0.9s,mb4.2,baz=173,slow=4.9,SNR=6.5						
GNI	**Garni**	**62.26**	**10**	*eP*	**P**	**14 06 33.6**	**-0.6**
GNI				pmax	pmax		
	comp=Z,13nm,1.7s						
KIV	**Kislovodsk**	**65.71**	**7**	*eP*	**P**	**14 06 58.2**	**+1.3**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.7						
KIV				MLR	MLR		
	comp=Z,69nm,16.0s,MS4.0						
ESDC	**Sonseca Array**	**70.14**	**330**	P	**P**	**14 07 26.8**	**+2.0**
	comp=Z,0.3nm,0.3s,mb3.7,baz=137,slow=5.7,SNR=8.5						
ESLA	**Sonseca Array**	**70.14**	**330**	*eP*	**P**	**14 07 26.9**	**+2.1**
	comp=Z,2.1nm,1.2s,mb3.9						
AKASG	**Malin Array Be**	**71.99**	**357**	P	**P**	**14 07 35.6**	**-0.4**
	comp=Z,0.8nm,0.6s,mb3.9,baz=182,slow=5.7,SNR=9.1						
GERES	**GERESS Array B**	**72.21**	**347**	P	**P**	**14 07 37.9**	**+0.6**
	comp=Z,0.4nm,0.3s,mb3.8,baz=152,slow=8.7,SNR=7.8						
AAK	**Ala-Archa**	**74.25**	**30**	*eP*	**P**	**14 07 51.1**	**+1.7**
OBN	**Obninsk**	**76.37**	**2**	*ePn*	**P**	**14 07 56.9**	**-4.7**
OBN				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
BDFB	**Brasilia**	**76.56**	**258**	P	**P**	**14 08 05.5**	**+2.9**
	comp=Z,12nm,0.9s,mb4.8,baz=106,slow=4.5,SNR=12						
BDFB				LR	LR	14 38 37.1	
	comp=Z,249nm,18.3s,MS4.6,baz=121,slow=33						
VNDA	**Vanda**	**76.71**	**170**	P	**P**	**14 08 04.8**	**+1.2**
	comp=Z,2.0nm,1.1s,mb4.0,baz=255,slow=4.9,SNR=4.0						
ZRNK	**Zerenda**	**80.36**	**21**	P	**P**	**14 08 22.7**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
ZRNK	**Zerenda**	**80.36**	**21**	P	**P**	**14 08 22.7**	**-0.9**
	comp=Z,4.0nm,1.1s,mb4.3						
ARU	**Arti**	**80.51**	**14**	*eP*	**P**	**14 08 21.3**	**-3.2**
ARU				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.8						
BRVK	**Borovoye**	**80.88**	**22**	P	**P**	**14 08 26.3**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
BRVK	**Borovoye**	**80.88**	**22**	P	**P**	**14 08 26.2**	**-0.2**
	comp=Z,2.3nm,1.1s,mb4.0						
MKAR	**Makanchi Array**	**81.07**	**32**	P	**P**	**14 08 26.3**	**-1.1**
	comp=Z,1.0nm,0.9s,mb3.7,baz=227,slow=4.8,SNR=5.8						
CPUP	**Villa Florida**	**81.32**	**245**	LR	LR	14 38 50.4	
	comp=Z,125nm,19.8s,MS4.3,baz=266,slow=31						
CHKZ	**Chkalovo**	**81.50**	**21**	*eP*	**P**	**14 08 27.7**	**-2.0**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
CHKZ	**Chkalovo**	**81.50**	**21**	*eP*	**P**	**14 08 27.7**	**-2.1**
	comp=Z,4.6nm,1.1s,mb4.3						
KURK	**Kurchatov**	**82.23**	**27**	*eP*	**P**	**14 08 32.7**	**-0.9**
KURK	**Kurchatov**	**82.23**	**27**	*eP*	**P**	**14 08 32.3**	**-1.2**
	comp=Z,5.2nm,1.1s,mb4.4						
NB2	**NORSAR Subarra**	**84.19**	**349**	P	**P**	**14 08 44.2**	**+0.5**
	comp=Z,6.2nm,1.2s,mb4.6,baz=165,slow=4.8						
NOA	**NORSAR Array B**	**84.19**	**349**	P	**P**	**14 08 44.2**	**+0.5**
	comp=Z,3.7nm,1.0s,mb4.5,baz=152,slow=4.8,SNR=5.3						
NVS	**Novosibirsk**	**87.16**	**26**	*eP*	**P**	**14 08 56.9**	**-1.5**
ZAL	**Zalesovo**	**87.19**	**28**	LR	LR	14 47 51.4	
	comp=Z,78nm,20.5s,MS4.1,baz=8.8,slow=36						
ASAR	**Alice Springs**	**90.62**	**116**	P	**P**	**14 09 15.2**	**+0.5**
	comp=Z,1.2nm,0.8s,mb4.2,baz=236,slow=3.8,SNR=12						
SAML	**Samuel**	**92.77**	**259**	P	**P**	**14 09 22.8**	**-1.9**
	comp=Z,4.5nm,1.3s,mb4.7						
LPAZ	**La Paz**	**94.38**	**251**	P	**P**	**14 09 37.0**	**+4.8**
	comp=Z,1.1nm,0.9s,mb4.3,baz=10,slow=3.9,SNR=4.7						
LPAZ				LR	LR	14 48 04.6	
	comp=Z,64nm,20.7s,MS4.1,baz=76,slow=33						
LPAZ	**La Paz**	**94.38**	**251**	P	**P**	**14 09 36.4**	**+4.3**
LPAZ				pmax	pmax		
	comp=Z,6.0nm,1.6s						
LPAZ	**La Paz**	**94.38**	**251**	P	**P**	**14 09 36.4**	**+4.3**
	comp=Z,5.9nm,1.6s,mb4.8						
ULN	**Ulaanbaatar**	**95.37**	**40**	*eP*	**P**	**14 09 34.8**	**-1.9**
YKA	**Yellowknife Ar**	**133.58**	**340**	PKP	PKPdf	14 15 29.7	+0.9
	comp=Z,0.9nm,0.7s,baz=37,slow=2.2,SNR=12						
PDAR	**Pinedale Array**	**142.53**	**313**	PKP	PKPdf	14 15 47.0	+1.7
	comp=Z,0.8nm,0.8s,baz=82,slow=3.1,SNR=5.4						
SRU	**San Rafael**	**144.51**	**308**	*ePKIKP*	PKPdf	14 15 49.1	+0.3
TMUT	**Trail Mountain**	**144.95**	**308**	*ePKP*	PKPdf	14 15 51.1	+1.6
HLID	**Hailey**	**145.38**	**317**	*ePKP*	PKPdf	14 15 52.7	+2.4
MSU	**Marysvale**	**145.93**	**308**	*ePKP2*	PKPab	14 15 54.4	+2.0
TUC	**Tucson**	**146.40**	**296**	*ePKP2*	PKPab	14 15 55.9	+1.7
BMO	**Blue Mountains**	**146.47**	**321**	*ePKIKP*	PKPdf	14 15 54.8	+2.7
NVAR	**Mina Array Bea**	**150.38**	**311**	PKPbc	PKPbc	14 16 05.0	+1.3
	comp=Z,2.0nm,0.7s,baz=92,slow=3.3,SNR=10						
DAC	**Darwin (Calif)**	**150.75**	**307**	PKIKP	PKPbc	14 16 07.7	+3.1
HUMO	**Hull Mountain**	**151.10**	**322**	*ePKPdf*	PKPdf	14 16 02.5	+2.9

IDC 15 14:19:16.1±1.9,614S×12547E,h0km,mb3.5/1,mb1 3.4/3, mb1mx3.3/15,mbtmp3.2/3,ML3.3/2,Error ellipse: s-maj=264.0km s-min=29.7km az=62.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**9.48**	**134**	*eP*	Pn	14 21 47.3	+13
	6.8nm,0.6s						
WRA	**Warramunga Arr**	**16.20**	**149**	Pn	Pn	14 23 06.3	+1.2
	0.1nm,0.3s,baz=322,slow=14,SNR=13						
ASAR	**Alice Springs**	**19.22**	**156**	P	Pn	14 23 41.5	-1.0
	0.1nm,0.3s,baz=342,slow=11,SNR=9.2						
MKAR	**Makanchi Array**	**65.10**	**329**	P	P	14 29 58.7	+0.2
	0.2nm,0.4s,baz=127,slow=8.0,SNR=4.6						

*ISK **15** 14:35:54.8,3709N×3738E,h20km,MD3.0*

*CSEM **15** 14:35:54.6±0.2,3727N×3742E,h8km,Mc1.8,Error ellipse: s-maj=8.6km s-min=2.1km az=147.0*

*ISCJB **15** 14:35:55.5±0.8,37.16N±006×3751E±005,h2km±8km, Error ellipse: s-maj=11.4km s-min=4.8km az=119.4*

*NSSC **15** 14:35:56.9,37.18N×3748E,h13km±2km*

ISC 15 14:35:56.0±0.7,3730N±007×3739E±006,h13km±4km,n17, σ0♀84/28,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GZT	**Gaziantep**	**0.15**	**66**	*i* P	**Pg**	**14 35 58.7**	**-0.9**
GZT				*i* S	**Sg**	**14 36 03.9**	**+1.6**
GAZ	**Gaziantep**	**0.19**	**229**	*i* PG	**Pg**	**14 35 59.3**	**-1.0**
ATAB	**Bozova**	**0.74**	**76**	*i* P	**Pg**	**14 36 09.8**	**-0.6**
DRWC	**Darouich**	**0.89**	**221**	⇑P	**Pg**	**14 36 12.8**	**-0.4**
DRWC				⇑S	**Sg**	**14 36 26.0**	**+1.2**
DRWC	**Darouich**	**0.89**	**221**	⇑*i* P	**Pg**	**14 36 12.8**	**-0.4**
DRWC				⇑*i* S	**Sg**	**14 36 26.0**	**+1.2**
URFA	**Urfa**	**1.15**	**82**	*i* PN	**Pn**	**14 36 17.4**	**-0.4**
URFA				*i* SN	**Sn**	**14 36 33.1**	**-0.2**
KOZT	**Kozan**	**1.26**	**279**	PN	**Pn**	**14 36 18.4**	**-0.8**
MYA	**Malataya**	**1.31**	**38**	PN	**Pn**	**14 36 21.7**	**+1.7**
BTCH	**Batrach**	**1.46**	**211**	⇑P	**Pn**	**14 36 22.2**	**+0.1**
BTCH				⇑S	**Sn**	**14 36 40.8**	**-0.3**
BTCH	**Batrach**	**1.46**	**211**	⇑*i* P	**Pn**	**14 36 22.2**	**+0.1**
BTCH				⇑*i* S	**Sn**	**14 36 40.8**	**-0.3**
SLNF	**Slenfeh**	**1.94**	**209**	⇑P	**Pn**	**14 36 28.7**	**0.0**
SLNF				⇑S	**Sn**	**14 36 53.6**	**+0.7**
SLNF	**Slenfeh**	**1.94**	**209**	⇑*i* P	**Pn**	**14 36 28.7**	**+0.1**
SLNF				⇑*i* S	**Sn**	**14 36 53.6**	**+0.7**
WRDH	**Warideh**	**1.95**	**204**	⇑P	**Pn**	**14 36 28.8**	**0.0**
WRDH				⇑S	**Sn**	**14 36 53.3**	**+0.1**
WRDH	**Warideh**	**1.95**	**204**	⇑*i* P	**Pn**	**14 36 28.8**	**0.0**
WRDH				⇑*i* S	**Sn**	**14 36 53.3**	**+0.2**
BIDA	**Albida**	**2.44**	**201**	⇑P	**Pn**	**14 36 34.8**	**-0.7**
BIDA	**Albida**	**2.44**	**201**	⇑*i* P	**Pn**	**14 36 34.8**	**-0.7**
MARD	**Mardin**	**2.70**	**89**	*i* P	**Pn**	**14 36 42.7**	**+3.6**
MARD				*i* S	**Sg**	**14 37 22.2**	**-0.6**

IDC 15 14:42:06.5±3.5,1459S×6624E,h0km,mb3.7/3,mb1 3.9/3, mb1mx3.5/18,mbtmp3.7/3,Error ellipse: s-maj=131.4km s-min=39.8km az=52.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**62.78**	**12**	P	P	14 52 33.8	+0.1
	0.5nm,0.9s,baz=193,slow=5.9,SNR=3.5						
ASAR	**Alice Springs**	**64.07**	**109**	P	P	14 52 42.6	+0.5
	0.6nm,0.9s,baz=268,slow=6.9,SNR=4.5						
WRA	**Warramunga Arr**	**64.87**	**105**	P	P	14 52 48.3	+0.8
	1.1nm,1.0s,baz=270,slow=6.7,SNR=5.2						
PDAR	**Pinedale Array**	**151.69**	**353**	PKPbc	PKPbc	15 02 03.3	+0.4
	0.4nm,0.7s,baz=38,slow=4.6,SNR=3.1						

IDC 15 14:44:33.9±3.3,1448S×6605E,h0km,mb3.8/4,mb1 4.0/4, mb1mx3.7/18,mbtmp3.8/4,MS3.9/2,Ms1 3.9/2, ms1mx2.9/25,Error ellipse: s-maj=120.2km s-min=34.7km az=55.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**44.81**	**238**	LR	LR	15 09 20.0	
	comp=Z,96nm,20.0s,baz=71,slow=33						
MAW	**Mawson**	**53.13**	**182**	LR	LR	15 11 33.6	
	comp=Z,202nm,19.5s,baz=238,slow=30						
MKAR	**Makanchi Array**	**62.71**	**12**	P	P	14 55 01.7	+1.1
	0.3nm,0.9s,baz=190,slow=7.3,SNR=3.9						
ASAR	**Alice Springs**	**64.28**	**110**	P	P	14 55 11.4	+0.5
	0.5nm,0.8s,baz=267,slow=6.8,SNR=4.4						
WRA	**Warramunga Arr**	**65.08**	**105**	P	P	14 55 17.0	+0.8
	1.4nm,1.0s,baz=265,slow=6.6,SNR=5.1						
ZAL	**Zalesovo**	**70.00**	**12**	P	P	14 55 45.6	-1.7
	0.8nm,0.4s,baz=212,slow=7.5,SNR=2.9						
PDAR	**Pinedale Array**	**151.56**	**353**	PKPbc	PKPbc	15 04 30.6	+0.7
	0.3nm,0.4s,baz=17,slow=3.3,SNR=4.0						

IDC 15 14:46:38.5±3.3,1451S×6609E,h0km,mb3.7/3,mb1 3.9/3, mb1mx3.5/18,mbtmp3.7/3,Error ellipse: s-maj=124.8km s-min=38.5km az=53.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**62.73**	**12**	P	P	14 57 05.3	0.0
	0.6nm,1.0s,baz=193,slow=5.0,SNR=4.7						
ASAR	**Alice Springs**	**64.24**	**109**	P	P	14 57 15.7	+0.4
	0.9nm,1.0s,baz=277,slow=6.2,SNR=5.5						
WRA	**Warramunga Arr**	**65.04**	**105**	P	P	14 57 21.4	+0.9
	1.3nm,1.1s,baz=265,slow=5.8,SNR=4.3						
PDAR	**Pinedale Array**	**151.59**	**353**	PKPbc	PKPbc	15 06 35.1	+0.5
	0.3nm,0.5s,baz=65,slow=5.1,SNR=4.0						

IDC 15 14:51:29.5±3.1,1435S×6638E,h0km,mb3.8/4,mb1 4.1/4, mb1mx3.7/18,mbtmp3.8/4,MS3.8/1,Ms1 3.8/1, ms1mx2.7/22,Error ellipse: s-maj=113.9km s-min=32.4km az=55.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBTB	**Lobatse**	**39.70**	**248**	LR	LR	15 13 49.0	
	comp=Z,114nm,18.5s,baz=18,slow=34						
MKAR	**Makanchi Array**	**62.52**	**12**	P	P	15 01 54.7	-0.2
	0.2nm,0.3s,baz=201,slow=7.6,SNR=3.8						
ASAR	**Alice Springs**	**64.02**	**110**	P	P	15 02 05.4	+0.5
	1.1nm,1.0s,baz=274,slow=7.7,SNR=7.2						
WRA	**Warramunga Arr**	**64.81**	**105**	P	P	15 02 10.8	+0.8
	1.3nm,0.9s,baz=279,slow=5.8,SNR=6.4						
ZAL	**Zalesovo**	**69.81**	**11**	P	P	15 02 42.0	+0.3
	0.7nm,0.3s,baz=320,slow=5.6,SNR=4.5						
PDAR	**Pinedale Array**	**151.47**	**354**	PKPbc	PKPbc	15 11 25.6	+0.2
	1.0nm,1.0s,baz=72,slow=2.9,SNR=5.8						

*NNC **15** 15:04:27.6±3.3,4207N×7324E,h10km±21km,mb2.7, mpv2.2,Error ellipse: s-maj=24.5km s-min=6.9km az=176.0*

*KNET **15** 15:04:28.7±0.3,4219N×7348E,h11km±1km,ml1.9,Error ellipse: s-maj=2.2km s-min=1.4km az=74.0*

*ISCJB **15** 15:04:29.4±0.9,42.17N±005×7343E±005,h10km,Error ellipse: s-maj=7.2km s-min=5.0km az=29.7*

ISC 15 15:04:29.7±0.9,4218N±005×7346E±005,h10km,n19, σ1♀06/29,14C-6D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**0.18**	**105**	⇑P	**Pg**	**15 04 32.7**	**-0.9**
	24nm,0.1s,SNR=49						
AML				⇓S	**Sg**	**15 04 36.4**	**+0.1**
	260nm,0.2s						
AML	**Almayashu**	**0.18**	**105**	P	**Pg**	**15 04 32.7**	**-0.9**
	SNR=49						
EKS2	**Erkin-Say**	**0.54**	**26**	⇓P	**Pg**	**15 04 39.1**	**-1.1**
	4.7nm,0.1s,SNR=19						
EKS2				⇑S	**Sg**	**15 04 46.7**	**-0.5**
	34nm,0.1s						
EKS2	**Erkin-Say**	**0.54**	**26**	P	**Pg**	**15 04 39.1**	**-1.1**
	SNR=19						
UCH	**Uchtor**	**0.79**	**86**	⇑P	**Pg**	**15 04 43.5**	**-1.4**
	8.2nm,0.2s,SNR=32						
UCH				⇓S	**Sg**	**15 04 55.5**	**+0.3**
	43nm,0.2s						
UCH	**Uchtor**	**0.79**	**86**	P	**Pg**	**15 04 43.5**	**-1.4**
	SNR=32						
AAK	**Ala-Archa**	**0.89**	**59**	⇓P	**Pg**	**15 04 45.9**	**-1.0**
	2.9nm,0.1s						
AAK				⇑S	**Sg**	**15 04 59.2**	**+0.7**
	8.1nm,0.2s						
CHMS	**Chumysh**	**1.26**	**49**	⇓P	**Pn**	**15 04 52.4**	**-1.0**
	4.4nm,0.1s,SNR=9.4						
CHMS				⇑S	**Sb**	**15 05 10.5**	**+0.6**
	12nm,0.1s						
CHMS	**Chumysh**	**1.26**	**49**	P	**Pn**	**15 04 52.4**	**-1.0**
	SNR=9.4						
USP	**Ospenovka**	**1.33**	**35**	⇑P	**Pn**	**15 04 53.6**	**-0.8**
	7.3nm,0.2s,SNR=16						
USP				⇑S	**Sb**	**15 05 12.5**	**+0.6**
	25nm,0.2s						
USP	**Ospenovka**	**1.33**	**35**	P	**Pn**	**15 04 53.6**	**-0.8**
	SNR=16						
KZA	**Kyzart**	**1.34**	**94**	⇑P	**Pn**	**15 04 53.9**	**-0.6**
	20nm,0.2s,SNR=84						
KZA				⇑S	**Sb**	**15 05 13.0**	**+0.9**
	20nm

WRA Warramunga Arr 64.97 105 P P 15 26 53.9 +0.5
2.6nm,1.0s,baz=268,slow=6.3,SNR=9.6
ZAL Zalesovo 69.99 12 P P 15 27 24.9 -0.3
0.6nm,0.4s,baz=323,slow=5.1,SNR=2.5
PDAR Pinedale Array 151.58 353 PKPbc PKPbc 15 36 07.8 -0.2
0.5nm,0.5s,baz=82,slow=6.8,SNR=3.9

WEL 15 15:20:48.7±0.4,3853S×17589E,h136km±3km,ML3.6/13, Error ellipse: s-maj=2.6km s-min=2.5km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WTVZ	**West Tongariro**	**0.63**	**202**	PN	Pn	15 21 09.5	+0.2
BKZ	**Black Stump Fm**	**0.79**	**143**	PN	Pn	15 21 10.5	+0.1
BKZ				SN	Sn	15 21 26.9	+0.1
TRVZ	**Turoa**	**0.81**	**199**	PN	Pn	15 21 10.9	+0.3
WNVZ	**Wahianoa**	**0.83**	**196**	PN	Pn	15 21 11.0	+0.3
PKVZ	**Pokaka**	**0.87**	**209**	PN	Pn	15 21 10.8	-0.2
MOVZ	**Moawhango**	**0.88**	**187**	PN	Pn	15 21 10.9	-0.2
URZ	**Urewera**	**1.00**	**75**	PN	Pn	15 21 12.1	-0.1
URZ				SN	Sn	15 21 30.0	0.0
MWZ	**Matawai**	**1.30**	**82**	PN	Pn	15 21 15.3	+0.2
WAZ	**Wanganui**	**1.41**	**210**	PN	Pn	15 21 16.5	+0.2
KNZ	**Kokohu**	**1.48**	**110**	PN	Pn	15 21 17.6	+0.6
TSZ	**Takapari Road**	**1.53**	**178**	PN	Pn	15 21 17.3	-0.2
MRZ	**Mangatainoka R**	**2.14**	**186**	PN	Pn	15 21 23.3	-1.4
MRZ				SN	Sn	15 21 49.0	-3.3
BFZ	**Birch Farm**	**2.16**	**173**	PN	Pn	15 21 24.0	-1.0
TIWZ	**Tintock**	**2.24**	**180**	PN	Pn	15 21 24.8	-1.1
KIW	**Kapiti Island**	**2.45**	**198**	PN	Pn	15 21 26.4	-2.1
CAW	**Cannon Point**	**2.65**	**194**	PN	Pn	15 21 28.9	-2.1
DUWZ	**D'Urville Isla**	**2.73**	**213**	PN	Pn	15 21 29.5	-2.5
MRW	**Makara Radio**	**2.84**	**198**	PN	Pn	15 21 30.9	-2.6
TRWZ	**Traveller**	**2.87**	**183**	PN	Pn	15 21 31.7	-2.1
PAWZ	**Paruwai Farm**	**2.87**	**187**	PN	Pn	15 21 31.6	-2.2

IDC 15 15:23:04.0±3.4,1459S×6617E,h0km,mb3.6/3,mb1 3.8/3, mb1mx3.5/18,mbtmp3.6/3,Error ellipse: s-maj=129.2km s-min=37.9km az=53.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**62.80**	**12**	P	P	15 33 31.2	0.0
0.1nm,0.3s,baz=209,slow=4.5,SNR=4.0							
ASAR	**Alice Springs**	**64.13**	**109**	P	P	15 33 40.2	+0.2
0.4nm,0.5s,baz=268,slow=5.7,SNR=10							
WRA	**Warramunga Arr**	**64.94**	**105**	P	P	15 33 46.5	+1.2
1.7nm,1.0s,baz=269,slow=5.8,SNR=4.9							
PDAR	**Pinedale Array**	**151.68**	**353**	PKPbc	PKPbc	15 43 00.8	+0.5
0.4nm,0.6s,baz=21,slow=3.1,SNR=3.4							

IDC 15 15:32:23.2±3.4,1461S×6614E,h0km,mb3.6/3,mb1 3.9/3, mb1mx3.5/18,mbtmp3.6/3,Error ellipse: s-maj=129.5km s-min=38.2km az=53.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**62.82**	**12**	P	P	15 42 50.6	0.0
0.2nm,0.4s,baz=193,slow=5.9,SNR=4.2							
ASAR	**Alice Springs**	**64.15**	**109**	P	P	15 43 00.1	+0.7
0.4nm,0.6s,baz=269,slow=6.1,SNR=8.1							
WRA	**Warramunga Arr**	**64.96**	**105**	P	P	15 43 05.4	+0.6
1.5nm,1.0s,baz=264,slow=5.6,SNR=4.7							
PDAR	**Pinedale Array**	**151.70**	**353**	PKPbc	PKPbc	15 52 20.1	+0.5
0.3nm,0.7s,baz=57,slow=3.3,SNR=3.2							

IDC 15 15:43:12.2±1.4,1419S×6649E,h0km,mb3.6/3,mb1 3.8/4, mb1mx3.5/19,mbtmp3.6/4,ML3.8/1,Error ellipse: s-maj=42.7km s-min=33.4km az=19.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**19.02**	**254**	P	Pn	15 47 36.0	-0.2
0.3nm,0.3s,baz=58,slow=19,SNR=3.9							
MKAR	**Makanchi Array**	**62.34**	**12**	P	P	15 53 36.4	0.0
0.5nm,0.4s,baz=197,slow=4.5,SNR=8.9							
ASAR	**Alice Springs**	**63.97**	**110**	P	P	15 53 47.4	+0.2
0.3nm,0.6s,baz=268,slow=6.3,SNR=5.5							
WRA	**Warramunga Arr**	**64.75**	**106**	P	P	15 53 53.4	+1.1
1.2nm,1.0s,baz=270,slow=5.8,SNR=5.1							

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*ISCJB **15** 15:53:47.4±0.6, 144S±0.1×664E±0.1, h10km, mb4.1/16, MS3.8/6, Error ellipse: s-maj=18.1km s-min=14.0km az=167.3*
*IDC **15** 15:53:47.5±0.8, 1443S×6634E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.8/20, mbtmp3.8/10, ML3.6/1, MS3.8/6, Ms1 3.8/6, ms1mx3.4/24, Error ellipse: s-maj=29.3km s-min=19.9km az=17.0*
*NEIC **15** 15:53:49.5±0.6, 1444S×6641E, h10km, mb4.7/6, Error ellipse: s-maj=18.9km s-min=15.5km az=180.0*
*MOS **15** 15:53:51.4±1.4, 1375S×6632E, h10km, mb4.8/6, Error ellipse: s-maj=50.9km s-min=16.1km az=97.0*
ISC 15 15:53:49.8±0.6,144S±01×6637E±010,h10km,n36, σ1§05/26,mb4.1/16,MS3.8/6,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**18.86**	**255**	P	**Pn**	**15 58 10.5**	**0.0**
0.2nm,0.3s,baz=78,slow=5.5,SNR=3.8							
KMBO	**Kilima Mbogo**	**31.65**	**292**	LR	LR	16 09 46.6	
comp=Z,92nm,21.6s,MS3.4,baz=90,slow=30							
MATP	**Matopo**	**36.57**	**255**	P	**P**	**16 00 56.1**	**+0.3**
1.3nm,0.6s,mb3.9,baz=80,slow=9.0,SNR=3.6							
TSUM	**Tsumeb**	**46.84**	**257**	LR	LR	16 20 31.5	
comp=Z,182nm,18.2s,MS4.1,baz=233,slow=34							
NWAO	**Narrogin (SRO)**	**49.61**	**121**	LR	LR	16 20 11.2	
comp=Z,55nm,19.7s,MS3.6,baz=144,slow=32							
FITZ	**Fitzroy Crossi**	**56.82**	**102**	LR	LR	16 25 25.0	
comp=Z,106nm,18.4s,MS4.0,baz=272,slow=33							
BRTR	**Keskin Array B**	**61.87**	**332**	P	**P**	**16 04 09.5**	**+0.3**
0.2nm,0.3s,mb3.7,baz=127,slow=9.4,SNR=3.6							
MKAR	**Makanchi Array**	**62.55**	**12**	P	**P**	**16 04 14.5**	**+0.6**
1.7nm,0.8s,mb4.2,baz=212,slow=5.7,SNR=8.2							
ASAR	**Alice Springs**	**64.02**	**110**	P	**P**	**16 04 23.4**	**-0.2**
0.7nm,0.8s,mb3.7,baz=272,slow=6.3,SNR=12							
WRA	**Warramunga Arr**	**64.81**	**105**	P	**P**	**16 04 28.5**	**-0.2**
4.1nm,1.1s,mb4.4,baz=269,slow=5.9,SNR=11							
WRAB	**Tennant Creek**	**64.82**	**105**	*e*P	**P**	**16 04 29.3**	**+0.5**
WRAB				pmax	pmax		
comp=Z,9.0nm,1.0s,mb4.8							
WRAB	**Tennant Creek**	**64.82**	**105**	*e*P	**P**	**16 04 29.3**	**+0.5**
comp=Z,9.1nm,1.0s,mb4.8							
KURK	**Kurchatov**	**65.70**	**9**	*e*P	**P**	**16 04 32.3**	**-2.2**
KURK				pmax	pmax		
comp=Z,1.0nm,0.8s,mb3.9							
KURK	**Kurchatov**	**65.70**	**9**	*e*P	**P**	**16 04 32.3**	**-2.2**
comp=Z,1.2nm,0.8s,mb4.0							
ZRNK	**Zerenda**	**67.09**	**2**	*e*P	**P**	**16 04 43.8**	**+0.4**
ZRNK				pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.6							
ZRNK	**Zerenda**	**67.09**	**2**	*e*P	**P**	**16 04 43.8**	**+0.4**
comp=Z,6.0nm,1.0s,mb4.6							
BRVK	**Borovoye**	**67.25**	**3**	*e*P	**P**	**16 04 45.1**	**+0.7**
BRVK				pmax	pmax		
comp=Z,3.0nm,1.0s,mb4.3							
BRVK	**Borovoye**	**67.25**	**3**	*e*P	**P**	**16 04 45.1**	**+0.7**
comp=Z,2.7nm,1.0s,mb4.2							
CHKZ	**Chkalovo**	**67.88**	**3**	*e*P	**P**	**16 04 48.5**	**+0.1**
CHKZ				pmax	pmax		
comp=Z,7.0nm,1.1s,mb4.6							
CHKZ	**Chkalovo**	**67.88**	**3**	*e*P	**P**	**16 04 48.5**	**+0.1**
comp=Z,6.7nm,1.1s,mb4.6							
TORD	**Torodi Ar. Bea**	**69.64**	**290**	P	**P**	**16 04 58.2**	**-1.2**
comp=Z,2.0nm,1.2s,mb3.9,baz=134,slow=4.3,SNR=5.1							
ZAL	**Zalesovo**	**69.85**	**11**	P	**P**	**16 05 00.6**	**-0.1**
comp=Z,0.8nm,0.6s,mb3.9,baz=248,slow=8.8,SNR=4.4							
ZAL				LR	LR	16 34 47.6	
comp=Z,55nm,18.5s,MS3.8,baz=354,slow=35							
NVS	**Novosibirsk**	**70.42**	**10**	*e*P	**P**	**16 05 03.7**	**-0.5**
AKASG	**Malin Array Be**	**72.50**	**336**	P	**P**	**16 05 15.1**	**-1.6**
comp=Z,0.2nm,0.4s,mb3.4,baz=132,slow=4.8,SNR=5.8							
DBIC	**Dimbokro**	**73.66**	**281**	LR	LR	16 36 02.2	
comp=Z,49nm,19.7s,MS3.8,baz=143,slow=34							
KECS	**Kecovo**	**74.66**	**330**	*es*P	sP	16 05 35.6	+1.7
KECS				*e*		16 05 48.7	
STHS	**Stebnicka Huta**	**74.95**	**331**	*e*P	**P**	**16 05 33.0**	**+1.9**
GERES	**GERESS Array B**	**78.29**	**328**	P	**P**	**16 05 47.9**	**-2.1**
comp=Z,0.2nm,0.5s,mb3.3,baz=114,slow=2.5,SNR=2.8							
BRG	**Berggiesshubel**	**79.43**	**329**	*e*P	**P**	**16 05 57.3**	**+1.0**
comp=Z,3.7nm,1.2s,mb4.2							
BRG	**Berggiesshubel**	**79.43**	**329**	*e*P	**P**	**16 05 57.3**	**+1.0**
BRG				pmax	pmax		
comp=Z,4.0nm,1.2s,mb4.2							
CLL	**Collm**	**80.17**	**329**	*e*P	**P**	**16 06 02.0**	**+1.8**
comp=Z,17nm,1.7s,mb4.7							
CLL	**Collm**	**80.17**	**329**	*e*P	**P**	**16 06 02.0**	**+1.8**
CLL				pmax	pmax		
comp=Z,17nm,1.7s,mb4.7							
YKA	**Yellowknife Ar**	**131.95**	**1**	PKP	PKPdf	16 13 02.7	-0.8
comp=Z,0.1nm,0.4s,baz=15,slow=2.6,SNR=2.4							
YKA	**Yellowknife Ar**	**131.95**	**1**	PKP	PKPdf	16 13 02.7	-0.8
NEW	**Newport**	**146.10**	**4**	PKPbc	PKPbc	16 13 31.1	+1.1
comp=Z,2.0nm,0.8s,baz=242,slow=23,SNR=6.2							
PDAR	**Pinedale Array**	**151.50**	**354**	PKPbc	PKPbc	16 13 43.5	-0.5
comp=Z,2.1nm,0.9s,baz=66,slow=1.8,SNR=9.7							

IDC 15 16:09:01.2±3.4,1484S×6623E,h0km,mb3.8/4,mb1 4.0/4, mb1mx3.6/19,mbtmp3.8/4,MS3.8/1,Ms1 3.8/1, ms1mx2.8/28,Error ellipse: s-maj=129.0km s-min=31.1km az=52.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSZ	**Lusaka**	**36.71**	**264**	LR	LR	16 30 09.8	
comp=Z,136nm,18.8s,baz=277,slow=35							
MKAR	**Makanchi Array**	**63.03**	**12**	P	P	16 19 30.6	+0.6
0.4nm,0.8s,baz=191,slow=6.6,SNR=4.7							
ASAR	**Alice Springs**	**64.00**	**109**	P	P	16 19 36.6	+0.2
0.9nm,0.9s,baz=260,slow=5.5,SNR=6.4							
WRA	**Warramunga Arr**	**64.82**	**105**	P	P	16 19 42.7	+0.9
1.6nm,1.0s,baz=268,slow=5.8,SNR=6.2							
AKTO	**Aktyubinsk**	**65.39**	**354**	P	P	16 19 44.5	-1.0
2.0nm,0.9s,baz=174,slow=10,SNR=3.5							
PDAR	**Pinedale Array**	**151.94**	**353**	PKPbc	PKPbc	16 28 59.3	+1.1
0.3nm,0.6s,baz=55,slow=6.7,SNR=3.0							

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*MOS **15** 16:14:47.2±1.1, 6104N×16703E, h10km, mb4.4/6, Error ellipse: s-maj=21.9km s-min=10.8km az=86.6*
*IDC **15** 16:14:47.7±0.7, 6105N×16685E, h0km, mb4.0/14, mb1 4.2/14, mb1mx4.2/21, mbtmp4.0/14, Error ellipse: s-maj=23.2km s-min=15.4km az=155.0*
*KRSC **15** 16:14:48.2±0.2, 6102N×167.12E, h4km±2km, ML3.9*
*ISCJB **15** 16:14:48.3±0.3, 6104N±003×167.18E±008, h10km, mb4.1/20, MS3.0/1, Error ellipse: s-maj=6.5km s-min=3.6km az=70.2*
*BJI **15** 16:14:48.4, 6146N×16651E, h10km, mB4.7, mb4.3, Ms3.8, Msz3.8*
*NEIC **15** 16:14:49.6±0.4, 6108N×16697E, h10km, mb4.2/7, Error ellipse: s-maj=10.0km s-min=6.6km az=163.0*
ISC 15 16:14:50.5±1.3,6107N±004×16712E±009,h14km±9km, n69,σ1§28/73,mb4.1/20,MS3.0/1,1C,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TILR	**Tilichiki**	**0.82**	**220**	*i* P	**Pg**	**16 15 03.7**	**-2.8**
TILR				*i* S	**Sg**	**16 15 15.1**	**-2.2**
TILR				Smax			
12μm,0.4s							
KAMR	**Kamenskoye**	**1.46**	**343**	*i* P	**Pn**	**16 15 17.0**	**+0.6**
KAMR				*e*S	**Sn**	**16 15 37.8**	**+2.5**
KAMR				Smax			
4μm,0.9s							
OSSR	**Ossora**	**2.73**	**230**	*e*P	**Pn**	**16 15 34.3**	**+0.5**
OSSR				Smax			
690nm,0.8s							
EVNR	**Evensk**	**3.86**	**286**	*e*P	**Pn**	**16 15 51.4**	**+2.0**
KBG	**Krutoberegovo**	**5.35**	**207**	*e*P	**Pn**	**16 16 10.0**	**+0.2**
KBTR	**Krutoberegovo**	**5.36**	**207**	*e*P	**Pn**	**16 16 09.8**	**-0.3**
SMKR	**Semkarok**	**5.37**	**216**	*e*P	**Pn**	**16 16 10.7**	**+0.5**
SRKR	**Sorokina**	**5.39**	**218**	*e*P	**Pn**	**16 16 11.2**	**+0.7**
BDR	**Baidarnaya**	**5.46**	**217**	*e*P	**Pn**	**16 16 11.6**	**+0.2**
KLY	**Klyuchi**	**5.84**	**218**	*e*P	**Pn**	**16 16 15.8**	**-0.8**
BKI	**Bering**	**5.91**	**186**	*e*P	**Pn**	**16 16 18.1**	**+0.5**
KRSR	**Krestovskiy**	**5.94**	**218**	P	**Pn**	**16 16 19.4**	**+1.3**
CIRR	**Tsirk**	**5.98**	**217**	P	**Pn**	**16 16 18.8**	**+0.3**
LGNR	**Loginova**	**6.02**	**217**	P	**Pn**	**16 16 20.5**	**+1.4**
ZLN	**Zelenaya**	**6.04**	**216**	*e*P	**Pn**	**16 16 20.3**	**+0.9**
SRDR	**Sredinnyy**	**6.13**	**222**	P	**Pn**	**16 16 22.9**	**+2.3**
KOZ	**Kozyrevsk**	**6.29**	**220**	*e*P	**Pn**	**16 16 23.3**	**+0.5**
KMNR	**Kamenistaya**	**6.43**	**217**	*e*P	**Pn**	**16 16 26.3**	**+1.5**
TUMR	**Tumrok**	**6.87**	**216**	*e*P	**Pn**	**16 16 33.0**	**+2.2**
BILL	**Bilibino**	**7.01**	**357**	*i*PN	**Pn**	**16 16 33.7**	**+1.0**
BILL				*e*S	**Sn**	**16 17 57.3**	**+5.1**
BILL				pmax	pmax		
comp=Z,17nm,1.0s							
BILL				MLR	MLR		
comp=Z,100nm,13.0s							
BILL	**Bilibino**	**7.01**	**357**	*e*Pn	**Pn**	**16 16 33.3**	**+0.6**
comp=Z,13nm,0.6s							
BILL	**Bilibino**	**7.01**	**357**	*e*P	**Pn**	**16 16 34.8**	**+2.1**
SEY	**Seymchan**	**7.18**	**292**	*e*P	**Pn**	**16 16 37.8**	**+2.7**
GNL	**Ganaly**	**8.89**	**218**	*e*P	**Pn**	**16 17 00.4**	**+1.9**
PET	**Petropavlovsk**	**9.28**	**213**	*e*PN	**Pn**	**16 17 04.6**	**+0.8**
TTA	**Tatalina**	**17.26**	**68**	*e*P	**Pn**	**16 18 52.9**	**+1.8**
comp=Z,14nm,1.3s							
YAK	**Yakutsk**	**17.71**	**290**	*e*P	**Pn**	**16 18 56.9**	**+0.3**
YAK				pmax	pmax		
comp=Z,9.0nm,1.0s							
YAK				pmax	pmax		
comp=E,8.0nm,1.4s							
YAK	**Yakutsk**	**17.71**	**290**	*e*P	**Pn**	**16 18 56.8**	**+0.2**
comp=E,16nm,0.8s							
TIXI	**Tiksi**	**18.24**	**321**	*e*P	**Pn**	**16 19 03.3**	**+0.1**
TIXI				pmax	pmax		
comp=Z,2.0nm,0.8s							
TIXI				MLR	MLR		
comp=Z,90nm,14.0s							
COLA	**College**	**20.47**	**60**	*e*P	**P**	**16 19 27.5**	**-0.2**
KDAK	**Kodiak Island**	**20.52**	**81**	P	**P**	**16 19 27.3**	**-1.0**
comp=Z,5.6nm,0.7s,baz=284,slow=9.2,SNR=8.3							
KDAK	**Kodiak Island**	**20.52**	**81**	P	**P**	**16 19 27.3**	**-1.0**
ILAR	**Eielson Array**	**20.89**	**60**	P	**P**	**16 19 32.8**	**+0.5**
comp=Z,5.5nm,0.7s,baz=277,slow=10,SNR=32							
KLR	**Kul'dur**	**23.10**	**255**	*e*P	**P**	**16 19 53.4**	**-2.5**
DAWY	**Dawson**	**24.22**	**60**	*e*P	**P**	**16 20 06.2**	**-0.4**
INK	**Inuvik**	**25.41**	**48**	P	**P**	**16 20 18.0**	**+0.5**
comp=Z,3.9nm,0.8s,mb4.0,baz=294,slow=12,SNR=10							
INK	**Inuvik**	**25.41**	**48**	*e*P	**P**	**16 20 17.5**	**0.0**
INK				pmax	pmax		
comp=Z,7.0nm,1.0s							
INK	**Inuvik**	**25.41**	**48**	*e*P	**P**	**16 20 17.5**	**0.0**
comp=Z,7.3nm,1.0s,mb4.2							
MDJ	**Mudanjiang**	**27.50**	**250**	P	**P**	**16 20 35.3**	**-1.0**
MDJ				AP	pP	16 20 39.6	-1.0
MDJ				S	**S**	**16 25 16.3**	**-0.4**
MDJ				SCP	ScP	16 27 34.4	-0.1
MDJ				PCS	PcS	16 27 35.9	-0.3
MDJ				SCS	ScS	16 31 25.9	-0.3
MDJ				AMB	AMB		
comp=Z,4.0nm,1.4s,mb3.8							
MDJ				AMB	AMB		
comp=Z,93nm,5.6s							
MDJ				LR	LR		
comp=N,31nm,20.2s,MS3.0							
MDJ				LR	LR		
comp=E,36nm,21.9s,MS3.0							
MDJ				LR	LR		
comp=Z,41nm,15.1s							
VLA	**Vladivostok**	**27.63**	**246**	*e*P	**P**	**16 20 31.8**	**-5.7**
VLA				pmax	pmax		
comp=Z,15nm,1.0s,mb4.6							
HIA	**Hailar**	**28.84**	**268**	*e*P	**P**	**16 20 43.0**	**-5.4**
MJAR	**Matsushiro Arr**	**30.59**	**230**	P	**P**	**16 21 02.8**	**-1.0**
comp=Z,5.1nm,1.0s,mb4.3,baz=15,slow=8.5,SNR=13							
YKA	**Yellowknife Ar**	**34.94**	**53**	P	**P**	**16 21 41.3**	**-0.6**
comp=Z,0.6nm,0.7s,mb3.6,baz=303,slow=8.4,SNR=6.8							
YKA	**Yellowknife Ar**	**34.94**	**53**	*i* P	**P**	**16 21 41.2**	**-0.7**
YKA				pmax	pmax		
comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**34.94**	**53**	P	**P**	**16 21 41.3**	**-0.6**
WALA	**Waterton Lakes**	**44.00**	**68**	*e*P	**P**	**16 22 57.4**	**0.0**
comp=Z,6.7nm,1.1s,mb4.3							
ARCES	**ARCESS Array B**	**46.85**	**343**	P	**P**	**16 23 17.0**	**-3.0**
comp=Z,3.3nm,0.8s,mb4.3,baz=15,slow=11,SNR=4.1							
ARCES	**ARCESS Array B**	**46.85**	**343**	P	**P**	**16 23 17.0**	**-3.0**
KURK	**Kurchatov**	**46.95**	**300**	P	**P**	**16 23 18.9**	**-1.9**
KURK				pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.1							
KURK	**Kurchatov**	**46.95**	**300**	P	**P**	**16 23 18.9**	**-1.9**
comp=Z,1.9nm,0.8s,mb4.1							
MKAR	**Makanchi Array**	**48.32**	**294**	P	**P**	**16 23 29.4**	**-2.0**
comp=Z,0.3nm,0.5s,mb3.5,baz=44,slow=7.3,SNR=4.6							
GCMT	**Greycliff**	**48.36**	**68**	*e*P	**P**	**16 23 32.2**	**+0.5**
BRVK	**Borovoye**	**48.57**	**307**	*e*P	**P**	**16 23 32.2**	**-1.1**
NVAR	**Mina Array Bea**	**50.03**	**81**	P	**P**	**16 23 45.2**	**+0.7**
comp=Z,0.6nm,0.6s,mb3.8,baz=322,slow=7.5,SNR=4.1							
BW06	**Boulder Array**	**50.74**	**71**	*e*P	**P**	**16 23 49.6**	**-0.3**
comp=Z,2.3nm,0.8s,mb4.2							
PDAR	**Pinedale Array**	**50.74**	**71**	P	**P**	**16 23 50.0**	**+0.1**
comp=Z,1.8nm,0.7s,mb4.1,baz=315,slow=2.3,SNR=10							
ULM	**Lac du Bonnet**	**50.81**	**55**	P	**P**	**16 23 50.5**	**+0.1**
comp=Z,3.2nm,0.9s,mb4.3,baz=337,slow=7.6,SNR=4.9							
ULM	**Lac du Bonnet**	**50.81**	**55**	P	**P**	**16 23 50.5**	**0.0**
SRU	**San Rafael**	**53.18**	**74**	*e*P	**P**	**16 24 08.3**	**+0.2**
SRU				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.2							
SRU	**San Rafael**	**53.18**	**74**	*e*P	**P**	**16 24 08.3**	**+0.2**
comp=Z,2.3nm,0.8s,mb4.3							
AAK	**Ala-Archa**	**55.02**	**296**	*e*P	**P**	**16 24 18.7**	**-2.8**
AAK				pmax	pmax		
comp=Z,1.0nm,1.0s,mb3.8							
NB2	**NORSAR Subarra**	**56.82**	**346**	P	**P**	**16 24 33.3**	**-1.1**
comp=Z,1.6nm,0.6s,mb4.2,baz=14,slow=7.4							
NOA	**NORSAR Array B**	**56.82**	**346**	P	**P**	**16 24 33.0**	**-1.3**
comp=Z,1.8nm,0.5s,mb4.3,baz=14,slow=7.3,SNR=5.0							
AKASG	**Malin Array Be**	**63.58**	**332**	P	**P**	**16 25 19.4**	**-1.3**
comp=Z,1.8nm,0.7s,mb4.2,baz=21,slow=6.4,SNR=5.9							
AKASG	**Malin Array Be**	**63.58**	**332**	*i* P	**P**	**16 25 19.3**	**-1.4**
AKASG				pmax	pmax		
comp=Z,2.0nm,0.7s							
GERES	**GERESS Array B**	**68.37**	**341**	P	**P**	**16 25 50.9**	**-0.6**
comp=Z,0.6nm,0.5s,mb3.9,baz=45,slow=4.0,SNR=5.1							
WRAB	**Tennant Creek**	**84.92**	**211**	*e*P	**P**	**16 27 21.7**	**-3.3**
WRA	**Warramunga Arr**	**84.93**	**211**	P	**P**	**16 27 23.2**	**-1.9**
comp=Z,1.8nm,0.8s,mb4.3,baz=18,slow=5.3,SNR=12							
ASAR	**Alice Springs**	**86.61**	**210**	P	**P**	**16 27 41.7**	**-1.3**
comp=Z,0.4nm,0.7s,mb3.9,baz=14,slow=3.6,SNR=6.3							

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*IDC **15** 16:23:34.0±1.2, 2054N×8509W, h0km, mb3.5/6, mb1 3.9/8, mb1mx3.8/19, mbtmp3.6/8, ML3.8/2, MS3.5/3, Ms1 3.6/3, ms1mx3.0/18, Error ellipse: s-maj=54.7km s-min=20.3km az=55.0*
*ISCJB **15** 16:23:36.8±0.9, 21N±01×850W±0.1, h33km, mb3.7/8, MS3.5/3, Error ellipse: s-maj=24.9km s-min=12.3km az=106.4*
*NEIC **15** 16:23:39.6±4.3, 2.14N×8498W, h48km±38km, mb4.0/2, Error ellipse: s-maj=45.8km s-min=13.9km az=49.0*
ISC 15 16:23:39.1±0.9,21N±01×850W±01,h35km,n13,σ1§14/11, mb3.7/8,MS3.5/3,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**8.15**	**0**	Pn	**Pn**	**16 25 34.3**	**-0.5**
1.2nm,0.3s,baz=146,slow=5.4,SNR=8.6							
SDV	**Santo Domingo**	**15.83**	**64**	Pn	**Pn**	**16 27 20.1**	**+1.0**
0.4nm,0.3s,baz=268,slow=14,SNR=3.4							
SAML	**Samuel**	**24.37**	**117**	*e*P	**P**	**16 28 51.8**	**-2.0**
10nm,1.4s,mb4.1							
SJG	**San Juan**	**24.42**	**48**	LR	LR	16 37 32.1	
comp=Z,55nm,19.7s,MS3.0,baz=95,slow=34							
LPAZ	**La Paz**	**24.74**	**138**	P	**P**	**16 28 58.8**	**+1.7**
2.4nm,1.0s,mb3.7,baz=327,slow=14,SNR=6.2							
LPAZ	**La Paz**	**24.74**	**138**	*e*P	**P**	**16 28 57.8**	**+0.7**
3.5nm,1.0s,mb3.8							
SIV	**San Ignacio**	**29.72**	**128**	P	**P**	**16 29 41.4**	**-0.4**
0.2nm,0.4s,mb3.2,baz=307,slow=17,SNR=2.5							
PDAR	**Pinedale Array**	**46.05**	**335**	P	**P**	**16 31 58.5**	**-0.8**
0.2nm,0.4s,mb3.4,baz=324,slow=2.6,SNR=2.5							
NVAR	**Mina Array Bea**	**47.27**	**324**	P	**P**	**16 32 09.3**	**+0.4**
0.3nm,0.4s,mb3.5,baz=107,slow=8.6,SNR=2.9							
ULM	**Lac du Bonnet**	**48.86**	**351**	P	**P**	**16 32 17.6**	**-3.5**
1.5nm,0.5s,mb4.3,baz=162,slow=13,SNR=2.5							
YKA	**Yellowknife Ar**	**64.18**	**345**	P	**P**	**16 34 10.0**	**-0.1**
0.7nm,0.8s,mb3.8,baz=143,slow=6.2,SNR=15							
YKA				LR	LR	17 04 21.7	
comp=Z,41nm,18.0s,MS3.7,baz=190,slow=38							
ILAR	**Eielson Array**	**76.42**	**337**

NEIC ***15*** *16:33:14.4, 1905N×6430W, h51km, MD3.6(RSPR), After RSPR.*

RSPR 15 16:33:14.4, 1905N×6430W, h51km±1km**, MD3.6/6, MD3.6/6, 9C, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.32**	**186**	*eP*	Pn	16 33 23.2	-0.6
ABV	**Anegada**	**0.32**	**186**	*eS*	Sn	16 33 29.9	-0.6
TBVI	**Tortola**	**0.70**	**205**	*eP*	Pn	16 33 27.4	-0.8
TBVI				*eS*	Sn	16 33 37.4	-0.8
STVI	**Saint Thomas**	**0.94**	**223**	*eP*	Pn	16 33 30.3	-1.0
STVI				*eS*	Sn	16 33 42.9	-0.8
CULB	**Culebra**	**1.23**	**233**	*eP*	Pn	16 33 34.2	-0.9
CULB	**Culebra**	**1.23**	**233**	*eS*	Sn	16 33 49.2	-1.5
HUMP	**Col San Antoni**	**1.73**	**239**	*eP*	Pn	16 33 41.4	-0.6
HUMP				*eS*	Sn	16 34 02.6	-0.3
SJG	**San Juan**	**1.99**	**242**	*iP*	Pn	16 33 45.4	-0.3
SJG	**San Juan**	**1.99**	**242**	*eP*	Pn	16 33 44.8	-0.9
SJG				*eS*	Sn	16 34 08.6	-0.7
CELP	**Cerrillos**	**2.37**	**246**	*eP*	Pn	16 33 50.3	-0.5
CELP				*eS*	Sn	16 34 18.3	-0.4
ICM	**Isla Caja Muer**	**2.41**	**242**	*eS*	Sn	16 34 19.4	-0.1
OBIP	**Obispado Ponce**	**2.41**	**246**	*eS*	Sn	16 34 18.4	-1.3
AOPR	**Arecibo Observ**	**2.43**	**254**	*eP*	Pn	16 33 51.7	+0.1
AOPR				*eS*	Sn	16 34 20.2	+0.1
LSP	**Las Mesas**	**2.79**	**252**	*eS*	Sn	16 34 27.7	-1.1
MGP	**Maguayo**	**2.85**	**249**	*eS*	Sn	16 34 29.1	-1.3
CRPR	**Cabo Rojo, PR**	**2.87**	**249**	*eP*	Pn	16 33 57.7	+0.1
CRPR				*eS*	Sn	16 34 30.6	-0.2

NIED ***15*** *16:41:00, 24.00N×122.50E, h17km, Mw4.0 Best double couple: M0 1.01000×10^15 NP1:φ=67.00000°, δ=85.00000°, λ=80.00000°. NP2:φ=312.00000°, δ=11.00000°, λ=155.00000°.*

IDC ***15*** *16:41:48.2±0.9, 2410N×12259E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.9/20, mbtmp3.9/7, ML3.4/1, MS2.9/2, Ms1 2.9/2, ms1mx2.5/35, Error ellipse: s-maj=28.9km s-min=19.4km az=65.0*

NEIC ***15*** *16:41:52.8±3.1, 2408N×12262E, h32km±24km, mb3.7/1, Error ellipse: s-maj=14.2km s-min=10.2km az=207.0*

JMA ***15*** *16:41:52.9±0.2, 2401N×12251E, h25km, M3.6*

ISCJB ***15*** *16:41:53.1±0.6, 2401N±009×12247E±003, h45km±7km, mb3.8/7, MS2.9/1, Error ellipse: s-maj=14.3km s-min=4.8km az=2.1*

ISC 15 16:41:52.8±1.0, 2402N±008×12247E±003, h26km±7km**, n24,σ1°09/31, mb3.8/7, MS2.9/1, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.66**	**48**	P	**Pb**	**16 42 05.2**	**-0.5**
YOJ				S	**Sb**	**16 42 13.8**	**-0.7**
NACB	**Ninganchiao**	**0.81**	**281**	*eP*	**Pb**	**16 42 08.4**	**+0.1**
NACB				*eS*	**Sb**	**16 42 19.1**	**+0.2**
YHNB	**Yeheng**	**1.19**	**303**	*eP*	**Pn**	**16 42 15.1**	**+1.3**
IRIF	**Iriomote-Funau**	**1.19**	**75**	P	**Pn**	**16 42 13.8**	**0.0**
IRIF				S	**Sn**	**16 42 28.4**	**0.8**
HATJ	**Hateruma jima**	**1.22**	**88**	P	**Pn**	**16 42 13.7**	**-0.5**
HATJ				S	**Sn**	**16 42 28.9**	**-1.0**
TATO	**Taipei**	**1.30**	**317**	*eP*	**Pn**	**16 42 17.3**	**+1.9**
JKRS	**Kuro-shima**	**1.42**	**81**	P	**Pn**	**16 42 17.2**	**+0.2**
JKRS				S	**Sn**	**16 42 36.2**	**+1.4**
JIJ	**Ishigaki jima**	**1.56**	**77**	P	**Pn**	**16 42 18.6**	**-0.3**
JIJ				S	**Sn**	**16 42 37.6**	**-0.8**
JTJ	**Tarama**	**2.13**	**73**	P	**Pn**	**16 42 27.1**	**+0.4**
JTJ				*eS*	**Sn**	**16 42 53.8**	**+1.6**
JMJ	**Miyako jima 2**	**2.69**	**72**	S	**Sn**	**16 43 07.9**	**+1.7**
JOGS	**Gusukube**	**2.77**	**74**	P	**Pn**	**16 42 37.2**	**+1.6**
JOGS				*eS*	**Sn**	**16 43 10.4**	**+2.2**
JKE	**Kume jima 2**	**4.53**	**59**	P	**Pn**	**16 42 59.8**	**+0.1**
JOW	**Kunigami**	**5.95**	**61**	Pn	**Pn**	**16 43 16.2**	**-2.9**
	2.1nm,0.3s,baz=290,slow=21,SNR=5.1						
JOW				Sn	**Sn**	**16 44 24.4**	**-2.0**
	0.4nm,0.3s,baz=88,slow=28,SNR=1.7						
KS15	**Wonju Array Si**	**14.16**	**18**	*eP*	**Pn**	**16 45 17.6**	**+6.0**
JHJ	**Hachijo jima 2**	**17.68**	**55**	LR	LR	16 51 48.2	
	comp=Z,25nm,18.1s,baz=251,slow=34						
GUMO	**Guam**	**23.57**	**112**	LR	LR	16 53 55.7	
	comp=Z,43nm,19.2s,MS2.9,baz=263,slow=31						
MKAR	**Makanchi Array**	**39.27**	**316**	P	**P**	**16 49 19.6**	**+0.2**
	0.8nm,0.5s,mb3.7,baz=99,slow=11,SNR=14						
ZAL	**Zalesovo**	**41.02**	**327**	P	**P**	**16 49 32.4**	**-1.5**
	0.9nm,0.6s,mb3.5,baz=359,slow=12,SNR=5.0						
KURK	**Kurchatov**	**42.97**	**320**	*eP*	**P**	**16 49 48.8**	**-0.9**
	0.8nm,0.5s,mb3.7						
WRAB	**Tennant Creek**	**45.20**	**164**	*eP*	**P**	**16 50 07.3**	**-0.3**
WRA	**Warramunga Arr**	**45.20**	**164**	P	**P**	**16 50 07.1**	**-0.5**
	1.5nm,0.6s,mb4.0,baz=345,slow=8.7,SNR=20						
ASAR	**Alice Springs**	**48.69**	**166**	P	**P**	**16 50 35.1**	**+0.3**
	1.1nm,0.5s,mb4.1,baz=352,slow=13,SNR=18						
BRTR	**Keskin Array B**	**74.21**	**307**	P	**P**	**16 53 27.2**	**-0.2**
	0.9nm,0.8s,mb3.8,baz=59,slow=7.4,SNR=6.3						
YKA	**Yellowknife Ar**	**82.66**	**23**	P	**P**	**16 54 12.6**	**-1.3**
	0.7nm,0.7s,mb3.8,baz=312,slow=4.9,SNR=14						

IDC ***15*** *16:50:40.5±10.0, 2053S×17760W, h582km±106km, mb3.3/3, mb1 3.4/5, mb1mx3.1/14, mbtmp4.3/5, Error ellipse: s-maj=91.0km s-min=42.1km az=38.0*

ISCJB ***15*** *16:50:43.5±1.2, 2075±02×17778W±02, h632km±34km, mb4.2/8, Error ellipse: s-maj=35.9km s-min=27.5km az=55.8*

NEIC ***15*** *16:50:43.8±0.9, 2069S×17782W, h606km±18km, mb4.3/7, Error ellipse: s-maj=22.0km s-min=15.0km az=131.0*

ISC 15 16:50:36.4±1.3, 203S±02×1772W±02, h559km±31km**, n15,** σ0°**56/15, mb4.2/8, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.20**	**40**	S	**S**	**16 54 14.8**	**+0.2**
	3.3nm,0.3s,baz=212,slow=19,SNR=3.7						
AFI	**Afiamalu**	**8.20**	**40**	P	**P**	**16 52 52.0**	**+16**
AFI				*eS*	**S**	**16 54 14.3**	**-0.3**
DZM	**Mont Dzumac**	**15.34**	**260**	P	**P**	**16 53 49.5**	**+0.3**
	0.3nm,0.3s,baz=119,slow=18,SNR=4.4						
URZ	**Urewera**	**18.58**	**194**	P	**P**	**16 54 19.3**	**+0.3**
	0.8nm,0.3s,baz=67,slow=13,SNR=3.5						
CTA	**Charters Tower**	**34.24**	**264**	*eP*	**P**	**16 56 36.3**	**+0.1**
	4.6nm,0.6s,mb4.2						
CTAO	**Charters Tower**	**34.24**	**264**	*eP*	**P**	**16 56 35.9**	**-0.3**
	10.0nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**38.54**	**244**	*eP*	**P**	**16 57 10.0**	**-1.6**
	1.3nm,0.6s,mb3.6						
STKA	**Stephens Creek**	**38.54**	**244**	P	**P**	**16 57 09.8**	**-1.8**
	1.3nm,0.5s,mb3.8,baz=92,slow=7.6,SNR=8.2						
ASAR	**Alice Springs**	**45.28**	**256**	P	**P**	**16 58 04.9**	**+0.4**
	4.8nm,0.5s,mb4.3,baz=93,slow=7.6,SNR=97						
WRAB	**Tennant Creek**	**45.35**	**262**	*eP*	**P**	**16 58 04.8**	**-0.2**
	4.0nm,0.3s,mb4.4						
WRA	**Warramunga Arr**	**45.36**	**262**	P	**P**	**16 58 05.1**	**0.0**
	1.9nm,0.3s,mb4.1,baz=96,slow=7.5,SNR=116						
KAKA	**Kakadu**	**48.70**	**271**	*eP*	**P**	**16 58 30.5**	**+0.2**
	3.1nm,0.2s,mb4.5						
FORT	**Forrest**	**50.05**	**246**	*eP*	**P**	**16 58 40.4**	**+0.2**
	9.2nm,0.6s,mb4.4						
MBWA	**Marble Bar**	**58.62**	**257**	*eP*	**P**	**16 59 40.8**	**+0.6**
	2.7nm,0.4s,mb3.8						
AKASG	**Malin Array Be**	**143.18**	**332**	PKP	PKPdf	17 09 08.1	+1.0
	1.0nm,0.4s,baz=41,slow=4.2,SNR=7.2						

IDC ***15*** *16:54:44.0±0.6, 1463S×6633E, h0km, mb4.0/14, mb1 4.1/14, mb1mx4.0/20, mbtmp4.0/14, MS3.9/10, Ms1 3.9/10, ms1mx3.5/30, Error ellipse: s-maj=25.4km s-min=16.4km az=29.0*

ISCJB ***15*** *16:54:44.1±0.4, 1459S±009×664E±0.1, h10km, mb4.2/21, MS4.0/10, Error ellipse: s-maj=15.0km s-min=12.2km az=107.4*

MOS ***15*** *16:54:44.3±0.7, 1459S×6636E, h10km, mb4.9/6, Error ellipse: s-maj=26.6km s-min=21.9km az=44.8*

NEIC ***15*** *16:54:46.0±0.3, 1460S×6635E, h10km, mb4.8/6, Error ellipse: s-maj=12.8km s-min=9.8km az=45.0*

ISC 15 16:54:46.2±0.4, 1460S±009×663E±01, h10km**, n43,** σ0°**87/35, mb4.2/21, MS4.0/10, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**31.71**	**292**	P	**P**	**17 01 10.8**	**+0.8**
	0.6nm,0.3s,mb3.9,baz=80,slow=21,SNR=3.5						
KMBO				LR	LR	17 10 54.2	
	comp=Z,120nm,20.3s,MS3.6,baz=95,slow=31						
LSZ	**Lusaka**	**36.84**	**264**	P	**P**	**17 01 53.9**	**-0.5**
	1.8nm,0.7s,mb4.0,baz=102,slow=6.8,SNR=7.4						
LSZ	**Lusaka**	**36.84**	**264**	*eP*	**P**	**17 01 55.4**	**+0.9**
LSZ				pmax	pmax		
	comp=Z,23nm,1.6s,mb4.8						
LSZ	**Lusaka**	**36.84**	**264**	*eP*	**P**	**17 01 55.4**	**+0.9**
	comp=Z,23nm,1.6s,mb4.8						
LBTB	**Lobatse**	**39.57**	**248**	LR	LR	17 16 22.7	
	comp=Z,214nm,18.9s,MS4.0,baz=146,slow=33						
TSUM	**Tsumeb**	**46.76**	**257**	LR	LR	17 21 56.8	
	comp=Z,277nm,18.2s,MS4.2,baz=123,slow=35						
NWAO	**Narrogin (SRO)**	**49.53**	**121**	LR	LR	17 19 52.0	
	comp=Z,97nm,21.4s,MS3.8,baz=13,slow=30						
MAW	**Mawson**	**53.01**	**182**	LR	LR	17 20 30.3	
	comp=Z,221nm,20.0s,MS4.2,baz=75,slow=29						
FITZ	**Fitzroy Crossi**	**56.81**	**102**	LR	LR	17 25 12.3	
	comp=Z,147nm,19.9s,MS4.1,baz=3.2,slow=32						
GNI	**Garni**	**58.06**	**341**	P	**P**	**17 04 39.1**	**-0.4**
	comp=Z,2.1nm,0.3s,mb4.6,baz=298,slow=17,SNR=4.0						
BRTR	**Keskin Array B**	**62.04**	**332**	P	**P**	**17 05 07.2**	**+0.5**
	comp=Z,0.6nm,0.7s,mb3.8,baz=171,slow=8.8,SNR=4.9						
MKAR	**Makanchi Array**	**62.77**	**12**	P	**P**	**17 05 12.4**	**+0.8**
	comp=Z,2.4nm,1.0s,mb4.3,baz=197,slow=6.1,SNR=6.5						
ASAR	**Alice Springs**	**63.98**	**109**	P	**P**	**17 05 18.9**	**-0.7**
	comp=Z,1.3nm,0.6s,mb4.1,baz=271,slow=6.3,SNR=20						
WRA	**Warramunga Arr**	**64.78**	**105**	P	**P**	**17 05 24.6**	**-0.3**
	comp=Z,3.1nm,1.0s,mb4.3,baz=270,slow=5.9,SNR=17						
WRAB	**Tennant Creek**	**64.79**	**105**	*eP*	**P**	**17 05 26.1**	**+1.1**
WRAB				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
WRAB	**Tennant Creek**	**64.79**	**105**	*eP*	**P**	**17 05 26.1**	**+1.1**
	comp=Z,11nm,1.0s,mb4.8						
KURK	**Kurchatov**	**65.92**	**9**	*eP*	**P**	**17 05 32.4**	**+0.1**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
KURK	**Kurchatov**	**65.92**	**9**	*eP*	**P**	**17 05 32.4**	**+0.1**
	comp=Z,6.0nm,1.0s,mb4.6						
ZRNK	**Zerenda**	**67.31**	**2**	*eP*	**P**	**17 05 40.9**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
ZRNK	**Zerenda**	**67.31**	**2**	*eP*	**P**	**17 05 40.9**	**-0.4**
	comp=Z,7.2nm,1.1s,mb4.6						
CHKZ	**Chkalovo**	**68.10**	**3**	*eP*	**P**	**17 05 46.0**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
CHKZ	**Chkalovo**	**68.10**	**3**	*eP*	**P**	**17 05 46.0**	**-0.1**
	comp=Z,9.0nm,1.1s,mb4.7						
TORD	**Torodi Ar. Bea**	**69.68**	**290**	P	**P**	**17 05 55.4**	**-0.6**
	comp=Z,2.1nm,1.1s,mb4.0,baz=116,slow=6.8,SNR=7.0						
SNAA	**Sanae**	**69.72**	**198**	P	**P**	**17 05 56.4**	**+0.1**
	comp=Z,0.7nm,0.9s,mb3.6,baz=251,slow=6.3,SNR=3.1						
SNAA				LR	LR	17 29 50.7	
	comp=Z,47nm,18.3s,MS3.8,baz=205,slow=30						
STKA	**Stephens Creek**	**70.05**	**119**	P	**P**	**17 05 59.2**	**+0.9**
	comp=Z,1.9nm,0.8s,mb4.1,baz=259,slow=5.2,SNR=3.3						
STKA				LR	LR	17 32 18.3	
	comp=Z,92nm,19.4s,MS4.0,baz=22,slow=32						
STKA	**Stephens Creek**	**70.05**	**119**	P	**P**	**17 05 59.2**	**+0.9**
STKA				LR	LR	17 32 18.3	
ZAL	**Zalesovo**	**70.07**	**11**	P	**P**	**17 05 57.7**	**-0.7**
	comp=Z,1.1nm,0.8s,mb3.8,baz=191,slow=12,SNR=2.0						
ZAL				LR	LR	17 35 02.2	
	comp=Z,64nm,18.5s,MS3.9,baz=79,slow=34						
NVS	**Novosibirsk**	**70.64**	**10**	*eP*	**P**	**17 06 00.7**	**-1.2**
VNA2	**Neumayer--Watz**	**70.99**	**200**	*e*	**P**	**17 06 03.3**	**-0.7**
	baz=356,slow=7.2						
VNA2				*e*		17 06 08.8	
VNA2				*e*		17 06 14.2	
VNA3	**Neumayer Olymp**	**71.77**	**199**	*e*	**P**	**17 06 04.6**	**-4.1**
VNA3				*e*		17 06 10.1	
VNA3				*e*		17 06 15.4	
AKASG	**Malin Array Be**	**72.69**	**336**	P	**P**	**17 06 12.6**	**-1.6**
	comp=Z,0.2nm,0.4s,mb3.4,baz=150,slow=5.0,SNR=7.6						
AKASG	**Malin Array Be**	**72.69**	**336**	P	**P**	**17 06 12.6**	**-1.6**
QSPA	**South Pole Qui**	**75.48**	**180**	*eP*	**P**	**17 06 29.9**	**-0.6**
	comp=Z,9.2nm,1.0s,mb4.7						
GERES	**GERESS Array B**	**78.46**	**328**	P	**P**	**17 06 46.0**	**-1.3**
	comp=Z,0.2nm,0.5s,mb3.3,baz=351,slow=7.4,SNR=3.4						
GERES	**GERESS Array B**	**78.46**	**328**	P	**P**	**17 06 46.0**	**-1.3**
BRG	**Berggiesshubel**	**79.60**	**329**	*eP*	**P**	**17 06 55.2**	**+1.6**
	comp=Z,13nm,1.7s,mb4.6						
BRG	**Berggiesshubel**	**79.60**	**329**	*eP*	**P**	**17 06 55.2**	**+1.6**
BRG				pmax	pmax		
	comp=Z,13nm,1.7s,mb4.6						
CLL	**Collm**	**80.34**	**329**	*eP*	**P**	**17 06 59.0**	**+1.4**
MJAR	**Matsushiro Arr**	**84.60**	**50**	P	**P**	**17 07 20.5**	**+0.7**
	comp=Z,0.2nm,0.3s,mb3.7,baz=247,slow=4.5,SNR=3.1						
MJAR				LR	LR	17 42 45.8	
	comp=Z,57nm,19.9s,MS4.0,baz=240,slow=34						
ESDC	**Sonseca Array**	**84.69**	**313**	P	**P**	**17 07 20.4**	**+0.2**
	comp=Z,0.2nm,0.3s,mb3.7,baz=96,slow=9.2,SNR=2.9						
YKA	**Yellowknife Ar**	**132.17**	**1**	PKP	PKPdf	17 13 58.7	-1.5
	comp=Z,0.3nm,0.8s,baz=338,slow=2.0,SNR=4.4						
YKA	**Yellowknife Ar**	**132.17**	**1**	PKP	PKPdf	17 13 58.7	-1.5
PDAR	**Pinedale Array**	**151.71**	**354**	PKPbc	PKPbc	17 14 41.5	+0.6
	comp=Z,0.9nm,0.6s,baz=72,slow=3.0,SNR=8.1						

ISCJB ***15*** *16:59:27.3±1.7, 2705S±003×714W±0.1, h29km±10km, mb4.3/5, MS3.7/2, Error ellipse: s-maj=17.1km s-min=4.8km az=6.3*

GUC ***15*** *16:59:27.8±1.0, 27.18S×7131W, h16km±9km, ML4.6*

NEIC ***15*** *16:59:30.5±1.7, 2707S×7107W, h30km±9km, ML4.6(GUC), Error ellipse: s-maj=22.5km s-min=8.3km az=94.0*

IDC ***15*** *16:59:31.8±1.2, 2706S×7096W, h31km±5km, mb4.2/5, mb1 4.2/8, mb1mx3.9/18, mbtmp4.3/8, ML4.1/3, MS3.7/2, Ms1 3.6/2, ms1mx2.7/24, Error ellipse: s-maj=39.9km s-min=20.5km az=91.0*

ISC 15 16:59:28.4±1.7, 2706S±003×7132W±010, h21km±10km**, n30,** σ0°**88/36, mb4.3/5, MS3.7/2, 1C-2D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.43**	**91**	*iP*	**Pb**	**16 59 37.1**	**-0.4**
CDCH				*i* S	**Sb**	**16 59 43.0**	**-0.5**
CPCH	**Copiapo**	**0.91**	**109**	*iP*	**Pb**	**16 59 45.1**	**-0.4**
CPCH				*i* S	**Sb**	**16 59 57.8**	**+0.7**
CRCH	**Chaqaral**	**0.95**	**41**	*eP*	**Pb**	**16 59 46.0**	**-0.1**
CRCH				*i* S	**Sb**	**16 59 59.2**	**+0.9**
LCO	**Las Campanas**	**2.02**	**164**	*iP*	**Pn**	**17 00 00.3**	**-0.8**
LCO				*i* S	**Sn**	**17 00 24.9**	**-0.7**
CPN1	**Cerro Paranal**	**2.56**	**19**	*eP*	**Pn**	**17 00 07.8**	**-0.8**
CPN1				*i* S	**Sn**	**17 00 37.5**	**-1.6**
CPN1				AML	AML	17 01 01.7	
	comp=E,2μm,0.5s						
TLL	**Tololo Astrono**	**3.13**	**172**	*eP*	**Pn**	**17 00 16.5**	**+0.1**
TLL				*i* S	**Sn**	**17 00 53.2**	**+0.2**
TLL				AML	AML	17 01 11.7	
	comp=N,2μm,0.6s						
TLL	**Tololo Astrono**	**3.13**	**172**	*eP*	**Pn**	**17 00 16.5**	**+0.1**
TLL				*i* S	**Sn**	**17 00 53.2**	**+0.2**
CEN1	**Los Morros**	**3.79**	**16**	*eP*	**Pn**	**17 00 20.5**	**-5.1**
LVC	**Limon Verde**	**4.94**	**27**	Pn	**Pn**	**17 00 42.4**	**+1.1**
	comp=N,7.8nm,0.3s,baz=223,slow=10,SNR=49						
LVC				Pg	**Pn**	**17 00 53.2**	**+12**
	comp=N,10nm,0.3s,baz=208,slow=7.9,SNR=15						
LVC				Sn	**Sn**	**17 01 38.4**	**+0.6**
	comp=N,9.2nm,0.3s,baz=338,slow=22,SNR=3.4						
LVC				Lg		17 01 58.4	
	comp=N,19nm,0.3s,baz=37,slow=14,SNR=5.7						
CFAA	**Coronel Fontan**	**5.26**	**150**	Pn	**Pn**	**17 00 47.9**	**+2.1**
	comp=N,0.9nm,0.3s,baz=337,slow=12,SNR=30						
CFAA				Sn	**Sn**	**17 01 44.8**	**-1.0**
	comp=N,0.6nm,0.3s,baz=246,slow=23,SNR=3.9						
CFAA				Lg		17 02 02.0	
	comp=N,1.9nm,0.3s,baz=31,slow=22,SNR=11						
CFAA	**Coronel Fontan**	**5.26**	**150**	Pn	**Pn**	**17 00 47.9**	**+2.1**
CFAA				Sn	**Sn**	**17 01 44.8**	**-1.0**
CFAA				Lg		17 02 02.0	
FCH	**Farellones**	**6.31**	**172**	*eP*	**Pn**	**17 01 00.1**	**0.0**
LPAZ	**La Paz**	**11.12**	**16**	Pn	**Pn**	**17 02 06.3**	**+0.1**
	comp=N,0.6nm,0.3s,baz=212,slow=6.9,SNR=17						
CPUP	**Villa Florida**	**12.53**	**90**	Pn	**Pn**	**17 02 20.5**	**-4.8**
	comp=N,0.2nm,0.3s,baz=128,slow=3.0,SNR=3.1						
CPUP				Lg		17 06 02.9	
	comp=N,0.1nm,0.3s,baz=160,slow=20,SNR=2.0						
CPUP	**Villa Florida**	**12.53**	**90**	P	**Pn**	**17 02 21.5**	**-3.9**
CPUP				Lg		17 06 02.9	
TRQA	**Tornquist**	**13.49**	**147**	*eP*	**Pn**	**17 02 42.7**	**+4.2**
	comp=N,15nm,1.1s						
SIV	**San Ignacio**	**14.56**	**43**	Pn	**Pn**	**17 02 49.1**	**-4.0**
	comp=N,0.5nm,0.3s,baz=233,slow=12,SNR=7.5						
SAML	**Samuel**	**19.59**	**25**	*eP*	**Pn**	**17 03 55.5**	**-1.0**
	comp=N,3.3nm,0.7s						
BDFB	**Brasilia**	**24.45**	**67**	P	**P**	**17 04 45.2**	**-0.5**
	comp=N,7.1nm,0.7s,mb4.2,baz=249,slow=6.8,SNR=9.4						
BDFB				LR	LR	17 15 01.2	
	comp=N,77nm,18.9s,MS3.2,baz=354,slow=38						
VNA3	**Neumayer Olymp**	**55.58**	**160**	*e*	**P**	**17 09 02.8**	**+0.5**
VNA3				*e*		17 09 11.8	
VNA3				*e*		17 09 17.0	
VNA2	**Neumayer--Watz**	**56.20**	**159**	*e*	**P**	**17 09 06.5**	**-0.3**
	baz=289,slow=9.5						
VNA2				*e*		17 09 16.8	
VNA2				*e*		17 09 23.5	
SNAA	**Sanae**	**57.80**	**160**	P	**P**	**17 09 17.6**	**-0.5**
	comp=N,0.7nm,0.8s,mb3.7,baz=140,slow=0.9,SNR=3.1						
DBIC	**Dimbokro**	**72.45**	**73**	P	**P**	**17 10 54.1**	**+0.9**
	comp=N,5.1nm,0.9s,mb4.5,baz=165,slow=3.1,SNR=6.5						
RAR	**Rarotonga**	**79.33**	**252**	LR	LR	17 41 00.3	
	comp=N,92nm,19.0s,MS4.1,baz=327,slow=31						
TORD	**Torodi Ar. Bea**	**81.28**	**70**	P	**P**	**17 11 44.3**	**+1.3**
	comp=N,9.4nm,0.7s,mb4.8,baz=264,slow=5.2,SNR=63						
TORD				pP	pP	17 11 53.5	+3.5
	comp=N,5.0nm,0.7s,baz=257,slow=5.1,SNR=12						
LBTB	**Lobatse**	**84.67**	**115**	P	**P**	**17 12 01.9**	**+1.3**
	comp=N,3.3nm,0.9s,mb4.5,baz=257,slow=5.9,SNR=6.0						
ZAL	**Zalesovo**	**147.89**	**27**	PKP	PKPdf	17 19 09.8	+1.0
	comp=N,3.1nm,0.8s,baz=169,slow=3.6,SNR=16						
ZAL				PKPbc	PKPbc	17 19 12.5	+0.7
	comp=N,3.1nm,0.8s,baz=171,slow=4.3,SNR=18						
ZAL				pPKP	pPKPdf	17 19 21.0	+4.9
	comp=N,2.6nm,0.8s,baz=171,slow=4.9,SNR=5.6						
ZAL	**Zalesovo**	**147.89**	**27**	PKP	PKPdf	17 19 09.8	+1.0
ZAL				PKPbc	PKPbc	17 19 12.5	+0.7
ZAL				pPKP	pPKPdf	17 19 21.0	+4.9
AAK	**Ala-Archa**	**148.18**	**52**	*e*PKPbc	PKPbc	17 19 13.9	+1.3
MKAR	**Makanchi Array**	**151.36**	**40**	PKPbc	PKPbc	17 19 21.4	+1.0
	comp=N,4.5nm,0.8s,baz=311,slow=2.7,SNR=29						
MKAR				pPKPbc	pPKPbc	17 19 31.7	+4.0
	comp=N,4.2nm,0.8s,baz=328,slow=2.5,SNR=13						

SZGRF ***15*** *17:03:40.4, 2087S×17704W, h33km, Fiji Islands region*

ISCJB ***15*** *17:04:42.5±0.6, 2002S±004×178.17W±004, h571km±8km, mb4.9/93, Error ellipse: s-maj=7.4km s-min=4.4km az=102.1*

MOS ***15*** *17:04:44.7±0.9, 1991S×17821W, h594km, mb5.0/28, Error ellipse: s-maj=10.5km s-min=8.9km az=48.0*

IDC ***15*** *17:04:46.2±1.0, 2011S×178.16W, h605km±11km, mb4.4/21, mb1 4.4/24, mb1mx4.4/25, mbtmp5.4/24, Error ellipse: s-maj=8.9km s-min=7.0km az=143.0*

HRVD ***15*** *17:04:48.8±0.7, 1987S×17801W, h620km±4km, MW5.2/50, Centroid moment Tensor Solution. LP body waves: s50,c64; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-6.47±.33; Mθθ 3.06±.51; Mφφ 3.41±.59; Mrθ-4.17±.53; Mrφ-1.07±.56; Mθφ-2.15±.59; Best double couple: M0 6.60700×10^16 NP1:φ=310.00000°, δ32.00000°, λ-58.00000°. NP2:φ94.00000°, δ64.00000°, λ-108.00000°. Principal axes: T 4.6990, Plg17.0000°, Azm197.0000°; N 3.8170, Plg16.0000°, Azm102.0000°; P -8.5160, Plg66.0000°, Azm331.0000°; nsta1 refers to body waves, cutoff=40s.*

NEIC ***15*** *17:04:48.8±0.6, 2000S×17825W, h635km±7km, mb4.9/55 Error ellipse: s-maj=6.0km s-min=3.4km az=145.0*

BJI ***15*** *17:04:48.2, 1954S×17776W, h639km, mB5.0, mb5.0*

BGS ***15*** *17:04:51.6±4.5, 2035S×17825W, h634km, mb4.9(NEIC)*

ISC 15 17:04:44.2±0.7, 2006S±004×17810W±004, h578km±8km**, h590**km±4.4km**: pP-P, n557,** σ0°**96/229, mb4.9/93, 57C-112D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.60**	**46**	P	**P**	**17 06 47.7**	**-0.8**
	53nm,0.3s,baz=16,slow=2.3,SNR=64						
AFI				S	**S**	**17 08 25.7**	**-4.9**
	15nm,0.3s,baz=226,slow=22,SNR

comp=Z,13nm,0.7s,baz=101,slow=4.1,SNR=16
ASAR pP pP 17 13 50.3 +2.1
comp=Z,3.5nm,0.9s,baz=91,slow=6.7,SNR=1.7
ASAR ScP ScP 17 16 31.7 -1.5
comp=Z,2.1nm,0.7s,baz=102,slow=4.5,SNR=4.3
ASAR S **S** **17 17 57.2 -2.2**
comp=Z,29nm,0.9s,baz=93,slow=15,SNR=71
ASAR PKiKP PKiKP 17 20 31.3 -1.8
comp=Z,0.3nm,0.5s,baz=81,slow=1.4,SNR=4.1
ASAR Alice Springs 44.53 256 P **P** **17 12 05.9 +0.5**
ASAR 17 13 35.5
ASAR *PP pP 17 13 50.3 +2.2
ASAR S **S** **17 17 57.2 -2.2**
ASAR Alice Springs 44.53 256 P **P** **17 12 05.8 +0.5**
ASAR PcP PcP 17 13 35.5 -0.3
ASAR pP pP 17 13 50.3 +2.1
ASAR ScP ScP 17 16 31.7 -1.5
ASAR S **S** **17 17 57.2 -2.2**
WRAB Tennant Creek 44.56 262 *eP* **P** **17 12 05.5 -0.1**
WRAB *e* 17 13 35.7
WRAB pmax pmax
comp=Z,72nm,1.0s,mb5.2
WRAB Tennant Creek 44.56 262 *eP* **P** **17 12 05.5 -0.1**
comp=Z,72nm,1.0s,mb5.2
WRAB *e*PcP PcP 17 13 35.7 -0.2
WRA Warramunga Arr 44.57 262 P **P** **17 12 05.6 -0.1**
comp=Z,16nm,0.4s,mb4.9,baz=98,slow=8.2,SNR=367
WRA PcP PcP 17 13 36.3 +0.4
comp=Z,10nm,0.9s,baz=89,slow=4.4,SNR=10
WRA ScP ScP 17 16 33.2 -0.1
comp=Z,1.2nm,0.8s,baz=98,slow=4.7,SNR=2.8
WRA S **S** **17 17 56.6 -3.4**
comp=Z,13nm,0.9s,baz=95,slow=14,SNR=26
WRA PKiKP PKiKP 17 20 31.3 -1.9
comp=Z,0.8nm,0.8s,baz=59,slow=0.2,SNR=5.1
WRA Warramunga Arr 44.57 262 P **P** **17 12 05.6 -0.1**
WRA 17 13 36.3
WRA S **S** **17 17 56.6 -3.4**
WRA Warramunga Arr 44.57 262 P **P** **17 12 05.6 -0.1**
WRA PcP PcP 17 13 36.3 +0.4
WRA ScP ScP 17 16 33.2 -0.1
WRA S **S** **17 17 56.6 -3.4**
KAKA Kakadu 47.87 271 ⇓*iP* **P** **17 12 30.5 -0.1**
comp=Z,23nm,0.6s,mb4.9
FORT Forrest 49.38 246 *eP* **P** **17 12 41.8 0.0**
comp=Z,26nm,0.6s,mb4.8
GUMO Guam 49.45 310 P **P** **17 12 42.4 +0.2**
comp=Z,128nm,0.8s,mb5.4,baz=136,slow=4.4,SNR=3.6
FITZ Fitzroy Crossi 52.99 262 ⇓*iP* **P** **17 13 08.2 +0.4**
comp=Z,15nm,0.5s,mb4.6
FITZ *e*S **S** **17 19 54.4 -0.4**
FITZ Fitzroy Crossi 52.99 262 P **P** **17 13 08.2 +0.4**
comp=Z,9.7nm,0.7s,mb4.2,baz=132,slow=3.6,SNR=62
FITZ S **S** **17 19 54.9 +0.1**
comp=Z,1.6nm,0.8s,baz=272,slow=22,SNR=3.9
MBWA Marble Bar 57.86 257⇓*eP* **P** **17 13 41.2 -0.3**
comp=Z,32nm,1.1s,mb4.4
KLBR Kellerberrin 58.16 245⇓*iP* **P** **17 13 43.3 -0.2**
comp=Z,31nm,1.2s,mb4.3
VNDA Vanda 58.34 185 P **P** **17 13 45.2 +0.4**
comp=Z,1.7nm,0.6s,baz=350,slow=7.7,SNR=23
VNDA PcP PcP 17 14 28.1 +0.2
comp=Z,1.5nm,0.7s,baz=294,slow=3.1,SNR=6.0
VNDA ScP ScP 17 17 31.7 -1.2
comp=Z,2.3nm,0.8s,baz=348,slow=4.7,SNR=7.0
VNDA Vanda 58.34 185 P **P** **17 13 45.2 +0.4**
VNDA 17 14 28.1
VNDA Vanda 58.34 185 P **P** **17 13 45.2 +0.4**
VNDA PcP PcP 17 14 28.1 +0.2
VNDA ScP ScP 17 17 31.7 -1.2
NWAO Narrogin (SRO) 58.48 243 P **P** **17 13 45.4 -0.4**
comp=Z,8.8nm,0.8s,mb3.9,baz=99,slow=1.5,SNR=3.7
MUN Mundaring 59.43 244 *eP* **P** **17 13 52.5 +0.4**
CBIJ Chichi jima 60.64 310 P **P** **17 13 59.5 -0.5**
comp=Z,49nm,0.5s,mb5.0,baz=281,slow=20,SNR=9.0
JHJ Hachijo jima 2 66.43 322 P **P** **17 14 36.8 -0.1**
comp=Z,132nm,0.4s,mb5.7,baz=63,slow=21,SNR=22
MJAR Matsushiro Arr 69.80 324 P **P** **17 14 56.8 -0.5**
comp=Z,35nm,0.7s,mb4.9,baz=157,slow=5.9,SNR=91
MJAR ScP 17 18 26.3
comp=Z,4.0nm,1.0s,baz=340,slow=5.3,SNR=7.1
MAJO Matsushiro 69.80 324 *eP* **P** **17 14 56.4 -0.9**
MAJO pmax pmax
comp=Z,32nm,0.6s,mb4.9
MAJO Matsushiro 69.80 324 *eP* **P** **17 14 56.4 -0.9**
comp=Z,32nm,0.6s,mb4.9
MAT Matsushiro 69.80 324 P **P** **17 14 56.4 -0.9**
MAT S S 17 23 21.0 -0.3
MAT Matsushiro 69.80 324 *eP* **P** **17 14 56.0 -1.3**
MAT *e*S S 17 23 21.0 -0.3
MAT pmax pmax
comp=Z,26nm,0.7s,mb4.8
MAT Matsushiro 69.80 324 *eP* **P** **17 14 56.0 -1.3**
comp=Z,26nm,0.7s,mb4.8
MAT *e*S S 17 23 21.0 -0.3
JOW Kunigami 69.81 310 P **P** **17 14 57.7 +0.3**
comp=Z,38nm,0.8s,mb4.9,baz=260,slow=23,SNR=4.6
QSPA South Pole Qui 70.01 180 *eP* **P** **17 14 59.4 +0.8**
comp=Z,16nm,0.8s,mb4.5
ASAJ Asahikawa 73.29 332 P **P** **17 15 18.3 +0.7**
comp=Z,89nm,0.8s,mb5.3,baz=199,slow=9.0,SNR=40
NACB Ninganchiao 73.35 304 *eP* **P** **17 15 17.1 -0.9**
YHNB Yeheng 73.78 304 *eP* **P** **17 15 20.4 0.0**
YSS Yuzh-Sakhalins 75.46 333*d iP* **P** **17 15 29.8 0.0**
YSS pmax pmax
comp=Z,109nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 75.46 333⇓*iP* **P** **17 15 29.6 -0.2**
comp=Z,90nm,0.9s,mb5.3
PET Petropavlovsk 75.52 346⇑*eP* **P** **17 15 28.2 -1.9**
PET pmax pmax
comp=Z,47nm,1.2s,mb4.8
KS15 Wonju Array Si 76.51 319 *eP* **P** **17 15 35.6 0.0**
SDPT Sand Point 76.59 10 *eP* **P** **17 15 33.9 -2.1**
SSE Sheshan 77.33 310 P **P** **17 15 39.4 -0.6**
SSE AMB AMB
comp=Z,29nm,0.7s,mb4.8
SSE AMB AMB
comp=Z,312nm,5.4s
SAO San Andreas Ge 77.77 43 *eP* **P** **17 15 43.0 +0.6**
SAO pmax pmax
comp=Z,24nm,0.8s,mb4.7
SAO San Andreas Ge 77.77 43 *eP* **P** **17 15 43.0 +0.6**
comp=Z,24nm,0.8s,mb4.7
LRV Little Rabbit 77.85 44 *eP* **P** **17 15 43.6 +0.8**
CHGN Chignik 77.86 11 *eP* **P** **17 15 41.0 -1.9**
VLA Vladivostok 77.86 325 *eP* **P** **17 15 40.6 -2.3**
VLA pmax pmax
comp=Z,33nm,1.0s,mb4.7
NSHM Saint Helena R 78.09 41 *eP* **P** **17 15 44.4 +0.2**
KHMM Horse Mountain 78.87 39 *eP* **P** **17 15 49.5 +1.2**
CMB Columbia Colle 79.20 43 *eP* **P** **17 15 50.3 +0.3**
CMB pmax pmax
comp=Z,22nm,0.9s,mb4.5
CMB Columbia Colle 79.20 43 *eP* **P** **17 15 50.2 +0.2**
comp=Z,22nm,0.9s,mb4.5
OHCM Honcut 79.28 41 *eP* **P** **17 15 50.8 +0.3**
WDC Whiskeytown Da 79.39 40⇓*eP* **P** **17 15 51.3 +0.3**
WDC pmax pmax
comp=Z,26nm,1.1s,mb4.5
WDC Whiskeytown Da 79.39 40⇓*eP* **P** **17 15 51.3 +0.2**
comp=Z,26nm,1.1s,mb4.5
NJ2 Nanjing 79.52 310 *eP* **P** **17 15 52.3 +0.6**
NJ2 PP PP 17 19 05.3 +2.4
NJ2 S S 17 25 00.0 -6.5
NJ2 AMB AMB
comp=Z,40nm,1.2s,mb4.6
NJ2 AMB AMB
comp=Z,640nm,6.4s
KGM Kluang 79.97 276 P **P** **17 15 55.5 +1.4**
YBH Yreka Blue Hor 80.00 39 P **P** **17 15 55.0 +0.8**
comp=Z,32nm,0.8s,mb4.7,baz=194,slow=1.8,SNR=65
YBH Yreka Blue Hor 80.00 39 *eP* **P** **17 15 54.6 +0.4**
YBH pmax pmax
comp=Z,29nm,0.8s
YBH Yreka Blue Hor 80.00 39 *eP* **P** **17 15 54.6 +0.4**
comp=Z,29nm,0.8s,mb4.7
HABR Khabarovsk 80.01 330⇓*iP* **P** **17 15 54.8 +0.5**
HABR *e*S S 17 25 11.0 -0.5
HABR pmax pmax
comp=Z,131nm,1.6s,mb5.0
DAC Darwin (Calif) 80.03 46 *eP* **P** **17 15 54.8 +0.4**
DAC pmax pmax
comp=Z,7.0nm,0.8s,mb4.0
DAC Darwin (Calif) 80.03 46 *eP* **P** **17 15 54.8 +0.5**
comp=Z,7.0nm,0.8s,mb4.0

MDJ Mudanjiang 80.10 325 P **P** **17 15 55.3 +0.6**
MDJ PP PP 17 19 08.3 +0.7
MDJ S S 17 25 13.8 +1.4
MDJ AMB AMB
comp=Z,58nm,0.8s,mb5.0
MDJ AMB AMB
comp=Z,76nm,4.9s
MDJ Mudanjiang 80.10 325 *eP* **P** **17 15 54.8 +0.1**
comp=Z,56nm,0.9s,mb4.9
HUMO Hull Mountain 80.40 38 *eP* **P** **17 15 56.9 +0.6**
comp=Z,37nm,1.2s,mb4.6
KDAK Kodiak Island 80.41 14 P **P** **17 15 55.1 -1.2**
comp=Z,26nm,0.8s,mb4.6,baz=213,slow=2.6,SNR=26
NVAR Mina Array Bea 80.77 43 P **P** **17 15 58.8 +0.6**
comp=Z,16nm,0.8s,mb4.5,baz=211,slow=6.9,SNR=73
MNV Mina 80.86 44 *eP* **P** **17 15 58.7 0.0**
MNV pmax pmax
comp=Z,41nm,1.2s,mb4.7
MNV Mina 80.86 44 *eP* **P** **17 15 58.7 0.0**
comp=Z,41nm,1.2s,mb4.7
TPH Tonopah 81.27 44 *eP* **P** **17 16 01.5 +0.7**
TPH pmax pmax
comp=Z,44nm,1.1s,mb4.8
TPH Tonopah 81.27 44 *eP* **P** **17 16 01.4 +0.7**
comp=Z,44nm,1.1s,mb4.8
TPNV Topopah Spring 81.30 46 *eP* **P** **17 16 01.2 +0.3**
TPNV pmax pmax
comp=Z,23nm,0.9s,mb4.6
TPNV Topopah Spring 81.30 46 *eP* **P** **17 16 01.2 +0.3**
comp=Z,23nm,0.9s,mb4.6
HBO Huckleberry Mo 81.53 37 P **P** **17 16 02.8 +0.6**
NEN Nelson 81.56 47 *eP* **P** **17 16 02.9 +0.6**
SNY Shenyang 81.81 320 ⇓*P* **P** **17 16 03.0 -0.5**
SNY AMB AMB
comp=Z,15nm,0.7s,mb4.6
CN2 Changchun 81.89 322⇓*eP* **P** **17 16 03.8 -0.1**
CN2 *e*S S 17 25 25.8 -4.7
CN2 AMB AMB
comp=Z,40nm,1.0s,mb4.9
CN2 AMB AMB
comp=Z,200nm,3.0s
MAW Mawson 81.95 200 P **P** **17 16 04.5 +0.2**
comp=Z,4.2nm,0.9s,mb4.0,baz=244,slow=6.9,SNR=3.7
KLR Kul'dur 82.10 329 *eP* **P** **17 16 00.0 -5.0**
KLR pmax pmax
comp=E,20nm,1.2s
KLR pmax pmax
comp=Z,50nm,1.2s,mb4.9
WHN Wuhan 82.11 306 ⇑*P* **P** **17 16 05.8 +0.8**
TUC Tucson 82.78 52 *eP* **P** **17 16 09.6 +1.2**
TUC pmax pmax
comp=Z,30nm,1.3s,mb4.7
TUC Tucson 82.78 52 *eP* **P** **17 16 09.6 +1.2**
comp=Z,30nm,1.3s,mb4.7
WVOR Wild Horse Val 82.85 40 *eP* **P** **17 16 09.1 +0.3**
WVOR pmax pmax
comp=Z,33nm,0.9s,mb4.9
WVOR Wild Horse Val 82.85 40 *eP* **P** **17 16 09.1 +0.4**
comp=Z,33nm,0.9s,mb4.9
SVW2 Sparrevohn 82.88 11 *eP* **P** **17 16 07.6 -1.3**
OOW Octopus West 82.97 33 P **P** **17 16 10.2 +0.8**
IPM Ipoh 82.98 277 P **P** **17 16 10.2 +0.7**
OCWA Octopus Mounta 82.99 33⇓*eP* **P** **17 16 10.0 +0.5**
comp=Z,67nm,0.9s,mb5.2
CCUT Cedar City 83.57 46 *eP* **P** **17 16 13.4 +1.0**
WPW White Pass 83.72 35 P **P** **17 16 13.4 +0.3**
WUAZ Wupatki 83.92 49 *eP* **P** **17 16 14.6 +0.5**
comp=Z,28nm,1.1s,mb4.7
PGC Sidney 83.94 33 *eP* **P** **17 16 13.9 -0.3**
comp=Z,83nm,1.1s,mb5.2
EYAK Cordova Ski Ar 84.48 15 *eP* **P** **17 16 15.1 -1.7**
TTA Tatalina 84.52 10 *eP* **P** **17 16 15.9 -1.1**
PMR Palmer 84.61 13 *eP* **P** **17 16 15.6 -1.9**
PMR pmax pmax
comp=Z,79nm,1.4s,mb5.2
PMR Palmer 84.61 13 *eP* **P** **17 16 15.6 -1.8**
comp=Z,80nm,1.4s,mb5.2
HAWA Hanford 84.65 36 *eP* **P** **17 16 16.9 -0.7**
comp=Z,2.8nm,1.1s,mb3.8
MSU Marysvale 84.86 46 *eP* **P** **17 16 19.6 +0.9**
BMO Blue Mountains 85.03 39⇓*eP* **P** **17 16 19.1 -0.4**
comp=Z,17nm,0.9s,mb4.7
BJT Baijiatuau 85.50 315 *eP* **P** **17 16 21.8 0.0**
BJT pmax pmax
comp=Z,11nm,0.6s
BJT Baijiatuau 85.50 315 *eP* **P** **17 16 21.8 0.0**
comp=Z,11nm,0.6s,mb4.7
BJI Beijing 85.51 315 *eP* **P** **17 16 21.5 -0.3**
BJI S 17 26 06.4
BJI AMB AMB
comp=Z,143nm,2.3s,mb5.2
TMUT Trail Mountain 85.91 46 *eP* **P** **17 16 24.7 +1.0**
HLID Hailey 86.05 41 *eP* **P** **17 16 24.9 +0.5**
comp=Z,20nm,0.9s,mb4.8
SRU San Rafael 86.28 46 *eP* **P** **17 16 25.6 +0.1**
SRU pmax pmax
comp=Z,18nm,0.8s,mb4.8
SRU San Rafael 86.28 46 *eP* **P** **17 16 25.6 +0.1**
comp=Z,18nm,0.8s,mb4.8
GYA Guiyang 86.35 300 P **P** **17 16 26.8 +1.0**
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.8
LAZ Ladron 86.45 52 *eP* **P** **17 16 27.4 +1.1**
MNTX Cornudas Mount 86.57 55 *eP* **P** **17 16 27.6 +0.7**
comp=Z,35nm,1.2s,mb5.0
SKAG Skagway 86.60 20 *eP* **P** **17 16 27.3 +0.3**
comp=Z,59nm,1.6s,mb5.1
TCUT Toone Canyon 86.69 44 *eP* **P** **17 16 28.1 +0.7**
BNM Barren Site 86.72 52 *eP* **P** **17 16 28.2 +0.7**
LPM Los Pinos Moun 86.79 52 *eP* **P** **17 16 28.2 +0.4**
PV10 Paradox Valley 86.94 47 *eP* **P** **17 16 28.6 0.0**
MENT Mentasta 87.03 15 *eP* **P** **17 16 28.1 -0.9**
SYO Syowa Base 87.14 193⇑*eP* **P** **17 16 28.0 -1.5**
SYO Syowa Base 87.14 193⇑*e*PcP PcP 17 16 29.4 -1.5
PV01 Paradox Valley 87.15 48 *eP* **P** **17 16 29.6 +0.1**
ANMO Albuquerque 87.20 51*d iP* **P** **17 16 30.2 +0.4**
ANMO Albuquerque 87.20 51 *eP* **P** **17 16 29.9 +0.2**
comp=Z,19nm,1.3s,mb4.7
GDL2 Guadalupe Moun 87.57 55 *eP* **P** **17 16 32.1 +0.6**
MCMT McKenzie Canyo 87.67 40 *eP* **P** **17 16 32.4 +0.4**
DLBC Dease Lake 87.68 23 *eP* **P** **17 16 31.9 -0.1**
XAN Xi'an 87.79 307 P **P** **17 16 32.8 +0.3**
XAN AMB AMB
comp=Z,65nm,1.0s,mb5.3
COLA College 87.79 12 *eP* **P** **17 16 30.4 -2.2**
COLA pmax pmax
comp=Z,77nm,0.8s,mb5.5
COLA College 87.79 12 *eP* **P** **17 16 30.4 -2.2**
comp=Z,76nm,0.8s,mb5.5
ILAR Eielson Array 87.90 13 P **P** **17 16 30.8 -2.3**
comp=Z,48nm,1.1s,mb5.2,baz=215,slow=5.2,SNR=213
ILAR PP PP 17 20 06.0 -4.0
comp=Z,0.8nm,0.8s,baz=214,slow=6.4,SNR=4.1
ILAR PKiKP PKiKP 17 21 28.6 -2.6
comp=Z,0.3nm,0.4s,baz=260,slow=3.0,SNR=5.2
ILAR Eielson Array 87.90 13 P **P** **17 16 30.8 -2.3**
ILAR PP PP 17 20 06.0 -4.0
DLMT Dillon 88.11 40⇓*eP* **P** **17 16 34.3 +0.3**
comp=Z,50nm,1.2s,mb5.1
REDW Red Top Meadow 88.17 42 *eP* **P** **17 16 34.6 +0.3**
comp=Z,46nm,1.1s,mb5.1
TPAW Teton Pass 88.17 42⇓*eP* **P** **17 16 34.8 +0.5**
comp=Z,33nm,1.2s,mb4.9
CPRX Cap Rock 88.30 54 *eP* **P** **17 16 35.1 +0.2**
IMW Indian Meadow 88.38 42 *eP* **P** **17 16 35.8 +0.5**
comp=Z,51nm,1.1s,mb5.2
MOOW Moose Ponds 88.43 42 *eP* **P** **17 16 35.4 -0.1**
comp=Z,5.9nm,0.8s,mb4.4
NANT Nan 88.45 291 ⇑*P* **P** **17 16 34.0 -1.6**
comp=Z,178nm,1.0s,mb5.8
SNAA Sanae 88.46 179 *eP* **P** **17 16 34.7 -1.0**
comp=Z,1.3nm,0.8s,baz=205,slow=7.1,SNR=9.0
SNAA Sanae 88.46 179 *eP* **P** **17 16 34.5 -1.1**
SNAA *e* 17 16 35.8
SNAA *e* pP 17 18 40.6 -0.2
SNAA *e* pP 17 18 44.2 +3.4
BILL Bilibino 88.58 354⇑*eP* **P** **17 16 34.3 -1.9**
BILL *e*S 17 26 22.4
BILL pmax pmax
comp=Z,15nm,0.8s,mb4.9
BILL Bilibino 88.58 354⇓*eP* **P** **17 16 34.6 -1.7**
comp=Z,9.4nm,0.7s,mb4.7
VNA3 Neumayer Olymp 88.59 176 *eP* **P** **17 16 35.8 -0.5**
VNA3 *e* 17 16 37.2
VNA3 *e* pP 17 18 43.5 +2.1
VNA3 *e* 17 18 47.2
VNA3 *e* 17 23 08.1
VNA3 Neumayer Olymp 88.59 176 *eP* **P** **17 16 35.8 -0.5**
VNA3 *e* 17 16 37.2
VNA3 *e* pP 17 18 43.5 +2.1
VNA3 *e* 17 18 47.2
VNA3 *e* 17 23 08.1
VNA3 *e* 17 34 11.0
FLWY Flagg Ranch 88.62 42⇓*eP* **P** **17 16 36.9 +0.4**
comp=Z,46nm,1.0s,mb5.3
PDAR Pinedale Array 88.70 43 P **P** **17 16 36.6 -0.2**
comp=Z,18nm,0.8s,mb4.9,baz=208,slow=3.1,SNR=78
PDAR PKKPbc PKKPbc 17 34 13.8 +0.5
comp=Z,0.9nm,0.8s,baz=90,slow=3.4,SNR=5.5
YFT Old Faithful 88.72 41 *eP* **P** **17 16 37.7 +0.9**
SMCO Snowmass 88.75 47 *eP* **P** **17 16 37.4 +0.4**
comp=Z,12nm,0.9s,mb4.7
HHC Hu-ho-hao-te 88.98 314 *eP* **P** **17 16 38.0 -0.1**
HHC PP PP 17 20 21.3 +2.9
HHC SKS 17 26 10.9
HHC S 17 26 34.3
HHC SS SS 17 32 49.5 +0.9
HHC AMB AMB
comp=Z,220nm,6.4s
VNA2 Neumayer--Watz 89.03 177 *eP* **P** **17 16 38.3 0.0**
VNA2 *e* 17 16 39.4
VNA2 *e* pP 17 18 46.1 +2.5
VNA2 *e* 17 18 49.9
VNA2 *e* 17 23 12.0
VNA2 *e* 17 34 10.7
LKWY Lake 89.05 41 *eP* **P** **17 16 40.3 +1.9**
LKWY pmax pmax
comp=Z,23nm,0.9s,mb5.0
LKWY Lake 89.05 41 *eP* **P** **17 16 40.3 +1.9**
comp=Z,23nm,0.9s,mb5.0
DAWY Dawson 89.06 16 *eP* **P** **17 16 37.3 -1.2**
KMI Kunming 89.06 297 P **P** **17 16 39.9 +1.4**
KMI AMB AMB
comp=Z,35nm,1.0s,mb5.1
NVL N'lazarevskaya 89.16 183⇑*iP* **P** **17 16 37.8 -1.1**
NVL pmax pmax
comp=Z,26nm,1.1s,mb5.0
HRY Holter Researc 89.25 39 *eP* **P** **17 16 39.6 +0.3**
VNA1 Neumayer--Stat 89.26 177 *eP* **P** **17 16 39.5 +0.1**
VNA1 *e* 17 16 40.9
WALA Waterton Lakes 89.28 36 *eP* **P** **17 16 39.0 -0.5**
comp=Z,16nm,0.9s,mb4.8
CHRT Chiangrai 89.65 291 ⇑*P* **P** **17 16 43.4 +2.2**
comp=Z,382nm,0.9s
RWWY Rawlins 89.73 45 *eP* **P** **17 16 41.4 -0.2**
comp=Z,28nm,1.1s,mb5.0
CHTO Chiang Mai 90.00 290 *eP* **P** **17 16 43.7 +0.9**
CHTO pmax pmax
comp=Z,28nm,0.8s,mb5.1
CHTO Chiang Mai 90.00 290 *eP* **P** **17 16 43.7 +0.9**
comp=Z,28nm,0.8s,mb5.1
GCMT Greycliff 90.10 41 *eP* **P** **17 16 43.8 +0.5**
JCT Junction City 90.43 58 *eP* **P** **17 16 44.5 -0.3**
JCT pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
JCT Junction City 90.43 58 *eP* **P** **17 16 44.5 -0.3**
comp=Z,8.3nm,0.8s,mb4.6
CD2 Chengdu 90.47 303 *eP* **P** **17 16 45.5 +0.5**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
PHWY Pilot Hill 90.73 46 *eP* **P** **17 16 46.2 0.0**
LZH Lanzhou 92.42 308 *eP* **P** **17 16 54.9 +0.9**
LZH PP PP 17 20 48.1 +2.9
LZH SKS 17 26 32.0
LZH *e*S 17 27 06.0
LZH SS SS 17 33 36.0 -1.6
LZH AMB AMB
comp=Z,39nm,1.1s,mb5.3
LZH AMB AMB
comp=Z,176nm,4.8s
RSSD Black Hills 92.90 44 *eP* **P** **17 16 55.6 -0.5**
RSSD pmax pmax
comp=Z,14nm,1.3s,mb4.8
RSSD Black Hills 92.90 44 *eP* **P** **17 16 55.6 -0.5**
comp=Z,14nm,1.3s,mb4.8
CIT Chita 93.08 325 *eP* **P** **17 16 56.1 -0.8**
INK Inuvik 93.87 15⇓*eP* **P** **17 16 58.3 -2.3**
INK pmax pmax
comp=Z,17nm,1.2s
INK Inuvik 93.87 15⇓*eP* **P** **17 16 58.3 -2.3**
comp=Z,17nm,1.2s,mb5.1
ULN Ulaanbaatar 94.97 319⇓*iP* **P** **17 17 02.9 -2.6**
YKA Yellowknife Ar 96.15 25 P **P** **17 17 09.4 -1.5**
comp=Z,2.3nm,0.7s,mb4.5,baz=244,slow=4.5,SNR=50
YKA PKiKP PKiKP 17 21 42.8 -2.5
comp=Z,0.2nm,0.5s,baz=231,slow=1.6,SNR=5.0
YKA PKKP PKKPbc 17 33 51.6 -2.8
comp=Z,0.3nm,0.5s,baz=31,slow=2.4,SNR=5.8
YKW3 Yellowknife Ar 96.18 25 *eP* **P** **17 17 09.2 -1.8**
GTA Gaotai 96.62 309 P **P** **17 17 13.0 0.0**
GTA AMB AMB
comp=Z,7.0nm,2.3s,mb4.5
TIXI Tiksi 98.30 345⇑*iP* Pdif 17 17 18.1 -2.3
TIXI pmax pmax
comp=Z,5.0nm,1.3s,mb4.7
LPAZ La Paz 102.32 112 PKKPbc PKKPbc 17 33 36.9 -0.4
comp=Z,0.5nm,0.6s,baz=8.6,slow=4.5,SNR=3.2
JIRN Jiri 103.91 295 *eP* PKiKP 17 21 58.7 -0.5
GUN Gumba 104.24 295 *eP* PKiKP 17 21 58.6 -1.2
PKI Pulchoki 104.55 294 *eP* PKiKP 17 21 59.2 -1.2
KKN Kakani 104.72 295 *eP* PKiKP 17 21 59.2 -1.5
GKN Gorkha 105.33 295 *eP* PKiKP 17 22 00.4 -1.4
KOLN Koldanda 106.16 294 *eP* PKiKP 17 22 02.0 -1.4
comp=Z,7.9nm,0.6s
ZAL Zalesovo 110.10 321 PKiKP PKiKP 17 22 07.9 -2.9
comp=Z,2.2nm,0.6s,baz=342,slow=2.2,SNR=9.6
MKAR Makanchi Array 110.83 314 Pdif Pdif 17 18 18.7 +2.5
comp=Z,0.6nm,0.7s,baz=93,slow=7.5,SNR=6.3
MKAR PKiKP PKiKP 17 22 10.3 -1.9
comp=Z,4.5nm,0.6s,baz=154,slow=0.2,SNR=36
MKAR PKKPbc PKKPbc 17 33 11.1 -0.4
comp=Z,0.9nm,0.7s,baz=279,slow=3.1,SNR=10
MKAR PKKPab PKKPab 17 33 23.2 -0.8
comp=Z,0.2nm,0.6s,baz=254,slow=4.3,SNR=3.1
MKAR Makanchi Array 110.83 314 P Pdif 17 18 18.7 +2.6
MKAR 17 22 10.3
MKAR Makanchi Array 110.83 314 Pdif Pdif 17 18 18.6 +2.5
MKAR PKPdf PKiKP 17 22 10.3 -1.9
MKAR PKKPbc PKKPbc 17 33 11.1 -0.4
MKAR PKKPab PKKPab 17 33 23.2 -0.8
KURK Kurchatov 113.61 318 *e*PKiKP PKiKP 17 22 15.3 -2.2
ULHL Ulahol 114.63 308 P PKPdf 17 22 18.8 -0.6
SNR=6.2
TKM2 Tokmak 2 115.16 309 P PKPdf 17 22 19.1 -1.3
SNR=7.3
KZA Kyzart 115.35 308 P PKPdf 17 22 20.6 -0.2
SNR=5.8
KBK Karagaybulak 115.62 309 P PKPdf 17 22 20.3 -1.0
SNR=5.5
CHMS Chumysh 115.79 309 P PKPdf 17 22 20.5 -1.2
SNR=5.2
UCH Uchtor 115.91 308 P PKPdf 17 22 21.9 0.0
SNR=9.6
AAK Ala-Archa 115.95 308 *e*PKiKP PKPdf 17 22 19.7 -2.3
USP Ospenovka 115.99 309 P PKPdf 17 22 20.9 -1.1
SNR=10.0
EKS2 Erkin-Say 116.48 308 P PKPdf 17 22 22.3 -0.7
SNR=7.5
AML Almayashu 116.51 308 P PKPdf 17 22 22.1 -0.9
SNR=8.8
SCHQ Schefferville 118.38 38 PKP PKPdf 17 22 23.8 -2.8
comp=Z,0.8nm,0.6s,baz=230,slow=6.8,SNR=3.7
CHKZ Chkalovo 118.49 321 *e*PKiKP PKPdf 17 22 24.1 -2.8
BRVK Borovoye 118.74 320 *e*PKiKP PKPdf 17 22 25.5 -1.8
BDFB Brasilia 119.47 122 PKP PKPdf 17 22 28.3 -0.5
comp=Z,3.2nm,0.5s,baz=162,slow=1.2,SNR=5.6
ZRNK Zerenda 119.52 320 *e*PKiKP PKPdf 17 22 26.5 -2.3
OPO Ambohidratompo 121.30 232 PKP PKPdf 17 22 31.5 -0.8
comp=Z,4.2nm,0.9s,baz=108,slow=2.7,SNR=6.1
DAG Danmarks Havn 122.31 5⇓*iP* PKPdf 17 22 41.2 +7.0
comp=Z,1.4nm,0.5s
DAG Danmarks Havn 122.31 5⇓*i*PKiKP PKPdf 17 22 41.2 +7.0
DAG pmax pmax
comp=Z,1.0nm,0.5s
SUMG Summit 122.74 13 *e*PKPdf PKPdf 17 22 33.6 -1.4

ARU	Arti	124.78	326	ePKIKP	PKPdf	17 22 37.0	-1.9	
SUR	Sutherland	124.81	200	PKP	PKPdf	17 22 39.1	+0.2	
	comp=Z,7.1nm,0.7s,baz=195,slow=2.0,SNR=13							
WSAR	Wadi Sarin	127.45	284	PKP	PKPdf	17 22 43.6	-0.4	
	comp=Z,4.5nm,0.8s,baz=191,slow=5.1,SNR=3.5							
KEV	Kevo	128.02	349	ep	PKPdf	17 22 39.4	-5.7	
ORR	Orenburg	128.35	321	ePKIKP	PKPdf	17 22 45.1	-0.6	
ORR				pmax	pmax			
	comp=Z,20nm,0.9s							
ARCES	ARCESS Array B	128.47	350	PKP	PKPdf	17 22 44.0	-2.0	
	comp=Z,9.0nm,0.5s,baz=18,slow=1.4,SNR=49							
ARE0	ARCESS Array S	128.47	350	ePKPdf	PKPdf	17 22 44.1	-1.8	
LBTB	Lobatse	129.62	208	PKP	PKPdf	17 22 48.6	+0.4	
	comp=Z,1.9nm,0.6s,baz=207,slow=3.0,SNR=8.2							
LBTB				SKPbc	SKPbc	17 25 15.3	-1.5	
	comp=Z,4.7nm,0.9s,baz=147,slow=7.0,SNR=6.0							
LBTB	Lobatse	129.62	208	PKP	PKPdf	17 22 48.6	+0.4	
LBTB				SKPbc	SKPbc	17 25 15.3	-1.5	
KLMR	Klimovskoe	131.44	337	*i* PKIKP	PKPdf	17 22 43.0	-8.6	
KLMR				pmax	pmax			
	comp=Z,30nm,2.0s							
JOF	Joensuu	132.68	342	ep	PKPdf	17 22 49.8	-4.1	
KAF	Kangasniemi	134.70	344	ep	PKPdf	17 22 52.7	-5.0	
OBN	Obninsk	136.32	332	⇑*i*PKIKP	PKPdf	17 22 57.5	-3.2	
OBN				pmax	pmax			
	comp=Z,26nm,1.1s							
LSZ	Lusaka	136.40	218	PKIKP	PKPdf	17 23 01.6	+0.7	
TSUM	Tsumeb	138.07	202	PKP	PKPdf	17 23 06.1	+2.2	
	comp=Z,1.8nm,0.6s,baz=119,slow=2.8,SNR=8.7							
GNI	Garni	138.36	308	*i* PKIKP	PKPdf	17 23 04.5	0.0	
NB2	NORSAR Subarra	138.53	353	PKPa		17 22 53.7		
	comp=Z,7.5nm,0.7s,baz=13,slow=3.6							
NOA	NORSAR Array B	138.53	353	PKhKP		17 22 52.6		
	comp=Z,6.0nm,0.7s,baz=15,slow=2.4,SNR=18							
NOA				PKP	PKPdf	17 23 05.1	+0.3	
	comp=Z,0.8nm,0.6s,baz=68,slow=19,SNR=3.4							
NOA	NORSAR Array B	138.53	353	PKP		17 22 52.6		
NOA				PKP	PKPdf	17 23 05.1	+0.3	
KIV	Kislovodsk	138.58	315	ePKIKP	PKPdf	17 23 03.5	-1.4	
KIV				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KMBO	Kilima Mbogo	139.46	243	SKPbc	SKPbc	17 25 48.3	+0.3	
	comp=Z,2.7nm,0.9s,baz=79,slow=7.8,SNR=4.1							
ERZM	Erzurum	140.91	309	*i* P	PKPdf	17 23 04.6	-4.5	
ANN	Anapa	141.63	318	*i* PKHKP		17 23 04.6		
ANN				pmax	pmax			
	comp=Z,27nm,1.4s							
MARD	Mardin	142.12	305	*i* P	PKPdf	17 23 06.8	-4.5	
SUW	Suwalki	142.39	339	ePKP	PKPdf	17 23 07.8	-3.9	
AKASG	Malin Array Be	142.58	331	PKhKP		17 23 07.1		
	comp=Z,19nm,0.4s,baz=44,slow=4.3,SNR=304							
AKASG				SKPbc	SKPbc	17 25 54.0	-1.9	
	comp=Z,4.1nm,0.9s,baz=37,slow=2.5,SNR=7.4							
DRBT	Darb Altahta	142.99	305	⇓P	PKPdf	17 23 14.3	+1.5	
ELZG	Elazig	143.11	308	*i* P	PKPdf	17 23 11.8	-1.2	
MUD	Monsted U'grnd	143.25	353	⇓*i* P	PKPdf	17 23 10.0	-3.2	
	comp=Z,103nm,0.9s							
COP	Copenhagen	143.55	350	⇓*i* P	PKPdf	17 23 11.0	-2.7	
	comp=Z,64nm,0.7s							
MALT	Malatya	143.59	308	⇓*i* P	PKPdf	17 23 13.1	-0.7	
MALT	Malatya	143.59	308	ePKIKP	PKPdf	17 23 13.4	-0.4	
MALT	Malatya	143.59	308	ePKPdf	PKPdf	17 23 13.4	-0.4	
SIM	Simferopol'	143.59	320	*d* iPKIKP	PKPdf	17 23 12.2	-1.6	
SIM				pmax	pmax			
	comp=Z,115nm,0.8s							
BSD	Bornholm Skovb	143.64	347	⇓*i* P	PKPdf	17 23 10.7	-3.2	
	comp=Z,147nm,0.9s							
ATAB	Bozova	143.96	307	*i* P	PKPdf	17 23 13.7	-0.7	
SVST	Sivas	144.13	311	*i* P	PKPdf	17 23 14.8	0.0	
GMK	Mull of Kintyr	144.31	7	⇓e*P*	PKPdf	17 23 13.4	-1.6	
JHLN	Al Jahlan	144.38	304	⇓P	PKPdf	17 23 14.5	-0.7	
RGN	Rugen	144.48	349	ePKP	PKPdf	17 23 13.9	-1.5	
GCL	Cushendall	144.51	8	e*P*	PKPdf	17 23 14.3	-1.1	
GZT	Gaziantep	144.55	307	*i* P	PKPdf	17 23 15.3	-0.2	
EKA	Eskdalemuir Ar	144.57	5	PKP	PKPdf	17 23 14.2	-1.4	
	comp=Z,19nm,0.7s,baz=340,slow=3.0,SNR=77							
BWH	Wardlaw	144.69	6	e*P*	PKPdf	17 23 14.0	-1.7	
BBH	Bruntsheil	144.79	5	⇓e*P*	PKPdf	17 23 14.5	-1.4	
GKP	Gorka Klasztor	144.80	344	*i* PKPd	PKPdf	17 23 15.7	-0.2	
BOYT	Boyabat	144.85	315	*i* P	PKPdf	17 23 16.7	+0.7	
GAL1	Galloway	144.88	7	⇓e*P*	PKPdf	17 23 14.9	-1.1	
BYBT	Boyabat	144.92	315	e*P*	PKPdf	17 23 15.8	-0.3	
BDL	Dobcross Hall	145.12	5	⇓e*P*	PKPdf	17 23 15.8	-0.6	
BBO1	Bothel	145.16	5	⇓e*P*	PKPdf	17 23 15.7	-0.8	
BNN	Bunyan	145.28	310	e*P*	PKPdf	17 23 15.1	-1.6	
CTKT	Corum	145.28	313	*i* P	PKPdf	17 23 17.8	+1.0	
KIS	Kishinev	145.31	327	*d* iPKIKP	PKPdf	17 23 16.0	-0.8	
CKE	Keswick	145.31	5	⇓e*P*	PKPdf	17 23 16.5	-0.3	
XDE	Dent Fell	145.36	6	⇓e*P*	PKPdf	17 23 16.7	-0.2	
XDE				⇓e*P*		17 23 16.8		
XDE				AMb	AMB	17 23 17.8		
	comp=Z,140nm,1.3s							
XDE				AMb	AMB	17 23 17.8		
	comp=Z,131nm,1.3s							
XDE	Dent Fell	145.36	6	P	PKPdf	17 23 16.8	-0.1	
XDE				AMb	AMB	17 23 17.8		
	comp=Z,140nm,1.3s							
XDE				AMb	AMB	17 23 17.8		
	comp=Z,131nm,1.3s							
DRWC	Darouich	145.47	306	⇓P	PKPdf	17 23 18.2	+1.1	
LVV	L'vov	145.47	335	ePKIKP	PKPdf	17 23 17.2	+0.2	
GIM	North Isle of	145.48	7	⇓e*P*	PKPdf	17 23 17.0	-0.1	
GIM				⇓e*P*		17 23 17.0		
GIM	North Isle of	145.48	7	P	PKPdf	17 23 17.0	0.0	
BSEG	Bad Segeberg	145.57	351	ePKPbc	PKPbc	17 23 17.6	-1.1	
WIM	Isle of Man	145.60	7	⇓e*P*	PKPdf	17 23 17.5	+0.2	
WIM				AMb	AMB	17 23 18.1		
	comp=Z,105nm,0.8s							
TOS	Tosya	145.61	315	e*P*	PKPdf	17 23 18.6	+1.4	
ROOS	tl_alroos	145.69	302	⇓P	PKPdf	17 23 19.3	+1.9	
KFRA	Kufra	145.79	304	⇓P	PKPdf	17 23 17.5	-0.1	
BALT	Daday	145.80	316	*i* P	PKPdf	17 23 17.8	+0.2	
KOZT	Kozan	145.80	308	e*P*	PKPdf	17 23 17.8	+0.2	
BTCH	Batrach	145.81	305	⇓P	PKPdf	17 23 17.9	+0.2	
CDAG	Cicekdag	146.01	312	*i* P	PKPdf	17 23 18.4	+0.4	
WRDH	Warideh	146.01	304	⇓P	PKPdf	17 23 19.7	+1.8	
DCN	Croghan	146.03	10	⇓*i* P	PKPdf	17 23 18.8	+0.8	
CANT	Cankiri	146.08	314	e*P*	PKPdf	17 23 16.4	-1.7	
KWP	Kalwaria	146.14	336	ePKPd	PKPdf	17 23 19.6	+1.4	
KWP				e		17 23 22.4		
DLF	Lyons Farm	146.19	9	⇓*i* P	PKPdf	17 23 19.1	+0.8	
BIDA	Albida	146.23	303	⇓P	PKPdf	17 23 20.5	+2.1	
DSB	Dublin	146.26	9	ePKPbc	PKPbc	17 23 19.5	-1.1	
ELDT	Eldivan	146.27	314	*i* P	PKPdf	17 23 19.5	+1.1	
RUE	Ruedersdorf	146.34	347	ePKPbc	PKPbc	17 23 19.9	-1.0	
RUE	Ruedersdorf	146.34	347	ePKPbc	PKPbc	17 23 20.0	-0.9	
WCB1	Church Bay	146.37	7	⇓e*P*	PKPdf	17 23 19.3	+0.8	
WCB1				AMb	AMB	17 23 20.4		
	comp=Z,112nm,1.5s							
WME	Myndd Eilian	146.38	7	⇓e*P*	PKPdf	17 23 19.5	+0.9	
SAFT	Safranbolu	146.40	316	e*P*	PKPdf	17 23 19.9	+1.3	
LHO	Holmfirth	146.45	4	⇓e*P*	PKPdf	17 23 19.8	+1.1	
KARA	Karaisali	146.46	308	e*P*	PKPdf	17 23 18.2	-0.5	
BR131	Keskin Array S	146.47	313	ePKPdf	PKPdf	17 23 17.8	-0.9	
BR131				ePKPbc	PKPbc	17 23 20.6	-0.7	
BRTR	Keskin Array B	146.47	313	PKPbc	PKPbc	17 23 20.8	-0.5	
	comp=Z,21nm,0.6s,baz=130,slow=3.7,SNR=88							
WLF1	Llynfaes	146.47	7	⇓e*P*	PKPdf	17 23 19.7	+0.9	
WLF1				AMb	AMB	17 23 20.4		
	comp=Z,72nm,0.7s							
ASF	Jabal al Asfar	146.49	298	PKPbc	PKPbc	17 23 21.7	+0.4	
	comp=Z,26nm,0.8s,baz=324,slow=1.3,SNR=44							
YRC	Rhoscolyn	146.49	7	⇓e*P*	PKPdf	17 23 19.6	+0.8	
WPM1	Penmaenmawr	146.56	6	e*P*	PKPdf	17 23 20.0	+1.2	
KAMT	Kaman	146.58	312	e*P*	PKPdf	17 23 20.6	+1.7	
BURAR	Bucovina Array	146.63	331	⇓*i* P	PKPdf	17 23 21.4	+2.4	
BURAR	Bucovina Array	146.63	331	⇓P	PKPdf	17 23 21.4	+2.4	
YLL	Llanberis	146.64	7	⇓e*P*	PKPdf	17 23 19.7	+0.7	
QASN	Qassioun	146.67	301	⇓P	PKPdf	17 23 21.0	+1.9	
OJC	Ojcow	146.71	339	ePKP	PKPdf	17 23 20.8	+1.7	
YRE	Yr Eifl	146.77	7	⇓e*P*	PKPdf	17 23 20.2	+1.0	
YRE				AMb	AMB	17 23 21.3		
	comp=Z,41nm,1.1s							
CFR	Carcaliu	146.87	325	⇓*i* P	PKPdf	17 23 21.6	+2.2	
CFR	Carcaliu	146.87	325	⇓P	PKPdf	17 23 21.6	+2.2	
KOLS	Kolonicke sedl	146.87	335	*i* PKP	PKPdf	17 23 22.0	+2.6	
STHS	Stebnicka Huta	146.87	337	*i* PKP	PKPdf	17 23 21.7	+2.3	
STHS				e		17 23 26.1		
SBD1	Bryn Du	146.97	6	⇓e*P*	PKPdf	17 23 21.3	+1.8	
SBD1				⇓e*P*		17 23 21.4		
SBD1	Bryn Du	146.97	6	P	PKPdf	17 23 21.4	+1.8	
ANTO	Ankara	146.99	314	⇓*i* P	PKPdf	17 23 22.1	+2.5	
ANTO	Ankara	146.99	314	PKPdf	PKPdf	17 23 18.9	-0.7	
ANTO				e*P*KPbc	PKPbc	17 23 22.4	-0.2	
MERS	Mersin	147.00	307	e*P*	PKPdf	17 23 21.9	+2.3	
LOD	Lodumlu	147.00	314	e*P*	PKPdf	17 23 22.3	+2.7	
BHL	Bhannes	147.07	302	e*P*	PKPdf	17 23 22.7	+3.0	
WIT	Witteveen	147.09	355	⇓*i* PKP	PKPdf	17 23 22.8	+3.0	
WIT				*ex*	x	17 23 26.2		
	comp=Z,230nm,0.6s							
VRI	Vrincioaia	147.15	327	⇑*i* P	PKPdf	17 23 22.0	+2.2	
VRI	Vrincioaia	147.15	327	⇑P	PKPdf	17 23 22.0	+2.1	
SGKT	Sivrigoynuk	147.15	315	*i* P	PKPdf	17 23 18.5	-1.4	
TIRR	Tirgusor	147.18	324	⇓*i* P	PKPdf	17 23 22.2	+2.3	
TIRR	Tirgusor	147.18	324	e*P*KPbc	PKPbc	17 23 22.0	-1.1	
TIRR				e*P*KPab	PKPab	17 23 26.2	-0.6	
PLOR	Plostina	147.19	327	⇑*i* P	PKPdf	17 23 22.3	+2.4	
CRVS	Cervenica-Dubn	147.21	336	*i* PKP	PKPdf	17 23 22.8	+2.8	
CRVS				e		17 23 25.6		
CRVS				e		17 23 27.2		
CRVS	Cervenica-Dubn	147.21	336	*i* PKP2	PKPab	17 23 24.5	-2.4	
KSP	Ksiaz	147.24	343	*i* PKPd	PKPdf	17 23 22.9	+2.9	
KSP	Ksiaz	147.24	343	⇓*i*PKP	PKPdf	17 23 22.6	+2.6	
KSP				e*P*KP	pPKPdf	17 25 40.7	+6.3	
HARR	Harsova	147.29	325	⇑*i* P	PKPdf	17 23 23.1	+3.0	
HARR	Harsova	147.29	325	⇑P	PKPdf	17 23 23.1	+3.0	
MEST	Erdemli	147.38	307	*i* P	PKPdf	17 23 19.1	-1.1	
HLM1	Long Mynd	147.39	5	⇓e*P*	PKPdf	17 23 22.3	+2.0	
HLM1				⇓e*P*		17 23 22.3		
HLM1				AMb	AMB	17 23 23.0		
	comp=Z,104nm,0.9s							
HLM1				AMb	AMB	17 23 23.5		
	comp=Z,102nm,1.1s							
HLM1	Long Mynd	147.39	5	P	PKPdf	17 23 22.3	+2.0	
HLM1				AMb	AMB	17 23 23.0		
	comp=Z,104nm,0.9s							
HLM1				AMb	AMB	17 23 23.5		
	comp=Z,102nm,1.1s							
SSP1	Stoney Pound	147.47	6	⇓e*P*	PKPdf	17 23 22.4	+2.0	
SSP1				⇓e*P*		17 23 22.5		
SSP1				AMb	AMB	17 23 23.8		
	comp=Z,120nm,0.8s							
SSP1	Stoney Pound	147.47	6	P	PKPdf	17 23 22.5	+2.2	
SSP1				AMb	AMB	17 23 23.8		
	comp=Z,120nm,0.8s							
IBBN	Ibbenburen	147.49	353	e*P*KPbc	PKPbc	17 23 23.0	-0.9	
IBBN				e*P*KPab	PKPab	17 23 27.0	-1.1	
OKC	Ostrava-Krasne	147.59	340	⇑e*P*KPB	PKPbc	17 23 23.7	-0.5	
OKC				e*P*KPAB	PKPab	17 23 28.1	-0.4	
CLZ	Clausthal	147.59	350	e*P*KPbc	PKPbc	17 23 23.5	-0.7	
CLZ				e*P*KPab	PKPab	17 23 27.4	-1.1	
CLZ	Clausthal	147.59	350	e*P*KP2	PKPab	17 23 27.4	-1.1	
CLL	Collm	147.61	347	e*P*KPdf	PKPdf	17 23 19.2	-1.4	
CLL				⇓*i*PKPbc	PKPbc	17 23 23.2	-1.0	
	comp=Z,148nm,0.9s							
CLL				e*P*KPab	PKPab	17 23 27.4	-1.2	
CLL				e*p*PKPbc	pPKPbc	17 25 41.3	+4.8	
CLL	Collm	147.61	347	*i* PKPdf	PKPdf	17 23 19.7	-0.9	
	comp=Z,16nm,1.3s							
CLL				⇓*i*PKPbc	PKPbc	17 23 23.2	-1.0	
	comp=Z,146nm,0.9s							
CLL				*i* PKPab	PKPab	17 23 27.4	-1.2	
	comp=Z,59nm,0.8s							
CLL				e*p*PKPbc	pPKPbc	17 25 41.0	+4.5	
CLL	Collm	147.61	347	⇓*i*PKIKP	PKPdf	17 23 19.7	-0.9	
CLL				pmax	pmax			
	comp=Z,146nm,0.9s							
CLL	Collm	147.61	347	*i* PKP	PKPdf	17 23 19.7	-0.9	
CLL				⇓*i*PKP	PKPdf	17 23 23.2	+2.6	
CLL				e*p*PKP	pPKPdf	17 25 41.0	+5.9	
UPC	Upice	147.62	343	e*P*KPDF	PKPdf	17 23 20.5	-0.1	
UPC				⇑e*P*KPB	PKPbc	17 23 23.9	-0.4	
UPC				e*P*KPAB	PKPab	17 23 28.6	0.0	
DPC	Dobruska-Polom	147.68	343	e*P*KPDF	PKPdf	17 23 20.2	-0.5	
DPC				⇑e*P*KPB	PKPbc	17 23 24.2	-0.2	
DPC				e*P*KPAB	PKPab	17 23 28.9	+0.1	
MDU	Mudurnu	147.75	316	e*P*	PKPdf	17 23 24.2	+3.4	
HENT	Hendek	147.78	316	*i* P	PKPdf	17 23 16.2	-4.7	
MLR	Muntele Rosu	147.80	327	⇓*i* P	PKPdf	17 23 23.5	+2.6	
MLR	Muntele Rosu	147.80	327	⇓P	PKPdf	17 23 23.5	+2.6	
BRG	Berggiesshubel	147.81	346	ePKPdf	PKPdf	17 23 20.1	-0.8	
BRG				e*P*KPbc	PKPbc	17 23 23.7	-1.1	
BRG				e*P*KPab	PKPab	17 23 28.3	-1.1	
BRG	Berggiesshubel	147.81	346	e*P*KP	PKPdf	17 23 20.1	-0.8	
	comp=Z,13nm,1.4s							
BRG	Berggiesshubel	147.81	346	*i* PKP	PKPdf	17 23 23.9	+3.0	
	comp=Z,46nm,1.0s							
BRG	Berggiesshubel	147.81	346	*i* PKP	PKPbc	17 23 28.2	+3.5	
	comp=Z,21nm,0.8s							
BRG				e*p*PKP	pPKPdf	17 25 40.5	+5.1	
	comp=Z,2.6nm,0.8s							
BRG	Berggiesshubel	147.81	346	ePKIKP	PKPdf	17 23 20.1	-0.8	
BRG				*i*		17 23 28.2		
BRG				pmax	pmax			
	comp=Z,46nm,1.0s							
MORC	Moravsky Berou	147.83	341	⇓*i* P	PKPbc	17 23 24.0	-0.8	
MORC	Moravsky Berou	147.83	341	e*P*KPbc	PKPbc	17 23 24.0	-0.8	
IKL	Isikli	147.85	307	e*P*	PKPdf	17 23 24.1	+3.1	
HAE	Alders End	147.89	5	⇓e*P*	PKPdf	17 23 23.1	+2.0	
HAE				⇓e*P*		17 23 23.2		
HAE				AMb	AMB	17 23 24.8		
	comp=Z,113nm,1.1s							
HAE	Alders End	147.89	5	P	PKPdf	17 23 23.2	+2.2	
HAE				AMb	AMB	17 23 24.8		
	comp=Z,113nm,1.1s							
MCH1	Michaelchurch	147.89	6	⇓e*P*	PKPdf	17 23 23.5	+2.4	
MCH1				⇓e*P*		17 23 23.5		
WTSB	Winterswijk	147.92	354	⇓*i* PKP	PKPdf	17 23 24.0	+2.9	
	comp=Z,129nm,0.7s							
WTSB				*ex*	x	17 23 28.3		
	comp=Z,65nm,1.0s							
KECS	Kecovo	147.93	336	*i* PKP	PKPbc	17 23 24.5	-0.5	
KECS				e		17 23 29.6		
GTTG	Gvttingen	147.94	350	ePKPdf	PKPdf	17 23 20.2	-1.0	
GTTG				e*P*KPbc	PKPbc	17 23 23.9	-1.2	
GTTG				e*P*KPab	PKPab	17 23 28.7	-1.2	
LIKS	Likavka	147.95	338	ePKP	PKPdf	17 23 23.7	+0.8	
LIKS	Likavka	147.95	338	*i* PKP2	PKPab	17 23 27.5	-2.4	
KONT	Konya--Tatoy	148.15	311	e*P*	PKPdf	17 23 23.6	+2.1	
HGH	Gray Hill	148.26	6	⇓e*P*	PKPdf	17 23 24.4	+2.7	
HGH				⇓e*P*		17 23 24.4		
HGH				AMb	AMB	17 23 26.2		
	comp=Z,90nm,1.3s							
HGH	Gray Hill	148.26	6	P	PKPdf	17 23 24.4	+2.8	
HGH				AMb	AMB	17 23 26.2		
	comp=Z,90nm,1.3s							
ERMK	Ermenek	148.28	308	*i* P	PKPdf	17 23 24.4	+2.7	
VOIR		148.29	328	⇑*i* P	PKPbc	17 23 25.6	-0.3	
VOIR		148.29	328	⇑P	PKPbc	17 23 25.6	-0.3	
DRGR		148.37	332	⇓*i* P	PKPdf	17 23 25.4	+3.5	
DRGR		148.37	332	⇓P	PKPdf	17 23 25.4	+3.5	
BUG	Bochum--Univer	148.40	354	ePKPbc	PKPbc	17 23 25.0	-1.2	
PRA	Prague	148.43	345	⇑PKPB	PKPbc	17 23 26.0	-0.3	
ESKT	Eskisehir	148.47	314	*i* P	PKPdf	17 23 21.1	-0.9	
PRU	Pruhonice	148.48	344	ePKPDF	PKPdf	17 23 21.2	-0.8	
PRU				⇑e*P*KPB	PKPbc	17 23 25.9	-0.5	
PRU				e*P*KPAB	PKPab	17 23 31.7	-0.4	
MOX	Moxa	148.52	348	ePKPdf	PKPdf	17 23 20.9	-1.2	
MOX				e*P*KPbc	PKPbc	17 23 25.4	-1.1	
MOX				e*P*KPab	PKPab	17 23 31.1	-1.2	
MOX	Moxa	148.52	348	e*P*	PKPdf	17 23 21.2	-0.9	
MOX				*e*		17 23 25.3		
	comp=Z,79nm,1.2s							
VRAC	Vranov	148.53	341	⇓*i* P	PKPdf	17 23 25.6	+3.5	
VRAC	Vranov	148.53	341	⇓P	PKPdf	17 23 25.6	+3.5	
BORA	Eskisehir	148.55	315	*i* P	PKPdf	17 23 25.5	+3.4	
WERD	Werda	148.57	347	ePKPdf	PKPdf	17 23 20.5	-1.7	
WERD				e*P*KPbc	PKPbc	17 23 25.9	-0.7	
WERD				e*P*KPab	PKPab	17 23 31.6	-0.9	
CSS	Prodhromos	148.57	305	e*P*KPbc	PKPbc	17 23 25.8	-0.8	
EIL	Elat	148.61	294	ePKPdf	PKPdf	17 23 21.6	-0.7	
EIL				e*P*KPbc	PKPbc	17 23 26.8	0.0	
PSZ	Piszkesteto	148.62	336	ePKP/p	PKPbc	17 23 26.4	-0.4	
PSZ	Piszkesteto	148.62	336	e*P*KPdf	PKPdf	17 23 20.7	-1.5	
PSZ				e*P*KPbc	PKPbc	17 23 25.9	-0.9	
UBBA	Unterbreizbach	148.64	350	e*P*KPbc	PKPbc	17 23 25.5	-1.3	
NKC	Novy Kostel	148.74	347	ePKPDF	PKPdf	17 23 22.1	-0.3	
NKC				⇑e*P*KPB	PKPbc	17 23 26.6	-0.5	
NKC				e*P*KPAB	PKPab	17 23 32.8	-0.4	
SMOL	Smolenice	148.97	340	*i* PKP	PKPbc	17 23 27.5	-0.1	
SMOL				*e*		17 23 32.0		
SMOL				*e*		17 23 34.8		
MANZ	Manzenberg	149.05	347	ePKPdf	PKPdf	17 23 21.9	-1.0	
MANZ				e*P*KPbc	PKPbc	17 23 27.2	-0.6	
ELBA	Catalca	149.17	319	*i* P	PKPdf	17 23 26.9	+3.8	
HGN	Heimansgroeve	149.19	355	⇓e*P*KP	PKPdf	17 23 26.1	+2.9	
	comp=Z,63nm,1.0s							
HGN				*ex*	x	17 23 33.8		
	comp=Z,54nm,1.9s							
ROTZ	Rotzenmuhle	149.23	347	e*P*KPbc	PKPbc	17 23 27.5	-0.8	
UCC	Uccle	149.26	357	PKPbc	PKPbc	17 23 27.3	-1.0	
ULDT	Uludag	149.28	317	*i* P	PKPdf	17 23 27.6	+4.3	
CSA1	St Austell	149.29	9	⇓e*P*	PKPdf	17 23 27.0	+3.7	
BUD	Budapest	149.30	337	⇑*i*PKP/p	PKPbc	17 23 27.8	-0.6	
MEM	Membach	149.34	355	PKPbc	PKPbc	17 23 27.6	-0.9	
MEM				PKPab	PKPab	17 23 34.2	-1.4	
MEM				E		17 23 39.9		
ZST	Bratislava	149.35	340	e*P*KP	PKPbc	17 23 28.2	-0.3	
ZST				*e*		17 23 35.8		
CCA1	Carnmenellis	149.41	9	e*P*	PKPdf	17 23 26.8	+3.3	
TNS	Taunus Mts	149.45	352	e*P*KPbc	PKPbc	17 23 27.9	-0.9	
TNS				e*P*KPab	PKPab	17 23 34.9	-1.3	
JMB	Yambol	149.47	323	e*P*	PKPdf	17 23 26.0	+2.4	
ISP	Isparta	149.50	312	e*P*KHKP		17 23 27.6		
GRA1	Grafenberg Arr	149.51	348	e*P*KPbc	PKPbc	17 23 28.5	-0.4	
GRF	Grafenberg Arr	149.51	348	e*P*KPbc	PKPbc	17 23 28.5	-0.4	
KHC	Kasperske Hory	149.51	345	e*P*KPDF	PKPdf	17 23 22.9	-0.8	
KHC				⇑e*P*KPB	PKPbc	17 23 28.5	-0.4	
KHC				e*P*KPAB	PKPab	17 23 36.1	-0.3	
CMA1	Manaccan	149.52	9	e*P*	PKPdf	17 23 27.5	+3.8	
TKTP	Tekketepe	149.54	312	*i* P	PKPdf	17 23 27.9	+4.2	
SNF	Seneffe	149.55	357	PKPbc	PKPbc	17 23 28.4	-0.6	
SNF				PKPab	PKPab	17 23 35.5	-1.1	
MENF	Mencas	149.56	360	PKP	PKPdf	17 23 27.6	+3.9	
MENF	Mencas	149.56	360	PKP	PKPdf	17 23 27.3	+3.6	
GDZ	Gediz	149.60	315	*i* P	PKPdf	17 23 27.9	+4.1	
WET	Wettzell	149.67	346	e*P*KPbc	PKPbc	17 23 28.3	-1.0	
WET				e*P*KPab	PKPab	17 23 36.4	-0.7	
GEC2	GERESS Array S	149.75	344	e*P*KPdf	PKPdf	17 23 22.6	-1.4	
GEC2				e*P*KPbc	PKPbc	17 23 28.5	-1.

	comp=Z,43nm,1.3s								
HINF	**Hinteralfeld**	**152.02**	**353**	*e*PKIKP	PKPdf	17 23 26.0	-1.5		
	comp=Z,8.8nm,0.8s								
DAVA	**Damuels**	**152.07**	**348**	⇑*i*	PKPbc	17 23 34.1	-0.7		
	comp=Z,35nm,1.1s								
DAVA	**Damuels**	**152.07**	**348**	⇑*i*PKPdf	PKPdf	17 23 26.6	-0.9		
	comp=Z,6.9nm,1.2s								
DAVA				⇑*i*PKiKP	PKiKP	17 23 34.1	-0.9		
	comp=Z,35nm,1.1s								
LJU	**Ljubljana**	**152.08**	**341**	*e*PKPdf	PKPdf	17 23 26.5	-1.1		
LJU				*e*PKPbc	PKPbc	17 23 33.5	-1.3		
BBLS	**Bajina Basta -**	**152.11**	**332**	⇑*i*P	PKPbc	17 23 34.4	-0.5		
VOY	**Vojsko**	**152.28**	**342**	*e*PKPdf	PKPdf	17 23 26.4	-1.4		
VOY				*e*PKPbc	PKPbc	17 23 33.7	-1.5		
VOY				*e*		17 23 46.3			
BOJS	**Bojanci**	**152.33**	**340**	*i* PKPdf	PKPdf	17 23 26.8	-1.1		
BOJS				*i* PKPbc	PKPbc	17 23 34.3	-1.0		
BOJS				*e*		17 23 39.4			
BOJS				*e*		17 23 47.2			
VAY	**Valandovo**	**152.47**	**325**	*e*PKP	PKPdf	17 23 33.6	+5.5		
LOMF	**Lomont**	**152.48**	**353**	PKIKP	PKPbc	17 23 34.7	-0.9		
LOR	**Lormes**	**152.81**	**357**	*e*PKIKP	PKPdf	17 23 27.3	-1.3		
	comp=Z,9.8nm,0.8s								
SSF	**Saint Saulge**	**153.03**	**358**	*e*PKIKP	PKPdf	17 23 27.6	-1.3		
	comp=Z,24nm,1.2s								
CABF	**La Chapelle**	**153.29**	**354**	*e*PKIKP	PKPdf	17 23 27.7	-1.6		
AVF	**Avril sur Loir**	**153.31**	**358**	*e*PKIKP	PKPdf	17 23 27.7	-1.6		
	comp=Z,24nm,1.4s								
SMF	**Signal de Mont**	**153.43**	**357**	*e*PKIKP	PKPdf	17 23 28.9	-0.6		
MFF	**Saint Martin d**	**153.47**	**3**	*e*PKIKP	PKPdf	17 23 28.1	-1.5		
	comp=Z,29nm,1.1s								
OHR	**Ohrid**	**153.55**	**327**	*e*PKP	PKPbc	17 23 36.6	-1.4		
BGF	**Bois d'Agland**	**153.56**	**359**	*e*PKIKP	PKPdf	17 23 28.4	-1.3		
TCF	**Toulx Ste Croi**	**153.84**	**360**	*e*PKIKP	PKPdf	17 23 28.7	-1.4		
	comp=Z,21nm,1.1s								
LPL	**La Plagne**	**154.30**	**352**	*e*PKIKP	PKPdf	17 23 30.1	-0.6		
LPG	**La Plagne**	**154.31**	**352**	*e*PKIKP	PKPdf	17 23 30.0	-0.7		
	comp=Z,12nm,1.1s								
RJF	**Les Rejaudoux**	**154.82**	**1**	*e*PKIKP	PKPdf	17 23 30.2	-1.2		
	comp=Z,19nm,0.9s								
ORIF	**Oris-en-Rattie**	**154.99**	**353**	*e*PKIKP	PKPdf	17 23 30.5	-1.1		
	comp=Z,13nm,1.0s								
MBDF	**Montbardon**	**155.07**	**352**	*e*PKIKP	PKPdf	17 23 30.7	-1.1		
	comp=Z,19nm,1.1s								
VIVF	**Saint-Julien-l**	**155.16**	**355**	*e*PKIKP	PKPdf	17 23 30.8	-1.1		
	comp=Z,23nm,1.3s								
LFF	**La Frestale**	**155.17**	**2**	*e*PKIKP	PKPdf	17 23 30.7	-1.2		
	comp=Z,12nm,0.7s								
CAF	**Calviac**	**155.20**	**360**	*e*PKIKP	PKPdf	17 23 30.8	-1.1		
	comp=Z,14nm,1.3s								
SAOF	**Saorge**	**155.67**	**350**	PKP	PKPdf	17 23 32.1	-0.5		
SBF	**Sospel**	**155.81**	**350**	*e*PKIKP	PKPdf	17 23 31.0	-1.7		
	comp=Z,47nm,1.3s								
SMRF	**Simiane la Rot**	**155.95**	**353**	*e*PKIKP	PKPdf	17 23 32.2	-0.7		
	comp=Z,23nm,1.1s								
LASF	**Ste Croix**	**155.99**	**357**	*e*PKIKP	PKPdf	17 23 31.7	-1.3		
	comp=Z,19nm,0.9s								
FRF	**La Foret Royal**	**156.23**	**351**	*e*PKIKP	PKPdf	17 23 31.7	-1.6		
	comp=Z,5.4nm,0.7s								
LMR	**La Mourre**	**156.47**	**352**	*e*PKIKP	PKPdf	17 23 32.0	-1.6		
	comp=Z,8.3nm,0.9s								
MTLF	**Montolieu**	**156.78**	**359**	*e*PKIKP	PKPdf	17 23 32.8	-1.2		
	comp=Z,29nm,1.4s								
SJPF	**Ste Jean**	**156.86**	**6**	*e*PKIKP	PKPdf	17 23 32.0	-2.1		
	comp=Z,16nm,1.3s								
TIP	**Timpagrande**	**157.04**	**329**	*e*PKPdf	PKPdf	17 23 33.3	-1.0		
EPF	**Esparros**	**157.06**	**3**	*e*PKIKP	PKPdf	17 23 33.6	-0.7		
	comp=Z,20nm,1.1s								
PBRG	**Braganca**	**157.11**	**17**	*e*PKPab	PKPab	17 24 08.4	-0.5		
ETSF	**Etsaut**	**157.13**	**5**	*e*PKIKP	PKPdf	17 23 33.7	-0.7		
	comp=Z,14nm,1.0s								
PVIS	**Viseu**	**157.77**	**20**	*e*PKPab	PKPab	17 24 11.2	-0.5		
MTE	**Manteigas**	**158.17**	**20**	*e*PKPdf	PKPdf	17 23 35.9	+0.2		
MTE	**Manteigas**	**158.17**	**20**	*e*PKPab	PKPab	17 24 12.8	-0.7		
PTOM	**Tomar**	**158.58**	**22**	*e*PKPab	PKPab	17 24 14.7	-0.6		
PCBR	**Castelo Branco**	**158.70**	**20**	*e*PKPdf	PKPdf	17 23 35.9	-0.4		
PCBR	**Castelo Branco**	**158.70**	**20**	*e*PKPab	PKPab	17 24 14.9	-0.9		
ESDC	**Sonseca Array**	**159.81**	**13**	PKP	PKPdf	17 23 37.0	-0.5		
	comp=Z,0.2nm,0.3s,baz=353,slow=2.4,SNR=5.6								
ESDC				PKPdf	PKPab	17 24 19.4	-1.2		
	comp=Z,5.9nm,0.8s,baz=345,slow=4.3,SNR=17								
PBEJ	**Beja**	**160.19**	**23**	*e*PKPdf	PKPdf	17 23 38.5	+0.5		
TORD	**Torodi Ar. Bea**	**173.13**	**178**	PKP	PKPdf	17 23 46.5	-1.1		
	comp=Z,7.8nm,0.9s,baz=333,slow=0.5,SNR=27								
TORD				PKPdf	PKPab	17 25 19.7	+0.2		
	comp=Z,2.1nm,0.9s,baz=185,slow=4.4,SNR=5.7								

IDC 15 17:14:56.1±9.8, 1432S×6642E, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.6/18, mbtmp3.9/2, MS3.9/1, Ms1 3.9/1, ms1mx2.7/26, Error ellipse: s-maj=744.4km s-min=54.3km az=34.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSZ	**Lusaka**	**36.94**	**264**	LR	LR	17 35 29.4	
	comp=Z,147nm,18.2s,baz=102,slow=33						
ASAR	**Alice Springs**	**64.00**	**110**	P	P	17 25 32.6	+1.3
	1.0nm,1.0s,baz=246,slow=7.8,SNR=5.6						
WRA	**Warramunga Arr**	**64.78**	**105**	P	P	17 25 36.4	-0.1
	2.0nm,1.1s,baz=272,slow=4.8,SNR=5.1						
PDAR	**Pinedale Array**	**151.44**	**354**	PKPbc	PKPbc	17 34 52.5	+0.6
	0.8nm,1.0s,baz=15,slow=2.3,SNR=4.0						

*CSEM **15** 17:19:28.3, 3499N×2688E, h42km, MD3.5/5, After ATH*
*NEIC **15** 17:19:28.3, 3499N×2688E, h42km, MD3.5(ATH), After ATH.*

ATH 15 17:19:28.9, 3502N×2680E, h31km±3km, MD3.4/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.60**	**29**	*e*PN	Pn	17 19 41.3	0.0
KARP				*e*SN	Sn	17 19 50.7	+0.7
XRY	**Khrisi**	**0.92**	**261**	*e*PN	Pn	17 19 46.5	+0.8
NPS	**Neapolis**	**1.00**	**284**	*e*PN	Pn	17 19 48.2	+1.4
NPS				*e*SN	Sn	17 20 01.8	+1.9
SANT	**Santorini**	**1.73**	**321**	*e*Pn	Pn	17 19 58.0	+1.2
SANT				*e*Sn	Sn	17 20 20.8	+2.9
APE	**Apeiranthos**	**2.29**	**334**	*e*PN	Pn	17 20 06.2	+1.7
VLI	**Veliai**	**3.57**	**299**	*e*PN	Pn	17 20 24.1	+2.0

IDC 15 17:20:01.1±61.0, 1777S×17896E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/12, mbtmp4.0/3, Error ellipse: s-maj=1102.0km s-min=145.2km az=78.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.51**	**240**	P	P	17 27 07.4	-0.7
	0.8nm,0.4s,baz=85,slow=10,SNR=5.4						
WRA	**Warramunga Arr**	**42.19**	**260**	P	P	17 27 56.4	+0.8
	0.3nm,0.3s,baz=91,slow=7.7,SNR=20						
ASAR	**Alice Springs**	**42.42**	**254**	P	P	17 27 57.9	+0.5
	2.9nm,0.5s,baz=90,slow=9.2,SNR=110						

*NEIC **15** 17:22:05.4, 3608S×7238W, h41km, MG4.0(GUC), After GUC.*

GUC 15 17:22:05.4±0.7, 3608S×7238W, h41km±3km, MD4.2, ML4.0, 2C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCHI	**Chillan**	**0.57**	**155**	⇓*i*P	Pn	17 22 17.5	+0.4
CCHI				*i* S	Sn	17 22 26.1	+0.6
CCHI				AML	AML	17 22 27.6	
	comp=N,5μm,0.7s						
CCHI	**Chillan**	**0.57**	**155**	⇓*i*P	Pn	17 22 17.5	+0.4
CCHI				*i* S	Sn	17 22 26.1	+0.6
LNCH	**Linares**	**0.67**	**70**	⇓*i*P	Pn	17 22 18.7	+0.2
LNCH				*i* S	Sn	17 22 28.4	+0.5
LNCH				AML	AML	17 22 29.1	
	comp=E,8μm,0.3s						
LNCH	**Linares**	**0.67**	**70**	⇓*i*P	Pn	17 22 18.7	+0.2
LNCH				*i* S	Sn	17 22 28.4	+0.5
TALC	**Talca**	**0.91**	**42**	*e*P	Pn	17 22 22.1	+0.3
TALC				*i* S	Sn	17 22 35.1	+1.3
NICH	**Los Niches**	**1.43**	**41**	⇓*i*P	Pn	17 22 30.1	+1.3
NICH				*i* S	Sn	17 22 48.5	+2.1
SFDO	**San Fernando**	**1.84**	**38**	*e*P	Pn	17 22 35.2	+0.7
SFDO				*i* S	Sn	17 22 58.1	+1.5
LNV	**Longovilo**	**2.27**	**21**	*e*P	Pn	17 22 42.1	+1.8
CICH	**Cipreses**	**2.38**	**43**	*e*P	Pn	17 22 42.1	+0.2
CACH	**El Canelo**	**2.44**	**37**	*e*P	Pn	17 22 43.6	+0.8
CHCH	**Chadas Angostu**	**2.57**	**34**	⇑*i*P	Pn	17 22 45.2	+0.7
CHCH				*i* S	Sn	17 23 16.4	+1.8
LCCH	**Las Cruces**	**2.69**	**15**	*e*P	Pn	17 22 47.4	+1.3
TACH	**Talagante**	**2.70**	**26**	*e*P	Pn	17 22 47.2	+0.9
LMEL	**Las Melosas**	**2.86**	**39**	*e*P	Pn	17 22 49.8	+1.3
LMEL				*i* S	Sn	17 23 23.7	+2.1
LMEL				AML	AML	17 23 31.1	
	comp=E,438nm,0.2s						
LMEL	**Las Melosas**	**2.86**	**39**	*e*P	Pn	17 22 49.8	+1.3
LMEL				*i* S	Sn	17 23 23.7	+2.1
RCDM	**Rinconada Maip**	**2.89**	**27**	*e*P	Pn	17 22 49.9	+0.9
RCDM				*i* S	Sn	17 23 23.8	+1.4
RCDM				AML	AML	17 23 35.9	
	comp=E,708nm,0.2s						
RCDM	**Rinconada Maip**	**2.89**	**27**	*e*P	Pn	17 22 49.9	+0.9
RCDM				*i* S	Sn	17 23 23.8	+1.4
PCH	**Pirque**	**2.90**	**33**	⇓*i*P	Pn	17 22 49.9	+0.9
CLCH	**Cerro Calan**	**3.08**	**30**	*e*P	Pn	17 22 52.7	+1.2
CLCH				*i* S	Sn	17 23 28.6	+1.5
CLCH				AML	AML	17 23 39.8	
	comp=E,873nm,0.4s						
FCH	**Farellones**	**3.24**	**33**	⇑*i*P	Pn	17 22 54.8	+1.1
FCH				*i* S	Sn	17 23 33.1	+2.0
FCH				AML	AML	17 23 42.9	
	comp=N,486nm,0.4s						
JACH	**Jahuel**	**3.70**	**24**	*i* P	Pn	17 23 01.1	+1.1
TLL	**Tololo Astrono**	**6.05**	**13**	*e*P	Pn	17 23 33.5	+1.3

*ISCJB **15** 17:25:15.8±0.7, 1475S±0.1×6635E±0.1, h10km, mb4.2/11, MS3.4/4, Error ellipse: s-maj=21.4km s-min=17.0km az=117.8*
*IDC **15** 17:25:16.5±1.0, 1462S×6628E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/19, mbtmp3.9/7, MS3.5/4, Ms1 3.5/4, ms1mx3.2/24, Error ellipse: s-maj=37.8km s-min=22.6km az=34.0*
*NEIC **15** 17:25:17.7±0.5, 1470S×6622E, h10km, mb4.6/5, Error ellipse: s-maj=16.0km s-min=13.2km az=57.0*

ISC 15 17:25:18.1±0.7, 147S±01×662E±01, h10km, n20, σ0s77/14, mb4.2/11, MS3.4/4, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**31.61**	**293**	LR	LR	17 42 07.2	
	comp=Z,56nm,21.5s,MS3.2,baz=92,slow=32						
ATD	**Arta Tunnel**	**34.83**	**317**	LR	LR	17 44 31.7	
	comp=Z,54nm,19.3s,MS3.3,baz=311,slow=33						
LSZ	**Lusaka**	**36.71**	**264**	P	P	17 32 26.1	+0.9
	0.6nm,0.3s,mb3.9,baz=88,slow=11,SNR=4.0						
LSZ	**Lusaka**	**36.71**	**264**	*e*P	P	17 32 25.8	+0.5
	7.9nm,1.3s,mb4.4						
LBTB	**Lobatse**	**39.44**	**248**	LR	LR	17 45 48.0	
	comp=Z,154nm,21.8s,MS3.8,baz=272,slow=31						
GNI	**Garni**	**58.06**	**341**	LR	LR	17 56 31.7	
	comp=Z,24nm,18.4s,MS3.3,baz=348,slow=32						
BRTR	**Keskin Array B**	**62.03**	**332**	P	P	**17 35 39.5**	**+0.9**
	0.2nm,0.4s,mb3.6,baz=163,slow=5.6,SNR=3.9						
MKAR	**Makanchi Array**	**62.85**	**12**	P	P	**17 35 44.3**	**+0.3**
	0.8nm,1.0s,mb3.8,baz=202,slow=6.2,SNR=3.2						
ASAR	**Alice Springs**	**64.07**	**109**	P	P	**17 35 52.4**	**+0.2**
	0.7nm,0.5s,mb4.0,baz=268,slow=5.8,SNR=28						
WRA	**Warramunga Arr**	**64.88**	**105**	P	P	**17 35 58.1**	**+0.6**
	2.2nm,1.0s,mb4.1,baz=269,slow=5.8,SNR=14						
WRAB	**Tennant Creek**	**64.89**	**105**	*e*P	P	**17 35 58.0**	**+0.5**
	14nm,1.1s,mb4.9						
AKTK	**Aktyubinsk**	**65.20**	**354**	P	P	**17 35 59.7**	**+0.2**
AKTO	**Aktyubinsk**	**65.20**	**354**	P	P	**17 35 59.7**	**+0.2**
	3.6nm,1.0s,mb4.3,baz=176,slow=8.2,SNR=5.1						
ZRNK	**Zerenda**	**67.37**	**2**	*e*P	P	**17 36 13.7**	**+0.3**
	3.8nm,1.0s,mb4.4						
BRVK	**Borovoye**	**67.52**	**3**	*e*P	P	**17 36 14.0**	**-0.4**
	3.9nm,1.2s,mb4.3						
CHKZ	**Chkalovo**	**68.16**	**3**	*e*P	P	**17 36 18.1**	**-0.3**
	5.1nm,1.1s,mb4.5						
SNAA	**Sanae**	**69.64**	**198**	*e*P	P	**17 36 26.4**	**-1.3**
ZAL	**Zalesovo**	**70.14**	**12**	P	P	**17 36 28.6**	**-2.1**
	0.7nm,0.4s,mb4.0,baz=237,slow=2.5,SNR=3.2						
CLL	**Collm**	**80.32**	**329**	*e*(sP)	sP	17 37 36.0	+2.2
PDAR	**Pinedale Array**	**151.75**	**353**	PKPbc	PKPbc	17 45 13.2	+0.3
	0.7nm,0.6s,baz=75,slow=1.7,SNR=3.6						

*MOS **15** 17:28:32.6±1.0, 6102N×1676E, h10km, mb4.4/7, Error ellipse: s-maj=45.9km s-min=13.8km az=110.9*
*ISCJB **15** 17:28:35.5±3.8, 612N±01×1672E±01, h14km±22km, mb4.0/18, MS3.5/3, Error ellipse: s-maj=22.6km s-min=9.6km az=173.0*
*IDC **15** 17:28:35.5±2.0, 6126N×1671.8E, h0km, mb3.8/11, mb1 4.1/11, mb1mx3.9/23, mbtmp3.9/11, MS3.3/1, Ms1 3.3/1, ms1mx2.6/28, Error ellipse: s-maj=60.5km s-min=18.5km az=4.0*
*BJI **15** 17:28:36.4±0.8, 6114N×1673E, h10km, mB4.7, mb4.2, Ms4.2, Msz3.9*
*NEIC **15** 17:28:36.4±0.8, 6114N×1673E, h10km, mb4.3/8, Error ellipse: s-maj=20.7km s-min=7.4km az=184.0*

ISC 15 17:28:38.4±3.9, 612N±01×1673E±01, h23km±26km, n40, σ0s65/40, mb4.0/18, MS3.5/3, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BILL	**Bilibino**	**6.91**	**357**	*e*PN	**Pn**	**17 30 18.5**	**+0.3**
BILL				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BILL	**Bilibino**	**6.91**	**357**	*e*Pn	**Pn**	**17 30 18.0**	**-0.3**
	comp=Z,15nm,0.8s						
YAK	**Yakutsk**	**17.74**	**289**	P	**Pn**	**17 32 43.4**	**-0.3**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
YAK	**Yakutsk**	**17.74**	**289**	P	**Pn**	**17 32 43.4**	**-0.3**
	comp=Z,6.7nm,0.8s						
TIXI	**Tiksi**	**18.20**	**321**	*e*P	**Pn**	**17 32 50.6**	**+1.1**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TIXI				MLR	MLR		
	comp=Z,99nm,12.0s						
KDAK	**Kodiak Island**	**20.44**	**82**	P	**P**	**17 33 10.5**	**-3.5**
	comp=Z,2.9nm,0.7s,baz=115,slow=14,SNR=2.8						
ILAR	**Eielson Array**	**20.78**	**60**	P	**P**	**17 33 17.5**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=277,slow=8.4,SNR=27						
KLR	**Kul'dur**	**23.20**	**255**	*e*P	**P**	**17 33 39.2**	**-4.3**
DAWY	**Dawson**	**24.10**	**60**	*e*P	**P**	**17 33 51.4**	**-0.8**
INK	**Inuvik**	**25.29**	**48**	P	**P**	**17 34 02.8**	**-0.1**
	comp=Z,8.1nm,0.8s,mb4.3,baz=292,slow=11,SNR=23						
INK	**Inuvik**	**25.29**	**48**	P	**P**	**17 34 02.8**	**-0.1**
INK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
INK	**Inuvik**	**25.29**	**48**	*e*P	**P**	**17 34 02.6**	**-0.3**
	comp=Z,10nm,0.9s,mb4.4						
MDJ	**Mudanjiang**	**27.59**	**250**	P	**P**	**17 34 23.8**	**0.0**
MDJ				AP	pP	17 34 28.3	-2.4
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb3.9						
MDJ				AMB	AMB		
	comp=Z,79nm,5.5s						
MDJ				LR	LR		
	comp=N,42nm,17.7s,MS3.3						
MDJ				LR	LR		
	comp=E,60nm,17.7s,MS3.3						
MDJ				LR	LR		
	comp=Z,40nm,14.1s,MS3.1						
YKA	**Yellowknife Ar**	**34.82**	**53**	P	**P**	**17 35 27.3**	**0.0**
	comp=Z,0.2nm,0.7s,mb3.2,baz=307,slow=8.4,SNR=3.9						
YKA				PcP	PcP	17 37 59.1	-1.1
	comp=Z,0.4nm,0.8s,baz=316,slow=3.5,SNR=7.3						
YKA	**Yellowknife Ar**	**34.82**	**53**	P	**P**	**17 35 27.3**	**0.0**
YKA				PcP	PcP	17 37 59.1	-1.1
HHC	**Hu-ho-hao-te**	**39.00**	**265**	*e*P	**P**	**17 36 02.8**	**-0.1**
HHC				XP	sP	17 36 09.5	-3.4
HHC				PP	PP	17 37 36.3	+3.8
HHC				PCP	PcP	17 38 15.3	+2.4
HHC				S	**S**	**17 42 00.5**	**0.0**
HHC				SCP	ScP	17 42 01.4	+1.6
HHC				AMB	AMB		
	comp=Z,14nm,1.3s,mb4.5						
HHC				AMB	AMB		
	comp=Z,358nm,5.9s						
HHC				LR	LR		
	comp=N,307nm,15.2s,MS4.3						
HHC				LR	LR		
	comp=E,176nm,16.1s,MS4.3						
HHC				LR	LR		
	comp=Z,137nm,15.8s,MS3.9						
ARCES	**ARCESS Array B**	**46.77**	**343**	LR	LR	18 00 23.9	
	comp=Z,32nm,18.4s,MS3.3,baz=317,slow=41						
KURK	**Kurchatov**	**46.96**	**300**	*e*P	**P**	**17 37 07.2**	**-0.2**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
KURK	**Kurchatov**	**46.96**	**300**	*e*P	**P**	**17 37 07.2**	**-0.2**
	comp=Z,2.0nm,0.8s,mb4.1						
CHKZ	**Chkalovo**	**47.96**	**307**	*e*P	**P**	**17 37 14.5**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
CHKZ	**Chkalovo**	**47.96**	**307**	*e*P	**P**	**17 37 14.5**	**-0.6**
	comp=Z,2.4nm,0.7s,mb4.3						
MKAR	**Makanchi Array**	**48.34**	**294**	P	**P**	**17 37 17.6**	**-0.5**
	comp=Z,0.8nm,0.6s,mb3.9,baz=41,slow=6.8,SNR=9.1						
BRVK	**Borovoye**	**48.56**	**307**	*e*P	**P**	**17 37 20.2**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
BRVK	**Borovoye**	**48.56**	**307**	*e*P	**P**	**17 37 20.2**	**+0.4**
	comp=Z,2.5nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**49.14**	**308**	*e*P	**P**	**17 37 24.7**	**+0.5**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
ZRNK	**Zerenda**	**49.14**	**308**	*e*P	**P**	**17 37 24.7**	**+0.5**
	comp=Z,3.2nm,1.0s,mb4.3						
NVAR	**Mina Array Bea**	**49.94**	**81**	P	**P**	**17 37 31.6**	**+1.3**
	comp=Z,0.5nm,0.6s,mb3.7,baz=296,slow=6.2,SNR=4.0						
BW06	**Boulder Array**	**50.64**	**71**	*e*P	**P**	**17 37 36.0**	**+0.4**
	comp=Z,2.8nm,0.9s,mb4.2						
PDAR	**Pinedale Array**	**50.64**	**71**	P	**P**	**17 37 36.4**	**+0.8**
	comp=Z,2.1nm,0.8s,mb4.2,baz=316,slow=4.0,SNR=14						
ULM	**Lac du Bonnet**	**50.70**	**55**	P	**P**	**17 37 35.9**	**-0.1**
	comp=Z,1.3nm,0.5s,mb4.1,baz=344,slow=7.4,SNR=2.8						
AAK	**Ala-Archa**	**55.04**	**296**	*e*P	**P**	**17 38 07.8**	**-0.3**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
AAK	**Ala-Archa**	**55.04**	**296**	*e*P	**P**	**17 38 07.8**	**-0.4**
	comp=Z,2.5nm,1.0s,mb4.2						
AKTK	**Aktyubinsk**	**55.23**	**313**	P	**P**	**17 38 09.9**	**+0.4**
AKTO	**Aktyubinsk**	**55.23**	**313**	P	**P**	**17 38 09.9**	**+0.4**
	comp=Z,1.4nm,0.6s,mb4.2,baz=20,slow=5.7,SNR=4.2						
AKTO	**Aktyubinsk**	**55.23**	**313**	P	**P**	**17 38 09.9**	**+0.4**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
NB2	**NORSAR Subarra**	**56.74**	**346**	P	**P**	**17 38 19.1**	**-1.2**
	comp=Z,0.9nm,0.7s,mb3.9,baz=14,slow=7.4						
NOA	**NORSAR Array B**	**56.74**	**346**	P	**P**	**17 38 19.5**	**-0.7**
	comp=Z,1.5nm,0.8s,mb4.1,baz=13,slow=7.3,SNR=3.7						
NOA	**NORSAR Array B**	**56.74**	**346**	P	P	**17 38 19.5**	**-0.8**
GERES	**GERESS Array B**	**68.29**	**342**	P	P	**17 39 36.6**	**-0.9**
	comp=Z,0.7nm,0.7s,mb3.8,baz=15,slow=5.2,SNR=4.1						
BRTR	**Keskin Array B**	**72.61**	**324**	P	**P**	**17 40 04.5**	**+0.7**
	comp=Z,0.4nm,0.6s,mb3.5,baz=46,slow=4.2,SNR=4.2						

IDC 15 17:31:52.6±1.3, 1482S×6607E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, Error ellipse: s-maj=52.4km s-min=30.5km az=10.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSZ	**Lusaka**	**36.55**	**264**	P	P	17 39 00.7	+0.7
	0.7nm,0.4s,baz=228,slow=14,SNR=3.6						
MKAR	**Makanchi Array**	**63.04**	**12**	P	P	17 42 21.2	-0.3
	0.1nm,0.6s,baz=217,slow=6.9,SNR=2.9						
ASAR	**Alice Springs**	**64.15**	**109**	P	P	17 42 29.1	+0.3
	0.4nm,0.7s,baz=272,slow=6.8,SNR=5.2						
WRA	**Warramunga Arr**	**64.97**	**105**	P	P	17 42 35.4	+1.2
	0.3nm,0.6s,baz=254,slow=6.2,SNR=4.1						

*MOS **15** 17:34:32.1±1.1, 6137N×16725E, h10km, mb4.4/4, Error ellipse: s-maj=28.0km s-min=12.6km az=91.9*
*IDC **15** 17:34:32.1±0.8, 6129N×16728E, h0km, mb3.9/14, mb1 4.2/14, mb1mx4.0/23, mbtmp3.9/14, Error ellipse: s-maj=24.5km s-min=15.5km az=173.0*
*BJI **15** 17:34:32.2, 6107N×16765E, h11km, mB4.8, mb4.2, Ms4.2, Msz3.9*
*KRSC **15** 17:34:32.6±0.9, 6125N×16727E, h4km±3km, ML3.8*
*ISCJB **15** 17:34:32.9±1.8, 6128N±004×16748E±009, h14km±12km, mb4.1/17, MS3.7/2, Error ellipse: s-maj=8.8km s-min=5.5km az=84.4*
*NEIC **15** 17:34:33.9±0.5, 6127N×16740E, h10km, mb4.5/4, Error ellipse: s-maj=13.5km s-min=7.8km az=180.0*

**ISC 15 17:34:33.6±1.1, 6129N±004×16744E

comp=N,291nm,15.3s,MS4.3
HHC LR LR
comp=E,209nm,14.8s,MS4.3
HHC LR LR
comp=Z,153nm,16.7s,MS3.9
WALA Waterton Lakes 43.77 69 *e*P **P 17 42 39.7 +0.1**
comp=Z,6.2nm,1.1s,mb4.2
ARCES ARCESS Array B 46.69 343 P **P 17 43 01.8 -0.9**
comp=Z,3.9nm,0.9s,mb4.3,baz=38,slow=10,SNR=3.7
KURK Kurchatov 46.98 300 *e*P **P 17 43 07.4 +2.4**
CHKZ Chkalovo 47.96 307 *e*P **P 17 43 11.9 -0.7**
CHKZ pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
CHKZ Chkalovo 47.96 307 *e*P **P 17 43 11.9 -0.7**
comp=Z,4.8nm,1.1s,mb4.4
MKAR Makanchi Array 48.37 294 P **P 17 43 14.2 -1.5**
comp=Z,0.2nm,0.5s,mb3.4,baz=38,slow=6.1,SNR=5.7
ZRNK Zerenda 49.13 308 *e*P **P 17 43 21.0 -0.6**
ZRNK pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
ZRNK Zerenda 49.13 308 *e*P **P 17 43 20.9 -0.7**
comp=Z,4.4nm,1.0s,mb4.4
NVAR Mina Array Bea 49.84 82 P **P 17 43 27.4 +0.4**
comp=Z,1.0nm,0.7s,mb3.9,baz=319,slow=6.7,SNR=6.7
NVAR Mina Array Bea 49.84 82 P **P 17 43 27.4 +0.4**
BW06 Boulder Array 50.52 71 *e*P **P 17 43 32.5 +0.3**
PDAR Pinedale Array 50.52 71 P **P 17 43 32.8 +0.6**
comp=Z,3.1nm,0.7s,mb4.3,baz=328,slow=3.3,SNR=18
ULM Lac du Bonnet 50.56 56 P **P 17 43 31.8 -0.7**
comp=Z,1.7nm,0.7s,mb4.1,baz=321,slow=7.8,SNR=5.0
MSU Marysvale 52.68 77 *e*P **P 17 43 49.4 +1.1**
AKTK Aktyubinsk 55.22 313 P **P 17 44 05.5 -1.4**
AKTO Aktyubinsk 55.22 313 P **P 17 44 05.5 -1.4**
comp=Z,0.7nm,0.7s,mb3.8,baz=0.0,slow=4.0,SNR=2.2
AKTO Aktyubinsk 55.22 313 P **P 17 44 05.5 -1.4**
AKTO pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
NB2 NORSAR Subarra 56.64 346 P **P 17 44 16.1 -1.0**
comp=Z,2.5nm,0.9s,mb4.2,baz=13,slow=7.9
NOA NORSAR Array B 56.64 346 P **P 17 44 16.2 -0.9**
comp=Z,1.5nm,0.8s,mb4.1,baz=13,slow=7.4,SNR=2.7
AKASG Malin Array Be 63.46 332 P **P 17 45 02.8 -1.1**
comp=Z,2.0nm,0.8s,mb4.3,baz=23,slow=6.6,SNR=6.9
GERES GERESS Array B 68.20 342 P **P 17 45 33.9 -0.6**
comp=Z,0.8nm,0.7s,mb3.8,baz=36,slow=5.1,SNR=6.1
WRA Warramunga Arr 85.20 211 P **P 17 47 08.6 -1.9**
comp=Z,1.0nm,1.0s,mb3.9,baz=20,slow=5.4,SNR=4.0

ISCJB ***15*** *17:40:32.5±0.3, 1469S±006×6630E±007, h10km, mb4.6/51, MS4.1/14, Error ellipse: s-maj=10.1km s-min=7.9km az=82.4*

IDC ***15*** *17:40:32.2±0.5, 1467S×6639E, h0km, mb4.2/17, mb1 4.3/18, mb1mx4.2/21, mbtmp4.2/18, ML3.2/1, MS4.0/10, Ms1 4.0/10, ms1mx3.7/22, Error ellipse: s-maj=18.2km s-min=15.8km az=19.0*

MOS ***15*** *17:40:32.6±1.1, 1462S×6634E, h10km, mb4.9/20, Error ellipse: s-maj=14.2km s-min=8.7km az=101.1*

BJI ***15*** *17:40:32.3, 1560S×6612E, h42km, mB5.2, mb4.7, Ms4.7, Msz4.4*

NEIC ***15*** *17:40:34.1±0.3, 1471S×6627E, h10km, mb4.8/20, Error ellipse: s-maj=9.0km s-min=7.3km az=121.0*

ISC 15 17:40:34.4±0.3, 1470S±006×6627E±007, h10km, (h33km±3.7km: pP-P), n110, σ1≥11/95, mb4.6/51, MS4.1/14, 4C-1D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
OPO	**Ambohidratompo**	**18.68**	**255**	P			**Pn**	**17 44 52.8**	**-0.2**
	0.1nm,0.3s,baz=174,slow=12,SNR=2.2								
KMBO	**Kilima Mbogo**	**31.68**	**293**	P			**P**	**17 46 58.3**	**+0.3**
	0.7nm,0.3s,mb3.9,baz=51,slow=23,SNR=3.8								
KMBO				LR			LR	17 57 44.0	
	comp=Z,108nm,19.4s,MS3.5,baz=90,slow=32								
KMBO	**Kilima Mbogo**	**31.68**	**293**	*e*P			**P**	**17 47 07.0**	**+9.0**
LSZ	**Lusaka**	**36.76**	**264**	*e*P			**P**	**17 47 43.2**	**+1.2**
LSZ				pmax	pmax				
	comp=Z,4.0nm,0.9s,mb4.2								
LSZ	**Lusaka**	**36.76**	**264**	*e*P			**P**	**17 47 43.2**	**+1.2**
	comp=Z,3.9nm,0.9s,mb4.2								
MBAR	**Mbarara**	**37.81**	**289**	*e*P			**P**	**17 47 58.5**	**+7.6**
LBTB	**Lobatse**	**39.48**	**248**	P			**P**	**17 48 06.9**	**+2.0**
	comp=Z,4.9nm,0.7s,mb4.3,baz=116,slow=6.8,SNR=12								
SUR	**Sutherland**	**44.87**	**239**	P			**P**	**17 48 49.6**	**+0.7**
	comp=Z,6.0nm,0.9s,mb4.4,baz=87,slow=4.7,SNR=4.2								
KOLN	**Kolganda**	**45.44**	**22**	*e*P			**P**	**17 48 54.6**	**+1.2**
	comp=Z,18nm,1.0s,mb4.9								
DMN	**Daman**	**45.85**	**24**	*e*P			**P**	**17 48 59.4**	**+2.8**
	comp=Z,40nm,1.0s,mb5.3								
PKI	**Pulchoki**	**45.93**	**24**	*e*P			**P**	**17 49 00.4**	**+3.1**
	comp=Z,22nm,1.0s,mb5.1								
PKI	**Pulchoki**	**45.93**	**24**	*e*P			**P**	**17 49 00.4**	**+3.1**
PKI				pmax	pmax				
	comp=Z,22nm,1.0s,mb5.0								
GKN	**Gorkha**	**46.03**	**23**	*e*P			**P**	**17 48 58.5**	**+0.5**
	comp=Z,50nm,1.0s,mb5.4								
KKN	**Kakani**	**46.08**	**24**	*e*P			**P**	**17 49 00.4**	**+1.9**
	comp=Z,30nm,1.0s,mb5.2								
KKN	**Kakani**	**46.08**	**24**	*e*P			**P**	**17 49 00.4**	**+1.9**
KKN				pmax	pmax				
	comp=Z,30nm,1.0s,mb5.2								
JIRN	**Jiri**	**46.32**	**25**	*e*P			**P**	**17 49 02.7**	**+2.3**
GUN	**Gumba**	**46.42**	**24**	*e*P			**P**	**17 49 03.0**	**+1.8**
	comp=Z,56nm,1.3s,mb5.3								
LSA	**Lhasa**	**50.24**	**28**	*e*P			**P**	**17 49 31.6**	**+1.0**
LSA				pmax	pmax				
	comp=Z,8.0nm,0.9s,mb4.8								
LSA	**Lhasa**	**50.24**	**28**	*e*P			**P**	**17 49 31.6**	**+1.0**
	comp=Z,8.0nm,0.9s,mb4.8								
MAW	**Mawson**	**52.91**	**182**	P			**P**	**17 49 49.1**	**-1.5**
	comp=Z,3.7nm,0.9s,mb4.3,baz=27,slow=9.0,SNR=3.1								
MAW				LR			LR	18 05 36.0	
	comp=Z,206nm,19.2s,MS4.2,baz=61,slow=28								
FITZ	**Fitzroy Crossi**	**56.85**	**102**	LR			LR	18 11 38.8	
	comp=Z,148nm,18.9s,MS4.1,baz=272,slow=33								
SYO	**Syowa Base**	**56.85**	**191**	*i*P	pP		pP	17 50 24.8	+2.4
AAK	**Ala-Archa**	**57.54**	**7**	*i*eP			**P**	**17 50 23.4**	**-0.6**
AAK				pmax	pmax				
	comp=Z,10.0nm,1.2s,mb4.7								
CD2	**Chengdu**	**57.92**	**38**	*e*P			**P**	**17 50 28.8**	**+2.1**
CD2				AMB	AMB				
	comp=Z,10.0nm,0.9s,mb4.8								
GNI	**Garni**	**58.12**	**341**	P			**P**	**17 50 28.2**	**+0.1**
	comp=Z,2.8nm,0.3s,mb4.8,baz=182,slow=20,SNR=4.6								
GNI	**Garni**	**58.12**	**341**	P			**P**	**17 50 28.6**	**+0.5**
GNI				pmax	pmax				
	comp=Z,10.0nm,0.9s								
GNI	**Garni**	**58.12**	**341**	P			**P**	**17 50 28.6**	**+0.5**
	comp=Z,10.0nm,0.9s,mb4.8								
BRTR	**Keskin Array B**	**62.09**	**332**	P			**P**	**17 50 54.1**	**-1.2**
	comp=Z,0.7nm,0.9s,mb3.8,baz=146,slow=9.0,SNR=4.0								
KIV	**Kislovodsk**	**62.22**	**341**	*e*P			**P**	**17 50 58.2**	**+2.0**
KIV				*e*S			**S**	**17 59 17.1**	**-4.8**
KIV				pmax	pmax				
	comp=Z,6.0nm,1.1s,mb4.6								
GTA	**Gaotai**	**62.26**	**29**	*e*P			**P**	**17 50 55.9**	**-0.6**
GTA				AP	pP			17 51 07.0	+7.3
GTA				AMB	AMB				
	comp=Z,3.0nm,1.3s,mb4.3								
MKAR	**Makanchi Array**	**62.88**	**12**	P			**P**	**17 50 59.4**	**-1.2**
	comp=Z,1.2nm,0.7s,mb4.1,baz=210,slow=8.9,SNR=7.3								
MKAR				PcP	PcP			17 51 38.6	-0.1
	comp=Z,0.4nm,0.7s,baz=192,slow=5.6,SNR=4.0								
ASAR	**Alice Springs**	**64.00**	**109**	P			**P**	**17 51 07.5**	**-0.6**
	comp=Z,2.1nm,0.8s,mb4.2,baz=265,slow=6.2,SNR=21								
WRA	**Warramunga Arr**	**64.82**	**105**	P			**P**	**17 51 13.3**	**0.0**
	comp=Z,5.8nm,0.9s,mb4.6,baz=270,slow=6.0,SNR=33								
WRAB	**Tennant Creek**	**64.83**	**105**	*e*P			**P**	**17 51 16.8**	**+3.4**
WRAB	**Tennant Creek**	**64.83**	**105**	*e*P			**P**	**17 51 13.4**	**0.0**
	comp=Z,29nm,1.0s,mb5.3								
AKTK	**Aktyubinsk**	**65.25**	**354**	P			**P**	**17 51 15.9**	**-0.2**
AKTO	**Aktyubinsk**	**65.25**	**354**	P			**P**	**17 51 15.9**	**-0.2**
	comp=Z,5.7nm,1.0s,mb4.6,baz=179,slow=6.0,SNR=12								
KURK	**Kurchatov**	**66.03**	**9**	*e*P			**P**	**17 51 20.2**	**-1.0**
KURK				pmax	pmax				
	comp=Z,6.0nm,1.2s,mb4.5								
KURK	**Kurchatov**	**66.03**	**9**	*e*P			**P**	**17 51 20.2**	**-1.0**
	comp=Z,6.2nm,1.2s,mb4.5								
ZRNK	**Zerenda**	**67.41**	**2**	*e*P			**P**	**17 51 28.7**	**-1.3**
ZRNK				pmax	pmax				
	comp=Z,5.0nm,1.0s,mb4.5								
ZRNK	**Zerenda**	**67.41**	**2**	*e*P			**P**	**17 51 28.7**	**-1.3**
	comp=Z,4.9nm,1.0s,mb4.5								
BRVK	**Borovoye**	**67.56**	**3**	*e*P			**P**	**17 51 30.4**	**-0.6**
CHKZ	**Chkalovo**	**68.20**	**3**	*e*P			**P**	**17 51 33.6**	**-1.4**
CHKZ				pmax	pmax				
	comp=Z,7.0nm,1.1s,mb4.6								
CHKZ	**Chkalovo**	**68.20**	**3**	*e*P			**P**	**17 51 33.6**	**-1.4**
	comp=Z,7.4nm,1.1s,mb4.6								
NJ2	**Nanjing**	**68.52**	**46**	*e*P			**P**	**17 51 38.1**	**+1.1**
NJ2				AP	pP			17 51 48.8	+8.6
NJ2				XP	sP			17 51 52.1	+11
NJ2				PP	PP			17 54 13.3	+5.1
NJ2				AMB	AMB				
	comp=Z,10.0nm,0.8s,mb4.8								
NJ2				AMB	AMB				
	comp=Z,610nm,5.4s								
NJ2				LR	LR				
	comp=N,690nm,19.9s								
NJ2				LR	LR				
	comp=E,650nm,13.2s								
NJ2				LR	LR				
	comp=Z,440nm,19.6s,MS4.7								
HHC	**Hu-ho-hao-te**	**69.38**	**35**	*e*P			**P**	**17 51 44.0**	**+1.7**
HHC				AP	pP			17 51 51.1	+5.5
HHC				PCP	PcP			17 52 07.3	+1.6
HHC				PP	PP			17 54 20.0	+4.4
HHC				S	S			18 00 50.8	+1.5
HHC				SCS	ScS			18 01 41.3	-2.3
HHC				SS	SS			18 05 20.5	+4.3
HHC				AMB	AMB				
	comp=Z,8.0nm,1.1s,mb4.6								
HHC				AMB	AMB				
	comp=Z,201nm,6.4s								
HHC				LR	LR				
	comp=N,254nm,22.7s,MS4.6								
HHC				LR	LR				
	comp=E,348nm,22.9s,MS4.6								
HHC				LR	LR				
	comp=Z,190nm,18.9s,MS4.4								
SNAA	**Sanae**	**69.61**	**198**	*e*P			**P**	**17 51 44.6**	**+0.8**
TORD	**Torodi Ar. Bea**	**69.65**	**290**	P			**P**	**17 51 44.7**	**+0.7**
	comp=Z,1.7nm,1.1s,mb3.9,baz=139,slow=4.1,SNR=5.1								
SSE	**Sheshan**	**69.66**	**48**	P			**P**	**17 51 41.5**	**-2.6**
SSE				AMB	AMB				
	comp=Z,13nm,0.7s,mb5.0								
SSE				AMB	AMB				
	comp=Z,156nm,4.7s								
STKA	**Stephens Creek**	**70.06**	**119**	P			**P**	**17 51 44.4**	**-2.1**
	comp=Z,1.5nm,0.9s,mb3.9,baz=310,slow=9.3,SNR=2.9								
STKA				LR	LR			18 17 42.7	
	comp=Z,117nm,21.4s,MS4.1,baz=205,slow=32								
STKA	**Stephens Creek**	**70.06**	**119**	P			**P**	**17 51 44.4**	**-2.1**
STKA				LR	LR			18 17 42.7	
ZAL	**Zalesovo**	**70.17**	**12**	P			**P**	**17 51 46.1**	**-1.1**
	comp=Z,2.2nm,0.3s,mb4.6,baz=85,slow=0.8,SNR=4.1								
NVS	**Novosibirsk**	**70.75**	**10**	*e*P			**P**	**17 51 49.1**	**-1.6**
VNA2	**Neumayer--Watz**	**70.88**	**200**	*e*P			**P**	**17 51 52.2**	**+0.7**
VNA2				*e*				17 52 08.7	
VNA2				*e*				17 52 24.7	
ARU	**Arti**	**71.15**	**355**	*i*P			**P**	**17 51 54.9**	**+1.7**
ARU				*e*				17 54 30.1	
ARU				*e*PPP				17 56 18.1	
ARU				*e*S			S	18 00 58.4	-12
ARU				pmax	pmax				
	comp=Z,7.0nm,1.4s,mb4.4								
VNA3	**Neumayer Olymp**	**71.66**	**199**	*e*P			**P**	**17 51 56.8**	**+0.5**
VNA3				*e*				17 52 15.8	
VNA3				*e*				17 52 34.1	
SONM	**Songino Array**	**71.81**	**27**	P			**P**	**17 51 56.6**	**-0.6**
	comp=Z,0.9nm,0.3s,mb4.2,baz=222,slow=5.8,SNR=3.3								
ULN	**Ulaanbaatar**	**72.12**	**28**	*e*P			**P**	**17 51 56.8**	**-2.2**
AKASG	**Malin Array Be**	**72.75**	**336**	P			**P**	**17 52 01.8**	**-1.0**
	comp=Z,1.9nm,0.8s,mb4.1,baz=139,slow=5.2,SNR=5.2								
OBN	**Obninsk**	**73.94**	**343**	*i*eP			**P**	**17 52 10.1**	**+0.3**
OBN				*i*				17 54 58.1	
OBN				pmax	pmax				
	comp=Z,5.0nm,0.4s,mb4.8								
OBN				MLR	MLR				
	comp=Z,100nm,20.0s,MS4.1								
QSPA	**South Pole Qui**	**75.38**	**180**	*e*P			**P**	**17 52 18.3**	**+0.2**
	comp=Z,1.1nm,1.0s,mb4.8								
CTA	**Charters Tower**	**75.86**	**107**	LR			LR	18 21 42.2	
	comp=Z,150nm,20.2s,MS4.3,baz=254,slow=33								
VNDA	**Vanda**	**76.96**	**167**	LR			LR	18 22 31.7	
	comp=Z,103nm,18.8s,MS4.2,baz=261,slow=33								
SNY	**Shenyang**	**77.11**	**40**	P			**P**	**17 52 27.1**	**-0.8**
SNY				AMB	AMB				
	comp=Z,12nm,0.6s,mb5.0								
KLMR	**Klimovskoe**	**78.28**	**347**	*e*P			**P**	**17 52 33.6**	**-0.9**
KLMR				pmax	pmax				
	comp=Z,40nm,2.2s,mb5.0								
GERES	**GERESS Array B**	**78.51**	**328**	P			**P**	**17 52 35.4**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=141,slow=4.6,SNR=4.0								
SBF	**Sospel**	**79.16**	**321**	*e*P			**P**	**17 52 38.8**	**-0.5**
	comp=Z,22nm,1.0s,mb4.7								
SBF	**Sospel**	**79.16**	**321**	*e*P			**P**	**17 52 38.8**	**-0.5**
SBF				pmax	pmax				
	comp=Z,11nm,1.0s,mb4.7								
SBF	**Sospel**	**79.16**	**321**	*e*P			**P**	**17 52 38.8**	**-0.5**
	comp=Z,11nm,1.0s,mb4.8								
MBDF	**Montbardon**	**80.02**	**321**	*e*P			**P**	**17 52 43.9**	**-0.1**
CLL	**Collm**	**80.39**	**329**	*i* P			**P**	**17 52 47.2**	**+1.2**
	comp=Z,15nm,1.4s,mb4.7								
ORIF	**Oris-en-Rattie**	**80.66**	**321**	*e*P			**P**	**17 52 47.0**	**-0.5**
CDF	**Champ du Feu**	**81.72**	**325**	*e*P			**P**	**17 52 53.0**	**-0.1**
	comp=Z,11nm,1.0s,mb4.4								
CDF	**Champ du Feu**	**81.72**	**325**	*e*P			**P**	**17 52 53.0**	**-0.1**
CDF				pmax	pmax				
	comp=Z,5.0nm,1.0s,mb4.4								
CDF	**Champ du Feu**	**81.72**	**325**	*e*P			**P**	**17 52 53.0**	**-0.1**
	comp=Z,5.4nm,1.0s,mb4.4								
MTLF	**Montolieu**	**82.16**	**319**	*e*P			**P**	**17 52 55.0**	**-0.4**
	comp=Z,16nm,1.3s,mb4.5								
MTLF	**Montolieu**	**82.16**	**319**	*e*P			**P**	**17 52 55.0**	**-0.4**
MTLF				pmax	pmax				
	comp=Z,8.0nm,1.3s,mb4.5								
MTLF	**Montolieu**	**82.16**	**319**	*e*P			**P**	**17 52 55.0**	**-0.4**
	comp=Z,7.9nm,1.3s,mb4.5								
MDJ	**Mudanjiang**	**82.31**	**40**	P			**P**	**17 52 56.3**	**+0.1**
MDJ				AMB	AMB				
	comp=Z,4.0nm,1.3s,mb4.2								
MDJ				AMB	AMB				
	comp=Z,84nm,5.2s								
MDJ				LR	LR				
	comp=N,23nm,18.9s,MS3.9								
MDJ				LR	LR				
	comp=E,48nm,19.9s,MS3.9								
MDJ				LR	LR				
	comp=Z,53nm,18.9s,MS3.9								
SMF	**Signal de Mont**	**82.77**	**322**	*e*P			**P**	**17 52 57.4**	**-1.2**
	comp=Z,14nm,1.0s,mb4.6								
SMF	**Signal de Mont**	**82.77**	**322**	*e*P			**P**	**17 52 57.4**	**-1.2**
SMF				pmax	pmax				
	comp=Z,7.0nm,1.0s,mb4.7								
SMF	**Signal de Mont**	**82.77**	**322**	*e*P			**P**	**17 52 57.4**	**-1.2**
	comp=Z,7.0nm,1.0s,mb4.7								
CAF	**Calviac**	**83.01**	**320**	*e*P			**P**	**17 52 59.4**	**-0.4**
LOR	**Lormes**	**83.08**	**323**	*e*P			**P**	**17 52 59.3**	**-0.9**
	comp=Z,7.7nm,0.9s,mb4.4								
LOR	**Lormes**	**83.08**	**323**	*e*P			**P**	**17 52 59.3**	**-0.9**
LOR				pmax	pmax				
	comp=Z,4.0nm,0.9s,mb4.5								
LOR	**Lormes**	**83.08**	**323**	*e*P			**P**	**17 52 59.3**	**-0.9**
	comp=Z,3.8nm,0.9s,mb4.4								
SSF	**Saint Saulge**	**83.18**	**322**	*e*P			**P**	**17 52 59.9**	**-0.8**
	comp=Z,14nm,1.1s,mb4.6								
SSF	**Saint Saulge**	**83.18**	**322**	*e*P			**P**	**17 52 59.9**	**-0.8**
SSF				pmax	pmax				
	comp=Z,7.0nm,1.1s,mb4.6								
SSF	**Saint Saulge**	**83.18**	**322**	*e*P			**P**	**17 52 59.9**	**-0.8**
	comp=Z,7.1nm,1.1s,mb4.6								
RJF	**Les Rejaudoux**	**83.53**	**320**	*e*P			**P**	**17 53 02.1**	**-0.4**
TCF	**Toulx Ste Croi**	**83.58**	**321**	*e*P			**P**	**17 53 02.2**	**-0.6**
ETSF	**Etsaut**	**83.75**	**317**	*e*P			**P**	**17 53 03.5**	**-0.2**
SJPF	**Ste Jean**	**84.29**	**317**	*e*P			**P**	**17 53 06.2**	**-0.2**
BAIF	**Baives**	**84.29**	**325**	*e*P			**P**	**17 53 06.1**	**-0.3**
JHJ	**Hachijo jima 2**	**84.64**	**54**	LR			LR	18 27 13.7	
	comp=Z,73nm,19.6s,MS4.1,baz=270,slow=33								
ESDC	**Sonseca Array**	**84.71**	**313**	P			**P**	**17 53 09.0**	**+0.5**
	comp=Z,0.4nm,0.3s,mb4.0,baz=92,slow=2.9,SNR=7.5								
MJAR	**Matsushiro Arr**	**84.71**	**50**	P			**P**	**17 53 08.4**	**-0.1**
	comp=Z,1.1nm,0.8s,mb4.0,baz=237,slow=4.8,SNR=4.2								
MJAR				LR			LR	18 29 45.9	
	comp=Z,72nm,19.4s,MS4.1,baz=180,slow=35								
HABR	**Khabarovsk**	**87.43**	**38**	*e*P			**P**	**17 53 28.2**	**+6.3**
HABR				pmax	pmax				
	comp=Z,20nm,1.7s,mb5.1								
ARCES	**ARCESS Array B**	**88.75**	**347**	LR			LR	18 37 34.8	
	comp=Z,36nm,18.6s,MS3.8,baz=28,slow=39								
ASAJ	**Asahikawa**	**90.58**	**44**	LR			LR	18 33 32.6	
	comp=Z,66nm,19.4s,MS4.1,baz=176,slow=35								
TIXI	**Tiksi**	**95.63**	**16**	*e*P			**P**	**17 54 00.8**	**+0.7**
TIXI				pmax	pmax				
	comp=Z,6.0nm,2.5s,mb4.6								
INK	**Inuvik**	**124.93**	**9**	PKP			PKPdf	17 59 32.5	-2.2
	comp=Z,2.2nm,1.0s,baz=327,slow=2.4,SNR=4.0								
ILAR	**Eielson Array**	**125.10**	**17**	PKP			PKPdf	17 59 33.5	-1.5
	comp=Z,1.3nm,0.9s,baz=324,slow=3.7,SNR=8.5								
LPAZ	**La Paz**	**125.45**	**237**	PKP			PKPdf	17 59 37.5	+1.8
	comp=Z,0.7nm,0.7s,baz=96,slow=5.6,SNR=3.2								
LPAZ	**La Paz**	**125.45**	**237**	PKP			PKPdf	17 59 37.5	+1.8
YKA	**Yellowknife Ar**	**132.26**	**1**	PKP			PKPdf	17 59 47.7	-0.9
	comp=Z,0.6nm,0.8s,baz=355,slow=2.2,SNR=10								
YKA	**Yellowknife Ar**	**132.26**	**1**	PKP			PKPdf	17 59 47.7	-0.9
CPCT	**Cooper Cave**	**146.64**	**314**	*e*PKPbc			PKPbc	18 00 16.1	-0.1
PDAR	**Pinedale Array**	**151.80**	**353**	PKPbc			PKPbc	18 00 29.4	+0.2
	comp=Z,4.2nm,0.9s,baz=15,slow=1.7,SNR=22								
NVAR	**Mina Array Bea**	**156.02**	**9**	PKP			PKPdf	18 00 29.9	+1.0
	comp=Z,0.6nm,0.9s,baz=48,slow=1.3,SNR=2.7								

CASC 15 17:46:15.0±2.5, 1413N×9144W, h48km±18km, MD3.8, ML4.0, 3C-6D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
JAT	**Jato**	**0.27**	**314**	⇓*e*P			Pn	17 46 24.5	+0.8
JAT				*e*S			Sn	17 46 29.7	-0.1
FUG	**Fuego 3**	**0.66**	**61**	⇓*i*P			Pn	17 46 29.0	+0.9
TP2	**Tecpan 2**	**0.76**	**32**	*e*P			Pn	17 46 30.1	+0.6
TP2				*e*S			Sn	17 46 42.7	+2.7
PCG	**Pacaya**	**0.84**	**72**	⇑*e*P			Pn	17 46 32.0	+1.4
PCG				*e*S			Sn	17 46 44.3	+2.3
IXG	**Ixpaco**	**0.95**	**87**	*e*P			Pn	17 46 32.2	+0.2
IXG				*e*S			Sn	17 46 46.6	+2.1
RBDL	**Robledal**	**1.70**	**90**	⇑*e*P			Pn	17 46 39.8	-2.4
RBDL				⇑*e*				17 46 39.8	
RBDL				*e*S			Sn	17 47 00.7	-2.0
RTR	**El Retiro**	**1.75**	**97**	⇓*e*P			Pn	17 46 40.8	-2.1
RTR				*e*S			Sn	17 47 03.0	-1.1
SBLS	**San Blas**	**1.79**	**99**	⇓*e*P			Pn	17 46 41.4	-2.0
SBLS				*e*S			Sn	17 47 03.6	-1.2
SNJE	**San Jose**	**1.80**	**98**	⇓*e*P			Pn	17 46 41.5	-2.0
SNJE				*e*S			Sn	17 47 03.9	-1.2
BOQS	**Boqueron**	**2.13**	**100**	⇓*e*P			Pn	17 46 46.4	-1.7
BOQS				*e*S			Sn	17 47 10.4	-2.9

IDC 15 17:54:57.9±2.4, 971S×14935E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.5/13, mbtmp3.5/4, ML3.2/1, Error ellipse: s-maj=58.9km s-min=43.1km az=151.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
PMG	**Port Moresby**	**2.18**	**278**	Pn			Pn	17 55 36.3	+0.9
	5.1nm,0.3s,baz=82,slow=8.6,SNR=31								
PMG				Sn			Sn	17 56 14.8	+12
	5.5nm,0.3s,baz=247,slow=15,SNR=4.2								
WRA	**Warramunga Arr**	**17.71**	**233**	P			Pn	17 59 07.9	+2.1
	0.1nm,0.3s,baz=49,slow=13,SNR=4.7								
ASAR	**Alice Springs**	**20.26**	**225**	P			P	17 59 35.5	+0.7
	0.7nm,0.9s,baz=59,slow=9.8,SNR=7.5								
FITZ	**Fitzroy Crossi**	**24.46**	**247**	P			P	18 00 17.0	-1.4
	1.8nm,0.6s,baz=45,slow=14,SNR=6.4								
TORD	**Torodi Ar. Bea**	**148.13**	**279**	PKP			PKPdf	18 14 41.3	-1.1
	0.4nm,0.8s,baz=93,slow=2.9,SNR=3.4								
TORD				PKPbc			PKPbc	18 14 47.6	+2.0
	0.8nm,0.7s,baz=45,slow=3.1,SNR=4.8								

IDC 15 18:07:40.6±2.8, 1476S×6611E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/16, mbtmp3.9/3, MS3.9/5, Ms1 3.9/5, ms1mx3.4/20, Error ellipse: s-maj=106.9km s-min=32.4km az=52.0, Mid-Indian Ridge

| Code | Station Name | Δ° | AZ° | Phase | Op | ID | ISC | Time | Res |

baz=159,slow=12,SNR=5.9
ARCES ARCESS Array B 61.37 18 P P 18 18 51.7 -1.5
4.2nm,0.9s,mb4.6,baz=339,slow=5.2,SNR=6.9
MKAR Makanchi Array 89.59 355 P P 18 21 34.7 -0.3
0.2nm,0.4s,mb3.7,baz=351,slow=4.2,SNR=4.9

MAN 15 18:09:47.8, 1900N×12123E, h1km, mb3.1, ML4.4, MS2.3, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.89**	**221**	*eP*	Pg	18 10 05.0	+0.2
SGCP	**Mt. Cagua**	**1.07**	**134**	*eP*	Pg	18 10 09.1	+0.7
APYP	**Conner**	**1.13**	**180**	*eP*	Pg	18 10 09.7	+0.3
APYP				*eS*	Sg	18 10 27.4	+3.3
CVP	**Callao Caves**	**1.40**	**156**	*eP*	Pn	18 10 14.0	-0.5
CVP				*eS*	Sg	18 10 34.0	+1.1
ABRA	**Dolores**	**1.43**	**200**	*eP*	Pn	18 10 13.5	-1.4
CAUP	**Cauayan**	**2.12**	**165**	*eP*	Pn	18 10 26.8	+2.5
PALP	**Palanan**	**2.23**	**149**	*eP*	Pn	18 10 25.9	0.0

IDC 15 18:17:06.9±3.2, 206S×13313E, h0km, mb3.1/2, mb1 3.5/4, mb1mx3.4/14, mbtmp3.3/4, ML3.1/2, Error ellipse: s-maj=136.7km s-min=29.5km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**17.55**	**204**	P	Pn	18 21 13.0	0.0
	0.1nm,0.3s,baz=13,slow=19,SNR=2.7						
WRA	**Warramunga Arr**	**17.81**	**176**	P	Pn	18 21 16.7	+0.5
	0.1nm,0.3s,baz=356,slow=12,SNR=4.9						
ASAR	**Alice Springs**	**21.49**	**178**	P	P	18 21 57.5	+0.3
	0.5nm,0.8s,baz=7.8,slow=10,SNR=4.7						
MKAR	**Makanchi Array**	**65.94**	**324**	P	P	18 27 55.0	+0.2
	0.1nm,0.4s,baz=113,slow=8.5,SNR=2.0						

IDC 15 18:18:04.0±3.3, 1502S×6566E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, Error ellipse: s-maj=125.7km s-min=37.4km az=52.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**63.32**	**13**	P	P	18 28 34.8	0.0
	0.3nm,0.7s,baz=202,slow=6.2,SNR=4.3						
ASAR	**Alice Springs**	**64.46**	**109**	P	P	18 28 42.6	+0.4
	0.3nm,0.6s,baz=281,slow=6.3,SNR=8.3						
WRA	**Warramunga Arr**	**65.30**	**105**	P	P	18 28 48.7	+0.9
	0.9nm,0.7s,baz=265,slow=5.8,SNR=7.4						
PDAR	**Pinedale Array**	**152.05**	**352**	PKPbc	PKPbc	18 38 01.7	+0.5
	0.5nm,0.8s,baz=91,slow=4.5,SNR=3.5						

FUNV 15 18:27:20.7, 1189N×6170W, h16km, MW3.1
NEIC 15 18:27:23.0, 1182N×6115W, h9km, MD3.3(TRN), After TRN.
TRN 15 18:27:23.0, 1182N×6115W, h10km, MD3.3
ISCJB 15 18:27:25.2±0.5, 1174N±004×6201W±005, h10km, Error ellipse: s-maj=8.3km s-min=3.4km az=61.4
ISC 15 18:27:25.6±0.5, 1170N±003×6197W±005, h10km, n10, σ1°48/20, 1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRW	**Mount Saint Ca**	**0.55**	**33**	*eP*	**Pg**	**18 27 37.8**	**+1.5**
GRW				*eS*	**Sg**	**18 27 48.1**	**+4.7**
GRHS	**Sauteurs**	**0.61**	**32**	*eP*	**Pg**	**18 27 37.8**	**+0.3**
GRHS				*eS*	**Sg**	**18 27 49.1**	**+3.7**
GRSS	**Sisters**	**0.69**	**30**	*eP*	**Pg**	**18 27 38.2**	**-0.8**
GRSS				*eS*	**Sg**	**18 27 48.7**	**+0.8**
GRIC	**Isle de Caille**	**0.69**	**33**	*eP*	**Pg**	**18 27 37.6**	**-1.4**
GRIC				*eS*	**Sg**	**18 27 49.3**	**+1.3**
GRCU	**Cariacou**	**0.92**	**33**	*eP*	**Pg**	**18 27 39.6**	**-3.6**
GRCU				*eS*	**Sg**	**18 27 52.0**	**-3.2**
GUIV	**Guiria**	**1.08**	**193**	*eP*	**Pg**	**18 27 44.5**	**-1.8**
GUIV				*eS*	**Sg**	**18 28 02.1**	**+1.8**
TRN	**Trinidad (W)**	**1.19**	**152**	*eP*	**Pb**	**18 27 47.3**	**-0.9**
TRN				*eS*	**Sb**	**18 28 04.8**	**+1.1**
ITEV	**Isla Los Testi**	**1.19**	**253↓**	*eP*	**Pb**	**18 27 46.6**	**-1.7**
ITEV				*eS*	**Sb**	**18 28 05.9**	**+2.1**
CRUV	**Carupano**	**1.61**	**231**	*eP*	**Pn**	**18 27 52.5**	**-1.7**
CRUV				*eS*	**Sn**	**18 28 16.0**	**+1.1**
GUNV	**Guanoco**	**1.81**	**212**	*eP*	**Pn**	**18 27 55.0**	**-1.8**
GUNV				*eS*	**Sn**	**18 28 20.4**	**+0.6**

ISK 15 18:27:46.6, 3828N×2525E, h28km, MD3.2
CSEM 15 18:27:47.9±0.2, 3848N×2553E, h5km, MD3.1, Error ellipse: s-maj=5.0km s-min=3.9km az=114.0
ISCJB 15 18:27:48.4±1.8, 3847N±004×2547E±007, h11km±15km, Error ellipse: s-maj=9.0km s-min=6.1km az=3.2
ATH 15 18:27:49.4, 3851N×2550E, h39km±5km, MD3.1/5
NEIC 15 18:27:49.4, 3851N×2550E, h39km, MD3.1(ATH), After ATH.
ISC 15 18:27:48.1±1.1, 3847N±004×2550E±005, h5km±7km, n16, σ0°83/24, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.87**	**97**	*i P*	**Pg**	**18 28 05.8**	**+1.0**
URLA				*i S*	**Sg**	**18 28 16.4**	**+0.3**
PRK	**Paraskevi**	**0.98**	**38**	*e*PN	**Pn**	**18 28 07.5**	**-1.1**
PRK				*e*SN	**Sn**	**18 28 21.2**	**-1.7**
AYVA	**Ayvalik**	**1.25**	**48**	*i P*	**Pg**	**18 28 11.5**	**-0.6**
AYVA				*i S*	**Sg**	**18 28 27.4**	**-1.0**
SMG	**Samos**	**1.30**	**125**	*e*PN	**Pn**	**18 28 13.8**	**+0.8**
SMG				*e*SN	**Sn**	**18 28 30.1**	**-0.7**
IZM	**Izmir**	**1.39**	**92**	PN	**Pn**	**18 28 13.6**	**-0.5**
IZM				SN	**Sn**	**18 28 32.5**	**-0.4**
KDAG	**Bornova**	**1.39**	**92**	*i P*	**Pn**	**18 28 14.3**	**+0.1**
KDAG				*i S*	**Sb**	**18 28 32.3**	**-0.4**
APE	**Apeiranthos**	**1.40**	**179**	*e*PB	**Pb**	**18 28 14.0**	**-0.7**
APE	**Apeiranthos**	**1.40**	**179**	*e*Pn	**Pn**	**18 28 13.7**	**-0.6**
BOZC	**Bozcaada**	**1.44**	**17**	*i P*	**Pn**	**18 28 14.2**	**-0.6**
BOZC				*i S*	**Sb**	**18 28 35.3**	**+1.4**
AKS	**Akhisar**	**1.86**	**77**	PN	**Pn**	**18 28 21.5**	**+0.9**
AKS				SN	**Sn**	**18 28 46.1**	**+1.6**
BALB	**Balikesir**	**2.19**	**57**	PN	**Pn**	**18 28 25.4**	**+0.2**
RDO	**Rodhopi**	**2.67**	**1**	*e*PN	**Pn**	**18 28 31.3**	**-0.5**
MRMT	**Marmara Adasi**	**2.68**	**37**	*e*PN	**Pn**	**18 28 32.5**	**+0.6**
VLI	**Veliai**	**2.68**	**230**	*e*PN	**Pn**	**18 28 32.5**	**+0.6**
MFT	**Murefte**	**2.69**	**30**	*e*PN	**Pn**	**18 28 33.1**	**+1.0**
KCT	**Karacabey**	**2.85**	**50**	*e*PN	**Pn**	**18 28 34.3**	**0.0**

ISCJB 15 18:34:02.3±1.0, 2003S×007×687W±0.1, h125km±10km, mb4.1/3, Error ellipse: s-maj=22.4km s-min=10.5km az=29.7
IDC 15 18:34:02.1±0.9, 2001S×6884W, h116km±7km, mb3.9/3, mb1 4.0/7, mb1mx3.7/16, mbtmp4.3/7, Error ellipse: s-maj=24.9km s-min=9.6km az=96.0
NEIC 15 18:34:02.8±0.9, 2000S×6879W, h116km±10km, mb4.0/4, Error ellipse: s-maj=16.2km s-min=9.5km az=101.0
ISC 15 18:34:03.2±1.0, 2002S±007×688W±01, h118km±10km, n15, σ0°73/16, mb4.1/3, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.59**	**183**	P	**Pn**	**18 34 43.8**	**-0.2**
	20nm,0.3s,baz=6.8,slow=9.7,SNR=114						
LVC				S	**Sn**	**18 35 15.4**	**-0.1**
	138nm,0.3s,baz=350,slow=9.7,SNR=42						
LVC	**Limon Verde**	**2.59**	**183**	*eP*	**Pn**	**18 34 43.5**	**-0.5**
LPAZ	**La Paz**	**3.76**	**9**	P	**Pn**	**18 35 00.6**	**+1.1**
	7.9nm,0.3s,baz=207,slow=6.5,SNR=146						
LPAZ	**La Paz**	**3.76**	**9**	*eP*	**Pn**	**18 35 00.4**	**+1.0**
SIV	**San Ignacio**	**8.34**	**63**	P	**Pn**	**18 36 00.2**	**-1.1**
	7.4nm,0.3s,baz=254,slow=12,SNR=201						
CFAA	**Coronel Fontan**	**11.55**	**178**	P	**Pn**	**18 36 39.8**	**-4.6**
	0.1nm,0.3s,baz=355,slow=12,SNR=4.3						
CFAA				S	**Sn**	**18 38 41.0**	**-11**
	0.1nm,0.3s,baz=119,slow=15,SNR=5.0						
CPUP	**Villa Florida**	**12.25**	**123**	P	**Pn**	**18 36 53.5**	**-0.1**
	1.2nm,0.3s,baz=288,slow=12,SNR=24						
CPUP	**Villa Florida**	**12.25**	**123**	*eP*	**Pn**	**18 36 53.7**	**+0.1**
	21nm,0.7s						
TRQA	**Tornquist**	**18.92**	**163**	*eP*	**P**	**18 38 14.9**	**+0.2**
	2.2nm,0.7s						
BDFB	**Brasilia**	**20.23**	**81**	P	**P**	**18 38 29.6**	**+0.8**
	6.1nm,0.4s,baz=263,slow=12,SNR=8.6						
PLCA	**Paso Flores**	**20.71**	**184**	*eP*	**P**	**18 38 34.2**	**+0.2**
	3.0nm,0.7s						
QSPA	**South Pole Qui**	**70.17**	**180**	*eP*	**P**	**18 45 03.7**	**+0.7**
	1.8nm,0.5s,mb4.2						
TORD	**Torodi Ar. Bea**	**76.74**	**71**	P	**P**	**18 45 41.2**	**-0.2**
	2.3nm,0.5s,mb4.2,baz=255,slow=5.4,SNR=47						
TORD				pP	pP	18 46 11.4	+0.2
	1.5nm,0.8s,baz=253,slow=5.1,SNR=2.5						
YKA	**Yellowknife Ar**	**89.84**	**341**	P	**P**	**18 46 47.1**	**-1.4**
	0.7nm,0.7s,mb3.9,baz=131,slow=4.5,SNR=15						
YKA				pP	pP	18 47 16.5	-2.7
	0.4nm,0.6s,baz=135,slow=4.8,SNR=3.9						
YKA				sP	sP	18 47 29.3	-2.4
	0.5nm,0.7s,baz=134,slow=4.7,SNR=3.8						
WRA	**Warramunga Arr**	**134.29**	**211**	PKP	PKPdf	18 53 07.0	0.0
	0.5nm,0.8s,baz=154,slow=1.8,SNR=5.5						

NEIC 15 18:41:22.3±12.0, 643S×14828E, h75km±46km, mb3.9/2, Error ellipse: s-maj=136.8km s-min=45.2km az=209.0
ISCJB 15 18:41:25.5±5.4, 675S±03×1480E±04, h89km±33km, mb3.6/3, Error ellipse: s-maj=60.2km s-min=47.5km az=170.4
IDC 15 18:41:29.4±6.1, 688S×14801E, h97km±40km, mb3.5/3, mb1 3.6/5, mb1mx3.3/15, mbtmp3.7/5, Error ellipse: s-maj=57.0km s-min=47.8km az=78.0
ISC 15 18:41:26.5±5.3, 67S±03×1479E±04, h79km±34km, n10, σ0°67/10, mb3.6/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.84**	**195**	P	**Pn**	**18 42 09.8**	**+0.1**
	27nm,0.3s,baz=11,slow=10,SNR=68						
PMG				S	**Sn**	**18 42 43.0**	**+0.1**
	11nm,0.3s,baz=168,slow=22,SNR=4.0						
WRAB	**Tennant Creek**	**18.66**	**224**	P	**Pn**	**18 45 39.1**	**-0.1**
	5.6nm,1.1s						
WRA	**Warramunga Arr**	**18.67**	**224**	P	**Pn**	**18 45 38.1**	**-1.2**
	0.2nm,0.3s,baz=52,slow=11,SNR=16						
ASAR	**Alice Springs**	**21.63**	**217**	P	**P**	**18 46 11.2**	**+1.0**
	0.8nm,0.6s,mb3.2,baz=52,slow=9.1,SNR=18						
FITZ	**Fitzroy Crossi**	**24.53**	**240**	*eP*	**P**	**18 46 38.9**	**+0.3**
	2.9nm,0.3s,mb4.2						
FITZ	**Fitzroy Crossi**	**24.53**	**240**	P	**P**	**18 46 39.2**	**+0.6**
	1.7nm,0.4s,mb3.9,baz=65,slow=9.8,SNR=31						
STKA	**Stephens Creek**	**25.78**	**192**	*eP*	**P**	**18 46 50.1**	**+0.2**
	0.7nm,0.6s,mb3.3						
STKA	**Stephens Creek**	**25.78**	**192**	P	**P**	**18 46 49.5**	**-0.4**
	1.0nm,0.3s,mb3.7,baz=17,slow=11,SNR=6.0						
STKA	**Stephens Creek**	**25.78**	**192**	*eP*	**P**	**18 46 48.9**	**-1.1**
STKA				*eP*		18 46 50.1	
TORD	**Torodi Ar. Bea**	**146.14**	**284**	PKPbc	PKPbc	19 00 59.5	+2.0
	0.2nm,0.4s,baz=66,slow=3.6,SNR=4.4						

IDC 15 18:51:01.9±20.0, 134N×12730E, h184km±209km, mb3.0/4, mb1 3.1/5, mb1mx3.1/15, mbtmp3.5/5, Error ellipse: s-maj=115.5km s-min=32.0km az=56.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.39**	**185**	P	P	18 55 13.3	-0.5
	0.1nm,0.3s,baz=237,slow=17,SNR=3.3						
WRA	**Warramunga Arr**	**22.25**	**162**	P	P	18 55 44.2	+0.5
	0.8nm,0.4s,baz=342,slow=10,SNR=27						
ASAR	**Alice Springs**	**25.67**	**166**	P	P	18 56 16.2	+1.4
	0.2nm,0.5s,baz=342,slow=7.6,SNR=9.4						
STKA	**Stephens Creek**	**35.71**	**159**	P	P	18 57 41.1	-1.7
	0.6nm,0.5s,baz=338,slow=11,SNR=3.0						
MKAR	**Makanchi Array**	**59.83**	**326**	P	P	19 00 48.1	+0.2
	0.3nm,0.5s,baz=120,slow=8.5,SNR=3.8						

IDC 15 18:53:06.5±3.4, 1463S×6633E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, Error ellipse: s-maj=127.3km s-min=36.5km az=52.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**62.80**	**12**	P	P	19 03 33.8	0.0
	0.2nm,0.6s,baz=212,slow=8.1,SNR=4.4						
ASAR	**Alice Springs**	**63.97**	**109**	P	P	19 03 42.0	+0.4
	0.4nm,0.6s,baz=270,slow=6.1,SNR=11						
WRA	**Warramunga Arr**	**64.78**	**105**	P	P	19 03 47.8	+0.9
	0.6nm,0.6s,baz=269,slow=5.9,SNR=9.1						
PDAR	**Pinedale Array**	**151.74**	**354**	PKPbc	PKPbc	19 13 03.5	+0.5
	0.3nm,0.4s,baz=359,slow=3.6,SNR=3.6						

CSEM 15 19:06:46.3±0.1, 3608N×3056E, h15km, Mw3.1, Error ellipse: s-maj=3.5km s-min=2.7km az=49.0
ISCJB 15 19:06:47.9±0.6, 3608N±002×3058E±003, h28km±6km, Error ellipse: s-maj=4.5km s-min=3.4km az=77.2
NEIC 15 19:06:47.2±0.7, 3619N×3058E, h10km, MD3.3(ATH), MD3.4(ISK), ML3.2(NIC), Error ellipse: s-maj=14.4km s-min=8.9km az=196.0
ISK 15 19:06:48.3, 3620N×3064E, h23km, MD3.5
NIC 15 19:06:50.8±0.5, 3677N×3123E, h25km, ML3.2, MW3.1
HLW 15 19:06:54.1, 3559N×3041E, h11km, Mb3.7
ATH 15 19:07:14.8, 3644N×2777E, h10km, MD3.3/3
ISC 15 19:06:48.1±0.7, 3612N±002×3060E±003, h16km±5km, n46, σ0°91/60, 2C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANTB	**Antalya**	**0.78**	**3**	*i* PG	**Pg**	**19 07 02.5**	**-0.7**
ANTB				*i* SG	**Sg**	**19 07 12.4**	**-1.0**
ELL	**Elmali**	**0.84**	**318**	*i* PG	**Pg**	**19 07 04.6**	**+0.3**
ELL				*i* SG	**Sg**	**19 07 17.0**	**+1.7**
FETY	**Fethiye**	**1.33**	**293**	PN	**Pn**	**19 07 11.8**	**-0.1**
BCK	**Bucak**	**1.33**	**360**	PN	**Pn**	**19 07 11.3**	**-0.7**
BCK				SN	**Sn**	**19 07 27.9**	**-1.6**
DALT	**Dalyan (Mudla)**	**1.71**	**293**	PN	**Pn**	**19 07 17.0**	**-0.2**
ISP	**Isparta**	**1.72**	**358**	*eP*	**Pn**	**19 07 17.3**	**0.0**
PPCY	**Paphos**	**1.89**	**130**	P	**Pg**	**19 07 23.1**	**-1.2**
ALFC	**Alevga**	**1.89**	**120**	P	**Pn**	**19 07 20.0**	**+0.3**
	5.4nm,0.2s						
ALFC				S	**Sn**	**19 07 44.3**	**+1.1**
TKTP	**Tekketepe**	**1.93**	**353**	*i P*	**Pn**	**19 07 19.2**	**-0.9**
TKTP				*i S*	**Sn**	**19 07 45.1**	**+1.0**
TKTP	**Tekketepe**	**1.93**	**353**	*i P*	**Pn**	**19 07 19.2**	**-1.0**
TKTP				*i S*	**Sn**	**19 07 45.1**	**+1.0**
ERMK	**Ermenek**	**1.94**	**74**	*i P*	**Pn**	**19 07 21.1**	**+0.8**
ERMK				*i S*	**Sb**	**19 07 49.7**	**+2.7**
ARG	**Arkhangelos**	**2.00**	**273**	*e*PB	**Pn**	**19 07 22.0**	**+0.8**
DENT	**Denizli**	**2.06**	**323**	PN	**Pn**	**19 07 22.2**	**+0.2**
YER	**Yerkesik**	**2.12**	**299**	PN	**Pn**	**19 07 23.5**	**+0.7**
KONT	**Konya--Tatoy**	**2.30**	**37**	PN	**Pn**	**19 07 25.5**	**+0.2**
MAMC	**Mammari**	**2.33**	**113**	P	**Pn**	**19 07 25.7**	**-0.1**
KHL	**Karahalli**	**2.36**	**339**	PN	**Pn**	**19 07 25.7**	**-0.4**
IKL	**Isikli**	**2.50**	**86**	PN	**Pn**	**19 07 28.9**	**+0.8**
CSS	**Prodhromos**	**2.51**	**117**	↑P	**Pn**	**19 07 28.0**	**-0.2**
	1.1nm,0.4s						
CSS				S	**Sn**	**19 07 57.7**	**-0.8**
DAT	**Datca**	**2.51**	**285**	PN	**Pn**	**19 07 28.1**	**-0.1**
MLSB	**Milas**	**2.55**	**298**	PN	**Pn**	**19 07 29.4**	**+0.6**
BDRM	**Kayabasi**	**2.71**	**291**	*i P*	**Pn**	**19 07 31.7**	**+0.8**
BDRM				*i S*	**Sn**	**19 08 01.8**	**-1.5**
BODT	**Bodrum**	**2.81**	**290**	*e*PN	**Pn**	**19 07 33.3**	**+1.0**
KARP	**Karpathos**	**2.85**	**259**	*e*PB	**Pn**	**19 07 34.0**	**+1.1**
MANT	**Manisa**	**2.87**	**326**	*i P*	**Pn**	**19 07 33.3**	**+0.1**
MANT				*i S*	**Sn**	**19 08 07.6**	**+0.2**
MEST	**Erdemli**	**2.90**	**80**	*i P*	**Pn**	**19 07 35.0**	**+1.5**
MEST				*i S*	**Sb**	**19 08 12.9**	**-1.7**
MEST	**Erdemli**	**2.90**	**80**	*i P*	**Pn**	**19 07 35.0**	**+1.4**
PHNC	**Paralimni**	**3.01**	**111**	P	**Pn**	**19 07 37.1**	**+2.0**
GDZ	**Gediz**	**3.09**	**344**	*i P*	**Pn**	**19 07 35.7**	**-0.5**
GDZ				*i S*	**Sn**	**19 08 12.2**	**-0.6**
MERS	**Mersin**	**3.25**	**76**	*e*PN	**Pn**	**19 07 39.1**	**+0.8**
IZM	**Izmir**	**3.50**	**311**	*e*PN	**Pn**	**19 07 41.7**	**-0.1**
KARA	**Karaisali**	**3.76**	**71**	*e*PN	**Pn**	**19 07 45.6**	**+0.3**
KAMT	**Kaman**	**4.07**	**36**	*e*PN	**Pn**	**19 07 49.2**	**-0.5**
NPS	**Neapolis**	**4.15**	**260**	*e*PN	**Pn**	**19 07 52.0**	**+1.3**
BR131	**Keskin Array S**	**4.33**	**33**	*e*P	**Pn**	**19 07 51.7**	**-1.4**
KOZT	**Kozan**	**4.41**	**71**	*e*PN	**Pn**	**19 07 54.7**	**+0.4**
DABA	**Dabaa**	**5.45**	**201**	↓P	**Pn**	**19 08 07.7**	**-1.0**
HBRG	**Burj al 'Arab**	**5.57**	**187**	P	**Pn**	**19 08 09.1**	**-1.1**
AMAG	**Maghara**	**5.88**	**158**	P	**Pn**	**19 08 15.7**	**+1.1**
FYM	**Al Fayyum**	**6.42**	**177**	P	**Pn**	**19 08 21.8**	**-0.2**
SLUM		**6.44**	**226**	P	**Pn**	**19 08 21.8**	**-0.4**
SLUM				S	**Sn**	**19 09 26.7**	**-8.6**
HSAF	**As Saff**	**6.54**	**173**	P	**Pn**	**19 08 22.1**	**-1.4**
GLL	**Jalalah**	**6.59**	**172**	P	**Pn**	**19 08 23.6**	**-0.8**
SWA1		**7.98**	**212**	↑P	**Pn**	**19 08 42.6**	**-0.8**
SWA1				S	**Sn**	**19 10 02.1**	**-11**
SWA2		**8.11**	**214**	↓P	**Pn**	**19 08 44.8**	**-0.4**
HFRF	**Wahat Farafira**	**9.16**	**193**	P	**Pn**	**19 08 59.7**	**+0.2**

LDG 15 19:08:50.5±1.3, 4340N×150W, h10km, Md1.9/1, Ml1.8/1, Error ellipse: s-maj=22.5km s-min=18.7km az=130.0
MDD 15 19:08:49.4±0.6, 4328N×170W, h28km±3km, mbLg1.3/10, 3D, Error ellipse: s-maj=4.5km s-min=4.0km az=128.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EALK	**Alkurruntz**	**0.15**	**115**	↓Pg	Pb	19 08 54.9	-0.1
	12nm,0.3s,SNR=18						
EALK				Lg		19 08 59.6	
	32nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.17**	**134**	↓Pg	Pb	19 08 54.7	-0.4
	SNR=18						
ELIZ				Lg		19 08 59.0	
	5.7nm,0.1s,SNR=7.9						
OSSF	**Osses**	**0.32**	**95**	Pg	Pb	19 08 56.7	-0.3
OSSF				Lg		19 09 02.1	
SJPF	**Ste Jean**	**0.38**	**116**	*e*Pg	Pb	19 08 57.1	-0.8
SJPF				*e*Sg	Sb	19 09 03.2	-0.5
	9.7nm,0.2s						
SJPF	**Ste Jean**	**0.38**	**116**	Pg	Pb	19 08 57.1	-0.8
SJPF				Lg		19 09 03.2	
	4.8nm,0.2s						
EARA	**Aranguren**	**0.52**	**171**	Pg	Pb	19 08 59.7	-0.4
	1.9nm,0.1s,SNR=4.0						
EARA				Lg		19 09 07.3	
	1.5nm,0.1s,SNR=7.9						
IPRE	**Itoiz**	**0.54**	**152**	Pg	Pb	19 08 59.9	-0.5
	2.1nm,0.2s,SNR=18						
IPRE				Lg		19 09 07.5	
	1.2nm,0.1s,SNR=7.9						
IUNC	**Uncitti**	**0.55**	**165**	↓Pg	Pb	19 09 00.2	-0.4
	1.8nm,0.1s,SNR=18						
IUNC				Lg		19 09 08.7	
	4.4nm,0.1s,SNR=7.9						
LARF	**Larrau**	**0.57**	**115**	Pg	Pb	19 09 00.3	-0.7
LARF				Lg		19 09 08.6	
ETSF	**Etsaut**	**0.92**	**114**	*e*Pg	Pn	19 09 06.2	-0.2
ETSF				*e*Sg	Sb	19 09 17.8	-0.8
	3.4nm,0.2s						
ETSF	**Etsaut**	**0.92**	**114**	Pg	Pn	19 09 06.2	-0.2
ETSF				Lg		19 09 17.8	
	1.7nm,0.2s						
EBIE	**Bielsa**	**1.48**	**113**	Pg	Pn	19 09 15.8	+1.7
	0.7nm,0.2s,SNR=7.9						
EBIE				Lg		19 09 34.9	
	1.6nm,0.3s,SNR=7.0						
EPF	**Esparros**	**1.51**	**99**	*e*Pg	Pn	19 09 17.2	+2.6
EPF				*e*Sg	Sn	19 09 33.7	+0.4
	2.9nm,0.4s						
EPF	**Esparros**	**1.51**	**99**	Pg	Pn	19 09 17.2	+2.6
EPF				Lg		19 09 33.7	
	1.4nm,0.4s						
ESAC	**San Caprasio**	**1.81**	**149**	Lg		19 09 43.9	
	6.6nm,0.2s,SNR=7.9						

IDC 15 19:10:56.8±3.6, 1255N×124.46E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/17, mbtmp3.5/3, Error ellipse: s-maj=304.3km s-min=28.6km az=64.0
ISCJB 15 19:10:58.8±2.8, 1311N±0.1×1253E±02, h46km±24km, mb3.4/3, Error ellipse: s-maj=38.0km s-min=8.9km az=122.0
MAN 15 19:10:58.2, 1304N×125.15E, h7km, mb2.9, ML4.3, MS6.1
ISC 15 19:10:59.0±3.8, 1315N±008×1253E±01, h29km±29km, n13, σ0°80/16, mb3.4/3, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**1.22**	**292**	*eP*	**Pn**	**19 11 19.1**	**-1.0**
PVCP				*eS*	**Sn**	**19 11 35.5**	**-0.1**
PVCP	**Virac**	**1.22**	**292**	*eP*	**Pn**	**19 11 19.1**	**-1.0**
PVCP				*eS*	**Sn**	**19 11 35.5**	**-0.1**
PLP	**Palo**	**2.00**	**190**	*eP*	**Pn**	**19 11 30.6**	**-0.2**
PLP				*eS*	**Sn**	**19 11 54.9**	**0.0**
OCLP	**Ormoc**	**2.19**	**198**	*eP*	**Pn**	**19 11 34.3**	**+0.8**
RCP	**Roxas**	**2.97**	**238↑**	*eP*	**Pn**	**19 11 44.6**	**+0.5**
MSLP	**Maasin**	**3.03**	**189**	*eP*	**Pn**	**19 11 45.6**	**+0.6**
KALP	**Kalibo**	**3.26**	**244**	*eP*	**Pn**	**19 11 47.5**	**-0.6**
BOAC	**Boac**	**3.40**	**276**	*eP*	**Pn**	**19 11 50.1**	**0.0**
POLP	**Polillo Island**	**3.64**	**296**	*eP*	**Pn**	**19 11 59.8**	**+6.4**
GUIM	**Jordan**	**3.66**	**227**	*eP*	**Pn**	**19 11 53.9**	**+0.2**
WRA	**Warramunga Arr**	**34.06**	**165**	P	**P**	**19 17 39.0**	**-1.7**
	0.3nm,0.6s,mb3.4,baz=342,slow=9.3,SNR=5.5						
ASAR	**Alice Springs**	**37.54**	**167**	P	**P**	**19 18 10.3**	**-0.2**
	0.7nm,0.5s,mb3.6,baz=348,slow=7.3,SNR=9.4						
MKAR	**Makanchi Array**	**49.20**	**322**	P	**P**	**19 19 46.3**	**+1.8**

az=128.7
*IDC **15** 20:09:45.4±0.6, 1462S×6636E, h0km, mb4.0/12, mb1 4.1/12, mb1mx4.0/20, mbtmp4.0/12, MS3.9/8, Ms1 3.8/8, ms1mx3.6/16, Error ellipse: s-maj=25.2km s-min=17.2km az=13.0*
*MOS **15** 20:09:46.4±0.9, 1447S×6622E, h10km, mb4.7/4, Error ellipse: s-maj=29.6km s-min=18.3km az=73.7*
*NEIC **15** 20:09:47.3±0.4, 1469S×6636E, h10km, mb4.6/5, Error ellipse: s-maj=14.0km s-min=12.5km az=152.0*
*BJI **15** 20:09:49.1, 1434S×6634E, h11km, mB5.0, mb4.5, Ms4.5, Msz4.3*

ISC 15 20:09:47.7±0.5, 147S±01×6630E±010, h10km, n41, σ1§02/29, mb4.1/18, MS4.0/10, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**31.69**	**292**	LR		LR	20 27 56.4	
	comp=Z,95nm,18.1s,MS3.5,baz=90,slow=34							
MATP	**Matopo**	**36.44**	**255**	P		**P**	**20 16 52.5**	**-0.1**
	0.6nm,0.7s,mb3.6,baz=66,slow=6.2,SNR=3.1							
LSZ	**Lusaka**	**36.80**	**264**	P		**P**	**20 16 55.8**	**+0.1**
	0.5nm,0.3s,mb3.8,baz=127,slow=9.6,SNR=4.4							
LSZ	**Lusaka**	**36.80**	**264**	*eP*		**P**	**20 16 56.9**	**+1.2**
LSZ				pmax		pmax		
	comp=Z,15nm,1.7s,mb4.5							
LSZ	**Lusaka**	**36.80**	**264**	*eP*		**P**	**20 16 56.9**	**+1.2**
	comp=Z,15nm,1.7s,mb4.5							
WSAR	**Wadi Sarin**	**38.40**	**349**	LR		LR	20 29 07.0	
	comp=Z,66nm,18.3s,MS3.5,baz=27,slow=30							
LBTB	**Lobatse**	**39.52**	**248**	P		**P**	**20 17 19.9**	**+1.3**
	comp=Z,2.0nm,0.8s,mb3.9,baz=89,slow=14,SNR=4.0							
LBTB	**Lobatse**	**39.52**	**248**	*eP*		**P**	**20 17 19.1**	**+0.5**
LSA	**Lhasa**	**50.19**	**28**	*eP*		**P**	**20 18 45.7**	**+2.1**
MAW	**Mawson**	**52.96**	**182**	LR		LR	20 35 19.2	
	comp=Z,213nm,18.1s,MS4.2,baz=254,slow=29							
FITZ	**Fitzroy Crossi**	**56.83**	**102**	LR		LR	20 40 52.8	
	comp=Z,126nm,18.6s,MS4.0,baz=268,slow=33							
BRTR	**Keskin Array B**	**62.07**	**332**	P		**P**	**20 20 09.2**	**+0.7**
	comp=Z,0.2nm,0.4s,mb3.6,baz=150,slow=12,SNR=2.8							
MKAR	**Makanchi Array**	**62.83**	**12**	P		**P**	**20 20 12.9**	**-0.7**
	comp=Z,1.3nm,0.6s,mb4.2,baz=209,slow=8.2,SNR=19							
ASAR	**Alice Springs**	**63.99**	**109**	P		**P**	**20 20 21.4**	**0.0**
	comp=Z,2.2nm,0.6s,mb4.3,baz=268,slow=6.0,SNR=35							
WRA	**Warramunga Arr**	**64.80**	**105**	P		**P**	**20 20 27.3**	**+0.7**
	comp=Z,4.0nm,0.7s,mb4.6,baz=269,slow=5.8,SNR=32							
KURK	**Kurchatov**	**65.98**	**9**	*eP*		**P**	**20 20 34.1**	**-0.1**
KURK				pmax		pmax		
	comp=Z,13nm,1.7s,mb4.7							
KURK	**Kurchatov**	**65.98**	**9**	*eP*		**P**	**20 20 34.1**	**-0.1**
	comp=Z,13nm,1.7s,mb4.7							
ZRNK	**Zerenda**	**67.36**	**2**	*eP*		**P**	**20 20 42.5**	**-0.6**
ZRNK				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.4							
ZRNK	**Zerenda**	**67.36**	**2**	*eP*		**P**	**20 20 42.5**	**-0.6**
	comp=Z,2.7nm,0.8s,mb4.3							
CHKZ	**Chkalovo**	**68.15**	**3**	*eP*		**P**	**20 20 47.6**	**-0.4**
CHKZ				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.3							
CHKZ	**Chkalovo**	**68.15**	**3**	*eP*		**P**	**20 20 47.6**	**-0.5**
	comp=Z,2.8nm,0.9s,mb4.3							
HHC	**Hu-ho-hao-te**	**69.33**	**35**	*eP*		**P**	**20 20 58.1**	**+2.7**
HHC				AP		pP	20 21 02.8	+4.2
HHC				XP		sP	20 21 05.3	+5.5
HHC				PCP		PcP	20 21 20.8	+1.9
HHC				PP		PP	20 23 35.1	+6.6
HHC				SCP			20 25 22.6	
HHC				PCS			20 25 24.6	
HHC				S		S	20 30 04.9	+2.9
HHC				XS		sS	20 30 13.3	+5.9
HHC				PS			20 30 33.9	
HHC				SCS		ScS	20 30 55.3	-1.3
HHC				AMB		AMB		
	comp=Z,6.0nm,1.0s,mb4.5							
HHC				AMB		AMB		
	comp=Z,236nm,6.5s							
HHC				LR		LR		
	comp=N,274nm,20.6s,MS4.6							
HHC				LR		LR		
	comp=E,236nm,19.6s,MS4.6							
HHC				LR		LR		
	comp=Z,198nm,22.9s,MS4.3							
TORD	**Torodi Ar. Bea**	**69.67**	**290**	P		**P**	**20 20 57.0**	**-0.4**
	comp=Z,0.5nm,0.8s,mb3.5,baz=105,slow=2.0,SNR=3.6							
STKA	**Stephens Creek**	**70.05**	**119**	P		**P**	**20 20 57.6**	**-2.2**
	comp=Z,2.1nm,0.8s,mb4.1,baz=284,slow=2.6,SNR=5.1							
STKA				LR		LR	20 47 17.9	
	comp=Z,90nm,20.2s,MS4.0,baz=4.2,slow=32							
ZAL	**Zalesovo**	**70.12**	**12**	P		**P**	**20 20 58.7**	**-1.5**
	comp=Z,0.9nm,0.7s,mb3.8,baz=260,slow=8.3,SNR=4.6							
ZAL	**Zalesovo**	**70.12**	**12**	P		**P**	**20 20 58.7**	**-1.6**
NVS	**Novosibirsk**	**70.70**	**10**	*eP*		**P**	**20 20 58.7**	**-5.1**
SONM	**Songino Array**	**71.75**	**27**	LR		LR	20 50 38.6	
	comp=Z,92nm,19.6s,MS4.0,baz=32,slow=34							
AKASG	**Malin Array Be**	**72.72**	**336**	P		**P**	**20 21 14.8**	**-1.2**
	comp=Z,0.2nm,0.2s,mb3.6,baz=141,slow=4.2,SNR=4.4							
QSPA	**South Pole Qui**	**75.43**	**180**	*eP*		**P**	**20 21 31.6**	**-0.2**
	comp=Z,13nm,1.1s,mb4.8							
CIT	**Chita**	**77.97**	**28**	*eP*		**P**	**20 21 46.4**	**+0.2**
CLL	**Collm**	**80.36**	**329**	*eP*		**P**	**20 21 59.0**	**-0.2**
MDJ	**Mudanjiang**	**82.25**	**40**	P		**P**	**20 22 10.3**	**+1.0**
MDJ				AP		pP	20 22 13.6	+1.0
MDJ				PP		PP	20 25 18.8	+1.1
MDJ				S		S	20 32 27.3	+2.5
MDJ				SS		SS	20 37 47.0	+2.3
MDJ				AMB		AMB		
	comp=Z,6.0nm,1.3s,mb4.4							
MDJ				AMB		AMB		
	comp=Z,96nm,5.9s							
MDJ				LR		LR		
	comp=N,33nm,13.8s,MS3.9							
MDJ				LR		LR		
	comp=E,23nm,14.6s,MS3.9							
MDJ				LR		LR		
	comp=Z,54nm,15.4s,MS4.0							
GUMO	**Guam**	**82.65**	**74**	LR		LR	20 53 09.3	
	comp=Z,36nm,21.3s,MS3.7,baz=60,slow=32							
MJAR	**Matsushiro Arr**	**84.66**	**50**	LR		LR	21 03 42.4	
	comp=Z,71nm,18.3s,MS4.1,baz=260,slow=38							
ESDC	**Sonseca Array**	**84.70**	**313**	P		**P**	**20 22 21.5**	**-0.4**
	comp=Z,1.0nm,0.7s,mb4.1,baz=114,slow=4.9,SNR=5.2							
ILAR	**Eielson Array**	**125.05**	**17**	PKP		PKPdf	20 28 45.5	-2.8
	comp=Z,0.5nm,0.8s,baz=299,slow=2.9,SNR=5.1							
YKA	**Yellowknife Ar**	**132.22**	**1**	PKP		PKPdf	20 29 00.9	-1.0
	comp=Z,0.4nm,0.8s,baz=345,slow=2.5,SNR=8.3							
YKA	**Yellowknife Ar**	**132.22**	**1**	PKP		PKPdf	20 29 00.9	-1.0
CHMT	**Chamberlain Mo**	**147.84**	**359**	*e*PKPbc		PKPbc	20 29 33.0	+0.1
PDAR	**Pinedale Array**	**151.76**	**354**	PKPbc		PKPbc	20 29 42.9	+0.3
	comp=Z,2.3nm,0.7s,baz=43,slow=2.2,SNR=16							

*NEIC **15** 20:37:42.5, 4127S×17281E, h146km, MG3.8(WEL), After WEL.*

WEL 15 20:37:43.1±0.3, 4131S×17282E, h140km±2km, ML3.8/13, 4C-2D, Error ellipse: s-maj=1.8km s-min=1.7km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NNZ	**Nelson**	**0.43**	**79**	PN		Pn	20 38 03.0	0.0
NNZ				SN		Sn	20 38 17.8	-0.3
NNZ	**Nelson**	**0.43**	**79**	P		Pn	20 38 03.0	0.0
THZ	**Tophouse**	**0.46**	**172**	PN		Pn	20 38 03.5	+0.3
THZ				SN		Sn	20 38 18.2	-0.1
THZ	**Tophouse**	**0.46**	**172**	P		Pn	20 38 03.5	+0.4
QRZ	**Quartz Range**	**0.52**	**336**	PN		Pn	20 38 03.3	-0.1
QRZ				SN		Sn	20 38 17.6	-1.2
QRZ	**Quartz Range**	**0.52**	**336**	P		Pn	20 38 03.3	-0.1
QRZ				S		Sn	20 38 17.6	-1.3
TUWZ	**Tuamarina**	**0.86**	**99**	PN		Pn	20 38 06.0	+0.2
TUWZ				SN		Sn	20 38 22.6	-0.3
DSZ	**Denniston Nort**	**0.88**	**240**	⇓PN		Pn	20 38 05.6	-0.3
DSZ				SN		Sn	20 38 20.9	-2.3
DUWZ	**D'Urville Isla**	**0.98**	**59**	PN		Pn	20 38 06.7	-0.1
DUWZ				SN		Sn	20 38 24.9	+0.2
TCW	**Tory Channel**	**1.10**	**86**	PN		Pn	20 38 08.2	+0.3
TCW				SN		Sn	20 38 26.2	-0.6
TCW	**Tory Channel**	**1.10**	**86**	P		Pn	20 38 08.2	+0.3
KHZ	**Kahutara**	**1.24**	**154**	⇑PN		Pn	20 38 09.4	+0.3
KHZ				SN		Sn	20 38 27.7	-1.3
KHZ	**Kahutara**	**1.24**	**154**	P		Pn	20 38 09.4	+0.2
MRW	**Makara Radio**	**1.42**	**88**	PN		Pn	20 38 10.9	-0.2
MRW	**Makara Radio**	**1.42**	**88**	P		Pn	20 38 10.9	-0.2
SNZO	**South Karori**	**1.42**	**91**	⇑PN		Pn	20 38 10.8	-0.3
SNZO	**South Karori**	**1.42**	**91**	P		Pn	20 38 10.8	-0.3
LTZ	**Lake Taylor**	**1.53**	**195**	⇓PN		Pn	20 38 12.3	0.0
LTZ	**Lake Taylor**	**1.53**	**195**	*eP*		Pn	20 38 12.2	0.0
BHW	**Baring Head**	**1.55**	**95**	⇑PN		Pn	20 38 12.0	-0.4
BHW				SN		Sn	20 38 33.1	-1.8
BHW	**Baring Head**	**1.55**	**95**	P		Pn	20 38 12.0	-0.5
BHW				S		Sn	20 38 34.3	-0.6
KIW	**Kapiti Island**	**1.64**	**75**	⇑PN		Pn	20 38 13.2	-0.3
KIW				SN		Sn	20 38 35.8	-1.0
CAW	**Cannon Point**	**1.71**	**84**	PN		Pn	20 38 13.7	-0.5
CAW				SN		Sn	20 38 36.7	-1.4
CAW	**Cannon Point**	**1.71**	**84**	P		Pn	20 38 13.7	-0.6
MSWZ	**Moikau Station**	**1.84**	**94**	PN		Pn	20 38 15.1	-0.6
MSWZ				SN		Sn	20 38 38.8	-1.8
MSWZ	**Moikau Station**	**1.84**	**94**	P		Pn	20 38 15.1	-0.6
PAWZ	**Paruwai Farm**	**1.97**	**93**	PN		Pn	20 38 16.5	-0.7
PAWZ				SN		Sn	20 38 41.2	-2.2
PAWZ	**Paruwai Farm**	**1.97**	**93**	P		Pn	20 38 16.5	-0.7
MTW	**Mount Morrison**	**2.03**	**87**	PN		Pn	20 38 17.3	-0.7
MTW				SN		Sn	20 38 43.2	-1.6
MTW	**Mount Morrison**	**2.03**	**87**	P		Pn	20 38 17.3	-0.7
NRZ	**Ngariki Road**	**2.14**	**24**	PN		Pn	20 38 19.8	+0.4
NRZ	**Ngariki Road**	**2.14**	**24**	P		Pn	20 38 19.8	+0.5
NWEZ	**Newall Road**	**2.18**	**22**	PN		Pn	20 38 20.2	+0.4
NWEZ	**Newall Road**	**2.18**	**22**	P		Pn	20 38 20.2	+0.4
MRZ	**Mangatainoka R**	**2.19**	**74**	PN		Pn	20 38 18.8	-1.1
MRZ	**Mangatainoka R**	**2.19**	**74**	P		Pn	20 38 18.8	-1.1
NEZ	**North Egmont**	**2.25**	**26**	PN		Pn	20 38 21.4	+0.7
WAZ	**Wanganui**	**2.27**	**48**	PN		Pn	20 38 21.4	+0.6
WAZ	**Wanganui**	**2.27**	**48**	*eP*		Pn	20 38 21.6	+0.8
PKE	**Pukeiti**	**2.29**	**23**	PN		Pn	20 38 20.9	-0.2
PKE	**Pukeiti**	**2.29**	**23**	P		Pn	20 38 20.9	-0.2
WVZ	**Waitaha Valley**	**2.35**	**220**	*eP*		Pn	20 38 20.8	-1.1
MQZ	**Mc Queen's Vall**	**2.40**	**183**	P		Pn	20 38 21.6	-0.9
VRZ	**Vera Road**	**2.64**	**35**	P		Pn	20 38 25.2	-0.2
TSZ	**Takapari Road**	**2.70**	**64**	*eP*		Pn	20 38 25.0	-1.2
RPZ	**Rata Peaks**	**2.74**	**208**	*eP*		Pn	20 38 25.2	-1.5
WNVZ	**Wahianoa**	**2.90**	**48**	P		Pn	20 38 28.5	-0.3
MOVZ	**Moawhango**	**2.94**	**51**	P		Pn	20 38 28.4	-0.9
NGZ	**Ngauruhoe**	**3.01**	**46**	P		Pn	20 38 30.7	+0.5
HIZ	**Hauiti**	**3.20**	**30**	*eP*		Pn	20 38 31.7	-0.9
FOZ	**Fox Glacier**	**3.23**	**225**	*eP*		Pn	20 38 30.4	-2.7
BKZ	**Black Stump Fm**	**3.53**	**54**	*eP*		Pn	20 38 35.6	-1.3
LBZ	**Lake Benmore**	**3.64**	**211**	*eP*		Pn	20 38 36.5	-1.8
ODZ	**Otahua Downs**	**4.06**	**202**	*eP*		Pn	20 38 42.6	-1.3
JCZ	**Jackson Bay**	**4.07**	**226**	*eP*		Pn	20 38 42.2	-1.8
WKZ	**Wanaka**	**4.49**	**217**	*eP*		Pn	20 38 46.9	-2.6
EAZ	**Earnscleugh**	**4.69**	**212**	*eP*		Pn	20 38 49.9	-2.2
MLZ	**Mavora Lakes**	**5.27**	**218**	*eP*		Pn	20 38 58.8	-1.1

*MOS **15** 21:06:24.6±0.9, 2940N×5141E, h10km, mb4.4/11, Error ellipse: s-maj=15.2km s-min=7.4km az=126.7*
*IDC **15** 21:06:26.6±1.1, 2966N×5145E, h0km, mb4.0/12, mb1 4.1/17, mb1mx4.0/28, mbtmp4.0/17, ML3.7/5, MS3.7/1, Ms1 3.7/1, ms1mx2.4/33, Error ellipse: s-maj=22.3km s-min=19.5km az=165.0*
*CSEM **15** 21:06:26.8±0.1, 2963N×5122E, h10km, mb4.3/11, Error ellipse: s-maj=2.8km s-min=1.8km az=171.0*
*ISCJB **15** 21:06:27.4±0.3, 2969N±003×5132E±003, h10km, mb4.1/23, MS3.7/1, Error ellipse: s-maj=4.9km s-min=3.7km az=174.4*
*NEIC **15** 21:06:28.7, 2973N×5138E, h14km, mb4.2/12, ML3.7(THR), After THR.*
*THR **15** 21:06:28.6±0.5, 2971N×5135E, h14km±3km, ML3.7*
*TEH **15** 21:06:32.3, 2967N×5129E, h27km, Mn3.9*

ISC 15 21:06:29.5±0.3, 2973N±003×5138E±003, h10km, n111, σ1§39/127, mb4.1/23, MS3.7/1, 2C-7D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SHI	**Shiraz**	**0.99**	**95**	*e*Pg		**Pg**	**21 06 48.7**	**+0.2**
IMOK	**Mook**	**1.35**	**120**	*e*Pn		**Pn**	**21 06 55.5**	**+1.2**
IPAR	**Pars**	**1.45**	**85**	*e*Pn		**Pn**	**21 06 54.9**	**-0.9**
GHIR	**Ghir-Karzin**	**2.01**	**135**	*e*Pg		**Pg**	**21 07 05.4**	**-2.6**
GHIR				Sn		**Sn**	**21 07 30.2**	**+1.6**
GHIR				AML		AML	21 07 50.2	
	comp=E,559nm,0.5s							
GHIR				AML		AML	21 07 53.4	
	comp=N,380nm,0.6s							
GHIR	**Ghir-Karzin**	**2.01**	**135**	*e*Pg		**Pg**	**21 07 05.0**	**-3.0**
GHIR				*e*			21 07 32.0	
GHIR				*e*Sg		**Sg**	**21 07 32.0**	**-2.0**
GHIR	**Ghir-Karzin**	**2.01**	**135**	*e*Pg		**Pg**	**21 07 05.4**	**-2.6**
SNR=90								
GHIR				Sn		**Sn**	**21 07 30.2**	**+1.6**
SNR=52								
ISAD	**Sadrabad**	**2.95**	**42**	*e*Pn		**Pn**	**21 07 18.9**	**+2.6**
ISAD				*e*Sn		**Sn**	**21 07 52.4**	**+0.7**
IPIR	**Pirpir**	**2.98**	**352**	*e*Pn		**Pn**	**21 07 18.0**	**+1.3**
QRN	**Al-Qurain**	**3.18**	**253**	*eP*		**Pn**	**21 07 22.3**	**+2.8**
QRN				AML		AML	21 08 01.3	
	comp=Z,341nm,0.3s							
UMR	**Umm Al-Rimmam**	**3.20**	**268**	*eP*		**Pn**	**21 07 22.1**	**+2.4**
UMR				AML		AML	21 08 02.3	
	comp=Z,110nm,0.3s							
IMEH	**Mehriz**	**3.24**	**58**	*e*Pn		**Pn**	**21 07 22.7**	**+2.3**
IMEH				*e*Sn		**Sn**	**21 07 59.5**	**+0.5**
SHGR	**Shooshtar-Gavs**	**3.25**	**318**	*e*PN		**Pn**	**21 07 21.1**	**+0.7**
SHGR				AML		AML	21 08 18.0	
	comp=N,168nm,0.6s							
SHGR				AML		AML	21 08 22.6	
	comp=E,180nm,0.7s							
SHGR	**Shooshtar-Gavs**	**3.25**	**318**	*e*Pn		**Pn**	**21 07 21.0**	**+0.5**
IZEF	**Zefreh**	**3.26**	**14**	*e*Pn		**Pn**	**21 07 21.7**	**+1.1**
KBD	**Kabd**	**3.26**	**261**	*eP*		**Pn**	**21 07 23.6**	**+2.9**
KBD				AML		AML	21 08 03.0	
	comp=Z,177nm,0.2s							
NASN	**Na'in**	**3.30**	**21**	*e*Pn		**Pn**	**21 07 22.3**	**+1.2**
NASN				Sn		**Sn**	**21 08 02.1**	**+1.7**
NASN	**Na'in**	**3.30**	**21**	*e*Pn		**Pn**	**21 07 22.0**	**+0.9**
RDF	**Al-Radifah**	**3.44**	**258**	*eP*		**Pn**	**21 07 25.8**	**+2.7**
RDF				AML		AML	21 08 05.6	
	comp=Z,97nm,0.4s							
RDF	**Al-Radifah**	**3.44**	**258**	*eP*		**Pn**	**21 07 25.8**	**+2.7**
RDF				*e*S		**Sn**	**21 08 05.2**	**+1.3**
MIB	**Mutribah**	**3.52**	**272**	*eP*		**Pn**	**21 07 26.4**	**+2.3**
MIB	**Mutribah**	**3.52**	**272**	*eP*		**Pn**	**21 07 26.5**	**+2.4**
MIB				*e*S		**Sn**	**21 08 06.9**	**+1.1**
IKLH	**Kalahroud**	**3.59**	**3**	*e*Pn		**Pn**	**21 07 26.0**	**+0.9**
ICHK	**Chekchek**	**3.61**	**45**	*e*Pn		**Pn**	**21 07 27.3**	**+1.8**
NAY	**Al-Naaiem**	**3.64**	**264**	*eP*		**Pn**	**21 07 28.5**	**+2.7**
IBAF	**Bafgh**	**4.06**	**62**	*e*Pn		**Pn**	**21 07 33.3**	**+1.7**
ISFB	**Sefidab**	**4.67**	**9**	*e*Pn		**Pn**	**21 07 41.0**	**+1.0**
ISFB				*e*Sn		**Sn**	**21 08 32.6**	**-1.7**
KRBR	**Kerman**	**4.68**	**86**	*e*Pn		**Pn**	**21 07 41.8**	**+1.7**
KRBR				AML		AML	21 08 40.9	
	comp=N,89nm,0.6s							
KRBR				AML		AML	21 08 41.2	
	comp=E,87nm,0.8s							
KRBR	**Kerman**	**4.68**	**86**	*e*Pn		**Pn**	**21 07 41.0**	**+0.9**
ASAO	**Ashtian**	**4.94**	**347**	*e*Pn		**Pn**	**21 07 45.0**	**+1.3**
ASAO	**Ashtian**	**4.94**	**347**	*e*Pn		**Pn**	**21 07 44.0**	**+0.2**
IVRN	**Varamin**	**5.26**	**3**	*e*Pn		**Pn**	**21 07 48.7**	**+0.6**
IVRN				*e*Sn		**Sn**	**21 08 46.8**	**-2.1**
IRAZ	**Razeghan**	**5.79**	**348**	*e*Sn		**Sn**	**21 08 58.6**	**-3.3**
ILAS	**Lasjerd**	**5.79**	**13**	*e*Pn		**Pn**	**21 07 56.3**	**+0.8**
IDMV	**Damavand**	**5.86**	**5**	*e*Pn		**Pn**	**21 07 57.1**	**+0.7**
IDMV				*e*Sn		**Sn**	**21 09 00.4**	**-3.2**
IFIR	**Firoozkooh**	**6.01**	**11**	*e*Pn		**Pn**	**21 07 59.5**	**+1.1**
IFIR				*e*Sn		**Sn**	**21 09 04.4**	**-2.9**
IANJ	**Anjiloo**	**6.11**	**20**	*e*Pn		**Pn**	**21 08 00.6**	**+0.8**
IAFJ	**Afjeh**	**6.12**	**3**	*e*Pn		**Pn**	**21 08 00.9**	**+1.0**
IAFJ				*e*Sn		**Sn**	**21 09 03.3**	**-6.7**
IGHG	**Ghaleghazi**	**6.15**	**320**	*e*Pn		**Pn**	**21 08 00.6**	**+0.3**
ISHM	**Shahmirzad**	**6.27**	**14**	*e*Pn		**Pn**	**21 08 03.0**	**+1.0**
ISHM				*e*Sn		**Sn**	**21 09 10.7**	**-3.1**
ILIN	**Laeen**	**6.39**	**325**	*e*Pn		**Pn**	**21 08 03.9**	**+0.3**
IDHR	**Dehrash**	**6.52**	**321**	*e*Pn		**Pn**	**21 08 05.5**	**+0.1**
IPRN	**Paran-Amol**	**6.54**	**6**	*e*Pn		**Pn**	**21 08 07.0**	**+1.3**
IKIA	**Kiasar**	**6.75**	**16**	*e*Pn		**Pn**	**21 08 10.1**	**+1.6**
WSAR	**Wadi Sarin**	**9.16**	**133**	Pn		**Pn**	**21 08 39.2**	**-2.4**
WSAR	comp=E,0.9nm,0.3s,baz=3.7,slow=13,SNR=22			Sn		**Sn**	**21 10 18.2**	**-6.5**
	comp=E,1.1nm,0.3s,baz=79,slow=21,SNR=4.9							
WSAR	**Wadi Sarin**	**9.16**	**133**	Pn		**Pn**	**21 08 39.2**	**-2.4**
WSAR				Sn		**Sn**	**21 10 18.2**	**-6.5**
ASF	**Jabal al Asfar**	**12.67**	**285**	Pn		**Pn**	**21 09 28.3**	**-1.4**
	comp=E,0.4nm,0.3s,baz=158,slow=2.0,SNR=4.1							
ASF				Sn		**Sn**	**21 11 40.7**	**-10**
	comp=E,0.2nm,0.3s,baz=130,slow=15,SNR=2.7							
MALT	**Malatya**	**13.73**	**312**	⇓*i*P		**Pn**	**21 09 43.9**	**-0.2**
MMAI	**Mount Meron Ar**	**14.04**	**288**	Pn		**Pn**	**21 09 48.7**	**+0.3**
	comp=E,0.2nm,0.3s,baz=245,slow=44,SNR=3.6							
ZEI	**Tsey**	**14.34**	**337**	*e*P		**Pn**	**21 09 58.5**	**+6.0**
KIV	**Kislovodsk**	**15.80**	**336**	*e*P		**Pn**	**21 10 14.3**	**+2.3**
KIV				pmax		pmax		
	comp=Z,9.0nm,0.6s							
KIV	**Kislovodsk**	**15.80**	**336**	*e*P		**Pn**	**21 10 14.3**	**+2.3**
	comp=Z,9.2nm,0.6s							
KIV	**Kislovodsk**	**15.80**	**336**	*e*P		**Pn**	**21 10 14.3**	**+2.3**
	comp=Z,9.1nm,0.6s							
BR131	**Keskin Array S**	**17.64**	**309**	*e*P		**Pn**	**21 10 37.3**	**+2.0**
	comp=Z,1.3nm,0.7s							
BR131	**Keskin Array S**	**17.64**	**309**	*e*P		**Pn**	**21 10 37.3**	**+2.0**
	comp=Z,1.3nm,0.7s							
BRTR	**Keskin Array B**	**17.64**	**309**	P		**Pn**	**21 10 35.7**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=122,slow=12,SNR=4.7							
ATD	**Arta Tunnel**	**19.77**	**205**	P		**Pn**	**21 10 57.0**	**-4.2**
	comp=Z,0.4nm,0.3s,baz=195,slow=20,SNR=2.6							
AKTK	**Aktyubinsk**	**21.28**	**12**	P		**P**	**21 11 15.1**	**-0.9**
AKTK	**Aktyubinsk**	**21.28**	**12**	P		**P**	**21 11 15.1**	**-0.9**
AKTO	**Aktyubinsk**	**21.28**	**12**	P		**P**	**21 11 15.1**	**-0.9**
	comp=Z,1.2nm,0.3s,mb3.7,baz=201,slow=9.6,SNR=7.7							
AKTO	**Aktyubinsk**	**21.28**	**12**	P		**P**	**21 11 15.1**	**-0.9**
AKTO				pmax		pmax		
	comp=Z,1.0nm,0.3s,mb3.6							
MLR	**Muntele Rosu**	**25.42**	**315**	P		**P**	**21 11 58.1**	**+0.9**
	comp=Z,4.2nm,0.7s,mb4.1,baz=135,slow=7.1,SNR=2.9							
ZRNK	**Zerenda**	**26.57**	**24**	P		**P**	**21 12 05.7**	**-1.9**
AKASG	**Malin Array Be**	**26.74**	**328**	P		**P**	**21 12 08.0**	**-1.2**
	comp=Z,1.5nm,0.4s,mb3.9,baz=114,slow=7.3,SNR=8.7							
AKASG	**Malin Array Be**	**26.74**	**328**	P		**P**	**21 12 08.0**	**-1.2**
BURAR	**Bucovina Array**	**26.94**	**319**	⇓*i*P		**P**	**21 12 11.7**	**+0.8**
KURK	**Kurchatov**	**29.25**	**37**	*eP*		**P**	**21 12 31.4**	**-0.2**
KURK				pmax		pmax		
	comp=Z,3.0nm,1.1s,mb3.9							
KURK	**Kurchatov**	**29.25**	**37**	*eP*		**P**	**21 12 31.4**	**-0.1**
	comp=Z,2.6nm,1.1s,mb3.9							
KURK	**Kurchatov**	**29.25**	**37**	*eP*		**P**	**21 12 31.4**	**-0.2**
	comp=Z,2.6nm,1.1s,mb3.9							
MKAR	**Makanchi Array**	**29.40**	**46**	P		**P**	**21 12 32.0**	**-0.9**
	comp=Z,0.4nm,0.7s,mb3.2,baz=239,slow=6.7,SNR=4.3							
VRAC	**Vranov**	**32.80**	**316**	P		**P**	**21 13 02.3**	**-0.6**
	comp=Z,1.9nm,0.6s,mb4.2,baz=107,slow=11,SNR=3.1							
ZAL	**Zalesovo**	**34.19**	**35**	P		**P**	**21 13 13.6**	**-1.4**
	comp=Z,1.5nm,0.3s,mb4.4,baz=210,slow=8.7,SNR=8.2							
GERES	**GERESS Array B**	**34.40**	**314**	P		**P**	**21 13 16.2**	**-0.6**
	comp=Z,0.4nm,0.5s,mb3.6,baz=108,slow=8.6,SNR=5.1							
KHC	**K

PTL	**Penteli**	**1.53**	**68**	*e*PB		**Pn**	**21 09 08.5**	**-0.3**
PTL				*e*SB		**Sn**	**21 09 29.0**	**-0.3**
PTL	**Penteli**	**1.53**	**68**	*e*Pb		**Pn**	**21 09 08.5**	**-0.3**
PTL				*e*Sb		**Sn**	**21 09 30.0**	**+0.7**
AGG	**Agios Georgios**	**1.55**	**8**	*e*Pg		**Pn**	**21 09 09.5**	**+0.4**
AGG				*e*Sg		**Sn**	**21 09 30.7**	**+0.9**
LKD	**Levkas**	**1.66**	**318**	*e*Pb		**Pb**	**21 09 13.3**	**+1.7**
LKD				*e*Sb		**Sb**	**21 09 35.0**	**+2.0**
NEO	**Neokhori**	**2.04**	**26**	*e*PB		**Pn**	**21 09 15.2**	**-0.5**
NEO	**Neokhori**	**2.04**	**26**	*e*Pb		**Pn**	**21 09 14.9**	**-0.8**
XOR	**Xorichti**	**2.08**	**25**	*e*Pn		**Pn**	**21 09 16.4**	**0.0**
AOS	**Alonnisos**	**2.21**	**40**	*e*Pn		**Pn**	**21 09 18.1**	**0.0**
JAN	**Janina**	**2.37**	**337**	*e*PN		**Pn**	**21 09 22.0**	**+1.7**
IGT	**Igoumenitsa**	**2.46**	**327**	*e*Pn		**Pb**	**21 09 24.1**	**-1.2**
LIT	**Litokhoron**	**2.64**	**7**	*e*Pn		**Pn**	**21 09 24.6**	**+0.6**
LIT				*e*Sn		**Sn**	**21 09 57.6**	**+1.0**
VAM	**Vamos**	**2.69**	**140**	*e*PN		**Pb**	**21 09 27.7**	**-1.6**
APE	**Apeiranthos**	**2.79**	**97**	*e*Pn		**Pn**	**21 09 26.0**	**-0.1**
APE	**Apeiranthos**	**2.79**	**97**	*e*∥*i*P		**Pn**	**21 09 25.5**	**-0.7**
APE	**Apeiranthos**	**2.79**	**97**	*e*PB		**Pn**	**21 09 26.7**	**+0.5**
APE	**Apeiranthos**	**2.79**	**97**	*e*Pb		**Pn**	**21 09 25.8**	**-0.4**
APE	**Apeiranthos**	**2.79**	**97**	*e*Pn		**Pn**	**21 09 26.0**	**-0.2**
KZN	**Kozani**	**2.83**	**355**	*e*PN		**Pn**	**21 09 29.1**	**+2.5**
KEK	**Kerkira**	**2.85**	**322**	*e*PN		**Pn**	**21 09 29.0**	**+2.1**
PLG	**Polygyros**	**3.08**	**20**	*e*PN		**Pn**	**21 09 29.0**	**-1.1**
IDI	**Anoyia**	**3.16**	**133**	Pn		**Pn**	**21 09 30.1**	**-1.1**
	0.9nm,0.3s,baz=324,slow=13,SNR=12							
IDI				Sn		**Sn**	**21 10 10.6**	**+1.1**
	8.2nm,0.3s,baz=317,slow=19,SNR=6.1							
FNA	**Florina**	**3.34**	**351**	*e*Pn		**Pn**	**21 09 35.8**	**+2.1**
BIA	**Bitola**	**3.58**	**351**	*i* Pn		**Pn**	**21 09 39.1**	**+2.1**
BIA	**Bitola**	**3.58**	**351**	*i* Pn		**Pn**	**21 09 39.0**	**+2.0**
LAST	**Lasithi**	**3.60**	**129**	*e*PN		**Pn**	**21 09 37.1**	**-0.1**
NPS	**Neapolis**	**3.62**	**127**	*e*PN		**Pn**	**21 09 39.7**	**+2.2**
OHR	**Ohrid**	**3.75**	**345**	*i* Pn		**Pn**	**21 09 41.4**	**+2.0**
OHR	**Ohrid**	**3.75**	**345**	*i* Pn		**Pn**	**21 09 41.3**	**+1.9**
SMG	**Samos**	**3.80**	**85**	*e*PN		**Pn**	**21 09 41.0**	**+1.1**
SMG	**Samos**	**3.80**	**85**	*e*Pn		**Pn**	**21 09 40.5**	**+0.6**
VAY	**Valandovo**	**3.85**	**6**	*i* Pn		**Pn**	**21 09 39.9**	**-0.8**
XRY	**Khrisi**	**3.92**	**130**	*e*PB		**Pn**	**21 09 45.5**	**+3.8**
NVR	**Nevrokopi**	**4.11**	**19**	*e*PN		**Pn**	**21 09 45.9**	**+1.7**
STIP	**Stip**	**4.21**	**1**	*i* Pn		**Pn**	**21 09 46.4**	**+0.8**
STIP	**Stip**	**4.21**	**1**	*i* Pn		**Pn**	**21 09 46.3**	**+0.7**
MMB	**Musomiste**	**4.30**	**17**	*e*P		**Pn**	**21 09 46.0**	**-0.8**
KKB	**Krupnik**	**4.45**	**10**	*e*P		**Pn**	**21 09 48.0**	**-0.9**
TIP	**Timpagrande**	**4.50**	**294**	*e*P		**Pn**	**21 09 49.9**	**+0.2**
TIP	**Timpagrande**	**4.50**	**294**	*e*P		**Pn**	**21 09 49.8**	**+0.1**
KARP	**Karpathos**	**4.54**	**114**	*e*PN		**Pn**	**21 09 52.0**	**+1.9**
RZN	**Rozhen**	**4.67**	**25**	*e*P		**Pn**	**21 09 53.0**	**+1.0**
VTS	**Vitosha**	**5.18**	**9**	*e*P		**Pn**	**21 10 00.0**	**+1.1**
VAE	**Valguarnera**	**6.09**	**272**	Pn		**Pn**	**21 10 11.3**	**-0.2**
	0.6nm,0.3s,baz=297,slow=2.3,SNR=2.5							
VAE				Sn		**Sn**	**21 11 25.8**	**+4.1**
	1.0nm,0.3s,baz=250,slow=8.4,SNR=3.5							
VAE				LR	LR		21 12 32.3	
	comp=Z,135nm,18.3s,baz=272,slow=38							
VAE	**Valguarnera**	**6.09**	**272**	Sn		**Sn**	**21 11 25.8**	**+4.1**
MLR	**Muntele Rosu**	**8.51**	**19**	P		**Pn**	**21 10 43.7**	**-1.0**
	0.0nm,0.3s,baz=185,slow=6.7,SNR=2.5							
MLR	**Muntele Rosu**	**8.51**	**19**	*i*P		**Pn**	**21 10 47.2**	**+2.5**
PLOR	**Plostina**	**9.04**	**21**	∥*i*P		**Pn**	**21 10 56.6**	**+4.7**
VRI	**Vrincioaia**	**9.07**	**21**	∥*i*P		**Pn**	**21 10 56.3**	**+3.9**
BRTR	**Keskin Array B**	**9.33**	**73**	Pn		**Pn**	**21 10 56.3**	**+0.3**
	0.1nm,0.3s,baz=260,slow=14,SNR=4.1							
MMAI	**Mount Meron Ar**	**11.78**	**108**	Pn		**Pn**	**21 11 28.1**	**-1.3**
	0.4nm,0.3s,baz=322,slow=14,SNR=3.0							
GERES	**GERESS Array B**	**12.88**	**334**	Pn		**Pn**	**21 11 45.3**	**+0.8**
	baz=316,slow=4.1,SNR=2.4							
MALT	**Malatya**	**12.95**	**81**	*e*P		**Pn**	**21 11 50.3**	**+4.8**
MALT				pmax	pmax			
	comp=Z,4.0nm,0.9s							
MALT	**Malatya**	**12.95**	**81**	*e*P		**Pn**	**21 11 50.3**	**+4.8**
	comp=Z,4.1nm,0.9s							
KHC	**Kasperske Hory**	**13.17**	**335**	*e*P		**Pn**	**21 12 00.0**	**+12**
AKASG	**Malin Array Be**	**14.17**	**19**	Pn		**Pn**	**21 12 01.6**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=206,slow=13,SNR=5.1							
AKASG	**Malin Array Be**	**14.17**	**19**	P		**Pn**	**21 12 01.6**	**-0.5**
AKASG	**Malin Array Be**	**14.17**	**19**	Pn		**Pn**	**21 12 01.6**	**-0.6**
AKASG	**Malin Array Be**	**14.17**	**19**	P		**Pn**	**21 12 01.6**	**-0.5**
CLL	**Collm**	**15.25**	**338**	*e*PP			21 12 22.0	
SUW	**Suwalki**	**16.55**	**2**	*e*P		**Pn**	**21 12 31.4**	**-2.2**
SUW				pmax	pmax			
	comp=Z,37nm,0.8s							
SUW	**Suwalki**	**16.55**	**2**	*e*P		**Pn**	**21 12 31.4**	**-2.3**
	comp=Z,37nm,0.8s							
SUW	**Suwalki**	**16.55**	**2**	*e*P		**Pn**	**21 12 31.4**	**-2.2**
	comp=Z,37nm,0.8s							
ZEI	**Tsey**	**17.50**	**66**	*e*P		**Pn**	**21 12 47.3**	**+1.8**
GNI	**Garni**	**17.86**	**74**	LR	LR		21 20 37.6	
	comp=Z,54nm,18.3s,baz=39,slow=40							
ESDC	**Sonseca Array**	**20.45**	**284**	P		**P**	**21 13 18.0**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=95,slow=9.8,SNR=2.7							
MDT	**Midelt**	**22.27**	**266**	LR	LR		21 22 51.4	
	comp=Z,27nm,20.2s,MS2.7,baz=86,slow=38							
HFS	**Hagfors**	**23.29**	**349**	P		**P**	**21 13 46.7**	**-2.9**
	comp=Z,1.5nm,0.4s,mb3.8,baz=163,slow=12,SNR=19							
HFS				LR	LR		21 24 30.4	
	comp=Z,38nm,18.1s,MS2.9,baz=236,slow=41							
NAO01	**NORSAR Array S**	**24.43**	**347**	*e*P		**P**	**21 13 59.2**	**-1.2**
	comp=Z,7.2nm,0.9s,mb4.1							
NAO01	**NORSAR Array S**	**24.43**	**347**	*e*P		**P**	**21 13 59.2**	**-1.2**
NB2	**NORSAR Subarra**	**24.55**	**347**	P		**P**	**21 14 00.0**	**-1.5**
	comp=Z,6.4nm,0.9s,mb4.2,baz=160,slow=10							
NOA	**NORSAR Array B**	**24.55**	**347**	P		**P**	**21 13 59.6**	**-1.9**
	comp=Z,3.2nm,0.8s,mb3.9,baz=155,slow=7.2,SNR=14							
NOA				LR	LR		21 23 28.1	
	comp=Z,27nm,18.9s,MS2.8,baz=70,slow=36							
EKA	**Eskdalemuir Ar**	**24.70**	**324**	P		**P**	**21 14 01.6**	**-1.2**
	comp=Z,1.8nm,0.6s,mb3.8,baz=124,slow=9.9,SNR=9.9							
EKA	**Eskdalemuir Ar**	**24.70**	**324**	P		**P**	**21 14 01.6**	**-1.3**
AKTO	**Aktyubinsk**	**28.64**	**52**	LR	LR		21 27 15.6	
	comp=Z,27nm,19.4s,MS2.9,baz=0.0,slow=39							
TORD	**Torodi Ar. Bea**	**30.30**	**222**	P		**P**	**21 14 52.0**	**-1.1**
	comp=Z,0.6nm,0.8s,mb3.4,baz=25,slow=9.6,SNR=5.0							
ATD	**Arta Tunnel**	**31.87**	**139**	LR	LR		21 29 43.6	
	comp=Z,32nm,19.8s,MS3.0,baz=227,slow=40							
ARCES	**ARCESS Array B**	**32.17**	**2**	P		**P**	**21 15 07.3**	**-2.3**
	comp=Z,4.5nm,0.7s,mb4.4,baz=195,slow=8.8,SNR=8.0							
ARCES				LR	LR		21 29 45.1	
	comp=Z,20nm,20.0s,MS2.8,baz=186,slow=39							
NVS	**Novosibirsk**	**44.26**	**47**	*e*P		**P**	**21 16 47.4**	**-3.9**
MKAR	**Makanchi Array**	**44.63**	**58**	P		**P**	**21 16 52.3**	**-2.0**
	comp=Z,0.6nm,0.6s,mb3.6,baz=282,slow=7.4,SNR=9.5							

ISCJB ***15*** *21:23:48.7±0.7,212S±0.1×173.7W±0.1,h10km,mb4.2/8, MS3.3/1,Error ellipse: s-maj=18.8km s-min=12.7km az=130.2*

IDC ***15*** *21:23:52.2±1.0,2149S×174.11W,h0km,mb4.1/6, mb1 4.3/6,mb1mx4.1/14,mbtmp4.1/6,MS3.3/2,Ms1 3.3/2, ms1mx2.9/29,Error ellipse: s-maj=35.7km s-min=24.7km az=136.0*

NEIC ***15*** *21:23:54.0±0.7,2151S×174.16W,h10km,mb4.7/1,Error ellipse: s-maj=30.0km s-min=18.2km az=144.0*

ISC 15 21:23:55.6±2.2,211S±02×1736W±01,h50km±31km,n25, σ0 97/16,mb4.2/8,MS3.3/1,2C,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**7.36**	**14**	Pn		**Pn**	**21 25 40.1**	**-0.2**
	5.7nm,0.3s,baz=223,slow=10.0,SNR=3.3							
AFI				Sn		**Sn**	**21 26 55.0**	**-7.5**
	1.9nm,0.3s,baz=24,slow=20,SNR=3.3							
AFI	**Afiamalu**	**7.36**	**14**	P		**Pn**	**21 25 39.3**	**-1.0**
AFI				Pn		**Pn**	**21 25 40.1**	**-0.2**
AFI				Sn		**Sn**	**21 26 55.0**	**-7.5**
RAR	**Rarotonga**	**12.88**	**93**	Pn		**Pn**	**21 26 56.2**	**+0.3**
	1.6nm,0.3s,baz=266,slow=13,SNR=4.1							
RAR				LR		LR	21 30 58.6	
	comp=Z,95nm,18.4s,baz=234,slow=32							
DZM	**Mont Dzumac**	**18.60**	**263**	P				
	0.3nm,0.3s,baz=36,slow=17,SNR=4.7							
PPT	**Papeete**	**22.91**	**85**	LR		LR	21 35 20.7	
	comp=Z,108nm,21.2s,MS3.3,baz=19,slow=29							
STKA	**Stephens Creek**	**41.28**	**245**	P		**P**	**21 31 32.6**	**-3.4**
	1.6nm,0.8s,mb3.7,baz=5.7,slow=20,SNR=3.2							
STKA	**Stephens Creek**	**41.28**	**245**	P		**P**	**21 31 32.6**	**-3.4**
STKA				*e*P			21 31 35.4	
ASAR	**Alice Springs**	**48.41**	**257**	P		**P**	**21 32 32.6**	**0.0**
	5.6nm,0.8s,mb4.7,baz=99,slow=7.4,SNR=51							
WRAB	**Tennant Creek**	**48.60**	**262**	*e*P		**P**	**21 32 33.5**	**-0.7**
	6.0nm,0.8s,mb4.7							
WRA	**Warramunga Arr**	**48.61**	**262**	P		**P**	**21 32 33.6**	**-0.6**
	2.6nm,0.8s,mb4.3,baz=98,slow=7.4,SNR=12							
FITZ	**Fitzroy Crossi**	**57.04**	**262**	P		**P**	**21 33 37.0**	**+0.6**
	2.3nm,1.0s,mb4.1,baz=287,slow=20,SNR=3.5							
VNDA	**Vanda**	**57.72**	**186**	P		**P**	**21 33 41.1**	**0.0**
	0.4nm,0.4s,mb3.8,baz=74,slow=7.4,SNR=8.1							
MJAR	**Matsushiro Arr**	**73.21**	**321**	P		**P**	**21 35 24.5**	**+3.3**
	2.6nm,0.7s,mb4.3,baz=157,slow=6.0,SNR=10							
NVAR	**Mina Array Bea**	**78.69**	**41**	P		**P**	**21 36 00.1**	**+7.6**
	1.1nm,0.7s,mb3.9,baz=222,slow=6.6,SNR=5.3							
ZRNK	**Zerenda**	**123.03**	**320**	*e*PKPdf		PKPdf	21 42 50.8	+4.4
AKASG	**Malin Array Be**	**145.45**	**334**	PKPbc		PKPbc	21 43 31.9	+3.8
	3.4nm,0.6s,baz=41,slow=4.2,SNR=17							
AKASG	**Malin Array Be**	**145.45**	**334**	PKPbc		PKPbc	21 43 31.9	+3.8
MALT	**Malatya**	**147.55**	**309**	∥*i*P		PKPab	21 43 40.0	+3.6
MALT	**Malatya**	**147.55**	**309**	*e*PKPbc		PKPbc	21 43 39.6	+5.4
CLL	**Collm**	**149.42**	**352**	*i* sPKPbc		PKPab	21 43 48.9	+5.0
	comp=Z,9.0nm,1.2s							
CLL	**Collm**	**149.42**	**352**	∥*i*PKPab		PKPab	21 43 48.9	+5.0
	comp=Z,9.0nm,1.2s							
CLL				*e*(sPKPab)			21 43 56.0	
CLL				*es*PKPab			21 43 56.0	
CLL				*ex*		x	21 44 05.0	
MOX	**Moxa**	**150.23**	**353**	*e*P		PKPab	21 43 59.4	+12
BRTR	**Keskin Array B**	**150.25**	**315**	PKPbc		PKPbc	21 43 46.2	+5.1
	comp=Z,1.0nm,0.8s,baz=111,slow=3.4,SNR=7.7							
KHC	**Kasperske Hory**	**151.45**	**350**	*e*PKPab		PKPab	21 43 54.0	+1.6
GERES	**GERESS Array B**	**151.71**	**350**	PKPbc		PKPbc	21 43 47.6	+3.1
	comp=Z,0.2nm,0.4s,baz=251,slow=6.1,SNR=2.3							

IDC 15 21:32:33.4±1.7,577N×12715E,h0km,mb3.9/5,mb1 4.1/5, mb1mx3.8/17,mbtmp3.9/5,Error ellipse: s-maj=100.7km s-min=21.7km az=68.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**23.76**	**184**	P		P	21 37 48.0	+0.5
	2.5nm,0.8s,baz=18,slow=20,SNR=5.0							
WRA	**Warramunga Arr**	**26.51**	**165**	P		P	21 38 13.5	+1.0
	1.4nm,0.4s,baz=344,slow=11,SNR=19							
ASAR	**Alice Springs**	**29.99**	**168**	P		P	21 38 44.2	+0.7
	0.5nm,0.4s,baz=343,slow=7.0,SNR=14							
STKA	**Stephens Creek**	**39.89**	**161**	P		P	21 40 07.4	-1.5
	1.2nm,0.4s,baz=336,slow=6.6,SNR=5.0							
MKAR	**Makanchi Array**	**56.14**	**324**	P		P	21 42 14.8	+0.1
	1.1nm,0.4s,baz=119,slow=7.8,SNR=36							

IDC ***15*** *21:34:06.2±0.5,1470S×6630E,h0km,mb4.3/17, mb1 4.4/18,mb1mx4.4/19,mbtmp4.2/18,ML3.2/1,MS4.1/10, Ms1 4.1/10,ms1mx3.9/16,Error ellipse: s-maj=18.3km s-min=14.0km az=26.0*

ISCJB ***15*** *21:34:06.4±0.3,1475S±0.006×6627E±0.05,h10km, mb4.8/94,MS4.3/16,Error ellipse: s-maj=8.3km s-min=7.2km az=129.2*

MOS ***15*** *21:34:06.2±0.8,1470S×6633E,h10km,mb5.2/52,Error ellipse: s-maj=11.6km s-min=6.3km az=111.6*

HRVD ***15*** *21:34:08.2±0.4,1475S×6628E,h12km,MW4.9/62, Centroid moment Tensor Solution, LP body waves: s17,c19;Mantle waves: s62,c84; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.22±.10; Mθθ=0.91±.10; Mφφ=1.31±.10; Mrθ=0.39±.39; Mrφ=-0.81±.08; Mθφ=1.34±.37; Best double couple: M=2.45200×10^16 NP1:φs=307.00000°,δ36.00000°,λ=-122.00000°. NP2: φs=165.00000°,δ60.00000°,λ=-69.00000°. Principal axes: T 2.1250, Plg13.0000°, Azm240.0000°; N 0.6500, Plg18.0000°, Azm334.0000°; P -2.7790, Plg68.0000°, Azm117.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***15*** *21:34:08.2, 1470S×6620E, h10km, mB5.2, mb4.7, Ms4.9, Msz4.7*

NEIC ***15*** *21:34:08.2±0.2, 1471S×6622E, h10km, mb5.1/50, Error ellipse: s-maj=7.1km s-min=6.8km az=225.0*

SZGRF ***15*** *21:34:11.6, 14.18S×6677E, h33km, mb5.2, Mid-Indian Ridge*

ISC 15 21:34:08.3±0.3,1475S±006×6623E±005,h10km, (h17km±.7km:pP-P),n244,σ0 996/212,mb4.8/94,MS4.3/16, 10C-13D,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OPO	**Ambohidratompo**	**18.63**	**256**	P		**Pn**	**21 38 27.8**	**+1.6**
	0.1nm,0.3s,baz=81,slow=18,SNR=2.5							
KMBO	**Kilima Mbogo**	**31.66**	**293**	P		**P**	**21 40 31.7**	**0.0**
	0.6nm,0.3s,mb3.9,baz=44,slow=20,SNR=5.8							
KMBO				LR		LR	21 50 40.8	
	comp=Z,178nm,20.1s,MS3.7,baz=94,slow=31							
KMBO	**Kilima Mbogo**	**31.66**	**293**	∥*e*P		**P**	**21 40 33.4**	**+1.7**
ATD	**Arta Tunnel**	**34.90**	**317**	P		**P**	**21 40 58.7**	**-1.2**
	5.4nm,0.8s,mb4.5,baz=247,slow=24,SNR=3.7							
ATD	**Arta Tunnel**	**34.90**	**317**	P		**P**	**21 40 58.7**	**-1.2**
MATP	**Matopo**	**36.35**	**256**	P		**P**	**21 41 13.1**	**+0.8**
	9.5nm,1.3s,mb4.6,baz=94,slow=8.3,SNR=7.0							
LSZ	**Lusaka**	**36.71**	**264**	*e*P		**P**	**21 41 17.9**	**+2.4**
LSZ				pmax	pmax			
	comp=Z,43nm,1.6s,mb5.0							
LSZ	**Lusaka**	**36.71**	**264**	*e*P		**P**	**21 41 17.9**	**+2.4**
	comp=Z,43nm,1.6s,mb5.0							
LBTB	**Lobatse**	**39.42**	**249**	P		**P**	**21 41 40.0**	**+1.8**
	comp=Z,4.9nm,1.0s,mb4.2,baz=123,slow=4.8,SNR=7.0							
LBTB	**Lobatse**	**39.42**	**249**	*e*P		**P**	**21 41 39.9**	**+1.6**
LBTB				pmax	pmax			
	comp=Z,19nm,1.5s,mb4.6							
LBTB	**Lobatse**	**39.42**	**249**	*e*P		**P**	**21 41 39.9**	**+1.6**
	comp=Z,19nm,1.5s,mb4.6							
KOLN	**Koldanda**	**45.50**	**22**	*e*P		**P**	**21 42 28.3**	**+0.6**
	comp=Z,154nm,1.9s,mb5.5							
DMN	**Daman**	**45.91**	**24**	*e*P		**P**	**21 42 32.5**	**+1.5**
GKN	**Gorkha**	**46.09**	**23**	*e*P		**P**	**21 42 33.5**	**+1.1**
KKN	**Kakani**	**46.14**	**24**	*e*P		**P**	**21 42 34.0**	**+1.1**
	comp=Z,59nm,1.3s,mb5.4							
KKN	**Kakani**	**46.14**	**24**	*e*P		**P**	**21 42 34.0**	**+1.1**
KKN				pmax	pmax			
	comp=Z,59nm,1.3s,mb5.4							
JIRN	**Jiri**	**46.39**	**25**	*e*P		**P**	**21 42 36.1**	**+1.3**
GUN	**Gumba**	**46.49**	**24**	*e*P		**P**	**21 42 36.8**	**+1.3**
	comp=Z,80nm,1.4s,mb5.5							
TSUM	**Tsumeb**	**46.62**	**257**	LR		LR	22 01 19.7	
	comp=Z,538nm,18.6s,MS4.5,baz=100,slow=35							
LSA	**Lhasa**	**50.31**	**28**	*e*P		**P**	**21 43 06.4**	**+1.4**
LSA	**Lhasa**	**50.31**	**28**	*e*P		**P**	**21 43 06.6**	**+1.6**
LSA				pmax	pmax			
	comp=Z,35nm,1.6s,mb5.1							
LSA	**Lhasa**	**50.31**	**28**	*e*P		**P**	**21 43 06.6**	**+1.6**
	comp=Z,35nm,1.6s,mb5.1							
MAW	**Mawson**	**52.86**	**182**	P		**P**	**21 43 24.0**	**-0.1**
	comp=Z,5.0nm,1.1s,mb4.4,baz=39,slow=10,SNR=3.8							
MAW				LR		LR	22 00 04.0	
	comp=Z,374nm,20.0s,MS4.4,baz=167,slow=29							
KMI	**Kunming**	**53.27**	**42**	P		**P**	**21 43 31.3**	**+4.2**
KMI				AMB		AMB		
	comp=Z,8.0nm,2.0s,mb4.3							
SYO	**Syowa Base**	**56.80**	**191**	∥*e*X			21 43 48.0	
FITZ	**Fitzroy Crossi**	**56.88**	**102**	LR		LR	22 05 04.3	
	comp=Z,316nm,19.2s,MS4.4,baz=269,slow=33							
AAK	**Ala-Archa**	**57.60**	**7**	∥*e*P		**P**	**21 43 56.4**	**-1.9**
AAK				pmax	pmax			
	comp=Z,30nm,1.1s,mb5.2							
FRU	**Bishkek**	**57.81**	**7**	*e*P		**P**	**21 44 00.0**	**+0.2**
FRU				pmax	pmax			
	comp=Z,50nm,2.1s,mb5.2							
CD2	**Chengdu**	**57.99**	**38**	*e*P		**P**	**21 44 03.4**	**+2.4**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.9							
GNI	**Garni**	**58.16**	**341**	*e*P		**P**	**21 44 03.7**	**+1.5**
GNI				pmax	pmax			
	comp=Z,22nm,1.1s							
GNI	**Garni**	**58.16**	**341**	*e*P		**P**	**21 44 03.7**	**+1.5**
	comp=Z,22nm,1.1s,mb5.1							
LZH	**Lanzhou**	**61.81**	**34**	*e*P		**P**	**21 44 30.1**	**+2.8**
LZH				AP		pP	21 44 33.3	+2.8
LZH				XP		sP	21 44 34.8	+3.1
LZH				PP		PP	21 46 46.5	+3.2
LZH				*e*S		**S**	**21 52 53.0**	**+2.4**
LZH				XS		sS	21 52 59.0	+3.1
LZH				SS		SS	21 56 51.0	-1.4
LZH				AMB		AMB		
	comp=Z,23nm,1.0s,mb5.3							
LZH				AMB		AMB		
	comp=Z,130nm,4.7s							
LZH				LR		LR		
	comp=E,430nm,15.5s							
LZH				LR		LR		
	comp=Z,784nm,16.3s,MS5.0							
BRTR	**Keskin Array B**	**62.12**	**332**	P		**P**	**21 44 28.2**	**-1.1**
	comp=Z,2.7nm,1.1s,mb4.3,baz=142,slow=6.3,SNR=7.4							
KIV	**Kislovodsk**	**62.25**	**341**	*e*P		**P**	**21 44 26.8**	**-3.5**
KIV				*e*			21 46 43.9	
KIV				*e*S		**S**	**21 52 50.0**	**-6.2**
KIV				pmax	pmax			
	comp=Z,7.0nm,1.1s,mb4.7							
KIV				MLR		MLR		
	comp=Z,99nm,16.0s,MS4.1							
GTA	**Gaotai**	**62.33**	**29**	*e*P		**P**	**21 44 31.0**	**+0.2**
GTA				AP		pP	21 44 36.3	+2.3
GTA				XP		sP	21 44 39.3	+4.1
GTA				AMB		AMB		
	comp=Z,7.0nm,1.1s,mb4.7							
MKAR	**Makanchi Array**	**62.94**	**12**	P		**P**	**21 44 33.9**	**-1.0**
	comp=Z,3.1nm,0.7s,mb4.5,baz=210,slow=8.8,SNR=28							
MKAR				PcP		PcP	21 45 12.5	-0.4
	comp=Z,1.6nm,0.9s,baz=217,slow=3.8,SNR=3.6							
XAN	**Xi'an**	**63.29**	**39**	P		**P**	**21 44 36.8**	**-0.4**
XAN				AP		pP	21 44 42.3	+1.9
XAN				AMB		AMB		
	comp=Z,9.0nm,1.8s,mb4.6							
ASAR	**Alice Springs**	**64.03**	**109**	P		**P**	**21 44 42.0**	**-0.1**
	comp=Z,3.9nm,0.8s,mb4.5,baz=269,slow=6.5,SNR=33							
ASAR				PcP		PcP	21 45 17.5	+0.1
	comp=Z,2.2nm,1.0s,baz=277,slow=4.7,SNR=4.8							
WRA	**Warramunga Arr**	**64.85**	**105**	P		**P**	**21 44 47.9**	**+0.5**
	comp=Z,8.3nm,0.9s,mb4.8,baz=268,slow=5.9,SNR=42							
WRAB	**Tennant Creek**	**64.86**	**105**	*e*P		**P**	**21 44 48.2**	**+0.7**
WRAB				*e*			21 44 53.5	
WRAB				pmax	pmax			
	comp=Z,88nm,1.7s,mb5.5							
WRAB	**Tennant Creek**	**64.86**	**105**	*e*P		**P**	**21 44 48.2**	**+0.7**
	comp=Z,88nm,1.7s,mb5.5							
WRAB				*e*			21 44 53.5	
AKTO	**Aktyubinsk**	**65.30**	**354**	LR		LR	22 12 35.3	
	comp=Z,55nm,19.9s,MS3.8,baz=0.0,slow=35							
KURK	**Kurchatov**	**66.08**	**9**	*e*P		**P**	**21 44 54.8**	**-0.6**
KURK				pmax	pmax			
	comp=Z,12nm,1.1s,mb4.8							
KURK	**Kurchatov**	**66.08**	**9**	*e*P		**P**	**21 44 54.8**	**-0.6**
	comp=Z,12nm,1.1s,mb4.8							
ORR	**Orenburg**	**66.84**	**352**	*e*P		**P**	**21 44 59.0**	**-1.2**
ORR				*e*			21 45 05.4	
ORR				pmax	pmax			
	comp=Z,20nm,1.5s,mb4.9							
ZRNK	**Zerenda**	**67.46**	**2**	*e*P		**P**	**21 45 03.2**	**-1.0**
ZRNK				pmax	pmax			
	comp=Z,13nm,1.1s,mb4.9							
ZRNK	**Zerenda**	**67.46**	**2**	*e*P		**P**	**21 45 03.1**	**-1.1**
	comp=Z,13nm,1.1s,mb4.9							
BRVK	**Borovoye**	**67.61**	**3**	*e*P		**P**	**21 45 04.3**	**-0.9**
BRV

comp=Z,34nm,1.2s,mb5.2
ARSA Arzberg 76.57 327⇑ *iP* **P 21 45 59.6 +0.8**
comp=Z,86nm,2.2s,mb5.3
OBKA Obir 76.62 326 *i* P **P 21 45 59.3 +0.2**
comp=Z,117nm,3.0s,mb5.3,SNR=7.2
VNDA Vanda 76.92 167 P **P 21 45 59.0 -1.8**
comp=Z,1.6nm,1.1s,mb3.9,baz=250,slow=5.2,SNR=4.2
VNDA LR LR 22 17 06.9
comp=Z,60nm,20.3s,MS3.9,baz=253,slow=34
OKC Ostrava-Krasne 76.95 330 *eP* **P 21 46 01.6 +0.6**
OKC *ep*P pP 21 46 06.8 +2.5
SNY Shenyang 77.17 40 P **P 21 46 01.4 -0.8**
SNY AMB AMB
comp=Z,5.0nm,0.4s,mb4.8
MORC Moravsky Berou 77.20 330 *eP* **P 21 46 02.6 +0.2**
MORC pmax pmax
comp=Z,15nm,1.6s,mb4.7
MORC Moravsky Berou 77.20 330 *eP* **P 21 46 02.6 +0.2**
comp=Z,15nm,1.6s,mb4.7
MOA Molln 77.61 327⇓ *iP* **P 21 46 05.3 +0.6**
comp=Z,78nm,1.9s,mb5.3,SNR=10
KBA Koelnbreinsper 77.62 326⇓ *iP* **P 21 46 05.6 +0.9**
comp=Z,44nm,2.0s,mb5.0
KBA Koelnbreinsper 77.62 326⇓ *iP* **P 21 46 05.6 +0.9**
KBA pmax pmax
comp=Z,45nm,2.0s,mb5.0
CIT Chita 78.09 28 *eP* **P 21 46 06.7 -0.6**
CIT pmax pmax
comp=Z,30nm,2.4s,mb4.8
DPC Dobruska-Polom 78.17 330 *eP* **P 21 46 08.3 +0.5**
DPC *ep*P pP 21 46 13.8 +2.7
KLMR Klimovskoe 78.31 347 *eP* **P 21 46 07.7 -0.9**
KLMR pmax pmax
comp=Z,50nm,1.5s,mb5.2
UPC Upice 78.42 330 *eP* **P 21 46 10.7 +1.5**
GEC2 GERESS Array S 78.52 328 *eP* **P 21 46 09.1 -0.6**
comp=Z,19nm,1.8s,mb4.7
GEC2 GERESS Array S 78.52 328 *eP* **P 21 46 09.1 -0.6**
GEC2 pmax pmax
comp=Z,19nm,1.8s,mb4.7
GERES GERESS Array B 78.52 328 P **P 21 46 08.4 -1.3**
comp=Z,0.9nm,0.8s,baz=160,slow=8.1,SNR=9.3
WTTA Wattenberg 78.66 326⇑ *iP* **P 21 46 10.9 +0.4**
comp=Z,72nm,2.2s,mb5.2
WTTA Wattenberg 78.66 326⇑ *iP* **P 21 46 10.9 +0.4**
WTTA pmax pmax
comp=Z,72nm,2.2s,mb5.2
WATA Walderalm 78.74 326⇓ *iP* **P 21 46 11.0 +0.1**
comp=Z,20nm,1.5s,mb4.8
WATA Walderalm 78.74 326⇓ *iP* **P 21 46 11.0 +0.1**
WATA pmax pmax
comp=Z,20nm,1.5s,mb4.8
KHC Kasperske Hory 78.77 328 *eP* **P 21 46 10.9 -0.2**
KHC *ep*P pP 21 46 16.2 +1.8
PRU Pruhonice 78.81 329 *eP* **P 21 46 11.9 +0.6**
PRU *ep*P pP 21 46 17.4 +2.8
SQTA Sankt Quirin 78.87 325⇑ *iP* **P 21 46 11.9 +0.2**
comp=Z,29nm,1.6s,mb5.0
SQTA Sankt Quirin 78.87 325⇑ *iP* **P 21 46 11.9 +0.3**
SQTA pmax pmax
comp=Z,29nm,1.6s,mb5.0
PMG Port Moresby 78.96 97⇑ *eP* **P 21 46 07.5 -4.6**
MOTA Moosalm 79.00 325⇓ *iP* **P 21 46 12.4 0.0**
comp=Z,12nm,1.3s,mb4.7
MOTA Moosalm 79.00 325⇓ *iP* **P 21 46 12.4 0.0**
MOTA pmax pmax
comp=Z,12nm,1.3s,mb4.7
WET Wettzell 79.14 328 *eP* **P 21 46 12.6 -0.5**
comp=Z,84nm,3.0s
WET Wettzell 79.14 328 *eP* **P 21 46 12.6 -0.5**
WET pmax pmax
comp=Z,84nm,3.0s
SBF Sospel 79.17 321 *eP* **P 21 46 12.5 -0.8**
comp=Z,51nm,1.3s,mb5.0
SBF Sospel 79.17 321 *eP* **P 21 46 12.5 -0.8**
SBF pmax pmax
comp=Z,25nm,1.3s,mb5.0
SBF Sospel 79.17 321 *eP* **P 21 46 12.5 -0.8**
comp=Z,26nm,1.3s,mb5.0
FUR Furstenfeldbru 79.39 326 *eP* **P 21 46 14.6 +0.1**
comp=Z,67nm,1.4s,mb5.4
FUR Furstenfeldbru 79.39 326 *eP* **P 21 46 14.6 +0.1**
FUR pmax pmax
comp=Z,67nm,1.4s,mb5.4
LMR La Mourre 79.45 320 *eP* **P 21 46 14.0 -0.8**
comp=Z,55nm,1.6s,mb4.9
LMR La Mourre 79.45 320 *eP* **P 21 46 14.0 -0.8**
LMR pmax pmax
comp=Z,27nm,1.6s,mb4.9
LMR La Mourre 79.45 320 *eP* **P 21 46 14.0 -0.8**
comp=Z,27nm,1.6s,mb4.9
FRF La Foret Royal 79.49 320 *eP* **P 21 46 14.2 -0.8**
comp=Z,48nm,1.6s,mb4.9
FRF La Foret Royal 79.49 320 *eP* **P 21 46 14.2 -0.8**
FRF pmax pmax
comp=Z,24nm,1.6s,mb4.9
FRF La Foret Royal 79.49 320 *eP* **P 21 46 14.2 -0.8**
comp=Z,24nm,1.6s,mb4.9
DAVA Damuels 79.65 325⇓ *iP* **P 21 46 15.8 -0.1**
comp=Z,74nm,2.4s,mb5.2
BRG Berggiesshubel 79.67 329 *eP* **P 21 46 16.2 +0.2**
comp=Z,56nm,2.0s,mb4.9
BRG Berggiesshubel 79.67 329 *eP* **P 21 46 16.7 +0.7**
comp=Z,35nm,2.0s,mb4.9
BRG *e* 21 57 47.4
comp=Z,2.5nm,0.9s
BRG Berggiesshubel 79.67 329 *eP* **P 21 46 16.7 +0.7**
BRG pmax pmax
comp=Z,35nm,2.0s,mb4.9
BRG pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
ROTZ Rotzenmuhle 79.86 328 *eP* **P 21 46 17.2 +0.1**
comp=Z,117nm,3.2s
NKC Novy Kostel 80.02 328 *eP* **P 21 46 19.1 +1.2**
NKC *ep*P pP 21 46 24.5 +3.3
MBDF Montbardon 80.03 321 *eP* **P 21 46 17.7 -0.3**
MANZ Manzenberg 80.05 328 *eP* **P 21 46 18.2 +0.1**
comp=Z,12nm,1.6s,mb4.6
WERD Werda 80.23 328 *eP* **P 21 46 19.7 +0.7**
comp=Z,83nm,2.6s,mb5.2
GRFO Grafenberg 80.33 327 *eP* **P 21 46 19.9 +0.3**
comp=Z,54nm,1.7s,mb5.2
GRFO Grafenberg 80.33 327 *eP* **P 21 46 19.9 +0.3**
GRFO pmax pmax
comp=Z,16nm,1.7s,mb4.7
SMRF Simiane la Rot 80.37 320 *eP* **P 21 46 19.9 +0.1**
CLL Collm 80.41 329 *eP* **P 21 46 20.7 +0.7**
comp=Z,43nm,1.8s,mb5.1
CLL Collm 80.41 329 *i* P **P 21 46 20.9 +0.9**
comp=Z,43nm,1.8s,mb5.1
CLL *e*(sP) sP 21 46 26.0 +1.5
CLL Collm 80.41 329 *iP* **P 21 46 20.9 +0.9**
CLL pmax pmax
comp=Z,43nm,1.8s,mb5.1
LPG La Plagne 80.46 322 *eP* **P 21 46 19.0 -1.3**
comp=Z,38nm,1.6s,mb4.8
LPG La Plagne 80.46 322 *eP* **P 21 46 19.0 -1.3**
LPG pmax pmax
comp=Z,19nm,1.6s,mb4.8
LPG La Plagne 80.46 322 *eP* **P 21 46 19.0 -1.3**
comp=Z,19nm,1.6s,mb4.8
LPL La Plagne 80.48 322 *eP* **P 21 46 19.0 -1.4**
ORIF Oris-en-Rattie 80.67 321 *eP* **P 21 46 20.8 -0.6**
comp=Z,41nm,1.4s,mb4.9
ORIF Oris-en-Rattie 80.67 321 *eP* **P 21 46 20.8 -0.6**
ORIF pmax pmax
comp=Z,21nm,1.4s,mb4.9
ORIF Oris-en-Rattie 80.67 321 *eP* **P 21 46 20.8 -0.6**
comp=Z,20nm,1.4s,mb4.9
MOX Moxa 80.70 328 *eP* **P 21 46 21.9 +0.4**
comp=Z,30nm,1.8s,mb4.9
MOX Moxa 80.70 328 *eP* **P 21 46 22.3 +0.8**
comp=Z,30nm,1.9s,mb4.9
MOX Moxa 80.70 328 *eP* **P 21 46 22.3 +0.8**
MOX pmax pmax
comp=Z,30nm,1.9s,mb4.9
RUE Ruedersdorf 80.76 331 *eP* **P 21 46 22.7 +0.8**
STU Stuttgart 80.87 326 P **P 21 46 22.9 +0.4**
BFO Black Forest 81.10 325 *eP* **P 21 46 23.4 -0.3**
comp=Z,58nm,2.0s,mb5.2
BFO Black Forest 81.10 325 *eP* **P 21 46 23.4 -0.3**
BFO pmax pmax
comp=Z,58nm,2.0s,mb5.2
VIVF Saint-Julien-l 81.38 321 *eP* **P 21 46 24.5 -0.7**
comp=Z,27nm,1.3s,mb4.7
VIVF Saint-Julien-l 81.38 321 *eP* **P 21 46 24.5 -0.7**
VIVF pmax pmax
comp=Z,13nm,1.3s,mb4.7
VIVF Saint-Julien-l 81.38 321 *eP* **P 21 46 24.5 -0.7**
comp=Z,13nm,1.3s,mb4.7
CABF La Chapelle 81.44 323 *eP* **P 21 46 25.0 -0.5**
LASF Ste Croix 81.49 320 *eP* **P 21 46 25.3 -0.5**
comp=Z,12nm,1.0s,mb4.5
HINF Hinteralfeld 81.64 324 *eP* **P 21 46 25.2 -1.4**
CDF Champ du Feu 81.73 325 *eP* **P 21 46 25.9 -1.1**
comp=Z,56nm,1.7s,mb4.9
CDF Champ du Feu 81.73 325 *eP* **P 21 46 25.9 -1.1**
CDF pmax pmax
comp=Z,28nm,1.7s,mb4.9
CDF Champ du Feu 81.73 325 *eP* **P 21 46 25.9 -1.1**
comp=Z,28nm,1.7s,mb4.9
HAU Haudompre 82.03 324 *eP* **P 21 46 28.4 -0.2**
CLZ Clausthal 82.04 329 *eP* **P 21 46 29.2 +0.5**
comp=Z,40nm,1.6s,mb5.1
CLZ Clausthal 82.04 329 *eP* **P 21 46 29.2 +0.5**
CLZ pmax pmax
comp=Z,40nm,1.6s,mb5.1
GTTG Gvttingen 82.07 328 *eP* **P 21 46 29.8 +1.0**
comp=Z,69nm,2.1s,mb5.2
TNS Taunus Mts 82.10 327 *eP* **P 21 46 29.7 +0.7**
comp=Z,30nm,1.7s,mb5.0
TNS Taunus Mts 82.10 327 *eP* **P 21 46 29.7 +0.7**
TNS pmax pmax
comp=Z,30nm,1.7s,mb5.0
MTLF Montolieu 82.16 319 *eP* **P 21 46 28.8 -0.5**
RGN Rugen 82.28 332 *eP* **P 21 46 30.5 +0.6**
comp=Z,78nm,1.3s,mb5.5
BOD Bodaibo 82.28 24 *eP* **P 21 46 28.2 -1.8**
MDJ Mudanjiang 82.38 40 P **P 21 46 31.5 +1.1**
MDJ AP pP 21 46 35.8 +2.1
MDJ PP PP 21 49 40.3 +1.1
MDJ AMB AMB
comp=Z,9.0nm,1.0s,mb4.7
MDJ AMB AMB
comp=Z,139nm,5.4s
MDJ LR LR
comp=N,81nm,18.6s,MS4.2
MDJ LR LR
comp=E,23nm,16.7s,MS4.2
MDJ LR LR
comp=Z,95nm,16.7s,MS4.2
SMF Signal de Mont 82.78 322 *eP* **P 21 46 31.4 -1.2**
CAF Calviac 83.02 320 *eP* **P 21 46 33.4 -0.4**
comp=Z,13nm,1.1s,mb4.6
CAF Calviac 83.02 320 *eP* **P 21 46 33.4 -0.4**
CAF pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
CAF Calviac 83.02 320 *eP* **P 21 46 33.4 -0.4**
comp=Z,6.7nm,1.1s,mb4.6
WLF Walferdange 83.03 325 *eP* **P 21 46 34.3 +0.5**
comp=Z,19nm,1.4s,mb4.9
WLF Walferdange 83.03 325 P **P 21 46 34.4 +0.6**
MEZF Maizieres J'vi 83.03 324 *eP* **P 21 46 33.1 -0.7**
LOR Lormes 83.09 323 *eP* **P 21 46 33.2 -0.9**
comp=Z,25nm,1.4s,mb4.8
LOR Lormes 83.09 323 *eP* **P 21 46 33.2 -0.9**
LOR pmax pmax
comp=Z,13nm,1.4s,mb4.8
LOR Lormes 83.09 323 *eP* **P 21 46 33.2 -0.9**
comp=Z,13nm,1.4s,mb4.8
AVF Avril sur Loir 83.15 322 *eP* **P 21 46 33.4 -1.0**
SSF Saint Saulge 83.19 322 *eP* **P 21 46 33.8 -0.9**
comp=Z,32nm,1.2s,mb4.9
SSF Saint Saulge 83.19 322 *eP* **P 21 46 33.8 -0.9**
SSF pmax pmax
comp=Z,16nm,1.2s,mb4.9
SSF Saint Saulge 83.19 322 *eP* **P 21 46 33.8 -0.9**
comp=Z,16nm,1.2s,mb4.9
EPF Esparros 83.23 318 *eP* **P 21 46 34.3 -0.6**
BGF Bois d'Agland 83.33 322 *eP* **P 21 46 34.9 -0.5**
comp=Z,105nm,1.6s,mb5.3
BGF Bois d'Agland 83.33 322 *eP* **P 21 46 34.9 -0.5**
BGF pmax pmax
comp=Z,52nm,1.6s,mb5.3
BGF Bois d'Agland 83.33 322 *eP* **P 21 46 34.9 -0.5**
comp=Z,52nm,1.6s,mb5.3
RJF Les Rejaudoux 83.54 320 *eP* **P 21 46 36.1 -0.4**
comp=Z,20nm,1.0s,mb4.9
RJF Les Rejaudoux 83.54 320 *eP* **P 21 46 36.1 -0.4**
RJF pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
RJF Les Rejaudoux 83.54 320 *eP* **P 21 46 36.1 -0.4**
comp=Z,10nm,1.0s,mb4.9
TCF Toulx Ste Croi 83.59 321 *eP* **P 21 46 36.0 -0.7**
comp=Z,16nm,1.2s,mb4.7
TCF Toulx Ste Croi 83.59 321 *eP* **P 21 46 36.0 -0.7**
TCF pmax pmax
comp=Z,8.0nm,1.2s,mb4.7
TCF Toulx Ste Croi 83.59 321 *eP* **P 21 46 36.0 -0.7**
comp=Z,8.1nm,1.2s,mb4.7
ETSF Etsaut 83.76 317 *eP* **P 21 46 37.4 -0.2**
comp=Z,18nm,1.1s,mb4.8
ETSF Etsaut 83.76 317 *eP* **P 21 46 37.4 -0.2**
ETSF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
ETSF Etsaut 83.76 317 *eP* **P 21 46 37.4 -0.2**
comp=Z,9.1nm,1.0s,mb4.9
LFF La Frestale 83.86 319 *eP* **P 21 46 37.6 -0.5**
GIVF Givet 83.99 325 *eP* **P 21 46 38.3 -0.5**
DOU Dourbes 84.11 325 P **P 21 46 41.7 +2.3**
SJPF Ste Jean 84.29 317 *eP* **P 21 46 40.3 0.0**
comp=Z,15nm,0.9s,mb4.8
SJPF Ste Jean 84.29 317 *eP* **P 21 46 40.3 0.0**
SJPF pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
SJPF Ste Jean 84.29 317 *eP* **P 21 46 40.3 0.0**
comp=Z,7.3nm,0.9s,mb4.8
BAIF Baives 84.31 325 *eP* **P 21 46 40.0 -0.4**
comp=Z,76nm,1.7s,mb5.3
BAIF Baives 84.31 325 *eP* **P 21 46 40.0 -0.4**
BAIF pmax pmax
comp=Z,38nm,1.7s,mb5.2
BAIF Baives 84.31 325 *eP* **P 21 46 40.0 -0.4**
comp=Z,38nm,1.7s,mb5.2
ESDC Sonseca Array 84.71 313 P **P 21 46 43.1 +0.7**
comp=Z,3.2nm,0.8s,mb4.5,baz=115,slow=4.1,SNR=16
MAT Matsushiro 84.78 50 P **P 21 46 43.0 +0.2**
MAT Matsushiro 84.78 50 *eP* **P 21 46 43.0 +0.2**
MJAR Matsushiro Arr 84.78 50 P **P 21 46 43.0 +0.2**
comp=Z,2.0nm,0.7s,mb4.4,baz=226,slow=4.9,SNR=8.0
MJAR LR LR 22 21 55.1
comp=Z,123nm,18.8s,MS4.3,baz=80,slow=34
MFF Saint Martin d 85.17 321 *eP* **P 21 46 44.0 -0.8**
comp=Z,20nm,1.1s,mb4.9
MFF Saint Martin d 85.17 321 *eP* **P 21 46 44.0 -0.8**
MFF pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
MFF Saint Martin d 85.17 321 *eP* **P 21 46 44.0 -0.8**
comp=Z,9.9nm,1.1s,mb4.8
KLR Kul'dur 85.89 37 *eP* **P 21 46 43.0 -5.3**
NB2 NORSAR Subarra 87.19 336 P **P 21 46 53.8 -0.9**
comp=Z,34nm,2.0s,mb5.2,baz=127,slow=5.1
NOA NORSAR Array B 87.19 336 P **P 21 46 54.4 -0.3**
comp=Z,1.9nm,0.9s,mb4.3,baz=116,slow=4.5,SNR=4.0
HABR Khabarovsk 87.49 38 *eP* **P 21 46 55.0 -1.2**
TIXI Tiksi 95.69 16 *eP* **P 21 47 34.3 +0.1**
TIXI pmax pmax
comp=Z,3.0nm,1.1s,mb4.6
TIXI MLR MLR
comp=Z,227nm,20.0s,MS4.6
ILAR Eielson Array 125.16 17 PKP PKPdf 21 53 06.8 -2.2
comp=Z,1.2nm,0.9s,baz=312,slow=3.6,SNR=7.6
YKA Yellowknife Ar 132.31 1 PKP PKPdf 21 53 21.5 -1.1
comp=Z,1.0nm,0.8s,baz=353,slow=2.2,SNR=13
TZTN Tazewell 145.40 314 *e*PKPdf PKPdf 21 53 46.9 +0.5
WALA Waterton Lakes 145.78 0 *e*PKPdf PKPdf 21 53 46.8 -0.3
NEW Newport 146.47 4 PKPbc PKPbc 21 53 50.1 +0.5
comp=Z,8.8nm,0.9s,baz=300,slow=3.9,SNR=16
CHMT Chamberlain Mo 147.93 359 *e*PKPbc PKPbc 21 53 54.2 +0.5
MSO Missoula 148.02 0 *e*PKPdf PKPdf 21 53 51.1 +0.2
MSO *e*PKPbc PKPbc 21 53 54.4 +0.5
HRY Holter Researc 148.09 357 *e*PKPdf PKPdf 21 53 51.0 +0.1
HRY *e*PKPbc PKPbc 21 53 55.0 +0.8
GCMT Greyclift 148.86 354 *e*PKPbc PKPbc 21 53 57.5 +1.3
DLMT Dillon 149.47 358 *e*PKPbc PKPbc 21 53 57.9 +0.3
RSSD Black Hills 149.57 346 *e*PKP2 PKPab 21 53 58.7 -4.2
QLMT Earthquake Lak 149.95 357 *e*PKPdf PKPdf 21 53 55.5 +1.6
QLMT *e*PKPbc PKPbc 21 54 00.4 +1.6
YMR Madison River 150.08 356 *e*PKPbc PKPbc 21 54 01.2 +2.0
LKWY Lake 150.14 355 *e*PKIKP PKPbc 21 54 02.5 +3.2
FLWY Flagg Ranch 150.65 355 *e*PKPbc PKPbc 21 54 02.6 +2.1
MOOW Moose Ponds 150.98 355 *e*PKPbc PKPbc 21 54 02.8 +1.5
HUMO Hull Mountain 151.13 14 *e*PKPbc PKPbc 21 54 02.7 +1.0
TPAW Teton Pass 151.25 356 *e*PKPbc PKPbc 21 54 03.7 +1.7
HLID Hailey 151.28 1 *e*PKPbc PKPbc 21 54 03.4 +1.4
REDW Red Top Meadow 151.37 356 *e*PKPbc PKPbc 21 54 03.7 +1.5
PDAR Pinedale Array 151.84 353 PKP PKPdf 21 53 56.4 -0.5
comp=Z,0.5nm,0.9s,baz=29,slow=3.4,SNR=4.5
PDAR PKPbc PKPbc 21 54 03.8 +0.5
comp=Z,4.2nm,0.7s,baz=61,slow=2.1,SNR=30
YBH Yreka Blue Hor 152.02 14 PKPbc PKPbc 21 54 03.6 -0.1
comp=Z,3.0nm,1.1s,baz=95,slow=4.9,SNR=3.1
HWUT Hardware Ranch 153.17 356 *e*PKPbc PKPbc 21 54 07.1 +0.9
HWUT *e*PKPab PKPab 21 54 18.9 +1.0
DAU Daniels Canyon 154.34 356 *e*PKP2 PKPab 21 54 24.9 +2.1
NVAR Mina Array Bea 156.07 9 PKPab PKPab 21 54 31.6 +1.4
comp=Z,0.9nm,0.7s,baz=23,slow=2.8,SNR=5.1
ANMO Albuquerque 158.83 343 PKPab PKPab 21 54 42.9 +0.8
comp=Z,1.9nm,0.9s,baz=68,slow=7.8,SNR=4.5
WUAZ Wupatki 159.21 354 *e*PKPab PKPab 21 54 45.2 +1.4
BNM Barren Site 159.63 343 *e*PKPab PKPab 21 54 47.3 +1.7

CASC 15 21:35:29.6±2.0, 1175N×8820W, h123km±63km, MD4.3, ML3.6, 4C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEON	**Leon**	**1.44**	**63**	*e*P		Pn	21 35 55.8	-0.7
LEON				*e*S		Sn	21 36 17.0	0.0
CRIN	**San Cristobal**	**1.47**	**50⇑**	*e*P		Pn	21 35 57.4	+0.5
CRIN				*e*S		Sn	21 36 20.0	+2.4
TEL3	**Telica 3**	**1.56**	**58⇑**	*e*P		Pn	21 35 57.6	-0.3
TEL3				*e*S		Sn	21 36 21.0	+1.6
COPN	**Copaltepe**	**1.63**	**75⇑**	*e*P		Pn	21 35 57.9	-0.8
COPN				*e*S		Sn	21 36 21.5	+0.5
MOMJ	**Momotombo**	**1.75**	**68**	*e*P		Pn	21 36 00.4	+0.2
APYN	**Apoyeque**	**1.87**	**75⇑**	*e*P		Pn	21 36 01.5	-0.2
APYN				*e*S		Sn	21 36 27.2	+1.1
APYN				*i*			21 36 29.7	
comp=Z,536nm,0.3s								
MGAN	**Managua**	**1.95**	**78**	*e*S		Sn	21 36 28.2	+0.3
PRS1	**Puriscal**	**4.21**	**114**	*e*P		Pn	21 36 33.2	+1.3
LCR2	**La Lucha 2**	**4.58**	**115**	*e*P		Pn	21 36 39.0	+2.1
URSC	**Urasca**	**4.75**	**113**	*e*P		Pn	21 36 41.5	+2.3
URSC				*e*S		Sn	21 37 36.5	+3.4
BUS	**Buena Vista**	**4.88**	**116**	*e*P		Pn	21 36 42.6	+1.6
BUS				*e*S		Sn	21 37 40.2	+3.7

MOS ***15*** *21:43:01.9±0.9, 5389N×164.35W, h10km, mb4.8/22, Error ellipse: s-maj=21.9km s-min=8.0km az=88.7*
IDC ***15*** *21:43:03.4±1.6, 54.19N×164.46W, h0km, mb4.2/13, mb1 4.2/16, mb1mx4.0/27, mbtmp4.1/16, ML3.7/3, MS3.3/6, Ms1 3.3/6, ms1mx2.9/28, Error ellipse: s-maj=42.1km s-min=16.0km az=164.0*
NEIC ***15*** *21:43:07.8±0.9, 5384N×164.19W, h42km±4km, mb4.6/26, ML4.0(AEIC), Error ellipse: s-maj=15.8km s-min=4.3km az=164.0*
BJI ***15*** *21:43:07.8, 5380N×164.20W, h42km, mB5.1, mb4.5, Ms4.0, Msz3.7*
ISCJB ***15*** *21:43:08.1±0.9, 54.1N±0.1×164.21W±0.09, h49km±5km, mb4.4/43, MS3.5/7, Error ellipse: s-maj=20.4km s-min=6.2km az=140.8*
ISC 15 21:43:08.9±0.9, 540N±0.1×16423W±0.08, h49km±5km, n117, o0g91/117, mb4.4/43, MS3.5/7, 6C-2D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKUT	**Akutan**	**0.92**	**281**	*e*P		**Pn**	**21 43 25.3**	**-0.2**
FALS	**False Pass**	**1.00**	**28**	P		**Pn**	**21 43 26.4**	**-0.3**
FALS				S		**Sn**	**21 43 41.4**	**+1.6**
AKLV	**Akutan Long Va**	**1.03**	**281**	P		**Pn**	**21 43 26.7**	**-0.4**
UNV	**Unalaska Valle**	**1.35**	**265**	P		**Pn**	**21 43 30.0**	**-1.3**
OKCE	**Okmok Cone E**	**2.40**	**258**	P		**Pn**	**21 43 46.8**	**+1.1**
SDPT	**Sand Point**	**2.58**	**56**	*e*P		**Pn**	**21 43 48.1**	**-0.1**
CHGN	**Chignik**	**4.07**	**53**	*e*P		**Pn**	**21 44 08.2**	**-0.5**
KDAK	**Kodiak Island**	**7.58**	**55**	Pn		**Pn**	**21 44 55.5**	**-1.3**
1.7nm,0.3s,baz=246,slow=5.9,SNR=21								
KDAK				Sn		**Sn**	**21 46 19.6**	**-1.7**
1.1nm,0.3s,baz=323,slow=21,SNR=7.3								
KDAK	**Kodiak Island**	**7.58**	**55**	P		**Pn**	**21 44 55.4**	**-1.3**
SVW2	**Sparrevohn**	**8.52**	**30**	*e*P		**Pn**	**21 45 10.9**	**+1.3**
TTA	**Tatalina**	**9.95**	**22**	*e*P		**Pn**	**21 45 30.7**	**+1.5**
SLKM	**Skilak Lake**	**10.01**	**44**	*e*P		**Pn**	**21 45 30.1**	**0.0**
FX1	**Attu Island--F**	**13.51**	**275**	LR		LR	21 51 02.5	
comp=Z,17nm,19.2s,baz=351,slow=36								
ILAR	**Eielson Array**	**13.91**	**32**	Pn		**Pn**	**21 46 17.4**	**-5.9**
0.1nm,0.3s,baz=228,slow=11,SNR=4.7								
DAWY	**Dawson**	**16.18**	**42**	*e*P		**Pn**	**21 46 55.6**	**+2.7**
DLBC	**Dease Lake**	**19.40**	**63**	P		**Pn**	**21 47 32.8**	**+0.4**
0.2nm,0.3s,baz=261,slow=11,SNR=5.4								
DLBC	**Dease Lake**	**19.40**	**63**	*e*P		**Pn**	**21 47 31.7**	**-0.6**
BILL	**Bilibino**	**19.78**	**327⇑**	*e*P		**Pn**	**21 47 36.5**	**-0.3**
BILL				pmax	pmax			
comp=Z,5.0nm,1.0s								
BILL				MLR	MLR			
comp=Z,200nm,18.0s								
BILL	**Bilibino**	**19.78**	**327**	*e*P		**Pn**	**21 47 36.3**	**-0.5**
comp=Z,14nm,1.3s								
INK	**Inuvik**	**20.31**	**33**	P		**P**	**21 47 38.5**	**-2.2**
comp=Z,8.6nm,0.9s,baz=222,slow=11,SNR=9.2								
INK				LR	LR		21 56 19.4	
comp=Z,194nm,20.4s,MS3.5,baz=238,slow=39								
INK	**Inuvik**	**20.31**	**33**	*e*P		**P**	**21 47 38.2**	**-2.5**
INK				pmax	pmax			
comp=Z,10.0nm,1.0s								
INK	**Inuvik**	**20.31**	**33**	*e*P		**P**	**21 47 38.2**	**-2.5**
comp=Z,10nm,1.0s								
BBB	**Bella Bella**	**21.63**	**80**	P		**P**	**21 47 56.7**	**+1.8**
comp=Z,6.4nm,1.0s,mb4.0,baz=309,slow=9.1,SNR=1.7								
YKW3	**Yellowknife Ar**	**26.83**	**51**	*e*P		**P**	**21 48 44.3**	**-0.3**
YKA	**Yellowknife Ar**	**26.84**	**52**	P		**P**	**21 48 44.7**	**0.0**
comp=Z,0.8nm,0.6s,mb3.4,baz=274,slow=10,SNR=14								
YKA				LR	LR		22 00 18.5	
comp=Z,106nm,18.8s,MS3.4,baz=255,slow=39								
YKA	**Yellowknife Ar**	**26.84**	**52**	P		**P**	**21 48 44.7**	**0.0**
YKA				LR	LR		22 00 18.5	
TIXI	**Tiksi**	**32.99**	**328⇑**	*e*P		**P**	**21 49 39.2**	**0.0**
TIXI				pmax	pmax			
comp=Z,3.0nm,1.2s,mb4.1								
FCC	**Fort Churchill**	**37.52**	**54**	*e*P		**P**	**21 50 17.7**	**-0.4**
MDJ	**Mudanjiang**	**42.68**	**285**	P		**P**	**21 51 03.8**	**+3.0**
MDJ				PP	PP		21 52 42.3	+1.9
MDJ				PCS	PcS		21 56 48.5	+4.4
MDJ				S	S		**21 57 26.8**	**+6.1**
MDJ				AMB	AMB			
comp=Z,4.0nm,1.1s,mb4.1								
MDJ				AMB	AMB			
comp=Z,70nm,5.9s								
MDJ				LR	LR			
comp=N,77nm,25.7s,MS3.6								
MDJ				LR	LR			
comp=E,58nm,22.8s,MS3.6								
MDJ				LR	LR			
comp=Z,95nm,17.1s								
MJAR	**Matsushiro Arr**	**42.82**	**270**	P		**P**	**21 51 01.9**	**-0.1**
comp=Z,1.1nm,0.8s,mb3.6,baz=35,slow=7.6,SNR=4.4								
CN2	**Changchun**	**45.53**	**287**	*e*P		**P**	**21 51 28.0**	**+4.3**
DAG	**Danmarks Havn**	**47.70**	**10⇓**	*i*P		**P**	**21 51 40.0**	**-0.7**
comp=Z,2.5nm,0.4s,mb4.6								
DAG	**Danmarks Havn**	**47.70**	**10⇓**	*e*P		**P**	**21 51 40.0**	**-0.7**
DAG				pmax	pmax			
comp=Z,3.0nm,0.4s,mb4.7								
SUMG	**Summit**	**48.29**	**19**	*e*P		**P**	**21 51 45.6**	**+0.4**
comp=Z,14nm,1.1s,mb4.9								
SFJD	**Kangerlussuaq**	**49.54**	**28**	P		**P**	**21 51 54.8**	**0.0**
comp=Z,4.5nm,0.8s,mb4.6,baz=276,slow=7.4,SNR=3.7								
SCHQ	**Schefferville**	**52.11**	**47**	P		**P**	**21 52 13.0**	**-1.1**
comp=Z,4.4nm,1.0s,mb4.4,baz=352,slow=6.9,SNR=4.9								
SCHQ				LR	LR		22 15 03.7	
comp=Z,44nm,21.2s,MS3.5,baz=299,slow=37								
SCHQ	**Schefferville**	**52.11**	**47**	P		**P**	**21 52 13.0**	**-1.1**
SCHQ				LR	LR		22 15 03.7	
ULN	**Ulaanbaatar**	**52.74**	**302⇑**	*e*P		**P**	**21 52 17.0**	**-1.8**
SADO	**Sadowa**	**52.96**	**63**	LR	LR		22 13 20.5	
comp=Z,35nm,19.5s,MS3.4,baz=169,slow=34								
NJ2	**Nanjing**	**57.34**	**281**	*e*P		**P**	**21 52 58.1**	**+6.1**
NJ2				AMB	AMB			
comp=Z,10.0nm,0.6s,mb5.0								
KURK	**Kurchatov**	**63.16**	**321⇑**	*e*P		**P**	**21 53 31.5**	**-0.3**
CHKZ	**Chkalovo**	**63.50**	**327**	*e*P		**P**	**21 53 33.2**	**-0.8**
CHKZ				pmax	pmax			
comp=Z,3.0nm,1.0s,mb4.3								

CHKZ Chkalovo 63.50 327 *e*P P **21 53 33.2 -0.8**
comp=Z,2.8nm,1.0s,mb4.2
ARU Arti 64.53 335 ⇑*i*P P **21 53 40.1 -0.7**
ARU *e* 21 54 12.9
ARU *e* 21 56 01.4
ARU *e*S S **22 02 21.4 +5.0**
ARU *e*SS SS 22 06 34.2 +6.8
ARU pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
ZRNK Zerenda 64.63 328 *e*P P **21 53 40.8 -0.6**
ZRNK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
ZRNK Zerenda 64.63 328 *e*P P **21 53 40.8 -0.6**
comp=Z,5.8nm,0.9s,mb4.6
MKAR Makanchi Array 64.88 316 P P **21 53 42.5 -0.5**
comp=Z,0.4nm,0.6s,mb3.6,baz=46,slow=6.8,SNR=8.7
NB2 NORSAR Subarra 65.28 2 P P **21 53 44.7 -0.9**
comp=Z,1.4nm,0.8s,mb4.0,baz=358,slow=6.9
NOA NORSAR Array B 65.28 2 P P **21 53 45.5 -0.2**
comp=Z,2.2nm,0.8s,mb4.2,baz=358,slow=6.6,SNR=8.4
NOA LR LR 22 24 41.1
comp=Z,17nm,18.6s,MS3.3,baz=95,slow=38
HFS Hagfors 66.23 1 P P **21 53 50.6 -1.2**
comp=Z,3.1nm,0.6s,mb4.5,baz=28,slow=3.5,SNR=14
OBN Obninsk 69.93 347 ⇑*e*P P **21 54 13.1 -1.9**
OBN *e* 21 56 50.9
OBN *e*S S 22 03 23.8 +2.4
OBN pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
EKA Eskdalemuir Ar 69.95 11 P P **21 54 14.4 -0.7**
comp=Z,0.9nm,0.8s,mb3.8,baz=357,slow=1.7,SNR=3.4
AKTK Aktyubinsk 70.08 333 P P **21 54 16.1 +0.2**
AKTO Aktyubinsk 70.08 333 P P **21 54 16.1 +0.2**
comp=Z,7.1nm,0.9s,mb4.6,baz=35,slow=7.0
AAK Ala-Archa 71.45 318 *e*P P **21 54 23.7 -0.5**
AAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
AAK Ala-Archa 71.45 318 *e*P P **21 54 23.7 -0.5**
comp=Z,4.4nm,0.9s,mb4.4
KMI Kunming 71.80 288 P P **21 54 31.8 +5.5**
KMI AP pP 21 54 35.9 -4.3
KMI AMB AMB
comp=Z,3.0nm,0.9s,mb4.2
KMI LR LR
comp=Z,42nm,25.6s,MS3.6
LSA Lhasa 74.45 299 *e*P P **21 54 43.4 +1.4**
LSA Lhasa 74.45 299 *e*P P **21 54 43.1 +1.1**
LSA pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LSA Lhasa 74.45 299 *e*P P **21 54 43.1 +1.1**
comp=Z,7.5nm,0.8s,mb4.7
AKASG Malin Array Be 75.09 351 P P **21 54 44.6 -1.0**
comp=Z,4.5nm,0.8s,mb4.4,baz=9.7,slow=5.8,SNR=14
CDF Champ du Feu 77.74 6 *e*P P **21 55 00.8 +0.2**
HINF Hinteralfeld 78.30 6 *e*P P **21 55 03.8 0.0**
comp=Z,4.7nm,0.8s,mb4.2
HINF Hinteralfeld 78.30 6 *e*P P **21 55 03.8 0.0**
HINF pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
HINF Hinteralfeld 78.30 6 *e*P P **21 55 03.8 0.0**
comp=Z,2.3nm,0.8s,mb4.2
GUN Gumba 78.59 302 *e*P P **21 55 04.9 -0.5**
LOR Lormes 78.63 8 *e*P P **21 55 05.7 +0.1**
comp=Z,20nm,1.4s,mb4.5
LOR Lormes 78.63 8 *e*P P **21 55 05.7 +0.1**
LOR pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
LOR Lormes 78.63 8 *e*P P **21 55 05.7 +0.1**
comp=Z,9.9nm,1.4s,mb4.5
JIRN Jiri 78.64 302 *e*P P **21 55 06.4 +0.8**
comp=Z,23nm,0.7s,mb5.2
SSF Saint Saulge 78.80 9 *e*P P **21 55 06.6 +0.1**
comp=Z,9.7nm,1.1s,mb4.4
SSF Saint Saulge 78.80 9 *e*P P **21 55 06.6 +0.1**
SSF pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
SSF Saint Saulge 78.80 9 *e*P P **21 55 06.6 +0.1**
comp=Z,4.8nm,1.0s,mb4.4
MFF Saint Martin d 78.89 11 *e*P P **21 55 07.2 +0.2**
comp=Z,35nm,1.4s,mb4.8
MFF Saint Martin d 78.89 11 *e*P P **21 55 07.2 +0.2**
MFF pmax pmax
comp=Z,18nm,1.4s,mb4.8
MFF Saint Martin d 78.89 11 *e*P P **21 55 07.2 +0.2**
comp=Z,18nm,1.4s,mb4.8
KKN Kakani 78.99 302 *e*P P **21 55 08.1 +0.5**
comp=Z,14nm,1.0s,mb4.9
KKN Kakani 78.99 302 *e*P P **21 55 08.1 +0.5**
KKN pmax pmax
comp=Z,14nm,1.0s,mb4.8
AVF Avril sur Loir 79.06 9 *e*P P **21 55 07.8 -0.1**
comp=Z,12nm,1.1s,mb4.4
AVF Avril sur Loir 79.06 9 *e*P P **21 55 07.8 -0.1**
AVF pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
AVF Avril sur Loir 79.06 9 *e*P P **21 55 07.8 -0.1**
comp=Z,5.8nm,1.1s,mb4.4
DMN Daman 79.22 302 *e*P P **21 55 09.5 +0.7**
BGF Bois d'Agland 79.24 9 *e*P P **21 55 09.0 0.0**
comp=Z,16nm,1.1s,mb4.5
BGF Bois d'Agland 79.24 9 *e*P P **21 55 09.0 0.0**
BGF pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
BGF Bois d'Agland 79.24 9 *e*P P **21 55 09.0 0.0**
comp=Z,7.9nm,1.1s,mb4.6
SMF Signal de Mont 79.25 8 *e*P P **21 55 08.8 -0.2**
comp=Z,20nm,1.1s,mb4.7
SMF Signal de Mont 79.25 8 *e*P P **21 55 08.8 -0.2**
SMF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
SMF Signal de Mont 79.25 8 *e*P P **21 55 08.8 -0.2**
comp=Z,9.8nm,1.1s,mb4.7
TCF Toulx Ste Croi 79.45 10 *e*P P **21 55 10.2 +0.1**
comp=Z,5.1nm,0.9s,mb4.1
TCF Toulx Ste Croi 79.45 10 *e*P P **21 55 10.2 +0.1**
TCF pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
TCF Toulx Ste Croi 79.45 10 *e*P P **21 55 10.2 +0.1**
comp=Z,2.5nm,0.9s,mb4.1
CABF La Chapelle 79.45 7 *e*P P **21 55 09.8 -0.3**
comp=Z,13nm,1.0s,mb4.5
CABF La Chapelle 79.45 7 *e*P P **21 55 09.8 -0.3**
CABF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
CABF La Chapelle 79.45 7 *e*P P **21 55 09.8 -0.3**
comp=Z,6.4nm,1.0s,mb4.5
KIV Kislovodsk 79.77 341 *e*P P **21 55 12.8 +1.0**
KIV pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
KIV Kislovodsk 79.77 341 *e*P P **21 55 12.8 +1.0**
comp=Z,6.3nm,1.0s,mb4.5
KOLN Koldanda 79.84 304 *e*P P **21 55 12.5 +0.3**
comp=Z,21nm,1.1s,mb5.0
VIVF Saint-Julien-l 81.09 8 *e*P P **21 55 19.3 +0.4**
MBDF Montbardon 81.38 6 *e*P P **21 55 21.7 +1.3**
comp=Z,18nm,1.1s,mb4.6
MBDF Montbardon 81.38 6 *e*P P **21 55 21.7 +1.3**
MBDF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
MBDF Montbardon 81.38 6 *e*P P **21 55 21.7 +1.3**
comp=Z,8.9nm,1.1s,mb4.6
SMRF Simiane la Rot 82.04 7 *e*P P **21 55 25.1 +1.2**
comp=Z,14nm,1.1s,mb4.5
SMRF Simiane la Rot 82.04 7 *e*P P **21 55 25.1 +1.2**
comp=Z,14nm,1.1s,mb4.8
SBF Sospel 82.28 6 *e*P P **21 55 25.5 +0.3**
comp=Z,22nm,1.0s,mb4.8
SBF Sospel 82.28 6 *e*P P **21 55 25.5 +0.3**
SBF pmax pmax
comp=Z,11nm,1.0s,mb4.7
SBF Sospel 82.28 6 *e*P P **21 55 25.5 +0.3**
comp=Z,11nm,1.0s,mb4.8
FRF La Foret Royal 82.53 7 *e*P P **21 55 26.9 +0.4**
comp=Z,11nm,1.0s,mb4.5
FRF La Foret Royal 82.53 7 *e*P P **21 55 26.9 +0.4**
FRF pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
FRF La Foret Royal 82.53 7 *e*P P **21 55 26.9 +0.4**
comp=Z,5.3nm,1.0s,mb4.5
LMR La Mourre 82.74 7 *e*P P **21 55 28.2 +0.6**
comp=Z,6.7nm,1.0s,mb4.3
LMR La Mourre 82.74 7 *e*P P **21 55 28.2 +0.6**
LMR pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
LMR La Mourre 82.74 7 *e*P P **21 55 28.2 +0.6**
comp=Z,3.3nm,1.0s,mb4.3

ESDC Sonseca Array 85.19 15 P P **21 55 41.3 +1.2**
comp=Z,2.1nm,0.9s,mb4.3,baz=346,slow=3.6,SNR=10.0
BR131 Keskin Array S 85.41 346 *e*P P **21 55 41.5 +0.4**
comp=Z,3.8nm,0.9s,mb4.5
BRTR Keskin Array B 85.41 346 P P **21 55 42.0 +0.8**
comp=Z,3.8nm,0.9s,mb4.5,baz=48,slow=3.4,SNR=18
MATP Matopo 145.12 339 PKP PKPdf 22 02 40.3 -0.6
comp=Z,5.4nm,1.0s,baz=17,slow=6.1,SNR=11
TSUM Tsumeb 145.26 357 PKPbc PKPbc 22 02 40.6 -0.4
comp=Z,2.5nm,1.0s,baz=327,slow=4.9,SNR=4.7

NAO ***15*** *21:51:39.5, 75.20N×16.20W, h33km, mb2.6*
CSEM ***15*** *21:52:42.7±0.1, 72.31N×2.10E, h2km, ML2.4, Error ellipse: s-maj=3.9km s-min=2.7km az=35.0*
ISCJB ***15*** *21:52:44.8±0.7, 72.32N±007×25E±02, h10km, mb3.8/8, Error ellipse: s-maj=10.9km s-min=7.8km az=45.5*
MOS ***15*** *21:52:45.0±1.9, 72.32N×2.46E, h10km, mb4.7/2, Error ellipse: s-maj=42.6km s-min=10.2km az=101.5*
IDC ***15*** *21:52:45.6±0.9, 72.27N×1.84E, h0km, mb3.8/7, mb1 3.9/11, mb1mx3.8/23, mbtmp3.8/11, ML3.4/4, MS3.0/1, Ms1 3.0/1, ms1mx2.3/28, Error ellipse: s-maj=24.7km s-min=14.6km az=49.0*
NEIC ***15*** *21:52:47.4±0.7, 72.18N×0.99E, h10km, mb4.4/2, Error ellipse: s-maj=17.6km s-min=10.0km az=48.0*
BER ***15*** *21:52:59.1±2.6, 71.84N×3.87E, h10km, MD2.6, ML2.4*
ISC 15 21:52:46.3±0.6, 7234N±007×22E±02, h10km, n37, σ1§20/43, mb3.8/8, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMIC	**Jan Mayen**	**3.65**	**253**	Pn	**Pn**	**21 53 37.5**	**-5.4**
	3.1nm,0.3s,baz=140,slow=7.0,SNR=3.1						
LOF	**Lofoten**	**5.71**	**132**	*e*P	**Pn**	**21 54 13.4**	**+2.3**
LOF				*e*S	**Sn**	**21 55 06.3**	**-10**
LOF				AML	AML	21 55 18.1	
	comp=Z,10nm,0.5s						
LOF	**Lofoten**	**5.71**	**132**	*e*P	**Pn**	**21 54 13.4**	**+2.3**
LOF				*e*S	**Sn**	**21 55 06.3**	**-10**
TRO	**Tromso**	**6.09**	**108**	*e*P	**Pn**	**21 54 16.2**	**-0.2**
TRO	**Tromso**	**6.09**	**108**	*e*P	**Pn**	**21 54 16.9**	**+0.5**
MOR8	**Moi Rana**	**7.55**	**139**	*e*P	**Pn**	**21 54 36.8**	**+0.4**
MOR8				*e*S	**Sn**	**21 55 47.8**	**-14**
MOR8				AML	AML	21 56 01.3	
	comp=Z,6.7nm,0.4s						
MOR8	**Moi Rana**	**7.55**	**139**	*e*P	**Pn**	**21 54 36.8**	**+0.4**
MOR8				*e*S	**Sn**	**21 55 47.8**	**-14**
KTK1	**Kautokeino**	**7.71**	**105**	*e*P	**Pn**	**21 54 39.9**	**+1.3**
ARCES	**ARCESS Array B**	**8.09**	**99**	Pn	**Pn**	**21 54 44.6**	**+0.7**
	comp=Z,1.3nm,0.3s,baz=304,slow=12,SNR=30						
ARCES				Sn	**Sn**	**21 56 14.1**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=304,slow=21,SNR=2.4						
ARCES				LR	LR	21 57 48.7	
	comp=Z,111nm,21.8s,baz=160,slow=37						
ARCES	**ARCESS Array B**	**8.09**	**99**	P	**Pn**	**21 54 44.6**	**+0.7**
ARCES						21 56 14.1	
ARE0	**ARCESS Array S**	**8.09**	**99**	*e*P	**Pn**	**21 54 44.5**	**+0.6**
ARE0	**ARCESS Array S**	**8.09**	**99**	*e*P	**Pn**	**21 54 44.5**	**+0.6**
KEV	**Kevo**	**8.44**	**96**	*e*p	**Pn**	**21 54 47.7**	**-0.9**
	comp=Z,0.9nm,0.3s						
KEV	**Kevo**	**8.44**	**96**	*e*P	**Pn**	**21 54 47.7**	**-0.9**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NSS	**Namsos**	**8.62**	**151**	*e*P	**Pn**	**21 54 50.5**	**-0.5**
NSS				*e*S	**Sn**	**21 56 12.0**	**-16**
NSS	**Namsos**	**8.62**	**151**	*e*P	**Pn**	**21 54 50.3**	**-0.7**
NSS				*e*S	**Sn**	**21 56 12.0**	**-16**
NB2	**NORSAR Subarra**	**11.88**	**158**	P	**Pn**	**21 55 35.1**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=336,slow=11						
NOA	**NORSAR Array B**	**11.88**	**158**	Pn	**Pn**	**21 55 35.6**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=342,slow=13,SNR=3.5						
HFS	**Hagfors**	**13.06**	**154**	Pn	**Pn**	**21 55 51.8**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=355,slow=13,SNR=7.3						
KAF	**Kangasniemi**	**13.72**	**126**	*e*p	**Pn**	**21 55 59.5**	**-1.4**
	comp=Z,6.9nm,0.6s,baz=331,slow=12						
KAF	**Kangasniemi**	**13.72**	**126**	*e*P	**Pn**	**21 55 59.5**	**-1.4**
KAF				pmax	pmax		
	comp=Z,7.0nm,0.6s						
JOF	**Joensuu**	**14.36**	**116**	*e*p	**Pn**	**21 56 06.9**	**-2.8**
	comp=Z,5.9nm,0.7s						
EKA	**Eskdalemuir Ar**	**17.23**	**190**	P	**Pn**	**21 56 45.6**	**-1.4**
	comp=Z,0.0nm,0.3s,baz=4.1,slow=11,SNR=3.1						
SUW	**Suwalki**	**20.46**	**143**	*e*P	**P**	**21 57 26.3**	**+2.3**
SUW				pmax	pmax		
	comp=Z,32nm,0.8s						
SUW	**Suwalki**	**20.46**	**143**	*e*P	**P**	**21 57 26.3**	**+2.3**
	comp=Z,32nm,0.8s						
SUW	**Suwalki**	**20.46**	**143**	*e*P	**P**	**21 57 26.3**	**+2.3**
	comp=Z,32nm,0.8s						
VRAC	**Vranov**	**24.01**	**156**	P	**P**	**21 58 01.7**	**+0.5**
	comp=Z,4.3nm,0.8s,mb3.9,baz=357,slow=10,SNR=8.4						
GERES	**GERESS Array B**	**24.15**	**161**	P	**P**	**21 58 04.0**	**+1.5**
	comp=Z,1.7nm,0.9s,mb3.5,baz=352,slow=8.8,SNR=11						
AKASG	**Malin Array Be**	**24.79**	**136**	P	**P**	**21 58 08.3**	**0.0**
	comp=Z,2.2nm,0.5s,mb4.0,baz=341,slow=9.9,SNR=8.3						
SEYT	**Eskypehyr**	**35.83**	**141**	*i* S	**S**	**22 05 22.6**	**-0.9**
BRTR	**Keskin Array B**	**36.19**	**137**	P	**P**	**21 59 51.6**	**+2.5**
	comp=Z,2.1nm,0.9s,mb4.1,baz=343,slow=7.5,SNR=10.0						
YKA	**Yellowknife Ar**	**38.78**	**319**	P	**P**	**22 00 10.3**	**-0.8**
	comp=Z,0.5nm,0.7s,mb3.4,baz=23,slow=9.1,SNR=9.8						
YKA				PcP	PcP	22 02 21.9	-0.5
	comp=Z,0.2nm,0.7s,baz=17,slow=3.0,SNR=4.4						
YKA	**Yellowknife Ar**	**38.78**	**319**	PcP	PcP	22 02 21.9	-0.5
ILAR	**Eielson Array**	**41.57**	**341**	P	**P**	**22 00 34.9**	**+0.7**
	comp=Z,0.6nm,0.7s,mb3.3,baz=13,slow=5.3,SNR=6.6						
FFC	**Flin Flon**	**42.92**	**304**	*e*P	**P**	**22 00 44.5**	**-0.7**
FFC				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
FFC	**Flin Flon**	**42.92**	**304**	*e*P	**P**	**22 00 44.5**	**-0.7**
	comp=Z,3.1nm,0.8s,mb4.1						
TORD	**Torodi Ar. Bea**	**59.17**	**181**	P	**P**	**22 02 46.5**	**-0.9**
	comp=Z,0.9nm,0.8s,mb3.9,baz=354,slow=6.5,SNR=7.5						

ISCJB ***15*** *22:22:08.8±0.4, 1458S±007×6646E±007, h10km, mb4.1/18, MS3.5/1, Error ellipse: s-maj=11.0km s-min=9.9km az=85.0*
IDC ***15*** *22:22:08.9±0.7, 1455S×6643E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.9/16, mbtmp3.8/10, MS3.5/1, Ms1 3.5/1, ms1mx2.9/13, Error ellipse: s-maj=29.6km s-min=18.0km az=30.0*
MOS ***15*** *22:22:08.5±0.8, 1452S×6639E, h10km, mb4.8/4, Error ellipse: s-maj=17.0km s-min=13.5km az=79.3*
NEIC ***15*** *22:22:10.5±0.2, 1459S×6638E, h10km, mb4.8/7, Error ellipse: s-maj=7.5km s-min=7.0km az=211.0*
ISC 15 22:22:10.4±7.2, 1462S±008×6641E±008, h7km±44km, n46, σ0§95/41, mb4.1/18, MS3.5/1, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGAR	**Diego Garcia**	**9.29**	**40**	*e*P	**Pn**	**22 24 24.3**	**-0.4**
COCO	**West Island**	**29.68**	**89**	*e*P	**P**	**22 28 17.4**	**+0.6**
	16nm,0.4s,mb5.1						
KMBO	**Kilima Mbogo**	**31.78**	**292**	P	**P**	**22 28 37.1**	**+1.9**
	0.4nm,0.3s,mb3.7,baz=144,slow=8.7,SNR=3.9						
KMBO				LR	LR	22 38 20.8	
	comp=Z,97nm,20.8s,MS3.5,baz=92,slow=31						
LSZ	**Lusaka**	**36.91**	**264**	P	**P**	**22 29 20.1**	**+0.4**
	5.0nm,1.3s,mb4.2,baz=93,slow=7.6,SNR=6.5						
LSZ	**Lusaka**	**36.91**	**264**	*e*P	**P**	**22 29 19.8**	**+0.1**
LSZ				pmax	pmax		
	comp=Z,22nm,1.6s,mb4.7						
LSZ	**Lusaka**	**36.91**	**264**	*e*P	**P**	**22 29 19.8**	**+0.1**
	comp=Z,22nm,1.6s,mb4.7						
LBTB	**Lobatse**	**39.63**	**248**	*e*P	**P**	**22 29 42.9**	**+0.3**
TSUM	**Tsumeb**	**46.82**	**257**	*e*P	**P**	**22 30 40.3**	**-0.5**
GNI	**Garni**	**58.09**	**341**	P	**P**	**22 32 03.7**	**-0.6**
MALT	**Malatya**	**58.82**	**334**	*e*P	**P**	**22 32 08.6**	**-0.8**
MALT				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
MALT	**Malatya**	**58.82**	**334**	*e*P	**P**	**22 32 08.6**	**-0.8**
	comp=Z,0.6nm,0.4s,mb4.0						
CASY	**Casey**	**59.31**	**161**	P	**P**	**22 32 12.3**	**-0.4**
BRTR	**Keskin Array B**	**62.09**	**332**	P	**P**	**22 32 31.1**	**-0.7**
	comp=Z,0.3nm,0.8s,mb3.5,baz=134,slow=10,SNR=3.4						
MKAR	**Makanchi Array**	**62.77**	**12**	P	**P**	**22 32 36.6**	**+0.3**
	comp=Z,0.8nm,0.7s,mb4.0,baz=220,slow=10.0,SNR=12						
ASAR	**Alice Springs**	**63.90**	**109**	P	**P**	**22 32 44.7**	**+0.9**
	comp=Z,1.5nm,0.8s,mb4.1,baz=268,slow=6.5,SNR=17						
WRA	**Warramunga Arr**	**64.71**	**105**	P	**P**	**22 32 49.3**	**+0.3**
	comp=Z,3.1nm,0.7s,mb4.5,baz=271,slow=5.9,SNR=15						
WRAB	**Tennant Creek**	**64.72**	**105**	*e*P	**P**	**22 32 50.7**	**+1.5**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
WRAB	**Tennant Creek**	**64.72**	**105**	*e*P	**P**	**22 32 50.7**	**+1.5**
	comp=Z,6.6nm,0.6s,mb4.8						
ZRNK	**Zerenda**	**67.32**	**2**	*e*P	**P**	**22 33 04.9**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
ZRNK	**Zerenda**	**67.32**	**2**	*e*P	**P**	**22 33 04.9**	**-1.0**
	comp=Z,5.2nm,1.1s,mb4.5						
CHKZ	**Chkalovo**	**68.11**	**3**	*e*P	**P**	**22 33 11.0**	**+0.1**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
CHKZ	**Chkalovo**	**68.11**	**3**	*e*P	**P**	**22 33 11.0**	**+0.2**
	comp=Z,5.3nm,1.1s,mb4.5						
SNAA	**Sanae**	**69.73**	**198**	*e*P	**P**	**22 33 19.6**	**-1.4**
STKA	**Stephens Creek**	**69.98**	**119**	P	**P**	**22 33 22.8**	**+0.3**
NVS	**Novosibirsk**	**70.64**	**10**	*e*P	**P**	**22 33 24.9**	**-1.6**
AKASG	**Malin Array Be**	**72.73**	**336**	P	**P**	**22 33 37.8**	**-1.3**
	comp=Z,0.2nm,0.2s,mb3.7,baz=136,slow=5.1,SNR=5.8						
QSPA	**South Pole Qui**	**75.46**	**180**	*e*P	**P**	**22 33 54.6**	**-0.5**
	comp=Z,14nm,1.1s,mb4.8						
OKC	**Ostrava-Krasne**	**76.93**	**330**	*e*P	**P**	**22 34 05.0**	**+1.6**
VNDA	**Vanda**	**77.01**	**167**	P	**P**	**22 34 03.2**	**-0.7**
	comp=Z,0.8nm,1.0s,mb3.6,baz=259,slow=6.7,SNR=3.9						
VNDA	**Vanda**	**77.01**	**167**	*e*P	**P**	**22 34 03.4**	**-0.5**
SBA	**Scott Base**	**77.98**	**168**	P	**P**	**22 34 09.0**	**-0.3**
DPC	**Dobruska-Polom**	**78.15**	**330**	*e*P	**P**	**22 34 11.4**	**+1.2**
GERES	**GERESS Array B**	**78.51**	**328**	P	**P**	**22 34 10.5**	**-1.7**
	comp=Z,0.2nm,0.7s,mb3.2,baz=125,slow=5.1,SNR=3.4						
KHC	**Kasperske Hory**	**78.75**	**328**	*e*P	**P**	**22 34 13.6**	**0.0**
PRU	**Pruhonice**	**78.80**	**329**	*e*P	**P**	**22 34 14.4**	**+0.6**
NKC	**Novy Kostel**	**80.01**	**328**	*e*P	**P**	**22 34 22.6**	**+2.2**
CLL	**Collm**	**80.39**	**329**	*e*P	**P**	**22 34 24.0**	**+1.5**
CART	**Cartagena**	**81.78**	**312**	*e*P	**P**	**22 34 30.1**	**+0.2**
MJAR	**Matsushiro Arr**	**84.56**	**50**	P	**P**	**22 34 43.7**	**-0.5**
	comp=Z,0.5nm,0.4s,mb4.0,baz=241,slow=8.3,SNR=3.3						
ESDC	**Sonseca Array**	**84.75**	**313**	P	**P**	**22 34 45.1**	**-0.1**
	comp=Z,0.6nm,0.7s,mb3.9,baz=112,slow=3.6,SNR=6.0						
ESLA	**Sonseca Array**	**84.75**	**313**	*e*P	**P**	**22 34 44.6**	**-0.6**
	comp=Z,0.1nm,0.4s,mb3.3						
YKA	**Yellowknife Ar**	**132.18**	**1**	PKP	PKPdf	22 41 24.2	-0.7
	comp=Z,0.1nm,0.3s,baz=352,slow=2.5,SNR=7.8						
MSO	**Missoula**	**147.88**	**0**	*e*PKPdf	PKPdf	22 41 53.8	+0.6
GCMT	**Greycliff**	**148.75**	**355**	*e*PKPdf	PKPdf	22 41 54.8	+0.2
HUMO	**Hull Mountain**	**150.96**	**14**	*e*PKP	PKPdf	22 42 04.8	+6.6
HLID	**Hailey**	**151.14**	**1**	*e*PKP	PKPdf	22 42 04.0	+5.6

GUC 15 22:44:22.4±1.0, 2397S×6715W, h200km, MD3.5, ML3.8, 1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.11**	**310**	⇑*i*P	Pn	22 45 04.0	+2.0
LVC				*i* S	Sn	22 45 35.0	+2.1
LVC				AML	AML	22 45 36.9	
	comp=E,140nm,0.8s						
CEN1	**Los Morros**	**2.85**	**281**	⇓*i*P	Pn	22 45 13.7	+3.4
CEN1				*i* S	Sn	22 45 51.7	+3.9
CEN1				AML	AML	22 45 53.7	
	comp=E,140nm,0.1s						
ANCH	**Antofagasta**	**3.00**	**275**	*e*P	Pn	22 45 16.1	+4.1
ANCH				*i* S	Sn	22 45 55.4	+4.7
CPN1	**Cerro Paranal**	**3.04**	**257**	*e*P	Pn	22 45 14.8	+2.3
CPN1				*i* S	Sn	22 45 54.5	+2.9
CPN1				AML	AML	22 45 57.2	
	comp=E,258nm,0.4s						
CDCH	**Caldera**	**4.53**	**226**	*e*P	Pn	22 45 30.6	-0.2
CDCH				*i* S	Sn	22 46 23.6	-1.2

NIED ***15*** *22:50:00, 32.50N×140.80E, h47km, Mw4.5 Best double couple: M0 5.75000×10^15 NP1:φ0 §18.00000°, δ71.00000°, λ111.00000°. NP2:φ0 §148.00000°, δ28.00000°, λ44.00000°.*
BJI ***15*** *22:50:34.6, 32.29N×140.60E, h32km, mB4.9, mb4.5, Ms4.1, Msz3.8*
ISCJB ***15*** *22:50:35.1±0.6, 32.22N±003×140.82E±005, h46km±4km, mb4.7/67, MS3.7/6, Error ellipse: s-maj=7.2km s-min=5.0km az=148.1*
MOS ***15*** *22:50:35.8±1.0, 32.24N×140.70E, h50km, mb5.0/34, Error ellipse: s-maj=15.2km s-min=5.8km az=113.2*
IDC ***15*** *22:50:37.4±1.4, 32.21N×140.76E, h50km±12km, mb4.0/14, mb1 4.2/16, mb1mx4.1/21, mbtmp4.3/16, ML3.9/2, MS3.5/6, Ms1 3.5/6, ms1mx3.2/19, Error ellipse: s-maj=19.3km s-min=9.0km az=75.0*
JMA ***15*** *22:50:37.9±0.2, 32.48N×140.83E, h43km, M4.3*
NEIC ***15*** *22:50:38.3±0.3, 32.23N×140.78E, mb4.8/36, MW4.4(NIED), Error ellipse: s-maj=7.2km s-min=6.3km az=102.0*
ISC 15 22:50:37.1±0.6, 3226N±003×14083E±006, h50km±4km, h61km±4.6km:pP-P,n192,σ0§95/201, mb4.7/67, MS3.7/6, 2C-4D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.21**	**315**	P	**Pn**	**22 50 56.9**	**-0.7**
JHJ2				S	**Sn**	**22 51 09.8**	**-3.1**
JHJ	**Hachijo jima 2**	**1.23**	**314**	P	**Pn**	**22 50 57.1**	**-0.9**
	768nm,0.3s,baz=73,slow=19,SNR=156						
JHJ				S	**Sn**	**22 51 08.8**	**-4.6**
	1µm,0.3s,baz=290,slow=22,SNR=37						
JKO	**Kozu shima**	**2.39**	**324**	P	**Pn**	**22 51 13.7**	**-0.1**
BSO1	**Boso 1**	**2.39**	**3**	P	**Pn**	**22 51 12.2**	**-1.6**
BSO2	**Boso 2**	**2.49**	**359**	S	**Sn**	**22 51 39.9**	**-4.4**
NJJJ	**Nii jima 2**	**2.50**	**329**	P	**Pn**	**22 51 15.3**	**0.0**
BSO3	**Boso 3**	**2.55**	**354**	P	**Pn**	**22 51 14.2**	**-1.8**
BSO3				S	**Sn**	**22 51 40.7**	**-5.1**
JIM2	**Oshima 2**	**2.72**	**335**	P	**Pn**	**22 51 17.6**	**-0.7**
JIM2				S	**Sn**	**22 51 44.8**	**-5.1**
JIZS	**Izushimoda**	**2.95**	**327**	P	**Pn**	**22 51 21.7**	**+0.3**
JOD2	**Odawara 2**	**3.33**	**335**	P	**Pn**	**22 51 26.3**	**-0.4**
JOD2				S	**Sn**	**22 52 00.0**	**-5.0**
SHZ3	**Shizuoka 3**	**3.55**	**323**	P	**Pn**	**22 51 30.9**	**+1.2**
JYN	**Shimob**	**3.75**	**330**	P	**Pn**	**22 51 33.6**	**+1.2**
JIE	**Ise**	**4.05**	**303**	P	**Pn**	**22 51 37.5**	**+0.9**
JRY	**Ryogami san**	**4.08**	**337**	P	**Pn**	**22 51 37.3**	**+0.4**
JAG	**Ashikaga**	**4.31**	**345**	P	**Pn**	**22 51 39.8**	**-0.3**
MJAR	**Matsushiro Arr**	**

comp=Z,3.0nm,0.4s
SSE Sheshan 16.77 271 P **Pn** **22 54 22.5 -5.9**
SSE XP sP 22 54 36.8 -11
SSE S **S** **22 57 26.9 -15**
SSE AMB AMB
comp=Z,27nm,0.7s
SSE AMB AMB
comp=Z,316nm,5.1s
SSE LR LR
comp=N,62nm,18.0s
SSE LR LR
comp=E,49nm,18.1s
SSE LR LR
comp=Z,154nm,16.4s
KLR Kul'dur 18.27 341 *e*P **Pn** **22 54 41.0 -5.9**
NJ2 Nanjing 18.61 275 *e*P **Pn** **22 54 52.4 +1.4**
NJ2 XP sP 22 55 04.4 -3.7
NJ2 S **S** **22 58 14.0 -5.2**
NJ2 AMB AMB
comp=Z,20nm,0.8s
NJ2 AMB AMB
comp=Z,750nm,4.0s
NJ2 LR LR
comp=N,2µm,19.9s
NJ2 LR LR
comp=E,2µm,15.9s
NJ2 LR LR
comp=Z,570nm,23.8s
YHNB Yeheng 18.68 251 P **Pn** **22 54 53.1 +1.2**
NACB Ningnanchiao 18.75 249 *e*P **Pn** **22 54 51.8 -0.9**
WHN Wuhan 22.65 273 P **P** **22 55 34.5 +0.6**
HIA Hailar 23.19 323 *e*P **P** **22 55 39.6 0.0**
HIA pmax pmax
comp=Z,16nm,1.0s
HIA Hailar 23.19 323 *e*P **P** **22 55 39.6 0.0**
comp=Z,16nm,1.0s,mb4.4
HHC Hu-ho-hao-te 24.94 298 *e*P **P** **22 55 56.6 +1.0**
HHC XP sP 22 56 11.1 -3.3
HHC PP 22 56 36.3
HHC PCP PcP 22 59 31.8 +1.8
HHC S **S** **23 00 15.3 -0.2**
HHC SCP ScP 23 03 04.5 -0.2
HHC PCS PcS 23 03 09.8 -0.4
HHC AMB AMB
comp=Z,8.0nm,1.1s,mb4.2
HHC AMB AMB
comp=Z,270nm,6.7s
HHC LR LR
comp=N,529nm,12.9s,MS4.3
HHC LR LR
comp=E,380nm,12.6s,MS4.3
HHC LR LR
comp=Z,213nm,13.5s,MS3.8
DAV Davao City (W) 28.81 213 *e*P **P** **22 56 29.1 -1.2**
ULN Ulaanbaatar 29.90 311 *e*P **P** **22 56 39.9 -0.1**
ULN pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
ULN Ulaanbaatar 29.90 311 *e*P **P** **22 56 39.9 -0.2**
comp=Z,2.2nm,0.7s,mb4.0
SONM Songino Array 30.31 311 P **P** **22 56 44.1 +0.5**
comp=Z,2.0nm,0.7s,mb4.0,baz=113,slow=6.9,SNR=3.1
YAK Yakutsk 30.64 350 *e*P **P** **22 56 46.5 -0.1**
BOD Bodaibo 31.42 332 *e*P **P** **22 56 52.6 -0.9**
BOD pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
CD2 Chengdu 31.51 278 *e*P **P** **22 56 53.5 -0.8**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
KMI Kunming 34.03 268 P **P** **22 57 17.0 +0.7**
KMI AMB AMB
comp=Z,4.0nm,0.9s,mb4.3
BILL Bilibino 38.74 15‖ *e*P **P** **22 57 55.2 -1.3**
BILL *e* 22 59 29.0
BILL *e*SS SS 23 06 35.2 -7.0
BILL pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
BILL Bilibino 38.74 15 *e*P **P** **22 57 56.4 -0.1**
TIXI Tiksi 39.97 354 *e*P **P** **22 58 05.6 -1.1**
TIXI pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
LSA Lhasa 42.37 280 *e*P **P** **22 58 27.1 +0.7**
ZAL Zalesovo 44.91 316 LR LR 23 18 11.5
comp=Z,76nm,19.1s,MS3.6,baz=72,slow=37
NVS Novosibirsk 45.90 317 *e*P **P** **22 58 53.0 -1.6**
MKAR Makanchi Array 46.39 306 P **P** **22 58 58.4 -0.1**
comp=Z,6.0nm,0.9s,mb4.5,baz=91,slow=9.3,SNR=47
MKAR PcP PcP 23 00 33.1 +0.3
comp=Z,1.5nm,0.8s,baz=78,slow=3.0,SNR=3.9
MKAR ScP ScP 23 04 20.1 -1.7
comp=Z,0.5nm,0.7s,baz=94,slow=4.9,SNR=3.7
MKAR Makanchi Array 46.39 306 P **P** **22 58 58.4 -0.1**
MKAR 23 00 33.1
MKAR Makanchi Array 46.39 306 P **P** **22 58 58.4 -0.1**
MKAR PcP PcP 23 00 33.1 +0.3
MKAR ScP ScP 23 04 20.1 -1.7
JIRN Jiri 47.14 279 *e*P **P** **22 59 04.6 +0.2**
comp=Z,34nm,0.6s,mb5.4
GUN Gumba 47.32 280 *e*P **P** **22 59 05.8 +0.1**
comp=Z,41nm,0.9s,mb5.3
PKI Pulchoki 47.82 280 *e*P **P** **22 59 09.2 -0.5**
KKN Kakani 47.86 280 *e*P **P** **22 59 09.7 -0.2**
comp=Z,25nm,0.8s,mb5.3
KKN Kakani 47.86 280 *e*P **P** **22 59 09.7 -0.2**
KKN pmax pmax
comp=Z,25nm,0.8s,mb5.3
DMN Daman 48.06 280 *e*P **P** **22 59 11.2 -0.3**
GKN Gorkha 48.32 280 *e*P **P** **22 59 13.0 -0.5**
KURK Kurchatov 48.61 311 *e*P **P** **22 59 13.4 -2.3**
KURK *e**PP pP 22 59 30.4 +1.1
KURK pmax pmax
comp=Z,12nm,1.1s,mb4.8
KURK Kurchatov 48.61 311 *e*P **P** **22 59 13.4 -2.4**
comp=Z,12nm,1.1s,mb4.8
KURK *e*pP pP 22 59 30.4 +1.1
KOLN Koldanda 49.27 280 *e*P **P** **22 59 18.7 -2.0**
comp=Z,38nm,0.7s,mb5.5
KDAK Kodiak Island 51.03 39 P **P** **22 59 34.8 +0.6**
comp=Z,4.8nm,0.7s,mb4.5,baz=247,slow=4.4,SNR=6.2
WRAB Tennant Creek 52.26 188 *e*P **P** **22 59 43.8 +0.5**
WRAB Tennant Creek 52.26 188 *e*P **P** **22 59 43.5 +0.2**
comp=Z,4.9nm,0.4s,mb4.8
WRA Warramunga Arr 52.27 188 P **P** **22 59 43.5 +0.1**
comp=Z,4.8nm,0.4s,mb4.8,baz=4.2,slow=7.6,SNR=28
WRA PcP PcP 23 00 55.9 +1.8
comp=Z,2.8nm,0.7s,baz=360,slow=3.9,SNR=5.2
AAK Ala-Archa 52.45 302 *e*P **P** **22 59 43.1 -1.6**
AAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
AAK Ala-Archa 52.45 302 *e*P **P** **22 59 43.1 -1.6**
comp=Z,3.3nm,0.8s,mb4.3
CHKZ Chkalovo 53.30 316 *e*P **P** **22 59 49.7 -1.3**
CHKZ pmax pmax
comp=Z,12nm,1.2s,mb4.7
CHKZ Chkalovo 53.30 316 *e*P **P** **22 59 49.7 -1.3**
comp=Z,12nm,1.2s,mb4.7
BRVK Borovoye 53.57 315 *e*P **P** **22 59 52.1 -0.8**
BRVK pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
BRVK Borovoye 53.57 315 *e*P **P** **22 59 52.1 -0.9**
comp=Z,8.3nm,1.2s,mb4.5
ILAR Eielson Array 53.81 30 P **P** **22 59 55.0 +0.3**
comp=Z,2.1nm,0.7s,mb4.2,baz=268,slow=6.2,SNR=20
ZRNK Zerenda 54.35 315 *e*P **P** **22 59 58.1 -0.5**
ZRNK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ZRNK Zerenda 54.35 315 *e*P **P** **22 59 58.1 -0.5**
comp=Z,10nm,0.9s,mb4.8
ASAR Alice Springs 56.00 188 P **P** **23 00 10.9 +0.4**
comp=Z,1.3nm,0.5s,mb4.2,baz=350,slow=5.2,SNR=19
MBWA Marble Bar 56.82 204 *e*P **P** **23 00 14.7 -1.7**
INK Inuvik 58.87 26 P **P** **23 00 31.1 +0.3**
comp=Z,2.3nm,0.7s,mb4.3,baz=287,slow=6.8,SNR=8.9
ARU Arti 59.67 320‖ *i*P **P** **23 00 35.5 -0.7**
ARU *e*S **S** **23 08 44.7 +1.6**
ARU *e*SS SS 23 12 36.0 -3.3
ARU pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
STKA Stephens Creek 63.79 179 *e*P **P** **23 01 03.1 -0.9**
comp=Z,4.2nm,0.9s,mb4.5
STKA Stephens Creek 63.79 179 P **P** **23 01 03.2 -0.7**
comp=Z,4.8nm,0.7s,mb4.6,baz=342,slow=8.4,SNR=12
FORT Forrest 63.85 192 *e*P **P** **23 01 05.9 +1.5**
comp=Z,9.9nm,0.6s,mb5.0
YKA Yellowknife Ar 68.19 29 P **P** **23 01 31.3 -0.9**
comp=Z,0.3nm,0.8s,baz=294,slow=6.1,SNR=5.5

YKA Yellowknife Ar 68.19 29 *i*P **P** **23 01 34.4 +2.2**
ARCES ARCESS Array B 68.30 340 LR LR 23 34 53.7
comp=Z,58nm,18.4s,MS3.8,baz=240,slow=39
JOF Joensuu 69.96 333 *e*p **P** **23 01 42.1 -1.1**
comp=Z,3.3nm,0.5s,mb4.5
DAG Danmarks Havn 70.48 355‖ *i*P **P** **23 01 44.6 -1.8**
comp=Z,2.0nm,0.6s,mb4.2
DAG Danmarks Havn 70.48 355‖ *e*P **P** **23 01 44.6 -1.8**
DAG pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
DAG Danmarks Havn 70.48 355‖ *e*P **P** **23 01 44.6 -1.8**
comp=Z,2.0nm,0.6s,mb4.2
OBN Obninsk 71.65 324⇑ *e*P **P** **23 01 52.5 -0.9**
OBN *e* 23 04 31.0
OBN *e*S S 23 11 07.3 -1.9
OBN pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
KAF Kangasniemi 72.34 333 *e*p **P** **23 01 56.2 -1.4**
comp=Z,5.8nm,0.5s,mb4.8,baz=52,slow=5.6
KAF Kangasniemi 72.34 333 *e*P **P** **23 01 56.2 -1.4**
KAF pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
KIV Kislovodsk 73.70 312 *e*P **P** **23 02 06.4 +0.8**
KIV pmax pmax
comp=Z,11nm,0.6s,mb5.0
KIV MLR MLR
comp=Z,19nm,16.0s,MS3.5
KIV Kislovodsk 73.70 312 *e*P **P** **23 02 06.1 +0.5**
comp=Z,16nm,1.0s,mb4.9
GNI Garni 74.20 308 *e*P **P** **23 02 08.6 0.0**
GNI pmax pmax
comp=Z,8.0nm,1.3s
SUMG Summit 75.45 360 *e*P **P** **23 02 16.9 +1.1**
comp=Z,5.2nm,0.8s,mb4.5
SUMG *e*pP pP 23 02 32.8 +2.6
SOC Sochi 75.75 313 *e*P **P** **23 02 16.5 -1.0**
SOC *e* pP 23 02 27.4 -4.4
SOC *e* 23 05 09.9
SOC *e*S S 23 11 48.9 -6.5
SOC *e**SS sS 23 12 13.4 -6.2
SOC *e* 23 12 35.7
SOC *e*SSS 23 20 09.3
SOC pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
ANN Anapa 76.51 315 *e*P **P** **23 02 25.7 +3.9**
ANN pmax pmax
comp=Z,24nm,1.4s,mb4.9
MIB Mutribah 77.42 297 *e*P **P** **23 02 26.9 0.0**
MIB AMb AMB 23 02 27.7
comp=Z,23nm,0.5s,mb5.3
KBD Kabd 77.46 297 *e*P **P** **23 02 27.1 0.0**
KBD AMb AMB 23 02 28.3
comp=Z,75nm,0.6s,mb5.8
QRN Al-Qurain 77.51 296 *e*P **P** **23 02 27.6 +0.2**
QRN AMb AMB 23 02 28.4
comp=Z,41nm,0.9s,mb5.4
RDF Al-Radifah 77.70 296 *e*P **P** **23 02 28.8 +0.4**
RDF AMb AMB 23 02 29.6
comp=Z,30nm,0.7s,mb5.4
NAY Al-Naaiem 77.77 297 *e*P **P** **23 02 28.7 -0.2**
NAY AMb AMB 23 02 29.8
comp=Z,19nm,0.6s,mb5.2
AKASG Malin Array Be 77.79 323 P **P** **23 02 28.6 -0.4**
comp=Z,7.4nm,0.8s,mb4.7,baz=50,slow=5.7,SNR=27
NB2 NORSAR Array B 78.40 337 P **P** **23 02 31.6 -0.8**
comp=Z,8.3nm,0.9s,mb4.7,baz=40,slow=5.3
NOA NORSAR Array B 78.40 337 P **P** **23 02 32.0 -0.4**
comp=Z,5.4nm,0.8s,mb4.5,baz=41,slow=5.4,SNR=21
NOA LR LR 23 40 54.9
comp=Z,22nm,18.4s,MS3.5,baz=90,slow=38
PDAR Pinedale Array 81.38 45 P **P** **23 02 50.0 +1.6**
comp=Z,0.6nm,0.5s,mb3.8,baz=264,slow=1.5,SNR=4.4
BR131 Keskin Array S 81.66 312 *e*P **P** **23 02 48.6 -1.3**
comp=Z,1.1nm,0.5s,mb4.0
BR131 *e*pP pP 23 03 06.8 +2.3
BRTR Keskin Array B 81.66 312 P **P** **23 02 50.8 +0.8**
comp=Z,2.6nm,0.8s,mb4.2,baz=132,slow=4.4,SNR=15
KWP Kalwaria 81.73 325 *e*P **P** **23 02 51.1 +0.8**
KOLS Kolonicke sedl 82.40 324 *e* **P** **23 03 00.7 +6.9**
STHS Stebnicka Huta 82.59 325 *e*P **P** **23 02 51.9 -2.9**
STHS pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
STHS Stebnicka Huta 82.59 325 *e*P **P** **23 02 51.9 -2.9**
comp=Z,3.6nm,0.9s,mb4.4
STHS *e* 23 02 56.3
STHS *e* 23 02 58.8
OJC Ojcow 82.73 326 *e*P **P** **23 02 56.0 +0.4**
CRVS Cervenica-Dubn 82.82 325 *e*P **P** **23 02 57.0 +1.0**
SRU San Rafael 82.94 48 *e*P **P** **23 02 58.3 +1.7**
SRU *e**PP pP 23 03 15.0 +3.8
SRU pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
SRU San Rafael 82.94 48 *e*P **P** **23 02 58.3 +1.7**
comp=Z,3.3nm,0.7s,mb4.5
SRU *e*pP pP 23 03 14.9 +3.8
NIE Niedzica 83.03 325 *e*P **P** **23 02 58.3 +1.2**
KECS Kecovo 83.58 325 *e*P **P** **23 03 00.3 +0.4**
KECS *e* pP 23 03 10.3 -4.2
KECS pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
KECS Kecovo 83.58 325 *e*P **P** **23 03 00.3 +0.4**
comp=Z,1.9nm,0.9s,mb4.2
KECS *e* pP 23 03 10.3 -4.2
OKC Ostrava-Krasne 83.77 327 *e*P **P** **23 03 01.1 +0.2**
LIKS Likavka 83.86 326 *e*P **P** **23 03 08.3 +6.9**
KSP Ksiaz 83.90 328 *e*P **P** **23 03 02.3 +0.7**
KSP Ksiaz 83.90 328 *e*P **P** **23 03 01.7 +0.1**
MORC Moravsky Berou 84.09 327 *e*P **P** **23 03 03.2 +0.7**
MORC pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
MORC Moravsky Berou 84.09 327 *e*P **P** **23 03 03.2 +0.6**
comp=Z,6.2nm,1.0s,mb4.7
DPC Dobruska-Polom 84.24 328 *e*P **P** **23 03 04.1 +0.8**
UPC Upice 84.27 328 *e*P **P** **23 03 04.3 +0.9**
PV01 Paradox Valley 84.75 48 *e*P **P** **23 03 07.3 +1.4**
PV01 *e*pP pP 23 03 24.2 +3.8
BRG Berggiesshubel 84.91 329 *e*P **P** **23 03 06.8 +0.1**
comp=Z,6.0nm,0.9s,mb4.7
CLL Collm 84.99 330 *e*P **P** **23 03 06.9 -0.2**
comp=Z,15nm,1.0s,mb5.1
CLL Collm 84.99 330 *e*P **P** **23 03 07.0 -0.1**
comp=Z,15nm,1.0s,mb5.1
CLL Collm 84.99 330 *e*P **P** **23 03 07.0 -0.1**
CLL pmax pmax
comp=Z,15nm,1.0s,mb5.1
SMOL Smolenice 85.03 326 *e*P **P** **23 03 08.3 +1.0**
PRU Pruhonice 85.30 329 *e*P **P** **23 03 09.0 +0.4**
CLZ Clausthal 85.67 332 *e*P **P** **23 03 10.5 0.0**
comp=Z,15nm,1.2s,mb5.1
CLZ Clausthal 85.67 332 *e*P **P** **23 03 10.5 0.0**
CLZ pmax pmax
comp=Z,15nm,1.2s,mb5.1
NKC Novy Kostel 86.03 330 *e*P **P** **23 03 12.9 +0.7**
MOX Moxa 86.07 330 *e*P **P** **23 03 12.5 +0.1**
comp=Z,8.0nm,1.5s,mb4.7
MOX Moxa 86.07 330 *e*(P) **P** **23 03 12.6 +0.2**
KHC Kasperske Hory 86.35 328 *e*P **P** **23 03 14.7 +0.9**
ROTZ Rotzenmuhle 86.48 329 *e*P **P** **23 03 15.5 +1.1**
comp=Z,42nm,2.6s,mb5.2
GERES GERESS Array B 86.51 328 P **P** **23 03 14.6 0.0**
comp=Z,1.0nm,0.7s,mb4.2,baz=45,slow=4.0,SNR=11
SCHQ Schefferville 90.05 16 LR LR 23 48 14.1
comp=Z,29nm,20.4s,MS3.7,baz=90,slow=38
LOR Lormes 91.88 332 *e*P **P** **23 03 39.7 -0.2**
LPL La Plagne 92.11 330 *e*P **P** **23 03 41.2 +0.2**
comp=Z,11nm,0.9s,mb4.9
LPL La Plagne 92.11 330 *e*P **P** **23 03 41.2 +0.2**
LPL pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
LPL La Plagne 92.11 330 *e*P **P** **23 03 41.2 +0.2**
comp=Z,5.7nm,0.9s,mb4.9
LPG La Plagne 92.12 330 *e*P **P** **23 03 41.5 +0.5**
comp=Z,5.7nm,0.6s,mb4.8
LPG La Plagne 92.12 330 *e*P **P** **23 03 41.5 +0.5**
LPG pmax pmax
comp=Z,3.0nm,0.6s,mb4.8
LPG La Plagne 92.12 330 *e*P **P** **23 03 41.5 +0.5**
comp=Z,2.8nm,0.6s,mb4.8
SSF Saint Saulge 92.19 332 *e*P **P** **23 03 41.4 0.0**
comp=Z,7.2nm,0.9s,mb4.7
SSF Saint Saulge 92.19 332 *e*P **P** **23 03 41.4 0.0**
SSF pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
SSF Saint Saulge 92.19 332 *e*P **P** **23 03 41.4 0.0**
comp=Z,3.6nm,0.9s,mb4.7

LDF La Druitiere 92.27 335 *e*P **P** **23 03 41.0 -0.7**
AVF Avril sur Loir 92.47 332 *e*P **P** **23 03 42.7 0.0**
comp=Z,14nm,0.8s,mb5.0
AVF Avril sur Loir 92.47 332 *e*P **P** **23 03 42.7 0.0**
AVF pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
AVF Avril sur Loir 92.47 332 *e*P **P** **23 03 42.7 0.0**
comp=Z,6.8nm,0.8s,mb5.0
GRR Gorron 92.71 336 *e*P **P** **23 03 43.8 +0.1**
MBDF Montbardon 92.72 329 *e*P **P** **23 03 43.3 -0.5**
BGF Bois d'Agland 92.86 332 *e*P **P** **23 03 44.4 -0.1**
comp=Z,9.1nm,0.9s,mb4.9
BGF Bois d'Agland 92.86 332 *e*P **P** **23 03 44.4 -0.1**
BGF pmax pmax
comp=Z,5.0nm,0.9s,mb4.9
BGF Bois d'Agland 92.86 332 *e*P **P** **23 03 44.4 -0.1**
comp=Z,4.6nm,0.9s,mb4.9
ORIF Oris-en-Rattie 92.95 330 *e*P **P** **23 03 44.9 0.0**
comp=Z,5.1nm,0.8s,mb4.7
ORIF Oris-en-Rattie 92.95 330 *e*P **P** **23 03 44.9 0.0**
ORIF pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
ORIF Oris-en-Rattie 92.95 330 *e*P **P** **23 03 44.9 0.0**
comp=Z,2.5nm,0.8s,mb4.7
SBF Sospel 93.11 328 *e*P **P** **23 03 44.7 -0.9**
comp=Z,11nm,0.9s,mb5.0
SBF Sospel 93.11 328 *e*P **P** **23 03 44.7 -0.9**
SBF pmax pmax
comp=Z,6.0nm,0.9s,mb5.0
SBF Sospel 93.11 328 *e*P **P** **23 03 44.7 -0.9**
comp=Z,5.7nm,0.9s,mb5.0
TCF Toulx Ste Croi 93.33 333 *e*P **P** **23 03 46.8 +0.2**
VIVF Saint-Julien-l 93.51 330 *e*P **P** **23 03 47.5 0.0**
comp=Z,20nm,1.1s,mb5.1
VIVF Saint-Julien-l 93.51 330 *e*P **P** **23 03 47.5 0.0**
VIVF pmax pmax
comp=Z,10.0nm,1.1s,mb5.2
VIVF Saint-Julien-l 93.51 330 *e*P **P** **23 03 47.5 0.0**
comp=Z,9.8nm,1.1s,mb5.2
FRF La Foret Royal 93.70 329 *e*P **P** **23 03 47.5 -0.8**
LMR La Mourre 93.94 328 *e*P **P** **23 03 48.0 -1.4**
comp=Z,6.0nm,1.0s,mb4.7
LMR La Mourre 93.94 328 *e*P **P** **23 03 48.0 -1.4**
LMR pmax pmax
comp=Z,3.0nm,1.0s,mb4.7
LMR La Mourre 93.94 328 *e*P **P** **23 03 48.0 -1.4**
comp=Z,3.0nm,1.0s,mb4.7
MFF Saint Martin d 93.97 334 *e*P **P** **23 03 49.8 +0.3**
RJF Les Rejaudoux 94.42 333 *e*P **P** **23 03 51.9 +0.3**
comp=Z,9.4nm,1.0s,mb4.9
RJF Les Rejaudoux 94.42 333 *e*P **P** **23 03 51.9 +0.3**
RJF pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
RJF Les Rejaudoux 94.42 333 *e*P **P** **23 03 51.9 +0.3**
comp=Z,4.7nm,1.0s,mb4.9
LASF Ste Croix 94.49 330 *e*P **P** **23 03 52.1 +0.2**
comp=Z,7.0nm,0.9s,mb4.8
CAF Calviac 94.52 332 *e*P **P** **23 03 52.8 +0.7**
comp=Z,5.1nm,0.9s,mb4.7
CAF Calviac 94.52 332 *e*P **P** **23 03 52.8 +0.7**
CAF pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
CAF Calviac 94.52 332 *e*P **P** **23 03 52.8 +0.7**
comp=Z,2.5nm,0.9s,mb4.6
MIV Mineville/With 97.81 24 *e*P **P** **23 04 06.9 -0.1**
TORD Torodi Ar. Bea 120.27 312 PKP PKPdf 23 09 23.0 +0.4
comp=Z,0.8nm,0.5s,baz=23,slow=1.2,SNR=25
LPAZ La Paz 149.32 66 PKPbc PKPbc 23 10 22.9 +2.6
comp=Z,2.6nm,0.8s,baz=1.1,slow=6.6,SNR=14
LPAZ La Paz 149.32 66 *e*PKPdf PKPdf 23 10 15.9 0.0
LPAZ PKPbc PKPbc 23 10 22.9 +2.6

*ISCJB **15** 23:02:50.6±1.6, 3451N±004×2360E±008, h28km±16km, Error ellipse: s-maj=11.2km s-min=5.4km az=150.8*
*NEIC **15** 23:02:50.8, 3459N×2355E, h32km, MD3.5(ATH), After ATH.*
*HLW **15** 23:02:51.3, 3485N×2389E, h27km, Mb3.3*
*CSEM **15** 23:02:52.3±0.2, 3466N×2361E, h12km, MD3.5, Error ellipse: s-maj=6.0km s-min=1.9km az=20.0*
*ATH **15** 23:02:54.1, 3482N×2371E, h84km±5km*
ISC 15 23:02:52.5±1.4, 3456N±004×2365E±008, h27km±13km, n28, σ1§03/33, 1C-4D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.45**	**52**	*e*Pn	**Pb**	**23 03 02.0**	**+0.1**
VAM	**Vamos**	**0.95**	**28**‖	*i*P	**Pn**	**23 03 09.6**	**-0.5**
VAM				*e*S	**Sn**	**23 03 23.8**	**+1.0**
VAM	**Vamos**	**0.95**	**28**‖	*i*Pn	**Pn**	**23 03 09.5**	**-0.6**
VAM				*e*Sn	**Sn**	**23 03 23.8**	**+1.0**
NPS	**Neapolis**	**1.75**	**66**	*e*P	**Pn**	**23 03 22.7**	**+1.6**
VLI	**Veliai**	**2.23**	**345**	*e*P	**Pn**	**23 03 29.0**	**+1.4**
VLI	**Veliai**	**2.23**	**345**	*e*Pb	**Pn**	**23 03 28.6**	**+1.0**
APE	**Apeiranthos**	**2.93**	**31**	*e*P	**Pn**	**23 03 36.8**	**-0.4**
APE	**Apeiranthos**	**2.93**	**31**	*e*Pn	**Pn**	**23 03 35.9**	**-1.3**
ITM	**Ithomi**	**2.96**	**332**	*e*P	**Pn**	**23 03 38.1**	**+0.4**
KARP	**Karpathos**	**3.04**	**70**	*e*P	**Pn**	**23 03 40.3**	**+1.5**
KVR	**Kavouri**	**3.26**	**2**	*e*P	**Pn**	**23 03 40.5**	**-1.3**
SLUM		**3.33**	**156**	⇑P	**Pn**	**23 03 43.8**	**+1.0**
SLUM				S	**Sn**	**23 04 21.6**	**+0.2**
SLUM		**3.33**	**156**	P	**Pn**	**23 03 43.8**	**+1.0**
SLUM				S	**Sn**	**23 04 21.6**	**+0.1**
PTL	**Penteli**	**3.48**	**3**	*e*P	**Pn**	**23 03 44.0**	**-0.9**
RLS	**Riolos of Patr**	**3.91**	**334**	*e*P	**Pn**	**23 03 51.5**	**+0.8**
RLS	**Riolos of Patr**	**3.91**	**334**	*e*Pn	**Pn**	**23 03 50.9**	**+0.2**
ARG	**Arkhangelos**	**4.01**	**64**	*e*P	**Pn**	**23 03 52.5**	**+0.4**
LKR	**Lokris**	**4.11**	**353**	*e*P	**Pn**	**23 03 52.3**	**-1.2**
VLS	**Valsamata**	**4.37**	**326**	*e*P	**Pn**	**23 03 56.4**	**-0.7**
VLS	**Valsamata**	**4.37**	**326**	*e*Pn	**Pn**	**23 03 56.0**	**-1.1**
EVR	**Evrytania**	**4.59**	**342**	*e*P	**Pn**	**23 04 00.6**	**+0.5**
SWA2		**5.52**	**163**	P	**Pn**	**23 04 13.9**	**+1.0**
SWA1		**5.57**	**161**	P	**Pn**	**23 04 14.7**	**+1.2**
SWA1				S	**Sn**	**23 05 15.6**	**-0.9**
FYM	**Al Fayyum**	**7.93**	**126**	P	**Pn**	**23 04 44.6**	**-1.3**
HSAF	**As Saff**	**8.32**	**124**	‖P	**Pn**	**23 04 50.4**	**-0.9**
HFRF	**Wahat Farafira**	**8.40**	**150**	P	**Pn**	**23 04 53.4**	**+0.9**
GLL	**Jalalah**	**8.45**	**124**	‖P	**Pn**	**23 04 52.1**	**-0.9**
AMAG	**Maghara**	**8.96**	**113**	P	**Pn**	**23 04 57.9**	**-2.1**

*LDG **15** 23:04:55.9±0.2, 4286N×097W, h2km, Md1.8/2, Ml1.3/1, Error ellipse: s-maj=6.6km s-min=1.0km az=21.0*
*STR **15** 23:04:56.2±0.0, 4301N×084W, h2km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 15 23:04:56.8±0.7, 4309N×085W, h7km±7km, mbLg0.7/2, Error ellipse: s-maj=3.2km s-min=2.3km az=9.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATE	**Arette**	**0.11**	**94**	Pg	Pg	23 04 59.0	-0.1
ATE				Sg	Sg	23 05 01.0	+0.3
ATE	**Arette**	**0.11**	**94**	Pg	Pg	23 04 59.0	-0.1
ATE				Lg		23 05 01.0	
LARF	**Larrau**	**0.12**	**242**	Pg	Pg	23 04 58.7	-0.6
LARF				Sg	Sg	23 05 00.5	-0.5
LARF	**Larrau**	**0.12**	**242**	Pg	Pg	23 04 58.8	-0.5
LARF				Lg		23 05 00.5	
ORDF	**Ordiarp**	**0.14**	**332**	Pg	Pg	23 04 59.5	-0.2
ORDF				Lg		23 05 01.9	
SJPF	**Ste Jean**	**0.28**	**274**	*e*Pg	Pg	23 05 01.6	-0.6
SJPF				*e*Sg	Sg	23 05 05.9	0.0
	5.7nm,0.2s						
ETSF	**Etsaut**	**0.29**	**133**	*e*Pg	Pg	23 05 02.0	-0.4
ETSF				*e*Sg	Sg	23 05 05.9	-0.3
	4.7nm,0.3s						
OSSF	**Osses**	**0.34**	**298**	Pg	Pg	23 05 03.0	-0.4
OSSF				Lg		23 05 08.0	
IPRE	**Itoiz**	**0.47**	**233**	Lg		23 05 13.2	
	1.6nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**0.50**	**285**	Pg	Pg	23 05 06.1	-0.3
	0.6nm,0.1s,SNR=4.0						
EALK				Lg		23 05 12.7	
	2.4nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**0.50**	**278**	Pg	Pg	23 05 05.5	-1.0
	0.3nm,0.2s,SNR=7.9						
ELIZ				Lg		23 05 13.2	
	0.4nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**0.83**	**119**	Lg		23 05 23.0	
	0.9nm,0.2s,SNR=7.9						
EPF	**Esparros**	**0.87**	**94**	*e*Pg	Pg	23 05 14.4	+0.9
EPF				*e*Sg	Sg	23 05 26.9	+2.1

MOS ***15*** *23:35:43.2±1.0, 1995S×17458W, h33km, mb5.2/14, Error ellipse: s-maj=15.9km s-min=10.0km az=46.1*
ISCJB ***15*** *23:35:44.6±0.2, 1999S±007.×17462W±006, h46km, mb4.8/42, MS4.3/16, Error ellipse: s-maj=11.3km s-min=6.1km az=105.6*
BJI ***15*** *23:35:45.8, 1998S×17393W, h73km, mB5.3, mb4.9, Ms5.4, Ms25.1*
IDC ***15*** *23:35:45.9±0.4, 1993S×17460W, h46km±3km, mb4.2/13, mb1 4.4/15, mb1mx4.3/19, mbtmp4.5/15, MS4.1/11, Ms1 4.0/11, ms1mx3.7/26, Error ellipse: s-maj=22.6km s-min=12.0km az=130.0*
SZGRF ***15*** *23:35:46.7, 2000S×17400W, h33km, Tonga Islands*
NEIC ***15*** *23:35:46.1±0.2, 1991S×17462W, mb5.0/19, Error ellipse: s-maj=9.2km s-min=4.4km az=140.0*
ISC 15 23:35:46.4±0.2, 1998S±007×17458W±006, h48km, h48km±.5km:pP-P, n202, σ0s85/117, mb4.8/42, MS4.3/16, 14C-3D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.61**	**24**	P	**Pn**	**23 37 16.2**	**-4.8**
	12nm,0.3s,baz=259,slow=6.1,SNR=11						
AFI				S	**Sn**	**23 38 22.8**	**-12**
	4.4nm,0.3s,baz=174,slow=20,SNR=2.9						
AFI				T		23 44 18.3	
	10nm,0.3s,baz=127,slow=20,SNR=3.6						
AFI	**Afiamalu**	**6.61**	**24**	P	**Pn**	**23 37 16.2**	**-4.8**
AFI				S	**Sn**	**23 38 22.8**	**-12**
RAR	**Rarotonga**	**13.93**	**98**	P	**Pn**	**23 38 50.6**	**-10**
	3.5nm,0.3s,baz=242,slow=7.8,SNR=5.7						
RAR				S	Sn	23 41 09.0	-25
	2.0nm,0.3s,baz=288,slow=6.4,SNR=3.1						
DZM	**Mont Dzumac**	**17.83**	**260**	P	**Pn**	**23 39 51.8**	**+0.8**
	0.2nm,0.3s,baz=331,slow=15,SNR=2.2						
URZ	**Urewera**	**19.59**	**200**	P	**Pn**	**23 40 11.1**	**-1.1**
	3.0nm,0.3s,baz=261,slow=6.0,SNR=8.3						
URZ				S	**S**	**23 43 37.5**	**-11**
	0.7nm,0.3s,baz=22,slow=18,SNR=3.7						
TBI	**Tubuai**	**23.58**	**103**	*e*LR	LR	23 46 12.8	
	796nm,27.8s,baz=275						
PPT	**Papeete**	**23.79**	**88**	*e*LR	LR	23 46 28.6	
	990nm,25.2s,baz=257						
PPT	**Papeete**	**23.79**	**88**	LR	LR	23 47 17.8	
	comp=Z,400nm,19.3s,MS3.9,baz=212,slow=29						
RPZ	**Rata Peaks**	**26.54**	**204**	P	**P**	**23 41 21.4**	**+1.8**
	16nm,0.6s,mb4.8,baz=86,slow=1.2,SNR=17						
TAOE	**Nuku Hiva Isla**	**35.06**	**77**	*e*LR	LR	23 51 38.2	
	2µm,25.0s						
CTA	**Charters Tower**	**36.73**	**263**	*e*P	**P**	**23 42 50.1**	**+1.1**
	5.9nm,0.5s,mb4.7						
CTA	**Charters Tower**	**36.73**	**263**	*e*P	**P**	**23 42 50.1**	**+1.1**
CTA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
CTAO	**Charters Tower**	**36.73**	**263**	*e*P	**P**	**23 42 49.7**	**+0.7**
CTAO				*e**PP	pP	23 42 59.9	-1.8
RKT	**Rikitea**	**36.90**	**102**	*e*LR	LR	23 52 21.2	
	comp=Z,572nm,28.2s,baz=270						
PMG	**Port Moresby**	**38.38**	**280**	*e*P	**P**	**23 43 04.5**	**+1.6**
STKA	**Stephens Creek**	**40.90**	**244**	*e*P	**P**	**23 43 21.6**	**-2.3**
	comp=Z,5.0nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**40.90**	**244**	P	**P**	**23 43 22.1**	**-1.8**
	comp=Z,5.7nm,0.8s,mb4.3,baz=73,slow=11,SNR=11						
STKA				LR	LR	23 59 53.5	
	comp=Z,232nm,18.1s,MS4.1,baz=287,slow=35						
ASAR	**Alice Springs**	**47.76**	**256**	P	**P**	**23 44 18.1**	**-0.5**
	comp=Z,5.2nm,0.9s,mb4.5,baz=95,slow=8.1,SNR=16						
ASAR				PcP	PcP	23 45 48.5	+1.4
	comp=Z,2.3nm,0.9s,baz=99,slow=6.4,SNR=2.5						
ASAR				pPcP		23 46 01.4	
	comp=Z,7.0nm,0.8s,baz=105,slow=4.5,SNR=11						
ASAR	**Alice Springs**	**47.76**	**256**	P	**P**	**23 44 18.2**	**-0.5**
ASAR						23 45 48.5	
WB2	**Warramunga Arr**	**47.84**	**261**	*e*P	**P**	**23 44 19.1**	**-0.2**
WRAB	**Tennant Creek**	**47.84**	**261**	P	**P**	**23 44 20.0**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.1						
WRAB	**Tennant Creek**	**47.84**	**261**	P	**P**	**23 44 20.0**	**+0.7**
	comp=Z,25nm,1.2s,mb5.1						
WRA	**Warramunga Arr**	**47.85**	**261**	P	**P**	**23 44 18.0**	**-1.4**
	comp=Z,5.8nm,1.0s,mb4.6,baz=97,slow=7.4,SNR=11						
WRA				pPcP		23 46 00.1	
	comp=Z,7.8nm,0.9s,baz=91,slow=3.9,SNR=7.3						
SBA	**Scott Base**	**58.62**	**185**	P	**P**	**23 45 40.5**	**+2.0**
SBA				*e*PP	pP	23 45 53.5	+1.6
VNDA	**Vanda**	**58.73**	**186**	P	**P**	**23 45 39.5**	**+0.2**
	comp=Z,4.1nm,1.1s,mb4.4,baz=1.2,slow=8.2,SNR=8.3						
VNDA				LR	LR	00 08 19.5	
	comp=Z,90nm,18.7s,MS3.9,baz=79,slow=33						
VNDA	**Vanda**	**58.73**	**186**	P	**P**	**23 45 39.5**	**+0.2**
VNDA				LR	LR	00 08 19.5	
MBWA	**Marble Bar**	**61.09**	**256**	*e*P	**P**	**23 45 54.6**	**-0.9**
NWAO	**Narrogin (SRO)**	**61.46**	**243**	P	**P**	**23 45 58.2**	**+0.2**
CBIJ	**Chichi jima**	**62.81**	**317**	LR	LR	00 09 46.1	
	comp=Z,162nm,18.0s,MS4.2,baz=122,slow=32						
JHJ	**Hachijo jima 2**	**68.46**	**320**	LR	LR	00 16 25.2	
	comp=Z,63nm,18.7s,MS3.9,baz=44,slow=36						
QSPA	**South Pole Qui**	**70.08**	**180**	*e*P	**P**	**23 46 54.0**	**+0.5**
	comp=Z,64nm,1.1s,mb5.5						
QSPA				*e*pP	pP	23 47 07.0	-0.2
MJAR	**Matsushiro Arr**	**71.75**	**322**	P	**P**	**23 47 04.1**	**+0.5**
	comp=Z,1.1nm,0.3s,mb4.3,baz=163,slow=5.7,SNR=5.7						
MJAR	**Matsushiro Arr**	**71.75**	**322**	P	**P**	**23 47 04.1**	**+0.5**
ASAJ	**Asahikawa**	**74.86**	**330**	LR	LR	00 17 19.3	
	comp=Z,89nm,19.0s,MS4.1,baz=146,slow=33						
ISA	**Isabella**	**76.71**	**44**	P	**P**	**23 47 32.9**	**+0.4**
ISA				**PP	pP	23 47 46.7	+0.3
ISA				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.0						
ISA	**Isabella**	**76.71**	**44**	P	**P**	**23 47 32.9**	**+0.4**
	comp=Z,23nm,1.2s,mb5.0						
ISA				pP	pP	23 47 46.7	+0.3
YSS	**Yuzh-Sakhalins**	**76.92**	**332**	P	pP	23 47 46.2	-1.4
CMB	**Columbia Colle**	**76.94**	**41**	P	**P**	**23 47 33.4**	**-0.4**
CMB				**PP	pP	23 47 46.9	-0.7
CMB				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
CMB	**Columbia Colle**	**76.94**	**41**	P	**P**	**23 47 33.4**	**-0.3**
	comp=Z,15nm,1.2s,mb4.8						
CMB				pP	pP	23 47 46.9	-0.7
OHCM	**Honcut**	**77.09**	**40**	P	**P**	**23 47 34.4**	**-0.2**
OHCM				pP	pP	23 47 47.8	-0.7
WDC	**Whiskeytown Da**	**77.26**	**38**	P	**P**	**23 47 35.4**	**-0.2**
WDC				**PP	pP	23 47 48.9	-0.6
WDC				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
WDC	**Whiskeytown Da**	**77.26**	**38**	P	**P**	**23 47 35.4**	**-0.2**
	comp=Z,14nm,1.2s,mb4.8						
WDC				pP	pP	23 47 48.9	-0.6
GSC	**Goldstone**	**77.60**	**45**	P	**P**	**23 47 37.2**	**-0.3**
GSC				**PP	pP	23 47 50.5	-0.9
DAC	**Darwin (Calif)**	**77.65**	**44**	P	**P**	**23 47 37.5**	**-0.3**
DAC				**PP	pP	23 47 51.5	-0.1
DAC				pmax	pmax		
	comp=Z,25nm,1.8s,mb4.8						
DAC	**Darwin (Calif)**	**77.65**	**44**	P	**P**	**23 47 37.5**	**-0.3**
	comp=Z,26nm,1.8s,mb4.8						
DAC				pP	pP	23 47 51.5	-0.2
GLA	**Glamis**	**77.68**	**48**	P	**P**	**23 47 38.7**	**+0.8**
GLA				**PP	pP	23 47 52.3	+0.5
YBH	**Yreka Blue Hor**	**77.92**	**37**	P	**P**	**23 47 38.5**	**-0.7**
	comp=Z,4.1nm,0.9s,mb4.4,baz=117,slow=2.9,SNR=8.4						
YBH				pP	pP	23 47 52.9	-0.2
	comp=Z,7.7nm,0.9s,baz=177,slow=4.6,SNR=8.8						
NVAR	**Mina Array Bea**	**78.48**	**42**	P	**P**	**23 47 42.3**	**0.0**
	comp=Z,4.1nm,0.8s,mb4.4,baz=214,slow=6.3,SNR=22						
NVAR				pP	pP	23 47 56.0	-0.3
	comp=Z,11nm,0.8s,baz=213,slow=6.8,SNR=21						
NVAR	**Mina Array Bea**	**78.48**	**42**	P	**P**	**23 47 42.3**	**0.0**
NVAR				pP	pP	23 47 56.0	-0.3
MNV	**Mina**	**78.57**	**42**	P	**P**	**23 47 42.7**	**-0.2**
MNV				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.1						
MNV	**Mina**	**78.57**	**42**	P	**P**	**23 47 42.7**	**-0.1**
	comp=Z,26nm,1.1s,mb5.1						
TPH	**Tonopah**	**78.95**	**43**	P	**P**	**23 47 45.8**	**+0.9**
TPH				**PP	pP	23 47 58.7	-0.2
TPH				pmax	pmax		
	comp=Z,32nm,1.2s,mb5.1						
TPH	**Tonopah**	**78.95**	**43**	P	**P**	**23 47 45.8**	**+0.9**
	comp=Z,32nm,1.2s,mb5.1						
TPH				pP	pP	23 47 58.7	-0.1
NEN	**Nelson**	**79.11**	**46**	P	**P**	**23 47 46.0**	**+0.1**
NEN				pP	pP	23 47 59.5	-0.3
SHPR	**Sheep Range**	**79.38**	**45**	P	**P**	**23 47 47.2**	**-0.1**
SHPR				pP	pP	23 48 01.2	0.0
MOD	**Modoc**	**79.41**	**38**	P	**P**	**23 47 47.5**	**0.0**
	comp=Z,16nm,1.1s,mb4.8						
MOD				pP	pP	23 48 00.8	-0.5
KDAK	**Kodiak Island**	**79.61**	**12**	P	**P**	**23 47 48.2**	**-0.3**
	comp=Z,3.5nm,0.7s,mb4.4,baz=153,slow=6.8,SNR=4.1						
KDAK				LR	LR	00 16 48.7	
	comp=Z,147nm,19.2s,MS4.3,baz=357,slow=31						
TUC	**Tucson**	**80.16**	**50**	P	**P**	**23 47 51.5**	**0.0**
TUC				**PP	pP	23 48 04.2	-1.3
WVOR	**Wild Horse Val**	**80.71**	**38**	*e*P	**P**	**23 47 53.9**	**-0.5**
WVOR				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.0						
WVOR	**Wild Horse Val**	**80.71**	**38**	*e*P	**P**	**23 47 53.9**	**-0.6**
	comp=Z,21nm,1.1s,mb5.0						
MDJ	**Mudanjiang**	**81.98**	**323**	P	**P**	**23 48 01.6**	**+0.4**
MDJ				AP	pP	23 48 18.6	+3.4
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,162nm,6.1s						
NJ2	**Nanjing**	**82.05**	**308**	*e*P	**P**	**23 48 02.0**	**+0.4**
NJ2				AP	pP	23 48 18.8	+3.2
NJ2				PP	PP	23 51 11.8	+2.0
NJ2				S	S	23 58 11.0	-1.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,360nm,5.7s						
NJ2				LR	LR		
	comp=N,3µm,25.2s,MS5.5						
NJ2				LR	LR		
	comp=E,610nm,30.1s,MS5.5						
NJ2				LR	LR		
	comp=Z,1µm,25.3s,MS5.2						
MSU	**Marysvale**	**82.47**	**45**	P	**P**	**23 48 04.7**	**+1.0**
MSU				**PP	pP	23 48 18.8	+1.1
HAWA	**Hanford**	**82.66**	**35**	P	**P**	**23 48 04.6**	**-0.2**
HAWA				pP	pP	23 48 18.1	-0.6
DUG	**Dugway**	**82.97**	**43**	P	**P**	**23 48 06.1**	**-0.3**
DUG				**PP	pP	23 48 19.8	-0.6
MAW	**Mawson**	**83.11**	**199**	P	**P**	**23 48 05.7**	**-1.3**
	comp=Z,2.3nm,0.8s,mb4.2,baz=106,slow=9.6,SNR=1.6						
MAW				pP	pP	23 48 20.3	-0.8
	comp=Z,4.1nm,0.7s,baz=126,slow=7.7,SNR=4.3						
TMUT	**Trail Mountain**	**83.53**	**44**	P	**P**	**23 48 10.1**	**+0.8**
TMUT				pP	pP	23 48 23.4	+0.2
SPUT	**South Promonto**	**83.81**	**42**	P	**P**	**23 48 11.0**	**+0.4**
SPUT				pP	pP	23 48 24.1	-0.7
LAZ	**Ladron**	**83.84**	**50**	*e*P	**P**	**23 48 11.7**	**+0.8**
LENM	**Lemitar**	**83.85**	**50**	P	**P**	**23 48 11.4**	**+0.5**
LENM				pP	pP	23 48 25.4	+0.5
MNTX	**Cornudas Mount**	**83.86**	**53**	P	**P**	**23 48 10.9**	**0.0**
	comp=Z,21nm,1.6s,mb5.0						
MNTX				pP	pP	23 48 24.8	-0.1
SRU	**San Rafael**	**83.88**	**45**	P	**P**	**23 48 11.3**	**+0.3**
SRU				**PP	pP	23 48 24.8	-0.3
SNY	**Shenyang**	**83.91**	**318**	P	**P**	**23 48 11.4**	**+0.2**
SNY				AMB	AMB		
	comp=Z,5.0nm,0.4s,mb5.0						
TTA	**Tatalina**	**83.93**	**8**	P	**P**	**23 48 11.0**	**-0.3**
TTA				**PP	pP	23 48 24.7	-0.6
DAU	**Daniels Canyon**	**84.09**	**43**	P	**P**	**23 48 12.2**	**+0.1**
DAU				**PP	pP	23 48 26.1	0.0
BNM	**Barren Site**	**84.09**	**51**	P	**P**	**23 48 12.0**	**-0.1**
BNM				pP	pP	23 48 26.6	+0.5
LPM	**Los Pinos Moun**	**84.17**	**50**	P	**P**	**23 48 12.4**	**-0.1**
LPM				pP	pP	23 48 26.9	+0.4
TCUT	**Toone Canyon**	**84.37**	**43**	P	**P**	**23 48 13.8**	**+0.3**
TCUT				pP	pP	23 48 26.7	-0.8
PV10	**Paradox Valley**	**84.49**	**46**	*e*P	**P**	**23 48 13.7**	**-0.4**
HWUT	**Hardware Ranch**	**84.53**	**42**	P	**P**	**23 48 13.8**	**-0.5**
HWUT				pP	pP	23 48 27.5	-0.9
ANMO	**Albuquerque**	**84.60**	**50**	P	**P**	**23 48 14.2**	**-0.4**
	comp=Z,4.1nm,0.9s,mb4.6,baz=224,slow=5.5,SNR=19						
ANMO				pP	pP	23 48 28.6	-0.1
	comp=Z,14nm,1.0s,baz=213,slow=5.9,SNR=14						
ANMO	**Albuquerque**	**84.60**	**50**	P	**P**	**23 48 14.6**	**-0.1**
ANMO				pP	pP	23 48 29.1	+0.4
PV01	**Paradox Valley**	**84.69**	**46**	*e*P	**P**	**23 48 14.8**	**-0.3**
PV01				*e*pP	pP	23 48 28.7	-0.5
GDL2	**Guadalupe Moun**	**84.86**	**53**	P	**P**	**23 48 16.4**	**+0.5**
SKAG	**Skagway**	**85.42**	**19**	*e*P	**P**	**23 48 19.3**	**+0.5**
MCMT	**McKenzie Canyo**	**85.51**	**39**	*e*P	**P**	**23 48 19.3**	**+0.1**
MCMT				*e*pP	pP	23 48 33.1	-0.2
CPRX	**Cap Rock**	**85.61**	**53**	*e*P	**P**	**23 48 19.0**	**-0.7**
CPRX				*e*pP	pP	23 48 33.2	-0.6
REDW	**Red Top Meadow**	**85.92**	**41**	P	**P**	**23 48 22.3**	**+1.0**
REDW				pP	pP	23 48 35.3	-0.1
DLMT	**Dillon**	**85.96**	**39**	P	**P**	**23 48 21.4**	**0.0**
DLMT				pP	pP	23 48 34.9	-0.6
BSMT	**Bassoo Peak**	**86.13**	**36**	P	**P**	**23 48 22.3**	**0.0**
BSMT				pP	pP	23 48 35.2	-1.2
IMW	**Indian Meadow**	**86.15**	**40**	P	**P**	**23 48 23.2**	**+0.8**
IMW				pP	pP	23 48 36.3	-0.2
MOOW	**Moose Ponds**	**86.19**	**41**	P	**P**	**23 48 23.2**	**+0.6**
	comp=Z,13nm,1.4s,mb5.0						
MOOW				pP	pP	23 48 35.9	-0.8
SMCO	**Snowmass**	**86.29**	**46**	P	**P**	**23 48 24.9**	**+1.9**
	comp=Z,8.9nm,1.0s,mb5.0						
SMCO				pP	pP	23 48 36.9	-0.3
LRM	**Limekiln Ridge**	**86.30**	**38**	P	**P**	**23 48 23.0**	**-0.1**
LRM				pP	pP	23 48 36.5	-0.7
DLBC	**Dease Lake**	**86.36**	**22**	*e*P	**P**	**23 48 22.8**	**-0.6**
DLBC				*e*pP	pP	23 48 36.1	-1.4
QLMT	**Earthquake Lak**	**86.36**	**40**	P	**P**	**23 48 24.2**	**+0.7**
QLMT				pP	pP	23 48 37.7	+0.2
BW06	**Boulder Array**	**86.41**	**42**	P	**P**	**23 48 23.6**	**-0.1**
BW06				pP	pP	23 48 36.6	-1.2
PDAR	**Pinedale Array**	**86.41**	**42**	P	**P**	**23 48 22.9**	**-0.8**
	comp=Z,0.9nm,0.9s,mb4.0,baz=205,slow=3.1,SNR=6.7						
PDAR				pP	pP	23 48 36.5	-1.3
	comp=Z,3.7nm,1.0s,baz=220,slow=3.7,SNR=11						
PDAR				LR	LR	00 17 04.3	
	comp=Z,92nm,21.4s,MS4.2,baz=259,slow=29						
CHMT	**Chamberlain Mo**	**86.45**	**37**	P	**P**	**23 48 23.9**	**0.0**
CHMT				pP	pP	23 48 36.8	-1.2
COLA	**College**	**87.05**	**11**	*e*P	**P**	**23 48 25.6**	**-1.2**
COLA				*e**PP	pP	23 48 39.2	-1.7
COLA				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.4						
COLA	**College**	**87.05**	**11**	*e*P	**P**	**23 48 25.6**	**-1.3**
	comp=Z,22nm,0.9s,mb5.4						
COLA				*e*pP	pP	23 48 39.2	-1.7
ILAR	**Eielson Array**	**87.14**	**12**	P	**P**	**23 48 26.1**	**-1.1**
	comp=Z,3.0nm,1.0s,mb4.5,baz=225,slow=4.5,SNR=17						
ILAR				pP	pP	23 48 39.1	-2.2
	comp=Z,7.4nm,1.1s,baz=227,slow=6.1,SNR=9.3						
PLCA	**Paso Flores**	**87.28**	**132**	P	**P**	**23 48 28.4**	**+0.5**
WALA	**Waterton Lakes**	**87.30**	**35**	P	**P**	**23 48 27.6**	**-0.4**
	comp=Z,15nm,1.3s,mb5.1						
WALA				pP	pP	23 48 41.0	-1.1
RWWY	**Rawlins**	**87.37**	**44**	P	**P**	**23 48 28.0**	**-0.4**
RWWY				pP	pP	23 48 41.6	-0.9
BJI	**Beijing**	**87.81**	**314**	*e*P	**P**	**23 48 31.9**	**+1.4**
BJI				AMB	AMB		
	comp=Z,8.0nm,1.9s,mb4.6						
SYO	**Syowa Base**	**87.91**	**192**	⇑*e*P	**P**	**23 48 29.6**	**-1.3**
GCMT	**Greycliff**	**87.92**	**39**	*e*P	**P**	**23 48 31.5**	**+0.5**
GCMT				*e*pP	pP	23 48 45.0	-0.1
DAWY	**Dawson**	**88.12**	**15**	P	**P**	**23 48 31.7**	**-0.2**
SNAA	**Sanae**	**88.41**	**177**	LR	LR	00 22 04.6	
	comp=Z,56nm,20.8s,MS4.0,baz=24,slow=31						
SNAA	**Sanae**	**88.41**	**177**	P	**P**	**23 48 32.2**	**-1.1**
SNAA				**PP	pP	23 48 46.3	-1.1
SNAA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SNAA	**Sanae**	**88.41**	**177**	P	**P**	**23 48 32.2**	**-1.1**
	comp=Z,8.0nm,1.0s,mb4.9						
SNAA				pP	pP	23 48 46.3	-1.2
BILL	**Bilibino**	**88.89**	**353**	*ce*P	**P**	**23 48 34.5**	**-1.0**
BILL				*e*		23 52 13.4	
BILL				*e*S		23 59 01.2	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.4						
EDM	**Edmonton**	**89.96**	**32**	*e*P	**P**	**23 48 40.0**	**-0.6**
EDM				*e**PP	pP	23 48 53.1	-1.6
XAN	**Xi'an**	**90.39**	**306**	P	**P**	**23 48 45.4**	**+2.8**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb5.0						
HHC	**Hu-ho-hao-te**	**91.31**	**313**	*e*P	**P**	**23 48 46.8**	**-0.1**
HHC				PP	PP	23 52 25.8	+1.2
HHC				SKS		23 59 12.8	
HHC				S		23 59 39.6	
HHC				AMB	AMB		
	comp=Z,18nm,1.0s,mb5.4						
HHC				AMB	AMB		
	comp=Z,292nm,6.2s						
HHC				LR	LR		
	comp=N,588nm,22.6s,MS5.0						
HHC				LR	LR		
	comp=E,316nm,19.6s,MS5.0						
HHC				LR	LR		
	comp=Z,218nm,23.5s,MS4.5						
KMI	**Kunming**	**91.99**	**296**	P	**P**	**23 48 52.3**	**+2.3**
KMI				PP	PP	23 52 34.8	+4.9
KMI				S		23 59 46.0	
KMI				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.9						
YAK	**Yakutsk**	**92.86**	**337**	*e*P	**P**	**23 48 53.7**	**-0.3**
YAK				*e**PP	pP	23 49 07.4	-0.8
INK	**Inuvik**	**92.97**	**14**	P	**P**	**23 48 53.7**	**-0.8**
INK				**PP	pP	23 49 07.6	-1.1
INK				pmax	pmax		
	comp=Z,13nm,1.4s						
INK	**Inuvik**	**92.97**	**14**	P	**P**	**23 48 53.7**	**-0.8**
	comp=Z,13nm,1.4s,mb5.2						
INK				pP	pP	23 49 07.6	-1.1
CD2	**Chengdu**	**93.23**	**302**	*e*P	**P**	**23 48 53.4**	**-2.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.3						
YKA	**Yellowknife Ar**	**94.73**	**24**	P	**P**	**23 49 01.5**	**-1.1**
	comp=Z,1.3nm,0.9s,mb4.3,baz=238,slow=4.2,SNR=12						
YKA				pP	pP	23 49 14.6	-2.2
	comp=Z,1.7nm,0.8s,baz=238,slow=4.3,SNR=11						
YKA				LR	LR	00 23 58.3	
	comp=Z,78nm,20.2s,MS4.2,baz=80,slow=30						
YKA	**Yellowknife Ar**	**94.73**	**24**	P	**P**	**23 49 01.5**	**-1.1**
YKA				**PP	pP	23 49 14.6	-2.2
LZH	**Lanzhou**	**95.02**	**306**	*e*P	**P**	**23 49 01.3**	**-2.7**
LZH				PP	PP	23 52 51.9	-1.7
LZH				SKS		23 59 32.0	
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,71nm,6.6s						
LZH				LR	LR		
	comp=E,420nm,19.0s						
LZH				LR	LR		
	comp=Z,615nm,20.0s,MS5.1						
ULM	**Lac du Bonnet**	**98.18**	**39**	LR	LR	00 26 23.5	
	comp=Z,140nm,20.8s,MS4.4,baz=230,slow=31						
WMQ	**Urumqi**	**109.02**	**311**	*e*PDIF	Pdif	23 50 04.8	-1.7
WMQ				PP	PP	23 54 40.3	+1.5
WMQ				PP	PP		
	comp=Z,49nm,6.5s						
WMQ				LR	LR		
	comp=N,58nm,18.5s,MS4.4						
WMQ				LR	LR		
	comp=E,75nm,19.2s,MS4.4						
WMQ				LR	LR		
	comp=Z,47nm,19.1s,MS4.1						
MKAR	**Makanchi Array**	**113.18**	**313**	PKiKP	PKiKP	23 54 17.1	-1.4
	comp=Z,0.4nm,0.6s,baz=155,slow=1.2,SNR=3.8						
MKAR				pPKiKP		23 54 31.3	
	comp=Z,0.5nm,0.5s,baz=169,slow=1.2,SNR=5.2						
AAK	**Ala-Archa**	**118.50**	**308**	*i* PKIKP	PKPdf	23 54 27.8	-1.0
ARU	**Arti**	**126.57**	**326**	*i* PKIKP	PKPdf	23 54 43.1	-1.2
ARU				*e*		00 01 43.3	
ARU				*e*SS	SS	00 13 40.9	-1.3
ARCES	**ARCESS Array B**	**128.95**	**351**	PKP	PKPdf	23 54 47.8	-1.0
	comp=Z,2.2nm,0.7s,baz=48,slow=1.8,SNR=9.0						
ARCES				pPKP	pPKPdf	23 55 01.5	-1.9
	comp=Z,14nm,1.2s,baz=342,slow=0.4,SNR=1.9						
ARCES	**ARCESS Array B**	**128.95**	**351**	PKP	PKPdf	23 54 47.8	-1.0
ARCES				pPKP	pPKPdf	23 55 01.5	-1.9
OBN	**Obninsk**	**137.77**	**334**	⇑*i* PKIKP	PKPdf	23 55 05.7	+0.3
OBN				*e*		23 57 53.0	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NOA	**NORSAR Array B**	**138.78**	**356**	PKP	PKPdf	23 55 07.7	+0.4
	comp=Z,0.4nm,0.6s,baz=14,slow=3.7,SNR=3.4						
NOA				pPKP	pPKPdf	23 55 21.0	-0.8
	comp=Z,0.8nm,0.8s,baz=14,slow=5.7,SNR=3.8						
KIV	**Kislovodsk**	**140.85**	**316**	*i* PKIKP	PKPdf	23 55 09.6	-1.4
AKASG	**Malin Array Be**	**144.04**	**334**	PKP	PKPdf	23 55 13.3	-3.3
	comp=Z,1.2nm,0.6s,baz=42,slow=4.6,SNR=11						
AKASG				pPKP	pPKPdf	23 55 27.5	-3.8
	comp=Z,1.2nm,0.4s,baz=36,slow=4.1,SNR=6.5						
GKP	**Gorka Klasztor**	**145.54**	**347**	*e*PKP	PKPdf	23 55 19.7	+0.5
SIM	**Simferopol'**	**145.59**	**323**	*de*PKP2	PKPab	23 55 20.7	+0.8
SI

ESKT	**Eskisehir**	**150.73**	**317**	*i* P		PKPbc		23 55 32.9	-0.4
ERMK	**Ermenek**	**150.80**	**310**	*i* P		PKPbc		23 55 32.6	-0.9
ROSF	**Rostrenen**	**150.86**	**12**	*e*PKP1		PKPbc		23 55 32.3	-1.3
FLN	**La Foliniere**	**150.90**	**8**	*e*PKP1		PKPbc		23 55 32.7	-1.0
FLN				*e*R					
	comp=Z,114nm,22.8s								
FLN	**La Foliniere**	**150.90**	**8**	*e*PKP		PKPbc		23 55 32.7	-1.0
FLN				LR		LR			
	comp=Z,110nm,22.8s,MS4.6								
SGMF	**Saint Gilles**	**151.07**	**11**	*e*PKP1		PKPbc		23 55 32.8	-1.3
LDF	**La Druitiere**	**151.11**	**8**	*e*PKP1		PKPbc		23 55 33.2	-1.0
	comp=Z,55nm,1.4s								
BZS	**Buzias**	**151.15**	**336**	⇑*i*P		PKPbc		23 55 34.2	-0.1
GRR	**Gorron**	**151.21**	**9**	*e*PKP1		PKPbc		23 55 33.3	-1.1
	comp=Z,16nm,0.6s								
FUR	**Furstenfeldbru**	**151.49**	**352**	*e*PKPbc		PKPbc		23 55 34.8	-0.3
MEZF	**Maizieres J'vi**	**151.55**	**1**	*e*PKP1		PKPbc		23 55 34.9	-0.3
CDF	**Champ du Feu**	**151.60**	**357**	*e*PKP1		PKPbc		23 55 34.7	-0.6
BFO	**Black Forest**	**151.62**	**356**	*e*PKPbc		PKPbc		23 55 34.9	-0.5
HAU	**Haudompre**	**152.04**	**359**	*e*PKP1		PKPbc		23 55 36.8	+0.5
HAU				*e*R					
	comp=Z,54nm,22.5s								
KBA	**Koelnbreinsper**	**152.21**	**348**	⇑*i*P		PKPbc		23 55 36.7	0.0
	comp=Z,4.1nm,1.0s								
HINF	**Hinteralfeld**	**152.21**	**358**	*e*PKP1		PKPbc		23 55 35.6	-1.1
WTTA	**Wattenberg**	**152.32**	**351**	⇑*i*P		PKPbc		23 55 36.8	-0.2
	comp=Z,5.6nm,0.6s								
MFF	**Saint Martin d**	**153.06**	**8**	*e*PKP1		PKPbc		23 55 37.8	-0.8
	comp=Z,10.0nm,0.8s								
VISS	**Visnje**	**153.10**	**345**	*i* PKPdf		PKPbc		23 55 38.7	0.0
VISS				*i* PKPbc		PKPab		23 55 53.4	+3.0
VISS				*e*				23 56 02.9	
BOJS	**Bojanci**	**153.28**	**345**	*e*PKPdf		PKPbc		23 55 39.0	-0.1
BOJS				*e*PKPbc		PKPab		23 55 53.0	+1.9
BOJS				*e*				23 56 08.4	
CABF	**La Chapelle**	**153.44**	**359**	*e*PKP1		PKPbc		23 55 39.4	0.0
TCF	**Toulx Ste Croi**	**153.63**	**5**	*e*PKP1		PKPbc		23 55 39.0	-0.8
	comp=Z,5.6nm,0.8s								
RJF	**Les Rejaudoux**	**154.54**	**6**	*e*PKP1		PKPbc		23 55 41.0	-0.8
RJF				*e*R					
	comp=Z,95nm,22.8s								
TORD	**Torodi Ar. Bea**	**172.32**	**152**	PKP		PKPdf		23 55 48.1	-1.8
	comp=Z,1.0nm,1.1s,baz=216,slow=7.3,SNR=3.9								
TORD				pPKP		pPKPdf		23 56 02.6	-2.1
	comp=Z,0.8nm,0.8s,baz=280,slow=2.9,SNR=4.5								
TORD				PKPab		PKPab		23 57 13.3	-1.0
	comp=Z,1.2nm,1.1s,baz=209,slow=1.5,SNR=3.8								

LDG ***15*** *23:56:59.6±0.3, 4289N×129W, h2km, Error ellipse: s-maj=5.9km s-min=2.5km az=45.0*

MDD 15 23:56:59.7±0.2, 4286N×125W, h0km, mbLg0.9/7, Error ellipse: s-maj=2.2km s-min=1.2km az=135.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPRE	**Itoiz**	**0.09**	**237**	Pg	Pg	23 57 01.2	-0.3
	5.0nm,0.1s,SNR=18						
IPRE				Lg		23 57 02.9	
	32nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**0.21**	**241**	Pg	Pg	23 57 04.1	+0.4
	1.3nm,0.1s,SNR=7.9						
IUNC				Lg		23 57 08.3	
	9.1nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**0.26**	**251**	Pg	Pg	23 57 05.1	+0.5
	5.3nm,0.1s,SNR=7.9						
EARA				Lg		23 57 08.5	
	6.5nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**0.26**	**4**	*e*Pg	Pg	23 57 04.2	-0.5
SJPF				*e*Sg	Sg	23 57 07.4	-0.6
	22nm,0.4s						
SJPF	**Ste Jean**	**0.26**	**4**	Pg	Pg	23 57 04.2	-0.5
SJPF				Lg		23 57 07.4	
	11nm,0.4s						
LARF	**Larrau**	**0.27**	**47**	Pg	Pg	23 57 04.3	-0.5
LARF				Lg		23 57 08.8	
ELIZ	**Elizondo**	**0.37**	**327**	Pg	Pg	23 57 06.4	-0.4
	3.1nm,0.2s,SNR=7.9						
ELIZ				Lg		23 57 12.3	
	1.9nm,0.1s,SNR=7.9						
OSSF	**Osses**	**0.40**	**359**	Pg	Pg	23 57 06.8	-0.6
OSSF				Lg		23 57 12.3	
EALK	**Alkurruntz**	**0.41**	**333**	Pg	Pg	23 57 07.3	-0.3
	0.8nm,0.1s,SNR=7.9						
EALK				Lg		23 57 12.8	
	2.4nm,0.2s,SNR=7.9						
ATE	**Arette**	**0.47**	**60**	Pg	Pg	23 57 08.2	-0.4
ATE				Lg		23 57 15.1	
ETSF	**Etsaut**	**0.51**	**85**	*e*Pg	Pg	23 57 08.9	-0.6
ETSF	**Etsaut**	**0.51**	**85**	*e*Pn	Pg	23 57 12.8	+3.3
ETSF				*e*Sg	Sg	23 57 16.6	+0.5
	2.7nm,0.3s						
ETSF	**Etsaut**	**0.51**	**85**	Pg	Pg	23 57 08.9	-0.6
ETSF				Lg		23 57 16.6	
	1.4nm,0.3s						
EBIE	**Bielsa**	**1.04**	**99**	Lg		23 57 33.7	
	0.6nm,0.2s,SNR=7.9						
EPF	**Esparros**	**1.18**	**81**	*e*Pn	Pn	23 57 21.9	-1.6
EPF				*e*Sg	Sg	23 57 38.1	+0.4
EGRA	**Graus**	**1.33**	**119**	Lg		23 57 44.1	
	0.4nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.64**	**284**	Pg	Pg	23 57 29.8	-1.4
	0.1nm,0.2s,SNR=4.0						
ELAN				Lg		23 57 52.3	
	SNR=7.9						

LDG ***15*** *23:58:28.9±0.2, 2411N×9583E, h10km, Mb4.7/11, Error ellipse: s-maj=12.1km s-min=7.1km az=177.0*

MOS ***15*** *23:58:45.6±0.8, 2492N×9523E, h102km, mb4.8/2, Error ellipse: s-maj=14.3km s-min=7.4km az=121.2*

ISCJB ***15*** *23:58:46.6±0.7, 2493N±005×95.12E±004, h105km±5km, mb4.3/37, Error ellipse: s-maj=7.7km s-min=5.7km az=154.2*

BJI ***15*** *23:58:46.5, 2483N×9523E, h118km, mB4.9, mb4.6*

NEIC ***15*** *23:58:49.0±0.3, 2494N×9508E, mb4.2/16, Error ellipse: s-maj=8.2km s-min=5.9km az=31.0*

IDC ***15*** *23:58:49.0±0.8, 2500N×9526E, h113km±6km, mb4.0/18, mb1 4.1/18, mb1mx4.0/23, mbtmp4.3/18, Error ellipse: s-maj=17.7km s-min=11.2km az=66.0*

ISC 15 23:58:48.4±0.7, 2501N±005×9508E±003, h101km±5km, h115km±2.2km; pP-P, n84, σ1§19/97, mb4.3/37, 1C, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKP	**Lekhapani**	**2.48**	**21**	*e*P	**Pn**	**23 59 29.0**	**+1.7**
LKP				*e*S	**Sn**	**23 59 58.0**	**+1.7**
SHL	**Shillong**	**2.95**	**282**	*i* P	**Pn**	**23 59 35.0**	**+1.5**
SHL				*ex*	x	00 00 03.0	
SHL				*e*SG	**Sn**	**00 00 09.0**	**+1.4**
LSA	**Lhasa**	**5.83**	**324**	P	**Pn**	**00 00 14.8**	**+2.4**
LSA				S	**Sn**	**00 01 19.3**	**+1.4**
LSA				Smax			
	comp=N,100nm,0.5s						
LSA				Smax			
	comp=E,180nm,0.5s						
LSA	**Lhasa**	**5.83**	**324**	*e*Pn	**Pn**	**00 00 14.6**	**+2.2**
	comp=E,53nm,0.4s						
LSA				*e*S	**Sn**	**00 01 19.4**	**+1.5**
SLGI	**Shiliguri**	**6.23**	**287**	*ex*	**Sn**	**00 01 25.0**	**-2.7**
KMI	**Kunming**	**6.95**	**87**	P	**Pn**	**00 00 27.8**	**+0.2**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.5s						
JIRN	**Jiri**	**8.40**	**290**	*e*Pn	**Pn**	**00 00 48.2**	**+0.9**
JIRN				*e*Sn	**Sn**	**00 02 18.0**	**-2.4**
	comp=Z,433nm,0.5s						
BOK	**Bokaro**	**8.47**	**264**	*i* P	**Pn**	**00 00 48.2**	**0.0**
BOK				*i* S	**Sn**	**00 02 17.2**	**-4.8**
GUN	**Gumba**	**8.74**	**291**	*e*Pn	**Pn**	**00 00 52.5**	**+0.6**
GUN				*e*Sn	**Sn**	**00 02 26.9**	**-1.6**
	comp=Z,248nm,0.4s						
PKI	**Pulchoki**	**9.05**	**288**	*e*Pn	**Pn**	**00 00 56.2**	**+0.1**
PKI				*e*Sn	**Sn**	**00 02 34.1**	**-2.0**
	comp=Z,119nm,0.5s						
KKN	**Kakani**	**9.21**	**290**	*e*Pn	**Pn**	**00 00 58.3**	**0.0**
KKN				*e*Sn	**Sn**	**00 02 38.4**	**-1.7**
	comp=Z,126nm,0.3s						
DMN	**Daman**	**9.32**	**288**	*e*Pn	**Pn**	**00 00 59.4**	**-0.4**
DMN				*e*Sn	**Sn**	**00 02 40.0**	**-2.6**
	comp=Z,89nm,0.4s						
CD2	**Chengdu**	**9.66**	**51**	*e*P	**Pn**	**00 01 01.3**	**-3.2**
GKN	**Gorkha**	**9.82**	**290**	*e*Pn	**Pn**	**00 01 06.4**	**-0.2**
GKN				*e*Sn	**Sn**	**00 02 51.6**	**-3.2**
	comp=Z,264nm,0.4s						
KOLN	**Koldanda**	**10.65**	**287**	*e*Pn	**Pn**	**00 01 16.6**	**-1.3**
KOLN				*e*Sn	**Sn**	**00 03 10.1**	**-5.1**
	comp=Z,91nm,0.4s						
LZH	**Lanzhou**	**13.37**	**32**	*e*P	**Pn**	**00 01 52.0**	**-2.0**
LZH				AMB	AMB		
	comp=Z,20nm,1.0s						
LZH				AMB	AMB		
	comp=Z,98nm,4.8s						
GTA	**Gaotai**	**14.90**	**14**	P	**Pn**	**00 02 16.3**	**+2.5**
GTA				AP		00 02 23.8	
GTA				AMB	AMB		
	comp=Z,27nm,0.8s						
HYB	**Hyderabad**	**17.15**	**247**	*e*P	**Pn**	**00 02 47.5**	**+5.8**
HYB				*e*S	**S**	**00 05 55.0**	**+1.9**
WMQ	**Urumqi**	**19.71**	**344**	⇑P	**P**	**00 03 11.1**	**+1.3**
WMQ				AP		00 03 29.6	
WMQ				PP		00 03 34.4	
WMQ				*e*S	**S**	**00 06 43.6**	**-2.9**
WMQ				XS	sS	00 07 11.3	-6.9
WMQ				AMB	AMB		
	comp=Z,18nm,0.5s						
WMQ				LR	LR		
	comp=N,31nm,15.0s						
WMQ				LR	LR		
	comp=E,15nm,18.1s						
WMQ				LR	LR		
	comp=Z,41nm,15.6s						
HHC	**Hu-ho-hao-te**	**20.94**	**37**	*e*P	**P**	**00 03 23.1**	**+0.1**
HHC				AP		00 03 45.3	
HHC				PP		00 03 51.8	
HHC				XP	sP	00 03 59.0	+3.9
HHC				S	**S**	**00 07 04.5**	**-6.2**
HHC				PCP	PcP	00 07 26.4	-0.3
HHC				XS	sS	00 07 40.6	-2.3
HHC				SS		00 07 47.0	
HHC				AMB	AMB		
	comp=Z,9.0nm,1.1s						
HHC				AMB	AMB		
	comp=Z,227nm,6.5s						
HHC				LR	LR		
	comp=N,509nm,12.7s						
HHC				LR	LR		
	comp=E,217nm,13.3s						
HHC				LR	LR		
	comp=Z,259nm,12.6s						
KSH	**Kashi**	**21.62**	**317**	*e*P	**P**	**00 03 34.8**	**+4.5**
MKAR	**Makanchi Array**	**24.02**	**338**	P	**P**	**00 03 55.0**	**+1.2**
	comp=Z,24nm,0.5s,mb4.8,baz=147,slow=10,SNR=351						
MKAR				ScP	ScP	00 10 59.3	-2.8
	comp=Z,0.3nm,0.5s,baz=198,slow=3.6,SNR=3.7						
MKAR	**Makanchi Array**	**24.02**	**338**	P	**P**	**00 03 55.0**	**+1.2**
MKAR				ScP	ScP	00 10 59.3	-2.8
AAK	**Ala-Archa**	**24.42**	**321**	*e*P	**P**	**00 03 58.8**	**+1.4**
	comp=Z,5.9nm,0.9s,mb3.9						
AAK				*e*		00 04 22.4	
SONM	**Songino Array**	**24.48**	**19**	P	**P**	**00 03 57.1**	**-0.9**
	comp=Z,5.4nm,0.5s,mb4.1,baz=203,slow=8.6,SNR=13						
ULN	**Ulaanbaatar**	**24.70**	**20**	*e*P	**P**	**00 03 59.2**	**-0.8**
	comp=Z,67nm,1.1s,mb5.0						
KURK	**Kurchatov**	**28.63**	**338**	*e*P	**P**	**00 04 35.8**	**+0.5**
	comp=Z,7.1nm,0.8s,mb4.3						
ZAL	**Zalesovo**	**29.90**	**348**	P	**P**	**00 04 46.0**	**-0.5**
	comp=Z,3.2nm,0.4s,mb4.3,baz=327,slow=7.0,SNR=15						
HIA	**Hailar**	**30.93**	**32**	*e*P	**P**	**00 04 54.9**	**-0.7**
NVS	**Novosibirsk**	**31.06**	**347**	*e*P	**P**	**00 04 54.9**	**-1.8**
NVS				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.5						
NVS				pmax	pmax		
	comp=N,6.0nm,0.9s						
BRVK	**Borovoye**	**33.66**	**333**	*e*P	**P**	**00 05 20.0**	**+0.6**
	comp=N,2.8nm,0.6s,mb4.3						
CHKZ	**Chkalovo**	**33.98**	**334**	*e*P	**P**	**00 05 22.9**	**+0.8**
	comp=N,6.1nm,0.9s,mb4.4						
ZRNK	**Zerenda**	**34.12**	**332**	*e*P	**P**	**00 05 23.9**	**+0.5**
	comp=N,5.0nm,0.5s,mb4.6						
BOD	**Bodaibo**	**35.46**	**17**	*e*P	**P**	**00 05 33.3**	**-1.7**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
AKTK	**Aktyubinsk**	**38.16**	**321**	P	**P**	**00 05 58.8**	**+0.9**
AKTK				ScP	ScP	00 11 47.5	-1.5
AKTO	**Aktyubinsk**	**38.16**	**321**	P	**P**	**00 05 58.8**	**+0.9**
	comp=Z,2.1nm,0.4s,mb4.3,baz=116,slow=8.3,SNR=11						
AKTO				ScP	ScP	00 11 47.5	-1.5
	comp=Z,1.2nm,0.6s,baz=116,slow=6.1,SNR=5.6						
RDF	**Al-Radifah**	**42.32**	**286**	*e*P	**P**	**00 06 33.8**	**+1.6**
RDF				AMb	AMB	00 06 39.8	
	comp=Z,6.7nm,0.4s,mb4.7						
MIB	**Mutribah**	**42.42**	**288**	*e*P	**P**	**00 06 35.1**	**+2.2**
MIB				AMb	AMB	00 06 46.5	
	comp=Z,3.2nm,0.4s,mb4.4						
NAY	**Al-Naaiem**	**42.56**	**287**	*e*P	**P**	**00 06 35.6**	**+1.5**
NAY				AMb	AMB	00 06 37.4	
	comp=Z,4.9nm,0.7s,mb4.3						
YAK	**Yakutsk**	**43.71**	**23**	*e*P	**P**	**00 06 41.2**	**-2.1**
FITZ	**Fitzroy Crossi**	**52.17**	**142**	P	**P**	**00 07 47.2**	**-1.4**
	comp=Z,2.3nm,0.5s,mb4.5,baz=317,slow=22,SNR=6.9						
BR131	**Keskin Array S**	**52.98**	**302**	*e*P	**P**	**00 07 55.2**	**+0.7**
	comp=Z,0.7nm,0.3s,mb4.2						
BRTR	**Keskin Array B**	**52.98**	**302**	P	**P**	**00 07 55.1**	**+0.7**
	comp=Z,0.6nm,0.5s,mb3.9,baz=125,slow=7.7,SNR=6.3						
AKASG	**Malin Array Be**	**55.91**	**316**	P	**P**	**00 08 15.1**	**-0.7**
	comp=Z,0.8nm,0.3s,mb4.2,baz=80,slow=7.2,SNR=6.4						
WRA	**Warramunga Ar**	**58.78**	**136**	P	**P**	**00 08 34.7**	**-1.1**
	comp=Z,1.5nm,0.5s,mb4.8,baz=323,slow=7.4,SNR=19						
WRAB	**Tennant Creek**	**58.78**	**136**	*e*P	**P**	**00 08 34.5**	**-1.4**
	comp=Z,6.8nm,0.5s,mb4.9						
ARCES	**ARCESS Array B**	**59.67**	**338**	P	**P**	**00 08 41.1**	**-1.0**
	comp=Z,6.1nm,0.8s,mb4.7,baz=92,slow=6.9,SNR=12						
ASAR	**Alice Springs**	**61.29**	**139**	P	**P**	**00 08 52.0**	**-1.1**
	comp=Z,2.6nm,0.7s,mb4.4,baz=320,slow=6.8,SNR=26						
KMBO	**Kilima Mbogo**	**61.65**	**254**	P	**P**	**00 08 55.2**	**-0.3**
	comp=Z,0.5nm,0.3s,mb4.0,baz=64,slow=23,SNR=3.6						
KMBO	**Kilima Mbogo**	**61.65**	**254**	P	**P**	**00 08 55.2**	**-0.3**
OPO	**Ambohidratompo**	**63.64**	**232**	P	**P**	**00 09 09.3**	**+0.6**
	comp=Z,1.5nm,0.8s,mb3.9,baz=69,slow=8.6,SNR=4.2						
NB2	**NORSAR Subarra**	**65.51**	**328**	P	**P**	**00 09 20.0**	**-0.9**
	comp=Z,2.4nm,0.6s,mb4.2,baz=83,slow=6.5						
NOA	**NORSAR Array B**	**65.51**	**328**	P	**P**	**00 09 20.4**	**-0.5**
	comp=Z,1.7nm,0.5s,mb4.1,baz=83,slow=6.3,SNR=11						
GERES	**GERESS Array B**	**66.08**	**314**	P	**P**	**00 09 24.9**	**+0.4**
	comp=Z,0.8nm,0.5s,mb3.8,baz=65,slow=6.1,SNR=11						
GERES				pP	pP	00 09 51.5	+1.7
	comp=Z,0.6nm,0.6s,baz=58,slow=3.3,SNR=3.4						
CTAO	**Charters Tower**	**66.98**	**127**	*e*P	**P**	**00 09 28.8**	**-1.4**
CDF	**Champ du Feu**	**70.33**	**315**	*e*P	**P**	**00 09 50.8**	**-0.2**
	comp=Z,1.4nm,0.4s,mb3.8						
CDF	**Champ du Feu**	**70.33**	**315**	*e*P	**P**	**00 09 50.8**	**-0.2**
	comp=Z,0.7nm,0.4s,mb3.8						
HINF	**Hinteralfeld**	**70.76**	**314**	*e*P	**P**	**00 09 54.3**	**+0.6**
LPG	**La Plagne**	**71.49**	**312**	*e*P	**P**	**00 09 58.9**	**+0.8**
	comp=Z,2.0nm,0.4s,mb4.0						
LPG	**La Plagne**	**71.49**	**312**	*e*P	**P**	**00 09 58.9**	**+0.8**
	comp=Z,1.7nm,0.4s,mb4.0						
LPL	**La Plagne**	**71.50**	**312**	*e*P	**P**	**00 09 58.4**	**+0.3**
	comp=Z,3.4nm,0.3s,mb4.3						
LPL	**La Plagne**	**71.50**	**312**	*e*P	**P**	**00 09 58.4**	**+0.3**
	comp=Z,1.7nm,0.3s,mb4.3						
CABF	**La Chapelle**	**71.61**	**313**	*e*P	**P**	**00 09 59.4**	**+0.6**
MBDF	**Montbardon**	**71.70**	**311**	*e*P	**P**	**00 09 58.9**	**-0.4**
	comp=Z,1.7nm,0.3s,mb4.1						
MBDF	**Montbardon**	**71.70**	**311**	*e*P	**P**	**00 09 58.9**	**-0.4**
	comp=Z,0.9nm,0.3s,mb4.1						
STKA	**Stephens Creek**	**71.92**	**140**	P	**P**	**00 09 55.5**	**-5.1**
	comp=Z,0.7nm,0.4s,mb3.8,baz=335,slow=11,SNR=4.3						
LOR	**Lormes**	**72.86**	**315**	*e*P	**P**	**00 10 06.7**	**+0.5**
SMF	**Signal de Mont**	**73.07**	**314**	*e*P	**P**	**00 10 07.7**	**+0.2**
SSF	**Saint Saulge**	**73.16**	**314**	*e*P	**P**	**00 10 07.6**	**-0.4**
	comp=Z,1.4nm,0.3s,mb3.9						
SSF	**Saint Saulge**	**73.16**	**314**	*e*P	**P**	**00 10 07.6**	**-0.4**
	comp=Z,0.7nm,0.3s,mb4.0						
AVF	**Avril sur Loir**	**73.34**	**314**	*e*P	**P**	**00 10 09.0**	**-0.1**
TCF	**Toulx Ste Croi**	**74.25**	**314**	*e*P	**P**	**00 10 14.5**	**+0.1**
	comp=Z,2.6nm,0.5s,mb3.9						
TCF	**Toulx Ste Croi**	**74.25**	**314**	*e*P	**P**	**00 10 14.5**	**+0.1**
	comp=Z,1.3nm,0.5s,mb3.9						
MTLF	**Montolieu**	**75.26**	**311**	*e*P	**P**	**00 10 20.1**	**-0.1**
LSZ	**Lusaka**	**76.49**	**246**	P	**P**	**00 10 28.1**	**+1.0**
	comp=Z,3.8nm,0.4s,mb4.5,baz=46,slow=6.5,SNR=18						
LSZ	**Lusaka**	**76.49**	**246**	*e*P	**P**	**00 10 27.9**	**+0.7**
	comp=Z,3.0nm,0.6s,mb4.2						
LSZ				*e*pP	pP	00 10 57.6	+4.5
SGMF	**Saint Gilles**	**76.58**	**317**	*e*P	**P**	**00 10 27.7**	**0.0**
ROSF	**Rostrenen**	**76.99**	**317**	*e*P	**P**	**00 10 30.0**	**0.0**
ILAR	**Eielson Array**	**78.63**	**23**	pP	pP	00 11 04.2	-1.0
	comp=Z,0.9nm,0.9s,baz=294,slow=4.9,SNR=5.1						
MATP	**Matopo**	**78.91**	**241**	P	**P**	**00 10 41.2**	**+0.6**
	comp=Z,4.2nm,0.6s,mb4.5,baz=64,slow=6.4,SNR=22						
MATP				pP	pP	00 11 09.8	+3.1
	comp=Z,3.5nm,0.7s,baz=76,slow=6.0,SNR=4.4						
MATP	**Matopo**	**78.91**	**241**	P	**P**	**00 10 41.2**	**+0.6**
MATP				pP	pP	00 11 09.8	+3.1
LBTB	**Lobatse**	**83.58**	**239**	P	**P**	**00 11 06.0**	**+0.7**
	comp=Z,0.9nm,0.4s,mb4.0,baz=343,slow=6.9,SNR=5.9						
LBTB				pP	pP	00 11 36.1	+4.4
	comp=Z,3.0nm,0.6s,baz=94,slow=5.6,SNR=5.2						
TORD	**Torodi Ar. Bea**	**87.55**	**283**	P	**P**	**00 11 26.2**	**+1.2**
	comp=Z,0.5nm,0.6s,mb3.8,baz=61,slow=4.1,SNR=15						
BDFB	**Brasilia**	**144.26**	**278**	PKP	PKPdf	00 18 11.7	-0.7
	comp=Z,4.1nm,0.9s,baz=158,slow=2.2,SNR=5.4						

IDC ***16*** *00:01:48.6±1.2, 1494S×16645E, h0km, mb4.0/5, mb1 4.2/6, mb1mx4.0/15, mbtmp4.0/6, ML3.9/1, MS3.7/5, Ms1 3.7/5, ms1mx3.2/21, Error ellipse: s-maj=40.0km s-min=24.8km az=121.0*

ISCJB ***16*** *00:01:49.3±3.1, 1498S±006×16642E±008, h18km±23km, mb4.1/10, MS3.6/3, Error ellipse: s-maj=13.9km s-min=9.2km az=131.4*

NEIC ***16*** *00:01:50.3±0.3, 1500S×16645E, h10km, mb4.5/4, Error ellipse: s-maj=11.6km s-min=10.0km az=46.0*

LDG ***16*** *00:01:50.0±0.4, 1485S×16731E, h10km, Mb4.2/1, Error ellipse: s-maj=94.9km s-min=5.7km az=92.0*

MOS ***16*** *00:01:52.9±1.7, 1509S×16633E, h33km, mb4.7/4, Error ellipse: s-maj=15.4km s-min=11.5km az=26.9*

ISC 16 00:01:52.5±3.2, 1493S±006×16647E±008, h27km±23km, n56, σ0§91/24, mb4.1/10, MS3.6/3, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**3.21**	**148**	⇑*i*P	**Pn**	**00 02 41.1**	**0.0**
DZM	**Mont Dzumac**	**7.10**	**180**	Pn	**Pn**	**00 03 33.9**	**-0.6**
	2.0nm,0.3s,baz=150,slow=20,SNR=68						
DZM				Sn	**Sn**	**00 04 55.4**	**+1.0**
	2.0nm,0.3s,baz=311,slow=23,SNR=3.8						
DZM				LR	LR	00 05 58.5	
	comp=Z,808nm,20.2s,baz=26,slow=35						
HNR	**Honiara**	**8.39**	**310**	LR	LR	00 06 41.0	
	comp=Z,2.54nm,18.6s,baz=174,slow=35						
HNR	**Honiara**	**8.39**	**310**	P	**Pn**	**00 03 54.2**	**+1.9**
PMG	**Port Moresby**	**19.65**	**284**	P	**Pn**	**00 06 18.7**	**-1.8**
RAO	**Raoul Island**	**20.28**	**137**	LR	LR	00 12 38.6	
	comp=Z,595nm,18.3s,MS4.0,baz=286,slow=32						
RAO	**Raoul Island**	**20.28**	**137**	*e*P	**P**	**00 06 25.6**	**-0.3**
RAO				pmax	pmax		
	comp=Z,159nm,0.3s						
RAO	**Raoul Island**	**20.28**	**137**	*e*P	**P**	**00 06 25.6**	**-0.2**
	comp=Z,159nm,0.3s						
AFI	**Afiamalu**	**21.10**	**90**	LR	LR	00 12 38.1	
	comp=Z,139nm,20.9s,MS3.3,baz=326,slow=31						
AFI	**Afiamalu**	**21.10**	**90**	*e*P	**P**	**00 06 34.9**	**+0.2**
WRAB	**Tennant Creek**	**31.01**	**256**	*e*P	**P**	**00 08 07.2**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
WRAB	**Tennant Creek**	**31.01**	**256**	*e*P	**P**	**00 08 07.2**	**-0.5**
	comp=Z,3.2nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**31.02**	**256**	P	**P**	**00 08 07.7**	**-0.1**
	comp=Z,0.5nm,0.9s,mb3.3,baz=85,slow=7.7,SNR=2.3						
ASAR	**Alice Springs**	**31.88**	**249**	P	**P**	**00 08 15.6**	**+0.3**
	comp=Z,1.2nm,0.8s,mb3.8,baz=74,slow=9.2,SNR=6.3						
FITZ	**Fitzroy Crossi**	**39.22**	**260**	LR	LR	00 24 59.6	
	comp=Z,95nm,18.9s,MS3.6,baz=93,slow=36						
NWAO	**Narrogin (SRO)**	**47.98**	**239**	*e*P	**P**	**00 10 28.8**	**0.0**
NWAO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NWAO	**Narrogin (SRO)**	**47.98**	**239**	*e*P	**P**	**00 10 28.8**	**-0.1**
	comp=Z,1.6nm,0.9s,mb4.0						
MAJO	**Matsushiro**	**57.73**	**333**	*e*P	**P**	**00 11 40.8**	**0.0**
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.8						
MAJO	**Matsushiro**	**57.73**	**333**	*e*P	**P**	**00 11 40.8**	**+0.1**
	comp=Z,2.8nm,0.3s,mb4.8						

8.6nm,1.4s,mb4.4
LBTB Lobatse 39.85 248 LR LR 00 30 00.2
comp=Z,130nm,18.4s,MS3.8,baz=100,slow=34
LBTB Lobatse 39.85 248 *e*P **P 00 14 59.8 +1.4**
MAW Mawson 53.05 182 P **P 00 16 41.9 -0.2**
MALT Malatya 58.88 334 *e*P **P 00 17 24.7 +0.9**
MKAR Makanchi Array 62.68 12 P **P 00 17 49.9 +0.2**
1.3nm,0.9s,mb4.0,baz=189,slow=5.5,SNR=7.4
ASAR Alice Springs 63.71 109 P **P 00 17 56.5 -0.1**
1.0nm,0.8s,mb3.9,baz=268,slow=6.0,SNR=8.4
WRA Warramunga Arr 64.50 105 P **P 00 18 02.2 +0.4**
1.3nm,0.7s,mb4.1,baz=263,slow=6.1,SNR=6.8
WRAB Tennant Creek 64.52 105 *e*P **P 00 18 03.4 +1.5**
11nm,0.9s,mb4.9
ZRNK Zerenda 67.27 2 *e*P **P 00 18 18.8 -0.8**
5.4nm,1.3s,mb4.4
SNAA Sanae 69.85 198 P **P 00 18 35.8 +0.2**
ULN Ulaanbaatar 71.84 27 *e*P **P 00 18 47.3 -0.5**
VNDA Vanda 77.01 167 P **P 00 19 16.9 -1.0**
CLL Collm 80.46 329 *e*P **P 00 19 37.0 +0.2**
YKA Yellowknife Ar 132.13 1 PKP PKPdf 00 26 38.7 -0.1
0.1nm,0.8s,baz=345,slow=1.9,SNR=3.3
YKA Yellowknife Ar 132.13 1 PKP PKPdf 00 26 38.7 -0.1

IDC ***16*** *00:19:26.1±0.6, 1485S×16662E, h0km, mb4.5/14, mb1 4.6/16, mb1mx4.5/19, mbtmp4.5/16, ML4.6/2, MS4.5/14, Ms1 4.5/14, ms1mx4.2/21, Error ellipse: s-maj=19.7km s-min=16.1km az=99.0*

ISCJB ***16*** *00:19:29.9±0.2, 1490S±004×16651E±005, h33km, mb4.8/39, MS4.5/16, Error ellipse: s-maj=7.1km s-min=5.0km az=112.3*

LDG ***16*** *00:19:29.7±0.2, 1456S×16613E, h10km, Mb4.7/2, Ms4.5/6, Error ellipse: s-maj=32.7km s-min=11.2km az=81.0*

MOS ***16*** *00:19:31.2±1.4, 1472S×16644E, h33km, mb5.2/13, MS4.6/5, Error ellipse: s-maj=10.4km s-min=9.2km az=130.7*

HRVD ***16*** *00:19:33.1±0.2, 1500S×16657E, h18km, MW5.1/72, Centroid moment Tensor Solution. LP body waves: s54,c72;Mantle waves: s72,c111; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.46±.20; Mθθ-1.03±.14; Mφφ-4.43±.14; Mrθ2.55±.34; Mrφ1.82±.10; Mθφ-1.41±.28; Best double couple: M=6.05900×10^16 NP1:φs350.00000°, δ35.00000°, λ114.00000°. NP2: φs141.00000°, δ59.00000°, λ74.00000°. Principal axes: T 6.3950, Plg72.0000°, Azm13.0000°; N -0.6720, Plg14.0000°, Azm149.0000°; P -5.7230, Plg12.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***16*** *00:19:33.1±1.9, 1483S×16650E, h42km±16km, mb5.0/20, MS4.8/3 Error ellipse: s-maj=10.9km s-min=9.6km az=129.0*

BJI ***16*** *00:19:33.1, 1480S×16650E, h41km, mB5.2, mb4.8, Ms5.0, Msz4.6*

ISC 16 00:19:31.7±0.2,1488S±004×16664E±005,h35km, (h23km±2.5km:pP-P),n216,σ1823/111,mb4.8/38,MS4.5/17, 4C,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**3.17**	**151**	⇑*i*P		**Pn**	**00 20 19.0**	**0.0**
BKM				S		**Sn**	**00 20 56.9**	**+1.2**
DZM	**Mont Dzumac**	**7.15**	**181**	Pn		**Pn**	**00 21 12.0**	**-1.8**
	8.0nm,0.3s,baz=32,slow=19,SNR=59							
DZM				Sn		**Sn**	**00 22 32.2**	**-1.5**
	6.1nm,0.3s,baz=313,slow=22,SNR=2.9							
DZM				LR	LR	LR	00 23 46.9	
	comp=Z,7μm,18.6s,baz=15,slow=36							
HNR	**Honiara**	**8.49**	**309**	Pn		**Pn**	**00 21 30.8**	**-1.4**
	9.0nm,0.3s,baz=223,slow=1.7,SNR=2.7							
HNR				Sn		**Sn**	**00 23 08.9**	**+2.2**
	17nm,0.3s,baz=272,slow=15,SNR=2.5							
HNR				LR		LR	00 24 19.1	
	comp=Z,2μm,18.0s,baz=175,slow=35							
HNR	**Honiara**	**8.49**	**309**	*e*P		**Pn**	**00 21 34.0**	**+1.8**
HNR				*e*S		**Sn**	**00 23 14.4**	**+7.7**
HNR				pmax		pmax		
	comp=Z,200nm,0.8s							
HNR	**Honiara**	**8.49**	**309**	*e*Pn		**Pn**	**00 21 34.0**	**+1.8**
	comp=Z,200nm,0.8s							
HNR				Sn		**Sn**	**00 23 08.9**	**+2.2**
HNR				*e*S		**Sn**	**00 23 14.4**	**+7.7**
HNR				LR		LR	00 24 19.1	
PMG	**Port Moresby**	**19.80**	**284**	P		**Pn**	**00 24 03.4**	**+2.7**
	comp=Z,0.7nm,0.3s,baz=110,slow=12,SNR=3.2							
PMG				LR		LR	00 30 55.8	
	comp=Z,1μm,18.3s,baz=40,slow=35							
PMG	**Port Moresby**	**19.80**	**284**	P		**Pn**	**00 24 03.4**	**+2.7**
PMG				pmax		pmax		
	comp=Z,1.0nm,0.3s							
PMG				MLR		MLR		
	comp=Z,1μm,18.3s							
CTA	**Charters Tower**	**20.11**	**252**	*e*P		**P**	**00 24 03.3**	**+0.9**
	comp=Z,25nm,1.8s							
CTA				*e*S		**S**	**00 27 53.1**	**+6.7**
CTA	**Charters Tower**	**20.11**	**252**	P		**P**	**00 24 03.5**	**+1.1**
	comp=Z,13nm,0.7s,baz=75,slow=12,SNR=9.0							
CTA				LR		LR	00 31 01.3	
	comp=Z,2μm,18.3s,MS4.5,baz=66,slow=35							
CTA	**Charters Tower**	**20.11**	**252**	*e*P		**P**	**00 24 03.3**	**+0.9**
CTA				pmax		pmax		
	comp=Z,25nm,1.8s							
CTAO	**Charters Tower**	**20.11**	**252**	*e*P		**P**	**00 24 03.5**	**+1.1**
CTAO				pmax		pmax		
	comp=Z,43nm,1.3s							
CTAO	**Charters Tower**	**20.11**	**252**	*e*P		**P**	**00 24 03.5**	**+1.1**
	comp=Z,44nm,1.3s							
RAO	**Raoul Island**	**20.20**	**138**	*e*P		**P**	**00 24 08.1**	**+4.7**
AFI	**Afiamalu**	**20.93**	**90**	P		**P**	**00 24 16.2**	**+4.9**
	comp=Z,24nm,0.5s,baz=135,slow=5.9,SNR=5.0							
AFI				LR		LR	00 30 15.0	
	comp=Z,1μm,21.4s,MS4.2,baz=270,slow=31							
URZ	**Urewera**	**25.06**	**160**	P		**P**	**00 24 54.2**	**+1.5**
	comp=Z,8.3nm,0.4s,mb4.6,baz=146,slow=1.6,SNR=4.4							
STKA	**Stephens Creek**	**28.43**	**229**	*e*P		**P**	**00 25 21.0**	**-2.0**
	comp=Z,3.1nm,0.4s,mb4.3							
STKA	**Stephens Creek**	**28.43**	**229**	P		**P**	**00 25 22.2**	**-0.8**
	comp=Z,1.7nm,0.5s,mb4.0,baz=60,slow=8.5,SNR=7.6							
STKA				LR		LR	00 36 34.1	
	comp=Z,1μm,18.9s,MS4.5,baz=26,slow=36							
RPZ	**Rata Peaks**	**28.98**	**173**	P		**P**	**00 25 27.8**	**-0.1**
	comp=Z,6.3nm,0.6s,mb4.5,baz=22,slow=16,SNR=3.4							
RPZ				LR		LR	00 36 16.3	
	comp=Z,1μm,18.2s,MS4.6,baz=5.5,slow=35							
WRAB	**Tennant Creek**	**31.18**	**256**	*e*P		**P**	**00 25 46.8**	**-0.6**
WRAB				pmax		pmax		
	comp=Z,20nm,0.5s,mb5.2							
WRAB	**Tennant Creek**	**31.18**	**256**	*e*P		**P**	**00 25 46.8**	**-0.6**
	comp=Z,2.0nm,0.5s,mb4.2							
WRA	**Warramunga Arr**	**31.19**	**256**	P		**P**	**00 25 46.9**	**-0.6**
	comp=Z,1.2nm,0.5s,mb4.0,baz=85,slow=8.7,SNR=4.7							
ASAR	**Alice Springs**	**32.05**	**249**	P		**P**	**00 25 53.9**	**-1.1**
	comp=Z,3.5nm,0.5s,mb4.4,baz=72,slow=9.8,SNR=38							
ASAR				PcP		PcP	00 28 44.4	+0.4
	comp=Z,0.7nm,0.6s,baz=90,slow=5.6,SNR=2.4							
RAR	**Rarotonga**	**32.51**	**106**	LR		LR	00 35 55.3	
	comp=Z,452nm,18.4s,MS4.2,baz=76,slow=30							
FORT	**Forrest**	**38.69**	**239**	*e*P		**P**	**00 26 52.0**	**-0.1**
	comp=Z,14nm,0.5s,mb4.9							
FITZ	**Fitzroy Crossi**	**39.38**	**260**	*e*P		**P**	**00 26 55.5**	**-2.4**
	comp=Z,10nm,0.6s,mb4.7							
FITZ	**Fitzroy Crossi**	**39.38**	**260**	P		**P**	**00 26 56.2**	**-1.7**
	comp=Z,2.8nm,0.6s,mb4.1,baz=113,slow=17,SNR=7.3							
PPT	**Papeete**	**42.06**	**100**	*e*S		**S**	**00 33 48.7**	**+12**
	comp=Z,186nm,24.5s							
PPT				*e*LQ			00 37 21.5	
	comp=Z,899nm,27.5s							
PPT				*e*LR		LR	00 39 08.9	
	comp=Z,741nm,27.8s,baz=256							
PPT	**Papeete**	**42.06**	**100**	LR		LR	00 42 00.6	
	comp=Z,276nm,19.1s,MS4.2,baz=7.5,slow=32							
TBI	**Tubuai**	**42.20**	**108**	*e*S		**S**	**00 33 49.7**	**+11**
	comp=Z,213nm,39.5s							
TBI				*e*LQ			00 37 22.6	
	comp=Z,755nm,29.8s							
TBI				*e*LR		LR	00 39 13.0	
	comp=Z,368nm,28.8s							
PMOR	**Pomariorio Ree**	**43.87**	**96**	*e*P		**P**	**00 27 37.9**	**+3.3**
	comp=Z,90nm,1.3s,mb5.3							
MBWA	**Marble Bar**	**44.91**	**255**	*e*P		**P**	**00 27 44.8**	**+1.8**
NWAO	**Narrogin (SRO)**	**48.14**	**239**	P		**P**	**00 28 09.2**	**+0.9**
	comp=Z,6.9nm,0.8s,mb4.8,baz=89,slow=5.5,SNR=4.1							
NWAO	**Narrogin (SRO)**	**48.14**	**239**	*e*P		**P**	**00 28 12.5**	**+4.2**
NWAO				pmax		pmax		
	comp=Z,8.0nm,0.8s							
NWAO	**Narrogin (SRO)**	**48.14**	**239**	*e*P		**P**	**00 28 12.5**	**+4.2**
	comp=Z,7.6nm,0.8s,mb4.8							
TAOE	**Nuku Hiva Isla**	**52.33**	**90**	*e*LR		LR	00 43 42.7	
	comp=Z,1μm,29.2s							
KKM	**Kota Kinabalu**	**54.13**	**289**	*e*P		**P**	**00 28 52.0**	**-1.2**
RKT	**Rikitea**	**55.52**	**108**	*e*S		**S**	**00 36 56.6**	**+11**
	comp=Z,214nm,31.2s							
RKT				*e*SS		SS	00 40 31.5	+0.3
	comp=Z,141nm,28.0s							
RKT				*e*LQ			00 43 06.8	
	comp=Z,298nm,29.0s							
RKT				*e*LR		LR	00 45 20.7	
	comp=Z,330nm,28.5s							
MJAR	**Matsushiro Arr**	**57.76**	**333**	P		**P**	**00 29 18.8**	**-0.4**
	comp=Z,1.8nm,0.5s,mb4.4,baz=163,slow=8.7,SNR=6.4							
MAJO	**Matsushiro**	**57.76**	**333**	*e*P		**P**	**00 29 19.2**	**0.0**
MAJO				pmax		pmax		
	comp=Z,11nm,0.4s,mb5.2							
MAJO	**Matsushiro**	**57.76**	**333**	*e*P		**P**	**00 29 19.2**	**0.0**
	comp=Z,11nm,0.4s,mb5.2							
MAT	**Matsushiro**	**57.76**	**333**	P		**P**	**00 29 19.1**	**-0.1**
MAT	**Matsushiro**	**57.76**	**333**	P		**P**	**00 29 19.0**	**-0.2**
NACB	**Ninganchiao**	**58.66**	**311**	P		**P**	**00 29 24.1**	**-1.4**
VNDA	**Vanda**	**62.69**	**181**	LR		LR	00 53 42.0	
	comp=Z,191nm,18.9s,MS4.3,baz=117,slow=33							
VNDA	**Vanda**	**62.69**	**181**	*e*P		**P**	**00 29 54.5**	**+1.5**
VNDA				pmax		pmax		
	comp=Z,5.0nm,0.6s							
VNDA	**Vanda**	**62.69**	**181**	*e*P		**P**	**00 29 54.5**	**+1.6**
	comp=Z,5.4nm,0.6s,mb4.8							
SBA	**Scott Base**	**62.98**	**180**	*e*P		**P**	**00 29 55.9**	**+1.0**
SBA				pmax		pmax		
	comp=Z,16nm,0.7s,mb5.3							
SBA	**Scott Base**	**62.98**	**180**	*e*P		**P**	**00 29 55.9**	**+1.0**
	comp=Z,16nm,0.7s,mb5.3							
YSS	**Yuzh-Sakhalins**	**65.18**	**342**	⇑*e*P		**P**	**00 30 10.5**	**+1.2**
YSS				*e*			00 30 16.2	
YSS				pmax		pmax		
	comp=Z,20nm,1.0s,mb5.1							
YSS				MLR		MLR		
	comp=Z,300nm,19.0s,MS4.5							
YSS	**Yuzh-Sakhalins**	**65.18**	**342**	P		**P**	**00 30 10.8**	**+1.5**
	comp=Z,38nm,1.0s,mb5.4							
MDJ	**Mudanjiang**	**68.13**	**332**	P		**P**	**00 30 26.4**	**-1.8**
KULM	**Kulim**	**68.38**	**282**	*e*P		**P**	**00 30 30.0**	**+0.3**
CN2	**Changchun**	**69.46**	**329**	*e*P		**P**	**00 30 37.3**	**+0.9**
KLR	**Kul'dur**	**70.90**	**337**	*e*P		**P**	**00 30 43.0**	**-2.2**
KLR				pmax		pmax		
	comp=Z,42nm,1.8s,mb5.1							
ENH	**Enshi**	**70.99**	**310**	P		**P**	**00 30 43.8**	**-1.9**
BJT	**Baijiatuan**	**71.99**	**321**	P		**P**	**00 30 50.8**	**-1.0**
KMI	**Kunming**	**73.87**	**302**	P		**P**	**00 31 03.6**	**+0.7**
KMI				AMB		AMB		
	comp=Z,12nm,1.2s,mb4.7							
QSPA	**South Pole Qui**	**75.14**	**180**	*e*P		**P**	**00 31 10.0**	**-0.3**
	comp=Z,17nm,0.8s,mb5.0							
HHC	**Hu-ho-hao-te**	**75.31**	**320**	*e*P		**P**	**00 31 12.6**	**+1.4**
HHC				PCP		PcP	00 31 26.4	+2.0
HHC				XP		sP	00 31 32.9	+6.7
HHC				S		S	00 40 45.1	-3.1
HHC				SKS			00 41 10.1	
HHC				SCS		ScS	00 41 15.3	-6.3
HHC				SS		SS	00 45 39.8	+1.4
HHC				AMB		AMB		
	comp=Z,11nm,1.1s,mb4.7							
HHC				AMB		AMB		
	comp=Z,239nm,8.0s							
HHC				LR		LR		
	comp=N,418nm,20.2s,MS4.8							
HHC				LR		LR		
	comp=E,346nm,21.2s,MS4.8							
HHC				LR		LR		
	comp=Z,316nm,22.0s,MS4.6							
CD2	**Chengdu**	**75.62**	**308**	*e*P		**P**	**00 31 11.8**	**-1.2**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.8							
HIA	**Hailar**	**76.12**	**330**	P		**P**	**00 31 14.0**	**-1.9**
LZH	**Lanzhou**	**77.97**	**313**	*e*P		**P**	**00 31 29.0**	**+2.7**
LZH				AP		pP	00 31 36.5	-0.8
LZH				AMB		AMB		
	comp=Z,30nm,1.2s,mb5.1							
LZH				AMB		AMB		
	comp=Z,120nm,4.9s							
SVW2	**Sparrevohn**	**81.48**	**18**	*e*P		**P**	**00 31 45.3**	**0.0**
MAW	**Mawson**	**81.51**	**202**	P		**P**	**00 31 45.2**	**-0.3**
	comp=Z,4.1nm,1.0s,mb4.3,baz=267,slow=5.9,SNR=4.3							
MAW				LR		LR	01 03 10.0	
	comp=Z,318nm,21.6s,MS4.6,baz=328,slow=32							
MAW	**Mawson**	**81.51**	**202**	P		**P**	**00 31 45.2**	**-0.3**
MAW				LR		LR	01 03 10.0	
YAK	**Yakutsk**	**82.00**	**343**	*e*P		**P**	**00 31 53.5**	**+5.4**
YAK				pmax		pmax		
	comp=N,7.0nm,1.2s							
YAK				pmax		pmax		
	comp=E,7.0nm,1.2s							
YAK				pmax		pmax		
	comp=Z,21nm,1.2s,mb4.9							
YAK	**Yakutsk**	**82.00**	**343**	*e*P		**P**	**00 31 46.7**	**-1.3**
	comp=Z,24nm,0.4s,mb5.5							
SONM	**Songino Array**	**82.26**	**324**	P		**P**	**00 31 49.6**	**+0.2**
	comp=Z,1.6nm,0.7s,mb4.1,baz=148,slow=12,SNR=6.3							
GTA	**Gaotai**	**82.33**	**314**	*e*P		**P**	**00 31 51.8**	**+2.0**
GTA				AP		pP	00 32 00.3	-0.5
GTA				AMB		AMB		
	comp=Z,11nm,1.4s,mb4.6							
SLKM	**Skilak Lake**	**82.69**	**20**	*e*P		**P**	**00 31 51.6**	**-0.1**
BILL	**Bilibino**	**82.69**	**360**	⇑P		**P**	**00 31 51.5**	**-0.2**
BILL				pmax		pmax		
	comp=Z,27nm,0.8s,mb5.3							
BILL	**Bilibino**	**82.69**	**360**	*e*P		**P**	**00 31 51.3**	**-0.4**
	comp=Z,18nm,0.7s,mb5.2							
TTA	**Tatalina**	**82.84**	**16**	*e*P		**P**	**00 31 52.9**	**+0.5**
TTA				pmax		pmax		
	comp=Z,12nm,1.1s,mb4.8							
TTA	**Tatalina**	**82.84**	**16**	*e*P		**P**	**00 31 52.9**	**+0.4**
	comp=Z,12nm,1.1s,mb4.8							
SHL	**Shillong**	**83.10**	**299**	*e*P		**P**	**00 31 56.5**	**+2.7**
PMR	**Palmer**	**83.85**	**20**	*e*P		**P**	**00 31 57.6**	**-0.1**
PMR				pmax		pmax		
	comp=Z,12nm,0.8s,mb5.1							
PMR	**Palmer**	**83.85**	**20**	*e*P		**P**	**00 31 57.6**	**-0.1**
	comp=Z,12nm,0.8s,mb5.1							
EYAK	**Cordova Ski Ar**	**84.25**	**22**	*e*P		**P**	**00 31 58.4**	**-1.2**
BOD	**Bodaibo**	**84.35**	**335**	*e*P		**P**	**00 31 57.6**	**-2.6**
BOD				pmax		pmax		
	comp=Z,5.0nm,1.5s,mb4.4							
LSA	**Lhasa**	**85.12**	**302**	*e*P		**P**	**00 32 04.4**	**+0.3**
HUMO	**Hull Mountain**	**86.15**	**44**	P		**P**	**00 32 08.2**	**-0.9**
SIT	**Sitka**	**86.22**	**28**	*e*P		**P**	**00 32 10.1**	**+0.5**
COLA	**College**	**86.65**	**18**	*e*P		**P**	**00 32 11.0**	**-0.6**
COLA				pmax		pmax		
	comp=Z,4.0nm,0.5s,mb4.9							
COLA	**College**	**86.65**	**18**	*e*P		**P**	**00 32 11.0**	**-0.6**
	comp=Z,4.1nm,0.5s,mb4.9							
ILAR	**Eielson Array**	**86.86**	**18**	P		**P**	**00 32 11.2**	**-1.5**
	comp=Z,3.5nm,0.5s,mb4.9,baz=237,slow=4.9,SNR=55							
ILAR				LR		LR	01 05 27.7	
	comp=Z,316nm,19.9s,MS4.7,baz=72,slow=32							
MOD	**Modoc**	**87.68**	**46**	*e*P		**P**	**00 32 17.6**	**+0.9**
PGC	**Sidney**	**88.33**	**39**	*e*P		**P**	**00 32 20.3**	**+0.6**
JIRN	**Jiri**	**88.60**	**299**	*e*P		**P**	**00 32 22.8**	**+1.8**
	comp=Z,12nm,0.6s,mb5.4							
DAWY	**Dawson**	**88.81**	**21**	*e*P		**P**	**00 32 21.1**	**-0.9**
GUN	**Gumba**	**88.93**	**299**	*e*P		**P**	**00 32 23.5**	**+0.9**
WVOR	**Wild Horse Val**	**89.03**	**46**	*e*P		**P**	**00 32 23.1**	**+0.1**
WVOR				*e**PP		pP	00 32 29.7	-4.4
PKI	**Pulchoki**	**89.23**	**299**	*e*P		**P**	**00 32 24.9**	**+0.9**
KKN	**Kakani**	**89.41**	**299**	*e*P		**P**	**00 32 25.6**	**+0.8**
	comp=Z,7.1nm,0.5s,mb5.2							
KKN	**Kakani**	**89.41**	**299**	*e*P		**P**	**00 32 25.6**	**+0.8**
KKN				pmax		pmax		
	comp=Z,7.0nm,0.5s,mb5.2							
DMN	**Daman**	**89.50**	**299**	*e*P		**P**	**00 32 25.8**	**+0.6**
TIXI	**Tiksi**	**90.00**	**349**	*e*P		**P**	**00 32 22.2**	**-5.4**
TIXI				*e*			00 35 57.6	
TIXI				*e*			00 43 12.0	
TIXI				*e*SS		SS	00 49 09.7	-6.7
TIXI				pmax		pmax		
	comp=Z,5.0nm,1.5s,mb4.6							
TIXI				MLR		MLR		
	comp=Z,169nm,16.0s,MS4.6							
CCUT	**Cedar City**	**91.23**	**52**	*e*P		**P**	**00 32 35.1**	**+1.8**
TUC	**Tucson**	**91.72**	**57**	*e*P		**P**	**00 32 36.2**	**+0.6**
SPUT	**South Promonto**	**93.03**	**48**	*e*P		**P**	**00 32 42.7**	**+1.1**
INK	**Inuvik**	**93.23**	**19**	P		**P**	**00 32 41.9**	**-0.6**
AHID	**Auburn Hatcher**	**94.41**	**47**	*e*P		**P**	**00 32 46.9**	**-1.0**
	comp=Z,2.7nm,0.3s,mb5.2							
BW06	**Boulder Array**	**95.50**	**47**	P		**P**	**00 32 54.2**	**+1.3**
PDAR	**Pinedale Array**	**95.50**	**47**	LR		LR	01 08 50.5	
	comp=Z,175nm,19.4s,MS4.5,baz=247,slow=31							
EDM	**Edmonton**	**95.92**	**37**	*e*P		**P**	**00 32 54.0**	**-0.8**
MKAR	**Makanchi Array**	**96.89**	**316**	P		**P**	**00 33 00.1**	**+0.8**
	comp=Z,0.7nm,0.5s,mb4.3,baz=95,slow=6.0,SNR=8.4							
ZAL	**Zalesovo**	**97.16**	**324**	P		**P**	**00 32 59.7**	**-0.8**
	comp=Z,1.3nm,0.3s,mb4.9,baz=150,slow=17,SNR=3.3							
ZAL	**Zalesovo**	**97.16**	**324**	P		**P**	**00 32 59.7**	**-0.8**
YKA	**Yellowknife Ar**	**97.97**	**27**	P		**P**	**00 33 02.8**	**-1.3**
	comp=Z,0.4nm,0.6s,mb4.2,baz=258,slow=4.7,SNR=13							
YKA				LR		LR	01 16 48.6	
	comp=Z,133nm,18.2s,MS4.5,baz=295,slow=35							
YKW3	**Yellowknife Ar**	**97.98**	**27**	*e*P		**P**	**00 33 02.1**	**-2.1**
ARCES	**ARCESS Array B**	**120.25**	**345**	PKP		PKPdf	00 38 18.4	-0.6
	comp=Z,3.6nm,0.4s,baz=88,slow=2.6,SNR=46							
CPUP	**Villa Florida**	**120.79**	**134**	PKP		PKPdf	00 38 18.8	-1.3
	comp=Z,0.4nm,0.4s,baz=149,slow=3.5,SNR=3.8							
SDV	**Santo Domingo**	**123.76**	**89**	*e*PKPdf		PKPdf	00 38 25.8	0.0
KIV	**Kislovodsk**	**124.51**	**313**	*e*PKIKP		PKPdf	00 38 27.8	+0.6
LBTB	**Lobatse**	**125.08**	**224**	*e*PKIKP		PKPdf	00 38 30.3	+2.0
SAML	**Samuel**	**125.23**	**112**	*e*PKPdf		PKPdf	00 38 28.6	0.0
AKASG	**Malin Array Be**	**130.52**	**326**	PKP		PKPdf	00 38 37.0	-1.7
	comp=Z,0.2nm,0.3s,baz=52,slow=1.5,SNR=5.2							
AKASG	**Malin Array Be**	**130.52**	**326**	PKP		PKPdf	00 38 37.0	-1.7
NB2	**NORSAR Subarra**	**130.61**	**345**	PKPd		PKPdf	00 38 39.0	+0.2
	comp=Z,0.2nm,0.4s,baz=31,slow=1.9							
NOA	**NORSAR Array B**	**130.61**	**345**	PKP		PKPdf	00 38 36.5	-2.3
	comp=Z,0.5nm,0.8s,baz=18,slow=1.4,SNR=6.1							
NOA				SKPbc		SKPbc	00 42 04.0	+4.3
	comp=Z,0.9nm,0.7s,baz=31,slow=3.1,SNR=5.8							
NOA				SKP			00 42 16.0	
	comp=Z,2.1nm,0.8s,baz=31,slow=3.0,SNR=7.2							
NOA	**NORSAR Array B**	**130.61**	**345**	PKIKP		PKPdf	00 38 36.5	-2.3
NOA				pmax		pmax		
	comp=Z,10.0nm,0.8s							
NOA	**NORSAR Array B**	**130.61**	**345**	PKIKP		PKPdf	00 38 36.6	-2.2
BRTR	**Keskin Array B**	**132.14**	**310**	PKP		PKPdf	00 38 43.1	+1.4
	comp=Z,0.5nm,0.7s,baz=167,slow=2.6,SNR=3.3							
EIL	**Elat**	**133.26**	**297**	*e*PKPdf		PKPdf	00 38 45.6	+1.8
BRG	**Berggiesshubel**	**137.89**	**334**	*e*P		PKPdf	00 38 60.0	+7.5
	comp=Z,5.3nm,1.3s							
BRG	**Berggiesshubel**	**137.89**	**334**	*e*PKIKP		PKPdf	00 39 00.0	+7.6
BRG				pmax		pmax		
	comp=Z,5.0nm,1.3s							
KHC	**Kasperske Hory**	**139.34**	**333**	*e*PKPdf		PKPdf	00 38 57.5	+2.4
SANT	**Santorini**	**139.35**	**309**	*e*PKPdf		PKPdf	00 38 56.6	+1.4
GERES	**GERESS Array B**	**139.50**	**332**	PKP		PKPdf	00 38 53.6	-1.8
	comp=Z,0.4nm,0.6s,baz=80,slow=1.5,SNR=5.5							
WTTA	**Wattenberg**	**141.60**	**332**	⇑*i*P		PKPdf	00 38 59.1	-0.1
	comp=Z,4.3nm,0.8s							
BADI	**Badiali**	**144.04**	**328**	P		PKPdf	00 39 01.6	-1.9
ZCCA	**Zocca**	**144.08**	**330**	P		PKPdf	00 39 04.9	+1.3
TIP	**Timpagrande**	**144.16**	**318**	*e*PKPdf		PKPdf	00 39 03.1	-0.6
AQU	**L'Aquila**	**144.22**	**325**	*e*PKIKP		PKPdf	00 39 03.3	-0.5
MGR	**Morigerati**	**144.36**	**320**	P		PKPdf	00 39 02.1	-2.0
CABF	**La Chapelle**	**144.43**	**337**	*e*PKP1		PKPdf	00 39 05.6	+1.4
BDI	**Bagni Di Lucca**	**144.47**	**330**	PKIKP		PKPdf	00 39 02.9	-1.4
CSNT	**Castellina Chi**	**144.56**	**328**	P		PKPdf	00 39 02.2	-2.2
MNS	**Montasola**	**144.59**	**326**	PKIKP		PKPdf	00 39 03.5	-1.0
FLN	**La Foliniere**	**144.59**	**345**	*e*PKP1		PKPdf	00 39 03.4	-1.1
	comp=Z,8.1nm,0.5s							
FLN				*e*R				
	comp=Z,182nm,21.2s							
FLN	**La Foliniere**	**144.59**	**345**	*e*PKP		PKPdf	00 39 03.4	-1.1
FLN				LR		LR		
	comp=Z,180nm,21.3s,MS4.8							
LDF	**La Druitiere**	**144.66**	**345**	*e*PKP1		PKPdf	00 39 04.0	-0.6
LOR	**Lormes**	**144.67**	**340**	*e*PKP1		PKPdf	00 39 04.3	-0.3
LOR				*e*R				
	comp=Z,210nm,19.8s							
LOR	**Lormes**	**144.67**	**340**	*

ECHE	**Chera**	**153.09**	**338**	P	PKPab	00 39 30.9	-6.2
GUD	**Guadarrama**	**153.11**	**344**	P	PKPab	00 39 28.6	-8.6
ESDC	**Sonseca Array**	**153.96**	**343**	PKPbc	PKPbc	00 39 30.0	+2.6
	comp=Z,0.8nm,0.6s,baz=4.3,slow=4.5,SNR=5.5						
ESDC	**Sonseca Array**	**153.96**	**343**	PKPbc	PKPbc	00 39 30.0	+2.6
ESDC				P		00 39 35.6	
EVIA	**Vianos**	**154.47**	**340**	P	PKPab	00 39 39.0	-0.4
TORD	**Torodi Ar. Bea**	**165.28**	**265**	PKP	PKPdf	00 39 32.5	+0.3
	comp=Z,0.4nm,0.7s,baz=55,slow=0.7,SNR=6.5						
TORD				PKPab	PKPab	00 40 30.9	+0.9
	comp=Z,1.6nm,0.8s,baz=104,slow=3.9,SNR=5.9						

JMA 16 00:28:39.2±0.2, 3185N×13908E, h293km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIM2	**Oshima 3**	**2.88**	**6**	P	Pn	00 29 34.2	+1.0
BSO3	**Boso 3**	**3.18**	**22**	P	Pn	00 29 36.0	-0.2
BSO3				S	S	00 30 21.0	-0.8
BSO1	**Boso 1**	**3.22**	**29**	P	Pn	00 29 36.2	-0.4
BSO1				S	S	00 30 20.7	-1.8
BSO4	**Boso 4**	**3.30**	**18**	P	Pn	00 29 38.1	+0.6
BSO4				*e*S	S	00 30 24.7	+0.6
JNY	**Yasuok**	**3.64**	**344**	P	Pn	00 29 43.6	+2.5
JHU	**Hanno**	**4.00**	**2**	*e*S	S	00 30 35.4	-2.2
JRY	**Ryogami san**	**4.16**	**358**	P	Pn	00 29 48.8	+2.0
JRY				*e*S	S	00 30 40.8	-0.1
JYT	**Yasato**	**4.46**	**12**	*e*S	S	00 30 44.2	-2.9
JAG	**Ashikaga**	**4.57**	**4**	P	Pn	00 29 51.9	+0.4
JAG				S	S	00 30 44.5	-4.9
JHO	**Hitachi**	**4.91**	**14**	P	Pn	00 29 55.5	+0.2
CBIJ	**Chichi jima**	**5.46**	**149**	*e*S	S	00 30 57.8	-10

SKO **16** *00:44:58.4, 3819N×2233E, h0km*
NEIC **16** *00:44:59.1, 3828N×2208E, h14km, ML3.2(ATH), After ATH.*
ATH **16** *00:44:59.3, 3828N×2205E, h16km±2km, MD3.3/13, ML3.2*
ISCJB **16** *00:44:60.0±0.4, 3828N±003×2208E±003, h10km, Error ellipse: s-maj=4.1km s-min=3.4km az=65.5*
CSEM **16** *00:44:59.4±0.1, 3827N×2213E, h2km, ML3.2, Error ellipse: s-maj=2.1km s-min=1.9km az=109.0*
THE **16** *00:44:60.0, 3831N×2210E, h10km, ML3.0*
ISC 16 00:45:00.3±0.4, 3827N±002×2207E±004, h10km, n33, σ1§06/43, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.52**	**247**	*i*PN	**Pg**	**00 45 09.4**	**-1.0**
RLS				*e*SN	**Sg**	**00 45 17.5**	**+0.2**
EVR	**Evrytania**	**0.68**	**342**	*e*PB	**Pg**	**00 45 11.6**	**-1.8**
EVR				*e*SN	**Sg**	**00 45 22.0**	**-0.3**
AGG	**Agios Georgios**	**0.78**	**15**	*e*Pg	**Pg**	**00 45 13.5**	**-1.8**
AGG				*e*Sg	**Sg**	**00 45 25.1**	**-0.4**
LKR	**Lokris**	**0.82**	**62**	*e*PB	**Pg**	**00 45 14.5**	**-1.6**
LKR				*e*SN	**Sg**	**00 45 27.0**	**+0.2**
LKR	**Lokris**	**0.82**	**62**	*e*Pg	**Pg**	**00 45 14.1**	**-2.0**
ITM	**Ithomi**	**1.09**	**186**	*e*PN	**Pb**	**00 45 19.8**	**-1.4**
ITM				*e*SN	**Sg**	**00 45 36.2**	**+0.8**
VLS	**Valsamata**	**1.17**	**266**	*e*PB	**Pb**	**00 45 20.5**	**-2.1**
VLS				*e*SN	**Sb**	**00 45 37.5**	**-0.3**
VLS	**Valsamata**	**1.17**	**266**	*e*Pb	**Pb**	**00 45 20.2**	**-2.4**
VLS				*e*Sb	**Sb**	**00 45 38.5**	**+0.7**
LKD	**Levkas**	**1.20**	**292**	*e*Pg	**Pb**	**00 45 21.0**	**-2.1**
ATH	**Athens Observa**	**1.33**	**102**	*e*PN	**Pn**	**00 45 24.6**	**-0.3**
NEO	**Neokhori**	**1.37**	**41**	*e*PN	**Pn**	**00 45 24.9**	**-0.6**
NEO	**Neokhori**	**1.37**	**41**	*e*Pn	**Pn**	**00 45 23.8**	**-1.7**
XOR	**Xorichti**	**1.40**	**38**	*e*Pg	**Pn**	**00 45 25.2**	**-0.7**
KVR	**Kavouri**	**1.41**	**108**	*e*PN	**Pn**	**00 45 27.0**	**+1.0**
JAN	**Janina**	**1.68**	**326**	*e*PN	**Pn**	**00 45 30.7**	**+1.0**
JAN	**Janina**	**1.68**	**326**	*e*Pg	**Pn**	**00 45 31.1**	**+1.4**
VLI	**Veliai**	**1.69**	**156**	*e*PN	**Pn**	**00 45 30.0**	**+0.1**
VLI	**Veliai**	**1.69**	**156**	*e*Pn	**Pn**	**00 45 29.6**	**-0.3**
IGT	**Igoumenitsa**	**1.85**	**313**	*e*Pb	**Pb**	**00 45 34.5**	**+0.2**
LIT	**Litokhoron**	**1.86**	**10**	*e*Pb	**Pn**	**00 45 31.5**	**-0.7**
LIT				*e*Sb	**Sn**	**00 45 56.3**	**+0.6**
KZN	**Kozani**	**2.05**	**354**	*e*PN	**Pn**	**00 45 36.0**	**+1.2**
LSK	**Leskovik**	**2.20**	**329**	*i* Pg	**Pb**	**00 45 40.7**	**+0.6**
KEK	**Kerkira**	**2.29**	**310**	*e*PN	**Pn**	**00 45 38.8**	**+0.8**
FNA	**Florina**	**2.57**	**348**	*e*Pn	**Pn**	**00 45 42.2**	**+0.3**
FNA				*e*Sn	**Sn**	**00 46 14.4**	**+1.2**
BIA	**Bitola**	**2.81**	**348**	*e*Pn	**Pn**	**00 45 46.5**	**+1.3**
KNT	**Kendrikon**	**2.96**	**12**	*e*Pn	**Pn**	**00 45 47.4**	**+0.1**
OHR	**Ohrid**	**3.01**	**341**	*e*Pn	**Pn**	**00 45 49.6**	**+1.6**
OHR	**Ohrid**	**3.01**	**341**	*e*Pn	**Pn**	**00 45 49.5**	**+1.6**
VAM	**Vamos**	**3.33**	**148**	*e*PN	**Pn**	**00 45 53.8**	**+1.5**
NVR	**Nevrokopi**	**3.37**	**24**	*e*PN	**Pn**	**00 45 53.8**	**+0.8**
STIP	**Stip**	**3.42**	**1**	*e*Pn	**Pn**	**00 45 53.9**	**+0.2**
TIP	**Timpagrande**	**4.25**	**284**	*e*Pn	**Pn**	**00 46 05.8**	**+0.6**
TIP				*e*Sn	**Sn**	**00 46 59.9**	**+5.1**
TIP	**Timpagrande**	**4.25**	**284**	*e*Pn	**Pn**	**00 46 05.8**	**+0.7**

IDC **16** *00:53:43.3±0.5, 2104S×17443W, h0km, mb4.6/10, mb1 4.9/12, mb1mx4.8/16, mbtmp4.7/12, ML5.2/2, MS4.7/11, Ms1 4.7/11, ms1mx4.4/25, Error ellipse: s-maj=22.0km s-min=13.5km az=131.0*
ISCJB **16** *00:53:47.0±0.2, 2116S±006×17430W±006, h32km, mb5.0/55, MS4.9/30, Error ellipse: s-maj=10.0km s-min=5.7km az=93.5*
MOS **16** *00:53:47.6±1.3, 2099S×17439W, h33km, mb5.3/22, MS5.0/9, Error ellipse: s-maj=14.5km s-min=9.7km az=57.2*
BJI **16** *00:53:48.8, 2110S×17430W, h33km, mB5.7, mb5.1, Ms5.4, Msz5.0*
NEIC **16** *00:53:48.8±0.2, 2108S×17431W, mb5.1/33, MS5.1/6, Error ellipse: s-maj=10.8km s-min=5.7km az=135.0*
SZGRF **16** *00:53:49.0, 2116S×17503W, h44km, mb5.1, Tonga Islands*
ORF **16** *00:54:09.6, 1273S×17707W, h30km, mb5.8*
ISC 16 00:53:49.0±0.2, 2115S±006×17424W±006, h34km, h34km±1.3km; pP-P, n321, σ1§14/137, mb5.0/55, MS4.9/30, 24C-16D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.57**	**18**	P	**Pn**	**00 55 31.2**	**-5.7**
	16nm,0.3s,baz=138,slow=2.4,SNR=12						
AFI				Sn	**Sn**	**00 56 51.5**	**-10**
	24nm,0.3s,baz=172,slow=20,SNR=4.4						
AFI				LR	LR	00 58 14.1	
	comp=Z,4μm,19.4s,baz=193,slow=36						
AFI				T		01 03 09.9	
	5.4nm,0.3s,baz=132,slow=23,SNR=5.7						
AFI	**Afiamalu**	**7.57**	**18**	*e*Pn	**Pn**	**00 55 29.3**	**-7.6**
AFI				*e*Sn	**Sn**	**00 56 51.3**	**-10**
RAO	**Raoul Island**	**8.73**	**202**	Pn	**Pn**	**00 55 51.9**	**-0.8**
	74nm,0.3s,baz=85,slow=23,SNR=4.4						
RAO				Sn	**Sn**	**00 57 25.5**	**-4.4**
	66nm,0.3s,baz=301,slow=19,SNR=2.9						
RAO	**Raoul Island**	**8.73**	**202**	Pn	**Pn**	**00 55 51.9**	**-0.9**
RAO				Sn	**Sn**	**00 57 25.5**	**-4.4**
RAR	**Rarotonga**	**13.49**	**93**	Pn	**Pn**	**00 56 46.0**	**-12**
	6.0nm,0.3s,baz=233,slow=7.0,SNR=11						
RAR				Sn	Sn	00 59 01.5	-25
	3.0nm,0.3s,baz=94,slow=19,SNR=3.3						
RAR				T		01 11 02.8	
	3.7nm,0.3s,baz=145,slow=11,SNR=3.6						
RAR	**Rarotonga**	**13.49**	**93**	Pn	**Pn**	**00 56 46.0**	**-12**
RAR				Sn	Sn	00 59 01.5	-25
DZM	**Mont Dzumac**	**17.99**	**264**	P	**Pn**	**00 57 59.7**	**+3.5**
	1.3nm,0.3s,baz=83,slow=18,SNR=11						
URZ	**Urewera**	**18.62**	**202**	P	**Pn**	**00 58 03.7**	**-0.2**
	2.8nm,0.3s,baz=348,slow=5.6,SNR=8.9						
URZ				S	**Sn**	**01 01 13.5**	**-18**
	0.8nm,0.3s,baz=338,slow=16,SNR=2.7						
TBI	**Tubuai**	**23.03**	**100**	*e*LR	LR	01 04 05.2	
	2μm,26.0s,baz=272						
PPT	**Papeete**	**23.53**	**86**	*e*LR	LR	01 04 14.7	
	2μm,21.0s,baz=256						
PPT	**Papeete**	**23.53**	**86**	LR	LR	01 06 10.9	
	comp=Z,2μm,21.0s,MS4.5,baz=259,slow=32						
RPZ	**Rata Peaks**	**25.62**	**205**	P	**P**	**00 59 15.1**	**0.0**
	14nm,0.7s,mb4.6,baz=342,slow=20,SNR=9.2						
PMOR	**Pomariorio Ree**	**25.76**	**81**	*e*P	**P**	**00 59 11.5**	**-4.9**
	41nm,1.1s,mb4.8						
HNR	**Honiara**	**27.44**	**291**	LR	LR	01 08 59.0	
	comp=Z,936nm,18.7s,MS4.4,baz=177,slow=34						

TAOE	**Nuku Hiva Isla**	**35.03**	**75**	*e*LR	LR	01 09 31.4	
	2μm,21.2s						
RKT	**Rikitea**	**36.35**	**101**	*e*LR	LR	01 10 14.5	
	1μm,26.5s,baz=268						
PMG	**Port Moresby**	**38.92**	**281**	*e*P	**P**	**01 01 12.4**	**+1.0**
PMG				pmax	pmax		
	comp=Z,13nm,0.6s						
PMG	**Port Moresby**	**38.92**	**281**	*e*P	**P**	**01 01 12.4**	**+1.1**
	comp=Z,13nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**40.70**	**245**	*e*P	**P**	**01 01 23.2**	**-3.0**
	comp=Z,7.5nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**40.70**	**245**	P	**P**	**01 01 23.9**	**-2.2**
	comp=Z,4.8nm,0.6s,mb4.3,baz=88,slow=7.7,SNR=12						
STKA				LR	LR	01 16 28.5	
	comp=Z,888nm,18.5s,MS4.7,baz=64,slow=34						
WAKE	**Wake Island**	**44.32**	**334**	P	**P**	**01 01 55.2**	**-0.4**
WAKE				pP	pP	01 02 06.6	+0.8
ASAR	**Alice Springs**	**47.80**	**257**	P	**P**	**01 02 21.2**	**-1.8**
	comp=Z,18nm,0.8s,mb5.2,baz=95,slow=8.0,SNR=92						
ASAR				S	**S**	**01 09 17.3**	**0.0**
	comp=Z,1.4nm,1.1s,baz=100,slow=16,SNR=3.7						
WRAB	**Tennant Creek**	**47.99**	**262**	P	**P**	**01 02 23.6**	**-0.8**
	comp=Z,100nm,0.6s,mb6.0,SNR=8.7						
WRAB	**Tennant Creek**	**47.99**	**262**	P	**P**	**01 02 23.4**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.2						
WRAB	**Tennant Creek**	**47.99**	**262**	P	**P**	**01 02 23.4**	**-1.0**
	comp=Z,16nm,0.7s,mb5.2						
WRA	**Warramunga Arr**	**48.00**	**262**	P	**P**	**01 02 22.0**	**-2.5**
	comp=Z,9.6nm,0.7s,mb5.0,baz=98,slow=7.7,SNR=24						
WRA				PcP	PcP	01 03 53.8	+1.6
	comp=Z,4.0nm,0.8s,baz=99,slow=3.4,SNR=4.5						
KAKA	**Kakadu**	**51.50**	**270**	*e*P	**P**	**01 02 50.8**	**-0.4**
	comp=Z,9.0nm,0.6s,mb4.9						
FORT	**Forrest**	**52.28**	**247**	*e*P	**P**	**01 02 55.6**	**-1.3**
	comp=Z,36nm,0.6s,mb5.5						
FITZ	**Fitzroy Crossi**	**56.43**	**262**	*e*P	**P**	**01 03 26.6**	**-0.5**
	comp=Z,15nm,1.2s,mb4.9						
SBA	**Scott Base**	**57.49**	**185**	P	**P**	**01 03 36.7**	**+2.1**
VNDA	**Vanda**	**57.61**	**186**	P	**P**	**01 03 35.3**	**-0.2**
	comp=Z,2.0nm,0.9s,mb4.2,baz=356,slow=7.1,SNR=9.3						
VNDA				LR	LR	01 24 05.9	
	comp=Z,566nm,18.6s,MS4.7,baz=7.0,slow=32						
KLBR	**Kellerberrin**	**60.97**	**245**	*e*P	**P**	**01 03 59.6**	**+0.9**
	comp=Z,37nm,0.8s,mb5.6						
MBWA	**Marble Bar**	**61.14**	**257**	P	**P**	**01 03 58.5**	**-1.4**
	comp=Z,14nm,0.6s,mb5.3						
MUN	**Mundaring**	**62.22**	**244**	*e*P	**P**	**01 04 08.6**	**+1.5**
CASY	**Casey**	**64.89**	**206**	*e*P	**P**	**01 04 25.2**	**+0.4**
QSPA	**South Pole Qui**	**68.93**	**180**	*e*P	**P**	**01 04 50.8**	**+0.4**
	comp=Z,19nm,0.9s,mb5.0						
MIR	**Mirnyy**	**71.89**	**205**	*e*P	PcP	01 05 25.0	-2.2
MIR				pmax	pmax		
	comp=Z,220nm,1.5s,mb5.9						
MJAR	**Matsushiro Arr**	**72.86**	**322**	P	**P**	**01 05 13.8**	**-0.5**
	comp=Z,6.9nm,0.8s,mb4.7,baz=158,slow=6.1,SNR=22						
MJAR				LR	LR	01 37 23.9	
	comp=Z,265nm,18.1s,MS4.6,baz=310,slow=36						
MJAR	**Matsushiro Arr**	**72.86**	**322**	P	**P**	**01 05 13.8**	**-0.5**
MJAR				LR	LR	01 37 23.9	
MAJO	**Matsushiro**	**72.86**	**322**	P	**P**	**01 05 13.6**	**-0.7**
MAT	**Matsushiro**	**72.86**	**322**	P	**P**	**01 05 12.9**	**-1.4**
MAT				S	S	01 14 36.0	-2.1
MAT	**Matsushiro**	**72.86**	**322**	P	**P**	**01 05 13.0**	**-1.3**
MAT				*e*S	S	01 14 37.0	-1.1
MAT				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0						
MAT	**Matsushiro**	**72.86**	**322**	P	**P**	**01 05 13.0**	**-1.3**
	comp=Z,20nm,1.1s,mb5.0						
MAT				eS	S	01 14 37.0	-1.1
KSM	**Kuching**	**76.99**	**277**	*e*P	**P**	**01 05 39.7**	**+1.6**
ISA	**Isabella**	**77.32**	**44**	P	**P**	**01 05 43.5**	**+3.5**
PET	**Petropavlovsk**	**77.52**	**344**	*e*P	pP	01 05 52.5	+0.6
CMB	**Columbia Colle**	**77.60**	**41**	P	**P**	**01 05 41.0**	**-0.6**
CMB				*PP	pP	01 05 51.1	-1.2
CMB				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
CMB	**Columbia Colle**	**77.60**	**41**	P	**P**	**01 05 41.0**	**-0.5**
	comp=Z,17nm,1.1s,mb4.9						
CMB				pP	pP	01 05 51.1	-1.2
OHCM	**Honcut**	**77.78**	**39**	*e*P	**P**	**01 05 43.9**	**+1.4**
WDC	**Whiskeytown Da**	**77.98**	**38**	P	**P**	**01 05 44.2**	**+0.5**
WDC				pmax	pmax		
	comp=Z,36nm,1.6s,mb5.0						
WDC	**Whiskeytown Da**	**77.98**	**38**	P	**P**	**01 05 44.2**	**+0.5**
	comp=Z,36nm,1.6s,mb5.0						
YSS	**Yuzh-Sakhalins**	**78.09**	**331**	*e*P	**P**	**01 05 45.2**	**+0.9**
YSS				*e*PP	pP	01 05 56.0	+0.9
YSS				*e*S	S	01 15 35.0	-1.1
YSS				smax			
	comp=N,400nm,12.0s						
YSS				MLR	MLR		
	comp=Z,400nm,19.0s,MS4.8						
GSC	**Goldstone**	**78.19**	**45**	P	**P**	**01 05 45.4**	**+0.6**
GLA	**Glamis**	**78.21**	**48**	P	**P**	**01 05 46.5**	**+1.5**
DAC	**Darwin (Calif)**	**78.26**	**44**	P	**P**	**01 05 45.4**	**+0.2**
DAC				pmax	pmax		
	comp=Z,21nm,1.6s,mb4.8						
DAC	**Darwin (Calif)**	**78.26**	**44**	P	**P**	**01 05 45.4**	**+0.2**
	comp=Z,21nm,1.6s,mb4.8						
YBH	**Yreka Blue Hor**	**78.65**	**37**	P	**P**	**01 05 46.8**	**-0.6**
YBH				pmax	pmax		
	comp=Z,33nm,1.6s						
YBH	**Yreka Blue Hor**	**78.65**	**37**	P	**P**	**01 05 46.8**	**-0.6**
	comp=Z,33nm,1.6s,mb5.0						
NVAR	**Mina Array Bea**	**79.12**	**41**	P	**P**	**01 05 49.7**	**-0.3**
	comp=Z,9.8nm,0.9s,mb4.7,baz=213,slow=7.4,SNR=35						
NVAR	**Mina Array Bea**	**79.12**	**41**	P	**P**	**01 05 49.7**	**-0.3**
MNV	**Mina**	**79.22**	**42**	P	**P**	**01 05 50.1**	**-0.4**
MNV				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
MNV	**Mina**	**79.22**	**42**	P	**P**	**01 05 50.1**	**-0.4**
	comp=Z,22nm,1.0s,mb5.0						
PAHR	**Pah Rah Range**	**79.26**	**40**	P	**P**	**01 05 50.6**	**-0.2**
	comp=Z,20nm,1.1s,mb5.0						
TPNV	**Topopah Spring**	**79.53**	**44**	P	**P**	**01 05 52.0**	**-0.2**
TPNV				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
TPNV	**Topopah Spring**	**79.53**	**44**	P	**P**	**01 05 52.0**	**-0.2**
	comp=Z,15nm,1.0s,mb4.9						
TPH	**Tonopah**	**79.58**	**42**	P	**P**	**01 05 56.0**	**+3.5**
TPH				*PP	pP	01 06 04.1	+0.8
TPH				pmax	pmax		
	comp=Z,29nm,1.3s,mb5.0						
TPH	**Tonopah**	**79.58**	**42**	P	**P**	**01 05 56.0**	**+3.5**
	comp=Z,29nm,1.3s,mb5.0						
TPH				pP	pP	01 06 04.1	+0.9
NEN	**Nelson**	**79.69**	**45**	P	**P**	**01 05 55.3**	**+2.2**
KS15	**Wonju Array Si**	**79.75**	**317**	*e*P	**P**	**01 05 55.2**	**+1.8**
SHPR	**Sheep Range**	**79.97**	**45**	P	**P**	**01 05 54.7**	**+0.1**
MOD	**Modoc**	**80.12**	**38**	P	**P**	**01 05 55.1**	**-0.3**
TUC	**Tucson**	**80.65**	**50**	P	**P**	**01 05 58.2**	**0.0**
SSE	**Sheshan**	**80.83**	**308**	P	**P**	**01 05 59.8**	**+0.6**
SSE				XP	sP	01 06 12.9	-1.0
SSE				PP	PP	01 09 03.5	-0.1
SSE				S	S	01 16 06.1	+1.1
SSE				XS	sS	01 16 21.9	-0.9
SSE				SS	SS	01 21 19.8	+0.9
SSE				AMB	AMB		
	comp=Z,22nm,1.0s,mb5.0						
SSE				AMB	AMB		
	comp=Z,377nm,4.3s						
SSE				LR	LR		
	comp=N,126nm,19.6s,MS4.7						
SSE				LR	LR		
	comp=E,304nm,19.6s,MS4.7						
SSE				LR	LR		
	comp=Z,241nm,14.7s,MS4.7						
WVOR	**Wild Horse Val**	**81.41**	**38**	*e*P	**P**	**01 05 59.8**	**-2.5**
WVOR				*e*PP	pP	01 06 13.8	+0.7
WVOR				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
WVOR	**Wild Horse Val**	**81.41**	**38**	*e*P	**P**	**01 05 59.8**	**-2.5**
	comp=Z,14nm,1.1s,mb4.8						
WVOR				*e*pP	pP	01 06 13.8	+0.7
WUAZ	**Wupatki**	**81.96**	**47**	*e*P	**P**	**01 06 05.7**	**+0.5**
	comp=Z,12nm,1.3s,mb4.7						
WUAZ				*e*pP	pP	01 06 16.1	+0.1
MAW	**Mawson**	**82.12**	**199**	P	**P**	**01 06 06.8**	**+0.7**
	comp=Z,3.7nm,0.6s,mb4.5,baz=143,slow=9.4,SNR=8.1						
MAW				LR	LR	01 41 01.0	
	comp=Z,762nm,18.7s,MS5.1,baz=97,slow=34						
ELK	**Elko**	**82.41**	**41**	P	**P**	**01 06 07.1**	**-0.4**
ELK				pmax	pmax		
	comp=Z,17nm,1.4s						

ELK	**Elko**	**82.41**	**41**	P	**P**	**01 06 07.1**	**-0.4**
	comp=Z,17nm,1.4s,mb4.8						
LON	**Longmire**	**82.47**	**33**	P	**P**	**01 06 07.0**	**-0.9**
GNW	**Green Mountain**	**82.51**	**32**	pP	pP	01 06 17.2	-1.6
PGC	**Sidney**	**82.94**	**31**	P	**P**	**01 06 10.7**	**+0.4**
NJ2	**Nanjing**	**83.03**	**308**	*e*P	**P**	**01 06 12.8**	**+2.0**
NJ2				AP	pP	01 06 22.8	+1.2
NJ2				XP	sP	01 06 26.1	+0.6
NJ2				PP	PP	01 09 25.0	+3.3
NJ2				S	S	01 16 25.0	-2.6
NJ2				XS	sS	01 16 42.0	-3.5
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,1μm,6.1s						
NJ2				LR	LR		
	comp=Z,720nm,22.4s,MS5.0						
MVU	**Marysvale**	**83.04**	**44**	P	**P**	**01 06 12.2**	**+1.4**
	comp=Z,13nm,1.2s,mb4.8						
MVU				pP	pP	01 06 22.0	+0.4
MSU	**Marysvale**	**83.07**	**44**	P	**P**	**01 06 11.5**	**+0.5**
MDJ	**Mudanjiang**	**83.10**	**323**	P	**P**	**01 06 12.1**	**+0.9**
MDJ				AP	pP	01 06 21.8	-0.2
MDJ				XP	sP	01 06 25.4	-0.5
MDJ				PP	PP	01 09 23.1	+0.7
MDJ				S	S	01 16 30.3	+1.9
MDJ				XS	sS	01 16 45.9	-0.4
MDJ				SS	SS	01 21 54.9	+2.1
MDJ				AMB	AMB		
	comp=Z,16nm,1.6s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,225nm,6.2s						
MDJ				LR	LR		
	comp=N,177nm,24.7s						
MDJ				LR	LR		
	comp=E,201nm,19.3s						
MDJ				LR	LR		
	comp=Z,344nm,20.4s,MS4.7						
SVW2	**Sparrevohn**	**83.33**	**9**	P	**P**	**01 06 10.8**	**-1.5**
SVW2				*e*pP	pP	01 06 22.8	-0.4
HAWA	**Hanford**	**83.43**	**35**	P	**P**	**01 06 12.4**	**-0.4**
DUG	**Dugway**	**83.60**	**43**	P	**P**	**01 06 16.5**	**+2.8**
BMO	**Blue Mountains**	**83.67**	**37**	P	**P**	**01 06 13.2**	**-0.9**
	comp=Z,26nm,1.4s,mb5.2						
TMUT	**Trail Mountain**	**84.13**	**44**	*e*P	**P**	**01 06 16.8**	**+0.4**
MNTX	**Cornudas Mount**	**84.29**	**53**	P	**P**	**01 06 16.8**	**-0.5**
MNTX				pP	pP	01 06 34.3	+6.2
SPUT	**South Promonto**	**84.46**	**42**	P	**P**	**01 06 17.6**	**-0.5**
SRU	**San Rafael**	**84.47**	**44**	*e*P	**P**	**01 06 17.8**	**-0.4**
SRU				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.1						
SRU	**San Rafael**	**84.47**	**44**	*e*P	**P**	**01 06 17.8**	**-0.4**
	comp=Z,17nm,1.1s,mb5.1						
HVU	**Hansel Valley**	**84.52**	**41**	P	**P**	**01 06 17.9**	**-0.5**
HVU				*PP	pP	01 06 29.7	+0.4
HLID	**Hailey**	**84.56**	**39**	*e*P	**P**	**01 06 18.4**	**-0.2**
	comp=Z,13nm,1.0s,mb5.0						
HLID				*e*pP	pP	01 06 28.7	-0.8
DAU	**Daniels Canyon**	**84.71**	**43**	P	**P**	**01 06 18.6**	**-0.8**
PMR	**Palmer**	**84.88**	**12**	*e*P	**P**	**01 06 19.5**	**-0.7**
PMR				pmax	pmax		
	comp=Z,40nm,1.5s,mb5.3						
PMR	**Palmer**	**84.88**	**12**	*e*P	**P**	**01 06 19.5**	**-0.7**
	comp=Z,40nm,1.5s,mb5.3						
KLR	**Kul'dur**	**84.91**	**328**	*e*P	**P**	**01 06 17.0**	**-3.4**
KLR				*e*		01 16 44.5	
CN2	**Changchun**	**84.99**	**321**	*e*P	**P**	**01 06 23.1**	**+2.3**
CN2				*e*S		01 16 48.8	
CN2				AMB	AMB		
	comp=Z,40nm,1.3s,mb5.4						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
TCUT	**Toone Canyon**	**85.00**	**42**	P	**P**	**01 06 20.6**	**-0.2**
TTA	**Tatalina**	**85.03**	**8**	P	**P**	**01 06 20.0**	**-0.9**
ANMO	**Albuquerque**	**85.09**	**50**	P	**P**	**01 06 21.2**	**-0.1**
ANMO				pmax	pmax		
	comp=Z,22nm,1.3s						
ANMO	**Albuquerque**	**85.09**	**50**	P	**P**	**01 06 21.2**	**-0.1**
	comp=Z,22nm,1.3s,mb5.1						
HWUT	**Hardware Ranch**	**85.17**	**42**	P	**P**	**01 06 21.9**	**+0.2**
	comp=Z,22nm,1.6s,mb5.0						
PV01	**Paradox Valley**	**85.25**	**46**	*e*P	**P**	**01 06 22.0**	**-0.1**
PV01				*e*pP	pP	01 06 32.5	-0.4
MCMT	**McKenzie Canyo**	**86.21**	**39**	*e*P	**P**	**01 06 26.8**	**0.0**
MCMT				*e*pP	pP	01 06 37.7	0.0
SKAG	**Skagway**	**86.41**	**19**	*e*P	**P**	**01 06 28.7**	**+0.8**
SKAG				*e*pP	pP	01 06 37.5

comp=Z,19nm,1.4s,mb5.3
KMI AMB AMB
comp=Z,1μm,5.6s
KMI LR LR
comp=Z,302nm,23.2s,MS4.7
CHG Chiang Mai 93.78 289 ⇓P **P 01 07 04.7 +2.3**
comp=Z,16nm,1.0s,mb5.4
CHTO Chiang Mai 93.78 289 *e*P **P 01 07 04.7 +2.3**
CHTO *e**PP pP 01 07 14.3 +1.0
CHTO pmax pmax
comp=Z,20nm,1.2s,mb5.4
CHTO Chiang Mai 93.78 289 *e*P **P 01 07 04.7 +2.3**
comp=Z,20nm,1.2s,mb5.4
CHTO *e*pP pP 01 07 14.3 +0.9
INK Inuvik 94.01 14 P **P 01 07 02.6 -0.9**
YKA Yellowknife Ar 95.66 24 P **P 01 07 09.4 -1.6**
comp=Z,1.2nm,0.8s,mb4.4,baz=236,slow=4.2,SNR=26
LZH Lanzhou 95.97 306 *e*P **P 01 07 13.9 +1.5**
LZH AP pP 01 07 21.1 -2.3
LZH XP sP 01 07 25.3 -2.0
LZH AMB AMB
comp=Z,10.0nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,53nm,5.0s
LZH LR LR
comp=E,420nm,19.0s
LZH LR LR
comp=Z,615nm,20.0s,MS5.1
ULN Ulaanbaatar 98.17 318 *e*P **P 01 07 21.4 -1.0**
LPAZ La Paz 98.55 111 LR LR 01 43 23.4
comp=Z,344nm,19.1s,MS4.9,baz=62,slow=30
ULM Lac du Bonnet 98.86 40 LR LR 01 46 24.7
comp=Z,460nm,19.7s,MS5.0,baz=243,slow=32
GTA Gaotai 100.12 308 *e*P Pdif 01 07 32.4 +1.3
GTA AP 01 07 42.8
GTA XP 01 07 46.9
GTA PP PP 01 11 40.0 +3.2
GTA S Sdif 01 18 56.5 -7.2
GTA XS 01 19 20.1
GTA SS SS 01 25 57.0 -0.7
GTA AMB AMB
comp=Z,4.0nm,1.4s
GTA AMB AMB
comp=Z,164nm,4.9s
GTA LR LR
comp=N,488nm,6.5s
GTA LR LR
comp=E,643nm,9.1s
GTA LR LR
comp=Z,629nm,9.9s
SAML Samuel 106.01 106 *e*Pdif Pdif 01 08 00.4 +3.1
WMQ Urumqi 110.02 310 PDIF Pdif 01 08 11.0 -4.1
WMQ PP PP 01 12 49.3 -0.8
WMQ PP PP
comp=Z,274nm,5.4s
WMQ LR LR
comp=N,81nm,20.0s,MS4.5
WMQ LR LR
comp=E,115nm,24.6s,MS4.5
WMQ LR LR
comp=Z,108nm,22.3s,MS4.4
MKAR Makanchi Array 114.21 313 PKP PKiKP 01 12 24.1 -0.7
comp=Z,0.6nm,0.8s,baz=93,slow=4.9,SNR=4.9
KURK Kurchatov 116.86 317 *e*PKIKP PKPdf 01 12 29.2 -0.6
AAK Ala-Archa 119.47 308 *i* PKIKP PKPdf 01 12 34.5 -0.4
AAK MLR MLR
comp=Z,200nm,20.0s,MS4.8
BRVK Borovoye 121.90 320 *e*PKIKP PKPdf 01 12 39.2 -0.3
ZRNK Zerenda 122.68 320 *e*PKIKP PKPdf 01 12 39.9 -1.1
ZRNK *e* 01 12 52.3
ARU Arti 127.72 326 *i* PKIKP PKPdf 01 12 50.5 -0.2
ARU *e* 01 14 57.7
ARU *e* 01 19 53.2
ARU *e*SP SP 01 24 49.0 -5.3
ARU *e*SS SS 01 31 55.3 -6.4
ARU MLR MLR
comp=E,300nm,19.0s,MS5.1
ARU MLR MLR
comp=Z,400nm,19.0s,MS5.1
ARU MLR MLR
comp=N,200nm,20.0s,MS5.1
ARU Arti 127.72 326 PKPdf PKPdf 01 12 50.9 +0.2
ARCES ARCESS Array B 130.15 351 PKP PKPdf 01 12 55.0 -0.3
comp=N,4.6nm,0.9s,baz=28,slow=4.1,SNR=3.6
LSZ Lusaka 137.63 213 PKIKP PKPdf 01 13 11.5 +2.2
OBN Obninsk 138.96 333 *i* PKIKP PKPdf 01 13 10.0 -1.8
OBN pmax pmax
comp=Z,8.0nm,1.2s
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.6
MAK Makhachkala 139.01 312 *e*PKIKP PKPdf 01 13 09.6 -2.3
MAK *i* 01 16 02.2
MAK *e* 01 20 16.3
MAK pmax pmax
comp=Z,4.0nm,0.4s
NB2 NORSAR Subarra139.96 356 PKPa 01 13 04.7
comp=Z,6.0nm,1.4s,baz=17,slow=2.6
NOA NORSAR Array B 139.96 356 PKhKP 01 13 06.3
comp=Z,0.5nm,0.9s,baz=15,slow=3.7,SNR=4.7
KIV Kislovodsk 141.91 315 *i* PKIKP PKPdf 01 13 15.7 -1.4
KIV *e*SS SS 01 34 48.1 -4.2
KIV pmax pmax
comp=Z,4.0nm,0.9s
KMBO Kilima Mbogo 142.08 238 PKP PKPdf 01 13 18.5 +1.1
comp=Z,1.9nm,0.8s,baz=206,slow=22,SNR=3.6
BHD Baghdad 143.79 298 *e*x x 01 13 16.5
SOC Sochi 144.01 316 *e*PKIKP PKPdf 01 13 18.5 -2.3
SOC *i* 01 13 26.2
SOC *e* 01 16 32.1
SOC pmax pmax
comp=Z,8.0nm,1.1s
MSL Mosul 144.20 303 *e*x x 01 13 20.0
ERZM Erzurum 144.39 310 *i* P PKPdf 01 13 21.2 -0.3
EZM Erzurum 144.40 310 *e*P PKPdf 01 13 21.5 0.0
SUW Suwalki 144.61 342 *e*PKP PKPdf 01 13 20.7 -1.2
SUW *e* 01 13 30.7
MUD Monsted U'grnd 144.65 357 ⇓*i*P PKPdf 01 13 20.6 -1.3
comp=Z,38nm,1.0s
MUD *i* 01 13 41.8
MUD *i* 01 17 40.0
MUD Monsted U'grnd 144.65 357 ⇓*i*PKIKP PKPdf 01 13 20.6 -1.3
MUD pmax pmax
comp=Z,38nm,1.0s
ANN Anapa 144.84 320 *i* PKIKP PKPdf 01 13 21.0 -1.2
ANN *e*SS SS 01 35 21.6 -4.4
ANN pmax pmax
comp=Z,80nm,1.3s
AKASG Malin Array Be 145.22 334 PKPbc PKPbc 01 13 21.6 -1.0
comp=Z,12nm,0.6s,baz=40,slow=4.2,SNR=76
BSD Bornholm Skovb 145.39 351 ⇑*i*P PKPbc 01 13 22.3 -0.9
comp=Z,58nm,1.0s
BSD Bornholm Skovb 145.39 351 ⇑*i*PKIKP PKPdf 01 13 22.3 -0.9
BSD pmax pmax
comp=Z,58nm,1.0s
GUMT Gumushane 145.52 312 *e*P PKPdf 01 13 25.2 +1.8
MARD Mardin 145.69 306 *i* P PKPdf 01 13 24.8 +1.1
GRSN GIRESUNGRSN 146.16 313 *i* P PKPdf 01 13 22.1 -2.5
SIM Simferopol' 146.71 322 *i* PKP2 PKPab 01 13 28.0 -0.3
SIM pmax pmax
comp=Z,25nm,0.9s
SIM MLR MLR
comp=Z,290nm,19.7s,MS5.1
GKP Gorka Klasztor 146.75 347 *e*PKP PKPdf 01 13 27.9 +2.4
GKP *e* 01 13 35.0
WAR Warsaw 146.78 343 *e*PKP PKPdf 01 13 28.7 +3.1
BSEG Bad Segeberg 147.08 355 *e*PKPbc PKPbc 01 13 28.3 +0.1
MYA Malataya 147.10 309 *e*P PKPbc 01 13 29.9 +1.7
MALT Malatya 147.10 309 ⇓*i*P PKPbc 01 13 30.6 +2.3
MALT Malatya 147.10 309 ⇓P PKPbc 01 13 30.6 +2.3
URFA Urfa 147.12 307 *e*P PKPbc 01 13 29.4 +1.1
ATAB Bozova 147.51 307 *i* P PKPdf 01 13 29.4 +2.6
KVT Kavak 147.58 315 *e*P PKPbc 01 13 30.0 +0.4
LVV L'vov 147.93 338 *e*PKP2 PKPbc 01 13 30.1 -0.4
GZT Gaziantep 148.09 307 *i* P PKPbc 01 13 32.0 +1.0
KIS Kishinev 148.15 329 *e*PKP2 PKPbc 01 13 32.0 +0.9
KIS MLR MLR
comp=N,400nm,22.0s,MS5.3
KIS MLR MLR
comp=E,400nm,22.0s,MS5.3
KIS MLR MLR
comp=Z,500nm,22.0s,MS5.3
KIS MLR MLR
comp=Z,700nm,22.0s
BOYT Boyabat 148.17 316 *i* P PKPbc 01 13 31.9 +0.8

GAZ Gaziantep 148.42 307 *e*P PKPbc 01 13 32.6 +0.8
KWP Kalwaria 148.55 339 *e*PKP PKPbc 01 13 32.7 +0.5
CTKT Corum 148.64 315 *i* P PKPbc 01 13 32.8 +0.4
OJC Ojcow 148.94 342 *e*PKP PKPbc 01 13 33.5 +0.3
BALT Daday 149.08 317 *i* P PKPdf 01 13 21.1 -8.3
CLZ Clausthal 149.16 354 *e*PKPbc PKPbc 01 13 33.6 -0.1
STHS Stebnicka Huta 149.22 340 *e*PKP PKPbc 01 13 34.3 +0.4
STHS *e* 01 14 00.6
WTSB Winterswijk 149.23 359 *e*PKiKP PKiKP 01 13 35.7 +0.6
comp=Z,33nm,1.8s
WTSB *e*PKPpre 01 13 42.9
comp=Z,66nm,1.3s
KSP Ksiaz 149.23 347 *e*PKP PKPbc 01 13 35.1 +1.2
KSP *e* 01 13 47.4
KSP Ksiaz 149.23 347 *e*PKPdf PKPbc 01 13 34.8 +0.9
KSP *e*PKPab PKPab 01 13 37.9 -0.5
KSP *e*pPKPab pPKPab 01 13 48.0 -1.4
KSP LR LR
comp=Z,700nm,21.3s,MS5.4
BURAR Bucovina Array 149.28 334 ⇑*i*P PKPbc 01 13 35.4 +1.4
BURAR Bucovina Array 149.28 334 ⇑P PKPbc 01 13 35.4 +1.4
KOLS Kolonicke sedl 149.30 338 *e*PKP PKPbc 01 13 34.1 +0.1
KOLS *e* 01 13 38.6
KOLS *e* 01 13 46.2
KOLS *e* 01 13 57.3
KOZT Kozan 149.32 309 *e*P PKPdf 01 13 31.8 +2.1
CLL Collm 149.37 351 *e*PKPbc PKPbc 01 13 34.1 -0.1
CLL *e*PKPab PKPab 01 13 38.3 -0.7
CLL *e*pPKPbc pPKPbc 01 13 43.5 -1.9
CLL *es*PKPbc 01 13 47.5
comp=Z,132nm,1.8s
CLL Collm 149.37 351 *e*PKPbc PKPbc 01 13 34.0 -0.2
comp=Z,12nm,1.2s
CLL *e*PKPab PKPab 01 13 38.0 -1.0
comp=Z,111nm,2.1s
CLL *e*pPKPbc pPKPbc 01 13 43.0 -2.4
comp=Z,22nm,1.0s
CLL *es*PKPbc 01 13 48.0
comp=Z,132nm,1.8s
CLL Collm 149.37 351 *e*PKP PKPbc 01 13 34.0 -0.2
CLL *e*PKP PKPab 01 13 38.0 -1.0
CDAG Cicekdag 149.40 313 *i* P PKPdf 01 13 32.7 +2.8
AVNT Avonos 149.46 312 *i* P PKPab 01 13 52.0 +13
NIE Niedzica 149.51 341 *e*PKP PKPbc 01 13 35.7 +1.1
CRVS Cervenica-Dubn 149.60 339 *e*PKP PKPbc 01 13 37.8 +3.0
CRVS *e* 01 14 09.7
ELDT Eldivan 149.60 316 *i* P PKPbc 01 13 35.9 +1.1
UPC Upice 149.61 347 *e*PKPB PKPbc 01 13 35.7 +0.9
UPC *e*PKPAB PKPab 01 13 44.3 +4.4
UPC *e*pPKP pPKPdf 01 13 48.0 +6.6
BRG Berggiesshubel 149.65 350 *e*PKPbc PKPbc 01 13 34.9 0.0
BRG Berggiesshubel 149.65 350 *e*PKP PKPdf 01 13 33.4 +3.1
comp=Z,4.2nm,1.0s
BRG *i* 01 13 38.5
comp=Z,16nm,1.4s
BRG *i* 01 13 46.4
comp=Z,72nm,1.9s
BRG comp=N,121nm,15.5s
BRG comp=E,83nm,14.9s
BRG comp=Z,213nm,14.5s
SAFT Safranbolu 149.68 317 *e*P PKPbc 01 13 35.8 +0.8
DPC Dobruska-Polom 149.69 347 ⇑*e*PKPB PKPbc 01 13 35.7 +0.7
DPC *e*PKPAB PKPab 01 13 44.1 +3.8
DPC *e*pPKP pPKPdf 01 13 47.8 +6.2
DPC AMS AMS 02 20 20.0
comp=Z,400nm,16.5s
OKC Ostrava-Krasne 149.73 344 ⇑*e*PKPB PKPbc 01 13 36.2 +1.1
OKC *e*PKPAB PKPab 01 13 42.0 +1.5
OKC *e*pPKP pPKPdf 01 13 48.8 +7.2
OKC AMS AMS 02 16 40.0
comp=Z,300nm,26.2s
CFR Carcaliu 149.78 328 ⇑*i*P PKPbc 01 13 35.8 +0.6
CFR Carcaliu 149.78 328 ⇑P PKPbc 01 13 35.8 +0.6
BR131 Keskin Array S 149.85 314 *e*PKPdf PKPbc 01 13 35.7 +0.3
BRTR Keskin Array B 149.85 314 PKPbc PKPbc 01 13 36.0 +0.6
comp=Z,5.6nm,0.8s,baz=133,slow=3.1,SNR=32
MORC Moravsky Berou 149.94 345 ⇓*i*P PKPbc 01 13 35.7 +0.1
MORC Moravsky Berou 149.94 345 ⇓P PKPbc 01 13 35.7 +0.1
VRI Vrincioaia 149.96 330 ⇓*i*P PKPab 01 13 43.3 +1.9
VRI Vrincioaia 149.96 330 ⇓P PKPab 01 13 43.3 +1.9
KARA Karaisali 149.97 309 *e*P PKPbc 01 13 37.0 +1.3
KAMT Kaman 149.97 313 *e*P PKPbc 01 13 34.5 -1.2
PLOR Plostina 150.01 330 ⇓*i*P PKPbc 01 13 35.7 -0.1
ASF Jabal al Asfar 150.19 298 PKPbc PKPbc 01 13 37.9 +1.7
comp=Z,10nm,1.1s,baz=227,slow=1.6,SNR=11
MOX Moxa 150.21 352 *e*PKPbc PKPbc 01 13 36.1 -0.2
MOX *e*pPKPbc pPKPbc 01 13 49.6 +2.1
MOX Moxa 150.21 352 *e*PKP PKPbc 01 13 35.6 -0.7
comp=Z,79nm,1.8s
MOX comp=Z,300nm,19.0s
MOX Moxa 150.21 352 *e*PKIKP PKPbc 01 13 35.6 -0.7
MOX pmax pmax
comp=Z,79nm,1.8s
MOX MLR MLR
comp=Z,300nm,19.0s,MS5.1
KECS Kecovo 150.28 340 *e*PKP PKPbc 01 13 37.4 +1.0
WERD Werda 150.31 352 *e*PKPbc PKPbc 01 13 36.3 -0.2
ANTO Ankara 150.34 315 ⇑*i*P PKPbc 01 13 37.5 +0.9
ANTO Ankara 150.34 315 ⇑P PKPbc 01 13 37.5 +0.9
LOD Lodumlu 150.35 315 *e*P PKPbc 01 13 36.4 -0.2
PRU Pruhonice 150.39 349 ⇑*e*PKPB PKPbc 01 13 37.0 +0.3
PRU *e*PKPAB PKPab 01 13 45.6 +2.4
PRU *e*pPKP pPKPdf 01 13 49.8 +7.1
PRU AMS AMS 02 23 50.0
comp=Z,300nm,16.6s
HGN Heimansgroeve 150.44 360 *e*PKiKP PKPbc 01 13 41.9 +5.1
comp=Z,21nm,0.9s
HGN *e*PKPpre 01 13 48.1
comp=Z,39nm,1.6s
HGN *e*PP PP 01 17 10.5 -2.1
SGKT Sivrigoynuk 150.44 317 *i* P PKPdf 01 13 36.6 +5.0
NKC Novy Kostel 150.50 351 ⇑*e*PKPB PKPbc 01 13 40.4 +3.4
NKC *e*PKPAB PKPab 01 13 48.0 +4.4
NKC *e*pPKP pPKPdf 01 13 50.3 +7.4
NKC AMS AMS 02 20 40.0
comp=Z,300nm,20.7s
MERS Mersin 150.52 308 *e*P PKPbc 01 13 39.9 +2.9
MEM Membach 150.60 360 PKPbc PKPbc 01 13 37.1 -0.1
MEM APKPbc 01 13 45.3
MEM E 01 13 49.5
MLR Muntele Rosu 150.60 330 PKPbc PKPbc 01 13 37.6 +0.4
comp=Z,8.1nm,1.1s,baz=57,slow=4.9,SNR=6.6
MLR Muntele Rosu 150.60 330 ⇓*i*P PKPbc 01 13 37.7 +0.5
MLR Muntele Rosu 150.60 330 ⇓P PKPbc 01 13 37.7 +0.5
VRAC Vranov 150.61 345 ⇑*i*P PKPbc 01 13 37.6 +0.4
VRAC Vranov 150.61 345 ⇑P PKPbc 01 13 37.6 +0.4
SNF Seneffe 150.68 2 PKP PKPdf 01 13 30.4 -1.5
BHL Bhannes 150.72 302 *e*P PKPbc 01 13 39.2 +1.7
MANZ Manzenberg 150.79 352 *e*PKPbc PKPbc 01 13 37.8 +0.2
MANZ *e*pPKPbc pPKPbc 01 13 51.0 +2.2
TNS Taunus Mts 150.91 356 *e*PKPbc PKPbc 01 13 37.9 0.0
DRGR 150.94 336 ⇓*i*P PKPbc 01 13 38.8 +0.8
DRGR 150.94 336 ⇑*i*P PKPbc 01 13 39.0 +1.0
DRGR 150.94 336 ⇓P PKPbc 01 13 38.8 +0.8
DRGR ⇑P 01 13 39.0
PSZ Piszkesteto 150.96 340 PKPdf PKPbc 01 13 38.7 +0.6
ROTZ Rotzenmuhle 150.99 351 *e*PKPbc PKPbc 01 13 38.3 +0.2
ROTZ *e*pPKPbc pPKPbc 01 13 51.6 +2.3
HENT Hendek 151.03 318 *i* P PKPbc 01 13 38.0 -0.2
MDU Mudurnu 151.04 317 *e*P PKPbc 01 13 39.7 +1.5
GIVF Givet 151.10 1 *e*PKP1 PKPbc 01 13 38.3 -0.1
comp=Z,188nm,1.6s
DOU Dourbes 151.10 2 PKPbc PKPbc 01 13 38.2 -0.2
DOU APKP 01 13 41.6
DOU PKPab PKPab 01 13 44.2 -1.9
DOU APKPbc 01 13 46.5
DOU APKPab 01 13 50.9
DOU E 01 14 02.4
BAIF Baives 151.12 2 *e*PKP1 PKPbc 01 13 38.6 +0.2
comp=Z,131nm,1.6s
SMOL Smolenice 151.14 344 *e* PKPab 01 13 43.8 -2.5
GRA1 Grafenberg Arr 151.19 353 *e*PKPbc PKPbc 01 13 38.6 0.0
GRF Grafenberg Arr 151.19 353 *e*PKPbc PKPbc 01 13 38.6 0.0
GRFO Grafenberg 151.19 353 *e*L 02 26 10.8
comp=Z,283nm,19.9s
KHC Kasperske Hory 151.39 349 ⇑*e*PKPB PKPbc 01 13 39.5 +0.4
KHC *e*PKPAB PKPab 01 13 48.0 +0.7
KHC *e*pPKP pPKPdf 01 13 51.1 +6.9

KHC AMS AMS 02 28 20.0
comp=Z,300nm,14.9s
IKL Isikli 151.39 308 *e*P PKPdf 01 13 36.4 +3.4
ZST Bratislava 151.51 344 *e*PKP PKPab 01 13 48.3 +0.5
ZST Bratislava 151.51 344 *e*PKP PKPab 01 13 48.4 +0.6
WLF Walferdange 151.54 359 PKPbc PKPbc 01 13 39.5 0.0
WLF APKPbc 01 13 49.5
WLF E 01 14 07.2
WLF Walferdange 151.54 359 *e*PKPdf PKPdf 01 13 35.7 +2.5
KONT Konya--Tatoy 151.59 312 *e*P PKPdf 01 13 37.0 +3.8
GEC2 GERESS Array S 151.64 349 *e*PKPbc PKPbc 01 13 38.9 -0.7
GERES GERESS Array B 151.64 349 PKPbc PKPbc 01 13 39.9 +0.3
comp=Z,2.9nm,0.9s,baz=48,slow=2.0,SNR=13
GERES PKPab PKPab 01 13 45.1 -3.3
comp=Z,6.7nm,1.0s,baz=48,slow=2.0,SNR=15
ERMK Ermenek 151.79 309 *i* P PKPbc 01 13 39.4 -0.6
ESKT Eskisehir 151.79 316 *i* P PKPbc 01 13 39.4 -0.6
FLN La Foliniere 152.00 9 *e*PKP1 PKPbc 01 13 40.0 -0.4
comp=Z,118nm,1.4s
FLN *e*R
comp=Z,246nm,20.2s
FLN La Foliniere 152.00 9 *e*PKP PKPbc 01 13 40.0 -0.4
FLN LR LR
comp=Z,250nm,20.3s,MS5.0
SGMF Saint Gilles 152.14 12 *e*PKP1 PKPbc 01 13 40.3 -0.5
comp=Z,65nm,1.3s
CSS Prodhromos 152.16 306 *e*PKPbc PKPbc 01 13 41.5 +0.7
LANF Langenberg 152.18 357 PKP PKPab 01 13 53.0 +2.4
LDF La Druitiere 152.21 8 *e*PKP1 PKPbc 01 13 40.5 -0.4
comp=Z,99nm,1.4s
GRR Gorron 152.31 10 *e*PKP1 PKPbc 01 13 40.9 -0.2
QUIF Quistinic 152.34 13 *e*PKP1 PKPbc 01 13 40.8 -0.4
comp=Z,72nm,1.5s
BZS Buzias 152.34 336 ⇑*i*P PKPbc 01 13 40.2 -1.0
BZS Buzias 152.34 336 ⇑P PKPbc 01 13 40.2 -1.0
EIL Elat 152.36 294 *e*PKPdf PKPdf 01 13 35.7 +1.3
MOA Molln 152.49 348 ⇑*i*P PKPbc 01 13 42.4 +0.8
comp=Z,22nm,1.3s
ULDT Uludag 152.52 319 *i* P PKPbc 01 13 42.1 +0.5
FUR Furstenfeldbru 152.68 352 *e*pPKPbc PKPab 01 13 54.3 +1.6
MEZF Maizieres J'vi 152.70 1 *e*PKP1 PKPbc 01 13 42.3 +0.3
comp=Z,78nm,1.4s
WLS Welschbruch 152.77 358 PKP PKPab 01 13 55.6 +2.5
CDF Champ du Feu 152.77 358 *e*PKP1 PKPbc 01 13 42.2 0.0
comp=Z,77nm,1.5s
BFO Black Forest 152.80 356 *e*PKIKP PKPdf 01 13 35.9 +0.8
BFO *e* 01 13 48.4
GDZ Gediz 152.92 317 *i* P PKPbc 01 13 46.0 +3.5
TKTP Tekketepe 152.94 314 *i* P PKPbc 01 13 43.4 +0.9
THEF They Montfort 152.98 360 PKP PKPab 01 13 55.8 +1.8
HAU Haudompre 153.20 359 *e*PKP1 PKPbc 01 13 44.1 +1.0
HAU *e*R
comp=Z,284nm,19.8s
HAU Haudompre 153.20 359 *e*PKP PKPbc 01 13 44.1 +1.0
HAU LR LR
comp=Z,280nm,19.8s,MS5.1
HINF Hinteralfeld 153.38 358 *e*PKP1 PKPbc 01 13 43.3 -0.2
LOMF Lomont 153.85 358 PKP PKPab 01 13 57.7 +0.1
LOR Lormes 153.90 3 *e*PKP1 PKPbc 01 13 44.8 +0.2
comp=Z,46nm,1.3s
LOR *e*R
comp=Z,355nm,21.5s
LOR Lormes 153.90 3 *e*PKP PKPbc 01 13 44.8 +0.2
LOR LR LR
comp=Z,360nm,21.5s,MS5.2
SSF Saint Saulge 154.09 4 *e*PKP1 PKPbc 01 13 45.2 +0.2
comp=Z,84nm,1.5s
MFF Saint Martin d 154.16 9 *e*PKP1 PKPbc 01 13 45.1 -0.1
comp=Z,87nm,1.6s
VISS Visnje 154.31 345 *e*PKPdf PKPbc 01 13 44.0 -1.5
VISS *i* 01 13 57.9
AVF Avril sur Loir 154.35 4 *e*PKP1 PKPbc 01 13 45.3 -0.3
comp=Z,19nm,1.2s
BOJS Bojanci 154.49 344 *e*PKPdf PKPbc 01 13 46.3 +0.4
BOJS *e*PKPbc PKPbc 01 13 51.1 +5.2
BOJS *e* 01 13 58.6
SMF Signal de Mont 154.52 3 *e*PKP1 PKPbc 01 13 45.9 -0.1
comp=Z,24nm,1.2s
BGF Bois d'Agland 154.54 5 *e*PKP1 PKPbc 01 13 46.1 +0.1
comp=Z,22nm,1.2s
CABF La Chapelle 154.60 359 *e*PKP1 PKPbc 01 13 46.8 +0.7
comp=Z,46nm,1.4s
TCF Toulx Ste Croi 154.76 6 *e*PKP1 PKPbc 01 13 46.2 -0.3
comp=Z,38nm,1.5s
PLDF La Plantade 155.18 4 PKP PKPab 01 14 00.6 -2.7
RJF Les Rejaudoux 155.66 7 *e*PKP1 PKPdf 01 13 48.5 +9.4
RJF *e*R
comp=Z,358nm,20.0s
RJF Les Rejaudoux 155.66 7 *e*PKP PKPdf 01 13 48.5 +9.4
RJF LR LR
comp=Z,360nm,20.0s,MS5.2
LBL Lubilhac 155.89 4 PKP PKPab 01 14 01.4 -5.0
ESDC Sonseca Array 159.74 22 PKPab PKPab 01 14 22.4 -0.6
comp=Z,0.9nm,0.7s,baz=315,slow=3.7,SNR=6.2
TORD Torodi Ar. Bea 171.15 153 PKPab PKPab 01 15 12.4 -0.9
comp=Z,1.9nm,1.0s,baz=205,slow=2.2,SNR=4.9
TORD PP PP 01 19 08.6 +4.7
comp=Z,1.6nm,1.1s,baz=194,slow=5.2,SNR=3.7

*ISCJB **16** 01:02:36.9±0.7,2742N±005×130.12E±005,h10km, mb3.5/4,Error ellipse: s-maj=7.6km s-min=5.4km az=85.2*
*IDC **16** 01:02:37.0±1.4,2754N×129.95E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.5/19,mbtmp3.5/4,Error ellipse: s-maj=29.3km s-min=26.3km az=73.0*
*JMA **16** 01:02:38.8±0.1,2750N×130.16E,h61km±5km,M3.4*
ISC 16 01:02:38.3±2.4,2747N±006×13012E±006,h16km±17km, n12,σ0°77/19,mb3.5/4,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
JAM	**Amami Oshima**	**1.04**	**334**	P	**Pb**	**01 02 57.5**	**-0.4**
JAM				*e*S	**Sb**	**01 03 10.9**	**-0.4**
JTK	**Tokunoshima**	**1.08**	**287**	P	**Pb**	**01 02 58.5**	**-0.1**
JTK				*e*S	**Sb**	**01 03 13.4**	**+0.9**
JOW	**Kunigami**	**1.76**	**249**	Pn	**Pn**	**01 03 08.2**	**+0.1**
	20nm,0.3s,baz=96,slow=11,SNR=35						
JOW				Sn	**Sn**	**01 03 28.4**	**-1.7**
	29nm,0.3s,baz=93,slow=18,SNR=13						
JOW	**Kunigami**	**1.76**	**249**	P	**Pn**	**01 03 08.0**	**-0.1**
JOW				*e*S	**Sn**	**01 03 29.3**	**-0.8**
JMZ	**Minamidaito 2**	**1.92**	**149**	P	**Pn**	**01 03 09.9**	**-0.3**
JMZ				*e*S	**Sn**	**01 03 33.3**	**-0.6**
JIH	**Iheya**	**1.96**	**258**	P	**Pn**	**01 03 11.1**	**+0.3**
JIH				*e*S	**Sn**	**01 03 35.7**	**+0.6**
JAGN	**Aguni-jima**	**2.71**	**252**	P	**Pn**	**01 03 20.9**	**-0.2**
JAGN				*e*S	**Sn**	**01 03 53.3**	**-0.3**
MKAR	**Makanchi Array**	**41.99**	**310**	P	**P**	**01 10 27.8**	**-0.8**
	0.3nm,0.6s,mb3.1,baz=101,slow=9.8,SNR=2.7						
WRA	**Warramunga Arr**	**47.31**	**175**	P	**P**	**01 11 11.8**	**+0.9**
	0.3nm,0.5s,mb3.5,baz=353,slow=8.3,SNR=3.1						
ASAR	**Alice Springs**	**50.97**	**176**	P	**P**	**01 11 42.1**	**+3.1**
	0.4nm,0.6s,mb3.5,baz=6.2,slow=14,SNR=4.6						
NB2	**NORSAR Subarra**	**78.94**	**334**	P	**P**	**01 14 41.1**	**+0.1**
	comp=Z,0.8nm,0.7s,mb3.8,baz=51,slow=5.6						
NOA	**NORSAR Array B**	**78.94**	**334**	P	**P**	**01 14 42.0**	**+1.1**
	comp=Z,1.2nm,0.8s,mb3.9,baz=50,slow=5.4,SNR=4.1						

*ISK **16** 01:07:22.8,3698N×37.16E,h20km,MD2.9*
*CSEM **16** 01:07:22.7±0.1,3697N×3727E,h12km,Mc1.6,Error ellipse: s-maj=4.1km s-min=2.7km az=119.0*
*ISCJB **16** 01:07:23.7±0.7,3696N±005×3727E±004,h11km±7km, Error ellipse: s-maj=8.9km s-min=4.0km az=113.4*
*NSSC **16** 01:07:23.3,3697N×3727E,h5km±4km*
ISC 16 01:07:23.8±0.5,3696N±003×3727E±004,h11km±4km,n19, σ0°52/36,14D,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
GAZ	**Gaziantep**	**0.22**	**347**	*i* PG	**Pg**	**01 07 28.1**	**-0.2**
GAZ				*i* SG	**Sg**	**01 07 32.3**	**+0.8**
GZT	**Gaziantep**	**0.46**	**31**	*i* P	**Pg**	**01 07 32.4**	**-0.4**
GZT				*i* S	**Sg**	**01 07 39.4**	**+0.5**
DRWC	**Darouich**	**0.59**	**235**	⇑P	**Pg**	**01 07 34.7**	**-0.6**
DRWC				⇑S	**Sg**	**01 07 43.0**	**-0.1**
DRWC	**Darouich**	**0.59**	**235**	⇑*i*P	**Pg**	**01 07 34.7**	**-0.6**
SLMH	**Al Salmeh**	**0.91**	**144**	⇓*i*P	**Pg**	**01 07 41.2**	**-0.2**
SLMH				⇓*i*S	**Sg**	**01 07 53.8**	**+0.4**
COBT	**Iskenderun**	**0.93**	**242**	*i* P	**Pg**	**01 07 40.9**	**-0.8**
COBT				*i* S	**Sg**	**01 07 54.9**	**+1.1**
ATAB	**Bozova**	**0.96**	**58**	*i* P	**Pg**	**01 07 41.8**	**-0.5**
ATAB				*i* S	**Sg**	**01 07 54.8**	**-0.1**

BTCH	**Batrach**	**1.13**	**216**	⇑P	**Pb**	**01 07 45.3**	**0.0**
BTCH				⇑S	**Sb**	**01 07 59.3**	**-0.7**
BTCH	**Batrach**	**1.13**	**216**	⇑*i*P	**Pb**	**01 07 45.3**	**0.0**
BTCH				⇑*i*S	**Sb**	**01 07 59.3**	**-0.7**
URFA	**Urfa**	**1.33**	**68**	PN	**Pn**	**01 07 48.0**	**-0.2**
URFA				SN	**Sn**	**01 08 06.3**	**+0.4**
JHLN	**Al Jahlan**	**1.60**	**143**	⇓P	**Pn**	**01 07 51.8**	**-0.1**
JHLN				⇓S	**Sn**	**01 08 13.0**	**+0.4**
JHLN	**Al Jahlan**	**1.60**	**143**	⇓*i*P	**Pn**	**01 07 51.8**	**-0.1**
JHLN				⇓*i*S	**Sn**	**01 08 13.0**	**+0.5**
SLNF	**Slenfeh**	**1.60**	**212**	⇓P	**Pn**	**01 07 52.9**	**+0.8**
SLNF				⇓S	**Sn**	**01 08 12.6**	**-0.1**
SLNF	**Slenfeh**	**1.60**	**212**	⇓*i*P	**Pn**	**01 07 52.8**	**+0.8**
SLNF				⇓*i*S	**Sn**	**01 08 12.6**	**-0.1**
WRDH	**Warideh**	**1.61**	**206**	⇓P	**Pn**	**01 07 52.5**	**+0.4**
WRDH				⇓S	**Sn**	**01 08 13.3**	**+0.5**
WRDH	**Warideh**	**1.61**	**206**	⇓*i*P	**Pn**	**01 07 52.5**	**+0.4**
WRDH				⇓*i*S	**Sn**	**01 08 13.3**	**+0.5**
MYA	**Malataya**	**1.64**	**34**	PN	**Pn**	**01 07 52.0**	**-0.6**
BIDA	**Albida**	**2.09**	**202**	⇑P	**Pn**	**01 07 58.0**	**-0.7**
BIDA				⇑S	**Sn**	**01 08 24.8**	**+0.1**
BIDA	**Albida**	**2.09**	**202**	⇑*i*P	**Pn**	**01 07 58.0**	**-0.7**
BIDA				⇑*i*S	**Sn**	**01 08 24.8**	**+0.1**

*NEIC **16** 01:21:00.9, 2796S×6675W, h16km, MD4.2(GUC), After GUC.*
*GUC **16** 01:21:00.9±1.3, 2796S×6675W, h16km±33km, MD4.2*
*ISCJB **16** 01:21:01.1±0.8, 2801S±004×667W±0.1, h178km±17km, mb4.0/2, Error ellipse: s-maj=14.9km s-min=6.3km az=13.4*
*IDC **16** 01:21:05.6±7.3, 2769S×6629W, h178km±46km, mb3.8/2, mb1 3.6/4, mb1mx3.3/14, mbtmp4.0/4, Error ellipse: s-maj=78.9km s-min=28.2km az=37.0*

ISC 16 01:21:01.9±0.7, 2799S±004×667W±01, h169km±18km, n19, σ1§17/25, mb4.0/2, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**3.30**	**280**	*i* P	**Pn**	**01 21 55.2**	**+1.5**
CPCH				*i* S	**Sn**	**01 22 33.4**	**-0.5**
CDCH	**Caldera**	**3.78**	**283**	*e*P	**Pn**	**01 21 58.3**	**-1.4**
CDCH				*i* S	**Sn**	**01 22 42.3**	**-2.5**
TLL	**Tololo Astrono**	**4.20**	**238**	*e*P	**Pn**	**01 22 06.9**	**+1.8**
TLL				*i* S	**Sn**	**01 22 55.0**	**+0.5**
CMCH	**Combarbala**	**4.91**	**229**	*e*P	**Pn**	**01 22 14.9**	**+0.5**
CMCH				*i* S	**Sn**	**01 23 11.2**	**+0.1**
CEN1	**Los Morros**	**5.56**	**325**	*e*P	**Pn**	**01 22 22.6**	**-0.3**
LVC	**Limon Verde**	**5.71**	**339**	*e*Pn	**Pn**	**01 22 27.0**	**+2.1**
JACH	**Jahuel**	**5.76**	**215**	*i* P	**Pn**	**01 22 26.7**	**+1.1**
FCH	**Farellones**	**6.16**	**209**	*e*P	**Pn**	**01 22 32.4**	**+1.7**
FCH				*i* S	**Sn**	**01 23 42.2**	**+1.7**
PEL	**Peldehue**	**6.18**	**213**	*e*P	**Pn**	**01 22 30.3**	**-0.8**
PEL				*i* S	**Sn**	**01 23 40.5**	**-0.7**
TACH	**Talagante**	**6.72**	**212**	*i* P	**Pn**	**01 22 37.8**	**-0.4**
TACH				*i* S	**Sn**	**01 23 52.2**	**-1.9**
LCCH	**Las Cruces**	**6.89**	**216**	*e*P	**Pn**	**01 22 38.8**	**-1.7**
CPUP	**Villa Florida**	**8.51**	**81**	P	**Pn**	**01 23 00.7**	**-1.1**
	0.3nm,0.3s,baz=255,slow=11,SNR=4.4						
LPAZ	**La Paz**	**11.72**	**353**	P	**Pn**	**01 23 44.3**	**+0.4**
	0.9nm,0.3s,baz=142,slow=8.4,SNR=22						
LPAZ				S	**Sn**	**01 25 53.8**	**+0.1**
	0.1nm,0.3s,baz=261,slow=20,SNR=4.1						
PLCA	**Paso Flores**	**13.11**	**193**	Pn	**Pn**	**01 24 06.5**	**+4.8**
SAML	**Samuel**	**19.23**	**11**	*e*Pn	**P**	**01 25 13.1**	**+0.1**
BDFB	**Brasilia**	**21.22**	**59**	P	**P**	**01 25 33.6**	**-0.7**
	6.6nm,0.6s,mb4.1,baz=250,slow=7.6,SNR=12						
TORD	**Torodi Ar. Bea**	**77.78**	**68**	P	**P**	**01 32 40.3**	**0.0**
	1.9nm,0.7s,mb3.8,baz=272,slow=5.9,SNR=23						
ZAL	**Zalesovo**	**146.72**	**31**	PKPbc	PKPbc	01 40 26.1	+2.2
	1.6nm,0.3s,baz=185,slow=7.7,SNR=3.2						
MKAR	**Makanchi Array**	**149.31**	**44**	PKPbc	PKPbc	01 40 31.6	+0.9
	0.4nm,0.5s,baz=288,slow=2.5,SNR=6.2						

*IDC **16** 01:32:56.2±1.0, 2098N×14576E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/21, mbtmp3.8/8, ML3.7/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/32, Error ellipse: s-maj=36.1km s-min=18.0km az=93.0*
*ISCJB **16** 01:32:57.2±5.2, 2102N±008×1457E±02, h20km±36km, mb3.9/12, MS3.3/1, Error ellipse: s-maj=30.8km s-min=12.0km az=155.4*
*NEIC **16** 01:33:01.3±0.7, 2102N×14567E, h35km, mb4.1/5, Error ellipse: s-maj=24.8km s-min=11.0km az=87.0*

ISC 16 01:32:57.9±5.7, 2101N±008×1458E±02, h13km±36km, n17, σ0§76/17, mb3.9/12, MS3.3/1, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**6.88**	**332**	P	**Pn**	**01 34 39.0**	**+0.5**
	4.6nm,0.3s,baz=276,slow=22,SNR=4.6						
CBIJ				S	**Sn**	**01 35 57.0**	**+0.2**
	6.4nm,0.3s,baz=107,slow=23,SNR=4.0						
MJAR	**Matsushiro Arr**	**16.82**	**339**	Pn	**Pn**	**01 36 52.6**	**-0.5**
	0.3nm,0.3s,baz=274,slow=26,SNR=3.3						
PMG	**Port Moresby**	**30.26**	**177**	LR	LR	01 49 25.4	
	comp=Z,74nm,21.7s,MS3.3,baz=9.4,slow=33						
ULN	**Ulaanbaatar**	**41.02**	**320**	*e*P	**P**	**01 40 40.9**	**+0.1**
	0.9nm,0.3s,mb3.9						
WRA	**Warramunga Arr**	**42.21**	**196**	P	**P**	**01 40 50.3**	**-0.2**
	0.9nm,0.5s,mb3.6,baz=18,slow=8.6,SNR=3.4						
YAK	**Yakutsk**	**42.47**	**349**	P	**P**	**01 40 52.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**43.59**	**208**	P	**P**	**01 41 00.7**	**-1.1**
	2.2nm,0.8s,mb4.0,baz=48,slow=14,SNR=6.5						
TLY	**Talaya**	**44.73**	**324**	P	**P**	**01 41 10.9**	**+0.1**
ASAR	**Alice Springs**	**45.89**	**195**	P	**P**	**01 41 21.6**	**+1.6**
	0.5nm,0.6s,mb3.6,baz=13,slow=7.1,SNR=4.6						
ZAL	**Zalesovo**	**56.25**	**322**	P	**P**	**01 42 39.3**	**+1.4**
	1.4nm,0.4s,mb4.4,baz=38,slow=5.3,SNR=3.9						
MKAR	**Makanchi Array**	**56.93**	**313**	P	**P**	**01 42 43.3**	**+0.5**
	0.5nm,0.6s,mb3.7,baz=101,slow=8.1,SNR=6.6						
KURK	**Kurchatov**	**59.61**	**317**	*e*P	**P**	**01 43 01.6**	**+0.1**
	0.8nm,0.6s,mb3.9						
ILAR	**Eielson Array**	**61.56**	**27**	P	**P**	**01 43 14.9**	**+0.1**
	0.3nm,0.8s,mb3.5,baz=234,slow=7.3,SNR=3.2						
CHKZ	**Chkalovo**	**64.60**	**320**	*e*P	**P**	**01 43 33.4**	**-1.6**
	0.8nm,0.4s,mb4.1						
BRVK	**Borovoye**	**64.81**	**320**	*e*P	**P**	**01 43 35.6**	**-0.8**
	1.1nm,0.6s,mb4.1						
ZRNK	**Zerenda**	**65.59**	**320**	*e*P	**P**	**01 43 41.5**	**+0.1**
	1.2nm,0.5s,mb4.2						
YKA	**Yellowknife Ar**	**75.93**	**28**	P	**P**	**01 44 44.6**	**+0.2**
	0.3nm,0.7s,mb3.3,baz=290,slow=5.6,SNR=5.6						

LDG 16 01:37:18.2±0.4, 1498S×16656E, h10km, Error ellipse: s-maj=100.1km s-min=7.5km az=86.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDF	**La Druitiere**	**144.73**	**345**	*e*PKP1	PKPdf	01 56 53.4	-1.8
	7.2nm,0.8s						
SSF	**Saint Saulge**	**145.03**	**340**	*e*PKP1	PKPbc	01 56 54.7	-0.4
	8.4nm,0.8s						
GRR	**Gorron**	**145.10**	**345**	*e*PKP1	PKPbc	01 56 54.3	-1.0
	9.9nm,0.7s						
LPL	**La Plagne**	**145.13**	**335**	*e*PKP1	PKPbc	01 56 55.2	-0.2
	4.6nm,0.6s						
LPG	**La Plagne**	**145.13**	**335**	*e*PKP1	PKPbc	01 56 55.9	+0.5
	6.3nm,0.8s						
SMF	**Signal de Mont**	**145.28**	**339**	*e*PKP1	PKPbc	01 56 55.3	-0.6
	4.5nm,0.7s						
SGMF	**Saint Gilles**	**145.62**	**347**	*e*PKP1	PKPbc	01 56 55.3	-1.7
	7.6nm,0.5s						
ORIF	**Oris-en-Rattie**	**145.96**	**335**	*e*PKP1	PKPbc	01 56 58.1	+0.1
	5.4nm,0.5s						
SBF	**Sospel**	**146.15**	**332**	*e*PKP1	PKPbc	01 56 58.1	-0.5
MFF	**Saint Martin d**	**146.56**	**343**	*e*PKP1	PKPbc	01 56 59.1	-0.7
	12nm,0.9s						
FRF	**La Foret Royal**	**146.74**	**333**	*e*PKP1	PKPbc	01 56 59.9	-0.4
	3.9nm,0.6s						
SMRF	**Simiane la Rot**	**146.86**	**335**	*e*PKP1	PKPbc	01 57 00.2	-0.5
LMR	**La Mourre**	**146.98**	**333**	*e*PKP1	PKPbc	01 57 00.6	-0.4
RJF	**Les Rejaudoux**	**147.23**	**340**	*e*PKP1	PKPbc	01 57 01.3	-0.4
LFF	**La Frestale**	**147.81**	**341**	*e*PKP1	PKPbc	01 57 02.8	-0.5
	8.0nm,0.7s						

*NIED **16** 01:38:00, 2380N×12150E, h17km, Mw4.1 Best double couple: M0 1.53000×10^15 NP1:φ0±14.00000°, δ52.00000°, λ-93.00000°. NP2:φ0±200.00000°, δ38.00000°, λ-86.00000°.*

*JMA **16** 01:38:59.5±0.5, 2380N×12147E, h8km, M4.0*
*IDC **16** 01:39:01.0±8.8, 2392N×12174E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/21, mbtmp3.9/6, Error ellipse: s-maj=224.2km s-min=32.8km az=4.0*
*ISCJB **16** 01:39:02.9±0.9, 2406N±005×12161E±004, h15km±4km, mb3.8/9, Error ellipse: s-maj=9.4km s-min=4.9km az=32.5*
*BJI **16** 01:39:03.0, 2399N×12174E, h16km, mB4.8, mb3.9, ML4.2, Ms4.5, Msz4.1*
*NEIC **16** 01:39:03.6, 24.10N×121 66E, h11km, mb3.9/3, ML4.4(TAP), After TAP.*
NEIC Recorded [4 TAP] in Hua-lien, [3 TAP] in I-lan and [2 TAP] in Nan-t'ou Counties.

ISC 16 01:39:04.0±0.9, 2408N±006×12164E±004, h12km±4km, n25, σ0§99/33, mb3.8/9, 1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.10**	**337**	⇓*i*Pg	**Pg**	**01 39 06.5**	**-0.4**
NACB				*e*Sg	**Sg**	**01 39 08.5**	**+1.1**
YHNB	**Yeheng**	**0.64**	**338**	*e*P	**Pg**	**01 39 15.8**	**-0.6**
YHNB				*e*S	**Sg**	**01 39 25.9**	**+1.3**
TATO	**Taipei**	**0.90**	**351**	*e*Pg	**Pg**	**01 39 21.7**	**+0.3**
TATO				*e*Sg	**Sg**	**01 39 34.0**	**+0.8**
YOJ	**Yonaguni jima**	**1.31**	**73**	P	**Pn**	**01 39 27.5**	**-0.5**
YOJ				*e*S	**Sb**	**01 39 48.3**	**+3.1**
IRIF	**Iriomote-Funau**	**1.93**	**82**	P	**Pn**	**01 39 35.8**	**-0.7**
IRIF				*e*S	**Sn**	**01 40 00.1**	**-0.5**
HATJ	**Hateruma jima**	**1.98**	**90**	P	**Pn**	**01 39 36.7**	**-0.5**
HATJ				*e*S	**Sn**	**01 40 02.3**	**+0.4**
JKRS	**Kuro-shima**	**2.17**	**85**	P	**Pn**	**01 39 39.7**	**-0.2**
JIJ	**Ishigaki jima**	**2.30**	**82**	P	**Pn**	**01 39 40.9**	**-0.8**
JIJ				*e*S	**Sn**	**01 40 11.8**	**+1.9**
JTJ	**Tarama**	**2.85**	**78**	P	**Pn**	**01 39 49.6**	**+0.4**
QZH	**Quanzhou**	**2.91**	**288**	P	**Pn**	**01 39 50.8**	**+0.8**
QZH				S	**Sn**	**01 40 23.8**	**-1.0**
QZH				Smax			
	comp=N,1μm,1.3s						
QZH				Smax			
	comp=E,680nm,1.2s						
JOW	**Kunigami**	**6.59**	**64**	Pn	**Pn**	**01 40 39.5**	**-1.1**
	comp=E,4.0nm,0.3s,baz=160,slow=15,SNR=6.7						
KMI	**Kunming**	**17.22**	**277**	P	**Pn**	**01 43 06.8**	**+2.5**
KMI				AP	pP	01 43 09.8	+0.5
KMI				XP	sP	01 43 11.3	+0.4
KMI				AMB	AMB		
	comp=Z,3.0nm,0.6s						
KMI				LR	LR		
	comp=Z,243nm,12.0s						
DAV	**Davao City (W)**	**17.33**	**167**	*e*P	**Pn**	**01 43 06.8**	**+1.3**
	comp=Z,122nm,0.3s						
GTA	**Gaotai**	**23.95**	**315**	*e*P	**P**	**01 44 21.6**	**+3.6**
GTA				AP		01 44 26.5	
GTA				XP	sP	01 44 29.6	+6.3
GTA				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb3.5						
ULN	**Ulaanbaatar**	**26.42**	**338**	*e*P	**P**	**01 44 38.5**	**-1.9**
	comp=Z,0.8nm,0.4s,mb3.6						
LSA	**Lhasa**	**27.71**	**288**	P	**P**	**01 44 52.9**	**+0.8**
MKAR	**Makanchi Array**	**38.70**	**316**	P	**P**	**01 46 28.8**	**+1.2**
	comp=Z,0.5nm,0.4s,mb3.6,baz=105,slow=9.1,SNR=7.1						
ZAL	**Zalesovo**	**40.56**	**327**	P	**P**	**01 46 42.2**	**-0.9**
	comp=Z,1.3nm,0.4s,mb3.9,baz=81,slow=18,SNR=2.8						
KURK	**Kurchatov**	**42.44**	**320**	*e*P	**P**	**01 46 58.5**	**0.0**
	comp=Z,1.0nm,0.6s,mb3.6						
CHKZ	**Chkalovo**	**48.08**	**322**	*e*P	**P**	**01 47 43.3**	**0.0**
	comp=Z,1.6nm,0.5s,mb4.3						
BRVK	**Borovoye**	**48.09**	**321**	P	**P**	**01 47 42.6**	**-0.8**
ZRNK	**Zerenda**	**48.80**	**320**	*e*P	**P**	**01 47 48.9**	**0.0**
ILAR	**Eielson Array**	**69.12**	**27**	P	**P**	**01 50 09.2**	**-0.8**
	comp=Z,0.3nm,0.5s,mb3.5,baz=274,slow=5.4,SNR=5.1						
INK	**Inuvik**	**73.17**	**22**	P	**P**	**01 50 34.8**	**+0.3**
	comp=Z,1.4nm,0.9s,mb3.9,baz=262,slow=7.1,SNR=4.4						
YKA	**Yellowknife Ar**	**82.91**	**23**	P	**P**	**01 51 27.4**	**-1.1**
	comp=Z,0.6nm,0.6s,mb3.8,baz=311,slow=5.1,SNR=19						

*IDC **16** 01:39:04.7±0.7, 640S×131.12E, h0km, mb4.4/7, mb1 4.6/9, mb1mx4.4/15, mbtmp4.6/9, ML5.1/4, Error ellipse: s-maj=29.1km s-min=15.6km az=69.0*
*ISCJB **16** 01:39:07.9±0.3, 657S±004×13105E±007, h33km, mb4.6/20, Error ellipse: s-maj=9.7km s-min=5.2km az=142.5*
*NEIC **16** 01:39:10.0±0.3, 642S×131.10E, h35km, mb4.7/17, Error ellipse: s-maj=9.6km s-min=5.9km az=59.0*

ISC 16 01:39:08.6±3.3, 648S±006×13116E±007, h23km±25km, n51, σ1§08/55, mb4.6/20, 1C-2D, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.32**	**169**	⇓*i*P	**Pn**	**01 40 43.5**	**+3.1**
	435nm,0.6s						
KAKA				*e*S	**Sn**	**01 41 50.9**	**-1.0**
FITZ	**Fitzroy Crossi**	**12.75**	**205**	⇑*i*P	**Pn**	**01 42 09.1**	**+0.6**
	176nm,0.4s						
FITZ				*e*S	**Sn**	**01 44 21.1**	**-8.5**
FITZ	**Fitzroy Crossi**	**12.75**	**205**	Pn	**Pn**	**01 42 09.1**	**+0.7**
	23nm,0.3s,baz=35,slow=12,SNR=243						
FITZ				Sn	**Sn**	**01 44 21.9**	**-7.7**
	18nm,0.3s,baz=206,slow=20,SNR=8.5						
WRAB	**Tennant Creek**	**13.73**	**167**	*e*Pn	**Pn**	**01 42 20.4**	**-1.5**
	106nm,0.5s						
WRAB				*e*Sn	**Sn**	**01 44 46.7**	**-6.9**
WRA	**Warramunga Arr**	**13.74**	**167**	Pn	**Pn**	**01 42 20.4**	**-1.5**
	15nm,0.3s,baz=347,slow=14,SNR=60						
WRA				Sn	**Sn**	**01 44 45.0**	**-8.8**
	14nm,0.3s,baz=352,slow=22,SNR=8.2						
PMG	**Port Moresby**	**16.11**	**101**	Pn	**Pn**	**01 42 55.1**	**+1.6**
	4.4nm,0.3s,baz=349,slow=5.4,SNR=5.8						
ASAR	**Alice Springs**	**17.29**	**172**	P	**Pn**	**01 43 08.2**	**-0.3**
	7.5nm,0.3s,baz=15,slow=12,SNR=151						
ASAR				S	**Sn**	**01 46 09.0**	**-11**
	2.4nm,0.3s,baz=352,slow=28,SNR=6.0						
MBWA	**Marble Bar**	**18.32**	**216**	*e*Pn	**Pn**	**01 43 22.4**	**+1.3**
	9.9nm,0.5s						
MBWA				*e*Sn	**Sn**	**01 46 36.1**	**-8.9**
KKM	**Kota Kinabalu**	**19.42**	**310**	*e*P	**Pn**	**01 43 31.3**	**-3.2**
CTA	**Charters Tower**	**19.94**	**134**	*e*P	**Pn**	**01 43 41.2**	**+0.5**
	5.9nm,0.6s						
CTA	**Charters Tower**	**19.94**	**134**	P	**Pn**	**01 43 41.3**	**+0.7**
	4.5nm,0.5s,baz=297,slow=13,SNR=9.1						
CTA				S	**Sn**	**01 47 13.1**	**-11**
	2.3nm,0.4s,baz=313,slow=16,SNR=2.6						
CTAO	**Charters Tower**	**19.94**	**134**	*e*P	**Pn**	**01 43 41.7**	**+1.0**
	3.8nm,0.4s						
KSM	**Kuching**	**22.27**	**290**	*e*P	**P**	**01 44 02.7**	**-1.3**
FORT	**Forrest**	**24.35**	**186**	*e*P	**P**	**01 44 25.7**	**+1.0**
	30nm,0.5s,mb5.0						
STKA	**Stephens Creek**	**27.09**	**160**	⇓*i*P	**P**	**01 44 48.0**	**-1.5**
	1.8nm,0.4s,mb4.0						
STKA	**Stephens Creek**	**27.09**	**160**	P	**P**	**01 44 48.1**	**-1.4**
	4.3nm,0.6s,mb4.1,baz=352,slow=8.5,SNR=19						
KLBR	**Kellerberrin**	**27.96**	**205**	*e*P	**P**	**01 44 58.6**	**+1.3**
	66nm,2.0s,mb4.9						
HNR	**Honiara**	**28.65**	**98**	*e*P	**P**	**01 45 03.0**	**-0.5**
NWAO	**Narrogin (SRO)**	**29.34**	**204**	P	**P**	**01 45 10.4**	**+0.9**
	1.7nm,0.4s,mb4.2,baz=48,slow=11,SNR=3.8						
NWAO	**Narrogin (SRO)**	**29.34**	**204**	P	**P**	**01 45 09.0**	**-0.6**
KULM	**Kulim**	**32.62**	**290**	*e*P	**P**	**01 45 37.9**	**-0.6**
PSI	**Prapat**	**33.48**	**285**	P	**P**	**01 45 45.4**	**-0.6**
	12nm,0.8s,mb4.9,baz=146,slow=4.4,SNR=7.2						
PSI	**Prapat**	**33.48**	**285**	P	**P**	**01 45 45.4**	**-0.6**
ENH	**Enshi**	**42.04**	**331**	P	**P**	**01 46 59.5**	**+1.1**
MJAR	**Matsushiro Arr**	**43.30**	**8**	P	**P**	**01 47 06.7**	**-1.9**
	0.8nm,0.3s,mb3.9,baz=190,slow=8.1,SNR=4.9						
LSA	**Lhasa**	**52.63**	**315**	*e*P	**P**	**01 48 22.4**	**+1.7**
JIRN	**Jiri**	**55.12**	**310**	*e*P	**P**	**01 48 39.3**	**+0.3**
	13nm,0.5s,mb5.2						
GUN	**Gumba**	**55.49**	**310**	*e*P	**P**	**01 48 41.8**	**+0.2**
	22nm,0.4s,mb5.5						
PKI	**Pulchoki**	**55.67**	**310**	*e*P	**P**	**01 48 42.7**	**-0.2**
KKN	**Kakani**	**55.88**	**310**	*e*P	**P**	**01 48 44.4**	**0.0**
	12nm,0.5s,mb5.2						
DMN	**Daman**	**55.92**	**310**	*e*P	**P**	**01 48 45.0**	**+0.3**
	17nm,0.7s,mb5.2						
TRD	**Trivandrum**	**56.05**	**285**	*ex*	x	01 49 00.4	
GKN	**Gorkha**	**56.48**	**310**	*e*P	**P**	**01 48 47.7**	**-1.0**
	20nm,0.4s,mb5.5						
KOLN	**Koldanda**	**57.16**	**309**	*e*P	**P**	**01 48 52.3**	**-1.3**
	20nm,0.7s,mb5.3						
MKAR	**Makanchi Array**	**68.43**	**326**	P	**P**	**01 50 08.9**	**+0.3**
	6.2nm,0.5s,mb4.9,baz=118,slow=8.4,SNR=75						
KZA	**Kyzart**	**70.14**	**319**	P	**P**	**01 50 20.9**	**+1.7**
	SNR=10						
TKM2	**Tokmak 2**	**70.32**	**320**	P	**P**	**01 50 21.1**	**+0.8**
	SNR=5.9						
UCH	**Uchtor**	**70.69**	**319**	P	**P**	**01 50 24.1**	**+1.5**
	SNR=7.6						
AAK	**Ala-Archa**	**70.89**	**319**	*e*P	**P**	**01 50 24.0**	**+0.2**
	1.5nm,0.6s,mb4.1						
AML	**Almayashu**	**71.18**	**319**	P	**P**	**01 50 27.0**	**+1.5**
	SNR=7.5						
USP	**Ospenovka**	**71.19**	**320**	P	**P**	**01 50 26.1**	**+0.5**
	SNR=8.4						
ZAL	**Zalesovo**	**71.63**	**333**	P	**P**	**01 50 26.8**	**-1.5**
	2.3nm,0.5s,mb4.4,baz=339,slow=6.6,SNR=7.4						
KURK	**Kurchatov**	**72.68**	**328**	*e*P	**P**	**01 50 34.1**	**-0.4**
	4.8nm,0.8s,mb4.5						
VNDA	**Vanda**	**72.83**	**173**	P	**P**	**01 50 35.4**	**-0.1**
	0.3nm,0.5s,mb3.5,baz=304,slow=7.6,SNR=5.0						
BRVK	**Borovoye**	**78.31**	**327**	*e*P	**P**	**01 51 06.2**	**-0.7**
	1.7nm,0.7s,mb4.1						
CHKZ	**Chkalovo**	**78.43**	**328**	*e*P	**P**	**01 51 06.4**	**-1.0**
	1.4nm,0.5s,mb4.2						
CHKZ				*e*pP	pP	01 51 16.2	+1.3
ZRNK	**Zerenda**	**78.95**	**327**	*e*P	**P**	**01 51 09.8**	**-0.6**
	4.2nm,0.9s,mb4.4						
KIV	**Kislovodsk**	**93.35**	**314**	*e*P	**P**	**01 52 21.9**	**+0.1**
TORD	**Torodi Ar. Bea**	**129.84**	**282**	PKP	PKPdf	01 58 16.5	+0.4
	0.2nm,0.7s,baz=43,slow=2.7,SNR=4.1						
CPUP	**Villa Florida**	**146.37**	**166**	PKPbc	PKPbc	01 58 48.9	+1.4
	0.3nm,0.4s,baz=214,slow=3.6,SNR=2.1						
LPAZ	**La Paz**	**150.40**	**140**	PKPbc	PKPbc	01 59 00.5	+2.3
	0.6nm,0.6s,baz=270,slow=1.0,SNR=3.7						

*NEIC **16** 01:46:59.8±2.2, 5169N×699E, h5km, ML2.8(LDG), Error ellipse: s-maj=24.2km s-min=8.0km az=212.0*
*ISCJB **16** 01:46:59.8±0.5, 5161N±003×681E±004, h0km, Error ellipse: s-maj=4.1km s-min=3.6km az=87.0*
*BNS **16** 01:47:01.7±1.2, 5164N×704E, h1km, ML2.0*
*LDG **16** 01:47:02.5±0.3, 5161N×695E, h1km, Ml2.8/2, Error ellipse: s-maj=5.5km s-min=3.4km az=29.0, Suspected Mining induced.*
*CSEM **16** 01:47:02.6±0.1, 5159N×697E, h1km, ML2.8/2, Error ellipse: s-maj=2.7km s-min=1.4km az=125.0*
*BGR **16** 01:47:03.0±0.6, 5156N×712E, h1km, ML2.1/3, Error ellipse: s-maj=7.8km s-min=4.4km az=107.0*

ISC 16 01:47:00.9±0.5, 5163N±003×692E±004, h0km, n37, σ1§14/53, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAUG	**Laupendahl**	**0.28**	**176**	*e*Pg	**Pg**	**01 47 07.3**	**+1.2**
BUG	**Bochum--Univer**	**0.29**	**130**	*e*Pg	**Pg**	**01 47 07.1**	**+0.8**
	SNR=7.0						
BUG				*e*Sg	**Sg**	**01 47 10.9**	**+0.8**
WTSB	**Winterswijk**	**0.35**	**348**	*e*Pg	**Pg**	**01 47 09.1**	**+1.6**
BNS	**Bensberg**	**0.68**	**166**	*e*Pg	**Pg**	**01 47 25.4**	**+2.6**
HOBG	**Hohbusch**	**0.69**	**158**	*e*Pg	**Pg**	**01 47 15.1**	**+0.9**
HOBG				*e*Sg	**Sg**	**01 47 23.7**	**+0.6**
IBBN	**Ibbenburen**	**0.86**	**37**	*e*Pg	**Pg**	**01 47 18.9**	**+1.6**
	SNR=3.7						
IBBN				*e*Sg	**Sg**	**01 47 30.1**	**+1.6**
STB	**Steinbach**	**1.03**	**183**	*e*Pg	**Pg**	**01 47 21.4**	**+0.8**
STB				*e*Sg	**Sg**	**01 47 36.2**	**+2.1**
	34nm,0.8s						
HGN	**Heimansgroeve**	**1.06**	**216**	*e*Pn	**Pn**	**01 47 22.5**	**-0.5**
HGN				*e*Pg	**Pg**	**01 47 23.0**	**+1.8**
	18nm,0.1s						
HGN				*e*Sg	**Sg**	**01 47 38.3**	**+3.3**
MEM	**Membach**	**1.17**	**210**	P	**Pg**	**01 47 23.9**	**+0.7**
MEM				S	**Sg**	**01 47 41.4**	**+3.0**
	comp=E,28nm,0.0s						
MEM	**Membach**	**1.17**	**210**	P	**Pg**	**01 47 23.9**	**+0.7**
MEM				S	**Sg**	**01 47 41.3**	**+2.9**
BGG	**Burgeitz**	**1.45**	**169**	*e*Pg	**Pg**	**01 47 28.1**	**-0.5**
BGG				*e*Sg	**Sg**	**01 47 46.2**	**-1.1**
TNS	**Taunus Mts**	**1.71**	**145**	*e*Pg	**Pg**	**01 47 32.3**	**-1.2**
	SNR=2.7						
TNS				*

IUNC	**Unciti**	**0.50**	**230**	Pg	Pg	01 47 38.2	0.0
	1.0nm,0.1s,SNR=7.9						
IUNC				Lg		01 47 44.8	
	3.3nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.91**	**115**	Pg	Pg	01 47 44.6	-1.5
	0.5nm,0.1s,SNR=7.9						
EBIE				Lg		01 47 56.1	
	1.5nm,0.1s,SNR=7.9						
EPF	**Esparros**	**0.97**	**92**	*e*Pg	Pg	01 47 46.1	-1.1
EPF				*e*Sg	Sg	01 47 59.0	-0.7
	1.0nm,0.2s						
EPF	**Esparros**	**0.97**	**92**	Pg	Pg	01 47 46.1	-1.1
EPF				Lg		01 47 59.0	
	0.5nm,0.2s						
EGRA	**Graus**	**1.30**	**132**	Pg	Pg	01 47 52.7	-0.8
	0.3nm,0.2s,SNR=7.9						
EGRA				Lg		01 48 10.6	
	1.0nm,0.2s,SNR=5.2						

*ISCJB **16** 02:02:02.4±1.0, 3372N±006×4879E±008, h7km±10km, Error ellipse: s-maj=13.7km s-min=7.8km az=76.6*
*THR **16** 02:02:04.6±0.3, 3377N×4887E, h14km±3km, ML3.0*
*CSEM **16** 02:02:05.3±0.3, 3375N×4885E, h30km, ML3.8/2, Error ellipse: s-maj=11.2km s-min=5.9km az=115.0*
*KISR **16** 02:02:08.2±1.1, 3346N×4875E, h33km, ML2.2*

ISC 16 02:02:03.5±1.1, 3374N±006×4881E±008, h4km±11km, n12, σ1°46/21, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAO	**Ashtian**	**1.29**	**51**	*e*PG	**Pg**	**02 02 27.6**	**-0.7**
ASAO				*e*SG	**Sg**	**02 02 44.6**	**-0.5**
ASAO				AML	AML	02 02 48.4	
	comp=E,195nm,0.6s						
ASAO				AML	AML	02 02 50.2	
	comp=N,261nm,0.6s						
ASAO	**Ashtian**	**1.29**	**51**	*e*Pg	**Pg**	**02 02 27.6**	**-0.7**
	SNR=90						
ASAO				*e*Sg	**Sg**	**02 02 44.6**	**-0.5**
	comp=N,261nm,0.6s,SNR=90						
SHGR	**Shooshtar-Gavs**	**1.63**	**180**	*e*PG	**Pg**	**02 02 34.9**	**+0.2**
SHGR				AML	AML	02 03 00.9	
	comp=N,160nm,0.4s						
SHGR				AML	AML	02 03 01.0	
	comp=E,226nm,0.4s						
SNGE	**Sanandaj**	**1.81**	**319**	*e*PG	**Pg**	**02 02 38.0**	**-0.3**
SNGE				AML	AML	02 03 10.4	
	comp=N,143nm,0.6s						
THKV	**Tehran--Karaj**	**2.76**	**38**	*e*PN	**Pn**	**02 02 49.9**	**+1.3**
THKV				*e*SG	**Sg**	**02 02 39.3**	**-2.9**
THKV				AML	AML	02 03 36.1	
	comp=E,44nm,0.5s						
THKV	**Tehran--Karaj**	**2.76**	**38**	*e*Pn	**Pn**	**02 02 49.9**	**+1.4**
	SNR=52						
THKV				*e*Sg	**Sg**	**02 03 29.3**	**-2.9**
	comp=E,44nm,0.5s,SNR=90						
NASN	**Na'in**	**3.48**	**105**	*e*PN	**Pn**	**02 03 00.0**	**+1.6**
MIB	**Mutribah**	**4.12**	**198**	*e*P	**Pn**	**02 03 09.3**	**+2.1**
MIB				*e*S	**Sn**	**02 03 54.1**	**-1.7**
MIB				AML	AML	02 04 00.1	
	comp=Z,3.0nm,0.3s						
MIB	**Mutribah**	**4.12**	**198**	*e*P	**Pn**	**02 03 09.3**	**+2.1**
MIB				*e*S	**Sn**	**02 03 54.1**	**-1.7**
NAY	**Al-Naaiem**	**4.67**	**197**	*e*P	**Pn**	**02 03 16.2**	**+1.4**
NAY				*e*S	**Sn**	**02 04 07.3**	**-2.2**
NAY				AML	AML	02 04 09.0	
	comp=Z,1.4nm,0.4s						
NAY	**Al-Naaiem**	**4.67**	**197**	*e*P	**Pn**	**02 03 16.2**	**+1.4**
NAY				*e*S	**Sn**	**02 04 07.3**	**-2.2**
RDF	**Al-Radifah**	**4.92**	**193**	*e*P	**Pn**	**02 03 19.7**	**+1.5**
RDF				AML	AML	02 03 59.4	
	comp=Z,3.8nm,0.3s						
RDF				*e*S	**Sn**	**02 04 14.1**	**-1.4**

*ISCJB **16** 02:14:24.5±0.5, 146S±0.1×6647E±0.10, h10km, mb4.3/28, MS3.9/3, Error ellipse: s-maj=16.1km s-min=13.0km az=44.9*
*IDC **16** 02:14:24.3±0.7, 1460S×6634E, h0km, mb3.9/11, mb1 4.1/11, mb1mx4.0/18, mbtmp3.9/11, MS3.9/3, Ms1 3.9/3, ms1mx3.3/19, Error ellipse: s-maj=27.2km s-min=18.6km az=11.0*
*MOS **16** 02:14:24.6±0.9, 1456S×6646E, h10km, mb4.9/14, Error ellipse: s-maj=17.5km s-min=10.4km az=121.5*
*NEIC **16** 02:14:25.9±0.3, 1466S×6641E, h10km, mb4.7/13, Error ellipse: s-maj=10.7km s-min=8.4km az=29.0*

ISC 16 02:14:26.4±0.5, 146S±01×6641E±010, h10km, n78, σ0°74/64, mb4.3/28, MS3.9/3, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**36.56**	**64**	LR	LR	02 31 52.8	
	comp=Z,124nm,21.3s,MS3.7,baz=353,slow=29						
LSZ	**Lusaka**	**36.90**	**264**	P	**P**	**02 21 35.5**	**+0.3**
	4.7nm,1.2s,mb4.2,baz=113,slow=7.5,SNR=5.4						
LBTB	**Lobatse**	**39.63**	**248**	P	**P**	**02 21 57.4**	**-0.9**
	1.7nm,0.9s,mb3.8,baz=82,slow=9.6,SNR=4.3						
MAW	**Mawson**	**53.01**	**182**	LR	LR	02 40 42.8	
	comp=Z,175nm,19.5s,MS4.1,baz=240,slow=30						
AAK	**Ala-Archa**	**57.43**	**7**	P	**P**	**02 24 15.0**	**-0.3**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.8s,mb4.5						
AAK	**Ala-Archa**	**57.43**	**7**	P	**P**	**02 24 15.0**	**-0.3**
	comp=Z,10nm,1.8s,mb4.5						
BRTR	**Keskin Array B**	**62.07**	**332**	P	**P**	**02 24 47.7**	**+0.5**
	comp=Z,0.5nm,0.9s,mb3.6,baz=148,slow=19,SNR=3.0						
MKAR	**Makanchi Array**	**62.75**	**12**	P	**P**	**02 24 51.5**	**-0.3**
	comp=Z,1.4nm,0.8s,mb4.2,baz=212,slow=8.6,SNR=13						
ASAR	**Alice Springs**	**63.92**	**109**	P	**P**	**02 24 59.5**	**-0.1**
	comp=Z,1.4nm,0.8s,mb4.0,baz=263,slow=6.1,SNR=11						
WRA	**Warramunga Arr**	**64.72**	**105**	P	**P**	**02 25 05.7**	**+1.0**
	comp=Z,3.7nm,1.0s,mb4.4,baz=271,slow=5.8,SNR=13						
KURK	**Kurchatov**	**65.91**	**8**	*e*P	**P**	**02 25 12.5**	**0.0**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
KURK	**Kurchatov**	**65.91**	**8**	*e*P	**P**	**02 25 12.5**	**+0.1**
	comp=Z,5.8nm,1.2s,mb4.5						
ZRNK	**Zerenda**	**67.31**	**2**	*e*P	**P**	**02 25 20.7**	**-0.7**
ZRNK				*e*		02 25 46.7	
ZRNK				*e*		02 27 48.3	
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
ZRNK	**Zerenda**	**67.31**	**2**	*e*P	**P**	**02 25 20.7**	**-0.7**
	comp=Z,3.5nm,0.9s,mb4.4						
ZRNK				*e*PcP	PcP	02 25 46.7	-2.4
ZRNK				*e*PP	PP	02 27 48.3	-1.4
TORD	**Torodi Ar. Bea**	**69.74**	**290**	P	**P**	**02 25 35.8**	**-0.9**
	comp=Z,0.7nm,0.9s,mb3.6,baz=90,slow=3.6,SNR=5.1						
ZAL	**Zalesovo**	**70.05**	**11**	P	**P**	**02 25 37.4**	**-1.2**
	comp=Z,0.9nm,0.5s,mb4.0,baz=288,slow=18,SNR=4.1						
NVS	**Novosibirsk**	**70.63**	**10**	*e*P	**P**	**02 25 40.7**	**-1.3**
NVS				pmax	pmax		
	comp=Z,24nm,2.2s,mb4.7						
NVS				pmax	pmax		
	comp=N,19nm,1.9s						
AKASG	**Malin Array Be**	**72.71**	**336**	P	**P**	**02 25 53.7**	**-0.9**
	comp=N,0.2nm,0.2s,mb3.6,baz=139,slow=5.3,SNR=6.2						
AKASG	**Malin Array Be**	**72.71**	**336**	P	**P**	**02 25 53.7**	**-0.9**
QSPA	**South Pole Qui**	**75.48**	**180**	*e*P	**P**	**02 26 09.8**	**-1.0**
	comp=N,23nm,1.4s,mb4.9						
CTAO	**Charters Tower**	**75.77**	**107**	P	**P**	**02 26 12.7**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
CTAO	**Charters Tower**	**75.77**	**107**	P	**P**	**02 26 12.7**	**+0.3**
	comp=Z,14nm,1.1s,mb4.8						
GERES	**GERESS Array B**	**78.49**	**328**	P	**P**	**02 26 25.8**	**-1.9**
	comp=Z,0.1nm,0.3s,mb3.2,baz=158,slow=1.4,SNR=5.2						
SBF	**Sospel**	**79.16**	**321**	*e*P	**P**	**02 26 31.6**	**+0.2**
LMR	**La Mourre**	**79.45**	**320**	*e*P	**P**	**02 26 33.3**	**+0.3**
	comp=Z,19nm,1.5s,mb4.5						
LMR	**La Mourre**	**79.45**	**320**	*e*P	**P**	**02 26 33.3**	**+0.3**
LMR				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.5						
LMR	**La Mourre**	**79.45**	**320**	*e*P	**P**	**02 26 33.3**	**+0.3**
	comp=Z,9.6nm,1.5s,mb4.5						
FRF	**La Foret Royal**	**79.49**	**320**	*e*P	**P**	**02 26 33.5**	**+0.3**
BRG	**Berggiesshubel**	**79.63**	**329**	*e*P	**P**	**02 26 36.1**	**+2.2**
	comp=Z,5.1nm,1.3s,mb4.3						
BRG	**Berggiesshubel**	**79.63**	**329**	*e*P	**P**	**02 26 36.2**	**+2.2**
BRG				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3						
MBDF	**Montbardon**	**80.03**	**321**	*e*P	**P**	**02 26 36.1**	**0.0**
CLL	**Collm**	**80.37**	**329**	*e*P	**P**	**02 26 38.0**	**+0.1**
	comp=Z,9.0nm,1.2s,mb4.6						
CLL	**Collm**	**80.37**	**329**	*e*P	**P**	**02 26 38.0**	**+0.1**
CLL				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
LPL	**La Plagne**	**80.47**	**322**	*e*P	**P**	**02 26 38.2**	**-0.3**
ORIF	**Oris-en-Rattie**	**80.67**	**321**	*e*P	**P**	**02 26 40.0**	**+0.5**
VIVF	**Saint-Julien-l**	**81.37**	**321**	*e*P	**P**	**02 26 43.8**	**+0.5**
	comp=Z,12nm,1.1s,mb4.4						
VIVF	**Saint-Julien-l**	**81.37**	**321**	*e*P	**P**	**02 26 43.8**	**+0.5**
VIVF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
VIVF	**Saint-Julien-l**	**81.37**	**321**	*e*P	**P**	**02 26 43.8**	**+0.5**
	comp=Z,6.0nm,1.1s,mb4.4						
LASF	**Ste Croix**	**81.48**	**320**	*e*P	**P**	**02 26 44.5**	**+0.6**
HINF	**Hinteralfeld**	**81.62**	**324**	*e*P	**P**	**02 26 44.3**	**-0.4**
CDF	**Champ du Feu**	**81.71**	**325**	*e*P	**P**	**02 26 43.9**	**-1.2**
	comp=Z,23nm,1.5s,mb4.6						
CDF	**Champ du Feu**	**81.71**	**325**	*e*P	**P**	**02 26 43.9**	**-1.2**
CDF				pmax	pmax		
	comp=Z,12nm,1.5s,mb4.6						
CDF	**Champ du Feu**	**81.71**	**325**	*e*P	**P**	**02 26 43.9**	**-1.2**
	comp=Z,12nm,1.5s,mb4.6						
MTLF	**Montolieu**	**82.17**	**318**	*e*P	**P**	**02 26 46.9**	**-0.6**
	comp=Z,9.6nm,0.9s,mb4.4						
MTLF	**Montolieu**	**82.17**	**318**	*e*P	**P**	**02 26 46.9**	**-0.6**
MTLF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
MTLF	**Montolieu**	**82.17**	**318**	*e*P	**P**	**02 26 46.9**	**-0.6**
	comp=Z,4.8nm,0.9s,mb4.4						
MEZF	**Maizieres J'vi**	**83.01**	**324**	*e*P	**P**	**02 26 52.2**	**+0.3**
CAF	**Calviac**	**83.02**	**320**	*e*P	**P**	**02 26 52.5**	**+0.6**
LOR	**Lormes**	**83.08**	**322**	*e*P	**P**	**02 26 51.2**	**-1.0**
SSF	**Saint Saulge**	**83.18**	**322**	*e*P	**P**	**02 26 52.8**	**0.0**
	comp=Z,26nm,1.4s,mb4.8						
SSF	**Saint Saulge**	**83.18**	**322**	*e*P	**P**	**02 26 52.8**	**0.0**
SSF				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.8						
SSF	**Saint Saulge**	**83.18**	**322**	*e*P	**P**	**02 26 52.8**	**0.0**
	comp=Z,13nm,1.4s,mb4.8						
RJF	**Les Rejaudoux**	**83.54**	**320**	*e*P	**P**	**02 26 55.1**	**+0.5**
TCF	**Toulx Ste Croi**	**83.58**	**321**	*e*P	**P**	**02 26 55.8**	**+1.0**
ETSF	**Etsaut**	**83.77**	**317**	*e*P	**P**	**02 26 56.5**	**+0.7**
	comp=Z,11nm,1.0s,mb4.6						
ETSF	**Etsaut**	**83.77**	**317**	*e*P	**P**	**02 26 56.5**	**+0.7**
ETSF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6						
ETSF	**Etsaut**	**83.77**	**317**	*e*P	**P**	**02 26 56.5**	**+0.7**
	comp=Z,5.3nm,1.0s,mb4.6						
LFF	**La Frestale**	**83.86**	**319**	*e*P	**P**	**02 26 56.8**	**+0.5**
GIVF	**Givet**	**83.97**	**325**	*e*P	**P**	**02 26 57.4**	**+0.6**
BAIF	**Baives**	**84.29**	**325**	*e*P	**P**	**02 26 59.1**	**+0.7**
SJPF	**Ste Jean**	**84.30**	**317**	*e*P	**P**	**02 26 59.1**	**+0.6**
	comp=Z,11nm,1.0s,mb4.7						
SJPF	**Ste Jean**	**84.30**	**317**	*e*P	**P**	**02 26 59.1**	**+0.6**
SJPF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6						
SJPF	**Ste Jean**	**84.30**	**317**	*e*P	**P**	**02 26 59.1**	**+0.6**
	comp=Z,5.3nm,1.0s,mb4.6						
MJAR	**Matsushiro Arr**	**84.55**	**50**	P	**P**	**02 27 00.3**	**+0.5**
	comp=Z,1.5nm,0.6s,mb4.3,baz=256,slow=8.1,SNR=4.6						
MJAR				LR	LR	03 07 43.7	
	comp=Z,54nm,18.1s,MS4.0,baz=270,slow=38						
ESDC	**Sonseca Array**	**84.73**	**313**	P	**P**	**02 27 00.9**	**+0.2**
	comp=Z,1.4nm,0.8s,mb4.2,baz=125,slow=5.4,SNR=7.3						
MFF	**Saint Martin d**	**85.17**	**321**	*e*P	**P**	**02 27 03.1**	**+0.2**
	comp=Z,12nm,1.0s,mb4.7						
ILAR	**Eielson Array**	**124.97**	**17**	PKP	PKPdf	02 33 24.8	-2.0
	comp=Z,0.9nm,1.0s,baz=295,slow=3.3,SNR=6.3						
YKA	**Yellowknife Ar**	**132.16**	**1**	PKP	PKPdf	02 33 39.6	-0.8
	comp=Z,0.6nm,0.9s,baz=346,slow=2.2,SNR=11						
LAO	**LASA Array**	**147.42**	**351**	*e*PKPbc	PKPbc	02 34 09.8	-0.7
CHMT	**Chamberlain Mo**	**147.78**	**360**	*e*PKPdf	PKPdf	02 34 09.2	+0.6
CHMT				*e*PKPbc	PKPbc	02 34 11.7	+0.3
RSSD	**Black Hills**	**149.47**	**346**	PKHKP		02 34 11.9	
RSSD				*e*		02 34 15.8	
LRAL	**Lakeview Retre**	**149.66**	**312**	*e*PKPbc	PKPbc	02 34 15.8	-0.5
LKWY	**Lake**	**150.01**	**355**	*e*PKHKP		02 34 15.8	
TPAW	**Teton Pass**	**151.12**	**356**	*e*PKPdf	PKPdf	02 34 14.6	+0.7
TPAW				*e*PKPbc	PKPbc	02 34 20.3	+0.5
PDAR	**Pinedale Array**	**151.72**	**354**	PKPbc	PKPbc	02 34 21.4	+0.3
	comp=Z,2.3nm,0.8s,baz=40,slow=2.5,SNR=13						
HWUT	**Hardware Ranch**	**153.03**	**357**	*e*PKPbc	PKPbc	02 34 24.0	-0.1
HWUT				*e*PKPab	PKPab	02 34 35.1	-0.4
MIAR	**Mount Ida**	**153.15**	**321**	*e*PKPbc	PKPbc	02 34 24.6	+0.2
MIAR				*e*PKPab	PKPab	02 34 36.5	+0.6
NVAR	**Mina Array Bea**	**155.90**	**9**	PKPab	PKPab	02 34 48.6	+0.9
	comp=Z,0.4nm,0.6s,baz=321,slow=2.3,SNR=4.1						

GUC 16 02:34:02.9±1.0, 3198S×6723W, h48km±93km, ML3.7, 1C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**2.92**	**242**	⇑*i*P	P	02 34 46.0	-0.8
FCH				*i* S	Sn	02 35 20.1	-0.4
FCH				AML	AML	02 35 22.4	
	comp=N,103nm,0.3s						
LMEL	**Las Melosas**	**3.12**	**232**	*e*P	Pn	02 34 50.8	+1.1
LMEL				*i* S	Sn	02 35 26.4	+0.7
LMEL				AML	AML	02 35 28.1	
	comp=N,124nm,0.6s						
CLCH	**Cerro Calan**	**3.13**	**242**	*e*P	Pn	02 34 50.8	+1.1
CLCH				*i* S	Sn	02 35 26.6	+0.8
CLCH				AML	AML	02 35 30.5	
	comp=E,146nm,0.8s						
PEL	**Peldehue**	**3.14**	**247**	*e*P	Pn	02 34 50.6	+0.8
PEL				*i* S	Sn	02 35 27.0	+0.8
PEL				AML	AML	02 35 28.6	
	comp=N,152nm,0.5s						
CMCH	**Combarbala**	**3.32**	**283**	*e*P	Pn	02 34 52.5	+0.2
CMCH				*i* S	Sn	02 35 31.4	+0.9
CMCH				AML	AML	02 35 40.3	
	comp=E,466nm,0.7s						

*IDC **16** 02:38:45.7±2.9, 1282N×8731W, h125km±29km, mb3.5/4, mb1 3.7/6, mb1mx3.4/18, mbtmp3.9/6, Error ellipse: s-maj=49.5km s-min=20.3km az=64.0*
*ISCJB **16** 02:38:46.5±0.6, 129N±0.1×873W±0.1, h139km±4km, mb3.6/4, Error ellipse: s-maj=30.9km s-min=7.5km az=86.0*
*NEIC **16** 02:38:46.7±2.0, 1278N×8743W, h139km±21km, Error ellipse: s-maj=38.8km s-min=17.7km az=53.0*
*CASC **16** 02:38:50.0±3.1, 1203N×8774W, h31km±14km, MD4.4, ML3.6*

ISC 16 02:38:47.5±0.6, 129N±01×873W±01, h135km±4km, n38, σ1°04/39, mb3.6/4, 8C-4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.32**	**117**	⇑*e*P	**Pn**	**02 39 06.3**	**+0.1**
TELN	**Telica**	**0.55**	**116**	⇓*e*P	**Pn**	**02 39 07.2**	**-0.2**
TELN				*e*S	**Sn**	**02 39 22.5**	**+0.1**
TEL3	**Telica 3**	**0.56**	**119**	⇑*e*P	**Pn**	**02 39 07.2**	**-0.1**
TEL3				*e*S	**Sn**	**02 39 22.1**	**-0.4**
LEON	**Leon**	**0.61**	**134**	⇑*e*P	**Pn**	**02 39 06.9**	**-0.8**
LEON				*e*S	**Sn**	**02 39 21.1**	**-2.0**
CNCH	**Conchagua**	**0.64**	**312**	*e*P	**Pn**	**02 39 07.9**	**-0.1**
CNGN	**Cerro Negro**	**0.71**	**119**	⇑*e*P	**Pn**	**02 39 08.2**	**-0.2**
MIRN	**Miramar**	**0.73**	**123**	⇓*e*P	**Pn**	**02 39 08.4**	**-0.2**
MIRN				*e*S	**Sn**	**02 39 25.6**	**+1.0**
MOMJ	**Momotombo**	**0.89**	**119**	⇑*e*P	**Pn**	**02 39 09.7**	**-0.2**
COPN	**Copaltepe**	**0.99**	**132**	⇑*e*P	**Pn**	**02 39 09.8**	**-0.9**
COPN				*e*S	**Sn**	**02 39 25.0**	**-3.3**
BLLM	**Bellamira**	**1.06**	**304**	*e*P	**Pn**	**02 39 11.7**	**+0.3**
VSM	**San Miguel**	**1.08**	**303**	*e*P	**Pn**	**02 39 12.0**	**+0.5**
APYN	**Apoyeque**	**1.14**	**122**	⇑*e*P	**Pn**	**02 39 12.0**	**-0.1**
XAVN	**Gruta Xavier**	**1.21**	**125**	⇓*e*P	**Pn**	**02 39 13.7**	**+0.9**
TISN	**Laguna Tiscapa**	**1.26**	**124**	*e*P	**Pn**	**02 39 14.4**	**+1.1**
MGAN	**Managua**	**1.27**	**123**	⇓*e*P	**Pn**	**02 39 14.0**	**+0.5**
MGAN				*i*		02 39 35.3	
	comp=N,843nm,0.4s						
TICN	**Ticuantepe**	**1.35**	**127**	*e*P	**Pn**	**02 39 15.4**	**+1.1**
APON	**Apoyo**	**1.55**	**126**	*e*P	**Pn**	**02 39 18.0**	**+1.5**
SNVI	**San Vicente**	**1.65**	**298**	*e*P	Px	02 39 17.9	
SNVI				*e*S	Sx	02 39 42.3	
LCBS	**La Ceiba**	**1.79**	**297**	*e*P	Px	02 39 19.3	
LCBS				*e*S	Sx	02 39 44.0	
LFRS	**El Faro**	**1.85**	**295**	*e*P	Px	02 39 20.1	
LFRS				*e*S	Sx	02 39 45.3	
LBRS	**Las Brisas**	**1.88**	**298**	*e*P	Px	02 39 21.1	
BOQS	**Boqueron**	**2.08**	**295**	*e*P	Px	02 39 23.5	
BOQS				*e*S	Sx	02 39 51.1	
CONN	**Concepcion**	**2.11**	**127**	⇑*e*P	**Pn**	**02 39 23.4**	**+0.5**
SNJE	**San Jose**	**2.43**	**295**	*e*P	Px	02 39 27.9	
SNJE				*e*S	Sx	02 40 00.8	
RBDL	**Robledal**	**2.61**	**299**	*e*P	Px	02 39 30.3	
JTS	**JuntasAbangare**	**3.45**	**137**	P	**Pn**	**02 39 39.6**	**-0.6**
	comp=N,7.6nm,0.3s,baz=325,slow=13,SNR=41						
JTS				S	**Sn**	**02 40 17.5**	**-3.4**
	comp=N,12nm,0.3s,baz=302,slow=20,SNR=9.5						
JTS	**JuntasAbangare**	**3.45**	**137**	P	**Pn**	**02 39 39.6**	**-0.6**
JTS				*e*Sn	**Sn**	**02 40 16.6**	**-4.3**
JTS				S	**Sn**	**02 40 17.5**	**-3.4**
PRS1	**Puriscal**	**4.11**	**133**	*e*P	**Pn**	**02 39 50.4**	**+1.6**
PRS1				*e*S	**Sn**	**02 40 33.1**	**-3.3**
URSC	**Urasca**	**4.60**	**130**	*e*P	**Pn**	**02 39 58.1**	**+2.8**
BUS	**Buena Vista**	**4.80**	**133**	*e*P	**Pn**	**02 39 59.3**	**+1.3**
BUS				*e*S	**Sn**	**02 40 52.1**	**-0.7**
SDV	**Santo Domingo**	**16.87**	**102**	P	**Pn**	**02 42 36.0**	**+0.5**
	comp=N,0.8nm,0.3s,baz=303,slow=4.4,SNR=7.4						
LPAZ	**La Paz**	**34.62**	**146**	P	**P**	**02 45 23.3**	**-0.3**
	comp=N,0.6nm,0.5s,mb3.5,baz=339,slow=5.0,SNR=7.6						
PDAR	**Pinedale Array**	**35.48**	**331**	P	**P**	**02 45 31.1**	**+0.2**
	comp=N,0.7nm,0.6s,mb3.5,baz=131,slow=8.6,SNR=5.9						
SCHQ	**Schefferville**	**44.87**	**17**	P	**P**	**02 46 47.4**	**-1.0**
	comp=N,2.9nm,0.5s,mb4.2,baz=225,slow=7.3,SNR=11						
YKA	**Yellowknife Ar**	**53.26**	**345**	P	**P**	**02 47 50.4**	**-1.7**
	comp=N,0.4nm,0.6s,mb3.3,baz=140,slow=7.6,SNR=15						
YKA	**Yellowknife Ar**	**53.26**	**345**	P	**P**	**02 47 50.4**	**-1.7**
WRA	**Warramunga Arr**	**139.48**	**254**	PKP	PKPdf	02 57 59.7	+0.8
	comp=N,0.4nm,0.3s,baz=81,slow=1.3,SNR=8.3						
ASAR	**Alice Springs**	**139.51**	**249**	PKP	PKPdf	02 57 59.5	+0.5
	comp=N,0.9nm,0.7s,baz=121,slow=1.6,SNR=10.0						

*IDC **16** 03:03:57.7±1.1, 885S×15779E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.9/15, mbtmp3.9/6, ML4.2/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/18, Error ellipse: s-maj=41.4km s-min=21.8km az=148.0*
*ISCJB **16** 03:04:01.9±0.9, 87S±02×15747E±007, h33km, mb3.9/5, Error ellipse: s-maj=23.8km s-min=10.0km az=179.6*
*NEIC **16** 03:04:02.7±0.8, 905S×15791E, h35km, mb4.0/1, Error ellipse: s-maj=32.3km s-min=14.3km az=161.0*

ISC 16 03:04:03.8±0.9, 87S±02×15749E±007, h35km, n11, σ0°54/10, mb3.9/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.54**	**108**	Pn	**Pn**	**03 04 34.6**	**-8.0**
	67nm,0.3s,baz=258,slow=4.8,SNR=8.8						
HNR				Sn	**Sn**	**03 05 12.2**	**-0.1**
	234nm,0.3s,baz=281,slow=19,SNR=13						
HNR	**Honiara**	**2.54**	**108**	*e*Pn	**Pn**	**03 04 33.8**	**-8.8**
CTA	**Charters Tower**	**15.72**	**223**	LR	LR	03 11 43.2	
	comp=Z,60nm,18.9s,baz=48,slow=30						
WRAB	**Tennant Creek**	**25.03**	**241**	P	**P**	**03 09 24.4**	**-0.1**
	3.8nm,0.8s,mb4.0						
WRA	**Warramunga Arr**	**25.04**	**241**	P	**P**	**03 09 25.0**	**+0.4**
	1.3nm,0.6s,mb3.7,baz=66,slow=9.5,SNR=5.8						
ASAR	**Alice Springs**	**27.06**	**234**	P	**P**	**03 09 42.5**	**-0.3**
	0.6nm,0.8s,baz=60,slow=8.8,SNR=4.5						
STKA	**Stephens Creek**	**27.42**	**210**	P	**P**	**03 09 46.2**	**+0.1**
	2.2nm,0.7s,mb3.8,baz=27,slow=13,SNR=5.7						
STKA	**Stephens Creek**	**27.42**	**210**	*e*P	**P**	**03 09 45.9**	**-0.2**
ILAR	**Eielson Array**	**84.03**	**21**	P	**P**	**03 16 29.8**	**-0.9**
	0.5nm,0.4s,mb4.0,baz=260,slow=5.1,SNR=14						
NVAR	**Mina Array Bea**	**90.81**	**51**	P	**P**	**03 17 04.4**	**+1.0**
	0.6nm,0.8s,mb4.0,baz=233,slow=3.9,SNR=3.9						
BDFB	**Brasilia**	**145.05**	**134**	PKP	PKPdf	03 23 36.6	-0.8
	2.2nm,1.0s,baz=243,slow=4.5,SNR=4.5						

GUC 16 03:07:42.4±0.7, 3510S×7040W, h15km±104km, MD3.5, ML2.5, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.78**	**359**	⇑*i*P	Pg	03 07 56.7	-0.8
CICH				*i* S	Sg	03 08 07.3	-0.4
CACH	**El Canelo**	**0.99**	**350**	*i* P	Pb	03 07 59.9	-1.4
CACH				*

SANT	**Santorini**	**0.80**	**356**	*e*Pg	**Pg**	**03 38 32.5**	**-0.7**
SANT	**Santorini**	**0.80**	**356**	*e*Pn	**Pg**	**03 38 32.8**	**-0.4**
SANT				*e*Sn	**Sg**	**03 38 44.2**	**+0.5**
SANT	**Santorini**	**0.80**	**356**	*e*Pg	**Pg**	**03 38 32.5**	**-0.7**
SANT	**Santorini**	**0.80**	**356**	*e*Pn	**Pg**	**03 38 32.8**	**-0.4**
SANT				*e*Sn	**Sg**	**03 38 44.2**	**+0.5**
THR1	**Thera Island**	**0.80**	**356**	*e*Pg	**Pg**	**03 38 32.8**	**-0.4**
THR1				*e*Sg	**Sg**	**03 38 44.5**	**+0.9**
SIVA	**Sivas**	**0.80**	**226**	*e*Pg	**Pg**	**03 38 32.8**	**-0.5**
SIVA				*e*Sg	**Sg**	**03 38 44.1**	**+0.2**
THR3	**Thira Island,**	**0.84**	**353**	*e*Pg	**Pg**	**03 38 33.4**	**-0.6**
THR3				*e*Sg	**Sg**	**03 38 46.4**	**+1.4**
VAM	**Vamos**	**1.09**	**262**	*e*PB	**Pb**	**03 38 37.5**	**-0.8**
VAM	**Vamos**	**1.09**	**262**	*e*Pb	**Pb**	**03 38 37.3**	**-1.0**
KARP	**Karpathos**	**1.34**	**91**	*e*PB	**Pb**	**03 38 41.3**	**-1.2**
KARP				*e*SN	**Sn**	**03 39 00.2**	**+0.8**
KARP	**Karpathos**	**1.34**	**91**	*e*Pb	**Pb**	**03 38 40.8**	**-1.7**
GVD	**Gavdhos**	**1.38**	**238**	*e*PN	**Pn**	**03 38 43.5**	**+1.0**
GVD				*e*SN	**Sn**	**03 39 00.5**	**0.0**
GVD	**Gavdhos**	**1.38**	**238**	*e*Pn	**Pn**	**03 38 44.0**	**+1.5**
APE	**Apeiranthos**	**1.49**	**0**	*e*Pg	**Pn**	**03 38 44.2**	**+0.3**
APE				*e*Sg	**Sg**	**03 39 04.7**	**-1.1**
APE	**Apeiranthos**	**1.49**	**0**	*e*PN	**Pn**	**03 38 45.5**	**+1.5**
APE	**Apeiranthos**	**1.49**	**0**	*e*Pg	**Pn**	**03 38 44.2**	**+0.2**
APE	**Apeiranthos**	**1.49**	**0**	*e*Pn	**Pn**	**03 38 45.8**	**+1.8**
APE				*e*Sg	**Sg**	**03 39 04.7**	**-1.1**
ARG	**Arkhangelos**	**2.21**	**72**	*e*PN	**Pn**	**03 38 53.5**	**-0.4**
VLI	**Veliai**	**2.38**	**299**	*e*PN	**Pn**	**03 38 55.5**	**-0.7**
VLI	**Veliai**	**2.38**	**299**	*e*Pn	**Pn**	**03 38 55.0**	**-1.2**
AGG	**Agios Georgios**	**4.28**	**324**	*e*Pn	**Pn**	**03 39 22.8**	**+0.5**

ATH ***16*** *03:39:44.8, 3567N×2555E, h20km±4km, MD3.2/7*
NEIC ***16*** *03:39:44.8, 3567N×2555E, h20km, MD3.2(ATH), After ATH.*
THE ***16*** *03:39:46.6, 3558N×2563E, h10km*
ISCJB ***16*** *03:39:47.1±0.5, 3554N±003×2556E±009, h30km±5km, Error ellipse: s-maj=11.9km s-min=4.6km az=174.3*
CSEM ***16*** *03:39:47.4±0.1, 3555N×2562E, h30km, MD3.2, Error ellipse: s-maj=4.5km s-min=2.1km az=92.0*

ISC 16 03:39:47.2±0.5, 3555N±003×2557E±009, h28km±5km, n13, σ0°83/20, 1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.28**	**173**	||*i*P	**Pb**	**03 39 53.0**	**-1.2**
NPS				*e*SB		**Sb**	**03 39 58.8**	**-0.2**
LAST	**Lasithi**	**0.39**	**191**	*e*Pg		**Pb**	**03 39 55.8**	**0.0**
LAST				*e*Sg		**Sb**	**03 40 02.0**	**+0.4**
XRY	**Khrisi**	**0.68**	**171**	*e*PN		**Pn**	**03 40 01.0**	**+0.1**
XRY				*e*SN		**Sn**	**03 40 11.5**	**+1.0**
SIVA	**Sivas**	**0.81**	**230**	*e*Pg		**Pb**	**03 40 02.8**	**+0.1**
SANT	**Santorini**	**0.83**	**354**	*e*Pg		**Pb**	**03 40 02.6**	**-0.4**
SANT				*e*Sg		**Sb**	**03 40 14.5**	**+0.7**
THR1	**Thera Island**	**0.83**	**354**	*e*Pg		**Pb**	**03 40 02.6**	**-0.4**
THR1				*e*Sg		**Sb**	**03 40 14.3**	**+0.6**
THR3	**Thira Island,**	**0.87**	**351**	*e*Pg		**Pn**	**03 40 03.1**	**-0.5**
THR3				*e*Sg		**Sb**	**03 40 16.1**	**+1.1**
VAM	**Vamos**	**1.13**	**263**	*e*PN		**Pn**	**03 40 06.1**	**-1.0**
KARP	**Karpathos**	**1.30**	**89**	*e*PN		**Pn**	**03 40 09.6**	**+0.2**
GVD	**Gavdhos**	**1.40**	**240**	*e*Pg		**Pn**	**03 40 12.8**	**+1.9**
GVD				*e*Sg		**Sn**	**03 40 33.8**	**+5.3**
GVD	**Gavdhos**	**1.40**	**240**	*e*Pn		**Pn**	**03 40 13.5**	**+2.6**
APE	**Apeiranthos**	**1.52**	**359**	*e*PN		**Pn**	**03 40 11.5**	**-1.0**
VLI	**Veliai**	**2.43**	**300**	*e*PN		**Pn**	**03 40 24.0**	**-1.1**

IDC 16 03:57:13.4±2.1, 484N×9374E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/18, mbtmp3.7/3, Error ellipse: s-maj=114.0km s-min=30.2km az=50.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**42.95**	**348**	P	P	P	04 05 14.1	0.0
	0.7nm,0.6s,baz=167,slow=9.2,SNR=9.8							
WRA	**Warramunga Arr**	**46.90**	**123**	P	P	P	04 05 46.0	+0.4
	1.6nm,0.8s,baz=301,slow=9.4,SNR=6.4							
GERES	**GERESS Array B**	**79.81**	**319**	P	P	P	04 09 24.0	+0.4
	0.3nm,0.5s,baz=108,slow=6.3,SNR=4.6							

JMA 16 04:29:08.0±0.3, 4409N×14807E, h0km, M4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.84**	**248**	P	P	Pn	04 29 41.0	+0.2
NEM2				*e*S		Sn	04 30 04.8	+0.1
JNK	**Nakash**	**2.48**	**259**	P	P	Pn	04 29 50.4	+0.8
JNK				*e*S		Sn	04 30 21.5	+1.0
JAK	**Akkeshi**	**2.69**	**247**	P	P	Pn	04 29 53.2	+0.7
JAK				*e*S		Sn	04 30 26.3	+0.6
JAR	**Ashorobuto**	**3.22**	**257**	P	P	Pn	04 30 01.3	+1.5
JAR				*e*S		Sn	04 30 40.0	+1.2
JCH	**Churui**	**3.74**	**248**	P	P	Pn	04 30 08.9	+2.0
JNBK	**Urakawa-nobuka**	**4.29**	**247**	P	P	Pn	04 30 16.2	+1.7
JKB	**Kayabe**	**5.61**	**249**	P	P	Pn	04 30 34.1	+1.4
JKB				*e*S		Sn	04 31 38.3	+0.5
JOT	**Ohata**	**5.84**	**245**	P	P	Pn	04 30 36.7	+0.9
JOT				*e*S		Sn	04 31 42.8	-0.6

ISCJB ***16*** *04:49:54.6±0.6, 2143S±006×685W±0.1, h133km±9km, mb3.3/2, Error ellipse: s-maj=20.9km s-min=7.9km az=34.0*
IDC ***16*** *04:49:55.8±0.7, 2136S×6846W, h116km±10km, mb3.3/3, mb1 3.3/5, mb1mx3.2/14, mbtmp3.6/5, Error ellipse: s-maj=30.2km s-min=11.3km az=101.0*
GUC ***16*** *04:49:55.9±0.8, 2167S×6871W, h153km±9km, MD3.6, ML3.3*
NEIC ***16*** *04:49:55.9, 2167S×6871W, h153km, MG3.3(GUC), After GUC.*

ISC 16 04:49:55.6±0.6, 2144S±006×685W±01, h128km±9km, n12, σ1°48/18, mb3.4/2, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.23**	**198**	*e*P		**Pn**	**04 50 21.2**	**+0.6**
LVC				*i* S		**Sn**	**04 50 41.4**	**+1.8**
LVC				AML	AML		04 50 43.1	
	comp=E,426nm,0.5s							
LVC	**Limon Verde**	**1.23**	**198**	P		**Pn**	**04 50 21.8**	**+1.2**
	comp=E,14nm,0.3s,baz=12,slow=9.1,SNR=321							
LVC				S		**Sn**	**04 50 40.3**	**+0.7**
	comp=E,59nm,0.3s,baz=109,slow=23,SNR=64							
CEN1	**Los Morros**	**2.50**	**219**	*e*P		**Pn**	**04 50 37.1**	**+1.4**
CEN1				*i* S		**Sn**	**04 51 08.5**	**+2.0**
CEN1				AML	AML		04 51 15.6	
	comp=N,160nm,1.0s							
ANCH	**Antofagasta**	**2.85**	**218**	*e*P		**Pn**	**04 50 38.9**	**-1.2**
ANCH				*i* S		**Sn**	**04 51 11.5**	**-3.0**
CPN1	**Cerro Paranal**	**3.63**	**209**	*e*P		**Pn**	**04 50 50.2**	**-0.2**
CPN1				*i* S		**Sn**	**04 51 30.5**	**-2.2**
LPAZ	**La Paz**	**5.13**	**4**	P		**Pn**	**04 51 10.1**	**-0.3**
	comp=N,0.7nm,0.3s,baz=186,slow=5.1,SNR=25							
LPAZ				S		**Sn**	**04 52 08.6**	**-0.1**
	comp=N,0.2nm,0.3s,baz=262,slow=24,SNR=2.9							
SIV	**San Ignacio**	**8.88**	**54**	P		**Pn**	**04 51 58.3**	**-2.6**
	comp=N,0.7nm,0.3s,baz=251,slow=12,SNR=25							
CFAA	**Coronel Fontan**	**10.13**	**179**	P		**Pn**	**04 52 16.6**	**-1.0**
	comp=N,0.0nm,0.3s,baz=351,slow=13,SNR=5.4							
CFAA				S		**Sn**	**04 54 05.2**	**-4.2**
	comp=N,0.1nm,0.3s,baz=246,slow=20,SNR=5.1							
BDFB	**Brasilia**	**20.25**	**77**	P		**P**	**04 54 22.7**	**+1.9**
	comp=N,1.6nm,0.4s,baz=311,slow=6.9,SNR=7.5							
TORD	**Torodi Ar. Bea**	**76.97**	**70**	P		**P**	**05 01 35.5**	**+1.5**
	comp=N,0.5nm,0.5s,mb3.5,baz=253,slow=5.1,SNR=17							
YKA	**Yellowknife Ar**	**91.26**	**340**	P		**P**	**05 02 46.4**	**0.0**
	comp=N,0.2nm,0.7s,mb3.4,baz=132,slow=4.2,SNR=6.3							
MKAR	**Makanchi Array**	**145.36**	**36**	PKPbc	PKPbc	PKPbc	05 09 19.8	+1.5
	comp=N,0.7nm,0.7s,baz=320,slow=3.6,SNR=9.6							

IDC 16 04:51:38.9±2.6, 1517S×6561E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/17, mbtmp3.6/3, Error ellipse: s-maj=103.3km s-min=36.4km az=50.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**63.48**	**13**	P	P	P	05 02 10.6	-0.2
	0.3nm,0.4s,baz=194,slow=5.5,SNR=4.7							
ASAR	**Alice Springs**	**64.45**	**109**	P	P	P	05 02 17.4	+0.2
	0.6nm,0.8s,baz=270,slow=6.1,SNR=7.7							
WRA	**Warramunga Arr**	**65.31**	**105**	P	P	P	05 02 23.9	+1.2
	1.2nm,1.0s,baz=268,slow=5.9,SNR=6.9							
PDAR	**Pinedale Array**	**152.19**	**352**	PKP	PKPdf		05 11 27.6	-2.2
	0.2nm,0.4s,baz=68,slow=3.2,SNR=2.6							
PDAR				PKPbc	PKPbc		05 11 38.2	+1.8
	0.5nm,0.6s,baz=28,slow=2.1,SNR=3.9							

IDC 16 04:56:19.6±17.0, 2205S×17966W, h481km±129km, mb3.1/4, mb1 3.3/5, mb1mx3.1/13, mbtmp4.1/5, Error ellipse: s-maj=193.9km s-min=27.1km az=41.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.39**	**189**	P	P	P	04 59 45.0	+0.4
	1.4nm,0.3s,baz=40,slow=6.5,SNR=6.3							
STKA	**Stephens Creek**	**35.73**	**246**	P	P	P	05 02 36.0	-0.7
	2.7nm,0.5s,baz=94,slow=10,SNR=7.7							
ASAR	**Alice Springs**	**42.67**	**259**	P	P	P	05 03 33.6	+0.7
	2.1nm,0.8s,baz=100,slow=7.4,SNR=15							
WRA	**Warramunga Arr**	**42.87**	**264**	P	P	P	05 03 34.8	+0.3
	0.5nm,0.3s,baz=95,slow=8.3,SNR=19							
VNDA	**Vanda**	**56.24**	**185**	P	P	P	05 05 12.6	-0.7
	0.9nm,0.7s,baz=340,slow=6.1,SNR=5.5							

ISCJB ***16*** *05:53:10.3±0.7, 143S±01×668E±01, h10km, mb4.3/9, MS4.0/4, Error ellipse: s-maj=21.0km s-min=15.7km az=176.7*
IDC ***16*** *05:53:10.6±0.8, 1421S×6681E, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.0/19, mbtmp4.0/8, ML3.7/1, MS3.9/4, Ms1 3.9/4, ms1mx3.5/12, Error ellipse: s-maj=27.6km s-min=21.4km az=16.0*
MOS ***16*** *05:53:11.1±1.1, 1424S×6690E, h10km, mb4.9/3, Error ellipse: s-maj=27.2km s-min=23.6km az=123.5*
NEIC ***16*** *05:53:12.3±0.5, 1437S×6676E, h10km, mb4.7/3, Error ellipse: s-maj=19.6km s-min=14.9km az=177.0*

ISC 16 05:53:12.6±0.7, 143S±01×667E±01, h10km, n36, σ1°96/17, mb4.3/9, MS4.0/4, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**19.20**	**255**	P	P	**Pn**	**05 57 36.0**	**-1.5**
	0.3nm,0.3s,baz=54,slow=1.7,SNR=4.1							
LBTB	**Lobatse**	**40.02**	**248**	P	P	**P**	**06 00 49.3**	**+1.6**
	2.7nm,0.8s,mb4.0,baz=60,slow=8.1,SNR=6.2							
LBTB	**Lobatse**	**40.02**	**248**	*e*P	P	**P**	**06 00 48.8**	**+1.1**
LBTB				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.1							
LBTB	**Lobatse**	**40.02**	**248**	*e*P	P	**P**	**06 00 48.8**	**+1.1**
	comp=Z,2.8nm,0.7s,mb4.1							
MAW	**Mawson**	**53.32**	**182**	LR	LR		06 19 08.3	
	comp=Z,202nm,20.3s,MS4.2,baz=62,slow=29							
BRTR	**Keskin Array B**	**61.95**	**332**	P	P	**P**	**06 03 34.0**	**+1.4**
	comp=Z,0.4nm,0.5s,mb3.8,baz=90,slow=4.9,SNR=3.8							
BRTR	**Keskin Array B**	**61.95**	**332**	P	P	**P**	**06 03 34.0**	**+1.4**
MKAR	**Makanchi Array**	**62.40**	**12**	P	P	**P**	**06 03 34.7**	**-0.9**
	comp=Z,1.6nm,1.0s,mb4.1,baz=206,slow=8.1,SNR=8.3							
MKAR	**Makanchi Array**	**62.40**	**12**	P	P	**P**	**06 03 34.7**	**-0.9**
ASAR	**Alice Springs**	**63.73**	**110**	P	P	**P**	**06 03 44.5**	**0.0**
	comp=Z,2.2nm,0.9s,mb4.2,baz=264,slow=6.2,SNR=13							
WRA	**Warramunga Arr**	**64.51**	**105**	P	P	**P**	**06 03 49.7**	**+0.1**
	comp=Z,4.7nm,0.9s,mb4.5,baz=268,slow=5.8,SNR=21							
WRAB	**Tennant Creek**	**64.52**	**105**	*e*P	P	**P**	**06 03 49.7**	**0.0**
WRAB				pmax	pmax			
	comp=Z,14nm,1.0s,mb5.0							
WRAB	**Tennant Creek**	**64.52**	**105**	*e*P	P	**P**	**06 03 49.7**	**0.0**
	comp=Z,14nm,1.0s,mb5.0							
ZRNK	**Zerenda**	**67.00**	**2**	*e*P	P	**P**	**06 04 06.8**	**+1.2**
ZRNK				pmax	pmax			
	comp=Z,7.0nm,1.1s,mb4.6							
ZRNK	**Zerenda**	**67.00**	**2**	*e*P	P	**P**	**06 04 06.8**	**+1.1**
	comp=Z,7.1nm,1.1s,mb4.6							
ZAL	**Zalesovo**	**69.70**	**11**	P	P	**P**	**06 04 20.8**	**-1.8**
	comp=Z,1.2nm,0.3s,mb4.3,baz=315,slow=10.0,SNR=2.0							
ZAL				LR	LR		06 33 53.8	
	comp=Z,112nm,19.8s,MS4.1,baz=267,slow=35							
STKA	**Stephens Creek**	**69.88**	**119**	LR	LR		06 29 27.8	
	comp=Z,52nm,20.7s,MS3.8,baz=300,slow=31							
NVS	**Novosibirsk**	**70.28**	**10**	*e*P	P	**P**	**06 04 21.7**	**-4.4**
GERES	**GERESS Array B**	**78.40**	**327**	P	P	**P**	**06 05 13.6**	**+0.2**
	comp=Z,0.3nm,0.2s,mb3.8,baz=160,slow=3.1,SNR=3.2							
ARCES	**ARCESS Array B**	**88.46**	**347**	LR	LR		06 45 46.4	
	comp=Z,36nm,18.1s,MS3.8,baz=126,slow=36							
ILAR	**Eielson Array**	**124.59**	**17**	PKP	PKPdf		06 12 10.7	-1.6
	comp=Z,0.9nm,0.9s,baz=313,slow=1.8,SNR=4.1							
YKA	**Yellowknife Ar**	**131.86**	**1**	PKP	PKPdf		06 12 25.2	-0.9
	comp=Z,0.3nm,0.7s,baz=344,slow=2.2,SNR=5.8							
NEW	**Newport**	**145.98**	**5**	*e*PKP2	PKPab		06 12 52.9	-0.2
LAO	**LASA Array**	**147.17**	**351**	*e*PKPab	PKPab		06 12 58.4	+0.7
CHMT	**Chamberlain Mo**	**147.48**	**360**	*e*PKPdf	PKPdf		06 12 53.2	-1.1
MSO	**Missoula**	**147.56**	**1**	*e*PKPbc	PKPbc		06 12 58.3	+1.2
GCMT	**Greycliff**	**148.46**	**355**	*e*PKPdf	PKPdf		06 12 53.8	-2.2
GCMT				*e*PKPbc	PKPbc		06 12 59.2	-0.3
DLMT	**Dillon**	**149.03**	**359**	*e*PKPbc	PKPbc		06 13 01.6	+0.7
RSSD	**Black Hills**	**149.24**	**347**	*e*PKP2	PKPbc		06 13 02.3	+0.8
QLMT	**Earthquake Lak**	**149.53**	**357**	*e*PKPbc	PKPbc		06 13 02.7	+0.5
MOOW	**Moose Ponds**	**150.57**	**356**	*e*PKPbc	PKPbc		06 13 06.4	+1.7
HLID	**Hailey**	**150.82**	**2**	*e*PKPbc	PKPbc		06 13 06.8	+1.5
HLID				*e*PKPab	PKPab		06 13 12.5	+0.1
TPAW	**Teton Pass**	**150.84**	**357**	*e*PKPbc	PKPbc		06 13 07.2	+1.8
TPAW				*e*PKPab	PKPab		06 13 13.6	+1.1
REDW	**Red Top Meadow**	**150.96**	**356**	*e*PKPbc	PKPbc		06 13 07.4	+1.8
REDW				*e*PKPab	PKPab		06 13 14.0	+1.0
PDAR	**Pinedale Array**	**151.45**	**354**	PKPbc	PKPbc		06 13 06.0	-0.8
	comp=Z,1.6nm,0.8s,baz=38,slow=2.6,SNR=8.9							
PDAR				PKPab	PKPab		06 13 13.4	-1.6
	comp=Z,2.5nm,0.8s,baz=38,slow=2.6,SNR=12							
WVOR	**Wild Horse Val**	**151.58**	**8**	*e*PKIKP	PKPbc		06 13 08.3	+1.2

ISCJB ***16*** *06:05:57.8±0.5, 3454N±004×14025E±005, h77km±4km, mb3.7/5, Error ellipse: s-maj=7.2km s-min=5.8km az=117.5*
JMA ***16*** *06:05:58.1±0.2, 3455N×14023E, h71km±2km, M4.0 Broadband fault plane solution: P waves. NP1: φs86.00000°, δ5.00000°, λ169.00000°. NP2:φs187.00000°, δ89.00000°, λ85.00000°. Principal axes: T Plg46.0000°, Azm92.0000°; N Plg5.0000°, Azm187.0000°; P Plg44.0000°, Azm282.0000°;*
JMA Felt I J1.
MOS ***16*** *06:05:58.8±0.3, 3452N×14006E, h92km, mb4.2/2 Error ellipse: s-maj=54.0km s-min=26.6km az=103.3*
IDC ***16*** *06:05:59.7±1.5, 3453N×14023E, h79km±14km, mb3.4/5, mb1 3.7/7, mb1mx3.5/21, mbtmp3.9/7, Error ellipse: s-maj=29.3km s-min=6.8km az=76.0*
NIED ***16*** *06:06:00, 3450N×14030E, h68km, Mw3.8 Best double couple: Mo6.01000×10^14 NP1:φs181.00000°, δ81.00000°, λ74.00000°. NP2:φs61.00000°, δ18.00000°, λ149.00000°.*

ISC 16 06:05:58.9±0.5, 3454N±004×14023E±005, h70km±4km, n27, σ0°72/38, mb3.7/5, 7C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.35**	**42**	||P	**Pn**	**06 06 09.6**	**-0.8**
BSO3				S		**Sn**	**06 06 19.1**	**+0.3**
BSO4	**Boso 4**	**0.46**	**12**	||P	**Pn**	**06 06 10.8**	**-0.5**
BSO4				S		**Sn**	**06 06 20.8**	**+0.5**
BSO2	**Boso 2**	**0.48**	**64**	S		**Sn**	**06 06 21.7**	**+0.9**
TATJ	**Tateyama 2**	**0.56**	**331**	↑P		**Pn**	**06 06 12.3**	**0.0**
TATJ				S		**Sn**	**06 06 23.2**	**+1.1**
KTR	**Katsuura**	**0.61**	**7**	P		**Pn**	**06 06 12.1**	**-0.7**
KTR				S		**Sn**	**06 06 22.4**	**-0.6**
BSO1	**Boso 1**	**0.63**	**80**	||P	**Pn**	**06 06 12.0**	**-1.0**
JIM2	**Oshima 3**	**0.68**	**285**	↑P		**Pn**	**06 06 12.9**	**-0.6**
JIM2				S		**Sn**	**06 06 23.4**	**-0.9**
JMY	**Miyakejima3**	**0.76**	**232**	P		**Pn**	**06 06 14.8**	**+0.4**
JKO	**Kozu shima**	**0.97**	**249**	P		**Pn**	**06 06 17.2**	**+0.2**
KTJJ	**Kamata 2**	**1.03**	**292**	↑P		**Pn**	**06 06 16.9**	**-0.8**
KTJJ				S		**Sn**	**06 06 30.5**	**-1.3**
JIZS	**Izushimoda**	**1.12**	**279**	↑P		**Pn**	**06 06 18.6**	**-0.3**
JOD2	**Odawara 2**	**1.18**	**308**	↑P		**Pn**	**06 06 18.8**	**-0.8**
JOD2				S		**Sn**	**06 06 34.1**	**-1.0**
JHJ	**Hachijo jima 2**	**1.47**	**195**	P		**Pn**	**06 06 23.9**	**+0.6**
	207nm,0.3s,baz=104,slow=1.4,SNR=53							
JHJ				S		**Sn**	**06 06 42.8**	**+1.0**
	287nm,0.3s,baz=248,slow=22,SNR=17							
JHJ2	**Mitsune**	**1.47**	**194**	↑P		**Pn**	**06 06 23.9**	**+0.5**
JYN	**Shimob**	**1.68**	**305**	↑P		**Pn**	**06 06 26.3**	**+0.1**
SHZ3	**Shizuoka 3**	**1.74**	**288**	P		**Pn**	**06 06 28.0**	**+1.0**
MJAR	**Matsushiro Arr**	**2.58**	**321**	P		**Pn**	**06 06 38.9**	**+0.5**
	22nm,0.3s,baz=154,slow=12,SNR=86							
MJAR				S		**Sn**	**06 07 10.2**	**+1.4**
	27nm,0.3s,baz=46,slow=37,SNR=16							
MJAR	**Matsushiro Arr**	**2.58**	**321**	P		**Pn**	**06 06 38.9**	**+0.5**
MJAR				S		**Sn**	**06 07 10.2**	**+1.4**
MJAR				pmax	pmax			
	comp=Z,22nm,0.3s							
MJAR				smax				
	comp=N,27nm,0.3s							
MAT	**Matsushiro**	**2.59**	**321**	P		**Pn**	**06 06 39.2**	**+0.8**
MAT				S		**Sn**	**06 07 09.9**	**+1.1**
CBIJ	**Chichi jima**	**7.61**	**167**	P		**Pn**	**06 07 46.4**	**-0.6**
	comp=N,3.9nm,0.3s,baz=343,slow=16,SNR=3.2							
MKAR	**Makanchi Array**	**44.67**	**304**	P	P	**P**	**06 14 04.7**	**0.0**
	comp=N,0.8nm,0.4s,mb3.8,baz=85,slow=9.5,SNR=17							
MKAR	**Makanchi Array**	**44.67**	**304**	P	P	**P**	**06 14 04.7**	**+0.1**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ILAR	**Eielson Array**	**52.12**	**31**	P	P	**P**	**06 15 01.8**	**-0.1**
	comp=Z,0.4nm,0.8s,mb3.5,baz=287,slow=5.9,SNR=4.4							
WRA	**Warramunga Arr**	**54.47**	**187**	P	P	**P**	**06 15 18.7**	**-0.5**
	comp=Z,2.2nm,0.7s,mb4.3,baz=3.2,slow=7.7,SNR=22							
WRA	**Warramunga Arr**	**54.47**	**187**	P	P	**P**	**06 15 18.7**	**-0.5**
WRA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
ASAR	**Alice Springs**	**58.20**	**187**	P	P	**P**	**06 15 45.8**	**+0.1**
	comp=Z,0.3nm,0.3s,mb3.8,baz=355,slow=5.4,SNR=5.7							
YKA	**Yellowknife Ar**	**66.45**	**29**	P	P	**P**	**06 16 40.6**	**-0.2**
	comp=Z,0.3nm,0.8s,mb3.1,baz=298,slow=6.6,SNR=4.3							

NEIC ***16*** *06:20:40.7, 3762S×17942E, h12km, ML4.0(WEL), After WEL.*

WEL 16 06:20:41.4±0.4, 3763S×17937E, h12km, ML3.9/6, Error ellipse: s-maj=3.3km s-min=2.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.84**	**274**	P*		Pb	06 20 57.0	-1.0
MXZ				S*		Sb	06 21 08.3	-1.0
PUZ	**Puketiti**	**0.98**	**243**	P*		Pb	06 20 59.7	-0.7
PUZ				S*		Sb	06 21 13.0	-0.4
PUZ	**Puketiti**	**0.98**	**243**	P		Pb	06 20 59.7	-0.7
PUZ				S		Sg	06 21 13.0	-0.2
MWZ	**Matawai**	**1.62**	**243**	PN		Pn	06 21 08.0	-1.7
MWZ				SN		Sn	06 21 27.4	-3.0
MWZ	**Matawai**	**1.62**	**243**	*e*P		Pn	06 21 08.2	-1.5
URZ	**Urewera**	**1.89**	**250**	PN		Pn	06 21 12.9	-0.7
URZ				SN		Sn	06 21 35.7	-1.6
URZ	**Urewera**	**1.89**	**250**	P		Pn	06 21 12.9	-0.6
KNZ	**Kokohu**	**1.93**	**223**	PN		Pn	06 21 12.2	-1.7
KNZ	**Kokohu**	**1.93**	**223**	*e*P		Pn	06 21 12.2	-1.8
TAZ	**Tarawera**	**2.34**	**254**	PN		Pn	06 21 18.9	-0.8
TAZ	**Tarawera**	**2.34**	**254**	P		Pn	06 21 18.9	-0.8
BKZ	**Black Stump Fm**	**2.73**	**235**	PN		Pn	06 21 23.6	-1.5
BKZ	**Black Stump Fm**	**2.73**	**235**	P		Pn	06 21 23.6	-1.5
KUZ	**Kuaotunu**	**3.04**	**286**	PN		Pn	06 21 27.3	-2.0
KUZ	**Kuaotunu**	**3.04**	**286**	*e*P		Pn	06 21 27.3	-2.0
PXZ	**Pawanui**	**3.10**	**218**	PN		Pn	06 21 26.9	-3.2
KRVZ	**Karewarewa**	**3.27**	**242**	PN		Pn	06 21 31.0	-1.5
MOVZ	**Moawhango**	**3.35**	**237**	PN		Pn	06 21 31.7	-1.8
MOVZ	**Moawhango**	**3.35**	**237**	P		Pn	06 21 31.7	-1.8
WPVZ	**Whakapapa**	**3.39**	**241**	PN		Pn	06 21 32.7	-1.5
WPVZ	**Whakapapa**	**3.39**	**241**	P		Pn	06 21 32.7	-1.4
WNVZ	**Wahianoa**	**3.41**	**239**	PN		Pn	06 21 32.5	-1.9
**WNVZ

CLL	**Collm**	**149.20**	**346**	*i* PKPbc	PKPbc	07 00 54.9	-0.1
	comp=Z,9.0nm,1.2s							
GERES	**GERESS Array B**	**151.32**	**344**	PKPbc	PKPbc	07 00 59.0	-1.0
	comp=Z,0.9nm,0.4s,baz=8.5,slow=2.7,SNR=6.8							
TORD	**Torodi Ar. Bea**	**171.50**	**179**	PKPab	PKPab	07 02 37.4	-0.4
	comp=Z,0.5nm,0.6s,baz=184,slow=3.3,SNR=5.7							

IDC 16 07:11:38.4±2.0, 4390S×9869E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/10, mbtmp3.8/3, Error ellipse: s-maj=122.2km s-min=45.7km az=160.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**35.18**	**67**	P		P	07 18 34.5	+0.5
	0.6nm,0.8s,baz=224,slow=7.0,SNR=6.6							
STKA	**Stephens Creek**	**35.55**	**85**	P		P	07 18 37.2	0.0
	1.2nm,0.6s,baz=274,slow=12,SNR=3.8							
WRA	**Warramunga Arr**	**38.10**	**63**	P		P	07 18 58.6	-0.3
	1.3nm,0.5s,baz=223,slow=8.5,SNR=16							
NVAR	**Mina Array Bea**	**151.78**	**88**	PKP		PKPdf	07 31 27.7	-1.0
	0.2nm,0.4s,baz=207,slow=5.0,SNR=2.8							
NVAR						PKPbc	07 31 34.8	-0.2
	0.5nm,0.6s,baz=232,slow=6.8,SNR=5.0							
YKA	**Yellowknife Ar**	**153.19**	**34**	PKPbc		PKPbc	07 31 37.1	-1.0
	0.1nm,0.5s,baz=300,slow=2.3,SNR=4.5							

IDC 16 07:14:52.4±2.2, 2036S×17472W, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.9/15, mbtmp3.9/4, ML2.1/1, MS3.6/1, Ms1 3.6/1, ms1mx2.6/22, Error ellipse: s-maj=88.7km s-min=23.3km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.01**	**24**	Pn		Pn	07 16 37.7	+1.5
	2.0nm,0.3s,baz=258,slow=20,SNR=3.7							
AFI				Sn		Sn	07 17 56.3	-0.3
	2.4nm,0.3s,baz=59,slow=21,SNR=2.9							
TBI	**Tubuai**	**23.62**	**102**	*e*LR		LR	07 25 08.2	
	108nm,28.8s							
PPT	**Papeete**	**23.93**	**88**	*e*LR		LR	07 25 13.9	
	68nm,21.2s,baz=253							
PPT	**Papeete**	**23.93**	**88**	LR		LR	07 28 33.5	
	comp=Z,149nm,18.5s,baz=215,slow=34							
RKT	**Rikitea**	**36.95**	**102**	*e*LR		LR	07 31 18.4	
	105nm,29.5s							
ASAR	**Alice Springs**	**47.54**	**256**	P		P	07 23 29.6	+0.1
	1.3nm,0.6s,baz=100,slow=7.4,SNR=22							
WRA	**Warramunga Arr**	**47.66**	**261**	P		P	07 23 31.2	+0.8
	0.8nm,0.7s,baz=98,slow=8.0,SNR=6.0							
NVAR	**Mina Array Bea**	**78.84**	**42**	P		P	07 26 57.5	+0.2
	1.0nm,0.9s,baz=234,slow=12,SNR=6.5							

ISC 16 07:21:37.6±0.6, 3971N±003×3110E±005, h10km, n7, σ1§12/14, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ESKT	**Eskisehir**	**0.27**	**227**	*i* P		**Pg**	**07 21 42.4**	**-0.6**
ESKT				*i* S		**Sg**	**07 21 47.3**	**+0.7**
BORA	**Eskisehir**	**0.53**	**290**	*i* P		**Pg**	**07 21 46.0**	**-1.8**
BORA				*i* S		**Sg**	**07 21 54.3**	**-0.6**
MDU	**Mudurnu**	**0.77**	**6**	*e*PG		**Pg**	**07 21 50.7**	**-1.6**
MDU				*e*SG		**Sg**	**07 22 02.2**	**-0.2**
KIZT	**Kizilcal**	**1.02**	**143**	*e*PG		**Pg**	**07 21 57.3**	**+0.1**
KIZT				*e*SG		**Sg**	**07 22 10.4**	**-0.1**
HENT	**Hendek**	**1.13**	**352**	*i* P		**Pb**	**07 21 59.0**	**-0.2**
HENT				*i* S		**Sb**	**07 22 14.6**	**+0.7**
SGKT	**Sivrigoynuk**	**1.14**	**40**	*i* P		**Pb**	**07 21 58.1**	**-1.2**
SGKT				*i* S		**Sb**	**07 22 16.5**	**+2.4**
ULDT	**Uludag**	**1.57**	**287**	*i* P		**Pn**	**07 22 06.7**	**+1.2**
ULDT				*i* S		**Sn**	**07 22 27.7**	**+1.8**

*NIED **16** 07:23:00, 32.70N×132.90E, h17km, Mw3.4 Best double couple: M0 1.55000×10^14 NP1:φs 131.00000°, δ81.00000°, λ-163.00000°. NP2:φs 38.00000°, δ73.00000°, λ-10.00000°.*

JMA 16 07:23:03.8±0.1, 3268N×13290E, h26km±1km, M3.6, 1C-5D, Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JTO	**Tosashimizu**	**0.20**	**335**	↓P		Pb	07 23 09.5	0.0
JTO				S		Sb	07 23 13.0	-0.4
UWA2	**Uwa jima 2**	**0.58**	**337**	↓P		Pb	07 23 15.3	-0.1
UWA2				S		Sb	07 23 23.1	-0.2
JKU	**Kubokawa**	**0.64**	**12**	↓P		Pb	07 23 16.4	0.0
JKU				S		Sb	07 23 25.0	0.0
JNA	**Nagahama**	**0.94**	**338**	↓P		Pn	07 23 20.8	-0.6
JNA				S		Sb	07 23 32.8	-0.8
JUS	**Usuki**	**1.04**	**292**	↑P		Pn	07 23 22.0	-0.7
JUS				S		Sb	07 23 36.7	+0.3
JET	**Tanbara**	**1.10**	**6**	↓P		Pn	07 23 23.0	-0.5
JET				S		Sn	07 23 37.7	-0.2

IDC 16 07:36:16.4±7.1, 7433S×12925E, h171km±72km, mb3.1/1, mb1 2.9/4, mb1mx2.8/14, mbtmp3.3/4, Error ellipse: s-maj=72.0km s-min=32.4km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.18**	**198**	P		Pn	07 38 52.3	+1.0
	0.2nm,0.3s,baz=340,slow=23,SNR=8.9							
FITZ				S		Sn	07 40 55.3	0.0
	0.2nm,0.3s,baz=88,slow=22,SNR=3.5							
WRA	**Warramunga Arr**	**13.38**	**159**	P		Pn	07 39 17.9	-1.7
	0.2nm,0.3s,baz=328,slow=13,SNR=5.6							
WRA				S		Sn	07 41 40.8	-7.3
	0.3nm,0.3s,baz=330,slow=22,SNR=6.0							
ASAR	**Alice Springs**	**16.75**	**165**	P		Pn	07 40 01.9	+0.9
	0.1nm,0.3s,baz=342,slow=9.4,SNR=8.1							
ASAR				S		S	07 43 07.0	+0.6
	0.1nm,0.3s,baz=342,slow=24,SNR=3.4							
MKAR	**Makanchi Array**	**68.18**	**327**	P		P	07 46 58.1	0.0
	0.2nm,0.5s,baz=124,slow=7.3,SNR=4.1							

*ISCJB **16** 07:38:52.6±0.8, 4042N±002×844W±006, h3km±5km, Error ellipse: s-maj=7.6km s-min=3.3km az=19.8*
*INMG **16** 07:38:54.8±1.6, 4043N×841W, h5km±6km, ML1.9, Error ellipse: s-maj=5.3km s-min=3.6km az=109.0*
*MDD **16** 07:38:55.0±0.6, 4043N×838W, h6km±5km, mbLg1.9/10, Error ellipse: s-maj=5.7km s-min=2.7km az=101.0, PRIMO*

ISC 16 07:38:53.7±0.7, 4042N±002×842W±006, h8km±4km, n17, σ0§91/35, Portugal

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PVIS	**Viseu**	**0.50**	**54**	*e*Pg		**Pg**	**07 39 04.3**	**+1.0**
PVIS				*e*Sg		**Sg**	**07 39 10.3**	**+0.5**
PVIS								
	52nm,0.1s							
MTE	**Manteigas**	**0.67**	**92**	*e*Pg		**Pg**	**07 39 07.2**	**+0.6**
MTE				*e*Sg		**Sg**	**07 39 16.2**	**+0.9**
MTE								
	24nm,0.4s							
PTOM	**Tomar**	**0.80**	**180**	*e*P		**Pg**	**07 39 10.1**	**+0.9**
PTOM				*e*S		**Sg**	**07 39 21.0**	**+1.4**
PTOM								
	38nm,0.1s							
PCBR	**Castelo Branco**	**0.93**	**129**	*e*P		**Pg**	**07 39 12.0**	**+0.5**
PCBR				*e*S		**Sg**	**07 39 24.2**	**+0.6**
PCBR								
	17nm,0.2s							
PVRL	**Vila Real**	**1.01**	**32**	*e*P		**Pg**	**07 39 13.3**	**+0.3**
PVRL				*e*S		**Sg**	**07 39 26.4**	**+0.3**
PVRL								
	41nm,0.1s							
PCAB	**Cabril**	**1.32**	**13**	*e*P		**Pn**	**07 39 18.7**	**+0.3**
PCAB				*e*S		**Sb**	**07 39 35.8**	**+0.1**
PCAB								
	17nm,0.2s							
ELOB	**Lobios**	**1.47**	**11**	Pn		**Pn**	**07 39 20.6**	**+0.2**
	0.7nm,0.1s,SNR=7.6							
ELOB				Sn		**Sn**	**07 39 40.1**	**+0.3**
	7.9nm,0.1s,SNR=24							
EZAM	**Zamans**	**1.74**	**353**	Pn		**Pn**	**07 39 25.2**	**+1.1**
	1.7nm,0.1s,SNR=7.9							
EZAM				Sn		**Sn**	**07 39 46.5**	**+0.1**
	3.1nm,0.2s,SNR=7.9							
PBRG	**Braganca**	**1.88**	**42**	*e*Pg		**Pg**	**07 39 29.0**	**-0.6**
PBRG				*e*Sn		**Sn**	**07 39 49.1**	**-0.7**
PBRG				*e*Sg		**Sg**	**07 39 52.7**	**-1.3**
PBRG								
	4.8nm,0.3s							
PBRG	**Braganca**	**1.88**	**42**	Pg		**Pg**	**07 39 29.0**	**-0.6**
PBRG				Sn		**Sn**	**07 39 49.1**	**-0.7**
PBRG				Lg			07 39 52.7	
	2.4nm,0.3s							
MOE	**Montemor**	**1.90**	**178**	*e*Pg		**Pg**	**07 39 29.2**	**-0.9**
MOE				*e*Sn		**Sn**	**07 39 51.2**	**+0.8**
MOE				*e*Sg		**Sg**	**07 39 54.6**	**-0.1**
ECAL	**Calabor**	**1.98**	**39**	Pn		**Pn**	**07 39 26.8**	**-0.6**
	0.4nm,0.2s,SNR=7.9							
ECAL				Pg		**Pg**	**07 39 31.0**	**-0.6**
	0.3nm,0.1s,SNR=6.8							
ECAL				Sn		**Sn**	**07 39 52.2**	**-0.2**
	1.1nm,0.1s,SNR=7.9							
ECAL				Lg			07 39 57.0	
	4.3nm,0.2s,SNR=9.2							
EBAD	**Badajoz**	**1.99**	**146**	Pn		**Pn**	**07 39 26.9**	**-0.7**
	0.3nm,0.1s,SNR=10							
EBAD				Pg		**Pg**	**07 39 30.6**	**-1.2**
	2.7nm,0.1s,SNR=7.9							
EBAD				Sn		**Sn**	**07 39 53.6**	**+1.0**
	10nm,0.2s,SNR=7.9							
EMAZ	**Mazaricos**	**2.56**	**351**	Lg			07 40 15.4	
	1.8nm,0.3s,SNR=7.9							
EGRO	**El Granado**	**2.98**	**166**	Pn		**Pn**	**07 39 41.5**	**+0.4**
	0.0nm,0.1s,SNR=7.9							
EGRO				Pg		**Pg**	**07 39 48.5**	**-2.2**
	0.8nm,0.3s,SNR=7.9							
EGRO				Lg			07 40 29.0	
	1.4nm,0.3s,SNR=7.9							
EMIN	**Mina Concepcio**	**2.98**	**152**	Pn		**Pn**	**07 39 41.6**	**+0.4**
	0.0nm,0.1s,SNR=7.9							
EMIN				Pg		**Pg**	**07 39 48.7**	**-2.1**
	0.1nm,0.1s,SNR=7.9							
EMIN				Sn		**Sn**	**07 40 14.0**	**-3.0**
	0.7nm,0.1s,SNR=7.9							
EMIN				Lg			07 40 28.8	
	0.1nm,0.2s,SNR=7.9							
EPON	**Pontenova**	**3.05**	**18**	Lg			07 40 31.0	
	0.4nm,0.1s,SNR=4.8							

*ISCJB **16** 08:11:41.6±0.7, 678N±007×7300W±009, h175km±7km, mb3.5/8, Error ellipse: s-maj=16.7km s-min=9.1km az=63.5*
*IDC **16** 08:11:42.1±0.7, 676N×7301W, h163km±7km, mb3.3/8, mb1 3.6/10, mb1mx3.4/21, mbtmp3.8/10, Error ellipse: s-maj=17.9km s-min=7.6km az=126.0*
*NEIC **16** 08:11:42.8±0.7, 676N×7302W, h171km±7km, mb3.9/1, Error ellipse: s-maj=13.9km s-min=8.8km az=84.0*

ISC 16 08:11:42.8±0.7, 679N±007×7302W±009, h168km±7km, n14, σ0§56/15, mb3.5/8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.33**	**214**	P		**Pn**	**08 12 23.3**	**+0.6**
	46nm,0.3s,baz=92,slow=23,SNR=82							
ROSC				S		**Sn**	**08 12 53.2**	**-0.4**
	28nm,0.3s,baz=88,slow=15,SNR=10.0							
SDV	**Santo Domingo**	**3.15**	**48**	P		**Pn**	**08 12 33.1**	**+0.4**
	9.7nm,0.3s,baz=243,slow=3.4,SNR=31							
SDV				S		**Sn**	**08 13 11.1**	**-0.3**
	21nm,0.3s,baz=77,slow=23,SNR=24							
JTS	**JuntasAbangare**	**12.31**	**287**	P		**Pn**	**08 14 39.6**	**+7.1**
	0.5nm,0.3s,baz=110,slow=9.8,SNR=5.7							
SAML	**Samuel**	**18.45**	**148**	*e*P		**P**	**08 15 45.6**	**-0.1**
	2.4nm,0.4s							
LPAZ	**La Paz**	**23.43**	**168**	P		**P**	**08 16 37.4**	**+0.6**
	0.4nm,0.3s,mb3.3,baz=355,slow=16,SNR=5.6							
LPAZ	**La Paz**	**23.43**	**168**	P		**P**	**08 16 37.4**	**+0.6**
SIV	**San Ignacio**	**25.54**	**153**	P		**P**	**08 16 55.2**	**-0.7**
	0.7nm,0.7s,mb3.4,baz=324,slow=7.5,SNR=5.7							
ULM	**Lac du Bonnet**	**47.35**	**340**	P		**P**	**08 19 58.8**	**-0.9**
	1.7nm,0.4s,mb4.0,baz=133,slow=6.7,SNR=5.0							
SCHQ	**Schefferville**	**48.16**	**5**	P		**P**	**08 20 07.1**	**+1.1**
	2.5nm,0.8s,mb3.9,baz=192,slow=6.8,SNR=5.7							
PDAR	**Pinedale Array**	**48.16**	**324**	P		**P**	**08 20 05.8**	**-0.2**
	0.5nm,0.4s,mb3.5,baz=122,slow=11,SNR=4.7							
NVAR	**Mina Array Bea**	**51.58**	**315**	P		**P**	**08 20 32.1**	**+0.4**
	0.3nm,0.7s,mb3.1,baz=91,slow=9.9,SNR=3.7							
YKA	**Yellowknife Ar**	**63.33**	**340**	P		**P**	**08 21 53.4**	**-0.4**
	1.5nm,0.6s,mb4.0,baz=133,slow=6.6,SNR=81							
ILAR	**Eielson Array**	**77.03**	**335**	P		**P**	**08 23 17.0**	**-0.1**
	0.2nm,0.6s,mb2.9,baz=130,slow=5.6,SNR=4.3							
WRA	**Warramunga Arr**	**150.41**	**241**	PKPbc		PKPbc	08 31 14.9	+0.6
	0.3nm,0.4s,baz=107,slow=2.7,SNR=6.2							

*IDC **16** 08:16:11.8±1.0, 1933S×17372W, h0km, mb4.4/9, mb1 4.6/9, mb1mx4.4/17, mbtmp4.4/9, MS3.9/5, Ms1 3.8/5, ms1mx3.3/25, Error ellipse: s-maj=41.8km s-min=18.5km az=136.0*
*ISCJB **16** 08:16:15.7±0.6, 194S±01×1737W±01, h36km, mb4.6/16, MS3.9/5, Error ellipse: s-maj=20.3km s-min=11.7km az=86.0*
*MOS **16** 08:16:15.3±1.5, 1909S×17375W, h33km, mb4.9/6, Error ellipse: s-maj=27.9km s-min=17.2km az=45.9*
*NEIC **16** 08:16:17.4±0.5, 1935S×17374W, mb4.9/10, Error ellipse: s-maj=16.4km s-min=9.2km az=132.0*
*BJI **16** 08:16:17.3, 1930S×17370W, h35km, mB5.2, mb4.8, Ms5.1, Msz4.7*

ISC 16 08:16:17.5±0.6, 193S±01×1736W±01, h38km, h38km±1.6km:pP-P, n45, σ1§03/37, mb4.6/16, MS3.9/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.66**	**18**	Pn		**Pn**	**08 17 33.6**	**-5.5**
	6.1nm,0.3s,baz=26,slow=14,SNR=7.1							
AFI				Sn		**Sn**	**08 18 34.7**	**-8.1**
	7.6nm,0.3s,baz=170,slow=16,SNR=4.5							
AFI				T			08 23 31.1	
	7.7nm,0.3s,baz=200,slow=18,SNR=5.3							
AFI	**Afiamalu**	**5.66**	**18**	*e*P		**Pn**	**08 17 33.9**	**-5.2**
AFI				*e*			08 18 34.7	
AFI				pmax	pmax			
	comp=Z,53nm,0.6s							
AFI	**Afiamalu**	**5.66**	**18**	*e*Pn		**Pn**	**08 17 33.9**	**-5.2**
	comp=Z,53nm,0.6s							
AFI				*e*Sn		**Sn**	**08 18 34.7**	**-8.1**
RAR	**Rarotonga**	**13.12**	**101**	Pn		**Pn**	**08 19 07.8**	**-13**
	comp=Z,3.5nm,0.3s,baz=295,slow=5.6,SNR=7.2							
RAR				LR		LR	08 23 30.5	
	comp=Z,373nm,19.0s,baz=252,slow=33							
DZM	**Mont Dzumac**	**18.86**	**258**	P		**Pn**	**08 20 37.0**	**+1.8**
	comp=Z,1.0nm,0.3s,baz=70,slow=17,SNR=7.2							
URZ	**Urewera**	**20.53**	**201**	P		**P**	**08 20 50.9**	**-1.7**
	comp=Z,10nm,0.6s,baz=35,slow=16,SNR=7.0							
TBI	**Tubuai**	**22.84**	**104**	*e*LR		LR	08 26 00.9	
	comp=Z,299nm,30.2s,baz=274							
PPT	**Papeete**	**22.86**	**90**	*e*LQ			08 25 18.3	
	comp=Z,179nm,22.2s							
PPT				*e*LR		LR	08 26 11.8	
	comp=Z,301nm,26.5s							
PPT	**Papeete**	**22.86**	**90**	LR		LR	08 28 31.0	
	comp=Z,272nm,18.0s,MS3.7,baz=234,slow=32							
QRZ	**Quartz Range**	**24.50**	**206**	PN		**P**	**08 21 35.3**	**+2.1**
RPZ	**Rata Peaks**	**27.52**	**205**	P		**P**	**08 22 00.9**	**+0.4**
	comp=Z,7.3nm,0.6s,mb4.5,baz=308,slow=1.7,SNR=3.7							
RKT	**Rikitea**	**36.15**	**103**	*e*LR		LR	08 32 10.2	
	comp=Z,232nm,29.0s							
CTA	**Charters Tower**	**37.73**	**262**	*e*P		**P**	**08 23 29.8**	**+0.2**
	comp=Z,12nm,0.7s,mb4.7							
CTA	**Charters Tower**	**37.73**	**262**	P		**P**	**08 23 29.3**	**-0.2**
	comp=Z,14nm,0.7s,mb4.8,baz=98,slow=8.8,SNR=18							
CTA				LR		LR	08 35 37.4	
	comp=Z,118nm,20.0s,MS3.7,baz=233,slow=31							
CTA	**Charters Tower**	**37.73**	**262**	*e*P		**P**	**08 23 29.8**	**+0.2**
CTA				pmax	pmax			
	comp=Z,12nm,0.7s							
CTAO	**Charters Tower**	**37.73**	**262**	*e*P		**P**	**08 23 29.3**	**-0.3**
CTAO				*e**PP	pP		08 23 40.1	-0.2
CTAO				pmax	pmax			
	comp=Z,15nm,0.7s,mb4.8							
CTAO	**Charters Tower**	**37.73**	**262**	*e*P		**P**	**08 23 29.3**	**-0.2**
	comp=Z,15nm,0.7s,mb4.8							
CTAO				epP	pP		08 23 40.1	-0.2
STKA	**Stephens Creek**	**42.02**	**244**	*e*P		**P**	**08 24 02.3**	**-2.8**
	comp=Z,3.4nm,1.0s,mb3.9							
STKA	**Stephens Creek**	**42.02**	**244**	P		**P**	**08 24 02.3**	**-2.8**
	comp=Z,2.5nm,0.6s,mb4.0,baz=74,slow=7.3,SNR=6.8							
STKA				LR		LR	08 40 31.1	
	comp=Z,144nm,19.2s,MS3.9,baz=186,slow=35							
ASAR	**Alice Springs**	**48.81**	**255**	P		**P**	**08 24 58.4**	**-0.5**
	comp=Z,14nm,0.9s,mb5.0,baz=98,slow=7.5,SNR=69							
WB2	**Warramunga Arr**	**48.85**	**260**	*e*P		**P**	**08 24 58.4**	**-0.9**
WRAB	**Tennant Creek**	**48.85**	**260**	*e*P		**P**	**08 24 58.8**	**-0.5**
WRAB				*e**PP	pP		08 25 09.4	-0.9
WRAB				pmax	pmax			
	comp=Z,12nm,0.9s,mb4.9							
WRAB	**Tennant Creek**	**48.85**	**260**	*e*P		**P**	**08 24 58.8**	**-0.5**
	comp=Z,12nm,0.9s,mb4.9							
WRAB				*e*pP	pP		08 25 09.4	-0.9
WRA	**Warramunga Arr**	**48.86**	**260**	P		**P**	**08 24 58.4**	**-1.0**
	comp=Z,5.0nm,1.0s,mb4.5,baz=97,slow=8.9,SNR=34							
KAKA	**Kakadu**	**52.11**	**269**	*e*P		**P**	**08 25 23.9**	**+0.1**
	comp=Z,15nm,1.1s,mb4.8							
FITZ	**Fitzroy Crossi**	**57.29**	**261**	*e*P		**P**	**08 26 01.6**	**+0.2**
	comp=Z,8.3nm,0.6s,mb4.9							
SBA	**Scott Base**	**59.35**	**185**	*e*P		**P**	**08 26 16.1**	**+0.3**
SBA				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.3							
SBA	**Scott Base**	**59.35**	**185**	*e*P		**P**	**08 26 16.1**	**+0.3**
	comp=Z,3.2nm,1.0s,mb4.3							
MBWA	**Marble Bar**	**62.14**	**256**	*e*P		**P**	**08 26 34.8**	**+0.1**
	comp=Z,5.8nm,0.6s,mb4.9							
MBWA				epP	pP		08 26 45.9	-0.2
NWAO	**Narrogin (SRO)**	**62.58**	**242**	LR		LR	08 53 02.1	
	comp=Z,127nm,20.3s,MS4.1,baz=1.7,slow=35							
NVAR	**Mina Array Bea**	**77.37**	**41**	P		**P**	**08 28 08.7**	**+0.3**
	comp=Z,0.8nm,0.7s,mb3.7,baz=234,slow=11,SNR=6.6							
COLA	**College**	**86.23**	**11**	*e*P		**P**	**08 28 54.9**	**-0.1**
COLA				*e**PP	pP		08 29 06.2	-0.6
COLA				pmax	pmax			
	comp=Z,10.0nm,0.8s,mb5.1							
COLA	**College**	**86.23**	**11**	*e*P		**P**	**08 28 54.9**	**-0.2**
	comp=Z,9.6nm,0.8s,mb5.1							
COLA				epP	pP		08 29 06.2	-0.6
ILAR	**Eielson Array**	**86.31**	**11**	P		**P**	**08 28 55.2**	**-0.2**
	comp=Z,1.4nm,0.8s,mb4.2,baz=219,slow=5.5,SNR=13							
DAWY	**Dawson**	**87.25**	**14**	*e*P		**P**	**08 29 00.5**	**+0.5**
INK	**Inuvik**	**92.10**	**14**	P		**P**	**08 29 22.6**	**-0.2**
INK				*e**PP	pP		08 29 32.5	-2.1
INK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
INK	**Inuvik**	**92.10**	**14**	P		**P**	**08 29 22.6**	**-0.2**
	comp=Z,1.7nm,0.8s,mb4.4							
INK				epP	pP		08 29 32.5	-2.1
KMI	**Kunming**	**92.53**	**296**	P		**P**	**08 29 27.3**	**+2.5**
KMI				AP	pP		08 29 39.1	+2.5
KMI				XP	sP		08 29 42.9	+2.1
KMI				PP	PP		08 33 14.4	+8.1
KMI				S			08 40 25.5	
KMI				XS	sS		08 40 42.5	-3.3
KMI				SS	SS		08 46 39.3	+1.1
KMI				AMB	AMB			
	comp=Z,7.0nm,0.9s,mb5.1							
KMI				LR	LR			
	comp=Z,84nm,22.3s,MS4.1							
YKA	**Yellowknife Ar**	**93.75**	**24**	P		**P**	**08 29 29.8**	**-0.6**
	comp=Z,0.5nm,0.8s,mb4.0,baz=238,slow=4.2,SNR=14							
YKA	**Yellowknife Ar**	**93.75**	**24**	P		**P**	**08 29 29.8**	**-0.6**
MALT	**Malatya**	**146.38**	**311**	*e*PKP2		PKPab	08 35 56.2	+1.0
CLL	**Collm**	**147.65**	**352**	*e*PKPbc		PKPbc	08 36 01.0	+3.1
CLL				*e*PKPab		PKPab	08 36 03.0	+2.8
BR131	**Keskin Array S**	**148.96**	**317**	*e*PKPbc		PKPbc	08 36 02.4	+1.1
BRTR	**Keskin Array B**	**148.96**	**317**	PKPbc		PKPbc	08 36 02.9	+1.6
	comp=Z,2.4nm,0.8s,baz=90,slow=1.2,SNR=7.2							
GERES	**GERESS Array B**	**149.96**	**350**	PKPbc		PKPbc	08 36 05.0	+1.2
	comp=Z,0.3nm,0.2s,baz=289,slow=4.1,SNR=4.1							

*NIED **16** 08:23:00, 3720N×14230E, h32km, Mw3.5 Best double couple: M0 2.10000×10^14 NP1:φs 13.00000°, δ60.00000°, λ59.00000°. NP2:φs 242.00000°, δ42.00000°, λ131.00000°.*
*IDC **16** 08:23:30.3±2.5, 3732N×14259E, h0km, mb3.5/2, mb1 4.0/5, mb1mx3.6/21, mbtmp4.1/5, ML3.6/3, MS2.6/1, Ms1 2.6/1, ms1mx2.2/26, Error ellipse: s-maj=44.9km s-min=28.0km az=63.0*
*ISCJB **16** 08:23:32.3±0.9, 3720N±006×14241E±008, h23km, mb3.6/2, Error ellipse: s-maj=9.6km s-min=7.6km az=128.6*
*JMA **16** 08:23:32.9±0.2, 3719N×14231E, h23km±4km, M3.9*

ISC 16 08:23:34.3±0.9, 3723N±006×14230E±009, h23km, n15, σ1§09/21, mb3.6/2, 5D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.15**	**277**	↓P		**Pn**	**08 23 53.5**	**-1.4**
JFK				*e*S		**Sn**	**08 24 08.8**	**-1.1**
JMM	**Marumori**	**1.35**	**298**	↓P		**Pn**	**08 23 56.8**	**-1.0**
JIO	**Ouri**	**1.43**	**329**	↓P		**Pn**	**08 23 58.3**	**-0.6**
JIO				*e*S		**Sn**	**08 24 16.7**	**-0.3**
JFT	**Otama**	**1.59**	**281**	↓P		**Pn**	**08 24 00.9**	**-0.1**
JFT				*e*S		**Sn**	**08 24 21.5**	**+0.6**
JOU	**Okura**	**1.72**	**312**	P		**Pn**	**08 24 03.2**	**+0.4**
JMK	**Ichinoseki**	**1.92**	**334**	P		**Pn**	**08 24 06.1**	**+0.6**
JFY	**Yanaizu**	**2.08**	**276**	P		**Pn**	**08 24 08.4**	**+0.7**
JYK	**Kaneyama**	**2.28**	**318**	↓P		**Pn**	**08 24 10.8**	**+0.3**
MJAR	**Matsushiro Arr**	**3.35**	**259**	Pn		**Pn**	**08 24 26.9**	**+1.7**
	3.1nm,0.3s,baz=82,slow=15,SNR=18				

PLP				*e*S		**Sn**	**08 45 21.6**	**-0.4**
BESP	**Borongan**	**1.60**	**328**	*e*P		**Pn**	**08 45 03.8**	**+0.9**
OCLP	**Ormoc**	**1.85**	**296**	*e*P		**Pn**	**08 45 07.5**	**+1.3**
BIPH	**Bislig**	**2.04**	**178**	⇓*i*P		**Pn**	**08 45 09.8**	**+1.0**
BIPH				*i* S		**Sn**	**08 45 34.5**	**+1.4**
LLP	**Lapu-Lapu**	**2.29**	**272**	⇑*e*P		**Pn**	**08 45 12.2**	**-0.1**
LLP				*e*S		**Sn**	**08 45 32.3**	**-7.1**
CGP	**Cagayan de Oro**	**2.37**	**222**	⇑*i*P		**Pn**	**08 45 13.5**	**0.0**
CGP				*i* S		**Sn**	**08 45 40.5**	**-0.8**
TBP	**Tagbilaran**	**2.46**	**258**	*e*P		**Pn**	**08 45 15.0**	**+0.4**
TBP				*i* S		**Sn**	**08 45 43.4**	**0.0**
BUKP	**Musuan**	**2.64**	**208**	*e*P		**Pn**	**08 45 19.5**	**+2.4**
SNPH	**Sibulan**	**3.14**	**254**	*e*P		**Pn**	**08 45 25.0**	**+1.0**
GUIM	**Jordan**	**3.67**	**276**	*e*P		**Pn**	**08 45 29.1**	**-2.2**
RCP	**Roxas**	**3.73**	**291**	⇓*e*P		**Pn**	**08 45 33.0**	**+0.9**
PAGZ	**Pagadian**	**3.73**	**231**	*e*P		**Pn**	**08 45 34.2**	**+2.1**
PVCP	**Virac**	**3.94**	**328**	*e*P		**Pn**	**08 45 37.0**	**+1.9**
OTRP	**Odiongan**	**4.70**	**297**	*e*P		**Pn**	**08 45 46.3**	**+0.9**
KAKA	**Kakadu**	**23.60**	**165**	*e*P		**P**	**08 49 44.5**	**-0.2**
	8.0nm,0.6s,mb4.3							
FITZ	**Fitzroy Crossi**	**28.16**	**181**	P		**P**	**08 50 26.2**	**+0.2**
	2.4nm,0.9s,mb3.8,baz=0.0,slow=9.1,SNR=3.2							
WRA	**Warramunga Arr**	**31.01**	**165**	P		**P**	**08 50 50.2**	**-1.0**
	0.6nm,0.5s,mb3.7,baz=344,slow=9.3,SNR=6.8							
ASAR	**Alice Springs**	**34.50**	**168**	P		**P**	**08 51 21.6**	**-0.2**
	1.0nm,0.6s,mb3.9,baz=351,slow=6.7,SNR=22							
FORT	**Forrest**	**40.81**	**178**	*e*P		**P**	**08 52 15.1**	**0.0**
	7.0nm,0.5s,mb4.5							
SONM	**Songino Array**	**41.06**	**340**	LR	LR		09 09 25.8	
	comp=Z,93nm,18.4s,MS3.7,baz=358,slow=36							
STKA	**Stephens Creek**	**44.36**	**161**	P		**P**	**08 52 42.1**	**-1.8**
	0.8nm,0.3s,mb3.9,baz=309,slow=9.8,SNR=4.0							
MKAR	**Makanchi Array**	**52.07**	**323**	P		**P**	**08 53 42.5**	**-0.9**
	0.3nm,0.4s,mb3.6,baz=120,slow=8.8,SNR=4.8							
ILAR	**Eielson Array**	**79.46**	**26**	P		**P**	**08 56 37.6**	**-2.2**
	0.6nm,0.9s,mb3.5,baz=247,slow=5.3,SNR=5.5							
YKA	**Yellowknife Ar**	**93.78**	**24**	P		**P**	**08 57 49.5**	**-0.9**
	0.6nm,0.8s,mb4.1,baz=301,slow=4.6,SNR=14							

*ISCJB **16** 08:53:42.3±0.5, 7628N±006×77E±02, h10km, mb3.6/7, MS3.3/7, Error ellipse: s-maj=8.6km s-min=6.8km az=44.9*
*MOS **16** 08:53:42.6±2.1, 7631N×686E, h10km, mb4.3/1, Error ellipse: s-maj=85.2km s-min=14.1km az=94.1*
*IDC **16** 08:53:44.2±0.8, 7630N×714E, h0km, mb3.4/6, mb1 3.7/10, mb1mx3.6/22, mbtmp3.6/10, ML3.4/3, MS3.3/13, Ms1 3.3/13, ms1mx3.2/22, Error ellipse: s-maj=26.2km s-min=12.9km az=51.0*
*NEIC **16** 08:53:44.6±0.6, 7632N×741E, h10km, mb4.2/1, Error ellipse: s-maj=10.9km s-min=9.2km az=56.0*
*CSEM **16** 08:53:46.3±0.1, 7633N×725E, h30km, ML2.3, Error ellipse: s-maj=2.9km s-min=2.2km az=118.0*
*BER **16** 08:53:48.9±2.9, 7658N×907E, h6km±21km, MD3.0, ML2.3, ML2.6(NAO)*
*NAO **16** 08:53:50.8±2.9, 7643N×1079E, ML2.6*

ISC 16 08:53:44.6±3.2, 7636N±006×78E±02, h13km±22km, n38, σ1♀39/41, mb3.6/7, MS3.3/7, 3D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HSP	**Hornsund**	**1.90**	**66**	*e*P		**Pn**	**08 54 16.5**	**-0.2**
HSP				*e*S		**Sn**	**08 54 37.9**	**-2.6**
SPA0	**Spitsbergen Ar**	**2.62**	**42**	Pn		**Pn**	**08 54 27.2**	**+0.6**
	baz=225,slow=14							
SPA0				Lg			08 54 58.3	
	baz=242,slow=28							
KBS	**Kingsbay**	**2.72**	**17**	*e*P		**Pn**	**08 54 27.0**	**-0.9**
KBS				*e*S		**Sn**	**08 54 55.3**	**-5.4**
KBS	**Kingsbay**	**2.72**	**17**	*e*Pn		**Pn**	**08 54 27.5**	**-0.5**
KBS	**Kingsbay**	**2.72**	**17**	*e*Pn		**Pn**	**08 54 27.5**	**-0.5**
BJO	**Bjornoya**	**3.42**	**117**	*e*P		**Pn**	**08 54 38.4**	**+0.8**
BJO				*e*S		**Sn**	**08 55 14.9**	**-3.0**
BJO				AML	AML		08 55 17.1	
	comp=Z,23nm,0.4s							
DAG	**Danmarks Havn**	**6.15**	**287**	⇓*i*P		**Pn**	**08 55 10.4**	**-4.7**
	comp=Z,16nm,0.8s							
DAG	**Danmarks Havn**	**6.15**	**287**	⇓*e*P		**Pn**	**08 55 10.4**	**-4.7**
DAG				pmax	pmax			
	comp=Z,16nm,0.8s							
DAG	**Danmarks Havn**	**6.15**	**287**	⇓*e*P		**Pn**	**08 55 10.4**	**-4.7**
	comp=Z,16nm,0.8s							
JMIC	**Jan Mayen**	**7.07**	**229**	Pn		**Pn**	**08 55 25.5**	**-2.1**
	comp=Z,4.5nm,0.3s,baz=0.0,slow=19,SNR=5.6							
JMIC				Sn		**Sn**	**08 56 38.9**	**-8.9**
	comp=Z,0.5nm,0.3s,baz=221,slow=19,SNR=4.6							
JMIC				LR		LR	08 57 25.4	
	comp=Z,111nm,21.1s,baz=42,slow=32							
JMIC	**Jan Mayen**	**7.07**	**229**	Pn		**Pn**	**08 55 25.5**	**-2.1**
JMIC				Sn		**Sn**	**08 56 38.9**	**-8.9**
JMIC	**Jan Mayen**	**7.07**	**229**	Pn		**Pn**	**08 55 25.5**	**-2.1**
JMIC				Sn		**Sn**	**08 56 38.9**	**-8.9**
ARA0	**ARCESS Array S**	**8.55**	**134**	Pn		**Pn**	**08 55 48.2**	**+0.2**
	baz=331,slow=12							
ARA0				Sn		**Sn**	**08 57 17.0**	**-7.3**
	baz=333,slow=18							
ARCES	**ARCESS Array B**	**8.55**	**134**	Pn		**Pn**	**08 55 48.4**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=331,slow=12,SNR=39							
ARCES				Sn		**Sn**	**08 57 18.8**	**-5.5**
	comp=Z,1.2nm,0.3s,baz=329,slow=19,SNR=9.5							
ARCES				LR		LR	08 59 12.0	
	comp=Z,208nm,18.4s,baz=189,slow=38							
ARCES	**ARCESS Array B**	**8.55**	**134**	Pn		**Pn**	**08 55 48.4**	**+0.4**
ARCES				Sn		**Sn**	**08 57 18.8**	**-5.5**
ARCES	**ARCESS Array B**	**8.55**	**134**	Pn		**Pn**	**08 55 48.4**	**+0.4**
ARCES				Sn		**Sn**	**08 57 18.8**	**-5.5**
SUMG	**Summit**	**12.65**	**276**	*e*Pn		**Pn**	**08 56 42.1**	**-2.1**
	comp=Z,13nm,0.8s							
SUMG	**Summit**	**12.65**	**276**	*e*Pn		**Pn**	**08 56 42.1**	**-2.1**
	comp=Z,13nm,0.8s							
BORG	**Borgarnes**	**14.89**	**234**	LR		LR	09 01 05.4	
	comp=Z,92nm,20.9s,baz=75,slow=30							
NB2	**NORSAR Subarra**	**15.44**	**174**	P		**Pn**	**08 57 25.7**	**+3.7**
	comp=Z,9.2nm,1.7s,baz=360,slow=11							
NOA	**NORSAR Array B**	**15.44**	**174**	Pn		**Pn**	**08 57 25.3**	**+3.3**
	comp=Z,0.0nm,0.3s,baz=351,slow=12,SNR=2.6							
NOA				LR		LR	09 02 48.2	
	comp=Z,64nm,18.7s,baz=350,slow=35							
HFS	**Hagfors**	**16.43**	**170**	Pn		**Pn**	**08 57 35.2**	**+0.3**
	baz=15,slow=6.0,SNR=1.9							
HFS				LR		LR	09 03 11.8	
	comp=Z,103nm,19.6s,baz=340,slow=35							
SFJD	**Kangerlussuaq**	**19.60**	**273**	LR		LR	09 04 57.2	
	comp=Z,98nm,19.2s,baz=12,slow=35							
FRB	**Frobisher Bay**	**26.50**	**284**	LR		LR	09 09 44.7	
	comp=Z,197nm,19.9s,MS3.7,baz=188,slow=36							
VRAC	**Vranov**	**27.39**	**167**	LR		LR	09 11 38.3	
	comp=Z,29nm,19.4s,MS2.9,baz=188,slow=39							
DAVOX	**Davos**	**29.70**	**177**	LR		LR	09 10 21.3	
	comp=Z,40nm,19.5s,MS3.1,baz=263,slow=34							
INK	**Inuvik**	**33.60**	**335**	*e*P		**P**	**09 00 24.7**	**+0.2**
INK				pmax	pmax			
	comp=Z,3.0nm,1.0s							
INK	**Inuvik**	**33.60**	**335**	*e*P		**P**	**09 00 24.7**	**+0.2**
	comp=Z,3.3nm,1.0s,mb4.2							
SCHQ	**Schefferville**	**34.04**	**275**	LR		LR	09 14 18.3	
	comp=Z,22nm,19.8s,MS2.9,baz=57,slow=36							
YKA	**Yellowknife Ar**	**36.75**	**319**	P		**P**	**09 00 51.4**	**-0.1**
	comp=Z,0.5nm,0.8s,mb3.4,baz=3.1,slow=8.9,SNR=13							
YKA				LR		LR	09 16 25.4	
	comp=Z,46nm,18.4s,MS3.3,baz=300,slow=37							
YKA	**Yellowknife Ar**	**36.75**	**319**	P		**P**	**09 00 51.4**	**-0.1**
YKA	**Yellowknife Ar**	**36.75**	**319**	P		**P**	**09 00 51.4**	**-0.2**
ILAR	**Eielson Array**	**38.21**	**343**	P		**P**	**09 01 06.0**	**+2.1**
	comp=Z,0.5nm,0.8s,mb3.3,baz=2.3,slow=7.0,SNR=9.6							
MKAR	**Makanchi Array**	**41.45**	**91**	P		**P**	**09 01 33.2**	**+2.3**
	comp=Z,0.1nm,0.4s,mb2.8,baz=326,slow=7.3,SNR=2.1							
ULM	**Lac du Bonnet**	**44.87**	**298**	LR		LR	09 21 02.3	
	comp=Z,92nm,20.5s,MS3.7,baz=320,slow=37							
PDAR	**Pinedale Array**	**54.77**	**307**	P		**P**	**09 03 13.9**	**0.0**
	comp=Z,0.3nm,0.5s,mb3.5,baz=19,slow=5.7,SNR=2.4							
PDAR				LR		LR	09 25 44.5	
	comp=Z,78nm,19.1s,MS3.8,baz=193,slow=35							
NVAR	**Mina Array Bea**	**60.57**	**313**	P		**P**	**09 03 55.3**	**+0.6**
	comp=Z,0.2nm,0.4s,mb3.6,baz=23,slow=4.9,SNR=2.9							
TORD	**Torodi Ar. Bea**	**63.30**	**187**	P		**P**	**09 04 14.8**	**+1.8**
	comp=Z,1.6nm,1.0s,mb4.1,baz=351,slow=5.0,SNR=6.9							

IDC 16 09:02:48.4±1.3, 250N×9877E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/17, mbtmp3.8/3, Error ellipse: s-maj=18.4km s-min=7.7km az=119.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PSI	**Prapat**	**0.34**	**27**	Pg		Pg	09 02 53.0	-1.9
	290nm,0.3s,baz=217,slow=7.8,SNR=390							
PSI				Lg			09 02 56.8	
	825nm,0.3s,baz=168,slow=13,SNR=146							
WRA	**Warramunga Arr**	**41.42**	**124**	P		P	09 10 37.4	+0.9
	2.3nm,0.7s,baz=300,slow=9.3,SNR=16							
ASAR	**Alice Springs**	**42.96**	**129**	P		P	09 10 49.1	+0.1
	1.0nm,1.0s,baz=304,slow=8.0,SNR=7.1							
MKAR	**Makanchi Array**	**46.40**	**344**	P		P	09 11 16.7	+0.2
	0.8nm,0.8s,baz=152,slow=8.2,SNR=7.0							

IDC 16 09:04:14.4±2.2, 1476S×6606E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, MS3.8/3, Ms1 3.7/3, ms1mx3.1/20, Error ellipse: s-maj=97.6km s-min=25.8km az=46.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KMBO	**Kilima Mbogo**	**31.52**	**293**	LR		LR	09 20 28.5	
	comp=Z,90nm,21.3s,baz=102,slow=31							
FITZ	**Fitzroy Crossi**	**57.04**	**102**	LR		LR	09 33 26.8	
	comp=Z,99nm,18.7s,baz=270,slow=31							
MKAR	**Makanchi Array**	**62.98**	**12**	P		P	09 14 43.3	+0.4
	0.5nm,0.6s,baz=182,slow=8.1,SNR=7.4							
ASAR	**Alice Springs**	**64.18**	**109**	P		P	09 14 51.1	+0.3
	0.8nm,0.7s,baz=272,slow=6.1,SNR=18							
WRA	**Warramunga Arr**	**65.00**	**105**	P		P	09 14 57.0	+0.9
	1.6nm,0.6s,baz=270,slow=5.8,SNR=19							
STKA	**Stephens Creek**	**70.21**	**119**	LR		LR	09 39 55.7	
	comp=Z,82nm,19.8s,baz=206,slow=30							
AKASG	**Malin Array Be**	**72.72**	**336**	P		P	09 15 44.0	-0.2
	0.1nm,0.2s,baz=134,slow=4.1,SNR=5.5							
PDAR	**Pinedale Array**	**151.84**	**353**	PKPbc		PKPbc	09 24 12.8	+1.7
	0.7nm,0.7s,baz=82,slow=1.9,SNR=6.3							
PDAR				PKPab		PKPab	09 24 18.5	-1.6
	1.0nm,0.8s,baz=22,slow=1.0,SNR=5.5							

NNC 16 09:22:21.8±1.3, 4355N×7723E, h0km, mb2.5, mpv2.3, 3C-3D, Error ellipse: s-maj=14.1km s-min=7.9km az=136.0, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KNDC	**Almaty**	**0.38**	**211**	P		Pg	09 22 29.3	+0.2
KNDC				S		Sg	09 22 34.8	+0.6
TKM2	**Tokmak 2**	**1.35**	**243**	⇓P		Pg	09 22 47.0	-0.7
	0.2nm,0.5s							
TKM2				⇑S		Sg	09 23 05.8	+0.6
	1.0nm,0.5s							
MK03	**Makanchi Array**	**4.82**	**46**	⇑Pn		Pn	09 23 37.2	+1.7
	0.2nm,0.5s							
MK03				⇑Lg			09 24 52.1	
	1.0nm,0.6s							
KK31	**Karatay Array**	**4.92**	**267**	⇓Lg			09 24 59.5	
	1.0nm,0.5s,baz=75,slow=28,SNR=3.8							
KURK	**Kurchatov**	**7.23**	**7**	⇓Pn		Pn	09 24 06.8	-1.9
	0.8nm,0.5s							

MOS 16 09:22:25.6±1.1, 4584N×7871E, h10km, mb4.5/2, 4C-3D, Error ellipse: s-maj=22.0km s-min=15.6km az=80.2, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
AAK	**Ala-Archa**	**4.41**	**225**	⇑*e*PN		Pn	09 23 32.6	0.0
KURK	**Kurchatov**	**4.88**	**359**	⇓*e*PN		Pn	09 23 38.6	-0.4
ARU	**Arti**	**16.43**	**317**	*i* P		Pn	09 26 18.1	+1.9
TLY	**Talaya**	**17.40**	**61**	⇓*e*P		Pn	09 26 30.1	+1.7
ULN	**Ulaanbaatar**	**19.45**	**74**	*i* P		Pn	09 26 54.6	+1.2
KIV	**Kislovodsk**	**25.46**	**279**	⇑*e*P		P	09 27 56.3	+2.6
KIV				pmax	pmax			
	comp=Z,4.0nm,0.5s							
OBN	**Obninsk**	**27.99**	**305**	*e*P		P	09 28 18.9	+2.4
OBN				pmax	pmax			
	comp=Z,4.0nm,1.1s							
YAK	**Yakutsk**	**33.05**	**42**	*i* P		P	09 29 03.7	+2.5
TIXI	**Tiksi**	**34.90**	**25**	⇑*e*P		P	09 29 11.8	-5.5
KBS	**Kingsbay**	**40.98**	**344**	⇓*e*P		P	09 30 10.5	+1.9
WRA	**Warramunga Arr**	**82.60**	**128**	⇑*e*P		P	09 34 51.2	+2.3

IDC 16 09:31:27.7±2.7, 1475S×6571E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/16, mbtmp3.8/3, MS3.5/2, Ms1 3.5/2, ms1mx2.7/17, Error ellipse: s-maj=113.2km s-min=33.5km az=49.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**31.20**	**293**	LR		LR	09 49 22.3	
	comp=Z,38nm,19.4s,baz=271,slow=34							
PSI	**Prapat**	**37.23**	**65**	LR		LR	09 49 33.5	
	comp=Z,172nm,19.1s,baz=160,slow=29							
MKAR	**Makanchi Array**	**63.04**	**13**	P		P	09 41 57.1	+0.5
	0.5nm,0.7s,baz=198,slow=7.6,SNR=4.3							
ASAR	**Alice Springs**	**64.50**	**109**	P		P	09 42 06.8	+0.6
	0.9nm,0.9s,baz=275,slow=6.5,SNR=7.2							
WRA	**Warramunga Arr**	**65.33**	**105**	P		P	09 42 12.1	+0.5
	1.5nm,1.0s,baz=264,slow=6.2,SNR=6.2							
PDAR	**Pinedale Array**	**151.78**	**353**	PKPbc		PKPbc	09 51 26.1	+1.9
	0.8nm,0.8s,baz=0.0,slow=3.6,SNR=4.7							
PDAR				PKPab		PKPab	09 51 31.5	-1.7
	1.2nm,0.8s,baz=47,slow=2.3,SNR=7.9							

IDC 16 10:24:32.7±2.1, 2035S×17472W, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.9/15, mbtmp4.0/4, ML2.4/1, Error ellipse: s-maj=87.4km s-min=23.1km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**6.99**	**24**	Pn		Pn	10 26 17.5	+1.2
	4.2nm,0.3s,baz=250,slow=18,SNR=6.8							
AFI				Sn		Sn	10 27 36.5	-0.1
	6.2nm,0.3s,baz=119,slow=20,SNR=4.7							
ASAR	**Alice Springs**	**47.54**	**256**	P		P	10 33 10.1	+0.3
	1.5nm,0.7s,baz=100,slow=7.7,SNR=28							
WRA	**Warramunga Arr**	**47.66**	**261**	P		P	10 33 11.2	+0.5
	0.4nm,0.4s,baz=97,slow=8.1,SNR=19							
NVAR	**Mina Array Bea**	**78.83**	**42**	P		P	10 36 37.9	+0.4
	0.7nm,0.7s,baz=220,slow=6.7,SNR=6.1							
AKASG	**Malin Array Be**	**144.30**	**334**	PKP		PKPdf	10 44 09.6	-1.1
	1.1nm,0.6s,baz=41,slow=4.1,SNR=4.9							

*SZGRF **16** 10:39:18.7, 3021S×17760W, h33km, mb7.2, Kermadec Islands, New Zealand*
*GUC **16** 10:39:19.6±2.1, 3181S×17965E, h150km, mb6.6, MW7.4(NEIC)*
*IDC **16** 10:39:20.7±0.9, 3157S×179.17W, h122km±6km, mb6.1/21, mb1 6.1/25, mb1mx6.1/25, mbtmp6.4/25, MS6.8/12, Ms1 6.8/12, ms1mx6.4/27, Error ellipse: s-maj=11.1km s-min=8.3km az=165.0*
*MOS **16** 10:39:21.0±1.1, 3156S×179.16W, h134km, mb6.7/39, MS7.0/19, Error ellipse: s-maj=9.5km s-min=7.5km az=59.8*
*CRAAG **16** 10:39:21.1, 3152S×179.33W, Mw7.5*
*ISCJB **16** 10:39:22.3±0.1, 3180S×002×179.26W×003, h154km, mb6.6/132, Error ellipse: s-maj=4.1km s-min=2.6km az=65.7*
*BJI **16** 10:39:23.3, 3180S×179.30W, h151km, mB7.5, mb6.5*
*NEIC **16** 10:39:23.3±0.1, 3181S×179.31W, h152km, mb6.8/110, ME7.2, MW7.4, Error ellipse: s-maj=6.6km s-min=3.5km az=124.0, Moment Tensor Solution. s17 Moment tensor: Scale 10^{20}Nm; M_{rr}=1.32; $M_{\theta\theta}$=0.14; $M_{\phi\phi}$=-1.46; $M_{r\theta}$=0.20; $M_{\theta\phi}$=-0.32; $M_{r\phi}$=0.78; Best double couple: M_0=1.60000×10^{20} NP1:ϕ_s=189.00000°, δ=30.00000°, λ=86.00000°. Principal axes: T 1.5300, Plg75.0000°, Azm289.0000°; N 0.2000, Plg2.0000°, Azm192.0000°; P -1.7300, Plg15.0000°, Azm101.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s=195.00000°, δ=20.00000°, λ=90.00000°. NP2: ϕ_s=15.00000°, δ=70.00000°, λ=90.00000°. Principal axes: T Plg65.0000°, Azm285.0000°; N Plg0.0000°, Azm0.0000°; P Plg25.0000°, Azm105.0000°; Complex earthquake, with at least one larger event occurring about 7 seconds after the onset observed on broadband displacement seismograms. Focal mechanism and depth based on first event. Energy computed from BB mechanism.*
NEIC Felt [III] at Christchurch and Wellington, New Zealand. Also felt at Auckland, Gisborne, Hastings, Napier, Tauranga and Wanganui, New Zealand. Also felt on Kapiti Island, New Zealand.
*IGIL **16** 10:39:23.3, 3160S×179.30W, h149km, MS7.5*
*HRVD **16** 10:39:23.3±0.1, 3141S×178.91W, h151km, MW7.4/116, Centroid moment Tensor Solution. LP body waves: s116,c329;Mantle waves: s113,c582; Half duration: 12.9s7 Moment tensor: Scale 10^{20}Nm; M_{rr}=1.07±.01; $M_{\theta\theta}$=0.50±.00; $M_{\phi\phi}$=0.56±.01; $M_{r\theta}$=-0.31±.00; $M_{\theta\phi}$=0.37±.00; $M_{r\phi}$=1.46±.01; Best double couple: M_0=1.77700×10^{20} NP1:ϕ_s=129.00000°, δ=19.00000°, λ=58.00000°. NP2: ϕ_s=342.00000°, δ=74.00000°, λ=100.00000°. Principal axes: T 1.9280, Plg60.0000°, Azm266.0000°; N -0.3000, Plg10.0000°, Azm159.0000°; P -1.6260, Plg28.0000°, Azm64.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=150s.*
*BGS **16** 10:39:23.3, 3178S×179.31W, h152km, MS7.0*
*WEL **16** 10:39:24.8±0.2, 3180S×179.30W, h152km, mb7.6, ML7.4/22, MM 5.*
WEL Felt between Auckland, Otago and Chatham Islands, maximum reported intensity.

ISC 16 10:39:23.8±0.1, 3184S×002×17916W×003, h156km, h156km±1.4km:pP-P, n1590, σ1♀27/532, mb6.6/129, 103C-74D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**2.79**	**23**	P		**Pn**	**10 40 03.0**	**-5.8**
	2um,0.3s,baz=38,slow=20,SNR=28							
RAO	**Raoul Island**	**2.79**	**23**	*e*Pn		**Pn**	**10 40 03.1**	**-5.6**
MXZ	**Matakaoa Point**	**6.08**	**199**	PN		**Pn**	**10 40 50.1**	**-1.4**
MXZ				SN		**Sn**	**10 42 01.7**	**+1.5**
MXZ	**Matakaoa Point**	**6.08**	**199**	P		**Pn**	**10 40 48.6**	**-2.9**
MXZ				S		**Sn**	**10 42 05.2**	**+5.0**
WIZ	**White Island**	**6.42**	**207**	PN		**Pn**	**10 40 56.8**	**+0.8**
WIZ	**White Island**	**6.42**	**207**	P		**Pn**	**10 40 57.3**	**+1.3**
KUZ	**Kuaotunu**	**6.47**	**220**	*e*PN		**Pn**	**10 40 59.1**	**+2.4**
KUZ	**Kuaotunu**	**6.47**	**220**	*e*P		**Pn**	**10 40 59.6**	**+2.9**
PUZ	**Puketiti**	**6.57**	**198**	*e*PN		**Pn**	**10 40 56.4**	**-1.6**
PUZ				SN		**Sn**	**10 42 12.8**	**+0.9**
MYRZ	**Mayor Island**	**6.62**	**214**	PN		**Pn**	**10 41 00.8**	**+2.1**
WCZ	**Waipu Caves**	**6.78**	**231**	PN		**Pn**	**10 41 05.3**	**+4.5**
WCZ	**Waipu Caves**	**6.78**	**231**	*e*P		**Pn**	**10 41 05.3**	**+4.5**
OUZ	**Omahuta**	**6.93**	**239**	*e*P		**Pn**	**10 41 07.0**	**+4.2**
MTAZ	**Motutapu**	**6.96**	**223**	PN		**Pn**	**10 41 07.5**	**+4.3**
MTAZ	**Motutapu**	**6.96**	**223**	P		**Pn**	**10 41 07.5**	**+4.3**
TGRZ	**Tauranga**	**6.98**	**211**	PN		**Pn**	**10 41 03.5**	**0.0**
TGRZ	**Tauranga**	**6.98**	**211**	P		**Pn**	**10 41 03.5**	**0.0**
MARZ	**Manawahe**	**7.02**	**208**	*e*PN		**Pn**	**10 41 02.5**	**-1.5**
MARZ	**Manawahe**	**7.02**	**208**	P		**Pn**	**10 41 03.4**	**-0.6**
MWZ	**Matawai**	**7.02**	**202**	PN		**Pn**	**10 41 01.0**	**-3.0**
MWZ				SN		**Sn**	**10 42 25.1**	**+2.3**
MWZ	**Matawai**	**7.02**	**202**	P		**Pn**	**10 41 01.0**	**-3.1**
MWZ				S		**Sn**	**10 42 27.6**	**+4.8**
URZ	**Urewera**	**7.10**	**205**	P		**Pn**	**10 41 04.7**	**-0.3**
	77nm,0.3s,baz=258,slow=2.4,SNR=112							
URZ				S		**Sn**	**10 42 31.8**	**+7.2**
	4um,0.3s,baz=143,slow=24,SNR=2.6							
URZ	**Urewera**	**7.10**	**205**	PN		**Pn**	**10 41 01.9**	**-3.1**
URZ	**Urewera**	**7.10**	**205**	P		**Pn**	**10 41 01.9**	**-3.1**
EDRZ	**Edgecumbe**	**7.10**	**207**	PN		**Pn**	**10 41 05.4**	**+0.4**
EDRZ	**Edgecumbe**	**7.10**	**207**	P		**Pn**	**10 41 05.4**	**+0.3**
KAAZ	**Kauri Point**	**7.10**	**224**	*e*P		**Pn**	**10 41 10.0**	**+4.9**
WTAZ	**Waiatarua**	**7.25**	**224**	PN		**Pn**	**10 41 10.9**	**+3.8**
WTAZ	**Waiatarua**	**7.25**	**224**	*e*P		**Pn**	**10 41 12.4**	**+5.3**
TOZ	**Tahuroa Road**	**7.33**	**215**	PN		**Pn**	**10 41 10.0**	**+1.8**
TOZ	**Tahuroa Road**	**7.33**	**215**	*e*P		**Pn**	**10 41 11.0**	**+2.8**
KNZ	**Kokohu**	**7.61**	**199**	PN		**Pn**	**10 41 08.5**	**-3.5**
KNZ	**Kokohu**	**7.61**	**199**	*e*P		**Pn**	**10 41 07.6**	**-4.3**
WHTZ	**Whakaora**	**7.89**	**209**	P		**Pn**	**10 41 16.0**	**+0.4**
WATZ	**Wairara**	**8.02**	**210**	*e*PN		**Pn**	**10 41 15.7**	**-1.6**
WATZ	**Wairara**	**8.02**	**210**	P		**Pn**	**10 41 15.9**	**-1.5**
HATZ	**Hinemaiaia**	**8.03**	**208**	P		**Pn**	**10 41 17.9**	**+0.4**
BKZ	**Black Stump Fm**	**8.12**	**205**	*e*PN		**Pn**	**10 41 14.4**	**-4.3**
**BKZ

WKZ **Wanaka** 15.92 212 ScP ScP 10 51 11.3 +4.8
WKZ ScS ScS 10 54 50.9 +5.7
WKZ Wanaka 15.92 212 *e*P Pn 10 42 53.8 -5.3
DZM Mont Dzumac 16.10 304 P Pn **10 43 03.5 +2.2**
22nm,0.3s,baz=110,slow=13,SNR=95
DZM S **S 10 46 08.9 +8.5**
baz=229,slow=19,SNR=1.2
DZM LR LR 10 46 42.3
comp=Z,1239µm,18.5s,baz=137,slow=28
EAZ Earnscleugh 16.11 211 ePN **Pn 10 42 55.4 -5.9**
EAZ ScP ScP 10 51 10.0 +3.2
EAZ Earnscleugh 16.11 211 *e*P Pn 10 42 54.9 -6.5
MSZ Milford Sound 16.31 215 *e*P Pn 10 42 59.3 -4.6
TUZ Tuapeka 16.55 208 ScP ScP 10 51 12.2 +4.5
TUZ Tuapeka 16.55 208 *e*P Pn 10 43 06.4 -0.4
MLZ Mavora Lakes 16.70 213 ePN **Pn 10 43 06.3 -2.4**
MLZ ScP ScP 10 51 11.7 +3.7
MLZ Mavora Lakes 16.70 213 *e*P Pn 10 43 07.3 -1.3
WHZ Wether Hill Ro 17.22 212 *e*PN Pn 10 43 11.8 -3.1
WHZ ScS ScS 10 54 52.9 +3.9
WHZ Wether Hill Ro 17.22 212 *e*P Pn 10 43 11.7 -3.2
DCZ Deep Cove 17.27 214 *e*P Pn 10 43 14.6 -0.9
BKM Butte a Klehm 18.15 318⇑*i*P P 10 43 23.8 -0.3
AFI Afiamalu 19.09 22 P **P 10 43 29.4 -4.9**
42nm,0.3s,baz=243,slow=7.7,SNR=27
AFI S **S 10 46 47.4 -15**
325nm,0.3s,baz=76,slow=20,SNR=5.4
AFI Afiamalu 19.09 22 P **P 10 43 29.4 -4.9**
AFI S **S 10 46 47.4 -15**
AFI pmax pmax
comp=Z,42nm,0.3s
AFI smax
comp=N,325nm,0.3s
AFI Afiamalu 19.09 22 *e*P P 10 43 28.6 -5.8
comp=N,398nm,3.5s
AFI *e*S **S 10 46 44.4 -18**
RAR Rarotonga 20.29 63 P **P 10 43 46.0 -1.2**
comp=N,1µm,1.1s,baz=234,slow=9.2,SNR=48
RAR S **S 10 47 23.6 -2.5**
comp=N,3µm,0.8s,baz=74,slow=18,SNR=3.9
RIV Riverview 24.99 257⇑*i*P P 10 44 36.7 +3.8
ARMA Armidale 25.02 266 *e*P P 10 44 36.9 +3.7
ARMA *e*S **S 10 49 02.5 +17**
CNB Canberra Magne 26.40 254 *e*P P 10 44 48.6 +3.0
comp=N,14µm,1.7s,mb7.3
CNB *e*S **S 10 49 18.7 +11**
TBI Tubuai 27.58 80 *e*LQ 10 50 44.2
comp=N,992µm,29.0s
TBI Tubuai 27.58 80 *e*P P 10 44 55.0 -1.1
comp=N,2µm,1.0s,mb6.8
TBI *e*S **S 10 49 22.2 -3.7**
comp=N,445µm,31.0s
TBI *e*LR LR 10 51 40.4
comp=N,1157µm,39.2s,baz=234
TAU Tasmania Unive 28.66 238 P **P 10 45 08.5 +2.7**
comp=N,11µm,0.7s,mb7.7,SNR=24
TAU Tasmania Unive 28.66 238 *e*P P 10 45 08.4 +2.6
TAU pmax pmax
comp=Z,2µm,0.9s,mb6.8
TAU Tasmania Unive 28.66 238 *e*P P 10 45 08.4 +2.6
comp=Z,2µm,0.9s,mb6.8
TAU *e*ScP ScP 10 51 42.5 +3.4
TOO Toolangi 29.50 249⇑*i*P P 10 45 15.7 +2.5
comp=Z,2µm,0.8s,mb6.8
TOO *e*S **S 10 50 06.9 +11**
TOO Toolangi 29.50 249⇑*i*P P 10 45 15.7 +2.5
TOO *e*S **S 10 50 06.9 +11**
TOO pmax pmax
comp=Z,2µm,0.8s,mb6.8
HNR Honiara 29.55 314 P **P 10 45 12.9 -0.7**
comp=Z,907nm,0.7s,mb6.6,baz=190,slow=0.7,SNR=19
HNR S **S 10 50 01.1 +4.2**
comp=Z,228nm,0.7s,baz=264,slow=21,SNR=1.4
HNR Honiara 29.55 314 P **P 10 45 12.9 -0.7**
HNR S **S 10 50 01.1 +4.2**
HNR pmax pmax
comp=Z,907nm,0.7s,mb6.6
HNR smax
comp=N,228nm,0.7s
HNR Honiara 29.55 314 *e*P P 10 45 11.7 -2.0
comp=N,10µm,1.3s,mb7.4
PAE Paea 30.22 69 *e*P P 10 45 18.0 -1.6
comp=N,4µm,1.3s,mb7.0
PPT Papeete 30.28 69 *e*P P 10 45 18.7 -1.4
comp=N,2µm,1.2s,mb6.7
PPT Papeete 30.28 69 *e*S S 10 50 02.8 -5.5
comp=N,435µm,28.2s
PPT *e*LQ 10 51 37.6
comp=N,650µm,25.0s
PPT *e*LR LR 10 52 51.2
comp=N,1356µm,31.8s,baz=243
PPT Papeete 30.28 69 P **P 10 45 19.0 -1.1**
comp=N,690nm,0.9s,mb6.4,baz=202,slow=5.2,SNR=37
PPT LR LR 10 55 24.3
comp=N,237µm,18.6s,baz=252,slow=32
TVO Taravao 30.42 70 *e*P P 10 45 19.8 -1.5
comp=N,1µm,0.7s,mb6.8
PMOR Pomariorio Ree 33.06 67 *e*P P 10 45 42.9 -1.5
comp=N,2µm,1.2s,mb6.6
CTA Charters Tower 33.09 282 *e*P P 10 45 46.4 +1.7
comp=N,22µm,1.8s,mb7.6
CTA *e* 10 46 47.9
CTA *e*S **S 10 51 00.3 +8.2**
CTA Charters Tower 33.09 282 P **P 10 45 46.1 +1.4**
comp=N,4µm,1.0s,mb7.1,baz=106,slow=10,SNR=239
CTA S **S 10 51 00.3 +8.2**
comp=N,222nm,0.9s,baz=12,slow=21,SNR=1.3
CTA ScP ScP 10 51 58.4 +4.5
comp=N,184nm,0.8s,baz=153,slow=2.3,SNR=2.6
CTA Charters Tower 33.09 282 P **P 10 45 46.1 +1.4**
CTA S **S 10 51 00.3 +8.2**
CTA smax
comp=N,222nm,0.9s
CTA smax
comp=E,184nm,0.8s
CTAO Charters Tower 33.09 282 P **P 10 45 46.3 +1.7**
CTAO sP sP 10 46 45.0 +9.4
CTAO S **S 10 51 01.4 +9.3**
CTAO S **S 10 51 05.1 +13**
CTAO Charters Tower 33.09 282 *e*P P 10 45 46.4 +1.7
CTAO *e*S **S 10 51 03.1 +11**
CTAO Charters Tower 33.09 282 *e*P P 10 45 46.4 +1.7
comp=E,32µm,1.4s
CTAO *e*S **S 10 51 03.0 +11**
CTAO *e*ScP ScP 10 52 02.0 +8.2
STKA Stephens Creek 33.21 259 *e*P P 10 45 45.7 0.0
comp=E,5µm,0.8s,mb7.3
STKA *e*S **S 10 51 02.3 +8.3**
STKA *e*SCS ScS 10 55 58.1 +2.9
STKA Stephens Creek 33.21 259 P **P 10 45 46.4 +0.6**
comp=E,675nm,0.8s,mb6.4,baz=96,slow=9.4,SNR=421
STKA S **S 10 50 58.7 +4.8**
comp=E,218nm,1.0s,baz=300,slow=18,SNR=1.8
PMG Port Moresby 38.37 298 P **P 10 46 30.1 +0.4**
comp=E,348nm,0.6s,mb6.1,baz=117,slow=4.6,SNR=58
PMG S **S 10 52 18.6 +6.1**
comp=E,174nm,0.9s,baz=100,slow=16,SNR=3.7
PMG LR LR 11 00 04.2
comp=E,272µm,18.7s,baz=251,slow=32
PMG Port Moresby 38.37 298 *e*P P 10 46 30.3 +0.6
comp=E,5µm,1.3s,mb7.0
PMG *e*S **S 10 52 18.3 +5.7**
RKT Rikitea 39.92 89 *e*P P 10 46 42.5 0.0
comp=E,4µm,1.4s,mb6.8
RKT Rikitea 39.92 89 *e*S **S 10 52 35.0 -0.9**
comp=E,293µm,28.0s
RKT *e*LR LR 10 57 23.7
comp=E,943µm,39.8s,baz=238
ASAR Alice Springs 42.07 269 P **P 10 47 00.6 +0.5**
comp=E,2µm,0.9s,mb6.8,baz=107,slow=7.1,SNR=1597
ASAR ScP ScP 10 52 31.6 +4.0
comp=E,134nm,0.8s,baz=130,slow=3.8,SNR=5.0
ASAR S **S 10 53 11.4 +3.9**
comp=E,31nm,0.8s,baz=127,slow=12,SNR=2.1
ASAR P3KPbc 11 16 15.2
comp=E,2.0nm,0.8s,baz=332,slow=1.1,SNR=4.2
ASAR P4KPbc 11 25 07.5
comp=E,1.2nm,0.5s,baz=115,slow=4.0,SNR=8.1
ASAR Alice Springs 42.07 269 P **P 10 47 00.6 +0.5**
ASAR S **S 10 53 11.4 +3.9**
ASAR Alice Springs 42.07 269 P **P 10 47 00.6 +0.5**
ASAR ScP ScP 10 52 31.6 +4.0
ASAR S **S 10 53 11.4 +3.9**
ASAR *e* 11 16 15.2
DRV Dumont d'Urvil 42.43 203 P **P 10 46 58.0 -5.0**

DRV S **S 10 53 07.0 -5.9**
DRV SS SS 10 56 22.0 -6.2
DRV R 11 00 00.0
TAOE Nuku Hiva Isla 42.79 66 *e*S **S 10 53 12.7 -5.4**
comp=E,1317µm,25.7s
TAOE *e*LR LR 10 58 54.6
comp=E,2063µm,34.9s,baz=244
WB2 Warramunga Arr 43.18 274 *e*P **P 10 47 09.2 +0.2**
WB2 *e*SCP ScP 10 52 43.1 +11
WB2 *e*S **S 10 53 28.6 +4.8**
WB2 *e*SCS ScS 10 56 53.4 +0.8
WRAB Tennant Creek 43.18 274 P **P 10 47 09.0 -0.1**
comp=E,121µm,0.6s
WRAB Tennant Creek 43.18 274 *e*P **P 10 47 09.3 +0.2**
comp=E,12µm,0.6s,mb7.7
WRAB *e*S **S 10 53 35.3 +11**
WRA Warramunga Arr 43.19 274 P **P 10 47 09.2 +0.1**
comp=E,1µm,0.6s,mb6.8,baz=113,slow=7.6,SNR=2596
WRA ScP ScP 10 52 36.6 +4.5
comp=E,244nm,0.9s,baz=119,slow=4.1,SNR=5.3
WRA S **S 10 53 28.0 +4.0**
comp=E,284nm,1.0s,baz=110,slow=13,SNR=4.1
WRA P4KPbc 11 25 10.1
comp=E,5.7nm,0.7s,baz=106,slow=3.9,SNR=22
WRA Warramunga Arr 43.19 274 P **P 10 47 09.2 +0.1**
WRA ScP ScP 10 52 36.6 +4.5
WRA S **S 10 53 28.0 +4.0**
PTCN Pitcairn Islan 43.36 94 *e*P **P 10 47 15.8 +5.3**
comp=E,4µm,1.2s,mb6.9
FORT Forrest 44.74 257⇑*i*P P 10 47 21.1 -0.3
comp=E,4µm,0.7s,mb7.2
FORT *e*S **S 10 53 49.6 +3.2**
SBA Scott Base 46.53 184⇑*e*P P 10 47 39.0 +3.6
comp=E,14µm,1.8s,mb7.3
VNDA Vanda 46.56 186 P **P 10 47 38.5 +2.8**
comp=E,46nm,0.7s,baz=0.9,slow=8.3,SNR=104
VNDA ScP ScP 10 52 50.7 +4.6
comp=E,106nm,0.8s,baz=29,slow=2.8,SNR=2.5
VNDA S **S 10 54 27.4 +15**
comp=E,32nm,0.9s,baz=30,slow=11,SNR=1.1
VNDA P4KPbc 11 25 24.4
comp=E,4.5nm,0.9s,baz=333,slow=4.3,SNR=7.2
VNDA Vanda 46.56 186⇑*e*P P 10 47 38.2 +2.4
VNDA *e**PP pP 10 48 06.7 -3.9
VNDA pmax pmax
comp=Z,203nm,0.4s
VNDA Vanda 46.56 186⇑*e*P P 10 47 38.2 +2.4
comp=Z,203nm,0.4s,mb6.1
VNDA *e*pP pP 10 48 06.7 -4.0
VNDA *e*ScP ScP 10 52 50.7 +4.6
KAKA Kakadu 48.23 282 *e*P **P 10 47 47.9 -0.7**
KNA Kununurra 49.81 276 P **P 10 47 58.7 -1.9**
FITZ Fitzroy Crossi 51.39 272 *e*P **P 10 48 12.0 -0.4**
comp=Z,7µm,1.0s,mb7.2
FITZ *e*S **S 10 55 29.3 +9.4**
FITZ *e*SCS ScS 10 57 52.1 +5.3
FITZ Fitzroy Crossi 51.39 272 S **S 10 55 27.9 +8.0**
comp=Z,112nm,1.0s,baz=120,slow=13,SNR=1.5
FITZ LR LR 11 08 08.1
comp=Z,259µm,21.4s,baz=281,slow=34
WAKE Wake Island 52.62 343⇑*e*P P 10 48 19.3 -2.3
comp=Z,18µm,1.8s,mb7.5
KLBR Kellerberrin 52.96 252⇑*i*P P 10 48 22.8 -1.2
comp=Z,5µm,1.0s,mb7.2
KLBR *e* 10 55 38.9
NWAO Narrogin (SRO) 52.97 251 P **P 10 48 24.3 +0.1**
comp=Z,889nm,1.1s,mb6.4,baz=121,slow=6.5,SNR=40
NWAO S **S 10 55 45.2 +3.7**
comp=Z,98nm,1.0s,baz=323,slow=20,SNR=1.7
NWAO LR LR 11 07 34.0
comp=Z,142µm,21.5s,baz=257,slow=32
NWAO Narrogin (SRO) 52.97 251 *e*P P 10 48 23.2 -1.0
NWAO *e* 10 50 32.3
NWAO pmax pmax
comp=Z,7µm,1.8s
NWAO Narrogin (SRO) 52.97 251 *e*P P 10 48 23.2 -1.0
comp=Z,7µm,1.8s,mb7.1
NWAO *e*PP PP 10 50 32.3 +6.9
NWAO *e*ScP ScP 10 53 20.7 +7.2
CASY Casey 53.40 208 *e*P P 10 48 26.4 -0.9
CASY *e*S **S 10 55 48.8 +1.5**
MBWA Marble Bar 55.10 265 *e*P P 10 48 38.7 -0.8
comp=Z,6.6nm,0.4s
KKH Kailua Kona 55.80 27 P **P 10 48 47.2 +2.6**
KKH Kailua Kona 55.80 27 *e*P P 10 48 44.4 -0.2
POHA Pohakuloa 56.08 27 *e*P P 10 48 45.8 -0.7
comp=Z,2µm,0.8s,mb7.0
HON Honolulu 56.62 24 *e*P P 10 48 49.1 -1.2
HON *e*ScP ScP 10 53 23.8 -5.7
HKL Haleakala 56.67 26 *e*P P 10 48 50.5 -0.3
KIP Kipapa 56.70 24 *e*P P 10 48 49.8 -1.2
KIP *e*S **S 10 56 33.7 +2.4**
KIP pmax pmax
comp=Z,6µm,1.4s,mb7.2
KIP Kipapa 56.70 24 *e*P P 10 48 49.8 -1.2
comp=Z,6µm,1.4s,mb7.2
KIP *e*ScP ScP 10 53 36.9 +7.0
KIP *e*S **S 10 56 33.6 +2.4**
GUMO Guam 56.83 317 P **P 10 48 50.2 -1.6**
comp=Z,1µm,1.0s,mb6.7,baz=185,slow=9.5,SNR=26
QSPA South Pole Qui 58.27 180 P **P 10 49 04.0 +2.1**
QSPA South Pole Qui 58.27 180 *e*P P 10 49 06.2 +4.3
comp=Z,7µm,0.8s,mb7.5
MIDW Midway 59.75 2 *e*P P 10 49 11.6 -0.6
comp=Z,4µm,1.4s,mb7.1
MIR Mirnyy 60.39 207⇓*i*P P 10 49 12.5 -4.0
MIR pmax pmax
comp=Z,27µm,1.5s
DAV Davao City (W) 65.35 296 *e*P P 10 49 47.5 -1.8
comp=Z,2µm,1.0s,mb6.9
BIPH Bislig 65.47 298⇑*i*P P 10 49 48.1 -1.9
BUKP Musuan 66.26 296 *e*P P 10 49 54.9 -0.1
CTBH Cotabato--PC H 66.47 295⇓*e*P P 10 49 57.5 +1.1
BUTP Butuan 66.53 298 *e*P P 10 49 57.8 +1.1
CGP Cagayan de Oro 66.90 297⇓*e*P P 10 50 05.4 +6.2
SCPH Surigao 67.15 298⇓*e*P P 10 50 03.1 +2.4
PAGZ Pagadian 67.52 295 *e*P P 10 50 03.9 +0.8
MSLP Maasin 67.85 298 *e*P P 10 50 04.9 -0.2
IPIL Ipil 68.11 295 *e*P P 10 50 06.7 -0.1
TBP Tagbilaran 68.32 297 *e*P P 10 50 09.3 +1.3
PLP Palo 68.43 299 *e*P P 10 50 08.3 -0.4
SNPH Sibulan 68.58 296 *e*P P 10 50 12.0 +2.4
OCLP Ormoc 68.63 299 *e*P P 10 50 10.6 +0.7
LLP Lapu-Lapu 68.64 298 *e*P P 10 50 10.5 +0.5
comp=Z,1474µm,0.5s
CBIJ Chichi jima 69.23 323 P **P 10 50 12.3 -1.3**
comp=Z,2µm,1.0s,mb6.8,baz=170,slow=7.9,SNR=30
TSM Tawau 69.72 289 P **P 10 50 18.4 +1.8**
GUIM Jordan 69.88 297 *e*P P 10 50 19.6 +2.0
RCP Roxas 70.35 298⇓*e*P P 10 50 19.7 -0.8
MAW Mawson 70.61 201 *e*P P 10 50 21.4 -0.7
comp=Z,3µm,1.7s,mb6.8
MAW *e*S S 10 59 25.8 +2.6
MAW Mawson 70.61 201 P **P 10 50 23.2 +1.1**
comp=Z,710nm,1.1s,mb6.3,baz=113,slow=7.0,SNR=53
MAW S S 10 59 23.3 +0.2
comp=Z,14nm,1.0s,baz=100,slow=13,SNR=1.2
MAW Mawson 70.61 201 P **P 10 50 23.2 +1.1**
MAW S S 10 59 23.3 +0.1
MAW pmax pmax
comp=Z,710nm,1.1s
MAW smax
comp=N,14nm,1.0s
PVCP Virac 70.62 301⇓*e*P P 10 50 22.1 0.0
PVCP Virac 70.62 301 *e*P P 10 50 22.1 0.0
KALP Kalibo 70.74 298 *e*P PcP 10 50 37.0 -5.7
CUYO Cuyo Island 71.22 296 *e*P P 10 50 25.5 -0.2
PMSA Palmer Station 71.36 156 *e*P P 10 50 28.3 +1.8
comp=N,2µm,1.3s,mb6.6
OTRP Odiongan 71.41 298 *e*P P 10 50 26.4 -0.5
AUQP San Andres 71.54 299 *e*P P 10 50 32.1 +4.5
XMIS Christmas Isla 72.01 269 P **P 10 50 30.1 -0.4**
KKM Kota Kinabalu 72.08 289 P **P 10 50 33.7 +2.8**
KKM Kota Kinabalu 72.08 289 *e*P P 10 50 30.4 -0.5
KKM *e*PcP PcP 10 50 48.3 -0.1
GQP Guinayangan 72.08 300⇓*e*P P 10 50 29.7 -1.1
BOAC Boac 72.24 299 *e*P P 10 50 34.6 +2.7
PPR Puerto Princes 72.32 294⇓*e*P P 10 50 33.5 +1.2
BATP Bataraza 72.45 292 *e*P P 10 50 36.7 +3.6
BUSP Coron 72.56 297 *e*P P 10 50 34.1 +0.4
ENPP El Nido 72.66 295 *e*P P 10 50 37.5 +3.2
LQP Lukban 72.89 299 *e*P P 10 50 35.4 -0.2
PGP Puerto Galera 72.93 298 *e*P P 10 50 40.0 +4.1
POLP Polilio Island 72.98 300 *e*P P 10 50 39.1 +2.8

TGY Tagaytay City 73.33 299 P **P 10 50 38.2 -0.1**
comp=N,2µm,1.0s,baz=209,slow=2.7,SNR=13
TGY Tagaytay City 73.33 299⇑*e*P P 10 50 40.0 +1.7
LUBP Lubang 73.61 298 *e*P P 10 50 41.0 +1.2
BALP Baler 73.90 301 *e*P P 10 50 41.5 -0.1
PCPH Palayan 74.14 300⇓*e*P P 10 50 43.6 +0.7
PALP Palanan 74.14 302⇑*e*P P 10 50 43.3 +0.3
PALP Palanan 74.14 302 *e*P P 10 50 46.6 +3.6
KSM Kuching 74.33 282 *e*P P 10 50 44.4 +0.3
KSM *e*PP PP 10 53 31.9 -0.3
CAUP Cauayan 74.50 302 *e*P P 10 50 49.0 +3.9
CVP Callao Caves 75.00 302 *e*P P 10 50 48.0 +0.1
BCPH Baguio City Da 75.05 300⇓*e*P P 10 50 46.9 -1.3
USHA Ushuaia 75.28 146 LR LR 11 19 12.0
comp=N,30µm,19.3s,baz=218,slow=32
JHJ Hachijo jima 2 75.34 325 P **P 10 50 48.5 -1.4**
comp=N,1µm,0.9s,mb6.5,baz=171,slow=1.6,SNR=7.2
SYO Syowa Base 75.49 193⇓*i*P P 10 50 49.8 -0.9
APYP Conner 75.52 302 *e*P P 10 50 55.4 +4.6
BOLP Bolinao 75.54 300 *e*P P 10 50 53.1 +2.1
ABRA Dolores 75.76 301 *e*P P 10 50 53.5 +1.2
PIP Pasuquin 76.27 302⇑*e*P P 10 50 58.0 +2.9
SNAA Sanae 76.74 179 *e*P P 10 50 58.7 +0.9
SNAA *e*S S 11 00 35.1 +3.2
SNAA pmax pmax
comp=Z,7µm,1.4s
SNAA Sanae 76.74 179 *e*P P 10 50 58.7 +0.9
comp=Z,7µm,1.4s,mb7.1
SNAA *e*S S 11 00 35.1 +3.2
VNA3 Neumayer Olymp 76.93 177⇓*i*P P 10 51 01.3 +2.4
VNA3 *e* 10 51 02.2
VNA3 *e* 10 51 07.7
VNA3 *e* 10 51 09.8
VNA3 *e* 10 51 12.5
VNA3 *e* 10 51 13.7
VNA3 *e* 10 51 17.7
VNA3 *e* 10 51 20.3
VNA3 *e* 10 51 21.9
VNA3 *e* 10 51 24.2
VNA3 *e* 10 51 26.0
VNA3 *e* 10 51 29.4
VNA3 *e* pP 10 51 37.7 +0.6
VNA3 *e* 10 51 45.2
VNA3 *e* 10 51 49.6
VNA3 *e* 10 51 53.4
VNA3 *e* 10 51 58.8
VNA3 *e* 10 52 05.4
VNA3 *e* 10 52 12.2
VNA3 *e* 10 52 16.8
VNA3 *e* 10 52 20.1
VNA3 *e* 10 52 32.6
VNA3 *e* 10 52 40.8
VNA3 *e* 10 52 53.0
VNA3 *e* 10 53 00.3
VNA3 *e* 10 53 32.2
VNA3 *e* 10 53 48.1
VNA3 *e* 10 53 55.8
VNA3 *e* 10 54 04.9
VNA3 *e* 10 54 08.6
VNA3 *e* 10 54 16.6
VNA3 *e* 10 55 00.5
VNA3 *e* 10 56 37.3
VNA3 *e* 10 56 54.4
VNA3 *e* 10 56 57.7
VNA3 *e* 10 57 04.2
VNA3 *e* 10 57 19.5
VNA3 *e* 10 57 26.4
VNA3 *e* 10 57 34.1
VNA3 *e* 10 57 44.5
VNA3 *e* 10 57 54.6
VNA3 *e* 10 58 13.8
VNA3 *e* 10 58 33.4
VNA3 *e* 10 59 08.2
VNA3 *e*S S 11 00 38.0 +4.0
VNA3 *e* 11 00 43.5
VNA3 *e* 11 00 47.4
VNA3 *e* 11 00 50.1
VNA3 *e* 11 00 57.7
VNA3 *e* 11 01 02.6
VNA3 *e* 11 01 04.5
VNA3 *e* 11 01 10.6
VNA3 *e* 11 01 15.5
VNA3 *e* 11 01 20.5
VNA3 *e* 11 01 25.7
VNA3 *e* 11 01 36.0
VNA3 *e* 11 01 42.7
VNA3 *e* 11 01 47.6
VNA3 *e* 11 02 04.3
VNA3 *e* 11 02 41.8
VNA3 *e* 11 02 53.8
VNA3 *e* 11 03 44.0
VNA3 *e* 11 10 06.2
VNA2 Neumayer--Watz 77.35 177⇓*i*P P 10 51 03.3 +2.3
VNA2 *e* 10 51 04.2
VNA2 *e* 10 51 09.2
VNA2 *e* 10 51 11.8
VNA2 *e* 10 51 14.4
VNA2 *e* 10 51 16.2
VNA2 *e* 10 51 19.0
VNA2 *e* 10 51 22.2
VNA2 *e* 10 51 24.2
VNA2 *e* 10 51 26.2
VNA2 *e* 10 51 28.4
VNA2 *e* 10 51 31.7
VNA2 *e* pP 10 51 40.0 +0.5
VNA2 *e* 10 51 47.2
VNA2 *e* 10 51 51.7
VNA2 *e* 10 51 55.7
VNA2 *e* 10 52 01.0
VNA2 *e* 10 52 08.0
VNA2 *e* 10 52 14.6
VNA2 *e* 10 52 19.0
VNA2 *e* 10 52 22.3
VNA2 *e* 10 52 36.2
VNA2 *e* 10 52 45.3
VNA2 *e* 10 52 56.1
VNA2 *e* 10 53 03.2
VNA2 *e* 10 53 34.0
VNA2 *e* 10 53 52.3
VNA2 *e* 10 54 00.1
VNA2 *e* 10 54 09.3
VNA2 *e* 10 54 12.8
VNA2 *e* 10 54 18.1
VNA2 *e* 10 54 36.4
VNA2 *e* 10 54 42.1
VNA2 *e* 10 55 05.4
VNA2 *e* 10 56 00.0
VNA2 *e* 10 56 38.2
VNA2 *e* 10 56 56.8
VNA2 *e* 10 56 59.7
VNA2 *e* 10 57 03.0
VNA2 *e* 10 57 06.2
VNA2 *e* 10 57 20.4
VNA2 *e* 10 57 29.7
VNA2 *e* 10 57 35.7
VNA2 *e* 10 57 48.9
VNA2 *e* 10 57 56.7
VNA2 *e* 10 58 20.2
VNA2 *e* 10 58 39.3
VNA2 *e* 10 59 09.7
VNA2 *e*S S 11 00 41.6 +3.0
VNA2 *e* 11 00 47.7
VNA2 *e* 11 00 52.3
VNA2 *e* 11 00 54.8
VNA2 *e* 11 01 01.9
VNA2 *e* 11 01 09.0
VNA2 *e* 11 01 10.5
VNA2 *e* 11 01 15.9
VNA2 *e* 11 01 20.2
VNA2 *e* 11 01 24.8
VNA2 *e* 11 01 29.9
VNA2 *e* 11 01 41.4
VNA2 *e* 11 01 48.2
VNA2 *e* 11 01 53.2
VNA2 *e* 11 02 08.9
VNA2 *e* 11 02 45.4
VNA2 *e* 11 02 57.1
VNA2 *e* 11 03 47.2
VNA2 *e* 11 09 52.7
VNA2 *e* 11 10 02.9

VNA2 e 11 18 06.8
MAIT Maitri 77.38 184 eP **P** **10 51 05.2 +3.9**
MAIT epP pP 10 51 13.6 -26
MAIT ePP PP 10 54 15.1 +17
NVL N'lazarevskaya 77.38 184 eP **P** **10 51 01.6 +0.2**
NVL e 10 54 06.2
NVL i S S 11 00 39.6 +0.8
NVL e 11 01 47.6
NVL eSS SS 11 05 44.1 +3.4
NVL pmax pmax
comp=Z,2µm,0.8s,mb6.8
NVL smax
comp=N,91µm,28.2s
NVL MLR MLR
comp=Z,27µm,18.5s
NVL MLR MLR
comp=N,15µm,18.5s
NVL MLR MLR
comp=E,9µm,18.5s
VNA1 Neumayer--Stat 77.59 177 ⇓i P **P** **10 51 05.0 +2.5**
VNA1 e 10 51 05.7
VNA1 e 10 51 10.6
VNA1 e 10 51 13.3
VNA1 e 10 51 15.8
VNA1 e 10 51 17.3
VNA1 e 10 51 20.6
VNA1 e 10 51 23.5
VNA1 e 10 51 25.8
VNA1 e 10 51 28.0
VNA1 e 10 51 30.6
VNA1 e 10 51 33.3
VNA1 e pP 10 51 40.3 -0.5
VNA1 e pP 10 51 48.0 +7.2
VNA1 e 10 51 51.3
VNA1 e 10 51 56.4
VNA1 e 10 52 01.3
VNA1 e 10 52 14.7
VNA1 e 10 52 36.1
VNA1 e 10 52 43.2
VNA1 e 10 52 56.6
VNA1 e 10 53 05.1
VNA1 e 10 53 34.5
VNA1 e 10 54 00.2
VNA1 e 10 54 09.5
VNA1 e 10 54 18.3
VNA1 e 10 55 05.6
VNA1 eS S 11 00 44.3 +3.2
VNA1 e 11 00 50.1
VNA1 e 11 00 56.1
VNA1 e 11 01 03.6
VNA1 e 11 09 52.6
VNA1 e 11 10 05.4
VNA1 e 11 18 06.1
COCO West Island 78.64 263 P **P** **10 51 12.6 +4.3**
comp=E,5µm,2.4s,mb6.7,SNR=31
COCO West Island 78.64 263 eP **P** **10 51 09.7 +1.4**
comp=E,8µm,2.0s,mb7.0
COCO ePP PP 10 54 15.3 +7.0
MJAR Matsushiro Arr 78.87 326 P **P** **10 51 08.4 -1.2**
comp=E,71nm,0.8s,baz=163,slow=5.8,SNR=122
MJAR PKKPbc PKKPbc 11 10 07.3 +5.7
comp=E,3.8nm,0.7s,baz=316,slow=2.5,SNR=5.5
MJAR LR LR 11 26 19.0
comp=E,23µm,18.3s,baz=135,slow=36
MAJO Matsushiro 78.88 326 P **P** **10 51 06.6 -3.0**
MAJO S S 11 00 53.9 -0.9
MAJO Matsushiro 78.88 326⇑ eP **P** **10 51 06.6 -3.0**
MAJO eS S 11 00 59.5 +4.7
MAJO pmax pmax
comp=Z,808nm,1.0s,mb6.3
MAJO Matsushiro 78.88 326⇑ eP **P** **10 51 06.6 -3.0**
comp=Z,833nm,1.0s,mb6.3
MAJO e 10 52 00.6
MAJO eS S 11 00 59.5 +4.7
MAT Matsushiro 78.88 326 P **P** **10 51 06.7 -2.9**
MAT S S 11 00 55.7 +0.9
MAT Matsushiro 78.88 326 eP **P** **10 51 07.0 -2.6**
MAT eS S 11 00 56.0 +1.2
MAT pmax pmax
comp=Z,840nm,2.1s,mb6.0
MAT Matsushiro 78.88 326 eP **P** **10 51 07.0 -2.6**
comp=Z,840nm,2.1s,mb6.0
MAT eS S 11 00 56.0 +1.2
NACB Ninganchiao 79.42 307 eP **P** **10 51 10.2 -2.3**
NACB ePP PP 10 54 10.5 -4.3
NACB eS S 11 01 07.7 +7.1
BTDF Bukit Timah Da 79.75 278 P **P** **10 51 13.5 -0.8**
YHNB Yeheng 79.90 307 eP **P** **10 51 14.8 -0.3**
YHNB eS S 11 01 09.3 +3.7
TATO Taipei 80.02 308 P **P** **10 51 14.5 -1.3**
TATO Taipei 80.02 308 eP **P** **10 51 15.2 -0.6**
comp=Z,2µm,1.0s,mb6.6
TATO epP pP 10 51 51.4 -2.9
TATO esP sP 10 52 09.2 -1.6
KGM Kluang 80.48 278 P **P** **10 51 19.8 +1.5**
ERM Erimo 81.27 333 P **P** **10 51 23.2 +0.8**
comp=Z,6µm,1.7s,mb7.0,SNR=37
QZH Quanzhou 81.98 306⇑ iP **P** **10 51 26.3 +0.1**
QZH AP pP 10 52 10.9 +6.0
QZH PP PP 10 54 34.6 -1.3
QZH S S 11 01 27.4 +0.2
QZH AMB AMB
comp=Z,5µm,1.6s,mb6.9
QZH AMB AMB
comp=Z,105µm,8.8s
QZH LR LR
comp=N,73µm,18.4s
QZH LR LR
comp=E,82µm,13.6s
QZH LR LR
comp=Z,242µm,29.9s
YUK Yuzh-Kuril'sk 82.00 335 eP **P** **10 51 26.0 -0.2**
YUK *PP pP 10 52 14.3 +9.4
YUK e 10 54 37.0
YUK i S S 11 01 27.8 +0.5
YUK pmax pmax
comp=N,60µm,8.0s
YUK pmax pmax
comp=E,36µm,8.0s
YUK pmax pmax
comp=Z,128µm,8.0s
YUK smax
comp=N,11µm,2.0s
YUK smax
comp=E,3µm,1.5s
YUK smax
comp=N,99µm,15.0s
EFI East Falkland 82.12 147 P **P** **10 51 27.1 +0.2**
comp=N,12µm,0.8s,mb7.6,SNR=16
EFI East Falkland 82.12 147 P **P** **10 51 28.0 +1.1**
EFI pmax pmax
comp=Z,2µm,1.0s,mb6.7
EFI East Falkland 82.12 147 eP **P** **10 51 27.7 +0.8**
comp=Z,2µm,1.0s,mb6.7
PLCA Paso Flores 82.25 133 P **P** **10 51 29.1 +1.6**
PLCA S S 11 01 33.4 +3.5
PLCA Paso Flores 82.25 133 eP **P** **10 51 28.6 +1.1**
PLCA e*PP pP 10 52 06.0 -0.2
PLCA pmax pmax
comp=Z,4µm,2.5s
PLCA Paso Flores 82.25 133 eP **P** **10 51 28.6 +1.0**
comp=Z,4µm,2.5s,mb6.6
PLCA epP pP 10 52 06.0 -0.3
CCHI Chillan 83.65 129 eP **P** **10 51 35.9 +1.1**
CCHI AMb AMB 10 52 40.0
comp=Z,3µm,1.7s,mb6.8
IPM Ipoh 83.73 279 P **P** **10 51 36.7 +1.5**
SSE Sheshan 84.32 312 P **P** **10 51 39.3 +1.1**
SSE AP pP 10 52 20.6 +3.6
SSE XP sP 10 52 35.8 +2.3
SSE PP PP 10 54 56.6 +1.6
SSE S 11 01 47.3
SSE XS sS 11 03 01.6 +3.5
SSE SS SS 11 07 27.9 +3.9
SSE AMB AMB
comp=Z,938nm,1.1s,mb6.4
SSE AMB AMB
comp=Z,56µm,7.8s
SSE LR LR
comp=N,63µm,23.0s
SSE LR LR
comp=E,60µm,25.0s
SSE LR LR
comp=Z,56µm,29.2s
SMY Shemya 84.42 356 eP **P** **10 51 38.3 -0.4**
SMY pmax pmax
comp=Z,4µm,2.2s,mb6.8
SMY Shemya 84.42 356 eP **P** **10 51 38.3 -0.4**
comp=Z,4µm,2.2s,mb6.8
KULM Kulim 84.48 280 eP **P** **10 51 38.5 -0.4**
KULM epP pP 10 52 16.5 -1.4
KULM ePP PP 10 54 59.9 +3.6
GZH Guangzhou 84.54 301 P **P** **10 51 38.5 -0.7**
GZH PP PP 10 54 57.5 +0.7
GZH S 11 01 49.0
GZH LR LR
comp=N,60µm,22.7s
GZH LR LR
comp=E,18µm,18.7s
GZH LR LR
comp=Z,108µm,39.2s
PSI Prapat 84.61 277 S 11 01 48.0
comp=Z,26nm,1.0s,baz=241,slow=16,SNR=2.2
PSI PKKPbc PKKPbc 11 09 51.3 +2.7
comp=Z,6.6nm,0.7s,baz=255,slow=16,SNR=2.3
FX1 Attu Island--F 84.63 355 eP **P** **10 51 39.1 -0.6**
QIZ Qiongzhong 84.72 296 P **P** **10 51 42.8 +2.6**
QIZ AP pP 10 52 18.1 -1.0
QIZ XP sP 10 52 34.3 -1.2
QIZ PP PP 10 54 57.5 -0.8
QIZ S 11 01 55.0
QIZ XS sS 11 02 59.0 -3.2
QIZ AMB AMB
comp=Z,58µm,10.5s
QIZ Qiongzhong 84.72 296 eP **P** **10 51 39.9 -0.3**
comp=Z,2µm,1.5s,mb6.6
QIZ epP pP 10 52 17.6 -1.6
QIZ ePP PP 10 55 01.4 +3.1
KS15 Wonju Array Si 84.83 320 eP **P** **10 51 40.9 +0.2**
SKR Severo-Kuril's 85.03 345 eP **P** **10 51 35.0 -6.7**
SKR i S 11 01 50.0
SKR i 11 02 50.0
SKR pmax pmax
comp=E,270nm,1.0s
SKR pmax pmax
comp=Z,760nm,1.0s,mb6.4
SKR pmax pmax
comp=N,2µm,1.4s
SKR pmax pmax
comp=N,26µm,12.0s
SKR pmax pmax
comp=Z,72µm,12.0s
SKR pmax pmax
comp=E,20µm,6.0s
SKR smax
comp=N,58µm,14.0s
SKR smax
comp=E,127µm,14.0s
SKR smax
comp=N,23µm,4.0s
SKR smax
comp=E,2µm,2.0s
SKR MLR MLR
comp=N,26µm,18.0s
SKR MLR MLR
comp=E,29µm,18.0s
SKR MLR MLR
comp=Z,39µm,18.0s
NICH Los Niches 85.14 128 eP **P** **10 51 42.9 +0.7**
NICH AMb AMB 10 52 48.8
comp=Z,1µm,1.3s,mb6.5
INCN Inchon 85.54 320 eP **P** **10 51 44.0 -0.3**
comp=Z,2µm,1.4s,mb6.6
YSS Yuzh-Sakhalins 85.62 335j iP **P** **10 51 43.8 -0.8**
YSS i *SP sP 10 52 35.2 -4.8
YSS i S 11 01 58.0
YSS ePPS 11 03 06.0
YSS eSSS 11 11 12.0
YSS pmax pmax
comp=N,24µm,7.0s
YSS pmax pmax
comp=E,11µm,7.0s
YSS pmax pmax
comp=Z,70µm,7.0s
YSS pmax pmax
comp=Z,1µm,0.9s,mb6.6
YSS pmax pmax
comp=N,310nm,0.8s
YSS MLR MLR
comp=N,28µm,20.0s
YSS MLR MLR
comp=E,30µm,20.0s
YSS MLR MLR
comp=Z,38µm,20.0s
YSS Yuzh-Sakhalins 85.62 335 i Pdu **P** **10 51 43.8 -0.8**
comp=Z,1µm,0.9s,mb6.6
YSS i sP sP 10 52 35.2 -4.8
YSS i S 11 01 58.0
YSS ePPS 11 03 06.0
YSS eSSS 11 11 12.0
YSS LR LR
comp=Z,38µm,20.0s
IHA Instituto Hidr 86.01 127 eP **P** **10 51 47.6 +1.0**
IHA AMb AMB 10 52 53.5
comp=Z,2µm,1.6s,mb6.6
LPIG La Paz 86.13 59 S 11 02 03.2
comp=Z,11nm,0.3s,baz=106,slow=4.3,SNR=2.4
UBT Ubonrachathani 86.33 290 ⇓P **P** **10 51 56.0 +7.9**
comp=Z,903nm,1.0s,mb6.5
AKUT Akutan 86.40 8 eP **P** **10 51 46.8 -1.7**
comp=Z,4µm,2.0s,mb6.8
NJ2 Nanjing 86.44 311 eP **P** **10 51 48.8 +0.1**
NJ2 AP pP 10 52 28.5 +0.8
NJ2 XP sP 10 52 46.3 +2.2
NJ2 PP PP 10 55 12.5 +0.3
NJ2 S 11 02 07.0
NJ2 XS sS 11 03 17.0 -2.2
NJ2 AMB AMB
comp=Z,4µm,1.2s,mb7.0
NJ2 AMB AMB
comp=Z,58µm,10.7s
NJ2 LR LR
comp=N,87µm,22.0s
NJ2 LR LR
comp=E,50µm,23.6s
NJ2 LR LR
comp=Z,82µm,27.8s
LMEL Las Melosas 86.50 128 eP **P** **10 51 50.8 +1.8**
LMEL eS 11 02 00.7
CLCH Cerro Calan 86.54 127 eP **P** **10 51 50.1 +1.0**
CLCH AMb AMB 10 52 39.1
comp=Z,2µm,1.5s,mb6.7
CLCH eS 11 02 02.5
PET Petropavlovsk 86.70 347c iP **P** **10 51 47.9 -2.0**
PET e 10 55 07.7
PET i S 11 02 01.5
PET eSPP 11 03 19.1
PET pmax pmax
comp=N,19µm,7.7s
PET pmax pmax
comp=Z,57µm,6.8s
PET pmax pmax
comp=E,13µm,7.7s
PET pmax pmax
comp=Z,272nm,2.2s,mb5.7
PET Petropavlovsk 86.70 347⇑ iP **P** **10 51 47.9 -2.0**
comp=Z,272nm,2.2s,mb5.7
PET e 10 55 07.7
PET i S 11 02 01.5
PET eSPP 11 03 19.1
FCH Farellones 86.75 127⇑ eP **P** **10 51 51.7 +1.5**
FCH AMb AMB 10 52 10.2
comp=Z,1µm,1.5s,mb6.5
FCH i S 11 02 05.2
PTRM Twissleman Ran 86.97 44 eP **P** **10 51 51.6 +0.4**
SAO San Andreas Ge 87.01 43 P **P** **10 51 51.2 -0.2**
SAO pmax pmax
comp=Z,620nm,1.1s,mb6.3
SAO San Andreas Ge 87.01 43 eP **P** **10 51 51.1 -0.3**
comp=Z,240nm,0.5s,mb6.3
SAO epP pP 10 52 30.4 -0.1
LRV Little Rabbit 87.02 43 eP **P** **10 51 53.3 +1.8**
SAC San Andreas 87.02 42 eP **P** **10 51 51.5 0.0**
SAC e*PP pP 10 52 28.8 -1.8
VLA Vladivostok 87.04 326 i P **P** **10 51 51.6 0.0**
MCCM Marconi Confer 87.16 41 eP **P** **10 51 51.9 -0.2**
comp=Z,995nm,1.3s,mb6.5
MCCM eS 11 02 15.5
CJM Chamela 87.39 65 i P **P** **10 51 53.3 0.0**
CMCH Combarbala 87.53 125 eP **P** **10 51 54.2 +0.3**
CMCH eS 11 02 09.1
CMCH Combarbala 87.53 125 eP **P** **10 51 54.2 +0.3**
CMCH eS 10 52 09.1
NSHM Saint Helena R 87.57 41 eP **P** **10 51 54.0 -0.1**
NSHM epP pP 10 52 32.8 -0.4
HOPS Hopland 87.65 40 eP **P** **10 51 54.9 +0.4**
comp=Z,2µm,1.4s,mb6.8
HOPS epP pP 10 52 32.9 -0.8
HOPS ePP PP 10 55 29.4 +7.6
PFO Pinyon Flat Ob 87.91 48 P **P** **10 51 55.9 +0.2**
comp=Z,4µm,1.1s,mb7.1,SNR=84
KIPM Iron Peak 88.00 40 eP **P** **10 51 54.8 -1.3**
ISA Isabella 88.02 45 eP **P** **10 51 56.3 +0.1**
ISA e*PP pP 10 52 34.2 -1.2
ISA e*SP sP 10 52 50.0 -1.8
ISA pmax pmax
comp=Z,1µm,1.0s,mb6.7
ISA Isabella 88.02 45 eP **P** **10 51 56.3 +0.1**
comp=Z,2.1nm,1.0s
ISA epP pP 10 52 34.1 -1.3
ISA esP sP 10 52 50.0 -1.8
PKT Phuket 88.03 281 P **P** **10 52 00.0 +3.7**
TLL Tololo Astrono 88.25 125 eP **P** **10 51 59.0 +1.7**
TLL AMb AMB 10 52 47.2
comp=Z,1µm,1.7s,mb6.5
SDPT Sand Point 88.31 11 eP **P** **10 51 55.5 -2.1**
comp=Z,7µm,1.8s,mb7.2
HOPE Hope Point 88.37 159 P **P** **10 51 59.2 +1.3**
comp=Z,8µm,1.1s,mb7.5,SNR=13
HOPE Hope Point 88.37 159 eP **P** **10 52 00.5 +2.7**
comp=Z,6µm,1.7s,mb7.2
WHN Wuhan 88.43 308 P **P** **10 51 57.4 -0.8**
WHN PP PP 10 55 34.0 +5.9
WHN LR LR
comp=Z,120µm,22.6s
CMB Columbia Colle 88.49 42 eP **P** **10 51 58.0 -0.5**
CMB e*PP pP 10 52 37.5 -0.2
CMB e 10 55 27.8
CMB pmax pmax
comp=Z,92nm,0.7s,mb5.7
CMB Columbia Colle 88.49 42 eP **P** **10 51 58.0 -0.5**
comp=Z,92nm,0.7s,mb5.7
CMB epP pP 10 52 37.5 -0.2
CMB ePP PP 10 55 27.8 -0.8
KHMM Horse Mountain 88.62 39 eP **P** **10 51 59.4 +0.3**
PAYG Puerto Ayora 88.69 90 eP **P** **10 52 02.5 +3.1**
comp=Z,2µm,1.7s,mb6.8
KKTK Khon Kaen 88.69 290 PG **P** **10 52 00.0 +0.6**
KKTK SG 10 52 04.0
OHCM Honcut 88.77 41 eP **P** **10 51 59.0 -0.7**
OHCM epP pP 10 52 37.7 -1.3
OHCM ePP PP 10 55 38.5 +7.7
DAC Darwin (Calif) 88.96 45 eP **P** **10 52 00.9 +0.3**
DAC pmax pmax
comp=Z,301nm,0.5s,mb6.5
DAC Darwin (Calif) 88.96 45 eP **P** **10 52 00.9 +0.3**
comp=Z,300nm,0.5s,mb6.5
LCO Las Campanas 89.01 124 eP **P** **10 52 02.2 +1.3**
WDC Whiskeytown Da 89.06 39 eP **P** **10 52 01.4 +0.3**
WDC e*PP pP 10 52 39.4 -1.0
WDC pmax pmax
comp=Z,2µm,1.5s,mb6.7
WDC Whiskeytown Da 89.06 39 eP **P** **10 52 01.4 +0.3**
comp=Z,2µm,1.5s,mb6.7
WDC epP pP 10 52 39.4 -0.9
TRQA Tornquist 89.11 135 P **P** **10 52 02.1 +0.7**
TRQA SKSac SKSac 11 02 16.3 -0.2
TRQA Tornquist 89.11 135 eP **P** **10 52 01.6 +0.3**
comp=Z,2µm,1.6s,mb6.7
ZIIG Zihuatanejo 89.13 69 i P **P** **10 52 03.5 +2.1**
NNT Nongplab 89.16 285 P **P** **10 52 03.3 +1.7**
CFAA Coronel Fontan 89.17 127 S 11 02 25.1
comp=Z,0.9nm,1.1s,baz=245,slow=17,SNR=1.0
CFAA PKKPbc PKKPbc 11 09 39.5 +1.8
comp=Z,0.9nm,0.6s,baz=280,slow=6.1,SNR=3.1
CFAA PKPPKP 11 17 48.1
comp=Z,4.1nm,1.1s,baz=116,slow=11,SNR=5.3
CFAA LR LR 11 25 06.9
comp=Z,4µm,18.2s,baz=199,slow=31
MDJ Mudanjiang 89.26 326 P **P** **10 52 01.6 -0.4**
MDJ AP pP 10 52 39.5 -1.8
MDJ XP sP 10 52 55.5 -2.2
MDJ PP PP 10 55 32.8 -1.9
MDJ AMB AMB
comp=Z,114nm,1.1s,mb5.7
MDJ AMB AMB
comp=Z,58µm,9.2s
MDJ LR LR
comp=N,106µm,27.8s
MDJ LR LR
comp=E,124µm,22.3s
MDJ LR LR
comp=Z,113µm,35.3s
MDJ Mudanjiang 89.26 326 eP **P** **10 52 01.4 -0.7**
comp=Z,1µm,1.2s,mb6.8
MDJ eS 11 02 25.4
KBO Bosley Butte 89.32 37 eP **P** **10 52 02.1 -0.3**
KBO ePP PP 10 55 41.9 +6.6
DL2 Dalian 89.34 318⇑ iP **P** **10 52 01.8 -0.6**
DL2 AP pP 10 52 42.4 +0.7
DL2 XP sP 10 53 01.5 +3.4
DL2 PP PP 10 55 39.3 +3.9
DL2 SKS 11 02 21.8
DL2 S 11 02 38.8
DL2 XS sS 11 03 45.8 -1.3
DL2 SS SS 11 08 40.8 +3.5
DL2 AMB AMB
comp=Z,670nm,1.0s,mb6.5
DL2 AMB AMB
comp=Z,27µm,6.9s
KTRM Thompson Ridge 89.55 38 P **P** **10 52 03.8 +0.4**
CHGN Chignik 89.56 11 eP **P** **10 52 01.2 -2.2**
KEBM Edson Butte 89.74 37 eP **P** **10 52 04.3 0.0**
KEBM epP pP 10 52 40.2 -3.4
YBH Yreka Blue Hor 89.78 39 P **P** **10 52 04.4 -0.1**
YBH pmax pmax
comp=Z,1µm,1.5s
YBH Yreka Blue Hor 89.78 39 eP **P** **10 52 04.3 -0.1**
comp=Z,1µm,1.5s,mb6.5
HABR Khabarovsk 89.83 332⇓ iP **P** **10 52 07.9 +3.2**
HABR eS 11 02 23.3
HABR pmax pmax
comp=Z,2µm,1.3s,mb7.0
HABR MLR MLR
comp=Z,48µm,20.0s
NVAR Mina Array Bea 89.97 43 P **P** **10 52 05.1 -0.2**
comp=Z,21nm,0.8s,baz=210,slow=5.9,SNR=92
NVAR S 11 02 30.2
comp=Z,0.9nm,0.7s,baz=175,slow=7.7,SNR=1.7
NVAR PKKPbc PKKPbc 11 09 37.0 +1.3
comp=Z,13nm,1.0s,baz=42,slow=5.6,SNR=2.9
NVAR SKKPbc 11 13 05.6
comp=Z,5.2nm,0.7s,baz=81,slow=2.8,SNR=4.8
NVAR PKPPKP 11 17 41.5
comp=Z,3.5nm,0.8s,baz=94,slow=4.3,SNR=6.0
MNV Mina 90.06 43 eP **P** **10 52 04.3 -1.5**
MNV e*PP pP 10 52 44.1 -1.0
MNV pmax pmax
comp=Z,1µm,1.4s,mb6.6
MNV Mina 90.06 43 eP **P** **10 52 04.3 -1.5**
comp=Z,1µm,1.4s,mb6.6
MNV epP pP 10 52 44.0 -1.0
PAHR Pah Rah Range 90.20 42 eP **P** **10 52 06.1 -0.3**
comp=Z,255nm,1.0s,mb6.1
PAHR epP pP 10 52 44.9 -0.9
PAHR ePP PP 10 55 43.6 +1.4
TIA Tai'an 90.23 314⇑ P **P** **10 52 06.4 -0.2**
TIA AP pP 10 52 49.0 +3.1
TIA XP sP 10 53 07.3 +5.1
TIA AMB AMB
comp=Z,18µm,8.0s
TIA LR LR
comp=N,31µm,17.0s
TIA LR LR
comp=E,16µm,18.0s
NEN Nelson 90.24 47 eP **P** **10 52 06.9 +0.3**
NEN epP pP 10 52 46.9 +0.9
HUMO Hull Mountain 90.26 38 eP **P** **10 52 06.5 -0.2**
comp=E,998nm,1.1s,mb6.7
SNY Shenyang 90.28 321⇑ P **P** **10 52 05.9 -0.9**
SNY AP pP 10 52 49.9 +3.8
SNY XP sP 10 53 06.4 +3.9

SNY PP PP 10 55 43.0 +0.2
SNY SKS 11 02 27.3
SNY S 11 02 37.3
SNY AMB AMB
comp=Z,681nm,1.6s,mb6.3
SNY AMB AMB
comp=Z,56µm,12.0s
SNY LR LR
comp=E,27µm,24.7s
SNY LR LR
comp=Z,85µm,48.5s
TPH Tonopah 90.37 44 *e*P **P 10 52 07.3 +0.1**
TPH *e**PP pP 10 52 44.9 -1.6
TPH pmax pmax
comp=Z,1µm,1.1s,mb6.7
TPH Tonopah 90.37 44 *e*P **P 10 52 07.3 +0.1**
comp=Z,1µm,1.1s,mb6.7
TPH *e*pP pP 10 52 44.9 -1.6
MOIG Morelia 90.49 67 *i* P **P 10 52 07.1 -0.7**
NST Nakhon Sawan 90.50 288 P **P 10 52 08.0 +0.2**
comp=Z,638nm,2.0s,mb6.2
NST S 10 55 49.8
BBOR Butler Butte 90.60 38 P **P 10 52 08.7 +0.4**
HOG Hogback Mounta 90.67 39 P **P 10 52 09.0 +0.4**
CN2 Changchun 90.70 323 *e*P **P 10 52 07.4 -1.3**
CN2 *e*AP pP 10 52 48.9 +0.8
CN2 SS SS 11 08 58.6 +1.8
CN2 AMB AMB
comp=Z,90nm,1.0s,mb5.8
CN2 LR LR
comp=N,42µm,20.0s
CN2 LR LR
comp=E,52µm,20.0s
CN2 LR LR
comp=Z,79µm,21.0s
TUC Tucson 90.78 52 P **P 10 52 09.8 +0.7**
TUC Tucson 90.78 52 *e*P **P 10 52 09.8 +0.7**
TUC *e**PP pP 10 52 49.5 +1.0
TUC pmax pmax
comp=Z,741nm,1.0s,mb6.7
TUC Tucson 90.78 52 *e*P **P 10 52 09.8 +0.6**
comp=Z,741nm,1.0s,mb6.7
TUC *e*pP pP 10 52 49.5 +1.0
TUC *e*sP sP 10 53 04.7 -0.1
ZAIG Zacatecas 91.14 64 *i* P **P 10 52 11.9 +1.1**
MOD Modoc 91.19 40 *e*P **P 10 52 10.1 -1.0**
comp=Z,241nm,0.5s,mb6.5
MPOR Mary's Peak 91.30 36 P **P 10 52 11.8 +0.2**
GYA Guiyang 91.42 300⇑ *i*P **P 10 52 11.1 -1.0**
GYA AP pP 10 52 47.4 -4.0
GYA PP PP 10 55 54.3 +2.5
GYA SKS 11 02 30.5
GYA S 11 02 59.8
GYA XS sS 11 04 03.4 -3.0
GYA AMB AMB
comp=Z,1µm,1.1s,mb6.8
GYA AMB AMB
comp=Z,37µm,8.7s
GYA LR LR
comp=N,46µm,21.8s
GYA LR LR
comp=E,60µm,24.8s
GYA LR LR
comp=Z,46µm,23.6s
HBO Huckleberry Mo 91.46 37 P **P 10 52 12.0 -0.3**
COR Corvallis 91.49 36 *e*P **P 10 52 12.2 -0.2**
COR *e* 10 55 51.0
COR pmax pmax
comp=Z,2µm,1.4s,mb6.9
COR Corvallis 91.49 36 *e*P **P 10 52 12.2 -0.2**
comp=Z,2µm,1.4s,mb6.9
COR *e*PP PP 10 55 51.0 -1.4
NANT Nan 91.73 291⇑P **P 10 52 11.0 -2.5**
comp=Z,2µm,1.0s,mb7.0
KLR Kul'dur 91.78 330 *de*P **P 10 52 08.8 -5.0**
KLR *e* 11 02 29.7
KLR *e* 11 03 03.8
KLR *e* 11 04 17.2
WIFE Three Sisters- 91.87 37 P **P 10 52 14.2 0.0**
KDAK Kodiak Island 92.04 14 P **P 10 52 13.0 -2.0**
comp=Z,3µm,0.9s,mb7.3,SNR=32
SSOR Sweet Springs 92.10 37 P **P 10 52 14.9 -0.3**
WUAZ Wupatki 92.36 49 *e*P **P 10 52 16.9 +0.5**
comp=Z,2µm,1.5s,mb6.8
CCUT Cedar City 92.36 47 *e*P **P 10 52 17.3 +0.8**
CCUT *e*pP pP 10 52 56.2 +0.4
HUIG Huatulco 92.44 73 *i* P **P 10 52 17.4 +0.6**
WVOR Wild Horse Val 92.46 40 *e*P **P 10 52 16.6 -0.3**
WVOR *e**PP pP 10 52 56.2 0.0
WVOR pmax pmax
comp=Z,144nm,0.7s,mb6.1
WVOR Wild Horse Val 92.46 40 *e*P **P 10 52 16.6 -0.3**
comp=Z,133nm,0.7s,mb6.1
WVOR *e*pP pP 10 52 56.2 -0.1
ARUT Antelope Range 92.47 46 P **P 10 52 19.4 +2.5**
ARUT Antelope Range 92.47 46 *e*P **P 10 52 18.2 +1.2**
CEN1 Los Morros 92.68 120⇑ *e*P **P 10 52 18.5 +0.6**
CEN1 AMb AMB 10 53 03.9
comp=Z,948nm,1.4s,mb6.7
CHG Chiang Mai 93.14 290 ⇓P **P 10 52 20.2 +0.2**
comp=Z,150nm,1.5s,mb5.9
CHTO Chiang Mai 93.14 290 *e*P **P 10 52 21.1 +1.1**
CHTO pmax pmax
comp=Z,903nm,1.6s,mb6.7
CHTO Chiang Mai 93.14 290 *e*P **P 10 52 21.1 +1.1**
comp=Z,917nm,1.6s,mb6.7
CHTO *e*S 11 03 25.0
BJT Baijiatuau 93.25 316 *e*P **P 10 52 20.4 -0.1**
BJT pmax pmax
comp=Z,70nm,2.3s
BJT Baijiatuau 93.25 316 *e*P **P 10 52 20.4 -0.1**
comp=Z,7.5nm,2.3s
BJI Beijing 93.26 316 P **P 10 52 20.6 0.0**
BJI AMB AMB
comp=Z,484nm,1.3s,mb6.5
BJI LR LR
comp=N,48µm,21.5s
BJI LR LR
comp=E,74µm,19.5s
BJI LR LR
comp=Z,116µm,39.2s
KMI Kunming 93.59 297⇑P **P 10 52 23.6 +1.5**
KMI AP pP 10 53 06.0 +4.5
KMI XP sP 10 53 19.3 +1.5
KMI PP PP 10 56 15.8 +6.9
KMI SKS 11 02 45.3
KMI S 11 03 18.3
KMI XS sS 11 04 25.9 -0.1
KMI SS SS 11 09 41.6 +3.3
KMI AMB AMB
comp=Z,572nm,1.5s,mb6.5
KMI LR LR
comp=N,46µm,22.0s
KMI LR LR
comp=E,42µm,24.2s
KMI LR LR
comp=Z,168µm,27.5s
LPA La Plata 93.64 135 *de*P **P 10 52 24.0 +1.7**
LPA *e*SKS 11 02 40.0
LPA
comp=Z,36µm,18.0s
MSU Marysvale 93.70 46 *e*P **P 10 52 23.2 +0.6**
MSU *e*pP pP 10 53 07.3 +5.4
MSU *e*sP sP 10 53 16.1 -2.2
NNA Nana 93.97 107 *e*P **P 10 52 26.3 +2.4**
comp=Z,155nm,1.0s,mb6.1
LVC Limon Verde 94.09 120⇑ *e*P **P 10 52 24.5 +0.1**
LVC AMb AMB 10 53 24.5
comp=Z,786nm,1.2s,mb6.7
LVC Limon Verde 94.09 120 P **P 10 52 27.5 +3.1**
comp=Z,35nm,0.8s,baz=227,slow=5.7,SNR=1.6
LVC S 11 02 57.1
comp=Z,8.8nm,0.9s,baz=90,slow=12,SNR=1.5
LVC PKKPbc PKKPbc 11 09 27.1 +1.9
comp=Z,38nm,0.7s,baz=2.5,slow=3.3,SNR=14
LVC PKPPKP 11 17 38.1
comp=Z,56nm,1.3s,baz=67,slow=5.9,SNR=5.6
LVC Limon Verde 94.09 120 *e*P **P 10 52 25.9 +1.4**
comp=Z,617nm,1.4s,mb6.5
LVC *e*PP PP 10 56 14.8 +2.0
MNTX Cornudas Mount 94.12 55 *e*P **P 10 52 24.4 -0.2**
comp=Z,41µm,2.5s
MNTX *e*pP pP 10 52 59.4 -4.5
MNTX *e*pP pP 10 53 04.5 +0.6
XAN Xi'an 94.20 308 P **P 10 52 25.1 +0.2**
XAN AP pP 10 53 06.3 +2.0
XAN XP sP 10 53 24.9 +4.3
XAN PP PP 10 56 11.3 -2.3
XAN SKS 11 02 45.3
XAN S 11 03 27.8
XAN SS SS 11 09 47.3 +0.3
XAN AMB AMB
comp=Z,319nm,1.6s,mb6.2
XAN LR LR
comp=N,16µm,28.8s
XAN LR LR
comp=E,34µm,28.1s
XAN LR LR
comp=Z,61µm,23.4s
PGC Sidney 94.30 33 *e*P **P 10 52 24.6 -0.7**
comp=Z,2.8nm,0.5s
PGC *e*PP PP 10 56 13.1 -1.3
DUG Dugway 94.35 45 P **P 10 52 26.0 +0.4**
DUG pmax pmax
comp=Z,270nm,1.4s,mb6.2
DUG Dugway 94.35 45 *e*P **P 10 52 25.7 +0.1**
comp=Z,2µm,1.5s,mb6.9
PBA Port Blair 94.46 281 *ex* x 10 51 54.4
PBA *ex* x 10 55 21.3
EBG Ellensburg 94.48 36 P **P 10 52 25.4 -0.8**
SVW2 Sparrevohn 94.58 11 *e*P **P 10 52 24.4 -2.3**
HAWA Hanford 94.65 37 *e*P **P 10 52 26.4 -0.6**
comp=Z,532nm,1.4s,mb6.6
NLU North Lily Min 94.65 45 *e*P **P 10 52 26.9 0.0**
BGU Big Grassy Mou 94.68 44 *e*P **P 10 52 31.1 +4.0**
TMUT Trail Mountain 94.77 46 *e*P **P 10 52 27.8 +0.3**
BMO Blue Mountains 94.79 39 *e*P **P 10 52 26.0 -1.6**
BMO pmax pmax
comp=Z,573nm,1.5s,mb6.6
BMO Blue Mountains 94.79 39 *e*P **P 10 52 25.9 -1.6**
comp=Z,573nm,1.5s,mb6.6
BMO *e*pP pP 10 53 09.9 +3.0
MPU Maple Canyon 94.95 45 *e*P **P 10 52 28.5 +0.2**
comp=Z,8µm,0.7s
SLKM Skilak Lake 95.03 14 P **P 10 52 26.9 -1.8**
SLKM Skilak Lake 95.03 14 *e*P **P 10 52 26.4 -2.2**
SLKM *e*S 11 02 50.9
NOQ North Oquirrh 95.05 45 *e*P **P 10 52 31.6 +2.8**
comp=Z,697nm,1.5s,mb6.7
NOQ *e*pP pP 10 53 10.8 +2.6
SRU San Rafael 95.08 47 P **P 10 52 29.1 +0.2**
SRU pmax pmax
comp=Z,93nm,0.6s,mb6.2
SRU San Rafael 95.08 47 *e*P **P 10 52 28.8 -0.2**
comp=Z,93nm,0.6s,mb6.2
MVCO Mesa Verde 95.23 49 *e*P **P 10 52 30.6 +1.0**
comp=Z,228nm,0.4s,mb6.8
ANMO Albuquerque 95.25 52 PKKPbc PKKPbc 11 09 23.4 +1.2
comp=Z,7.5nm,1.0s,baz=243,slow=9.0,SNR=2.8
ANMO PKPPKP 11 17 33.6
comp=Z,3.6nm,1.0s,baz=68,slow=1.0,SNR=3.6
ANMO Albuquerque 95.25 52 *e*P **P 10 52 29.9 +0.2**
ANMO pmax pmax
comp=Z,288nm,1.4s
ANMO Albuquerque 95.25 52 *e*P **P 10 52 29.9 +0.2**
comp=Z,288nm,1.4s,mb6.3
SPUT South Promonto 95.26 44 *e*P **P 10 52 29.8 0.0**
SPUT *e*pP pP 10 53 11.3 +2.1
CTU Camp Tracy 95.30 45 *e*P **P 10 52 32.1 +2.2**
comp=Z,77nm,0.9s,mb5.9
CTU *e*pP pP 10 53 09.4 +0.1
HVU Hansel Valley 95.36 43 P **P 10 52 29.9 -0.3**
HVU pmax pmax
comp=Z,260nm,1.0s,mb6.4
HVU Hansel Valley 95.36 43 *e*P **P 10 52 29.7 -0.5**
comp=Z,258nm,1.0s,mb6.4
ATAH Atahualpa 95.40 102 S 11 02 59.6
comp=Z,10nm,1.1s,baz=197,slow=14,SNR=1.5
ATAH PKKP PKKPbc 11 09 27.0 +5.2
comp=Z,18nm,1.0s,baz=354,slow=8.5,SNR=2.9
ATAH LR LR 11 26 25.5
comp=Z,45µm,20.5s,baz=205,slow=30
DAU Daniels Canyon 95.42 45 *e*P **P 10 52 32.4 +1.9**
DAU Daniels Canyon 95.42 45 *e*P **P 10 52 31.8 +1.3**
CRAG Craig 95.46 24 *e*P **P 10 52 30.8 +0.1**
comp=Z,492nm,1.4s,mb6.5
HLID Hailey 95.54 41 *e*P **P 10 52 30.8 -0.2**
comp=Z,3.7nm,0.4s
PV10 Paradox Valley 95.57 48 *e*P **P 10 52 30.5 -0.7**
PV01 Paradox Valley 95.73 48 *e*P **P 10 52 31.8 -0.1**
ARE Arequipa 95.73 113 *e*P **P 10 52 34.0 +2.1**
TCUT Toone Canyon 95.76 45 *e*P **P 10 52 32.6 +0.5**
TCUT *e*pP pP 10 53 13.5 +2.0
TCUT *e*sP sP 10 53 26.5 -0.8
HWUT Hardware Ranch 95.97 44 *e*P **P 10 52 31.8 -1.1**
comp=Z,28nm,0.3s,mb6.1
SIT Sitka 95.98 22 *e*P **P 10 52 32.6 -0.4**
SIT *e* 10 56 26.2
SIT pmax pmax
comp=Z,188nm,1.3s,mb6.3
SIT Sitka 95.98 22 *e*P **P 10 52 32.5 -0.5**
comp=Z,188nm,1.3s,mb6.3
SIT *e*PP PP 10 56 26.2 -1.2
CD2 Chengdu 96.02 303⇓ *i*P **P 10 52 34.3 +1.1**
CD2 AP pP 10 53 12.4 -0.2
CD2 XP sP 10 53 26.8 -2.1
CD2 PP PP 10 56 34.9 +7.2
CD2 S 11 03 39.5
CD2 XS sS 11 04 48.6 +1.4
CD2 AMB AMB
comp=Z,110nm,1.8s,mb5.9
CD2 AMB AMB
comp=Z,18µm,10.8s
CD2 LR LR
comp=N,50µm,21.6s
CD2 LR LR
comp=Z,32µm,34.8s
EYAK Cordova Ski Ar 96.05 16 *e*P **P 10 52 31.2 -2.1**
EYAK *e*PP PP 10 56 24.8 -3.1
PMR Palmer 96.24 14 *e*P **P 10 52 31.7 -2.5**
PMR pmax pmax
comp=Z,2µm,2.4s,mb6.9
PMR Palmer 96.24 14 *e*P **P 10 52 31.7 -2.5**
comp=Z,2µm,2.4s,mb6.9
TTA Tatalina 96.25 10 *e*P **P 10 52 32.5 -1.7**
TTA pmax pmax
comp=Z,334nm,1.0s,mb6.6
TTA Tatalina 96.25 10 *e*P **P 10 52 32.5 -1.8**
comp=Z,334nm,1.0s,mb6.6
TTA *e*S 11 03 02.8
HHC Hu-ho-hao-te 96.53 314⇑P **P 10 52 37.0 +1.5**
HHC AP pP 10 53 17.9 +3.0
HHC XP sP 10 53 34.8 +3.6
HHC PP PP 10 56 35.5 +3.9
HHC SKS 11 02 58.0
HHC S 11 03 42.4
HHC XS sS 11 04 52.0 +0.4
HHC SS SS 11 10 23.0 +3.1
HHC AMB AMB
comp=Z,377nm,3.0s
HHC AMB AMB
comp=Z,28µm,12.9s
HHC LR LR
comp=N,42µm,19.8s
HHC LR LR
comp=E,48µm,19.8s
HHC LR LR
comp=Z,52µm,20.6s
AHID Auburn Hatcher 96.95 43 *e*P **P 10 52 38.3 +0.9**
comp=Z,780nm,1.7s,mb6.8
AHID *e*pP pP 10 53 16.9 +0.1
NEW Newport 97.12 36 *e*P **P 10 52 36.5 -1.7**
NEW pmax pmax
comp=Z,5.0nm,0.2s
NEW Newport 97.12 36 *e*P **P 10 52 36.5 -1.7**
comp=Z,4.6nm,0.2s
MCMT McKenzie Canyo 97.21 41 *e*P **P 10 52 38.0 -0.6**
HIA Hailar 97.31 325 *e*P **P 10 52 38.8 -0.2**
HIA pmax pmax
comp=Z,250nm,1.5s
HIA Hailar 97.31 325 *e*P **P 10 52 38.8 -0.2**
comp=Z,250nm,1.5s,mb6.3
BTO Baotou 97.33 314 *e*P **P 10 52 37.4 -1.7**
BTO LR LR
comp=N,45µm,14.3s
BTO LR LR
comp=E,55µm,18.8s
SMCO Snowmass 97.35 48 *e*P **P 10 52 40.5 +1.3**
comp=E,165nm,1.4s,mb6.2
DCID1 Drake Creek 97.40 43 *e*P **P 10 52 40.4 +0.9**
JCT Junction City 97.42 59 *e*P **P 10 52 40.3 +0.7**
JCT pmax pmax
comp=Z,96nm,0.8s,mb6.2
JCT Junction City 97.42 59 *e*P **P 10 52 40.3 +0.8**
comp=Z,96nm,0.8s,mb6.2
JCT *e*pP pP 10 53 23.0 +4.0
REDW Red Top Meadow 97.45 43 *e*P **P 10 52 39.1 -0.6**
comp=Z,24µm,1.2s
REDW *e*pP pP 10 53 17.6 -1.6
TPAW Teton Pass 97.47 43 *e*P **P 10 52 39.2 -0.5**
comp=Z,100nm,0.5s,mb6.4
DLMT Dillon 97.68 41 *e*P **P 10 52 41.0 +0.3**
comp=Z,762nm,1.6s,mb6.9
IMW Indian Meadow 97.73 43 *e*P **P 10 52 40.8 -0.1**
comp=Z,5.8nm,1.1s
MSO Missoula 97.86 39 *e*P **P 10 52 42.6 +1.1**
comp=Z,11µm,1.0s
PDAR Pinedale Array 97.86 44 P **P 10 52 41.0 -0.5**
comp=Z,30nm,1.0s,mb5.7,baz=236,slow=1.6,SNR=28
PDAR PP PP 10 56 43.6 +1.9
comp=Z,21nm,1.0s,baz=211,slow=5.1,SNR=3.7
PDAR S 11 03 07.0
comp=Z,2.3nm,0.6s,baz=97,slow=3.3,SNR=1.7
PDAR PKKPbc PKKPbc 11 09 17.9 +2.8
comp=Z,19nm,0.9s,baz=97,slow=4.4,SNR=8.5
PDAR PKPPKP 11 17 24.5
comp=Z,2.3nm,0.9s,baz=132,slow=2.2,SNR=3.6
PDAR LR LR 11 29 45.9
comp=Z,28µm,19.7s,baz=346,slow=31
PDAR tx tx 11 35 28.4
comp=Z,3.9nm,0.9s,baz=197,slow=4.6,SNR=9.2
PDAR Pinedale Array 97.86 44 P **P 10 52 41.0 -0.5**
PDAR PP PP 10 56 43.6 +1.9
PDAR S 11 03 07.0
PDAR PKKPbc PKKPbc 11 09 17.9 +2.8
PDAR P'P' 11 17 24.5
PDAR LR LR 11 29 45.9
SKAG Skagway 97.92 21 *e*P **P 10 52 39.4 -2.4**
comp=Z,2µm,2.7s,mb7.0
FLWY Flagg Ranch 97.98 43 *e*P **P 10 52 42.2 +0.1**
comp=Z,290nm,1.1s,mb6.6
FLWY *e*pP pP 10 53 21.5 0.0
QLMT Earthquake Lak 98.01 42 *e*P **P 10 52 42.8 +0.6**
YFT Old Faithful 98.12 42 *e*P **P 10 52 45.6 +3.0**
YMR Madison River 98.18 42 *e*P **P 10 52 43.6 +0.7**
comp=Z,44nm,0.7s,mb6.0
YMR *e*pP pP 10 53 23.2 +0.8
CHMT Chamberlain Mo 98.28 39 *e*P **P 10 52 43.5 +0.1**
CHMT *e*PP PP 10 56 47.9 +2.9
LKWY Lake 98.44 42 *e*P **P 10 52 46.2 +2.1**
LKWY pmax pmax
comp=Z,294nm,1.5s,mb6.5
LKWY Lake 98.44 42 *e*P **P 10 52 46.1 +2.1**
comp=Z,222nm,1.5s,mb6.4
LPAZ La Paz 98.45 115 P **P 10 52 47.6 +3.4**
comp=Z,16nm,0.9s,baz=232,slow=3.2,SNR=58
LPAZ PP PP 10 56 51.6 +5.4
comp=Z,86nm,1.3s,baz=250,slow=4.2,SNR=4.3
LPAZ S 11 03 13.3
comp=Z,5.2nm,0.8s,baz=301,slow=12,SNR=1.6
LPAZ PKKP PKKPbc 11 09 19.2 +5.7
comp=Z,5.4nm,0.5s,baz=340,slow=3.6,SNR=8.1
LPAZ PKPPKP 11 17 31.1
comp=Z,5.9nm,1.0s,baz=96,slow=2.9,SNR=2.7
LPAZ LR LR 11 29 04.5
comp=Z,23µm,20.5s,baz=359,slow=30
LPAZ tx tx 11 35 34.6
comp=Z,2.5nm,0.9s,baz=197,slow=5.1,SNR=8.9
LPAZ La Paz 98.45 115 P **P 10 52 47.6 +3.5**
LPAZ 10 56 51.7
LPAZ S 11 03 13.3
LPAZ pmax pmax
comp=Z,16nm,0.9s
LPAZ pmax pmax
comp=Z,86nm,1.3s
LPAZ La Paz 98.45 115 *e*P **P 10 52 45.1 +0.9**
comp=Z,93nm,1.1s,mb6.1
LPAZ *e*pP pP 10 53 22.6 -1.1
AMTX Amarillo 98.46 54 *e*P **P 10 52 42.3 -1.9**
comp=Z,27µm,0.9s
ISCO Idaho Springs 98.57 48 *e*P **P 10 52 44.2 -0.5**
ISCO pmax pmax
comp=Z,45nm,1.0s,mb5.8
ISCO Idaho Springs 98.57 48 *e*P **P 10 52 44.2 -0.5**
comp=Z,42nm,1.0s,mb5.8
MENT Mentasta 98.61 16 *e*P **P 10 52 43.1 -1.8**
RWWY Rawlins 98.64 46 *e*P **P 10 52 44.4 -0.6**
comp=Z,31µm,2.5s
LZH Lanzhou 98.79 307 *e*P **P 10 52 46.8 +1.1**
LZH PP PP 10 56 52.1 +3.2
LZH SKS 11 03 06.0
LZH S 11 04 00.0
LZH SS SS 11 10 51.0 -0.7
LZH AMB AMB
comp=Z,920nm,1.7s,mb6.9
LZH AMB AMB
comp=Z,6µm,7.3s
DLBC Dease Lake 98.83 24 *e*P **P 10 52 45.0 -0.8**
JTS JuntasAbangare 98.89 83 S 11 03 12.1
comp=Z,6.8nm,1.0s,baz=248,slow=12,SNR=1.1
JTS JuntasAbangare 98.89 83 *e*P **P 10 52 48.2 +2.1**
JTS *e* 10 56 53.6
JTS pmax pmax
comp=Z,621nm,1.7s
JTS JuntasAbangare 98.89 83 *e*P **P 10 52 48.2 +2.1**
comp=Z,621nm,1.7s,mb6.8
JTS *e*PP PP 10 56 53.6 +3.9
HRY Holter Researc 98.93 40 *e*P **P 10 52 46.2 -0.1**
WALA Waterton Lakes 99.27 37 *e*P Pdif 10 52 46.4 -1.4
comp=Z,0.1nm,2.1s
COLA College 99.46 13⇑ *e*P Pdif 10 52 45.6 -3.0
COLA *e**PP pP 10 53 24.1 -4.0
COLA pmax pmax
comp=Z,219nm,1.0s,mb6.5
COLA College 99.46 13⇑ *e*P Pdif 10 52 45.6 -3.0
comp=Z,219nm,1.0s
COLA *e*pP pP 10 53 24.1 -4.0
PHWY Pilot Hill 99.51 47 *e*Pdif Pdif 10 52 52.2 +3.3
PHWY *e*PP PP 10 56 55.5 +1.2
ILAR Eielson Array 99.55 13 P Pdif 10 52 46.4 -2.7
comp=Z,27nm,1.0s,baz=219,slow=3.8,SNR=37
ILAR PP PP 10 56 56.3 +1.6
comp=Z,22nm,1.0s,baz=215,slow=8.7,SNR=4.7
ILAR PKiKP PKiKP 10 57 17.4 0.0
comp=Z,40nm,1.0s,baz=229,slow=2.7,SNR=8.2
ILAR S SKSac 11 03 11.2 -1.5
comp=Z,15nm,1.1s,baz=250,slow=6.3,SNR=3.4
ILAR PKKPbc PKKPbc 11 09 12.0 +1.6
comp=Z,12nm,0.8s,baz=12,slow=2.8,SNR=11
ILAR PKPPKP 11 17 25.6
comp=Z,7.9nm,1.1s,baz=3.3,slow=2.6,SNR=5.6
ILAR LR LR 11 32 02.4
comp=Z,25µm,19.0s,baz=18,slow=32
ILAR tx tx 11 35 32.7
comp=Z,2.0nm,0.7s,baz=221,slow=5.1,SNR=23
ILAR Eielson Array 99.55 13 P Pdif 10 52 46.4 -2.7
ILAR PP PP 10 56 56.3 +1.6
GCMT Greycliff 99.58 42 *e*Pdif Pdif 10 52 50.0 +0.8
CPUP Villa Florida 99.86 129 Pdiff Pdif 10 52 52.8 +2.4
CPUP PP PP 10 57 13.0 +16
CPUP Villa Florida 99.86 129 P Pdif 10 52 52.4 +2.0
comp=Z,6.5nm,0.8s,baz=194,slow=7.9,SNR=7.0
CPUP PKKPbc PKKPbc 11 09 11.1 +1.6
comp=Z,13nm,0.7s,baz=35,slow=3.0,SNR=8.0
CPUP PKPPKP 11 17 23.6
comp=Z,1.0nm,0.4s,baz=52,slow=4.1,SNR=4.2
CPUP tx tx 11 35 39.9
comp=Z,0.3nm,0.3s,baz=212,slow=9.1,SNR=3.8
CPUP Villa Florida 99.86 129 *e*Pdif Pdif 10 52 52.6 +2.2
comp=Z,2µm,0.9s
HKT Hockley 100.07 61 *e*P Pdif 10 52 53.0 +1.6
HKT pmax pmax
comp=Z,136nm,1.5s
HKT Hockley 100.07 61 *e*Pdif Pdif 10 52 53.0 +1.6
comp=Z,136nm,1.5s
BILL Bilibino 100.17 354⇓ *i*P Pdif 10 52 51.2 -0.6
BILL *PP 10 53 35.6
BILL *i* 10 57 01.7
BILL *i* 11 03 17.9
BILL *i* S Sdif 11 04 17.4 +3.9
BILL *i* SS SS 11 11 10.7 -0.3
BILL pmax pmax
comp=Z,42nm,1.1s
BILL MLR MLR
comp=Z,26µm,20.0s
BILL Bilibino 100.17 354⇓ *i*P Pdif 10 52 51.2 -0.6

comp=Z,42nm,1.1s
BILL pP 10 53 35.6
BILL *i* 10 57 01.7
BILL *i* 11 03 17.9
BILL *i* S Sdif 11 04 17.4 +3.9
BILL *i* SS SS 11 11 10.7 -0.3
BILL LR LR
comp=Z,26µm,20.0s
CLNS Chul'man 100.18 332 *e*P Pdif 10 52 53.3 +1.5
CLNS *e*S Sdif 11 04 10.2 -3.3
CLNS *e*SP SP 11 05 57.5 +14
CLNS pmax pmax
comp=E,12nm,1.0s
CLNS pmax pmax
comp=Z,61nm,1.0s
CLNS pmax pmax
comp=N,23nm,0.8s
CLNS smax
comp=E,31µm,12.9s
CLNS smax
comp=Z,4µm,13.4s
CLNS smax
comp=N,8µm,15.8s
WMOK Wichita Mounta 100.41 56 *e*P Pdif 10 52 55.0 +2.2
WMOK pmax pmax
comp=Z,19nm,0.3s
WMOK Wichita Mounta 100.41 56 *e*Pdif Pdif 10 52 55.0 +2.2
comp=Z,19nm,0.3s
DAWY Dawson 100.59 17 *e*Pdif Pdif 10 52 52.4 -1.3
DGAR Diego Garcia 101.48 254 *e*P Pdif 10 53 01.1 +3.5
DGAR *e* 10 57 06.3
DGAR pmax pmax
comp=Z,2µm,1.8s
DGAR Diego Garcia 101.48 254 *e*Pdif Pdif 10 53 01.1 +3.5
comp=Z,2µm,1.8s
DGAR *e*PP PP 10 57 06.2 -3.0
CBKS Cedar Bluff 101.87 52 *e*P Pdif 10 53 01.5 +2.2
CBKS pmax pmax
comp=Z,198nm,1.6s
CBKS Cedar Bluff 101.87 52 *e*Pdif Pdif 10 53 01.5 +2.2
comp=Z,198nm,1.6s
CBKS *e*PKPdf PKiKP 10 57 24.9 +3.4
RSSD Black Hills 101.94 45 Pdiff Pdif 10 52 59.5 -0.1
RSSD SKSac SKSac 11 03 29.3 +5.0
RSSD Black Hills 101.94 45 *e*P Pdif 10 52 59.9 +0.2
RSSD pmax pmax
comp=Z,202nm,1.1s
RSSD Black Hills 101.94 45 *e*Pdif Pdif 10 52 59.9 +0.2
comp=Z,181nm,1.1s
CIT Chita 102.11 324 *e*P Pdif 10 53 01.3 +0.9
CIT pmax pmax
comp=Z,556nm,3.7s
EDM Edmonton 102.11 34 *e*Pdif Pdif 10 52 59.9 -0.5
EDM *e*PKPdf PKiKP 10 57 24.4 +2.4
SHL Shillong 102.20 292 *e*P Pdif 10 53 00.2 -0.7
YAK Yakutsk 102.20 338 *e*P Pdif 10 53 02.2 +1.4
YAK *e* 10 57 16.1
YAK *e*S Sdif 11 04 29.2 -1.2
YAK *e*SS SS 11 11 32.3 -6.8
YAK pmax pmax
comp=E,34nm,1.1s
YAK pmax pmax
comp=Z,122nm,1.1s
YAK pmax pmax
comp=N,24nm,1.2s
YAK pmax pmax
comp=Z,254nm,1.5s
YAK pmax pmax
comp=N,127nm,1.6s
YAK pmax pmax
comp=E,57nm,1.7s
YAK smax
comp=E,215nm,1.6s
YAK smax
comp=Z,18nm,0.8s
YAK smax
comp=N,107nm,1.2s
YAK Yakutsk 102.20 338 *e*Pdif Pdif 10 52 58.0 -2.8
comp=N,116nm,0.9s
YAK *e*PP PP 10 57 11.1 -3.5
PALK Pallekele 102.40 271 *e*Pdif Pdif 10 53 02.9 +1.2
comp=N,496nm,1.8s
ULN Ulaanbaatar 103.19 318 *e*P Pdif 10 53 04.3 -0.9
ULN pmax pmax
comp=Z,72nm,0.8s
ULN Ulaanbaatar 103.19 318 *e*Pdif Pdif 10 53 04.3 -0.9
comp=Z,72nm,0.8s
ULN *e*PKKPdf PKKPdf 11 09 09.9 +2.3
SONM Songino Array 103.55 318 Pdiff Pdif 10 53 06.6 -0.2
comp=Z,14nm,0.9s,baz=129,slow=3.1,SNR=32
SONM PKiKP PKiKP 10 57 26.2 +1.6
comp=Z,88nm,1.1s,baz=143,slow=3.8,SNR=4.7
SONM PKKPbc PKKPbc 11 09 04.2 +5.3
comp=Z,7.7nm,0.6s,baz=284,slow=3.3,SNR=10
SONM PKPPKP 11 17 23.5
comp=Z,7.9nm,1.0s,baz=285,slow=5.7,SNR=3.9
SONM tx tx 11 35 52.7
comp=Z,1.0nm,0.8s,baz=147,slow=4.2,SNR=3.7
CAL Calcutta 103.57 288 AMP 11 09 14.5
comp=Z,55µm,25.8s
SIV San Ignacio 103.98 119 Pdiff Pdif 10 53 11.8 +3.1
comp=Z,2.9nm,0.9s,baz=252,slow=8.8,SNR=2.9
SIV PKiKP PKiKP 10 57 28.7 +3.4
comp=Z,16nm,1.0s,baz=228,slow=9.5,SNR=5.0
MIAR Mount Ida 104.02 58 *e*P Pdif 10 53 11.6 +2.7
MIAR pmax pmax
comp=Z,112nm,0.9s
MIAR Mount Ida 104.02 58 *e*Pdif Pdif 10 53 11.6 +2.7
comp=Z,112nm,0.9s
KSU1 Kansas State U 104.11 53 *e*Pdif Pdif 10 53 10.1 +0.8
comp=Z,3.4nm,0.8s
KSU1 *e*PKPdf PKiKP 10 57 32.5 +6.9
LSA Lhasa 104.77 296 Pdiff Pdif 10 53 14.7 +2.4
LSA Lhasa 104.77 296 *e*P Pdif 10 53 13.4 +1.2
LSA *e* 10 57 31.9
LSA pmax pmax
comp=Z,103nm,1.4s
LSA Lhasa 104.77 296 *e*Pdif Pdif 10 53 13.4 +1.2
comp=Z,103nm,1.4s
LSA *e*PP PP 10 57 31.9 -1.8
LSA *e*PKKPdf PKKPdf 11 09 04.8 +0.1
UALR University of 105.02 58 *e*Pdif Pdif 10 53 14.8 +1.5
comp=Z,32nm,1.0s
UALR *e*PP PP 10 57 39.9 +4.3
UALR *e*PKKPdf PKKPdf 11 09 03.6 -0.6
ROSC El Rosal 105.14 94 Pdiff Pdif 10 53 17.9 +4.0
comp=Z,2.3nm,0.4s,baz=279,slow=17,SNR=2.4
ROSC PKKP PKKPbc 11 09 01.8 +7.8
comp=Z,42nm,0.7s,baz=96,slow=12,SNR=7.5
BOD Bodaibo 105.33 329 *e*P Pdif 10 53 11.5 -3.2
BOD pmax pmax
comp=Z,30nm,1.8s
INK Inuvik 105.44 16 tx tx 11 35 58.7
comp=Z,2.1nm,0.9s,baz=256,slow=5.4,SNR=6.0
INK Inuvik 105.44 16 P Pdif 10 53 13.8 -1.4
INK pmax pmax
comp=Z,76nm,1.0s
INK Inuvik 105.44 16 *e*Pdif Pdif 10 53 13.7 -1.5
comp=Z,16nm,3.2s
INK *e*PKPdf PKiKP 10 57 28.9 +0.8
BOK Bokaro 106.14 288 *e*P Pdif 10 53 17.7 -0.7
BOK AMb AMB 10 57 48.6
comp=Z,691nm,1.9s
BOK *e*S SKSac 11 03 42.0 -1.5
TRD Trivandrum 106.21 270 *i* x x 11 06 44.6
ZAK Zakamensk 106.62 319 *e*P Pdif 10 53 23.7 +3.2
IRK Irkutsk 107.01 321 *e*P Pdif 10 53 26.0 +3.8
IRK *e* 11 03 53.4
IRK *e*S SKSdf 11 04 30.8 +2.6
IRK pmax pmax
comp=Z,221nm,5.2s
OXF Oxford 107.04 60 *e*P Pdif 10 53 26.4 +4.1
OXF pmax pmax
comp=Z,36nm,1.0s
OXF Oxford 107.04 60 *e*Pdif Pdif 10 53 26.4 +4.1
comp=Z,36nm,1.0s
TLY Talaya 107.07 321 *c i*P Pdif 10 53 20.0 -2.5
TLY *e* 10 57 51.5
TLY *e* 11 03 43.9
TLY *e*PPS 11 07 16.8
TLY pmax pmax
comp=Z,55nm,1.1s
TLY Talaya 107.07 321⇑ *i*P Pdif 10 53 20.0 -2.5
TLY *e* 10 57 51.5
TLY *e* 11 03 43.9
TLY *e*PPS 11 07 16.8
YKA Yellowknife Ar 107.17 26 Pdiff Pdif 10 53 21.0 -1.9
comp=Z,1.7nm,0.8s,baz=238,slow=4.4,SNR=26
YKA PKiKP PKiKP 10 57 30.4 -0.9
comp=Z,11nm,0.7s,baz=258,slow=1.5,SNR=20
YKA PP PP 10 57 50.3 -1.1
comp=Z,35nm,1.0s,baz=232,slow=7.1,SNR=8.4
YKA PKKPbc PKKPbc 11 08 49.7 +1.9
comp=Z,41nm,1.1s,baz=74,slow=3.2,SNR=9.5
YKA PKPPKP 11 17 14.9
comp=Z,5.7nm,0.9s,baz=44,slow=2.2,SNR=6.9
YKA tx tx 11 36 09.0
comp=Z,4.7nm,0.9s,baz=238,slow=4.2,SNR=34
YKA Yellowknife Ar 107.17 26 P Pdif 10 53 21.0 -1.9
YKA 10 57 50.3
YKA Yellowknife Ar 107.17 26 Pdif Pdif 10 53 21.0 -1.9
YKA PKPdf PKiKP 10 57 30.4 -0.9
YKA PP PP 10 57 50.3 -1.1
YKA PKKPbc PKKPbc 11 08 49.7 +1.9
YKA P'P' 11 17 14.9
YKW3 Yellowknife Ar 107.21 26 *e*Pdif Pdif 10 53 22.6 -0.5
YKW3 *e*PKPdf PKiKP 10 57 30.1 -1.3
YKW3 *e*PKKPbc PKKPbc 11 08 50.5 +2.8
YKW3 *e*PKKPdf PKKPdf 11 09 03.2 +3.0
JIRN Jiri 107.68 292 *e*P Pdif 10 53 27.3 +2.1
comp=Z,549nm,1.9s
PARMO Parma 107.76 58 *e*PKPdf PKiKP 10 57 31.6 -0.8
FVM French Village 107.87 56 *e*P Pdif 10 53 29.1 +3.1
FVM pmax pmax
comp=Z,19nm,1.0s
FVM French Village 107.87 56 *e*Pdif Pdif 10 53 29.1 +3.1
comp=Z,21nm,1.0s
FVM *e*PKPdf PKiKP 10 57 30.7 -1.9
GUN Gumba 108.04 292 *e*P Pdif 10 53 29.1 +2.3
comp=Z,528nm,1.9s
PLAL Pickwick Lake 108.23 60 *e*Pdif Pdif 10 53 29.3 +1.6
comp=Z,14nm,1.0s
PLAL *e*PKPdf PKiKP 10 57 34.1 +0.9
PLAL *e*PKKPbc PKKPbc 11 08 46.7 +2.1
PKI Pulchoki 108.26 291 *e*P Pdif 10 53 29.6 +1.8
comp=Z,158nm,1.4s
PKI Pulchoki 108.26 291 *e*P Pdif 10 53 29.6 +1.8
PKI pmax pmax
comp=Z,158nm,1.4s
KKN Kakani 108.46 292 *e*P Pdif 10 53 30.4 +1.7
comp=Z,317nm,1.8s
KKN Kakani 108.46 292 *e*P Pdif 10 53 30.4 +1.7
KKN pmax pmax
comp=Z,317nm,1.8s
MOY Mondy 108.50 320 *e*P Pdif 10 53 31.6 +2.7
MOY pmax pmax
comp=Z,297nm,1.0s
DMN Daman 108.52 291 *e*P Pdif 10 53 30.2 +1.3
comp=Z,196nm,1.5s
FFC Flin Flon 108.55 37 P Pdif 10 53 33.2 +4.2
FFC pmax pmax
comp=Z,49nm,1.6s
FFC Flin Flon 108.55 37 *e*Pdif Pdif 10 53 29.8 +0.8
comp=Z,90nm,1.4s
FFC *e*PKPdf PKiKP 10 57 34.7 +0.8
FFC *e*PKKPab PKKPab 11 08 55.3 -1.9
MGV Manicaragua 108.80 75 *e*P Pdif 10 53 40.4 +10
WVT Waverly 108.91 59 *e*PKPdf PKiKP 10 57 33.9 -0.6
GKN Gorkha 109.06 292 *e*P Pdif 10 53 34.4 +3.1
comp=Z,322nm,1.8s
HYB Hyderabad 109.22 279 *i* Pdiff Pdif 10 53 32.0 0.0
HYB *es*P 10 54 22.0
HYB *e*PP PP 10 58 05.0 -1.3
HYB *e* 10 58 48.0
HYB *e*PPP 11 00 31.0
HYB *e*SKS SKSac 11 03 52.0 -4.7
HYB *e*SKKS SKKSac 11 04 56.0 +2.1
HYB *e* 11 06 48.0
HYB *e* 11 07 43.0
HYB *e*PKKP PKKPbc 11 08 51.0 +10
TIXI Tiksi 109.39 345 *e*P Pdif 10 53 30.8 -2.0
TIXI *e*PPP 11 00 24.6
TIXI *e* 11 03 53.5
TIXI *e*SP SP 11 07 15.7 -3.1
TIXI *e*PS PS 11 07 30.4 -6.7
TIXI *e* 11 08 47.4
TIXI *e*SS SS 11 13 09.4 -7.3
TIXI *e*SSS 11 17 19.0
TIXI pmax pmax
comp=Z,30nm,1.1s
TIXI pmax pmax
comp=N,7.0nm,1.2s
TIXI pmax pmax
comp=E,7.0nm,1.0s
MNCY Minicoy 109.43 268 *i* x x 10 57 22.0
MNCY *i* x x 11 01 20.0
KOLN Koldanda 109.78 291 *e*P Pdif 10 53 37.1 +2.6
comp=E,121nm,1.8s
ULM Lac du Bonnet 109.79 43 Pdiff Pdif 10 53 36.1 +1.5
comp=E,2.7nm,0.9s,baz=286,slow=3.3,SNR=3.2
ULM PKiKP PKiKP 10 57 36.8 +0.6
comp=E,20nm,0.6s,baz=232,slow=0.9,SNR=9.6
ULM PKKPab PKKPab 11 08 51.2 -0.4
comp=E,31nm,1.0s,baz=119,slow=2.9,SNR=5.0
ULM PKPPKP 11 17 07.1
comp=E,2.7nm,0.6s,baz=60,slow=2.2,SNR=3.0
ULM tx tx 11 36 24.9
comp=E,5.0nm,1.0s,baz=235,slow=5.7,SNR=5.1
ULM Lac du Bonnet 109.79 43 Pdif Pdif 10 53 36.1 +1.5
ULM PKPdf PKiKP 10 57 36.8 +0.6
ULM PKKPab PKKPab 11 08 51.2 -0.5
ULM P'P' 11 17 07.1
USIN University of 109.82 57 *e*Pdif Pdif 10 53 36.5 +1.8
USIN *e* 10 58 12.2
SWET Sewanee 109.91 60 *e*Pdif Pdif 10 53 36.9 +1.8
SWET *e*PKPdf PKiKP 10 57 39.6 +3.1
MNGI Mangalore 110.23 273 *e*P PKiKP 10 57 37.4 +0.4
SDV Santo Domingo 110.35 92 PKiKP PKiKP 10 57 40.9 +3.6
comp=E,8.8nm,0.2s,baz=249,slow=2.4,SNR=3.4
SDV PP PP 10 58 19.9 +5.4
comp=E,11nm,0.2s,baz=223,slow=6.9,SNR=6.8
SDV PKKPab PKKPab 11 08 48.8 -0.4
comp=E,12nm,0.4s,baz=124,slow=1.2,SNR=4.8
SDV Santo Domingo 110.35 92 *e*PKPdf PKiKP 10 57 40.8 +3.5
SDV *e*PP PP 10 58 21.5 +7.0
SDV *e*PKKPdf PKKPdf 11 08 53.2 -1.1
JBP Jabalpur 110.67 285 *ex* Pdif 10 53 49.0 +11
JBP *ex* PP 10 58 10.0 -6.7
WCI Wyandotte Cave 110.92 57 *e*PKPdf PKiKP 10 57 39.8 +1.4
WCI *e*SKPdf SKPdf 11 01 00.0 +1.0
CPCT Cooper Cave 111.06 61 *e*PKPdf PKiKP 10 57 42.1 +3.6
BLO Bloomington 111.14 56 *e*PKIKP PKiKP 10 57 40.7 +2.0
BLO *e* 10 58 26.8
LATR Latur 111.36 279 *ex* x 10 56 44.0
CAM4 Nova Friburgo 111.95 137 *e*P PKiKP 10 57 44.0 +3.7
CAM4 *i* 10 57 49.2
CAM4 *i* 10 57 57.9
CAM4 *i* 10 58 40.9
AKL Akola 112.02 281 *ex* x 10 53 00.9
AKL *i* x x 10 57 11.2
AKL *i* x x 11 07 31.6
TZTN Tazewell 112.22 60 *e*PKPdf PKiKP 10 57 40.8 0.0
BHPL Bhopal 112.81 284 *e*P PKiKP 10 57 41.9 -0.1
OPO Ambohidratompo 113.02 228 Pdiff Pdif 10 53 53.5 +4.5
baz=120,slow=12
OPO PKiKP PKiKP 10 57 44.8 +2.5
comp=E,38nm,0.7s,baz=163,slow=0.8,SNR=28
OPO PP PP 10 58 39.0 +5.5
comp=E,17nm,0.8s,baz=5.3,slow=1.5,SNR=3.9
OPO PKKPab PKKPab 11 08 36.7 -0.6
comp=E,3.7nm,0.6s,baz=308,slow=3.9,SNR=9.2
JSC Jenkinsville 113.03 63 *e*PKIKP PKiKP 10 57 45.0 +2.7
COW Cow Castle Cre 113.09 64 *e*PKPdf PKiKP 10 57 45.1 +2.6
LGTI Lohaghat 113.16 291 *ex* x 10 57 10.5
PTH Pithoragarh 113.23 291 *e*P PKiKP 10 57 39.5 -3.2
WMQ Urumqi 113.34 308 PDIF Pdif 10 53 49.3 -1.0
WMQ PKP PKiKP 10 57 38.1 -4.8
WMQ PP PP 10 58 34.8 -1.0
WMQ PKS 11 01 13.6
WMQ SKS SKSdf 11 04 33.1 -7.2
WMQ PP PP
comp=Z,32µm,11.2s
WMQ LR LR
comp=N,68µm,25.6s
WMQ LR LR
comp=E,43µm,26.6s
WMQ LR LR
comp=Z,37µm,28.6s
SUR Sutherland 113.39 198 PKiKP PKiKP 10 57 45.3 +2.3
comp=Z,154nm,1.0s,baz=206,slow=1.7,SNR=26
SUR PKKPbc PKKPbc 11 08 28.7 +1.0
comp=Z,44nm,0.8s,baz=334,slow=3.1,SNR=12
SUR Sutherland 113.39 198 *e*Pdif Pdif 10 53 55.2 +4.6
SUR *e*PKPdf PKiKP 10 57 43.9 +0.8
SUR PKPdf PKiKP 10 57 45.3 +2.3
SUR *e*PP PP 10 58 44.4 +8.2
SUR PKKPbc PKKPbc 11 08 28.7 +1.0
BDFB Brasilia 113.50 128 PKiKP PKiKP 10 57 46.5 +3.2
comp=Z,48nm,0.8s,baz=192,slow=3.3,SNR=11
BDFB PKKPbc PKKPbc 11 08 28.6 +1.2
comp=Z,13nm,0.8s,baz=68,slow=5.9,SNR=4.5
POO Poona 113.70 278 *i* P PKiKP 10 57 46.0 +2.4
POO *i* x x 11 05 08.0
POO *i* x x 11 06 30.0
POO *i* x x 11 07 07.0
POO *i* x x 11 11 37.0
ACSO Alum Creek Sta 114.07 56 *e*PKPdf PKiKP 10 57 45.5 +1.2
FCC Fort Churchill 114.20 35 *e*P Pdif 10 53 51.4 -2.8
FCC *e* 10 57 44.8
FCC *e* 10 58 42.4
CAM3 Guarapari 114.40 137 (P) PKiKP 10 57 53.4 +8.4
CAM3 *i* 10 58 51.8
ELN Prospectdale 114.56 60 *e*PKPdf PKiKP 10 57 48.3 +3.0
FWV Forest Hill 114.64 60 *e*PKPdf PKiKP 10 57 46.9 +1.5
BOM Bombay 114.74 278 *e*P PKiKP 10 57 45.6 0.0
BLA Blacksburg 114.79 60 *e*PKIKP PKiKP 10 57 46.6 +0.9
DDI Dehra Dun 115.25 291 *ex* x 10 57 40.5
NDI New Delhi 115.27 289 *e*P PKPdf 10 57 46.5 -0.1
NDI *e*P 10 57 47.0
SMLA Simla 116.27 292 *i* P PKPdf 10 57 47.0 -1.6
AJM Ajmer 116.47 286 *i* P PKPdf 10 57 51.0 +2.1
ALLY Alegheny Colle 116.58 56 *e*PKPdf PKPdf 10 57 51.0 +1.8
ALLY *e*SKPdf SKPdf 11 01 11.3 +1.4
ERPA Erie 116.85 55 *e*PKPdf PKPdf 10 57 51.8 +2.1
ERPA *e*SKPdf SKPdf 11 01 13.8 +3.4
BHK Bhakra 116.98 292 *ex* x 10 57 33.8
CBN Corbin 117.41 60 *e*PKPdf PKPdf 10 57 52.4 +1.6
PONG Pong 117.55 292 *e*P PKPdf 10 57 52.0 +1.0
DLH Dalhousie 117.75 293 *e*P PKPdf 10 57 53.0 +1.6
MKAR Makanchi Array 117.94 310 PKP PKPdf 10 57 51.7 0.0
comp=Z,139nm,1.0s,baz=97,slow=2.8,SNR=31
MKAR PKKPbc PKKPbc 11 08 18.6 +6.6
comp=Z,30nm,0.8s,baz=273,slow=4.1,SNR=5.6
MKAR tx tx 11 36 56.8
comp=Z,0.6nm,0.7s,baz=101,slow=4.6,SNR=3.4
SDMD Soldier's Deli 118.20 59 *e*PKPdf PKPdf 10 57 53.8 +1.5
SDMD *es*PKPdf 10 58 48.0
SDMD *e*SKPdf SKPdf 11 01 16.0 +3.0
SADO Sadowa 118.29 53 PKKPbc PKKPbc 11 08 15.4 +4.7
comp=Z,21nm,0.8s,baz=66,slow=4.4,SNR=4.8
SJG San Juan 118.59 86 PKP PKPdf 10 57 54.4 +1.4
comp=Z,48nm,0.7s,baz=21,slow=1.1,SNR=11
SJG SKP 11 01 20.5
comp=Z,40nm,0.8s,baz=354,slow=0.9,SNR=3.3
SJG PKKPbc PKKPbc 11 08 12.9 +3.3
comp=Z,10.0nm,0.2s,baz=191,slow=19,SNR=2.3
SJG San Juan 118.59 86 PKIKP PKPdf 10 57 54.4 +1.4
SJG pmax pmax
comp=Z,48nm,0.7s
SJG pmax pmax
comp=N,40nm,0.8s
SJG pmax pmax
comp=E,10.0nm,0.2s
SJG San Juan 118.59 86 *e*PKPdf PKPdf 10 57 54.7 +1.6
SJG *e*SKPdf SKPdf 11 01 18.2 +4.4
LBTB Lobatse 118.72 206 PKP PKPdf 10 57 54.5 +1.3
comp=E,67nm,1.0s,baz=158,slow=2.4,SNR=17
LBTB PP PP 10 59 18.2 +4.9
comp=E,57nm,0.8s,baz=157,slow=6.9,SNR=4.3
LBTB PKKPbc PKKPbc 11 08 12.4 +3.2
comp=E,38nm,0.9s,baz=350,slow=2.8,SNR=10.0
LBTB Lobatse 118.72 206 *e*PKIKP PKPdf 10 57 56.5 +3.3
LBTB *e* 10 59 17.7
LBTB Lobatse 118.72 206 *e*PKPdf PKPdf 10 57 56.5 +3.3
LBTB *e*PP PP 10 59 17.7 +4.3
LBTB *e*PKKPbc PKKPbc 11 08 11.9 +2.7
LBTB *e*PKKPab PKKPab 11 08 17.2 +5.0
MVL Millersville 118.75 59 *e*PKPdf PKPdf 10 57 54.7 +1.4
MVL *e*SKPdf SKPdf 11 01 16.8 +2.7
RES Resolute Bay 118.92 18 PKIKP PKPdf 10 57 51.0 -2.6
RES Resolute Bay 118.92 18 *e*PKPdf PKPdf 10 57 50.8 -2.8
RES *e*SKPdf SKPdf 11 01 21.8 +7.4
TRN Trinidad (W) 119.08 96 *e*P PKPdf 10 57 58.7 +4.8
BHJ Bhuj 119.28 281⇑ *e*P PKPdf 10 57 54.2 -0.1
NVS Novosibirsk 119.57 319 *e*PKIKP PKPdf 10 57 51.5 -3.4
NVS *e*S SKSac 11 04 38.4 +1.9
NVS pmax pmax
comp=N,213nm,1.4s
NVS pmax pmax
comp=E,430nm,1.4s
NVS pmax pmax
comp=Z,649nm,1.4s
NVS smax
comp=N,358nm,2.3s
NVS smax
comp=E,1µm,2.8s
KSH Kashi 120.11 300 *e*PKP PKPdf 10 57 58.3 +2.4
KSH *e*XPKP 10 58 57.4
KSH *e*PKS 11 01 33.1
KSH *e*SKS SKSdf 11 04 53.0 -0.3
KSH PP PP
comp=Z,3µm,3.4s
KSH LR LR
comp=N,11µm,14.6s
KSH LR LR
comp=E,18µm,16.2s
KSH LR LR
comp=Z,35µm,32.3s
BRNJ Basking Ridge 120.26 58 *e*PKPdf PKPdf 10 57 56.9 +0.7
BRNJ *e*SKPdf SKPdf 11 01 20.2 +3.3
ULHL Ulahol 120.73 303 P PKPdf 10 57 56.7 -0.5
SNR=46
CPNY Central Park 120.73 58 *e*PKPdf PKPdf 10 57 58.7 +1.6
CPNY *e*SKPdf SKPdf 11 01 21.4 +3.6
PAL Palisades 120.83 58 *e*PKPdf PKPdf 10 57 58.3 +1.0
PAL *e*SKPdf SKPdf 11 01 21.0 +3.0
BSK Brimstone Hill 121.06 88 *e*P PKPdf 10 58 02.3 +4.6
SKDB Saint Kitts 2 121.11 88 *e*P PKPdf 10 58 02.9 +5.1
SKI Saint Kitts 121.14 88 *e*P PKPdf 10 57 59.2 +1.3
SKTB Turtle Beach 121.19 88 *e*P PKPdf 10 58 01.9 +3.9
NVRH Round Hill, Ne 121.19 88 *e*P PKPdf 10 58 01.9 +3.9
BIM Bigot 121.25 92 *e*P PKPdf 10 58 01.4 +3.3
MSNY Massena 121.27 54 *e*PKPdf PKPdf 10 57 59.3 +1.1
MSNY *e*SKPdf SKPdf 11 01 20.4 +1.5
FDF Fort de France 121.29 92 *e*P PKPdf 10 58 00.3 +2.1
KURK Kurchatov 121.32 313*d* *i*PKIKP PKPdf 10 57 55.8 -2.5
KURK Kurchatov 121.32 313 *e*P Pdif 10 54 24.2 -1.6
KURK *e* 10 57 56.3
LONY Lake Ozonia 121.36 54 *e*PKPdf PKPdf 10 57 59.9 +1.6
LONY *e*SKPdf SKPdf 11 01 21.6 +2.5
TKM2 Tokmak 2 121.38 304 P PKPdf 10 57 57.3 -1.1
SNR=36
TKM2 Tokmak 2 121.38 304 *i* PKIKP PKPdf 10 57 56.9 -1.5
TKM2 pmax pmax
comp=Z,606nm,1.2s
BBL Barber's Block 121.39 91 *e*P PKPdf 10 58 03.9 +5.5
KZA Kyzart 121.39 303 P PKPdf 10 57 57.9 -0.5
SNR=39
TBG Guadaloupe-3 121.39 90 *e*P PKPdf 10 58 02.1 +3.7
LZG Guadaloupe-1 121.41 90 *e*P PKPdf 10 58 01.6 +3.1
NCB Newcomb 121.44 55 *e*PKPdf PKPdf 10 57 59.8 +1.4
NCB *e*SKPdf SKPdf 11 01 18.6 -0.6
CRM Caravelle 121.50 92 *e*P PKPdf 10 57 59.2 +0.6
MATP Matopo 121.66 211 PKP PKPdf 10 58 00.1 +1.2
comp=Z,164nm,0.7s,baz=171,slow=2.1,SNR=28
MATP PKKPbc PKKPbc 11 08 03.5 +5.1
comp=Z,68nm,1.1s,baz=344,slow=1.5,SNR=5.3
MGG Marie-Galante 121.70 90 *e*P PKPdf 10 58 01.8 +2.9
KBK Karagaybulak 121.77 303 P PKPdf 10 57 58.0 -1.1
SNR=30
SEG Port Louis 121.77 90 *e*P PKPdf 10 58 01.8 +2.7
MIV Mineville/With 121.95 55 *e*PKPdf PKPdf 10 58 00.6 +1.1
MIV *e*SKPdf SKPdf 11 01 20.9 +0.7
UCH Uchtor 121.96 303 P PKPdf 10 57 58.9 -0.6
SNR=39
CHMS Chumysh 122.00 304 P PKPdf 10 57 58.1 -1.5
SNR=28
FRU Bishkek 122.05 304 *e*P Pdif 10 54 36.0 +6.9
FRU *i* PP PP 10 59 41.0 +4.9
FRU *e*SP SP 11 09 16.0 +2.1
FRU *i* PSP 11 11 00.0
FRU *i* SS SS 11 16 00.0 -2.0

AAK	**Ala-Archa**	**122.08**	**303**		P		PKPdf	10 58 00.5	+0.8
	SNR=30								
AAK	**Ala-Archa**	**122.08**	**303**	⇓	*i* PKIKP		PKPdf	10 57 59.3	-0.4
AAK					MLR		MLR		
	comp=Z,50μm,23.0s								
AAK	**Ala-Archa**	**122.08**	**303**		*e* Pdif		Pdif	10 54 29.3	+0.1
AAK					*e* PKPdf		PKPdf	10 57 58.9	-0.9
AAK				⇓	*e* PKP		PKPdf	10 57 59.3	-0.4
DEG	**La Desirade**	**122.10**	**90**		*e*P		PKPdf	10 58 02.9	+3.2
FRNY	**Flat Rock**	**122.10**	**54**		*e* PKPdf		PKPdf	10 58 02.0	+2.3
FRNY					*e*SKPdf		SKPdf	11 01 22.3	+1.8
USP	**Ospenovka**	**122.24**	**304**		P		PKPdf	10 58 02.2	+2.2
	SNR=33								
QUA2	**Belchertown**	**122.31**	**57**		*e* PKPdf		PKPdf	10 58 02.4	+2.3
QUA2					*e*SKPdf		SKPdf	11 01 24.0	+3.1
AML	**Almayashu**	**122.52**	**303**		P		PKPdf	10 58 00.3	-0.2
	SNR=27								
EKS2	**Erkin-Say**	**122.60**	**303**		P		PKPdf	10 57 59.6	-1.1
	SNR=27								
HNH	**Hanover**	**122.72**	**56**		*e* PKPdf		PKPdf	10 58 03.9	+2.9
HNH					*e*SKPdf		SKPdf	11 01 23.0	+1.3
HRV	**Harvard--Oak R**	**122.94**	**57**		*e* PKPdf		PKPdf	10 58 02.6	+1.2
HRV					*e*SKPdf		SKPdf	11 01 26.0	+3.9
WES	**Weston**	**123.08**	**57**		*e* PKPdf		PKPdf	10 58 03.8	+2.2
WES					*e*SKPdf		SKPdf	11 01 26.3	+3.9
LBNH	**Lisbon**	**123.11**	**55**		*e* PKIKP		PKPdf	10 58 01.4	-0.3
FFD	**Franklin Falls**	**123.11**	**56**		*e* PKPdf		PKPdf	10 58 01.4	-0.3
FFD					*e*SKPdf		SKPdf	11 01 26.3	+3.9
KK31	**Karatay Array**	**125.03**	**303**		*i* PKIKP		PKPdf	10 58 04.2	-1.2
BBSR	**BB Station**	**125.31**	**71**		*e* PKPdf		PKPdf	10 58 08.6	+2.7
BBSR					*e*SKPdf		SKPdf	11 01 30.6	+4.0
LSZ	**Lusaka**	**126.31**	**213**		Pdiff		Pdif	10 54 54.4	+6.4
LSZ	**Lusaka**	**126.31**	**213**		PKP		PKPdf	10 58 09.2	+1.4
	comp=Z,258nm,0.9s,baz=168,slow=2.3,SNR=9.2								
LSZ	**Lusaka**	**126.31**	**213**		*e* PKPdf		PKPdf	10 58 09.6	+1.8
LSZ					*e*PP		PP	11 00 08.7	+4.1
TSUM	**Tsumeb**	**126.77**	**200**		PKP		PKPdf	10 58 10.4	+1.7
	comp=Z,182nm,1.0s,baz=134,slow=3.7,SNR=16								
TSUM	**Tsumeb**	**126.77**	**200**		*e* Pdif		Pdif	10 54 52.5	+2.5
TSUM					*e* PKPdf		PKPdf	10 58 07.0	-1.7
TSUM					PKP		PKPdf	10 58 10.4	+1.7
TSUM					*e*PP		PP	11 00 14.5	+6.9
BRVK	**Borovoye**	**126.80**	**315**		*e*P		Pdif	10 54 48.8	-1.4
BRVK					*i*			10 58 07.4	
BRVK					*e*			11 00 09.3	
ZRNK	**Zerenda**	**127.56**	**315**		*i* PKIKP		PKPdf	10 58 07.4	-2.8
ZRNK					pmax		pmax		
	comp=Z,826nm,1.3s								
ZRNK	**Zerenda**	**127.56**	**315**		*e* Pdif		Pdif	10 54 52.5	-1.1
ZRNK					*e* PKPdf		PKPdf	10 58 07.7	-2.5
ZRNK					*e*PP		PP	11 00 12.2	-0.6
SCHQ	**Schefferville**	**127.97**	**43**		PKP		PKPdf	10 58 09.4	-1.5
	comp=Z,55nm,1.0s,baz=315,slow=2.5,SNR=21								
SCHQ	**Schefferville**	**127.97**	**43**		*e* PKPdf		PKPdf	10 58 09.0	-2.0
SCHQ					*e*PP		PP	11 00 10.5	-5.0
SCHQ					*e*SKPdf		SKPdf	11 01 30.8	-0.8
WSAR	**Wadi Sarin**	**128.56**	**276**		PKP		PKPdf	10 58 12.5	+0.4
	comp=Z,306nm,1.2s,baz=178,slow=3.3,SNR=23								
WSAR	**Wadi Sarin**	**128.56**	**276**		PKP		PKPdf	10 58 12.5	+0.4
KMBO	**Kilima Mbogo**	**132.42**	**234**		PKhKP			10 58 09.6	
	comp=Z,6.8nm,0.9s,baz=75,slow=6.7,SNR=7.9								
KMBO					PKP		PKPdf	10 58 23.2	+3.8
	comp=Z,71nm,0.9s,baz=118,slow=1.8,SNR=31								
KMBO					SKPbc		SKPbc	11 01 35.3	+3.6
	comp=Z,340nm,0.9s,baz=111,slow=3.5,SNR=10								
KMBO	**Kilima Mbogo**	**132.42**	**234**		PKP		PKPdf	10 58 23.2	+3.8
KMBO					SKPbc		SKPbc	11 01 35.3	+3.6
KBS	**Kingsbay**	**132.58**	**357**		*e*P		PKPdf	10 58 12.4	-7.4
KBS					AMb		AMB	10 58 29.9	
	comp=Z,530nm,1.5s								
KBS					*e*PP		PP	11 00 40.8	-4.6
KBS	**Kingsbay**	**132.58**	**357**	*c*	*i* PKIKP		PKPdf	10 58 19.6	-0.1
MUKL	**Al Mukalla**	**132.84**	**260**		*e*P		PKPdf	10 58 14.7	-5.5
ARU	**Arti**	**133.56**	**320**		*e*P		Pdif	10 55 24.8	+4.6
ARU					*i*			10 58 22.0	
ARU					*e*			11 00 49.8	
ARU	**Arti**	**133.56**	**320**		*e* PKPpre			10 58 16.0	
ARU				⇓	*e* PKP		PKPdf	10 58 21.9	+0.3
ARU					*e* PKPdf		PKPdf	10 58 22.9	+1.3
ARU					*e*SKPab			11 01 37.4	
ARU					*e*SKPdf		SKPdf	11 01 44.0	+1.9
SFJD	**Kangerlussuaq**	**133.72**	**25**		*i* P		Pdif	10 55 26.5	+5.5
SFJD					*e*			10 58 18.4	
SFJD					*i*			11 00 50.3	
SFJD					*i*			11 07 35.6	
SFJD					*e*			11 09 05.2	
SFJD					*i*			11 18 27.1	
SFJD									
	comp=Z,28μm,18.0s								
SFJD	**Kangerlussuaq**	**133.72**	**25**		*i* P		Pdif	10 55 26.5	+5.5
SFJD					*e*			10 58 18.4	
SFJD					*i*			11 00 50.3	
SFJD					*i*			11 18 27.1	
SFJD					MLR		MLR		
	comp=Z,28μm,18.0s								
SFJD	**Kangerlussuaq**	**133.72**	**25**		*e* PKPdf		PKPdf	10 58 20.5	-1.3
SFJD					*e*PP		PP	11 00 52.9	+0.2
SFJD					*e*SKPdf		SKPdf	11 01 45.5	+3.1
DAG	**Danmarks Havn**	**134.08**	**6**		*i*		PKPdf	10 58 22.8	+0.2
DAG									
	comp=Z,27μm,21.0s								
HSP	**Hornsund**	**134.24**	**355**		*e*P		PKPdf	10 58 21.0	-1.9
AKTO	**Aktyubinsk**	**134.32**	**311**		*i* PKHKP			10 58 11.5	
AKTO					pmax		pmax		
	comp=Z,85nm,1.4s								
SUMG	**Summit**	**134.35**	**15**		*e* PKPpre			10 58 13.6	
SUMG					*e* PKPdf		PKPdf	10 58 23.0	0.0
SUMG					*e*PP		PP	11 00 55.5	-1.2
SUMG					*e*SKPdf		SKPdf	11 01 44.3	+0.9
BDHA	**Al Bayda'**	**135.48**	**257**		*e*P		PKPdf	10 58 20.0	-5.1
LBOS		**135.69**	**257**		*e*P		PKPdf	10 58 20.3	-5.2
BJO	**Bjornoya**	**136.29**	**353**		*e*P		PKPdf	10 58 22.3	-4.3
BJO					AMb		AMB	10 58 39.6	
	comp=Z,594nm,0.2s								
BJO					*e*PP		PP	11 01 07.3	-1.5
BJO					*e*SS		SS	11 18 56.0	-1.2
ORR	**Orenburg**	**136.31**	**313**	*d*	*i* P		Pdif	10 55 31.5	-1.0
ORR					*i*			10 58 15.9	
ORR					*i* PS		PS	11 11 09.5	-26
ORR					pmax		pmax		
	comp=Z,770nm,1.5s								
ORR					MLR		MLR		
	comp=Z,19μm,18.0s								
ATD	**Arta Tunnel**	**136.40**	**252**		PKP		PKPdf	10 58 29.4	+2.6
	comp=Z,140nm,1.0s,baz=293,slow=1.2,SNR=26								
ATD					SKPbc		SKPbc	11 01 49.5	+4.9
	comp=Z,248nm,0.9s,baz=86,slow=3.3,SNR=11								
ATD	**Arta Tunnel**	**136.40**	**252**		PKP		PKPdf	10 58 29.4	+2.6
ATD					SKPbc		SKPbc	11 01 49.5	+4.9
MBAR	**Mbarara**	**137.08**	**227**	⇑	*i* PKHKP			10 58 23.5	
ASCN	**Ascension**	**137.86**	**157**		*e* PKPdf		PKPdf	10 58 34.3	+4.7
ASCN					*e*SKPab			11 02 01.1	
HAJJ	**Hajjah**	**138.00**	**258**		*e*P		PKPdf	10 58 24.5	-5.3
DESE	**Dese**	**138.74**	**249**		*e*P		PKPdf	10 58 28.9	-2.3
DESE					PKP		PP	11 01 32.7	+8.7
DESE					*e*P				
LVZ	**Lovozero**	**138.91**	**341**	⇓	*i* PKHKP			10 58 24.4	
LVZ					*e*			11 01 26.8	
KEV	**Kevo**	**139.30**	**346**		*e* PKPdf		PKPdf	10 58 31.9	-0.3
KEV					*e*SKPdf		SKPdf	11 01 53.4	+1.0
KEV					*e*SKPab			11 02 02.4	
APA	**Apatity**	**139.47**	**341**	⇑	*i* PKIKP		PKPdf	10 58 29.0	-3.5
APA					*i*			10 59 07.0	
APA					*i*			11 13 28.0	
APA					pmax		pmax		
	comp=Z,430nm,1.4s								
APA					pmax		pmax		
	comp=Z,30μm,8.0s								
QRN	**Al-Qurain**	**139.48**	**278**		*e*P		PKPdf	10 58 28.3	-4.2
QRN					AMb		AMB	10 58 50.6	
	comp=Z,4μm,1.1s								
ARCES	**ARCESS Array B**	**139.78**	**347**		PKhKP			10 58 26.2	
	comp=Z,32nm,0.8s,baz=95,slow=1.8,SNR=37								
ARCES					PKP		PKPdf	10 58 34.8	+1.7
	comp=Z,172nm,0.7s,baz=23,slow=2.9,SNR=30								
ARCES					SKPbc		SKPbc	11 01 57.2	+3.0
	comp=Z,240nm,0.9s,baz=48,slow=1.8,SNR=4.1								
ARCES	**ARCESS Array B**	**139.78**	**347**	*i*	PKHKP			10 58 26.2	
ARCES								10 58 34.8	
ARCES					pmax		pmax		
	comp=Z,32nm,0.8s								
ARCES	**ARCESS Array B**	**139.78**	**347**		PKP		PKPdf	10 58 34.8	+1.7
ARCES					SKPbc		SKPbc	11 01 57.2	+3.0
ARE0	**ARCESS Array S**	**139.78**	**347**	*e*	PKPpre			10 58 27.4	
ARE0				*e*	PKPdf		PKPdf	10 58 35.3	+2.2
ARE0				*e*	SKPdf		SKPdf	11 01 54.5	+1.3
ARE0				*e*	SKPab			11 02 03.1	
RDF	**Al-Radifah**	**139.84**	**278**	*e*	P		PKPdf	10 58 29.8	-3.4
RDF					AMb		AMB	10 58 41.7	
	comp=Z,3μm,1.3s								
UMR	**Umm Al-Rimmam**	**139.87**	**279**	*e*	P		PKPdf	10 58 29.8	-3.4
UMR					AMb		AMB	10 58 43.1	
	comp=Z,2μm,1.1s								
NAY	**Al-Naaiem**	**140.19**	**279**	*e*	P		PKPdf	10 58 30.2	-3.7
NAY					AMb		AMB	10 58 45.2	
	comp=Z,727nm,1.1s								
MIB	**Mutribah**	**140.25**	**280**	*e*	P		PKPdf	10 58 29.5	-4.5
MIB					AMb		AMB	10 58 42.4	
	comp=Z,1μm,1.2s								
JMIC	**Jan Mayen**	**140.47**	**5**	*e*	P		PKPdf	10 58 29.8	-4.6
JMIC					AMb		AMB	10 58 46.7	
	comp=Z,2μm,1.8s								
JMIC					*e*PP		PP	11 01 32.5	-2.1
JMIC					*e*SS		SS	11 19 46.7	+0.3
JMIC	**Jan Mayen**	**140.47**	**5**		PKhKP			10 58 29.5	
	comp=Z,31nm,0.8s,baz=182,slow=8.7,SNR=3.2								
JMIC					PKP		PKPdf	10 58 35.0	+0.7
	comp=Z,172nm,1.0s,baz=137,slow=4.9,SNR=10								
JMIC					SKPbc		SKPbc	11 01 58.5	+2.5
	comp=Z,208nm,0.9s,baz=91,slow=4.6,SNR=6.2								
JMIC	**Jan Mayen**	**140.47**	**5**	*e*	P		PKPdf	10 58 29.8	-4.6
JMIC					PKP		PKPdf	10 58 35.0	+0.7
JMIC					SKPbc		SKPbc	11 01 58.5	+2.5
KTK1	**Kautokeino**	**140.65**	**347**	*e*	P		PKPdf	10 58 27.4	-7.3
KTK1					AMb		AMB	10 58 45.5	
	comp=Z,1μm,1.3s								
TRO	**Tromso**	**140.81**	**350**	*e*	P		PKPdf	10 58 28.9	-6.1
TRO					AMb		AMB	10 58 47.3	
	comp=Z,735nm,1.6s								
TRO					*e*PP		PP	11 01 34.7	-2.0
TRO					*e*SS		SS	11 19 49.7	-0.8
PECR	**Pechory**	**141.39**	**322**		*e* PKHKP			10 58 27.6	
PECR					pmax		pmax		
	comp=N,2μm,7.0s								
PECR					pmax		pmax		
	comp=Z,23μm,7.0s								
PECR					pmax		pmax		
	comp=E,6μm,8.0s								
KLMR	**Klimovskoe**	**141.55**	**331**	*d*	*i* PKHKP			10 58 31.2	
KLMR					*e*			11 01 41.1	
KLMR					*e*SS		SS	11 19 56.9	-2.1
KLMR					pmax		pmax		
	comp=Z,2μm,1.6s								
MAK	**Makhachkala**	**141.75**	**300**		*e* PKIKP		PKPdf	10 58 35.6	-1.0
MAK					*e*			10 59 16.0	
MAK					*e*			11 01 43.8	
MAK					*e*SS		SS	11 20 03.8	+2.4
MAK					pmax		pmax		
	comp=Z,3μm,1.8s								
MAK	**Makhachkala**	**141.75**	**300**		*e* PKPdf		PKPdf	10 58 35.6	-1.0
MAK					*e*			10 59 16.0	
MAK					*e*			11 01 43.8	
MAK					*e*SS		SS	11 20 03.8	+2.4
LOF	**Lofoten**	**142.93**	**352**		*e*P		PKPdf	10 58 36.9	-1.8
LOF					AMb		AMB	10 58 51.6	
	comp=Z,846nm,2.0s								
DGRG	**David-gareji**	**143.35**	**298**		P		PKPdf	10 58 33.6	-5.9
JOF	**Joensuu**	**143.38**	**337**		*e*pkp		PKPdf	10 58 34.2	-5.3
	comp=Z,309nm,0.6s								
BHD	**Baghdad**	**143.47**	**284**		*i* x		x	10 58 33.0	
BHD					*i* x		x	10 59 22.0	
BHD					*i* x		x	11 01 22.5	
BHD					*i* x		x	11 04 29.5	
BHD					*e* x		x	11 05 26.0	
MTA	**Mtatsminda**	**143.79**	**298**		P		PKPdf	10 58 35.8	-4.5
TBLG	**Delisi**	**143.83**	**298**		PKIKP		PKPdf	10 58 38.8	-1.5
GNI	**Garni**	**143.83**	**296**		PKP		PKPdf	10 58 40.5	+0.2
	comp=Z,781nm,1.3s,baz=250,slow=3.0,SNR=23								
GNI	**Garni**	**143.83**	**296**		PKIKP		PKPdf	10 58 40.5	+0.2
GNI					pmax		pmax		
	comp=Z,781nm,1.3s								
BORG	**Borgarnes**	**144.33**	**16**		PKP		PKPdf	10 58 40.2	-0.9
	comp=Z,262nm,1.1s,baz=294,slow=1.3,SNR=14								
BORG					SKPbc		SKPbc	11 02 08.1	+2.5
	comp=Z,126nm,1.0s,baz=338,slow=7.9,SNR=3.9								
BORG	**Borgarnes**	**144.33**	**16**		*e* PKPdf		PKPdf	10 58 38.7	-2.5
BORG					*e*SKPbc		SKPbc	11 02 09.7	+4.2
ZEI	**Tsey**	**144.41**	**300**		*e* PKIKP		PKPdf	10 58 41.0	-0.3
VRHR	**Novokhopersk**	**144.48**	**315**		*e* PKIKP		PKPdf	10 58 41.4	0.0
VRHR					*e*SS		SS	11 20 35.4	+2.7
VRHR					pmax		pmax		
	comp=E,12μm,17.6s								
VRHR					pmax		pmax		
	comp=Z,70μm,17.6s								
VRHR					pmax		pmax		
	comp=N,3μm,9.1s								
CUKT	**Cukurca**	**144.59**	**291**		P		PKPdf	10 58 38.6	-3.0
MOR8	**Moi Rana**	**144.67**	**350**		*e*P		PKPdf	10 58 38.0	-3.8
MOR8					AMb		AMB	10 58 44.5	
	comp=Z,3μm,1.6s								
STOK	**Stokkvaagen**	**144.71**	**352**		*e*P		PKPdf	10 58 37.1	-4.7
STOK					AMb		AMB	10 58 47.0	
	comp=Z,6μm,1.2s								
AKH	**Akhalkalaki**	**144.77**	**298**		P		PKPdf	10 58 42.7	+0.8
GOF	**Gofitskoye**	**144.82**	**304**	⇓	*i* PKIKP		PKPdf	10 58 41.0	-1.0
GOF					pmax		pmax		
	comp=Z,6μm,1.3s								
TVAN	**Van**	**144.82**	**293**		*i* P		PKPdf	10 58 41.7	-0.3
VANT	**Van**	**144.83**	**293**		*i* P		PKPdf	10 58 42.9	+0.9
DIGO	**Kars**	**144.88**	**296**		*i* P		PKPdf	10 58 43.3	+1.1
MSL	**Mosul**	**144.93**	**289**		*ex*		x	10 58 39.0	
MSL					*ex*		x	11 01 28.0	
MSL					*i* x		x	11 04 42.0	
MSL					*ex*		x	11 05 23.0	
MOS	**Moscow**	**144.94**	**324**	*a*	*i* PKIKP		PKPdf	10 58 40.7	-1.5
MOS					*i*			10 59 27.2	
MOS					*i*			11 01 58.9	
MOS					*e*			11 05 19.6	
MOS					*i*			11 14 30.8	
MOS					*e*SSS			11 26 06.2	
MOS					pmax		pmax		
	comp=Z,700nm,1.7s								
MOS					pmax		pmax		
	comp=Z,375nm,1.4s								
KARS	**Kars**	**145.09**	**297**		P		PKPbc	10 58 42.5	+0.2
KIV	**Kislovodsk**	**145.19**	**302**		*e* PKHKP			10 58 38.4	
KIV					*i*			10 58 42.0	
KIV					*e*			11 01 58.8	
KIV					*e*			11 05 34.9	
KIV					pmax		pmax		
	comp=Z,2μm,1.0s								
KIV	**Kislovodsk**	**145.19**	**302**		*e* PKPbc		PKPbc	10 58 42.2	-0.5
KAF	**Kangasniemi**	**145.56**	**339**		*e*pkp		PKPdf	10 58 39.8	-3.5
	comp=Z,1μm,0.6s,baz=28,slow=2.5								
VOR	**Voronezh**	**145.71**	**317**		*e* PKIKP		PKPdf	10 58 41.0	-2.6
VOR					*e*			11 02 10.0	
VOR					pmax		pmax		
	comp=N,3μm,1.4s								
VOR					pmax		pmax		
	comp=E,4μm,1.4s								
VOR					pmax		pmax		
	comp=Z,6μm,1.4s								
OBN	**Obninsk**	**145.76**	**323**		*e*		PKPdf	10 58 42.4	-1.2
OBN					*i*			11 02 08.3	
OBN					*i* PS			11 14 24.2	
OBN					*i* PPS			11 14 45.4	
OBN					*i* SS		SS	11 20 40.0	-7.4
OBN	**Obninsk**	**145.76**	**323**		PKPdf		PKPdf	10 58 42.7	-1.0
OBN				⇑	*i* PKP		PKPdf	10 58 46.5	+2.9
OBN					*es* PKPdf			10 59 38.2	
OBN					LR		LR		
	comp=Z,44μm,23.0s								
PUL	**Pulkovo**	**145.87**	**334**	*d*	*i* PKP2		PKPab	10 58 47.3	+1.9
PUL					*e*			11 05 30.1	
PUL					*e*SS		SS	11 20 45.0	-3.6
PUL	**Pulkovo**	**145.87**	**334**		*i* PKPabr		PKPab	10 58 47.3	+1.9
PUL					*e*			11 05 30.1	
PUL					*e*SS		SS	11 20 45.0	-3.6
VRSR	**Storozhevoye**	**145.90**	**316**		*i* PKIKP		PKPdf	10 58 43.0	-0.9
VRSR					pmax		pmax		
	comp=Z,960nm,1.3s								
VRSR					pmax		pmax		
	comp=N,80nm,1.0s								
VRSR					pmax		pmax		
	comp=E,430nm,1.4s								
ARTV	**Artvin**	**145.96**	**298**		*i* P		PKPdf	10 58 45.5	+1.5
BTMT	**Batman**	**146.32**	**292**		P		PKPdf	10 58 45.8	+1.2
ERZM	**Erzurum**	**146.42**	**295**		*i* P		PKPdf	10 58 46.3	+1.5
EZM	**Erzurum**	**146.43**	**295**		P		PKPdf	10 58 47.6	+2.8
BEST	**Besiri**	**146.48**	**292**		*i* P		PKPdf	10 58 50.6	+5.8
NSS	**Namsos**	**146.56**	**351**		*e*P		PKPdf	10 58 41.5	-3.6
NSS					AMb		AMB	10 58 50.4	
	comp=Z,3μm,1.8s								
NSS					*e*SS		SS	11 20 55.4	-1.0
BNGL	**BINGOL**	**146.60**	**294**		*i* P		PKPdf	10 58 48.9	+3.8
MARD	**Mardin**	**146.85**	**291**		*i* P		PKPdf	10 58 44.5	-0.9
MRKH	**Merkhyat**	**147.14**	**248**		*e*P		PKPdf	10 58 47.9	+1.9
	baz=131,slow=4.6								
DIY	**Diyarbakir**	**147.31**	**292**		P		PKPdf	10 58 47.7	+1.5
SOC	**Sochi**	**147.37**	**302**		*i* PKIKP		PKPdf	10 58 47.7	+1.3
SOC					*e*			11 15 07.8	
DRBT	**Darb Altahta**	**147.60**	**290**	⇑	P		PKPdf	10 58 49.6	+2.9
GUMT	**Gumushane**	**147.85**	**296**		P		PKPdf	10 58 50.4	+3.3
MNKR	**ALMNKUR**	**147.98**	**288**	⇑	P		PKPdf	10 58 52.1	+4.7
VSU	**Vasula**	**148.12**	**334**	*d*	*i* PKIKP		PKPdf	10 58 48.8	+1.2
URFA	**Urfa**	**148.41**	**291**		P		PKPdf	10 58 48.3	+0.2
JHLN	**Al Jahlan**	**148.63**	**287**	⇑	P		PKPdf	10 58 49.6	+1.2
MALT	**Malatya**	**148.73**	**292**	⇑	*i* P		PKPdf	10 58 51.1	+2.5
MALT	**Malatya**	**148.73**	**292**		PKIKP		PKPdf	10 58 48.3	-0.3
MALT	**Malatya**	**148.73**	**292**		*e* PKPdf		PKPdf	10 58 48.5	-0.1
MALT					*e*PKPbc		PKPbc	10 58 52.9	+0.4
MYA	**Malataya**	**148.73**	**292**		*e*P		PKPdf	10 58 48.8	+0.2
GRSN	**GIRESUNGRSN**	**148.74**	**297**		*i* P		PKPdf	10 58 51.1	+2.5
ANN	**Anapa**	**148.78**	**305**		*i* PKIKP		PKPdf	10 58 51.3	+2.6
ANN					pmax		pmax		
	comp=Z,1μm,1.0s								
ANN					pmax		pmax		
	comp=E,10μm,11.0s								
ANN					pmax		pmax		
	comp=Z,23μm,11.0s								
ATAB	**Bozova**	**148.83**	**291**		*i* P		PKPdf	10 58 53.6	+4.9
ZALF	**Zalf**	**149.26**	**282**	⇑	P		PKPdf	10 58 53.3	+3.9
DOMB	**Dombas**	**149.32**	**352**		*e*P		PKPdf	10 58 51.1	+1.6
DOMB					AMb		AMB	10 58 59.1	
	comp=Z,2μm,1.8s								
GZT	**Gaziantep**	**149.41**	**291**		*i* P		PKPdf	10 58 49.0	-0.7
ROOS	**tl_alroos**	**149.45**	**284**	⇑	P		PKPdf	10 58 53.2	+3.5
ASF	**Jabal al Asfar**	**149.51**	**280**		PKPbc		PKPbc	10 58 54.4	-0.1
	comp=Z,58nm,0.9s,baz=242,slow=0.3,SNR=14								
ASF	**Jabal al Asfar**	**149.51**	**280**		PKHKP			10 58 54.4	
ASF					pmax		pmax		
	comp=Z,58nm,0.9s								
RABH	**Abou Rabah**	**149.54**	**285**	⇑	P		PKPdf	10 58 54.9	+5.0
SVSK	**Karacayir**	**149.78**	**296**		P		PKPdf	10 58 50.1	-0.2
SVST	**Sivas**	**149.82**	**295**		*i* P		PKPdf	10 58 54.8	+4.5
KFRA	**Kufra**	**149.94**	**286**	⇑	P		PKPdf	10 58 53.9	+3.4
NB2	**NORSAR Subarra**	**150.01**	**350**		PKPa		PKPbc	10 58 52.1	-3.6
	comp=Z,4μm,1.7s,baz=17,slow=2.6								
NB2	**NORSAR Subarra**	**150.01**	**350**		PKPa		PKPbc	10 58 52.1	-3.6
	baz=17,slow=2.6								
NOA	**NORSAR Array B**	**150.01**	**350**		PKP		PKPdf	10 58 51.2	+0.6
	comp=Z,27nm,0.7s,baz=315,slow=27,SNR=69								
NOA					PKPbc		PKPbc	10 58 57.3	+1.6
	comp=Z,474nm,1.0s,baz=15,slow=4.2,SNR=66								
TOTH	**TOTAH**	**150.07**	**283**	⇑	P		PKPdf	10 58 54.4	+3.7
MARH	**Ras Al Marh**	**150.10**	**284**	⇑	P		PKPdf	10 58 55.3	+4.5
FOO	**Floro**	**150.11**	**356**		*e*P		PKPdf	10 58 52.6	+1.8
FOO					AMb		AMB	10 59 00.9	
	comp=Z,5μm,1.6s								
DRWC	**Darouich**	**150.12**	**289**	⇑	P		PKPdf	10 58 51.6	+0.9
FKH	**Fakeheh**	**150.19**	**284**		*e*P		PKPdf	10 58 56.5	+5.7
IZAR	**Zarasai**	**150.20**	**331**		*e*P		PKPdf	10 58 53.0	+2.1

CDAG	**Cicekdag**	**151.82**	**295**	*i* P		PKPdf	10 58 57.1	+3.7
MERS	**Mersin**	**151.84**	**290**	*e*P		PKPdf	10 58 51.6	-1.8
BSTP	**Nigde**	**152.14**	**292**	*i* P		PKPbc	10 59 07.1	+6.4
MEST	**Erdemli**	**152.14**	**289**	*i* P		PKPdf	10 58 56.0	+2.1
BLS5	**Blasjo**	**152.16**	**354**	*e*P		PKPdf	10 58 57.4	+3.5
BLS5				AMb		AMB	10 59 07.0	
	comp=Z,1µm,2.0s							
PHNC	**Paralimni**	**152.19**	**286**	P		PKPdf	10 58 57.9	+3.9
	comp=Z,46nm,0.5s							
CANT	**Cankiri**	**152.28**	**298**	*e*P		PKPdf	10 58 54.3	+0.2
BALT	**Daday**	**152.31**	**300**	*i* P		PKPdf	10 58 55.4	+1.3
KAMT	**Kaman**	**152.35**	**295**	*e*P		PKPdf	10 58 52.6	-1.6
BRTR	**Keskin Array B**	**152.37**	**296**	PKP		PKPdf	10 58 55.1	+0.9
	comp=Z,51nm,1.1s,baz=145,slow=1.8,SNR=44							
BRTR				PKPbc		PKPbc	10 59 02.1	+0.9
	comp=Z,415nm,1.0s,baz=115,slow=2.4,SNR=107							
ELDT	**Eldivan**	**152.44**	**297**	*i* P		PKPdf	10 58 56.8	+2.5
KMY	**Karmoy**	**152.47**	**355**	*e*P		PKPdf	10 58 55.9	+1.5
KMY				AMb		AMB	10 59 08.1	
	comp=Z,3µm,1.7s							
IKL	**Isikli**	**152.51**	**288**	*e*P		PKPdf	10 58 56.3	+1.9
SUW	**Suwalki**	**152.68**	**331**	*e*PKP		PKPdf	10 58 55.7	+1.0
SUW				*e*PKIKP		PKiKP	10 59 03.2	+1.1
SUW				*e*PP		PP	11 02 49.0	+2.6
SUW				*e*SKKS			11 13 08.8	
SUW				*e*SS		SS	11 22 02.1	-2.4
STAV	**Stavanger**	**152.71**	**355**	*e*P		PKPdf	10 58 52.1	-2.6
STAV				AMb		AMB	10 59 14.0	
	comp=Z,1µm,1.5s							
CSS	**Prodhromos**	**152.77**	**285**	P		PKPdf	10 58 57.3	+2.5
	comp=Z,19nm,0.6s							
MAMC	**Mammari**	**152.87**	**286**	P		PKPdf	10 58 58.1	+3.2
SAFT	**Safranbolu**	**152.88**	**299**	*e*P		PKPdf	10 58 53.9	-1.1
ANTO	**Ankara**	**153.00**	**296**	⇑*i*P		PKPdf	10 58 54.3	-0.8
ANTO	**Ankara**	**153.00**	**296**	PKIKP		PKPdf	10 58 54.8	-0.3
ANTO	**Ankara**	**153.00**	**296**	*e*PKPdf		PKPdf	10 58 53.9	-1.3
ANTO				*e*PKPbc		PKPbc	10 59 03.7	+1.2
LOD	**Lodumlu**	**153.02**	**296**	*e*P		PKPdf	10 58 55.4	+0.2
RTO	**Tolsta**	**153.03**	**8**	*e*P		PKPdf	10 58 56.8	+1.6
SZAC	**Souni-Zanaja**	**153.12**	**285**	P		PKPdf	10 58 59.4	+4.1
ERMK	**Ermenek**	**153.13**	**289**	*i* P		PKPdf	10 59 00.8	+5.5
SNART	**Snartemo**	**153.15**	**353**	*e*P		PKPdf	10 58 55.4	0.0
RSC	**Scourie**	**153.18**	**7**	*e*P		PKPdf	10 58 57.4	+2.0
ALFC	**Alevga**	**153.37**	**286**	P		PKPdf	10 58 59.9	+4.2
	comp=Z,25nm,0.7s							
REB	**Eisghbrachaidh**	**153.39**	**7**	*e*P		PKPdf	10 58 56.1	+0.4
RRH	**Rhenigidale**	**153.42**	**9**	*e*P		PKPdf	10 58 57.4	+1.6
SGKT	**Sivrigoynuk**	**153.46**	**298**	*i* P		PKPdf	10 58 54.7	-1.1
KONT	**Konya--Tatoy**	**153.52**	**292**	*e*P		PKPdf	10 58 58.8	+2.9
PPCY	**Paphos**	**153.57**	**285**	P		PKPdf	10 58 58.6	+2.6
AKMC	**Akamas**	**153.59**	**285**	P		PKPdf	10 58 58.1	+2.1
RRR	**Rubha Reidh**	**153.59**	**8**	*e*P		PKPdf	10 58 56.5	+0.5
KIS	**Kishinev**	**153.80**	**313**	*e*PKIKP		PKPdf	10 58 52.0	-4.3
KIS				*i*			10 59 16.0	
KIS				*i* PP		PP	11 02 54.0	+1.2
KIS				*i* SKS		SKSdf	11 05 40.0	-8.5
KIS				*i* PP			11 06 26.0	
KIZT	**Kizilcal**	**153.82**	**294**	*e*P		PKPdf	10 58 52.5	-3.9
KAC	**Achnashellach**	**154.00**	**8**	*e*P		PKPdf	10 58 56.3	-0.2
MCD	**Coleburn Disti**	**154.11**	**5**	*e*P		PKPdf	10 58 57.0	+0.3
KPL	**Plockton**	**154.12**	**8**	AMS		AMS	11 23 02.9	
	comp=E,58µm,19.9s							
KPL				AMS		AMS	11 33 10.1	
	comp=N,28µm,19.6s							
KPL	**Plockton**	**154.12**	**8**	AMS		AMS	11 23 02.9	
	comp=N,58µm,19.9s							
KSB	**Sheil Bridge**	**154.27**	**8**	*e*P		PKPdf	10 58 57.5	+0.6
HENT	**Hendek**	**154.28**	**299**	*i* P		PKPdf	10 58 57.5	+0.6
MME1	**Meikle Cairn**	**154.40**	**5**	*e*P		PKPdf	10 58 57.1	0.0
KAR1	**Arisaig**	**154.50**	**9**	*e*P		PKPdf	10 58 56.8	-0.5
ESKT	**Eskisehir**	**154.54**	**296**	*i* P		PKPdf	10 58 56.3	-1.1
BSD	**Bornholm Skovb**	**154.69**	**341**	*i* P		PKPdf	10 58 59.3	+1.8
	comp=N,1µm,1.7s							
BSD	**Bornholm Skovb**	**154.69**	**341**	*i* PKIKP		PKPdf	10 58 59.3	+1.8
BSD				*i*			11 22 27.7	
BSD				pmax		pmax		
	comp=Z,1µm,1.7s							
BSD				MLR		MLR		
	comp=Z,24µm,22.0s							
BSD	**Bornholm Skovb**	**154.69**	**341**	*i* P		PKPdf	10 58 59.3	+1.8
BSD				*i*			11 13 22.0	
BSD				*i*			11 16 17.7	
BSD				*i*			11 22 27.7	
MUD	**Monsted U'grnd**	**154.72**	**349**	*i* P		PKPdf	10 58 59.8	+2.2
	comp=Z,650nm,1.4s							
MUD				*i*			11 02 59.7	
MUD				*e*			11 16 15.3	
MUD				*i*			11 22 33.0	
MUD								
	comp=Z,30µm,21.0s							
MUD	**Monsted U'grnd**	**154.72**	**349**	*i* PKIKP		PKPdf	10 58 59.8	+2.2
MUD				*i*			11 02 59.7	
MUD				*i*			11 22 33.0	
MUD				pmax		pmax		
	comp=Z,650nm,1.4s							
MUD				MLR		MLR		
	comp=Z,30µm,21.0s							
MUD	**Monsted U'grnd**	**154.72**	**349**	*i* P		PKPdf	10 58 59.8	+2.2
MUD				*i*			11 02 59.7	
MUD				*e*			11 16 15.3	
MUD				*i*			11 22 33.0	
PLUZ	**Luz**	**154.74**	**65**	*e*PKP		PKPdf	10 59 05.2	+7.6
BORA	**Eskisehir**	**154.78**	**297**	*i* P		PKPdf	10 59 04.3	+6.7
COP	**Copenhagen**	**154.81**	**344**	*i* P		PKPbc	10 59 15.0	+8.6
	comp=Z,454nm,1.1s							
COP				*i*		PP	11 02 59.5	+1.1
COP				*i*			11 06 50.4	
COP				*i*			11 22 33.2	
COP				*i*			11 29 47.8	
COP								
	comp=Z,16µm,22.0s							
GPA	**Golpazari**	**154.82**	**298**	*e*P		PKPdf	10 58 58.3	+0.6
WAR	**Warsaw**	**154.86**	**330**	*e*PKP		PKPdf	10 58 59.8	+2.0
WAR				*e*PKiKP		PKiKP	10 59 04.4	-2.1
WAR				*e*SS		SS	11 22 24.9	-3.3
EYL	**Eskiyayla**	**154.89**	**299**	*e*P		PKPdf	10 58 58.2	+0.4
PTCA	**Ponta do Capel**	**154.94**	**66**	*e*PKP		PKPdf	10 59 03.4	+5.5
ANTB	**Antalya**	**154.94**	**290**	*e*P		PKPdf	10 59 00.8	+2.9
CFR	**Carcaliu**	**154.97**	**310**	⇓*i*P		PKPdf	10 58 58.8	+0.9
CFR	**Carcaliu**	**154.97**	**310**	⇓P		PKPdf	10 58 58.8	+0.8
ISP	**Isparta**	**154.99**	**292**	⇑*i*P		PKPdf	10 59 00.1	+2.2
ISP	**Isparta**	**154.99**	**292**	*e*PKPdf		PKPdf	10 58 58.9	+0.9
ISP				*e*PKPbc		PKPdf	10 59 09.2	+11
ISP				*e*PKPab		PKPab	10 59 25.2	+2.2
ISP				*e*pPKPdf		pPKPdf	10 59 40.3	+1.0
ISP				*e*PP		PP	11 02 59.5	+0.1
CALA	**Caldeira**	**155.01**	**66**	*e*PKP		PKPdf	10 59 06.1	+8.1
TIRR	**Tirgusor**	**155.06**	**308**	⇑*i*P		PKPdf	10 58 56.4	-1.6
TIRR	**Tirgusor**	**155.06**	**308**	*e*PKIKP		PKPdf	10 58 56.8	-1.2
TIRR	**Tirgusor**	**155.06**	**308**	*e*PKPdf		PKPdf	10 58 58.7	+0.7
LVV	**L'vov**	**155.06**	**323**	*i* PKIKP		PKPdf	10 58 59.5	+1.5
LVV				*e*SS		tx	11 23 35.1	
TKTP	**Tekketepe**	**155.12**	**293**	*i* P		PKPdf	10 58 59.5	+1.4
HRT	**Hereke**	**155.20**	**299**	*e*P		PKPdf	10 58 57.5	-0.7
HRT	**Hereke**	**155.20**	**299**	*e*P		PKPdf	10 58 58.8	+0.6
PCND	**Candelaria**	**155.21**	**66**	*e*PKP		PKPdf	10 59 04.0	+5.8
PICO	**Pico**	**155.23**	**66**	*e*PKP		PKPdf	10 59 04.2	+5.9
PBOI	**Pico dos Bois**	**155.28**	**66**	*e*PKP		PKPdf	10 59 04.0	+5.7
PTEI	**Pico do Teixo**	**155.29**	**66**	*e*PKP		PKPdf	10 59 03.8	+5.5
HARR	**Harsova**	**155.29**	**309**	⇑*i*P		PKPdf	10 58 59.8	+1.4
HARR	**Harsova**	**155.29**	**309**	⇑P		PKPdf	10 58 59.8	+1.4
ROSA	**Rosais**	**155.35**	**66**	*e*PKP		PKPdf	10 59 03.7	+5.3
EAB	**Aberfoyle**	**155.39**	**7**	*e*P		PKPdf	10 58 57.3	-1.1
PAMA	**Santo Amaro**	**155.40**	**66**	*e*PKP		PKPdf	10 59 04.2	+5.7
IZI	**Iznik**	**155.44**	**298**	*e*P		PKPdf	10 58 57.5	-1.0
PVIA	**Vitoria**	**155.45**	**65**	*e*PKP		PKPdf	10 59 05.2	+6.6
SRBC	**Serra Branca**	**155.46**	**65**	*e*PKP		PKPdf	10 59 01.2	+2.6
YLV	**Yalova**	**155.47**	**299**	*e*P		PKPdf	10 58 58.2	-0.4
PID	**Ribeirinha**	**155.48**	**66**	*e*PKP		PKPdf	10 59 03.2	+4.6
PMAN	**Manadas**	**155.48**	**66**	*e*PKP		PKPdf	10 59 01.9	+3.3
PSN	**Preselentsi**	**155.48**	**307**	P		PKPdf	10 59 00.0	+1.4
STGR	**Santa Cruz**	**155.49**	**65**	*e*PKP		PKPdf	10 59 02.5	+3.9
PGRA	**Graciosa**	**155.51**	**65**	*e*PKP		PKPdf	10 59 03.4	+4.8
GKP	**Gorka Klasztor**	**155.53**	**336**	*e*PKP		PKPdf	10 58 58.9	+0.2
GKP				*e*pPKP		pPKPdf	10 59 31.0	-9.0
GKP				*e*PP		PP	11 03 03.9	+1.5
GKP				*e*SKKS			11 13 15.8	
GKP				*e*SS		SS	11 22 29.2	-6.2
GKP	**Gorka Klasztor**	**155.53**	**336**	*e*PKIKP		PKPdf	10 58 58.9	+0.2
GKP				*e*			10 59 31.0	
GKP				*e*			11 03 03.9	
GKP				*e*SS		SS	11 22 29.2	-6.2
ELL	**Elmali**	**155.54**	**290**	*e*P		PKPdf	10 59 02.1	+3.4
VRI	**Vrincioaia**	**155.59**	**312**	⇑*i*P		PKPdf	10 58 56.8	-2.0
VRI	**Vrincioaia**	**155.59**	**312**	⇑P		PKPdf	10 58 56.8	-1.9
ISK	**Istanbul-Kandi**	**155.60**	**300**	*e*P		PKPdf	10 58 55.6	-3.2
RGN	**Rugen**	**155.63**	**342**	*e*PKPdf		PKPdf	10 59 01.3	+2.5
RGN				*e*PKPbc		PKPdf	10 59 07.3	+8.5
RGN				*e*PKPab		PKPab	10 59 26.7	+1.0
PLOR	**Plostina**	**155.65**	**312**	⇓*i*P		PKPdf	10 59 00.7	+1.9
GDZ	**Gediz**	**155.65**	**295**	*i* P		PKPdf	10 59 01.0	+2.2
BURAR	**Bucovina Array**	**155.66**	**317**	⇑*i*P		PKPdf	10 58 58.7	-0.1
BURAR	**Bucovina Array**	**155.66**	**317**	⇑P		PKPdf	10 58 58.7	-0.2
KHL	**Karahalli**	**155.72**	**293**	*e*P		PKPdf	10 58 59.5	+0.6
ULDT	**Uludag**	**155.73**	**298**	*i* P		PKPdf	10 58 57.7	-1.2
PGBU	**Glenifferbraes**	**155.75**	**7**	AMS		AMS	11 23 18.8	
	comp=E,17µm,19.5s							
PGBU				AMS		AMS	11 32 55.0	
	comp=N,15µm,21.1s							
PGBU	**Glenifferbraes**	**155.75**	**7**	AMS		AMS	11 23 18.8	
	comp=N,17µm,19.5s							
PGBU				AMS		AMS	11 32 55.0	
	comp=N,15µm,21.1s							
EDI	**Edinburgh**	**155.76**	**6**	*e*P		PKPdf	10 58 58.1	-0.8
EDI				AMb		AMB	10 59 09.1	
	comp=Z,304nm,1.7s							
EDI				AMS		AMS	11 23 19.0	
	comp=E,30µm,19.3s							
EDI				AMS		AMS	11 30 45.8	
	comp=N,21µm,20.8s							
EDI	**Edinburgh**	**155.76**	**6**	P		PKPdf	10 58 58.1	-0.8
EDI				AMb		AMB	10 59 09.1	
	comp=N,304nm,1.7s							
ESY	**Stoneypath**	**155.81**	**5**	*e*P		PKPdf	10 58 56.7	-2.3
EAU	**Auchinoon**	**155.82**	**6**	*e*P		PKPdf	10 58 58.3	-0.7
KSL	**Kastellorizon**	**155.83**	**288**	*e*P		PKPdf	10 59 01.0	+1.9
KWP	**Kalwaria**	**155.85**	**324**	*e*PKP		PKPdf	10 59 01.3	+2.2
KWP				*e*pPKP		pPKPdf	10 59 32.9	-7.5
KWP				*e*PP		PP	11 03 06.0	+1.8
KWP				*e*SKKS			11 13 24.1	
KWP				*e*SS		SS	11 22 43.4	+4.5
KWP	**Kalwaria**	**155.85**	**324**	*e*PKIKP		PKPdf	10 59 01.3	+2.2
KWP				*e*			11 03 06.0	
KWP				*e*SS		SS	11 22 43.4	+4.5
EBL	**Broad Law**	**155.92**	**5**	*e*P		PKPdf	10 58 57.2	-2.0
ORLT	**Orhaneli**	**155.93**	**298**	*e*P		PKPdf	10 59 01.4	+2.2
ELBA	**Catalca**	**156.04**	**301**	*i* P		PKPdf	10 59 02.3	+3.0
ASBA	**Santa Barbara**	**156.06**	**66**	*e*PKP		PKPdf	10 59 06.2	+6.8
GMK	**Mull of Kintyr**	**156.07**	**9**	*e*P		PKPdf	10 58 58.3	-1.0
PPAD	**Pico dos Padre**	**156.09**	**66**	*e*PKP		PKPdf	10 59 05.1	+5.7
PBIS	**Biscoitos**	**156.11**	**65**	*e*PKP		PKPdf	10 59 05.0	+5.6
ADH	**Angra Heroismo**	**156.14**	**66**	*e*PKP		PKPdf	10 59 04.0	+4.5
ADH	**Angra Heroismo**	**156.14**	**66**	*i* PKP		PKPdf	10 59 12.5	+13
ADH	**Angra Heroismo**	**156.14**	**66**	*i* PP		PP	11 03 35.0	+29
ADH				*i*			11 11 00.0	
ADH	**Angra Heroismo**	**156.14**	**66**	*e*LR		LR	11 52 11.0	
DENT	**Denizli**	**156.16**	**292**	*e*P		PKPdf	10 59 02.1	+2.6
PVNV	**Vila Nova**	**156.19**	**65**	*e*PKP		PKPdf	10 59 04.9	+5.4
RIB2	**Ribeirinha**	**156.19**	**66**	*e*PKP		PKPdf	10 59 04.9	+5.4
FETY	**Fethiye**	**156.21**	**289**	*e*P		PKPdf	10 58 59.1	-0.4
DST	**Dursunbey**	**156.22**	**297**	*e*P		PKPdf	10 59 00.8	+1.2
PFAV	**Pico das Favas**	**156.25**	**65**	*e*PKP		PKPdf	10 59 04.9	+5.3
MLR	**Muntele Rosu**	**156.25**	**312**	PKP		PKPdf	10 58 58.7	-0.9
	comp=N,61nm,1.2s,baz=19,slow=4.3,SNR=21							
MLR				PKPab		PKPab	10 59 32.5	+4.1
	comp=N,795nm,1.1s,baz=13,slow=4.1,SNR=8.5							
MLR	**Muntele Rosu**	**156.25**	**312**	⇑*i*P		PKPdf	10 58 57.9	-1.7
MLR	**Muntele Rosu**	**156.25**	**312**	PKIKP		PKPdf	10 58 58.7	-0.9
MLR							10 59 32.5	
MLR				pmax		pmax		
	comp=Z,61nm,1.2s							
MLR	**Muntele Rosu**	**156.25**	**312**	⇑P		PKPdf	10 58 57.9	-1.8
GCL	**Cushendall**	**156.26**	**10**	*e*P		PKPdf	10 58 59.8	+0.2
ESK	**Eskdalemuir**	**156.36**	**6**	*e*P		PKPdf	10 58 59.3	-0.4
ESK				AMb		AMB	10 59 08.6	
	comp=Z,143nm,2.8s							
ESK				AMS		AMS	11 23 36.0	
	comp=E,30µm,20.9s							
ESK				AMS		AMS	11 30 07.4	
	comp=N,16µm,22.0s							
ESK	**Eskdalemuir**	**156.36**	**6**	P		PKPdf	10 58 59.3	-0.4
ESK				AMb		AMB	10 59 08.6	
	comp=N,143nm,2.8s							
ESK	**Eskdalemuir**	**156.36**	**6**	*e*PKPdf		PKPdf	10 59 00.9	+1.1
ESK				*e*PKPab		PKPab	10 59 25.2	-3.7
MANT	**Manisa**	**156.45**	**294**	*i* P		PKPdf	10 59 00.7	+0.9
KOLS	**Kolonicke sedl**	**156.51**	**323**	*e*PKP		PKPdf	10 59 00.9	+0.9
KOLS				*e*			11 00 56.3	
KOLS				*e*PP		PP	11 03 07.3	-0.6
KOLS				*e*pSKSDF			11 06 45.8	
KOLS	**Kolonicke sedl**	**156.51**	**323**	*e*PKP		PKPdf	10 59 00.9	+0.9
KOLS				*e*			11 00 56.3	
KOLS				*e*PP		PP	11 03 07.3	-0.6
KOLS				*e*SKSdf			11 06 45.8	
KOLS				*e*SKKS			11 13 18.2	
KOLS				*e*SS		SS	11 22 34.5	-11
KOLS				LR		LR		
	comp=Z,36µm,28.5s							
DALT	**Dalyan (Mudla)**	**156.56**	**290**	*e*P		PKPdf	10 58 58.2	-1.9
SNX	**Sinaia**	**156.58**	**312**	⇑*i*P		PKPdf	10 59 02.1	+2.0
SNX	**Sinaia**	**156.58**	**312**	⇑P		PKPdf	10 59 02.1	+2.0
BTOK	**Tokmak**	**156.64**	**297**	*i* P		PKPdf	10 59 04.2	+4.1
GAL1	**Galloway**	**156.65**	**8**	*e*P		PKPdf	10 58 58.0	-2.1
BUC1	**Bucharest**	**156.68**	**310**	PKIKP		PKPdf	10 59 02.5	+2.3
UZH	**Uzhgorod**	**156.69**	**322**	*i* PKIKP		PKPdf	10 59 01.5	+1.3
UZH				*i*			11 03 15.0	
UZH				*i* PPP			11 06 52.0	
STHS	**Stebnicka Huta**	**156.72**	**325**	*e*PKP		PKPdf	10 59 01.0	+0.8
STHS				*e*			10 59 35.1	
STHS				*e*			10 59 48.0	
BALB	**Balikesir**	**156.78**	**297**	*e*P		PKPdf	10 58 58.8	-1.5
MRMT	**Marmara Adasi**	**156.78**	**300**	*e*P		PKPdf	10 58 56.2	-4.2
YER	**Yerkesik**	**156.82**	**291**	*e*P		PKPdf	10 59 00.8	+0.4
VOIR		**156.84**	**313**	⇓*i*P		PKPdf	10 58 58.5	-1.9
OJC	**Ojcow**	**156.85**	**328**	*e*PKPdf		PKPdf	10 58 59.1	-1.3
OJC				*e*PP		PP	11 03 11.0	+1.3
OJC				*e*SKKSdf		SKKSdf	11 14 26.2	+3.3
OJC				*e*SS		SS	11 22 49.1	-0.5
OJC				L			12 09 20.8	
	comp=Z,215nm,24.6s							
OJC	**Ojcow**	**156.85**	**328**	*e*PKIKP		PKPdf	10 58 59.1	-1.3
OJC				*e*			11 03 11.0	
OJC				*e*SS		SS	11 22 49.1	-0.5
BSEG	**Bad Segeberg**	**156.90**	**346**	*e*PKPdf		PKPdf	10 58 59.4	-1.1
BSEG				*e*SS		SS	11 22 49.9	-0.2
MTUR	**Matau**	**156.93**	**312**	⇑*i*P		PKPdf	10 59 02.6	+2.1
MTUR	**Matau**	**156.93**	**312**	⇑P		PKPdf	10 59 02.6	+2.1
CRVS	**Cervenica-Dubn**	**156.95**	**324**	*e*PKP		PKPdf	10 59 03.3	+2.8
CRVS				*e*PP		PP	11 03 12.0	+1.8
CRVS				*e*pSKSDF			11 06 45.8	
CRVS				*e*SKKSDF			11 14 00.3	
CRVS				*e*SS		SS	11 22 39.6	-11
CRVS	**Cervenica-Dubn**	**156.95**	**324**	*e*PKIKP		PKPdf	10 59 03.3	+2.8
CRVS				*e*			11 03 12.0	
CRVS				*e*			11 06 45.8	
CRVS	**Cervenica-Dubn**	**156.95**	**324**	*e*PKP		PKPdf	10 59 03.3	+2.8
CRVS				*e*PP		PP	11 03 12.0	+1.8
CRVS				*e*SKSdf			11 06 45.8	
CRVS				*e*SKKS		SKKSdf	11 14 00.3	-22
CRVS				*e*SS		SS	11 22 39.6	-11
CRVS				LR		LR		
	comp=Z,40µm,32.8s							
AKS	**Akhisar**	**156.97**	**295**	*e*P		PKPdf	10 59 01.0	+0.5
MFT	**Murefte**	**156.97**	**300**	*e*P		PKPdf	10 58 57.5	-3.0
JMB	**Yambol**	**156.99**	**305**	P		PKPdf	10 59 02.8	+2.2
JMB	**Yambol**	**156.99**	**305**	*e*P		PKPdf	10 59 03.3	+2.7
ARG	**Arkhangelos**	**157.01**	**288**	*e*P		PKPdf	10 59 03.0	+2.4
EDRB	**Edirne**	**157.07**	**303**	*e*P		PKPdf	10 58 59.5	-1.2
AYDN	**Tasoluk**	**157.08**	**292**	*i* P		PKPdf	10 59 01.1	+0.4
CKE	**Keswick**	**157.09**	**6**	*e*P		PKPdf	10 59 00.3	-0.4
GMM	**Mts of Mourne**	**157.09**	**10**	*e*P		PKPdf	10 59 00.2	-0.5
HLG	**Helgoland**	**157.11**	**349**	*e*SS		SS	11 22 53.1	+0.8
XDE	**Dent Fell**	**157.14**	**7**	*e*P		PKPdf	10 58 58.5	-2.2
XDE				AMb		AMB	10 59 11.9	
	comp=Z,430nm,1.5s							
SZH	**Strazhica**	**157.16**	**307**	P		PKPdf	10 59 06.3	+5.5
NIE	**Niedzica**	**157.17**	**326**	*e*PKP		PKPdf	10 58 59.8	-1.0
NIE				*e*			10 59 04.0	
NIE	**Niedzica**	**157.17**	**326**	*e*PKP		PKPdf	10 58 59.8	-1.0
NIE				*e*			10 59 04.0	
MLSB	**Milas**	**157.20**	**291**	*e*P		PKPdf	10 58 58.8	-2.0
GIM	**North Isle of**	**157.24**	**8**	*e*P		PKPdf	10 59 01.1	+0.2
RUE	**Ruedersdorf**	**157.33**	**339**	*e*PKPdf		PKPdf	10 59 00.3	-0.7
RUE				*e*SS		SS	11 22 52.4	-2.3
RUE	**Ruedersdorf**	**157.33**	**339**	*e*PKPdf		PKPdf	10 59 00.1	-0.9
RUE				*e*PKPab		PKPab	10 59 30.6	-2.5
RUE				*e*SKPdf		SKPdf	11 02 21.0	+2.2
CDU1	**Dunnerdale**	**157.33**	**6**	*e*P		PKPdf	10 58 57.9	-3.1
WIM	**Isle of Man**	**157.36**	**8**	*e*P		PKPdf	10 59 00.5	-0.6
WIM				AMb		AMB	10 59 16.2	
	comp=Z,724nm,1.6s							
SET2	**Ginetes**	**157.36**	**67**	*e*PKP		PKPdf	10 59 08.7	+7.7
SET4	**Mosteiros**	**157.37**	**67**	*e*PKP		PKPdf	10 59 09.1	+8.1
PFET	**Feteiras**	**157.38**	**67**	*e*PKP		PKPdf	10 59 08.6	+7.5
DAT	**Datca**	**157.41**	**290**	*e*P		PKPdf	10 58 58.2	-2.9
PSAN	**Santo Antonio**	**157.43**	**67**	*e*PKP		PKPdf	10 59 08.4	+7.3
PSET	**Sete Cidades**	**157.43**	**67**	*e*PKP		PKPdf	10 59 05.4	+4.3
KDAG	**Bornova**	**157.46**	**294**	*i* P		PKPdf	10 59 03.6	+2.5
IZM	**Izmir**	**157.47**	**294**	*e*P		PKPdf	10 59 03.2	+2.1
PDA	**Ponta Delgada**	**157.49**	**68**	*i* PKP		PKPdf	10 59 06.8	+5.6
PDA	**Ponta Delgada**	**157.49**	**68**	*i* PKP		PKPdf	10 59 10.0	+8.8
PDA				*i*			10 59 43.0	
PDA				*i*			10 59 52.0	
PDA	**Ponta Delgada**	**157.49**	**68**	*i* PP		PP	11 03 43.0	+30
PDA				*i*			11 10 00.0	
PDA	**Ponta Delgada**	**157.49**	**68**	*e*LQ			11 45 21.0	
PDA				*i* LR		LR	11 52 27.0	
BDRM	**Kayabasi**	**157.49**	**291**	*i* P		PKPdf	10 59 03.9	+2.7
FAC	**Faja de Cima**	**157.49**	**67**	*e*PKP		PKPdf	10 59 08.7	+7.5
LWH	**Whinny Nab**	**157.49**	**2**	*e*P		PKPdf	10 59 01.0	-0.2
DRGR		**157.54**	**318**	⇓*i*P		PKPdf	10 58 59.1	-2.2
DRGR		**157.54**	**318**	⇓P		PKPdf	10 58 59.1	-2.1
CML	**Cha da Macela**	**157.58**	**67**	*e*PKP		PKPdf	10 59 07.7	+6.4
PVL	**Pavlikeni**	**157.59**	**307**	*e*P		PKPdf	10 59 01.0	-0.3
BODT	**Bodrum**	**157.60**	**291**	*e*P		PKPdf	10 59 00.8	-0.5
PVER	**Pico Vermelho**	**157.60**	**67**	*e*PKP		PKPdf	10 59 07.2	+5.9
LFA	**Lagoa do Fogo**	**157.63**	**67**	*e*PKP		PKPdf	10 59 07.1	+5.7
PMAT	**Coroa da Mata**	**157.63**	**67**	*e*PKP		PKPdf	10 59 08.3

CLL es SS 11 24 14.1
CLL e SSS 11 29 09.1
CLL es SSS 11 30 11.2
CLL e 11 36 15.1
CLL e LR LR 11 56 03.7
CLL e L 12 10 58.8
comp=Z,23µm,22.0s
CLL Collm 158.59 339 ⇓ i PKPdf PKPdf 10 59 03.9 +1.4
comp=Z,294nm,1.6s
CLL e x x 10 59 09.0
comp=Z,2µm,2.3s
CLL e PKPab PKPab 10 59 37.0 -1.5
comp=Z,473nm,1.0s
CLL i x x 10 59 50.6
comp=Z,1µm,1.4s
CLL ep PKPab pPKPab 11 00 19.0 +0.9
CLL es PKPab 11 00 35.0
CLL e PP PP 11 03 19.0 -0.2
comp=N,20µm,19.4s
CLL e PP PP 11 03 19.0 -0.2
comp=E,13µm,23.8s
CLL e PP PP 11 03 19.0 -0.2
comp=Z,31µm,15.0s
CLL es PP 11 04 12.0
CLL e PPP 11 06 54.0
CLL e SKKSac SKKSac 11 09 56.0 +2.9
CLL e PPS 11 16 38.0
CLL e SS SS 11 22 59.0 -9.0
CLL es SS 11 24 14.0
CLL e SSS 11 29 06.0
CLL es SSS 11 30 12.0
CLL Collm 158.59 339 ⇓ i PKIKP PKPdf 10 59 03.9 +1.4
CLL e 10 59 37.0
CLL e 11 03 19.0
CLL pmax pmax
comp=Z,294nm,1.6s
CLL MLR MLR
comp=Z,49µm,27.2s
PGB Panagyurishte 158.63 307 P PKPdf 10 59 08.0 +5.4
BRG Berggiesshubel 158.66 337 e PKPdf PKPdf 10 59 01.3 -1.3
BRG es SS 11 23 05.5 -3.3
BRG Berggiesshubel 158.66 337 i PKP PKPdf 10 59 01.2 -1.4
comp=Z,22nm,1.4s
BRG Berggiesshubel 158.66 337 i PKP PKPdf 10 59 04.7 +2.0
comp=Z,234nm,1.4s
BRG Berggiesshubel 158.66 337 i PKP PKPdf 10 59 10.3 +7.7
comp=Z,1µm,1.9s
BRG i pPKP pPKPdf 10 59 41.1 -2.9
comp=Z,234nm,1.0s
BRG i SPKP 10 59 50.9
comp=Z,1µm,1.6s
BRG e 11 02 05.4
comp=Z,125nm,1.3s
BRG PP PP 11 03 16.0 -3.6
BRG i 11 06 02.6
comp=Z,53nm,1.5s
BRG e 11 06 55.0
BRG SKKS SKKSac 11 10 06.0 +13
BRG e 11 13 45.0
BRG e 11 16 40.0
BRG SS SS 11 23 12.0 +3.2
BRG e 11 30 24.2
comp=Z,12nm,1.5s
BRG e 11 30 38.5
comp=Z,9.8nm,1.2s
BRG Berggiesshubel 158.66 337 i PKIKP PKPdf 10 59 01.2 -1.4
BRG i 10 59 41.1
BRG i 10 59 50.9
BRG 11 03 16.0
BRG e 11 16 40.0
BRG SS SS 11 23 12.0 +3.2
BRG MLR MLR
comp=N,76µm,32.9s
BRG MLR MLR
comp=E,44µm,24.4s
BRG MLR MLR
comp=Z,41µm,24.4s
SBD1 Bryn Du 158.74 7 e P PKPdf 10 59 02.2 -0.5
SBD1 AMb AMB 10 59 12.9
comp=Z,808nm,2.2s
KWE Weaver Farm 158.75 4 e P PKPdf 10 59 01.4 -1.4
BZS Buzias 158.83 316 ⇑ i P PKPdf 10 59 00.2 -2.6
BZS Buzias 158.83 316 ⇑ P PKPdf 10 59 00.1 -2.7
CLZ Clausthal 158.83 343 e PKPdf PKPdf 10 59 01.6 -1.2
CLZ e PP PP 11 03 25.0 +4.5
CLZ e SS SS 11 23 08.5 -2.1
VRAC Vranov 158.92 330 ⇓ i P PKPdf 10 59 01.0 -1.9
VRAC Vranov 158.92 330 ⇓ P PKPdf 10 59 01.0 -1.9
IBBN Ibbenburen 158.94 348 e PKPdf PKPdf 10 59 03.0 0.0
IBBN e PP PP 11 03 25.2 +4.1
IBBN e SS SS 11 23 10.6 -1.2
APE Apeiranthos 159.01 291 e P PKPdf 10 59 07.6 +4.5
APE Apeiranthos 159.01 291 ⇑ i P PKPdf 10 59 00.9 -2.1
APE Apeiranthos 159.01 291 e P PKPdf 10 59 04.0 +1.0
APE Apeiranthos 159.01 291 ⇓ i PKIKP PKPdf 10 59 05.0 +2.0
APE Apeiranthos 159.01 291 ⇑ P PKPdf 10 59 00.9 -2.2
XRY Khrisi 159.04 285 e P PKPdf 10 59 01.0 -2.1
NPS Neapolis 159.09 286 e P PKPdf 10 59 05.0 +1.9
BUD Budapest 159.11 324 ⇑ e PKP/F 10 59 03.7
SANT Santorini 159.14 289 e PKPdf PKPdf 10 59 04.6 +1.4
SANT e PKPdif 10 59 15.9
SANT e PKPab PKPab 10 59 42.7 +1.8
SANT e PP PP 11 03 32.7 +10
PRA Prague 159.16 335 PKPDF PKPdf 10 59 03.0 -0.2
PRA pPKP pPKPdf 10 59 47.0 +2.4
PRA e x x 11 00 25.0
HLM1 Long Mynd 159.16 6 e P PKPdf 10 59 01.0 -2.2
HLM1 AMb AMB 10 59 12.6
comp=Z,718nm,1.6s
PRU Pruhonice 159.19 335 e PKPDF PKPdf 10 59 04.1 +0.9
PRU e x x 10 59 11.8
PRU e x x 10 59 21.9
PRU epPKP pPKPdf 10 59 44.9 +0.3
PRU e x x 11 00 26.7
PRU e PP PP 11 03 24.9 +2.4
PRU e x x 11 07 00.5
PRU e SS SS 11 23 11.6 -2.8
PRU AMS AMS 12 07 20.0
comp=Z,72µm,26.0s
GTTG Gvttingen 159.20 344 e PKPdf PKPdf 10 59 03.6 +0.3
GTTG e PKPab PKPab 10 59 44.2 +3.1
GTTG e PP PP 11 03 25.5 +2.9
GTTG e SS SS 11 23 10.5 -4.1
SRO2 Moca 159.23 325 e PKP PKPdf 10 59 05.1 +1.8
SRO2 e 10 59 44.2
SRO Srobarova 159.24 325 e PKP PKPdf 10 59 05.5 +2.2
SRO e 10 59 46.1
SRO e 10 59 57.7
SRO e PP PP 11 03 26.2 +3.5
SRO Srobarova 159.24 325 e PKIKP PKPdf 10 59 05.1 +1.8
SRO e 10 59 44.3
SSP1 Stoney Pound 159.24 7 e P PKPdf 10 59 01.7 -1.6
VTS Vitosha 159.27 307 P PKPdf 10 59 03.0 -0.3
VTS Vitosha 159.27 307 ⇑ i P PKPdf 10 59 01.6 -1.7
MMB Musomiste 159.29 304 P PKPdf 10 59 01.0 -2.4
SRO1 Iza 159.31 325 e PKP PKPdf 10 59 05.5 +2.1
SRO1 e 10 59 46.9
WTSB Winterswijk 159.42 349 e PKiKP PKPdf 10 59 00.0 -3.5
WTSB e PKPab PKPab 10 59 46.4 +4.3
PKSG 159.49 324 e P PKPdf 10 59 05.0 +1.4
ZST Bratislava 159.53 328 e PKP PKPdf 10 59 03.0 -0.6
ZST e 10 59 47.1
ZST e PP PP 11 03 34.3 +10
ZST Bratislava 159.53 328 e PKP PKPdf 10 59 03.0 -0.6
ZST e 10 59 47.1
ZST e PP PP 11 03 34.3 +10
ZST LR LR
comp=Z,8µm,22.3s
BOLS Boljevac 159.54 312 ⇓ i P PKPdf 10 59 02.8 -0.9
WERD Werda 159.55 339 e PKPdf PKPdf 10 59 02.1 -1.6
HTR Trewern Hill 159.56 7 e P PKPdf 10 59 01.8 -1.9
HTR AMb AMB 10 59 14.7
comp=Z,36nm,1.7s
MOX Moxa 159.59 340 e PKPdf PKPdf 10 59 02.5 -1.2
MOX e PKPab PKPab 10 59 44.4 +1.6
MOX e PP PP 11 03 26.8 +2.2
MOX e SS SS 11 23 17.6 -1.0
MOX Moxa 159.59 340 e PKP PKPdf 10 59 02.9 -0.8
comp=Z,750nm,1.8s
MOX e 10 59 45.0
MOX Moxa 159.59 340 e PKIKP PKPdf 10 59 02.9 -0.8
MOX pmax pmax
comp=Z,750nm,1.8s
MOX Moxa 159.59 340 e PKPdfu 10 59 02.9
MOX e PKPab PKPab 10 59 45.0 +2.2
MOX e PP PP 11 03 28.0 +3.4
MOX e SKSP 11 13 55.0
MOX e SS SS 11 23 15.0 -3.6
KKB Krupnik 159.64 306 P PKPdf 10 59 09.7 +5.9
MCH1 Michaelchurch 159.66 7 e P PKPdf 10 59 02.0 -1.8
MCH1 AMS AMS 11 23 59.0
comp=E,16µm,20.7s
MCH1 AMS AMS 11 32 19.4
comp=N,16µm,20.4s
HAE Alders End 159.67 6 e P PKPdf 10 59 04.0 +0.2
HAE AMb AMB 10 59 15.1
comp=Z,557nm,1.8s
BERN Bernov 159.68 338 ⇓ P PKPdf 10 59 06.5 +2.7
IDI Anoyia 159.68 286 PKP PKPdf 10 59 03.3 -0.6
comp=Z,305nm,1.2s,baz=147,slow=4.2,SNR=14
IDI PKPab PKPab 10 59 44.7 +1.5
comp=Z,205nm,0.7s,baz=90,slow=2.0,SNR=4.2
PKS8 Sarbogard 159.69 323 e P PKPdf 10 59 04.3 +0.5
NKC Novy Kostel 159.69 338 e PKPDF PKPdf 10 59 02.5 -1.3
NKC ex x 10 59 12.7
NKC ex x 10 59 22.3
NKC ep PKP pPKPdf 10 59 49.1 +3.9
NKC ex x 11 00 27.6
NKC ex x 11 00 50.0
NKC e PP PP 11 03 27.0 +1.8
NKC ex x 11 07 04.1
NKC e SS SS 11 23 11.1 -8.7
NKC AMS AMS 12 05 40.0
comp=Z,48µm,25.7s
SVIS Svilajnac 159.77 314 ⇓ i P PKPdf 10 59 05.4 +1.5
HSA Swansea 159.78 9 e P PKPdf 10 59 02.2 -1.7
VKA Vienna 159.83 329 i PKPdf PKPdf 10 59 03.8 -0.2
PAIG Paliouri 159.85 300 e P PKPdf 10 59 04.2 +0.2
BUC Bochum--Univer 159.85 348 e PKPdf PKPdf 10 59 03.0 -1.0
BUG e PP PP 11 03 27.9 +1.8
BUG e SS SS 11 23 20.5 -0.9
PLG Polygyros 159.89 301 e P PKPdf 10 59 05.0 +0.9
BEO Belgrade 159.95 316 ⇓ i P PKPdf 10 59 04.2 +0.1
MANZ Manzenberg 160.02 338 e PKPdf PKPdf 10 59 02.9 -1.3
MANZ e PP PP 11 03 29.7 +2.7
MANZ e SS SS 11 23 23.0 -0.2
KNT Kendrikon 160.03 304 e P PKPdf 10 59 06.3 +2.1
HGH Gray Hill 160.04 7 e P PKPdf 10 59 02.6 -1.6
HGH AMb AMB 10 59 14.2
comp=Z,1µm,2.1s
SKP1 Kophill 160.10 3 e P PKPdf 10 59 02.6 -1.7
SOP Sopron 160.16 327 e PKP/Fd 10 59 05.9
PTL Penteli 160.16 295 e P PKPdf 10 59 06.5 +2.1
ROTZ Rotzenmuhle 160.18 338 e PKPdf PKPdf 10 59 03.0 -1.4
ROTZ e PKPab PKPab 10 59 48.7 +3.3
ROTZ e PP PP 11 03 30.2 +2.4
ROTZ e SS SS 11 23 24.2 -0.6
VAY Valandovo 160.20 305 e PKP PKPdf 10 59 04.7 +0.3
VAM Vamos 160.24 287 e P PKPdf 10 59 07.0 +2.6
KHC Kasperske Hory 160.25 335 e PKPDF PKPdf 10 59 03.5 -0.9
KHC ex x 10 59 13.1
KHC ex x 10 59 22.9
KHC ep PKP pPKPdf 10 59 49.2 +3.4
KHC ex x 11 00 51.6
KHC e PP PP 11 03 31.1 +2.9
KHC ex x 11 07 08.9
KHC e SS SS 11 23 28.6 +3.0
KHC AMS AMS 12 08 00.0
comp=Z,57µm,27.6s
SWN1 Swindon 160.25 5 e P PKPdf 10 59 02.9 -1.6
SWN1 AMS AMS 11 24 03.3
comp=E,16µm,19.1s
SWN1 AMS AMS 11 32 04.7
comp=N,20µm,21.3s
KVR Kavouri 160.28 294 e P PKPdf 10 59 06.0 +1.5
GRUS Gruza 160.29 313 ⇑ i P PKPdf 10 59 06.1 +1.6
ATH Athens Observa 160.29 294 e P PKPdf 10 59 06.5 +2.0
STIP Stip 160.32 306 e PKP PKPdf 10 59 04.8 +0.2
comp=Z,218nm,2.0s
GVD Gavdhos 160.36 285 e PKPdf PKPdf 10 59 06.9 +2.3
GVD e PKPab PKPab 10 59 46.6 +0.5
GVD e PP PP 11 03 31.0 +2.2
NEO Neokhori 160.36 298 e P PKPdf 10 59 07.0 +2.4
GEC2 GERESS Array S 160.44 334 e PKPdf PKPdf 10 59 03.2 -1.5
GEC2 e PKPab PKPab 10 59 49.0 +2.5
GEC2 e SS SS 11 23 26.7 -0.9
GERES GERESS Array B 160.44 334 PKP PKPdf 10 59 03.7 -1.0
comp=Z,34nm,1.0s,baz=90,slow=0.4,SNR=35
GERES PKPab PKPab 10 59 46.8 +0.3
comp=Z,90nm,0.9s,baz=20,slow=2.3,SNR=6.2
GRG Griva 160.45 304 e P PKPdf 10 59 04.5 -0.2
HTL Hartland 160.46 10 e P PKPdf 10 59 02.0 -2.7
HTL AMS AMS 11 24 09.4
comp=E,25µm,20.4s
HTL AMS AMS 11 32 02.4
comp=N,24µm,21.7s
HEX Exmoor 160.49 9 e P PKPdf 10 59 03.0 -1.7
WET Wettzell 160.49 336 e PKPdf PKPdf 10 59 03.3 -1.4
WET e PP PP 11 03 32.6 +3.1
WET e SS SS 11 23 28.5 +0.4
RHK1 Bakonya 160.52 322 ⇑ e P PKPdf 10 59 05.4 +0.7
GRA1 Grafenberg Arr 160.55 339 e PKPdf PKPdf 10 59 04.0 -0.8
GRA1 e PKPab PKPab 10 59 50.5 +3.5
GRA1 e SS SS 11 23 27.3 -1.4
GRF Grafenberg Arr 160.55 339 e PKPdf PKPdf 10 59 04.0 -0.8
GRF e PKPab PKPab 10 59 50.5 +3.5
GRF e SS SS 11 23 27.3 -1.4
GRF e 11 45 39.3
GRFO Grafenberg 160.55 339 e PKPab PKPab 10 59 49.7 +2.7
GRFO eL 11 18 29.6
comp=Z,38µm,20.9s
SWK Warminster 160.58 6 e P PKPdf 10 59 03.5 -1.4
DIVS Divcibare 160.62 315 ⇑ i P PKPdf 10 59 03.0 -1.9
DIVS Divcibare 160.62 315 e P PKPdf 10 59 07.1 +2.2
MGER Gerania Oros 160.64 295 e P PKPdf 10 59 05.0 +0.1
SKO Skopje 160.72 307 e PKP PKPdf 10 59 05.3 +0.3
comp=Z,3µm,2.0s
HGN Heimansgroeve 160.72 350 e PKiKP PKPdf 10 59 03.7 -1.2
comp=Z,494nm,2.4s
HGN e PKPab PKPab 10 59 46.8 -1.0
HGN e PP PP 11 03 35.4 +4.6
HGN e PPP 11 07 38.8
HGN e SKSP 11 14 01.3
HGN e PPS 11 16 48.2
HGN e SS SS 11 23 16.2 -14
BEBN Eben Emael 160.73 351 PKP PKPdf 10 59 02.7 -2.3
BEBN E 10 59 06.5
BEBN E 10 59 48.8
TNS Taunus Mts 160.78 345 e PKPdf PKPdf 10 59 03.7 -1.3
TNS e PP PP 11 03 35.1 +4.0
TNS e SS SS 11 23 29.9 -1.3
MEM Membach 160.86 350 PKP PKPdf 10 59 03.7 -1.5
MEM E 10 59 06.6
MEM E 10 59 23.9
MEM E 10 59 50.8
UCC Uccle 160.88 353 PKP PKPdf 10 59 04.0 -1.2
UCC APKP 10 59 47.9
UCC E 11 03 33.2
UCC E 11 07 18.9
ARSA Arzberg 160.95 328 ⇑ i PKPab 10 59 53.6 +4.8
comp=Z,16µm,5.3s
ARSA Arzberg 160.95 328 ⇑ i PKPdf PKPdf 10 59 02.5 -2.7
comp=Z,11µm,5.2s,SNR=72
ARSA ⇑ i PKPab PKPab 10 59 53.6 +4.8
comp=Z,16µm,5.3s
ARSA Arzberg 160.95 328 P PKPdf 10 59 04.0 -1.2
CSA1 St Austell 161.02 11 e P PKPdf 10 59 05.1 -0.2
MOA Molln 161.03 331 ⇑ i PKPab 10 59 52.0 +2.9
comp=Z,24µm,5.8s
MOA Molln 161.03 331 ⇑ i PKPdf PKPdf 10 59 02.4 -2.9
comp=Z,15µm,5.8s,SNR=102
MOA ⇑ i PKPab PKPab 10 59 52.0 +2.9
comp=Z,24µm,5.8s
MOA Molln 161.03 331 P PKPdf 10 59 03.4 -1.9
CPZ Penzance 161.09 13 e P PKPdf 10 59 04.2 -1.2
CPZ AMb AMB 10 59 16.0
comp=Z,1µm,1.8s
KYTH Kithira 161.10 290 e P PKPdf 10 59 07.0 +1.6
BBLS Bajina Basta - 161.10 315 i P PKPdf 10 59 04.4 -0.9
AGG Agios Georgios 161.11 298 e P PKPdf 10 59 05.6 +0.2
VLI Veliai 161.12 291 e P PKPdf 10 59 07.0 +1.6
CCA1 Carmenellis 161.12 12 e P PKPdf 10 59 04.3 -1.0
KZN Kozani 161.12 302 e P PKPdf 10 59 04.0 -1.4
SNF Seneffe 161.18 353 PKP PKPdf 10 59 04.3 -1.1
SNF E 10 59 07.8
SNF E 10 59 51.7
SNF E 11 00 42.0
BIA Bitola 161.18 305 e PKP PKPdf 10 59 05.8 +0.4
comp=Z,140nm,1.6s
CGW Gweek 161.21 12 e P PKPdf 10 59 04.6 -0.9
FNA Florina 161.24 304 e P PKPdf 10 59 05.4 -0.2
CGH1 Goonhilly 161.26 12 e P PKPdf 10 59 04.7 -0.8
MENF Mencas 161.28 357 PKP PKPdf 10 59 04.5 -1.1
TOD Tromm 161.28 344 PKIKP PKPdf 10 59 04.2 -1.4
ABH Alteburg 161.29 346 PKP PKPdf 10 59 04.7 -0.9
SIND Sindeldorf 161.31 342 P PKPdf 10 59 06.5 +0.9
IVA Berane 161.32 311 ⇓ i PKP PKPdf 10 59 04.7 -0.9
TORD Torodi Ar. Bea 161.38 183 PKP PKPdf 10 59 06.6 +0.9
comp=Z,247nm,1.1s,baz=320,slow=0.6,SNR=100
TORD PKPab PKPab 10 59 53.8 +3.2
comp=Z,288nm,0.8s,baz=178,slow=3.6,SNR=6.7
TORD PP PP 11 03 44.7 +10
comp=Z,131nm,1.0s,baz=174,slow=4.9,SNR=6.3
PLE Pljevlja 161.40 313 e PKP PKPdf 10 59 05.8 +0.1
PVY Plav 161.41 311 ⇓ i PKP PKPdf 10 59 04.6 -1.1
SWS Schriesheim-Wi 161.42 344 P PKPdf 10 59 08.8 +3.1
GIVF Givet 161.52 352 e PKIKP PKPdf 10 59 03.9 -1.9
comp=Z,4µm,1.9s
EVR Evrytania 161.53 298 e P PKPdf 10 59 06.0 +0.2
DOU Dourbes 161.55 352 PKP PKPdf 10 59 05.0 -0.8
DOU E 10 59 08.4
RUP Ruppelstein 161.56 347 PKIKP PKPdf 10 59 05.8 -0.1
BAIF Baives 161.63 353 e PKIKP PKPdf 10 59 04.2 -1.7
comp=Z,1µm,1.6s
KTD Kalmit 161.71 345 PKIKP PKPdf 10 59 09.1 +3.1
WLF Walferdange 161.76 349 PKP PKPdf 10 59 05.8 -0.3
WLF E 10 59 08.8
WLF E 10 59 28.8
WLF PKPab PKPab 10 59 52.2 -0.1
WLF E 11 00 09.7
WLF Walferdange 161.76 349 e PKPdf PKPdf 10 59 06.0 0.0
WLF e PKPab PKPab 10 59 52.7 +0.4
WLF e PP PP 11 03 33.1 -3.1
UPM Unac-Piva 161.77 314 ⇓ i PKP PKPdf 10 59 04.8 -1.2
SISC Sisak 161.82 323 iP 10 59 05.5
HDH Heidenheim-Cha 161.84 340 P PKPdf 10 59 08.7 +2.6
ITM Ithomi 161.84 293 e P PKPdf 10 59 07.0 +0.9
FUR Furstenfeldbru 161.87 337 e PKPdf PKPdf 10 59 05.7 -0.5
FUR e PKPab PKPab 10 59 54.1 +1.3
FUR e PP PP 11 03 41.2 +4.3
NKY Niksic 161.92 312 ⇓ i PKP PKPdf 10 59 04.5 -1.7
OBKA Obir 161.95 328 ⇑ i PKPab 10 59 51.1 -2.0
comp=Z,29µm,10.3s
OBKA Obir 161.95 328 ⇑ i PKPdf PKPdf 10 59 03.9 -2.4
comp=Z,13µm,5.3s,SNR=47
OBKA ⇑ i PKPab PKPab 10 59 51.1 -2.0
comp=Z,29µm,10.3s
TTG Podgorica 161.95 311 ⇓ i PKP PKPdf 10 59 05.4 -0.9
STU Stuttgart 161.95 342 e PKPdf PKPdf 10 59 05.0 -1.3
STU e PKPab PKPab 10 59 54.4 +1.2
STU e PP PP 11 03 41.5 +4.2
STU e SS SS 11 23 43.3 -0.1
STU Stuttgart 161.95 342 e PKPdf PKPdf 10 59 05.8 -0.4
STU e PKPab PKPab 10 59 52.9 -0.3
JAN Janina 162.01 301 e P PKPdf 10 59 06.0 -0.3
KBA Koelnbreinsper 162.02 331 ⇑ i PKPab 10 59 53.7 +0.3
comp=Z,10µm,6.8s
KBA Koelnbreinsper 162.02 331 ⇑ i PKPdf PKPdf 10 59 03.7 -2.6
comp=Z,6µm,3.2s,SNR=153
KBA ⇑ i PKPab PKPab 10 59 53.7 +0.3
comp=Z,10µm,6.8s
KBA Koelnbreinsper 162.02 331 P PKPdf 10 59 04.9 -1.4
TIR Tirane 162.05 307 e P PKPdf 10 59 09.5 +3.2
TIR Tirane 162.05 307 P PKPdf 10 59 08.7 +2.3
LANF Langenberg 162.09 345 PKP PKPdf 10 59 05.4 -1.0
LBG Lerchenberg 162.16 343 P PKPdf 10 59 06.0 -0.5
BRY Bratogost 162.16 313 ⇓ i PKP PKPdf 10 59 05.0 -1.4
ULC Ulcinj 162.18 310 ⇓ i PKP PKPdf 10 59 05.3 -1.2
BUCH Bad Urach 162.20 341 P PKPdf 10 59 08.3 +1.8
BUM Brajici-Budva 162.25 311 ⇓ i PKP PKPdf 10 59 04.7 -1.9
LJU Ljubljana 162.31 327 e PKPdf PKPdf 10 59 04.8 -1.8
LJU e 10 59 25.2
LJU e 10 59 54.9
LJU e 11 03 41.4
LJU e 11 04 36.2
LJU e 11 07 11.3
LJU e 11 12 04.8
LJU e 11 14 08.0
LJU Ljubljana 162.31 327 e PKIKP PKPdf 10 59 04.8 -1.8
LJU e 10 59 54.9
LJU e 11 03 41.4
BOJS Bojanci 162.36 325 i PKPdf PKPdf 10 59 05.6 -1.1
BOJS e PKPbc PKPdf 10 59 15.3 +8.7
BOJS e 10 59 25.5
BOJS e 10 59 53.9
BOJS e 11 03 43.3
BOJS e 11 04 37.1
HCY Herceg Novi 162.43 312 ⇓ i PKP PKPdf 10 59 05.9 -0.9
LKD Levkas 162.46 298 e P PKPdf 10 59 09.5 +2.8
STR Strasbourg 162.48 345 PKP PKPdf 10 59 07.1 +0.3
WATA Walderalm 162.49 335 ⇓ i PKPdf PKPdf 10 59 05.7 -1.1
comp=Z,15nm,0.9s,SNR=14
WATA ⇓ i PKPdf PKPdf 10 59 08.8 +2.0
comp=Z,372nm,1.7s
WATA ⇑ i PKPab PKPab 10 59 57.3 +1.8
comp=Z,2µm,2.1s
WTTA Wattenberg 162.52 335 ⇓ i PKPab 10 59 52.4 -3.3
comp=Z,19µm,4.7s
WTTA Wattenberg 162.52 335 ⇑ i PKPdf PKPdf 10 59 03.8 -3.0
comp=Z,11µm,3.7s,SNR=116
WTTA ⇓ i PKPab PKPab 10 59 52.4 -3.3
comp=Z,19µm,4.7s
WTTA Wattenberg 162.52 335 P PKPdf 10 59 06.1 -0.7
PTCC Patocco-Chiusa 162.55 330 P PKPdf 10 59 04.7 -2.2
BFO Black Forest 162.58 343 e PKPdf PKPdf 10 59 04.9 -2.0
BFO e PKPab PKPab 10 59 57.3 +1.4
BFO e PP PP 11 03 44.6 +3.9
BFO e SS SS 11 23 50.1 +0.2
VOY Vojsko 162.61 328 e PKPdf PKPdf 10 59 04.7 -2.2
GUT Gutenstein 162.62 341 P PKPdf 10 59 05.7 -1.2
FVI Forni Avoltri 162.64 331 PKIKP PKPdf 10 59 08.8 +1.9
MOTA Moosalm 162.64 336 i PKPdf PKPdf 10 59 05.9 -1.1
comp=Z,755nm,1.7s,SNR=46
MOTA ⇓ i PKPab PKPab 11 00 01.9 +5.7
comp=Z,1µm,1.3s
MOTA Moosalm 162.64 336 P PKPdf 10 59 05.8 -1.1
VLS Valsamata 162.65 297 e P PKPdf 10 59 08.0 +1.0
UBR Ueberruh 162.68 339 P PKPdf 10 59 06.2 -0.8
STON Ston 162.69 314 i P PKPdf 10 59 04.2 -2.8
GMNA Gemona 162.70 330 P PKPdf 10 59 05.1 -1.9
SQTA Sankt Quirin 162.71 336 ⇓ i PKPdf PKPdf 10 59 06.0 -1.1
comp=Z,1µm,2.3s,SNR=14
SQTA ⇑ i PKPdf PKPdf 10 59 09.3 +2.3
SQTA ⇓ i PKPab PKPab 11 00 01.3 +4.8
comp=Z,2µm,1.9s
SQTA Sankt Quirin 162.71 336 ⇓ i P PKPdf 10 59 06.0 -1.1
SQTA i 10 59 59.0
WLS Welschbruch 162.73 345 PKP PKPdf 10 59 05.5 -1.5
SEST Monte Rota 162.74 333 P PKPdf 10 59 08.6 +1.6
CDF Champ du Feu 162.75 345 e PKIKP PKPdf 10 59 04.6 -2.4
comp=Z,572nm,1.5s
KEK Kerkira 162.75 302 e P PKPdf 10 59 05.0 -2.1
LIBD Limburg 162.92 344 PKIKP PKPdf 10 59 07.5 +0.3
ECH Echery 162.96 345 PKP PKPdf 10 59 05.8 -1.5
BRES Bressanone 162.96 334 P PKPdf 10 59 04.9 -2.4
KIZ Kirchzarten 163.03 344 PKIKP PKPdf 10 59 06.4 -0.9
MEZF Maizieres J'vi 163.06 350 e PKIKP PKPdf 10 59 05.9 -1.4
comp=Z,4µm,1.7s
SLE Schleitheim 163.06 342 ⇓ PKIKP PKPdf 10 59 05.3 -2.1
FLN La Foliniere 163.07 3 e PKIKP PKPdf 10 59 05.6 -1.8
comp=Z,2µm,1.3s
FLN eR
comp=Z,32µm,20.2s
FLN La Foliniere 163.07 3 e PKPdf PKPdf 10 59 05.6 -1.8
FLN LR LR
comp=Z,32µm,20.3s
FELD Feldberg im Sc 163.08 343 PKP PKPdf 10 59 04.9 -2.5
DAVA Damuels 163.10 338 ⇑ i PKPdf PKPdf 10 59 54.2 -3.9
comp=Z,26µm,6.7s
DAVA Damuels 163.10 338 ⇑ i PKPdf PKPdf 10 59 05.5 -1.9
comp=Z,12µm,5.0s,SNR=63
DAVA ⇑ i PKPab PKPab 10 59 54.2 -3.9
comp=Z,26µm,6.7s
DAVA Damuels 163.10 338 P PKPdf 10 59 06.1 -1.3
CHIE El Hierro 163.17 99 PKP PKPdf 10 59 11.2 +3.7
THEF They Montfort 163.18 348 PKP PKPdf 10 59 06.3 -1.2

NVLJ	Novalja	163.22 323	⇑	*i*P		PKPdf	10 59 04.7	-2.8
ROSF	Rostrenen	163.23 10		*e*PKIKP		PKPdf	10 59 05.7	-1.8
	comp=Z,1μm,1.6s							
LDF	La Druitiere	163.25 2		*e*PKIKP		PKPdf	10 59 05.7	-1.8
	comp=Z,708nm,1.1s							
WILA	Wila	163.27 341	⇑	P		PKPdf	10 59 06.2	-1.4
MOF	Molkenrain	163.31 345		PKP		PKPdf	10 59 06.3	-1.3
HAU	Haudompre	163.32 347		*e*PKIKP		PKPdf	10 59 06.5	-1.1
	comp=Z,2μm,1.8s							
HAU				*e*R				
	comp=Z,33μm,22.5s							
HAU	Haudompre	163.32 347		*e*PKPdf		PKPdf	10 59 06.5	-1.1
HAU				LR		LR		
	comp=Z,33μm,22.5s							
APPI	Appiano	163.34 334		P		PKPdf	10 59 06.0	-1.6
SULZ	Sulz-Cheisache	163.38 343	⇑	P		PKPdf	10 59 07.7	0.0
HINF	Hinteralfeld	163.40 346		*e*PKIKP		PKPdf	10 59 05.5	-2.2
	comp=Z,2μm,1.9s							
ZUR	Zurich	163.40 341	⇓	PKIKP		PKPdf	10 59 09.3	+1.6
SGMF	Saint Gilles	163.41 8		*e*PKIKP		PKPdf	10 59 05.9	-1.8
	comp=Z,2μm,1.6s							
GRR	Gorron	163.42 4		*e*PKIKP		PKPdf	10 59 06.1	-1.6
	comp=Z,2μm,1.8s							
CTI	Castel Tesino	163.54 333		PKIKP		PKPdf	10 59 06.4	-1.4
EHIG	Higuera	163.55 97		PKP		PKPdf	10 59 11.7	+3.9
BBS	Basel-Blauen	163.59 344		PKIKP		PKPdf	10 59 07.5	-0.3
BRMO	Bormio	163.65 336		P		PKPdf	10 59 10.8	+2.9
QUIF	Quistinic	163.66 10		*e*PKIKP		PKPdf	10 59 06.4	-1.5
	comp=Z,2μm,1.6s							
LCI	Lecce	163.69 306		PKIKP		PKPdf	10 59 07.2	-0.7
LLS	Linth-Limmern	163.75 340	⇓	PKIKP		PKPdf	10 59 09.9	+1.9
MUO	Muotathal	163.75 341	⇓	P		PKPdf	10 59 10.1	+2.1
LOMF	Lomont	163.85 345		PKP		PKPdf	10 59 07.1	-1.0
EGOM	La Gomera	163.93 99	⇓	PKP		PKPdf	10 59 13.1	+4.9
VDL	Val di Lei	163.94 338	⇓	PKIKP		PKPdf	10 59 07.7	-0.5
TUE	Stuetta	163.99 338		P		PKPdf	10 59 10.4	+2.2
BRT	Bari-Castellan	164.05 309		PKIKP		PKPdf	10 59 07.9	-0.4
FGMS	Monte Sant'Ang	164.42 313		P		PKPdf	10 59 08.1	-0.5
LOR	Lormes	164.42 352		*e*PKIKP		PKPdf	10 59 07.0	-1.6
	comp=Z,2μm,1.7s							
LOR				*e*R				
	comp=Z,23μm,21.8s							
LOR	Lormes	164.42 352		*e*PKPdf		PKPdf	10 59 07.0	-1.6
LOR				LR		LR		
	comp=Z,23μm,21.8s							
CCAN	Las Canadas	164.46 99	⇑	PKP		PKPdf	10 59 10.9	+2.2
HYF	Humbligny	164.53 355		*e*PKIKP		PKPdf	10 59 07.3	-1.4
LKBD	Leukerbad	164.56 342	⇓	P		PKPdf	10 59 08.3	-0.4
AOI	Ancona	164.58 323		P		PKPdf	10 59 08.1	-0.6
RGNG	Rignano Grg	164.66 314		P		PKPdf	10 59 08.3	-0.5
SSF	Saint Saulge	164.67 353		*e*PKIKP		PKPdf	10 59 07.0	-1.8
	comp=Z,3μm,1.9s							
PESA	Pesaro	164.68 325		P		PKPdf	10 59 08.8	0.0
CABF	La Chapelle	164.71 346		*e*PKIKP		PKPdf	10 59 07.6	-1.3
	comp=Z,2μm,1.7s							
BRSN	Barisano	164.77 328		P		PKPdf	10 59 12.7	+3.8
EBAJ	Bajamar	164.78 98	⇑	PKP		PKPdf	10 59 12.4	+3.4
MMK	Mattmark	164.78 341	⇑	PKIKP		PKPdf	10 59 10.1	+1.2
FG2	Serracapriola	164.84 315		P		PKPdf	10 59 10.3	+1.3
MCGN	Macugnaga	164.86 341		P		PKPdf	10 59 08.3	-0.7
DIX	Grande Dixence	164.90 342	⇑	PKIKP		PKPdf	10 59 08.5	-0.5
CING	Cingoli	164.91 323		P		PKPdf	10 59 09.2	+0.2
AVF	Avril sur Loir	164.95 353		*e*PKIKP		PKPdf	10 59 07.1	-2.0
	comp=Z,862nm,1.6s							
ARV	Arcevia	164.95 324		PKIKP		PKPdf	10 59 07.2	-1.9
FG4	Candela	165.01 312		PKIKP		PKPdf	10 59 10.5	+1.4
SMF	Signal de Mont	165.04 352		*e*PKIKP		PKPdf	10 59 07.3	-1.8
	comp=Z,1μm,1.8s							
EMV	Vieux Emosson	165.05 343	⇑	P		PKPdf	10 59 09.9	+0.8
FG5	Orsara di Pugl	165.08 313		PKIKP		PKPdf	10 59 10.4	+1.2
SNTG	Esanatoglia	165.13 323		P		PKPdf	10 59 07.8	-1.4
TIP	Timpagrande	165.13 304		*e*PKPdf		PKPdf	10 59 08.7	-0.5
TIP				*e*PKPab		PKPab	11 00 10.7	+3.5
TIP				*e*PP		PP	11 04 05.7	+12
SCHR	S. Chirico Rap	165.13 308		P		PKPdf	10 59 03.2	-6.0
LRYF	La Roche-sur-Y	165.17 6		PKP		PKPdf	10 59 08.7	-0.5
SFI	Santa Sofia	165.17 327		PKIKP		PKPdf	10 59 08.3	-0.9
ZCCA	Zocca	165.20 330		P		PKPdf	10 59 09.1	-0.2
TERO	Teramo	165.22 320		P		PKPdf	10 59 09.6	+0.3
BGF	Bois d'Agland	165.22 355		*e*PKIKP		PKPdf	10 59 07.8	-1.5
	comp=Z,4μm,1.7s							
MRLC	Muro Lucano	165.23 311		P		PKPdf	10 59 09.9	+0.6
MFF	Saint Martin d	165.24 3		*e*PKIKP		PKPdf	10 59 07.8	-1.5
	comp=Z,4μm,1.9s							
VMG	Vicchio	165.26 328		P		PKPdf	10 59 07.7	-1.6
SEI	Scarperia	165.27 329		P		PKPdf	10 59 10.9	+1.6
BADI	Badiali	165.28 326		P		PKPdf	10 59 11.1	+1.8
EOSO	Osorio	165.30 101		PKP		PKPdf	10 59 11.5	+2.1
SLCN	Sala Consilina	165.33 310		P		PKPdf	10 59 11.5	+2.1
NRCA	Norcia	165.34 322		P		PKPdf	10 59 07.7	-1.7
GSCL	Gusciola	165.36 331		P		PKPdf	10 59 09.3	-0.1
ERBM	Eremo	165.38 332		P		PKPdf	10 59 09.2	-0.2
PSB1	Pescosannita	165.40 314		P		PKPdf	10 59 12.1	+2.7
CII	Carovilli	165.40 316		P		PKPdf	10 59 09.2	-0.2
ASS	Assisi	165.41 323		PKIKP		PKPdf	10 59 12.1	+2.6
PMPS	Porto Santo	165.44 81		*e*PKPdf		PKPdf	10 59 11.2	+1.7
SGO	Sicignano	165.46 311		PKIKP		PKPdf	10 59 09.1	-0.4
RSL	Roselend	165.47 344		PKP		PKPdf	10 59 08.4	-1.1
CSSN	Cassano Irpino	165.47 312		P		PKPdf	10 59 08.9	-0.6
MIDA	Miranda	165.49 316		P		PKPdf	10 59 11.6	+2.1
RNI2	Rionero Sannit	165.51 316		P		PKPdf	10 59 11.6	+2.1
AQU	L'Aquila	165.51 320	⇑	*i*P		PKPdf	10 59 09.9	+0.4
AQU	L'Aquila	165.51 320		*e*PKPdf		PKPdf	10 59 09.9	+0.4
AQU				*e*PKPab		PKPab	11 00 08.0	-0.8
MGR	Morigerati	165.51 309		P		PKPdf	10 59 12.8	+3.3
GRI	Girifalco	165.51 303		PKIKP		PKPdf	10 59 13.3	+3.8
TCF	Toulx Ste Croi	165.54 356		*e*PKIKP		PKPdf	10 59 08.0	-1.6
	comp=Z,3μm,1.9s							
BDI	Bagni Di Lucca	165.59 331		PKIKP		PKPdf	10 59 11.1	+1.5
LPL	La Plagne	165.60 343		*e*PKIKP		PKPdf	10 59 08.3	-1.3
	comp=Z,1μm,1.5s							
VLC	Villacollemand	165.60 331		*e*PKPdf		PKPdf	10 59 10.5	+0.9
LPG	La Plagne	165.61 343		*e*PKIKP		PKPdf	10 59 08.4	-1.2
	comp=Z,2μm,1.9s							
AGO	Saint Agoulin	165.70 354		PKP		PKPdf	10 59 09.5	-0.2
SDI	San Donato	165.70 317		PKIKP		PKPdf	10 59 08.8	-0.9
VVLD	Villa Vallelon	165.71 318		P		PKPdf	10 59 12.0	+2.3
PLDF	La Plantade	165.73 352		PKP		PKPdf	10 59 08.2	-0.5
CSNT	Castellina Chi	165.76 328		P		PKPdf	10 59 07.8	-1.9
OLEF	Ile d'Oleron	165.82 6		PKP		PKPdf	10 59 11.1	+1.3
RFI	Roccamonfina	165.85 316		P		PKPdf	10 59 10.6	+0.8
MNS	Montasola	165.88 321		PKIKP		PKPdf	10 59 12.8	+3.0
PII	Pisa	165.90 330		PKIKP		PKPdf	10 59 07.8	-2.0
GUAR	Guarcino	165.93 318		P		PKPdf	10 59 09.4	-0.5
MATF	Mathat	166.01 3		PKP		PKPdf	10 59 07.1	-2.8
PYM	Petit Puy Mans	166.01 354		PKP		PKPdf	10 59 09.4	-0.5
CERT	Cerreto	166.01 320		P		PKPdf	10 59 13.4	+3.5
GDM	Grand'Maison	166.04 344		PKP		PKPdf	10 59 09.5	-0.5
SOI	Samo	166.07 301		PKIKP		PKPdf	10 59 09.5	-0.5
GRN	Grenoble	166.09 345		PKP		PKPdf	10 59 09.9	-0.1
SCLL	Scilla	166.25 302		P		PKPdf	10 59 09.9	-0.2
MBDF	Montbardon	166.33 342		*e*PKIKP		PKPdf	10 59 08.6	-1.6
	comp=Z,2μm,1.8s							
ROM9	Roma	166.35 320		P		PKPdf	10 59 11.1	+0.9
LAV9	Lanuvio	166.35 319		P		PKPdf	10 59 12.6	+2.4
MTTG	Motta San Giov	166.36 301		P		PKPdf	10 59 10.0	-0.2
ORIF	Oris-en-Rattie	166.37 345		*e*PKIKP		PKPdf	10 59 09.0	-1.2
	comp=Z,730nm,1.4s							
ORIF				*e*R				
	comp=Z,37μm,21.0s							
FIN	Finale Ligure	166.37 337		PKIKP		PKPdf	10 59 08.7	-1.5
DOI	San Damiano	166.40 340		PKIKP		PKPdf	10 59 13.2	+3.0
FRNF	Fournols	166.41 355		PKP		PKPdf	10 59 10.2	-0.1
EMAZ	Mazaricos	166.45 32		PKP		PKPdf	10 59 10.7	+0.5
VENT	Ventotene	166.50 315		P		PKPdf	10 59 14.1	+3.8
LBL	Lubilhac	166.50 353		PKP		PKPdf	10 59 10.0	-0.3
SURF	Saint Ours	166.54 341		PKP		PKPdf	10 59 10.2	-0.2
RJF	Les Rejaudoux	166.55 358		*e*PKIKP		PKPdf	10 59 08.9	-1.5
	comp=Z,2μm,1.6s							
RJF				*e*R				
	comp=Z,36μm,22.0s							
RJF	Les Rejaudoux	166.55 358		*e*PKPdf		PKPdf	10 59 08.9	-1.5
RJF				LR		LR		
	comp=Z,36μm,22.0s							
CFTV	Fuerteventura	166.63 101	⇑	PKP		PKPdf	10 59 11.7	+1.3
VIVF	Saint-Julien-l	166.67 348		*e*PKIKP		PKPdf	10 59 09.3	-1.1
	comp=Z,2μm,1.9s							
STS	Santiago	166.69 31		PKIKP		PKPdf	10 59 10.6	+0.1
IMI	Imperia	166.74 337		P		PKPdf	10 59 09.6	-0.9
SLNA	Salina	166.75 304		P		PKPdf	10 59 11.3	+0.8
SAOF	Saorge	166.78 338		PKP		PKPdf	10 59 09.7	-0.8
AUTN	L'Aution	166.81 339		PKP		PKPdf	10 59 12.0	+1.4
AUTN	L'Aution	166.81 339		PKP		PKPdf	10 59 11.9	+1.3
AUTN	L'Aution	166.81 339		PKP		PKPdf	10 59 11.9	+1.3
OCF	Saint Nazaire	166.81 346		PKP		PKPdf	10 59 10.3	-0.3
OG26	St.-Nazaire-De	166.81 346		PKP		PKPdf	10 59 10.3	-0.3
OG25	Le Caire	166.84 343		PKP		PKPdf	10 59 08.3	-2.3
CAF	Calviac	166.90 356		*e*PKIKP		PKPdf	10 59 09.6	-1.0
	comp=Z,923nm,1.4s							
EPON	Pontenova	166.91 27		PKP		PKPdf	10 59 11.1	+0.4
LFF	La Frestale	166.92 0		*e*PKIKP		PKPdf	10 59 09.5	-1.1
	comp=Z,1μm,1.6s							
SBF	Sospel	166.93 338		*e*PKIKP		PKPdf	10 59 08.6	-2.0
	comp=Z,3μm,1.7s							
MVIF	Mont Vial	166.98 339		PKP		PKPdf	10 59 10.0	-0.7
MON	Monaco	167.05 338		P		PKPdf	10 59 12.0	+1.3
REVF	Revere	167.06 338		PKP		PKPdf	10 59 10.1	-0.6
SSY	Sortino	167.13 298		P		PKPdf	10 59 13.3	+2.5
EZAM	Zamans	167.21 34		PKIKP		PKPdf	10 59 11.3	+0.5
STOF	St-Etienne Org	167.23 343		PKP		PKPdf	10 59 10.8	-0.1
EFAM	Famara	167.31 99	⇑	PKP		PKPdf	10 59 12.3	+1.4
SMRF	Simiane la Rot	167.33 344		*e*PKIKP		PKPdf	10 59 09.8	-1.1
	comp=Z,2μm,1.8s							
VILF	Villemus	167.41 344		PKP		PKPdf	10 59 10.8	-0.2
PGF	Pioggiola	167.50 331		*e*PKIKP		PKPdf	10 59 09.3	-1.8
	comp=Z,4μm,1.9s							
TAVF	Tavernes	167.55 342		PKP		PKPdf	10 59 10.5	-0.6
LASF	Ste Croix	167.56 350		*e*PKIKP		PKPdf	10 59 10.0	-1.1
	comp=Z,3μm,1.9s							
GIB	Gibilmanna	167.57 303		PKIKP		PKPdf	10 59 12.4	+1.3
PRAF	Pradon	167.58 345		PKP		PKPdf	10 59 10.9	-0.2
EARI	Arriondas	167.60 21	⇑	PKP		PKPdf	10 59 11.6	+0.4
CORF	Corte	167.64 330		PKP		PKPdf	10 59 11.2	0.0
LMR	La Mourre	167.69 340		*e*PKIKP		PKPdf	10 59 09.4	-1.8
	comp=Z,3μm,1.8s							
TREF	Trevaresse	167.71 344		PKP		PKPdf	10 59 12.6	+1.4
PUYF	Puyloubier	167.72 343		PKP		PKPdf	10 59 10.6	-0.6
ELOB	Lobios	167.72 33	⇑	PKP		PKPdf	10 59 11.8	+0.6
USI	Ustica	167.82 308		P		PKPdf	10 59 11.2	-0.1
PCAB	Cabril	167.86 33		*e*PKPdf		PKPdf	10 59 11.8	+0.5
PCAB	Cabril	167.86 33		*e*PKPab		PKPab	11 00 23.6	+4.4
GELF	Grande-Etoile	167.92 344		PKP		PKPdf	10 59 10.9	-0.5
BERF	Bertagne	167.93 343		PKP		PKPdf	10 59 11.0	-0.4
MCT	Mte Cammarata	168.00 302		P		PKPdf	10 59 13.1	+1.7
PTO	Porto	168.01 37		*e*PKPdf		PKPdf	10 59 12.5	+1.1
FAVR	Favara	168.13 301		P		PKPdf	10 59 15.2	+3.7
ELAN	Lanestosa	168.14 15		PKP		PKPdf	10 59 12.1	+0.6
ECAL	Calabor	168.24 29		PKP		PKPdf	10 59 12.6	+1.0
CLTB	Caltabellotta	168.33 303		P		PKPdf	10 59 12.1	+0.5
PVRL	Vila Real	168.35 34		*e*PKPdf		PKPdf	10 59 11.9	+0.3
PVRL	Vila Real	168.35 34		*e*PKPab		PKPab	11 00 24.0	+2.7
PBRG	Braganca	168.35 29		*e*PKPdf		PKPdf	10 59 11.8	+0.2
PBRG	Braganca	168.35 29		*e*PKPab		PKPab	11 00 23.9	+2.5
MTLF	Montolieu	168.47 355		*e*PKIKP		PKPdf	10 59 10.5	-1.2
	comp=Z,2μm,1.8s							
OSSF	Osses	168.49 8		PKP		PKPdf	10 59 13.0	+1.3
EALK	Alkurruntz	168.49 9		PKP		PKPdf	10 59 13.3	+1.5
ELIZ	Elizondo	168.54 9		PKIKP		PKPdf	10 59 12.6	+0.8
ERC	Erice	168.56 306		P		PKPdf	10 59 15.2	+3.4
SJPF	Ste Jean	168.63 8		*e*PKIKP		PKPdf	10 59 11.2	-0.6
	comp=Z,2μm,1.5s							
PVIS	Viseu	168.69 36		*e*PKPdf		PKPdf	10 59 11.9	0.0
PVIS	Viseu	168.69 36		*e*PKPab		PKPab	11 00 27.2	+4.3
ATE	Arette	168.71 6		PKP		PKPdf	10 59 12.0	+0.1
LARF	Larrau	168.73 7		PKP		PKPdf	10 59 12.5	+0.6
REYF	Montagne du Re	168.75 5		PKP		PKPdf	10 59 12.3	+0.4
LVI	Isola Levanzo	168.75 306		PKIKP		PKPdf	10 59 11.9	0.0
EPF	Esparros	168.83 2		*e*PKIKP		PKPdf	10 59 11.2	-0.8
	comp=Z,1μm,1.4s							
LRDF	Laroque-de-Fa	168.84 354		PKP		PKPdf	10 59 11.5	-0.5
ETSF	Etsaut	168.91 5		*e*PKIKP		PKPdf	10 59 11.5	-0.5
	comp=Z,2μm,1.8s							
VIEF	Viey	168.96 3		PKP		PKPdf	10 59 12.6	+0.6
DGI	Dorgali Grotta	168.97 322		P		PKPdf	10 59 12.9	+0.9
RESF	Ens	169.05 2		PKP		PKPdf	10 59 12.8	+0.7
SALF	Salau	169.10 359		PKP		PKPdf	10 59 13.7	+1.6
CARF	Carcanieres	169.10 355		PKP		PKPdf	10 59 14.5	+2.4
MTE	Manteigas	169.10 36		*e*PKPdf		PKPdf	10 59 12.6	+0.5
MTE	Manteigas	169.10 36		*e*PP		PP	11 04 17.4	+3.1
MTE				*i* -			11 10 51.1	
MTE				*i* -			11 17 38.7	
MTE				*e*SS		SS	11 25 01.5	+5.5
MTE	Manteigas	169.10 36		*e*PKPdf		PKPdf	10 59 12.4	+0.3
MTE				*e*PP		PP	11 04 16.1	+1.7
EBIE	Bielsa	169.16 3		PKP		PKPdf	10 59 12.7	+0.6
EBIE				PKP		PKPdf	10 59 15.8	+3.7
PTOM	Tomar	169.20 42		*e*PKPdf		PKPdf	10 59 12.8	+0.6
PTOM	Tomar	169.20 42		*e*PKPab		PKPab	11 00 30.2	+5.1
FILF	Fillols	169.22 353		PKP		PKPdf	10 59 12.2	0.0
PLOU	Loures	169.24 47		*e*PKPdf		PKPdf	10 59 13.5	+1.3
PLOU	Loures	169.24 47		*e*PKPab		PKPab	11 00 29.4	+4.1
SJAF	Saint Jean de	169.26 352		PKP		PKPdf	10 59 12.0	-0.2
EJON	La Jonquera	169.29 352		PKP		PKPdf	10 59 11.7	-0.5
LIS	Lisbon	169.34 47		*e*P		PKPdf	10 59 13.2	+0.9
LIS				*e*SS		SS	11 24 58.1	-0.3
LIS				*e*SS		SS	11 24 59.1	+0.7
LIS				AMS		AMS	11 26 22.7	
	comp=E,94μm,24.0s							
VALF	Valcebollere	169.42 355		PKP		PKPdf	10 59 12.5	+0.2
PTS	Pantelleria	169.54 301		PKIKP		PKPdf	10 59 13.3	+0.9
PCBR	Castelo Branco	169.55 38		*e*PKPdf		PKPdf	10 59 12.8	+0.4
PCBR	Castelo Branco	169.55 38		*e*PKPab		PKPab	11 00 25.6	-1.1
PLML	Palmela	169.59 47		*e*PKPdf		PKPdf	10 59 13.3	+0.9
EGRA	Graus	169.66 2		PKP		PKPdf	10 59 12.4	0.0
VSL	Villasalto	169.69 320		*e*PKPdf		PKPdf	10 59 11.8	-0.7
VSL				*e*PP		PP	11 04 20.3	+3.1
EMIR	Miracle	169.93 357		PKP		PKPdf	10 59 12.4	-0.2
MOE	Montemor	169.95 46		*e*PKPdf		PKPdf	10 59 13.7	+1.1
MOE				*i* -			10 59 34.4	
ESAC	San Caprasio	170.09 6	⇑	PKP		PKPdf	10 59 12.4	-0.3
PTEO	Sao Teotonio	170.29 52		*e*PKPdf		PKPdf	10 59 13.6	+0.8
PTEO	Sao Teotonio	170.29 52		*e*PKPab		PKPab	11 00 23.6	-6.3
GUD	Guadarrama	170.34 23	⇓	PKIKP		PKPdf	10 59 13.7	+0.8
MORF	Marmelete	170.46 53		*e*P		PKPdf	10 59 14.4	+1.4
MORF				*e*SS		SS	11 25 09.7	+0.2
MORF				*e*SS		SS	11 25 10.8	+1.3
MORF				AMS		AMS	11 28 11.8	
	comp=E,63μm,20.9s							
EPOB	Poblet	170.51 359		PKP		PKPdf	10 59 12.4	-0.6
PBEJ	Beja	170.56 47		*e*PKPdf		PKPdf	10 59 14.0	+1.0
EBAD	Badajoz	170.58 41		PKP		PKPdf	10 59 13.8	+0.8
ERTA	Horta de San J	170.90 2		PKP		PKPdf	10 59 14.2	+1.1
EBR	Ebro Roquetas	171.04 2		*e*PKPDF		PKPdf	10 59 14.0	+0.8
EBR				*e*PKPpB			11 00 37.2	
EGRO	El Granado	171.10 48		PKP		PKPdf	10 59 14.4	+1.1
PAB	San Pablo	171.23 27		PKPdf		PKPdf	10 59 13.1	-0.2
PAB				PP		PP	11 04 27.1	+2.2
ESDC	Sonseca Array	171.27 25		PKP		PKPdf	10 59 13.3	-0.1
	comp=E,52nm,0.8s,baz=347,slow=2.7,SNR=62							
ESDC				PKPab		PKPab	11 00 35.2	+1.0
	comp=E,33nm,0.7s,baz=341,slow=2.7,SNR=2.4							
ESDC				PP		PP	11 04 26.0	+0.8
	comp=E,19nm,1.0s,baz=354,slow=7.1,SNR=3.2							
ESDC	Sonseca Array	171.27 25		PKP		PKPdf	10 59 13.6	+0.2
ESLA	Sonseca Array	171.27 25		*e*PKPdf		PKPdf	10 59 13.9	+0.6
ESLA				*e*PKPab		PKPab	11 00 35.9	+1.6
ESLA				*e*PP		PP	11 04 25.9	+0.8
EMOS	Mosqueruela	171.43 7	⇑	PKP		PKPdf	10 59 14.2	+0.8
EMIN	Mina Concepcio	171.45 44		PKP		PKPdf	10 59 14.5	+1.1
ETOS	Mallorca	171.93 349		PKP		PKPdf	10 59 14.1	+0.4
ECHE	Chera	172.13 10	⇓	PKIKP		PKPdf	10 59 14.9	+1.1
EADA	Adamuz	172.28 34	⇑	PKP		PKPdf	10 59 14.9	+1.1
ESPR	Espera	172.53 46		PKP		PKPdf	10 59 15.3	+1.4
SFS	San Fernando	172.56 50		*e*PKPdf		PKPdf	10 59 18.1	+4.2
SFS				*e*PKPdif			10 59 44.7	
SFS				*e*PP		PP	11 04 35.8	+4.3
EVIA	Vianos	172.69 21		PKIKP		PKPdf	10 59 14.4	+0.4
CMAH	Djebel Manchou	172.76 313		P		PKPdf	10 59 18.5	+4.5
EIBI	Ibiza	172.82 357		PKP		PKPdf	10 59 15.1	+1.0
CGMA	Guelma	172.88 312		P		PKPdf	10 59 16.0	+1.9
ELUQ	Luque	172.91 35		PKIKP		PKPdf	10 59 14.4	+0.3
ETOB	Tobarra	172.94 15		PKP		PKPdf	10 59 15.2	+1.1
ABSA	Djebel Ababsia	172.94 311		P		PKPdf	10 59 19.0	+4.9
CAEH	'Ain El Ouahch	173.01 316		P		PKPdf	10 59 19.0	+4.9
EJIF	Jimena Fronter	173.04 47		PKIKP		PKPdf	10 59 15.8	+1.7
EBEN	Beniarda	173.10 7		PKP		PKPdf	10 59 14.7	+0.6
EQES	Quesada	173.24 27		PKP		PKPdf	10 59 14.7	+0.5
ELOJ	Sierra Loja	173.29 37		PKIKP		PKPdf	10 59 14.8	+0.6
CKFL	Kef-Lekhel	173.34 315		P		PKPdf	10 59 18.5	+4.2
EMIJ	Mijas	173.38 43		PKP		PKPdf	10 59 14.4	+0.1
EHUE	Huescar	173.41 24		PKIKP		PKPdf	10 59 15.3	+1.0
ECOG	Cogollos-Vega	173.47 33		PKIKP		PKPdf	10 59 14.5	+0.2
ERON	Agron	173.57 35		PKP		PKPdf	10 59 14.8	+0.4
CASM	Ain Smara	173.57 315		P		PKPdf	10 59 18.0	+3.7
DFRA	Djebel Bou Aff	173.73 320		P		PKPdf	10 59 18.0	+3.6
CTEI	Djebel Teioual	173.75 314		P		PKPdf	10 59 18.0	+3.6
EMUR	La Murta	173.78 15		PKP		PKPdf	10 59 14.8	+0.4
EGUA	Guajares	173.83 35		PKIKP		PKPdf	10 59 16.0	+1.6
SET	Setif	174.24 320		P		PKPdf	10 59 16.0	+1.4
ENIJ	Nijar	174.30 25		PKIKP		PKPdf	10 59 14.9	+0.3
CKHR	Kef el Ahmar	174.31 318		P		PKPdf	10 59 19.0	+4.4
CMER	Merouana	174.35 313		P		PKPdf	10 59 19.0	+4.4
EMHD	Djebel Mahouad	175.31 339		P		PKPdf	10 59 16.5	+1.6
EBNR	Beni Rached	175.53 353		P		PKPdf	10 59 19.5	+4.5
ECHA	Ech Chlef	175.68 354		P		PKPdf	10 59 17.8	+2.8
OKGL	Djebel Kef Gue	175.81 2		P		PKPdf	10 59 19.0	+4.0
EANR	'Ain N'Sour	175.90 357		P		PKPdf	10 59 17.0	+2.0
USTO	Oran	175.95 16		P		PKPdf	10 59 21.0	+5.9
OLHC	Oulhaca	176.11 28		P		PKPdf	10 59 20.0	+4.9
ODZI	Dziouia	176.15 26		P		PKPdf	10 59 20.0	+4.9
OJBR	Djebel Berber	176.25 6		P		PKPdf	10 59 18.0	+2.9
OTSS	Djebel Tessala	176.31 21		P		PKPdf	10 59 19.0	+3.9
OJGS	Djebel Guires	176.35 1		P		PKPdf	10 59 19.0	+3.9
ODJA	Bouhanifia	176.43 13		P		PKPdf	10 59 16.0	+0.8
ETRT	Tiaret	176.44 354		P		PKPdf	10 59 17.3	+2.1

IDC 16 10:40:31.8±2.6, 1073S×12345E, h0km, mb3.4/1, mb1 3.5/3, mb1mx3.4/12, mbtmp3.3/3, ML2.8/2, Error ellipse: s-maj=232.0km s-min=34.5km az=52.0, Timor region

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

THZ	**Tophouse**	**11.56 208**	PN	**Pn**	**11 48 30.7**	**-1.1**
THZ			*e*SN	**Sn**	**11 50 40.1**	**+1.1**
MQZ	**McQueen's Vall**	**13.33 204**	*e*SN	**Sn**	**11 51 14.6**	**-7.1**
DZM	**Mont Dzumac**	**15.55 305**	LR	LR	11 54 37.8	
	comp=Z,9µm,18.1s,baz=139,slow=34					
STKA	**Stephens Creek**	**32.65 259**	P	**P**	**11 52 11.9**	**+0.4**
	1.0nm,0.5s,mb3.9,baz=101,slow=11,SNR=3.3					
ASAR	**Alice Springs**	**41.47 269**	P	**P**	**11 53 26.4**	**+0.2**
	2.8nm,0.4s,mb4.4,baz=107,slow=7.2,SNR=20					
WRA	**Warramunga Arr**	**42.59 275**	P	**P**	**11 53 35.0**	**-0.2**
	7.6nm,0.4s,mb4.8,baz=112,slow=7.9,SNR=43					
TORD	**Torodi Ar. Bea**	**161.44 185**	PKPab	PKPab	12 06 18.2	-4.5
	0.3nm,0.4s,baz=168,slow=3.7,SNR=5.1					

MAN 16 11:58:35.1, 1680N×11942E, h5km, mb2.2, ML3.9, MS3.1, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.63**	**131**	*e*P	Pg	11 58 47.5	+0.4
ABRA	**Dolores**	**1.50**	**55**	*e*P	Pn	11 59 01.8	-0.8
APYP	**Conner**	**2.04**	**58**	*e*P	Pn	11 59 10.4	+0.3
CAUP	**Cauayan**	**2.30**	**86**	*e*P	Pn	11 59 16.0	+2.3
BALP	**Baler**	**2.32**	**117**	*e*P	Pn	11 59 13.9	0.0
BALP				*e*S	Sn	11 59 36.5	-6.4

IDC ***16*** *12:07:38.3±5.8, 3124S×17946W, h127km±47km, mb4.0/6, mb1 4.2/7, mb1mx4.0/13, mbtmp4.4/7, Error ellipse: s-maj=40.3km s-min=22.9km az=41.0*
ISCJB ***16*** *12:07:45.4±1.4, 3184S±008×1799E±0.1, h171km±12km, mb4.4/12, Error ellipse: s-maj=19.5km s-min=12.6km az=167.2*
MOS ***16*** *12:07:49.0±0.8, 3211S×17959E, h190km, mb4.5/5, Error ellipse: s-maj=25.0km s-min=16.8km az=65.0*
NEIC ***16*** *12:07:50.3±0.8, 3211S×17964E, h189km±8km, mb4.5/6, Error ellipse: s-maj=13.9km s-min=8.3km az=102.0*

ISC 16 12:07:46.6±1.7, 3189S±009×1799E±01, h170km±14km, n65, σ1§32/72, mb4.5/11, 1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.21**	**36**	S	**Pn**	**12 08 48.8**	**+11**
	260nm,0.3s,baz=93,slow=23,SNR=4.0						
RAO	**Raoul Island**	**3.21**	**36**	*e*Pn	**Pn**	**12 08 46.2**	**+8.8**
PUZ	**Puketiti**	**6.33**	**192**	*e*PN	**Pn**	**12 09 17.7**	**0.0**
PUZ				SN	**Sn**	**12 10 34.3**	**+4.9**
PUZ	**Puketiti**	**6.33**	**192**	*e*P	**Pn**	**12 09 18.6**	**+0.9**
MWZ	**Matawai**	**6.73**	**196**	PN	**Pn**	**12 09 23.3**	**+0.2**
MWZ				SN	**Sn**	**12 10 46.1**	**+7.1**
MWZ	**Matawai**	**6.73**	**196**	*e*P	**Pn**	**12 09 23.3**	**+0.2**
URZ	**Urewera**	**6.77**	**199**	P	**Pn**	**12 09 26.1**	**+2.5**
	2.5nm,0.3s,baz=319,slow=22,SNR=16						
URZ				S	**Sn**	**12 10 48.6**	**+8.7**
	4.3nm,0.3s,baz=80,slow=23,SNR=10.0						
URZ	**Urewera**	**6.77**	**199**	PN	**Pn**	**12 09 25.1**	**+1.5**
URZ				SN	**Sn**	**12 10 47.0**	**+7.1**
URZ				*e*SN	**Sn**	**12 10 47.6**	**+7.7**
URZ	**Urewera**	**6.77**	**199**	*e*P	**Pn**	**12 09 25.1**	**+1.5**
KNZ	**Kokohu**	**7.36**	**194**	PN	**Pn**	**12 09 33.8**	**+2.5**
BKZ	**Black Stump Fm**	**7.79**	**200**	PN	**Pn**	**12 09 36.1**	**-1.0**
BKZ	**Black Stump Fm**	**7.79**	**200**	*e*P	**Pn**	**12 09 40.0**	**+2.9**
WNVZ	**Wahianoa**	**8.22**	**204**	P	**Pn**	**12 09 45.7**	**+2.9**
PXZ	**Pawanui**	**8.50**	**196**	*e*PN	**Pn**	**12 09 46.7**	**+0.2**
PXZ				*e*SN	**Sn**	**12 11 23.1**	**+1.8**
TSZ	**Takapari Road**	**8.77**	**200**	PN	**Pn**	**12 09 50.2**	**+0.1**
TSZ				SN	**Sn**	**12 11 31.6**	**+3.8**
TSZ	**Takapari Road**	**8.77**	**200**	*e*P	**Pn**	**12 09 50.7**	**+0.7**
TSZ				S	**Sn**	**12 11 31.6**	**+3.8**
MRZ	**Mangatainoka R**	**9.44**	**201**	*e*PN	**Pn**	**12 09 57.1**	**-1.7**
MRZ				*e*SN	**Sn**	**12 11 44.2**	**+0.5**
MRZ	**Mangatainoka R**	**9.44**	**201**	P	**Pn**	**12 09 58.8**	**0.0**
MRZ				S	**Sn**	**12 11 44.9**	**+1.1**
TIWZ	**Tintock**	**9.46**	**199**	PN	**Pn**	**12 10 00.4**	**+1.3**
KIW	**Kapiti Island**	**9.83**	**203**	PN	**Pn**	**12 10 03.3**	**-0.7**
KIW	**Kapiti Island**	**9.83**	**203**	P	**Pn**	**12 10 03.1**	**-0.9**
CAW	**Cannon Point**	**10.00**	**202**	PN	**Pn**	**12 10 05.5**	**-0.7**
CAW	**Cannon Point**	**10.00**	**202**	P	**Pn**	**12 10 03.5**	**-2.7**
MSWZ	**Moikau Station**	**10.23**	**200**	P	**Pn**	**12 10 07.6**	**-1.6**
MRW	**Makara Radio**	**10.23**	**203**	*e*PN	**Pn**	**12 10 08.4**	**-0.8**
MRW	**Makara Radio**	**10.23**	**203**	P	**Pn**	**12 10 09.0**	**-0.2**
WEL	**Wellington**	**10.26**	**202**	P	**Pn**	**12 10 07.9**	**-1.7**
SNZO	**South Karori**	**10.30**	**203**	*e*Pn	**Pn**	**12 10 08.7**	**-1.4**
SNZO				*e*Sn	**Sn**	**12 12 01.8**	**-2.7**
TCW	**Tory Channel**	**10.36**	**204**	*e*PN	**Pn**	**12 10 10.0**	**-0.9**
TCW				*e*SN	**Sn**	**12 12 05.9**	**0.0**
TCW	**Tory Channel**	**10.36**	**204**	P	**Pn**	**12 10 09.8**	**-1.9**
NNZ	**Nelson**	**10.70**	**208**	*e*PN	**Pn**	**12 10 12.8**	**-2.6**
NNZ				*e*SN	**Sn**	**12 12 16.5**	**+2.4**
QRZ	**Quartz Range**	**10.73**	**212**	*e*PN	**Pn**	**12 10 14.5**	**-1.3**
THZ	**Tophouse**	**11.35**	**208**	*e*PN	**Pn**	**12 10 21.1**	**-2.8**
THZ	**Tophouse**	**11.35**	**208**	*e*P	**Pn**	**12 10 23.5**	**-0.4**
KHZ	**Kahutara**	**11.68**	**204**	*e*PN	**Pn**	**12 10 25.0**	**-3.1**
KHZ	**Kahutara**	**11.68**	**204**	*e*P	**Pn**	**12 10 26.9**	**-1.2**
DSZ	**Denniston Nort**	**11.80**	**211**	*e*PN	**Pn**	**12 10 28.2**	**-1.4**
RPZ	**Rata Peaks**	**13.73**	**208**	P	**Pn**	**12 10 55.4**	**+1.1**
	0.5nm,0.3s,baz=40,slow=16,SNR=2.8						
CTAO	**Charters Tower**	**32.35**	**283**	*e*P	**P**	**12 14 00.2**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
CTAO	**Charters Tower**	**32.35**	**283**	*e*P	**P**	**12 14 00.2**	**+0.4**
	comp=Z,8.5nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**32.45**	**260**	P	**P**	**12 14 01.6**	**+1.0**
	comp=Z,3.4nm,0.7s,mb4.2,baz=95,slow=10,SNR=8.7						
STKA	**Stephens Creek**	**32.45**	**260**	*e*P	**P**	**12 14 01.1**	**+0.4**
ASAR	**Alice Springs**	**41.30**	**270**	P	**P**	**12 15 16.1**	**+0.7**
	comp=Z,3.2nm,0.3s,mb4.4,baz=107,slow=7.8,SNR=62						
WB2	**Warramunga Arr**	**42.41**	**275**	⇓*i*P	**P**	**12 15 24.4**	**0.0**
WRAB	**Tennant Creek**	**42.42**	**275**	*e*P	**P**	**12 15 24.1**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,16nm,0.7s,mb4.8						
WRAB	**Tennant Creek**	**42.42**	**275**	*e*P	**P**	**12 15 24.1**	**-0.4**
	comp=Z,16nm,0.7s,mb4.8						
WRA	**Warramunga Arr**	**42.42**	**275**	P	**P**	**12 15 24.5**	**0.0**
	comp=Z,9.4nm,0.5s,mb4.7,baz=111,slow=8.0,SNR=291						
SBA	**Scott Base**	**46.43**	**184**	*e*P	**P**	**12 15 56.7**	**+0.5**
SBA				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
SBA	**Scott Base**	**46.43**	**184**	*e*P	**P**	**12 15 56.7**	**+0.4**
	comp=Z,1.0nm,0.6s,mb3.6						
VNDA	**Vanda**	**46.45**	**185**	P	**P**	**12 15 58.2**	**+1.8**
	comp=Z,2.7nm,0.8s,mb3.9,baz=11,slow=5.2,SNR=9.9						
VNDA	**Vanda**	**46.45**	**185**	*e*P	**P**	**12 15 56.7**	**+0.3**
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
VNDA	**Vanda**	**46.45**	**185**	*e*P	**P**	**12 15 56.7**	**+0.3**
	comp=Z,3.3nm,0.9s,mb4.0						
FITZ	**Fitzroy Crossi**	**50.62**	**272**	*e*P	**P**	**12 16 28.2**	**0.0**
	comp=Z,4.2nm,0.4s,mb4.4						
FITZ	**Fitzroy Crossi**	**50.62**	**272**	P	**P**	**12 16 28.1**	**-0.1**
	comp=Z,4.4nm,0.4s,mb4.2,baz=117,slow=4.5,SNR=17						
QSPA	**South Pole Qui**	**58.23**	**180**	*e*P	**P**	**12 17 23.5**	**+0.4**
	comp=Z,11nm,0.6s,mb4.9						
MAW	**Mawson**	**70.29**	**201**	*e*P	**P**	**12 18 40.2**	**-1.3**
MAW				pmax	pmax		
	comp=Z,13nm,1.4s						
MAW	**Mawson**	**70.29**	**201**	*e*P	**P**	**12 18 40.1**	**-1.4**
	comp=Z,13nm,1.4s,mb4.5						
PMSA	**Palmer Station**	**71.64**	**156**	*e*P	**P**	**12 18 48.9**	**-0.7**
	comp=Z,187nm,1.5s,mb5.6						
PMSA				*e*pP	pP	12 19 33.0	+2.6
YSS	**Yuzh-Sakhalins**	**85.33**	**335**	*e*P	**P**	**12 20 05.9**	**+1.4**
ILAR	**Eielson Array**	**99.77**	**14**	P	Pdif	12 21 04.8	-6.6
	comp=Z,0.3nm,1.0s,baz=221,slow=6.5,SNR=4.1						
ARCES	**ARCESS Array B**	**139.64**	**346**	PKP	PKPdf	12 26 49.4	-4.7
	comp=Z,2.7nm,0.9s,baz=17,slow=1.3,SNR=4.8						
KAF	**Kangasniemi**	**145.32**	**338**	*e*pkp	PKPdf	12 26 56.1	-8.0
	baz=42,slow=3.2						
NB2	**NORSAR Subarra**	**149.91**	**349**	PKPa		12 27 09.6	
	comp=Z,1.4nm,0.5s,baz=15,slow=2.6						
NOA	**NORSAR Array B**	**149.91**	**349**	PKPbc	PKPbc	12 27 09.9	-6.7
	comp=Z,1.3nm,0.5s,baz=14,slow=4.1,SNR=7.4						
TORD	**Torodi Ar. Bea**	**161.28**	**185**	PKPab	PKPab	12 28 10.1	-1.4
	comp=Z,0.4nm,0.4s,baz=161,slow=4.4,SNR=5.3						

MAN 16 12:09:39.7, 1672N×11945E, h11km, mb2.3, ML3.9, MS2.3, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.56**	**127**	*e*P	Pg	12 09 51.0	+0.4
SCZP	**Santa Cruz**	**1.04**	**154**	*e*P	Pb	12 09 58.8	-0.9
ABRA	**Dolores**	**1.52**	**52**	*e*P	Pn	12 10 21.4	+14
APYP	**Conner**	**2.06**	**56**	*e*P	Pn	12 10 14.2	-0.1
BALP	**Baler**	**2.27**	**115**	*e*P	Pn	12 10 17.3	+0.2
BALP				*e*S	Sn	12 10 38.8	-6.2
CAUP	**Cauayan**	**2.29**	**84**	*e*P	Pn	12 10 19.3	+1.9

ISCJB ***16*** *12:21:45.1±2.4, 2635N±005×1003E±0.1, h6km±13km, mb3.3/4, Error ellipse: s-maj=17.9km s-min=9.1km az=178.5*
IDC ***16*** *12:21:45.3±1.6, 2607N×9988E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.4/18, mbtmp3.4/4, Error ellipse: s-maj=79.4km s-min=23.6km az=68.0*
BJI ***16*** *12:21:48.4, 2636N×10005E, h13km, ML3.3*

ISC 16 12:21:47.9±2.6, 2629N±005×1002E±01, h12km±14km, n6, σ0§78/9, mb3.3/4, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.54**	**117**	PG	**Pg**	**12 22 36.8**	**+0.3**
KMI				SG	**Sg**	**12 23 09.4**	**0.0**
KMI				Smax			
	comp=N,231nm,1.0s						
KMI				Smax			
	comp=E,116nm,0.8s						
CD2	**Chengdu**	**5.55**	**33**	*e*P	**Pn**	**12 23 09.3**	**-1.0**
CD2				S	**Sn**	**12 24 14.1**	**+0.1**
CD2				SG	**Sg**	**12 24 45.8**	**-0.2**
CD2				Smax			
	comp=N,10.0nm,1.4s						
CD2				Smax			
	comp=E,30nm,1.6s						
SONM	**Songino Array**	**22.05**	**11**	P	**P**	**12 26 44.6**	**+2.2**
	comp=E,0.5nm,0.8s,mb3.0,baz=190,slow=5.9,SNR=3.2						
MKAR	**Makanchi Array**	**24.93**	**330**	P	**P**	**12 27 10.3**	**-0.6**
	comp=E,0.5nm,0.6s,mb3.2,baz=131,slow=10,SNR=5.1						
WRA	**Warramunga Arr**	**56.63**	**141**	P	**P**	**12 31 30.7**	**-0.1**
	comp=E,0.3nm,0.4s,mb3.6,baz=330,slow=7.5,SNR=5.7						
ASAR	**Alice Springs**	**59.38**	**144**	P	**P**	**12 31 49.8**	**-0.3**
	comp=E,0.3nm,0.7s,mb3.4,baz=331,slow=6.7,SNR=5.9						

MOS ***16*** *12:22:59.7±0.6, 4246N×4358E, h15km, mb3.6/1, Error ellipse: s-maj=37.1km s-min=13.8km az=61.9*
ISCJB ***16*** *12:23:00.5±0.7, 4256N±003×4347E±006, h12km, Error ellipse: s-maj=5.9km s-min=4.5km az=3.0*
TIF ***16*** *12:23:00.0, 4256N×4350E, h12km±2km*

ISC 16 12:23:00.8±0.9, 4252N±006×4352E±010, h7km±9km, n10, σ0§68/18, 5C, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.08**	**323**	P	**Pg**	**12 23 02.8**	**-0.1**
ONI				S	**Sg**	**12 23 04.2**	**0.0**
ZEI	**Tsey**	**0.38**	**48**	*e*PG	**Pg**	**12 23 08.5**	**+0.3**
ZEI				*e*		12 23 14.3	
LACR	**Lac**	**0.65**	**61**	⇑*e*PG	**Pg**	**12 23 12.6**	**-0.8**
LACR				*e*S	**Sg**	**12 23 21.9**	**0.0**
KORR	**Kora**	**0.70**	**35**	⇑*e*PG	**Pg**	**12 23 14.1**	**-0.2**
KORR				*i* S	**Sg**	**12 23 24.5**	**+1.1**
VLKR	**Vladikavkaz**	**1.01**	**58**	⇑*e*PG	**Pg**	**12 23 19.2**	**-0.9**
VLKR				*e*S	**Sg**	**12 23 33.4**	**+0.2**
KMSR	**Komsomolskaya**	**1.03**	**33**	⇑*e*PG	**Pg**	**12 23 20.1**	**-0.4**
KMSR				*i* S	**Sg**	**12 23 35.0**	**+1.1**
SNJR	**Sundja**	**1.10**	**59**	⇑*e*PG	**Pg**	**12 23 20.9**	**-1.1**
SNJR				*e*S	**Sb**	**12 23 36.4**	**-0.3**
AKH	**Akhalkalaki**	**1.10**	**181**	P	**Pb**	**12 23 21.8**	**-0.4**
AKH				S	**Sb**	**12 23 37.6**	**+0.9**
KIV	**Kislovodsk**	**1.56**	**337**	*e*PN	**Pg**	**12 23 39.9**	**+9.1**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.4s						
DGRG	**David-gareji**	**1.75**	**127**	P	**Pg**	**12 23 34.7**	**+0.4**
DGRG				S	**Sg**	**12 24 01.6**	**+4.6**

MOS ***16*** *12:24:26.9±0.6, 5455N×16189E, h20km, mb4.2/1, Error ellipse: s-maj=27.3km s-min=12.9km az=77.9*

KRSC 16 12:24:28.1±0.2, 5458N×16172E, h17km±2km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.03**	**166**	*e*P	Pg	12 24 31.2	+0.1
TUMR	**Tumrok**	**1.15**	**308**	*e*P	Pn	12 24 48.9	-0.5
KMNR	**Kamenistaya**	**1.45**	**325**	*e*P	Pn	12 24 53.9	+0.3
KMNR				*e*S	Sn	12 25 12.9	+0.7
ZLN	**Zelenaya**	**1.53**	**340**	*e*P	Pn	12 24 55.1	+0.4
ZLN				*e*S	Sn	12 25 14.6	+0.4
LGNR	**Loginova**	**1.62**	**339**	*e*P	Pn	12 24 56.7	+0.9
LGNR				*e*S	Sn	12 25 17.6	+1.3
KPT	**Kopyto**	**1.63**	**329**	*e*P	Pn	12 24 56.8	+0.8
KPT				*e*S	Sn	12 25 18.0	+1.4
CIRR	**Tsirk**	**1.64**	**341**	*e*P	Pn	12 24 56.4	+0.3
CIRR				*e*S	Sn	12 25 17.1	+0.4
KBTR	**Krutoberegovo**	**1.75**	**21**	P	Pn	12 24 56.6	-1.0
KBTR				S	Sn	12 25 17.9	-1.6
KBTR	**Krutoberegovo**	**1.75**	**21**	*e*P	Pn	12 24 58.4	+0.8
KBTR				*e*S	Sn	12 25 20.4	+0.9
KRSR	**Krestovskiy**	**1.77**	**339**	*e*P	Pn	12 24 58.7	+0.8
KRSR				*e*S	Sn	12 25 21.3	+1.3
KBG	**Krutoberegovo**	**1.77**	**18**	*e*P	Pn	12 24 58.6	+0.7
KBG				*e*S	Sn	12 25 20.7	+0.7
KBG				Smax			
	490nm,0.7s						
SPN	**Mys Shipunski**	**1.79**	**215**	P	Pn	12 24 57.6	-0.6
SPN				S	Sn	12 25 18.5	-2.1
SPN	**Mys Shipunski**	**1.79**	**215**	*e*P	Pn	12 24 58.5	+0.3
SPN				*e*S	Sn	12 25 20.9	+0.3
KOZR	**Kozyr**	**1.82**	**326**	PN	Pn	12 24 59.7	+1.1
KOZR				S	Sn	12 25 22.8	+1.6
KOZ	**Kozyrevsk**	**1.82**	**325**	*e*P	Pn	12 24 59.7	+1.1
KOZ				*e*S	Sn	12 25 22.8	+1.6
KLY	**Klyuchi**	**1.84**	**341**	P	Pn	12 24 58.7	-0.2
KLY				S	Sn	12 25 21.4	-0.4
KLY	**Klyuchi**	**1.84**	**341**	*e*P	Pn	12 24 58.7	-0.2
KLY				*e*S	Sn	12 25 21.3	-0.5
NLC	**Nalytchevo**	**1.99**	**226**	P	Pn	12 25 01.4	+0.4
NLC				S	Sn	12 25 25.3	-0.2
NLC	**Nalytchevo**	**1.99**	**226**	*e*P	Pn	12 25 01.6	+0.6
NLC				*e*S	Sn	12 25 26.0	+0.5
SMKR	**Semkarok**	**2.01**	**356**	*e*P	Pn	12 25 02.1	+0.8
SMKR				*e*S	Sn	12 25 27.0	+1.0
BDR	**Baidarnaya**	**2.01**	**352**	*e*P	Pn	12 25 02.3	+1.0
BDR				*e*S	Sn	12 25 27.3	+1.2
SRDR	**Sredinnyy**	**2.08**	**328**	*e*P	Pn	12 25 03.8	+1.6
SRDR				*e*S	Sn	12 25 29.8	+2.1
SRKR	**Sorokina**	**2.10**	**352**	*e*P	Pn	12 25 03.3	+0.8
SRKR				*e*S	Sn	12 25 28.9	+0.7
SDLR	**Sedlovina**	**2.12**	**233**	*e*P	Pn	12 25 04.0	+1.2
SDLR				*e*S	Sn	12 25 30.2	+1.4
SMAR	**Somma**	**2.17**	**234**	*e*P	Pn	12 25 04.8	+1.3
SMAR				*e*S	Sn	12 25 31.5	+1.5
ESO	**Esso**	**2.19**	**309**	*e*P	Pn	12 25 04.4	+0.7
ESO				*e*S	Sn	12 25 31.1	+0.6
ESO				Smax			
	110nm,0.5s						
UGLR	**Uglovaya**	**2.20**	**232**	*e*P	Pn	12 25 05.2	+1.4
UGLR				*e*S	Sn	12 25 32.3	+1.7
AVH	**Avacha**	**2.20**	**234**	*e*P	Pn	12 25 05.1	+1.2
AVH				*e*S	Sn	12 25 32.0	+1.3
KOK	**Koryaka**	**2.23**	**236**	*e*P	Pn	12 25 05.2	+0.9
KOK				*e*S	Sn	12 25 32.3	+0.8
GNL	**Ganaly**	**2.39**	**250**	*e*P	Pn	12 25 07.6	+1.1
GNL				*e*S	Sn	12 25 36.5	+1.1
PET	**Petropavlovsk**	**2.40**	**231**	*e*PN	Pn	12 25 07.8	+1.3
PET				*e*S	Sn	12 25 37.4	+1.9
PET				smax			
	comp=N,309nm,0.5s						
PET	**Petropavlovsk**	**2.40**	**231**	*e*P	Pn	12 25 07.5	+1.0
PET				*e*S	Sn	12 25 36.3	+0.8
BKI	**Bering**	**2.53**	**74**	*e*S	Sn	12 25 37.7	-1.2
KRMR	**Karymshinskiy**	**2.76**	**232**	*e*P	Pn	12 25 13.3	+1.7
KRMR				*e*S	Sn	12 25 46.2	+1.7
RUS	**Russkaya**	**2.88**	**223**	P	Pn	12 25 13.8	+0.6
RUS				S	Sn	12 25 46.8	-0.6
RUS	**Russkaya**	**2.88**	**223**	*e*P	Pn	12 25 14.5	+1.3
RUS				*e*S	Sn	12 25 48.2	+0.8
GRL	**Gorelyy**	**2.98**	**228**	*e*P	Pn	12 25 16.3	+1.8
GRL				*e*S	Sn	12 25 51.7	+1.9
APC	**Apacha**	**3.18**	**240**	*e*P	Pn	12 25 18.8	+1.5
APC				*e*S	Sn	12 25 55.7	+1.0
APC				Smax			
	comp=N,40nm,1.4s						
MIPR	**Malaya Ipel'ka**	**3.76**	**234**	*e*P	Pn	12 25 27.5	+2.2

ISCJB ***16*** *12:36:17.6±3.0, 3425±008×1410E±0.1, h14km±20km, mb3.7/4, Error ellipse: s-maj=22.8km s-min=12.6km az=32.6*
IDC ***16*** *12:36:22.6±4.2, 3435×14077E, h35km±34km, mb3.4/4, mb1 3.8/6, mb1mx3.6/13, mbtmp3.8/6, ML3.8/2, Error ellipse: s-maj=34.3km s-min=13.0km az=106.0*
NEIC ***16*** *12:36:22.8±2.3, 3495×14101E, h42km±24km, mb4.0/2, Error ellipse: s-maj=21.9km s-min=12.9km az=149.0*

ISC 16 12:36:23.9±2.3, 3558±01×1409E±01, h48km±24km, n12, σ1§01/16, mb3.7/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.53**	**133**	P	**Pn**	**12 38 25.1**	**+0.3**
	2.2nm,0.3s,baz=281,slow=16,SNR=8.9						
PMG	**Port Moresby**	**8.53**	**133**	*e*Pn	**Pn**	**12 38 23.3**	**-1.5**
KAKA	**Kakadu**	**12.38**	**222**	*e*P	**Pn**	**12 39 17.9**	**+0.5**
	14nm,0.5s						
KAKA				*e*S	**Sn**	**12 41 31.6**	**-2.2**
WRAB	**Tennant Creek**	**17.51**	**201**	*e*Pn	**Pn**	**12 40 24.3**	**-0.2**
	8.4nm,0.8s						
WB2	**Warramunga Arr**	**17.52**	**201**	*e*P	**Pn**	**12 40 25.4**	**+0.8**
WRA	**Warramunga Arr**	**17.52**	**201**	P	**Pn**	**12 40 25.8**	**+1.1**
	0.6nm,0.3s,baz=24,slow=12,SNR=26						
WRA				S	**S**	**12 43 39.3**	**-5.5**
	0.1nm,0.3s,baz=21,slow=23,SNR=3.2						
FITZ	**Fitzroy Crossi**	**20.81**	**225**	P	**P**	**12 41 01.6**	**+0.4**
	1.3nm,0.8s,baz=66,slow=12,SNR=5.0						
FITZ				S	**S**	**12 44 50.4**	**-0.4**
	2.6nm,0.9s,baz=319,slow=19,SNR=3.5						
ASAR	**Alice Springs**	**21.13**	**198**	P	**P**	**12 41 05.2**	**+0.5**
	1.2nm,0.5s,mb3.5,baz=30,slow=9.7,SNR=31						
ASAR				S	**S**	**12 45 01.6**	**+4.6**
	0.3nm,0.7s,baz=19,slow=26,SNR=3.6						
MKAR	**Makanchi Array**	**71.77**	**322**	P	**P**	**12 47 42.0**	**+0.8**
	0.7nm,0.5s,mb3.9,baz=103,slow=7.8,SNR=8.9						
MKAR	**Makanchi Array**	**71.77**	**322**	P	**P**	**12 47 42.0**	**+0.8**
ZRNK	**Zerenda**	**82.01**	**324**	*e*P	**P**	**12 48 38.9**	**+0.1**
	1.2nm,0.6s,mb4.0						
ILAR	**Eielson Array**	**85.67**	**24**	P	**P**	**12 48 55.6**	**-1.9**
	0.3nm,0.7s,mb3.7,baz=265,slow=4.4,SNR=4.9						

ISCJB ***16*** *12:39:53.6±0.6, 2379S±005×6681W±009, h204km±13km, mb3.5/1, Error ellipse: s-maj=13.6km s-min=7.5km az=31.3*
IDC ***16*** *12:39:55.0±1.1, 2363S×6685W, h208km±19km, mb3.5/1, mb1 3.7/6, mb1mx3.4/17, mbtmp4.1/6, Error ellipse: s-maj=24.1km s-min=18.2km az=83.0*
NEIC ***16*** *12:39:57.5, 2378S×6718W, h200km, MG4.3(GUC), After GUC.*
GUC ***16*** *12:39:57.5±0.8, 2378S×6718W, h200km, MD3.9, ML4.3*

ISC 16 12:39:54.7±0.6, 2387S±005×6676W±009, h188km±13km, n17, σ1§35/30, mb3.5/1, 4C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.34**	**302**	⇑*i*P	**Pn**	**12 40 37.1**	**+1.0**
LVC				*i* S	**Sn**	**12 41 07.8**	**-0.4**
LVC				AML	AML	12 41 10.3	
	comp=E,724nm,0.6s						
LVC	**Limon Verde**	**2.34**	**302**	P	**Pn**	**12 40 37.1**	**+1.1**
	comp=E,79nm,0.3s,baz=122,slow=9.4,SNR=368						
LVC				S	**Sn**	**12 41 08.0**	**-0.2**
	comp=E,21nm,0.3s,baz=108,slow=20,SNR=3.7						
CEN1	**Los Morros**	**3.19**	**278**	⇓*i*P	**Pn**	**12 40 48.2**	**+2.1**
CEN1				*i* S	**Sn**	**12 41 25.8**	**-0.3**
CEN1				AML	AML	12 41 29.1	
	comp=E,401nm,0.5s						
ANCH	**Antofagasta**	**3.35**	**272**	⇑*i*P	**Pn**	**12 40 48.7**	**+0.8**
ANCH				*i* S	**Sn**	**12 41 29.7**	**+0.1**
ANCH				AML	AML	12 41 32.6	
	comp=N,714nm,0.3s						
ANCH	**Antofagasta**	**3.35**	**272**	⇑*i*P	**Pn**	**12 40 48.7**	**+0.8**
ANCH				S	**Sn**	**12 41 29.7**	**+0.1**
CPN1	**Cerro Paranal**	**3.41**	**257**	⇑*i*P	**Pn**	**12 40 50.0**	**+1.3**
CPN1				*i* S	**

NNZ			*e*SN	**Sn**	**12 58 52.5**	**+1.3**
QRZ	**Quartz Range**	**10.86 215**	*e*PN	**Pn**	**12 56 51.8**	**-0.1**
QRZ			*e*SN	**Sn**	**12 58 57.0**	**+3.9**
THZ	**Tophouse**	**11.43 211**	*e*PN	**Pn**	**12 56 58.4**	**-0.9**
THZ			*e*SN	**Sn**	**12 59 06.0**	**-0.8**
KHZ	**Kahutara**	**11.72 207**	*e*PN	**Pn**	**12 57 01.7**	**-1.3**
KHZ			*e*SN	**Sn**	**12 59 12.8**	**-0.9**
KHZ	**Kahutara**	**11.72 207**	*e*P	**Pn**	**12 57 03.2**	**+0.2**
DSZ	**Denniston Nort**	**11.92 214**	*e*PN	**Pn**	**12 57 04.1**	**-1.4**
DSZ			*e*SN	**Sn**	**12 59 18.7**	**+0.4**
MQZ	**McQueen's Vall**	**13.16 206**	*e*SN	**Sn**	**12 59 41.7**	**-6.3**
STKA	**Stephens Creek**	**32.99 260**	P	**P**	**13 00 38.1**	**+0.3**
	1.5nm,0.7s,mb3.6,baz=113,slow=11,SNR=4.0					
ASAR	**Alice Springs**	**41.90 269**	P	**P**	**13 01 53.1**	**+0.7**
	2.6nm,0.4s,mb4.0,baz=106,slow=7.6,SNR=34					
WRA	**Warramunga Arr**	**43.04 275**	P	**P**	**13 02 01.7**	**0.0**
	3.6nm,0.3s,mb4.2,baz=111,slow=8.0,SNR=150					
KAF	**Kangasniemi**	**145.76 339**	*e*pkp	PKPdf	13 13 32.4	-3.9
	baz=43,slow=3.3					
TORD	**Torodi Ar. Bea**	**161.08 183**	PKPab	PKPab	13 14 46.1	+3.9
	0.2nm,0.5s,baz=170,slow=4.5,SNR=4.1					

IDC 16 13:19:57.8±1.3, 1459S×6633E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/17, mbtmp3.9/3, Error ellipse: s-maj=56.4km s-min=31.3km az=18.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**62.77**	**12**	P	P	13 30 24.9	0.0
	0.4nm,0.7s,baz=202,slow=6.2,SNR=7.6						
WRA	**Warramunga Arr**	**64.80**	**105**	P	P	13 30 38.9	+0.6
	1.0nm,0.8s,baz=264,slow=5.8,SNR=7.5						
TORD	**Torodi Ar. Bea**	**69.67**	**290**	P	P	13 31 09.8	+0.7
	0.5nm,0.8s,baz=134,slow=6.4,SNR=69						
YKA	**Yellowknife Ar**	**132.16**	**1**	PKP	PKPdf	13 39 13.3	-0.3
	0.2nm,0.8s,baz=1.8,slow=2.0,SNR=6.3						
PDAR	**Pinedale Array**	**151.70**	**354**	PKPbc	PKPbc	13 39 54.6	+0.4
	0.5nm,0.6s,baz=29,slow=2.1,SNR=5.6						

*NEIC **16** 13:32:07.8, 1660N×9901W, h16km, MD3.7(MEX), After MEX.*

MEX 16 13:32:07.8±1.0, 1660N×9901W, h16km±9km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.87**	**103**	*i* P	Pb	13 32 21.4	-3.1
PNIG				*i* S	Sb	13 32 31.6	-4.2
ACX	**Acapulco**	**0.91**	**287**	*i* P	Pb	13 32 22.0	-3.3
ACX				*i* S	Sb	13 32 32.0	-5.2
CAIG	**El Cayaco**	**1.29**	**291**	*i* P	Pn	13 32 28.0	-3.1
CAIG				*i* S	Sb	13 32 43.1	-4.9
MEIG	**Mezcala**	**1.45**	**336**	*i* P	Pn	13 32 29.8	-3.5
MEIG				*i* S	Sn	13 32 46.6	-5.3
PLIG	**Platanillo**	**1.85**	**345**	*i* P	Pn	13 32 35.6	-3.2
PLIG				*i* S	Sn	13 32 56.8	-5.1
OXX	**Oaxaca**	**2.24**	**77**	*e*P	Pn	13 32 43.0	-1.2
PPM	**Popocatepetl**	**2.48**	**8**	*i* P	Pn	13 32 46.8	-0.8
PPM				*i* S	Sn	13 33 15.3	-2.2
JCT	**Junction City**	**13.84**	**357**	*e*Pn	Pn	13 35 23.4	+0.1
	1.8nm,0.3s						
MSO	**Missoula**	**32.59**	**341**	*e*P	P	13 38 34.5	-3.9

IDC 16 13:46:27.4±2.5, 208N×9677E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/18, mbtmp3.5/4, Error ellipse: s-maj=59.1km s-min=29.8km az=46.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.27**	**72**	Pn	Pn	13 47 06.3	+0.2
	3.6nm,0.3s,baz=254,slow=10.0,SNR=16						
WRA	**Warramunga Arr**	**42.87**	**123**	P	P	13 54 27.6	+0.2
	0.4nm,0.6s,baz=302,slow=9.1,SNR=4.7						
MKAR	**Makanchi Array**	**46.29**	**346**	P	P	13 54 55.1	+0.4
	0.5nm,0.6s,baz=167,slow=8.0,SNR=5.2						
SONM	**Songino Array**	**46.33**	**9**	P	P	13 54 54.6	-0.4
	0.3nm,0.4s,baz=190,slow=8.2,SNR=3.8						

*ISCJB **16** 14:00:42.7±0.6, 7323N×005×68E±02, h10km, mb3.4/5, Error ellipse: s-maj=10.1km s-min=7.4km az=136.8*
*IDC **16** 14:00:43.9±0.9, 7314N×643E, h0km, mb3.5/5, mb1 3.7/9, mb1mx3.5/21, mbtmp3.5/9, ML3.4/4, Error ellipse: s-maj=23.1km s-min=15.9km az=51.0*
*NAO **16** 14:00:44.8±2.2, 7321N×722E, ML2.1*
*NEIC **16** 14:00:44.9±0.5, 7325N×670E, h10km, Error ellipse: s-maj=9.5km s-min=6.8km az=70.0*
*CSEM **16** 14:00:46.9±0.1, 7322N×641E, h30km, ML2.1, Error ellipse: s-maj=5.2km s-min=3.1km az=25.0*
*BER **16** 14:00:47.0±5.0, 7331N×741E, h4km±58km, MD2.6, ML2.5, ML2.1(NAO)*

ISC 16 14:00:44.6±0.6, 7325N±005×67E±02, h10km, n28, σ1§12/32, mb3.4/5, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMIC	**Jan Mayen**	**5.20**	**252**	Pn	**Pn**	**14 02 01.3**	**-1.2**
	3.6nm,0.3s,baz=31,slow=9.3,SNR=6.4						
SPA0	**Spitsbergen Ar**	**5.49**	**21**	Pn	**Pn**	**14 02 06.6**	**+0.1**
	baz=187,slow=16						
LOF	**Lofoten**	**5.62**	**153**	*e*P	**Pn**	**14 02 09.7**	**+1.5**
LOF				*e*S	**Sn**	**14 03 07.1**	**-5.7**
LOF				AML	AML	14 03 10.6	
	comp=Z,8.8nm,0.6s						
LOF	**Lofoten**	**5.62**	**153**	*e*P	**Pn**	**14 02 09.7**	**+1.5**
LOF				*e*S	**Sn**	**14 03 07.1**	**-5.7**
KBS	**Kingsbay**	**5.84**	**10**	Pn	**Pn**	**14 02 10.3**	**-1.0**
ARA0	**ARCESS Array S**	**7.05**	**113**	Pn	**Pn**	**14 02 27.7**	**-0.2**
	baz=324,slow=14						
ARA0				Sn	**Sn**	**14 03 42.2**	**-5.9**
	baz=324,slow=28						
ARCES	**ARCESS Array B**	**7.05**	**113**	Pn	**Pn**	**14 02 28.1**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=322,slow=12,SNR=44						
ARCES				Sn	**Sn**	**14 03 42.5**	**-5.7**
	comp=Z,0.4nm,0.3s,baz=304,slow=20,SNR=4.3						
ARE0	**ARCESS Array S**	**7.05**	**113**	*e*Pn	**Pn**	**14 02 28.3**	**+0.4**
ARE0	**ARCESS Array S**	**7.05**	**113**	*e*Pn	**Pn**	**14 02 28.3**	**+0.4**
STOK	**Stokkvaagen**	**7.28**	**159**	*e*P	**Pn**	**14 02 30.4**	**-0.6**
STOK				AML	AML	14 03 52.1	
	comp=Z,11nm,0.7s						
KEV	**Kevo**	**7.32**	**109**	*e*Pn	**Pn**	**14 02 32.7**	**+1.1**
KEV	**Kevo**	**7.32**	**109**	*e*Pn	**Pn**	**14 02 32.7**	**+1.1**
MOR8	**Moi Rana**	**7.59**	**156**	*e*P	**Pn**	**14 02 36.0**	**+0.7**
MOR8				*e*S	**Sn**	**14 03 52.6**	**-8.9**
MOR8				AML	AML	14 03 57.5	
	comp=Z,5.4nm,0.6s						
MOR8	**Moi Rana**	**7.59**	**156**	*e*P	**Pn**	**14 02 36.0**	**+0.7**
MOR8				*e*S	**Sn**	**14 03 52.6**	**-8.9**
APA0	**Apatity Array**	**10.39**	**110**	Pn	**Pn**	**14 03 11.3**	**-2.4**
	baz=308,slow=8.6						
NB2	**NORSAR Subarra**	**12.38**	**170**	Pn	**Pn**	**14 03 41.8**	**+0.8**
NOA	**NORSAR Array B**	**12.38**	**170**	Pn	**Pn**	**14 03 41.2**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=356,slow=13,SNR=2.9						
HFS	**Hagfors**	**13.45**	**165**	Pn	**Pn**	**14 03 55.5**	**0.0**
	baz=351,slow=14						
HFS	**Hagfors**	**13.45**	**165**	Pn	**Pn**	**14 03 54.3**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=15,slow=12,SNR=4.1						
FIA0	**FINESS Array S**	**13.89**	**138**	Pn	**Pn**	**14 04 00.2**	**-1.4**
	baz=354,slow=14						
GERES	**GERESS Array B**	**24.68**	**169**	P	**P**	**14 06 05.9**	**+0.2**
	comp=Z,0.6nm,0.6s,mb3.3,baz=9.9,slow=8.5,SNR=5.6						
YKA	**Yellowknife Ar**	**38.95**	**321**	P	**P**	**14 08 10.5**	**-0.2**
	comp=Z,0.5nm,1.0s,mb3.2,baz=20,slow=8.5,SNR=7.0						
ILAR	**Eielson Array**	**41.12**	**343**	P	**P**	**14 08 30.1**	**+1.3**
	comp=Z,1.2nm,1.0s,mb3.5,baz=3.6,slow=7.0,SNR=9.6						
ILAR	**Eielson Array**	**41.12**	**343**	P	**P**	**14 08 30.0**	**+1.3**
MKAR	**Makanchi Array**	**41.85**	**86**	P	**P**	**14 08 36.0**	**+1.3**
	comp=Z,0.5nm,0.8s,mb3.2,baz=353,slow=8.6,SNR=4.7						
TORD	**Torodi Ar. Bea**	**60.15**	**186**	P	**P**	**14 10 52.5**	**+0.1**
	comp=Z,0.9nm,0.7s,mb3.9,baz=357,slow=6.3,SNR=6.5						
ASAR	**Alice Springs**	**122.87**	**60**	PKP	PKPdf	14 19 40.2	-0.7
	comp=Z,0.3nm,0.7s,baz=348,slow=2.3,SNR=6.4						
ASAR	**Alice Springs**	**122.87**	**60**	PKIKP	PKPdf	14 19 40.2	-0.8

*ISCJB **16** 14:08:04.6±0.6, 7319N×006×66E±03, h10km, mb3.3/5, Error ellipse: s-maj=12.2km s-min=8.0km az=144.4*
*IDC **16** 14:08:06.1±0.9, 7314N×631E, h0km, mb3.5/5, mb1 3.7/8, mb1mx3.5/20, mbtmp3.5/8, ML3.1/3, Error ellipse: s-maj=24.3km s-min=16.0km az=43.0*

*BER **16** 14:08:09.9±3.2, 7325N×729E, h10km, ML2.1, ML2.1(NAO)*
*NAO **16** 14:08:13.1±6.9, 7334N×780E, h36km±389km, ML2.1*

ISC 16 14:08:06.7±0.6, 7321N±006×65E±03, h10km, n14, σ0§84/19, mb3.3/5, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMIC	**Jan Mayen**	**5.13**	**251**	Pn	**Pn**	**14 09 22.6**	**-0.9**
	1.6nm,0.3s,baz=169,slow=8.0,SNR=6.2						
SPA0	**Spitsbergen Ar**	**5.55**	**22**	Pn	**Pn**	**14 09 28.4**	**-1.0**
	baz=196,slow=14						
LOF	**Lofoten**	**5.62**	**152**	*e*P	**Pn**	**14 09 31.1**	**+0.9**
LOF				*e*S	**Sn**	**14 10 28.6**	**-6.3**
LOF				AML	AML	14 10 34.1	
	comp=Z,4.6nm,0.8s						
LOF				*e*		14 14 33.7	
KBS	**Kingsbay**	**5.89**	**10**	Pn	**Pn**	**14 09 34.2**	**+0.3**
ARA0	**ARCESS Array S**	**7.10**	**112**	Pn	**Pn**	**14 09 49.5**	**-1.1**
	baz=319,slow=14						
ARA0				Sn	**Sn**	**14 11 03.7**	**-7.7**
	baz=312,slow=22						
ARCES	**ARCESS Array B**	**7.10**	**112**	Pn	**Pn**	**14 09 50.0**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=325,slow=12,SNR=16						
ARCES				Sn	**Sn**	**14 11 03.9**	**-7.5**
	comp=Z,0.3nm,0.3s,baz=312,slow=22,SNR=3.4						
STOK	**Stokkvaagen**	**7.27**	**159**	*e*P	**Pn**	**14 09 52.4**	**-0.5**
STOK				*e*S	**Sn**	**14 11 06.0**	**-10**
MOR8	**Moi Rana**	**7.59**	**155**	*e*P	**Pn**	**14 09 57.0**	**-0.3**
MOR8				*e*S	**Sn**	**14 11 14.3**	**-9.1**
MOR8				AML	AML	14 11 18.7	
	comp=Z,3.2nm,0.4s						
HFS	**Hagfors**	**13.43**	**164**	Pn	**Pn**	**14 11 17.2**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=342,slow=9.1,SNR=2.9						
GERES	**GERESS Array B**	**24.66**	**168**	P	**P**	**14 13 29.1**	**+1.6**
	comp=Z,0.3nm,0.5s,mb3.1,baz=356,slow=7.0,SNR=4.3						
YKA	**Yellowknife Ar**	**38.94**	**321**	P	**P**	**14 15 32.4**	**-0.2**
	comp=Z,0.1nm,0.4s,mb2.9,baz=23,slow=9.3,SNR=7.7						
YKA				PcP	PcP	14 17 43.1	-0.1
	comp=Z,0.2nm,0.7s,baz=4.6,slow=3.5,SNR=3.6						
ILAR	**Eielson Array**	**41.13**	**343**	P	**P**	**14 15 51.8**	**+0.9**
	comp=Z,1.5nm,1.1s,mb3.5,baz=1.2,slow=7.3,SNR=9.6						
MKAR	**Makanchi Array**	**41.92**	**86**	P	**P**	**14 15 58.8**	**+1.5**
	comp=Z,0.2nm,0.4s,mb3.1,baz=292,slow=7.6,SNR=3.3						
TORD	**Torodi Ar. Bea**	**60.11**	**185**	P	**P**	**14 18 13.9**	**-0.3**
	comp=Z,0.5nm,0.7s,mb3.6,baz=351,slow=4.9,SNR=4.1						

*BJI **16** 14:16:12.4, 091S×12551E, h25km, mB5.7, mb5.5, Ms5.2, Msz4.9*
*ISCJB **16** 14:16:20.2±0.2, 022S±003×125.11E±004, h33km, mb5.5/124, MS4.9/9, Error ellipse: s-maj=5.4km s-min=3.5km az=134.1*
*NEIC **16** 14:16:20.8±2.0, 0.12S×125.11E, h25km±14km, mb5.4/51, Error ellipse: s-maj=7.1km s-min=4.3km az=60.0*
NEIC Felt at Tomohon, Indonesia.
*MOS **16** 14:16:20.8±1.0, 004S×12504E, h33km, mb5.7/41, Error ellipse: s-maj=10.7km s-min=5.5km az=116.4*
*IDC **16** 14:16:21.7±2.0, 0.13S×12507E, h31km±13km, mb5.0/25, mb1 5.0/26, mb1mx4.9/27, mbtmp5.1/26, ML4.4/1, MS4.4/1, Ms1 4.4/1, ms1mx3.0/23, Error ellipse: s-maj=17.1km s-min=9.9km az=76.0*

ISC 16 14:16:22.3±0.2, 019S±003×12515E±004, h35km, (h31km±2.4km: pP-P), n382, σ1§16/331, mb5.5/123, MS4.9/9, 40C-29D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**4.62**	**139**	P	**Pn**	**14 17 29.6**	**0.0**
	528nm,0.8s						
PCI	**Palu**	**5.36**	**262**	P	**Pn**	**14 17 43.9**	**+4.1**
	2µm,0.9s						
SWI	**Sorong**	**6.14**	**96**	P	**Pn**	**14 17 50.7**	**+0.1**
	124nm,1.1s						
MATI	**Mati**	**7.17**	**9**	*e*P	**Pn**	**14 18 09.7**	**+5.0**
DAV	**Davao City (W)**	**7.22**	**3**	*e*P	**Pn**	**14 18 10.6**	**+5.2**
	2µm,1.1s						
CTBH	**Cotabato--PC H**	**7.42**	**353**	↑*e*P	**Pn**	**14 18 12.5**	**+4.5**
CTBH				*e*S	**Sn**	**14 19 40.8**	**+10**
BUKP	**Musuan**	**8.02**	**359**	*e*P	**Pn**	**14 18 20.3**	**+4.1**
PAGZ	**Pagadian**	**8.18**	**348**	*e*P	**Pn**	**14 18 21.4**	**+2.9**
IPIL	**Ipil**	**8.33**	**342**	↓*e*P	**Pn**	**14 18 23.6**	**+3.1**
IPIL	**Ipil**	**8.33**	**342**	*e*P	**Pn**	**14 18 23.7**	**+3.1**
BIPH	**Bislig**	**8.40**	**8**	*e*P	**Pn**	**14 18 24.7**	**+3.1**
TSM	**Tawau**	**8.53**	**302**	P	**Pn**	**14 18 26.7**	**+3.4**
DCPH	**Dipolog City**	**8.90**	**348**	↑*e*P	**Pn**	**14 18 32.5**	**+4.2**
TLE	**Tual**	**9.31**	**126**	P	**Pn**	**14 18 31.0**	**-3.0**
	490nm,0.6s						
TBP	**Tagbilaran**	**9.90**	**353**	*e*P	**Pn**	**14 18 47.4**	**+5.3**
MSLP	**Maasin**	**10.26**	**358**	*e*P	**Pn**	**14 18 51.4**	**+4.4**
LLP	**Lapu-Lapu**	**10.50**	**354**	*e*P	**Pn**	**14 18 57.5**	**+7.1**
	407µm,0.5s						
KKM	**Kota Kinabalu**	**10.86**	**305**	P	**Pn**	**14 19 01.6**	**+6.4**
KKM	**Kota Kinabalu**	**10.86**	**305**	*e*P	**Pn**	**14 19 00.1**	**+4.8**
BAKI	**Biak**	**11.00**	**95**	P	**Pn**	**14 18 58.8**	**+1.7**
	136nm,1.2s						
GUIM	**Jordan**	**11.04**	**347**	*e*P	**Pn**	**14 19 04.2**	**+6.5**
OCLP	**Ormoc**	**11.18**	**357**	*e*P	**Pn**	**14 19 04.5**	**+5.0**
PLP	**Palo**	**11.28**	**359**	*e*P	**Pn**	**14 19 06.7**	**+5.8**
BATP	**Bataraza**	**11.55**	**321**	*e*P	**Pn**	**14 19 11.1**	**+6.5**
CUYO	**Cuyo Island**	**11.71**	**340**	*e*P	**Pn**	**14 19 12.1**	**+5.2**
CUYO	**Cuyo Island**	**11.71**	**340**	*e*P	**Pn**	**14 19 12.2**	**+5.3**
RCP	**Roxas**	**11.91**	**349**	↑*e*P	**Pn**	**14 19 16.9**	**+7.2**
OTRP	**Odiongan**	**12.85**	**346**	*e*P	**Pn**	**14 19 26.6**	**+4.1**
OTRP	**Odiongan**	**12.85**	**346**	*e*P	**Pn**	**14 19 26.7**	**+4.2**
BUSP	**Coron**	**13.07**	**338**	*e*P	**Pn**	**14 19 29.6**	**+4.2**
BUSP	**Coron**	**13.07**	**338**	*e*P	**Pn**	**14 19 31.5**	**+6.0**
AUQP	**San Andres**	**13.65**	**350**	*e*P	**Pn**	**14 19 42.6**	**+9.3**
AUQP	**San Andres**	**13.65**	**350**	*e*P	**Pn**	**14 19 42.5**	**+9.2**
PVCP	**Virac**	**13.73**	**356**	↓*e*P	**Pn**	**14 19 37.6**	**+3.1**
PVCP	**Virac**	**13.73**	**356**	*e*P	**Pn**	**14 19 35.9**	**+1.4**
PVCP	**Virac**	**13.73**	**356**	*e*P	**Pn**	**14 19 37.2**	**+2.7**
BOAC	**Boac**	**13.95**	**347**	*e*P	**Pn**	**14 19 46.1**	**+8.6**
BOAC	**Boac**	**13.95**	**347**	*e*P	**Pn**	**14 19 45.6**	**+8.2**
KAKA	**Kakadu**	**14.39**	**150**	↑*i*P	**Pn**	**14 19 42.7**	**-0.7**
	80nm,0.6s						
LUBP	**Lubang**	**14.66**	**341**	*e*P	**Pn**	**14 19 52.5**	**+5.3**
TGY	**Tagaytay City**	**14.80**	**344**	Pn	**Pn**	**14 19 54.2**	**+5.2**
	9.1nm,0.3s,baz=151,slow=9.3,SNR=8.5						
KSM	**Kuching**	**14.93**	**276**	*e*P	**Pn**	**14 19 52.2**	**+1.5**
BALP	**Baler**	**16.22**	**348**	*e*P	**Pn**	**14 20 09.5**	**+2.1**
BALP	**Baler**	**16.22**	**348**	*e*P	**Pn**	**14 20 10.8**	**+3.3**
BJII	**Banjamegara**	**16.95**	**245**	P	**Pn**	**14 20 21.2**	**+4.5**
	529nm,1.7s						
CAUP	**Cauayan**	**17.34**	**349**	*e*P	**Pn**	**14 20 23.2**	**+1.7**
CAUP	**Cauayan**	**17.34**	**349**	*e*P	**Pn**	**14 20 22.1**	**+0.6**
PALP	**Palanan**	**17.35**	**351**	*e*P	**Pn**	**14 20 24.8**	**+3.2**
PALP	**Palanan**	**17.35**	**351**	*e*P	**Pn**	**14 20 30.3**	**+8.6**
FITZ	**Fitzroy Crossi**	**17.81**	**178**	*e*P	**Pn**	**14 20 27.9**	**+0.6**
	40nm,0.7s						
FITZ	**Fitzroy Crossi**	**17.81**	**178**	P	**Pn**	**14 20 27.9**	**+0.6**
	1.1nm,0.3s,baz=14,slow=10,SNR=27						
CVP	**Callao Caves**	**18.08**	**350**	*e*P	**Pn**	**14 20 32.0**	**+1.4**
ABRA	**Dolores**	**18.26**	**346**	*e*P	**Pn**	**14 20 32.9**	**+0.1**
ABRA	**Dolores**	**18.26**	**346**	*e*P	**Pn**	**14 20 32.9**	**+0.1**
APYP	**Conner**	**18.35**	**348**	*e*P	**Pn**	**14 20 34.1**	**+0.2**
APYP	**Conner**	**18.35**	**348**	*e*P	**Pn**	**14 20 34.2**	**+0.3**
MBWA	**Marble Bar**	**21.50**	**194**	*e*P	**P**	**14 21 09.1**	**+1.1**
	35nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**21.59**	**156**	P	**P**	**14 21 08.3**	**-0.7**
	256nm,0.9s,mb5.7,SNR=26						
WRAB	**Tennant Creek**	**21.59**	**156**	*e*P	**P**	**14 21 07.9**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,104nm,0.9s,mb5.3						
WRAB	**Tennant Creek**	**21.59**	**156**	*e*P	**P**	**14 21 07.9**	**-1.1**
	comp=Z,104nm,0.9s,mb5.3						
WRA	**Warramunga Arr**	**21.59**	**156**	P	**P**	**14 21 08.2**	**-0.9**
	comp=Z,17nm,0.5s,mb4.7,baz=336,slow=12,SNR=105						
WRA				S	**S**	**14 25 00.4**	**-5.9**
	comp=Z,3.6nm,1.1s,baz=330,slow=16,SNR=3.3						
WRA				ScP	ScP	14 28 44.9	+0.5
	comp=Z,3.8nm,0.9s,baz=330,slow=2.9,SNR=8.7						
WRA	**Warramunga Arr**	**21.59**	**156**	P	**P**	**14 21 08.2**	**-0.8**
WRA				S	**S**	**14 25 00.4**	**-5.9**
WB2	**Warramunga Arr**	**21.60**	**156**	↓*i*P	**P**	**14 21 08.1**	**-1.0**
KGM	**Kluang**	**21.94**	**276**	P	**P**	**14 21 16.6**	**+3.9**
PMG	**Port Moresby**	**23.74**	**113**	P	**P**	**14 21 32.7**	**+1.4**
	comp=Z,19nm,0.8s,mb4.5,baz=270,slow=14,SNR=4.2						
PMG	**Port Moresby**	**23.74**	**113**	P	**P**	**14 21 33.5**	**+2.2**
QIZ	**Qiongzhong**	**24.30**	**323**	P	**P**	**14 21 38.6**	**+2.2**
IPM	**Ipoh**	**24.54**	**281**	P	**P**	**14 21 40.1**	**+1.5**
PPI	**Padang Panjang**	**24.75**	**269**	P	**P**	**14 21 40.3**	**-0.2**
	comp=Z,165nm,1.4s,mb5.4						
ASAR	**Alice Springs**	**24.84**	**161**	P	**P**	**14 21 41.7**	**+0.4**
	comp=Z,16nm,0.6s,mb4.7,baz=340,slow=9.1,SNR=115						
ASAR				PcP	PcP	14 25 17.9	+1.1
	comp=Z,3.2nm,0.5s,baz=346,slow=1.7,SNR=5.7						
ASAR				ScP	ScP	14 28 53.4	+0.4
	comp=Z,4.4nm,1.0s,baz=328,slow=1.9,SNR=11						
ASAR	**Alice Springs**	**24.84**	**161**	P	**P**	**14 21 41.7**	**+0.4**
ASAR						14 25 17.9	
YHNB	**Yeheng**	**24.98**	**352**	*e*P	**P**	**14 21 41.5**	**-1.1**
KULM	**Kulim**	**25.07**	**283**	*e*P	**P**	**14 21 43.4**	**0.0**
QZH	**Quanzhou**	**25.78**	**346**	P	**P**	**14 21 51.3**	**+1.5**
QZH				AMB	AMB		
	comp=Z,90nm,0.6s,mb5.5						
PSI	**Prapat**	**26.39**	**277**	P	**P**	**14 21 55.0**	**-0.4**
	comp=Z,46nm,0.9s,mb5.0,baz=78,slow=4.1,SNR=24						
JOW	**Kunigami**	**27.03**	**6**	P	**P**	**14 22 02.2**	**+1.0**
	comp=Z,184nm,0.7s,mb5.7,baz=189,slow=7.1,SNR=36						
KKTK	**Khon Kaen**	**27.47**	**308**	P	**P**	**14 22 06.0**	**+0.9**
CTA	**Charters Tower**	**28.60**	**135**	P	**P**	**14 22 16.8**	**+1.6**
	comp=Z,6.0nm,1.0s,baz=336,slow=13,SNR=3.1						
CTA				ScP	ScP	14 29 06.3	+2.1
	comp=Z,13nm,1.0s,baz=243,slow=4.5,SNR=4.2						
NST	**Nakhon Sawan**	**29.31**	**304**	P	**P**	**14 22 22.0**	**+0.6**
	comp=Z,55nm,1.1s,mb5.2						
NANT	**Nan**	**30.54**	**309**	↓↓P	**P**	**14 22 31.0**	**-1.3**
	comp=Z,2µm,1.0s						
FORT	**Forrest**	**30.55**	**175**	*e*P	**P**	**14 22 33.4**	**+1.0**
	comp=Z,34nm,0.5s,mb5.4						
SSE	**Sheshan**	**31.34**	**353**	P	**P**	**14 22 41.1**	**+1.7**
SSE				AMB	AMB		
	comp=Z,60nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,730nm,5.0s						
CBIJ	**Chichi jima**	**31.69**	**30**	P	**P**	**14 22 41.5**	**-1.0**
	comp=Z,63nm,0.4s,mb5.8,baz=253,slow=8.9,SNR=14						
CBIJ				LR	LR	14 33 59.7	
	comp=Z,685nm,21.7s,MS4.3,baz=86,slow=33						
CHRT	**Chiangrai**	**31.86**	**310**	↑↑P	**P**	**14 22 45.0**	**+1.0**
	comp=Z,171nm,0.6s,mb6.1						
CHG	**Chiang Mai**	**31.92**	**308**	↑↑P	**P**	**14 22 45.3**	**+0.8**
	comp=Z,117nm,1.0s,mb5.7						
CHTO	**Chiang Mai**	**31.92**	**308**	*e*P	**P**	**14 22 45.2**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,84nm,0.8s,mb5.6						
CHTO	**Chiang Mai**	**31.92**	**308**	*e*P	**P**	**14 22 45.2**	**+0.7**
	comp=Z,84nm,0.8s,mb5.6						
GYA	**Guiyang**	**31.93**	**327**	↑↑*i*P	**P**	**14 22 44.9**	**+0.3**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
NJ2	**Nanjing**	**32.62**	**350**	*e*P	**P**	**14 22 52.0**	**+1.4**
NJ2				PP	PP	14 24 03.1	-1.5
NJ2				S	**S**	**14 28 02.0**	**-2.0**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,1µm,6.1s						
NJ2				LR	LR		
	comp=N,2µm,21.7s,MS5.0						
NJ2				LR	LR		
	comp=E,2µm,24.8s,MS5.0						
NJ2				LR	LR		
	comp=Z,2µm,30.0s						
MUN	**Mundaring**	**32.73**	**194**	*e*P	**P**	**14 22 52.1**	**+0.5**
KMI	**Kunming**	**33.21**	**321**	↓↓P	**P**	**14 22 57.8**	**+2.0**
KMI				S	**S**	**14 28 15.5**	**+2.2**
KMI				AMB	AMB		
	comp=Z,26nm,1.5s,mb4.9						
KMI				LR	LR		
	comp=N,2µm,10.2s						

CN2 AMB AMB
comp=Z,200nm,6.0s
LSA Lhasa 43.97 316 P **P** **14 24 27.1 +1.1**
LSA Lhasa 43.97 316 *e*P **P** **14 24 26.8 +0.8**
LSA pmax pmax
comp=Z,48nm,0.6s,mb5.4
LSA Lhasa 43.97 316 *e*P **P** **14 24 26.8 +0.7**
comp=Z,48nm,0.6s,mb5.4
MDJ Mudanjiang 44.79 5 P **P** **14 24 32.9 +0.3**
MDJ AMB AMB
comp=Z,66nm,0.8s,mb5.5
MDJ AMB AMB
comp=Z,302nm,4.5s
MDJ Mudanjiang 44.79 5 *e*P **P** **14 24 32.0 -0.6**
comp=Z,37nm,0.6s,mb5.4
VIS Vishakhapatnam 44.82 296 *e*P **P** **14 24 33.1 +0.3**
VIS AMb AMB 14 24 41.1
comp=Z,62nm,1.4s,mb5.2
BOK Bokaro 44.94 305 *e*P **P** **14 24 33.8 0.0**
BOK AMb AMB 14 24 37.4
comp=Z,39nm,1.0s,mb5.2
GTA Gaotai 45.73 332 P **P** **14 24 39.9 -0.1**
GTA PCP PcP 14 26 18.1 +0.7
GTA PP PP 14 26 27.8 +0.4
GTA SCP ScP 14 30 08.1 +0.4
GTA PCS PcS 14 30 11.3 -0.3
GTA S **S** **14 31 17.9 -3.0**
GTA SCS ScS 14 34 26.5 -6.8
GTA AMB AMB
comp=Z,9.0nm,1.0s,mb4.7
GTA AMB AMB
comp=Z,593nm,4.9s
GTA LR LR
comp=N,1μm,20.2s,MS5.0
GTA LR LR
comp=E,919nm,19.8s,MS5.0
GTA LR LR
comp=Z,2μm,26.6s
JIRN Jiri 46.51 310 *e*P **P** **14 24 46.2 0.0**
ASAJ Asahikawa 46.78 17 P **P** **14 24 49.0 +0.7**
comp=Z,13nm,0.5s,mb5.2,baz=254,slow=19,SNR=17
GUN Gumba 46.88 310 *e*P **P** **14 24 49.0 0.0**
comp=Z,158nm,0.8s,mb6.0
PKI Pulchoki 47.07 309 *e*P **P** **14 24 50.1 -0.5**
comp=Z,297nm,1.6s,mb6.0
PKI Pulchoki 47.07 309 *e*P **P** **14 24 50.1 -0.5**
PKI pmax pmax
comp=Z,297nm,1.6s,mb6.0
KKN Kakani 47.28 309 *e*P **P** **14 24 51.6 -0.6**
comp=Z,450nm,1.6s,mb6.2
KKN Kakani 47.28 309 *e*P **P** **14 24 51.6 -0.6**
KKN pmax pmax
comp=Z,450nm,1.6s,mb6.2
DMN Daman 47.33 309 *e*P **P** **14 24 52.2 -0.4**
comp=Z,151nm,1.0s,mb5.9
GKN Gorkha 47.88 309 *e*P **P** **14 24 56.2 -0.6**
KOLN Koldanda 48.58 308 *e*P **P** **14 25 02.1 -0.1**
comp=Z,217nm,0.8s,mb6.3
TRD Trivandrum 48.78 281 *e*P **P** **14 25 04.1 +0.2**
TRD AMb AMB 14 25 06.8
comp=Z,68nm,0.8s,mb5.8
HYB Hyderabad 49.08 293⇑ *i*P **P** **14 25 05.5 -0.6**
comp=Z,90nm,1.0s,mb5.8
HYB *e* 14 25 20.5
HYB *e* 14 25 34.5
HYB Hyderabad 49.08 293 *e*P **P** **14 25 05.0 -1.1**
HYB pmax pmax
comp=Z,90nm,1.0s,mb5.8
HYB Hyderabad 49.08 293 *e*P **P** **14 25 05.0 -1.1**
comp=Z,90nm,1.0s,mb5.8
HABR Khabarovsk 49.22 9⇑ *e*P **P** **14 25 04.3 -2.9**
HABR *e*S **S** **14 32 03.4 -7.2**
YSS Yuzh-Sakhalins 49.42 16*c e*P **P** **14 25 08.4 -0.3**
YSS pmax pmax
comp=Z,66nm,1.7s,mb5.4
HIA Hailar 49.48 355 *e*P **P** **14 25 08.9 -0.3**
HIA pmax pmax
comp=Z,96nm,1.2s
HIA Hailar 49.48 355 *e*P **P** **14 25 08.8 -0.3**
comp=Z,96nm,1.2s,mb5.7
KLR Kul'dur 49.55 6 *e*P **P** **14 25 05.9 -3.8**
KLR pmax pmax
comp=Z,130nm,1.8s,mb5.7
SONM Songino Array 50.54 344 P **P** **14 25 16.4 -0.8**
comp=Z,28nm,0.8s,mb5.2,baz=156,slow=8.6,SNR=55
SONM PcP PcP 14 26 35.1 +0.4
comp=Z,9.6nm,0.8s,baz=167,slow=6.3,SNR=5.5
BHPL Bhopal 51.87 300 *e*P **P** **14 25 26.1 -1.0**
BHPL AMb AMB 14 25 30.1
comp=Z,66nm,0.8s,mb5.6
JOSI Joshimath 52.99 309 *ex* **P** **14 25 23.7 -12**
ASOR Ausora 53.63 307 *e*P **P** **14 25 39.3 -0.9**
ZAK Zakamensk 53.73 343 *e*P **P** **14 25 40.0 -0.9**
ZAK pmax pmax
comp=Z,41nm,1.4s,mb5.2
ZAK pmax pmax
comp=Z,7.0nm,1.8s,mb4.3
SONA Sohna 53.99 306 *e*P **P** **14 25 41.8 -1.0**
AYAN Aya Nagar 54.04 306 *e*P **P** **14 25 41.4 -1.7**
AYAN AMb AMB 14 25 51.4
comp=Z,82nm,1.4s,mb5.5
NDI New Delhi 54.05 306 *e*P **P** **14 25 41.2 -2.0**
NDI AMb AMB 14 25 44.5
comp=Z,110nm,1.8s,mb5.5
DDI Dehra Dun 54.06 309 *i* P **P** **14 25 41.0 -2.3**
BHGR Bahadurgarh 54.27 306 *e*P **P** **14 25 43.6 -1.2**
BHGR AMb AMB 14 25 51.2
comp=Z,158nm,0.1s
KLP Kalpa 54.43 310 *e*P **P** **14 25 46.4 +0.4**
KLP AMb AMB 14 25 54.7
comp=Z,211nm,1.3s,mb5.9
KUDL Kundal 54.43 305 *e*P **P** **14 25 44.8 -1.2**
KUDL AMb AMB 14 25 47.6
comp=Z,114nm,1.2s,mb5.7
TLY Talaya 54.78 344 P **P** **14 25 49.2 +0.6**
comp=Z,278nm,1.4s,mb6.1,SNR=7.1
TLY Talaya 54.78 344 *e*P **P** **14 25 49.1 +0.5**
TLY pmax pmax
comp=Z,72nm,1.2s,mb5.6
TLY Talaya 54.78 344 *e*P **P** **14 25 49.1 +0.6**
comp=Z,72nm,1.2s,mb5.6
RTK Rohtak 54.83 306 *e*P **P** **14 25 48.1 -0.9**
KKR Kurukshetra 54.88 308 *e*P **P** **14 25 48.5 -0.8**
WMQ Urumqi 55.09 328 P **P** **14 25 50.8 0.0**
WMQ AP pP 14 26 00.8 -0.5
WMQ XP sP 14 26 05.3 -0.2
WMQ PCP PcP 14 26 51.8 -0.1
WMQ PP PP 14 27 55.5 +1.3
WMQ SCP ScP 14 30 44.8 -3.0
WMQ PCS PcS 14 30 50.8 -1.0
WMQ S **S** **14 33 29.3 -1.7**
WMQ XS sS 14 33 45.8 -2.6
WMQ AMB AMB
comp=Z,76nm,1.0s,mb5.7
WMQ AMB AMB
comp=Z,452nm,4.3s
WMQ LR LR
comp=N,2μm,27.0s,MS5.0
WMQ LR LR
comp=E,1μm,27.0s,MS5.0
WMQ LR LR
comp=Z,1μm,32.0s,MS4.8
IRK Irkutsk 55.12 345 *e*P **P** **14 25 51.6 +0.6**
IRK pmax pmax
comp=Z,60nm,1.5s,mb5.4
MOY Mondy 55.55 342 *e*P **P** **14 25 54.5 +0.4**
MOY pmax pmax
comp=Z,99nm,1.8s,mb5.5
CLNS Chul'man 56.85 360 *e*P **P** **14 26 01.6 -1.8**
CLNS pmax pmax
comp=N,24nm,0.9s
CLNS pmax pmax
comp=E,12nm,0.9s
CLNS pmax pmax
comp=Z,36nm,0.9s,mb5.4
BOD Bodaibo 58.51 353⇓ *i*P **P** **14 26 14.7 -0.4**
BOD pmax pmax
comp=Z,96nm,1.2s,mb5.7
NIL Nilore 59.14 310 P **P** **14 26 21.2 +1.8**
comp=Z,190nm,0.6s,mb6.3,SNR=6.4
RPZ Rata Peaks 59.55 143 P **P** **14 26 23.9 +1.7**
comp=Z,12nm,1.1s,mb4.8,baz=15,slow=12,SNR=4.3
KSH Kashi 59.76 317 *i* PR **P** **14 26 26.3 +2.6**
KSH *e*PCP PcP 14 27 10.3 +0.1

KSH *e*PP PP 14 28 39.1 +3.4
KSH *e*SCP ScP 14 31 03.3 -5.1
KSH *e*PCS PcS 14 31 11.3 -1.1
KSH *e*S **S** **14 34 28.4 -4.0**
KSH *e*SCS ScS 14 36 04.1 -7.2
KSH AMB AMB
comp=Z,96nm,1.1s,mb5.7
KSH AMB AMB
comp=Z,129nm,1.1s,mb5.9
KSH LR LR
comp=N,358nm,6.5s
KSH LR LR
comp=E,427nm,6.0s
KSH LR LR
comp=Z,257nm,6.2s
MKAR Makanchi Array 59.92 327 P **P** **14 26 23.8 -1.0**
comp=Z,64nm,0.8s,mb5.7,baz=123,slow=8.8,SNR=122
MKAR ScP ScP 14 31 07.5 -1.7
comp=Z,3.1nm,0.9s,baz=129,slow=4.8,SNR=3.7
MKAR PKP2bc 14 56 03.7
comp=Z,0.8nm,0.9s,baz=329,slow=4.2,SNR=4.7
MKAR Makanchi Array 59.92 327 P **P** **14 26 23.8 -0.9**
MKAR ScP ScP 14 31 07.5 -1.7
MKAR ⇑*e* 14 56 03.7
PET Petropavlovsk 59.93 23 *e*P **P** **14 26 25.4 +0.6**
PET pmax pmax
comp=Z,68nm,1.2s,mb5.5
ULHL Ulahol 60.93 320 P **P** **14 26 33.8 +2.1**
SNR=38
KZA Kyzart 61.49 320 P **P** **14 26 36.0 +0.6**
SNR=81
TKM2 Tokmak 2 61.69 321 P **P** **14 26 36.5 -0.3**
SNR=63
KBK Karagaybulak 61.97 320 P **P** **14 26 41.1 +2.4**
SNR=15
UCH Uchtor 62.04 319 P **P** **14 26 39.6 +0.4**
SNR=63
YAK Yakutsk 62.16 2⇑ *e*P **P** **14 26 39.3 -0.7**
YAK pmax pmax
comp=Z,187nm,0.7s,mb6.3
YAK Yakutsk 62.16 2⇑ *e*P **P** **14 26 39.3 -0.6**
comp=Z,187nm,0.7s,mb6.3
AAK Ala-Archa 62.25 320 P **P** **14 26 42.8 +2.2**
SNR=39
AAK Ala-Archa 62.25 320 P **P** **14 26 39.5 -1.1**
comp=Z,364nm,1.0s,mb6.5,SNR=14
AAK Ala-Archa 62.25 320*c i*P **P** **14 26 39.3 -1.3**
AAK pmax pmax
comp=Z,65nm,1.0s,mb5.7
AAK Ala-Archa 62.25 320 *e*P **P** **14 26 38.9 -1.6**
comp=Z,60nm,0.9s,mb5.7
CHMS Chumysh 62.26 320 P **P** **14 26 41.6 +0.9**
SNR=14
FRU Bishkek 62.27 320 *e*P **P** **14 26 42.5 +1.8**
AML Almayashu 62.53 319 P **P** **14 26 42.7 +0.3**
SNR=70
EKS2 Erkin-Say 62.73 320 P **P** **14 26 43.8 0.0**
SNR=75
KURK Kurchatov 64.23 329 P **P** **14 26 52.4 -1.3**
comp=Z,1μm,0.7s
KURK Kurchatov 64.23 329⇑ *e*P **P** **14 26 52.4 -1.3**
KURK pmax pmax
comp=Z,134nm,0.8s,mb6.0
KURK Kurchatov 64.23 329⇑ *e*P **P** **14 26 52.4 -1.3**
comp=Z,134nm,0.8s,mb6.0
NVS Novosibirsk 64.67 335 *i*P **P** **14 26 53.4 -3.2**
NVS *e*S **S** **14 35 27.0 -7.3**
NVS *e* 14 36 39.0
NVS pmax pmax
comp=Z,69nm,1.2s,mb5.6
NVS pmax pmax
comp=N,36nm,1.0s
NVS pmax pmax
comp=E,52nm,1.0s
NVS smax
comp=N,20nm,1.9s
NVS smax
comp=E,32nm,1.9s
BRVK Borovoye 69.84 328 P **P** **14 27 28.2 -1.1**
comp=E,496nm,1.0s,mb6.4,SNR=10
BRVK Borovoye 69.84 328⇑ *e*P **P** **14 27 27.9 -1.4**
BRVK pmax pmax
comp=Z,68nm,1.1s,mb5.5
BRVK Borovoye 69.84 328⇑ *e*P **P** **14 27 27.9 -1.4**
comp=Z,68nm,1.1s,mb5.5
ZRNK Zerenda 70.46 328 P **P** **14 27 31.9 -1.2**
ZRNK pmax pmax
comp=Z,88nm,0.9s,mb5.7
ZRNK Zerenda 70.46 328⇑ *e*P **P** **14 27 31.8 -1.4**
comp=Z,88nm,0.8s,mb5.7
TIXI Tiksi 71.76 1*c i*P **P** **14 27 39.3 -1.7**
TIXI pmax pmax
comp=Z,52nm,1.3s,mb5.3
ABKT Ailbek 72.15 310 P **P** **14 27 43.8 +0.5**
comp=Z,388nm,0.8s,mb6.4,SNR=11
BILL Bilibino 73.72 15⇓ *e*P **P** **14 27 52.4 -0.2**
BILL *i* pP 14 28 00.5 -3.0
BILL *i* 14 28 07.2
BILL pmax pmax
comp=Z,19nm,1.6s,mb4.8
BILL Bilibino 73.72 15 *e*P **P** **14 27 52.0 -0.7**
comp=Z,9.9nm,1.0s,mb4.7
AKTK Aktyubinsk 75.76 323 P **P** **14 28 03.7 -0.8**
AKTO Aktyubinsk 75.76 323 P **P** **14 28 03.7 -0.8**
comp=Z,51nm,0.7s,mb5.6,baz=106,slow=7.2,SNR=185
ARU Arti 77.41 329 P **P** **14 28 12.5 -1.3**
comp=Z,540nm,0.7s,mb6.6,SNR=6.2
ARU Arti 77.41 329⇑ *i*P **P** **14 28 12.2 -1.6**
ARU *e* pP 14 28 21.8 -2.9
ARU *e* 14 31 08.8
ARU *e*PPP 14 32 59.4
ARU *e*S S 14 37 55.0 -6.8
ARU *e*SS SS 14 42 56.3 -4.5
ARU pmax pmax
comp=Z,80nm,0.9s,mb5.7
ARU Arti 77.41 329 *e*P **P** **14 28 12.1 -1.7**
comp=Z,75nm,0.8s,mb5.7
ORR Orenburg 78.08 323 *e*P **P** **14 28 16.9 -0.6**
ORR pmax pmax
comp=Z,280nm,1.0s,mb6.2
QRN Al-Qurain 78.90 299 *e*P **P** **14 28 21.2 -0.8**
QRN AMb AMB 14 28 23.7
comp=Z,58nm,0.5s,mb5.8
KBD Kabd 79.15 300 *e*P **P** **14 28 22.8 -0.6**
KBD AMb AMB 14 28 24.3
comp=Z,145nm,0.7s,mb6.0
RDF Al-Radifah 79.24 299 *e*P **P** **14 28 22.7 -1.2**
RDF AMb AMB 14 28 25.4
comp=Z,42nm,0.4s,mb5.8
NAY Al-Naaiem 79.55 300 *e*P **P** **14 28 24.3 -1.3**
NAY AMb AMB 14 28 27.3
comp=Z,60nm,0.9s,mb5.5
MAW Mawson 79.56 200 P **P** **14 28 24.5 -1.1**
comp=Z,6.2nm,0.9s,mb4.5,baz=185,slow=5.4,SNR=5.3
MAW Mawson 79.56 200 *e*P **P** **14 28 26.4 +0.8**
MAW pmax pmax
comp=Z,9.0nm,0.9s
MAW Mawson 79.56 200 *e*P **P** **14 28 26.4 +0.8**
comp=Z,8.7nm,0.9s,mb4.7
VNDA Vanda 79.77 172 P **P** **14 28 26.7 -0.1**
comp=Z,3.6nm,0.8s,baz=306,slow=6.7,SNR=10
VNDA Vanda 79.77 172 *e*P **P** **14 28 26.8 0.0**
VNDA pmax pmax
comp=Z,7.0nm,1.0s
VNDA Vanda 79.77 172 *e*P **P** **14 28 26.8 +0.1**
comp=Z,7.1nm,1.0s,mb4.5
SDPT Sand Point 81.31 34 *e*P **P** **14 28 35.1 +0.1**
BHD Baghdad 82.38 303 *ex* x 14 28 38.5
CHGN Chignik 82.64 33 *e*P **P** **14 28 42.5 +0.5**
GNI Garni 82.79 310 *e*P **P** **14 28 43.5 +0.7**
GNI pmax pmax
comp=Z,46nm,0.9s
GNI Garni 82.79 310 *e*P **P** **14 28 43.5 +0.7**
comp=Z,46nm,0.9s,mb5.5
ZEI Tsey 83.70 313 *e*P **P** **14 28 48.9 +1.4**
ZEI pmax pmax
comp=Z,74nm,1.1s,mb5.7
GOF Gofitskoye 84.56 315 *e*P **P** **14 28 51.2 -0.6**
GOF pmax pmax
comp=Z,40nm,0.6s,mb5.7
KIV Kislovodsk 84.70 314 P **P** **14 28 53.1 +0.5**
comp=Z,228nm,0.9s,mb6.3,SNR=7.0
KIV Kislovodsk 84.70 314⇑ *e*P **P** **14 28 52.5 -0.1**
KIV pmax pmax
comp=Z,31nm,0.8s,mb5.5
KIV Kislovodsk 84.70 314⇑ *e*P **P** **14 28 52.5 -0.1**

comp=Z,31nm,0.8s,mb5.5
SVW2 Sparrevohn 84.97 29 *e*P **P** **14 28 54.8 +0.8**
TTA Tatalina 85.09 27 *e*P **P** **14 28 54.8 +0.3**
TTA pmax pmax
comp=Z,41nm,1.4s,mb5.4
TTA Tatalina 85.09 27 *e*P **P** **14 28 55.2 +0.7**
PECR Pechory 85.19 326⇓ *e*P **P** **14 28 54.0 -1.1**
PECR pmax pmax
comp=Z,2μm,1.6s
PECR pmax pmax
comp=Z,400nm,2.0s
KDAK Kodiak Island 86.03 32 P **P** **14 29 00.0 +0.8**
comp=Z,148nm,1.1s,mb6.1,SNR=7.2
KDAK Kodiak Island 86.03 32 P **P** **14 28 59.2 0.0**
comp=Z,11nm,0.8s,mb5.1,baz=237,slow=5.0
KDAK Kodiak Island 86.03 32 P **P** **14 28 59.2 0.0**
VRHR Novokhopersk 86.07 321 *e*P **P** **14 28 58.8 -0.6**
VRHR pmax pmax
comp=Z,220nm,0.7s,mb6.5
VRHR pmax pmax
comp=N,20nm,0.5s
VRHR pmax pmax
comp=E,50nm,0.9s
DRBT Darb Altahta 86.38 307⇑ P **P** **14 29 07.3 +6.4**
SOC Sochi 86.81 313*c i*P **P** **14 29 02.2 -0.9**
SOC pmax pmax
comp=Z,51nm,0.8s,mb5.8
PMOR Pomariorio Ree 87.01 105 *e*P **P** **14 29 05.4 +1.4**
comp=Z,8.5nm,1.0s,mb4.9
JHLN Al Jahlan 87.43 306⇑ P **P** **14 29 07.5 +1.5**
SLKM Skilak Lake 87.51 30 P **P** **14 29 06.1 -0.3**
SLKM Skilak Lake 87.51 30 *e*P **P** **14 29 05.3 -1.1**
MALT Malatya 87.54 308⇓ *i*P **P** **14 29 08.4 +1.8**
MALT Malatya 87.54 308 P **P** **14 29 06.3 -0.3**
MALT pmax pmax
comp=Z,95nm,1.2s,mb5.9
MALT Malatya 87.54 308 *e*P **P** **14 29 07.2 +0.6**
comp=Z,95nm,1.3s,mb5.9
VRSR Storozhevoye 87.61 321⇑ *i*P **P** **14 29 06.0 -0.9**
VRSR pmax pmax
comp=E,10.0nm,1.0s
VRSR pmax pmax
comp=Z,20nm,1.0s,mb5.3
VRSR pmax pmax
comp=N,6.0nm,0.9s
VOR Voronezh 87.63 322 *e*P **P** **14 29 05.0 -2.0**
VOR pmax pmax
comp=Z,230nm,1.5s,mb6.2
KMBO Kilima Mbogo 87.90 269 P **P** **14 29 10.2 +2.0**
comp=Z,39nm,1.0s,mb5.6,baz=62,slow=6.2,SNR=67
KMBO Kilima Mbogo 87.90 269 *i* P **P** **14 29 10.1 +1.8**
KMBO pmax pmax
comp=Z,39nm,1.0s
KLMR Klimovskoe 88.03 331 *e*P **P** **14 29 07.3 -1.6**
KLMR pmax pmax
comp=Z,90nm,1.3s,mb5.8
PMR Palmer 88.12 28 P **P** **14 29 08.8 -0.5**
PMR pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
PMR Palmer 88.12 28 *e*P **P** **14 29 08.2 -1.2**
comp=Z,9.3nm,1.1s,mb4.9
SYO Syowa Base 88.22 201⇓ *e*P **P** **14 29 10.0 +0.2**
SYO Syowa Base 88.22 201⇑ *e*PcP PcP 14 29 11.8 +0.3
ROOS tl_alroos 88.33 304⇑ P **P** **14 29 12.2 +1.8**
ANN Anapa 88.51 315 *e*P **P** **14 29 10.3 -0.9**
ANN *e* 14 32 37.1
ANN *e*SS SS 14 45 42.0 -3.4
ANN pmax pmax
comp=Z,179nm,0.8s,mb6.5
MOS Moscow 88.76 326⇑ *i*P **P** **14 29 11.0 -1.3**
MOS *e* 14 32 44.3
MOS *e* 14 39 45.3
MOS pmax pmax
comp=Z,200nm,1.2s,mb6.3
MOS pmax pmax
comp=Z,127nm,0.9s,mb6.2
COLA College 88.89 25⇑ *i*P **P** **14 29 13.7 +0.7**
DRWC Darouich 88.89 306⇑ P **P** **14 29 13.7 +0.8**
BTCH Batrach 89.05 306⇑ P **P** **14 29 14.1 +0.3**
WRDH Warideh 89.08 305⇑ P **P** **14 29 14.5 +0.7**
BIDA Albida 89.15 305⇑ P **P** **14 29 14.4 +0.2**
SLNF Slenfeh 89.24 305⇑ P **P** **14 29 15.3 +0.7**
ILAR Eielson Array 89.30 25 P **P** **14 29 13.3 -1.6**
comp=Z,3.7nm,0.9s,mb4.7,baz=272,slow=4.1,SNR=23
OBN Obninsk 89.34 325 P **P** **14 29 14.8 -0.3**
comp=Z,772nm,0.8s,SNR=6.0
OBN Obninsk 89.34 325*c i*P **P** **14 29 13.8 -1.3**
OBN pmax pmax
comp=Z,186nm,1.2s,mb6.3
OBN MLR MLR
comp=Z,700nm,20.0s,MS5.1
OBN Obninsk 89.34 325 *e*P **P** **14 29 13.5 -1.6**
comp=Z,206nm,1.2s,mb6.3
TCHB Talchebab 89.41 302⇑ P **P** **14 29 16.0 +0.6**
BRBR Barbar 89.44 303⇑ P **P** **14 29 16.3 +0.8**
ARNB Al Arnab 89.44 306⇑ P **P** **14 29 15.7 +0.1**
QSPA South Pole Qui 89.74 180 *e*P **P** **14 29 17.7 +0.7**
comp=Z,11nm,0.9s,mb5.2
EIL Eiat 90.27 300⇑ *e*P **P** **14 29 20.0 +0.6**
comp=Z,758nm,1.3s
APA Apatity 90.84 337⇑ *i*P **P** **14 29 20.4 -1.7**
APA pmax pmax
comp=Z,39nm,1.3s,mb5.6
SIM Simferopol' 90.87 315*d i*P **P** **14 29 22.1 -0.1**
SIM pmax pmax
comp=Z,67nm,0.8s,mb6.0
BR131 Keskin Array S 91.29 310 *e*P **P** **14 29 23.0 -1.1**
comp=Z,12nm,0.9s,mb5.2
BRTR Keskin Array B 91.29 310 P **P** **14 29 23.6 -0.5**
comp=Z,11nm,0.9s,mb5.2,baz=120,slow=5.2,SNR=44
BRTR PP PP 14 33 01.1 -0.5
comp=Z,1.8nm,0.9s,baz=69,slow=6.8,SNR=3.9
CSS Prodhromos 91.60 305 *e*P **P** **14 29 25.4 -0.2**
comp=Z,83nm,0.9s,mb6.1
JOF Joensuu 91.92 333 *ep* **P** **14 29 24.8 -2.3**
comp=Z,22nm,0.8s,mb5.5
DAWY Dawson 92.57 26 *e*P **P** **14 29 29.7 -0.4**
KEV Kevo 93.00 340 *ep* **P** **14 29 32.6 +0.5**
comp=Z,12nm,1.0s,mb5.3
KEV Kevo 93.00 340 *e*P **P** **14 29 32.6 +0.5**
KEV pmax pmax
comp=Z,12nm,1.0s,mb5.3
ARCES ARCESS Array B 93.56 340 P **P** **14 29 32.5 -2.2**
comp=Z,9.0nm,0.8s,mb5.2,baz=77,slow=4.4,SNR=13
ARCES ARCESS Array B 93.56 340 P **P** **14 29 32.5 -2.2**
ARE0 ARCESS Array S 93.56 340 P **P** **14 29 32.7 -1.9**
ISP Isparta 93.79 308*c* P **P** **14 29 34.4 -1.3**
AKASG Malin Array Be 93.91 321 P **P** **14 29 34.9 -1.4**
comp=Z,12nm,0.8s,mb5.4,baz=75,slow=4.2,SNR=58
KAF Kangasniemi 94.31 332 *ep* **P** **14 29 35.6 -2.5**
comp=Z,4.4nm,0.4s,mb5.2,baz=78,slow=4.2
KAF Kangasniemi 94.31 332 *e*P **P** **14 29 35.6 -2.5**
KAF pmax pmax
comp=Z,4.0nm,0.4s,mb5.2
INK Inuvik 94.36 21 P **P** **14 29 37.3 -1.0**
comp=Z,22nm,1.1s,mb5.5,baz=278,slow=5.2
INK Inuvik 94.36 21 P **P** **14 29 37.3 -1.0**
INK pmax pmax
comp=Z,34nm,1.2s
INK Inuvik 94.36 21 *e*P **P** **14 29 36.9 -1.5**
comp=Z,34nm,1.2s,mb5.7
MBAR Mbarara 94.41 269⇑ *e*P **P** **14 29 37.4 -1.2**
VSU Vasula 94.57 329*d i*P **P** **14 29 38.5 -0.8**
TIRR Tirgusor 94.95 314⇓ *i*P **P** **14 29 40.7 -0.3**
TIRR Tirgusor 94.95 314 *e*P **P** **14 29 40.0 -1.0**
SKAG Skagway 95.01 30 *e*P **P** **14 29 42.2 +0.9**
comp=Z,13nm,1.1s,mb5.3
CFR Carcaliu 95.09 315⇓ *i*P **P** **14 29 41.7 0.0**
CFR Carcaliu 95.09 315⇓ P **P** **14 29 41.7 0.0**
PSN Preselentsi 95.18 314 *e*P **P** **14 29 42.0 -0.1**
HARR Harsova 95.28 315⇓ *i*P **P** **14 29 42.5 0.0**
HARR Harsova 95.28 315⇓ P **P** **14 29 42.5 0.0**
VRI Vrincioaia 96.01 316⇓ *i*P **P** **14 29 46.2 +0.3**
VRI Vrincioaia 96.01 316⇓ P **P** **14 29 46.2 +0.4**
PLOR Plostina 96.07 316⇓ *i*P **P** **14 29 46.4 +0.3**
JMB Yambol 96.46 313 *e*P **P** **14 29 48.0 +0.1**
MLR Muntele Rosu 96.60 316 P **P** **14 29 48.2 -0.3**
comp=Z,20nm,0.9s,mb5.6,baz=347,slow=1.9,SNR=33
MLR Muntele Rosu 96.60 316⇓ *i*P **P** **14 29 48.6 +0.1**
MLR Muntele Rosu 96.60 316⇓ P **P** **14 29 48.6 +0.1**
LSZ Lusaka 96.67 255 *e*P **P** **14 29 49.8 +0.9**
LSZ pmax pmax
comp=Z,10.0nm,0.8s,mb5.3
LSZ Lusaka 96.67 255 *e*P **P** **14 29 49.8 +0.9**
comp=Z,9.7nm,0.8s,mb5.3

BURAR	**Bucovina Array**	**96.84**	**318**	⇓*iP*		**P**		**14 29 50.1**	**+0.5**
BURAR	**Bucovina Array**	**96.84**	**318**	⇓P		**P**		**14 29 50.1**	**+0.5**
SUW	**Suwalki**	**97.19**	**324**	*eP*		**P**		**14 29 50.2**	**-1.0**
SUW	**Suwalki**	**97.19**	**324**	P		**P**		**14 29 50.6**	**-0.6**
SUW				pmax	pmax				
	comp=Z,87nm,1.2s,mb6.1								
DIM	**Dimitrovgrad**	**97.28**	**312**	*eP*		**P**		**14 29 54.0**	**+2.4**
LVV	**L'vov**	**97.32**	**320**	*eP*		**P**		**14 29 50.9**	**-0.9**
KWP	**Kalwaria**	**98.20**	**320**	*eP*		**P**		**14 29 55.9**	**+0.1**
KOLS	**Kolonicke sedl**	**98.59**	**319**	*iP*		**P**		**14 29 59.3**	**+1.8**
	comp=Z,6.9nm,0.9s,mb5.2								
MMB	**Musomiste**	**98.67**	**312**	*eP*		**P**		**14 29 57.0**	**-0.9**
VTS	**Vitosha**	**98.92**	**313**	*eP*		**P**		**14 29 58.2**	**-0.8**
CRVS	**Cervenica-Dubn**	**99.13**	**320**	*eP*		**P**		**14 30 00.8**	**+0.9**
	comp=Z,13nm,0.9s,mb5.5								
STHS	**Stebnicka Huta**	**99.18**	**320**	*eP*		**P**		**14 30 00.2**	**+0.1**
STHS	**Stebnicka Huta**	**99.18**	**320**	*eP*		**P**		**14 30 00.3**	**+0.2**
	comp=Z,11nm,0.8s,mb5.5								
KECS	**Kecovo**	**99.84**	**319**	*i* P		Pdif		14 30 02.9	-0.2
	comp=Z,9.8nm,1.1s								
OJC	**Ojcow**	**99.94**	**321**	*eP*		Pdif		14 30 03.1	-0.4
PSZ	**Piszkesteto**	**100.34**	**319**	P		Pdif		14 30 05.1	-0.2
PSZ				pmax	pmax				
	comp=Z,17nm,1.4s								
PSZ	**Piszkesteto**	**100.34**	**319**	*e*Pdif		Pdif		14 30 04.6	-0.7
	comp=Z,17nm,1.4s								
HFS	**Hagfors**	**100.72**	**332**	P		Pdif		14 30 04.9	-2.0
	comp=Z,1.6nm,0.5s,baz=59,slow=4.0,SNR=6.8								
DAG	**Danmarks Havn**	**100.90**	**352**	⇑*iP*		Pdif		14 30 06.4	-1.4
	comp=Z,2.8nm,0.5s								
DAG	**Danmarks Havn**	**100.90**	**352**	⇑*iP*		Pdif		14 30 06.4	-1.4
DAG				pmax	pmax				
	comp=Z,3.0nm,0.5s								
OKC	**Ostrava-Krasne**	**101.06**	**321**	*e*PDIF		Pdif		14 30 09.1	+0.6
MORC	**Moravsky Berou**	**101.46**	**321**	⇓*iP*		Pdif		14 30 10.9	+0.6
MORC	**Moravsky Berou**	**101.46**	**321**	*eP*		Pdif		14 30 09.8	-0.5
MORC				pmax	pmax				
	comp=Z,12nm,1.3s								
MORC	**Moravsky Berou**	**101.46**	**321**	*e*Pdif		Pdif		14 30 09.8	-0.5
	comp=Z,12nm,1.3s								
NB2	**NORSAR Subarra**	**101.56**	**333**	P		Pdif		14 30 08.5	-2.2
	comp=Z,5.3nm,1.0s,baz=70,slow=4.4								
NOA	**NORSAR Array B**	**101.56**	**333**	P		Pdif		14 30 08.5	-2.2
	comp=Z,2.9nm,0.9s,baz=69,slow=4.5,SNR=7.3								
DPC	**Dobruska-Polom**	**102.08**	**322**	*e*PDIF		Pdif		14 30 13.9	+0.9
VRAC	**Vranov**	**102.17**	**321**	P		Pdif		14 30 13.8	+0.3
	comp=Z,2.5nm,0.4s,baz=215,slow=14,SNR=8.6								
UPC	**Upice**	**102.23**	**322**	*e*PDIF		Pdif		14 30 14.3	+0.6
PRU	**Pruhonice**	**103.28**	**322**	*e*PDIF		Pdif		14 30 19.2	+0.8
BRG	**Berggiesshubel**	**103.40**	**323**	*eP*		Pdif		14 30 19.0	+0.1
	comp=Z,9.0nm,1.2s								
BRG				*e*				14 30 35.9	
	comp=Z,7.1nm,1.5s								
BRG	**Berggiesshubel**	**103.40**	**323**	*eP*		Pdif		14 30 19.0	+0.1
BRG				pmax	pmax				
	comp=Z,9.0nm,1.2s								
BRG				pmax	pmax				
	comp=Z,7.0nm,1.5s								
YKA	**Yellowknife Ar**	**103.70**	**24**	Pdiff		Pdif		14 30 20.4	+0.2
	comp=Z,1.0nm,0.9s,baz=301,slow=4.8,SNR=16								
YKA				PKiKP		PKiKP		14 34 38.5	+0.2
	comp=Z,2.1nm,1.0s,baz=308,slow=1.6,SNR=9.7								
YKA				PKKPbc		PKKPbc		14 46 11.1	-0.5
	comp=Z,0.4nm,0.8s,baz=112,slow=2.7,SNR=5.8								
YKA	**Yellowknife Ar**	**103.70**	**24**	Pdif		Pdif		14 30 20.4	+0.2
CLL	**Collm**	**103.84**	**323**	*i* P		Pdif		14 30 21.1	+0.2
	comp=Z,24nm,1.8s								
CLL				*e*PP		PP		14 34 41.0	+3.0
CLL	**Collm**	**103.84**	**323**	*i* P		Pdif		14 30 21.1	+0.2
CLL				pmax	pmax				
	comp=Z,24nm,1.8s								
KHC	**Kasperske Hory**	**104.12**	**321**	*e*PDIF		Pdif		14 30 22.6	+0.5
GERES	**GERESS Array B**	**104.12**	**321**	Pdiff		Pdif		14 30 22.1	0.0
	comp=Z,1.6nm,0.8s,baz=90,slow=5.3,SNR=12								
NKC	**Novy Kostel**	**104.50**	**322**	*e*PDIF		Pdif		14 30 24.8	+1.0
DAVOX	**Davos**	**107.20**	**319**	Pdiff		Pdif		14 30 36.4	+0.6
	comp=Z,3.7nm,0.7s,baz=93,slow=12,SNR=5.2								
LPG	**La Plagne**	**109.69**	**319**	*e*PP		PP		14 35 17.6	-3.3
	comp=Z,15nm,0.9s								
LPL	**La Plagne**	**109.69**	**319**	*e*PP		PP		14 35 17.7	-3.3
	comp=Z,48nm,1.4s								
MBDF	**Montbardon**	**109.95**	**318**	*e*PP		PP		14 35 19.1	-3.7
	comp=Z,27nm,1.2s								
NVAR	**Mina Array Bea**	**110.67**	**49**	PKiKP		PKiKP		14 34 52.7	+1.5
	comp=Z,0.4nm,0.6s,baz=253,slow=6.3,SNR=4.7								
NVAR	**Mina Array Bea**	**110.67**	**49**	PKPdf		PKiKP		14 34 52.7	+1.4
NEN	**Nelson**	**114.16**	**51**	*e*PKiKP		PKiKP		14 34 59.8	+1.9
MSU	**Marysvale**	**115.19**	**47**	*e*PKiKP		PKiKP		14 35 01.5	+1.6
PDAR	**Pinedale Array**	**115.32**	**42**	PKP		PKPdf		14 35 01.0	+0.9
	comp=Z,0.7nm,0.8s,baz=90,slow=1.5,SNR=4.6								
PDAR				PKKPbc		PKKPbc		14 45 41.1	+6.8
	comp=Z,1.4nm,1.0s,baz=115,slow=3.3,SNR=5.6								
FRB	**Frobisher Bay**	**115.79**	**7**	PKP		PKPdf		14 35 00.1	-1.0
	comp=Z,3.8nm,0.8s,baz=299,slow=4.0,SNR=3.3								
RWWY	**Rawlins**	**117.36**	**42**	*e*PKPdf		PKPdf		14 35 04.5	+0.5
PV01	**Paradox Valley**	**117.95**	**46**	*e*PKPdf		PKPdf		14 35 07.3	+2.1
ULM	**Lac du Bonnet**	**119.13**	**29**	PKP		PKPdf		14 35 07.3	-0.1
	comp=Z,2.3nm,0.6s,baz=360,slow=2.0,SNR=5.9								
ULM	**Lac du Bonnet**	**119.13**	**29**	PKP		PKPdf		14 35 07.3	-0.2
ANMO	**Albuquerque**	**120.80**	**49**	*d* iPKIKP		PKPdf		14 35 12.3	+1.6
ANMO	**Albuquerque**	**120.80**	**49**	*e*PKPdf		PKPdf		14 35 13.0	+2.3
BNM	**Barren Site**	**120.99**	**49**	*e*PKPdf		PKPdf		14 35 13.2	+2.1
PCBR	**Castelo Branco**	**121.57**	**318**	*e*PKPdf		PKPdf		14 35 13.1	+0.9
TORD	**Torodi Ar. Bea**	**122.53**	**285**	PKP		PKPdf		14 35 15.2	+1.2
	comp=Z,12nm,0.8s,baz=70,slow=1.5,SNR=49								
MDT	**Midelt**	**122.71**	**310**	PKP		PKPdf		14 35 15.5	+1.2
	comp=Z,4.3nm,1.0s,baz=84,slow=2.4,SNR=7.0								
MDT				PP		PP		14 36 52.1	0.0
	comp=Z,2.3nm,1.0s,baz=63,slow=9.0,SNR=3.5								
PBEJ	**Beja**	**122.74**	**317**	*e*PKPdf		PKPdf		14 35 15.4	+1.0
MNTX	**Comandos Mount**	**122.92**	**52**	*e*PKPdf		PKPdf		14 35 16.2	+1.5
SCHQ	**Schefferville**	**124.66**	**8**	PKP		PKPdf		14 35 18.4	+0.3
	comp=Z,11nm,0.9s,baz=6.4,slow=2.1,SNR=11								
JCT	**Junction City**	**127.78**	**51**	*e*PKIKP		PKPdf		14 35 25.0	+1.0
MIAR	**Mount Ida**	**130.23**	**43**	*e*PKIKP		PKPdf		14 35 29.1	+0.4
PLAL	**Pickwick Lake**	**133.53**	**38**	*e*PKPdf		PKPdf		14 35 33.6	-1.3
LRAL	**Lakeview Retre**	**135.48**	**40**	PKPdf		PKPdf		14 35 39.3	+0.7
BBSR	**BB Station**	**146.67**	**15**	*e*PKPbc		PKPbc		14 36 01.9	+1.6
JTS	**JuntasAbangare**	**148.43**	**71**	*e*PKIKP		PKPdf		14 36 03.1	+1.6
JTS				*e*				14 36 07.2	
CCCC	**Cccc**	**149.39**	**46**	*e*P		PKPdf		14 36 09.6	+6.5
CPUP	**Villa Florida**	**153.53**	**175**	PKP		PKPdf		14 36 11.8	+2.4
	comp=Z,1.1nm,0.6s,baz=212,slow=5.8,SNR=4.7								
CPUP				PKPbc		PKPbc		14 36 18.9	+1.8
	comp=Z,2.9nm,0.6s,baz=152,slow=0.7,SNR=8.7								
CPUP	**Villa Florida**	**153.53**	**175**	*e*PKPdf		PKPdf		14 36 09.7	+0.3
CPUP				*e*PKPbc		PKPbc		14 36 18.7	+1.6
LPAZ	**La Paz**	**159.03**	**142**	PKP		PKPdf		14 36 19.5	+2.9
	comp=Z,4.3nm,1.1s,baz=50,slow=2.7,SNR=9.1								
LPAZ				PKPab		PKPab		14 36 56.2	+3.0
	comp=Z,2.3nm,0.8s,baz=125,slow=4.4,SNR=4.4								
LPAZ	**La Paz**	**159.03**	**142**	PKP		PKPdf		14 36 19.5	+2.9
LPAZ				PKPab		PKPab		14 36 56.2	+3.0
SDV	**Santo Domingo**	**162.06**	**61**	*e*PKPdf		PKPdf		14 36 20.5	+0.6
BDFB	**Brasilia**	**162.88**	**203**	PKP		PKPdf		14 36 22.2	+1.4
	comp=Z,2.9nm,0.7s,baz=357,slow=4.4,SNR=3.4								
SAML	**Samuel**	**167.70**	**138**	*e*PKPdf		PKPdf		14 36 25.8	+1.0

IDC 16 14:25:12.7±2.2, 2163N×14306E, h292km±20km, mb3.1/5, mb1 3.3/6, mb1mx3.1/19, mbtmpg3.9/6, Error ellipse: s-maj=44.6km s-min=16.6km az=90.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.50**	**352**	P	Pn	14 26 37.1	+1.4
	15nm,0.3s,baz=288,slow=16,SNR=13						
CBIJ				S	S	14 27 41.7	-0.8
	8.3nm,0.3s,baz=301,slow=23,SNR=6.8						
MJAR	**Matsushiro Arr**	**15.45**	**345**	P	Pn	14 28 34.8	-1.8
	0.5nm,0.3s,baz=166,slow=11,SNR=4.9						
SONM	**Songino Array**	**39.32**	**321**	P	P	14 32 14.3	+0.3
	0.3nm,0.5s,baz=131,slow=8.4,SNR=3.0						
WRA	**Warramunga Arr**	**42.19**	**192**	P	P	14 32 37.5	+0.2
	0.3nm,0.4s,baz=10,slow=7.9,SNR=5.2						
ASAR	**Alice Springs**	**45.90**	**192**	P	P	14 33 06.3	-0.2
	0.2nm,0.5s,baz=17,slow=9.7,SNR=4.1						
YKA	**Yellowknife Ar**	**76.57**	**28**	P	P	14 36 31.0	-0.1
	0.5nm,0.5s,baz=290,slow=5.9,SNR=5.7						
ARCES	**ARCESS Array B**	**78.95**	**341**	P	P	14 36 43.6	-0.6
	4.9nm,1.1s,baz=63,slow=8.2,SNR=6.8						

IDC 16 14:44:12.6±1.1, 006N×12547E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.8/14, mbtmp3.8/5, Error ellipse: s-maj=142.0km s-min=19.1km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.69**	**157**	P	P	14 49 04.3	-0.6
	1.7nm,0.7s,baz=335,slow=11,SNR=23						
ASAR	**Alice Springs**	**24.96**	**161**	P	P	14 49 38.6	+0.9
	1.0nm,0.7s,baz=338,slow=11,SNR=11						
ASAR				PcP	PcP	14 53 14.2	+1.2
	0.2nm,0.3s,baz=350,slow=2.1,SNR=4.5						
STKA	**Stephens Creek**	**35.24**	**156**	P	P	14 51 08.4	-0.3
	1.4nm,0.6s,baz=344,slow=9.9,SNR=4.9						
SONM	**Songino Array**	**50.39**	**343**	P	P	14 53 11.7	+0.2
	0.6nm,0.6s,baz=159,slow=5.7,SNR=5.4						
MKAR	**Makanchi Array**	**59.88**	**327**	P	P	14 54 19.9	-0.2
	0.7nm,0.5s,baz=122,slow=7.1,SNR=10						

IDC 16 14:50:12.5±24.0, 2799N×14378E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.5/18, mbtmp4.0/4, Error ellipse: s-maj=469.7km s-min=171.9km az=5.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**47.85**	**177**	P	P	14 58 51.2	-0.8
	2.6nm,0.7s,baz=338,slow=8.1,SNR=4.2						
WRA	**Warramunga Arr**	**48.52**	**192**	P	P	14 58 56.9	-0.3
	0.7nm,0.2s,baz=9.1,slow=8.2,SNR=62						
ASAR	**Alice Springs**	**52.23**	**191**	P	P	14 59 26.9	+1.7
	0.4nm,0.5s,baz=7.3,slow=7.3,SNR=8.9						
STKA	**Stephens Creek**	**59.57**	**182**	P	P	15 00 17.5	-0.4
	0.6nm,0.4s,baz=18,slow=9.6,SNR=3.8						

*IDC **16** 14:50:25.9±0.9, 0.16S×125.04E, h0km, mb4.1/7, mb1 4.2/7, mb1mx4.0/15, mbtmp4.1/7, Error ellipse: s-maj=55.0km s-min=16.3km az=74.0*
*NEIC **16** 14:50:31.3±0.6, 007S×125.22E, h35km, mb4.7/1, Error ellipse: s-maj=26.4km s-min=11.1km az=76.0*
*ISCJB **16** 14:50:37.0±6.0, 02S±0.1×1252E±0.2, h113km±63km, mb4.1/9, Error ellipse: s-maj=31.7km s-min=17.2km az=135.4*

ISC 16 14:50:38.2±5.6, 02S±01×1252E±02, h106km±58km, n13, σ0s77/13, mb4.1/9, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**17.82**	**179**	P	**Pn**	**14 54 39.7**	**+0.4**
	0.1nm,0.3s,baz=100,slow=12,SNR=4.3						
WRA	**Warramunga Arr**	**21.59**	**156**	P	**P**	**14 55 18.6**	**-0.8**
	1.9nm,0.6s,mb3.6,baz=335,slow=12,SNR=11						
ASAR	**Alice Springs**	**24.83**	**161**	P	**P**	**14 55 51.5**	**+0.9**
	1.5nm,0.7s,mb3.5,baz=339,slow=10.0,SNR=14						
KULM	**Kulim**	**25.11**	**283**	*eP*	**P**	**14 55 53.3**	**+0.2**
JOW	**Kunigami**	**27.01**	**6**	P	**P**	**14 56 11.4**	**+1.2**
	17nm,0.6s,mb4.8,baz=178,slow=9.7,SNR=8.4						
STKA	**Stephens Creek**	**35.14**	**155**	P	**P**	**14 57 20.9**	**-0.6**
	1.6nm,0.6s,mb4.0,baz=339,slow=13,SNR=5.2						
STKA	**Stephens Creek**	**35.14**	**155**	*eP*	**P**	**14 57 20.9**	**-0.6**
MJAR	**Matsushiro Arr**	**38.47**	**17**	P	**P**	**14 57 48.7**	**-1.1**
	2.1nm,0.8s,mb4.0,baz=197,slow=11,SNR=6.1						
SONM	**Songino Array**	**50.54**	**344**	P	**P**	**14 59 25.6**	**-0.1**
	0.7nm,0.5s,mb4.0,baz=156,slow=7.9,SNR=5.1						
SONM				PcP	PcP	15 00 43.9	+1.7
	0.6nm,0.9s,baz=149,slow=3.0,SNR=2.5						
MKAR	**Makanchi Array**	**59.93**	**327**	P	**P**	**15 00 32.8**	**-0.4**
	1.4nm,0.6s,mb4.2,baz=114,slow=8.7,SNR=14						
MKAR				PcP	PcP	15 01 19.8	+1.3
	1.0nm,0.8s,baz=109,slow=6.1,SNR=3.9						
KURK	**Kurchatov**	**64.24**	**329**	*eP*	**P**	**15 01 01.2**	**-0.7**
	5.0nm,0.8s,mb4.4						
INK	**Inuvik**	**94.33**	**21**	P	**P**	**15 03 47.0**	**+1.2**
	2.3nm,1.1s,mb4.4,baz=238,slow=5.0,SNR=4.9						
INK	**Inuvik**	**94.33**	**21**	P	**P**	**15 03 47.0**	**+1.2**

*ISCJB **16** 14:51:20.8±2.9, 504N±02×1782E±0.1, h47km±23km, mb3.9/6, Error ellipse: s-maj=31.6km s-min=15.1km az=1.8*
*IDC **16** 14:51:22.1±4.1, 5091N×17848E, h0km, mb3.3/3, mb1 3.8/5, mb1mx3.5/22, mbtmp3.5/5, ML3.3/2, Error ellipse: s-maj=93.7km s-min=17.1km az=7.0*
*MOS **16** 14:51:22.3±2.1, 5079N×17845E, h33km, mb4.5/2, Error ellipse: s-maj=31.3km s-min=23.6km az=95.4*
*NEIC **16** 14:51:29.4±4.2, 5129N×17828E, h55km±23km, mb4.4/2, Error ellipse: s-maj=75.7km s-min=14.9km az=177.0*

ISC 16 14:51:21.6±2.9, 504N±02×1783E±01, h41km±23km, n15, σ1s09/16, mb3.9/6, 1D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMY	**Shemya**	**3.53**	**314**	*eP*	**Pn**	**14 52 15.2**	**+1.3**
FX1	**Attu Island--F**	**4.07**	**310**	Pn	**Pn**	**14 52 20.5**	**-0.8**
	3.6nm,0.3s,baz=117,slow=11,SNR=21						
FX1				Sn	**Sn**	**14 53 07.4**	**-0.2**
	7.6nm,0.3s,baz=105,slow=19,SNR=3.0						
FX1	**Attu Island--F**	**4.07**	**310**	*e*Pn	**Pn**	**14 52 20.4**	**-0.8**
KDAK	**Kodiak Island**	**18.53**	**55**	P	**Pn**	**14 55 35.7**	**+0.6**
	0.4nm,0.3s,baz=254,slow=9.4,SNR=6.3						
SLKM	**Skilak Lake**	**20.36**	**48**	*eP*	**P**	**14 55 52.8**	**-1.7**
ILAR	**Eielson Array**	**23.20**	**38**	P	**P**	**14 56 24.4**	**-0.5**
	0.4nm,0.5s,mb3.1,baz=234,slow=8.4,SNR=5.9						
BOD	**Bodaibo**	**37.11**	**307**	*eP*	**P**	**14 58 25.9**	**-2.1**
YKA	**Yellowknife Ar**	**37.27**	**45**	P	**P**	**14 58 30.3**	**+0.9**
	0.1nm,0.3s,mb3.1,baz=282,slow=8.1,SNR=3.6						
YKA	**Yellowknife Ar**	**37.27**	**45**	P	**P**	**14 58 30.3**	**+0.9**
PDAR	**Pinedale Array**	**48.40**	**70**	P	**P**	**15 00 03.8**	**+4.3**
	0.8nm,0.7s,mb3.9,baz=308,slow=4.4,SNR=5.2						
BRVK	**Borovoye**	**60.48**	**319**	*eP*	**P**	**15 01 28.6**	**+1.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
BRVK	**Borovoye**	**60.48**	**319**	*eP*	**P**	**15 01 28.6**	**+1.4**
	comp=Z,2.3nm,1.1s,mb4.1						
ZRNK	**Zerenda**	**61.09**	**319**	*eP*	**P**	**15 01 31.9**	**+0.6**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.7						
ZRNK	**Zerenda**	**61.09**	**319**	*eP*	**P**	**15 01 31.9**	**+0.6**
	comp=Z,3.7nm,0.7s,mb4.6						
KAKA	**Kakadu**	**74.48**	**227**	⇓*iP*	**P**	**15 02 55.4**	**-0.2**
	comp=Z,8.0nm,0.6s,mb4.8						

*ISCJB **16** 14:56:35.6±1.1, 1843N±005×1456E±0.1, h223km±10km, mb3.9/16, Error ellipse: s-maj=22.1km s-min=8.2km az=166.6*
*NEIC **16** 14:56:35.6±0.5, 1838N×14566E, mb4.4/6, Error ellipse: s-maj=16.2km s-min=9.3km az=93.0*
*IDC **16** 14:56:36.8±1.9, 1838N×14562E, h215km±19km, mb3.8/10, mb1 4.0/12, mb1mx3.8/20, mbtmp4.4/12, Error ellipse: s-maj=17.3km s-min=11.4km az=100.0*

ISC 16 14:56:35.6±1.1, 1848N±005×1457E±01, h206km±10km, n27, σ1s05/26, mb3.9/16, 1C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.92**	**189**	P	**Pn**	**14 57 49.9**	**+0.9**
	6.7nm,0.3s,baz=144,slow=8.3,SNR=3.3						
GUMO				S	**Sn**	**14 58 47.2**	**+0.2**
	21nm,0.3s,baz=16,slow=22,SNR=4.1						
CBIJ	**Chichi jima**	**9.16**	**340**	S	**Sn**	**15 00 24.7**	**-1.7**
	3.8nm,0.3s,baz=278,slow=22,SNR=3.6						
JOW	**Kunigami**	**18.05**	**301**	P	**P**	**15 00 33.5**	**+2.0**
	1.8nm,0.3s,baz=136,slow=14,SNR=9.0						
WRAB	**Tennant Creek**	**39.75**	**197**	*eP*	**P**	**15 03 47.5**	**-0.6**
	39nm,0.9s,mb4.8						
WB2	**Warramunga Arr**	**39.76**	**197**	⇑*iP*	**P**	**15 03 47.7**	**-0.5**
WRA	**Warramunga Arr**	**39.76**	**197**	P	**P**	**15 03 47.8**	**-0.5**
	19nm,0.9s,mb4.5,baz=18,slow=8.8,SNR=85						
FITZ	**Fitzroy Crossi**	**41.33**	**210**	*eP*	**P**	**15 04 01.4**	**+0.3**
	7.6nm,0.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**41.33**	**210**	P	**P**	**15 04 00.9**	**-0.2**
	4.0nm,0.6s,mb4.0,baz=43,slow=10,SNR=37						
SONM	**Songino Array**	**43.29**	**322**	P	**P**	**15 04 17.1**	**+0.2**
	0.3nm,0.6s,mb2.9,baz=140,slow=7.3,SNR=3.9						
ASAR	**Alice Springs**	**43.43**	**196**	P	**P**	**15 04 17.9**	**-0.1**
	2.9nm,0.6s,mb3.9,baz=17,slow=7.3,SNR=60						
DZM	**Mont Dzumac**	**45.14**	**152**	P	**P**	**15 04 31.1**	**-0.5**
	10nm,0.9s,mb4.1,baz=326,slow=3.6,SNR=4.0						
PSI	**Prapat**	**48.31**	**257**	P	**P**	**15 04 57.9**	**+1.8**
	8.8nm,0.8s,mb4.2,baz=330,slow=7.6,SNR=8.8						
STKA	**Stephens Creek**	**50.22**	**184**	*eP*	**P**	**15 05 07.2**	**-3.3**
	2.2nm,0.6s,mb3.7						
STKA	**Stephens Creek**	**50.22**	**184**	P	**P**	**15 05 07.2**	**-3.4**
	2.3nm,0.5s,mb3.8,baz=350,slow=8.9,SNR=10						
FORT	**Forrest**	**51.81**	**199**	*eP*	**P**	**15 05 22.1**	**-0.3**
	11nm,0.5s,mb4.5						
NWAO	**Narrogin (SRO)**	**57.88**	**208**	P	**P**	**15 06 04.2**	**-1.7**
	6.5nm,0.9s,mb4.3,baz=48,slow=8.9,SNR=5.1						
MKAR	**Makanchi Array**	**58.59**	**314**	P	**P**	**15 06 10.6**	**-0.2**
	0.3nm,0.5s,mb3.2,baz=87,slow=7.4,SNR=4.1						
MKAR	**Makanchi Array**	**58.59**	**314**	P	**P**	**15 06 10.6**	**-0.2**
ILAR	**Eielson Array**	**63.86**	**26**	P	**P**	**15 06 46.0**	**-0.2**
	0.6nm,0.5s,mb3.5,baz=252,slow=6.1,SNR=10						
BRVK	**Borovoye**	**66.68**	**321**	*eP*	**P**	**15 07 03.8**	**-0.4**
	0.8nm,0.6s,mb3.5						
INK	**Inuvik**	**69.59**	**23**	P	**P**	**15 07 22.7**	**+0.3**
	1.2nm,0.6s,mb3.7,baz=250,slow=4.8,SNR=7.4						
INK	**Inuvik**	**69.59**	**23**	*eP*	**P**	**15 07 22.6**	**+0.3**
YKA	**Yellowknife Ar**	**78.20**	**28**	P	**P**	**15 08 12.8**	**+0.6**
	0.9nm,0.7s,mb3.5,baz=291,slow=5.5,SNR=19						
YKA				pP	pP	15 09 03.0	+1.4
	0.4nm,0.6s,baz=291,slow=4.8,SNR=3.1						
YKA	**Yellowknife Ar**	**78.20**	**28**	P	**P**	**15 08 12.8**	**+0.6**
YKA				pP	pP	15 09 03.0	+1.4
NVAR	**Mina Array Bea**	**83.31**	**52**	P	**P**	**15 08 41.8**	**+2.5**
	1.2nm,0.7s,mb3.7,baz=265,slow=4.3,SNR=10						
NVAR				pP	pP	15 09 31.6	+2.5
	1.8nm,0.9s,baz=261,slow=3.9,SNR=5.4						
LPAZ	**La Paz**	**147.71**	**91**	PKPbc	PKPbc	15 15 58.6	+2.8
	2.3nm,0.9s,baz=301,slow=4.1,SNR=8.0						
LPAZ	**La Paz**	**147.71**	**91**	*e*PKPbc	PKPbc	15 15 57.8	+2.0

*IDC **16** 15:07:22.1±2.2, 003N×98.13E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/17, mbtmp3.8/6, ML3.1/1, Error ellipse: s-maj=77.6km s-min=19.6km az=65.0*
*ISCJB **16** 15:07:25.6±1.0, 01N±0.1×983E±02, h33km, mb4.2/9, Error ellipse: s-maj=27.1km s-min=12.4km az=135.8*
*NEIC **16** 15:07:26.9±0.7, 0.10N×9824E, h30km, mb4.1/1, Error ellipse: s-maj=19.5km s-min=8.9km az=68.0*

ISC 16 15:07:28.3±1.0, 02N±01×983E±02, h35km, n16, σ0s42/16, mb4.2/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.67**	**13**	Pn	**Pn**	**15 08 08.6**	**-0.2**
	3.3nm,0.3s,baz=184,slow=10,SNR=9.6						
PSI	**Prapat**	**2.67**	**13**	Pn	**Pn**	**15 08 08.6**	**-0.2**
KULM	**Kulim**	**5.58**	**24**	*eP*	**Pn**	**15 08 48.9**	**+0.2**
JIRN	**Jiri**	**29.71**	**338**	*eP*	**P**	**15 13 31.1**	**+0.1**
GUN	**Gumba**	**30.05**	**338**	*eP*	**P**	**15 13 34.3**	**+0.3**
	22nm,0.9s,mb4.9						
DMN	**Daman**	**30.09**	**336**	*eP*	**P**	**15 13 39.3**	**+5.0**
	14nm,0.7s,mb4.8						
KKN	**Kakani**	**30.18**	**337**	*eP*	**P**	**15 13 39.3**	**+4.2**
GKN	**Gorkha**	**30.63**	**336**	*eP*	**P**	**15 13 45.1**	**+6.0**
	13nm,0.7s,mb4.8						
WRA	**Warramunga Arr**	**40.53**	**122**	P	**P**	**15 15 03.8**	**-0.2**
	0.7nm,0.9s,mb3.3,baz=301,slow=9.0,SNR=5.5						
ASAR	**Alice Springs**	**41.87**	**127

Centroid moment Tensor Solution. LP body waves: s113,c261;Mantle waves: s112,c463; Half duration: 6s2 Moment tensor: Scale 10^{19}Nm; M_{rr}-1.09±.01; $M_{\theta\theta}$0.31±.01; $M_{\phi\phi}$0.78±.01; $M_{r\theta}$0.66±.03; $M_{\theta\phi}$-1.93±.01; $M_{\phi r}$-0.79±.03; Best double couple: M_o2.08900×10^{19} NP1:ϕ_s92.00000°,δ60.00000°,λ-171.00000°. NP2: ϕ_s358.00000°,δ82.00000°,λ-31.00000°. Principal axes: T 2.7650, Plg15.0000°, Azm49.0000°; N -1.3520, Plg59.0000°, Azm164.0000°; P -1.4130, Plg27.0000°, Azm311.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.

NEIC ***16*** *15:28:25.9±0.1,009N×9705E,h12km,mb6.6/165,ME7.6, MS6.8/132,MW6.8 Error ellipse: s-maj=3.5km s-min=2.2km az=33.0,Moment Tensor Solution. s11 Moment tensor: Scale 10^{19}Nm; M_{rr}-0.57; $M_{\theta\theta}$0.14; $M_{\phi\phi}$0.43; $M_{r\theta}$1.64; $M_{\theta\phi}$-0.34; $M_{\phi r}$-1.21; Best double couple: M_o2.10000×10^{19} NP1:ϕ_s307.00000°,δ82.00000°, λ-96.00000°. NP2:ϕ_s166.00000°,δ10.00000°, λ-52.00000°. Principal axes: T 2.1300, Plg37.0000°, Azm43.0000°; N 0.0000, Plg6.0000°, Azm308.0000°; P -2.1300, Plg52.0000°, Azm210.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s56.00000°,δ61.00000°, λ-168.00000°. NP2:ϕ_s320.00000°,δ80.00000°, λ-30.00000°. Principal axes: T Plg13.0000°, Azm11.0000°; N Plg0.0000°, Azm0.0000°; P Plg28.0000°, Azm274.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [VI] at Gunungsitoli. Felt [V] at Sibolga; [IV] at Banda Aceh and Padang; felt at Bukittinggi and Medan, Sumatra. Felt at Balakong, Butterworth and Kuala Lumpur, Malaysia. Also felt in Singapore. Ground cracks observed on Nias.

ISCJB ***16*** *15:28:27.1±0.1,0.14N×002×97.12E×002,h29km, mb6.5/320,MS6.8/190 Error ellipse: s-maj=3.2km s-min=2.2km az=35.6*

MOS ***16*** *15:28:27.4±0.9,0.13N×97.04E,h33km,mb6.8/44, MS6.8/35,Error ellipse: s-maj=7.6km s-min=4.6km az=118.7*

SZGRF ***16*** *15:28:29.5,0.27N×96.53E,h34km,mb6.5,MS6.8,Off west coast of northern Sumatera, Indonesia*

IDC ***16*** *15:28:29.2±4.6,0.12N×97.10E,h33km±34km,mb5.9/39, mb1 5.9/40,mb1mx5.9/40,mbtmp6.1/40,ML5.4/1,MS6.8/25, Ms1 6.8/25,ms1mx6.6/33,Error ellipse: s-maj=12.8km s-min=8.5km az=38.0*

BGS ***16*** *15:28:34.2,143N×9556E,h10km,mb6.2*

ISC 16 15:28:29.2±0.1,012N±002×9711E±002,h31km, h31km±1.3km:pP-P,n1626,σ0s99/1380,mb6.5/320, MS6.8/190,72C-338D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.23**	**34**		Pn		**Pn**	**15 29 16.2**	**-1.5**
	479nm,0.3s,baz=190,slow=9.0,SNR=319								
PPI	**Padang Panjang**	**3.34**	**100**		P		**Pn**	**15 29 18.3**	**-0.9**
	14μm,0.9s								
BSI	**Banda Aceh**	**5.64**	**341**		P		**Pn**	**15 29 47.2**	**-3.7**
	7μm,1.4s								
IPM	**Ipoh**	**5.84**	**42**		P		**Pn**	**15 29 55.1**	**+1.4**
IPM	**Ipoh**	**5.84**	**42**		P		**Pn**	**15 29 52.8**	**-0.8**
KULM	**Kulim**	**6.24**	**34**	⇑	*i*P		**Pn**	**15 29 58.3**	**-0.8**
KGM	**Kluang**	**6.49**	**73**		P		**Pn**	**15 30 03.7**	**+1.2**
BTDF	**Bukit Timah Da**	**6.78**	**79**		P		**Pn**	**15 30 04.9**	**-1.6**
SNG	**Songkhla**	**7.84**	**26**		P		**Pn**	**15 30 19.0**	**-2.0**
	2μm,1.0s								
SNG	**Songkhla**	**7.84**	**26**		SG		**Pn**	**15 30 22.0**	**+1.0**
PKT	**Phuket**	**7.98**	**8**		P		**Pn**	**15 30 21.0**	**-2.0**
COCO	**West Island**	**12.23**	**181**		Pn		**Pn**	**15 31 19.2**	**-2.0**
	11μm,1.1s,SNR=21								
COCO	**West Island**	**12.23**	**181**		*e*P		**Pn**	**15 31 17.2**	**-3.9**
	5μm,1.4s								
NNT	**Nongplab**	**12.66**	**12**		P		**Pn**	**15 31 26.0**	**-1.1**
KSM	**Kuching**	**13.27**	**84**	⇑	*e*P		**Pn**	**15 31 35.8**	**+0.4**
BJII	**Banjamegara**	**14.59**	**121**		P		**Pn**	**15 31 46.9**	**-6.4**
	735nm,1.7s								
NST	**Nakhon Sawan**	**15.74**	**11**	⇓	P		**Pn**	**15 32 06.2**	**-2.4**
	958nm,1.6s								
UBT	**Ubonrachathani**	**16.94**	**27**	⇑	P		**Pn**	**15 32 29.0**	**+5.1**
	5μm,0.9s								
KKTK	**Khon Kaen**	**17.07**	**19**	⇑	P		**Pn**	**15 32 23.0**	**-2.5**
	7μm,0.4s								
PALK	**Pallekele**	**17.84**	**294**		Pn		**Pn**	**15 32 37.6**	**+2.6**
	7μm,1.5s								
PALK	**Pallekele**	**17.84**	**294**	⇓	*e*P		**Pn**	**15 32 35.5**	**+0.6**
	4μm,1.5s								
KMMI	**Kalianget**	**18.26**	**113**		P		**Pn**	**15 32 38.9**	**-1.3**
	2μm,1.9s								
CHG	**Chiang Mai**	**18.67**	**5**	⇑	P		**Pn**	**15 32 44.9**	**-0.2**
	150nm,1.1s								
CHTO	**Chiang Mai**	**18.67**	**5**	⇑	*e*P		**Pn**	**15 32 44.0**	**-1.1**
CHTO					pmax		pmax		
	comp=Z,3μm,1.1s								
CHTO	**Chiang Mai**	**18.67**	**5**	⇑	*e*P		**Pn**	**15 32 44.0**	**-1.1**
	comp=Z,3μm,1.1s								
NANT	**Nan**	**18.90**	**11**	⇑	P		**Pn**	**15 32 45.0**	**-2.9**
	comp=Z,2μm,1.0s								
CHRT	**Chiangrai**	**19.81**	**7**	⇑	P		**Pn**	**15 32 58.0**	**-0.7**
	comp=Z,3μm,0.7s								
KKM	**Kota Kinabalu**	**19.96**	**72**		P		**Pn**	**15 33 01.6**	**+1.0**
KKM	**Kota Kinabalu**	**19.96**	**72**	⇑	*e*P		**Pn**	**15 32 59.1**	**-1.4**
MDRS	**Chennai**	**21.09**	**308**		*e*P		**P**	**15 33 13.1**	**+2.1**
TSM	**Tawau**	**21.16**	**78**		P		**P**	**15 33 13.6**	**+1.9**
TRD	**Trivandrum**	**21.73**	**293**		*e*P		**P**	**15 33 21.3**	**+3.4**
TRD					AMb		AMB	15 33 47.1	
	comp=Z,3μm,1.2s,mb6.5								
VIS	**Vishakhapatnam**	**22.13**	**323**		*e*P		**P**	**15 33 24.4**	**+2.3**
VIS					*i* P			15 33 24.5	
VIS					AMb		AMB	15 33 45.7	
	comp=Z,4μm,1.3s,mb6.7								
VIS					*e*S		**S**	**15 37 28.6**	**+4.2**
QIZ	**Qiongzhong**	**22.57**	**33**		P		**P**	**15 33 27.5**	**+0.7**
QIZ					AP			15 33 32.3	
QIZ					S		**S**	**15 37 33.3**	**+0.5**
QIZ					XS		sS	15 37 44.1	-2.1
QIZ					AMB		AMB		
	comp=Z,78μm,12.1s								
QIZ					LR		LR		
	comp=N,356μm,14.3s,MS7.0								
QIZ					LR		LR		
	comp=E,265μm,14.5s,MS7.0								
QIZ					LR		LR		
	comp=Z,263μm,12.1s,MS6.9								
QIZ	**Qiongzhong**	**22.57**	**33**	⇑	*e*P		**P**	**15 33 25.6**	**-1.3**
	comp=Z,4μm,1.4s,mb6.7								
QIZ					LR		LR		
	comp=Z,189μm,22.0s,MS6.5								
PCI	**Palu**	**22.75**	**93**		P		**P**	**15 33 28.4**	**-0.3**
	comp=Z,1μm,1.9s,mb5.9								
PPR	**Puerto Princes**	**23.56**	**65**	⇓	*i*P		**P**	**15 33 38.0**	**+0.9**
CAL	**Calcutta**	**23.87**	**340**		*e*P		**P**	**15 33 42.1**	**+2.2**
CAL					*e*S		**S**	**15 37 58.9**	**+5.0**
HYB	**Hyderabad**	**25.08**	**314**	⇓	*i*P		**P**	**15 33 52.0**	**+1.1**
	comp=Z,1μm,1.0s,mb6.4								
HYB					*e*			15 34 03.0	
HYB					*e*			15 34 19.0	
HYB					*e*S		**S**	**15 38 16.0**	**+2.6**
HYB					*e*SS			15 39 14.0	
HYB					LR		LR	15 45 36.0	
	comp=Z,173nm,20.0s								
HYB	**Hyderabad**	**25.08**	**314**	⇓	*e*P		**P**	**15 33 52.0**	**+1.1**
HYB					*e*S		**S**	**15 38 16.0**	**+2.6**
HYB					pmax		pmax		
	comp=Z,1μm,1.0s,mb6.3								
HYB	**Hyderabad**	**25.08**	**314**	⇓	*e*P		**P**	**15 33 52.0**	**+1.1**
	comp=Z,1μm,1.0s,mb6.3								
HYB					*e*S		**S**	**15 38 16.0**	**+2.6**
MNCY	**Minicoy**	**25.32**	**289**		*i* x		x	15 33 48.0	
KMI	**Kunming**	**25.45**	**12**	⇑	P		**P**	**15 33 56.3**	**+2.1**
KMI					AP		pP	15 34 00.1	-3.0
KMI					XP		sP	15 34 01.5	-5.3
KMI					PP			15 34 37.1	
KMI					PCP		PcP	15 37 28.8	+3.1
KMI					S		**S**	**15 38 23.8**	**+4.6**
KMI					XS		sS	15 38 30.4	-3.5
KMI					SS			15 39 25.0	
KMI					PCS		PcS	15 41 07.6	+1.4
KMI					AMB		AMB		
	comp=Z,750nm,1.3s,mb6.1								
KMI					AMB		AMB		
	comp=Z,63μm,7.6s								
KMI					LR		LR		
	comp=N,481μm,13.4s								
KMI					LR		LR		
	comp=E,593μm,19.1s								
KMI					LR		LR		
	comp=Z,605μm,13.1s,MS7.3								
MNGI	**Mangalore**	**25.50**	**301**		*e*P		**P**	**15 33 57.0**	**+2.3**
MNGI					AMb		AMB	15 34 08.8	
	comp=Z,1μm,2.0s,mb6.0								
DGAR	**Diego Garcia**	**25.70**	**253**		P		**P**	**15 33 55.7**	**-0.8**
	comp=Z,2μm,0.7s,mb6.8,SNR=12								
DGAR	**Diego Garcia**	**25.70**	**253**		*e*P		**P**	**15 33 55.5**	**-1.0**
DGAR					pmax		pmax		
	comp=Z,4μm,1.3s,mb6.8								
DGAR					MLR		MLR		
	comp=Z,309μm,22.0s,MS6.8								
DGAR	**Diego Garcia**	**25.70**	**253**		*e*P		**P**	**15 33 55.5**	**-1.0**
	comp=Z,4μm,1.3s,mb6.8								
DGAR					LR		LR		
	comp=Z,309μm,22.0s,MS6.8								
BUSP	**Coron**	**25.79**	**62**		*e*P		**P**	**15 33 58.4**	**+1.1**
SHL	**Shillong**	**25.80**	**349**		*i* P		**P**	**15 33 58.0**	**+0.6**
SHL					*e*S		**S**	**15 38 30.5**	**+5.7**
BOK	**Bokaro**	**25.93**	**336**		*e*P		**P**	**15 34 00.7**	**+2.0**
BOK					AMb		AMB	15 34 13.1	
	comp=Z,4μm,1.4s,mb6.7								
BOK					*i* S		**S**	**15 38 28.1**	**+1.2**
IPIL	**Ipil**	**26.50**	**73**	⇑	*e*P		**P**	**15 34 04.8**	**+1.1**
SHBG	**Sahibganj**	**26.57**	**341**		*e*P		**P**	**15 34 05.0**	**+0.6**
LKP	**Lekhapani**	**27.08**	**358**		*e*P		**P**	**15 34 07.5**	**-1.5**
LATR	**Latur**	**27.17**	**313**		*e*P		**P**	**15 34 11.0**	**+1.2**
TGY	**Tagaytay City**	**27.38**	**58**		P		**P**	**15 34 13.0**	**+1.4**
	comp=Z,424nm,0.6s,baz=192,slow=5.3,SNR=9.1								
TGY					S		**S**	**15 38 53.9**	**+4.2**
	comp=Z,86nm,0.3s,baz=167,slow=15,SNR=3.5								
TGY					LR		LR	15 44 52.8	
	comp=Z,854nm,19.4s,baz=224,slow=36								
TGY	**Tagaytay City**	**27.38**	**58**		P		**P**	**15 34 13.0**	**+1.4**
TGY					S		**S**	**15 38 53.9**	**+4.3**
DCPH	**Dipolog City**	**27.46**	**71**	⇑	*e*P		**P**	**15 34 13.9**	**+1.5**
GOA	**Goa**	**27.61**	**305**		*e*P		**P**	**15 34 16.0**	**+2.3**
SLGI	**Shiliguri**	**27.72**	**343**		*ex*		x	15 34 20.5	
GZH	**Guangzhou**	**27.76**	**34**		P		**P**	**15 34 20.3**	**+5.2**
GZH					PP			15 35 06.3	
GZH					AMB		AMB		
	comp=Z,937nm,2.0s,mb6.1								
GZH					LR		LR		
	comp=N,334μm,16.5s,MS7.2								
GZH					LR		LR		
	comp=E,403μm,16.0s,MS7.2								
GZH					LR		LR		
	comp=Z,232μm,13.4s,MS6.9								
GYA	**Guiyang**	**27.76**	**19**	⇑	*i*P		**P**	**15 34 14.1**	**-1.0**
GYA					AP		pP	15 34 18.4	-5.6
GYA					PP			15 35 00.8	
GYA					S		**S**	**15 38 52.1**	**-3.6**
GYA					SCP		ScP	15 41 13.6	+4.1
GYA					AMB		AMB		
	comp=Z,720nm,1.2s,mb6.2								
GYA					AMB		AMB		
	comp=Z,53μm,11.1s								
GYA					LR		LR		
	comp=N,391μm,14.7s,MS7.3								
GYA					LR		LR		
	comp=E,380μm,14.7s,MS7.3								
GYA					LR		LR		
	comp=Z,564μm,14.1s,MS7.3								
BOAC	**Boac**	**27.86**	**61**		*e*P		**P**	**15 34 15.3**	**-0.7**
RCP	**Roxas**	**27.89**	**65**	⇑	*e*P		**P**	**15 34 17.1**	**+0.9**
CTBH	**Cotabato--PC H**	**27.97**	**75**		*e*P		**P**	**15 34 17.1**	**+0.1**
PCPH	**Palayan**	**28.23**	**56**	⇑	*e*P		**P**	**15 34 18.6**	**-0.6**
BCPH	**Baguio City Da**	**28.23**	**54**	⇑	*e*P		**P**	**15 34 17.9**	**-1.3**
GTK	**Gangtok**	**28.26**	**344**		*ex*		x	15 34 48.0	
TBP	**Tagbilaran**	**28.27**	**70**		*e*P		**P**	**15 34 19.9**	**+0.3**
JBP	**Jabalpur**	**28.32**	**325**	⇓	*e*P		**P**	**15 34 21.7**	**+1.6**
JBP					*ex*		x	15 34 38.2	
	comp=Z,1μm,1.9s								
JBP					*e*S		**S**	**15 39 09.9**	**+5.4**
LLP	**Lapu-Lapu**	**28.57**	**68**	⇑	*e*P		**P**	**15 34 22.6**	**+0.4**
	comp=Z,1798μm,0.8s								
LLP					*e*S		**S**	**15 39 10.0**	**+1.6**
BALP	**Baler**	**28.71**	**56**		*e*P		**P**	**15 34 23.1**	**-0.4**
ABRA	**Dolores**	**29.03**	**52**		*e*P		**P**	**15 34 27.5**	**+1.1**
DAV	**Davao City (W)**	**29.23**	**76**		*e*P		**P**	**15 34 29.0**	**+0.9**
	comp=Z,1μm,1.2s,mb6.5								
DAV					LR		LR		
	comp=Z,164μm,19.0s,MS6.7								
POO	**Poona**	**29.27**	**310**	⇓	*i*P		**P**	**15 34 29.0**	**+0.5**
	comp=Z,500nm,1.0s,mb6.2								
POO					*ex*		x	15 35 04.8	
POO					AMb		AMB	15 35 24.8	
	comp=Z,900nm,1.3s,mb6.3								
POO					*i* x		x	15 41 12.0	
JIRN	**Jiri**	**29.32**	**340**		*e*P		**P**	**15 34 30.4**	**+1.4**
	comp=Z,2μm,0.9s,mb6.8								
PIP	**Pasuquin**	**29.35**	**51**	⇓	*e*P		**P**	**15 34 30.4**	**+1.2**
PKI	**Pulchoki**	**29.52**	**339**		*e*P		**P**	**15 34 31.2**	**+0.5**
	comp=Z,4μm,1.3s,mb6.9								
PKI	**Pulchoki**	**29.52**	**339**		*e*P		**P**	**15 34 31.2**	**+0.5**
PKI					pmax		pmax		
	comp=Z,4μm,1.3s,mb7.0								
CAUP	**Cauayan**	**29.54**	**54**		*e*P		**P**	**15 34 30.8**	**-0.1**
APYP	**Conner**	**29.57**	**52**		*e*P		**P**	**15 34 30.6**	**-0.5**
GUN	**Gumba**	**29.66**	**340**		*e*P		**P**	**15 34 32.9**	**+0.9**
DMN	**Daman**	**29.66**	**338**		*e*P		**P**	**15 34 32.7**	**+0.7**
	comp=Z,2μm,0.7s,mb6.8								
KKN	**Kakani**	**29.76**	**339**		*e*P		**P**	**15 34 33.5**	**+0.6**
	comp=Z,2μm,0.8s,mb6.8								
KKN	**Kakani**	**29.76**	**339**		*e*P		**P**	**15 34 33.5**	**+0.6**
KKN					pmax		pmax		
	comp=Z,2μm,0.8s,mb6.8								
PLP	**Palo**	**29.79**	**67**		*e*P		**P**	**15 34 32.9**	**-0.2**
SCPH	**Surigao**	**29.83**	**70**	⇓	*e*P		**P**	**15 34 34.3**	**+0.8**
VLK	**Valmikinagar**	**29.89**	**336**		*ex*		x	15 33 48.0	
VLK					*ex*		x	15 34 02.0	
BHPL	**Bhopal**	**29.90**	**322**		*e*P		**P**	**15 34 36.0**	**+1.9**
BHPL					AMb		AMB	15 35 46.4	
	comp=Z,1μm,1.6s,mb6.3								
CVP	**Callao Caves**	**29.94**	**53**		*e*P		**P**	**15 34 35.0**	**+0.5**
PVCP	**Virac**	**29.95**	**62**		*e*P		**P**	**15 34 32.7**	**-1.8**
LSA	**Lhasa**	**29.96**	**350**		P		**P**	**15 34 36.6**	**+2.0**
LSA					XP		sP	15 34 49.8	+2.5
LSA					S		**S**	**15 39 30.5**	**+0.2**
LSA					SCS		ScS	15 45 12.5	+0.7
LSA					AMB		AMB		
	comp=Z,360nm,1.0s,mb6.1								
LSA					AMB		AMB		
	comp=Z,15μm,10.5s								
LSA					LR		LR		
	comp=N,78μm,26.4s								
LSA					LR		LR		
	comp=E,142μm,20.0s								
LSA					LR		LR		
	comp=Z,231μm,21.7s,MS6.8								
LSA	**Lhasa**	**29.96**	**350**	⇑	*e*P		**P**	**15 34 36.1**	**+1.5**
LSA					pmax		pmax		
	comp=Z,3μm,1.3s,mb6.9								
LSA					MLR		MLR		
	comp=Z,254μm,22.0s,MS6.8								
LSA	**Lhasa**	**29.96**	**350**	⇑	*e*P		**P**	**15 34 36.1**	**+1.5**
	comp=Z,3μm,1.3s,mb6.9								
LSA					LR		LR		
	comp=Z,254μm,22.0s,MS6.8								
PALP	**Palanan**	**30.09**	**55**	⇓	*e*P		**P**	**15 34 35.8**	**+0.1**
GKN	**Gorkha**	**30.20**	**338**		*e*P		**P**	**15 34 37.4**	**+0.7**
	comp=Z,4μm,1.2s,mb7.0								
BIPH	**Bislig**	**30.23**	**74**	⇑	*i*P		**P**	**15 34 35.5**	**-1.5**
BOM	**Bombay**	**30.28**	**309**		*i* P		**P**	**15 34 39.4**	**+2.0**
BOM					*e*P			15 34 39.4	
BOM					*ex*		x	15 34 52.0	
	comp=Z,14μm,3.4s								
KOLN	**Koldanda**	**30.40**	**336**		*e*P		**P**	**15 34 38.9**	**+0.4**
	comp=Z,2μm,1.0s,mb6.9								
MBWA	**Marble Bar**	**30.59**	**135**	⇓	*e*P		**P**	**15 34 40.7**	**+0.5**
	comp=Z,893nm,1.4s,mb6.4								
MBWA					LR		LR		
	comp=Z,128μm,20.0s,MS6.6								
CD2	**Chengdu**	**31.27**	**11**	⇓	*i*P		**P**	**15 34 45.5**	**-0.7**
CD2					PCP		PcP	15 37 40.0	0.0
CD2					S		**S**	**15 39 49.1**	**-1.7**
CD2					AMB		AMB		
	comp=Z,240nm,1.0s,mb6.0								
CD2					AMB		AMB		
	comp=Z,21μm,11.8s								
CD2					LR		LR		
	comp=N,344μm,24.0s								
CD2					LR		LR		
	comp=Z,176μm,15.6s								
AAI	**Ambon**	**31.30**	**97**		P		**P**	**15 34 45.3**	**-1.1**
	comp=Z,1μm,1.1s,mb6.7								
QZH	**Quanzhou**	**32.27**	**39**	⇑	*i*P		**P**	**15 34 55.8**	**+0.9**
QZH					S		**S**	**15 40 01.8**	**-4.6**
QZH					AMB		AMB		
	comp=Z,2μm,0.9s,mb6.8								
QZH					AMB		AMB		
	comp=Z,72μm,5.6s								
QZH					LR		LR		
	comp=N,461μm,15.4s,MS7.5								
QZH					LR		LR		
	comp=E,631μm,15.1s,MS7.5								
QZH					LR		LR		
	comp=Z,326μm,14.4s,MS7.2								
LGTI	**Lohaghat**	**33.31**	**333**		*e*P		**P**	**15 35 04.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**33.39**	**124**	⇓	*i*P		**P**	**15 35 04.5**	**-0.2**
	comp=Z,708nm,0.8s,mb6.7								
FITZ					*i* S		**S**	**15 40 22.1**	**-1.7**
FITZ	**Fitzroy Crossi**	**33.39**	**124**		P		**P**	**15 35 04.6**	**-0.2**
	comp=Z,471nm,1.0s,mb6.4,baz=305,slow=7.4,SNR=189								
FITZ					S		**S**	**15 40 22.4**	**-1.4**
	comp=Z,22nm,1.0s,baz=129,slow=22,SNR=1.8								
FITZ					LR		LR	15 50 53.2	
	comp=Z,208μm,19.8s,MS6.8,baz=323,slow=40								
PTH	**Pithoragarh**	**33.41**	**333**		*e*P		**P**	**15 35 06.7**	**+1.8**
NACB	**Ninganchiao**	**33.70**	**43**	⇑	*e*P		**P**	**15 35 07.8**	**+0.4**
YHNB	**Yeheng**	**33.88**	**42**	⇑	*e*P		**P**	**15 35 09.8**	**+0.8**
AJM	**Ajmer**	**33.98**	**322**		*i* P		**P**	**15 35 11.0**	**+1.1**
TATO	**Taipei**	**34.16**	**42**		*e*P		**P**	**15 35 12.7**	**+1.2**
	comp=Z,7μm,1.6s,mb7.3								
TATO					LR		LR		
	comp=Z,108μm,22.0s,MS6.5								
SWI	**Sorong**	**34.17**	**92**		P		**P**	**15 35 09.9**	**-1.6**
	comp=Z,393nm,1.4s,mb6.2								
NDI	**New Delhi**	**34.19**	**328**		*e*P		**P**	**15 35 11.9**	**+0.2**
NDI					AMb		AMB	15 35 24.0	
	comp=Z,1μm,1.1s,mb6.7								
NDI					*e*S		**S**	**15 40 40.3**	**+4.1**
WHN	**Wuhan**	**34.41**	**27**		P		**P**	**15 35 14.8**	**+1.1**
WHN					PP		PP	15 36 36.0	+4.1
WHN					S		**S**	**15 40 40.8**	**+1.1**
WHN					LR		LR		
	comp=Z,289μm,12.0s,MS7.2								
DDI	**Dehra Dun**	**35.08**	**331**	⇑	*i*P		**P**	**15 35 19.0**	**-0.4**
BHJ	**Bhuj**	**35.22**	**313**	⇓	*e*P		**P**	**15 35 22.3**	**+1.7**
BHJ					AMb		AMB	15 35 35.6	
	comp=Z,1μm,1.5s,mb6.5								
BHJ					*ex*		x	15 40 53.9	
BHJ					*ex*		x	15 52 19.6	
	comp=Z,101μm,19.4s								
XAN	**Xi'an**	**35.52**	**17**		P		**P**	**15 35 23.0**	**-0.2**
XAN					PP		PP	15 36 45.0	+0.9
XAN					AMB		AMB		
	comp=Z,1μm,1.5s,mb6.6								
XAN					AMB		AMB		
	comp=Z,26μm,11.0s								
XAN					LR		LR		
	comp=N,125μm,18.8s,MS7.1								
XAN					LR		LR		
	comp=E,282μm,16.1s,MS7.1								
XAN					LR		LR		
	comp=Z,318μm,15.1s,MS7.2								
TLE	**Tual**	**36.03**	**100**		P		**P**	**15 35 26.4**	**-1.2**
	comp=Z,935nm,1.4s,mb6.5								
LZH	**Lanzhou**	**36.33**	**9**	⇑	P		**P**	**15 35 30.8**	**+0.7**
LZH					AP		pP	15 35 37.6	-1.6
LZH					XP		sP	15 35 40.8	-2.1
LZH					PP		PP	15 36 56.3	+3.3
LZH					S		**S**	**15 41 12.3**	**+3.2**
LZH					XS		sS	15 41 23.0	-1.0
LZH					SS		SS	15 43 39.0	-9.3
LZH					SCS		ScS	15 45 47.3	+2.6
LZH					AMB		AMB		
	comp=Z,3μm,1.3s,mb7.1								
LZH					AMB		AMB		
	comp=Z,16μm,5.0s								
LZH					LR		LR		
	comp=E,308μm,16.6s								
LZH					LR		LR		
	comp=Z,326μm,18.0s,MS7.2								
SDNR	**Sundarnagar**	**36.58**	**330**		*e*P		**P**	**15 35 33.5**	**+1.3**
MUN	**Mundaring**	**36.68**	**152**	⇓	*i*P		**P**	**15 35 34.3**	**+1.2**
MUN					*e*PP		PP	15 36 52.1	-4.8
MUN					*e*S		**S**	**15 41 22.4**	**+8.0**
BHK	**Bhakra**	**36.79**	**330**		*e*P		**P**	**15 35 35.6**	**+1.6**
KLBR	**Kellerberrin**	**37.11**	**150**	⇓	*i*P		**P**	**15 35 37.4**	**+0.6**
KAKA	**Kakadu**	**37.29**	**111**		*e*P		**P**	**15 35 37.1**	**-1.2**
	comp=Z,109nm,0.6s,mb5.9								
PONG	**Pong**	**37.45**	**330**		*e*P		**P**	**15 35 40.0**	**+0.3**
NJ2	**Nanjing**	**37.83**	**31**		*e*P		**P**	**15 35 45.4**	**+2.5**
NJ2					AP		pP	15 35 50.3	-1.6
NJ2					XP		sP	15 35 51.5	-4.1
NJ2					PP		PP	15 37 14.3	+4.7
NJ2					S		**S**	**15 41 35.0**	**+3.0**
NJ2					XS		sS	15 41 43.0	-3.9
NJ2					AMB		AMB		
	comp=Z,200nm,1.0s,mb5.8								
NJ2					AMB		AMB		
	comp=Z,25μm,8.0s								
NJ2					LR		LR		
	comp=N,503μm,15.3s,MS7.6								
NJ2	

comp=Z,956nm,0.8s,mb6.6,SNR=33
TIA Tai'an 40.44 25 ⇑P P 15 36 05.0 +0.3
TIA AP pP 15 36 14.5 +0.7
TIA XP sP 15 36 19.0 +1.5
TIA S **S 15 42 18.0 +6.8**
TIA AMB AMB
comp=Z,269nm,0.8s,mb6.0
TIA AMB AMB
comp=Z,19µm,12.0s
WRA Warramunga Arr 41.55 121 P P 15 36 13.6 -0.2
comp=Z,1µm,1.0s,mb6.4,baz=300,slow=9.0,SNR=672
WRA S **S 15 42 24.9 -2.8**
comp=Z,47nm,1.1s,baz=294,slow=16,SNR=5.4
WRAB Tennant Creek 41.56 121 P P 15 36 14.0 +0.1
comp=Z,7µm,0.9s,mb7.3
WRAB Tennant Creek 41.56 121 ⇓*i*P P 15 36 14.0 +0.1
WRAB pmax pmax
comp=Z,717nm,2.6s,mb5.8
WRAB MLR MLR
comp=Z,97µm,19.0s,MS6.7
WRAB Tennant Creek 41.56 121 ⇓*i*P P 15 36 13.9 +0.1
comp=Z,717nm,2.6s,mb5.8
WRAB LR LR
comp=Z,97µm,19.0s,MS6.7
WB2 Warramunga Arr 41.56 121 ⇓*i*P P 15 36 13.7 -0.2
WB2 *i* S **S 15 42 25.2 -2.7**
MSEY Mahe Island 41.85 263 P P 15 36 17.5 +1.2
comp=Z,629nm,1.5s,mb6.0,SNR=14
BTO Baotou 41.98 15 *e*P P 15 36 18.3 +1.0
BTO S **S 15 42 25.9 -8.1**
BTO AMB AMB
comp=Z,662nm,1.5s,mb6.0
FORT Forrest 42.52 139 ⇓*i*P P 15 36 22.9 +1.2
comp=Z,1µm,0.8s,mb6.7
FORT *e*PP PP 15 38 01.1 +0.6
FORT *e*S PcS 15 42 04.2 -1.8
HHC Hu-ho-hao-te 42.62 16 ⇑*i*P P 15 36 24.1 +1.6
HHC PP PP 15 38 09.0 +7.4
HHC SCP ScP 15 41 57.4 -5.5
HHC PCS PcS 15 42 05.1 -1.3
HHC S **S 15 42 48.9 +5.5**
HHC SS SS 15 45 48.3 -5.8
HHC SCS ScS 15 46 16.8 -4.8
HHC AMB AMB
comp=Z,821nm,1.6s,mb6.2
HHC AMB AMB
comp=Z,33µm,10.8s
HHC LR LR
comp=N,157µm,17.6s,MS7.1
HHC LR LR
comp=E,148µm,15.1s,MS7.1
HHC LR LR
comp=Z,185µm,16.3s,MS7.1
ASAR Alice Springs 42.83 126 P P 15 36 24.6 +0.3
comp=Z,198nm,0.8s,mb5.9,baz=296,slow=8.0,SNR=525
ASAR S **S 15 42 50.0 +3.5**
comp=Z,17nm,0.9s,baz=308,slow=15,SNR=3.4
ASAR PKiKP PKiKP 15 45 18.2 -0.8
comp=Z,1.8nm,0.6s,baz=318,slow=1.0,SNR=4.4
ASAR Alice Springs 42.83 126 P P 15 36 24.6 +0.3
ASAR S **S 15 42 50.0 +3.5**
BJT Baijiatuau 43.35 21 PFAKE 15 36 40.0 +12
BJT LR LR
comp=Z,100µm,19.0s,MS6.7
BJI Beijing 43.37 21 P P 15 36 30.3 +1.7
BJI AMB AMB
comp=Z,484nm,1.3s,mb6.1
BJI AMB AMB
comp=Z,48µm,5.0s
BJI LR LR
comp=N,127µm,16.4s,MS7.0
BJI LR LR
comp=E,121µm,17.9s,MS7.0
BJI LR LR
comp=Z,121µm,17.9s,MS6.8
KSH Kashi 43.71 336 *i* PR P 15 36 32.5 +1.1
KSH *e*AP pP 15 36 36.3 -4.2
KSH *e*XP sP 15 36 38.8 -5.4
KSH *e*PP PP 15 38 15.3 +1.9
KSH *e*PCP PcP 15 38 19.3 +1.3
KSH *e*SCP ScP 15 42 08.0 +0.7
KSH *e*PCS PcS 15 42 10.3 -0.5
KSH *e*S **S 15 43 01.5 +2.0**
KSH *e*SS SS 15 46 07.0 -8.6
KSH *e*SCS ScS 15 46 27.1 -1.3
KSH AMB AMB
comp=Z,518nm,1.6s,mb6.0
KSH AMB AMB
comp=Z,4µm,2.9s,mb6.7
KSH LR LR
comp=N,58µm,12.4s,MS6.9
KSH LR LR
comp=E,69µm,13.0s,MS6.9
KSH LR LR
comp=Z,56µm,15.7s,MS6.6
WSAR Wadi Sarin 43.87 304 P P 15 36 34.2 +1.6
comp=Z,101nm,1.0s,mb5.5,baz=115,slow=7.9,SNR=62
WSAR S **S 15 43 04.6 +2.8**
comp=Z,16nm,1.1s,baz=89,slow=3.8,SNR=2.4
WSAR LR LR 15 53 10.4
comp=Z,61µm,19.1s,MS6.5,baz=308,slow=34
WSAR Wadi Sarin 43.87 304 P P 15 36 34.2 +1.6
WSAR S **S 15 43 04.6 +2.8**
WSAR LR LR 15 53 10.4
WMQ Urumqi 44.32 350 ⇓*i*P P 15 36 38.3 +2.1
WMQ PCP PcP 15 38 22.3 +2.2
WMQ PP PP 15 38 23.3 +3.5
WMQ PCS PcS 15 42 14.8 +1.5
WMQ S **S 15 43 13.5 +5.2**
WMQ SS SS 15 46 23.8 -3.5
WMQ AMB AMB
comp=Z,1µm,1.4s,mb6.5
WMQ AMB AMB
comp=Z,30µm,7.1s
WMQ LR LR
comp=N,79µm,17.5s,MS6.9
WMQ LR LR
comp=E,89µm,17.1s,MS6.9
WMQ LR LR
comp=Z,78µm,21.8s,MS6.6
DL2 Dalian 44.67 27 ⇑*i*P P 15 36 40.0 +0.9
DL2 XP sP 15 36 53.1 +1.2
DL2 S **S 15 43 17.3 +3.8**
DL2 AMB AMB
comp=Z,880nm,1.1s,mb6.5
DL2 AMB AMB
comp=Z,23µm,8.1s
DL2 LR LR
comp=N,50µm,15.4s,MS7.0
DL2 LR LR
comp=E,132µm,16.9s,MS7.0
DL2 LR LR
comp=Z,55µm,16.2s,MS6.6
ULHL Ulahol 45.96 338 P P 15 36 50.4 +1.2
SNR=329
INCN Inchon 46.10 33 ⇑*e*P P 15 36 49.5 -0.9
comp=Z,2µm,1.8s,mb6.8
INCN LR LR
comp=Z,73µm,19.0s,MS6.7
KZA Kyzart 46.19 337 P P 15 36 52.5 +1.4
SNR=144
UCH Uchtor 46.60 337 P P 15 36 55.9 +1.6
SNR=352
AAA Alma-Ata 46.60 340 *i* P P 15 36 55.7 +1.4
AAA *i* S **S 15 43 41.8 +0.5**
AAA pmax pmax
comp=Z,4µm,2.9s,mb6.8
AAA smax
comp=E,95µm,10.5s
AAA MLR MLR
comp=Z,54µm,17.9s,MS6.5
KS15 Wonju Array Si 46.76 34 ⇑*e*P P 15 36 55.7 +0.2
TKM2 Tokmak 2 46.78 338 P P 15 36 57.0 +1.3
SNR=301
TKM2 Tokmak 2 46.78 338 *i* P P 15 36 57.2 +1.5
KBK Karagaybulak 46.80 338 P P 15 36 57.6 +1.8
SNR=121
AML Almayashu 46.85 336 P P 15 36 57.8 +1.6
SNR=273
AAK Ala-Archa 46.95 337 P P 15 36 58.5 +1.4
SNR=88
AAK Ala-Archa 46.95 337 P P 15 36 57.5 +0.4
comp=Z,2µm,1.5s,mb6.9
AAK Ala-Archa 46.95 337 *e*Pr P 15 36 57.7 +0.6
AAK LR LR
comp=Z,136µm,21.0s,MS6.9

FRU Bishkek 47.08 337 ⇓*e*P P 15 36 59.8 +1.8
FRU *i* pP 15 37 10.5 +3.3
FRU *i* S **S 15 43 52.0 +4.0**
FRU pmax pmax
comp=Z,2µm,2.1s,mb6.7
FRU smax
comp=N,55µm,18.0s
FRU MLR MLR
comp=Z,82µm,20.0s,MS6.7
CHMS Chumysh 47.16 338 P P 15 36 59.6 +0.9
SNR=90
EKS2 Erkin-Say 47.26 337 P P 15 37 00.9 +1.5
SNR=324
USP Ospenovka 47.49 338 P P 15 37 02.3 +1.0
SNR=519
SNY Shenyang 47.91 27 ⇑P P 15 37 04.3 -0.2
SNY AP pP 15 37 14.0 +0.3
SNY XP sP 15 37 18.8 +1.4
SNY PP PP 15 38 57.8 +1.3
SNY S **S 15 44 01.8 +2.0**
SNY XS sS 15 44 18.1 +3.1
SNY AMB AMB
comp=Z,536nm,1.6s,mb6.3
SNY AMB AMB
comp=Z,38µm,12.0s
SNY LR LR
comp=N,133µm,17.9s
SNY LR LR
comp=Z,132µm,18.0s,MS7.0
SONM Songino Array 48.21 8 P P 15 37 07.7 +0.8
comp=Z,432nm,0.9s,mb6.5,baz=190,slow=6.7,SNR=352
SONM S **S 15 44 03.1 -1.0**
comp=Z,5.7nm,1.1s,baz=291,slow=20,SNR=2.4
SONM LR LR 16 00 21.6
comp=Z,200µm,18.5s,MS7.1,baz=184,slow=40
SONM Songino Array 48.21 8 P P 15 37 07.7 +0.9
SONM S **S 15 44 03.1 -1.0**
MKAR Makanchi Array 48.26 346 P P 15 37 07.7 +0.4
comp=Z,350nm,0.7s,mb6.5,baz=162,slow=7.4,SNR=565
KK31 Karatay Array 48.98 334 *i* P P 15 37 12.6 -0.2
GUMO Guam 49.15 72 P P 15 37 13.5 -0.5
comp=Z,66nm,0.5s,mb5.9,baz=177,slow=9.3,SNR=9.3
GUMO S **S 15 44 20.0 +2.6**
comp=Z,22nm,0.5s,baz=4.3,slow=21,SNR=1.9
GUMO LR LR 15 58 20.3
comp=Z,30µm,21.4s,MS6.2,baz=250,slow=36
GUMO Guam 49.15 72 P P 15 37 13.5 -0.5
GUMO S **S 15 44 20.0 +2.7**
MUKL Al Mukalla 49.63 289 *e*P P 15 37 18.5 +0.8
CN2 Changchun 50.31 27 *e*P P 15 37 22.8 0.0
CN2 *e*XP sP 15 37 30.1 -5.7
CN2 PP PP 15 39 17.0 -1.4
CN2 *e*S **S 15 44 27.5 -6.0**
CN2 AMB AMB
comp=Z,30nm,0.9s
CN2 AMB AMB
comp=Z,31µm,7.0s
CN2 LR LR
comp=N,64µm,16.0s,MS7.0
CN2 LR LR
comp=E,119µm,16.0s,MS7.0
CN2 LR LR
comp=Z,86µm,16.0s,MS6.9
ZAK Zakamensk 50.35 5 *e*P P 15 37 24.0 +0.8
ZAK *e* 15 39 24.6
ZAK pmax pmax
comp=Z,884nm,1.9s,mb6.5
ZAK pmax pmax
comp=Z,380nm,1.7s,mb6.2
PMG Port Moresby 50.71 102 P P 15 37 26.7 +0.8
comp=Z,436nm,0.6s,mb6.6,baz=330,slow=2.8,SNR=139
PMG S **S 15 44 36.9 -2.3**
comp=Z,5.1nm,0.9s,baz=55,slow=23,SNR=1.9
PMG LR LR 16 00 54.3
comp=Z,116µm,21.8s,MS6.9,baz=279,slow=38
PMG Port Moresby 50.71 102 P P 15 37 26.7 +0.8
PMG S **S 15 44 36.9 -2.2**
PMG pmax pmax
comp=Z,436nm,0.6s
PMG smax
comp=N,5.0nm,0.9s
PMG MLR MLR
comp=Z,116µm,21.8s
PMG Port Moresby 50.71 102 *e*P P 15 37 26.4 +0.6
comp=Z,448nm,0.7s,mb6.5
PMG LR LR
comp=Z,109µm,22.0s,MS6.8
CBIJ Chichi jima 50.92 54 P P 15 37 26.7 -0.8
comp=Z,518nm,0.6s,mb6.6,baz=257,slow=2.2,SNR=38
CBIJ S **S 15 44 39.9 -2.1**
comp=Z,25nm,0.8s,baz=276,slow=23,SNR=3.0
MOY Mondy 51.47 3 *e*P P 15 37 32.6 +1.0
MOY pmax pmax
comp=Z,1µm,3.4s
TLY Talaya 51.67 5 P P 15 37 34.3 +1.2
comp=Z,2µm,0.9s,mb7.1,SNR=91
TLY Talaya 51.67 5*c* *i*P P 15 37 33.8 +0.7
TLY *e* 15 39 38.4
TLY *e*S **S 15 44 49.3 -3.1**
TLY *e*PS 15 45 08.7
TLY pmax pmax
comp=Z,534nm,1.0s,mb6.4
TLY MLR MLR
comp=Z,172µm,17.0s,MS7.2
TLY Talaya 51.67 5 ⇑*e*P P 15 37 34.2 +1.1
comp=Z,532nm,1.0s,mb6.4
TLY LR LR
comp=Z,148µm,20.0s,MS7.0
ABKT Ailbek 51.98 321 P P 15 37 35.7 +0.3
comp=Z,2µm,1.2s,mb6.9,SNR=73
VAN Vannovskaya 52.00 321 *i* P P 15 37 35.3 -0.3
CTA Charters Tower 52.11 116 *e*P P 15 37 37.1 +0.7
comp=Z,416nm,0.8s,mb6.4
CTA *i* S **S 15 44 59.3 +0.8**
CTA Charters Tower 52.11 116 P P 15 37 37.2 +0.8
comp=Z,577nm,0.9s,mb6.5,baz=291,slow=8.4,SNR=161
CTA S **S 15 44 57.0 -1.5**
comp=Z,11nm,1.0s,baz=307,slow=17,SNR=1.9
CTA LR LR 16 02 40.7
comp=Z,147µm,19.3s,MS7.0,baz=291,slow=39
CTA Charters Tower 52.11 116 P P 15 37 37.2 +0.8
CTA S **S 15 44 57.0 -1.5**
CTA pmax pmax
comp=Z,577nm,0.9s
CTA smax
comp=N,11nm,1.0s
CTA MLR MLR
comp=Z,147µm,19.3s
CTAO Charters Tower 52.11 116 P P 15 37 37.1 +0.7
CTAO S **S 15 44 59.8 +1.3**
CTAO Charters Tower 52.11 116 ⇓*i*P P 15 37 37.3 +0.9
CTAO pmax pmax
comp=Z,582nm,0.9s,mb6.5
CTAO MLR MLR
comp=Z,147µm,20.0s,MS7.0
CTAO Charters Tower 52.11 116 ⇓*i*P P 15 37 37.3 +0.9
comp=Z,582nm,0.9s,mb6.5
CTAO LR LR
comp=Z,147µm,20.0s,MS7.0
IRK Irkutsk 52.29 6 *e*P P 15 37 38.3 +0.6
IRK *e* 15 45 01.4
IRK pmax pmax
comp=Z,2µm,1.6s,mb6.7
MAJO Matsushiro 52.55 42 PFAKE 15 37 50.0 +10
MAJO LR LR
comp=Z,87µm,20.0s,MS6.8
MAT Matsushiro 52.55 42 P P 15 37 39.2 -0.4
MAT S **S 15 45 05.0 +0.5**
MAT Matsushiro 52.55 42 *e*P P 15 37 39.0 -0.6
MAT *e*S **S 15 45 05.0 +0.5**
MAT pmax pmax
comp=Z,672nm,1.5s,mb6.3
MAT Matsushiro 52.55 42 *e*P P 15 37 39.0 -0.6
comp=Z,672nm,1.5s,mb6.3
MAT *e*S **S 15 45 05.0 +0.5**
MJAR Matsushiro Arr 52.55 42 P P 15 37 39.0 -0.6
comp=Z,46nm,0.8s,baz=220,slow=7.2,SNR=5.4
MJAR LR LR 16 00 45.6
comp=Z,78µm,20.7s,MS6.7,baz=230,slow=37
MJAR PKPPKP 16 07 49.4
comp=Z,3.1nm,1.0s,baz=331,slow=1.9,SNR=6.6
HIA Hailar 52.69 18 ⇑*e*P P 15 37 40.9 +0.2
HIA pmax pmax
comp=Z,578nm,1.0s
HIA MLR MLR
comp=Z,152µm,22.0s

HIA Hailar 52.69 18 ⇑*e*P P 15 37 40.9 +0.2
comp=Z,578nm,1.0s,mb6.5
HIA LR LR
comp=Z,152µm,22.0s,MS7.0
STKA Stephens Creek 52.71 131 ⇓*i*P P 15 37 39.5 -1.3
comp=Z,1µm,1.0s,mb6.7
STKA *e*S **S 15 45 07.0 +0.4**
STKA Stephens Creek 52.71 131 P P 15 37 39.7 -1.1
comp=Z,959nm,0.8s,mb6.8,baz=303,slow=7.4,SNR=560
STKA S **S 15 45 06.3 -0.3**
comp=Z,6.2nm,0.9s,baz=40,slow=22,SNR=1.5
STKA LR LR 16 01 42.3
comp=Z,115µm,18.4s,MS7.0,baz=296,slow=38
STKA PKPPKP 16 07 45.2
comp=Z,6.0nm,1.2s,baz=68,slow=4.5,SNR=3.3
KURK Kurchatov 52.81 345 P P 15 37 42.5 +1.0
comp=Z,6µm,1.2s,mb7.4
KURK Kurchatov 52.81 345 P P 15 37 41.5 0.0
KURK pmax pmax
comp=Z,2µm,1.3s,mb6.9
KURK Kurchatov 52.81 345 ⇓*e*P P 15 37 42.0 +0.4
comp=Z,718nm,2.6s,mb6.1
KURK LR LR
comp=Z,88µm,22.0s,MS6.8
BDHA Al Bayda' 52.82 287 ⇓*e*P P 15 37 43.1 +1.5
BDHA AMb AMB 15 37 45.1
comp=Z,800nm,1.4s,mb6.4
MDJ Mudanjiang 52.85 29 P P 15 37 43.8 +1.9
MDJ AP pP 15 37 46.9 -4.3
MDJ PP PP 15 39 43.5 +2.0
MDJ SCP ScP 15 42 49.3 +3.3
MDJ PCS PcS 15 42 51.1 +1.6
MDJ S **S 15 45 15.1 +6.5**
MDJ XS sS 15 45 19.9 -4.1
MDJ AMB AMB
comp=Z,152nm,1.0s,mb5.9
MDJ AMB AMB
comp=Z,31µm,8.7s
MDJ LR LR
comp=N,87µm,12.3s
MDJ LR LR
comp=E,255µm,19.3s
MDJ LR LR
comp=Z,46µm,15.8s,MS6.6
MDJ Mudanjiang 52.85 29 ⇑*e*P P 15 37 42.4 +0.5
comp=Z,238nm,0.9s,mb6.1
MDJ LR LR
comp=Z,101µm,20.0s,MS6.9
VLA Vladivostok 52.93 32 *i* P P 15 37 43.6 +1.1
VLA Vladivostok 52.93 32 *i* Pr P 15 37 43.6 +1.1
LBOS 53.11 287 ⇓*e*P P 15 37 45.2 +1.5
LBOS AMb AMB 15 37 46.5
comp=Z,780nm,1.8s,mb6.3
CIT Chita 53.54 13 *e*P P 15 37 48.6 +1.7
CIT *e* 15 38 02.5
CIT pmax pmax
comp=Z,774nm,1.4s,mb6.4
DHBB Dhamar BB 54.05 288 ⇓*e*P P 15 37 52.4 +1.7
DHBB AMb AMB 15 37 55.0
comp=Z,6µm,1.7s,mb7.2
DHBB *i* S **S 15 45 30.6 +5.7**
TRBA At Turbah 54.08 286 ⇓*e*P P 15 37 52.3 +1.4
HAJJ Hajjah 55.02 289 ⇓*e*P P 15 37 59.2 +1.5
HAJJ AMb AMB 15 38 01.5
comp=Z,7µm,2.3s,mb7.3
ATD Arta Tunnel 55.05 284 P P 15 37 59.2 +1.3
comp=Z,79nm,0.9s,mb5.7,baz=69,slow=4.1,SNR=49
ATD S **S 15 45 39.6 +1.4**
comp=Z,2.5nm,0.3s,baz=96,slow=22,SNR=1.7
ATD Arta Tunnel 55.05 284 P P 15 37 59.2 +1.3
ATD S **S 15 45 39.6 +1.4**
KBD Kabd 55.25 306 *e*P P 15 37 59.8 +0.4
KBD AMb AMB 15 38 05.8
comp=Z,6µm,0.7s
RDF Al-Radifah 55.27 306 *e*P P 15 37 59.6 +0.1
RDF AMb AMB 15 38 06.0
comp=Z,3µm,1.1s,mb7.3
UMR Umm Al-Rimmam 55.38 307 *e*P P 15 38 00.7 +0.4
UMR AMb AMB 15 38 06.7
comp=Z,2µm,1.1s,mb7.0
NAY Al-Naaiem 55.65 306 *e*P P 15 38 02.3 +0.1
NAY AMb AMB 15 38 08.4
comp=Z,1µm,1.0s,mb6.8
NVS Novosibirsk 55.72 350 *e*P P 15 38 01.7 -1.0
NVS pmax pmax
comp=E,1µm,1.4s
NVS pmax pmax
comp=Z,3µm,1.4s,mb7.1
NVS pmax pmax
comp=N,2µm,1.5s
MIB Mutribah 55.78 307 *e*P P 15 38 03.6 +0.4
MIB AMb AMB 15 38 09.7
comp=Z,3µm,0.8s,mb7.4
KLR Kul'dur 57.26 26*d*e*P P 15 38 10.8 -2.9
KLR *e*S **S 15 46 07.8 +0.2**
BRVK Borovoye 57.30 341 P P 15 38 13.2 -0.8
comp=Z,2µm,0.8s,mb7.2
BRVK Borovoye 57.30 341 ⇓*e*P P 15 38 13.0 -1.0
BRVK pmax pmax
comp=Z,304nm,2.8s,mb5.8
BRVK MLR MLR
comp=Z,52µm,22.0s,MS6.6
BRVK Borovoye 57.30 341 ⇓*e*P P 15 38 13.0 -1.0
comp=Z,304nm,2.8s,mb5.8
BRVK LR LR
comp=Z,52µm,22.0s,MS6.6
ZRNK Zerenda 57.63 340 P P 15 38 15.2 -1.1
ZRNK pmax pmax
comp=Z,670nm,1.1s,mb6.6
ZRNK Zerenda 57.63 340 ⇓*e*P P 15 38 15.1 -1.2
comp=Z,667nm,1.1s,mb6.6
DESE Dese 58.12 283 *i* P P 15 38 22.3 +2.5
DESE *e*S S 15 45 58.6 -20
TOO Toolangi 58.23 136 ⇓*i*P P 15 38 22.5 +2.0
comp=Z,358nm,1.0s,mb6.3
TOO *i* S **S 15 46 27.5 +7.1**
TOO Toolangi 58.23 136 ⇓*i*P P 15 38 22.5 +2.0
TOO *i* S **S 15 46 27.5 +7.1**
TOO pmax pmax
comp=Z,359nm,1.0s,mb6.4
HABR Khabarovsk 58.24 29 ⇑*i*P P 15 38 20.2 -0.4
HABR *e* 15 40 30.2
HABR *e*S **S 15 46 21.5 +1.0**
HABR pmax pmax
comp=Z,678nm,1.3s,mb6.5
HABR MLR MLR
comp=Z,90µm,18.0s,MS6.9
AB31 Akbulak array 58.42 332 ⇑*e*P P 15 38 20.8 -1.1
ERM Erimo 58.77 39 P P 15 38 26.2 +1.9
comp=Z,2µm,1.1s,mb7.1,SNR=20
FURI Furi 58.82 280 *i* P P 15 38 27.4 +2.8
FURI *e*S **S 15 46 26.9 -1.2**
FURI Furi 58.82 280 *i* P P 15 38 27.4 +2.8
FURI *e*S **S 15 46 26.9 -1.2**
BOD Bodaibo 59.09 10 ⇑*i*P P 15 38 26.9 +0.4
BOD pmax pmax
comp=Z,765nm,1.3s,mb6.6
BHD Baghdad 59.44 309 *ex* x 15 38 28.0
BHD *ex* x 15 38 43.0
BHD *ex* x 15 46 34.0
ASAJ Asahikawa 59.58 37 P P 15 38 30.7 +0.8
comp=Z,125nm,0.8s,mb6.0,baz=256,slow=10,SNR=70
ASAJ LR LR 16 04 47.2
comp=Z,69µm,19.5s,MS6.8,baz=154,slow=37
ASAJ Asahikawa 59.58 37 P P 15 38 30.7 +0.8
ASAJ pmax pmax
comp=Z,125nm,0.8s
ASAJ MLR MLR
comp=Z,69µm,19.5s
KMBO Kilima Mbogo 59.86 269 P P 15 38 32.0 +0.2
comp=Z,98nm,1.0s,mb5.8,baz=62,slow=8.6,SNR=104
KMBO S **S 15 46 37.3 -4.2**
comp=Z,1.0nm,0.4s,baz=42,slow=23,SNR=1.5
KMBO LR LR 16 01 23.7
comp=Z,67µm,18.5s,MS6.8,baz=91,slow=33
KMBO PKP2bc 16 08 08.3
comp=Z,0.7nm,0.3s,baz=253,slow=5.2,SNR=6.4
KMBO Kilima Mbogo 59.86 269 P P 15 38 32.0 +0.2
KMBO S **S 15 46 37.3 -4.2**
KMBO Kilima Mbogo 59.86 269 P P 15 38 32.0 +0.2
KMBO S **S 15 46 37.3 -4.2**
KMBO LR LR 16 01 23.7
KMBO ⇑*e* 16 08 08.3
ARMA Armidale 59.98 126 ⇓*i*P P 15 38 35.0 +2.4
ARMA *i* S **S 15 46 50.3 +7.3**

CNB	**Canberra Magne**	**60.04**	**132**	⇓	*i* P		**P**	**15 38 34.0**	**+1.0**
AKTK	**Aktyubinsk**	**60.14**	**332**		P		**P**	**15 38 32.4**	**-1.3**
AKTK					S		**S**	**15 46 38.3**	**-6.7**
AKTK					LR		LR	16 07 44.9	
AKTK					P'P'			16 07 57.5	
AKTO	**Aktyubinsk**	**60.14**	**332**		P		**P**	**15 38 32.4**	**-1.3**
	comp=Z,159nm,1.0s,mb6.0,baz=130,slow=7.0,SNR=210								
AKTO					S		**S**	**15 46 38.3**	**-6.7**
	comp=Z,10nm,1.2s,baz=265,slow=19,SNR=1.7								
AKTO					LR		LR	16 07 44.9	
	comp=Z,40μm,19.7s,MS6.6,baz=103,slow=39								
AKTO					PKPPKP			16 07 57.5	
	comp=Z,0.4nm,0.3s,baz=35,slow=2.8,SNR=4.5								
AKTO	**Aktyubinsk**	**60.14**	**332**	*i*	P		**P**	**15 38 32.7**	**-1.0**
AKTO					pmax	pmax			
	comp=Z,151nm,1.5s,mb5.8								
NRGR	**Nerungri**	**60.59**	**17**	*i*	P		**P**	**15 38 38.7**	**+1.9**
NRGR					S		**S**	**15 46 57.2**	**+6.3**
NRGR					smax				
	comp=N,33nm,0.6s								
CLNS	**Chul'man**	**60.80**	**17**	*e*	P		**P**	**15 38 37.9**	**-0.3**
CLNS				*e*	*PP		pP	15 38 46.6	-1.1
CLNS				*e*				15 39 22.2	
CLNS				*e*	S		**S**	**15 46 47.4**	**-6.1**
CLNS				*e*	PS			15 47 22.5	
CLNS					pmax	pmax			
	comp=E,120nm,1.1s								
CLNS					pmax	pmax			
	comp=Z,240nm,1.1s,mb6.2								
CLNS					pmax	pmax			
	comp=N,104nm,1.2s								
CLNS					smax				
	comp=N,3μm,12.5s								
CLNS					smax				
	comp=Z,16μm,13.7s								
CLNS					smax				
	comp=E,14μm,12.4s								
CLNS					MLR	MLR			
	comp=Z,133μm,16.0s,MS7.2								
CLNS					MLR	MLR			
	comp=N,76μm,15.0s,MS7.2								
CLNS					MLR	MLR			
	comp=E,90μm,14.0s,MS7.2								
CLNS	**Chul'man**	**60.80**	**17**	*i*	P		**P**	**15 38 38.6**	**+0.4**
RIV	**Riverview**	**60.82**	**129**	*e*	P		**P**	**15 38 39.5**	**+1.1**
YSS	**Yuzh-Sakhalins**	**61.29**	**34**	*α i*	P		**P**	**15 38 41.6**	**0.0**
YSS				*i*	*SP		sP	15 38 48.0	-6.7
YSS				*i*				15 40 56.0	
YSS				*e*	PPP			15 42 30.0	
YSS				*i*	S		**S**	**15 46 58.0**	**-1.8**
YSS				*i*	PS			15 47 14.0	
YSS				*e*	SS		SS	15 50 54.0	-6.3
YSS				*e*	SSS			15 53 42.0	
YSS					pmax	pmax			
	comp=N,450nm,1.2s								
YSS					pmax	pmax			
	comp=Z,1μm,1.2s,mb7.0								
YSS					pmax	pmax			
	comp=N,7μm,9.0s								
YSS					pmax	pmax			
	comp=E,8μm,9.0s								
YSS					pmax	pmax			
	comp=Z,20μm,9.0s								
YSS					pmax	pmax			
	comp=N,6μm,12.0s								
YSS					pmax	pmax			
	comp=E,6μm,12.0s								
YSS					pmax	pmax			
	comp=Z,9μm,12.0s								
YSS					smax				
	comp=N,8μm,12.0s								
YSS					smax				
	comp=E,14μm,13.0s								
YSS					MLR	MLR			
	comp=E,35μm,15.0s								
YSS					MLR	MLR			
	comp=Z,45μm,15.0s,MS6.7								
YSS					MLR	MLR			
	comp=N,67μm,21.0s								
YSS	**Yuzh-Sakhalins**	**61.29**	**34**	⇑	*e* P		**P**	**15 38 41.9**	**+0.4**
	comp=N,1μm,1.2s,mb6.9								
YSS					LR	LR			
	comp=Z,52μm,20.0s,MS6.7								
MAK	**Makhachkala**	**61.50**	**320**	*d i*	P		**P**	**15 38 42.6**	**-0.4**
MAK				*e*	S		**S**	**15 47 03.2**	**+0.8**
MAK					pmax	pmax			
	comp=Z,1μm,1.5s,mb6.8								
MAK	**Makhachkala**	**61.50**	**320**	*i*	P		**P**	**15 38 42.8**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**61.52**	**38**	*e*	P		**P**	**15 38 44.0**	**+0.9**
YUK				*e*				15 41 00.5	
YUK				*e*	PPP			15 42 29.5	
YUK				*i*	S		**S**	**15 47 06.0**	**+3.4**
YUK					pmax	pmax			
	comp=Z,44μm,6.5s								
YUK					pmax	pmax			
	comp=N,15μm,5.0s								
YUK					pmax	pmax			
	comp=E,18μm,4.5s								
YUK					smax				
	comp=E,58μm,12.0s								
YUK					smax				
	comp=N,29μm,10.0s								
MSL	**Mosul**	**61.58**	**312**	*ex*			x	15 38 44.0	
MSL				*i*	x		x	13 39 30.0	
MSL				*i*	x		x	15 38 58.0	
MSL	**Mosul**	**61.58**	**312**	*ex*			x	15 41 04.0	
MSL				*ex*			x	15 42 32.0	
MSL				*ex*			x	15 47 05.0	
MSL				*ex*			x	15 48 28.0	
GNI	**Garni**	**62.01**	**317**	*e*	P		**P**	**15 38 44.2**	**-2.2**
GNI	**Garni**	**62.01**	**317**		P		**P**	**15 38 46.6**	**+0.2**
	comp=N,271nm,1.0s,mb6.3,baz=119,slow=1.4,SNR=83								
GNI					PKPPKP			16 07 54.1	
	comp=N,4.0nm,0.4s,baz=24,slow=20,SNR=2.8								
GNI	**Garni**	**62.01**	**317**	⇓	*e* P		**P**	**15 38 46.6**	**+0.2**
GNI					pmax	pmax			
	comp=Z,2μm,1.4s								
GNI					MLR	MLR			
	comp=Z,23μm,20.0s								
GNI	**Garni**	**62.01**	**317**	⇓	*e* P		**P**	**15 38 46.6**	**+0.2**
	comp=Z,2μm,1.4s,mb7.0								
GNI					LR	LR			
	comp=Z,23μm,20.0s,MS6.3								
TAU	**Tasmania Unive**	**62.04**	**140**		P		**P**	**15 38 48.5**	**+1.9**
	comp=Z,3μm,1.2s,mb7.2,SNR=16								
TAU	**Tasmania Unive**	**62.04**	**140**	⇓	*e* P		**P**	**15 38 48.2**	**+1.6**
TAU					pmax	pmax			
	comp=Z,510nm,1.1s,mb6.6								
TAU					MLR	MLR			
	comp=Z,56μm,19.0s,MS6.7								
TAU	**Tasmania Unive**	**62.04**	**140**	⇓	*e* P		**P**	**15 38 48.2**	**+1.5**
	comp=Z,510nm,1.1s,mb6.6								
TAU					LR	LR			
	comp=Z,56μm,19.0s,MS6.7								
DGRG	**David-gareji**	**62.17**	**318**		P		**P**	**15 38 49.1**	**+1.7**
DGRG					S		**S**	**15 47 16.0**	**+5.2**
TVAN	**Van**	**62.25**	**314**	*i*	P		**P**	**15 38 47.6**	**-0.5**
VANB	**Van**	**62.29**	**314**	*e*	P		**P**	**15 38 56.9**	**+8.5**
ORR	**Orenburg**	**62.46**	**332**	⇓	*i* P		**P**	**15 38 48.3**	**-1.1**
ORR					pmax	pmax			
	comp=Z,910nm,1.5s,mb6.7								
SAMG	**Sameba**	**62.65**	**318**		P		**P**	**15 38 49.9**	**-0.8**
MTA	**Mtatsminda**	**62.66**	**318**		P		**P**	**15 38 51.6**	**+0.8**
MTA					S		**S**	**15 47 14.0**	**-3.2**
TBLG	**Delisi**	**62.72**	**318**		P		**P**	**15 38 51.5**	**+0.3**
DIGO	**Kars**	**63.06**	**316**	*i*	P		**P**	**15 38 53.7**	**+0.3**
HNR	**Honiara**	**63.25**	**101**		P		**P**	**15 38 55.0**	**+0.3**
	comp=Z,2μm,0.8s,mb7.4,baz=256,slow=1.6,SNR=173								
HNR					S		**S**	**15 47 21.6**	**-2.9**
	comp=Z,23nm,0.9s,baz=268,slow=18,SNR=1.8								
HNR	**Honiara**	**63.25**	**101**		P		**P**	**15 38 55.0**	**+0.3**
HNR					S		**S**	**15 47 21.6**	**-2.9**
HNR					smax				
	comp=N,23nm,0.9s								
HNR	**Honiara**	**63.25**	**101**	⇓	*e* P		**P**	**15 38 54.3**	**-0.4**
	comp=N,3μm,0.9s,mb7.4								
HNR					LR	LR			
	comp=Z,51μm,21.0s,MS6.7								
KARS	**Kars**	**63.34**	**316**	*e*	P		**P**	**15 38 55.7**	**+0.4**
AKH	**Akhalkalaki**	**63.41**	**317**		P		**P**	**15 38 56.8**	**+1.0**
BTMT	**Batman**	**63.50**	**313**	*e*	P		**P**	**15 38 57.0**	**+0.7**
MARD	**Mardin**	**63.69**	**312**	*i*	P		**P**	**15 38 57.9**	**+0.3**
ZEI	**Tsey**	**63.74**	**319**	*e*	P		**P**	**15 38 58.5**	**+0.6**
ZEI				*e*	*PP		pP	15 39 08.2	+0.7
ZEI				*e*				15 41 13.2	
ZEI					*eS*		**S**	**15 47 28.4**	**-2.2**
ZEI					pmax	pmax			
	comp=Z,306nm,1.1s,mb6.2								
ZEI					smax				
	comp=N,2.0nm,4.6s								
ONI	**Oni**	**63.95**	**319**		P		**P**	**15 38 59.7**	**+0.4**
ONI					S		**S**	**15 47 30.7**	**-2.5**
BNGL	**BINGOL**	**64.04**	**314**	*i*	P		**P**	**15 39 00.5**	**+0.6**
ARU	**Arti**	**64.14**	**337**		P		**P**	**15 38 59.7**	**-0.8**
	comp=N,2μm,1.2s,mb7.0								
ARU	**Arti**	**64.14**	**337**	⇓	*i* P		**P**	**15 38 59.4**	**-1.1**
ARU				*e*				15 39 33.1	
ARU				*e*				15 41 20.6	
ARU				*e*	PPP			15 42 58.0	
ARU				*e*	S		**S**	**15 47 34.9**	**-0.6**
ARU				*e*				15 48 48.4	
ARU				*e*	SSS			15 54 25.8	
ARU					pmax	pmax			
	comp=Z,1μm,1.3s,mb6.7								
ARU					MLR	MLR			
	comp=N,48μm,18.5s,MS6.8								
ARU					MLR	MLR			
	comp=E,78μm,18.5s,MS6.9								
ARU					MLR	MLR			
	comp=E,25μm,18.0s,MS6.8								
ARU	**Arti**	**64.14**	**337**	⇓	*e* P		**P**	**15 38 59.4**	**-1.1**
	comp=E,904nm,2.1s,mb6.4								
ARU					LR	LR			
	comp=Z,81μm,19.0s,MS6.9								
DRBT	**Darb Altahta**	**64.24**	**311**	⇓	P		**P**	**15 39 08.0**	**+6.8**
ERZM	**Erzurum**	**64.26**	**315**	*i*	P		**P**	**15 39 02.0**	**+0.6**
EZM	**Erzurum**	**64.26**	**315**	*e*	P		**P**	**15 39 02.2**	**+0.9**
DIY	**Diyarbakir**	**64.31**	**313**	*e*	P		**P**	**15 39 01.9**	**+0.3**
MNKR	**ALMNKUR**	**64.33**	**310**	⇓	P		**P**	**15 39 03.1**	**+1.3**
ARTV	**Artvin**	**64.39**	**317**	*i*	P		**P**	**15 39 02.3**	**+0.1**
JHLN	**Al Jahlan**	**64.88**	**310**	⇓	P		**P**	**15 39 07.0**	**+1.6**
ZALF	**Zalf**	**64.88**	**307**	⇓	P		**P**	**15 39 07.4**	**+2.0**
ASF	**Jabal al Asfar**	**65.01**	**306**		P		**P**	**15 39 07.5**	**+1.2**
	comp=Z,256nm,1.1s,mb6.2,baz=340,slow=5.3,SNR=152								
ASF					S		S	15 47 46.3	0.0
	comp=Z,0.9nm,0.3s,baz=311,slow=18,SNR=1.9								
ASF					PKPPKP			16 07 52.3	
	comp=Z,3.0nm,0.6s,baz=16,slow=1.9,SNR=6.0								
ASF					LR		LR	16 08 08.0	
	comp=Z,31μm,18.5s,MS6.5,baz=174,slow=37								
ASF	**Jabal al Asfar**	**65.01**	**306**		P		**P**	**15 39 07.5**	**+1.2**
ASF					S		S	15 47 46.3	0.0
KIV	**Kislovodsk**	**65.06**	**320**		P		**P**	**15 39 06.6**	**0.0**
	comp=Z,4μm,1.0s,mb7.4								
KIV	**Kislovodsk**	**65.06**	**320**	*d i*	P		**P**	**15 39 06.4**	**-0.2**
KIV				*e*				15 39 39.1	
KIV				*e*				15 41 29.4	
KIV				*e*	PPP			15 43 02.0	
KIV				*e*	S		S	15 47 46.5	-0.4
KIV				*e*	SS		SS	15 51 57.5	-1.7
KIV					pmax	pmax			
	comp=Z,868nm,1.1s,mb6.7								
KIV					pmax	pmax			
	comp=Z,7μm,8.6s								
KIV	**Kislovodsk**	**65.06**	**320**	⇓	*e* P		**P**	**15 39 06.2**	**-0.4**
	comp=Z,814nm,1.1s,mb6.7								
KIV					LR	LR			
	comp=Z,24μm,20.0s,MS6.4								
URFA	**Urfa**	**65.19**	**312**	*e*	P		**P**	**15 39 07.2**	**-0.2**
ROOS	**tl_alroos**	**65.29**	**308**	⇓	P		**P**	**15 39 09.1**	**+1.1**
GOF	**Gofitskoye**	**65.33**	**321**	⇓	*i* P		**P**	**15 39 07.3**	**-1.0**
GOF				*e*				15 48 05.4	
GOF					pmax	pmax			
	comp=Z,360nm,1.1s,mb6.3								
ELZG	**Elazig**	**65.44**	**313**	*i*	P		**P**	**15 39 09.8**	**+0.8**
RABH	**Abou Rabah**	**65.44**	**308**	⇓	P		**P**	**15 39 11.3**	**+2.2**
ATAB	**Bozova**	**65.59**	**312**	*i*	P		**P**	**15 39 10.8**	**+0.8**
MRKH	**Merkhyat**	**65.70**	**287**	*i*	P		**P**	**15 39 10.7**	**0.0**
	baz=83,slow=8.6								
TOTH	**TOTAH**	**65.73**	**307**	⇓	P		**P**	**15 39 12.2**	**+1.3**
MALT	**Malatya**	**65.78**	**313**	*e*	P		**P**	**15 39 11.3**	**0.0**
MALT	**Malatya**	**65.78**	**313**	⇓	*i* P		**P**	**15 39 12.4**	**+1.2**
MALT	**Malatya**	**65.78**	**313**	⇓	*e* P		**P**	**15 39 11.9**	**+0.7**
MALT					pmax	pmax			
	comp=Z,2μm,1.5s,mb6.8								
MALT	**Malatya**	**65.78**	**313**	⇓	*e* P		**P**	**15 39 11.9**	**+0.6**
	comp=Z,2μm,1.5s,mb6.8								
GUMT	**Gumushane**	**65.80**	**315**	*e*	P		**P**	**15 39 12.1**	**+0.7**
MARH	**Ras Al Marh**	**65.89**	**308**	⇓	P		**P**	**15 39 13.8**	**+1.9**
QASN	**Qassioun**	**65.91**	**307**	⇓	P		**P**	**15 39 13.6**	**+1.5**
TCHB	**Talchebab**	**65.91**	**306**	⇓	P		**P**	**15 39 14.0**	**+2.0**
EIL	**Elat**	**65.95**	**303**	⇓	*i* P		**P**	**15 39 12.6**	**+0.2**
	comp=Z,8μm,0.9s								
HRFI	**Mount Harif**	**65.97**	**303**		P		**P**	**15 39 13.1**	**+0.6**
ZFRI	**Zfri**	**65.99**	**304**		P		**P**	**15 39 13.1**	**+0.6**
KFRA	**Kufra**	**66.00**	**309**	⇓	P		**P**	**15 39 14.1**	**+1.4**
MZDA	**Masada**	**66.03**	**304**		P		**P**	**15 39 13.4**	**+0.6**
DRGI	**Dragot**	**66.08**	**305**		P		**P**	**15 39 13.8**	**+0.6**
HAWK	**Haweek**	**66.10**	**308**	⇓	P		**P**	**15 39 14.5**	**+1.3**
GZT	**Gaziantep**	**66.10**	**311**	*i*	P		**P**	**15 39 14.0**	**+0.8**
BRBR	**Barbar**	**66.13**	**307**	⇓	P		**P**	**15 39 15.5**	**+2.0**
MMLI	**Mount Malkishu**	**66.29**	**306**		P		**P**	**15 39 15.4**	**+0.9**
KSDI	**Kefar Szold**	**66.30**	**306**		P		**P**	**15 39 15.0**	**+0.4**
GAZ	**Gaziantep**	**66.31**	**311**	*e*	P		**P**	**15 39 15.6**	**+1.0**
BIDA	**Albida**	**66.31**	**309**	⇓	P		**P**	**15 39 15.8**	**+1.1**
MBAR	**Mbarara**	**66.37**	**269**	*d i*	P		**P**	**15 39 15.1**	**+0.1**
WRDH	**Warideh**	**66.39**	**309**	⇓	P		**P**	**15 39 16.2**	**+1.0**
YAK	**Yakutsk**	**66.48**	**16**	*de*	P		**P**	**15 39 15.1**	**-0.6**
YAK				*e*	*PP		pP	15 39 22.2	-3.1
YAK				*e*				15 39 30.3	
YAK				*e*				15 41 41.4	
YAK				*i*	S		S	15 48 03.3	-0.9
YAK					pmax	pmax			
	comp=Z,787nm,1.1s,mb6.7								
YAK					pmax	pmax			
	comp=N,393nm,1.3s								
YAK					pmax	pmax			
	comp=E,336nm,1.2s								
YAK					pmax	pmax			
	comp=Z,47nm,1.1s								
YAK					pmax	pmax			
	comp=N,59nm,1.5s								
YAK					pmax	pmax			
	comp=E,107nm,1.3s								
YAK					smax				
	comp=N,9μm,16.7s								
YAK					smax				
	comp=Z,6μm,22.4s								
YAK					smax				
	comp=E,11μm,22.0s								
YAK					MLR	MLR			
	comp=N,31μm,15.0s,MS6.9								
YAK					MLR	MLR			
	comp=Z,46μm,15.0s,MS6.8								
YAK					MLR	MLR			
	comp=E,58μm,17.0s,MS6.9								
YAK	**Yakutsk**	**66.48**	**16**	*e*	P		**P**	**15 39 15.0**	**-0.7**
	comp=E,2μm,1.1s,mb7.1								
YAK					LR	LR			
	comp=Z,89μm,21.0s,MS7.0								
BHL	**Bhannes**	**66.51**	**307**	*e*	P		**P**	**15 39 17.0**	**+1.1**
BTCH	**Batrach**	**66.52**	**310**	⇓	P		**P**	**15 39 16.9**	**+0.9**
DRWC	**Darouich**	**66.54**	**310**	⇓	P		**P**	**15 39 16.6**	**+0.5**
SLTI	**Sal'it**	**66.54**	**305**		P		**P**	**15 39 16.6**	**+0.5**
SLNF	**Slenfeh**	**66.56**	**309**	⇓	P		**P**	**15 39 17.6**	**+1.3**
OFRI	**'Ofer**	**66.69**	**306**		P		**P**	**15 39 17.7**	**+0.6**
KZIT	**Kziot**	**66.73**	**304**		P		**P**	**15 39 17.8**	**+0.5**
ARNB	**Al Arnab**	**66.84**	**309**	⇓	P		**P**	**15 39 19.3**	**+1.3**
SOC	**Sochi**	**66.86**	**318**	*d i*	P		**P**	**15 39 17.3**	**-0.8**
SOC				*i*	*PP		pP	15 39 27.1	-0.6
SOC				*e*				15 39 47.5	
SOC				*i*				15 41 45.9	
SOC				*e*	PPP			15 43 22.7	
SOC				*i*	S		S	15 48 05.2	-3.5
SOC				*e*	*SS		sS	15 48 26.3	+1.8
SOC				*e*				15 49 10.0	
SOC				*e*	SS		SS	15 52 22.2	-4.9
SOC				*e*	SSS			15 55 17.9	
SOC					pmax	pmax			
	comp=Z,6μm,3.6s								
SOC					pmax	pmax			
	comp=Z,765nm,1.1s,mb6.6								
SOC					MLR	MLR			
	comp=Z,19μm,16.0s,MS6.4								
SOC	**Sochi**	**66.86**	**318**	*i*	P		**P**	**15 39 18.0**	**-0.1**
CASY	**Casey**	**66.94**	**174**	⇓	*i* P		**P**	**15 39 18.4**	**-0.3**
CASY				*e*	PKPPKP			16 07 44.4	
CEYT	**Ceyhan**	**67.36**	**310**	*e*	P		**P**	**15 39 21.6**	**+0.2**
SVSK	**Karacayir**	**67.38**	**314**	*e*	P		**P**	**15 39 21.4**	**-0.1**
KOZT	**Kozan**	**67.45**	**311**	*e*	P		**P**	**15 39 21.3**	**-0.5**
KRTS	**Karatas**	**67.51**	**310**	*e*	P		**P**	**15 39 14.9**	**-7.4**
TOKT	**Tokat**	**67.85**	**314**	*e*	P		**P**	**15 39 25.3**	**+0.9**
BNN	**Bunyan**	**67.87**	**312**	*e*	P		**P**	**15 39 23.9**	**-0.6**
KARA	**Karaisali**	**67.97**	**311**	*e*	P		**P**	**15 39 25.3**	**+0.1**
PHNC	**Paralimni**	**68.11**	**308**		P		**P**	**15 39 26.2**	**+0.2**
MERS	**Mersin**	**68.26**	**310**	*e*	P		**P**	**15 39 27.1**	**+0.1**
KVT	**Kavak**	**68.46**	**315**	*e*	P		sP	15 39 40.6	-0.8
AVNT	**Avonos**	**68.58**	**312**	*i*	P		sP	15 39 45.6	+3.5
CSS	**Prodhromos**	**68.65**	**308**		P		**P**	**15 39 29.7**	**+0.3**
	comp=Z,12nm,1.0s								
CSS	**Prodhromos**	**68.65**	**308**	*e*	P		**P**	**15 39 27.4**	**-2.0**
IKL	**Isikli**	**68.72**	**309**	*e*	P		**P**	**15 39 29.4**	**-0.5**
MAMC	**Mammari**	**68.79**	**308**		P		**P**	**15 39 30.2**	**-0.1**
ANN	**Anapa**	**68.84**	**319**	*i*	P		**P**	**15 39 28.9**	**-1.7**
SZAC	**Souni-Zanaja**	**68.95**	**307**		P		**P**	**15 39 30.9**	**-0.4**
	comp=Z,8.6nm,0.8s								
VRHR	**Novokhopersk**	**68.97**	**326**	*e*	P		**P**	**15 39 30.0**	**-1.4**
VRHR				*e*	*PP		pP	15 39 38.9	-2.1
VRHR				*e*	S		S	15 48 25.8	-8.2
VRHR					pmax	pmax			
	comp=Z,560nm,1.2s,mb6.4								
VRHR					pmax	pmax			
	comp=N,260nm,1.6s								
VRHR					pmax	pmax			
	comp=E,210nm,0.8s								
VRHR					smax				
	comp=N,6μm,6.6s								
VRHR					smax				
	comp=Z,4μm,9.1s								
VRHR					smax				
	comp=E,9μm,10.0s								
VRHR					MLR	MLR			
	comp=Z,26μm,17.0s,MS6.5								
VRHR					MLR	MLR			
	comp=N,14μm,15.0s,MS6.4								
VRHR					MLR	MLR			
	comp=E,13μm,16.0s,MS6.4								
CDAG	**Cicekdag**	**69.20**	**313**	*i*	P		**P**	**15 39 32.3**	**-0.6**
ALFC	**Alevga**	**69.28**	**308**		P		**P**	**15 39 33.6**	**+0.3**
	comp=E,8.2nm,0.9s								
BOYT	**Boyabat**	**69.39**	**315**	*i*	P		**P**	**15 39 33.6**	**-0.4**
PPCY	**Paphos**	**69.41**	**307**		P		**P**	**15 39 33.8**	**-0.3**
ERMK	**Ermenek**	**69.43**	**309**	*i*	P		**P**	**15 39 33.5**	**-0.7**
BYBT	**Boyabat**	**69.50**	**315**	*e*	P		**P**	**15 39 34.4**	**-0.3**
KAMT	**Kaman**	**69.61**	**312**	*e*	P		**P**	**15 39 34.5**	**-0.9**
LSZ	**Lusaka**	**69.72**	**254**		P		**P**	**15 39 36.3**	**+0.3**
	comp=E,38nm,0.8s,baz=83,slow=5.8,SNR=60								
LSZ					S		S	15 48 40.6	-2.2
	comp=E,18nm,0.5s,baz=47,slow=21,SNR=1.5								
LSZ					LR		LR	16 07 04.1	
	comp=E,71μm,19.8s,MS6.9,baz=85,slow=33								
LSZ					PKP2ab			16 07 43.0	
	comp=E,4.6nm,1.1s,baz=269,slow=4.5,SNR=11								
LSZ	**Lusaka**	**69.72**	**254**	⇓	*e* P		**P**	**15 39 36.1**	**+0.1**
LSZ					pmax	pmax			
	comp=Z,345nm,1.4s,mb6.1								
LSZ					MLR	MLR			
	comp=Z,118μm,22.0s,MS7.1								
LSZ	**Lusaka**	**69.72**	**254**	⇓	*e* P		**P**	**15 39 36.1**	**+0.1**
	comp=Z,345nm,1.4s,mb6.1								
LSZ					LR	LR			
	comp=Z,118μm,22.0s,MS7.1								
BR131	**Keskin Array S**	**69.77**	**313**	⇓	*i* P		**P**	**15 39 35.4**	**-1.0**
	comp=Z,163nm,0.7s,mb6.1								
BR131					LR	LR			
	comp=Z,19μm,20.0s,MS6.3								
BRTR	**Keskin Array B**	**69.77**	**313**		P		**P**	**15 39 35.4**	**-0.9**
	comp=Z,155nm,0.8s,mb6.0,baz=132,slow=7.0,SNR=265								
BRTR					S		S	15 48 40.9	-2.6
	comp=Z,0.3nm,0.5s,baz=75,slow=17,SNR=2.2								
BRTR					PKP2bc			16 07 37.5	
	comp=Z,0.6nm,0.7s,baz=184,slow=3.5,SNR=3.7								
BRTR	**Keskin Array B**	**69.77**	**313**		P		**P**	**15 39 35.4**	**-0.9**
BRTR					S		S	15 48 40.9	-2.5
BRTR	**Keskin Array B**	**69.77**	**313**		P		**P**	**15 39 35.4**	**-0.9**
BRTR					S		S	15 48 40.9	-2.6
BRTR				⇑	*e*			16 07 37.5	
TOS	**Tosya**	**69.89**	**314**	*e*	P		**P**	**15 39 37.1**	**0.0**
MATP	**Matopo**	**70.04**	**248**		S		S	15 48 45.2	-1.4
	comp=Z,7.9nm,0.4s,baz=287,slow=22,SNR=1.5								
MATP					LR		LR	16 04 35.6	
	comp=Z,92μm,21.8s,MS7.0,baz=85,slow=31								
MATP					PKPPKP			16 07 38.1	
	comp=Z,2.6nm,1.0s,baz=83,slow=2.4,SNR=4.6								
CANT	**Cankiri**	**70.05**	**314**	*e*	P		**P**	**15 39 36.6**	**-1.5**
KONT	**Konya--Tatoy**	**70.21**	**311**	*e*	P		**P**	**15 39 39.4**	**+0.3**
PECR	**Pechory**	**70.32**	**332**	⇑	*e* P		**P**	**15 39 38.4**	**-1.3**
PECR				*e*			pP	15 39 48.8	-0.5
PECR				*i*	S		S	15 48 44.8	-5.0
PECR				*e*				15 49 09.0	
PECR				*e*				15 49 42.0	
PECR				*e*				15 56 27.0	
PECR					pmax	pmax			
	comp=Z,1μm,2.0s,mb6.5								
PECR					pmax	pmax			
	comp=Z,6μm,6.0s								
PECR					smax				
	comp=E,17μm,12.0s								
PECR					smax				
	comp=N,8μm,8.0s								
PECR					MLR

SKR eSS SS 15 53 35.0 +7.2
SKR pmax pmax
comp=Z,2μm,1.2s,mb6.8
SKR pmax pmax
comp=N,220nm,1.0s
SKR pmax pmax
comp=E,270nm,1.0s
SKR smax
comp=N,18μm,10.0s
SKR smax
comp=E,73μm,10.0s
SKR MLR MLR
comp=Z,68μm,18.0s,MS7.0
SKR MLR MLR
comp=N,33μm,20.0s,MS6.6
SKR MLR MLR
comp=E,11μm,20.0s,MS6.6
KIZT Kizilcal 70.83 311 eP **P 15 39 41.7 -1.2**
SAFT Safranbolu 70.92 314 eP **P 15 39 42.6 -0.8**
DZM Mont Dzumac 70.94 113 LR LR 16 10 49.4
comp=E,53μm,20.0s,MS6.8,baz=282,slow=36
SIM Simferopol' 71.10 318 *i* P **P 15 39 44.1 -0.4**
SGKT Sivrigoynuk 71.18 313 *i* P **P 15 39 43.9 -1.0**
ANTB Antalya 71.25 309 eP **P 15 39 40.2 -5.2**
ISP Isparta 71.60 310 eP **P 15 39 45.2 -2.3**
ISP Isparta 71.60 310 *d i* P **P 15 39 46.3 -1.2**
ISP Isparta 71.60 310⇓ eP **P 15 39 45.8 -1.7**
comp=E,672nm,1.1s,mb6.5
MAW Mawson 71.64 193⇓ *i* P **P 15 39 47.9 +0.2**
comp=E,134nm,1.1s,mb5.8
MAW eS S 15 49 09.5 +4.3
MAW Mawson 71.64 193 P **P 15 39 48.1 +0.3**
comp=E,87nm,0.8s,mb5.7,baz=10,slow=6.4,SNR=90
MAW S S 15 48 54.3 -11
comp=E,1.7nm,0.3s,baz=258,slow=16,SNR=13
MAW LR LR 16 04 11.7
comp=E,109μm,21.8s,MS7.1,baz=31,slow=30
MAW PKPPKP 16 07 36.0
comp=E,2.8nm,0.8s,baz=217,slow=9.4,SNR=2.8
MAW Mawson 71.64 193⇓ *iP* **P 15 39 47.9 +0.2**
MAW eS S 15 49 09.5 +4.3
MAW pmax pmax
comp=Z,134nm,1.1s
MDU Mudurnu 71.76 313 eP **P 15 39 47.8 -0.7**
ESKT Eskisehir 71.78 312 *i* P **P 15 39 47.8 -0.8**
ELL Elmali 71.79 309 eP **P 15 39 48.0 -0.6**
TKTP Tekketepe 71.79 310 *i* P **P 15 39 47.8 -0.9**
KSL Kastellorizon 71.90 308 eP **P 15 39 48.5 -0.8**
BKM Butte a Klehm 72.08 109⇑ *i* P **P 15 39 52.4 +2.0**
BORA Eskisehir 72.17 312 *i* P **P 15 39 50.1 -0.8**
GPA Golpazari 72.38 312 eP **P 15 39 49.7 -2.5**
FETY Fethiye 72.41 309 eP **P 15 39 51.2 -1.1**
KHL Karahalli 72.47 310 eP **P 15 39 48.9 -3.8**
EYL Eskiyayla 72.57 313 eP **P 15 39 53.4 +0.1**
GDZ Gediz 72.69 311 *i* P **P 15 39 53.2 -0.8**
DALT Dalyan (Mudla) 72.79 309 eP **P 15 39 53.2 -1.4**
HRT Hereke 72.99 313 eP **P 15 39 55.3 -0.5**
IZI Iznik 73.01 312 eP **P 15 39 54.6 -1.3**
ARG Arkhangelos 73.07 308 eP **P 15 39 55.0 -1.2**
ARG Arkhangelos 73.07 308 P **P 15 39 55.2 -1.0**
YLV Yalova 73.14 313 eP **P 15 39 55.2 -1.5**
YER Yerkesik 73.15 309 eP **P 15 39 55.5 -1.2**
PET Petropavlovsk 73.18 34 *d iP* **P 15 39 57.8 +0.9**
PET *e* 15 40 11.6
PET *e*PPP 15 44 23.2
PET *i* S S 15 49 25.3 +2.5
PET *e*PS 15 49 53.3
PET pmax pmax
comp=Z,619nm,0.8s,mb6.6
PET pmax pmax
comp=N,351nm,0.9s
PET smax
comp=N,16μm,11.7s
PET smax
comp=E,28μm,9.8s
PET MLR MLR
comp=Z,44μm,16.0s,MS6.8
PET MLR MLR
comp=Z,42μm,16.0s
PET Petropavlovsk 73.18 34⇓ *iP* **P 15 39 57.4 +0.5**
comp=Z,517nm,0.9s,mb6.5
PET LR LR
comp=Z,30μm,21.0s,MS6.5
MOS Moscow 73.21 329 *κ iP* **P 15 39 56.7 -0.4**
MOS *i* pP 15 40 07.2 +0.5
MOS *e* 15 40 13.2
MOS *e* 15 42 38.5
MOS *e*PPP 15 44 32.0
MOS *i* S S 15 49 18.0 -5.1
MOS *i* PS 15 49 55.6
MOS eSS SS 15 53 58.6 -6.3
MOS pmax pmax
comp=N,2μm,3.5s
MOS pmax pmax
comp=E,3μm,3.5s
MOS pmax pmax
comp=Z,8μm,3.5s
MOS pmax pmax
comp=E,538nm,1.6s
MOS pmax pmax
comp=Z,2μm,1.6s,mb6.7
MOS smax
comp=N,7μm,4.9s
MOS MLR MLR
comp=E,54μm,21.5s,MS6.9
MOS MLR MLR
comp=Z,71μm,21.5s,MS6.9
MOS MLR MLR
comp=N,32μm,20.0s,MS6.9
ULDT Uludag 73.21 312 *i* P **P 15 39 56.2 -0.9**
LBTB Lobatse 73.33 244 P **P 15 39 58.0 +0.2**
LBTB S S 15 49 26.5 +2.0
LBTB Lobatse 73.33 244⇓ eP **P 15 39 58.1 +0.3**
LBTB pmax pmax
comp=Z,700nm,0.8s,mb6.6
LBTB MLR MLR
comp=Z,90μm,22.0s,MS7.0
LBTB Lobatse 73.33 244⇓ eP **P 15 39 58.1 +0.3**
comp=Z,6.6nm,0.8s
LBTB LR LR
comp=Z,90μm,22.0s,MS7.0
ORLT Orhaneli 73.37 312 eP **P 15 39 57.3 -0.7**
OBN Obninsk 73.49 329 P **P 15 39 58.3 -0.4**
comp=Z,3μm,1.6s,mb7.0,SNR=91
OBN Obninsk 73.49 329 *d iP* **P 15 39 57.7 -1.0**
OBN *i* 15 40 09.0
OBN *e* 15 42 48.6
OBN *i* S S 15 49 22.2 -4.1
OBN *i* PS 15 50 05.5
OBN eSS SS 15 54 06.2 -2.9
OBN pmax pmax
comp=Z,4μm,1.8s,mb7.0
OBN MLR MLR
comp=Z,36μm,23.0s,MS6.6
OBN Obninsk 73.49 329⇓ eP **P 15 39 57.7 -1.0**
comp=Z,4μm,1.8s,mb7.0
OBN LR LR
comp=Z,64μm,20.0s,MS6.9
ISK Istanbul-Kandi 73.50 313 eP **P 15 39 58.0 -0.8**
MLSB Milas 73.58 309 eP **P 15 39 57.7 -1.6**
DAT Datca 73.61 308 eP **P 15 39 57.6 -1.8**
KARP Karpathos 73.69 307 eP **P 15 40 00.0 +0.1**
BODT Bodrum 73.89 309 eP **P 15 39 54.5 -6.6**
ELBA Catalca 73.98 313 *i* P **P 15 40 00.6 -1.0**
CTT Catalca 73.98 313 eP **P 15 39 58.7 -3.0**
BALB Balikesir 74.03 311 eP **P 15 40 00.8 -1.1**
MCQ Macquarie Isla 74.12 148 eP **P 15 40 04.3 +1.8**
MCQ *i* S S 15 49 43.5 +10
BNT Bandirma 74.17 312 eP **P 15 40 02.6 -0.1**
KDAG Bornova 74.21 310 *i* P **P 15 40 02.9 0.0**
IZM Izmir 74.22 310 eP **P 15 40 02.6 -0.4**
TIXI Tiksi 74.26 10 eP **P 15 39 59.7 -3.6**
TIXI *e* 15 42 44.8
TIXI *e*PPP 15 44 31.6
TIXI eS S 15 49 26.4 -8.6
TIXI *e* 15 50 08.4
TIXI eSSS 15 57 37.2
TIXI pmax pmax
comp=Z,444nm,1.1s,mb6.3
TIXI pmax pmax
comp=N,125nm,1.2s
TIXI pmax pmax
comp=E,118nm,1.5s
TIXI pmax pmax
comp=Z,4μm,10.5s
TIXI pmax pmax
comp=N,1μm,10.0s
TIXI pmax pmax
comp=E,903nm,11.0s
TIXI smax
comp=N,21μm,14.6s
TIXI smax
comp=E,10μm,11.6s
TIXI MLR MLR
comp=E,61μm,15.0s,MS7.1
TIXI MLR MLR
comp=Z,102μm,15.0s,MS7.2
TIXI MLR MLR
comp=N,44μm,17.0s,MS7.1
TIXI Tiksi 74.26 10 *i* Pr **P 15 40 02.5 -0.8**
TIXI LR LR
comp=Z,114μm,20.0s,MS7.2
SMG Samos 74.40 309 eP **P 15 40 04.0 0.0**
MRMT Marmara Adasi 74.47 312 eP **P 15 39 57.0 -7.4**
URLA Izmir 74.72 310 *i* P **P 15 40 05.8 -0.1**
XRY Khrisi 74.74 306 eP **P 15 40 06.0 0.0**
PSN Preselentsi 74.79 315 P **P 15 40 06.0 -0.3**
TIRR Tirgusor 74.83 316⇓ *i* P **P 15 40 06.7 +0.1**
TIRR Tirgusor 74.83 316⇓ eP **P 15 40 05.6 -1.0**
NPS Neapolis 74.88 306 eP **P 15 40 07.5 +0.7**
LAST Lasithi 74.97 306 eP **P 15 40 07.5 +0.2**
CHOS Chios island 75.14 310 eP **P 15 40 08.4 +0.1**
PRK Paraskevi 75.16 311 eP **P 15 40 09.0 +0.6**
SANT Santorini 75.21 308⇓ eP **P 15 40 07.5 -1.2**
comp=Z,1μm,1.2s,mb6.7
THR1 Thera Island 75.21 308 eP **P 15 40 13.6 +4.8**
CFR Carcaliu 75.21 317⇓ *i* P **P 15 40 08.8 0.0**
CFR Carcaliu 75.21 317 ⇓P **P 15 40 08.8 0.0**
HARR Harsova 75.23 316⇓ *i* P **P 15 40 09.0 +0.2**
HARR Harsova 75.23 316 ⇓P **P 15 40 09.0 +0.2**
KIS Kishinev 75.25 319 *d iP* **P 15 40 06.0 -3.0**
KIS *i* 15 40 18.0
KIS *i* 15 42 58.0
KIS *i* S S 15 49 42.0 -4.0
KIS pmax pmax
comp=Z,7μm,3.8s
KIS pmax pmax
comp=N,1μm,4.0s
KIS pmax pmax
comp=E,3μm,4.0s
KIS pmax pmax
comp=E,2μm,6.0s
KIS pmax pmax
comp=Z,4μm,6.0s
KIS pmax pmax
comp=N,2μm,7.0s
KIS smax
comp=N,12μm,10.0s
KIS smax
comp=E,12μm,12.0s
APE Apeiranthos 75.28 308 eP **P 15 40 04.2 -5.0**
APE Apeiranthos 75.28 308 eP **P 15 40 08.5 -0.7**
APE Apeiranthos 75.28 308⇓ *i* P **P 15 40 08.7 -0.5**
APE Apeiranthos 75.28 308 *d* iP **P 15 40 07.7 -1.5**
APE Apeiranthos 75.28 308 ⇓P **P 15 40 08.7 -0.5**
EDRB Edirne 75.38 313 eP **P 15 40 08.9 -0.8**
IDI Anoyia 75.46 306 P **P 15 40 08.8 -1.4**
SIVA Sivas 75.48 306 eP **P 15 40 11.0 +0.7**
JMB Yambol 75.64 314 P **P 15 40 11.0 -0.2**
ALN Alexandroupoli 75.68 312 eP **P 15 40 11.6 +0.1**
GVD Gavdhos 76.03 306 eP **P 15 40 10.1 -3.3**
GVD Gavdhos 76.03 306⇓ eP **P 15 40 12.7 -0.8**
comp=E,772nm,1.1s,mb6.5
VAM Vamos 76.04 306 eP **P 15 40 13.5 0.0**
AKASG Malin Array Be 76.06 323 P **P 15 40 12.4 -1.2**
comp=E,184nm,0.5s,mb6.3,baz=91,slow=4.9,SNR=435
AKASG PP PP 15 43 01.4 -3.1
comp=E,43nm,1.1s,baz=96,slow=6.0,SNR=4.4
AKASG S S 15 49 48.6 -6.3
comp=E,0.4nm,0.5s,baz=29,slow=4.7,SNR=2.5
BRD Bordesti 76.06 317 P **P 15 40 16.3 +2.7**
RDO Rodhopi 76.11 312 eP **P 15 40 12.5 -1.4**
RDO Rodhopi 76.11 312 P **P 15 40 12.4 -1.5**
IAS Iasi 76.12 319 P **P 15 40 13.9 -0.1**
SZH Strazhica 76.28 315 P **P 15 40 15.4 +0.5**
KDZ Kurdzhali 76.30 313 P **P 15 40 15.0 0.0**
DIM Dimitrovgrad 76.30 313 P **P 15 40 14.3 -0.7**
VRI Vrincioaia 76.34 317⇓ *i* P **P 15 40 15.6 +0.4**
VRI Vrincioaia 76.34 317 P **P 15 40 15.4 +0.2**
VRI Vrincioaia 76.34 317 ⇓P **P 15 40 15.6 +0.4**
PLOR Plostina 76.39 317⇓ *i* P **P 15 40 16.3 +0.8**
BUC1 Bucharest 76.46 316 P **P 15 40 16.5 +0.6**
PVL Pavlikeni 76.70 314 P **P 15 40 17.8 +0.6**
PTL Penteli 76.77 309 eP **P 15 40 16.0 -1.6**
MLR Muntele Rosu 76.79 317 P **P 15 40 17.7 0.0**
comp=E,419nm,1.1s,mb6.3,baz=127,slow=2.7,SNR=288
MLR S S 15 49 59.9 -3.0
comp=E,0.9nm,0.3s,baz=245,slow=22,SNR=3.2
MLR LR LR 16 18 36.3
comp=E,31μm,20.9s,MS6.6,baz=302,slow=39
MLR Muntele Rosu 76.79 317⇓ *i* P **P 15 40 18.0 +0.3**
MLR Muntele Rosu 76.79 317 P **P 15 40 17.7 0.0**
MLR S S 15 49 59.9 -3.0
MLR pmax pmax
comp=Z,419nm,1.1s
MLR smax
comp=N,1.0nm,0.3s
MLR MLR MLR
comp=Z,31μm,20.9s
MLR Muntele Rosu 76.79 317 ⇓P **P 15 40 18.1 +0.3**
KVR Kavouri 76.80 309 eP **P 15 40 17.0 -0.8**
RZN Rozhen 76.82 313 P **P 15 40 17.4 -0.5**
ATH Athens Observa 76.87 309 eP **P 15 40 18.0 -0.2**
PLD Plovdiv 76.92 313 P **P 15 40 17.5 -1.0**
AOS Alonnisos 76.96 310 eP **P 15 40 18.1 -0.6**
JCZ Jackson Bay 76.97 135 P* **P 15 40 19.5 +0.7**
JCZ PP PP 15 43 13.6 +1.5
JCZ Jackson Bay 76.97 135 eP **P 15 40 19.0 +0.2**
SNX Sinaia 77.05 317⇓ *i* P **P 15 40 19.0 -0.2**
SNX Sinaia 77.05 317 ⇓P **P 15 40 19.0 -0.3**
OUR Ouranopolis 77.10 311 eP **P 15 40 19.3 -0.2**
KYTH Kithira 77.12 307 eP **P 15 40 19.5 -0.1**
MGER Gerania Oros 77.23 309 eP **P 15 40 19.0 -1.2**
PAIG Paliouri 77.25 311 eP **P 15 40 19.4 -0.9**
VLI Veliai 77.27 308 eP **P 15 40 19.0 -1.4**
MTUR Matau 77.33 316⇓ *i* P **P 15 40 21.4 +0.6**
MTUR Matau 77.33 316 P **P 15 40 20.5 -0.3**
MTUR Matau 77.33 316 ⇓P **P 15 40 21.4 +0.6**
VOIR 77.39 317⇓ *i* P **P 15 40 20.5 -0.6**
VOIR 77.39 317 ⇓P **P 15 40 20.6 -0.6**
PGB Panagyurishte 77.40 314 P **P 15 40 20.4 -0.8**
CRA Chernovtsy 77.46 320 P **P 15 40 25.7 +4.2**
PLG Polygyros 77.51 311 eP **P 15 40 20.0 -1.8**
XOR Xorichti 77.52 310 eP **P 15 40 20.4 -1.5**
MMB Musomiste 77.53 313 *i* P **P 15 40 21.0 -0.9**
SOH Sokhos 77.66 312 eP **P 15 40 21.4 -1.3**
BURAR Bucovina Array 77.77 319⇓ *i* P **P 15 40 24.1 +0.8**
BURAR Bucovina Array 77.77 319 ⇓P **P 15 40 24.1 +0.8**
THE Thessaloniki 77.92 312 eP **P 15 40 22.2 -1.8**
MNK Minsk 77.99 326⇓ *i* P **P 15 40 21.0 -3.5**
MNK *e*PPP 15 45 16.0
MNK eS S 15 50 10.0 -6.0
MNK ePS 15 50 52.0
MNK pmax pmax
comp=Z,4μm,1.0s,mb7.3
MNK pmax pmax
comp=E,2μm,1.2s
MNK MLR MLR
comp=Z,36μm,18.0s,MS6.8
MNK MLR MLR
comp=E,49μm,20.0s
CRAR CRAIOVA 78.02 315 P **P 15 40 25.7 +1.1**
KKB Krupnik 78.06 313 P **P 15 40 23.7 -1.1**
KNT Kendrikon 78.06 312 eP **P 15 40 24.2 -0.6**
VTS Vitosha 78.10 314 *i* P **P 15 40 24.0 -1.1**
AGG Agios Georgios 78.12 310 eP **P 15 40 23.8 -1.4**
ITM Ithomi 78.14 308 eP **P 15 40 24.0 -1.3**
WVZ Waitaha Valley 78.16 134 P* **P 15 40 25.5 +0.1**
WVZ Waitaha Valley 78.16 134 eP **P 15 40 25.2 -0.2**
LIT Litokhoron 78.18 311 eP **P 15 40 24.4 -1.1**
VAY Valandovo 78.34 312⇓ *i* P **P 15 40 24.4 -2.0**
comp=Z,1μm,1.5s,mb6.6
PUL Pulkovo 78.39 332⇑ *i* P **P 15 40 27.2 +0.5**
PUL eS S 15 50 16.4 -3.9
PUL *e* 15 50 45.1
PUL pmax pmax
comp=E,1μm,1.1s
PUL pmax pmax
comp=Z,1μm,1.1s,mb6.7
PUL MLR MLR
comp=Z,49μm,17.0s,MS6.9
PUL MLR MLR
comp=N,36μm,22.0s
PUL MLR MLR
comp=E,34μm,16.0s
PUL Pulkovo 78.39 332 *i* Pr 15 40 26.5
GRG Griva 78.40 312 eP **P 15 40 26.1 -0.7**
ODZ Otahua Downs 78.49 136 P* **P 15 40 27.9 +0.7**
SUR Sutherland 78.50 237 P **P 15 40 28.8 +1.5**
comp=E,3μm,1.3s,mb7.0,SNR=29
SUR Sutherland 78.50 237 LR LR 16 08 36.2
comp=E,65μm,20.6s,MS6.9,baz=95,slow=31
SUR Sutherland 78.50 237 eP **P 15 40 28.5 +1.2**
comp=E,866nm,1.3s,mb6.5
SUR LR LR
comp=Z,69μm,19.0s,MS7.0
EVR Evrytania 78.51 310 eP **P 15 40 27.0 -0.3**
RPZ Rata Peaks 78.52 135 S S 15 50 16.4 -5.2
comp=Z,10nm,1.1s,baz=210,slow=4.8,SNR=2.2
RPZ LR LR 16 15 55.8
comp=Z,81μm,21.3s,MS7.0,baz=276,slow=36
RPZ Rata Peaks 78.52 135 P* **P 15 40 27.5 +0.2**
RPZ Rata Peaks 78.52 135 eP **P 15 40 27.5 +0.1**
STIP Stip 78.69 312 *i* P **P 15 40 26.1 -2.2**
comp=Z,90nm,1.4s,mb5.5
IDID Didziasalis 78.83 327 eP **P 15 40 28.7 -0.4**
IDID AMb AMB 15 40 41.4
comp=Z,14μm,1.1s
SYO Syowa Base 78.95 198⇑ *i* P **P 15 40 29.6 -0.2**
SYO Syowa Base 78.95 198⇓ *i* pP pP 15 40 34.0 -5.5
LVV L'vov 79.04 321⇓ *i* P **P 15 40 29.9 -0.4**
LVV *e* 15 43 34.9
LVV *e*PPP 15 45 20.7
LVV *i* S S 15 50 25.9 -1.3
LVV *i* PS 15 51 20.9
LVV eSS SS 15 55 31.9 -1.3
LVV MLR MLR
comp=N,8μm,16.0s,MS6.3
LVV MLR MLR
comp=E,7μm,16.0s,MS6.3
LVV MLR MLR
comp=Z,11μm,16.0s,MS6.3
QRZ Quartz Range 79.07 132 P* **P 15 40 30.9 +0.5**
QRZ PP PP 15 43 29.6 -0.1
QRZ Quartz Range 79.07 132 eP **P 15 40 30.9 +0.5**
JOF Joensuu 79.08 335 ep **P 15 40 29.5 -1.0**
comp=Z,647nm,1.0s,mb6.5
IIGN Ignalina 79.12 327 eP **P 15 40 30.5 -0.2**
FNA Florina 79.14 311 eP **P 15 40 29.1 -1.6**
BIA Bitola 79.21 312 *i* P **P 15 40 29.0 -2.2**
comp=Z,50nm,0.7s,mb5.5
LTZ Lake Taylor 79.21 134 P* **P 15 40 31.3 +0.1**
LTZ PP PP 15 43 32.1 +1.2
LTZ Lake Taylor 79.21 134 eP **P 15 40 29.4 -1.8**
IZAR Zarasai 79.22 327 eP **P 15 40 31.2 -0.1**
IZAR AMb AMB 15 40 43.5
comp=Z,10μm,1.2s
BOLS Boljevac 79.23 315⇑ *i* P **P 15 40 30.7 -0.6**
ISAL Salakas 79.24 327 eP **P 15 40 31.2 -0.1**
ISAL AMb AMB 15 40 43.6
comp=Z,11μm,1.0s
DRGR 79.26 318⇓ *i* P **P 15 40 32.0 +0.5**
DRGR 79.26 318 P **P 15 40 31.7 +0.2**
DRGR 79.26 318 ⇓P **P 15 40 31.9 +0.5**
SKO Skopje 79.28 313 *i* P **P 15 40 30.4 -1.2**
comp=Z,560nm,1.2s,mb6.4
SKO Skopje 79.28 313 P **P 15 40 31.5 -0.1**
VLS Valsamata 79.34 309 eP **P 15 40 31.0 -0.9**
JAN Janina 79.36 310 eP **P 15 40 31.5 -0.5**
LKD Levkas 79.37 309 eP **P 15 40 31.9 -0.1**
THZ Tophouse 79.50 132 P* **P 15 40 32.6 -0.2**
THZ PP PP 15 43 37.4 +4.1
THZ Tophouse 79.50 132 eP **P 15 40 32.6 -0.2**
CRLZ Canterbury Las 79.61 134 P* **P 15 40 34.1 +0.7**
CRLZ Canterbury Las 79.61 134 eP **P 15 40 34.1 +0.8**
OHR Ohrid 79.62 312⇓ *i* P **P 15 40 31.2 -2.2**
comp=Z,611nm,1.0s,mb6.5
MQZ McQueen's Vall 79.65 134 P* **P 15 40 35.1 +1.5**
MQZ McQueen's Vall 79.65 134 eP **P 15 40 33.9 +0.3**
VSU Vasula 79.73 330 *i* P **P 15 40 33.2 -0.8**
VSU Vasula 79.73 330 *i* Pr **P 15 40 33.2 -0.8**
IGT Igoumenitsa 79.73 310 eP **P 15 40 33.7 -0.4**
NNZ Nelson 79.77 132 P* **P 15 40 34.1 -0.1**
BZS Buzias 79.79 316⇓ *i* P **P 15 40 34.2 -0.1**
BZS Buzias 79.79 316 P **P 15 40 34.1 -0.2**
BZS Buzias 79.79 316 ⇓P **P 15 40 34.2 -0.1**
LVZ Lovozero 79.81 340 P **P 15 40 34.1 -0.4**
comp=Z,2μm,0.8s,mb7.2,SNR=30
LVZ Lovozero 79.81 340⇑ *i* P **P 15 40 34.6 +0.1**
LVZ *i* 15 43 35.5
LVZ *e*PPP 15 45 24.7
LVZ eS S 15 50 31.8 -3.6
LVZ eSS SS 15 55 38.6 -6.1
LVZ pmax pmax
comp=Z,732nm,1.3s,mb6.5
LVZ pmax pmax
comp=N,68nm,0.9s
LVZ pmax pmax
comp=E,229nm,1.1s
LVZ smax
comp=E,18μm,8.6s
LVZ MLR MLR
comp=E,55μm,17.0s,MS7.0
LVZ MLR MLR
comp=Z,54μm,17.0s,MS7.0
LVZ MLR MLR
comp=N,12μm,14.0s,MS7.0
LVZ Lovozero 79.81 340 PFAKE 15 40 50.0 +16
LVZ LR LR
comp=Z,72μm,21.0s,MS7.0
SVIS Svilajnac 79.83 315⇑ *i* P **P 15 40 34.4 -0.1**
SVIS Svilajnac 79.83 315 P **P 15 40 34.7 +0.1**
KWP Kalwaria 79.84 320 eP*d* **P 15 40 34.8 +0.2**
comp=Z,4.0nm,2.2s,mb4.0
KWP *e*PcP PcP 15 40 39.7 -2.5
KWP *e*pP pP 15 40 45.6 +1.3
KWP eS S 15 50 34.6 -1.1
KWP *e*SKS 15 50 42.4
KWP Kalwaria 79.84 320⇓ *e*P **P 15 40 34.8 +0.2**
KWP *e* 15 40 39.7
KWP *e**PP pP 15 40 45.6 +1.3
KWP *e*S S 15 50 34.6 -1.1
KWP *e* 15 50 42.4
KWP pmax pmax
comp=Z,4μm,2.2s,mb7.0
UZH Uzhgorod 79.90 319 *i* P **P 15 40 35.0 0.0**
KOLS Kolonicke sedl 79.98 320 eS S 15 50 37.3 +0.2
KOLS *e*SKP 16 07 27.2
KOLS Kolonicke sedl 79.98 320 eP **P 15 40 36.0 +0.7**
KOLS eS S 15 50 37.3 +0.2
KOLS Kolonicke sedl 79.98 320 eP **P 15 40 36.0 +0.7**
comp=Z,547nm,1.2s,mb6.4
KOLS eS S 15 50 37.3 +0.2
KOLS *e* 16 07 27.2
KOLS LR LR
comp=Z,15μm,20.2s,MS6.3
KHZ Kahutara 80.08 133 P* **P 15 40 36.1 +0.2**
KHZ Kahutara 80.08 133 eP **P 15 40 35.6 -0.3**
APA Apatity 80.10 340⇑ *i* P **P 15 40 35.0 -1.0**
APA *i* 15 43 41.0
APA eS S 15 50 36.0 -2.5
APA *i* 15 50 41.0
APA eSS SS 15 55 48.0 -1.1
APA pmax pmax
comp=Z,520nm,1.3s,mb6.3
APA pmax pmax
comp=Z,10μm,6.0s
APA MLR MLR
comp=Z,100μm,18.0s,MS7.2
GRUS Gruza 80.12 314⇑ *i* P **P 15 40 37.5 +1.4**
TSUM Tsumeb 80.14 251 PKKPbc PKKPbc 15 59 20.1 +0.4
baz=343,slow=0.0
TSUM PKPPKP 16 07 24.1
comp=Z,2.6nm,1.1s,baz=270,slow=7.6,SNR=3.4
TSUM Tsumeb 80.14 251⇓ eP **P 15 40 36.9 +0.7**
comp=Z,1μm,2.6s,mb6.3
TSUM LR LR
comp=Z,68μm,21.0s,MS7.0
KEK Kerkira 80.17 310 eP **P 15 40 36.0 -0.4**
KEK Kerkira 80.17 310 P **P 15 40 33.7 -2.7**
TIR Tirane 80.35 312 P **P 15 40 38.2 +0.8**

PVY	**Plav**	**80.46 313**	⇓	*i*	P		**15 40 37.3**	**-0.6**
BEO	**Belgrade**	**80.46 315**	⇑	*i*	P		**15 40 38.1**	**+0.1**
BEO	**Belgrade**	**80.46 315**		P	P		**15 40 37.8**	**-0.2**
HIZ	**Hauiti**	**80.49 129**		P*	P		**15 40 39.6**	**+1.5**
HIZ	**Hauiti**	**80.49 129**		*e*P	P		**15 40 39.6**	**+1.5**
CRVS	**Cervenica-Dubn**	**80.50 320**		*e*S	S		15 50 43.4	+0.8
CRVS				*e*SKP			16 07 26.7	
CRVS	**Cervenica-Dubn**	**80.50 320**		*e*P	P		**15 40 39.0**	**+0.9**
CRVS				*e*S	S		15 50 43.4	+0.8
CRVS	**Cervenica-Dubn**	**80.50 320**		*e*P	P		**15 40 39.0**	**+0.9**
CRVS				*e*S	S		15 50 43.4	+0.8
CRVS				*e*			16 07 26.7	
CRVS				LR	LR			
	comp=Z,14µm,19.5s,MS6.3							
SUW	**Suwalki**	**80.50 325**		*e*P	P		**15 40 37.0**	**-1.2**
	comp=Z,3.2nm,1.5s							
SUW				*e*PcP	PcP		15 40 42.8	-2.2
SUW				*e*pP	pP		15 40 48.0	+0.1
SUW				*e*S	S		15 50 39.5	-3.1
SUW				*e*SKS			15 50 47.2	
SUW				L			16 22 05.8	
	comp=Z,31nm,22.0s							
SUW	**Suwalki**	**80.50 325**		*e*P	P		**15 40 37.0**	**-1.2**
SUW				*e*PcP	PcP		15 40 42.8	-2.2
SUW				*e*pP	pP		15 40 48.0	+0.1
SUW				*e*S	S		15 50 39.5	-3.1
SUW				*e*SKS			15 50 47.2	
IVA	**Berane**	**80.55 313**	⇓	*i*P	P		**15 40 37.8**	**-0.7**
DIVS	**Divcibare**	**80.67 315**	⇑	*i*P	P		**15 40 38.8**	**-0.3**
DIVS	**Divcibare**	**80.67 315**		*e*P	P		**15 40 39.1**	**0.0**
STHS	**Stebnicka Huta**	**80.73 320**		*i* P	P		**15 40 39.6**	**+0.2**
	comp=Z,270nm,1.0s,mb6.1							
STHS				*e*	pP		15 40 50.2	+1.0
STHS				*e*S	S		15 50 45.5	+0.4
WAZ	**Wanganui**	**80.76 130**		P*	P		**15 40 40.6**	**+1.1**
WAZ	**Wanganui**	**80.76 130**		*e*P	P		**15 40 40.4**	**+0.8**
SNZO	**South Karori**	**80.77 132**	⇓	*e*P	P		**15 40 38.7**	**-0.9**
	comp=Z,590nm,1.5s,mb6.3							
SNZO				LR	LR			
	comp=Z,107µm,20.0s,MS7.2							
ULC	**Ulcinj**	**80.90 312**	⇓	*i*P	P		**15 40 39.6**	**-0.6**
KUZ	**Kuaotunu**	**80.95 127**		P*	P		**15 40 41.9**	**+1.4**
KUZ	**Kuaotunu**	**80.95 127**		*e*P	P		**15 40 41.7**	**+1.1**
TTG	**Podgorica**	**80.95 313**	⇓	*i*P	P		**15 40 39.5**	**-1.1**
PLE	**Pljevlja**	**80.99 314**	⇓	*i*P	P		**15 40 40.6**	**-0.2**
KAF	**Kangasniemi**	**81.00 333**		*e*P	P		**15 40 39.9**	**-0.9**
	comp=Z,859nm,0.9s,mb6.7,baz=103,slow=4.9							
KAF	**Kangasniemi**	**81.00 333**		*e*P	P		**15 40 39.9**	**-0.9**
KAF				pmax	pmax			
	comp=Z,859nm,0.9s,mb6.7							
BBLS	**Bajina Basta -**	**81.05 314**	⇑	*i*P	P		**15 40 41.6**	**+0.4**
KECS	**Kecovo**	**81.06 319**		*e*P	P		**15 40 40.9**	**-0.2**
	comp=Z,108nm,1.0s,mb5.7							
KECS				*e*	pP		15 40 50.2	-0.7
FWVZ	**Far West T-bar**	**81.13 130**		P*	P		**15 40 42.2**	**+0.6**
FWVZ	**Far West T-bar**	**81.13 130**		*e*P	P		**15 40 42.2**	**+0.7**
WNVZ	**Wahianoa**	**81.17 130**		P*	P		**15 40 42.3**	**+0.5**
WNVZ	**Wahianoa**	**81.17 130**		*e*P	P		**15 40 42.3**	**+0.5**
NKY	**Niksic**	**81.20 313**		*e*P	P		**15 40 41.2**	**-0.7**
BUM	**Brajici-Budva**	**81.20 313**	⇓	*i*P	P		**15 40 41.1**	**-0.9**
PKSN	**Nyarlorinc**	**81.20 317**	⇑	*e*P	P		**15 40 43.1**	**+1.2**
RATZ	**Rangitukua**	**81.25 129**		P*	P		**15 40 43.1**	**+1.0**
RATZ	**Rangitukua**	**81.25 129**		*e*P	P		**15 40 43.0**	**+0.8**
UPM	**Unac-Piva**	**81.32 314**	⇓	*i*P	P		**15 40 42.2**	**-0.3**
NIE	**Niedzica**	**81.33 320**		*i* Pd			15 40 42.7	
MRZ	**Mangatainoka R**	**81.33 131**		P*	P		**15 40 42.7**	**+0.1**
MRZ	**Mangatainoka R**	**81.33 131**		*e*P	P		**15 40 43.1**	**+0.5**
PSZ	**Piszkesteto**	**81.35 318**	⇓	*i*P	P		**15 40 42.7**	**0.0**
PSZ	**Piszkesteto**	**81.35 318**		P	P		**15 40 40.7**	**-2.0**
PSZ				pmax	pmax			
	comp=Z,3µm,1.9s,mb6.9							
WAR	**Warsaw**	**81.40 323**		*e*P	P		**15 40 43.2**	**+0.2**
WAR				*e*PcP	PcP		15 40 47.2	-1.8
WAR				*e*pP	pP		15 40 54.3	+1.6
WAR				*e*S	S		15 50 50.1	-2.0
WAR				*e*SKS			15 50 56.8	
WAR				L			16 23 52.6	
	comp=Z,37nm,21.7s							
FX1	**Attu Island--F**	**81.51 36**		*e*P	P		**15 40 44.3**	**+0.7**
HCY	**Herceg Novi**	**81.52 313**	⇓	*i*P	P		**15 40 43.0**	**-0.5**
LCI	**Lecce**	**81.53 311**		P	P		**15 40 43.3**	**-0.4**
BRY	**Bratogost**	**81.54 313**	⇓	*i*P	P		**15 40 43.0**	**-0.7**
TSZ	**Takapari Road**	**81.54 130**		P*	P		**15 40 43.4**	**-0.3**
TSZ	**Takapari Road**	**81.54 130**		*e*P	P		**15 40 43.1**	**-0.6**
PKS2	**Kecel**	**81.58 317**	⇑	*e*P	P		**15 40 44.9**	**+1.0**
PENC	**Penc**	**81.74 318**	⇓	*e*P	P		**15 40 45.5**	**+0.8**
OJC	**Ojcow**	**81.80 321**		*i* Pd	P		**15 40 44.8**	**-0.3**
OJC				*e*PcP	PcP		15 40 50.2	-0.5
OJC				*e*PP	PP		15 43 46.4	-5.9
OJC				*e*S	S		15 50 55.5	-0.6
OJC				*e*SKSac	SKSac		15 51 05.2	+2.3
OJC				*e*SS	SS		15 56 12.2	-2.1
OJC				L			16 30 06.0	
	comp=Z,96nm,18.8s							
OJC	**Ojcow**	**81.80 321**	⇓	*i*P	P		**15 40 44.8**	**-0.3**
OJC				*e*			15 40 50.2	
OJC				*e*			15 43 46.4	
OJC				*e*S	S		15 50 55.5	-0.6
OJC				*e*SS	SS		15 56 12.2	-2.1
OJC				MLR	MLR			
	comp=Z,96µm,18.8s,MS7.2							
BFZ	**Birch Farm**	**81.84 131**		P*	P		**15 40 45.7**	**+0.4**
BFZ	**Birch Farm**	**81.84 131**		*e*P	P		**15 40 45.2**	**-0.1**
BKZ	**Black Stump Fm**	**81.84 129**		P*	P		**15 40 45.2**	**-0.1**
BKZ	**Black Stump Fm**	**81.84 129**		*e*P	P		**15 40 45.3**	**0.0**
BUD	**Budapest**	**81.86 318**	⇓	*i*P	P		**15 40 45.5**	**+0.1**
PKS8	**Sarbogard**	**82.01 317**	⇓	*e*P	P		**15 40 46.4**	**+0.2**
SMY	**Shemya**	**82.04 37**		*e*P	P		**15 40 46.8**	**+0.5**
SMY				pmax	pmax			
	comp=Z,1µm,1.5s,mb6.6							
SMY	**Shemya**	**82.04 37**		*e*P	P		**15 40 46.8**	**+0.5**
	comp=Z,1µm,1.5s,mb6.6							
LIKS	**Likavka**	**82.05 319**		*e*P	P		**15 40 46.3**	**-0.1**
	comp=Z,136nm,1.0s,mb5.8							
BILL	**Bilibino**	**82.20 21**	*d*	*i*P	P		**15 40 46.6**	**-0.6**
BILL				*e*			15 41 04.1	
BILL				*i*			15 43 57.9	
BILL				*i* PPP			15 45 51.4	
BILL				*i* S	S		15 50 56.4	-3.9
BILL				*i* PS			15 51 50.5	
BILL				*i* SS	SS		15 56 26.1	+5.7
BILL				pmax	pmax			
	comp=Z,211nm,2.1s,mb5.7							
BILL				MLR	MLR			
	comp=Z,105µm,16.0s,MS7.3							
BILL	**Bilibino**	**82.20 21**		*e*P	P		**15 40 46.1**	**-1.1**
	comp=Z,141nm,1.0s,mb5.8							
BILL				LR	LR			
	comp=Z,87µm,19.0s,MS7.1							
URZ	**Urewera**	**82.22 129**		P	P		**15 40 46.5**	**-0.8**
	comp=Z,488nm,1.2s,mb6.3,baz=318,slow=1.8,SNR=36							
URZ				S	S		15 50 55.3	-5.2
	comp=Z,9.2nm,1.0s,baz=20,slow=12,SNR=2.1							
URZ				LR	LR		16 18 05.0	
	comp=Z,58µm,19.2s,MS7.0,baz=88,slow=36							
URZ	**Urewera**	**82.22 129**		P*	P		**15 40 47.4**	**+0.1**
URZ	**Urewera**	**82.22 129**		*e*P	P		**15 40 46.4**	**-0.9**
PKS9	**Tamasi**	**82.23 317**	⇑	*i*P	P		**15 40 47.9**	**+0.5**
PKSG		**82.27 318**	⇑	*e*P	P		**15 40 48.3**	**+0.7**
BRT	**Bari-Castellan**	**82.28 311**		P	P		**15 40 47.7**	**+0.1**
RHK1	**Bakonya**	**82.31 316**	⇑	*e*P	P		**15 40 47.9**	**+0.1**
SRO2	**Moca**	**82.33 318**		*e*P	P		**15 40 48.5**	**+0.7**
SRO2				*e*	pP		15 40 59.6	+2.0
SRO	**Srobarova**	**82.39 318**		*e*P	P		**15 40 48.5**	**+0.3**
SRO				*e*	pP		15 40 59.6	+1.7
SRO	**Srobarova**	**82.39 318**		*i* P	P		**15 40 48.6**	**+0.4**
	comp=Z,1µm,1.7s,mb6.6							
SRO				*e*			15 41 00.0	
SRO1	**Iza**	**82.43 318**		*e*P	P		**15 40 49.3**	**+0.9**
SRO1				*e*			15 41 00.9	
TIP	**Timpagrande**	**82.44 309**	⇓	*e*P	P		**15 40 48.6**	**+0.2**
MWZ	**Matawai**	**82.55 129**		P*	P		**15 40 48.5**	**-0.5**
MWZ	**Matawai**	**82.55 129**		*e*P	P		**15 40 48.4**	**-0.6**
GRI	**Girifalco**	**82.66 309**		P	P		**15 40 50.5**	**+0.9**
ORI	**Oriolo Calabro**	**82.77 310**		P	P		**15 40 50.9**	**+0.8**
OKC	**Ostrava-Krasne**	**82.79 320**		*e*P	P		**15 40 50.4**	**+0.2**
OKC				*e*pP	pP		15 40 56.2	-3.8
OKC				*e*S	S		15 51 05.5	-0.8
OKC				AMS	AMS		16 24 50.0	
	comp=Z,18µm,19.5s							
OKC	**Ostrava-Krasne**	**82.79 320**		P	P		**15 40 50.7**	**+0.5**
RAC	**Raciborz**	**82.79 320**		*e*P	P		**15 40 50.9**	**+0.6**
RAC				*e*S	S		15 51 05.9	-0.4
RAC				MLR	MLR			
	comp=Z,16µm,24.5s,MS6.3							
SOI	**Samo**	**82.88 308**		P	P		**15 40 51.7**	**+1.0**
JAVC	**Velka Javorina**	**82.96 319**		P	P		**15 40 50.6**	**-0.5**
CEL	**Celeste**	**83.02 308**		P	P		**15 40 51.2**	**-0.3**
SMOL	**Smolenice**	**83.07 319**		*e*P	P		**15 40 52.1**	**+0.4**
KEV	**Kevo**	**83.09 341**		*ep*	P		**15 40 49.4**	**-2.4**
	comp=Z,425nm,0.9s,mb6.5							
KEV	**Kevo**	**83.09 341**		*e*P	P		**15 40 49.4**	**-2.4**
KEV				pmax	pmax			
	comp=Z,425nm,0.9s,mb6.5							
PUZ	**Puketiti**	**83.10 128**		P*	P		**15 40 55.8**	**+3.9**
PUZ	**Puketiti**	**83.10 128**		*e*P	P		**15 40 51.2**	**-0.7**
PTRP	**Pietrapertosa**	**83.11 311**		P	P		**15 40 52.3**	**+0.4**
MTTG	**Motta San Giov**	**83.15 308**		P	P		**15 40 52.9**	**+0.8**
SCLL	**Scilla**	**83.16 308**		P	P		**15 40 52.7**	**+0.5**
MORC	**Moravsky Berou**	**83.17 320**	⇓	*i*P	P		**15 40 52.5**	**+0.3**
MORC	**Moravsky Berou**	**83.17 320**	⇓	*e*P	P		**15 40 51.9**	**-0.3**
MORC				pmax	pmax			
	comp=Z,571nm,1.3s,mb6.4							
MORC	**Moravsky Berou**	**83.17 320**	⇓	*e*P	P		**15 40 51.9**	**-0.3**
	comp=Z,571nm,1.3s,mb6.4							
ZST	**Bratislava**	**83.24 318**		*i* P	P		**15 40 52.9**	**+0.3**
	comp=Z,431nm,1.0s,mb6.4							
ZST				*e*S	S		15 51 06.7	-4.2
ZST				LR	LR			
	comp=Z,3µm,19.2s							
CUC	**Castrocucco**	**83.25 310**		P	P		**15 40 51.0**	**-1.6**
MSI	**Messina ING**	**83.28 308**		P	P		**15 40 53.9**	**+1.1**
FGMS	**Monte Sant'Ang**	**83.31 312**		P	P		**15 40 52.7**	**-0.2**
SISC	**Sisak**	**83.41 316**		iP			15 40 53.5	
SLCN	**Sala Consilina**	**83.42 311**		P	P		**15 40 53.9**	**+0.4**
AGST	**Augusta-Monte**	**83.46 307**		P	P		**15 40 53.6**	**-0.1**
ARCES	**ARCESS Array B**	**83.52 340**		P	P		**15 40 54.1**	**+0.1**
	comp=Z,218nm,0.9s,mb6.3,baz=104,slow=4.1,SNR=259							
ARCES				LR	LR		16 21 56.2	
	comp=Z,74µm,20.4s,MS7.0,baz=200,slow=38							
ARE0	**ARCESS Array S**	**83.52 340**	⇓	*e*P	P		**15 40 53.5**	**-0.5**
SOP	**Sopron**	**83.54 318**	⇓	*i*P	P		**15 40 54.4**	**+0.3**
MRLC	**Muro Lucano**	**83.57 311**		P	P		**15 40 54.7**	**+0.4**
SSY	**Sortino**	**83.57 307**		P	P		**15 40 54.3**	**0.0**
FG4	**Candela**	**83.58 311**		P	P		**15 40 54.4**	**+0.1**
RGNG	**Rignano Grg**	**83.58 312**		P	P		**15 40 53.9**	**-0.4**
KOGS	**Kog**	**83.61 317**		P	P		**15 40 54.8**	**+0.3**
SGO	**Sicignano**	**83.69 311**		P	P		**15 40 54.8**	**-0.1**
VRAC	**Vranov**	**83.72 319**		P	P		**15 40 54.9**	**-0.2**
	comp=Z,32nm,1.0s,mb5.4,baz=102,slow=5.5,SNR=78							
VRAC				S	S		15 51 11.8	-3.9
	comp=Z,3.3nm,0.3s,baz=152,slow=5.9,SNR=3.9							
VRAC	**Vranov**	**83.72 319**	⇓	*i*P	P		**15 40 55.2**	**+0.2**
VRAC	**Vranov**	**83.72 319**		P	P		**15 40 54.9**	**-0.1**
VRAC				S	S		15 51 11.8	-3.9
VRAC				pmax	pmax			
	comp=Z,32nm,1.0s							
VRAC				smax				
	comp=N,3.0nm,0.3s							
VRAC	**Vranov**	**83.72 319**	⇓	*i*P	P		**15 40 55.2**	**+0.2**
VKA	**Vienna**	**83.77 318**		*i*P	P		**15 40 56.2**	**+0.9**
FG5	**Orsara di Pugl**	**83.78 311**		P	P		**15 40 55.9**	**+0.5**
KRUC	**Moravsky**	**83.82 319**		P	P		**15 40 55.6**	**0.1**
GKP	**Gorka Klasztor**	**83.84 324**		*e*Pd	P		**15 40 55.6**	**-0.1**
GKP				*e*PcP	PcP		15 40 58.0	-1.7
GKP				*e*pP	pP		15 41 06.7	+1.2
GKP				*e*S	S		15 51 15.3	-1.7
GKP				*e*ScS	ScS		15 51 21.7	-7.9
GKP				L			16 18 52.0	
	comp=Z,25nm,26.4s							
GKP	**Gorka Klasztor**	**83.84 324**	⇓	*e*P	P		**15 40 55.6**	**-0.1**
GKP				*e**PP	pP		15 41 06.7	+1.2
GKP				*e*S	S		15 51 15.3	-1.7
GKP				MLR	MLR			
	comp=Z,25µm,26.4s,MS6.5							
FG2	**Serracapriola**	**83.91 312**		P	P		**15 40 56.2**	**+0.2**
WDD	**Wield Dalam**	**83.91 306**		P	P		**15 40 55.1**	**-0.9**
CSSN	**Cassano Irpino**	**83.93 311**		P	P		**15 40 56.0**	**-0.1**
MNO	**Monte Soro**	**83.94 308**		P	P		**15 40 57.4**	**+1.2**
DPC	**Dobruska-Polom**	**84.02 321**		*e*P	P		**15 40 57.0**	**+0.4**
DPC				*e*pP	pP		15 41 03.0	-3.4
DPC				*e*S			15 51 19.9	
DPC				*e*SS	SS		15 57 01.2	+14
DPC				*ex*	x		16 03 23.6	
DPC				AMS	AMS		16 25 20.0	
	comp=Z,37µm,22.9s							
DPC	**Dobruska-Polom**	**84.02 321**		P	P		**15 40 56.0**	**-0.6**
CRES	**Cresnjev**	**84.09 316**		P	P		**15 40 57.4**	**+0.5**
KSP	**Ksiaz**	**84.10 321**		*e*Pd	P		**15 40 57.5**	**+0.5**
KSP				*e*PcP	PcP		15 41 00.1	-0.7
KSP				*e*pP	pP		15 41 09.0	+2.2
KSP				*e*S			15 51 18.2	
KSP				L			16 25 52.3	
	comp=Z,74nm,22.8s							
KSP	**Ksiaz**	**84.10 321**	⇓	*e*P	P		**15 40 56.9**	**-0.1**
KSP				*e**PP	pP		15 41 07.7	+0.9
KSP				*e*			15 51 17.5	
KSP				MLR	MLR			
	comp=Z,85µm,22.8s,MS7.1							
KSP	**Ksiaz**	**84.10 321**	⇓	*e*P	P		**15 40 56.9**	**-0.1**
KSP				*e*pP	pP		15 41 07.7	+0.9
KSP				*e*PPPP			15 47 41.0	
KSP				*e*SKS			15 51 17.5	
KSP				LR	LR			
	comp=Z,85µm,22.8s,MS7.1							
KTK1	**Kautokeino**	**84.15 340**		*e*P	P		**15 40 56.8**	**-0.4**
KTK1				AMb	AMB		15 41 11.5	
	comp=Z,1µm,1.7s,mb6.8							
KTK1	**Kautokeino**	**84.15 340**		*e*P	P		**15 40 56.8**	**-0.4**
	comp=Z,1µm,1.7s,mb6.8							
ARSA	**Arzberg**	**84.19 317**		*i* P	P		**15 40 57.3**	**-0.2**
	comp=Z,10µm,4.0s,SNR=140							
ARSA	**Arzberg**	**84.19 317**		P	P		**15 40 56.2**	**-1.3**
BOJS	**Bojanci**	**84.20 316**		*e*P	P		**15 40 57.3**	**-0.2**
BOJS				*e*	pP		15 41 08.3	+1.1
UPC	**Upice**	**84.24 321**		*e*P	P		**15 40 58.6**	**+0.9**
UPC				*e*pP	pP		15 41 03.7	-3.8
NVLJ	**Novalja**	**84.38 315**	⇓	*i*P	P		**15 40 57.0**	**-1.4**
PERS	**Pernice**	**84.41 317**		*i* P	P		**15 40 58.7**	**+0.1**
PERS				*e*	pP		15 41 08.8	+0.5
GIB	**Gibilmanna**	**84.47 308**		P	P		**15 40 58.0**	**-0.8**
CII	**Carovilli**	**84.54 312**		P	P		**15 40 59.3**	**+0.1**
MIDA	**Miranda**	**84.57 312**		P	P		**15 40 59.2**	**-0.2**
RNI2	**Rionero Sannit**	**84.65 312**		P	P		**15 40 59.9**	**+0.1**
RFI	**Roccamonfina**	**84.75 311**		P	P		**15 41 00.3**	**0.0**
LJU	**Ljubljana**	**84.75 316**		*e*P	P		**15 41 00.4**	**+0.1**
LJU				*e*	pP		15 41 11.2	+1.1
LJU				*e*			15 41 32.9	
LJU				*e*S			15 51 24.1	
LJU	**Ljubljana**	**84.75 316**		*e*P	P		**15 41 00.4**	**+0.1**
LJU				*e*	pP		15 41 11.2	+1.1
LJU				*e*S			15 51 24.1	
OBKA	**Obir**	**84.78 317**	⇓	*i*P	P		**15 41 00.7**	**+0.3**
	comp=Z,11µm,4.3s,SNR=23							
OBKA	**Obir**	**84.78 317**		P	P		**15 40 59.7**	**-0.7**
VNDA	**Vanda**	**84.79 169**		P	P		**15 40 59.8**	**-0.7**
	comp=Z,18nm,0.8s,baz=297,slow=5.3,SNR=73							
VNDA				S			15 51 17.5	
	comp=Z,1.0nm,0.8s,baz=339,slow=8.0,SNR=1.7							
VNDA				PKKPbc	PKKPbc		15 59 09.8	+0.8
	comp=Z,7.3nm,1.1s,baz=33,slow=0.9,SNR=7.0							
VNDA				PKPPKP			16 07 12.1	
	comp=Z,6.6nm,1.1s,baz=247,slow=3.1,SNR=5.8							
VNDA				LR	LR		16 12 32.9	
	comp=Z,30µm,21.7s,MS6.7,baz=308,slow=31							
VNDA	**Vanda**	**84.79 169**		P	P		**15 40 59.8**	**-0.7**
VNDA				S			15 51 17.5	
VNDA				pmax	pmax			
	comp=Z,18nm,0.8s							
VNDA				smax				
	comp=N,1.0nm,0.8s							
VNDA	**Vanda**	**84.79 169**		*e*P	P		**15 40 59.6**	**-0.8**
	comp=N,283nm,1.4s,mb6.2							
VNDA				LR	LR			
	comp=Z,28µm,20.0s,MS6.6							
CEY	**Cerknica**	**84.80 316**		P	P		**15 41 00.5**	**0.0**
INTR	**Introdacqua**	**84.86 312**		P	P		**15 41 00.1**	**-0.7**
SDI	**San Donato**	**84.91 312**		P	P		**15 41 00.5**	**-0.6**
VVLD	**Villa Vallelon**	**85.06 312**		P	P		**15 41 02.3**	**+0.5**
CLTB	**Caltabellotta**	**85.08 308**		P	P		**15 41 02.2**	**+0.3**
MOA	**Molln**	**85.10 318**	⇑	*i*P	P		**15 41 01.6**	**-0.4**
	comp=Z,6µm,5.3s,SNR=34							
MOA	**Molln**	**85.10 318**		P	P		**15 41 00.5**	**-1.5**
PRU	**Pruhonice**	**85.12 320**		*e*P	P		**15 41 02.7**	**+0.6**
PRU				*e*pP	pP		15 41 07.9	-4.0
PRU				*e*S			15 51 28.5	
PRU				*e*SS	SS		15 57 15.2	+12
PRU				*ex*	x		16 03 41.4	
PRU				AMS	AMS		16 26 10.0	
	comp=Z,32µm,20.3s							
PRU	**Pruhonice**	**85.12 320**		P	P		**15 41 01.3**	**-0.8**
TERO	**Teramo**	**85.13 313**		P	P		**15 41 02.1**	**-0.1**
VENT	**Ventotene**	**85.13 311**		P	P		**15 41 02.9**	**+0.7**
USI	**Ustica**	**85.18 309**		P	P		**15 41 01.9**	**-0.5**
VOY	**Vojsko**	**85.19 316**	⇓	*e*P	P		**15 41 01.8**	**-0.7**
PRA	**Prague**	**85.20 320**		P	P		**15 41 02.0**	**-0.5**
PRA				*ex*	x		15 41 14.0	
AOI	**Ancona**	**85.20 314**		P	P		**15 41 03.1**	**+0.5**
TRI	**Trieste**	**85.26 316**		P	P		**15 41 01.3**	**-1.5**
AQU	**L'Aquila**	**85.26 312**	⇓	*i*P	P		**15 41 03.3**	**+0.5**
AQU	**L'Aquila**	**85.26 312**	⇓	*e*P	P		**15 41 02.6**	**-0.2**
AQU				pmax	pmax			
	comp=Z,1µm,1.1s,mb6.9							
AQU	**L'Aquila**	**85.26 312**	⇓	*e*P	P		**15 41 02.6**	**-0.2**
	comp=Z,1µm,1.1s,mb6.9							
GUAR	**Guarcino**	**85.29 312**		P	P		**15 41 02.7**	**-0.3**
DRE	**Drenchia**	**85.38 316**	⇓	*i*P	P		**15 41 03.0**	**-0.4**
BSD	**Bornholm Skovb**	**85.43 325**	⇓	*i*P	P		**15 41 02.7**	**-1.0**
	comp=Z,259nm,0.8s,mb6.4							
BSD				*i*			15 41 14.2	
BSD	**Bornholm Skovb**	**85.43 325**		*i* S			15 51 31.8	
BSD	**Bornholm Skovb**	**85.43 325**	⇓	*i*P	P		**15 41 02.7**	**-1.0**
BSD				*i*			15 41 14.2	
BSD				*i* S			15 51 31.8	
BSD				pmax	pmax			
	comp=Z,260nm,0.8s,mb6.4							
BSD				MLR	MLR			
	comp=Z,24µm,20.0s,MS6.6							
BSD	**Bornholm Skovb**	**85.43 325**	⇓	*i*P	P		**15 41 02.7**	**-1.0**
	comp=Z,259nm,0.8s,mb6.4							
BSD				*i*			15 41 14.2	
BSD				*i* S			15 51 31.8	
BSD				*i*			16 03 37.2	
FIAM	**Fiamignano**	**85.46 312**		P	P		**15 41 04.8**	**+0.9**
LSR	**Lussari**	**85.48 316**	⇓	*i*P	P		**15 41 03.0**	**-1.0**
CING	**Cingoli**	**85.48 313**		P	P		**15 41 04.0**	**0.0**
NRCA	**Norcia**	**85.51 313**		P	P		**15 41 03.8**	**-0.3**
CERT	**Cerreto**	**85.54 312**		P	P		**15 41 04.1**	**-0.2**
COLI	**Coloredo**	**85.56 316**	⇓	*i*P	P		**15 41 04.0**	**-0.3**
GEC2	**GERESS Array S**	**85.56 319**		*e*P	P		**15 41 04.3**	**0.0**
	comp=Z,957nm,1.6s,mb6.8							
GEC2				*e*PP	PP		15 44 21.4	-1.7
GEC2				*e*S			15 51 33.9	
GEC2	**GERESS Array S**	**85.56 319**		*e*P	P		**15 41 04.3**	**0.0**
GEC2				*e*			15 44 21.4	
GEC2				*e*S			15 51 33.9	
GEC2				pmax	pmax			
	comp=Z,957nm,1.6s,mb6.8							
GERES	**GERESS Array B**	**85.56 319**		P	P		**15 41 04.2**	**-0.2**
	comp=Z,64nm,0.8s,mb5.9,baz=102,slow=3.1,SNR=309							
GERES				PP	PP		15 44 26.4	+3.2
	comp=Z,14nm,0.9s,baz=93,slow=5.9,SNR=2.2							
GERES				LR	LR		16 25 23.6	
	comp=Z,20µm,20.0s,MS6.5,baz=178,slow=40							
GERES	**GERESS Array B**	**85.56 319**		P	P		**15 41 04.2**	**-0.1**
GERES							15 44 26.4	
BRG	**Berggiesshubel**	**85.58 321**		*e*P	P		**15 41 04.2**	**-0.3**
	comp=Z,558nm,1.6s,mb6.5							
BRG				*e*S			15 51 35.2	
BRG	**Berggiesshubel**	**85.58 321**	⇓	*i*P	P		**15 41 04.6**	**+0.1**
	comp=Z,337nm,1.6s,mb6.3							
BRG				*i*	pP		15 41 15.8	+1.6
	comp=Z,473nm,1.5s							
BRG				*i* PP	PP		15 44 10.3	-13
	comp=Z,104nm,1.7s	

CLL	**Collm**	**86.21 321**	⇓	*i*P		**P**	**15 41 06.9**	**-0.7**
	comp=Z,386nm,1.5s,mb6.4							
CLL				*e*			15 41 12.7	
CLL				*e*			15 41 18.7	
CLL				*e*PP		PP	15 44 38.5	+10
CLL				*e*SKSac		SKSac	15 51 34.3	+2.8
CLL				*e*S			15 51 38.9	
CLL				*e*PS			15 52 41.7	
CLL				*e*PPS			15 52 58.6	
CLL				*e*SS		SS	15 57 32.3	+13
CLL				*e*SSS			16 01 04.1	
CLL				*e*SSSS			16 04 00.7	
CLL				*e*PKPPKPdf			16 07 13.0	
CLL				*e*LR		LR	16 09 30.4	
CLL				*e*L			16 27 06.1	
	comp=Z,35µm,20.0s							
CLL	**Collm**	**86.21 321**	⇓	*i*P		**P**	**15 41 06.9**	**-0.7**
	comp=Z,380nm,1.5s,mb6.4							
CLL				*e*PP		PP	15 44 42.0	+14
CLL				*e*SKSac		SKSac	15 51 34.0	+2.5
CLL				*e*S			15 51 43.0	
CLL				*e*PPS			15 53 00.0	
CLL				*e*SS		SS	15 57 36.0	+16
CLL				*e*SSS			16 01 06.0	
CLL				*e*SSSS			16 03 54.0	
CLL				*e*PKPPKPdf			16 07 13.0	
CLL	**Collm**	**86.21 321**	⇓	*i*P		**P**	**15 41 06.9**	**-0.7**
CLL				*e*S			15 51 43.0	
CLL				pmax		pmax		
	comp=Z,380nm,1.5s,mb6.4							
CLL				MLR		MLR		
	comp=Z,32µm,21.3s,MS6.7							
CLL	**Collm**	**86.21 321**	⇓	*i*P		**P**	**15 41 06.9**	**-0.7**
	comp=Z,380nm,1.5s,mb6.4							
CLL				*e*S			15 51 43.0	
CLL				LR		LR		
	comp=Z,32µm,21.3s,MS6.7							
TOLF	**Tolfa**	**86.28 312**		P		**P**	**15 41 07.3**	**-0.6**
RGN	**Rugen**	**86.29 325**		*e*P		**P**	**15 41 07.9**	**0.0**
	comp=Z,1µm,1.6s,mb6.8							
RGN				*e*S			15 51 40.7	
SEST	**Monte Rota**	**86.40 317**		P		**P**	**15 41 07.9**	**-0.6**
BERN	**Bernov**	**86.44 320**	⇓	*i*P		**P**	**15 41 16.1**	**+7.4**
NKC	**Novy Kostel**	**86.48 320**		*e*P		**P**	**15 41 09.5**	**+0.6**
NKC				*e*pP		pP	15 41 15.0	-3.7
NKC				*e*SKS			15 51 36.0	
NKC				*e*SS		SS	15 57 24.7	+1.1
NKC				*ex*		x	16 04 09.3	
NKC				AMS		AMS	16 26 50.0	
	comp=Z,39µm,21.1s							
SFI	**Santa Sofia**	**86.50 314**		P		**P**	**15 41 09.8**	**+0.8**
WERD	**Werda**	**86.59 320**		*e*P		**P**	**15 41 09.0**	**-0.4**
	comp=Z,319nm,1.5s,mb6.3							
ROTZ	**Rotzenmuhle**	**86.61 320**		*e*P		**P**	**15 41 09.7**	**+0.2**
	comp=Z,431nm,1.6s,mb6.4							
ROTZ				*e*PP		PP	15 44 31.4	-0.2
ROTZ				*e*S			15 51 43.8	
HFS	**Hagfors**	**86.61 330**		P		**P**	**15 41 09.0**	**-0.5**
	comp=Z,231nm,0.8s,mb6.5,baz=103,slow=3.2,SNR=209							
HFS				PP		PP	15 44 37.7	+6.1
	comp=Z,130nm,1.2s,baz=108,slow=9.4,SNR=3.2							
HFA0	**Hagfors New Ar**	**86.61 330**		P		**P**	**15 41 08.4**	**-1.1**
BJO	**Bjornoya**	**86.66 345**	⇓	*i*P		**P**	**15 41 08.9**	**-0.8**
BJO				AMb		AMB	15 41 25.8	
	comp=Z,726nm,2.0s,mb6.5							
BJO				*e*SKSa			15 51 32.6	
BJO				AMS		AMS	16 27 15.2	
	comp=Z,39µm,16.5s,MS6.9							
MANZ	**Manzenberg**	**86.69 320**		*e*P		**P**	**15 41 10.2**	**+0.3**
	comp=Z,560nm,1.5s,mb6.6							
MANZ				*e*S			15 51 43.6	
BJO1	**Bjornoya**	**86.71 345**	⇓	*i*P		**P**	**15 41 08.9**	**-1.1**
	comp=Z,726nm,2.0s,mb6.6							
BJO1				LR		LR		
	comp=Z,38554µm,16.5s							
VMG	**Vicchio**	**86.72 314**		P		**P**	**15 41 10.4**	**+0.4**
BRES	**Bressanone**	**86.73 317**		P		**P**	**15 41 09.4**	**-0.7**
CTI	**Castel Tesino**	**86.75 316**		P		**P**	**15 41 10.4**	**+0.2**
WTTA	**Wattenberg**	**86.83 317**	⇓	*i*P		**P**	**15 41 09.9**	**-0.7**
	comp=Z,4µm,3.4s,SNR=26							
WTTA	**Wattenberg**	**86.83 317**		P		**P**	**15 41 10.2**	**-0.4**
GRB3	**Grafenberg Arr**	**86.84 319**		*e*PKPPKPdf			16 07 06.4	
SEI	**Scarperia**	**86.86 314**		P		**P**	**15 41 11.3**	**+0.6**
WATA	**Walderalm**	**86.88 317**	⇑	*i*P		**P**	**15 41 10.0**	**-0.9**
	comp=Z,583nm,1.5s,mb6.6,SNR=17							
WATA	**Walderalm**	**86.88 317**		P		**P**	**15 41 10.5**	**-0.3**
COP	**Copenhagen**	**86.89 326**	⇓	*i*P		**P**	**15 41 11.3**	**+0.4**
	comp=Z,88nm,0.7s,mb6.1							
COP				*i*		pP	15 41 22.3	+1.6
COP				*i* S			15 48 19.1	
COP				*i*			15 51 35.4	
COP				*i*			15 51 48.4	
COP								
	comp=Z,15µm,20.0s							
COP	**Copenhagen**	**86.89 326**	⇓	*i*P		**P**	**15 41 11.3**	**+0.4**
COP				*i*		pP	15 41 22.3	+1.6
COP				*i*			15 51 35.4	
COP				*i*			15 51 48.4	
COP				pmax		pmax		
	comp=Z,88nm,0.7s,mb6.1							
COP				MLR		MLR		
	comp=Z,15µm,20.0s,MS6.4							
MOR8	**Moi Rana**	**86.92 336**		*e*P		**P**	**15 41 10.4**	**-0.6**
MOR8				AMb		AMB	15 41 26.6	
	comp=Z,1µm,1.2s,mb6.9							
MOR8	**Moi Rana**	**86.92 336**		*e*P		**P**	**15 41 10.4**	**-0.6**
	comp=Z,1µm,1.3s,mb6.9							
MAON	**Monte Argentar**	**86.94 312**		P		**P**	**15 41 10.9**	**-0.2**
FNVD	**Fontana Vidola**	**87.03 314**		P		**P**	**15 41 13.0**	**+1.4**
MOX	**Moxa**	**87.04 321**		*e*P		**P**	**15 41 11.3**	**-0.3**
	comp=Z,516nm,1.7s,mb6.5							
MOX				*e*S			15 51 46.0	
MOX	**Moxa**	**87.04 321**		*e*P		**P**	**15 41 11.4**	**-0.2**
	comp=Z,683nm,1.8s,mb6.6							
MOX								
	comp=Z,31µm,20.0s							
MOX	**Moxa**	**87.04 321**		*e*P		**P**	**15 41 11.4**	**-0.2**
MOX				pmax		pmax		
	comp=Z,683nm,1.8s,mb6.6							
MOX				MLR		MLR		
	comp=Z,31µm,20.0s,MS6.7							
APPI	**Appiano**	**87.07 316**		P		**P**	**15 41 11.8**	**0.0**
SQTA	**Sankt Quirin**	**87.12 317**	⇑	*i*P		**P**	**15 41 11.4**	**-0.6**
	comp=Z,582nm,1.7s,mb6.5,SNR=25							
SQTA	**Sankt Quirin**	**87.12 317**		P		**P**	**15 41 11.7**	**-0.3**
FUR	**Furstenfeldbru**	**87.12 318**		*e*P		**P**	**15 41 11.3**	**-0.7**
	comp=Z,402nm,1.6s,mb6.4							
FUR				*e*S			15 51 45.3	
FUR	**Furstenfeldbru**	**87.12 318**		*e*P		**P**	**15 41 11.3**	**-0.7**
FUR				*e*S			15 51 45.3	
FUR				pmax		pmax		
	comp=Z,402nm,1.6s,mb6.4							
ZCCA	**Zocca**	**87.14 314**		P		**P**	**15 41 13.5**	**+1.4**
MOTA	**Moosalm**	**87.20 317**	⇓	*i*P		**P**	**15 41 11.4**	**-1.0**
	comp=Z,364nm,1.3s,mb6.4,SNR=22							
MOTA	**Moosalm**	**87.20 317**		P		**P**	**15 41 11.8**	**-0.6**
GRA1	**Grafenberg Arr**	**87.24 320**		*e*P		**P**	**15 41 12.7**	**+0.1**
	comp=Z,568nm,1.5s,mb6.6							
GRA1				*e*pP		pP	15 41 22.6	+0.2
GRA1				*e*S			15 51 50.8	
GRA1				*e*			15 59 54.1	
GRA1				LR		LR		
	comp=Z,37µm,20.9s,MS6.8							
GRF	**Grafenberg Arr**	**87.24 320**		*e*P		**P**	**15 41 12.7**	**+0.1**
	comp=Z,568nm,1.5s,mb6.6							
GRF				*e*pP		pP	15 41 22.6	+0.2
GRF				*e*S			15 51 50.8	
GRF				*e*			15 59 54.1	
GRF				*e*L			16 27 44.8	
	comp=Z,37µm,20.9s							
GRF	**Grafenberg Arr**	**87.24 320**		*e*P		**P**	**15 41 12.7**	**+0.1**
GRF				*e**PP		pP	15 41 22.6	+0.2
GRF				*e*S			15 51 50.8	
GRF				pmax		pmax		
	comp=Z,568nm,1.5s,mb6.6							
GRF				MLR		MLR		
	comp=Z,37µm,20.9s,MS6.8							
GRF	**Grafenberg Arr**	**87.24 320**		*e*P		**P**	**15 41 12.7**	**+0.1**
GRF				*e**PP		pP	15 41 22.6	+0.2
GRF				*e*S			15 51 50.8	
GRF				pmax		pmax		
	comp=Z,568nm,1.5s,mb6.6							
GRF				MLR		MLR		
	comp=Z,37µm,20.9s,MS6.8							
BDI	**Bagni Di Lucca**	**87.40 314**		P		**P**	**15 41 12.8**	**-0.6**
LOF	**Lofoten**	**87.49 338**		*e*P		**P**	**15 41 14.9**	**+1.1**
LOF				AMb		AMB	15 41 29.2	
	comp=Z,562nm,1.7s,mb6.5							
LOF	**Lofoten**	**87.49 338**		*e*P		**P**	**15 41 14.9**	**+1.1**
	comp=Z,562nm,1.7s,mb6.5							
MABI	**Malga Bissina**	**87.54 316**		P		**P**	**15 41 14.1**	**0.0**
ERBM	**Eremo**	**87.55 314**		P		**P**	**15 41 15.1**	**+1.0**
VLC	**Villacollemand**	**87.56 314**	⇓	*e*P		**P**	**15 41 12.7**	**-1.4**
	comp=Z,212nm,1.1s,mb6.9							
BRMO	**Bormio**	**87.66 316**		P		**P**	**15 41 14.9**	**+0.3**
FUORN	**Ofenpass**	**87.74 316**	⇓	*i*P		**P**	**15 41 09.7**	**-5.3**
	comp=Z,2µm,2.3s,mb6.9							
FUORN	**Ofenpass**	**87.74 316**	⇓	*i*P		**P**	**15 41 15.2**	**+0.2**
NSS	**Namsos**	**87.80 334**	⇓	*i*P		**P**	**15 41 13.4**	**-1.8**
NSS				AMb		AMB	15 41 30.2	
	comp=Z,849nm,1.0s,mb6.9							
NSS				*e*SKSa			15 51 33.4	
NSS				*e*SS		SS	15 57 44.5	+1.8
NSS				AMS		AMS	16 26 01.8	
	comp=Z,41µm,23.2s,MS6.8							
NSS	**Namsos**	**87.80 334**	⇓	*i*P		**P**	**15 41 13.4**	**-1.8**
	comp=Z,849nm,1.0s,mb6.9							
CLZ	**Clausthal**	**87.88 322**		*e*P		**P**	**15 41 15.6**	**-0.1**
	comp=Z,688nm,1.6s,mb6.6							
CLZ				*e*S			15 51 54.5	
CLZ	**Clausthal**	**87.88 322**		*e*P		**P**	**15 41 15.6**	**-0.1**
CLZ				*e*S			15 51 54.5	
CLZ				pmax		pmax		
	comp=Z,688nm,1.6s,mb6.6							
BERNI	**Berninapass**	**87.90 316**	⇓	*i*P		**P**	**15 41 15.2**	**-0.5**
	comp=Z,1µm,1.8s,mb6.9							
BERNI	**Berninapass**	**87.90 316**	⇓	*i*P		**P**	**15 41 16.0**	**+0.3**
NB2	**NORSAR Subarra**	**87.90 331**		P		**P**	**15 41 15.4**	**-0.4**
	comp=Z,352nm,1.1s,mb6.5,baz=97,slow=4.8							
NOA	**NORSAR Array B**	**87.90 331**		P		**P**	**15 41 14.9**	**-0.9**
	comp=Z,147nm,0.9s,mb6.2,baz=95,slow=4.8,SNR=147							
NOA				PP		PP	15 44 45.5	+3.5
	comp=Z,12nm,0.8s,baz=95,slow=7.6,SNR=3.4							
NOA				LR		LR	16 25 12.4	
	comp=Z,28µm,21.5s,MS6.6,baz=85,slow=39							
NOA	**NORSAR Array B**	**87.90 331**		P		**P**	**15 41 14.9**	**-0.9**
NOA							15 44 45.5	
HSP	**Hornsund**	**87.98 347**		*e*P		**P**	**15 41 15.0**	**-1.1**
BSEG	**Bad Segeberg**	**88.01 324**		*e*P		**P**	**15 41 16.3**	**0.0**
	comp=Z,771nm,1.4s,mb6.7							
BSEG	**Bad Segeberg**	**88.01 324**		*e*P		**P**	**15 41 16.3**	**0.0**
BSEG				pmax		pmax		
	comp=Z,771nm,1.4s,mb6.7							
DAVOX	**Davos**	**88.01 317**		P		**P**	**15 41 16.6**	**+0.3**
	comp=Z,142nm,0.6s,mb6.3,baz=114,slow=5.8,SNR=181							
DAVOX	**Davos**	**88.01 317**	⇓	*i*P		**P**	**15 41 15.8**	**-0.5**
	comp=Z,1µm,1.8s,mb6.8							
DAVOX	**Davos**	**88.01 317**	⇓	*i*P		**P**	**15 41 16.6**	**+0.3**
DGI	**Dorgali Grotta**	**88.01 310**		P		**P**	**15 41 16.2**	**-0.1**
DAVA	**Damuels**	**88.03 317**		*i* P		**P**	**15 41 16.4**	**0.0**
	comp=Z,10µm,4.2s,SNR=91							
DAVA	**Damuels**	**88.03 317**		P		**P**	**15 41 15.0**	**-1.4**
NAO01	**NORSAR Array S**	**88.05 331**	⇓	*e*P		**P**	**15 41 15.7**	**-0.8**
	comp=Z,92nm,1.3s,mb5.8							
NAO01				LR		LR		
	comp=Z,42µm,20.0s,MS6.8							
UBBA	**Unterbreizbach**	**88.08 321**		*e*P		**P**	**15 41 16.4**	**-0.2**
	comp=Z,723nm,2.1s,mb6.5							
OSL	**Oslo**	**88.08 330**		*e*P		**P**	**15 41 17.2**	**+0.6**
OSL				AMb		AMB	15 41 31.4	
	comp=Z,1µm,1.2s,mb7.0							
OSL	**Oslo**	**88.08 330**		*e*P		**P**	**15 41 17.2**	**+0.6**
	comp=Z,1µm,1.2s,mb7.0							
GTTG	**Gvttingen**	**88.12 321**		*e*P		**P**	**15 41 16.6**	**-0.2**
	comp=Z,656nm,1.6s,mb6.6							
GTTG				*e*PP		PP	15 44 39.8	-4.0
VSL	**Villasalto**	**88.17 309**	⇓	*e*P		**P**	**15 41 16.1**	**-0.9**
	comp=Z,524nm,1.1s,mb6.7							
BOB	**Bobbio (Coli)**	**88.25 315**		P		**P**	**15 41 17.3**	**-0.1**
VDL	**Val di Lei**	**88.28 316**	⇓	*i*P		**P**	**15 41 16.2**	**-1.4**
	comp=Z,676nm,2.7s,mb6.4							
VDL	**Val di Lei**	**88.28 316**	⇓	*i*P		**P**	**15 41 17.5**	**-0.1**
LIENZ	**Alp Oberkamor**	**88.29 317**	⇓	*i*P		**P**	**15 41 17.6**	**0.0**
PLONS	**Plons**	**88.36 317**	⇓	*i*P		**P**	**15 41 16.2**	**-1.7**
	comp=Z,1µm,1.9s,mb6.8							
PLONS	**Plons**	**88.36 317**	⇓	*i*P		**P**	**15 41 17.8**	**-0.1**
TUE	**Stuetta**	**88.37 316**		P		**P**	**15 41 17.2**	**-0.8**
CORF	**Corte**	**88.40 312**		*e*P		**P**	**15 41 18.1**	**0.0**
PGF	**Pioggiola**	**88.52 312**		*e*P		**P**	**15 41 17.2**	**-1.5**
	comp=Z,1µm,1.6s,mb6.6							
PGF	**Pioggiola**	**88.52 312**		*e*P		**P**	**15 41 17.2**	**-1.5**
PGF				pmax		pmax		
	comp=Z,523nm,1.6s,mb6.6							
PGF	**Pioggiola**	**88.52 312**		*e*P		**P**	**15 41 17.2**	**-1.5**
	comp=Z,523nm,1.6s,mb6.6							
STU	**Stuttgart**	**88.53 319**		*e*P		**P**	**15 41 18.4**	**-0.3**
	comp=Z,611nm,1.8s,mb6.6							
STU				*e*S			15 52 03.1	
STU	**Stuttgart**	**88.53 319**	⇓	*e*P		**P**	**15 41 18.3**	**-0.4**
STU				pmax		pmax		
	comp=Z,242nm,1.3s,mb6.4							
STU	**Stuttgart**	**88.53 319**	⇓	*e*P		**P**	**15 41 18.3**	**-0.5**
	comp=Z,242nm,1.3s,mb6.4							
NVL	**N'lazarevskaya**	**88.54 199**	*d*	*i*P		**P**	**15 41 19.6**	**+0.8**
NVL				*i* S			15 51 46.0	
NVL				pmax		pmax		
	comp=Z,937nm,1.4s,mb6.9							
MUGIO	**Muggio**	**88.57 316**	⇓	*i*P		**P**	**15 41 16.5**	**-2.4**
	comp=Z,716nm,2.7s,mb6.5							
MUGIO	**Muggio**	**88.57 316**	⇓	*i*P		**P**	**15 41 17.6**	**-1.3**
MAIT	**Maitri**	**88.58 199**	⇑	*i*P		**P**	**15 41 20.5**	**+1.5**
MAIT				*e*PP		PP	15 44 47.5	+0.1
MAIT				*e*SKSac		SKSac	15 51 45.5	-0.4
LLS	**Linth-Limmern**	**88.61 317**	⇓	*i*P		**P**	**15 41 16.6**	**-2.5**
	comp=Z,1µm,4.0s							
LLS	**Linth-Limmern**	**88.61 317**	⇓	*i*P		**P**	**15 41 19.1**	**0.0**
KONO	**Kongsberg**	**88.64 330**	⇓	*i*P		**P**	**15 41 18.9**	**-0.3**
KONO				*e*SKSa			15 51 47.1	
KONO	**Kongsberg**	**88.64 330**	*d*	*i*P		**P**	**15 41 18.8**	**-0.4**
WEIN	**Weingarten**	**88.64 317**	⇓	*i*P		**P**	**15 41 17.5**	**-1.8**
	comp=Z,1µm,2.4s,mb6.8							
WEIN	**Weingarten**	**88.64 317**	⇓	*i*P		**P**	**15 41 19.2**	**-0.1**
WILA	**Wila**	**88.69 317**	⇓	*i*P		**P**	**15 41 17.6**	**-1.9**
	comp=Z,1µm,2.3s,mb6.8							
WILA	**Wila**	**88.69 317**	⇓	*i*P		**P**	**15 41 19.3**	**-0.2**
STEIN	**Stein am Rhein**	**88.72 317**	⇓	*i*P		**P**	**15 41 17.6**	**-2.0**
	comp=Z,948nm,2.2s,mb6.7							
STEIN	**Stein am Rhein**	**88.72 317**	⇓	*i*P		**P**	**15 41 19.4**	**-0.2**
MUD	**Monsted U'grnd**	**88.76 326**	⇓	*i*P		**P**	**15 41 20.5**	**+0.7**
MUD				*i* S			15 51 49.2	
MUD				*i*			15 52 04.1	
MUD				*i*			15 52 04.1	
MUD				pmax		pmax		
	comp=Z,340nm,1.2s,mb6.5							
MUD				MLR		MLR		
	comp=Z,37µm,19.0s,MS6.8							
MUD	**Monsted U'grnd**	**88.76 326**	⇓	*i*P		**P**	**15 41 20.5**	**+0.7**
	comp=Z,339nm,1.2s,mb6.5							
MUD				*i* S			15 51 49.2	
MUD				*i*			15 52 04.1	
MUD				*e*			16 04 49.6	
VAI	**Varese**	**88.76 316**		P		**P**	**15 41 18.8**	**-1.0**
SPAK	**Spaichingen-Ko**	**88.79 318**		*e*P		**P**	**15 41 20.7**	**+0.7**
TOD	**Tromm**	**88.81 319**		*e*P		**P**	**15 41 19.9**	**-0.1**
FUSIO	**Fusio**	**88.84 316**	⇓	*i*P		**P**	**15 41 17.8**	**-2.4**
	comp=Z,680nm,3.6s							
FUSIO	**Fusio**	**88.84 316**	⇓	*i*P		**P**	**15 41 19.8**	**-0.4**
TRULL	**Truellikon**	**88.85 317**	⇓	*i*P		**P**	**15 41 19.2**	**-1.0**
	comp=Z,712nm,1.7s,mb6.7							
TRULL	**Truellikon**	**88.85 317**	⇓	*i*P		**P**	**15 41 20.1**	**-0.1**
MUO	**Muotathal**	**88.87 317**	⇓	*i*P		**P**	**15 41 19.7**	**-0.6**
	comp=Z,1µm,1.8s,mb7.0							
MUO	**Muotathal**	**88.87 317**	⇓	*i*P		**P**	**15 41 20.5**	**+0.2**
ZUR	**Zurich**	**88.91 317**	⇓	*i*P		**P**	**15 41 19.3**	**-1.2**
	comp=Z,1µm,2.6s,mb6.8							
ZUR	**Zurich**	**88.91 317**	⇓	*i*P		**P**	**15 41 20.5**	**0.0**
FLACH	**Flaach**	**88.92 317**	⇓	*i*P		**P**	**15 41 20.4**	**-0.2**
KBS	**Kingsbay**	**88.95 349**	⇓	*i*P		**P**	**15 41 19.5**	**-1.3**
KBS				AMb		AMB	15 41 34.5	
	comp=Z,423nm,2.0s,mb6.4							
KBS				*e*PP		PP	15 44 50.2	-0.3
KBS				*e*SKSa			15 51 48.7	
KBS				*e*SS		SS	15 58 02.5	+2.9
KBS				AMS		AMS	16 26 05.4	
	comp=Z,31µm,18.4s,MS6.8							
KBS	**Kingsbay**	**88.95 349**	⇓	*i*P		**P**	**15 41 19.5**	**-1.3**
	comp=Z,423nm,2.0s,mb6.4							
KBS				LR		LR		
	comp=Z,30959µm,18.4s							
DOMB	**Dombas**	**88.97 332**		*e*P		**P**	**15 41 20.5**	**-0.4**
DOMB				AMb		AMB	15 41 37.3	
	comp=Z,550nm,1.3s,mb6.7							
DOMB	**Dombas**	**88.97 332**		*e*P		**P**	**15 41 20.5**	**-0.4**
	comp=Z,550nm,1.3s,mb6.7							
SLE	**Schleitheim**	**88.98 318**	⇓	*i*P		**P**	**15 41 20.7**	**-0.1**
	comp=Z,855nm,2.3s,mb6.7							
SLE	**Schleitheim**	**88.98 318**	⇓	*i*P		**P**	**15 41 20.5**	**-0.3**
BNALP	**Bannalp**	**89.01 317**	⇓	*i*P		**P**	**15 41 19.8**	**-1.2**
	comp=Z,998nm,2.5s,mb6.7							
BNALP	**Bannalp**	**89.01 317**	⇓	*i*P		**P**	**15 41 21.3**	**+0.3**
TNS	**Taunus Mts**	**89.05 320**		*e*P		**P**	**15 41 21.3**	**+0.1**
	comp=Z,596nm,1.6s,mb6.7							
TNS				*e*PP		PP	15 44 47.4	-3.8
TNS				*e*S			15 52 07.5	
TNS	**Taunus Mts**	**89.05 320**		*e*P		**P**	**15 41 21.3**	**+0.1**
TNS				*e*			15 44 47.4	
TNS				*e*S			15 52 07.5	
TNS				pmax		pmax		
	comp=Z,596nm,1.6s,mb6.7							
BFO	**Black Forest**	**89.10 318**		*e*P		**P**	**15 41 20.8**	**-0.6**
	comp=Z,375nm,1.7s,mb6.4							
BFO				*e*PP		PP	15 44 48.1	-3.5
BFO				*e*S			15 52 07.0	
BFO	**Black Forest**	**89.10 318**		P		**P**	**15 41 21.8**	**+0.4**
	comp=Z,486nm,0.9s,mb6.8,SNR=28							
BFO	**Black Forest**	**89.10 318**		*e*P		**P**	**15 41 20.8**	**-0.6**
BFO				*e*			15 44 48.1	
BFO				*e*S			15 52 07.0	
BFO				pmax		pmax		
	comp=Z,375nm,1.7s,mb6.4							
FIN	**Finale Ligure**	**89.13 314**		P		**P**	**15 41 21.2**	**-0.3**
HASLI	**Hasliberg**	**89.20 317**	⇓	*i*P		**P**	**15 41 20.5**	**-1.4**
	comp=Z,1µm,2.5s,mb6.9							
HASLI	**Hasliberg**	**89.20 317**	⇓	*i*P		**P**	**15 41 21.8**	**-0.1**
SULZ	**Sulz-Cheisache**	**89.23 317**	⇓	*i*P		**P**	**15 41 20.5**	**-1.5**
	comp=Z,1µm,2.6s,mb6.8							
SULZ	**Sulz-Cheisache**	**89.23 317**	⇓	*i*P		**P**	**15 41 21.6**	**-0.4**
KTD	**Kalmit**	**89.27 319**		*e*P		**P**	**15 41 22.1**	**-0.1**
MCGN	**Macugnaga**	**89.30 316**		P		**P**	**15 41 21.9**	**-0.5**
FELD	**Feldberg im Sc**	**89.31 318**		*e*P		**P**	**15 41 22.1**	**-0.3**
MMK	**Mattmark**	**89.32 316**	⇓	*i*P		**P**	**15 41 20.5**	**-1.9**
	comp=Z,754nm,1.8s,mb6.7							
MMK	**Mattmark**	**89.32 316**	⇓	*i*P		**P**	**15 41 22.3**	**-0.1**
IMI	**Imperia**	**89.35 314**		P		**P**	**15 41 22.5**	**-0.1**
HLG	**Helgoland**	**89.45 324**		*e*P		**P**	**15 41 23.3**	**+0.2**
	comp=Z,760nm,1.5s,mb6.8							
HLG				*e*S			15 52 11.5	
LANF	**Langenberg**	**89.45 319**		*e*P		**P**	**15 41 23.4**	**+0.3**
STR	**Strasbourg**	**89.47 318**		*e*P		**P**	**15 41 23.5**	**+0.3**
IBBN	**Ibbenburen**	**89.51 322**		*e*P		**P**	**15 41 23.4**	**+0.1**
	comp=Z,636nm,1.2s,mb6.8							
IBBN				*e*PP		PP	15 44 50.3	-4.6
IBBN				*e*S			15 52 10.9	
BALST	**Balsthal**	**89.52 317**	⇓	*i*P		**P**	**15 41 21.2**	**-2.2**
	comp=Z,1µm,1.7s,mb6.9							
BALST	**Balsthal**	**89.52 317**	⇓	*i*P		**P**	**15 41 23.1**	**-0.3**
LKBD	**Leukerbad**	**89.56 316**	⇓	*i*P		**P**	**15 41 23.8**	**+0.2**
WIMIS	**Wimmis**	**89.56 316**	⇓	*i*P		**P**	**15 41 21.3**	**-2.3**
	comp=Z,1µm,2.5s,mb6.7							
WIMIS	**Wimmis**	**89.56 316**	⇓	*i*P		**P**	**15 41 23.4**	**-0.2**
LIBD	**Limburg**	**89.58 318**		*e*P		**P**	**15 41 23.9**	**+0.2**
SAOF	**Saorge**	**89.60 314**		*e*P		**P**	**15 41 23.9**	**+0.2**
ABH	**Alteburg**	**89.63 320**		*e*P		**P**	**15 41 24.0**	**+0.1**
ABSA	**Djebel Ababsia**	**89.63 306**		P		**P**	**15 41 25.0**	**+1.1**
BBS	**Basel-Blauen**	**89.64 317**		*e*P		**P**	**15 41 23.7**	**-0.3**
CMAH	**Djebel Manchou**	**89.68 306**		P		**P**	**15 41 25.0**	**+0.9**
SBF	**Sospel**	**89.68 314**		*e*P		**P**	**15 41 22.6**	**-1.5**
	comp=Z,1µm,1.1s,mb6.9		

BLS5 AMb AMB 15 41 44.2
comp=Z,493nm,1.0s,mb6.8
BLS5 Blasjo 90.23 329 *e*P **P 15 41 28.4 +1.7**
comp=Z,493nm,1.0s,mb6.8
CKFL Kef-Lekhel 90.24 306 P **P 15 41 28.0 +1.2**
RSL Roselend 90.25 315 *e*P **P 15 41 26.8 0.0**
HYA Hoyanger 90.34 331 *e*P **P 15 41 28.7 +1.4**
HYA AMb AMB 15 41 44.0
comp=Z,473nm,1.6s,mb6.6
HYA Hoyanger 90.34 331 *e*P **P 15 41 28.7 +1.4**
comp=Z,473nm,1.6s,mb6.6
BRANT Les Verrieres 90.35 317⇓*i*P **P 15 41 25.0 -2.3**
comp=Z,1µm,2.5s,mb6.8
BRANT Les Verrieres 90.35 317⇓*i*P **P 15 41 27.4 +0.1**
LMR La Mourre 90.36 313 *e*P **P 15 41 25.8 -1.5**
comp=Z,758nm,1.3s,mb6.6
LMR La Mourre 90.36 313 *e*P **P 15 41 25.8 -1.5**
LMR pmax pmax
comp=Z,379nm,1.3s,mb6.6
LMR La Mourre 90.36 313 *e*P **P 15 41 25.8 -1.5**
comp=Z,379nm,1.3s,mb6.6
HAU Haudompre 90.42 318 *e*P **P 15 41 26.7 -0.9**
comp=Z,827nm,1.1s,mb6.7
HAU *e*R
comp=Z,13µm,22.8s
HAU Haudompre 90.42 318 *e*P **P 15 41 26.7 -0.9**
HAU pmax pmax
comp=Z,414nm,1.1s,mb6.7
HAU MLR MLR
comp=Z,13µm,22.8s,MS6.3
HAU Haudompre 90.42 318 *e*P **P 15 41 26.7 -0.9**
comp=Z,414nm,1.1s,mb6.7
HAU LR LR
comp=Z,13µm,22.8s,MS6.3
CASM Ain Smara 90.43 306 P **P 15 41 29.0 +1.4**
GIMEL Gimel 90.50 316⇓*i*P **P 15 41 25.0 -2.9**
comp=Z,854nm,1.8s,mb6.8
GIMEL Gimel 90.50 316⇓*i*P **P 15 41 28.3 +0.4**
CTEI Djebel Teioual 90.50 306 P **P 15 41 31.0 +3.0**
WLF Walferdange 90.53 319 P **P 15 41 28.5 +0.4**
comp=Z,172nm,1.4s,mb6.2
MEM Membach 90.61 320 P **P 15 41 28.2 -0.3**
comp=Z,177nm,1.0s,mb6.3
CABF La Chapelle 90.62 316 *e*P **P 15 41 27.3 -1.2**
comp=Z,594nm,1.0s,mb6.6
CABF La Chapelle 90.62 316 *e*P **P 15 41 27.3 -1.2**
CABF pmax pmax
comp=Z,297nm,1.0s,mb6.6
CABF La Chapelle 90.62 316 *e*P **P 15 41 27.3 -1.2**
comp=Z,297nm,1.0s,mb6.6
GDM Grand'Maison 90.62 315 *e*P **P 15 41 29.1 +0.6**
STAV Stavanger 90.63 329 *e*P **P 15 41 29.2 +0.7**
STAV AMb AMB 15 41 45.0
comp=Z,447nm,1.6s,mb6.6
STAV Stavanger 90.63 329 *e*P **P 15 41 29.2 +0.7**
comp=Z,447nm,1.5s,mb6.6
HGN Heimansgroeve 90.66 321⇓*i*P **P 15 41 28.7 +0.1**
comp=Z,350nm,2.0s,mb6.3
HGN *e*PP PP 15 44 52.2 -12
HGN *e*S 15 52 03.7
OG25 Le Caire 90.66 314 *e*P **P 15 41 28.4 -0.3**
THEF They Montfort 90.66 318 *e*P **P 15 41 28.7 0.0**
TAVF Tavernes 90.68 313 *e*P **P 15 41 29.7 +0.9**
BER Bergen 90.78 330⇓*i*P **P 15 41 29.1 -0.2**
BER *e*P 15 41 30.1
BER AMb AMB 15 41 48.4
comp=Z,438nm,1.4s,mb6.6
BER AMb AMB 15 41 48.9
comp=Z,386nm,1.3s,mb6.6
BER *e*SKSa 15 51 59.8
BER *e* 15 52 24.3
BER AMS AMS 16 27 16.3
comp=Z,35µm,18.8s,MS6.8
STOF St-Etienne Org 90.78 314 *e*P **P 15 41 30.5 +1.2**
ORIF Oris-en-Rattie 90.79 315 *e*P **P 15 41 28.1 -1.2**
comp=Z,1µm,1.4s,mb6.8
ORIF *e*R
comp=Z,42µm,21.5s
ORIF Oris-en-Rattie 90.79 315 *e*P **P 15 41 28.1 -1.2**
ORIF pmax pmax
comp=Z,720nm,1.4s,mb6.8
ORIF Oris-en-Rattie 90.79 315 *e*P **P 15 41 28.1 -1.2**
comp=Z,720nm,1.4s,mb6.8
BEBN Eben Emael 90.82 321 P **P 15 41 29.1 -0.3**
comp=Z,41nm,1.0s,mb5.7
EGD Espegrend 90.84 330 *e*P **P 15 41 30.2 +0.7**
EGD AMb AMB 15 41 45.0
comp=Z,644nm,1.6s,mb6.7
EGD Espegrend 90.84 330 *e*P **P 15 41 30.2 +0.7**
comp=Z,644nm,1.6s,mb6.7
ASK Askoy 90.85 330 *e*P **P 15 41 29.9 +0.3**
ASK AMb AMB 15 41 44.7
comp=Z,657nm,1.7s,mb6.7
ASK Askoy 90.85 330 *e*P **P 15 41 29.9 +0.3**
comp=Z,657nm,1.7s,mb6.7
KMY Karmoy 90.86 329 *e*P **P 15 41 30.2 +0.6**
KMY AMb AMB 15 41 46.1
comp=Z,706nm,1.5s,mb6.8
KMY Karmoy 90.86 329 *e*P **P 15 41 30.2 +0.6**
comp=Z,706nm,1.5s,mb6.8
GRN Grenoble 90.88 315 *e*P **P 15 41 30.4 +0.7**
FOO Floro 90.88 331 *e*P **P 15 41 30.7 +0.9**
FOO AMb AMB 15 41 37.6
comp=Z,286nm,1.5s,mb6.4
FOO Floro 90.88 331 *e*P **P 15 41 30.7 +0.9**
comp=Z,286nm,1.5s,mb6.4
CMER Merouana 90.92 305 P **P 15 41 31.0 +1.1**
DFRA Djebel Bou Aff 90.92 306 P **P 15 41 32.0 +2.1**
VILF Villemus 90.93 314 *e*P **P 15 41 31.0 +1.1**
PUYF Puyloubier 90.94 313 *e*P **P 15 41 31.2 +1.2**
BERF Bertagne 90.95 313 *e*P **P 15 41 30.8 +0.7**
SMRF Simiane la Rot 91.03 314 *e*P **P 15 41 29.6 -0.8**
comp=Z,2µm,1.6s,mb6.8
SMRF Simiane la Rot 91.03 314 *e*P **P 15 41 29.6 -0.8**
comp=Z,2µm,1.6s,mb7.1
SUE Sulen 91.04 331 *e*P **P 15 41 31.1 +0.7**
SUE AMb AMB 15 41 38.3
comp=Z,266nm,1.8s,mb6.3
SUE Sulen 91.04 331 *e*P **P 15 41 31.1 +0.7**
comp=Z,266nm,1.8s,mb6.3
AFI Afiamalu 91.11 104 P **P 15 41 33.3 +2.5**
comp=Z,195nm,1.1s,mb6.3,baz=271,slow=5.4,SNR=13
AFI Afiamalu 91.11 104 *e*P **P 15 41 32.9 +2.1**
AFI pmax pmax
comp=Z,582nm,1.4s,mb6.7
AFI MLR MLR
comp=Z,20µm,22.0s,MS6.5
AFI Afiamalu 91.11 104 *e*P **P 15 41 32.9 +2.0**
comp=Z,582nm,1.4s,mb6.7
AFI LR LR
comp=Z,20µm,22.0s,MS6.5
GELF Grande-Etoile 91.14 313 *e*P **P 15 41 32.1 +1.1**
TREF Trevaresse 91.17 313 *e*P **P 15 41 32.1 +1.0**
OCF Saint Nazaire 91.21 314 *e*P **P 15 41 31.8 +0.5**
OG26 St.-Nazaire-De 91.21 314 *e*P **P 15 41 31.8 +0.5**
CKHR Kef el Ahmar 91.22 306 P **P 15 41 33.0 +1.7**
MEZF Maizieres J'vi 91.28 318 *e*P **P 15 41 30.1 -1.5**
comp=Z,678nm,1.1s,mb6.9
MEZF Maizieres J'vi 91.28 318 *e*P **P 15 41 30.1 -1.5**
comp=Z,678nm,1.1s,mb6.9
SET Setif 91.31 306 P **P 15 41 33.0 +1.3**
PRAF Pradon 91.32 314 *e*P **P 15 41 32.8 +1.0**
GIVF Givet 91.38 320 *e*P **P 15 41 30.5 -1.6**
comp=Z,538nm,1.1s,mb6.5
GIVF Givet 91.38 320 *e*P **P 15 41 30.5 -1.6**
GIVF pmax pmax
comp=Z,269nm,1.1s,mb6.5
GIVF Givet 91.38 320 *e*P **P 15 41 30.5 -1.6**
comp=Z,269nm,1.1s,mb6.5
DOU Dourbes 91.53 320 P **P 15 41 32.8 0.0**
comp=Z,122nm,1.1s,mb6.1
VIVF Saint-Julien-l 91.65 315 *e*P **P 15 41 31.9 -1.4**
comp=Z,861nm,1.3s,mb6.6
VIVF Saint-Julien-l 91.65 315 *e*P **P 15 41 31.9 -1.4**
VIVF pmax pmax
comp=Z,430nm,1.3s,mb6.6
VIVF Saint-Julien-l 91.65 315 *e*P **P 15 41 31.9 -1.4**
comp=Z,430nm,1.3s,mb6.6
UCC Uccle 91.65 321 P **P 15 41 33.1 -0.2**
SNF Seneffe 91.71 320 P **P 15 41 33.2 -0.4**
comp=Z,146nm,1.0s,mb6.3
BAIF Baives 91.78 320 *e*P **P 15 41 32.7 -1.2**
comp=Z,1µm,1.1s,mb6.9
BAIF Baives 91.78 320 *e*P **P 15 41 32.7 -1.2**
BAIF pmax pmax
comp=Z,620nm,1.1s,mb6.8
BAIF Baives 91.78 320 *e*P **P 15 41 32.7 -1.2**
comp=Z,620nm,1.1s,mb6.8
AKF Akfadou 91.97 306 P **P 15 41 36.4 +1.6**
LOR Lormes 92.13 317 *e*P **P 15 41 33.9 -1.6**
comp=Z,1µm,1.1s,mb6.8
LOR *e*R
comp=Z,17µm,20.2s
LOR Lormes 92.13 317 *e*P **P 15 41 33.9 -1.6**
LOR pmax pmax
comp=Z,514nm,1.1s,mb6.8
LOR MLR MLR
comp=Z,17µm,20.3s,MS6.5
LOR Lormes 92.13 317 *e*P **P 15 41 33.9 -1.6**
comp=Z,514nm,1.1s,mb6.8
LOR LR LR
comp=Z,17µm,20.3s,MS6.5
SMF Signal de Mont 92.17 317 *e*P **P 15 41 34.0 -1.7**
comp=Z,891nm,1.0s,mb6.7
SMF Signal de Mont 92.17 317 *e*P **P 15 41 34.0 -1.7**
SMF pmax pmax
comp=Z,445nm,1.0s,mb6.8
SMF Signal de Mont 92.17 317 *e*P **P 15 41 34.0 -1.7**
comp=Z,446nm,1.0s,mb6.8
ATAF Djebel Tarf 92.23 306 P **P 15 41 37.7 +1.7**
LASF Ste Croix 92.26 314 *e*P **P 15 41 34.9 -1.2**
comp=Z,1µm,1.7s,mb6.7
COLF Collangettes 92.32 315 *e*P **P 15 41 36.8 +0.4**
PLDF La Plantade 92.35 316 *e*P **P 15 41 37.0 +0.5**
SSF Saint Saulge 92.38 317 *e*P **P 15 41 35.0 -1.7**
comp=Z,1µm,1.5s,mb6.7
SSF Saint Saulge 92.38 317 *e*P **P 15 41 35.0 -1.7**
SSF pmax pmax
comp=Z,646nm,1.5s,mb6.7
SSF Saint Saulge 92.38 317 *e*P **P 15 41 35.0 -1.7**
comp=Z,646nm,1.5s,mb6.7
AVF Avril sur Loir 92.49 317 *e*P **P 15 41 35.6 -1.6**
comp=Z,743nm,1.0s,mb6.7
AVF Avril sur Loir 92.49 317 *e*P **P 15 41 35.6 -1.6**
AVF pmax pmax
comp=Z,371nm,1.0s,mb6.7
AVF Avril sur Loir 92.49 317 *e*P **P 15 41 35.6 -1.6**
comp=Z,372nm,1.0s,mb6.7
AKET Djebel Ketaf 92.54 306 P **P 15 41 39.8 +2.4**
LBL Lubilhac 92.64 315 *e*P **P 15 41 38.8 +0.9**
AGO Saint Agoulin 92.68 316 *e*P **P 15 41 38.4 +0.3**
PYM Petit Puy Mans 92.79 316 *e*P **P 15 41 39.2 +0.7**
BGF Bois d'Agland 92.85 316 *e*P **P 15 41 37.6 -1.3**
comp=Z,1µm,1.1s,mb6.9
BGF Bois d'Agland 92.85 316 *e*P **P 15 41 37.6 -1.3**
BGF pmax pmax
comp=Z,537nm,1.1s,mb6.9
BGF Bois d'Agland 92.85 316 *e*P **P 15 41 37.6 -1.3**
comp=Z,537nm,1.1s,mb6.9
ADJB Djebel Djouab 92.90 306 P **P 15 41 38.2 -0.9**
HYF Humbligny 92.96 317 *e*P **P 15 41 38.3 -1.0**
EJON La Jonquera 93.04 312⇓P **P 15 41 39.6 -0.2**
comp=Z,626nm,2.2s,mb6.7
SJAF Saint Jean de 93.05 312 *e*P **P 15 41 40.0 +0.3**
MENF Mencas 93.07 320 *e*P **P 15 41 40.1 +0.3**
FRNF Fournols 93.12 315 *e*P **P 15 41 41.0 +0.9**
ABA Alger-Bouzarea 93.20 307 P **P 15 41 43.0 +2.6**
ETOS Mallorca 93.23 310⇓P **P 15 41 41.5 +0.9**
comp=Z,2µm,3.5s
LRDF Laroque-de-Fa 93.27 313 *e*P **P 15 41 41.1 +0.3**
FILF Fillols 93.28 312 *e*P **P 15 41 41.6 +0.8**
EMHD Djebel Mahouad 93.29 306 P **P 15 41 43.0 +2.1**
TCF Toulx Ste Croi 93.31 316 *e*P **P 15 41 39.6 -1.4**
comp=Z,852nm,1.6s,mb6.6
TCF Toulx Ste Croi 93.31 316 *e*P **P 15 41 39.6 -1.4**
TCF pmax pmax
comp=Z,426nm,1.6s,mb6.6
TCF Toulx Ste Croi 93.31 316 *e*P **P 15 41 39.6 -1.4**
comp=Z,426nm,1.6s,mb6.6
MTLF Montolieu 93.48 313 *e*P **P 15 41 40.5 -1.3**
comp=Z,858nm,1.5s,mb6.7
MTLF Montolieu 93.48 313 *e*P **P 15 41 40.5 -1.3**
MTLF pmax pmax
comp=Z,429nm,1.5s,mb6.7
MTLF Montolieu 93.48 313 *e*P **P 15 41 40.5 -1.3**
comp=Z,429nm,1.5s,mb6.7
CAF Calviac 93.50 315 *e*P **P 15 41 40.7 -1.1**
comp=Z,713nm,1.5s,mb6.6
CAF Calviac 93.50 315 *e*P **P 15 41 40.7 -1.1**
CAF pmax pmax
comp=Z,357nm,1.5s,mb6.6
CAF Calviac 93.50 315 *e*P **P 15 41 40.7 -1.1**
comp=Z,356nm,1.5s,mb6.6
ABA1 Baconsthorpe 93.52 323 *e*P **P 15 41 41.3 -0.6**
CARF Carcanieres 93.61 313 *e*P **P 15 41 42.5 +0.2**
VALF Valcebollere 93.69 312 *e*P **P 15 41 43.8 +1.1**
RJF Les Rejaudoux 93.86 315 *e*P **P 15 41 42.3 -1.2**
comp=Z,925nm,1.5s,mb6.7
RJF *e*R
comp=Z,20µm,21.0s
RJF Les Rejaudoux 93.86 315 *e*P **P 15 41 42.3 -1.2**
RJF pmax pmax
comp=Z,463nm,1.5s,mb6.7
RJF MLR MLR
comp=Z,20µm,21.0s,MS6.6
RJF Les Rejaudoux 93.86 315 *e*P **P 15 41 42.3 -1.2**
comp=Z,462nm,1.5s,mb6.7
RJF LR LR
comp=Z,20µm,21.0s,MS6.6
LRW Lerwick 94.03 330 *e*P **P 15 41 44.2 -0.1**
AKUT Akutan 94.09 36 *e*P **P 15 41 43.2 -1.4**
WAL1 Walls 94.24 330 *e*P **P 15 41 45.0 -0.2**
SALF Salau 94.28 313 *e*P **P 15 41 45.0 -0.4**
EIBI Ibiza 94.41 309⇓P **P 15 41 46.8 +0.7**
comp=Z,2µm,3.6s
EBNR Beni Rached 94.43 306 P **P 15 41 48.3 +2.2**
LFF La Frestale 94.44 315 *e*P **P 15 41 45.0 -1.1**
comp=Z,962nm,1.6s,mb6.7
LFF La Frestale 94.44 315 *e*P **P 15 41 45.0 -1.1**
LFF pmax pmax
comp=Z,481nm,1.6s,mb6.7
LFF La Frestale 94.44 315 *e*P **P 15 41 45.0 -1.1**
comp=Z,481nm,1.6s,mb6.7
EPOB Poblet 94.46 311⇓P **P 15 41 45.8 -0.5**
comp=Z,2µm,3.5s
ECHA Ech Chlef 94.58 306 P **P 15 41 48.5 +1.7**
ETRT Tiaret 94.67 305 P **P 15 41 49.0 +1.8**
LDF La Druitiere 94.70 319 *e*P **P 15 41 45.6 -1.8**
comp=Z,676nm,1.5s,mb6.6
LDF La Druitiere 94.70 319 *e*P **P 15 41 45.6 -1.8**
LDF pmax pmax
comp=Z,338nm,1.5s,mb6.5
LDF La Druitiere 94.70 319 *e*P **P 15 41 45.6 -1.8**
comp=Z,338nm,1.5s,mb6.5
EANR 'Ain N'Sour 94.80 306 P **P 15 41 48.8 +1.0**
VNA2 Neumayer--Watz 94.83 199 *e*P **P 15 41 48.2 +0.2**
VNA2 *e* 15 41 52.5
VNA2 *e* 15 41 53.3
VNA2 *e* pP 15 41 58.2 +0.4
VNA2 *e* 15 42 02.7
VNA2 *e* 15 45 48.1
VNA2 *e* 15 52 51.3
VNA2 *e* 15 52 59.2
EPF Esparros 94.88 313 *e*P **P 15 41 46.0 -2.2**
comp=Z,237nm,1.5s,mb6.1
EPF Esparros 94.88 313 *e*P **P 15 41 46.0 -2.2**
EPF pmax pmax
comp=Z,118nm,1.5s,mb6.1
EPF Esparros 94.88 313 *e*P **P 15 41 46.0 -2.2**
comp=Z,118nm,1.5s,mb6.1
RESF Ens 94.90 313 *e*P **P 15 41 49.0 +0.8**
MFF Saint Martin d 94.91 317 *e*P **P 15 41 46.6 -1.7**
comp=Z,600nm,1.4s,mb6.5
MFF Saint Martin d 94.91 317 *e*P **P 15 41 46.6 -1.7**
MFF pmax pmax
comp=Z,300nm,1.4s,mb6.5
MFF Saint Martin d 94.91 317 *e*P **P 15 41 46.6 -1.7**
comp=Z,300nm,1.4s,mb6.5
FLN La Foliniere 94.93 319 *e*P **P 15 41 46.5 -1.9**
comp=Z,196nm,0.8s,mb6.3
FLN *e*R
comp=Z,17µm,21.5s
FLN La Foliniere 94.93 319 *e*P **P 15 41 46.5 -1.9**
FLN pmax pmax
comp=Z,98nm,0.8s,mb6.3
FLN MLR MLR
comp=Z,17µm,21.5s,MS6.5
FLN La Foliniere 94.93 319 *e*P **P 15 41 46.5 -1.9**
comp=Z,98nm,0.8s,mb6.3
FLN LR LR
comp=Z,17µm,21.5s,MS6.5
EBR Ebro Roquetas 94.94 311 *e*P **P 15 41 49.5 +1.1**
EBR *e*PP PP 15 45 42.5 +4.9
JMIC Jan Mayen 94.95 342⇓*i*P **P 15 41 48.4 -0.2**
JMIC AMb AMB 15 42 05.8
comp=Z,435nm,1.6s,mb6.6
JMIC *e*SKSa 15 52 21.9
JMIC *e* 15 53 01.0
JMIC *e*SS SS 15 59 28.6 +2.6
JMIC AMS AMS 16 28 24.7
comp=Z,22µm,22.1s,MS6.6
JMIC Jan Mayen 94.95 342 P **P 15 41 48.4 -0.1**
comp=Z,11nm,0.4s,mb5.7,baz=93,slow=8.1,SNR=7.7
JMIC Jan Mayen 94.95 342⇓*i*P **P 15 41 48.4 -0.2**
comp=Z,435nm,1.6s,mb6.6
JMIC LR LR
comp=Z,21779µm,22.1s
EGRA Graus 94.96 312 P **P 15 41 48.9 +0.4**
comp=Z,203nm,1.4s,mb6.4
ERTA Horta de San J 95.05 311⇓P **P 15 41 49.5 +0.5**
comp=Z,2µm,3.4s
EBIE Bielsa 95.05 313⇓P **P 15 41 49.2 +0.3**
comp=Z,2µm,3.3s
MATF Mathat 95.08 316 *e*P **P 15 41 50.1 +1.0**
KBI1 Birley Grange 95.08 323⇓*e*P **P 15 41 48.9 -0.2**
VIEF Viey 95.12 313 *e*P **P 15 41 49.9 +0.6**
VNA1 Neumayer--Stat 95.18 199 *e*P **P 15 41 49.8 +0.3**
VNA1 *e* 15 41 54.4
VNA1 *e* 15 41 56.1
VNA1 *e* pP 15 41 59.8 +0.4
VNA1 *e* 15 45 49.2
VNA1 *e* 15 46 02.2
GRR Gorron 95.21 318 *e*P **P 15 41 47.8 -1.9**
comp=Z,612nm,1.6s,mb6.5
GRR Gorron 95.21 318 *e*P **P 15 41 47.8 -1.9**
GRR pmax pmax
comp=Z,306nm,1.6s,mb6.5
GRR Gorron 95.21 318 *e*P **P 15 41 47.8 -1.9**
comp=Z,306nm,1.6s,mb6.5
LHO Holmfirth 95.24 324⇓*e*P **P 15 41 49.9 +0.1**
TORD Torodi Ar. Bea 95.25 283 P **P 15 41 50.3 +0.5**
comp=Z,17nm,0.6s,mb5.6,baz=94,slow=5.9,SNR=110
TORD PP PP 15 45 37.6 -2.4
comp=Z,11nm,1.2s,baz=57,slow=10,SNR=4.1
TORD PKKPbc PKKPbc 15 58 43.7 +0.7
comp=Z,3.0nm,1.0s,baz=255,slow=2.8,SNR=3.7
KWE Weaver Farm 95.30 323⇓*e*P **P 15 41 49.9 -0.2**
ESY Stoneypath 95.36 326 *e*P **P 15 41 49.6 -0.7**
REYF Montagne du Re 95.41 313 *e*P **P 15 41 50.7 +0.1**
MCD Coleburn Disti 95.46 328 *e*P **P 15 41 50.0 -0.8**
SWN1 Swindon 95.46 322 *e*P **P 15 41 50.1 -0.7**
VNA3 Neumayer Olymp 95.47 198 *e*P **P 15 41 50.8 -0.1**
VNA3 *e* 15 41 55.5
VNA3 *e* 15 41 56.5
VNA3 *e* pP 15 42 00.1 -0.6
VNA3 *e* 15 42 04.1
VNA3 *e* 15 42 13.7
VNA3 *e* 15 45 51.4
VNA3 *e* 15 46 03.8
VNA3 *e* 15 52 58.4
VNA3 *e* 15 53 06.1
ETSF Etsaut 95.55 313 *e*P **P 15 41 50.2 -1.0**
comp=Z,208nm,1.1s,mb6.2
ETSF Etsaut 95.55 313 *e*P **P 15 41 50.2 -1.0**
ETSF pmax pmax
comp=Z,104nm,1.1s,mb6.2
ETSF Etsaut 95.55 313 *e*P **P 15 41 50.2 -1.0**
comp=Z,104nm,1.1s,mb6.2
ORE Reay 95.58 329⇓*e*P **P 15 41 51.4 0.0**
ESAC San Caprasio 95.59 312⇓P **P 15 41 51.6 +0.2**
comp=Z,1µm,2.6s,mb6.9
EBL Broad Law 95.62 326⇓*e*P **P 15 41 51.5 -0.1**
EBL AMb AMB 15 41 59.1
comp=Z,99nm,1.8s,mb6.0
DAG Danmarks Havn 95.63 348*b i*P **P 15 41 50.6 -1.0**
comp=Z,79nm,0.7s,mb6.2
DAG
comp=Z,60µm,21.0s
DAG Danmarks Havn 95.63 348⇑*i*P **P 15 41 50.6 -1.0**
DAG pmax pmax
comp=Z,79nm,0.7s,mb6.2
DAG MLR MLR
comp=E,43µm,21.0s,MS7.0
DAG MLR MLR
comp=Z,60µm,21.0s,MS7.0
DAG MLR MLR
comp=N,28µm,20.0s,MS7.0
DAG Danmarks Havn 95.63 348 *i* Pcr **P 15 41 50.6 -1.0**
comp=N,79nm,0.7s,mb6.2
DAG LR LR
comp=Z,60µm,21.0s,MS7.0
ATE Arette 95.63 313 *e*P **P 15 41 52.1 +0.5**
BBH Bruntsheil 95.65 325 *e*P **P 15 41 51.6 -0.1**
EBEN Beniarda 95.66 309⇓P **P 15 41 52.5 +0.8**
comp=Z,2µm,3.7s
EDI Edinburgh 95.68 326⇓*e*P **P 15 41 50.8 -1.0**
EDI AMb AMB 15 41 53.5
comp=Z,126nm,1.6s,mb6.1
EMOS Mosqueruela 95.71 310⇓P **P 15 41 53.0 +1.1**
comp=Z,2µm,3.8s
EKA Eskdalemuir Ar 95.75 326 P **P 15 41 51.6 -0.5**
comp=Z,30nm,0.7s,mb5.8,baz=101,slow=5.0,SNR=75
EKA PP PP 15 45 38.9 -5.0
comp=Z,10nm,0.9s,baz=94,slow=7.2,SNR=2.5
ESK Eskdalemuir 95.78 326 P **P 15 41 52.7 +0.4**
comp=Z,412nm,0.9s,mb6.9,SNR=8.9
ESK Eskdalemuir 95.78 326 *e*P **P 15 41 51.9 -0.4**
ESK pmax pmax
comp=Z,233nm,1.4s,mb6.4
ESK MLR MLR
comp=Z,35µm,22.0s,MS6.8
ESK Eskdalemuir 95.78 326 *e*P **P 15 41 51.9 -0.4**
comp=Z,233nm,1.4s,mb6.4
ESK LR LR
comp=Z,35µm,22.0s,MS6.8
BHH Howats Hill 95.82 325⇓*e*P **P 15 41 51.1 -1.4**
EAU Auchinoon 95.83 326 *e*P **P 15 41 52.1 -0.4**
EAU AMb AMB 15 41 55.3
comp=Z,199nm,1.7s,mb6.3
LARF Larrau 95.85 313 *e*P **P 15 41 53.3 +0.7**
HAE Alders End 95.85 322⇓*e*P **P 15 41 52.5 -0.1**
HAE AMb AMB 15 41 59.2
comp=Z,156nm,1.7s,mb6.2
ODJA Bouhanifia 95.86 305 P **P 15 41 54.0 +1.3**
LRYF La Roche-sur-Y 95.87 317 *e*P **P 15 41 53.1 +0.4**
BBO1 Bothel 95.89 325 *e*P **P 15 41 52.3 -0.5**
MVH1 Achvaich 95.90 328 *e*P **P 15 41 51.8 -1.0**
OTO Tongue 95.91 329⇓*e*P **P 15 41 52.8 -0.1**
JRS Jersey 95.93 319⇓*e*P **P 15 41 51.7 -1.3**
HLM1 Long Mynd 95.99 323 *e*P **P 15 41 52.5 -0.7**
HLM1 AMb AMB 15 41 55.9
comp=Z,105nm,1.3s,mb6.1
SJPF Ste Jean 96.01 313 *e*P **P 15 41 52.3 -1.0**
comp=Z,163nm,1.0s,mb6.1
SJPF Ste Jean 96.01 313 *e*P **P 15 41 52.3 -1.0**
SJPF pmax pmax
comp=Z,82nm,1.0s,mb6.1
SJPF Ste Jean 96.01 313 *e*P **P 15 41 52.3 -1.0**
comp=Z,82nm,1.0s,mb6.1
OSSF Osses 96.02 313 *e*P **P 15 41 53.1 -0.3**
BWH Wardlaw 96.05 325⇓*e*P **P 15 41 53.3 -0.2**
XDE Dent Fell 96.06 325 *e*P **P 15 41 53.0 -0.6**
XDE AMb AMB 15 42 00.1
comp=Z,108nm,1.7s,mb6.0
HGH Gray Hill 96.07 322⇓*e*P **P 15 41 53.5 -0.1**
HGH AMb AMB 15 41 59.9
comp=Z,228nm,1.7s,mb6.3
MCH1 Michaelchurch 96.14 322 *e*P **P 15 41 52.9 -1.0**
MCH1 ⇓*e*P 15 41 53.6
MCH1 Michaelchurch 96.14 322 P **P 15 41 53.6 -0.3**
SSP1 Stoney Pound 96.15 323⇓*e*P **P 15 41 53.7 -0.2**
SSP1 AMb AMB 15 41 56.0
comp=Z,127nm,1.7s,mb6.1
USTO Oran 96.16 306 P **P 15 41 56.0 +2.0**
ECHE Chera 96.16 310 P **P 15 41 54.5 +0.5**
ECHE pmax pmax
comp=Z,22nm,0.9s,mb5.6
ECHE Chera 96.16 310 P **P 15 41 54.5 +0.5**
comp=Z,22nm,0.9s,mb5.6
SBD1 Bryn Du 96.16 323⇓*e*P **P 15 41 53.9 -0.1**
SBD1 AMb AMB 15 42 00.7
comp=Z,101nm,1.7s,mb6.0
EALK Alkurruntz 96.21 313⇓P **P 15 41 54.1 -0.1**
comp=Z,2µm,3.5s
ELIZ Elizondo 96.23 313 P **P 15 41 54.9 +0.6**
ELIZ pmax pmax

comp=Z,46nm,1.3s,mb5.8
ELIZ Elizondo 96.23 313 P **P** 15 41 54.9 +0.5
comp=Z,46nm,1.3s,mb5.8
EAB Aberfoyle 96.27 327 *e*P **P** 15 41 54.9 +0.3
EAB AMb AMB 15 42 02.0
comp=Z,141nm,1.8s,mb6.1
SGMF Saint Gilles 96.36 318 *e*P **P** 15 41 52.9 -2.0
comp=Z,236nm,1.4s,mb6.1
SGMF Saint Gilles 96.36 318 *e*P **P** 15 41 52.9 -2.0
SGMF pmax pmax
comp=Z,119nm,1.4s,mb6.1
SGMF Saint Gilles 96.36 318 *e*P **P** 15 41 52.9 -2.0
comp=Z,119nm,1.4s,mb6.1
PGBU Glenifferbraes 96.42 326 *e*P **P** 15 41 54.3 -0.9
WPM1 Penmaenmawr 96.50 324‖ *e*P **P** 15 41 55.6 +0.1
EMUR La Murta 96.53 308 P **P** 15 41 55.9 +0.2
comp=Z,1µm,4.8s
ETOB Tobarra 96.69 309 ‖P **P** 15 41 57.5 +1.1
comp=Z,2µm,4.6s
GAL1 Galloway 96.70 325‖ *e*P **P** 15 41 56.2 -0.3
WME Myndd Eilian 96.71 324 *e*P **P** 15 41 55.6 -0.9
KPL Plockton 96.78 328 *e*P **P** 15 41 56.7 -0.1
WLF1 Llynfaes 96.78 324 *e*P **P** 15 41 56.7 -0.2
QUIF Quistinic 96.80 318 *e*P **P** 15 41 54.6 -2.3
ROSF Rostrenen 96.82 319 *e*P **P** 15 41 54.9 -2.1
comp=Z,200nm,1.4s,mb6.0
ROSF Rostrenen 96.82 319 *e*P **P** 15 41 54.9 -2.1
ROSF pmax pmax
comp=Z,100nm,1.4s,mb6.0
ROSF Rostrenen 96.82 319 *e*P **P** 15 41 54.9 -2.1
comp=Z,100nm,1.4s,mb6.0
YRE Yr Eifl 96.85 323‖ *e*P **P** 15 41 56.6 -0.5
YRE AMb AMB 15 42 04.8
comp=Z,201nm,1.8s,mb6.3
WCB1 Church Bay 96.86 324 *e*P **P** 15 41 57.1 0.0
WCB1 AMb AMB 15 42 05.0
comp=Z,183nm,1.7s,mb6.2
HSA Swansea 96.88 322 *e*P **P** 15 41 56.4 -0.9
YRC Rhoscolyn 96.89 324 *e*P **P** 15 41 56.6 -0.8
YRC AMb AMB 15 42 05.2
comp=Z,149nm,1.6s,mb6.2
ALE Alert 96.95 357 P **P** 15 41 57.0 -0.6
comp=Z,558nm,1.2s,mb6.9,SNR=34
SDPT Sand Point 96.96 34 *e*P **P** 15 41 57.2 -0.4
comp=Z,661nm,1.8s,mb6.8
ENIJ Nijar 97.38 307 P **P** 15 41 59.0 -0.5
ENIJ pmax pmax
comp=Z,85nm,1.8s,mb5.9
ENIJ Nijar 97.38 307 P **P** 15 41 59.0 -0.5
comp=Z,85nm,1.8s,mb5.9
EVIA Vianos 97.44 309 P **P** 15 42 00.5 +0.7
EVIA pmax pmax
comp=Z,69nm,1.3s,mb5.9
EVIA Vianos 97.44 309 P **P** 15 42 00.5 +0.7
comp=Z,68nm,1.3s,mb5.9
GCL Cushendall 97.47 326 *e*P **P** 15 42 00.1 +0.1
TTA Tatalina 97.53 26 *e*P **P** 15 42 00.4 +0.2
EHUE Huescar 97.60 308 P **P** 15 42 00.9 +0.4
EHUE pmax pmax
comp=Z,60nm,1.4s,mb5.9
EHUE Huescar 97.60 308 P **P** 15 42 00.9 +0.4
comp=Z,60nm,1.4s,mb5.9
ELAN Lanestosa 97.60 314 P **P** 15 42 00.8 +0.2
comp=Z,852nm,3.2s
CGH1 Goonhilly 97.79 321 *e*P **P** 15 42 01.1 -0.2
EQES Quesada 97.97 308 ‖P **P** 15 42 02.1 -0.1
comp=Z,836nm,3.0s
CPZ Penzance 98.03 321‖ *e*P **P** 15 42 01.6 -0.8
CPZ AMb AMB 15 42 06.5
comp=Z,121nm,1.4s,mb6.2
SVW2 Sparrevohn 98.21 28 *e*P **P** 15 42 03.7 +0.4
ESDC Sonseca Array 98.45 310 P **P** 15 42 04.2 -0.1
comp=Z,4.1nm,0.7s,baz=66,slow=4.7,SNR=17
ESDC PP PP 15 46 06.4 +1.7
comp=Z,19nm,1.0s,baz=77,slow=6.8,SNR=6.1
ESDC PKKPbc PKKPbc 15 58 36.2 +1.9
comp=Z,0.2nm,0.3s,baz=290,slow=2.1,SNR=5.0
ESDC Sonseca Array 98.45 310 P **P** 15 42 04.8 +0.5
comp=Z,14nm,1.6s
ESLA Sonseca Array 98.45 310 *e*P **P** 15 42 04.4 +0.1
comp=Z,40nm,1.5s,mb5.7
ESLA LR LR
comp=Z,110µm,21.0s,MS7.3
GUD Guadarrama 98.47 311 P **P** 15 42 04.9 +0.5
GUD pmax pmax
comp=Z,64nm,1.4s,mb6.0
GUD Guadarrama 98.47 311 P **P** 15 42 04.9 +0.5
comp=Z,64nm,1.4s,mb6.0
EGUA Guajares 98.47 307 P **P** 15 42 04.6 +0.1
EGUA pmax pmax
comp=Z,12nm,1.6s
EGUA Guajares 98.47 307 P **P** 15 42 04.6 +0.1
comp=Z,12nm,1.6s
EARI Arriondas 98.88 314 ‖P **P** 15 42 05.8 -0.5
comp=Z,1µm,5.1s
EADA Adamuz 99.11 309 ‖P **P** 15 42 07.0 -0.3
comp=Z,792nm,3.6s
EMIJ Mijas 99.47 307 ‖P **P** 15 42 07.6 -1.3
comp=Z,387nm,3.0s
MDT Midelt 99.78 303 PKKPbc PKKPbc 15 58 32.5 +2.1
baz=24,slow=20
EJIF Jimena Fronter 100.04 307 P Pdif 15 42 12.0 +0.6
EJIF pmax pmax
comp=Z,32nm,1.3s
EJIF Jimena Fronter 100.04 307 P Pdif 15 42 12.0 +0.6
comp=Z,32nm,1.3s
ECAL Calabor 100.20 313 ‖P Pdif 15 42 12.1 -0.1
comp=Z,605nm,3.9s
PBRG Braganca 100.23 312 *e*Pdif Pdif 15 42 12.4 +0.1
EPON Pontenova 100.27 314 ‖P Pdif 15 42 12.3 -0.2
comp=Z,803nm,4.1s
ESPR Espera 100.29 307 ‖P Pdif 15 42 12.1 -0.5
comp=Z,758nm,3.3s
COLA College 100.31 23*d* *i*P Pdif 15 42 10.7 -1.9
COLA College 100.31 23 *e*Pdif Pdif 15 42 12.2 -0.4
comp=Z,35nm,1.3s
COLA LR LR
comp=Z,62µm,19.0s,MS7.1
KDAK Kodiak Island 100.62 31 P Pdif 15 42 14.2 +0.1
comp=Z,20nm,0.7s,baz=276,slow=4.3,SNR=19
ILAR Eielson Array 100.73 23 P Pdif 15 42 12.6 -1.9
comp=Z,5.3nm,0.7s,baz=295,slow=4.1,SNR=41
ILAR PP PP 15 46 04.8 -17
comp=Z,8.8nm,1.1s,baz=293,slow=5.7,SNR=5.2
ILAR PKKPbc PKKPbc 15 58 27.6 -0.2
comp=Z,5.3nm,0.8s,baz=153,slow=2.3,SNR=11
ILAR PKPPKP 16 06 39.1
comp=Z,0.6nm,0.8s,baz=73,slow=2.3,SNR=4.4
EMIN Mina Concepcio 100.81 308 ‖P Pdif 15 42 14.0 -0.9
comp=Z,412nm,3.4s
SLKM Skilak Lake 100.89 28 *e*P Pdif 15 42 15.1 -0.1
EBAD Badajoz 100.92 309 ‖P Pdif 15 42 15.3 0.0
comp=Z,430nm,3.6s
PMR Palmer 101.01 26 *e*P Pdif 15 42 15.8 +0.1
PMR pmax pmax
comp=Z,35nm,0.9s
PMR Palmer 101.01 26 *e*P Pdif 15 42 15.8 +0.1
comp=Z,35nm,0.9s
PVRL Vila Real 101.04 312 *e*Pdif Pdif 15 42 17.4 +1.5
MTE Manteigas 101.06 311 *e*Pdif Pdif 15 42 16.9 +0.9
MTE Manteigas 101.06 311 *e*PP PP 15 46 23.7 -0.9
MTE *e*SKS 15 52 55.0
MTE *i* - 16 00 57.6
MTE Manteigas 101.06 311 *e*LQ 16 12 09.4
MTE eLR LR 16 18 02.9
comp=Z,20µm,18.0s
PCBR Castelo Branco 101.10 311 *e*Pdif Pdif 15 42 16.8 +0.6
PCBR Castelo Branco 101.10 311 *e*PP PP 15 46 24.2 -0.7
ELOB Lobios 101.19 313 ‖P Pdif 15 42 16.5 0.0
comp=Z,627nm,4.1s
PCAB Cabril 101.19 313 *e*Pdif Pdif 15 42 17.8 +1.2
PVIS Viseu 101.27 312 *e*Pdif Pdif 15 42 17.9 +1.0
PVIS Viseu 101.27 312 *e*PP PP 15 46 32.1 +6.0
EGRO El Granado 101.48 308 ‖P Pdif 15 42 18.1 +0.2
comp=Z,563nm,3.6s
EMAZ Mazaricos 101.66 314 ‖P Pdif 15 42 18.1 -0.5
comp=Z,501nm,3.4s
BORG Borgarnes 101.68 337 PP PP 15 46 27.0 -2.2
comp=Z,13nm,1.0s,baz=71,slow=2.8,SNR=3.3
BORG Borgarnes 101.68 337 PFAKE 15 42 30.0 +11
BORG LR LR
comp=Z,29µm,20.0s,MS6.8
PBEJ Beja 101.70 309 *e*Pdif Pdif 15 42 20.4 +1.6
PBEJ Beja 101.70 309 *e*PP PP 15 46 30.4 +1.0
PTOM Tomar 101.85 310 *e*Pdif Pdif 15 42 20.3 +0.8
PTOM Tomar 101.85 310 *e*PP PP 15 46 33.2 +2.7

SUMG Summit 102.31 348 *e*Pdif Pdif 15 42 22.2 +0.7
comp=Z,64nm,1.1s
MORF Marmelete 102.43 308 *e*P Pdif 15 42 22.5 +0.4
MORF *e*S SKSac 15 53 01.0 +1.5
MORF *e*S SKSac 15 53 01.1 +1.6
PTEO Sao Teotonio 102.45 308 *e*Pdif Pdif 15 42 24.0 +1.8
PTEO Sao Teotonio 102.45 308 *e*PP PP 15 46 36.0 +1.0
LIS Lisbon 102.58 310 *e*P Pdif 15 42 22.9 +0.2
LIS *e*S SKSac 15 53 03.2 +3.1
LIS *e*S SKSac 15 53 03.2 +3.1
LIS AMS AMS 16 35 25.1
comp=E,17µm,11.1s
MENT Mentasta 102.78 24 *e*P Pdif 15 42 24.6 +1.0
EYAK Cordova Ski Ar 102.93 27 *e*Pdif Pdif 15 42 22.1 -2.2
INK Inuvik 103.53 17 Pdiff Pdif 15 42 26.5 -0.5
comp=E,19nm,1.1s,baz=308,slow=4.5,SNR=18
INK PKiKP PKiKP 15 46 44.0 -1.5
comp=E,94nm,1.1s,baz=308,slow=7.2,SNR=9.1
INK PKKPbc PKKPbc 15 58 19.0 -0.6
comp=E,4.8nm,0.9s,baz=187,slow=3.0,SNR=7.9
INK Inuvik 103.53 17 *e*P Pdif 15 42 26.5 -0.5
INK pmax pmax
comp=Z,35nm,1.1s
INK Inuvik 103.53 17 *e*Pdif Pdif 15 42 26.5 -0.4
comp=Z,34nm,1.1s
KIP Kipapa 103.80 68 PFAKE
KIP LR LR 15 42 40.0 +12
comp=Z,20µm,21.0s,MS6.6
DAWY Dawson 103.94 22 *e*Pdif Pdif 15 42 28.8 0.0
RES Resolute Bay 104.95 3 *e*P Pdif 15 42 33.1 -0.2
RES pmax pmax
comp=Z,69nm,1.3s
RES Resolute Bay 104.95 3 *e*Pdif Pdif 15 42 33.1 -0.1
comp=Z,69nm,1.3s
TRIS Tristan da Cun 105.50 232 PFAKE
TRIS LR LR 15 47 00.0 +11
comp=Z,22µm,20.0s,MS6.7
POHA Pohakuloa 106.28 69 PFAKE
POHA LR LR 15 47 00.0 +9.5
comp=Z,17µm,22.0s,MS6.5
SKAG Skagway 108.03 25 Pdif Pdif 15 42 47.0 0.0
SFJD Kangerlussuaq 109.30 347 Pdiff Pdif 15 42 52.7 +0.1
comp=Z,3.6nm,0.7s,baz=37,slow=5.1,SNR=3.2
SFJD PP PP 15 47 17.8 -7.7
comp=Z,34nm,1.1s,baz=22,slow=6.5,SNR=4.5
SFJD Kangerlussuaq 109.30 347 *i* P Pdif 15 42 55.6 +3.0
SFJD *e* 15 47 17.3
SFJD *e* 15 53 20.5
SFJD *i* 15 54 55.6
SFJD *i* 15 56 43.5
SFJD
comp=Z,22µm,22.0s
SFJD Kangerlussuaq 109.30 347 *i* P Pdif 15 42 55.6 +3.0
SFJD *e* 15 53 20.5
SFJD *i* 15 56 43.5
SFJD MLR MLR
comp=Z,22µm,22.0s,MS6.7
SIT Sitka 109.36 27 PFAKE
SIT LR LR 15 47 10.0 +14
comp=Z,64µm,20.0s,MS7.2
DLBC Dease Lake 110.86 24 PKiKP PKiKP 15 46 58.9 -0.2
comp=Z,11nm,0.9s,baz=317,slow=6.2,SNR=9.1
DLBC PP PP 15 47 33.0 -3.9
comp=Z,15nm,1.0s,baz=316,slow=11,SNR=5.4
DLBC PKKPbc PKKPbc 15 57 58.1 +1.3
comp=Z,1.4nm,0.3s,baz=244,slow=2.2,SNR=4.6
DLBC Dease Lake 110.86 24 PKiKP PKiKP 15 46 59.4 +0.3
ASCN Ascension 111.27 262 PFAKE
ASCN LR LR 15 47 10.0 +10
comp=Z,26µm,20.0s,MS6.8
TBI Tubuai 111.49 115 *e*PS PS 15 57 08.1 -5.4
comp=Z,7µm,30.0s
TBI Tubuai 111.49 115 *e*SS SS 16 03 13.5 -0.2
comp=Z,38µm,26.0s
TBI *e*LR LR 16 20 06.6
comp=Z,47µm,31.2s
PPT Papeete 112.22 109 *e*PP PP 15 47 23.3 -23
comp=Z,3µm,30.5s
PPT Papeete 112.22 109 *e*PS PS 15 57 26.1 +5.9
comp=Z,9µm,26.5s
PPT Papeete 112.22 109 *e*SS SS 16 03 28.2 +4.7
comp=Z,32µm,28.5s
PPT *e*LR LR 16 20 31.7
comp=Z,31µm,22.2s
YKW3 Yellowknife Ar 113.09 15 *e*Pdif Pdif 15 43 09.9 +0.4
YKW3 *e*PKiKP PKiKP 15 47 02.4 -0.9
YKA Yellowknife Ar 113.15 15 Pdiff Pdif 15 43 10.0 +0.3
comp=Z,1.5nm,1.0s,baz=326,slow=5.0,SNR=6.0
YKA PKiKP PKiKP 15 47 03.0 -0.5
comp=Z,12nm,0.9s,baz=325,slow=2.4,SNR=11
YKA PP PP 15 47 50.9 -2.3
comp=Z,14nm,1.0s,baz=331,slow=7.5,SNR=5.8
YKA PKKPbc PKKPbc 15 57 49.0 -0.2
comp=Z,5.2nm,0.8s,baz=143,slow=3.3,SNR=25
YKA SKKP 16 01 53.2
comp=Z,14nm,1.2s,baz=142,slow=4.4,SNR=9.3
YKA Yellowknife Ar 113.15 15 P Pdif 15 43 10.0 +0.3
YKA *i* 15 47 03.0
YKA 15 47 50.9
YKA pmax pmax
comp=Z,2.0nm,1.0s
YKA pmax pmax
comp=Z,5.0nm,0.8s
HOPE Hope Point 113.95 208 PFAKE
HOPE LR LR 15 47 20.0 +15
comp=Z,50µm,21.0s,MS7.1
PMSA Palmer Station 114.04 189 PFAKE
PMSA LR LR 15 47 20.0 +15
comp=Z,78µm,22.0s,MS7.3
PMOR Pomariorio Ree 114.14 106 *e*PKiKP PKiKP 15 47 07.7 +2.4
comp=Z,30nm,1.0s
PDA Ponta Delgada 115.33 312 *i* PP PP 15 48 20.0 +11
PDA *i* 15 57 47.0
PDA *i* SS SS 16 04 36.0 +31
PDA Ponta Delgada 115.33 312 *e*LR LR 16 22 48.0
BBB Bella Bella 115.60 29 PKP PKPdf 15 47 07.8 -0.3
comp=Z,28nm,0.8s,baz=210,slow=0.4,SNR=6.8
BBB PP PP 15 48 09.6 -1.0
comp=Z,15nm,0.9s,baz=204,slow=20,SNR=2.2
BBB Bella Bella 115.60 29 PKP PKPdf 15 47 07.8 -0.3
BBB PP PP 15 48 09.6 -1.0
PGC Sidney 120.15 30 *e*PKPdf PKPdf 15 47 17.0 +0.1
OCWA Octopus Mounta 120.37 31 *e*PKPdf PKPdf 15 47 18.1 +0.8
OOW Octopus West 120.38 31 P PKPdf 15 47 18.9 +1.6
FCC Fort Churchill 120.63 7‖ *i*PKIKP PKPdf 15 47 16.3 -1.5
HDW Hoodsport 121.02 31 P PKPdf 15 47 19.6 +1.0
EDM Edmonton 121.11 21 *e*PKIKP PKPdf 15 47 17.8 -1.0
WRW Wenatchee Ridg 121.96 29 P PKPdf 15 47 20.8 +0.4
RVC Mount Rainier- 122.03 31 P PKPdf 15 47 21.6 +1.1
TAOE Nuku Hiva Isla 122.33 100 *e*PS PS 15 58 48.4 -3.3
comp=Z,14µm,24.2s
TAOE Nuku Hiva Isla 122.33 100 *e*SS SS 16 05 36.3 +1.3
comp=Z,70µm,28.8s
TAOE *e*LR LR 16 25 12.3
comp=Z,93µm,23.5s
TWW Teanaway 122.46 30 P PKPdf 15 47 22.1 +0.8
EBG Ellensburg 122.76 30 P PKPdf 15 47 22.9 +0.9
MPOR Mary's Peak 122.78 34 P PKPdf 15 47 23.5 +1.6
COR Corvallis 122.87 33 *e*PKIKP PKPdf 15 47 23.2 +1.1
COR MLR MLR
comp=Z,23µm,22.0s,MS6.8
FFC Flin Flon 123.13 13 *e*PKIKP PKPdf 15 47 21.3 -1.3
FFC MLR MLR
comp=Z,45µm,21.0s,MS7.1
DPW Davenport 123.23 28 PKIKP PKPdf 15 47 23.5 +0.7
KEBM Edson Butte 123.35 36 *e*PKPdf PKPdf 15 47 24.1 +1.0
NEW Newport 123.43 27 PKP PKPdf 15 47 23.0 -0.2
comp=Z,55nm,0.9s,baz=353,slow=0.5,SNR=36
HAWA Hanford 123.64 30‖ *e*PKPdf PKPdf 15 47 23.9 +0.3
HAWA LR LR
comp=Z,2µm,21.0s
SCHQ Schefferville 123.67 349 PKP PKPdf 15 47 22.9 -0.8
comp=Z,15nm,0.5s,baz=23,slow=3.8,SNR=50
SCHQ PP PP 15 49 02.8 -3.2
comp=Z,36nm,1.1s,baz=20,slow=8.9,SNR=5.5
SCHQ Schefferville 123.67 349 PKP PKPdf 15 47 22.9 -0.8
SCHQ PP PP 15 49 02.8 -3.2
SCHQ LR LR
comp=Z,35µm,21.0s,MS7.0
KBO Bosley Butte 123.81 36 *e*PKPdf PKPdf 15 47 23.8 -0.2
WALA Waterton Lakes 124.21 24‖ *e*PKPdf PKPdf 15 47 23.8 -0.9
HUMO Hull Mountain 124.31 35‖ *e*PKPdf PKPdf 15 47 25.5 +0.6
HUMO LR LR
comp=Z,18µm,22.0s,MS6.7
RKT Rikitea 124.51 118 *e*SS SS 16 06 00.4 -2.2
comp=Z,25µm,30.0s
RKT *e*LR LR 16 26 13.9
comp=Z,56µm,35.0s
EFI East Falkland 124.52 199 *e*PKIKP PKPdf 15 47 23.0 -2.3
EFI MLR MLR
comp=Z,28µm,20.0s,MS6.9
KHMM Horse Mountain 124.92 37 *e*PKPdf PKPdf 15 47 27.3 +1.2
YBH Yreka Blue Hor 125.00 36 PKP PKPdf 15 47 25.8 -0.4
comp=Z,17nm,0.8s,baz=96,slow=2.8,SNR=17
YBH Yreka Blue Hor 125.00 36 PKIKP PKPdf 15 47 25.8 -0.4
YBH pmax pmax
comp=Z,17nm,0.8s
YBH Yreka Blue Hor 125.00 36 *e*PKPdf PKPdf 15 47 26.2 0.0
YBH LR LR
comp=Z,22µm,21.0s,MS6.8
KIPM Iron Peak 125.71 38 *e*PKPdf PKPdf 15 47 28.8 +1.2
WDC Whiskeytown Da 125.81 37 *e*PKIKP PKPdf 15 47 28.0 +0.2
WDC MLR MLR
comp=Z,21µm,21.0s,MS6.8
MSO Missoula 125.93 26 *e*PKPdf PKPdf 15 47 27.6 -0.4
MSO LR LR
comp=Z,25µm,21.0s,MS6.9
CHMT Chamberlain Mo 126.16 25 *e*PKPdf PKPdf 15 47 28.1 -0.3
MOD Modoc 126.27 34 *e*PKPdf PKPdf 15 47 29.2 +0.6
MOD LR LR
comp=Z,23µm,22.0s,MS6.8
HOPS Hopland 126.45 39 *e*PKPdf PKPdf 15 47 29.6 +0.6
HOPS *e* 15 47 43.1
HOPS LR LR
comp=Z,17µm,22.0s,MS6.7
WVOR Wild Horse Val 126.83 33 *e*PKIKP PKPdf 15 47 30.5 +0.8
WVOR MLR MLR
comp=Z,26µm,21.0s,MS6.9
HRY Holter Researc 126.92 25 *e*PKPdf PKPdf 15 47 30.2 +0.3
NSHM Saint Helena R 127.03 39 *e*PKPdf PKPdf 15 47 31.2 +1.1
MCCM Marconi Confer 127.08 39 *e*PKPdf PKPdf 15 47 31.1 +0.9
OHCM Honcut 127.22 37 *e*PKPdf PKPdf 15 47 31.6 +1.1
DLMT Dillon 127.66 26 *e*PKPdf PKPdf 15 47 32.9 +1.6
SAC San Andreas 127.70 40 *e*PKIKP PKPdf 15 47 33.0 +1.6
MCMT McKenzie Canyo 127.96 27 *e*PKPdf PKPdf 15 47 33.2 +1.3
PTCN Pitcairn Islan 128.10 122 PFAKE
PTCN LR LR 15 47 40.0 +7.9
comp=Z,25µm,20.0s,MS6.9
HLID Hailey 128.19 29 PFAKE
HLID LR LR 15 47 40.0 +7.7
comp=Z,39µm,21.0s,MS7.1
PAHR Pah Rah Range 128.24 36 *e*PKPdf PKPdf 15 47 32.8 +0.4
GCMT Greycliff 128.55 24 *e*PKPdf PKPdf 15 47 33.7 +0.7
QLMT Earthquake Lak 128.59 26 *e*PKPdf PKPdf 15 47 32.6 -0.5
ULM Lac du Bonnet 128.61 11 PKP PKPdf 15 47 31.8 -1.3
comp=Z,46nm,0.7s,baz=346,slow=2.4,SNR=64
ULM PP PP 15 49 37.9 -1.0
comp=Z,30nm,1.0s,baz=0.9,slow=5.8,SNR=4.5
CMB Columbia Colle 128.70 38 *e*PKIKP PKPdf 15 47 34.0 +0.7
CMB MLR MLR
comp=Z,18µm,20.0s,MS6.8
SAO San Andreas Ge 128.81 40 *e*PKIKP PKPdf 15 47 34.9 +1.4
SAO MLR MLR
comp=Z,13µm,20.0s,MS6.6
BMN Battle Mountai 128.98 34 PFAKE
BMN LR LR 15 47 50.0 +16
comp=Z,15µm,20.0s,MS6.7
LKWY Lake 129.24 25 *e*PKIKP PKPdf 15 47 36.2 +1.9
LKWY MLR MLR
comp=Z,38µm,19.0s,MS7.1
LRV Little Rabbit 129.29 40 *e*PKPdf PKPdf 15 47 36.3 +1.9
FLWY Flagg Ranch 129.50 26 *e*PKPdf PKPdf 15 47 35.4 +0.6
IMW Indian Meadow 129.54 26 *e*PKPdf PKPdf 15 47 34.9 0.0
DCID1 Drake Creek 129.67 27 *e*PKPdf PKPdf 15 47 35.9 +0.8
NVAR Mina Array Bea 129.71 36 PKhKP 15 47 26.3
comp=Z,2.3nm,1.0s,baz=266,slow=4.3,SNR=4.5
NVAR PKP PKPdf 15 47 35.6 +0.4
comp=Z,40nm,0.9s,baz=239,slow=1.3,SNR=27
NVAR PP PP 15 49 42.7 -3.3
comp=Z,6.7nm,1.0s,baz=334,slow=6.0,SNR=2.4
MOOW Moose Ponds 129.75 26 *e*PKPdf PKPdf 15 47 35.8 +0.6
MNV Mina 129.79 36 *e*PKIKP PKPdf 15 47 36.2 +0.8
MNV MLR MLR
comp=Z,21µm,22.0s,MS6.8
ELK Elko 129.84 32 *e*PKIKP PKPdf 15 47 36.7 +1.3
ELK MLR MLR
comp=Z,17µm,20.0s
TPAW Teton Pass 129.86 26 *e*PKPdf PKPdf 15 47 36.4 +0.9
REDW Red Top Meadow 130.00 27 *e*PKPdf PKPdf 15 47 36.6 +0.9
PTRM Twissleman Ran 130.28 40 *e*PKPdf PKPdf 15 47 38.5 +2.2
HVU Hansel Valley 130.33 29 *e*PKIKP PKPdf 15 47 36.6 +0.2
AHID Auburn Hatcher 130.36 27 *e*PKPdf PKPdf 15 47 37.3 +0.9
AHID LR LR
comp=Z,34µm,20.0s,MS7.0
TPH Tonopah 130.58 36 *e*PKIKP PKPdf 15 47 37.6 +0.7
TPH MLR MLR
comp=Z,23µm,22.0s,MS6.8
SPUT South Promonto 130.84 29 *e*PKPdf PKPdf 15 47 37.6 +0.2
HWUT Hardware Ranch 131.04 28 *e*PKPdf PKPdf 15 47 38.9 +1.1
HWUT LR LR
comp=Z,30µm,20.0s,MS7.0
BW06 Boulder Array 131.05 26 PFAKE 15 47 50.0 +12
BW06 LR LR
comp=Z,35µm,22.0s,MS7.0
PDAR Pinedale Array 131.05 26 PKhKP 15 47 28.8
comp=Z,1.7nm,0.8s,baz=323,slow=2.2,SNR=5.1
PDAR PKP PKPdf 15 47 37.5 -0.2
comp=Z,21nm,0.8s,baz=117,slow=3.1,SNR=40
PDAR PP PP 15 49 53.4 -1.4
comp=Z,11nm,1.0s,baz=70,slow=3.9,SNR=3.1
ISA Isabella 131.38 39 PFAKE 15 47 50.0 +12
ISA LR LR
comp=Z,4µm,21.0s,MS6.1
TCUT Toone Canyon 131.50 29 PKPpre 15 47 29.2
DUG Dugway 131.50 31 PKIKP PKPdf 15 47 36.7 -1.9
DUG Dugway 131.50 31 *e*PKPdf PKPdf 15 47 39.2 +0.6
DUG LR LR
comp=Z,21µm,21.0s,MS6.8
NOQ North Oquirrh 131.50 30 *e*PKPdf PKPdf 15 47 39.2 +0.6
DAC Darwin (Calif) 131.54 38 *e*PKIKP PKPdf 15 47 39.6 +0.9
DAC Darwin (Calif) 131.54 38 *e*PKPpre 15 47 28.2
DAC *e*PKPdf PKPdf 15 47 39.6 +0.9
DAC LR LR
comp=Z,19µm,21.0s,MS6.8
TPNV Topopah Spring 131.91 36 PFAKE 15 47 50.0 +11
TPNV LR LR
comp=Z,35µm,21.0s,MS7.0
NLU North Lily Min 132.05 30 *e*PKPdf PKPdf 15 47 40.4 +0.8
RSSD Black Hills 132.09 20 PFAKE 15 47 50.0 +10
RSSD LR LR
comp=Z,16µm,20.0s,MS6.7
DAU Daniels Canyon 132.11 29 PKIKP PKPdf 15 47 39.2 -0.6
DAU Daniels Canyon 132.11 29 *e*PKPdf PKPdf 15 47 41.2 +1.5
SNCC San Nicolas Is 132.17 42 PFAKE 15 47 50.0 +10
SNCC LR LR
comp=Z,14µm,20.0s,MS6.7
MPU Maple Canyon 132.23 30 *e*PKPdf PKPdf 15 47 40.9 +0.9
MPU LR LR
comp=Z,8µm,19.0s,MS6.5
RWWY Rawlins 132.94 25 *e*PKPpre 15 47 28.8
RWWY *e*PKPdf PKPdf 15 47 41.2 -0.2
TMUT Trail Mountain 132.99 30 *e*PKPdf PKPdf 15 47 42.5 +1.1
MVU Marysvale 133.07 32 PFAKE 15 47 50.0 +8.4
MVU LR LR
comp=Z,21µm,19.0s,MS6.9
MSU Marysvale 133.08 32 *e*PKPpre 15 47 28.0
MSU *e*PKPdf PKPdf 15 47 43.5 +1.9
CCUT Cedar City 133.14 34 *e*PKPdf PKPdf 15 47 43.6 +1.9
SRU San Rafael 133.47 30 *e*PKHKP 15 47 28.4
SRU *e* 15 47 43.0
NEN Nelson 133.62 37 *e*PKPdf PKPdf 15 47 44.5 +1.9
CAM3 Guarapari 133.81 241 *e*P PKPdf 15 47 38.4 -4.6
CAM3 *i* 15 47 54.9
FRNY Flat Rock 134.49 351 *e*PKPdf PKPdf 15 47 44.0 -0.2
MSNY Massena 134.52 352 *e*PKPdf PKPdf 15 47 42.5 -1.8
CAM4 Nova Friburgo 134.95 238 *e*P PKPdf 15 47 41.5 -3.6
CAM4 *i* 15 47 47.4
CAM4 *i* 15 48 15.3
CAM4 *i* 15 50 15.4
SMCO Snowmass 135.10 27 *e*PKPpre 15 47 32.4
SMCO *e*PKPdf PKPdf 15 47 46.9 +1.5
ISCO Idaho Springs 135.18 25 PFAKE 15 48 00.0 +14
ISCO LR LR
comp=Z,30µm,20.0s,MS7.0
SADO Sadowa 135.18 356 PKhKP 15 47 36.1
comp=Z,5.8nm,0.7s,baz=297,slow=6.8,SNR=4.5
SADO PKP PKPdf 15 47 44.9 -0.6
comp=Z,54nm,0.8s,baz=353,slow=3.1,SNR=24
SADO PP PP 15 50 18.8 -2.4

comp=Z,36nm,1.1s,baz=28,slow=3.8,SNR=5.0
SADO Sadowa 135.18 356 PKP PKPdf 15 47 36.1 -9.4
SADO PKP PKPdf 15 47 44.9 -0.6
SADO PP PP 15 50 18.8 -2.4
MIV Mineville/With 135.22 350 *e*PKPdf PKPdf 15 47 45.9 +0.3
NCB Newcomb 135.43 351 *e*PKPdif 15 47 45.8
NCB LR LR
comp=Z,27µm,22.0s,MS6.9
WUAZ Wupatki 135.72 34 *e*PKPpre 15 47 36.3
WUAZ *e*PKPdf PKPdf 15 47 47.8 +1.3
WUAZ LR LR
comp=Z,18µm,21.0s,MS6.8
MVCO Mesa Verde 135.95 30 *e*PKPdf PKPdf 15 47 47.9 +1.0
HRV Harvard--Oak R 136.36 348 *e*PKIKP PKPdf 15 47 47.1 -0.6
HRV MLR MLR
comp=Z,19µm,19.0s,MS6.8
WES Weston 136.43 348 *e*PKIKP PKPdf 15 47 47.3 -0.5
WES MLR MLR
comp=Z,13µm,19.0s,MS6.7
QUA2 Belchertown 136.74 349 *e*PKPdf PKPdf 15 47 50.1 +1.7
BINY Binghamton 137.42 352 *e*PKPdif 15 47 49.5
TRQA Tornquist 137.62 205 *e*PKPdf PKPdf 15 47 49.8 -0.3
TRQA LR LR
comp=Z,31µm,21.0s,MS7.0
ERPA Erie 137.88 357 *e*PKPdf PKPdf 15 47 50.6 +0.1
ERPA LR LR
comp=Z,40µm,20.0s,MS7.2
PLCA Paso Flores 138.05 194 PKHKP 15 47 38.6
PLCA *e* 15 47 51.1
PLCA MLR MLR
comp=Z,36µm,22.0s
PAL Palisades 138.26 350 *e*PKIKP PKPdf 15 47 50.5 -0.7
LPA La Plata 138.27 211 *e*PKP PKPdf 15 47 50.0 -1.2
LPA *e*PP PP 15 50 37.0 -3.5
LPA *e*SKP 15 51 22.0
LPA SKIKP 15 51 29.0
LPA *e*PKS 15 51 35.0
LPA *e*SKKS SKKSac 15 57 28.0 -4.7
LPA
comp=Z,46µm,21.0s
CBKS Cedar Bluff 138.28 20 PKIKP PKPdf 15 47 48.1 -3.2
CBKS Cedar Bluff 138.28 20 PFAKE 15 48 00.0 +8.7
CBKS LR LR
comp=Z,34µm,20.0s,MS7.1
TUC Tucson 138.36 37 PKPdf 15 47 45.4
TUC PKPdf PKPdf 15 47 53.5 +2.1
TUC Tucson 138.36 37 PKIKP 15 47 45.6
TUC Tucson 138.36 37 *e*PKPpre 15 47 43.8
TUC LR LR
comp=Z,16µm,20.0s,MS6.7
CPNY Central Park 138.48 350 *e*PKPdf PKPdf 15 47 53.2 +1.6
ANMO Albuquerque 138.75 30 PKhKP 15 47 43.5
comp=Z,11nm,0.8s,baz=323,slow=3.7,SNR=9.3
ANMO PKP PKPdf 15 47 52.9 +0.8
comp=Z,51nm,1.0s,baz=248,slow=2.9,SNR=38
ANMO Albuquerque 138.75 30 PKP 15 47 43.5
ANMO *e*PKPdf PKPdf 15 47 53.0 +0.9
ANMO LR LR
comp=Z,24µm,19.0s,MS7.0
LAZ Ladron 138.83 31 *e*PKPpre 15 47 43.8
LAZ *e*PKPdf PKPdf 15 47 54.0 +1.7
KSU1 Kansas State U 139.00 16 *e*PKPpre 15 47 47.2
KSU1 *e*PKPdf PKPdf 15 47 52.6 0.0
LENM Lemitar 139.10 31 *e*PKPpre 15 47 44.1
LENM *e*PKPdf PKPdf 15 47 54.0 +1.2
LPM Los Pinos Moun 139.16 31 *e*PKPpre 15 47 44.7
LPM *e*PKPdf PKPdf 15 47 53.8 +0.9
SSPA Standing Stone 139.18 354 PFAKE 15 48 00.0 +7.1
SSPA LR LR
comp=Z,30µm,20.0s,MS7.0
BNM Barren Site 139.29 31 *e*PKPpre 15 47 44.2
BNM PKPdf PKPdf 15 47 53.8 +0.7
MVL Millersville 139.63 352 *e*PKPpre 15 47 47.5
MVL *e*PKPdf PKPdf 15 47 54.0 +0.3
ACSO Alum Creek Sta 139.84 0 *e*PKPpre 15 47 45.8
ACSO LR LR
comp=Z,16µm,20.0s,MS6.8
SDMD Soldier's Deli 140.28 353 *e*PKPdf PKPdf 15 47 55.0 +0.1
BLO Bloomington 140.76 4 PKIKP PKPdf 15 47 50.4 -5.4
SLM Saint Louis 140.85 9 *e*PKHKP 15 47 50.3
AMTX Amarillo 141.00 25 *e*PKPpre 15 47 50.0
AMTX LR LR
comp=Z,25µm,21.0s,MS6.9
CCM Cathedral Cave 141.24 11 PFAKE 15 48 10.0 +13
CCM LR LR
comp=Z,35µm,22.0s,MS7.1
CBN Corbin 141.53 353 *e*PKPpre 15 47 50.9
WCI Wyandotte Cave 141.72 4 *e*PKHKP 15 47 49.1
WCI MLR MLR
comp=Z,22µm,20.0s,MS6.9
USIN University of 141.85 6 *e*PKPdf PKPdf 15 47 50.2 -7.6
MNTX Cornudas Mount 141.86 32 *e*PKPpre 15 47 51.1
MNTX LR LR
comp=Z,22µm,20.0s,MS6.9
GDL2 Guadalupe Moun 141.99 30 *e*PKPpre 15 47 53.4
CLNB Carlsbad 142.18 30 *e*PKPpre 15 47 54.4
BDFB Brasilia 142.27 244 PKhKP 15 47 54.3
comp=Z,14nm,0.7s,baz=88,slow=3.7,SNR=11
BDFB PP PP 15 51 03.2 -1.9
comp=Z,14nm,0.8s,baz=159,slow=14,SNR=1.5
CCHI Chillan 142.34 194 *e*P PKPdf 15 47 53.9 -4.7
FWV Forest Hill 142.44 357 *e*PKPpre 15 47 54.4
BLA Blacksburg 142.79 357 PKIKP PKPdf 15 47 56.6 -2.8
BLA Blacksburg 142.79 357 *e*PKPpre 15 47 56.5
BLA LR LR
comp=Z,3µm,21.0s,MS6.0
ELN Prospectdale 142.79 357 *e*PKPpre 15 47 54.6
PARMO Parma 142.86 9 *e*PKPdf PKPdf 15 47 58.9 -0.6
UTMT University of 143.30 8 *e*PKPdf PKPdf 15 47 58.8 -1.5
GLAT Glass 143.31 9 PKPdf PKPdf 15 47 59.6 -0.8
BBSR BB Station 143.40 334 *e*PKPpre 15 47 56.8
BBSR LR LR
comp=Z,18µm,20.0s,MS6.8
TZTN Tazewell 143.52 1 *e*PKPpre 15 47 57.7
WVT Waverly 143.65 7 PFAKE 15 48 10.0 +9.1
WVT LR LR
comp=Z,40µm,20.0s,MS7.2
HALT Halls 143.66 9 *e*PKPpre 15 47 58.3
HBAR Harrisburg 143.78 11 *e*PKPpre 15 47 58.2
MIAR Mount Ida 144.10 15 PKIKP PKPdf 15 47 59.9 -1.8
MIAR Mount Ida 144.10 15 *e*PKPpre 15 48 00.0
MIAR LR LR
comp=Z,41µm,22.0s,MS7.2
LPIG La Paz 144.13 46 PKP PKPdf 15 48 01.5 -0.2
comp=Z,300nm,1.0s,baz=350,slow=1.2,SNR=41
LPIG La Paz 144.13 46 *i* P PKPdf 15 48 01.4 -0.4
CPUP Villa Florida 144.14 221 PKPdf PKPdf 15 48 00.1 -1.7
CPUP Villa Florida 144.14 221 PKP PKPdf 15 48 00.3 -1.5
comp=Z,194nm,0.7s,baz=100,slow=2.9,SNR=162
CPUP Villa Florida 144.14 221 *e*PKPdf PKPdf 15 47 59.6 -2.2
CPUP LR LR
comp=Z,5µm,22.0s,MS6.2
UALR University of 144.18 13 *e*PKP PKPdf 15 48 00.0 -1.8
MET Memphis--Engin 144.33 10 *e*PKPdf PKPdf 15 48 00.9 -1.2
LMEL Las Melosas 144.39 198⇓ *e*P PKPdf 15 48 00.8 -1.4
SWET Sewanee 144.74 4 *e*PKPpre 15 48 00.9
PLAL Pickwick Lake 144.75 7 *e*PKP PKPdf 15 48 00.7 -2.2
PLAL LR LR
comp=Z,26µm,19.0s,MS7.0
FCH Farellones 144.90 199⇓ *e*P PKPdf 15 48 03.1 0.0
CLCH Cerro Calan 144.92 198⇓ *e*P PKPdf 15 48 02.7 -0.4
SCR San Cristobal 144.96 197⇓ *i*P PKPdf 15 48 02.4 -0.8
OXF Oxford 145.02 9 *e*PKIKP PKPdf 15 48 02.1 -1.2
JCT Junction City 145.58 26 *e*PKP2 PKPab 15 48 04.8 0.0
JCT MLR MLR
comp=Z,23µm,20.0s,MS6.9
JSC Jenkinsville 145.75 358 *e*PKP2 PKPab 15 48 04.7 -0.7
NATX Nacogdoches 146.40 18 *e*PKPdf PKPdf 15 48 05.9 +0.3
NATX LR LR
comp=Z,27µm,21.0s,MS7.0
LRAL Lakeview Retre 146.80 6⇓ *e*PKPdf PKPdf 15 48 06.5 +0.2
LRAL LR LR
comp=Z,38µm,19.0s,MS7.2
NHSC New Hope 146.85 356 *e*PKPdf PKPdf 15 48 07.3 +0.9
MAIG Mazatlaan 147.44 43 *i* P PKPdf 15 48 08.4 +1.0
HKT Hockley 147.66 21 PKPdf PKPdf 15 48 08.8 +1.0
HKT Hockley 147.66 21 PFAKE 15 48 20.0 +12
HKT LR LR
comp=Z,35µm,20.0s,MS7.2
TLL Tololo Astrono 147.98 200⇓ *e*P PKPdf 15 48 08.6 +0.3
LCO Las Campanas 149.00 201⇓ *e*P PKPdf 15 48 11.0 +1.0
ZAIG Zacatecas 150.27 39 *i* P PKPdf 15 48 14.4 +2.5
CJM Chamela 150.82 47 *i* P PKPdf 15 48 13.4 +0.5

SFJM Santa Fe 151.58 43 *e*P PKPdf 15 48 16.0 +2.0
DWPF Disney 151.90 357 *e*PKPbc PKPbc 15 48 22.0 +1.0
DWPF LR LR
comp=Z,36µm,22.0s,MS7.1
CPB Codrington 152.78 311 *e*P PKPdf 15 48 23.4 +7.6
DEG La Desirade 152.97 308 *e*P PKPdf 15 48 17.3 +1.2
BPA Boggy Peak 153.16 310 *e*P PKPdf 15 48 17.6 +1.2
MRX Morelia 153.36 41 *e*P PKPdf 15 48 20.0 +3.4
MOIG Morelia 153.38 41 *i* P PKPdf 15 48 18.5 +1.8
STMA St. Maarten, A 153.46 314 *e*P PKPdf 15 48 18.2 +1.4
SKTB Turtle Beach 153.63 312 *e*P PKPdf 15 48 18.9 +1.8
NVRH Round Hill, Ne 153.64 312 *e*P PKPdf 15 48 19.2 +2.2
SKI Saint Kitts 153.65 312 *e*P PKPdf 15 48 18.4 +1.4
TBG Guadaloupe-3 153.70 308 *e*P PKPdf 15 48 16.0 -1.2
BBL Barber's Block 153.74 307 *e*P PKPdf 15 48 17.6 +0.4
LVC Limon Verde 153.82 210 PKP PKPdf 15 48 18.4 +1.1
baz=133,slow=3.9
LVC PKPbc PKPbc 15 48 27.5 +2.3
baz=123,slow=4.0
LVC PP PP 15 52 10.7 -1.8
comp=Z,18nm,1.1s,baz=166,slow=7.7,SNR=2.7
LVC Limon Verde 153.82 210 *e*PKPdf PKPdf 15 48 17.9 +0.6
LVC LR LR
comp=Z,19µm,20.0s,MS6.9
UNM Universidad Na 154.93 39 *e*PKIKP PKPdf 15 48 20.5 +1.7
YAIG Yautepec 155.34 39 *i* P PKPdf 15 48 20.4 +1.0
PLIG Platanillo 155.41 41 *i* P PKPdf 15 48 21.0 +1.5
PPM Popocatepetl 155.47 38 *i* PKIKP PKPdf 15 48 21.4 +1.8
SJG San Juan 155.52 319 PKPdf PKPdf 15 48 19.9 +0.3
SJG San Juan 155.52 319 PKP PKPdf 15 48 19.3 -0.3
comp=Z,7.5nm,0.3s,baz=13,slow=23,SNR=8.3
SJG PP PP 15 52 20.3 -1.7
comp=Z,11nm,0.2s,baz=294,slow=18,SNR=2.3
SJG San Juan 155.52 319 PKIKP PKPdf 15 48 19.3 -0.3
SJG 15 52 20.3
SJG pmax pmax
comp=Z,8.0nm,0.3s
SJG San Juan 155.52 319 *e*PKPdf PKPdf 15 48 20.0 +0.3
SJG LR LR
comp=Z,22µm,21.0s,MS7.0
GRHS Sauteurs 155.60 301 *e*P PKPdf 15 48 20.4 +0.7
CAIG El Cayaco 155.84 44 *i* P PKPdf 15 48 20.9 +0.8
TRN Trinidad (W) 156.10 297 *e*P PKPdf 15 48 23.4 +3.0
ACX Acapulco 156.20 44 *e*P PKPdf 15 48 23.0 +2.4
LVIG Laguna Verde 156.24 33 *i* P PKPdf 15 48 21.3 +0.7
MGV Manicaragua 157.73 353 *e*P PKPdf 15 48 24.6 +2.1
PNIG Pinotepa 157.75 42 *i* P PKPdf 15 48 23.9 +1.4
MOAC Moa 157.94 340 *e*P PKPdf 15 48 21.1 -1.7
HLGC Holguin 158.08 343 *e*P PKPdf 15 48 21.9 -1.0
MASC Masc 158.12 338 *e*P PKPdf 15 48 24.5 +1.5
OXX Oaxaca 158.14 38 *e*P PKPdf 15 48 26.5 +3.5
VHO Vista Hermosa 158.15 38 *i* P PKPdf 15 48 24.8 +1.8
CCCC Cccc 158.23 347 *e*P PKPdf 15 48 21.9 -1.2
LPAZ La Paz 158.31 221 PKPdf PKPdf 15 48 24.8 +1.6
LPAZ PP PP 15 52 36.8 -0.7
LPAZ La Paz 158.31 221 PKP PKPdf 15 48 24.6 +1.4
comp=Z,26nm,0.8s,baz=69,slow=2.4,SNR=72
LPAZ PP PP 15 52 36.8 -0.7
comp=Z,14nm,1.1s,baz=117,slow=7.8,SNR=4.3
LPAZ La Paz 158.31 221 PKP PKPdf 15 48 24.6 +1.4
LPAZ PP PP 15 52 36.8 -0.7
LPAZ LR LR
comp=Z,19µm,21.0s,MS6.9
SAML Samuel 158.50 245 PKPdf PKPdf 15 48 24.2 +0.7
SAML PKPab PKPab 15 49 00.3 +1.9
RCC Rio Carpintero 158.81 341 *e*P PKPdf 15 48 24.8 +1.0
LMGC Las Mercedes 159.13 344 *e*P PKPdf 15 48 27.2 +3.0
HUIG Huatulco 159.52 39 *i* P PKPdf 15 48 26.3 +1.7
CCIG Comitan 161.33 29 *i* P PKPdf 15 48 27.2 +0.6
SDV Santo Domingo 164.86 307 PKPdf PKPdf 15 48 30.1 +0.1
SDV Santo Domingo 164.86 307 PKP PKPdf 15 48 30.1 +0.1
comp=Z,21nm,1.0s,baz=174,slow=0.7,SNR=41
SDV PP PP 15 53 09.0 -3.5
comp=Z,38nm,1.1s,baz=324,slow=5.8,SNR=4.6
SDV Santo Domingo 164.86 307 *e*PKPdf PKPdf 15 48 30.2 +0.2
SDV LR LR
comp=Z,23µm,20.0s
NNA Nana 166.76 207 PFAKE 15 48 40.0 +8.4
NNA LR LR
comp=Z,30µm,21.0s
JTS JuntasAbangare 169.46 11 PKP PKPdf 15 48 32.1 -1.3
comp=Z,26nm,1.1s,baz=18,slow=2.3,SNR=9.7
JTS JuntasAbangare 169.46 11 PKP PKPdf 15 48 32.1 -1.3
JTS LR LR
comp=Z,32µm,20.0s
ROSC El Rosal 170.12 300 PKP PKPdf 15 48 35.0 +1.2
comp=Z,34nm,0.7s,baz=105,slow=3.6,SNR=62
ROSC PP PP 15 53 43.3 +3.9
comp=Z,14nm,0.3s,baz=106,slow=18,SNR=4.4
ATAH Atahualpa 171.82 213 PKP PKPdf 15 48 36.6 +2.0
comp=Z,32nm,1.1s,baz=328,slow=1.0,SNR=44
ATAH PP PP 15 53 50.0 +2.1
comp=Z,29nm,1.2s,baz=186,slow=7.2,SNR=3.6
PAYG Puerto Ayora 172.59 94 *e*PKPdf PKPdf 15 48 35.2 +0.2
PAYG LR LR
comp=Z,31µm,22.0s

ISCJB ***16*** *15:40:02.0±0.8, 53N±02×623E±0.1, h10km, mb4.3/8, Error ellipse: s-maj=30.4km s-min=19.3km az=32.6*
IDC ***16*** *15:40:02.2±1.0, 521N×6234E, h0km, mb4.3/6, mb1 4.5/6, mb1mx4.2/16, mbtmp4.3/6, Error ellipse: s-maj=37.9km s-min=24.6km az=23.0*
NEIC ***16*** *15:40:03.7±0.6, 525N×6231E, h10km, mb4.7/2, Error ellipse: s-maj=25.5km s-min=16.2km az=198.0*
ISC 16 15:40:04.3±0.8, 53N±02×623E±01, h10km, n8, σ0 56/8, mb4.3/8, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**25.84**	**256**	P		P		**15 45 35.5**	**-0.3**
	4.3nm,0.7s,mb4.1,baz=50,slow=15,SNR=4.2								
SONM	**Songino Array**	**56.63**	**34**	P		P		**15 49 46.5**	**-1.0**
	2.5nm,0.9s,mb4.2,baz=259,slow=5.6,SNR=3.0								
ESDC	**Sonseca Array**	**68.42**	**311**	P		P		**15 51 06.4**	**+0.1**
	0.3nm,0.3s,mb3.8,baz=82,slow=2.4,SNR=4.5								
ESLA	**Sonseca Array**	**68.42**	**311**	*e*P		P		**15 51 06.0**	**-0.3**
	4.6nm,1.3s,mb4.3								
ARCES	**ARCESS Array B**	**68.49**	**347**	P		P		**15 51 07.8**	**+1.1**
	2.8nm,0.8s,mb4.3,baz=98,slow=5.0,SNR=5.3								
WRA	**Warramunga Arr**	**75.06**	**112**	P		P		**15 51 46.2**	**0.0**
	4.9nm,0.8s,mb4.5,baz=292,slow=4.7,SNR=12								
WRAB	**Tennant Creek**	**75.07**	**112**	*e*P		P		**15 51 46.7**	**+0.4**
	12nm,0.8s,mb4.9								
ASAR	**Alice Springs**	**75.43**	**116**	P		P		**15 51 48.4**	**0.0**
	2.9nm,0.9s,mb4.2,baz=270,slow=4.9,SNR=8.8								

PRE 16 15:44:02.5±1.2, 2121S×3335E, h5km, ML4.5, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
POGA	**Pongola**	**6.33**	**194**	*e*P		Pn		15 45 36.3	-0.2
POGA				*e*S		Sn		15 46 46.2	-3.0
POGA				AML		AML		15 47 29.6	
	comp=Z,83nm,0.5s								
SLR	**Silverton**	**6.48**	**225**	*e*S		Sn		15 46 50.0	-2.7
SLR				AML		AML		15 47 30.6	
	comp=Z,114nm,0.6s								
LBTB	**Lobatse**	**8.08**	**241**	*e*P		Pn		15 46 02.5	+2.0
LBTB				*e*S		Sn		15 47 28.6	-3.6
LBTB				AML		AML		15 48 18.7	
	comp=Z,65nm,0.6s								
SUR	**Sutherland**	**15.77**	**223**	*e*P		Pn		15 47 47.8	+2.6
SUR				*e*S		Sn		15 50 32.9	-7.4

ISCJB ***16*** *15:46:14.3±0.7, 0.0N±0.1×97.1E±0.1, h30km, mb4.1/10, Error ellipse: s-maj=22.3km s-min=13.3km az=109.3*
IDC ***16*** *15:46:15.5±0.9, 0.20S×9681E, h30km±4km, mb4.0/9, mb1 4.1/9, mb1mx4.0/17, mbtmp4.1/9, Error ellipse: s-maj=41.7km s-min=16.5km az=48.0*
NEIC ***16*** *15:46:15.8±0.6, 0.02S×9700E, mb4.4/1, Error ellipse: s-maj=19.3km s-min=12.0km az=54.0*
ISC 16 15:46:16.8±0.7, 01N±01×971E±01, h32km, h32km±.7km: pP-P, n16, σ0 84/15, mb4.1/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.25**	**34**	Pn		**Pn**		**15 47 04.6**	**-1.0**
	1.3nm,0.3s,baz=203,slow=16,SNR=4.1								
PSI	**Prapat**	**3.25**	**34**	Pn		**Pn**		**15 47 04.6**	**-1.0**
WRA	**Warramunga Arr**	**41.55**	**121**	P		**P**		**15 54 01.3**	**0.0**
	3.8nm,0.8s,mb4.1,baz=301,slow=9.1,SNR=10.0								
WRAB	**Tennant Creek**	**41.56**	**121**	*e*P		**P**		**15 54 01.8**	**+0.5**
	7.4nm,0.8s,mb4.4								
ASAR	**Alice Springs**	**42.82**	**126**	P		**P**		**15 54 12.4**	**+0.8**
	0.8nm,0.8s,mb3.5,baz=295,slow=7.6,SNR=6.5								
SONM	**Songino Array**	**48.24**	**8**	P		**P**		**15 54 55.7**	**+1.3**
	1.2nm,0.7s,mb4.1,baz=190,slow=9.7,SNR=5.4								
SONM				pP		pP		15 55 04.9	+0.9
	2.5nm,0.9s,baz=196,slow=8.9,SNR=8.4								
MKAR	**Makanchi Array**	**48.29**	**346**	P		**P**		**15 54 55.9**	**+1.1**
	1.6nm,0.6s,mb4.2,baz=165,slow=9.5,SNR=9.0								
MKAR				pP		pP		15 55 04.5	+0.1
	2.5nm,0.6s,baz=162,slow=8.6,SNR=8.8								
MKAR	**Makanchi Array**	**48.29**	**346**	P		**P**		**15 54 55.9**	**+1.1**
MKAR				pP		pP		15 55 04.5	+0.1
STKA	**Stephens Creek**	**52.70**	**131**	P		**P**		**15 55 27.0**	**-1.2**
	4.6nm,0.8s,mb4.4,baz=324,slow=9.6,SNR=8.8								
STKA	**Stephens Creek**	**52.70**	**131**	*e*P		**P**		**15 55 26.9**	**-1.2**
BRTR	**Keskin Array B**	**69.78**	**313**	P		**P**		**15 57 22.9**	**-0.9**
	0.8nm,0.5s,mb3.9,baz=135,slow=6.8,SNR=4.7								
BRTR				pP		pP		15 57 32.8	-1.0
	1.1nm,0.7s,baz=144,slow=7.0,SNR=4.9								
AKASG	**Malin Array Be**	**76.07**	**323**	P		**P**		**15 58 00.2**	**-0.9**
	1.5nm,0.4s,mb4.2,baz=94,slow=5.0,SNR=8.6								
AKASG				pP		pP		15 58 09.9	-1.2
	2.0nm,0.5s,baz=91,slow=5.1,SNR=6.8								
AKASG	**Malin Array Be**	**76.07**	**323**	P		**P**		**15 58 00.2**	**-0.9**
AKASG				pP		pP		15 58 09.9	-1.2
MLR	**Muntele Rosu**	**76.80**	**317**	P		**P**		**15 58 05.5**	**+0.3**
	1.6nm,0.6s,mb4.2,baz=129,slow=10,SNR=3.5								
ARCES	**ARCESS Array B**	**83.54**	**340**	P		**P**		**15 58 41.6**	**+0.1**
	2.8nm,0.8s,mb4.4,baz=90,slow=5.0,SNR=8.3								
ARCES				pP		pP		15 58 51.2	-0.5
	1.0nm,0.4s,baz=87,slow=3.7,SNR=1.6								
CPUP	**Villa Florida**	**144.11**	**221**	PKP		PKPdf		16 05 47.7	-1.4
	0.6nm,0.4s,baz=85,slow=4.1,SNR=4.1								

LDG ***16*** *15:49:52.9±0.1, 4306N×047W, h2km, Md1.8/2, Error ellipse: s-maj=2.4km s-min=1.2km az=175.0*
CSEM ***16*** *15:49:53.0±0.1, 4307N×046W, h2km, ML2.1, Error ellipse: s-maj=2.3km s-min=1.1km az=175.0*
STR 16 15:49:52.4±0.2, 4301N×046W, h2km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.08**	**40**	Pg		Pg		15 49 54.2	+0.3
REYF				Sg		Sg		15 49 55.4	+0.4
ETSF	**Etsaut**	**0.13**	**213**	*e*Pg		Pg		15 49 56.5	+1.5
ETSF				*e*Sg		Sg		15 49 59.3	+2.6
	5.7nm,0.4s								
ETSF	**Etsaut**	**0.13**	**213**	*e*Pg		Pg		15 49 56.5	+1.5
ETSF				*e*Sg		Sg		15 49 59.3	+2.6
	2.8nm,0.4s								
ATE	**Arette**	**0.19**	**293**	Pg		Pg		15 49 56.2	+0.1
ATE				Sg		Sg		15 49 59.2	+0.6
SJPF	**Ste Jean**	**0.57**	**281**	*e*Sg		Sg		15 50 11.3	+0.6
	0.8nm,0.2s								
SJPF	**Ste Jean**	**0.57**	**281**	*e*Sg		Sg		15 50 11.3	+0.6
	0.4nm,0.2s								
EPF	**Esparros**	**0.59**	**88**	*e*Pg		Pg		15 50 04.2	+0.5
EPF				*e*Sg		Sg		15 50 12.2	+0.9
	1.4nm,0.2s								
EPF	**Esparros**	**0.59**	**88**	*e*Pg		Pg		15 50 04.2	+0.5
EPF				*e*Sg		Sg		15 50 12.2	+0.9
	0.7nm,0.2s								

IDC 16 15:54:53.7±2.3, 005N×9709E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.6/17, mbtmp3.6/5, ML3.0/1, Error ellipse: s-maj=67.4km s-min=26.7km az=66.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.29**	**34**	Pn		Pn		15 55 45.6	-0.8
	1.6nm,0.3s,baz=242,slow=9.3,SNR=3.8								
WRA	**Warramunga Arr**	**41.54**	**121**	P		P		16 02 43.9	+1.1
	1.6nm,0.8s,baz=300,slow=9.2,SNR=5.2								
ASAR	**Alice Springs**	**42.81**	**126**	P		P		16 02 53.0	-0.2
	0.3nm,0.7s,baz=294,slow=7.6,SNR=5.1								
MKAR	**Makanchi Array**	**48.32**	**346**	P		P		16 03 36.9	0.0
	0.4nm,0.5s,baz=146,slow=8.8,SNR=4.5								
STKA	**Stephens Creek**	**52.68**	**131**	P		P		16 04 09.9	+0.1
	1.9nm,0.7s,baz=255,slow=4.0,SNR=4.5								

IDC ***16*** *16:01:06.9±1.4, 008N×97.16E, h0km, mb4.1/7, mb1 4.2/8, mb1mx3.9/18, mbtmp4.0/8, ML3.3/1, MS5.0/1, Ms1 5.0/1, ms1mx3.5/27, Error ellipse: s-maj=50.3km s-min=18.5km az=59.0*
ISCJB ***16*** *16:01:10.5±1.0, 023N±0.10×974E±0.2, h33km, mb4.2/8, Error ellipse: s-maj=24.4km s-min=12.8km az=153.4*
NEIC ***16*** *16:01:11.8±0.8, 0.19N×9732E, h30km, mb4.7/1, Error ellipse: s-maj=18.7km s-min=9.8km az=75.0*
ISC 16 16:01:13.0±1.0, 026N±010×974E±02, h35km, n11, σ0 67/11, mb4.2/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.97**	**32**	Pn		**Pn**		**16 01 56.7**	**-0.9**
	3.5nm,0.3s,baz=179,slow=8.5,SNR=7.7								
PSI				LR		LR		16 03 17.5	
	comp=Z,20µm,18.9s,baz=98,slow=42								
PSI	**Prapat**	**2.97**	**32**	Pn		**Pn**		**16 01 56.7**	**-0.9**
KULM	**Kulim**	**5.98**	**33**	*e*P		**Pn**		**16 02 39.1**	**+0.1**
FITZ	**Fitzroy Crossi**	**33.26**	**125**	P		**P**		**16 07 46.8**	**0.0**
	3.9nm,0.8s,mb4.4,baz=340,slow=18,SNR=3.5								
WRA	**Warramunga Arr**	**41.41**	**121**	P		**P**		**16 08 56.4**	**+0.6**
	4.1nm,0.6s,mb4.2,baz=303,slow=8.9,SNR=24								
WRAB	**Tennant Creek**	**41.41**	**121**	*e*P		**P**		**16 08 56.4**	**+0.5**
	14nm,0.8s,mb4.7								
ASAR	**Alice Springs**	**42.71**	**126**	P		**P**		**16 09 06.2**	**-0.2**
	1.2nm,0.8s,mb3.7,baz=300,slow=7.7,SNR=10								
SONM	**Songino Array**	**48.03**	**8**	P		**P**		**16 09 49.9**	**+1.3**
	0.9nm,0.7s,mb3.9,baz=183,slow=8.3,SNR=3.2								
MKAR	**Makanchi Array**	**48.19**	**346**	P		**P**		**16 09 50.3**	**+0.4**
	2.0nm,0.6s,mb4.3,baz=168,slow=9.4,SNR=12								
STKA	**Stephens Creek**	**52.61**	**132**	P		**P**		**16 10 22.6**	**-0.8**
	4.0nm,0.6s,mb4.5,baz=297,slow=8.4,SNR=15								
AKASG	**Malin Array Be**	**76.10**	**323**	P		**P**		**16 12 56.1**	**-0.9**
	0.2nm,0.3s,mb3.6,baz=93,slow=5.1,SNR=2.0								

ISCJB ***16*** *16:02:22.9±1.3, 1347N±005×12068E±007, h8km±8km, mb4.2/3, Error ellipse: s-maj=12.1km s-min=8.6km az=29.0*
IDC ***16*** *16:02:22.9±1.4, 1346N×12069E, h0km, mb4.1/3, mb1 4.4/3, mb1mx3.7/17, mbtmp4.1/3, Error ellipse: s-maj=44.9km s-min=9.4km az=102.0*
MAN ***16*** *16:02:23.6, 1350N×12072E, h5km, mb3.5, ML4.7, MS1.8*
ISC 16 16:02:23.3±1.4, 1346N±005×12072E±007, h1km±9km, n14, σ0 86/17, mb4.1/3, 3C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.23**	**80**⇑	*e*P		**Pg**		**16 02 28.0**	**+0.3**
TGY	**Tagaytay City**	**0.67**	**18**	Pg		**Pg**		**16 02 36.1**	**-0.1**
	857nm,0.3s,baz=234,slow=2.3,SNR=84								
TGY				Lg				16 02 45.8	
	3µm,0.3s,baz=83,slow=15,SNR=29								
TGY	**Tagaytay City**	**0.67**	**18**⇑	*e*P		**Pg**		**16 02 36.7**	**+0.6**
TGY				*e*S		**Sg**		**16 02 45.9**	**+1.0**
LQP	**Lukban**	**1.02**	**51**	*e*P		**Pg**		**16 02 43.1**	**+0.1**
BOAC	**Boac**	**1.09**	**90**	*e*P		**Pg**		**16 02 42.6**	**-1.7**
BUSP	**Coron**	**1.54**	**199**	*e*P		**Pn**	

IDC ***16*** *16:08:18.8±1.6, 002S×9702E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.6/17, mbtmp3.7/6, ML2.8/1, Error ellipse: s-maj=49.1km s-min=22.7km az=56.0*
ISCJB ***16*** *16:08:22.4±1.2, 0.1N±0.1×972E±02, h33km, mb3.8/5, Error ellipse: s-maj=22.5km s-min=17.2km az=152.2*
NEIC ***16*** *16:08:23.6±1.1, 007N×97.10E, h30km, Error ellipse: s-maj=21.0km s-min=16.2km az=72.0*
ISC 16 16:08:24.8±1.2,01N±01×972E±02,h35km,n9,σ0§99/9, mb3.8/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.16**	**33**	Pn		**Pn**		**16 09 10.8**	**-1.3**
	1.0nm,0.3s,baz=219,slow=13,SNR=4.8								
KULM	**Kulim**	**6.17**	**34**	*e*Pn		**Pn**		**16 09 54.0**	**+0.5**
KKM	**Kota Kinabalu**	**19.88**	**72**	*e*P		**Pn**		**16 12 54.8**	**0.0**
WRA	**Warramunga Arr**	**41.49**	**121**	P		**P**		**16 16 07.8**	**-0.7**
	1.3nm,0.7s,mb3.7,baz=300,slow=8.9,SNR=6.4								
ASAR	**Alice Springs**	**42.77**	**126**	P		**P**		**16 16 19.6**	**+0.7**
	0.4nm,0.7s,mb3.3,baz=300,slow=7.9,SNR=4.6								
SONM	**Songino Array**	**48.17**	**8**	P		**P**		**16 17 02.8**	**+1.2**
	1.0nm,0.7s,mb4.0,baz=193,slow=9.4,SNR=7.7								
MKAR	**Makanchi Array**	**48.26**	**346**	P		**P**		**16 17 03.2**	**+1.0**
	1.5nm,0.5s,mb4.2,baz=158,slow=9.8,SNR=14								
MKAR	**Makanchi Array**	**48.26**	**346**	P		**P**		**16 17 03.2**	**+1.0**
AKASG	**Malin Array Be**	**76.09**	**323**	P		**P**		**16 20 07.2**	**-1.6**
	0.5nm,0.5s,mb3.7,baz=92,slow=4.9,SNR=4.2								

IDC ***16*** *16:10:24.0±0.4, 003S×9707E, h0km, mb4.7/27, mb1 4.8/28, mb1mx4.8/28, mbtmp4.7/28, ML4.0/1, Error ellipse: s-maj=15.2km s-min=10.1km az=32.0*
ISCJB ***16*** *16:10:24.8±1.7, 004S±004×97.12E±004, h16km±12km, mb5.1/111, Error ellipse: s-maj=8.0km s-min=5.6km az=61.4*
SZGRF ***16*** *16:10:26.1, 074N×9884E, h33km, mb4.9, Northern Sumatera, Indonesia*
MOS ***16*** *16:10:27.7±0.9, 006N×97.09E, h33km, mb5.4/44, Error ellipse: s-maj=9.9km s-min=4.9km az=118.3*
BJI ***16*** *16:10:28.4, 000N×97.10E, h28km, mB4.8, mb5.0, Ms5.5, Msz5.4*
NEIC ***16*** *16:10:28.5±1.9, 002S×97.12E, h29km±13km, mb5.1/50, Error ellipse: s-maj=6.2km s-min=3.6km az=222.0*
ISC 16 16:10:29.1±1.7,003S±004×9714E±004,h31km±12km, h30km±2.2km:pP-P,n292,σ0§93/284,mb5.1/111,31C-9D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**3.28**	**97**	P		**Pn**		**16 11 17.4**	**-0.9**
	2μm,1.0s								
PSI	**Prapat**	**3.33**	**32**	Pn		**Pn**		**16 11 17.1**	**-1.9**
	16nm,0.3s,baz=193,slow=8.9,SNR=42								
BSI	**Banda Aceh**	**5.79**	**341**	P		**Pn**		**16 11 47.2**	**-5.6**
	820nm,0.4s								
IPM	**Ipoh**	**5.92**	**41**	P		**Pn**		**16 11 55.1**	**+0.5**
KULM	**Kulim**	**6.34**	**33**	*e*P		**Pn**		**16 11 59.1**	**-1.2**
KGM	**Kluang**	**6.50**	**72**	P		**Pn**		**16 12 02.8**	**+0.3**
KSM	**Kuching**	**13.25**	**83**	*e*P		**Pn**		**16 13 34.8**	**-0.2**
KSM				*e*				16 13 46.5	
PALK	**Pallekele**	**17.93**	**294**	*e*P		**Pn**		**16 14 35.6**	**-0.3**
	47nm,0.8s								
CHTO	**Chiang Mai**	**18.81**	**5**	*e*P		**Pn**		**16 14 45.7**	**-0.9**
CHTO				pmax		pmax			
	comp=Z,27nm,1.0s								
CHTO	**Chiang Mai**	**18.81**	**5**	*e*P		**Pn**		**16 14 45.7**	**-0.9**
	comp=Z,27nm,1.0s								
KKM	**Kota Kinabalu**	**19.97**	**72**	P		**Pn**		**16 15 00.1**	**-0.4**
KKM	**Kota Kinabalu**	**19.97**	**72**	*e*P		**Pn**		**16 14 59.5**	**-1.0**
TSM	**Tawau**	**21.15**	**78**	P		**P**		**16 15 11.6**	**+0.1**
TRD	**Trivandrum**	**21.83**	**293**	*e*P		**P**		**16 15 19.0**	**+0.3**
TRD				AMb		AMB		16 15 25.9	
	comp=Z,154nm,1.1s,mb5.3								
VIS	**Vishakhapatnam**	**22.27**	**323**	*e*P		**P**		**16 15 23.2**	**-0.2**
VIS				AMb		AMB		16 15 27.1	
	comp=Z,194nm,1.1s,mb5.4								
VIS				*e*S		**S**		**16 19 27.6**	**+0.8**
QIZ	**Qiongzhong**	**22.67**	**33**	P		**P**		**16 15 28.1**	**+0.4**
QIZ	**Qiongzhong**	**22.67**	**33**	P		**P**		**16 15 26.7**	**-1.0**
PCI	**Palu**	**22.71**	**92**	P		**P**		**16 15 27.9**	**-0.2**
	comp=Z,76nm,1.8s,mb4.8								
HYB	**Hyderabad**	**25.21**	**314**	*i* P		**P**		**16 15 53.0**	**+1.1**
KMI	**Kunming**	**25.58**	**12**	P		**P**		**16 15 57.6**	**+2.3**
KMI				AP		pP		16 16 06.1	+1.8
KMI				AMB		AMB			
	comp=Z,22nm,1.5s,mb4.5								
MNGI	**Mangalore**	**25.61**	**301**	*e*P		**P**		**16 15 53.8**	**-1.7**
MNGI				AMb		AMB		16 16 06.7	
	comp=Z,46nm,0.8s,mb5.0								
SHL	**Shillong**	**25.95**	**349**	*e*P		**P**		**16 16 00.1**	**+1.5**
BOK	**Bokaro**	**26.08**	**336**	*e*P		**P**		**16 15 59.9**	**+0.1**
BOK				AMb		AMB		16 16 04.2	
	comp=Z,123nm,0.8s,mb5.5								
JIRN	**Jiri**	**29.47**	**340**	*e*P		**P**		**16 16 31.6**	**+1.5**
	comp=Z,65nm,0.7s,mb5.5								
PKI	**Pulchoki**	**29.66**	**339**	*e*P		**P**		**16 16 32.7**	**+0.9**
GUN	**Gumba**	**29.81**	**340**	*e*P		**P**		**16 16 34.4**	**+1.3**
	comp=Z,170nm,0.8s,mb5.8								
DMN	**Daman**	**29.81**	**338**	*e*P		**P**		**16 16 33.9**	**+0.8**
	comp=Z,55nm,0.8s,mb5.4								
KKN	**Kakani**	**29.91**	**339**	*e*P		**P**		**16 16 34.9**	**+0.9**
	comp=Z,89nm,0.8s,mb5.5								
KKN	**Kakani**	**29.91**	**339**	*e*P		**P**		**16 16 34.9**	**+0.9**
KKN				pmax		pmax			
	comp=Z,89nm,0.8s,mb5.5								
BHPL	**Bhopal**	**30.04**	**322**	*e*P		**P**		**16 16 33.8**	**-1.3**
BHPL				AMb		AMB		16 16 36.8	
	comp=Z,12nm,1.0s,mb4.6								
LSA	**Lhasa**	**30.11**	**350**	P		**P**		**16 16 37.0**	**+1.2**
LSA	**Lhasa**	**30.11**	**350**	*e*P		**P**		**16 16 36.8**	**+1.0**
LSA				pmax		pmax			
	comp=Z,89nm,1.3s,mb5.3								
LSA	**Lhasa**	**30.11**	**350**	*e*P		**P**		**16 16 36.8**	**+1.0**
	comp=Z,89nm,1.3s,mb5.3								
GKN	**Gorkha**	**30.34**	**338**	*e*P		**P**		**16 16 38.8**	**+1.0**
	comp=Z,87nm,0.7s,mb5.6								
MBWA	**Marble Bar**	**30.46**	**135**	P		**P**		**16 16 38.4**	**-0.5**
	comp=Z,11nm,0.8s,mb4.6								
KOLN	**Koldanda**	**30.54**	**336**	*e*P		**P**		**16 16 40.8**	**+1.2**
	comp=Z,116nm,0.7s,mb5.8								
AAI	**Ambon**	**31.24**	**97**	P		**P**		**16 16 45.6**	**-0.2**
	comp=Z,49nm,0.8s,mb5.4								
FITZ	**Fitzroy Crossi**	**33.27**	**124⇑**	*i* P		**P**		**16 17 03.6**	**0.0**
	comp=Z,14nm,0.8s,mb5.0								
FITZ	**Fitzroy Crossi**	**33.27**	**124**	P		**P**		**16 17 03.4**	**-0.2**
	comp=Z,9.3nm,0.8s,mb4.8,baz=305,slow=6.0,SNR=12								
SWI	**Sorong**	**34.12**	**91**	P		**P**		**16 17 08.9**	**-2.1**
	comp=Z,20nm,1.1s,mb5.0								
NDI	**New Delhi**	**34.33**	**328**	*e*P		**P**		**16 17 11.9**	**-0.8**
NDI				AMb		AMB		16 17 14.0	
	comp=Z,42nm,0.7s,mb5.5								
XAN	**Xi'an**	**35.65**	**17**	P		**P**		**16 17 23.4**	**-0.7**
XAN				AMB		AMB			
	comp=Z,20nm,0.7s,mb5.2								
SSE	**Sheshan**	**38.45**	**34**	P		**P**		**16 17 47.4**	**-0.5**
SSE				AMB		AMB			
	comp=Z,21nm,0.7s,mb5.0								
SSE				AMB		AMB			
	comp=Z,1μm,10.9s								
GTA	**Gaotai**	**39.33**	**3**	*e*P		**P**		**16 17 56.1**	**+0.8**
GTA				AP		pP		16 18 01.0	-3.5
GTA				AMB		AMB			
	comp=Z,13nm,1.0s,mb4.6								
JOW	**Kunigami**	**40.12**	**46**	P		**P**		**16 18 02.9**	**+1.0**
	comp=Z,23nm,0.9s,mb4.9,baz=191,slow=4.5,SNR=5.5								
WRA	**Warramunga Arr**	**41.45**	**121**	P		**P**		**16 18 13.0**	**+0.2**
	comp=Z,17nm,0.9s,mb4.7,baz=298,slow=9.1,SNR=48								
WRAB	**Tennant Creek**	**41.45**	**121**	P		**P**		**16 18 13.5**	**+0.6**
	comp=Z,139nm,0.9s,mb5.6,SNR=15								
WRAB	**Tennant Creek**	**41.45**	**121**	*e*P		**P**		**16 18 13.6**	**+0.7**
WRAB	**Tennant Creek**	**41.45**	**121**	*e*P		**P**		**16 18 13.5**	**+0.6**
	comp=Z,28nm,0.8s,mb4.9								
WB2	**Warramunga Arr**	**41.46**	**121**	*e*P		**P**		**16 18 13.0**	**+0.1**
ASAR	**Alice Springs**	**42.71**	**126**	P		**P**		**16 18 24.1**	**+1.0**
	comp=Z,8.6nm,0.7s,mb4.6,baz=300,slow=7.2,SNR=28								
HHC	**Hu-ho-hao-te**	**42.74**	**16**	*e*P		**P**		**16 18 25.9**	**+2.5**
HHC				AMB		AMB			
	comp=Z,45nm,1.3s,mb5.0								
HHC				AMB		AMB			
	comp=Z,11μm,14.8s								
WSAR	**Wadi Sarin**	**43.98**	**304**	P		**P**		**16 18 33.5**	**+0.2**
	comp=Z,15nm,1.0s,mb4.7,baz=112,slow=8.4,SNR=6.9								

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**44.47**	**350⇓**	*i* P		**P**		**16 18 37.6**	**+0.4**
WMQ					AP		pP	16 18 47.1	+0.5
WMQ					XP		sP	16 18 52.4	+2.0
WMQ					AMB		AMB		
	comp=Z,46nm,1.0s,mb5.2								
ULHL	**Ulahol**	**46.11**	**338**	P		**P**		**16 18 51.3**	**+1.0**
	SNR=18								
KZA	**Kyzart**	**46.33**	**337**	P		**P**		**16 18 53.2**	**+1.2**
	SNR=9.8								
UCH	**Uchtor**	**46.75**	**337**	P		**P**		**16 18 56.7**	**+1.4**
	SNR=23								
KS15	**Wonju Array Si**	**46.86**	**34**	*e*P		**P**		**16 18 56.7**	**+0.5**
TKM2	**Tokmak 2**	**46.93**	**338**	P		**P**		**16 18 57.9**	**+1.2**
	SNR=31								
TKM2	**Tokmak 2**	**46.93**	**338**	*i* P		**P**		**16 18 57.7**	**+1.0**
TKM2				pmax		pmax			
	comp=Z,51nm,1.1s,mb5.4								
TKM2	**Tokmak 2**	**46.93**	**338**	*i* P		**P**		**16 18 57.8**	**+1.1**
KBK	**Karagaybulak**	**46.94**	**338**	P		**P**		**16 18 58.5**	**+1.6**
	SNR=22								
AML	**Almayashu**	**46.99**	**336**	P		**P**		**16 18 58.6**	**+1.5**
	SNR=25								
AAK	**Ala-Archa**	**47.10**	**337**	P		**P**		**16 18 59.4**	**+1.3**
	SNR=7.1								
AAK	**Ala-Archa**	**47.10**	**337**	P		**P**		**16 18 58.5**	**+0.5**
	comp=Z,123nm,1.1s,mb5.8,SNR=5.6								
AAK	**Ala-Archa**	**47.10**	**337**	*e*P		**P**		**16 18 58.2**	**+0.2**
AAK				pmax		pmax			
	comp=Z,16nm,0.8s,mb5.0								
AAK	**Ala-Archa**	**47.10**	**337**	*e*P		**P**		**16 18 58.2**	**+0.1**
	comp=Z,16nm,0.8s,mb5.0								
FRU	**Bishkek**	**47.22**	**337**	*e*P		**P**		**16 19 00.0**	**+1.0**
FRU				*e*				16 19 17.0	
CHMS	**Chumysh**	**47.31**	**338**	P		**P**		**16 19 00.4**	**+0.8**
	SNR=5.8								
EKS2	**Erkin-Say**	**47.41**	**337**	P		**P**		**16 19 01.8**	**+1.4**
	SNR=16								
USP	**Ospenovka**	**47.64**	**338**	P		**P**		**16 19 03.1**	**+0.9**
	SNR=57								
SONM	**Songino Array**	**48.35**	**8**	P		**P**		**16 19 08.3**	**+0.6**
	comp=Z,10nm,1.0s,mb4.8,baz=193,slow=9.2,SNR=26								
SONM					PcP		PcP	16 20 33.7	-0.3
	comp=Z,2.9nm,0.8s,baz=189,slow=2.8,SNR=4.1								
SONM					PKKP			16 41 51.2	
	comp=Z,0.6nm,1.0s,baz=36,slow=2.8,SNR=4.1								
SONM	**Songino Array**	**48.35**	**8**	P		**P**		**16 19 08.3**	**+0.6**
SONM								16 20 33.7	
MKAR	**Makanchi Array**	**48.41**	**346**	P		**P**		**16 19 08.4**	**+0.2**
	comp=Z,40nm,0.7s,mb5.6,baz=155,slow=8.7,SNR=193								
KK31	**Karatay Array**	**49.13**	**334**	*i* P		**P**		**16 19 13.3**	**-0.4**
CN2	**Changchun**	**50.42**	**26**	*e*P		**P**		**16 19 23.9**	**+0.4**
CN2				AMB		AMB			
	comp=Z,20nm,1.0s,mb5.1								
ZAK	**Zakamensk**	**50.49**	**5**	*e*P		**P**		**16 19 21.9**	**-2.2**
ZAK				*e*				16 22 11.2	
ZAK				pmax		pmax			
	comp=Z,21nm,1.8s,mb4.9								
PMG	**Port Moresby**	**50.64**	**102**	P		**P**		**16 19 26.0**	**+0.8**
	comp=Z,23nm,0.8s,mb5.2,baz=326,slow=4.7,SNR=8.7								
PMG	**Port Moresby**	**50.64**	**102⇓**	*e*P		**P**		**16 19 26.4**	**+1.2**
MOY	**Mondy**	**51.61**	**3**	*e*P		**P**		**16 19 31.9**	**-0.6**
TLY	**Talaya**	**51.81**	**5**	*e*P		**P**		**16 19 35.3**	**+1.3**
TLY				pmax		pmax			
	comp=Z,17nm,0.8s,mb5.0								
TLY	**Talaya**	**51.81**	**5⇑**	*e*P		**P**		**16 19 34.7**	**+0.7**
CTA	**Charters Tower**	**52.02**	**116**	*e*P		**P**		**16 19 36.5**	**+1.0**
	comp=Z,10nm,0.9s,mb4.8								
CTA	**Charters Tower**	**52.02**	**116**	P		**P**		**16 19 36.6**	**+1.1**
	baz=265,slow=8.0								
CTA	**Charters Tower**	**52.02**	**116**	*e*P		**P**		**16 19 36.5**	**+1.0**
CTA				pmax		pmax			
	comp=Z,10.0nm,0.9s								
CTAO	**Charters Tower**	**52.02**	**116**	*e*P		**P**		**16 19 36.4**	**+0.9**
CTAO				pmax		pmax			
	comp=Z,14nm,0.8s,mb4.9								
CTAO	**Charters Tower**	**52.02**	**116**	*e*P		**P**		**16 19 36.4**	**+0.9**
	comp=Z,14nm,0.8s,mb5.0								
ABKT	**Ailbek**	**52.12**	**321**	P		**P**		**16 19 36.3**	**0.0**
	comp=Z,182nm,0.8s,mb6.1,SNR=12								
OPO	**Ambohidratompo**	**52.38**	**246**	P		**P**		**16 19 38.7**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=20,slow=13,SNR=5.2								
IRK	**Irkutsk**	**52.43**	**6**	*e*P		**P**		**16 19 39.0**	**+0.4**
IRK				pmax		pmax			
	comp=Z,39nm,2.0s,mb5.0								
STKA	**Stephens Creek**	**52.59**	**131**	*e*P		**P**		**16 19 38.9**	**-0.8**
	comp=Z,11nm,0.9s,mb4.8								
STKA	**Stephens Creek**	**52.59**	**131**	P		**P**		**16 19 39.3**	**-0.4**
	comp=Z,8.0nm,0.8s,mb4.7,baz=306,slow=6.8,SNR=17								
MJAR	**Matsushiro Arr**	**52.63**	**42**	P		**P**		**16 19 39.7**	**-0.4**
	comp=Z,4.6nm,0.7s,mb4.5,baz=222,slow=6.0,SNR=11								
KURK	**Kurchatov**	**52.96**	**345**	P		**P**		**16 19 42.1**	**-0.4**
	comp=Z,245nm,1.1s,mb6.0,SNR=26								
KURK	**Kurchatov**	**52.96**	**345**	*e*P		**P**		**16 19 42.5**	**0.0**
KURK				pmax		pmax			
	comp=Z,40nm,1.0s,mb5.3								
KURK	**Kurchatov**	**52.96**	**345**	*e*P		**P**		**16 19 42.5**	**0.0**
	comp=Z,40nm,1.0s,mb5.3								
MDJ	**Mudanjiang**	**52.96**	**29**	P		**P**		**16 19 43.8**	**+1.3**
MDJ				AMB		AMB			
	comp=Z,7.0nm,1.1s,mb4.5								
VLA	**Vladivostok**	**53.04**	**31⇓**	*e*P		**P**		**16 19 44.5**	**+1.4**
QRN	**Al-Qurain**	**55.02**	**306**	*e*P		**P**		**16 19 57.9**	**+0.3**
QRN				AMb		AMB		16 19 58.6	
	comp=Z,144nm,0.7s,mb6.1								
ATD	**Arta Tunnel**	**55.12**	**284**	P		**P**		**16 19 59.0**	**+0.7**
	comp=Z,7.0nm,0.8s,mb4.8,baz=263,slow=22,SNR=4.8								
KBD	**Kabd**	**55.37**	**306**	*e*P		**P**		**16 20 00.6**	**+0.5**
KBD				AMb		AMB		16 20 12.2	
	comp=Z,207nm,0.8s,mb6.2								
RDF	**Al-Radifah**	**55.39**	**306**	*e*P		**P**		**16 20 00.5**	**+0.3**
RDF				AMb		AMB		16 20 02.3	
	comp=Z,209nm,1.0s,mb6.1								
UMR	**Umm Al-Rimmam**	**55.49**	**307**	*e*P		**P**		**16 20 01.4**	**+0.4**
UMR				AMb		AMB		16 20 02.1	
	comp=Z,142nm,0.7s,mb6.1								
NAY	**Al-Naaiem**	**55.76**	**306**	*e*P		**P**		**16 20 03.1**	**+0.2**
NAY				AMb		AMB		16 20 03.8	
	comp=Z,78nm,0.8s,mb5.8								
NVS	**Novosibirsk**	**55.87**	**350**	*e*P		**P**		**16 20 02.0**	**-1.6**
NVS				*e*S		**S**		**16 27 47.7**	**-1.3**
NVS				pmax		pmax			
	comp=N,35nm,1.0s								
NVS				pmax		pmax			
	comp=E,31nm,1.0s								
NVS				pmax		pmax			
	comp=Z,52nm,1.0s,mb5.5								
NVS				smax					
	comp=N,29nm,1.8s								
NVS				smax					
	comp=E,34nm,1.8s								
MIB	**Mutribah**	**55.90**	**307**	*e*P		**P**		**16 20 04.3**	**+0.5**
MIB				AMb		AMB		16 20 05.9	
	comp=Z,244nm,0.8s								
KLR	**Kul'dur**	**57.37**	**26**	*e*P		**P**		**16 20 11.8**	**-2.5**
BRVK	**Borovoye**	**57.45**	**341**	P		**P**		**16 20 14.3**	**-0.5**
	comp=Z,121nm,0.8s,mb6.0,SNR=14								
BRVK	**Borovoye**	**57.45**	**341**	*e*P		**P**		**16 20 13.8**	**-1.0**
BRVK				pmax		pmax			
	comp=Z,20nm,1.1s,mb5.1								
BRVK	**Borovoye**	**57.45**	**341**	*e*P		**P**		**16 20 13.8**	**-1.1**
	comp=Z,20nm,1.1s,mb5.1								
ZRNK	**Zerenda**	**57.78**	**340**	*i* P		**P**		**16 20 16.0**	**-1.2**
ZRNK				pmax		pmax			
	comp=Z,17nm,1.0s,mb5.0								
ZRNK	**Zerenda**	**57.78**	**340**	*e*P		**P**		**16 20 15.8**	**-1.4**
	comp=Z,18nm,0.8s,mb5.2								
AB31	**Akbulak array**	**58.57**	**332⇑**	*e*P		**P**		**16 20 21.6**	**-1.1**
BOD	**Bodaibo**	**59.22**	**10**	*e*P		**P**		**16 20 26.3**	**-0.9**
BOD				*e*		pP		16 20 33.7	-3.2
BOD				pmax		pmax			
	comp=Z,15nm,0.8s,mb5.1								
ASAJ	**Asahikawa**	**59.67**	**36**	P		**P**		**16 20 30.9**	**+0.5**
	comp=Z,6.5nm,0.7s,mb4.8,baz=324,slow=4.7,SNR=4.6								
KMBO	**Kilima Mbogo**	**59.90**	**269**	P		**P**		**16 20 31.5**	**-0.4**
	comp=Z,4.7nm,0.8s,mb4.5,baz=52,slow=8.3,SNR=12								
KMBO	**Kilima Mbogo**	**59.90**	**269⇑**	*e*P		**P**		**16 20 32.7**	**+0.8**
KMBO	**Kilima Mbogo**	**59.90**	**269**	P		**P**		**16 20 31.5**	**-0.4**
AKTK	**Aktyubinsk**	**60.28**	**332**	P		**P**		**16 20 33.2**	**-1.3**
AKTO	**Aktyubinsk**	**60.28**	**332**	P		**P**		**16 20 33.2**	**-1.3**
	comp=Z,12nm,0.7s,mb5.0,baz=129,slow=7.3,SNR=33								
AKTO	**Aktyubinsk**	**60.28**	**332**	*i* P		**P**		**16 20 33.1**	**-1.4**
AKTO				pmax		pmax			
	comp=Z,4.0nm,1.0s,mb4.4								
YSS	**Yuzh-Sakhalins**	**61.39**	**34⇑**	*e*P		**P**		**16 20 44.2**	**+2.1**
YSS				*e*		pP		16 20 54.8	+3.1
YSS	**Yuzh-Sakhalins**	**61.39**	**34⇑**	*e*P		**P**		**16 20 42.6**	**+0.5**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GNI	**Garni**	**62.14**	**317**	P		**P**		**16 20 47.5**	**+0.5**
	comp=Z,12nm,0.6s,mb5.2,baz=33,slow=17,SNR=8.1								
ORR	**Orenburg**	**62.61**	**332**	*e*P		**P**		**16 20 48.0**	**-2.2**
ORR				pmax		pmax			
	comp=Z,40nm,1.6s,mb5.3								
HNR	**Honiara**	**63.19**	**100**	P		**P**		**16 20 55.2**	**+1.1**
	comp=Z,209nm,0.8s,baz=262,slow=2.1,SNR=24								
HNR	**Honiara**	**63.19**	**100**	*e*P		**P**		**16 20 55.3**	**+1.2**
HNR				pmax		pmax			
	comp=Z,140nm,0.8s,mb6.1								
HNR	**Honiara**	**63.19**	**100**	*e*P		**P**		**16 20 55.3**	**+1.2**
	comp=Z,140nm,0.8s,mb6.1								
ZEI	**Tsey**	**63.88**	**319**	*e*P		**P**		**16 20 58.9**	**+0.2**
ZEI				*e**PP		pP		16 21 08.4	0.0
ZEI				pmax		pmax			
	comp=Z,16nm,0.8s,mb5.1								
ARU	**Arti**	**64.29**	**337**	P		**P**		**16 21 00.4**	**-0.9**
	comp=Z,174nm,1.1s,mb6.0,SNR=8.0								
ARU	**Arti**	**64.29**	**337⇑**	*i* P		**P**		**16 21 00.2**	**-1.1**
ARU				*e*S		**S**		**16 29 37.9**	**+0.8**
ARU				*e*SS		SS		16 33 52.2	+5.3
ARU				pmax		pmax			
	comp=Z,34nm,1.2s,mb5.2								
ARU	**Arti**	**64.29**	**337⇓**	*e*P		**P**		**16 20 59.9**	**-1.4**
ASF	**Jabal al Asfar**	**65.13**	**306**	P		**P**		**16 21 07.3**	**+0.4**
	comp=Z,8.4nm,0.7s,mb4.9,baz=350,slow=3.9,SNR=13								
KIV	**Kislovodsk**	**65.20**	**320**	P		**P**		**16 21 07.8**	**+0.5**
	comp=Z,224nm,1.0s,mb6.2,SNR=5.9								
KIV	**Kislovodsk**	**65.20**	**320**	*e*P		**P**		**16 21 07.7**	**+0.4**
KIV				pmax		pmax			
	comp=Z,53nm,1.2s,mb5.5								
KIV	**Kislovodsk**	**65.20**	**320**	*e*P		**P**		**16 21 07.5**	**+0.2**
	comp=Z,46nm,1.1s,mb5.4								
GOF	**Gofitskoye**	**65.47**	**321**	*e*P		**P**		**16 21 07.8**	**-1.2**
MALT	**Malatya**	**65.91**	**313⇑**	*i* P		**P**		**16 21 13.1**	**+1.2**
MALT	**Malatya**	**65.91**	**313**	*e*P		**P**		**16 21 12.5**	**+0.6**
MALT				pmax		pmax			
	comp=Z,47nm,1.3s,mb5.4								
MALT	**Malatya**	**65.91**	**313**	*e*P		**P**		**16 21 12.5**	**+0.6**
	comp=Z,47nm,1.3s,mb5.4								
EIL	**Elat**	**66.06**	**303**	*e*P		**P**		**16 21 13.7**	**+0.9**
	comp=Z,298nm,0.7s								
MBAR	**Mbarara**	**66.41**	**269⇓**	*i* P		**P**		**16 21 15.2**	**+0.1**
MMAI	**Mount Meron Ar**	**66.58**	**306**	P		**P**		**16 21 15.8**	**-0.4**
	comp=Z,11nm,0.8s,mb5.0,baz=119,slow=7.8,SNR=10								
YAK	**Yakutsk**	**66.61**	**16**	*e*P		**P**		**16 21 16.1**	**-0.2**
YAK				pmax		pmax			
	comp=Z,32nm,0.8s,mb5.4								
YAK				pmax		pmax			
	comp=N,13nm,1.3s								
YAK				pmax		pmax			
	comp=E,12nm,1.3s								
YAK	**Yakutsk**	**66.61**	**16⇑**	*e*P		**P**		**16 21 15.6**	**-0.7**
SOC	**Sochi**	**66.99**	**318⇓**	*i* P		**P**		**16 21 17.3**	**-1.5**
SOC				*e*		pP		16 21 26.0	-2.6
SOC				pmax		pmax			
	comp=Z,35nm,0.7s,mb5.5								
SOC	**Sochi**	**66.99**	**318**	*i* P		**P**		**16 21 18.2**	**-0.6**
ANN	**Anapa**	**68.98**	**319**	*e*P		**P**		**16 21 29.5**	**-1.8**
ANN				pmax		pmax			

SBA Scott Base 85.74 169 *e*P **P** **16 23 06.2 +1.1**
SBA pmax pmax
comp=Z,47nm,2.0s,mb5.4
SBA Scott Base 85.74 169 *e*P **P** **16 23 06.2 +1.2**
comp=Z,47nm,2.0s,mb5.4
KHC Kasperske Hory 85.80 319 *e*P **P** **16 23 06.8 +1.5**
CLL Collm 86.35 321 *e*P **P** **16 23 08.0 -0.1**
comp=Z,11nm,1.3s,mb4.9
CLL Collm 86.35 321 *e*P **P** **16 23 08.0 -0.1**
CLL pmax pmax
comp=Z,11nm,1.3s,mb4.9
NKC Novy Kostel 86.62 320 *e*P **P** **16 23 10.3 +0.9**
MOX Moxa 87.18 321 *e*P **P** **16 23 12.0 -0.1**
comp=Z,20nm,1.8s,mb5.0
MOX Moxa 87.18 321 *e*P **P** **16 23 12.0 -0.1**
MOX pmax pmax
comp=Z,20nm,1.8s,mb5.0
GRA1 Grafenberg Arr 87.37 320 *e*P **P** **16 23 12.8 -0.3**
comp=Z,9.0nm,1.3s,mb4.8
GRF Grafenberg Arr 87.37 320 *e*P **P** **16 23 12.8 -0.3**
comp=Z,9.0nm,1.3s,mb4.8
GRF Grafenberg Arr 87.37 320 *e*P **P** **16 23 12.8 -0.3**
GRF pmax pmax
comp=Z,9.0nm,1.3s,mb4.8
GRF Grafenberg Arr 87.37 320 *e*P **P** **16 23 12.8 -0.3**
GRF pmax pmax
comp=Z,9.0nm,1.3s,mb4.8
NB2 NORSAR Subarra 88.04 331 P **P** **16 23 15.5 -0.8**
comp=Z,13nm,1.1s,mb5.1,baz=94,slow=4.8
NOA NORSAR Array B 88.04 331 P **P** **16 23 15.2 -1.1**
comp=Z,4.9nm,0.9s,mb4.7,baz=95,slow=4.8,SNR=8.0
PGF Pioggiola 88.65 312 *e*P **P** **16 23 18.8 -0.3**
comp=Z,31nm,1.4s,mb5.1
PGF Pioggiola 88.65 312 *e*P **P** **16 23 18.8 -0.3**
PGF pmax pmax
comp=Z,15nm,1.4s,mb5.1
PGF Pioggiola 88.65 312 *e*P **P** **16 23 18.8 -0.3**
PGF pmax pmax
comp=Z,15nm,1.4s,mb5.1
KONO Kongsberg 88.78 330⇑ *e*P **P** **16 23 19.8 +0.1**
KBS Kingsbay 89.10 349⇑ *e*P **P** **16 23 19.8 -1.4**
SBF Sospel 89.81 314 *e*P **P** **16 23 24.3 -0.3**
comp=Z,39nm,1.1s,mb5.3
SBF Sospel 89.81 314 *e*P **P** **16 23 24.3 -0.3**
SBF pmax pmax
comp=Z,19nm,1.1s,mb5.3
SBF Sospel 89.81 314 *e*P **P** **16 23 24.3 -0.3**
comp=Z,19nm,1.1s,mb5.3
MBDF Montbardon 90.28 315 *e*P **P** **16 23 25.9 -0.9**
LPG La Plagne 90.30 315 *e*P **P** **16 23 26.9 +0.1**
comp=Z,12nm,0.9s,mb4.9
LPG La Plagne 90.30 315 *e*P **P** **16 23 26.9 +0.1**
LPG pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
LPG La Plagne 90.30 315 *e*P **P** **16 23 26.9 +0.1**
comp=Z,5.8nm,0.9s,mb4.9
LPL La Plagne 90.31 315 *e*P **P** **16 23 26.9 0.0**
comp=Z,19nm,0.9s,mb5.1
LPL La Plagne 90.31 315 *e*P **P** **16 23 26.9 0.0**
LPL pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
LPL La Plagne 90.31 315 *e*P **P** **16 23 26.9 0.0**
comp=Z,9.5nm,0.9s,mb5.1
LMR La Mourre 90.48 313 *e*P **P** **16 23 27.5 -0.2**
comp=Z,56nm,1.4s,mb5.4
LMR La Mourre 90.48 313 *e*P **P** **16 23 27.5 -0.2**
LMR pmax pmax
comp=Z,28nm,1.4s,mb5.4
LMR La Mourre 90.48 313 *e*P **P** **16 23 27.5 -0.2**
comp=Z,28nm,1.4s,mb5.4
HAU Haudompre 90.56 318 *e*P **P** **16 23 28.5 +0.5**
comp=Z,38nm,1.3s,mb5.3
HAU Haudompre 90.56 318 *e*P **P** **16 23 28.5 +0.5**
HAU pmax pmax
comp=Z,19nm,1.3s,mb5.3
HAU Haudompre 90.56 318 *e*P **P** **16 23 28.5 +0.5**
comp=Z,19nm,1.3s,mb5.3
CABF La Chapelle 90.75 316 *e*P **P** **16 23 28.9 0.0**
comp=Z,25nm,1.0s,mb5.2
CABF La Chapelle 90.75 316 *e*P **P** **16 23 28.9 0.0**
CABF pmax pmax
comp=Z,12nm,1.0s,mb5.2
CABF La Chapelle 90.75 316 *e*P **P** **16 23 28.9 0.0**
comp=Z,12nm,1.0s,mb5.2
ORIF Oris-en-Rattie 90.92 315 *e*P **P** **16 23 29.7 0.0**
comp=Z,16nm,1.0s,mb5.0
ORIF Oris-en-Rattie 90.92 315 *e*P **P** **16 23 29.7 0.0**
ORIF pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
ORIF Oris-en-Rattie 90.92 315 *e*P **P** **16 23 29.7 0.0**
comp=Z,7.8nm,1.0s,mb5.0
SMRF Simiane la Rot 91.15 314 *e*P **P** **16 23 31.3 +0.5**
comp=Z,25nm,1.2s,mb5.1
SMRF Simiane la Rot 91.15 314 *e*P **P** **16 23 31.3 +0.5**
comp=Z,25nm,1.2s,mb5.4
GIVF Givet 91.52 320 *e*P **P** **16 23 32.3 -0.2**
VIVF Saint-Julien-l 91.78 315 *e*P **P** **16 23 33.5 -0.2**
comp=Z,22nm,1.2s,mb5.1
VIVF Saint-Julien-l 91.78 315 *e*P **P** **16 23 33.5 -0.2**
VIVF pmax pmax
comp=Z,11nm,1.2s,mb5.1
VIVF Saint-Julien-l 91.78 315 *e*P **P** **16 23 33.5 -0.2**
comp=Z,11nm,1.2s,mb5.1
BAIF Baives 91.91 320 *e*P **P** **16 23 34.4 +0.1**
comp=Z,29nm,1.1s,mb5.2
BAIF Baives 91.91 320 *e*P **P** **16 23 34.4 +0.1**
BAIF pmax pmax
comp=Z,15nm,1.1s,mb5.2
BAIF Baives 91.91 320 *e*P **P** **16 23 34.4 +0.1**
comp=Z,15nm,1.1s,mb5.2
LOR Lormes 92.26 317 *e*P **P** **16 23 35.6 -0.3**
comp=Z,29nm,1.2s,mb5.2
LOR Lormes 92.26 317 *e*P **P** **16 23 35.6 -0.3**
LOR pmax pmax
comp=Z,14nm,1.2s,mb5.2
LOR Lormes 92.26 317 *e*P **P** **16 23 35.6 -0.3**
comp=Z,14nm,1.2s,mb5.2
SMF Signal de Mont 92.30 316 *e*P **P** **16 23 35.6 -0.5**
comp=Z,25nm,1.1s,mb5.1
SMF Signal de Mont 92.30 316 *e*P **P** **16 23 35.6 -0.5**
SMF pmax pmax
comp=Z,12nm,1.1s,mb5.1
SMF Signal de Mont 92.30 316 *e*P **P** **16 23 35.6 -0.5**
comp=Z,12nm,1.1s,mb5.2
LASF Ste Croix 92.39 314 *e*P **P** **16 23 36.6 +0.1**
comp=Z,19nm,1.2s,mb5.0
SSF Saint Saulge 92.51 317 *e*P **P** **16 23 36.8 -0.3**
AVF Avril sur Loir 92.62 317 *e*P **P** **16 23 37.2 -0.4**
comp=Z,15nm,1.0s,mb5.1
AVF Avril sur Loir 92.62 317 *e*P **P** **16 23 37.2 -0.4**
AVF pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
AVF Avril sur Loir 92.62 317 *e*P **P** **16 23 37.2 -0.4**
comp=Z,7.4nm,1.0s,mb5.1
BGF Bois d'Agland 92.98 316 *e*P **P** **16 23 39.3 0.0**
comp=Z,19nm,1.0s,mb5.2
BGF Bois d'Agland 92.98 316 *e*P **P** **16 23 39.3 0.0**
BGF pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
BGF Bois d'Agland 92.98 316 *e*P **P** **16 23 39.3 0.0**
comp=Z,9.5nm,1.0s,mb5.2
TCF Toulx Ste Croi 93.44 316 *e*P **P** **16 23 41.3 -0.1**
MTLF Montolieu 93.61 313 *e*P **P** **16 23 42.2 0.0**
comp=Z,5.5nm,0.9s,mb4.7
MTLF Montolieu 93.61 313 *e*P **P** **16 23 42.2 0.0**
MTLF pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
MTLF Montolieu 93.61 313 *e*P **P** **16 23 42.2 0.0**
comp=Z,2.8nm,0.9s,mb4.7
RJF Les Rejaudoux 93.99 315 *e*P **P** **16 23 43.9 0.0**
TORD Torodi Ar. Bea 95.31 283 P **P** **16 23 50.0 0.0**
comp=Z,1.3nm,0.8s,mb4.4,baz=93,slow=5.3,SNR=7.4
ESDC Sonseca Array 98.57 310 PP PP 16 28 05.6 +0.1
comp=Z,0.3nm,0.3s,baz=90,slow=7.6,SNR=4.0
COLA College 100.42 23 *i* P Pdif 16 24 13.7 +0.7
YKA Yellowknife Ar 113.28 15 PP PP 16 29 52.4 -1.6
comp=Z,0.1nm,0.4s,baz=330,slow=8.0,SNR=3.0
ULM Lac du Bonnet 128.75 11 PKP PKPdf 16 29 32.8 -0.4
comp=Z,1.6nm,0.8s,baz=220,slow=2.8,SNR=4.0
NVAR Mina Array Bea 129.80 36 PKP PKPdf 16 29 35.7 +0.5
comp=Z,0.4nm,0.6s,baz=347,slow=1.1,SNR=4.0
NVAR SKPbc 16 32 57.0
comp=Z,0.7nm,0.9s,baz=302,slow=1.9,SNR=5.3
PDAR Pinedale Array 131.16 26 PKP PKPdf 16 29 37.6 -0.1
comp=Z,0.2nm,0.4s,baz=3.6,slow=7.2,SNR=3.3
PDAR SKPbc SKPbc 16 33 01.1 +0.9
comp=Z,1.1nm,0.9s,baz=315,slow=0.4,SNR=5.8
CPUP Villa Florida 144.06 221 PKP PKPdf 16 30 00.6 -0.9
comp=Z,1.5nm,0.4s,baz=88,slow=4.7,SNR=9.7
CPUP Villa Florida 144.06 221 *e*PKPdf PKPdf 16 30 00.2 -1.2
CFAA Coronel Fontan 145.63 202 PKPbc PKPbc 16 30 04.9 +0.5
comp=Z,0.8nm,0.7s,baz=160,slow=2.7,SNR=11
JCT Junction City 145.70 27 *e*PKP PKPdf 16 30 05.6 +1.3
JCT *e* 16 30 15.4

JMA 16 16:13:28.0±0.6,**3273N**×**14269E**,**h46**km,**M3.6,**
Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.45**	**280**	P	Pn	16 14 06.0	+0.6
JHO	**Hitachi**	**4.25**	**336**	P	Pn	16 14 31.5	+1.4
JAG	**Ashikaga**	**4.55**	**325**	P	Pn	16 14 36.5	+2.2
JFK	**Kawauchi**	**4.86**	**343**	P	Pn	16 14 40.6	+2.1
JFK				eS	Sn	16 15 31.8	-1.7
JFT	**Otama**	**5.15**	**339**	P	Pn	16 14 44.8	+2.3
JFT				eS	Sn	16 15 39.7	-1.0
JMM	**Marumori**	**5.35**	**344**	P	Pn	16 14 47.0	+1.7
JMM				eS	Sn	16 15 45.2	-0.5
CBIJ	**Chichi jima**	**5.63**	**185**	P	Pn	16 14 51.1	+2.0
JMK	**Ichinoseki**	**6.32**	**350**	P	Pn	16 15 00.5	+1.9
JOM	**Ohasama**	**6.82**	**351**	P	Pn	16 15 07.1	+1.6

JMA ***16*** *16:13:55.0±0.6,3254N×14255E,h29km,M3.6*
ISCJB ***16*** *16:13:57.8±0.8,3278N±004×14260E±007,h33km, mb3.5/2,Error ellipse: s-maj=8.5km s-min=6.1km az=142.5*
IDC ***16*** *16:13:58.3±3.0,3247N×142.14E,h0km,mb3.6/2, mb1 3.9/5,mb1mx3.6/20,mbtmp3.9/5,ML3.5/3,Error ellipse: s-maj=66.7km s-min=20.9km az=55.0*
ISC 16 16:13:59.9±0.7,**3277N**±004×**14258E**±007,**h35**km,**n19**,
σ1§**48**/28,**mb3.5/2,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.31**	**325**	eS	**Sn**	**16 15 02.8**	**+0.3**
JHJ2	**Mitsune**	**2.35**	**279**	eS	**Sn**	**16 15 02.4**	**-1.1**
JHJ	**Hachijo jima 2**	**2.38**	**279**	Pn	**Pn**	**16 14 33.9**	**-2.4**
	28nm,0.3s,baz=249,slow=23,SNR=8.2						
JHJ				Sn	**Sn**	**16 15 03.4**	**-0.9**
	38nm,0.3s,baz=68,slow=22,SNR=7.7						
BSO3	**Boso 3**	**2.66**	**320**	P	**Pn**	**16 14 40.5**	**+0.3**
JOD2	**Odawara 2**	**3.82**	**312**	eS	**Sn**	**16 15 41.1**	**+1.3**
JHU	**Hanno**	**4.11**	**319**	P	**Pn**	**16 15 02.3**	**+2.1**
JHO	**Hitachi**	**4.17**	**337**	P	**Pn**	**16 15 00.8**	**-0.2**
JHO				eS	**Sn**	**16 15 46.3**	**-2.3**
JYN	**Shimob**	**4.31**	**310**	eS	**Sn**	**16 15 53.6**	**+1.6**
JRY	**Ryogami san**	**4.44**	**318**	P	**Pn**	**16 15 06.3**	**+1.6**
JAG	**Ashikaga**	**4.47**	**326**	P	**Pn**	**16 15 06.9**	**+1.9**
JAG				eS	**Sn**	**16 15 56.4**	**+0.6**
JFK	**Kawauchi**	**4.79**	**344**	P	**Pn**	**16 15 08.9**	**-0.7**
JFK				eS	**Sn**	**16 16 01.5**	**-2.4**
JFT	**Otama**	**5.08**	**339**	P	**Pn**	**16 15 14.4**	**+0.9**
JFT				eS	**Sn**	**16 16 08.6**	**-2.3**
MJAR	**Matsushiro Arr**	**5.21**	**317**	Pn	**Pn**	**16 15 17.0**	**+1.7**
	0.7nm,0.3s,baz=49,slow=18,SNR=4.7						
JMM	**Marumori**	**5.29**	**344**	P	**Pn**	**16 15 16.7**	**+0.3**
JMM				eS	**Sn**	**16 16 13.0**	**-3.1**
CBIJ	**Chichi jima**	**5.66**	**184**	Pn	**Pn**	**16 15 20.2**	**-1.2**
	6.3nm,0.3s,baz=315,slow=20,SNR=6.4						
CBIJ				Sn	**Sn**	**16 16 22.1**	**-3.2**
	3.0nm,0.3s,baz=103,slow=18,SNR=2.3						
JMK	**Ichinoseki**	**6.27**	**350**	P	**Pn**	**16 15 31.1**	**+1.3**
JMK				eS	**Sn**	**16 16 36.0**	**-4.2**
JOM	**Ohasama**	**6.77**	**352**	P	**Pn**	**16 15 36.7**	**0.0**
JOM				eS	**Sn**	**16 16 50.9**	**-1.6**
WRA	**Warramunga Arr**	**53.00**	**190**	P	**P**	**16 23 14.1**	**+1.1**
	0.3nm,0.3s,mb3.6,baz=5.3,slow=7.5,SNR=6.6						
ASAR	**Alice Springs**	**56.73**	**190**	P	**P**	**16 23 41.2**	**+1.2**
	0.2nm,0.5s,mb3.4,baz=13,slow=6.6,SNR=4.8						

ISCJB ***16*** *16:17:06.5±0.7,3272N±004×14254E±007,h33km, mb3.7/3,Error ellipse: s-maj=8.6km s-min=5.5km az=139.3*
IDC ***16*** *16:17:07.2±2.5,3236N×142.14E,h0km,mb3.7/3, mb1 3.8/5,mb1mx3.6/18,mbtmp3.8/5,ML3.9/1,Error ellipse: s-maj=63.3km s-min=18.4km az=59.0*
JMA ***16*** *16:17:07.1±0.5,3285N×142.19E,h0km,M3.8*
ISC 16 16:17:09.2±0.7,**3271N**±005×**14247E**±007,**h35**km,**n28**,
σ1§**29**/37,**mb3.7/3,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.26**	**281**	P	**Pn**	**16 17 43.0**	**-1.1**
JHJ2				eS	**Sn**	**16 18 08.9**	**-1.9**
JHJ	**Hachijo jima 2**	**2.29**	**281**	Pn	**Pn**	**16 17 43.1**	**-1.4**
	29nm,0.3s,baz=246,slow=16,SNR=9.6						
JHJ				Sn	**Sn**	**16 18 11.6**	**+0.1**
	89nm,0.3s,baz=260,slow=23,SNR=11						
JIM2	**Oshima 3**	**3.22**	**309**	P	**Pn**	**16 17 57.5**	**+0.2**
JIM2				eS	**Sn**	**16 18 34.1**	**-0.4**
JOD2	**Odawara 2**	**3.79**	**313**	P	**Pn**	**16 18 05.5**	**+0.4**
JYT	**Yasato**	**3.98**	**332**	P	**Pn**	**16 18 07.5**	**-0.2**
JYT				eS	**Sn**	**16 18 52.2**	**-0.8**
JYN	**Shimob**	**4.28**	**312**	P	**Pn**	**16 18 13.5**	**+1.7**
JYN				eS	**Sn**	**16 19 02.8**	**+2.3**
JRY	**Ryogami san**	**4.42**	**319**	P	**Pn**	**16 18 14.5**	**+0.7**
JAG	**Ashikaga**	**4.46**	**327**	P	**Pn**	**16 18 14.5**	**+0.2**
JNY	**Yasuok**	**4.64**	**306**	P	**Pn**	**16 18 19.7**	**+2.9**
JSB	**Shiboa**	**4.73**	**334**	P	**Pn**	**16 18 18.8**	**+0.7**
JFK	**Kawauchi**	**4.82**	**345**	P	**Pn**	**16 18 17.1**	**-2.2**
JFK				eS	**Sn**	**16 19 08.3**	**-5.6**
JNG	**Nsakai**	**5.15**	**317**	P	**Pn**	**16 18 24.8**	**+1.0**
MJAR	**Matsushiro Arr**	**5.19**	**319**	Pn	**Pn**	**16 18 25.0**	**+0.8**
	1.2nm,0.3s,baz=163,slow=12,SNR=8.1						
MAT	**Matsushiro**	**5.19**	**319**	P	**Pn**	**16 18 25.4**	**+1.1**
MAT				S	**Sn**	**16 19 21.2**	**-1.7**
MAT	**Matsushiro**	**5.19**	**319**	P	**Pn**	**16 18 25.7**	**+1.4**
JMM	**Marumori**	**5.32**	**346**	P	**Pn**	**16 18 24.2**	**-1.9**
JMM				eS	**Sn**	**16 19 21.9**	**-4.3**
JHK	**Hiroka**	**5.34**	**329**	P	**Pn**	**16 18 27.2**	**+0.8**
CBIJ	**Chichi jima**	**5.60**	**183**	Pn	**Pn**	**16 18 27.6**	**-2.4**
	9.3nm,0.3s,baz=278,slow=21,SNR=10						
CBIJ				Sn	**Sn**	**16 19 28.1**	**-5.1**
	2.8nm,0.3s,baz=91,slow=22,SNR=3.0						
CBIJ	**Chichi jima**	**5.60**	**183**	P	**Pn**	**16 18 29.2**	**-0.8**
JYA	**Atsumi**	**6.28**	**340**	eS	**Sn**	**16 19 51.5**	**+1.7**
JMK	**Ichinoseki**	**6.31**	**351**	P	**Pn**	**16 18 38.1**	**-1.6**
JMK				eS	**Sn**	**16 19 45.2**	**-5.3**
JSD	**Sado**	**6.33**	**328**	P	**Pn**	**16 18 39.0**	**-0.9**
JOM	**Ohasama**	**6.81**	**352**	P	**Pn**	**16 18 46.2**	**-0.4**
PCI	**Palu**	**39.68**	**217**	P	**P**	**16 24 40.4**	**+2.5**
	247nm,1.8s						
MKAR	**Makanchi Array**	**47.24**	**306**	P	**P**	**16 25 43.1**	**+4.3**
	0.6nm,0.7s,mb3.7,baz=85,slow=7.4,SNR=4.2						
WRA	**Warramunga Arr**	**52.93**	**190**	P	**P**	**16 26 22.4**	**+0.5**
	1.5nm,0.6s,mb4.1,baz=7.8,slow=7.7,SNR=20						
ASAR	**Alice Springs**	**56.66**	**189**	P	**P**	**16 26 49.0**	**+0.1**
	0.2nm,0.4s,mb3.5,baz=10,slow=6.9,SNR=10						
YKA	**Yellowknife Ar**	**67.12**	**29**	pP	pP	16 28 11.2	+1.2
	0.3nm,0.8s,baz=292,slow=6.7,SNR=3.6						

BJI ***16*** *16:19:37.6,022S×97.10E,h30km,mB6.3,mb5.3,Ms5.8, Ms25.6*
ISCJB ***16*** *16:19:40.4±0.2,0.12N±003×97.21E±003,h31km, mb5.3/168,MS5.7/10,Error ellipse: s-maj=4.3km s-min=3.5km az=56.6*
MOS ***16*** *16:19:41.0±0.9,020N×97.17E,h33km,mb5.6/69,Error ellipse: s-maj=8.0km s-min=4.3km az=117.9*
NEIC ***16*** *16:19:42.3±0.1,0.12N×97.16E,mb5.3/78,Error ellipse: s-maj=4.6km s-min=3.2km az=38.0*
NEIC Felt [II] at Gunungsitoli. Felt at Banda Aceh, Sumatra.
IDC ***16*** *16:19:42.4±0.3,0.15N×97.17E,h33km±2km,mb4.9/33, mb1 4.9/34,mb1mx4.9/34,mbtmp5.1/34,ML3.8/1,MS4.7/1, Ms1 4.7/1,ms1mx3.3/19,Error ellipse: s-maj=10.0km s-min=8.2km az=39.0*
SZGRF ***16*** *16:19:46.0,006N×95.90E,h33km,mb5.3,Off west coast of northern Sumatera, Indonesia*
ISC 16 16:19:42.6±0.2,**011N**±003×**9719E**±003,**h33**km,
h33km±7km:**pP-P,n476,**σ0**94**/435,**mb5.3**/168,**MS5.7**/10,
39C-31D,Northern Sumatera

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

PSI Prapat 3.19 33 Pn **Pn** **16 20 28.9 -1.4**
13nm,0.3s,baz=194,slow=8.9,SNR=66
PSI LR LR 16 21 31.7
comp=Z,11μm,19.5s,baz=190,slow=36
PPI Padang Panjang 3.26 100 P **Pn** **16 20 30.3 -1.0**
2μm,0.8s
BSI Banda Aceh 5.67 341 P **Pn** **16 21 01.4 -3.1**
275nm,0.7s
KULM Kulim 6.20 34 *e*P **Pn** **16 21 11.1 -0.6**
SNG Songkhla 7.81 26 P **Pn** **16 21 32.0 -1.9**
802nm,0.8s
PKT Phuket 7.98 7 P **Pn** **16 21 34.5 -1.7**
NNT Nongplab 12.65 11 P **Pn** **16 22 39.3 -0.9**
BJII Banjamegara 14.51 121 P **Pn** **16 23 03.7 -1.8**
62nm,0.9s
NST Nakhon Sawan 15.74 11 P **Pn** **16 23 20.0 -1.7**
138nm,0.8s
UBT Ubonrachathani 16.91 27⇑P **Pn** **16 23 42.0 +5.3**
KKTK Khon Kaen 17.06 19 P **Pn** **16 23 38.0 -0.4**
PALK Pallekele 17.91 294 *e*P **Pn** **16 23 49.5 +0.4**
KMMI Kalianget 18.19 113 P **Pn** **16 23 50.9 -1.5**
190nm,1.6s
CHG Chiang Mai 18.67 5⇑P **Pn** **16 23 57.4 -0.9**
139nm,1.0s
CHTO Chiang Mai 18.67 5 *e*P **Pn** **16 23 56.8 -1.5**
CHTO pmax pmax
comp=Z,118nm,0.9s
CHTO Chiang Mai 18.67 5 *e*P **Pn** **16 23 56.8 -1.4**
comp=Z,118nm,0.9s
CHTO *e* 16 24 06.1
CHRT Chiangrai 19.80 7⇓P **Pn** **16 24 10.0 -1.9**
comp=Z,1μm,0.8s
KKM Kota Kinabalu 19.89 72⇓*e*P **Pn** **16 24 11.9 -0.9**
TRD Trivandrum 21.81 293 *e*P **P** **16 24 33.6 +1.7**
TRD AMb AMB 16 24 44.2
comp=Z,180nm,1.1s,mb5.4
VIS Vishakhapatnam 22.19 323 *e*P **P** **16 24 36.5 +0.6**
VIS AMb AMB 16 25 03.9
comp=Z,256nm,2.1s,mb5.3
QIZ Qiongzhong 22.53 33 P **P** **16 24 41.0 +1.4**
QIZ XP sP 16 24 50.9 -1.6
QIZ S **S** **16 28 42.3 -2.8**
QIZ AMB AMB
comp=Z,161nm,1.3s,mb5.3
HYB Hyderabad 25.14 314 *i* P **P** **16 25 05.0 +0.4**
HYB *e* pP 16 25 15.5 +1.5
KMI Kunming 25.44 12 P **P** **16 25 09.3 +2.0**
KMI AP pP 16 25 13.1 -3.6
KMI PP 16 25 50.8
KMI S **S** **16 29 34.8 +2.8**
KMI SS 16 30 39.9
KMI AMB AMB
comp=Z,91nm,1.1s,mb5.2
KMI AMB AMB
comp=Z,8μm,8.9s
KMI LR LR
comp=N,7μm,13.8s,MS5.5
KMI LR LR
comp=E,7μm,13.8s,MS5.5
KMI LR LR
comp=Z,6μm,16.4s,MS5.2
MNGI Mangalore 25.58 301 *e*P **P** **16 25 11.6 +3.0**
MNGI AMb AMB 16 25 22.6
comp=Z,84nm,1.7s,mb5.0
BUSP Coron 25.72 62 *e*P **P** **16 25 12.0 +2.2**
SHL Shillong 25.82 349 *e*P **P** **16 25 11.0 +0.2**
SHL *e*P 16 25 11.0
SHL *ex* x 16 29 48.0
BOK Bokaro 25.98 336 *e*P **P** **16 25 13.7 +1.6**
BOK AMb AMB 16 25 25.0
comp=Z,119nm,0.9s,mb5.4
TGY Tagaytay City 27.31 58 P **P** **16 25 23.4 -0.8**
comp=Z,82nm,0.3s,baz=72,slow=24,SNR=3.1
GYA Guiyang 27.74 18⇑*i*P **P** **16 25 28.0 0.0**
GYA XP sP 16 25 38.6 -2.9
GYA PP 16 26 17.3
GYA S **S** **16 30 08.8 +0.4**
GYA SS 16 31 28.9
GYA SCP ScP 16 32 23.4 +1.1
GYA AMB AMB
comp=Z,70nm,1.0s,mb5.2
GYA LR LR
comp=N,8μm,11.7s,MS5.6
GYA LR LR
comp=E,9μm,15.6s,MS5.6
GYA LR LR
comp=Z,9μm,12.0s,MS5.6
LLP Lapu-Lapu 28.50 68 *e*P **P** **16 25 35.2 +0.5**
BALP Baler 28.65 56 *e*P **P** **16 25 37.6 +1.5**
JIRN Jiri 29.36 340 *e*P **P** **16 25 43.6 +1.2**
comp=Z,123nm,1.0s,mb5.6
APYP Conner 29.51 52 *e*P **P** **16 25 43.3 -0.5**
PKI Pulchoki 29.55 338 *e*P **P** **16 25 45.0 +0.9**
GUN Gumba 29.70 339 *e*P **P** **16 25 46.5 +1.1**
DMN Daman 29.70 338 *e*P **P** **16 25 46.2 +0.8**
KKN Kakani 29.80 338 *e*P **P** **16 25 47.1 +0.8**
comp=Z,77nm,0.9s,mb5.4
KKN Kakani 29.80 338 *e*P **P** **16 25 47.1 +0.8**
KKN pmax pmax
comp=Z,77nm,0.9s,mb5.4
BHPL Bhopal 29.96 321 *e*P **P** **16 25 49.5 +1.8**
LSA Lhasa 29.98 349 P **P** **16 25 49.3 +1.4**
LSA Lhasa 29.98 349 *e*P **P** **16 25 49.4 +1.5**
LSA pmax pmax
comp=Z,100nm,1.0s,mb5.5
LSA Lhasa 29.98 349 *e*P **P** **16 25 49.4 +1.4**
comp=Z,100nm,1.0s,mb5.5
GKN Gorkha 30.23 338 *e*P **P** **16 25 50.9 +0.7**
KOLN Koldanda 30.44 336 *e*P **P** **16 25 52.9 +0.9**
comp=Z,193nm,1.1s,mb5.7
MBWA Marble Bar 30.53 135 *e*P **P** **16 25 53.2 +0.5**
comp=Z,13nm,1.1s,mb4.7
AAI Ambon 31.21 97 P **P** **16 25 58.1 -0.7**
comp=Z,114nm,1.6s,mb5.5
CD2 Chengdu 31.26 11 P **P** **16 25 58.6 -0.6**
QZH Quanzhou 32.22 38 P **P** **16 26 08.8 +1.1**
QZH *e*S **S** **16 31 19.8 +1.2**
QZH AMB AMB
comp=Z,110nm,0.7s,mb5.8
FITZ Fitzroy Crossi 33.31 124⇓*i*P **P** **16 26 17.2 0.0**
comp=Z,93nm,0.9s,mb5.7
FITZ Fitzroy Crossi 33.31 124 P **P** **16 26 17.2 0.0**
comp=Z,47nm,0.8s,mb5.5,baz=306,slow=6.7,SNR=53
LGTI Lohaghat 33.36 332 *e*P **P** **16 26 19.0 +1.4**
NACB Ninganchiao 33.65 43 *e*P **P** **16 26 21.0 +0.9**
YHNB Yeheng 33.83 42 *e*P **P** **16 26 22.8 +1.1**
SWI Sorong 34.09 92 P **P** **16 26 22.7 -1.2**
comp=Z,96nm,1.9s,mb5.4
TATO Taipei 34.11 42 *e*P **P** **16 26 24.6 +0.4**
comp=Z,237nm,1.4s,mb5.9
NDI New Delhi 34.24 328 *e*P **P** **16 26 26.8 +1.6**
NDI AMb AMB 16 26 30.6
comp=Z,41nm,1.1s,mb5.3
WHN Wuhan 34.38 27 P **P** **16 26 27.1 +0.6**
WHN AP pP 16 26 37.3 +1.2
XAN Xi'an 35.50 17 P **P** **16 26 36.0 -0.2**
XAN AMB AMB
comp=Z,110nm,1.3s,mb5.6
TLE Tual 35.95 100 P **P** **16 26 39.2 -0.8**
comp=Z,221nm,1.3s,mb5.9
LZH Lanzhou 36.33 9 *e*P **P** **16 26 44.1 +0.9**
LZH AP pP 16 26 52.3 -0.5
LZH XP sP 16 26 56.3 -0.5
LZH PP PP 16 28 09.3 +3.2
LZH eS **S** **16 32 23.0 +1.0**
LZH SS SS 16 34 52.0 -9.2
LZH AMB AMB
comp=Z,63nm,1.2s,mb5.4
LZH AMB AMB
comp=Z,350nm,4.9s
LZH LR LR
comp=E,5μm,13.2s
LZH LR LR
comp=Z,8μm,14.0s,MS5.6
KAKA Kakadu 37.21 111 *e*P **P** **16 26 49.1 -1.6**
comp=Z,16nm,0.6s,mb5.0
NJ2 Nanjing 37.80 31 *e*P **P** **16 26 57.0 +1.3**
NJ2 AP pP 16 27 04.8 -0.5
NJ2 XP sP 16 27 07.3 -2.0
NJ2 PP PP 16 28 27.3 +5.0
NJ2 S **S** **16 32 47.0 +2.6**
NJ2 XS sS 16 32 59.0 -1.2
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.0
NJ2 AMB AMB

comp=Z,2µm,8.3s
NJ2 LR LR
comp=N,14µm,13.7s,MS6.1
NJ2 LR LR
comp=E,16µm,17.4s,MS6.1
NJ2 LR LR
comp=Z,6µm,11.6s
NWAO Narrogin (SRO) 37.90 152 P **P 16 26 57.6 +1.0**
comp=Z,23nm,0.8s,mb5.0,baz=330,slow=9.4,SNR=13
NWAO pP pP 16 27 08.1 +1.9
comp=Z,20nm,0.8s,baz=324,slow=12,SNR=6.1
SSE Sheshan 38.31 34 P **P 16 27 01.0 +1.0**
SSE AMB AMB
comp=Z,50nm,1.1s,mb5.2
SSE AMB AMB
comp=Z,8µm,12.0s
GTA Gaotai 39.19 3 P **P 16 27 07.5 +0.1**
GTA AP pP 16 27 12.4 -4.6
GTA PP PP 16 28 42.1 +4.6
GTA PCP PcP 16 29 17.6 +1.4
GTA SCP ScP 16 33 05.3 +3.1
GTA PCS PcS 16 33 06.9 +0.9
GTA S **S** **16 33 07.9 +2.6**
GTA SS SS 16 35 54.8 -4.1
GTA SCS ScS 16 37 15.0 +1.2
GTA AMB AMB
comp=Z,33nm,1.1s,mb5.0
GTA AMB AMB
comp=Z,9µm,7.6s
GTA LR LR
comp=N,5µm,17.1s,MS5.6
GTA LR LR
comp=E,6µm,17.9s,MS5.6
GTA LR LR
comp=Z,10µm,17.1s,MS5.7
JOW Kunigami 40.00 46 P **P 16 27 14.8 +0.6**
comp=Z,25nm,0.8s,mb5.0,baz=277,slow=13,SNR=11
JOW pP pP 16 27 24.9 +1.1
comp=Z,49nm,0.8s,baz=230,slow=9.3,SNR=7.5
TIA Tai'an 40.41 25 *e*P **P 16 27 17.5 -0.1**
TIA AMB AMB
comp=Z,47nm,0.8s,mb5.3
WRA Warramunga Arr 41.48 121 P **P 16 27 25.9 -0.5**
comp=Z,99nm,0.8s,mb5.5,baz=299,slow=9.2,SNR=284
WRA PcP PcP 16 29 24.4 +0.8
comp=Z,7.0nm,0.8s,baz=320,slow=2.6,SNR=4.8
WRA S **S** **16 33 39.0 -0.6**
comp=Z,4.3nm,1.0s,baz=292,slow=16,SNR=4.6
WRAB Tennant Creek 41.48 121 P **P 16 27 26.0 -0.4**
comp=Z,959nm,0.8s,SNR=48
WRAB Tennant Creek 41.48 121 *e*P **P 16 27 26.7 +0.3**
WRAB pmax pmax
comp=Z,225nm,0.9s,mb5.8
WRAB Tennant Creek 41.48 121 *e*P **P 16 27 26.7 +0.3**
comp=Z,226nm,0.9s,mb5.8
WB2 Warramunga Arr 41.49 121⇓*i*P **P 16 27 26.4 0.0**
BTO Baotou 41.96 15 *e*P **P 16 27 29.1 -1.2**
FORT Forrest 42.46 139⇓*i*P **P 16 27 35.8 +1.5**
comp=Z,65nm,0.7s,mb5.4
HHC Hu-ho-hao-te 42.60 16⇓P **P 16 27 37.4 +1.9**
HHC XP sP 16 27 47.5 -1.7
HHC PP PP 16 29 19.6 +5.0
HHC PCP PcP 16 29 30.3 +3.0
HHC SCP ScP 16 33 15.8 +0.1
HHC PCS PcS 16 33 20.0 +0.6
HHC S **S** **16 34 00.3 +4.2**
HHC XS sS 16 34 12.3 +0.2
HHC SS SS 16 37 03.6 -3.1
HHC SCS ScS 16 37 33.6 -0.7
HHC AMB AMB
comp=Z,74nm,1.4s,mb5.2
HHC LR LR
comp=N,8µm,15.7s,MS5.8
HHC LR LR
comp=E,5µm,16.2s,MS5.8
HHC LR LR
comp=Z,6µm,15.5s,MS5.6
ASAR Alice Springs 42.76 126 P **P 16 27 36.9 +0.1**
comp=Z,0.9nm,0.7s,baz=297,slow=7.7,SNR=4.7
ASAR PP PP 16 29 17.9 +1.7
comp=Z,4.0nm,1.0s,baz=292,slow=9.9,SNR=2.0
ASAR PcP PcP 16 29 27.4 -0.5
comp=Z,7.2nm,0.9s,baz=299,slow=4.6,SNR=5.5
ASAR S **S** **16 34 00.8 +2.4**
comp=Z,2.2nm,1.1s,baz=297,slow=14,SNR=5.3
BJT Baijiatuau 43.33 21 *e*P **P 16 27 42.9 +1.5**
BJT *e* pP 16 27 52.8 +1.7
BJT pmax pmax
comp=Z,159nm,0.8s
BJT Baijiatuau 43.33 21 *e*P **P 16 27 42.9 +1.5**
comp=Z,159nm,0.8s,mb5.8
BJT *e* pP 16 27 52.8 +1.6
KSH Kashi 43.75 336 *e*P **P 16 27 44.1 -0.7**
KSH *e*AP pP 16 27 51.1 -3.5
KSH *e*XP sP 16 27 54.1 -4.4
KSH *e*PP PP 16 29 27.0 +0.1
KSH *e*PCP PcP 16 29 31.4 +0.2
KSH *e*SCP ScP 16 33 20.1 -0.2
KSH *e*PCS PcS 16 33 23.3 -0.8
KSH *e*S **S** **16 34 11.0 -2.0**
KSH *e*SS SS 16 37 19.3 -10
KSH *e*SCS ScS 16 37 40.0 -1.5
KSH AMB AMB
comp=Z,5µm,10.1s
KSH LR LR
comp=N,9µm,14.9s,MS6.0
KSH LR LR
comp=E,8µm,12.4s,MS6.0
KSH LR LR
comp=Z,6µm,12.9s,MS5.7
WSAR Wadi Sarin 43.94 304 P **P 16 27 47.4 +1.1**
comp=Z,14nm,1.2s,mb4.6,baz=123,slow=8.4,SNR=6.2
WSAR pP pP 16 27 57.8 +1.7
comp=Z,21nm,1.0s,baz=121,slow=6.4,SNR=6.2
WMQ Urumqi 44.34 350⇓*i*P **P 16 27 50.6 +1.1**
WMQ AP pP 16 27 55.1 -4.2
WMQ XP sP 16 27 57.9 -5.3
WMQ PCP PcP 16 29 34.8 +1.6
WMQ PP PP 16 29 35.6 +2.4
WMQ *e*S **S** **16 34 24.4 +2.9**
WMQ AMB AMB
comp=Z,84nm,1.2s,mb5.3
WMQ LR LR
comp=N,10µm,13.3s,MS5.9
WMQ LR LR
comp=E,6µm,15.6s,MS5.9
WMQ LR LR
comp=Z,6µm,12.5s,MS5.7
DL2 Dalian 44.64 27 P **P 16 27 53.1 +1.2**
DL2 AMB AMB
comp=Z,60nm,1.0s,mb5.4
JNU Nakatsue 45.63 41 P **P 16 28 00.4 +0.6**
comp=Z,76nm,0.9s,mb5.6,baz=142,slow=7.3,SNR=5.3
ULHL Ulahol 45.99 338 P **P 16 28 03.5 +0.8**
SNR=27
KZA Kyzart 46.23 337 P **P 16 28 05.8 +1.4**
SNR=16
UCH Uchtor 46.64 337 P **P 16 28 09.0 +1.2**
SNR=32
KS15 Wonju Array Si 46.72 34 *e*P **P 16 28 08.1 -0.3**
TKM2 Tokmak 2 46.82 338 P **P 16 28 10.2 +1.0**
SNR=34
TKM2 Tokmak 2 46.82 338 *i* P **P 16 28 10.1 +1.0**
KBK Karagaybulak 46.84 337 P **P 16 28 10.7 +1.4**
SNR=31
AML Almayashu 46.89 336 P **P 16 28 11.1 +1.4**
SNR=26
AAK Ala-Archa 46.99 337 P **P 16 28 10.8 +0.3**
SNR=8.3
AAK Ala-Archa 46.99 337 P **P 16 28 10.2 -0.3**
comp=Z,96nm,1.2s,mb5.6,SNR=6.8
AAK Ala-Archa 46.99 337⇓*e*P **P 16 28 10.6 +0.1**
AAK pmax pmax
comp=Z,66nm,2.5s,mb5.1
AAK Ala-Archa 46.99 337 *e*P **P 16 28 10.3 -0.2**
comp=Z,46nm,1.3s,mb5.2
FRU Bishkek 47.11 337⇓*e*P **P 16 28 12.0 +0.6**
FRU *e* pP 16 28 22.0 +0.8
FRU pmax pmax
comp=Z,250nm,2.5s,mb5.7
CHMS Chumysh 47.20 338 P **P 16 28 12.7 +0.6**
SNR=10
EKS2 Erkin-Say 47.30 336 P **P 16 28 14.1 +1.3**
SNR=20
USP Ospenovka 47.53 338 P **P 16 28 15.4 +0.8**
SNR=15

SNY Shenyang 47.88 27⇓P **P 16 28 17.5 +0.2**
SNY AP pP 16 28 27.3 +0.1
SNY AMB AMB
comp=Z,62nm,1.1s,mb5.5
SNY AMB AMB
comp=Z,1µm,3.5s
SNY LR LR
comp=N,5µm,16.3s
SNY LR LR
comp=Z,5µm,14.3s,MS5.6
SONM Songino Array 48.20 8 P **P 16 28 20.9 +1.0**
comp=Z,44nm,0.9s,mb5.5,baz=189,slow=8.7,SNR=264
SONM pP pP 16 28 30.4 +0.7
comp=Z,63nm,0.9s,baz=190,slow=9.5,SNR=29
SONM PcP PcP 16 29 47.2 +0.4
comp=Z,6.0nm,0.7s,baz=198,slow=3.7,SNR=4.1
MKAR Makanchi Array 48.29 346 P **P 16 28 20.9 +0.4**
comp=Z,58nm,0.9s,mb5.6,baz=158,slow=8.1,SNR=303
MKAR pP pP 16 28 30.8 +0.4
comp=Z,33nm,0.7s,baz=164,slow=8.2,SNR=15
KK31 Karatay Array 49.02 334 *i* P **P 16 28 26.0 -0.2**
CN2 Changchun 50.28 26 *e*P **P 16 28 35.6 -0.1**
CN2 AMB AMB
comp=Z,80nm,1.0s,mb5.7
PMG Port Moresby 50.63 102 P **P 16 28 38.8 +0.4**
comp=Z,86nm,0.7s,mb5.8,baz=290,slow=2.4,SNR=36
PMG Port Moresby 50.63 102 P **P 16 28 39.3 +0.9**
PMG pmax pmax
comp=Z,150nm,1.1s
PMG Port Moresby 50.63 102 *e*P **P 16 28 39.2 +0.8**
comp=Z,147nm,1.1s,mb5.8
CBIJ Chichi jima 50.86 54 P **P 16 28 40.1 +0.1**
comp=Z,107nm,0.8s,mb5.8,baz=243,slow=11,SNR=4.5
MOY Mondy 51.47 3 *e*P **P 16 28 45.7 +1.0**
MOY pmax pmax
comp=Z,97nm,2.6s,mb5.3
TLY Talaya 51.67 5 P **P 16 28 47.1 +0.9**
comp=Z,252nm,0.9s,mb6.2,SNR=17
TLY Talaya 51.67 5⇓*i*P **P 16 28 47.4 +1.2**
TLY pmax pmax
comp=Z,54nm,0.9s,mb5.5
TLY Talaya 51.67 5 *e*P **P 16 28 47.2 +1.0**
comp=Z,45nm,0.9s,mb5.4
TLY *e* pP 16 28 56.1 0.0
CTA Charters Tower 52.04 116 *e*P **P 16 28 49.0 +0.1**
comp=Z,66nm,0.9s,mb5.6
CTA Charters Tower 52.04 116 P **P 16 28 50.0 +1.0**
comp=Z,90nm,0.9s,mb5.7,baz=288,slow=9.4,SNR=38
CTA Charters Tower 52.04 116 *e*P **P 16 28 49.0 +0.1**
CTA pmax pmax
comp=Z,66nm,0.9s
ABKT Ailbek 52.04 321 P **P 16 28 48.5 -0.5**
comp=Z,80nm,0.9s,mb5.7,SNR=7.5
IRK Irkutsk 52.29 6 *e*P **P 16 28 51.2 +0.4**
IRK *e* pP 16 29 01.3 +0.6
IRK pmax pmax
comp=Z,130nm,1.9s,mb5.5
OPO Ambohidratompo 52.47 246 P **P 16 28 53.0 +0.8**
comp=Z,7.4nm,0.9s,mb4.6,baz=67,slow=7.6,SNR=12
OPO pP pP 16 29 02.4 +0.4
comp=Z,22nm,0.9s,baz=60,slow=6.9,SNR=17
MAT Matsushiro 52.50 42 P **P 16 28 51.8 -0.6**
MAT Matsushiro 52.50 42 *e*P **P 16 28 52.0 -0.4**
MAT pmax pmax
comp=Z,60nm,1.3s,mb5.4
MAT Matsushiro 52.50 42 *e*P **P 16 28 52.0 -0.4**
comp=Z,60nm,1.3s,mb5.4
MJAR Matsushiro Arr 52.50 42 P **P 16 28 52.2 -0.2**
comp=Z,26nm,0.9s,mb5.1,baz=223,slow=6.5,SNR=78
MJAR pP pP 16 29 01.4 -0.9
comp=Z,6.9nm,0.7s,baz=136,slow=29,SNR=12
STKA Stephens Creek 52.64 131⇓*i*P **P 16 28 52.5 -0.9**
comp=Z,74nm,0.8s,mb5.7
STKA Stephens Creek 52.64 131 P **P 16 28 52.6 -0.8**
comp=Z,119nm,1.0s,mb5.8,baz=306,slow=6.9,SNR=217
HIA Hailar 52.67 18 *e*P **P 16 28 54.0 +0.4**
HIA *e* pP 16 29 03.1 -0.5
HIA pmax pmax
comp=Z,72nm,0.9s
HIA Hailar 52.67 18 *e*P **P 16 28 54.0 +0.3**
comp=Z,72nm,0.9s,mb5.6
HIA *e* pP 16 29 03.1 -0.5
MDJ Mudanjiang 52.82 29 P **P 16 28 55.8 +1.1**
MDJ AMB AMB
comp=Z,24nm,0.9s,mb5.1
MDJ AMB AMB
comp=Z,9µm,12.6s
KURK Kurchatov 52.84 345 P **P 16 28 55.2 +0.3**
comp=Z,399nm,1.0s,mb6.3,SNR=49
KURK Kurchatov 52.84 345⇓*e*P **P 16 28 55.0 +0.1**
KURK pmax pmax
comp=Z,50nm,1.2s,mb5.3
KURK Kurchatov 52.84 345 *e*P **P 16 28 54.9 +0.1**
KURK *e* pP 16 29 04.9 +0.1
VLA Vladivostok 52.90 32⇓*e*P **P 16 28 55.7 +0.4**
CIT Chita 53.53 13 *e*P **P 16 29 01.0 +1.0**
CIT pmax pmax
comp=Z,237nm,2.6s,mb5.7
ATD Arta Tunnel 55.13 284 P **P 16 29 11.2 -0.3**
comp=Z,4.2nm,0.4s,mb4.9,baz=288,slow=20,SNR=2.8
KBD Kabd 55.32 306 *e*P **P 16 29 13.3 +0.3**
RDF Al-Radifah 55.35 306 *e*P **P 16 29 13.2 +0.1**
RDF AMb AMB 16 29 24.6
comp=Z,199nm,0.6s,mb6.3
UMR Umm Al-Rimmam 55.45 306 *e*P **P 16 29 14.0 +0.1**
UMR AMb AMB 16 29 25.3
comp=Z,162nm,0.6s,mb6.2
NAY Al-Naaiem 55.72 306 *e*P **P 16 29 15.9 0.0**
NAY AMb AMB 16 29 26.9
comp=Z,92nm,0.6s,mb6.0
NVS Novosibirsk 55.74 350⇓*i*P **P 16 29 14.5 -1.5**
NVS *e*S **S** **16 36 56.8 -3.6**
NVS pmax pmax
comp=N,87nm,1.0s
NVS pmax pmax
comp=E,58nm,1.0s
NVS pmax pmax
comp=Z,134nm,1.0s,mb5.9
NVS smax
comp=N,36nm,2.0s
NVS smax
comp=E,31nm,1.7s
MIB Mutribah 55.85 307 *e*P **P 16 29 17.1 +0.3**
MIB AMb AMB 16 29 28.3
comp=Z,260nm,0.7s,mb6.3
KLR Kul'dur 57.23 26⇑*i*P **P 16 29 24.0 -2.6**
KLR *e* pP 16 29 33.7 -2.9
KLR pmax pmax
comp=E,90nm,2.0s
KLR pmax pmax
comp=Z,280nm,2.0s,mb6.0
BRVK Borovoye 57.33 341 P **P 16 29 26.4 -0.9**
comp=Z,139nm,1.3s,mb5.8,SNR=16
BRVK Borovoye 57.33 341 *e*P **P 16 29 27.2 -0.1**
BRVK Borovoye 57.33 341 *e*P **P 16 29 26.0 -1.3**
ZRNK Zerenda 57.67 340 *e*P **P 16 29 28.7 -1.0**
ZRNK pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
ZRNK Zerenda 57.67 340 *e*P **P 16 29 28.2 -1.4**
comp=Z,6.2nm,1.2s,mb4.5
TOO Toolangi 58.17 136 *e*P **P 16 29 35.4 +2.2**
comp=Z,17nm,1.0s,mb5.0
TOO Toolangi 58.17 136 *e*P **P 16 29 35.4 +2.2**
TOO pmax pmax
comp=Z,17nm,1.0s,mb5.0
HABR Khabarovsk 58.21 29 *e*P **P 16 29 33.5 0.0**
HABR *e*S **S** **16 37 33.5 +0.5**
AB31 Akbulak array 58.47 332⇑*e*P **P 16 29 34.2 -1.1**
BOD Bodaibo 59.08 10⇑*i*P **P 16 29 39.2 -0.3**
BOD *e* pP 16 29 48.7 -0.9
BOD pmax pmax
comp=Z,52nm,1.3s,mb5.4
BOD pmax pmax
comp=Z,66nm,1.3s,mb5.5
BOD pmax pmax
comp=Z,53nm,1.3s,mb5.4
ASAJ Asahikawa 59.54 37 P **P 16 29 42.5 -0.1**
comp=Z,15nm,0.8s,mb5.1,baz=260,slow=7.2,SNR=15
ARMA Armidale 59.91 126⇓*i*P **P 16 29 47.9 +2.7**
KMBO Kilima Mbogo 59.94 269 P **P 16 29 46.5 +1.0**
comp=Z,3.2nm,0.9s,mb4.3,baz=50,slow=13,SNR=6.4
KMBO pP pP 16 29 55.8 +0.2
comp=Z,12nm,0.8s,baz=58,slow=9.0,SNR=14
CNB Canberra Magne 59.97 132 *e*P **P 16 29 46.8 +1.1**
comp=Z,48nm,1.4s,mb5.3
AKTK Aktyubinsk 60.18 332 P **P 16 29 45.8 -1.3**

AKTO Aktyubinsk 60.18 332 P **P 16 29 45.8 -1.3**
comp=Z,19nm,1.1s,mb5.0,baz=132,slow=5.9,SNR=27
AKTO Aktyubinsk 60.18 332 *i* P **P 16 29 45.5 -1.6**
AKTO pmax pmax
comp=Z,8.0nm,1.7s,mb4.5
CLNS Chul'man 60.78 17 *e*P **P 16 29 50.5 -0.7**
CLNS pmax pmax
comp=N,17nm,0.9s
CLNS pmax pmax
comp=Z,43nm,0.9s,mb5.6
CLNS pmax pmax
comp=E,20nm,1.0s
YSS Yuzh-Sakhalins 61.25 34⇓*i*P **P 16 29 55.0 +0.6**
YSS *e* pP 16 30 04.2 -0.3
YSS pmax pmax
comp=Z,100nm,1.0s,mb5.9
YSS pmax pmax
comp=Z,140nm,1.1s,mb6.0
YSS Yuzh-Sakhalins 61.25 34 *e*P **P 16 29 54.3 -0.1**
comp=Z,141nm,1.1s,mb6.0
YSS *e* pP 16 30 04.4 -0.1
GNI Garni 62.07 317 P **P 16 29 60.0 +0.1**
comp=Z,3.4nm,0.3s,mb4.9,baz=108,slow=13,SNR=8.5
GNI Garni 62.07 317 *de*P **P 16 30 00.1 +0.2**
GNI pmax pmax
comp=Z,60nm,1.7s
ORR Orenburg 62.51 332 *e*P **P 16 30 01.5 -1.3**
ORR pmax pmax
comp=Z,30nm,1.1s,mb5.3
HNR Honiara 63.17 101 P **P 16 30 07.7 +0.4**
comp=Z,625nm,0.8s,baz=252,slow=1.3,SNR=65
HNR Honiara 63.17 101 P **P 16 30 08.1 +0.8**
HNR pmax pmax
comp=Z,600nm,0.9s
HNR Honiara 63.17 101 *e*P **P 16 30 07.7 +0.5**
comp=Z,595nm,0.9s
ZEI Tsey 63.80 319 *e*P **P 16 30 11.5 +0.1**
ZEI *e* 16 32 32.4
ZEI pmax pmax
comp=Z,25nm,1.1s,mb5.2
ARU Arti 64.18 337⇑*i*P **P 16 30 12.5 -1.4**
ARU *e* 16 30 45.7
ARU *e* 16 32 32.0
ARU *e*S **S** **16 38 48.7 -0.2**
ARU *e*SS SS 16 43 03.6 +5.2
ARU pmax pmax
comp=Z,44nm,1.2s,mb5.4
ARU Arti 64.18 337⇓*i*P **P 16 30 12.7 -1.2**
ASF Jabal al Asfar 65.08 306 P **P 16 30 20.1 +0.3**
comp=Z,7.6nm,0.7s,mb4.8,baz=5.7,slow=3.7,SNR=12
ASF pP pP 16 30 30.8 +0.9
comp=Z,13nm,0.8s,baz=337,slow=4.5,SNR=8.8
KIV Kislovodsk 65.12 320 P **P 16 30 20.2 +0.1**
comp=Z,188nm,0.7s,mb6.2,SNR=5.4
KIV Kislovodsk 65.12 320 *e*P **P 16 30 19.4 -0.7**
GOF Gofitskoye 65.39 321 *e*P **P 16 30 21.4 -0.4**
MALT Malatya 65.85 313⇑*i*P **P 16 30 25.8 +1.0**
MALT Malatya 65.85 313 *e*P **P 16 30 24.4 -0.4**
MALT pmax pmax
comp=Z,21nm,0.8s,mb5.2
MALT Malatya 65.85 313 *e*P **P 16 30 24.3 -0.5**
comp=Z,21nm,0.8s,mb5.2
MBAR Mbarara 66.45 269⇓*e*P **P 16 30 28.0 -0.6**
YAK Yakutsk 66.47 16 *e*P **P 16 30 28.2 -0.5**
YAK pmax pmax
comp=Z,96nm,1.0s,mb5.8
YAK pmax pmax
comp=N,44nm,1.3s
YAK pmax pmax
comp=E,31nm,1.3s
YAK Yakutsk 66.47 16 *e*P **P 16 30 28.0 -0.7**
comp=E,238nm,1.0s,mb6.2
YAK *e* pP 16 30 37.4 -1.5
SOC Sochi 66.92 318⇓*i*P **P 16 30 29.7 -1.9**
SOC *e* pP 16 30 40.1 -1.7
SOC pmax pmax
comp=Z,39nm,1.0s,mb5.4
SOC Sochi 66.92 318 *i* P **P 16 30 31.0 -0.6**
CASY Casey 66.93 174⇑*i*P **P 16 30 32.0 +0.3**
CSS Prodhromos 68.72 308 *e*P **P 16 30 41.8 -1.1**
comp=Z,34nm,1.1s,mb5.2
ANN Anapa 68.90 319 *e*P **P 16 30 43.3 -0.8**
ANN pmax pmax
comp=Z,26nm,0.9s,mb5.2
VRHR Novokhopersk 69.02 326 *e*P **P 16 30 43.2 -1.6**
VRHR pmax pmax
comp=Z,40nm,0.9s,mb5.3
VRHR pmax pmax
comp=N,50nm,1.1s
VRHR pmax pmax
comp=E,40nm,1.1s
LSZ Lusaka 69.80 254 P **P 16 30 50.2 +0.6**
comp=E,3.0nm,0.6s,mb4.4,baz=98,slow=7.5,SNR=6.7
BR131 Keskin Array S 69.83 313 *e*P **P 16 30 48.9 -1.0**
comp=E,13nm,0.7s,mb5.0
BRTR Keskin Array B 69.83 313 P **P 16 30 48.9 -0.9**
comp=E,8.6nm,0.7s,mb4.8,baz=129,slow=7.2,SNR=48
BRTR pP pP 16 30 58.9 -1.2
comp=E,14nm,0.7s,baz=133,slow=7.0,SNR=23
VRSR Storozhevoye 70.44 326 *e*P **P 16 30 52.1 -1.5**
VRSR pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
VRSR pmax pmax
comp=N,2.0nm,0.8s
VRSR pmax pmax
comp=E,5.0nm,0.9s
VOR Voronezh 70.66 326 *e*P **P 16 30 53.0 -1.9**
VOR *e*PP pP 16 31 02.0 -3.1
VOR pmax pmax
comp=Z,100nm,1.7s,mb5.5
VOR pmax pmax
comp=N,70nm,1.5s
VOR pmax pmax
comp=E,70nm,1.5s
SKR Severo-Kuril's 70.75 35 *e*P **P 16 30 51.4 -4.0**
SKR *e* pP 16 31 01.9 -3.7
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.0
DZM Mont Dzumac 70.86 113 P **P 16 30 57.7 +1.6**
comp=Z,28nm,1.1s,mb5.1,baz=359,slow=9.9,SNR=4.3
SIM Simferopol' 71.16 318 *e*P **P 16 30 57.9 0.0**
SIM pmax pmax
comp=Z,39nm,1.0s,mb5.3
MAW Mawson 71.65 193 *e*P **P 16 31 01.3 +0.4**
comp=Z,9.0nm,1.0s,mb4.7
MAW Mawson 71.65 193 P **P 16 31 01.3 +0.4**
comp=Z,7.9nm,0.9s,mb4.7,baz=39,slow=11,SNR=6.6
MAW pP pP 16 31 11.4 +0.2
comp=Z,16nm,0.8s,baz=8.2,slow=6.6,SNR=12
MAW Mawson 71.65 193 *e*P **P 16 31 01.3 +0.4**
MAW pmax pmax
comp=Z,9.0nm,1.0s
ISP Isparta 71.67 310⇑*e*P **P 16 31 01.5 +0.5**
PET Petropavlovsk 73.14 34 *i* P **P 16 31 09.9 +0.1**
PET *e* pP 16 31 19.7 -0.3
PET pmax pmax
comp=Z,114nm,1.1s,mb5.7
PET Petropavlovsk 73.14 34 *e*Pr **P 16 31 09.8 0.0**
MOS Moscow 73.26 329 *e*P **P 16 31 07.7 -2.8**
MOS pmax pmax
comp=Z,106nm,1.3s,mb5.6
LBTB Lobatse 73.40 244 P **P 16 31 04.0 -7.3**
LBTB pmax pmax
comp=Z,470nm,0.6s
OBN Obninsk 73.53 329⇓*i*P **P 16 31 11.1 -1.0**
OBN *i* pP 16 31 21.6 -0.8
OBN pmax pmax
comp=Z,115nm,1.7s,mb5.5
OBN Obninsk 73.53 329 *e*Pr **P 16 31 11.2 -0.9**
TIXI Tiksi 74.26 10⇓*e*P **P 16 31 14.9 -1.4**
KLMR Klimovskoe 74.72 335 *e*P **P 16 31 17.9 -1.1**
KLMR pmax pmax
comp=Z,60nm,1.3s,mb5.4
TIRR Tirgusor 74.90 316⇑*i*P **P 16 31 19.7 -0.3**
TIRR Tirgusor 74.90 316 *e*P **P 16 31 19.1 -0.9**
HARR Harsova 75.29 316⇑*i*P **P 16 31 22.7 +0.4**
HARR Harsova 75.29 316 ⇑P **P 16 31 22.7 +0.5**
AKASG Malin Array Be 76.11 323 P **P 16 31 25.4 -1.6**
comp=Z,16nm,0.6s,mb5.1,baz=94,slow=5.0,SNR=77
AKASG pP pP 16 31 35.6 -1.7
comp=Z,24nm,0.6s,baz=92,slow=5.3,SNR=15
AKASG Malin Array Be 76.11 323 *i* P **P 16 31 25.7 -1.3**
AKASG pmax pmax
comp=Z,16nm,0.6s
AKASG Malin Array Be 76.11 323 P **P 16 31 25.4 -1.6**

AKASG pP pP 16 31 35.6 -1.7
VRI Vrincioaia 76.41 317⇑ iP P 16 31 29.2 +0.5
PLOR Plostina 76.45 317⇑ iP P 16 31 29.4 +0.5
MLR Muntele Rosu 76.85 317⇑ iP P 16 31 31.6 +0.4
MLR Muntele Rosu 76.85 317 ⇑P P 16 31 31.6 +0.5
BURAR Bucovina Array 77.83 319⇑ iP P 16 31 37.8 +1.1
BURAR Bucovina Array 77.83 319 ⇑P P 16 31 37.8 +1.1
VAY Valandovo 78.40 312 eP P 16 31 38.1 -1.8
RPZ Rata Peaks 78.45 135 P P 16 31 40.5 +0.4
comp=Z,15nm,0.6s,mb5.1,baz=261,slow=2.3,SNR=14
STIP Stip 78.75 312 eP P 16 31 39.9 -1.9
SYO Syowa Base 78.97 198⇑ eP P 16 31 46.6 +3.6
SYO Syowa Base 78.97 198⇑ epP pP 16 31 52.2 -1.1
LVV L'vov 79.10 321 eP P 16 31 43.1 -0.6
JOF Joensuu 79.12 335 ep P 16 31 40.6 -3.2
comp=Z,24nm,0.8s,mb5.2
BOLS Boljevac 79.29 315⇑ iP P 16 31 44.1 -0.6
DRGR 79.32 318⇑ iP P 16 31 45.5 +0.6
SKO Skopje 79.35 313 eP P 16 31 43.9 -1.2
OHR Ohrid 79.69 312 eP P 16 31 44.7 -2.1
VSU Vasula 79.78 330⇓ iP P 16 31 46.3 -1.1
LVZ Lovozero 79.85 340⇑ eP P 16 31 47.2 -0.5
LVZ pmax pmax
comp=N,8.0nm,0.9s
LVZ pmax pmax
comp=Z,22nm,0.9s,mb5.1
LVZ pmax pmax
comp=E,18nm,1.1s
BZS Buzias 79.85 316⇑ iP P 16 31 47.8 0.0
BZS Buzias 79.85 316 ⇑P P 16 31 47.8 +0.1
KWP Kalwaria 79.90 320 eP P 16 31 48.1 +0.1
KOLS Kolonicke sedl 80.03 320 eP P 16 31 49.4 +0.6
comp=E,13nm,1.0s,mb4.8
APA Apatity 80.14 340⇓ iP P 16 31 48.7 -0.6
APA pmax pmax
comp=Z,29nm,1.0s,mb5.2
APA MLR MLR
comp=Z,5μm,17.0s,MS5.9
GRUS Gruza 80.19 314⇑ iP P 16 31 48.6 -1.0
SUW Suwalki 80.55 325 eP P 16 31 50.8 -0.7
CRVS Cervenica-Dubn 80.55 320 eP P 16 31 53.6 +2.0
comp=Z,14nm,1.4s,mb4.7
DIVS Divcibare 80.74 315⇑ iP P 16 31 51.8 -0.8
KIW Kapiti Island 80.79 131 P P 16 31 51.3 -1.5
STHS Stebnicka Huta 80.79 320 iP P 16 31 53.0 +0.2
comp=Z,15nm,0.8s,mb5.0
CAW Cannon Point 80.94 132 P P 16 31 53.9 +0.3
KAF Kangasniemi 81.05 333 ep P 16 31 52.0 -2.2
comp=Z,30nm,0.6s,mb5.4,baz=103,slow=4.9
KAF Kangasniemi 81.05 333 eP P 16 31 52.0 -2.2
KAF pmax pmax
comp=Z,31nm,0.6s,mb5.4
KECS Kecovo 81.11 319 iP P 16 31 54.3 -0.2
comp=Z,6.5nm,1.0s,mb4.5
BBLS Bajina Basta - 81.12 314⇑ iP P 16 31 54.7 +0.1
MSWZ Moikau Station 81.12 132 P P 16 31 58.6 +4.0
PSZ Piszkesteto 81.41 318 P P 16 31 56.3 +0.2
OJC Ojcow 81.85 321 eP P 16 31 58.3 -0.2
BILL Bilibino 82.18 21⇓ eP P 16 31 58.9 -1.3
TIP Timpagrande 82.51 309 eP P 16 32 02.2 +0.3
OKC Ostrava-Krasne 82.85 320 eP P 16 32 03.6 0.0
KEV Kevo 83.12 341 ep P 16 31 58.6 -6.5
comp=Z,18nm,1.0s,mb5.0
KEV Kevo 83.12 341 eP P 16 31 58.6 -6.5
KEV pmax pmax
comp=Z,18nm,1.0s,mb5.1
PTRP Pietrapertosa 83.18 311 P P 16 32 04.5 -0.8
MORC Moravsky Berou 83.22 320⇑ iP P 16 32 06.1 +0.5
MORC Moravsky Berou 83.22 320 ⇑P P 16 32 06.1 +0.5
ZST Bratislava 83.30 318 eP P 16 32 05.9 -0.1
comp=Z,21nm,1.1s,mb5.1
ARCES ARCESS Array B 83.55 340 P P 16 32 07.0 -0.3
comp=Z,17nm,0.8s,mb5.2,baz=99,slow=5.0,SNR=41
SGO Sicignano 83.75 311 P P 16 32 08.3 0.0
SGO pmax pmax
comp=Z,2.0nm,0.5s,mb4.5
SGO Sicignano 83.75 311 P P 16 32 08.3 0.0
comp=Z,2.1nm,0.5s,mb4.5
DPC Dobruska-Polom 84.08 321 eP P 16 32 10.2 +0.2
KSP Ksiaz 84.16 321 eP P 16 32 11.3 +0.9
KSP Ksiaz 84.16 321 eP P 16 32 10.8 +0.4
ARSA Arzberg 84.25 317⇑ iP P 16 32 11.2 +0.3
comp=Z,26nm,1.6s,mb5.1,SNR=7.8
BOJS Bojanci 84.26 316 eP P 16 32 10.8 -0.1
BOJS epP pP 16 32 14.3 -7.1
BOJS i PcP PcP 16 32 20.9 +6.3
UPC Upice 84.30 321 eP P 16 32 11.6 +0.5
VISS Visnje 84.58 316 iP P 16 32 12.3 -0.2
VNDA Vanda 84.77 169 P P 16 32 12.9 -0.5
comp=Z,8.7nm,1.2s,mb4.8,baz=296,slow=4.2,SNR=11
OBKA Obir 84.84 317⇑ iP P 16 32 14.3 +0.4
comp=Z,15nm,1.4s,mb4.9
MOA Molln 85.16 318 iP P 16 32 15.3 -0.1
comp=Z,15nm,1.8s,mb4.8,SNR=5.4
PRU Pruhonice 85.18 320 eP P 16 32 15.7 +0.2
VOY Vojsko 85.26 316 eP P 16 32 15.4 -0.5
VOY e pP 16 32 25.2 -1.1
VOY e 16 32 41.2
AQU L'Aquila 85.33 312 P P 16 32 16.8 +0.6
AQU pmax pmax
comp=Z,27nm,0.9s,mb5.4
AQU L'Aquila 85.33 312 eP P 16 32 16.5 +0.3
comp=Z,27nm,0.8s,mb5.4
NRCA Norcia 85.57 313 P P 16 32 17.6 +0.1
comp=Z,11nm,1.3s,mb4.9
GEC2 GERESS Array S 85.62 319 eP P 16 32 17.6 -0.1
comp=Z,62nm,1.6s,mb5.6
GEC2 GERESS Array S 85.62 319 eP P 16 32 17.6 -0.1
GEC2 pmax pmax
comp=Z,62nm,1.6s,mb5.6
GERES GERESS Array B 85.62 319 P P 16 32 17.8 +0.1
comp=Z,6.2nm,1.0s,mb4.8,baz=104,slow=4.5,SNR=46
BRG Berggiesshubel 85.64 321 eP P 16 32 17.8 0.0
comp=Z,26nm,1.6s,mb5.2
BRG e 16 32 40.5
comp=Z,5.8nm,1.0s
PTCC Patocco-Chiusa 85.66 316 P P 16 32 17.7 -0.2
comp=Z,9.7nm,1.2s,mb4.9
KBA Koelnbreinsper 85.72 317⇑ iP P 16 32 17.8 -0.4
comp=Z,12nm,1.7s,mb4.8
KBA Koelnbreinsper 85.72 317⇑ iP P 16 32 17.8 -0.4
KBA pmax pmax
comp=Z,12nm,1.7s,mb4.8
KHC Kasperske Hory 85.73 319 eP P 16 32 17.6 -0.6
ARV Arcevia 85.74 313 P P 16 32 18.6 +0.3
ARV pmax pmax
comp=Z,5.0nm,0.6s,mb4.9
ARV Arcevia 85.74 313 P P 16 32 18.6 +0.3
comp=Z,4.7nm,0.6s,mb4.9
RUE Ruedersdorf 85.89 322 eP P 16 32 19.0 0.0
comp=Z,36nm,1.0s,mb5.6
FVI Forni Avoltri 86.07 317 P P 16 32 20.2 +0.3
WET Wettzell 86.19 319 eP P 16 32 20.2 -0.3
comp=Z,28nm,1.5s,mb5.3
WET Wettzell 86.19 319 eP P 16 32 20.2 -0.3
WET pmax pmax
comp=Z,28nm,1.5s,mb5.3
CLL Collm 86.27 321 eP P 16 32 20.6 -0.3
comp=Z,24nm,1.4s,mb5.2
CLL Collm 86.27 321 iP P 16 32 21.0 +0.1
comp=Z,24nm,1.4s,mb5.2
CLL Collm 86.27 321 iP P 16 32 21.0 +0.1
CLL pmax pmax
comp=Z,24nm,1.4s,mb5.2
NKC Novy Kostel 86.54 320 eP P 16 32 22.7 +0.4
SFI Santa Sofia 86.56 314 P P 16 32 23.7 +1.3
WERD Werda 86.65 320 eP P 16 32 22.2 -0.6
comp=Z,10.0nm,1.0s,mb5.0
ROTZ Rotzenmuhle 86.67 320 eP P 16 32 22.4 -0.5
comp=Z,15nm,1.2s,mb5.1
MANZ Manzenberg 86.74 320 eP P 16 32 23.6 +0.3
comp=Z,42nm,1.5s,mb5.5
CTI Castel Tesino 86.82 316 P P 16 32 24.0 +0.4
WTTA Wattenberg 86.89 317⇓ iP P 16 32 23.3 -0.7
comp=Z,14nm,1.3s,mb5.0
WTTA Wattenberg 86.89 317⇓ iP P 16 32 23.3 -0.7
WTTA pmax pmax
comp=Z,14nm,1.3s,mb5.0
MOX Moxa 87.10 321 eP P 16 32 24.7 -0.3
comp=Z,20nm,1.5s,mb5.1
MOX Moxa 87.10 321 eP P 16 32 25.2 +0.2
comp=Z,20nm,1.5s,mb5.1
MOX Moxa 87.10 321 eP P 16 32 25.2 +0.2
MOX pmax pmax
comp=Z,20nm,1.5s,mb5.1
MOTA Moosalm 87.26 317⇑ iP P 16 32 24.5 -1.3
comp=Z,17nm,1.6s,mb5.0
MOTA Moosalm 87.26 317⇑ iP P 16 32 24.5 -1.3
MOTA pmax pmax
comp=Z,17nm,1.6s,mb5.0
GRA1 Grafenberg Arr 87.30 320 eP P 16 32 26.1 +0.1
comp=Z,13nm,1.0s,mb5.1
GRF Grafenberg Arr 87.30 320 eP P 16 32 26.1 +0.1
comp=Z,13nm,1.0s,mb5.1
GRF Grafenberg Arr 87.30 320 eP P 16 32 26.1 +0.1
GRF pmax pmax
comp=Z,13nm,1.0s,mb5.1
GRF Grafenberg Arr 87.30 320 eP P 16 32 26.1 +0.1
GRF pmax pmax
comp=Z,13nm,1.0s,mb5.1
BRMO Bormio 87.72 316 P P 16 32 28.8 +0.8
CLZ Clausthal 87.94 322 eP P 16 32 28.8 -0.2
comp=Z,45nm,1.5s,mb5.5
CLZ Clausthal 87.94 322 eP P 16 32 28.8 -0.2
CLZ pmax pmax
comp=Z,45nm,1.5s,mb5.5
NB2 NORSAR Subarra 87.95 331 P P 16 32 27.9 -1.2
comp=Z,0.9nm,0.7s,baz=93,slow=5.9
NOA NORSAR Array B 87.95 331 P P 16 32 28.3 -0.7
comp=Z,8.0nm,0.9s,mb5.0,baz=94,slow=4.8,SNR=17
BSEG Bad Segeberg 88.06 324 eP P 16 32 29.9 +0.3
comp=Z,63nm,1.5s,mb5.6
BSEG Bad Segeberg 88.06 324 eP P 16 32 29.9 +0.3
BSEG pmax pmax
comp=Z,63nm,1.5s,mb5.6
DAVA Damuels 88.09 317⇓ iP P 16 32 29.9 +0.2
comp=Z,19nm,1.1s,mb5.2,SNR=6.7
UBBA Unterbreizbach 88.13 321 eP P 16 32 29.9 0.0
comp=Z,54nm,2.1s,mb5.4
GTTG Gvttingen 88.18 321 eP P 16 32 30.5 +0.3
NVL N'lazarevskaya 88.56 199 eP P 16 32 33.2 +1.2
NVL pmax pmax
comp=Z,57nm,1.3s,mb5.7
PGF Pioggiola 88.59 312 eP P 16 32 31.5 -0.6
comp=Z,16nm,1.1s,mb5.0
PGF Pioggiola 88.59 312 eP P 16 32 31.5 -0.6
PGF pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
PGF Pioggiola 88.59 312 eP P 16 32 31.5 -0.6
comp=Z,8.1nm,1.1s,mb5.0
KONO Kongsberg 88.68 330 P P 16 32 32.8 +0.3
KONO pmax pmax
comp=Z,27nm,1.2s,mb5.5
KONO Kongsberg 88.68 330 eP P 16 32 31.6 -1.0
comp=Z,27nm,1.2s,mb5.5
TNS Taunus Mts 89.11 320 eP P 16 32 34.4 -0.1
comp=Z,23nm,1.3s,mb5.3
TNS Taunus Mts 89.11 320 eP P 16 32 34.4 -0.1
TNS pmax pmax
comp=Z,23nm,1.3s,mb5.3
BFO Black Forest 89.16 318 eP P 16 32 34.4 -0.4
comp=Z,10.0nm,1.2s,mb5.0
BFO Black Forest 89.16 318 eP P 16 32 34.4 -0.4
BFO pmax pmax
comp=Z,10.0nm,1.2s,mb5.0
LANF Langenberg 89.51 319 eP P 16 32 37.0 +0.6
IBBN Ibbenburen 89.56 322 eP P 16 32 37.1 +0.4
SAOF Saorge 89.66 314 eP P 16 32 36.8 -0.3
BBS Basel-Blauen 89.70 317 eP P 16 32 37.4 +0.1
SBF Sospel 89.75 314 eP P 16 32 36.9 -0.6
comp=Z,49nm,1.1s,mb5.5
SBF Sospel 89.75 314 eP P 16 32 36.9 -0.6
SBF pmax pmax
comp=Z,25nm,1.1s,mb5.5
SBF Sospel 89.75 314 eP P 16 32 36.9 -0.6
comp=Z,25nm,1.1s,mb5.5
CDF Champ du Feu 89.86 318 eP P 16 32 37.3 -0.8
BUG Bochum--Univer 89.86 321 eP P 16 32 38.3 +0.2
comp=Z,22nm,1.1s,mb5.4
ECH Echery 89.94 318 eP P 16 32 37.9 -0.5
MVIF Mont Vial 89.95 314 eP P 16 32 38.1 -0.4
MOF Molkenrain 89.96 318 eP P 16 32 38.6 +0.1
RUP Ruppelstein 90.00 320 eP P 16 32 39.5 +0.8
QSPA South Pole Qui 90.06 180 eP P 16 32 38.9 -0.1
comp=Z,62nm,1.7s,mb5.7
HINF Hinteralfeld 90.15 318 eP P 16 32 38.3 -1.1
MBDF Montbardon 90.22 315 eP P 16 32 38.4 -1.3
LPG La Plagne 90.23 315 eP P 16 32 39.5 -0.3
comp=Z,24nm,0.8s,mb5.3
LPG La Plagne 90.23 315 eP P 16 32 39.5 -0.3
LPG pmax pmax
comp=Z,12nm,0.8s,mb5.3
LPG La Plagne 90.23 315 eP P 16 32 39.5 -0.3
comp=Z,12nm,0.8s,mb5.3
LPL La Plagne 90.24 315 eP P 16 32 39.5 -0.3
comp=Z,24nm,0.8s,mb5.3
LPL La Plagne 90.24 315 eP P 16 32 39.5 -0.3
LPL pmax pmax
comp=Z,12nm,0.8s,mb5.3
LPL La Plagne 90.24 315 eP P 16 32 39.5 -0.3
comp=Z,12nm,0.8s,mb5.3
LMR La Mourre 90.42 313 eP P 16 32 40.1 -0.6
comp=Z,69nm,1.5s,mb5.5
LMR La Mourre 90.42 313 eP P 16 32 40.1 -0.6
LMR pmax pmax
comp=Z,35nm,1.5s,mb5.5
LMR La Mourre 90.42 313 eP P 16 32 40.1 -0.6
comp=Z,35nm,1.5s,mb5.5
HAU Haudompre 90.48 318 eP P 16 32 41.0 0.0
comp=Z,25nm,0.9s,mb5.2
HAU Haudompre 90.48 318 eP P 16 32 41.0 0.0
HAU pmax pmax
comp=Z,13nm,0.9s,mb5.3
HAU Haudompre 90.48 318 eP P 16 32 41.0 0.0
comp=Z,13nm,0.9s,mb5.2
WLF Walferdange 90.59 319 P P 16 32 41.4 0.0
WLF E 16 32 45.8
MEM Membach 90.67 320 P P 16 32 41.8 0.0
MEM E 16 32 45.3
CABF La Chapelle 90.68 316 eP P 16 32 41.7 -0.2
comp=Z,35nm,1.1s,mb5.3
CABF La Chapelle 90.68 316 eP P 16 32 41.7 -0.2
CABF pmax pmax
comp=Z,17nm,1.1s,mb5.3
CABF La Chapelle 90.68 316 eP P 16 32 41.7 -0.2
comp=Z,17nm,1.1s,mb5.3
THEF They Montfort 90.72 318 eP P 16 32 42.1 0.0
OG25 Le Caire 90.72 314 eP P 16 32 41.6 -0.5
TAVF Tavernes 90.75 313 eP P 16 32 45.3 +3.1
ORIF Oris-en-Rattie 90.85 315 eP P 16 32 42.4 -0.3
VILF Villemus 90.99 314 eP P 16 32 44.6 +1.3
SMRF Simiane la Rot 91.09 314 eP P 16 32 43.9 +0.1
comp=Z,60nm,1.5s,mb5.4
SMRF Simiane la Rot 91.09 314 eP P 16 32 43.9 +0.1
comp=Z,60nm,1.5s,mb5.7
GELF Grande-Etoile 91.21 313 eP P 16 32 45.5 +1.2
TREF Trevaresse 91.23 313 eP P 16 32 44.1 -0.4
MEZF Maizieres J'vi 91.34 318 eP P 16 32 44.4 -0.5
PRAF Pradon 91.39 314 eP P 16 32 46.0 +0.8
GIVF Givet 91.44 320 eP P 16 32 44.8 -0.6
DOU Dourbes 91.59 320 P P 16 32 46.5 +0.4
comp=Z,4.7nm,1.0s,mb4.8
DOU E 16 32 49.7
VIVF Saint-Julien-l 91.71 315 eP P 16 32 46.2 -0.5
comp=Z,68nm,1.7s,mb5.4
VIVF Saint-Julien-l 91.71 315 eP P 16 32 46.2 -0.5
VIVF pmax pmax
comp=Z,34nm,1.7s,mb5.4
VIVF Saint-Julien-l 91.71 315 eP P 16 32 46.2 -0.5
comp=Z,34nm,1.7s,mb5.4
BAIF Baives 91.84 320 eP P 16 32 46.9 -0.3
comp=Z,33nm,0.8s,mb5.4
BAIF Baives 91.84 320 eP P 16 32 46.9 -0.3
BAIF pmax pmax
comp=Z,17nm,0.8s,mb5.4
BAIF Baives 91.84 320 eP P 16 32 46.9 -0.3
comp=Z,17nm,0.8s,mb5.4
LOR Lormes 92.19 317 eP P 16 32 48.3 -0.6
comp=Z,78nm,1.4s,mb5.5
LOR Lormes 92.19 317 eP P 16 32 48.3 -0.6
LOR pmax pmax
comp=Z,39nm,1.4s,mb5.5
LOR Lormes 92.19 317 eP P 16 32 48.3 -0.6
comp=Z,39nm,1.4s,mb5.5
SMF Signal de Mont 92.23 317 eP P 16 32 48.3 -0.7
comp=Z,24nm,0.9s,mb5.2
SMF Signal de Mont 92.23 317 eP P 16 32 48.3 -0.7
SMF pmax pmax
comp=Z,12nm,0.9s,mb5.2
SMF Signal de Mont 92.23 317 eP P 16 32 48.3 -0.7
comp=Z,12nm,0.9s,mb5.2
LASF Ste Croix 92.33 314 eP P 16 32 49.2 -0.3
comp=Z,22nm,1.2s,mb5.1
PLDF La Plantade 92.41 316 eP P 16 32 49.8 -0.1
SSF Saint Saulge 92.44 317 eP P 16 32 49.5 -0.5
comp=Z,77nm,1.6s,mb5.5
SSF Saint Saulge 92.44 317 eP P 16 32 49.5 -0.5
SSF pmax pmax
comp=Z,39nm,1.6s,mb5.5
SSF Saint Saulge 92.44 317 eP P 16 32 49.5 -0.5
comp=Z,39nm,1.6s,mb5.5
AVF Avril sur Loir 92.56 317 eP P 16 32 49.8 -0.8
comp=Z,83nm,1.6s,mb5.6
AVF Avril sur Loir 92.56 317 eP P 16 32 49.8 -0.8
AVF pmax pmax
comp=Z,41nm,1.6s,mb5.6
AVF Avril sur Loir 92.56 317 eP P 16 32 49.8 -0.8
comp=Z,41nm,1.6s,mb5.6
LBL Lubilhac 92.71 315 eP P 16 32 51.9 +0.6
AGO Saint Agoulin 92.75 316 eP P 16 32 51.6 +0.2
BGF Bois d'Agland 92.92 316 eP P 16 32 51.9 -0.3
comp=Z,88nm,1.5s,mb5.7
BGF Bois d'Agland 92.92 316 eP P 16 32 51.9 -0.3
BGF pmax pmax
comp=Z,44nm,1.5s,mb5.7
BGF Bois d'Agland 92.92 316 eP P 16 32 51.9 -0.3
comp=Z,44nm,1.5s,mb5.7
TCF Toulx Ste Croi 93.37 316 eP P 16 32 54.1 -0.2
comp=Z,45nm,1.6s,mb5.3
TCF Toulx Ste Croi 93.37 316 eP P 16 32 54.1 -0.2
TCF pmax pmax
comp=Z,22nm,1.6s,mb5.3
TCF Toulx Ste Croi 93.37 316 eP P 16 32 54.1 -0.2
comp=Z,22nm,1.6s,mb5.3
MTLF Montolieu 93.55 313 eP P 16 32 54.8 -0.4
comp=Z,61nm,1.6s,mb5.5
MTLF Montolieu 93.55 313 eP P 16 32 54.8 -0.4
MTLF pmax pmax
comp=Z,31nm,1.6s,mb5.5
MTLF Montolieu 93.55 313 eP P 16 32 54.8 -0.4
comp=Z,31nm,1.6s,mb5.5
CAF Calviac 93.56 315 eP P 16 32 55.1 -0.1
RJF Les Rejaudoux 93.92 315 eP P 16 32 56.7 -0.2
LDF La Druitiere 94.77 319 eP P 16 33 00.0 -0.7
comp=Z,50nm,1.5s,mb5.4
LDF La Druitiere 94.77 319 eP P 16 33 00.0 -0.7
LDF pmax pmax
comp=Z,25nm,1.5s,mb5.4
LDF La Druitiere 94.77 319 eP P 16 33 00.0 -0.7
comp=Z,25nm,1.5s,mb5.4
MFF Saint Martin d 94.97 317 eP P 16 33 01.0 -0.7
GRR Gorron 95.27 318 eP P 16 33 02.2 -0.9
TORD Torodi Ar. Bea 95.33 283 P P 16 33 03.7 +0.4
comp=Z,2.1nm,1.1s,mb4.5,baz=92,slow=5.3,SNR=7.4
TORD pP pP 16 33 13.7 -0.1
comp=Z,1.3nm,0.7s,baz=97,slow=5.1,SNR=7.0
TORD PP PP 16 37 00.4 +6.7
comp=Z,1.6nm,1.0s,baz=84,slow=5.1,SNR=3.9
DAG Danmarks Havn 95.66 348⇓ iP P 16 33 03.2 -1.6
comp=Z,7.0nm,1.0s,mb5.0
DAG Danmarks Havn 95.66 348⇓ iP P 16 33 03.2 -1.6
DAG pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
TTA Tatalina 97.50 26 eP P 16 33 13.6 +0.4
TTA pmax pmax
comp=Z,37nm,1.4s,mb5.7
TTA Tatalina 97.50 26 eP P 16 33 13.6 +0.4
comp=Z,37nm,1.4s,mb5.7
ESDC Sonseca Array 98.51 310 P P 16 33 19.5 +1.8
comp=Z,0.2nm,0.3s,baz=48,slow=7.7,SNR=3.1
COLA College 100.28 23⇓ eP Pdif 16 33 24.2 -1.4
ILAR Eielson Array 100.70 23 P Pdif 16 33 25.9 -1.5
comp=Z,0.7nm,0.8s,baz=293,slow=4.3,SNR=6.7
ILAR PP PP 16 37 31.2 -3.7
comp=Z,2.2nm,1.0s,baz=298,slow=7.0,SNR=6.7
INK Inuvik 103.52 17 Pdiff Pdif 16 33 39.4 -0.6
comp=Z,2.0nm,1.0s,baz=288,slow=5.1,SNR=5.1
INK PKiKP PKiKP 16 37 56.7 -1.8
comp=Z,1.8nm,0.9s,baz=315,slow=4.3,SNR=4.2
YKA Yellowknife Ar 113.14 15 PKiKP PKiKP 16 38 15.0 -1.5
comp=Z,0.9nm,0.9s,baz=326,slow=2.0,SNR=12
YKA PP PP 16 38 56.6 -10
comp=Z,0.5nm,0.8s,baz=332,slow=5.7,SNR=3.8
YKA PKKPbc PKKPbc 16 49 01.2 -1.0
comp=Z,0.4nm,0.7s,baz=145,slow=3.4,SNR=9.3
YKA Yellowknife Ar 113.14 15 PKPdf PKiKP 16 38 15.0 -1.5
YKA PP PP 16 38 56.6 -10
YKA PKKPbc PKKPbc 16 49 01.2 -1.0
HAWA Hanford 123.60 30 ePKPdf PKPdf 16 38 37.2 +0.6
HAWA e 16 38 47.0
SCHQ Schefferville 123.69 349 PKP PKPdf 16 38 35.4 -1.4
comp=Z,3.3nm,0.9s,baz=258,slow=3.6,SNR=4.2
SCHQ pPKP pPKPdf 16 38 46.3 -1.3
comp=Z,2.9nm,0.7s,baz=119,slow=1.1,SNR=3.9
SCHQ Schefferville 123.69 349 PKP PKPdf 16 38 35.4 -1.4
SCHQ pPKP pPKPdf 16 38 46.3 -1.3
CHMT Chamberlain Mo 126.13 25 ePKPdf PKPdf 16 38 41.3 -0.1
NSHM Saint Helena R 126.98 39 ePKPdf PKPdf 16 38 44.2 +1.1
MCMT McKenzie Canyo 127.93 27 ePKPdf PKPdf 16 38 46.2 +1.3
HLID Hailey 128.16 29 ePKPdf PKPdf 16 38 46.7 +1.4
QLMT Earthquake Lak 128.56 26 ePKPdf PKPdf 16 38 47.5 +1.4
ULM Lac du Bonnet 128.60 11 PKP PKPdf 16 38 45.4 -0.8
comp=Z,7.9nm,1.0s,baz=337,slow=2.8,SNR=12
NVAR Mina Array Bea 129.67 36 PKP PKPdf 16 38 49.5 +1.3
comp=Z,4.5nm,0.8s,baz=302,slow=0.3,SNR=35
NVAR PP PP 16 40 54.1 -4.7
comp=Z,1.6nm,1.1s,baz=280,slow=5.4,SNR=3.6
ELK Elko 129.80 32 ePKIKP PKPdf 16 38 49.4 +0.9
PDAR Pinedale Array 131.02 26 PKP PKPdf 16 38 50.1 -0.6
comp=Z,2.2nm,0.6s,baz=251,slow=1.1,SNR=15
PDAR PP PP 16 41 04.3 -3.4
comp=Z,0.9nm,0.8s,baz=336,slow=2.0,SNR=3.8
DUG Dugway 131.46 31 ePKIKP PKPdf 16 38 52.7 +1.1
DAU Daniels Canyon 132.08 29 ePKIKP PKPdf 16 38 54.1 +1.3
TMUT Trail Mountain 132.95 30 ePKPdf PKPdf 16 38 56.6 +2.1
MSU Marysvale 133.04 32 ePKIKP PKPdf 16 38 56.4 +1.8
NEN Nelson 133.58 37 ePKPdf PKPdf 16 38 57.3 +1.7
WUAZ Wupatki 135.68 34 ePKPdf PKPdf 16 39 01.3 +1.8
MVCO Mesa Verde 135.92 30 ePKPdf PKPdf 16 39 01.2 +1.3
ANMO Albuquerque 138.71 30 PKP PKPdf 16 39 05.6 +0.5
comp=Z,5.8nm,0.9s,baz=353,slow=1.4,SNR=11
ANMO Albuquerque 138.71 30⇑ iPKIKP PKPdf 16 39 06.0 +0.9
LAZ Ladron 138.80 31 ePKPdf PKPdf 16 39 06.8 +1.5
LENM Lemitar 139.07 31 PKPdf PKPdf 16 39 06.8 +1.0
LPM Los Pinos Moun 139.13 31 ePKPdf PKPdf 16 39 07.3 +1.4
BNM Barren Site 139.26 31 ePKPdf PKPdf 16 39 06.6 +0.5
CCM Cathedral Cave 141.24 11 ePKIKP PKPdf 16 39 09.3 -0.4
SIUC Southern Illin 141.90 8 ePKPdf PKPdf 16 39 11.5 +0.6
GDL2 Guadalupe Moun 141.96 30 ePKPpre 16 39 06.7
BDFB Brasilia 142.34 244 PKP PKPdf 16 39 13.0 +1.3
comp=Z,7.2nm,1.0s,baz=118,slow=0.7,SNR=5.3
WVT Waverly 143.65 7 ePKIKP PKPdf 16 39 10.8 -3.2
LPIG La Paz 144.08 46 PKP PKPdf 16 39 14.7 -0.1
comp=Z,24nm,0.5s,baz=164,slow=1.8,SNR=4.0
MIAR Mount Ida 144.08 15 ePKIKP PKPdf 16 39 13.4 -1.4
MIAR Mount Ida 144.08 15 ePKPdf PKPdf 16 39 13.3 -1.4
UALR University of 144.17 13 ePKPdf PKPdf 16 39 13.1 -1.8
CPUP Villa Florida 144.19 221 PKP PKPdf 16 39 13.8 -1.2
comp=Z,15nm,0.8s,baz=95,slow=3.1,SNR=37
CPUP Villa Florida 144.19 221 PKIKP PKPdf 16 39 13.9 -1.0
CPUP Villa Florida 144.19 221 ePKPdf PKPdf 16 39 13.6 -1.3
CPUP e 16 39 23.7
PLAL Pickwick Lake 144.75 7 ePKPdf PKPdf 16 39 14.3 -1.6
JCT Junction City 145.56 26 ePKIKP PKPdf 16 39 18.1 +0.8
JCT e 16 39 28.1
JSC Jenkinsville 145.76 358 ePKP2 PKPab 16 39 18.0 -0.5
CFAA Coronel Fontan 145.77 202 PKPbc PKPbc 16 39 18.9 +0.7
comp=Z,2.4nm,0.7s,baz=154,slow=4.4,SNR=29
NATX Nacogdoches 146.38 18 ePKPbc PKPbc 16 39 20.7 +0.7
LRAL Lakeview Retre 146.80 6 ePKPbc PKPbc 16 39 21.0 -0.2
HKT Hockley 147.63 21 PKIKP PKPdf 16 39 21.5 +0.7
HKT Hockley 147.63 21 ePKPdf PKPdf 16 39 21.1 +0.3
LVC Limon Verde 153.86 210 PKPbc PKPbc 16 39 40.1 +1.7
comp=Z,7.1nm,0.8s,baz=319,slow=2.9,SNR=6.2
LVC pPKPbc pPKPbc 16 39 50.8 +1.7
comp=Z,9.0nm,0.8s,baz=304,slow=4.8,SNR=6.6
LPAZ La Paz 158.36 221 PKP PKPdf 16 39 36.9 +0.6
comp=Z,2.3nm,0.9s,baz=40,slow=3.9,SNR=10
LPAZ La Paz 158.36 221 PKP PKPdf 16 39 36.9 +0.6
SDV Santo Domingo 164.93 307 PKP PKPdf 16 39 44.1 +0.9
comp=Z,6.7nm,0.2s,baz=115,slow=9.5,SNR=3.6
ROSC El Rosal 170.20 300 PKP PKPdf 16 39 48.1 +1.2
comp=Z,3.6nm,0.4s,baz=114,slow=20,SNR=7.0

IDC ***16*** *16:29:25.7±5.1,31.36S×178.94W,h118km±43km,mb4.3/6, mb1 4.5/6,mb1mx4.2/12,mbtmp4.7/6,Error ellipse: s-maj=33.8km s-min=23.2km az=24.0*

ISCJB ***16*** *16:29:27.5±0.7,31.51S±0.006×179.3W±0.02,h133km±9km, mb4.3/7,Error ellipse: s-maj=22.2km s-min=6.2km az=37.3*

NEIC ***16*** *16:29:32.1±7.6,32.49S×177.62W,h283km±28km,mb4.4/1, Error ellipse: s-maj=122.3km s-min=34.0km az=80.0*

ISC 16 16:29:28.6±0.7,3153S±0.006×1792W±0.1,h132km±8km,n58, σ1§34/60,mb4.3/7,1D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.51**	**26**	S		**Sn**	**16 30 40.6**	**+0.4**
	526nm,0.3s,baz=166,slow=21,SNR=7.5							
MXZ	**Matakaoa Point**	**6.37**	**198**	SN		**Sn**	**16 32 12.4**	**+0.8**
PUZ	**Puketiti**	**6.86**	**197**	PN		**Pn**	**16 31 06.9**	**+0.2**
PUZ				SN		**Sn**	**16 32 23.2**	**-0.3**
PUZ	**Puketiti**	**6.86**	**197**	*eP*		**Pn**	**16 31 06.9**	**+0.1**
PUZ				S		**Sn**	**16 32 23.2**	**-0.3**
MWZ	**Matawai**	**7.31**	**201**	PN		**Pn**	**16 31 12.7**	**-0.1**
MWZ				SN		**Sn**	**16 32 34.7**	**+0.4**
MWZ	**Matawai**	**7.31**	**201**	*eP*		**Pn**	**16 31 12.7**	**-0.1**
MWZ				S		**Sn**	**16 32 36.0**	**+1.7**
URZ	**Urewera**	**7.38**	**203**	P		**Pn**	**16 31 13.7**	**0.0**
	1.1nm,0.3s,baz=312,slow=21,SNR=13							
URZ				S		**Sn**	**16 32 38.1**	**+2.2**
	18nm,0.3s,baz=191,slow=22,SNR=15							
URZ	**Urewera**	**7.38**	**203**	PN		**Pn**	**16 31 13.5**	**-0.2**
URZ				SN		**Sn**	**16 32 37.0**	**+1.2**
URZ	**Urewera**	**7.38**	**203**	*eP*		**Pn**	**16 31 14.5**	**+0.8**
KNZ	**Kokohu**	**7.91**	**198**	PN		**Pn**	**16 31 22.6**	**+1.7**
KNZ				SN		**Sn**	**16 32 47.8**	**-0.9**
KNZ	**Kokohu**	**7.91**	**198**	P		**Pn**	**16 31 25.0**	**+4.2**
KNZ				S		**Sn**	**16 32 45.3**	**-3.4**
BKZ	**Black Stump Fm**	**8.40**	**204**	PN		**Pn**	**16 31 29.4**	**+1.9**
BKZ	**Black Stump Fm**	**8.40**	**204**	*eP*		**Pn**	**16 31 29.4**	**+1.9**
HIZ	**Hauiti**	**8.52**	**213**	PN		**Pn**	**16 31 32.5**	**+3.5**
HIZ	**Hauiti**	**8.52**	**213**	*eP*		**Pn**	**16 31 34.0**	**+5.0**
WNVZ	**Wahianoa**	**8.87**	**207**	PN		**Pn**	**16 31 35.5**	**+1.7**
WNVZ	**Wahianoa**	**8.87**	**207**	P		**Pn**	**16 31 36.5**	**+2.7**
PXZ	**Pawanui**	**9.08**	**200**	PN		**Pn**	**16 31 36.8**	**+0.3**
TSZ	**Takapari Road**	**9.38**	**204**	PN		**Pn**	**16 31 41.1**	**+0.5**
BFZ	**Birch Farm**	**9.86**	**201**	PN		**Pn**	**16 31 46.9**	**0.0**
MRZ	**Mangatainoka R**	**10.05**	**203**	*e*PN		**Pn**	**16 31 44.8**	**-4.8**
MRZ	**Mangatainoka R**	**10.05**	**203**	*e*P		**Pn**	**16 31 45.1**	**-4.5**
KIW	**Kapiti Island**	**10.47**	**205**	*e*SN		**Sn**	**16 33 45.9**	**-4.7**
MRW	**Makara Radio**	**10.87**	**205**	P		**Pn**	**16 31 59.2**	**-1.2**
WEL	**Wellington**	**10.89**	**205**	P		**Pn**	**16 31 58.9**	**-1.8**
SNZO	**South Karori**	**10.93**	**205**	*e*P		**Pn**	**16 31 59.5**	**-1.8**
TCW	**Tory Channel**	**11.01**	**207**	P		**Pn**	**16 31 58.1**	**-4.2**
NNZ	**Nelson**	**11.38**	**210**	*e*P		**Pn**	**16 32 05.4**	**-1.7**
THZ	**Tophouse**	**12.03**	**210**	*e*PN		**Pn**	**16 32 13.7**	**-2.0**
THZ				SN		**Sn**	**16 34 23.0**	**-5.3**
THZ	**Tophouse**	**12.03**	**210**	*e*P		**Pn**	**16 32 14.4**	**-1.3**
KHZ	**Kahutara**	**12.33**	**206**	*e*PN		**Pn**	**16 32 14.9**	**-4.7**
KHZ				SN		**Sn**	**16 34 26.9**	**-8.6**
KHZ	**Kahutara**	**12.33**	**206**	*e*P		**Pn**	**16 32 14.8**	**-4.8**
DSZ	**Denniston Nort**	**12.50**	**213**	*e*PN		**Pn**	**16 32 17.6**	**-4.3**
DSZ	**Denniston Nort**	**12.50**	**213**	*e*P		**Pn**	**16 32 19.0**	**-2.9**
LTZ	**Lake Taylor**	**13.13**	**209**	*e*PN		**Pn**	**16 32 23.9**	**-6.1**
LTZ				SN		**Sn**	**16 34 45.8**	**-9.2**
LTZ	**Lake Taylor**	**13.13**	**209**	*e*P		**Pn**	**16 32 26.8**	**-3.3**
RPZ	**Rata Peaks**	**14.41**	**210**	P		**Pn**	**16 32 42.5**	**-3.8**
	0.3nm,0.3s,baz=49,slow=19,SNR=6.2							
CTA	**Charters Tower**	**33.01**	**282**	P		**P**	**16 35 52.3**	**+1.2**
	8.8nm,0.5s,mb4.7,baz=109,slow=9.0,SNR=8.7							
STKA	**Stephens Creek**	**33.25**	**259**	P		**P**	**16 35 53.2**	**+0.1**
	4.2nm,0.7s,mb4.3,baz=103,slow=10,SNR=7.2							
STKA	**Stephens Creek**	**33.25**	**259**	P		**P**	**16 35 53.2**	**0.0**
ASAR	**Alice Springs**	**42.06**	**269**	P		**P**	**16 37 07.5**	**+0.4**
	3.9nm,0.4s,mb4.4,baz=107,slow=7.5,SNR=79							
WB2	**Warramunga Arr**	**43.14**	**274**	*iP*		**P**	**16 37 16.1**	**+0.2**
WRA	**Warramunga Arr**	**43.15**	**274**	P		**P**	**16 37 16.3**	**+0.3**
	18nm,0.4s,mb5.0,baz=112,slow=7.9,SNR=197							
WRA				PcP		PcP	16 39 02.8	-0.4
	0.5nm,0.6s,baz=126,slow=3.6,SNR=4.5							
FITZ	**Fitzroy Crossi**	**51.36**	**271**	*e*P		**P**	**16 38 20.0**	**+0.5**
	13nm,0.8s,mb4.6							
FITZ	**Fitzroy Crossi**	**51.36**	**271**	P		**P**	**16 38 20.1**	**+0.6**
	7.0nm,0.6s,mb4.5,baz=158,slow=9.1,SNR=24							
VNA3	**Neumayer Olymp**	**77.25**	**177**	*e*		**P**	**16 41 09.4**	**+1.2**
VNA3				*e*			16 41 13.2	
VNA2	**Neumayer--Watz**	**77.67**	**177**	*e*		**P**	**16 41 12.7**	**+2.2**
	baz=171,slow=1.0							
VNA2				*e*			16 41 16.4	
MJAR	**Matsushiro Arr**	**78.60**	**326**	P		**P**	**16 41 12.8**	**-2.8**
	0.8nm,0.5s,mb3.6,baz=161,slow=5.6,SNR=4.1							
NVAR	**Mina Array Bea**	**89.75**	**43**	P		**P**	**16 42 10.7**	**-1.2**
	0.6nm,0.8s,mb3.6,baz=211,slow=5.3,SNR=5.0							
MKAR	**Makanchi Array**	**117.72**	**310**	PKP		PKPdf	16 47 56.5	-2.6
	0.3nm,0.4s,baz=200,slow=2.1,SNR=6.4							
ARCES	**ARCESS Array B**	**139.46**	**347**	PKhKP			16 48 31.1	
	1.9nm,0.7s,baz=51,slow=2.5,SNR=6.4							
JOF	**Joensuu**	**143.08**	**337**	*e*pkp		PKPdf	16 48 47.7	+1.0
KAF	**Kangasniemi**	**145.25**	**339**	epkp		PKPdf	16 48 47.6	-2.9
	baz=39,slow=3.1							
NB2	**NORSAR Subarra**	**149.69**	**350**	PKPa			16 49 00.6	
	comp=Z,4.5nm,0.5s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**149.69**	**350**	PKPbc		PKPbc	16 49 00.5	-2.2
	comp=Z,3.9nm,0.5s,baz=14,slow=4.1,SNR=28							
AKASG	**Malin Array Be**	**151.55**	**321**	PKPbc		PKPbc	16 49 05.0	-2.1
	comp=Z,1.2nm,0.5s,baz=50,slow=2.4,SNR=8.8							
AKASG				PKPab		PKPab	16 49 13.6	-2.4
	comp=Z,1.5nm,0.5s,baz=52,slow=4.6,SNR=14							
BRTR	**Keskin Array B**	**152.22**	**296**	PKPbc		PKPbc	16 49 07.3	-1.3
	comp=Z,1.2nm,0.4s,baz=136,slow=4.1,SNR=12							
TORD	**Torodi Ar. Bea**	**161.69**	**183**	PKP		PKPdf	16 49 13.4	-0.4
	comp=Z,1.6nm,1.0s,baz=36,slow=0.1,SNR=4.9							
TORD				PKPab		PKPab	16 49 59.6	0.0
	comp=Z,2.0nm,0.6s,baz=177,slow=3.9,SNR=13							

IDC 16 16:43:48.9±2.3,022N×9717E,h0km,mb3.4/3,mb1 3.5/4, mb1mx3.3/18,mbtmp3.3/4,ML2.9/1,MS4.4/1,Ms1 4.4/1, ms1mx3.0/17,Error ellipse: s-maj=65.8km s-min=26.6km az=63.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.10**	**34**	Pn		Pn	16 44 39.2	+0.1
	1.4nm,0.3s,baz=292,slow=9.1,SNR=4.1							
PSI				LR		LR	16 46 00.7	
	comp=Z,5μm,18.7s,baz=154,slow=44							
WRA	**Warramunga Arr**	**41.55**	**121**	P		P	16 51 38.4	+0.3
	0.4nm,0.4s,baz=304,slow=8.9,SNR=7.1							
ASAR	**Alice Springs**	**42.83**	**126**	P		P	16 51 48.8	+0.2
	0.4nm,0.8s,baz=306,slow=8.0,SNR=6.2							
MKAR	**Makanchi Array**	**48.18**	**346**	P		P	16 52 30.8	-0.1
	0.3nm,0.6s,baz=158,slow=7.5,SNR=3.7							

ISCJB ***16*** *16:48:50.1±1.1,025N±0.10×972E±0.2,h33km,mb3.8/7, Error ellipse: s-maj=26.1km s-min=13.7km az=159.0*

IDC ***16*** *16:48:52.0±1.5,020N×97.17E,h36km±7km,mb3.6/6, mb1 3.7/7,mb1mx3.5/17,mbtmp3.7/7,ML2.7/1,Error ellipse: s-maj=54.2km s-min=16.3km az=59.0*

NEIC ***16*** *16:48:52.1±0.8,023N×9722E,mb4.2/1,Error ellipse: s-maj=19.7km s-min=10.3km az=78.0*

ISC 16 16:48:52.7±1.1,03N±01×973E±02,h38km, h38km±6km:pP-P,n10,σ0§62/10,mb3.8/7,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.00**	**34**	*e*P		**Pn**	**16 49 36.8**	**-1.0**
	1.1nm,0.3s,baz=152,slow=18,SNR=4.1							
KULM	**Kulim**	**6.01**	**34**	*e*P		**Pn**	**16 50 19.6**	**+0.5**
WRA	**Warramunga Arr**	**41.52**	**121**	P		**P**	**16 56 36.7**	**+0.4**
	1.9nm,0.7s,mb3.8,baz=303,slow=8.9,SNR=17							
WRA				pP		pP	16 56 46.9	-0.3
	0.8nm,0.6s,baz=303,slow=8.9,SNR=4.2							
WRAB	**Tennant Creek**	**41.53**	**121**	*e*P		**P**	**16 56 36.8**	**+0.5**
	2.6nm,0.5s,mb4.1							
ASAR	**Alice Springs**	**42.82**	**126**	P		**P**	**16 56 46.7**	**-0.1**
	0.5nm,0.8s,mb3.3,baz=299,slow=8.4,SNR=6.1							
ASAR				pP		pP	16 56 57.3	-0.4
	0.3nm,0.7s,baz=293,slow=8.1,SNR=1.6							
SONM	**Songino Array**	**48.02**	**8**	P		**P**	**16 57 29.0**	**+1.0**
	0.6nm,0.6s,mb3.8,baz=190,slow=9.7,SNR=6.0							
MKAR	**Makanchi Array**	**48.13**	**346**	P		**P**	**16 57 28.8**	**0.0**
	0.6nm,0.5s,mb3.9,baz=160,slow=9.8,SNR=9.4							
MKAR				pP		pP	16 57 39.5	-0.4
	0.7nm,0.6s,baz=164,slow=9.2,SNR=5.8							
STKA	**Stephens Creek**	**52.72**	**132**	P		**P**	**16 58 02.7**	**-0.8**
	1.0nm,0.7s,mb3.8,baz=332,slow=6.6,SNR=3.7							
STKA	**Stephens Creek**	**52.72**	**132**	P		**P**	**16 58 02.7**	**-0.8**
ARCES	**ARCESS Array B**	**83.40**	**340**	P		**P**	**17 01 15.5**	**-0.5**
	0.6nm,0.4s,mb4.0,baz=104,slow=5.1,SNR=7.6							

ISCJB ***16*** *16:50:18.4±0.7,1376N±006×1205E±01,h121km±7km, mb3.2/3,Error ellipse: s-maj=18.8km s-min=9.1km az=34.3*

IDC ***16*** *16:50:19.4±3.0,1403N×121.45E,h111km±34km,mb2.9/3, mb1 3.0/3,mb1mx2.9/17,mbtmp3.2/3,Error ellipse: s-maj=143.6km s-min=22.4km az=72.0*

MAN ***16*** *16:50:19.9,1372N×120.55E,h84km,mb3.0,ML4.3,MS3.5*

ISC 16 16:50:19.4±0.7,1376N±006×1205E±01,h114km±7km,n14, σ0§60/16,mb3.2/3,1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.23**	**264**	*e*P		**Pn**	**16 50 34.6**	**-0.8**
PGP	**Puerto Galera**	**0.53**	**119**	*i*P		**Pn**	**16 50 31.5**	**-5.3**
TGY	**Tagaytay City**	**0.56**	**52**	P		**Pn**	**16 50 37.6**	**+0.5**
	185nm,0.3s,baz=198,slow=2.2,SNR=20							
TGY				S		**Sn**	**16 50 50.8**	**+0.4**
	968nm,0.3s,baz=327,slow=23,SNR=79							
POLP	**Polilio Island**	**1.71**	**55**	*e*P		**Pn**	**16 50 49.8**	**+0.8**
POLP				*e*S		**Sn**	**16 51 11.3**	**-0.2**
BUSP	**Coron**	**1.76**	**189**	*e*P		**Pn**	**16 50 49.5**	**-0.1**
PCPH	**Palayan**	**1.89**	**18**	*e*P		**Pn**	**16 50 51.0**	**-0.2**
OTRP	**Odiongan**	**2.04**	**133**	*e*P		**Pn**	**16 50 52.7**	**-0.4**
BALP	**Baler**	**2.24**	**28**	*e*P		**Pn**	**16 50 56.1**	**+0.5**
ENPP	**El Nido**	**2.74**	**202**	*e*P		**Pn**	**16 51 02.8**	**+0.8**
CUYO	**Cuyo Island**	**2.94**	**170**	*e*P		**Pn**	**16 51 04.4**	**-0.2**
CAUP	**Cauayan**	**3.42**	**22**	*e*P		**Pn**	**16 51 09.7**	**-1.4**
SONM	**Songino Array**	**35.94**	**344**	P		**P**	**16 57 09.3**	**+0.5**
	0.6nm,0.8s,mb3.6,baz=163,slow=8.5,SNR=5.5							
WRA	**Warramunga Arr**	**36.16**	**158**	P		**P**	**16 57 10.2**	**-0.4**
	0.1nm,0.5s,mb3.0,baz=342,slow=8.6,SNR=2.9							
ASAR	**Alice Springs**	**39.44**	**160**	P		**P**	**16 57 38.5**	**+0.3**
	0.1nm,0.4s,mb3.0,baz=335,slow=7.4,SNR=4.4							

IDC 16 16:53:31.2±2.1,007N×9722E,h0km,mb3.8/4,mb1 3.8/5, mb1mx3.6/17,mbtmp3.7/5,ML3.0/1,MS3.7/1,Ms1 3.7/1, ms1mx2.8/19,Error ellipse: s-maj=65.7km s-min=22.8km az=63.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.20**	**32**	Pn		Pn	16 54 22.7	0.0
	1.8nm,0.3s,baz=252,slow=13,SNR=5.2							
PSI				LR		LR	16 55 49.7	
	comp=Z,1μm,21.9s,baz=32,slow=44							
WRA	**Warramunga Arr**	**41.43**	**121**	P		P	17 01 19.0	-0.4
	0.8nm,0.8s,baz=302,slow=8.9,SNR=6.7							
ASAR	**Alice Springs**	**42.71**	**126**	P		P	17 01 30.9	+1.0
	0.3nm,0.7s,baz=309,slow=8.1,SNR=3.4							
SONM	**Songino Array**	**48.23**	**8**	P		P	17 02 13.6	0.0
	1.1nm,0.7s,baz=189,slow=8.3,SNR=9.8							
MKAR	**Makanchi Array**	**48.33**	**346**	P		P	17 02 14.4	0.0
	3.7nm,0.7s,baz=155,slow=9.3,SNR=33							

ISCJB ***16*** *16:59:29.2±3.4,242N±03×1089W±03,h10km,mb3.7/2, Error ellipse: s-maj=51.1km s-min=15.2km az=100.0*

NEIC ***16*** *16:59:30.9±2.9,2421N×109.04W,h10km,mb3.7/3,Error ellipse: s-maj=45.4km s-min=13.6km az=142.0*

IDC ***16*** *16:59:32.6±4.9,2451N×109.36W,h0km,mb3.8/2, mb1 4.1/5,mb1mx3.8/19,mbtmp3.8/5,ML3.7/3,Error ellipse: s-maj=100.6km s-min=20.6km az=126.0*

ISC 16 16:59:30.8±3.3,242N±03×1090W±03,h10km,n10, σ0§79/10,mb3.7/2,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.18**	**266**	Pn		**Pn**	**16 59 53.4**	**+0.1**
	100nm,0.3s,baz=35,slow=2.6,SNR=85							
MNTX	**Cormdas Mount**	**8.13**	**22**	*e*Pn		**Pn**	**17 01 28.1**	**-0.8**
	8.3nm,1.0s							
MNTX				*e*Pg		Pn	17 02 03.9	+35
MNTX				*e*Sg		Sn	17 03 38.7	+38
ANMO	**Albuquerque**	**10.94**	**11**	Pn		**Pn**	**17 02 09.3**	**+2.0**
	0.1nm,0.3s,baz=198,slow=12,SNR=4.3							
NVAR	**Mina Array Bea**	**16.24**	**333**	Pn		**Pn**	**17 03 19.1**	**+0.2**
	0.1nm,0.3s,baz=157,slow=12,SNR=11							
ELK	**Elko**	**17.30**	**344**	P		**Pn**	**17 03 31.5**	**-0.9**
	22nm,1.5s							
BW06	**Boulder Array**	**18.52**	**359**	*e*P		**Pn**	**17 03 47.4**	**0.0**
	4.8nm,1.2s							
PDAR	**Pinedale Array**	**18.52**	**359**	P		**Pn**	**17 03 47.4**	**-0.1**
	0.1nm,0.3s,baz=163,slow=11,SNR=16							
HLID	**Hailey**	**19.82**	**348**	*e*P		**Pn**	**17 04 02.6**	**-0.4**
	3.8nm,1.1s							
NEW	**Newport**	**24.86**	**347**	P		**P**	**17 04 54.2**	**+0.8**
	7.7nm,0.9s,mb4.2,baz=160,slow=11,SNR=9.1							
YKA	**Yellowknife Ar**	**38.47**	**356**	P		**P**	**17 06 52.1**	**-0.7**
	0.6nm,1.0s,mb3.3,baz=165,slow=7.7,SNR=6.1							

BJI ***16*** *17:00:12.9,0.17S×9728E,h33km,mB5.5,mb4.7,Ms5.4, Msz5.0*

ISCJB ***16*** *17:00:14.5±0.5,0.17N±007×97.12E±009,h33km,mb4.5/29, Error ellipse: s-maj=14.8km s-min=7.9km az=108.8*

MOS ***16*** *17:00:14.0±1.2,0.18N×9703E,h33km,mb4.9/9,Error ellipse: s-maj=16.9km s-min=10.6km az=100.1*

IDC ***16*** *17:00:15.3±0.6,003S×9681E,h32km±3km,mb4.2/13, mb1 4.4/13,mb1mx4.2/18,mbtmp4.4/13,Error ellipse: s-maj=32.9km s-min=10.1km az=46.0*

NEIC ***16*** *17:00:16.2±0.5,0.13N×9707E,mb4.7/10,Error ellipse: s-maj=14.1km s-min=7.5km az=53.0*

ISC 16 17:00:17.1±0.6,018N±008×9712E±009,h35km, h35km±.7km:pP-P,n51,σ1§16/48,mb4.5/29,2C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.17**	**35**	Pn		**Pn**	**17 01 02.6**	**-1.9**
	2.3nm,0.3s,baz=172,slow=12,SNR=17							
KULM	**Kulim**	**6.18**	**35**	*e*P		**Pn**	**17 01 45.0**	**-0.9**
KMI	**Kunming**	**25.39**	**12**	P		**P**	**17 05 43.0**	**+1.9**
KMI				AP		pP	17 05 53.1	+2.0
KMI				AMB		AMB		
	comp=Z,13nm,1.3s,mb4.3							
JIRN	**Jiri**	**29.27**	**340**	*e*P		**P**	**17 06 17.1**	**+1.2**
GUN	**Gumba**	**29.61**	**340**	*e*P		**P**	**17 06 20.4**	**+1.5**
	comp=Z,16nm,0.7s,mb4.8							
KKN	**Kakani**	**29.71**	**338**	*e*P		**P**	**17 06 20.6**	**+0.8**
	comp=Z,12nm,0.9s,mb4.6							
KKN	**Kakani**	**29.71**	**338**	*e*P		**P**	**17 06 20.6**	**+0.8**
KKN				pmax		pmax		
	comp=Z,12nm,0.9s,mb4.6							
LSA	**Lhasa**	**29.91**	**350**	*e*P		**P**	**17 06 23.3**	**+1.8**
LSA				pmax		pmax		
	comp=Z,8.0nm,0.9s,mb4.5							
LSA	**Lhasa**	**29.91**	**350**	*e*P		**P**	**17 06 23.3**	**+1.8**
	comp=Z,7.8nm,0.9s,mb4.4							
GKN	**Gorkha**	**30.15**	**338**	*e*P		**P**	**17 06 24.6**	**+1.0**
KOLN	**Koldanda**	**30.35**	**336**	*e*P		**P**	**17 06 26.7**	**+1.3**
	comp=Z,18nm,0.8s,mb4.9							
FITZ	**Fitzroy Crossi**	**33.41**	**124**	*e*P		**P**	**17 06 52.6**	**+0.3**
	comp=Z,8.7nm,0.9s,mb4.7							
FITZ				*i*		pP	17 07 02.3	-0.1
FITZ	**Fitzroy Crossi**	**33.41**	**124**	P		**P**	**17 06 52.1**	**-0.2**
	comp=Z,4.7nm,0.8s,mb4.5,baz=304,slow=6.3,SNR=8.3							
FITZ				pP		pP	17 07 02.1	-0.4
	comp=Z,4.8nm,0.7s,baz=283,slow=10.0,SNR=5.9							
GTA	**Gaotai**	**39.13**	**3**	*e*P		**P**	**17 07 41.8**	**+0.7**
GTA				AMB		AMB		
	comp=Z,7.0nm,0.8s,mb4.4							
WRA	**Warramunga Arr**	**41.57**	**121**	P		**P**	**17 08 01.7**	**+0.3**
	comp=Z,13nm,0.8s,mb4.6,baz=300,slow=9.0,SNR=77							
WRA				pP		pP	17 08 11.6	-0.1
	comp=Z,10nm,0.8s,baz=299,slow=9.0,SNR=17							
WRAB	**Tennant Creek**	**41.58**	**121**	*e*P		**P**	**17 08 01.8**	**+0.4**
WRAB				*e*		pP	17 08 11.8	+0.1
WRAB				pmax		pmax		
	comp=Z,19nm,0.8s,mb4.8							
WRAB	**Tennant Creek**	**41.58**	**121**	*e*P		**P**	**17 08 01.8**	**+0.4**
	comp=Z,19nm,0.8s,mb4.8							
WRAB				*e*		pP	17 08 11.8	+0.1
WB2	**Warramunga Arr**	**41.58**	**121**	*i*P		**P**	**17 08 01.9**	**+0.4**
WB2				*i*		pP	17 08 11.9	+0.2
ASAR	**Alice Springs**	**42.85**	**126**	P		**P**	**17 08 12.0**	**+0.2**
	comp=Z,1.8nm,0.7s,mb3.9,baz=300,slow=8.0,SNR=31							
ASAR				pP		pP	17 08 21.8	-0.4
	comp=Z,2.3nm,0.7s,baz=294,slow=8.2,SNR=8.7							
WMQ	**Urumqi**	**44.26**	**350**	*e*P		**P**	**17 08 27.8**	**+4.7**
SONM	**Songino Array**	**48.15**	**8**	P		**P**	**17 08 54.5**	**+0.8**
	comp=Z,4.1nm,0.7s,mb4.6,baz=190,slow=8.8,SNR=43							
SONM				PcP		PcP	17 10 19.6	-1.2
	comp=Z,0.9nm,0.6s,baz=204,slow=2.8,SNR=3.1							
MKAR	**Makanchi Array**	**48.21**	**346**	P		**P**	**17 08 54.6**	**+0.4**
	comp=Z,4.0nm,0.8s,mb4.6,baz=154,slow=8.5,SNR=40							
MKAR				pP		pP	17 09 03.9	-0.7
	comp=Z,4.8nm,0.7s,baz=139,slow=8.0,SNR=15							
CN2	**Changchun**	**50.25**	**27**	*e*P		**P**	**17 09 10.1**	**+0.3**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb5.0							
ZAK	**Zakamensk**	**50.30**	**5**	*e*P		**P**	**17 09 09.2**	**-0.9**
ZAK				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.5							
PMG	**Port Moresby**	**50.71**	**102**	P		**P**	**17 09 13.9**	**+0.7**
	comp=Z,17nm,0.8s,mb5.0,baz=248,slow=4.7,SNR=6.9							
CTA	**Charters Tower**	**52.13**	**116**	*e*P		**P**	**17 09 25.0**	**+1.1**
	comp=Z,7.7nm,0.9s,mb4.6							
CTA				*i*		pP	17 09 34.7	+0.3
CTA	**Charters Tower**	**52.13**	**116**	P		**P**	**17 09 24.5**	**+0.6**
	comp=Z,7.7nm,0.8s,mb4.7,baz=298,slow=7.8,SNR=5.6							
CTA				pP		pP	17 09 34.6	+0.3
	comp=Z,13nm,1.0s,baz=295,slow=8.5,SNR=3.8							
CTA	**Charters Tower**	**52.13**	**116**	*e*P		**P**	**17 09 25.0**	**+1.1**
CTA				*i*		pP	17 09 34.7	+0.3
CTA				pmax		pmax		
	comp=Z,8.0nm,0.9s							
MJAR	**Matsushiro Arr**	**52.50**	**42**	P		**P**	**17 09 26.8**	**+0.1**
	comp=Z,1.4nm,0.7s,mb4.0,baz=228,slow=5.9,SNR=8.1							
MJAR	**Matsushiro Arr**	**52.50**	**42**	P		**P**	**17 09 26.8**	**+0.1**
STKA	**Stephens Creek**	**52.74**	**132**	*e*P		**P**	**17 09 27.6**	**-0.8**
	comp=Z,6.5nm,0.7s,mb4.7							
STKA				*i*		pP	17 09 37.6	-1.3
STKA	**Stephens Creek**	**52.74**	**132**	P		**P**	**17 09 27.2**	**-1.2**
	comp=Z,8.6nm,0.7s,mb4.8,baz=306,slow=7.0,SNR=21							
STKA				pP		pP	17 09 37.4	-1.5
	comp=Z,11nm,0.8s,baz=308,slow=6.1,SNR=12							
KURK	**Kurchatov**	**52.76**	**345**	*e*P		**P**	**17 09 28.6**	**+0.1**
KURK				pmax		pmax		
	comp=Z,9.0nm,1.2s,mb4.6							
KURK	**Kurchatov**	**52.76**	**345**	*e*P		**P**	**17 09 28.6**	**+0.1**
	comp=Z,8.5nm,1.2s,mb4.5							
MDJ	**Mudanjiang**	**52.80**	**29**	P		**P**	**17 09 30.0**	**+1.2**
MDJ				AMB		AMB		
	comp=Z,6.0nm,0.9s,mb4.5							
MDJ				AMB		AMB		
	comp=Z,707nm,5.9s							
NVS	**Novosibirsk**	**55.67**	**350**	*e*P		**P**	**17 09 47.6**	**-2.1**
NVS				pmax		pmax		
	comp=N,6.0nm,1.4s							
NVS				pmax		pmax		
	comp=E,5.0nm,1.4s							
NVS				pmax		pmax		
	comp=Z,13nm,1.4s,mb4.8							
KLR	**Kul'dur**	**57.20**	**26**	*e*P		**P**	**17 09 57.8**	**-2.8**
BRVK	**Borovoye**	**57.25**	**341**	P		**P**	**17 09 59.9**	**-1.1**
BRVK				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb4.0							
BRVK	**Borovoye**	**57.25**	**341**	P		**P**	**17 09 59.9**	**-1.0**
	comp=Z,0.8nm,0.6s,mb3.9							
BOD	**Bodaibo**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTVZ	**Oturere**	**0.03**	**59**	P*	Pn	17 27 22.3	-0.1
OTVZ				S*	Sn	17 27 32.0	+0.7
NGZ	**Ngauruhoe**	**0.03**	**272**	P*	Pn	17 27 22.4	0.0
NGZ				S*	Sn	17 27 31.0	-0.3
WTVZ	**West Tongariro**	**0.07**	**329**	P*	Pn	17 27 22.1	-0.4
WTVZ				S*	Sn	17 27 31.9	+0.5
WPVZ	**Whakapapa**	**0.08**	**249**	P*	Pn	17 27 22.4	0.0
WPVZ				S*	Sn	17 27 31.7	+0.3
KRVZ	**Karewarewa**	**0.08**	**2**	P*	Pn	17 27 22.2	-0.2
KRVZ				S*	Sn	17 27 32.3	+0.9
TUVZ	**Tukino**	**0.09**	**172**	P*	Pn	17 27 22.6	+0.2
TUVZ				S*	Sn	17 27 31.8	+0.3
FWVZ	**Far West T-bar**	**0.10**	**220**	P*	Pn	17 27 22.6	+0.2
FWVZ				S*	Sn	17 27 31.8	+0.3
DRZ	**Dome Shelter**	**0.11**	**210**	P*	Pn	17 27 23.2	+0.7
DRZ				S*	Sn	17 27 32.5	+1.0
TRVZ	**Turoa**	**0.14**	**209**	P*	Pn	17 27 22.7	+0.1
TRVZ				S*	Sn	17 27 31.8	+0.1
WNVZ	**Wahianoa**	**0.15**	**191**	P*	Pn	17 27 22.6	0.0
WNVZ				S*	Sn	17 27 31.9	+0.2
TWVZ	**Taurewa**	**0.19**	**304**	P*	Pn	17 27 22.6	-0.2
TWVZ				S*	Sn	17 27 31.9	0.0
KATZ	**Kakaramea**	**0.21**	**13**	P*	Pn	17 27 22.7	-0.1
MTVZ	**Mangateitei**	**0.24**	**212**	P*	Pn	17 27 22.8	-0.1
MTVZ				S*	Sn	17 27 32.3	-0.1
MOVZ	**Moawhango**	**0.25**	**159**	P*	Pn	17 27 22.7	-0.3
MOVZ				S*	Sn	17 27 31.7	-0.6
PKVZ	**Pokaka**	**0.25**	**243**	P*	Pn	17 27 22.8	-0.2
PKVZ				S*	Sn	17 27 32.7	+0.3
RITZ	**Rihia Road**	**0.26**	**41**	P*	Pn	17 27 23.3	+0.3
RATZ	**Rangitukua**	**0.33**	**19**	P*	Pn	17 27 23.2	-0.2
HATZ	**Hinemaiaia**	**0.46**	**51**	P*	Pn	17 27 24.1	-0.2
WATZ	**Wairara**	**0.47**	**9**	P*	Pn	17 27 24.5	+0.1
WHTZ	**Whakaora**	**0.57**	**26**	P*	Pn	17 27 25.6	+0.4
BKZ	**Black Stump Fm**	**0.67**	**89**	P*	Pn	17 27 26.1	0.0
WAZ	**Wanganui**	**0.77**	**221**	PN	Pn	17 27 27.1	0.0
HIZ	**Hauiti**	**0.90**	**317**	PN	Pn	17 27 28.4	-0.1
TSZ	**Takapari Road**	**0.92**	**164**	PN	Pn	17 27 28.8	0.0

IDC 16 17:38:07.3±2.0, 005S×9715E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.5/16, mbtmp3.9/3, ML2.7/1, Error ellipse: s-maj=59.2km s-min=29.7km az=56.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.34**	**32**	Pn	Pn	17 39 00.3	-0.3
	0.8nm,0.3s,baz=299,slow=13,SNR=3.4						
WRA	**Warramunga Arr**	**41.43**	**121**	P	P	17 45 55.8	+0.3
	0.4nm,0.9s,baz=303,slow=9.3,SNR=2.8						
MKAR	**Makanchi Array**	**48.43**	**346**	P	P	17 46 51.3	+0.1
	0.4nm,0.4s,baz=161,slow=8.6,SNR=8.7						
ARCES	**ARCESS Array B**	**83.69**	**340**	P	P	17 50 37.4	-0.5
	6.4nm,1.1s,baz=90,slow=4.7,SNR=4.5						

*IDC **16** 17:40:51.5±1.4, 007S×9703E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/17, mbtmp3.7/7, ML3.0/1, Error ellipse: s-maj=49.4km s-min=23.2km az=56.0*
*ISCJB **16** 17:40:55.3±1.1, 01N±01×972E±02, h33km, mb3.8/6, Error ellipse: s-maj=23.8km s-min=17.3km az=170.9*
*NEIC **16** 17:40:56.5±0.8, 003N×97.18E, h30km, Error ellipse: s-maj=19.4km s-min=14.3km az=82.0*

ISC 16 17:40:57.5±1.1, 01N±01×972E±02, h35km, n9, σ0§59/9, mb3.8/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.19**	**32**	Pn	**Pn**	**17 41 44.9**	**-0.2**
	1.6nm,0.3s,baz=247,slow=4.8,SNR=5.1						
PSI	**Prapat**	**3.19**	**32**	Pn	**Pn**	**17 41 44.9**	**-0.2**
KULM	**Kulim**	**6.20**	**34**	*e*P	**Pn**	**17 42 26.3**	**-0.2**
WRA	**Warramunga Arr**	**41.45**	**121**	P	**P**	**17 48 41.6**	**+0.9**
	0.5nm,0.5s,mb3.4,baz=301,slow=9.0,SNR=5.8						
SONM	**Songino Array**	**48.22**	**8**	P	**P**	**17 49 34.6**	**0.0**
	0.4nm,0.7s,mb3.6,baz=187,slow=10,SNR=2.3						
MKAR	**Makanchi Array**	**48.31**	**346**	P	**P**	**17 49 36.4**	**+1.0**
	0.4nm,0.6s,mb3.7,baz=163,slow=8.2,SNR=7.8						
STKA	**Stephens Creek**	**52.61**	**132**	P	**P**	**17 50 07.0**	**-0.8**
	1.0nm,0.6s,mb3.9,baz=313,slow=9.1,SNR=4.2						
AKASG	**Malin Array Be**	**76.14**	**323**	P	**P**	**17 52 41.1**	**-0.6**
	0.3nm,0.3s,mb3.7,baz=93,slow=5.3,SNR=4.1						
ARCES	**ARCESS Array B**	**83.58**	**340**	P	**P**	**17 53 21.9**	**-0.1**
	2.3nm,0.9s,mb4.3,baz=110,slow=5.2,SNR=2.6						

*IDC **16** 17:51:06.7±1.1, 004S×9694E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.8/16, mbtmp3.9/7, ML3.7/1, Error ellipse: s-maj=36.5km s-min=19.6km az=49.0*
*ISCJB **16** 17:51:10.5±0.8, 006N±0.10×972E±0.1, h33km, mb3.9/9, Error ellipse: s-maj=15.2km s-min=13.2km az=102.1*
*NEIC **16** 17:51:11.6±1.0, 002N×97.11E, h30km, mb4.3/2, Error ellipse: s-maj=21.8km s-min=16.2km az=66.0*

ISC 16 17:51:12.9±0.8, 007N±010×972E±01, h35km, n15, σ1§13/15, mb3.9/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.23**	**33**	Pn	**Pn**	**17 51 59.8**	**-1.4**
	7.4nm,0.3s,baz=188,slow=8.9,SNR=20						
IPM	**Ipoh**	**5.84**	**41**	P	**Pn**	**17 52 37.5**	**+0.6**
KULM	**Kulim**	**6.25**	**34**	*e*P	**Pn**	**17 52 41.3**	**-1.2**
KGM	**Kluang**	**6.45**	**73**	P	**Pn**	**17 52 45.1**	**-0.2**
SHL	**Shillong**	**25.86**	**349**	*e*P	**P**	**17 56 42.0**	**+0.9**
WRA	**Warramunga Arr**	**41.48**	**121**	P	**P**	**17 58 56.0**	**-0.4**
	1.0nm,0.6s,mb3.6,baz=303,slow=9.0,SNR=18						
WRAB	**Tennant Creek**	**41.48**	**121**	*e*P	**P**	**17 58 55.4**	**-1.0**
	3.9nm,0.6s,mb4.2						
ASAR	**Alice Springs**	**42.75**	**126**	P	**P**	**17 59 08.2**	**+1.5**
	0.7nm,0.6s,mb3.6,baz=299,slow=7.5,SNR=15						
KS15	**Wonju Array Si**	**46.77**	**34**	*e*P	**P**	**17 59 41.5**	**+2.7**
SONM	**Songino Array**	**48.25**	**8**	P	**P**	**17 59 51.1**	**+0.9**
	0.9nm,0.8s,mb3.9,baz=186,slow=8.1,SNR=4.6						
MKAR	**Makanchi Array**	**48.32**	**346**	P	**P**	**17 59 51.8**	**+1.0**
	2.5nm,0.8s,mb4.3,baz=160,slow=9.1,SNR=20						
MJAR	**Matsushiro Arr**	**52.55**	**42**	P	**P**	**18 00 22.8**	**+0.1**
	0.4nm,0.3s,mb3.8,baz=218,slow=7.0,SNR=4.7						
KURK	**Kurchatov**	**52.87**	**345**	*e*P	**P**	**18 00 25.5**	**+0.4**
	2.2nm,0.7s,mb4.2						
BRTR	**Keskin Array B**	**69.84**	**313**	P	**P**	**18 02 18.1**	**-1.7**
	1.0nm,0.7s,mb3.9,baz=138,slow=7.5,SNR=6.0						
AKASG	**Malin Array Be**	**76.13**	**323**	P	**P**	**18 02 55.8**	**-1.3**
	0.4nm,0.4s,mb3.7,baz=94,slow=5.2,SNR=7.0						

*IDC **16** 18:02:56.0±2.3, 4324N×105.17W, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=49.6km s-min=8.0km az=155.0*
*ISCJB **16** 18:02:58.1±0.6, 4373N±003×10522W±007, h0km, mb4.4/1, Error ellipse: s-maj=6.9km s-min=4.6km az=9.8*
*NEIC **16** 18:02:59.4±0.5, 4368N×10521W, h0km, ML3.2, Error ellipse: s-maj=7.6km s-min=5.3km az=138.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.

ISC 16 18:02:59.3±0.5, 4370N±003×10517W±006, h0km, n29, σ0§88/37, mb4.4/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.92**	**63**	*e*Pg	**Pg**	**18 03 18.5**	**+1.5**
PHWY	**Pilot Hill**	**2.41**	**185**	*e*Pn	**Pn**	**18 03 40.3**	**+0.4**
PHWY				*e*Sn	**Sn**	**18 04 10.6**	**+0.5**
RWWY	**Rawlins**	**2.51**	**217**	*e*Pn	**Pn**	**18 03 42.0**	**+0.7**
RWWY				*e*Sn	**Sn**	**18 04 13.3**	**+0.7**
LAO	**LASA Array**	**3.08**	**346**	*e*Pn	**Pn**	**18 03 48.9**	**-0.2**
BW06	**Boulder Array**	**3.34**	**255**	*e*Pn	**Pn**	**18 03 52.3**	**-0.4**
BW06				*e*Sn	**Sn**	**18 04 35.7**	**+2.7**
PDAR	**Pinedale Array**	**3.34**	**255**	Pn	**Pn**	**18 03 51.9**	**-0.8**
	3.0nm,0.3s,baz=79,slow=18,SNR=40						
PDAR				Pg	**Pg**	**18 03 57.6**	**-5.6**
	8.0nm,0.3s,baz=82,slow=20,SNR=58						
PDAR				Lg		18 04 38.0	
	12nm,0.3s,baz=75,slow=29,SNR=17						
GCMT	**Greycliff**	**3.82**	**305**	*e*Pn	**Pn**	**18 04 00.1**	**+0.7**
LKWY	**Lake**	**3.86**	**285**	*e*Pn	**Pn**	**18 04 00.7**	**+0.8**
ISCO	**Idaho Springs**	**3.91**	**185**	*e*Pn	**Pn**	**18 04 05.4**	**+4.8**
ISCO				*e*Sn	**Sb**	**18 04 56.8**	**-0.2**
FLWY	**Flagg Ranch**	**4.01**	**277**	*e*Pn	**Pn**	**18 04 02.8**	**+0.8**
MOOW	**Moose Ponds**	**4.04**	**273**	*e*Pn	**Pn**	**18 04 00.8**	**-1.6**
REDW	**Red Top Meadow**	**4.14**	**267**	*e*Pn	**Pn**	**18 04 04.4**	**+0.6**
IMW	**Indian Meadow**	**4.18**	**275**	*e*Pn	**Pn**	**18 04 05.0**	**+0.7**
TPAW	**Teton Pass**	**4.20**	**269**	*e*Pn	**Pn**	**18 04 04.6**	**0.0**
SMCO	**Snowmass**	**4.72**	**197**	*e*Pg	**Pb**	**18 04 22.8**	**-0.1**
SMCO				*e*Sn	**Sb**	**18 05 24.6**	**+4.4**
HWUT	**Hardware Ranch**	**5.16**	**248**	*e*Pn	**Pn**	**18 04 17.5**	**-0.2**
	6.7nm,0.5s						
TCUT	**Toone Canyon**	**5.29**	**243**	*e*Pn	**Pn**	**18 04 17.3**	**-2.2**
EGMT	**Eagleton**	**5.38**	**325**	*e*Pn	**Pn**	**18 04 20.2**	**-0.6**
	6.7nm,0.3s						
HRY	**Holter Researc**	**5.58**	**305**	*e*Pn	**Pn**	**18 04 23.7**	**+0.1**
DAU	**Daniels Canyon**	**5.59**	**236**	*e*Pn	**Pn**	**18 04 23.9**	**+0.2**
MCMT	**McKenzie Canyo**	**5.63**	**284**	*e*Pn	**Pn**	**18 04 24.9**	**+0.7**
SRU	**San Rafael**	**6.10**	**223**	*e*Pn	**Pn**	**18 04 29.8**	**-0.9**
	6.7nm,0.5s						
SRU				*e*Sn	**Sn**	**18 05 39.6**	**-1.5**
SRU				*e*Sg	**Sg**	**18 06 05.5**	**-10**
CHMT	**Chamberlain Mo**	**6.54**	**302**	*e*Pn	**Pn**	**18 04 36.3**	**-0.4**
MSU	**Marysvale**	**7.40**	**228**	*e*Pn	**Pn**	**18 04 48.6**	**+0.1**
ULM	**Lac du Bonnet**	**9.12**	**41**	Pn	**Pn**	**18 05 11.4**	**-0.8**
ULM				Lg		18 07 47.2	
ULM	**Lac du Bonnet**	**9.12**	**41**	Pn	**Pn**	**18 05 11.4**	**-0.8**
	1.6nm,0.3s,baz=237,slow=12,SNR=11						
ULM				Lg		18 07 47.2	
	0.4nm,0.3s,baz=147,slow=16,SNR=3.8						
YKA	**Yellowknife Ar**	**19.62**	**347**	P	**Pn**	**18 07 30.4**	**-0.1**
YKA	**Yellowknife Ar**	**19.62**	**347**	P	**Pn**	**18 07 30.4**	**-0.1**
	0.4nm,0.5s,baz=157,slow=12,SNR=7.9						
ARCES	**ARCESS Array B**	**61.43**	**18**	P	**P**	**18 13 16.4**	**-1.0**
	2.8nm,0.9s,mb4.4,baz=327,slow=6.5,SNR=4.3						

IDC 16 18:18:52.3±2.2, 001S×9710E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/17, mbtmp3.4/4, ML2.7/1, MS3.6/1, Ms1 3.6/1, ms1mx2.4/20, Error ellipse: s-maj=65.1km s-min=26.5km az=62.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.33**	**33**	Pn	Pn	18 19 45.5	-0.3
	0.9nm,0.3s,baz=187,slow=19,SNR=3.0						
PSI				LR	LR	18 20 28.8	
	comp=Z,1μm,20.8s,baz=289,slow=30						
WRA	**Warramunga Arr**	**41.49**	**121**	P	P	18 26 41.0	-0.1
	0.7nm,0.8s,baz=302,slow=9.0,SNR=5.6						
ASAR	**Alice Springs**	**42.76**	**126**	P	P	18 26 52.1	+0.7
	0.3nm,0.8s,baz=300,slow=9.5,SNR=4.0						
MKAR	**Makanchi Array**	**48.39**	**346**	P	P	18 27 35.9	-0.1
	1.0nm,0.6s,baz=153,slow=8.4,SNR=13						

IDC 16 18:21:14.6±2.2, 009N×9729E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.5/17, mbtmp3.7/4, ML3.3/1, MS4.6/1, Ms1 4.6/1, ms1mx3.2/22, Error ellipse: s-maj=67.3km s-min=25.5km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.15**	**31**	Pn	Pn	18 22 05.4	0.0
	3.5nm,0.3s,baz=237,slow=2.3,SNR=4.1						
FITZ	**Fitzroy Crossi**	**33.22**	**124**	LR	LR	18 42 29.5	
	comp=Z,1μm,21.5s,baz=133,slow=38						
WRA	**Warramunga Arr**	**41.38**	**121**	P	P	18 29 01.9	-0.6
	0.7nm,0.4s,baz=303,slow=8.9,SNR=9.3						
ASAR	**Alice Springs**	**42.67**	**126**	P	P	18 29 14.3	+1.4
	0.4nm,0.7s,baz=304,slow=7.8,SNR=4.9						
MKAR	**Makanchi Array**	**48.33**	**346**	P	P	18 29 57.6	-0.1
	1.4nm,0.5s,baz=164,slow=9.2,SNR=16						

IDC 16 18:23:14.2±1.9, 002N×9683E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.7/17, mbtmp3.8/6, ML2.8/1, Error ellipse: s-maj=57.7km s-min=24.7km az=66.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.47**	**37**	Pn	Pn	18 24 09.1	-0.3
	1.0nm,0.3s,baz=185,slow=12,SNR=1.7						
WRA	**Warramunga Arr**	**41.74**	**121**	P	P	18 31 05.7	+0.7
	2.3nm,0.6s,baz=300,slow=9.0,SNR=19						
ASAR	**Alice Springs**	**43.00**	**126**	P	P	18 31 16.4	+1.2
	0.3nm,0.6s,baz=302,slow=7.9,SNR=4.8						
SONM	**Songino Array**	**48.34**	**9**	P	P	18 31 57.0	-0.4
	0.7nm,0.6s,baz=205,slow=6.4,SNR=3.7						
STKA	**Stephens Creek**	**52.86**	**131**	P	P	18 32 30.4	-1.2
	1.8nm,0.8s,baz=320,slow=10.0,SNR=4.3						
ARCES	**ARCESS Array B**	**83.51**	**340**	P	P	18 35 44.1	+0.2
	2.7nm,0.9s,baz=103,slow=3.9,SNR=4.0						

*IDC **16** 18:26:14.7±1.6, 0.10S×97.15E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.8/17, mbtmp4.0/7, ML3.3/1, Error ellipse: s-maj=58.1km s-min=20.4km az=61.0*
*NEIC **16** 18:26:17.9±0.7, 0.12S×97.15E, h25km, mb4.5/3, Error ellipse: s-maj=19.8km s-min=10.1km az=84.0*
*ISCJB **16** 18:26:18.1±0.8, 003N±007×973E±01, h33km, mb4.2/9, Error ellipse: s-maj=17.0km s-min=10.0km az=13.8*

ISC 16 18:26:20.3±0.8, 002N±007×973E±01, h35km, n15, σ0§56/14, mb4.2/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.22**	**31**	Pn	**Pn**	**18 27 07.5**	**-0.9**
	2.8nm,0.3s,baz=189,slow=5.8,SNR=5.7						
PSI	**Prapat**	**3.22**	**31**	Pn	**Pn**	**18 27 07.5**	**-0.9**
KULM	**Kulim**	**6.23**	**33**	*e*Pn	**Pn**	**18 27 49.2**	**-0.5**
KULM				*e*		18 28 00.1	
KULM				*e*Sn	**Sn**	**18 29 00.2**	**+0.5**
COCO	**West Island**	**12.14**	**182**	Pn	**Pn**	**18 29 05.0**	**-5.6**
MBWA	**Marble Bar**	**30.41**	**135**	*e*P	**P**	**18 32 28.9**	**-0.2**
	16nm,1.1s,mb4.7						
WRA	**Warramunga Arr**	**41.38**	**121**	P	**P**	**18 34 03.3**	**+0.4**
	1.8nm,0.8s,mb3.7,baz=303,slow=8.9,SNR=7.6						
ASAR	**Alice Springs**	**42.65**	**126**	P	**P**	**18 34 13.9**	**+0.6**
	0.4nm,0.8s,mb3.2,baz=294,slow=7.5,SNR=5.0						
SONM	**Songino Array**	**48.28**	**8**	P	**P**	**18 34 58.5**	**+0.6**
	1.3nm,0.6s,mb4.1,baz=195,slow=7.2,SNR=5.3						
MKAR	**Makanchi Array**	**48.39**	**346**	P	**P**	**18 34 59.3**	**+0.5**
	2.6nm,0.5s,mb4.5,baz=162,slow=9.2,SNR=27						
STKA	**Stephens Creek**	**52.53**	**131**	P	**P**	**18 35 29.4**	**-0.6**
	2.0nm,0.6s,mb4.2,baz=317,slow=7.1,SNR=5.2						
KURK	**Kurchatov**	**52.94**	**345**	*e*P	**P**	**18 35 33.4**	**+0.4**
	3.6nm,0.9s,mb4.3						
ZRNK	**Zerenda**	**57.77**	**340**	P	**P**	**18 36 07.0**	**-0.8**
	5.2nm,1.2s,mb4.4						
ARCES	**ARCESS Array B**	**83.66**	**340**	P	**P**	**18 38 45.1**	**-0.1**
	3.5nm,0.9s,mb4.5,baz=101,slow=5.2,SNR=4.2						
CLNB	**Carlsbad**	**142.19**	**30**	*e*PKPdf	PKPdf	18 45 53.2	+4.4
JCT	**Junction City**	**145.60**	**27**	*e*PKPdf	PKPdf	18 45 56.1	+1.3

*IDC **16** 18:26:57.8±1.0, 3513N×6764E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.8/20, mbtmp3.9/9, ML3.7/2, Error ellipse: s-maj=27.7km s-min=21.1km az=16.0*
*BJI **16** 18:26:59.4, 3562N×6723E, h29km, mb4.2, ML4.1*
*NEIC **16** 18:26:59.6±0.6, 3538N×6773E, h10km, mb4.1/7, Error ellipse: s-maj=12.1km s-min=6.9km az=220.0*
*ISCJB **16** 18:27:01.6±1.2, 3536N±005×6762E±008, h39km±12km, mb3.9/11, Error ellipse: s-maj=11.4km s-min=7.1km az=129.5*
*MOS **16** 18:27:01.3±1.3, 3542N×6767E, h33km, mb4.3/4, Error ellipse: s-maj=15.6km s-min=8.9km az=83.1*

ISC 16 18:27:04.2±1.0, 3531N±005×6763E±008, h49km±11km, n50, σ1§28/51, mb3.9/11, 2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.83**	**112**	P	**Pn**	**18 28 02.1**	**+1.6**
CEP				S	**Sn**	**18 28 51.0**	**+6.8**
DRP	**Derazinda**	**4.15**	**148**	P	**Pn**	**18 28 08.5**	**+3.5**
THW	**Thamme Wali**	**4.24**	**125**	P	**Pn**	**18 28 06.6**	**+0.5**
KSH	**Kashi**	**7.85**	**55**	P	**Pn**	**18 28 57.9**	**+2.2**
KSH				*e*S	**Sn**	**18 30 20.3**	**-2.9**
KSH				Smax			
	comp=N,86nm,1.2s						
KSH				Smax			
	comp=E,30nm,0.6s						
AML	**Almayashu**	**8.29**	**33**	P	**Pn**	**18 29 01.8**	**+0.1**
	SNR=55						
UCH	**Uchtor**	**8.75**	**36**	P	**Pn**	**18 29 08.1**	**+0.1**
	SNR=81						
EKS2	**Erkin-Say**	**8.76**	**31**	P	**Pn**	**18 29 08.4**	**+0.2**
	SNR=31						
KZA	**Kyzart**	**9.00**	**39**	P	**Pn**	**18 29 12.1**	**+0.7**
	SNR=49						
AAK	**Ala-Archa**	**9.05**	**34**	P	**Pn**	**18 29 13.1**	**+0.9**
	SNR=36						
AAK	**Ala-Archa**	**9.05**	**34**	*e*P	**Pn**	**18 29 11.0**	**-1.1**
AAK				pmax	pmax		
	comp=Z,29nm,0.5s						
AAK	**Ala-Archa**	**9.05**	**34**	*e*Pn	**Pn**	**18 29 11.0**	**-1.2**
	comp=Z,29nm,0.5s						
FRU	**Bishkek**	**9.27**	**34**	*e*P	**Pn**	**18 29 15.5**	**+0.4**
FRU				*e*S	**Sn**	**18 31 00.0**	**+2.1**
FRU				pmax	pmax		
	comp=Z,40nm,1.8s						
FRU				smax			
	comp=E,100nm,2.1s						
KBK	**Karagaybulak**	**9.28**	**36**	P	**Pn**	**18 29 15.7**	**+0.4**
	SNR=72						
CHMS	**Chumysh**	**9.46**	**34**	P	**Pn**	**18 29 17.7**	**0.0**
	SNR=22						
USP	**Ospenovka**	**9.56**	**32**	P	**Pn**	**18 29 18.7**	**-0.4**
	SNR=15						
ULHL	**Ulahol**	**9.64**	**42**	P	**Pn**	**18 29 21.0**	**+0.7**
	SNR=13						
TKM2	**Tokmak 2**	**9.79**	**37**	P	**Pn**	**18 29 22.9**	**+0.6**
	SNR=5.5						
KOLN	**Koldanda**	**15.54**	**115**	*e*P	**Pn**	**18 30 38.4**	**-1.5**
MKAR	**Makanchi Array**	**15.90**	**39**	Pn	**Pn**	**18 30 43.5**	**-1.0**
	comp=E,0.4nm,0.3s,baz=228,slow=13,SNR=44						
GKN	**Gorkha**	**16.20**	**112**	*e*P	**Pn**	**18 30 45.7**	**-2.6**
	comp=E,10nm,0.4s						
AKTK	**Aktyubinsk**	**16.66**	**338**	Pn	**Pn**	**18 30 52.9**	**-1.2**
AKTO	**Aktyubinsk**	**16.66**	**338**	Pn	**Pn**	**18 30 52.9**	**-1.2**
	comp=E,0.2nm,0.3s,baz=157,slow=13,SNR=16						
DMN	**Daman**	**16.75**	**112**	*e*P	**Pn**	**18 30 53.8**	**-1.5**
KKN	**Kakani**	**16.79**	**112**	*e*P	**Pn**	**18 30 53.4**	**-2.4**
GUN	**Gumba**	**17.19**	**110**	*e*P	**Pn**	**18 30 59.9**	**-0.8**
KURK	**Kurchatov**	**17.34**	**24**	*e*P	**Pn**	**18 30 59.5**	**-3.0**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KURK	**Kurchatov**	**17.34**	**24**	*e*Pn	**Pn**	**18 30 59.5**	**-3.0**
	comp=Z,3.7nm,0.6s						
JIRN	**Jiri**	**17.55**	**111**	*e*P	**Pn**	**18 31 05.3**	**+0.1**
	comp=Z,13nm,0.6s						
ZRNK	**Zerenda**	**17.66**	**3**	*e*P	**Pn**	**18 31 02.5**	**-4.1**
ZRNK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ZRNK	**Zerenda**	**17.66**	**3**	*e*Pn	**Pn**	**18 31 02.5**	**-4.1**
	comp=Z,9.1nm,0.7s						
BRVK	**Borovoye**	**17.84**	**5**	*e*P	**Pn**	**18 31 05.2**	**-3.6**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BRVK	**Borovoye**	**17.84**	**5**	*e*Pn	**Pn**	**18 31 05.2**	**-3.5**
	comp=Z,10nm,0.7s						
ORR	**Orenburg**	**18.74**	**334**	⇓*i*P	**Pn**	**18 31 18.1**	**-1.6**
ORR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
LSA	**Lhasa**	**20.59**	**99**	P	pP	18 31 47.3	-3.0
LSA				pmax	pmax		
	comp=Z,9.0nm,1.3s						
LSA	**Lhasa**	**20.59**	**99**	P	pP	18 31 47.3	-3.0
	comp=Z,8.5nm,1.3s						
KIV	**Kislovodsk**	**21.00**	**302**	P	**P**	**18 31 43.4**	**0.0**
KIV	**Kislovodsk**	**21.00**	**302**	P	**P**	**18 31 43.4**	**0.0**
ARU	**Arti**	**22.01**	**346**	*de*P	**P**	**18 31 57.5**	**+3.3**
ARU				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.1						
NVS	**Novosibirsk**	**22.33**	**24**	*e*P	**P**	**18 31 56.4**	**-1.2**
NVS				pmax	pmax		
	comp=N,11nm,0.8s						
NVS				pmax	pmax		
	comp=E,7.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.4						
GTA	**Gaotai**	**25.83**	**71**	*e*P	**P**	**18 32 32.8**	**+2.0**
GTA				AP	pP	18 32 37.1	-6.3
GTA				XP	sP	18 32 40.0	-9.2
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb3.8						
BR131	**Keskin Array S**	**27.22**	**289**	P	**P**	**18 32 44.3**	**+1.0**
	comp=Z,6.3nm,1.5s,mb3.9						
BRTR	**Keskin Array B**	**27.22**	**289**	P	**P**	**18 32 45.0**	**+1.6**
	comp=Z,1.6nm,0.9s,mb3.5,baz=108,slow=8.2,SNR=7.6						
SONM	**Songino Array**	**31.25**	**54**	P	**P**	**18 33 19.4**	**+0.3**
	comp=Z,1.4nm,0.8s,mb3.9,baz=264,slow=10.0,SNR=6.2						
NOA	**NORSAR Array B**	**43.71**	**324**	P	**P**	**18 35 05.2**	**+0.9**
	comp=Z,0.9nm,0.7s,mb3.6,baz=102,slow=8.1,SNR=3.8						
NOA	**NORSAR Array B**	**43.71**	**324**	P	**P**	**18 35 05.2**	**+0.9**
TIXI	**Tiksi**	**47.90**	**22**	*e*P	**P**

IDC 16 18:58:40.2±2.3, 005N×9716E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.4/17, mbtmp3.5/4, ML2.8/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/23, Error ellipse: s-maj=68.1km s-min=26.3km az=61.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.26**	**33**	Pn	Pn	18 59 31.7	-0.8
	1.2nm,0.3s,baz=275,slow=10,SNR=3.3						
PSI				LR	LR	19 00 26.7	
	comp=Z,585nm,21.2s,baz=130,slow=34						
WRA	**Warramunga Arr**	**41.48**	**121**	P	P	19 06 28.9	+0.1
	0.9nm,0.7s,baz=298,slow=8.9,SNR=5.3						
ASAR	**Alice Springs**	**42.75**	**126**	P	P	19 06 39.9	+0.6
	0.1nm,0.4s,baz=296,slow=7.5,SNR=4.8						
MKAR	**Makanchi Array**	**48.34**	**346**	P	P	19 07 23.5	0.0
	1.1nm,0.5s,baz=158,slow=8.5,SNR=15						

IDC 16 19:01:34.1±2.1, 001N×9718E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.5/17, mbtmp3.6/5, ML3.2/1, Error ellipse: s-maj=64.9km s-min=24.2km az=65.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.28**	**32**	Pn	Pn	19 02 26.1	-0.6
	2.7nm,0.3s,baz=241,slow=7.9,SNR=6.4						
WRA	**Warramunga Arr**	**41.44**	**121**	P	P	19 09 23.1	+0.7
	0.8nm,0.5s,baz=302,slow=9.0,SNR=9.0						
ASAR	**Alice Springs**	**42.71**	**126**	P	P	19 09 33.8	+1.0
	0.3nm,0.5s,baz=294,slow=7.2,SNR=7.4						
MKAR	**Makanchi Array**	**48.39**	**346**	P	P	19 10 17.8	0.0
	0.6nm,0.6s,baz=153,slow=8.0,SNR=8.8						
STKA	**Stephens Creek**	**52.58**	**131**	P	P	19 10 48.9	-0.7
	0.8nm,0.6s,baz=328,slow=13,SNR=2.6						

ISCJB 16 19:01:37.1±0.6, 4380N×105.16W×007, h0km, mb4.5/1, Error ellipse: s-maj=7.3km s-min=5.7km az=33.3
NEIC 16 19:01:38.4±0.5, 4374N×105.16W, h1km, ML3.0, Error ellipse: s-maj=7.3km s-min=5.9km az=144.0, Suspected Mining explosion.
NEIC 65 km [40 miles] SSE of Gillette.
IDC 16 19:01:38.6±1.6, 4381N×10557W, h0km, mb4.4/1, mb1 3.9/4, mb1mx3.5/21, mbtmp3.7/4, ML3.6/3, MS3.0/1, Ms1 3.0/1, ms1mx2.7/27, Error ellipse: s-maj=42.0km s-min=7.6km az=149.0

ISC 16 19:01:38.4±0.6, 4379N±004×10517W±007, h0km, n21, σ0°94/25, mb4.5/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.88**	**68**	*e*Pn	**Pn**	**19 01 57.6**	**-0.4**
PHWY	**Pilot Hill**	**2.50**	**185**	*e*Pn	**Pn**	**19 02 19.6**	**-0.7**
RWWY	**Rawlins**	**2.58**	**216**	*e*Pn	**Pn**	**19 02 21.3**	**-0.1**
RWWY				*e*Sn	**Sn**	**19 02 54.6**	**+1.1**
LAO	**LASA Array**	**2.99**	**346**	*e*Pn	**Pn**	**19 02 28.1**	**+1.2**
PDAR	**Pinedale Array**	**3.36**	**254**	Pn	**Pn**	**19 02 31.9**	**-0.3**
	4.7nm,0.3s,baz=72,slow=18,SNR=62						
PDAR				Pg	**Pb**	**19 02 37.6**	**-1.2**
	10nm,0.3s,baz=73,slow=19,SNR=38						
PDAR				Lg		19 03 15.8	
	12nm,0.3s,baz=71,slow=34,SNR=10						
PDAR				LR	LR	19 04 06.2	
	comp=Z,232nm,20.2s,baz=352,slow=48						
GCMT	**Greycliff**	**3.77**	**304**	*e*Pn	**Pn**	**19 02 38.0**	**+0.3**
LKWY	**Lake**	**3.84**	**283**	*e*Pn	**Pn**	**19 02 40.2**	**+1.6**
FLWY	**Flagg Ranch**	**4.00**	**276**	*e*Pn	**Pn**	**19 02 40.3**	**-0.6**
ISCO	**Idaho Springs**	**4.00**	**185**	*e*Pn	**Pn**	**19 02 41.0**	**+0.1**
ISCO				*e*Sn	**Sn**	**19 03 27.2**	**-1.4**
MOOW	**Moose Ponds**	**4.04**	**271**	*e*Pn	**Pn**	**19 02 41.8**	**+0.5**
REDW	**Red Top Meadow**	**4.15**	**266**	*e*Pn	**Pn**	**19 02 43.4**	**+0.4**
IMW	**Indian Meadow**	**4.17**	**273**	*e*Pn	**Pn**	**19 02 43.8**	**+0.5**
TPAW	**Teton Pass**	**4.20**	**268**	*e*Pn	**Pn**	**19 02 44.0**	**+0.3**
QLMT	**Earthquake Lak**	**4.61**	**285**	*e*Pn	**Pb**	**19 02 58.9**	**-1.2**
SMCO	**Snowmass**	**4.81**	**197**	*e*Pn	**Pn**	**19 02 54.2**	**+2.2**
SMCO				*e*Pg	**Pb**	**19 03 04.4**	**+0.9**
HWUT	**Hardware Ranch**	**5.19**	**247**	*e*Pn	**Pn**	**19 02 55.5**	**-1.7**
	6.5nm,0.4s						
TCUT	**Toone Canyon**	**5.33**	**242**	*e*Pn	**Pn**	**19 02 59.2**	**0.0**
ULM	**Lac du Bonnet**	**9.05**	**41**	Pn	**Pn**	**19 03 50.9**	**+0.6**
ULM				Lg		19 06 24.4	
ULM	**Lac du Bonnet**	**9.05**	**41**	Pn	**Pn**	**19 03 50.9**	**+0.7**
	1.9nm,0.3s,baz=233,slow=13,SNR=14						
ULM				Lg		19 06 24.4	
	0.1nm,0.3s,baz=147,slow=18,SNR=2.1						
YKA	**Yellowknife Ar**	**19.53**	**347**	P	**Pn**	**19 06 07.3**	**-1.2**
	baz=154,slow=11,SNR=3.4						
ARCES	**ARCESS Array B**	**61.34**	**18**	P	**P**	**19 11 55.2**	**-0.6**
	4.4nm,1.1s,mb4.5,baz=325,slow=8.8,SNR=3.6						

IDC 16 19:03:16.7±2.5, 007S×9756E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.5/17, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=74.9km s-min=28.9km az=69.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.16**	**25**	Pn	Pn	19 04 06.5	-1.3
	4.8nm,0.3s,baz=322,slow=4.3,SNR=9.6						
WRA	**Warramunga Arr**	**41.06**	**121**	P	P	19 11 03.2	+1.3
	0.6nm,0.6s,baz=301,slow=9.3,SNR=3.2						
MKAR	**Makanchi Array**	**48.56**	**346**	P	P	19 12 01.8	+0.1
	0.3nm,0.6s,baz=154,slow=7.6,SNR=2.7						
STKA	**Stephens Creek**	**52.24**	**132**	P	P	19 12 29.1	-0.5
	2.3nm,0.9s,baz=310,slow=6.9,SNR=4.3						

IDC 16 19:09:42.5±4.3, 2101N×14527E, h90km±40km, mb3.5/8, mb1 3.7/9, mb1mx3.5/21, mbtmp3.8/9, Error ellipse: s-maj=33.8km s-min=14.7km az=100.0
ISCJB 16 19:09:44.4±3.7, 212N±0.1×1448E±0.3, h126km±34km, mb3.7/8, Error ellipse: s-maj=48.2km s-min=17.6km az=18.6

ISC 16 19:09:44.5±3.3, 211N±01×1451E±03, h110km±30km, n9, σ0°96/10, mb3.7/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**6.50**	**337**	P	**Pn**	**19 11 18.2**	**+0.5**
	1.3nm,0.3s,baz=167,slow=21,SNR=3.8						
CBIJ				S	**Sn**	**19 12 26.8**	**-3.6**
	4.7nm,0.3s,baz=247,slow=22,SNR=5.7						
SONM	**Songino Array**	**40.90**	**320**	P	**P**	**19 17 19.5**	**+3.7**
	0.8nm,0.4s,mb3.9,baz=123,slow=5.3,SNR=3.1						
WRA	**Warramunga Arr**	**42.13**	**195**	P	**P**	**19 17 25.8**	**0.0**
	0.6nm,0.3s,mb3.8,baz=15,slow=8.7,SNR=24						
FITZ	**Fitzroy Crossi**	**43.37**	**207**	P	**P**	**19 17 35.8**	**-0.1**
	2.3nm,0.6s,mb4.1,baz=28,slow=15,SNR=9.8						
ASAR	**Alice Springs**	**45.81**	**194**	P	**P**	**19 17 54.9**	**-0.4**
	0.4nm,0.5s,mb3.4,baz=11,slow=7.5,SNR=8.7						
MKAR	**Makanchi Array**	**56.37**	**313**	P	**P**	**19 19 14.2**	**0.0**
	0.3nm,0.4s,mb3.7,baz=90,slow=7.7,SNR=9.3						
ILAR	**Eielson Array**	**61.77**	**27**	P	**P**	**19 19 49.8**	**-1.7**
	0.8nm,0.9s,mb3.8,baz=268,slow=6.0,SNR=6.9						
INK	**Inuvik**	**67.41**	**23**	P	**P**	**19 20 28.8**	**+0.7**
	0.6nm,0.7s,mb3.5,baz=281,slow=4.1,SNR=3.2						
YKA	**Yellowknife Ar**	**76.16**	**29**	P	**P**	**19 21 21.2**	**+0.8**
	0.7nm,0.5s,mb3.6,baz=290,slow=5.8,SNR=11						

IDC 16 19:13:22.8±1.3, 002S×9696E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/17, mbtmp3.8/6, ML3.1/1, MS3.2/1, Ms1 3.2/1, ms1mx2.8/14, Error ellipse: s-maj=41.8km s-min=22.5km az=53.0
ISCJB 16 19:13:26.4±0.9, 02N±0.1×97.1E±0.1, h33km, mb3.9/8, Error ellipse: s-maj=18.0km s-min=13.4km az=111.4
NEIC 16 19:13:27.1±0.8, 006N×9706E, h30km, mb4.1/3, Error ellipse: s-maj=18.0km s-min=13.1km az=62.0

ISC 16 19:13:28.9±0.8, 02N±01×972E±01, h35km, n15, σ1°19/14, mb3.9/8, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.13**	**34**	Pn	**Pn**	**19 14 14.7**	**-1.0**
	1.7nm,0.3s,baz=179,slow=10,SNR=11						
PSI				LR	LR	19 15 54.8	
	comp=Z,333nm,18.8s,baz=130,slow=46						
KULM	**Kulim**	**6.15**	**34**	↓*i*Pn	**Pn**	**19 14 57.7**	**+0.5**
KKM	**Kota Kinabalu**	**19.88**	**73**	*e*P	**Pn**	**19 17 57.9**	**-1.0**
WRA	**Warramunga Arr**	**41.54**	**121**	P	**P**	**19 21 12.3**	**-0.6**
	0.9nm,0.6s,mb3.5,baz=302,slow=9.0,SNR=6.3						
WRAB	**Tennant Creek**	**41.55**	**121**	*e*P	**P**	**19 21 14.2**	**+1.2**
	6.9nm,1.0s,mb4.2						
ASAR	**Alice Springs**	**42.82**	**126**	P	**P**	**19 21 24.2**	**+0.9**
	0.4nm,0.6s,mb3.3,baz=300,slow=7.5,SNR=4.7						
KS15	**Wonju Array Si**	**46.67**	**34**	P	**P**	**19 21 57.2**	**+3.2**
SONM	**Songino Array**	**48.13**	**8**	P	**P**	**19 22 06.7**	**+1.4**
	0.4nm,0.3s,mb3.9,baz=188,slow=8.7,SNR=3.3						
MKAR	**Makanchi Array**	**48.21**	**346**	P	**P**	**19 22 07.3**	**+1.4**
	1.9nm,0.6s,mb4.3,baz=156,slow=8.4,SNR=27						
STKA	**Stephens Creek**	**52.71**	**132**	*e*P	**P**	**19 22 36.8**	**-3.2**
KURK	**Kurchatov**	**52.75**	**345**	*e*P	**P**	**19 22 39.5**	**-0.7**
	2.4nm,1.0s,mb4.1						
BRVK	**Borovoye**	**57.25**	**341**	P	**P**	**19 23 12.9**	**+0.1**
ZRNK	**Zerenda**	**57.58**	**340**	P	**P**	**19 23 13.9**	**-1.1**
	1.2nm,0.8s,mb4.0						
BRTR	**Keskin Array B**	**69.76**	**313**	P	**P**	**19 24 34.5**	**-0.9**
	1.0nm,0.8s,mb3.8,baz=121,slow=8.8,SNR=6.8						
CPUP	**Villa Florida**	**144.23**	**221**	PKP	PKPdf	19 32 59.3	-1.7
	0.6nm,0.3s,baz=70,slow=5.0,SNR=6.3						

IDC 16 19:44:40.1±3.5, 1326S×6700E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/17, mbtmp3.4/3, Error ellipse: s-maj=127.1km s-min=46.5km az=52.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**63.82**	**110**	P	P	19 55 14.6	+0.4
	0.2nm,0.7s,baz=272,slow=7.0,SNR=3.8						
WRA	**Warramunga Arr**	**64.52**	**106**	P	P	19 55 19.7	+0.9
	0.3nm,0.7s,baz=270,slow=5.8,SNR=3.6						
SONM	**Songino Array**	**70.21**	**27**	P	P	19 55 55.0	+0.2
	0.5nm,0.7s,baz=212,slow=5.1,SNR=2.3						
PDAR	**Pinedale Array**	**150.45**	**355**	PKPbc	PKPbc	20 04 34.0	+0.4
	0.2nm,0.3s,baz=39,slow=5.8,SNR=2.4						

IDC 16 19:45:34.0±2.2, 003S×9720E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/17, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=64.8km s-min=25.0km az=66.0
ISCJB 16 19:45:44.4±1.2, 02N±0.1×983E±02, h33km, mb3.8/6, Error ellipse: s-maj=30.3km s-min=15.3km az=145.9
NEIC 16 19:45:46.1±1.0, 0.12N×98.34E, h30km, mb4.2/2, Error ellipse: s-maj=27.0km s-min=13.5km az=71.0

ISC 16 19:45:46.9±1.2, 02N±01×984E±02, h35km, n10, σ1°12/10, mb3.8/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.68**	**12**	Pn	**Pn**	**19 46 26.1**	**-1.4**
	4.8nm,0.3s,baz=168,slow=7.7,SNR=34						
KULM	**Kulim**	**5.58**	**24**	*e*Pn	**Pn**	**19 47 08.2**	**+0.8**
WRA	**Warramunga Arr**	**40.49**	**122**	P	**P**	**19 53 23.4**	**+1.1**
	0.4nm,0.4s,mb3.5,baz=304,slow=9.1,SNR=8.5						
ASAR	**Alice Springs**	**41.83**	**127**	P	**P**	**19 53 32.9**	**-0.4**
	0.4nm,0.6s,mb3.2,baz=299,slow=7.9,SNR=5.3						
MKAR	**Makanchi Array**	**48.53**	**345**	P	**P**	**19 54 18.0**	**-8.4**
	0.7nm,0.7s,mb3.8,baz=157,slow=8.7,SNR=6.8						
STKA	**Stephens Creek**	**51.79**	**132**	P	**P**	**19 54 47.6**	**-3.5**
	2.2nm,1.0s,mb4.0,baz=307,slow=5.1,SNR=3.8						
STKA	**Stephens Creek**	**51.79**	**132**	P	**P**	**19 54 47.5**	**-3.6**
KURK	**Kurchatov**	**53.10**	**344**	*e*P	**P**	**19 55 02.0**	**+1.3**
	3.7nm,1.1s,mb4.2						
BRVK	**Borovoye**	**57.67**	**340**	P	**P**	**19 55 33.7**	**-0.1**
ZRNK	**Zerenda**	**58.03**	**340**	*e*P	**P**	**19 55 35.7**	**-0.5**
	1.6nm,0.8s,mb4.1						

MAN 16 20:09:54.6, 968N×12206E, h69km, mb3.3, ML4.5, MS6.4, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**1.08**	**29**	*e*P	Pn	20 10 12.7	-1.2
CUYO	**Cuyo Island**	**1.55**	**319**	*e*P	Pn	20 10 20.8	+0.7
DCPH	**Dipolog City**	**1.68**	**130**	*i* P	Pn	20 10 21.6	-0.3
TBP	**Tagbilaran**	**1.78**	**89**	*e*P	Pn	20 10 23.9	+0.6
TBP				*e*S	Sn	20 10 44.7	-0.2
IPIL	**Ipil**	**1.95**	**165**	*e*P	Pn	20 10 25.7	+0.2
IPIL				*e*S	Sn	20 10 39.7	-9.3
LLP	**Lapu-Lapu**	**1.98**	**71**	*e*P	Pn	20 10 26.5	+0.5
LLP				*e*S	Sn	20 10 50.6	+0.7
RCP	**Roxas**	**1.99**	**20**	↑*e*P	Pn	20 10 28.3	+2.3
RCP				*e*S	Sn	20 10 53.2	+3.3
PAGZ	**Pagadian**	**2.24**	**144**	*e*P	Pn	20 10 31.2	+1.8
PAGZ				*e*S	Sn	20 10 46.1	-10
MSLP	**Maasin**	**2.80**	**80**	*e*P	Pn	20 10 38.2	+1.3
BUSP	**Coron**	**2.94**	**322**	*e*P	Pn	20 10 40.1	+1.1
ENPP	**El Nido**	**3.00**	**301**	*e*P	Pn	20 10 41.6	+1.8

TIF 16 20:13:06.3, 4340N×4577E, h42km±1km

MOS 16 20:13:06.3±1.8, 4341N×4569E, h28km, mb3.6/1, 4C-5D, Error ellipse: s-maj=30.9km s-min=13.0km az=163.8, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKR	**Terskaya**	**0.76**	**295**	↓*e*PG	Pb	20 13 22.4	+1.4
TRKR				*e*S	Sb	20 13 34.2	+3.2
VLKR	**Vladikavkaz**	**0.82**	**244**	↓*e*PG	Pb	20 13 23.2	+1.2
VLKR				*e*S	Sb	20 13 35.8	+3.0
BTKR	**Batakoyurt**	**0.84**	**268**	↓*e*PG	Pn	20 13 23.8	+1.6
BTKR				*e*S	Sb	20 13 36.3	+3.2
ARNR	**Ardon**	**1.05**	**258**	↑*e*PG	Pn	20 13 27.2	+2.0
ARNR				*e*S	Sn	20 13 42.3	+3.4
PRTR	**Priterechnaya**	**1.08**	**289**	↑*e*PG	Pn	20 13 27.6	+2.1
PRTR				*e*S	Sn	20 13 43.1	+3.6
LACR	**Lac**	**1.18**	**241**	↑*i*PG	Pn	20 13 28.8	+1.9
LACR				*i* S	Sn	20 13 45.2	+3.2
KORR	**Kora**	**1.23**	**255**	↑*e*PG	Pn	20 13 30.0	+2.4
KORR				*e*S	Sn	20 13 46.6	+3.3
ZEI	**Tsey**	**1.46**	**245**	↓*e*PG	Pn	20 13 32.8	+2.0
ZEI				*i* S	Sn	20 13 51.6	+2.6
DIGR	**Digorskoe uzhe**	**1.63**	**252**	↓*e*PN	Pn	20 13 35.2	+2.1
DIGR				*e*S	Sn	20 13 56.2	+3.1
TBLG	**Delisi**	**1.82**	**203**	P	Pn	20 13 23.2	-13
TBLG				S	Sn	20 13 36.3	-22
GOR	**Gori**	**1.84**	**220**	P	Pn	20 13 28.8	-7.2
GOR				S	Sn	20 13 45.2	-13
ONI	**Oni**	**1.84**	**244**	P	Pn	20 13 27.1	-8.9
ONI				S	Sn	20 13 42.3	-16

IDC 16 20:30:24.7±2.0, 024N×97.11E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.6/17, mbtmp3.6/6, ML2.9/1, Error ellipse: s-maj=61.8km s-min=21.4km az=66.0
NEIC 16 20:30:30.1±0.8, 028N×9733E, h30km, mb4.4/1, Error ellipse: s-maj=19.8km s-min=12.5km az=76.0
ISCJB 16 20:30:31.4±5.5, 04N±02×975E±03, h55km±44km, mb3.8/6, Error ellipse: s-maj=62.8km s-min=19.3km az=104.6

ISC 16 20:30:34.1±5.3, 05N±03×975E±03, h58km±44km, n11, σ0°68/11, mb3.8/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.70**	**31**	Pn	**Pn**	**20 31 14.7**	**-0.4**
	1.6nm,0.3s,baz=231,slow=6.5,SNR=2.5						
KULM	**Kulim**	**5.71**	**33**	*e*Pn	**Pn**	**20 31 56.8**	**+0.5**
WRA	**Warramunga Arr**	**41.38**	**121**	P	**P**	**20 38 15.3**	**+0.8**
	3.2nm,0.8s,mb4.0,baz=300,slow=9.0,SNR=20						
WRAB	**Tennant Creek**	**41.38**	**121**	*e*P	**P**	**20 38 14.6**	**+0.1**
	5.1nm,0.7s,mb4.3						
ASAR	**Alice Springs**	**42.70**	**127**	P	**P**	**20 38 25.6**	**+0.4**
	0.4nm,0.8s,mb3.2,baz=292,slow=8.1,SNR=6.1						
SONM	**Songino Array**	**47.80**	**8**	P	**P**	**20 39 05.8**	**+0.2**
	0.5nm,0.7s,mb3.7,baz=193,slow=5.6,SNR=3.3						
SONM	**Songino Array**	**47.80**	**8**	P	**P**	**20 39 05.8**	**+0.2**
MKAR	**Makanchi Array**	**48.02**	**346**	P	**P**	**20 39 06.7**	**-0.6**
	0.6nm,0.6s,mb3.8,baz=153,slow=8.0,SNR=8.1						
STKA	**Stephens Creek**	**52.63**	**132**	P	**P**	**20 39 40.8**	**-1.3**
	1.1nm,0.9s,mb3.8,baz=288,slow=12,SNR=3.3						
STKA	**Stephens Creek**	**52.63**	**132**	P	**P**	**20 39 40.4**	**-1.7**
EIL	**Elat**	**66.12**	**302**	P	**P**	**20 41 15.7**	**+0.5**
	109nm,1.1s						

IDC 16 20:32:56.7±2.0, 0.18N×9706E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/16, mbtmp3.8/5, MS2.9/1, Ms1 2.9/1, ms1mx2.6/26, Error ellipse: s-maj=62.0km s-min=20.9km az=66.0
ISCJB 16 20:33:00.1±1.4, 03N±01×972E±02, h33km, mb4.0/6, Error ellipse: s-maj=27.9km s-min=14.3km az=165.3
NEIC 16 20:33:01.2±1.1, 023N×97.14E, h30km, mb4.7/1, Error ellipse: s-maj=23.2km s-min=12.0km az=82.0

ISC 16 20:33:02.7±1.4, 03N±01×973E±02, h35km, n9, σ0°67/9, mb4.0/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.99**	**34**	Pn	**Pn**	**20 33 47.4**	**-0.2**
	baz=184,slow=21,SNR=1.7						
PSI				LR	LR	20 35 13.9	
	comp=Z,178nm,18.7s,baz=5.6,slow=44						
KULM	**Kulim**	**6.00**	**34**	*e*Pn	**Pn**	**20 34 29.0**	**0.0**
KKM	**Kota Kinabalu**	**19.77**	**73**	*e*P	**Pn**	**20 37 31.3**	**-0.1**
WRA	**Warramunga Arr**	**41.53**	**121**	P	**P**	**20 40 47.4**	**+0.7**
	5.0nm,0.6s,mb4.4,baz=302,slow=8.9,SNR=58						
WRAB	**Tennant Creek**	**41.53**	**121**	*e*P	**P**	**20 40 46.8**	**+0.1**
	11nm,0.6s,mb4.7						
ASAR	**Alice Springs**	**42.82**	**126**	P	**P**	**20 40 57.9**	**+0.7**
	0.7nm,0.6s,mb3.6,baz=298,slow=8.1,SNR=15						
SONM	**Songino Array**	**48.00**	**8**	P	**P**	**20 41 38.8**	**+0.6**
	0.5nm,0.6s,mb3.7,baz=190,slow=7.2,SNR=3.8						
MKAR	**Makanchi Array**	**48.12**	**346**	P	**P**	**20 41 38.9**	**-0.2**
	0.5nm,0.6s,mb3.7,baz=157,slow=7.6,SNR=5.8						
STKA	**Stephens Creek**	**52.73**	**132**	P	**P**	**20 42 12.2**	**-1.6**
	0.9nm,0.5s,mb3.9,baz=288,slow=9.6,SNR=5.2						

BJI 16 20:39:07.7, 039S×9799E, h32km, mb4.7
NEIC 16 20:39:09.8±9.8, 001S×9796E, h14km±58km, mb4.4/6, Error ellipse: s-maj=32.3km s-min=9.2km az=57.0
ISCJB 16 20:39:10.8±0.8, 003N±008×980E±0.1, h33km, mb4.2/12, Error ellipse: s-maj=16.2km s-min=10.4km az=126.8
IDC 16 20:39:24.4±2.6, 099N×9967E, h86km±23km, mb3.7/6, mb1 3.7/6, mb1mx3.6/17, mbtmp4.0/6, Error ellipse: s-maj=45.6km s-min=15.5km az=52.0

ISC 16 20:39:13.5±0.8, 006N±008×980E±01, h35km, n24, σ0°96/22, mb4.2/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.88**	**19**	P	**Pn**	**20 39 54.9**	**-1.9**
	3.0nm,0.3s,baz=207,slow=7.9,SNR=16						
PSI	**Prapat**	**2.88**	**19**	P	**Pn**	**20 39 54.9**	**-1.9**
IPM	**Ipoh**	**5.33**	**34**	P	**Pn**	**20 40 32.4**	**+1.9**
KGM	**Kluang**	**5.66**	**70**	P	**Pn**	**20 40 35.9**	**+0.9**
KULM	**Kulim**	**5.83**	**27**	*e*Pn	**Pn**	**20 40 36.7**	**-0.7**
KKM	**Kota Kinabalu**	**19.12**	**72**	*e*P	**Pn**	**20 43 34.0**	**-0.4**
SHL	**Shillong**	**26.04**	**347**	*e*P	**P**	**20 44 44.0**	**+0.6**
LSA	**Lhasa**	**30.19**	**348**	*e*P	**P**	**20 45 21.3**	**+0.9**
	8.5nm,1.1s,mb4.4						
NWAO	**Narrogin (SRO)**	**37.48**	**153**	*e*P	**P**	**20 46 27.1**	**+3.4**
	20nm,1.3s,mb4.8						
GTA	**Gaotai**	**39.20**	**2**	*e*P	**P**	**20 46 38.3**	**+0.2**
GTA				AP	pP	20 46 45.9	-2.4
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.0						
WRA	**Warramunga Arr**	**40.75**	**121**	P	**P**	**20 46 50.2**	**-0.8**
	comp=Z,1.0nm,0.7s,mb3.6,baz=305,slow=9.1,SNR=10						
WRA				PcP	PcP	20 48 54.2	+2.4
	comp=Z,0.3nm,0.5s,baz=312,slow=2.5,SNR=6.6						
WRAB	**Tennant Creek**	**40.76**	**121**	*e*P	**P**	**20 46 50.6**	**-0.4**
	comp=Z,6.1nm,0.9s,mb4.2						
ASAR	**Alice Springs**	**42.07**	**127**	P	**P**	**20 47 01.8**	**0.0**
	comp=Z,0.8nm,0.8s,mb3.4,baz=297,slow=7.8,SNR=11						
BJT	**Baijiatuao**	**43.08**	**21**	*e*P	**P**	**20 47 10.1**	**+0.1**
	comp=Z,28nm,1.4s,mb4.8						
KS15	**Wonju Array Si**	**46.31**	**33**	*e*P	**P**	**20 47 36.3**	**+0.5**
SONM	**Songino Array**	**48.14**	**8**	P	**P**	**20 47 48.5**	**-1.5**
	comp=Z,1.3nm,0.6s,mb4.2,baz=189,slow=7.8,SNR=9.9						
MKAR	**Makanchi Array**	**48.54**	**346**	P	**P**	**20 47 53.8**	**+0.7**
	comp=Z,5.0nm,0.7s,mb4.7,baz=158,slow=8.9,SNR=52						
STKA	**Stephens Creek**	**52.00**	**132**	P	**P**	**20 48 18.9**	**-0.3**
	comp=Z,1.9nm,0.5s,mb4.2,baz=293,slow=6.4,SNR=8.4						
STKA	**Stephens Creek**	**52.00**	**132**	P	**P**	**20 48 18.9**	**-0.3**
KURK	**Kurchatov**	**53.10**	**345**	*e*P	**P**	**20 48 27.1**	**-0.3**
	comp=Z,2.3nm,0.9s,mb4.1						
ZRNK	**Zerenda**	**57.99**	**340**	*e*P	**P**	**20 49 02.1**	**-0.5**
	comp=Z,1.3nm,0.8s,mb4.0						
EIL	**Elat**	**64.74**	**302**	P	**P**	**20 50 07.3**	**+6.2**
BRTR	**Keskin Array B**	**70.47**	**312**	P	pP	20 50 33.1	-2.0
	comp=Z,0.5nm,0.6s,baz=117,slow=7.3,SNR=3.5						
CPUP	**Villa Florida**	**144.69**	**220**	PKPbc	PKPdf	20 58 57.5	+11
	comp=Z,1.0nm,0.6s,baz=104,slow=3.5,SNR=2.8						

ISCJB 16 20:46:39.3±0.4, 4826N±002×898E±003, h3km±5km, Error ellipse: s-maj=3.7km s-min=3.1km az=163.1
BGR 16 20:46:40.7±0.6, 4827N×899E, h5km, ML2.2/1, Error ellipse: s-maj=10.0km s-min=5.6km az=7.0
*LEDBW 16 20:46:40.1±0.2, 4826N×903E, h1km, ML1.7, Error ellipse: s-maj=6.2km s-min=4.

IDC 16 20:51:19.6±1.2, 1989S×17446W, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.9/15, mbtmp3.7/6, ML2.1/1, Error ellipse: s-maj=45.8km s-min=22.3km az=133.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
AFI	**Afiamalu**	**6.48**	**24**	Pn	Pn		20 52 56.0	-0.2
	2.4nm,0.3s,baz=224,slow=21,SNR=3.3							
AFI				Sn	Sn		20 54 09.7	-1.1
	0.9nm,0.3s,baz=34,slow=23,SNR=2.4							
ASAR	**Alice Springs**	**47.90**	**256**	P	P		20 59 59.8	+0.3
	1.5nm,0.9s,baz=90,slow=7.5,SNR=11							
WRA	**Warramunga Arr**	**47.98**	**261**	P	P		21 00 00.5	+0.3
	0.5nm,0.6s,baz=97,slow=7.6,SNR=10							
VNDA	**Vanda**	**58.83**	**186**	P	P		21 01 19.0	-0.9
	0.3nm,0.8s,baz=38,slow=12,SNR=3.6							
NVAR	**Mina Array Bea**	**78.33**	**42**	P	P		21 03 21.6	-0.1
	0.9nm,0.7s,baz=218,slow=6.9,SNR=3.9							
YKA	**Yellowknife Ar**	**94.59**	**24**	P	P		21 04 43.7	+1.4
	0.2nm,0.8s,baz=243,slow=4.1,SNR=3.6							

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*IDC **16** 20:55:45.4±0.5, 2068S×174.25W, h0km, mb5.2/16, mb1 5.2/17, mb1mx5.2/17, mbtmp5.1/17, ML4.8/1, MS5.2/16, Ms1 5.2/16, ms1mx4.9/24, Error ellipse: s-maj=18.9km s-min=13.0km az=141.0*

*ISCJB **16** 20:55:46.3±0.2, 2079S±004×174.09W±004, h15km, mb5.6/111, MS5.5/57, Error ellipse: s-maj=6.6km s-min=4.0km az=107.2*

*BJI **16** 20:55:46.7, 2020S×173.79W, h9km, mB6.0, mb5.4, Ms5.8, Msz5.5*

*NEIC **16** 20:55:47.7±0.1, 2075S×174.15W, mb5.8/71, MS5.6/11, Error ellipse: s-maj=7.2km s-min=3.6km az=145.0*

*HRVD **16** 20:55:47.7±0.3, 2085S×173.46W, h24km, MW5.7/84, Centroid moment Tensor Solution. LP body waves: s34,c44;Mantle waves: s84,c133; Half duration: 1s7 Moment tensor: Scale 10^{17}Nm; M_{rr}4.23±.22; $M_{\theta\theta}$-0.55±.13; $M_{\phi\phi}$-3.68±.13; $M_{r\theta}$-0.20±.23; $M_{\theta\phi}$0.26±.07; $M_{\phi r}$2.16±.17; Best double couple: M_o4.52000×10^{17} NP1:ϕ_s175.00000°, δ31.00000°, λ90.00000°. NP2: ϕ_s355.00000°, δ59.00000°, λ90.00000°. Principal axes: T 4.7850, Plg76.0000°, Azm264.0000°; N -0.5330, Plg0.0000°, Azm355.0000°; P -4.2560, Plg14.0000°, Azm85.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SZGRF **16** 20:55:49.9, 21.14S×173.98W, h33km, mb5.6, Tonga Islands*

*MOS **16** 20:55:51.5±0.9, 2013S×174.11W, h33km, mb5.9/45, MS5.5/25, Error ellipse: s-maj=13.6km s-min=8.1km az=73.7*

ISC 16 20:55:48.1±0.1, 2078S±004×174.04W±004, h16km, h16km±1.0km: pP-P, n639, σ1s07/265, mb5.6/111, MS5.5/57, 63C-46D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
AFI	**Afiamalu**	**7.17**	**18**	Pn	**Pn**		**20 57 26.8**	**-5.5**
	60nm,0.3s,baz=53,slow=1.2,SNR=34							
AFI				Sn	**Sn**		**20 58 40.6**	**-13**
	19nm,0.3s,baz=42,slow=22,SNR=2.3							
AFI				T			21 04 48.2	
	22nm,0.3s,baz=98,slow=17,SNR=5.4							
AFI	**Afiamalu**	**7.17**	**18**	P	**Pn**		**20 57 26.8**	**-5.4**
AFI							20 58 40.6	
AFI				pmax	pmax			
	comp=Z,60nm,0.3s							
AFI				smax				
	comp=N,19nm,0.3s							
AFI	**Afiamalu**	**7.17**	**18**	*e*Pn	**Pn**		**20 57 25.2**	**-7.0**
	comp=N,564nm,0.8s							
RAO	**Raoul Island**	**9.14**	**202**	Sn	**Sn**		**20 59 34.7**	**-7.1**
	comp=N,111nm,0.3s,baz=256,slow=24,SNR=2.8							
RAO				LR	LR		21 01 08.3	
	comp=N,7μm,18.4s,baz=53,slow=35							
RAR	**Rarotonga**	**13.33**	**94**	Pn	**Pn**		**20 58 45.5**	**-11**
	comp=N,23nm,0.3s,baz=257,slow=8.5,SNR=35							
RAR				Sn	Sn		21 01 00.8	-24
	comp=N,8.2nm,0.3s,baz=122,slow=16,SNR=4.0							
RAR				LR	LR		21 02 15.0	
	comp=N,7μm,21.9s,baz=241,slow=29							
BKM	**Butte a Klehm**	**17.02**	**277**	↓*i*P	**Pn**		**20 59 49.9**	**+4.5**
DZM	**Mont Dzumac**	**18.22**	**262**	P	**Pn**		**21 00 01.8**	**+1.5**
	comp=N,4.3nm,0.3s,baz=73,slow=16,SNR=28							
DZM				LR	LR		21 04 13.6	
	comp=N,3μm,21.0s,baz=84,slow=28							
PUZ	**Puketiti**	**18.48**	**200**	PN	**Pn**		**21 00 03.7**	**+0.3**
URZ	**Urewera**	**19.03**	**202**	P	**Pn**		**21 00 09.4**	**-0.7**
	comp=N,2.6nm,0.3s,baz=352,slow=8.0,SNR=18							
URZ				S	**Sn**		**21 03 28.1**	**-15**
	comp=N,1.3nm,0.3s,baz=102,slow=18,SNR=4.5							
URZ	**Urewera**	**19.03**	**202**	PN	**Pn**		**21 00 10.4**	**+0.3**
SNZO	**South Karori**	**22.58**	**203**	*e*P	**P**		**21 00 45.9**	**-1.9**
SNZO				*e*S	**S**		**21 04 42.5**	**-13**
TBI	**Tubuai**	**22.91**	**101**	*e*LQ			21 05 11.1	
	comp=N,17μm,26.8s							
TBI	**Tubuai**	**22.91**	**101**	*e*P	**P**		**21 00 51.5**	**+0.3**
	comp=N,792nm,1.3s,mb6.0							
TBI				*e*LR	LR		21 06 12.8	
	comp=N,12μm,27.0s,baz=273							
QRZ	**Quartz Range**	**23.02**	**207**	PN	**P**		**21 00 55.1**	**+2.7**
PAE	**Paea**	**23.29**	**87**	*e*P	**P**		**21 00 53.3**	**-2.0**
	comp=N,253nm,1.3s,mb5.5							
PPT	**Papeete**	**23.32**	**86**	*e*P	**P**		**21 00 53.7**	**-1.8**
	comp=N,180nm,1.3s,mb5.3							
PPT	**Papeete**	**23.32**	**86**	*e*LQ			21 05 17.6	
	comp=N,10μm,24.5s							
PPT				*e*LR	LR		21 06 20.9	
	comp=N,16μm,27.0s,baz=258							
PPT	**Papeete**	**23.32**	**86**	P	**P**		**21 00 53.2**	**-2.3**
	comp=N,70nm,0.8s,mb5.2,baz=226,slow=4.2,SNR=19							
PPT				LR	LR		21 09 11.5	
	comp=N,9μm,18.6s,MS5.3,baz=252,slow=34							
TVO	**Taravao**	**23.58**	**87**	*e*P	**P**		**21 00 56.1**	**-2.0**
	comp=N,416nm,1.3s,mb5.7							
KHZ	**Kahutara**	**23.97**	**203**	PN	**P**		**21 01 00.7**	**-1.1**
LTZ	**Lake Taylor**	**24.77**	**205**	PN	**P**		**21 01 10.3**	**+1.2**
PMOR	**Pomariorio Ree**	**25.51**	**81**	*e*P	**P**		**21 01 13.3**	**-2.5**
	comp=N,185nm,1.3s,mb5.5							
WVZ	**Waitaha Valley**	**25.63**	**206**	PN	**P**		**21 01 17.9**	**+1.0**
RPZ	**Rata Peaks**	**26.03**	**205**	P	**P**		**21 01 19.7**	**-0.8**
	comp=N,46nm,0.9s,mb5.0,baz=295,slow=0.8,SNR=11							
FOZ	**Fox Glacier**	**26.47**	**207**	PN	**P**		**21 01 26.0**	**+1.5**
JCZ	**Jackson Bay**	**27.28**	**208**	PN	**P**		**21 01 32.9**	**+1.1**
HNR	**Honiara**	**27.49**	**290**	P	**P**		**21 01 32.3**	**-1.4**
	comp=N,46nm,0.3s,mb5.4,baz=267,slow=7.6,SNR=6.8							
HNR				LR	LR		21 10 48.1	
	comp=N,4μm,19.3s,MS5.1,baz=176,slow=33							
HNR	**Honiara**	**27.49**	**290**	P	**P**		**21 01 32.3**	**-1.3**
HNR				pmax	pmax			
	comp=Z,46nm,0.4s,mb5.4							
HNR				MLR	MLR			
	comp=Z,4μm,19.3s,MS5.1							
HNR	**Honiara**	**27.49**	**290**	*e*P	**P**		**21 01 33.5**	**-0.2**
	comp=Z,246nm,1.4s,mb5.5							
ARMA	**Armidale**	**32.31**	**246**	*e*P	**P**		**21 02 16.0**	**-0.3**
TAOE	**Nuku Hiva Isla**	**34.76**	**75**	*e*P	**P**		**21 02 34.6**	**-3.0**
	comp=Z,656nm,1.4s,mb6.4							
TAOE				*e*S	**S**		**21 08 00.3**	**-7.0**
	comp=Z,2μm,25.2s							
TAOE				*e*LR	LR		21 11 32.4	
	comp=Z,24μm,28.0s,baz=252							
CNB	**Canberra Magne**	**35.18**	**238**	↓*i*P	**P**		**21 02 41.4**	**+0.1**
	comp=Z,50nm,0.9s,mb5.4							
RKT	**Rikitea**	**36.23**	**101**	*e*S	**S**		**21 08 29.8**	**-0.2**
	comp=Z,801nm,27.0s							
RKT				*e*LQ			21 10 54.1	
	comp=Z,3μm,26.5s							
RKT				*e*LR	LR		21 12 23.8	
	comp=Z,8μm,27.8s,baz=269							
CTA	**Charters Tower**	**37.16**	**264**	*e*P	**P**		**21 02 57.5**	**-0.7**
	comp=Z,13nm,0.5s,mb5.0							
CTA				*e*PP	PP		21 04 26.6	+3.7
CTA				*e*S	**S**		**21 08 27.8**	**-16**
CTA	**Charters Tower**	**37.16**	**264**	LR	LR		21 16 46.6	
	comp=Z,4μm,18.6s,MS5.3,baz=82,slow=34							
CTA	**Charters Tower**	**37.16**	**264**	*e*P	**P**		**21 02 57.5**	**-0.7**
CTA				*e*			21 04 26.6	
CTA				pmax	pmax			
	comp=Z,13nm,0.5s							
CTAO	**Charters Tower**	**37.16**	**264**	↑*e*P	**P**		**21 02 56.3**	**-1.9**
CTAO				pmax	pmax			
	comp=Z,52nm,1.0s,mb5.3							
CTAO	**Charters Tower**	**37.16**	**264**	↑*e*P	**P**		**21 02 56.3**	**-1.8**
	comp=Z,52nm,1.0s,mb5.3							
TOO	**Toolangi**	**38.76**	**235**	*e*P	**P**		**21 03 11.4**	**-0.3**
	comp=Z,24nm,1.1s,mb4.8							
TOO	**Toolangi**	**38.76**	**235**	*e*P	**P**		**21 03 11.4**	**-0.3**
TOO				pmax	pmax			
	comp=Z,24nm,1.1s,mb4.8							
PMG	**Port Moresby**	**39.03**	**281**	P	**P**		**21 03 12.9**	**-1.1**
	comp=Z,41nm,0.9s,mb5.1,baz=149,slow=4.3,SNR=7.5							
PMG	**Port Moresby**	**39.03**	**281**	↑*e*P	**P**		**21 03 12.3**	**-1.7**
PMG				pmax	pmax			
	comp=Z,96nm,1.1s							
PMG	**Port Moresby**	**39.03**	**281**	↑*e*P	**P**		**21 03 12.3**	**-1.7**
	comp=Z,96nm,1.1s,mb5.4							
STKA	**Stephens Creek**	**41.02**	**245**	*e*P	**P**		**21 03 27.9**	**-2.6**
	comp=Z,20nm,1.0s,mb4.7							
STKA	**Stephens Creek**	**41.02**	**245**	P	**P**		**21 03 28.3**	**-2.2**
	comp=Z,17nm,0.8s,mb4.8,baz=87,slow=8.7,SNR=44							
STKA				LR	LR		21 18 35.8	
	comp=Z,3μm,20.2s,MS5.1,baz=79,slow=34							
KIP	**Kipapa**	**44.77**	**21**	↓*e*P	**P**		**21 04 01.6**	**+0.7**
ASAR	**Alice Springs**	**48.07**	**256**	P	**P**		**21 04 26.0**	**-0.8**
	comp=Z,32nm,0.8s,mb5.4,baz=91,slow=8.0,SNR=178							
ASAR				PcP	PcP		21 05 55.5	+1.0
	comp=Z,8.6nm,0.8s,baz=107,slow=3.6,SNR=5.6							
ASAR				S	**S**		**21 11 21.1**	**-3.5**
	comp=Z,1.1nm,0.9s,baz=93,slow=16,SNR=5.4							
WB2	**Warramunga Arr**	**48.22**	**261**	↓*i*P	**P**		**21 04 26.5**	**-1.5**
WRAB	**Tennant Creek**	**48.23**	**261**	P	**P**		**21 04 26.0**	**-2.0**
	comp=Z,286nm,1.1s,mb6.2,SNR=13							
WRAB	**Tennant Creek**	**48.23**	**261**	*c*↓*i*P	**P**		**21 04 25.4**	**-2.6**
WRAB	**Tennant Creek**	**48.23**	**261**	↓*e*P	**P**		**21 04 25.2**	**-2.8**
	comp=Z,345nm,1.7s,mb6.1							
WRA	**Warramunga Arr**	**48.23**	**261**	P	**P**		**21 04 26.1**	**-2.0**
	comp=Z,25nm,0.9s,mb5.3,baz=96,slow=7.4,SNR=115							
WRA				PcP	PcP		21 05 56.1	+1.0
	comp=Z,10nm,0.9s,baz=97,slow=3.9,SNR=5.3							
KAKA	**Kakadu**	**51.69**	**270**	↓*i*P	**P**		**21 04 53.3**	**-1.0**
	comp=Z,65nm,0.9s,mb5.6							
FORT	**Forrest**	**52.59**	**247**	*e*P	**P**		**21 05 00.2**	**-0.8**
	comp=Z,56nm,0.6s,mb5.7							
FITZ	**Fitzroy Crossi**	**56.66**	**262**	*e*P	**P**		**21 05 29.9**	**-0.7**
	comp=Z,61nm,1.5s,mb5.4							
FITZ				*e*S	**S**		**21 13 23.8**	**+1.5**
SBA	**Scott Base**	**57.87**	**185**	*e*P	**P**		**21 05 40.6**	**+1.5**
	comp=Z,221nm,1.7s,mb5.9							
VNDA	**Vanda**	**57.99**	**186**	P	**P**		**21 05 41.0**	**+1.0**
	comp=Z,8.3nm,0.9s,mb4.8,baz=7.5,slow=6.8,SNR=39							
VNDA				LR	LR		21 28 53.5	
	comp=Z,2μm,18.1s,MS5.2,baz=26,slow=34							
VNDA	**Vanda**	**57.99**	**186**	*e*P	**P**		**21 05 40.2**	**+0.3**
VNDA				pmax	pmax			
	comp=Z,71nm,1.5s							
VNDA	**Vanda**	**57.99**	**186**	*e*P	**P**		**21 05 40.2**	**+0.3**
	comp=Z,71nm,1.5s,mb5.5							
KLBR	**Kellerberrin**	**61.30**	**245**	↓*i*P	**P**		**21 06 02.7**	**0.0**
	comp=Z,87nm,0.7s,mb6.0							
MBWA	**Marble Bar**	**61.41**	**257**	↑*i*P	**P**		**21 06 02.0**	**-1.5**
	comp=Z,79nm,1.1s,mb5.8							
NWAO	**Narrogin (SRO)**	**61.56**	**243**	LR	LR		21 30 27.2	
	comp=Z,1μm,18.9s,MS5.1,baz=98,slow=34							
NWAO	**Narrogin (SRO)**	**61.56**	**243**	↑*e*P	**P**		**21 06 03.7**	**-0.8**
NWAO				*e*			21 06 13.3	
NWAO				pmax	pmax			
	comp=Z,83nm,1.3s							
NWAO	**Narrogin (SRO)**	**61.56**	**243**	↑*e*P	**P**		**21 06 03.7**	**-0.8**
	comp=Z,83nm,1.3s,mb5.7							
NWAO				*e*			21 06 13.3	
MUN	**Mundaring**	**62.55**	**244**	↓*i*P	**P**		**21 06 11.6**	**+0.5**
MUN				*e*S	**S**		**21 14 38.4**	**+0.2**
BUKP	**Musuan**	**66.25**	**289**	*e*P	**P**		**21 06 36.0**	**+0.6**
QSPA	**South Pole Qui**	**69.29**	**180**	*e*P	**P**		**21 06 54.8**	**+0.3**
	comp=Z,182nm,1.4s,mb5.8							
MIR	**Mirnyy**	**72.30**	**205**	↓*i*P	**P**		**21 07 15.0**	**+2.1**
MIR				*i*			21 07 43.5	
MIR				pmax	pmax			
	comp=Z,510nm,2.0s,mb6.1							
MJAR	**Matsushiro Arr**	**72.69**	**321**	P	**P**		**21 07 15.3**	**+0.1**
	comp=Z,9.7nm,0.7s,mb4.9,baz=153,slow=5.4,SNR=26							
MJAR				LR	LR		21 37 12.4	
	comp=Z,859nm,18.9s,MS5.0,baz=185,slow=34							
MAJO	**Matsushiro**	**72.69**	**321**	↑*i*P	**P**		**21 07 14.6**	**-0.6**
MAJO				pmax	pmax			
	comp=Z,67nm,1.4s,mb5.4							
MAJO	**Matsushiro**	**72.69**	**321**	↑*i*P	**P**		**21 07 14.6**	**-0.6**
	comp=Z,67nm,1.4s,mb5.4							
MAT	**Matsushiro**	**72.69**	**321**	P	**P**		**21 07 14.5**	**-0.7**
MAT				S	S		21 16 40.0	+0.1
MAT	**Matsushiro**	**72.69**	**321**	*e*P	**P**		**21 07 15.0**	**-0.2**
MAT				*e*S	S		21 16 40.0	+0.1
MAT				pmax	pmax			
	comp=Z,75nm,1.5s,mb5.4							
MAT				MLR	MLR			
	comp=Z,710nm,20.0s,MS4.9							
MAT	**Matsushiro**	**72.69**	**321**	*e*P	**P**		**21 07 15.0**	**-0.2**
	comp=Z,75nm,1.5s,mb5.4							
MAT				*e*S	S		21 16 40.0	+0.1
MAT				LR	LR			
	comp=Z,710nm,20.0s,MS4.9							
SAO	**San Andreas Ge**	**75.74**	**41**	*e*P	**P**		**21 07 33.0**	**0.0**
SAO				pmax	pmax			
	comp=Z,244nm,1.7s,mb5.9							
SAO	**San Andreas Ge**	**75.74**	**41**	*e*P	**P**		**21 07 33.0**	**+0.1**
	comp=Z,244nm,1.7s,mb5.9							
PTRM	**Twissleman Ran**	**75.81**	**43**	*e*P	**P**		**21 07 33.9**	**+0.5**
SKR	**Severo-Kuril's**	**75.87**	**341**	*e*P	**P**		**21 07 26.0**	**-7.7**
SKR				pmax	pmax			
	comp=Z,130nm,0.9s,mb5.9							
SKR				MLR	MLR			
	comp=N,3μm,20.0s							
SKR				MLR	MLR			
	comp=Z,4μm,20.0s,MS5.7							
NSHM	**Saint Helena R**	**76.18**	**39**	*e*P	**P**		**21 07 36.0**	**+0.6**
NSHM				*e*			21 07 46.6	
KIPM	**Iron Peak**	**76.53**	**38**	*e*P	**P**		**21 07 37.8**	**+0.4**
ISA	**Isabella**	**76.93**	**44**	*e*P	**P**		**21 07 40.4**	**+0.7**
ISA				pmax	pmax			
	comp=Z,297nm,1.7s,mb5.9							
ISA	**Isabella**	**76.93**	**44**	*e*P	**P**		**21 07 40.4**	**+0.7**
	comp=Z,297nm,1.7s,mb5.9							
NACB	**Ningan chiao**	**76.94**	**302**	*e*P	**P**		**21 07 39.2**	**-0.6**
PFO	**Pinyon Flat Ob**	**77.04**	**46**	P	**P**		**21 07 41.2**	**+0.9**
	comp=Z,268nm,1.5s,mb6.0,SNR=16							
KHMM	**Horse Mountain**	**77.10**	**37**	*e*P	**P**		**21 07 40.0**	**-0.6**
KSM	**Kuching**	**77.13**	**277**	*e*P	**P**		**21 07 41.5**	**+0.6**
CMB	**Columbia Colle**	**77.20**	**41**	*e*P	**P**		**21 07 41.0**	**-0.2**
CMB				pmax	pmax			
	comp=Z,137nm,1.6s,mb5.6							
CMB	**Columbia Colle**	**77.20**	**41**	*e*P	**P**		**21 07 41.0**	**-0.3**
	comp=Z,136nm,1.6s,mb5.6							
PET	**Petropavlovsk**	**77.22**	**343**	*e*P	**P**		**21 07 40.0**	**-1.4**
PET				*e*S	S		21 17 26.4	-4.0
PET				*e*PS			21 18 01.2	
PET				pmax	pmax			
	comp=Z,33nm,1.0s,mb5.2							
PET				pmax	pmax			
	comp=Z,900nm,13.1s							
PET				smax				
	comp=E,1μm,7.2s							
PET				smax				
	comp=E,2μm,14.2s							
PET				smax				
	comp=N,1μm,18.4s							
PET				MLR	MLR			
	comp=Z,2μm,21.0s,MS5.4							
PET				MLR	MLR			
	comp=Z,2μm,17.0s							
PET	**Petropavlovsk**	**77.22**	**343**	*i* Pr	**P**		**21 07 40.9**	**-0.5**
YHNB	**Yeheng**	**77.36**	**303**	*e*P	**P**		**21 07 40.5**	**-1.6**
OHCM	**Honcut**	**77.37**	**39**	*e*P	**P**		**21 07 42.3**	**+0.1**
KRMB	**Red Mountain**	**77.44**	**36**	*e*P	**P**		**21 07 41.4**	**-1.2**
WDC	**Whiskeytown Da**	**77.58**	**38**	*e*P	**P**		**21 07 43.0**	**-0.3**
WDC				pmax	pmax			
	comp=Z,218nm,1.9s,mb5.8							
WDC	**Whiskeytown Da**	**77.58**	**38**	*e*P	**P**		**21 07 43.0**	**-0.4**
	comp=Z,218nm,1.9s,mb5.8							
YSS	**Yuzh-Sakhalins**	**77.86**	**331**	*i*	*i*P		**P**	**21 07 45.9**	**+0.9**
YSS					*e**SP		sP	21 07 53.2	+1.2
YSS					*e*			21 07 59.8	
YSS					*e*S		S	21 17 38.0	+0.7
YSS					*e*PPS			21 18 16.0	
YSS				pmax	pmax			
	comp=Z,50nm,0.8s,mb5.5							
YSS				smax				
	comp=N,1μm,13.0s							
YSS				smax				
	comp=E,1μm,10.0s							
YSS				MLR	MLR			
	comp=Z,900nm,20.0s,MS5.1							
YSS				MLR	MLR			
	comp=N,1μm,19.0s,MS5.3							
YSS				MLR	MLR			
	comp=E,900nm,19.0s,MS5.3							
YSS	**Yuzh-Sakhalins**	**77.86**	**331**	*e*P	**P**		**21 07 45.6**	**+0.7**
	comp=E,43nm,0.9s,mb5.4							
DAC	**Darwin (Calif)**	**77.87**	**44**	*e*P	**P**		**21 07 44.7**	**-0.3**
DAC				pmax	pmax			
	comp=Z,249nm,1.9s,mb5.8							
DAC	**Darwin (Calif)**	**77.87**	**44**	*e*P	**P**		**21 07 44.7**	**-0.2**
	comp=Z,249nm,1.9s,mb5.8							
MTUM	**Tungsten Hills**	**77.90**	**42**	*e*P	**P**		**21 07 46.2**	**+1.0**
KEBM	**Edson Butte**	**78.12**	**35**	*e*P	**P**		**21 07 47.3**	**+0.9**
YBH	**Yreka Blue Hor**	**78.24**	**37**	*e*P	**P**		**21 07 46.9**	**-0.2**
YBH				pmax	pmax			
	comp=Z,222nm,2.1s							
YBH	**Yreka Blue Hor**	**78.24**	**37**	*e*P	**P**		**21 07 46.9**	**-0.2**
	comp=Z,222nm,2.1s,mb5.7							
HUMO	**Hull Mountain**	**78.69**	**36**	*e*P	**P**		**21 07 48.3**	**-1.2**
	comp=Z,240nm,2.0s,mb5.8							
NVAR	**Mina Array Bea**	**78.73**	**41**	P	**P**		**21 07 49.4**	**-0.3**
	comp=Z,13nm,0.8s,mb4.9,baz=211,slow=6.7,SNR=80							
NVAR	**Mina Array Bea**	**78.73**	**41**	P	**P**		**21 07 49.4**	**-0.3**
MNV	**Mina**	**78.82**	**42**	*e*P	**P**		**21 07 49.9**	**-0.3**
MNV				pmax	pmax			
	comp=Z,267nm,1.7s,mb5.9							
MNV	**Mina**	**78.82**	**42**	*e*P	**P**		**21 07 49.9**	**-0.3**
	comp=Z,267nm,1.7s,mb5.9							
PAHR	**Pah Rah Range**	**78.86**	**40**	*e*P	**P**		**21 07 50.8**	**+0.4**
	comp=Z,338nm,2.0s,mb5.9							
TPNV	**Topopah Spring**	**79.14**	**44**	P	**P**		**21 07 52.6**	**+0.6**
TPNV				pmax	pmax			
	comp=Z,68nm,0.6s,mb5.8							
TPNV	**Topopah Spring**	**79.14**	**44**	P	**P**		**21 07 52.5**	**+0.6**
	comp=Z,68nm,0.6s,mb5.8							
TPH	**Tonopah**	**79.19**	**42**	*e*P	**P**		**21 07 53.3**	**+1.1**
TPH				pmax	pmax			
	comp=Z,257nm,1.6s,mb5.9							
TPH	**Tonopah**	**79.19**	**42**	*e*P	**P**		**21 07 53.3**	**+1.1**
	comp=Z,257nm,1.6s,mb5.9							
NEN	**Nelson**	**79.30**	**45**	*e*P	**P**		**21 07 52.7**	**-0.2**
KS15	**Wonju Array Si**	**79.62**	**317**	*e*P	**P**		**21 07 52.8**	**-1.8**
TUC	**Tucson**	**80.27**	**50**	*e*P	**P**		**21 07 59.1**	**+1.0**
TUC				pmax	pmax			
	comp=Z,199nm,1.9s,mb5.7							
TUC	**Tucson**	**80.27**	**50**	*e*P	**P**		**21 07 59.1**	**+1.0**
	comp=Z,199nm,1.9s,mb5.7							
KDAK	**Kodiak Island**	**80.29**	**11**	P	**P**		**21 07 58.9**	**+0.7**
	comp=Z,168nm,1.0s,mb5.9,SNR=6.0							
INCN	**Inchon**	**80.45**	**316**	*e*P	**P**		**21 07 59.9**	**+0.8**
	comp=Z,32nm,0.8s,mb5.3							
VLA	**Vladivostok**	**80.69**	**323**	↓*e*P	**P**		**21 07 59.5**	**-0.9**
VLA				pmax	pmax			
	comp=Z,24nm,1.3s,mb5.0							
VLA	**Vladivostok**	**80.69**	**323**	↓*e*P	**P**		**21 07 59.6**	**-0.8**
SSE	**Sheshan**	**80.75**	**308**	P	**P**		**21 08 02.3**	**+1.6**
SSE				XP	sP		21 08 15.5	+7.7
SSE				S	S		21 18 09.4	+1.5
SSE				AMB	AMB			
	comp=Z,27nm,0.7s,mb5.3							
SSE				AMB	AMB			
	comp=Z,586nm,5.9s							
SSE				LR	LR			
	comp=N,492nm,20.7s,MS5.0							
SSE				LR	LR			
	comp=E,447nm,21.1s,MS5.0							
SSE				LR	LR			
	comp=Z,631nm,19.2s,MS5.0							
WVOR	**Wild Horse Val**	**81.01**	**38**	*e*P	**P**		**21 08 02.5**	**+0.4**
WVOR				pmax	pmax			
	comp=Z,19nm,0.6s,mb5.2							
WVOR	**Wild Horse Val**	**81.01**	**38**	*e*P	**P**		**21 08 02.5**	**+0.4**
	comp=Z,18nm,0.6s,mb5.2							
CCUT	**Cedar City**	**81.36**	**44**	*e*P	**P**		**21 08 04.6**	**+0.7**
ARUT	**Antelope Range**	**81.44**	**44**	*e*P	**P**		**21 08 04.7**	**+0.3**
WUAZ	**Wupatki**	**81.57**	**47**	*e*P	**P**		**21 08 06.2**	**+1.1**
	comp=Z,495nm,2.3s,mb6.0							
VTHM	**Trough**	**81.69**	**35**	P	**P**		**21 08 06.2**	**+0.5**
ELK	**Elko**	**82.01**	**41**	*e*P	**P**		**21 08 07.0**	**-0.4**
ELK				pmax	pmax			
	comp=Z,220nm,2.0s							
ELK	**Elko**	**82.01**	**41**	*e*P	**P**		**21 08 07.0**	**-0.4**
	comp=Z,220nm,2.0s,mb5.7							
FMW	**Mount Fremont**	**82.26**	**33**	P	**P**		**21 08 09.6**	**+0.9**
MAW	**Mawson**	**82.53**	**199**	*e*S	S		21 18 28.5	+2.2
**M

MNTX Cornudas Mount 83.92 53 eP P 21 08 16.9 -0.4
comp=Z,119nm,1.7s,mb5.7
LAZ Ladron 83.96 50 eP P 21 08 18.9 +1.4
LAZ epP pP 21 08 23.2 +0.5
LENM Lemitar 83.96 50 eP P 21 08 19.1 +1.6
LENM epP pP 21 08 23.2 +0.5
SPUT South Promonto 84.06 42 eP P 21 08 17.6 -0.4
SRU San Rafael 84.08 44 eP P 21 08 17.9 -0.2
SRU pmax pmax
comp=Z,261nm,1.7s,mb6.1
SRU San Rafael 84.08 44 eP P 21 08 17.9 -0.2
comp=Z,260nm,1.7s,mb6.1
OD2 Odessa Site #2 84.09 34 P P 21 08 18.7 +0.6
HVU Hansel Valley 84.12 41 P P 21 08 19.3 +1.0
HVU pmax pmax
comp=Z,210nm,1.9s,mb5.9
HVU Hansel Valley 84.12 41 eP P 21 08 18.8 +0.5
comp=Z,214nm,2.0s,mb5.9
HVU epP pP 21 08 23.3 -0.2
HLID Hailey 84.16 39 eP P 21 08 18.2 -0.3
comp=Z,95nm,1.5s,mb5.7
HLID epP pP 21 08 23.4 -0.3
BNM Barren Site 84.20 50 eP P 21 08 19.3 +0.6
EYAK Cordova Ski Ar 84.23 14 eP P 21 08 17.3 -1.6
LPM Los Pinos Moun 84.28 50 eP P 21 08 19.7 +0.6
DAU Daniels Canyon 84.32 43 eP P 21 08 19.4 +0.1
DAU e*PP pP 21 08 25.3 +0.8
QIZ Qiongzhong 84.38 293 P P 21 08 22.5 +2.9
QIZ XP sP 21 08 28.8 +2.1
QIZ S 21 18 50.0
QIZ SS SS 21 24 14.4 -0.6
QIZ LR LR
comp=Z,684nm,18.6s,MS5.1
MVCO Mesa Verde 84.44 47 eP P 21 08 20.7 +0.8
PMR Palmer 84.48 12 eP P 21 08 19.3 -0.9
PMR pmax pmax
comp=Z,51nm,1.3s,mb5.5
PMR Palmer 84.48 12 eP P 21 08 19.3 -0.9
comp=Z,51nm,1.3s,mb5.5
DL2 Dalian 84.52 315 eP P 21 08 21.3 +1.0
DL2 S 21 18 49.3
DL2 AMB AMB
comp=Z,20nm,0.8s,mb5.3
DL2 AMB AMB
comp=Z,370nm,5.6s
DL2 LR LR
comp=N,680nm,16.8s,MS5.2
DL2 LR LR
comp=E,590nm,15.8s,MS5.2
DL2 LR LR
comp=Z,640nm,15.9s,MS5.1
TCUT Toone Canyon 84.61 42 eP P 21 08 19.8 -1.0
TTA Tatalina 84.64 8 eP P 21 08 21.4 +0.5
KLR Kul'dur 84.70 328 eP P 21 08 17.0 -4.3
KLR eS 21 18 47.0
KLR pmax pmax
comp=Z,400nm,3.0s
KLR pmax pmax
comp=Z,1μm,9.0s
KLR smax
comp=N,2μm,14.0s
KLR smax
comp=E,800nm,14.0s
ANMO Albuquerque 84.72 50 eP P 21 08 21.5 +0.2
ANMO pmax pmax
comp=Z,128nm,1.6s
ANMO Albuquerque 84.72 50 eP P 21 08 21.5 +0.2
comp=Z,128nm,1.6s,mb5.8
HWUT Hardware Ranch 84.78 42 eP P 21 08 22.0 +0.3
comp=Z,87nm,1.8s,mb5.6
HWUT ePP PP 21 11 33.8 -4.0
CN2 Changchun 84.83 321 eP P 21 08 22.3 +0.4
CN2 eXP sP 21 08 30.3 +1.3
CN2 eS 21 18 41.9
CN2 AMB AMB
comp=Z,40nm,1.3s,mb5.4
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,1μm,18.0s,MS5.4
CN2 LR LR
comp=E,800nm,18.0s,MS5.4
CN2 LR LR
comp=Z,2μm,21.0s,MS5.4
SNY Shenyang 84.85 318 ⇑P P 21 08 22.6 +0.6
SNY AP pP 21 08 31.9 +4.7
SNY AMB AMB
comp=Z,63nm,1.0s,mb5.7
SNY LR LR
comp=N,1μm,20.6s,MS5.5
SNY LR LR
comp=E,1μm,16.3s,MS5.5
SNY LR LR
comp=Z,2μm,16.7s,MS5.5
PNT Penticton 84.86 32 P P 21 08 22.4 +0.4
GDL2 Guadalupe Moun 84.92 53 eP P 21 08 22.3 -0.1
CLNB Carlsbad 85.31 53 eP P 21 08 22.8 -1.6
WHN Wuhan 85.63 305 ⇓P P 21 08 27.5 +1.6
CPRX Cap Rock 85.68 52 eP P 21 08 26.7 +0.5
MCMT McKenzie Canyo 85.81 39 eP P 21 08 27.1 +0.3
SKAG Skagway 86.01 19 eP P 21 08 28.2 +0.4
comp=Z,319nm,2.4s,mb6.1
SKAG LR LR
comp=Z,1μm,19.0s,MS5.2
DCID1 Drake Creek 86.11 40 eP P 21 08 30.4 +2.2
REDW Red Top Meadow 86.18 41 eP P 21 08 28.0 -0.6
comp=Z,191nm,2.0s,mb6.0
TPAW Teton Pass 86.19 41 eP P 21 08 29.2 +0.5
comp=Z,52nm,1.5s,mb5.5
TIA Tai'an 86.23 311 eP P 21 08 28.8 -0.1
DLMT Dillon 86.26 38 eP P 21 08 28.8 -0.2
comp=Z,60nm,1.4s,mb5.6
MSO Missoula 86.34 37 eP P 21 08 28.8 -0.6
comp=Z,57nm,1.9s,mb5.5
IMW Indian Meadow 86.42 40 eP P 21 08 30.7 +0.9
comp=Z,138nm,2.0s,mb5.8
MOOW Moose Ponds 86.46 40 eP P 21 08 29.7 -0.3
comp=Z,106nm,2.1s,mb5.7
SMCO Snowmass 86.47 46 eP P 21 08 30.9 +0.8
comp=Z,26nm,1.3s,mb5.3
QLMT Earthquake Lak 86.64 39 eP P 21 08 31.0 +0.1
PDAR Pinedale Array 86.66 42 P P 21 08 29.9 -1.1
comp=Z,4.6nm,0.8s,mb4.8,baz=225,slow=2.7,SNR=32
PDAR PP PP 21 11 50.6 -2.5
comp=Z,3.4nm,1.3s,baz=264,slow=6.0,SNR=3.9
PDAR LR LR 21 43 01.6
comp=Z,2μm,18.2s,MS5.5,baz=247,slow=33
FLWY Flagg Ranch 86.67 40 eP P 21 08 31.7 +0.7
comp=Z,203nm,2.0s,mb6.0
CHMT Chamberlain Mo 86.77 37 eP P 21 08 31.4 -0.1
CHMT ePP PP 21 11 50.4 -3.5
MENT Mentasta 86.80 13 eP P 21 08 31.9 +0.2
DLBC Dease Lake 86.90 21 eP P 21 08 32.6 +0.5
SYO Syowa Base 87.23 192⇑eP P 21 08 32.0 -1.8
SYO Syowa Base 87.23 192⇓epP pP 21 08 37.8 -1.2
HRY Holter Researc 87.46 38 eP P 21 08 35.2 +0.4
KULM Kulim 87.49 277 eP P 21 08 37.0 +1.9
VNA3 Neumayer Olymp 87.58 175 eP P 21 08 35.1 -0.3
VNA3 e 21 08 36.5
VNA3 e pP 21 08 39.7 -1.0
VNA3 e pP 21 08 41.8 +1.1
VNA3 e 21 08 53.4
VNA3 e 21 08 55.9
RWWY Rawlins 87.59 44 eP P 21 08 34.2 -1.3
comp=Z,54nm,1.5s,mb5.5
JCT Junction City 87.62 56 eP P 21 08 34.5 -1.1
JCT pmax pmax
comp=Z,111nm,1.8s,mb5.8
JCT Junction City 87.62 56 eP P 21 08 34.5 -1.2
comp=Z,111nm,1.8s,mb5.8
WALA Waterton Lakes 87.65 35 eP P 21 08 35.8 0.0
comp=Z,112nm,1.8s,mb5.8
COLA College 87.73 11 eP P 21 08 34.6 -1.6
COLA pmax pmax
comp=Z,61nm,1.1s,mb5.7
COLA College 87.73 11 eP P 21 08 34.6 -1.6
comp=Z,61nm,1.1s,mb5.8
ILAR Eielson Array 87.81 11 P P 21 08 35.0 -1.6
comp=Z,10nm,0.8s,mb5.1,baz=215,slow=4.8,SNR=48
ILAR PP PP 21 11 58.7 -3.6
comp=Z,5.3nm,1.2s,baz=222,slow=8.2,SNR=6.6
ILAR Eielson Array 87.81 11 P P 21 08 35.0 -1.6
ILAR PP PP 21 11 58.7 -3.6
VNA2 Neumayer--Watz 88.06 176 eP P 21 08 38.3 +0.6
VNA2 e pP 21 08 43.4 +0.4
VNA2 e 21 08 45.4
VNA2 e 21 09 04.9
AMTX Amarillo 88.14 52 eP P 21 08 37.7 -0.4
comp=Z,165nm,2.0s,mb5.9
GCMT Greycliff 88.21 39 eP P 21 08 38.4 0.0
GCMT epP pP 21 08 43.1 -0.6
VNA1 Neumayer--Stat 88.27 175 eP P 21 08 42.7 +4.0
VNA1 e 21 08 43.8
VNA1 e 21 08 50.5
VNA1 e 21 09 00.1
VNA1 e 21 09 02.2
VNA1 e 21 09 10.3
NVL N'lazarevskaya 88.61 182 eP P 21 08 36.9 -3.4
NVL eS 21 19 29.0
NVL pmax pmax
comp=Z,40nm,2.1s,mb5.4
NVL smax
comp=E,1μm,23.5s
BJI Beijing 88.73 314 P P 21 08 41.0 +0.1
BJI AMB AMB
comp=Z,34nm,3.3s
BJI LR LR
comp=N,856nm,14.6s,MS5.5
BJI LR LR
comp=E,1μm,18.8s,MS5.5
BJI LR LR
comp=Z,966nm,19.4s,MS5.2
DAWY Dawson 88.76 14 eP P 21 08 40.4 -0.7
BILL Bilibino 89.74 353c iP P 21 08 44.7 -0.9
BILL i 21 08 56.4
BILL i S 21 19 33.8
BILL pmax pmax
comp=Z,40nm,1.6s,mb5.5
BILL Bilibino 89.74 353 eP P 21 08 45.3 -0.3
comp=Z,26nm,1.1s,mb5.5
GYA Guiyang 90.03 298 P P 21 08 48.3 +1.3
GYA AP pP 21 08 52.9 +0.6
GYA XP sP 21 08 59.4 +5.2
GYA PP PP 21 12 23.8 +3.7
GYA SKS 21 19 16.6
GYA S 21 19 38.4
GYA SS SS 21 25 40.3 +2.6
GYA AMB AMB
comp=Z,50nm,0.8s,mb5.9
GYA AMB AMB
comp=Z,1μm,9.7s
GYA LR LR
comp=N,2μm,20.9s,MS5.6
GYA LR LR
comp=E,2μm,21.0s,MS5.6
GYA LR LR
comp=Z,2μm,21.4s,MS5.5
EDM Edmonton 90.36 32 eP P 21 08 48.1 -0.5
HKT Hockley 90.52 58 eP P 21 08 50.0 +0.7
HKT pmax pmax
comp=Z,31nm,1.6s,mb5.4
HKT Hockley 90.52 58 eP P 21 08 50.0 +0.7
comp=Z,31nm,1.6s,mb5.4
LAO LASA Array 90.72 40 eP P 21 08 50.4 +0.2
comp=Z,246nm,2.0s,mb6.2
NNT Nongplab 90.94 283 P P 21 08 54.5 +3.3
XAN Xi'an 91.28 306 P P 21 08 54.6 +1.8
XAN AMB AMB
comp=Z,30nm,2.3s,mb5.2
CBKS Cedar Bluff 91.28 49 eP P 21 08 54.0 +1.2
CBKS pmax pmax
comp=Z,49nm,0.3s,mb6.3
CBKS Cedar Bluff 91.28 49 eP P 21 08 54.0 +1.2
comp=Z,49nm,0.3s,mb6.3
HHC Hu-ho-hao-te 92.23 313 ⇑P P 21 08 58.1 +0.9
HHC AP pP 21 09 03.8 +1.3
HHC XP sP 21 09 05.6 +1.2
HHC SKS 21 19 29.0
HHC S 21 19 58.9
HHC XS sS 21 20 05.5 -2.8
HHC AMB AMB
comp=Z,27nm,1.0s,mb5.5
HHC AMB AMB
comp=Z,686nm,6.5s
HHC LR LR
comp=N,1μm,18.2s,MS5.5
HHC LR LR
comp=E,1μm,17.8s,MS5.5
HHC LR LR
comp=Z,1μm,18.5s,MS5.3
NANT Nan 92.28 289 ⇓P P 21 08 55.0 -2.4
comp=Z,200nm,1.0s,mb6.4
CLNS Chul'man 92.63 331 eP P 21 08 55.6 -3.5
CLNS pmax pmax
comp=Z,19nm,1.1s,mb5.4
CLNS pmax pmax
comp=N,15nm,1.0s
CLNS pmax pmax
comp=E,12nm,1.0s
CLNS MLR MLR
comp=Z,800nm,16.0s,MS5.3
JTS JuntasAbangare 92.74 80⇑eP P 21 08 57.7 -1.9
KMI Kunming 92.80 296 P P 21 09 01.3 +1.5
KMI AP pP 21 09 05.1 0.0
KMI XP sP 21 09 07.0 0.0
KMI PP PP 21 12 44.3 +2.3
KMI AMB AMB
comp=Z,34nm,1.8s,mb5.5
KMI AMB AMB
comp=Z,1μm,6.0s
KMI LR LR
comp=N,2μm,15.0s,MS5.9
KMI LR LR
comp=E,3μm,13.2s,MS5.9
KMI LR LR
comp=Z,2μm,15.9s,MS5.7
BTO Baotou 93.19 312 eP P 21 09 02.3 +0.7
CHRT Chiangrai 93.47 290 ⇓P P 21 09 06.0 +3.1
comp=Z,132nm,0.9s,mb6.4
INK Inuvik 93.61 14 eP P 21 09 01.7 -1.9
INK e 21 12 45.9
INK pmax pmax
comp=Z,43nm,1.5s
INK Inuvik 93.61 14 eP P 21 09 01.6 -1.9
comp=Z,43nm,1.5s,mb5.7
INK ePP PP 21 12 45.9 -2.4
YAK Yakutsk 93.80 337 iP P 21 09 03.1 -1.3
YAK Yakutsk 93.80 337 iPr P 21 09 03.1 -1.3
CHG Chiang Mai 93.84 289 ⇑P P 21 09 06.4 +1.8
comp=Z,32nm,1.0s,mb5.7
CHTO Chiang Mai 93.84 289 eP P 21 09 05.5 +0.9
CHTO pmax pmax
comp=Z,81nm,1.5s,mb5.9
CHTO Chiang Mai 93.84 289 eP P 21 09 05.5 +0.8
comp=Z,81nm,1.5s,mb5.9
CD2 Chengdu 94.09 301 eP P 21 09 04.8 -1.0
CD2 AP pP 21 09 09.5 -1.5
CD2 XP sP 21 09 11.8 -1.1
CD2 PP PP 21 12 53.8 +1.8
CD2 SKS 21 19 37.5
CD2 S 21 20 11.8
CD2 SS SS 21 26 35.4 -0.6
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.3
CD2 LR LR
comp=N,2μm,12.0s
CD2 LR LR
comp=Z,1μm,16.8s,MS5.4
YKA Yellowknife Ar 95.25 24 P P 21 09 09.2 -1.8
comp=Z,3.1nm,0.7s,mb4.9,baz=238,slow=4.6,SNR=63
YKA PP PP 21 12 56.6 -4.4
comp=Z,0.9nm,1.1s,baz=236,slow=7.0,SNR=6.9
YKA PKKPbc PKKPbc 21 26 05.5 +1.3
comp=Z,0.3nm,0.8s,baz=55,slow=2.3,SNR=4.2
YKA LR LR 21 46 50.4
comp=Z,746nm,19.5s,MS5.2,baz=245,slow=32
YKA Yellowknife Ar 95.25 24 P P 21 09 09.2 -1.9
YKA 21 12 56.7
YKA Yellowknife Ar 95.25 24 P P 21 09 09.2 -1.8
YKA PP PP 21 12 56.6 -4.4
YKA PKKPbc PKKPbc 21 26 05.5 +1.3
YKA LR LR 21 46 50.4
YKW3 Yellowknife Ar 95.28 24 eP P 21 09 09.4 -1.8
LZH Lanzhou 95.91 306 eP P 21 09 14.8 +0.7
LZH AP pP 21 09 18.3 -1.1
LZH XP sP 21 09 20.6 -0.7
LZH PP PP 21 13 09.0 +2.8
LZH AMB AMB
comp=Z,30nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,115nm,4.9s
LZH LR LR
comp=E,1μm,8.8s
LZH LR LR
comp=Z,2μm,9.9s
BOD Bodaibo 98.22 329 eP P 21 09 19.7 -4.8
BOD pmax pmax
comp=Z,4.0nm,2.1s,mb4.6
SONM Songino Array 98.43 318 P P 21 09 24.8 -0.7
comp=Z,4.9nm,1.2s,mb4.9,baz=120,slow=1.9,SNR=14
SONM PP PP 21 13 24.0 -1.6
comp=Z,1.1nm,1.0s,baz=107,slow=6.3,SNR=4.5
SONM LR LR 21 52 39.7
comp=Z,1μm,19.7s,MS5.3,baz=129,slow=35
SONM Songino Array 98.43 318 P P 21 09 24.8 -0.7
SONM 21 13 24.0
ULM Lac du Bonnet 98.46 39 P P 21 09 24.8 -0.9
comp=Z,4.1nm,1.1s,mb4.9,baz=199,slow=2.8,SNR=6.6
ULM PP PP 21 13 22.9 -3.0
comp=Z,6.3nm,1.2s,baz=246,slow=7.7,SNR=5.8
ULM LR LR 21 51 37.8
comp=Z,2μm,18.6s,MS5.6,baz=204,slow=34
LPAZ La Paz 98.51 111 P P 21 09 27.6 +1.8
comp=Z,1.1nm,0.8s,mb4.4,baz=233,slow=5.2,SNR=4.6
LPAZ PKKPbc PKKPbc 21 25 56.4 +1.1
comp=Z,0.8nm,0.9s,baz=73,slow=3.9,SNR=4.4
LPAZ LR LR 21 47 07.5
comp=Z,1μm,18.6s,MS5.5,baz=295,slow=31
LPAZ La Paz 98.51 111 P P 21 09 27.6 +1.8
LPAZ pmax pmax
comp=Z,1.0nm,0.8s
LPAZ pmax pmax
comp=Z,1.0nm,0.9s
LPAZ MLR MLR
comp=Z,1μm,18.6s
LPAZ La Paz 98.51 111 eP P 21 09 27.8 +1.9
comp=Z,12nm,1.7s,mb5.2
TIXI Tiksi 100.00 344⇓iP Pdif 21 09 30.1 -2.4
TIXI e 21 20 05.5
TIXI eSP SP 21 22 34.4 0.0
TIXI ePS PS 21 22 34.9 -1.6
TIXI eSS SS 21 27 52.9 -6.5
TIXI eSSS 21 31 43.8
TIXI pmax pmax
comp=Z,6.0nm,1.3s,mb4.9
TIXI MLR MLR
comp=Z,984nm,17.0s,MS5.4
TIXI Tiksi 100.00 344⇓eP Pdif 21 09 29.9 -2.6
GTA Gaotai 100.04 308 eP Pdif 21 09 33.8 +1.1
GTA AP 21 09 38.5
GTA XP 21 09 41.1
GTA PP PP 21 13 40.1 +2.2
GTA SKS 21 20 10.3
GTA S Sdif 21 21 03.0 -3.9
GTA SS SS 21 27 56.5 -3.5
GTA AMB AMB
comp=Z,4.0nm,2.0s
GTA LR LR
comp=N,421nm,15.6s,MS5.2
GTA LR LR
comp=E,460nm,15.6s,MS5.2
GTA LR LR
comp=Z,478nm,17.1s,MS5.1
ZAK Zakamensk 101.23 320 eP Pdif 21 09 34.5 -3.4
ZAK pmax pmax
comp=Z,8.0nm,2.1s
TLY Talaya 101.43 321 ePS PS 21 22 55.7 +3.9
TLY eSS SS 21 28 30.7 +11
TLY MLR MLR
comp=Z,1μm,20.0s,MS5.4
WMQ Urumqi 109.93 310 PDIF Pdif 21 10 16.3 -0.3
WMQ PP PP 21 14 54.3 +3.1
WMQ PP PP
comp=Z,298nm,6.3s
WMQ LR LR
comp=N,337nm,17.0s,MS5.2
WMQ LR LR
comp=E,523nm,21.0s,MS5.2
WMQ LR LR
comp=Z,735nm,20.2s,MS5.2
NVS Novosibirsk 114.02 322 ePKIKP PKiKP 21 14 24.3 -2.1
NVS pmax pmax
comp=N,5.0nm,1.4s
NVS pmax pmax
comp=E,7.0nm,1.4s
NVS pmax pmax
comp=Z,15nm,1.4s
MKAR Makanchi Array 114.10 313 Pdiff Pdif 21 10 34.5 -0.7
comp=Z,0.2nm,0.8s,baz=84,slow=4.5,SNR=2.9
MKAR PKIKP PKiKP 21 14 25.2 -1.3
comp=Z,4.8nm,0.8s,baz=64,slow=2.8,SNR=47
MKAR Makanchi Array 114.10 313⇑iPKIKP PKiKP 21 14 26.2 -0.4
MKAR Makanchi Array 114.10 313 Pdif Pdif 21 10 34.5 -0.7
MKAR PKPdf PKiKP 21 14 25.2 -1.3
MKAR ⇑ePKP PKiKP 21 14 26.2 -0.4
SCHQ Schefferville 116.60 38 PP PP 21 15 32.8 -5.9
comp=Z,1.5nm,0.7s,baz=322,slow=8.1,SNR=3.2
KURK Kurchatov 116.72 317⇑iPKIKP PKPdf 21 14 30.6 -1.0
KURK Kurchatov 116.72 317 ePKPdf PKPdf 21 14 30.7 -0.9
KURK ePP PP 21 15 32.2 -7.3
ULHL Ulahol 118.08 308 P PKPdf 21 14 35.2 +1.0
SNR=18
KSH Kashi 118.10 305 ePKP PKPdf 21 14 35.1 +0.8
KSH ePP PP 21 15 54.0 +4.9
KSH ePKS 21 18 10.0
KSH PP PP
comp=Z,403nm,5.4s
KSH LR LR
comp=N,293nm,5.4s
KSH LR LR
comp=E,333nm,6.4s
KSH LR LR
comp=Z,358nm,10.9s,MS5.3
TKM2 Tokmak 2 118.59 308 P PKPdf 21 14 35.6 +0.4
SNR=14
KZA Kyzart 118.81 307 P PKPdf 21 14 36.9 +1.3
SNR=12
KBK Karagaybulak 119.06 308 P PKPdf 21 14 36.5 +0.4
SNR=14
CHMS Chumysh 119.22 308 P PKPdf 21 14 36.7 +0.2
SNR=8.6
FRU Bishkek 119.31 308 ePKIKP PKPdf 21 14 37.0 +0.4
FRU e 21 14 47.0
FRU e 21 15 58.0
UCH Uchtor 119.36 308 P PKPdf 21 14 38.2 +1.5
SNR=15
AAK Ala-Archa 119.39 308 P PKPdf 21 14 36.3 -0.5
SNR=6.8
AAK Ala-Archa 119.39 308 ePKPdf PKPdf 21 14 35.0 -1.7
USP Ospenovka 119.41 309 P PKPdf 21 14 37.0 +0.2
SNR=16
EKS2 Erkin-Say 119.92 308 P PKPdf 21 14 38.5 +0.7
SNR=16
AML Almayashu 119.97 307 P PKPdf 21 14 39.1 +1.2
SNR=15
BRVK Borovoye 121.74 320 ePKIKP PKPdf 21 14 39.8 -1.5
KK31 Karatay Array 122.32 309 iPKIKP PKPdf 21 14 41.4 -1.0
ZRNK Zerenda 122.52 320 ePKPdf PKPdf 21 14 41.1 -1.6
ZRNK ePPP PP 21 16 12.3 -7.1
SUMG Summit 122.53 14 ePKPdf PKPdf 21 14 41.0 -1.8
DAG Danmarks Havn 122.63 7⇑iP PKPdf 21 14 41.2 -1.8
comp=Z,2.6nm,0.3s
DAG Danmarks Havn 122.63 7⇑iPKIKP PKPdf 21 14 41.2 -1.8
DAG pmax pmax
comp=Z,3.0nm,0.3s
ARU Arti 127.52 326 iPKIKP PKPdf 21 14 52.0 -0.3
ARU e 21 21 54.1
ARU ePS PS 21 26 49.5 -8.8
ARU eSS SS 21 33 56.3 -6.5
ARU MLR MLR
comp=E,2μm,19.0s,MS5.8
ARU MLR MLR
comp=Z,2μm,19.0s,MS5.9
ARU MLR MLR
comp=N,800nm,20.0s,MS5.8
ARU Arti 127.52 326⇓ePKP PKPdf 21 14 52.0 -0.3
AB31 Akbulak array 128.83 317 iPKIKP PKPdf 21 14 54.0 -0.8
AKTO Aktyubinsk 129.73 319 iPKIKP PKPdf 21 14 55.8 -0.7
AKTO pmax pmax
comp=Z,4.0nm,1.5s
ARCES ARCESS Array B 129.82 351 PKP PKPdf 21 14 55.1 -1.6
comp=Z,6.7nm,0.7s,baz=6.8,slow=1.4,SNR=19
APA Apatity 130.12 347⇑iPKIKP PKPdf 21 14 56.0 -1.3
APA eSS SS 21 34 25.0 -10
APA pmax pmax

	comp=Z,54nm,1.4s									
APA					MLR	MLR				
	comp=Z,1μm,20.0s,MS5.6									
ORR	**Orenburg**	**131.31**	**321**	*e*	PKIKP	PKPdf	21 15 00.6	+1.1		
ORR					MLR	MLR				
	comp=Z,1μm,20.0s,MS5.7									
KLMR	**Klimovskoe**	**133.58**	**338**	*i*	PKIKP	PKPdf	21 14 57.5	-6.3		
KLMR					pmax	pmax				
	comp=Z,30nm,1.5s									
JOF	**Joensuu**	**134.48**	**344**	*e*	pkp	PKPdf	21 15 06.1	+0.6		
PECR	**Pechory**	**134.68**	**331**	*e*	PKIKP	PKPdf	21 15 02.8	-3.1		
PECR					MLR	MLR				
	comp=Z,1μm,21.0s,MS5.5									
KAF	**Kangasniemi**	**136.37**	**346**	*e*	pkp	PKPdf	21 15 08.2	-0.8		
	baz=30,slow=1.7									
TSUM	**Tsumeb**	**138.67**	**197**	*e*	PKPdf	PKPdf	21 15 14.6	+1.3		
OBN	**Obninsk**	**138.72**	**334**	⇑ *i*	PKIKP	PKPdf	21 15 13.4	0.0		
OBN				*i*			21 15 23.5			
OBN				*i*			21 17 59.5			
OBN					pmax	pmax				
	comp=Z,25nm,1.2s									
OBN					MLR	MLR				
	comp=Z,800nm,19.0s,MS5.5									
OBN	**Obninsk**	**138.72**	**334**	⇑ *e*	PKP	PKPdf	21 15 13.4	0.0		
OBN					LR	LR				
	comp=Z,800nm,19.0s,MS5.5									
VRHR	**Novokhopersk**	**138.87**	**326**	*e*	PKIKP	PKPdf	21 15 13.2	-0.4		
VRHR					pmax	pmax				
	comp=Z,10.0nm,0.5s									
VRHR					pmax	pmax				
	comp=N,8.0nm,0.6s									
VRHR					pmax	pmax				
	comp=E,10.0nm,0.9s									
MAK	**Makhachkala**	**138.91**	**312**	*e*	PKIKP	PKPdf	21 15 15.4	+1.7		
MAK					pmax	pmax				
	comp=Z,72nm,1.3s									
VSU	**Vasula**	**139.46**	**343**	⇑ *e*	PKIKP	PKPdf	21 15 16.8	+2.1		
NB2	**NORSAR Subarra**	**139.61**	**356**		PKPa		21 15 05.7			
	comp=Z,40nm,2.0s,baz=16,slow=3.2									
NOA	**NORSAR Array B**	**139.61**	**356**		PKhKP		21 15 05.4			
	comp=Z,0.7nm,0.7s,baz=15,slow=4.3,SNR=4.5									
NOA					PKP	PKPdf	21 15 14.3	-0.7		
	comp=Z,1.4nm,0.8s,baz=14,slow=4.1,SNR=5.2									
NOA	**NORSAR Array B**	**139.61**	**356**		PKP	PKPdf	21 15 14.3	-0.7		
VOR	**Voronezh**	**139.73**	**328**		PKIKP	PKPdf	21 15 14.0	-1.2		
VOR					pmax	pmax				
	comp=Z,90nm,1.7s									
VRSR	**Storozhevoye**	**140.05**	**328**	*i*	PKIKP	PKPdf	21 15 14.1	-1.7		
VRSR					pmax	pmax				
	comp=E,2.0nm,1.0s									
VRSR					pmax	pmax				
	comp=Z,2.0nm,1.0s									
VRSR					pmax	pmax				
	comp=N,10.0nm,3.5s									
HFS	**Hagfors**	**140.31**	**354**		PKhKP		21 15 06.4			
	comp=N,2.6nm,0.8s,baz=132,slow=2.2,SNR=6.3									
HFS	**Hagfors**	**140.31**	**354**	*i*	PKHKP		21 15 06.4			
HFS					pmax	pmax				
	comp=Z,3.0nm,0.8s									
DGRG	**David-gareji**	**140.91**	**311**		P	PKPdf	21 15 13.9	-3.4		
GOF	**Gofitskoye**	**141.08**	**317**	*e*	PKIKP	PKPdf	21 15 17.0	-0.7		
MTA	**Mtatsminda**	**141.23**	**311**		P	PKPdf	21 15 18.9	-1.1		
MTA					S		21 18 57.1			
TBLG	**Delisi**	**141.26**	**311**		P	PKPdf	21 15 17.6	-0.4		
ZEI	**Tsey**	**141.46**	**313**	*e*	PKHKP		21 15 13.1			
KIV	**Kislovodsk**	**141.78**	**316**	*e*	PKIKP	PKPdf	21 15 15.5	-3.4		
KIV				*e*			21 18 18.8			
KIV				*e*	SS	SS	21 36 47.3	-7.1		
KIV					pmax	pmax				
	comp=Z,13nm,1.0s									
KIV	**Kislovodsk**	**141.78**	**316**	*e*	PKPdf	PKPdf	21 15 19.6	+0.7		
KIV				*e*	PP	PP	21 18 19.0	-4.2		
GNI	**Garni**	**141.78**	**309**	*e*	P	PKPdf	21 15 30.0	+11		
GNI	**Garni**	**141.78**	**309**		PKhKP		21 15 10.2			
	comp=Z,1.1nm,0.5s,baz=105,slow=24,SNR=1.8									
GNI	**Garni**	**141.78**	**309**	*i*	PKHKP		21 15 10.2			
GNI					pmax	pmax				
	comp=Z,1.0nm,0.5s									
GNI	**Garni**	**141.78**	**309**	*i*	PKP	PKPdf	21 15 22.6	+3.7		
ONI	**Oni**	**141.83**	**313**		P	PKPdf	21 15 16.9	-2.1		
ONI					S		21 18 59.1			
KMBO	**Kilima Mbogo**	**142.43**	**238**		PKhKP		21 15 10.2			
	comp=Z,0.5nm,0.3s,baz=76,slow=23,SNR=1.9									
KMBO	**Kilima Mbogo**	**142.43**	**238**	*i*	PKHKP		21 15 10.3			
KMBO					pmax	pmax				
	comp=Z,1.0nm,0.3s									
MNK	**Minsk**	**142.47**	**339**	*e*	PKHKP		21 15 14.0			
CUKT	**Cukurca**	**143.50**	**305**	*e*	P	PKPdf	21 15 20.5	-1.5		
BHD	**Baghdad**	**143.79**	**298**	*e*	x	x	21 15 18.0			
EAB	**Aberfoyle**	**143.82**	**10**	*e*	P	PKPdf	21 15 20.4	-2.1		
EAB					AMb	AMB	21 15 27.5			
	comp=Z,64nm,1.9s									
SOC	**Sochi**	**143.87**	**317**	*d*	PKIKP	PKPdf	21 15 20.3	-2.3		
SOC				*e*			21 18 31.9			
SOC					pmax	pmax				
	comp=Z,9.0nm,0.9s									
SOC					pmax	pmax				
	comp=Z,31nm,1.3s									
MSL	**Mosul**	**144.16**	**304**	*ex*		x	21 15 22.0			
EDI	**Edinburgh**	**144.25**	**9**	*e*	P	PKPdf	21 15 20.1	-3.2		
EDI					AMb	AMB	21 15 23.4			
	comp=Z,86nm,1.4s									
EAU	**Auchinoon**	**144.29**	**9**	*e*	P	PKPdf	21 15 20.5	-2.8		
EAU					AMb	AMB	21 15 23.8			
	comp=Z,186nm,1.6s									
MUD	**Monsted U'grnd**	**144.30**	**357**	⇓ *i*	P	PKPdf	21 15 21.6	-1.8		
	comp=Z,103nm,1.6s									
MUD				*i*			21 19 29.7			
MUD				*i*			21 37 27.1			
MUD										
	comp=Z,1μm,18.0s									
MUD	**Monsted U'grnd**	**144.30**	**357**	⇓ *i*	PKIKP	PKPdf	21 15 21.6	-1.8		
MUD					pmax	pmax				
	comp=Z,100nm,1.6s									
MUD					MLR	MLR				
	comp=Z,1μm,18.0s,MS5.6									
MUD	**Monsted U'grnd**	**144.30**	**357**	⇓ *i*	P	PKPdf	21 15 21.6	-1.8		
MUD				*i*			21 19 29.7			
MUD				*i*			21 37 27.1			
EZM	**Erzurum**	**144.30**	**310**	*e*	P	PKPdf	21 15 20.9	-2.5		
SUW	**Suwalki**	**144.32**	**343**	*e*	PKPc		21 15 20.6			
ESY	**Stoneypath**	**144.33**	**8**	*e*	P	PKPdf	21 15 20.9	-2.6		
ESY					AMb	AMB	21 15 29.3			
	comp=Z,103nm,1.7s									
EBL	**Broad Law**	**144.41**	**9**	*e*	P	PKPdf	21 15 21.3	-2.3		
EBL					AMb	AMB	21 15 28.7			
	comp=Z,117nm,2.0s									
GCL	**Cushendall**	**144.56**	**12**	*e*	P	PKPdf	21 15 25.3	+1.5		
ANN	**Anapa**	**144.68**	**320**	*i*	PKIKP	PKPdf	21 15 22.5	-1.5		
ANN				*e*			21 18 36.5			
ANN				*e*	SS	SS	21 37 23.9	-3.9		
ANN					pmax	pmax				
	comp=Z,119nm,1.4s									
BTMT	**Batman**	**144.81**	**307**	*e*	P	PKPdf	21 15 25.1	+0.8		
COP	**Copenhagen**	**144.81**	**354**	*i*	P	PKPdf	21 15 23.5	-0.7		
	comp=Z,44nm,1.0s									
COP										
	comp=Z,490nm,17.0s									
COP	**Copenhagen**	**144.81**	**354**	*i*	PKIKP	PKPdf	21 15 23.5	-0.7		
COP					pmax	pmax				
	comp=Z,44nm,1.0s									
COP					MLR	MLR				
	comp=Z,490nm,17.0s,MS5.3									
EKA	**Eskdalemuir Ar**	**144.82**	**9**		PKP	PKPdf	21 15 21.4	-2.9		
	comp=Z,8.5nm,0.7s,baz=331,slow=2.9,SNR=25									
BWH	**Wardlaw**	**144.90**	**10**	*e*	P	PKPdf	21 15 22.9	-1.5		
AKASG	**Malin Array Be**	**144.98**	**334**		PKP	PKPdf	21 15 22.6	-2.0		
	comp=Z,9.3nm,0.4s,baz=39,slow=3.9,SNR=120									
GAL1	**Galloway**	**145.02**	**11**	*e*	P	PKPbc	21 15 23.0	-0.9		
BHH	**Howats Hill**	**145.05**	**9**	*e*	P	PKPbc	21 15 23.2	-0.8		
BSD	**Bornholm Skovb**	**145.06**	**351**	⇑ *i*	P	PKPbc	21 15 23.0	-1.1		
	comp=Z,73nm,0.9s									
BSD										
	comp=Z,790nm,19.0s									
BSD	**Bornholm Skovb**	**145.06**	**351**	⇑ *i*	PKIKP	PKPdf	21 15 23.0	-1.7		
BSD					pmax	pmax				
	comp=Z,73nm,0.9s									
BSD					MLR	MLR				
	comp=Z,800nm,19.0s,MS5.5									
BBO1	**Bothel**	**145.39**	**9**	*e*	P	PKPbc	21 15 24.5	-0.7		
GUMT	**Gumushane**	**145.41**	**312**	*e*	P	PKPbc	21 15 25.1	-0.2		
DCN	**Croghan**	**145.94**	**14**	*e*	P	PKPdf	21 15 25.5	-0.7		
DLF	**Lyons Farm**	**146.15**	**13**	*e*	P	PKPdf	21 15 26.1	-0.4		
DESE	**Dese**	**146.29**	**259**	*i*	P	PKPdf	21 15 30.2	+3.4		
DESE	**Dese**	**146.29**	**259**	*i*	P	PKPdf	21 15 30.2	+3.4		
FURI	**Furi**	**146.32**	**254**	*e*	P	PKPdf	21 15 28.0	+1.1		
GKP	**Gorka Klasztor**	**146.43**	**348**	*e*	PKPc	PKPdf	21 15 28.4	+1.4		
WAR	**Warsaw**	**146.49**	**343**	*e*	PKP	PKPdf	21 15 29.4	+2.3		
DRBT	**Darb Altahta**	**146.51**	**306**	⇑	P	PKPbc	21 15 33.6	+5.0		
SIM	**Simferopol'**	**146.53**	**323**	*c*	PKP2	PKPab	21 15 28.8	-0.9		
SIM					pmax	pmax				
	comp=Z,54nm,0.8s									
BSEG	**Bad Segeberg**	**146.74**	**355**	*e*	PKP	PKPdf	21 15 28.8	+1.3		
LHO	**Holmfirth**	**146.75**	**9**	*e*	P	PKPdf	21 15 26.9	-0.6		
MYA	**Malataya**	**147.02**	**309**	*e*	P	PKPdf	21 15 30.7	+2.7		
MALT	**Malatya**	**147.02**	**309**	*e*	P	PKPdf	21 15 30.7	+2.7		
MALT	**Malatya**	**147.02**	**309**	⇓ *i*	P	PKPdf	21 15 31.6	+3.6		
MALT	**Malatya**	**147.02**	**309**	*e*	PKPdf	PKPdf	21 15 28.3	+0.3		
URFA	**Urfa**	**147.05**	**307**	*e*	P	PKPdf	21 15 28.6	+0.5		
KBI1	**Birley Grange**	**147.08**	**8**	*e*	P	PKPdf	21 15 29.5	+1.4		
SBD1	**Bryn Du**	**147.15**	**10**	*e*	P	PKPdf	21 15 30.2	+1.9		
KWE	**Weaver Farm**	**147.26**	**9**	*e*	P	PKPdf	21 15 30.4	+2.0		
SVSK	**Karacayir**	**147.36**	**313**	*e*	P	PKPdf	21 15 27.2	-1.4		
HLM1	**Long Mynd**	**147.59**	**10**	*e*	P	PKPdf	21 15 30.3	+1.3		
HLM1					AMb	AMB	21 15 38.5			
	comp=Z,91nm,1.8s									
SSP1	**Stoney Pound**	**147.65**	**10**	*e*	P	PKPdf	21 15 31.4	+2.3		
LVV	**L'vov**	**147.67**	**338**	*e*	PKP2	PKPab	21 15 31.7	-2.4		
MBAR	**Mbarara**	**147.77**	**232**	*c*	PKIKP	PKPdf	21 15 32.9	+3.6		
KIS	**Kishinev**	**147.93**	**330**	*c*	PKIKP	PKPdf	21 15 30.0	+0.5		
KIS					MLR	MLR				
	comp=N,1μm,20.0s,MS5.8									
KIS					MLR	MLR				
	comp=E,1μm,20.0s,MS5.8									
KIS					MLR	MLR				
	comp=Z,2μm,20.0s,MS5.9									
KIS					MLR	MLR				
	comp=Z,4μm,20.0s									
JHLN	**Al Jahlan**	**147.94**	**305**	⇑	P	PKPbc	21 15 33.9	+1.3		
KWP	**Kalwaria**	**148.28**	**339**	*e*	PKPc	PKPbc	21 15 33.2	-0.3		
GAZ	**Gaziantep**	**148.35**	**308**	*e*	P	PKPbc	21 15 35.7	+2.1		
IAS	**Iasi**	**148.36**	**331**		PKP2	PKPab	21 15 34.4	-2.5		
HGH	**Gray Hill**	**148.45**	**10**	*e*	P	PKPdf	21 15 32.6	+2.2		
HGH					AMb	AMB	21 15 39.7			
	comp=Z,123nm,1.7s									
OJC	**Ojcow**	**148.65**	**343**	*e*	PKPdf	PKPdf	21 15 31.0	+0.3		
OJC				*e*	PKPbc	PKPbc	21 15 34.1	-0.3		
OJC				*e*	PP	PP	21 19 02.9	-1.2		
OJC				*e*	SS	SS	21 38 12.9	0.0		
OJC					L		22 30 12.0			
	comp=Z,6.3nm,18.7s									
OJC	**Ojcow**	**148.65**	**343**	*e*	PKP2	PKPab	21 15 34.1	-3.9		
OJC				*e*			21 19 02.9			
OJC				*e*	SS	SS	21 38 12.9	0.0		
OJC					MLR	MLR				
	comp=Z,6μm,18.7s,MS6.4									
SKP1	**Kophill**	**148.67**	**8**	*e*	P	PKPdf	21 15 33.4	+2.7		
CLZ	**Clausthal**	**148.81**	**355**	*e*	PKPdf	PKPdf	21 15 30.4	-0.6		
HEX	**Exmoor**	**148.82**	**12**	*e*	P	PKPdf	21 15 33.7	+2.8		
WTSB	**Winterswijk**	**148.87**	**359**	*e*	PKiKP	PKiKP	21 15 34.3	-2.1		
	comp=Z,96nm,2.3s									
KSP	**Ksiaz**	**148.92**	**347**	*e*	PKPc	PKPbc	21 15 35.7	+0.6		
KSP	**Ksiaz**	**148.92**	**347**	*i*	PKP2	PKPbc	21 15 35.7	+0.6		
KSP					eSS	SS	21 38 12.0	-3.9		
KSP					MLR	MLR				
	comp=Z,2μm,20.5s,MS5.9									
KSP	**Ksiaz**	**148.92**	**347**	*e*	PKP	PKPdf	21 15 31.5	+0.4		
STHS	**Stebnicka Huta**	**148.94**	**341**	*e*	PKP	PKPdf	21 15 31.8	+0.6		
STHS				*e*			21 15 36.3			
STHS				*e*			21 15 46.4			
DRWC	**Darouich**	**148.96**	**307**	⇑	P	PKPbc	21 15 36.4	+1.2		
KOLS	**Kolonicke sedl**	**149.03**	**339**	*e*	PKP	PKPdf	21 15 31.8	+0.5		
KOLS				*e*			21 15 36.0			
KOLS	**Kolonicke sedl**	**149.03**	**339**	*e*	PKP	PKPdf	21 15 31.8	+0.5		
KOLS				*e*			21 15 36.0			
KOLS					LR	LR				
	comp=Z,680nm,18.5s,MS5.5									
BURAR	**Bucovina Array**	**149.03**	**334**	⇓ *i*	P	PKPbc	21 15 36.8	+1.4		
CLL	**Collm**	**149.04**	**351**	⇑ *i*	PKPdf	PKPdf	21 15 30.8	-0.5		
	comp=Z,8.0nm,1.2s									
CLL				*i*	PKPbc	PKPbc	21 15 35.0	-0.4		
	comp=Z,97nm,0.2s									
CLL				*e*	PP	PP	21 19 26.4	+20		
CLL				*e*	SS	SS	21 38 19.0	+1.8		
CLL				*e*	SSS		21 43 58.0			
CLL				*e*	L		22 19 57.2			
	comp=Z,874nm,22.0s									
CLL	**Collm**	**149.04**	**351**	⇑ *i*	PKPdf	PKPdf	21 15 30.8	-0.5		
	comp=Z,8.0nm,1.2s									
CLL				*i*	PKPbc	PKPbc	21 15 35.0	-0.4		
	comp=Z,124nm,1.6s									
CLL				*i*	sPKPab		21 15 46.6			
CLL				*ex*		x	21 16 06.0			
CLL				*e*	PP	PP	21 19 24.0	+18		
CLL				*e*	SS	SS	21 38 17.0	-0.2		
CLL				*e*	SSS		21 43 58.0			
CLL					Lm		22 25 00.0			
	comp=N,1μm,19.1s									
CLL					Lm		22 25 00.0			
	comp=E,600nm,19.1s									
CLL					Lm		22 25 00.0			
	comp=Z,900nm,20.7s									
CLL	**Collm**	**149.04**	**351**	⇑ *i*	PKIKP	PKPdf	21 15 30.8	-0.5		
CLL				*i*			21 15 35.0			
CLL					pmax	pmax				
	comp=Z,8.0nm,1.2s									
CLL					MLR	MLR				
	comp=Z,900nm,20.7s,MS5.5									
CLL	**Collm**	**149.04**	**351**	⇑ *i*	PKP	PKPdf	21 15 30.8	-0.5		
CLL				*i*	PKP	PKPdf	21 15 35.0	+3.7		
CLL					LR	LR				
	comp=Z,900nm,20.7s,MS5.5									
GTTG	**Gvttingen**	**149.14**	**355**	*e*	PKPbc	PKPbc	21 15 35.3	-0.4		
NIE	**Niedzica**	**149.22**	**342**	*e*	PKP	PKPdf	21 15 32.5	+0.9		
NIE					e	PKPbc	21 15 37.3	+1.4		
NIE	**Niedzica**	**149.22**	**342**	*e*	PKP	PKPdf	21 15 32.5	+0.9		
NIE				*e*		PKPbc	21 15 37.3	+1.4		
UPC	**Upice**	**149.29**	**347**	*e*	PKPDF	PKPdf	21 15 32.0	+0.3		
UPC				⇑	*e* PKPB	PKPbc	21 15 36.2	+0.1		
UPC					*e* pPKP	pPKPdf	21 15 48.0	+11		
ROOS	**tl_alroos**	**149.31**	**302**	⇑	P	PKPbc	21 15 38.1	+2.0		
BRG	**Berggiesshubel**	**149.32**	**350**	*e*	PKPbc	PKPbc	21 15 35.8	-0.3		
BRG	**Berggiesshubel**	**149.32**	**350**	*e*	PKP	PKPdf	21 15 32.6	+0.8		
	comp=Z,11nm,1.6s									
BRG				*i*			21 15 36.9			
	comp=Z,101nm,1.8s									
BRG				*i*			21 15 47.4			
	comp=Z,120nm,1.8s									
BRG					SS	SS	21 38 19.0	-1.4		
BRG										
	comp=N,421nm,22.5s									
BRG					MLR	MLR				
	comp=E,437nm,18.1s									
BRG					MLR	MLR				
	comp=Z,787nm,19.4s									
BRG	**Berggiesshubel**	**149.32**	**350**	*e*	PKIKP	PKPdf	21 15 32.6	+0.8		
BRG				*i*			21 15 36.8			
BRG				*i*			21 15 47.3			
BRG					SS	SS	21 38 19.0	-1.4		
BRG					pmax	pmax				
	comp=Z,11nm,1.7s									
BRG					MLR	MLR				
	comp=N,421nm,22.5s,MS5.4									
BRG					MLR	MLR				
	comp=E,437nm,18.1s,MS5.4									
BRG					MLR	MLR				
	comp=Z,787nm,19.4s,MS5.5									
CRVS	**Cervenica-Dubn**	**149.32**	**340**	*e*	PKP	PKPdf	21 15 31.7	-0.1		
CRVS				*e*			21 15 36.9			
CRVS				*e*			21 15 40.9			
CRVS				*e*			21 15 47.3			
BTCH	**Batrach**	**149.33**	**306**	⇑	P	PKPbc	21 15 37.0	+0.8		
KFRA	**Kufra**	**149.36**	**305**	⇑	P	PKPbc	21 15 37.5	+1.2		
DPC	**Dobruska-Polom**	**149.38**	**347**	*e*	PKPDF	PKPdf	21 15 32.0	+0.1		
DPC				⇑	*e* PKPB	PKPbc	21 15 37.0	+0.7		
DPC					*e* pPKP	pPKPdf	21 15 48.1	+11		
DPC					eSS	SS	21 38 19.5	-1.5		
DPC					AMS	AMS	22 32 10.0			
	comp=Z,1μm,17.5s									
BUG	**Bochum--Univer**	**149.39**	**358**	*e*	PKPbc	PKPbc	21 15 35.8	-0.5		
OKC	**Ostrava-Krasne**	**149.43**	**344**	*e*	PKPDF	PKPdf	21 15 32.2	+0.2		
OKC				⇑	*e* PKPB	PKPbc	21 15 37.1	+0.7		
OKC					*e* pPKP	pPKPdf	21 15 48.4	+11		
OKC					eSS	SS	21 38 21.4	-0.2		
OKC					AMS	AMS	22 36 40.0			
	comp=Z,1μm,17.5s									
WRDH	**Warideh**	**149.56**	**305**	⇑	P	PKPbc	21 15 37.9	+1.2		
CFR	**Carcaliu**	**149.57**	**328**	⇑ *i*	P	PKPbc	21 15 38.0	+1.3		
CFR	**Carcaliu**	**149.57**	**328**	⇑	P	PKPbc	21 15 38.0	+1.3		
MORC	**Moravsky Berou**	**149.64**	**345**	⇓ *i*	P	PKPbc	21 15 37.9	+1.0		
SLNF	**Slenfeh**	**149.67**	**306**	⇑	P	PKPbc	21 15 38.1	+1.1		
BR131	**Keskin Array S**	**149.73**	**315**	*e*	PKPdf	PKPdf	21 15 32.7	+0.3		
BRTR	**Keskin Array B**	**149.73**	**315**		PKP	PKPdf	21 15 32.2	-0.2		
	comp=Z,15nm,0.8s,baz=82,slow=1.2,SNR=23									
BRTR					PKPbc	PKPbc	21 15 37.8	+0.7		
	comp=Z,15nm,0.8s,baz=129,slow=3.0,SNR=54									
BRTR	**Keskin Array B**	**149.73**	**315**	⇑	PKHKP	PKPdf	21 15 35.2	+2.8		
VRI	**Vrincioaia**	**149.74**	**331**	⇑	P	PKPbc	21 15 38.0	+0.8		
VRI	**Vrincioaia**	**149.74**	**331**	⇑	P	PKPbc	21 15 38.0	+0.9		
ARNB	**Al Arnab**	**149.76**	**306**	⇑	P	PKPbc	21 15 38.0	+0.8		
PLOR	**Plostina**	**149.78**	**331**	⇑	P	PKPbc	21 15 37.8	+0.5		
BIDA	**Albida**	**149.80**	**304**	⇑	P	PKPbc	21 15 38.7	+1.4		
MOX	**Moxa**	**149.87**	**353**	*e*	PKPdf	PKPdf	21 15 32.6	-0.1		
MOX				*e*	PKPbc	PKPbc	21 15 37.3	-0.2		
MOX	**Moxa**	**149.87**	**353**	*e*	PKP	PKPbc	21 15 37.3	-0.2		
	comp=Z,153nm,1.8s									
MOX										
	comp=Z,1μm,19.0s									
MOX	**Moxa**	**149.87**	**353**	*e*	PKP2	PKPbc	21 15 37.3	-0.2		
MOX					pmax	pmax				
	comp=Z,153nm,1.8s									
MOX					MLR	MLR				
	comp=Z,1μm,19.0s,MS5.7									
HAWK	**Haweek**	**149.90**	**303**	⇑	P	PKPbc	21 15 39.5	+2.0		
TIRR	**Tirgusor**	**149.94**	**327**	⇓ *i*	P	PKPbc	21 15 38.5	+0.8		
TIRR	**Tirgusor**	**149.94**	**327**	⇓	P	PKPbc	21 15 38.5	+0.9		
WERD	**Werda**	**149.97**	**352**	*e*	PKPdf	PKPdf	21 15 32.7	-0.1		
WERD				*e*	PKPbc	PKPbc	21 15 37.9	+0.2		
MARH	**Ras Al Marh**	**149.99**	**303**	⇑	P	PKPbc	21 15 40.0	+2.2		
KECS	**Kecovo**	**150.00**	**341**	*e*	PKP	PKPbc	21 15 38.2	+0.4		
KECS				*e*			21 15 44.0			
KECS				*e*			21 15 48.9			
PRA	**Prague**	**150.01**	**349**	⇑	PKPB	PKPbc	21 15 38.0	+0.2		
PRA					PKPAB	PKPab	21 15 49.0	+5.4		
UCC	**Uccle**	**150.02**	**2**		PKP	PKPbc	21 15 38.2	+0.4		
UCC					PKPab	PKPab	21 15 42.3	-1.3		
HARR	**Harsova**	**150.02**	**328**	⇓ *i*	P	PKPbc	21 15 39.0	+1.2		
HARR	**Harsova**	**150.02**	**328**	⇓	P	PKPbc	21 15 39.0	+1.2		
BEBN	**Eben Emael**	**150.05**	**0**		PKPbc	PKPbc	21 15 37.6	-0.3		
PRU	**Pruhonice**	**150.07**	**349**	*e*	PKPDF	PKPdf	21 15 33.2	+0.2		
PRU				⇑	*e* PKPB	PKPbc	21 15 38.5	+0.5		
PRU					*e* pPKP	pPKPdf	21 15 48.9	+11		
PRU					eSS	SS	21 38 29.6	+0.8		
PRU					AMS	AMS	22 32 00.0			
	comp=Z,1μm,16.5s									
HGN	**Heimansgroeve**	**150.08**	**0**	*e*	PKiKP	PKiKP	21 15 37.8	-1.1		
	comp=Z,64nm,1.9s									
HGN				*e*	PP	PP	21 19 29.4	+17		
MENF	**Mencas**	**150.13**	**5**		PKP	PKPbc	21 15 38.8	+0.7		
NKC	**Novy Kostel**	**150.17**	**352**	*e*	PKPDF	PKPdf	21 15 33.5	+0.4		
NKC				⇑	*e* PKPB	PKPbc	21 15 38.9	+0.7		
NKC					*e* pPKP	pPKPdf	21 15 49.7	+11		
NKC					eSS	SS	21 38 28.7	-1.1		
NKC					AMS	AMS	22 31 10.0			
	comp=Z,1μm,18.1s									
ASF	**Jabal al As

JMB	Yambol	152.29	326	eP		PKPbc	21 15 39.8	-3.3
MEZF	Maizieres J'vi	152.34	1	ePKIKP		PKPdf	21 15 36.3	-0.1
FUR	Furstenfeldbru	152.35	352	ePKPbc		PKPbc	21 15 43.0	-0.3
FUR				ePKPab		PKPab	21 15 53.5	+0.2
PVL	Pavlikeni	152.38	328	eP		PKPbc	21 15 43.0	-0.3
WLS	Welschbruch	152.41	358	PKP		PKPbc	21 15 43.6	+0.2
CDF	Champ du Feu	152.41	358	ePKIKP		PKPdf	21 15 35.4	-1.2
	comp=Z,58nm,1.2s							
BFO	Black Forest	152.45	357	ePKPdf		PKPdf	21 15 36.0	-0.6
BFO				ePKPbc		PKPbc	21 15 43.3	-0.2
BFO				ePKPab		PKPab	21 15 54.1	+0.4
ECH	Echery	152.61	358	PKP		PKPbc	21 15 44.3	+0.4
THEF	They Montfort	152.62	360	PKP		PKPbc	21 15 44.1	+0.2
HAU	Haudompre	152.84	359	ePKIKP		PKPdf	21 15 37.5	+0.3
	comp=Z,20nm,0.7s							
HAU				eR				
	comp=Z,1μm,20.5s							
HAU	Haudompre	152.84	359	ePKPdf		PKPdf	21 15 37.5	+0.3
HAU				LR		LR		
	comp=Z,1μm,20.5s,MS5.7							
HINF	Hinteralfeld	153.02	359	ePKIKP		PKPdf	21 15 36.4	-1.0
	comp=Z,13nm,0.8s							
KBA	Koelnbreinsper	153.09	349	⇓i		PKPbc	21 15 46.4	+1.5
	comp=Z,37nm,1.3s							
KBA	Koelnbreinsper	153.09	349	⇓iPKPdf		PKPdf	21 15 37.3	-0.2
	comp=Z,5.5nm,1.1s							
KBA				⇓iPKiKP		PKiKP	21 15 46.4	+1.3
	comp=Z,37nm,1.3s							
PERS	Pernice	153.15	346	eP		PKPdf	21 15 34.9	-2.8
PERS				e			21 15 57.8	
MOTA	Moosalm	153.18	352	⇑i		PKPbc	21 15 45.5	+0.4
	comp=Z,24nm,1.1s							
MOTA	Moosalm	153.18	352	⇑iPKPdf		PKPdf	21 15 39.5	+1.9
	comp=Z,56nm,2.3s,SNR=8.4							
MOTA				⇑iPKiKP		PKiKP	21 15 45.5	+0.3
	comp=Z,24nm,1.1s							
WTTA	Wattenberg	153.19	351	⇓i		PKPbc	21 15 45.8	+0.7
	comp=Z,59nm,1.9s							
WTTA	Wattenberg	153.19	351	⇓iPKPdf		PKPdf	21 15 38.6	+0.9
	comp=Z,8.1nm,1.2s,SNR=7.0							
WTTA				⇓iPKiKP		PKiKP	21 15 45.8	+0.6
	comp=Z,59nm,1.9s							
SQTA	Sankt Quirin	153.28	352	⇓i		PKPbc	21 15 45.8	+0.5
	comp=Z,14nm,1.0s							
SQTA	Sankt Quirin	153.28	352	⇑iPKPdf		PKPdf	21 15 40.2	+2.4
	comp=Z,60nm,2.2s							
SQTA				⇓iPKiKP		PKiKP	21 15 45.8	+0.3
	comp=Z,14nm,1.0s							
DAVA	Damuels	153.37	354	⇑i		PKPbc	21 15 46.7	+1.2
	comp=Z,24nm,1.1s							
DAVA	Damuels	153.37	354	⇑iPKPdf		PKPdf	21 15 38.7	+0.7
	comp=Z,3.5nm,0.9s							
DAVA				⇑iPKiKP		PKiKP	21 15 46.7	+1.0
	comp=Z,24nm,1.1s							
BOLS	Boljevac	153.43	334	⇓iP		PKPdf	21 15 36.7	-1.3
HYF	Humbligny	153.44	5	ePKIKP		PKPdf	21 15 37.8	-0.2
KDZ	Kurdzhali	153.48	326	eP		PKPdf	21 15 39.0	+0.9
LOR	Lormes	153.52	3	ePKIKP		PKPdf	21 15 37.8	-0.4
	comp=Z,54nm,1.4s							
LOR				eR				
	comp=Z,2μm,18.8s							
LOR	Lormes	153.52	3	ePKPdf		PKPdf	21 15 37.8	-0.4
LOR				LR		LR		
	comp=Z,2μm,18.8s,MS6.0							
FVI	Forni Avoltri	153.66	349	PKIKP		PKPdf	21 15 38.6	+0.2
SSF	Saint Saulge	153.71	4	ePKIKP		PKPdf	21 15 38.0	-0.4
	comp=Z,51nm,1.1s							
PTCC	Patocco-Chiusa	153.74	348	PKP		PKPdf	21 15 38.2	-0.3
MFF	Saint Martin d	153.77	10	ePKIKP		PKPdf	21 15 37.9	-0.6
LJU	Ljubljana	153.84	346	eP		PKPdf	21 15 38.1	-0.5
VTS	Vitosha	153.87	330	eP		PKPdf	21 15 39.0	+0.3
GRUS	Gruza	153.89	335	eP		PKPdf	21 15 41.6	+2.9
AVF	Avril sur Loir	153.97	4	ePKIKP		PKPdf	21 15 38.1	-0.7
	comp=Z,15nm,0.9s							
DIVS	Divcibare	153.99	337	eP		PKPdf	21 15 43.9	+5.1
VOY	Vojsko	153.99	347	eP		PKPdf	21 15 38.8	0.0
VOY				e			21 15 47.1	
SMF	Signal de Mont	154.14	3	ePKIKP		PKPdf	21 15 38.4	-0.7
BGF	Bois d'Agland	154.16	5	ePKIKP		PKPdf	21 15 38.7	-0.4
	comp=Z,19nm,0.8s							
BOJS	Bojanci	154.19	345	eP		PKPdf	21 15 38.8	-0.3
TUE	Stuetta	154.23	355	PKP		PKPdf	21 15 40.7	+1.5
CABF	La Chapelle	154.24	360	ePKIKP		PKPdf	21 15 39.4	+0.2
TRI	Trieste	154.32	347	PKIKP		PKPdf	21 15 41.1	+1.8
CTI	Castel Tesino	154.37	351	PKIKP		PKPdf	21 15 40.2	+0.8
TCF	Toulx Ste Croi	154.37	6	ePKIKP		PKPdf	21 15 38.8	-0.6
MMB	Musomiste	154.38	328	eP		PKPdf	21 15 39.0	-0.4
KKB	Krupnik	154.49	329	eP		PKPdf	21 15 49.1	+10
PYM	Petit Puy Mans	154.98	5	PKP		PKPdf	21 15 42.4	+2.2
VAY	Valandovo	155.15	329	ePKIKP		PKPdf	21 15 39.9	-0.5
RJF	Les Rejaudoux	155.27	8	ePKIKP		PKPdf	21 15 39.8	-0.8
RJF				eR				
	comp=Z,2μm,21.8s							
RJF	Les Rejaudoux	155.27	8	ePKPdf		PKPdf	21 15 39.8	-0.8
RJF				LR		LR		
	comp=Z,2μm,21.8s,MS5.9							
LPL	La Plagne	155.32	359	ePKIKP		PKPdf	21 15 41.1	+0.4
LPG	La Plagne	155.34	359	ePKIKP		PKPdf	21 15 41.1	+0.4
EZAM	Zamans	155.37	27	PKIKP		PKPdf	21 15 44.9	+4.2
LFF	La Frestale	155.52	9	ePKIKP		PKPdf	21 15 40.5	-0.4
EARI	Arriondas	155.68	20	PKP		PKPdf	21 15 42.1	+1.0
CAF	Calviac	155.71	7	ePKIKP		PKPdf	21 15 41.1	-0.1
ELOB	Lobios	155.87	26	PKP		PKPdf	21 15 46.0	+4.5
ORIF	Oris-en-Rattie	155.93	0	ePKIKP		PKPdf	21 15 41.5	0.0
ORIF				eR				
	comp=Z,1μm,21.0s							
VIVF	Saint-Julien-l	155.97	2	ePKIKP		PKPdf	21 15 41.7	+0.2
BIA	Bitola	155.97	331	ePKIKP		PKPdf	21 15 40.9	-0.7
PCAB	Cabril	156.01	26	ePKPdf		PKPdf	21 15 43.2	+1.6
MBDF	Montbardon	156.11	359	ePKIKP		PKPdf	21 15 41.7	0.0
SURF	Saint Ours	156.36	358	PKP		PKPdf	21 15 43.4	+1.3
SFI	Santa Sofia	156.43	349	PKP		PKPdf	21 15 46.6	+4.5
PBRG	Braganca	156.45	24	ePKPab		PKPab	21 16 11.2	+0.5
PVRL	Vila Real	156.50	27	ePKPdf		PKPdf	21 15 43.4	+1.2
PVRL	Vila Real	156.50	27	ePKPab		PKPab	21 16 12.3	+1.3
ARV	Arcevia	156.61	347	PKIKP		PKPdf	21 15 42.7	+0.3
CING	Cingoli	156.67	347	PKP		PKPdf	21 15 43.0	+0.5
LASF	Ste Croix	156.71	4	ePKIKP		PKPdf	21 15 42.6	+0.1
AUTN	L'Aution	156.82	357	PKP		PKPdf	21 15 42.3	-0.4
SAOF	Saorge	156.82	357	PKP		PKPdf	21 15 41.9	-0.8
SNTG	Esanatoglia	156.84	347	PKP		PKPdf	21 15 42.2	-0.5
SMRF	Simiane la Rot	156.87	1	ePKIKP		PKPdf	21 15 43.0	+0.3
PVIS	Viseu	156.89	28	ePKPdf		PKPdf	21 15 43.8	+1.1
MVIF	Mont Vial	156.93	358	PKP		PKPdf	21 15 42.1	-0.7
SJPF	Ste Jean	156.93	14	ePKIKP		PKPdf	21 15 43.1	+0.3
SBF	Sospel	156.95	357	ePKIKP		PKPdf	21 15 42.1	-0.7
PRAF	Pradon	157.03	1	PKP		PKPdf	21 15 46.2	+3.3
NRCA	Norcia	157.21	346	PKP		PKPdf	21 15 42.9	-0.2
TREF	Trevaresse	157.22	1	PKP		PKPdf	21 15 47.3	+4.1
TAVF	Tavernes	157.23	360	PKP		PKPdf	21 15 45.8	+2.6
ETSF	Etsaut	157.28	12	ePKIKP		PKPdf	21 15 43.8	+0.6
	comp=Z,12nm,0.8s							
MTE	Manteigas	157.30	28	ePKPdf		PKPdf	21 15 44.4	+1.1
MTE	Manteigas	157.30	28	ePKPdf		PKPdf	21 15 43.9	+0.6
EPF	Esparros	157.32	11	ePKIKP		PKPdf	21 15 43.4	+0.1
	comp=Z,14nm,1.0s							
GELF	Grande-Etoile	157.46	1	PKP		PKPdf	21 15 49.5	+6.0
LMR	La Mourre	157.51	359	ePKIKP		PKPdf	21 15 43.2	-0.3
PTOM	Tomar	157.54	30	ePKPdf		PKPdf	21 15 44.8	+1.2
AQU	L'Aquila	157.60	345	PKIKP		PKPdf	21 15 44.5	+0.9
EBIE	Bielsa	157.62	11	PKP		PKPdf	21 15 45.8	+2.1
MNS	Montasola	157.73	347	PKIKP		PKPdf	21 15 43.8	0.0
PCBR	Castelo Branco	157.79	28	ePKPdf		PKPdf	21 15 45.2	+1.3
MIDA	Miranda	158.05	343	PKP		PKPdf	21 15 45.8	+1.6
SDI	San Donato	158.11	344	PKP		PKPdf	21 15 48.1	+3.8
EGRA	Graus	158.13	11	PKP		PKPdf	21 15 43.9	-0.4
PGF	Pioggiola	158.15	354	ePKIKP		PKPdf	21 15 43.8	-0.5
GUD	Guadarrama	158.41	21	PKIKP		PKPdf	21 15 46.6	+2.0
ESAC	San Caprasio	158.43	13	PKP		PKPdf	21 15 44.5	-0.1
MRLC	Muro Lucano	158.50	340	PKP		PKPdf	21 15 43.7	-1.0
MGR	Morigerati	159.04	339	PKP		PKPdf	21 15 43.0	-2.4
PBEJ	Beja	159.06	32	ePKPdf		PKPdf	21 15 45.6	+0.2
EPOB	Poblet	159.08	10	PKP		PKPdf	21 15 45.0	-0.5
ERTA	Horta de San J	159.33	12	PKP		PKPdf	21 15 46.1	+0.4
ESDC	Sonseca Array	159.34	22	PKP		PKPdf	21 15 43.7	-2.0
	comp=Z,0.5nm,0.7s,baz=24,slow=1.7,SNR=6.3							
ESDC				PKPab		PKPab	21 16 22.2	-1.0
	comp=Z,1.6nm,0.7s,baz=321,slow=3.8,SNR=6.8							
ESDC	Sonseca Array	159.34	22	PKP		PKPdf	21 15 46.2	+0.5
ESLA	Sonseca Array	159.34	22	ePKPdf		PKPdf	21 15 45.7	0.0
TIP	Timpagrande	159.45	336	PKP		PKPdf	21 15 46.0	+0.1
EMOS	Mosqueruela	159.72	14	PKP		PKPdf	21 15 45.7	-0.5
EMIN	Mina Concepcio	159.84	30	PKP		PKPdf	21 15 46.2	-0.1
EADA	Adamuz	160.42	25	PKP		PKPdf	21 15 49.7	+2.7
EVIA	Vianos	160.76	20	PKIKP		PKPdf	21 15 47.7	+0.4
ESPR	Espera	160.94	30	PKP		PKPdf	21 15 47.5	0.0
ETOB	Tobarra	161.06	18	PKP		PKPdf	21 15 48.0	+0.4
ELUQ	Luque	161.07	26	PKIKP		PKPdf	21 15 49.2	+1.5
VSL	Villasalto	161.12	352	ePKPdf		PKPdf	21 15 47.6	-0.1
EQES	Quesada	161.32	23	PKP		PKPdf	21 15 49.2	+1.3
EBEN	Beniarda	161.36	15	PKP		PKPdf	21 15 48.3	+0.4
EJIF	Jimena Fronter	161.47	30	PKIKP		PKPdf	21 15 48.2	+0.1
ELOJ	Sierra Loja	161.47	26	PKIKP		PKPdf	21 15 48.3	+0.2
EHUE	Huescar	161.48	22	PKIKP		PKPdf	21 15 49.7	+1.6
ECOG	Cogollos-Vega	161.59	25	PKIKP		PKPdf	21 15 48.6	+0.4
ERON	Agron	161.72	26	PKP		PKPdf	21 15 48.2	-0.1
ENIJ	Nijar	162.37	22	PKIKP		PKPdf	21 15 49.2	+0.2
MDT	Midelt	164.75	36	PKP		PKPdf	21 15 52.3	+1.1
	comp=Z,3.1nm,1.0s,baz=335,slow=1.9,SNR=7.1							
MDT						PKPab	PKPab	21 16 48.1	+1.2
	comp=Z,2.8nm,0.9s,baz=270,slow=7.3,SNR=3.0							
TORD	Torodi Ar. Bea	171.38	151	PKP		PKPdf	21 15 55.5	-0.2
	comp=Z,3.6nm,1.1s,baz=301,slow=0.5,SNR=7.9							
TORD				PKPab		PKPab	21 17 16.8	+0.5
	comp=Z,2.2nm,0.7s,baz=211,slow=1.7,SNR=4.7							

*IDC **16** 20:55:56.6±3.3, 1097N×12504E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/17, mbtmp3.8/3, Error ellipse: s-maj=283.0km s-min=26.3km az=65.0*
*ISCJB **16** 20:56:01.4±0.6, 963N±004×12203E±004, h10km, mb3.8/3, Error ellipse: s-maj=6.8km s-min=4.8km az=108.1*
*MAN **16** 20:56:01.5, 969N×12205E, h4km, mb3.0, ML4.3, MS6.8*
ISC 16 20:56:02.3±1.3, 963N±004×12206E±005, h10km±9km, n21, σ0.9s95/26, mb3.8/3, C-2D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUIM	Jordan	1.12	28	eP		Pg		20 56 22.0	-1.8
SNPH	Sibulan	1.20	104	⇑iP		Pb		20 56 25.2	+0.1
SNPH				iS		Sg		20 56 41.5	+0.6
CUYO	Cuyo Island	1.58	320	eP		Pn		20 56 30.0	-0.4
DCPH	Dipolog City	1.65	129	eP		Pn		20 56 30.8	-0.5
DCPH				eS		Sn		20 56 52.2	-0.3
TBP	Tagbilaran	1.78	88	eP		Pn		20 56 32.7	-0.4
TBP				eS		Sn		20 56 54.8	-0.9
IPIL	Ipil	1.90	164	⇑eP		Pn		20 56 34.8	+0.1
IPIL				eS		Sn		20 56 58.0	-0.8
IPIL	Ipil	1.90	164	eP		Pn		20 56 34.8	0.0
LLP	Lapu-Lapu	2.00	70	⇓iP		Pn		20 56 35.7	-0.4
RCP	Roxas	2.03	19	⇓eP		Pn		20 56 37.6	+1.0
RCP				eS		Sn		20 57 02.1	+0.2
PAGZ	Pagadian	2.20	143	eP		Pn		20 56 40.3	+1.4
MSLP	Maasin	2.81	80	eP		Pn		20 56 47.5	+0.4
OCLP	Ormoc	2.88	60	eP		Pn		20 56 48.4	+0.2
BUSP	Coron	2.98	322	eP		Pn		20 56 49.1	-0.4
ENPP	El Nido	3.02	301	eP		Pn		20 56 50.6	+0.4
SCPH	Surigao	3.39	87	⇑eP		Pn		20 56 56.9	+1.7
BUKP	Musuan	3.44	120	eP		Pn		20 56 58.3	+2.4
BUTP	Butuan	3.58	100	eP		Pn		20 56 56.5	-1.3
BATP	Bataraza	4.28	259	eP		Pn		20 57 12.6	+5.1
WRA	Warramunga Arr	31.78	158	P		P		21 02 25.3	-1.4
	0.7nm,0.5s,mb3.7,baz=344,slow=8.8,SNR=6.6								
ASAR	Alice Springs	35.06	161	P		P		21 02 55.2	-0.1
	1.2nm,0.6s,mb4.0,baz=340,slow=6.9,SNR=22								
MKAR	Makanchi Array	50.09	325	P		P		21 04 58.3	+0.9
	0.5nm,0.6s,mb3.7,baz=131,slow=8.6,SNR=6.5								

*ROM **16** 21:02:51.8±0.1, 4262N×1256E, h6km±1km, Md3.2/10, Ml3.6/23, Error ellipse: s-maj=1.1km s-min=0.8km az=53.0*
*CSEM **16** 21:02:51.5±0.0, 4262N×1257E, h12km, ML4.3/4, Error ellipse: s-maj=1.0km s-min=0.9km az=57.0*
*IDC **16** 21:02:51.8±1.4, 4272N×1249E, h0km, mb3.5/2, mb1 3.7/5, mb1mx3.5/20, mbtmp3.5/5, ML3.6/3, MS4.0/1, Ms1 4.0/1, ms1mx2.8/17, Error ellipse: s-maj=22.7km s-min=15.2km az=89.0*
*NEIC **16** 21:02:52.6±0.2, 4259N×1256E, h10km, ML3.5(STR), ML3.5(LDG), ML3.6(ROM), Error ellipse: s-maj=3.6km s-min=2.8km az=54.0*
NEIC Felt at Terni.
*ISCJB **16** 21:02:52.6±0.2, 4262N±002×1254E±002, h24km±3km, mb3.5/2, MS3.8/1, Error ellipse: s-maj=3.1km s-min=2.7km az=33.2*
*PRU **16** 21:02:53.0, 4280N×1211E, h0km*
*LDG **16** 21:02:53.6±0.2, 4270N×1268E, h10km, Ml3.5/4, Error ellipse: s-maj=7.8km s-min=4.9km az=51.0*
*STR **16** 21:02:55.9±1.8, 4264N×1235E, h10km±1km, Ml3.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 16 21:02:52.6±0.3, 4263N±002×1256E±002, h8km±3km, n105, σ1.9s08/150, mb3.5/2, MS3.8/1, 9C-11D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MNS	Montasola	0.26	159	Pg		Pg		21 02 58.0	+0.3
MNS				Sg		Sg		21 03 02.1	+0.9
	19μm,0.3s								
NRCA	Norcia	0.46	63	Pg		Pg		21 03 01.6	0.0
SACS	San Casciano d	0.53	295	Pg		Pg		21 03 02.6	-0.2
SACS				Sg		Sg		21 03 10.8	+1.2
	1μm,0.3s								
FIAM	Fiamignano	0.55	130	Pg		Pg		21 03 02.9	-0.3
FIAM				Sg		Sg		21 03 11.3	+0.9
	3μm,0.3s								
LATE	Laterza	0.55	269	Pg		Pg		21 03 03.2	-0.1
LATE				Sg		Sg		21 03 12.0	+1.4
	5μm,0.4s								
CAMP	Campotosto	0.64	98	Pg		Pg		21 03 04.6	-0.3
CAMP				Sg		Sg		21 03 14.6	+1.4
	4μm,0.4s								
MURB	Monte Urbino	0.64	358	Pg		Pg		21 03 04.7	-0.2
MURB				Sg		Sg		21 03 15.4	+2.2
	8μm,0.3s								
AQU	L'Aquila	0.68	113	Pg		Pg		21 03 05.3	-0.5
	4μm,0.9s								
AQU	L'Aquila	0.68	113	ePg		Pg		21 03 05.1	-0.7
AQU				Pg		Pg		21 03 05.3	-0.5
TOLF	Tolfa	0.69	216	Pg		Pg		21 03 05.5	-0.5
TOLF				Sg		Sg		21 03 16.1	+1.1
	2μm,0.6s								
CERT	Cerreto	0.75	155	Pg		Pg		21 03 06.2	-0.8
CERT				Sg		Sg		21 03 17.4	+0.7
	4μm,0.5s								
TERO	Teramo	0.77	90	Pg		Pg		21 03 06.7	-0.8
TERO				Sg		Sg		21 03 18.2	+0.6
	3μm,0.5s								
ROM9	Roma	0.80	182	Pg		Pg		21 03 08.1	+0.2
	5μm,0.6s								
ARCI	Arcidosso	0.83	286	Pg		Pg		21 03 08.4	-0.1
	440nm,0.8s								
FAGN	Fagnano	0.84	115	Pg		Pg		21 03 07.9	-0.9
	6μm,0.5s								
RDP	Rocca di Papa	0.87	172	Pg		Pg		21 03 08.7	-0.7
	7μm,0.4s								
CING	Cingoli	0.89	32	Pg		Pg		21 03 09.0	-0.6
	1μm,0.5s								
BADI	Badiali	0.91	346	Pg		Pg		21 03 09.5	-0.7
	927nm,0.5s								
ARVD	Arcevia	0.92	18	Pg		Pg		21 03 09.4	-0.8
	736nm,0.6s								
LAV9	Lanuvio	0.95	173	Pg		Pg		21 03 10.3	-0.6
	2μm,0.3s								
GUAR	Guarcino	1.00	146	⇓iPg		Pg		21 03 11.0	-0.9
	2μm,0.4s								
VVLD	Villa Vallelon	1.09	133	Pg		Pg		21 03 12.3	-1.3
	2μm,0.7s								
INTR	Introdacqua	1.17	121	Pg		Pg		21 03 13.6	-1.5
	1μm,0.6s								
GIUL	Giuliano Di Ro	1.19	154	Pg		Pg		21 03 13.4	-2.0
GIUL				Sg		Sg		21 03 31.0	+0.2
	1μm,0.8s								
AOI	Ancona	1.20	39	Pg		Pg		21 03 14.8	-0.9
	2μm,1.5s								
CSNT	Castellina Chi	1.25	313	Pg		Pg		21 03 15.4	-1.3
	315nm,1.0s								
SFI	Santa Sofia	1.38	338	Pg		Pg		21 03 17.3	-1.8
	162nm,0.4s								
VLC	Villacollemand	2.20	315	ePn		Pn		21 03 29.1	-0.4
VLC	Villacollemand	2.20	315	ePn		Pn		21 03 29.1	-0.4
CORF	Corte	2.54	264	Pn		Pn		21 03 33.6	-0.5
NVLJ	Novalja	2.57	40	iPn		Pn		21 03 34.3	-0.2
NVLJ				iSn		Sn		21 04 03.6	-2.4
NVLJ	Novalja	2.57	40	iPn		Pn		21 03 34.3	-0.2
NVLJ				iSn		Sn		21 04 03.5	-2.4

PGF	Pioggiola	2.63	270	ePn		Pn		21 03 34.4	-1.0
KNDS	Knezji Dol	3.19	24	ePn		Pn		21 03 43.2	+0.2
KNDS				eSn		Sn		21 04 19.7	-1.5
KNDS									
	comp=Z,112nm,0.9s								
KNDS	Knezji Dol	3.19	24	Pn		Pn		21 03 43.2	+0.2
KNDS				eSn		Sn		21 04 19.7	-1.5
	comp=Z,112nm,0.9s								
CEY	Cerknica	3.39	23	ePn		Pn		21 03 45.8	-0.1
CEY				eSn		Sn		21 04 26.3	0.0
CEY									
	comp=Z,62nm,0.5s								
CEY	Cerknica	3.39	23	ePn		Pn		21 03 45.8	-0.1
CEY				eSn		Sn		21 04 26.3	0.0
BOJS	Bojanci	3.47	33	ePn		Pn		21 03 48.5	+1.5
VOY	Vojsko	3.54	15	ePn		Pn		21 03 48.0	+0.1
VOY				eSn		Sn		21 04 30.2	+0.3
SG1	Sgolgore (BA)	3.56	119	ePn		Pn		21 03 49.2	+1.0
STON	Ston	3.80	85	iPn		Pn		21 03 51.9	+0.4
STON				iSn		Sn		21 04 35.3	-1.0
STON	Ston	3.80	85	iPn		Pn		21 03 51.8	+0.4
STON				iSn		Sn		21 04 35.3	-1.0
SAOF	Saorge	3.89	292	Pn		Pn		21 03 51.8	-1.0
SBF	Sospel	3.94	290	ePn		Pn		21 03 51.6	-1.9
VSL	Villasalto	3.94	219	ePn		Pn		21 03 53.2	-0.2
VSL				eSn		Sn		21 04 35.0	-4.9
VSL	Villasalto	3.94	219	ePn		Pn		21 03 53.2	-0.2
VSL				eSn		Sn		21 04 35.0	-4.9
BLY	Banja Luka	3.97	56	P		Pn		21 03 56.1	+2.2
BLY				S		Sn		21 04 44.9	+4.3
AUTN	L'Aution	3.98	292	Pn		Pn		21 03 53.2	-0.8
OBKA	Obir	4.14	19	⇓iPn		Pn		21 03 55.8	-0.3
OBKA				⇑iSn		Sn		21 04 45.3	+0.7
TREB	Trebinje	4.27	87	S		Sn		21 04 52.4	+4.3
KBA	Koelnbreinsper	4.49	7	iPn		Pn		21 04 01.8	+0.9
	SNR=10								
KBA				⇓iSn		Sn		21 04 54.1	+0.8
LMR	La Mourre	4.49	281	ePn		Pn		21 03 59.2	-1.8
DAVOX	Davos	4.57	336	Pn		Pn		21 04 03.2	+1.1
	comp=Z,2.6nm,0.3s,baz=158,slow=16,SNR=20								
DAVOX				Sn		Sn		21 04 55.3	-0.1
	comp=Z,2.5nm,0.3s,baz=337,slow=20,SNR=8.9								
WTTA	Wattenberg	4.68	352	⇓iPn		Pn		21 04 05.3	+1.6
WTTA				⇓iSn		Sn		21 04 59.4	+1.2
WTTA	Wattenberg	4.68	352	⇓iPn		Pn		21 04 05.2	+1.6
TIP	Timpagrande	4.69	136	ePn		Pn		21 04 08.0	+4.3
MBDF	Montbardon	4.69	299	ePn		Pn		21 04 03.5	-0.2
SQTA	Sankt Quirin	4.69	349	⇑iPn		Pn		21 04 05.6	+1.8
	SNR=7.1								
SQTA				⇓iSn		Sn		21 04 57.7	-0.7
WATA	Walderalm	4.76	352	⇑iPn		Pn		21 04 05.8	+1.1
WATA				⇑iSn		Sn		21 05 00.6	+0.5
MOTA	Moosalm	4.83	348	⇑iPn		Pn		21 04 07.2	+1.6
	SNR=8.6								
MOTA				⇓iSn		Sn		21 05 02.8	+1.0
TAVF	Tavernes	4.86	284	Pn		Pn		21 04 05.5	-0.5
DAVA	Damuels	5.03	339	⇑iPn		Pn		21 04 09.3	+0.9
DAVA				⇑iSn		Sn		21 05 07.1	+0.3
LPG	La Plagne	5.07	306	ePn		Pn		21 04

0.8nm,0.5s,mb4.0,baz=172,slow=8.4,SNR=6.0
TLY Talaya 51.49 5 P **P** **21 16 04.2 +1.0**
2.1nm,0.7s,mb4.2
STKA Stephens Creek 52.52 132 P **P** **21 16 09.7 -1.1**
2.0nm,0.7s,mb4.2,baz=319,slow=8.0,SNR=8.5
STKA Stephens Creek 52.52 132 *e*P **P** **21 16 09.4 -1.4**
GNI Garni 62.17 316 P **P** **21 17 12.5 -6.4**
SUR Sutherland 78.90 237 P **P** **21 19 01.4 +0.6**
24nm,1.1s,mb5.0

SZGRF ***16*** *21:12:17.9, 081S×9780E, h32km, mb4.8, Southwest of Sumatera, Indonesia*
BJI ***16*** *21:12:19.4, 023S×97.18E, h37km, mB5.5, mb4.8, Ms5.1, Msz4.9*
ISCJB ***16*** *21:12:19.1±1.4, 0.13N±004×97.10E±004, h17km±9km, mb4.8/99, MS4.8/4, Error ellipse: s-maj=6.9km s-min=6.6km az=64.5*
MOS ***16*** *21:12:21.6±0.9, 0.23N×97.13E, h33km, mb5.1/43, Error ellipse: s-maj=9.4km s-min=5.1km az=116.2*
NEIC ***16*** *21:12:22.8±0.2, 0.14N×97.13E, mb4.9/46, Error ellipse: s-maj=7.3km s-min=4.6km az=45.0*
IDC ***16*** *21:12:23.0±0.4, 0.13N×97.09E, h32km±2km, mb4.4/24, mb1 4.5/25, mb1mx4.4/27, mbtmp4.6/25, ML3.5/1, Error ellipse: s-maj=18.5km s-min=8.6km az=42.0*
ISC 16 21:12:23.5±1.5, 014N±004×9712E±004, h34km±10km, h34km±.4km:pP-P,n259,σ0s94/256, mb4.8/99, MS4.8/4, 32C-9D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
PSI	**Prapat**	**3.21**	**34**	Pn	**Pn**	**21 13 09.7**	**-1.8**
	6.0nm,0.3s,baz=205,slow=4.7,SNR=13						
PSI				Sn	**Sn**	**21 13 39.4**	**-9.0**
	19nm,0.3s,baz=258,slow=8.6,SNR=5.9						
PSI	**Prapat**	**3.21**	**34**	Pn	**Pn**	**21 13 09.7**	**-1.8**
PSI				Sn	**Sn**	**21 13 39.4**	**-9.0**
IPM	**Ipoh**	**5.82**	**42**	P	**Pn**	**21 13 47.9**	**+0.6**
KUM	**Kulim**	**6.22**	**35**	*e*Pn	**Pn**	**21 13 51.6**	**-1.3**
KGM	**Kluang**	**6.48**	**73**	P	**Pn**	**21 13 56.9**	**+0.5**
NST	**Nakhon Sawan**	**15.72**	**11**	P	**Pn**	**21 16 02.0**	**-0.3**
CHG	**Chiang Mai**	**18.65**	**5**	P	**Pn**	**21 16 38.1**	**-0.7**
	28nm,0.8s						
CHTO	**Chiang Mai**	**18.65**	**5**	*e*P	**Pn**	**21 16 37.4**	**-1.4**
CHTO				pmax	pmax		
	comp=Z,23nm,0.9s						
CHTO	**Chiang Mai**	**18.65**	**5**	*e*P	**Pn**	**21 16 37.4**	**-1.4**
	comp=Z,23nm,0.9s						
NANT	**Nan**	**18.88**	**11**	⇑P	**Pn**	**21 16 38.0**	**-3.6**
	comp=Z,265nm,1.0s						
CHRT	**Chiangrai**	**19.79**	**7**	⇑P	**Pn**	**21 16 51.0**	**-1.5**
	comp=Z,132nm,0.8s						
KKM	**Kota Kinabalu**	**19.95**	**73**	P	**Pn**	**21 16 54.3**	**0.0**
HYB	**Hyderabad**	**25.07**	**314**	*i* P	**P**	**21 17 44.0**	**-0.8**
HYB				*ep*P	pP	21 17 55.0	+0.5
HYB				*e*		21 18 03.0	
HYB				*e*		21 18 13.0	
HYB	**Hyderabad**	**25.07**	**314**	*e*P	**P**	**21 17 44.0**	**-0.8**
KMI	**Kunming**	**25.43**	**12**	P	**P**	**21 17 49.8**	**+1.8**
KMI				AP	pP	21 17 58.1	+0.4
KMI				XP	sP	21 18 02.1	+0.3
KMI				PP		21 18 29.1	
KMI				PCP	PcP	21 21 21.4	+2.0
KMI				S	**S**	**21 22 12.3**	**-0.2**
KMI				XS	sS	21 22 27.9	-0.8
KMI				SS		21 23 16.1	
KMI				AMB	AMB		
	comp=Z,22nm,0.9s,mb4.7						
KMI				AMB	AMB		
	comp=Z,1μm,5.3s						
KMI				LR	LR		
	comp=N,1μm,7.4s						
KMI				LR	LR		
	comp=E,2μm,9.0s						
KMI				LR	LR		
	comp=Z,1μm,8.3s						
SHL	**Shillong**	**25.78**	**349**	*i* P	**P**	**21 17 52.0**	**+0.8**
JIRN	**Jiri**	**29.31**	**340**	*e*P	**P**	**21 18 24.1**	**+1.4**
GUN	**Gumba**	**29.64**	**340**	*e*P	**P**	**21 18 26.8**	**+1.1**
DMN	**Daman**	**29.65**	**338**	*e*P	**P**	**21 18 26.6**	**+0.8**
	comp=Z,18nm,0.6s,mb5.0						
KKN	**Kakani**	**29.75**	**339**	*e*P	**P**	**21 18 27.3**	**+0.6**
LSA	**Lhasa**	**29.95**	**350**	P	**P**	**21 18 30.3**	**+1.9**
LSA	**Lhasa**	**29.95**	**350**	*e*P	**P**	**21 18 29.7**	**+1.3**
LSA				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.7						
LSA	**Lhasa**	**29.95**	**350**	*e*P	**P**	**21 18 29.7**	**+1.3**
	comp=Z,12nm,0.8s,mb4.7						
GKN	**Gorkha**	**30.18**	**338**	*e*P	**P**	**21 18 31.0**	**+0.5**
	comp=Z,17nm,0.6s,mb4.9						
KOLN	**Koldanda**	**30.38**	**336**	*e*P	**P**	**21 18 33.3**	**+1.0**
	comp=Z,39nm,0.8s,mb5.2						
FITZ	**Fitzroy Crossi**	**33.39**	**124**	*e*P	**P**	**21 18 57.4**	**-1.3**
	comp=Z,11nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.39**	**124**	P	**P**	**21 18 58.8**	**+0.1**
	comp=Z,6.5nm,0.9s,mb4.6,baz=222,slow=4.9,SNR=11						
FITZ				pP	pP	21 19 08.4	-0.1
	comp=Z,5.6nm,0.8s,baz=88,slow=1.3,SNR=5.2						
XAN	**Xi'an**	**35.50**	**17**	P	**P**	**21 19 16.8**	**-0.1**
XAN				AMB	AMB		
	comp=Z,19nm,1.0s,mb5.0						
LZH	**Lanzhou**	**36.31**	**9**	*e*P	**P**	**21 19 26.3**	**+2.4**
LZH				AP	pP	21 19 35.5	+1.7
LZH				XP	sP	21 19 39.0	+1.1
LZH				PP	PP	21 20 50.8	+4.0
LZH				*e*S	**S**	**21 25 05.5**	**+3.1**
LZH				XS	sS	21 25 20.4	+1.6
LZH				SS	SS	21 27 32.0	-10
LZH				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.8						
LZH				AMB	AMB		
	comp=Z,60nm,4.8s						
LZH				LR	LR		
	comp=E,470nm,3.8s						
LZH				LR	LR		
	comp=Z,763nm,5.0s						
NJ2	**Nanjing**	**37.81**	**31**	*e*P	**P**	**21 19 37.3**	**+0.7**
NJ2				AP	pP	21 19 47.3	+0.8
NJ2				XP	sP	21 19 50.8	+0.2
NJ2				PP	PP	21 21 07.1	+3.8
NJ2				S	**S**	**21 25 25.0**	**-0.3**
NJ2				XS	sS	21 25 42.0	+0.4
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,1μm,4.9s						
NJ2				LR	LR		
	comp=N,3μm,16.6s,MS5.3						
NJ2				LR	LR		
	comp=E,3μm,15.2s,MS5.3						
NJ2				LR	LR		
	comp=Z,2μm,16.4s,MS4.9						
NWAO	**Narrogin (SRO)**	**37.96**	**152**	P	**P**	**21 19 39.0**	**+1.1**
	comp=Z,4.1nm,0.7s,mb4.3,baz=350,slow=16,SNR=4.6						
SSE	**Sheshan**	**38.33**	**34**	P	**P**	**21 19 42.3**	**+1.3**
SSE				AMB	AMB		
	comp=Z,25nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,654nm,6.0s						
WRA	**Warramunga Arr**	**41.55**	**121**	P	**P**	**21 20 08.2**	**+0.4**
	comp=Z,13nm,0.7s,mb4.7,baz=302,slow=9.0,SNR=110						
WRA				pP	pP	21 20 17.7	0.0
	comp=Z,10nm,0.8s,baz=299,slow=9.1,SNR=12						
WRA				PcP	PcP	21 22 05.5	+0.9
	comp=Z,0.9nm,0.8s,baz=318,slow=3.1,SNR=3.7						
WRAB	**Tennant Creek**	**41.56**	**121**	⇑*e*P	**P**	**21 20 08.2**	**+0.4**
WRAB	**Tennant Creek**	**41.56**	**121**	*e*P	**P**	**21 20 08.0**	**+0.2**
	comp=Z,29nm,0.9s,mb4.9						
WB2	**Warramunga Arr**	**41.56**	**121**	*e*P	**P**	**21 20 07.7**	**-0.1**
FORT	**Forrest**	**42.53**	**139**	*e*P	**P**	**21 20 16.9**	**+1.2**
	comp=Z,8.9nm,0.7s,mb4.6						
HHC	**Hu-ho-hao-te**	**42.60**	**16**	*e*P	**P**	**21 20 18.0**	**+1.8**
HHC				AP	pP	21 20 28.3	+2.0
HHC				XP	sP	21 20 32.0	+1.7
HHC				PP	PP	21 21 59.8	+4.5
HHC				PCP	PcP	21 22 10.4	+2.3
HHC				SCP	ScP	21 25 56.4	+0.1
HHC				PCS	PcS	21 26 01.5	+1.3
HHC				S	**S**	**21 26 39.4**	**+2.7**
HHC				XS	sS	21 26 55.1	+1.9
HHC				SS	SS	21 29 44.6	-2.8
HHC				SCS	ScS	21 30 14.6	-0.3
HHC				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.5						
HHC				AMB	AMB		
	comp=Z,393nm,7.6s						
HHC				LR	LR		
	comp=N,748nm,16.7s,MS4.8						
HHC				LR	LR		
	comp=E,741nm,16.9s,MS4.8						
HHC				LR	LR		
	comp=Z,877nm,17.3s,MS4.7						
ASAR	**Alice Springs**	**42.83**	**126**	P	**P**	**21 20 18.6**	**+0.5**
	comp=Z,2.1nm,0.6s,mb4.1,baz=296,slow=8.1,SNR=30						
ASAR				PcP	PcP	21 22 09.8	+0.9
	comp=Z,0.6nm,0.9s,baz=307,slow=3.9,SNR=4.2						
BJT	**Baijiatuau**	**43.33**	**21**	*e*P	**P**	**21 20 22.9**	**+0.7**
BJT				pmax	pmax		
	comp=Z,19nm,0.7s						
BJT	**Baijiatuau**	**43.33**	**21**	*e*P	**P**	**21 20 22.9**	**+0.7**
	comp=Z,19nm,0.7s,mb4.9						
BJI	**Beijing**	**43.35**	**21**	P	**P**	**21 20 23.5**	**+1.1**
KSH	**Kashi**	**43.70**	**336**	*e*P	**P**	**21 20 27.1**	**+1.9**
KSH				*e*AP	pP	21 20 36.0	+0.8
KSH				*e*XP	sP	21 20 40.3	+1.0
KSH				AMB	AMB		
	comp=Z,114nm,4.6s						
KSH				LR	LR		
	comp=N,271nm,6.4s						
KSH				LR	LR		
	comp=E,305nm,6.6s						
KSH				LR	LR		
	comp=Z,286nm,5.6s						
WSAR	**Wadi Sarin**	**43.87**	**304**	P	**P**	**21 20 27.4**	**+0.9**
	comp=Z,2.6nm,0.7s,mb4.1,baz=90,slow=6.1,SNR=3.3						
WMQ	**Urumqi**	**44.30**	**350**	⇓*i*P	**P**	**21 20 30.9**	**+0.9**
WMQ				AP	pP	21 20 40.6	+0.6
WMQ				XP	sP	21 20 45.3	+1.2
WMQ				PCP	PcP	21 22 15.4	+1.6
WMQ				PP	PP	21 22 15.8	+2.2
WMQ				*e*S	**S**	**21 27 01.8**	**+0.2**
WMQ				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,46nm,3.0s						
WMQ				LR	LR		
	comp=N,196nm,20.0s,MS4.2						
WMQ				LR	LR		
	comp=E,221nm,24.5s,MS4.2						
WMQ				LR	LR		
	comp=Z,247nm,19.0s						
ULHL	**Ulahol**	**45.95**	**338**	P	**P**	**21 20 43.9**	**+0.9**
	SNR=11						
KZA	**Kyzart**	**46.17**	**337**	P	**P**	**21 20 46.2**	**+1.4**
	SNR=5.8						
UCH	**Uchtor**	**46.59**	**337**	P	**P**	**21 20 49.5**	**+1.4**
	SNR=12						
TKM2	**Tokmak 2**	**46.77**	**338**	P	**P**	**21 20 50.5**	**+1.0**
	SNR=9.7						
KBK	**Karagaybulak**	**46.78**	**338**	P	**P**	**21 20 51.6**	**+1.9**
	SNR=9.4						
AML	**Almayashu**	**46.83**	**336**	P	**P**	**21 20 51.4**	**+1.4**
	SNR=8.9						
AAK	**Ala-Archa**	**46.94**	**337**	*e*P	**P**	**21 20 50.5**	**-0.3**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
AAK	**Ala-Archa**	**46.94**	**337**	*e*P	**P**	**21 20 50.5**	**-0.3**
	comp=Z,4.4nm,0.9s,mb4.4						
EKS2	**Erkin-Say**	**47.24**	**337**	P	**P**	**21 20 54.5**	**+1.3**
	SNR=17						
USP	**Ospenovka**	**47.48**	**338**	P	**P**	**21 20 55.8**	**+0.8**
	SNR=15						
SONM	**Songino Array**	**48.19**	**8**	P	**P**	**21 21 01.2**	**+0.7**
	comp=Z,13nm,0.9s,mb5.0,baz=190,slow=8.8,SNR=71						
SONM				PcP	PcP	21 22 27.8	+0.3
	comp=Z,2.6nm,0.7s,baz=183,slow=3.8,SNR=5.6						
MKAR	**Makanchi Array**	**48.25**	**346**	P	**P**	**21 21 01.4**	**+0.4**
	comp=Z,13nm,0.6s,mb5.1,baz=162,slow=9.2,SNR=101						
MKAR				pP	pP	21 21 11.6	+0.4
	comp=Z,6.5nm,0.5s,baz=163,slow=7.9,SNR=13						
MKAR	**Makanchi Array**	**48.25**	**346**	P	**P**	**21 21 01.4**	**+0.4**
MKAR				pP	pP	21 21 11.6	+0.4
KK31	**Karatay Array**	**48.97**	**334**	*i* P	**P**	**21 21 06.3**	**-0.2**
KK31				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.9						
CN2	**Changchun**	**50.29**	**27**	*e*P	**P**	**21 21 16.6**	**0.0**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
ZAK	**Zakamensk**	**50.33**	**5**	⇓*i*P	**P**	**21 21 17.3**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.9s,mb4.5						
MOY	**Mondy**	**51.45**	**3**	*e*P	**P**	**21 21 24.8**	**-0.5**
TLY	**Talaya**	**51.65**	**5**	*e*P	**P**	**21 21 27.8**	**+1.0**
TLY				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
CTA	**Charters Tower**	**52.11**	**116**	*e*P	**P**	**21 21 30.1**	**-0.2**
	comp=Z,11nm,0.9s,mb4.8						
CTA	**Charters Tower**	**52.11**	**116**	P	**P**	**21 21 31.3**	**+1.0**
	comp=Z,15nm,0.9s,mb4.9,baz=258,slow=6.4,SNR=6.6						
CTA	**Charters Tower**	**52.11**	**116**	*e*P	**P**	**21 21 30.1**	**-0.2**
CTA				pmax	pmax		
	comp=Z,11nm,0.9s						
MAT	**Matsushiro**	**52.53**	**42**	P	**P**	**21 21 31.9**	**-1.5**
MAT	**Matsushiro**	**52.53**	**42**	*e*P	**P**	**21 21 32.0**	**-1.4**
MJAR	**Matsushiro Arr**	**52.53**	**42**	P	**P**	**21 21 33.3**	**-0.1**
	comp=Z,3.8nm,0.8s,mb4.4,baz=227,slow=6.6,SNR=14						
MJAR				pP	pP	21 21 42.9	-0.7
	comp=Z,3.9nm,0.9s,baz=227,slow=6.8,SNR=4.5						
HIA	**Hailar**	**52.67**	**18**	⇓*e*P	**P**	**21 21 33.3**	**-1.1**
STKA	**Stephens Creek**	**52.71**	**131**	⇓*i*P	**P**	**21 21 33.7**	**-1.0**
	comp=Z,11nm,0.8s,mb4.8						
STKA				*e*	pP	21 21 44.0	-1.0
STKA	**Stephens Creek**	**52.71**	**131**	P	**P**	**21 21 33.9**	**-0.9**
	comp=Z,13nm,0.7s,mb5.0,baz=310,slow=6.9,SNR=15						
STKA				pP	pP	21 21 44.1	-0.8
	comp=Z,14nm,0.8s,baz=313,slow=5.9,SNR=6.8						
STKA	**Stephens Creek**	**52.71**	**131**	*e*P	**P**	**21 21 33.7**	**-1.0**
STKA				*ep*P	pP	21 21 44.0	-1.0
KURK	**Kurchatov**	**52.79**	**345**	*e*P	**P**	**21 21 35.3**	**0.0**
KURK				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.1						
KURK	**Kurchatov**	**52.79**	**345**	*e*P	**P**	**21 21 35.2**	**-0.1**
	comp=Z,26nm,1.1s,mb5.1						
MDJ	**Mudanjiang**	**52.83**	**29**	P	**P**	**21 21 35.6**	**0.0**
MDJ				AP	pP	21 21 44.6	-1.2
MDJ				XP	sP	21 21 49.0	-0.9
MDJ				PCP	PcP	21 22 44.0	-0.6
MDJ				PP	PP	21 23 35.4	+0.2
MDJ				SCP	ScP	21 26 39.0	-0.4
MDJ				PCS	PcS	21 26 42.8	-0.4
MDJ				S	**S**	**21 29 03.8**	**+1.9**
MDJ				XS	sS	21 29 19.3	+0.5
MDJ				SCS	ScS	21 31 22.8	+0.1
MDJ				SS	SS	21 32 44.4	+3.5
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,229nm,5.5s						
MDJ				LR	LR		
	comp=N,1μm,17.7s,MS4.9						
MDJ				LR	LR		
	comp=E,404nm,21.3s,MS4.9						
MDJ				LR	LR		
	comp=Z,1μm,17.8s,MS5.1						
VLA	**Vladivostok**	**52.91**	**32**	⇑*e*P	**P**	**21 21 35.5**	**-0.7**
VLA				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.1						
CIT	**Chita**	**53.52**	**13**	*e*P	**P**	**21 21 41.9**	**+1.2**
CIT				*e*		21 21 59.2	
CIT				pmax	pmax		
	comp=Z,28nm,2.5s,mb4.8						
QRN	**Al-Qurain**	**54.91**	**306**	*e*P	**P**	**21 21 50.9**	**+0.2**
KBD	**Kabd**	**55.25**	**306**	*e*P	**P**	**21 21 53.7**	**+0.5**
KBD				AMb	AMB	21 22 04.7	
	comp=Z,84nm,0.8s,mb5.8						
RDF	**Al-Radifah**	**55.27**	**306**	*e*P	**P**	**21 21 53.7**	**+0.3**
RDF				AMb	AMB	21 22 04.8	
	comp=Z,39nm,1.1s,mb5.4						
NAY	**Al-Naaiem**	**55.64**	**306**	*e*P	**P**	**21 21 56.1**	**0.0**
NAY				AMb	AMB	21 21 56.9	
	comp=Z,16nm,0.8s,mb5.1						
NVS	**Novosibirsk**	**55.70**	**350**	*e*P	**P**	**21 21 54.9**	**-1.6**
NVS				pmax	pmax		
	comp=N,27nm,1.2s						
NVS				pmax	pmax		
	comp=E,16nm,1.2s						
NVS				pmax	pmax		
	comp=Z,33nm,1.2s,mb5.2						
MIB	**Mutribah**	**55.77**	**307**	*e*P	**P**	**21 21 57.5**	**+0.5**
MIB				AMb	AMB	21 21 59.0	
	comp=Z,62nm,0.7s,mb5.8						
KLR	**Kul'dur**	**57.24**	**26**	*e*P	**P**	**21 22 04.2**	**-3.2**
BRVK	**Borovoye**	**57.28**	**341**	*e*P	**P**	**21 22 05.6**	**-2.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
BRVK	**Borovoye**	**57.28**	**341**	*e*P	**P**	**21 22 05.6**	**-2.1**
	comp=Z,2.6nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**57.62**	**340**	*e*P	**P**	**21 22 08.1**	**-2.0**
ZRNK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
ZRNK	**Zerenda**	**57.62**	**340**	*e*P	**P**	**21 22 08.1**	**-2.0**
	comp=Z,9.0nm,1.1s,mb4.7						
BOD	**Bodaibo**	**59.06**	**10**	*e*P	**P**	**21 22 19.5**	**-0.7**
BOD				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
KMBO	**Kilima Mbogo**	**59.87**	**269**	P	**P**	**21 22 26.1**	**+0.4**
	comp=Z,0.6nm,0.3s,mb4.0,baz=65,slow=14,SNR=2.3						
AKTK	**Aktyubinsk**	**60.13**	**332**	P	**P**	**21 22 26.2**	**-1.3**
AKTO	**Aktyubinsk**	**60.13**	**332**	P	**P**	**21 22 26.2**	**-1.3**
	comp=Z,1.8nm,0.4s,mb4.4,baz=117,slow=5.8,SNR=7.9						
YSS	**Yuzh-Sakhalins**	**61.27**	**34**	⇑*e*P	**P**	**21 22 34.6**	**-0.7**
YSS				pmax	pmax		
	comp=Z,35nm,1.3s,mb5.3						
GNI	**Garni**	**62.00**	**317**	*de*P	**P**	**21 22 40.6**	**+0.4**
GNI				pmax	pmax		
	comp=Z,15nm,1.3s						
GNI	**Garni**	**62.00**	**317**	P	**P**	**21 22 39.0**	**-1.3**
	comp=Z,12nm,0.7s,mb5.1						
HNR	**Honiara**	**63.25**	**101**	P	**P**	**21 22 49.5**	**+0.9**
	comp=Z,66nm,0.6s,mb5.9,baz=241,slow=1.9,SNR=7.3						
HNR	**Honiara**	**63.25**	**101**	*e*P	**P**	**21 22 48.8**	**+0.3**
HNR				pmax	pmax		
	comp=Z,57nm,0.8s,mb5.8						
HNR	**Honiara**	**63.25**	**101**	*e*P	**P**	**21 22 48.8**	**+0.3**
	comp=Z,57nm,0.8s,mb5.8						
ZEI	**Tsey**	**63.74**	**319**	*e*P	**P**	**21 22 52.0**	**+0.2**
ZEI				*e**PP	pP	21 23 02.0	-0.2
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
ARU	**Arti**	**64.13**	**337**	⇑*i*P	**P**	**21 22 52.9**	**-1.4**
ARU				*e*		21 25 11.0	
ARU				*e*S	**S**	**21 31 26.5**	**-2.4**
ARU				*e*SS	SS	21 35 38.8	+0.6
ARU				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.8						
ARU	**Arti**	**64.13**	**337**	*e*P	**P**	**21 22 52.5**	**-1.8**
	comp=Z,11nm,1.1s,mb4.8						
ARU				*ep*P	pP	21 23 01.2	-3.6
ASF	**Jabal al Asfar**	**65.01**	**306**	P	**P**	**21 23 01.2**	**+1.1**
	comp=Z,4.2nm,0.7s,mb4.5,baz=297,slow=2.6,SNR=7.2						
ASF				pP	pP	21 23 11.3	+0.8
	comp=Z,3.2nm,0.7s,baz=23,slow=7.9,SNR=4.3						
KIV	**Kislovodsk**	**65.06**	**320**	*e*P	**P**	**21 23 00.0**	**-0.4**
KIV				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.0						
GOF	**Gofitskoye**	**65.33**	**321**	*e*P	**P**	**21 23 00.9**	**-1.3**
MALT	**Malatya**	**65.78**	**313**	⇑*i*P	**P**	**21 23 06.2**	**+1.1**
MALT	**Malatya**	**65.78**	**313**	*e*P	**P**	**21 23 05.5**	**+0.5**
	comp=Z,25nm,1.3s,mb5.1						
MBAR	**Mbarara**	**66.38**	**269**	⇑*e*P	**P**	**21 23 09.5**	**+0.6**
MMAI	**Mount Meron Ar**	**66.46**	**306**	P	**P**	**21 23 10.8**	**+1.4**
	comp=Z,3.2nm,0.6s,mb4.6,baz=97,slow=12,SNR=6.2						
MMAI				pP	pP	21 23 20.9	+1.0
	comp=Z,3.8nm,0.6s,baz=84,slow=11,SNR=5.5						
YAK	**Yakutsk**	**66.46**	**16**	*e*P	**P**	**21 23 08.8**	**-0.6**
YAK				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
YAK				pmax	pmax		
	comp=N,7.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.2s						
BR131	**Keskin Array S**	**69.76**	**313**	*e*P	**P**	**21 23 29.1**	**-1.1**
	comp=E,3.9nm,0.7s,mb4.5						
BR131				*ep*P	pP	21 23 39.2	-1.5
BRTR	**Keskin Array B**	**69.76**	**313**	P	**P**	**21 23 29.4**	**-0.8**
	comp=E,5.1nm,0.8s,mb4.5,baz=136,slow=6.9,SNR=30						
BRTR				pP	pP	21 23 39.5	-1.2
	comp=E,4.4nm,0.7s,baz=133,slow=6.9,SNR=11						
VRSR	**Storozhevoye**	**70.38**	**326**	*e*P	**P**	**21 23 32.5**	**-1.4**
VRSR				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
VRSR				pmax	pmax		
	comp=N,1.0nm,0.8s						
VRSR				pmax	pmax		
	comp=E,1.0nm,0.9s						
VOR	**Voronezh**	**70.60**	**326**	*e*P	**P**	**21 23 32.0**	**-3.3**
VOR				pmax	pmax		
	comp=Z,30nm,1.6s,mb5.0						
SIM	**Simferopol'**	**71.09**	**318**	*d i*P	**P**	**21 23 37.5**	**-0.8**
SIM				*i*	pP	21 23 48.0	-0.9
SIM				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.0						
PET	**Petropavlovsk**	**73.16**	**34**	⇓*e*P	**P**	**21 23 48.9**	**-1.7**
PET				pmax	pmax		
	comp=Z,60nm,1.7s,mb5.2						
MOS	**Moscow**	**73.20**	**329**	*e*P	**P**	**21 23 48.9**	**-2.0**
OBN	**Obninsk**	**73.48**	**329**	⇓*i*P	**P**	**21 23 51.5**	**-1.0**
OBN				*i*	pP	21 24 02.0	-1.1
OBN				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.9						
TIXI	**Tiksi**	**74.24**	**10**	*d i*P	**P**	**21 23 55.6**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.8						
KLMR	**Klimovskoe**	**74.67**	**335**	*e*P	**P**	**21 23 58.4**	**-1.1**
KLMR				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.8						
TIRR	**Tirgusor**	**74.83**	**316**	⇑*i*P	**P**	**21 24 00.1**	**-0.3**
TIRR	**Tirgusor**	**74.83**	**316**	⇑P	**P**	**21 24 00.1**	**-0.3**
CFR	**Carcaliu**	**75.20**	**317**	⇑*i*P	**P**	**21 24 02.4**	**-0.2**
CFR	**Carcaliu**	**75.20**	**317**	⇑P	**P**	**21 24 02.4**	**-0.2**
HARR	**Harsova**	**75.22**	**316**	⇑*i*P	**P**	**21 24 02.5**	**-0.2**
HARR	**Harsova**	**75.22**	**316**	⇑P	**P**	**21 24 02.5**	**-0.2**
AKASG	**Malin Array Be**	**76.05**	**323**	P	**P**	**21 24 06.2**	**-1.2**
	comp=Z,11nm,0.6s,mb5.0,baz=91,slow=4.9,SNR=31						
AKASG				pP	pP	21 24 16.2	-1.8
	comp=Z,8.

OJC Ojcow 81.79 321 *e*P **P 21 24 39.2 +0.3**
BILL Bilibino 82.18 21⇑*e*P **P 21 24 41.7 +0.8**
BILL pmax pmax
comp=Z,4.0nm,1.4s,mb4.2
TIP Timpagrande 82.43 309 *e*P **P 21 24 41.4 -0.8**
TIP *e*pP pP 21 24 51.7 -1.3
OKC Ostrava-Krasne 82.78 320 *e*P **P 21 24 44.2 +0.1**
OKC *e*pP pP 21 24 54.2 -0.6
KEV Kevo 83.07 341 *e*pkp **P 21 24 44.2 -1.4**
ZST Bratislava 83.24 318 *e*P **P 21 24 43.7 -2.7**
comp=Z,6.8nm,0.7s,mb4.8
ARCES ARCESS Array B 83.50 340 P **P 21 24 47.8 0.0**
comp=Z,4.5nm,0.4s,mb5.0,baz=103,slow=4.7,SNR=75
ARCES pP pP 21 24 57.9 -0.7
comp=Z,3.5nm,0.5s,baz=100,slow=5.0,SNR=4.1
ARE0 ARCESS Array S 83.50 340 *e*P **P 21 24 47.4 -0.3**
DPC Dobruska-Polom 84.01 321 *e*P **P 21 24 50.7 +0.3**
DPC *e*pP pP 21 25 01.0 -0.2
BOJS Bojanci 84.19 316 *e*P **P 21 24 51.0 -0.3**
BOJS *i* pP 21 25 01.3 -0.7
UPC Upice 84.23 321 *e*P **P 21 24 52.1 +0.6**
UPC *e*pP pP 21 25 01.5 -0.8
PERS Pernice 84.40 317 *i*P **P 21 24 52.3 0.0**
PERS *e* pP 21 25 02.6 -0.5
LJU Ljubljana 84.75 316 *e*P **P 21 24 54.1 0.0**
LJU *e* pP 21 25 04.7 -0.2
VNDA Vanda 84.80 169 P **P 21 24 53.9 -0.6**
comp=Z,0.9nm,1.0s,mb3.9,baz=286,slow=8.4,SNR=2.8
PRU Pruhonice 85.11 320 *e*P **P 21 24 56.0 +0.1**
PRU *e*pP pP 21 25 06.2 -0.5
GERES GERESS Array B 85.55 319 P **P 21 24 58.0 -0.2**
comp=Z,3.6nm,0.9s,mb4.6,baz=102,slow=4.6,SNR=20
GERES pP pP 21 25 08.6 -0.3
comp=Z,3.0nm,0.9s,baz=95,slow=4.6,SNR=9.8
KHC Kasperske Hory 85.66 319 *e*P **P 21 24 58.7 0.0**
KHC *e*pP pP 21 25 08.4 -1.1
CLL Collm 86.20 321 *i*P **P 21 25 01.0 -0.4**
comp=Z,8.0nm,1.0s,mb4.9
CLL Collm 86.20 321 *i*P **P 21 25 01.0 -0.4**
CLL pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
NKC Novy Kostel 86.48 320 *e*P **P 21 25 02.9 +0.2**
NKC *e*pP pP 21 25 14.0 +0.5
HFS Hagfors 86.60 330 P **P 21 25 03.2 -0.1**
comp=Z,9.2nm,0.7s,mb5.1,baz=145,slow=5.4,SNR=40
HFS pP pP 21 25 13.3 -0.8
comp=Z,6.2nm,0.6s,baz=147,slow=3.0,SNR=9.5
GRA1 Grafenberg Arr 87.23 320 *e*P **P 21 25 06.9 +0.5**
comp=Z,4.0nm,0.9s,mb4.7
GRA1 *e*pP pP 21 25 16.3 -0.9
GRF Grafenberg Arr 87.23 320 *e*P **P 21 25 06.9 +0.5**
comp=Z,4.0nm,0.9s,mb4.7
GRF *e*pP pP 21 25 16.3 -0.9
GRF Grafenberg Arr 87.23 320 *e*P **P 21 25 06.9 +0.5**
GRF *e**PP pP 21 25 16.3 -0.9
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
GRF Grafenberg Arr 87.23 320 *e*P **P 21 25 06.9 +0.5**
GRF *e**PP pP 21 25 16.3 -0.9
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
NB2 NORSAR Subarra 87.89 331 P **P 21 25 08.9 -0.6**
comp=Z,4.7nm,0.8s,mb4.8,baz=99,slow=4.6
NOA NORSAR Array B 87.89 331 P **P 21 25 09.2 -0.4**
comp=Z,3.9nm,0.8s,mb4.7,baz=95,slow=4.8,SNR=13
NOA pP pP 21 25 19.2 -1.1
comp=Z,3.8nm,0.8s,baz=95,slow=4.8,SNR=8.6
DAVOX Davos 88.00 317 P **P 21 25 10.5 +0.4**
comp=Z,5.6nm,0.8s,mb4.9,baz=135,slow=9.7,SNR=8.0
DAVOX pP pP 21 25 20.6 -0.3
comp=Z,5.2nm,0.5s,baz=108,slow=6.5,SNR=5.7
PGF Pioggiola 88.52 312 *e*P **P 21 25 12.1 -0.4**
comp=Z,7.7nm,1.0s,mb4.7
PGF Pioggiola 88.52 312 *e*P **P 21 25 12.1 -0.4**
PGF pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
PGF Pioggiola 88.52 312 *e*P **P 21 25 12.1 -0.4**
comp=Z,3.8nm,1.0s,mb4.7
SBF Sospel 89.68 314 *e*P **P 21 25 17.6 -0.4**
CDF Champ du Feu 89.79 318 *e*P **P 21 25 17.7 -0.8**
comp=Z,6.1nm,0.9s,mb4.6
CDF Champ du Feu 89.79 318 *e*P **P 21 25 17.7 -0.8**
CDF pmax pmax
comp=Z,3.0nm,0.9s,mb4.6
CDF Champ du Feu 89.79 318 *e*P **P 21 25 17.7 -0.8**
comp=Z,3.0nm,0.9s,mb4.6
LPG La Plagne 90.16 315 *e*P **P 21 25 20.3 +0.1**
comp=Z,8.6nm,0.8s,mb4.8
LPG La Plagne 90.16 315 *e*P **P 21 25 20.3 +0.1**
LPG pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
LPG La Plagne 90.16 315 *e*P **P 21 25 20.3 +0.1**
comp=Z,4.3nm,0.8s,mb4.8
LPL La Plagne 90.17 315 *e*P **P 21 25 20.3 0.0**
comp=Z,9.0nm,0.7s,mb4.9
LPL La Plagne 90.17 315 *e*P **P 21 25 20.3 0.0**
LPL pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
LPL La Plagne 90.17 315 *e*P **P 21 25 20.3 0.0**
comp=Z,4.5nm,0.7s,mb4.9
LMR La Mourre 90.35 313 *e*P **P 21 25 20.8 -0.3**
comp=Z,5.3nm,0.8s,mb4.6
LMR La Mourre 90.35 313 *e*P **P 21 25 20.8 -0.3**
LMR pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
LMR La Mourre 90.35 313 *e*P **P 21 25 20.8 -0.3**
comp=Z,2.7nm,0.8s,mb4.6
HAU Haudompre 90.42 318 *e*P **P 21 25 21.8 +0.4**
comp=Z,11nm,0.8s,mb5.0
HAU Haudompre 90.42 318 *e*P **P 21 25 21.8 +0.4**
HAU pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
HAU Haudompre 90.42 318 *e*P **P 21 25 21.8 +0.4**
comp=Z,5.7nm,0.8s,mb5.0
CABF La Chapelle 90.61 316 *e*P **P 21 25 22.4 +0.1**
comp=Z,9.6nm,0.7s,mb5.0
CABF La Chapelle 90.61 316 *e*P **P 21 25 22.4 +0.1**
CABF pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
CABF La Chapelle 90.61 316 *e*P **P 21 25 22.4 +0.1**
comp=Z,4.8nm,0.7s,mb4.9
ORIF Oris-en-Rattie 90.78 315 *e*P **P 21 25 23.2 +0.1**
comp=Z,7.6nm,0.9s,mb4.8
ORIF Oris-en-Rattie 90.78 315 *e*P **P 21 25 23.2 +0.1**
ORIF pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
ORIF Oris-en-Rattie 90.78 315 *e*P **P 21 25 23.2 +0.1**
comp=Z,3.8nm,0.9s,mb4.7
SMRF Simiane la Rot 91.02 314 *e*P **P 21 25 24.6 +0.4**
comp=Z,8.3nm,1.0s,mb4.7
SMRF Simiane la Rot 91.02 314 *e*P **P 21 25 24.6 +0.4**
comp=Z,8.3nm,1.0s,mb5.0
MEZF Maizieres J'vi 91.27 318 *e*P **P 21 25 25.2 -0.2**
GIVF Givet 91.37 320 *e*P **P 21 25 25.6 -0.3**
VIVF Saint-Julien-l 91.64 315 *e*P **P 21 25 27.0 -0.1**
BAIF Baives 91.77 320 *e*P **P 21 25 27.8 +0.1**
comp=Z,23nm,1.0s,mb5.2
BAIF Baives 91.77 320 *e*P **P 21 25 27.8 +0.1**
BAIF pmax pmax
comp=Z,11nm,1.0s,mb5.1
BAIF Baives 91.77 320 *e*P **P 21 25 27.8 +0.1**
comp=Z,11nm,1.0s,mb5.2
LOR Lormes 92.12 317 *e*P **P 21 25 28.0 -1.3**
comp=Z,18nm,1.0s,mb5.1
LOR Lormes 92.12 317 *e*P **P 21 25 28.0 -1.3**
LOR pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
LOR Lormes 92.12 317 *e*P **P 21 25 28.0 -1.3**
comp=Z,9.1nm,1.0s,mb5.1
SMF Signal de Mont 92.16 317 *e*P **P 21 25 29.0 -0.5**
comp=Z,19nm,1.1s,mb5.0
SMF Signal de Mont 92.16 317 *e*P **P 21 25 29.0 -0.5**
SMF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
SMF Signal de Mont 92.16 317 *e*P **P 21 25 29.0 -0.5**
comp=Z,9.3nm,1.0s,mb5.1
LASF Ste Croix 92.25 314 *e*P **P 21 25 30.1 +0.2**
comp=Z,7.7nm,1.0s,mb4.7
SSF Saint Saulge 92.37 317 *e*P **P 21 25 30.1 -0.4**
comp=Z,17nm,1.2s,mb4.9
SSF Saint Saulge 92.37 317 *e*P **P 21 25 30.1 -0.4**
SSF pmax pmax
comp=Z,8.0nm,1.2s,mb4.9
SSF Saint Saulge 92.37 317 *e*P **P 21 25 30.1 -0.4**
comp=Z,8.4nm,1.2s,mb5.0
AVF Avril sur Loir 92.49 317 *e*P **P 21 25 30.7 -0.3**
comp=Z,12nm,1.1s,mb4.8
AVF Avril sur Loir 92.49 317 *e*P **P 21 25 30.7 -0.3**
AVF pmax pmax
comp=Z,6.0nm,1.1s,mb4.8
AVF Avril sur Loir 92.49 317 *e*P **P 21 25 30.7 -0.3**
comp=Z,6.2nm,1.1s,mb4.8
BGF Bois d'Agland 92.85 316 *e*P **P 21 25 32.7 0.0**
comp=Z,6.8nm,0.7s,mb4.9
BGF Bois d'Agland 92.85 316 *e*P **P 21 25 32.7 0.0**
BGF pmax pmax
comp=Z,3.0nm,0.7s,mb4.8
BGF Bois d'Agland 92.85 316 *e*P **P 21 25 32.7 0.0**
comp=Z,3.4nm,0.7s,mb4.9
HYF Humbligny 92.95 317 *e*P **P 21 25 33.3 +0.2**
TCF Toulx Ste Croi 93.30 316 *e*P **P 21 25 34.6 -0.2**
comp=Z,31nm,1.6s,mb5.2
TCF Toulx Ste Croi 93.30 316 *e*P **P 21 25 34.6 -0.2**
TCF pmax pmax
comp=Z,16nm,1.6s,mb5.2
TCF Toulx Ste Croi 93.30 316 *e*P **P 21 25 34.6 -0.2**
comp=Z,16nm,1.6s,mb5.2
MTLF Montolieu 93.48 313 *e*P **P 21 25 35.6 0.0**
comp=Z,4.5nm,0.9s,mb4.6
MTLF Montolieu 93.48 313 *e*P **P 21 25 35.6 0.0**
MTLF pmax pmax
comp=Z,2.0nm,0.9s,mb4.5
MTLF Montolieu 93.48 313 *e*P **P 21 25 35.6 0.0**
comp=Z,2.3nm,0.9s,mb4.6
CAF Calviac 93.49 315 *e*P **P 21 25 35.8 +0.2**
LFF La Frestale 94.43 315 *e*P **P 21 25 40.4 +0.5**
TORD Torodi Ar. Bea 95.25 283 P **P 21 25 44.0 +0.3**
comp=Z,0.6nm,0.9s,mb4.0,baz=98,slow=3.9,SNR=5.7
TORD pP pP 21 25 55.0 +0.4
comp=Z,0.4nm,0.5s,baz=87,slow=4.3,SNR=1.4
EKA Eskdalemuir Ar 95.74 326 P **P 21 25 45.8 -0.1**
comp=Z,1.2nm,0.8s,mb4.4,baz=98,slow=5.1,SNR=5.9
EKA pP pP 21 25 56.2 -0.5
comp=Z,1.0nm,0.6s,baz=98,slow=6.0,SNR=3.4
SGMF Saint Gilles 96.35 318 *e*P **P 21 25 48.3 -0.4**
comp=Z,47nm,1.5s,mb5.4
SGMF Saint Gilles 96.35 318 *e*P **P 21 25 48.3 -0.4**
SGMF pmax pmax
comp=Z,24nm,1.5s,mb5.4
SGMF Saint Gilles 96.35 318 *e*P **P 21 25 48.3 -0.4**
comp=Z,24nm,1.5s,mb5.4
SCHQ Schefferville 123.65 349 PKP PKPdf 21 31 15.7 -1.8
comp=Z,1.5nm,0.8s,baz=25,slow=19,SNR=3.6
ULM Lac du Bonnet 128.59 11 PKP PKPdf 21 31 26.6 -0.3
comp=Z,1.3nm,0.5s,baz=58,slow=4.9,SNR=3.8
NVAR Mina Array Bea 129.69 36 PKP PKPdf 21 31 30.8 +1.8
comp=Z,0.7nm,0.6s,baz=252,slow=2.9,SNR=4.8
ELK Elko 129.81 32 *e*PKIKP PKPdf 21 31 29.9 +0.7
PDAR Pinedale Array 131.03 26 PKP PKPdf 21 31 32.5 +0.9
comp=Z,0.5nm,0.4s,baz=298,slow=3.2,SNR=4.2
MSU Marysvale 133.06 32 *e*PKIKP PKPdf 21 31 36.9 +1.5
ANMO Albuquerque 138.72 30⇑*i*PKIKP PKPdf 21 31 47.7 +1.8
CPUP Villa Florida 144.16 221 PKP PKPdf 21 31 54.5 -1.2
comp=Z,4.1nm,0.7s,baz=110,slow=3.3,SNR=12
CPUP pPKP pPKPdf 21 32 04.9 -1.9
comp=Z,5.8nm,0.7s,baz=122,slow=3.5,SNR=8.3
CPUP Villa Florida 144.16 221 *e*PKPdf PKPdf 21 31 54.6 -1.0
CPUP *ep*PKPdf pPKPdf 21 32 02.9 -3.9
JCT Junction City 145.56 26 *e*PKIKP PKPdf 21 31 58.4 +0.3
LPAZ La Paz 158.34 221 PKP PKPdf 21 32 17.1 +0.1
comp=Z,0.3nm,0.5s,baz=247,slow=6.7,SNR=2.6

IDC 16 21:15:44.7±2.5, 034N×9723E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/16, mbtmp3.8/5, Error ellipse: s-maj=117.1km s-min=25.1km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.56**	**121**	P		P	P	21 23 33.5	-0.5
	0.9nm,0.6s,baz=303,slow=9.0,SNR=6.0								
SONM	**Songino Array**	**47.97**	**8**	P		P	P	21 24 26.2	+1.1
	0.3nm,0.5s,baz=199,slow=7.6,SNR=2.8								
MKAR	**Makanchi Array**	**48.08**	**346**	P		P	P	21 24 26.4	+0.5
	1.0nm,0.7s,baz=157,slow=7.8,SNR=4.7								
STKA	**Stephens Creek**	**52.76**	**132**	P		P	P	21 25 02.9	+1.5
	0.6nm,0.4s,baz=288,slow=3.2,SNR=2.7								
ARCES	**ARCESS Array B**	**83.35**	**340**	P		P	P	21 28 12.3	-1.2
	0.7nm,0.4s,baz=114,slow=4.1,SNR=6.7								

IDC 16 21:16:20.2±1.5, 010N×9710E, h30km±7km, mb3.8/5, mb1 3.9/6, mb1mx3.6/17, mbtmp4.0/6, ML3.2/1, Error ellipse: s-maj=54.5km s-min=19.5km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.25**	**34**	Pn		Pn	Pn	21 17 07.8	-1.2
	2.6nm,0.3s,baz=240,slow=20,SNR=3.3								
WRA	**Warramunga Arr**	**41.56**	**121**	P		P	P	21 24 05.7	+0.7
	2.4nm,0.9s,baz=301,slow=9.1,SNR=5.1								
WRA				pP		pP	pP	21 24 14.9	+0.9
	2.1nm,0.7s,baz=301,slow=9.0,SNR=5.9								
SONM	**Songino Array**	**48.22**	**8**	P		P	P	21 24 58.5	+0.5
	1.2nm,0.9s,baz=192,slow=9.5,SNR=4.1								
MKAR	**Makanchi Array**	**48.27**	**346**	P		P	P	21 24 58.5	+0.1
	1.5nm,0.7s,baz=155,slow=8.6,SNR=4.3								
MKAR				pP		pP	pP	21 25 07.7	+0.1
	0.6nm,0.5s,baz=157,slow=8.4,SNR=2.2								
STKA	**Stephens Creek**	**52.71**	**131**	P		P	P	21 25 31.5	-0.3
	0.7nm,0.4s,baz=283,slow=16,SNR=2.2								
STKA				pP		pP	pP	21 25 41.0	-0.2
	0.9nm,0.5s,baz=304,slow=11,SNR=2.0								
ARCES	**ARCESS Array B**	**83.53**	**340**	P		P	P	21 28 44.5	-0.6
	4.3nm,0.9s,baz=106,slow=4.2,SNR=6.9								

IDC 16 21:22:19.4±1.5, 003N×9701E, h33km±7km, mb3.6/5, mb1 3.7/6, mb1mx3.5/17, mbtmp3.8/6, ML3.0/1, Error ellipse: s-maj=45.4km s-min=27.0km az=51.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.35**	**35**	Pn		Pn	Pn	21 23 07.5	-2.0
	1.5nm,0.3s,baz=268,slow=7.4,SNR=4.3								
WRA	**Warramunga Arr**	**41.59**	**121**	P		P	P	21 30 04.6	+0.5
	0.7nm,0.6s,baz=301,slow=9.2,SNR=6.4								
SONM	**Songino Array**	**48.31**	**8**	P		P	P	21 30 57.7	+0.2
	0.6nm,0.7s,baz=191,slow=9.0,SNR=5.5								
MKAR	**Makanchi Array**	**48.33**	**346**	P		P	P	21 30 57.9	+0.2
	0.8nm,0.6s,baz=160,slow=9.0,SNR=12								
MKAR				pP		pP	pP	21 31 08.7	+1.2
	0.5nm,0.5s,baz=157,slow=9.2,SNR=6.4								
AKASG	**Malin Array Be**	**76.07**	**323**	P		P	P	21 34 03.0	-0.6
	0.3nm,0.3s,baz=97,slow=5.0,SNR=3.6								
AKASG				pP		pP	pP	21 34 13.3	-0.5
	0.3nm,0.3s,baz=94,slow=4.9,SNR=3.0								
ARCES	**ARCESS Array B**	**83.57**	**340**	P		P	P	21 34 44.1	0.0
	3.3nm,1.0s,baz=104,slow=5.1,SNR=7.1								
ARCES				pP		pP	pP	21 34 53.8	-0.7
	0.5nm,0.5s,baz=93,slow=4.9,SNR=0.8								

IDC 16 21:27:04.2±2.6, 022S×9649E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.3/17, mbtmp3.4/4, Error ellipse: s-maj=66.4km s-min=32.6km az=58.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.86**	**39**	Pn		Pn	Pn	21 28 05.9	+1.0
	baz=219,slow=8.5,SNR=4.5								
WRA	**Warramunga Arr**	**41.92**	**120**	P		P	P	21 34 56.7	+0.2
	0.3nm,0.5s,baz=304,slow=9.0,SNR=3.7								
MKAR	**Makanchi Array**	**48.44**	**347**	P		P	P	21 35 48.9	+0.6
	0.6nm,0.5s,baz=157,slow=8.8,SNR=10								
SONM	**Songino Array**	**48.63**	**9**	P		P	P	21 35 48.5	-1.2
	0.3nm,0.6s,baz=186,slow=8.5,SNR=3.5								

IDC 16 21:29:59.4±3.8, 3020S×13870E, h0km, mb1 2.9/3, mb1mx2.9/10, mbtmp2.6/3, ML2.5/3, Error ellipse: s-maj=126.0km s-min=15.6km az=44.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.00**	**125**	Pn		Pn	Pn	21 30 47.0	-1.0
	0.2nm,0.3s,baz=299,slow=13,SNR=5.1								
STKA				Pg		Pg	Pg	21 30 54.8	-2.0
	1.2nm,0.3s,baz=308,slow=16,SNR=16								
STKA				Sn		Sn	Sn	21 31 24.9	+0.3
	1.1nm,0.3s,baz=33,slow=24,SNR=4.0								
STKA				Lg				21 31 34.8	
	1.0nm,0.3s,baz=360,slow=23,SNR=4.7								
ASAR	**Alice Springs**	**7.79**	**326**	Pn		Pn	Pn	21 31 55.3	+1.4
	0.1nm,0.3s,baz=152,slow=13,SNR=4.2								
ASAR				Sn		Sn	Sn	21 33 22.1	-0.7
	0.1nm,0.3s,baz=152,slow=22,SNR=3.1								
WRA	**Warramunga Arr**	**10.95**	**338**	Pn		Pn	Pn	21 32 37.1	-0.2
	0.1nm,0.3s,baz=155,slow=14,SNR=4.7								

IDC 16 21:45:49.8±7.3, 585S×15330E, h87km±55km, mb3.4/6, mb1 3.6/7, mb1mx3.5/15, mbtmp3.8/7, ML3.4/1, Error ellipse: s-maj=53.3km s-min=27.8km az=88.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.04**	**239**	P		Pn	Pn	21 47 30.4	+0.3
	3.8nm,0.3s,baz=44,slow=8.0,SNR=11								
PMG				S		Sn	Sn	21 48 49.2	+0.6
	1.0nm,0.3s,baz=177,slow=16,SNR=1.8								
WRA	**Warramunga Arr**	**23.15**	**231**	P		P	P	21 50 49.9	+1.3
	0.4nm,0.6s,baz=54,slow=9.6,SNR=4.7								
ASAR	**Alice Springs**	**25.74**	**225**	P		P	P	21 51 12.2	+0.1
	0.5nm,0.7s,baz=57,slow=9.7,SNR=4.5								
FITZ	**Fitzroy Crossi**	**29.62**	**243**	P		P	P	21 51 46.9	+0.2
	3.3nm,1.0s,baz=149,slow=18,SNR=4.3								
SONM	**Songino Array**	**67.47**	**328**	P		P	P	21 56 36.4	+0.2
	0.4nm,0.7s,baz=140,slow=3.5,SNR=4.3								
VNDA	**Vanda**	**71.77**	**178**	P		P	P	21 57 02.4	-0.4
	0.5nm,0.5s,baz=326,slow=5.8,SNR=4.1								
MKAR	**Makanchi Array**	**81.44**	**319**	P		P	P	21 57 57.6	+0.5
	0.8nm,0.6s,baz=98,slow=5.7,SNR=14								
TORD	**Torodi Ar. Bea**	**151.09**	**287**	PKPbc		PKPbc	PKPbc	22 05 33.4	+0.7
	2.2nm,0.8s,baz=62,slow=1.5,SNR=18								

NEIC ***16*** *21:47:05.4, 3149S×6959W, h154km, MG3.5(GUC), After GUC.*

GUC 16 21:47:05.4±0.7, 3149S×6959W, h154km±11km, MD3.4, ML3.5, 2C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.25**	**284**	⇑*i*P		Pn	Pn	21 47 33.4	+0.7
CMCH				*i* S		Sn	Sn	21 47 54.3	+0.8
CMCH				AML		AML	AML	21 47 55.5	
	comp=N,1μm,0.7s								
CMCH	**Combarbala**	**1.25**	**284**	⇑*i*P		Pn	Pn	21 47 33.4	+0.7
CMCH				*i* S		Sn	Sn	21 47 54.3	+0.8
JACH	**Jahuel**	**1.47**	**215**	*e*P		Pn	Pn	21 47 35.5	+0.6
JACH				*i* S		Sn	Sn	21 47 58.3	+0.9
CHNG	**Los Chungos**	**1.68**	**256**	*i*P		Pn	Pn	21 47 38.1	+1.0
CHNG				*i* S		Sn	Sn	21 48 01.6	+0.2
TLL	**Tololo Astrono**	**1.68**	**321**	⇓*i*P		Pn	Pn	21 47 38.2	+1.1
TLL				*i* S		Sn	Sn	21 48 02.4	+1.0
TLL				AML		AML	AML	21 48 05.2	
	comp=N,172nm,1.0s								
TLL	**Tololo Astrono**	**1.68**	**321**	⇓*i*P		Pn	Pn	21 47 38.2	+1.1
TLL				*i* S		Sn	Sn	21 48 02.4	+1.0
ROCH	**El Roble**	**1.91**	**219**	*i*P		Pn	Pn	21 47 40.4	+0.7
ROCH				*i* S		Sn	Sn	21 48 07.2	+1.2
CLCH	**Cerro Calan**	**2.07**	**203**	*e*P		Pn	Pn	21 47 38.3	-3.1
CLCH				*i* S		Sn	Sn	21 48 09.9	+0.6
CLCH				AML		AML	AML	21 48 11.7	
	comp=E,358nm,0.5s								
RCDM	**Rinconada Maip**	**2.25**	**207**	*e*P		Pn	Pn	21 47 44.4	+0.8
RCDM				*i* S		Sn	Sn	21 48 13.7	+0.7
RCDM				AML		AML	AML	21 48 15.4	
	comp=N,232nm,0.5s								
RCDM	**Rinconada Maip**	**2.25**	**207**	*e*P		Pn	Pn	21 47 44.4	+0.8
RCDM				*i* S		Sn	Sn	21 48 13.7	+0.7
PCH	**Pirque**	**2.27**	**200**	*i*P		Pn	Pn	21 47 45.0	+1.2
PCH				*i* S		Sn	Sn	21 48 15.1	+1.6
TACH	**Talagante**	**2.44**	**207**	*e*P		Pn	Pn	21 47 46.1	+0.2
TACH				*i* S		Sn	Sn	21 48 17.8	+0.6
CHCH	**Chadas Angostu**	**2.60**	**200**	*i*P		Pn	Pn	21 47 48.5	+0.6
CHCH				*i* S		Sn	Sn	21 48 21.2	+0.5

ISCJB ***16*** *22:01:31.9±0.7, 3518N±005×229E±0.1, h91km±14km, Error ellipse: s-maj=15.5km s-min=6.3km az=133.2*
HLW ***16*** *22:01:31.8, 3543N×23.19E, h33km, Mb3.8*
CSEM ***16*** *22:01:33.5±0.3, 3523N×2334E, h60km, MD3.4, Error ellipse: s-maj=12.4km s-min=6.0km az=78.0*
ATH ***16*** *22:01:34.5, 3543N×2306E, h74km±6km*
NEIC ***16*** *22:01:38.8, 3615N×2420E, h18km, MD3.4(ATH), After ATH.*

ISC 16 22:01:33.3±0.7, 3519N±005×229E±01, h64km±24km, n22, σ1°12/28, 2D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**1.05**	**109**	*e*P		**Pn**		**22 01 53.5**	**+1.4**
KYTH	**Kithira**	**1.10**	**7**	*e*P		**Pn**		**22 01 51.5**	**-1.2**
KYTH				*e*S		**Sn**		**22 02 05.0**	**-2.2**
VAM	**Vamos**	**1.10**	**78**	*e*P		**Pn**		**22 01 53.6**	**+0.8**
VAM				*e*S		**Sn**		**22 02 07.5**	**+0.2**
VAM	**Vamos**	**1.10**	**78**	*e*Pn		**Pn**		**22 01 53.7**	**+0.9**
VLI	**Veliai**	**1.53**	**2**	*e*P		**Pn**		**22 01 58.0**	**-0.4**
VLI	**Veliai**	**1.53**	**2**	*e*Pn		**Pn**		**22 01 58.2**	**-0.2**
VLI				*e*Sn		**Sn**		**22 02 18.0**	**+0.7**
ITM	**Ithomi**	**2.13**	**339**	*e*P		**Pn**		**22 02 08.5**	**+1.9**
ITM	**Ithomi**	**2.13**	**339**	*e*Pn		**Pn**		**22 02 10.6**	**+4.0**
ITM				*e*Sn		**Sn**		**22 02 43.5**	**+12**
NPS	**Neapolis**	**2.24**	**87**	*e*P		**Pn**		**22 02 09.5**	**+1.4**
APE	**Apeiranthos**	**2.85**	**48**	*e*P		**Pn**		**22 02 15.0**	**-1.4**
LKR	**Lokris**	**3.46**	**2**	*e*P		**Pn**		**22 02 24.1**	**-0.5**
LKR	**Lokris**	**3.46**	**2**	*e*Pn		**Pn**		**22 02 23.7**	**-0.9**
KARP	**Karpathos**	**3.52**	**83**	*e*P		**Pn**		**22 02 26.3**	**+0.8**
EVR	**Evrytania**	**3.82**	**347**	*e*P		**Pn**		**22 02 30.6**	**+1.0**
NEO	**Neokhori**	**4.12**	**4**	*e*P		**Pn**		**22 02 33.3**	**-0.4**
SLUM		**4.17**	**151**	P		**Pn**		**22 02 35.0**	**+0.6**
SLUM				S		**Sn**		**22 03 20.5**	**-1.4**
ARG	**Arkhangelos**	**4.39**	**75**	*e*P		**Pn**		**22 02 38.1**	**+0.7**
SWA2		**6.32**	**159**	P		**Pn**		**22 03 04.9**	**+1.1**
SWA1		**6.38**	**157**	P		**Pn**		**22 03 05.9**	**+1.2**
SWA1				S		**Sn**		**22 04 14.4**	**-1.6**
HFRF	**Wahat Farafira**	**9.27**	**148**	⇓P		**Pn**		**22 03 44.3**	**+0.2**
GLL	**Jalalah**	**9.33**	**124**	⇓P		**Pn**		**22 03 44.0**	**-0.9**
AMAG	**Maghara**	**9.79**	**115**	P		**Pn**		**22 03 49.8**	**-1.5**

ISCJB ***16*** *22:05:21.7±1.2, 3522N±004×2259E±005, h18km±11km, mb3.4/5, Error ellipse: s-maj=8.0km s-min=4.6km az=106.5*
CSEM ***16*** *22:05:23.8±0.1, 3517N×2276E, h30km, MD3.5, Error ellipse: s-maj=3.1km s-min=2.0km az=54.0*
THE ***16*** *22:05:23.2, 3538N×2273E, h10km*
HLW ***16*** *22:05:25.8, 3540N×2302E, h35km, Mb3.5*
IDC ***16*** *22:05:25.4±3.6, 3553N×2264E, h35km±36km, mb3.4/5, mb1 3.4/7, mb1mx3.3/23, mbtmp3.5/7, ML3.3/2, Error ellipse: s-maj=25.5km s-min=24.0km az=61.0*
NEIC ***16*** *22:05:25.3, 3537N×2284E, h37km,

IDI				Lg			22 06 26.1		
	12nm,0.3s,baz=10,slow=20,SNR=9.8								
ITM	**Ithomi**	**2.00**	**343**	*e*P		**Pn**	**22 05 58.5**	**+1.6**	
LAST	**Lasithi**	**2.29**	**92**	*e*Pn		**Pn**	**22 06 01.0**	**+0.2**	
LAST				*e*Sn		**Sn**	**22 06 30.5**	**+1.8**	
NPS	**Neapolis**	**2.40**	**89**	*e*P		**Pn**	**22 06 02.8**	**+0.5**	
XRY	**Khrisi**	**2.50**	**98**	*e*P		**Pn**	**22 06 06.0**	**+2.3**	
APE	**Apeiranthos**	**2.92**	**51**	*e*Pn		**Pn**	**22 06 08.7**	**-0.8**	
APE	**Apeiranthos**	**2.92**	**51**	*e*P		**Pn**	**22 06 07.9**	**-1.6**	
RLS	**Riolos of Patr**	**2.95**	**341**	*e*P		**Pn**	**22 06 11.9**	**+2.0**	
RLS	**Riolos of Patr**	**2.95**	**341**	*e*Pn		**Pn**	**22 06 11.4**	**+1.5**	
VLS	**Valsamata**	**3.36**	**331**	*e*Pn		**Pn**	**22 06 15.3**	**-0.2**	
LKR	**Lokris**	**3.39**	**4**	*e*P		**Pn**	**22 06 16.1**	**+0.2**	
LKR	**Lokris**	**3.39**	**4**	*e*Pn		**Pn**	**22 06 15.6**	**-0.3**	
KARP	**Karpathos**	**3.67**	**84**	*e*P		**Pn**	**22 06 20.1**	**+0.3**	
EVR	**Evrytania**	**3.71**	**349**	*e*P		**Pn**	**22 06 22.9**	**+2.6**	
EVR	**Evrytania**	**3.71**	**349**	*e*Pn		**Pn**	**22 06 22.5**	**+2.2**	
AGG	**Agios Georgios**	**3.76**	**356**	*e*Pn		**Pn**	**22 06 21.9**	**+0.9**	
AGG				*e*Sn		**Sn**	**22 07 05.2**	**+0.4**	
LKD	**Levkas**	**3.80**	**335**	*e*Pn		**Pn**	**22 06 22.3**	**+0.8**	
LKD				*e*Sn		**Sn**	**22 07 07.2**	**+1.4**	
AOS	**Alonnisos**	**4.01**	**13**	*e*Pn		**Pn**	**22 06 24.6**	**+0.1**	
NEO	**Neokhori**	**4.06**	**6**	*e*P		**Pn**	**22 06 24.6**	**-0.5**	
NEO	**Neokhori**	**4.06**	**6**	*e*Pn		**Pn**	**22 06 24.4**	**-0.7**	
XOR	**Xorichti**	**4.11**	**6**	*e*Pn		**Pn**	**22 06 26.1**	**+0.3**	
SLUM		**4.32**	**150**	⇓P		**Pn**	**22 06 28.3**	**-0.4**	
SLUM				S		**Sn**	**22 07 14.7**	**-3.9**	
IGT	**Igoumenitsa**	**4.65**	**337**	*e*Pn		**Pn**	**22 06 32.6**	**-0.7**	
PAIG	**Paliouri**	**4.72**	**9**	*e*Pn		**Pn**	**22 06 33.7**	**-0.5**	
LIT	**Litokhoron**	**4.83**	**358**	*e*Pn		**Pn**	**22 06 35.5**	**-0.2**	
SRN	**Sarande**	**5.07**	**336**	*i* Sg		**Sn**	**22 07 33.9**	**-3.3**	
PLG	**Polygyros**	**5.13**	**7**	*e*P		**Pn**	**22 06 39.4**	**-0.5**	
OUR	**Ouranopolis**	**5.16**	**11**	*e*Pn		**Pn**	**22 06 39.8**	**-0.5**	
FNA	**Florina**	**5.60**	**350**	*e*Pn		**Pn**	**22 06 45.9**	**-0.5**	
SOI	**Samo**	**6.02**	**300**	Pn		**Pn**	**22 06 51.7**	**-0.3**	
SWA2		**6.45**	**158**	P		**Pn**	**22 06 57.5**	**-0.5**	
SWA1		**6.51**	**156**	⇓P		**Pn**	**22 06 58.3**	**-0.5**	
SWA1				S		**Sn**	**22 08 06.8**	**-5.8**	
MGR	**Morigerati**	**7.45**	**313**	Pn		**Pn**	**22 07 11.8**	**+0.1**	
SLCN	**Sala Consilina**	**7.56**	**315**	Pn		**Pn**	**22 07 14.4**	**+1.1**	
SGO	**Sicignano**	**7.87**	**314**	Pn		**Pn**	**22 07 18.3**	**+0.9**	
HFRF	**Wahat Farafira**	**9.42**	**148**	P		**Pn**	**22 07 37.0**	**-1.7**	
BRTR	**Keskin Array B**	**9.78**	**60**	Pn		**Pn**	**22 07 42.3**	**-1.3**	
	0.1nm,0.3s,baz=233,slow=12,SNR=6.6								
AMAG	**Maghara**	**9.97**	**115**	P		**Pn**	**22 07 42.3**	**-4.0**	
GERES	**GERESS Array B**	**15.10**	**337**	Pn		**Pn**	**22 08 54.5**	**-1.8**	
	0.1nm,0.3s,baz=159,slow=12,SNR=3.1								
KHC	**Kasperske Hory**	**15.39**	**337**	*e*P		**Pn**	**22 09 04.0**	**+3.9**	
HFS	**Hagfors**	**25.56**	**350**	P		**P**	**22 10 48.1**	**-3.6**	
	0.9nm,0.5s,mb3.6,baz=164,slow=12,SNR=8.7								
EKA	**Eskdalemuir Ar**	**26.81**	**326**	P		**P**	**22 11 00.5**	**-2.5**	
	1.0nm,0.7s,mb2.9,baz=121,slow=9.0,SNR=4.2								
NOA	**NORSAR Array B**	**26.82**	**348**	P		**P**	**22 10 59.9**	**-3.2**	
	0.3nm,0.7s,mb2.9,baz=154,slow=9.4,SNR=2.7								
TORD	**Torodi Ar. Bea**	**29.05**	**226**	P		**P**	**22 11 24.0**	**+0.9**	
	0.3nm,0.5s,mb3.3,baz=45,slow=8.5,SNR=6.3								
MKAR	**Makanchi Array**	**45.41**	**56**	P		**P**	**22 13 38.0**	**-3.5**	
	0.4nm,0.5s,mb3.5,baz=278,slow=8.3,SNR=4.0								

ISCJB ***16*** *22:05:43.1±0.5,0.13N×006×97.13E±007,h35km,mb4.2/18, MS4.2/2, Error ellipse: s-maj=9.6km s-min=8.4km az=44.8*

IDC ***16*** *22:05:44.5±0.7,002N×9707E,h36km±5km,mb3.8/10, mb1 3.9/11,mb1mx3.8/19,mbtmp4.0/11,ML3.7/1, Error ellipse: s-maj=21.4km s-min=15.7km az=50.0*

NEIC ***16*** *22:05:44.2±0.5,0.13N×9708E, h30km,mb4.2/3, Error ellipse: s-maj=13.2km s-min=10.1km az=54.0*

BJI ***16*** *22:05:44.0,008N×9761E,h28km,mB5.0,mb4.6,Ms4.5, Msz4.2*

ISC 16 22:05:45.5±0.5, 012N±006×9714E±007, h37km, h37km±1.0km:pP-P,n30,σ1º07/31, mb4.2/18, MS4.2/2, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
PSI	**Prapat**	**3.20**	**34**	Pn		**Pn**	**22 06 31.5**		**-1.9**
	8.4nm,0.3s,baz=234,slow=6.8,SNR=38								
KULM	**Kulim**	**6.22**	**34**	*e*Pn		**Pn**	**22 07 13.5**		**-1.2**
KULM				*e*Sn		**Sn**	**22 08 24.9**		**+0.3**
KKM	**Kota Kinabalu**	**19.93**	**72**	*e*P		**Pn**	**22 10 14.4**		**-1.5**
LSA	**Lhasa**	**29.96**	**350**	P		**P**	**22 11 50.1**		**-0.2**
MBWA	**Marble Bar**	**30.57**	**135**	*e*P		**P**	**22 11 57.5**		**+1.9**
CD2	**Chengdu**	**31.26**	**11**	*e*P		**P**	**22 12 01.3**		**-0.4**
WRA	**Warramunga Arr**	**41.53**	**121**	P		**P**	**22 13 29.1**		**-0.1**
	0.8nm,0.4s,mb3.7,baz=304,slow=8.9,SNR=17								
WRAB	**Tennant Creek**	**41.53**	**121**	*e*P		**P**	**22 13 31.6**		**+2.3**
	2.2nm,0.4s,mb4.1								
HHC	**Hu-ho-hao-te**	**42.60**	**16**	*e*P		**P**	**22 13 39.4**		**+1.4**
HHC				AP	pP		22 13 49.4		+0.7
HHC				XP	sP		22 13 53.3		+0.3
HHC				PP	PP		22 15 21.0		+3.8
HHC				PCP	PcP		22 15 31.8		+2.0
HHC				SCP	ScP		22 19 19.0		+1.3
HHC				PCS	PcS		22 19 22.5		+0.6
HHC				S	**S**		**22 19 59.9**		**+1.6**
HHC				XS	sS		22 20 16.3		+0.4
HHC				SS	SS		22 23 03.9		-5.2
HHC				SCS	ScS		22 23 36.8		+0.4
HHC				AMB	AMB				
	comp=Z,17nm,1.1s,mb4.7								
HHC				AMB	AMB				
	comp=Z,289nm,4.5s								
HHC				LR	LR				
	comp=N,407nm,16.4s,MS4.5								
HHC				LR	LR				
	comp=E,302nm,16.2s,MS4.5								
HHC				LR	LR				
	comp=Z,380nm,16.5s,MS4.4								
ASAR	**Alice Springs**	**42.80**	**126**	P		**P**	**22 13 39.4**		**-0.3**
	comp=Z,0.8nm,0.7s,mb3.6,baz=298,slow=7.7,SNR=7.4								
WMQ	**Urumqi**	**44.32**	**350**	⇑P		**P**	**22 13 52.9**		**+1.0**
WMQ				AP	pP		22 14 02.6		+0.1
WMQ				XP	sP		22 14 07.3		+0.4
WMQ				PCP	PcP		22 15 37.4		+1.8
WMQ				*e*S	**S**		**22 20 23.8**		**+0.4**
WMQ				AMB	AMB				
	comp=Z,6.0nm,0.9s,mb4.3								
WMQ				AMB	AMB				
	comp=Z,142nm,4.2s								
WMQ				LR	LR				
	comp=N,201nm,18.0s								
SONM	**Songino Array**	**48.20**	**8**	P		**P**	**22 14 23.2**		**+0.8**
	comp=N,1.0nm,0.6s,mb4.0,baz=194,slow=9.0,SNR=9.3								
SONM				pP	pP		22 14 33.4		+0.3
	comp=N,3.2nm,0.9s,baz=186,slow=9.1,SNR=15								
MKAR	**Makanchi Array**	**48.27**	**346**	P		**P**	**22 14 23.7**		**+0.8**
	comp=N,1.1nm,0.7s,mb4.0,baz=162,slow=8.4,SNR=7.0								
MKAR				pP	pP		22 14 33.8		+0.1
	comp=N,2.0nm,0.5s,baz=157,slow=8.6,SNR=12								
STKA	**Stephens Creek**	**52.69**	**131**	P		**P**	**22 14 54.6**		**-1.7**
	comp=N,2.6nm,0.7s,mb4.3,baz=296,slow=10,SNR=9.5								
STKA	**Stephens Creek**	**52.69**	**131**	*e*P		**P**	**22 14 54.5**		**-1.7**
KURK	**Kurchatov**	**52.81**	**345**	*e*P		**P**	**22 14 57.8**		**+0.6**
	comp=N,3.5nm,0.8s,mb4.3								
MDJ	**Mudanjiang**	**52.83**	**29**	P		**P**	**22 14 58.1**		**+0.8**
MDJ				AP	pP		22 15 07.3		-0.9
MDJ				XP	sP		22 15 11.0		-1.5
MDJ				PCP	PcP		22 16 06.5		+0.2
MDJ				PP	PP		22 16 57.8		+0.9
MDJ				SCP	ScP		22 20 01.5		+0.7
MDJ				PCS	PcS		22 20 05.4		+0.5
MDJ				S	**S**		**22 22 25.9**		**+2.5**
MDJ				XS	sS		22 22 41.3		-0.1
MDJ				SCS	ScS		22 24 45.4		+1.3
MDJ				AMB	AMB				
	comp=Z,5.0nm,0.7s,mb4.5								
MDJ				AMB	AMB				
	comp=Z,316nm,6.7s								
MDJ				LR	LR				
	comp=N,59nm,14.0s,MS4.0								
MDJ				LR	LR				
	comp=E,103nm,16.5s,MS4.0								
MDJ				LR	LR				
	comp=Z,139nm,16.5s,MS4.1								
RDF	**Al-Radifah**	**55.30**	**306**	*e*P		**P**	**22 15 15.5**		**+0.2**
NAY	**Al-Naaiem**	**55.67**	**306**	*e*P		**P**	**22 15 17.9**		**-0.1**
NAY				AMb		AMB	22 15 18.5		
	comp=Z,5.5nm,0.6s,mb4.8								
MIB	**Mutribah**	**55.80**	**307**	*e*P		**P**	**22 15 19.3**		**+0.3**
MIB				AMb		AMB	22 15 19.9		
	comp=Z,16nm,0.6s,mb5.2								
BRVK	**Borovoye**	**57.30**	**341**	*e*P		**P**	**22 15 29.1**		**-0.5**
	comp=Z,0.7nm,0.6s,mb3.9								
BRTR	**Keskin Array B**	**69.79**	**313**	P		**P**	**22 16 51.0**		**-1.1**
	comp=Z,1.1nm,0.7s,mb3.9,baz=135,slow=8.1,SNR=8.4								
BRTR				pP		pP	22 17 01.9		-1.3
	comp=Z,0.7nm,0.6s,baz=128,slow=8.0,SNR=4.2								
MATP	**Matopo**	**70.07**	**248**	P		**P**	**22 16 54.0**		**+0.2**
	comp=Z,2.7nm,0.8s,mb4.3,baz=88,slow=6.3,SNR=8.0								
MATP				pP		pP	22 17 04.7		-0.3
	comp=Z,2.1nm,0.9s,baz=226,slow=1.8,SNR=4.2								
MATP	**Matopo**	**70.07**	**248**	P		**P**	**22 16 54.0**		**+0.2**
MATP				pP		pP	22 17 04.7		-0.3
AKASG	**Malin Array Be**	**76.07**	**323**	P		**P**	**22 17 27.9**		**-1.4**
	comp=Z,1.6nm,0.6s,mb4.1,baz=94,slow=4.1,SNR=8.8								
AKASG				pP		pP	22 17 38.9		-1.7
	comp=Z,2.1nm,0.7s,baz=89,slow=5.3,SNR=4.7								
MLR	**Muntele Rosu**	**76.81**	**317**	P		**P**	**22 17 33.0**		**-0.4**
	comp=Z,0.7nm,0.4s,mb4.0,baz=115,slow=20,SNR=3.5								
GERES	**GERESS Array B**	**85.58**	**319**	P		**P**	**22 18 18.7**		**-1.3**
	comp=Z,0.1nm,0.2s,mb3.6,baz=134,slow=7.6,SNR=3.5								
GERES				pP		pP	22 18 30.9		-0.5
	comp=Z,0.6nm,0.8s,baz=71,slow=5.8,SNR=4.1								
TMUT	**Trail Mountain**	**132.97**	**30**	*e*PKPdf		PKPdf	22 24 58.2		+1.3
CPUP	**Villa Florida**	**144.17**	**221**	PKP		PKPdf	22 25 15.9		-1.4
	comp=Z,1.9nm,0.6s,baz=138,slow=2.2,SNR=9.7								
CPUP	**Villa Florida**	**144.17**	**221**	*e*PKPdf		PKPdf	22 25 15.7		-1.7

CSEM ***16*** *22:06:39.2±1.5,3878N×2901W,h5km±7km,ML1.6, Error ellipse: s-maj=14.7km s-min=6.4km az=75.0, After PDA*

PDA ***16*** *22:06:39.2±1.5,3878N×2901W,h5km±7km,MD3.2,ML1.6, Error ellipse: s-maj=14.7km s-min=6.4km az=75.0*

SVSA 16 22:06:39.2±1.5, 3878N×2901W, h5km±7km, MD3.2, ML1.6, Error ellipse: s-maj=14.7km s-min=6.4km az=75.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
PTCA	**Ponta do Capel**	**0.26**	**140**	*e*P		Pg	22 06 44.0		-0.2
PTCA				*e*S		Sg	22 06 47.5		-0.1
PTCA									
	22nm,0.1s								
PTCA	**Ponta do Capel**	**0.26**	**140**	*e*P		Pg	22 06 44.0		-0.2
PTCA				*e*S		Sg	22 06 47.5		-0.1
PCED	**Cedros**	**0.28**	**122**	*e*P		Pg	22 06 44.6		-0.1
PCED				*e*S		Sg	22 06 48.6		+0.1
PCED									
	73nm,0.2s								
PCED	**Cedros**	**0.28**	**122**	*e*P		Pg	22 06 44.6		-0.1
PCED				*e*S		Sg	22 06 48.6		+0.1
CALA	**Caldeira**	**0.31**	**130**	*e*S		Sg	22 06 49.0		-0.4
HOR	**Horta**	**0.39**	**131**	*e*S		Sg	22 06 50.7		-1.1
PCND	**Candelaria**	**0.53**	**126**	*e*S		Sg	22 06 55.2		-1.1
PCND									
	14nm,0.1s								
PICO	**Pico**	**0.54**	**121**	*e*P		Pg	22 06 48.4		-1.1
PICO				*e*S		Sg	22 06 56.1		-0.4
PTEI	**Pico do Teixo**	**0.59**	**119**	*e*P		Pg	22 06 49.5		-1.0
PBOI	**Pico dos Bois**	**0.60**	**125**	*e*S		Sg	22 06 57.7		-1.0
PBOI									
	15nm,0.2s								
PGRA	**Graciosa**	**0.84**	**73**	*e*S		Sg	22 07 02.8		-3.4
PGRA									
	12nm,0.1s								

IDC ***16*** *22:21:05.5±1.2,008S×9707E,h0km,mb3.7/6,mb1 3.8/7, mb1mx3.6/17,mbtmp3.7/7,ML2.9/1,MS3.2/1,Ms1 3.2/1, ms1mx2.5/24,Error ellipse: s-maj=42.6km s-min=19.7km az=55.0*

ISCJB ***16*** *22:21:08.3±0.8,005N×009×972E±0.1,h30km,mb3.7/8, Error ellipse: s-maj=17.8km s-min=11.2km az=118.5*

NEIC ***16*** *22:21:10.3±0.6,001N×9720E,h30km,mb3.9/2,Error ellipse: s-maj=13.9km s-min=8.6km az=59.0*

ISC 16 22:21:10.8±0.8, 007N±009×973E±01, h30km, n16, σ0º76/16, mb3.7/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
PSI	**Prapat**	**3.18**	**31**	Pn		**Pn**	**22 21 57.9**		**-0.8**
	1.2nm,0.3s,baz=175,slow=9.9,SNR=14								
PSI				LR		LR	22 23 29.3		
	comp=Z,397nm,21.2s,baz=172,slow=43								
PSI	**Prapat**	**3.18**	**31**	Pn		**Pn**	**22 21 57.9**		**-0.8**
PSI				LR		LR	22 23 29.2		
KULM	**Kulim**	**6.19**	**33**	*e*Pn		**Pn**	**22 22 40.3**		**+0.2**
KKM	**Kota Kinabalu**	**19.82**	**72**	*e*P		**Pn**	**22 25 40.5**		**-0.2**
LSA	**Lhasa**	**30.04**	**349**	P		**P**	**22 27 18.4**		**+1.3**
WRA	**Warramunga Arr**	**41.40**	**121**	P		**P**	**22 28 54.5**		**+0.2**
	0.6nm,0.6s,mb3.4,baz=302,slow=9.0,SNR=7.6								
WRAB	**Tennant Creek**	**41.40**	**121**	*e*P		**P**	**22 28 54.2**		**-0.2**
	1.3nm,0.5s,mb3.8								
ASAR	**Alice Springs**	**42.67**	**126**	P		**P**	**22 29 06.2**		**+1.5**
	0.5nm,0.7s,mb3.4,baz=306,slow=8.7,SNR=4.6								
SONM	**Songino Array**	**48.23**	**8**	P		**P**	**22 29 49.6**		**+0.9**
	0.7nm,0.5s,mb3.9,baz=191,slow=9.7,SNR=8.4								
MKAR	**Makanchi Array**	**48.35**	**346**	P		**P**	**22 29 50.1**		**+0.5**
	0.7nm,0.5s,mb3.9,baz=161,slow=9.0,SNR=13								
CTAO	**Charters Tower**	**51.95**	**116**	*e*P		**P**	**22 30 17.1**		**+0.1**
STKA	**Stephens Creek**	**52.56**	**132**	P		**P**	**22 30 20.1**		**-1.4**
	1.6nm,0.7s,mb4.1,baz=307,slow=6.1,SNR=4.3								
KURK	**Kurchatov**	**52.89**	**345**	*e*P		**P**	**22 30 23.6**		**-0.3**
	1.4nm,0.8s,mb3.9								
BRVK	**Borovoye**	**57.39**	**341**	*e*P		**P**	**22 30 55.8**		**-0.6**
ZRNK	**Zerenda**	**57.73**	**340**	P		**P**	**22 30 58.3**		**-0.5**
BRTR	**Keskin Array B**	**69.92**	**313**	P		**P**	**22 32 18.3**		**-0.7**
	0.3nm,0.5s,mb3.5,baz=152,slow=7.4,SNR=3.3								

IDC ***16*** *22:46:53.0±0.7,278N×12628E,h0km,mb4.2/11, mb1 4.3/11,mb1mx4.2/16,mbtmp4.2/11,Error ellipse: s-maj=43.8km s-min=14.6km az=74.0*

MOS ***16*** *22:46:56.4±0.9,279N×12627E,h33km,mb5.0/6,Error ellipse: s-maj=30.2km s-min=11.9km az=113.5*

ISCJB ***16*** *22:47:00.6±1.2,275N×005×12643E±0.10,h74km±11km, mb4.5/25,Error ellipse: s-maj=17.2km s-min=7.7km az=144.1*

NEIC ***16*** *22:47:05.5±2.0,274N×12641E,h107km±18km,mb5.0/9, Error ellipse: s-maj=14.3km s-min=6.3km az=64.0*

BJI ***16*** *22:47:05.1,247N×12654E,h131km,mB5.2,mb4.6*

ISC 16 22:47:02.4±1.1, 276N±005×12651E±009, h74km±9km, n53, σ0º97/54, mb4.5/24, 1C-1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
DAV	**Davao City (W)**	**4.38**	**348**	*e*Pn		**Pn**	**22 48 00.1**		**-6.3**
BUKP	**Musuan**	**5.29**	**344**	*e*P		**Pn**	**22 48 20.0**		**+1.2**
PAGZ	**Pagadian**	**5.94**	**328**	*e*P		**Pn**	**22 48 26.5**		**-1.2**
IPIL	**Ipil**	**6.35**	**322**	*e*P		**Pn**	**22 48 32.2**		**-1.2**
KKM	**Kota Kinabalu**	**10.77**	**288**	*e*P		**Pn**	**22 49 35.5**		**+1.9**
KSM	**Kuching**	**16.24**	**266**	*e*P		**Pn**	**22 50 48.2**		**+2.3**
FITZ	**Fitzroy Crossi**	**20.75**	**182**	P		**P**	**22 51 37.0**		**0.0**
	2.3nm,0.5s,baz=30,slow=9.6,SNR=10								
WRAB	**Tennant Creek**	**23.83**	**161**	P		**P**	**22 52 08.0**		**-0.5**
	62nm,0.5s,mb5.2,SNR=15								
WRAB	**Tennant Creek**	**23.83**	**161**	*e*P		**P**	**22 52 08.9**		**+0.4**
WRAB				pmax	pmax				
	comp=Z,14nm,0.8s,mb4.3								
WRAB	**Tennant Creek**	**23.83**	**161**	*e*P		**P**	**22 52 08.9**		**+0.4**
	comp=Z,14nm,0.8s,mb4.3								
WRA	**Warramunga Arr**	**23.83**	**162**	P		**P**	**22 52 08.7**		**+0.1**
	comp=Z,4.6nm,0.6s,mb4.0,baz=341,slow=10,SNR=26								
WB2	**Warramunga Arr**	**23.84**	**161**	⇓*i*P		**P**	**22 52 08.5**		**-0.1**
MBWA	**Marble Bar**	**24.68**	**195**	*e*P		**P**	**22 52 16.4**		**+0.1**
KULM	**Kulim**	**25.92**	**276**	*e*P		**P**	**22 52 26.2**		**-1.2**
ASAR	**Alice Springs**	**27.23**	**165**	P		**P**	**22 52 40.0**		**+0.6**
	comp=Z,0.9nm,0.6s,mb3.5,baz=337,slow=7.5,SNR=21								
KMI	**Kunming**	**31.92**	**316**	P		**P**	**22 53 23.5**		**+2.7**
KMI				AMB		AMB			
	comp=Z,5.0nm,0.8s,mb4.3								
KS15	**Wonju Array Si**	**34.54**	**2**	*e*P		**P**	**22 53 43.4**		**-0.2**
CD2	**Chengdu**	**35.30**	**325**	*e*P		**P**	**22 53 50.4**		**+0.3**
MJAR	**Matsushiro Arr**	**35.31**	**16**	P		**P**	**22 53 50.0**		**-0.2**
	comp=Z,6.5nm,0.4s,mb4.8,baz=172,slow=9.8,SNR=14								
NWAO	**Narrogin (SRO)**	**36.56**	**193**	*e*P		**P**	**22 54 00.6**		**-0.3**
STKA	**Stephens Creek**	**37.31**	**159**	*e*P		**P**	**22 54 06.6**		**-0.6**
	comp=Z,5.6nm,0.8s,mb4.5								
STKA	**Stephens Creek**	**37.31**	**159**	P		**P**	**22 54 07.1**		**-0.2**
	comp=Z,0.8nm,0.4s,mb4.0,baz=336,slow=7.7,SNR=4.4								
STKA	**Stephens Creek**	**37.31**	**159**	*e*P		**P**	**22 54 13.4**		**+6.2**
HHC	**Hu-ho-hao-te**	**40.25**	**342**	*e*P		**P**	**22 54 33.4**		**+1.6**
HHC				PP	PP		22 56 10.8		+5.1
HHC				PCP	PcP		22 56 37.5		+3.1
HHC				PCS	PcS		23 00 27.8		+2.9
HHC				S	**S**		**23 00 37.5**		**+3.9**
HHC				SS	SS		23 03 30.4		-4.0
HHC				AMB	AMB				
	comp=Z,13nm,1.1s,mb4.7								
HHC				AMB	AMB				
	comp=Z,369nm,6.9s								
HHC				LR	LR				
	comp=N,347nm,15.2s								
HHC				LR	LR				
	comp=E,387nm,15.1s								
HHC				LR	LR				
	comp=Z,360nm,17.7s								
MDJ	**Mudanjiang**	**41.77**	**3**	P		**P**	**22 54 43.3**		**-1.0**
MDJ				PCS	PcS		23 00 30.4		-0.5
MDJ				S	**S**		**23 00 58.8**		**+2.6**
MDJ				AMB	AMB				
	comp=Z,3.0nm,0.5s,mb4.3								
MDJ				AMB	AMB				
	comp=Z,226nm,5.6s								
MDJ				LR	LR				
	comp=N,77nm,22.2s								
MDJ				LR	LR				
	comp=E,82nm,15.4s								
MDJ				LR	LR				
	comp=Z,118nm,18.8s								
LSA	**Lhasa**	**42.92**	**312**	P		**P**	**22 54 55.8**		**+2.1**
LSA	**Lhasa**	**42.92**	**312**	*e*P		**P**	**22 54 53.8**		**+0.1**
LSA				pmax	pmax				
	comp=Z,7.0nm,0.6s,mb4.6								
LSA	**Lhasa**	**42.92**	**312**	*e*P		**P**	**22 54 53.8**		**+0.1**
	comp=Z,7.3nm,0.6s,mb4.6								
JIRN	**Jiri**	**45.77**	**307**	*e*P		**P**	**22 55 16.2**		**-0.2**
	comp=Z,27nm,0.7s,mb5.1								
GUN	**Gumba**	**46.12**	**307**	*e*P		**P**	**22 55 19.0**		**-0.2**
	comp=Z,52nm,0.7s,mb5.4								
PKI	**Pulchoki**	**46.36**	**306**	*e*P		**P**	**22 55 20.2**		**-0.8**
	comp=Z,14nm,0.7s,mb4.8								
PKI	**Pulchoki**	**46.36**	**306**	*e*P		**P**	**22 55 20.2**		**-0.8**
PKI				pmax	pmax				
	comp=Z,14nm,0.7s,mb4.8								
KKN	**Kakani**	**46.55**	**306**	*e*P		**P**	**22 55 21.7**		**-0.8**
	comp=Z,21nm,0.6s,mb5.0								
KKN	**Kakani**	**46.55**	**306**	*e*P		**P**	**22 55 21.7**		**-0.8**
KKN				pmax	pmax				
	comp=Z,21nm,0.6s,mb5.0								
GKN	**Gorkha**	**47.16**	**306**	*e*P		**P**	**22 55 26.4**		**-0.9**
	comp=Z,17nm,0.7s,mb4.9								
KOLN	**Koldanda**	**47.90**	**306**	*e*P		**P**	**22 55 32.1**		**-0.9**
	comp=Z,46nm,0.6s,mb5.5								
SONM	**Songino Array**	**48.14**	**342**	P		**P**	**22 55 34.7**		**-0.2**
	comp=Z,0.9nm,0.6s,mb3.8,baz=155,slow=9.6,SNR=10								
WMQ	**Urumqi**	**53.39**	**326**	⇑P		**P**	**22 56 14.6**		**+0.3**
WMQ				PCP	PcP		22 57 21.1		+0.4
WMQ				PP	PP		22 58 16.9		+1.6
WMQ				*e*S	**S**		**23 03 42.1**		**+1.2**
WMQ				AMB	AMB				
	comp=Z,6.0nm,0.9s,mb4.6								
WMQ				AMB	AMB				
	comp=Z,173nm,3.9s								
WMQ				LR	LR				
	comp=N,139nm,17.2s								
WMQ				LR	LR				
	comp=E,104nm,22.8s								
WMQ				LR	LR				
	comp=Z,61nm,18.3s								
MKAR	**Makanchi Array**	**58.23**	**326**	P		**P**	**22 56 48.3**		**-0.6**
	comp=Z,2.7nm,0.5s,mb4.5,baz=119

EKMR					A			23 03 24.4	
	3.0nm,0.5s								

IDC ***16*** *23:09:48.2±0.6, 1571S×17281W, h0km, mb4.3/10, mb1 4.6/10, mb1mx4.5/16, mbtmp4.3/10, MS4.3/19, Ms1 4.3/19, ms1mx4.2/26, Error ellipse: s-maj=27.3km s-min=16.7km az=127.0*

NEIC ***16*** *23:09:50.1±0.3, 1567S×17299W, h10km, mb4.8/11, MS4.7/1, Error ellipse: s-maj=16.1km s-min=7.5km az=133.0*

BJI ***16*** *23:09:50.1, 1570S×17300W, h10km, mB5.3, mb4.8, Ms5.0, Msz4.6*

ISCJB ***16*** *23:09:51.6±0.3, 1572S±008×17298W±008, h33km, mb4.6/24, MS4.4/23, Error ellipse: s-maj=14.1km s-min=7.9km az=94.5*

MOS ***16*** *23:09:53.9±1.6, 1577S×17328W, h33km, mb5.0/5, Error ellipse: s-maj=21.7km s-min=13.9km az=136.4*

SZGRF ***16*** *23:09:57.3, 1579S×17197W, h50km, Samoa Islands region*

ISC 16 23:09:53.6±0.3, 1571S±008×17291W±008, h35km, n121, σ1§00/50, mb4.6/24, MS4.4/23, 1D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.10**	**32**	Pn	**Pn**	**23 10 19.6**	**-6.6**
	45nm,0.3s,baz=14,slow=4.2,SNR=18						
AFI				Sn	**Sn**	**23 10 41.0**	**-10**
	327nm,0.3s,baz=55,slow=18,SNR=15						
AFI	**Afiamalu**	**2.10**	**32**	ePn	**Pn**	**23 10 18.9**	**-7.3**
RAO	**Raoul Island**	**14.24**	**198**	LR	LR	23 16 38.0	
	comp=Z,390nm,21.6s,baz=338,slow=29						
DZM	**Mont Dzumac**	**20.52**	**249**	P	**P**	**23 14 28.3**	**-0.4**
	7.6nm,0.8s,baz=87,slow=17,SNR=3.1						
DZM				LR	LR	23 21 05.5	
	comp=Z,2μm,19.8s,MS4.4,baz=16,slow=33						
PPT	**Papeete**	**22.43**	**98**	eLQ		23 19 00.2	
	1μm,33.2s						
PPT				eLR	LR	23 19 59.3	
	2μm,26.2s,baz=263						
PPT	**Papeete**	**22.43**	**98**	LR	LR	23 20 52.0	
	comp=Z,864nm,18.3s,MS4.2,baz=254,slow=30						
TBI	**Tubuai**	**23.35**	**113**	eLQ		23 19 11.4	
	1μm,31.0s						
TBI				eLR	LR	23 20 33.1	
	2μm,26.5s,baz=291						
URZ	**Urewera**	**24.12**	**200**	P	**P**	**23 15 06.1**	**0.0**
	8.5nm,0.7s,mb4.3,baz=340,slow=8.8,SNR=3.6						
URZ				LR	LR	23 23 44.8	
	comp=Z,525nm,19.6s,MS4.0,baz=10,slow=35						
PMOR	**Pomariorio Ree**	**24.13**	**92**	eP	**P**	**23 15 04.7**	**-1.4**
	22nm,1.3s,mb4.4						
HNR	**Honiara**	**27.20**	**280**	LR	LR	23 25 01.6	
	comp=Z,2μm,18.5s,MS4.6,baz=175,slow=34						
RPZ	**Rata Peaks**	**31.07**	**203**	P	**P**	**23 16 10.0**	**+1.6**
	2.6nm,0.4s,mb4.4,baz=344,slow=23,SNR=2.1						
TAOE	**Nuku Hiva Isla**	**32.70**	**82**	eLR	LR	23 24 39.3	
	3μm,27.8s						
RKT	**Rikitea**	**36.45**	**108**	eLR	LR	23 26 31.6	
	1μm,27.0s,baz=277						
CTA	**Charters Tower**	**39.03**	**257**	LR	LR	23 31 34.3	
	comp=Z,630nm,19.5s,MS4.5,baz=294,slow=33						
CTAO	**Charters Tower**	**39.03**	**257**	eP	**P**	**23 17 16.3**	**-0.6**
PMG	**Port Moresby**	**39.43**	**274**	LR	LR	23 29 40.5	
	comp=Z,198nm,18.7s,MS4.0,baz=288,slow=30						
TAU	**Tasmania Unive**	**43.41**	**223**	P	**P**	**23 17 51.6**	**-1.2**
STKA	**Stephens Creek**	**44.29**	**240**	eP	**P**	**23 17 57.3**	**-2.6**
	6.4nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**44.29**	**240**	P	**P**	**23 17 57.2**	**-2.7**
	12nm,0.9s,mb4.7,baz=76,slow=8.2,SNR=23						
STKA				LR	LR	23 35 59.6	
	comp=Z,263nm,18.1s,MS4.2,baz=306,slow=35						
WB2	**Warramunga Arr**	**50.22**	**257**	eP	**P**	**23 18 45.9**	**-0.2**
WRAB	**Tennant Creek**	**50.22**	**257**	eP	**P**	**23 18 46.8**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
WRAB	**Tennant Creek**	**50.22**	**257**	eP	**P**	**23 18 46.8**	**+0.7**
	comp=Z,4.2nm,0.5s,mb4.7						
WRA	**Warramunga Arr**	**50.23**	**257**	eP	**P**	**23 18 46.5**	**+0.4**
	comp=Z,2.4nm,0.7s,mb4.3,baz=92,slow=7.2,SNR=11						
ASAR	**Alice Springs**	**50.47**	**252**	P	**P**	**23 18 47.3**	**-0.6**
	comp=Z,8.9nm,0.6s,mb5.0,baz=88,slow=7.9,SNR=89						
SBA	**Scott Base**	**62.98**	**185**	eP	**P**	**23 20 18.3**	**+1.6**
SBA				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
SBA	**Scott Base**	**62.98**	**185**	eP	**P**	**23 20 18.3**	**+1.5**
	comp=Z,4.9nm,0.9s,mb4.6						
VNDA	**Vanda**	**63.12**	**186**	P	**P**	**23 20 18.0**	**+0.3**
	comp=Z,2.5nm,1.0s,mb4.3,baz=6.5,slow=6.9,SNR=10						
VNDA				LR	LR	23 44 14.2	
	comp=Z,158nm,18.2s,MS4.2,baz=286,slow=33						
VNDA	**Vanda**	**63.12**	**186**	eP	**P**	**23 20 18.2**	**+0.6**
VNDA				pmax	pmax		
	comp=Z,7.0nm,1.4s						
VNDA	**Vanda**	**63.12**	**186**	eP	**P**	**23 20 18.2**	**+0.6**
	comp=Z,6.8nm,1.4s,mb4.6						
MBWA	**Marble Bar**	**63.73**	**254**	eP	**P**	**23 20 22.7**	**+1.0**
KLBR	**Kellerberrin**	**64.51**	**242**	eP	**P**	**23 20 26.4**	**-0.4**
	comp=Z,12nm,0.8s,mb5.0						
NWAO	**Narrogin (SRO)**	**64.88**	**241**	P	**P**	**23 20 29.3**	**+0.1**
MUN	**Mundaring**	**65.80**	**242**	eP	**P**	**23 20 35.6**	**+0.4**
JHJ	**Hachijo jima 2**	**66.32**	**318**	LR	LR	23 44 11.1	
	comp=Z,102nm,21.1s,MS4.0,baz=97,slow=31						
MJAR	**Matsushiro Arr**	**69.48**	**320**	P	**P**	**23 20 60.0**	**+1.6**
	comp=Z,0.8nm,0.3s,mb4.1,baz=146,slow=4.8,SNR=6.6						
MJAR				LR	LR	23 44 27.6	
	comp=Z,242nm,21.9s,MS4.4,baz=40,slow=30						
CASY	**Casey**	**70.32**	**205**	eP	**P**	**23 21 03.3**	**-0.3**
ASAJ	**Asahikawa**	**72.05**	**328**	LR	LR	23 46 33.0	
	comp=Z,190nm,21.9s,MS4.3,baz=186,slow=31						
YSS	**Yuzh-Sakhalins**	**73.99**	**330**	P	**P**	**23 21 34.0**	**+8.5**
NVAR	**Mina Array Bea**	**74.24**	**42**	P	**P**	**23 21 27.4**	**+0.4**
	comp=Z,2.8nm,0.8s,mb4.3,baz=234,slow=12,SNR=9.0						
NVAR	**Mina Array Bea**	**74.24**	**42**	P	**P**	**23 21 27.4**	**+0.4**
QSPA	**South Pole Qui**	**74.33**	**180**	eP	**P**	**23 21 26.8**	**-0.7**
	comp=Z,11nm,1.0s,mb4.8						
MSU	**Marysvale**	**78.32**	**44**	eP	**P**	**23 21 51.7**	**+1.6**
BMO	**Blue Mountains**	**78.59**	**37**	eP	**P**	**23 21 52.0**	**+0.4**
	comp=Z,2.3nm,0.9s,mb4.1						
TTA	**Tatalina**	**79.50**	**8**	eP	**P**	**23 21 57.4**	**+0.8**
TTA				pmax	pmax		
	comp=Z,30nm,1.5s,mb5.0						
TTA	**Tatalina**	**79.50**	**8**	eP	**P**	**23 21 57.4**	**+0.8**
	comp=Z,30nm,1.5s,mb5.0						
MDJ	**Mudanjiang**	**79.56**	**322**	P	**P**	**23 21 57.1**	**+0.2**
MDJ				AP	pP	23 22 00.4	-7.5
MDJ				PP	PP	23 24 57.1	-0.6
MDJ				S	S	23 31 59.8	+3.6
MDJ				SCS	ScS	23 32 20.4	+2.5
MDJ				SS	SS	23 37 08.1	+3.7
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,173nm,5.1s						
MDJ				LR	LR		
	comp=N,136nm,21.0s,MS4.4						
MDJ				LR	LR		
	comp=E,120nm,20.1s,MS4.4						
MDJ				LR	LR		
	comp=Z,233nm,20.1s,MS4.5						
MNTX	**Cormudas Mount**	**80.03**	**53**	eP	**P**	**23 21 59.3**	**-0.2**
	comp=Z,7.4nm,1.4s,mb4.4						
CHMT	**Chamberlain Mo**	**82.09**	**37**	eP	**P**	**23 22 09.8**	**-0.7**
PDAR	**Pinedale Array**	**82.18**	**42**	P	**P**	**23 22 10.8**	**-0.1**
	comp=Z,1.8nm,0.8s,mb4.0,baz=253,slow=1.5,SNR=10						
PDAR				LR	LR	23 52 02.5	
	comp=Z,272nm,19.2s,MS4.6,baz=250,slow=31						
SMCO	**Snowmass**	**82.19**	**46**	eP	**P**	**23 22 12.0**	**+1.1**
	comp=Z,12nm,1.3s,mb4.7						
SMCO				ePcP	PcP	23 22 16.4	+0.2
COLA	**College**	**82.58**	**11**	eP	**P**	**23 22 10.9**	**-2.1**
COLA				*e*		23 22 17.3	
COLA				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
COLA	**College**	**82.58**	**11**	eP	**P**	**23 22 10.9**	**-2.1**
	comp=Z,14nm,0.9s,mb5.0						
COLA				ePcP	PcP	23 22 17.3	-0.7
ILAR	**Eielson Array**	**82.66**	**11**	P	**P**	**23 22 12.6**	**-0.8**
	comp=Z,3.3nm,0.7s,mb4.5,baz=222,slow=5.9,SNR=30						
DAWY	**Dawson**	**83.61**	**14**	eP	**P**	**23 22 18.0**	**-0.3**
GCMT	**Greycliff**	**83.62**	**39**	eP	**P**	**23 22 19.2**	**+0.8**
CBKS	**Cedar Bluff**	**87.14**	**48**	eP	**P**	**23 22 35.3**	**-0.7**
MAW	**Mawson**	**87.65**	**198**	LR	LR	00 00 03.6	
	comp=Z,253nm,20.2s,MS4.6,baz=82,slow=34						

HHC	**Hu-ho-hao-te**	**89.58**	**313**	*e*P	**P**	**23 22 47.4**	**-0.1**
HHC				AP	pP	23 22 52.1	-6.5
HHC				XP	sP	23 22 55.0	-7.6
HHC				PP	PP	23 26 22.6	+3.3
HHC				SKS		23 33 15.6	
HHC				S		23 33 36.0	
HHC				SS	SS	23 39 35.4	+3.1
HHC				AMB	AMB		
	comp=Z,14nm,1.2s,mb5.2						
HHC				AMB	AMB		
	comp=Z,303nm,6.5s						
HHC				LR	LR		
	comp=N,504nm,19.4s,MS5.0						
HHC				LR	LR		
	comp=E,276nm,20.8s,MS5.0						
HHC				LR	LR		
	comp=Z,303nm,17.2s,MS4.8						
YKA	**Yellowknife Ar**	**90.19**	**23**	P	**P**	**23 22 49.8**	**-0.5**
	comp=Z,0.8nm,0.8s,mb4.1,baz=235,slow=4.8,SNR=12						
YKA				LR	LR	23 55 27.2	
	comp=Z,114nm,19.8s,MS4.3,baz=180,slow=30						
KMI	**Kunming**	**91.59**	**296**	P	**P**	**23 22 59.3**	**+2.5**
KMI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb5.0						
CD2	**Chengdu**	**92.38**	**301**	eP	**P**	**23 22 58.6**	**-1.9**
ULM	**Lac du Bonnet**	**93.88**	**39**	LR	LR	23 59 14.3	
	comp=Z,251nm,19.5s,MS4.7,baz=9.9,slow=32						
SONM	**Songino Array**	**95.39**	**318**	LR	LR	00 00 30.4	
	comp=Z,197nm,19.2s,MS4.6,baz=168,slow=32						
LPAZ	**La Paz**	**99.26**	**110**	LR	LR	23 57 36.6	
	comp=Z,126nm,20.8s,MS4.4,baz=295,slow=29						
ROSC	**El Rosal**	**99.54**	**88**	LR	LR	23 57 06.4	
	comp=Z,180nm,20.1s,MS4.6,baz=201,slow=28						
WMQ	**Urumqi**	**107.43**	**312**	PDIF	Pdif	23 24 06.3	-1.8
WMQ				PP	PP	23 28 36.8	+1.0
WMQ				PP	PP		
	comp=Z,33nm,7.6s						
WMQ				LR	LR		
	comp=N,41nm,19.0s,MS4.0						
WMQ				LR	LR		
	comp=E,14nm,17.6s,MS4.0						
WMQ				LR	LR		
	comp=Z,73nm,19.0s,MS4.3						
KWP	**Kalwaria**	**143.86**	**343**	*e*PKIKP	PKPdf	23 29 24.1	-1.0
MALT	**Malatya**	**144.42**	**315**	*e*PKIKP	PKPdf	23 29 27.0	+0.9
DPC	**Dobruska-Polom**	**144.65**	**350**	*e*PKP	PKPdf	23 29 27.3	+0.8
NIE	**Niedzica**	**144.70**	**345**	*e*PX	PKPdf	23 29 26.5	-0.1
OKC	**Ostrava-Krasne**	**144.80**	**348**	*e*PKP	PKPdf	23 29 27.3	+0.6
MOX	**Moxa**	**144.97**	**355**	*e*PKP	PKPdf	23 29 26.3	-0.7
PRU	**Pruhonice**	**145.28**	**352**	*e*PKP	PKPdf	23 29 28.6	+1.0
NKC	**Novy Kostel**	**145.30**	**354**	*e*PKP	PKPbc	23 29 32.7	+5.3
TNS	**Taunus Mts**	**145.56**	**358**	*e*PKPbc	PKPbc	23 29 28.5	+0.2
MANZ	**Manzenberg**	**145.57**	**354**	*e*PKPbc	PKPbc	23 29 28.9	+0.6
DOU	**Dourbes**	**145.65**	**3**	PKP	PKPdf	23 29 28.4	+0.2
GIVF	**Givet**	**145.65**	**3**	*e*PKP1	PKPbc	23 29 28.1	-0.4
BAIF	**Baives**	**145.66**	**3**	*e*PKP1	PKPbc	23 29 28.4	-0.2
	comp=Z,11nm,0.8s						
ROTZ	**Rotzenmuhle**	**145.78**	**354**	*e*PKPbc	PKPbc	23 29 29.2	+0.3
KMBO	**Kilima Mbogo**	**145.82**	**243**	PKPbc	PKPbc	23 29 31.1	+2.1
	comp=Z,4.8nm,0.9s,baz=42,slow=8.3,SNR=11						
GRA1	**Grafenberg Arr**	**145.94**	**355**	*e*PKPbc	PKPbc	23 29 30.6	+1.2
GRF	**Grafenberg Arr**	**145.94**	**355**	*e*PKPbc	PKPbc	23 29 30.6	+1.2
WLF	**Walferdange**	**146.13**	**1**	PKP	PKPdf	23 29 30.1	+1.0
KHC	**Kasperske Hory**	**146.25**	**352**	*e*PKP	PKPdf	23 29 31.5	+2.3
KHC				x	x	23 29 43.0	
WET	**Wettzell**	**146.32**	**353**	*e*PKPbc	PKPbc	23 29 31.4	+0.8
ROSF	**Rostrenen**	**146.37**	**13**	*e*PKP1	PKPbc	23 29 29.9	-0.8
FLN	**La Foliniere**	**146.46**	**9**	*e*PKP1	PKPbc	23 29 30.3	-0.7
	comp=Z,17nm,0.9s						
FLN				*e*R			
	comp=Z,134nm,20.8s						
FLN	**La Foliniere**	**146.46**	**9**	*e*PKP	PKPdf	23 29 30.3	+0.7
FLN				LR	LR		
	comp=Z,130nm,20.8s,MS4.7						
GERES	**GERESS Array B**	**146.52**	**352**	PKPbc	PKPbc	23 29 31.4	+0.3
	comp=Z,0.7nm,0.6s,baz=5.7,slow=2.7,SNR=8.5						
SGMF	**Saint Gilles**	**146.59**	**12**	*e*PKP1	PKPbc	23 29 31.2	-0.2
LDF	**La Druitiere**	**146.68**	**9**	*e*PKP1	PKPbc	23 29 30.8	-0.8
BR131	**Keskin Array S**	**146.70**	**321**	*e*PKPab	PKPab	23 29 33.2	+0.4
BRTR	**Keskin Array B**	**146.70**	**321**	PKPbc	PKPbc	23 29 32.5	+0.9
	comp=Z,7.1nm,0.9s,baz=101,slow=2.2,SNR=34						
GRR	**Gorron**	**146.76**	**10**	*e*PKP1	PKPbc	23 29 31.4	-0.5
CDF	**Champ du Feu**	**147.39**	**360**	*e*PKP1	PKPbc	23 29 33.5	-0.1
	comp=Z,19nm,1.1s						
MOA	**Molln**	**147.41**	**351**	*i*P	PKPdf	23 29 34.1	+3.0
	comp=Z,7.5nm,1.3s						
FUR	**Furstenfeldbru**	**147.46**	**355**	*e*PKPbc	PKPbc	23 29 35.5	+1.7
BFO	**Black Forest**	**147.46**	**358**	*e*PKPbc	PKPbc	23 29 34.7	+0.9
LOR	**Lormes**	**148.42**	**4**	*e*PKP1	PKPbc	23 29 36.3	-0.1
	comp=Z,8.5nm,0.7s						
LOR				*e*R			
	comp=Z,156nm,23.0s						
LOR	**Lormes**	**148.42**	**4**	*e*PKP	PKPbc	23 29 36.3	-0.1
LOR				LR	LR		
	comp=Z,160nm,23.0s,MS4.8						
SSF	**Saint Saulge**	**148.60**	**5**	*e*PKP1	PKPbc	23 29 37.0	+0.2
	comp=Z,5.5nm,0.8s						
AVF	**Avril sur Loir**	**148.86**	**5**	*e*PKP1	PKPbc	23 29 37.2	-0.3
	comp=Z,14nm,1.2s						
CABF	**La Chapelle**	**149.18**	**1**	*e*PKP1	PKPbc	23 29 39.0	+0.7
	comp=Z,16nm,1.0s						
TCF	**Toulx Ste Croi**	**149.25**	**7**	*e*PKP1	PKPbc	23 29 38.2	-0.3
LPL	**La Plagne**	**150.29**	**1**	*e*PKP1	PKPbc	23 29 42.2	+1.2
LPG	**La Plagne**	**150.31**	**0**	*e*PKP1	PKPbc	23 29 42.5	+1.4
	comp=Z,12nm,1.0s						
LFF	**La Frestale**	**150.38**	**9**	*e*PKP1	PKPbc	23 29 41.2	0.0
	comp=Z,33nm,1.3s						
CAF	**Calviac**	**150.57**	**7**	*e*PKP1	PKPbc	23 29 41.8	+0.1
ORIF	**Oris-en-Rattie**	**150.87**	**2**	*e*PKP1	PKPbc	23 29 43.0	+0.6
	comp=Z,5.7nm,0.8s						
ORIF				*e*R			
	comp=Z,139nm,21.8s						
VIVF	**Saint-Julien-l**	**150.88**	**4**	*e*PKP1	PKPbc	23 29 42.9	+0.5
	comp=Z,23nm,1.2s						
EIL	**Elat**	**150.88**	**303**	*e*PKPbc	PKPbc	23 29 43.8	+1.3
MBDF	**Montbardon**	**151.08**	**0**	*e*PKP1	PKPbc	23 29 43.5	+0.6
LASF	**Ste Croix**	**151.60**	**5**	*e*PKP1	PKPbc	23 29 44.7	+0.6
	comp=Z,9.1nm,0.9s						
SMRF	**Simiane la Rot**	**151.80**	**2**	*e*PKP1	PKPbc	23 29 45.5	+1.0
	comp=Z,8.5nm,0.7s						
SBF	**Sospel**	**151.94**	**359**	*e*PKP1	PKPbc	23 29 44.7	-0.2
	comp=Z,13nm,0.7s						
ETSF	**Etsaut**	**152.12**	**12**	*e*PKP1	PKPbc	23 29 45.8	+0.5
MTLF	**Montolieu**	**152.15**	**8**	*e*PKP1	PKPbc	23 29 45.6	+0.3
LMR	**La Mourre**	**152.47**	**1**	*e*PKP1	PKPbc	23 29 46.0	0.0
	comp=Z,10nm,1.1s						
PGF	**Pioggiola**	**153.21**	**357**	*e*PKP1	PKPbc	23 29 48.2	+0.5
TORD	**Torodi Ar. Bea**	**174.18**	**115**	PKP	PKPdf	23 29 58.6	-0.8
	comp=Z,1.0nm,1.1s,baz=344,slow=2.6,SNR=3.8						
TORD				PKPab	PKPab	23 31 30.0	-1.3
	comp=Z,0.7nm,0.8s,baz=232,slow=4.1,SNR=2.7						

ISCJB ***16*** *23:16:26.9±1.0, 25N±0.1×958E±02, h33km, mb3.9/7, Error ellipse: s-maj=26.2km s-min=13.2km az=112.0*

IDC ***16*** *23:16:26.4±3.8, 286N×9633E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, Error ellipse: s-maj=148.7km s-min=23.8km az=60.0*

NEIC ***16*** *23:16:28.3±0.9, 246N×9578E, h30km, mb3.8/2, Error ellipse: s-maj=25.0km s-min=12.2km az=57.0*

ISC 16 23:16:29.4±1.0, 25N±01×958E±02, h35km, n11, σ0§88/11, mb3.9/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.58**	**60**	*e*Pn	**Pn**	**23 17 50.1**	**+0.2**
LSA	**Lhasa**	**27.42**	**351**	P	**P**	**23 22 11.7**	**0.0**
ENH	**Enshi**	**30.52**	**24**	eP	**P**	**23 22 34.8**	**-4.5**
	9.6nm,0.3s,mb5.1						
MBWA	**Marble Bar**	**33.19**	**136**	eP	**P**	**23 23 01.2**	**-1.6**
WRA	**Warramunga Arr**	**43.90**	**122**	P	**P**	**23 24 33.4**	**+0.8**
	0.5nm,0.7s,mb3.4,baz=300,slow=9.0,SNR=2.9						
WRAB	**Tennant Creek**	**43.91**	**122**	eP	**P**	**23 24 32.9**	**+0.2**
	1.2nm,0.6s,mb3.8						
ASAR	**Alice Springs**	**45.29**	**127**	P	**P**	**23 24 44.2**	**+0.6**
	0.3nm,0.5s,mb3.4,baz=301,slow=8.1,SNR=4.4						
MKAR	**Makanchi Array**	**45.67**	**347**	P	**P**	**23 24 47.0**	**+0.4**
	0.9nm,0.5s,mb4.0,baz=157,slow=9.3,SNR=16						
SONM	**Songino Array**	**46.09**	**10**	P	**P**	**23 24 48.6**	**-1.4**
	0.8nm,0.6s,mb3.9,baz=192,slow=9.0,SNR=8.9						
BRVK	**Borovoye**	**54.64**	**341**	P	**P**	**23 25 56.0**	**+1.3**
ZRNK	**Zerenda**	**54.97**	**341**	eP	**P**	**23 25 56.4**	**-0.6**
	0.6nm,0.6s,mb3.8						

WEL 16 23:22:05.5±0.7, 3671S×17711E, h5km, ML4.0/12, Error ellipse: s-maj=5.4km s-min=4.8km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.82**	**176**	P*	Pb	23 22 20.4	-1.8
MYRZ	**Mayor Island**	**0.90**	**230**	P*	Pb	23 22 22.5	-1.1
KUZ	**Kuaotunu**	**1.12**	**268**	P*	Pb	23 22 26.2	-1.1
KUZ				S*	Sb	23 22 41.1	-1.0
TGRZ	**Tauranga**	**1.23**	**213**	P*	Pb	23 22 27.1	-2.0
URZ	**Urewera**	**1.55**	**180**	P*	Pb	23 22 31.6	-3.1
MKAZ	**Moumakai**	**1.61**	**255**	PN	Pn	23 22 34.2	-0.3
TOZ	**Tahuroa Road**	**1.64**	**231**	P*	Pb	23 22 33.7	-2.5
HIZ	**Hauiti**	**2.54**	**224**	PN	Pn	23 22 46.6	-0.7

ISCJB ***16*** *23:25:34.6±2.3, 314S±01×1793W±02, h152km±22km, mb4.1/5, Error ellipse: s-maj=27.3km s-min=16.6km az=26.9*

IDC ***16*** *23:25:36.0±7.7, 3145S×17925W, h156km±62km, mb3.8/2, mb1 3.9/3, mb1mx3.7/12, mbtmp4.2/3, Error ellipse: s-maj=60.9km s-min=32.1km az=38.0*

NEIC ***16*** *23:25:37.2±2.1, 3134S×17932W, h169km±20km, mb4.1/3, Error ellipse: s-maj=23.1km s-min=15.8km az=104.0*

ISC 16 23:25:36.4±2.1, 315S±01×1793W±02, h153km±20km, n14, σ0§92/10, mb4.1/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.38**	**202**	P	**Pn**	**23 27 23.1**	**+1.6**
	1.1nm,0.3s,baz=72,slow=19,SNR=6.1						
URZ				S	**Sn**	**23 28 42.8**	**-1.2**
	3.8nm,0.3s,baz=353,slow=21,SNR=15						
AFI	**Afiamalu**	**18.80**	**23**	P	**P**	**23 29 43.6**	**-0.6**
ASAR	**Alice Springs**	**41.92**	**269**	P	**P**	**23 33 12.1**	**+0.2**
	1.1nm,0.4s,mb3.9,baz=106,slow=7.3,SNR=14						
WRAB	**Tennant Creek**	**43.01**	**274**	eP	**P**	**23 33 20.4**	**-0.2**
	4.2nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**43.01**	**274**	P	**P**	**23 33 20.7**	**+0.1**
	2.8nm,0.4s,mb4.3,baz=113,slow=7.8,SNR=11						
SBA	**Scott Base**	**46.89**	**184**	eP	**P**	**23 33 47.0**	**-4.3**
VNDA	**Vanda**	**46.92**	**186**	eP	**P**	**23 33 51.0**	**-0.5**
	2.7nm,0.8s,mb3.9						
QSPA	**South Pole Qui**	**58.64**	**180**	eP	**P**	**23 35 18.9**	**+1.5**
	3.3nm,0.9s,mb4.2						
SNAA	**Sanae**	**77.12**	**179**	P	**P**	**23 37 12.2**	**-0.7**
JOF	**Joensuu**	**142.97**	**337**	*e*p	PKPdf	23 44 42.9	-8.9
	3.4nm,1.0s						
KAF	**Kangasniemi**	**145.15**	**339**	*e*p	PKPbc	23 44 51.3	-4.2
	1.3nm,0.5s						
NB2	**NORSAR Subarra**	**149.62**	**350**	PKPa	PKPdf	23 45 05.0	+2.0
	comp=Z,0.6nm,0.5s,baz=14,slow=4.1						
NOA	**NORSAR Array B**	**149.62**	**350**	PKPbc	PKPdf	23 45 05.2	+2.1
	comp=Z,0.7nm,0.5s,baz=17,slow=4.2,SNR=4.6						
TORD	**Torodi Ar. Bea**	**161.74**	**183**	PKPab	PKPab	23 46 05.0	-0.2
	comp=Z,0.4nm,0.7s,baz=170,slow=3.9,SNR=7.8						

IDC 16 23:34:36.9±15.0, 1969N×10836W, h0km, mb3.2/3, mb1 3.6/3, mb1mx3.5/16, mbtmp3.2/3, Error ellipse: s-maj=358.6km s-min=142.7km az=127.0, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDAR	**Pinedale Array**	**23.03**	**358**	P	P	23 39 43.9	+0.3
	0.4nm,0.7s,baz=178,slow=6.9,SNR=3.6						
YKA	**Yellowknife Ar**	**42.99**	**356**	P	P	23 42 37.8	0.0
	0.3nm,0.8s,baz=171,slow=7.9,SNR=6.9						
ILAR	**Eielson Array**	**51.79**	**340**	P	P	23 43 45.8	-0.6
	0.2nm,0.5s,baz=148,slow=5.5,SNR=4.5						

ISCJB ***16*** *23:44:26.1±0.9, 3755N±004×2078E±004, h6km±6km, mb3.1/1, Error ellipse: s-maj=6.4km s-min=4.9km az=48.9*

CSEM ***16*** *23:44:27.7±0.1, 3762N×2078E, h2km, ML3.6, Error ellipse: s-maj=3.4km s-min=1.9km az=39.0*

THE ***16*** *23:44:27.7, 3744N×2066E, h21km, ML3.2*

ATH ***16*** *23:44:28.1, 3770N×2089E, h17km±2km, MD3.6/8, ML3.7*

NEIC ***16*** *23:44:29.0, 3774N×

0.5nm,0.3s,mb4.0,baz=92,slow=8.5,SNR=7.5
WRAB Tennant Creek 47.91 261 *e*P **P 00 06 50.0 +1.2**
1.4nm,0.5s,mb4.2
WRA Warramunga Arr 47.91 261 P **P 00 06 49.2 +0.4**
0.3nm,0.3s,mb3.8,baz=97,slow=7.7,SNR=5.4
FITZ Fitzroy Crossi 56.34 261 P **P 00 07 52.3 +0.8**
1.3nm,0.7s,mb4.1,baz=40,slow=7.9,SNR=5.4
SBA Scott Base 58.67 185 *e*P **P 00 08 07.9 0.0**
MBWA Marble Bar 61.16 256 *e*P **P 00 08 25.5 +0.5**
QSPA South Pole Qui 70.14 180 *e*P **P 00 09 23.4 +0.5**
1.9nm,0.6s,mb4.2
NVAR Mina Array Bea 78.40 42 P **P 00 10 11.2 +0.2**
0.6nm,0.7s,mb3.6,baz=216,slow=7.4,SNR=4.6
ILAR Eielson Array 87.07 11 P **P 00 10 56.8 +0.7**
0.7nm,0.7s,mb4.0,baz=226,slow=6.2,SNR=7.0
YKA Yellowknife Ar 94.66 24 P **P 00 11 32.0 +0.6**
0.1nm,0.7s,mb3.3,baz=229,slow=3.8,SNR=3.7
YKA Yellowknife Ar 94.66 24 P **P 00 11 32.0 +0.6**
AKASG Malin Array Be 144.01 334 PKP PKPdf 00 17 43.3 -2.6
1.0nm,0.5s,baz=46,slow=5.0,SNR=5.3
GERES GERESS Array B 150.41 349 PKPbc PKPbc 00 18 02.5 +0.7
1.1nm,0.8s,baz=36,slow=3.4,SNR=8.9

*ISCJB **17** 00:06:34.9±0.3, 028N±005×9698E±006, h36km, mb4.5/43, Error ellipse: s-maj=9.2km s-min=6.4km az=105.6*
*MOS **17** 00:06:34.5±0.9, 026N×9691E, h33km, mb4.8/17, Error ellipse: s-maj=13.2km s-min=7.8km az=110.4*
*IDC **17** 00:06:36.4±0.5, 019N×9684E, h36km±3km, mb4.0/15, mb1 4.1/16, mb1mx4.1/18, mbtmp4.2/16, ML3.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/16, Error ellipse: s-maj=18.5km s-min=11.3km az=43.0*
*NEIC **17** 00:06:36.7±0.3, 024N×9694E, mb4.7/18, Error ellipse: s-maj=8.4km s-min=5.5km az=51.0*
*BJI **17** 00:06:43.7, 109N×97.12E, h36km, mb4.3*
ISC 17 00:06:37.5±0.3, 028N±005×9700E±006, h38km, h38km±.9km:pP-P,n78,σ1§01/74, mb4.5/43, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.16**	**38**	Pn		**Pn**	**Pn**	**00 07 22.8**	**-1.9**
	13nm,0.3s,baz=258,slow=7.1,SNR=20								
PSI				LR		LR	LR	00 08 23.4	
	comp=Z,327nm,21.8s,baz=237,slow=33								
KULM	**Kulim**	**6.17**	**36**	*e*Pn		**Pn**	**Pn**	**00 08 04.7**	**-1.4**
PBA	**Port Blair**	**12.06**	**340**	*e*P		x	x	00 23 53.9	
PBA				*e*S		x	x	00 24 05.5	
PBA				*ex*		x	x	00 24 07.5	
	comp=N,289nm,0.3s								
NST	**Nakhon Sawan**	**15.61**	**11**	P		**Pn**	**Pn**	**00 10 13.0**	**-1.6**
CHG	**Chiang Mai**	**18.52**	**6**	⇑P		**Pn**	**Pn**	**00 10 50.2**	**-0.7**
	comp=N,16nm,0.9s								
CHTO	**Chiang Mai**	**18.52**	**6**	*e*P		**Pn**	**Pn**	**00 10 50.0**	**-0.9**
CHTO				pmax		pmax			
	comp=Z,12nm,0.8s								
CHTO	**Chiang Mai**	**18.52**	**6**	*e*P		**Pn**	**Pn**	**00 10 50.0**	**-1.0**
	comp=Z,12nm,0.8s								
KKM	**Kota Kinabalu**	**20.02**	**73**	*e*P		**P**	**P**	**00 11 07.9**	**+1.0**
KKM				*e*				00 11 18.5	
KMI	**Kunming**	**25.32**	**12**	P		**P**	**P**	**00 12 01.8**	**+1.3**
KMI				AMB		AMB			
	comp=Z,13nm,1.1s,mb4.4								
JIRN	**Jiri**	**29.13**	**340**	*e*P		**P**	**P**	**00 12 35.8**	**+1.1**
	comp=Z,9.9nm,0.6s,mb4.7								
GUN	**Gumba**	**29.47**	**340**	*e*P		**P**	**P**	**00 12 39.0**	**+1.3**
	comp=Z,14nm,0.6s,mb4.9								
KKN	**Kakani**	**29.57**	**339**	*e*P		**P**	**P**	**00 12 40.1**	**+1.5**
	comp=Z,22nm,0.8s,mb5.0								
KKN	**Kakani**	**29.57**	**339**	*e*P		**P**	**P**	**00 12 40.1**	**+1.5**
KKN				pmax		pmax			
	comp=Z,22nm,0.8s,mb4.9								
LSA	**Lhasa**	**29.78**	**350**	P		**P**	**P**	**00 12 42.3**	**+1.8**
GKN	**Gorkha**	**30.00**	**338**	*e*P		**P**	**P**	**00 12 43.7**	**+1.2**
	comp=Z,19nm,0.9s,mb4.8								
KOLN	**Koldanda**	**30.20**	**336**	*e*P		**P**	**P**	**00 12 45.7**	**+1.5**
	comp=Z,17nm,0.7s,mb4.9								
FITZ	**Fitzroy Crossi**	**33.57**	**124**	*e*P		**P**	**P**	**00 13 14.0**	**+0.2**
	comp=Z,12nm,0.6s,mb5.0								
NWAO	**Narrogin (SRO)**	**38.14**	**152**	*e*P		**P**	**P**	**00 13 52.8**	**-0.1**
GTA	**Gaotai**	**39.03**	**3**	*e*P		**P**	**P**	**00 14 03.8**	**+3.4**
GTA				AP		pP	pP	00 14 08.8	-2.4
GTA				XP		sP	sP	00 14 11.5	-4.2
GTA				AMB		AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2								
WRA	**Warramunga Arr**	**41.73**	**121**	P		**P**	**P**	**00 14 22.8**	**+0.1**
	comp=Z,11nm,0.7s,mb4.6,baz=300,slow=9.1,SNR=33								
WRA				pP		pP		00 14 33.7	+0.1
	comp=Z,8.9nm,0.8s,baz=299,slow=9.2,SNR=12								
WRAB	**Tennant Creek**	**41.74**	**121**	*e*P		**P**	**P**	**00 14 23.3**	**+0.5**
WRAB				*e**PP		pP		00 14 33.4	-0.3
WRAB				pmax		pmax			
	comp=Z,17nm,0.8s,mb4.7								
WRAB	**Tennant Creek**	**41.74**	**121**	*e*P		**P**	**P**	**00 14 23.3**	**+0.5**
	comp=Z,17nm,0.8s,mb4.7								
WRAB				*ep*P		pP		00 14 33.4	-0.3
WB2	**Warramunga Arr**	**41.74**	**121**	*e*P		**P**	**P**	**00 14 23.1**	**+0.3**
WB2				*e*		pP		00 14 33.9	+0.2
FORT	**Forrest**	**42.71**	**139**	*e*P		**P**	**P**	**00 14 31.6**	**+0.9**
	comp=Z,13nm,0.7s,mb4.8								
ASAR	**Alice Springs**	**43.01**	**126**	P		**P**	**P**	**00 14 33.7**	**+0.5**
	comp=Z,2.5nm,0.6s,mb4.1,baz=296,slow=8.1,SNR=29								
ASAR				pP		pP		00 14 44.3	+0.2
	comp=Z,1.2nm,0.5s,baz=291,slow=8.2,SNR=5.0								
AAK	**Ala-Archa**	**46.76**	**337**	*e*P		**P**	**P**	**00 15 07.2**	**+4.2**
AAK				pmax		pmax			
	comp=Z,5.0nm,0.7s,mb4.5								
AAK	**Ala-Archa**	**46.76**	**337**	*e*P		**P**	**P**	**00 15 07.2**	**+4.2**
	comp=Z,4.6nm,0.7s,mb4.5								
SONM	**Songino Array**	**48.07**	**9**	P		**P**	**P**	**00 15 14.0**	**+0.8**
	comp=Z,2.0nm,0.6s,mb4.3,baz=193,slow=8.8,SNR=18								
SONM				pP		pP		00 15 24.6	+0.4
	comp=Z,5.2nm,0.8s,baz=189,slow=9.1,SNR=16								
SONM				PcP		PcP		00 16 40.4	0.0
	comp=Z,0.7nm,0.5s,baz=191,slow=7.0,SNR=3.5								
SONM				pPcP				00 16 51.8	
	comp=Z,1.1nm,0.7s,baz=191,slow=3.0,SNR=3.7								
SONM	**Songino Array**	**48.07**	**9**	P		**P**	**P**	**00 15 14.0**	**+0.9**
SONM				*PP		pP		00 15 24.6	+0.4
SONM								00 16 40.4	
MK31	**Makanchi Array**	**48.08**	**346**	P		**P**	**P**	**00 15 13.0**	**-0.2**
MK31				pmax		pmax			
	comp=Z,7.0nm,0.6s,mb4.9								
MKAR	**Makanchi Array**	**48.08**	**346**	P		**P**	**P**	**00 15 13.8**	**+0.6**
	comp=Z,3.7nm,0.6s,mb4.6,baz=161,slow=9.2,SNR=26								
MKAR				pP		pP		00 15 24.1	-0.2
	comp=Z,9.8nm,0.6s,baz=154,slow=8.0,SNR=28								
KKAR	**Karatay Array**	**48.79**	**334**	*i* P		**P**	**P**	**00 15 19.1**	**+0.4**
KKAR				pmax		pmax			
	comp=Z,4.0nm,0.9s,mb4.5								
ZAK	**Zakamensk**	**50.20**	**5**	*e*P		**P**	**P**	**00 15 26.2**	**-3.3**
ZAK				pmax		pmax			
	comp=Z,5.0nm,1.6s,mb4.3								
CTA	**Charters Tower**	**52.28**	**116**	P		**P**	**P**	**00 15 45.2**	**+0.2**
	comp=Z,8.3nm,1.0s,mb4.6,baz=314,slow=13,SNR=3.0								
CTA	**Charters Tower**	**52.28**	**116**	P		**P**	**P**	**00 15 45.2**	**+0.2**
CTAO	**Charters Tower**	**52.28**	**116**	*e*P		**P**	**P**	**00 15 45.5**	**+0.4**
CTAO				*e**PP		pP		00 15 56.7	+0.5
CTAO				pmax		pmax			
	comp=Z,15nm,1.2s,mb4.8								
CTAO	**Charters Tower**	**52.28**	**116**	*e*P		**P**	**P**	**00 15 45.5**	**+0.4**
	comp=Z,15nm,1.2s,mb4.8								
CTAO				*ep*P		pP		00 15 56.6	+0.4
OPO	**Ambohidratompo**	**52.36**	**246**	P		**P**	**P**	**00 15 44.9**	**-0.8**
	comp=Z,1.8nm,0.8s,mb4.1,baz=98,slow=8.6,SNR=4.5								
MJAR	**Matsushiro Arr**	**52.51**	**42**	P		**P**	**P**	**00 15 47.4**	**+0.7**
	comp=Z,1.1nm,0.2s,mb4.4,baz=231,slow=6.7,SNR=4.7								
MJAR				pP		pP		00 15 58.1	+0.3
	comp=Z,2.7nm,0.6s,baz=227,slow=6.2,SNR=2.7								
KURK	**Kurchatov**	**52.62**	**345**	*e*P		**P**	**P**	**00 15 47.1**	**-0.5**
KURK				*e**PP		pP		00 15 58.0	-0.7
KURK				pmax		pmax			
	comp=Z,9.0nm,0.8s,mb4.8								
KURK	**Kurchatov**	**52.62**	**345**	*e*P		**P**	**P**	**00 15 47.0**	**-0.5**
	comp=Z,8.6nm,0.8s,mb4.7								
KURK				*ep*P		pP		00 15 58.0	-0.7
STKA	**Stephens Creek**	**52.90**	**131**	P		**P**	**P**	**00 15 48.6**	**-1.0**
	comp=Z,5.9nm,0.6s,mb4.7,baz=308,slow=7.2,SNR=26								
STKA	**Stephens Creek**	**52.90**	**131**	*e*P		**P**	**P**	**00 15 48.6**	**-1.0**
	comp=Z,4.7nm,0.6s,mb4.6								
STKA				*ep*P		pP		00 15 59.1	-1.7
RDF	**Al-Radifah**	**55.09**	**306**	*e*P		**P**	**P**	**00 16 06.2**	**+0.6**
UMR	**Umm Al-Rimmam**	**55.19**	**306**	*e*P		**P**	**P**	**00 16 06.8**	**+0.4**
NAY	**Al-Naaiem**	**55.46**	**306**	*e*P		**P**	**P**	**00 16 08.5**	**+0.2**
NAY				AMb		AMB		00 16 09.1	
	comp=Z,7.0nm,0.6s,mb4.8								
NVS	**Novosibirsk**	**55.54**	**350**	*e*P		**P**	**P**	**00 16 10.8**	**+1.9**
NVS				pmax		pmax			
	comp=N,7.0nm,0.8s								
NVS				pmax		pmax			
	comp=E,7.0nm,0.8s								
NVS				pmax		pmax			
	comp=Z,13nm,0.8s,mb5.0								
MIB	**Mutribah**	**55.59**	**307**	*e*P		**P**	**P**	**00 16 09.8**	**+0.6**
MIB				AMb		AMB		00 16 11.2	
	comp=Z,22nm,0.8s,mb5.2								
VOSK	**Vostochnaya**	**56.60**	**341**	P		**P**	**P**	**00 16 15.8**	**-0.6**
VOSK				pmax		pmax			
	comp=Z,4.0nm,0.7s,mb4.6								
BVA0	**Borovoye Array**	**57.05**	**341**	*i* P		**P**	**P**	**00 16 20.7**	**+1.1**
BVA0				pmax		pmax			
	comp=Z,1.0nm,0.8s,mb3.9								
BRVK	**Borovoye**	**57.11**	**341**	*e*P		**P**	**P**	**00 16 19.6**	**-0.4**
BRVK				*e**PP		pP		00 16 29.6	-1.7
BRVK				pmax		pmax			
	comp=Z,2.0nm,0.6s,mb4.3								
BRVK	**Borovoye**	**57.11**	**341**	*e*P		**P**	**P**	**00 16 19.6**	**-0.4**
	comp=Z,2.4nm,0.6s,mb4.4								
BRVK				*ep*P		pP		00 16 29.6	-1.7
KLR	**Kul'dur**	**57.16**	**26**	*e*P		**P**	**P**	**00 16 20.0**	**-0.4**
ZRNK	**Zerenda**	**57.44**	**340**	*e*P		**P**	**P**	**00 16 20.5**	**-1.9**
ZRNK				*e**PP		pP		00 16 31.8	-1.8
ZRNK				pmax		pmax			
	comp=Z,2.0nm,0.8s,mb4.2								
ZRNK	**Zerenda**	**57.44**	**340**	*e*P		**P**	**P**	**00 16 20.5**	**-1.9**
	comp=Z,1.6nm,0.8s,mb4.1								
ZRNK				*ep*P		pP		00 16 31.8	-1.8
AB31	**Akbulak array**	**58.23**	**332**	*i* P		**P**	**P**	**00 16 26.9**	**-1.0**
AB31				pmax		pmax			
	comp=Z,6.0nm,0.7s,mb4.7								
BOD	**Bodaibo**	**58.95**	**11**	*e*P		**P**	**P**	**00 16 32.6**	**-0.3**
BOD				pmax		pmax			
	comp=Z,8.0nm,1.0s,mb4.7								
KMBO	**Kilima Mbogo**	**59.76**	**269**	P		**P**	**P**	**00 16 37.8**	**-0.7**
	comp=Z,1.6nm,0.6s,mb4.2,baz=56,slow=16,SNR=5.0								
GNI	**Garni**	**61.81**	**317**	P		**P**	**P**	**00 16 51.4**	**-1.1**
HNR	**Honiara**	**63.39**	**101**	P		**P**	**P**	**00 17 03.2**	**+0.2**
KIV	**Kislovodsk**	**64.87**	**320**	*e*P		**P**	**P**	**00 17 12.1**	**-0.6**
KIV				pmax		pmax			
	comp=Z,3.0nm,0.7s,mb4.4								
KIV	**Kislovodsk**	**64.87**	**320**	*e*P		**P**	**P**	**00 17 12.1**	**-0.5**
	comp=Z,3.4nm,0.7s,mb4.5								
MALT	**Malatya**	**65.59**	**313**	*e*P		**P**	**P**	**00 17 17.8**	**+0.4**
MALT				*e**PP		pP		00 17 29.1	+0.3
MALT				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.5								
MALT	**Malatya**	**65.59**	**313**	*e*P		**P**	**P**	**00 17 17.8**	**+0.4**
	comp=Z,4.0nm,0.8s,mb4.5								
MALT				*ep*P		pP		00 17 29.1	+0.3
BR131	**Keskin Array S**	**69.58**	**313**	*e*P		**P**	**P**	**00 17 41.9**	**-0.6**
	comp=Z,0.9nm,0.6s,mb3.9								
BR131				*ep*P		pP		00 17 52.5	-1.5
BRTR	**Keskin Array B**	**69.58**	**313**	P		**P**	**P**	**00 17 41.8**	**-0.8**
	comp=Z,1.4nm,0.7s,mb4.0,baz=136,slow=7.1,SNR=12								
BRTR				pP		pP		00 17 52.5	-1.5
	comp=Z,2.3nm,0.7s,baz=133,slow=6.6,SNR=12								
TIXI	**Tiksi**	**74.12**	**10**	*e*P		**P**	**P**	**00 18 03.2**	**-6.6**
TIXI				*e*				00 18 18.9	
TIXI				pmax		pmax			
	comp=Z,3.0nm,0.9s,mb4.2								
AKASG	**Malin Array Be**	**75.86**	**323**	P		**P**	**P**	**00 18 18.0**	**-1.8**
	comp=Z,1.0nm,0.5s,mb4.0,baz=97,slow=3.8,SNR=6.1								
AKASG				pP		pP		00 18 29.2	-2.2
	comp=Z,3.6nm,0.7s,baz=91,slow=4.9,SNR=7.4								
ARCES	**ARCESS Array B**	**83.33**	**340**	P		**P**	**P**	**00 18 59.9**	**-0.4**
	comp=Z,1.8nm,0.8s,mb4.1,baz=110,slow=7.0,SNR=2.8								
VNDA	**Vanda**	**84.97**	**169**	P		**P**	**P**	**00 19 08.0**	**-0.7**
	comp=Z,0.6nm,0.8s,mb3.8,baz=299,slow=4.4,SNR=4.1								
VNDA	**Vanda**	**84.97**	**169**	P		**P**	**P**	**00 19 08.0**	**-0.7**
GERES	**GERESS Array B**	**85.37**	**319**	P		**P**	**P**	**00 19 09.3**	**-1.4**
	comp=Z,1.8nm,1.2s,mb4.1,baz=111,slow=5.9,SNR=6.6								
GERES				pP		pP		00 19 21.4	-1.1
	comp=Z,1.1nm,0.9s,baz=116,slow=6.1,SNR=4.5								
NB2	**NORSAR Subarra**	**87.70**	**331**	P		**P**	**P**	**00 19 21.4**	**-0.7**
	comp=Z,0.7nm,0.8s,mb3.9,baz=94,slow=4.8								
NOA	**NORSAR Array B**	**87.70**	**331**	P		**P**	**P**	**00 19 20.9**	**-1.3**
	comp=Z,0.7nm,0.8s,mb3.9,baz=74,slow=9.1,SNR=4.2								
NOA				pP		pP		00 19 31.9	-2.1
	comp=Z,1.7nm,0.8s,baz=95,slow=4.8,SNR=6.3								
TORD	**Torodi Ar. Bea**	**95.10**	**283**	P		**P**	**P**	**00 19 56.1**	**-0.4**
	comp=Z,0.4nm,0.7s,mb3.9,baz=99,slow=4.5,SNR=6.5								
YKA	**Yellowknife Ar**	**113.03**	**15**	PP		PP		00 26 00.7	+0.9
	comp=Z,0.1nm,0.6s,baz=329,slow=7.9,SNR=4.3								
YKA				PKKPbc		PKKPbc		00 35 56.3	-0.6
	comp=Z,0.1nm,0.4s,baz=146,slow=2.8,SNR=3.7								
CPUP	**Villa Florida**	**144.19**	**222**	PKP		PKPdf		00 26 08.1	-1.0
	comp=Z,5.0nm,0.5s,baz=100,slow=2.7,SNR=26								
JCT	**Junction City**	**145.49**	**26**	*e*PKPdf		PKPdf		00 26 12.1	+0.7
JCT				*ep*PKPdf		pPKPdf		00 26 23.1	-0.5

*ISCJB **17** 01:00:09.7±0.7, 208S±01×173.44W±009, h33km, mb4.2/11, Error ellipse: s-maj=18.1km s-min=11.7km az=137.2*
*IDC **17** 01:00:09.1±1.0, 2074S×17386W, h0km, mb4.0/6, mb1 4.3/7, mb1mx4.1/14, mbtmp4.1/7, ML2.5/1, MS3.3/1, Ms1 3.3/1, ms1mx2.8/24, Error ellipse: s-maj=36.8km s-min=20.9km az=129.0*
*NEIC **17** 01:00:14.3±0.6, 2065S×17386W, h35km, mb4.4/6, Error ellipse: s-maj=20.5km s-min=10.0km az=135.0*
ISC 17 01:00:12.6±0.6, 208S±01×17349W±009, h35km, n21, σ1§07/20, mb4.2/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.06**	**14**	Pn		**Pn**	**Pn**	**01 01 52.9**	**-0.5**
	4.4nm,0.3s,baz=54,slow=8.7,SNR=3.6								
AFI				Sn		**Sn**		**01 03 00.6**	**-12**
	6.7nm,0.3s,baz=72,slow=22,SNR=4.2								
RAR	**Rarotonga**	**12.82**	**94**	Pn		**Pn**	**Pn**	**01 03 10.8**	**-1.5**
	2.8nm,0.3s,baz=275,slow=12,SNR=5.2								
RAR				LR		LR	LR	01 06 55.3	
	comp=Z,127nm,18.2s,baz=291,slow=31								
DZM	**Mont Dzumac**	**18.72**	**263**	P		**Pn**	**Pn**	**01 04 29.4**	**+0.6**
	1.2nm,0.3s,baz=122,slow=19,SNR=10								
CTAO	**Charters Tower**	**37.66**	**264**	*e*P		**P**	**P**	**01 07 24.6**	**+0.3**
	2.5nm,0.3s,mb4.4								
PMG	**Port Moresby**	**39.54**	**281**	*e*P		**P**	**P**	**01 07 38.7**	**-1.4**
STKA	**Stephens Creek**	**41.47**	**245**	*e*P		**P**	**P**	**01 07 55.0**	**-1.1**
	2.1nm,0.8s,mb3.8								
STKA	**Stephens Creek**	**41.47**	**245**	P		**P**	**P**	**01 07 54.6**	**-1.4**
	2.6nm,0.6s,mb4.0,baz=98,slow=9.5,SNR=7.3								
ASAR	**Alice Springs**	**48.55**	**256**	P		**P**	**P**	**01 08 52.3**	**0.0**
	3.6nm,1.1s,mb4.3,baz=100,slow=7.9,SNR=5.8								
WB2	**Warramunga Arr**	**48.72**	**261**	*e*P		**P**	**P**	**01 08 53.0**	**-0.7**
WRAB	**Tennant Creek**	**48.73**	**261**	*e*P		**P**	**P**	**01 08 52.8**	**-0.8**
	1.8nm,0.4s,mb4.5								
WRA	**Warramunga Arr**	**48.73**	**261**	P		**P**	**P**	**01 08 53.2**	**-0.6**
	1.5nm,0.6s,mb4.2,baz=93,slow=7.7,SNR=6.5								
KAKA	**Kakadu**	**52.20**	**270**	*e*P		**P**	**P**	**01 09 20.0**	**+0.1**
	4.3nm,0.4s,mb4.7								
VNDA	**Vanda**	**58.01**	**186**	P		**P**	**P**	**01 10 03.6**	**+1.8**
	0.7nm,0.9s,mb3.7,baz=19,slow=3.3,SNR=2.1								
VNDA	**Vanda**	**58.01**	**186**	*e*P		**P**	**P**	**01 10 03.5**	**+1.6**
	0.6nm,0.8s,mb3.7								
MBWA	**Marble Bar**	**61.90**	**257**	*e*P		**P**	**P**	**01 10 29.3**	**+0.8**
	4.1nm,0.5s,mb4.8								
MJAR	**Matsushiro Arr**	**73.03**	**321**	P		**P**	**P**	**01 11 39.8**	**+0.9**
	2.4nm,0.8s,mb4.2,baz=156,slow=6.4,SNR=6.0								
NVAR	**Mina Array Bea**	**78.42**	**41**	P		**P**	**P**	**01 12 13.0**	**+3.4**
	1.8nm,0.8s,mb4.1,baz=212,slow=7.0,SNR=7.4								
NVAR	**Mina Array Bea**	**78.42**	**41**	P		**P**	**P**	**01 12 13.0**	**+3.4**
ILAR	**Eielson Array**	**87.75**	**11**	P		**P**	**P**	**01 12 59.4**	**+1.5**
	0.6nm,0.8s,mb3.9,baz=216,slow=6.2,SNR=6.8								
AKASG	**Malin Array Be**	**145.22**	**334**	PKP		PKPdf		01 19 47.3	+0.8
	0.6nm,0.4s,baz=38,slow=4.2,SNR=5.9								
GERES	**GERESS Array B**	**151.44**	**350**	PKPbc		PKPbc		01 20 04.6	+1.8
	0.1nm,0.3s,baz=26,slow=4.7,SNR=2.7								

BJI 17 01:00:44.0, 2989N×11630E, h14km, ML4.0, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WHN	**Wuhan**	**1.81**	**292**	P		PG	Pg	01 01 15.0	-3.7
WHN				SG		Sg		01 01 36.8	-5.4
WHN				Smax					
	comp=N,1μm,0.3s								
WHN				Smax					
	comp=E,1μm,0.3s								

NJ2 Nanjing 3.08 45 *e*PG Pg 01 01 37.0 -5.9
NJ2 SG Sg 01 02 16.4 -6.4
NJ2 Smax
comp=N,2μm,0.9s
NJ2 Smax
comp=E,1μm,0.5s
TIA Tai'an 6.34 6 PG Pg 01 02 37.0 -8.4
TIA SG Sg 01 03 55.0 -13
TIA Smax
comp=N,41nm,1.0s
TIA Smax
comp=E,58nm,1.0s
XAN Xi'an 7.51 305 PG Pn 01 02 57.8 +25
XAN SG Sn 01 04 32.6 +35
XAN Smax
comp=N,70nm,1.1s
XAN Smax
comp=E,56nm,0.9s

*SZGRF **17** 01:02:59.3, 5928N×16653E, h33km, mb4.3, Eastern Siberia, Russia*
*BJI **17** 01:03:02.1, 6131N×16795E, h28km, mB5.6, mb4.9, Ms5.2, Msz4.5*
*KRSC **17** 01:03:03.3±0.4, 6121N×16735E, h1km±3km, ML4.0*
*IDC **17** 01:03:03.5±0.6, 6117N×16714E, h0km, mb4.0/15, mb1 4.2/16, mb1mx4.2/21, mbtmp4.1/16, ML4.1/1, MS3.4/5, Ms1 3.4/5, ms1mx2.9/27, Error ellipse: s-maj=15.9km s-min=12.9km az=60.0*
*MOS **17** 01:03:04.4±1.4, 6137N×16726E, h10km, mb4.5/20, Error ellipse: s-maj=15.0km s-min=8.7km az=87.2*
*NEIC **17** 01:03:05.2±0.4, 6118N×16715E, h10km, mb4.6/22, Error ellipse: s-maj=10.8km s-min=5.0km az=184.0*
*ISCJB **17** 01:03:07.1±0.6, 6126N±003×16715E±007, h35km±6km, mb4.4/37, MS3.4/6, Error ellipse: s-maj=6.1km s-min=5.1km az=104.0*
ISC 17 01:03:09.3±0.5, 6124N±003×16715E±007, h41km±5km, n116, σ1§05/120, mb4.4/37, MS3.4/6, 5C-4D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.97**	**214**	*i* P		**Pn**	**Pn**	**01 03 23.8**	**-2.6**
TILR				*i* S		**Sn**		**01 03 39.0**	**0.0**
KAMR	**Kamenskoye**	**1.30**	**340**	*i* P		**Pn**	**Pn**	**01 03 30.6**	**-0.3**
KAMR				*i* S		**Sn**		**01 03 50.2**	**+3.1**
KAMR				Smax					
	8μm,1.0s								
OSSR	**Ossora**	**2.85**	**227**	*e*P		**Pn**	**Pn**	**01 03 51.8**	**-0.5**
SMKR	**Semkarok**	**5.52**	**215**	*e*P		**Pn**	**Pn**	**01 04 29.4**	**+0.5**
KBTR	**Krutoberegovo**	**5.53**	**206**	*e*P		**Pn**	**Pn**	**01 04 28.5**	**-0.5**
SRKR	**Sorokina**	**5.54**	**217**	*e*P		**Pn**	**Pn**	**01 04 29.6**	**+0.4**
BDR	**Baidarnaya**	**5.61**	**216**	*e*P		**Pn**	**Pn**	**01 04 30.2**	**+0.1**
BKI	**Bering**	**6.09**	**186**	*e*P		**Pn**	**Pn**	**01 04 36.0**	**-0.6**
CIRR	**Tsirk**	**6.13**	**216**	*e*P		**Pn**	**Pn**	**01 04 37.5**	**+0.3**
ZLN	**Zelenaya**	**6.20**	**215**	*e*P		**Pn**	**Pn**	**01 04 39.3**	**+1.1**
KMNR	**Kamenistaya**	**6.58**	**216**	*e*P		**Pn**	**Pn**	**01 04 44.0**	**+0.5**
BILL	**Bilibino**	**6.84**	**357**	⇓*i* PN		**Pn**	**Pn**	**01 04 46.9**	**-0.1**
BILL				pmax		pmax			
	comp=Z,14nm,0.7s								
BILL	**Bilibino**	**6.84**	**357**	*e*Pn		**Pn**	**Pn**	**01 04 46.1**	**-0.9**
	comp=Z,38nm,0.9s								
BILL				*e*Sn		**Sn**		**01 06 03.4**	**-0.2**
BILL	**Bilibino**	**6.84**	**357**	*e*P		**Pn**	**Pn**	**01 04 47.0**	**0.0**
BILL				Smax					
	comp=Z,200nm,1.1s								
FX1	**Attu Island--F**	**8.99**	**156**	Pn		**Pn**	**Pn**	**01 05 12.4**	**-4.1**
	comp=Z,7.7nm,0.3s,baz=348,slow=7.5,SNR=54								
FX1	**Attu Island--F**	**8.99**	**156**	PN		**Pn**		**01 05 12.4**	**-4.1

SSE					AMB	AMB		
	comp=Z,769nm,5.7s							
NJ2	**Nanjing**	**42.66**	**249**	*e*P	**P**		**01 11 02.5**	**+0.7**
NJ2				AP	pP		01 11 13.5	+0.3
NJ2				PP	PP		01 12 44.3	+3.1
NJ2				S	**S**		**01 17 21.0**	**-1.1**
NJ2				XS	sS		01 17 43.0	+1.9
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.6							
NJ2				AMB	AMB			
	comp=Z,790nm,9.9s							
NJ2				LR	LR			
	comp=N,1μm,19.7s							
NJ2				LR	LR			
	comp=E,1μm,26.4s							
NJ2				LR	LR			
	comp=Z,640nm,30.0s							
WALA	**Waterton Lakes**	**43.92**	**69**	*e*P	**P**		**01 11 11.4**	**-0.6**
	comp=Z,6.9nm,0.9s,mb4.4							
BMO	**Blue Mountains**	**45.48**	**75**	*e*P	**P**		**01 11 23.6**	**-0.8**
	comp=Z,3.5nm,0.8s,mb4.2							
CHMT	**Chamberlain Mo**	**45.80**	**70**	*e*P	**P**		**01 11 26.8**	**-0.2**
MOD	**Modoc**	**46.32**	**80**	*e*P	**P**		**01 11 30.5**	**-0.5**
	comp=Z,4.0nm,0.6s,mb4.5							
EGMT	**Eagleton**	**46.55**	**67**	*e*P	**P**		**01 11 32.8**	**0.0**
	comp=Z,5.0nm,0.8s,mb4.5							
KIP	**Kipapa**	**46.55**	**133**	*i* P	**P**		**01 11 41.3**	**+8.4**
ARCES	**ARCESS Array B**	**46.69**	**343**	P	**P**		**01 11 31.8**	**-2.1**
	comp=Z,3.1nm,0.8s,mb4.3,baz=46,slow=10,SNR=5.5							
ARCES	**ARCESS Array B**	**46.69**	**343**	P	**P**		**01 11 31.8**	**-2.1**
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.8s							
WVOR	**Wild Horse Val**	**46.70**	**78**	*e*P	**P**		**01 11 34.3**	**+0.3**
WVOR				pmax	pmax			
	comp=Z,31nm,1.9s,mb4.9							
WVOR	**Wild Horse Val**	**46.70**	**78**	*e*P	**P**		**01 11 34.3**	**+0.3**
	comp=Z,31nm,1.9s,mb4.9							
KURK	**Kurchatov**	**46.88**	**299**	*d i*P	**P**		**01 11 35.9**	**+0.4**
KURK	**Kurchatov**	**46.88**	**299**	*e*P	**P**		**01 11 35.6**	**+0.2**
	comp=Z,7.4nm,1.1s,mb4.5							
MKAR	**Makanchi Array**	**48.26**	**294**	P	**P**		**01 11 45.6**	**-0.6**
	comp=Z,1.3nm,0.5s,mb4.2,baz=42,slow=6.5,SNR=16							
MKAR	**Makanchi Array**	**48.26**	**294**	*i* P	**P**		**01 11 46.0**	**-0.2**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BRVK	**Borovoye**	**48.48**	**307**	*e*P	**P**		**01 11 48.7**	**+0.9**
BRVK				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.4							
BRVK	**Borovoye**	**48.48**	**307**	*e*P	**P**		**01 11 48.7**	**+0.9**
	comp=Z,4.1nm,1.0s,mb4.4							
ZRNK	**Zerenda**	**49.05**	**308**	*e*P	**P**		**01 11 52.3**	**+0.1**
ZRNK				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.6							
ZRNK	**Zerenda**	**49.05**	**308**	*e*P	**P**		**01 11 52.3**	**0.0**
	comp=Z,5.6nm,1.0s,mb4.5							
FLWY	**Flagg Ranch**	**49.12**	**71**	*e*P	**P**		**01 11 53.1**	**+0.3**
	comp=Z,10nm,0.9s,mb4.9							
ELK	**Elko**	**49.61**	**77**	*e*P	**P**		**01 11 57.1**	**+0.6**
ELK				pmax	pmax			
	comp=Z,20nm,1.8s							
ELK	**Elko**	**49.61**	**77**	*e*P	**P**		**01 11 57.1**	**+0.6**
	comp=Z,20nm,1.8s,mb4.8							
NVAR	**Mina Array Bea**	**49.98**	**81**	P	**P**		**01 12 00.1**	**+0.7**
	comp=Z,1.6nm,0.6s,mb4.2,baz=317,slow=6.2,SNR=12							
ARU	**Arti**	**50.05**	**317**	⇑*i*P	**P**		**01 11 58.9**	**-0.9**
ARU				*e*			01 13 51.5	
ARU				*e*S	**S**		**01 19 05.9**	**-2.2**
ARU				*e*SS	SS		01 22 37.0	-4.4
ARU				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.5							
ARU	**Arti**	**50.05**	**317**	*e*P	**P**		**01 11 58.5**	**-1.3**
	comp=Z,10nm,1.3s,mb4.7							
MNV	**Mina**	**50.05**	**81**	*e*P	**P**		**01 12 00.4**	**+0.5**
PDAR	**Pinedale Array**	**50.67**	**71**	P	**P**		**01 12 04.7**	**+0.1**
	comp=Z,3.0nm,0.7s,mb4.3,baz=329,slow=4.1,SNR=21							
ULM	**Lac du Bonnet**	**50.70**	**55**	P	**P**		**01 12 04.3**	**-0.4**
	comp=Z,2.8nm,0.9s,mb4.2,baz=313,slow=9.1,SNR=4.7							
ULM				LR	LR		01 36 37.8	
	comp=Z,45nm,21.6s,MS3.5,baz=4.7,slow=40							
MTUM	**Tungsten Hills**	**50.71**	**82**	*e*P	**P**		**01 12 04.6**	**-0.3**
MSU	**Marysvale**	**52.82**	**76**	*e*P	**P**		**01 12 21.7**	**+1.1**
CCUT	**Cedar City**	**53.03**	**78**	*e*P	**P**		**01 12 23.2**	**+1.0**
SRU	**San Rafael**	**53.12**	**75**	*e*P	**P**		**01 12 23.6**	**+0.8**
SRU				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.6							
SRU	**San Rafael**	**53.12**	**75**	*e*P	**P**		**01 12 23.6**	**+0.8**
	comp=Z,7.5nm,0.8s,mb4.7							
EYMN	**Ely**	**54.27**	**54**	*e*P	**P**		**01 12 30.7**	**-0.5**
	comp=Z,8.5nm,1.1s,mb4.6							
AAK	**Ala-Archa**	**54.96**	**296**	*d i*P	**P**		**01 12 36.4**	**+0.2**
AAK				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.3							
AKTO	**Aktyubinsk**	**55.15**	**313**	LR	LR		01 40 30.0	
	comp=Z,29nm,19.1s,MS3.4,baz=331,slow=41							
WUAZ	**Wupatki**	**55.62**	**78**	*e*P	**P**		**01 12 41.7**	**+0.7**
	comp=Z,9.7nm,1.0s,mb4.8							
NB2	**NORSAR Subarra**	**56.66**	**346**	P	**P**		**01 12 48.5**	**+0.2**
	comp=Z,5.0nm,1.0s,mb4.5,baz=13,slow=7.4							
NOA	**NORSAR Array B**	**56.66**	**346**	P	**P**		**01 12 48.4**	**+0.1**
	comp=Z,3.1nm,0.8s,mb4.4,baz=13,slow=7.3,SNR=8.0							
NOA	**NORSAR Array B**	**56.66**	**346**	P	**P**		**01 12 48.4**	**+0.1**
NOA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
NOA	**NORSAR Array B**	**56.66**	**346**	P	**P**		**01 12 48.4**	**+0.1**
SCHQ	**Schefferville**	**56.68**	**34**	P	**P**		**01 12 49.4**	**+0.9**
	comp=Z,1.4nm,0.8s,mb4.1,baz=320,slow=7.9,SNR=2.6							
ANMO	**Albuquerque**	**58.39**	**74**	⇓*e*P	**P**		**01 13 01.6**	**+1.1**
MNTX	**Cornudas Mount**	**61.58**	**76**	*e*P	**P**		**01 13 23.4**	**+1.0**
	comp=Z,4.6nm,1.1s,mb4.5							
WMOK	**Wichita Mounta**	**62.08**	**68**	*e*P	**P**		**01 13 26.1**	**+0.3**
WMOK				pmax	pmax			
	comp=Z,11nm,1.5s,mb4.8							
WMOK	**Wichita Mounta**	**62.08**	**68**	*e*P	**P**		**01 13 26.1**	**+0.3**
	comp=Z,11nm,1.5s,mb4.8							
AKASG	**Malin Array Be**	**63.44**	**332**	P	**P**		**01 13 34.0**	**-0.8**
	comp=Z,0.6nm,0.4s,mb4.1,baz=23,slow=6.1,SNR=8.0							
AKASG	**Malin Array Be**	**63.44**	**332**	*i* P	**P**		**01 13 34.9**	**+0.1**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
WVT	**Waverly**	**65.65**	**59**	*e*P	**P**		**01 13 50.0**	**+0.8**
WVT				pmax	pmax			
	comp=Z,8.0nm,1.1s,mb4.7							
WVT	**Waverly**	**65.65**	**59**	*e*P	**P**		**01 13 50.0**	**+0.7**
	comp=Z,7.9nm,1.1s,mb4.7							
KWP	**Kalwaria**	**65.85**	**336**	*e*P	**P**		**01 13 51.5**	**+0.9**
KIV	**Kislovodsk**	**65.94**	**319**	*i* P	**P**		**01 13 53.6**	**+2.5**
DPC	**Dobruska-Polom**	**66.33**	**340**	*e*P	**P**		**01 13 58.8**	**+5.2**
ANN	**Anapa**	**66.76**	**323**	*e*P	**P**		**01 13 53.6**	**-2.8**
ANN				pmax	pmax			
	comp=Z,48nm,1.3s,mb5.4							
PRU	**Pruhonice**	**66.96**	**341**	*e*P	**P**		**01 14 03.1**	**+5.4**
GRA1	**Grafenberg Arr**	**67.74**	**343**	*e*P	**P**		**01 14 03.1**	**+0.5**
	comp=Z,2.0nm,1.0s,mb4.1							
GRF	**Grafenberg Arr**	**67.74**	**343**	*e*P	**P**		**01 14 03.1**	**+0.5**
	comp=Z,2.0nm,1.0s,mb4.1							
GRF	**Grafenberg Arr**	**67.74**	**343**	*e*P	**P**		**01 14 03.1**	**+0.5**
GRF				pmax	pmax			
	comp=Z,2.0nm,1.0s,mb4.1							
GRF	**Grafenberg Arr**	**67.74**	**343**	*e*P	**P**		**01 14 03.1**	**+0.5**
GRF				pmax	pmax			
	comp=Z,2.0nm,1.0s,mb4.1							
KHC	**Kasperske Hory**	**67.95**	**342**	*e*P	**P**		**01 14 05.5**	**+1.6**
GERES	**GERESS Array B**	**68.21**	**341**	P	**P**		**01 14 05.7**	**+0.2**
	comp=Z,0.5nm,0.7s,mb3.6,baz=29,slow=6.6,SNR=3.9							
GERES	**GERESS Array B**	**68.21**	**341**	P	**P**		**01 14 05.7**	**+0.2**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
BRTR	**Keskin Array B**	**72.52**	**324**	P	**P**		**01 14 34.1**	**+2.3**
	comp=Z,1.4nm,1.0s,mb3.9,baz=46,slow=3.6,SNR=5.1							
BRTR	**Keskin Array B**	**72.52**	**324**	P	**P**		**01 14 34.2**	**+2.3**
BRTR				pmax	pmax			
	comp=Z,1.0nm,1.0s							
ESDC	**Sonseca Array**	**79.18**	**353**	P	**P**		**01 15 10.8**	**+1.0**
	comp=Z,0.7nm,0.8s,mb3.6,baz=356,slow=8.4,SNR=2.8							
WRAB	**Tennant Creek**	**85.08**	**211**	⇑*e*P	**P**		**01 15 45.8**	**+5.1**
QSPA	**South Pole Qui**	**151.01**	**180**	*e*P	PKPdf		01 22 56.1	+4.2

WEL 17 01:07:33.9±0.6, 3688S×17788E, h104km±6km, ML4.1/5, 1D, Error ellipse: s-maj=3.6km s-min=3.3km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.76**	**154**	PN	Pn	01 07 52.1	0.0
MXZ				*e*SN	Sn	01 08 05.4	-0.4
WIZ	**White Island**	**0.85**	**220**	PN	Pn	01 07 53.1	+0.1
PUZ	**Puketiti**	**1.22**	**166**	PN	Pn	01 07 57.3	+0.2
PUZ				*e*SN	Sn	01 08 15.0	+0.5
MYRZ	**Mayor Island**	**1.37**	**253**	⇓PN	Pn	01 07 59.0	+0.2
MWZ	**Matawai**	**1.48**	**191**	PN	Pn	01 07 59.7	-0.3
MWZ				*e*SN	Sn	01 08 21.0	+1.2
URZ	**Urewera**	**1.50**	**204**	PN	Pn	01 07 59.8	-0.5
URZ				SN	Sn	01 08 20.2	-0.2
TAZ	**Tarawera**	**1.73**	**219**	PN	Pn	01 08 03.8	+0.6
KNZ	**Kokohu**	**2.14**	**184**	PN	Pn	01 08 07.3	-1.0
BKZ	**Black Stump Fm**	**2.53**	**205**	PN	Pn	01 08 12.5	-0.9
BKZ				SN	Sn	01 08 42.8	-1.1
KRVZ	**Karewarewa**	**2.83**	**218**	PN	Pn	01 08 18.6	+1.2
WTVZ	**West Tongariro**	**2.87**	**218**	PN	Pn	01 08 17.6	-0.4
HIZ	**Hauiti**	**2.90**	**235**	PN	Pn	01 08 19.1	+0.8
TWVZ	**Taurewa**	**2.92**	**221**	PN	Pn	01 08 18.4	-0.2
TUVZ	**Tukino**	**2.96**	**216**	PN	Pn	01 08 20.4	+1.2
WPVZ	**Whakapapa**	**2.96**	**218**	*e*PN	Pn	01 08 19.1	-0.1
FWVZ	**Far West T-bar**	**3.00**	**217**	PN	Pn	01 08 18.8	-0.9
MOVZ	**Moawhango**	**3.03**	**213**	*e*PN	Pn	01 08 18.6	-1.4
WNVZ	**Wahianoa**	**3.03**	**216**	*e*PN	Pn	01 08 19.4	-0.7
PXZ	**Pawanui**	**3.24**	**194**	PN	Pn	01 08 20.0	-2.9
TSZ	**Takapari Road**	**3.51**	**205**	PN	Pn	01 08 23.5	-3.0
WAZ	**Wanganui**	**3.66**	**218**	PN	Pn	01 08 27.5	-1.0
BFZ	**Birch Farm**	**4.00**	**198**	PN	Pn	01 08 29.5	-3.6
MRZ	**Mangatainoka R**	**4.18**	**205**	PN	Pn	01 08 31.3	-4.2
MRZ				SN	Sn	01 09 17.8	-5.5
TIWZ	**Tintock**	**4.19**	**201**	*e*PN	Pn	01 08 29.7	-5.9
KIW	**Kapiti Island**	**4.60**	**209**	*e*PN	Pn	01 08 36.4	-4.8
TRWZ	**Traveller**	**4.82**	**200**	PN	Pn	01 08 39.3	-4.8

PDG 17 01:20:53.5±0.5, 4003N×1990E, h8km±2km
TIR 17 01:20:54.3, 4012N×1991E, h17km
NEIC 17 01:20:55.1, 4003N×1997E, h18km, MD3.3(PDG), MD3.5(ATH), After ROM.
ROM 17 01:20:55.1±0.4, 4003N×1997E, h18km±3km, Md3.2/12, Ml3.2/10, Error ellipse: s-maj=6.6km s-min=4.2km az=31.0
ATH 17 01:20:55.9, 3999N×1977E, h23km±3km, MD3.7/9
CSEM 17 01:20:55.7±0.1, 4004N×1982E, h5km, MD3.5, Error ellipse: s-maj=1.6km s-min=1.1km az=2.0
ISCJB 17 01:20:55.6±0.2, 4008N±002×1976E±002, h10km, Error ellipse: s-maj=2.4km s-min=2.0km az=46.8
SKO 17 01:20:57.2, 4015N×1988E, h0km
ISC 17 01:20:56.5±0.2, 4008N±002×1978E±002, h10km, n100, σ1$29/143, 1C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.26**	**140**	*i* Pg	**Pg**	**01 21 00.1**	**-1.7**
SRN				*i* Sg	**Sg**	**01 21 05.9**	**+0.6**
TPE	**Tepelena**	**0.28**	**39**	*i* Pg	**Pg**	**01 20 59.1**	**-3.0**
TPE				*i* Sg	**Sg**	**01 21 03.4**	**-2.5**
KEK	**Kerkira**	**0.36**	**178**	*e*PB	**Pg**	**01 21 02.8**	**-0.9**
KEK	**Kerkira**	**0.36**	**178**	⇑*i*P	**Pg**	**01 21 02.7**	**-1.0**
KEK				*e*S	**Sg**	**01 21 10.4**	**+1.8**
KEK	**Kerkira**	**0.36**	**178**	Pn	**Pg**	**01 21 02.6**	**-1.1**
VLO	**Vlora**	**0.45**	**331**	*i* Pg	**Pg**	**01 21 04.2**	**-1.1**
VLO				*i* Sg	**Sg**	**01 21 15.1**	**+3.9**
LSK	**Leskovik**	**0.63**	**83**	*i* Pg	**Pg**	**01 21 05.4**	**-3.4**
LSK				*i* Sg	**Sg**	**01 21 16.2**	**-0.8**
IGT	**Igoumenitsa**	**0.69**	**142**	*e*P	**Pg**	**01 21 08.2**	**-1.1**
JAN	**Janina**	**0.92**	**117**	*e*PB	**Pg**	**01 21 12.2**	**-2.1**
JAN				*e*SN	**Sg**	**01 21 25.7**	**-0.7**
JAN	**Janina**	**0.92**	**117**	*e*P	**Pg**	**01 21 12.6**	**-1.7**
JAN				*e*S	**Sg**	**01 21 27.6**	**+1.2**
SCTE	**Santa Cesarea**	**1.01**	**270**	Pn	**Pn**	**01 21 15.9**	**-0.8**
SCTE				Sn	**Sn**	**01 21 32.7**	**+1.7**
TIR	**Tirane**	**1.27**	**3**	*e*P	**Pn**	**01 21 20.0**	**-0.3**
TIR				*e*S	**Sb**	**01 21 39.4**	**+2.5**
TIR	**Tirane**	**1.27**	**3**	Pn	**Pn**	**01 21 19.8**	**-0.5**
TIR				*e*S	**Sb**	**01 21 39.3**	**+2.4**
LCI	**Lecce**	**1.30**	**282**	Pn	**Pn**	**01 21 19.9**	**-0.9**
LCI				Sn	**Sn**	**01 21 40.3**	**+2.0**
FNA	**Florina**	**1.41**	**59**	*e*P	**Pn**	**01 21 21.6**	**-0.6**
QSH	**Qafa e Shtames**	**1.45**	**4**	*i* Pn	**Pn**	**01 21 22.0**	**-0.7**
QSH				*i* Sn	**Sn**	**01 21 44.5**	**+2.8**
BIA	**Bitola**	**1.50**	**51**	*e*Pg	**Pn**	**01 21 22.0**	**-1.5**
BIA	**Bitola**	**1.50**	**51**	*e*Pg	**Pn**	**01 21 21.9**	**-1.6**
LKD	**Levkas**	**1.53**	**154**	*e*P	**Pn**	**01 21 25.1**	**+1.3**
LKD				*e*S	**Sn**	**01 21 46.9**	**+3.2**
KZN	**Kozani**	**1.54**	**81**	*e*PN	**Pn**	**01 21 24.0**	**0.0**
KZN	**Kozani**	**1.54**	**81**	⇓*i*P	**Pn**	**01 21 24.2**	**+0.2**
ULC	**Ulcinj**	**1.93**	**348**	⇓*i*Pn	**Pn**	**01 21 27.9**	**-1.4**
ULC				*e*Sn	**Sn**	**01 21 56.6**	**+3.1**
PE1	**Pezze di Greco**	**1.94**	**293**	*e*Pn	**Pn**	**01 21 31.1**	**+1.6**
EVR	**Evrytania**	**1.95**	**126**	*e*PN	**Pn**	**01 21 31.3**	**+1.6**
VLS	**Valsamata**	**2.00**	**161**	*e*PB	**Pn**	**01 21 29.0**	**-1.4**
VLS	**Valsamata**	**2.00**	**161**	*e*P	**Pn**	**01 21 22.2**	**-8.2**
LIT	**Litokhoron**	**2.08**	**89**	*e*P	**Pn**	**01 21 31.7**	**+0.3**
LIT				*e*S	**Sn**	**01 21 58.5**	**+1.2**
LIT	**Litokhoron**	**2.08**	**89**	*e*P	**Pn**	**01 21 31.7**	**+0.3**
LIT				*e*S	**Sn**	**01 21 58.5**	**+1.2**
BRT	**Bari-Castellan**	**2.12**	**293**	Pn	**Pn**	**01 21 31.5**	**-0.5**
GRG	**Griva**	**2.18**	**65**	*e*P	**Pn**	**01 21 33.2**	**+0.4**
AGG	**Agios Georgios**	**2.23**	**117**	*e*P	**Pn**	**01 21 35.1**	**+1.6**
AGG				*e*S	**Sn**	**01 22 03.3**	**+2.1**
SKO	**Skopje**	**2.27**	**33**	*i* Pn	**Pn**	**01 21 34.0**	**0.0**
BUM	**Brajici-Budva**	**2.32**	**344**	⇓*i*Pn	**Pn**	**01 21 33.3**	**+1.5**
BUM				*e*Sn	**Sn**	**01 22 05.5**	**+2.3**
TTG	**Podgorica**	**2.38**	**351**	⇓*i*Pn	**Pn**	**01 21 34.3**	**-1.3**
TTG				*e*Sn	**Sn**	**01 22 07.4**	**+2.6**
RLS	**Riolos of Patr**	**2.41**	**146**	*e*PB	**Pn**	**01 21 35.8**	**-0.1**
STIP	**Stip**	**2.44**	**48**	*i* Pn	**Pn**	**01 21 36.0**	**-0.3**
STIP	**Stip**	**2.44**	**48**	*i* Pn	**Pn**	**01 21 35.9**	**-0.4**
BAI	**Bari**	**2.44**	**296**	*e*Pn	**Pn**	**01 21 35.2**	**-1.2**
VAY	**Valandovo**	**2.46**	**59**	*i* Pn	**Pn**	**01 21 36.9**	**+0.2**
VAY	**Valandovo**	**2.46**	**59**	*i* Pn	**Pn**	**01 21 36.8**	**+0.2**
SG1	**Sgolgore (BA)**	**2.49**	**289**	*e*Pn	**Pn**	**01 21 36.0**	**-1.0**
TIP	**Timpagrande**	**2.50**	**250**	Pn	**Pn**	**01 21 37.6**	**+0.3**
TIP				*e*Sn	**Sn**	**01 22 07.0**	**-0.8**
TIP	**Timpagrande**	**2.50**	**250**	Pn	**Pn**	**01 21 37.6**	**+0.3**
TIP				*e*Sn	**Sn**	**01 22 07.0**	**-0.8**
PVY	**Plav**	**2.52**	**3**	*e*Pn	**Pn**	**01 21 37.1**	**-0.4**
PVY				*e*Sn	**Sn**	**01 22 10.3**	**+2.1**
HCY	**Herceg Novi**	**2.56**	**338**	⇓*i*Pn	**Pn**	**01 21 36.8**	**-1.2**
HCY				*e*Sn	**Sn**	**01 22 10.9**	**+1.7**
AMUR	**Altamura**	**2.56**	**290**	Pn	**Pn**	**01 21 37.6**	**-0.5**
KNT	**Kendrikon**	**2.61**	**64**	*e*P	**Pn**	**01 21 38.8**	**+0.1**
SERS	**Sersale**	**2.61**	**247**	Pn	**Pn**	**01 21 39.3**	**+0.6**
XOR	**Xorichti**	**2.72**	**104**	*e*P	**Pn**	**01 21 41.1**	**+0.8**
NEO	**Neokhori**	**2.77**	**105**	*e*PN	**Pn**	**01 21 41.0**	**+0.1**
IVA	**Berane**	**2.79**	**2**	⇓*i*Pn	**Pn**	**01 21 41.1**	**-0.1**
IVA				*e*Sn	**Sn**	**01 22 16.8**	**+1.8**
NKY	**Niksic**	**2.79**	**348**	*e*Pn	**Pn**	**01 21 40.4**	**-0.9**
NKY				*e*Sn	**Sn**	**01 22 17.3**	**+2.3**
PLG	**Polygyros**	**2.82**	**83**	*e*PN	**Pn**	**01 21 42.4**	**+0.8**
SOH	**Sokhos**	**2.83**	**74**	*e*P	**Pn**	**01 21 42.0**	**+0.3**
SOH				*e*S	**Sn**	**01 22 17.1**	**+1.3**
SOH	**Sokhos**	**2.83**	**74**	*e*P	**Pn**	**01 21 42.0**	**+0.3**
SOH				*e*S	**Sn**	**01 22 17.0**	**+1.2**
SCHR	**S. Chirico Rap** 23nm,0.6s	**2.84**	**274**	Pn	**Pn**	**01 21 42.6**	**+0.6**
CDT	**Castel del Mon**	**2.85**	**292**	*e*Pn	**Pn**	**01 21 41.3**	**-0.8**
LKR	**Lokris**	**2.87**	**119**	*e*PB	**Pn**	**01 21 43.6**	**+1.2**
BRY	**Bratogost**	**2.97**	**342**	⇓*i*Pn	**Pn**	**01 21 42.6**	**-1.1**
BRY				*e*Sn	**Sn**	**01 22 21.1**	**+1.7**
BRY	**Bratogost**	**2.97**	**342**	⇓*i*Pn	**Pn**	**01 21 42.6**	**-1.1**
BRY				*e*Sn	**Sn**	**01 22 21.0**	**+1.7**
PAIG	**Paliouri**	**3.00**	**92**	*e*P	**Pn**	**01 21 43.9**	**-0.2**
PAIG				*e*S	**Sn**	**01 22 19.3**	**-0.7**
PAIG	**Paliouri**	**3.00**	**92**	*e*P	**Pn**	**01 21 43.8**	**-0.3**
PAIG				*e*S	**Sn**	**01 22 19.3**	**-0.7**
PLAC	**Placanica**	**3.06**	**239**	Pn	**Pn**	**01 21 44.0**	**-1.0**
UPM	**Unac-Piva**	**3.19**	**348**	*e*Pn	**Pn**	**01 21 46.1**	**-0.6**
UPM				*e*Sn	**Sn**	**01 22 26.6**	**+1.9**
SLCN	**Sala Consilina** 60nm,0.4s	**3.19**	**277**	Pn	**Pn**	**01 21 47.0**	**+0.3**
STON	**Ston**	**3.20**	**331**	*i* Pn	**Pn**	**01 21 44.3**	**-2.5**
STON				*i* Sn	**Sn**	**01 22 22.6**	**-2.5**
STON	**Ston**	**3.20**	**331**	*i* Pn	**Pn**	**01 21 44.3**	**-2.5**
STON				*i* Sn	**Sn**	**01 22 22.5**	**-2.5**
OUR	**Ouranopolis**	**3.23**	**84**	*e*P	**Pn**	**01 21 46.9**	**-0.3**
MGR	**Morigerati**	**3.24**	**272**	Pn	**Pn**	**01 21 49.6**	**+2.2**
PLE	**Pljevlja**	**3.26**	**355**	*e*Pn	**Pn**	**01 21 47.1**	**-0.6**
PLE				*e*Sn	**Sn**	**01 22 28.1**	**+1.6**
PLE	**Pljevlja**	**3.26**	**355**	*e*Pn	**Pn**	**01 21 47.2**	**-0.5**
PLE				*e*Sn	**Sn**	**01 22 28.1**	**+1.5**
AOS	**Alonnisos**	**3.29**	**105**	*e*P	**Pn**	**01 21 48.5**	**+0.4**
FGMS	**Monte Sant'Ang**	**3.33**	**301**	Pn	**Pn**	**01 21 48.0**	**-0.6**
MS1	**Monte Sant'Ang**	**3.33**	**300**	*e*Pn	**Pn**	**01 21 48.0**	**-0.7**
ITM	**Ithomi**	**3.35**	**149**	*e*PN	**Pn**	**01 21 47.6**	**-1.3**
MRLC	**Muro Lucano** 45nm,0.9s	**3.35**	**283**	Pn	**Pn**	**01 21 49.1**	**+0.2**
CMPR	**Campora**	**3.44**	**275**	Pn	**Pn**	**01 21 50.6**	**+0.5**
CDRU	**Civita di Ruta** 20nm,0.7s	**3.45**	**278**	Pn	**Pn**	**01 21 51.7**	**+1.4**
SGO	**Sicignano** 13nm,0.6s	**3.46**	**279**	Pn	**Pn**	**01 21 50.2**	**-0.2**
SOI	**Samo**	**3.52**	**237**	Pn	**Pn**	**01 21 50.9**	**-0.4**
SOI				Sn	**Sn**	**01 22 33.0**	**-0.1**
	35nm,0.6s						
CEL	**Celeste**	**3.53**	**240**	Pn	**Pn**	**01 21 51.1**	**-0.2**
CEL				Sn	**Sn**	**01 22 33.0**	**-0.1**
	50nm,0.6s						
MCRV	**Calabrutti - M** 41nm,0.8s	**3.59**	**283**	Pn	**Pn**	**01 21 53.6**	**+1.4**
FG5	**Orsara di Pugl**	**3.64**	**291**	Pn	**Pn**	**01 21 54.3**	**+1.4**
MSRU	**Castanea**	**3.78**	**243**	Pn	**Pn**	**01 21 53.8**	**-1.1**
MTTG	**Motta San Giov** 40nm,0.5s	**3.80**	**238**	Pn	**Pn**	**01 21 54.8**	**-0.3**
SACR	**S. Croce Del S** 56nm,0.8s	**4.08**	**290**	Pn	**Pn**	**01 22 00.3**	**+1.4**
SGG	**Gregorio Mates** 39nm,0.6s	**4.31**	**289**	Pn	**Pn**	**01 22 04.2**	**+2.1**
CII	**Carovilli**	**4.46**	**293**	Pn	**Pn**	**01 22 05.5**	**+1.3**
SDI	**San Donato** 17nm,0.7s	**4.81**	**292**	Pn	**Pn**	**01 22 10.2**	**+1.2**
VVLD	**Villa Vallelon** 55nm,0.7s	**5.00**	**293**	Pn	**Pn**	**01 22 11.9**	**+0.4**
TERO	**Teramo**	**5.30**	**301**	Pn	**Pn**	**01 22 15.9**	**+0.2**
NRCA	**Norcia**	**5.72**	**301**	Pn	**Pn**	**01 22 21.7**	**+0.3**
NVLJ	**Novalja**	**5.77**	**323**	*i* Pn	**Pn**	**01 22 20.2**	**-2.0**
NVLJ				*i* Sn	**Sn**	**01 23 24.7**	**-3.8**
CING	**Cingoli**	**5.93**	**306**	Pn	**Pn**	**01 22 23.4**	**-0.9**
ARV	**Arcevia**	**6.15**	**306**	Pn	**Pn**	**01 22 26.4**	**-1.0**
BOJS	**Bojanci**	**6.36**	**330**	*e*Pn	**Pn**	**01 22 29.2**	**-1.1**
BOJS				*i* Sn	**Sn**	**01 23 39.0**	**-4.0**
CEY	**Cerknica**	**6.89**	**327**	*i* Pn	**Pn**	**01 22 36.0**	**-1.5**
CEY				*i* Sn	**Sn**	**01 23 52.8**	**-3.1**
VOY	**Vojsko**	**7.35**	**326**	*e*Pn	**Pn**	**01 22 42.1**	**-1.7**
VOY				*e*Sn	**Sn**	**01 24 03.7**	**-3.5**
PERS	**Pernice**	**7.38**	**334**	*e*Pn	**Pn**	**01 22 42.3**	**-2.0**
PERS	

TIXI					pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.0								
NVS	**Novosibirsk**	**76.97**	**329**	*e*P	**P**		**01 33 11.2**	**-2.0**	
NVS				pmax	pmax				
	comp=N,8.0nm,1.4s								
NVS				pmax	pmax				
	comp=Z,15nm,1.4s,mb4.5								
NVS				pmax	pmax				
	comp=E,9.0nm,1.1s								
KURK	**Kurchatov**	**77.86**	**324**	*e*P	**P**		**01 33 16.9**	**-1.3**	
KURK				pmax	pmax				
	comp=Z,10.0nm,1.1s,mb4.5								
KURK	**Kurchatov**	**77.86**	**324**	*e*P	**P**		**01 33 16.9**	**-1.3**	
	comp=Z,10nm,1.1s,mb4.5								
AAK	**Ala-Archa**	**77.91**	**315**	*e*P	**P**		**01 33 18.9**	**+0.4**	
AAK				pmax	pmax				
	comp=Z,5.0nm,0.9s,mb4.2								
AAK	**Ala-Archa**	**77.91**	**315**	*e*P	**P**		**01 33 18.9**	**+0.4**	
	comp=Z,5.2nm,0.9s,mb4.3								
KKAR	**Karatay Array**	**80.86**	**315**	*i* P	**P**		**01 33 35.0**	**+0.5**	
KKAR				pmax	pmax				
	comp=Z,9.0nm,1.2s,mb4.5								
VOSK	**Vostochnaya**	**83.00**	**324**	P	**P**		**01 33 45.0**	**-0.8**	
VOSK				pmax	pmax				
	comp=Z,7.0nm,1.1s,mb4.4								
MAW	**Mawson**	**83.27**	**202**	P	**P**		**01 33 47.3**	**+0.2**	
	comp=Z,4.8nm,0.8s,mb4.4,baz=48,slow=3.6,SNR=5.9								
MAW				LR	LR				
	comp=Z,72nm,19.5s,baz=244,slow=35								
BVA0	**Borovoye Array**	**83.43**	**324**	*i* P	**P**		**01 33 48.3**	**+0.3**	
BVA0				pmax	pmax				
	comp=Z,3.0nm,1.0s,mb4.1								
BRVK	**Borovoye**	**83.50**	**324**	P	**P**		**01 33 48.5**	**+0.2**	
	comp=Z,65nm,1.0s,mb5.4,SNR=6.8								
BRVK	**Borovoye**	**83.50**	**324**	*e*P	**P**		**01 33 48.5**	**+0.2**	
BRVK				pmax	pmax				
	comp=Z,8.0nm,1.0s,mb4.5								
BRVK	**Borovoye**	**83.50**	**324**	*e*P	**P**		**01 33 48.5**	**+0.2**	
	comp=Z,7.6nm,1.0s,mb4.3								
ZRNK	**Zerenda**	**84.22**	**324**	*e*P	**P**		**01 33 52.0**	**0.0**	
ZRNK				pmax	pmax				
	comp=Z,26nm,1.7s,mb4.8								
ZRNK	**Zerenda**	**84.22**	**324**	*e*P	**P**		**01 33 52.0**	**0.0**	
	comp=Z,26nm,1.7s,mb4.8								
ILAR	**Eielson Array**	**84.51**	**24**	P	**P**		**01 33 51.8**	**-1.7**	
	comp=Z,3.1nm,0.8s,mb4.3,baz=256,slow=5.1,SNR=26								
ILAR				LR	LR		02 11 58.3		
	comp=Z,41nm,18.9s,baz=179,slow=36								
QSPA	**South Pole Qui**	**86.17**	**180**	*e*P	**P**		**01 34 01.4**	**-0.3**	
	comp=Z,9.9nm,0.9s,mb4.7								
DAWY	**Dawson**	**87.40**	**25**	*e*P	**P**		**01 34 08.4**	**+0.6**	
AB31	**Akbulak array**	**89.18**	**319**	*i* P	**P**		**01 34 15.4**	**-0.7**	
AB31				pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.4								
AKTK	**Aktyubinsk**	**90.54**	**320**	P	**P**		**01 34 21.8**	**-0.8**	
AKTO	**Aktyubinsk**	**90.54**	**320**	P	**P**		**01 34 21.8**	**-0.8**	
	comp=Z,2.8nm,0.9s,mb4.4,baz=97,slow=4.0,SNR=9.2								
HUMO	**Hull Mountain**	**94.53**	**48**	*e*P	**P**		**01 34 41.7**	**+0.8**	
	comp=Z,5.8nm,0.6s,mb5.2								
YKA	**Yellowknife Ar**	**98.44**	**27**	P	**P**		**01 34 57.8**	**-0.8**	
	comp=Z,0.3nm,0.8s,mb3.9,baz=281,slow=4.9,SNR=6.1								
YKA				LR	LR		02 16 25.8		
	comp=Z,52nm,19.5s,baz=260,slow=34								
GERES	**GERESS Array B**	**118.59**	**325**	PKP	PKPdf		01 40 09.1	+1.1	
	comp=Z,0.3nm,0.3s,baz=79,slow=2.9,SNR=6.0								
HINF	**Hinteralfeld**	**122.97**	**327**	*e*PKIKP	PKPdf		01 40 16.9	+0.4	
HAU	**Haudompre**	**123.13**	**328**	*e*PKIKP	PKPdf		01 40 18.4	+1.6	
	comp=Z,9.0nm,0.8s								
CABF	**La Chapelle**	**124.11**	**326**	*e*PKIKP	PKPdf		01 40 19.9	+1.2	
	comp=Z,8.2nm,0.9s								
LPG	**La Plagne**	**124.39**	**325**	*e*PKIKP	PKPdf		01 40 20.4	+1.2	
SSF	**Saint Saulge**	**125.22**	**328**	*e*PKIKP	PKPdf		01 40 21.6	+0.8	
	comp=Z,12nm,1.2s								
ORIF	**Oris-en-Rattie**	**125.22**	**325**	*e*PKIKP	PKPdf		01 40 21.7	+0.9	
	comp=Z,3.0nm,0.7s								
SMF	**Signal de Mont**	**125.31**	**328**	*e*PKIKP	PKPdf		01 40 22.7	+1.7	
	comp=Z,6.7nm,0.9s								
AVF	**Avril sur Loir**	**125.48**	**328**	*e*PKIKP	PKPdf		01 40 22.5	+1.2	
HYF	**Humbligny**	**125.54**	**329**	*e*PKIKP	PKPdf		01 40 22.6	+1.2	
LMR	**La Mourre**	**125.77**	**323**	*e*PKIKP	PKPdf		01 40 22.7	+0.9	
	comp=Z,6.3nm,1.0s								
VIVF	**Saint-Julien-l**	**125.95**	**325**	*e*PKIKP	PKPdf		01 40 23.2	+1.0	
SMRF	**Simiane la Rot**	**125.95**	**324**	*e*PKIKP	PKPdf		01 40 23.5	+1.3	
	comp=Z,20nm,1.2s								
TCF	**Toulx Ste Croi**	**126.40**	**328**	*e*PKIKP	PKPdf		01 40 24.1	+1.0	
	comp=Z,13nm,1.0s								
TORD	**Torodi Ar. Bea**	**141.95**	**286**	PKhKP			01 40 48.4		
	comp=Z,0.5nm,0.5s,baz=60,slow=3.3,SNR=10								
LPAZ	**La Paz**	**142.21**	**123**	PKP	PKPdf		01 40 52.0	-0.5	
	comp=Z,0.6nm,0.6s,baz=179,slow=2.8,SNR=5.6								
CPUP	**Villa Florida**	**143.45**	**146**	PKP	PKPdf		01 40 52.5	-2.2	
	comp=Z,1.5nm,0.7s,baz=158,slow=5.9,SNR=4.9								
SDV	**Santo Domingo**	**144.89**	**80**	*e*PKPbc	PKPdf		01 40 58.4	+1.2	
DBIC	**Dimbokro**	**149.20**	**277**	PKPbc	PKPbc		01 41 10.1	+1.4	
	comp=Z,3.6nm,0.7s,baz=92,slow=9.9,SNR=6.9								
DBIC	**Dimbokro**	**149.20**	**277**	PKPbc	PKPbc		01 41 10.1	+1.4	
SAML	**Samuel**	**149.79**	**115**	*e*PKPbc	PKPbc		01 41 10.9	+0.7	

*IDC **17** 01:23:33.8±6.9, 3628N×7095E, h178km±63km, mb3.2/6, mb1 3.3/8, mb1mx3.1/20, mbtmp3.7/8, Error ellipse: s-maj=33.0km s-min=20.8km az=24.0*

*ISCJB **17** 01:23:36.7±1.3, 3654N±008×710E±0.1, h212km±14km, mb3.4/7, Error ellipse: s-maj=19.6km s-min=6.6km az=104.5*

*MOS **17** 01:23:36.3±0.9, 3649N×7095E, h210km, mb3.6/4, Error ellipse: s-maj=17.4km s-min=10.2km az=102.9*

*NEIC **17** 01:23:37.6±1.6, 3650N×7102E, h206km±16km, mb4.2/10, Error ellipse: s-maj=19.1km s-min=6.6km az=56.0*

*NNC **17** 01:23:44.5±5.2, 3712N×7077E, h192km±44km, mb2.7, mpv3.8, Error ellipse: s-maj=52.0km s-min=41.3km az=53.0*

ISC 17 01:23:37.6±1.3, 3653N±008×710E±01, h203km±14km, n47, σ0§82/50, mb3.4/7, 2C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AML	**Almayashu**	**5.97**	**20**	P		**Pn**	**01 25 04.2**	**-0.3**
	SNR=136							
UCH	**Uchtor**	**6.30**	**24**	P		**Pn**	**01 25 08.6**	**-0.1**
	SNR=35							
KZA	**Kyzart**	**6.44**	**29**	P		**Pn**	**01 25 09.8**	**-0.7**
	SNR=12							
EKS2	**Erkin-Say**	**6.49**	**18**	P		**Pn**	**01 25 11.9**	**+0.7**
	SNR=7.5							
KK31	**Karatay Array**	**6.58**	**357**	P		**Pn**	**01 25 11.2**	**-1.1**
	2.7nm,0.3s,baz=180,slow=14,SNR=210							
KK31				⇓S		**Sn**	**01 26 20.3**	**-7.2**
	3.3nm,0.3s,baz=184,slow=23,SNR=7.4							
AAK	**Ala-Archa**	**6.66**	**23**	P		**Pn**	**01 25 13.3**	**-0.1**
	SNR=8.6							
AAK	**Ala-Archa**	**6.66**	**23**	*e*PN		**Pn**	**01 25 12.2**	**-1.2**
AAK				pmax	pmax			
	comp=Z,11nm,0.4s							
AAK	**Ala-Archa**	**6.66**	**23**	*e*Pn		**Pn**	**01 25 12.2**	**-1.2**
	comp=Z,11nm,0.4s							
AAK				*e*Sn		**Sn**	**01 26 25.0**	**-4.4**
ULHL	**Ulahol**	**7.00**	**34**	P		**Pn**	**01 25 17.0**	**-0.8**
	SNR=6.7							
TKM2	**Tokmak 2**	**7.29**	**28**	P		**Pn**	**01 25 21.3**	**-0.3**
	SNR=21							
KUDL	**Kundal**	**9.55**	**150**	*ex*		**Sn**	**01 27 29.9**	**-8.0**
MKAR	**Makanchi Array**	**13.26**	**36**	P		**Pn**	**01 26 37.4**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=210,slow=14,SNR=4.9							
MKAR	**Makanchi Array**	**13.26**	**36**	P		**Pn**	**01 26 37.4**	**-0.7**
KOLN	**Koldanda**	**13.77**	**126**	*e*P		**Pn**	**01 26 44.1**	**-0.4**
	comp=Z,4.6nm,0.3s							
KOLN				*e*S		**S**	**01 29 07.6**	**-10**
KKN	**Kakani**	**14.88**	**122**	*e*P		**Pn**	**01 26 58.4**	**+0.3**
	comp=Z,8.6nm,0.3s							
KKN	**Kakani**	**14.88**	**122**	*e*P		**Pn**	**01 26 58.4**	**+0.3**
KKN				pmax	pmax			
	comp=Z,9.0nm,0.3s							
AB31	**Akbulak array**	**15.07**	**331**	P		**Pn**	**01 27 01.5**	**+1.1**
	comp=Z,1.3nm,0.5s,baz=151,slow=11,SNR=27							
AB31				⇓S		**S**	**01 29 41.8**	**-5.8**
	comp=Z,0.3nm,0.4s,baz=162,slow=22,SNR=4.2							
PKI	**Pulchoki**	**15.11**	**122**	*e*P		**Pn**	**01 27 02.2**	**+1.3**
	comp=Z,11nm,0.5s							
PKI	**Pulchoki**	**15.11**	**122**	*e*P		**Pn**	**01 27 02.2**	**+1.3**
PKI				pmax	pmax			
	comp=Z,11nm,0.5s							
KURK	**Kurchatov**	**15.20**	**19**	*e*Pn		**Pn**	**01 27 03.1**	**+1.1**
	comp=Z,0.5nm,0.3s							
GUN	**Gumba**	**15.22**	**120**	*e*P		**Pn**	**01 27 03.3**	**+1.0**
	comp=Z,9.0nm,0.3s							
JIRN	**Jiri**	**15.59**	**120**	*e*P		**Pn**	**01 27 07.5**	**+0.8**
	comp=Z,18nm,0.4s							
VOSK	**Vostochnaya**	**16.19**	**360**	⇓P		**P**	**01 27 13.4**	**+0.1**
	comp=Z,0.9nm,0.7s							
ZRNK	**Zerenda**	**16.48**	**356**	⇑P		**P**	**01 27 15.8**	**-0.8**
	comp=Z,5.1nm,1.9s							
ZRNK	**Zerenda**	**16.48**	**356**	*e*P		**P**	**01 27 17.3**	**+0.8**
ZRNK				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ZRNK	**Zerenda**	**16.48**	**356**	*e*P		**P**	**01 27 17.2**	**+0.7**
	comp=Z,0.6nm,0.3s							
BVA0	**Borovoye Array**	**16.50**	**359**	⇑P		**P**	**01 27 18.1**	**+1.3**
	comp=Z,1.5nm,2.5s,baz=0.0,slow=0.1,SNR=5.7							
BRVK	**Borovoye**	**16.54**	**358**	*e*P		**P**	**01 27 17.8**	**+0.7**
BRVK				pmax	pmax			
	comp=Z,1.0nm,0.3s							
BRVK	**Borovoye**	**16.54**	**358**	*e*P		**P**	**01 27 17.8**	**+0.6**
	comp=Z,0.6nm,0.3s							
AKTK	**Aktyubinsk**	**16.76**	**330**	P		**P**	**01 27 20.3**	**+0.6**
AKTO	**Aktyubinsk**	**16.76**	**330**	P		**P**	**01 27 20.3**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=167,slow=8.1,SNR=4.8							
LSA	**Lhasa**	**18.17**	**106**	P		**P**	**01 27 34.7**	**-0.3**
MALT	**Malatya**	**25.88**	**284**	*e*P		**P**	**01 28 49.8**	**-0.8**
MALT				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb3.8							
MALT	**Malatya**	**25.88**	**284**	*e*P		**P**	**01 28 49.8**	**-0.8**
	comp=Z,0.8nm,0.4s,mb3.7							
MOS	**Moscow**	**29.65**	**321**	*e*P		**P**	**01 29 25.3**	**+1.2**
ARCES	**ARCESS Array B**	**41.12**	**338**	P		**P**	**01 31 01.8**	**0.0**
	comp=Z,1.6nm,0.8s,mb3.5,baz=121,slow=8.7,SNR=5.4							
ARCES	**ARCESS Array B**	**41.12**	**338**	P		**P**	**01 31 01.8**	**+0.1**
ARCES				pmax	pmax			
	comp=Z,2.0nm,0.9s							
NB2	**NORSAR Subarra**	**44.37**	**323**	P		**P**	**01 31 26.8**	**-0.9**
	comp=Z,0.6nm,0.5s,mb3.2,baz=97,slow=7.9							
NOA	**NORSAR Array B**	**44.37**	**323**	P		**P**	**01 31 27.2**	**-0.5**
	comp=Z,0.8nm,0.5s,mb3.3,baz=96,slow=7.8,SNR=5.5							
NOA	**NORSAR Array B**	**44.37**	**323**	P		**P**	**01 31 27.2**	**-0.5**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
TORD	**Torodi Ar. Bea**	**65.73**	**269**	P		**P**	**01 33 59.1**	**-1.4**
	comp=Z,0.4nm,0.4s,mb3.4,baz=50,slow=5.8,SNR=34							
YKA	**Yellowknife Ar**	**81.22**	**3**	P		**P**	**01 35 30.3**	**-0.4**
	comp=Z,0.3nm,0.5s,mb3.2,baz=351,slow=5.5,SNR=8.7							
YKA	**Yellowknife Ar**	**81.22**	**3**	P		**P**	**01 35 30.3**	**-0.4**
WRA	**Warramunga Arr**	**81.99**	**122**	P		**P**	**01 35 33.7**	**-1.1**
	comp=Z,0.2nm,0.3s,mb3.2,baz=324,slow=4.5,SNR=2.8							
ASAR	**Alice Springs**	**84.26**	**125**	P		**P**	**01 35 45.3**	**-1.1**
	comp=Z,0.5nm,0.7s,mb3.4,baz=306,slow=5.1,SNR=5.0							
ASAR	**Alice Springs**	**84.26**	**125**	P		**P**	**01 35 45.3**	**-1.1**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
TBI	**Tubuai**	**142.81**	**81**	*e*LR		LR	01 41 05.7	
	comp=Z,117nm,26.0s							

*ISCJB **17** 01:30:45.6±0.7, 210S±0.1×17335W±0.10, h33km, mb4.1/9, MS3.8/1, Error ellipse: s-maj=19.4km s-min=12.1km az=143.0*

*IDC **17** 01:30:45.0±2.4, 2103S×17375W, h0km, mb4.0/7, mb1 4.3/7, mb1mx4.1/15, mbtmp4.0/7, MS3.6/2, Ms1 3.6/2, ms1mx2.9/20, Error ellipse: s-maj=141.6km s-min=20.7km az=149.0*

*NEIC **17** 01:30:51.8±0.7, 2089S×17376W, h50km, mb4.4/3, Error ellipse: s-maj=27.2km s-min=11.9km az=135.0*

ISC 17 01:30:48.7±0.6, 211S±01×17338W±009, h35km, n19, σ0§99/18, mb4.1/9, MS3.8/1, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**7.27**	**12**	P		**Pn**	**01 32 28.7**	**-3.7**
	2.7nm,0.3s,baz=210,slow=14,SNR=2.4							
AFI	**Afiamalu**	**7.27**	**12**	*e*Pn		**Pn**	**01 32 32.4**	**0.0**
AFI				*e*Sn		**Sn**	**01 33 39.0**	**-15**
RAR	**Rarotonga**	**12.70**	**93**	Pn		**Pn**	**01 33 46.4**	**-0.3**
	3.5nm,0.3s,baz=267,slow=8.0,SNR=5.9							
DZM	**Mont Dzumac**	**18.79**	**263**	P		**Pn**	**01 35 06.9**	**+1.2**
	1.1nm,0.3s,baz=71,slow=19,SNR=6.5							
CTAO	**Charters Tower**	**37.73**	**264**	*e*P		**P**	**01 38 00.5**	**-0.5**
	1.6nm,0.5s,mb4.0							
STKA	**Stephens Creek**	**41.46**	**245**	P		**P**	**01 38 30.4**	**-1.7**
	1.9nm,0.7s,mb3.8,baz=66,slow=11,SNR=5.2							
ASAR	**Alice Springs**	**48.59**	**257**	P		**P**	**01 39 28.6**	**-0.1**
	1.3nm,0.7s,mb4.1,baz=102,slow=7.7,SNR=14							
WRAB	**Tennant Creek**	**48.79**	**262**	*e*P		**P**	**01 39 30.2**	**0.0**
	2.9nm,0.7s,mb4.4							
WRA	**Warramunga Arr**	**48.80**	**262**	P		**P**	**01 39 29.3**	**-0.9**
	0.5nm,0.3s,mb4.0,baz=96,slow=7.7,SNR=4.7							
FITZ	**Fitzroy Crossi**	**57.23**	**262**	*e*P		**P**	**01 40 32.7**	**+0.3**
	8.3nm,1.0s,mb4.7							
FITZ	**Fitzroy Crossi**	**57.23**	**262**	P		**P**	**01 40 32.5**	**+0.1**
	3.7nm,0.9s,mb4.4,baz=104,slow=8.3,SNR=4.7							
SBA	**Scott Base**	**57.65**	**185**	P		**P**	**01 40 35.6**	**+0.3**
MBWA	**Marble Bar**	**61.94**	**257**	*e*P		**P**	**01 41 05.5**	**+0.6**
NWAO	**Narrogin (SRO)**	**61.98**	**243**	P		**P**	**01 41 05.1**	**0.0**
NVAR	**Mina Array Bea**	**78.53**	**41**	P		**P**	**01 42 49.8**	**+3.5**
	1.9nm,0.8s,mb4.1,baz=210,slow=7.0,SNR=8.7							
PDAR	**Pinedale Array**	**86.46**	**41**	P		**P**	**01 43 30.9**	**+3.3**
	0.8nm,0.9s,mb4.0,baz=232,slow=4.9,SNR=5.4							
PDAR				LR		LR	02 14 52.4	
	comp=Z,40nm,18.8s,MS3.8,baz=79,slow=30							
ILAR	**Eielson Array**	**87.96**	**11**	P		**P**	**01 43 35.9**	**+1.0**
	0.5nm,0.7s,mb3.9,baz=220,slow=5.7,SNR=5.9							
AKASG	**Malin Array Be**	**145.49**	**334**	PKPbc		PKPbc	01 50 23.2	+0.2
	1.8nm,0.6s,baz=44,slow=4.2,SNR=9.2							
GERES	**GERESS Array B**	**151.70**	**350**	PKPbc		PKPbc	01 50 42.1	+2.7
	0.1nm,0.2s,baz=293,slow=5.2,SNR=4.3							

*NEIC **17** 01:46:22.7, 4060S×17433E, h64km, ML3.7(WEL), After WEL.*

WEL 17 01:46:22.4±0.1, 4061S×17435E, h67km±2km, ML3.8/19, 5C-4D, Error ellipse: s-maj=0.9km s-min=0.7km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DUWZ	**D'Urville Isla**	**0.38**	**239**	⇓PN		Pn	01 46 33.1	-0.8
DUWZ				SN		Sn	01 46 41.5	-0.7
KIW	**Kapiti Island**	**0.49**	**122**	⇓PN		Pn	01 46 34.8	-0.1
KIW				SN		Sn	01 46 43.7	-0.4
KIW	**Kapiti Island**	**0.49**	**122**	P		Pn	01 46 35.1	+0.2
KIW				S		Sn	01 46 43.7	-0.4
TCW	**Tory Channel**	**0.61**	**185**	⇑PN		Pn	01 46 36.1	0.0
TCW				SN		Sn	01 46 45.9	-0.3
TCW	**Tory Channel**	**0.61**	**185**	P		Pn	01 46 36.1	0.0
TCW				S		Sn	01 46 45.9	-0.3
MRW	**Makara Radio**	**0.68**	**157**	⇑PN		Pn	01 46 37.1	+0.3
MRW				SN		Sn	01 46 47.5	0.0
MRW	**Makara Radio**	**0.68**	**157**	P		Pn	01 46 37.1	+0.3
CAW	**Cannon Point**	**0.74**	**133**	PN		Pn	01 46 37.6	0.0
CAW				*e*SN		Sn	01 46 48.5	-0.2
CAW	**Cannon Point**	**0.74**	**133**	P		Pn	01 46 37.7	+0.1
CAW				S		Sn	01 46 48.0	-0.7
WEL	**Wellington**	**0.75**	**155**	PN		Pn	01 46 37.7	0.0
WEL	**Wellington**	**0.75**	**155**	P		Pn	01 46 38.1	+0.4
SNZO	**South Karori**	**0.75**	**159**	⇑PN		Pn	01 46 37.8	+0.1
SNZO	**South Karori**	**0.75**	**159**	P		Pn	01 46 38.0	+0.1
SNZO				P			01 46 38.0	
TUWZ	**Tuamarina**	**0.88**	**200**	⇑PN		Pn	01 46 38.9	-0.3
TUWZ				SN		Sn	01 46 51.4	-0.3
BHW	**Baring Head**	**0.89**	**154**	PN		Pn	01 46 39.1	-0.3
BHW	**Baring Head**	**0.89**	**154**	P		Pn	01 46 39.4	0.0
MRZ	**Mangatainoka R**	**0.94**	**94**	⇓PN		Pn	01 46 39.6	-0.3
MRZ				SN		Sn	01 46 52.5	-0.4
MRZ	**Mangatainoka R**	**0.94**	**94**	P		Pn	01 46 39.6	-0.3
NNZ	**Nelson**	**0.96**	**230**	⇑PN		Pn	01 46 40.0	-0.3
NNZ				*e*SN		Sn	01 46 53.6	+0.2
NNZ	**Nelson**	**0.96**	**230**	P		Pn	01 46 40.0	-0.2
WAZ	**Wanganui**	**0.98**	**30**	PN		Pn	01 46 40.7	+0.3
WAZ	**Wanganui**	**0.98**	**30**	P		Pn	01 46 40.8	+0.4
MSWZ	**Moikau Station**	**1.06**	**140**	PN		Pn	01 46 41.2	-0.2
MSWZ	**Moikau Station**	**1.06**	**140**	P		Pn	01 46 43.2	+1.7
PAWZ	**Paruwai Farm**	**1.12**	**134**	PN		Pn	01 46 41.9	-0.4
PAWZ	**Paruwai Farm**	**1.12**	**134**	P		Pn	01 46 44.1	+1.8
CMWZ	**Cape Campbell**	**1.15**	**185**	*e*PN		Pn	01 46 44.0	+1.3
CMWZ	**Cape Campbell**	**1.15**	**185**	P		Pn	01 46 44.3	+1.7
BSWZ	**Blackbirch Sta**	**1.17**	**198**	PN		Pn	01 46 43.4	+0.5
TIWZ	**Tintock**	**1.18**	**99**	PN		Pn	01 46 42.4	-0.6
TRWZ	**Traveller**	**1.28**	**129**	*e*PN		Pn	01 46 44.0	-0.4
NRZ	**Ngariki Road**	**1.31**	**346**	PN		Pn	01 46 44.5	-0.2
NRZ	**Ngariki Road**	**1.31**	**346**	P		Pn	01 46 44.6	-0.1
RAEZ	**Rainy Point**	**1.31**	**1**	PN		Pn	01 46 45.2	+0.3
RAEZ	**Rainy Point**	**1.31**	**1**	P		Pn	01 46 45.3	+0.5
TSZ	**Takapari Road**	**1.34**	**67**	PN		Pn	01 46 44.7	-0.5
TSZ	**Takapari Road**	**1.34**	**67**	P		Pn	01 46 44.7	-0.5
NEZ	**North Egmont**	**1.35**	**351**	*e*PN		Pn	01 46 44.1	-1.1
NEZ	**North Egmont**	**1.35**	**351**	P		Pn	01 46 45.2	0.0
NWEZ	**Newall Road**	**1.38**	**344**	PN		Pn	01 46 45.6	-0.1
NWEZ	**Newall Road**	**1.38**	**344**	P		Pn	01 46 45.6	-0.1
QRZ	**Quartz Range**	**1.40**	**260**	⇓PN		Pn	01 46 45.2	-0.8
QRZ				SN		Sn	01 47 03.3	-0.4
QRZ	**Quartz Range**	**1.40**	**260**	P		Pn	01 46 45.2	-0.8
PKE	**Pukeiti**	**1.44**	**349**	PN		Pn	01 46 46.2	-0.2
PKE	**Pukeiti**	**1.44**	**349**	P		Pn	01 46 46.3	-0.1
BFZ	**Birch Farm**	**1.44**	**94**	PN		Pn	01 46 45.7	-0.8
BFZ	**Birch Farm**	**1.44**	**94**	P		Pn	01 46 45.7	-0.8
MTVZ	**Mangateitei**	**1.49**	**36**	PN		Pn	01 46 47.3	+0.2
VRZ	**Vera Road**	**1.51**	**12**	PN		Pn	01 46 47.4	0.0
VRZ	**Vera Road**	**1.51**	**12**	P		Pn	01 46 47.5	+0.1
PKVZ	**Pokaka**	**1.52**	**31**	PN		Pn	01 46 47.5	0.0
THZ	**Tophouse**	**1.59**	**223**	PN		Pn	01 46 48.8	+0.3
THZ	**Tophouse**	**1.59**	**223**	P		Pn	01 46 49.0	+0.5
TRVZ	**Turoa**	**1.59**	**36**	PN		Pn	01 46 48.7	+0.2
WNVZ	**Wahianoa**	**1.59**	**37**	PN		Pn	01 46 48.8	+0.3
WNVZ	**Wahianoa**	**1.59**	**37**	P		Pn	01 46 48.9	+0.4
MOVZ	**Moawhango**	**1.61**	**42**	PN		Pn	01 46 48.4	-0.3
MOVZ				SN		Sn	01 47 08.8	+0.3
MOVZ	**Moawhango**	**1.61**	**42**	P		Pn	01 46 48.6	-0.1
MOVZ				S		Sn	01 47 09.6	+1.0
DRZ	**Dome Shelter**	**1.62**	**35**	PN		Pn	01 46 49.9	+1.0
DRZ	**Dome Shelter**	**1.62**	**35**	P		Pn	01 46 50.3	+1.4
FWVZ	**Far West T-bar**	**1.63**	**35**	*e*PN		Pn	01 46 49.1	+0.1
FWVZ	**Far West T-bar**	**1.63**	**35**	P		Pn	01 46 49.3	+0.3
TUVZ	**Tukino**	**1.67**	**37**	PN		Pn	01 46 50.1	+0.6
TUVZ	**Tukino**	**1.67**	**37**	P		Pn	01 46 50.3	+0.8
WPVZ	**Whakapapa**	**1.67**	**34**	PN		Pn	01 46 49.6	0.0
WPVZ	**Whakapapa**	**1.67**	**34**	P		Pn	01 46 49.7	+0.1
NGZ	**Ngauruhoe**	**1.72**	**34**	PN		Pn	01 46 50.5	+0.3
NGZ	**Ngauruhoe**	**1.72**	**34**	P		Pn	01 46 50.7	+0.5
TWVZ	**Taurewa**	**1.74**	**29**	PN		Pn	01 46 50.3	-0.2
TWVZ	**Taurewa**	**1.74**	**29**	P		Pn	01 46 50.5	0.0
OTVZ	**Oturere**	**1.76**	**35**	*e*PN		Pn	01 46 50.9	+0.2
WTVZ	**West Tongariro**	**1.77**	**33**	PN		Pn	01 46 51.1	+0.3
KRVZ	**Karewarewa**	**1.80**	**34**	PN		Pn	01 46 51.6	+0.3
KHZ	**Kahutara**	**1.91**	**198**	PN		Pn	01 46 52.8	0.0
KHZ	**Kahutara**	**1.91**

NEIC ***17*** *02:37:11.6±0.6,006N×9676E,h30km,mb4.0/3,Error ellipse: s-maj=19.2km s-min=12.4km az=53.0*

ISC 17 02:37:13.1±0.7,02N×01×969E±01,h35km,n16,σ0886/14, mb3.8/12,MS3.7/1,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.32**	**39**	Pn	**Pn**	**02 38 01.4**	**-1.1**
	1.4nm,0.3s,baz=330,slow=4.0,SNR=4.4						
PSI				LR	LR	02 39 42.3	
	comp=Z,193nm,19.0s,baz=172,slow=44						
WRA	**Warramunga Arr**	**41.81**	**121**	P	**P**	**02 44 59.6**	**+0.3**
	0.3nm,0.3s,mb3.4,baz=300,slow=8.8,SNR=3.0						
ASAR	**Alice Springs**	**43.08**	**126**	P	**P**	**02 45 10.6**	**+1.0**
	0.5nm,0.7s,mb3.4,baz=296,slow=7.9,SNR=7.2						
MKAR	**Makanchi Array**	**48.13**	**347**	P	**P**	**02 45 50.9**	**+1.3**
	3.0nm,0.6s,mb4.5,baz=159,slow=8.1,SNR=28						
SONM	**Songino Array**	**48.17**	**9**	P	**P**	**02 45 51.6**	**+1.8**
	1.0nm,0.8s,mb3.9,baz=196,slow=8.5,SNR=3.9						
OPO	**Ambohidratompo**	**52.20**	**246**	LR	LR	03 02 20.1	
	comp=Z,72nm,21.9s,MS3.7,baz=286,slow=29						
KURK	**Kurchatov**	**52.67**	**346**	*eP*	**P**	**02 46 24.2**	**+0.3**
	1.0nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**52.95**	**131**	P	**P**	**02 46 25.0**	**-0.9**
	1.1nm,0.6s,mb4.0,baz=241,slow=7.6,SNR=3.1						
BRVK	**Borovoye**	**57.15**	**341**	*eP*	**P**	**02 46 55.9**	**-0.3**
	0.8nm,0.8s,mb3.8						
ZRNK	**Zerenda**	**57.48**	**340**	*eP*	**P**	**02 46 58.2**	**-0.4**
	0.7nm,0.3s,mb4.2						
BRTR	**Keskin Array B**	**69.53**	**313**	P	**P**	**02 48 18.4**	**+0.2**
	0.5nm,0.5s,mb3.7,baz=111,slow=6.8,SNR=3.8						
AKASG	**Malin Array Be**	**75.84**	**323**	P	**P**	**02 48 55.2**	**-0.5**
	0.7nm,0.5s,mb3.9,baz=91,slow=5.6,SNR=4.8						
AKASG	**Malin Array Be**	**75.84**	**323**	P	**P**	**02 48 55.2**	**-0.5**
GERES	**GERESS Array B**	**85.34**	**319**	P	**P**	**02 49 45.3**	**-1.3**
	0.1nm,0.2s,mb3.5,baz=134,slow=7.6,SNR=3.7						
NOA	**NORSAR Array B**	**87.71**	**331**	P	**P**	**02 49 57.9**	**-0.2**
	0.9nm,0.8s,mb4.0,baz=95,slow=4.6,SNR=3.1						
CPUP	**Villa Florida**	**144.03**	**222**	PKP	PKPdf	02 56 43.0	-1.9
	0.3nm,0.4s,baz=162,slow=3.2,SNR=2.5						

IDC 17 02:45:29.9±6.6,148N×9923E,h0km,mb3.6/3,mb1 3.8/3, mb1mx3.5/17,mbtmp3.6/3,Error ellipse: s-maj=357.3km s-min=25.9km az=55.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.47**	**124**	P	P	02 53 11.5	+1.2
	0.4nm,0.5s,baz=303,slow=8.8,SNR=3.1						
ASAR	**Alice Springs**	**41.96**	**129**	P	P	02 53 22.0	-0.5
	0.3nm,0.6s,baz=300,slow=7.4,SNR=3.7						
MKAR	**Makanchi Array**	**47.50**	**344**	P	P	02 54 06.7	0.0
	1.4nm,0.5s,baz=154,slow=8.4,SNR=17						

IDC ***17*** *03:06:13.5±0.4,2067S×17407W,h0km,mb5.3/20, mb1 5.4/21,mb1mx5.4/21,mbtmp5.3/21,ML5.8/2,MS5.5/18, Ms1 5.5/18,ms1mx5.3/26,Error ellipse: s-maj=15.8km s-min=10.9km az=148.0*

ISCJB ***17*** *03:06:14.7±0.1,2070S±003×17385W±004,h10km, mb5.6/130,MS5.7/85,Error ellipse: s-maj=5.8km s-min=3.7km az=89.9*

HRVD ***17*** *03:06:16.2±0.1,2074S×17339W,h12km,MW5.8/107, Centroid moment Tensor Solution. LP body waves: s86,c172;Mantle waves: s107,c237; Half duration: 1s9 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.40±.05; $M_{\theta\theta}$0.56±.05; $M_{\phi\phi}$0.83±.05; $M_{r\theta}$-0.15±.12; $M_{r\phi}$3.58±.04; $M_{\theta\phi}$4.40±.12; Best double couple: M_o5.80400×10^{17} NP1:ϕ_s83.00000°,δ39.00000°,λ-14.00000°. NP2: ϕ_s185.00000°,δ81.00000°,λ-128.00000°. Principal axes: T 5.8280, Plg26.0000°, Azm304.0000°; N -0.0470, Plg37.0000°, Azm192.0000°; P -5.7800, Plg41.0000°, Azm60.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***17*** *03:06:16.4±0.1,2063S×17395W,h11km,mb5.8/92, ME5.9,MS5.8/35,MW6.0. Error ellipse: s-maj=6.9km s-min=4.0km az=142.0,Moment Tensor Solution. s43 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.04; $M_{\theta\theta}$-0.19; $M_{\phi\phi}$0.22; $M_{r\theta}$0.22; $M_{\theta\phi}$-0.25; $M_{r\phi}$1.02; Best double couple: M_o1.10000×10^{18} NP1:ϕ_s193.00000°,δ88.00000°, λ-73.00000°. NP2:ϕ_s289.00000°,δ17.00000°, λ-174.00000°. Principal axes: T 1.1200, Plg41.0000°, Azm267.0000°; N -0.0600, Plg17.0000°, Azm13.0000°; P -1.0600, Plg44.0000°, Azm120.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s175.00000°,δ2.00000°, λ90.00000°. NP2:ϕ_s355.00000°,δ88.00000°,λ90.00000°. Principal axes: T Plg47.0000°, Azm265.0000°; N Plg0.0000°, Azm0.0000°; P Plg43.0000°, Azm85.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt on Tonga and the Ha'apai Islands.

BJI ***17*** *03:06:16.1,2060S×17390W,h10km,mB6.1,mb5.3,Ms5.9, Msz5.5*

CRAAG ***17*** *03:06:18.8,2051S×17399W,Mw6.0*

SZGRF ***17*** *03:06:20.4,2059S×17175W,h33km,mb5.9,Tonga Islands region*

MOS ***17*** *03:06:21.2±1.2,1990S×17377W,h33km,mb5.8/62, MS5.6/39,Error ellipse: s-maj=11.7km s-min=7.5km az=75.4*

ISC 17 03:06:16.4±0.1,2072S±003×17383W±003,h11km, h11km±1.8km:pP-P,n725,σ1918/310,mb5.6/130,MS5.7/85, 51C-19D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.05**	**16**	Pn	**Pn**	**03 07 52.2**	**-7.3**
	88nm,0.3s,baz=114,slow=0.0,SNR=31						
AFI				Sn	**Sn**	**03 09 05.7**	**-14**
	94nm,0.3s,baz=233,slow=20,SNR=3.6						
AFI	**Afiamalu**	**7.05**	**16**	P	**Pn**	**03 07 52.2**	**-7.3**
AFI						03 09 05.7	
AFI				pmax	pmax		
	comp=Z,88nm,0.3s						
AFI				smax			
	comp=N,94nm,0.3s						
AFI	**Afiamalu**	**7.05**	**16**	*e*Pn	**Pn**	**03 07 51.2**	**-8.3**
	comp=N,504nm,0.7s						
AFI				*e*Sn	**Sn**	**03 09 03.3**	**-16**
RAO	**Raoul Island**	**9.27**	**203**	Pn	**Pn**	**03 08 28.0**	**-1.9**
	comp=N,266nm,0.3s,baz=266,slow=22,SNR=5.9						
RAO				Sn	**Sn**	**03 10 09.7**	**-4.4**
	comp=N,203nm,0.3s,baz=259,slow=23,SNR=8.6						
RAR	**Rarotonga**	**13.14**	**95**	Pn	**Pn**	**03 09 13.5**	**-9.4**
	comp=N,37nm,0.3s,baz=240,slow=8.4,SNR=37						
RAR				Sn	Sn	03 11 28.1	-21
	comp=N,15nm,0.3s,baz=117,slow=18,SNR=4.5						
RAR				LR	LR	03 13 31.3	
	comp=N,19μm,20.9s,baz=288,slow=33						
BKM	**Butte a Klehm**	**17.20**	**277**	*i*P	**Pn**	**03 10 19.1**	**+2.5**
DZM	**Mont Dzumac**	**18.42**	**262**	P	**Pn**	**03 10 32.3**	**+0.7**
	comp=N,6.3nm,0.3s,baz=83,slow=16,SNR=43						
URZ	**Urewera**	**19.15**	**202**	P	**Pn**	**03 10 39.3**	**-1.2**
	comp=N,8.6nm,0.3s,baz=10,slow=4.8,SNR=30						
URZ				S	**Sn**	**03 14 03.5**	**-12**
	comp=N,3.3nm,0.3s,baz=266,slow=18,SNR=6.6						
URZ	**Urewera**	**19.15**	**202**	P*	**Pn**	**03 10 39.5**	**-1.0**
PATZ	**Paeroa**	**19.57**	**204**	*e*P*	**Pn**	**03 10 45.4**	**-0.1**
HIZ	**Hauiti**	**20.25**	**206**	P*	**P**	**03 10 52.5**	**+1.0**
BFZ	**Birch Farm**	**21.62**	**201**	*e*P*	**P**	**03 11 07.5**	**+1.1**
SNZO	**South Karori**	**22.71**	**203**	*e*P	**P**	**03 11 18.9**	**+0.8**
	comp=N,548nm,1.5s,mb5.8						
SNZO				S	**S**	**03 15 22.9**	**-3.9**
TBI	**Tubuai**	**22.73**	**101**	*e*LQ		03 15 26.2	
	comp=N,46μm,27.5s						
TBI	**Tubuai**	**22.73**	**101**	*e*P	**P**	**03 11 17.0**	**-1.3**
	comp=N,720nm,1.3s,mb5.9						
TBI				*e*LR	LR	03 16 36.0	
	comp=N,26μm,26.5s,baz=274						
PAE	**Paea**	**23.10**	**87**	*e*P	**P**	**03 11 21.2**	**-0.9**
	comp=N,506nm,1.3s,mb5.8						
PPT	**Papeete**	**23.12**	**86**	*e*P	**P**	**03 11 21.7**	**-0.7**
	comp=N,313nm,1.3s,mb5.6						
PPT	**Papeete**	**23.12**	**86**	*e*LQ		03 15 44.6	
	comp=N,54μm,26.0s						
PPT				*e*LR	LR	03 16 52.7	
	comp=N,21μm,24.8s,baz=258						
PPT	**Papeete**	**23.12**	**86**	P	**P**	**03 11 21.8**	**-0.6**
	comp=N,36nm,0.3s,mb5.3,baz=218,slow=5.9,SNR=26						
PPT				LR	LR	03 18 55.9	
	comp=N,6μm,20.0s,MS5.1,baz=259,slow=33						
PPT	**Papeete**	**23.12**	**86**	P	**P**	**03 11 21.8**	**-0.6**
PPT				pmax	pmax		
	comp=Z,36nm,0.3s						
PPT				MLR	MLR		
	comp=Z,6μm,20.0s						
QRZ	**Quartz Range**	**23.16**	**207**	P*	**P**	**03 11 23.9**	**+1.1**
TVO	**Taravao**	**23.38**	**87**	*e*P	**P**	**03 11 24.0**	**-1.1**
	comp=Z,655nm,1.2s,mb5.9						
THZ	**Tophouse**	**23.79**	**205**	*e*P*	**P**	**03 11 26.9**	**-2.1**
KHZ	**Kahutara**	**24.10**	**203**	*e*P*	**P**	**03 11 31.0**	**-0.9**
PMOR	**Pomariorio Ree**	**25.31**	**81**	*e*P	**P**	**03 11 41.1**	**-1.9**
	comp=Z,204nm,1.2s,mb5.5						
WVZ	**Waitaha Valley**	**25.77**	**207**	P*	**P**	**03 11 47.0**	**-0.1**
RPZ	**Rata Peaks**	**26.17**	**205**	P	**P**	**03 11 50.2**	**-0.5**
	comp=Z,320nm,0.6s,mb5.0,baz=344,slow=3.1,SNR=14						
RPZ	**Rata Peaks**	**26.17**	**205**	*e*P*	**P**	**03 11 51.3**	**+0.6**
FOZ	**Fox Glacier**	**26.61**	**207**	P*	**P**	**03 11 53.4**	**-1.3**
JCZ	**Jackson Bay**	**27.43**	**208**	*e*P*	**P**	**03 12 03.8**	**+1.7**
ODZ	**Otahua Downs**	**27.44**	**204**	*e*P*	**P**	**03 12 05.1**	**+3.0**
HNR	**Honiara**	**27.65**	**290**	P	**P**	**03 12 02.6**	**-1.5**
	comp=Z,30nm,0.3s,mb5.4,baz=254,slow=6.3,SNR=9.7						
HNR	**Honiara**	**27.65**	**290**	P	**P**	**03 12 02.6**	**-1.4**
HNR				pmax	pmax		
	comp=Z,30nm,0.3s,mb5.4						
HNR	**Honiara**	**27.65**	**290**	*e*P	**P**	**03 12 03.5**	**-0.5**
	comp=Z,360nm,1.3s,mb5.8						
WHZ	**Wether Hill Ro**	**29.22**	**207**	*e*P*	**P**	**03 12 21.4**	**+3.3**
ARMA	**Armidale**	**32.51**	**246**	*e*P*	**P**	**03 12 47.9**	**+0.8**
TAOE	**Nuku Hiva Isla**	**34.55**	**75**	*e*LR	LR	03 22 07.1	
	comp=Z,26μm,22.4s						
CNB	**Canberra Magne**	**35.38**	**238**	*e*P	**P**	**03 13 11.0**	**-1.0**
	comp=Z,136nm,1.1s,mb5.8						
RKT	**Rikitea**	**36.05**	**101**	*e*S	**S**	**03 18 54.2**	**-2.5**
	comp=Z,2μm,29.8s						
RKT				*e*LQ		03 21 26.5	
	comp=Z,5μm,28.5s						
RKT				*e*LR	LR	03 22 42.6	
	comp=Z,18μm,26.5s,baz=267						
CTA	**Charters Tower**	**37.35**	**264**	*e*P	**P**	**03 13 27.4**	**-1.4**
	comp=Z,25nm,0.6s,mb5.2						
CTA				*e*PP	PP	03 14 57.8	+3.8
CTA				*e*S	**S**	**03 19 10.2**	**-6.3**
CTA	**Charters Tower**	**37.35**	**264**	LR	LR	03 27 20.9	
	comp=Z,8μm,18.8s,MS5.5,baz=92,slow=34						
CTA	**Charters Tower**	**37.35**	**264**	*e*P	**P**	**03 13 27.4**	**-1.4**
CTA				*e*		03 14 57.8	
CTA				pmax	pmax		
	comp=Z,25nm,0.6s						
CTAO	**Charters Tower**	**37.35**	**264**	P	**P**	**03 13 27.2**	**-1.6**
CTAO				pmax	pmax		
	comp=Z,46nm,0.8s,mb5.4						
CTAO	**Charters Tower**	**37.35**	**264**	*e*P	**P**	**03 13 27.4**	**-1.5**
	comp=Z,46nm,0.8s,mb5.4						
TOO	**Toolangi**	**38.95**	**235**	*e*P	**P**	**03 13 41.1**	**-1.2**
	comp=Z,40nm,0.7s,mb5.2						
PMG	**Port Moresby**	**39.21**	**281**	LR	LR	03 27 41.3	
	comp=Z,4μm,18.2s,MS5.2,baz=274,slow=33						
PMG	**Port Moresby**	**39.21**	**281**	*e*P	**P**	**03 13 42.8**	**-1.7**
PMG				pmax	pmax		
	comp=Z,114nm,1.0s						
PMG	**Port Moresby**	**39.21**	**281**	*e*P	**P**	**03 13 42.8**	**-1.7**
	comp=Z,114nm,1.0s,mb5.6						
TAU	**Tasmania Unive**	**39.26**	**227**	P	**P**	**03 13 45.8**	**+0.9**
	comp=Z,474nm,0.8s,mb6.3,SNR=6.5						
TAU	**Tasmania Unive**	**39.26**	**227**	*e*P	**P**	**03 13 46.3**	**+1.4**
TAU				pmax	pmax		
	comp=Z,121nm,1.1s,mb5.5						
TAU	**Tasmania Unive**	**39.26**	**227**	*e*P	**P**	**03 13 46.3**	**+1.3**
	comp=Z,121nm,1.1s,mb5.5						
STKA	**Stephens Creek**	**41.22**	**245**	*e*P	**P**	**03 13 56.7**	**-4.5**
	comp=Z,51nm,0.8s,mb5.2						
STKA				*e*PP	PcP	03 16 05.1	+5.1
STKA				*e*S	PcS	03 19 53.2	+2.1
STKA	**Stephens Creek**	**41.22**	**245**	P	**P**	**03 13 57.1**	**-4.1**
	comp=Z,75nm,0.9s,mb5.3,baz=87,slow=9.5,SNR=56						
STKA				LR	LR	03 29 21.0	
	comp=Z,5μm,18.9s,MS5.4,baz=72,slow=34						
WAKE	**Wake Island**	**44.12**	**333**	*e*P	**P**	**03 14 23.0**	**-1.7**
	comp=Z,534nm,1.4s,mb6.1						
KIP	**Kipapa**	**44.65**	**21**	*e*P	**P**	**03 14 28.5**	**-0.4**
KIP				pmax	pmax		
	comp=Z,188nm,1.3s,mb5.8						
KIP	**Kipapa**	**44.65**	**21**	*e*P	**P**	**03 14 28.5**	**-0.4**
	comp=Z,189nm,1.3s,mb5.8						
ASAR	**Alice Springs**	**48.27**	**256**	P	**P**	**03 14 54.5**	**-2.8**
	comp=Z,80nm,0.9s,mb5.7,baz=92,slow=7.4,SNR=121						
ASAR				PcP	PcP	03 16 24.7	+0.5
	comp=Z,12nm,0.8s,baz=95,slow=5.5,SNR=3.0						
ASAR				S	**S**	**03 21 52.1**	**-4.8**
	comp=Z,5.3nm,1.0s,baz=97,slow=16,SNR=12						
WB2	**Warramunga Arr**	**48.42**	**261**	*e*P	**P**	**03 14 54.8**	**-3.7**
WRAB	**Tennant Creek**	**48.43**	**261**	P	**P**	**03 14 55.9**	**-2.7**
	comp=Z,414nm,0.9s,mb6.5,SNR=15						
WRAB	**Tennant Creek**	**48.43**	**261**	*e*P	**P**	**03 14 55.1**	**-3.5**
WRAB	**Tennant Creek**	**48.43**	**261**	*e*P	**P**	**03 14 55.0**	**-3.5**
	comp=Z,123nm,1.1s,mb5.8						
WRAB				LR	LR		
	comp=Z,5μm,21.0s,MS5.5						
WRA	**Warramunga Arr**	**48.44**	**261**	P	**P**	**03 14 55.2**	**-3.5**
	comp=Z,29nm,0.6s,mb5.5,baz=96,slow=5.5,SNR=61						
WRA				S	**S**	**03 21 54.8**	**-4.5**
	comp=Z,3.5nm,1.0s,baz=98,slow=13,SNR=3.6						
WRA	**Warramunga Arr**	**48.44**	**261**	P	**P**	**03 14 55.2**	**-3.4**
WRA				S	**S**	**03 21 54.8**	**-4.4**
WRA				pmax	pmax		
	comp=Z,29nm,0.6s						
WRA				smax			
	comp=N,4.0nm,1.0s						
KAKA	**Kakadu**	**51.88**	**270**	*e*P	**P**	**03 15 22.2**	**-2.6**
	comp=N,142nm,0.9s,mb5.9						
FORT	**Forrest**	**52.79**	**247**	*e*P	**P**	**03 15 28.7**	**-2.8**
	comp=N,145nm,0.7s,mb6.0						
GUMO	**Guam**	**53.01**	**307**	P	**P**	**03 15 31.7**	**-1.5**
	comp=N,77nm,0.7s,mb5.7,baz=26,slow=16,SNR=3.2						
GUMO	**Guam**	**53.01**	**307**	P	**P**	**03 15 31.7**	**-1.4**
GUMO				pmax	pmax		
	comp=Z,77nm,0.7s,mb5.7						
DRV	**Dumont d'Urvil**	**54.48**	**201**	P	**P**	**03 15 41.0**	**-2.9**
DRV				S	**S**	**03 23 22.0**	**-0.7**
DRV				L		03 29 00.0	
DRV				R		03 32 00.0	
FITZ	**Fitzroy Crossi**	**56.87**	**261**	*e*P	**P**	**03 15 58.9**	**-2.1**
	comp=Z,116nm,2.0s,mb5.6						
FITZ				*e*S	**S**	**03 23 52.8**	**-1.6**
SBA	**Scott Base**	**57.94**	**185**	*e*P	**P**	**03 16 10.0**	**+1.4**
SBA				pmax	pmax		
	comp=Z,510nm,1.6s,mb6.3						
SBA				MLR	MLR		
	comp=Z,5μm,20.0s,MS5.7						
SBA	**Scott Base**	**57.94**	**185**	*e*P	**P**	**03 16 10.0**	**+1.4**
	comp=Z,510nm,1.6s,mb6.3						
SBA				LR	LR		
	comp=Z,5μm,20.0s,MS5.7						
VNDA	**Vanda**	**58.07**	**186**	P	**P**	**03 16 10.0**	**+0.5**
	comp=Z,18nm,0.9s,mb5.1,baz=6.5,slow=6.5,SNR=46						
VNDA				LR	LR	03 37 00.5	
	comp=Z,3μm,18.4s,MS5.5,baz=30,slow=32						
VNDA				PKP2ab		03 46 14.6	
	comp=Z,0.5nm,0.6s,baz=256,slow=6.2,SNR=3.4						
VNDA	**Vanda**	**58.07**	**186**	*e*P	**P**	**03 16 10.7**	**+1.2**
	comp=Z,272nm,1.8s,mb6.0						
VNDA				*e*		03 16 25.4	
RPN	**Rapa Nui**	**58.75**	**110**	LR	LR	03 35 00.4	
	comp=Z,5μm,20.4s,MS5.6,baz=275,slow=29						
KLBR	**Kellerberrin**	**61.50**	**245**	*e*P	**P**	**03 16 32.4**	**-0.7**
	comp=Z,107nm,0.7s,mb6.1						
MBWA	**Marble Bar**	**61.61**	**257**	*e*P	**P**	**03 16 31.4**	**-2.5**
	comp=Z,138nm,1.0s,mb6.0						
MBWA				LR	LR		
	comp=Z,7μm,19.0s,MS5.8						
NWAO	**Narrogin (SRO)**	**61.76**	**243**	*e*P	**P**	**03 16 35.4**	**+0.5**
NWAO				pmax	pmax		
	comp=Z,488nm,1.8s						
NWAO	**Narrogin (SRO)**	**61.76**	**243**	*e*P	**P**	**03 16 35.4**	**+0.6**
	comp=Z,488nm,1.8s,mb6.3						
MUN	**Mundaring**	**62.74**	**244**	*i*P	**P**	**03 16 42.6**	**+1.1**
MUN				*i* S	**S**	**03 25 11.2**	**+1.0**
CASY	**Casey**	**65.44**	**206**	*e*P	**P**	**03 16 59.3**	**+0.1**
QSPA	**South Pole Qui**	**69.35**	**180**	*e*P	**P**	**03 17 23.8**	**-0.2**
	comp=Z,219nm,1.4s,mb5.9						
TSM	**Tawau**	**71.40**	**282**	P	**P**	**03 17 39.0**	**+2.5**
MIR	**Mirnyy**	**72.44**	**205**	*e*P	**P**	**03 17 45.0**	**+2.3**
MIR				pmax	pmax		
	comp=Z,1μm,1.9s,mb6.5						
MIR				MLR	MLR		
	comp=Z,3μm,15.0s,MS5.7						
MIR				MLR	MLR		
	comp=E,2μm,8.0s						
MJAR	**Matsushiro Arr**	**72.77**	**321**	P	**P**	**03 17 42.9**	**-1.8**
	comp=E,17nm,0.6s,mb5.2,baz=156,slow=5.6,SNR=29						
MJAR				LR	LR	03 47 52.3	
	comp=E,1μm,19.7s,MS5.2,baz=145,slow=34						
MAJO	**Matsushiro**	**72.77**	**321**	*e*P	**P**	**03 17 43.2**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,47nm,0.8s,mb5.5						
MAJO				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.3						
MAJO	**Matsushiro**	**72.77**	**321**	*e*P	**P**	**03 17 43.2**	**-1.5**
	comp=Z,48nm,0.8s,mb5.5						
MAJO				LR	LR		
	comp=Z,2μm,20.0s,MS5.3						
MAT	**Matsushiro**	**72.77**	**321**	P	**P**	**03 17 42.7**	**-2.0**
MAT				S	S	03 27 07.0	-3.3
MAT	**Matsushiro**	**72.77**	**321**	*e*P	**P**	**03 17 43.0**	**-1.7**
MAT				*e*S	S	03 27 08.0	-2.3
MAT				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.1						
MAT				MLR	MLR		
	comp=Z,2μm,18.0s,MS5.4						
MAT	**Matsushiro**	**72.77**	**321**	*e*P	**P**	**03 17 43.0**	**-1.7**
	comp=Z,28nm,1.2s,mb5.1						
MAT				*e*S	S	03 27 08.0	-2.3
MAT				LR	LR		
	comp=Z,2μm,18.0s,MS5.4						
KKM	**Kota Kinabalu**	**73.60**	**283**	P	**P**	**03 17 51.4**	**+1.8**
KKM	**Kota Kinabalu**	**73.60**	**283**	*e*P	**P**	**03 17 48.2**	**-1.4**
YUK	**Yuzh-Kuril'sk**	**74.27**	**331**	*e*P	**P**	**03 17 56.0**	**+2.5**
YUK				*e*		03 18 11.0	
YUK				*e*S	S	03 27 25.0	-2.2
YUK				*e*PS		03 27 49.0	
YUK				*e*		03 28 04.0	
YUK				pmax	pmax		
	comp=Z,2μm,4.0s						
YUK				smax			
	comp=N,3μm,10.0s						
YUK				smax			
	comp=E,3μm,10.0s						
SAO	**San Andreas Ge**	**75.57**	**41**	*e*P	**P**	**03 18 00.4**	**-0.6**
SAO				pmax	pmax		
	comp=Z,118nm,1.2s,mb5.7						
SAO				MLR	MLR		
	comp=Z,6μm,19.0s,MS5.9						
SAO	**San Andreas Ge**	**75.57**	**41**	*e*P	**P**	**03 18 00.4**	**-0.6**
	comp=Z,120nm,1.2s,mb5.7						
SAO				LR	LR		
	comp=Z,6μm,19.0s,MS5.9						
ASAJ	**Asahikawa**	**75.85**	**329**	P	**P**	**03 18 01.5**	**-1.1**
	comp=Z,14nm,0.7s,mb5.0,baz=191,slow=7.8,SNR=8.9						
ASAJ	**Asahikawa**	**75.85**	**329**	P	**P**	**03 18 01.5**	**-1.1**
ASAJ				pmax	pmax		
	comp=Z,14nm,0.7s						
SKR	**Severo-Kuril's**	**75.88**	**341**	*e*P	**P**	**03 18 06.0**	**+3.2**
SKR				MLR	MLR		
	comp=Z,3μm,18.0s,MS5.6						
NSHM	**Saint Helena R**	**76.01**	**39**	*e*P	**P**	**03 18 04.5**	**+0.9**
HOPS	**Hopland**	**76.05**	**38**	*e*P	**P**	**03 18 04.8**	**+1.1**
	comp=Z,278nm,1.8s,mb5.9						
HOPS				LR	LR		
	comp=Z,3μm,20.0s,MS5.7						
LPIG	**La Paz**	**76.20**	**57**	LR	LR	03 44 19.3	
	comp=Z,5μm,20.7s,MS5.8,baz=218,slow=30						
KIPM	**Iron Peak**	**76.36**	**38**	*e*P	**P**	**03 18 06.9**	**+1.4**
PFO	**Pinyon Flat Ob**	**76.86**	**46**	P	**P**	**03 18 08.8**	**+0.5**
	comp=Z,343nm,1.3s,mb6.1,SNR=15						
KHMM	**Horse Mountain**	**76.94**	**37**	*e*P	**P**	**03 18 08.9**	**+0.1**
CMB	**Columbia Colle**	**77.03**	**41**	P	**P**	**03 18 08.8**	**-0.5**
CMB				pmax	pmax		
	comp=Z,78nm,1.1s,mb5.5						
NACB	**Ninganchiao**	**77.07**	**302**	*e*P	**P**	**03 18 07.9**	**-1.7**
OHCM	**Honcut**	**77.21**	**39**	*e*P	**P**	**03 18 10.1**	**-0.2**
PET	**Petropavlovsk**	**77.22**	**343**	*e*P	**P**	**03 18 11.3**	**+0.9**
PET				*i* S	S	03 27 59.9	0.0
PET				*e*PS		03 28 28.7	
PET				pmax	pmax		
	comp=Z,60nm,1.4s,mb5.3						
PET				pmax	pmax		
	comp=Z,2μm,13.7s						
PET				pmax	pmax		
	comp=Z,1μm,13.8s						
PET				smax			
	comp=E,2μm,13.9s						
PET				smax			
	comp=N,2μm,14.4s						
PET				smax			
	comp=E,2μm,14.3s						
PET				smax			
	comp=N,2μm,14.5s						
PET				MLR	MLR		
	comp=Z,3μm,17.0s,MS5.7						
PET				MLR	MLR		
	comp=Z,3μm,16.0s						
PET	**Petropavlovsk**	**77.22**	**343**	*e*P	**P**	**03 18 11.3**	**+0.9**
	comp=Z,60nm,1.4s,mb5.3						
PET				*i* S	S	03 27 59.9	0.0
PET				*e*PS		03 28 28.7	
PET				LR	LR		
	comp=Z,3μm,17.0s,MS5.7						
KSM	**Kuching**	**77.32**	**276**	*e*P	**P**	**03 18 11.3**	**+0.3**
WDC	**Whiskeytown Da**	**77.41**	**38**	P	**P**	**03 18 12.1**	**+0.6**
WDC				pmax	pmax		
	comp=Z,110nm,1.6s,mb5.5						
YHNB	**Yeheng**	**77.49**	**303**	*e*P	**P**	**03 18 12.2**	**+0.3**
DAC	**Darwin (

comp=Z,180nm,1.3s,mb5.8
TPH Tonopah 79.01 42 *e*P **P 03 18 21.1 +0.8**
comp=Z,180nm,1.3s,mb5.8
NEN Nelson 79.12 45 *e*P **P 03 18 21.3 +0.4**
MOD Modoc 79.55 38 *e*P **P 03 18 23.7 +0.4**
comp=Z,212nm,1.8s,mb5.8
KS15 Wonju Array Si 79.71 317 *e*P **P 03 18 23.9 -0.3**
KS15 *e*pP pP 03 18 38.6 +11
QZH Quanzhou 79.83 302 P **P 03 18 24.6 -0.2**
QZH AMB AMB
comp=Z,160nm,1.2s,mb5.8
BROR Big Rock Looko 79.92 35 P **P 03 18 26.1 +0.8**
TUC Tucson 80.08 50 P **P 03 18 25.8 -0.4**
TUC pmax pmax
comp=Z,74nm,1.2s,mb5.5
TUC Tucson 80.08 50 *e*P **P 03 18 25.9 -0.3**
comp=Z,74nm,1.2s,mb5.5
TUC LR LR
comp=Z,4μm,19.0s,MS5.8
WIFE Three Sisters- 80.12 35 P **P 03 18 27.2 +0.9**
KDAK Kodiak Island 80.19 11 P **P 03 18 26.0 -0.8**
comp=Z,26nm,1.0s,mb5.1,baz=301,slow=1.0,SNR=9.3
VLA Vladivostok 80.76 323⇓*e*P **P 03 18 29.2 -0.6**
VLA pmax pmax
comp=Z,43nm,0.7s,mb5.5
VLA Vladivostok 80.76 323⇓*e*P **P 03 18 29.2 -0.6**
comp=Z,43nm,0.7s,mb5.5
WVOR Wild Horse Val 80.84 38 *e*P **P 03 18 29.5 -0.8**
WVOR *e**PP pP 03 18 44.9 +11
WVOR pmax pmax
comp=Z,51nm,1.2s,mb5.3
WVOR MLR MLR
comp=Z,4μm,20.0s,MS5.8
WVOR Wild Horse Val 80.84 38 *e*P **P 03 18 29.5 -0.8**
comp=Z,47nm,1.2s,mb5.3
WVOR *e*pP pP 03 18 44.9 +11
WVOR LR LR
comp=Z,3μm,20.0s,MS5.7
SSE Sheshan 80.86 308 *e*P **P 03 18 28.8 -1.6**
SSE PP PP 03 21 31.8 -2.8
SSE S S 03 28 36.9 -1.8
SSE AMB AMB
comp=Z,37nm,0.8s,mb5.4
SSE AMB AMB
comp=Z,1μm,6.0s
SSE LR LR
comp=N,736nm,37.4s,MS5.1
SSE LR LR
comp=E,1μm,37.5s,MS5.1
SSE LR LR
comp=Z,2μm,37.8s,MS5.2
VFP Flag Point 81.14 34 P **P 03 18 32.3 +0.4**
CCUT Cedar City 81.18 44 *e*P **P 03 18 32.6 +0.6**
ARUT Antelope Range 81.27 44 *e*P **P 03 18 33.6 +1.1**
WUAZ Wupatki 81.39 47 *e*P **P 03 18 33.6 +0.4**
comp=Z,65nm,1.1s,mb5.5
WUAZ LR LR
comp=Z,1μm,20.0s,MS5.3
OCWA Octopus Mounta 81.41 31 *e*P **P 03 18 34.3 +1.1**
comp=Z,42nm,1.1s,mb5.3
ZAIG Zacatecas 81.83 62 *i* P **P 03 18 37.2 +1.7**
ELK Elko 81.84 41 *e*P **P 03 18 35.6 +0.1**
ELK pmax pmax
comp=Z,223nm,1.9s
ELK MLR MLR
comp=Z,7μm,19.0s
ELK Elko 81.84 41 *e*P **P 03 18 35.6 0.0**
comp=Z,224nm,1.9s,mb5.8
ELK LR LR
comp=Z,7μm,19.0s,MS6.0
JBO Jordan Butte 82.10 35 P **P 03 18 37.3 +0.4**
PGC Sidney 82.38 31 *e*P **P 03 18 38.1 -0.3**
comp=Z,73nm,1.0s,mb5.6
MSU Marysvale 82.50 44 *e*P **P 03 18 39.1 +0.1**
HABR Khabarovsk 82.62 329 *e*P **P 03 18 41.3 +1.7**
HABR *i* S S 03 28 56.3 -0.5
HABR pmax pmax
comp=Z,154nm,1.7s,mb5.8
HABR MLR MLR
comp=Z,2μm,18.0s,MS5.5
MAW Mawson 82.65 199 *e*S S 03 28 52.4 -4.7
MAW Mawson 82.65 199 P **P 03 18 38.6 -1.2**
comp=Z,11nm,0.8s,mb5.0,baz=136,slow=5.6,SNR=16
MAW LR LR 03 54 51.9
comp=Z,4μm,18.5s,MS5.8,baz=120,slow=35
MAW Mawson 82.65 199 P **P 03 18 38.6 -1.2**
MAW pmax pmax
comp=Z,11nm,0.8s
MAW MLR MLR
comp=Z,4μm,18.5s
MAW Mawson 82.65 199 *e*P **P 03 18 39.8 0.0**
comp=Z,46nm,1.0s,mb5.5
MAW *e*S S 03 28 52.4 -4.7
EBG Ellensburg 82.66 34 P **P 03 18 40.3 +0.5**
JCW Jim Creek 82.81 32 P **P 03 18 40.9 +0.3**
SVW2 Sparrevohn 82.85 9 *e*P **P 03 18 39.9 -0.9**
HAWA Hanford 82.86 35 *e*P **P 03 18 41.0 +0.1**
comp=Z,98nm,1.4s,mb5.7
HAWA LR LR
comp=Z,8μm,19.0s,MS6.1
CMW Cultus Mountai 82.88 32 P **P 03 18 42.1 +1.1**
MDJ Mudanjiang 82.99 323 P **P 03 18 41.8 +0.2**
MDJ AP pP 03 18 45.0 -0.2
MDJ PP PP 03 21 52.1 -0.1
MDJ S S 03 29 01.5 +0.9
MDJ SS SS 03 34 25.4 +1.4
MDJ AMB AMB
comp=Z,57nm,1.2s,mb5.5
MDJ AMB AMB
comp=Z,1μm,7.1s
MDJ LR LR
comp=N,2μm,24.6s,MS5.5
MDJ LR LR
comp=E,2μm,22.5s,MS5.5
MDJ LR LR
comp=Z,3μm,25.7s,MS5.6
MDJ Mudanjiang 82.99 323 *e*P **P 03 18 41.1 -0.4**
comp=Z,55nm,1.0s,mb5.5
DUG Dugway 83.03 42 *e*P **P 03 18 42.0 +0.2**
DUG pmax pmax
comp=Z,79nm,1.7s,mb5.5
DUG Dugway 83.03 42 *e*P **P 03 18 42.0 +0.3**
comp=Z,79nm,1.7s,mb5.5
GBL Gable Mountain 83.03 34 P **P 03 18 42.2 +0.4**
NJ2 Nanjing 83.06 308 *e*P **P 03 18 43.6 +1.7**
NJ2 AP pP 03 18 47.0 +1.4
NJ2 XP sP 03 18 49.4 +2.5
NJ2 PP PP 03 21 53.5 +0.7
NJ2 S S 03 29 01.0 -0.3
NJ2 XS sS 03 29 11.0 +3.6
NJ2 AMB AMB
comp=Z,20nm,1.1s,mb5.1
NJ2 AMB AMB
comp=Z,850nm,10.4s
NJ2 LR LR
comp=N,3μm,17.9s,MS6.0
NJ2 LR LR
comp=E,3μm,13.8s,MS6.0
NJ2 LR LR
comp=Z,3μm,25.8s
BMO Blue Mountains 83.11 37 *e*P **P 03 18 41.0 -1.1**
comp=Z,180nm,1.8s,mb5.8
BMO LR LR
comp=Z,4μm,20.0s,MS5.8
SLKM Skilak Lake 83.18 12 *e*P **P 03 18 41.3 -1.2**
ETW Entiat 83.23 33 P **P 03 18 43.2 +0.4**
NLU North Lily Min 83.36 43 *e*P **P 03 18 45.0 +1.5**
TMUT Trail Mountain 83.56 44 *e*P **P 03 18 44.8 +0.3**
MPU Maple Canyon 83.68 43 *e*P **P 03 18 45.4 +0.3**
comp=Z,72nm,1.3s,mb5.6
MPU LR LR
comp=Z,7μm,20.0s,MS6.0
NOQ North Oquirrh 83.73 42 *e*P **P 03 18 45.8 +0.5**
comp=Z,233nm,1.6s,mb6.1
MNTX Cornudas Mount 83.73 53 *e*P **P 03 18 44.5 -0.8**
comp=Z,90nm,1.3s,mb5.7
MNTX LR LR
comp=Z,3μm,20.0s,MS5.6
LAZ Ladron 83.77 50 *e*P **P 03 18 46.4 +0.8**
LENM Lemitar 83.77 50 *e*P **P 03 18 46.5 +0.9**
SPUT South Promonto 83.89 42 *e*P **P 03 18 46.6 +0.4**
SRU San Rafael 83.91 44 *e*P **P 03 18 45.7 -0.6**
SRU pmax pmax
comp=Z,217nm,1.4s,mb6.1
SRU San Rafael 83.91 44 *e*P **P 03 18 45.7 -0.6**
comp=Z,217nm,1.4s,mb6.1

HVU Hansel Valley 83.95 41 *e*P **P 03 18 46.6 +0.1**
HVU pmax pmax
comp=Z,73nm,1.3s,mb5.7
HVU Hansel Valley 83.95 41 *e*P **P 03 18 46.5 +0.1**
comp=Z,73nm,1.3s,mb5.7
BNM Barren Site 84.02 50 *e*P **P 03 18 47.5 +0.7**
KGM Kluang 84.02 274 P **P 03 18 49.2 +2.4**
LPM Los Pinos Moun 84.09 50 *e*P **P 03 18 48.1 +0.9**
EYAK Cordova Ski Ar 84.13 14 *e*P **P 03 18 46.9 -0.5**
DAU Daniels Canyon 84.14 43 *e*P **P 03 18 48.5 +1.0**
MVCO Mesa Verde 84.25 47 *e*P **P 03 18 49.0 +0.9**
comp=Z,176nm,1.7s,mb5.9
PMR Palmer 84.39 12 *e*P **P 03 18 47.3 -1.4**
PMR pmax pmax
comp=Z,52nm,1.2s,mb5.5
PMR MLR MLR
comp=Z,2μm,20.0s,MS5.5
PMR Palmer 84.39 12 *e*P **P 03 18 47.3 -1.4**
comp=Z,52nm,1.2s,mb5.5
PMR LR LR
comp=Z,2μm,20.0s,MS5.5
TCUT Toone Canyon 84.43 42 *e*P **P 03 18 48.3 -0.7**
ANMO Albuquerque 84.53 50 P **P 03 18 49.7 +0.3**
ANMO pmax pmax
comp=Z,120nm,1.3s
ANMO Albuquerque 84.53 50 *e*P **P 03 18 49.8 +0.3**
comp=Z,120nm,1.3s,mb5.9
ANMO LR LR
comp=Z,3μm,20.0s,MS5.6
QIZ Qiongzhong 84.53 293 P **P 03 18 51.3 +1.9**
QIZ PP PP 03 22 06.5 +1.7
QIZ S 03 29 18.0
QIZ SS SS 03 34 51.6 +4.9
QIZ LR LR
comp=Z,1μm,21.7s,MS5.2
QIZ Qiongzhong 84.53 293 *e*P **P 03 18 50.0 +0.5**
comp=Z,135nm,1.5s,mb5.8
QIZ *e*pP pP 03 19 02.4 +9.2
TTA Tatalina 84.55 8 *e*P **P 03 18 48.8 -0.7**
TTA pmax pmax
comp=Z,198nm,1.6s,mb6.0
TTA Tatalina 84.55 8 *e*P **P 03 18 48.8 -0.7**
comp=Z,198nm,1.6s,mb6.0
HWUT Hardware Ranch 84.61 42 *e*P **P 03 18 48.5 -1.3**
comp=Z,70nm,1.4s,mb5.6
HWUT LR LR
comp=Z,5μm,19.0s,MS5.9
DL2 Dalian 84.61 315 P **P 03 18 52.3 +2.5**
DL2 SKS 03 29 15.3
DL2 S 03 29 20.8
DL2 SS SS 03 34 48.8 +0.9
DL2 AMB AMB
comp=Z,40nm,1.0s,mb5.5
DL2 AMB AMB
comp=Z,640nm,5.3s
DL2 LR LR
comp=N,870nm,15.4s,MS5.3
DL2 LR LR
comp=E,560nm,15.9s,MS5.3
DL2 LR LR
comp=Z,880nm,16.9s,MS5.2
GDL2 Guadalupe Moun 84.73 53 *e*P **P 03 18 50.3 -0.2**
KLR Kul'dur 84.76 328 *e*P **P 03 18 45.8 -4.8**
KLR *e*S 03 29 15.0
KLR *e*SS SS 03 34 48.5 -1.6
KLR pmax pmax
comp=Z,100nm,2.0s,mb5.6
KLR pmax pmax
comp=N,700nm,11.0s
KLR pmax pmax
comp=Z,2μm,11.0s
KLR smax
comp=N,2μm,13.5s
KLR smax
comp=E,1μm,13.5s
CN2 Changchun 84.90 321 *e*P **P 03 18 52.5 +1.2**
CN2 *e*XP sP 03 18 59.8 +3.5
CN2 *e*S 03 29 24.9
CN2 SS SS 03 34 57.1 +4.9
CN2 AMB AMB
comp=Z,30nm,1.3s,mb5.3
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,2μm,17.0s,MS5.6
CN2 LR LR
comp=E,1μm,17.0s,MS5.6
CN2 LR LR
comp=Z,2μm,19.0s,MS5.4
SNY Shenyang 84.93 318⇓P **P 03 18 53.8 +2.3**
SNY S 03 29 19.8
SNY SS SS 03 34 51.8 -0.9
SNY AMB AMB
comp=Z,41nm,2.0s,mb5.2
SNY LR LR
comp=N,571nm,13.8s
SNY LR LR
comp=E,1μm,18.9s
SNY LR LR
comp=Z,1μm,18.3s,MS5.4
CLNB Carlsbad 85.12 53 *e*P **P 03 18 53.2 +0.8**
NEW Newport 85.32 34 LR LR 03 52 32.7
comp=Z,9μm,18.4s,MS6.2,baz=236,slow=32
CPRX Cap Rock 85.49 52 *e*P **P 03 18 54.9 +0.6**
AHID Auburn Hatcher 85.53 41 *e*P **P 03 18 54.9 +0.4**
comp=Z,89nm,1.4s,mb5.8
AHID LR LR
comp=Z,3μm,19.0s,MS5.8
MCMT McKenzie Canyo 85.64 39 *e*P **P 03 18 55.5 +0.5**
WHN Wuhan 85.75 305⇑P **P 03 18 57.3 +1.8**
SKAG Skagway 85.89 19 *e*P **P 03 18 56.9 +0.6**
comp=Z,187nm,1.5s,mb6.1
DCID1 Drake Creek 85.94 40 *e*P **P 03 18 57.4 +1.0**
REDW Red Top Meadow 86.01 41 *e*P **P 03 18 57.0 +0.2**
comp=Z,164nm,1.7s,mb6.0
TPAW Teton Pass 86.02 40 *e*P **P 03 18 56.3 -0.6**
comp=Z,265nm,2.2s,mb6.1
DLMT Dillon 86.09 38 *e*P **P 03 18 56.3 -0.9**
comp=Z,69nm,1.3s,mb5.7
MSO Missoula 86.17 37 *e*P **P 03 18 57.2 -0.5**
comp=Z,26nm,1.4s,mb5.3
IMW Indian Meadow 86.25 40 *e*P **P 03 18 58.5 +0.5**
comp=Z,73nm,1.5s,mb5.7
PLCA Paso Flores 86.26 132 *e*P **P 03 18 59.1 +1.0**
PLCA pmax pmax
comp=Z,53nm,1.8s
PLCA MLR MLR
comp=Z,3μm,20.0s
PLCA Paso Flores 86.26 132 *e*P **P 03 18 59.1 +1.0**
comp=Z,53nm,1.8s,mb5.5
PLCA LR LR
comp=Z,3μm,20.0s,MS5.7
MOOW Moose Ponds 86.29 40 *e*P **P 03 18 58.6 +0.4**
comp=Z,114nm,1.9s,mb5.8
SMCO Snowmass 86.29 46 *e*P **P 03 18 59.5 +1.2**
comp=Z,42nm,1.0s,mb5.6
TIA Tai'an 86.34 311 *e*P **P 03 18 59.3 +0.8**
QLMT Earthquake Lak 86.48 39 *e*P **P 03 18 59.6 +0.4**
BW06 Boulder Array 86.49 42 *e*P **P 03 18 57.0 -2.1**
comp=Z,29nm,1.1s,mb5.4
BW06 LR LR
comp=Z,4μm,19.0s,MS5.8
PDAR Pinedale Array 86.49 42 P **P 03 18 57.3 -1.9**
comp=Z,16nm,1.0s,mb5.2,baz=209,slow=2.7,SNR=21
PDAR LR LR 03 53 35.6
comp=Z,3μm,18.6s,MS5.8,baz=242,slow=33
FLWY Flagg Ranch 86.50 40 *e*P **P 03 19 00.0 +0.8**
comp=Z,213nm,1.9s,mb6.0
CHMT Chamberlain Mo 86.61 37 *e*P **P 03 18 58.8 -0.9**
MENT Mentasta 86.70 13 *e*P **P 03 18 59.3 -0.9**
DLBC Dease Lake 86.78 21 *e*P **P 03 19 00.6 0.0**
BOZ Bozeman (W) 86.81 38 *e*P **P 03 18 59.7 -1.1**
BOZ pmax pmax
comp=Z,84nm,1.7s,mb5.7
BOZ MLR MLR
comp=Z,2μm,20.0s,MS5.6
BOZ Bozeman (W) 86.81 38 *e*P **P 03 18 59.7 -1.0**
comp=Z,84nm,1.7s,mb5.7
BOZ LR LR
comp=Z,2μm,20.0s,MS5.6
LKWY Lake 86.94 40 *e*P **P 03 19 01.9 +0.5**
LKWY pmax pmax
comp=Z,74nm,1.6s,mb5.7
LKWY MLR MLR
comp=Z,4μm,19.0s,MS5.8
LKWY Lake 86.94 40 *e*P **P 03 19 01.9 +0.5**
comp=Z,56nm,1.6s,mb5.5
LKWY LR LR
comp=Z,3μm,19.0s,MS5.7
IPM Ipoh 87.04 276 P **P 03 19 04.7 +2.9**
HRY Holter Researc 87.30 37 *e*P **P 03 19 02.3 -0.8**
UBT Ubonrachathani 87.30 287⇑P PcP 03 19 21.0 +16
SYO Syowa Base 87.33 191⇑*e*P **P 03 19 01.4 -1.9**
SYO Syowa Base 87.33 191⇑*e*PcP PcP 03 19 04.6 -0.7
RWWY Rawlins 87.41 43 *e*P **P 03 19 03.1 -0.6**
comp=Z,49nm,1.3s,mb5.6
JCT Junction City 87.43 56 *e*P **P 03 19 02.9 -0.9**
JCT pmax pmax
comp=Z,67nm,1.5s,mb5.7
JCT Junction City 87.43 56 *e*P **P 03 19 02.9 -0.9**
comp=Z,67nm,1.5s,mb5.7
WALA Waterton Lakes 87.50 35 *e*P **P 03 19 03.9 -0.2**
comp=Z,131nm,1.6s,mb5.9
ISCO Idaho Springs 87.51 46 *e*P **P 03 19 04.0 -0.2**
ISCO pmax pmax
comp=Z,17nm,1.4s,mb5.1
ISCO Idaho Springs 87.51 46 *e*P **P 03 19 04.0 -0.2**
comp=Z,16nm,1.4s,mb5.1
VNA3 Neumayer Olymp 87.62 175⇑*i*P **P 03 19 04.4 -0.3**
VNA3 *e* pP 03 19 06.4 -2.0
VNA3 *e* pP 03 19 07.9 -0.5
VNA3 *e* pP 03 19 08.9 +0.5
VNA3 *e* 03 19 18.0
VNA3 *e* 03 19 19.4
VNA3 *e* 03 19 22.4
VNA3 *e* 03 19 26.5
VNA3 *e* 03 19 40.1
VNA3 *e* 03 19 47.6
VNA3 *e* 03 20 14.8
COLA College 87.64 11 *e*P **P 03 19 02.9 -1.9**
COLA pmax pmax
comp=Z,96nm,1.1s,mb5.9
COLA College 87.64 11 *e*P **P 03 19 02.9 -1.9**
comp=Z,96nm,1.1s,mb5.9
SNAA Sanae 87.64 177 *e*P **P 03 19 04.0 -0.8**
SNAA pmax pmax
comp=Z,30nm,1.0s
SNAA Sanae 87.64 177 *e*P **P 03 19 04.0 -0.8**
comp=Z,30nm,1.0s,mb5.5
KULM Kulim 87.67 276 *e*P **P 03 19 06.4 +1.5**
KULM *e*pP pP 03 19 19.4 +11
ILAR Eielson Array 87.72 11 P **P 03 19 02.6 -2.5**
comp=Z,12nm,0.9s,mb5.1,baz=216,slow=4.9,SNR=62
ILAR LR LR 04 00 13.7
comp=Z,2μm,18.1s,MS5.5,baz=214,slow=37
ILAR Eielson Array 87.72 11 P **P 03 19 02.7 -2.5**
ILAR pmax pmax
comp=Z,12nm,0.9s
ILAR MLR MLR
comp=Z,2μm,18.1s
AMTX Amarillo 87.96 52 *e*P **P 03 19 06.5 +0.2**
comp=Z,67nm,1.2s,mb5.8
GCMT Greycliff 88.04 39 *e*P **P 03 19 06.2 -0.6**
VNA2 Neumayer--Watz 88.11 176 *e*P **P 03 19 07.0 0.0**
VNA2 *e* pP 03 19 08.5 -2.2
VNA2 *e* pP 03 19 10.6 -0.1
VNA2 *e* pP 03 19 11.6 +0.9
VNA2 *e* 03 19 19.6
VNA2 *e* 03 19 21.5
VNA2 *e* 03 19 24.7
VNA2 *e* 03 19 28.1
VNA2 *e* 03 19 40.4
VNA2 *e* 03 19 49.0
VNA2 *e* 03 20 16.4
VNA2 *e* 03 20 36.0
VNA1 Neumayer--Stat 88.31 175⇑*i*P **P 03 19 08.3 +0.3**
VNA1 *e* pP 03 19 10.0 -1.7
VNA1 *e* pP 03 19 11.6 -0.1
VNA1 *e* pP 03 19 12.5 +0.8
VNA1 *e* 03 19 21.2
VNA1 *e* 03 19 22.6
VNA1 *e* 03 19 26.2
VNA1 *e* 03 19 29.3
VNA1 *e* 03 20 15.6
VNA1 *e* 03 20 35.0
PHWY Pilot Hill 88.36 44 *e*P **P 03 19 07.8 -0.3**
SNG Songkhla 88.38 278 P **P 03 19 12.0 +3.7**
PSI Prapat 88.41 274 LR LR 04 00 37.4
comp=Z,1μm,19.8s,MS5.3,baz=136,slow=37
DAWY Dawson 88.65 14 *e*P **P 03 19 09.0 -0.6**
NVL N'lazarevskaya 88.67 182 *e*P sP 03 19 22.8 +8.1
NVL *i* S 03 29 57.0
NVL *e*SP 03 31 35.3
NVL *e*SS SS 03 36 03.5 +16
NVL pmax pmax
comp=Z,37nm,1.6s,mb5.5
NVL smax
comp=E,930nm,13.4s
BJT Baijiatuan 88.82 314 *e*P **P 03 19 10.6 +0.2**
BJT pmax pmax
comp=Z,406nm,1.9s
BJT Baijiatuan 88.82 314 *e*P **P 03 19 10.6 +0.2**
comp=Z,406nm,1.9s,mb6.4
BJI Beijing 88.83 314 P **P 03 19 12.1 +1.7**
BJI S 03 29 46.5
BJI AMB AMB
comp=Z,38nm,1.9s,mb5.4
BJI LR LR
comp=N,792nm,18.2s
BJI LR LR
comp=E,1μm,27.3s
BJI LR LR
comp=Z,2μm,25.3s
BILL Bilibino 89.70 353⇓*i*P **P 03 19 13.1 -1.4**
BILL *i* S 03 29 36.1
BILL *i* PS PS 03 31 10.4 -2.1
BILL pmax pmax
comp=Z,34nm,1.6s,mb5.4
BILL MLR MLR
comp=Z,3μm,17.0s,MS5.8
BILL Bilibino 89.70 353⇓*i*P **P 03 19 13.1 -1.4**
comp=Z,34nm,1.6s,mb5.4
BILL *i* S 03 29 36.1
BILL *i* PS PS 03 31 10.4 -2.1
BILL LR LR
comp=Z,3μm,17.0s,MS5.8
WMOK Wichita Mounta 90.03 53 *e*P **P 03 19 15.6 -0.5**
WMOK pmax pmax
comp=Z,38nm,1.6s,mb5.5
WMOK Wichita Mounta 90.03 53 *e*P **P 03 19 15.6 -0.4**
comp=Z,38nm,1.6s,mb5.5
EDM Edmonton 90.21 32 *e*P **P 03 19 16.3 -0.6**
HKT Hockley 90.33 58 *e*P **P 03 19 17.8 +0.4**
HKT pmax pmax
comp=Z,119nm,1.7s,mb6.0
HKT Hockley 90.33 58 *e*P **P 03 19 17.8 +0.4**
comp=Z,119nm,1.7s,mb5.9
LAO LASA Array 90.55 40 *e*P **P 03 19 18.2 -0.3**
comp=Z,117nm,1.5s,mb6.0
CBKS Cedar Bluff 91.10 49 *e*P **P 03 19 19.5 -1.5**
CBKS pmax pmax
comp=Z,73nm,1.5s,mb5.8
CBKS Cedar Bluff 91.10 49 *e*P **P 03 19 19.4 -1.6**
comp=Z,73nm,1.5s,mb5.8
HIA Hailar 91.18 323⇓*e*P **P 03 19 20.7 -0.7**
XAN Xi'an 91.40 306 P **P 03 19 23.8 +1.4**
XAN AMB AMB
comp=Z,28nm,1.8s,mb5.3
XAN LR LR
comp=N,3μm,11.7s,MS6.0
XAN LR LR
comp=E,2μm,12.5s,MS6.0
XAN LR LR
comp=Z,1μm,6.6s
NST Nakhon Sawan 91.84 286 P **P 03 19 27.0 +2.5**
HHC Hu-ho-hao-te 92.33 313⇑P **P 03 19 28.0 +1.3**
HHC AP pP 03 19 38.8 +8.3
HHC XP sP 03 19 42.6 +11
HHC PP PP 03 23 11.3 +4.0
HHC SKS 03 29 57.5
HHC S 03 30 27.8
HHC XS sS 03 30 44.5 +8.3
HHC SS SS 03 36 42.0 +1.6
HHC AMB AMB
comp=Z,23nm,1.2s,mb5.4
HHC AMB AMB
comp=Z,829nm,10.1s
HHC LR LR
comp=N,1μm,18.4s,MS5.5
HHC LR LR

comp=E,1μm,20.2s,MS5.5
HHC LR LR
comp=Z,2μm,22.6s,MS5.5
NANT Nan 92.44 289 P **P** **03 19 30.0 +2.7**
JTS JuntasAbangare 92.54 80 P **P** **03 19 28.3 +0.6**
comp=Z,210nm,1.1s,mb6.5,SNR=5.0
JTS JuntasAbangare 92.54 80 *e*P **P** **03 19 28.5 +0.8**
JTS pmax pmax
comp=Z,191nm,1.8s
JTS JuntasAbangare 92.54 80 *e*P **P** **03 19 28.5 +0.8**
comp=Z,191nm,1.8s,mb6.2
CLNS Chul'man 92.67 331 *e*P **P** **03 19 28.2 -0.1**
CLNS *e**PP pP 03 19 40.5 +8.5
CLNS *e* 03 23 05.1
CLNS *e*PPP 03 25 03.9
CLNS *e*S 03 30 27.9
CLNS *e*PPS 03 31 32.1
CLNS pmax pmax
comp=Z,17nm,1.0s,mb5.4
CLNS pmax pmax
comp=N,10.0nm,1.3s
CLNS pmax pmax
comp=E,9.0nm,0.9s
CLNS smax
comp=E,304nm,9.6s
CLNS smax
comp=Z,176nm,11.2s
CLNS smax
comp=N,216nm,12.0s
CLNS MLR MLR
comp=Z,2μm,17.0s,MS5.6
CLNS MLR MLR
comp=N,300nm,18.0s,MS5.5
CLNS MLR MLR
comp=E,1μm,19.0s,MS5.5
KMI Kunming 92.95 296 P **P** **03 19 30.5 +0.9**
KMI AP pP 03 19 33.8 +0.5
KMI PP PP 03 23 13.9 +1.8
KMI SKS 03 30 04.9
KMI S 03 30 33.3
KMI SS SS 03 36 50.3 +1.1
KMI AMB AMB
comp=Z,23nm,1.5s,mb5.4
KMI AMB AMB
comp=Z,849nm,3.9s
KMI LR LR
comp=N,2μm,20.1s,MS5.7
KMI LR LR
comp=E,2μm,19.2s,MS5.7
KMI LR LR
comp=Z,3μm,25.1s
BTO Baotou 93.29 312 *e*P **P** **03 19 31.9 +0.7**
INK Inuvik 93.51 14 P **P** **03 19 30.6 -1.5**
comp=Z,16nm,1.0s,mb5.4,baz=213,slow=5.5,SNR=17
INK Inuvik 93.51 14 P **P** **03 19 30.6 -1.5**
INK pmax pmax
comp=Z,16nm,1.0s
INK Inuvik 93.51 14 *e*P **P** **03 19 30.1 -2.1**
comp=Z,2μm,1.4s,mb7.3
INK *e*pP pP 03 19 45.3 +9.4
YAK Yakutsk 93.82 337⇑ *e*P **P** **03 19 33.6 0.0**
CHG Chiang Mai 94.01 288 ⇑P **P** **03 19 37.1 +2.7**
comp=Z,56nm,0.7s,mb6.1
CHTO Chiang Mai 94.01 288 *e*P **P** **03 19 35.4 +1.0**
CHTO *e**PP pP 03 19 48.9 +11
CHTO pmax pmax
comp=Z,147nm,1.6s,mb6.2
CHTO Chiang Mai 94.01 288 *e*P **P** **03 19 35.4 +0.9**
comp=Z,149nm,1.6s,mb6.2
CHTO *e*pP pP 03 19 48.9 +11
CD2 Chengdu 94.22 301 P **P** **03 19 36.4 +1.0**
CD2 SKS 03 30 13.8
CD2 S 03 30 45.0
CD2 XS sS 03 30 56.4 +3.6
CD2 LR LR
comp=N,2μm,5.5s
CD2 LR LR
comp=Z,1μm,5.7s
LVC Limon Verde 95.06 116 *e*P **P** **03 19 40.8 +1.6**
comp=Z,114nm,1.8s,mb6.0
YKA Yellowknife Ar 95.11 24 P **P** **03 19 37.1 -2.4**
comp=Z,5.8nm,1.0s,mb5.0,baz=237,slow=4.3,SNR=37
YKA PP PP 03 23 25.2 -3.8
comp=Z,1.4nm,1.0s,baz=230,slow=7.6,SNR=7.5
YKA PKKPbc PKKPbc 03 36 32.8 -0.8
comp=Z,0.5nm,0.9s,baz=35,slow=2.5,SNR=3.9
YKA LR LR 03 57 07.0
comp=Z,2μm,19.7s,MS5.6,baz=240,slow=32
YKA Yellowknife Ar 95.11 24 P **P** **03 19 37.1 -2.4**
YKA 03 23 25.2
YKA pmax pmax
comp=Z,6.0nm,1.0s
YKA pmax pmax
comp=Z,1.0nm,1.0s
YKA pmax pmax
comp=Z,1.0nm,0.9s
OTAV Otavalo 95.12 92 *e*P **P** **03 19 41.2 +1.7**
comp=Z,1.8nm,0.5s,mb4.8
YKW3 Yellowknife Ar 95.15 24 *e*P **P** **03 19 37.7 -2.0**
YKW3 *e*PP PP 03 23 26.4 -2.9
ARE Arequipa 95.33 110 *e*P **P** **03 19 43.0 +2.5**
CIT Chita 95.96 324 *e*P **P** **03 19 45.2 +1.8**
LZH Lanzhou 96.03 306 *e*P **P** **03 19 47.9 +4.2**
LZH AP pP 03 19 51.8 +4.4
LZH XP sP 03 19 54.6 +5.8
LZH PP PP 03 23 43.0 +6.8
LZH *e*SKS 03 30 23.0
LZH *e*S 03 31 03.0
LZH XS sS 03 31 10.1 +1.5
LZH SS SS 03 37 38.1 +5.0
LZH AMB AMB
comp=Z,90nm,1.5s,mb6.0
LZH AMB AMB
comp=Z,458nm,5.4s
LZH LR LR
comp=E,2μm,5.0s
LZH LR LR
comp=Z,3μm,7.0s
FFC Flin Flon 96.74 34 *e*P **P** **03 19 45.8 -1.1**
FFC pmax pmax
comp=Z,24nm,1.6s,mb5.4
FFC Flin Flon 96.74 34 *e*P **P** **03 19 45.8 -1.1**
comp=Z,24nm,1.6s,mb5.4
FVM French Village 97.50 52 *e*P **P** **03 19 50.2 -0.2**
FVM pmax pmax
comp=Z,24nm,1.5s,mb5.5
FVM French Village 97.50 52 *e*P **P** **03 19 50.2 -0.2**
comp=Z,27nm,1.5s,mb5.5
BOD Bodaibo 98.26 329 *e*P **P** **03 19 48.7 -5.1**
BOD pmax pmax
comp=Z,3.0nm,1.7s,mb4.5
ULM Lac du Bonnet 98.30 39 P **P** **03 19 52.8 -1.1**
comp=Z,3.2nm,0.9s,mb4.9,baz=231,slow=5.7,SNR=8.2
ULM PP PP 03 23 50.2 -3.4
comp=Z,3.1nm,1.0s,baz=241,slow=10,SNR=4.8
ULM LR LR 04 03 08.9
comp=Z,3μm,18.0s,MS5.8,baz=244,slow=35
ULM Lac du Bonnet 98.30 39 P **P** **03 19 52.8 -1.1**
ULM PP PP 03 23 50.2 -3.4
ULM LR LR 04 03 08.9
LPAZ La Paz 98.35 111 P **P** **03 19 54.9 +0.7**
comp=Z,2.5nm,0.8s,mb4.8,baz=240,slow=2.7,SNR=11
LPAZ PP PP 03 23 54.0 -0.1
comp=Z,2.0nm,1.1s,baz=244,slow=9.2,SNR=3.9
LPAZ LR LR 03 55 04.6
comp=Z,2μm,21.1s,MS5.6,baz=291,slow=30
LPAZ La Paz 98.35 111 *e*P **P** **03 19 56.6 +2.5**
comp=Z,19nm,1.6s,mb5.4
SONM Songino Array 98.51 318 P **P** **03 19 53.5 -1.4**
comp=Z,1.7nm,0.8s,mb4.6,baz=131,slow=4.5,SNR=5.6
SONM PP PP 03 23 53.0 -2.3
comp=Z,3.2nm,0.9s,baz=104,slow=6.3,SNR=5.3
SONM PKP2bc 03 43 18.1
comp=Z,0.8nm,0.6s,baz=311,slow=4.9,SNR=3.6
SONM LR LR 04 05 38.2
comp=Z,2μm,18.6s,MS5.6,baz=104,slow=36
SONM Songino Array 98.51 318 P **P** **03 19 53.5 -1.4**
SONM PP PP 03 23 53.0 -2.3
SONM ⇑*e* 03 43 18.1
SONM LR LR 04 05 38.1
TIXI Tiksi 99.99 344⇑ *i*P Pdif 03 19 59.8 -1.7
TIXI *e* 03 23 59.3
TIXI *e* 03 30 35.6
TIXI *e*SP SP 03 32 56.3 -7.6
TIXI *e*SS SS 03 38 20.6 -8.2
TIXI pmax pmax
comp=Z,10.0nm,1.2s,mb5.1
TIXI Tiksi 99.99 344⇑ *i*P Pdif 03 19 59.8 -1.7
comp=Z,10.0nm,1.2s
TIXI *e* 03 23 59.3
TIXI *e* 03 30 35.6
TIXI *e*SP SP 03 32 56.3 -7.6
TIXI *e*SS SS 03 38 20.6 -8.2
GTA Gaotai 100.16 308 *e*P Pdif 03 20 04.8 +2.6
GTA AP 03 20 09.8
GTA XP 03 20 12.0
GTA PP PP 03 24 09.8 +2.0
GTA SKS 03 30 39.8
GTA S Sdif 03 31 32.3 -5.1
GTA SS SS 03 38 35.9 +4.8
GTA AMB AMB
comp=Z,4.0nm,0.9s
GTA AMB AMB
comp=Z,703nm,6.8s
GTA LR LR
comp=N,1μm,16.0s,MS5.6
GTA LR LR
comp=E,977nm,18.3s,MS5.6
GTA LR LR
comp=Z,2μm,27.0s
ZAK Zakamensk 101.31 320 *e*P Pdif 03 20 05.9 -1.5
TLY Talaya 101.51 321 *e*P Pdif 03 20 09.3 +1.1
TLY *e* 03 30 40.1
TLY *e*S Sdif 03 31 49.1 +0.4
TLY *e*PS PS 03 33 25.0 +3.4
TLY pmax pmax
comp=Z,2.0nm,1.0s
TLY MLR MLR
comp=Z,2μm,19.0s,MS5.7
TLY Talaya 101.51 321 *e*P Pdif 03 20 09.3 +1.1
TLY *e* 03 30 40.1
TLY *e*S Sdif 03 31 49.1 +0.4
TLY *e*PS PS 03 33 25.0 +3.4
FCC Fort Churchill 102.32 32 *e*P Pdif 03 20 11.2 -0.7
FCC pmax pmax
comp=Z,6.0nm,1.2s
FCC Fort Churchill 102.32 32 *e*Pdif Pdif 03 20 11.2 -0.7
comp=Z,5.7nm,1.2s
SDV Santo Domingo 105.38 86 *e*PKP PKiKP 03 24 40.3 +1.1
SAML Samuel 105.77 106 PKP PKiKP 03 24 42.4 +2.5
WMQ Urumqi 110.03 310 PDIF Pdif 03 20 47.8 +1.6
WMQ PP PP 03 25 26.0 +5.0
WMQ SKS SKSdf 03 31 56.3 -3.6
WMQ SS SS 03 40 45.0 -1.3
WMQ PP PP
comp=Z,500nm,7.0s
WMQ PP PP
comp=Z,105nm,14.5s
WMQ LR LR
comp=N,1μm,20.3s,MS5.6
WMQ LR LR
comp=E,1μm,19.5s,MS5.6
WMQ LR LR
comp=Z,1μm,25.5s
TRD Trivandrum 110.88 271⇓ *e*P PP 03 25 28.4 +1.3
NVS Novosibirsk 114.09 322 *e*PKIKP PKiKP 03 24 53.8 -1.8
NVS *e* 03 25 45.4
NVS pmax pmax
comp=Z,22nm,2.1s
NVS pmax pmax
comp=N,6.0nm,1.7s
NVS pmax pmax
comp=E,9.0nm,1.7s
MKAR Makanchi Array 114.20 313 PKP PKiKP 03 24 54.3 -1.6
comp=E,2.2nm,0.6s,baz=102,slow=0.7,SNR=12
MKAR PP PP 03 25 45.3 -5.5
comp=E,1.8nm,0.9s,baz=94,slow=6.4,SNR=2.0
MKAR PKKPbc PKKPbc 03 35 35.3 -0.6
comp=E,0.9nm,0.9s,baz=282,slow=3.8,SNR=5.7
SCHQ Schefferville 116.44 38 PP PP 03 26 03.7 -2.9
comp=E,4.7nm,1.2s,baz=260,slow=9.5,SNR=5.1
KURK Kurchatov 116.81 317 *e*PKIKP PKPdf 03 24 59.3 -1.6
KURK *e* 03 26 04.6
KSH Kashi 118.23 305 *e*PKP PKPdf 03 25 03.1 -0.5
KSH *e*PP PP 03 26 24.1 +5.1
KSH *e*PKS 03 28 38.3
KSH *e*SKS SKSdf 03 32 10.1 -5.5
KSH PP PP
comp=Z,405nm,6.2s
KSH LR LR
comp=N,475nm,7.6s
KSH LR LR
comp=E,482nm,8.3s
KSH LR LR
comp=Z,579nm,15.6s,MS5.3
FRU Bishkek 119.42 308 *e*PKIKP PKPdf 03 25 07.2 +1.3
FRU pmax pmax
comp=Z,45nm,2.0s
AAK Ala-Archa 119.51 308⇓ *i*PKIKP PKPdf 03 25 04.1 -1.9
AAK MLR MLR
comp=Z,800nm,20.0s,MS5.3
CHKZ Chkalovo 121.53 321 *e*PKIKP PKPdf 03 25 08.4 -1.5
CHKZ *e* 03 26 39.1
SFJD Kangerlussuaq 121.67 23 PP PP 03 26 39.1 -3.5
comp=Z,6.9nm,0.9s,baz=274,slow=12,SNR=4.4
BRVK Borovoye 121.81 320 *e*PKIKP PKPdf 03 25 08.6 -1.9
BRVK *e* 03 26 40.3
SUMG Summit 122.42 15 *e*PKPdf PKPdf 03 25 11.4 -0.2
DAG Danmarks Havn 122.55 7⇓ *i*P PKPdf 03 25 10.3 -1.6
DAG pmax pmax
comp=Z,2.0nm,0.9s
DAG MLR MLR
comp=N,710nm,20.0s,MS5.5
DAG MLR MLR
comp=E,990nm,20.0s,MS5.5
DAG MLR MLR
comp=Z,2μm,20.0s,MS5.7
ZRNK Zerenda 122.59 320 *e*PKIKP PKPdf 03 25 10.8 -1.2
SUR Sutherland 125.37 195 *e*PKPdf PKPdf 03 25 17.8 +0.5
ARU Arti 127.58 326 *i* PKIKP PKPdf 03 25 21.1 -0.4
ARU *e* 03 27 19.0
ARU *e* 03 32 24.0
ARU *e*SP SP 03 37 15.4 -11
ARU *e*PS PS 03 37 26.4 -1.4
ARU *e*SS SS 03 44 26.1 -7.0
ARU MLR MLR
comp=Z,3μm,20.0s,MS6.0
ARU MLR MLR
comp=N,1μm,19.0s,MS5.9
ARU MLR MLR
comp=E,2μm,20.0s,MS5.9
ARU Arti 127.58 326 *i* PKPdf PKPdf 03 25 21.1 -0.4
ARU *e* 03 27 19.0
ARU *e* 03 32 24.0
ARU *e*SP SP 03 37 15.4 -11
ARU *e*PS PS 03 37 26.4 -1.4
ARU *e*SS SS 03 44 26.1 -7.0
ARU LR LR
comp=Z,3μm,20.0s,MS6.0
LVZ Lovozero 129.57 346 *i* PKIKP PKPdf 03 25 28.3 +3.0
LVZ *e* 03 27 31.2
LVZ *e*SS SS 03 44 51.8 -5.9
LVZ MLR MLR
comp=Z,2μm,17.0s,MS5.8
LVZ MLR MLR
comp=N,967nm,18.0s,MS5.6
LVZ MLR MLR
comp=E,499nm,15.0s,MS5.6
ARCES ARCESS Array B 129.79 351 PKP PKPdf 03 25 23.3 -2.4
comp=E,11nm,1.1s,baz=31,slow=2.1,SNR=13
ARCES ARCESS Array B 129.79 351 PKIKP PKPdf 03 25 23.3 -2.4
ARCES pmax pmax
comp=Z,11nm,1.1s
LBTB Lobatse 130.77 203 *e*PKIKP PKPdf 03 25 27.6 0.0
KLMR Klimovskoe 133.59 338 *i* PKIKP PKPdf 03 25 32.1 -0.8
KLMR *e* 03 27 56.9
KLMR pmax pmax
comp=Z,40nm,1.9s
KLMR MLR MLR
comp=Z,2μm,24.0s,MS5.8
PECR Pechory 134.72 331 *e*PKIKP PKPdf 03 25 37.4 +2.4
PECR *e* 03 28 06.0
PECR MLR MLR
comp=Z,2μm,21.0s,MS5.7
PUL Pulkovo 137.36 342 *i* PKIKP PKPdf 03 25 46.1 +6.2
PUL MLR MLR
comp=Z,2μm,20.0s,MS5.8
PUL MLR MLR
comp=N,758nm,17.0s,MS5.7
PUL MLR MLR
comp=E,1μm,19.0s,MS5.7
MOS Moscow 137.88 334 *e*PKIKP PKPdf 03 25 40.3 -0.6
MOS *e* 03 28 36.4
MOS *e*PPP 03 31 37.7
MOS MLR MLR
comp=Z,2μm,21.9s,MS5.8
MOS MLR MLR
comp=N,1μm,20.3s
LSZ Lusaka 138.20 213 *e*PKPdf PKPdf 03 25 41.9 +0.4
LSZ *e*PP PP 03 28 28.5 -1.7
OBN Obninsk 138.75 334 *i* PKIKP PKPdf 03 25 44.2 +1.7
OBN *i* 03 28 29.0
OBN *i* SS SS 03 46 37.9 -10
OBN pmax pmax
comp=E,51nm,1.8s
OBN Obninsk 138.75 334 *i* PKPdf PKPdf 03 25 44.2 +1.7
OBN *i* 03 28 29.0
OBN *i* SS SS 03 46 37.9 -10
TSUM Tsumeb 138.78 196 *e*PKPdf PKPdf 03 25 43.9 +1.3
TSUM *e*PP PP 03 28 36.5 +2.7
MAK Makhachkala 139.01 312 *e*PKIKP PKPdf 03 25 42.4 -0.6
MAK *i* 03 28 30.8
MAK pmax pmax
comp=Z,157nm,1.9s
MAK MLR MLR
comp=Z,2μm,23.0s,MS5.8
VSU Vasula 139.46 343⇓ *i*PKIKP PKPdf 03 25 46.0 +2.2
NB2 NORSAR Subarra1 39.56 356 PKPa 03 25 38.2
comp=Z,14nm,1.7s,baz=16,slow=3.2
NOA NORSAR Array B 139.56 356 PKP PKPdf 03 25 42.9 -1.1
comp=Z,2.6nm,0.9s,baz=15,slow=4.4,SNR=5.9
NOA NORSAR Array B 139.56 356 PKIKP PKPdf 03 25 42.9 -1.1
NOA pmax pmax
comp=Z,3.0nm,0.9s
NOA NORSAR Array B 139.56 356 PKP PKPdf 03 25 42.9 -1.1
NAO01 NORSAR Array S 139.78 356 *e*PKPdf PKPdf 03 25 43.3 -1.1
VOR Voronezh 139.78 328 PKIKP PKPdf 03 25 43.0 -1.4
VOR pmax pmax
comp=Z,90nm,1.6s
VRSR Storozhevoye 140.10 328 *e*PKIKP PKPdf 03 25 41.7 -3.3
VRSR pmax pmax
comp=E,1.0nm,0.9s
VRSR pmax pmax
comp=Z,1.0nm,0.9s
VRSR pmax pmax
comp=N,1.0nm,0.8s
ZEI Tsey 141.55 314 *e*PKHKP 03 25 43.8
KIV Kislovodsk 141.87 316 *i* PKIKP PKPdf 03 25 49.0 +0.8
KIV *e* 03 28 50.3
KIV *e*SS SS 03 47 18.4 -6.6
KIV pmax pmax
comp=Z,28nm,1.1s
KIV Kislovodsk 141.87 316 *i* PKPdf PKPdf 03 25 49.0 +0.8
KIV *e* 03 28 50.3
KIV *e*SS SS 03 47 18.4 -6.6
GNI Garni 141.90 309 *e*PKIKP PKPdf 03 25 48.5 +0.3
MNK Minsk 142.48 339 *e*PKHKP 03 25 44.0
KMBO Kilima Mbogo 142.62 238 PKP PKPdf 03 25 48.5 -0.9
comp=Z,1.2nm,0.4s,baz=225,slow=2.3,SNR=5.1
KMBO Kilima Mbogo 142.62 238 *i* PKHKP 03 25 48.4
KMBO pmax pmax
comp=Z,1.0nm,0.4s
ARTV Artvin 143.53 312 *i* P PKPdf 03 25 44.6 -6.4
EAB Aberfoyle 143.73 10⇓ *e*P PKPdf 03 25 49.0 -2.4
EAB AMb AMB 03 25 52.2
comp=Z,134nm,1.5s
BHD Baghdad 143.93 298 *ex* x 03 25 49.0
BHD *ex* x 03 33 08.0
SOC Sochi 143.96 317 *e*PKIKP PKPdf 03 25 50.8 -1.0
SOC *i* 03 25 56.3
SOC *e* 03 41 37.1
SOC *e*SS SS 03 47 40.4 -8.7
EDI Edinburgh 144.16 9 *e*P PKPdf 03 25 49.9 -2.3
EDI AMb AMB 03 25 52.9
comp=Z,136nm,1.6s
EAU Auchinoon 144.20 9 *e*P PKPdf 03 25 49.6 -2.6
EAU AMb AMB 03 25 54.2
comp=Z,333nm,1.7s
ESY Stoneypath 144.25 8 *e*P PKPdf 03 25 50.9 -1.5
ESY AMb AMB 03 25 54.0
comp=Z,93nm,1.4s
MUD Monsted U'grnd 144.25 357 *i* P PKPdf 03 25 50.8 -1.5
comp=Z,101nm,1.4s
MUD *i* 03 48 01.9
MUD
comp=Z,2μm,19.0s
MUD Monsted U'grnd 144.25 357 *i* PKIKP PKPdf 03 25 50.8 -1.5
MUD pmax pmax
comp=Z,100nm,1.4s
MUD MLR MLR
comp=Z,2μm,19.0s,MS5.8
MUD Monsted U'grnd 144.25 357 *i* P PKPdf 03 25 50.8 -1.5
MUD *i* 03 48 01.9
MSL Mosul 144.29 304 *ex* x 03 25 52.0
GMK Mull of Kintyr 144.31 12 *e*P PKPdf 03 25 49.6 -2.9
SUW Suwalki 144.32 343 *e*PKP PKPdf 03 25 50.2 -2.3
EBL Broad Law 144.33 9 *e*P PKPdf 03 25 50.2 -2.3
EBL AMb AMB 03 25 53.6
comp=Z,189nm,1.8s
ERZM Erzurum 144.41 310 *i* P PKPdf 03 25 53.2 +0.6
GCL Cushendall 144.46 12 *e*P PKPdf 03 25 50.2 -2.5
ESK Eskdalemuir 144.74 9 *e*P PKPdf 03 25 51.0 -2.2
ESK AMb AMB 03 25 54.7
comp=Z,56nm,1.6s
ESK Eskdalemuir 144.74 9 *e*PKPdf PKPdf 03 25 50.8 -2.4
ANN Anapa 144.76 320⇓ *i*PKIKP PKPdf 03 25 52.1 -1.1
ANN pmax pmax
comp=Z,68nm,0.8s
ANN pmax pmax
comp=Z,280nm,7.8s
COP Copenhagen 144.78 354⇑ *i*P PKPdf 03 25 52.9 -0.4
comp=Z,149nm,1.9s
COP Copenhagen 144.78 354 *i* S Sdif 03 37 49.2 -0.4
COP
comp=Z,400nm,17.0s
COP Copenhagen 144.78 354⇑ *i*PKIKP PKPdf 03 25 52.9 -0.4
COP pmax pmax
comp=Z,150nm,1.9s
COP MLR MLR
comp=Z,400nm,17.0s,MS5.3
COP Copenhagen 144.78 354⇑ *i*P PKPdf 03 25 52.9 -0.4
COP *i* S Sdif 03 37 49.2 -0.4
COP LR LR
comp=Z,400nm,17.0s,MS5.3
BWH Wardlaw 144.81 10 *e*P PKPdf 03 25 50.9 -2.4
BNGL BINGOL 144.91 309 *i* P PKPdf 03 25 54.4 +0.9
GAL1 Galloway 144.93 11 *e*P PKPdf 03 25 51.5 -2.0
BHH Howats Hill 144.96 9 *e*P PKPdf 03 25 52.0 -1.6
BBH Bruntsheil 144.96 9 *e*P PKPdf 03 25 52.6 -1.0
AKASG Malin Array Be 145.01 334 PKP PKPdf 03 25 51.5 -2.2
comp=Z,39nm,0.7s,baz=41,slow=4.5,SNR=74
AKASG Malin Array Be 145.01 334 PKIKP PKPdf 03 25 51.5 -2.2
AKASG pmax pmax
comp=Z,39nm,0.7s
BSD Bornholm Skovb 145.03 351⇓ *i*P PKPbc 03 25 52.2 -0.9
comp=Z,69nm,1.1s
BSD
comp=Z,2μm,21.0s
BSD Bornholm Skovb 145.03 351⇓ *i*PKIKP PKPdf 03 25 52.2 -1.5
BSD pmax pmax
comp=Z,69nm,1.1s
BSD MLR MLR
comp=Z,2μm,21.0s,MS5.8
ASCN Ascension 145.10 143 *e*PKPdf PKPdf 03 25 53.9 +0.1
GMM Mts of Mourne 145.29 13 *e*P PKPbc 03 25 52.9 -1.0
CKE Keswick 145.46 10 *e*P PKPdf 03 25 53.3 -1.1
XDE Dent Fell 145.48 10 *e*P PKPdf 03 25 53.0 -1.5
XDE AMb AMB 03 25 55.7
comp=Z,167nm,1.5s
GIM North Isle of 145.52 11 *e*P PKPdf 03 25 54.6 +0.1
WIM Isle of Man 145.62 11 *e*P PKPdf 03 25 54.6 -0.2
WIM AMb AMB 03 25 58.9
comp=Z,207nm,1.4s
MARD Mardin 145.75 306 *i* P PKPdf 03 25 54.9 0.0
RGN Rugen 145.80 353 *e*PKPbc PKPbc 03 25 56.0 +0.5
DCN Croghan 145.83 14 *e*P PKPdf 03 25 53.8 -1.3
LWH Whinny Nab 146.04 7 *e*P PKPdf 03 25 55.9 +0.5
DLF Lyons Farm 146.05 14 *e*P PKPdf 03 25 54.4 -1.0
DSB Dublin 146.13 14 *e*PKPbc PKPbc 03 25 56.4 -0.1

GRSN GIRESUNGRSN 146.15 314 *i* P PKPdf 03 25 56.4 +0.8
WCB1 Church Bay 146.38 12 *e*P PKPdf 03 25 55.5 -0.4
WCB1 AMb AMB 03 26 00.2
comp=Z,127nm,1.6s
GKP Gorka Klasztor 146.41 348 *e*PKP PKPdf 03 25 57.3 +1.2
WAR Warsaw 146.49 343 *e*PKP PKPdf 03 25 58.0 +1.8
WLF1 Llynfaes 146.49 12 *e*P PKPdf 03 25 56.3 +0.1
WLF1 AMb AMB 03 26 02.5
comp=Z,190nm,1.7s
DESE Dese 146.50 259 *e*P PKPbc 03 26 00.3 +2.7
DESE Dese 146.50 259 *e*P PKPbc 03 26 00.3 +2.7
FURI Furi 146.52 254 *e*P PKPdf 03 25 58.6 +2.4
FURI *e*S 03 28 54.9
SIM Simferopol' 146.60 323*c i*PKP2 PKPab 03 25 57.7 -1.3
SIM *e* 03 29 29.0
SIM *e*SS SS 03 48 17.0 -2.3
SIM pmax pmax
comp=Z,66nm,1.1s
DRBT Darb Altahta 146.63 306 ⇑P PKPbc 03 26 01.7 +3.6
LHO Holmfirth 146.66 9 *e*P PKPdf 03 25 57.4 +1.0
BSEG Bad Segeberg 146.69 356 *e*PKPbc PKPbc 03 25 58.7 +0.5
BSEG *e*SS SS 03 48 19.5 -0.8
KBI1 Birley Grange 146.99 8 *e*P PKPdf 03 25 58.3 +1.3
SBD1 Bryn Du 147.06 11 *e*P PKPdf 03 25 58.6 +1.5
MALT Malatya 147.13 309 ⇑*i*P PKPdf 03 26 01.1 +3.8
MALT Malatya 147.13 309 *e*PKPbc PKPbc 03 25 58.6 -0.8
KWE Weaver Farm 147.18 9 *e*P PKPdf 03 25 59.0 +1.7
HLM1 Long Mynd 147.50 10 *e*P PKPdf 03 25 58.0 +0.1
HLM1 AMb AMB 03 26 04.3
comp=Z,155nm,1.6s
ATAB Bozova 147.55 308 *i*P PKPdf 03 25 59.7 +1.7
SSP1 Stoney Pound 147.55 11 *e*P PKPdf 03 25 59.6 +1.6
LVV L'vov 147.69 338 *e*PKP2 PKPab 03 26 00.3 -2.9
LVV *e*PPP 03 32 39.5
LVV *e* 03 32 58.9
LVV MLR MLR
comp=E,850nm,22.0s,MS5.7
LVV MLR MLR
comp=Z,2µm,22.0s,MS5.8
LVV MLR MLR
comp=N,950nm,23.0s,MS5.7
RUE Ruedersdorf 147.76 351 *e*PKPdf PKPdf 03 25 59.3 +1.0
RUE *e*PKPbc PKPbc 03 26 02.0 +0.8
RUE *e*SS SS 03 48 35.5 +3.1
RUE Ruedersdorf 147.76 351 *e*PKPbc PKPbc 03 25 59.7 -1.5
MBAR Mbarara 147.96 232 ⇓*i*PKHKP 03 26 01.1
KIS Kishinev 147.97 330 *i* PKIKP PKPdf 03 26 00.0 +1.3
KIS *e* 03 29 36.0
JHLN Al Jahlan 148.07 305 ⇑P PKPbc 03 26 03.8 +1.8
BOYT Boyabat 148.12 317 *i* P PKPdf 03 26 01.7 +2.8
GZT Gaziantep 148.13 308 *i* P PKPdf 03 26 01.7 +2.7
KWP Kalwaria 148.29 339 *e*PKP PKPdf 03 26 00.7 +1.5
KWP *e* 03 26 17.2
IBBN Ibbenburen 148.45 358 *e*PKPbc PKPbc 03 26 03.8 +0.8
IBBN *e*SS SS 03 48 41.4 +1.2
OJC Ojcow 148.65 343 *e*PKPdf PKPdf 03 26 00.6 +0.8
OJC *e*PKPbc PKPbc 03 26 03.8 +0.3
OJC *e*PP PP 03 29 32.6 -0.5
OJC *e*SKKSac SKKSac 03 36 21.8 -2.9
OJC *e*SS SS 03 48 39.9 -2.5
OJC L 04 33 56.9
comp=N,8.1nm,20.9s
OJC Ojcow 148.65 343 *e*PKP2 PKPab 03 26 03.8 -3.3
OJC *e* 03 29 32.6
OJC *e*SS SS 03 48 39.9 -2.5
OJC MLR MLR
comp=Z,8µm,20.9s,MS6.5
HEX Exmoor 148.72 12 *e*P PKPdf 03 25 59.4 -0.4
CLZ Clausthal 148.77 355 *e*PKPdf PKPdf 03 26 00.7 +0.7
CLZ *e*PKPbc PKPbc 03 26 04.7 +0.9
CLZ *e*SS SS 03 48 42.1 -1.6
WTSB Winterswijk 148.81 359 *e*PKiKP PKiKP 03 25 58.9 -6.4
comp=Z,117nm,2.1s
KSP Ksiaz 148.90 348 *e*PKP PKPdf 03 26 01.5 +1.3
KSP *e* 03 26 18.9
KSP Ksiaz 148.90 348 *e*PKP PKPdf 03 26 01.0 +0.8
KSP *e*PKPdf PKPdf 03 26 05.1 +4.9
KSP *e* 03 26 18.5
KSP *e*SS SS 03 48 38.0 -7.2
KSP LR LR
comp=Z,5µm,21.8s,MS6.2
STHS Stebnicka Huta 148.95 341 *e*PKP PKPdf 03 26 01.7 +1.4
STHS *e* 03 26 05.7
CLL Collm 149.01 352 *e*PKPdf PKPdf 03 26 00.9 +0.5
comp=Z,28nm,1.7s
CLL *e*PKPbc PKPbc 03 26 04.2 -0.2
comp=Z,172nm,1.5s
CLL *e*pPKP pPKPdf 03 26 18.8 +15
CLL *e*PP PP 03 29 53.6 +18
CLL *e*PPP 03 32 47.4
CLL *e*PSKS 03 39 48.7
CLL *e*SS SS 03 48 41.6 -4.8
CLL *e*SSS 03 54 27.8
CLL *e*L 04 30 38.1
comp=Z,2µm,22.0s
CLL Collm 149.01 352 *e*PKPdf PKPdf 03 26 01.0 +0.6
comp=Z,17nm,1.5s
CLL *i* PKPbc PKPbc 03 26 04.2 -0.2
comp=Z,169nm,1.5s
CLL *e*sPKPbc 03 26 15.0
CLL *e*sPKPab 03 26 19.0
CLL *e*(PP) 03 30 00.0
CLL *e*PPP 03 32 52.0
CLL *e*PSKS 03 39 51.0
CLL *e*SS SS 03 48 45.0 -1.4
CLL *e*SSS 03 54 22.0
CLL Collm 149.01 352 *e*PKIKP PKPdf 03 26 01.0 +0.6
CLL *i* 03 26 04.2
CLL *e* 03 26 15.0
CLL pmax pmax
comp=Z,17nm,1.5s
CLL Collm 149.01 352 *e*PKP PKPdf 03 26 01.0 +0.6
CLL *i* PKP PKPdf 03 26 04.2 +3.8
CLL *ep*PKP pPKPdf 03 26 15.0 +11
BALT Daday 149.02 318 *i* P PKPdf 03 26 00.6 +0.2
BURAR Bucovina Array 149.06 335 ⇑*i*P PKPbc 03 26 05.3 +0.8
BURAR Bucovina Array 149.06 335 ⇑P PKPbc 03 26 05.3 +0.8
DRWC Darouich 149.08 307 ⇑P PKPbc 03 26 06.3 +1.8
GTTG Gvttingen 149.09 355 *e*PKPdf PKPdf 03 26 01.2 +0.7
GTTG *e*PKPbc PKPbc 03 26 05.5 +0.9
NIE Niedzica 149.22 342 *e*PKP PKPdf 03 26 02.3 +1.6
NIE e 03 26 06.4
NIE Niedzica 149.22 342 *e*PKP PKPdf 03 26 02.3 +1.6
NIE *e* 03 26 06.4
UPC Upice 149.28 348 *e*PKPDF PKPdf 03 26 01.6 +0.8
UPC ⇑*e*PKPB PKPbc 03 26 07.1 +2.0
UPC *ex* x 03 26 22.1
BRG Berggiesshubel 149.29 350 *e*PKPdf PKPdf 03 26 01.3 +0.5
BRG *e*PKPbc PKPbc 03 26 05.9 +0.8
BRG *e*SS SS 03 48 55.5 +5.9
BRG Berggiesshubel 149.29 350 *e*PKP PKPdf 03 26 01.7 +0.9
comp=Z,137nm,1.8s
BRG *i* 03 26 58.7
comp=Z,54nm,1.7s
BRG Berggiesshubel 149.29 350 SS SS 03 48 42.0 -7.6
BUG Bochum--Univer 149.33 359 *e*PKPdf PKPdf 03 26 01.6 +0.7
BUG *e*PKPbc PKPbc 03 26 05.7 +0.5
BUG *e*SS SS 03 48 50.0 0.0
CRVS Cervenica-Dubn 149.33 340 *e*PKP PKPbc 03 26 09.5 +4.3
CRVS *e*SS SS 03 48 49.6 -0.4
CRVS Cervenica-Dubn 149.33 340 *e*P PKPbc 03 26 09.5 +4.3
CRVS *e*SS SS 03 48 49.7 -0.3
CRVS LR LR
comp=Z,800nm,25.3s,MS5.4
DPC Dobruska-Polom 149.36 347 *e*PKPDF PKPdf 03 26 02.1 +1.2
DPC ⇑*e*PKPB PKPbc 03 26 07.3 +2.0
DPC *ep*PKP pPKPdf 03 26 20.4 +16
DPC *ex* x 03 39 54.1
DPC *e*SS SS 03 48 50.7 +0.3
DPC AMS AMS 04 31 00.0
comp=Z,2µm,21.7s
CDAG Cicekdag 149.38 314 *i* P PKPdf 03 26 01.2 +0.2
COBT Iskenderun 149.42 307 *i* P PKPdf 03 26 04.1 +3.0
OKC Ostrava-Krasne 149.43 345 *e*PKPDF PKPdf 03 26 02.0 +1.0
OKC ⇑*e*PKPB PKPbc 03 26 06.5 +1.0
OKC *ep*PKP pPKPdf 03 26 20.3 +15
OKC *ex* x 03 39 52.5
OKC *e*SS SS 03 48 50.4 -0.7
OKC AMS AMS 04 29 40.0
comp=Z,1µm,20.9s
ROOS tl_alroos 149.44 303 ⇑P PKPbc 03 26 07.2 +1.7
BTCH Batrach 149.45 306 ⇑P PKPbc 03 26 06.5 +1.0

AVNT Avonos 149.46 312 *i* P pPKPab 03 26 18.5 +4.4
ELDT Eldivan 149.56 316 *i* P PKPdf 03 26 01.9 +0.6
CFR Carcaliu 149.62 328 ⇑*i*P PKPbc 03 26 05.8 -0.1
CFR Carcaliu 149.62 328 ⇑P PKPbc 03 26 05.8 -0.2
MORC Moravsky Berou 149.63 345 ⇑*i*P PKPbc 03 26 05.2 -0.8
MORC Moravsky Berou 149.63 345 *e*PKPdf PKPdf 03 26 01.5 +0.1
MORC *e*PKPbc PKPbc 03 26 06.4 +0.4
WRDH Warideh 149.68 306 ⇑P PKPbc 03 26 06.9 +0.9
ZALF Zalf 149.77 300 ⇑P PKPbc 03 26 08.7 +2.4
VRI Vrincioaia 149.78 331 ⇑*i*P PKPbc 03 26 06.4 +0.1
VRI Vrincioaia 149.78 331 ⇑P PKPbc 03 26 06.4 +0.1
SLNF Slenfeh 149.79 306 ⇑P PKPbc 03 26 06.7 +0.4
BR131 Keskin Array S 149.82 315 *e*PKPdf PKPdf 03 26 02.0 +0.3
BR131 *e*PKPbc PKPbc 03 26 06.2 -0.2
BRTR Keskin Array B 149.82 315 PKP PKPdf 03 26 01.5 -0.2
comp=Z,8.6nm,1.1s,baz=107,slow=1.3,SNR=17
BRTR PKPbc PKPbc 03 26 07.0 +0.6
comp=Z,9.5nm,0.8s,baz=143,slow=4.6,SNR=26
BRTR PP PP 03 29 42.2 +2.3
comp=Z,1.7nm,1.0s,baz=104,slow=5.8,SNR=5.2
BRTR Keskin Array B 149.82 315 PKIKP PKPdf 03 26 01.5 -0.2
BRTR 03 26 07.1
BRTR 03 29 42.3
BRTR pmax pmax
comp=Z,9.0nm,1.1s
PLOR Plostina 149.82 331 ⇑*i*P PKPbc 03 26 06.5 +0.1
MOX Moxa 149.83 353 *e*PKPdf PKPdf 03 26 02.4 +0.7
MOX *e*PKPbc PKPbc 03 26 07.1 +0.6
MOX *e*SS SS 03 48 53.5 -2.1
MOX Moxa 149.83 353 *e*P PKPdf 03 26 02.2 +0.5
comp=Z,185nm,1.8s
MOX
comp=Z,1µm,20.0s
MOX Moxa 149.83 353 *e*PKIKP PKPdf 03 26 02.2 +0.5
MOX pmax pmax
comp=Z,185nm,1.8s
MOX MLR MLR
comp=Z,1µm,20.0s,MS5.8
BIDA Albida 149.92 305 ⇑P PKPbc 03 26 07.7 +1.0
WERD Werda 149.94 352 *e*PKPdf PKPdf 03 26 02.0 +0.2
WERD *e*PKPbc PKPbc 03 26 07.4 +0.7
UCC Uccle 149.95 2 PKPbc PKPbc 03 26 06.4 -0.3
BEBN Eben Emael 149.99 1 PKPbc PKPbc 03 26 07.7 +0.9
BEBN E 03 26 28.5
PRA Prague 149.99 349 ⇑PKPB PKPbc 03 26 08.0 +1.2
TIRR Tirgusor 150.00 327 ⇑*i*P PKPbc 03 26 07.3 +0.4
TIRR Tirgusor 150.00 327 *e*PKPbc PKPbc 03 26 06.0 -0.9
KECS Kecovo 150.01 341 *e*PKP PKPdf 03 26 03.8 +1.9
KECS *e* 03 26 07.4
KECS Kecovo 150.01 341 *e*PKP PKPdf 03 26 03.8 +1.9
KECS *e* 03 26 07.5
HGN Heimansgroeve 150.02 0 *e*PKiKP PKiKP 03 26 06.6 -1.2
comp=Z,73nm,1.6s
HGN *e*PPP 03 32 53.5
HGN *e*SKSP 03 39 42.0
HGN *e*SS SS 03 48 54.4 -3.3
PRU Pruhonice 150.05 349 *e*PKPDF PKPdf 03 26 02.7 +0.7
PRU ⇑*e*PKPB PKPbc 03 26 07.5 +0.5
PRU *ep*PKP pPKPdf 03 26 19.8 +14
PRU *e*PP PP 03 29 40.4 -0.9
PRU *ex* x 03 39 56.9
PRU *e*SS SS 03 48 56.4 -1.6
PRU AMS AMS 04 29 00.0
comp=Z,2µm,25.9s
MENF Mencas 150.06 5 PKP PKPdf 03 26 02.7 +0.7
HARR Harsova 150.07 328 ⇑*i*P PKPdf 03 26 04.9 +2.8
HARR Harsova 150.07 328 ⇑P PKPdf 03 26 04.9 +2.8
NKC Novy Kostel 150.13 352 *e*PKPDF PKPdf 03 26 02.9 +0.8
NKC ⇑*e*PKPB PKPbc 03 26 07.7 +0.5
NKC *ep*PKP pPKPdf 03 26 20.0 +14
NKC *e*PP PP 03 29 40.7 -1.1
NKC *ex* x 03 39 54.3
NKC *e*SS SS 03 48 53.6 -5.4
NKC AMS AMS 04 31 10.0
comp=Z,2µm,20.9s
SNF Seneffe 150.24 2 PKP PKPdf 03 26 03.3 +0.9
SNF PKPbc PKPbc 03 26 07.6 +0.1
SNF E 03 26 20.2
SNF E 03 26 31.0
VRAC Vranov 150.29 346 ⇑*i*P PKPbc 03 26 08.7 +1.1
VRAC Vranov 150.29 346 P PKPdf 03 26 03.6 +1.2
ANTO Ankara 150.30 316 *e*PKIKP PKPdf 03 26 02.9 +0.5
ANTO *e* 03 26 08.3
TOTH TOTAH 150.37 301 ⇑P PKPbc 03 26 07.5 -0.2
SGKT Sivrigoynuk 150.39 318 *i* P PKPdf 03 26 02.8 +0.2
MLR Muntele Rosu 150.42 331 ⇑*i*P PKPdf 03 26 03.9 +1.3
MLR Muntele Rosu 150.42 331 PKHKP 03 26 03.8
MLR Muntele Rosu 150.42 331 ⇑P PKPdf 03 26 03.9 +1.3
MANZ Manzenberg 150.42 352 *e*PKPDF PKPdf 03 26 03.1 +0.5
MANZ *e*PKPbc PKPbc 03 26 08.6 +0.7
QASN Qassioun 150.44 302 ⇑P PKPbc 03 26 09.0 +1.1
TNS Taunus Mts 150.51 357 *e*PKPbc PKPbc 03 26 08.7 +0.6
TNS *e*SS SS 03 49 04.2 +1.1
ROTZ Rotzenmuhle 150.62 352 *e*PKPbc PKPbc 03 26 09.1 +0.7
ROTZ *e*SS SS 03 49 02.3 -2.1
DOU Dourbes 150.66 2 PKP PKPdf 03 26 00.0 -2.9
DOU PKPbc PKPbc 03 26 08.3 -0.2
DOU E 03 26 13.3
GIVF Givet 150.66 2 *e*PKIKP PKPdf 03 26 02.3 -0.7
comp=Z,405nm,1.6s
BAIF Baives 150.69 3 *e*PKIKP PKPdf 03 26 02.5 -0.5
comp=Z,289nm,1.6s
PSZ Piszkesteto 150.69 341 ⇑*ep*PKP/F PKPbc 03 26 09.8 +1.3
PSZ Piszkesteto 150.69 341 *e*PKPdf PKPdf 03 26 03.2 +0.2
PSZ *e*PKPbc PKPbc 03 26 08.9 +0.4
DRGR 150.71 336 ⇑*i*P PKPdf 03 26 04.1 +1.1
DRGR 150.71 336 ⇑*i*P PKPbc 03 26 09.7 +1.1
DRGR 150.71 336 P PKPdf 03 26 04.1 +1.0
BRBR Barbar 150.74 302 ⇑P PKPdf 03 26 05.1 +2.0
BHL Bhannes 150.81 303 *e*P PKPbc 03 26 09.0 +0.2
GRA1 Grafenberg Arr 150.82 353 *e*PKPdf PKPdf 03 26 04.1 +0.9
GRA1 *e*PKPbc PKPbc 03 26 09.4 +0.6
GRA1 *e*SS SS 03 49 06.1 -0.5
GRA1 LR LR
comp=Z,2µm,19.9s,MS5.9
GRF Grafenberg Arr 150.82 353 *e*PKPdf PKPdf 03 26 04.1 +0.9
GRF *e*PKPbc PKPbc 03 26 09.4 +0.6
GRF *e*SS SS 03 49 06.1 -0.5
GRF *e*L 04 39 21.4
comp=Z,2µm,19.9s
GRF Grafenberg Arr 150.82 353 *e*PKIKP PKPdf 03 26 04.1 +0.9
GRF *e* 03 26 09.4
GRF MLR MLR
comp=Z,2µm,19.9s,MS5.9
SMOL Smolenice 150.83 345 *e*PKP PKPbc 03 26 09.8 +0.9
SMOL *e* 03 26 22.3
JRS Jersey 150.84 11 *e*P PKPdf 03 26 03.3 0.0
VOIR 150.86 332 ⇑*i*P PKPdf 03 26 05.2 +1.9
VOIR 150.86 332 ⇑P PKPdf 03 26 05.2 +1.9
ABH Alteburg 150.88 358 PKP PKPdf 03 26 04.1 +0.8
TCHB Talchebab 150.94 300 ⇑P PKPbc 03 26 10.9 +1.8
HENT Hendek 150.97 319 *i* P PKPbc 03 26 09.3 +0.2
KHC Kasperske Hory 151.04 350 *e*PKPDF PKPdf 03 26 04.2 +0.6
KHC ⇑*e*PKPB PKPbc 03 26 10.2 +0.9
KHC *ep*PKP pPKPdf 03 26 23.1 +16
KHC *e*PP PP 03 29 43.6 -3.4
KHC *ex* x 03 40 05.7
KHC *e*SS SS 03 49 03.1 -6.0
KHC AMS AMS 04 29 40.0
comp=Z,2µm,23.5s
RUP Ruppelstein 151.08 359 PKIKP PKPdf 03 26 04.8 +1.2
TOD Tromm 151.10 356 PKIKP PKPdf 03 26 05.7 +2.0
WLF Walferdange 151.12 0 APKP 03 26 05.6
WLF PKPbc PKPbc 03 26 10.2 +0.7
WLF APKPab 03 26 19.8
WLF E 03 27 19.1
WET Wettzell 151.14 351 *e*PKPdf PKPdf 03 26 04.5 +0.8
WET *e*PKPbc PKPbc 03 26 10.4 +0.8
WET *e*SS SS 03 49 10.7 +0.6
ZST Bratislava 151.21 345 *e*PKP PKPdf 03 26 05.7 +1.9
ZST *e* 03 26 11.8
ZST *e* 03 26 32.8
ZST Bratislava 151.21 345 *e*PKIKP PKPdf 03 26 05.7 +1.9
ZST *e* 03 26 11.8
SRO Srobarova 151.25 343 *e*PKP PKPbc 03 26 11.3 +1.5
GEC2 GERESS Array S 151.30 350 *e*PKPdf PKPdf 03 26 04.2 +0.2
GEC2 *e*PKPbc PKPbc 03 26 10.6 +0.7
GEC2 *e*SS SS 03 49 17.3 +5.4
GERES GERESS Array B 151.30 350 PKP PKPdf 03 26 03.9 0.0
comp=Z,1.7nm,1.0s,baz=52,slow=2.2,SNR=7.6
GERES PKPbc PKPbc 03 26 09.7 -0.2
comp=Z,14nm,1.0s,baz=42,slow=1.6,SNR=31
GERES GERESS Array B 151.30 350 PKIKP PKPdf 03 26 03.9 -0.1
GERES 03 26 09.7
GERES pmax pmax
comp=Z,2.0nm,1.0s
GERES pmax pmax
comp=Z,14nm,1.0s
SRO1 Iza 151.31 343 *e*PKP PKPbc 03 26 11.1 +1.1
SRO1 *e* 03 26 23.9
BUD Budapest 151.34 342 ⇑*e*PKP/F PKPbc 03 26 11.1 +1.1
ROSF Rostrenen 151.42 13 *e*PKIKP PKPdf 03 26 03.3 -0.8
comp=Z,120nm,1.5s
FLN La Foliniere 151.52 9 *e*PKIKP PKPdf 03 26 03.6 -0.7
comp=Z,277nm,1.4s
FLN *e*R
comp=Z,2µm,22.2s
FLN La Foliniere 151.52 9 *e*PKPdf PKPdf 03 26 03.6 -0.7
FLN LR LR
comp=Z,2µm,22.3s,MS5.9
SGMF Saint Gilles 151.65 12 *e*PKIKP PKPdf 03 26 03.6 -0.9
comp=Z,158nm,1.5s
LDF La Druitiere 151.74 9 *e*PKIKP PKPdf 03 26 03.8 -0.8
comp=Z,212nm,1.4s
LANF Langenberg 151.78 358 PKP PKPdf 03 26 05.7 +1.0
BORA Eskisehir 151.79 318 *i* P PKPdf 03 26 03.8 -0.9
ERMK Ermenek 151.81 310 *i* P PKPbc 03 26 10.9 -0.2
SOP Sopron 151.82 345 ⇑*e*PKP/F PKPbc 03 26 05.3 -5.8
GRR Gorron 151.82 10 *e*PKIKP PKPdf 03 26 04.2 -0.5
QUIF Quistinic 151.84 13 *e*PKIKP PKPdf 03 26 04.2 -0.6
comp=Z,212nm,1.8s
STU Stuttgart 151.91 356 *e*PKPdf PKPdf 03 26 05.7 +0.8
STU *e*PKPbc PKPbc 03 26 12.1 +0.8
STU *e*SS SS 03 49 22.6 +3.9
STU Stuttgart 151.91 356 *e*PKPbc PKPbc 03 26 11.4 +0.1
BZS Buzias 152.11 336 ⇑*i*P PKPbc 03 26 12.5 +0.7
BZS Buzias 152.11 336 P PKPdf 03 26 06.1 +0.9
CSS Prodhromos 152.22 306 *e*PKPbc PKPbc 03 26 11.9 -0.1
ELBA Catalca 152.23 322 *i* P PKPdf 03 26 05.5 +0.1
MEZF Maizieres J'vi 152.27 2 *e*PKIKP PKPdf 03 26 05.2 -0.2
comp=Z,80nm,1.2s
FUR Furstenfeldbru 152.31 353 *e*PKPdf PKPdf 03 26 06.7 +1.2
FUR *e*PKPbc PKPbc 03 26 12.9 +0.6
CDF Champ du Feu 152.36 358 *e*PKIKP PKPdf 03 26 04.4 -1.1
comp=Z,146nm,1.7s
BFO Black Forest 152.40 357 *e*PKPdf PKPdf 03 26 05.9 +0.3
BFO *e*PKPbc PKPbc 03 26 12.9 +0.4
BFO Black Forest 152.40 357 *e*PKPdf PKPdf 03 26 05.9 +0.3
BFO *e*PKPbc PKPbc 03 26 12.4 -0.1
BFO *e*PKPbc PKPbc 03 26 12.8 +0.3
BFO *e*PP PP 03 29 53.4 -1.3
ARSA Arzberg 152.47 346 ⇓*i*P PKPdf 03 26 05.5 -0.2
comp=Z,37nm,1.5s
EIL Elat 152.54 295 *e*PKPdf PKPdf 03 26 05.4 -0.4
EIL *e*PKPbc PKPbc 03 26 13.1 +0.3
THEF They Montfort 152.56 0 PKP PKPdf 03 26 06.7 +0.9
HAU Haudompre 152.78 360 *e*PKIKP PKPdf 03 26 06.3 +0.1
comp=Z,71nm,1.4s
HAU *e*R
comp=Z,2µm,20.8s
HAU Haudompre 152.78 360 *e*PKPdf PKPdf 03 26 06.3 +0.1
HAU LR LR
comp=Z,2µm,20.8s,MS5.9
FELD Feldberg im Sc 152.87 357 PKP PKPdf 03 26 06.9 +0.6
RHK1 Bakonya 152.88 342 *e*P PKPbc 03 26 13.1 -0.4
MOF Molkenrain 152.93 359 PKP PKPdf 03 26 07.1 +0.7
HINF Hinteralfeld 152.97 359 *e*PKIKP PKPdf 03 26 05.7 -0.7
comp=Z,36nm,1.1s
KBA Koelnbreinsper 153.07 349 ⇑*i*P PKPdf 03 26 06.4 -0.2
comp=Z,35nm,1.2s
PERS Pernice 153.14 346 *i* P PKPdf 03 26 06.1 -0.6
MOTA Mooosalm 153.14 353 ⇑*i*P PKPdf 03 26 07.2 +0.5
comp=Z,23nm,1.6s
WTTA Wattenberg 153.15 352 ⇑*i*P PKPdf 03 26 07.5 +0.8
comp=Z,15nm,1.2s
BBS Basel-Blauen 153.30 358 PKIKP PKPdf 03 26 05.3 -1.6
DAVA Damuels 153.33 354 ⇓*i*P PKPdf 03 26 08.1 +1.2
comp=Z,40nm,1.2s,SNR=6.7
LOR Lormes 153.45 4 *e*PKIKP PKPdf 03 26 06.8 -0.3
comp=Z,136nm,1.7s
LOR *e*R
comp=Z,3µm,20.8s
LOR Lormes 153.45 4 *e*PKPdf PKPdf 03 26 06.8 -0.3
LOR LR LR
comp=Z,3µm,20.8s,MS6.0
FVI Forni Avoltri 153.63 350 PKIKP PKPdf 03 26 08.4 +1.0
SSF Saint Saulge 153.64 4 *e*PKIKP PKPdf 03 26 07.0 -0.4
comp=Z,153nm,1.7s
MFF Saint Martin d 153.68 10 *e*PKIKP PKPdf 03 26 06.7 -0.8
comp=Z,133nm,1.6s
PTCC Patocco-Chiusa 153.72 349 PKP PKPdf 03 26 07.9 +0.4
LJU Ljubljana 153.83 347 *e*P PKPdf 03 26 05.9 -1.8
AVF Avril sur Loir 153.90 4 *e*PKIKP PKPdf 03 26 06.9 -0.9
comp=Z,48nm,1.5s
GRUS Gruza 153.91 336 *i* P PKPdf 03 26 06.8 -1.0
SISC Sisak 153.93 344 iP PKPbc 03 26 07.8 -8.0
VOY Vojsko 153.97 348 *e*P PKPdf 03 26 08.0 +0.1
VOY *e* 03 26 15.8
VOY *e* 03 26 34.6
VOY *e* 03 26 42.3
VOY *e* 03 26 52.8
DIVS Divcibare 154.01 337 *i* P PKPdf 03 26 07.3 -0.6
SMF Signal de Mont 154.07 4 *e*PKIKP PKPdf 03 26 07.5 -0.5
comp=Z,103nm,1.9s
BGF Bois d'Agland 154.09 5 *e*PKIKP PKPdf 03 26 07.9 -0.1
comp=Z,121nm,1.7s
BOJS Bojanci 154.18 345 *i* P PKPdf 03 26 08.1 -0.1
CABF La Chapelle 154.18 0 PKIKP PKPdf 03 26 08.3 +0.1
comp=Z,201nm,1.8s
TCF Toulx Ste Croi 154.29 6 *e*PKIKP PKPdf 03 26 08.2 -0.1
comp=Z,54nm,1.5s
TRI Trieste 154.31 348 PKIKP PKPdf 03 26 09.5 +1.1
BBLS Bajina Basta - 154.42 337 *i* p PKPdf 03 26 09.4 +0.9
EMAZ Mazaricos 154.46 26 PKP PKPdf 03 26 09.9 +1.3
AGO Saint Agoulin 154.61 5 PKP PKPdf 03 26 10.7 +1.9
STS Santiago 154.68 26 PKIKP PKPdf 03 26 09.9 +1.0
VAI Varese 154.83 356 PKIKP PKPdf 03 26 09.8 +0.7
EPON Pontenova 154.86 23 PKP PKPdf 03 26 08.7 -0.4
PYM Petit Puy Mans 154.90 5 PKP PKPdf 03 26 10.0 +0.8
STIP Stip 155.09 331 *e*PKP PKPdf 03 26 09.3 -0.1
NVLJ Novalja 155.15 345 *i* P PKPdf 03 26 09.0 -0.5
RJF Les Rejaudoux 155.19 8 *e*PKIKP PKPdf 03 26 09.4 -0.2
comp=Z,75nm,1.8s
RJF *e*R
comp=Z,3µm,20.2s
RJF Les Rejaudoux 155.19 8 *e*PKPdf PKPdf 03 26 09.4 -0.2
RJF LR LR
comp=Z,3µm,20.3s,MS6.1
VAY Valandovo 155.20 330 *e*PKP PKPdf 03 26 09.1 -0.5
SKO Skopje 155.20 332 *e*PKP PKPdf 03 26 09.5 -0.1
LPL La Plagne 155.27 359 *e*PKIKP PKPdf 03 26 10.1 +0.4
comp=Z,110nm,1.8s
LPG La Plagne 155.29 359 *e*PKIKP PKPdf 03 26 10.2 +0.5
comp=Z,102nm,1.8s
LFF La Frestale 155.43 9 *e*PKIKP PKPdf 03 26 09.6 -0.3
GRN Grenoble 155.54 1 PKP PKPdf 03 26 11.7 +1.6
CAF Calviac 155.62 7 *e*PKIKP PKPdf 03 26 09.9 -0.3
comp=Z,62nm,1.9s
ORIF Oris-en-Rattie 155.87 1 *e*PKIKP PKPdf 03 26 10.6 +0.1
comp=Z,97nm,1.8s
ORIF *e*R
comp=Z,3µm,21.5s
PCAB Cabril 155.87 27 *e*PKPdf PKPdf 03 26 10.6 +0.1
PCAB Cabril 155.87 27 *e*PKPab PKPab 03 26 37.1 -0.2
STON Ston 155.89 339 *i* P PKPdf 03 26 09.9 -0.6
VIVF Saint-Julien-l 155.90 3 *e*PKIKP PKPdf 03 26 10.5 0.0
comp=Z,57nm,1.7s
MBDF Montbardon 156.06 359 *e*PKIKP PKPdf 03 26 10.8 +0.1
comp=Z,138nm,1.9s
ZCCA Zocca 156.10 351 PKP PKPdf 03 26 14.7 +3.9
ELAN Lanestosa 156.16 18 PKP PKPdf 03 26 10.8 0.0
ECAL Calabor 156.20 24 PKP PKPdf 03 26 11.0 +0.1
SURF Saint Ours 156.30 359 PKP PKPdf 03 26 13.1 +2.0
PBRG Braganca 156.32 25 *e*PKPab PKPab 03 26 39.0 -0.2
PVRL Vila Real 156.37 27 *e*PKPdf PKPdf 03 26 11.7 +0.6
PVRL Vila Real 156.37 27 *e*PKPab PKPab 03 26 38.6 -0.8
SFI Santa Sofia 156.40 350 PKIKP PKPdf 03 26 12.5 +1.3
PMPS Porto Santo 156.53 54 *e*PKPdf PKPdf 03 26 10.3 -1.0
ARV Arcevia 156.60 348 PKP PKPdf 03 26 12.4 +1.0
LASF Ste Croix 156.63 4 *e*PKIKP PKPdf 03 26 11.6 +0.1
comp=Z,69nm,1.7s
CING Cingoli 156.66 347 PKP PKPdf 03 26 12.0 +0.5
EALK Alkurruntz 156.66 14 PKP PKPdf 03 26 11.9 +0.4
PVIS Viseu 156.75 28 *e*PKPdf PKPdf 03 26 12.3 +0.7
PVIS Viseu 156.75 28 *e*PKPab PKPab 03 26 41.8 +0.7

AUTN	**L'Aution**	**156.77**	**358**	PKP	PKPdf	03 26 14.0	+2.3
SAOF	**Saorge**	**156.77**	**357**	PKP	PKPdf	03 26 13.6	+1.9
STOF	**St-Etienne Org**	**156.79**	**0**	PKP	PKPdf	03 26 13.5	+1.8
SMRF	**Simiane la Rot**	**156.81**	**1**	*e*PKIKP	PKPdf	03 26 12.1	+0.4
	comp=Z,125nm,1.8s						
SNTG	**Esanatoglia**	**156.83**	**347**	PKP	PKPdf	03 26 12.6	+0.9
SJPF	**Ste Jean**	**156.83**	**14**	*e*PKIKP	PKPdf	03 26 12.0	+0.3
MVIF	**Mont Vial**	**156.88**	**358**	PKP	PKPdf	03 26 12.5	+0.7
SBF	**Sospel**	**156.90**	**358**	*e*PKIKP	PKPdf	03 26 11.2	-0.6
	comp=Z,98nm,1.6s						
VILF	**Villemus**	**156.93**	**1**	PKP	PKPdf	03 26 14.4	+2.5
PRAF	**Pradon**	**156.97**	**2**	PKP	PKPdf	03 26 12.3	+0.4
MTE	**Manteigas**	**157.16**	**28**	*e*PKPdf	PKPdf	03 26 10.7	-1.5
MTE	**Manteigas**	**157.16**	**28**	*e*PKPab	PKPab	03 26 43.2	+0.4
MTE	**Manteigas**	**157.16**	**28**	*e*PKPdf	PKPdf	03 26 12.0	-0.2
MTE				*e*PKPab	PKPab	03 26 44.0	+1.2
TAVF	**Tavernes**	**157.17**	**0**	PKP	PKPdf	03 26 14.2	+2.0
ETSF	**Etsaut**	**157.18**	**13**	*e*PKIKP	PKPdf	03 26 12.6	+0.4
	comp=Z,28nm,1.0s						
NRCA	**Norcia**	**157.20**	**347**	PKP	PKPdf	03 26 12.8	+0.6
MTLF	**Montolieu**	**157.21**	**7**	*e*PKIKP	PKPdf	03 26 11.9	-0.3
	comp=Z,89nm,1.9s						
EPF	**Esparros**	**157.23**	**11**	*e*PKIKP	PKPdf	03 26 12.3	+0.1
	comp=Z,116nm,1.8s						
PUYF	**Puyloubier**	**157.25**	**1**	PKP	PKPdf	03 26 13.0	+0.7
PTOM	**Tomar**	**157.39**	**30**	*e*PKPdf	PKPdf	03 26 13.4	+0.9
PTOM	**Tomar**	**157.39**	**30**	*e*PKPab	PKPab	03 26 42.8	-1.1
LMR	**La Mourre**	**157.45**	**359**	*e*PKIKP	PKPdf	03 26 12.2	-0.3
	comp=Z,83nm,1.7s						
BERF	**Bertagne**	**157.47**	**1**	PKP	PKPdf	03 26 14.4	+1.8
EGOM	**La Gomera**	**157.49**	**66**	PKP	PKPdf	03 26 15.2	+2.6
FGMS	**Monte Sant'Ang**	**157.50**	**341**	PKP	PKPdf	03 26 14.4	+1.8
EBIE	**Bielsa**	**157.52**	**12**	PKP	PKPdf	03 26 13.1	+0.5
PCBR	**Castelo Branco**	**157.65**	**29**	*e*PKPdf	PKPdf	03 26 12.4	-0.4
LIS	**Lisbon**	**157.73**	**33**	*e*P	PKPdf	03 26 15.5	+2.7
CII	**Carovilli**	**157.96**	**344**	PKP	PKPdf	03 26 15.4	+2.2
CCAN	**Las Canadas**	**157.99**	**66**	PKP	PKPdf	03 26 14.2	+1.0
VVLD	**Villa Vallelon**	**158.00**	**345**	PKP	PKPdf	03 26 14.3	+1.1
EGRA	**Graus**	**158.03**	**12**	PKP	PKPdf	03 26 14.3	+1.0
SDI	**San Donato**	**158.10**	**345**	PKIKP	PKPdf	03 26 13.8	+0.5
PGF	**Pioggiola**	**158.11**	**354**	*e*PKIKP	PKPdf	03 26 12.7	-0.6
	comp=Z,131nm,1.9s						
MOE	**Montemor**	**158.28**	**32**	*e*PKPdf	PKPdf	03 26 14.7	+1.2
GUD	**Guadarrama**	**158.28**	**22**	PKIKP	PKPdf	03 26 15.1	+1.5
ESAC	**San Caprasio**	**158.32**	**14**	PKP	PKPdf	03 26 13.8	+0.1
EMIR	**Miracle**	**158.51**	**9**	PKP	PKPdf	03 26 14.1	+0.2
MRLC	**Muro Lucano**	**158.51**	**340**	PKP	PKPdf	03 26 13.6	-0.2
SLCN	**Sala Consilina**	**158.80**	**340**	PKP	PKPdf	03 26 15.3	+1.1
PTEO	**Sao Teotonio**	**158.83**	**34**	*e*PKPdf	PKPdf	03 26 15.4	+1.2
PBEJ	**Beja**	**158.90**	**32**	*e*PKPdf	PKPdf	03 26 15.8	+1.5
EPOB	**Poblet**	**158.99**	**11**	PKP	PKPdf	03 26 15.6	+1.2
MORF	**Marmelete**	**159.04**	**35**	*e*P	PKPdf	03 26 15.2	+0.7
ESDC	**Sonseca Array**	**159.21**	**22**	PKP	PKPdf	03 26 15.1	+0.4
	comp=Z,2.6nm,1.1s,baz=348,slow=2.6,SNR=9.9						
ESDC				PKPab	PKPab	03 26 52.2	+0.4
	comp=Z,3.2nm,0.8s,baz=315,slow=3.8,SNR=8.8						
ESDC	**Sonseca Array**	**159.21**	**22**	PKP	PKPdf	03 26 14.9	+0.3
ESLA	**Sonseca Array**	**159.21**	**22**	*e*PKPdf	PKPdf	03 26 15.3	+0.7
ESLA				*e*PKPab	PKPab	03 26 52.0	+0.2
ERTA	**Horta de San J**	**159.23**	**13**	PKP	PKPdf	03 26 14.4	-0.2
EGRO	**El Granado**	**159.48**	**32**	PKP	PKPdf	03 26 17.2	+2.3
TIP	**Timpagrande**	**159.48**	**336**	*e*PKPdf	PKPdf	03 26 14.5	-0.5
TIP				*e*PKPab	PKPab	03 26 53.4	+0.5
EMOS	**Mosqueruela**	**159.62**	**15**	PKP	PKPdf	03 26 16.3	+1.2
EMIN	**Mina Concepcio**	**159.69**	**30**	PKP	PKPdf	03 26 16.1	+0.9
ECHE	**Chera**	**160.22**	**16**	PKIKP	PKPdf	03 26 17.0	+1.2
DGI	**Dorgali Grotta**	**160.25**	**352**	PKP	PKPdf	03 26 17.2	+1.4
EADA	**Adamuz**	**160.28**	**26**	PKP	PKPdf	03 26 16.3	+0.4
EVIA	**Vianos**	**160.64**	**21**	PKIKP	PKPdf	03 26 17.6	+1.3
ESPR	**Espera**	**160.80**	**31**	PKP	PKPdf	03 26 17.8	+1.3
ELUQ	**Luque**	**160.93**	**26**	PKIKP	PKPdf	03 26 17.5	+0.9
ETOB	**Tobarra**	**160.94**	**19**	PKP	PKPdf	03 26 17.3	+0.7
VSL	**Villasalto**	**161.09**	**352**	*e*PKPdf	PKPdf	03 26 16.8	0.0
EQES	**Quesada**	**161.19**	**23**	PKP	PKPdf	03 26 16.9	0.0
EBEN	**Beniarda**	**161.25**	**16**	PKP	PKPdf	03 26 17.9	+0.9
EIBI	**Ibiza**	**161.29**	**12**	PKP	PKPdf	03 26 19.2	+2.2
EJIF	**Jimena Fronter**	**161.32**	**31**	PKIKP	PKPdf	03 26 19.5	+2.5
ELOJ	**Sierra Loja**	**161.33**	**27**	PKIKP	PKPdf	03 26 18.0	+1.0
EHUE	**Huescar**	**161.35**	**22**	PKIKP	PKPdf	03 26 18.3	+1.3
EMIJ	**Mijas**	**161.55**	**29**	PKP	PKPdf	03 26 17.9	+0.6
ERON	**Agron**	**161.58**	**26**	PKP	PKPdf	03 26 16.8	-0.5
EMUR	**La Murta**	**161.77**	**19**	PKP	PKPdf	03 26 18.0	+0.5
ENIJ	**Nijar**	**162.24**	**22**	PKIKP	PKPdf	03 26 19.1	+1.2
DBIC	**Dimbokro**	**162.41**	**141**	PKP	PKPdf	03 26 17.9	-0.2
	comp=Z,13nm,1.1s,baz=314,slow=3.1,SNR=4.7						
DBIC	**Dimbokro**	**162.41**	**141**	PKIKP	PKPdf	03 26 17.9	-0.2
DBIC				pmax	pmax		
	comp=Z,13nm,1.1s						
EBNR	**Beni Rached**	**163.97**	**14**	P	PKPdf	03 26 31.0	+11
ECHA	**Ech Chlef**	**164.06**	**14**	P	PKPdf	03 26 31.0	+11
EANR	**'Ain N'Sour**	**164.19**	**15**	P	PKPdf	03 26 22.0	+2.2
EMHD	**Djebel Mahouad**	**164.32**	**10**	P	PKPdf	03 26 24.0	+4.1
ETRT	**Tiaret**	**164.77**	**15**	P	PKPdf	03 26 23.0	+2.7
TORD	**Torodi Ar. Bea**	**171.34**	**150**	PKP	PKPdf	03 26 23.8	-1.0
	comp=Z,7.8nm,1.0s,baz=298,slow=0.9,SNR=19						
TORD				PKPab	PKPab	03 27 46.1	+1.0
	comp=Z,4.7nm,0.9s,baz=214,slow=3.7,SNR=6.7						
TORD				PP	PP	03 31 34.4	-1.4
	comp=Z,3.3nm,1.2s,baz=155,slow=3.7,SNR=4.8						

IDC ***17*** *03:27:07.8±1.5, 2005S×17457W, h0km, mb4.1/10, mb1 4.3/11, mb1mx4.2/18, mbtmp4.1/11, ML2.2/1, Error ellipse: s-maj=85.6km s-min=16.9km az=145.0*
ISCJB ***17*** *03:27:11.5±0.5, 2005S×17477W×0.1, h33km, mb4.2/18, Error ellipse: s-maj=21.6km s-min=11.5km az=102.7*
NEIC ***17*** *03:27:13.3±0.4, 1983S×17469W, h35km, mb4.4/10, Error ellipse: s-maj=19.3km s-min=9.5km az=135.0*

ISC 17 03:27:13.5±0.5, 199S±01×1746W±01, h35km, n46, σ0.5 94/22, mb4.2/18, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.52**	**25**	Pn		**Pn**	**03 28 45.1**	**-1.9**
	3.1nm,0.3s,baz=207,slow=14,SNR=3.4							
CTAO	**Charters Tower**	**36.70**	**263**	*e*P		**P**	**03 34 18.5**	**+1.5**
	2.9nm,0.5s,mb4.4							
STKA	**Stephens Creek**	**40.91**	**244**	*e*P		**P**	**03 34 49.9**	**-2.4**
	1.7nm,0.6s,mb3.9							
STKA	**Stephens Creek**	**40.91**	**244**	P		**P**	**03 34 50.4**	**-1.9**
	1.8nm,0.5s,mb4.0,baz=102,slow=11,SNR=13							
ASAR	**Alice Springs**	**47.74**	**256**	P		**P**	**03 35 47.1**	**+0.2**
	1.0nm,0.4s,mb4.2,baz=92,slow=8.5,SNR=14							
ASAR				PcP		PcP	03 37 16.5	+0.8
	0.9nm,0.7s,baz=103,slow=3.8,SNR=5.6							
WRA	**Warramunga Arr**	**47.82**	**261**	P		**P**	**03 35 47.4**	**-0.2**
	0.8nm,0.4s,mb4.1,baz=98,slow=8.3,SNR=4.7							
FITZ	**Fitzroy Crossi**	**56.25**	**261**	P		**P**	**03 36 51.5**	**+1.2**
	1.5nm,0.8s,mb4.0,baz=94,slow=22,SNR=9.1							
SBA	**Scott Base**	**58.73**	**185**	*e*P		**P**	**03 37 08.1**	**+0.4**
	2.9nm,0.8s,mb4.4							
VNDA	**Vanda**	**58.84**	**186**	*e*P		**P**	**03 37 08.0**	**-0.5**
	2.3nm,0.9s,mb4.2							
MBWA	**Marble Bar**	**61.08**	**256**	*e*P		**P**	**03 37 23.3**	**-0.6**
	2.7nm,0.4s,mb4.7							
QSPA	**South Pole Qui**	**70.20**	**180**	*e*P		**P**	**03 38 21.6**	**-1.1**
	4.6nm,0.8s,mb4.5							
YBH	**Yreka Blue Hor**	**77.85**	**37**	P		**P**	**03 39 08.5**	**+1.1**
	1.9nm,0.7s,mb4.2,baz=137,slow=5.9,SNR=3.9							
NVAR	**Mina Array Bea**	**78.42**	**42**	P		**P**	**03 39 11.3**	**+0.8**
	1.6nm,0.7s,mb4.0,baz=216,slow=8.0,SNR=11							
TUC	**Tucson**	**80.12**	**50**	*e*P		**P**	**03 39 20.3**	**+0.5**
	1.3nm,0.9s,mb3.9							
MNTX	**Cornudas Mount**	**83.82**	**53**	*e*P		**P**	**03 39 39.2**	**-0.1**
	1.1nm,0.8s,mb4.0							
GDL2	**Guadalupe Moun**	**84.82**	**53**	*e*P		**P**	**03 39 45.4**	**+1.0**
PDAR	**Pinedale Array**	**86.36**	**42**	P		**P**	**03 39 52.2**	**+0.3**
	0.4nm,0.6s,mb3.9,baz=270,slow=1.5,SNR=3.8							
COLA	**College**	**86.95**	**11**	*e*P		**P**	**03 39 53.5**	**-1.4**
	9.9nm,1.3s,mb4.9							
ILAR	**Eielson Array**	**87.03**	**12**	P		**P**	**03 39 55.2**	**0.0**
	1.2nm,0.7s,mb4.2,baz=226,slow=5.6,SNR=12							
INK	**Inuvik**	**92.86**	**14**	P		**P**	**03 40 22.9**	**+0.3**
	1.4nm,0.8s,mb4.4,baz=229,slow=3.0,SNR=6.6							
INK	**Inuvik**	**92.86**	**14**	*e*P		**P**	**03 40 22.3**	**-0.4**
	2.0nm,0.8s,mb4.6							
YKA	**Yellowknife Ar**	**94.64**	**24**	P		**P**	**03 40 31.1**	**+0.4**
	0.4nm,0.8s,mb3.9,baz=238,slow=4.2,SNR=8.1							
ARCES	**ARCESS Array B**	**128.83**	**351**	PKP		PKPdf	03 46 16.3	-0.9
	2.5nm,0.9s,baz=33,slow=2.9,SNR=8.0							
ARCES	**ARCESS Array B**	**128.83**	**351**	PKP		PKPdf	03 46 16.3	-1.0
AKASG	**Malin Array Be**	**143.91**	**334**	PKP		PKPdf	03 46 42.8	-2.2
	1.9nm,0.6s,baz=38,slow=4.5,SNR=13							

CLL	**Collm**	**148.05**	**351**	⇓*i*	PKPbc	PKPbc	03 46 56.3	+1.0
	comp=Z,7.0nm,0.8s							
CLL				*es*	PKPbc		03 47 08.0	
BRG	**Berggiesshubel**	**148.32**	**350**	*e*	(P)	PKPdf	03 46 56.7	+4.1
	comp=Z,2.3nm,0.9s							
BRG								
	comp=N,500nm,16.2s							
BRG								
	comp=E,419nm,18.0s							
BRG								
	comp=Z,1μm,18.0s							
BRTR	**Keskin Array B**	**148.69**	**315**	PKPbc		PKPbc	03 46 57.0	+0.1
	comp=Z,1.0nm,0.8s,baz=134,slow=7.1,SNR=5.6							
GIVF	**Givet**	**149.83**	**1**	*e*PKP1		PKPbc	03 47 00.6	+0.8
BAIF	**Baives**	**149.86**	**1**	*e*PKP1		PKPbc	03 47 00.8	+0.9
GRA1	**Grafenberg Arr**	**149.88**	**352**	*e*PKP		PKPbc	03 47 01.3	+1.4
GRF	**Grafenberg Arr**	**149.88**	**352**	*e*PKP		PKPbc	03 47 01.3	+1.4
KHC	**Kasperske Hory**	**150.07**	**349**	*e*PKPbc		PKPbc	03 47 01.5	+1.1
GERES	**GERESS Array B**	**150.32**	**349**	PKPbc		PKPbc	03 47 02.0	+1.0
	comp=Z,1.9nm,0.9s,baz=0.0,slow=1.3,SNR=14							
FLN	**La Foliniere**	**150.79**	**8**	*e*PKP1		PKPbc	03 47 02.3	+0.2
	comp=Z,11nm,0.7s							
SGMF	**Saint Gilles**	**150.96**	**11**	*e*PKP1		PKPbc	03 47 02.4	-0.1
LDF	**La Druitiere**	**151.00**	**8**	*e*PKP1		PKPbc	03 47 02.7	+0.1
	comp=Z,13nm,1.0s							
GRR	**Gorron**	**151.11**	**9**	*e*PKP1		PKPbc	03 47 03.2	+0.4
	comp=Z,7.4nm,0.5s							
CDF	**Champ du Feu**	**151.48**	**357**	*e*PKP1		PKPbc	03 47 04.5	+0.8
HAU	**Haudompre**	**151.92**	**359**	*e*PKP1		PKPbc	03 47 06.3	+1.6
	comp=Z,5.4nm,0.5s							
LOR	**Lormes**	**152.64**	**2**	*e*PKP1		PKPbc	03 47 07.0	+0.7
SSF	**Saint Saulge**	**152.83**	**3**	*e*PKP1		PKPbc	03 47 07.5	+0.8
	comp=Z,3.6nm,0.7s							
MFF	**Saint Martin d**	**152.95**	**8**	*e*PKP1		PKPbc	03 47 07.2	+0.2
	comp=Z,2.7nm,0.7s							
SMF	**Signal de Mont**	**153.26**	**2**	*e*PKP1		PKPbc	03 47 08.2	+0.5
BGF	**Bois d'Agland**	**153.30**	**4**	*e*PKP1		PKPbc	03 47 08.2	+0.4
	comp=Z,9.0nm,0.9s							
CABF	**La Chapelle**	**153.32**	**359**	*e*PKP1		PKPbc	03 47 09.3	+1.5
	comp=Z,4.7nm,0.8s							

GUC 17 03:29:33.9±0.8, 3440S×7008W, h4km±2km, MD3.5, ML2.0, 3C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.29**	**285**	⇓*i*	P	Pg	03 29 40.3	+0.8
CICH				*i*	S	Sg	03 29 45.0	+1.7
CACH	**El Canelo**	**0.51**	**303**	⇑*i*	P	Pg	03 29 44.1	+0.4
CACH				*i*	S	Sg	03 29 51.6	+1.3
LMEL	**Las Melosas**	**0.56**	**350**	⇓*i*	P	Pg	03 29 45.4	+0.8
LMEL				*i*	S	Sg	03 29 54.2	+2.4
LMEL				AML		AML	03 29 56.2	
	comp=N,150nm,0.1s							
CHCH	**Chadas Angostu**	**0.66**	**314**	⇓*i*	P	Pg	03 29 47.2	+0.6
CHCH				*i*	S	Sg	03 29 57.2	+2.1
SFDO	**San Fernando**	**0.80**	**254**	⇑*i*	P	Pg	03 29 49.1	-0.2
SFDO				*i*	S	Sg	03 29 60.0	+0.4
PCH	**Pirque**	**0.85**	**335**	⇓*i*	P	Pg	03 29 50.7	+0.5
PCH				*i*	S	Sg	03 30 03.0	+1.7
TACH	**Talagante**	**1.03**	**316**	⇑*i*	P	Pg	03 29 53.5	-0.1
RCDM	**Rinconada Maip**	**1.09**	**326**	*e*	P	Pg	03 29 54.6	-0.1
RCDM				*i*	S	Sg	03 30 10.4	+1.6
RCDM				AML		AML	03 30 11.3	
	comp=E,97nm,0.1s							
LNV	**Longovilo**	**1.19**	**291**	*e*	P	Pg	03 29 56.0	-0.6
LNV				*i*	S	Sg	03 30 12.1	0.0

ISCJB ***17*** *03:48:16.8±0.3, 449S×005×10272E×005, h30km, mb5.0/78, MS4.7/6, Error ellipse: s-maj=7.8km s-min=5.8km az=94.8*
IDC ***17*** *03:48:18.7±0.9, 453S×10272E, h30km±5km, mb4.6/11, mb1 4.6/12, mb1mx4.5/15, mbtmp4.7/12, ML3.7/1, Error ellipse: s-maj=33.7km s-min=10.8km az=48.0*
BJI ***17*** *03:48:18.6, 450S×10270E, h38km, mB5.5, mb5.0, Ms5.1, Ms2.4*
MOS ***17*** *03:48:18.3±1.0, 425S×10281E, h33km, mb5.0/28, Error ellipse: s-maj=13.1km s-min=6.1km az=112.4*
NEIC ***17*** *03:48:19.6±0.9, 446S×10274E, h39km±8km, mb5.0/30, Error ellipse: s-maj=9.3km s-min=5.7km az=50.0*
NEIC Felt [III] at Bengkulu.

ISC 17 03:48:19.2±0.3, 448S±005×10272E±005, h31km, h31km±1.7km: pP-P, n181, σ0.5 98/162, mb5.0/78, MS4.7/6, 6C-10D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KGM	**Kluang**	**6.48**	**5**	P		**Pn**	**03 49 58.7**	**+6.3**
PRAT	**Prapat**	**8.16**	**332**	Pn		**Pn**	**03 50 15.2**	**-0.3**
	1.0nm,0.3s,baz=155,slow=11,SNR=5.7							
IPM	**Ipoh**	**9.06**	**349**	P		**Pn**	**03 50 35.4**	**+7.6**
COCO	**West Island**	**9.62**	**217**	Pn		**Pn**	**03 50 35.6**	**+0.1**
	2μm,0.7s,SNR=7.0							
COCO	**West Island**	**9.62**	**217**	*e*Pn		**Pn**	**03 50 35.0**	**-0.5**
	151nm,0.6s							
KULM	**Kulim**	**9.92**	**348**	*e*Pn		**Pn**	**03 50 37.6**	**-1.9**
KKM	**Kota Kinabalu**	**17.05**	**52**	*e*Pn		**Pn**	**03 52 14.4**	**-0.9**
NST	**Nakhon Sawan**	**20.18**	**353**	P		**P**	**03 52 53.0**	**+1.9**
CHG	**Chiang Mai**	**23.44**	**351**	P		**P**	**03 53 25.7**	**-0.2**
	22nm,0.8s,mb4.6							
CHTO	**Chiang Mai**	**23.44**	**351**	*e*P		**P**	**03 53 25.8**	**-0.1**
CHTO				pmax		pmax		
	comp=Z,13nm,0.7s,mb4.5							
CHTO	**Chiang Mai**	**23.44**	**351**	*e*P		**P**	**03 53 25.8**	**-0.1**
	comp=Z,13nm,0.7s,mb4.5							
FITZ	**Fitzroy Crossi**	**26.19**	**123**	*e*P		**P**	**03 53 52.1**	**+1.2**
	comp=Z,19nm,0.6s,mb4.8							
FITZ	**Fitzroy Crossi**	**26.19**	**123**	P		**P**	**03 53 52.5**	**+1.5**
	comp=Z,9.3nm,0.8s,mb4.4,baz=323,slow=11,SNR=27							
FITZ				pP		pP	03 53 59.6	-0.4
	comp=Z,11nm,0.6s,baz=245,slow=8.0,SNR=7.2							
VIS	**Vishakhapatnam**	**29.20**	**320**	*e*P		**P**	**03 54 17.6**	**-0.3**
VIS				AMb		AMB	03 54 19.1	
	comp=Z,26nm,1.4s,mb4.8							
KMI	**Kunming**	**29.42**	**0**	P		**P**	**03 54 21.3**	**+1.5**
KMI				S		**S**	**03 59 15.8**	**+4.0**
KMI				AMB		AMB		
	comp=Z,13nm,0.9s,mb4.7							
KMI				LR		LR		
	comp=N,2μm,5.7s							
KMI				LR		LR		
	comp=E,2μm,6.0s							
KMI				LR		LR		
	comp=Z,1μm,7.4s							
GYA	**Guiyang**	**30.99**	**7**	P		**P**	**03 54 34.8**	**+1.1**
GYA				AP		pP	03 54 44.3	+1.5
GYA				XP		sP	03 54 48.6	+2.0
GYA				PP		PP	03 55 36.9	-7.0
GYA				S		**S**	**03 59 36.0**	**-0.3**
GYA				AMB		AMB		
	comp=Z,20nm,0.8s,mb5.0							
GYA				AMB		AMB		
	comp=Z,110nm,3.6s							
GYA				LR		LR		
	comp=N,540nm,15.4s,MS4.5							
GYA				LR		LR		
	comp=E,610nm,16.0s,MS4.5							
GYA				LR		LR		
	comp=Z,510nm,15.2s,MS4.3							
SHL	**Shillong**	**31.66**	**341**	*e*P		**P**	**03 54 37.8**	**-1.8**
BOK	**Bokaro**	**32.54**	**330**	*e*P		**P**	**03 54 47.4**	**0.0**
WRA	**Warramunga Arr**	**34.41**	**119**	P		**P**	**03 55 04.7**	**+1.0**
	comp=Z,3.3nm,0.4s,mb4.6,baz=302,slow=9.0,SNR=22							
WRA				PcP		PcP	03 57 39.5	+0.8
	comp=Z,1.3nm,0.5s,baz=300,slow=1.9,SNR=5.8							
WRA				S		**S**	**04 00 25.5**	**-4.0**
	comp=Z,1.0nm,0.9s,baz=289,slow=15,SNR=4.1							
WRAB	**Tennant Creek**	**34.42**	**119**	P		**P**	**03 55 04.0**	**+0.3**
	comp=Z,59nm,0.4s,mb5.9,SNR=7.7							
WRAB	**Tennant Creek**	**34.42**	**119**	⇓*e*P		**P**	**03 55 05.1**	**+1.4**
WRAB	**Tennant Creek**	**34.42**	**119**	*e*P		**P**	**03 55 04.4**	**+0.7**
	comp=Z,11nm,0.7s,mb4.9							
WB2	**Warramunga Arr**	**34.42**	**119**	*e*P		**P**	**03 55 02.8**	**-0.9**
CD2	**Chengdu**	**35.20**	**2**	*e*P		**P**	**03 55 10.8**	**+0.4**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.8							
ASAR	**Alice Springs**	**35.61**	**125**	P		**P**	**03 55 15.6**	**+1.6**
	comp=Z,8.0nm,0.8s,mb4.7,baz=293,slow=8.0,SNR=64							
ASAR				pP		pP	03 55 21.6	-1.6
	comp=Z,6.7nm,0.4s,baz=298,slow=8.0,SNR=20							
ASAR				PcP		PcP	03 57 43.2	+1.0
	comp=Z,2.2nm,0.5s,baz=310,slow=2.3,SNR=9.5							

ASAR				S		**S**	**04 00 45.5**	**-2.6**
	comp=Z,1.6nm,0.8s,baz=298,slow=16,SNR=8.6							
ASAR				ScP		ScP	04 01 23.8	-2.1
	comp=Z,1.2nm,0.7s,baz=310,slow=4.3,SNR=6.6							
ASAR	**Alice Springs**	**35.61**	**125**	P		**P**	**03 55 15.6**	**+1.6**
ASAR				*PP		pP	03 55 21.6	-1.6
ASAR							03 57 43.3	
ASAR				S		**S**	**04 00 45.5**	**-2.5**
JIRN	**Jiri**	**35.71**	**334**	*e*P		**P**	**03 55 16.0**	**+1.2**
	comp=Z,137nm,0.8s,mb6.0							
LSA	**Lhasa**	**35.75**	**343**	*e*P		**P**	**03 55 15.7**	**+0.6**
LSA				pmax		pmax		
	comp=Z,5.0nm,0.6s,mb4.6							
LSA	**Lhasa**	**35.75**	**343**	*e*P		**P**	**03 55 15.7**	**+0.5**
	comp=Z,5.4nm,0.6s,mb4.7							
PKI	**Pulchoki**	**35.98**	**333**	*e*P		**P**	**03 55 17.8**	**+0.7**
GUN	**Gumba**	**36.06**	**334**	*e*P		**P**	**03 55 19.1**	**+1.3**
	comp=Z,168nm,0.5s,mb6.2							
DMN	**Daman**	**36.15**	**333**	*e*P		**P**	**03 55 19.4**	**+0.9**
	comp=Z,60nm,0.9s,mb5.5							
KKN	**Kakani**	**36.22**	**333**	*e*P		**P**	**03 55 19.9**	**+0.7**
	comp=Z,118nm,0.7s,mb5.9							
KKN	**Kakani**	**36.22**	**333**	*e*P		**P**	**03 55 19.9**	**+0.7**
KKN				pmax		pmax		
	comp=Z,118nm,0.7s,mb5.9							
GKN	**Gorkha**	**36.70**	**333**	*e*P		**P**	**03 55 24.2**	**+1.0**
	comp=Z,171nm,0.9s,mb5.9							
KOLN	**Koldanda**	**36.99**	**331**	*e*P		**P**	**03 55 26.7**	**+1.0**
	comp=Z,104nm,0.8s,mb5.7							
BHPL	**Bhopal**	**36.99**	**319**	*e*P		**P**	**03 55 26.6**	**+0.8**
BHPL				AMb		AMB	03 55 27.9	
	comp=Z,15nm,1.3s,mb4.7							
XAN	**Xi'an**	**38.75**	**8**	P		**P**	**03 55 41.1**	**+0.5**
XAN				AMB		AMB		
	comp=Z,41nm,1.0s,mb5.1							
NJ2	**Nanjing**	**39.44**	**22**	*e*P		**P**	**03 55 47.1**	**+0.8**
NJ2				AP		pP	03 55 56.1	+0.5
NJ2				XP		sP	03 56 01.0	+1.6
NJ2				PP		PP	03 57 22.6	+5.5
NJ2				S		**S**	**04 01 46.0**	**-0.1**
NJ2				XS		sS	04 02 02.0	+0.6
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.7							
NJ2				AMB		AMB		
	comp=Z,510nm,5.5s							
NJ2				LR		LR		
	comp=N,1μm,22.3s,MS5.0							
NJ2				LR		LR		
	comp=E,2μm,24.6s,MS5.0							
NJ2				LR		LR		
	comp=Z,3μm,25.0s,MS5.0							
SSE	**Sheshan**

comp=Z,426nm,19.6s,MS4.5
SONM Songino Array 52.19 3 P **P** **03 57 28.1 +1.1**
comp=Z,25nm,0.6s,mb5.3,baz=183,slow=8.6,SNR=94
SONM PcP PcP 03 58 37.7 -0.6
comp=Z,4.4nm,0.6s,baz=182,slow=4.4,SNR=5.1
CN2 Changchun 52.24 21 *eP* **P** **03 57 27.1 -0.2**
CN2 *eS* **S** **04 04 50.1 0.0**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,16.0s,MS4.7
CN2 LR LR
comp=E,400nm,16.0s,MS4.7
CN2 LR LR
comp=Z,400nm,17.0s,MS4.5
ULHL Ulahol 52.36 335 P **P** **03 57 28.3 +0.1**
SNR=19
MAJO Matsushiro 52.57 36 *eP* **P** **03 57 28.9 -0.9**
MAJO pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
MAJO Matsushiro 52.57 36 *eP* **P** **03 57 28.9 -0.8**
comp=Z,5.3nm,0.6s,mb4.7
MAT Matsushiro 52.57 36 P **P** **03 57 28.9 -0.9**
MAT Matsushiro 52.57 36 *eP* **P** **03 57 29.0 -0.8**
MAT pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
MAT Matsushiro 52.57 36 *eP* **P** **03 57 29.0 -0.8**
comp=Z,4.0nm,0.6s,mb4.5
MJAR Matsushiro Arr 52.57 36 P **P** **03 57 29.1 -0.7**
comp=Z,6.1nm,0.8s,mb4.6,baz=219,slow=6.9,SNR=16
MJAR PcP PcP 03 58 40.1 +0.4
comp=Z,0.6nm,0.5s,baz=194,slow=4.7,SNR=4.1
KZA Kyzart 52.64 334 P **P** **03 57 31.1 +0.8**
SNR=18
UCH Uchtor 53.08 334 P **P** **03 57 34.4 +0.8**
SNR=12
TKM2 Tokmak 2 53.19 335 P **P** **03 57 34.7 +0.4**
SNR=36
AML Almayashu 53.37 333 P **P** **03 57 36.4 +0.7**
SNR=19
AAK Ala-Archa 53.42 334*c iP* **P** **03 57 35.4 -0.6**
AAK pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
AAK Ala-Archa 53.42 334 *eP* **P** **03 57 33.9 -2.1**
comp=Z,6.8nm,0.9s,mb4.6
FRU Bishkek 53.53 334 *eP* **P** **03 57 37.5 +0.7**
EKS2 Erkin-Say 53.76 334 P **P** **03 57 39.1 +0.7**
SNR=22
MK31 Makanchi Array 54.16 343 P **P** **03 57 40.5 -0.9**
MK31 pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
MKAR Makanchi Array 54.16 343 P **P** **03 57 41.1 -0.3**
comp=Z,22nm,0.6s,mb5.2,baz=148,slow=8.0,SNR=196
VLA Vladivostok 54.23 26 *i P* **P** **03 57 40.9 -1.0**
MDJ Mudanjiang 54.49 23 P **P** **03 57 44.8 +1.0**
MDJ AP pP 03 57 53.8 +0.4
MDJ XP sP 03 57 57.6 +0.5
MDJ AMB AMB
comp=Z,7.0nm,0.7s,mb4.7
MDJ AMB AMB
comp=Z,1μm,13.3s
ZAK Zakamensk 54.64 0 *eP* **P** **03 57 45.0 +0.1**
ZAK pmax pmax
comp=Z,11nm,1.0s,mb4.8
HIA Hailar 55.54 13⇓ *iP* **P** **03 57 50.6 -0.8**
KK31 Karatay Array 55.59 332 *i P* **P** **03 57 50.9 -0.9**
KK31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
KKAR Karatay Array 55.59 332 *i P* **P** **03 57 50.9 -0.9**
MOY Mondy 55.95 359 *eP* **P** **03 57 54.9 +0.6**
TLY Talaya 55.95 1 P **P** **03 57 55.9 +1.6**
comp=Z,104nm,0.8s,mb5.9,SNR=7.0
TLY Talaya 55.95 1 *eP* **P** **03 57 55.4 +1.1**
TLY pmax pmax
comp=Z,12nm,0.7s,mb5.0
TLY Talaya 55.95 1 *eP* **P** **03 57 55.1 +0.8**
comp=Z,13nm,0.8s,mb5.0
KURK Kurchatov 58.75 342 P **P** **03 58 13.9 -0.2**
comp=Z,21nm,0.7s,mb6.3,SNR=22
KURK Kurchatov 58.75 342*c iP* **P** **03 58 13.4 -0.7**
KURK Kurchatov 58.75 342 *eP* **P** **03 58 13.3 -0.8**
comp=Z,32nm,0.8s,mb5.4
KLR Kul'dur 59.14 22 *eP* **P** **03 58 13.4 -3.4**
YSS Yuzh-Sakhalins 62.20 30 *eP* **P** **03 58 37.2 -0.4**
YSS Yuzh-Sakhalins 62.20 30 *eP* **P** **03 58 36.8 -0.8**
comp=Z,18nm,0.7s,mb5.3
KBD Kabd 62.47 306 *eP* **P** **03 58 40.3 +0.8**
RDF Al-Radifah 62.49 306 *eP* **P** **03 58 39.8 +0.2**
RDF AMb AMB 03 58 41.4
comp=Z,50nm,0.8s,mb5.7
BOD Bodaibo 62.76 7 *eP* **P** **03 58 40.5 -0.9**
BOD pmax pmax
comp=Z,12nm,1.0s,mb5.0
NAY Al-Naaiem 62.86 306 *eP* **P** **03 58 42.5 +0.4**
NAY AMb AMB 03 58 43.6
comp=Z,21nm,0.6s,mb5.5
VOSK Vostochnaya 62.99 339 P **P** **03 58 41.3 -1.6**
VOSK pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
MIB Mutribah 63.00 307 *eP* **P** **03 58 43.5 +0.5**
MIB AMb AMB 03 58 44.8
comp=Z,44nm,0.9s,mb5.6
BVA0 Borovoye Array 63.44 339 *i P* **P** **03 58 44.0 -1.9**
BVA0 pmax pmax
comp=Z,1.0nm,0.6s,mb4.1
BRVK Borovoye 63.51 339 P **P** **03 58 45.8 -0.6**
comp=Z,98nm,0.5s,mb6.1,SNR=9.2
BRVK Borovoye 63.51 339 *eP* **P** **03 58 44.9 -1.5**
BRVK pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
BRVK Borovoye 63.51 339 *eP* **P** **03 58 44.9 -1.4**
comp=Z,6.6nm,0.6s,mb4.8
CHKZ Chkalovo 63.89 339 *eP* **P** **03 58 47.8 -1.1**
CHKZ pmax pmax
comp=Z,19nm,0.9s,mb5.1
CHKZ Chkalovo 63.89 339 *eP* **P** **03 58 47.8 -1.0**
comp=Z,19nm,0.9s,mb5.1
ZRNK Zerenda 63.89 338 *i P* **P** **03 58 47.1 -1.8**
ZRNK pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
ZRNK Zerenda 63.89 338 *eP* **P** **03 58 47.1 -1.8**
comp=Z,11nm,0.7s,mb5.0
AB31 Akbulak array 65.11 331 *i P* **P** **03 58 55.7 -1.1**
AB31 pmax pmax
comp=Z,29nm,0.9s,mb5.3
GNI Garni 69.18 316⇓ *eP* **P** **03 59 22.1 -0.6**
GNI pmax pmax
comp=Z,7.0nm,0.8s
YAK Yakutsk 69.48 13*de***P** **P** **03 59 23.2 -1.3**
YAK pmax pmax
comp=Z,31nm,0.8s,mb5.3
ARU Arti 70.56 336 *i P* **P** **03 59 30.3 -0.8**
ZEI Tsey 70.88 318 *eP* **P** **03 59 34.0 +0.9**
ZEI *e* 04 02 08.8
ZEI pmax pmax
comp=Z,13nm,1.1s,mb4.8
KIV Kislovodsk 72.18 319*d iP* **P** **03 59 41.4 +0.5**
KIV pmax pmax
comp=Z,13nm,1.0s,mb4.8
KIV Kislovodsk 72.18 319 *eP* **P** **03 59 40.9 0.0**
comp=Z,5.2nm,0.4s,mb4.8
MALT Malatya 73.00 312 *eP* **P** **03 59 46.6 +0.8**
MALT pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
MALT Malatya 73.00 312 *eP* **P** **03 59 46.6 +0.8**
comp=Z,2.1nm,0.8s,mb4.1
EIL Elat 73.13 303 *eP* **P** **03 59 47.2 +0.6**
comp=Z,215nm,0.9s,mb6.1
PET Petropavlovsk 74.01 31⇓ *eP* **P** **03 59 51.4 -0.3**
PET pmax pmax
comp=Z,33nm,1.0s,mb5.2
PET Petropavlovsk 74.01 31 *eP* **P** **03 59 50.5 -1.2**
comp=Z,25nm,0.5s,mb5.4
VRHR Novokhopersk 75.89 325 *eP* **P** **04 00 01.9 -0.7**
VRHR pmax pmax
comp=Z,20nm,0.6s,mb5.2
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.7s
BR131 Keskin Array S 76.98 312 *eP* **P** **04 00 08.0 -0.9**
comp=E,3.5nm,0.6s,mb4.5
BRTR Keskin Array B 76.98 312 P **P** **04 00 08.2 -0.6**
comp=E,5.7nm,0.8s,mb4.5,baz=139,slow=6.7,SNR=30
BRTR Keskin Array B 76.98 312⇑ *eP* **P** **04 00 08.3 -0.5**
VRSR Storozhevoye 77.34 325 *eP* **P** **04 00 10.2 -0.6**
VRSR pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
VRSR pmax pmax
comp=E,3.0nm,0.8s
TIXI Tiksi 77.88 8⇓ *eP* **P** **04 00 11.4 -2.4**
TIXI pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MOS Moscow 80.01 329 *eP* pP 04 00 37.8 +2.4
OBN Obninsk 80.32 328 *eP* **P** **04 00 26.8 -0.4**
OBN *e* 04 03 25.4
OBN pmax pmax
comp=Z,45nm,1.6s,mb5.2
KLMR Klimovskoe 81.23 334 *eP* **P** **04 00 31.7 -0.3**
KLMR pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
AKASG Malin Array Be 83.09 322 P **P** **04 00 40.9 -0.9**
comp=Z,2.7nm,0.6s,mb4.5,baz=86,slow=5.2,SNR=14
AKASG Malin Array Be 83.09 322 *i P* **P** **04 00 40.9 -0.9**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
MLR Muntele Rosu 83.95 316⇓ *iP* **P** **04 00 46.7 +0.5**
BILL Bilibino 84.54 20 *eP* **P** **04 00 47.6 -1.6**
BILL pmax pmax
comp=Z,2.0nm,1.0s,mb4.2
BURAR Bucovina Array 84.90 318⇓ *iP* **P** **04 00 52.1 +1.1**
JOF Joensuu 85.61 334 *ep* **P** **04 00 53.5 -1.0**
comp=Z,5.7nm,0.6s,mb5.0
KWP Kalwaria 86.93 320 *eP* **P** **04 01 01.1 +0.1**
KWP pmax pmax
comp=Z,3.0nm,0.6s,mb4.7
KWP Kalwaria 86.93 320 *eP* **P** **04 01 01.1 +0.1**
comp=Z,3.1nm,0.6s,mb4.7
SUW Suwalki 87.46 324 *eP* **P** **04 01 03.7 +0.1**
CRVS Cervenica-Dubn 87.61 319 *eP* **P** **04 01 04.9 +0.6**
KAF Kangasniemi 87.61 333 *ep* **P** **04 01 03.4 -0.9**
comp=Z,9.0nm,0.6s,mb5.2,baz=99,slow=4.4
KAF Kangasniemi 87.61 333 *eP* **P** **04 01 03.4 -0.9**
KAF pmax pmax
comp=Z,9.0nm,0.6s,mb5.2
STHS Stebnicka Huta 87.83 320 *eP* **P** **04 01 06.4 +1.0**
comp=Z,7.9nm,0.8s,mb5.0
KECS Kecovo 88.18 319 *eP* **P** **04 01 06.9 -0.1**
comp=Z,2.2nm,0.8s,mb4.4
NIE Niedzica 88.43 320 *eP* **P** **04 01 09.3 +1.1**
TIP Timpagrande 89.67 309 *eP* **P** **04 01 14.7 +0.6**
ARCES ARCESS Array B 89.71 340 P **P** **04 01 13.3 -0.9**
comp=Z,3.5nm,0.8s,mb4.7,baz=100,slow=6.3,SNR=14
ARCES ARCESS Array B 89.71 340 P **P** **04 01 13.3 -0.9**
MORC Moravsky Berou 90.27 320⇓ *iP* **P** **04 01 17.6 +0.8**
MORC Moravsky Berou 90.27 320 *eP* **P** **04 01 16.4 -0.4**
MORC pmax pmax
comp=Z,2.0nm,0.9s,mb4.5
MORC Moravsky Berou 90.27 320 *eP* **P** **04 01 16.4 -0.4**
comp=Z,2.4nm,0.9s,mb4.5
GERES GERESS Array B 92.69 319 P **P** **04 01 28.5 +0.5**
comp=Z,1.0nm,0.7s,mb4.4,baz=120,slow=4.8,SNR=8.4
NB2 NORSAR Subarra 94.62 331 P **P** **04 01 36.1 -0.8**
comp=Z,1.0nm,0.6s,mb4.4,baz=92,slow=4.8
NOA NORSAR Array B 94.62 331 P **P** **04 01 36.1 -0.8**
comp=Z,1.7nm,0.8s,mb4.6,baz=92,slow=4.6,SNR=6.8
YKA Yellowknife Ar 115.90 18 PKP PKPdf 04 06 57.2 -1.5
comp=Z,0.4nm,0.9s,baz=317,slow=2.0,SNR=5.8
YKA PP PP 04 08 02.0 -0.6
comp=Z,0.1nm,0.4s,baz=318,slow=6.3,SNR=4.2
YKA Yellowknife Ar 115.90 18⇑ *i*PKIKP PKPdf 04 06 57.2 -1.5
YKA Yellowknife Ar 115.90 18 PKP PKPdf 04 06 57.2 -1.5
YKA PP PP 04 08 02.0 -0.6
FCC Fort Churchill 124.30 11 *e*PKIKP PKPdf 04 07 13.6 -1.2
FFC Flin Flon 126.06 17 *e*PKIKP PKPdf 04 07 17.3 -0.9
SCHQ Schefferville 129.09 352 PKP PKPdf 04 07 24.4 +0.5
comp=Z,1.3nm,0.5s,baz=269,slow=4.5,SNR=3.9
BOZ Bozeman (W) 129.25 31 *e*PKIKP PKPdf 04 07 25.1 +0.8
NVAR Mina Array Bea 129.70 42 PKP PKPdf 04 07 27.1 +1.9
comp=Z,0.2nm,0.4s,baz=279,slow=1.2,SNR=4.2
ULM Lac du Bonnet 131.77 16 PKP PKPdf 04 07 28.5 -0.6
comp=Z,1.2nm,0.5s,baz=157,slow=2.5,SNR=4.1
HWUT Hardware Ranch 132.00 35 *e*PKPdf PKPdf 04 07 29.9 +0.4
TUC Tucson 138.18 45 *e*PKIKP PKPdf 04 07 41.3 +0.3
ANMO Albuquerque 139.40 38 *e*PKIKP PKPdf 04 07 43.7 +0.4
CPUP Villa Florida 143.79 211 PKP PKPdf 04 07 50.5 -0.6
comp=Z,0.7nm,0.6s,baz=130,slow=1.9,SNR=3.7
WMOK Wichita Mounta 143.90 31 *e*PKIKP PKPdf 04 07 48.5 -2.8
CCM Cathedral Cave 144.23 19 *e*PKIKP PKPdf 04 07 49.6 -2.3
BDFB Brasilia 144.80 235 PKP PKPdf 04 07 54.0 +1.1
comp=Z,3.7nm,0.5s,baz=197,slow=5.5,SNR=9.0
MCWV Mont Chateau 144.90 3 *e*PKPdf PKPdf 04 07 52.0 -1.1
SDMD Soldier's Deli 145.22 359 *e*PKPdf PKPdf 04 07 51.9 -1.7
USIN University of 145.35 15 *e*PKPdf PKPdf 04 07 53.3 -0.5
WCI Wyandotte Cave 145.42 13 *e*PKIKP PKPdf 04 07 53.2 -0.7
PARMO Parma 145.98 18 *e*PKPbc PKPbc 04 07 55.9 +0.2
MIAR Mount Ida 146.48 25 *e*PKP2 PKPab 04 07 57.4 -0.8
JCT Junction City 146.53 37 *e*PKP2 PKPab 04 07 57.1 -1.3
WVT Waverly 147.04 16 *e*PKP2 PKPab 04 07 58.2 -2.1
ELN Prospectdale 147.25 5 *e*PKPbc PKPbc 04 07 58.3 -1.1
PLAL Pickwick Lake 148.04 17 *e*PKPbc PKPbc 04 08 00.4 -1.1
PLAL *e*PKPab PKPab 04 08 03.3 -1.0
SWET Sewanee 148.38 14 *e*PKPbc PKPbc 04 08 01.5 -1.0
CPCT Cooper Cave 148.46 11 *e*PKPbc PKPbc 04 08 02.1 -0.5
HKT Hockley 149.19 33 *e*PKP2 PKPab 04 08 05.3 -3.6

CSEM ***1*** *03:58:40.4±1.0, 3749N×2482W, h10km, ML2.8, Error ellipse: s-maj=5.5km s-min=2.3km az=63.0, After PDA*
PDA ***1*** *03:58:40.4±1.0, 3749N×2482W, h10km, MD3.0, ML2.8, Error ellipse: s-maj=5.5km s-min=2.3km az=63.0*
SVSA 1 03:58:40.4±1.0, 3749N×2482W, h10km, MD3.0, ML2.8, Error ellipse: s-maj=5.5km s-min=2.3km az=63.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIRA	**Miradouro**	**0.47**	**309**	*eP*	Pg	03 58 48.3	-1.3
MIRA				*eS*	Sg	03 58 54.5	-1.4
FRA1	**Furnas**	**0.50**	**301**	*eP*	Pg	03 58 48.7	-1.4
FRA1				*eS*	Sg	03 58 55.4	-1.3
PSMN	**Pico do Norte,**	**0.52**	**203**	*eP*	Pg	03 58 49.0	-1.5
PSMN				*eS*	Sg	03 58 55.8	-1.6
PFAD	**Fenais da Ajud**	**0.54**	**311**	*eP*	Pg	03 58 49.2	-1.6
PFAD				*eS*	Sg	03 58 56.0	-1.8
PCNG	**Congro**	**0.54**	**302**	*eP*	Pg	03 58 49.4	-1.5
PCNG				*eS*	Sg	03 58 56.3	-1.7
PCNG	105nm,0.2s						
PCNG	**Congro**	**0.54**	**302**	*eP*	Pg	03 58 49.4	-1.5
PCNG				*eS*	Sg	03 58 56.3	-1.7
VIF	**Vila Franca**	**0.56**	**298**	*i P*	Pg	03 58 49.8	-1.4
VIF				*eS*	Sg	03 58 56.9	-1.7
VIF	148nm,0.2s						
VIF	**Vila Franca**	**0.56**	**298**	*eS*	Sg	03 58 56.9	-1.7
PRCH	**Ribeira Ch**	**0.58**	**295**	*eP*	Pg	03 58 49.8	-1.9
PRCH				*eS*	Sg	03 58 57.4	-1.9
PRCH	226nm,0.1s						
PRCH	**Ribeira Ch**	**0.58**	**295**	*eP*	Pg	03 58 49.8	-1.9
PRCH				*eS*	Sg	03 58 57.4	-1.9
MESC	**Monte Escuro**	**0.59**	**302**	*i P*	Pg	03 58 50.1	-1.7
MESC				*eS*	Sg	03 58 57.6	-1.9
MESC	**Monte Escuro**	**0.59**	**302**	*eS*	Sg	03 58 57.6	-1.9
LFA	**Lagoa do Fogo**	**0.60**	**299**	*i P*	Pg	03 58 50.5	-1.6
PMAT	**Coroa da Mata**	**0.61**	**303**	*eP*	Pg	03 58 50.5	-1.8
PMAT				*eS*	Sg	03 58 58.3	-2.1
PMAT	112nm,0.2s						
PMAT	**Coroa da Mata**	**0.61**	**303**	*eP*	Pg	03 58 50.5	-1.8
PMAT				*eS*	Sg	03 58 58.3	-2.1
PVER	**Pico Vermelho**	**0.64**	**299**	*eP*	Pg	03 58 50.9	-1.8
PVER				*eS*	Sg	03 58 58.9	-2.1
PVER	90nm,0.2s						
PVER	**Pico Vermelho**	**0.64**	**299**	*eP*	Pg	03 58 50.9	-1.8
PVER				*eS*	Sg	03 58 58.9	-2.1
CML	**Cha da Macela**	**0.65**	**296**	*i P*	Pg	03 58 50.9	-2.0
CML				*eS*	Sg	03 58 58.9	-2.4
CML	**Cha da Macela**	**0.65**	**296**	*eS*	Sg	03 58 58.9	-2.4
PDA	**Ponta Delgada**	**0.72**	**291**	*eP*	Pg	03 58 52.4	-1.9
PDA				*eS*	Sg	03 59 01.0	-2.8
FAC	**Faja de Cima**	**0.72**	**294**	*eP*	Pg	03 58 52.2	-2.1
FAC				*eS*	Sg	03 59 00.5	-3.3
PSAN	**Santo Antonio**	**0.81**	**297**	*eP*	Pg	03 58 53.4	-2.6
PSAN				*eS*	Sg	03 59 03.5	-3.0
PFET	**Feteiras**	**0.84**	**293**	*eP*	Pg	03 58 54.0	-2.6
PFET				*eS*	Sg	03 59 03.9	-3.6
SET2	**Ginetes**	**0.86**	**295**	*eP*	Pg	03 58 54.3	-2.7
SET2				*eS*	Sg	03 59 04.3	-4.0
SET4	**Mosteiros**	**0.87**	**297**	*eP*	Pg	03 58 54.3	-2.9
SET4				*eS*	Sg	03 59 04.2	-4.3
PFAV	**Pico das Favas**	**2.17**	**305**	*eP*	Pn	03 59 11.6	-4.9
PFAV				*eS*	Sn	03 59 35.6	-7.8
PFAV	16nm,0.1s						
PFAV	**Pico das Favas**	**2.17**	**305**	*eP*	Pn	03 59 11.6	-4.9
PFAV				*eS*	Sn	03 59 35.6	-7.8
RIB2	**Ribeirinha**	**2.21**	**303**	*eP*	Pn	03 59 12.1	-4.9
RIB2				*eS*	Sn	03 59 36.3	-8.1
RIB2	33nm,0.2s						
RIB2	**Ribeirinha**	**2.21**	**303**	*eP*	Pn	03 59 12.1	-4.9
RIB2				*eS*	Sn	03 59 36.3	-8.1
PVNV	**Vila Nova**	**2.24**	**305**	*eP*	Pn	03 59 12.6	-5.0
PVNV				*eS*	Sn	03 59 37.6	-7.7
PVNV	29nm,0.3s						
PVNV	**Vila Nova**	**2.24**	**305**	*eP*	Pn	03 59 12.6	-5.0
PVNV				*eS*	Sn	03 59 37.6	-7.7
PPAD	**Pico dos Padre**	**2.30**	**303**	*eP*	Pn	03 59 13.5	-4.8
PPAD				*eS*	Sn	03 59 38.7	-7.9
PPAD	12nm,0.1s						
PPAD	**Pico dos Padre**	**2.30**	**303**	*eP*	Pn	03 59 13.5	-4.8
PPAD				*eS*	Sn	03 59 38.7	-7.9
PBIS	**Biscoitos**	**2.31**	**304**	*eS*	Sn	03 59 39.5	-7.3
PBIS	8.2nm,0.2s						
ASBA	**Santa Barbara**	**2.33**	**303**	*eP*	Pn	03 59 15.1	-3.7
ASBA				*eS*	Sn	03 59 39.9	-7.6
ASBA	23nm,0.3s						
ASBA	**Santa Barbara**	**2.33**	**303**	*eP*	Pn	03 59 15.1	-3.7
ASBA				*eS*	Sn	03 59 39.9	-7.6
PID	**Ribeirinha**	**2.78**	**291**	*i P*	Pn	03 59 21.0	-3.9
PID				*eS*	Sn	03 59 50.6	-7.9
PMAN	**Manadas**	**2.83**	**295**	*eP*	Pn	03 59 21.1	-4.5
PMAN				*eS*	Sn	03 59 51.2	-8.5
PMAN	13nm,0.3s						
PMAN	**Manadas**	**2.83**	**295**	*eP*	Pn	03 59 21.1	-4.5
PMAN				*eS*	Sn	03 59 51.2	-8.5
ROSA	**Rosais**	**2.97**	**296**	*eP*	Pn	03 59 23.2	-4.4
ROSA				*eS*	Sn	03 59 55.2	-8.0
PICO	**Pico**	**3.03**	**291**	*eP*	Pn	03 59 24.4	-3.9
PICO				*eS*	Sn	03 59 56.4	-8.2
HOR	**Horta**	**3.19**	**290**	*eP*	Pn	03 59 26.1	-4.4
HOR				*eS*	Sn	03 59 59.8	-8.8
CALA	**Caldeira**	**3.26**	**291**	*eP*	Pn	03 59 27.1	-4.4
CALA				*eS*	Sn	04 00 02.4	-7.9

NEIC ***17*** *03:59:38.8, 1691N×9426W, h140km, MD4.0(MEX), After MEX.*
MEX 17 03:59:38.5±1.2, 1690N×9427W, h148km±28km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCX	**San Cristobal**	**1.57**	**96**	*eP*	Pn	04 00 08.5	-0.1
SCX				*i S*	Sn	04 00 29.5	-2.2
EVV	**El Vigia**	**1.86**	**326**	*eP*	Pn	04 00 10.0	-1.8
EVV				*i S*	Sn	04 00 32.5	-4.9
HUIG	**Huatulco**	**2.10**	**238**	*i P*	Pn	04 00 12.0	-2.6
HUIG				*i S*	Sn	04 00 41.1	-1.2
CCIG	**Comitan**	**2.13**	**106**	*i P*	Pn	04 00 14.6	-0.4
CCIG				*i S*	Sn	04 00 41.7	-1.3
CCIG	**Comitan**	**2.13**	**106**	*i P*	Pn	04 00 13.0	-2.0
CCIG				*i S*	Sn	04 00 41.7	-1.3
OXX	**Oaxaca**	**2.36**	**275**	*i P*	Pn	04 00 17.5	-0.2
OXX				*i S*	Sn	04 00 44.5	-3.4
VHO	**Vista Hermosa**	**2.37**	**275**	*i P*	Pn	04 00 17.0	-0.8
VHO				*i S*	Sn	04 00 47.2	-0.9
ACX	**Acapulco**	**5.41**	**270**	*eP*	Pn	04 00 54.5	-2.8

GUC 17 04:19:01.8±0.7, 3381S×7136W, h51km±3km, MD3.5, ML2.2, 4C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.15**	**196**⇓	*iP*	Pn	04 19 10.2	+0.3
LNV				*i S*	Sn	04 19 16.4	+0.7
LCCH	**Las Cruces**	**0.38**	**332**⇓	*iP*	Pn	04 19 11.9	+0.2
LCCH				*i S*	Sn	04 19 19.1	+0.2
TACH	**Talagante**	**0.39**	**66**⇓	*iP*	Pn	04 19 12.3	+0.5
RCDM	**Rinconada Maip**	**0.56**	**55**	*i P*	Pn	04 19 14.2	+0.3
RCDM				*i S*	Sn	04 19 23.4	+0.9
RCDM	comp=N,1μm,0.1s			AML	AML	04 19 23.9	
CHCH	**Chadas Angostu**	**0.60**	**102**⇓	*iP*	Pn	04 19 14.9	+0.6
CHCH				*i S*	Sn	04 19 24.8	+1.4
CACH	**El Canelo**	**0.70**	**116**	*eP*	Pn	04 19 16.7	+1.1
CACH				*i S*	Sn	04 19 28.3	+2.7
STL	**Santa Lucia**	**0.71**	**58**⇑	*iP*	Pn	04 19 15.8	+0.1
STL				*i S*	Sn	04 19 26.9	+1.2
STL	comp=N,79nm,0.2s			AML	AML	04 19 30.3	
PCH	**Pirque**	**0.73**	**75**⇓	*iP*	Pn	04 19 16.4	+0.5
PCH				*i S*	Sn	04 19 27.5	+1.3
DSCH	**Colegio Aleman**	**0.78**	**58**	*i S*	Sn	04 19 28.5	+1.1
DSCH	comp=E,23nm,0.1s			AML	AML	04 19 30.9	
CLCH	**Cerro Calan**	**0.80**	**59**⇑	*iP*	Pn	04 19 17.6	+0.7
CLCH				*i S*	Sn	04 19 29.8	+1.9
CLCH	comp=E,108nm,0.6s			AML	AML	04 19 34.3	
CLCH	comp=N,178nm,0.6s			AML	AML	04 19 42.5	
SFDO	**San Fernando**	**0.85**	**160**	*eP*	Pn	04 19 18.0	+0.5
SFDO				*i S*	Sn	04 19 30.4	+1.4
ROCH	**El Roble**	**0.89**	**19**	*eP*	Pn	04 19 19.3	+1.3
ROCH				*i S*	Sn	04 19 31.6	+1.8
CICH	**Cipreses**	**0.93**	**123**⇓	*iP*	Pn	04 19 19.3	+0.7
CICH				*i S*	Sn	04 19 32.5	+1.6
LMEL	**Las Melosas**	**0.96**	**92**⇑	*iP*	Pn	04 19 19.8	+0.8
LMEL				*i S*	Sn	04 19 33.5	+1.8
LMEL	comp=N,225nm,0.2s			AML	AML	04 19 34.3	
FCH	**Farellones**	**1.01**	**62**⇑	*iP*	Pn	04 19 20.6	+0.8
FCH				*i S*	Sn	04 19 35.0	+2.1
FCH	comp=E,219nm,0.2s			AML	AML	04 19 36.6	
JACH	**Jahuel**	**1.30**	**30**⇓	*iP*	Pn	04 19 24.8	+1.3
JACH				*i S*	Sn	04 19 41.7	+1.9

INMG ***17*** *04:19:16.8±1.0, 4273N×7.18W, h13km±8km, ML1.2, Error ellipse: s-maj=7.1km s-min=6.7km az=113.0*
MDD 17 04:19:14.3±0.4, 4280N×721W, h10km±1km, mbLg1.6/11, Error ellipse: s-maj=4.8km s-min=2.1km az=91.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERUA	**La Rua**	**0.41**	**173**	Pg	Pg	04 19 21.9	-0.5
ERUA	6.7nm,0.1s,SNR=7.9			Lg		04 19 27.5	
EPON	**Pontenova**	**0.53**	**5**	Pg	Pg	04 19 24.2	-0.3
EPON	8.3nm,0.1s,SNR=7.9			Lg		04 19 31.2	
ECAL	**Calabor**	**0.93**	**158**	Pg	Pg	04 19 31.5	-0.7
ECAL	3.1nm,0.1s,SNR=16			Lg		04 19 44.2	
STS	**Santiago**	**0.99**	**275**	Lg		04 19 46.1	
PBRG	**Braganca**	**1.05**	**161**	*eP*	Pg	04 19 34.5	-0.1
PBRG				*eS*	Sg	04 19 47.7	-0.6
ELOB	**Lobios**	**1.13**	**214**	Pg	Pg	04 19 34.5	-1.5
ELOB	1.6nm,0.1s,SNR=11			Lg		04 19 50.5	
PCAB	**Cabril**	**1.25**	**209**	*eP*	Pn	04 19 37.8	0.0

PCAB *eS* Sb 04 19 54.1 +0.1
PCAB
5.1nm,0.1s
EZAM Zamans 1.28 240 Pg Pg 04 19 37.8 -1.1
0.8nm,0.2s,SNR=7.9
EZAM Lg 04 19 55.1
2.0nm,0.2s,SNR=7.9
EMAZ Mazaricos 1.31 277 Pg Pg 04 19 38.5 -0.9
0.9nm,0.1s,SNR=7.9
EMAZ Lg 04 19 56.3
2.5nm,0.1s,SNR=7.9
EARI Arriondas 1.55 71 Pg Pg 04 19 43.2 -0.8
0.2nm,0.1s,SNR=7.9
EARI Lg 04 20 03.4
0.5nm,0.1s,SNR=7.9
PVRL Vila Real 1.57 194 *e*Pg Pg 04 19 43.8 -0.7
PVRL *e*Sg Sg 04 20 03.8 -1.0
PVRL
4.0nm,0.1s
PVIS Viseu 2.15 194 *e*Sg Sg 04 20 20.9 -2.4
PVIS
1.9nm,0.1s
PVIS Viseu 2.15 194 Lg 04 20 20.9
0.9nm,0.1s
MTE Manteigas 2.41 186 *e*Sg Sg 04 20 29.3 -2.5
MTE
1.1nm,0.3s
MTE Manteigas 2.41 186 Lg 04 20 29.3
0.6nm,0.3s

IDC ***17*** *04:35:13.2±5.9, 683S×152.37E, h65km±47km, mb3.7/6, mb1 4.0/7, mb1mx3.7/14, mbtmp4.1/7, ML3.1/1, Error ellipse: s-maj=53.9km s-min=27.9km az=113.0*
ISCJB ***17*** *04:35:16.0±4.0, 67S±0.1×152.1E±0.3, h100km±30km, mb4.0/11, Error ellipse: s-maj=43.0km s-min=22.6km az=31.7*
NEIC ***17*** *04:35:16.8±3.0, 674S×152.15E, h95km±22km, mb4.3/6, Error ellipse: s-maj=30.2km s-min=15.9km az=107.0*

ISC 17 04:35:15.7±3.8, 67S±02×1523E±03, h88km±28km, n18, σ0§69/17, mb4.0/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.71**	**242**	P			**Pn**	**04 36 37.9**	**+0.1**
	3.6nm,0.3s,baz=41,slow=20,SNR=3.0								
PMG				S			**Sn**	**04 37 35.7**	**-6.2**
	4.8nm,0.3s,baz=178,slow=18,SNR=3.1								
KAKA	**Kakadu**	**20.41**	**252**	*e*P			**P**	**04 39 44.5**	**-1.1**
	19nm,0.6s								
WRAB	**Tennant Creek**	**21.78**	**231**	*e*P			**P**	**04 40 01.4**	**+1.2**
	31nm,1.4s,mb4.4								
WB2	**Warramunga Arr**	**21.79**	**231**	*e*P			**P**	**04 40 01.5**	**+1.2**
WRA	**Warramunga Arr**	**21.80**	**231**	P			**P**	**04 39 59.2**	**-1.1**
	5.6nm,0.8s,mb4.0,baz=55,slow=9.6,SNR=19								
ASAR	**Alice Springs**	**24.39**	**224**	P			**P**	**04 40 24.8**	**-0.8**
	1.7nm,0.5s,mb3.6,baz=57,slow=8.7,SNR=20								
STKA	**Stephens Creek**	**26.93**	**200**	P			**P**	**04 40 48.6**	**+0.1**
	3.6nm,0.9s,mb3.9,baz=19,slow=12,SNR=5.8								
FITZ	**Fitzroy Crossi**	**28.30**	**244**	*e*P			**P**	**04 41 00.8**	**0.0**
	3.2nm,0.7s,mb4.0,baz=99,slow=8.6,SNR=9.6								
KULM	**Kulim**	**52.88**	**282**	*e*P			**P**	**04 44 22.4**	**0.0**
MKAR	**Makanchi Array**	**81.43**	**319**	P			**P**	**04 47 23.2**	**+0.3**
	0.5nm,0.7s,mb3.5,baz=116,slow=5.5,SNR=5.8								
MKAR	**Makanchi Array**	**81.43**	**319**	P			**P**	**04 47 23.2**	**+0.3**
ILAR	**Eielson Array**	**84.14**	**22**	P			**P**	**04 47 36.5**	**-0.5**
	1.0nm,0.8s,mb3.7,baz=253,slow=5.7,SNR=11								
KURK	**Kurchatov**	**84.95**	**322**	*e*P			**P**	**04 47 41.3**	**+0.3**
	2.1nm,0.8s,mb4.1								
AAK	**Ala-Archa**	**85.60**	**314**	*e*P			**P**	**04 47 45.0**	**+0.8**
	1.5nm,0.4s,mb4.3								
CHKZ	**Chkalovo**	**90.44**	**324**	*e*P			**P**	**04 48 06.8**	**-0.6**
	1.6nm,0.8s,mb4.2								
ZRNK	**Zerenda**	**91.27**	**323**	*e*P			**P**	**04 48 11.3**	**+0.1**
	0.8nm,0.4s,mb4.2								
MDT	**Midelt**	**146.30**	**323**	PKPbc		PKPbc		04 54 48.3	+2.2
	0.8nm,0.7s,baz=54,slow=4.2,SNR=3.7								
TORD	**Torodi Ar. Bea**	**150.34**	**285**	PKPbc		PKPbc		04 54 58.3	+1.7
	1.5nm,0.7s,baz=87,slow=2.5,SNR=14								
TORD				PKPab		PKPab		04 55 06.9	+3.7
	0.6nm,0.7s,baz=70,slow=2.9,SNR=5.7								

ISCJB ***17*** *04:38:37.9±3.3, 55S±02×148.4E±02, h128km±27km, mb4.1/4, Error ellipse: s-maj=36.5km s-min=28.4km az=97.1*
NEIC ***17*** *04:38:38.1±2.4, 533S×148.37E, h120km±19km, mb4.4/3, Error ellipse: s-maj=30.4km s-min=18.5km az=145.0*
IDC ***17*** *04:38:39.4±4.4, 567S×148.73E, h142km±45km, mb4.0/3, mb1 4.2/5, mb1mx3.8/14, mbtmp4.4/5, Error ellipse: s-maj=83.1km s-min=26.2km az=134.0*

ISC 17 04:38:38.3±3.2, 54S±02×148.5E±02, h120km±25km, n11, σ0§59/11, mb4.1/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.16**	**198**	P			**Pn**	**04 39 40.8**	**+1.0**
	7.1nm,0.3s,baz=2.6,slow=12,SNR=8.1								
PMG				S			**Sn**	**04 40 26.6**	**-1.0**
	18nm,0.3s,baz=0.4,slow=21,SNR=9.3								
KAKA	**Kakadu**	**17.40**	**244**	*e*P			**Pn**	**04 42 33.6**	**+0.1**
	12nm,0.4s								
WRAB	**Tennant Creek**	**19.91**	**222**	*e*P			**P**	**04 43 00.3**	**-0.1**
	15nm,0.3s								
WB2	**Warramunga Arr**	**19.92**	**222**	*e*P			**P**	**04 43 00.5**	**+0.1**
WRA	**Warramunga Arr**	**19.93**	**222**	P			**P**	**04 43 00.6**	**+0.1**
	3.0nm,0.3s,baz=50,slow=10,SNR=57								
ASAR	**Alice Springs**	**22.93**	**216**	P			**P**	**04 43 31.8**	**-0.2**
	7.1nm,0.6s,mb4.2,baz=52,slow=9.0,SNR=76								
FITZ	**Fitzroy Crossi**	**25.61**	**239**	*e*P			**P**	**04 43 56.3**	**-0.1**
	16nm,0.6s,mb4.6								
FITZ	**Fitzroy Crossi**	**25.61**	**239**	P			**P**	**04 43 56.5**	**+0.2**
	7.4nm,0.5s,mb4.4,baz=60,slow=9.8,SNR=34								
VNDA	**Vanda**	**72.39**	**177**	*e*P			**P**	**04 49 52.0**	**+0.8**
	0.7nm,0.5s,mb3.8								
ILAR	**Eielson Array**	**84.39**	**23**	P			**P**	**04 50 56.2**	**-0.9**
	1.3nm,0.7s,mb3.9,baz=256,slow=5.0,SNR=13								
TORD	**Torodi Ar. Bea**	**146.36**	**286**	PKPbc		PKPbc		04 58 04.2	-0.8
	0.1nm,0.7s,baz=65,slow=3.1,SNR=5.4								

ISCJB ***17*** *04:40:22.5±0.2, 5152N±001×1606E±002, h0km, mb3.7/6, Error ellipse: s-maj=2.1km s-min=1.6km az=14.8*
LDG ***17*** *04:40:22.1±0.3, 5163N×1617E, h1km, Ml4.3/20, Error ellipse: s-maj=7.5km s-min=4.2km az=5.0, Suspected Mining induced.*
MOS ***17*** *04:40:22.9±1.1, 5164N×1602E, h10km, mb4.2/2, Error ellipse: s-maj=6.2km s-min=4.0km az=72.0*
NEIC ***17*** *04:40:23.9±0.3, 5165N×1609E, h5km, mb4.1/1, ML3.6(STR), ML3.9(FUR), ML4.1(SZGRF), ML4.7(BUC), Error ellipse: s-maj=3.8km s-min=3.3km az=179.0*
BGR ***17*** *04:40:23.8±0.5, 5152N×1621E, h1km, ML4.1, Error ellipse: s-maj=4.4km s-min=4.4km az=111.0*
CSEM ***17*** *04:40:23.6±0.1, 5160N×1619E, h1km, mb3.8/2, ML4.2/20, Ms3.9, Error ellipse: s-maj=2.1km s-min=1.7km az=162.0*
IPEC ***17*** *04:40:23.8±0.3, 5160N×1624E, h0km, ML3.6/4, Error ellipse: s-maj=4.1km s-min=1.9km az=85.0*
IDC ***17*** *04:40:24.8±0.5, 5155N×1595E, h0km, mb3.8/4, mb1 3.8/12, mb1mx3.7/24, mbtmp3.7/12, ML3.7/7, MS3.6/1, Ms1 3.6/1, ms1mx2.7/32, Error ellipse: s-maj=9.0km s-min=5.7km az=100.0*
PRU ***17*** *04:40:25.9, 5149N×1607E, h0km, Felt In Harrachov*
WAR ***17*** *04:40:26.0, 5154N×1606E, ML3.3, Mining Induced*
VIE ***17*** *04:40:27.2±1.0, 5134N×1610E, h0km, mb3.3/8, ML3.4/10, Ms3.9/1, Error ellipse: s-maj=6.4km s-min=4.4km az=6.0 69 km WNW of Breslau Suspected Mining induced.*
STR ***17*** *04:40:29.6±0.6, 5137N×1590E, h10km±1km, Ml4.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
NAO ***17*** *04:40:41.2, 5140N×1635E, h33km, mb2.8*
UPP ***17*** *04:40:51.7, 5353N×1544E, h1km, ML2.8, Suspected Mining explosion.*

ISC 17 04:40:23.9±0.2, 5158N±001×1608E±002, h0km, n183, σ1§08/288, mb3.7/6, 13C-26D, Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.75**	**170**	*i* Pgd			**Pg**	**04 40 38.9**	**+0.7**
KSP				*i* Sg			**Sg**	**04 40 48.3**	**+0.3**
KSP				*e*L				04 40 51.7	
KSP	**Ksiaz**	**0.75**	**170**	⇓*i*P			**Pg**	**04 40 38.9**	**+0.7**
KSP				*i* Pg			**Pg**	**04 40 38.9**	**+0.7**
KSP				*i* Sg			**Sg**	**04 40 48.3**	**+0.3**
KSP				*e*				04 40 53.0	
KSP	**Ksiaz**	**0.75**	**170**	*e*Pg			**Pg**	**04 40 38.7**	**+0.5**
KSP				*i* Sg			**Sg**	**04 40 48.3**	**+0.3**
UPC	**Upice**	**1.07**	**182**	*e*PG			**Pg**	**04 40 44.9**	**+0.4**
DPC	**Dobruska-Polom**	**1.24**	**173**	*e*PG			**Pg**	**04 40 47.7**	**+0.1**
DPC				*e*SG			**Sg**	**04 41 03.2**	**-0.5**
	525nm,0.7s								
DPC	**Dobruska-Polom**	**1.24**	**173**	*e*Pg			**Pg**	**04 40 47.5**	**-0.1**
DPC				*e*Sg			**Sg**	**04 41 03.0**	**-0.7**
BRG	**Berggiesshubel**	**1.52**	**243**	*e*Pn			**Pn**	**04 40 51.9**	**-0.4**
BRG				*e*Sg			**Sg**	**04 41 13.7**	**+1.0**
BRG	**Berggiesshubel**	**1.52**	**243**	PN			**Pn**	**04 40 51.8**	**-0.5**
BRG				PG			**Pg**	**04 40 53.6**	**+0.7**
BRG				SG			**Sg**	**04 41 13.4**	**+0.7**
	345nm,0.7s								
BRG	**Berggiesshubel**	**1.52**	**243**	P			**Pn**	**04 40 51.8**	**-0.5**
BRG								04 41 13.4	
BRG				smax					
	comp=N,345nm,0.7s								
RUE	**Ruedersdorf**	**1.68**	**303**	*e*Pn			**Pn**	**04 40 54.7**	**+0.1**
RUE				*e*Sg			**Sg**	**04 41 20.8**	**+2.9**
RUE	**Ruedersdorf**	**1.68**	**303**	*e*Pn			**Pn**	**04 40 54.7**	**+0.2**
RUE				*e*Sg			**Sg**	**04 41 20.8**	**+2.8**
RUE	**Ruedersdorf**	**1.68**	**303**	Pn			**Pn**	**04 40 54.7**	**+0.2**
RUE				Sg			**Sg**	**04 41 20.8**	**+2.8**
GKP	**Gorka Klasztor**	**1.83**	**22**	*e*Pn			**Pn**	**04 40 59.0**	**+2.4**
GKP				*e*Pg			**Pg**	**04 41 05.1**	**+6.1**
GKP				*e*Sn			**Sn**	**04 41 28.2**	**+7.7**
PRA	**Prague**	**1.84**	**215**	PN			**Pn**	**04 40 56.0**	**-0.7**
PRA				SG			**Sg**	**04 41 23.0**	**+0.1**
PRU	**Pruhonice**	**1.87**	**212**	*e*PN			**Pn**	**04 40 57.0**	**-0.1**
PRU				*e*PG			**Pg**	**04 40 59.0**	**-0.7**
PRU				*ex*			x	04 41 16.0	
PRU				*e*SG			**Sg**	**04 41 23.1**	**-0.8**
	comp=N,212nm,0.6s								
CLL	**Collm**	**1.95**	**263**	*e*Pn			**Pn**	**04 40 58.0**	**-0.2**
CLL				*i* Pg			**Pg**	**04 41 01.5**	**+0.3**
CLL				*e*Sg			**Sg**	**04 41 27.1**	**+0.7**
CLL	**Collm**	**1.95**	**263**	⇓*i*Pn			**Pn**	**04 40 57.9**	**-0.2**
	comp=Z,84nm,0.5s								
CLL				*i* Pg			**Pg**	**04 41 01.5**	**+0.3**
CLL				*ex*			x	04 41 05.0	
CLL				*e*Sg			**Sg**	**04 41 27.0**	**+0.6**
	comp=Z,295nm,0.6s								
CLL	**Collm**	**1.95**	**263**	⇓*i*P			**Pn**	**04 40 57.9**	**-0.2**
CLL				*e*				04 41 27.0	
CLL				pmax			pmax		
	comp=Z,84nm,0.5s								
CLL	**Collm**	**1.95**	**263**	⇓*i*Pn			**Pn**	**04 40 57.9**	**-0.2**
CLL				*i* Pg			**Pg**	**04 41 01.5**	**+0.3**
CLL				*e*Sg			**Sg**	**04 41 27.0**	**+0.6**
RAC	**Raciborz**	**2.01**	**137**	*e*Pg			**Pg**	**04 41 01.8**	**-0.6**
RAC				*e*Sg			**Sg**	**04 41 28.7**	**+0.3**
MORC	**Moravsky Berou**	**2.03**	**152**	⇓*i*P			**Pn**	**04 40 59.2**	**-0.1**
MORC	**Moravsky Berou**	**2.03**	**152**	S			**Sn**	**04 41 28.1**	**+2.7**
MORC	**Moravsky Berou**	**2.03**	**152**	⇓P			**Pn**	**04 40 59.2**	**-0.1**
MORC				S			**Sn**	**04 41 28.1**	**+2.8**
MORC	**Moravsky Berou**	**2.03**	**152**	*e*Pn			**Pn**	**04 40 59.1**	**-0.2**
MORC				*e*Sg			**Sg**	**04 41 26.5**	**-2.6**
	comp=Z,284nm,0.8s								
OKC	**Ostrava-Krasne**	**2.18**	**142**	*e*PN			**Pn**	**04 41 00.7**	**-0.7**
OKC				*e*PG			**Pg**	**04 41 05.4**	**-0.3**
OKC				*e*SG			**Sg**	**04 41 34.1**	**+0.1**
	comp=Z,484nm,0.7s								
VRAC	**Vranov**	**2.30**	**172**	Pn			**Pn**	**04 41 03.1**	**+0.1**
	comp=Z,6.5nm,0.3s,baz=352,slow=14,SNR=37								
VRAC				Lg				04 41 35.4	
	comp=Z,9.0nm,0.3s,baz=94,slow=23,SNR=4.6								
VRAC				LR			LR	04 42 07.4	
	comp=Z,1μm,20.0s,baz=207,slow=45								
VRAC	**Vranov**	**2.30**	**172**	⇓*i*P			**Pn**	**04 41 03.3**	**+0.3**
VRAC	**Vranov**	**2.30**	**172**	S			**Sn**	**04 41 35.6**	**+3.6**
VRAC	**Vranov**	**2.30**	**172**	⇓P			**Pn**	**04 41 03.3**	**+0.3**
VRAC				S			**Sn**	**04 41 35.6**	**+3.6**
VRAC	**Vranov**	**2.30**	**172**	*e*Pn			**Pn**	**04 41 03.0**	**0.0**
VRAC				*e*Sg			**Sg**	**04 41 36.0**	**-1.7**
	comp=Z,340nm,0.8s								
KRUC	**Moravsky**	**2.53**	**175**	*e*Pn			**Pn**	**04 41 06.2**	**0.0**
KRUC				*e*Sg			**Sg**	**04 41 43.4**	**-1.7**
	comp=Z,221nm,1.0s								
WERD	**Werda**	**2.64**	**246**	*e*Pn			**Pn**	**04 41 08.0**	**+0.3**
WERD				*e*Sg			**Sg**	**04 41 48.6**	**-0.1**
NKC	**Novy Kostel**	**2.67**	**241**	*e*PN			**Pn**	**04 41 08.5**	**+0.5**
NKC				*e*PG			**Pg**	**04 41 14.9**	**-0.1**
NKC				*e*SG			**Sg**	**04 41 49.8**	**+0.3**
	comp=Z,457nm,0.6s								
OJC	**Ojcow**	**2.72**	**119**	*e*Pn			**Pn**	**04 41 07.3**	**-1.5**
OJC				*e*Pg			**Pg**	**04 41 16.5**	**+0.5**
OJC				*e*Sg			**Sg**	**04 41 51.6**	**+0.4**
VIEL	**Selb-Vielitz**	**2.88**	**243**	⇓Pn			**Pn**	**04 41 11.4**	**+0.4**
JAVC	**Velka Javorina**	**2.91**	**159**	*e*Sg			**Sg**	**04 41 57.5**	**+0.2**
	comp=Z,249nm,1.2s								
KHC	**Kasperske Hory**	**2.93**	**214**	*e*PN			**Pn**	**04 41 11.6**	**-0.1**
KHC				*e*PG			**Pg**	**04 41 18.1**	**-1.9**
KHC				*ex*			x	04 41 49.5	
KHC				*e*SG			**Sg**	**04 41 58.0**	**0.0**
	comp=Z,147nm,0.7s								
KHC	**Kasperske Hory**	**2.93**	**214**	*e*P			**Pn**	**04 41 10.3**	**-1.4**
MGBB	**Grossbuechelbe**	**2.94**	**238**	⇑*i*Pn			**Pn**	**04 41 12.6**	**+0.9**
MOX	**Moxa**	**2.97**	**253**	*e*Pn			**Pn**	**04 41 12.3**	**+0.2**
MOX				*e*Pg			**Pg**	**04 41 21.1**	**+0.4**
MOX				*e*Sg			**Sg**	**04 42 00.8**	**+1.6**
MOX	**Moxa**	**2.97**	**253**	*e*PN			**Pn**	**04 41 12.3**	**+0.1**
MOX				*e*PG			**Pg**	**04 41 21.1**	**+0.4**
MOX				*e*SG			**Sg**	**04 42 00.4**	**+1.2**
MANZ	**Manzenberg**	**2.98**	**239**	*e*Pn			**Pn**	**04 41 12.9**	**+0.5**
MANZ				*e*Sg			**Sg**	**04 42 00.3**	**+0.5**
ROTZ	**Rotzenmuhle**	**3.06**	**235**	*e*Pn			**Pn**	**04 41 13.9**	**+0.5**
ROTZ				*e*Sg			**Sg**	**04 42 01.4**	**-0.8**
GEC2	**GERESS Array S**	**3.14**	**210**	*e*Pn			**Pn**	**04 41 14.8**	**+0.3**
GEC2				*e*Sg			**Sg**	**04 42 02.1**	**-2.5**
GEC2	**GERESS Array S**	**3.14**	**210**	*e*Pn			**Pn**	**04 41 14.8**	**+0.3**
GEC2				*e*Sg			**Sg**	**04 42 02.1**	**-2.5**
GERES	**GERESS Array B**	**3.14**	**210**	Pn			**Pn**	**04 41 14.6**	**+0.1**
	comp=Z,7.2nm,0.3s,baz=30,slow=12,SNR=144								
GERES				Pg			**Pg**	**04 41 21.3**	**-2.6**
	comp=Z,12nm,0.3s,baz=31,slow=17,SNR=51								
GERES				Sn			**Sn**	**04 41 51.7**	**-1.0**
	comp=Z,7.3nm,0.3s,baz=40,slow=19,SNR=5.4								
GERES				Lg				04 42 04.2	
	comp=Z,21nm,0.3s,baz=30,slow=28,SNR=14								
GERES	**GERESS Array B**	**3.14**	**210**	P			**Pg**	**04 41 21.3**	**-2.7**
GERES								04 41 51.7	
GERES				pmax			pmax		
	comp=Z,12nm,0.3s								
GERES				smax					
	comp=N,7.0nm,0.3s								
GERES				MLR			MLR		
	comp=N,21nm,0.3s								
GERES	**GERESS Array B**	**3.14**	**210**	Pg			**Pg**	**04 41 21.3**	**-2.7**
GERES				S			**Sn**	**04 41 51.7**	**-0.9**
	comp=N,21nm,0.3s								
WET	**Wettzell**	**3.19**	**221**	*e*Pn			**Pn**	**04 41 15.6**	**+0.4**
WET				*e*Sg			**Sg**	**04 42 04.8**	**-1.4**
WET	**Wettzell**	**3.19**	**221**	*e*Pn			**Pn**	**04 41 15.6**	**+0.4**
WET				*e*Sg			**Sg**	**04 42 04.8**	**-1.5**
SMOL	**Smolenice**	**3.19**	**164**	*e*PG			**Pg**	**04 41 25.0**	**0.0**
SMOL				*e*SG			**Sg**	**04 42 06.1**	**-0.3**
VKA	**Vienna**	**3.32**	**177**	*i* Pn			**Pn**	**04 41 18.2**	**+1.1**
VKA				*i* Sg			**Sg**	**04 42 10.7**	**+0.1**
NIE	**Niedzica**	**3.46**	**127**	*e*Pn			**Pn**	**04 41 19.5**	**+0.5**
NIE				*e*Pg			**Pg**	**04 41 29.8**	**-0.4**
NIE				*e*Sg			**Sg**	**04 42 15.9**	**+0.8**
CLZ	**Clausthal**	**3.56**	**276**	*e*Pn			**Pn**	**04 41 21.5**	**+1.1**
CLZ				*e*Sg			**Sg**	**04 42 19.0**	**+0.7**
CLZ	**Clausthal**	**3.56**	**276**	*e*Pn			**Pn**	**04 41 21.5**	**+1.2**
CLZ				*e*Sg			**Sg**	**04 42 19.0**	**+0.7**
BSD	**Bornholm Skovb**	**3.61**	**349**	*i* P			**Pn**	**04 41 21.3**	**+0.3**
BSD				*i* S			**Sn**	**04 42 03.2**	**-1.1**
GRA1	**Grafenberg Arr**	**3.63**	**240**	*e*Pn			**Pn**	**04 41 22.0**	**+0.8**
GRA1				*e*Sg			**Sg**	**04 42 20.8**	**+0.4**
GRF	**Grafenberg Arr**	**3.63**	**240**	*e*Pn			**Pn**	**04 41 22.0**	**+0.8**
GRF				*e*Sg			**Sg**	**04 42 20.8**	**+0.5**
HROE	**Hohe Rhon--Fla**	**3.88**	**257**	⇓*i*Pn			**Pn**	**04 41 25.3**	**+0.6**
SOP	**Sopron**	**3.91**	**175**	⇓*e*Pn			**Pn**	**04 41 26.3**	**+1.1**
SOP				*e*SB			**Sb**	**04 42 27.2**	**+5.6**
MOA	**Molln**	**3.92**	**198**	⇑*i*Pn			**Pn**	**04 41 25.7**	**+0.5**
MOA				⇓*i*Sg			**Sg**	**04 42 28.5**	**-1.2**
	comp=N,141nm,0.8s								
STHS	**Stebnicka Huta**	**3.94**	**121**	*e*PN			**Pn**	**04 41 26.3**	**+0.7**
STHS				*e*PG			**Pg**	**04 41 40.0**	**+0.6**
STHS				*e*SG			**Sg**	**04 42 30.7**	**+0.1**
STHS	**Stebnicka Huta**	**3.94**	**121**	*e*Pn			**Pn**	**04 41 26.3**	**+0.7**
STHS				*e*Pg			**Pg**	**04 41 40.0**	**+0.6**
STHS				*e*Sg			**Sg**	**04 42 30.7**	**+0.1**
STHS				*e*Lg				04 42 50.0	
KECS	**Kecovo**	**4.20**	**136**	*e*PN			**Pn**	**04 41 28.9**	**-0.3**
KECS				*e*PG			**Pg**	**04 41 44.3**	**-0.1**
KECS				*e*SG			**Sg**	**04 42 39.0**	**+0.1**
KECS	**Kecovo**	**4.20**	**136**	*e*Pn			**Pn**	**04 41 28.9**	**-0.3**
KECS				*e*Pg			**Pg**	**04 41 44.3**	**-0.1**
KECS				*e*Sg			**Sg**	**04 42 39.0**	**+0.1**
KECS				*e*Lg				04 42 50.0	
ARSA	**Arzberg**	**4.35**	**185**	⇓*i*Pn			**Pn**	**04 41 32.4**	**+1.2**
	SNR=7.4								
ARSA				⇓*i*Sg			**Sg**	**04 42 43.4**	**-0.2**
	comp=N,94nm,0.6s								
CRVS	**Cervenica-Dubn**	**4.37**	**126**	*e*PN			**Pn**	**04 41 32.6**	**+1.1**
CRVS				*e*PG			**Pg**	**04 41 48.5**	**+0.9**
RJOB	**Jochberg**	**4.40**	**210**	⇑*i*Pn			**Pn**	**04 41 32.8**	**+0.9**
BGLD	**Berchtesgaden**	**4.41**	**208**	⇑*i*Pn			**Pn**	**04 41 32.5**	**+0.5**
PSZ	**Piszkesteto**	**4.42**	**145**	*e*Pn			**Pn**	**04 41 33.0**	**+0.8**
PSZ				*e*SB			**Sb**	**04 42 34.5**	**-1.7**
KWP	**Kalwaria**	**4.65**	**112**	*e*Pn			**Pn**	**04 41 34.0**	**-1.3**
KWP				*e*Pg			**Pg**	**04 41 50.4**	**-2.6**
KWP				*e*Sg			**Sg**	**04 43 03.4**	**+10**
BLEU	**Blekinge**	**4.74**	**358**	P			**Pn**	**04 41 36.9**	**+0.4**
KOLS	**Kolonicke sedl**	**4.77**	**121**	*e*PN			**Pn**	**04 41 37.1**	**+0.1**
KOLS				*e*PG			**Pg**	**04 41 56.1**	**+0.7**
KBA	**Koelnbreinsper**	**4.85**	**203**	⇑*i*Pn			**Pn**	**04 41 39.2**	**+1.1**
	SNR=16								
KBA				⇓*i*Sg			**Sg**	**04 42 58.3**	**-1.3**
	comp=N,120nm,0.6s								
PERS	**Pernice**	**4.99**	**188**	*e*Pn			**Pn**	**04 41 41.3**	**+1.3**
PERS				*i* Sn			**Sg**	**04 43 04.9**	**+0.7**
TNS	**Taunus Mts**	**5.02**	**257**	*e*Pn			**Pn**	**04 41 40.7**	**+0.3**
TOD	**Tromm**	**5.04**	**250**	Pn			**Pn**	**04 41 40.4**	**-0.3**
WATA	**Walderalm**	**5.17**	**216**	⇓*i*Pn			**Pn**	**04 41 42.5**	**+0.1**
	SNR=9.6								
WATA				⇓*i*Sg			**Sg**	**04 43 10.1**	**+0.3**
	comp=N,34nm,0.7s								
WTTA	**Wattenberg**	**5.20**	**216**	⇑*i*Pn			**Pn**	**04 41 44.5**	**+1.5**
	SNR=10								
WTTA				⇑*i*Sg			**Sg**	**04 43 11.1**	**+0.1**
	comp=N,51nm,0.7s								
STU	**Stuttgart**	**5.24**	**240**	*e*Sg			**Sg**	**04 43 12.5**	**+0.2**
STU	**Stuttgart**	**5.24**	**240**	*e*Pg			**Pg**	**04 42 06.4**	**+2.1**
	comp=N,68nm,0.9s								
MOTA	**Moosalm**	**5.34**	**219**	⇓*i*Sg			**Sg**	**04 43 16.1**	**+0.8**
	comp=N,117nm,0.9s								
MOTA	**Moosalm**	**5.34**	**219**	⇑*i*Pn			**Pn**	**04 41 45.4**	**+0.6**
	SNR=9.8								
MOTA				⇑*i*Sg			**Sg**	**04 43 19.5**	**+4.1**
	comp=N,117nm,0.9s								
MOTA	**Moosalm**	**5.34**	**219**	⇑*i*Pn			**Pn**	**04 41 45.4**	**+0.6**
MOTA				*i* Sg			**Sg**	**04 43 16.1**	**+0.8**
MOTA	**Moosalm**	**5.34**	**219**	Pn			**Pn**	**04 41 45.4**	**+0.6**
	SNR=9.8								
MOTA				*i* Sg			**Sg**	**04 43 16.1**	**+0.7**
LVV	**L'vov**	**5.35**	**106**	*e*P			**Pn**	**04 41 45.1**	**+0.2**
LVV				*i* S			**Sn**	**04 42 46.9**	**-0.4**
VXJU	**Vaexsjoe**	**5.39**	**353**	P			**Pn**	**04 41 46.1**	**+0.6**
SQTA	**Sankt Quirin**	**5.40**	**218**	⇑*i*Pn			**Pn**	**04 41 46.5**	**+0.8**
	SNR=7.0								
SQTA				⇓*i*Sg			**Sg**	**04 43 19.5**	**+2.2**
	comp=N,37nm,0.7s								
LJU	**Ljubljana**	**5.64**	**191**	*e*Pn			**Pn**	**04 41 49.5**	**+0.6**
ABH	**Alteburg**	**5.68**	**256**	Pn			**Pn**	**04 41 49.3**	**-0.2**
GCIS	**Gornji Cirnik**	**5.73**	**183**	*e*Pn			**Pn**	**04 41 50.6**	**+0.6**
VOY	**Vojsko**	**

AKASG				Lg			04 44 53.4		
LPL	**La Plagne**	**8.67**	**229**	*e*Sg		**Sg**	**04 45 00.7**	**-1.6**	
	comp=N,65nm,1.4s								
LPG	**La Plagne**	**8.68**	**229**	*e*P		**Pn**	**04 42 32.5**	**+1.9**	
LPG				*e*Sg		**Sg**	**04 45 01.0**	**-1.4**	
	comp=N,53nm,1.2s								
HFS	**Hagfors**	**8.68**	**352**	Pn		**Pn**	**04 42 29.1**	**-1.5**	
	comp=N,0.2nm,0.3s,baz=181,slow=15,SNR=8.7								
HFS				Sn		**Sn**	**04 44 04.4**	**-4.8**	
	comp=N,0.3nm,0.3s,baz=166,slow=19,SNR=3.1								
HFS				Lg			04 44 59.2		
	comp=N,0.4nm,0.3s,baz=176,slow=28,SNR=2.7								
HFS	**Hagfors**	**8.68**	**352**	P		**Pn**	**04 42 29.1**	**-1.5**	
HFS							04 44 04.4		
LOR	**Lormes**	**9.06**	**246**	*e*Pn		**Pn**	**04 42 35.1**	**-0.7**	
LOR				*e*Sg		**Sg**	**04 45 09.3**	**-5.3**	
	comp=N,39nm,0.9s								
LOR	**Lormes**	**9.06**	**246**	*e*Pn		**Pn**	**04 42 35.1**	**-0.7**	
LOR				*e*Sg		**Sg**	**04 45 09.3**	**-5.3**	
	comp=N,20nm,0.9s								
VSU	**Vasula**	**9.21**	**37**	*e*P		**Pn**	**04 42 39.5**	**+1.6**	
MBDF	**Montbardon**	**9.25**	**226**	*e*P		**Pn**	**04 42 41.5**	**+3.0**	
SSF	**Saint Saulge**	**9.37**	**246**	*e*Pn		**Pn**	**04 42 38.8**	**-1.3**	
SSF				*e*Sg		Sn	04 45 21.1	+55	
	comp=N,42nm,1.2s								
SMF	**Signal de Mont**	**9.42**	**243**	*e*Sg		Sx	04 45 20.5		
	comp=N,39nm,0.9s								
SMF	**Signal de Mont**	**9.42**	**243**	*e*Sg		Sx	04 45 20.5		
	comp=N,20nm,0.9s								
ORIF	**Oris-en-Rattie**	**9.52**	**230**	*e*Sg		Sx	04 45 22.2		
	comp=N,60nm,1.3s								
AVF	**Avril sur Loir**	**9.61**	**245**	*e*Pn		**Pn**	**04 42 40.2**	**-3.2**	
AVF				*e*Sg		Sn	04 45 26.4	+54	
	comp=N,33nm,1.1s								
AVF	**Avril sur Loir**	**9.61**	**245**	*e*Pn		**Pn**	**04 42 40.2**	**-3.2**	
AVF				*e*Sg		Sn	04 45 26.4	+54	
	comp=N,16nm,1.1s								
SBF	**Sospel**	**9.67**	**220**	*e*P		**Pn**	**04 42 44.8**	**+0.6**	
NAO01	**NORSAR Array S**	**9.72**	**345**	*e*Pn		**Pn**	**04 42 42.7**	**-2.2**	
NAO01	**NORSAR Array S**	**9.72**	**345**	*e*Pn		**Pn**	**04 42 42.7**	**-2.3**	
NB2	**NORSAR Subarra**	**9.86**	**346**	Pn		**Pn**	**04 42 43.9**	**-2.9**	
	comp=Z,0.8nm,0.6s,baz=161,slow=14								
NOA	**NORSAR Array B**	**9.86**	**346**	Pn		**Pn**	**04 42 44.5**	**-2.2**	
	comp=Z,0.3nm,0.3s,baz=164,slow=12,SNR=6.0								
NOA				Sn		**Sn**	**04 44 33.8**	**-4.3**	
	comp=Z,0.2nm,0.3s,baz=152,slow=21,SNR=3.5								
NOA				Lg			04 45 37.3		
	comp=Z,0.5nm,0.3s,baz=308,slow=19,SNR=4.6								
NOA	**NORSAR Array B**	**9.86**	**346**	Pn		**Pn**	**04 42 44.5**	**-2.3**	
BGF	**Bois d'Agland**	**10.03**	**245**	*e*Pn		**Pn**	**04 42 47.8**	**-1.4**	
BGF				*e*Sg		Sn	04 45 42.5	+60	
	comp=Z,29nm,0.8s								
VIVF	**Saint-Julien-l**	**10.15**	**233**	*e*Sg		Sx	04 45 45.1		
	comp=Z,39nm,1.2s								
VIVF	**Saint-Julien-l**	**10.15**	**233**	*e*Sg		Sx	04 45 45.1		
	comp=Z,20nm,1.2s								
TCF	**Toulx Ste Croi**	**10.55**	**245**	*e*Sg		Sx	04 45 54.0		
	comp=Z,53nm,1.2s								
TCF	**Toulx Ste Croi**	**10.55**	**245**	*e*Sg		Sx	04 45 54.0		
	comp=Z,26nm,1.2s								
LASF	**Ste Croix**	**11.12**	**232**	*e*Sg		Sx	04 46 15.6		
	comp=Z,66nm,1.5s								
MFF	**Saint Martin d**	**11.74**	**251**	*e*P		**Pn**	**04 43 12.5**	**-0.1**	
KAF	**Kangasniemi**	**11.93**	**24**	*e*p		**Pn**	**04 43 11.5**	**-3.7**	
	comp=Z,8.4nm,0.9s								
KAF	**Kangasniemi**	**11.93**	**24**	*e*P		**Pn**	**04 43 11.5**	**-3.7**	
KAF				pmax		pmax			
	comp=Z,8.0nm,0.9s								
EKA	**Eskdalemuir Ar**	**12.06**	**296**	Pn		**Pn**	**04 43 14.7**	**-2.2**	
	comp=Z,0.3nm,0.3s,baz=101,slow=13,SNR=9.2								
EKA				Sn		**Sn**	**04 45 30.1**	**-2.0**	
	comp=Z,0.2nm,0.3s,baz=96,slow=24,SNR=3.9								
OBN	**Obninsk**	**12.73**	**66**	*e*P		**Pn**	**04 43 22.7**	**-3.4**	
OBN				pmax		pmax			
	comp=Z,6.0nm,1.0s								
JOF	**Joensuu**	**13.99**	**30**	*e*p		**Pn**	**04 43 39.4**	**-3.9**	
	comp=Z,7.1nm,0.9s								
KLMR	**Klimovskoe**	**15.92**	**45**	*e*P		**Pn**	**04 44 07.1**	**-2.0**	
KLMR				pmax		pmax			
	comp=Z,10.0nm,1.6s								
KLMR	**Klimovskoe**	**15.92**	**45**	*e*P		**Pn**	**04 44 07.1**	**-2.0**	
	comp=Z,10.0nm,1.6s								
ARCES	**ARCESS Array B**	**18.56**	**10**	Pn		**Pn**	**04 44 39.1**	**-3.2**	
	comp=Z,0.3nm,0.3s,baz=192,slow=11,SNR=12								
AKTK	**Aktyubinsk**	**26.16**	**76**	P		**P**	**04 46 00.0**	**+0.3**	
AKTK	**Aktyubinsk**	**26.16**	**76**	P		**P**	**04 46 00.0**	**+0.2**	
	comp=Z,1.0nm,0.6s,mb3.6								
AKTO	**Aktyubinsk**	**26.16**	**76**	P		**P**	**04 46 00.0**	**+0.3**	
	comp=Z,1.4nm,0.6s,mb3.8,baz=293,slow=11,SNR=7.1								
AKTO	**Aktyubinsk**	**26.16**	**76**	P		**P**	**04 46 00.0**	**+0.2**	
AKTO				pmax		pmax			
	comp=Z,1.0nm,0.6s,mb3.6								
NVS	**Novosibirsk**	**38.96**	**58**	*e*P		**P**	**04 47 52.0**	**+0.4**	
AAK	**Ala-Archa**	**39.78**	**79**	*e*P		**P**	**04 47 58.7**	**+0.3**	
AAK				pmax		pmax			
	comp=Z,1.0nm,0.3s,mb3.9								
AAK	**Ala-Archa**	**39.78**	**79**	*e*P		**P**	**04 47 58.7**	**+0.3**	
	comp=Z,1.4nm,0.3s,mb4.1								
AAK	**Ala-Archa**	**39.78**	**79**	*e*P		**P**	**04 47 58.7**	**+0.3**	
	comp=Z,1.0nm,0.3s,mb3.9								
TORD	**Torodi Ar. Bea**	**40.06**	**202**	P		**P**	**04 48 00.3**	**-0.4**	
	comp=Z,1.2nm,0.9s,mb3.5,baz=5.8,slow=7.7,SNR=7.2								
MKAR	**Makanchi Array**	**42.21**	**69**	*e*P		**P**	**04 48 19.9**	**+1.5**	
	comp=Z,0.6nm,0.7s,mb3.4,baz=312,slow=5.8,SNR=5.3								
MKAR	**Makanchi Array**	**42.21**	**69**	P		**P**	**04 48 19.9**	**+1.5**	
MKAR	**Makanchi Array**	**42.21**	**69**	P		**P**	**04 48 19.9**	**+1.5**	
YKA	**Yellowknife Ar**	**59.79**	**336**	P		**P**	**04 50 31.3**	**+0.6**	
	comp=Z,1.2nm,0.7s,mb4.1,baz=30,slow=6.7,SNR=32								
YKA	**Yellowknife Ar**	**59.79**	**336**	P		**P**	**04 50 31.3**	**+0.6**	
YKA	**Yellowknife Ar**	**59.79**	**336**	*e*P		**P**	**04 50 31.3**	**+0.6**	

IDC 17 04:51:04.8±2.4,170N×9927E,h164km±12km,mb3.3/4, mb1 3.5/4,mb1mx3.2/17,mbtmp3.7/4,Error ellipse: s-maj=114.7km s-min=18.3km az=49.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.15**	**343**	P	Pn	04 51 30.9	-1.2
	1.5nm,0.3s,baz=223,slow=5.0,SNR=5.0						
PSI				S	Sn	04 51 52.4	-0.7
	1.4nm,0.3s,baz=154,slow=18,SNR=5.9						
WRA	**Warramunga Arr**	**40.57**	**124**	P	P	04 58 28.8	+0.7
	2.8nm,0.6s,baz=301,slow=9.0,SNR=24						
ASAR	**Alice Springs**	**42.07**	**129**	P	P	04 58 40.2	-0.2
	0.7nm,0.8s,baz=294,slow=8.5,SNR=5.4						
MKAR	**Makanchi Array**	**47.29**	**344**	P	P	04 59 21.1	-0.6
	0.2nm,0.5s,baz=154,slow=8.1,SNR=3.9						
AKASG	**Malin Array Be**	**76.13**	**322**	P	P	05 02 35.0	+0.5
	0.3nm,0.3s,baz=90,slow=5.5,SNR=5.6						

*ISK **17** 05:23:14.4,38.12N×2666E,h15km,MD2.9*
*ISCJB **17** 05:23:15.4±0.6,3814N±003×2664E±004,h14km±4km, Error ellipse: s-maj=5.9km s-min=4.4km az=168.8*
*ATH **17** 05:23:15.2,38.12N×2647E,h4km,MD3.0/3*
*CSEM **17** 05:23:15.0±0.2,3810N×2674E,h15km±1km,MD2.9, Error ellipse: s-maj=2.6km s-min=2.0km az=108.0*

ISC 17 05:23:15.5±0.6,3815N±003×2664E±005,h14km±4km,n17, σ0§92/27,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.22**	**352**	*i* P	**Pg**	**05 23 20.8**	**+0.4**
URLA				*i* S	**Sg**	**05 23 24.5**	**+0.8**
SMG	**Samos**	**0.46**	**160**	*e*PG	**Pg**	**05 23 25.0**	**+0.2**
SMG				*e*SG	**Sg**	**05 23 31.8**	**+0.8**
IZM	**Izmir**	**0.56**	**63**	*i* PG	**Pg**	**05 23 25.7**	**-0.8**
IZM				*i* SG	**Sg**	**05 23 34.2**	**+0.4**
KDAG	**Bornova**	**0.56**	**62**	*i* P	**Pg**	**05 23 26.4**	**-0.1**
KDAG				*i* S	**Sg**	**05 23 32.5**	**-1.5**
AYDN	**Tasoluk**	**1.10**	**116**	*i* P	**Pb**	**05 23 36.1**	**-0.1**
AYDN				*i* S	**Sb**	**05 23 50.9**	**+0.5**
PRK	**Paraskevi**	**1.14**	**346**	*e*Pn	**Pn**	**05 23 37.5**	**+0.5**
PRK				*e*SB	**Sb**	**05 23 51.7**	**+0.2**
AKS	**Akhisar**	**1.18**	**51**	PN	**Pn**	**05 23 36.7**	**-0.9**
AKS				SN	**Sn**	**05 23 53.7**	**+0.3**
BODT	**Bodrum**	**1.21**	**153**	PN	**Pn**	**05 23 36.7**	**-1.2**
MLSB	**Milas**	**1.24**	**133**	*e*PN	**Pn**	**05 23 37.4**	**-1.0**
BDRM	**Kayabasi**	**1.25**	**149**	*i* P	**Pn**	**05 23 41.0**	**+2.4**
BDRM				*i* S	**Sb**	**05 23 56.6**	**+1.7**
APE	**Apeiranthos**	**1.39**	**220**	*e*PN	**Pn**	**05 23 40.3**	**-0.1**
APE	**Apeiranthos**	**1.39**	**220**	*e*Pb	**Pb**	**05 23 39.5**	**-1.7**
APE	**Apeiranthos**	**1.39**	**220**	*e*Pn	**Pn**	**05 23 40.3**	**-0.1**
MANT	**Manisa**	**1.55**	**77**	*i* P	**Pn**	**05 23 42.4**	**-0.3**
MANT				*i* S	**Sn**	**05 24 03.4**	**+0.8**
DAT	**Datca**	**1.60**	**152**	*e*PN	**Pn**	**05 23 42.7**	**-0.7**
YER	**Yerkesik**	**1.65**	**127**	*e*PN	**Pn**	**05 23 43.2**	**-0.9**
BOZC	**Bozcaada**	**1.75**	**345**	*i* P	**Pn**	**05 23 46.3**	**+0.8**
BOZC				*i* S	**Sn**	**05 24 12.2**	**+4.6**

*ORF **17** 05:23:43.2, 1779S×1794E, h30km, mb5.7*
*MOS **17** 05:23:44.0±1.0,2171S×1770?W, h165km, mb4.6/11, Error ellipse: s-maj=13.2km s-min=9.6km az=52.9*
*ISCJB **17** 05:23:49.1±0.2,2205S±003×1769?W±005, h220km, mb4.6/46, Error ellipse: s-maj=6.7km s-min=4.1km az=51.3*
*SZGRF **17** 05:23:49.5, 2291S×1764?W, h228km, South of Fiji Islands*
*NEIC **17** 05:23:50.4±0.2,2201S×1769?W, mb4.7/29, Error ellipse: s-maj=7.8km s-min=4.3km az=122.0*
*IDC **17** 05:23:51.2±0.6,2178S×1770?W, h221km±6km, mb4.4/16, mb1 4.6/16, mb1mx4.5/18, mbtmp5.0/16, Error ellipse: s-maj=14.5km s-min=10.9km az=143.0*
*BJI **17** 05:23:51.4, 2143S×1772?W, h219km, mB5.3, mb4.7*

ISC 17 05:23:50.6±0.2,2209S±004×17686W±006,h222km, h222km±8km:pP-P,n240,σ1§20/143,mb4.6/46,13C-25D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.20**	**187**	P	**Pn**	**05 25 32.6**	**-0.9**
	96nm,0.3s,baz=55,slow=23,SNR=2.7						
RAO				S	**S**	**05 26 55.0**	**-0.7**
	255nm,0.3s,baz=60,slow=23,SNR=5.8						
RAO	**Raoul Island**	**7.20**	**187**	P	**Pn**	**05 25 32.6**	**-0.9**
RAO				S	**S**	**05 26 55.0**	**-0.7**
AFI	**Afiamalu**	**9.46**	**32**	P	**Pn**	**05 25 53.1**	**-9.4**
	6.3nm,0.3s,baz=56,slow=20,SNR=3.5						
AFI				S	S	05 27 26.4	-22
	12nm,0.3s,baz=251,slow=21,SNR=3.8						
DZM	**Mont Dzumac**	**15.48**	**267**	P	**Pn**	**05 27 22.0**	**+4.5**
	2.6nm,0.3s,baz=80,slow=16,SNR=34						
RAR	**Rarotonga**	**15.91**	**90**	P	**Pn**	**05 27 30.2**	**+7.4**
	3.4nm,0.3s,baz=253,slow=6.3,SNR=7.7						
RAR				S	**S**	**05 30 11.9**	**-5.8**
	1.9nm,0.3s,baz=108,slow=21,SNR=3.2						
KUZ	**Kuaotunu**	**15.97**	**202**	PN	**Pn**	**05 27 24.7**	**+1.3**
KUZ	**Kuaotunu**	**15.97**	**202**	P	**Pn**	**05 27 24.7**	**+1.3**
URZ	**Urewera**	**16.93**	**196**	P	**P**	**05 27 33.2**	**0.0**
	29nm,0.3s,baz=359,slow=2.0,SNR=107						
URZ				S	**S**	**05 30 33.6**	**-4.8**
	8.4nm,0.3s,baz=87,slow=23,SNR=16						
URZ	**Urewera**	**16.93**	**196**	PN	**Pn**	**05 27 32.0**	**-2.9**
URZ				SN	**S**	**05 30 31.1**	**-7.2**
URZ	**Urewera**	**16.93**	**196**	*e*P	**P**	**05 27 33.2**	**0.0**
BKZ	**Black Stump Fm**	**17.95**	**197**	SN	**S**	**05 30 51.0**	**-7.6**
BFZ	**Birch Farm**	**19.44**	**196**	*e*PN	**P**	**05 27 59.9**	**-0.4**
BFZ				*e*SN	**S**	**05 31 22.3**	**-5.5**
BFZ	**Birch Farm**	**19.44**	**196**	*e*P	**P**	**05 27 59.5**	**-0.8**
MRZ	**Mangatainoka R**	**19.60**	**197**	*e*PN	**P**	**05 27 58.0**	**-4.0**
MRZ				*e*SN	**S**	**05 31 23.6**	**-7.4**
CAW	**Cannon Point**	**20.16**	**198**	*e*PN	**P**	**05 28 07.2**	**-0.8**
SNZO	**South Karori**	**20.45**	**198**	*e*PN	**P**	**05 28 10.0**	**-1.1**
SNZO	**South Karori**	**20.45**	**198**	P	**P**	**05 28 10.5**	**-0.5**
TCW	**Tory Channel**	**20.49**	**199**	*e*PN	**P**	**05 28 08.5**	**-3.0**
QRZ	**Quartz Range**	**20.73**	**203**	PN	**P**	**05 28 12.9**	**-1.1**
QRZ	**Quartz Range**	**20.73**	**203**	*e*P	**P**	**05 28 14.3**	**+0.2**
NNZ	**Nelson**	**20.78**	**201**	PN	**P**	**05 28 12.0**	**-2.5**
NNZ				*e*SN	**S**	**05 31 49.9**	**-3.4**
NNZ	**Nelson**	**20.78**	**201**	*e*P	**P**	**05 28 13.2**	**-1.4**
THZ	**Tophouse**	**21.43**	**201**	*e*PN	**P**	**05 28 19.3**	**-2.0**
THZ				*e*SN	**S**	**05 32 04.8**	**+1.0**
THZ	**Tophouse**	**21.43**	**201**	*e*P	**P**	**05 28 20.4**	**-1.0**
KHZ	**Kahutara**	**21.81**	**199**	PN	**P**	**05 28 23.4**	**-1.6**
KHZ	**Kahutara**	**21.81**	**199**	*e*P	**P**	**05 28 23.8**	**-1.2**
LTZ	**Lake Taylor**	**22.55**	**201**	PN	**P**	**05 28 32.1**	**+0.3**
LTZ	**Lake Taylor**	**22.55**	**201**	*e*P	**P**	**05 28 32.6**	**+0.8**
WVZ	**Waitaha Valley**	**23.34**	**203**	*e*PN	**P**	**05 28 38.9**	**-0.1**
WVZ	**Waitaha Valley**	**23.34**	**203**	*e*P	**P**	**05 28 41.0**	**+2.0**
RPZ	**Rata Peaks**	**23.79**	**202**	P	**P**	**05 28 44.7**	**+1.7**
	30nm,0.6s,mb5.1,baz=254,slow=1.2,SNR=15						
FOZ	**Fox Glacier**	**24.16**	**204**	*e*PN	**P**	**05 28 45.8**	**-0.6**
FOZ	**Fox Glacier**	**24.16**	**204**	*e*P	**P**	**05 28 47.0**	**+0.6**
JCZ	**Jackson Bay**	**24.95**	**205**	PN	**P**	**05 28 54.2**	**+0.7**
JCZ	**Jackson Bay**	**24.95**	**205**	*e*P	**P**	**05 28 54.7**	**+1.2**
HNR	**Honiara**	**25.57**	**296**	P	**P**	**05 29 00.9**	**+1.8**
	42nm,0.4s,mb5.5,baz=22,slow=2.3,SNR=3.9						
ARMA	**Armidale**	**29.38**	**247**	*e*P	**P**	**05 29 35.2**	**+2.2**
CNB	**Canberra Magne**	**32.26**	**238**	*e*P	**P**	**05 30 00.2**	**+2.0**
	37nm,1.1s,mb4.8						
CTA	**Charters Tower**	**34.42**	**266**	⇓*i*P	**P**	**05 30 18.2**	**+1.3**
	54nm,0.5s,mb5.3						
CTA	**Charters Tower**	**34.42**	**266**	P	**P**	**05 30 18.3**	**+1.4**
	76nm,0.6s,mb5.4,baz=95,slow=10,SNR=78						
CTA	**Charters Tower**	**34.42**	**266**	⇓*i*P	**P**	**05 30 18.2**	**+1.3**
CTA				pmax	pmax		
	comp=Z,55nm,0.5s						
CTAO	**Charters Tower**	**34.42**	**266**	⇓*i*P	**P**	**05 30 18.1**	**+1.2**
CTAO				pmax	pmax		
	comp=Z,54nm,0.5s,mb5.3						
CTAO	**Charters Tower**	**34.42**	**266**	⇓*i*P	**P**	**05 30 18.1**	**+1.3**
	comp=Z,54nm,0.5s,mb5.3						
TOO	**Toolangi**	**35.85**	**236**	*e*P	**P**	**05 30 30.3**	**+1.2**
	comp=Z,7.8nm,1.0s,mb4.2						
TOO	**Toolangi**	**35.85**	**236**	*e*P	**P**	**05 30 30.3**	**+1.2**
TOO				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.2						
PMG	**Port Moresby**	**36.74**	**284**	P	**P**	**05 30 37.1**	**+0.4**
	comp=Z,9.0nm,0.4s,mb4.7,baz=68,slow=6.7,SNR=7.8						
PMG	**Port Moresby**	**36.74**	**284**	*e*P	**P**	**05 30 36.2**	**-0.4**
PMG				pmax	pmax		
	comp=Z,63nm,1.0s						
PMG	**Port Moresby**	**36.74**	**284**	*e*P	**P**	**05 30 36.2**	**-0.4**
	comp=Z,63nm,1.0s,mb5.1						
STKA	**Stephens Creek**	**38.09**	**246**	⇓*i*P	**P**	**05 30 46.9**	**-1.0**
	comp=Z,14nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**38.09**	**246**	P	**P**	**05 30 46.9**	**-1.0**
	comp=Z,16nm,0.5s,mb4.8,baz=93,slow=10.0,SNR=52						
ASAR	**Alice Springs**	**45.21**	**258**	P	**P**	**05 31 45.9**	**+0.3**
	comp=Z,100nm,0.8s,mb5.2,baz=100,slow=7.9,SNR=438						
ASAR				PcP	PcP	05 33 22.4	+0.8
	comp=Z,4.9nm,0.7s,baz=106,slow=3.8,SNR=4.8						
ASAR				S	**S**	**05 38 08.3**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=97,slow=15,SNR=6.7						
WB2	**Warramunga Arr**	**45.44**	**263**	*e*P	**P**	**05 31 46.8**	**-0.5**
WRAB	**Tennant Creek**	**45.44**	**263**	*e*P	**P**	**05 31 46.8**	**-0.6**
WRAB	**Tennant Creek**	**45.44**	**263**	⇓*i*P	**P**	**05 31 46.8**	**-0.5**
	comp=Z,124nm,1.0s,mb5.2						
WRA	**Warramunga Arr**	**45.45**	**263**	P	**P**	**05 31 47.1**	**-0.3**
	comp=Z,58nm,1.0s,mb4.9,baz=97,slow=7.7,SNR=446						
KAKA	**Kakadu**	**49.08**	**272**	⇓*i*P	**P**	**05 32 15.2**	**-0.1**
	comp=Z,35nm,0.4s,mb5.0						
FORT	**Forrest**	**49.66**	**248**	⇓*i*P	**P**	**05 32 19.4**	**-0.3**
	comp=Z,77nm,0.5s,mb5.3						
GUMO	**Guam**	**51.62**	**310**	P	**P**	**05 32 34.3**	**-0.1**
	comp=Z,42nm,0.7s,mb5.0,baz=43,slow=22,SNR=3.6						
FITZ	**Fitzroy Crossi**	**53.88**	**263**	⇓*i*P	**P**	**05 32 51.3**	**+0.4**
	comp=Z,46nm,1.2s,mb4.9						
FITZ	**Fitzroy Crossi**	**53.88**	**263**	P	**P**	**05 32 51.3**	**+0.4**
	comp=Z,9.1nm,0.3s,mb4.8,baz=98,slow=6.5,SNR=135						
VNDA	**Vanda**	**56.44**	**185**	P	**P**	**05 33 12.5**	**+3.4**
	comp=Z,3.2nm,0.9s,mb3.8,baz=9.7,slow=6.1,SNR=10						
VNDA	**Vanda**	**56.44**	**185**	*e*P	**P**	**05 33 12.5**	**+3.4**
VNDA				*e*		05 34 14.2	
VNDA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
VNDA	**Vanda**	**56.44**	**185**	*e*P	**P**	**05 33 12.5**	**+3.4**
	comp=Z,4.2nm,1.0s,mb3.9						
VNDA				*e*		05 34 14.2	
KLBR	**Kellerberrin**	**58.36**	**246**	*e*P	**P**	**05 33 22.1**	**-0.4**
	comp=Z,39nm,0.9s,mb5.0						
MBWA	**Marble Bar**	**58.55**	**258**	*e*P	**P**	**05 33 23.5**	**-0.3**
	comp=Z,46nm,0.8s,mb5.2						
NWAO	**Narrogin (SRO)**	**58.62**	**244**	P	**P**	**05 33 26.2**	**+1.9**
	comp=Z,7.2nm,0.4s,mb4.7,baz=123,slow=6.8,SNR=15						
MUN	**Mundaring**	**59.61**	**245**	*e*P	**P**	**05 33 31.4**	**+0.3**
CASY	**Casey**	**63.00**	**206**	*e*P	**P**	**05 33 55.8**	**+2.1**
QSPA	**South Pole Qui**	**67.99**	**180**	*e*P	**P**	**05 34 28.4**	**+2.7**
	comp=Z,21nm,0.7s,mb4.9						
KKM	**Kota Kinabalu**	**71.19**	**285**	P	**P**	**05 34 45.9**	**+0.7**
MJAR	**Matsushiro Arr**	**72.11**	**323**	P	**P**	**05 34 49.4**	**-1.2**
	comp=Z,6.4nm,0.6s,mb4.4,baz=155,slow=6.0,SNR=15						
MJAR	**Matsushiro Arr**	**72.11**	**323**	P	**P**	**05 34 49.4**	**-1.2**
MAT	**Matsushiro**	**72.11**	**323**	P	**P**	**05 34 49.8**	**-0.9**
MAT	**Matsushiro**	**72.11**	**323**	*e*P	**P**	**05 34 50.0**	**-0.7**
MAT				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.3						
MAT	**Matsushiro**	**72.11**	**323**	*e*P	**P**	**05 34 50.0**	**-0.7**
	comp=Z,4.7nm,0.6s,mb4.3						
YSS	**Yuzh-Sakhalins**	**77.78**	**333**	*e*P	**P**	**05 35 21.8**	**-1.3**
SSE	**Sheshan**	**79.51**	**310**	*e*P	**P**	**05 35 31.5**	**-1.0**
SSE				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,536nm,5.7s						
MAW	**Mawson**	**80.44**	**200**	*e*P	**P**	**05 35 38.0**	**+0.5**
	comp=Z,3.7nm,0.5s,mb4.3						
MAW	**Mawson**	**80.44**	**200**	P	**P**	**05 35 39.9**	**+2.5**
	comp=Z,6.1nm,0.7s,mb4.3,baz=127,slow=10.0,SNR=16						
MAW	**Mawson**	**80.44**	**200**	*e*P	**P**	**05 35 38.0**	**+0.5**
MAW				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NVAR	**Mina Array Bea**	**81.45**	**43**	P	**P**	**05 35 43.9**	**+1.0**
	comp=Z,1.1nm,0.6s,mb3.6,baz=212,slow=6.6,SNR=9.6						
NVAR				pP	pP	05 36 36.9	+0.7
	comp=Z,6.4nm,1.1s,baz=214,slow=6.3,SNR=9.2						
NJ2	**Nanjing**	**81.70**	**309**	*e*P	**P**	**05 35 44.0**	**-0.1**
NJ2				PP	PP	05 38 55.1	+1.0
NJ2				S	S	05 45 34.0	-3.8
NJ2				XS	sS	05 47 09.0	-2.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,1μm,6.3s						
NJ2				LR	LR		
	comp=N,1μm,18.2s						
NJ2				LR	LR		
	comp=E,2μm,16.8s						
NJ2				LR	LR		
	comp=Z,700nm,24.3s						
NEN	**Nelson**	**82.09**	**47**	*e*P	**P**	**05 35 47.4**	**+1.2**
NEN				*e*pP	pP	05 36 40.2	+0.6
HABR	**Khabarovsk**	**82.34**	**330**	*e*P	**P**	**05 35 42.7**	**-4.7**
MDJ	**Mudanjiang**	**82.42**	**325**	P	**P**	**05 35 47.5**	**-0.3**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,209nm,5.1s						
TUC	**Tucson**	**83.13**	**51**	*e*P	**P**	**05 35 53.1**	**+1.6**
TUC				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
TUC	**Tucson**	**83.13**	**51**	*e*P	**P**	**05 35 53.1**	**+1.6**
	comp=Z,2.5nm,0.9s,mb3.9						
TUC				*e*pP	pP	05 36 46.1	+1.0
CCUT	**Cedar City**	**84.14**	**46**	*e*P	**P**	**05 35 57.7**	**+1.1**
CCUT				*e*pP	pP	05 36 51.7	+1.4
CN2	**Changchun**	**84.19**	**322**	*e*P	**P**	**05 35 57.0**	**+0.1**
ARUT	**Antelope Range**	**84.22**	**45**	*e*P	**P**	**05 35 58.0**	**+1.0**
ARUT				*e*pP	pP	05 36 51.8	+1.0
SVW2	**Sparrevohn**	**84.66**	**10**	*e*P	**P**	**05 35 57.1**	**-2.1**
ELK	**Elko**	**84.73**	**42**	*e*P	**P**	**05 36 00.2**	**+0.6**
ELK				pmax	pmax

	comp=Z,114nm,5.9s								
INK	**Inuvik**	**95.52**	**15**	*e*P	**P**	05 36 48.6	**-1.6**		
INK				*e**PP	pP	05 37 43.5	-1.2		
INK				pmax	pmax				
	comp=Z,6.0nm,1.3s								
INK	**Inuvik**	**95.52**	**15**	*e*P	**P**	05 36 48.6	**-1.6**		
	comp=Z,6.1nm,1.3s,mb4.7								
INK				*e*pP	pP	05 37 43.5	-1.2		
YKA	**Yellowknife Ar**	**97.50**	**24**	P	**P**	05 36 57.9	**-1.2**		
	comp=Z,0.6nm,0.7s,mb4.0,baz=244,slow=4.5,SNR=16								
YKA				pP	pP	05 37 52.3	-1.4		
	comp=Z,0.7nm,0.9s,baz=238,slow=4.1,SNR=4.8								
YKA				PKKP	PKKPbc	05 53 35.2	+0.2		
	comp=Z,0.2nm,0.5s,baz=41,slow=2.4,SNR=10								
YKA	**Yellowknife Ar**	**97.50**	**24**	P	**P**	05 36 57.9	**-1.2**		
YKA				pP	pP	05 37 52.4	-1.3		
YKA				PKKP	PKKPbc	05 53 35.2	+0.2		
WMQ	**Urumqi**	**108.76**	**310**	PDIF	Pdif	05 37 46.8	-2.4		
WMQ				PP	PP	05 42 22.9	-0.2		
WMQ				PP	PP				
	comp=Z,92nm,8.7s								
WMQ				LR	LR				
	comp=Z,588nm,16.0s								
MKAR	**Makanchi Array**	**113.05**	**313**	PKiKP	PKiKP	05 42 00.4	-0.8		
	comp=Z,1.5nm,0.6s,baz=70,slow=0.5,SNR=22								
MKAR	**Makanchi Array**	**113.05**	**313**	⇑*i*PKIKP	PKiKP	05 42 00.4	-0.8		
KURK	**Kurchatov**	**115.87**	**317**	⇑*i*PKIKP	PKPdf	05 42 05.3	-1.3		
KURK	**Kurchatov**	**115.87**	**317**	*e*PKPdf	PKPdf	05 42 04.6	-2.0		
AAK	**Ala-Archa**	**118.10**	**308**	⇑*i*PKIKP	PKPdf	05 42 10.0	-0.9		
CHKZ	**Chkalovo**	**120.78**	**320**	*i* PKIKP	PKPdf	05 42 14.6	-1.5		
CHKZ	**Chkalovo**	**120.78**	**320**	*e*PKPdf	PKPdf	05 42 14.6	-1.4		
BRVK	**Borovoye**	**121.03**	**320**	*e*PKIKP	PKPdf	05 42 15.5	-1.0		
ZRNK	**Zerenda**	**121.81**	**319**	*e*PKIKP	PKPdf	05 42 16.7	-1.3		
SUMG	**Summit**	**124.43**	**14**	*e*PKPdf	PKPdf	05 42 22.9	-0.1		
LBTB	**Lobatse**	**128.35**	**206**	*e*PKIKP	PKPdf	05 42 32.6	+2.0		
ARCES	**ARCESS Array B**	**130.66**	**350**	PKP	PKPdf	05 42 33.8	-1.1		
	comp=Z,6.2nm,0.6s,baz=38,slow=1.6,SNR=31								
ARE0	**ARCESS Array S**	**130.66**	**350**	*e*PKPdf	PKPdf	05 42 33.8	-1.2		
TSUM	**Tsumeb**	**136.60**	**200**	*e*PKPdf	PKPdf	05 42 47.3	+1.2		
OBN	**Obninsk**	**138.65**	**331**	*i* PKIKP	PKPdf	05 42 49.6	-0.3		
OBN				pmax	pmax				
	comp=Z,33nm,1.4s								
KMBO	**Kilima Mbogo**	**139.50**	**240**	PKhKP		05 42 47.7			
	comp=Z,1.5nm,0.6s,baz=54,slow=18,SNR=5.3								
KMBO	**Kilima Mbogo**	**139.50**	**240**	PKP	PKPdf	05 42 47.7	-3.7		
NB2	**NORSAR Subarra**	**140.67**	**354**	PKPa	PKPdf	05 42 45.3	-8.2		
	comp=Z,1.6nm,0.7s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**140.67**	**354**	PKP	PKPdf	05 42 52.6	-0.9		
	comp=Z,1.7nm,0.7s,baz=19,slow=3.9,SNR=6.5								
NOA				SKPbc	SKPbc	05 46 11.5	+2.7		
	comp=Z,1.5nm,0.9s,baz=16,slow=4.5,SNR=4.1								
KIV	**Kislovodsk**	**140.81**	**313**	*e*PKIKP	PKPdf	05 42 53.5	-0.3		
KIV				pmax	pmax				
	comp=Z,10.0nm,1.1s								
AKASG	**Malin Array Be**	**144.91**	**331**	PKP	PKPdf	05 42 58.9	-2.1		
	comp=Z,5.3nm,0.4s,baz=43,slow=4.2,SNR=48								
AKASG				pPKP	pPKPdf	05 44 00.0	+1.9		
	comp=Z,3.1nm,0.6s,baz=36,slow=3.5,SNR=2.1								
MALT	**Malatya**	**145.72**	**306**	⇑*i*P	PKPdf	05 43 04.1	+1.7		
MALT	**Malatya**	**145.72**	**306**	*e*PKPdf	PKPdf	05 43 03.0	+0.6		
ESK	**Eskdalemuir**	**146.48**	**7**	*e*PKP2	PKPdf	05 43 04.5	+0.8		
BSEG	**Bad Segeberg**	**147.74**	**352**	*e*PKPbc	PKPbc	05 43 08.8	-0.1		
LVV	**L'vov**	**147.79**	**334**	*e*PKP2	PKPab	05 43 08.3	-3.8		
LVV				*e*		05 46 37.9			
RUE	**Ruedersdorf**	**148.57**	**347**	*e*PKPbc	PKPbc	05 43 11.1	0.0		
BR131	**Keskin Array S**	**148.68**	**311**	*e*PKPbc	PKPbc	05 43 10.8	-0.5		
BRTR	**Keskin Array B**	**148.68**	**311**	PKPbc	PKPbc	05 43 11.2	-0.1		
BURAR	**Bucovina Array**	**148.96**	**330**	⇓*i*P	PKPbc	05 43 13.9	+1.9		
BURAR	**Bucovina Array**	**148.96**	**330**	⇓P	PKPbc	05 43 13.9	+1.9		
OJC	**Ojcow**	**149.01**	**339**	*e*PKP	PKPbc	05 43 11.9	-0.3		
CFR	**Carcaliu**	**149.18**	**324**	⇑*i*P	PKPbc	05 43 12.9	+0.3		
CFR	**Carcaliu**	**149.18**	**324**	⇑P	PKPbc	05 43 12.9	+0.3		
STHS	**Stebnicka Huta**	**149.18**	**337**	*e*PKP	PKPbc	05 43 13.0	+0.4		
ANTO	**Ankara**	**149.21**	**312**	*e*PKP2	PKPbc	05 43 12.9	+0.2		
TIRR	**Tirgusor**	**149.49**	**323**	⇓*i*P	PKPbc	05 43 13.1	-0.3		
TIRR	**Tirgusor**	**149.49**	**323**	⇓P	PKPbc	05 43 13.1	-0.2		
KSP	**Ksiaz**	**149.51**	**343**	*e*PKP	PKPdf	05 43 09.1	+0.5		
KSP				*e*PKPdf	PKPdf	05 43 13.7	+5.1		
NIE	**Niedzica**	**149.52**	**338**	*e*PKP	PKPbc	05 43 13.8	+0.4		
CRVS	**Cervenica-Dubn**	**149.53**	**336**	*e*PKP	PKPbc	05 43 16.8	+3.4		
IBBN	**Ibbenburen**	**149.62**	**354**	*e*PKPbc	PKPbc	05 43 13.8	+0.1		
CLZ	**Clausthal**	**149.77**	**351**	*e*PKPdf	PKPdf	05 43 09.6	+0.5		
CLZ				*e*PKPbc	PKPbc	05 43 14.4	+0.4		
CLZ				*ep*PKPbc	pPKPbc	05 44 12.3	+1.6		
CLL	**Collm**	**149.84**	**348**	*e*PKPbc	PKPbc	05 43 14.2	0.0		
CLL				*ep*PKPbc	pPKPbc	05 44 12.2	+1.3		
CLL	**Collm**	**149.84**	**348**	⇓*i*PKPbc	PKPbc	05 43 14.1	-0.1		
	comp=Z,37nm,0.9s								
CLL				*ep*PKPbc	pPKPbc	05 44 11.0	+0.1		
	comp=Z,14nm,0.9s								
OKC	**Ostrava-Krasne**	**149.88**	**340**	⇑*e*PKPB	PKPbc	05 43 15.8	+1.5		
UPC	**Upice**	**149.89**	**344**	⇑*e*PKPB	PKPbc	05 43 14.7	+0.4		
UPC				*ep*PKP	pPKPdf	05 44 12.3	+5.8		
DPC	**Dobruska-Polom**	**149.95**	**343**	⇑*e*PKPB	PKPbc	05 43 15.0	+0.5		
DPC				*ep*PKP	pPKPdf	05 44 12.5	+5.9		
WTSB	**Winterswijk**	**150.04**	**355**	*e*PKP	PKPbc	05 43 14.5	-0.2		
	comp=Z,51nm,1.1s								
BRG	**Berggiesshubel**	**150.05**	**346**	*e*PKPbc	PKPbc	05 43 14.8	+0.1		
BRG				*ep*PKPbc	pPKPbc	05 44 13.0	+1.6		
BRG	**Berggiesshubel**	**150.05**	**346**	*e*PKP	PKPdf	05 43 11.2	+1.7		
	comp=Z,2.9nm,1.2s								
BRG	**Berggiesshubel**	**150.05**	**346**	*i* PKP	PKPbc	05 43 14.9	+0.2		
	comp=Z,24nm,1.4s								
BRG				*i*		05 44 08.9			
	comp=Z,5.6nm,0.8s								
BRG	**Berggiesshubel**	**150.05**	**346**	*e*PKHKP		05 43 11.2			
BRG				pmax	pmax				
	comp=Z,3.0nm,1.2s								
MORC	**Moravsky Berou**	**150.11**	**341**	⇓*i*P	PKPbc	05 43 15.0	+0.1		
MORC	**Moravsky Berou**	**150.11**	**341**	*e*PKPbc	PKPbc	05 43 14.8	-0.1		
GTTG	**Gyttingen**	**150.12**	**351**	*e*PKPbc	PKPbc	05 43 15.1	+0.2		
MLR	**Muntele Rosu**	**150.12**	**327**	⇓*i*P	PKPbc	05 43 14.9	0.0		
MLR	**Muntele Rosu**	**150.12**	**327**	⇓P	PKPbc	05 43 14.9	0.0		
KECS	**Kecovo**	**150.24**	**336**	*e*PKP	PKPbc	05 43 15.3	+0.1		
EIL	**Elat**	**150.46**	**291**	*e*PKPbc	PKPbc	05 43 16.2	+0.5		
BUG	**Bochum--Univer**	**150.52**	**355**	*e*PKPbc	PKPbc	05 43 15.9	+0.1		
DRGR		**150.70**	**332**	⇓*i*P	PKPbc	05 43 16.4	+0.2		
DRGR		**150.70**	**332**	⇓P	PKPbc	05 43 16.4	+0.2		
MOX	**Moxa**	**150.73**	**349**	*e*PKPbc	PKPbc	05 43 16.2	-0.1		
MOX	**Moxa**	**150.73**	**349**	*e*PKP	PKPbc	05 43 16.5	+0.2		
	comp=Z,41nm,1.5s								
MOX	**Moxa**	**150.73**	**349**	*e*PKIKP	PKPbc	05 43 16.5	+0.2		
MOX				pmax	pmax				
	comp=Z,41nm,1.5s								
MOX	**Moxa**	**150.73**	**349**	*e*PKP	PKPbc	05 43 16.5	+0.2		
PRU	**Pruhonice**	**150.74**	**345**	⇑*e*PKPB	PKPbc	05 43 16.4	+0.1		
PRU				*ep*PKP	pPKPdf	05 44 14.2	+6.4		
WERD	**Werda**	**150.79**	**348**	*e*PKPdf	PKPdf	05 43 10.9	+0.2		
WERD				*e*PKPbc	PKPbc	05 43 16.7	+0.2		
WERD				*ep*PKPbc	pPKPbc	05 44 14.7	+1.5		
UBBA	**Unterbreizbach**	**150.82**	**351**	*e*PKPbc	PKPbc	05 43 16.1	-0.4		
PSZ	**Piszkesteto**	**150.93**	**336**	*e*PKIKP	PKPbc	05 43 16.5	-0.3		
NKC	**Novy Kostel**	**150.97**	**348**	⇑*e*PKPB	PKPbc	05 43 17.2	+0.3		
NKC				*ep*PKP	pPKPdf	05 44 15.3	+7.1		
MANZ	**Manzenberg**	**151.27**	**348**	*e*PKPdf	PKPdf	05 43 11.9	+0.5		
MANZ				*e*PKPbc	PKPbc	05 43 17.9	+0.3		
MANZ				*ep*PKPbc	pPKPbc	05 44 16.0	+1.6		
HGN	**Heimansgroeve**	**151.29**	**356**	*e*PKP	PKPbc	05 43 17.6	0.0		
	comp=Z,18nm,1.5s								
MEM	**Membach**	**151.44**	**356**	PKPbc	PKPbc	05 43 17.9	0.0		
ROTZ	**Rotzenmuhle**	**151.46**	**348**	*e*PKPbc	PKPbc	05 43 18.2	+0.2		
TNS	**Taunus Mts**	**151.61**	**353**	*e*PKPdf	PKPdf	05 43 12.2	+0.3		
TNS				*e*PKPbc	PKPbc	05 43 18.4	+0.1		
SNF	**Seneffe**	**151.62**	**358**	PKPbc	PKPbc	05 43 18.4	0.0		
GRA1	**Grafenberg Arr**	**151.72**	**349**	*e*PKPbc	PKPbc	05 43 18.8	+0.2		
GRA1				*ep*PKPbc	pPKPbc	05 44 17.6	+2.2		
GRF	**Grafenberg Arr**	**151.72**	**349**	*e*PKPbc	PKPbc	05 43 18.8	+0.2		
GRF				*ep*PKPbc	pPKPbc	05 44 17.6	+2.2		
KHC	**Kasperske Hory**	**151.76**	**345**	⇑*e*PKPB	PKPbc	05 43 19.0	+0.3		
KHC				*ep*PKP	pPKPdf	05 44 17.1	+7.7		
WET	**Wettzell**	**151.91**	**346**	*e*PKPdf	PKPdf	05 43 12.9	+0.6		
WET				*e*PKPbc	PKPbc	05 43 19.2	+0.2		
GEC2	**GERESS Array S**	**152.00**	**345**	*e*PKPdf	PKPdf	05 43 12.9	+0.4		
GEC2				*e*PKPbc	PKPbc	05 43 19.3	+0.1		
GERES	**GERESS Array B**	**152.00**	**345**	PKP	PKPdf	05 43 12.2	-0.2		
	comp=Z,0.3nm,0.3s,baz=192,slow=1.2,SNR=4.3								
GERES				PKPbc	PKPbc	05 43 19.3	+0.1		
	comp=Z,6.6nm,0.7s,baz=48,slow=2.0,SNR=28								
GERES				*ep*PKPbc	pPKPbc	05 44 15.5	-0.6		
	comp=Z,1.6nm,0.7s,baz=50,slow=2.1,SNR=3.2								
GIVF	**Givet**	**152.01**	**358**	*e*PKIKP	PKPbc	05 43 19.3	+0.1		
	comp=Z,25nm,0.7s								
DOU	**Dourbes**	**152.02**	**358**	PKPbc	PKPbc	05 43 19.3	0.0		
BAIF	**Baives**	**152.07**	**359**	*e*PKIKP	PKPbc	05 43 19.5	+0.1		
	comp=Z,28nm,0.7s								
BZS	**Buzias**	**152.09**	**332**	⇓*i*P	PKPbc	05 43 19.3	-0.1		
BZS	**Buzias**	**152.09**	**332**	⇓P	PKPbc	05 43 19.3	-0.1		
WLF	**Walferdange**	**152.37**	**356**	PKPbc	PKPbc	05 43 20.8	+0.7		
MOA	**Molln**	**152.78**	**343**	⇓*i*P	PKPbc	05 43 20.9	0.0		
	comp=Z,6.3nm,0.8s								
STU	**Stuttgart**	**152.94**	**351**	*e*PKPdf	PKPdf	05 43 14.2	+0.3		
STU				*e*PKPbc	PKPbc	05 43 21.6	+0.3		
FLN	**La Foliniere**	**153.22**	**5**	*e*PKIKP	PKPbc	05 43 21.5	-0.4		
ROSF	**Rostrenen**	**153.31**	**10**	*e*PKIKP	PKPbc	05 43 21.4	-0.7		
	comp=Z,17nm,0.9s								
LDF	**La Druitiere**	**153.42**	**5**	*e*PKIKP	PKPbc	05 43 21.9	-0.5		
BFO	**Black Forest**	**153.48**	**352**	*e*PKPdf	PKPdf	05 43 14.7	+0.1		
BFO				*e*PKPbc	PKPbc	05 43 22.4	-0.1		
SGMF	**Saint Gilles**	**153.49**	**9**	*e*PKIKP	PKPbc	05 43 21.9	-0.6		
	comp=Z,8.7nm,0.7s								
CDF	**Champ du Feu**	**153.52**	**354**	*e*PKIKP	PKPbc	05 43 22.5	-0.1		
	comp=Z,5.7nm,0.5s								
GRR	**Gorron**	**153.56**	**6**	*e*PKIKP	PKPbc	05 43 22.4	-0.2		
	comp=Z,12nm,0.7s								
KBA	**Koelnbreinsper**	**153.73**	**344**	⇑*i*P	PKPbc	05 43 22.7	-0.4		
	comp=Z,7.4nm,0.8s								
HAU	**Haudompre**	**154.01**	**355**	*e*PKIKP	PKPbc	05 43 24.4	+0.8		
	comp=Z,9.2nm,0.8s								
HINF	**Hinteralfeld**	**154.15**	**354**	*e*PKIKP	PKPbc	05 43 22.8	-1.1		
LOR	**Lormes**	**154.87**	**359**	*e*PKIKP	PKPbc	05 43 25.4	0.0		
	comp=Z,8.7nm,0.9s								
TIP	**Timpagrande**	**159.36**	**329**	*e*PKPdf	PKPdf	05 43 22.6	+0.4		
TORD	**Torodi Ar. Bea**	**171.01**	**171**	PKP	PKPdf	05 43 31.9	-0.1		
	comp=Z,2.3nm,1.0s,baz=354,slow=1.0,SNR=9.9								
TORD				PKPab	PKPab	05 44 55.0	+2.7		
	comp=Z,1.8nm,0.8s,baz=185,slow=3.3,SNR=7.1								

ISCJB ***17*** *05:42:24.0±0.7, 38.24N±0.03×26.77E±0.04, h5km±6km, Error ellipse: s-maj=6.0km s-min=4.6km az=80.5*
ATH ***17*** *05:42:23.1, 38.14N×26.43E, h10km, MD3.0/3*
CSEM ***17*** *05:42:23.6±0.1, 38.21N×26.81E, h2km, MD2.7, Error ellipse: s-maj=2.9km s-min=2.1km az=98.0*
ISK ***17*** *05:42:25.0, 38.30N×26.82E, h19km, MD2.7*

ISC 17 05:42:24.0±0.6, 3823N±003×2676E±004, h1km±7km, n14, σ0878/23, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.18**	**317**	*i* P	**Pg**	**05 42 27.7**	**+0.1**
URLA				*i* S	**Sg**	**05 42 30.8**	**+0.9**
IZM	**Izmir**	**0.43**	**66**	*i* PG	**Pg**	**05 42 32.9**	**+0.6**
IZM				*i* SG	**Sg**	**05 42 39.1**	**+1.2**
KDAG	**Bornova**	**0.44**	**66**	*i* P	**Pg**	**05 42 32.8**	**+0.4**
KDAG				*i* S	**Sg**	**05 42 37.9**	**-0.2**
SMG	**Samos**	**0.52**	**173**	*e*PB	**Pg**	**05 42 33.5**	**-0.4**
AYDN	**Tasoluk**	**1.05**	**122**	*i* P	**Pg**	**05 42 43.7**	**-0.4**
AYDN				*i* S	**Sg**	**05 42 58.0**	**+0.2**
AKS	**Akhisar**	**1.05**	**51**	PG	**Pg**	**05 42 44.3**	**+0.1**
AKS				SG	**Sg**	**05 42 57.9**	**0.0**
AYVA	**Ayvalik**	**1.08**	**357**	*i* P	**Pg**	**05 42 43.9**	**-0.8**
AYVA				*i* S	**Sg**	**05 42 57.6**	**-1.1**
PRK	**Paraskevi**	**1.09**	**340**	*e*PB	**Pb**	**05 42 44.0**	**-1.6**
BODT	**Bodrum**	**1.24**	**159**	*e*PN	**Pn**	**05 42 48.4**	**-0.1**
BDRM	**Kayabasi**	**1.28**	**155**	*i* P	**Pg**	**05 42 48.4**	**-0.2**
BDRM				*i* S	**Sg**	**05 43 05.0**	**-0.1**
MANT	**Manisa**	**1.44**	**79**	*i* P	**Pn**	**05 42 51.1**	**-0.1**
MANT				*i* S	**Sb**	**05 43 09.5**	**-1.0**
APE	**Apeiranthos**	**1.51**	**221**	*e*PB	**Pn**	**05 42 47.5**	**-4.7**
DAT	**Datca**	**1.63**	**156**	*e*PN	**Pn**	**05 42 54.7**	**+0.9**
BOZC	**Bozcaada**	**1.71**	**341**	*i* P	**Pn**	**05 42 55.1**	**+0.3**
BOZC				*i* S	**Sn**	**05 43 19.8**	**+2.5**

CSEM ***17*** *05:46:33.6±0.7, 39.07N×29.13W, h10km, ML1.6, Error ellipse: s-maj=7.8km s-min=6.4km az=56.0, After PDA*
PDA ***17*** *05:46:33.6±0.7, 39.07N×29.13W, h10km, MD3.0, ML1.6, Error ellipse: s-maj=7.8km s-min=6.4km az=56.0*

SVSA 17 05:46:33.6±0.7, 3907N×2913W, h10km, MD3.0, ML1.6, Error ellipse: s-maj=7.8km s-min=6.4km az=56.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CALA	**Caldeira**	**0.59**	**145**	*e*P	Pg	05 46 43.6	-1.5
CALA				*e*S	Sg	05 46 51.0	-1.9
HOR	**Horta**	**0.67**	**144**	*e*x		05 46 43.9	
ROSA	**Rosais**	**0.78**	**117**	*e*P	Pg	05 46 45.9	-2.7
ROSA				*e*S	Sg	05 46 55.2	-3.5
PICO	**Pico**	**0.79**	**136**	*e*P	Pg	05 46 45.8	-3.1
PICO				*e*S	Sg	05 46 55.3	-3.9
PMAN	**Manadas**	**0.92**	**118**	*e*S	Sg	05 46 58.6	-4.8
PMAN							
	20nm,0.2s						
PID	**Ribeirinha**	**1.01**	**128**	*e*S	Sg	05 47 00.7	-5.4

IDC 17 06:02:17.0±10.0, 720S×12968E, h137km±104km, mb3.6/2, mb1 3.6/4, mb1mx3.4/12, mbtmp3.9/4, ML4.0/2, Error ellipse: s-maj=132.1km s-min=37.4km az=61.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.45**	**161**	P	Pn	06 05 21.2	-1.1
	0.8nm,0.3s,baz=343,slow=12,SNR=26						
WRA				S	Sn	06 07 43.5	-7.4
	1.6nm,0.3s,baz=337,slow=22,SNR=9.0						
ASAR	**Alice Springs**	**16.87**	**167**	P	Pn	06 06 06.3	+1.4
	0.5nm,0.3s,baz=336,slow=7.7,SNR=16						
ASAR				S	S	06 09 09.7	-3.0
	0.5nm,0.3s,baz=77,slow=13,SNR=4.9						
STKA	**Stephens Creek**	**26.95**	**157**	P	P	06 07 45.6	0.0
	0.9nm,0.5s,baz=337,slow=10,SNR=4.3						
MAT	**Matsushiro**	**44.24**	**10**	P	P	06 09 35.0	-38
MAT				S		06 09 40.4	
MKAR	**Makanchi Array**	**68.22**	**327**	P	P	06 13 02.8	+0.2
	0.7nm,0.4s,baz=114,slow=8.4,SNR=12						

NEIC ***17*** *06:22:29.1, 3680S×177.10E, h0km, ML3.8(WEL), After WEL.*

WEL 17 06:22:28.8±0.5, 3671S×17715E, h5km, ML3.8/7, Error ellipse: s-maj=3.9km s-min=3.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MYRZ	**Mayor Island**	**0.93**	**231**	P*	Pb	06 22 46.1	-1.3
MYRZ				S*	Sb	06 22 58.4	-1.6
KUZ	**Kuaotunu**	**1.15**	**268**	P*	Pb	06 22 49.9	-1.3
KUZ				S*	Sb	06 23 05.2	-1.1
KUZ	**Kuaotunu**	**1.15**	**268**	P	Pg	06 22 49.9	-1.0
KUZ				S	Sg	06 23 05.2	-0.6
TGRZ	**Tauranga**	**1.24**	**214**	P*	Pb	06 22 50.6	-2.2
TGRZ	**Tauranga**	**1.24**	**214**	P	Pg	06 22 50.7	-2.0
URZ	**Urewera**	**1.55**	**181**	*e*P*	Pb	06 22 54.7	-3.3
URZ	**Urewera**	**1.55**	**181**	P	Pn	06 22 54.8	-2.3
PUZ	**Puketiti**	**1.62**	**147**	*e*P	Pn	06 22 57.3	-0.8
MWZ	**Matawai**	**1.65**	**170**	P*	Pb	06 22 56.5	-3.3
MWZ	**Matawai**	**1.65**	**170**	*e*P	Pn	06 22 56.5	-2.0
WCZ	**Waipu Caves**	**2.39**	**288**	PN	Pn	06 23 08.5	-0.1
WCZ	**Waipu Caves**	**2.39**	**288**	*e*P	Pn	06 23 08.9	+0.3
HIZ	**Hauiti**	**2.56**	**225**	PN	Pn	06 23 10.2	-0.8
HIZ	**Hauiti**	**2.56**	**225**	*e*P	Pn	06 23 10.2	-0.8
OUZ	**Omahuta**	**3.24**	**296**	*e*PN	Pn	06 23 21.2	+0.9

IDC 17 06:29:01.2±2.7, 2313S×6679W, h176km±22km, mb3.2/2, mb1 3.3/5, mb1mx3.2/15, mbtmp3.5/5, Error ellipse: s-maj=51.5km s-min=24.6km az=155.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.02**	**284**	P	Pn	06 29 39.9	+1.8
	2.4nm,0.3s,baz=89,slow=7.2,SNR=28						
LVC				S	Sn	06 30 07.3	+0.6
	9.5nm,0.3s,baz=250,slow=20,SNR=37						
LPAZ	**La Paz**	**6.92**	**349**	P	Pn	06 30 41.8	+1.6
	0.4nm,0.3s,baz=170,slow=12,SNR=15						
SIV	**San Ignacio**	**8.91**	**38**	P	Pn	06 31 06.1	-0.3
	1.2nm,0.3s,baz=240,slow=12,SNR=33						
TORD	**Torodi Ar. Bea**	**76.08**	**69**	P	P	06 40 29.2	-0.1
	0.2nm,0.3s,baz=261,slow=5.3,SNR=6.6						
YKA	**Yellowknife Ar**	**93.37**	**340**	P	P	06 41 54.9	-1.3
	0.1nm,0.5s,baz=133,slow=4.4,SNR=5.3						
MKAR	**Makanchi Array**	**145.73**	**39**	PKPbc	PKPbc	06 48 19.9	+0.5
	0.4nm,0.5s,baz=295,slow=3.0,SNR=6.8						

ISCJB ***17*** *06:40:43.7±1.3, 55N±0.02×124.3E±0.03, h450km, mb3.8/8, Error ellipse: s-maj=42.3km s-min=15.7km az=105.0*
IDC ***17*** *06:40:45.2±2.9, 547N×12425E, h448km±29km, mb3.3/7, mb1 3.5/7, mb1mx3.2/19, mbtmp4.1/7, Error ellipse: s-maj=44.3km s-min=14.3km az=56.0*

ISC 17 06:40:45.3±1.3, 55N±0.02×1243E±0.03, h450km, n12, σ0835/11, mb3.8/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**23.50**	**177**	*e*P	**P**	**06 45 18.4**	**+0.1**
	7.3nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**23.50**	**177**	P	**P**	**06 45 18.3**	**0.0**
	4.3nm,0.4s,mb4.2,baz=357,slow=8.6,SNR=42						
PSI	**Prapat**	**25.46**	**265**	P	**P**	**06 45 35.5**	**-0.2**
	2.8nm,0.5s,mb4.0,baz=80,slow=6.1,SNR=4.5						
WRA	**Warramunga Arr**	**27.15**	**159**	P	**P**	**06 45 50.6**	**-0.1**
	1.0nm,0.3s,mb3.7,baz=330,slow=10.0,SNR=20						
WRA				ScP	ScP	06 51 54.7	+0.5
	0.3nm,0.6s,baz=340,slow=3.3,SNR=5.0						
WB2	**Warramunga Arr**	**27.16**	**159**	*e*P	**P**	**06 45 50.6**	**-0.1**
ASAR	**Alice Springs**	**30.48**	**162**	P	**P**	**06 46 20.3**	**+0.6**
	1.8nm,0.3s,mb3.9,baz=338,slow=7.4,SNR=27						
FORT	**Forrest**	**36.27**	**175**	*e*P	**P**	**06 47 09.3**	**+0.4**
	14nm,0.5s,mb4.6						
STKA	**Stephens Creek**	**40.67**	**157**	*e*P	**P**	**06 47 44.3**	**-0.6**
	1.8nm,0.3s,mb4.0						
STKA	**Stephens Creek**	**40.67**	**157**	P	**P**	**06 47 44.3**	**-0.6**
	4.3nm,0.6s,mb4.1,baz=330,slow=6.3,SNR=13						
MKAR	**Makanchi Array**	**54.73**	**326**	P	**P**	**06 49 31.1**	**+0.2**
	0.3nm,0.4s,mb3.0,baz=116,slow=7.6,SNR=8.5						
VNDA	**Vanda**	**85.50**	**172**	P	**P**	**06 52 34.1**	**-0.3**
	0.3nm,0.6s,mb3.1,baz=329,slow=7.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**120.07**	**289**	PKP	PKPdf	06 58

comp=Z,74nm,1.1s,mb5.0
KKN Kakani 21.80 343 *e*P **P 06 51 20.1 +0.1**
KKN pmax pmax
comp=E,74nm,1.1s,mb5.0
GKN Gorkha 22.19 342 *e*P **P 06 51 24.1 -0.1**
comp=E,72nm,0.8s,mb5.2
KOLN Koldanda 22.32 339 *e*P **P 06 51 25.9 +0.3**
LSA Lhasa 22.66 357 P **P 06 51 31.8 +2.7**
LSA AP 06 51 40.4
LSA S **S 06 55 41.0 +5.1**
LSA LR LR
comp=E,730nm,10.2s
LSA LR LR
comp=Z,740nm,12.2s,MS4.3
LSA Lhasa 22.66 357 *e*P **P 06 51 29.5 +0.4**
LSA pmax pmax
comp=Z,45nm,1.0s,mb4.8
LSA Lhasa 22.66 357 *e*P **P 06 51 29.5 +0.4**
comp=Z,45nm,1.0s,mb4.9
KKM Kota Kinabalu 23.67 91 *e*P **P 06 51 38.0 -1.5**
NDI New Delhi 25.94 328 *e*P **P 06 52 00.6 +0.4**
NDI AMb AMB 06 52 13.8
comp=Z,33nm,0.8s,mb4.9
CD2 Chengdu 26.10 23 P **P 06 52 02.3 +0.7**
CD2 AMB AMB
comp=Z,20nm,0.7s,mb4.8
BHJ Bhuj 27.23 309 *e*P **P 06 52 11.0 -0.7**
BHJ AMb AMB 06 52 14.7
comp=E,65nm,1.4s,mb5.0
SMLA Simla 27.96 331 *ex* x 06 52 10.6
SMLA AMb AMB 06 52 33.8
comp=Z,28nm,1.4s,mb4.7
TGY Tagaytay City 28.91 73 LR LR 07 05 08.2
comp=Z,6.5nm,18.6s,baz=314,slow=39
GTA Gaotai 32.99 11 *e*P **P 06 53 02.8 0.0**
GTA AP pP 06 53 09.9 -1.1
GTA XP sP 06 53 13.5 -0.9
GTA AMB AMB
comp=Z,14nm,1.1s,mb4.8
GTA AMB AMB
comp=Z,279nm,4.9s
GTA LR LR
comp=N,476nm,13.7s,MS4.7
GTA LR LR
comp=E,796nm,12.5s,MS4.7
GTA LR LR
comp=Z,447nm,13.7s,MS4.3
NJ2 Nanjing 35.08 41 *e*P **P 06 53 21.6 +0.7**
NJ2 AP pP 06 53 29.1 -0.1
NJ2 XP sP 06 53 32.3 -0.3
NJ2 PP PP 06 54 41.0 +0.3
NJ2 S **S 06 58 53.0 +1.3**
NJ2 XS sS 06 59 04.0 -1.4
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
NJ2 AMB AMB
comp=Z,1μm,4.8s
NJ2 LR LR
comp=N,3μm,26.0s,MS5.0
NJ2 LR LR
comp=E,1μm,22.0s,MS5.0
NJ2 LR LR
comp=Z,820nm,25.0s,MS4.4
SSE Sheshan 36.08 45 *e*P **P 06 53 28.4 -1.0**
SSE AP pP 06 53 37.6 -0.1
SSE XP sP 06 53 42.4 +1.3
SSE PP PP 06 54 50.9 -0.8
SSE PCP PcP 06 55 54.9 -0.3
SSE S **S 06 59 05.5 -1.4**
SSE XS sS 06 59 20.1 -0.5
SSE SCS ScS 07 03 44.8 -0.3
SSE AMB AMB
comp=Z,47nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,520nm,5.1s
SSE LR LR
comp=N,315nm,14.1s,MS4.4
SSE LR LR
comp=E,329nm,14.1s,MS4.4
SSE LR LR
comp=Z,445nm,13.6s,MS4.4
WSAR Wadi Sarin 36.27 300 LR LR 07 09 31.8
comp=Z,301nm,18.7s,MS4.1,baz=300,slow=38
WMQ Urumqi 36.95 354 *e*P **P 06 53 37.8 +0.9**
HHC Hu-ho-hao-te 37.84 24 *e*P **P 06 53 42.3 -2.1**
HHC AMB AMB
comp=Z,24nm,1.3s,mb4.8
HHC AMB AMB
comp=Z,326nm,5.2s
KZA Kyzart 38.14 339 P **P 06 53 48.5 +1.6**
SNR=12
UCH Uchtor 38.54 339 P **P 06 53 51.6 +1.3**
SNR=16
AML Almayashu 38.76 338 P **P 06 53 53.4 +1.2**
SNR=39
KBK Karagaybulak 38.76 339 P **P 06 53 53.5 +1.4**
SNR=14
TKM2 Tokmak 2 38.77 340 P **P 06 53 52.9 +0.7**
SNR=8.0
AAK Ala-Archa 38.90 339 P **P 06 53 54.9 +1.6**
SNR=7.8
AAK Ala-Archa 38.90 339 *e*P **P 06 53 53.6 +0.3**
AAK *e**PP pP 06 54 02.5 +0.8
AAK *e**SP sP 06 54 06.6 +1.6
AAK pmax pmax
comp=Z,27nm,1.3s,mb4.8
AAK Ala-Archa 38.90 339 *e*P **P 06 53 53.6 +0.3**
comp=Z,26nm,1.3s,mb4.8
AAK *e*pP pP 06 54 02.5 +0.9
AAK *es*P sP 06 54 06.6 +1.6
FRU Bishkek 39.03 339 *e*P **P 06 53 58.0 +3.6**
FRU *i* pP 06 54 05.0 +2.2
FRU pmax pmax
comp=Z,148nm,2.2s,mb5.3
EKS2 Erkin-Say 39.18 338 P **P 06 53 57.0 +1.2**
SNR=9.3
JOW Kunigami 39.39 56 LR LR 07 12 24.1
comp=Z,1μm,18.8s,MS4.7,baz=278,slow=40
USP Ospenovka 39.45 339 P **P 06 53 58.4 +0.4**
SNR=18
MK31 Makanchi Array 40.63 349 P **P 06 54 06.6 -1.2**
MK31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.1
MKAR Makanchi Array 40.63 349 P **P 06 54 07.1 -0.7**
comp=Z,5.1nm,0.4s,mb4.5,baz=168,slow=8.1,SNR=64
KK31 Karatay Array 40.84 335 *i* P **P 06 54 09.0 -0.5**
KK31 pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
KKAR Karatay Array 40.84 335 *i* P **P 06 54 09.0 -0.5**
KKAR pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
FITZ Fitzroy Crossi 41.18 128 *e*P **P 06 54 12.4 +0.1**
comp=Z,8.4nm,0.4s,mb4.7
FITZ Fitzroy Crossi 41.18 128 P **P 06 54 12.2 -0.1**
comp=Z,3.9nm,0.5s,mb4.3,baz=289,slow=3.2,SNR=24
FITZ LR LR 07 12 25.5
comp=Z,174nm,19.2s,MS3.9,baz=310,slow=38
SONM Songino Array 42.45 14 P **P 06 54 22.6 0.0**
comp=Z,3.7nm,0.7s,mb4.1,baz=197,slow=9.3,SNR=5.4
SONM LR LR 07 14 21.7
comp=Z,406nm,18.3s,MS4.3,baz=82,slow=40
ZAK Zakamensk 44.23 10 *e*P **P 06 54 36.6 -0.4**
ZAK *e* 06 56 27.0
ZAK pmax pmax
comp=Z,28nm,1.9s,mb4.7
ZAK pmax pmax
comp=Z,14nm,1.9s,mb4.4
MUN Mundaring 44.88 151 *e*P **P 06 54 43.9 +1.7**
KURK Kurchatov 45.11 348 *e*P **P 06 54 43.8 -0.2**
KURK *e**PP pP 06 54 52.2 -0.3
KURK pmax pmax
comp=Z,16nm,1.1s,mb4.8
KURK Kurchatov 45.11 348 *e*P **P 06 54 43.8 -0.2**
comp=Z,16nm,1.1s,mb4.8
KURK *e*pP pP 06 54 52.2 -0.3
MOY Mondy 45.13 8 *e*P **P 06 54 53.1 +8.9**
MOY pmax pmax
comp=Z,43nm,3.9s
KLBR Kellerberrin 45.34 149 *e*P **P 06 54 47.7 +1.9**
comp=Z,28nm,1.3s,mb4.9
TLY Talaya 45.54 10 *i* P **P 06 54 46.9 -0.6**
CN2 Changchun 46.72 33 *e*P **P 06 54 58.4 +1.7**
CN2 AMB AMB
comp=Z,10.0nm,1.3s,mb4.6
CIT Chita 48.19 17 *e*P **P 06 55 09.5 +1.4**
NVS Novosibirsk 48.31 353 *e*P **P 06 55 06.7 -2.4**
NVS pmax pmax
comp=N,44nm,2.2s
NVS pmax pmax
comp=E,25nm,2.2s
NVS pmax pmax
comp=Z,48nm,2.2s,mb5.1
VOSK Vostochnaya 48.88 343 P **P 06 55 12.3 -1.2**
VOSK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
ATD Arta Tunnel 49.08 279 P **P 06 55 17.8 +2.8**
comp=Z,6.3nm,0.3s,mb5.1,baz=234,slow=20,SNR=4.3
ATD LR LR 07 11 54.2
comp=Z,184nm,21.0s,MS4.0,baz=98,slow=31
WRA Warramunga Arr 49.16 124 P **P 06 55 15.7 +0.1**
comp=Z,7.7nm,1.0s,mb4.7,baz=302,slow=8.8,SNR=50
WRA Warramunga Arr 49.16 124 *i* P **P 06 55 15.6 0.0**
WRA pmax pmax
comp=Z,8.0nm,1.0s
WRAB Tennant Creek 49.16 124 *e*P **P 06 55 15.6 0.0**
WRAB Tennant Creek 49.16 124 *e*P **P 06 55 15.3 -0.3**
comp=Z,12nm,0.6s,mb5.1
WRAB *ep*P pP 06 55 23.0 -1.1
WB2 Warramunga Arr 49.17 124 *e*P **P 06 55 16.1 +0.4**
MDJ Mudanjiang 49.53 35 P **P 06 55 19.3 +0.9**
MDJ AP pP 06 55 25.5 -1.5
MDJ XP sP 06 55 28.1 -2.2
MDJ PCS PcS 07 00 37.4 +0.7
MDJ S **S 07 02 27.5 +3.1**
MDJ XS sS 07 02 37.3 -1.1
MDJ AMB AMB
comp=Z,7.0nm,1.0s,mb4.7
MDJ AMB AMB
comp=Z,284nm,7.3s
MDJ LR LR
comp=N,182nm,13.9s,MS4.4
MDJ LR LR
comp=E,229nm,13.9s,MS4.4
MDJ LR LR
comp=Z,259nm,12.9s,MS4.4
ZRNK Zerenda 49.68 342 *e*P **P 06 55 18.6 -1.0**
ZRNK *e**PP pP 06 55 27.4 -0.7
ZRNK pmax pmax
comp=Z,22nm,1.4s,mb5.0
ZRNK Zerenda 49.68 342 *e*P **P 06 55 18.6 -1.0**
comp=Z,22nm,1.4s,mb5.0
ZRNK *ep*P pP 06 55 27.4 -0.7
CHKZ Chkalovo 49.83 343 *e*P **P 06 55 20.2 -0.5**
CHKZ *e**PP pP 06 55 28.8 -0.4
CHKZ pmax pmax
comp=Z,6.0nm,0.4s,mb5.0
CHKZ Chkalovo 49.83 343 *e*P **P 06 55 20.2 -0.5**
comp=Z,6.3nm,0.4s,mb5.0
CHKZ *ep*P pP 06 55 28.8 -0.4
VLA Vladivostok 49.99 37 *i* P **P 06 55 25.6 +3.7**
AB31 Akbulak array 50.23 333 *i* P **P 06 55 23.4 -0.4**
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
ASAR Alice Springs 50.67 128 P **P 06 55 27.5 +0.4**
comp=Z,4.3nm,0.6s,mb4.5,baz=305,slow=7.3,SNR=31
FORT Forrest 50.73 140 *e*P **P 06 55 27.7 +0.2**
comp=Z,12nm,0.6s,mb5.0
JHJ Hachijo jima 2 50.98 53 LR LR 07 17 23.7
comp=Z,354nm,19.4s,MS4.4,baz=124,slow=36
MJAR Matsushiro Arr 51.05 48 LR LR 07 18 36.2
comp=Z,380nm,19.8s,MS4.4,baz=250,slow=38
CBIJ Chichi jima 51.24 61 LR LR 07 17 53.9
comp=Z,214nm,20.5s,MS4.2,baz=153,slow=37
AKTK Aktyubinsk 51.95 333 P **P 06 55 36.3 -0.4**
AKTO Aktyubinsk 51.95 333 P **P 06 55 36.3 -0.4**
comp=Z,3.1nm,0.7s,mb4.4,baz=129,slow=9.1,SNR=11
AKTO Aktyubinsk 51.95 333 *i* P **P 06 55 35.8 -0.9**
AKTO pmax pmax
comp=Z,3.0nm,1.5s,mb4.0
GUMO Guam 51.96 78 LR LR 07 14 35.4
comp=Z,156nm,21.5s,MS4.0,baz=265,slow=33
BOD Bodaibo 53.45 14 *e*P **P 06 55 46.9 -0.8**
BOD pmax pmax
comp=Z,17nm,1.5s,mb4.8
KLR Kul'dur 53.55 31 *e*P **P 06 55 41.8 -6.7**
KLR MLR MLR
comp=N,900nm,13.0s,MS5.2
KLR MLR MLR
comp=E,1μm,13.0s,MS5.2
KLR MLR MLR
comp=Z,2μm,13.0s,MS5.3
GNI Garni 53.86 315 *i* P **P 06 55 50.8 0.0**
GNI pmax pmax
comp=Z,14nm,1.3s
HABR Khabarovsk 54.85 33 *e*P **P 06 55 54.2 -3.8**
HABR *e*S **S 07 03 35.2 -2.1**
HABR pmax pmax
comp=Z,17nm,0.5s,mb5.3
KMBO Kilima Mbogo 55.61 264 P **P 06 56 04.7 +1.2**
comp=Z,0.6nm,0.3s,mb4.1,baz=68,slow=23,SNR=3.2
KMBO LR LR 07 15 40.2
comp=Z,478nm,21.8s,MS4.5,baz=86,slow=32
ARU Arti 56.08 338 *i* P **P 06 56 05.5 -1.3**
ARU *e* 06 58 06.9
ARU *e*S **S 07 03 54.3 +0.6**
ARU *e*SS SS 07 07 37.4 -2.7
ARU pmax pmax
comp=Z,16nm,1.1s,mb5.0
KIV Kislovodsk 56.86 319 *e*P **P 06 56 12.4 +0.1**
KIV *e* 06 57 10.7
KIV *e*S **S 07 04 01.8 -2.3**
KIV pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
CTA Charters Tower 59.38 118 LR LR 07 23 41.1
comp=Z,149nm,20.1s,MS4.1,baz=21,slow=38
ANN Anapa 60.65 318 *e*P **P 06 56 34.4 -4.3**
STKA Stephens Creek 60.74 132 *e*P **P 06 56 37.9 -1.4**
comp=Z,3.9nm,0.5s,mb4.8
STKA Stephens Creek 60.74 132 P **P 06 56 38.2 -1.1**
comp=Z,4.8nm,0.5s,mb4.9,baz=306,slow=6.5,SNR=16
STKA LR LR 07 23 39.0
comp=Z,238nm,19.2s,MS4.3,baz=223,slow=37
BRTR Keskin Array B 61.73 312 P **P 06 56 44.6 -1.4**
comp=Z,1.5nm,0.7s,mb4.3,baz=137,slow=7.7,SNR=7.3
OBN Obninsk 65.25 328 *e*P **P 06 57 08.7 -0.6**
OBN *e* 06 57 36.7
OBN *e* 06 59 32.7
OBN pmax pmax
comp=Z,30nm,1.5s,mb5.1
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.4
AKASG Malin Array Be 67.81 322 P **P 06 57 23.7 -1.9**
comp=Z,0.5nm,0.3s,mb4.0,baz=95,slow=5.7,SNR=4.5
TIXI Tiksi 68.47 12 *e*P **P 06 57 26.0 -3.8**
TIXI *e*S S 07 06 22.6 -7.2
TIXI *e* 07 07 21.3
TIXI pmax pmax
comp=Z,25nm,1.2s,mb5.1
TIXI MLR MLR
comp=Z,325nm,16.0s,MS4.7
JOF Joensuu 70.94 335 *ep* **P 06 57 40.6 -4.4**
comp=Z,4.8nm,0.8s,mb4.5
STHS Stebnicka Huta 72.52 320 *e*P **P 06 57 55.2 +0.7**
comp=Z,9.2nm,2.0s,mb4.4
KAF Kangasniemi 72.83 333 *ep* **P 06 57 54.0 -2.3**
comp=Z,4.0nm,0.8s,mb4.4,baz=105,slow=5.6
KAF Kangasniemi 72.83 333 *e*P **P 06 57 54.0 -2.3**
KAF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
KECS Kecovo 72.86 319 *e*P **P 06 57 56.1 -0.4**
comp=Z,1.6nm,0.9s,mb4.0
OKC Ostrava-Krasne 74.57 320 *e*PCP PcP 06 58 29.9 +9.0
OKC AMS AMS 07 41 50.0
ARCES ARCESS Array B 75.55 340 P **P 06 58 11.3 -0.8**
comp=Z,4.2nm,0.9s,mb4.3,baz=92,slow=6.6,SNR=11
ARCES LR LR 07 33 33.1
comp=Z,145nm,18.3s,MS4.3,baz=332,slow=38
DPC Dobruska-Polom 75.80 320 *e*P **P 06 58 14.5 +0.9**
DPC AMS AMS 07 37 20.0
UPC Upice 76.01 320 *e*P **P 06 58 18.8 +3.9**
PRU Pruhonice 76.90 320 *e*P **P 06 58 21.2 +1.3**
PRU AMS AMS 07 38 00.0
comp=Z,100nm,14.2s
MAW Mawson 77.30 191 LR LR 07 26 43.1
comp=Z,155nm,18.8s,MS4.3,baz=62,slow=31
BRG Berggiesshubel 77.36 320 *e*P **P 06 58 22.3 -0.2**
comp=Z,7.0nm,0.9s,mb4.6
BRG Berggiesshubel 77.36 320 *e*P **P 06 58 22.7 +0.2**
comp=Z,4.2nm,0.9s,mb4.4
BRG Berggiesshubel 77.36 320 *e*P **P 06 58 22.7 +0.2**
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
GEC2 GERESS Array S 77.36 318 *e*P **P 06 58 22.6 +0.1**
comp=Z,8.0nm,1.1s,mb4.6
GEC2 GERESS Array S 77.36 318 *e*P **P 06 58 22.6 +0.1**
GEC2 pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
GERES GERESS Array B 77.36 318 P **P 06 58 23.0 +0.5**
comp=Z,2.2nm,0.7s,mb4.2,baz=79,slow=7.1,SNR=15
GERES LR LR 07 38 14.7
comp=Z,72nm,20.6s,MS4.0,baz=97,slow=40
KHC Kasperske Hory 77.47 319 *e*P **P 06 58 23.5 +0.4**
KHC x x 06 58 38.5
KHC AMS AMS 07 36 40.0
comp=Z,100nm,23.2s
BILL Bilibino 77.57 22 *e*P **P 06 58 23.2 -0.4**
BILL *e* 06 58 34.9
BILL pmax pmax
comp=Z,11nm,2.4s,mb4.4
WET Wettzell 77.92 319 *e*P **P 06 58 25.8 +0.2**
NKC Novy Kostel 78.27 320 *e*P **P 06 58 28.3 +0.8**
NKC AMS AMS 07 38 40.0
WERD Werda 78.37 320 *e*P **P 06 58 28.3 +0.2**
comp=Z,5.0nm,1.1s,mb4.4
ROTZ Rotzenmuhle 78.40 319 *e*P **P 06 58 28.7 +0.5**
comp=Z,5.0nm,0.9s,mb4.4
MANZ Manzenberg 78.47 320 *e*P **P 06 58 29.3 +0.7**
comp=Z,12nm,1.4s,mb4.6
MOX Moxa 78.82 320 *e*P **P 06 58 31.1 +0.5**
comp=Z,9.0nm,1.4s,mb4.5
GRA1 Grafenberg Arr 79.03 319 *e*P **P 06 58 32.3 +0.6**
comp=Z,6.0nm,0.9s,mb4.5
GRF Grafenberg Arr 79.03 319 *e*P **P 06 58 32.3 +0.6**
comp=Z,6.0nm,0.9s,mb4.5
GRF Grafenberg Arr 79.03 319 *e*P **P 06 58 32.3 +0.6**
GRF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
GRF Grafenberg Arr 79.03 319 *e*P **P 06 58 32.3 +0.6**
GRF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
CLZ Clausthal 79.65 321 *e*P **P 06 58 34.4 -0.7**
comp=Z,4.0nm,0.8s,mb4.4
CLZ Clausthal 79.65 321 *e*P **P 06 58 34.4 -0.7**
CLZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
NB2 NORSAR Subarra 79.69 331 P **P 06 58 33.6 -1.7**
comp=Z,2.4nm,0.8s,mb4.2,baz=96,slow=5.6
NOA NORSAR Array B 79.69 331 P **P 06 58 33.8 -1.5**
comp=Z,0.9nm,0.6s,mb3.9,baz=94,slow=5.6,SNR=6.3
NOA LR LR 07 37 45.9
comp=Z,172nm,19.8s,MS4.4,baz=70,slow=39
DAG Danmarks Havn 88.00 348 *i* P **P 06 59 16.2 -1.6**
comp=Z,5.6nm,0.2s,mb5.5
DAG Danmarks Havn 88.00 348 *e*P **P 06 59 16.2 -1.6**
DAG pmax pmax
comp=Z,6.0nm,0.2s,mb5.5
TORD Torodi Ar. Bea 89.13 283 P **P 06 59 24.7 +1.6**
comp=Z,0.7nm,0.7s,mb4.1,baz=103,slow=5.5,SNR=4.8
VNDA Vanda 92.38 168 P **P 06 59 39.7 +1.5**
comp=Z,1.2nm,1.0s,mb4.2,baz=308,slow=5.6,SNR=4.7
VNDA LR LR 07 38 11.2
comp=Z,113nm,18.8s,MS4.3,baz=300,slow=34
VNDA Vanda 92.38 168 P **P 06 59 39.7 +1.5**
VNDA LR LR 07 38 11.2
ILAR Eielson Array 96.23 22 LR LR 07 48 12.4
comp=Z,113nm,18.2s,MS4.4,baz=174,slow=39
INK Inuvik 98.34 16 P **P 07 00 04.6 -0.8**
comp=Z,1.3nm,0.9s,mb4.5,baz=319,slow=4.2,SNR=8.9
NVAR Mina Array Bea 126.58 30 PKP PKPdf 07 05 33.4 +2.6
comp=Z,0.4nm,0.4s,baz=313,slow=1.8,SNR=5.4
PDAR Pinedale Array 126.63 20 PKP PKPdf 07 05 31.6 +0.7
comp=Z,0.8nm,0.7s,baz=355,slow=3.1,SNR=5.1
MSU Marysvale 129.32 25 *e*PKIKP PKPdf 07 05 36.8 +0.8
CPUP Villa Florida 145.34 233 PKPbc PKPbc 07 06 06.9 +1.6
comp=Z,6.6nm,0.9s,baz=71,slow=4.1,SNR=14
CPUP Villa Florida 145.34 233 *e*PKPdf PKPdf 07 06 05.8 +0.4
CPUP *e*PKPbc PKPbc 07 06 06.8 +1.5
LPAZ La Paz 158.82 242 PKP PKPdf 07 06 28.6 +3.2
comp=Z,0.9nm,1.0s,baz=47,slow=4.9,SNR=3.5
LPAZ PKPab PKPab 07 07 03.9 +2.6
comp=Z,2.8nm,1.0s,baz=104,slow=6.7,SNR=6.4

MOS ***17*** *06:57:13.4±1.3, 026N×96.85E, h33km, mb4.9/3, Error ellipse: s-maj=23.8km s-min=21.6km az=20.0*
ISCJB ***17*** *06:57:14.8±1.0, 023N±009×97.1E±02, h33km, mb4.3/8, Error ellipse: s-maj=21.9km s-min=13.1km az=157.4*
NEIC ***17*** *06:57:15.8±0.7, 0.17N×9701E, h30km, mb4.8/2, Error ellipse: s-maj=16.2km s-min=10.8km az=83.0*
IDC ***17*** *06:57:16.4±1.1, 0.13N×9701E, h31km±7km, mb4.1/6, mb1 4.2/7, mb1mx3.9/16, mbtmp4.2/7, ML3.4/1, Error ellipse: s-maj=45.6km s-min=18.5km az=58.0*
ISC 17 06:57:16.9±1.0, 028N±010×971E±01, h35km, (h35km±2.2km:pP-P), n19, σ0s88/16, mb4.3/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	Time h m s	Res ISC
PSI	**Prapat**	**3.11**	**37**	Pn	**Pn**	**06 58 03.6**	**+0.2**
	3.9nm,0.3s,baz=322,slow=6.4,SNR=13						
KULM	**Kulim**	**6.12**	**36**	*e*Pn	**Pn**	**06 58 45.2**	**+0.4**
KKM	**Kota Kinabalu**	**19.95**	**73**	*e*P	**Pn**	**07 01 47.4**	**-0.2**
WRA	**Warramunga Arr**	**41.67**	**121**	P	**P**	**07 05 02.3**	**+0.4**
	7.7nm,0.6s,mb4.5,baz=299,slow=9.1,SNR=23						
WRAB	**Tennant Creek**	**41.68**	**121**	*e*P	**P**	**07 05 02.1**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.7						
WRAB	**Tennant Creek**	**41.68**	**121**	*e*P	**P**	**07 05 02.1**	**+0.1**
	comp=Z,12nm,0.6s,mb4.7						
ASAR	**Alice Springs**	**42.96**	**126**	P	**P**	**07 05 13.2**	**+0.8**
	comp=Z,1.1nm,0.6s,mb3.8,baz=295,slow=8.2,SNR=12						
SONM	**Songino Array**	**48.05**	**8**	pP	pP	07 06 05.0	+1.9
	comp=Z,2.4nm,0.8s,baz=264,slow=8.8,SNR=3.0						
MKAR	**Makanchi Array**	**48.09**	**346**	P	**P**	**07 05 54.3**	**+1.2**
	comp=Z,1.1nm,0.7s,mb4.0,baz=156,slow=8.3,SNR=12						
MKAR				pP	pP	07 06 03.0	-0.5
	comp=Z,2.2nm,0.6s,baz=160,slow=7.7,SNR=16						
CTA	**Charters Tower**	**52.22**	**116**	P	**P**	**07 06 24.8**	**+0.5**
	comp=Z,2.8nm,1.0s,mb4.2,baz=299,slow=13,SNR=4.5						
CTAO	**Charters Tower**	**52.22**	**116**	P	**P**	**07 06 24.1**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
CTAO	**Charters Tower**	**52.22**	**116**	P	**P**	**07 06 24.1**	**-0.2**
	comp=Z,10.0nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**52.85**	**132**	P	**P**	**07 06 28.0**	**-0.9**
	comp=Z,1.4nm,0.6s,mb4.1,baz=314,slow=8.0,SNR=8.6						
STKA	**Stephens Creek**	**52.85**	**132**	P	**P**	**07 06 28.0**	**-0.9**
BOD	**Bodaibo**	**58.93**	**10**	*e*P	**P**	**07 07 09.8**	**-2.7**
BRTR	**Keskin Array B**	**69.63**	**313**	pP	pP	07 08 32.5	-0.8
	comp=Z,1.1nm,0.8s,baz=129,slow=5.9,SNR=4.0						
TIXI	**Tiksi**	**74.11**	**10**	*e*P	**P**	**07 08 48.4**	**-1.0**
TIXI				*e*	pP	07 08 59.3	-1.0
TIXI				*e*		07 18 58.2	
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
ARCES	**ARCESS Array B**	**83.35**	**340**	P	**P**	**07 09 40.8**	**+0.6**
	comp=Z,3.6nm,0.9s,mb4.4,baz=106,slow=4.2,SNR=10.0						
ARCES				pP	pP	07 09 52.0	+0.7
	comp=Z,0.8nm,0.4s,baz=98,slow=3.4,SNR=1.7						
CPUP	**Villa Florida**	**144.24**	**222**	PKP	PKPdf	07 16 48.3	-0.7
	comp=Z,0.3nm,0.3s,baz=80,slow=4.0,SNR=3.3						
CPUP				pPKP	pPKPdf	07 16 58.5	-1.9
	comp=Z,0.9nm,0.6s,baz=164,slow=7.4,SNR=2.5						

IDC 17 06:57:48.9±1.6, 923S×12466E, h0km, mb4.2/1, mb1 3.8/4, mb1mx3.7/13, mbtmp3.7/4, ML3.4/3, Error ellipse: s-maj=113.3km s-min=25.9km az=65.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID	Op	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.87**	**174**	Pn	Pn	06 59 58.2	-0.1
	0.2nm,0.3s,baz=357,slow=14,SNR=14						
FITZ				Sn	Sn	07 01 33.6	-5.3
	0.9nm,0.3s,baz=250,slow=16,SNR=13						
WRA	**Warramunga Arr**	**14.18**	**140**	Pn	Pn	07 01 09.7	-1.2
	0.2nm,0.3s,baz=313,slow=14,SNR=11						
WRA				Sn	Sn	07 03 44.7	-4.2
	0.6nm,0.3s,baz=346,slow=11,SNR=13						
ASAR	**Alice Springs**	**16.86**	**149**	Pn	Pn	07 01 48.0	+1.7
	0.2nm,0.3s,baz=333,slow=13,SNR=7.5						
ASAR				Sn	Sn	07 04 52.4	-1.9
	0.2nm,0.3s,baz=324,slow=25,SNR=4.5						
MKAR	**Makanchi Array**	**67.33**	**330**	P	P	07 08 45.8	+0.1
	1.2nm,0.4s,baz=114,slow=8.1,SNR=16						

IDC 17 07:07:51.1±2.3, 3363S×11639E, h0km, mb3.6/2, mb1 3.6/3, mb1mx3.4/10, mbtmp3.4/3, ML3.0/1, Error ellipse: s-maj=99.6km s-min=13.1km az=131.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**0.99**	**46**	Pg	Pg	07 08 11.1	+1.0
	6.3nm,0.3s,baz=231,slow=16,SNR=37						
NWAO				Lg		07 08 23.1	
	13nm,0.3s,baz=332,slow=20,SNR=30						
ASAR	**Alice Springs**	**18.27**	**62**	P	Pn	07 12 05.5	-0.5
	0.1nm,0.3s,baz=219,slow=11,SNR=4.2						
WRA	**Warramunga Arr**	**20.99**	**54**	P	P	07 12 36.8	+0.9
	0.3nm,0.3s,baz=228,slow=11,SNR=5.0						
MAW	**Mawson**	**45.64**	**206**	P	P	07 16 12.4	-0.9
	3.2nm,0.6s,baz=30,slow=8.1,SNR=6.8						

NEIC 17 07:08:09.0, 3529S×17915E, h263km, MG4.0(WEL), After WEL., Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.37**	**196**	PN	Pn	07 08 53.8	-2.1
MXZ				*e*SN	S	07 09 30.8	-2.2
PUZ	**Puketiti**	**2.87**	**194**	PN	Pn	07 09 01.3	+0.4
PUZ				SN	S	07 09 41.9	-0.1
PUZ	**Puketiti**	**2.87**	**194**	P	Pn	07 09 01.3	+0.4
PUZ				S	S	07 09 41.9	-0.1
MWZ	**Matawai**	**3.31**	**203**	*e*PN	Pn	07 09 05.6	+0.1
MWZ				SN	S	07 09 51.4	+0.9
URZ	**Urewera**	**3.39**	**208**	PN	Pn	07 09 07.0	+0.6
URZ				SN	S	07 09 55.4	+3.3
URZ	**Urewera**	**3.39**	**208**	P	Pn	07 09 07.0	+0.6
KNZ	**Kokohu**	**3.91**	**197**	PN	Pn	07 09 13.2	+1.0
KNZ	**Kokohu**	**3.91**	**197**	*e*P	Pn	07 09 13.3	+1.0
BKZ	**Black Stump Fm**	**4.41**	**208**	*e*PN	Pn	07 09 18.3	+0.1
BKZ	**Black Stump Fm**	**4.41**	**208**	*e*P	Pn	07 09 19.2	+1.0
PXZ	**Pawanui**	**5.07**	**200**	*e*PN	Pn	07 09 25.6	-0.4
TSZ	**Takapari Road**	**5.39**	**207**	*e*PN	Pn	07 09 29.8	-0.1
TSZ	**Takapari Road**	**5.39**	**207**	*e*P	Pn	07 09 30.3	+0.4
BFZ	**Birch Farm**	**5.85**	**202**	*e*PN	Pn	07 09 35.7	+0.2
BFZ				SN	S	07 10 47.5	+2.6
TIWZ	**Tintock**	**6.05**	**204**	PN	Pn	07 09 38.4	+0.3
MRZ	**Mangatainoka R**	**6.06**	**207**	PN	Pn	07 09 37.6	-0.5
MRZ				SN	S	07 10 52.0	+2.5
MRZ	**Mangatainoka R**	**6.06**	**207**	*e*P	Pn	07 09 38.1	0.0
KIW	**Kapiti Island**	**6.49**	**210**	*e*PN	Pn	07 09 43.4	0.0
KIW	**Kapiti Island**	**6.49**	**210**	P	Pn	07 09 43.6	+0.2
CAW	**Cannon Point**	**6.64**	**208**	PN	Pn	07 09 45.2	-0.1
CAW	**Cannon Point**	**6.64**	**208**	P	Pn	07 09 45.3	0.0
PAWZ	**Paruwai Farm**	**6.75**	**205**	*e*SN	S	07 11 06.9	+1.8
MRW	**Makara Radio**	**6.88**	**209**	SN	S	07 11 11.1	+2.9
SNZO	**South Karori**	**6.95**	**209**	PN	Pn	07 09 48.8	-0.4
SNZO				SN	S	07 11 11.9	+2.2
SNZO	**South Karori**	**6.95**	**209**	*e*P	Pn	07 09 48.9	-0.3
TCW	**Tory Channel**	**7.05**	**212**	PN	Pn	07 09 50.4	+0.1
TCW				*e*SN	S	07 11 14.3	+2.4
TCW	**Tory Channel**	**7.05**	**212**	P	Pn	07 09 50.6	+0.2
TUWZ	**Tuamarina**	**7.37**	**212**	PN	Pn	07 09 54.6	+0.2
NNZ	**Nelson**	**7.46**	**216**	PN	Pn	07 09 55.4	0.0
NNZ				SN	S	07 11 23.7	+2.4
NNZ	**Nelson**	**7.46**	**216**	*e*P	Pn	07 09 55.9	+0.4
QRZ	**Quartz Range**	**7.60**	**221**	*e*PN	Pn	07 09 57.0	-0.3
THZ	**Tophouse**	**8.11**	**215**	PN	Pn	07 10 03.8	+0.1
THZ				SN	S	07 11 40.0	+3.8
THZ	**Tophouse**	**8.11**	**215**	*e*P	Pn	07 10 04.5	+0.9
KHZ	**Kahutara**	**8.35**	**210**	*e*PN	Pn	07 10 07.2	+0.5
KHZ	**Kahutara**	**8.35**	**210**	*e*P	Pn	07 10 07.6	+0.9
LTZ	**Lake Taylor**	**9.20**	**213**	*e*P	Pn	07 10 17.9	+0.6
MQZ	**McQueen's Vall**	**9.79**	**209**	PN	Pn	07 10 25.0	+0.3
MQZ				SN	S	07 12 14.1	-0.8
ODZ	**Otahua Downs**	**11.71**	**211**	PN	Pn	07 10 50.7	+2.1

IDC 17 07:10:19.4±5.3, 897S×11939E, h198km±51km, mb3.4/2, mb1 3.4/4, mb1mx3.1/15, mbtmp3.9/4, Error ellipse: s-maj=124.7km s-min=35.0km az=41.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.92**	**147**	P	Pn	07 12 51.3	+0.7
	0.1nm,0.3s,baz=318,slow=13,SNR=11						
FITZ				S	Sn	07 14 51.3	-1.0
	0.3nm,0.3s,baz=188,slow=22,SNR=8.1						
WRA	**Warramunga Arr**	**18.11**	**129**	P	P	07 14 15.9	-0.6
	0.4nm,0.3s,baz=302,slow=12,SNR=30						
WRA				S	S	07 17 34.8	+1.3
	0.1nm,0.3s,baz=306,slow=24,SNR=3.9						
ASAR	**Alice Springs**	**20.16**	**138**	P	P	07 14 39.6	+1.0
	1.8nm,0.3s,baz=312,slow=8.9,SNR=28						
STKA	**Stephens Creek**	**30.73**	**141**	P	P	07 16 15.7	-0.2
	1.0nm,0.4s,baz=314,slow=10,SNR=5.3						

IDC 17 07:23:38.1±1.2, 0.19S×9864E, h0km, mb4.1/7, mb1 4.2/7, mb1mx4.0/15, mbtmp4.1/7, MS3.5/2, Ms1 3.5/2, ms1mx3.1/30, Error ellipse: s-maj=48.9km s-min=18.3km az=51.0
MOS 17 07:23:41.6±1.2, 1.003N×9876E, h33km, mb4.6/3, Error ellipse: s-maj=27.2km s-min=15.5km az=105.0
NEIC 17 07:23:43.7±2.9, 0.022S×9852E, h47km±23km, mb4.8/4, Error ellipse: s-maj=35.4km s-min=10.0km az=50.0
ISCJB 17 07:23:44.6±2.8, 0.00S±0.02×9877E±0.2, h67km±21km, mb4.3/15, Error ellipse: s-maj=36.9km s-min=12.6km az=100.4

ISC 17 07:23:45.9±2.7, 01S±02×987E±02, h58km±21km, n27, σ0§98/25, mb4.3/15, MS4.1/2, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.84**	**4**	Pn	**Pn**	**07 24 29.5**	**+0.7**
	7.5nm,0.3s,baz=220,slow=5.1,SNR=17						
PSI				LR	LR	07 25 21.9	
	comp=Z,332nm,19.9s,baz=155,slow=36						
KULM	**Kulim**	**5.64**	**20**	*e*Pn	**Pn**	**07 25 06.5**	**-0.7**
KKM	**Kota Kinabalu**	**18.48**	**71**	*e*P	**Pn**	**07 28 03.1**	**+5.5**
JIRN	**Jiri**	**30.07**	**337**	*e*P	**P**	**07 29 49.4**	**-0.1**
	12nm,0.6s,mb4.8						
GUN	**Gumba**	**30.41**	**337**	*e*P	**P**	**07 29 52.0**	**-0.6**
	17nm,0.6s,mb4.9						
DMN	**Daman**	**30.45**	**336**	*e*P	**P**	**07 29 53.8**	**+0.9**
KKN	**Kakani**	**30.54**	**336**	*e*P	**P**	**07 29 54.1**	**+0.4**
GKN	**Gorkha**	**31.00**	**335**	*e*P	**P**	**07 29 56.8**	**-0.9**
KOLN	**Koldanda**	**31.24**	**334**	*e*P	**P**	**07 29 59.2**	**-0.7**
	8.6nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**40.08**	**122**	P	**P**	**07 31 15.4**	**-0.2**
	1.7nm,0.7s,mb3.9,baz=301,slow=9.0,SNR=13						
WB2	**Warramunga Arr**	**40.09**	**122**	*e*P	**P**	**07 31 16.1**	**+0.5**
ASAR	**Alice Springs**	**41.43**	**127**	P	**P**	**07 31 27.1**	**+0.4**
	1.7nm,0.7s,mb3.8,baz=294,slow=8.2,SNR=18						
ASAR				PcP	PcP	07 33 30.2	+6.5
	0.8nm,0.8s,baz=312,slow=3.3,SNR=5.1						
SONM	**Songino Array**	**48.16**	**7**	P	**P**	**07 32 19.9**	**-0.3**
	1.8nm,0.5s,mb4.4,baz=213,slow=6.7,SNR=4.0						
MKAR	**Makanchi Array**	**48.83**	**345**	P	**P**	**07 32 25.3**	**0.0**
	4.5nm,0.6s,mb4.7,baz=154,slow=8.3,SNR=40						
ZAK	**Zakamensk**	**50.40**	**4**	*e*P	**P**	**07 32 28.8**	**-8.4**
ZAK				pmax	pmax		
	comp=Z,6.0nm,2.0s,mb4.3						
STKA	**Stephens Creek**	**51.39**	**132**	P	**P**	**07 32 43.5**	**-1.2**
	comp=Z,0.9nm,0.4s,mb4.0,baz=319,slow=9.0,SNR=3.3						
STKA				LR	LR	07 55 38.7	
	comp=Z,104nm,18.6s,MS3.9,baz=205,slow=37						
MJAR	**Matsushiro Arr**	**51.61**	**41**	P	**P**	**07 32 49.0**	**+2.6**
	comp=Z,0.7nm,0.3s,mb4.0,baz=225,slow=6.9,SNR=4.4						
KURK	**Kurchatov**	**53.40**	**344**	*e*P	**P**	**07 32 59.0**	**-0.6**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
KURK	**Kurchatov**	**53.40**	**344**	*e*P	**P**	**07 32 59.0**	**-0.6**
	comp=Z,2.5nm,0.8s,mb4.2						
KLR	**Kul'dur**	**56.70**	**25**	*e*P	**P**	**07 33 22.8**	**-0.6**
KLR				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.2						
BOD	**Bodaibo**	**58.97**	**9**	*e*P	**P**	**07 33 39.8**	**+0.5**
BRTR	**Keskin Array B**	**71.08**	**312**	P	**P**	**07 34 58.3**	**+0.4**
	comp=Z,0.7nm,0.5s,mb3.8,baz=120,slow=7.3,SNR=3.8						
TIXI	**Tiksi**	**74.15**	**10**	*e*P	**P**	**07 35 13.8**	**-2.3**
TIXI				pmax	pmax		
	comp=Z,7.0nm,2.0s,mb4.2						
TIXI				MLR	MLR		
	comp=Z,103nm,15.0s,MS4.2						

AKASG	**Malin Array Be**	**77.17**	**322**	P	**P**	**07 35 35.5**	**+2.1**
	comp=Z,0.3nm,0.3s,mb3.6,baz=91,slow=5.7,SNR=6.7						
AKASG	**Malin Array Be**	**77.17**	**322**	P	**P**	**07 35 35.5**	**+2.1**
MIAR	**Mount Ida**	**143.81**	**17**	*e*PKIKP	PKPdf	07 43 13.3	-1.1
JCT	**Junction City**	**144.99**	**29**	*e*PKIKP	PKPdf	07 43 17.6	+1.1

HLW 17 07:43:34.9, 3626N×21.18E, h33km, Mb3.5
ISCJB 17 07:43:44.1±1.2, 3567N±004×22.1E±0.1, h10km, Error ellipse: s-maj=14.0km s-min=5.6km az=15.5
CSEM 17 07:43:45.9±0.5, 3559N×2200E, h40km, ML3.5, Error ellipse: s-maj=19.5km s-min=6.3km az=85.0
NEIC 17 07:43:51.7, 36.10N×2213E, h5km, MD3.1(ATH), After ATH.
ATH 17 07:43:51.8, 3609N×22.17E, h5km, MD3.1/4

ISC 17 07:43:46.0±1.9, 3577N±005×221E±01, h17km±10km, n10, σ1§26/15, 2D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.94**	**57**	*e*PG	**Pg**	**07 44 05.5**	**+1.2**
KYTH				*e*SB	**Sg**	**07 44 16.0**	**-0.7**
VLI	**Veliai**	**1.18**	**37**	*i*PB	**Pn**	**07 44 08.7**	**+1.0**
VLI				*e*SB	**Sn**	**07 44 22.0**	**-1.4**
VLI	**Veliai**	**1.18**	**37**	*i*Pg	**Pn**	**07 44 08.7**	**+1.0**
VLI				*e*Sb	**Sn**	**07 44 22.6**	**-0.8**
ITM	**Ithomi**	**1.41**	**356**	*e*PB	**Pb**	**07 44 12.8**	**+1.0**
VAM	**Vamos**	**1.78**	**101**	*e*PN	**Pg**	**07 44 26.5**	**+6.2**
VAM	**Vamos**	**1.78**	**101**	*e*Pn	**Pg**	**07 44 27.0**	**+6.7**
SLUM		**5.01**	**147**	P	**Pn**	**07 44 59.5**	**-0.9**
SLUM				S	**Sn**	**07 46 00.6**	**+2.6**
SWA2		**7.11**	**155**	P	**Pn**	**07 45 27.2**	**-2.1**
SWA1		**7.18**	**154**	P	**Pn**	**07 45 28.9**	**-1.3**
SWA1				S	**Sn**	**07 46 52.4**	**+1.0**
HFRF	**Wahat Farafira**	**10.12**	**146**	P	**Pn**	**07 46 10.2**	**-0.2**

IDC 17 07:48:19.3±2.1, 008N×9699E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.8/17, mbtmp3.9/5, ML3.5/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/27, Error ellipse: s-maj=61.7km s-min=24.6km az=66.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.32**	**36**	Pn	Pn	07 49 11.8	-0.8
	5.6nm,0.3s,baz=207,slow=6.8,SNR=18						
PSI				LR	LR	07 50 43.1	
	comp=Z,256nm,20.5s,baz=287,slow=44						
WRA	**Warramunga Arr**	**41.63**	**121**	P	P	07 56 09.8	+0.6
	2.5nm,0.8s,baz=302,slow=9.0,SNR=14						
WB2	**Warramunga Arr**	**41.65**	**121**	*e*P	P	07 56 10.0	+0.7
ASAR	**Alice Springs**	**42.90**	**126**	P	P	07 56 20.6	+1.0
	1.1nm,0.5s,baz=294,slow=8.2,SNR=14						
MKAR	**Makanchi Array**	**48.27**	**346**	P	P	07 57 02.1	+0.1
	0.8nm,0.6s,baz=147,slow=8.3,SNR=7.3						
STKA	**Stephens Creek**	**52.77**	**131**	P	P	07 57 35.2	-0.9
	1.3nm,0.5s,baz=308,slow=5.4,SNR=4.6						

BJI 17 07:55:23.1, 4471N×11513E, h32km, mb4.8, ML4.2, Ms4.6, Msz4.0, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HHC	**Hu-ho-hao-te**	**4.67**	**215**	*e*P	Pn	07 56 33.1	+1.8
HHC				PG	Pn	07 56 47.9	+17
HHC				SG	Sn	07 57 45.9	+22
HHC				Smax			
	comp=N,781nm,0.4s						
HHC				Smax			
	comp=E,606nm,0.4s						
BJI	**Beijing**	**4.73**	**170**	PG	Pn	07 56 46.4	+14
BJI				Smax			
	comp=N,308nm,0.7s						
BJI				Smax			
	comp=E,243nm,0.7s						
BTO	**Baotou**	**5.57**	**224**	*e*PG	Pn	07 57 04.0	+20
BTO				SG	Sn	07 58 13.9	+27
BTO				Smax			
	comp=N,113nm,0.6s						
BTO				Smax			
	comp=E,80nm,0.4s						
CN2	**Changchun**	**7.46**	**93**	*e*PG	Pn	07 57 36.9	+27
CN2				*e*SG	Sn	07 59 10.0	+37
CN2				Smax			
	comp=N,100nm,0.6s						
CN2				Smax			
	comp=E,100nm,0.6s						
DL2	**Dalian**	**7.56**	**138**	*e*PG	Pn	07 57 36.9	+26
DL2				SG	Sn	07 59 12.1	+36
DL2				Smax			
	comp=N,30nm,0.7s						
DL2				Smax			
	comp=E,30nm,0.7s						
LZH	**Lanzhou**	**12.16**	**229**	*e*P	Pn	07 58 12.5	-1.6
LZH				PP		07 58 22.5	
LZH				*e*S	Sn	08 00 24.5	-4.0
LZH				*e*SS		08 00 42.3	
LZH				AMB	AMB		
	comp=Z,30nm,1.0s						
LZH				LR	LR		
	comp=N,1μm,9.0s						
LZH				LR	LR		
	comp=Z,2μm,1.5s						
GTA	**Gaotai**	**12.55**	**250**	*e*P	Pn	07 58 23.3	+4.0
GTA				AP		07 58 27.8	
GTA				XP		07 58 31.0	
GTA				AMB	AMB		
	comp=Z,5.0nm,0.6s						
NJ2	**Nanjing**	**12.97**	**166**	*e*P	Pn	07 58 25.3	+0.2
NJ2				PP		07 58 36.1	
NJ2				S	Sn	08 00 45.0	-3.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
NJ2				LR	LR		
	comp=N,3μm,16.1s						
NJ2				LR	LR		
	comp=E,2μm,14.7s						
NJ2				LR	LR		
	comp=Z,740nm,13.9s						

IDC 17 07:59:52.5±3.2, 5223N×3596E, h0km, mb3.4/1, mb1 3.9/3, mb1mx3.4/17, mbtmp3.7/3, ML3.7/3, Error ellipse: s-maj=53.0km s-min=15.9km az=137.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**4.48**	**253**	Pn	Pn	08 01 01.5	-0.2
	1.2nm,0.3s,baz=56,slow=11,SNR=4.1						
AKASG				Pg	Pg	08 01 10.3	-8.1
	2.4nm,0.3s,baz=64,slow=16,SNR=38						
AKASG				Sn	Sn	08 01 50.5	-4.0
	2.8nm,0.3s,baz=68,slow=20,SNR=4.7						
AKASG				Lg		08 02 07.3	
	3.6nm,0.3s,baz=68,slow=30,SNR=5.7						
NOA	**NORSAR Array B**	**16.12**	**313**	Pn	Pn	08 03 32.6	-7.9
	0.2nm,0.3s,baz=109,slow=13,SNR=3.2						
ARCES	**ARCESS Array B**	**18.04**	**348**	P	Pn	08 04 03.1	-1.5
	0.4nm,0.3s,baz=158,slow=10,SNR=14						
YKA	**Yellowknife Ar**	**63.28**	**345**	P	P	08 10 21.9	-1.0
	0.2nm,0.6s,baz=15,slow=6.5,SNR=7.8						

IDC 17 08:07:40.0±1.6, 001N×9692E, h0km, mb3.8/4, mb1 3.8/5, mb1mx3.6/17, mbtmp3.7/5, ML3.0/1, Error ellipse: s-maj=51.7km s-min=28.0km az=47.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.42**	**36**	Pn	Pn	08 08 33.6	-1.0
	1.5nm,0.3s,baz=262,slow=15,SNR=5.1						
WRA	**Warramunga Arr**	**41.66**	**121**	P	P	08 15 30.5	+0.4
	0.2nm,0.5s,baz=303,slow=9.1,SNR=4.4						
MKAR	**Makanchi Array**	**48.33**	**347**	P	P	08 16 23.9	+0.7
	1.1nm,0.6s,baz=159,slow=8.1,SNR=14						
AKASG	**Malin Array Be**	**76.03**	**323**	P	P	08 19 28.4	-0.7
	1.1nm,0.6s,baz=91,slow=5.1,SNR=5.0						
ARCES	**ARCESS Array B**	**83.56**	**340**	P	P	08 20 09.9	-0.1
	0.7nm,0.4s,baz=95,slow=5.4,SNR=9.3						

ISCJB 17 08:11:45.9±0.3, 3064S±002×7133W±007, h55km, mb4.5/28, MS4.0/2, Error ellipse: s-maj=8.3km s-min=3.5km az=176.2
IDC 17 08:11:46.8±0.6, 3065S×7124W, h55km±5km, mb4.3/9, mb1 4.4/13, mb1mx4.3/18, mbtmp4.5/13, MS3.6/2, Ms1 3.6/2, ms1mx3.2/21, Error ellipse: s-maj=20.2km s-min=15.3km az=83.0
MOS 17 08:11:46.1±1.7, 3065S×7094W, h63km, mb4.9/9, Error ellipse: s-maj=20.6km s-min=10.4km az=90.1
BJI 17 08:11:47.0, 3070S×7120W, h53km, mB5.0, Ms5.1, Msz4.8
NEIC 17 08:11:47.0, 3066S×7116W, h54km, mb4.7/19, After GUC.
NEIC Felt [IV] at Coquimbo; [III] at La Serena; [II] at Canela Baja, Illapel, Los Vilos, Ovalle and Salamanca.
GUC 17 08:11:47.1±0.6, 3066S×7116W, h54km±3km, ML5.1

ISC 17 08:11:47.4±0.2, 3066S±002×7120W±007, h57km, h57km±2.0km: pP-P, n92, σ0§95/86, mb4.5/28, MS4.0/2, 8C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.05**	**357**	*i*P	**Pn**	**08 11 55.7**	**-0.3**
OVCH				*i*S	**Sn**	**08 12 01.9**	**-0.3**
OVCH				AML	AML	08 12 02.5	
	comp=N,797μm,0.3s						
OVCH	**Ovalle**	**0.05**	**357**	*i*P	**Pn**	**08 11 55.7**	**-0.3**
OVCH				*i*S	**Sn**	**08 12 01.9**	**-0.3**
CMCH	**Combarbala**	**0.54**	**162**	*i*P	**Pn**	**08 11 59.1**	**-0.5**
CMCH				*i*S	**Sn**	**08 12 08.3**	**-0.1**
CMCH				AML	AML	08 12 09.9	
	comp=E,325μm,0.6s						
CMCH	**Combarbala**	**0.54**	**162**	*i*P	**Pn**	**08 11 59.1**	**-0.5**
CMCH				*i*S	**Sn**	**08 12 08.3**	**-0.1**
TLL	**Tololo Astrono**	**0.60**	**35**	*i*P	**Pn**	**08 12 00.6**	**+0.3**
TLL				*i*S	**Sn**	**08 12 10.4**	**+0.8**
TLL				AML	AML	08 12 12.9	
	comp=E,145μm,0.5s						
TLL	**Tololo Astrono**	**0.60**	**35**	*i*P	**Pn**	**08 12 00.6**	**+0.3**
TLL				*i*S	**Sn**	**08 12 10.4**	**+0.8**
LSCH	**La Serena**	**0.75**	**357**	*i*P	**Pn**	**08 12 01.6**	**-0.5**
LSCH				*i*S	**Sn**	**08 12 12.9**	**0.0**
LSCH				AML	AML	08 12 12.9	
	comp=N,102μm,0.3s						
CHNG	**Los Chungos**	**1.25**	**192**	*i*P	**Pn**	**08 12 08.8**	**+0.2**
CHNG				*i*S	**Sn**	**08 12 25.0**	**+0.6**
CHNG				AML	AML	08 12 29.6	
	comp=E,18μm,0.6s						
PACH	**Papudo**	**1.88**	**186**	*i*P	**Pn**	**08 12 17.6**	**+0.3**
PACH				*i*S	**Sn**	**08 12 40.5**	**+0.7**
JACH	**Jahuel**	**2.08**	**166**	*e*P	**Pn**	**08 12 20.3**	**+0.4**
JACH				*i*S	**Sn**	**08 12 45.5**	**+0.9**
VACH	**Vallenar**	**2.11**	**11**	*e*P	**Pn**	**08 12 20.7**	**+0.4**
CFAA	**Coronel Fontan**	**2.71**	**111**	P	**Pn**	**08 12 30.3**	**+1.8**
	comp=E,27nm,0.3s,baz=296,slow=12,SNR=1001						
LVC	**Limon Verde**	**8.27**	**15**	P	**Pn**	**08 13 46.0**	**+1.4**
	comp=E,2.4nm,0.3s,baz=193,slow=8.9,SNR=8.8						
LVC				S	**Sn**	**08 15 23.7**	**+7.1**
	comp=E,6.2nm,0.3s,baz=180,slow=20,SNR=4.1						
LVC	**Limon Verde**	**8.27**	**15**	P	**Pn**	**08 13 46.0**	**+1.4**
LVC				*e*Sn	**Sn**	**08 15 22.7**	**+6.2**
LVC				S	**Sn**	**08 15 23.7**	**+7.1**
PLCA	**Paso Flores**	**10.07**	**177**	P	**Pn**	**08 14 09.3**	**+0.1**
PLCA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PLCA	**Paso Flores**	**10.07**	**177**	Pn	**Pn**	**08 14 09.3**	**+0.1**
	comp=Z,6.4nm,0.7s						
TRQA	**Tornquist**	**10.60**	**137**	*e*Pn	**Pn**	**08 14 14.6**	**-1.9**
CPUP	**Villa Florida**	**12.94**	**74**	P	**Pn**	**08 14 45.5**	**-2.8**
	comp=Z,0.7nm,0.3s,baz=229,slow=13,SNR=8.9						
CPUP				LR	LR	08 20 19.2	
	comp=Z,258nm,19.8s,baz=186,slow=40						
CPUP	**Villa Florida**	**12.94**	**74**	*e*P	**Pn**	**08 14 43.4**	**-5.0**
CPUP				pmax	pmax		
	comp=Z,86nm,0.7s						
CPUP	**Villa Florida**	**12.94**	**74**	*e*Pn	**Pn**	**08 14 43.4**	**-4.9**
	comp=Z,86nm,0.7s						
LPAZ	**La Paz**	**14.58**	**12**	P	**Pn**	**08 15 11.9**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=184,slow=9.2,SNR=28						
LPAZ	**La Paz**	**14.58**	**12**	*e*P	**Pn**	**08 15 11.8**	**+1.4**
LPAZ				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LPAZ	**La Paz**	**14.58**	**12**	*e*P	**Pn**	**08 15 11.8**	**+1.4**
	comp=Z,9.5nm,0.6s						
SIV	**San Ignacio**	**17.29**	**35**	P	**Pn**	**08 15 45.1**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=220,slow=10,SNR=85						
SAML	**Samuel**	**22.86**	**21**	*e*P	**P**	**08 16 44.6**	**-1.2**
	comp=Z,12nm,0.8s,mb4.4						
USHA	**Ushuaia**	**24.24**	**176**	P	**P**	**08 16 58.0**	**-0.8**
	comp=Z,22nm,1.1s,mb4.5,baz=350,slow=9.3,SNR=7.6						
USHA				pP		08 17 12.4	
	comp=Z,20nm,0.7s,baz=331,slow=8.7,SNR=5.3						
BDFB	**Brasilia**	**25.96**	**60**	P	**P**	**08 17 13.5**	**-0.9**
	comp=Z,24nm,0.7s,mb4.9,baz=237,slow=7.2,SNR=40						
BDFB				LR	LR	08 26 52.9	
	comp=Z,170nm,20.3s,MS3.6,baz=280,slow=35						
SDV	**Santo Domingo**	**39.32**	**1**	*e*P	**P**	**08 19 10.4**	**-0.5**
	comp=Z,12nm,1.1s,mb4.5						
JTS	**JuntasAbangare**	**42.80**	**340**	P	**P**	**08 19 41.5**	**+2.0**
SJG	**San Juan**	**48.73**	**6**	*e*P	**P**	**08 20 24.8**	**-1.4**
SJG				pmax	pmax		
	comp=Z,14nm,0.8s						
SJG	**San Juan**	**48.73**	**6**	*e*P	**P**	**08 20 24.8**	**-1.4**
	comp=Z,14nm,0.8s,mb5.0						
VNA3	**Neumayer Olymp**	**52.19**	**159**	*i*P	**P**	**08 20 51.8**	**-0.5**
VNA3				*e*		08 20 53.0	
VNA3				*e*		08 20 56.6	
VNA3				*e*	pP	08 21 06.9	-0.6
VNA3				*e*	pP	08 21 10.5	+3.0
VNA3				*e*		08 21 13.4	
VNA3				*e*		08 21 15.2	
VNA3				*e*		08 21 32.4	
VNA3				*e*		08 22 02.4	
VNA1	**Neumayer--Stat**	**52.48**	**158**	*i*P	**P**	**08 20 54.6**	**+0.2**
VNA1				*e*		08 20 55.6	
VNA1				*e*		08 21 00.3	
V

MNTX e pP 08 23 07.1 -1.5
WMOK Wichita Mounta 70.05 336 *e*P **P** **08 22 52.3 -0.9**
WMOK e pP 08 23 08.2 -0.8
WMOK pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
WMOK Wichita Mounta 70.05 336 *e*P **P** **08 22 52.3 -0.9**
comp=Z,3.0nm,1.0s,mb4.2
WMOK e pP 08 23 08.2 -0.8
CPRX Cap Rock 70.48 331 *e*P **P** **08 22 56.5 +0.7**
FVM French Village 70.61 344 *e*P **P** **08 22 54.1 -2.5**
FVM pmax pmax
comp=Z,21nm,1.2s,mb4.9
FVM French Village 70.61 344 *e*P **P** **08 22 54.0 -2.6**
comp=Z,21nm,1.2s,mb4.9
CCM Cathedral Cave 70.88 343 *e*P **P** **08 22 57.8 -0.5**
CCM pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
CCM Cathedral Cave 70.88 343 *e*P **P** **08 22 57.8 -0.5**
comp=Z,5.5nm,0.8s,mb4.5
WUAZ Wupatki 75.90 327 *e*P **P** **08 23 29.2 +1.4**
comp=Z,12nm,1.1s,mb4.7
ISCO Idaho Springs 77.05 333 *e*P **P** **08 23 34.8 +0.5**
ISCO pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
ISCO Idaho Springs 77.05 333 *e*P **P** **08 23 34.8 +0.6**
comp=Z,2.9nm,0.8s,mb4.3
SMCO Snowmass 77.05 332 *e*P **P** **08 23 35.5 +1.2**
comp=Z,16nm,1.2s,mb4.8
NEN Nelson 77.67 325 *e*P **P** **08 23 38.6 +0.8**
PHWY Pilot Hill 78.29 334 *e*P **P** **08 23 42.0 +0.8**
MSU Marysvale 78.71 328 *e*P **P** **08 23 44.7 +1.2**
TSUM Tsumeb 79.44 106 *e*P **P** **08 23 48.1 +0.6**
comp=Z,10.0nm,1.2s,mb4.6
HWUT Hardware Ranch 80.98 331 *e*P **P** **08 23 56.0 +0.2**
comp=Z,4.2nm,0.7s,mb4.5
PDAR Pinedale Array 81.12 332 P P **08 23 56.5 -0.1**
comp=Z,1.4nm,0.6s,mb4.1,baz=123,slow=5.5,SNR=10
PDAR pP pP 08 24 12.6 -0.1
comp=Z,0.9nm,0.5s,baz=141,slow=6.8,SNR=4.2
NVAR Mina Array Bea 81.57 324 P **P** **08 23 59.5 +0.6**
comp=Z,1.0nm,0.7s,mb3.9,baz=140,slow=6.1,SNR=8.0
NVAR pP pP 08 24 15.2 +0.1
comp=Z,1.2nm,0.7s,baz=154,slow=6.2,SNR=5.9
ELK Elko 81.91 328 *e*P **P** **08 24 00.9 +0.2**
ELK pmax pmax
comp=Z,2.0nm,0.8s
ELK Elko 81.91 328 *e*P **P** **08 24 00.9 +0.2**
comp=Z,2.1nm,0.8s,mb4.1
TORD Torodi Ar. Bea 82.40 70 P **P** **08 24 03.1 -0.2**
comp=Z,14nm,0.9s,mb4.9,baz=263,slow=5.3,SNR=66
TORD pP pP 08 24 18.5 -1.0
comp=Z,1.6nm,0.4s,baz=268,slow=6.0,SNR=3.8
LAO LASA Array 83.24 337 *e*P **P** **08 24 07.1 -0.5**
comp=Z,7.6nm,1.0s,mb4.7
ULM Lac du Bonnet 83.47 344 P **P** **08 24 07.4 -1.4**
comp=Z,4.0nm,0.9s,mb4.5,baz=148,slow=4.7,SNR=7.8
ULM pP pP 08 24 23.2 -1.8
comp=Z,3.4nm,0.9s,baz=209,slow=3.7,SNR=4.1
ULM Lac du Bonnet 83.47 344 P **P** **08 24 07.4 -1.4**
ULM pP pP 08 24 23.2 -1.9
MCMT McKenzie Canyo 84.16 332 *e*P **P** **08 24 13.0 +0.7**
MCMT *e*pP pP 08 24 28.9 +0.3
LSZ Lusaka 90.16 108 P **P** **08 24 43.6 +2.2**
comp=Z,7.2nm,0.9s,mb5.0,baz=243,slow=2.9,SNR=12
YKA Yellowknife Ar 99.13 341 P **P** **08 25 20.6 -1.8**
comp=Z,0.4nm,0.8s,mb4.0,baz=141,slow=4.6,SNR=10
YKA pP pP 08 25 35.5 -3.3
comp=Z,0.4nm,0.6s,baz=141,slow=4.6,SNR=6.5
YKA Yellowknife Ar 99.13 341 P **P** **08 25 20.6 -1.8**
YKA pP pP 08 25 35.5 -3.3
WRA Warramunga Arr 124.02 209 PKP PKPdf 08 30 38.0 -1.2
comp=Z,0.5nm,0.5s,baz=158,slow=1.7,SNR=15
WRA pPKP pPKPdf 08 30 54.2 -1.9
comp=Z,1.0nm,0.5s,baz=160,slow=1.7,SNR=5.6
TIXI Tiksi 137.53 351 *e*PKIKP PKPdf 08 31 03.9 -0.8
TIXI pmax pmax
comp=Z,1.0nm,0.8s
TIXI pmax pmax
comp=Z,1.0nm,0.8s
BRVK Borovoye 144.24 40 *e*PKIKP PKPdf 08 31 13.9 -2.9
YAK Yakutsk 145.80 343 *e*PKP2 PKPab 08 31 18.1 -2.4
YAK pmax pmax
comp=Z,18nm,1.0s
YAK pmax pmax
comp=Z,15nm,1.1s
YAK pmax pmax
comp=N,4.0nm,1.3s
NVS Novosibirsk 149.72 30 *e*PKP2 PKPbc 08 31 28.4 -2.3
NVS pmax pmax
comp=N,4.0nm,1.2s
NVS pmax pmax
comp=Z,17nm,1.2s
NVS pmax pmax
comp=E,3.0nm,0.8s
AAK Ala-Archa 150.19 57 *e*PKPbc PKPbc 08 31 31.2 -0.6
AAK *e*PKPab PKPab 08 31 37.1 -1.0
FRU Bishkek 150.24 56 *e*PKIKP PKPbc 08 31 33.0 +1.1
MKAR Makanchi Array 153.96 44 PKPab PKPab 08 31 53.5 -0.3
comp=E,2.2nm,0.7s,baz=276,slow=3.5,SNR=3.7
MJAR Matsushiro Arr 154.87 291 pPKPab pPKPab 08 32 13.9 -0.3
comp=E,1.3nm,0.6s,baz=121,slow=1.9,SNR=3.6
MDJ Mudanjiang 158.51 316 PKP PKPdf 08 31 37.8 -0.5
WMQ Urumqi 158.75 46 PKP PKPdf 08 31 36.3 -2.2
WMQ APKP 08 31 54.8
WMQ XPKP 08 32 01.8
WMQ PKP2 PKPab 08 32 13.4 -1.0
WMQ PP PP 08 35 55.3 +0.4
WMQ PP PP
comp=Z,73nm,6.1s
WMQ LR LR
comp=N,70nm,14.7s
WMQ LR LR
comp=Z,51nm,16.3s,MS4.5
CN2 Changchun 161.40 319 *e*PKP PKPdf 08 31 43.9 +2.4
SSE Sheshan 169.35 276 *e*PKP PKPdf 08 31 50.6 +2.5
HHC Hu-ho-hao-te 169.59 348 *e*PKP PKPdf 08 31 46.1 -2.2
HHC PKP2 PKPab 08 33 01.3 -0.7
HHC PKS 08 35 17.4
HHC PP PP 08 36 52.6 +0.8
HHC SKS SKSdf 08 38 44.4 -2.5
HHC SKKS SKKSac 08 43 34.6 +0.7
HHC PP PP
comp=Z,179nm,11.4s
HHC LR LR
comp=N,226nm,24.9s
HHC LR LR
comp=E,218nm,23.4s
HHC LR LR
comp=Z,157nm,22.1s
NJ2 Nanjing 171.29 282 *e*PKP PKPdf 08 31 51.4 +2.2
NJ2 APKP 08 32 02.4
NJ2 PKP2 PKPab 08 33 13.6 +4.0
NJ2 PKS 08 35 24.0
NJ2 PP PP 08 37 05.0 +4.7
NJ2 LR LR
comp=N,2μm,32.6s
NJ2 LR LR
comp=E,2μm,30.6s
NJ2 LR LR
comp=Z,2μm,35.5s
KMI Kunming 172.31 134 PKP PKPdf 08 31 49.3 -0.4
LZH Lanzhou 173.18 36 *e*PKP PKPdf 08 31 50.3 +0.2
LZH APKP 08 32 06.1
LZH XPKP 08 32 11.8
CD2 Chengdu 175.65 85 *e*PKP PKPdf 08 31 47.3 -3.6

ISCJB ***17*** *08:30:34.3±0.8, 0.1S±0.1×969E±0.1, h28km, mb4.0/8, Error ellipse: s-maj=21.5km s-min=14.3km az=109.5*
MOS ***17*** *08:30:35.0±0.8, 0.06S×9675E, h33km, mb5.1/1, Error ellipse: s-maj=40.6km s-min=29.6km az=80.7*
NEIC ***17*** *08:30:35.9±0.7, 0.09S×9686E, mb4.8/1, Error ellipse: s-maj=16.9km s-min=11.3km az=53.0*
IDC ***17*** *08:30:36.0±1.1, 0.10S×9682E, h28km±5km, mb3.6/7, mb1 3.7/8, mb1mx3.6/17, mbtmp3.8/8, ML2.9/1, MS2.9/1, Ms1 2.9/1, ms1mx2.0/23, Error ellipse: s-maj=48.1km s-min=15.5km az=53.0*

ISC 17 08:30:36.4±0.8, 00S±01×969E±01, h30km, h30km±1.8km:pP-P, n16, σ0s47/15, mb4.0/8, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.46**	**36**	Pn	**Pn**	**08 31 28.5**	**+0.2**
	1.0nm,0.3s,baz=333,slow=16,SNR=6.2						
PSI				LR	LR	08 33 06.0	
	comp=Z,173nm,19.7s,baz=164,slow=43						
KULM	**Kulim**	**6.47**	**36**	*e*Pn	**Pn**	**08 32 05.1**	**-4.5**
KKM	**Kota Kinabalu**	**20.22**	**72**	*e*P	**P**	**08 35 08.8**	**-0.1**
WRA	**Warramunga Arr**	**41.69**	**121**	P	**P**	**08 38 22.4**	**+0.1**
	1.0nm,0.8s,mb3.5,baz=302,slow=8.9,SNR=5.2						
WRA				pP	pP	08 38 31.1	-0.1
	1.2nm,0.8s,baz=298,slow=9.3,SNR=6.7						
WRAB	**Tennant Creek**	**41.69**	**121**	*e*P	**P**	**08 38 21.5**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,33nm,1.8s,mb4.7						
WRAB	**Tennant Creek**	**41.69**	**121**	*e*P	**P**	**08 38 21.5**	**-0.8**
	comp=Z,33nm,1.8s,mb4.7						
ASAR	**Alice Springs**	**42.94**	**126**	P	**P**	**08 38 33.3**	**+0.8**
	comp=Z,0.3nm,0.5s,mb3.3,baz=291,slow=8.3,SNR=4.7						
ASAR				pP	pP	08 38 40.9	-0.5
	comp=Z,0.6nm,0.8s,baz=301,slow=9.8,SNR=4.1						
MKAR	**Makanchi Array**	**48.33**	**347**	P	**P**	**08 39 15.0**	**-0.1**
	comp=Z,1.7nm,0.7s,mb4.2,baz=160,slow=8.0,SNR=21						
MKAR				pP	pP	08 39 24.7	+0.6
	comp=Z,1.3nm,0.7s,baz=155,slow=8.0,SNR=6.4						
MKAR	**Makanchi Array**	**48.33**	**347**	P	**P**	**08 39 15.0**	**-0.1**
MKAR				pP	pP	08 39 24.7	+0.6
STKA	**Stephens Creek**	**52.80**	**131**	P	**P**	**08 39 48.9**	**0.0**
	comp=Z,1.3nm,0.7s,mb4.0,baz=336,slow=10.0,SNR=3.3						
STKA				pP	pP	08 39 56.8	-1.1
	comp=Z,0.8nm,0.5s,baz=314,slow=15,SNR=1.7						
AKASG	**Malin Array Be**	**76.02**	**323**	P	**P**	**08 42 21.3**	**+0.6**
	comp=Z,0.5nm,0.2s,mb4.0,baz=87,slow=5.5,SNR=3.9						
ARCES	**ARCESS Array B**	**83.56**	**340**	P	**P**	**08 43 01.3**	**-0.3**
	comp=Z,2.0nm,0.8s,mb4.3,baz=102,slow=5.1,SNR=8.0						
ARCES	**ARCESS Array B**	**83.56**	**340**	P	**P**	**08 43 01.3**	**-0.3**
NOA	**NORSAR Array B**	**87.90**	**331**	P	**P**	**08 43 22.8**	**-0.3**
	comp=Z,0.5nm,0.7s,mb3.9,baz=94,slow=4.7,SNR=3.6						
NOA	**NORSAR Array B**	**87.90**	**331**	P	**P**	**08 43 22.8**	**-0.3**
PMSA	**Palmer Station**	**113.88**	**189**	*e*PKPdf	PKiKP	08 49 19.0	+6.8

IDC ***17*** *08:41:09.7±0.7, 2065S×17397W, h0km, mb4.3/10, mb1 4.6/12, mb1mx4.5/17, mbtmp4.3/12, ML4.5/2, MS3.9/6, Ms1 4.0/6, ms1mx3.5/25, Error ellipse: s-maj=26.5km s-min=16.2km az=143.0*
ISCJB ***17*** *08:41:11.7±0.3, 2065S±0.10×17403W±0.07, h24km, mb4.7/35, MS4.2/9, Error ellipse: s-maj=15.6km s-min=7.0km az=119.9*
MOS ***17*** *08:41:12.9±0.6, 2065S×17405W, h33km, mb4.9/15, Error ellipse: s-maj=25.6km s-min=13.7km az=137.2*
BJI ***17*** *08:41:13.2, 2127S×17424W, h37km, mB5.5, mb5.1, Ms5.3, Msz4.8*
NEIC ***17*** *08:41:13.2±0.3, 2038S×17409W, mb4.8/21, Error ellipse: s-maj=18.2km s-min=7.7km az=144.0*

ISC 17 08:41:13.8±0.3, 2061S±010×17399W±007, h25km, h25km±2.4km:pP-P, n103, σ0s89/81, mb4.7/35, MS4.2/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.99**	**18**	Pn	**Pn**	**08 42 46.8**	**-7.7**
	7.0nm,0.3s,baz=82,slow=4.7,SNR=8.8						
AFI				Sn	**Sn**	**08 43 59.3**	**-14**
	7.5nm,0.3s,baz=51,slow=22,SNR=3.0						
RAR	**Rarotonga**	**13.30**	**95**	Pn	**Pn**	**08 44 11.7**	**-9.3**
	5.2nm,0.3s,baz=268,slow=12,SNR=11						
DZM	**Mont Dzumac**	**18.29**	**262**	P	**Pn**	**08 45 27.0**	**+1.3**
	1.7nm,0.3s,baz=70,slow=19,SNR=16						
URZ	**Uruzgan**	**19.20**	**202**	P	**Pn**	**08 45 36.8**	**-0.1**
	1.4nm,0.3s,baz=18,slow=3.2,SNR=8.1						
TBI	**Tubuai**	**22.90**	**101**	*e*LR	LR	08 51 21.5	
	379nm,27.0s,baz=264						
PPT	**Papeete**	**23.26**	**87**	*e*LR	LR	08 51 25.4	
	396nm,24.5s						
PPT	**Papeete**	**23.26**	**87**	LR	LR	08 52 56.8	
	comp=Z,299nm,21.6s,MS3.7,baz=301,slow=30						
HNR	**Honiara**	**27.47**	**290**	LR	LR	08 55 52.3	
	comp=Z,197nm,19.8s,MS3.7,baz=178,slow=32						
CTA	**Charters Tower**	**37.22**	**264**	*e*P	**P**	**08 48 22.5**	**-0.6**
	6.5nm,1.1s,mb4.4						
CTA	**Charters Tower**	**37.22**	**264**	P	**P**	**08 48 22.6**	**-0.5**
	4.3nm,0.6s,mb4.4,baz=116,slow=8.6,SNR=7.2						
CTA	**Charters Tower**	**37.22**	**264**	P	**P**	**08 48 22.6**	**-0.5**
CTA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
STKA	**Stephens Creek**	**41.13**	**245**	P	**P**	**08 48 54.4**	**-1.4**
	comp=Z,8.4nm,0.9s,mb4.4,baz=85,slow=9.8,SNR=13						
STKA	**Stephens Creek**	**41.13**	**245**	*e*P	**P**	**08 48 54.2**	**-1.6**
STKA				*e*pP	pP	08 48 59.5	-3.8
ASAR	**Alice Springs**	**48.15**	**256**	P	**P**	**08 49 51.5**	**-0.3**
	comp=Z,5.8nm,0.8s,mb4.6,baz=104,slow=7.7,SNR=24						
ASAR	**Alice Springs**	**48.15**	**256**	P	**P**	**08 49 51.5**	**-0.3**
ASAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WB2	**Warramunga Arr**	**48.29**	**261**	*e*P	**P**	**08 49 53.1**	**+0.2**
WRAB	**Tennant Creek**	**48.29**	**261**	*e*P	**P**	**08 49 52.1**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.8						
WRAB	**Tennant Creek**	**48.29**	**261**	*e*P	**P**	**08 49 52.1**	**-0.8**
	comp=Z,13nm,1.2s,mb4.8						
WRA	**Warramunga Arr**	**48.30**	**261**	P	**P**	**08 49 52.6**	**-0.4**
	comp=Z,4.3nm,0.8s,mb4.5,baz=95,slow=7.6,SNR=37						
WRA	**Warramunga Arr**	**48.30**	**261**	P	**P**	**08 49 52.6**	**-0.4**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FORT	**Forrest**	**52.70**	**246**	*e*P	**P**	**08 50 25.2**	**-1.0**
	comp=Z,8.4nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**56.73**	**261**	*e*P	**P**	**08 50 56.3**	**+0.9**
	comp=Z,8.6nm,1.4s,mb4.6						
FITZ	**Fitzroy Crossi**	**56.73**	**261**	P	**P**	**08 50 55.7**	**+0.3**
	comp=Z,2.3nm,0.7s,mb4.3,baz=108,slow=6.4,SNR=7.3						
FITZ				LR	LR	09 14 46.3	
	comp=Z,126nm,18.9s,MS4.0,baz=0.3,slow=36						
VNDA	**Vanda**	**58.17**	**186**	P	**P**	**08 51 05.1**	**-0.4**
	comp=Z,1.4nm,1.0s,mb3.9,baz=8.3,slow=11,SNR=2.7						
VNDA	**Vanda**	**58.17**	**186**	P	**P**	**08 51 05.2**	**-0.3**
VNDA				pmax	pmax		
	comp=Z,10.0nm,1.7s						
VNDA	**Vanda**	**58.17**	**186**	P	**P**	**08 51 05.2**	**-0.4**
	comp=Z,10nm,1.7s,mb4.6						
MBWA	**Marble Bar**	**61.49**	**257**	*e*P	**P**	**08 51 28.4**	**0.0**
	comp=Z,7.3nm,0.6s,mb5.0						
QSPA	**South Pole Qui**	**69.46**	**180**	*e*P	**P**	**08 52 21.8**	**+1.9**
	comp=Z,21nm,1.3s,mb4.9						
MJAR	**Matsushiro Arr**	**72.58**	**321**	P	**P**	**08 52 39.2**	**+0.3**
	comp=Z,3.8nm,0.8s,mb4.4,baz=156,slow=5.8,SNR=6.9						
MJAR	**Matsushiro Arr**	**72.58**	**321**	P	**P**	**08 52 39.2**	**+0.4**
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ISA	**Isabella**	**76.77**	**44**	*e*P	**P**	**08 53 03.4**	**+0.3**
CMB	**Columbia Colle**	**77.04**	**41**	*e*P	**P**	**08 53 04.8**	**+0.2**
CMB				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
CMB	**Columbia Colle**	**77.04**	**41**	*e*P	**P**	**08 53 04.8**	**+0.2**
	comp=Z,4.3nm,1.0s,mb4.3						
MTUM	**Tungsten Hills**	**77.75**	**42**	*e*P	**P**	**08 53 08.8**	**+0.2**
NVAR	**Mina Array Bea**	**78.57**	**41**	P	**P**	**08 53 13.1**	**0.0**
	comp=Z,5.0nm,0.9s,mb4.4,baz=213,slow=7.4,SNR=30						
MNV	**Mina**	**78.66**	**42**	*e*P	**P**	**08 53 13.4**	**-0.3**
MNV				pmax	pmax		
	comp=Z,45nm,1.7s,mb5.1						
MNV	**Mina**	**78.66**	**42**	*e*P	**P**	**08 53 13.4**	**-0.3**
	comp=Z,45nm,1.7s,mb5.1						
TPH	**Tonopah**	**79.03**	**42**	*e*P	**P**	**08 53 15.7**	**0.0**
TPH				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
TPH	**Tonopah**	**79.03**	**42**	P	**P**	**08 53 15.7**	**0.0**
	comp=Z,12nm,0.9s,mb4.8						
NEN	**Nelson**	**79.15**	**45**	*e*P	**P**	**08 53 15.8**	**-0.5**
TUC	**Tucson**	**80.13**	**50**	*e*P	**P**	**08 53 21.8**	**+0.2**
TUC				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.6						
TUC	**Tucson**	**80.13**	**50**	*e*P	**P**	**08 53 21.8**	**+0.2**
	comp=Z,11nm,1.3s,mb4.6						
SSE	**Sheshan**	**80.67**	**308**	*e*P	**P**	**08 53 23.6**	**-1.0**
SSE				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,798nm,5.2s						
ARUT	**Antelope Range**	**81.29**	**44**	*e*P	**P**	**08 53 28.4**	**+0.5**
WUAZ	**Wupatki**	**81.42**	**47**	*e*P	**P**	**08 53 29.2**	**+0.6**
	comp=Z,17nm,1.4s,mb4.8						
ELK	**Elko**	**81.85**	**41**	*e*P	**P**	**08 53 30.6**	**-0.2**
ELK				pmax	pmax		
	comp=Z,12nm,1.6s						
ELK	**Elko**	**81.85**	**41**	*e*P	**P**	**08 53 30.6**	**-0.3**
	comp=Z,12nm,1.6s,mb4.6						
MSU	**Marysvale**	**82.52**	**44**	*e*P	**P**	**08 53 35.0**	**+0.7**
MDJ	**Mudanjiang**	**82.81**	**323**	P	**P**	**08 53 36.4**	**+0.6**
MDJ				AP	pP	08 53 45.5	+1.6
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,129nm,5.2s						
NJ2	**Nanjing**	**82.87**	**308**	*e*P	**P**	**08 53 37.4**	**+1.2**
NJ2				AP	pP	08 53 47.0	+2.7
NJ2				PP	PP	08 56 49.9	+3.3
NJ2				S	S	09 03 52.0	-1.2
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,1μm,4.7s						
NJ2				LR	LR		
	comp=N,930nm,21.8s						
NJ2				LR	LR		
	comp=E,800nm,15.4s						
NJ2				LR	LR		
	comp=Z,590nm,21.2s,MS4.9						
TMUT	**Trail Mountain**	**83.58**	**44**	*e*P	**P**	**08 53 40.3**	**+0.5**
LAZ	**Ladron**	**83.82**	**50**	*e*P	**P**	**08 53 41.8**	**+0.7**
SRU	**San Rafael**	**83.93**	**44**	*e*P	**P**	**08 53 41.7**	**+0.1**
SRU				pmax	pmax		
	comp=Z,27nm,1.5s,mb5.2						
SRU	**San Rafael**	**83.93**	**44**	*e*P	**P**	**08 53 41.6**	**0.0**
	comp=Z,27nm,1.5s,mb5.2						
HLID	**Hailey**	**84.00**	**39**	*e*P	**P**	**08 53 41.9**	**0.0**
	comp=Z,11nm,1.4s,mb4.8						
BNM	**Barren Site**	**84.06**	**50**	*e*P	**P**	**08 53 42.6**	**+0.3**
LPM	**Los Pinos Moun**	**84.14**	**50**	*e*P	**P**	**08 53 43.0**	**+0.4**
DAU	**Daniels Canyon**	**84.16**	**43**	*e*P	**P**	**08 53 40.8**	**-2.0**
TCUT	**Toone Canyon**	**84.45**	**42**	*e*P	**P**	**08 53 45.0**	**+0.8**
ANMO	**Albuquerque**	**84.57**	**50**	*e*P	**P**	**08 53 45.2**	**+0.3**
ANMO				pmax	pmax		
	comp=Z,12nm,1.3s						
ANMO	**Albuquerque**	**84.57**	**50**	*e*P	**P**	**08 53 45.1**	**+0.3**
	comp=Z,12nm,1.3s,mb4.9						
HWUT	**Hardware Ranch**	**84.62**	**42**	P	**P**	**08 53 42.3**	**-2.8**
	comp=Z,2.9nm,0.9s,mb4.4						
CN2	**Changchun**	**84.72**	**321**	*e*P	**P**	**08 53 47.6**	**+2.0**
GDL2	**Guadalupe Moun**	**84.78**	**53**	*e*P	**P**	**08 53 46.1**	**+0.1**
AHID	**Auburn Hatcher**	**85.55**	**41**	*e*P	**P**	**08 53 49.8**	**+0.1**
	comp=Z,6.5nm,1.0s,mb4.8						
MCMT	**McKenzie Canyo**	**85.65**	**39**	*e*P	**P**	**08 53 50.6**	**+0.3**
MCMT				*e*pP	pP	08 53 57.0	-1.4
SMCO	**Snowmass**	**86.32**	**46**	*e*P	**P**	**08 53 55.4**	**+1.8**
	comp=Z,4.5nm,1.1s,mb4.6						
SMCO				*e*pP	pP	08 54 01.6	-0.1
PDAR	**Pinedale Array**	**86.50**	**42**	P	**P**	**08 53 54.5**	**0.0**
	comp=Z,1.0nm,0.8s,mb4.1,baz=232,slow=3.6,SNR=6.4						
PDAR				LR	LR	09 27 39.8	
	comp=Z,66nm,18.4s,MS4.1,baz=158,slow=32						
CHMT	**Chamberlain Mo**	**86.61**	**37**	*e*P	**P**	**08 53 55.2**	**+0.2**
WALA	**Waterton Lakes**	**87.49**	**35**	P	**P**	**08 53 56.4**	**-2.9**
COLA	**College**	**87.56**	**11**	*e*P	**P**	**08 53 59.0**	**-0.6**
COLA				*e**PP	pP	08 54 04.3	-3.4
COLA				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0						
COLA	**College**	**87.56**	**11**	*e*P	**P**	**08 53 59.0**	**-0.6**
	comp=Z,8.8nm,1.0s,mb4.9						
COLA				*e*pP	pP	08 54 04.2	-3.5
ILAR	**Eielson Array**	**87.64**	**11**	P	**P**	**08 53 59.0**	**-0.9**
	comp=Z,1.2nm,0.8s,mb4.2,baz=208,slow=5.8,SNR=10						
ILAR				LR	LR	09 30 26.9	
	comp=Z,51nm,18.2s,MS4.0,baz=180,slow=34						
DAWY	**Dawson**	**88.58**	**14**	*e*P	**P**	**08 54 04.8**	**+0.3**
DAWY				*e*pP	pP	08 54 14.4	+1.8
DAWY				*e*sP	sP	08 54 18.6	+3.1
EDM	**Edmonton**	**90.19**	**32**	*e*P	**P**	**08 54 11.3**	**-0.7**
HHC	**Hu-ho-hao-te**	**92.14**	**313**	*e*P	**P**	**08 54 21.8**	**+0.7**
HHC				AP	pP	08 54 30.1	+0.9
HHC				PP	PP	08 58 04.6	+3.4
HHC				SKS		09 04 52.3	
HHC				S		09 05 21.4	
HHC				SS	SS	09 11 34.4	+2.7
HHC				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.9						
HHC				AMB	AMB		
	comp=Z,160nm,7.6s						
HHC				LR	LR		
	comp=N,284nm,22.5s,MS4.9						
HHC				LR	LR		
	comp=E,453nm,24.8s,MS4.9						
HHC				LR	LR		
	comp=Z,268nm,24.3s,MS4.6						
KMI	**Kunming**	**92.76**	**296**	P	**P**	**08 54 25.5**	**+1.6**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.7s,mb4.9						
INK	**Inuvik**	**93.43**	**14**	*e*P	**P**	**08 54 25.5**	**-1.5**
INK				pmax	pmax		
	comp=Z,5.0nm,1.5s						
INK	**Inuvik**	**93.43**	**14**	*e*P	**P**	**08 54 25.5**	**-1.5**
	comp=Z,5.0nm,1.5s,mb4.7						
CD2	**Chengdu**	**94.03**	**301**	*e*P	**P**	**08 54 28.3**	**-1.5**
YKA	**Yellowknife Ar**	**95.07**	**24**	P	**P**	**08 54 34.0**	**-0.5**
	comp=Z,0.4nm,0.8s,mb3.9,baz=239,slow=4.3,SNR=12						
YKA	**Yellowknife Ar**	**95.07**	**24**	P	**P**	**08 54 34.0**	**-0.5**
LZH	**Lanzhou**	**95.84**	**306**	*e*P	**P**	**08 54 38.1**	**+0.1**
LZH				AMB	AMB		
	comp=Z,19nm,1.0s,mb5.5						
LZH				AMB	AMB		
	comp=Z,98nm,4.5s						
LZH				LR	LR		
	comp=E,468nm,4.7s						
LZH				LR	LR		
	comp=Z,711nm,6.0s						
PARMO	**Parma**	**97.61**	**54**	*e*P	**P**	**08 54 44.7**	**-1.3**
ULM	**Lac du Bonnet**	**98.30**	**39**	LR	LR	09 33 26.0	
	comp=Z,97nm,19.6s,MS4.3,baz=234,slow=32						
TLY	**Talaya**	**101.32**	**321**	*e*P	Pdif	08 55 11.5	+8.9
TLY				pmax	pmax		
	comp=Z,8.0nm,0.9s						
WMQ	**Urumqi**	**109.84**	**310**	PDIF	Pdif	08 55 39.8	-0.7
WMQ				PP	PP	09 00 17.6	+2.6
WMQ				PP	PP		
	comp=Z,39nm,6.8s						
WMQ				LR	LR		
	comp=N,76nm,19.5s						
WMQ				LR	LR		
	comp=Z,46nm,19.5s,MS4.1						
NVS	**Novosibirsk**	**113.91**	**322**	*e*PKIKP	PKiKP	08 59 59.0	+8.6
KIV	**Kislovodsk**	**141.69**	**316**	*e*PKIKP	PKPdf	09 00 47.1	+4.1
KIV	**Kislovodsk**	**141.69**	**316**	*e*PKPdf	PKPdf	09 00 47.1	+4.1
AKASG	**Malin Array Be**	**144.84**	**334**	PKP	PKPdf	09 00 47.7	-0.8
	comp=Z,6.7nm,0.7s,baz=42,slow=4.3,SNR=18						
AKASG	**Malin Array Be**	**144.84**	**334**	PKIKP	PKPdf	09 00 47.7	-0.8
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MALT	**Malatya**	**146.94**	**309**	*e*PKP2	PKPab	09 00 56.3	+0.8
CLL	**Collm**	**148.87**	**351**	*e*PKPbc	PKPbc	09 00 58.0	-1.2
CLL	**Collm**	**148.87**	**351**	*e*PKPbc	PKPbc	09 00 58.0

ASAR	**Alice Springs**	**19.45**	**207**	P	Pn	08 48 51.1	-0.7	
	0.2nm,0.3s,baz=38,slow=11,SNR=56							
TAOE	**Nuku Hiva Isla**	**75.60**	**97**	*e*LR	LR	08 56 38.5		
	671nm,24.0s							
MKAR	**Makanchi Array**	**75.65**	**322**	P	P	08 56 09.8	+0.3	
	2.0nm,1.1s,baz=111,slow=6.6,SNR=7.1							

IDC ***17*** *08:48:21.2±10.0, 30.90S×178.84E, h460km±139km, mb3.4/4, mb1 3.6/5, mb1mx3.3/12, mbtmp4.4/5, Error ellipse: s-maj=263.8km s-min=91.5km az=83.0*

ISCJB ***17*** *08:48:24.8±2.0, 31.57S±0.09×178.5E±0.3, h500km, mb3.9/4, Error ellipse: s-maj=36.2km s-min=9.8km az=156.3*

ISC 17 08:48:27.8±2.0, 31.72S±0.09×178.3E±0.3, h500km, n15, σ1 9 16/18, mb3.9/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**6.60**	**188**	P		**P**	**08 50 11.2**	**+1.3**
	6.6nm,0.3s,baz=13,slow=3.2,SNR=20							
URZ				S		**S**	**08 51 27.0**	**-6.5**
	1.8nm,0.3s,baz=104,slow=22,SNR=7.0							
URZ	**Urewera**	**6.60**	**188**	*e*PN		**P**	**08 50 08.6**	**-1.3**
URZ				SN		**S**	**08 51 24.8**	**-8.7**
MWZ	**Matawai**	**6.63**	**185**	PN		**P**	**08 50 10.3**	**+0.1**
MWZ				*e*SN		**S**	**08 51 23.1**	**-11**
BKZ	**Black Stump Fm**	**7.58**	**191**	*e*PN		**P**	**08 50 19.9**	**+0.1**
BFZ	**Birch Farm**	**9.10**	**190**	*e*SN		**S**	**08 52 18.8**	**-1.8**
MRZ	**Mangatainoka R**	**9.19**	**193**	*e*SN		**S**	**08 52 19.9**	**-2.4**
KIW	**Kapiti Island**	**9.53**	**196**	*e*SN		**S**	**08 52 29.1**	**+0.3**
TCW	**Tory Channel**	**10.01**	**198**	*e*SN		**S**	**08 52 40.1**	**+1.9**
NNZ	**Nelson**	**10.27**	**201**	*e*PN		**P**	**08 50 48.9**	**+1.0**
THZ	**Tophouse**	**10.92**	**202**	*e*PN		**P**	**08 50 55.7**	**+0.9**
MQZ	**McQueen's Vall**	**12.77**	**199**	*e*SN		**S**	**08 53 39.9**	**+8.1**
CTA	**Charters Tower**	**30.95**	**284**	P		**P**	**08 54 01.7**	**-1.5**
	6.0nm,1.1s,mb4.0,baz=122,slow=9.1,SNR=3.3							
STKA	**Stephens Creek**	**31.10**	**260**	P		**P**	**08 54 05.3**	**+0.8**
	2.3nm,0.6s,mb3.8,baz=112,slow=11,SNR=4.3							
ASAR	**Alice Springs**	**39.90**	**270**	P		**P**	**08 55 17.9**	**+0.3**
	1.2nm,0.4s,mb3.7,baz=108,slow=7.2,SNR=15							
WRA	**Warramunga Arr**	**41.01**	**276**	P		**P**	**08 55 26.2**	**-0.5**
	2.6nm,0.3s,mb4.1,baz=111,slow=8.1,SNR=61							

IDC 17 08:51:33.6±9.8, 057N×9763E, h94km±69km, mb3.7/4, mb1 3.8/4, mb1mx3.4/16, mbtmp4.0/4, ML2.6/1, Error ellipse: s-maj=130.4km s-min=23.7km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**2.57**	**30**	P		Pn	08 52 12.2	-1.2
	1.2nm,0.3s,baz=207,slow=2.3,SNR=5.5							
WRA	**Warramunga Arr**	**41.34**	**122**	P		P	08 59 10.6	+0.5
	1.9nm,0.8s,baz=301,slow=9.0,SNR=12							
SONM	**Songino Array**	**47.69**	**8**	P		P	09 00 00.8	+0.2
	3.3nm,0.7s,baz=177,slow=7.2,SNR=4.4							
MKAR	**Makanchi Array**	**47.95**	**346**	P		P	09 00 03.7	+1.1
	0.6nm,0.5s,baz=160,slow=8.7,SNR=6.8							
ARCES	**ARCESS Array B**	**83.27**	**340**	P		P	09 03 48.4	-1.4
	2.3nm,0.9s,baz=114,slow=9.0,SNR=6.6							

IDC 17 09:05:56.6±1.4, 001N×9690E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.6/17, mbtmp3.7/5, ML3.1/1, Error ellipse: s-maj=47.6km s-min=23.1km az=53.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**3.43**	**36**	Pn		Pn	09 06 49.5	-1.9
	1.8nm,0.3s,baz=171,slow=10,SNR=11							
WRA	**Warramunga Arr**	**41.67**	**121**	P		P	09 13 45.6	-1.3
	0.7nm,0.6s,baz=300,slow=9.0,SNR=8.1							
ASAR	**Alice Springs**	**42.93**	**126**	P		P	09 13 59.4	+2.4
	0.5nm,0.7s,baz=297,slow=7.9,SNR=8.0							
MKAR	**Makanchi Array**	**48.32**	**347**	P		P	09 14 41.2	+1.5
	1.0nm,0.6s,baz=156,slow=7.2,SNR=12							
AKASG	**Malin Array Be**	**76.02**	**323**	P		P	09 17 44.7	-1.0
	0.7nm,0.4s,baz=94,slow=5.0,SNR=5.0							
CPUP	**Villa Florida**	**143.92**	**221**	PKP		PKPdf	09 25 32.9	-1.1
	0.9nm,0.6s,baz=125,slow=5.1,SNR=4.4							

BJI ***17*** *09:21:55.4, 32.60S×178.00W, h10km, mB5.6, mb5.4, Ms5.5, Msz5.1*

HRVD ***17*** *09:21:57.5±0.7, 32.23S×177.58W, h23km±1km, MW5.0/39, Centroid moment Tensor Solution. LP body waves: s14,c14;Mantle waves: s39,c43; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 3.23±.35; Mθθ-1.24±.23; Mϕϕ-1.99±.21; Mrθ 0.41±.39; Mrϕ-0.65±.16; Mθϕ 1.79±.27; Best double couple: M0 3.33800×10^16 NP1: ϕs 213.00000°, δ 62.00000°, λ 84.00000°. NP2: ϕs 21.00000°, δ 62.00000°, λ 84.00000°. Principal axes: T 3.7920, Plg 73.0000°, Azm 278.0000°; N -0.9100, Plg 5.0000°, Azm 24.0000°; P -2.8830, Plg 16.0000°, Azm 116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***17*** *09:21:57.5±0.5, 32.55S×178.02W, h10km, mb5.3/12 Error ellipse: s-maj=14.8km s-min=8.9km az=113.0*

IDC ***17*** *09:22:00.4±2.5, 32.13S×178.40W, h19km±15km, mb4.8/6, mb1 5.0/7, mb1mx4.7/11, mbtmp4.9/7, ML5.0/1, MS4.2/6, Ms1 4.2/6, ms1mx3.8/17, Error ellipse: s-maj=19.6km s-min=16.5km az=157.0*

ISCJB ***17*** *09:22:00.3±1.6, 32.78S±0.04×178.52W±0.09, h24km±11km, mb5.2/20, MS4.4/7, Error ellipse: s-maj=13.3km s-min=5.0km az=44.0*

MOS ***17*** *09:22:01.3±1.7, 32.23S×178.30W, h33km, mb5.4/8, Error ellipse: s-maj=16.9km s-min=14.1km az=94.8*

ISC 17 09:22:01.3±1.7, 32.69S±0.04×178.45W±0.09, h21km±12km, n153, σ1 9 25/102, mb5.2/20, MS4.4/7, 8C-8D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**3.46**	**8**	Pn		**Pn**	**09 22 46.2**	**-7.7**
	220nm,0.3s,baz=57,slow=21,SNR=7.4							
RAO				Sn		**Sn**	**09 23 20.9**	**-13**
	648nm,0.3s,baz=96,slow=22,SNR=8.0							
RAO	**Raoul Island**	**3.46**	**8**	P		**Pn**	**09 22 46.2**	**-7.7**
RAO							09 23 20.9	
RAO				pmax	pmax			
	comp=Z,220nm,0.3s							
RAO				smax				
	comp=N,648nm,0.3s							
PUZ	**Puketiti**	**6.01**	**206**	*e*PN		**Pn**	**09 23 29.7**	**+0.7**
PUZ				SN		**Sn**	**09 24 45.1**	**+8.0**
PUZ	**Puketiti**	**6.01**	**206**	*e*P		**Pn**	**09 23 29.9**	**+0.9**
PUZ				S		**Sn**	**09 24 45.1**	**+8.0**
MWZ	**Matawai**	**6.52**	**209**	*e*PN		**Pn**	**09 23 36.8**	**+0.8**
MWZ				SN		**Sn**	**09 24 56.7**	**+7.0**
MWZ	**Matawai**	**6.52**	**209**	*e*P		**Pn**	**09 23 36.8**	**+0.8**
MWZ				S		**Sn**	**09 24 56.7**	**+7.0**
URZ	**Urewera**	**6.63**	**212**	Pn		**Pn**	**09 23 38.1**	**+0.6**
	comp=N,8.2nm,0.3s,baz=51,slow=5.2,SNR=40							
URZ				Sn		**Sn**	**09 24 59.2**	**+6.7**
	comp=N,52nm,0.3s,baz=188,slow=23,SNR=16							
URZ	**Urewera**	**6.63**	**212**	*e*PN		**Pn**	**09 23 38.3**	**+0.7**
URZ				*e*SN		**Sn**	**09 24 57.7**	**+5.2**
WCZ	**Waipu Caves**	**6.79**	**239**	*e*PN		**Pn**	**09 23 46.7**	**+7.0**
WCZ	**Waipu Caves**	**6.79**	**239**	*e*P		**Pn**	**09 23 46.7**	**+7.0**
KNZ	**Kokohu**	**7.06**	**205**	*e*PN		**Pn**	**09 23 44.0**	**+0.6**
KNZ				SN		**Sn**	**09 25 08.1**	**+5.1**
KNZ	**Kokohu**	**7.06**	**205**	*e*P		**Pn**	**09 23 44.0**	**+0.6**
KNZ				S		**Sn**	**09 25 08.1**	**+5.1**
OUZ	**Omahuta**	**7.08**	**247**	PN		**Pn**	**09 23 52.1**	**+8.5**
OUZ	**Omahuta**	**7.08**	**247**	P		**Pn**	**09 23 52.1**	**+8.5**
BKZ	**Black Stump Fm**	**7.66**	**211**	*e*PN		**Pn**	**09 23 51.9**	**+0.3**
BKZ				*e*SN		**Sn**	**09 25 21.2**	**+3.5**
BKZ	**Black Stump Fm**	**7.66**	**211**	*e*P		**Pn**	**09 23 51.9**	**+0.3**
PXZ	**Pawanui**	**8.24**	**206**	*e*SN		**Sn**	**09 25 32.6**	**+0.5**
TSZ	**Takapari Road**	**8.62**	**210**	*e*SN		**Sn**	**09 25 41.6**	**+0.1**
BFZ	**Birch Farm**	**9.04**	**207**	*e*SN		**Sn**	**09 25 52.4**	**+0.6**
TIWZ	**Tintock**	**9.26**	**208**	*e*PN		**Pn**	**09 24 13.1**	**-0.5**
TIWZ				SN		**Sn**	**09 25 58.3**	**+1.1**
MRZ	**Mangatainoka R**	**9.29**	**209**	*e*PN		**Pn**	**09 24 12.9**	**-1.1**
MRZ				SN		**Sn**	**09 25 57.9**	**+0.1**
MRZ	**Mangatainoka R**	**9.29**	**209**	*e*P		**Pn**	**09 24 12.9**	**-1.1**
KIW	**Kapiti Island**	**9.74**	**211**	*e*SN		**Sn**	**09 26 09.4**	**+0.6**
MSWZ	**Moikau Station**	**10.06**	**208**	*e*SN		**Sn**	**09 26 14.7**	**-2.0**
SNZO	**South Karori**	**10.19**	**210**	*e*SN		**Sn**	**09 26 18.7**	**-1.3**
TCW	**Tory Channel**	**10.30**	**212**	*e*SN		**Sn**	**09 26 21.5**	**-1.2**
NNZ	**Nelson**	**10.73**	**215**	SN		**Sn**	**09 26 32.2**	**-1.0**
THZ	**Tophouse**	**11.38**	**215**	*e*PN		**Pn**	**09 24 42.4**	**-0.2**
THZ				*e*SN		**Sn**	**09 26 48.7**	**-0.3**
DSZ	**Denniston Nort**	**11.91**	**218**	SN		**Sn**	**09 26 59.9**	**-2.2**
LTZ	**Lake Taylor**	**12.46**	**213**	*e*PN		**Pn**	**09 24 55.5**	**-1.9**
LTZ				*e*SN		**Sn**	**09 27 10.8**	**-4.8**
WVZ	**Waitaha Valley**	**13.42**	**216**	SN		**Sn**	**09 27 33.7**	**-5.4**
RPZ	**Rata Peaks**	**13.74**	**214**	Pn		**Pn**	**09 25 13.3**	**-1.7**
	comp=N,3.4nm,0.3s,baz=166,slow=2.2,SNR=16							
RPZ				Sn		**Sn**	**09 27 40.6**	**-6.4**
	comp=N,4.1nm,0.3s,baz=357,slow=17,SNR=14							
WHZ	**Wether Hill Ro**	**16.84**	**215**	*e*PN		**Pn**	**09 25 54.9**	**-0.9**
DZM	**Mont Dzumac**	**17.06**	**305**	Pn		**Pn**	**09 26 01.9**	**+3.3**
	comp=N,1.8nm,0.3s,baz=108,slow=17,SNR=12							
AFI	**Afiamalu**	**19.66**	**20**	P		**Pn**	**09 26 19.2**	**-11**
	comp=N,0.9nm,0.3s,baz=180,slow=14,SNR=3.4							
AFI				S		Sn	09 29 37.4	-33
	comp=N,2.9nm,0.3s,baz=15,slow=16,SNR=3.3							
ARMA	**Armidale**	**25.56**	**267**	*e*P		**P**	**09 27 34.1**	**+5.4**
CNB	**Canberra Magne**	**26.75**	**255**	*e*P		**P**	**09 27 44.1**	**+4.6**
	comp=N,9.2nm,0.5s,mb4.6							
TBI	**Tubuai**	**27.16**	**77**	*e*LR		LR	09 34 09.3	
	comp=N,403nm,22.2s,baz=238							
PPT	**Papeete**	**30.04**	**67**	*e*LR		LR	09 35 26.6	
	comp=N,310nm,20.2s,baz=228							
PPT	**Papeete**	**30.04**	**67**	LR		LR	09 38 40.8	
	comp=N,506nm,18.1s,MS4.2,baz=269,slow=34							
STKA	**Stephens Creek**	**33.65**	**260**	*e*P		**P**	**09 28 41.3**	**+0.8**
	comp=N,7.0nm,0.8s,mb4.6							
STKA	**Stephens Creek**	**33.65**	**260**	P		**P**	**09 28 41.6**	**+1.1**
	comp=N,11nm,0.9s,mb4.8,baz=98,slow=9.6,SNR=23							
STKA				LR		LR	09 42 25.5	
	comp=N,1000nm,18.0s,MS4.6,baz=294,slow=36							
CTA	**Charters Tower**	**33.86**	**283**	*e*P		**P**	**09 28 45.0**	**+2.7**
	comp=N,23nm,0.9s,mb5.1							
CTA	**Charters Tower**	**33.86**	**283**	P		**P**	**09 28 44.9**	**+2.6**
	comp=N,20nm,0.6s,mb5.2,baz=107,slow=10,SNR=42							
CTA	**Charters Tower**	**33.86**	**283**	*e*P		**P**	**09 28 45.0**	**+2.7**
CTA				pmax	pmax			
	comp=Z,23nm,0.9s							
CTAO	**Charters Tower**	**33.86**	**283**	*e*P		**P**	**09 28 44.9**	**+2.6**
CTAO				pmax	pmax			
	comp=Z,34nm,0.8s,mb5.3							
CTAO	**Charters Tower**	**33.86**	**283**	*e*P		**P**	**09 28 44.9**	**+2.6**
	comp=Z,34nm,0.8s,mb5.3							
PMG	**Port Moresby**	**39.29**	**298**	LR		LR	09 40 39.8	
	comp=Z,73nm,21.9s,MS3.5,baz=182,slow=29							
RKT	**Rikitea**	**39.36**	**87**	*e*LR		LR	09 39 51.0	
	comp=Z,382nm,25.2s,baz=254							
ASAR	**Alice Springs**	**42.66**	**270**	P		**P**	**09 29 57.4**	**+1.0**
	comp=Z,23nm,0.6s,mb5.1,baz=108,slow=7.7,SNR=199							
ASAR				S		**S**	**09 36 18.8**	**+0.5**
	comp=Z,2.4nm,0.9s,baz=114,slow=16,SNR=7.1							
ASAR	**Alice Springs**	**42.66**	**270**	P		**P**	**09 29 57.4**	**+1.1**
ASAR				S		**S**	**09 36 18.8**	**+0.4**
ASAR				pmax	pmax			
	comp=Z,23nm,0.6s							
ASAR				smax				
	comp=N,2.0nm,0.9s							
WB2	**Warramunga Arr**	**43.84**	**275**	↑*i*P		**P**	**09 30 06.7**	**+0.8**
WRAB	**Tennant Creek**	**43.85**	**275**	P		**P**	**09 30 06.0**	**+0.1**
	comp=N,332nm,0.5s,SNR=77							
WRAB	**Tennant Creek**	**43.85**	**275**	*e*P		**P**	**09 30 06.8**	**+0.9**
WRAB				pmax	pmax			
	comp=Z,80nm,0.9s,mb5.5							
WRAB	**Tennant Creek**	**43.85**	**275**	*e*P		**P**	**09 30 06.8**	**+0.8**
	comp=Z,80nm,0.9s,mb5.5							
WRA	**Warramunga Arr**	**43.85**	**275**	P		**P**	**09 30 06.8**	**+0.8**
	comp=Z,27nm,0.5s,mb5.2,baz=113,slow=8.0,SNR=588							
WRA				S		**S**	**09 36 35.7**	**-0.1**
	comp=Z,1.8nm,0.9s,baz=111,slow=13,SNR=4.7							
WRA	**Warramunga Arr**	**43.85**	**275**	P		**P**	**09 30 06.8**	**+0.8**
WRA				S		**S**	**09 36 35.7**	**-0.2**
WRA				pmax	pmax			
	comp=Z,27nm,0.5s							
WRA				smax				
	comp=N,2.0nm,0.9s							
FORT	**Forrest**	**45.13**	**257**	*e*P		**P**	**09 30 16.1**	**-0.1**
	comp=N,146nm,0.6s,mb6.0							
VNDA	**Vanda**	**45.79**	**186**	P		**P**	**09 30 24.4**	**+3.0**
	comp=N,0.4nm,0.5s,baz=14,slow=7.1,SNR=3.8							
VNDA				LR		LR	09 46 09.3	
	comp=N,243nm,19.4s,MS4.2,baz=336,slow=31							
KAKA	**Kakadu**	**48.99**	**282**	*e*P		**P**	**09 30 46.3**	**0.0**
	comp=N,27nm,0.6s,mb5.5							
FITZ	**Fitzroy Crossi**	**52.01**	**272**	*e*P		**P**	**09 31 09.5**	**+0.4**
	comp=N,25nm,0.6s,mb5.3							
FITZ				*e*			09 31 21.7	
FITZ	**Fitzroy Crossi**	**52.01**	**272**	P		**P**	**09 31 09.6**	**+0.4**
	comp=N,14nm,0.7s,mb5.0,baz=162,slow=7.7,SNR=28							
CASY	**Casey**	**52.95**	**209**	*e*P		**P**	**09 31 17.5**	**+1.4**
KLBR	**Kellerberrin**	**53.27**	**253**	*e*P		**P**	**09 31 18.3**	**-0.2**
	comp=N,13nm,0.4s,mb5.2							
MUN	**Mundaring**	**54.39**	**252**	*e*P		**P**	**09 31 27.4**	**+0.7**
QSPA	**South Pole Qui**	**57.43**	**180**	*e*P		**P**	**09 31 50.9**	**+2.5**
	comp=N,40nm,0.6s,mb5.6							
MIR	**Mirnyy**	**59.92**	**208**	↓*i*P		**P**	**09 32 09.5**	**+3.7**
MIR				pmax	pmax			
	comp=Z,210nm,1.0s,mb6.1							
MAW	**Mawson**	**70.04**	**201**	*e*P		**P**	**09 33 13.4**	**+1.8**
	comp=Z,8.2nm,0.9s,mb4.7							
MAW	**Mawson**	**70.04**	**201**	P		**P**	**09 33 12.6**	**+1.0**
	comp=Z,4.6nm,0.9s,mb4.4,baz=130,slow=4.8,SNR=4.8							
MAW				LR		LR	10 05 02.7	
	comp=Z,293nm,18.5s,MS4.6,baz=85,slow=37							
MAW	**Mawson**	**70.04**	**201**	*e*P		**P**	**09 33 13.4**	**+1.8**
MAW				pmax	pmax			
	comp=Z,8.0nm,0.9s							
SYO	**Syowa Base**	**74.81**	**193**	↓*e*P		**P**	**09 33 40.4**	**+0.4**
SYO	**Syowa Base**	**74.81**	**193**	↓*e*P		**P**	**09 33 48.2**	**+8.2**
SNAA	**Sanae**	**75.89**	**179**	*e*P		**P**	**09 33 45.8**	**-0.4**
SNAA				pmax	pmax			
	comp=Z,47nm,1.0s							
SNAA	**Sanae**	**75.89**	**179**	*e*P		**P**	**09 33 45.8**	**-0.4**
	comp=Z,47nm,1.0s,mb5.4							
VNA3	**Neumayer Olymp**	**76.06**	**176**	↓*i*P		**P**	**09 33 47.6**	**+0.4**
VNA3				*e*			09 33 57.0	
VNA3				*e*			09 33 58.7	
VNA3				*e*			09 34 01.0	
VNA3				*e*			09 34 04.6	
VNA3				*e*			09 34 07.0	
VNA3				*e*			09 34 11.7	
VNA3				*e*			09 34 19.9	
VNA3				*e*			09 34 22.4	
VNA3				*e*			09 34 28.1	
VNA3				*e*			09 34 47.6	
VNA3				*e*			09 34 53.5	
VNA3				*e*			09 35 04.3	
VNA2	**Neumayer--Watz**	**76.48**	**177**	↓*i*P		**P**	**09 33 50.6**	**+1.0**
	baz=180,slow=3.5							
VNA2				*e*			09 33 59.9	
VNA2				*e*			09 34 01.4	
VNA2				*e*			09 34 03.7	
VNA2				*e*			09 34 06.0	
VNA2				*e*			09 34 09.7	
VNA2				*e*			09 34 14.5	
VNA2				*e*			09 34 21.6	
VNA2				*e*			09 34 24.9	
VNA2				*e*			09 34 35.1	
VNA2				*e*			09 34 51.8	
VNA2				*e*			09 34 58.9	
VNA2				*e*			09 35 09.1	
VNA1	**Neumayer--Stat**	**76.72**	**177**	↓*i*P		**P**	**09 33 51.8**	**+0.9**
VNA1				*e*			09 34 01.4	
VNA1				*e*			09 34 02.9	
VNA1				*e*			09 34 04.8	
VNA1				*e*			09 34 07.4	
VNA1				*e*			09 34 11.4	
VNA1				*e*			09 34 15.9	
VNA1				*e*			09 34 24.2	
VNA1				*e*			09 34 36.6	
VNA1				*e*			09 34 52.4	
VNA1				*e*			09 34 59.1	
MJAR	**Matsushiro Arr**	**79.91**	**326**	P		**P**	**09 34 03.9**	**-4.6**
	comp=Z,2.5nm,0.8s,mb4.2,baz=172,slow=5.3,SNR=5.7							
MJAR				PKiKP		PKiKP	09 39 38.6	-0.5
	comp=Z,0.7nm,0.3s,baz=130,slow=8.9,SNR=5.2							
MJAR	**Matsushiro Arr**	**79.91**	**326**	P		**P**	**09 34 03.9**	**-4.6**
SSE	**Sheshan**	**85.33**	**312**	*e*P		**P**	**09 34 36.1**	**-0.7**
SSE				AMB		AMB		
	comp=Z,32nm,0.7s,mb5.6							
SSE				AMB		AMB		
	comp=Z,271nm,6.3s							
YSS	**Yuzh-Sakhalins**	**86.64**	**335**	*e*P		**P**	**09 34 41.0**	**-2.3**
YSS				*e*			09 34 52.0	
YSS				pmax	pmax			
	comp=Z,20nm,0.9s,mb5.3							
NJ2	**Nanjing**	**87.44**	**311**	*e*P		**P**	**09 34 44.0**	**-3.2**
NJ2				AP		pP	09 34 54.3	+0.2
NJ2				XP		sP	09 34 58.1	+1.6
NJ2				PP		PP	09 38 08.4	-3.4
NJ2				S			09 45 16.0	
NJ2				XS		sS	09 45 35.0	-3.3
NJ2				AMB		AMB		
	comp=Z,20nm,0.7s,mb5.5							
NJ2				AMB		AMB		
	comp=Z,1μm,5.0s							
NJ2				LR		LR		
	comp=N,1μm,24.2s,MS5.3							
NJ2				LR		LR		
	comp=E,980nm,26.2s,MS5.3							
NJ2				LR		LR		
	comp=Z,790nm,20.4s							
NVAR	**Mina Array Bea**	**90.17**	**43**	P		**P**	**09 34 57.5**	**-2.5**
	comp=Z,1.9nm,0.8s,mb4.5,baz=212,slow=6.3,SNR=16							
NEN	**Nelson**	**90.38**	**47**	*e*P		**P**	**09 34 59.2**	**-1.8**
HABR	**Khabarovsk**	**90.85**	**331**	*e*P		**P**	**09 35 02.1**	**-1.1**
CN2	**Changchun**	**91.73**	**323**	*e*P		**P**	**09 35 05.0**	**-2.3**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb5.2							
KLR	**Kul'dur**	**92.81**	**330**	*e*P		**P**	**09 35 06.7**	**-5.6**
ANMO	**Albuquerque**	**95.30**	**52**	↑*e*P		**P**	**09 35 23.9**	**+0.2**
CPUP	**Villa Florida**	**98.86**	**129**	LR		LR	10 17 30.2	
	comp=Z,119nm,18.2s,MS4.4,baz=184,slow=34							
ILAR	**Eielson Array**	**100.23**	**13**	PP		PP	09 39 50.9	-0.9
	comp=Z,0.6nm,0.8s,baz=222,slow=5.6,SNR=5.3							
YKA	**Yellowknife Ar**	**107.67**	**26**	PKiKP		PKiKP	09 40 26.1	-0.6
	comp=Z,0.2nm,0.6s,baz=256,slow=1.1,SNR=4.9							
YKA				PKKPbc		PKKPbc	09 51 40.3	-0.3
	comp=Z,0.8nm,0.9s,baz=41,slow=3.4,SNR=15							
MKAR	**Makanchi Array**	**118.93**	**309**	PKP		PKPdf	09 40 46.2	-2.1
	comp=Z,2.1nm,0.8s,baz=68,slow=2.6,SNR=15							
MKAR	**Makanchi Array**	**118.93**	**309**	↑*i*PKiKP		PKPdf	09 40 46.2	-2.0
MKAR	**Makanchi Array**	**118.93**	**309**	PKP		PKPdf	09 40 46.2	-2.1
KURK	**Kurchatov**	**122.33**	**313**	*i* PKiKP		PKPdf	09 40 51.9	-2.9
KURK	**Kurchatov**	**122.33**	**313**	*e*PKPdf		PKPdf	09 40 52.3	-2.4
AAK	**Ala-Archa**	**123.04**	**303**	*d* iPKiKP		PKPdf	09 40 54.0	-2.1
AAK	**Ala-Archa**	**123.04**	**303**	*e*PKPdf		PKPdf	09 40 53.9	-2.2
CHKZ	**Chkalovo**	**127.68**	**315**	*e*PKiKP		PKPdf	09 41 02.4	-2.6
SCHQ	**Schefferville**	**128.18**	**43**	PKP		PKPdf	09 41 03.1	-2.8
	comp=Z,1.9nm,0.7s,baz=221,slow=5.5,SNR=4.0							
ZRNK	**Zerenda**	**128.58**	**314**	*e*PKiKP		PKPdf	09 41 02.5	-4.2
KMBO	**Kilima Mbogo**	**132.39**	**232**	PKP		PKPdf	09 41 15.9	+1.9
	comp=Z,0.6nm,0.3s,baz=42,slow=24,SNR=4.5							
KMBO				SKPbc		SKPbc	09 44 42.7	+3.2
	comp=Z,6.0nm,1.0s,baz=80,slow=1.9,SNR=11							
KMBO	**Kilima Mbogo**	**132.39**	**232**	PKP		PKPdf	09 41 15.9	+1.9
KMBO				SKPbc		SKPbc	09 44 42.7	+3.2
KEV	**Kevo**	**140.26**	**346**	*e*pkp		PKPdf	09 41 29.6	+1.1
ARCES	**ARCESS Array B**	**140.73**	**347**	PKhKP			09 41 20.2	
	comp=Z,2.6nm,0.7s,baz=29,slow=2.8,SNR=7.0							
JOF	**Joensuu**	**144.38**	**337**	*e*pkp		PKPdf	09 41 30.5	-5.4
GNI	**Garni**	**144.73**	**295**	↑*i*PKiKP		PKPdf	09 41 34.9	-1.6
ZEI	**Tsey**	**145.34**	**299**	*e*PKiKP		PKPdf	09 41 37.1	-0.4
VRHR	**Novokhopersk**	**145.49**	**314**	*e*PKiKP		PKPdf	09 41 36.0	-1.8
VRHR				pmax	pmax			
	comp=E,10.0nm,0.6s							
VRHR				pmax	pmax			
	comp=Z,10.0nm,0.6s							
VRHR				pmax	pmax			
	comp=N,20nm,0.7s							
MOR8	**Moi Rana**	**145.60**	**351**	*e*P		PKPdf	09 41 34.0	-4.0
MOR8				AMb		AMB	09 41 38.0	
	comp=Z,30nm,1.8s							
MOS	**Moscow**	**145.97**	**323**	*e*PKP2		PKPab	09 41 36.4	-3.5
MOS				pmax	pmax			
	comp=Z

WEL 17 09:26:36.8±0.1, 4103S×17439E, h50km, ML3.5/12, 3C-3D, Error ellipse: s-maj=0.6km s-min=0.6km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCW	**Tory Channel**	**0.20**	**204**	⇓PN	Pn	09 26 44.7	-0.4
TCW				SN	Sn	09 26 50.3	-0.7
MRW	**Makara Radio**	**0.31**	**131**	⇓PN	Pn	09 26 45.8	-0.1
MRW				SN	Sn	09 26 52.6	+0.1
SNZO	**South Karori**	**0.37**	**140**	⇑PN	Pn	09 26 46.4	-0.1
SNZO				SN	Sn	09 26 53.7	+0.2
WEL	**Wellington**	**0.39**	**132**	PN	Pn	09 26 46.6	-0.1
WEL				SN	Sn	09 26 54.2	+0.4
DUWZ	**D'Urville Isla**	**0.42**	**302**	⇑PN	Pn	09 26 46.6	-0.5
DUWZ				SN	Sn	09 26 54.4	0.0
KIW	**Kapiti Island**	**0.43**	**68**	⇓PN	Pn	09 26 47.0	-0.1
KIW				SN	Sn	09 26 54.7	+0.1
CAW	**Cannon Point**	**0.52**	**99**	⇑PN	Pn	09 26 48.2	0.0
TUWZ	**Tuamarina**	**0.52**	**219**	PN	Pn	09 26 47.9	-0.3
TUWZ				SN	Sn	09 26 56.1	-0.4
BHW	**Baring Head**	**0.53**	**136**	PN	Pn	09 26 48.0	-0.3
MSWZ	**Moikau Station**	**0.76**	**121**	PN	Pn	09 26 50.6	-0.6
NNZ	**Nelson**	**0.79**	**256**	PN	Pn	09 26 51.1	-0.4
BSWZ	**Blackbirch Sta**	**0.79**	**209**	PN	Pn	09 26 51.5	-0.1
MTW	**Mount Morrison**	**0.85**	**99**	PN	Pn	09 26 51.8	-0.7
PAWZ	**Paruwai Farm**	**0.86**	**115**	PN	Pn	09 26 52.2	-0.4
MRZ	**Mangatainoka R**	**0.97**	**68**	PN	Pn	09 26 53.8	-0.3
MRZ				SN	Sn	09 27 06.3	-0.6
TRWZ	**Traveller**	**1.05**	**111**	PN	Pn	09 26 54.2	-0.9
TIWZ	**Tintock**	**1.16**	**78**	PN	Pn	09 26 55.9	-0.7
QRZ	**Quartz Range**	**1.42**	**277**	PN	Pn	09 27 00.4	+0.2
BFZ	**Birch Farm**	**1.45**	**77**	ePN	Pn	09 26 59.4	-1.2
BFZ				SN	Sn	09 27 17.3	-1.1
TSZ	**Takapari Road**	**1.54**	**52**	PN	Pn	09 27 01.2	-0.6
MOVZ	**Moawhango**	**1.93**	**33**	ePN	Pn	09 27 07.4	+0.3
WPVZ	**Whakapapa**	**2.02**	**26**	PN	Pn	09 27 08.9	+0.5
DSZ	**Denniston Nort**	**2.07**	**249**	PN	Pn	09 27 09.0	-0.1
BKZ	**Black Stump Fm**	**2.46**	**42**	PN	Pn	09 27 12.9	-1.5

WEL 17 09:27:12.4±0.5, 3620S×17996E, h33km, ML3.7/9, Error ellipse: s-maj=7.4km s-min=5.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.90**	**224**	PN	Pn	09 27 42.1	-0.3
MXZ				SN	Sn	09 28 04.0	-1.2
PUZ	**Puketiti**	**2.31**	**215**	PN	Pn	09 27 48.5	+0.3
PUZ				SN	Sn	09 28 14.3	-1.0
MWZ	**Matawai**	**2.88**	**222**	PN	Pn	09 27 56.0	0.0
MWZ				SN	Sn	09 28 27.7	-1.7
URZ	**Urewera**	**3.06**	**227**	PN	Pn	09 27 58.0	-0.5
URZ				SN	Sn	09 28 31.6	-2.4
KNZ	**Kokohu**	**3.35**	**212**	PN	Pn	09 28 01.4	-1.0
BKZ	**Black Stump Fm**	**4.04**	**222**	PN	Pn	09 28 10.7	-1.2
BKZ				eSN	Sn	09 28 53.3	-4.7
TSZ	**Takapari Road**	**4.98**	**218**	PN	Pn	09 28 22.2	-2.6
MRZ	**Mangatainoka R**	**5.62**	**216**	ePN	Pn	09 28 29.9	-3.8
MRZ				eSN	Sn	09 29 30.0	-7.2
TCW	**Tory Channel**	**6.69**	**220**	eSN	Sn	09 29 54.5	-8.8
QRZ	**Quartz Range**	**7.43**	**229**	ePN	Pn	09 28 53.1	-5.4
MQZ	**McQueen's Vall**	**9.36**	**215**	eSN	Sn	09 30 54.4	-15

THE 17 09:47:54.0, 3833N×2203E, h10km, ML3.4
NEIC 17 09:47:54.1, 3833N×2205E, h12km, ML3.2(ATH), After ATH.
ATH 17 09:47:54.1, 3834N×2204E, h13km±2km, MD3.3/14, ML3.2
ISCJB 17 09:47:54.4±0.4, 3836N±003×2205E±003, h13km, Error ellipse: s-maj=3.8km s-min=3.2km az=136.6
CSEM 17 09:47:54.3±0.1, 3835N×2200E, h2km, ML3.2, Error ellipse: s-maj=1.8km s-min=1.4km az=138.0
SKO 17 09:47:57.8, 3858N×2221E, h0km
ISC 17 09:47:54.0±0.5, 3834N±003×2206E±003, h1km±5km, n28, σ0§99/39, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.55**	**239**	⇑*i*PB	Pg	09 48 04.9	+0.4
RLS				eSB	Sg	09 48 12.4	+0.8
EVR	**Evrytania**	**0.61**	**341**	ePB	Pg	09 48 05.2	-0.5
EVR				eSB	Sg	09 48 14.0	+0.4
AGG	**Agios Georgios**	**0.71**	**17**	ePg	Pg	09 48 07.4	-0.3
AGG				eSg	Sg	09 48 18.8	+1.9
LKR	**Lokris**	**0.80**	**67**	ePG	Pg	09 48 09.1	-0.2
LKR				eSB	Sb	09 48 21.4	-0.6
LKR	**Lokris**	**0.80**	**67**	ePg	Pg	09 48 09.1	-0.2
LKR				eSb	Sb	09 48 22.0	0.0
MGER	**Gerania Oros**	**1.01**	**110**	ePN	Pg	09 48 14.0	+0.7
ITM	**Ithomi**	**1.16**	**185**	ePN	Pg	09 48 15.8	-0.5
LKD	**Levkas**	**1.17**	**289**	ePg	Pg	09 48 15.3	-1.1
LKD				eSg	Sg	09 48 32.4	+0.8
VLS	**Valsamata**	**1.17**	**262**	ePB	Pg	09 48 14.9	-1.6
VLS				eSB	Sb	09 48 32.7	-0.1
NEO	**Neokhori**	**1.32**	**43**	ePB	Pb	09 48 19.1	-0.6
NEO				eSB	Sb	09 48 37.2	0.0
XOR	**Xorichti**	**1.35**	**40**	ePg	Pg	09 48 19.7	-0.3
XOR				eSg	Sg	09 48 39.9	+2.4
XOR	**Xorichti**	**1.35**	**40**	ePg	Pg	09 48 19.7	-0.2
XOR				eSg	Sg	09 48 39.8	+2.3
ATH	**Athens Observa**	**1.35**	**105**	ePG	Pg	09 48 19.7	-0.3
KVR	**Kavouri**	**1.44**	**110**	ePB	Pb	09 48 22.0	+0.3
PTL	**Penteli**	**1.45**	**101**	ePG	Pg	09 48 22.5	+0.7
PTL	**Penteli**	**1.45**	**101**	ePb	Pb	09 48 19.0	-2.8
JAN	**Janina**	**1.62**	**325**	ePB	Pb	09 48 25.2	+0.5
AOS	**Alonnisos**	**1.64**	**59**	ePb	Pb	09 48 24.0	-1.1
VLI	**Veliai**	**1.76**	**157**	ePN	Pn	09 48 26.0	+0.3
VLI				eSN	Sn	09 48 50.2	+1.4
LIT	**Litokhoron**	**1.79**	**11**	ePb	Pb	09 48 25.6	-2.0
KZN	**Kozani**	**1.98**	**353**	ePG	Pg	09 48 31.6	-0.3
PAIG	**Paliouri**	**2.02**	**38**	ePn	Pn	09 48 28.6	-0.7
KEK	**Kerkira**	**2.23**	**309**	ePN	Pn	09 48 33.3	+1.1
FNA	**Florina**	**2.50**	**348**	ePn	Pn	09 48 35.2	-0.6
BIA	**Bitola**	**2.74**	**348**	ePn	Pn	09 48 41.2	+2.1
KNT	**Kendrikon**	**2.89**	**13**	ePn	Pn	09 48 40.1	-1.1
VAY	**Valandovo**	**3.00**	**7**	ePn	Pn	09 48 42.6	-0.1
CHOS	**Chios island**	**3.14**	**88**	ePn	Pn	09 48 45.1	+0.5

IDC 17 09:55:18.4±0.9, 007S×9690E, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.1/16, mbtmp4.2/10, ML3.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/21, Error ellipse: s-maj=32.9km s-min=16.5km az=49.0
ISCJB 17 09:55:22.3±0.7, 009N±009×97.11E±009, h33km, mb4.1/11, Error ellipse: s-maj=13.4km s-min=12.2km az=78.1
NEIC 17 09:55:23.4±0.6, 004N×9706E, h30km, mb4.1/2, Error ellipse: s-maj=14.5km s-min=12.4km az=63.0
ISC 17 09:55:24.6±0.8, 011N±009×9706E±009, h35km, n24, σ1§05/21, mb4.1/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.26**	**35**	Pn	**Pn**	**09 56 11.7**	**-1.5**
	2.0nm,0.3s,baz=195,slow=9.0,SNR=19						
PSI				LR	LR	09 56 57.7	
	comp=Z,226nm,21.7s,baz=211,slow=29						
PSI	**Prapat**	**3.26**	**35**	Pn	**Pn**	**09 56 11.7**	**-1.5**
PSI				LR	LR	09 56 57.7	
IPM	**Ipoh**	**5.88**	**42**	P	**Pn**	**09 56 50.1**	**+1.0**
KULM	**Kulim**	**6.27**	**35**	ePn	**Pn**	**09 56 53.8**	**-0.8**
KGM	**Kluang**	**6.54**	**73**	P	**Pn**	**09 56 58.1**	**-0.1**
CHTO	**Chiang Mai**	**18.68**	**6**	eP	**Pn**	**09 59 39.8**	**-0.5**
	6.9nm,0.9s						
KKM	**Kota Kinabalu**	**20.00**	**72**	P	**P**	**09 59 55.4**	**+1.3**
KKM	**Kota Kinabalu**	**20.00**	**72**	eP	**P**	**09 59 54.7**	**+0.5**
WRA	**Warramunga Arr**	**41.58**	**121**	P	**P**	**10 03 08.8**	**-0.2**
	2.6nm,0.8s,mb3.9,baz=303,slow=9.1,SNR=16						
ASAR	**Alice Springs**	**42.86**	**126**	P	**P**	**10 03 20.1**	**+0.8**
	2.1nm,0.7s,mb4.0,baz=299,slow=6.9,SNR=19						
SONM	**Songino Array**	**48.23**	**8**	P	**P**	**10 04 03.9**	**+2.1**
	1.0nm,0.6s,mb4.0,baz=189,slow=7.8,SNR=3.4						
MKAR	**Makanchi Array**	**48.27**	**346**	P	**P**	**10 04 04.0**	**+1.9**
	3.0nm,0.6s,mb4.5,baz=157,slow=8.1,SNR=22						
MKAR	**Makanchi Array**	**48.27**	**346**	P	**P**	**10 04 04.0**	**+1.9**
MJAR	**Matsushiro Arr**	**52.59**	**42**	P	**P**	**10 04 34.7**	**-0.1**
	0.4nm,0.4s,mb3.7,baz=215,slow=7.2,SNR=4.5						
STKA	**Stephens Creek**	**52.73**	**131**	P	**P**	**10 04 34.8**	**-1.0**
	1.4nm,0.6s,mb4.0,baz=318,slow=14,SNR=8.3						
KURK	**Kurchatov**	**52.81**	**345**	*e*P	**P**	**10 04 36.8**	**+0.4**
	2.8nm,0.6s,mb4.4						
BRTR	**Keskin Array B**	**69.75**	**313**	P	**P**	**10 06 30.7**	**-0.3**
	2.1nm,0.7s,mb4.2,baz=134,slow=7.1,SNR=12						
AKASG	**Malin Array Be**	**76.04**	**323**	P	**P**	**10 07 08.1**	**-0.2**
	3.7nm,0.6s,mb4.5,baz=90,slow=5.1,SNR=12						
ARCES	**ARCESS Array B**	**83.51**	**340**	P	**P**	**10 07 47.1**	**-1.7**
	1.8nm,0.8s,mb4.2,baz=65,slow=8.5,SNR=4.8						
NB2	**NORSAR Subarra**	**87.89**	**331**	P	**P**	**10 08 11.5**	**+1.0**
	comp=Z,1.8nm,0.8s,mb4.3,baz=90,slow=5.3						
NOA	**NORSAR Array B**	**87.89**	**331**	P	**P**	**10 08 09.0**	**-1.5**
	comp=Z,0.7nm,0.8s,mb3.9,baz=94,slow=4.8,SNR=2.9						
CPUP	**Villa Florida**	**144.10**	**221**	PKP	PKPdf	10 14 55.4	-1.1
	comp=Z,0.9nm,0.5s,baz=96,slow=5.2,SNR=7.9						
CPUP	**Villa Florida**	**144.10**	**221**	PKP	PKPdf	10 14 55.4	-1.1
JCT	**Junction City**	**145.61**	**26**	*e*PKPdf	PKPdf	10 15 00.6	+1.4

IDC 17 10:26:21.6±1.0, 3335S×17780W, h0km, mb4.4/4, mb1 4.7/5, mb1mx4.4/11, mbtmp4.5/5, ML3.5/1, MS4.1/13, Ms1 4.1/13, ms1mx3.8/28, Error ellipse: s-maj=43.9km s-min=26.4km az=172.0
ISCJB 17 10:26:32.8±2.2, 3262S±006×1788W±0.1, h45km±18km, mb4.6/12, MS4.2/11, Error ellipse: s-maj=18.6km s-min=10.3km az=21.6
NEIC 17 10:26:32.4±2.8, 3264S×17809W, h64km±22km, mb4.8/9, Error ellipse: s-maj=22.7km s-min=17.6km az=50.0
MOS 17 10:26:33.8±3.5, 3148S×17890W, h33km, mb5.1/4, Error ellipse: s-maj=54.9km s-min=20.5km az=14.2
ISC 17 10:26:33.5±2.1, 3256S±008×1786W±0.1, h42km±17km, h41km±9.1km:pP-P, n76, σ0§92/46, mb4.6/12, MS4.2/11, 3C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.34**	**10**	Pn	**Pn**	**10 27 11.1**	**-12**
	137nm,0.3s,baz=121,slow=13,SNR=6.4						
RAO				LR	LR	10 28 13.7	
	comp=Z,391nm,19.6s,baz=30,slow=27						
PUZ	**Puketiti**	**6.08**	**204**	SN	**Sn**	**10 29 14.9**	**+5.9**
KUZ	**Kuaotunu**	**6.28**	**227**	ePN	**Pn**	**10 28 11.3**	**+7.8**
MWZ	**Matawai**	**6.58**	**208**	ePN	**Pn**	**10 28 06.7**	**-1.0**
MWZ				SN	**Sn**	**10 29 26.9**	**+5.6**
URZ	**Urewera**	**6.69**	**210**	Pn	**Pn**	**10 28 10.0**	**+0.9**
	4.4nm,0.3s,baz=354,slow=1.1,SNR=18						
URZ				Sn	**Sn**	**10 29 29.4**	**+5.4**
	16nm,0.3s,baz=195,slow=23,SNR=16						
URZ	**Urewera**	**6.69**	**210**	ePN	**Pn**	**10 28 07.4**	**-1.7**
URZ				eSN	**Sn**	**10 29 29.4**	**+5.4**
OUZ	**Omahuta**	**7.02**	**246**	ePN	**Pn**	**10 28 21.1**	**+7.4**
BKZ	**Black Stump Fm**	**7.71**	**210**	ePN	**Pn**	**10 28 23.1**	**0.0**
BKZ				SN	**Sn**	**10 29 54.5**	**+5.4**
PXZ	**Pawanui**	**8.31**	**205**	SN	**Sn**	**10 30 05.9**	**+1.9**
BFZ	**Birch Farm**	**9.11**	**206**	eSN	**Sn**	**10 30 24.3**	**+0.9**
TIWZ	**Tintock**	**9.33**	**207**	SN	**Sn**	**10 30 30.0**	**+1.2**
MRZ	**Mangatainoka R**	**9.35**	**208**	SN	**Sn**	**10 30 29.9**	**+0.5**
KIW	**Kapiti Island**	**9.79**	**210**	eSN	**Sn**	**10 30 40.1**	**-0.1**
TCW	**Tory Channel**	**10.35**	**211**	SN	**Sn**	**10 30 53.2**	**-0.8**
NNZ	**Nelson**	**10.77**	**214**	eSN	**Sn**	**10 31 03.1**	**-1.0**
THZ	**Tophouse**	**11.42**	**214**	eSN	**Sn**	**10 31 19.0**	**-1.1**
MQZ	**McQueen's Vall**	**13.08**	**209**	eSN	**Sn**	**10 31 55.2**	**-5.6**
RPZ	**Rata Peaks**	**13.79**	**213**	Pn	**Pn**	**10 29 46.3**	**0.0**
	0.7nm,0.3s,baz=37,slow=5.1,SNR=4.0						
RPZ				Sn	**Sn**	**10 32 11.8**	**-6.2**
	1.5nm,0.3s,baz=99,slow=23,SNR=8.3						
DZM	**Mont Dzumac**	**16.89**	**304**	P	**Pn**	**10 30 31.2**	**+4.5**
	0.2nm,0.3s,baz=87,slow=9.6,SNR=4.1						
DZM				LR	LR	10 35 46.8	
	comp=Z,1μm,20.3s,baz=4.5,slow=32						
TBI	**Tubuai**	**27.25**	**78**	eLR	LR	10 38 28.7	
	414nm,29.2s,baz=244						
PPT	**Papeete**	**30.10**	**67**	eLR	LR	10 39 46.5	
	349nm,27.5s,baz=228						
PPT	**Papeete**	**30.10**	**67**	LR	LR	10 41 17.3	
	comp=Z,244nm,18.3s,MS3.9,baz=138,slow=30						
STKA	**Stephens Creek**	**33.56**	**260**	eP	**P**	**10 33 09.6**	**+0.3**
	5.6nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**33.56**	**260**	P	**P**	**10 33 08.4**	**-0.9**
	4.1nm,0.7s,mb4.5,baz=102,slow=8.2,SNR=8.0						
STKA				LR	LR	10 45 48.0	
	comp=Z,448nm,18.1s,MS4.2,baz=292,slow=34						
CTA	**Charters Tower**	**33.71**	**283**	eP	**P**	**10 33 11.7**	**+1.1**
	12nm,0.9s,mb4.8						
CTA	**Charters Tower**	**33.71**	**283**	LR	LR	10 45 26.6	
	comp=Z,365nm,18.5s,MS4.1,baz=128,slow=33						
CTA	**Charters Tower**	**33.71**	**283**	eP	**P**	**10 33 11.7**	**+1.1**
CTA				pmax	pmax		
	comp=Z,12nm,0.9s						
CTAO	**Charters Tower**	**33.71**	**283**	eP	**P**	**10 33 11.3**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
CTAO	**Charters Tower**	**33.71**	**283**	eP	**P**	**10 33 11.3**	**+0.7**
	comp=Z,8.8nm,0.7s,mb4.8						
PMG	**Port Moresby**	**39.13**	**298**	LR	LR	10 48 45.8	
	comp=Z,252nm,18.2s,MS4.1,baz=13,slow=34						
RKT	**Rikitea**	**39.47**	**88**	eLR	LR	10 44 10.3	
	comp=Z,410nm,30.0s,baz=244						
ASAR	**Alice Springs**	**42.54**	**270**	P	**P**	**10 34 24.8**	**-0.1**
	comp=Z,7.7nm,0.9s,mb4.4,baz=109,slow=7.5,SNR=36						
WB2	**Warramunga Arr**	**43.71**	**275**	eP	**P**	**10 34 33.7**	**-0.7**
WRAB	**Tennant Creek**	**43.72**	**275**	eP	**P**	**10 34 34.0**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.7						
WRAB	**Tennant Creek**	**43.72**	**275**	eP	**P**	**10 34 34.0**	**-0.5**
	comp=Z,12nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**43.72**	**275**	P	**P**	**10 34 33.9**	**-0.6**
	comp=Z,8.1nm,0.5s,mb4.7,baz=111,slow=8.1,SNR=72						
FORT	**Forrest**	**45.05**	**257**	eP	**P**	**10 34 44.8**	**-0.2**
	comp=Z,25nm,0.7s,mb5.2						
KAKA	**Kakadu**	**48.85**	**282**	eP	**P**	**10 35 16.8**	**+2.1**
	comp=Z,7.6nm,0.4s,mb5.1						
FITZ	**Fitzroy Crossi**	**51.89**	**272**	eP	**P**	**10 35 37.3**	**-0.4**
	comp=Z,9.6nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**51.89**	**272**	LR	LR	10 57 04.7	
	comp=Z,386nm,18.4s,MS4.5,baz=115,slow=35						
CASY	**Casey**	**53.01**	**209**	eP	**P**	**10 35 45.5**	**-0.4**
	comp=Z,5.8nm,0.8s,mb4.6						
QSPA	**South Pole Qui**	**57.56**	**180**	eP	**P**	**10 36 19.8**	**+1.1**
	comp=Z,5.9nm,0.8s,mb4.7						
GUMO	**Guam**	**57.68**	**317**	LR	LR	10 59 48.3	
	comp=Z,106nm,18.5s,MS4.0,baz=89,slow=34						
VNA3	**Neumayer Olymp**	**76.19**	**176**	⇑*i*	**P**	**10 38 16.4**	**-0.8**
VNA3				*e*		10 38 18.7	
VNA3				*e*	pP	10 38 25.6	-4.2
VNA3				*e*	pP	10 38 29.8	0.0
VNA3				*e*		10 38 33.3	
VNA3				*e*		10 38 35.2	
VNA3				*e*		10 38 41.3	
VNA3				*e*		10 38 44.6	
VNA3				*e*		10 38 51.3	
VNA2	**Neumayer--Watz**	**76.62**	**177**	⇑*i*	**P**	**10 38 19.1**	**-0.6**
	baz=175,slow=3.4						
VNA2				*e*		10 38 21.3	
VNA2				*e*	pP	10 38 28.3	-3.9
VNA2				*e*	pP	10 38 33.5	+1.3
VNA2				*e*		10 38 36.0	
VNA2				*e*		10 38 37.7	
VNA2				*e*		10 38 43.1	
VNA2				*e*		10 38 47.3	
VNA2				*e*		10 38 50.1	
VNA2				*e*		10 38 53.5	
VNA2				*e*		10 38 58.4	
VNA2				*e*		10 39 07.1	
VNA1	**Neumayer--Stat**	**76.85**	**177**	⇑*i*	**P**	**10 38 20.4**	**-0.6**
VNA1				*e*		10 38 22.6	
VNA1				*e*	pP	10 38 30.1	-3.5
VNA1				*e*	pP	10 38 35.1	+1.5
VNA1				*e*		10 38 37.6	
VNA1				*e*		10 38 39.8	
VNA1				*e*		10 38 44.9	
VNA1				*e*		10 38 48.5	
VNA1				*e*		10 38 51.8	
VNA1				*e*		10 38 54.8	
VNA1				*e*		10 38 58.5	
VNA1				*e*		10 39 08.4	
JOW	**Kunigami**	**77.75**	**313**	LR	LR	11 06 41.1	
	comp=Z,224nm,22.0s,MS4.5,baz=92,slow=31						
MJAR	**Matsushiro Arr**	**79.73**	**326**	P	**P**	**10 38 38.5**	**+1.6**
	comp=Z,1.0nm,0.7s,mb3.8,baz=161,slow=4.5,SNR=4.4						
ASAJ	**Asahikawa**	**84.12**	**333**	LR	LR	11 12 53.0	
	comp=Z,89nm,18.5s,MS4.2,baz=8.4,slow=33						
NVAR	**Mina Array Bea**	**90.16**	**43**	P	**P**	**10 39 23.4**	**-5.7**
	comp=Z,0.5nm,0.7s,mb3.9,baz=225,slow=6.2,SNR=4.0						
KLR	**Kul'dur**	**92.64**	**330**	*e*P	**P**	**10 39 33.2**	**-7.5**
BBB	**Bella Bella**	**95.23**	**28**	LR	LR	11 19 19.3	
	comp=Z,108nm,18.4s,MS4.3,baz=286,slow=33						
PDAR	**Pinedale Array**	**98.03**	**44**	LR	LR	11 17 07.1	
	comp=Z,79nm,20.7s,MS4.2,baz=356,slow=31						
CPUP	**Villa Florida**	**99.03**	**129**	LR	LR	11 20 02.3	
	comp=Z,63nm,18.2s,MS4.2,baz=189,slow=33						
MKAR	**Makanchi Array**	**118.76**	**309**	PKP	PKPdf	10 45 12.8	-4.2
	comp=Z,1.9nm,0.9s,baz=163,slow=5.4,SNR=4.1						
ZRNK	**Zerenda**	**128.40**	**314**	*e*PKIKP	PKPdf	10 45 34.7	-0.8
ARCES	**ARCESS Array B**	**140.58**	**347**	PKP	PKPdf	10 45 54.3	-3.9
	comp=Z,2.9nm,0.8s,baz=42,slow=2.0,SNR=6.3						
JOF	**Joensuu**	**144.22**	**337**	*e*pkp	PKPdf	10 45 59.6	-5.1
ZEI	**Tsey**	**145.18**	**299**	*e*PKHKP		10 46 03.4	
MOS	**Moscow**	**145.79**	**324**	*e*PKHKP		10 46 03.4	
MOS				pmax	pmax		
	comp=Z,47nm,0.7s						
KIV	**Kislovodsk**	**145.97**	**302**	*e*PKP2	PKPab	10 46 05.6	-3.5
KIV				pmax	pmax		
	comp=Z,13nm,0.9s						
KAF	**Kangasniemi**	**146.39**	**339**	*e*pkp	PKPdf	10 46 01.5	-6.9
	baz=36,slow=3.4						
MALT	**Malatya**	**149.44**	**291**	*e*PKIKP	PKPdf	10 46 15.4	+2.0
NB2	**NORSAR Subarra**	**150.79**	**350**	PKPa	PKPbc	10 46 17.4	-3.8
	comp=Z,4.3nm,0.8s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**150.79**	**350**	PKPbc	PKPbc	10 46 18.7	-2.4
	comp=Z,2.3nm,0.8s,baz=14,slow=4.1,SNR=9.0						
NAO01	**NORSAR Array S**	**151.03**	**350**	*e*PKPab	PKPab	10 46 23.8	-5.5
EIL	**Elat**	**151.21**	**273**	*e*PKPbc	PKPbc	10 46 19.9	-2.2
EIL				*e*pPKPdf	pPKPdf	10 46 32.3	+2.9
AKASG	**Malin Array Be**	**152.66**	**320**	PKPbc	PKPbc	10 46 21.1	-4.3
	comp=Z,7.2nm,0.8s,baz=61,slow=2.1,SNR=7.8						
BR131	**Keskin Array S**	**153.11**	**295**	*e*PKPbc	PKPbc	10 46 23.6	-2.9
BR131				*e*PKPab	PKPab	10 46 35.6	-2.5
BRTR	**Keskin Array B**	**153.11**	**295**	PKPbc	PKPbc	10 46 23.0	-3.4
	comp=Z,1.6nm,0.6s,baz=144,slow=4.4,SNR=11						
BRTR				PKPab	PKPab	10 46 35.2	-2.9
	comp=Z,4.9nm,0.9s,baz=108,slow=3.2,SNR=11						
BRTR	**Keskin Array B**	**153.11**	**295**	PKPbc	PKPbc	10 46 23.0	-3.4
BRTR				PKPab	PKPab	10 46 35.1	-2.9
CLL	**Collm**	**159.42**	**339**	*e*PKPab	PKPab	10 47 01.0	-4.2
CLL	**Collm**	**159.42**	**339**	*e*PKPab	PKPab	10 47 01.0	-4.2
BRG	**Berggiesshubel**	**159.50**	**337**	*e*P	PKPab	10 47 01.2	-4.3
	comp=Z,2.8nm,0.9s						
TORD	**Torodi Ar. Bea**	**160.68**	**181**	PKPab	PKPab	10 47 02.2	-8.5
	comp=Z,0.7nm,0.8s,baz=175,slow=3.7,SNR=3.5						
GERES	**GERESS Array B**	**161.29**	**334**	PKPab	PKPab	10 47 07.1	-6.2
	comp=Z,1.1nm,0.8s,baz=46,slow=4.1,SNR=5.2						

IDC 17 10:38:15.8±1.4, 179N×12694E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.6/15, mbtmp3.5/5, ML3.3/1, Error ellipse: s-maj=104.8km s-min=19.6km az=73.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.80**	**184**	P	Pn	10 42 49.4	+0.1
	0.1nm,0.3s,baz=322,slow=18,SNR=3.3						
WRA	**Warramunga Arr**	**22.78**	**162**	P	P	10 43 19.6	-0.3
	0.6nm,0.4s,baz=340,slow=11,SNR=31						
WB2	**Warramunga Arr**	**22.79**	**162**	eP	P	10 43 19.9	0.0
ASAR	**Alice Springs**	**26.19**	**165**	P	P	10 43 52.2	+0.1
	0.2nm,0.4s,baz=342,slow=11,SNR=7.8						
SONM	**Songino Array**	**49.20**	**342**	P	P	10 47 06.4	+0.7
	0.5nm,0.7s,baz=142,slow=7.3,SNR=4.0						
MKAR	**Makanchi Array**	**59.27**	**326**	P	P	10 48 18.6	-0.5
	0.4nm,0.4s,baz=114,slow=8.7,SNR=4.8						

NEIC 17 10:44:18.6, 1932N×6491W, h78km, MD3.5(RSPR), After RSPR.
RSPR 17 10:44:18.6, 1932N×6491W, h78km±10km, MD3.5/4, MD3.5/4, 6C-1D, Virgin Islands

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

mb4.6/20,Error ellipse: s-maj=12.8km s-min=9.4km az=20.3
*NEIC **17** 11:10:55.5±0.4,2611S×17721W,mb4.8/15,Error ellipse: s-maj=15.5km s-min=11.8km az=112.0*
*BJI **17** 11:10:55.4,26.10S×177.20W,h91km,mB5.3,mb5.0*
*IDC **17** 11:10:56.0±3.2,2631S×177.18W,h98km±28km,mb4.1/6, mb1 4.4/7,mb1mx4.2/12,mbtmp4.5/7,MS3.7/4,Ms1 3.7/4, ms1mx3.2/23,Error ellipse: s-maj=25.4km s-min=20.9km az=15.0*

ISC 17 11:10:55.9±0.4,2629S±0.006×1772W±0.01,h95km, h95km±2.9km:pP-P,n84,σ1°21/57,mb4.6/20,1C,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**3.02**	**192**	P		**Pn**	**11 11 42.8**	**+1.0**
	221nm,0.3s,baz=74,slow=21,SNR=6.4							
RAO				S		**Sn**	**11 12 17.1**	**+0.1**
	472nm,0.3s,baz=107,slow=22,SNR=10							
MWZ	**Matawai**	**12.80**	**199**	SN		**Sn**	**11 16 01.2**	**-14**
URZ	**Urewera**	**12.86**	**200**	P		**Pn**	**11 13 59.8**	**+4.8**
	1.3nm,0.3s,baz=27,slow=2.3,SNR=3.9							
URZ				S		**Sn**	**11 16 02.6**	**-14**
	1.3nm,0.3s,baz=168,slow=23,SNR=13							
AFI	**Afiamalu**	**13.33**	**24**	P		**Pn**	**11 13 53.3**	**-8.0**
	5.9nm,0.3s,baz=348,slow=17,SNR=12							
AFI				S		Sn	11 16 09.7	-18
	4.3nm,0.3s,baz=191,slow=22,SNR=8.7							
AFI	**Afiamalu**	**13.33**	**24**	*e*Pn		**Pn**	**11 13 53.7**	**-7.6**
AFI				*e*Sn		Sn	11 16 09.1	-19
BFZ	**Birch Farm**	**15.35**	**199**	SN		**Sn**	**11 16 56.9**	**-20**
DZM	**Mont Dzumac**	**15.49**	**282**	P		**Pn**	**11 14 35.4**	**+6.4**
	0.8nm,0.3s,baz=95,slow=16,SNR=4.8							
MRZ	**Mangatainoka R**	**15.53**	**201**	SN		**Sn**	**11 16 59.8**	**-21**
MRZ				SN		**Sn**	**11 17 01.1**	**-20**
KIW	**Kapiti Island**	**15.93**	**202**	*e*SN		**Sn**	**11 17 09.5**	**-21**
TCW	**Tory Channel**	**16.46**	**203**	*e*SN		**Sn**	**11 17 20.8**	**-23**
RAR	**Rarotonga**	**16.75**	**76**	S		Sx	11 17 32.4	
	2.0nm,0.3s,baz=62,slow=16,SNR=4.6							
RAR				LR		LR	11 19 26.2	
	comp=Z,55nm,19.3s,baz=293,slow=30							
NNZ	**Nelson**	**16.80**	**205**	*e*SN		**Sn**	**11 17 30.1**	**-22**
THZ	**Tophouse**	**17.45**	**205**	*e*PN		**Pn**	**11 14 54.3**	**+1.1**
THZ				*e*SN		**Sn**	**11 17 46.7**	**-21**
MQZ	**McQueen's Vall**	**19.23**	**203**	*e*SN		Sx	11 18 22.6	
RPZ	**Rata Peaks**	**19.83**	**206**	S		**S**	**11 18 40.3**	**-17**
	0.5nm,0.3s,baz=331,slow=8.2,SNR=3.7							
RPZ				LR		LR	11 22 15.2	
	comp=Z,378nm,19.6s,baz=221,slow=34							
TBI	**Tubuai**	**25.34**	**89**	*e*LR		LR	11 22 18.0	
	209nm,33.5s							
PPT	**Papeete**	**27.02**	**77**	*e*LR		LR	11 23 03.2	
	195nm,31.2s							
HNR	**Honiara**	**27.37**	**304**	LR		LR	11 25 16.7	
	comp=Z,184nm,21.8s,baz=175,slow=31							
CTA	**Charters Tower**	**34.06**	**273**	*e*P		**P**	**11 17 33.8**	**+2.8**
	7.4nm,0.6s,mb4.7							
CTA	**Charters Tower**	**34.06**	**273**	P		**P**	**11 17 33.0**	**+2.0**
	12nm,0.6s,mb4.9,baz=90,slow=8.6,SNR=23							
CTA	**Charters Tower**	**34.06**	**273**	*e*P		**P**	**11 17 33.8**	**+2.8**
CTA				pmax		pmax		
	comp=Z,7.0nm,0.6s							
CTAO	**Charters Tower**	**34.06**	**273**	*e*P		**P**	**11 17 33.7**	**+2.7**
CTAO				pmax		pmax		
	comp=Z,9.0nm,0.5s,mb4.9							
CTAO	**Charters Tower**	**34.06**	**273**	*e*P		**P**	**11 17 33.7**	**+2.7**
	comp=Z,9.3nm,0.5s,mb4.9							
RKT	**Rikitea**	**38.39**	**95**	*e*LR		LR	11 28 21.5	
	comp=Z,140nm,35.0s							
ASAR	**Alice Springs**	**44.18**	**262**	P		**P**	**11 18 55.3**	**0.0**
	comp=Z,8.0nm,0.9s,mb4.5,baz=114,slow=8.1,SNR=51							
WB2	**Warramunga Arr**	**44.79**	**268**	*e*P		**P**	**11 18 59.8**	**-0.3**
WRAB	**Tennant Creek**	**44.79**	**268**	*e*P		**P**	**11 18 59.7**	**-0.4**
WRAB				pmax		pmax		
	comp=Z,11nm,0.9s,mb4.6							
WRAB	**Tennant Creek**	**44.79**	**268**	*e*P		**P**	**11 18 59.7**	**-0.5**
	comp=Z,11nm,0.9s,mb4.6							
WRA	**Warramunga Arr**	**44.80**	**268**	P		**P**	**11 18 59.9**	**-0.3**
	comp=Z,7.3nm,0.8s,mb4.5,baz=107,slow=7.5,SNR=36							
KAKA	**Kakadu**	**49.05**	**276**	*e*P		**P**	**11 19 34.0**	**+0.7**
	comp=Z,18nm,0.7s,mb5.1							
SBA	**Scott Base**	**52.17**	**184**	*e*P		**P**	**11 19 58.3**	**+1.6**
SBA				pmax		pmax		
	comp=Z,6.0nm,1.1s,mb4.5							
SBA	**Scott Base**	**52.17**	**184**	*e*P		**P**	**11 19 58.2**	**+1.5**
	comp=Z,5.6nm,1.1s,mb4.5							
SBA				*e*pP		pP	11 20 20.3	+0.5
VNDA	**Vanda**	**52.24**	**186**	P		**P**	**11 19 56.8**	**-0.4**
	comp=Z,1.5nm,1.0s,mb4.0,baz=33,slow=11,SNR=2.7							
VNDA	**Vanda**	**52.24**	**186**	*e*P		**P**	**11 20 00.8**	**+3.6**
VNDA				pmax		pmax		
	comp=Z,4.0nm,1.2s							
VNDA	**Vanda**	**52.24**	**186**	*e*P		**P**	**11 20 00.8**	**+3.5**
	comp=Z,3.8nm,1.2s,mb4.3							
FITZ	**Fitzroy Crossi**	**53.18**	**266**	*e*P		**P**	**11 20 04.0**	**-0.2**
	comp=Z,16nm,0.8s,mb5.1							
MBWA	**Marble Bar**	**57.47**	**261**	*e*P		**P**	**11 20 33.5**	**-1.4**
	comp=Z,4.7nm,0.7s,mb4.6							
CASY	**Casey**	**59.10**	**207**	*e*P		**P**	**11 20 44.7**	**-1.5**
	comp=Z,2.2nm,0.5s,mb4.4							
QSPA	**South Pole Qui**	**63.80**	**180**	*e*P		**P**	**11 21 18.4**	**+0.4**
	comp=Z,11nm,0.7s,mb4.8							
MJAR	**Matsushiro Arr**	**75.29**	**324**	P		**P**	**11 22 27.2**	**-1.4**
	comp=Z,2.9nm,0.7s,mb4.1,baz=162,slow=5.9,SNR=8.8							
YSS	**Yuzh-Sakhalins**	**81.37**	**334**	*e*P		**P**	**11 23 02.6**	**+0.5**
YSS				pmax		pmax		
	comp=Z,24nm,0.8s,mb5.1							
YSS	**Yuzh-Sakhalins**	**81.37**	**334**	*e*P		**P**	**11 23 02.6**	**+0.5**
	comp=Z,24nm,0.8s,mb5.1							
SNAA	**Sanae**	**82.23**	**178**	*e*P		**P**	**11 23 04.8**	**-1.8**
	comp=Z,2.7nm,0.7s,mb4.2							
SNAA				*e*pP		pP	11 23 29.2	-2.2
VNA3	**Neumayer Olymp**	**82.34**	**176**	*e*		**P**	**11 23 06.2**	**-1.0**
VNA3				*e*			11 23 08.3	
VNA3				*e*			11 23 14.8	
VNA3				*e*		pP	11 23 30.1	-1.9
VNA3				*e*		pP	11 23 32.9	+0.9
VNA3				*e*			11 23 36.3	
VNA2	**Neumayer--Watz**	**82.79**	**177**	*e*		**P**	**11 23 09.3**	**-0.2**
	baz=172,slow=3.7							
VNA2				*e*			11 23 11.4	
VNA2				*e*			11 23 17.4	
VNA2				*e*		pP	11 23 32.9	-1.5
VNA2				*e*		pP	11 23 35.8	+1.4
VNA2				*e*			11 23 39.5	
VNA1	**Neumayer--Stat**	**83.01**	**176**	*e*		**P**	**11 23 10.5**	**-0.1**
VNA1				*e*			11 23 12.7	
VNA1				*e*			11 23 18.2	
VNA1				*e*		pP	11 23 34.3	-1.2
VNA1				*e*		pP	11 23 37.2	+1.7
VNA1				*e*			11 23 40.6	
NVAR	**Mina Array Bea**	**84.76**	**42**	P		**P**	**11 23 20.2**	**+0.7**
	comp=Z,2.0nm,0.7s,mb4.2,baz=208,slow=6.9,SNR=17							
NEN	**Nelson**	**85.21**	**46**	*e*P		**P**	**11 23 22.9**	**+1.1**
MDJ	**Mudanjiang**	**85.65**	**325**	P		**P**	**11 23 24.6**	**+0.6**
MDJ				AMB		AMB		
	comp=Z,11nm,0.9s,mb4.8							
MDJ				AMB		AMB		
	comp=Z,113nm,4.8s							
PSI	**Prapat**	**85.73**	**275**	LR		LR	12 04 02.9	
	comp=Z,88nm,19.6s,baz=352,slow=37							
CN2	**Changchun**	**87.31**	**322**	*e*P		**P**	**11 23 32.3**	**+0.2**
KLR	**Kul'dur**	**87.86**	**329**	*e*P		**P**	**11 23 31.7**	**-3.0**
ANMO	**Albuquerque**	**90.47**	**51**	*e*P		**P**	**11 23 47.8**	**+0.9**
ANMO				pmax		pmax		
	comp=Z,5.0nm,1.4s							
ANMO	**Albuquerque**	**90.47**	**51**	*e*P		**P**	**11 23 47.8**	**+0.9**
	comp=Z,4.8nm,1.4s,mb4.4							
ANMO				*e*pP		pP	11 24 12.6	+0.5
MCMT	**McKenzie Canyo**	**91.90**	**40**	*e*P		**P**	**11 23 52.9**	**-0.7**
PDAR	**Pinedale Array**	**92.68**	**43**	P		**P**	**11 23 56.9**	**-0.2**
	comp=Z,1.2nm,0.8s,mb4.3,baz=204,slow=3.3,SNR=8.6							
CHTO	**Chiang Mai**	**92.86**	**289**	*e*P		**P**	**11 24 00.0**	**+2.0**
CHTO				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb5.0							
CHTO	**Chiang Mai**	**92.86**	**289**	*e*P		**P**	**11 23 60.0**	**+2.0**
	comp=Z,6.9nm,0.8s,mb5.0							
BILL	**Bilibino**	**94.84**	**354**	*e*P		**P**	**11 24 06.2**	**-0.9**
BILL				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.9							
BILL	**Bilibino**	**94.84**	**354**	*e*P		**P**	**11 24 06.2**	**-0.9**
	comp=Z,4.9nm,1.0s,mb4.9							
ZRNK	**Zerenda**	**124.73**	**318**	*e*PKIKP		PKPdf	11 29 43.1	-1.3
AKTK	**Aktyubinsk**	**131.76**	**315**	PKP		PKPdf	11 29 56.0	-1.8
AKTO	**Aktyubinsk**	**131.76**	**315**	PKP		PKPdf	11 29 56.0	-1.8
	comp=Z,1.0nm,0.6s,baz=27,slow=5.4,SNR=5.2							
ARCES	**ARCESS Array B**	**134.72**	**349**	PKP		PKPdf	11 30 02.1	-1.3
	comp=Z,1.5nm,0.5s,baz=199,slow=2.6,SNR=13							
GNI	**Garni**	**142.62**	**302**	*e*PKIKP		PKPdf	11 30 17.1	-0.7
NB2	**NORSAR Subarra**	**144.79**	**353**	PKPa			11 30 19.6	
	comp=Z,25nm,0.9s,baz=11,slow=3.8							
NOA	**NORSAR Array B**	**144.79**	**353**	PKP		PKPdf	11 30 19.4	-2.3
	comp=Z,17nm,0.8s,baz=12,slow=2.4,SNR=46							
NAO01	**NORSAR Array S**	**145.02**	**353**	*e*PKPdf		PKPdf	11 30 20.5	-1.5
ELZG	**Elazig**	**147.30**	**301**	*i* P		PKPdf	11 30 27.6	+1.7
MALT	**Malatya**	**147.77**	**301**	*e*PKP2		PKPab	11 30 30.4	-1.8
AKASG	**Malin Array Be**	**148.34**	**327**	PKPbc		PKPbc	11 30 29.8	-1.4
	comp=Z,5.2nm,0.7s,baz=44,slow=3.6,SNR=22							
GZT	**Gaziantep**	**148.62**	**299**	*i* P		PKPbc	11 30 33.1	+1.2
ASF	**Jabal al Asfar**	**149.74**	**289**	PKPbc		PKPbc	11 30 35.3	+0.7
	comp=Z,2.5nm,0.5s,baz=288,slow=7.9,SNR=3.8							
ELDT	**Eldivan**	**150.93**	**307**	*i* P		PKPbc	11 30 37.7	+0.2
BR131	**Keskin Array S**	**151.02**	**305**	*e*PKPbc		PKPbc	11 30 37.0	-0.7
BR131				*e*PKPab		PKPab	11 30 46.3	+0.8
BRTR	**Keskin Array B**	**151.02**	**305**	PKPbc		PKPbc	11 30 37.2	-0.5
	comp=Z,1.9nm,0.7s,baz=116,slow=2.9,SNR=9.0							
BRTR				PKPab		PKPab	11 30 46.4	+0.9
	comp=Z,6.4nm,0.6s,baz=126,slow=6.3,SNR=4.3							
EIL	**Elat**	**151.44**	**284**	*e*PKPdf		PKPdf	11 30 33.6	+1.1
EIL				*e*PKPbc		PKPbc	11 30 39.2	+0.5
STHS	**Stebnicka Huta**	**152.84**	**333**	*e*PKP		PKPab	11 30 53.9	+0.8
ESKT	**Eskisehir**	**153.12**	**306**	*i* P		PKPab	11 30 54.2	-0.1
CLL	**Collm**	**153.83**	**345**	*i* PKPbc		PKPbc	11 30 43.9	-0.1
	comp=Z,6.0nm,0.8s							
CLL				⇑*i*PKPab		PKPab	11 30 56.7	-0.6
	comp=Z,8.0nm,1.0s							
KECS	**Kecovo**	**153.88**	**333**	*e*PKP		PKPab	11 30 57.7	+0.1
BRG	**Berggiesshubel**	**154.01**	**344**	*e*(P)		PKPab	11 30 57.9	-0.2
	comp=Z,4.4nm,1.0s							
GERES	**GERESS Array B**	**155.93**	**342**	PKPab		PKPab	11 31 05.6	-0.7
	comp=Z,1.4nm,0.7s,baz=20,slow=4.3,SNR=6.3							
TORD	**Torodi Ar. Bea**	**166.88**	**175**	PKPab		PKPab	11 31 53.6	-0.5
	comp=Z,1.7nm,1.0s,baz=198,slow=4.8,SNR=5.6							

IDC 17 11:22:58.3±15.0,2366N×9505E,h241km±158km,mb3.3/7, mb1 3.5/7,mb1mx3.2/18,mbtmp3.9/7,MS3.5/1,Ms1 3.5/1, ms1mx2.6/27,Error ellipse: s-maj=46.5km s-min=14.1km az=47.0,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MJAR	**Matsushiro Arr**	**39.18**	**61**	P		P	11 30 03.1	+0.1
	0.4nm,0.4s,baz=264,slow=8.7,SNR=4.4							
AKTO	**Aktyubinsk**	**39.21**	**322**	P		P	11 30 03.5	+0.3
	1.1nm,0.4s,baz=89,slow=7.3,SNR=5.1							
JHJ	**Hachijo jima 2**	**40.21**	**66**	LR		LR	11 47 14.0	
	comp=Z,58nm,18.1s,baz=334,slow=36							
AKASG	**Malin Array Be**	**56.86**	**316**	P		P	11 32 16.8	-1.1
	0.7nm,0.4s,baz=82,slow=6.3,SNR=4.2							
WRA	**Warramunga Arr**	**57.84**	**135**	P		P	11 32 25.0	+0.2
	0.6nm,0.5s,baz=324,slow=7.5,SNR=14							
ASAR	**Alice Springs**	**60.30**	**139**	P		P	11 32 42.2	+0.6
	0.5nm,0.6s,baz=323,slow=6.7,SNR=7.4							
ASAR				pP		pP	11 33 15.3	-20
	0.3nm,0.5s,baz=323,slow=7.2,SNR=2.5							
ARCES	**ARCESS Array B**	**60.91**	**338**	P		P	11 32 46.0	+0.3
	9.5nm,1.2s,baz=72,slow=5.2,SNR=5.7							
NB2	**NORSAR Subarra**	**66.64**	**328**	P		P	11 33 22.7	-0.4
	comp=Z,0.1nm,0.5s,baz=84,slow=6.9							
NOA	**NORSAR Array B**	**66.64**	**328**	P		P	11 33 22.5	-0.5
	comp=Z,0.8nm,0.7s,baz=84,slow=6.4,SNR=3.9							
TORD	**Torodi Ar. Bea**	**87.83**	**283**	P		P	11 35 21.2	+0.9
	comp=Z,0.4nm,0.4s,baz=73,slow=5.0,SNR=5.8							

*ISCJB **17** 11:23:29.9±0.8, 1497N±003×6046W±008,h61km±5km, mb4.0/11,Error ellipse: s-maj=13.5km s-min=5.5km az=166.9*
*TRN **17** 11:23:29.6, 1498N×6048W, h35km,MD3.6,M3.1(FDF)*
TRN Felt (II) in Martinique.
*IDC **17** 11:23:29.7±2.6, 1498N×6048W, h40km±16km, mb3.7/7, mb1 4.1/9,mb1mx3.7/23,mbtmp4.0/9,ML5.0/2,MS3.3/2, Ms1 3.3/2,ms1mx2.9/25,Error ellipse: s-maj=43.5km s-min=5.8km az=86.0*
*NEIC **17** 11:23:30.2, 1494N×6051W, h41km,mb4.3/4,MD3.6(TRN), MD3.7(FDF),After TRN.*
NEIC Felt [II] on Martinique.

ISC 17 11:23:30.5±0.9,1498N±003×6043W±008,h48km±7km,n48, σ0°56/58,mb4.0/11,MS3.9/1,1C-22D,Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CRM	**Caravelle**	**0.52**	**245**	⇓*i*P		**Pn**	**11 23 41.5**	**-0.3**
MVM	**Montagne Vaucl**	**0.61**	**227**	⇓*i*P		**Pn**	**11 23 43.0**	**-0.1**
BVM	**Bellevue**	**0.66**	**249**	⇓*i*P		**Pn**	**11 23 43.5**	**-0.1**
BVM				*e*S		**Sn**	**11 23 52.9**	**-0.1**
ZAM	**Aeronautique**	**0.70**	**235**	⇓*i*P		**Pn**	**11 23 43.9**	**-0.3**
BAMF	**Morne Balai**	**0.71**	**257**	⇓*i*P		**Pn**	**11 23 44.4**	**0.0**
SVN	**Savane Anatole**	**0.73**	**260**	⇓*i*P		**Pn**	**11 23 44.4**	**-0.1**
GBMF	**Grand Be**	**0.73**	**256**	⇓*i*P		**Pn**	**11 23 44.5**	**0.0**
FDF	**Fort de France**	**0.74**	**251**	⇓*i*P		**Pn**	**11 23 44.5**	**-0.1**
FDF				*e*S		**Sn**	**11 23 54.7**	**-0.2**
TRMF	**Trois Ilets**	**0.74**	**234**	⇓*i*P		**Pn**	**11 23 44.5**	**-0.2**
PML	**Morne Lenard**	**0.76**	**255**	⇓*i*P		**Pn**	**11 23 44.9**	**0.0**
BIM	**Bigot**	**0.77**	**234**	*i* P		**Pn**	**11 23 45.1**	**+0.1**
BIM				*e*S		**Sn**	**11 23 55.6**	**0.0**
PCM	**Pelee Case Pet**	**0.77**	**258**	⇓*i*P		**Pn**	**11 23 44.3**	**-0.8**
PCM				*e*S		**Sn**	**11 23 54.5**	**-1.2**
PCM	**Pelee Case Pet**	**0.77**	**258**	⇓*i*P		**Pn**	**11 23 45.1**	**0.0**
PCM				*e*S		**Sn**	**11 23 54.5**	**-1.2**
DBCT	**Belle View Cho**	**0.93**	**288**	*e*P		**Pn**	**11 23 47.1**	**-0.1**
DBCT				*e*S		**Sn**	**11 24 00.6**	**+1.1**
DSHT	**Scott's Head**	**0.94**	**285**	*e*P		**Pn**	**11 23 47.1**	**-0.3**
DSHT				*e*S		**Sn**	**11 24 00.5**	**+0.7**
MDN	**Morne-Daniel**	**0.99**	**290**	*e*P		**Pn**	**11 23 48.1**	**+0.1**
MDN				*e*S		**Sn**	**11 24 01.5**	**+0.6**
DWS	**Wesley**	**1.04**	**305**	⇑*e*P		**Pn**	**11 23 49.2**	**+0.6**
DWS				*e*S		**Sn**	**11 24 01.9**	**-0.1**
BBL	**Barber's Block**	**1.14**	**299**	⇓*e*P		**Pn**	**11 23 50.1**	**0.0**
BBL				*e*S		**Sn**	**11 24 04.4**	**-0.3**
MGG	**Marie-Galante**	**1.27**	**318**	⇓*e*P		**Pn**	**11 23 51.4**	**-0.4**
DEG	**La Desirade**	**1.46**	**336**	⇓*e*P		**Pn**	**11 23 53.9**	**-0.5**
DEG				*e*S		**Sn**	**11 24 11.7**	**-0.7**
TBG	**Guadaloupe-3**	**1.46**	**307**	⇓*e*P		**Pn**	**11 23 54.2**	**-0.2**
DOG	**Dongo Capester**	**1.56**	**313**	⇓*e*P		**Pn**	**11 23 55.8**	**+0.1**
PHG	**Guadaloupe-2**	**1.56**	**312**	⇓*e*P		**Pn**	**11 23 56.0**	**+0.2**
HMG	**Houelmont**	**1.58**	**309**	⇓*e*P		**Pn**	**11 23 56.3**	**+0.2**
BCG	**Bois Riant Cap**	**1.59**	**314**	⇓*e*P		**Pn**	**11 23 56.3**	**+0.1**
SCG	**Saint Claude**	**1.60**	**311**	⇓*e*P		**Pn**	**11 23 56.4**	**+0.1**
LZG	**Guadaloupe-1**	**1.74**	**312**	*e*P		**Pn**	**11 23 58.3**	**0.0**
SEG	**Port Louis**	**1.76**	**324**	⇓*e*P		**Pn**	**11 23 58.6**	**+0.2**
BPA	**Boggy Peak**	**2.48**	**326**	*e*P		**Pn**	**11 24 09.5**	**+1.2**
BPA				*e*S		**Sn**	**11 24 37.8**	**+0.5**
SJG	**San Juan**	**6.31**	**300**	P		**Pn**	**11 25 01.3**	**+0.4**
	5.1nm,0.3s,baz=175,slow=13,SNR=7.3							
SJG				S		**Sn**	**11 26 07.9**	**-3.7**
	3.8nm,0.3s,baz=33,slow=18,SNR=2.3							
SJG	**San Juan**	**6.31**	**300**	*e*Pn		**Pn**	**11 25 02.3**	**+1.3**
	13nm,0.6s							
SDV	**Santo Domingo**	**11.67**	**240**	P		**Pn**	**11 26 14.7**	**+0.3**
	1.5nm,0.3s,baz=83,slow=8.0,SNR=7.5							
SDV	**Santo Domingo**	**11.67**	**240**	*e*Pn		**Pn**	**11 26 14.6**	**+0.3**
	5.1nm,0.5s							
ROSC	**El Rosal**	**16.98**	**235**	LR		LR	11 32 53.3	
	comp=Z,40nm,20.9s,baz=39,slow=33							
OTAV	**Otavalo**	**23.06**	**232**	*e*P		**P**	**11 28 31.6**	**-0.2**
	3.8nm,0.6s,mb4.0							
SIV	**San Ignacio**	**30.77**	**181**	P		**P**	**11 29 42.3**	**+0.9**
	0.3nm,0.5s,mb3.4,baz=19,slow=6.5,SNR=3.9							
LPAZ	**La Paz**	**31.98**	**194**	P		**P**	**11 29 53.4**	**+1.4**
	0.9nm,0.8s,mb3.6,baz=352,slow=7.1,SNR=3.2							
LVC	**Limon Verde**	**38.27**	**193**	P		**P**	**11 30 46.1**	**0.0**
	1.9nm,0.5s,mb4.1,baz=32,slow=8.2,SNR=5.0							
WMOK	**Wichita Mounta**	**39.66**	**307**	*e*P		**P**	**11 30 56.5**	**-1.3**
	2.4nm,0.4s,mb4.3							
MNTX	**Cornudas Mount**	**44.17**	**300**	*e*P		**P**	**11 31 34.1**	**-0.4**
	2.6nm,0.4s,mb4.3							
PDAR	**Pinedale Array**	**50.25**	**314**	P		**P**	**11 32 21.8**	**-0.1**
	2.5nm,0.7s,mb4.4,baz=109,slow=9.0,SNR=18							
DAU	**Daniels Canyon**	**50.81**	**310**	*e*P		**P**	**11 32 26.9**	**+0.9**
TPAW	**Teton Pass**	**51.44**	**314**	*e*P		**P**	**11 32 30.8**	**-0.1**
	1.9nm,0.6s,mb4.2							
NVAR	**Mina Array Bea**	**55.76**	**306**	P		**P**	**11 33 02.7**	**+0.2**
	1.7nm,0.7s,mb4.2,baz=102,slow=6.9,SNR=16							
YKA	**Yellowknife Ar**	**60.66**	**334**	P		**P**	**11 33 35.3**	**-1.3**
	0.7nm,0.5s,mb4.1,baz=107,slow=7.5,SNR=25							
VRAC	**Vranov**	**70.36**	**43**	LR		LR	12 02 41.3	
	comp=Z,63nm,18.6s,MS3.9,baz=288,slow=33							
ILAR	**Eielson Array**	**75.07**	**334**	P		**P**	**11 35 06.5**	**-0.7**
	0.4nm,0.5s,mb3.6,baz=94,slow=4.5,SNR=15							
WRA	**Warramunga Arr**	**165.07**	**249**	PKPab		PKPab	11 44 27.6	+1.3
	0.2nm,0.7s,baz=103,slow=4.1,SNR=4.5							

*IDC **17** 11:34:06.5±1.5,208N×96.12E,h0km,mb4.1/6,mb1 4.1/7, mb1mx3.8/18,mbtmp4.0/7,ML3.6/1,MS3.8/2,Ms1 3.8/2, ms1mx3.0/24,Error ellipse: s-maj=50.6km s-min=19.4km az=55.0*
*MOS **17** 11:34:09.7±0.9,2.16N×96.14E,h33km,mb4.7/8,Error ellipse: s-maj=17.9km s-min=12.0km az=110.1*
*NEIC **17** 11:34:11.4±0.5,2.13N×96.23E,h30km,mb4.7/12,Error ellipse: s-maj=13.2km s-min=6.4km az=219.0*
*ISCJB **17** 11:34:12.8±3.2,22N±02×964E±02,h56km±25km, mb4.5/20,MS3.8/2,Error ellipse: s-maj=36.8km s-min=11.2km az=98.2*

ISC 17 11:34:14.6±3.2,22N±02×964E±02,h52km±25km,n36, σ0°80/36,mb4.5/20,MS3.8/2,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PSI	**Prapat**	**2.61**	**78**	Pn		**Pn**	**11 34 54.0**	**-0.2**
	9.7nm,0.3s,baz=274,slow=7.6,SNR=34							
KULM	**Kulim**	**5.23**	**55**	*e*Pn		**Pn**	**11 35 29.5**	**-0.7**
KKM	**Kota Kinabalu**	**20.14**	**79**	*e*P		**P**	**11 38 45.5**	**+1.1**
JIRN	**Jiri**	**27.09**	**340**	*e*P		**P**	**11 39 52.8**	**+0.5**
	26nm,0.7s,mb4.8							
PKI	**Pulchoki**	**27.28**	**338**	*e*P		**P**	**11 39 54.4**	**+0.3**
GUN	**Gumba**	**27.42**	**340**	*e*P		**P**	**11 39 55.9**	**+0.5**
	30nm,0.9s,mb4.8							
DMN	**Daman**	**27.43**	**338**	*e*P		**P**	**11 39 56.5**	**+1.1**
KKN	**Kakani**	**27.53**	**338**	*e*P		**P**	**11 39 56.7**	**+0.4**
	17nm,0.7s,mb4.8							
KKN	**Kakani**	**27.53**	**338**	*e*P		**P**	**11 39 56.7**	**+0.4**
KKN				pmax		pmax		
	comp=Z,17nm,0.7s,mb4.8							
LSA	**Lhasa**	**27.75**	**350**	*e*P		**P**	**11 39 58.6**	**+0.3**
LSA				pmax		pmax		
	comp=Z,5.0nm,0.5s,mb4.4							
LSA	**Lhasa**	**27.75**	**350**	*e*P		**P**	**11 39 58.6**	**+0.3**
	comp=Z,4.9nm,0.5s,mb4.4							
GKN	**Gorkha**	**27.96**	**337**	*e*P		**P**	**11 40 00.7**	**+0.5**
	comp=Z,9.5nm,0.4s,mb4.8							
KOLN	**Koldanda**	**28.17**	**335**	*e*P		**P**	**11 40 02.8**	**+0.8**
	comp=Z,12nm,0.7s,mb4.6							
BJT	**Baijiatuan**	**41.67**	**23**	*e*P		**P**	**11 41 59.1**	**+1.1**
BJT				pmax		pmax		
	comp=Z,18nm,0.6s							
BJT	**Baijiat

baz=70,slow=9.3
MOR8 *e*S Sn 11 47 35.5 -7.4
MOR8 AML AML 11 47 44.8
comp=Z,1.6nm,0.7s

NEIC ***17*** *12:31:16.6,2196S×7004W,h60km,MG3.3(GUC),After GUC.*
NEIC Felt [II] at Tocopilla.
GUC 17 12:31:16.6±0.8,2195S×7004W,h60km,ML3.3,1C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.24**	**122**	*e*P		Pn	12 31 38.6	+0.8
LVC				*i* S		Sn	12 31 55.7	+2.2
LVC				AML		AML	12 31 56.5	
	comp=E,1μm,0.3s							
LVC	**Limon Verde**	**1.24**	**122**	*e*P		Pn	12 31 38.6	+0.8
LVC				*i* S		Sn	12 31 55.7	+2.2
CEN1	**Los Morros**	**1.44**	**186**	⇑*i*P		Pn	12 31 44.2	+3.8
CEN1				*i* S		Sn	12 32 05.0	+6.7
CEN1				AML		AML	12 32 06.6	
	comp=N,357nm,0.4s							
ANCH	**Antofagasta**	**1.75**	**191**	⇓*i*P		Pn	12 31 45.0	+0.3
ANCH				*i* S		Sn	12 32 06.8	+0.9
CPN1	**Cerro Paranal**	**2.68**	**187**	*e*P		Pn	12 31 57.4	+0.1
CPN1				*i* S		Sn	12 32 29.3	+0.7
CPN1				AML		AML	12 32 32.4	
	comp=N,132nm,0.5s							
LPAZ	**La Paz**	**5.92**	**18**	*e*Pn		Pn	12 32 41.9	+0.2
	comp=N,2.1nm,0.6s							
CPUP	**Villa Florida**	**12.40**	**113**	*e*Pn		Pn	12 34 11.8	+1.6

IDC ***17*** *12:48:14.3±3.9,3626N×6997E,h0km,mb3.6/3,mb1 3.7/4, mb1mx3.4/19,mbtmp3.5/4,ML3.4/1,Error ellipse: s-maj=91.3km s-min=32.8km az=141.0*
ISCJB ***17*** *12:48:21.2±4.5,365N±02×707E±04,h83km±49km, mb3.4/3,Error ellipse: s-maj=55.8km s-min=25.0km az=131.5*
NNC ***17*** *12:48:25.3±40.0,3695N×7094E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=576.3km s-min=285.2km az=60.0*
ISC 17 12:48:23.2±3.8,365N±02×707E±04,h90km±42km,n13, σ0§78/14,mb3.4/3,1C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.05**	**21**	P		**Pn**	**12 49 50.4**	**+0.3**
	SNR=63							
UCH	**Uchtor**	**6.40**	**26**	P		**Pn**	**12 49 54.8**	**-0.1**
	SNR=9.5							
KZA	**Kyzart**	**6.55**	**31**	P		**Pn**	**12 49 56.2**	**-0.7**
	SNR=14							
EKS2	**Erkin-Say**	**6.56**	**20**	P		**Pn**	**12 49 57.6**	**+0.6**
	SNR=6.0							
KK31	**Karatay Array**	**6.57**	**359**	⇓P		**Pn**	**12 49 58.2**	**+1.0**
	1.7nm,0.2s,baz=180,slow=13,SNR=3.8							
KK31				⇓S		**Sn**	**12 51 09.7**	**-0.9**
	2.4nm,0.4s,baz=188,slow=24,SNR=6.8							
AAK	**Ala-Archa**	**6.75**	**24**	P		**Pn**	**12 50 00.1**	**+0.4**
	SNR=6.0							
CHMS	**Chumysh**	**7.16**	**24**	P		**Pn**	**12 50 05.4**	**+0.1**
	SNR=6.1							
TKM2	**Tokmak 2**	**7.40**	**29**	P		**Pn**	**12 50 08.3**	**-0.2**
	SNR=5.6							
TKM2	**Tokmak 2**	**7.40**	**29**	⇑P		**Pn**	**12 50 07.0**	**-1.5**
	0.3nm,0.5s							
MKAR	**Makanchi Array**	**13.39**	**36**	Pn		**Pn**	**12 51 34.2**	**+4.7**
	0.2nm,0.3s,baz=211,slow=9.6,SNR=5.9							
ARCES	**ARCESS Array B**	**41.04**	**338**	P		**P**	**12 55 58.8**	**+1.1**
	2.1nm,0.9s,mb4.0,baz=103,slow=8.8,SNR=4.3							
NOA	**NORSAR Array B**	**44.23**	**323**	P		**P**	**12 56 23.8**	**+0.3**
	0.3nm,0.5s,mb3.3,baz=96,slow=7.9,SNR=3.3							
TORD	**Torodi Ar. Bea**	**65.50**	**268**	P		**P**	**12 58 55.6**	**-1.3**
	0.1nm,0.3s,mb3.1,baz=59,slow=5.2,SNR=5.0							

IDC 17 12:58:52.1±1.5,7336N×677E,h0km,mb3.2/4,mb1 3.4/5, mb1mx3.3/19,mbtmp3.2/5,ML2.9/1,MS2.7/2,Ms1 2.7/2, ms1mx2.3/14,Error ellipse: s-maj=38.3km s-min=21.6km az=33.0,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ARCES	**ARCESS Array B**	**7.08**	**114**	Pn		Pn	13 00 36.0	-0.9
	0.3nm,0.3s,baz=322,slow=11,SNR=22							
ARCES					Sn	Sn	13 01 49.5	-8.7
	0.3nm,0.3s,baz=308,slow=18,SNR=5.1							
NOA	**NORSAR Array B**	**12.49**	**170**	LR		LR	13 06 04.9	
	comp=Z,21nm,18.0s,baz=330,slow=35							
AKASG	**Malin Array Be**	**24.72**	**144**	P		P	13 04 14.8	-0.2
	0.4nm,0.3s,baz=340,slow=9.8,SNR=4.3							
GERES	**GERESS Array B**	**24.80**	**169**	P		P	13 04 16.5	+0.9
	0.3nm,0.2s,baz=11,slow=9.5,SNR=3.6							
GERES					LR	LR	13 13 11.2	
	comp=Z,23nm,20.0s,baz=99,slow=35							
YKA	**Yellowknife Ar**	**38.88**	**321**	P		P	13 06 18.4	-0.7
	0.2nm,1.0s,baz=33,slow=7.8,SNR=4.0							
TORD	**Torodi Ar. Bea**	**60.27**	**186**	P		P	13 09 01.1	-1.1
	0.3nm,0.7s,baz=0.5,slow=7.1,SNR=4.0							

IDC 17 13:01:36.1±7.1,3005S×17782W,h0km,mb4.0/3, mb1 4.1/3,mb1mx3.9/11,mbtmp4.0/3,Error ellipse: s-maj=140.7km s-min=18.6km az=109.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.80**	**354**	Pn		Pn	13 01 54.4	-0.2
	449nm,0.3s,baz=94,slow=3.5,SNR=23							
RAO					Sn	Sg	13 02 09.2	+7.3
	432nm,0.3s,baz=102,slow=19,SNR=5.1							
STKA	**Stephens Creek**	**34.71**	**256**	P		P	13 08 28.3	+0.6
	0.8nm,0.5s,baz=94,slow=9.9,SNR=5.0							
ASAR	**Alice Springs**	**43.28**	**266**	P		P	13 09 39.3	-0.1
	1.3nm,0.7s,baz=109,slow=7.9,SNR=13							
WRA	**Warramunga Arr**	**44.24**	**272**	P		P	13 09 47.3	+0.2
	1.1nm,0.4s,baz=111,slow=8.0,SNR=36							

IDC 17 13:29:18.2±2.7,1480S×6603E,h0km,mb3.8/3,mb1 4.1/3, mb1mx3.6/17,mbtmp3.8/3,MS3.8/5,Ms1 3.8/5, ms1mx3.3/20,Error ellipse: s-maj=111.3km s-min=32.8km az=49.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**31.50**	**293**	LR		LR	13 45 30.2	
	comp=Z,48nm,21.4s,baz=41,slow=31							
MAW	**Mawson**	**52.81**	**182**	LR		LR	13 55 17.8	
	comp=Z,74nm,20.2s,baz=247,slow=30							
FITZ	**Fitzroy Crossi**	**57.06**	**102**	LR		LR	13 57 17.2	
	comp=Z,193nm,19.3s,baz=233,slow=29							
MKAR	**Makanchi Array**	**63.03**	**12**	P		P	13 39 47.2	+0.2
	0.6nm,0.7s,baz=208,slow=4.9,SNR=5.0							
ASAR	**Alice Springs**	**64.20**	**109**	P		P	13 39 55.0	+0.3
	0.5nm,0.6s,baz=267,slow=6.1,SNR=8.6							
WRA	**Warramunga Arr**	**65.02**	**105**	P		P	13 40 01.0	+0.9
	2.7nm,1.1s,baz=266,slow=6.0,SNR=8.5							
PMG	**Port Moresby**	**79.15**	**97**	LR		LR	14 09 43.5	
	comp=Z,489nm,21.7s,baz=19,slow=31							
NOA	**NORSAR Array B**	**87.16**	**337**	LR		LR	14 22 08.1	
	comp=Z,17nm,19.8s,baz=275,slow=36							
PDAR	**Pinedale Array**	**151.87**	**353**	PKPbc		PKPbc	13 49 16.5	+1.5
	0.7nm,0.8s,baz=15,slow=3.7,SNR=4.6							
PDAR				PKPab		PKPab	13 49 22.9	-1.2
	0.7nm,0.7s,baz=25,slow=2.4,SNR=4.8							

IDC 17 13:46:02.9±7.0,1896S×17763W,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.7/13,mbtmp3.7/3,Error ellipse: s-maj=301.8km s-min=37.3km az=144.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.18**	**260**	P		P	13 54 22.0	+0.6
	0.4nm,0.3s,baz=97,slow=7.6,SNR=43							
ASAR	**Alice Springs**	**45.23**	**255**	P		P	13 54 22.0	+0.1
	0.9nm,0.8s,baz=92,slow=7.8,SNR=6.3							
ILAR	**Eielson Array**	**86.74**	**13**	P		P	13 58 48.4	-0.4
	0.5nm,0.8s,baz=218,slow=5.2,SNR=6.2							

NEIC ***17*** *14:00:37.8±0.7,2882S×6800W,h97km±24km,mb3.6/1, Error ellipse: s-maj=14.7km s-min=10.6km az=123.0*
GUC 17 14:00:38.1±0.8,2876S×6825W,h125km,ML4.2,5C-2D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**2.16**	**263**	⇑*i*P		Pn	14 01 15.2	+1.4
LCO				*i* S		Sn	14 01 42.5	+1.4
TLL	**Tololo Astrono**	**2.63**	**237**	⇑*i*P		Pn	14 01 21.2	+1.5
TLL				*i* S		Sn	14 01 53.7	+2.0
TLL				AML		AML	14 01 55.7	
	comp=E,750nm,0.2s							
TLL	**Tololo Astrono**	**2.63**	**237**	⇑*i*P		Pn	14 01 21.2	+1.5
TLL				*i* S		Sn	14 01 53.7	+2.0
LSCH	**La Serena**	**2.85**	**246**	*i* S		Sn	14 01 56.8	0.0
LSCH				AML		AML	14 01 57.1	
	comp=N,293nm,0.1s							
LSCH	**La Serena**	**2.85**	**246**	P		Pn	14 01 00.0	-23
LSCH				*i* S		Sn	14 01 56.8	0.0
CMCH	**Combarbala**	**3.38**	**224**	⇑*i*P		Pn	14 01 30.5	+0.9
CMCH				*i* S		Sn	14 02 09.9	+0.6
CMCH				AML		AML	14 02 21.3	
	comp=N,628nm,0.8s							
CMCH	**Combarbala**	**3.38**	**224**	⇑*i*P		Pn	14 01 30.5	+0.9
CMCH				*i* S		Sn	14 02 09.9	+0.6
JACH	**Jahuel**	**4.39**	**207**	⇓*i*P		Pn	14 01 43.8	+0.8
JACH				*i* S		Sn	14 02 34.0	+0.6
FCH	**Farellones**	**4.87**	**200**	⇓*i*P		Pn	14 01 50.7	+1.3
FCH				*i* S		Sn	14 02 46.7	+1.8
RCDM	**Rinconada Maip**	**5.19**	**204**	*i* P		Pn	14 01 52.4	-1.3
RCDM				*i* S		Sn	14 02 50.9	-1.6
LVC	**Limon Verde**	**6.15**	**354**	*e*P		Pn	14 02 07.3	+0.7
	comp=N,6.2nm,0.5s							
LVC				*e*S		Sn	14 03 09.8	-5.9
CPUP	**Villa Florida**	**9.99**	**79**	*e*P		Pn	14 02 55.7	-2.7
	comp=N,26nm,0.8s							
SAML	**Samuel**	**20.28**	**15**	P		P	14 05 05.9	+2.1
	comp=N,1.9nm,0.5s							

ISCJB ***17*** *14:02:04.1±0.9,3591N±006×2428E±007,h94km±10km, Error ellipse: s-maj=12.4km s-min=7.2km az=86.2*
ATH ***17*** *14:02:05.9,3609N×2438E,h48km±25km,MD3.0/5*
NEIC ***17*** *14:02:05.8,3609N×2438E,h50km,MD3.0(ATH),After ATH.*
HLW ***17*** *14:02:06.4,3552N×2291E,h33km,Mb3.2*
CSEM ***17*** *14:02:06.3±0.1,3607N×2439E,h40km,MD3.0,Error ellipse: s-maj=4.6km s-min=4.0km az=47.0*
ISC 17 14:02:05.3±0.9,3595N±006×2430E±007,h86km±11km, n10,σ0§94/17,Crete

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.55**	**189**	*e*P		**Pn**	**14 02 20.8**	**+0.8**
VAM				*e*S		**Sn**	**14 02 31.0**	**+0.1**
KYTH	**Kithira**	**1.08**	**288**	*e*P		**Pn**	**14 02 26.0**	**+0.5**
KYTH				*e*S		**Sn**	**14 02 41.0**	**+0.2**
NPS	**Neapolis**	**1.27**	**122**	*e*P		**Pn**	**14 02 29.1**	**+1.2**
NPS				*e*S		**Sn**	**14 02 44.5**	**-0.4**
NPS	**Neapolis**	**1.27**	**122**	*e*P		**Pn**	**14 02 29.1**	**+1.2**
NPS				*e*S		**Sn**	**14 02 44.0**	**-0.9**
VLI	**Veliai**	**1.34**	**305**	*e*P		**Pn**	**14 02 29.1**	**+0.3**
VLI				*e*S		**Sn**	**14 02 45.3**	**-1.2**
APE	**Apeiranthos**	**1.49**	**41**	*e*P		**Pn**	**14 02 29.6**	**-1.1**
KARP	**Karpathos**	**2.36**	**99**	*e*P		**Pn**	**14 02 42.5**	**+0.4**
SLUM		**4.51**	**170**	P		**Pn**	**14 03 11.6**	**+0.5**
SLUM				S		**Sn**	**14 03 59.6**	**-2.7**
SWA2		**6.76**	**171**	P		**Pn**	**14 03 41.9**	**+0.1**
SWA1		**6.77**	**170**	P		**Pn**	**14 03 42.7**	**+0.7**
SWA1				S		**Sn**	**14 04 52.9**	**-4.7**

IDC ***17*** *14:12:59.2±1.7,803S×12527E,h0km,mb4.0/1,mb1 4.1/4, mb1mx3.9/14,mbtmp4.0/4,ML3.8/3,Error ellipse: s-maj=105.8km s-min=26.1km az=67.0*
ISCJB ***17*** *14:13:02.6±1.4,844S±008×12495E±0.10,h33km,mb4.1/1, Error ellipse: s-maj=14.1km s-min=10.9km az=153.1*
ISC 17 14:13:04.9±1.4,836S±009×1249E±01,h35km,n6, σ1§48/11,mb4.1/1,Timor region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.55**	**121**	*e*P		**Pn**	**14 15 07.9**	**+1.8**
	6.1nm,0.6s							
KAKA				*e*S		**Sn**	**14 16 41.2**	**0.0**
FITZ	**Fitzroy Crossi**	**9.71**	**176**	*e*P		**Pn**	**14 15 24.8**	**+2.8**
	5.5nm,0.8s							
FITZ				*e*S		**Sn**	**14 17 09.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**9.71**	**176**	Pn		**Pn**	**14 15 24.8**	**+2.8**
	0.3nm,0.3s,baz=326,slow=20,SNR=14							
FITZ					Sn	**Sn**	**14 17 09.2**	**-0.6**
	0.5nm,0.3s,baz=315,slow=22,SNR=4.1							
WRA	**Warramunga Arr**	**14.68**	**143**	Pn		**Pn**	**14 16 28.0**	**-1.8**
	0.7nm,0.3s,baz=317,slow=13,SNR=42							
WRA					Sn	**Sn**	**14 19 07.6**	**-3.6**
	0.6nm,0.3s,baz=316,slow=24,SNR=9.9							
ASAR	**Alice Springs**	**17.48**	**152**	P		**Pn**	**14 17 06.6**	**+0.9**
	0.5nm,0.3s,baz=327,slow=11,SNR=23							
ASAR				S		**S**	**14 20 16.4**	**-10**
	0.2nm,0.3s,baz=317,slow=19,SNR=11							
MKAR	**Makanchi Array**	**66.73**	**330**	P		**P**	**14 23 51.6**	**-0.8**
	1.0nm,0.5s,mb4.1,baz=124,slow=7.7,SNR=8.9							

ISCJB ***17*** *14:40:28.4±0.9,02N±01×972E±01,h33km,mb3.8/6,Error ellipse: s-maj=19.0km s-min=15.4km az=41.3*
NEIC ***17*** *14:40:29.2±0.8,012N×9708E,h30km,Error ellipse: s-maj=18.0km s-min=16.0km az=72.0*
IDC ***17*** *14:40:31.8±7.4,033N×9729E,h46km±67km,mb3.6/6, mb1 3.7/7,mb1mx3.5/17,mbtmp3.8/7,ML2.9/1,Error ellipse: s-maj=60.7km s-min=19.2km az=54.0*
ISC 17 14:40:30.8±0.9,03N±01×972E±01,h35km,n9,σ1§35/11, mb3.8/6,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.00**	**34**	P		**Pn**	**14 41 17.0**	**+1.1**
	1.6nm,0.3s,baz=229,slow=2.5,SNR=6.4							
PSI				S		**Sn**	**14 41 48.2**	**-2.3**
	1.4nm,0.3s,baz=204,slow=14,SNR=4.4							
PSI	**Prapat**	**3.00**	**34**	P		**Pn**	**14 41 17.0**	**+1.1**
PSI				S		**Sn**	**14 41 48.2**	**-2.3**
KULM	**Kulim**	**6.01**	**35**	*e*P		**Pn**	**14 41 59.2**	**+2.0**
WRA	**Warramunga Arr**	**41.55**	**121**	P		**P**	**14 48 13.7**	**-1.2**
	0.5nm,0.5s,mb3.4,baz=304,slow=9.0,SNR=7.6							
ASAR	**Alice Springs**	**42.85**	**126**	P		**P**	**14 48 26.3**	**+0.8**
	0.5nm,0.9s,mb3.3,baz=302,slow=7.6,SNR=5.0							
MKAR	**Makanchi Array**	**48.10**	**346**	P		**P**	**14 49 08.7**	**+1.6**
	2.4nm,0.6s,mb4.4,baz=160,slow=7.9,SNR=19							
BRTR	**Keskin Array B**	**69.73**	**313**	P		**P**	**14 51 36.1**	**-1.0**
	0.8nm,0.7s,mb3.8,baz=134,slow=7.1,SNR=4.0							
AKASG	**Malin Array Be**	**75.97**	**323**	P		**P**	**14 52 13.2**	**-1.0**
	0.1nm,0.2s,mb3.3,baz=92,slow=3.3,SNR=5.2							
ARCES	**ARCESS Array B**	**83.37**	**340**	P		**P**	**14 52 54.1**	**-0.2**
	4.3nm,1.0s,mb4.4,baz=112,slow=3.3,SNR=4.6							

TIF ***17*** *14:58:57.9,41.37N×44.46E,h7km±2km*
ISCJB ***17*** *14:58:58.8±0.9,4132N±005×4445E±004,h7km,Error ellipse: s-maj=6.6km s-min=4.2km az=166.5*
MOS ***17*** *14:59:01.5±3.0,4151N×4373E,h36km,mb3.6/1,Error ellipse: s-maj=44.7km s-min=10.3km az=79.4*
ISC 17 14:58:59.5±0.9,4134N±005×4445E±004,h7km,n16, σ1§23/29,4C-3D,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MTA	**Mtatsminda**	**0.44**	**36**	P		**Pg**	**14 59 06.9**	**-1.1**
MTA				S		**Sg**	**14 59 13.2**	**-0.7**
TBLG	**Delisi**	**0.45**	**29**	P		**Pg**	**14 59 07.1**	**-1.1**
TBLG				S		**Sg**	**14 59 13.8**	**-0.4**
TBLG	**Delisi**	**0.45**	**29**	P		**Pg**	**14 59 07.0**	**-1.2**
SAMG	**Sameba**	**0.46**	**38**	P		**Pg**	**14 59 06.2**	**-2.1**
SAMG				S		**Sg**	**14 59 12.7**	**-1.6**
GOR	**Gori**	**0.70**	**339**	S		**Sg**	**14 59 22.4**	**+0.5**
DGRG	**David-gareji**	**0.71**	**80**	P		**Pg**	**14 59 12.9**	**-0.2**
DGRG				S		**Sg**	**14 59 24.3**	**+2.0**
AKH	**Akhalkalaki**	**0.72**	**276**	P		**Pg**	**14 59 12.3**	**-1.0**
AKH				S		**Sg**	**14 59 22.7**	**0.0**
ONI	**Oni**	**1.45**	**329**	P		**Pn**	**14 59 23.7**	**-2.3**
ONI				S		**Sn**	**14 59 45.3**	**+0.1**
ZEI	**Tsey**	**1.49**	**344**	*e*P		**Pn**	**14 59 25.8**	**-0.8**
ZEI				*i*			14 59 46.3	
LACR	**Lac**	**1.49**	**356**	⇑*e*P		**Pn**	**14 59 27.9**	**+1.3**
LACR				*i* S		**Sn**	**14 59 47.1**	**+0.8**
DIGR	**Digorskoe uzhe**	**1.69**	**338**	⇓*e*P		**Pn**	**14 59 28.0**	**-1.3**
DIGR				*e*S		**Sn**	**14 59 47.3**	**-3.9**
SNJR	**Sundja**	**1.75**	**9**	⇓*e*P		**Pn**	**14 59 33.0**	**+2.8**
SNJR				*e*S		**Sn**	**14 59 56.2**	**+3.5**
KORR	**Kora**	**1.77**	**351**	⇓*e*P		**Pn**	**14 59 31.0**	**+0.5**
KORR				*e*S		**Sn**	**14 59 52.5**	**-0.7**
ARNR	**Ardon**	**1.86**	**356**	⇑*e*P		**Pn**	**14 59 32.7**	**+1.1**
ARNR				*e*S		**Sn**	**14 59 55.8**	**+0.5**
BTKR	**Batakoyurt**	**2.04**	**2**	⇑*e*P		**Pn**	**14 59 35.8**	**+1.7**
BTKR				*e*S		**Sn**	**15 00 01.2**	**+1.5**
KMSR	**Komsomolskaya**	**2.04**	**357**	⇑*e*P		**Pn**	**14 59 35.1**	**+1.0**
KMSR				*e*S		**Sn**	**14 59 59.7**	**-0.1**

MAN 17 15:01:37.4,1385N×12013E,h41km,mb2.4,ML4.0,MS3.7, 2D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.16**	**136**	*e*P		Pn	15 01 46.1	+1.6
LUBP				*e*S		Sn	15 01 51.9	+2.5
TGY	**Tagaytay City**	**0.82**	**72**	⇓*i*P		Pn	15 01 55.3	+2.8
TGY				*i* S		Sn	15 02 07.1	+3.6
PGP	**Puerto Galera**	**0.87**	**113**	*e*P		Pn	15 01 57.0	+3.8
BOAC	**Boac**	**1.71**	**103**	*e*P		Pn	15 02 05.0	+0.3
BUSP	**Coron**	**1.84**	**178**	*e*P		Pn	15 02 07.6	+1.1
BUSP				*e*S		Sn	15 02 28.9	+0.5
PCPH	**Palayan**	**1.94**	**29**	⇓*e*P		Pn	15 02 07.8	-0.1
PCPH				*e*S		Sn	15 02 32.0	+1.0
POLP	**Polilio Island**	**1.96**	**63**	*e*P		Pn	15 02 09.8	+1.7
BALP	**Baler**	**2.34**	**36**	*e*P		Pn	15 02 15.1	+1.8
ENPP	**El Nido**	**2.72**	**195**	*e*P		Pn	15 02 19.9	+1.4
CUYO	**Cuyo Island**	**3.10**	**164**	*e*P		Pn	15 02 24.6	+0.7

NEIC ***17*** *15:08:54.5,3088S×7129W,h51km,MG2.9(GUC),After GUC.*
GUC 17 15:08:54.5±0.6,3088S×7129W,h51km±4km,MD3.6, ML2.9,3C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.28**	**16**	⇓*i*P		Pn	15 09 03.9	+0.4
OVCH				*i* S		Sn	15 09 10.8	+0.8
OVCH				AML		AML	15 09 11.3	
	comp=E,3μm,0.2s							
OVCH	**Ovalle**	**0.28**	**16**	⇓*i*P		Pn	15 09 03.9	+0.4
OVCH				*i* S		Sn	15 09 10.8	+0.8
CMCH	**Combarbala**	**0.38**	**139**	⇓*i*P		Pn	15 09 04.9	+0.4
CMCH				*i* S		Sn	15 09 12.5	+0.9
CMCH				AML		AML	15 09 13.3	
	comp=E,4μm,0.5s							
CMCH	**Combarbala**	**0.38**	**139**	⇓*i*P		Pn	15 09 04.9	+0.4
CMCH				*i* S		Sn	15 09 12.5	+0.9
TLL	**Tololo Astrono**	**0.83**	**31**	⇑*i*P		Pn	15 09 11.1	+1.2
TLL				*i* S		Sn	15 09 23.4	+2.2
TLL				AML		AML	15 09 29.5	
	comp=N,427nm,0.3s							
TLL	**Tololo Astrono**	**0.83**	**31**	⇑*i*P		Pn	15 09 11.1	+1.2
TLL				*i* S		Sn	15 09 23.4	+2.2
LSCH	**La Serena**	**0.97**	**2**	*e*P		Pn	15 09 12.0	+0.1
LSCH				*i* S		Sn	15 09 25.1	+0.5
LSCH				AML		AML	15 09 29.9	
	comp=E,485nm,0.5s							
LSCH	**La Serena**	**0.97**	**2**	*e*P		Pn	15 09 12.0	+0.1
LSCH				*i* S		Sn	15 09 25.1	+0.5
CHNG	**Los Chungos**	**1.01**	**190**	⇑*i*P		Pn	15 09 12.8	+0.4
CHNG				*i* S		Sn	15 09 26.4	+0.9
CHNG				AML		AML	15 09 27.4	
	comp=N,189nm,0.6s							

CASC 17 15:29:03.7±5.7,1377N×9097W,h41km±218km,MD3.5, 3C-3D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.64**	**51**	*e*P		Pn	15 29 15.9	-0.4
IXG				*e*S		Sn	15 29 26.9	+1.6
FUG	**Fuego 3**	**0.68**	**10**	⇓*e*P		Pn	15 29 17.9	+1.0
PCG	**Pacaya**	**0.71**	**29**	*e*P		Pn	15 29 18.4	+1.2
PCG				*e*S		Sn	15 29 29.3	+2.3
JAT	**Jato**	**0.85**	**310**	*e*P		Pn	15 29 20.4	+1.3
JAT				*e*S		Sn	15 29 28.8	-1.5
TP2	**Tecpan 2**	**1.01**	**357**	⇑*e*P		Pn	15 29 21.7	+0.4
TP2				*e*S		Sn	15 29 36.6	+2.3
RBDL	**Robledal**	**1.29**	**75**	⇑*e*P		Pn	15 29 41.0	+16
RBDL				*e*S		Sn	15 29 58.0	+17
RTR	**El Retiro**	**1.29**	**84**	⇓*e*P		Pn	15 29 41.0	+16
RTR				*e*S		Sn	15 29 57.0	+16
SBLS	**San Blas**	**1.31**	**87**	⇓*e*P		Pn	15 29 40.9	+15
SBLS				*e*S		Sn	15 29 58.0	+16
SNJE	**San Jose**	**1.32**	**86**	*e*P		Pn	15 29 41.1	+15
SNJE				*e*S		Sn	15 29 58.1	+16
BOQS	**Boqueron**	**1.64**	**91**	*e*P		Pn	15 29 45.7	+16
BOQS				*e*S		Sn	15 30 07.3	+17
SNET	**Serv Nac Est T**	**1.69**	**93**	*e*P		Pn	15 29 36.3	+5.7
SNET				*e*S		Sn	15 29 50.4	-0.6
LFRS	**El Faro**	**1.86**	**94**	⇑*e*P		Pn	15 29 48.7	+16
LFRS				*e*S		Sn	15 30 11.5	+16
LCBS	**La Ceiba**	**1.94**	**93**	*e*P		Pn	15 29 49.0	+15
LCBS				*e*S		Sn	15 30 13.6	+16

IDC ***17*** *15:29:26.5±0.6,380S×13638E,h0km,mb4.5/8, mb1 4.7/12,mb1mx4.6/15,mbtmp4.7/12,ML4.4/3,MS4.0/7, Ms1 4.0/7,ms1mx3.6/24,Error ellipse: s-maj=24.4km s-min=14.0km az=66.0*

1.4nm,0.3s,baz=4.3,slow=13,SNR=28
WRA Sn **Sn** **15 36 05.7 -6.0**
2.2nm,0.3s,baz=360,slow=23,SNR=6.8
WRA Lg 15 37 53.8
2.3nm,0.3s,baz=359,slow=24,SNR=6.4
WRA Warramunga Arr 16.05 187 *i* P **Pn** **15 33 14.0 -0.7**
WRA pmax pmax
comp=Z,21nm,0.9s
PCI Palu 16.83 280 P **Pn** **15 33 25.4 +0.7**
comp=Z,173nm,1.3s
FITZ Fitzroy Crossi 17.60 216 *e*P **Pn** **15 33 34.4 +0.1**
comp=Z,34nm,0.5s
FITZ *e*S **Sn** **15 36 43.1 -6.4**
FITZ Fitzroy Crossi 17.60 216 P **Pn** **15 33 34.0 -0.3**
comp=Z,3.4nm,0.3s,baz=42,slow=12,SNR=25
FITZ S **Sn** **15 36 42.9 -6.5**
comp=Z,2.8nm,0.3s,baz=174,slow=15,SNR=5.6
FITZ Lg 15 38 51.6
comp=Z,0.1nm,0.3s,baz=145,slow=16,SNR=2.3
FITZ LR LR 15 40 34.6
comp=Z,350nm,21.4s,baz=39,slow=38
CTA Charters Tower 18.71 150 *e*P **Pn** **15 33 48.9 +1.1**
comp=Z,33nm,0.9s
CTA Charters Tower 18.71 150 P **Pn** **15 33 49.1 +1.3**
comp=Z,1.3nm,0.3s,baz=327,slow=11,SNR=15
CTA Lg 15 39 23.1
comp=Z,0.8nm,0.3s,baz=225,slow=22,SNR=4.7
CTA Charters Tower 18.71 150 *e*P **Pn** **15 33 48.9 +1.1**
CTA pmax pmax
comp=Z,33nm,0.9s
CTAO Charters Tower 18.71 150 *e*P **Pn** **15 33 49.2 +1.4**
CTAO pmax pmax
comp=Z,52nm,1.0s
CTAO Charters Tower 18.71 150 *e*P **Pn** **15 33 49.2 +1.4**
comp=Z,52nm,1.0s
ASAR Alice Springs 19.78 187 P **Pn** **15 34 01.1 +0.5**
comp=Z,3.3nm,0.3s,baz=8.5,slow=11,SNR=75
ASAR S **Sn** **15 37 35.2 -6.7**
comp=Z,0.6nm,0.3s,baz=5.4,slow=30,SNR=4.0
ASAR Lg 15 39 43.2
baz=16,slow=28,SNR=2.8
ASAR Alice Springs 19.78 187 P **Pn** **15 34 01.1 +0.5**
ASAR S **Sn** **15 37 35.3 -6.6**
ASAR Alice Springs 19.78 187 P **Pn** **15 34 01.1 +0.5**
ASAR S **Sn** **15 37 35.2 -6.7**
ASAR Lg 15 39 43.2
KKM Kota Kinabalu 22.47 296 *e*P **P** **15 34 28.2 +0.2**
TGY Tagaytay City 23.59 320 P **P** **15 34 36.8 -2.8**
comp=Z,52nm,0.3s,baz=281,slow=20,SNR=1.9
MBWA Marble Bar 23.59 222 *e*P **P** **15 34 39.6 0.0**
comp=Z,25nm,0.8s,mb4.7
HNR Honiara 23.99 104 P **P** **15 34 42.7 -0.6**
comp=Z,39nm,0.8s,mb4.9,baz=263,slow=6.9,SNR=4.3
HNR Honiara 23.99 104 *e*P **P** **15 34 42.7 -0.5**
FORT Forrest 27.85 196 *e*P **P** **15 35 19.9 +1.8**
comp=Z,12nm,0.6s,mb4.7
STKA Stephens Creek 28.23 171 *e*P **P** **15 35 21.0 -0.5**
comp=Z,3.5nm,0.6s,mb4.2
STKA Stephens Creek 28.23 171 P **P** **15 35 21.1 -0.4**
comp=Z,4.3nm,0.6s,mb4.3,baz=345,slow=8.9,SNR=12
JOW Kunigami 31.57 346 LR LR 15 45 20.6
comp=Z,216nm,21.6s,MS3.8,baz=174,slow=30
SSE Sheshan 37.73 338 *e*P **P** **15 36 43.6 -0.7**
SSE AP pP 15 36 52.1 -0.8
SSE XP sP 15 36 56.0 -0.3
SSE PP PP 15 38 08.5 -2.2
SSE PCP PcP 15 39 00.8 -0.1
SSE S **S** **15 42 32.0 -0.9**
SSE XS sS 15 42 46.5 -0.5
SSE SCS ScS 15 46 55.1 0.0
SSE AMB AMB
comp=Z,42nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,407nm,4.2s
SSE LR LR
comp=Z,184nm,33.3s,MS3.7
PSI Prapat 38.06 280 P **P** **15 36 46.2 -0.8**
comp=Z,3.7nm,0.4s,mb4.5,baz=168,slow=9.8,SNR=4.7
NJ2 Nanjing 39.48 336 *e*P **P** **15 37 01.3 +2.3**
NJ2 S **S** **15 42 54.0 -5.3**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.8
NJ2 AMB AMB
comp=Z,1μm,4.4s
NJ2 LR LR
comp=N,1μm,17.1s
NJ2 LR LR
comp=E,1μm,22.9s
NJ2 LR LR
comp=Z,670nm,17.0s,MS4.5
WHN Wuhan 40.24 330 P **P** **15 37 05.0 -0.3**
MJAR Matsushiro Arr 40.29 2 P **P** **15 37 04.3 -1.4**
comp=Z,4.9nm,0.8s,mb4.3,baz=184,slow=8.6,SNR=11
MJAR LR LR 15 52 47.5
comp=Z,201nm,18.4s,MS4.0,baz=205,slow=35
MAJO Matsushiro 40.29 2 P **P** **15 37 06.6 +0.9**
MAJO pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
MAJO Matsushiro 40.29 2 P **P** **15 37 06.5 +0.8**
comp=Z,8.6nm,0.9s,mb4.5
MAT Matsushiro 40.29 2 P **P** **15 37 04.2 -1.5**
MAT Matsushiro 40.29 2 P **P** **15 37 04.0 -1.7**
CHTO Chiang Mai 43.26 303 *e*P **P** **15 37 29.5 -0.5**
CHTO pmax pmax
comp=Z,18nm,1.2s,mb4.7
CHTO Chiang Mai 43.26 303 *e*P **P** **15 37 29.5 -0.5**
comp=Z,18nm,1.2s,mb4.7
KMI Kunming 43.62 313 P **P** **15 37 35.9 +3.0**
KMI AMB AMB
comp=Z,16nm,1.4s,mb4.6
KMI LR LR
comp=Z,185nm,34.0s,MS3.8
XAN Xi'an 45.81 328 P **P** **15 37 51.3 +0.9**
XAN AMB AMB
comp=Z,12nm,1.6s,mb4.6
MDJ Mudanjiang 48.71 354 P **P** **15 38 13.9 +1.0**
MDJ AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
MDJ AMB AMB
comp=Z,152nm,6.1s
LZH Lanzhou 50.12 325 *e*P **P** **15 38 26.9 +3.2**
LZH AP pP 15 38 35.6 +3.1
LZH XP sP 15 38 39.4 +3.5
LZH AMB AMB
comp=Z,53nm,1.1s,mb5.5
LZH AMB AMB
comp=Z,279nm,5.7s
URZ Urewera 50.40 138 LR LR 15 59 35.5
comp=Z,222nm,18.0s,MS4.2,baz=221,slow=36
KLR Kul'dur 53.09 356 *e*P **P** **15 38 42.4 -3.5**
GTA Gaotai 54.73 326 *e*P **P** **15 38 58.4 +0.6**
GTA AP pP 15 39 05.9 -0.8
GTA XP sP 15 39 08.0 -2.1
GTA AMB AMB
comp=Z,4.0nm,0.9s,mb4.5
LSA Lhasa 54.73 311 P **P** **15 39 00.9 +3.0**
LSA Lhasa 54.73 311 *e*P **P** **15 38 59.1 +1.2**
LSA pmax pmax
comp=Z,15nm,1.0s,mb5.0
LSA Lhasa 54.73 311 *e*P **P** **15 38 59.1 +1.2**
comp=Z,15nm,1.0s,mb5.0
ULN Ulaanbaatar 57.64 337‖ *e*P **P** **15 39 18.5 -0.2**
JIRN Jiri 57.67 306 *e*P **P** **15 39 20.7 +1.8**
comp=Z,49nm,1.0s,mb5.5
SONM Songino Array 57.87 337 P **P** **15 39 20.7 +0.4**
comp=Z,1.0nm,0.6s,mb4.0,baz=157,slow=7.8,SNR=4.4
SONM LR LR 16 04 55.7
comp=Z,93nm,19.6s,MS3.9,baz=258,slow=37
GUN Gumba 58.03 306 *e*P **P** **15 39 22.7 +1.3**
comp=Z,53nm,0.7s,mb5.7
PKI Pulchoki 58.27 306 *e*P **P** **15 39 24.8 +1.7**
KKN Kakani 58.46 306 *e*P **P** **15 39 25.5 +1.1**
comp=Z,35nm,0.9s,mb5.4
KKN Kakani 58.46 306 *e*P **P** **15 39 25.5 +1.1**
KKN pmax pmax
comp=Z,35nm,0.9s,mb5.4
DMN Daman 58.53 306 *e*P **P** **15 39 26.3 +1.4**
comp=Z,57nm,0.9s,mb5.6
GKN Gorkha 59.07 306 *e*P **P** **15 39 29.5 +0.9**
comp=Z,124nm,1.3s,mb5.8
KOLN Koldanda 59.81 305 *e*P **P** **15 39 34.9 +1.1**
comp=Z,101nm,1.2s,mb5.7
ZAK Zakamensk 61.14 336 *e*P **P** **15 39 40.1 -2.7**
ZAK pmax pmax
comp=Z,11nm,1.6s,mb4.7
MOY Mondy 63.05 336 *e*P **P** **15 40 01.5 +5.8**

BOD Bodaibo 64.14 347 *e*P **P** **15 40 01.3 -1.5**
BOD pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
WMQ Urumqi 64.56 323 *e*P **P** **15 40 05.5 -0.1**
YAK Yakutsk 65.97 357 *e*P **P** **15 40 13.9 -0.8**
YAK pmax pmax
comp=Z,17nm,0.8s,mb5.1
YAK Yakutsk 65.97 357 *e*P **P** **15 40 13.9 -0.8**
comp=Z,17nm,0.8s,mb5.1
MKAR Makanchi Array 69.37 323 P **P** **15 40 36.1 0.0**
comp=Z,4.7nm,0.8s,mb4.5,baz=112,slow=7.9,SNR=17
MKAR Makanchi Array 69.37 323 *i* P **P** **15 40 36.2 0.0**
MKAR pmax pmax
comp=Z,5.0nm,0.8s
KZA Kyzart 71.77 317 P **P** **15 40 56.0 +5.1**
SNR=7.5
UCH Uchtor 72.33 317 P **P** **15 40 59.6 +5.5**
SNR=10
AAK Ala-Archa 72.50 317 *d i* P **P** **15 40 54.7 -0.5**
AAK pmax pmax
comp=Z,14nm,1.4s,mb4.7
AAK MLR MLR
comp=Z,100nm,17.0s,MS4.2
AAK Ala-Archa 72.50 317 *e*P **P** **15 40 56.9 +1.8**
comp=Z,13nm,1.1s,mb4.8
USP Ospenovka 72.74 318 P **P** **15 41 00.5 +3.8**
SNR=6.6
AML Almayashu 72.86 316 P **P** **15 41 02.2 +4.9**
SNR=9.4
EKS2 Erkin-Say 73.00 317 P **P** **15 41 02.5 +4.3**
SNR=5.6
NVS Novosibirsk 73.12 331 *i* P **P** **15 40 56.5 -2.3**
KURK Kurchatov 73.41 326‖ *i* P **P** **15 40 59.0 -1.6**
KURK Kurchatov 73.41 326 *e*P **P** **15 40 59.5 -1.0**
comp=Z,6.8nm,0.9s,mb4.6
PPT Papeete 73.58 107 LR LR 16 05 25.2
comp=Z,103nm,21.5s,MS4.1,baz=315,slow=29
BILL Bilibino 74.78 11 *e*P **P** **15 41 10.2 +1.6**
BILL pmax pmax
comp=Z,5.0nm,1.4s,mb4.2
VNDA Vanda 74.79 174 P **P** **15 41 08.9 +0.3**
comp=Z,0.7nm,1.0s,mb3.6,baz=339,slow=6.6,SNR=2.7
VNDA LR LR 16 11 45.4
comp=Z,186nm,19.8s,MS4.4,baz=97,slow=34
VNDA Vanda 74.79 174 P **P** **15 41 08.4 -0.2**
VNDA pmax pmax
comp=Z,2.0nm,0.8s
VNDA Vanda 74.79 174 P **P** **15 41 08.4 -0.2**
comp=Z,1.6nm,0.8s,mb4.0
VNDA LR LR 16 11 45.4
TIXI Tiksi 75.59 358 *e*P **P** **15 41 11.8 -1.4**
TIXI *e*S S 15 50 45.9 -6.4
TIXI pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BRVK Borovoye 79.08 326 *e*P **P** **15 41 30.2 -2.6**
BRVK pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
BRVK Borovoye 79.08 326 *e*P **P** **15 41 30.2 -2.5**
comp=Z,9.1nm,0.9s,mb4.7
CHKZ Chkalovo 79.12 326 *e*P **P** **15 41 31.8 -1.2**
CHKZ pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
CHKZ Chkalovo 79.12 326 *e*P **P** **15 41 31.8 -1.3**
comp=Z,9.7nm,1.1s,mb4.7
ZRNK Zerenda 79.76 325 *e*P **P** **15 41 34.4 -2.1**
ZRNK pmax pmax
comp=Z,15nm,1.1s,mb4.8
ZRNK Zerenda 79.76 325 *e*P **P** **15 41 34.4 -2.1**
comp=Z,15nm,1.1s,mb4.8
QSPA South Pole Qui 86.03 180 *e*P **P** **15 42 08.9 -0.1**
comp=Z,13nm,1.2s,mb5.0
ARU Arti 86.56 327‖ *i* P **P** **15 42 10.6 -0.9**
ARU *e*S 15 52 33.4
ARU *e*SS SS 15 58 21.3 -5.8
ARU pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
ARU Arti 86.56 327 *e*P **P** **15 42 10.8 -0.8**
comp=Z,6.9nm,0.6s,mb5.1
ILAR Eielson Array 87.88 25 P **P** **15 42 16.5 -1.5**
comp=Z,2.9nm,0.9s,mb4.5,baz=262,slow=4.6,SNR=23
TORD Torodi Ar. Bea 134.37 284 PKP PKPdf 15 48 47.0 +0.7
comp=Z,0.8nm,0.7s,baz=75,slow=2.1,SNR=5.3
CPUP Villa Florida 147.11 157 PKPbc PKPbc 15 49 11.5 +0.2
comp=Z,1.5nm,0.7s,baz=214,slow=7.3,SNR=4.6
CPUP Villa Florida 147.11 157 *e*PKP PKPdf 15 49 10.7 +1.6
CPUP PKPbc PKPbc 15 49 11.5 +0.2
LPAZ La Paz 148.50 130 PKPbc PKPbc 15 49 18.1 +3.1
comp=Z,1.7nm,0.9s,baz=144,slow=5.9,SNR=6.7
LPAZ La Paz 148.50 130 *e*PKPbc PKPbc 15 49 17.5 +2.4

IDC 17 15:39:14.6±4.0, 1737S×17640W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.8/14, mbtmp3.8/4, ML2.4/1, Error ellipse: s-maj=205.5km s-min=23.1km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.63**	**53**	Pn	Pn	15 40 39.0	-0.5
	5.9nm,0.3s,baz=37,slow=17,SNR=7.5						
AFI				Sn	Sn	15 41 47.6	+2.7
	baz=0.1,slow=21,SNR=2.4						
WRA	**Warramunga Arr**	**46.61**	**259**	P	P	15 47 45.6	+1.1
	0.1nm,0.4s,baz=94,slow=7.7,SNR=14						
ASAR	**Alice Springs**	**46.78**	**254**	P	P	15 47 45.4	-0.4
	0.9nm,0.7s,baz=98,slow=8.3,SNR=12						
ILAR	**Eielson Array**	**84.94**	**12**	P	P	15 51 51.3	-0.3
	0.4nm,0.7s,baz=226,slow=6.2,SNR=4.9						
AKASG	**Malin Array Be**	**140.94**	**334**	PKhKP		15 58 39.7	
	0.4nm,0.4s,baz=38,slow=3.5,SNR=6.9						

CASC 17 15:41:41.7±2.1, 1148N×8710W, h38km±22km, MD3.6, 4C-4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**1.92**	**338**‖	*e*P	Pn	15 42 12.5	+0.6
CNCH				*e*S	Sn	15 42 35.0	+0.1
VCR	**Vista de Mar**	**1.98**	**133**‖	*e*P	Pn	15 42 11.6	-1.0
BLLM	**Bellamira**	**2.24**	**330**‖	*e*P	Pn	15 42 17.5	+1.2
VSM	**San Miguel**	**2.25**	**329**‖	*e*P	Pn	15 42 18.4	+2.0
LCBS	**La Ceiba**	**2.83**	**320**‖	*e*P	Pn	15 42 25.3	+0.9
LCBS				*e*S	Sn	15 42 57.6	+0.3
LFRS	**El Faro**	**2.86**	**318**‖	*e*P	Pn	15 42 26.0	+1.2
LFRS				*e*S	Sn	15 42 58.2	+0.2
PRS1	**Puriscal**	**3.12**	**118**	*e*P	Pn	15 42 29.2	+0.8
LCR2	**La Lucha 2**	**3.50**	**119**	*e*P	Pn	15 42 35.5	+1.9
URSC	**Urasca**	**3.65**	**116**‖	*e*P	Pn	15 42 37.8	+2.1
BUS	**Buena Vista**	**3.80**	**120**‖	*e*P	Pn	15 42 39.7	+1.9
BUS				*e*S	Sn	15 43 23.0	+1.8

IDC 17 15:49:07.4±6.4, 137N×9894E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/16, mbtmp3.5/3, Error ellipse: s-maj=340.3km s-min=28.6km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.66**	**123**	P	P	15 56 49.6	+0.3
	0.3nm,0.5s,baz=301,slow=9.0,SNR=4.6						
ASAR	**Alice Springs**	**42.12**	**128**	P	P	15 57 01.7	+0.4
	0.3nm,0.9s,baz=298,slow=7.7,SNR=5.0						
MKAR	**Makanchi Array**	**47.52**	**345**	P	P	15 57 44.3	0.0
	0.7nm,0.5s,baz=153,slow=8.8,SNR=6.8						

IDC ***17*** *15:55:57.0±1.3, 3296S×17824W, h0km, mb4.2/5, mb1 4.4/8, mb1mx4.2/15, mbtmp4.3/8, ML4.5/2, Error ellipse: s-maj=36.5km s-min=21.7km az=141.0*
NEIC ***17*** *15:55:58.6±0.8, 3286S×17826W, h10km, mb4.8/2, Error ellipse: s-maj=17.4km s-min=12.4km az=112.0*
ISCJB ***17*** *15:55:59.2±3.5, 3308S±006×1785W±02, h16km±25km, mb4.3/7, Error ellipse: s-maj=23.2km s-min=8.9km az=28.3*
MOS ***17*** *15:56:05.5±3.0, 3226S×17893W, h33km, mb4.7/4, Error ellipse: s-maj=27.6km s-min=25.0km az=139.9*
ISC 17 15:56:02.9±3.6, 3309S±006×1784W±02, h31km±26km, n34, σ1°26/34, mb4.3/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.85**	**7**	Pn	**Pn**	**15 56 53.4**	**-6.7**
	86nm,0.3s,baz=242,slow=23,SNR=4.2						
RAO					Sn	**Sn**	**15 57 35.1**	**-9.2**
	56nm,0.3s,baz=91,slow=22,SNR=4.0						
RAO	**Raoul Island**	**3.85**	**7**	P	**Pn**	**15 56 53.4**	**-6.6**
RAO						15 57 35.1	
RAO				pmax	pmax		
	comp=Z,86nm,0.3s						
RAO				smax			
	comp=N,56nm,0.3s						
RAO	**Raoul Island**	**3.85**	**7**	*e*Pn	**Pn**	**15 56 53.3**	**-6.7**
RAO				Sn	**Sn**	**15 57 35.1**	**-9.2**
MWZ	**Matawai**	**6.18**	**211**	PN	**Pn**	**15 57 31.2**	**-0.8**
MWZ				*e*SN	**Sn**	**15 58 43.8**	**+2.2**
URZ	**Urewera**	**6.30**	**214**	Pn	**Pn**	**15 57 34.4**	**+0.7**
	comp=N,4.4nm,0.3s,baz=94,slow=4.0,SNR=14						
URZ				Sn	**Sn**	**15 58 47.7**	**+3.0**
	comp=N,6.8nm,0.3s,baz=165,slow=20,SNR=11						
URZ	**Urewera**	**6.30**	**214**	*e*PN	**Pn**	**15 57 34.6**	**+0.8**
URZ				SN	**Sn**	**15 58 47.5**	**+2.8**
BKZ	**Black Stump Fm**	**7.32**	**213**	*e*PN	**Pn**	**15 57 48.0**	**+0.3**
BKZ				*e*SN	**Sn**	**15 59 11.2**	**+1.5**
PXZ	**Pawanui**	**7.89**	**207**	*e*SN	**Sn**	**15 59 21.6**	**-2.2**
BFZ	**Birch Farm**	**8.69**	**208**	*e*SN	**Sn**	**15 59 41.3**	**-2.1**
MRZ	**Mangatainoka R**	**8.95**	**211**	SN	**Sn**	**15 59 46.0**	**-3.7**
LTZ	**Lake Taylor**	**12.13**	**214**	*e*SN	**Sn**	**16 00 59.2**	**-8.7**
MQZ	**McQueen's Vall**	**12.69**	**211**	*e*SN	**Sn**	**16 01 12.3**	**-9.1**
RPZ	**Rata Peaks**	**13.42**	**215**	Pn	**Pn**	**15 59 05.9**	**-5.3**
RPZ				Sn	**Sn**	**16 01 29.2**	**-10**
	comp=N,0.3nm,0.3s,baz=185,slow=23,SNR=4.7						
DZM	**Mont Dzumac**	**17.30**	**306**	P	**Pn**	**16 00 01.5**	**-0.6**
STKA	**Stephens Creek**	**33.60**	**261**	P	**P**	**16 02 40.0**	**-0.4**
	comp=N,0.6nm,0.4s,mb3.9,baz=101,slow=10,SNR=2.4						
STKA	**Stephens Creek**	**33.60**	**261**	*e*P	**P**	**16 02 40.7**	**+0.4**
CTA	**Charters Tower**	**33.96**	**283**	P	**P**	**16 02 44.8**	**+1.3**
	comp=N,4.2nm,0.6s,mb4.6,baz=119,slow=10,SNR=3.5						
CTA	**Charters Tower**	**33.96**	**283**	P	**P**	**16 02 44.8**	**+1.3**
CTA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ASAR	**Alice Springs**	**42.66**	**270**	P	**P**	**16 03 57.0**	**+0.4**
	comp=Z,4.7nm,0.8s,mb4.3,baz=112,slow=7.4,SNR=53						
ASAR	**Alice Springs**	**42.66**	**270**	P	**P**	**16 03 57.1**	**+0.4**
ASAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
WB2	**Warramunga Arr**	**43.88**	**275**	*e*P	**P**	**16 04 05.7**	**-0.8**
WRAB	**Tennant Creek**	**43.89**	**275**	*e*P	**P**	**16 04 06.1**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.5						
WRAB	**Tennant Creek**	**43.89**	**275**	*e*P	**P**	**16 04 06.1**	**-0.5**
	comp=Z,7.3nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**43.89**	**275**	P	**P**	**16 04 06.4**	**-0.3**
	comp=Z,4.5nm,0.6s,mb4.3,baz=115,slow=7.7,SNR=51						
WRA	**Warramunga Arr**	**43.89**	**275**	P	**P**	**16 04 06.4**	**-0.2**
WRA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
QSPA	**South Pole Qui**	**57.03**	**180**	P	**P**	**16 05 47.1**	**+1.2**
	comp=Z,11nm,0.8s,mb5.0						
NVAR	**Mina Array Bea**	**90.46**	**43**	P	**P**	**16 09 01.1**	**-0.5**
	comp=Z,0.3nm,0.7s,mb3.8,baz=225,slow=8.5,SNR=2.8						
MKAR	**Makanchi Array**	**119.19**	**309**	PKP	PKPdf	16 14 46.4	-2.5
	comp=Z,0.3nm,0.7s,baz=82,slow=3.1,SNR=4.2						
JOF	**Joensuu**	**144.75**	**337**	*e*pkp	PKPdf	16 15 32.9	-3.7
KAF	**Kangasniemi**	**146.93**	**339**	*e*pkp	PKPdf	16 15 38.4	-1.9
	baz=69,slow=2.8						
NB2	**NORSAR Subarra**	**151.34**	**350**	PKPa	PKPbc	16 15 51.4	-2.0
	comp=Z,2.3nm,1.1s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**151.34**	**350**	PKPbc	PKPbc	16 15 51.2	-2.2
	comp=Z,1.5nm,0.9s,baz=14,slow=4.2,SNR=2.9						
NOA	**NORSAR Array B**	**151.34**	**350**	PKIKP	PKPdf	16 15 51.2	+3.8
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKASG	**Malin Array Be**	**153.15**	**319**	PKPbc	PKPbc	16 15 55.6	-1.9
	comp=Z,0.1nm,0.2s,baz=67,slow=2.3,SNR=6.0						

ISCJB ***17*** *16:11:57.2±0.7, 344N±009×1269E±02, h100km, mb4.1/12, Error ellipse: s-maj=23.8km s-min=8.5km az=125.2*
NEIC ***17*** *16:12:02.0±5.3, 334N×12681E, h129km±49km, mb4.2/6, Error ellipse: s-maj=32.6km s-min=6.6km az=55.0*
IDC ***17*** *16:12:04.7±13.0, 312N×12643E, h149km±131km, mb3.7/7, mb1 3.8/7, mb1mx3.6/16, mbtmp4.1/7, Error ellipse: s-maj=81.4km s-min=21.2km az=64.0*
ISC 17 16:11:59.2±0.7, 340N±009×1269E±02, h100km, n22, σ0°49/22, mb4.1/12, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSM	**Kuching**	**16.69**	**264**	P	**Pn**	**16 15 47.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**21.40**	**183**	*e*P	**P**	**16 16 39.1**	**+0.2**
	3.5nm,0.4s,mb4.0						
FITZ	**Fitzroy Crossi**	**21.40**	**183**	P	**P**	**16 16 38.2**	**-0.7**
	2.4nm,0.5s,mb3.8,baz=21,slow=6.1,SNR=19						
WRAB	**Tennant Creek**	**24.31**	**163**	*e*P	**P**	**16 17 07.6**	**+0.2**
	30nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**24.32**	**163**	P	**P**	**16 17 07.1**	**-0.4**
	11nm,0.8s,mb4.2,baz=335,slow=11,SNR=59						
WB2	**Warramunga Arr**	**24.32**	**163**	*e*P	**P**	**16 17 07.7**	**+0.2**
MBWA	**Marble Bar**	**25.40**	**196**	*e*P	**P**	**16 17 17.6**	**+0.4**
	1.5nm,0.3s,mb3.9						
ASAR	**Alice Springs**	**27.75**	**166**	P	**P**	**16 17 39.0**	**+0.6**
	0.4nm,0.3s,mb3.4,baz=343,slow=7.7,SNR=29						
STKA	**Stephens Creek**	**37.76**	**159**	*e*P	**P**	**16 19 04.5**	**-0.9**
	1.4nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**37.76**	**159**	P	**P**	**16 19 04.6**	**-0.8**
	1.7nm,0.4s,mb4.2,baz=332,slow=8.9,SNR=9.7						
JIRN	**Jiri**	**45.70**	**306**	*e*P	**P**	**16 20 10.3**	**+0.1**
GUN	**Gumba**	**46.06**	**306**	*e*P	**P**	**16 20 13.1**	**+0.2**
KKN	**Kakani**	**46.49**	**306**	*e*P	**P**	**16 20 16.6**	**+0.3**
DMN	**Daman**	**46.56**	**305**	*e*P	**P**	**16 20 16.5**	**-0.4**
GKN	**Gorkha**	**47.10**	**306**	*e*P	**P**	**16 20 20.5**	**-0.6**
	2.6nm,0.5s,mb4.2						
SONM	**Songino Array**	**47.66**	**341**	P	**P**	**16 20 26.3**	**+0.9**
	0.7nm,0.5s,mb3.8,baz=162,slow=9.7,SNR=2.8						
KOLN	**Koldanda**	**47.85**	**305**	*e*P	**P**	**16 20 25.9**	**-1.0**
	6.0nm,0.3s,mb4.8						
MKAR	**Makanchi Array**	**57.92**	**325**	P	**P**	**16 21 41.0**	**+0.1**
	1.3nm,0.4s,mb4.3,baz=123,slow=7.7,SNR=17						
MKAR	**Makanchi Array**	**57.92**	**325**	P	**P**	**16 21 41.0**	**+0.1**
KURK	**Kurchatov**	**62.11**	**328**	*e*P	**P**	**16 22 09.0**	**-0.5**
	2.9nm,0.6s,mb4.5						
AKTK	**Aktyubinsk**	**74.02**	**322**	P	**P**	**16 23 24.3**	**+0.3**
AKTO	**Aktyubinsk**	**74.02**	**322**	P	**P**	**16 23 24.3**	**+0.3**
	0.9nm,0.4s,mb3.8,baz=76,slow=8.3,SNR=6.2						

ISCJB ***17*** *16:35:51.9±0.4, 6094S±008×265W±02, h10km, mb4.7/16, MS4.3/13, Error ellipse: s-maj=16.4km s-min=7.1km az=100.7*
IDC ***17*** *16:35:53.4±0.6, 6062S×2627W, h0km, mb4.7/11, mb1 4.7/11, mb1mx4.6/15, mbtmp4.6/11, MS4.0/11, Ms1 4.0/11, ms1mx4.0/15, Error ellipse: s-maj=22.0km s-min=16.9km az=55.0*
MOS ***17*** *16:35:55.3±2.2, 6096S×2678W, h32km, mb4.8/9, Error ellipse: s-maj=45.4km s-min=15.6km az=110.9*
NEIC ***17*** *16:35:57.7±5.3, 6063S×2637W, h29km±37km, mb4.8/10, Error ellipse: s-maj=14.2km s-min=9.2km az=50.0*
BJI ***17*** *16:35:57.7, 6060S×2640W, h28km, mB5.2, Ms5.2, Msz4.9*
ISC 17 16:35:53.8±0.4, 6091S±008×264W±02, h10km, n64, σ1°29/40, mb4.7/16, MS4.3/13, 2C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**12.21**	**151**	*e*	**Pn**	**16 38 46.9**	**-0.8**
VNA1				*e*		16 38 47.6	
VNA1				*e*		16 38 48.4	
VNA1				*e*		16 38 51.2	
VNA1				*e*		16 40 56.1	
VNA1				*e*		16 41 01.0	
VNA3	**Neumayer Olymp**	**12.32**	**154**	*e*	**Pn**	**16 38 48.1**	**-1.2**
VNA3				*e*		16 38 49.0	
VNA3				*e*		16 38 50.0	
VNA3				*e*		16 38 51.1	
VNA3				*e*		16 40 57.9	
VNA3				*e*		16 41 07.3	
VNA2	**Neumayer--Watz**	**12.61**	**151**	*e*	**Pn**	**16 38 51.8**	**-1.4**
VNA2				*e*		16 38 52.5	
VNA2				*e*		16 38 53.4	
VNA2				*e*		16 38 54.0	
VNA2				*e*		16 38 55.0	
VNA2				*e*		16 41 02.6	
VNA2				*e*		16 41 07.3	
VNA2				*e*		16 41 12.0	
SNAA	**Sanae**	**14.21**	**149**	Pn	**Pn**	**16 39 13.7**	**-1.4**

4.6nm,0.3s,baz=318,slow=13,SNR=327
SNAA Sn **Sn** **16 41 37.7 -15**
0.1nm,0.3s,baz=169,slow=22,SNR=1.5
SNAA LR LR 16 43 35.9
comp=Z,349nm,19.3s,baz=22,slow=32
MAIT Maitri 18.09 139 *e*P **Pn** **16 40 03.7 -1.5**
MAIT *e*S Sn 16 43 03.4 -24
NVL N'lazarevskaya 18.12 139⇑ *i*P **Pn** **16 40 07.1 +1.6**
NVL pmax pmax
comp=Z,46nm,1.0s
EFI East Falkland 19.67 284 *e*P **Pn** **16 40 23.6 -0.7**
USHA Ushuaia 22.85 266 P **P** **16 40 59.7 +2.7**
comp=Z,44nm,0.9s,mb4.9,baz=97,slow=9.2,SNR=10
USHA LR LR 16 47 46.9
comp=Z,599nm,19.3s,MS4.0,baz=99,slow=31
SYO Syowa Base 27.68 135⇑ *e*P **P** **16 41 41.8 -0.1**
QSPA South Pole Qui 29.33 180 *e*P **P** **16 42 00.5 +3.9**
comp=Z,37nm,1.1s,mb5.0
TRQA Tornquist 31.87 300 *e*P **P** **16 42 19.1 +0.1**
comp=Z,38nm,1.1s,mb5.1
PLCA Paso Flores 33.54 287 *e*P **P** **16 42 29.4 -4.3**
MAW Mawson 36.07 139 *e*P **P** **16 42 56.7 +1.2**
comp=Z,7.6nm,1.4s,mb4.4
MAW Mawson 36.07 139 P **P** **16 42 56.7 +1.2**
comp=Z,8.3nm,0.9s,mb4.7,baz=240,slow=8.9,SNR=9.9
MAW LR LR 16 56 09.2
comp=Z,180nm,18.8s,MS3.9,baz=240,slow=34
MAW Mawson 36.07 139 P **P** **16 42 56.7 +1.2**
MAW pmax pmax
comp=Z,8.0nm,0.9s
MAW MLR MLR
comp=Z,180nm,18.8s
CPUP Villa Florida 40.45 315 P **P** **16 43 31.2 -1.1**
comp=Z,12nm,0.5s,mb4.9,baz=134,slow=6.6,SNR=43
CPUP ScP ScP 16 49 25.8 +1.3
comp=Z,0.4nm,0.4s,baz=207,slow=4.5,SNR=4.1
CPUP LR LR 16 57 38.8
comp=Z,295nm,20.3s,MS4.1,baz=144,slow=32
CPUP Villa Florida 40.45 315 *e*P **P** **16 43 31.2 -1.2**
comp=Z,46nm,0.4s,mb5.6
VNDA Vanda 41.73 183 P **P** **16 43 46.6 +3.8**
comp=Z,5.2nm,1.0s,mb4.1,baz=188,slow=6.2,SNR=15
VNDA LR LR 16 58 05.6
comp=Z,220nm,21.7s,MS4.0,baz=140,slow=32
VNDA Vanda 41.73 183 P **P** **16 43 46.6 +3.7**
VNDA pmax pmax
comp=Z,5.0nm,1.0s
VNDA MLR MLR
comp=Z,220nm,21.7s
VNDA Vanda 41.73 183 *e*P **P** **16 43 46.2 +3.3**
comp=Z,3.3nm,0.9s,mb4.0
BDFB Brasilia 47.82 331 P **P** **16 44 28.9 -2.5**
comp=Z,2.1nm,0.6s,mb4.4,baz=147,slow=12,SNR=4.0
BDFB LR LR 17 02 44.3
comp=Z,220nm,18.3s,MS4.2,baz=350,slow=34
BDFB Brasilia 47.82 331 P **P** **16 44 28.9 -2.6**
BDFB pmax pmax
comp=Z,2.0nm,0.6s
BDFB MLR MLR
comp=Z,221nm,18.3s
LVC Limon Verde 48.22 303 *e*P **P** **16 44 35.0 +0.5**
comp=Z,7.9nm,0.7s,mb4.8
CASY Casey 49.20 159 *e*P **P** **16 44 44.0 +1.9**
LBTB Lobatse 50.21 68 P **P** **16 44 49.9 +0.1**
comp=Z,2.5nm,0.7s,mb4.4,baz=207,slow=6.8,SNR=4.2
LBTB Lobatse 50.21 68 *e*P **P** **16 44 51.0 +1.2**
LBTB pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
LBTB Lobatse 50.21 68 *e*P **P** **16 44 51.0 +1.2**
comp=Z,4.8nm,0.8s,mb4.6
TSUM Tsumeb 51.86 57 *e*P **P** **16 45 03.2 +1.0**
comp=Z,3.9nm,0.8s,mb4.4
LPAZ La Paz 53.61 307 P **P** **16 45 15.5 +0.4**
comp=Z,7.7nm,0.6s,mb4.8,baz=160,slow=6.2,SNR=32
LPAZ LR LR 17 03 58.0
comp=Z,109nm,21.4s,MS3.9,baz=278,slow=32
LPAZ La Paz 53.61 307 P **P** **16 45 15.5 +0.4**
LPAZ pmax pmax
comp=Z,8.0nm,0.6s
LPAZ MLR MLR
comp=Z,109nm,21.4s
LPAZ La Paz 53.61 307 *e*P **P** **16 45 15.4 +0.2**
comp=Z,8.3nm,0.4s,mb5.0
SAML Samuel 58.57 316 *e*P **P** **16 45 48.6 -2.0**
comp=Z,16nm,1.0s,mb5.0
DBIC Dimbokro 69.46 23 P **P** **16 47 01.8 -0.4**
comp=Z,14nm,0.9s,mb4.9,baz=167,slow=8.8,SNR=10
DBIC LR LR 17 10 05.5
comp=Z,87nm,20.5s,MS4.0,baz=167,slow=30
DBIC Dimbokro 69.46 23 P **P** **16 47 01.8 -0.4**
DBIC pmax pmax
comp=Z,14nm,0.9s
DBIC MLR MLR
comp=Z,87nm,20.5s
ROSC El Rosal 75.36 310 LR LR 17 19 57.4
comp=Z,83nm,20.1s,MS4.0,baz=193,slow=35
KMBO Kilima Mbogo 76.47 67 LR LR 17 18 51.7
comp=Z,144nm,18.5s,MS4.3,baz=92,slow=34
TORD Torodi Ar. Bea 77.12 28 P **P** **16 47 47.5 +0.1**
comp=Z,12nm,0.7s,mb5.0,baz=194,slow=6.4,SNR=44
STKA Stephens Creek 87.03 170 P **P** **16 48 41.0 +1.6**
comp=Z,1.9nm,0.8s,mb4.4,baz=153,slow=6.8,SNR=3.1
STKA LR LR 17 26 11.9
comp=Z,155nm,20.6s,MS4.4,baz=205,slow=35
STKA Stephens Creek 87.03 170 P **P** **16 48 41.0 +1.5**
STKA LR LR 17 26 11.9
ASAR Alice Springs 94.22 162 P **P** **16 49 13.9 +0.9**
comp=Z,1.4nm,0.9s,mb4.4,baz=184,slow=4.3,SNR=23
ASAR Alice Springs 94.22 162 P **P** **16 49 13.9 +0.9**
ASAR pmax pmax
comp=Z,1.0nm,0.9s
PDAR Pinedale Array 123.19 299 PKP PKPdf 16 54 49.9 -0.8
comp=Z,0.4nm,0.4s,baz=127,slow=5.8,SNR=3.8
NOA NORSAR Array B 125.01 21 PKP PKPdf 16 54 53.0 -1.2
comp=Z,1.0nm,0.7s,baz=191,slow=1.7,SNR=6.1
NOA NORSAR Array B 125.01 21 PKIKP PKPdf 16 54 53.1 -1.1
NOA pmax pmax
comp=Z,1.0nm,0.7s
KMI Kunming 130.38 113 PKP PKPdf 16 55 08.4 +3.9
CD2 Chengdu 135.78 110 *e*PKP PKPdf 16 55 13.3 -1.3
MKAR Makanchi Array 137.85 76 PKP PKPdf 16 55 18.9 +0.5
comp=Z,0.3nm,0.7s,baz=256,slow=5.8,SNR=3.7
WMQ Urumqi 138.27 83 PKP PKPdf 16 55 21.5 +2.3
WMQ PP PP 16 58 14.5 +6.2
WMQ PP PP
comp=Z,21nm,5.8s
WMQ LR LR
comp=N,97nm,19.6s
WMQ LR LR
comp=Z,87nm,19.5s,MS4.5
YKA Yellowknife Ar 139.97 314 PKhKP 16 55 14.1
comp=Z,0.7nm,0.8s,baz=132,slow=3.1,SNR=8.7
YKA PKP PKPdf 16 55 23.0 +0.7
comp=Z,4.3nm,1.1s,baz=126,slow=2.2,SNR=21
NJ2 Nanjing 143.29 126 *e*PKP PKPdf 16 55 25.3 -3.0
NJ2 APKP 16 55 35.9
NJ2 XPKP 16 55 39.0
NJ2 PP PP 16 58 41.0 +2.0
NJ2 PKS 16 58 59.0
NJ2 PP PP
comp=Z,710nm,5.9s
NJ2 LR LR
comp=N,810nm,31.8s,MS5.5
NJ2 LR LR
comp=E,810nm,30.2s,MS5.5
NJ2 LR LR
comp=Z,700nm,33.8s,MS5.2
NVS Novosibirsk 143.76 67 *i* PKIKP PKPdf 16 55 24.2 -4.9
HHC Hu-ho-hao-te 147.53 109 *e*PKP PKPdf 16 55 37.8 +2.3
HHC PKP2 PKPab 16 55 44.9 +4.7
HHC PP PP 16 59 11.8 +7.6
HHC SKS SKSdf 17 02 42.9 -1.3
HHC PP PP
comp=Z,153nm,10.3s
HHC LR LR
comp=N,408nm,23.3s,MS5.2
HHC LR LR
comp=E,345nm,24.1s,MS5.2
HHC LR LR
comp=Z,257nm,23.7s,MS4.9
INK Inuvik 149.71 315 PKPbc PKPbc 16 55 42.9 -0.8
comp=Z,27nm,0.8s,baz=96,slow=2.8,SNR=114
INK Inuvik 149.71 315 PKP2 PKPbc 16 55 42.9 -0.9
INK pmax pmax
comp=Z,27nm,0.8s
INK Inuvik 149.71 315 *e*PKPbc PKPbc 16 55 42.7 -1.0
MOY Mondy 150.15 84 *e*PKIKP PKPbc 16 55 45.0 +0.2
DAWY Dawson 150.18 306 *e*PKPbc PKPbc 16 55 44.3 -0.6
SONM Songino Array 150.26 94 PKPbc PKPbc 16 55 44.8 -0.3
comp=Z,6.4nm,0.9s,baz=218,slow=2.3,SNR=17
SONM Songino Array 150.26 94 PKIKP PKPbc 16 55 44.8 -0.3
SONM pmax pmax
comp=Z,6.0nm,0.9s
ZAK Zakamensk 150.45 88 *e*PKIKP PKPbc 16 55 45.1 -0.4
ZAK pmax pmax
comp=Z,7.0nm,1.1s
EYAK Cordova Ski Ar 151.27 296 ePKPbc PKPbc 16 55 47.7 +0.2
KDAK Kodiak Island 153.04 288 PKPbc PKPbc 16 55 51.4 0.0
comp=Z,5.4nm,0.7s,baz=216,slow=13,SNR=4.4
KDAK Kodiak Island 153.04 288 PKPbc PKPbc 16 55 51.4 -0.1
MDJ Mudanjiang 158.35 128 PKP PKPdf 16 55 52.8 +1.6

*ISCJB **17** 16:56:44.4±0.4, 52.32N±006×169.45W±0.06, h34km, mb4.5/59, MS3.9/13, Error ellipse: s-maj=9.3km s-min=4.0km az=130.9*
*IDC **17** 16:56:45.1±4.3, 52.39N×169.46W, h26km±27km, mb4.0/15, mb1 4.2/15, mb1mx4.1/19, mbtmp4.1/15, MS3.8/7, Ms1 3.8/7, ms1mx3.3/24, Error ellipse: s-maj=23.0km s-min=14.0km az=173.0*
*MOS **17** 16:56:46.8±1.0, 52.43N×169.44W, h55km, mb4.8/24, Error ellipse: s-maj=14.9km s-min=7.5km az=92.0*
*NEIC **17** 16:56:47.0±0.7, 52.42N×169.34W, h42km±5km, mb4.7/31, ML4.0(AEIC), Error ellipse: s-maj=9.7km s-min=4.9km az=172.0*
*BJI **17** 16:56:49.0, 53.39N×170.08W, h41km, mB5.2, mb4.8, Ms4.7, Msz4.4*
ISC 17 16:56:46.2±0.4, 52.40N±0.06×169.42W±0.06, h36km, h36km±.9km: pP-P, n151, σ0.95/157, mb4.5/59, MS3.9/13, 8C-9D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKO	**Nikolski**	**0.67**	**31**	P	**Pn**	**16 56 58.2**	**-1.1**
NIKO				S	**Sn**	**16 57 07.9**	**-0.6**
OKCE	**Okmok Cone E**	**1.28**	**36**	P	**Pn**	**16 57 07.8**	**+0.2**
OKCD	**Okmok Cone D**	**1.30**	**37**	P	**Pn**	**16 57 08.6**	**+0.7**
OKCD				S	**Sn**	**16 57 26.1**	**+2.0**
UNV	**Unalaska Valle**	**2.28**	**49**	P	**Pn**	**16 57 22.3**	**+0.9**
UNV				S	**Sn**	**16 57 49.7**	**+1.5**
AKUT	**Akutan**	**2.80**	**50**	*e*P	**Pn**	**16 57 29.0**	**+0.6**
ATKA	**Atka Island**	**2.94**	**268**	P	**Pn**	**16 57 32.7**	**+2.3**
SDPT	**Sand Point**	**6.06**	**57**	P	**Pn**	**16 58 13.0**	**-0.2**
FX1	**Attu Island--F**	**10.60**	**280**	Pn	**Pn**	**16 59 18.2**	**+2.7**
	2.0nm,0.3s,baz=99,slow=22,SNR=11						
KDAK	**Kodiak Island**	**11.04**	**54**	Pn	**Pn**	**16 59 19.7**	**-1.8**
	1.5nm,0.3s,baz=272,slow=12,SNR=9.4						
KDAK				Sn	**Sn**	**17 01 15.1**	**-8.6**
	0.2nm,0.3s,baz=340,slow=22,SNR=2.0						
SVW2	**Sparrevohn**	**11.54**	**36**	*e*P	**Pn**	**16 59 33.6**	**+5.2**
TTA	**Tatalina**	**12.73**	**29**	P	**Pn**	**16 59 48.8**	**+4.1**
TTA				pmax	pmax		
	comp=Z,19nm,1.4s						
TTA	**Tatalina**	**12.73**	**29**	P	**Pn**	**16 59 48.8**	**+4.1**
	comp=Z,19nm,1.4s						
SLKM	**Skilak Lake**	**13.32**	**45**	*e*P	**Pn**	**16 59 52.4**	**-0.4**
COLA	**College**	**16.68**	**33**⇑	*i*P	**Pn**	**17 00 43.4**	**+6.3**
PET	**Petropavlovsk**	**19.27**	**285**	*e*P	**Pn**	**17 01 07.9**	**-1.1**
PET				*e*S	**S**	**17 04 30.8**	**-13**
PET				pmax	pmax		
	comp=Z,15nm,1.0s						
PET				pmax	pmax		
	comp=Z,100nm,20.2s						
PET				MLR	MLR		
	comp=Z,200nm,18.0s						
DAWY	**Dawson**	**19.43**	**41**	P	**Pn**	**17 01 12.1**	**+1.3**
BILL	**Bilibino**	**19.56**	**332**⇑	*i*P	**Pn**	**17 01 16.3**	**+3.9**
BILL				pmax	pmax		
	comp=Z,13nm,1.3s						
BILL				MLR	MLR		
	comp=Z,200nm,15.0s						
BILL	**Bilibino**	**19.56**	**332**	*e*P	**Pn**	**17 01 12.1**	**-0.3**
	comp=Z,13nm,1.1s						
DLBC	**Dease Lake**	**22.90**	**59**	P	**P**	**17 01 46.8**	**+0.1**
	comp=Z,1.7nm,0.3s,mb4.0,baz=269,slow=26,SNR=3.6						
DLBC				LR	LR	17 11 14.1	
	comp=Z,153nm,18.7s,MS3.5,baz=279,slow=38						
INK	**Inuvik**	**23.34**	**33**	P	**P**	**17 01 49.6**	**-1.8**
	comp=Z,3.0nm,0.8s,mb3.8,baz=230,slow=9.4,SNR=13						
INK				PcP	PcP	17 05 37.1	-0.3
	comp=Z,1.4nm,0.9s,baz=319,slow=2.7,SNR=3.4						
INK	**Inuvik**	**23.34**	**33**	*e*P	**P**	**17 01 49.1**	**-2.3**
INK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
INK	**Inuvik**	**23.34**	**33**	*e*P	**P**	**17 01 49.1**	**-2.3**
	comp=Z,3.9nm,0.7s,mb4.0						
BBB	**Bella Bella**	**25.02**	**74**	LR	LR	17 09 12.3	
	comp=Z,180nm,19.4s,MS3.6,baz=324,slow=30						
YKA	**Yellowknife Ar**	**30.25**	**49**	P	**P**	**17 02 53.5**	**-0.1**
	comp=Z,1.2nm,0.8s,mb3.7,baz=275,slow=10.0,SNR=15						
YKA				PcP	PcP	17 05 53.5	-0.1
	comp=Z,0.3nm,0.8s,baz=279,slow=1.6,SNR=4.0						
YKA				ScP	ScP	17 09 32.9	-0.2
	comp=Z,0.1nm,0.3s,baz=276,slow=3.2,SNR=5.2						
YKA				LR	LR	17 15 21.3	
	comp=Z,92nm,18.9s,MS3.4,baz=280,slow=37						
YKA	**Yellowknife Ar**	**30.25**	**49**	P	**P**	**17 02 53.5**	**-0.1**
YKA						17 05 53.5	
YKA						17 09 32.9	
YKA	**Yellowknife Ar**	**30.25**	**49**	P	**P**	**17 02 53.5**	**-0.1**
YKA				PcP	PcP	17 05 53.5	-0.1
YKA				ScP	ScP	17 09 32.9	-0.2
YKA				LR	LR	17 15 21.3	
TIXI	**Tiksi**	**32.70**	**329**⇓	*i*P	**P**	**17 03 15.0**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
TIXI				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.6						
YBH	**Yreka Blue Hor**	**33.01**	**90**	P	**P**	**17 03 18.7**	**+0.8**
	comp=Z,1.7nm,0.8s,mb4.1,baz=170,slow=6.4,SNR=2.8						
YBH				LR	LR	17 13 19.4	
	comp=Z,186nm,21.9s,MS3.8,baz=288,slow=30						
HABR	**Khabarovsk**	**34.85**	**286**⇑	*i*P	**P**	**17 03 34.4**	**+0.6**
HABR				*e*S	**S**	**17 08 59.6**	**-2.8**
HABR				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.9						
HABR				MLR	MLR		
	comp=Z,200nm,17.0s,MS3.9						
CHMT	**Chamberlain Mo**	**35.98**	**76**	*e*P	**P**	**17 03 43.4**	**-0.1**
KLR	**Kul'dur**	**36.42**	**289**	*e*P	**P**	**17 03 42.8**	**-4.5**
MCMT	**McKenzie Canyo**	**37.30**	**79**	*e*P	**P**	**17 03 53.7**	**-1.1**
EGMT	**Eagleton**	**37.49**	**72**	*e*P	**P**	**17 03 56.1**	**-0.3**
	comp=Z,7.2nm,0.8s,mb4.5						
NVAR	**Mina Array Bea**	**37.70**	**91**	P	**P**	**17 03 58.9**	**+0.8**
	comp=Z,0.3nm,0.4s,mb3.4,baz=286,slow=11,SNR=3.2						
MJAR	**Matsushiro Arr**	**39.67**	**268**	P	**P**	**17 04 15.1**	**+0.4**
	comp=Z,1.7nm,0.9s,mb3.8,baz=46,slow=8.0,SNR=4.7						
MJAR				LR	LR	17 20 22.3	
	comp=Z,159nm,19.9s,MS3.9,baz=65,slow=36						
MJAR	**Matsushiro Arr**	**39.67**	**268**	P	**P**	**17 04 15.1**	**+0.4**
MJAR				LR	LR	17 20 22.3	
PDAR	**Pinedale Array**	**40.43**	**79**	P	**P**	**17 04 21.1**	**+0.1**
	comp=Z,2.7nm,0.8s,mb4.0,baz=310,slow=6.9,SNR=16						
FCC	**Fort Churchill**	**40.95**	**50**	*e*P	**P**	**17 04 25.4**	**+0.1**
BOD	**Bodaibo**	**41.95**	**309**⇓	*i*P	**P**	**17 04 32.5**	**-1.0**
BOD				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3						
SRU	**San Rafael**	**42.03**	**84**	P	**P**	**17 04 33.8**	**-0.4**
SRU				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.9						
SRU	**San Rafael**	**42.03**	**84**	P	**P**	**17 04 33.8**	**-0.4**
	comp=Z,2.7nm,1.0s,mb3.8						
CN2	**Changchun**	**42.98**	**285**	*e*P	**P**	**17 04 41.9**	**+0.1**
ULM	**Lac du Bonnet**	**44.16**	**62**	LR	LR	17 22 52.4	
	comp=Z,94nm,20.7s,MS3.7,baz=334,slow=36						
DAG	**Danmarks Havn**	**49.77**	**8**⇓	*i*P	**P**	**17 05 34.4**	**-0.7**
	comp=Z,2.6nm,0.3s,mb4.7						
DAG	**Danmarks Havn**	**49.77**	**8**⇓	*e*P	**P**	**17 05 34.4**	**-0.7**
DAG				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.8						
DAG	**Danmarks Havn**	**49.77**	**8**⇓	*e*P	**P**	**17 05 34.4**	**-0.7**
	comp=Z,2.6nm,0.3s,mb4.7						
TLY	**Talaya**	**50.30**	**306**	*e*P	**P**	**17 05 39.5**	**+0.3**
TLY				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
TLY	**Talaya**	**50.30**	**306**	*e*P	**P**	**17 05 39.5**	**+0.3**
	comp=Z,11nm,1.1s,mb4.8						
SUMG	**Summit**	**50.76**	**17**	*e*P	**P**	**17 05 43.1**	**+0.4**
	comp=Z,6.9nm,1.0s,mb4.5						
ULN	**Ulaanbaatar**	**50.89**	**300**	*e*P	**P**	**17 05 43.6**	**-0.1**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
ULN	**Ulaanbaatar**	**50.89**	**300**	*e*P	**P**	**17 05 43.6**	**0.0**
	comp=Z,3.8nm,0.8s,mb4.4						
SONM	**Songino Array**	**51.26**	**301**	P	**P**	**17 05 47.0**	**+0.6**
	comp=Z,1.9nm,0.6s,mb4.2,baz=60,slow=7.2,SNR=14						
SONM				PcP	PcP	17 07 01.6	+0.5
	comp=Z,1.2nm,0.8s,baz=72,slow=1.9,SNR=3.6						
SONM				LR	LR	17 29 26.0	
	comp=Z,198nm,18.7s,MS4.2,baz=246,slow=38						
SONM	**Songino Array**	**51.26**	**301**	P	**P**	**17 05 47.0**	**+0.6**
SONM						17 07 01.6	
ZAK	**Zakamensk**	**51.28**	**305**	*e*P	**P**	**17 05 45.3**	**-1.2**
ZAK				*e*		17 07 02.7	
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.4						
ZAK				pmax	pmax		
	comp=Z,6.0nm,2.2s,mb4.1						
HHC	**Hu-ho-hao-te**	**52.88**	**291**	*e*P	**P**	**17 05 58.3**	**-0.2**
HHC				AP	pP	17 06 09.1	0.0
HHC				XP	sP	17 06 12.6	-0.8
HHC				PCP	PcP	17 07 07.6	+0.3
HHC				PP	PP	17 07 58.5	+0.4
HHC				SCP	ScP	17 11 00.8	-1.1
HHC				PCS	PcS	17 11 04.8	-1.1
HHC				S	**S**	**17 13 22.9**	**-2.0**
HHC				XS	sS	17 13 39.3	-3.2
HHC				SCS	ScS	17 15 41.4	-3.9
HHC				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.7						
HHC				AMB	AMB		
	comp=Z,192nm,5.7s						
HHC				LR	LR		
	comp=N,219nm,13.6s,MS4.5						
HHC				LR	LR		
	comp=E,250nm,14.2s,MS4.5						
HHC				LR	LR		
	comp=Z,291nm,15.1s,MS4.5						
NJ2	**Nanjing**	**54.51**	**278**	*e*P	**P**	**17 06 12.4**	**+2.0**
NJ2				AP	pP	17 06 22.6	+1.5
NJ2				XP	sP	17 06 26.0	+0.7
NJ2				PP	PP	17 08 15.1	+2.3
NJ2				S	**S**	**17 13 47.0**	**0.0**
NJ2				XS	sS	17 14 02.0	-2.7
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,1μm,4.9s						
NJ2				LR	LR		
	comp=N,1μm,20.7s,MS5.0						
NJ2				LR	LR		
	comp=E,790nm,23.1s,MS5.0						
NJ2				LR	LR		
	comp=Z,890nm,27.3s,MS4.7						
SCHQ	**Schefferville**	**55.44**	**43**	P	**P**	**17 06 17.0**	**-0.1**
	comp=Z,4.4nm,0.9s,mb4.5,baz=256,slow=11,SNR=4.6						
ARCES	**ARCESS Array B**	**57.89**	**354**	P	**P**	**17 06 33.4**	**-1.1**
	comp=Z,1.6nm,0.7s,mb4.2,baz=23,slow=9.0,SNR=7.7						
WHN	**Wuhan**	**58.30**	**280**⇓	P	**P**	**17 06 38.0**	**+0.6**
GTA	**Gaotai**	**60.44**	**297**	*e*P	**P**	**17 06 52.3**	**+0.2**
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.5						
KURK	**Kurchatov**	**62.33**	**318**	*e*P	**P**	**17 07 04.9**	**0.0**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.5						
KURK	**Kurchatov**	**62.33**	**318**	*e*P	**P**	**17 07 04.9**	**-0.1**
	comp=Z,1.6nm,0.5s,mb4.4						
MKAR	**Makanchi Array**	**63.76**	**313**	P	**P**	**17 07 14.2**	**-0.3**
	comp=Z,1.8nm,0.7s,mb4.2,baz=43,slow=5.7,SNR=12						
JOF	**Joensuu**	**63.88**	**350**	*e*p	**P**	**17 07 12.7**	**-2.5**
	comp=Z,2.2nm,0.4s,mb4.5						
ZRNK	**Zerenda**	**64.21**	**325**	*e*P	**P**	**17 07 17.3**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
ZRNK	**Zerenda**	**64.21**	**325**	*e*P	**P**	**17 07 17.2**	**-0.1**
	comp=Z,3.7nm,0.7s,mb4.5						
CD2	**Chengdu**	**64.33**	**288**	*e*P	**P**	**17 07 16.5**	**-1.7**
ARU	**Arti**	**64.58**	**333**⇓	*i*P	**P**	**17 07 19.8**	**0.0**
ARU				*e*		17 09 39.3	
ARU				*e*PPP		17 11 18.5	
ARU				*e*S	**S**	**17 15 52.9**	**-4.0**
ARU				*e*SS	SS	17 20 04.6	-3.1
ARU				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
KAF	**Kangasniemi**	**65.16**	**352**	*e*p	**P**	**17 07 22.5**	**-1.1**
	comp=Z,5.2nm,0.6s,mb4.7,baz=6.8,slow=6.2						
KAF	**Kangasniemi**	**65.16**	**352**	*e*P	**P**	**17 07 22.5**	**-1.1**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
FINES	**FINESS Array B**	**65.84**	**352**	*e*P	**P**	**17 07 27.3**	**-0.7**
NB2	**NORSAR Subarra**	**66.91**	**360**	P	**P**	**17 07 34.3**	**-0.5**
	comp=Z,3.3nm,0.7s,mb4.5,baz=1.2,slow=6.5						
NOA	**NORSAR Array B**	**66.91**	**360**	P	**P**	**17 07 34.6**	**-0.2**
	comp=Z,3.5nm,0.8s,mb4.5,baz=0.9,slow=6.4,SNR=15						
KMI	**Kunming**	**69.23**	**284**	P	**P**	**17 07 49.1**	**-0.3**
KMI				AP	pP	17 07 59.1	-1.3
KMI				XP	sP	17 08 04.3	-0.2
KMI				PCP	PcP	17 08 10.8	-2.2
KMI				PP	PP	17 10 24.6	+2.0
KMI				S	S	17 16 50.8	-2.2
KMI				XS	sS	17 17 08.8	-2.3
KMI				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.8						
KMI				LR	LR		
	comp=Z,57nm,17.1s,MS3.9						
AAK	**Ala-Archa**	**70.46**	**315***c*	*i*P	**P**	**17 07 56.5**	**-0.4**
AAK				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
AAK				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.1						
AAK	**Ala-Archa**	**70.46**	**315**	*e*P	**P**	**17 07 56.1**	**-0.8**
	comp=Z,5.3nm,0.8s,mb4.5						
OBN	**Obninsk**	**70.71**	**345**	*e*P	**P**	**17 07 57.6**	**-0.9**
OBN				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
LSA	**Lhasa**	**72.41**	**296**	P	**P**	**17 08 10.4**	**+1.7**
LSA	**Lhasa**	**72.41**	**296**	*e*P	**P**	**17 08 10.7**	**+2.0**
LSA				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
LSA	**Lhasa**	**72.41**	**296**	*e*P	**P**	**17 08 10.7**	**+1.9**
	comp=Z,15nm,1.0s,mb4.9						
AKASG	**Malin Array Be**	**76.07**	**348**	P	**P**	**17 08 29.4**	**-0.7**
	comp=Z,3.2nm,0.6s,mb4.5,baz=12,slow=5.8,SNR=12						
CLL	**Collm**	**76.65**	**358**	*e*P	**P**	**17 08 33.0**	**-0.3**
	comp=Z,7.0nm,1.1s,mb4.5						
CLL	**Collm**	**76.65**	**358**	*e*P	**P**	**17 08 29.0**	**-4.3**
CLL				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
CLL	**Collm**	**76.65**	**358**	*e*P	**P**	**17 08 29.0**	**-4.3**
	comp=Z,4.0nm,0.5s,mb4.6						
CLL				*e*		17 08 33.0	
GUN	**Gumba**	**76.68**	**298**	*e*P	**P**	**17 08 34.4**	**+0.9**
	comp=Z,27nm,0.9s,mb5.2						
JIRN	**Jiri**	**76.71**	**298**	*e*P	**P**	**17 08 34.8**	**+1.1**
	comp=Z,14nm,0.7s,mb5.0						
BRG	**Berggiesshubel**	**77.07**	**358**	*e*P	**P**	**17 08 36.3**	**+0.6**
	comp=Z,2.5nm,0.8s,mb4.2						
BRG	**Berggiesshubel**	**77.07**	**358**	*e*P	**P**	**17 08 36.3**	**+0.6**
BRG				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
KKN	**Kakani**	**77.10**	**299**	*e*P	**P**	**17 08 36.3**	**+0.5**
PKI	**Pulchoki**	**77.20**	**299**	*e*P	**P**	**17 08 36.9**	**+0.5**
GKN	**Gorkha**	**77.28**	**299**	*e*P	**P**	**17 08 37.2**	**+0.4**
	comp=Z,27nm,1.0s,mb5.1						
DMN	**Daman**	**77.34**	**299**	*e*P	**P**	**17 08 37.9**	**+0.7**
UPC	**Upice**	**77.37**	**356**	*e

	comp=Z,1.6nm,0.9s,mb4.0,baz=4.3,slow=5.4,SNR=9.3								
CDF	**Champ du Feu**	**79.53**	**2**	*e*P		**P**		**17 08 48.5**	**-0.8**
KIV	**Kislovodsk**	**80.11**	**337**	*e*P		**P**		**17 08 52.9**	**+0.5**
KIV				pmax	pmax				
	comp=Z,12nm,0.9s,mb4.8								
KIV	**Kislovodsk**	**80.11**	**337**	*e*P		**P**		**17 08 52.3**	**-0.1**
	comp=Z,11nm,1.0s,mb4.7								
HINF	**Hinteralfeld**	**80.11**	**3**	*e*P		**P**		**17 08 52.1**	**-0.3**
LOR	**Lormes**	**80.55**	**5**	*e*P		**P**		**17 08 54.3**	**-0.5**
ARSA	**Arzberg**	**80.64**	**357**	⇑*i*P		**P**		**17 08 56.4**	**+1.1**
	comp=Z,6.7nm,0.9s,mb4.6								
ARSA	**Arzberg**	**80.64**	**357**	⇓*i*P		**P**		**17 08 54.7**	**-0.6**
	comp=Z,6.7nm,0.9s,mb4.6								
KBA	**Koelnbreinsper**	**80.88**	**358**	⇑*i*P		**P**		**17 08 58.0**	**+1.5**
	comp=Z,18nm,1.5s,mb4.8								
KBA	**Koelnbreinsper**	**80.88**	**358**	⇑*i*P		**P**		**17 08 55.4**	**-1.1**
	comp=Z,18nm,1.5s,mb4.8								
KBA	**Koelnbreinsper**	**80.88**	**358**	⇑*i*P		**P**		**17 08 58.0**	**+1.5**
KBA				pmax	pmax				
	comp=Z,18nm,1.5s,mb4.8								
MFF	**Saint Martin d**	**80.95**	**7**	*e*P		**P**		**17 08 56.0**	**-0.9**
	comp=Z,52nm,1.3s,mb5.0								
MFF	**Saint Martin d**	**80.95**	**7**	*e*P		**P**		**17 08 56.0**	**-0.9**
MFF				pmax	pmax				
	comp=Z,26nm,1.3s,mb5.0								
MFF	**Saint Martin d**	**80.95**	**7**	*e*P		**P**		**17 08 56.0**	**-0.9**
	comp=Z,26nm,1.3s,mb5.0								
AVF	**Avril sur Loir**	**81.00**	**5**	*e*P		**P**		**17 08 56.1**	**-1.1**
SMF	**Signal de Mont**	**81.17**	**5**	*e*P		**P**		**17 08 58.0**	**-0.1**
	comp=Z,14nm,0.9s,mb4.6								
SMF	**Signal de Mont**	**81.17**	**5**	*e*P		**P**		**17 08 58.0**	**-0.1**
SMF				pmax	pmax				
	comp=Z,7.0nm,0.9s,mb4.6								
SMF	**Signal de Mont**	**81.17**	**5**	*e*P		**P**		**17 08 58.0**	**-0.1**
	comp=Z,6.8nm,0.9s,mb4.6								
LPL	**La Plagne**	**82.41**	**3**	*e*P		**P**		**17 09 03.9**	**-0.7**
LPG	**La Plagne**	**82.43**	**3**	*e*P		**P**		**17 09 04.0**	**-0.7**
CAF	**Calviac**	**82.78**	**6**	*e*P		**P**		**17 09 05.6**	**-0.9**
	comp=Z,20nm,1.2s,mb4.7								
CAF	**Calviac**	**82.78**	**6**	*e*P		**P**		**17 09 05.6**	**-0.9**
CAF				pmax	pmax				
	comp=Z,10.0nm,1.2s,mb4.7								
CAF	**Calviac**	**82.78**	**6**	*e*P		**P**		**17 09 05.6**	**-0.9**
	comp=Z,9.8nm,1.2s,mb4.7								
BNI	**Bardonecchia**	**82.87**	**3**	*e*P		**P**		**17 09 08.6**	**+1.6**
BNI				pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.4								
BNI	**Bardonecchia**	**82.87**	**3**	*e*P		**P**		**17 09 08.6**	**+1.6**
	comp=Z,3.4nm,0.8s,mb4.4								
SMRF	**Simiane la Rot**	**83.91**	**4**	*e*P		**P**		**17 09 11.4**	**-1.0**
	comp=Z,19nm,1.1s,mb4.8								
SMRF	**Simiane la Rot**	**83.91**	**4**	*e*P		**P**		**17 09 11.4**	**-1.0**
	comp=Z,19nm,1.1s,mb5.1								
FRF	**La Foret Royal**	**84.36**	**3**	*e*P		**P**		**17 09 14.2**	**-0.5**
	comp=Z,13nm,0.9s,mb4.8								
FRF	**La Foret Royal**	**84.36**	**3**	*e*P		**P**		**17 09 14.2**	**-0.5**
FRF				pmax	pmax				
	comp=Z,7.0nm,0.9s,mb4.8								
FRF	**La Foret Royal**	**84.36**	**3**	*e*P		**P**		**17 09 14.2**	**-0.5**
	comp=Z,6.5nm,0.9s,mb4.8								
MTLF	**Montolieu**	**84.37**	**6**	*e*P		**P**		**17 09 13.9**	**-0.8**
	comp=Z,9.3nm,0.9s,mb4.6								
MTLF	**Montolieu**	**84.37**	**6**	*e*P		**P**		**17 09 13.9**	**-0.8**
MTLF				pmax	pmax				
	comp=Z,5.0nm,0.9s,mb4.6								
MTLF	**Montolieu**	**84.37**	**6**	*e*P		**P**		**17 09 13.9**	**-0.8**
	comp=Z,4.7nm,0.9s,mb4.6								
EPF	**Esparros**	**84.54**	**8**	*e*P		**P**		**17 09 15.0**	**-0.6**
	comp=Z,10.0nm,0.8s,mb4.7								
EPF	**Esparros**	**84.54**	**8**	*e*P		**P**		**17 09 15.0**	**-0.6**
EPF				pmax	pmax				
	comp=Z,5.0nm,0.8s,mb4.7								
EPF	**Esparros**	**84.54**	**8**	*e*P		**P**		**17 09 15.0**	**-0.6**
	comp=Z,5.0nm,0.8s,mb4.7								
ETSF	**Etsaut**	**84.59**	**8**	*e*P		**P**		**17 09 15.6**	**-0.2**
	comp=Z,11nm,0.8s,mb4.8								
ETSF	**Etsaut**	**84.59**	**8**	*e*P		**P**		**17 09 15.6**	**-0.2**
ETSF				pmax	pmax				
	comp=Z,5.0nm,0.8s,mb4.7								
ETSF	**Etsaut**	**84.59**	**8**	*e*P		**P**		**17 09 15.6**	**-0.2**
	comp=Z,5.4nm,0.8s,mb4.7								
PGF	**Pioggiola**	**85.42**	**1**	*e*P		**P**		**17 09 18.9**	**-1.1**
	comp=Z,52nm,1.1s,mb5.3								
PGF	**Pioggiola**	**85.42**	**1**	*e*P		**P**		**17 09 18.9**	**-1.1**
PGF				pmax	pmax				
	comp=Z,26nm,1.1s,mb5.3								
PGF	**Pioggiola**	**85.42**	**1**	*e*P		**P**		**17 09 18.9**	**-1.1**
	comp=Z,26nm,1.1s,mb5.3								
WRA	**Warramunga Ar**	**87.00**	**232**	P		**P**		**17 09 26.3**	**-1.5**
	comp=Z,0.8nm,0.9s,mb3.9,baz=31,slow=6.1,SNR=4.9								
ESDC	**Sonseca Array**	**87.44**	**11**	P		**P**		**17 09 30.3**	**+0.5**
	comp=Z,0.2nm,0.3s,mb3.8,baz=342,slow=5.3,SNR=5.3								
PSI	**Prapat**	**88.82**	**273**	P		**P**		**17 09 37.3**	**+0.9**
	comp=Z,18nm,0.9s,mb5.4,baz=341,slow=3.1,SNR=2.9								
ASAR	**Alice Springs**	**90.39**	**230**	P		**P**		**17 09 42.8**	**-1.0**
	comp=Z,1.1nm,0.8s,mb4.2,baz=38,slow=3.2,SNR=9.8								
LBTB	**Lobatse**	**150.38**	**332**	*e*PKIKP		PKPdf		17 16 33.1	+4.6

ATH ***17*** *17:04:05.5, 4025N×2254E, h3km, MD3.2/6*
NEIC ***17*** *17:04:05.4, 4025N×2253E, h3km, MD3.2(ATH), After ATH.*
ISCJB ***17*** *17:04:05.4±0.4, 4023N±002×2255E±003, h5km, Error ellipse: s-maj=3.2km s-min=2.9km az=164.0*
THE ***17*** *17:04:06.4, 4023N×2255E, h1km, ML2.6*
SKO ***17*** *17:04:06.6, 4019N×2256E, h4km*
CSEM ***17*** *17:04:06.2±0.1, 4022N×2250E, h5km, ML2.6, Error ellipse: s-maj=1.5km s-min=1.4km az=111.0*

ISC 17 17:04:06.0±0.4**, 4023N**±002×**2254E**±003**, h8**km±7km**, n22**, σ0**99**4/32**, Greece**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LIT	**Litokhoron**	**0.13**	**195**	*e*Pg		**Pg**	**17 04 08.8**	**-0.1**
LIT				*e*Sg		**Sg**	**17 04 11.2**	**+0.3**
THE	**Thessaloniki**	**0.52**	**39**	*e*Pg		**Pg**	**17 04 16.4**	**+0.4**
KZN	**Kozani**	**0.59**	**278**	*e*PG		**Pg**	**17 04 16.5**	**-0.9**
KZN				*e*SG		**Sg**	**17 04 24.9**	**-0.2**
PLG	**Polygyros**	**0.71**	**78**	*e*PB		**Pb**	**17 04 19.6**	**-1.1**
PLG				*e*SG		**Sg**	**17 04 27.4**	**-1.6**
GRG	**Griva**	**0.73**	**352**	*e*Pg		**Pg**	**17 04 20.1**	**0.0**
SOH	**Sokhos**	**0.86**	**46**	*e*Pg		**Pg**	**17 04 22.4**	**-0.1**
SOH				*e*Sg		**Sg**	**17 04 34.7**	**+1.0**
PAIG	**Paliouri**	**0.93**	**109**	*e*Pg		**Pg**	**17 04 23.5**	**-0.4**
PAIG				*e*Sg		**Sg**	**17 04 36.9**	**+1.0**
KNT	**Kendrikon**	**0.97**	**16**	*e*Pg		**Pg**	**17 04 25.0**	**+0.3**
KNT				*e*Sg		**Sg**	**17 04 38.3**	**+1.1**
XOR	**Xorichti**	**1.00**	**149**	*e*Pg		**Pg**	**17 04 25.1**	**-0.1**
XOR				*e*Sg		**Sg**	**17 04 39.2**	**+1.0**
FNA	**Florina**	**1.04**	**302**	*e*Pg		**Pg**	**17 04 25.5**	**-0.5**
FNA				*e*Sg		**Sg**	**17 04 41.3**	**+1.8**
NEO	**Neokhori**	**1.06**	**150**	*e*PG		**Pg**	**17 04 25.5**	**-0.9**
NEO				*e*SG		**Sg**	**17 04 40.3**	**0.0**
VAY	**Valandovo**	**1.09**	**1**	*i* Pg		**Pg**	**17 04 25.9**	**-1.1**
VAY	**Valandovo**	**1.09**	**1**	*i* Pg		**Pg**	**17 04 25.8**	**-1.1**
OUR	**Ouranopolis**	**1.11**	**84**	*e*Pg		**Pg**	**17 04 27.2**	**-0.1**
BIA	**Bitola**	**1.21**	**311**	*i* Pg		**Pg**	**17 04 30.0**	**+0.7**
AGG	**Agios Georgios**	**1.22**	**188**	*e*Pg		**Pg**	**17 04 28.6**	**-0.7**
AGG				*e*Sg		**Sg**	**17 04 47.4**	**+2.3**
JAN	**Janina**	**1.42**	**247**	*e*PN		**Pn**	**17 04 32.5**	**+0.4**
EVR	**Evrytania**	**1.43**	**203**	*e*PG		**Pg**	**17 04 32.2**	**-1.2**
NVR	**Nevrokopi**	**1.51**	**42**	*e*PN		**Pn**	**17 04 33.3**	**0.0**
LKR	**Lokris**	**1.62**	**167**	*e*PB		**Pb**	**17 04 36.6**	**+0.5**
KEK	**Kerkira**	**2.17**	**257**	*e*PG		**Pg**	**17 04 45.5**	**-2.0**
VLS	**Valsamata**	**2.55**	**217**	*e*PN		**Pn**	**17 04 51.2**	**+3.6**

IDC 17 17:06:38.8±70.0**, 2220S**×**17956W, h0**km**, mb4.2**/3**, mb1 4.4**/3**, mb1mx3.9**/11**, mbtmp4.2**/3**, Error ellipse: s-maj=1267.0km s-min=155.0km az=85.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**35.76**	**246**	P		P	17 13 37.8	-1.6
	1.6nm,0.6s,baz=85,slow=11,SNR=6.0							
ASAR	**Alice Springs**	**42.74**	**259**	P		P	17 14 38.5	+0.7
	1.7nm,0.5s,baz=97,slow=7.3,SNR=60							
WRA	**Warramunga Arr**	**42.95**	**264**	P		P	17 14 40.6	+1.2
	1.7nm,0.4s,baz=94,slow=8.3,SNR=48							

IDC ***17*** *17:06:42.3±1.4, 0.08N×9671E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.8/16, mbtmp3.9/7, ML3.1/1, Error ellipse: s-maj=47.5km s-min=21.3km az=54.0*
MOS ***17*** *17:06:45.6±0.9, 0.17N×9682E, h33km, mb4.3/3, Error ellipse: s-maj=36.6km s-min=16.5km az=106.4*
ISCJB ***17*** *17:06:47.6±4.7, 0.3N±02×970E±02, h43km±35km, mb4.2/13, Error ellipse: s-maj=51.1km s-min=16.6km az=98.4*
NEIC ***17*** *17:06:47.6±0.7, 0.18N×9694E, h30km, mb4.6/5, Error ellipse: s-maj=14.3km s-min=10.5km az=45.0*

ISC 17 17:06:50.2±4.5**, 03N**±02×**971E**±03**, h47**km±34km**, n23, σ0**95**/23, mb4.2**/13**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**3.09**	**36**	Pn		**Pn**	**17 07 35.7**	**-0.8**
	1.9nm,0.3s,baz=296,slow=8.8,SNR=6.5							
PSI	**Prapat**	**3.09**	**36**	Pn		**Pn**	**17 07 35.7**	**-0.8**
KULM	**Kulim**	**6.11**	**36**	*e*P		**P**	**17 08 17.9**	**0.0**
JIRN	**Jiri**	**29.15**	**340**	*e*P		**P**	**17 12 47.9**	**+1.1**
	9.3nm,0.7s,mb4.7							
GUN	**Gumba**	**29.48**	**340**	*e*P		**P**	**17 12 50.5**	**+0.7**
	10nm,0.7s,mb4.7							
KKN	**Kakani**	**29.59**	**338**	*e*P		**P**	**17 12 51.1**	**+0.4**
GKN	**Gorkha**	**30.02**	**338**	*e*P		**P**	**17 12 54.9**	**+0.4**
	7.7nm,0.8s,mb4.5							
KOLN	**Koldanda**	**30.23**	**336**	*e*P		**P**	**17 12 56.8**	**+0.5**
	10.0nm,0.8s,mb4.6							
WRA	**Warramunga Arr**	**41.66**	**121**	P		**P**	**17 14 34.5**	**+0.4**
	0.3nm,0.5s,mb3.1,baz=301,slow=8.6,SNR=9.5							
WRA	**Warramunga Arr**	**41.66**	**121**	P		**P**	**17 14 34.5**	**+0.4**
WB2	**Warramunga Arr**	**41.67**	**121**	*e*P		**P**	**17 14 40.4**	**+6.3**
ASAR	**Alice Springs**	**42.95**	**126**	P		**P**	**17 14 45.0**	**+0.5**
	0.5nm,0.4s,mb3.6,baz=294,slow=7.6,SNR=17							
ASAR	**Alice Springs**	**42.95**	**126**	P		**P**	**17 14 45.0**	**+0.5**
SONM	**Songino Array**	**48.03**	**8**	P		**P**	**17 15 25.9**	**+1.2**
	1.2nm,0.5s,mb4.2,baz=193,slow=10.0,SNR=6.1							
MKAR	**Makanchi Array**	**48.09**	**346**	P		**P**	**17 15 25.3**	**+0.2**
	2.9nm,0.5s,mb4.5,baz=163,slow=8.2,SNR=35							
ULN	**Ulaanbaatar**	**48.16**	**9**	*e*P		**P**	**17 15 26.6**	**+0.9**
ULN				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.1							
ULN	**Ulaanbaatar**	**48.16**	**9**	*e*P		**P**	**17 15 26.6**	**+0.9**
	comp=Z,0.6nm,0.5s,mb3.9							
KURK	**Kurchatov**	**52.63**	**345**	*e*P		**P**	**17 15 58.6**	**-0.9**
BOD	**Bodaibo**	**58.91**	**10**	*e*P		**P**	**17 16 44.3**	**-0.2**
BOD				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.2							
TIXI	**Tiksi**	**74.09**	**10**	*e*P		**P**	**17 18 19.0**	**-2.4**
TIXI				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.0							
AKASG	**Malin Array Be**	**75.90**	**323**	P		**P**	**17 18 29.6**	**-2.2**
	comp=Z,0.5nm,0.4s,mb3.8,baz=94,slow=5.6,SNR=4.5							
ARCES	**ARCESS Array B**	**83.34**	**340**	P		**P**	**17 19 11.3**	**-0.9**
	comp=Z,1.9nm,0.8s,mb4.2,baz=82,slow=6.5,SNR=3.9							
ARCES	**ARCESS Array B**	**83.34**	**340**	P		**P**	**17 19 11.3**	**-0.9**

NIED ***17*** *17:21:00, 3370N×13250E, h74km, Mw3.7 Best double couple: M03.92000×1014 NP1:φs24.00000°, δ83.00000°, λ76.00000°. NP2:φs269.00000°, δ16.00000°, λ155.00000°.*
JMA 17 17:21:40.8, 3374N×13249E, h46km±1km**, M3.5, 3C-3D Broadband fault plane solution: P waves. NP1:** φs183.00000°, δ29.00000°, λ60.00000°. **NP2:**φs36.00000°, δ65.00000°, λ105.00000°. **Principal axes:** T Plg66.0000°, Azm334.0000°; N Plg14.0000°, Azm210.0000°; P Plg19.0000°, Azm115.0000°; **Shikoku**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JNA	**Nagahama**	**0.18**	**183**	⇑P		Pn	17 21 48.4	-0.2
JNA				S		Sn	17 21 53.9	-0.1
JHM	**Kurahashi**	**0.40**	**5**	⇓P		Pn	17 21 50.6	0.0
JHM				S		Sn	17 21 57.8	+0.2
JET	**Tanbara**	**0.47**	**85**	⇑P		Pn	17 21 51.4	0.0
JET				S		Sn	17 21 59.3	+0.4
UWA2	**Uwa jima 2**	**0.54**	**168**	⇑P		Pn	17 21 52.3	0.0
UWA2				S		Sn	17 22 00.8	+0.4
JKU	**Kubokawa**	**0.64**	**132**	⇓P		Pn	17 21 53.5	-0.1
JKU				S		Sn	17 22 03.6	+0.8
JTO	**Tosashimizu**	**0.92**	**163**	⇓P		Pn	17 21 57.3	0.0
JTO				*e*S		Sn	17 22 10.1	+0.8
JHT	**Toyohira**	**0.92**	**356**	P		Pn	17 21 57.5	+0.1
JHT				S		Sn	17 22 09.8	+0.3

IDC 17 17:35:11.7±2.1**, 020N×9705E, h0**km**, mb3.7**/4**, mb1 3.8**/5**, mb1mx3.6**/17**, mbtmp3.6**/5**, ML2.9**/1 **Error ellipse: s-maj=61.3km s-min=22.8km az=63.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**3.19**	**36**	Pn		Pn	17 36 02.5	-0.5
	1.4nm,0.3s,baz=269,slow=22,SNR=12							
WRA	**Warramunga Arr**	**41.65**	**121**	P		P	17 43 02.1	+0.4
	0.6nm,0.7s,baz=303,slow=8.8,SNR=5.9							
ASAR	**Alice Springs**	**42.92**	**126**	P		P	17 43 12.3	+0.2
	0.3nm,0.5s,baz=297,slow=8.3,SNR=12							
SONM	**Songino Array**	**48.13**	**8**	P		P	17 43 53.7	+0.4
	0.4nm,0.3s,baz=187,slow=10,SNR=3.3							
MKAR	**Makanchi Array**	**48.17**	**346**	P		P	17 43 53.4	-0.2
	1.8nm,0.6s,baz=154,slow=7.7,SNR=17							

CSEM ***17*** *17:37:19.7, 12.12N×4387E, h8km, ML3.6, After DHMR*
DHMR 17 17:37:19.7±1.6**, 1212N×4387E, h9**km±11km**, ML3.6, 1D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TRBA	**At Turbah**	**1.13**	**12**	*i* P		Pg	17 37 41.4	-0.1
TRBA				*i* S		Sg	17 37 56.5	+0.4
TRBA				AML		AML	17 38 02.0	
	comp=E,2μm,0.3s							
ADEN	**Aden**	**1.27**	**59**	*i* P		Pn	17 37 42.7	-0.9
ADEN				*i* S		Sb	17 38 00.7	+0.5
ADEN				AML		AML	17 38 07.1	
	comp=E,941nm,0.3s							
ADEN	**Aden**	**1.27**	**59**	*i* P		Pn	17 37 42.7	-0.9
ADEN				*i* S		Sb	17 38 00.7	+0.5
	comp=E,470nm,0.3s							
UDYN	**Al 'Udayn**	**1.84**	**3**	*i* P		Pn	17 37 52.9	+1.4
UDYN				*i* S		Sn	17 38 18.9	+4.0
UDYN				AML		AML	17 38 29.6	
	comp=N,604nm,0.3s							
UDYN	**Al 'Udayn**	**1.84**	**3**	*i* P		Pn	17 37 52.9	+1.4
UDYN				*i* S		Sn	17 38 18.9	+4.0
	comp=N,302nm,0.3s							
LBOS		**2.20**	**37**	⇓*i*P		Pn	17 37 57.9	+1.4
LBOS				*i* S		Sn	17 38 28.9	+5.1
BDHA	**Al Bayda'**	**2.48**	**42**	*i* P		Pn	17 38 02.9	+2.6
BDHA				*i* S		Sn	17 38 37.1	+6.4
BDHA				AML		AML	17 38 51.4	
	comp=N,313nm,0.4s							
BDHA	**Al Bayda'**	**2.48**	**42**	*i* P		Pn	17 38 02.9	+2.6
BDHA				*i* S		Sn	17 38 37.1	+6.5
	comp=N,156nm,0.4s							
DHBB	**Dhamar BB**	**2.49**	**12**	*i* P		Pn	17 38 03.4	+3.0
DHBB				*i* S		Sn	17 38 36.4	+5.4
HAJJ	**Hajjah**	**3.57**	**356**	*i* P		Pn	17 38 17.5	+2.2
HAJJ				*i* S		Sn	17 39 03.0	+5.4
HAJJ				AML		AML	17 39 19.8	
	comp=N,309nm,0.7s							
HAJJ	**Hajjah**	**3.57**	**356**	*i* P		Pn	17 38 17.5	+2.2
HAJJ				*i* S		Sn	17 39 03.0	+5.4
	comp=N,154nm,0.7s							

IDC ***17*** *17:47:59.0±2.2, 2299S×176.11W, h0km, mb4.4/4, mb1 4.6/4, mb1mx4.1/13, mbtmp4.4/4, Error ellipse: s-maj=109.5km s-min=27.9km az=149.0*
MOS ***17*** *17:48:08.9±2.7, 22.17S×177.10W, h33km, mb5.0/3, Error ellipse: s-maj=99.9km s-min=22.8km az=173.8*
NEIC 17 17:48:04.5±1.4**, 2289S×17619W, h35**km**, mb4.8**/6**, 2C, Error ellipse: s-maj=70.6km s-min=17.7km az=153.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**35.00**	**267**	⇑*i*P		P	17 54 55.0	+1.5
	6.6nm,0.4s							
CTA	**Charters Tower**	**35.00**	**267**	P		P	17 54 55.0	+1.5
	6.8nm,0.4s,baz=102,slow=9.4,SNR=17							
CTA	**Charters Tower**	**35.00**	**267**	⇑*i*P		P	17 54 55.0	+1.5
CTA				pmax	pmax			
	comp=Z,7.0nm,0.4s							
CTAO	**Charters Tower**	**35.00**	**267**	*e*P		P	17 54 54.8	+1.3
CTAO				pmax	pmax			
	comp=Z,7.0nm,0.4s							
CTAO	**Charters Tower**	**35.00**	**267**	*e*P		P	17 54 54.8	+1.4
	comp=Z,7.3nm,0.4s							
STKA	**Stephens Creek**	**38.34**	**247**	*e*P		P	17 55 22.1	+0.2
	comp=Z,1.2nm,0.5s							
STKA	**Stephens Creek**	**38.34**	**247**	P		P	17 55 21.9	-0.1
	comp=Z,1.4nm,0.6s,baz=92,slow=12,SNR=9.4							
ASAR	**Alice Springs**	**45.66**	**259**	P		P	17 56 21.9	+0.2
	comp=Z,3.5nm,0.7s,baz=98,slow=6.9,SNR=82							
ASAR				PcP		PcP	17 58 00.5	+1.1
	comp=Z,0.6nm,0.6s,baz=111,slow=3.9,SNR=5.9							
WB2	**Warramunga Arr**	**45.97**	**264**	*e*P		P	17 56 23.7	-0.4
WRAB	**Tennant Creek**	**45.98**	**264**	*e*P		P	17 56 23.8	-0.3
WRAB				pmax	pmax			
	comp=Z,10.0nm,0.8s							
WRAB	**Tennant Creek**	**45.98**	**264**	*e*P		P	17 56 23.8	-0.3
	comp=Z,9.5nm,0.8s							
WRA	**Warramunga Arr**	**45.98**	**264**	P		P	17 56 23.9	-0.3
	comp=Z,1.8nm,0.4s,baz=90,slow=5.9,SNR=131							
WRA	**Warramunga Arr**	**45.98**	**264**	P		P	17 56 23.9	-0.3
FORT	**Forrest**	**49.94**	**248**	*e*P		P	17 56 55.5	+0.7
	comp=Z,18nm,0.6s							
FITZ	**Fitzroy Crossi**	**54.41**	**264**	*e*P		P	17 57 28.7	+0.7
	comp=Z,6.8nm,1.1s							
ARCES	**ARCESS Array B**	**131.56**	**350**	PKP		PKPdf	18 07 13.2	-0.1
	comp=Z,1.4nm,0.6s,baz=47,slow=0.9,SNR=12							
AKASG	**Malin Array Be**	**145.91**	**331**	PKPbc		PKPbc	18 07 39.0	-1.1
	comp=Z,2.4nm,0.3s,baz=42,slow=3.8,SNR=23							
BRTR	**Keskin Array B**	**149.68**	**311**	PKPbc		PKPbc	18 07 50.9	+0.5
	comp=Z,1.5nm,0.5s,baz=133,slow=4.7,SNR=11							
KHC	**Kasperske Hory**	**152.70**	**346**	*e*PKPbc		PKPbc	18 07 57.5	+0.1
KHC				PKPab		PKPab	18 08 08.5	+0.3
GERES	**GERESS Array B**	**152.94**	**346**	PKPbc		PKPbc	18 07 58.5	+0.6
	comp=Z,0.5nm,0.4s,baz=349,slow=1.4,SNR=6.2							
GERES				PKPab		PKPab	18 08 09.5	+0.3
	comp=Z,0.6nm,0.5s,baz=32,slow=5.2,SNR=7.0							

NEIC ***17*** *17:51:24.4±1.2, 3816N×7326E, h73km±14km, mb4.1/7, Error ellipse: s-maj=16.4km s-min=6.6km az=58.0*
BJI ***17*** *17:51:24.8, 3841N×7310E, h100km, mB4.9, mb4.3*
ISCJB ***17*** *17:51:27.0±0.4, 3828N±002×7341E±006, h119km±6km, mb4.0/14, Error ellipse: s-maj=7.4km s-min=3.4km az=156.6*
MOS ***17*** *17:51:28.3±1.0, 3846N×7329E, h115km, mb3.9/5, Error ellipse: s-maj=14.0km s-min=6.7km az=99.6*
IDC ***17*** *17:51:29.9±3.8, 3837N×7338E, h117km±35km, mb3.7/8, mb1 3.8/11, mb1mx3.7/21, mbtmp4.1/11, MS3.5/1, Ms1 3.5/1, ms1mx2.6/26, Error ellipse: s-maj=21.9km s-min=16.6km az=165.0*
NNC ***17*** *17:51:33.8±3.9, 3877N×7324E, h146km±37km, mb3.5, mpv4.0, Error ellipse: s-maj=36.7km s-min=16.8km az=0.0*
ISC 17 17:51:28.2±0.3**, 3829N**±002×**7346E**±006**, H117**km±5km**, n98,** σ1**9**47/117**, mb4.0**/14**, 10C-8D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSH	**Kashi**	**2.31**	**57**	⇑*i*P		**Pn**	**17 52 07.9**	**+2.4**
KSH				S		**Sn**	**17 52 36.3**	**+2.2**
KSH				Smax				
	comp=N,2μm,0.7s							
KSH				Smax				
	comp=E,2μm,0.5s							
AML	**Almayashu**	**3.84**	**3**	P		**Pn**	**17 52 26.1**	**+0.5**
	SNR=190							
UCH	**Uchtor**	**4.02**	**11**	P		**Pn**	**17 52 28.9**	**+1.0**
	SNR=81							
KZA	**Kyzart**	**4.03**	**19**	P		**Pn**	**17 52 28.8**	**+0.8**
	SNR=22							
EKS2	**Erkin-Say**	**4.38**	**3**	P		**Pn**	**17 52 33.4**	**+0.7**
	SNR=98							
AAK	**Ala-Archa**	**4.41**	**10**	P		**Pn**	**17 52 35.0**	**+1.7**
	SNR=29							
AAK	**Ala-Archa**	**4.41**	**10**	⇓*i*PN		**P

comp=E,0.4nm,0.3s,baz=206,slow=15,SNR=17
MKAR Makanchi Array 10.70 35 P **Pn** 17 53 58.2 +0.1
AGRA Agra 11.65 160 *e*P **Pn** 17 54 10.4 -0.4
AGRA *e*S **Sn** 17 56 11.9 -7.0
AGRA AML AML 17 56 21.6
comp=E,65nm,0.4s
AGRA AML AML 17 56 22.3
comp=N,68nm,0.4s
AJM Ajmer 11.81 175 *i* S **Sn** 17 56 14.0 -8.9
WMQ Urumqi 12.08 58 *e*P **Pn** 17 54 15.8 -0.6
KURK Kurchatov 12.96 15⇑P **Pn** 17 54 29.8 +1.9
comp=N,2.0nm,1.0s
KURK Kurchatov 12.96 15⇑*i*P **Pn** 17 54 26.2 -1.7
KURK Kurchatov 12.96 15 Pn **Pn** 17 54 29.3 +1.4
comp=N,3.0nm,0.7s
KOLN Koldanda 13.49 138 *e*P **Pn** 17 54 33.0 -1.9
comp=N,30nm,0.5s
GKN Gorkha 13.88 134 *e*P **Pn** 17 54 37.6 -2.2
comp=N,53nm,0.4s
KKN Kakani 14.40 133 *e*P **Pn** 17 54 44.3 -2.2
comp=N,34nm,0.4s
DMN Daman 14.44 134 *e*P **Pn** 17 54 45.0 -2.0
comp=N,30nm,0.6s
VOSK Vostochnaya 14.54 354⇓P **Pn** 17 54 46.9 -1.4
comp=N,6.9nm,0.7s
PKI Pulchoki 14.64 133 *e*P **Pn** 17 54 47.6 -2.0
comp=N,20nm,0.4s
AB31 Akbulak array 14.66 323⇑P **Pn** 17 54 46.7 -3.0
comp=N,8.9nm,0.3s,baz=137,slow=12,SNR=373
AB31 Akbulak array 14.66 323 P **Pn** 17 54 46.9 -2.8
AB31 pmax pmax
comp=Z,3.0nm,0.3s
GUN Gumba 14.66 131 *e*P **Pn** 17 54 48.3 -1.5
comp=Z,29nm,0.4s
BVA0 Borovoye Array 14.89 353⇑P **Pn** 17 54 50.5 -2.2
comp=Z,3.5nm,0.4s
BRVK Borovoye 14.94 353 *e*P **Pn** 17 54 50.8 -2.5
BRVK pmax pmax
comp=Z,26nm,0.6s
BRVK Borovoye 14.94 353 *e*Pn **Pn** 17 54 50.8 -2.5
comp=Z,26nm,0.6s
BRVK *e* 17 54 56.8
ZRNK Zerenda 14.99 350⇓P **Pn** 17 54 52.0 -1.9
comp=Z,20nm,0.6s
ZRNK Zerenda 14.99 350 *e*P **Pn** 17 54 51.2 -2.7
ZRNK pmax pmax
comp=Z,35nm,0.6s
ZRNK Zerenda 14.99 350 *e*P **Pn** 17 54 51.2 -2.7
comp=Z,35nm,0.6s
ZRNK *e* 17 54 56.6
JIRN Jiri 15.03 131 *e*P **Pn** 17 54 53.2 -1.3
comp=Z,32nm,0.4s
CHKZ Chkalovo 15.52 354⇑P **Pn** 17 54 57.6 -2.9
comp=Z,5.2nm,0.8s
CHKZ Chkalovo 15.52 354 *e*P **Pn** 17 54 58.0 -2.5
CHKZ pmax pmax
comp=Z,6.0nm,0.6s
CHKZ Chkalovo 15.52 354 *e*P **Pn** 17 54 58.0 -2.5
comp=Z,6.3nm,0.6s
AKTK Aktyubinsk 16.37 323 P **Pn** 17 55 09.5 -1.6
AKTK S **S** 17 58 00.8 -16
AKTO Aktyubinsk 16.37 323⇓P **Pn** 17 55 09.3 -1.8
comp=Z,0.5nm,0.7s
AKTO Aktyubinsk 16.37 323 P **Pn** 17 55 09.5 -1.6
comp=Z,3.6nm,0.3s,baz=128,slow=12,SNR=55
AKTO S **S** 17 58 00.8 -16
comp=Z,0.5nm,0.3s,baz=200,slow=19,SNR=5.0
LSA Lhasa 16.97 115 P **Pn** 17 55 19.8 +1.4
LSA Lhasa 16.97 115 P **Pn** 17 55 21.4 +3.0
LSA pmax pmax
comp=Z,5.0nm,0.7s
LSA Lhasa 16.97 115 P **Pn** 17 55 21.4 +3.0
comp=Z,5.1nm,0.7s
NVS Novosibirsk 17.84 19 *i* P **Pn** 17 55 27.1 -1.8
NVS *e*S **S** 17 58 30.1 -17
NVS pmax pmax
comp=N,1.0nm,0.7s
NVS pmax pmax
comp=E,1.0nm,0.7s
NVS pmax pmax
comp=Z,2.0nm,0.7s
NVS smax
comp=N,17nm,1.8s
NVS smax
comp=E,9.0nm,1.8s
ORR Orenburg 18.71 321 *e*P **P** 17 55 37.6 +0.1
ORR pmax pmax
comp=Z,20nm,0.5s
WSAR Wadi Sarin 19.64 224 P **P** 17 55 50.8 +3.2
comp=Z,0.6nm,0.3s,baz=28,slow=7.4,SNR=9.4
GTA Gaotai 20.54 79 *e*P **P** 17 56 00.5 +3.2
GTA AMB AMB
comp=Z,6.0nm,1.1s
ARU Arti 20.69 336⇓*i*P **P** 17 55 59.2 +0.3
ARU *e* 17 56 18.0
ARU *e*S **S** 17 59 37.0 -6.4
ARU *e*SS 18 00 02.7
ARU pmax pmax
comp=Z,13nm,0.8s
ARU Arti 20.69 336 *e*P **P** 17 55 59.0 +0.1
comp=Z,16nm,0.8s
ZAK Zakamensk 24.34 51 *e*P **P** 17 56 37.8 +2.7
ZAK *e* 17 57 19.8
ZAK pmax pmax
comp=Z,4.0nm,1.2s,mb3.6
SONM Songino Array 25.72 58 P **P** 17 56 50.5 +2.9
comp=Z,2.1nm,0.8s,mb3.6,baz=256,slow=12,SNR=10.0
ULN Ulaanbaatar 26.16 58 *e*P **P** 17 56 53.4 +1.9
ULN pmax pmax
comp=Z,1.0nm,0.7s,mb3.4
ULN Ulaanbaatar 26.16 58 *e*P **P** 17 56 53.4 +1.9
comp=Z,1.3nm,0.7s,mb3.5
ANN Anapa 27.57 295 *e*P **P** 17 57 12.2 +8.0
BRTR Keskin Array B 30.80 285 P **P** 17 57 34.9 +2.2
comp=Z,1.0nm,0.8s,mb3.6,baz=104,slow=9.0,SNR=5.1
AKASG Malin Array Be 33.41 306 P **P** 17 57 55.9 +0.4
comp=Z,1.4nm,0.3s,mb4.2,baz=81,slow=8.3,SNR=12
AKASG Malin Array Be 33.41 306 P **P** 17 57 55.9 +0.4
AKBB Malin Array Si 33.41 306 *e*P **P** 17 57 55.7 +0.1
JOF Joensuu 35.35 328 *e*p **P** 17 58 12.7 +0.4
comp=Z,3.1nm,0.4s,mb4.5
LVV L'vov 36.72 305 *e*P **P** 17 58 33.1 +9.2
FINES FINESS Array B 37.14 324 *e*P **P** 17 58 27.8 +0.3
KAF Kangasniemi 37.23 325 *e*p **P** 17 58 27.7 -0.6
comp=Z,0.4nm,0.2s,mb4.0,baz=108,slow=8.6
NJ2 Nanjing 37.33 85 *e*P **P** 17 58 29.8 +0.7
SSE Sheshan 39.54 86 *e*P **P** 17 58 52.8 +5.2
SSE AMB AMB
comp=Z,32nm,0.7s,mb5.3
ARCES ARCESS Array B 40.27 336 P **P** 17 58 54.5 +0.8
comp=Z,2.8nm,0.4s,mb4.4,baz=109,slow=8.4,SNR=37
NB2 NORSAR Subarra 44.16 322 P **P** 17 59 25.2 0.0
comp=Z,1.1nm,0.5s,mb3.8,baz=91,slow=8.6
NOA NORSAR Array B 44.16 322 P **P** 17 59 25.5 +0.3
comp=Z,2.0nm,0.7s,mb4.0,baz=92,slow=7.7,SNR=11
MJAR Matsushiro Arr 50.50 71 LR LR 18 23 54.1
comp=Z,48nm,18.1s,baz=315,slow=38
TORD Torodi Ar. Bea 67.71 269 P **P** 18 02 13.9 +1.0
comp=Z,2.0nm,0.4s,mb4.3,baz=48,slow=5.7,SNR=39
INK Inuvik 71.82 10 *e*P **P** 18 02 39.1 +1.0
INK pmax pmax
comp=Z,1.0nm,0.4s
INK Inuvik 71.82 10 *e*P **P** 18 02 39.1 +1.0
comp=Z,0.7nm,0.4s,mb3.8
YKA Yellowknife Ar 79.36 4 P **P** 18 03 22.0 +0.9
comp=Z,1.1nm,0.7s,mb3.8,baz=348,slow=5.6,SNR=17
WRA Warramunga Arr 81.31 124 P **P** 18 03 33.1 +1.5
comp=Z,0.5nm,1.0s,mb3.3,baz=328,slow=4.9,SNR=5.0

*ISCJB **17** 18:11:27.8±0.4, 3440N±006×13783E±007, h300km±4km, mb3.5/8, Error ellipse: s-maj=10.6km s-min=8.8km az=85.8*
*NEIC **17** 18:11:28.5±0.7, 3438N×138.11E, h296km±16km, mb3.8/2, Error ellipse: s-maj=57.6km s-min=13.3km az=68.0*
*JMA **17** 18:11:28.5±0.3, 3447N×13781E, h299km±3km, M3.4*
*IDC **17** 18:11:29.2±0.6, 3447N×13797E, h303km±12km, mb3.2/6, mb1 3.3/9, mb1mx3.1/22, mbtmp3.9/9, Error ellipse: s-maj=41.5km s-min=8.7km az=71.0*

ISC 17 18:11:28.8±0.4, 3442N±006×13783E±007, h294km±4km, n29, σ0°95/39, mb3.5/8, Near south coast of eastern Honshu

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

JHMK Hamakita 0.40 352 P **Pn** 18 12 06.6 +0.1
JIE Ise 0.93 268 P **Pn** 18 12 08.2 0.0
JYN Shimob 1.22 28 P **Pn** 18 12 10.1 +0.4
JOD2 Odawara 2 1.33 51 P **Pn** 18 12 10.8 +0.5
JIM2 Oshima 3 1.35 77 P **Pn** 18 12 11.2 +0.8
JGM Miyama 1.57 325 P **Pn** 18 12 12.0 +0.2
JGM S **S** 18 12 45.2 -0.8
JRY Ryogami san 1.82 29 P **Pn** 18 12 14.2 +0.6
JRY S **S** 18 12 50.7 +1.5
JWY Kouya 1.86 264 P **Pn** 18 12 13.9 0.0
JHJ Hachijo jima 2 2.08 128 P **Pn** 18 12 16.1 +0.5
18nm,0.3s,baz=58,slow=23,SNR=18
JHJ S **S** 18 12 55.4 +2.4
7.6nm,0.3s,baz=44,slow=22,SNR=3.3
JHJ2 Mitsune 2.11 128 P **Pn** 18 12 16.2 +0.3
MAJO Matsushiro 2.14 8 *e*P **Pn** 18 12 16.2 0.0
MAT Matsushiro 2.14 8 P **Pn** 18 12 16.3 +0.2
MAT S **S** 18 12 55.4 +1.6
MAT Matsushiro 2.14 8 *e*P **Pn** 18 12 16.0 -0.1
MAT *e*S **S** 18 12 55.0 +1.2
MJAR Matsushiro Arr 2.14 8 P **Pn** 18 12 16.2 +0.1
21nm,0.3s,baz=181,slow=8.8,SNR=203
MJAR S **S** 18 12 54.5 +0.7
baz=227,slow=40,SNR=2.1
JWT Wachi 2.17 294 P **Pn** 18 12 16.1 -0.3
JWT S **S** 18 12 52.2 -2.2
JKG Kaga 2.22 327 P **Pn** 18 12 16.6 -0.2
JAG Ashikaga 2.40 33 P **Pn** 18 12 17.9 -0.5
JAG S **S** 18 12 56.4 -1.5
BSO1 Boso 1 2.61 84 P **Pn** 18 12 19.2 -1.1
BSO1 S **S** 18 12 59.1 -2.3
JSZ Suzu 3.04 353 P **Pn** 18 12 24.3 -0.2
CBIJ Chichi jima 8.21 152 P **Pn** 18 13 19.8 -5.0
2.4nm,0.3s,baz=268,slow=23,SNR=14
CBIJ S **S** 18 14 46.5 -12
13nm,0.3s,baz=284,slow=21,SNR=14
ASAJ Asahikawa 10.36 19 P **Pn** 18 13 50.1 -1.2
0.9nm,0.3s,baz=223,slow=12,SNR=8.3
SONM Songino Array 27.00 309 P **P** 18 16 45.1 +0.9
0.9nm,0.5s,mb3.4,baz=121,slow=9.0,SNR=5.5
MKAR Makanchi Array 43.09 304 P **P** 18 19 00.7 +0.2
1.0nm,0.7s,mb3.2,baz=75,slow=11,SNR=9.0
KURK Kurchatov 45.30 310 *e*P **P** 18 19 20.7 +2.8
3.1nm,0.8s,mb3.6
FITZ Fitzroy Crossi 53.50 194 P **P** 18 20 19.3 -0.2
3.1nm,1.1s,mb3.6,baz=109,slow=23,SNR=6.5
WRAB Tennant Creek 54.15 184 *e*P **P** 18 20 23.5 -0.6
5.1nm,0.9s,mb3.9
WRA Warramunga Arr 54.16 184 P **P** 18 20 23.8 -0.4
1.0nm,0.3s,mb3.6,baz=0.3,slow=7.6,SNR=60
ASAR Alice Springs 57.89 184 P **P** 18 20 50.2 -0.2
0.3nm,0.3s,mb3.1,baz=354,slow=4.3,SNR=20
NOA NORSAR Array B 75.43 336 P **P** 18 22 40.3 -0.4
0.5nm,0.8s,mb3.2,baz=39,slow=5.4,SNR=2.9

*CSEM **17** 18:17:28.8±0.1, 3607N×2756E, h5km, MD3.3, Error ellipse: s-maj=3.3km s-min=1.8km az=105.0*
*ISCJB **17** 18:17:28.9±0.8, 3604N±002×2756E±004, h2km±6km, Error ellipse: s-maj=5.3km s-min=3.6km az=53.3*
*HLW **17** 18:17:29.7, 3637N×2749E, h33km, Mb3.1*
*ISK **17** 18:17:30.9, 3615N×2755E, h21km, MD3.3*
*ATH **17** 18:17:30.4, 3612N×2757E, h7km±3km, MD3.4/8*
*NEIC **17** 18:17:31.1, 3609N×2758E, h15km, MD3.3(ATH), After ATH.*

ISC 17 18:17:30.7±0.5, 3610N±002×2755E±003, h7km±4km, n38, σ1°15/52, 5C, Dodecanese Islands

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

ARG Arkhangelos 0.48 75⇑*i*PB **Pg** 18 17 40.0 -0.1
ARG *e*SB **Sg** 18 17 45.5 -1.0
ARG Arkhangelos 0.48 75⇑*i*Pb **Pg** 18 17 40.3 +0.2
ARG *e*Sb **Sg** 18 17 47.2 +0.7
NISR Nisiros 0.62 327 *e*Pb **Pb** 18 17 43.0 -0.8
KARP Karpathos 0.63 210⇑*i*PB **Pg** 18 17 43.4 +0.5
KARP *e*SB **Sb** 18 17 52.3 -0.8
KARP Karpathos 0.63 210⇑*i*Pn **Pg** 18 17 43.4 +0.5
KARP *e*Sn **Sg** 18 17 52.6 +1.5
DAT Datca 0.63 2 *i* PG **Pg** 18 17 43.1 +0.1
DAT *i* SG **Sg** 18 17 51.7 +0.5
BDRM Kayabasi 0.97 355 *i* P **Pg** 18 17 49.0 -0.4
BDRM *i* S **Sg** 18 18 01.6 -0.4
BODT Bodrum 0.98 349 *i* PG **Pg** 18 17 48.8 -0.9
BODT *i* SG **Sg** 18 18 03.0 +0.6
DALT Dalyan (Mudla) 1.11 52 PG **Pg** 18 17 50.9 -1.1
YER Yerkesik 1.20 30 PN **Pn** 18 17 52.5 -1.4
MLSB Milas 1.21 9 PN **Pn** 18 17 51.7 -2.4
FETY Fethiye 1.35 66 PN **Pn** 18 17 55.4 -0.7
AYDN Tasoluk 1.59 10 *i* P **Pn** 18 17 59.9 +0.7
AYDN *i* S **Sn** 18 18 19.5 -0.5
KSL Kastellorizon 1.65 87 *e*PB **Pb** 18 18 01.0 -0.5
SMG Samos 1.71 341 *e*PB **Pb** 18 18 02.0 -0.5
SMG Samos 1.71 341 *e*Pn **Pn** 18 18 02.8 +1.9
SANT Santorini 1.71 280 *e*P **Pn** 18 17 59.0 -2.0
SANT Santorini 1.71 280 *e*P **Pn** 18 17 59.0 -1.9
NPS Neapolis 1.78 243 *e*PN **Pn** 18 18 03.0 +1.1
NPS Neapolis 1.78 243 *e*Pn **Pn** 18 18 00.7 -1.2
APE Apeiranthos 1.89 302 *e*PN **Pn** 18 18 03.0 -0.5
APE Apeiranthos 1.89 302 *e*PG **Pg** 18 18 06.0 -1.0
XRY Khrisi 1.94 232 *e*PN **Pn** 18 18 06.5 +2.4
DENT Denizli 2.04 35 *e*PN **Pn** 18 18 04.4 -1.1
MANT Manisa 2.52 18 *i* P **Pn** 18 18 14.0 +1.9
MANT *i* S **Sn** 18 18 44.5 +1.3
BCK Bucak 2.80 60 *e*PN **Pn** 18 18 14.9 -1.0
VAM Vamos 2.81 257 *e*PN **Pn** 18 18 18.6 +2.6
VAM Vamos 2.81 257 *e*Pn **Pn** 18 18 17.5 +1.5
TKTP Tekketepe 2.95 48 *i* P **Pn** 18 18 19.9 +2.0
TKTP *i* S **Sn** 18 18 57.9 +4.3
VLI Veliai 3.77 281 *e*Pn **Pn** 18 18 30.4 +1.1
ERMK Ermenek 4.37 81 *i* P **Pn** 18 18 41.5 +4.0
ERMK *i* S **Sn** 18 19 29.6 +1.1
KIZT Kizilcal 4.43 50 *e*PN **Pn** 18 18 39.3 +1.0
SLUM 4.99 204 P **Pn** 18 18 46.1 +0.1
SLUM S **Sn** 18 19 40.9 -3.0
HMAT Matruh 5.00 184 P **Pn** 18 18 46.2 +0.4
HMAT S **Sn** 18 19 43.0 -1.3
SWA1 6.99 193 P **Pn** 18 19 13.9 +0.4
SWA1 S **Sn** 18 20 29.8 -3.3
SWA2 7.05 195⇑P **Pn** 18 19 14.6 +0.1
AMAG Maghara 7.21 137 P **Pn** 18 19 16.4 -0.2
SUZ 7.66 143 P **Pn** 18 19 23.1 +0.5

IDC 17 18:20:43.5±2.2, 663S×12927E, h0km, mb3.4/1, mb1 3.9/4, mb1mx3.7/12, mbtmp3.7/4, ML3.8/3, Error ellipse: s-maj=80.7km s-min=28.7km az=76.0, Banda Sea

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

FITZ Fitzroy Crossi 11.94 197 Pn **Pn** 18 23 34.7 -0.2
0.3nm,0.3s,baz=12,slow=13,SNR=20
FITZ Sn **Sn** 18 25 31.6 -17
0.6nm,0.3s,baz=77,slow=21,SNR=5.6
WRA Warramunga Arr 14.12 160 Pn **Pn** 18 24 04.5 -0.2
0.6nm,0.3s,baz=339,slow=13,SNR=33
WRA Sn **Sn** 18 26 28.4 -14
1.1nm,0.3s,baz=330,slow=22,SNR=12
ASAR Alice Springs 17.52 166 P **Pn** 18 24 49.9 +0.8
0.7nm,0.3s,baz=341,slow=9.4,SNR=108
ASAR S **Sn** 18 27 51.0 -14
0.2nm,0.3s,baz=317,slow=16,SNR=6.0
MKAR Makanchi Array 67.52 327 P **P** 18 31 41.6 +0.2
0.1nm,0.4s,baz=121,slow=8.0,SNR=4.2

MAN 17 18:30:01.7, 1127N×12583E, h10km, mb3.2, ML4.5, MS2.3, 1C-1D, Samar

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

BESP Borongan 0.50 311 *e*P **Pg** 18 30 12.7 +1.2
PLP Palo 0.84 263 *e*P **Pg** 18 30 16.9 -1.0
PLP *e*S **Sg** 18 30 28.1 -0.7
OCLP Ormoc 1.21 260 *e*P **Pn** 18 30 24.1 -0.6
MSLP Maasin 1.48 220 *e*P **Pn** 18 30 27.9 -0.4
MSLP *e*S **Sn** 18 30 49.4 +1.7
SCPH Surigao 1.52 193⇓*e*P **Pn** 18 30 27.6 -1.3
BUTP Butuan 2.30 185 *e*P **Pn** 18 30 40.8 +1.2
PVCP Virac 2.83 325⇓*e*P **Pn** 18 30 51.5 +4.5
PVCP *e*S **Sn** 18 31 29.9 +8.8
PVCP Virac 2.83 325 *e*P **Pn** 18 30 47.2 +0.3
GUIM Jordan 3.24 259 *e*P **Pn** 18 30 53.3 +0.7

IDC 17 18:57:40.8±1.7, 873S×15798E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/13, mbtmp3.8/5, ML3.6/1, Error ellipse: s-maj=42.0km s-min=27.9km az=178.0, Bougainville - Solomon Islands region

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

HNR Honiara 2.07 110 Pn **Pn** 18 58 16.3 -0.4
19nm,0.3s,baz=252,slow=3.0,SNR=10
HNR Sn **Sn** 18 58 49.7 +6.5
85nm,0.3s,baz=86,slow=22,SNR=16
WRA Warramunga Arr 25.43 241 P **P** 19 03 10.3 +0.1
1.3nm,0.7s,baz=68,slow=9.4,SNR=7.5
ASAR Alice Springs 27.41 234 P **P** 19 03 27.9 -0.1
0.7nm,0.9s,baz=65,slow=9.3,SNR=4.0
STKA Stephens Creek 27.61 211 P **P** 19 03 30.4 +0.6
1.6nm,0.7s,baz=23,slow=13,SNR=3.2
MKAR Makanchi Array 86.65 318 P **P** 19 10 27.0 +0.7
0.6nm,0.8s,baz=89,slow=6.0,SNR=3.8

MAN 17 19:17:51.0, 1140N×12520E, h200km, mb2.5, ML4.1, MS2.4, 1C-1D, Samar

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

PLP Palo 0.32 222 *e*P **Pn** 19 18 18.8 +1.2
MSLP Maasin 1.30 195 *e*P **Pn** 19 18 28.0 +5.0
SCPH Surigao 1.64 170⇓*e*P **Pn** 19 18 26.6 +0.7
PVCP Virac 2.41 335 *e*P **Pn** 19 18 34.5 +0.7
RCP Roxas 2.41 274⇑*e*P **Pn** 19 18 34.6 +0.7
RCP *e*S **Sn** 19 18 52.0 -15
GUIM Jordan 2.68 253 *e*P **Pn** 19 18 47.0 +10
AUQP San Andres 3.12 308 *e*P **Pn** 19 18 35.8 -6.2
BOAC Boac 3.86 302 *e*P **Pn** 19 18 43.9 -7.1

*IDC **17** 19:24:26.2±0.6, 1998S×17455W, h0km, mb4.2/9, mb1 4.4/10, mb1mx4.4/14, mbtmp4.3/10, ML5.1/1, MS3.9/9, Ms1 3.8/9, ms1mx3.6/20, Error ellipse: s-maj=23.3km s-min=15.9km az=142.0*
*NEIC **17** 19:24:27.9±0.4, 1999S×17453W, h10km, mb4.6/5, Error ellipse: s-maj=16.9km s-min=11.3km az=142.0*
*ISCJB **17** 19:24:29.8±0.5, 200S±0.1×1746W±0.1, h33km, mb4.4/14, MS4.1/10, Error ellipse: s-maj=16.5km s-min=11.8km az=102.1*
*MOS **17** 19:24:30.1±1.8, 1975S×17455W, h33km, mb4.7/3, Error ellipse: s-maj=22.8km s-min=14.8km az=149.1*

ISC 17 19:24:31.7±0.5, 201S±01×1745W±01, h35km, (h36km±4.6km: pP-P), n58, σ1°11/27, mb4.4/14, MS4.1/10, Tonga Islands

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

AFI Afiamalu 6.66 24 Pn **Pn** 19 26 01.1 -5.9
13nm,0.3s,baz=36,slow=22,SNR=6.4
AFI LR LR 19 27 26.9
comp=Z,215nm,20.1s,baz=201,slow=27
RAR Rarotonga 13.84 97 Pn **Pn** 19 27 35.9 -9.5
3.1nm,0.3s,baz=262,slow=9.7,SNR=9.2
RAR LR LR 19 31 20.0
comp=Z,389nm,18.6s,baz=288,slow=30
DZM Mont Dzumac 17.89 260 P **Pn** 19 28 43.1 +5.4
0.7nm,0.3s,baz=72,slow=16,SNR=5.8
URZ Urewera 19.53 200 P **Pn** 19 28 56.7 -0.8
5.8nm,0.3s,baz=1.5,slow=3.4,SNR=20
TBI Tubuai 23.49 103 *e*LQ 19 33 54.6
1μm,31.8s
TBI *e*LR LR 19 34 54.8
353nm,25.5s
PPT Papeete 23.73 88 *e*LQ 19 34 07.1
839nm,26.2s
PPT *e*LR LR 19 35 11.9
335nm,23.5s
PPT Papeete 23.73 88 P **P** 19 29 39.1 -1.4
42nm,0.3s,mb5.3,baz=356,slow=19,SNR=3.8
PPT LR LR 19 36 31.7
comp=Z,327nm,18.4s,MS3.8,baz=306,slow=30
PPT Papeete 23.73 88 P **P** 19 29 39.1 -1.4
PPT LR 19 36 31.7
RPZ Rata Peaks 26.49 204 P **P** 19 30 05.0 -0.6
22nm,0.5s,mb4.9,baz=71,slow=1.8,SNR=12
CTA Charters Tower 36.79 263 P **P** 19 31 35.8 -0.3
2.9nm,0.4s,mb4.5,baz=137,slow=13,SNR=6.4
CTA LR LR 19 44 15.8
comp=Z,205nm,21.8s,MS3.9,baz=304,slow=32
CTAO Charters Tower 36.79 263 *e*P **P** 19 31 38.2 +2.1
CTAO pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
CTAO Charters Tower 36.79 263 *e*P **P** 19 31 38.2 +2.1
comp=Z,3.9nm,0.5s,mb4.5
RKT Rikitea 36.81 102 *e*LR LR 19 41 00.2
comp=Z,138nm,24.0s
STKA Stephens Creek 40.92 244 *e*P **P** 19 32 09.4 -1.3
comp=Z,3.8nm,0.9s,mb4.0
STKA Stephens Creek 40.92 244 P **P** 19 32 09.0 -1.6
comp=Z,1.8nm,0.5s,mb4.0,baz=82,slow=11,SNR=10
STKA LR LR 19 48 13.6
comp=Z,126nm,19.0s,MS3.8,baz=44,slow=35
ASAR Alice Springs 47.80 256 P **P** 19 33 04.0 -1.7
comp=Z,1.9nm,0.6s,mb4.3,baz=94,slow=7.8,SNR=27
WRAB Tennant Creek 47.90 261 *e*P **P** 19 33 06.6 +0.2
WRAB pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
WRAB Tennant Creek 47.90 261 *e*P **P** 19 33 06.6 +0.2
comp=Z,4.3nm,0.8s,mb4.5
WRA Warramunga Arr 47.90 261 P **P** 19 33 06.9 +0.5
comp=Z,0.9nm,0.4s,mb4.2,baz=97,slow=7.6,SNR=20
VNDA Vanda 58.65 186 P **P** 19 34 27.1 +1.7
comp=Z,4.3nm,0.9s,mb4.5,baz=3.9,slow=6.5,SNR=22
QSPA South Pole Qui 70.00 180 *e*P **P** 19 35 41.3 +1.6
comp=Z,24nm,1.1s,mb5.0
MJAR Matsushiro Arr 71.86 321 P **P** 19 35 51.3 +0.3
comp=Z,1.2nm,0.6s,mb4.0,baz=167,slow=6.1,SNR=4.1
NVAR Mina Array Bea 78.49 42 P **P** 19 36 29.6 +0.4
comp=Z,1.0nm,0.6s,mb3.9,baz=229,slow=10,SNR=8.0
MNV Mina 78.59 42 P **P** 19 36 30.9 +1.2
MNV *e* pP 19 36 42.6 +1.9
MNV pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MNV Mina 78.59 42 P **P** 19 36 30.9 +1.2
comp=Z,8.3nm,1.1s,mb4.6
MNV *e* pP 19 36 42.6 +2.0
MAW Mawson 83.06 199 LR LR 20 09 44.7
comp=Z,90nm,19.5s,MS4.2,baz=238,slow=33
PDAR Pinedale Array 86.43 42 P **P** 19 37 10.0 -0.6
comp=Z,0.2nm,0.4s,mb3.7,baz=257,slow=12,SNR=2.3
PDAR LR LR 20 10 08.6
comp=Z,44nm,19.6s,MS3.9,baz=249,slow=32
VNA3 Neumayer Olymp 88.32 175 *e* **P** 19 37 20.0 +0.3
VNA3 *e* pP 19 37 32.2 +1.4
VNA3 *e* 19 37 36.7
VNA2 Neumayer--Watz 88.80 176 *e* **P** 19 37 22.6 +0.7
baz=188,slow=3.6
VNA2 *e* 19 37 26.3
VNA2 *e* pP 19 37 31.0 -2.1
VNA2 *e* 19 37 36.2
VNA2 *e* 19 37 38.7
VNA1 Neumayer--Stat 89.01 175 *e* **P** 19 37 19.3 -3.6
VNA1 *e* 19 37 24.7
VNA1 *e* 19 37 34.1
YKA Yellowknife Ar 94.78 24 P **P** 19 37 48.8 -0.8
comp=Z,0.1nm,0.3s,mb3.7,baz=217,slow=7.8,SNR=3.9
YKA LR LR 20 11 37.3
comp=Z,76nm,19.4s,MS4.2,baz=210,slow=30
ULM Lac du Bonnet 98.20 39 LR LR 20 15 26.6
comp=Z,100nm,20.1s,MS4.3,baz=229,slow=31
CHKZ Chkalovo 120.63 321 *e*PKIKP PKPdf 19 43 18.9 -0.8
ZRNK Zerenda 121.69 320 *e*PKIKP PKPdf 19 43 21.4 -0.4
ARCES ARCESS Array B 129.05 351 PKP PKPdf 19 43 35.2 -0.6
comp=Z,3.3nm,0.8s,baz=22,slow=1.3,SNR=9.0
ARCES ARCESS Array B 129.05 351 PKP PKPdf 19 43 35.2 -0.6
NOA NORSAR Array B 138.87 356 PKP PKPdf 19 43 55.8 +1.5
comp=Z,0.8nm,0.7s,baz=13,slow=4.1,SNR=4.2
AKASG Malin Array Be 144.15 334 PKP PKPdf 19 44 01.0 -2.7
comp=Z,0.6nm,0.5s,baz=36,slow=3.2,SNR=6.4
CLL Collm 148.27 351 *e*PKPbc PKPbc 19 44 15.0 +0.9
CLL *e*PKPab PKPab 19 44 18.0 +0.8
CLL *ex* x 19 44 30.0
BRTR Keskin Array B 148.91 315 PKPbc PKPbc 19 44 16.5 +0.8
comp=Z,1.2nm,0.8s,baz=98,slow=3.7,SNR=6.3
GIVF Givet 150.03 1 *e*PKP1 PKPbc 19 44 18.8 +0.3

BAIF	**Baives**	**150.06**	**2**	*e*PKP1	PKPbc	19 44 19.0	+0.4	
	comp=Z,14nm,0.9s							
KHC	**Kasperske Hory**	**150.29**	**349**	*e*PKPbc	PKPbc	19 44 20.0	+0.9	
GERES	**GERESS Array B**	**150.54**	**349**	PKPbc	PKPbc	19 44 20.0	+0.2	
	comp=Z,1.6nm,0.8s,baz=29,slow=3.0,SNR=14							
FLN	**La Foliniere**	**150.97**	**8**	*e*PKP1	PKPbc	19 44 20.7	0.0	
	comp=Z,18nm,0.7s							
FLN				*e*R				
	comp=Z,71nm,20.5s							
FLN	**La Foliniere**	**150.97**	**8**	*e*PKP	PKPbc	19 44 20.7	0.0	
FLN				LR	LR			
	comp=Z,70nm,20.5s,MS4.5							
LDF	**La Druitiere**	**151.19**	**8**	*e*PKP1	PKPbc	19 44 21.0	-0.2	
GRR	**Gorron**	**151.29**	**9**	*e*PKP1	PKPbc	19 44 21.5	0.0	
	comp=Z,14nm,0.7s							
CDF	**Champ du Feu**	**151.69**	**357**	*e*PKP1	PKPbc	19 44 22.7	+0.3	
	comp=Z,13nm,1.1s							
HAU	**Haudompre**	**152.12**	**359**	*e*PKP1	PKPbc	19 44 24.6	+1.2	
HAU				*e*R				
	comp=Z,35nm,20.8s							
HAU	**Haudompre**	**152.12**	**359**	*e*PKP	PKPdf	19 44 24.6	+7.9	
HAU				LR	LR			
	comp=Z,40nm,20.8s,MS4.2							
HINF	**Hinteralfeld**	**152.30**	**358**	*e*PKP1	PKPbc	19 44 23.7	-0.1	
LOR	**Lormes**	**152.84**	**2**	*e*PKP1	PKPbc	19 44 25.3	+0.3	
LOR				*e*R				
	comp=Z,76nm,19.5s							
LOR	**Lormes**	**152.84**	**2**	*e*PKP	PKPbc	19 44 25.3	+0.3	
LOR				LR	LR			
	comp=Z,80nm,19.5s,MS4.5							
SSF	**Saint Saulge**	**153.03**	**3**	*e*PKP1	PKPbc	19 44 25.7	+0.3	
	comp=Z,4.9nm,0.7s							
AVF	**Avril sur Loir**	**153.29**	**3**	*e*PKP1	PKPbc	19 44 25.8	-0.2	
CABF	**La Chapelle**	**153.52**	**359**	*e*PKP1	PKPbc	19 44 26.7	+0.2	
TORD	**Torodi Ar. Bea**	**172.21**	**152**	PKPab	PKPab	19 46 00.7	0.0	
	comp=Z,0.8nm,0.9s,baz=225,slow=3.4,SNR=3.9							

*ISCJB **17** 19:52:16.1±0.6, 3320N±003×5.11W±007, h10km, Error ellipse: s-maj=9.1km s-min=4.7km az=162.7*
*CSEM **17** 19:52:16.8±0.3, 3302N×5.13W, h12km, MD3.2, Error ellipse: s-maj=10.4km s-min=8.6km az=158.0*
*CNRM **17** 19:52:17.9, 33.12N×508W, h16km, MD3.2*
*MDD **17** 19:52:18.3±0.6, 3304N×5.10W, h14km±4km, mb3.3/2, Error ellipse: s-maj=8.8km s-min=7.7km az=146.0, PRIXMO SIN SOLUCIN*

ISC 17 19:52:17.0±0.6, 3313N±004×512W±006, h10km, n9, σ1§51/16, Morocco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CZD	**Col de Zad**	**0.12**	**145**	*i* P	**Pg**	**19 52 20.2**	**+0.4**
CZD				*i* S	**Sg**	**19 52 24.0**	**+2.3**
IFR	**Ifrane**	**0.39**	**359**	P	**Pg**	**19 52 32.5**	**+7.9**
IFR				S	**Sg**	**19 52 39.0**	**+9.2**
KIB	**El Ksiba**	**0.95**	**235**	*i* P	**Pg**	**19 52 35.0**	**-0.2**
KIB				*i* S	**Sg**	**19 52 47.5**	**-0.1**
ZFT	**Errachidia**	**1.27**	**149**	*i* P	**Pn**	**19 52 40.0**	**-0.7**
ZFT				*i* S	**Sb**	**19 52 54.5**	**-2.8**
EMIN	**Mina Concepcio**	**4.80**	**345**	P	**Pn**	**19 53 31.1**	**+1.8**
	0.3nm,0.3s,SNR=7.9						
EMIN				S	**Sn**	**19 54 20.8**	**-4.2**
	0.2nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.80**	**337**	P	**Pn**	**19 53 30.7**	**+1.4**
	1.8nm,0.3s,SNR=7.9						
EGRO				S	**Sn**	**19 54 22.5**	**-2.5**
	0.6nm,0.2s,SNR=7.9						
EQES	**Quesada**	**4.96**	**19**	S	**Sn**	**19 54 23.3**	**-5.5**
	1.6nm,0.6s,SNR=7.9						
EADA	**Adamuz**	**5.05**	**5**	S	**Sn**	**19 54 30.5**	**-0.6**
	0.4nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**5.82**	**345**	P	**Pn**	**19 53 44.7**	**+1.4**
	SNR=7.9						
EBAD				S	**Sn**	**19 54 47.9**	**-2.2**
	SNR=7.9						

*NEIC **17** 19:57:05.1, 4022N×2247E, h23km, MD3.1(ATH), After ATH.*
*ATH **17** 19:57:05.1, 4022N×2247E, h23km±1km, MD3.1/6*
*SKO **17** 19:57:05.8, 4017N×2256E, h8km*
*ISCJB **17** 19:57:05.1±0.4, 4023N±002×2251E±003, h15km±3km, Error ellipse: s-maj=4.1km s-min=3.7km az=0.3*
*CSEM **17** 19:57:05.9±0.1, 4022N×2249E, h15km, MD3.1, Error ellipse: s-maj=1.9km s-min=1.9km az=107.0*
*THE **17** 19:57:06.1, 4022N×2253E, h10km, ML2.6*

ISC 17 19:57:05.8±0.4, 4023N±002×2251E±003, h15km±3km, n22, σ0§92/34, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIT	**Litokhoron**	**0.13**	**188**	*e*Pg	**Pg**	**19 57 08.8**	**-0.6**
LIT				*e*Sg	**Sg**	**19 57 10.6**	**-1.2**
THE	**Thessaloniki**	**0.53**	**40**	*e*Pg	**Pg**	**19 57 16.6**	**+0.4**
THE				*e*Sg	**Sg**	**19 57 24.5**	**+1.1**
KZN	**Kozani**	**0.57**	**278**	*e*PN	**Pg**	**19 57 16.4**	**-0.7**
KZN				*e*SN	**Sg**	**19 57 24.3**	**-0.4**
KZN	**Kozani**	**0.57**	**278**	*e*Sn	**Sg**	**19 57 24.3**	**-0.4**
PLG	**Polygyros**	**0.73**	**78**	*e*PN	**Pn**	**19 57 19.7**	**-1.7**
PLG				*e*SN	**Sn**	**19 57 30.5**	**-1.8**
GRG	**Griva**	**0.73**	**353**	*e*Pg	**Pg**	**19 57 20.1**	**0.0**
SOH	**Sokhos**	**0.87**	**47**	*e*Pg	**Pg**	**19 57 22.4**	**-0.3**
PAIG	**Paliouri**	**0.94**	**108**	*e*Pg	**Pg**	**19 57 23.7**	**-0.4**
PAIG				*e*Sg	**Sg**	**19 57 37.6**	**+1.2**
KNT	**Kendrikon**	**0.98**	**17**	*e*Pg	**Pg**	**19 57 24.5**	**-0.2**
KNT				*e*Sg	**Sg**	**19 57 38.7**	**+1.2**
XOR	**Xorichti**	**1.01**	**149**	*e*Pg	**Pg**	**19 57 24.9**	**-0.3**
XOR				*e*Sg	**Sg**	**19 57 38.7**	**+0.3**
FNA	**Florina**	**1.03**	**303**	*e*Pg	**Pg**	**19 57 25.4**	**-0.3**
FNA				*e*Sg	**Sg**	**19 57 41.2**	**+2.1**
NEO	**Neokhori**	**1.07**	**149**	*e*PN	**Pn**	**19 57 25.5**	**-0.7**
NEO				*e*SN	**Sn**	**19 57 40.3**	**-0.4**
VAY	**Valandovo**	**1.09**	**2**	*i* Pg	**Pg**	**19 57 25.6**	**-1.3**
OUR	**Ouranopolis**	**1.13**	**84**	*e*Pg	**Pg**	**19 57 27.0**	**-0.6**
OUR				*e*Sg	**Sg**	**19 57 43.2**	**+0.9**
BIA	**Bitola**	**1.20**	**311**	*e*Pg	**Pg**	**19 57 28.1**	**-0.9**
BIA	**Bitola**	**1.20**	**311**	*e*Pg	**Pg**	**19 57 28.0**	**-1.0**
AGG	**Agios Georgios**	**1.21**	**187**	*e*Pg	**Pg**	**19 57 28.7**	**-0.5**
AGG				*e*Sg	**Sg**	**19 57 46.6**	**+1.6**
JAN	**Janina**	**1.40**	**246**	*e*PN	**Pn**	**19 57 30.9**	**+0.2**
EVR	**Evrytania**	**1.42**	**203**	*e*PN	**Pn**	**19 57 32.1**	**+1.1**
EVR				*e*SN	**Sn**	**19 57 50.5**	**+1.2**
NVR	**Nevrokopi**	**1.52**	**42**	*e*PN	**Pn**	**19 57 33.1**	**+0.8**
LKR	**Lokris**	**1.62**	**166**	*e*PN	**Pn**	**19 57 34.1**	**+0.4**
KEK	**Kerkira**	**2.15**	**257**	*e*PB	**Pn**	**19 57 40.9**	**-0.1**

IDC 17 20:02:49.5±2.8, 374S×15189E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/14, mbtmp4.1/4, ML3.2/1, Error ellipse: s-maj=109.7km s-min=33.3km az=123.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.33**	**220**	Pn	Pn	20 04 40.1	+2.3
	2.4nm,0.3s,baz=12,slow=9.1,SNR=7.8						
PMG				Sn	Sn	20 06 03.3	+1.6
	1.5nm,0.3s,baz=131,slow=19,SNR=3.6						
WRA	**Warramunga Arr**	**23.50**	**225**	P	P	20 07 59.8	-1.3
	1.8nm,0.4s,baz=53,slow=10.0,SNR=36						
ASAR	**Alice Springs**	**26.35**	**220**	P	P	20 08 28.2	+1.1
	0.7nm,0.4s,baz=54,slow=8.8,SNR=11						
FITZ	**Fitzroy Crossi**	**29.40**	**239**	P	P	20 08 55.4	+1.0
	1.4nm,0.3s,baz=72,slow=9.6,SNR=19						
TORD	**Torodi Ar. Bea**	**149.11**	**289**	PKPbc	PKPbc	20 22 39.5	-0.1
	0.3nm,0.8s,baz=52,slow=2.7,SNR=6.0						

*ATH **17** 20:29:54.9, 3753N×2090E, h11km±2km, MD3.5/13*
*CSEM **17** 20:29:54.9±0.2, 3747N×2083E, h2km, MD3.5, Error ellipse: s-maj=5.4km s-min=1.7km az=57.0*
*ISCJB **17** 20:29:55.2±0.8, 3751N±004×2083E±007, h10km, Error ellipse: s-maj=8.3km s-min=3.7km az=122.6*
*NEIC **17** 20:29:55.2, 3754N×2091E, h13km, MD3.5(ATH), After ATH.*
*THE **17** 20:29:55.8, 3735N×2075E, h22km*

ISC 17 20:29:56.2±0.8, 3750N±004×2086E±006, h10km, n31, σ1§07/42, Ionian Sea

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

VLS	**Valsamata**	**0.70**	**343**	*e*PB	**Pg**	**20 30 08.4**	**-1.4**	
VLS				*e*SB	**Sg**	**20 30 19.0**	**0.0**	
RLS	**Riolos of Patr**	**0.73**	**41**	*e*PG	**Pg**	**20 30 07.8**	**-2.6**	
RLS				*e*SB	**Sg**	**20 30 18.0**	**-2.0**	
ITM	**Ithomi**	**0.91**	**110**	*e*PG	**Pg**	**20 30 11.6**	**-2.2**	
ITM				*e*SB	**Sg**	**20 30 24.8**	**-0.8**	
LKD	**Levkas**	**1.21**	**352**	*e*Pg	**Pg**	**20 30 17.1**	**-2.4**	
LKD				*e*Sg	**Sg**	**20 30 36.4**	**+1.2**	
EVR	**Evrytania**	**1.60**	**28**	*e*PG	**Pn**	**20 30 23.5**	**-1.0**	
EVR				*e*SB	**Sn**	**20 30 45.8**	**+0.6**	
EVR	**Evrytania**	**1.60**	**28**	*e*Pg	**Pn**	**20 30 23.4**	**-1.1**	
VLI	**Velíai**	**1.84**	**115**	*e*PN	**Pn**	**20 30 28.2**	**+0.4**	
VLI				*e*SN	**Sn**	**20 30 53.3**	**+2.2**	
AGG	**Agios Georgios**	**1.91**	**37**	*e*Pn	**Pn**	**20 30 28.2**	**-0.5**	
AGG				*e*Sn	**Sn**	**20 30 54.2**	**+1.3**	
AGG	**Agios Georgios**	**1.91**	**37**	*e*Pn	**Pn**	**20 30 28.2**	**-0.6**	
AGG				*e*Sn	**Sn**	**20 30 54.2**	**+1.4**	
MGER	**Gerania Oros**	**1.97**	**75**	*e*PG	**Pn**	**20 30 30.5**	**+1.0**	
LKR	**Lokris**	**2.04**	**55**	*e*PN	**Pn**	**20 30 30.9**	**+0.3**	
IGT	**Igoumenitsa**	**2.07**	**349**	*e*Pn	**Pn**	**20 30 30.4**	**-0.6**	
KYTH	**Kithira**	**2.13**	**124**	*e*PN	**Pn**	**20 30 33.0**	**+1.2**	
JAN	**Janina**	**2.15**	**360**	*e*PN	**Pn**	**20 30 31.8**	**-0.3**	
KVR	**Kavouri**	**2.33**	**81**	*e*PN	**Pn**	**20 30 36.0**	**+1.4**	
KEK	**Kerkira**	**2.36**	**340**	*e*PN	**Pn**	**20 30 36.2**	**+1.3**	
PTL	**Penteli**	**2.45**	**76**	*e*PN	**Pn**	**20 30 37.0**	**+0.9**	
NEO	**Neokhori**	**2.59**	**45**	*e*PB	**Pn**	**20 30 37.8**	**-0.3**	
XOR	**Xorichti**	**2.61**	**44**	*e*Pn	**Pn**	**20 30 38.6**	**+0.1**	
LIT	**Litokhoron**	**2.89**	**26**	*e*Pn	**Pn**	**20 30 42.2**	**0.0**	
AOS	**Alonnisos**	**2.90**	**54**	*e*Pn	**Pn**	**20 30 42.3**	**-0.1**	
FNA	**Florina**	**3.30**	**7**	*e*Pn	**Pn**	**20 30 48.0**	**+0.1**	
FNA				*e*Sn	**Sn**	**20 31 27.9**	**+0.8**	
VAM	**Vamos**	**3.41**	**127**	*e*PN	**Pn**	**20 30 49.5**	**+0.1**	
VAM	**Vamos**	**3.41**	**127**	*e*Pn	**Pn**	**20 30 49.3**	**-0.1**	
PLG	**Polygyros**	**3.51**	**34**	*e*PN	**Pn**	**20 30 50.3**	**-0.4**	
PLG	**Polygyros**	**3.51**	**34**	*e*Pn	**Pn**	**20 30 49.4**	**-1.3**	
GRG	**Griva**	**3.65**	**19**	*e*Pn	**Pn**	**20 30 52.7**	**0.0**	
GRG				*e*Sn	**Sn**	**20 31 36.7**	**+0.9**	
APE	**Apeiranthos**	**3.75**	**95**	*e*Pn	**Pn**	**20 30 52.7**	**-1.4**	
KNT	**Kendrikon**	**3.98**	**23**	*e*Pn	**Pn**	**20 30 57.4**	**+0.1**	
KNT				*e*Sn	**Sn**	**20 31 45.0**	**+1.0**	
NPS	**Neapolis**	**4.44**	**119**	*e*PN	**Pn**	**20 31 03.5**	**-0.1**	
NPS	**Neapolis**	**4.44**	**119**	*e*Pn	**Pn**	**20 31 03.4**	**-0.2**	

*STR **17** 20:49:47.2±0.1, 4306N×047W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **17** 20:49:47.6±0.1, 4307N×046W, h2km, Md2.3/2, Error ellipse: s-maj=2.9km s-min=1.2km az=2.0*
*CSEM **17** 20:49:47.6±0.1, 4309N×046W, h2km, ML2.2, Error ellipse: s-maj=2.9km s-min=1.1km az=5.0*

MDD 17 20:49:47.9±0.4, 4307N×045W, h5km±4km, mbLg1.0/6, Error ellipse: s-maj=3.5km s-min=1.4km az=8.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
REYF	**Montagne du Re**	**0.04**	**88**	Pg	Pg	20 49 49.0	-0.2
REYF				Sg	Sg	20 49 50.2	+0.1
REYF	**Montagne du Re**	**0.04**	**88**	Pg	Pg	20 49 49.1	-0.1
REYF				Lg		20 49 50.3	
ATE	**Arette**	**0.18**	**276**	Pg	Pg	20 49 51.0	-0.5
ATE				Sg	Sg	20 49 53.7	-0.3
ATE	**Arette**	**0.18**	**276**	Pg	Pg	20 49 51.0	-0.5
ATE				Lg		20 49 53.9	
ETSF	**Etsaut**	**0.19**	**205**	*e*Pg	Pg	20 49 51.5	-0.1
ETSF				*e*Sg	Sg	20 49 54.3	+0.2
	11nm,0.2s						
ETSF	**Etsaut**	**0.19**	**205**	*e*Pg	Pg	20 49 51.5	-0.1
ETSF				*e*Sg	Sg	20 49 54.3	+0.2
	5.7nm,0.2s						
LABF	**Labassere**	**0.39**	**93**	Pg	Pg	20 49 55.2	-0.2
LABF				Sg	Sg	20 50 01.0	+0.6
LABF	**Labassere**	**0.39**	**93**	Pg	Pg	20 49 55.2	-0.2
LABF				Lg		20 50 00.8	
LARF	**Larrau**	**0.39**	**266**	Pg	Pg	20 49 55.2	-0.3
LARF				Lg		20 50 01.1	
VIEF	**Viey**	**0.40**	**118**	Pg	Pg	20 49 55.0	-0.6
VIEF				Sg	Sg	20 50 00.8	+0.1
VIEF	**Viey**	**0.40**	**118**	Pg	Pg	20 49 55.1	-0.5
VIEF				Lg		20 50 00.5	
SJPF	**Ste Jean**	**0.57**	**275**	*e*Pg	Pg	20 49 58.2	-0.6
SJPF				*e*Sg	Sg	20 50 05.7	-0.5
	3.0nm,0.3s						
SJPF	**Ste Jean**	**0.57**	**275**	*e*Pg	Pg	20 49 58.2	-0.6
SJPF				*e*Sg	Sg	20 50 05.7	-0.5
	1.5nm,0.3s						
EBIE	**Bielsa**	**0.58**	**131**	Pg	Pg	20 49 58.5	-0.6
	0.6nm,0.1s,SNR=7.9						
EBIE				Lg		20 50 06.1	
	4.4nm,0.1s,SNR=17						
EBIE	**Bielsa**	**0.58**	**131**	Pg	Pg	20 49 58.5	-0.6
	0.6nm,0.1s,SNR=7.9						
EPF	**Esparros**	**0.58**	**93**	*e*Pg	Pg	20 49 58.6	-0.5
EPF				*e*Sg	Sg	20 50 07.3	+0.6
	3.8nm,0.2s						
EPF	**Esparros**	**0.58**	**93**	*e*Pg	Pg	20 49 58.6	-0.5
EPF				*e*Sg	Sg	20 50 07.3	+0.6
	1.9nm,0.2s						
EALK	**Alkurruntz**	**0.79**	**281**	Pg	Pg	20 50 01.9	-1.2
	0.1nm,0.1s,SNR=4.0						
EALK				Lg		20 50 13.9	
	1.5nm,0.1s,SNR=7.9						
EGRA	**Graus**	**1.04**	**147**	Lg		20 50 21.9	
	0.4nm,0.2s,SNR=4.0						
ESAC	**San Caprasio**	**1.34**	**181**	Pg	Pg	20 50 14.5	+0.7
	0.8nm,0.1s,SNR=4.0						
ESAC				Lg		20 50 32.5	
	2.2nm,0.1s,SNR=4.0						
ESAC	**San Caprasio**	**1.34**	**181**	Pg	Pg	20 50 14.8	+1.1
	0.4nm,0.1s,SNR=4.0						
EPOB	**Poblet**	**2.06**	**146**	Lg		20 50 52.1	
	0.4nm,0.1s,SNR=4.0						
ERTA	**Horta de San J**	**2.19**	**164**	Lg		20 50 57.9	
	SNR=4.0						

*MOS **17** 20:52:33.6±2.7, 5676S×2660W, h33km, mb4.6/1, Error ellipse: s-maj=47.3km s-min=17.5km az=102.5*
*IDC **17** 20:52:38.1±0.7, 5682S×2670W, h73km±5km, mb4.1/7, mb1 4.1/8, mb1mx4.0/14, mbtmp4.3/8, MS3.5/6, Ms1 3.5/6, ms1mx3.4/16, Error ellipse: s-maj=20.7km s-min=15.9km az=59.0*
*ISCJB **17** 20:52:39.2±2.3, 569S±01×266W±02, h101km±23km, mb4.5/10, Error ellipse: s-maj=25.3km s-min=13.3km az=113.7*
*NEIC **17** 20:52:40.4±2.1, 5682S×2652W, h94km±13km, mb5.0/2, Error ellipse: s-maj=16.6km s-min=8.6km az=54.0*

ISC 17 20:52:40.4±2.1, 569S±01×266W±03, h97km±21km, n33, σ0§54/17, mb4.5/10, 1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**6.21**	**291**	Pn	**Pn**	**20 54 09.4**	**0.0**
	468nm,0.4s,SNR=17						
HOPE	**Hope Point**	**6.21**	**291**	*e*P	**Pn**	**20 54 09.4**	**-0.1**
	86nm,0.9s						
SNAA	**Sanae**	**17.83**	**155**	P	**Pn**	**20 56 42.0**	**-0.1**
	0.2nm,0.3s,baz=316,slow=11,SNR=18						
SNAA				PcP	PcP	21 01 13.2	-0.5
	0.0nm,0.3s,baz=256,slow=5.4,SNR=5.5						
SNAA				LR	LR	21 02 05.0	
	comp=Z,63nm,20.2s,baz=2.6,slow=32						
QSPA	**South Pole Qui**	**33.36**	**180**	*e*P	**P**	**20 59 10.1**	**+0.9**
	19nm,0.5s,mb5.2						
CPUP	**Villa Florida**	**37.63**	**311**	P	**P**	**20 59 45.4**	**-0.4**
	1.4nm,0.5s,mb4.1,baz=138,slow=7.4,SNR=8.2						
CPUP				PcP	PcP	21 02 01.1	-0.3
	1.7nm,0.5s,baz=156,slow=1.1,SNR=7.1						
CPUP				LR	LR	21 13 49.9	
	comp=Z,84nm,19.6s,baz=156,slow=34						
CPUP	**Villa Florida**	**37.63**	**311**	P	**P**	**20 59 45.4**	**-0.4**
CPUP						21 02 01.1	
CPUP	**Villa Florida**	**37.63**	**311**	P	**P**	**20 59 45.4**	**-0.4**
CPUP				PcP	PcP	21 02 01.1	-0.3
CPUP				LR	LR	21 13 49.9	
MAW	**Mawson**	**39.27**	**143**	P	**P**	**20 59 59.1**	**-0.4**
	2.9nm,0.6s,mb4.3,baz=204,slow=6.3,SNR=10						
BDFB	**Brasilia**	**44.27**	**330**	LR	LR	21 15 12.1	
	comp=Z,78nm,21.9s,baz=268,slow=31						
VNDA	**Vanda**	**45.75**	**183**	P	**P**	**21 00 51.8**	**-0.2**
	2.9nm,0.7s,mb4.2,baz=190,slow=6.0,SNR=27						
VNDA				LR	LR	21 17 41.4	
	comp=Z,80nm,19.4s,baz=298,slow=33						
VNDA	**Vanda**	**45.75**	**183**	P	**P**	**21 00 51.8**	**-0.2**
VNDA				LR	LR	21 17 41.4	
LBTB	**Lobatse**	**48.92**	**72**	P	**P**	**21 01 16.8**	**+0.2**
	5.2nm,1.0s,mb4.4,baz=288,slow=13,SNR=9.0						
LBTB				pP	pP	21 01 36.8	-2.9
	4.2nm,0.8s,baz=226,slow=9.8,SNR=5.1						
LBTB	**Lobatse**	**48.92**	**72**	P	**P**	**21 01 16.8**	**+0.2**
LBTB				pP	pP	21 01 36.8	-2.9
LPAZ	**La Paz**	**51.15**	**305**	P	**P**	**21 01 34.0**	**+0.6**
	11nm,1.0s,mb5.2,baz=122,slow=5.8,SNR=58						
LPAZ				LR	LR	21 20 07.7	
	comp=Z,54nm,20.6s,baz=213,slow=32						
DBIC	**Dimbokro**	**65.79**	**24**	P	**P**	**21 03 15.2**	**+0.1**
	1.4nm,0.6s,mb3.9,baz=151,slow=13,SNR=3.3						
DBIC				LR	LR	21 24 59.9	
	comp=Z,46nm,19.2s,baz=120,slow=30						
TORD	**Torodi Ar. Bea**	**73.62**	**29**	P	**P**	**21 04 03.3**	**+0.1**
	2.1nm,0.5s,mb4.1,baz=201,slow=6.2,SNR=24						
TORD				pP	pP	21 04 21.0	-6.9
	4.1nm,0.7s,baz=196,slow=6.1,SNR=7.5						
SDV	**Santo Domingo**	**74.85**	**315**	*e*P	**P**	**21 04 10.0**	**-0.3**
	6.0nm,0.4s,mb4.7						
STKA	**Stephens Creek**	**91.01**	**170**	P	**P**	**21 05 30.1**	**-3.6**
	2.1nm,0.6s,mb4.5,baz=244,slow=8.8,SNR=6.3						
KAF	**Kangasniemi**	**125.59**	**27**	*e*pkp	PKPdf	21 11 27.8	-2.5
BMO	**Blue Mountains**	**126.35**	**298**	*e*PKIKP	PKPdf	21 11 31.0	-0.8
JOF	**Joensuu**	**127.56**	**29**	epkp	PKPdf	21 11 31.8	-2.3
ARCES	**ARCESS Array B**	**131.59**	**22**	PKP	PKPdf	21 11 40.0	-1.7
	0.8nm,0.4s,baz=206,slow=2.3,SNR=14						
MKAR	**Makanchi Array**	**136.82**	**72**	PKP	PKPdf	21 11 52.0	+0.4
	0.5nm,0.7s,baz=242,slow=2.6,SNR=5.0						
YKA	**Yellowknife Ar**	**137.03**	**317**	PKP	PKPdf	21 11 50.4	-1.5
	2.3nm,0.7s,baz=126,slow=2.1,SNR=24						
YKW3	**Yellowknife Ar**	**137.07**	**317**	*e*PKPdf	PKPdf	21 11 50.3	-1.7
INK	**Inuvik**	**146.67**	**320**	*e*PKIKP	PKPdf	21 12 08.7	-0.4
DAWY	**Dawson**	**147.61**	**311**	*e*PKPdf	PKPdf	21 12 11.2	+0.6
EYAK	**Cordova Ski Ar**	**149.21**	**303**	*e*PKPbc	PKPbc	21 12 16.2	-1.4
ZAK	**Zakamensk**	**150.14**	**81**	*i*PKIKP	PKPdf	21 12 19.1	+4.4
ZAK				pmax	pmax		
	comp=Z,11nm,1.1s						
SONM	**Songino Array**	**150.42**	**87**	PKPbc	PKPbc	21 12 19.8	-0.7
	comp=Z,10nm,0.8s,baz=230,slow=2.9,SNR=74						
SONM				pPKPbc	pPKPbc	21 12 42.5	-4.5
	comp=Z,3.6nm,0.8s,baz=224,slow=2.6,SNR=5.3						
ULN	**Ulaanbaatar**	**150.80**	**88**	*e*PKIKP	PKPdf	21 12 20.4	+4.7
ILAR	**Eielson Array**	**150.93**	**310**	PKP	PKPdf	21 12 11.5	-4.5
	comp=Z,0.6nm,0.7s,baz=282,slow=0.5,SNR=7.7						
ILAR				PKPbc	PKPbc	21 12 19.8	-1.9
	comp=Z,16nm,0.9s,baz=137,slow=1.6,SNR=98						
ILAR				pPKPbc	pPKPbc	21 12 39.1	-9.1
	comp=Z,2.4nm,0.8s,baz=157,slow=2.0,SNR=2.6						
ILAR	**Eielson Array**	**150.93**	**310**	PKIKP	PKPdf	21 12 11.5	-4.5
ILAR						21 12 19.8	

IDC 17 21:22:52.6±44.0, 1532S×6541E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/17, mbtmp3.5/3, MS3.2/1, Ms1 3.2/1, ms1mx2.8/13, Error ellipse: s-maj=1358.0km s-min=53.8km az=64.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**31.17**	**294**	LR	LR	21 38 39.5	
	comp=Z,46nm,21.2s,baz=270,slow=30						
ASAR	**Alice Springs**	**64.58**	**109**	P	P	21 33 32.2	+0.6
	0.2nm,0.5s,baz=266,slow=6.2,SNR=5.7						
WRA	**Warramunga Arr**	**65.45**	**105**	P	P	21 33 38.0	+0.7
	0.4nm,0.5s,baz=270,slow=5.7,SNR=4.7						
SONM	**Songino Array**	**72.74**	**28**	P	P	21 34 22.7	+0.2
	0.2nm,0.5s,baz=210,slow=8.3,SNR=2.9						

*STR **17** 21:43:36.7±0.1, 4305N×046W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **17** 21:43:37.2±0.1, 4306N×046W, h3km, Md1.8/3, Ml1.7/3, Error ellipse: s-maj=1.4km s-min=0.9km az=168.0*

MDD 17 21:43:37.5±0.4, 4306N×045W, h6km±4km, mbLg0.9/7, Error ellipse: s-maj=3.3km s-min=1.6km az=11.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
REYF	**Montagne du Re**	**0.04**	**77**	Pg	Pg	21 43 38.7	-0.1
REYF				Sg	Sg	21 43 39.9	+0.2
REYF	**Montagne du Re**	**0.04**	**77**	Lg		21 43 39.9	

	2.3nm,0.3s								
EPF	**Esparros**	**0.59**	**93**	*e*Pg		Pg		21 44 59.1	-1.4
EPF				*e*Sg		Sg		21 45 08.3	+0.1
	3.0nm,0.3s								
MTLF	**Montolieu**	**1.98**	**81**	*e*Pg		Pg		21 45 26.1	-1.0
MTLF				*e*Sg		Sg		21 45 51.6	-1.2
LFF	**La Frestale**	**2.07**	**25**	*e*Pg		Pg		21 45 27.6	-1.1
LFF				*e*Sg		Sg		21 45 54.0	-1.5
	1.4nm,0.2s								
CAF	**Calviac**	**2.61**	**44**	*e*Pg		Pg		21 45 37.5	-1.6
CAF				*e*Sg		Sg		21 46 11.0	-1.9
	0.7nm,0.2s								

ISCJB **17** *21:48:54.9±1.8, 36.3N±0.1×70.1E±0.03, h100km, Error ellipse: s-maj=36.5km s-min=9.5km az=117.0*
NNC **17** *21:49:00.1±22.0, 3667N×6973E, h58km±760km, mb3.2, mpv3.0, Error ellipse: s-maj=220.8km s-min=170.5km az=72.0*

ISC 17 21:48:56.7±1.7, 364N±01×703E±02, h100km, n9, σ1§12/10, 2C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.70**	**2**	⇓P	**Pn**	**21 50 34.3**	**+1.8**
	0.5nm,0.2s,baz=184,slow=13,SNR=40						
KK31				⇓S	**Sn**	**21 51 45.3**	**-2.1**
	1.0nm,0.3s,baz=190,slow=23,SNR=5.2						
TKM2	**Tokmak 2**	**7.71**	**31**	⇑P	**Pn**	**21 50 47.8**	**+1.7**
	0.2nm,0.5s						
KOLN	**Koldanda**	**14.19**	**124**	*e*P	**Pn**	**21 52 11.6**	**-1.4**
GKN	**Gorkha**	**14.75**	**120**	*e*P	**Pn**	**21 52 19.8**	**-0.4**
	5.9nm,0.3s						
AB31	**Akbulak array**	**14.90**	**333**	⇑P	**Pn**	**21 52 21.9**	**-0.2**
	0.4nm,0.4s,baz=0.0,slow=0.1,SNR=17						
KKN	**Kakani**	**15.33**	**120**	*e*P	**Pn**	**21 52 27.6**	**+0.1**
	5.4nm,0.3s						
PKI	**Pulchoki**	**15.56**	**120**	*e*P	**Pn**	**21 52 29.9**	**-0.4**
	8.9nm,0.5s						
GUN	**Gumba**	**15.68**	**118**	*e*P	**Pn**	**21 52 32.6**	**+0.7**
JIRN	**Jiri**	**16.05**	**118**	*e*P	**Pn**	**21 52 36.9**	**+0.4**
	14nm,0.5s						

CASC 17 21:53:57.8±2.4, 1330N×9037W, h30km±10km, MD3.6, 1C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.87**	**355**	⇓*e*P	Pn	21 54 13.6	-0.4
IXG				*e*S	Sb	21 54 26.6	+0.9
SBLS	**San Blas**	**0.90**	**54**	*e*P	Pn	21 54 33.9	+19
SBLS				*e*S	Sn	21 54 47.3	+21
SNJE	**San Jose**	**0.94**	**53**	*e*P	Pn	21 54 34.4	+19
SNJE				*e*S	Sn	21 54 47.3	+20
RBDL	**Robledal**	**1.05**	**39**	*e*P	Pn	21 54 36.2	+20
RBDL				*e*S	Sn	21 54 51.7	+22
BOQS	**Boqueron**	**1.15**	**68**	*e*P	Pn	21 54 37.0	+19
BOQS				*e*S	Sn	21 54 53.4	+21
LFRS	**El Faro**	**1.31**	**76**	*e*P	Pn	21 54 39.2	+19
LFRS				*e*S	Sn	21 54 57.5	+21
LCBS	**La Ceiba**	**1.40**	**75**	*e*P	Pn	21 54 41.5	+20
MTO2	**Montecristo 2**	**1.47**	**42**	*e*P	Pn	21 54 43.0	+21
SNVI	**San Vicente**	**1.52**	**78**	*e*P	Pn	21 54 44.2	+21
SNVI				*e*S	Sn	21 55 02.5	+21
TP2	**Tecpan 2**	**1.60**	**337**	⇑*e*P	Pn	21 54 24.5	+0.4
TP2				*e*S	Sn	21 54 46.0	+2.2
VSM	**San Miguel**	**2.05**	**86**	*e*P	Pn	21 54 51.5	+21
VSM				*e*S	Sn	21 55 17.3	+23

ISCJB **17** *21:56:41.5±1.8, 4251N±009×4354E±008, h10km±7km, Error ellipse: s-maj=14.6km s-min=9.6km az=19.0*
MOS **17** *21:56:42.6±0.8, 4260N×4357E, h18km, mb3.5/1, Error ellipse: s-maj=40.1km s-min=13.0km az=55.6*

ISC 17 21:56:41.7±1.8, 4253N±008×4351E±009, h13km±8km, n8, σ0§34/16, 4C-3D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.07**	**317**	P	**Pg**	**21 56 44.7**	**+0.3**
ONI				S	**Sg**	**21 56 46.2**	**-0.1**
DIGR	**Digorskoe uzhe**	**0.37**	**8**	⇓*i*PG	**Pg**	**21 56 49.4**	**+0.2**
DIGR				*i* S	**Sg**	**21 56 54.4**	**+0.2**
ZEI	**Tsey**	**0.37**	**50**	⇑*e*PG	**Pg**	**21 56 49.7**	**+0.5**
ZEI				*i* S	**Sg**	**21 56 54.6**	**+0.4**
LACR	**Lac**	**0.65**	**63**	⇑*e*PG	**Pg**	**21 56 54.5**	**+0.1**
LACR				*i* S	**Sg**	**21 57 03.1**	**+0.2**
KORR	**Kora**	**0.69**	**36**	⇓*i*PG	**Pg**	**21 56 54.8**	**-0.3**
KORR				*i* S	**Sg**	**21 57 03.9**	**-0.3**
ARNR	**Ardon**	**0.87**	**40**	⇑*e*PG	**Pg**	**21 56 58.2**	**-0.3**
ARNR				*i* S	**Sg**	**21 57 09.7**	**-0.1**
SNJR	**Sundja**	**1.10**	**60**	⇓*e*PG	**Pg**	**21 57 02.4**	**-0.5**
SNJR				*e*S	**Sb**	**21 57 17.0**	**+0.3**
BTKR	**Batakoyurt**	**1.13**	**42**	⇑*e*PG	**Pg**	**21 57 02.8**	**-0.7**
BTKR				*e*S	**Sb**	**21 57 18.0**	**+0.3**

ISCJB **17** *21:57:19.7±0.6, 6643N±003×134E±0.1, h11km±5km, Error ellipse: s-maj=8.0km s-min=5.8km az=17.7*
BER **17** *21:57:21.5±5.4, 6642N×1337E, h0km±17km, MD2.6, ML1.8, ML1.9(NAO)*
NAO **17** *21:57:23.8±1.7, 6636N×1416E, ML1.9*

ISC 17 21:57:20.6±0.6, 6645N±003×133E±01, h9km±4km, n11, σ1§06/17, 3C, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STOK1	**Konsvik**	**0.10**	**302**	⇑*i*P	**Pg**	**21 57 23.2**	**+0.3**
STOK1	**Konsvik**	**0.10**	**302**	*i* S	**Sg**	**21 57 25.2**	**+0.7**
STOK1				AML	AML	21 57 25.4	
	comp=N,311nm,0.1s						
STOK	**Stokkvaagen**	**0.17**	**226**	⇑*i*P	**Pg**	**21 57 23.4**	**-0.8**
STOK	**Stokkvaagen**	**0.17**	**226**	*e*S	**Sg**	**21 57 25.4**	**-1.2**
STOK				AML	AML	21 57 25.9	
	comp=Z,723nm,0.2s						
MOR8	**Moi Rana**	**0.53**	**121**	⇑*i*P	**Pg**	**21 57 30.5**	**-0.4**
MOR8				*e*S	**Sg**	**21 57 39.3**	**+1.4**
LOF	**Lofoten**	**1.69**	**3**	*e*P	**Pn**	**21 57 50.8**	**+0.4**
LOF				*e*S	**Sn**	**21 58 12.7**	**+0.6**
LOF				AML	AML	21 58 19.9	
	comp=Z,5.5nm,0.4s						
NSS	**Namsos**	**2.01**	**197**	*e*P	**Pn**	**21 57 54.5**	**-0.2**
NSS				*e*S	**Sn**	**21 58 21.3**	**+1.3**
NSS				AML	AML	21 58 22.7	
	comp=Z,7.7nm,0.4s						
KTK1	**Kautokeino**	**4.56**	**51**	*e*S	**Sn**	**21 59 22.9**	**0.0**
ARA0	**ARCESS Array S**	**5.53**	**50**	Pn	**Pn**	**21 58 42.4**	**-0.6**
	baz=220,slow=12						
ARA0				Sn	**Sn**	**21 59 43.5**	**-3.2**
	baz=236,slow=28						
ARA0				Lg		22 00 10.6	
	baz=230,slow=28						
HFS	**Hagfors**	**6.34**	**178**	Pn	**Pn**	**21 58 56.8**	**+2.6**
	baz=9.5,slow=12						
HFS				Sn	**Sn**	**22 00 06.1**	**-0.8**
	baz=348,slow=18						
HFS				Lg		22 00 34.6	
	baz=348,slow=28						
FIA0	**FINESS Array S**	**7.53**	**126**	Pn	**Pn**	**21 59 09.3**	**-1.2**
FIA0				Sn	**Sn**	**22 00 30.1**	**-5.9**
	baz=335,slow=22						
FIA0				Lg		22 01 09.4	
	baz=330,slow=22						

IDC **17** *21:57:46.9±0.5, 2067S×17406W, h0km, mb5.2/17, mb1 5.4/19, mb1mx5.4/20, mbtmp5.3/19, ML5.7/2, MS5.2/16, Ms1 5.2/16, ms1mx4.9/26, Error ellipse: s-maj=18.3km s-min=12.8km az=129.0*
ISCJB **17** *21:57:47.7±0.2, 2075S±004×17390W±004, h14km, mb5.3/94, MS5.3/174, Error ellipse: s-maj=7.2km s-min=4.5km az=90.1*
BJI **17** *21:57:47.9, 20.14S×17369W, h4km, mB5.8, mb5.2, Ms5.6, Ms2.5*
NEIC **17** *21:57:49.1±0.2, 2062S×17397W, h10km, mb5.3/59, MS5.4/141, MW5.8, Error ellipse: s-maj=9.2km s-min=4.9km az=144.0, Moment Tensor Solution. s44 Moment tensor: Scale 10^{17}Nm; M_{rr}=1.51; $M_{\theta\theta}$=0.32; $M_{\phi\phi}$=1.20; $M_{r\theta}$=1.30; $M_{\theta\phi}$=0.98; $M_{r\phi}$=6.98; Best double couple: M_o7.30000×10^{17} NP1:ϕ_s191.00000°, δ84.00000°, λ-96.00000°. NP2:ϕ_s55.00000°, δ8.00000°, λ-46.00000°. Principal axes: T 7.3100, Plg39.0000°, Azm286.0000°; N -0.0200, Plg6.0000°, Azm192.0000°; P -7.2900, Plg51.0000°, Azm95.0000°;*
HRVD **17** *21:57:49.1±0.1, 2081S×17335W, h12km, MW5.5/96, Centroid moment Tensor Solution. LP body waves: s87,c152;Mantle waves: s96,c210; Half duration: 1§4 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.73±.02; $M_{\theta\theta}$=0.29±.02; $M_{\phi\phi}$=0.44±.02; $M_{r\theta}$=0.34±.05; $M_{\theta\phi}$=1.28±.02; $M_{r\phi}$=1.71±.05; Best double couple: M_o2.23600×10^{17} NP1:ϕ_s82.00000°, δ32.00000°, λ-23.00000°. NP2: ϕ_s192.00000°, δ78.00000°, λ-120.00000°. Principal axes: T 2.4070, Plg27.0000°, Azm305.0000°; N -0.3430, Plg29.0000°, Azm198.0000°; P -2.0640, Plg48.0000°, Azm70.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
CRAAG **17** *21:57:51.3, 2064S×17396W, Mw5.8*
MOS **17** *21:57:54.5±1.0, 1979S×17391W, h33km, mb5.6/40, MS5.3/43, Error ellipse: s-maj=13.5km s-min=8.5km az=81.1*
SZGRF **17** *21:57:57.6, 1898S×17324W, h33km, mb5.6, Tonga Islands*

ISC 17 21:57:49.3±0.2, 2077S±004×17385W±004, h14km, h14km±1.6km; pP-P, n691, σ1§17/218, mb5.3/93, MS5.3/174, 57C-31D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.10**	**17**	Pn	**Pn**	**21 59 25.5**	**-7.1**
	39nm,0.3s,baz=172,slow=3.7,SNR=21						
AFI				Sn	**Sn**	**22 00 39.5**	**-14**
	17nm,0.3s,baz=358,slow=23,SNR=2.1						
AFI	**Afiamalu**	**7.10**	**17**	*e*P	**Pn**	**21 59 25.3**	**-7.4**
AFI				pmax	pmax		
	comp=Z,329nm,0.4s						
AFI	**Afiamalu**	**7.10**	**17**	*e*P	**Pn**	**21 59 25.3**	**-7.4**
	comp=Z,329nm,0.4s						
RAO	**Raoul Island**	**9.22**	**203**	Pn	**Pn**	**21 59 60.0**	**-1.7**
	comp=Z,251nm,0.3s,baz=258,slow=23,SNR=6.1						
RAO				Sn	**Sn**	**22 01 40.7**	**-4.4**
	comp=Z,173nm,0.3s,baz=79,slow=22,SNR=12						
RAO	**Raoul Island**	**9.22**	**203**	*e*P	**Pn**	**21 59 59.3**	**-2.4**
	comp=Z,642nm,0.6s						
RAR	**Rarotonga**	**13.16**	**94**	Pn	**Pn**	**22 00 47.2**	**-8.4**
	comp=Z,15nm,0.3s,baz=263,slow=7.1,SNR=16						
RAR				Sn	Sn	22 02 59.8	-22
	comp=Z,7.5nm,0.3s,baz=96,slow=20,SNR=3.3						
RAR				LR	LR	22 05 03.6	
	comp=Z,9μm,21.0s,baz=278,slow=33						
DZM	**Mont Dzumac**	**18.39**	**262**	P	**Pn**	**22 02 04.7**	**+1.0**
	comp=Z,4.4nm,0.3s,baz=80,slow=16,SNR=21						
URZ	**Urewera**	**19.11**	**202**	P	**Pn**	**22 02 13.2**	**+0.8**
	comp=Z,7.8nm,0.3s,baz=14,slow=4.5,SNR=34						
URZ				S	**Sn**	**22 05 30.2**	**-16**
	comp=Z,1.4nm,0.3s,baz=43,slow=18,SNR=4.6						
BFZ	**Birch Farm**	**21.57**	**201**	*e*P*	**P**	**22 02 38.0**	**-0.3**
SNZO	**South Karori**	**22.66**	**203**	PFAKE		22 03 00.0	+10
SNZO				LR	LR		
	comp=Z,6μm,20.0s,MS5.0						
TBI	**Tubuai**	**22.74**	**101**	*e*LQ		22 06 57.5	
	comp=Z,16μm,27.5s						
TBI				*e*LR	LR	22 08 07.1	
	comp=Z,11μm,26.2s,baz=275						
NNZ	**Nelson**	**23.09**	**205**	*e*P*	**P**	**22 02 51.0**	**-3.4**
QRZ	**Quartz Range**	**23.11**	**207**	P*	**P**	**22 02 53.7**	**-1.0**
PAE	**Paea**	**23.12**	**86**	*e*P	**P**	**22 02 51.7**	**-3.1**
	comp=Z,204nm,1.2s,mb5.4						
PPT	**Papeete**	**23.14**	**86**	*e*P	**P**	**22 02 52.2**	**-2.8**
	comp=Z,115nm,1.2s,mb5.2						
PPT	**Papeete**	**23.14**	**86**	*e*LQ		22 07 14.3	
	comp=Z,19μm,26.0s						
PPT				*e*LR	LR	22 08 22.3	
	comp=Z,10μm,24.8s,baz=258						
PPT	**Papeete**	**23.14**	**86**	P	**P**	**22 02 52.9**	**-2.1**
	comp=Z,31nm,0.3s,mb5.2,baz=258,slow=9.0,SNR=6.8						
PPT				LR	LR	22 09 04.6	
	comp=Z,5μm,21.1s,MS4.9,baz=260,slow=29						
TVO	**Taravao**	**23.40**	**87**	*e*P	**P**	**22 02 55.3**	**-2.5**
	comp=Z,280nm,1.2s,mb5.6						
KHZ	**Kahutara**	**24.05**	**203**	*e*P*	**P**	**22 03 03.8**	**-0.1**
LTZ	**Lake Taylor**	**24.85**	**205**	*e*P*	**P**	**22 03 11.6**	**+0.5**
PMOR	**Pomariorio Ree**	**25.34**	**81**	*e*P	**P**	**22 03 12.8**	**-2.8**
	comp=Z,52nm,1.0s,mb5.0						
WVZ	**Waitaha Valley**	**25.72**	**207**	*e*P*	**P**	**22 03 19.3**	**+0.2**
RPZ	**Rata Peaks**	**26.12**	**205**	P	**P**	**22 03 23.9**	**+1.2**
	comp=Z,14nm,0.5s,mb4.8,baz=153,slow=0.7,SNR=7.9						
FOZ	**Fox Glacier**	**26.56**	**207**	*e*P*	**P**	**22 03 25.2**	**-1.5**
HNR	**Honiara**	**27.65**	**290**	*e*P	**P**	**22 03 37.3**	**+0.9**
HNR				MLR	MLR		
	comp=Z,4μm,19.0s,MS5.0						
ARMA	**Armidale**	**32.48**	**246**	*e*P	**P**	**22 04 20.0**	**+0.8**
TAOE	**Nuku Hiva Isla**	**34.59**	**75**	*e*LR	LR	22 13 23.8	
	comp=Z,14μm,25.5s,baz=250						
CNB	**Canberra Magne**	**35.34**	**238**	*e*P	**P**	**22 04 43.1**	**-0.9**
	comp=Z,34nm,0.9s,mb5.3						
RKT	**Rikitea**	**36.07**	**101**	*e*S	**S**	**22 10 27.5**	**-1.5**
	comp=Z,675nm,28.5s						
RKT				*e*LQ		22 12 56.8	
	comp=Z,2μm,28.8s						
RKT				*e*LR	LR	22 14 15.7	
	comp=Z,8μm,26.8s,baz=266						
CTA	**Charters Tower**	**37.33**	**264**	*e*P	**P**	**22 05 00.1**	**-0.9**
	comp=Z,22nm,0.6s,mb5.2						
CTA	**Charters Tower**	**37.33**	**264**	LR	LR	22 18 52.5	
	comp=Z,4μm,19.0s,MS5.2,baz=92,slow=34						
CTA	**Charters Tower**	**37.33**	**264**	*e*P	**P**	**22 05 00.1**	**-0.9**
CTA				pmax	pmax		
	comp=Z,22nm,0.6s						
CTAO	**Charters Tower**	**37.33**	**264**	*e*P	**P**	**22 05 00.3**	**-0.7**
CTAO				pmax	pmax		
	comp=Z,46nm,0.8s,mb5.4						
CTAO				MLR	MLR		
	comp=Z,4μm,20.0s,MS5.2						
CTAO	**Charters Tower**	**37.33**	**264**	*e*P	**P**	**22 05 00.3**	**-0.7**
	comp=Z,46nm,0.8s,mb5.4						
CTAO				LR	LR		
	comp=Z,4μm,20.0s,MS5.2						
TOO	**Toolangi**	**38.91**	**236**	*e*P	**P**	**22 05 14.9**	**+0.5**
	comp=Z,14nm,0.7s,mb4.8						
TOO	**Toolangi**	**38.91**	**236**	*e*P	**P**	**22 05 14.9**	**+0.5**
TOO				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.8						
PMG	**Port Moresby**	**39.20**	**281**	P	**P**	**22 05 15.2**	**-1.6**
	comp=Z,28nm,0.7s,mb5.1,baz=71,slow=5.8,SNR=7.2						
PMG				LR	LR	22 19 04.4	
	comp=Z,2μm,18.8s,MS5.0,baz=269,slow=33						
PMG	**Port Moresby**	**39.20**	**281**	*e*P	**P**	**22 05 15.7**	**-1.1**
PMG				pmax	pmax		
	comp=Z,57nm,0.9s						
PMG				MLR	MLR		
	comp=Z,2μm,19.0s						
PMG	**Port Moresby**	**39.20**	**281**	*e*P	**P**	**22 05 15.7**	**-1.1**
	comp=Z,57nm,0.9s,mb5.3						
PMG				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
TAU	**Tasmania Unive**	**39.22**	**227**	PFAKE		22 05 30.0	+13
TAU				LR	LR		
	comp=Z,4μm,21.0s,MS5.2						
STKA	**Stephens Creek**	**41.19**	**245**	*e*P	**P**	**22 05 29.3**	**-4.0**
	comp=Z,17nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**41.19**	**245**	P	**P**	**22 05 29.6**	**-3.7**
	comp=Z,19nm,0.8s,mb4.8,baz=86,slow=8.6,SNR=40						
STKA				LR	LR	22 20 52.0	
	comp=Z,3μm,18.6s,MS5.2,baz=72,slow=34						
WAKE	**Wake Island**	**44.15**	**333**	PFAKE		22 06 10.0	+13
WAKE				LR	LR		
	comp=Z,4μm,20.0s,MS5.3						
KIP	**Kipapa**	**44.70**	**21**	*e*P	**P**	**22 06 01.5**	**-0.2**
KIP				pmax	pmax		
	comp=Z,131nm,1.1s,mb5.7						
KIP	**Kipapa**	**44.70**	**21**	*e*P	**P**	**22 06 01.5**	**-0.2**
	comp=Z,131nm,1.1s,mb5.7						
ASAR	**Alice Springs**	**48.24**	**256**	P	**P**	**22 06 27.8**	**-1.7**
	comp=Z,37nm,0.8s,mb5.5,baz=93,slow=8.0,SNR=108						
ASAR				PcP	PcP	22 07 57.6	+1.1
	comp=Z,11nm,0.7s,baz=103,slow=4.2,SNR=5.7						
ASAR				S	**S**	**22 13 23.6**	**-4.9**
	comp=Z,2.5nm,1.0s,baz=97,slow=15,SNR=6.6						
ASAR	**Alice Springs**	**48.24**	**256**	P	**P**	**22 06 27.8**	**-1.7**
ASAR						22 07 57.6	
WB2	**Warramunga Arr**	**48.40**	**261**	*e*P	**P**	**22 06 27.7**	**-3.0**
WRAB	**Tennant Creek**	**48.40**	**261**	P	**P**	**22 06 27.1**	**-3.6**
	comp=Z,243nm,1.5s,mb6.0,SNR=8.1						
WRAB	**Tennant Creek**	**48.40**	**261**	*e*P	**P**	**22 06 27.6**	**-3.1**
WRAB				pmax	pmax		
	comp=Z,48nm,0.9s,mb5.5						
WRAB	**Tennant Creek**	**48.40**	**261**	*e*P	**P**	**22 06 27.6**	**-3.1**
	comp=Z,48nm,0.9s,mb5.5						
WRA	**Warramunga Arr**	**48.41**	**261**	P	**P**	**22 06 28.3**	**-2.5**
	comp=Z,18nm,0.8s,mb5.2,baz=96,slow=7.7,SNR=133						
WRA				PcP	PcP	22 07 57.9	+0.8
	comp=Z,14nm,0.8s,baz=93,slow=3.8,SNR=7.2						
WRA				S	**S**	**22 13 23.7**	**-7.2**
	comp=Z,0.4nm,0.7s,baz=126,slow=16,SNR=2.7						
WRA	**Warramunga Arr**	**48.41**	**261**	P	**P**	**22 06 28.3**	**-2.5**
WRA						22 07 57.9	
MIDW	**Midway**	**48.81**	**356**	PFAKE		22 06 50.0	+16
MIDW				LR	LR		
	comp=Z,3μm,20.0s,MS5.3						
KAKA	**Kakadu**	**51.86**	**270**	*e*P	**P**	**22 06 55.5**	**-1.5**
	comp=Z,69nm,0.8s,mb5.6						
FORT	**Forrest**	**52.76**	**247**	*e*P	**P**	**22 07 02.2**	**-1.4**
	comp=Z,87nm,0.6s,mb5.9						
GUMO	**Guam**	**53.02**	**307**	P	**P**	**22 07 05.2**	**-0.4**
	comp=Z,99nm,0.9s,mb5.8,baz=174,slow=16,SNR=4.2						
DRV	**Dumont d'Urvil**	**54.44**	**201**	P	**P**	**22 07 19.0**	**+3.0**
DRV				S	**S**	**22 15 03.0**	**+8.9**
DRV				SS	SS	22 18 39.0	+2.6
DRV				L		22 20 00.0	
FITZ	**Fitzroy Crossi**	**56.84**	**261**	*e*P	**P**	**22 07 31.6**	**-1.6**
	comp=Z,28nm,1.0s,mb5.2						
SBA	**Scott Base**	**57.89**	**185**	*e*P	**P**	**22 07 43.1**	**+2.4**
SBA				pmax	pmax		
	comp=Z,63nm,0.9s,mb5.7						
SBA				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.3						
SBA	**Scott Base**	**57.89**	**185**	*e*P	**P**	**22 07 43.1**	**+2.4**
	comp=Z,63nm,0.9s,mb5.6						
SBA				LR	LR		
	comp=Z,3μm,20.0s,MS5.3						
VNDA	**Vanda**	**58.02**	**186**	P	**P**	**22 07 43.3**	**+1.8**
	comp=Z,23nm,1.0s,mb5.2,baz=8.3,slow=7.2,SNR=57						
VNDA				LR	LR	22 28 11.1	
	comp=Z,2μm,18.9s,MS5.1,baz=28,slow=31						
VNDA				PKKP		22 29 02.1	
	comp=Z,0.4nm,0.4s,baz=200,slow=8.0,SNR=9.4						
VNDA	**Vanda**	**58.02**	**186**	*e*P	**P**	**22 07 43.2**	**+1.6**
VNDA				pmax	pmax		
	comp=Z,19nm,0.8s						
VNDA	**Vanda**	**58.02**	**186**	*e*P	**P**	**22 07 43.2**	**+1.7**
	comp=Z,19nm,0.8s,mb5.2						
KLBR	**Kellerberrin**	**61.46**	**245**	*e*P	**P**	**22 08 04.9**	**-0.3**
	comp=Z,74nm,0.7s,mb5.9						
MBWA	**Marble Bar**	**61.58**	**257**	*e*P	**P**	**22 08 04.4**	**-1.6**
	comp=Z,56nm,0.7s,mb5.8						
MBWA				LR	LR		
	comp=Z,4μm,20.0s,MS5.5						
NWAO	**Narrogin (SRO)**	**61.72**	**243**	PFAKE		22 08 20.0	+13
NWAO				LR	LR		
	comp=Z,3μm,20.0s,MS5.4						
MUN	**Mundaring**	**62.71**	**244**	*e*P	**P**	**22 08 14.4**	**+0.8**
CASY	**Casey**	**65.39**	**206**	*e*P	**P**	**22 08 31.9**	**+0.7**
CASY				LR	LR		
	comp=Z,1μm,20.0s,MS5.1						
DAV	**Davao City (W)**	**65.59**	**288**	PFAKE		22 08 40.0	+7.5
DAV				LR	LR		
	comp=Z,996nm,20.0s,MS5.0						
QSPA	**South Pole Qui**	**69.31**	**180**	*e*P	**P**	**22 08 54.5**	**-1.5**
	comp=Z,86nm,1.0s,mb5.6						
QSPA				LR	LR		
	comp=Z,2μm,20.0s,MS5.3						
MIR	**Mirnyy**	**72.39**	**205**	*c i*P	**P**	**22 09 16.5**	**+1.7**
MIR				*i*		22 09 42.0	
MIR				pmax	pmax		
	comp=Z,496nm,2.0s,mb6.1						
MIR				MLR	MLR		
	comp=N,900nm,14.0s,MS5.4						
MIR				MLR	MLR		
	comp=E,1μm,14.0s,MS5.4						
MIR				MLR	MLR		
	comp=Z,2μm,14.0s,MS5.4						
MJAR	**Matsushiro Arr**	**72.79**	**321**	P	**P**	**22 09 16.6**	**-0.5**
	comp=Z,18nm,0.7s,mb5.1,baz=157,slow=6.0,SNR=44						
MJAR				LR	LR	22 39 25.7	
	comp=Z,646nm,19.6s,MS4.9,baz=140,slow=34						
MAJO	**Matsushiro**	**72.79**	**321**	*e*P	**P**	**22 09 16.6**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
MAJO				MLR	MLR		
	comp=Z,860nm,20.0s,MS5.0						
MAJO	**Matsushiro**	**72.79**	**321**	*e*P	**P**	**22 09 16.6**	**-0.6**
	comp=Z,20nm,0.8s,mb5.1						
MAJO				LR	LR		
	comp=Z,860nm,20.0s,MS5.0						
MAT	**Matsushiro**	**72.79**	**321**	P	**P**	**22 09 16.3**	**-0.9**
MAT				S	S	22 18 43.0	+0.4
MAT	**Matsushiro**	**72.79**	**321**	*e*P	**P**	**22 09 16.0**	**-1.2**
MAT				*e*S	S	22 18 43.0	+0.4
MAT				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
MAT				MLR	MLR		
	comp=Z,710nm,20.0s,MS4.9						
MAT	**Matsushiro**	**72.79**	**321**	*e*P	**P**	**22 09 16.0**	**-1.2**
	comp=Z,13nm,0.8s,mb4.9						
MAT				*e*S	S	22 18 43.0	+0.4
MAT				LR	LR		
	comp=Z,710nm,20.0s,MS4.9						
KKM	**Kota Kinabalu**	**73.59**	**283**	*e*P	**P**	**22 09 22.5**	**+0.5**
SMY	**Shemya**	**73.93**	**352**	PFAKE		22 09 40.0	+16
SMY				LR	LR		
	comp=Z,4μm,20.0s,MS5.7						
FX1	**Attu Island--F**	**74.20**	**352**	P	**P**	**22 09 24.9**	**-0.6**
	comp=Z,59nm,0.8s,mb5.6,baz=144,slow=11,SNR=7.8						
SNCC	**San Nicolas Is**	**74.64**	**45**	PFAKE		22 09 40.0	+12
SNCC				LR	LR		
	comp=Z,2μm,20.0s,MS5.3						
SAO	**San Andreas Ge**	**75.62**	**41**	*e*P	**P**	**22 09 34.6**	**+0.9**
SAO				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.2	

PET pmax pmax
comp=Z,400nm,11.1s
PET pmax pmax
comp=Z,600nm,5.9s
PET pmax pmax
comp=Z,300nm,5.8s
PET smax
comp=E,900nm,11.9s
PET smax
comp=N,900nm,12.5s
PET MLR MLR
comp=Z,1µm,19.0s,MS5.2
PET MLR MLR
comp=Z,1µm,19.0s
PET Petropavlovsk 77.26 343 *e*P **P 22 09 42.7 -0.3**
comp=Z,19nm,0.8s,mb5.1
PET LR LR
comp=Z,2µm,22.0s,MS5.3
WDC Whiskeytown Da 77.46 38 *e*P **P 22 09 43.7 -0.4**
WDC pmax pmax
comp=Z,72nm,1.8s,mb5.3
WDC MLR MLR
comp=Z,2µm,21.0s,MS5.3
WDC Whiskeytown Da 77.46 38 *e*P **P 22 09 43.7 -0.4**
comp=Z,72nm,1.8s,mb5.3
WDC LR LR
comp=Z,2µm,21.0s,MS5.3
DAC Darwin (Calif) 77.74 43 *e*P **P 22 09 44.8 -0.8**
DAC pmax pmax
comp=Z,152nm,2.1s,mb5.6
DAC MLR MLR
comp=Z,2µm,19.0s,MS5.4
DAC Darwin (Calif) 77.74 43 *e*P **P 22 09 44.8 -0.8**
comp=Z,152nm,2.1s,mb5.6
DAC LR LR
comp=Z,2µm,19.0s,MS5.4
CHGN Chignik 77.87 9 *e*P **P 22 09 47.1 +0.7**
YSS Yuzh-Sakhalins 77.94 331 *e*P **P 22 09 46.7 0.0**
YSS *e* 22 09 55.2
YSS *e*S S 22 19 38.0 -1.6
YSS *e*PPS 22 20 26.0
YSS pmax pmax
comp=Z,80nm,0.9s,mb5.7
YSS smax
comp=N,1µm,13.0s
YSS smax
comp=E,600nm,12.0s
YSS Yuzh-Sakhalins 77.94 331 *e*P **P 22 09 46.3 -0.5**
comp=E,71nm,0.8s,mb5.7
YSS LR LR
comp=Z,1µm,19.0s,MS5.3
YBH Yreka Blue Hor 78.13 37 LR LR 22 37 49.7
comp=Z,2µm,19.9s,MS5.4,baz=149,slow=31
YBH Yreka Blue Hor 78.13 37 *e*P **P 22 09 49.1 +1.3**
YBH pmax pmax
comp=Z,24nm,1.3s
YBH MLR MLR
comp=Z,2µm,20.0s
YBH Yreka Blue Hor 78.13 37 *e*P **P 22 09 49.1 +1.3**
comp=Z,24nm,1.3s,mb5.0
YBH LR LR
comp=Z,2µm,20.0s,MS5.3
HUMO Hull Mountain 78.58 36 *e*P **P 22 09 51.8 +1.5**
comp=Z,66nm,1.8s,mb5.3
HUMO LR LR
comp=Z,2µm,21.0s,MS5.3
NVAR Mina Array Bea 78.60 41 P **P 22 09 50.5 +0.1**
comp=Z,29nm,0.9s,mb5.2,baz=231,slow=9.1,SNR=101
MNV Mina 78.70 41 *e*P **P 22 09 50.5 -0.5**
MNV pmax pmax
comp=Z,55nm,1.1s,mb5.4
MNV MLR MLR
comp=Z,2µm,19.0s,MS5.5
MNV Mina 78.70 41 *e*P **P 22 09 50.5 -0.5**
comp=Z,55nm,1.1s,mb5.4
MNV LR LR
comp=Z,2µm,19.0s,MS5.5
PAHR Pah Rah Range 78.74 40 *e*P **P 22 09 51.0 -0.2**
comp=Z,205nm,2.1s,mb5.7
TPNV Topopah Spring 79.00 44 P **P 22 09 52.8 +0.1**
TPNV pmax pmax
comp=Z,35nm,1.0s,mb5.2
TPH Tonopah 79.06 42 *e*P **P 22 09 53.0 0.0**
TPH pmax pmax
comp=Z,76nm,1.3s,mb5.5
TPH MLR MLR
comp=Z,2µm,19.0s,MS5.4
TPH Tonopah 79.06 42 *e*P **P 22 09 53.0 0.0**
comp=Z,76nm,1.3s,mb5.5
TPH LR LR
comp=Z,2µm,19.0s,MS5.4
NEN Nelson 79.17 45 *e*P **P 22 09 52.7 -0.9**
PMSA Palmer Station 79.48 156 PFAKE 22 10 10.0 +15
PMSA LR LR
comp=Z,940nm,19.0s,MS5.2
MOD Modoc 79.60 38 *e*P **P 22 09 56.9 +1.0**
comp=Z,15nm,0.8s,mb5.0
MOD LR LR
comp=Z,1µm,20.0s,MS5.3
KS15 Wonju Array Si 79.72 317 *e*P **P 22 09 58.7 +2.1**
COR Corvallis 79.73 34 PFAKE 22 10 10.0 +13
COR LR LR
comp=Z,3µm,20.0s,MS5.7
KDAK Kodiak Island 80.24 11 P **P 22 09 58.5 -0.9**
comp=Z,20nm,0.8s,mb5.1,baz=215,slow=3.4,SNR=12
KDAK LR LR 22 39 55.5
comp=Z,2µm,20.6s,MS5.4,baz=154,slow=32
INCN Inchon 80.56 316 PFAKE 22 10 10.0 +8.9
INCN LR LR
comp=Z,930nm,20.0s,MS5.1
SSE Sheshan 80.88 308 *e*P **P 22 10 02.8 0.0**
SSE AP pP 22 10 06.3 -1.2
SSE XP sP 22 10 07.3 -1.9
SSE S S 22 20 10.3 -0.5
SSE XS sS 22 20 15.6 -3.0
SSE AMB AMB
comp=Z,38nm,1.3s,mb5.2
SSE AMB AMB
comp=Z,444nm,5.1s
SSE LR LR
comp=N,298nm,37.9s,MS4.7
SSE LR LR
comp=E,511nm,37.9s,MS4.7
SSE LR LR
comp=Z,714nm,37.5s,MS4.8
WVOR Wild Horse Val 80.89 38 PFAKE 22 10 10.0 +7.1
WVOR LR LR
comp=Z,2µm,20.0s,MS5.4
CCUT Cedar City 81.23 44 *e*P **P 22 10 04.7 0.0**
ARUT Antelope Range 81.31 44 *e*P **P 22 10 05.5 +0.4**
WUAZ Wupatki 81.44 47 *e*P **P 22 10 06.2 +0.4**
comp=Z,45nm,1.2s,mb5.3
WUAZ LR LR
comp=Z,1µm,20.0s,MS5.2
OCWA Octopus Mounta 81.45 31 PFAKE 22 10 20.0 +14
OCWA LR LR
comp=Z,2µm,19.0s,MS5.6
ELK Elko 81.89 41 *e*P **P 22 10 07.5 -0.6**
ELK pmax pmax
comp=Z,14nm,1.0s
ELK Elko 81.89 41 *e*P **P 22 10 07.5 -0.6**
comp=Z,14nm,1.0s,mb4.8
GSM Grass Mountain 82.27 33 P **P 22 10 11.6 +1.5**
MVU Marysvale 82.52 44 PFAKE 22 10 20.0 +8.6
MVU LR LR
comp=Z,1µm,20.0s,MS5.2
MAW Mawson 82.60 199 *e*S S 22 20 21.2 -7.4
MAW Mawson 82.60 199 P **P 22 10 12.6 +0.8**
comp=Z,19nm,0.8s,mb5.2,baz=121,slow=5.9,SNR=31
MAW LR LR 22 44 26.5
comp=Z,2µm,19.9s,MS5.5,baz=118,slow=34
MAW Mawson 82.60 199 *e*P **P 22 10 13.1 +1.2**
MAW pmax pmax
comp=Z,25nm,1.2s
MAW MLR MLR
comp=Z,3µm,20.0s
MAW Mawson 82.60 199 *e*P **P 22 10 13.1 +1.2**
comp=Z,25nm,1.2s,mb5.1
MAW *e*S S 22 20 21.2 -7.4
MAW LR LR
comp=Z,3µm,20.0s,MS5.7
HABR Khabarovsk 82.65 329 *e*P **P 22 10 13.7 +1.6**
HABR *e*S S 22 20 29.4 +0.3
SVW2 Sparrevohn 82.90 9 *e*P **P 22 10 13.1 -0.3**
HAWA Hanford 82.91 35 PFAKE 22 10 20.0 +6.5
HAWA LR LR
comp=Z,267nm,19.0s,MS4.6
MDJ Mudanjiang 83.02 323 P **P 22 10 14.1 +0.1**
MDJ AP pP 22 10 17.4 -1.4
MDJ PP PP 22 13 24.9 +0.1
MDJ S S 22 20 34.5 +1.6
MDJ SS SS 22 25 59.6 +3.2
MDJ AMB AMB
comp=Z,27nm,0.9s,mb5.3
MDJ AMB AMB
comp=Z,546nm,7.3s
MDJ LR LR
comp=N,616nm,25.1s,MS5.1
MDJ LR LR
comp=E,748nm,26.1s,MS5.1
MDJ LR LR
comp=Z,1µm,26.1s,MS5.2
MDJ Mudanjiang 83.02 323 PFAKE 22 10 20.0 +6.0
MDJ LR LR
comp=Z,2µm,20.0s,MS5.4
NJ2 Nanjing 83.08 308 *e*P **P 22 10 14.4 +0.1**
NJ2 AP pP 22 10 17.9 -1.2
NJ2 XP sP 22 10 21.5 +0.7
NJ2 PP PP 22 13 26.6 +1.3
NJ2 S S 22 20 30.0 -3.5
NJ2 XS sS 22 20 40.0 -1.3
NJ2 AMB AMB
comp=Z,20nm,1.2s,mb5.0
NJ2 AMB AMB
comp=Z,230nm,10.3s
NJ2 LR LR
comp=N,2µm,16.1s,MS5.7
NJ2 LR LR
comp=E,2µm,17.4s,MS5.7
NJ2 LR LR
comp=Z,1µm,29.7s
DUG Dugway 83.08 42 PFAKE 22 10 30.0 +16
DUG LR LR
comp=Z,1µm,19.0s,MS5.3
GBL Gable Mountain 83.08 34 P **P 22 10 15.1 +0.7**
BMO Blue Mountains 83.15 37 *e*P **P 22 10 14.0 -0.8**
comp=Z,62nm,1.6s,mb5.4
BMO LR LR
comp=Z,2µm,20.0s,MS5.4
WRW Wenatchee Ridg 83.17 33 P **P 22 10 16.3 +1.5**
SLKM Skilak Lake 83.23 12 *e*P **P 22 10 14.8 -0.3**
ETW Entiat 83.28 33 P **P 22 10 16.0 +0.6**
BGU Big Grassy Mou 83.36 42 *e*P **P 22 10 24.2 +8.4**
WTV Waterville 83.54 33 P **P 22 10 17.2 +0.5**
NLW Nelson Butte 83.59 33 P **P 22 10 18.4 +1.5**
TMUT Trail Mountain 83.61 44 *e*P **P 22 10 17.8 +0.7**
MPU Maple Canyon 83.73 43 *e*P **P 22 10 18.1 +0.4**
comp=Z,12nm,0.7s,mb5.1
MPU LR LR
comp=Z,3µm,20.0s,MS5.7
PAYG Puerto Ayora 83.74 88 PFAKE 22 10 30.0 +12
PAYG LR LR
comp=Z,2µm,19.0s,MS5.6
MNTX Cornudas Mount 83.77 53 *e*P **P 22 10 17.4 -0.6**
comp=Z,35nm,1.3s,mb5.3
MNTX LR LR
comp=Z,1µm,19.0s,MS5.3
LAZ Ladron 83.82 50 *e*P **P 22 10 18.9 +0.8**
SPUT South Promonto 83.93 42 *e*P **P 22 10 18.5 -0.3**
SRU San Rafael 83.95 44 *e*P **P 22 10 18.9 +0.1**
SRU pmax pmax
comp=Z,69nm,1.3s,mb5.6
SRU San Rafael 83.95 44 *e*P **P 22 10 18.9 0.0**
comp=Z,69nm,1.3s,mb5.6
SIT Sitka 83.98 20 PFAKE 22 10 30.0 +11
SIT LR LR
comp=Z,1µm,20.0s,MS5.3
HVU Hansel Valley 84.00 41 *e*P **P 22 10 19.3 +0.2**
HVU pmax pmax
comp=Z,18nm,0.7s,mb5.3
HVU Hansel Valley 84.00 41 *e*P **P 22 10 19.3 +0.2**
comp=Z,18nm,0.7s,mb5.3
HLID Hailey 84.04 39 *e*P **P 22 10 19.2 -0.1**
comp=Z,24nm,0.9s,mb5.3
HLID LR LR
comp=Z,967nm,20.0s,MS5.2
BNM Barren Site 84.06 50 *e*P **P 22 10 19.7 +0.3**
LPM Los Pinos Moun 84.14 50 *e*P **P 22 10 19.6 -0.2**
EYAK Cordova Ski Ar 84.17 14 *e*P **P 22 10 18.4 -1.5**
DAU Daniels Canyon 84.19 43 *e*P **P 22 10 20.4 +0.4**
PMR Palmer 84.44 12 *e*P **P 22 10 19.8 -1.5**
PMR pmax pmax
comp=Z,20nm,1.0s,mb5.2
PMR MLR MLR
comp=Z,894nm,20.0s,MS5.2
PMR Palmer 84.44 12 *e*P **P 22 10 19.8 -1.5**
comp=Z,20nm,1.0s,mb5.2
PMR LR LR
comp=Z,894nm,20.0s,MS5.2
TCUT Toone Canyon 84.48 42 *e*P **P 22 10 21.6 +0.1**
QIZ Qiongzhong 84.53 293 P **P 22 10 24.1 +2.3**
QIZ S 22 20 48.8
QIZ SS SS 22 26 19.6 +0.8
QIZ LR LR
comp=Z,401nm,19.9s,MS4.8
QIZ Qiongzhong 84.53 293 PFAKE 22 10 30.0 +8.2
QIZ LR LR
comp=Z,753nm,20.0s,MS5.1
PV10 Paradox Valley 84.54 46 *e*P **P 22 10 22.7 +0.8**
ANMO Albuquerque 84.58 50 LR LR 22 42 52.6
comp=Z,1µm,18.1s,MS5.4,baz=181,slow=32
ANMO Albuquerque 84.58 50 *e*P **P 22 10 21.9 -0.1**
ANMO pmax pmax
comp=Z,58nm,1.3s
ANMO MLR MLR
comp=Z,1µm,19.0s
ANMO Albuquerque 84.58 50 *e*P **P 22 10 21.9 -0.1**
comp=Z,58nm,1.3s,mb5.5
ANMO LR LR
comp=Z,1µm,19.0s,MS5.3
TTA Tatalina 84.60 8 *e*P **P 22 10 20.7 -1.4**
DL2 Dalian 84.63 315 *e*P **P 22 10 20.5 -1.8**
DL2 S 22 20 48.0
DL2 XS sS 22 21 00.4 +3.4
DL2 AMB AMB
comp=Z,20nm,0.8s,mb5.3
DL2 AMB AMB
comp=Z,330nm,4.5s
DL2 LR LR
comp=N,640nm,13.8s,MS5.2
DL2 LR LR
comp=E,270nm,11.6s,MS5.2
DL2 LR LR
comp=Z,690nm,14.0s,MS5.2
HWUT Hardware Ranch 84.65 42 *e*P **P 22 10 22.7 +0.3**
comp=Z,11nm,0.8s,mb5.0
HWUT LR LR
comp=Z,2µm,19.0s,MS5.6
PV01 Paradox Valley 84.73 46 *e*P **P 22 10 23.0 +0.2**
GDL2 Guadalupe Moun 84.77 53 *e*P **P 22 10 22.8 -0.2**
KLR Kul'dur 84.78 328 *e*P **P 22 10 21.0 -2.1**
KLR *e* 22 13 44.5
KLR *e*S 22 20 47.5
KLR pmax pmax
comp=N,500nm,11.0s
KLR pmax pmax
comp=Z,1µm,11.0s
KLR smax
comp=N,2µm,12.0s
KLR smax
comp=E,800nm,12.0s
CN2 Changchun 84.93 321 *e*P **P 22 10 24.3 +0.5**
CN2 *e*XP sP 22 10 31.5 +1.2
CN2 *e*S 22 20 56.1
CN2 SS SS 22 26 27.9 +3.3
CN2 AMB AMB
comp=Z,30nm,1.3s,mb5.3
CN2 AMB AMB
comp=Z,200nm,7.0s
CN2 LR LR
comp=N,700nm,18.0s,MS5.2
CN2 LR LR
comp=E,500nm,18.0s,MS5.2
CN2 LR LR
comp=Z,600nm,21.0s,MS5.0
SNY Shenyang 84.95 318 PR 22 10 26.3
SNY AMB AMB
comp=Z,626nm,9.6s
SNY LR LR
comp=N,615nm,15.9s,MS5.2
SNY LR LR
comp=E,616nm,17.1s,MS5.2
SNY LR LR
comp=Z,680nm,17.7s,MS5.1
NEW Newport 85.37 34 *e*P **P 22 10 23.7 -2.3**
NEW pmax pmax
comp=Z,9.0nm,1.1s
NEW Newport 85.37 34 *e*P **P 22 10 23.7 -2.3**
comp=Z,8.9nm,1.1s,mb4.8
CPRX Cap Rock 85.53 52 *e*P **P 22 10 27.0 +0.2**
AHID Auburn Hatcher 85.58 41 PFAKE 22 10 40.0 +13
AHID LR LR
comp=Z,2µm,19.0s,MS5.4
MCMT McKenzie Canyo 85.69 39 *e*P **P 22 10 27.3 -0.3**
TPAW Teton Pass 86.07 40 *e*P **P 22 10 30.2 +0.7**
comp=Z,8.9nm,0.8s,mb5.0
DLMT Dillon 86.14 38 *e*P **P 22 10 29.6 -0.3**
comp=Z,19nm,1.1s,mb5.2
MSO Missoula 86.22 37 *e*P **P 22 10 30.6 +0.4**
comp=Z,28nm,2.0s,mb5.1
MSO LR LR
comp=Z,1µm,20.0s,MS5.4
PLCA Paso Flores 86.24 132 PFAKE 22 10 40.0 +10
PLCA LR LR
comp=Z,2µm,20.0s,MS5.5
IMW Indian Meadow 86.30 40 *e*P **P 22 10 30.2 -0.4**
comp=Z,14nm,1.0s,mb5.2
SMCO Snowmass 86.34 46 *e*P **P 22 10 32.4 +1.6**
comp=Z,14nm,0.9s,mb5.2
TIA Tai'an 86.36 311 *e*P **P 22 10 32.8 +1.9**
QLMT Earthquake Lak 86.52 39 *e*P **P 22 10 32.0 +0.3**
BW06 Boulder Array 86.53 42 PFAKE 22 10 40.0 +8.2
BW06 LR LR
comp=Z,2µm,19.0s,MS5.5
PDAR Pinedale Array 86.53 42 P **P 22 10 31.1 -0.7**
comp=Z,13nm,0.9s,mb5.1,baz=202,slow=2.7,SNR=46
PDAR LR LR 22 44 59.4
comp=Z,2µm,18.4s,MS5.4,baz=242,slow=33
FLWY Flagg Ranch 86.55 40 *e*P **P 22 10 32.8 +0.9**
comp=Z,14nm,0.9s,mb5.2
CHMT Chamberlain Mo 86.66 37 *e*P **P 22 10 31.1 -1.3**
MENT Mentasta 86.75 13 *e*P **P 22 10 33.5 +0.7**
DLBC Dease Lake 86.83 21 *e*P **P 22 10 33.9 +0.7**
BOZ Bozeman (W) 86.86 38 PFAKE 22 10 50.0 +17
BOZ LR LR
comp=Z,893nm,19.0s,MS5.2
LKWY Lake 86.99 40 PFAKE 22 10 50.0 +16
LKWY LR LR
comp=Z,2µm,19.0s,MS5.5
SYO Syowa Base 87.28 191‖ *e*P **P 22 10 34.4 -1.0**
SYO Syowa Base 87.28 191‖ *e*PcP PcP 22 10 36.0 -1.5
RWWY Rawlins 87.46 43 *e*P **P 22 10 36.4 +0.2**
comp=Z,24nm,0.9s,mb5.4
JCT Junction City 87.47 56 PFAKE 22 10 50.0 +14
JCT LR LR
comp=Z,1µm,20.0s,MS5.3
WALA Waterton Lakes 87.54 35 *e*P **P 22 10 36.1 -0.5**
comp=Z,15nm,1.2s,mb5.1
ISCO Idaho Springs 87.56 46 PFAKE 22 10 50.0 +13
ISCO LR LR
comp=Z,412nm,19.0s,MS4.9
VNA3 Neumayer Olymp 87.58 175 *e*P **P 22 10 37.3 +0.5**
VNA3 *e* pP 22 10 40.2 -1.4
VNA3 *e* pP 22 10 41.4 -0.2
VNA3 *e* 22 10 49.2
VNA3 *e* 22 10 58.8
VNA3 *e* 22 11 02.2
COLA College 87.69 11⇑ *i*P **P 22 10 36.3 -1.1**
COLA College 87.69 11 *e*P **P 22 10 36.9 -0.5**
comp=Z,39nm,0.8s,mb5.7
COLA LR LR
comp=Z,2µm,21.0s,MS5.5
ILAR Eielson Array 87.77 11 P **P 22 10 36.5 -1.2**
comp=Z,9.6nm,0.8s,mb5.1,baz=218,slow=5.9,SNR=74
AMTX Amarillo 88.00 52 *e*P **P 22 10 39.3 +0.5**
comp=Z,184nm,2.1s,mb5.9
AMTX LR LR
comp=Z,2µm,19.0s,MS5.6
VNA2 Neumayer--Watz 88.06 176 *e*P **P 22 10 39.9 +0.7**
baz=183,slow=3.3
VNA2 *e* 22 10 41.6
VNA2 *e* pP 22 10 43.3 -0.6
VNA2 *e* pP 22 10 44.4 +0.5
VNA2 *e* 22 10 51.5
VNA2 *e* 22 10 55.6
VNA2 *e* 22 11 00.6
GCMT Greycliff 88.09 39 *e*P **P 22 10 40.2 +0.9**
VNA1 Neumayer--Stat 88.27 175 *e*P **P 22 10 41.0 +0.9**
VNA1 *e* 22 10 43.2
VNA1 *e* pP 22 10 44.8 -0.1
VNA1 *e* pP 22 10 46.3 +1.4
VNA1 *e* 22 10 53.6
VNA1 *e* 22 10 57.7
VNA1 *e* 22 11 02.3
DAWY Dawson 88.70 14 *e*P **P 22 10 41.7 -0.4**
EFI East Falkland 88.72 146 PFAKE 22 10 50.0 +7.7
EFI LR LR
comp=Z,2µm,21.0s,MS5.4
BJT Baijiatuau 88.84 314 PFAKE 22 10 50.0 +7.2
BJT LR LR
comp=Z,1µm,19.0s,MS5.4
BJI Beijing 88.85 314 P **P 22 10 44.3 +1.4**
BJI AMB AMB
comp=Z,13nm,1.6s,mb5.0
BJI LR LR
comp=N,666nm,17.3s,MS5.3
BJI LR LR
comp=E,809nm,21.4s,MS5.3
BJI LR LR
comp=Z,789nm,20.3s,MS5.1
EGMT Eagleton 89.25 37 PFAKE 22 11 00.0 +15
EGMT LR LR
comp=Z,2µm,20.0s,MS5.4
ENH Enshi 89.43 303 PFAKE 22 11 00.0 +14
ENH LR LR
comp=Z,556nm,22.0s,MS4.9
BILL Bilibino 89.75 353‖ *i*P **P 22 10 46.6 -0.5**
BILL *e*S 22 21 37.6
BILL pmax pmax
comp=Z,14nm,0.8s,mb5.3
BILL Bilibino 89.75 353 *e*P **P 22 10 46.8 -0.2**
comp=Z,14nm,0.8s,mb5.3
BILL LR LR
comp=Z,2µm,20.0s,MS5.6
WMOK Wichita Mounta 90.08 53 PFAKE 22 11 00.0 +11
WMOK LR LR
comp=Z,238nm,20.0s,MS4.6
GYA Guiyang 90.18 298 P **P 22 10 51.4 +2.3**
GYA AP pP 22 10 55.8 +1.9
GYA XP sP 22 10 58.9 +3.3
GYA SKS 22 21 22.6
GYA S 22 21 50.8
GYA AMB AMB
comp=Z,60nm,1.0s,mb5.9
GYA AMB AMB
comp=Z,1µm,7.9s
GYA LR LR
comp=N,3µm,20.7s,MS5.9
GYA LR LR
comp=E,3µm,20.8s,MS5.9
GYA LR LR
comp=Z,3µm,21.0s,MS5.7
HKT Hockley 90.37 58 PFAKE 22 11 00.0 +10
HKT LR LR
comp=Z,1µm,20.0s,MS5.4
LAO LASA Array 90.60 40 *e*P **P 22 10 52.9 +1.8**
comp=Z,38nm,1.3s,mb5.6
LAO LR LR
comp=Z,776nm,20.0s,MS5.1
RSSD Black Hills 90.69 43 PFAKE 22 11 00.0 +8.5
RSSD LR LR
comp=Z,1µm,21.0s,MS5.4
CBKS Cedar Bluff 91.14 49 PFAKE 22 11 10.0 +16
CBKS LR LR
comp=Z,1µm,20.0s,MS5.3
HIA Hailar 91.20 323⇑ *i*P **P 22 10 55.4 +1.5**
HIA Hailar 91.20 323⇑ *i*P **P 22 10 55.5 +1.6**
HIA LR LR
comp=Z,2µm,20.0s,MS5.6
XAN Xi'an 91.41 306 P **P 22 10 57.3 +2.5**
XAN AMB AMB
comp=Z,21nm,2.5s,mb5.0
NST Nakhon Sawan 91.83 286 P **P 22 11 00.0 +3.2**
NATX Nacogdoches 92.01 57 PFAKE 22 11 10.0 +12
NATX LR LR
comp=Z,2µm,19.0s,MS5.5

NNA Nana 92.23 104 PFAKE 22 11 10.0 +11
NNA LR LR
comp=Z,1μm,21.0s,MS5.2
HHC Hu-ho-hao-te 92.35 313 *e*P **P** **22 11 00.6 +1.4**
HHC AP pP 22 11 07.6 +3.6
HHC XP sP 22 11 09.3 +3.6
HHC PP PP 22 14 45.1 +5.3
HHC SKS 22 21 32.3
HHC S 22 22 02.8
HHC XS sS 22 22 13.8 +3.7
HHC AMB AMB
comp=Z,16nm,1.1s,mb5.3
HHC AMB AMB
comp=Z,527nm,9.9s
HHC LR LR
comp=N,766nm,17.8s,MS5.3
HHC LR LR
comp=E,593nm,17.8s,MS5.3
HHC LR LR
comp=Z,974nm,21.0s,MS5.2
NANT Nan 92.44 289 P **P** **22 11 02.0 +2.4**
JTS JuntasAbangare 92.57 80 P **P** **22 11 03.0 +2.8**
JTS pmax pmax
comp=Z,20nm,1.0s
JTS JuntasAbangare 92.57 80 *e*P **P** **22 11 02.5 +2.4**
comp=Z,20nm,0.9s,mb5.5
JTS LR LR
comp=Z,1μm,20.0s,MS5.3
CLNS Chul'man 92.70 331 *e*P **P** **22 11 00.5 -0.3**
CLNS pmax pmax
comp=Z,16nm,1.0s,mb5.4
CLNS pmax pmax
comp=N,11nm,1.5s
CLNS pmax pmax
comp=E,5.0nm,0.8s
KMI Kunming 92.95 296 P **P** **22 11 04.9 +3.0**
KMI AP pP 22 11 07.3 +0.6
KMI PP PP 22 14 47.0 +2.5
KMI SKS 22 21 36.6
KMI S 22 22 06.3
KMI SS SS 22 28 24.3 +3.0
KMI AMB AMB
comp=Z,8.0nm,1.3s,mb5.0
KMI AMB AMB
comp=Z,465nm,4.1s
KMI LR LR
comp=N,846nm,13.1s
KMI LR LR
comp=E,810nm,19.2s
KMI LR LR
comp=Z,936nm,23.9s
TRQA Tornquist 93.37 133 PFAKE 22 11 20.0 +16
TRQA LR LR
comp=Z,2μm,19.0s,MS5.5
INK Inuvik 93.56 14 P **P** **22 11 04.0 -0.7**
comp=Z,11nm,0.8s,mb5.3,baz=210,slow=4.3,SNR=45
INK Inuvik 93.56 14 *e*P **P** **22 11 02.8 -1.9**
INK pmax pmax
comp=Z,15nm,0.9s
INK Inuvik 93.56 14 *e*P **P** **22 11 02.8 -1.9**
comp=Z,15nm,0.9s,mb5.4
YAK Yakutsk 93.85 337 *e*P **P** **22 11 04.9 -1.2**
YAK *e**PP pP 22 11 12.1 +1.2
YAK *e* 22 14 50.6
YAK *e*S 22 21 36.6
YAK *e**SS sS 22 22 15.1 -8.3
YAK *e*PS PS 22 23 51.7 +21
YAK *e*SS SS 22 28 21.5 -13
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=Z,12nm,1.1s,mb5.2
YAK pmax pmax
comp=E,2.0nm,1.3s
YAK pmax pmax
comp=Z,7.0nm,0.8s,mb5.1
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK smax
comp=N,103nm,10.1s
YAK smax
comp=Z,199nm,24.8s
YAK smax
comp=E,109nm,11.5s
YAK MLR MLR
comp=E,317nm,19.0s,MS4.9
YAK MLR MLR
comp=Z,403nm,19.0s,MS4.9
YAK MLR MLR
comp=N,274nm,23.0s,MS4.9
YAK Yakutsk 93.85 337⇑ *e*P **P** **22 11 04.2 -1.9**
YAK LR LR
comp=Z,778nm,21.0s,MS5.1
MIAR Mount Ida 93.93 55 PFAKE 22 11 20.0 +14
MIAR LR LR
comp=Z,1μm,20.0s,MS5.4
CHG Chiang Mai 94.00 288⇓ P sP 22 11 19.9 +6.6
comp=Z,19nm,1.0s
CHTO Chiang Mai 94.00 288 *e*P **P** **22 11 07.9 +1.1**
CHTO pmax pmax
comp=Z,14nm,0.9s,mb5.4
CHTO MLR MLR
comp=Z,562nm,22.0s,MS5.0
CHTO Chiang Mai 94.00 288 *e*P **P** **22 11 07.9 +1.2**
comp=Z,14nm,0.9s,mb5.4
CHTO LR LR
comp=Z,562nm,22.0s,MS5.0
CD2 Chengdu 94.23 301 *e*P **P** **22 11 06.9 -0.9**
CD2 AP pP 22 11 11.8 -0.8
CD2 XP sP 22 11 13.9 -0.4
CD2 PP PP 22 14 56.4 +1.9
CD2 SKS 22 21 39.9
CD2 S 22 22 14.6
CD2 XS sS 22 22 22.8 -3.9
CD2 SS SS 22 28 39.5 0.0
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
CD2 LR LR
comp=N,650nm,12.0s
CD2 LR LR
comp=Z,430nm,19.2s
LVC Limon Verde 95.06 116 PFAKE 22 11 30.0 +18
LVC LR LR
comp=Z,2μm,21.0s,MS5.6
OTAV Otavalo 95.14 92 PFAKE 22 11 30.0 +18
OTAV LR LR
comp=Z,1μm,22.0s,MS5.3
YKA Yellowknife Ar 95.16 24 P **P** **22 11 10.9 -1.2**
comp=Z,5.9nm,0.7s,mb5.1,baz=237,slow=4.4,SNR=88
YKA PP PP 22 14 58.2 -3.6
comp=Z,1.1nm,1.0s,baz=230,slow=7.6,SNR=5.6
YKA PKKPbc PKKPbc 22 28 07.2 +1.4
comp=Z,0.3nm,0.7s,baz=36,slow=3.1,SNR=5.1
YKA LR LR 22 48 30.9
comp=Z,940nm,19.6s,MS5.3,baz=245,slow=32
YKA Yellowknife Ar 95.16 24 P **P** **22 11 10.9 -1.2**
YKA 22 14 58.2
YKA Yellowknife Ar 95.16 24 P **P** **22 11 10.9 -1.2**
YKA PP PP 22 14 58.2 -3.6
YKA PKKPbc PKKPbc 22 28 07.2 +1.4
YKA LR LR 22 48 30.9
YKW3 Yellowknife Ar 95.20 24 *e*P **P** **22 11 11.4 -0.9**
CIT Chita 95.98 324 *e*P **P** **22 11 15.4 -0.4**
CIT *e* 22 15 07.0
CIT pmax pmax
comp=Z,27nm,2.1s,mb5.3
HOPE Hope Point 96.78 156 PFAKE 22 11 30.0 +11
HOPE LR LR
comp=Z,2μm,19.0s,MS5.7
FFC Flin Flon 96.79 34 PFAKE 22 11 30.0 +10
FFC LR LR
comp=Z,2μm,20.0s,MS5.7
CCM Cathedral Cave 96.97 52 PFAKE 22 11 30.0 +10
CCM LR LR
comp=Z,2μm,20.0s,MS5.5
OXF Oxford 97.12 56 PFAKE 22 11 30.0 +9.0
OXF LR LR
comp=Z,2μm,20.0s,MS5.6
ULN Ulaanbaatar 98.13 318⇑ *e*P **P** **22 11 26.4 +0.8**
ULN Ulaanbaatar 98.13 318 *e*P **P** **22 11 26.6 +1.0**
comp=Z,4.0nm,0.9s,mb5.0
ULN LR LR
comp=Z,545nm,19.0s,MS5.1

PLAL Pickwick Lake 98.31 56 PFAKE 22 11 40.0 +14
PLAL LR LR
comp=Z,2μm,20.0s,MS5.5
ULM Lac du Bonnet 98.34 39 LR LR 22 50 08.5
comp=Z,1μm,19.9s,MS5.3,baz=355,slow=32
LPAZ La Paz 98.35 111 P **P** **22 11 29.1 +2.5**
comp=Z,2.0nm,0.8s,mb4.7,baz=283,slow=1.2,SNR=8.2
LPAZ LR LR 22 45 52.4
comp=Z,901nm,21.1s,MS5.2,baz=294,slow=29
LRAL Lakeview Retre 98.52 58 PFAKE 22 11 40.0 +13
LRAL LR LR
comp=Z,1μm,19.0s,MS5.4
SONM Songino Array 98.53 318 P **P** **22 11 27.7 +0.4**
comp=Z,1.6nm,0.8s,mb4.6,baz=114,slow=3.7,SNR=11
SONM PP PP 22 15 25.9 -1.9
comp=Z,1.4nm,0.8s,baz=118,slow=6.3,SNR=5.0
SONM LR LR 22 57 11.7
comp=Z,673nm,18.9s,MS5.2,baz=113,slow=36
SONM Songino Array 98.53 318 P **P** **22 11 27.7 +0.4**
SONM 22 15 25.9
WVT Waverly 98.88 55 PFAKE 22 11 40.0 +11
WVT LR LR
comp=Z,2μm,19.0s,MS5.6
TIXI Tiksi 100.03 344 *e*P Pdif 22 11 32.5 -1.5
TIXI *e* 22 15 33.0
TIXI *e* 22 22 06.3
TIXI *e* 22 23 01.2
TIXI *e*SP SP 22 24 29.8 -6.5
TIXI *e*SS SS 22 29 50.7 -11
TIXI pmax pmax
comp=Z,5.0nm,1.1s
TIXI pmax pmax
comp=Z,123nm,13.1s
TIXI pmax pmax
comp=N,38nm,11.9s
TIXI pmax pmax
comp=E,30nm,9.8s
TIXI MLR MLR
comp=Z,664nm,19.0s,MS5.2
TIXI Tiksi 100.03 344⇑ *e*P Pdif 22 11 34.2 +0.2
TIXI LR LR
comp=Z,899nm,20.0s,MS5.3
GTA Gaotai 100.17 308 *e*P Pdif 22 11 34.4 -0.2
GTA AP 22 11 38.5
GTA XP 22 11 41.9
GTA PP PP 22 15 39.6 -0.7
GTA SKS 22 22 12.4
GTA S Sdif 22 23 01.4 -8.1
GTA SS SS 22 30 07.8 +4.4
GTA AMB AMB
comp=Z,3.0nm,1.1s
GTA AMB AMB
comp=Z,123nm,5.7s
GTA LR LR
comp=N,349nm,19.0s,MS5.0
GTA LR LR
comp=E,341nm,18.2s,MS5.0
GTA LR LR
comp=Z,465nm,18.2s,MS5.0
EYMN Ely 100.21 43 PFAKE 22 11 50.0 +15
EYMN LR LR
comp=Z,1μm,19.0s,MS5.4
WCI Wyandotte Cave 100.71 53 PFAKE 22 11 50.0 +13
WCI LR LR
comp=Z,2μm,20.0s,MS5.5
ZAK Zakamensk 101.33 320 *e*P Pdif 22 11 47.9 +8.1
ZAK pmax pmax
comp=Z,3.0nm,1.7s
TLY Talaya 101.53 321 PFAKE 22 11 50.0 +9.3
TLY LR LR
comp=Z,1μm,19.0s,MS5.3
DWPF Disney 101.54 64 PFAKE 22 11 50.0 +9.3
DWPF LR LR
comp=Z,650nm,21.0s,MS5.1
CPUP Villa Florida 102.68 125 PFAKE 22 12 00.0 +14
CPUP LR LR
comp=Z,245nm,20.0s,MS4.7
ACSO Alum Creek Sta 103.75 52 PFAKE 22 12 00.0 +9.4
ACSO LR LR
comp=Z,843nm,19.0s,MS5.3
NHSC New Hope 104.00 60 PFAKE 22 12 00.0 +8.3
NHSC LR LR
comp=Z,918nm,20.0s,MS5.3
LSA Lhasa 104.17 297 PFAKE 22 12 00.0 +7.6
LSA LR LR
comp=Z,517nm,22.0s,MS5.0
BLA Blacksburg 104.89 56 PFAKE 22 12 10.0 +14
BLA LR LR
comp=Z,85nm,20.0s,MS4.3
SDV Santo Domingo 105.40 86 PFAKE 22 16 30.0 +18
SDV LR LR
comp=Z,323nm,20.0s,MS4.9
SAML Samuel 105.77 106 PFAKE 22 16 30.0 +18
SAML LR LR
comp=Z,972nm,22.0s,MS5.3
MCWV Mont Chateau 105.93 53 PFAKE 22 16 20.0 +7.4
MCWV LR LR
comp=Z,2μm,20.0s,MS5.7
ERPA Erie 106.40 51 PFAKE 22 16 30.0 +17
ERPA LR LR
comp=Z,1μm,20.0s,MS5.5
PALK Pallekele 106.95 271 PFAKE 22 16 30.0 +16
PALK LR LR
comp=Z,801nm,21.0s,MS5.2
CBN Corbin 107.47 55 PFAKE 22 16 30.0 +15
CBN LR LR
comp=Z,2μm,20.0s,MS5.7
SSPA Standing Stone 107.62 53 PFAKE 22 16 30.0 +14
SSPA LR LR
comp=Z,1μm,20.0s,MS5.5
JIRN Jiri 107.84 293 *e*P PKiKP 22 16 17.4 +1.3
comp=Z,7.2nm,0.6s
GUN Gumba 108.17 294 *e*P PKiKP 22 16 17.2 +0.4
PKI Pulchoki 108.49 293 *e*P PKiKP 22 16 18.3 +0.9
KKN Kakani 108.65 293 *e*P PKiKP 22 16 18.6 +0.9
comp=Z,18nm,1.0s
DMN Daman 108.76 293 *e*P PKiKP 22 16 18.9 +1.0
comp=Z,8.6nm,0.7s
DGAR Diego Garcia 109.14 254 PFAKE 22 16 30.0 +11
DGAR LR LR
comp=Z,933nm,19.0s,MS5.4
GKN Gorkha 109.26 293 *e*P PKiKP 22 16 19.1 +0.3
BINY Binghamton 109.33 51 PFAKE 22 16 30.0 +11
BINY LR LR
comp=Z,2μm,19.0s,MS5.7
WMQ Urumqi 110.05 310 PDIF Pdif 22 12 16.9 -1.7
WMQ XPKP 22 16 26.9
WMQ PP PP 22 16 56.9 +3.4
WMQ SKS SKSdf 22 23 26.3 -5.6
WMQ SS SS 22 32 16.9 -1.6
WMQ PP PP
comp=Z,45nm,10.5s
WMQ LR LR
comp=N,609nm,17.5s,MS5.2
WMQ LR LR
comp=E,172nm,20.4s,MS5.2
WMQ LR LR
comp=Z,541nm,25.8s
KOLN Koldanda 110.09 293 *e*P PKiKP 22 16 20.3 -0.1
comp=Z,12nm,0.8s
NCB Newcomb 110.91 50 PFAKE 22 16 30.0 +8.1
NCB LR LR
comp=Z,1μm,19.0s,MS5.5
SJG San Juan 112.30 78 PFAKE 22 16 40.0 +15
SJG LR LR
comp=Z,346nm,20.0s,MS4.9
LBNH Lisbon 112.58 50 PFAKE 22 16 40.0 +15
LBNH LR LR
comp=Z,2μm,19.0s,MS5.8
HRV Harvard--Oak R 112.62 52 PFAKE 22 16 40.0 +15
HRV LR LR
comp=Z,1μm,20.0s,MS5.5
NVS Novosibirsk 114.11 322 *i* PKiKP PKiKP 22 16 26.4 -1.6
MKAR Makanchi Array 114.21 313 PKP PKiKP 22 16 26.8 -1.4
comp=Z,5.4nm,0.8s,baz=46,slow=3.5,SNR=24
MKAR PKKPbc PKKPbc 22 27 08.2 0.0
comp=Z,1.2nm,0.9s,baz=275,slow=4.3,SNR=5.0
SCHQ Schefferville 116.48 38 PFAKE 22 16 40.0 +7.4
SCHQ LR LR
comp=Z,2μm,19.0s,MS5.7
BBSR BB Station 116.59 63 PFAKE 22 16 50.0 +17
BBSR LR LR
comp=Z,543nm,20.0s,MS5.2
KURK Kurchatov 116.83 317 *e*PKIKP PKPdf 22 16 32.2 -1.0
KURK MLR MLR
comp=Z,698nm,20.0s,MS5.3
TKM2 Tokmak 2 118.72 308 P PKPdf 22 16 37.3 +0.5
SNR=9.2
KBK Karagaybulak 119.19 308 P PKPdf 22 16 38.5 +0.7
SNR=10
CHMS Chumysh 119.34 308 P PKPdf 22 16 38.2 +0.1
SNR=8.3
FRU Bishkek 119.44 308 *e*PKIKP PKPdf 22 16 38.0 -0.2
UCH Uchtor 119.49 308 P PKPdf 22 16 39.7 +1.4
SNR=14
AAK Ala-Archa 119.52 308 P PKPdf 22 16 39.1 +0.7
SNR=5.6
AAK Ala-Archa 119.52 308⇑ *i*PKIKP PKPdf 22 16 38.0 -0.4
AAK MLR MLR
comp=Z,300nm,19.0s,MS5.0
AAK Ala-Archa 119.52 308⇑ *e*PKP PKPdf 22 16 38.1 -0.3
AAK LR LR
comp=Z,411nm,21.0s,MS5.0
USP Ospenovka 119.53 309 P PKPdf 22 16 38.5 +0.1
SNR=9.8
EKS2 Erkin-Say 120.05 308 P PKPdf 22 16 40.7 +1.3
SNR=5.5
AML Almayashu 120.10 307 P PKPdf 22 16 40.5 +1.0
SNR=11
KBS Kingsbay 121.73 359 *e*PP PP 22 18 20.9 +5.5
KBS Kingsbay 121.73 359⇑ *i*PKIKP PKPdf 22 16 44.1 +1.5
KBS Kingsbay 121.73 359 PFAKE 22 16 50.0 +7.4
KBS LR LR
comp=Z,448nm,19.0s,MS5.1
BRVK Borovoye 121.84 320⇑ *e*PKIKP PKPdf 22 16 42.2 -0.7
BRVK MLR MLR
comp=Z,651nm,20.0s,MS5.3
DAG Danmarks Havn 122.59 7 *i* P PKPdf 22 16 40.3 -4.0
DAG
comp=Z,1μm,19.0s
DAG Danmarks Havn 122.59 7 *e*PKIKP PKPdf 22 16 40.3 -4.0
DAG MLR MLR
comp=Z,1μm,19.0s,MS5.5
DAG MLR MLR
comp=N,850nm,20.0s
SUR Sutherland 125.32 195 PFAKE 22 17 00.0 +10
SUR LR LR
comp=Z,1μm,19.0s,MS5.6
ARU Arti 127.61 326 *i* PKIKP PKPdf 22 16 53.0 -0.9
ARU *e* 22 18 54.5
ARU *e*PPP 22 21 32.8
ARU *e* 22 23 55.9
ARU *e*PS PS 22 28 53.4 -7.1
ARU *e*SS SS 22 35 57.8 -7.6
ARU *e*SSS 22 40 42.0
ARU MLR MLR
comp=Z,1μm,20.0s,MS5.6
ARU MLR MLR
comp=N,300nm,19.0s,MS5.5
ARU MLR MLR
comp=E,900nm,20.0s,MS5.5
ARU Arti 127.61 326⇑ *e*PKP PKPdf 22 16 52.8 -1.1
ARU LR LR
comp=Z,1μm,20.0s,MS5.6
KEV Kevo 129.41 351 *e*pkp PKPdf 22 16 51.1 -6.2
KEV Kevo 129.41 351 PFAKE 22 17 10.0 +13
KEV LR LR
comp=Z,737nm,20.0s,MS5.4
LVZ Lovozero 129.61 346 PFAKE 22 17 10.0 +12
LVZ LR LR
comp=Z,1μm,21.0s,MS5.5
ARCES ARCESS Array B 129.83 351 PKhKP 22 16 54.0
comp=Z,9.4nm,0.9s,baz=270,slow=3.6,SNR=14
APA Apatity 130.15 347⇑ *i*PKIKP PKPdf 22 17 08.2 +9.5
APA *e*PPS 22 31 00.0
APA pmax pmax
comp=Z,10.0nm,1.0s
APA MLR MLR
comp=Z,1μm,18.0s,MS5.5
APA MLR MLR
comp=Z,700nm,16.0s
TRO Tromso 130.52 354 *e*PP PP 22 19 18.1 +4.2
LBTB Lobatse 130.72 203 PFAKE 22 17 10.0 +10
LBTB LR LR
comp=Z,1μm,19.0s,MS5.7
ORR Orenburg 131.41 321⇓ *i*PKIKP PKPdf 22 17 02.2 +1.1
ORR PS PS 22 29 26.2 -7.3
BORG Borgarnes 132.42 16 PFAKE 22 17 10.0 +7.0
BORG LR LR
comp=Z,891nm,20.0s,MS5.5
KLMR Klimovskoe 133.63 338 *i* PKIKP PKPdf 22 16 59.9 -5.4
KLMR *e* 22 19 32.0
KLMR pmax pmax
comp=Z,20nm,1.6s
KLMR MLR MLR
comp=Z,880nm,23.0s,MS5.4
JOF Joensuu 134.51 344 *e*pkp PKPdf 22 17 03.5 -3.5
PECR Pechory 134.75 331 *e*PKIKP PKPdf 22 17 09.4 +2.0
PECR *e* 22 17 20.8
PECR *e* 22 19 44.0
KAF Kangasniemi 136.40 346 *e*pkp PKPdf 22 17 03.3 -7.2
PUL Pulkovo 137.40 342 *i* PKIKP PKPdf 22 17 16.9 +4.6
PUL *e* 22 19 54.4
PUL *e* 22 32 11.6
PUL *e*SSS 22 42 57.7
PUL MLR MLR
comp=Z,715nm,19.0s,MS5.4
PUL MLR MLR
comp=N,287nm,15.0s,MS5.3
PUL MLR MLR
comp=E,411nm,18.0s,MS5.3
LSZ Lusaka 138.15 213 PFAKE 22 17 30.0 +16
LSZ LR LR
comp=Z,963nm,19.0s,MS5.6
OBN Obninsk 138.78 334 *i* PKIKP PKPdf 22 17 16.9 +2.0
OBN *i* 22 20 05.2
OBN *i* SS SS 22 38 15.4 -5.4
OBN pmax pmax
comp=Z,34nm,1.6s
OBN Obninsk 138.78 334 *e*PKP PKPdf 22 17 14.4 -0.5
OBN LR LR
comp=Z,400nm,17.0s,MS5.2
MAK Makhachkala 139.03 312 *d i*PKIKP PKPdf 22 17 20.7 +5.4
MAK pmax pmax
comp=Z,97nm,1.0s
NB2 NORSAR Subarra139.61 356 PKPa 22 17 07.7
comp=Z,21nm,1.7s,baz=15,slow=4.1
NB2 NORSAR Subarra139.61 356 PKPa 22 17 07.7
baz=15,slow=4.1
NOA NORSAR Array B139.61 356 PKhKP 22 17 07.6
comp=Z,2.3nm,0.8s,baz=16,slow=5.0,SNR=5.4
VOR Voronezh 139.81 328 PKIKP PKPdf 22 17 16.0 -0.8
VOR pmax pmax
comp=Z,40nm,2.0s
NAO01 NORSAR Array S 139.82 356 PFAKE 22 17 30.0 +13
NAO01 LR LR
comp=Z,741nm,20.0s,MS5.4
VRSR Storozhevoye 140.13 328 *e*PKHKP 22 17 11.0
VRSR pmax pmax
comp=N,3.0nm,0.9s
VRSR pmax pmax
comp=Z,1.0nm,0.9s
VRSR pmax pmax
comp=E,2.0nm,0.8s
BER Bergen 140.42 1 *e*PP PP 22 20 16.4 +0.1
KONO Kongsberg 141.08 357 PFAKE 22 17 30.0 +11
KONO LR LR
comp=Z,617nm,19.0s,MS5.4
ZEI Tsey 141.57 314 *e*PKHKP 22 17 17.2
RDF Al-Radifah 141.72 291 *e*P PKPdf 22 17 17.5 -2.7
MIB Mutribah 141.85 292 *e*P PKPdf 22 17 16.7 -3.8
KIV Kislovodsk 141.89 316⇑ *i*PKIKP PKPdf 22 17 20.8 +0.3
KIV Kislovodsk 141.89 316⇑ *e*PKP PKPdf 22 17 20.8 +0.3
KIV LR LR
comp=Z,694nm,20.0s,MS5.4
GNI Garni 141.91 309 *e*P PKPdf 22 17 21.6 +1.1
GNI Garni 141.91 309⇑ *i*PKIKP PKPdf 22 17 21.5 +0.9
GNI MLR MLR
comp=Z,500nm,17.0s
GNI Garni 141.91 309⇑ *e*PKP PKPdf 22 17 21.5 +0.9
GNI LR LR
comp=Z,664nm,21.0s,MS5.4
NAY Al-Naaiem 141.97 291 *e*P PKPdf 22 17 17.1 -3.6
KMBO Kilima Mbogo 142.58 238 PKhKP 22 17 19.4
comp=Z,4.0nm,0.8s,baz=12,slow=2.2,SNR=10
KMBO Kilima Mbogo 142.58 238⇑ *i*PKHKP 22 17 19.7
CUKT Cukurca 143.63 305 *e*P PKPdf 22 17 20.3 -3.3
BHD Baghdad 143.93 298 *ex* x 22 17 20.0
SOC Sochi 143.98 317 *i* PKHKP 22 17 14.4
SOC *e*SS SS 22 39 18.3 -3.1

SOC pmax pmax
comp=Z,44nm,0.9s
EAU Auchinoon 144.24 9 *e*P PKPdf 22 17 22.8 -1.9
EAU AMb AMB 22 17 24.4
comp=Z,92nm,0.9s
MUD Monsted U'grnd 144.29 357 ⇓*i*P PKPdf 22 17 22.8 -2.0
comp=Z,37nm,1.1s
MUD *i* 22 23 58.8
MUD 22 23 58.8
comp=Z,620nm,18.0s
MUD Monsted U'grnd 144.29 357 ⇓*i*PKIKP PKPdf 22 17 22.8 -2.0
MUD *i* 22 23 58.8
MUD pmax pmax
comp=Z,37nm,1.1s
MUD MLR MLR
comp=Z,630nm,18.0s,MS5.4
MUD Monsted U'grnd 144.29 357 ⇓*i*P PKPdf 22 17 22.8 -2.0
MUD *i* 22 23 58.8
ESY Stoneypath 144.29 8 *e*P PKPdf 22 17 22.6 -2.1
ESY AMb AMB 22 17 26.9
comp=Z,60nm,1.4s
MSL Mosul 144.29 304 *ex* x 22 17 25.0
SUW Suwalki 144.36 343 *e*PKP PKPdf 22 17 22.9 -2.0
SUW *e*PKiKP PKiKP 22 17 26.2 -2.3
SUW *ep*PKP pPKPdf 22 17 35.3 +5.5
SUW L 22 21 22.1
comp=Z,1.3nm,21.3s
SUW *e*SS SS 22 39 24.8 -0.9
SUW Suwalki 144.36 343 *e*PKP PKPdf 22 17 22.9 -2.0
SUW *e*PKPdf PKPdf 22 17 26.2 +1.3
SUW *ep*PKP pPKPdf 22 17 35.3 +5.5
SUW *e*SS SS 22 39 24.8 -0.9
ERZM Erzurum 144.43 310 *i* P PKPdf 22 17 25.1 +0.1
EZM Erzurum 144.43 310 *e*P PKPdf 22 17 25.1 +0.1
ANN Anapa 144.78 320 *i* PKIKP PKPdf 22 17 25.3 -0.3
ANN pmax pmax
comp=Z,72nm,1.0s
ESK Eskdalemuir 144.79 9 PFAKE 22 17 40.0 +14
ESK LR LR
comp=Z,1μm,19.0s,MS5.6
COP Copenhagen 144.82 354 *i* P PKPdf 22 17 25.2 -0.5
comp=Z,15nm,1.0s
COP
comp=Z,210nm,18.0s
COP Copenhagen 144.82 354 *i* PKIKP PKPdf 22 17 25.2 -0.5
COP pmax pmax
comp=Z,15nm,1.0s
COP MLR MLR
comp=Z,210nm,18.0s,MS5.0
BWH Wardlaw 144.86 10 *e*P PKPdf 22 17 24.6 -1.1
BNGL BINGOL 144.93 309 *i* P PKPdf 22 17 26.8 +0.9
BTMT Batman 144.94 307 *e*P PKPdf 22 17 26.6 +0.7
BHH Howats Hill 145.01 9 *e*P PKPbc 22 17 25.9 +0.6
AKASG Malin Array Be 145.04 334 PKP PKPdf 22 17 24.0 -2.0
comp=Z,52nm,0.8s,baz=41,slow=4.2,SNR=166
AKASG Malin Array Be 145.04 334 PKP PKPdf 22 17 24.0 -2.0
ASCN Ascension 145.07 143 PFAKE 22 17 40.0 +14
ASCN LR LR
comp=Z,356nm,21.0s,MS5.1
BSD Bornholm Skovb 145.07 351 ⇓*i*P PKPbc 22 17 25.0 -0.6
comp=Z,46nm,0.8s
BSD *i* 22 18 01.2
BSD
comp=Z,760nm,22.0s
BSD Bornholm Skovb 145.07 351 ⇓*i*PKIKP PKPdf 22 17 25.0 -1.1
BSD pmax pmax
comp=Z,46nm,0.8s
BSD MLR MLR
comp=Z,760nm,22.0s,MS5.4
BSD Bornholm Skovb 145.07 351 ⇓*i*P PKPbc 22 17 25.0 -0.6
BSD *i* 22 18 01.2
BDL Dobcross Hall 145.33 9 *e*P PKPbc 22 17 26.6 +0.2
BBO1 Bothel 145.35 10 *e*P PKPbc 22 17 26.4 0.0
CKE Keswick 145.51 10 *e*P PKPdf 22 17 27.6 +0.7
XDE Dent Fell 145.53 10 *e*P PKPdf 22 17 27.7 +0.8
XDE AMb AMB 22 17 28.8
comp=Z,94nm,1.1s
GUMT Gumushane 145.53 312 *e*P PKPdf 22 17 28.7 +1.8
MARD Mardin 145.76 306 *i* P PKPdf 22 17 27.4 +0.1
DCN Croghan 145.88 14 *e*P PKPdf 22 17 26.9 -0.6
DIY Diyarbakir 145.98 308 *e*P PKPdf 22 17 30.2 +2.6
DLF Lyons Farm 146.10 14 *e*P PKPdf 22 17 26.9 -1.0
WCB1 Church Bay 146.43 12 *e*P PKPdf 22 17 29.4 +1.0
WCB1 AMb AMB 22 17 33.0
comp=Z,57nm,1.6s
GKP Gorka Klasztor 146.45 348 *e*PKP PKPdf 22 17 29.4 +0.9
GKP *e*PKiKP PKiKP 22 17 32.7 -0.1
DESE Dese 146.47 259 *e*P PKiKP 22 17 32.7 -0.2
WAR Warsaw 146.53 343 *e*PKP PKPdf 22 17 30.3 +1.7
WAR *e*PKiKP PKiKP 22 17 33.6 +0.7
WAR L 22 22 38.2
comp=Z,1.0nm,20.9s
WAR *e*SS SS 22 39 45.8 -4.7
WAR Warsaw 146.53 343 *e*PKP PKPdf 22 17 30.3 +1.7
WAR *e*PKPdf PKPdf 22 17 33.6 +5.0
WAR *e*SS SS 22 39 45.8 -4.7
SIM Simferopol' 146.63 323 *i* PKP2 PKPab 22 17 30.6 -0.8
SIM *e* 22 21 02.0
SIM pmax pmax
comp=Z,52nm,0.8s
DRBT Darb Altahta 146.65 306 ⇑P PKiKP 22 17 35.5 +2.3
WPM1 Penmaenmawr 146.66 11 *e*P PKPdf 22 17 30.8 +2.0
LHO Holmfirth 146.71 9 *e*P PKPdf 22 17 30.5 +1.6
BSEG Bad Segeberg 146.74 356 *e*PKPbc PKPbc 22 17 29.9 -0.7
KBI1 Birley Grange 147.04 8 *e*P PKPdf 22 17 31.3 +1.9
SBD1 Bryn Du 147.11 11 *e*P PKPdf 22 17 31.6 +2.1
MYA Malataya 147.14 309 *e*P PKPdf 22 17 32.6 +3.0
MALT Malatya 147.15 309 *e*P PKPab 22 17 34.7 +1.2
MALT Malatya 147.15 309 ⇑*i*P PKPdf 22 17 31.7 +2.1
MALT Malatya 147.15 309 ⇑P PKPdf 22 17 31.7 +2.0
MALT P 22 17 35.0
URFA Urfa 147.18 308 *e*P PKPab 22 17 33.6 0.0
KWE Weaver Farm 147.22 9 *e*P PKPdf 22 17 32.2 +2.4
SVSK Karacayir 147.48 313 *e*P PKPdf 22 17 34.0 +3.8
HLM1 Long Mynd 147.54 10 *e*P PKPdf 22 17 32.8 +2.5
HLM1 AMb AMB 22 17 34.4
comp=Z,64nm,1.5s
ATAB Bozova 147.56 308 *i* P PKPab 22 17 35.1 0.0
KVT Kavak 147.57 315 *e*P PKPab 22 17 35.4 +0.2
SSP1 Stoney Pound 147.60 11 *e*P PKPdf 22 17 33.0 +2.6
SSP1 AMb AMB 22 17 36.8
comp=Z,59nm,1.2s
PDA Ponta Delgada 147.70 51 *e* 23 14 46.0
LVV L'vov 147.72 338 *e*PKP2 PKPab 22 17 34.5 -1.2
LVV *e* 22 20 53.8
LVV MLR MLR
comp=N,480nm,22.0s,MS5.3
LVV MLR MLR
comp=E,380nm,22.0s,MS5.3
LVV MLR MLR
comp=Z,680nm,22.0s,MS5.4
RUE Ruedersdorf 147.80 351 *e*PKPbc PKPbc 22 17 33.2 -0.4
MBAR Mbarara 147.91 232 ⇓*i*PKIKP PKPab 22 17 36.0 -0.5
MCH1 Michaelchurch 148.03 11 *e*P PKPdf 22 17 33.9 +2.8
JHLN Al Jahlan 148.08 305 ⇑P PKPab 22 17 36.3 -0.9
BOYT Boyabat 148.14 317 *i* P PKPbc 22 17 35.6 +1.1
GZT Gaziantep 148.14 308 *i* P PKPdf 22 17 34.2 +2.9
BYBT Boyabat 148.20 317 *e*P PKPdf 22 17 34.0 +2.6
KWP Kalwaria 148.33 339 *e*PKP PKPdf 22 17 33.5 +1.9
KWP *e*PKiKP PKiKP 22 17 36.3 -0.4
KWP L 23 16 50.6
comp=Z,0.8nm,26.4s
KWP Kalwaria 148.33 339 *e*PKP PKPdf 22 17 33.5 +1.9
KWP *e*PKPdf PKPdf 22 17 36.3 +4.7
IAS Iasi 148.43 332 PKP2 PKPbc 22 17 35.5 +0.2
GAZ Gaziantep 148.47 308 *e*P PKPbc 22 17 35.6 +0.2
IBBN Ibbenburen 148.50 358 *e*PKPbc PKPbc 22 17 35.4 0.0
CTKT Corum 148.63 316 *i* P PKPdf 22 17 31.4 -0.6
SKP1 Kophill 148.63 8 *e*P PKPdf 22 17 34.9 +2.8
OJC Ojcow 148.69 343 *e*PKPdf PKPdf 22 17 33.3 +1.1
OJC *ep*PKPdf pPKPdf 22 17 36.2 -0.9
OJC *e*PP PP 22 21 05.6 -0.1
OJC *e*SS SS 22 40 16.2 +1.4
OJC L 23 25 29.7
comp=Z,3.1nm,20.7s
OJC Ojcow 148.69 343 *e*PKIKP PKPdf 22 17 33.3 +1.1
OJC *e* 22 17 36.2
OJC *e* 22 21 05.6
OJC MLR MLR
comp=Z,3μm,20.7s,MS6.1
BNN Bunyan 148.76 312 *e*P PKPdf 22 17 34.0 +1.7
CLZ Clausthal 148.81 355 *e*PKPbc PKPbc 22 17 36.1 -0.2
WTSB Winterswijk 148.86 359 *e*PKP PKPdf 22 17 35.5 +3.1
comp=Z,38nm,1.1s
KSP Ksiaz 148.94 348 *e*PKP PKPbc 22 17 36.6 0.0
KSP *e*PKiKP PKiKP 22 17 44.5 +6.6
KSP L 22 23 19.9
comp=Z,1.7nm,21.7s
KSP *e*SS SS 22 40 21.0 +3.3
KSP Ksiaz 148.94 348 *i* PKP2 PKPab 22 17 38.1 -2.5
KSP *e*SS SS 22 40 13.0 -4.7
KSP MLR MLR
comp=Z,2μm,21.7s,MS5.9
KSP Ksiaz 148.94 348 *e*PKP PKPdf 22 17 33.8 +1.2
STHS Stebnicka Huta 148.98 341 *e*PKP PKPbc 22 17 38.5 +1.8
BALT Daday 149.04 318 *i* P PKPdf 22 17 35.5 +2.7
CLL Collm 149.05 352 *e*PKPdf PKPdf 22 17 33.6 +0.8
comp=Z,8.0nm,1.3s
CLL *e*PKPbc PKPbc 22 17 36.8 -0.1
comp=Z,39nm,0.9s
CLL *e*PP PP 22 21 11.6 +3.8
CLL *e*PPP 22 24 28.2
CLL *e*SS SS 22 40 25.1 +6.2
CLL *e*SSS 22 46 00.6
CLL *e*LR LR 23 10 28.4
CLL *e*L 23 22 12.8
comp=Z,990nm,22.0s
CLL Collm 149.05 352 *i* PKPdf PKPdf 22 17 33.8 +1.0
comp=Z,8.0nm,1.3s
CLL ⇓*i*PKPbc PKPbc 22 17 36.8 -0.1
comp=Z,38nm,0.9s
CLL *i* PKPab PKPab 22 17 41.7 +0.6
comp=Z,65nm,1.1s
CLL *i* (sPKPab) 22 17 47.3
CLL *i* x x 22 17 52.6
CLL *e*PP PP 22 21 11.0 +3.2
CLL *e*SS SS 22 40 26.0 +7.1
CLL L 23 22 00.0
comp=Z,900nm,22.0s
CLL Collm 149.05 352 ⇓*i*PKIKP PKPdf 22 17 33.8 +1.0
CLL *i* 22 17 36.8
CLL pmax pmax
comp=Z,8.0nm,1.3s
CLL Collm 149.05 352 *i* PKP PKPdf 22 17 33.8 +1.0
CLL ⇓*i*PKP PKPbc 22 17 36.8 -0.1
KOLS Kolonicke sedl 149.08 339 *e*PKP PKPdf 22 17 34.2 +1.4
KOLS *e* 22 17 40.4
KOLS *e* 22 17 43.7
DRWC Darouich 149.09 307 ⇑P PKPbc 22 17 38.5 +1.5
BURAR Bucovina Array 149.09 335 ⇑*i*P PKPbc 22 17 38.4 +1.4
GTTG Gvttingen 149.14 355 *e*PKPbc PKPbc 22 17 37.7 +0.6
NIE Niedzica 149.26 342 *e*PKPdf PKPdf 22 17 35.4 +2.3
UPC Upice 149.32 348 *e*PKPDF PKPdf 22 17 34.9 +1.7
UPC ⇑*e*PKPB PKPbc 22 17 39.3 +1.8
UPC *ep*PKP pPKPdf 22 17 50.6 +12
BRG Berggiesshubel 149.34 350 *e*PKPbc PKPbc 22 17 38.6 +1.0
BRG Berggiesshubel 149.34 350 *e*PKP PKPdf 22 17 34.4 +1.2
comp=Z,8.0nm,1.6s
BRG Berggiesshubel 149.34 350 *e*PKP PKPbc 22 17 39.1 +1.6
comp=Z,16nm,0.9s
BRG SS SS 22 40 24.0 +1.9
BRG
comp=N,281nm,17.9s
BRG
comp=E,185nm,20.7s
BRG
comp=Z,548nm,18.6s
BRG Berggiesshubel 149.34 350 *e*PKIKP PKPdf 22 17 34.4 +1.2
BRG *e* 22 17 39.1
BRG pmax pmax
comp=Z,8.0nm,1.6s
BRG MLR MLR
comp=N,281nm,17.9s,MS5.2
BRG MLR MLR
comp=E,185nm,20.7s,MS5.2
BRG MLR MLR
comp=Z,548nm,18.6s,MS5.4
KOZT Kozan 149.36 309 *e*P PKPbc 22 17 36.7 -0.9
CRVS Cervenica-Dubn 149.37 340 *e*PKP PKPbc 22 17 39.4 +1.7
BUG Bochum--Univer 149.38 359 *e*PKPbc PKPbc 22 17 38.5 +0.8
CANT Cankiri 149.40 316 *e*P PKPbc 22 17 37.4 -0.3
CDAG Cicekdag 149.40 314 *i* P PKPdf 22 17 31.6 -1.7
DPC Dobruska-Polom 149.40 347 *e*PKPDF PKPdf 22 17 34.9 +1.6
DPC ⇑*e*PKPB PKPbc 22 17 39.8 +2.1
DPC *ep*PKP pPKPdf 22 17 51.7 +13
DPC *ex* x 22 31 27.9
DPC *e*SS SS 22 40 26.4 +3.6
DPC AMS AMS 23 23 40.0
comp=Z,2μm,20.8s
COBT Iskenderun 149.43 307 *i* P PKPbc 22 17 39.7 +1.9
ROOS tl_alroos 149.45 302 ⇑P PKPbc 22 17 40.5 +2.7
BTCH Batrach 149.46 306 ⇑P PKPbc 22 17 39.9 +2.1
OKC Ostrava-Krasne 149.47 345 *e*PKPDF PKPdf 22 17 34.8 +1.4
OKC ⇑*e*PKPB PKPbc 22 17 39.2 +1.3
OKC *ep*PKP pPKPdf 22 17 49.6 +11
OKC *ex* x 22 31 12.4
OKC *e*SS SS 22 40 22.6 -1.0
OKC AMS AMS 23 24 30.0
comp=Z,700nm,20.6s
AVNT Avonos 149.48 312 *i* P PKPdf 22 17 31.3 -2.1
KFRA Kufra 149.50 305 ⇑P PKPbc 22 17 40.5 +2.5
ELDT Eldivan 149.58 316 *i* P PKPbc 22 17 39.4 +1.2
CEYT Ceyhan 149.61 309 *e*P PKPbc 22 17 37.4 -0.9
SAFT Safranbolu 149.64 318 *e*P PKPbc 22 17 39.1 +0.8
CFR Carcaliu 149.65 328 ⇑*i*P PKPbc 22 17 39.9 +1.6
MORC Moravsky Berou 149.67 345 ⇓*i*P PKPbc 22 17 40.1 +1.7
HTY Hatay 149.67 307 *e*P PKPbc 22 17 40.1 +1.7
WRDH Warideh 149.69 305 ⇑P PKPbc 22 17 40.2 +1.8
SLNF Slenfeh 149.80 306 ⇑P PKPbc 22 17 41.1 +2.4
VRI Vrincioaia 149.81 331 ⇑*i*P PKPbc 22 17 39.5 +0.8
VRI Vrincioaia 149.81 331 ⇑PKP2 PKPbc 22 17 39.6 +0.9
BR131 Keskin Array S 149.84 315 PFAKE 22 17 50.0 +16
BR131 LR LR
comp=Z,481nm,21.0s,MS5.3
BRTR Keskin Array B 149.84 315 PKP PKPdf 22 17 33.8 -0.2
comp=Z,4.9nm,0.7s,baz=78,slow=1.7,SNR=18
BRTR PKPbc PKPbc 22 17 39.3 +0.5
comp=Z,14nm,0.9s,baz=134,slow=3.2,SNR=30
PLOR Plostina 149.86 331 ⇑*i*P PKPbc 22 17 40.0 +1.1
UBBA Unterbreizbach 149.86 355 *e*PKPbc PKPbc 22 17 39.7 +0.8
MOX Moxa 149.88 353 *e*PKPbc PKPbc 22 17 40.1 +1.2
MOX Moxa 149.88 353 *e*PKP PKPdf 22 17 35.5 +1.4
MOX *e* 22 17 51.0
comp=Z,94nm,1.6s
MOX
comp=Z,700nm,21.0s
MOX Moxa 149.88 353 *e*PKIKP PKPdf 22 17 35.5 +1.4
MOX *e* 22 17 51.0
MOX pmax pmax
comp=Z,94nm,1.6s
MOX MLR MLR
comp=Z,700nm,21.0s,MS5.4
ARNB Al Arnab 149.89 306 ⇑P PKPbc 22 17 41.2 +2.3
BIDA Albida 149.93 305 ⇑P PKPbc 22 17 41.0 +1.9
KAMT Kaman 149.97 314 *e*P PKPdf 22 17 35.4 +1.2
WERD Werda 149.99 352 *e*PKPbc PKPbc 22 17 40.8 +1.6
UCC Uccle 150.00 2 PKP PKPdf 22 17 35.3 +1.1
UCC PKPbc PKPbc 22 17 40.2 +1.0
UCC PKPab PKPab 22 17 44.6 -0.3
UCC E 22 17 50.7
KARA Karaisali 150.01 310 *e*P PKPbc 22 17 39.4 +0.2
TIRR Tirgusor 150.03 327 ⇑*i*P PKPbc 22 17 40.0 +0.7
TIRR Tirgusor 150.03 327 PKP2 PKPbc 22 17 41.0 +1.7
PRA Prague 150.03 349 ⇑PKPB PKPbc 22 17 41.0 +1.7
PRA pPKP pPKPdf 22 17 50.0 +11
HAWK Haweek 150.03 304 ⇑P PKPbc 22 17 42.3 +3.0
KECS Kecovo 150.04 341 *i* PKP PKPbc 22 17 40.3 +1.0
KRTS Karatas 150.06 308 *e*P PKPbc 22 17 40.4 +1.1
HGN Heimansgroeve 150.07 0 *e*PKP PKPbc 22 17 39.5 +0.1
comp=Z,44nm,2.4s
HGN *e*PP PP 22 21 37.1 +23
HGN *e*SKSP 22 31 15.8
HGN *e*SS SS 22 40 16.2 -14
PRU Pruhonice 150.09 349 *e*PKPDF PKPdf 22 17 36.1 +1.7
PRU ⇑*e*PKPB PKPbc 22 17 40.2 +0.8
PRU *ep*PKP pPKPdf 22 17 51.9 +13
PRU *ex* x 22 31 27.9
PRU *e*SS SS 22 40 28.8 -1.7
PRU AMS AMS 23 21 20.0
comp=Z,600nm,19.8s
HARR Harsova 150.10 328 ⇓*i*P PKPbc 22 17 40.1 +0.7
NKC Novy Kostel 150.18 352 *e*PKPDF PKPdf 22 17 35.8 +1.2
NKC ⇑*e*PKPB PKPbc 22 17 41.2 +1.6
NKC *ep*PKP pPKPdf 22 17 52.1 +13
NKC *e*SS SS 22 40 39.6 +8.1
NKC AMS AMS 23 22 50.0
comp=Z,800nm,22.3s
MEM Membach 150.22 0 PKPbc PKPbc 22 17 39.6 -0.1
MEM E 22 17 51.9
SNF Seneffe 150.28 2 APKP 22 17 37.1
SNF PKPbc PKPbc 22 17 40.1 +0.2
SNF E 22 17 50.4
ANTO Ankara 150.32 316 *e*P PKPdf 22 17 34.7 -0.1
ANTO Ankara 150.32 316 ⇑*i*P PKPbc 22 17 40.1 +0.1
ANTO Ankara 150.32 316 ⇑P PKPbc 22 17 40.1 +0.1
ANTO LR LR
comp=Z,449nm,20.0s,MS5.3
VRAC Vranov 150.33 346 ⇑*i*P PKPbc 22 17 41.0 +1.0
LOD Lodumlu 150.33 316 *e*P PKPbc 22 17 40.7 +0.7
TOTH TOTAH 150.38 301 ⇑P PKPbc 22 17 43.0 +2.9
SGKT Sivrigoynuk 150.41 318 *i* P PKPdf 22 17 36.2 +1.3
QASN Qassioun 150.45 302 ⇑P PKPbc 22 17 43.0 +2.8
MLR Muntele Rosu 150.45 331 ⇑*i*P PKPbc 22 17 40.1 -0.2
MLR Muntele Rosu 150.45 331 ⇑P PKPbc 22 17 40.1 -0.2
MANZ Manzenberg 150.46 352 *e*PKPbc PKPbc 22 17 42.1 +1.8
TNS Taunus Mts 150.55 357 *e*PKPbc PKPbc 22 17 42.0 +1.5
MERS Mersin 150.56 309 *e*P PKPbc 22 17 40.8 +0.3
TREC Trest 150.58 348 *e*PKPDF PKPdf 22 17 36.8 +1.6
TREC ⇑*e*PKPB PKPbc 22 17 41.5 +0.9
TREC *ep*PKP pPKPdf 22 17 53.1 +13
TREC *e*SS SS 22 40 33.9 -2.0
TREC AMS AMS 23 24 10.0
comp=Z,900nm,21.3s
ROTZ Rotzenmuhle 150.67 352 *e*PKPbc PKPbc 22 17 42.2 +1.4
DOU Dourbes 150.71 2 PKPbc PKPbc 22 17 41.2 +0.3
DOU PKPab PKPab 22 17 45.7 -2.1
DOU E 22 17 51.8
GIVF Givet 150.71 2 *e*PKIKP PKPdf 22 17 36.4 +1.0
comp=Z,131nm,1.1s
PSZ Piszkesteto 150.73 341 ⇓*e* PKPbc 22 17 41.6 +0.7
BAIF Baives 150.73 3 *e*PKIKP PKPdf 22 17 36.5 +1.1
comp=Z,107nm,1.1s
BRBR Barbar 150.74 302 ⇑P PKPbc 22 17 44.0 +3.1
DRGR 150.74 336 ⇓*i*P PKPbc 22 17 41.4 +0.4
SNX Sinaia 150.75 331 ⇑*i*P PKPbc 22 17 42.3 +1.3
BHL Bhannes 150.82 303 *e*P PKPbc 22 17 40.2 +4.6
GRA1 Grafenberg Arr 150.86 353 *e*PKPdf PKPdf 22 17 38.3 +2.7
GRA1 *e*PKPbc PKPbc 22 17 43.0 +1.7
GRA1 *e*PP PP 22 21 16.9 -1.4
GRA1 LR LR
comp=Z,1μm,19.7s,MS5.6
GRF Grafenberg Arr 150.86 353 *e*PKPdf PKPdf 22 17 38.3 +2.7
GRF *e*PKPbc PKPbc 22 17 43.0 +1.7
GRF *e*PP PP 22 21 16.9 -1.4
GRF eL 23 30 55.1
comp=Z,1μm,19.7s
SMOL Smolenice 150.87 345 *e*PKP PKPbc 22 17 42.8 +1.5
JRS Jersey 150.88 11 *e*P PKPdf 22 17 40.4 +4.7
VOIR 150.89 332 ⇑P PKPbc 22 17 43.6 +2.3
TCHB Talchebab 150.95 300 ⇑P PKPbc 22 17 43.4 +1.9
MEST Erdemli 150.96 309 *i* P PKPbc 22 17 42.0 +0.5
HENT Hendek 150.99 319 *i* P PKPdf 22 17 39.3 +3.5
MDU Mudurnu 151.00 318 *e*P PKPbc 22 17 42.4 +0.8
KHC Kasperske Hory 151.08 350 *e*PKPDF PKPdf 22 17 36.7 +0.7
KHC ⇑*e*PKPB PKPbc 22 17 42.7 +0.9
KHC *ep*PKP pPKPdf 22 17 54.3 +13
KHC *ex* x 22 31 52.7
KHC *e*SS SS 22 40 34.9 -6.6
KHC AMS AMS 23 21 20.0
comp=Z,800nm,23.2s
KHC Kasperske Hory 151.08 350 ⇑*i*PKIKP PKPdf 22 17 36.9 +0.9
WLF Walferdange 151.17 360 PKP PKPdf 22 17 41.3 +5.2
WLF APKPbc 22 17 43.8
WLF E 22 17 54.6
WET Wettzell 151.18 351 *e*PKPbc PKPbc 22 17 43.4 +1.4
ZST Bratislava 151.25 345 *e*PKP PKPbc 22 17 43.7 +1.5
GEC2 GERESS Array S 151.34 350 *e*PKPdf PKPdf 22 17 39.0 +2.7
GEC2 *e*PKPbc PKPbc 22 17 43.3 +0.9
GERES GERESS Array B 151.34 350 PKP PKPdf 22 17 37.0 +0.7
comp=Z,2.2nm,0.9s,baz=90,slow=0.3,SNR=16
GERES PKPbc PKPbc 22 17 43.1 +0.7
comp=Z,18nm,0.9s,baz=23,slow=1.7,SNR=58
SRO1 Iza 151.35 343 *e*PKP PKPbc 22 17 44.8 +2.4
BUD Budapest 151.38 342 ⇓*e* PKPbc 22 17 43.1 +0.6
IKL Isikli 151.44 309 *e*P PKPbc 22 17 42.7 +0.1
KIZT Kizilcal 151.45 315 *e*P PKPbc 22 17 43.8 +1.2
ROSF Rostrenen 151.47 13 *e*PKIKP PKPdf 22 17 37.5 +1.0
comp=Z,29nm,1.1s
FLN La Foliniere 151.57 9 *e*PKIKP PKPdf 22 17 37.9 +1.2
comp=Z,107nm,1.1s
FLN *e*R
comp=Z,1μm,22.0s
FLN La Foliniere 151.57 9 *e*PKPdf PKPdf 22 17 37.9 +1.2
FLN LR LR
comp=Z,1μm,22.0s,MS5.6
KONT Konya--Tatoy 151.60 313 *e*P PKPbc 22 17 43.4 +0.4
SGMF Saint Gilles 151.69 12 *e*PKIKP PKPdf 22 17 37.8 +0.9
comp=Z,45nm,0.9s
HRT Hereke 151.73 320 *e*P PKPbc 22 17 45.2 +1.9
ESKT Eskisehir 151.77 317 *i* P PKPbc 22 17 43.0 -0.3
LDF La Druitiere 151.78 9 *e*PKIKP PKPdf 22 17 38.2 +1.2
comp=Z,93nm,1.1s
BORA Eskisehir 151.81 318 *i* P PKPbc 22 17 43.7 +0.3
LANF Langenberg 151.82 358 PKP PKPbc 22 17 44.9 +1.4
ERMK Ermenek 151.83 310 *i* P PKPdf 22 17 36.1 -1.0
SOP Sopron 151.86 345 ⇓*e* PKPbc 22 17 44.1 +0.5
GRR Gorron 151.87 10 *e*PKIKP PKPdf 22 17 38.4 +1.2
comp=Z,51nm,0.7s
QUIF Quistinic 151.89 13 *e*PKIKP PKPdf 22 17 38.0 +0.8
ISK Istanbul-Kandi 151.94 321 *e*P PKPbc 22 17 45.9 +2.1
STU Stuttgart 151.95 356 *e*PKPbc PKPbc 22 17 45.0 +1.2
YLV Yalova 152.07 320 *e*P PKPbc 22 17 44.6 +0.5
BZS Buzias 152.14 336 ⇑*i*P PKPbc 22 17 44.9 +0.7
MOA Molln 152.20 348 ⇑*i* PKPbc 22 17 44.9 +0.5
comp=Z,20nm,1.2s
MOA Molln 152.20 348 ⇓*i*PKPdf PKPdf 22 17 38.4 +0.8
comp=Z,3.5nm,1.0s,SNR=7.5
MOA ⇑*i*PKiKP PKiKP 22 17 44.9 +0.2
comp=Z,20nm,1.2s
CSS Prodhromos 152.23 306 *e*P PKPbc 22 17 43.9 -0.5
MEZF Maizieres J'vi 152.32 2 *e*PKIKP PKPdf 22 17 39.0 +1.2
comp=Z,56nm,1.0s
FUR Furstenfeldbru 152.36 353 *e*PKPbc PKPbc 22 17 46.0 +1.3
WLS Welshbruch 152.40 358 PKP PKPbc 22 17 45.8 +1.0
CDF Champ du Feu 152.41 358 *e*PKIKP PKPdf 22 17 38.7 +0.8
comp=Z,62nm,1.1s
BFO Black Forest 152.45 357 *e*PKPdf PKPdf 22 17 40.5 +2.5
BFO *e*PKPbc PKPbc 22 17 46.1 +1.2
THEF They Montfort 152.61 0 PKP PKPbc 22 17 46.4 +1.2
EDRB Edirne 152.72 325 *e*P PKPdf 22 17 38.8 +0.4
HAU Haudompre 152.83 360 *e*PKIKP PKPdf 22 17 40.3 +1.7
comp=Z,41nm,1.1s
HAU *e*R
comp=Z,891nm,20.8s
HAU Haudompre 152.83 360 *e*PKPdf PKPdf 22 17 40.3 +1.7
HAU LR LR
comp=Z,890nm,20.8s,MS5.6
HINF Hinteralfeld 153.01 359 *e*PKIKP PKPdf 22 17 39.6 +0.8
comp=Z,19nm,0.9s
BNT Bandirma 153.06 321 *e*P PKPbc 22 17 46.7 +0.5
MRMT Marmara Adasi 153.09 322 *e*P PKPbc 22 17 46.5 +0.2
KBA Koelnbreinsper 153.11 349 ⇑*i* PKPbc 22 17 47.3 +0.9
comp=Z,28nm,1.1s
KBA Koelnbreinsper 153.11 349 ⇑*i*PKPdf PKPdf 22 17 39.2 +0.2
comp=Z,4.9nm,1.2s
KBA ⇑*i*PKiKP PKiKP 22 17 47.3 +0.8
comp=Z,28nm,1.1s
WATA Walderalm 153.13 352 ⇑*i* PKPbc 22 17 47.0 +0.5
comp=Z,13nm,1.0s
WATA Walderalm 153.13 352 ⇑*i*PKPdf PKPdf 22 17 41.1 +2.1
comp=Z,2.9nm,1.1s,SNR=9.2
WATA ⇑*i*PKiKP PKiKP 22 17 47.0 +0.4
comp=Z,13nm,1.0s
MOTA Moosalm 153.19 353 ⇑*i*P PKPdf 22 17 41.8 +2.7
comp=Z,1.3nm,1.0s,SNR=12
MOTA Moosalm 153.19 353 ⇓*i* PKPbc 22 17 46.8 +0.2
comp=Z,17nm,1.0s
MOTA Moosalm 153.19 353 ⇑*i*PKPdf PKPdf 22 17 39.8 +0.7
comp=Z,1.3nm,1.0s,SNR=12
MOTA ⇓*i*PKiKP PKiKP 22 17 46.8 +0.1
comp=Z,17nm,1.0s
MOTA Moosalm 153.19 353 ⇑*i*P PKPdf 22 17 41.8 +2.7
MOTA *i* 22 17 46.8
WTTA Wattenberg 153.20 352 ⇓*i* PKPbc 22 17 46.9 +0.3
comp=Z,26nm,1.0s
WTTA Wattenberg 153.20 352 ⇑*i*PKPdf PKPdf 22 17 40.3 +1.2
comp=Z,1.2nm,0.4s,SNR=13
WTTA ⇓*i*PKiKP PKiKP 22 17 46.9 +0.2
comp=Z,26nm,1.0s

RKY	**Sarkoy-Tekirda**	**153.27**	**323**	*e*P		PKPdf	22 17 38.8	-0.4
SQTA	**Sankt Quirin**	**153.29**	**352**	⇓*i*		PKPbc	22 17 47.4	+0.7
	comp=Z,14nm,1.0s							
SQTA	**Sankt Quirin**	**153.29**	**352**	⇑*i* PKPdf		PKPdf	22 17 41.6	+2.3
	comp=Z,0.9nm,1.0s,SNR=7.1							
SQTA				⇓*i* PKiKP		PKiKP	22 17 47.4	+0.5
	comp=Z,14nm,1.0s							
DAVA	**Damuels**	**153.37**	**354**	⇓*i*		PKPbc	22 17 47.5	+0.6
	comp=Z,25nm,1.1s							
DAVA	**Damuels**	**153.37**	**354**	⇑*i* PKPdf		PKPdf	22 17 40.5	+1.1
DAVA				⇓*i* PKiKP		PKiKP	22 17 47.5	+0.4
	comp=Z,25nm,1.1s							
LOMF	**Lomont**	**153.48**	**359**	PKP		PKPbc	22 17 48.4	+1.2
LOR	**Lormes**	**153.50**	**3**	*e*PKIKP		PKPdf	22 17 40.5	+1.0
	comp=Z,33nm,1.1s							
LOR				*e*R				
	comp=Z,1μm,17.8s							
LOR	**Lormes**	**153.50**	**3**	*e*PKPdf		PKPdf	22 17 40.5	+1.0
LOR				LR		LR		
	comp=Z,1μm,17.8s,MS5.8							
SSF	**Saint Saulge**	**153.68**	**4**	*e*PKIKP		PKPdf	22 17 40.8	+1.0
	comp=Z,34nm,0.9s							
MFF	**Saint Martin d**	**153.72**	**10**	*e*PKIKP		PKPdf	22 17 41.3	+1.4
PTCC	**Patocco-Chiusa**	**153.76**	**349**	P		PKPdf	22 17 38.5	-1.4
LJU	**Ljubljana**	**153.87**	**347**	*i* PKPdf		PKPdf	22 17 41.3	+1.2
LJU				*i* PKPbc		PKPbc	22 17 48.8	+0.8
ELL	**Elmali**	**153.89**	**313**	*e*P		PKPdf	22 17 42.2	+2.2
AVF	**Avril sur Loir**	**153.94**	**4**	*e*PKIKP		PKPdf	22 17 41.4	+1.2
	comp=Z,13nm,0.8s							
VOY	**Vojsko**	**154.01**	**348**	*e*PKPdf		PKPdf	22 17 40.9	+0.6
VOY				*e*PKPbc		PKPbc	22 17 48.8	+0.5
SMF	**Signal de Mont**	**154.12**	**4**	*e*PKIKP		PKPdf	22 17 41.6	+1.2
BOJS	**Bojanci**	**154.22**	**345**	*e*PKPdf		PKPdf	22 17 40.3	-0.3
BOJS				*e*PKPbc		PKPbc	22 17 50.2	+1.4
CABF	**La Chapelle**	**154.22**	**0**	*e*PKIKP		PKPdf	22 17 41.6	+1.0
	comp=Z,59nm,1.4s							
TCF	**Toulx Ste Croi**	**154.34**	**6**	*e*PKIKP		PKPdf	22 17 42.1	+1.4
CTI	**Castel Tesino**	**154.38**	**351**	PKIKP		PKPdf	22 17 43.2	+2.4
YER	**Yerkesik**	**154.78**	**315**	*e*P		PKPdf	22 17 37.4	-3.9
VAI	**Varese**	**154.87**	**356**	PKIKP		PKPdf	22 17 42.2	+0.7
PYM	**Petit Puy Mans**	**154.95**	**5**	PKP		PKPbc	22 17 46.5	-3.8
NVLJ	**Novalja**	**155.19**	**345**	*i* P		PKPdf	22 17 53.5	+12
RJF	**Les Rejaudoux**	**155.23**	**8**	*e*PKIKP		PKPdf	22 17 43.5	+1.5
RJF				*e*R				
	comp=Z,1μm,19.8s							
RJF	**Les Rejaudoux**	**155.23**	**8**	*e*PKPdf		PKPdf	22 17 43.5	+1.5
RJF				LR		LR		
	comp=Z,1μm,19.8s,MS5.8							
LPL	**La Plagne**	**155.31**	**359**	*e*PKIKP		PKPdf	22 17 43.5	+1.4
LPG	**La Plagne**	**155.33**	**359**	*e*PKIKP		PKPdf	22 17 43.3	+1.2
LFF	**La Frestale**	**155.48**	**9**	*e*PKIKP		PKPdf	22 17 43.7	+1.4
CAF	**Calviac**	**155.67**	**7**	*e*PKIKP		PKPdf	22 17 43.6	+1.0
ORIF	**Oris-en-Rattie**	**155.91**	**0**	*e*PKIKP		PKPdf	22 17 43.8	+0.9
ORIF				*e*R				
	comp=Z,1μm,21.8s							
PCAB	**Cabril**	**155.92**	**27**	*e*PKPab		PKPab	22 18 11.6	+1.7
VIVF	**Saint-Julien-l**	**155.95**	**3**	*e*PKIKP		PKPdf	22 17 43.5	+0.6
MBDF	**Montbardon**	**156.10**	**359**	*e*PKIKP		PKPdf	22 17 43.9	+0.8
PBRG	**Braganca**	**156.37**	**25**	*e*PKPdf		PKPdf	22 17 45.1	+1.6
PBRG	**Braganca**	**156.37**	**25**	*e*PKPab		PKPab	22 18 12.8	+1.0
PVRL	**Vila Real**	**156.41**	**27**	*e*PKPdf		PKPdf	22 17 45.9	+2.4
PVRL	**Vila Real**	**156.41**	**27**	*e*PKPab		PKPab	22 18 13.4	+1.4
ARV	**Arcevia**	**156.64**	**347**	P		PKPdf	22 17 43.9	+0.1
LASF	**Ste Croix**	**156.68**	**4**	*e*PKIKP		PKPdf	22 17 44.9	+1.0
PVIS	**Viseu**	**156.80**	**28**	*e*PKPdf		PKPdf	22 17 45.4	+1.4
PVIS	**Viseu**	**156.80**	**28**	*e*PKPab		PKPab	22 18 13.5	-0.1
SMRF	**Simiane la Rot**	**156.85**	**1**	*e*PKIKP		PKPdf	22 17 45.5	+1.4
	comp=Z,7.9nm,0.9s							
SNTG	**Esanatoglia**	**156.87**	**347**	P		PKPdf	22 17 44.5	+0.4
SJPF	**Ste Jean**	**156.88**	**14**	*e*PKIKP		PKPdf	22 17 46.2	+2.1
	comp=Z,28nm,1.2s							
SBF	**Sospel**	**156.95**	**358**	*e*PKIKP		PKPdf	22 17 44.5	+0.3
MTE	**Manteigas**	**157.21**	**28**	*e*PKPdf		PKPdf	22 17 46.1	+1.5
MTE	**Manteigas**	**157.21**	**28**	*e*PKPab		PKPab	22 18 16.0	+0.6
MTE	**Manteigas**	**157.21**	**28**	*e*PP		PP	22 21 56.3	+2.3
MTE	**Manteigas**	**157.21**	**28**	*e*SS		SS	22 41 50.7	+2.4
MTE	**Manteigas**	**157.21**	**28**	*e*LQ			23 02 56.0	
MTE				*e*LR		LR	23 11 56.6	
	comp=Z,805nm,27.8s							
ETSF	**Etsaut**	**157.23**	**13**	*e*PKIKP		PKPdf	22 17 46.8	+2.2
	comp=Z,14nm,0.9s							
NRCA	**Norcia**	**157.24**	**347**	P		PKPdf	22 17 44.1	-0.5
MTLF	**Montolieu**	**157.25**	**7**	*e*PKIKP		PKPdf	22 17 46.4	+1.8
	comp=Z,5.3nm,0.9s							
FRF	**La Foret Royal**	**157.27**	**359**	*e*PKIKP		PKPdf	22 17 45.2	+0.6
EPF	**Esparros**	**157.27**	**11**	*e*PKIKP		PKPdf	22 17 46.6	+2.0
	comp=Z,17nm,1.0s							
PTOM	**Tomar**	**157.44**	**30**	*e*PKPdf		PKPdf	22 17 45.8	+0.9
PTOM	**Tomar**	**157.44**	**30**	*e*PKPab		PKPab	22 18 17.2	+0.8
LMR	**La Mourre**	**157.50**	**359**	*e*PKIKP		PKPdf	22 17 45.4	+0.5
	comp=Z,11nm,1.0s							
PCBR	**Castelo Branco**	**157.69**	**29**	*e*PKPdf		PKPdf	22 17 46.8	+1.6
PCBR	**Castelo Branco**	**157.69**	**29**	*e*PKPab		PKPab	22 18 13.4	+0.8
EGRA	**Graus**	**158.08**	**12**	PKP		PKPdf	22 17 47.1	+1.4
PGF	**Pioggiola**	**158.15**	**354**	*e*PKIKP		PKPdf	22 17 46.1	+0.4
	comp=Z,17nm,0.9s							
MOE	**Montenor**	**158.33**	**32**	*e*PKPdf		PKPdf	22 17 48.0	+2.1
GUD	**Guadarrama**	**158.33**	**22**	PKIKP		PKPdf	22 17 47.7	+1.8
ESAC	**San Caprasio**	**158.37**	**14**	PKP		PKPdf	22 17 47.4	+1.4
MRLC	**Muro Lucano**	**158.55**	**340**	P		PKPdf	22 17 46.8	+0.6
PBEJ	**Beja**	**158.95**	**32**	*e*PKPdf		PKPdf	22 17 49.0	+2.3
ESDC	**Sonseca Array**	**159.26**	**22**	PKP		PKPdf	22 17 47.1	+0.1
	comp=Z,1.3nm,0.8s,baz=338,slow=0.6,SNR=6.7							
ESDC				PKPab		PKPab	22 18 24.9	+0.7
	comp=Z,3.5nm,0.8s,baz=330,slow=4.2,SNR=12							
ESDC	**Sonseca Array**	**159.26**	**22**	PKP		PKPdf	22 17 47.8	+0.7
ESLA	**Sonseca Array**	**159.26**	**22**	PFAKE			22 18 00.0	+13
ESLA				LR		LR		
	comp=Z,5μm,19.0s,MS6.3							
ERTA	**Horta de San J**	**159.28**	**13**	PKP		PKPdf	22 17 47.5	+0.5
EMOS	**Mosqueruela**	**159.67**	**15**	PKP		PKPdf	22 17 48.0	+0.5
ECHE	**Chera**	**160.27**	**16**	PKP		PKPdf	22 17 50.4	+2.2
EVIA	**Vianos**	**160.69**	**21**	PKP		PKPdf	22 17 50.6	+2.0
ELUQ	**Luque**	**160.98**	**26**	PKIKP		PKPdf	22 17 50.0	+1.0
ETOB	**Tobarra**	**160.99**	**19**	PKP		PKPdf	22 17 51.1	+2.1
EQES	**Quesada**	**161.24**	**23**	PKP		PKPdf	22 17 50.4	+1.2
EBEN	**Beniarda**	**161.30**	**16**	PKP		PKPdf	22 17 50.6	+1.3
EJIF	**Jimena Fronter**	**161.37**	**31**	PKP		PKPdf	22 17 52.1	+2.8
EHUE	**Huescar**	**161.40**	**22**	PKIKP		PKPdf	22 17 50.5	+1.1
ECOG	**Cogollos-Vega**	**161.51**	**25**	PKIKP		PKPdf	22 17 50.1	+0.6
ERON	**Agron**	**161.63**	**26**	PKP		PKPdf	22 17 50.9	+1.2
EGUA	**Guajares**	**161.89**	**26**	PKP		PKPdf	22 17 50.9	+1.0
DBIC	**Dimbokro**	**162.39**	**141**	PKP		PKPdf	22 17 50.5	+0.1
	comp=Z,8.8nm,0.9s,baz=241,slow=1.9,SNR=6.6							
DBIC	**Dimbokro**	**162.39**	**141**	PKP		PKPdf	22 17 50.5	+0.1
DBIC				LR		LR		
	comp=Z,678nm,20.0s							
EANR	**'Ain N'Sour**	**164.24**	**15**	P		PKPdf	22 17 55.0	+2.8
EMHD	**Djebel Mahouad**	**164.37**	**10**	P		PKPdf	22 17 49.6	-2.7
ETRT	**Tiaret**	**164.82**	**15**	P		PKPdf	22 17 54.0	+1.3
TORD	**Torodi Ar. Bea**	**171.31**	**150**	PKP		PKPdf	22 17 57.4	+0.3
	comp=Z,5.3nm,0.9s,baz=322,slow=0.9,SNR=26							
TORD				PKPab		PKPab	22 19 18.0	+0.7
	comp=Z,3.4nm,0.8s,baz=184,slow=1.2,SNR=7.7							

IDC 17 22:13:26.0±72.0, 2021S×17766E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.6/12, mbtmp3.7/3, Error ellipse: s-maj=1266.0km s-min=153.6km az=81.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**34.27**	**243**	P		P	22 20 13.2	-0.5
	0.7nm,0.5s,baz=85,slow=12,SNR=3.4							
WRA	**Warramunga Arr**	**40.60**	**263**	P		P	22 21 08.6	+1.2
	0.3nm,0.3s,baz=95,slow=7.8,SNR=12							
ASAR	**Alice Springs**	**40.61**	**257**	P		P	22 21 07.3	-0.2
	0.9nm,0.8s,baz=93,slow=7.8,SNR=7.8							

CSEM 17 22:22:01.9, 1207N×4387E, h8km, ML3.6, After DHMR
DHMR 17 22:22:01.9±1.7, 1207N×4387E, h8km±11km, ML3.6, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TRBA	**At Turbah**	**1.18**	**12**	*i* P		Pb	22 22 24.2	-0.4
TRBA				*i* S		Sg	22 22 40.7	+0.7
TRBA				AML		AML	22 22 45.3	
	comp=E,1μm,0.4s							
ADEN	**Aden**	**1.30**	**57**	*i* P		Pn	22 22 25.9	-0.5
ADEN				*i* S		Sb	22 22 43.7	+0.3
ADEN				AML		AML	22 22 48.9	
	comp=E,2μm,0.7s							
ADEN	**Aden**	**1.30**	**57**	*i* P		Pn	22 22 25.9	-0.4
ADEN				*i* S		Sb	22 22 43.7	+0.3
	comp=E,1μm,0.7s							
UDYN	**Al 'Udayn**	**1.89**	**3**	*i* P		Pn	22 22 36.5	+2.0
UDYN				*i* S		Sn	22 23 02.1	+3.6
UDYN				AML		AML	22 23 11.1	
	comp=N,578nm,0.5s							
UDYN	**Al 'Udayn**	**1.89**	**3**	*i* P		Pn	22 22 36.5	+2.0
UDYN				*i* S		Sn	22 23 02.1	+3.6
	comp=N,289nm,0.5s							
LBOS		**2.25**	**37**	*i* P		Pn	22 22 42.1	+2.8
LBOS				*i* S		Sn	22 23 12.6	+5.4
BDHA	**Al Bayda'**	**2.52**	**41**	*i* P		Pn	22 22 45.2	+2.1
BDHA				*i* S		Sn	22 23 20.5	+6.5
BDHA				AML		AML	22 23 30.8	
	comp=N,355nm,0.5s							
DHBB	**Dhamar BB**	**2.54**	**12**	*i* P		Pn	22 22 45.7	+2.3
DHBB				*i* S		Sn	22 23 21.1	+6.5
HAJJ	**Hajjah**	**3.62**	**356**	*i* P		Pn	22 23 00.7	+2.4
HAJJ				*i* S		Sn	22 23 46.4	+5.2
HAJJ				AML		AML	22 23 58.3	
	comp=N,194nm,0.5s							
HAJJ	**Hajjah**	**3.62**	**356**	*i* P		Pn	22 23 00.7	+2.5
HAJJ				*i* S		Sn	22 23 46.3	+5.2
	comp=N,97nm,0.5s							

IDC 17 22:24:07.2±2.4, 1984S×17465W, h0km, mb3.7/3, mb1 4.1/4, mb1mx3.8/15, mbtmp3.8/4, ML2.5/1, Error ellipse: s-maj=95.2km s-min=23.8km az=140.0
ISCJB 17 22:24:09.6±6.6, 198S±01×1747W±02, h29km±48km, mb3.7/4, Error ellipse: s-maj=33.1km s-min=12.5km az=74.9
NEIC 17 22:24:12.6±0.7, 1981S×17469W, h35km, mb3.6/1, Error ellipse: s-maj=23.0km s-min=12.3km az=133.0
ISC 17 22:24:11.5±7.0, 199S±01×1746W±02, h27km±51km, n10, σ0s66/11, mb3.7/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**6.52**	**25**	Pn		**Pn**	**22 25 45.9**	**+0.2**
	6.3nm,0.3s,baz=21,slow=15,SNR=4.7							
AFI				Sn		**Sn**	**22 26 59.1**	**-0.1**
	1.5nm,0.3s,baz=333,slow=22,SNR=2.5							
CTAO	**Charters Tower**	**36.71**	**263**	*e*P		**P**	**22 31 16.0**	**-0.3**
PMG	**Port Moresby**	**38.32**	**280**	P		**P**	**22 31 29.4**	**-0.5**
ASAR	**Alice Springs**	**47.75**	**256**	P		**P**	**22 32 45.5**	**-0.7**
	0.8nm,0.8s,mb3.8,baz=94,slow=8.1,SNR=7.3							
WRA	**Warramunga Arr**	**47.83**	**261**	P		**P**	**22 32 47.5**	**+0.7**
	0.4nm,0.5s,mb3.7,baz=96,slow=7.6,SNR=12							
VNDA	**Vanda**	**58.84**	**186**	*e*P		**P**	**22 34 06.6**	**-1.1**
	0.4nm,0.7s,mb3.6							
MBWA	**Marble Bar**	**61.08**	**256**	P		**P**	**22 34 23.8**	**+0.7**
CASY	**Casey**	**65.89**	**205**	P		**P**	**22 34 56.0**	**+1.1**
NVAR	**Mina Array Bea**	**78.42**	**42**	P		**P**	**22 36 09.8**	**0.0**
	0.5nm,0.6s,mb3.6,baz=216,slow=6.3,SNR=4.6							
NVAR	**Mina Array Bea**	**78.42**	**42**	P		**P**	**22 36 09.8**	**0.0**

NEIC 17 22:29:29.0, 3572S×7172W, h64km, MG4.0(GUC), After GUC.
NEIC Felt [III] at Linares, San Javier and Talca.
GUC 17 22:29:29.0±0.6, 3572S×7172W, h64km±2km, MD4.0, ML4.0, 3C-8D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LNCH	**Linares**	**0.16**	**142**	⇓*i* P		Pn	22 29 38.8	+0.1
LNCH				*i* S		Sn	22 29 46.2	+0.4
LNCH				AML		AML	22 29 47.3	
	comp=N,7μm,0.4s							
LNCH	**Linares**	**0.16**	**142**	⇓*i* P		Pn	22 29 38.8	+0.1
LNCH				*i* S		Sn	22 29 46.2	+0.4
TALC	**Talca**	**0.33**	**13**	⇓*i* P		Pn	22 29 38.8	-1.0
TALC				*i* S		Sn	22 29 47.0	-0.7
TALC				AML		AML	22 29 48.0	
	comp=N,28μm,0.1s							
TALC	**Talca**	**0.33**	**13**	⇓*i* P		Pn	22 29 38.8	-1.0
TALC				*i* S		Sn	22 29 47.0	-0.7
CTCH	**Constitucion**	**0.69**	**305**	*e*P		Pn	22 29 43.7	+0.4
CTCH				*i* S		Sn	22 29 54.3	+0.4
CTCH				AML		AML	22 29 58.2	
	comp=E,20μm,0.4s							
CTCH	**Constitucion**	**0.69**	**305**	*e*P		Pn	22 29 43.7	+0.4
CTCH				*i* S		Sn	22 29 54.3	+0.4
NICH	**Los Niches**	**0.82**	**29**	*e*P		Pn	22 29 45.4	+0.4
NICH				*i* S		Sn	22 29 57.8	+1.0
CCHI	**Chillan**	**0.92**	**198**	⇓*i* P		Pn	22 29 46.2	-0.1
CCHI				*i* S		Sn	22 30 00.0	+1.0
CCHI				AML		AML	22 30 12.7	
	comp=N,2μm,0.4s							
CCHI	**Chillan**	**0.92**	**198**	⇓*i* P		Pn	22 29 46.2	-0.1
CCHI				*i* S		Sn	22 30 00.0	+1.0
SFDO	**San Fernando**	**1.25**	**28**	⇑*i* P		Pn	22 29 50.8	+0.4
CICH	**Cipreses**	**1.76**	**38**	⇑*i* P		Pn	22 29 58.9	+1.6
CICH				*i* S		Sn	22 30 20.8	+2.1
LNV	**Longovilo**	**1.78**	**8**	*e*P		Pn	22 29 58.0	+0.5
CACH	**El Canelo**	**1.85**	**30**	⇓*i* P		Pn	22 29 59.2	+0.8
CHCH	**Chadas Angostu**	**1.99**	**27**	⇑*i* P		Pn	22 30 00.9	+0.5
TACH	**Talagante**	**2.16**	**18**	*e*P		Pn	22 30 03.1	+0.4
PCH	**Pirque**	**2.32**	**26**	*e*P		Pn	22 30 05.5	+0.6
RCDM	**Rinconada Maip**	**2.35**	**19**	*e*P		Pn	22 30 05.6	+0.3
RCDM				*i* S		Sn	22 30 34.0	+1.0
RCDM				AML		AML	22 30 42.6	
	comp=E,696nm,0.1s							
RCDM	**Rinconada Maip**	**2.35**	**19**	*e*P		Pn	22 30 05.6	+0.3
RCDM				*i* S		Sn	22 30 34.0	+1.0
CLCH	**Cerro Calan**	**2.52**	**23**	*e*P		Pn	22 30 08.4	+0.8
CLCH				*i* S		Sn	22 30 38.0	+0.9
CLCH				AML		AML	22 30 49.8	
	comp=E,770nm,0.4s							
FCH	**Farellones**	**2.67**	**27**	*e*P		Pn	22 30 10.8	+1.2
FCH				*i* S		Sn	22 30 42.5	+1.8
FCH				AML		AML	22 30 53.5	
	comp=N,802nm,0.2s							
PEL	**Peldehue**	**2.71**	**19**	*e*P		Pn	22 30 10.6	+0.4
PEL				*i* S		Sn	22 30 45.3	+3.4
PEL				AML		AML	22 30 54.7	
	comp=N,975nm,0.4s							
PEL	**Peldehue**	**2.71**	**19**	*e*P		Pn	22 30 10.6	+0.4
PEL				S		Sn	22 30 45.3	+3.4
ROCH	**El Roble**	**2.81**	**12**	*e*P		Pn	22 30 11.5	0.0
JACH	**Jahuel**	**3.17**	**17**	⇓*i* P		Pn	22 30 16.8	+0.3
PLCA	**Paso Flores**	**5.09**	**170**	*e*Pn		Pn	22 30 45.7	+3.1
LPAZ	**La Paz**	**19.62**	**10**	*e*P		Pn	22 33 51.3	-2.7
PAYG	**Puerto Ayora**	**38.91**	**330**	*e*P		P	22 36 49.1	+0.8
JTS	**JuntasAbangare**	**47.44**	**342**	P		P	22 37 57.0	-0.1

IDC 17 22:40:49.6±2.7, 4933N×15996E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/18, mbtmp3.5/3, Error ellipse: s-maj=82.8km s-min=29.8km az=145.0
KRSC 17 22:40:54.1±0.9, 4998N×15930E, h40km±10km, ML4.2
ISCJB 17 22:40:56.3±1.3, 5017N±004×15940E±008, h30km±12km, mb3.7/4, Error ellipse: s-maj=8.2km s-min=6.5km az=178.5
MOS 17 22:40:58.0±3.0, 5023N×15898E, h57km, mb4.4/1, Error ellipse: s-maj=20.6km s-min=7.1km az=86.0
NEIC 17 22:40:59.8±1.5, 5026N×15948E, h35km, mb4.0/2, Error ellipse: s-maj=29.8km s-min=15.7km az=152.0
ISC 17 22:40:58.2±1.3, 5017N±004×15930E±008, h29km±12km, n58, σ0s88/81, mb3.7/4, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PAU	**Pauzhetka**	**2.04**	**310**	*i* P		**Pn**	**22 41 28.0**	**-2.6**
PAU				*e*S		**Sn**	**22 41 53.4**	**-1.7**
PAU				Smax				
	1μm,0.4s							
SKR	**Severo-Kuril's**	**2.10**	**285**	⇑*i* PN		**Pn**	**22 41 21.6**	**-10**
SKR				pmax		pmax		
	comp=Z,250nm,0.3s							
SKR				pmax		pmax		
	comp=E,210nm,0.2s							
RUS	**Russkaya**	**2.32**	**348**	P		**Pn**	**22 41 33.2**	**-1.2**
RUS				S		**Sn**	**22 42 01.6**	**-0.4**
RUS	**Russkaya**	**2.32**	**348**	*i* P		**Pn**	**22 41 33.2**	**-1.2**
RUS				*e*S		**Sn**	**22 42 01.8**	**-0.2**
GRL	**Gorelyy**	**2.51**	**343**	*e*P		**Pn**	**22 41 36.7**	**-0.3**
GRL				*e*S		**Sn**	**22 42 06.8**	**+0.2**
MIPR	**Malaya Ipel'ka**	**2.65**	**324**	*i* P		**Pn**	**22 41 37.9**	**-1.0**
MIPR				*e*S		**Sn**	**22 42 10.3**	**+0.3**
KRMR	**Karymshinskiy**	**2.76**	**345**	*i* P		**Pn**	**22 41 40.2**	**-0.3**
KRMR				*e*S		**Sn**	**22 42 13.9**	**+1.0**
PET	**Petropavlovsk**	**2.89**	**352**	*e*Pn		**Pn**	**22 41 41.1**	**-1.1**
PET				*e*Sn		**Sn**	**22 42 17.1**	**+1.1**
PET	**Petropavlovsk**	**2.89**	**352**	P		**Pn**	**22 41 42.0**	**-0.2**
PET				*e*S		**Sn**	**22 42 16.6**	**+0.6**
SPN	**Mys Shipunski**	**2.97**	**8**	*e*P		**Pn**	**22 41 42.8**	**-0.5**
SPN				*e*S		**Sn**	**22 42 18.3**	**+0.4**
NLC	**Nalytchevo**	**3.01**	**1**	P		**Pn**	**22 41 42.6**	**-1.3**
NLC				S		**Sn**	**22 42 17.7**	**-1.2**
NLC	**Nalytchevo**	**3.01**	**1**	*e*P		**Pn**	**22 41 42.6**	**-1.3**
NLC				*e*S		**Sn**	**22 42 19.0**	**+0.1**
UGLR	**Uglovaya**	**3.06**	**355**	*e*P		**Pn**	**22 41 44.1**	**-0.5**
APC	**Apacha**	**3.07**	**335**	*e*P		**Pn**	**22 41 44.0**	**-0.7**
APC				*e*S		**Sn**	**22 42 19.8**	**-0.6**
SMAR	**Somma**	**3.12**	**354**	*e*P		**Pn**	**22 41 45.2**	**-0.1**
SMAR				*e*S		**Sn**	**22 42 21.6**	**0.0**
AVH	**Avacha**	**3.12**	**354**	*e*P		**Pn**	**22 41 45.3**	**-0.1**
AVH				*e*S		**Sn**	**22 42 21.8**	**+0.1**
SDLR	**Sedlovina**	**3.12**	**355**	*e*P		**Pn**	**22 41 44.6**	**-0.9**
SDLR				*e*S		**Sn**	**22 42 22.5**	**+0.7**
KOK	**Koryaka**	**3.15**	**353**	*e*P		**Pn**	**22 41 45.8**	**-0.1**
KOK				*e*S		**Sn**	**22 42 22.8**	**+0.2**
GNL	**Ganaly**	**3.63**	**347**	*e*P		**Pn**	**22 41 52.5**	**+0.1**
GNL				*e*S		**Sn**	**22 42 34.5**	**+0.2**
KII	**Karymskiy**	**3.88**	**1**	P		**Pn**	**22 41 56.2**	**+0.4**
KII				*e*S		**Sn**	**22 42 41.2**	**+0.9**
MKZ	**Mys Kozlova**	**4.64**	**18**	P		**Pn**	**22 42 05.5**	**-0.8**
MKZ				S		**Sn**	**22 42 57.2**	**-2.0**
MKZ	**Mys Kozlova**	**4.64**	**18**	*e*P		**Pn**	**22 42 05.5**	**-0.8**
MKZ				*e*S		**Sn**	**22 42 57.9**	**-1.3**
TUMR	**Tumrok**	**5.15**	**5**	*e*P		**Pn**	**22 42 13.8**	**+0.5**
KMNR	**Kamenistaya**	**5.63**	**5**	*e*P		**Pn**	**22 42 20.9**	**+1.0**
ESO	**Esso**	**5.78**	**357**	*e*P		**Pn**	**22 42 22.5**	**+0.5**
KPT	**Kopyto**	**5.83**	**5**	P		**Pn**	**22 42 23.5**	**+0.8**
KOZ	**Kozyrevsk**	**5.91**	**3**	P		**Pn**	**22 42 24.8**	**+1.0**
KOZ	**Kozyrevsk**	**5.91**	**3**	*e*P		**Pn**	**22 42 24.3**	**+0.5**
KOZR	**Kozyr**	**5.92**	**3**	PN		**Pn**	**22 42 24.8**	**+0.9**
ZLN	**Zelenaya**	**5.93**	**8**	*e*P		**Pn**	**22 42 24.7**	**+0.7**
LGNR	**Loginova**	**5.98**	**8**	*e*P		**Pn**	**22 42 25.5**	**+0.7**
CIRR	**Tsirk**	**6.02**	**8**	*e*P		**Pn**	**22 42 26.1**	**+0.8**
KRSK	**Krestovskiy**	**6.11**	**7**	P		**Pn**	**22 42 26.6**	**+0.1**
SRDR	**Sredinnyy**	**6.17**	**2**	P		**Pn**	**22 42 27.4**	**+0.1**
KLY	**Klyuchi**	**6.21**	**7**	P		**Pn**	**22 42 29.8**	**+1.9**
KLY	**Klyuchi**	**6.21**	**7**	*e*P		**Pn**	**22 42 29.0**	**+1.1**
KBTR	**Krutoberegovo**	**6.41**	**18**	P		**Pn**	**22 42 30.3**	**-0.3**
KBTR	**Krutoberegovo**	**6.41**	**18**	*e*P		**Pn**	**22 42 30.6**	**0.0**
KBTR				*e*S		**Sn**	**22 43 41.0**	**-1.8**
KBG	**Krutoberegovo**	**6.43**	**17**	P		**Pn**	**22 42 30.9**	**0.0**
BKI	**Bering**	**6.47**	**36**	*e*S		**Sn**	**22 43 37.1**	**-7.2**
BKI				Smax				
	comp

INK	**Inuvik**	**38.84**	**35**	*e*P		**P**	**23 41 50.7**	**+0.6**
INK				pmax		pmax			
	comp=Z,1.0nm,0.4s								
INK	**Inuvik**	**38.84**	**35**	*e*P		**P**	**23 41 50.7**	**+0.7**
	comp=Z,1.1nm,0.4s,mb3.7								
MKAR	**Makanchi Array**	**45.72**	**295**	P		**P**	**23 42 45.2**	**-0.1**
	comp=Z,1.2nm,0.7s,mb3.3,baz=46,slow=8.8,SNR=6.6								
MKAR	**Makanchi Array**	**45.72**	**295**	P		**P**	**23 42 45.2**	**-0.1**
KURK	**Kurchatov**	**45.82**	**301**	*e*P		**P**	**23 42 45.9**	**-0.2**
KURK				pmax		pmax			
	comp=Z,3.0nm,0.4s,mb4.0								
KURK	**Kurchatov**	**45.82**	**301**	*e*P		**P**	**23 42 45.9**	**-0.3**
	comp=Z,3.0nm,0.4s,mb4.0								
YKA	**Yellowknife Ar**	**48.24**	**38**	P		**P**	**23 43 04.6**	**-0.1**
	comp=Z,0.4nm,0.6s,mb2.9,baz=303,slow=7.3,SNR=3.8								
YKA	**Yellowknife Ar**	**48.24**	**38**	P		**P**	**23 43 04.6**	**-0.1**
CHKZ	**Chkalovo**	**48.57**	**308**	*e*P		**P**	**23 43 06.8**	**-0.5**
CHKZ				pmax		pmax			
	comp=Z,1.0nm,0.3s,mb3.6								
CHKZ	**Chkalovo**	**48.57**	**308**	*e*P		**P**	**23 43 06.8**	**-0.5**
	comp=Z,1.4nm,0.3s,mb3.8								
BRVK	**Borovoye**	**49.06**	**308**	*e*P		**P**	**23 43 11.5**	**+0.5**
BRVK				pmax		pmax			
	comp=Z,1.0nm,0.5s,mb3.4								
BRVK	**Borovoye**	**49.06**	**308**	*e*P		**P**	**23 43 11.5**	**+0.5**
	comp=Z,0.6nm,0.5s,mb3.2								
ZRNK	**Zerenda**	**49.77**	**308**	*e*P		**P**	**23 43 16.4**	**0.0**
LSA	**Lhasa**	**50.38**	**271**	*e*P		**P**	**23 43 21.7**	**+0.7**
ARCES	**ARCESS Array B**	**54.89**	**340**	P		**P**	**23 43 53.2**	**-0.7**
	comp=Z,0.5nm,0.5s,mb3.3,baz=30,slow=8.3,SNR=5.8								
NOA	**NORSAR Array B**	**65.25**	**341**	P		**P**	**23 45 04.2**	**+0.2**
	comp=Z,0.2nm,0.4s,mb3.1,baz=20,slow=7.6,SNR=2.7								
WRAB	**Tennant Creek**	**71.62**	**199**	*e*P		**P**	**23 45 43.1**	**-0.3**
WRAB				pmax		pmax			
	comp=Z,8.0nm,1.0s,mb4.3								
WRAB	**Tennant Creek**	**71.62**	**199**	*e*P		**P**	**23 45 43.1**	**-0.3**
	comp=Z,8.4nm,1.0s,mb4.3								
GERES	**GERESS Array B**	**75.66**	**334**	P		**P**	**23 46 07.1**	**+0.3**
	comp=Z,0.5nm,0.4s,mb3.5,baz=30,slow=5.3,SNR=6.9								

GUC **17** *23:40:31.7±0.8, 2843S×6757W, h20km±28km, ML4.7*
MOS **17** *23:40:31.6±1.3, 2839S×6743W, h33km, mb4.9/12, Error ellipse: s-maj=14.0km s-min=11.0km az=93.4*
NEIC **17** *23:40:31.7, 2843S×6757W, h20km, mb4.8/24, ML4.7(GUC), After GUC.*
NEIC Felt [III] in the Tinogasta, Catamarca area.
ISCJB **17** *23:40:31.3±0.7, 2845S±003×6739W±005, h35km±6km, mb4.5/38, MS4.0/1, Error ellipse: s-maj=7.1km s-min=5.4km az=2.8*
BJI **17** *23:40:31.7, 2840S×6760W, h20km, mB4.9, Ms5.3, Msz4.8*
IDC **17** *23:40:35.0±2.8, 2844S×6738W, h56km±23km, mb4.0/13, mb1 4.1/17, mb1mx4.1/21, mbtmp4.2/17, ML4.4/4, MS3.0/2, Ms1 3.1/2, ms1mx2.9/22, Error ellipse: s-maj=22.7km s-min=16.5km az=55.0*

ISC 17 23:40:33.7±0.6, 2844S±003×6742W±005, h41km±5km, n129, σ1§00/101, mb4.5/38, MS4.0/1, 10C-3D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CPCH	**Copiapo**	**2.81**	**292**	*e*P		**Pn**	**23 41 15.2**	**-0.8**
CPCH				*i* S		**Sn**	**23 41 49.7**	**+1.1**
CPCH				AML		AML	23 41 54.2	
	comp=E,1μm,0.2s							
CPCH	**Copiapo**	**2.81**	**292**	*e*P		**Pn**	**23 41 15.2**	**-0.8**
CPCH				S		**Sn**	**23 41 49.7**	**+1.1**
CFAA	**Coronel Fontan**	**3.23**	**192**	P		**Pn**	**23 41 22.1**	**+0.3**
	comp=E,2.9nm,0.3s,baz=4.6,slow=14,SNR=72							
CFAA				S		**Sn**	**23 42 06.2**	**+7.1**
	comp=E,22nm,0.3s,baz=114,slow=7.6,SNR=21							
CFAA				LR		LR	23 42 46.0	
	comp=E,159nm,18.0s,baz=4.2,slow=40							
CFAA	**Coronel Fontan**	**3.23**	**192**	P		**Pn**	**23 41 22.1**	**+0.3**
CFAA				S		**Sn**	**23 42 06.2**	**+7.1**
CFAA				LR		LR	23 42 46.0	
CDCH	**Caldera**	**3.31**	**294**	*e*P		**Pn**	**23 41 21.6**	**-1.3**
CDCH				*i* S		**Sn**	**23 41 59.8**	**-1.3**
CDCH				AML		AML	23 42 09.2	
	comp=N,910nm,0.4s							
CDCH	**Caldera**	**3.31**	**294**	*e*P		**Pn**	**23 41 21.6**	**-1.3**
CDCH				*i* S		**Sn**	**23 41 59.8**	**-1.3**
TLL	**Tololo Astrono**	**3.42**	**239**	*e*P		**Pn**	**23 41 24.7**	**+0.3**
TLL				*i* S		**Sn**	**23 42 05.8**	**+2.1**
TLL				AML		AML	23 42 16.5	
	comp=E,5μm,0.8s							
TLL	**Tololo Astrono**	**3.42**	**239**	*e*P		**Pn**	**23 41 24.7**	**+0.3**
TLL				S		**Sn**	**23 42 05.8**	**+2.1**
CMCH	**Combarbala**	**4.13**	**228**	*e*P		**Pn**	**23 41 33.5**	**-0.7**
CMCH				*i* S		**Sn**	**23 42 21.5**	**+0.2**
CPN1	**Cerro Paranal**	**4.64**	**324**	*e*P		**Pn**	**23 41 41.4**	**+0.2**
CHNG	**Los Chungos**	**4.92**	**225**	⇓ *i* P		**Pn**	**23 41 43.8**	**-1.3**
CHNG				*i* S		**Sn**	**23 42 39.4**	**-1.3**
JACH	**Jahuel**	**5.03**	**212**	⇑ *i* P		**Pn**	**23 41 47.1**	**+0.5**
FCH	**Farellones**	**5.46**	**206**	⇑ *i* P		**Pn**	**23 41 53.5**	**+1.1**
CLCH	**Cerro Calan**	**5.62**	**208**	*e*P		**Pn**	**23 41 54.9**	**+0.2**
CEN1	**Los Morros**	**5.62**	**333**	*e*P		**Pn**	**23 41 52.6**	**-2.0**
PCH	**Pirque**	**5.80**	**205**	⇓ *i* P		**Pn**	**23 41 58.0**	**+0.8**
LVC	**Limon Verde**	**5.96**	**347**	P		**Pn**	**23 42 02.2**	**+2.9**
	comp=E,6.3nm,0.3s,baz=188,slow=8.3,SNR=16							
LVC	**Limon Verde**	**5.96**	**347**	*e*Pn		**Pn**	**23 42 01.9**	**+2.6**
CHCH	**Chadas Angostu**	**6.13**	**206**	*e*P		**Pn**	**23 42 01.6**	**-0.1**
CICH	**Cipreses**	**6.39**	**203**	⇑ *i* P		**Pn**	**23 42 05.5**	**+0.2**
SFDO	**San Fernando**	**6.87**	**206**	*e*P		**Pn**	**23 42 11.4**	**-0.5**
CPUP	**Villa Florida**	**9.21**	**79**	P		**Pn**	**23 42 44.3**	**+0.3**
	comp=E,2.2nm,0.3s,baz=236,slow=12,SNR=15							
CPUP	**Villa Florida**	**9.21**	**79**	*e*Pn		**Pn**	**23 42 43.5**	**-0.5**
TRQA	**Tornquist**	**10.61**	**156**	*e*Pn		**Pn**	**23 42 59.7**	**-3.4**
LPAZ	**La Paz**	**12.11**	**357**	P		**Pn**	**23 43 24.3**	**+0.7**
	comp=E,0.3nm,0.3s,baz=173,slow=10,SNR=9.2							
LPAZ				LR		LR	23 47 51.6	
	comp=E,90nm,19.7s,baz=134,slow=36							
LPAZ	**La Paz**	**12.11**	**357**	*e*P		**Pn**	**23 43 25.3**	**+1.7**
LPAZ				pmax		pmax		
	comp=Z,3.0nm,0.6s							
LPAZ	**La Paz**	**12.11**	**357**	*e*P		**Pn**	**23 43 25.3**	**+1.7**
	comp=Z,3.3nm,0.6s							
SIV	**San Ignacio**	**13.71**	**27**	P		**Pn**	**23 43 46.8**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=210,slow=8.6,SNR=3.1							
SAML	**Samuel**	**19.80**	**12**	*e*P		**Pn**	**23 45 00.8**	**-1.5**
	comp=Z,3.5nm,0.7s							
SAML				*e*			23 45 13.9	
BDFB	**Brasilia**	**22.00**	**59**	P		**P**	**23 45 24.2**	**-0.1**
	comp=Z,7.5nm,0.8s,mb4.2,baz=232,slow=7.7,SNR=11							
ATAH	**Atahualpa**	**23.72**	**332**	P		**P**	**23 45 42.9**	**+1.0**
	comp=Z,5.7nm,0.8s,mb4.1,baz=198,slow=7.3,SNR=3.6							
USHA	**Ushuaia**	**26.38**	**181**	P		**P**	**23 46 11.2**	**+5.2**
	comp=Z,8.0nm,0.7s,mb4.4,baz=354,slow=10,SNR=4.8							
SDV	**Santo Domingo**	**37.24**	**355**	*e*P		**P**	**23 47 40.1**	**-1.1**
	comp=Z,10.0nm,0.6s,mb4.7							
SNAA	**Sanae**	**55.32**	**160**	P		**P**	**23 50 02.7**	**-0.5**
	comp=Z,4.0nm,0.9s,mb4.5,baz=281,slow=6.8,SNR=24							
QSPA	**South Pole Qui**	**61.78**	**180**	*e*P		**P**	**23 50 48.2**	**0.0**
	comp=Z,12nm,0.8s,mb5.1							
SWET	**Sewanee**	**65.68**	**343**	*e*P		**P**	**23 51 13.6**	**-0.3**
JCT	**Junction City**	**66.24**	**330**	*e*P		**P**	**23 51 17.5**	**+0.1**
JCT				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.6							
JCT	**Junction City**	**66.24**	**330**	*e*P		**P**	**23 51 17.5**	**+0.1**
	comp=Z,4.4nm,0.6s,mb4.7							
WVT	**Waverly**	**67.04**	**342**	*e*P		**P**	**23 51 21.9**	**-0.7**
WVT				pmax		pmax		
	comp=Z,12nm,0.8s,mb5.0							
WVT	**Waverly**	**67.04**	**342**	*e*P		**P**	**23 51 21.9**	**-0.7**
	comp=Z,12nm,0.8s,mb5.0							
WVT				*e*			23 51 26.5	
FVM	**French Village**	**69.50**	**341**	*e*P		**P**	**23 51 37.0**	**-1.0**
FVM				pmax		pmax		
	comp=Z,17nm,0.8s,mb5.0							
FVM	**French Village**	**69.50**	**341**	*e*P		**P**	**23 51 37.0**	**-1.0**
	comp=Z,17nm,0.8s,mb5.0							
SYO	**Syowa Base**	**69.57**	**158**	⇓ *e*P		**P**	**23 51 37.6**	**-0.8**
SYO	**Syowa Base**	**69.57**	**158**	⇑ *es*P		sP	23 51 47.8	-7.3
DBIC	**Dimbokro**	**69.61**	**70**	P		**P**	**23 51 37.8**	**-0.9**
	comp=Z,2.0nm,0.6s,mb4.2,baz=209,slow=7.4,SNR=8.4							
CCM	**Cathedral Cave**	**69.81**	**340**	*e*P		**P**	**23 51 39.1**	**-0.8**
CCM				*e*			23 51 44.3	
CCM				pmax		pmax		
	comp=Z,16nm,0.9s,mb5.0							
CCM	**Cathedral Cave**	**69.81**	**340**	*e*P		**P**	**23 51 39.1**	**-0.8**
	comp=Z,16nm,0.9s,mb4.9							
CCM				*e*			23 51 44.3	
MNTX	**Cornudas Mount**	**69.87**	**326**	*e*P		**P**	**23 51 39.4**	**-0.9**
	comp=Z,1.9nm,0.9s,mb4.0							
VNDA	**Vanda**	**70.28**	**190**	P		**P**	**23 51 42.0**	**-0.8**
	comp=Z,1.8nm,1.0s,mb4.0,baz=142,slow=3.3,SNR=5.2							
VNDA	**Vanda**	**70.28**	**190**	P		**P**	**23 51 42.0**	**-0.8**
ANMO	**Albuquerque**	**73.04**	**327**	⇓ *e*P		**P**	**23 52 00.6**	**+1.3**
WUAZ	**Wupatki**	**75.92**	**324**	*e*P		**P**	**23 52 16.6**	**+0.5**
	comp=Z,6.9nm,1.0s,mb4.5							
WUAZ				*e*			23 52 22.3	
ISCO	**Idaho Springs**	**76.63**	**331**	*e*P		**P**	**23 52 21.1**	**+1.0**
ISCO				*e*			23 52 26.1	
ISCO				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.5							
ISCO	**Idaho Springs**	**76.63**	**331**	*e*P		**P**	**23 52 21.1**	**+1.0**
	comp=Z,5.9nm,1.0s,mb4.5							
ISCO				*e*			23 52 26.1	
SMCO	**Snowmass**	**76.72**	**329**	*e*P		**P**	**23 52 21.9**	**+1.3**
	comp=Z,7.1nm,1.0s,mb4.5							
MAW	**Mawson**	**77.33**	**163**	*e*P		**P**	**23 52 23.6**	**-0.4**
MAW				pmax		pmax		
	comp=Z,4.0nm,0.7s							
MAW	**Mawson**	**77.33**	**163**	*e*P		**P**	**23 52 23.6**	**-0.4**
	comp=Z,4.4nm,0.7s,mb4.5							
NEN	**Nelson**	**77.85**	**322**	*e*P		**P**	**23 52 27.6**	**+0.6**
NEN				*e*			23 52 32.7	
NEN				*e*PcP		PcP	23 52 37.5	+0.8
CCUT	**Cedar City**	**78.51**	**324**	*e*P		**P**	**23 52 32.5**	**+2.0**
CCUT				*e*			23 52 37.1	
TORD	**Torodi Ar. Bea**	**78.54**	**68**	P		**P**	**23 52 30.2**	**-0.5**
	comp=Z,2.8nm,0.5s,mb4.4,baz=272,slow=4.9,SNR=53							
MSU	**Marysvale**	**78.65**	**326**	*e*P		**P**	**23 52 32.7**	**+1.4**
ARUT	**Antelope Range**	**78.73**	**324**	*e*P		**P**	**23 52 32.2**	**+0.4**
RWWY	**Rawlins**	**78.88**	**331**	*e*P		**P**	**23 52 33.4**	**+0.8**
	comp=Z,12nm,0.8s,mb4.9							
RWWY				*e*			23 52 38.3	
DAU	**Daniel Canyon**	**79.68**	**327**	P		**P**	**23 52 37.0**	**0.0**
DAU				*e*			23 52 43.7	
TCUT	**Toone Canyon**	**80.31**	**328**	*e*P		**P**	**23 52 39.5**	**-0.8**
TCUT				*e*PcP		PcP	23 52 49.3	+1.9
HWUT	**Hardware Ranch**	**80.76**	**328**	*e*P		**P**	**23 52 43.4**	**+0.6**
	comp=Z,11nm,0.9s,mb4.8							
HWUT				*e*PcP		PcP	23 52 48.4	-1.0
PDAR	**Pinedale Array**	**80.77**	**330**	P		**P**	**23 52 42.1**	**-0.7**
	comp=Z,1.9nm,0.5s,mb4.3,baz=122,slow=6.1,SNR=18							
SPUT	**South Promonto**	**80.95**	**327**	*e*P		**P**	**23 52 43.9**	**+0.1**
SPUT				*e*PcP		PcP	23 52 49.4	-0.8
LBTB	**Lobatse**	**80.96**	**113**	*e*P		**P**	**23 52 45.3**	**+1.4**
LBTB				*e*			23 52 50.6	
LBTB				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.5							
LBTB	**Lobatse**	**80.96**	**113**	*e*P		**P**	**23 52 45.2**	**+1.4**
	comp=Z,4.3nm,0.6s,mb4.6							
LBTB				*e*PcP		PcP	23 52 50.6	+0.3
NVAR	**Mina Array Bea**	**81.77**	**322**	P		**P**	**23 52 47.9**	**-0.3**
	comp=Z,0.4nm,0.4s,mb3.7,baz=147,slow=7.8,SNR=5.8							
REDW	**Red Top Meadow**	**81.82**	**330**	*e*P		**P**	**23 52 49.0**	**+0.6**
	comp=Z,10nm,1.0s,mb4.7							
REDW				*e*PcP		PcP	23 52 54.2	+0.2
TPAW	**Teton Pass**	**81.96**	**330**	*e*P		**P**	**23 52 49.6**	**+0.5**
	comp=Z,10nm,1.0s,mb4.7							
TPAW				*e*PcP		PcP	23 52 54.6	0.0
IMW	**Indian Meadow**	**82.28**	**330**	*e*P		**P**	**23 52 51.1**	**+0.3**
	comp=Z,12nm,1.0s,mb4.8							
IMW				*e*PcP		PcP	23 52 56.1	+0.1
ULM	**Lac du Bonnet**	**82.31**	**342**	P		**P**	**23 52 49.1**	**-1.9**
	comp=Z,3.0nm,0.6s,mb4.4,baz=128,slow=6.9,SNR=3.5							
FLWY	**Flagg Ranch**	**82.32**	**330**	*e*P		**P**	**23 52 51.8**	**+0.8**
	comp=Z,7.3nm,0.7s,mb4.7							
FLWY				*e*PcP		PcP	23 52 55.9	-0.3
LAO	**LASA Array**	**82.60**	**334**	*e*P		**P**	**23 52 52.0**	**-0.5**
	comp=Z,6.6nm,0.8s,mb4.7							
LAO				*e*PcP		PcP	23 52 57.4	0.0
SCHQ	**Schefferville**	**82.93**	**0**	P		**P**	**23 52 53.2**	**-1.0**
	comp=Z,4.3nm,0.9s,mb4.5,baz=120,slow=2.8,SNR=4.0							
GCMT	**Greycliff**	**83.24**	**332**	*e*P		**P**	**23 52 56.2**	**+0.4**
GCMT				*e*PcP		PcP	23 53 01.3	+1.0
HLID	**Hailey**	**83.61**	**328**	*e*P		**P**	**23 52 58.5**	**+0.8**
	comp=Z,8.5nm,0.9s,mb4.9							
MCMT	**McKenzie Canyo**	**83.86**	**329**	*e*P		**P**	**23 53 00.7**	**+1.7**
MCMT				*e*PcP		PcP	23 53 04.5	+1.5
BOZ	**Bozeman (W)**	**83.96**	**331**	*e*P		**P**	**23 52 59.5**	**0.0**
BOZ				pmax		pmax		
	comp=Z,2.0nm,0.9s,mb4.2							
BOZ	**Bozeman (W)**	**83.96**	**331**	*e*P		**P**	**23 52 59.5**	**-0.1**
	comp=Z,2.4nm,0.9s,mb4.3							
BOZ				*e*PcP		PcP	23 53 03.8	+0.3
YBH	**Yreka Blue Hor**	**86.49**	**322**	P		**P**	**23 53 11.5**	**-0.6**
	comp=Z,0.9nm,0.5s,mb4.3,baz=83,slow=4.9,SNR=3.2							
WALA	**Waterton Lakes**	**87.59**	**331**	*e*P		**P**	**23 53 17.4**	**-0.1**
	comp=Z,5.5nm,0.8s,mb4.8							
LSZ	**Lusaka**	**87.65**	**106**	*e*P		**P**	**23 53 19.8**	**+2.0**
LSZ				pmax		pmax		
	comp=Z,5.0nm,1.1s,mb4.7							
LSZ	**Lusaka**	**87.65**	**106**	*e*P		**P**	**23 53 19.8**	**+2.0**
	comp=Z,5.4nm,1.1s,mb4.7							
FFC	**Flin Flon**	**88.00**	**341**	*e*P		**P**	**23 53 18.7**	**-0.8**
FFC				pmax		pmax		
	comp=Z,5.0nm,1.1s,mb4.7							
FFC	**Flin Flon**	**88.00**	**341**	*e*P		**P**	**23 53 18.7**	**-0.8**
	comp=Z,4.8nm,1.1s,mb4.6							
NEW	**Newport**	**88.39**	**329**	P		**P**	**23 53 19.9**	**-1.4**
	comp=Z,1.3nm,0.6s,mb4.3,baz=357,slow=9.7,SNR=3.0							
YKA	**Yellowknife Ar**	**98.15**	**340**	P		**P**	**23 54 03.6**	**-2.6**
	comp=Z,0.5nm,0.7s,mb4.2,baz=141,slow=4.4,SNR=7.1							
YKA	**Yellowknife Ar**	**98.15**	**340**	P		**P**	**23 54 03.6**	**-2.6**
AKASG	**Malin Array Be**	**115.50**	**44**	PKP		PKPdf	23 59 10.1	-1.0
	comp=Z,1.4nm,0.6s,baz=260,slow=2.5,SNR=8.3							
AKASG	**Malin Array Be**	**115.50**	**44**	PKP		PKPdf	23 59 10.1	-1.0
BRTR	**Keskin Array B**	**115.59**	**57**	PKP		PKPdf	23 59 11.3	+0.1
	comp=Z,1.0nm,0.8s,baz=200,slow=2.3,SNR=7.7							
BRTR	**Keskin Array B**	**115.59**	**57**	⇑ *i* PKIKP		PKPdf	23 59 12.0	+0.7
OBN	**Obninsk**	**120.67**	**40**	*i* PKIKP		PKPdf	23 59 19.6	-1.5
OBN				pmax		pmax		
	comp=Z,16nm,1.5s							
KIV	**Kislovodsk**	**123.12**	**54**	⇑ *i* PKIKP		PKPdf	23 59 27.3	+1.5
ASAR	**Alice Springs**	**124.27**	**204**	PKP		PKPdf	23 59 27.1	-0.9
	comp=Z,4.3nm,0.4s,baz=137,slow=1.8,SNR=57							
WRA	**Warramunga Arr**	**127.50**	**206**	PKP		PKPdf	23 59 33.9	-0.3
	comp=Z,6.5nm,0.4s,baz=163,slow=1.7,SNR=78							
BILL	**Bilibino**	**129.43**	**337**	*i* PKIKP		PKPdf	23 59 30.5	-7.3
FITZ	**Fitzroy Crossi**	**132.04**	**197**	PKP		PKPdf	23 59 43.4	+0.6
	comp=Z,2.2nm,1.0s,baz=157,slow=7.7,SNR=6.6							
ARU	**Arti**	**132.95**	**38**	⇑ *i* PKIKP		PKPdf	23 59 45.6	+1.1
ARU	**Arti**	**132.95**	**38**	*e*PKPdf		PKPdf	23 59 45.4	+0.9
TIXI	**Tiksi**	**135.82**	**353**	*e*PKHKP			23 59 41.0	
TIXI				pmax		pmax		
	comp=Z,2.0nm,0.6s							
TIXI				pmax		pmax		
	comp=Z,1.0nm,0.5s							
BRVK	**Borovoye**	**140.44**	**40**	*e*PKIKP		PKPdf	00 00 01.4	+3.0
YAK	**Yakutsk**	**144.55**	**346**	*e*PKIKP		PKPdf	00 00 04.4	-1.3
YAK				*e*			00 00 09.9	
YAK				pmax		pmax		
	comp=Z,19nm,0.8s							
YAK				pmax		pmax		
	comp=N,4.0nm,1.3s							
YAK				pmax		pmax		
	comp=E,2.0nm,1.2s							
EKS2	**Erkin-Say**	**145.71**	**55**	P		PKPdf	00 00 09.6	+1.9
	SNR=22							
AML	**Almayashu**	**145.75**	**56**	P		PKPdf	00 00 09.7	+2.0
	SNR=15							
USP	**Ospenovka**	**146.09**	**54**	P		PKPdf	00 00 10.4	+2.1
	SNR=5.7							
KURK	**Kurchatov**	**146.11**	**40**	⇑ *i* PKP2		PKPab	00 00 09.4	-0.5
NVS	**Novosibirsk**	**146.15**	**31**	*i* PKP2		PKPab	00 00 08.4	-1.7
NVS				pmax		pmax		
	comp=Z,47nm,0.5s							
NVS				pmax		pmax		
	comp=N,7.0nm,0.8s							
NVS				pmax		pmax		
	comp=E,9.0nm,0.8s							
AAK	**Ala-Archa**	**146.23**	**55**	P		PKPdf	00 00 11.0	+2.5
	SNR=14							
AAK	**Ala-Archa**	**146.23**	**55**	⇑ *i* PKP2		PKPab	00 00 09.8	-0.6
FRU	**Bishkek**	**146.27**	**55**	*e*PKHKP			00 00 04.0	
UCH	**Uchtor**	**146.33**	**56**	P		PKPdf	00 00 11.7	+3.0
	SNR=19							
CHMS	**Chumysh**	**146.33**	**54**	P		PKPdf	00 00 11.7	+3.0
	SNR=6.0							
KBK	**Karagaybulak**	**146.55**	**55**	P		PKPdf	00 00 12.8	+3.7
	SNR=12							
TKM2	**Tokmak 2**	**146.96**	**54**	P		PKPdf	00 00 11.1	+1.3
	SNR=7.9							
DDI	**Dehra Dun**	**149.93**	**78**	*ex*		x	00 00 21.5	
MKAR	**Makanchi Array**	**150.08**	**44**	PKPbc		PKPbc	00 00 20.5	+0.6
	comp=E,23nm,0.7s,baz=336,slow=2.7,SNR=106							
BOD	**Bodaibo**	**150.62**	**358**	*e*PKIKP		PKPdf	00 00 13.2	-2.5
BOD				pmax		pmax		
	comp=Z,8.0nm,0.8s							
WMQ	**Urumqi**	**154.85**	**46**	PKP		PKPdf	00 00 20.8	-1.1
WMQ				APKP			00 00 29.3	
WMQ				XPKP			00 00 32.8	
WMQ				PKP2		PKPab	00 00 47.8	+2.0
WMQ				PP		PP	00 00 24.8	+3.3
WMQ				PP		PP		
	comp=Z,71nm,7.6s							
WMQ				LR		LR		
	comp=N,58nm,23.2s							
WMQ				LR		LR		
	comp=Z,25nm,20.3s,MS4.0							
MDJ	**Mudanjiang**	**158.91**	**324**	PKP		PKPdf	00 00 27.9	+0.8
SONM	**Songino Array**	**160.05**	**12**	PKP		PKPdf	00 00 28.7	+0.3
	comp=Z,1.3nm,0.9s,baz=245,slow=1.0,SNR=8.6							
SONM				PKPab		PKPab	00 01 09.3	+1.0
	comp=Z,2.5nm,0.7s,baz=322,slow=4.6,SNR=14							
HHC	**Hu-ho-hao-te**	**167.59**	**4**	*e*PKP		PKPdf	00 00 33.4	-1.9
HHC				APKP			00 00 44.3	
HHC				XPKP			00 00 49.0	
HHC				PKS			00 04 04.8	
HHC				PP		PP	00 05 31.3	+1.4
HHC				SKS		SKSdf	00 07 33.1	-2.8
HHC				SKKS		SKKSac	00 12 12.8	-1.1
HHC				PP		PP		
	comp=Z,103nm,10.4s							
HHC				LR		LR		
	comp=N,195nm,20.6s							
HHC				LR		LR		
	comp=E,174nm,22.0s							
HHC				LR		LR		
	comp=Z,142nm,22.6s							
LZH	**Lanzhou**	**169.39**	**42**	*e*PKP		PKPdf	00 00 35.6	-0.9
LZH				APKP			00 00 42.8	
LZH				XPKP			00 00 45.0	
LZH				LR		LR		
	comp=N,236nm,9.6s							
LZH				LR		LR		
	comp=Z,452nm,0.5s							
CD2	**Chengdu**	**171.94**	**70**	*e*PKP		PKPdf	00 00 34.0	-3.9
NJ2	**Nanjing**	**173.49**	**305**	*e*PKP		PKPdf	00 00 37.3	-1.2
NJ2				APKP			00 00 46.9	
NJ2				XPKP			00 00 50.1	
NJ2				PKS			00 04 09.0	
NJ2				PP		PP	00 06 01.0	+1.7
NJ2				PP		PP		
	comp=Z,260nm,8.0s							
NJ2				LR		LR		
	comp=N,2μm,30.6s							
NJ2				LR		LR		
	comp=E,1μm,24.4s							
NJ2				LR		LR		
	comp=Z,580nm,30.4s							

IDC **17** *23:40:39.0±3.4, 6.16S×149.87E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.6/13, mbtmp3.7/3, ML2.8/1, Error ellipse: s-maj=127.9km s-min=37.4km az=119.0*
ISCJB **17** *23:40:43.3±2.6, 64S±02×1500E±01, h47km±26km, mb3.8/3, Error ellipse: s-maj=30.6km s-min=13.7km az=123.3*
NEIC **17** *23:40:45.3±2.0, 6.31S×149.92E, h50km±22km, mb4.1/2, Error ellipse: s-maj=25.1km s-min=11.4km az=146.0*

ISC 17 23:40:45.5±2.3, 63S±02×1499E±01, h49km±26km, n14, σ0§56/14, mb3.8/3, New Britain region

| Code | Station Name | Δ° | AZ

PSI	**Prapat**	**32.42**	**72**	LR	LR	00 31 58.9	
	comp=Z,102nm,20.0s,MS3.5,baz=192,slow=29						
LSZ	**Lusaka**	**39.83**	**255**	P	**P**	**00 23 50.3**	**-0.5**
	5.4nm,0.8s,mb4.3,baz=76,slow=7.1,SNR=13						
MATP	**Matopo**	**40.38**	**247**	P	**P**	**00 23 54.2**	**-1.2**
	1.3nm,0.7s,mb3.8,baz=56,slow=15,SNR=3.9						
NWAO	**Narrogin (SRO)**	**51.87**	**126**	P	**P**	**00 25 26.5**	**+0.6**
MKAR	**Makanchi Array**	**55.66**	**12**	P	**P**	**00 25 53.3**	**-0.3**
	0.4nm,0.7s,mb3.6,baz=203,slow=11,SNR=2.3						
BRTR	**Keskin Array B**	**56.93**	**329**	P	**P**	**00 26 01.4**	**-1.2**
	0.6nm,0.7s,mb3.7,baz=144,slow=13,SNR=4.4						
SONM	**Songino Array**	**64.75**	**27**	P	**P**	**00 26 58.1**	**+2.2**
	2.0nm,0.9s,mb4.2,baz=214,slow=5.0,SNR=4.3						
ASAR	**Alice Springs**	**64.79**	**112**	P	**P**	**00 26 56.6**	**+0.4**
	0.2nm,0.4s,mb3.5,baz=278,slow=6.4,SNR=2.7						
WRA	**Warramunga Arr**	**65.09**	**108**	P	**P**	**00 27 00.2**	**+2.0**
	1.4nm,1.1s,mb3.9,baz=270,slow=5.0,SNR=3.7						
CASY	**Casey**	**65.34**	**163**	P	**P**	**00 27 00.5**	**+0.7**
TORD	**Torodi Ar. Bea**	**69.15**	**287**	P	**P**	**00 27 23.6**	**-0.3**
	0.6nm,1.0s,mb3.5,baz=72,slow=6.7,SNR=3.7						
STKA	**Stephens Creek**	**71.96**	**121**	*e*P	**P**	**00 27 42.0**	**+0.9**
CTAO	**Charters Tower**	**76.29**	**109**	*e*P	**P**	**00 28 06.1**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
CTAO	**Charters Tower**	**76.29**	**109**	*e*P	**P**	**00 28 06.1**	**-0.2**
	comp=Z,1.8nm,0.4s,mb4.3						
SNAA	**Sanae**	**76.83**	**198**	*e*P	**P**	**00 28 08.1**	**-1.3**
ARCES	**ARCESS Array B**	**82.38**	**346**	LR	LR	01 04 13.5	
	comp=Z,42nm,18.9s,MS3.8,baz=124,slow=35						
TIXI	**Tiksi**	**88.40**	**16**	*e*P	**P**	**00 29 10.7**	**+1.1**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.6						

IPEC ***18*** *00:39:29.5±0.3, 4788N×1327E, h0km, ML2.0/1, Error ellipse: s-maj=2.4km s-min=1.0km az=116.0*
ISCJB ***18*** *00:39:32.6±0.3, 4771N±002×1357E±003, h13km, Error ellipse: s-maj=2.5km s-min=2.2km az=39.0*
VIE ***18*** *00:39:33.1±0.3, 4768N×1358E, h13km±9km, mb2.0/6, ML2.6/9, Error ellipse: s-maj=1.1km s-min=0.8km az=171.0 5 km SW of Bad Ischl felt 4 EMS98 at Bad Ischl / UPPER AUSTRIA*
CSEM ***18*** *00:39:33.6±0.1, 4768N×1358E, h1km±2km, ML3.1/9, Error ellipse: s-maj=2.6km s-min=2.2km az=145.0*
PRU ***18*** *00:39:33.3, 4764N×1381E, h31km*
BGR ***18*** *00:39:35.5±1.1, 4771N×1357E, h10km, ML2.4, Error ellipse: s-maj=13.3km s-min=8.9km az=58.0*

ISC 18 00:39:33.6±0.3**, 4770N**±002×**1361E**±003**, h9**km±5km**, n33,** σ1**9**12/55**, 12C-4D, Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOA	**Molln**	**0.47**	**71**	*e*Pg	**Pg**	**00 39 43.0**	**+0.2**
	3.4nm,0.3s,SNR=14						
MOA				⇑*i*Sg	**Sg**	**00 39 49.9**	**+1.0**
	29nm,0.3s						
RJOB	**Jochberg**	**0.55**	**275**	⇑*i*Pg	**Pg**	**00 39 43.8**	**-0.6**
RJOB				*e*Sg	**Sg**	**00 39 51.0**	**-0.6**
KBA	**Koelnbreinsper**	**0.65**	**197**	*e*Pg	**Pg**	**00 39 45.0**	**-1.1**
	5.4nm,0.2s,SNR=11						
KBA				⇓*i*Sg	**Sg**	**00 39 54.3**	**-0.2**
	70nm,0.5s						
KBA	**Koelnbreinsper**	**0.65**	**197**	Pg	**Pg**	**00 39 45.0**	**-1.1**
	5.4nm,0.2s,SNR=11						
KBA				*e*Sg	**Sg**	**00 39 54.2**	**-0.3**
GEC2	**GERESS Array S**	**1.15**	**3**	*e*Pn	**Pn**	**00 39 55.7**	**-0.2**
GEC2				*e*Sg	**Sg**	**00 40 12.5**	**+1.8**
OBKA	**Obir**	**1.35**	**151**	⇑*e*Pg	**Pg**	**00 39 58.6**	**-0.9**
	1.8nm,0.3s,SNR=7.0						
OBKA				⇑*i*Sg	**Sg**	**00 40 17.9**	**+0.8**
	22nm,0.5s						
ARSA	**Arzberg**	**1.37**	**108**	⇑*e*Pg	**Pg**	**00 40 00.5**	**+0.5**
	5.8nm,0.3s,SNR=11						
ARSA				⇓*i*Sg	**Sg**	**00 40 19.7**	**+2.0**
	26nm,0.6s						
ARSA	**Arzberg**	**1.37**	**108**	*e*Pg	**Pg**	**00 40 00.4**	**+0.5**
ARSA				Sg	**Sg**	**00 40 19.7**	**+2.0**
	26nm,0.6s						
WTTA	**Wattenberg**	**1.41**	**253**	⇑*e*Pg	**Pg**	**00 39 59.8**	**-0.9**
	7.9nm,0.3s,SNR=12						
WTTA				⇓*i*Sg	**Sg**	**00 40 19.0**	**0.0**
	39nm,0.4s						
WATA	**Walderalm**	**1.43**	**256**	⇑*i*Pg	**Pg**	**00 40 00.3**	**-0.7**
	6.0nm,0.2s						
WATA				⇑*i*Sg	**Sg**	**00 40 20.0**	**+0.4**
	21nm,0.4s						
KHC	**Kasperske Hory**	**1.44**	**359**	*e*PN	**Pn**	**00 40 00.9**	**+1.1**
KHC				*e*SN	**Sg**	**00 40 21.2**	**+1.4**
	46nm,0.4s						
KHC	**Kasperske Hory**	**1.44**	**359**	*e*Sg	**Sg**	**00 40 21.2**	**+1.4**
	46nm,0.4s						
SCE	**Schlegeis**	**1.45**	**244**	⇑*i*Pg	**Pg**	**00 40 02.1**	**+0.6**
SCE				*i* Sg	**Sg**	**00 40 23.8**	**+3.5**
WET	**Wettzell**	**1.53**	**342**	*e*Pn	**Pn**	**00 40 02.0**	**+0.8**
WET				*e*Sg	**Sg**	**00 40 23.2**	**+0.4**
VOY	**Vojsko**	**1.68**	**173**	*e*Pn	**Pg**	**00 40 05.8**	**0.0**
VOY				*e*Sn	**Sg**	**00 40 30.1**	**+2.6**
SQTA	**Sankt Quirin**	**1.70**	**255**	⇓*i*Pg	**Pg**	**00 40 05.0**	**-1.2**
	4.4nm,0.3s						
SQTA				⇑*i*Sg	**Sg**	**00 40 28.8**	**+0.5**
	19nm,0.4s						
MOTA	**Moosalm**	**1.74**	**259**	⇑*e*Pg	**Pg**	**00 40 05.8**	**-1.1**
	6.0nm,0.2s,SNR=17						
MOTA				⇑*i*Sg	**Sg**	**00 40 29.8**	**+0.3**
	27nm,0.5s						
TREC	**Trest**	**2.03**	**37**	*e*PN	**Pb**	**00 40 10.4**	**-0.3**
TREC				*e*SN	**Sb**	**00 40 36.5**	**+0.5**
ROTZ	**Rotzenmuhle**	**2.27**	**336**	*e*Pn	**Pn**	**00 40 11.7**	**+0.3**
ROTZ				*e*Sg	**Sg**	**00 40 47.4**	**+0.7**
KRUC	**Moravsky**	**2.30**	**53**	*e*Pg	**Pb**	**00 40 12.7**	**-2.6**
KRUC				*e*Sg	**Sb**	**00 40 43.6**	**-0.3**
	6.8nm,0.6s						
PRU	**Pruhonice**	**2.37**	**15**	*e*PN	**Pb**	**00 40 16.7**	**+0.1**
PRU				*e*SN	**Sg**	**00 40 48.9**	**-1.0**
	8.3nm,0.4s						
MANZ	**Manzenberg**	**2.50**	**337**	*e*Sg	**Sg**	**00 40 54.1**	**+0.1**
GRF	**Grafenberg Arr**	**2.55**	**322**	*e*Sg	**Sg**	**00 40 55.3**	**-0.3**
VRAC	**Vranov**	**2.56**	**50**	*e*Pn	**Pn**	**00 40 14.0**	**-1.2**
NKC	**Novy Kostel**	**2.65**	**344**	*e*PN	**Pg**	**00 40 22.4**	**-2.1**
WERN	**Wernitzgruen**	**2.72**	**343**	*e*Sg	**Sg**	**00 41 01.3**	**+0.3**
BRG	**Berggiesshubel**	**3.19**	**4**	PG	**Sg**	**00 40 32.8**	**-1.9**
BRG				SG	**Sg**	**00 41 15.3**	**-0.7**
	4.5nm,0.5s						
DPC	**Dobruska-Polom**	**3.20**	**33**	*e*SG	**Sg**	**00 41 14.8**	**-1.6**
	15nm,0.5s						
UPC	**Upice**	**3.23**	**28**	*e*SG	**Sg**	**00 41 15.6**	**-1.6**
MOX	**Moxa**	**3.23**	**337**	*e*PG	**Pn**	**00 40 25.2**	**+0.7**
MOX				*e*SG	**Sg**	**00 41 19.3**	**+1.9**
MORC	**Moravsky Berou**	**3.33**	**50**	*e*Sg	**Sg**	**00 41 18.4**	**-2.2**
KSP	**Ksiaz**	**3.60**	**28**	*e*Sg	**Sg**	**00 41 31.0**	**+1.6**
CLL	**Collm**	**3.64**	**354**	*e*Sg	**Sg**	**00 41 32.0**	**+1.5**

IDC ***18*** *00:39:47.5±26.0, 1703S×17275W, h0km, mb4.4/4, mb1 4.6/4, mb1mx4.0/16, mbtmp4.4/4, Error ellipse: s-maj=483.9km s-min=151.9km az=73.0*
ISCJB ***18*** *00:39:51.7±1.8, 168S±03×1730W±04, h33km, mb4.4/5, Error ellipse: s-maj=68.0km s-min=14.3km az=90.8*
NEIC ***18*** *00:39:53.6±1.2, 1671S×17302W, h35km, mb4.3/3, Error ellipse: s-maj=47.4km s-min=10.0km az=137.0*

ISC 18 00:39:54.2±1.8**, 167S**±04×**1730W**±04**, h35**km**, n10,** σ0**34**/10**, mb4.4/5, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.00**	**24**	*e*Pn	**Pn**	**00 40 39.1**	**-0.1**
CTA	**Charters Tower**	**38.72**	**259**	P	**P**	**00 47 14.7**	**-0.1**
	4.3nm,0.7s,mb4.3,baz=136,slow=13,SNR=5.2						
CTAO	**Charters Tower**	**38.72**	**259**	*e*P	**P**	**00 47 14.3**	**-0.5**
	3.5nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**43.72**	**241**	*e*P	**P**	**00 47 55.1**	**-0.8**
	3.4nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**43.72**	**241**	P	**P**	**00 47 55.4**	**-0.5**
	4.0nm,0.5s,mb4.4,baz=104,slow=9.6,SNR=16						
WB2	**Warramunga Arr**	**49.90**	**258**	*e*P	**P**	**00 48 44.2**	**0.0**
WRA	**Warramunga Arr**	**49.91**	**258**	P	**P**	**00 48 44.4**	**+0.2**
	1.1nm,0.5s,mb4.1,baz=97,slow=6.8,SNR=19						
ASAR	**Alice Springs**	**50.07**	**253**	P	**P**	**00 48 45.9**	**+0.4**
	10nm,0.7s,mb5.0,baz=90,slow=8.3,SNR=105						
MBWA	**Marble Bar**	**63.36**	**254**	*e*P	**P**	**00 50 20.2**	**+0.4**
MVU	**Marysvale**	**79.06**	**44**	*e*P	**P**	**00 51 54.8**	**+0.1**
	1.8nm,0.5s,mb4.3						

IDC 18 00:51:50.8±3.3**, 5035N**×**17897E, h0**km**, mb3.6**/4, **mb1 3.8**/5**, mb1mx3.5**/22**, mbtmp3.7**/5**, ML3.5/1, Error ellipse: s-maj=72.0km s-min=18.4km az=15.0, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**4.42**	**307**	Pn	Pn	00 52 57.0	-2.1
	8.3nm,0.3s,baz=196,slow=7.1,SNR=29						
FX1				Sn	Sn	00 53 47.7	-3.4
	2.3nm,0.3s,baz=322,slow=19,SNR=1.9						
ILAR	**Eielson Array**	**22.93**	**38**	P	P	00 56 56.3	-0.1
	0.3nm,0.5s,baz=240,slow=8.5,SNR=7.7						
ARCES	**ARCESS Array B**	**58.85**	**349**	P	P	01 01 50.3	-0.9
	2.7nm,1.1s,baz=18,slow=9.5,SNR=3.9						
AKTO	**Aktyubinsk**	**67.69**	**324**	P	P	01 02 50.8	+0.9
	0.8nm,0.6s,baz=0.0,slow=5.1,SNR=3.6						
NOA	**NORSAR Array B**	**68.53**	**354**	P	P	01 02 53.9	-1.2
	0.7nm,0.7s,baz=8.3,slow=6.2,SNR=2.8						

NEIC ***18*** *00:53:39.0, 3816N×2664E, h12km, MD2.9(ATH), MD3.1(ISK), After ISK.*
ISK ***18*** *00:53:39.9, 3816N×2664E, h12km, MD3.0*
ISCJB ***18*** *00:53:40.4±1.4, 3814N±003×2667E±008, h8km±9km, Error ellipse: s-maj=10.9km s-min=5.5km az=12.6*
ATH ***18*** *00:53:40.9, 3809N×2655E, h20km±3km, MD2.9/3*
CSEM ***18*** *00:53:40.4±0.2, 3818N×2667E, h15km, MD2.9, Error ellipse: s-maj=4.8km s-min=2.3km az=114.0*

ISC 18 00:53:41.0±1.2**, 3814N**±004×**2667E**±008**, h11**km±7km**, n16,** σ0**73**/20**, 1C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.46**	**163**	⇑*i*PB	**Pg**	**00 53 50.0**	**0.0**
SMG				*e*SB	**Sg**	**00 53 56.3**	**+0.3**
IZM	**Izmir**	**0.54**	**61**	*i* PG	**Pg**	**00 53 51.7**	**+0.2**
IZM				*i* SG	**Sg**	**00 53 58.6**	**+0.1**
PRK	**Paraskevi**	**1.14**	**345**	*e*PN	**Pn**	**00 54 03.7**	**+0.8**
PRK				*e*SN	**Sn**	**00 54 19.4**	**+0.8**
AKS	**Akhisar**	**1.16**	**50**	PN	**Pn**	**00 54 02.1**	**-1.1**
AKS				SN	**Sn**	**00 54 19.7**	**+0.6**
BODT	**Bodrum**	**1.20**	**154**	PN	**Pn**	**00 54 03.4**	**-0.2**
MLSB	**Milas**	**1.22**	**134**	PN	**Pn**	**00 54 04.0**	**0.0**
APE	**Apeiranthos**	**1.40**	**220**	PN	**Pn**	**00 54 05.8**	**-0.6**
APE	**Apeiranthos**	**1.40**	**220**	*e*PN	**Pn**	**00 54 05.7**	**-0.8**
DAT	**Datca**	**1.59**	**152**	*e*PN	**Pn**	**00 54 08.6**	**-0.4**
YER	**Yerkesik**	**1.63**	**128**	*e*PN	**Pn**	**00 54 09.6**	**-0.1**
BALB	**Balikesir**	**1.77**	**32**	*e*PN	**Pn**	**00 54 10.6**	**-1.0**
DST	**Dursunbey**	**2.12**	**46**	*e*PN	**Pn**	**00 54 16.3**	**0.0**
ARG	**Arkhangelos**	**2.25**	**148**	*e*PN	**Pn**	**00 54 20.5**	**+2.3**
KCT	**Karacabey**	**2.49**	**31**	*e*PN	**Pn**	**00 54 20.6**	**-0.9**
KARP	**Karpathos**	**2.62**	**171**	*e*Pn	**Pn**	**00 54 20.4**	**+0.1**
KARP	**Karpathos**	**2.62**	**171**	*e*Pn	**Pn**	**00 54 23.0**	**-0.3**

ISCJB ***18*** *00:55:13.0±1.8, 283N±0.10×1245E±02, h360km±19km, mb4.0/13, Error ellipse: s-maj=28.9km s-min=9.5km az=128.6*
NEIC ***18*** *00:55:13.5±1.4, 282N×1244?E, h347km±15km, mb4.1/6, Error ellipse: s-maj=18.4km s-min=6.2km az=61.0*
IDC ***18*** *00:55:15.5±2.4, 279N×1244?5E, h368km±24km, mb3.4/8, mb1 3.5/8, mb1mx3.3/17, mbtmp4.1/8, Error ellipse: s-maj=66.3km s-min=9.1km az=68.0*

ISC 18 00:55:14.5±1.7**, 281N**±010×**1244E**±02**, h358**km±18km**, n21,** σ0**53**/22**, mb4.0**/13**, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**8.78**	**292**	*e*Pn	**Pn**	**00 57 17.7**	**-0.2**
FITZ	**Fitzroy Crossi**	**20.81**	**177**	*e*P	**P**	**00 59 29.7**	**+0.5**
	2.8nm,0.3s						
FITZ	**Fitzroy Crossi**	**20.81**	**177**	P	**P**	**00 59 29.6**	**+0.5**
	2.0nm,0.3s,baz=347,slow=9.0,SNR=25						
MBWA	**Marble Bar**	**24.25**	**191**	*e*P	**P**	**00 59 59.9**	**-0.5**
WRAB	**Tennant Creek**	**24.61**	**157**	*e*P	**P**	**01 00 03.7**	**0.0**
	40nm,0.2s,mb5.3						
WRA	**Warramunga Arr**	**24.62**	**157**	P	**P**	**01 00 03.5**	**-0.1**
	7.4nm,0.3s,mb4.4,baz=334,slow=10,SNR=79						
WRA				PcP	PcP	01 03 31.7	+1.5
	0.4nm,0.4s,baz=330,slow=2.2,SNR=6.6						
WRA				S	**S**	**01 03 57.2**	**-0.7**
	1.3nm,0.6s,baz=337,slow=16,SNR=5.2						
WB2	**Warramunga Arr**	**24.62**	**157**	*e*P	**P**	**01 00 03.6**	**-0.1**
ASAR	**Alice Springs**	**27.89**	**161**	P	**P**	**01 00 33.0**	**+0.3**
	1.1nm,0.5s,mb3.4,baz=343,slow=7.2,SNR=17						
ASAR				S	**S**	**01 04 49.8**	**+0.4**
	0.2nm,0.3s,baz=331,slow=34,SNR=3.9						
CTAO	**Charters Tower**	**31.26**	**138**	*e*P	**P**	**01 01 02.1**	**-0.1**
	14nm,0.5s,mb4.5						
NWAO	**Narrogin (SRO)**	**36.18**	**190**	P	**P**	**01 01 44.9**	**+0.7**
HNR	**Honiara**	**37.44**	**109**	*e*P	**P**	**01 01 54.6**	**0.0**
	23nm,0.4s,mb4.8						
STKA	**Stephens Creek**	**38.16**	**156**	P	**P**	**01 02 00.0**	**-0.7**
	3.4nm,0.4s,mb3.9,baz=330,slow=7.8,SNR=9.2						
SONM	**Songino Array**	**47.48**	**344**	P	**P**	**01 03 15.3**	**+0.7**
	1.2nm,0.8s,mb3.2,baz=162,slow=8.3,SNR=9.4						
MKAR	**Makanchi Array**	**57.02**	**327**	P	**P**	**01 04 24.5**	**+0.5**
	0.7nm,0.4s,mb3.4,baz=118,slow=7.6,SNR=12						
KURK	**Kurchatov**	**61.30**	**329**	*e*P	**P**	**01 04 53.5**	**+0.5**
	2.1nm,0.5s,mb3.8						
BRVK	**Borovoye**	**66.92**	**328**	*e*P	**P**	**01 05 29.2**	**-0.1**
	0.8nm,0.3s,mb3.9						
ZRNK	**Zerenda**	**67.55**	**327**	*e*P	**P**	**01 05 33.5**	**+0.3**
	1.1nm,0.3s,mb4.1						
AKTK	**Aktyubinsk**	**72.95**	**322**	P	**P**	**01 06 04.5**	**-1.1**
AKTO	**Aktyubinsk**	**72.95**	**322**	P	**P**	**01 06 04.5**	**-1.1**
	0.5nm,0.3s,mb3.8,baz=112,slow=5.4,SNR=3.4						
VNDA	**Vanda**	**82.82**	**172**	P	**P**	**01 07 00.0**	**+0.6**
	0.5nm,0.9s,mb3.4,baz=12,slow=9.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**120.99**	**287**	PKP	PKPdf	01 13 25.6	+0.8
	0.2nm,0.5s,baz=73,slow=1.6,SNR=9.7						

ISK ***18*** *01:01:24.6, 3787N×2730E, h24km, MD2.9*
ISCJB ***18*** *01:01:25.2±0.5, 3784N±002×2732E±004, h8km±5km, Error ellipse: s-maj=4.9km s-min=3.5km az=150.2*
CSEM ***18*** *01:01:25.2±0.3, 3788N×2749E, h15km, MD2.9, Error ellipse: s-maj=9.9km s-min=5.8km az=76.0*
ATH ***18*** *01:01:26.1, 3788N×2725E, h3km, MD2.9/3*

ISC 18 01:01:25.6±0.4**, 3785N**±002×**2732E**±004**, h9**km±5km**, n19,** σ0**97**/30**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.41**	**251**	*e*PG	**Pg**	**01 01 32.9**	**-0.6**
SMG				*e*SG	**Sg**	**01 01 38.8**	**-0.1**
SMG	**Samos**	**0.41**	**251**	*e*Sg	**Sg**	**01 01 38.8**	**-0.1**
AYDN	**Tasoluk**	**0.48**	**112**	*i* P	**Pg**	**01 01 35.5**	**+0.6**
AYDN				*i* S	**Sg**	**01 01 41.9**	**+0.6**
AYDN	**Tasoluk**	**0.48**	**112**	*i* P	**Pg**	**01 01 35.5**	**+0.6**
AYDN				*i* S	**Sg**	**01 01 41.9**	**+0.7**
IZM	**Izmir**	**0.55**	**355**	*i* PG	**Pg**	**01 01 35.9**	**-0.4**
IZM				*i* SG	**Sg**	**01 01 44.0**	**+0.4**
KDAG	**Bornova**	**0.56**	**356**	*i* P	**Pg**	**01 01 35.8**	**-0.6**
KDAG				*i* S	**Sg**	**01 01 43.8**	**+0.1**
KDAG	**Bornova**	**0.56**	**356**	*i* S	**Sg**	**01 01 43.8**	**+0.1**
MLSB	**Milas**	**0.66**	**146**	*i* PG	**Pg**	**01 01 38.7**	**+0.5**
URLA	**Izmir**	**0.77**	**312**	*i* P	**Pg**	**01 01 39.6**	**-0.8**
URLA				*i* S	**Sg**	**01 01 50.1**	**-0.3**
BODT	**Bodrum**	**0.78**	**181**	PG	**Pg**	**01 01 41.1**	**+0.5**
BODT				SG	**Sg**	**01 01 52.6**	**+1.8**
BDRM	**Kayabasi**	**0.79**	**173**	*i* P	**Pg**	**01 01 40.1**	**-0.6**
BDRM				*i* S	**Sg**	**01 01 50.8**	**-0.1**
YER	**Yerkesik**	**1.04**	**132**	PG	**Pg**	**01 01 44.7**	**-0.9**
AKS	**Akhisar**	**1.10**	**20**	PN	**Pn**	**01 01 45.1**	**-2.0**
DAT	**Datca**	**1.13**	**169**	*e*PN	**Pn**	**01 01 46.5**	**-1.0**
MANT	**Manisa**	**1.17**	**56**	*i* P	**Pb**	**01 01 48.6**	**+0.7**
MANT				*i* S	**Sb**	**01 02 02.0**	**-1.2**
AYVA	**Ayvalik**	**1.54**	**342**	*i* P	**Pn**	**01 01 55.0**	**+1.8**
AYVA				*i* S	**Sn**	**01 02 15.3**	**+2.0**
APE	**Apeiranthos**	**1.62**	**242**	*e*PN	**Pn**	**01 01 52.4**	**-1.9**
APE	**Apeiranthos**	**1.62**	**242**	*e*Pb	**Pb**	**01 01 56.2**	**+0.6**
PRK	**Paraskevi**	**1.62**	**330**	*e*PB	**Pb**	**01 01 55.8**	**+0.2**
PRK				*e*SB	**Sb**	**01 02 16.9**	**+0.7**

SZGRF ***18*** *01:01:39.6, 1645×9724E, h33km, mb5.1, Southwest of Sumatera, Indonesia*
IDC ***18*** *01:01:41.7±0.6, 009N×9682E, h0km, mb4.5/15, mb1 4.6/15, mb1mx4.5/17, mbtmp4.5/15, ML3.6/1, MS3.9/10, Ms1 3.9/10, ms1mx3.5/25, Error ellipse: s-maj=23.2km s-min=13.3km az=42.0*
ISCJB ***18*** *01:01:44.7±0.3, 0.13N±005×9695E±004, h30km, mb4.8/81, MS4.0/19, Error ellipse: s-maj=7.1km s-min=6.1km az=33.1*
BJI ***18*** *01:01:45.3, 0.10N×9690E, h30km, mB5.0, mb4.8, Ms4.6, Msz4.2*
MOS ***18*** *01:01:45.5±0.9, 022N×9694E, h33km, mb5.1/40, Error ellipse: s-maj=11.3km s-min=5.4km az=114.1*
HRVD ***18*** *01:01:46.3±1.1, 0.10N×9684E, h16km±1km, MW4.8/50, Centroid moment Tensor Solution. LP body waves: s10,c13;Mantle waves: s50,c70; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.30±.17; Mθθ 1.15±.10; Mϕϕ 0.14±.13; Mrθ 0.84±.34; Mϕθ -0.71±.06; Mϕr 0.15±.34; Best double couple: M0 1.65800×10^16 NP1:θs 137.00000°, δ35.00000°, λ-57.00000°. NP2: ϕs 278.00000°, δ61.00000°, λ-111.00000°. Principal axes: T 1.6780, Plg13.0000°, Azm24.0000°; N -0.0470, Plg18.0000°, Azm289.0000°; P -1.6370, Plg67.0000°, Azm148.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***18*** *01:01:46.3±0.3, 009N×9693E, h30km, mb4.9/31 Error ellipse: s-maj=8.5km s-min=6.1km az=220.0*

ISC 18 01:01:46.9±0.3**, 009N**±005×**9693E**±004**, h31**km**, h31**km±1.0km**: pP-P, n187,** σ0**97**/180**, mb4.8**/81**, MS4.0**/19**, 15C-6D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.35**	**36**	Pn	**Pn**	**01 02 34.6**	**-2.4**
	5.8nm,0.3s,baz=250,slow=3.1,SNR=22						
PSI				LR	LR	01 04 05.5	
	comp=Z,3μm,21.4s,baz=149,slow=43						
PPI	**Padang Panjang**	**3.51**	**99**	P	**Pn**	**01 02 38.2**	**-1.0**
	228nm,0.8s						
BSI	**Banda Aceh**	**5.61**	**343**	P	**Pn**	**01 03 03.1**	**-5.0**
	186nm,0.5s						
KULM	**Kulim**	**6.36**	**36**	*e*Pn	**Pn**	**01 03 16.6**	**-1.8**
CHG	**Chiang Mai**	**18.71**	**6**	P	**Pn**	**01 06 02.4**	**-0.8**
	22nm,1.1s						
CHTO	**Chiang Mai**	**18.71**	**6**	*e*P	**Pn**	**01 06 01.7**	**-1.5**
CHTO				pmax	pmax		
	comp=Z,12nm,0.8s						
CHTO	**Chiang Mai**	**18.71**	**6**	*e*P	**Pn**	**01 06 01.7**	**-1.5**
	comp=Z,12nm,0.8s						
NANT	**Nan**	**18.96**	**11**	⇑P	**Pn**	**01 06 06.0**	**-0.2**
	comp=Z,200nm,0.7s						
KKM	**Kota Kinabalu**	**20.14**	**73**	*e*P	**P**	**01 06 19.0**	**+0.7**
KKM				*e*		01 06 28.3	
QIZ	**Qiongzhong**	**22.69**	**33**	P	**P**	**01 06 46.1**	**+0.4**
QIZ				S	**S**	**01 10 51.9**	**-0.4**
QIZ				LR	LR		
	comp=Z,255nm,25.5s,MS3.5						
HYB	**Hyderabad**	**24.97**	**315**	*i* P	**P**	**01 07 09.0**	**+1.5**
HYB	**Hyderabad**	**24.97**	**315**	*e*P	**P**	**01 07 09.0**	**+1.5**
KMI	**Kunming**	**25.51**	**12**	P	**P**	**01 07 14.4**	**+2.0**
KMI				AP	pP	01 07 24.1	+2.6
KMI				XP	sP	01 07 27.6	+2.3
KMI				PP		01 07 56.8	
KMI				S	**S**	**01 11 39.8**	**+2.0**
KMI				XS	sS	01 11 54.1	+1.3
KMI				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.6						
KMI				AMB	AMB		
	comp=Z,105nm,3.6s						
KMI				LR	LR		
	comp=N,922nm,15.2s,MS4.5						
KMI				LR	LR		
	comp=E,581nm,13.8s,MS4.5						
KMI				LR	LR		
	comp=Z,771nm,13.3s,MS4.4						
SHL	**Shillong**	**25.79**	**349**	*i* P	**P**	**01 07 17.6**	**+2.6**
SHL				*e*S	**S**	**01 11 46.0**	**+3.8**
JIRN	**Jiri**	**29.29**	**340**	*e*P	**P**	**01 07 47.7**	**+1.4**
	comp=Z,49nm,0.7s,mb5.4						
PKI	**Pulchoki**	**29.48**	**339**	*e*P	**P**	**01 07 48.9**	**+0.9**
	comp=Z,29nm,0.8s,mb5.0						
PKI	**Pulchoki**	**29.48**	**339**	*e*P	**P**	**01 07 48.9**	**+0.9**
PKI				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.1						
DMN	**Daman**	**29.62**	**338**	*e*P	**P**	**01 07 49.0**	**-0.2**
	comp=Z,29nm,0.7s,mb5.1						
GUN	**Gumba**	**29.62**	**340**	*e*P	**P**	**01 07 50.4**	**+1.2**

WRAB e pP 01 09 42.2 +0.2
WRAB pmax pmax
comp=Z,32nm,0.8s,mb5.0
WRAB Tennant Creek 41.70 121 *e*P **P 01 09 33.8 +1.2**
comp=Z,32nm,0.8s,mb5.0
WRAB e pP 01 09 42.2 +0.2
ASAR Alice Springs 42.96 126 P **P 01 09 44.0 +1.1**
comp=Z,2.8nm,0.8s,mb4.0,baz=296,slow=8.0,SNR=27
BJT Baijiatuau 43.44 22 P **P 01 09 47.5 +0.7**
BJT pmax pmax
comp=Z,17nm,0.8s
BJT Baijiatuau 43.44 22 P **P 01 09 47.5 +0.7**
comp=Z,17nm,0.8s,mb4.8
BJI Beijing 43.46 22 *e*P **P 01 09 47.4 +0.4**
BJI AMB AMB
comp=Z,26nm,1.1s,mb4.9
BJI LR LR
comp=Z,112nm,30.3s,MS3.6
WMQ Urumqi 44.31 350 *e*P **P 01 09 54.8 +1.0**
KZA Kyzart 46.14 338 P **P 01 10 09.4 +1.1**
SNR=5.2
UCH Uchtor 46.55 337 P **P 01 10 12.8 +1.3**
SNR=22
TKM2 Tokmak 2 46.74 338 P **P 01 10 13.8 +0.7**
SNR=12
KBK Karagaybulak 46.75 338 P **P 01 10 14.7 +1.6**
SNR=17
AML Almayashu 46.80 336 P **P 01 10 14.5 +1.1**
SNR=14
KS15 Wonju Array Si 46.88 34 *e*P **P 01 10 14.7 +0.6**
AAK Ala-Archa 46.91 337 *e*P **P 01 10 14.2 -0.1**
AAK pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
AAK Ala-Archa 46.91 337 *e*P **P 01 10 14.2 -0.1**
comp=Z,6.4nm,0.8s,mb4.6
FRU Bishkek 47.03 338 *e*P **P 01 10 16.0 +0.7**
FRU pmax pmax
comp=Z,68nm,2.2s,mb5.2
EKS2 Erkin-Say 47.21 337 P **P 01 10 17.9 +1.2**
SNR=16
USP Ospenovka 47.45 338 P **P 01 10 19.0 +0.5**
SNR=29
MK31 Makanchi Array 48.25 347 P **P 01 10 24.4 -0.3**
MK31 pmax pmax
comp=Z,17nm,0.8s,mb5.1
MKAR Makanchi Array 48.25 347 P **P 01 10 24.9 +0.2**
comp=Z,17nm,0.7s,mb5.2,baz=148,slow=7.1,SNR=109
SONM Songino Array 48.26 9 P **P 01 10 25.6 +0.8**
comp=Z,6.1nm,0.7s,mb4.7,baz=191,slow=8.7,SNR=61
SONM PcP PcP 01 11 50.8 -0.6
comp=Z,1.7nm,0.7s,baz=185,slow=4.1,SNR=2.8
SONM LR LR 01 33 19.3
comp=Z,197nm,18.4s,MS4.1,baz=67,slow=39
SONM Songino Array 48.26 9 P **P 01 10 25.6 +0.8**
SONM 01 11 50.8
ULN Ulaanbaatar 48.39 9 *e*P **P 01 10 19.8 -6.0**
ULN pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
ULN Ulaanbaatar 48.39 9 *e*P **P 01 10 19.8 -6.0**
comp=Z,7.8nm,1.0s,mb4.7
KKAR Karatay Array 48.93 334 *i*P **P 01 10 29.0 -1.0**
KKAR pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
ZAK Zakamensk 50.39 5 *e*P **P 01 10 40.2 -0.9**
ZAK pmax pmax
comp=Z,15nm,1.8s,mb4.7
PMG Port Moresby 50.88 102 P **P 01 10 45.3 +0.6**
comp=Z,12nm,0.7s,mb5.0,baz=299,slow=13,SNR=3.7
MOY Mondy 51.50 3 *e*P **P 01 10 49.5 0.0**
TLY Talaya 51.72 5 *e*P **P 01 10 51.2 +0.2**
TLY *e*S **S 01 18 06.9 -3.6**
TLY pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
TLY MLR MLR
comp=Z,329nm,20.0s,MS4.4
TLY MLR MLR
comp=Z,163nm,17.0s
TLY Talaya 51.72 5 *e*P **P 01 10 51.7 +0.7**
comp=Z,9.8nm,0.9s,mb4.7
MJAR Matsushiro Arr 52.69 42 P **P 01 10 57.4 -0.9**
comp=Z,0.5nm,0.3s,mb3.9,baz=223,slow=6.0,SNR=4.9
MJAR LR LR 01 32 43.7
comp=Z,152nm,21.3s,MS4.0,baz=235,slow=35
KURK Kurchatov 52.79 345 *e*P **P 01 10 58.7 -0.3**
KURK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
KURK Kurchatov 52.79 345 *e*P **P 01 10 58.7 -0.3**
comp=Z,9.8nm,0.9s,mb4.7
STKA Stephens Creek 52.82 131 P **P 01 10 58.8 -0.5**
comp=Z,6.9nm,0.7s,mb4.7,baz=302,slow=7.5,SNR=11
STKA Stephens Creek 52.82 131 *e*P **P 01 10 58.6 -0.7**
STKA *e* pP 01 11 07.6 -1.2
MDJ Mudanjiang 52.96 29 P **P 01 11 00.3 0.0**
MDJ AP pP 01 11 09.3 -0.5
MDJ XP sP 01 11 13.1 -0.5
MDJ PP PP 01 13 00.1 +0.1
MDJ SCP ScP 01 16 03.4 -0.6
MDJ PCS PcS 01 16 07.1 -0.5
MDJ S **S 01 18 30.4 +2.8**
MDJ XS sS 01 18 44.4 +1.1
MDJ SCS ScS 01 20 47.5 -0.1
MDJ SS SS 01 22 09.8 +3.0
MDJ AMB AMB
comp=Z,3.0nm,0.9s,mb4.2
MDJ AMB AMB
comp=Z,84nm,4.7s
MDJ LR LR
comp=N,116nm,16.8s,MS4.0
MDJ LR LR
comp=E,38nm,16.8s,MS4.0
MDJ LR LR
comp=Z,142nm,15.2s,MS4.1
CIT Chita 53.60 13 *e*P **P 01 11 05.4 +0.4**
CIT *e* pP 01 11 15.4 +0.8
CIT pmax pmax
comp=Z,69nm,2.9s,mb5.1
RDF Al-Radifah 55.15 306 *e*P **P 01 11 16.6 +0.4**
RDF AMb AMB 01 11 17.9
comp=Z,50nm,0.7s,mb5.7
UMR Umm Al-Rimmam 55.25 307 *e*P **P 01 11 16.9 -0.1**
UMR AMb AMB 01 11 18.7
comp=Z,40nm,0.7s,mb5.5
NAY Al-Naaiem 55.52 306 *e*P **P 01 11 18.4 -0.5**
NAY AMb AMB 01 11 20.3
comp=Z,20nm,0.7s,mb5.3
MIB Mutribah 55.65 307 *e*P **P 01 11 19.7 -0.2**
MIB AMb AMB 01 11 21.7
comp=Z,65nm,0.7s,mb5.8
NVS Novosibirsk 55.72 350 *i*P **P 01 11 18.5 -1.8**
NVS pmax pmax
comp=N,25nm,1.6s
NVS pmax pmax
comp=Z,33nm,1.6s,mb5.1
NVS pmax pmax
comp=E,12nm,1.3s
VOSK Vostochnaya 56.76 341 P **P 01 11 26.5 -1.3**
VOSK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
BVA0 Borovoye Array 57.20 341 *i*P **P 01 11 30.0 -0.9**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
KLR Kul'dur 57.36 26 *e*P **P 01 11 29.3 -2.7**
KLR *e* 01 12 22.7
KLR pmax pmax
comp=Z,42nm,1.8s,mb5.2
ZRNK Zerenda 57.60 340 *e*P **P 01 11 32.3 -1.4**
ZRNK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ZRNK Zerenda 57.60 340 *e*P **P 01 11 32.3 -1.3**
comp=Z,5.2nm,0.8s,mb4.6
CHKZ Chkalovo 57.69 342 *e*P **P 01 11 33.8 -0.5**
CHKZ pmax pmax
comp=Z,23nm,1.2s,mb5.1
CHKZ Chkalovo 57.69 342 *e*P **P 01 11 33.8 -0.5**
comp=Z,23nm,1.2s,mb5.1
HABR Khabarovsk 58.35 29 *e*P **P 01 11 38.3 -0.7**
HABR eS **S 01 19 37.6 -1.9**
AB31 Akbulak array 58.36 332 *i*P **P 01 11 37.6 -1.4**
AB31 pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
BOD Bodaibo 59.14 11 *e*P **P 01 11 43.1 -1.4**
BOD pmax pmax
comp=Z,14nm,0.9s,mb5.0
KMBO Kilima Mbogo 59.69 269 P **P 01 11 47.9 -0.4**
comp=Z,2.1nm,0.7s,mb4.3,baz=48,slow=10,SNR=6.3
KMBO LR LR 01 31 49.3
comp=Z,81nm,18.4s,MS3.9,baz=280,slow=30
ASAJ Asahikawa 59.71 37 LR LR 01 38 12.0
comp=Z,99nm,19.4s,MS4.0,baz=63,slow=37
GNI Garni 61.91 317 *e*P **P 01 12 03.4 +0.1**
GNI pmax pmax
comp=Z,9.0nm,0.9s
GNI Garni 61.91 317 *e*P **P 01 12 03.4 +0.1**
comp=Z,8.6nm,0.9s,mb4.9
ZEI Tsey 63.65 319 *e*P **P 01 12 15.5 +0.6**
ZEI pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
ARU Arti 64.09 337 ⇓*i*P **P 01 12 14.8 -3.1**
ARU *e* 01 14 35.2
ARU *e*S **S 01 20 46.0 -6.5**
ARU *e*SS SS 01 24 53.9 -7.8
ARU pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
ARU Arti 64.09 337 *e*P **P 01 12 16.6 -1.3**
comp=Z,22nm,1.4s,mb5.0
KIV Kislovodsk 64.97 320 *e*P **P 01 12 22.4 -1.2**
KIV pmax pmax
comp=Z,12nm,0.8s,mb5.0
MALT Malatya 65.67 313 *e*P **P 01 12 28.5 +0.4**
MALT pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
MALT Malatya 65.67 313 *e*P **P 01 12 28.5 +0.4**
comp=Z,9.4nm,1.1s,mb4.7
YAK Yakutsk 66.55 16 *e*P **P 01 12 33.3 -0.5**
YAK *e* pP 01 12 42.4 -1.2
YAK pmax pmax
comp=Z,18nm,1.0s,mb5.1
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax
comp=E,8.0nm,1.4s
SOC Sochi 66.76 318 *e*P **P 01 12 35.7 +0.6**
SOC *e* 01 13 05.8
SOC *e*S S 01 21 20.2 -4.9
SOC *e*SS SS 01 25 37.7 -5.4
SOC pmax pmax
comp=Z,29nm,0.9s,mb5.3
BR131 Keskin Array S 69.66 313 *e*P **P 01 12 52.0 -1.3**
comp=Z,2.9nm,0.6s,mb4.4
BRTR Keskin Array B 69.66 313 P **P 01 12 52.2 -1.1**
comp=Z,3.8nm,0.7s,mb4.4,baz=133,slow=7.2,SNR=33
VRSR Storozhevoye 70.31 326 *e*P **P 01 12 56.0 -1.3**
VRSR pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
VRSR pmax pmax
comp=N,1.0nm,0.6s
VRSR pmax pmax
comp=E,3.0nm,1.0s
VOR Voronezh 70.53 326 P **P 01 12 56.0 -2.6**
VOR pmax pmax
comp=Z,40nm,1.5s,mb5.1
SIM Simferopol' 71.00 318 *ce*P **P 01 13 01.3 -0.2**
SIM pmax pmax
comp=Z,23nm,0.7s,mb5.2
MAW Mawson 71.58 193 LR LR 01 37 47.0
comp=Z,105nm,20.4s,MS4.1,baz=68,slow=30
MOS Moscow 73.14 329 *e*P **P 01 13 11.7 -2.6**
OBN Obninsk 73.42 329 ⇑*i*P **P 01 13 15.1 -0.8**
OBN pmax pmax
comp=Z,47nm,1.5s,mb5.2
TIXI Tiksi 74.32 10 *e*P **P 01 13 14.6 -6.6**
TIXI *e* 01 13 28.5
TIXI pmax pmax
comp=Z,14nm,0.9s,mb4.9
TIXI MLR MLR
comp=Z,149nm,15.0s,MS4.4
KLMR Klimovskoe 74.63 335 *e*P **P 01 13 21.9 -1.1**
KLMR pmax pmax
comp=Z,20nm,1.6s,mb4.8
TIRR Tirgusor 74.73 316 ⇑*i*P **P 01 13 23.1 -0.5**
TIRR Tirgusor 74.73 316 ⇓*i*P **P 01 13 23.4 -0.2**
TIRR Tirgusor 74.73 316 ⇑*i*P **P 01 13 23.1 -0.5**
AKASG Malin Array Be 75.97 323 P **P 01 13 29.2 -1.4**
comp=Z,7.6nm,0.7s,mb4.8,baz=91,slow=4.9,SNR=32
VRI Vrincioaia 76.24 317 ⇓*i*P **P 01 13 33.0 +0.7**
VRI Vrincioaia 76.24 317 ⇑*i*P **P 01 13 32.8 +0.6**
PLOR Plostina 76.29 317 ⇑*i*P **P 01 13 33.4 +0.9**
MLR Muntele Rosu 76.69 317 ⇓*i*P **P 01 13 35.4 +0.6**
MLR Muntele Rosu 76.69 317 ⇑*i*P **P 01 13 34.8 0.0**
BURAR Bucovina Array 77.67 319 ⇓*i*P **P 01 13 40.5 +0.2**
BURAR Bucovina Array 77.67 319 ⇑*i*P **P 01 13 41.4 +1.1**
SYO Syowa Base 78.87 198 ‖*e*P **P 01 13 46.6 -0.3**
SYO Syowa Base 78.87 198 ‖*e*PcP PcP 01 13 55.0 -0.6
LVV L'vov 78.95 321 *e*P **P 01 13 46.8 -0.6**
JOF Joensuu 79.03 335 *ep* **P 01 13 45.9 -1.9**
comp=Z,5.1nm,0.8s,mb4.5
JOF **Joensuu 79.03 335** *e*P **P 01 13 45.9 -1.9**
comp=Z,5.0nm,0.8s,mb4.5
DRGR 79.16 318 ⇑*i*P **P 01 13 48.9 +0.4**
DRGR 79.16 318 ⇑P **P 01 13 48.9 +0.3**
BZS Buzias 79.69 316 ⇑*i*P **P 01 13 51.3 -0.1**
BZS Buzias 79.69 316 ⇑P **P 01 13 51.3 -0.1**
KWP Kalwaria 79.75 321 *e*P **P 01 13 51.6 -0.1**
KOLS Kolonicke sedl 79.88 320 *e*P **P 01 13 53.6 +1.2**
comp=Z,18nm,1.9s,mb4.7
SUW Suwalki 80.42 325 *e*P **P 01 13 54.7 -0.6**
STHS Stebnicka Huta 80.64 320 *i*P **P 01 13 56.9 +0.4**
comp=Z,5.3nm,0.8s,mb4.5
KAF Kangasniemi 80.94 333 *ep* **P 01 13 57.3 -0.9**
comp=Z,9.1nm,0.7s,mb4.8,baz=103,slow=4.9
KAF Kangasniemi 80.94 333 *e*P **P 01 13 57.3 -0.9**
KAF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
KECS Kecovo 80.96 319 *i*P **P 01 13 58.1 -0.1**
comp=Z,7.5nm,1.7s,mb4.3
FX1 Attu Island--F 81.64 37 LR LR 01 56 15.7
comp=Z,2.7nm,18.7s,MS2.6,baz=223,slow=40
OJC Ojcow 81.70 321 *e*P **P 01 14 02.2 0.0**
BILL Bilibino 82.29 21 *e*P **P 01 14 08.7 +3.4**
BILL pmax pmax
comp=Z,2.0nm,1.8s,mb3.8
BILL MLR MLR
comp=Z,100nm,16.0s,MS4.3
BILL MLR MLR
comp=Z,100nm,17.0s
OKC Ostrava-Krasne 82.69 320 *e*P **P 01 14 07.2 -0.2**
KEV Kevo 83.05 341 *ep* **P 01 14 07.4 -1.8**
comp=Z,6.3nm,1.0s,mb4.6
KEV Kevo 83.05 341 *e*P **P 01 14 07.4 -1.8**
KEV pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
MORC Moravsky Berou 83.07 320 *e*P **P 01 14 09.3 0.0**
MORC *e* pP 01 14 19.1 -0.2
MORC pmax pmax
comp=Z,24nm,1.8s,mb4.9
MORC Moravsky Berou 83.07 320 *e*P **P 01 14 09.3 0.0**
comp=Z,24nm,1.8s,mb4.9
MORC *e* pP 01 14 19.1 -0.3
ZST Bratislava 83.15 318 *e*P **P 01 14 09.9 +0.2**
comp=Z,6.7nm,0.7s,mb4.8
ARCES ARCESS Array B 83.48 340 P **P 01 14 10.8 -0.6**
comp=Z,3.9nm,0.5s,mb4.7,baz=103,slow=4.7,SNR=44
ARCES LR LR 01 53 13.0
comp=Z,69nm,22.0s,MS4.0,baz=273,slow=37
ARCES ARCESS Array B 83.48 340 P **P 01 14 10.8 -0.6**
ARCES LR LR 01 53 13.0
DPC Dobruska-Polom 83.93 321 *e*P **P 01 14 14.1 +0.4**
DPC *ep*P pP 01 14 23.3 -0.4
BOJS Bojanci 84.09 316 *i*P **P 01 14 14.7 +0.1**
UPC Upice 84.14 321 *e*P **P 01 14 15.3 +0.5**
UPC *ep*P pP 01 14 23.6 -1.2
PERS Pernice 84.30 317 *i*P **P 01 14 16.2 +0.6**
PERS *i* pP 01 14 25.1 -0.6
TREC Trest 84.34 319 *e*P **P 01 14 15.0 -0.8**
TREC *ep*P pP 01 14 23.9 -1.9
VISS Visnje 84.41 316 *i*P **P 01 14 16.2 +0.1**
VNDA Vanda 84.80 169 P **P 01 14 18.3 +0.2**
comp=Z,0.5nm,0.7s,mb3.8,baz=326,slow=4.7,SNR=3.4
VNDA LR LR 01 44 30.0
comp=Z,108nm,21.6s,MS4.2,baz=312,slow=30
PRU Pruhonice 85.03 320 *e*P **P 01 14 19.3 0.0**
GEC2 GERESS Array S 85.47 319 *e*P **P 01 14 21.8 +0.3**
GERES GERESS Array B 85.47 319 P **P 01 14 21.6 +0.1**
comp=Z,1.6nm,0.7s,mb4.3,baz=101,slow=4.8,SNR=25
BRG Berggiesshubel 85.49 321 *e*P **P 01 14 22.1 +0.5**
BRG Berggiesshubel 85.49 321 ⇑*i*P **P 01 14 21.8 +0.2**
comp=Z,8.7nm,1.5s,mb4.7
BRG *e* pP 01 14 31.0 -0.7
comp=Z,16nm,2.0s
BRG *i* 01 14 45.8
comp=Z,30nm,2.5s
KHC Kasperske Hory 85.57 319 *e*P **P 01 14 21.2 -0.8**
WET Wettzell 86.03 319 *e*P **P 01 14 24.6 +0.3**
CLL Collm 86.12 321 *i*P **P 01 14 23.6 -1.1**
comp=Z,13nm,1.7s,mb4.9
CLL Collm 86.12 321 *i*P **P 01 14 23.6 -1.1**
CLL pmax pmax
comp=Z,13nm,1.7s,mb4.9
TANN Tannenbergstha 86.39 320 *e*P **P 01 14 26.3 +0.2**
ROTZ Rotzenmuhle 86.51 320 *e*P **P 01 14 27.0 +0.4**
MOX Moxa 86.95 321 *e*P **P 01 14 28.9 +0.1**
GRA1 Grafenberg Arr 87.15 320 *e*P **P 01 14 29.9 +0.2**
comp=Z,14nm,1.4s,mb5.0
GRF Grafenberg Arr 87.15 320 *e*P **P 01 14 29.9 +0.2**
comp=Z,14nm,1.4s,mb5.0
GRF **Grafenberg Arr 87.15 320** *e*P **P 01 14 29.9 +0.2**
GRF pmax pmax
comp=Z,14nm,1.4s,mb5.0
GRF Grafenberg Arr 87.15 320 *e*P **P 01 14 29.9 +0.2**
GRF pmax pmax
comp=Z,14nm,1.4s,mb5.0
CLZ Clausthal 87.79 322 *e*P **P 01 14 32.8 -0.1**
comp=Z,17nm,1.5s,mb5.0
CLZ Clausthal 87.79 322 *e*P **P 01 14 32.8 -0.1**
CLZ pmax pmax
comp=Z,17nm,1.5s,mb5.0
NB2 NORSAR Subarra 87.84 331 P **P 01 14 32.4 -0.7**
comp=Z,7.9nm,0.9s,mb4.9,baz=97,slow=4.6
NOA NORSAR Array B 87.84 331 P **P 01 14 32.2 -0.9**
comp=Z,4.3nm,0.8s,mb4.7,baz=95,slow=4.8,SNR=15
NOA LR LR 02 01 14.6
comp=Z,20nm,19.0s,MS3.6,baz=110,slow=41
NOA NORSAR Array B 87.84 331 P **P 01 14 32.2 -0.9**
NOA LR LR 02 01 14.6
BSEG Bad Segeberg 87.92 324 *e*P **P 01 14 33.5 0.0**
SNAA Sanae 93.16 198 LR LR 01 50 33.5
comp=Z,28nm,18.6s,MS3.8,baz=47,slow=32
TORD Torodi Ar. Bea 95.08 283 P **P 01 15 07.7 +1.0**
comp=Z,0.6nm,0.8s,mb4.1,baz=94,slow=5.1,SNR=13
FFC Flin Flon 123.20 13 *e*PKIKP PKPdf 01 20 40.2 -0.2
ULM Lac du Bonnet 128.67 10 PKP PKPdf 01 20 52.3 +1.5
comp=Z,1.3nm,0.4s,baz=8.1,slow=7.1,SNR=3.2
NVAR Mina Array Bea 129.83 36 PKP PKPdf 01 20 55.2 +2.2
comp=Z,0.6nm,0.6s,baz=205,slow=1.6,SNR=4.1
CPUP Villa Florida 144.01 222 PKP PKPdf 01 21 17.9 -1.3
comp=Z,2.4nm,0.5s,baz=108,slow=3.5,SNR=22
CPUP Villa Florida 144.01 222 *e*PKPdf PKPdf 01 21 17.5 -1.7
MIAR Mount Ida 144.17 15 *e*PKIKP PKPdf 01 21 17.6 -1.8
CPCT Cooper Cave 144.62 2 *e*PKPdf PKPdf 01 21 19.2 -1.0
PLAL Pickwick Lake 144.80 7 *e*PKPdf PKPdf 01 21 18.4 -2.1
PLAL *e* 01 21 28.4
JCT Junction City 145.69 26 *e*PKPdf PKPdf 01 21 22.6 +0.5
JCT *e* 01 21 32.5
JSC Jenkinsville 145.77 357 *e*PKP2 PKPab 01 21 21.7 -1.4
HKT Hockley 147.75 21 *e*PKIKP PKPdf 01 21 26.6 +1.1

IDC 18 01:16:57.9±5.8, 2976S×7538E, h0km, mb3.5/2, mb1 3.6/2, mb1mx3.4/14, mbtmp3.5/2, Error ellipse: s-maj=212.8km s-min=56.5km az=39.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**52.17**	**98**	P	P	01 26 10.5	+0.3
	0.2nm,0.6s,baz=248,slow=6.6,SNR=4.1						
SONM	**Songino Array**	**82.12**	**21**	P	P	01 29 20.3	-0.1
	0.4nm,0.6s,baz=195,slow=6.2,SNR=3.9						
YKA	**Yellowknife Ar**	**146.62**	**8**	PKPbc	PKPbc	01 36 39.8	-1.5
	0.2nm,0.6s,baz=322,slow=3.3,SNR=5.1						

*STR **18** 01:24:24.9±0.1, 4303N×020W, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **18** 01:24:25.0±0.0, 4303N×020W, h9km, Md1.9/3, Ml1.5/2, Error ellipse: s-maj=1.5km s-min=0.7km az=177.0*

MDD 18 01:24:25.5±0.5, 4303N×020W, h7km±9km, mbLg0.7/2, Error ellipse: s-maj=3.8km s-min=1.5km az=10.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
REYF	**Montagne du Re**	**0.15**	**286**	Pg	Pg	01 24 28.3	-0.2
REYF				Sg	Sg	01 24 30.9	+0.3
REYF	**Montagne du Re**	**0.15**	**286**	Pg	Pg	01 24 28.3	-0.2
REYF				Lg		01 24 30.8	
LABF	**Labassere**	**0.20**	**84**	Pg	Pg	01 24 29.3	-0.2
LABF				Sg	Sg	01 24 32.5	+0.3
LABF	**Labassere**	**0.20**	**84**	Pg	Pg	01 24 29.4	-0.2
LABF				Lg		01 24 32.1	
VIEF	**Viey**	**0.22**	**131**	Pg	Pg	01 24 29.9	+0.1
VIEF				Sg	Sg	01 24 33.0	+0.2
VIEF	**Viey**	**0.22**	**131**	Pg	Pg	01 24 29.9	+0.1
VIEF				Lg		01 24 32.9	
ETSF	**Etsaut**	**0.29**	**244**	*e*Pg	Pg	01 24 30.9	-0.3
ETSF				*e*Sg	Sg	01 24 34.7	-0.4
	12nm,0.3s						
ETSF	**Etsaut**	**0.29**	**244**	Pg	Pg	01 24 30.9	-0.3
ETSF				Lg		01 24 34.7	
	5.8nm,0.3s						
ATE	**Arette**	**0.37**	**279**	Pg	Pg	01 24 31.6	-1.1
ATE				Sg	Sg	01 24 37.6	0.0
ATE	**Arette**	**0.37**	**279**	Pg	Pg	01 24 32.4	-0.2
ATE				Lg		01 24 37.6	
EPF	**Esparros**	**0.40**	**89**	*e*Pg	Pg	01 24 32.7	-0.5
EPF				*e*Sg	Sg	01 24 38.2	-0.2
	4.7nm,0.3s						
EPF	**Esparros**	**0.40**	**89**	Pg	Pg	01 24 32.7	-0.5
EPF				Lg		01 24 38.2	
	2.3nm,0.3s						
EBIE	**Bielsa**	**0.42**	**143**	Pg	Pg	01 24 33.7	0.0
	0.5nm,0.1s,SNR=7.9						
EBIE				Lg		01 24 39.1	
	0.7nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**0.76**	**277**	*e*Pg	Pg	01 24 39.4	-0.6
SJPF				*e*Sg	Sg	01 24 49.3	-0.5
	0.7nm,0.2s						
SJPF	**Ste Jean**	**0.76**	**277**	Pg	Pg	01 24 39.4	-0.6
SJPF				Lg		01 24 49.3	
	0.3nm,0.2s						
EALK	**Alkurruntz**	**0.98**	**282**	Lg		01 24 57.1	
	0.8nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**1.80**	**79**	*e*Pg	Pg	01 24 58.3	-1.6
MTLF				*e*Sg	Sg	01 25 22.1	-1.1
	0.7nm,0.4s						
MTLF	**Montolieu**	**1.80**	**79**	Pg	Pg	01 24 58.3	-1.6
MTLF				Lg		01 25 22.1	
	0.3nm,0.4s						
CAF	**Calviac**	**2.50**	**40**	*e*Pg	Pg	01 25 11.7	-1.8
CAF				*e*Sg	Sg	01 25 44.0	-1.9
	0.7nm,0.4s						

*IDC **18** 01:32:17.4±1.0, 759S×13021E, h0km, mb3.9/3, mb1 4.2/6, mb1mx4.0/13, mbtmp4.0/6, ML4.2/3, Error ellipse: s-maj=70.5km s-min=19.9km az=73.0*
*NEIC **18** 01:32:18.4±0.6, 762S×13027E, h10km, mb3.7/4, Error ellipse: s-maj=15.8km s-min=8.7km az=65.0*
*ISCJB **18** 01:32:22.4±2.8, 794S±007×13008E±009, h68km±28km, mb3.8/4, Error ellipse: s-maj=16.4km s-min=9.7km az=127.7*

ISC 18 01:32:22.5±2.2, 785S±008×13017E±009, h45km±24km, n25, σ1s17/28, mb3.9/4, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**5.32**	**155**	*e*P	**Pn**	**01 33 30.2**	**-9.1**
	56nm,0.5s						
KAKA				*e*S	**Sn**	**01 34 43.6**	**+4.3**
FITZ	**Fitzroy Crossi**	**11.10**	**203**	*e*P	**Pn**	**01 34 51.4**	**-7.1**
	6.9nm,0.3s						
FITZ	**Fitzroy Crossi**	**11.10**	**203**	Pn	**Pn**	**01 35 02.1**	**+3.6**
	0.8nm,0.3s,baz=35,slow=12,SNR=32						
FITZ				Sn	**Sn**	**01 37 00.7**	**-0.5**
	0.7nm,0.3s,baz=17,slow=19,SNR=5.8						
FITZ	**Fitzroy Crossi**	**11.10**	**203**	*e*P	**Pn**	**01 34 51.4**	**-7.1**
FITZ				Pn	**Pn**	**01 35 02.1**	**+3.6**
FITZ				Sn	**Sn**	**01 37 00.7**	**-0.5**
WRAB	**Tennant Creek**	**12.67**	**162**	*e*Pn	**Pn**	**01 35 20.5**	**+0.5**
	11nm,0.6s						
WRAB				*e*Sn	**Sn**	**01 37 39.1**	**-0.5**
WRA	**Warramunga Arr**	**12.68**	**162**	Pn	**Pn**	**01 35 20.5**	**+0.4**
	1.6nm,0.3s,baz=351,slow=13,SNR=22						

WRA			Sn	**Sn**	**01 37 38.1**	**-1.7**
	2.3nm,0.3s,baz=343,slow=21,SNR=7.1						
WB2	**Warramunga Arr**	**12.68 162**	*eP*	**Pn**	**01 35 09.8**	**-10**
WB2			*eS*	**Sn**	**01 37 37.8**	**-2.1**
ASAR	**Alice Springs**	**16.13 168**	Pn	**Pn**	**01 36 07.4**	**+1.5**
	0.7nm,0.3s,baz=21,slow=12,SNR=29						
ASAR			Sn	**Sn**	**01 39 04.1**	**+0.4**
	0.5nm,0.3s,baz=356,slow=27,SNR=5.4						
MBWA	**Marble Bar**	**16.63 216**	*eP*n	**Pn**	**01 36 15.2**	**+2.9**
	2.2nm,0.6s						
KKM	**Kota Kinabalu**	**19.60 314**	P	**Pn**	**01 36 46.6**	**-1.9**
CTAO	**Charters Tower**	**19.76 130**	*eP*	**Pn**	**01 36 51.4**	**+1.0**
	1.9nm,0.7s						
STKA	**Stephens Creek**	**26.16 158**	*eP*	**P**	**01 37 52.9**	**+0.3**
	2.1nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**26.16 158**	P	**P**	**01 37 54.6**	**+2.1**
	1.5nm,0.6s,mb3.7,baz=306,slow=6.4,SNR=4.5						
HNR	**Honiara**	**29.48 95**	*eP*	**P**	**01 38 21.8**	**-0.3**
KULM	**Kulim**	**32.21 293**	*eP*	**P**	**01 38 46.2**	**0.0**
LSA	**Lhasa**	**52.93 317**	*eP*	**P**	**01 41 34.7**	**+0.6**
SONM	**Songino Array**	**59.30 342**	P	**P**	**01 42 19.5**	**-0.1**
	0.2nm,0.4s,mb3.5,baz=164,slow=5.7,SNR=2.7						
MKAR	**Makanchi Array**	**69.03 327**	P	**P**	**01 43 23.0**	**-0.3**
	1.7nm,0.5s,mb4.2,baz=115,slow=7.9,SNR=15						
MKAR	**Makanchi Array**	**69.03 327**	P	**P**	**01 43 23.0**	**-0.3**
BRVK	**Borovoye**	**78.94 328**	*eP*	**P**	**01 44 20.5**	**-0.8**
	0.6nm,0.4s,mb3.9						
TORD	**Torodi Ar. Bea**	**129.13 281**	PKP	PKPdf	01 51 28.2	+2.6
	0.4nm,0.6s,baz=61,slow=2.2,SNR=6.3						
CPUP	**Villa Florida**	**145.25 168**	PKPbc	PKPbc	01 51 59.2	+4.3
	0.6nm,0.5s,baz=217,slow=0.6,SNR=5.1						
CPUP	**Villa Florida**	**145.25 168**	PKPbc	PKPbc	01 51 59.2	+4.3
LPAZ	**La Paz**	**149.94 143**	PKPbc	PKPbc	01 52 12.8	+5.0
	0.5nm,0.4s,baz=178,slow=3.3,SNR=5.6						
LPAZ	**La Paz**	**149.94 143**	PKPbc	PKPbc	01 52 12.8	+5.0

IDC ***18*** *01:46:46.1±0.8, 002N×9657E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.9/19, mbtmp4.0/11, ML3.3/1, MS3.4/2, Ms1 3.3/2, ms1mx2.8/23, Error ellipse: s-maj=27.8km s-min=16.4km az=47.0*

ISCJB ***18*** *01:46:49.4±0.5, 0.18N±0.008×9672E±0.009, h33km, mb4.0/15, MS3.6/1, Error ellipse: s-maj=14.3km s-min=9.6km az=109.6*

NEIC ***18*** *01:46:50.8±0.4, 0.14N×9669E, h30km, mb4.0/5, Error ellipse: s-maj=11.9km s-min=8.3km az=55.0*

ISC 18 01:46:51.9±0.5, 019N±0.008×9672E±0.009, h35km, n24, σ1§01/22, mb4.0/15, MS3.6/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.41**	**40**	Pn	**Pn**	**01 47 40.7**	**-1.8**
	2.5nm,0.3s,baz=185,slow=2.1,SNR=5.9						
PSI				LR	LR	01 49 20.2	
	comp=Z,294nm,19.3s,baz=198,slow=43						
KULM	**Kulim**	**6.41**	**38**	*e*Pn	**Pn**	**01 48 22.2**	**-1.7**
KKM	**Kota Kinabalu**	**20.31**	**73**	*e*P	**P**	**01 51 26.4**	**+1.6**
FITZ	**Fitzroy Crossi**	**33.75**	**124**	P	**P**	**01 53 28.9**	**-1.2**
	1.9nm,0.7s,mb4.1,baz=245,slow=14,SNR=3.7						
NWAO	**Narrogin (SRO)**	**38.20**	**152**	P	**P**	**01 54 06.5**	**-1.7**
WRA	**Warramunga Arr**	**41.93**	**121**	P	**P**	**01 54 39.9**	**+0.8**
	2.0nm,0.5s,mb4.0,baz=301,slow=8.8,SNR=7.7						
WRAB	**Tennant Creek**	**41.93**	**121**	*e*P	**P**	**01 54 40.3**	**+1.2**
	2.8nm,0.4s,mb4.2						
WB2	**Warramunga Arr**	**41.94**	**121**	*e*P	**P**	**01 54 39.2**	**0.0**
ASAR	**Alice Springs**	**43.19**	**126**	P	**P**	**01 54 50.4**	**+1.0**
	1.2nm,0.7s,mb3.8,baz=301,slow=7.8,SNR=11						
MKAR	**Makanchi Array**	**48.10**	**347**	P	**P**	**01 55 29.2**	**+1.1**
	1.5nm,0.5s,mb4.3,baz=164,slow=7.6,SNR=15						
SONM	**Songino Array**	**48.19**	**9**	P	**P**	**01 55 30.0**	**+1.1**
	1.1nm,0.6s,mb4.0,baz=192,slow=8.7,SNR=11						
CTAO	**Charters Tower**	**52.50**	**116**	*e*P	**P**	**01 56 02.1**	**+0.7**
	0.7nm,0.5s,mb3.9						
KURK	**Kurchatov**	**52.64**	**346**	*e*P	**P**	**01 56 03.2**	**+0.8**
STKA	**Stephens Creek**	**53.05**	**131**	P	**P**	**01 56 04.7**	**-0.8**
	2.1nm,0.6s,mb4.2,baz=306,slow=2.7,SNR=6.4						
STKA				LR	LR	02 20 35.9	
	comp=Z,58nm,21.2s,MS3.6,baz=212,slow=38						
BRVK	**Borovoye**	**57.10**	**341**	*e*P	**P**	**01 56 34.4**	**-0.4**
	0.8nm,0.5s,mb4.0						
ZRNK	**Zerenda**	**57.43**	**340**	*e*P	**P**	**01 56 37.0**	**0.0**
	0.5nm,0.5s,mb3.8						
CHKZ	**Chkalovo**	**57.52**	**342**	*e*P	**P**	**01 56 37.4**	**-0.4**
	1.3nm,0.3s,mb4.4						
LSZ	**Lusaka**	**69.36**	**254**	P	**P**	**01 57 54.9**	**-1.1**
	0.6nm,0.5s,mb3.8,baz=78,slow=14,SNR=2.4						
BRTR	**Keskin Array B**	**69.43**	**313**	P	**P**	**01 57 56.6**	**+0.2**
	0.4nm,0.6s,mb3.5,baz=133,slow=5.4,SNR=4.1						
AKASG	**Malin Array Be**	**75.76**	**323**	P	**P**	**01 58 34.2**	**+0.1**
	1.2nm,0.6s,mb4.0,baz=93,slow=4.9,SNR=4.2						
AKASG	**Malin Array Be**	**75.76**	**323**	P	**P**	**01 58 34.2**	**+0.1**
ARCES	**ARCESS Array B**	**82.32**	**340**	P	**P**	**01 59 15.2**	**+0.1**
	1.6nm,0.7s,mb4.1,baz=104,slow=5.1,SNR=4.0						
CPUP	**Villa Florida**	**143.94**	**222**	PKP	PKPdf	02 06 23.5	0.0
	1.6nm,0.7s,baz=127,slow=3.0,SNR=5.8						
CPUP	**Villa Florida**	**143.94**	**222**	PKP	PKPdf	02 06 23.5	0.0

IDC ***18*** *01:53:30.0±1.2, 001S×9676E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/17, mbtmp3.6/7, ML3.1/1, Error ellipse: s-maj=41.1km s-min=22.1km az=50.0*

ISCJB ***18*** *01:53:33.9±0.8, 02N±0.1×970E±0.1, h33km, mb3.6/9, Error ellipse: s-maj=17.6km s-min=13.1km az=94.0*

NEIC ***18*** *01:53:34.8±0.6, 0.10N×9689E, h30km, mb3.7/3, Error ellipse: s-maj=14.9km s-min=11.7km az=48.0*

ISC 18 01:53:36.4±0.8, 02N±0.1×970E±0.1, h35km, n15, σ0§79/14, mb3.6/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.24**	**38**	Pn	**Pn**	**01 54 23.3**	**-1.4**
	1.7nm,0.3s,baz=351,slow=9.0,SNR=5.9						
KULM	**Kulim**	**6.25**	**36**	*e*Pn	**Pn**	**01 55 05.7**	**-0.4**
KKM	**Kota Kinabalu**	**20.08**	**73**	*e*P	**P**	**01 58 08.2**	**+1.5**
WRA	**Warramunga Arr**	**41.74**	**121**	P	**P**	**02 01 21.7**	**-0.3**
	0.3nm,0.5s,mb3.2,baz=302,slow=8.8,SNR=2.9						
WRAB	**Tennant Creek**	**41.74**	**121**	*e*P	**P**	**02 01 22.1**	**+0.1**
	0.4nm,0.3s,mb3.5						
ASAR	**Alice Springs**	**43.01**	**126**	P	**P**	**02 01 31.9**	**-0.5**
	0.3nm,0.5s,mb3.2,baz=294,slow=8.2,SNR=4.2						
MKAR	**Makanchi Array**	**48.13**	**346**	P	**P**	**02 02 13.5**	**+0.6**
	0.7nm,0.7s,mb3.8,baz=156,slow=9.1,SNR=4.0						
SONM	**Songino Array**	**48.14**	**9**	P	**P**	**02 02 14.4**	**+1.5**
	0.2nm,0.4s,mb3.5,baz=190,slow=13,SNR=2.9						
KURK	**Kurchatov**	**52.68**	**345**	*e*P	**P**	**02 02 46.5**	**-0.7**
BRVK	**Borovoye**	**57.16**	**341**	*e*P	**P**	**02 03 20.3**	**+0.7**
	0.9nm,0.6s,mb4.0						
ZRNK	**Zerenda**	**57.49**	**340**	*e*P	**P**	**02 03 22.1**	**+0.1**
	0.3nm,0.4s,mb3.7						
CHKZ	**Chkalovo**	**57.58**	**342**	P	**P**	**02 03 22.4**	**-0.1**
BRTR	**Keskin Array B**	**69.59**	**313**	P	**P**	**02 04 41.0**	**-0.9**
	0.5nm,0.8s,mb3.5,baz=126,slow=8.4,SNR=3.4						
ARCES	**ARCESS Array B**	**83.38**	**340**	P	**P**	**02 05 59.7**	**-0.2**
	2.5nm,1.1s,mb4.2,baz=98,slow=4.2,SNR=6.4						
CPUP	**Villa Florida**	**144.11**	**222**	PKP	PKPdf	02 13 06.1	-2.2
	0.2nm,0.3s,baz=45,slow=4.3,SNR=3.6						

IDC ***18*** *01:53:43.0±0.9, 2023S×17426W, h0km, mb4.0/7, mb1 4.3/8, mb1mx4.1/15, mbtmp4.1/8, ML4.1/1, MS3.5/2, Ms1 3.5/2, ms1mx3.1/15, Error ellipse: s-maj=34.5km s-min=19.7km az=121.0*

ISCJB ***18*** *01:53:46.6±0.6, 203S±0.1×1744W±0.1, h33km, mb4.1/12, MS3.4/2, Error ellipse: s-maj=17.6km s-min=14.2km az=47.4*

NEIC ***18*** *01:53:48.5±0.5, 2021S×17435W, h35km, mb4.4/4, Error ellipse: s-maj=15.1km s-min=11.4km az=115.0*

ISC 18 01:53:47.8±0.5, 2012S±0.008×1742W±0.1, h35km, n29, σ1§21/21, mb4.1/12, MS3.4/2, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.60**	**21**	Pn	**Pn**	**01 55 18.1**	**-4.2**
	3.1nm,0.3s,baz=225,slow=20,SNR=3.0						
AFI				Sn	**Sn**	**01 56 34.2**	**-2.1**
	3.3nm,0.3s,baz=198,slow=19,SNR=2.4						
URZ	**Urewera**	**19.58**	**201**	P	**Pn**	**01 58 12.1**	**-2.2**
	0.6nm,0.3s,baz=358,slow=7.9,SNR=5.1						
TBI	**Tubuai**	**23.22**	**102**	*e*LR	LR	02 03 44.0	
	219nm,30.1s						
PPT	**Papeete**	**23.46**	**88**	*e*LR	LR	02 03 49.8	
	284nm,25.2s						
PPT	**Papeete**	**23.46**	**88**	LR	LR	02 05 01.9	
	comp=Z,262nm,21.6s,MS3.7,baz=283,slow=29						
RPZ	**Rata Peaks**	**26.56**	**204**	P	**P**	**01 59 21.2**	**-1.2**
	11nm,1.1s,mb4.3,baz=162,slow=20,SNR=1.9						
HNR	**Honiara**	**27.10**	**289**	LR	LR	02 07 39.8	
	comp=Z,65nm,21.9s,MS3.1,baz=179,slow=31						
RKT	**Rikitea**	**36.54**	**102**	*e*LR	LR	02 09 54.2	
	172nm,31.0s						
PMG	**Port Moresby**	**38.74**	**280**	P	**P**	**02 01 08.4**	**-0.1**
STKA	**Stephens Creek**	**41.15**	**244**	P	**P**	**02 01 26.8**	**-1.7**
	1.6nm,0.8s,mb3.7,baz=90,slow=13,SNR=4.8						
ASAR	**Alice Springs**	**48.05**	**256**	P	**P**	**02 02 23.6**	**0.0**
	1.8nm,0.9s,mb4.1,baz=90,slow=8.5,SNR=9.9						
WRAB	**Tennant Creek**	**48.15**	**261**	*e*P	**P**	**02 02 24.4**	**-0.1**
	0.5nm,0.6s,mb3.7						
WRA	**Warramunga Arr**	**48.16**	**261**	P	**P**	**02 02 25.3**	**+0.8**
	0.5nm,0.4s,mb3.9,baz=102,slow=6.9,SNR=5.0						
WRA	**Warramunga Arr**	**48.16**	**261**	P	**P**	**02 02 25.3**	**+0.8**
SBA	**Scott Base**	**58.51**	**185**	*e*P	**P**	**02 03 41.7**	**+1.2**
	1.9nm,0.8s,mb4.2						
VNDA	**Vanda**	**58.63**	**186**	P	**P**	**02 03 41.7**	**+0.4**
	1.0nm,0.8s,mb3.9,baz=8.3,slow=10,SNR=3.8						
VNDA	**Vanda**	**58.63**	**186**	P	**P**	**02 03 41.9**	**+0.5**
MBWA	**Marble Bar**	**61.39**	**256**	P	**P**	**02 04 01.1**	**+0.8**
NWAO	**Narrogin (SRO)**	**61.70**	**243**	P	**P**	**02 04 02.4**	**0.0**
QSPA	**South Pole Qui**	**69.95**	**180**	*e*P	**P**	**02 04 55.0**	**-0.5**
	5.4nm,0.9s,mb4.5						
MJAR	**Matsushiro Arr**	**72.06**	**321**	P	**P**	**02 05 10.9**	**+2.6**
	0.9nm,0.3s,mb4.2,baz=161,slow=7.6,SNR=4.3						
NVAR	**Mina Array Bea**	**78.35**	**42**	P	**P**	**02 05 45.7**	**+1.2**
	0.7nm,0.3s,mb4.1,baz=218,slow=6.5,SNR=7.3						
MSU	**Marysvale**	**82.32**	**44**	*e*P	**P**	**02 06 07.8**	**+1.9**
ILAR	**Eielson Array**	**87.20**	**11**	P	**P**	**02 06 30.6**	**+0.2**
	0.8nm,0.8s,mb4.0,baz=223,slow=5.5,SNR=9.4						
SNAA	**Sanae**	**88.26**	**177**	*e*P	**P**	**02 06 35.0**	**-0.5**
	4.6nm,1.1s,mb4.6						
AKASG	**Malin Array Be**	**144.30**	**334**	PKP	PKPdf	02 13 19.2	-0.8
	0.8nm,0.5s,baz=43,slow=4.6,SNR=8.6						
CLL	**Collm**	**148.36**	**351**	*e*PKPbc	PKPbc	02 13 31.0	+0.6
BRTR	**Keskin Array B**	**149.13**	**315**	PKPbc	PKPbc	02 13 34.2	+1.8
	0.4nm,0.8s,baz=90,slow=2.9,SNR=2.6						
GERES	**GERESS Array B**	**150.64**	**349**	PKPbc	PKPbc	02 13 37.2	+1.2
	0.8nm,0.8s,baz=318,slow=1.8,SNR=7.1						

GUC 18 02:06:23.2±0.9, 3098S×7132W, h59km±7km, MD3.7, ML2.7,1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**0.34**	**124**	⇓*i*P	Pn	02 06 33.8	+0.3
CMCH				*i* S	Sn	02 06 41.9	+1.0
CMCH				AML	AML	02 06 42.7	
	comp=E,2μm,0.7s						
OVCH	**Ovalle**	**0.39**	**16**	⇑*i*P	Pn	02 06 34.3	+0.3
OVCH				*i* S	Sn	02 06 42.8	+1.0
OVCH				AML	AML	02 06 43.1	
	comp=N,801nm,0.2s						
CHNG	**Los Chungos**	**0.91**	**189**	*i* P	Pn	02 06 40.8	+0.8
CHNG				*i* S	Sn	02 06 52.8	+0.4
CHNG				AML	AML	02 06 55.5	
	comp=E,115nm,0.4s						
LSCH	**La Serena**	**1.07**	**4**	*e*P	Pn	02 06 42.2	+0.1
LSCH				*i* S	Sn	02 06 56.8	+0.6
LSCH				AML	AML	02 06 57.5	
	comp=N,259nm,0.3s						
RCDM	**Rinconada Maip**	**2.54**	**170**	*e*P	Pn	02 07 03.0	+1.0
RCDM				*i* S	Sn	02 07 32.4	+0.8
RCDM				AML	AML	02 07 35.9	
	comp=E,70nm,0.1s						

IDC ***18*** *02:22:02.0±1.1, 2048S×174.16W, h0km, mb4.1/5, mb1 4.3/7, mb1mx4.1/16, mbtmp4.2/7, ML4.4/1, Error ellipse: s-maj=39.1km s-min=21.7km az=130.0*

ISCJB ***18*** *02:22:04.8±0.7, 205S±0.1×174.1W±0.1, h33km, mb4.3/12, Error ellipse: s-maj=19.0km s-min=14.6km az=86.9*

MOS ***18*** *02:22:04.8±1.3, 2036S×174.10W, h33km, mb4.5/4, Error ellipse: s-maj=31.7km s-min=19.8km az=50.8*

NEIC ***18*** *02:22:04.5±0.5, 2056S×174.11W, h15km, mb4.5/7, Error ellipse: s-maj=16.1km s-min=13.0km az=147.0*

ISC 18 02:22:06.5±0.6, 2039S±0.008×1740W±0.1, h35km, n22, σ1§23/21, mb4.3/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.78**	**18**	Pn	**Pn**	**02 23 42.8**	**-0.6**
	7.7nm,0.3s,baz=232,slow=22,SNR=6.6						
AFI				Sn	**Sn**	**02 24 57.9**	**-1.5**
	5.6nm,0.3s,baz=128,slow=19,SNR=3.3						
URZ	**Urewera**	**19.41**	**202**	P	**Pn**	**02 26 28.1**	**-2.8**
	1.1nm,0.3s,baz=9.6,slow=19,SNR=3.8						
CTAO	**Charters Tower**	**37.25**	**263**	*e*P	**P**	**02 29 15.4**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
CTAO	**Charters Tower**	**37.25**	**263**	*e*P	**P**	**02 29 15.3**	**+0.6**
	comp=Z,4.0nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**41.24**	**245**	P	**P**	**02 29 46.4**	**-1.6**
	comp=Z,3.2nm,0.6s,mb4.1,baz=91,slow=11,SNR=9.1						
STKA	**Stephens Creek**	**41.24**	**245**	*e*P	**P**	**02 29 45.8**	**-2.2**
ASAR	**Alice Springs**	**48.21**	**256**	P	**P**	**02 30 43.1**	**-0.4**
	comp=Z,3.3nm,0.7s,mb4.5,baz=96,slow=7.9,SNR=28						
WB2	**Warramunga Arr**	**48.34**	**261**	*e*P	**P**	**02 30 45.0**	**+0.5**
WRAB	**Tennant Creek**	**48.34**	**261**	*e*P	**P**	**02 30 44.6**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
WRAB	**Tennant Creek**	**48.34**	**261**	*e*P	**P**	**02 30 44.6**	**+0.1**
	comp=Z,3.8nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**48.35**	**261**	P	**P**	**02 30 44.4**	**-0.2**
	comp=Z,2.0nm,0.6s,mb4.3,baz=95,slow=6.2,SNR=8.8						
FITZ	**Fitzroy Crossi**	**56.78**	**261**	*e*P	**P**	**02 31 48.6**	**+1.6**
	comp=Z,7.1nm,1.5s,mb4.5						
SBA	**Scott Base**	**58.26**	**185**	*e*P	**P**	**02 31 57.8**	**+0.4**
SBA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
SBA	**Scott Base**	**58.26**	**185**	*e*P	**P**	**02 31 57.8**	**+0.3**
	comp=Z,3.3nm,0.8s,mb4.4						
VNDA	**Vanda**	**58.38**	**186**	P	**P**	**02 31 57.7**	**-0.6**
	comp=Z,0.8nm,0.7s,mb3.8,baz=9.2,slow=7.3,SNR=4.7						
MBWA	**Marble Bar**	**61.55**	**256**	*e*P	**P**	**02 32 20.7**	**+0.7**
	comp=Z,6.6nm,0.7s,mb4.9						
QSPA	**South Pole Qui**	**69.68**	**180**	*e*P	**P**	**02 33 11.8**	**-0.7**
	comp=Z,5.1nm,1.0s,mb4.4						
NVAR	**Mina Array Bea**	**78.40**	**41**	P	**P**	**02 34 05.8**	**+2.3**
	comp=Z,1.3nm,0.7s,mb4.0,baz=213,slow=7.9,SNR=6.5						
TUC	**Tucson**	**79.98**	**50**	*e*P	**P**	**02 34 14.1**	**+2.0**
TUC				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
TUC	**Tucson**	**79.98**	**50**	*e*P	**P**	**02 34 14.1**	**+2.0**
	comp=Z,0.8nm,0.7s,mb3.8						
AKASG	**Malin Array Be**	**144.65**	**334**	PKP	PKPdf	02 41 40.4	+1.0
	comp=Z,0.6nm,0.6s,baz=6.5,slow=1.7,SNR=8.3						
BRTR	**Keskin Array B**	**149.49**	**315**	PKPbc	PKPbc	02 41 55.0	+3.1
	comp=Z,0.4nm,0.7s,baz=144,slow=2.7,SNR=3.5						

NEIC ***18*** *02:25:27.8, 4023N×2254E, h19km, mb4.1/10, MD3.9(SOF), MD4.0(PDG), ML3.6(BUC), ML4.1(ATH), After ATH.*

ATH ***18*** *02:25:27.5, 4023N×2256E, h16km±2km, MD4.1/20, ML4.1*

MOS ***18*** *02:25:27.9±1.0, 4026N×2246E, h10km, mb4.2/8, Error ellipse: s-maj=4.8km s-min=3.5km az=99.8*

BJI ***18*** *02:25:27.8, 4020N×2250E, h19km, mB4.9, mb4.6, Ms4.2, Msz4.1*

HLW ***18*** *02:25:27.9, 3675N×1561E, h33km, Mb3.9*

ISCJB ***18*** *02:25:28.8±0.3, 4023N±0.001×2253E±0.001, h21km±2km, mb4.1/23, MS3.6/4, Error ellipse: s-maj=2.2km s-min=1.8km az=52.6*

THE ***18*** *02:25:28.8, 4023N×2259E, h10km, ML4.0*

PDG ***18*** *02:25:28.4±0.7, 4023N×2254E, h13km±1km*

CSEM ***18*** *02:25:28.0±0.0, 4025N×2256E, h8km, mb4.0/9, Error ellipse: s-maj=1.2km s-min=1.1km az=71.0*

SOF ***18*** *02:25:29.9, 4048N×2239E, h10km, MD3.9*

SKO ***18*** *02:25:29.2, 4022N×2250E, h3km*

IDC ***18*** *02:25:31.0±4.2, 4022N×2247E, h25km±30km, mb3.9/14, mb1 3.9/22, mb1mx3.9/30, mbtmp3.9/22, ML3.6/8, MS3.4/4, Ms1 3.4/4, ms1mx2.9/29, Error ellipse: s-maj=14.5km s-min=11.5km az=144.0*

ISC 18 02:25:28.8±0.3, 4021N±0.001×2256E±0.001, h7km±2km, n301, σ1§10/362, mb4.1/23, MS3.6/4, 27C-24D, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIT	**Litokhoron**	**0.12**	**205**	*e*Pg	**Pg**	**02 25 31.7**	**+0.3**
LIT				*e*Sg	**Sg**	**02 25 34.1**	**+0.9**
THE	**Thessaloniki**	**0.52**	**36**	*e*Pg	**Pg**	**02 25 38.1**	**-0.7**
THE				*e*Sg	**Sg**	**02 25 46.3**	**+0.7**
KZN	**Kozani**	**0.61**	**279**	⇑*i*PN	**Pg**	**02 25 39.4**	**-1.1**
KZN				*e*SN	**Sg**	**02 25 47.9**	**-0.5**
PLG	**Polygyros**	**0.70**	**76**	⇓*i*PN	**Pn**	**02 25 42.0**	**-3.0**
PLG				*e*SN	**Sg**	**02 25 50.0**	**-1.2**
PLG	**Polygyros**	**0.70**	**76**	⇓*i*Pn	**Pn**	**02 25 42.6**	**-2.4**
PLG				*e*Sn	**Sg**	**02 25 51.9**	**+0.7**
GRG	**Griva**	**0.75**	**351**	*e*Pg	**Pg**	**02 25 42.7**	**-0.5**
GRG				*e*Sg	**Sg**	**02 25 53.5**	**+0.5**
SOH	**Sokhos**	**0.86**	**45**	*e*Pg	**Pg**	**02 25 45.1**	**-0.1**
SOH				*e*Sg	**Sg**	**02 25 56.6**	**+0.2**
PAIG	**Paliouri**	**0.91**	**108**	*e*Pg	**Pg**	**02 25 46.1**	**-0.1**
PAIG				*e*Sg	**Sg**	**02 25 59.3**	**+1.3**
XOR	**Xorichti**	**0.98**	**150**	*e*Pg	**Pg**	**02 25 47.0**	**-0.5**
XOR				*e*Sg	**Sg**	**02 26 01.8**	**+1.6**
KNT	**Kendrikon**	**0.98**	**15**	*e*Pg	**Pg**	**02 25 47.1**	**-0.4**
KNT				*e*Sg	**Sg**	**02 26 01.0**	**+0.7**
NEO	**Neokhori**	**1.04**	**150**	⇑*i*PN	**Pn**	**02 25 48.1**	**-1.7**
NEO				*e*SN	**Sn**	**02 26 02.7**	**-1.9**
FNA	**Florina**	**1.07**	**303**	*e*Pg	**Pg**	**02 25 47.5**	**-1.7**
FNA				*e*Sg	**Sg**	**02 26 03.7**	**+0.6**
OUR	**Ouranopolis**	**1.09**	**83**	*e*Pg	**Pg**	**02 25 49.2**	**-0.6**
OUR				*e*Sg	**Sg**	**02 26 05.2**	**+1.2**
VAY	**Valandovo**	**1.11**	**0**	⇑*i*Pg	**Pg**	**02 25 48.5**	**-1.5**
VAY	**Valandovo**	**1.11**	**0**	⇑*i*Pg	**Pg**	**02 25 48.4**	**-1.6**
AGG	**Agios Georgios**	**1.20**	**189**	*e*Pg	**Pg**	**02 25 51.1**	**-0.7**
AGG				*e*Sg	**Sg**	**02 26 08.8**	**+1.1**
BIA	**Bitola**	**1.24**	**311**	*i* Pg	**Pg**	**02 25 50.5**	**-1.9**
BIA	**Bitola**	**1.24**	**311**	*i* Pg	**Pg**	**02 25 50.5**	**-2.0**
KBN	**Korca**	**1.41**	**287**	*i* Pn	**Pn**	**02 25 54.7**	**-0.2**
KBN				*i* Sn	**Sn**	**02 26 18.1**	**+4.4**
EVR	**Evrytania**	**1.42**	**204**	⇑*i*PN	**Pn**	**02 25 54.5**	**-0.5**
EVR				*e*SN	**Sn**	**02 26 14.0**	**+0.1**
JAN	**Janina**	**1.43**	**248**	*e*PN	**Pn**	**02 25 54.0**	**-1.1**
JAN				*e*SN	**Sn**	**02 26 13.5**	**-0.6**
JAN	**Janina**	**1.43**	**248**	*e*Pn	**Pn**	**02 25 54.7**	**-0.4**
AOS	**Alonnisos**	**1.46**	**135**	*e*Pg	**Pg**	**02 25 54.3**	**-2.4**
AOS				*e*Sg	**Sg**	**02 26 14.1**	**-1.6**
LSK	**Leskovik**	**1.50**	**268**	*i* Pn	**Pn**	**02 25 56.4**	**+0.3**
LSK				*i* Sn	**Sn**	**02 26 24.5**	**+8.6**
NVR	**Nevrokopi**	**1.50**	**41**	*e*PN	**Pn**	**02 25 55.6**	**-0.5**
NVR				*e*SN	**Sn**	**02 26 16.3**	**+0.3**
STIP	**Stip**	**1.50**	**349**	*i* Pn	**Pn**	**02 25 56.1**	**0.0**
STIP				*i* Sn	**Sn**	**02 26 17.4**	**+1.4**
LKR	**Lokris**	**1.60**	**168**	⇑*i*PB	**Pn**	**02 25 56.3**	**-1.1**
MMB	**Musomiste**	**1.63**	**32**	*i* P	**Pn**	**02 25 57.3**	**-0.6**
KKB	**Krupnik**	**1.70**	**13**	*i* P	**Pn**	**02 25 57.8**	**-1.0**
IGT	**Igoumenitsa**	**1.84**	**249**	*e*Pb	**Pb**	**02 26 01.8**	**-1.0**
SKO	**Skopje**	**1.95**	**335**	*e*Pb	**Pn**	**02 26 02.2**	**-0.1**
SKO				*e*Sb	**Sn**	**02 26 25.8**	**-1.1**
SKO	**Skopje**	**1.95**	**335**	*i* Pn	**Pn**	**02 26 02.0**	**-0.2**
SRN	**Sarande**	**1.99**	**261**	*i* Pn	**Pn**	**02 26 04.5**	**+1.7**
SRN				*i* Sn	**Sn**	**02 26 32.1**	**+4.1**
LKD	**Levkas**	**2.11**	**225**	*e*Pn	**Pn**	**02 26 05.9**	**+1.4**
LKD				*e*Sn	**Sn**	**02 26 34.5**	**+3.5**
KEK	**Kerkira**	**2.18**	**258

MANT Manisa 4.96 108 *i* P Pn 02 26 45.2 +1.6
VAM Vamos 4.97 164 *e*PN Pn 02 26 46.6 +2.8
MLSB Milas 5.01 124 *e*P Pn 02 26 34.7 -10
CUC Castrocucco 5.18 270 Pn Pn 02 26 47.8 +1.2
CUC Sn Sn 02 27 45.7 -0.9
YLV Yalova 5.21 84 *e*P Pn 02 26 45.5 -1.6
FGMS Monte Sant'Ang 5.22 289 Pn Pn 02 26 46.4 -0.8
FGMS Sn Sn 02 27 42.6 -5.0
MS1 Monte Sant'Ang 5.23 289 *e*Pn Pn 02 26 46.3 -1.0
IDI Anoyia 5.25 159 Pn Pn 02 26 49.6 +1.9
3.0nm,0.3s,baz=352,slow=8.3,SNR=30
SLCN Sala Consilina 5.30 274 Pn Pn 02 26 48.6 +0.3
133nm,0.4s
MGR Morigerati 5.37 271 Pn Pn 02 26 50.1 +0.9
MGR Sn Sn 02 27 51.5 +0.2
MRLC Muro Lucano 5.42 278 Pn Pn 02 26 50.6 +0.7
53nm,0.6s
FG4 Candela 5.43 282 P Pn 02 26 50.5 +0.4
FG4 pmax pmax
comp=Z,74nm,0.4s
FG4 Candela 5.43 282 Pn Pn 02 26 50.5 +0.4
comp=Z,74nm,0.4s
YER Yerkesik 5.43 123 *e*P Pn 02 26 47.6 -2.5
PSN Preselentsi 5.44 49 P Pn 02 26 51.5 +1.3
BZS Buzias 5.44 353 ⇓*i*P Pn 02 26 48.7 -1.6
BZS Buzias 5.44 353 *i* P Pn 02 26 48.7 -1.6
HRT Hereke 5.45 81 *e*P Pg 02 27 12.1 -1.1
GDZ Gediz 5.46 100 *i* P Pn 02 26 50.0 -0.5
RGNG Rignano Grg 5.48 288 Pn Pn 02 26 50.2 -0.6
SOI Samo 5.49 249 P Pn 02 26 51.1 +0.2
SOI pmax pmax
comp=Z,68nm,0.8s
SOI Samo 5.49 249 Pn Pn 02 26 51.1 +0.2
comp=Z,68nm,0.8s
VOIR 5.53 19 ⇑*i*P Pn 02 26 53.0 +1.5
VOIR 5.53 19 P Pn 02 26 53.0 +1.5
SGO Sicignano 5.55 276 Pn Pn 02 26 51.8 +0.1
SGO Sn Sn 02 27 51.4 -4.3
LAST Lasithi 5.55 154 *e*Pn Pn 02 26 52.8 +1.0
FG5 Orsara di Pugl 5.64 283 P Pn 02 26 53.2 +0.2
FG5 pmax pmax
comp=Z,49nm,0.5s
FG5 Orsara di Pugl 5.64 283 Pn Pn 02 26 53.2 +0.2
comp=Z,49nm,0.5s
MTTG Motta San Giov 5.78 250 Pn Pn 02 26 56.2 +1.3
comp=Z,66nm,0.5s
FG2 Serracapriola 5.82 288 Pn Pn 02 26 55.0 -0.4
comp=Z,69nm,0.4s
MLR Muntele Rosu 5.83 24 Pn Pn 02 26 56.5 +0.9
comp=Z,1.7nm,0.3s,baz=198,slow=8.7,SNR=13
MLR Lg 02 28 36.6
comp=Z,0.9nm,0.3s,baz=242,slow=20,SNR=3.4
MLR LR LR 02 29 30.7
comp=Z,265nm,18.1s,baz=230,slow=41
MLR Muntele Rosu 5.83 24 ⇑*i*P Pn 02 26 57.0 +1.4
MLR Muntele Rosu 5.83 24 P Pn 02 26 57.0 +1.4
KARP Karpathos 5.91 141 *e*PN Pn 02 26 57.7 +1.0
BLY Banja Luka 6.03 321 P Pn 02 26 58.5 +0.2
BLY S Sn 02 28 05.9 -1.6
TIRR Tirgusor 6.07 44 *e*P Pn 02 27 00.4 +1.6
BORA Eskisehir 6.07 91 *i* P Pn 02 26 58.5 -0.3
BORA Eskisehir 6.07 91 *i* P Pn 02 26 58.5 -0.4
SLNA Salina 6.21 257 Pn Pn 02 27 00.1 -0.7
comp=Z,45nm,0.5s
SGG Gregorio Mates 6.32 283 Pn Pn 02 27 02.9 +0.6
comp=Z,98nm,0.5s
PLOR Plostina 6.38 27 ⇑*i*P Pn 02 27 04.6 +1.4
TKTP Tekketepe 6.41 107 *i* P Pn 02 27 04.9 +1.3
ESKT Eskisehir 6.42 94 *i* P Pn 02 27 03.0 -0.6
SEYT Eskypehyr 6.42 94 *i* P Pn 02 27 03.0 -0.7
VRI Vrincioaia 6.42 27 ⇓*i*P Pn 02 27 05.7 +2.0
VRI Vrincioaia 6.42 27 P Pn 02 27 05.7 +2.0
CII Carovilli 6.43 286 Pn Pn 02 27 04.2 +0.4
CII Sn Sn 02 28 15.4 -2.0
MIDA Miranda 6.45 285 Pn Pn 02 27 05.1 +1.0
comp=Z,53nm,0.7s
RNI2 Rionero Sannit 6.54 286 Pn Pn 02 27 07.1 +1.8
comp=Z,69nm,0.8s
DRGR 6.58 1 ⇑*i*P Pn 02 27 05.3 -0.5
DRGR 6.58 1 P Pn 02 27 05.3 -0.5
DRGR 6.58 1 P Pn 02 27 05.4 -0.4
RHK1 Bakonya 6.73 332 ⇑*e*P Pn 02 27 07.9 -0.1
SDI San Donato 6.79 286 P Pn 02 27 09.4 +0.6
SDI pmax pmax
comp=Z,9.0nm,0.6s
SDI San Donato 6.79 286 Pn Pn 02 27 09.4 +0.6
comp=Z,9.1nm,0.6s
VAE Valguarnera 6.92 249 Pn Pn 02 27 10.4 -0.2
comp=Z,0.5nm,0.3s,baz=36,slow=12,SNR=3.2
VAE Sn Sn 02 28 30.1 +0.6
comp=Z,2.2nm,0.3s,baz=307,slow=20,SNR=6.6
SISC Sisak 6.95 321 *e*Pn Pn 02 27 13.9 +2.9
TERO Teramo 7.15 293 Pn Pn 02 27 13.3 -0.4
comp=Z,20nm,0.6s
NVLJ Novalja 7.16 310 *i* Pn Pn 02 27 13.1 -0.8
NVLJ *i* Sn Sn 02 28 30.9 -4.5
NVLJ Novalja 7.16 310 *i* Pn Pn 02 27 13.0 -0.9
NVLJ *i* Sn Sn 02 28 30.9 -4.5
AQU L'Aquila 7.22 290 *e*P Pn 02 27 15.2 +0.5
AQU pmax pmax
comp=Z,34nm,0.8s
AQU L'Aquila 7.22 290 *e*Pn Pn 02 27 15.2 +0.5
comp=Z,34nm,0.8s
AQU L'Aquila 7.22 290 *e*Pn Pn 02 27 15.2 +0.5
comp=Z,34nm,0.8s
PKS8 Sarbogard 7.23 338 ⇑*e*P Pn 02 27 14.5 -0.4
SGKT Sivrigoynuk 7.26 84 *i* P Pn 02 27 13.1 -2.1
KIZT Kizilcal 7.33 97 *e*P Pn 02 27 16.9 +0.7
FIAM Fiamignano 7.41 289 Pn Pn 02 27 18.0 +0.8
comp=Z,33nm,0.8s
BOJS Bojanci 7.53 317 *e*Pn Pn 02 27 18.3 -0.7
BOJS *e*Sn Sg 02 29 33.1 +2.6
NRCA Norcia 7.55 293 Pn Pn 02 27 18.7 -0.6
comp=Z,14nm,0.6s
BURAR Bucovina Array 7.64 14 ⇑*i*P Pn 02 27 20.9 +0.4
BURAR Bucovina Array 7.64 14 P Pn 02 27 20.9 +0.4
BUD Budapest 7.70 342 ⇓*e*Pn Pn 02 27 21.4 +0.1
PKSG 7.78 339 ⇑*e*P Pn 02 27 22.9 +0.5
PSZ Piszkesteto 7.94 347 ⇑*e*Pn Pn 02 27 26.0 +1.5
VISS Visnje 7.95 317 *e*Pn Pn 02 27 23.5 -1.1
VISS *e*Sn Sg 02 29 44.0 +0.2
KECS Kecovo 8.40 351 *e*PN Pn 02 27 31.1 +0.2
BR131 Keskin Array S 8.52 90 *e*Pn Pn 02 27 33.4 +0.9
comp=Z,0.9nm,0.5s
BR131 Keskin Array S 8.52 90 *e*Pn Pn 02 27 33.4 +0.8
comp=Z,0.9nm,0.5s
BRTR Keskin Array B 8.52 90 Pn Pn 02 27 33.0 +0.5
comp=Z,0.2nm,0.3s,baz=264,slow=10,SNR=12
OBKA Obir 8.58 320 ⇑*i*Pn Pn 02 27 33.1 -0.2
SNR=6.8
OBKA ⇓*i*Sn Sn 02 29 08.3 -2.1
VOY Vojsko 8.60 315 *e*Pn Pn 02 27 33.3 -0.3
VOY *e* 02 27 36.6
VOY *e* 02 28 09.2
VOY *e*Sn Sn 02 29 06.4 -4.4
SOP Sopron 8.63 332 ⇑*e* Pn 02 27 34.6 +0.6
KAMT Kaman 8.63 92 *e*P Pn 02 27 28.5 -5.6
ARSA Arzberg 8.68 326 ⇑*i*Pn Pn 02 27 34.7 0.0
SNR=13
ARSA ⇑*i*Sn Sn 02 29 06.8 -6.1
KOLS Kolonicke sedl 8.72 359 *e*Pn Pn 02 27 38.8 +3.5
KOLS *e*Sg Sn 02 30 19.8 +66
SLUM 8.97 165 ⇑P Pn 02 27 43.9 +5.2
SLUM 8.97 165 P Pn 02 27 43.8 +5.2
PTCC Patocco-Chiusa 9.12 316 Pn Pn 02 27 41.2 +0.4
comp=Z,5.7nm,0.3s
KWP Kalwaria 9.42 1 *e*P Pn 02 27 48.0 +3.2
KWP pmax pmax
comp=Z,6.0nm,0.9s
KWP Kalwaria 9.42 1 *e*Pn Pn 02 27 48.0 +3.2
comp=Z,5.9nm,0.9s
KWP Kalwaria 9.42 1 *e*P Pn 02 27 48.0 +3.2
comp=Z,6.0nm,0.9s
KBA Koelnbreinsper 9.57 319 ⇑*i*Pn Pn 02 27 47.0 0.0
MOA Molln 9.69 325 ⇓*i*Pn Pn 02 27 48.9 +0.4
SNR=12
MOA ⇑*i*Sn Sn 02 29 34.5 -3.0
CTI Castel Tesino 9.87 310 Pn Pn 02 27 49.2 -1.9
OKC Ostrava-Krasne 10.11 344 AMS AMS 02 32 30.0
comp=Z,300nm,9.8s
TREC Trest 10.37 333 *e*P Pn 02 27 56.8 -1.1
PGF Pioggiola 10.46 287 *e*P Pn 02 27 59.4 +0.4
comp=Z,13nm,0.9s
PGF Pioggiola 10.46 287 *e*P Pn 02 27 59.4 +0.4
PGF pmax pmax
comp=Z,6.0nm,0.9s
PGF Pioggiola 10.46 287 *e*P Pn 02 27 59.4 +0.4
GERES GERESS Array B 10.69 327 Pn Pn 02 28 02.8 +0.5
comp=Z,0.1nm,0.3s,baz=148,slow=13,SNR=13
SQTA Sankt Quirin 10.79 314 ⇓*i*Pn Pn 02 28 03.1 -0.5
SNR=9.3
SQTA ⇓*i*Sn Sn 02 30 01.7 -2.8
MOTA Moosalm 10.92 315 ⇓*i*Pn Pn 02 28 04.9 -0.5
SNR=11
MOTA ⇑*i*Sn Sn 02 30 04.9 -2.9
KHC Kasperske Hory 10.96 327 *e*P Pn 02 28 06.7 +0.7
KHC AMS AMS 02 32 50.0
comp=Z,300nm,8.2s
KHC Kasperske Hory 10.96 327 *e*P Pn 02 28 06.7 +0.7
comp=Z,300nm,8.2s
DPC Dobruska-Polom 11.04 339 *e*P Pn 02 28 05.1 -2.0
SWA2 11.20 167 ⇓*e*P Pn 02 28 06.6 -2.7
SWA2 S Sn 02 30 02.4 -12
SWA1 11.23 166 ⇑*e*P Pn 02 28 07.7 -1.9
PRU Pruhonice 11.29 333 *e*P Pn 02 28 09.8 -0.7
PRU AMS AMS 02 33 10.0
comp=Z,200nm,6.9s
PRU Pruhonice 11.29 333 *e*P Pn 02 28 09.8 -0.7
comp=Z,200nm,6.9s
DAVOX Davos 11.30 310 Pn Pn 02 28 09.9 -0.7
comp=Z,0.7nm,0.3s,baz=142,slow=17,SNR=9.1
AKASG Malin Array Be 11.48 22 Pn Pn 02 28 13.9 +0.9
comp=Z,0.4nm,0.3s,baz=226,slow=13,SNR=2.6
ANN Anapa 11.89 62 *e*P Pn 02 28 23.6 +4.9
ANN *e*S Sn 02 30 41.5 +10
ANN pmax pmax
comp=Z,18nm,1.1s
MMAI Mount Meron Ar 12.56 121 Pn Pn 02 28 29.7 +1.8
comp=Z,1.0nm,0.3s,baz=308,slow=20,SNR=3.6
LPG La Plagne 12.74 300 *e*P Pn 02 28 29.7 -0.6
comp=Z,14nm,0.9s
LPG La Plagne 12.74 300 *e*P Pn 02 28 29.7 -0.6
LPG pmax pmax
comp=Z,7.0nm,0.9s
LPG La Plagne 12.74 300 *e*P Pn 02 28 29.7 -0.6
comp=Z,6.9nm,0.9s
LPL La Plagne 12.76 300 *e*P Pn 02 28 30.6 +0.1
CLL Collm 12.93 332 *e*(PP) 02 28 37.0
comp=Z,3.0nm,1.0s
MOX Moxa 12.94 327 *e*P Pn 02 28 35.4 +2.4
MOX
comp=Z,100nm,19.0s
MOX Moxa 12.94 327 *e*P Pn 02 28 35.4 +2.4
comp=Z,100nm,19.0s
ORIF Oris-en-Rattie 13.16 296 *e*P Pn 02 28 34.5 -1.5
comp=Z,12nm,1.0s
ORIF Oris-en-Rattie 13.16 296 *e*P Pn 02 28 34.5 -1.5
ORIF pmax pmax
comp=Z,6.0nm,1.0s
ORIF Oris-en-Rattie 13.16 296 *e*P Pn 02 28 34.5 -1.5
comp=Z,6.2nm,1.0s
HINF Hinteralfeld 13.60 309 *e*P Pn 02 28 37.1 -5.0
comp=Z,8.0nm,0.7s
HINF Hinteralfeld 13.60 309 *e*P Pn 02 28 37.1 -5.0
HINF pmax pmax
comp=Z,4.0nm,0.7s
HINF Hinteralfeld 13.60 309 *e*P Pn 02 28 37.1 -5.0
comp=Z,4.0nm,0.7s
CDF Champ du Feu 13.65 312 *e*P Pn 02 28 36.1 -6.7
comp=Z,9.0nm,0.9s
CDF Champ du Feu 13.65 312 *e*P Pn 02 28 36.1 -6.7
CDF pmax pmax
comp=Z,5.0nm,0.9s
CDF Champ du Feu 13.65 312 *e*P Pn 02 28 36.1 -6.7
comp=Z,4.5nm,0.9s
SUW Suwalki 13.81 2 *e*P Pn 02 28 54.9 +10
SUW Suwalki 13.81 2 P Pn 02 28 47.8 +2.9
SUW pmax pmax
comp=Z,31nm,0.9s
SUW Suwalki 13.81 2 Pn Pn 02 28 47.8 +2.8
comp=Z,31nm,0.9s
SUW *e* 02 28 54.6
AVF Avril sur Loir 15.39 302 *e*P Pn 02 29 05.0 -1.3
comp=Z,18nm,1.1s
AVF Avril sur Loir 15.39 302 *e*P Pn 02 29 05.0 -1.3
AVF pmax pmax
comp=Z,9.0nm,1.1s
AVF Avril sur Loir 15.39 302 *e*P Pn 02 29 05.0 -1.3
comp=Z,9.2nm,1.1s
ESDC Sonseca Array 20.32 277 P P 02 30 04.8 -0.6
comp=Z,3.2nm,0.9s,baz=76,slow=12,SNR=2.8
ESLA Sonseca Array 20.32 277 *e*P P 02 30 04.9 -0.5
comp=Z,0.9nm,0.8s
ESLA Sonseca Array 20.32 277 *e*P P 02 30 04.9 -0.5
comp=Z,0.9nm,0.8s
HFS Hagfors 20.70 347 P P 02 30 08.9 -0.6
comp=Z,1.8nm,0.6s,baz=181,slow=14,SNR=5.9
HFS LR LR 02 38 16.0
comp=Z,49nm,19.0s,MS2.9,baz=194,slow=37
HFS Hagfors 20.70 347 P P 02 30 08.9 -0.6
HFS LR LR 02 38 16.0
NAO01 NORSAR Array S 21.88 345 *e*P P 02 30 22.1 -0.1
comp=Z,7.6nm,1.0s,mb4.1
NAO01 NORSAR Array S 21.88 345 *e*P P 02 30 22.1 -0.1
comp=Z,7.6nm,1.0s,mb4.1
NB2 NORSAR Subarra 21.99 345 P P 02 30 22.4 -1.0
comp=Z,7.2nm,1.1s,mb4.0,baz=158,slow=11
NOA NORSAR Array B 21.99 345 P P 02 30 22.8 -0.6
comp=Z,3.6nm,0.8s,mb3.9,baz=160,slow=11,SNR=9.5
NOA NORSAR Array B 21.99 345 P P 02 30 22.8 -0.6
KAF Kangasniemi 22.05 5 *ep* P 02 30 22.5 -1.5
comp=Z,3.1nm,0.8s,mb3.8,baz=185,slow=12
KAF Kangasniemi 22.05 5 *e*P P 02 30 22.5 -1.5
KAF pmax pmax
comp=Z,3.0nm,0.8s,mb3.8
EKA Eskdalemuir Ar 22.78 320 P P 02 30 31.1 -0.7
comp=Z,4.7nm,0.7s,mb4.0,baz=127,slow=10,SNR=5.6
ESK Eskdalemuir 22.79 320 P P 02 30 34.1 +2.2
ESK pmax pmax
comp=Z,12nm,0.8s,mb4.4
ESK Eskdalemuir 22.79 320 P P 02 30 34.1 +2.2
comp=Z,12nm,0.8s,mb4.4
MDT Midelt 23.00 260 P P 02 30 33.4 -0.6
comp=Z,2.3nm,0.9s,mb3.6,baz=85,slow=12,SNR=5.0
KLMR Klimovskoe 23.17 21 *e*P P 02 30 32.4 -3.5
KLMR pmax pmax
comp=Z,10.0nm,1.4s,mb4.0
KLMR Klimovskoe 23.17 21 *e*P P 02 30 32.4 -3.5
comp=Z,10.0nm,1.4s,mb4.0
JOF Joensuu 23.34 10 *e*p P 02 30 36.4 -1.2
comp=Z,3.3nm,1.0s,mb3.7
JOF Joensuu 23.34 10 *e*P P 02 30 36.4 -1.2
JOF pmax pmax
comp=Z,3.0nm,1.0s,mb3.7
AKTK Aktyubinsk 26.71 56 P P 02 31 08.8 +0.2
AKTK Aktyubinsk 26.71 56 P P 02 31 08.9 +0.3
AKTO Aktyubinsk 26.71 56 P P 02 31 08.8 +0.2
comp=Z,0.5nm,0.5s,mb3.3,baz=254,slow=12,SNR=4.3
ARCES ARCESS Array B 29.43 2 P P 02 31 31.4 -1.5
comp=Z,1.9nm,0.7s,mb3.9,baz=177,slow=10,SNR=7.6
ARCES LR LR 02 43 03.9
comp=Z,41nm,20.7s,MS3.0,baz=214,slow=36
TORD Torodi Ar. Bea 32.61 220 P P 02 31 59.6 -1.4
comp=Z,3.6nm,0.7s,mb4.4,baz=35,slow=9.2,SNR=58
ZRNK Zerenda 33.77 52 *e*P P 02 32 11.5 +0.4
ZRNK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
ZRNK Zerenda 33.77 52 *e*P P 02 32 11.5 +0.4
comp=Z,1.6nm,0.9s,mb4.0
ZRNK Zerenda 33.77 52 *e*P P 02 32 11.5 +0.4
comp=Z,1.6nm,0.9s,mb4.0
BRVK Borovoye 34.55 52 *e*P P 02 32 18.5 +0.7
BRVK pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BRVK Borovoye 34.55 52 *e*P P 02 32 18.4 +0.6
comp=Z,2.5nm,0.9s,mb4.1
BRVK Borovoye 34.55 52 *e*P P 02 32 18.5 +0.7
comp=Z,2.5nm,0.9s,mb4.1
CHKZ Chkalovo 34.77 51 *e*P P 02 32 20.4 +0.6
CHKZ pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
CHKZ Chkalovo 34.77 51 *e*P P 02 32 20.4 +0.6
comp=Z,2.4nm,0.7s,mb4.2
CHKZ Chkalovo 34.77 51 *e*P P 02 32 20.4 +0.6
comp=Z,2.4nm,0.7s,mb4.2
DBIC Dimbokro 41.46 224 P P 02 33 14.8 -1.3
comp=Z,5.5nm,0.7s,mb4.3,baz=1.5,slow=7.9,SNR=11
DBIC Dimbokro 41.46 224 *e*P P 02 33 14.4 -1.7
DBIC pmax pmax
comp=Z,6.0nm,0.8s
DBIC Dimbokro 41.46 224 *e*P P 02 33 14.4 -1.8
comp=Z,6.4nm,0.8s,mb4.3
DBIC Dimbokro 41.46 224 *e*P P 02 33 14.4 -1.7
comp=Z,6.4nm,0.8s,mb4.3
MKAR Makanchi Array 42.91 61 P P 02 33 27.7 -0.2
comp=Z,1.0nm,0.5s,mb3.8,baz=278,slow=7.6,SNR=12
SUMG Summit 43.53 338 *e*P P 02 33 34.5 +1.5
comp=Z,3.8nm,1.1s,mb4.0
SUMG Summit 43.53 338 *e*P P 02 33 34.5 +1.5
comp=Z,3.8nm,1.1s,mb4.0
SONM Songino Array 57.95 52 P P 02 35 21.6 -0.1
comp=Z,1.2nm,0.9s,mb3.9,baz=286,slow=9.0,SNR=7.9
SCHQ Schefferville 58.05 317 P P 02 35 21.6 -0.9
comp=Z,5.1nm,0.8s,mb4.6,baz=51,slow=5.7,SNR=5.8
SCHQ Schefferville 58.05 317 P P 02 35 21.5 -0.9
CD2 Chengdu 64.57 70 *e*P P 02 36 05.8 -0.8
HHC Hu-ho-hao-te 64.59 57 *e*P P 02 36 07.8 +1.1
HHC AP pP 02 36 18.0 +9.0
HHC XP sP 02 36 22.0 +12
HHC PCP PcP 02 36 42.1 +1.4
HHC PP PP 02 38 32.1 +3.4
HHC SCP 02 40 39.9
HHC PCS 02 40 44.5
HHC S S 02 44 42.4 -4.3
HHC XS sS 02 44 59.3 +9.0
HHC SCS ScS 02 45 55.3 -6.4
HHC SS SS 02 48 54.6 -2.5
HHC AMB AMB
comp=Z,147nm,7.6s
HHC LR LR
comp=N,162nm,17.0s,MS4.4
HHC LR LR
comp=E,125nm,16.3s,MS4.4
HHC LR LR
comp=Z,95nm,15.5s,MS4.1
YKA Yellowknife Ar 72.01 341 P P 02 36 52.0 -1.2
comp=Z,0.5nm,0.8s,mb3.5,baz=21,slow=6.7,SNR=5.8
YKA Yellowknife Ar 72.01 341 P P 02 36 52.0 -1.2
YKA Yellowknife Ar 72.01 341 P P 02 36 52.0 -1.2
MDJ Mudanjiang 73.15 46 P P 02 36 58.8 -1.2
MDJ AP pP 02 37 08.3 +6.0
MDJ XP sP 02 37 12.0 +8.9
MDJ AMB AMB
comp=Z,3.0nm,0.7s,mb4.3
MDJ AMB AMB
comp=Z,64nm,4.7s
MDJ LR LR
comp=N,33nm,32.1s
MDJ LR LR
comp=E,47nm,24.9s
MDJ LR LR
comp=Z,29nm,16.0s
NJ2 Nanjing 74.44 61 *e*P P 02 37 09.1 +1.5
NJ2 AMB AMB
comp=Z,40nm,1.0s,mb5.3
BDFB Brasilia 85.81 246 P P 02 38 09.1 +0.2
comp=Z,4.6nm,1.1s,mb4.6,baz=32,slow=5.2,SNR=3.5
PDAR Pinedale Array 86.74 327 LR LR 03 18 44.4
comp=Z,68nm,19.3s,MS4.1,baz=70,slow=37

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*ISCJB **18** 02:41:57.2±0.9,2344S×006×17994W±006,h534km±11km, mb4.5/43, Error ellipse: s-maj=9.6km s-min=7.5km az=131.8*
*IDC **18** 02:41:57.7±1.4,2324S×17999E,h527km±13km,mb3.9/11, mb1 4.1/13,mb1mx4.0/17,mbtmp4.8/13, Error ellipse: s-maj=15.3km s-min=12.7km az=158.0*
*MOS **18** 02:41:58.0±0.6,2330S×17999W,h542km,mb4.7/10, Error ellipse: s-maj=17.8km s-min=12.5km az=146.5*
*NEIC **18** 02:41:58.9±0.8,2329S×17998W,h544km±9km,mb4.7/31, Error ellipse: s-maj=8.8km s-min=5.9km az=159.0*
*BJI **18** 02:41:58.8,2330S×18000W,h543km,mB4.6,mb4.6*
ISC 18 02:41:57.7±0.9,2350S×006×17986W±006,h529km±11km, n121,n0s99/103,mb4.5/43,5C-3D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.99**	**164**	P	**P**	**02 43 39.0**	**+3.9**
	57nm,0.3s,baz=100,slow=19,SNR=3.1						
RAO				S	**S**	**02 44 56.5**	**+1.7**
	16nm,0.3s,baz=64,slow=23,SNR=3.0						
RAO	**Raoul Island**	**5.99**	**164**	P	**P**	**02 43 39.0**	**+3.9**
RAO				S	**S**	**02 44 56.5**	**+1.7**
AFI	**Afiamalu**	**12.22**	**40**	P	**P**	**02 44 33.2**	**-5.2**
	14nm,0.3s,baz=97,slow=6.5,SNR=4.1						
AFI	**Afiamalu**	**12.22**	**40**	*e*P	**P**	**02 44 33.5**	**-4.9**
AFI				pmax	pmax		
	comp=Z,29nm,0.4s						
AFI	**Afiamalu**	**12.22**	**40**	*e*Pn	**P**	**02 44 33.5**	**-4.9**
	comp=Z,29nm,0.4s						
DZM	**Mont Dzumac**	**12.72**	**274**	P	**P**	**02 44 42.8**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=88,slow=13,SNR=3.3						
URZ	**Urewera**	**14.94**	**189**	P	**P**	**02 45 05.1**	**-1.6**
	comp=Z,4.3nm,0.3s,baz=359,slow=5.5,SNR=22						
URZ				S	**S**	**02 47 40.6**	**-1.9**
	comp=Z,1.8nm,0.3s,baz=240,slow=22,SNR=10						
BKZ	**Black Stump Fm**	**15.93**	**190**	*e*PN	**P**	**02 45 13.5**	**-3.3**
FWVZ	**Far West T-bar**	**16.19**	**193**	*e*PN	**P**	**02 45 19.2**	**-0.3**
BFZ	**Birch Farm**	**17.44**	**190**	PN	**P**	**02 45 30.0**	**-1.3**
MRZ	**Mangatainoka R**	**17.54**	**192**	PN	**P**	**02 45 30.0**	**-2.3**
SNZO	**South Karori**	**18.34**	**193**	*e*P	**P**	**02 45 39.4**	**-0.2**
	comp=Z,97nm,1.1s						
QRZ	**Quartz Range**	**18.43**	**199**	PN	**P**	**02 45 41.6**	**+1.2**
NNZ	**Nelson**	**18.56**	**196**	PN	**P**	**02 45 41.2**	**-0.3**
THZ	**Tophouse**	**19.19**	**197**	PN	**P**	**02 45 47.3**	**0.0**
KHZ	**Kahutara**	**19.65**	**195**	PN	**P**	**02 45 50.8**	**-0.7**
LTZ	**Lake Taylor**	**20.31**	**197**	PN	**P**	**02 45 57.1**	**-0.5**
WVZ	**Waitaha Valley**	**21.02**	**200**	PN	**P**	**02 46 03.3**	**-0.7**
RPZ	**Rata Peaks**	**21.51**	**198**	P	**P**	**02 46 10.3**	**+1.9**
	comp=Z,47nm,0.9s,mb5.1,baz=68,slow=1.2,SNR=18						
FOZ	**Fox Glacier**	**21.79**	**201**	PN	**P**	**02 46 09.6**	**-1.3**
JCZ	**Jackson Bay**	**22.56**	**202**	PN	**P**	**02 46 17.8**	**0.0**
ARMA	**Armidale**	**26.29**	**249**	*e*P	**P**	**02 46 52.6**	**+1.8**
CNB	**Canberra Magne**	**29.17**	**239**	*e*P	**P**	**02 47 17.6**	**+1.6**
	comp=Z,52nm,1.1s,mb5.1						
PMOR	**Pomariorio Ree**	**31.28**	**80**	*e*P	**P**	**02 47 33.7**	**-0.5**
	comp=Z,38nm,1.0s,mb4.9						
CTA	**Charters Tower**	**31.61**	**270**	*e*P	**P**	**02 47 37.7**	**+0.7**
	comp=Z,44nm,0.5s,mb5.2						
CTA	**Charters Tower**	**31.61**	**270**	*e*P	**P**	**02 47 37.7**	**+0.7**
CTA				pmax	pmax		
	comp=Z,45nm,0.5s						
CTAO	**Charters Tower**	**31.61**	**270**	*e*P	**P**	**02 47 37.7**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,51nm,0.5s,mb5.3						
CTAO	**Charters Tower**	**31.61**	**270**	*e*P	**P**	**02 47 37.7**	**+0.7**
	comp=Z,51nm,0.5s,mb5.3						
TOO	**Toolangi**	**32.78**	**237**	*e*P	**P**	**02 47 48.0**	**+1.1**
	comp=Z,14nm,0.6s,mb4.7						
TOO	**Toolangi**	**32.78**	**237**	*e*P	**P**	**02 47 48.0**	**+1.1**
TOO				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.7						
TAU	**Tasmania Unive**	**33.30**	**226**	*e*P	**P**	**02 47 52.4**	**+1.0**
TAU				pmax	pmax		
	comp=Z,57nm,1.2s,mb5.0						
TAU	**Tasmania Unive**	**33.30**	**226**	*e*P	**P**	**02 47 52.4**	**+1.0**
	comp=Z,57nm,1.2s,mb5.0						
PMG	**Port Moresby**	**34.49**	**288**	P	**P**	**02 48 01.2**	**-0.1**
	comp=Z,34nm,0.7s,mb5.0,baz=119,slow=5.7,SNR=7.7						
PMG	**Port Moresby**	**34.49**	**288**	*e*P	**P**	**02 48 01.3**	**-0.1**
PMG				pmax	pmax		
	comp=Z,47nm,0.9s						
PMG	**Port Moresby**	**34.49**	**288**	*e*P	**P**	**02 48 01.3**	**-0.1**
	comp=Z,47nm,0.9s,mb5.0						
STKA	**Stephens Creek**	**34.99**	**248**	⇓*i*P	**P**	**02 48 04.4**	**-1.2**
	comp=Z,17nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**34.99**	**248**	P	**P**	**02 48 04.5**	**-1.1**
	comp=Z,20nm,0.5s,mb4.9,baz=92,slow=9.1,SNR=84						
ASAR	**Alice Springs**	**42.23**	**260**	P	**P**	**02 49 04.3**	**+0.1**
	comp=Z,28nm,0.7s,mb4.9,baz=96,slow=8.0,SNR=190						
ASAR				ScP	ScP	02 53 48.7	+2.6
	comp=Z,4.1nm,1.0s,baz=119,slow=3.9,SNR=11						
ASAR				S	**S**	**02 54 44.8**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=96,slow=16,SNR=4.7						
WB2	**Warramunga Arr**	**42.55**	**266**	*e*P	**P**	**02 49 06.1**	**-0.7**
WRAB	**Tennant Creek**	**42.56**	**266**	*e*P	**P**	**02 49 05.9**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,39nm,0.6s,mb5.1						
WRAB	**Tennant Creek**	**42.56**	**266**	*e*P	**P**	**02 49 05.9**	**-0.9**
	comp=Z,39nm,0.6s,mb5.1						
WRA	**Warramunga Arr**	**42.57**	**266**	P	**P**	**02 49 06.6**	**-0.2**
	comp=Z,27nm,0.6s,mb5.0,baz=101,slow=8.1,SNR=92						
WRA				ScP	ScP	02 53 49.9	+2.5
	comp=Z,3.9nm,0.9s,baz=101,slow=3.8,SNR=8.8						

KAKA	**Kakadu**	**46.41**	**275**	*e*P		**P**	02 49 35.8	-0.6	
	comp=Z,17nm,0.6s,mb4.8								
FORT	**Forrest**	**46.58**	**249**	⇓*i*P		**P**	02 49 37.2	-0.5	
	comp=Z,65nm,0.6s,mb5.3								
FITZ	**Fitzroy Crossi**	**50.99**	**265**	⇑*i*P		**P**	02 50 11.1	+0.6	
	comp=Z,23nm,0.7s,mb4.6								
SBA	**Scott Base**	**54.78**	**183**	*e*P		**P**	02 50 40.0	+2.5	
SBA				pmax	pmax				
	comp=Z,26nm,1.1s,mb4.4								
SBA	**Scott Base**	**54.78**	**183**	*e*P		**P**	02 50 40.0	+2.5	
	comp=Z,26nm,1.1s,mb4.4								
VNDA	**Vanda**	**54.79**	**185**	P		**P**	02 50 39.0	+1.4	
	comp=Z,3.6nm,0.7s,mb3.7,baz=350,slow=7.3,SNR=14								
VNDA	**Vanda**	**54.79**	**185**	*e*P		**P**	02 50 38.6	+1.1	
VNDA				pmax	pmax				
	comp=Z,3.0nm,0.7s								
VNDA	**Vanda**	**54.79**	**185**	*e*P		**P**	02 50 38.6	+1.1	
	comp=Z,3.2nm,0.7s,mb3.7								
KLBR	**Kellerberrin**	**55.27**	**247**	*e*P		**P**	02 50 41.2	+0.3	
	comp=Z,44nm,0.9s,mb4.7								
MBWA	**Marble Bar**	**55.57**	**260**	*e*P		**P**	02 50 42.4	-0.6	
	comp=Z,21nm,0.7s,mb4.5								
MUN	**Mundaring**	**56.51**	**246**	*e*P		**P**	02 50 50.1	+0.6	
CASY	**Casey**	**60.53**	**206**	*e*P		**P**	02 51 16.4	-0.2	
QSPA	**South Pole Qui**	**66.58**	**180**	*e*P		**P**	02 51 56.5	+1.2	
	comp=Z,19nm,1.1s,mb4.5								
MAW	**Mawson**	**78.17**	**200**	P		**P**	02 53 03.1	+0.8	
	comp=Z,5.7nm,0.7s,mb4.0,baz=116,slow=5.3,SNR=8.6								
SSE	**Sheshan**	**78.33**	**311**	*e*P		**P**	02 53 03.3	+0.2	
SSE				AMB	AMB				
	comp=Z,42nm,0.8s,mb4.8								
SSE				AMB	AMB				
	comp=Z,236nm,3.5s								
NJ2	**Nanjing**	**80.50**	**311**	*e*P		**P**	02 53 13.5	-1.0	
NJ2				PP	PP		02 56 27.8	+0.5	
NJ2				S	S		03 02 37.0	-0.5	
NJ2				AMB	AMB				
	comp=Z,20nm,1.1s,mb4.4								
NJ2				AMB	AMB				
	comp=Z,390nm,4.0s								
MDJ	**Mudanjiang**	**82.00**	**326**	P		**P**	02 53 22.4	+0.1	
MDJ				PP	PP		02 56 38.6	-0.9	
MDJ				S	S		03 02 56.3	+3.6	
MDJ				SS	SS		03 08 29.8	+3.0	
MDJ				AMB	AMB				
	comp=Z,5.0nm,0.8s,mb4.0								
MDJ				AMB	AMB				
	comp=Z,73nm,5.0s								
CMB	**Columbia Colle**	**82.82**	**43**	*e*P		**P**	02 53 26.2	-0.2	
CMB				pmax	pmax				
	comp=Z,14nm,1.3s,mb4.3								
CMB	**Columbia Colle**	**82.82**	**43**	*e*P		**P**	02 53 26.1	-0.2	
	comp=Z,14nm,1.3s,mb4.3								
OHCM	**Honcut**	**82.93**	**42**	*e*P		**P**	02 53 26.8	-0.1	
SNY	**Shenyang**	**83.42**	**321**	*e*P		**P**	02 53 30.9	+1.5	
SNY				AMB	AMB				
	comp=Z,136nm,11.2s								
SYO	**Syowa Base**	**83.43**	**193**	⇓*e*P		**P**	02 53 28.6	-0.9	
SYO	**Syowa Base**	**83.43**	**193**	⇑*e*PcP		PcP	02 53 30.2	-2.3	
SYO	**Syowa Base**	**83.43**	**193**	⇓*e*pP		pP	02 55 19.0	-5.1	
MTUM	**Tungsten Hills**	**83.58**	**45**	*e*P		**P**	02 53 30.5	+0.3	
CN2	**Changchun**	**83.64**	**324**	*e*P		**P**	02 53 29.3	-1.2	
YBH	**Yreka Blue Hor**	**83.69**	**39**	P		**P**	02 53 31.6	+0.8	
	comp=Z,3.0nm,0.8s,mb3.9,baz=158,slow=4.5,SNR=5.9								
NVAR	**Mina Array Bea**	**84.37**	**44**	P		**P**	02 53 34.5	+0.4	
	comp=Z,3.5nm,1.0s,mb3.9,baz=212,slow=6.4,SNR=10.0								
NEN	**Nelson**	**85.08**	**48**	*e*P		**P**	02 53 36.9	-0.6	
WVOR	**Wild Horse Val**	**86.52**	**41**	*e*P		**P**	02 53 43.8	-0.6	
WVOR				pmax	pmax				
	comp=Z,5.0nm,1.1s,mb4.1								
WVOR	**Wild Horse Val**	**86.52**	**41**	*e*P		**P**	02 53 43.8	-0.7	
	comp=Z,5.3nm,1.1s,mb4.1								
ELK	**Elko**	**87.64**	**43**	*e*P		**P**	02 53 48.9	-0.8	
ELK				pmax	pmax				
	comp=Z,13nm,1.7s								
ELK	**Elko**	**87.64**	**43**	*e*P		**P**	02 53 48.9	-0.8	
	comp=Z,13nm,1.7s,mb4.4								
MSU	**Marysvale**	**88.41**	**47**	*e*P		**P**	02 53 54.2	+0.9	
PLCA	**Paso Flores**	**88.45**	**134**	*e*P		**P**	02 53 55.0	+1.5	
PLCA				pmax	pmax				
	comp=Z,5.0nm,0.8s								
PLCA	**Paso Flores**	**88.45**	**134**	*e*P		**P**	02 53 55.0	+1.5	
	comp=Z,4.9nm,0.8s,mb4.3								
KMI	**Kunming**	**89.19**	**298**	P		**P**	02 53 57.8	+0.9	
KMI				AMB	AMB				
	comp=Z,7.0nm,0.7s,mb4.6								
TMUT	**Trail Mountain**	**89.47**	**46**	*e*P		**P**	02 53 59.1	+0.8	
HLID	**Hailey**	**89.71**	**41**	*e*P		**P**	02 53 59.2	-0.1	
	comp=Z,7.5nm,1.2s,mb4.4								
SPUT	**South Promonto**	**89.71**	**44**	*e*P		**P**	02 53 59.4	0.0	
SRU	**San Rafael**	**89.83**	**47**	*e*P		**P**	02 54 00.1	+0.2	
SRU				pmax	pmax				
	comp=Z,15nm,1.0s,mb4.8								
SRU	**San Rafael**	**89.83**	**47**	*e*P		**P**	02 54 00.1	+0.2	
	comp=Z,15nm,1.0s,mb4.8								
LAZ	**Ladron**	**89.86**	**52**	*e*P		**P**	02 54 00.8	+0.8	
MNTX	**Cornudas Mount**	**89.88**	**55**	*e*P		**P**	02 53 59.7	-0.4	
	comp=Z,13nm,1.5s,mb4.5								
HHC	**Hu-ho-hao-te**	**90.23**	**315**	*e*P		**P**	02 54 04.0	+2.3	
HHC				AP	pP		02 55 57.3	-1.1	
HHC				PP	PP		02 57 49.8	+4.9	
HHC				S			03 04 12.8		
HHC				AMB	AMB				
	comp=Z,17nm,1.2s,mb4.8								
HHC				AMB	AMB				
	comp=Z,171nm,5.1s								
TCUT	**Toone Canyon**	**90.28**	**45**	*e*P		**P**	02 54 01.1	-0.8	
HWUT	**Hardware Ranch**	**90.44**	**44**	*e*P		**P**	02 54 02.0	-0.7	
	comp=Z,2.2nm,0.4s,mb4.3								
ANMO	**Albuquerque**	**90.61**	**52**	*e*P		**P**	02 54 03.3	-0.2	
ANMO				pmax	pmax				
	comp=Z,7.0nm,1.3s								
ANMO	**Albuquerque**	**90.61**	**52**	*e*P		**P**	02 54 03.3	-0.2	
	comp=Z,7.0nm,1.3s,mb4.4								
CD2	**Chengdu**	**90.97**	**303**	*e*P		**P**	02 54 05.3	+0.1	
MCMT	**McKenzie Canyo**	**91.34**	**41**	*e*P		**P**	02 54 06.7	-0.2	
ILAR	**Eielson Array**	**91.61**	**13**	P		**P**	02 54 05.8	-2.3	
	comp=Z,0.5nm,0.5s,mb3.8,baz=223,slow=6.2,SNR=7.2								
TPAW	**Teton Pass**	**91.80**	**43**	*e*P		**P**	02 54 08.4	-0.6	
	comp=Z,1.8nm,0.7s,mb4.2								
SMCO	**Snowmass**	**92.26**	**48**	*e*P		**P**	02 54 11.1	0.0	
	comp=Z,3.7nm,1.0s,mb4.4								
BW06	**Boulder Array**	**92.31**	**44**	*e*P		**P**	02 54 10.6	-0.8	
	comp=Z,2.6nm,0.9s,mb4.3								
PDAR	**Pinedale Array**	**92.31**	**44**	P		**P**	02 54 11.3	0.0	
	comp=Z,1.9nm,0.7s,mb4.2,baz=219,slow=3.8,SNR=12								
PDAR				PP	PP		02 57 58.3	-2.8	
	comp=Z,0.3nm,0.5s,baz=259,slow=3.9,SNR=4.8								
BOZ	**Bozeman (W)**	**92.50**	**41**	*e*P		**P**	02 54 11.6	-0.6	
BOZ				pmax	pmax				
	comp=Z,1.0nm,0.8s,mb3.9								
BOZ	**Bozeman (W)**	**92.50**	**41**	*e*P		**P**	02 54 11.6	-0.6	
	comp=Z,0.9nm,0.8s,mb3.9								
LZH	**Lanzhou**	**93.23**	**308**	*e*P		**P**	02 54 17.1	+1.6	
LZH				AP	pP		02 56 11.3	-1.2	
LZH				PP	PP		02 58 14.1	+5.9	
LZH				AMB	AMB				
	comp=Z,21nm,0.3s,mb5.7								
WMQ	**Urumqi**	**107.58**	**311**	PDIF		Pdif	02 55 19.6	0.0	
WMQ				PP	PP		02 59 57.8	+2.8	
WMQ				PP	PP				
	comp=Z,9.0nm,4.7s								
ARCES	**ARCESS Array B**	**131.52**	**348**	PKP		PKPdf	03 00 07.5	-2.5	
	comp=Z,1.9nm,0.8s,baz=11,slow=1.2,SNR=9.8								
ARCES				SKPbc	SKPbc		03 02 44.5	-1.6	
	comp=Z,2.0nm,0.7s,baz=33,slow=4.9,SNR=8.2								
ARCES	**ARCESS Array B**	**131.52**	**348**	PKP		PKPdf	03 00 07.5	-2.5	
ARCES				SKPbc	SKPbc		03 02 44.5	-1.6	
NB2	**NORSAR Subarra**	**141.71**	**351**	PKPa			03 00 22.8		
	comp=Z,0.7nm,0.6s,baz=6.2,slow=3.2								
NOA	**NORSAR Array B**	**141.71**	**351**	PKPbc			03 00 22.6		
	comp=Z,1.1nm,0.8s,baz=15,slow=4.7,SNR=5.2								
NOA				SKPbc	SKPbc		03 03 13.5	-2.7	
	comp=Z,1.0nm,0.7s,baz=13,slow=4.3,SNR=3.9								
NOA	**NORSAR Array B**	**141.71**	**351**	PKP		PKPdf	03 00 22.6	-6.3	
NOA				SKPbc	SKPbc		03 03 13.5	-2.7	
HFS	**Hagfors**	**142.18**	**349**	PKHKP			03 00 23.8		
	comp=Z,5.8nm,0.3s,baz=72,slow=4.8,SNR=84								
AKASG	**Malin Array Be**	**144.71**	**329**	PKP		PKPdf	03 00 31.8	-2.3	
	comp=Z,1.6nm,0.4s,baz=44,slow=3.9,SNR=12								
BRTR	**Keskin Array B**	**147.44**	**308**	PKPbc		PKPbc	03 00 41.0	-1.1	
	comp=Z,0.4nm,0.5s,baz=155,slow=6.3,SNR=4.2								
EKA	**Eskdalemuir Ar**	**148.11**	**4**	PKPbc		PKPbc	03 00 41.8	-2.0	
	comp=Z,2.4nm,0.7s,baz=343,slow=2.6,SNR=7.5								
OJC	**Ojcow**	**149.23**	**335**	*e*PKP		PKPdf	03 00 45.1	+3.5	
MORC	**Moravsky Berou**	**150.44**	**337**	*e*PKIKP		PKPdf	03 00 49.0	+5.6	
CLL	**Collm**	**150.51**	**344**	*e*PKPdf		PKPdf	03 00 44.0	+0.4	
	comp=Z,1.0nm,0.5s								
CLL				*i* PKPbc	PKPbc		03 00 48.4	-1.1	
CLL	comp=Z,8.0nm,0.9s			*e*PKPab	PKPab		03 00 58.0	-0.6	
	comp=Z,4.0nm,0.8s								
CLL	**Collm**	**150.51**	**344**	*i* PKIKP		PKPdf	03 00 48.4	+4.8	
CLL				pmax	pmax				
	comp=Z,8.0nm,0.9s								
BRG	**Berggiesshubel**	**150.65**	**342**	⇑*i*PKP		PKPdf	03 00 48.9	+5.1	
	comp=Z,5.2nm,1.2s								
BRG	**Berggiesshubel**	**150.65**	**342**	⇑*i*PKIKP		PKPdf	03 00 48.9	+5.1	
BRG				pmax	pmax				
	comp=Z,5.0nm,1.2s								
GERES	**GERESS Array B**	**152.53**	**340**	PKPbc		PKPbc	03 00 52.5	-1.5	
	comp=Z,0.3nm,0.5s,baz=5.4,slow=2.1,SNR=5.2								
PDA	**Ponta Delgada**	**153.75**	**51**	*e*			03 36 09.0		
PDA	**Ponta Delgada**	**153.75**	**51**	*e*			04 25 10.0		
TORD	**Torodi Ar. Bea**	**169.60**	**188**	PKP		PKPdf	03 01 04.0	-0.3	
	comp=Z,1.4nm,1.1s,baz=108,slow=0.6,SNR=5.7								
TORD				PKPab	PKPab		03 02 22.6	+0.8	
	comp=Z,0.4nm,0.6s,baz=165,slow=4.5,SNR=10.0								

KRSC 18 02:54:04.1±0.6, 5457N×16174E, h17km±2km, MS3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.01**	**203**	*e*P	Pg	02 54 06.4	-0.6
MKZ				*e*S	Sg	02 54 08.2	-0.8
TUMR	**Tumrok**	**1.17**	**308**	*e*P	Pn	02 54 24.3	-1.3
TUMR				*e*S	Sb	02 54 39.7	-0.9
KII	**Karymskiy**	**1.45**	**249**	*e*P	Pn	02 54 30.3	+0.8
KII				*e*S	Sn	02 54 49.2	+1.2
KMNR	**Kamenistaya**	**1.47**	**325**	*e*P	Pn	02 54 29.6	-0.2
KMNR				*e*S	Sn	02 54 49.3	+0.7
ZLN	**Zelenaya**	**1.55**	**340**	*e*P	Pn	02 54 30.8	0.0
ZLN				*e*S	Sn	02 54 50.7	+0.2
LGNR	**Loginova**	**1.63**	**339**	*e*P	Pn	02 54 32.5	+0.5
LGNR				*e*S	Sn	02 54 53.7	+1.1
KPT	**Kopyto**	**1.65**	**329**	*e*P	Pn	02 54 32.5	+0.3
KPT				*e*S	Sn	02 54 53.2	+0.2
CIRR	**Tsirk**	**1.65**	**340**	*i* P	Pn	02 54 32.6	+0.3
CIRR				*e*S	Sn	02 54 54.2	+1.1
KBTR	**Krutoberegovo**	**1.75**	**20**	*e*P	Pn	02 54 33.8	+0.1
KBTR				*e*S	Sn	02 54 56.0	+0.4
KBG	**Krutoberegovo**	**1.78**	**18**	*e*P	Pn	02 54 34.8	+0.8
KBG				*e*S	Sn	02 54 57.5	+1.3
KBG				Smax			
	620nm,0.6s						
KRSR	**Krestovskiy**	**1.78**	**338**	*e*P	Pn	02 54 34.3	+0.2
KRSR				*e*S	Sn	02 54 56.8	+0.5
SPN	**Mys Shipunski**	**1.79**	**215**	*e*P	Pn	02 54 33.9	-0.3
SPN				*e*S	Sn	02 54 55.2	-1.4
KOZ	**Kozyrevsk**	**1.83**	**325**	*e*P	Pn	02 54 35.6	+0.8
KOZ				*e*S	Sn	02 54 58.2	+0.6
KLY	**Klyuchi**	**1.85**	**341**	*e*P	Pn	02 54 34.8	-0.3
KLY				*e*S	Sn	02 54 57.8	-0.3
NLC	**Nalytchevo**	**1.99**	**226**	*e*P	Pn	02 54 37.9	+0.9
NLC				*e*S	Sn	02 55 02.5	+0.9
BDR	**Baidarnaya**	**2.02**	**352**	*e*P	Pn	02 54 38.2	+0.8
BDR				*e*S	Sn	02 55 02.8	+0.5
SRDR	**Sredinnyy**	**2.10**	**327**	*e*P	Pn	02 54 39.7	+1.3
SRDR				*e*S	Sn	02 55 05.1	+1.0
SRKR	**Sorokina**	**2.11**	**351**	*e*P	Pn	02 54 39.5	+0.8
SRKR				*e*S	Sn	02 55 05.2	+0.7
UGLR	**Uglovaya**	**2.20**	**233**	*e*P	Pn	02 54 40.6	+0.8
UGLR				*e*S	Sn	02 55 07.2	+0.6
AVH	**Avacha**	**2.21**	**235**	*e*P	Pn	02 54 41.0	+1.1
AVH				*e*S	Sn	02 55 07.6	+0.8
ESO	**Esso**	**2.21**	**309**	*e*P	Pn	02 54 41.7	+1.8
ESO				*e*S	Sn	02 55 08.6	+1.8
KOK	**Koryaka**	**2.24**	**236**	*e*P	Pn	02 54 41.3	+0.9
KOK				*e*S	Sn	02 55 08.1	+0.5
PET	**Petropavlovsk**	**2.40**	**231**	*e*P	Pn	02 54 43.5	+0.9
PET				*e*S	Sn	02 55 12.5	+1.0
GNL	**Ganaly**	**2.40**	**250**	*e*P	Pn	02 54 43.7	+1.1
GNL				*e*S	Sn	02 55 12.1	+0.5
RUS	**Russkaya**	**2.88**	**223**	P	Pn	02 54 50.3	+1.1
RUS				*e*S	Sn	02 55 23.8	+0.4
GRL	**Gorelyy**	**2.98**	**229**	*e*P	Pn	02 54 51.8	+1.3
GRL				*e*S	Sn	02 55 26.1	+0.3
MIPR	**Malaya Ipel'ka**	**3.76**	**234**	*e*P	Pn	02 55 02.7	+1.4

JMA 18 03:03:32.6±0.4, 4504N×14918E, h141km, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.98**	**237**	P	Pn	03 04 20.0	+0.6
NEM2				*e*S	Sn	03 04 56.4	+0.9
JAK	**Akkeshi**	**3.83**	**239**	P	Pn	03 04 30.7	+0.4
JAK				*e*S	Sn	03 05 15.2	+0.2
JTKR	**Abashiri--Toko**	**3.92**	**256**	P	Pn	03 04 32.5	+1.0
JAR	**Ashorobuto**	**4.26**	**248**	P	Pn	03 04 37.6	+1.5
JOB	**Onbets**	**4.41**	**243**	P	Pn	03 04 39.1	+1.1
JOB				*e*S	Sn	03 05 30.4	+1.6
JKK2	**Kamakawa 2**	**4.75**	**258**	P	Pn	03 04 43.2	+0.7
ASAJ	**Asahikawa**	**4.79**	**261**	P	Pn	03 04 43.8	+0.7
JCH	**Churui**	**4.86**	**242**	P	Pn	03 04 44.3	+0.4
JCH				*e*S	Sn	03 05 39.6	+0.1
JEM	**Erimo**	**5.32**	**237**	P	Pn	03 04 51.8	+1.7
JNBK	**Urakawa-nobuka**	**5.42**	**242**	P	Pn	03 04 50.7	-0.7
JNB	**Noboribetsu**	**6.43**	**249**	P	Pn	03 05 05.1	+0.1
JNB				*e*S	Sn	03 06 17.6	+0.4
JKB	**Kayabe**	**6.71**	**245**	P	Pn	03 05 07.8	-0.9
JKB				*e*S	Sn	03 06 20.7	-3.2
JSR	**Shiriuchi**	**7.29**	**244**	*e*S	Sn	03 06 35.5	-2.4
JTM	**Tenmabayashi**	**7.31**	**237**	*e*S	Sn	03 06 34.1	-4.3
JANG	**Nango**	**7.32**	**233**	*e*S	Sn	03 06 35.3	-3.3
JTH	**Tanohata**	**7.43**	**229**	*e*S	Sn	03 06 39.9	-1.3
OFUJ	**Ofunato**	**8.16**	**226**	P	Pn	03 05 28.4	+0.2
OFUJ				*e*S	Sn	03 06 58.3	-0.6
JRG	**Rokugo**	**8.48**	**231**	P	Pn	03 05 33.0	+0.6
JRG				*e*S	Sn	03 07 06.5	-0.1
JIO	**Ouri**	**8.80**	**224**	*e*S	Sn	03 07 11.6	-2.7

IDC 18 03:07:56.6±4.9, 314N×14806E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/14, mbtmp3.8/4, Error ellipse: s-maj=170.7km s-min=27.0km az=91.0, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**26.60**	**210**	*e*P	P	03 13 37.3	+0.7
WRA	**Warramunga Arr**	**26.61**	**210**	P	P	03 13 37.4	+0.8
	2.3nm,1.1s,baz=32,slow=10,SNR=6.3						
ASAR	**Alice Springs**	**30.00**	**207**	P	P	03 14 07.2	+0.2
	0.4nm,0.3s,baz=40,slow=7.5,SNR=7.5						
SONM	**Songino Array**	**57.13**	**328**	P	P	03 17 45.6	+0.7
	0.3nm,0.6s,baz=137,slow=5.4,SNR=4.9						
MKAR	**Makanchi Array**	**71.27**	**319**	P	P	03 19 17.4	-0.4
	0.5nm,0.5s,baz=77,slow=9.0,SNR=3.6						

*IDC **18** 03:15:07.9±1.3, 6127S×16093E, h0km, mb4.4/5, mb1 4.6/7, mb1mx4.5/12, mbtmp4.5/7, ML4.0/2, MS4.2/10, Ms1 4.2/10, ms1mx4.0/21, Error ellipse: s-maj=47.4km s-min=21.6km az=89.0*

*ISCJB **18** 03:15:09.0±0.5, 6125S±005×1608E±03, h10km, mb4.6/13, MS4.3/11, Error ellipse: s-maj=19.1km s-min=7.6km az=178.3*

*NEIC **18** 03:15:10.0±0.6, 6124S×16090E, h10km, mb4.7/11, Error ellipse: s-maj=22.4km s-min=9.1km az=86.0*

*HRVD **18** 03:15:10.0±0.3, 6109S×16077E, h20km±1km, MW5.0/61, Centroid moment Tensor Solution. LP body waves: s28,c36;Mantle waves: s61,c87; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.04±.20; $M_{\theta\theta}$-1.78±.14; $M_{\phi\phi}$2.82±.15; $M_{r\theta}$0.24±.32; $M_{r\phi}$3.09±.14; $M_{\theta\phi}$0.32±.30; Best double couple: $M_0$3.86700×10^{16} NP1:ϕs342.00000°,δ86.00000°,λ178.00000°. NP2: ϕs72.00000°,δ88.00000°,λ4.00000°. Principal axes: T 4.4000, Plg4.0000°, Azm297.0000°; N -1.0650, Plg86.0000°, Azm93.0000°; P -3.3340, Plg2.0000°, Azm207.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **18** 03:15:10.7±1.9, 6137S×15937E, h10km, mb5.0/6 Error ellipse: s-maj=68.7km s-min=12.7km az=94.6*

*BJI **18** 03:15:11.9, 6120S×16090E, h10km, mB5.4, Ms5.1, Msz4.4*

ISC 18 03:15:10.2±0.5, 6127S±005×1608E±03, h10km, n46, σ1°§14, mb4.6/13, MS4.3/11, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**15.96**	**18**	PN	**Pn**	**03 18 55.4**	**+0.6**
VNDA	**Vanda**	**16.34**	**179**	Pn	**Pn**	**03 18 57.8**	**-1.8**
	0.3nm,0.3s,baz=349,slow=14,SNR=20						
VNDA				LR	LR	03 24 12.2	
	comp=Z,836nm,19.2s,baz=1.5,slow=33						
VNDA	**Vanda**	**16.34**	**179**	*e*P	**Pn**	**03 18 57.8**	**-1.8**
VNDA				pmax	pmax		
	comp=Z,16nm,0.9s						
VNDA	**Vanda**	**16.34**	**179**	*e*P	**Pn**	**03 18 57.8**	**-1.8**
	comp=Z,16nm,0.9s						
SBA	**Scott Base**	**16.78**	**176**	*e*P	**Pn**	**03 19 06.2**	**+1.0**
SBA				pmax	pmax		
	comp=Z,82nm,1.3s						
SBA	**Scott Base**	**16.78**	**176**	*e*P	**Pn**	**03 19 06.2**	**+1.0**
	comp=Z,82nm,1.3s						
RPZ	**Rata Peaks**	**18.61**	**24**	P	**Pn**	**03 19 26.3**	**-1.6**
	comp=Z,0.9nm,0.3s,baz=80,slow=0.5,SNR=7.0						
RPZ				LR	LR	03 25 56.8	
	comp=Z,932nm,19.0s,baz=157,slow=35						
CASY	**Casey**	**22.24**	**235**	*e*P	**P**	**03 20 06.9**	**-0.2**
	comp=Z,14nm,1.0s,mb4.3						
URZ	**Urewera**	**25.18**	**31**	LR	LR	03 29 49.7	
	comp=Z,773nm,18.5s,MS4.2,baz=160,slow=35						
QSPA	**South Pole Qui**	**28.83**	**180**	*e*P	**P**	**03 21 09.2**	**+0.6**
	comp=Z,11nm,1.0s,mb4.5						
STKA	**Stephens Creek**	**31.97**	**328**	P	**P**	**03 21 36.8**	**+0.5**
	comp=Z,2.3nm,0.8s,mb4.0,baz=147,slow=13,SNR=5.1						
STKA				LR	LR	03 32 15.0	
	comp=Z,834nm,18.9s,MS4.4,baz=164,slow=32						
STKA	**Stephens Creek**	**31.97**	**328**	*e*P	**P**	**03 21 36.6**	**+0.3**
MAW	**Mawson**	**38.45**	**218**	P	**P**	**03 22 31.8**	**-0.4**
	comp=Z,8.2nm,1.0s,mb4.4,baz=128,slow=9.8,SNR=6.9						
MAW				LR	LR	03 38 36.4	
	comp=Z,620nm,18.8s,MS4.5,baz=120,slow=37						
MAW	**Mawson**	**38.45**	**218**	P	**P**	**03 22 31.8**	**-0.4**
MAW				LR	LR	03 38 36.4	
ASAR	**Alice Springs**	**41.88**	**322**	P	**P**	**03 22 59.6**	**-0.9**
	comp=Z,5.6nm,0.9s,mb4.2,baz=163,slow=7.9,SNR=18						
ASAR				PcP	PcP	03 24 56.5	+0.3
	comp=Z,0.9nm,0.7s,baz=156,slow=4.0,SNR=2.5						
CTA	**Charters Tower**	**42.39**	**339**	P	**P**	**03 23 03.8**	**-1.0**
	comp=Z,18nm,1.1s,mb4.6,baz=178,slow=4.6,SNR=4.4						
CTAO	**Charters Tower**	**42.39**	**339**	*e*P	**P**	**03 23 06.7**	**+1.9**
CTAO				pmax	pmax		
	comp=Z,49nm,1.3s,mb5.0						
CTAO	**Charters Tower**	**42.39**	**339**	*e*P	**P**	**03 23 06.7**	**+1.9**
	comp=Z,49nm,1.3s,mb5.0						
WRA	**Warramunga Arr**	**45.27**	**324**	P	**P**	**03 23 26.2**	**-1.7**
	comp=Z,7.6nm,1.0s,mb4.5,baz=162,slow=6.7,SNR=10.0						
WRAB	**Tennant Creek**	**45.27**	**324**	*e*P	**P**	**03 23 27.0**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.8						
WRAB	**Tennant Creek**	**45.27**	**324**	*e*P	**P**	**03 23 27.0**	**-0.9**
	comp=Z,16nm,1.0s,mb4.8						
SNAA	**Sanae**	**46.86**	**187**	*e*P	**P**	**03 23 38.8**	**-1.6**
SNAA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
SNAA	**Sanae**	**46.86**	**187**	*e*P	**P**	**03 23 38.8**	**-1.6**
	comp=Z,8.0nm,1.1s,mb4.6						
VNA3	**Neumayer Olymp**	**47.60**	**184**	*e*	**P**	**03 23 46.2**	**0.0**
VNA3				*e*		03 23 52.4	
VNA2	**Neumayer--Watz**	**47.83**	**185**	*e*	**P**	**03 23 48.2**	**+0.2**
	baz=150,slow=3.6						
VNA2				*e*	

KDAK	**Kodiak Island**	**7.97**	**51**	Pn		**Pn**	03 33 23.1	**-0.5**
	0.9nm,0.3s,baz=253,slow=4.2,SNR=4.6							
KDAK				Sn		**Sn**	03 33 47.2	**-5.5**
	0.4nm,0.3s,baz=115,slow=18,SNR=4.1							
FX1	**Attu Island--F**	**13.61**	**277**	Pn		**Pn**	03 33 42.2	**+1.5**
	2.1nm,0.3s,baz=58,slow=3.3,SNR=36							
ILAR	**Eielson Array**	**14.48**	**31**	Pn		**Pn**	03 34 49.8	**-2.8**
	0.1nm,0.3s,baz=227,slow=3.5,SNR=3.5							
DAWY	**Dawson**	**16.68**	**40**	*e*Pn		**Pn**	03 35 23.4	**+2.1**
INK	**Inuvik**	**20.87**	**32**	P		**P**	03 36 09.1	**-0.3**
	3.9nm,0.5s,baz=260,slow=14,SNR=8.4							
INK	**Inuvik**	**20.87**	**32**	*e*P		**P**	03 36 10.3	**+1.0**
	2.3nm,0.6s							
YKA	**Yellowknife Ar**	**27.25**	**51**	P		**P**	03 37 12.4	**+1.2**
	0.3nm,0.6s,mb3.0,baz=279,slow=10.0,SNR=5.0							
YKA	**Yellowknife Ar**	**27.25**	**51**	P		**P**	03 37 12.4	**+1.2**
NVAR	**Mina Array Bea**	**34.59**	**97**	P		**P**	03 38 19.8	**+3.8**
	0.6nm,0.7s,mb3.7,baz=304,slow=7.5,SNR=4.6							
NVAR	**Mina Array Bea**	**34.59**	**97**	P		**P**	03 38 19.8	**+3.8**
SONM	**Songino Array**	**53.48**	**303**	P		**P**	03 40 47.3	**+0.1**
	1.9nm,0.8s,mb4.1,baz=50,slow=7.8,SNR=14							
ARCES	**ARCESS Array B**	**57.28**	**356**	P		**P**	03 41 13.8	**-0.8**
	2.9nm,0.9s,mb4.3,baz=19,slow=7.7,SNR=3.6							
JOF	**Joensuu**	**63.49**	**352**	*e*p		**P**	03 41 55.8	**-1.2**
	0.8nm,0.4s,mb4.2							
KAF	**Kangasniemi**	**64.64**	**355**	*e*p		**P**	03 42 03.3	**-1.3**
	1.3nm,0.4s,mb4.3,baz=3.5,slow=6.2							
MKAR	**Makanchi Array**	**65.35**	**316**	P		**P**	03 42 08.7	**-0.7**
	1.1nm,0.7s,mb4.0,baz=40,slow=7.9,SNR=6.9							
HFS	**Hagfors**	**66.91**	**1**	P		**P**	03 42 18.8	**-0.5**
	3.2nm,0.9s,mb4.4,baz=8.5,slow=3.0,SNR=11							
AKTK	**Aktyubinsk**	**70.70**	**333**	P		**P**	03 42 43.2	**+0.4**
AKTO	**Aktyubinsk**	**70.70**	**333**	P		**P**	03 42 43.2	**+0.4**
	3.9nm,0.7s,mb4.5,baz=36,slow=6.7,SNR=14							
AKASG	**Malin Array Be**	**75.77**	**351**	P		**P**	03 43 12.7	**0.0**
	0.9nm,0.5s,mb4.0,baz=8.8,slow=5.7,SNR=6.2							
BRTR	**Keskin Array B**	**86.08**	**346**	P		**P**	03 44 09.1	**+1.4**
	1.5nm,0.7s,mb4.3,baz=27,slow=2.7,SNR=11							

*CSEM **18** 03:34:03.1±0.5,3879N×2897W,h0km±9km,ML2.0, Error ellipse: s-maj=11.5km s-min=2.6km az=89.0, After PDA*
*PDA **18** 03:34:03.1±0.5,3879N×2897W,h0km±9km,MD2.9,ML2.0, Error ellipse: s-maj=11.5km s-min=2.6km az=89.0*

SVSA 18 03:34:03.1±0.5,3879N×2897W,h0km±9km,MD2.9,ML2.0, Error ellipse: s-maj=11.5km s-min=2.6km az=89.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTCA	**Ponta do Capel**	**0.24**	**146**	*e*P	Pg	03 34 08.5	+0.8
PTCA				*i* S	Sg	03 34 12.0	+1.2
PTCA							
	42nm,0.1s						
PTCA	**Ponta do Capel**	**0.24**	**146**	*e*P	Pg	03 34 08.5	+0.8
PTCA				*i* S	Sg	03 34 12.0	+1.2
PCED	**Cedros**	**0.26**	**127**	*e*P	Pg	03 34 08.2	+0.1
PCED				*e*S	Sg	03 34 11.8	+0.3
PCED							
	71nm,0.2s						
PCED	**Cedros**	**0.26**	**127**	*e*P	Pg	03 34 08.2	+0.1
PCED				*e*S	Sg	03 34 11.8	+0.3
CALA	**Caldeira**	**0.29**	**134**	*e*S	Sg	03 34 12.8	+0.3
HOR	**Horta**	**0.37**	**134**	*e*P	Pg	03 34 09.8	-0.4
PICO	**Pico**	**0.51**	**124**	*e*P	Pg	03 34 12.5	-0.4
PICO				*e*S	Sg	03 34 19.6	+0.1
ROSA	**Rosais**	**0.57**	**96**	*e*P	Pg	03 34 13.1	-1.0
ROSA				*e*S	Sg	03 34 20.8	-0.7

*NEIC **18** 03:37:10.1±3.4,3105S×17896W,h90km±26km,mb4.6/3, Error ellipse: s-maj=33.8km s-min=22.0km az=220.0*
*IDC **18** 03:37:11.8±7.3,3127S×17897W,h104km±60km,mb4.0/2, mb1 4.1/4,mb1mx3.7/13,mbtmp4.3/4, Error ellipse: s-maj=51.6km s-min=32.3km az=42.0*
*ISCJB **18** 03:37:22.0±1.7,3176S±008×1799W±02,h163km±16km, mb4.2/5, Error ellipse: s-maj=30.6km s-min=13.0km az=19.5*

ISC 18 03:37:24.6±2.1,319S±01×1800E±02,h161km±19km,n30, σ1§30/35,mb4.2/5,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**6.37**	**192**	*e*PN	**Pn**	**03 38 54.3**	**-1.9**
PUZ				SN	**Sn**	**03 40 10.4**	**+2.3**
PUZ				SN	**Sn**	**03 40 10.4**	**+2.4**
PUZ	**Puketiti**	**6.37**	**192**	P	**Pn**	**03 38 54.3**	**-1.9**
PUZ				S	**Sn**	**03 40 10.5**	**+2.4**
MWZ	**Matawai**	**6.77**	**196**	PN	**Pn**	**03 39 00.1**	**-1.4**
MWZ				SN	**Sn**	**03 40 22.5**	**+4.8**
MWZ	**Matawai**	**6.77**	**196**	P	**Pn**	**03 39 00.1**	**-1.5**
MWZ				S	**Sn**	**03 40 23.7**	**+5.9**
URZ	**Urewera**	**6.81**	**199**	P	**Pn**	**03 39 01.9**	**-0.2**
	0.4nm,0.3s,baz=338,slow=15,SNR=5.0						
URZ				S	**Sn**	**03 40 24.8**	**+6.1**
	8.4nm,0.3s,baz=145,slow=21,SNR=15						
URZ	**Urewera**	**6.81**	**199**	PN	**Pn**	**03 39 01.2**	**-0.9**
URZ				SN	**Sn**	**03 40 24.5**	**+5.8**
URZ				SN	**Sn**	**03 40 25.7**	**+7.0**
URZ	**Urewera**	**6.81**	**199**	P	**Pn**	**03 39 01.2**	**-0.9**
KNZ	**Kokohu**	**7.40**	**194**	*e*PN	**Pn**	**03 39 12.7**	**+2.9**
BKZ	**Black Stump Fm**	**7.83**	**200**	PN	**Pn**	**03 39 18.6**	**+3.0**
BKZ	**Black Stump Fm**	**7.83**	**200**	P	**Pn**	**03 39 18.6**	**+3.0**
BFZ	**Birch Farm**	**9.31**	**198**	*e*PN	**Pn**	**03 39 35.7**	**+0.5**
BFZ				SN	**Sn**	**03 41 19.8**	**+1.2**
MRZ	**Mangatainoka R**	**9.48**	**201**	*e*PN	**Pn**	**03 39 33.6**	**-3.8**
MRZ				SN	**Sn**	**03 41 21.3**	**-1.4**
KIW	**Kapiti Island**	**9.87**	**203**	*e*PN	**Pn**	**03 39 42.3**	**-0.4**
KHZ	**Kahutara**	**11.72**	**204**	*e*PN	**Pn**	**03 40 05.0**	**-1.9**
KHZ				SN	**Sn**	**03 42 15.6**	**-1.1**
LTZ	**Lake Taylor**	**12.51**	**207**	SN	**Sn**	**03 42 35.3**	**-0.1**
MQZ	**McQueen's Vall**	**13.17**	**204**	SN	**Sn**	**03 42 46.5**	**-4.8**
RPZ	**Rata Peaks**	**13.77**	**208**	P	**Pn**	**03 40 35.4**	**+2.3**
	1.5nm,0.3s,baz=77,slow=13,SNR=7.5						
ASAR	**Alice Springs**	**41.31**	**270**	P	**P**	**03 44 55.0**	**+0.8**
	1.2nm,0.5s,mb3.8,baz=108,slow=6.9,SNR=15						
WB2	**Warramunga Arr**	**42.42**	**275**	*e*P	**P**	**03 45 03.2**	**-0.1**
WRAB	**Tennant Creek**	**42.43**	**275**	*e*P	**P**	**03 45 03.2**	**-0.1**
	6.3nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**42.43**	**275**	P	**P**	**03 45 03.8**	**+0.4**
	6.2nm,0.7s,mb4.4,baz=114,slow=7.8,SNR=16						
FITZ	**Fitzroy Crossi**	**50.63**	**272**	*e*P	**P**	**03 46 07.0**	**-0.1**
CASY	**Casey**	**53.04**	**208**	*e*P	**P**	**03 46 24.6**	**-0.4**
	3.2nm,0.5s,mb4.3						
QSPA	**South Pole Qui**	**58.27**	**180**	*e*P	**P**	**03 47 02.0**	**-0.2**
	5.9nm,0.9s,mb4.4						
KAF	**Kangasniemi**	**145.28**	**339**	*e*p	PKPdf	03 56 34.8	-8.3
	3.8nm,0.7s						
NB2	**NORSAR Subarra**	**149.88**	**349**	PKPa		03 56 48.1	
	comp=Z,0.8nm,0.6s,baz=19,slow=2.6						
NOA	**NORSAR Array B**	**149.88**	**349**	PKPbc	PKPbc	03 56 48.0	-7.7
	comp=Z,0.6nm,0.6s,baz=24,slow=4.3,SNR=4.8						
NOA	**NORSAR Array B**	**149.88**	**349**	PKPbc	PKPbc	03 56 48.0	-7.7
AKASG	**Malin Array Be**	**151.32**	**320**	PKPbc	PKPbc	03 56 52.1	-6.9
	comp=Z,0.4nm,0.5s,baz=57,slow=1.4,SNR=3.7						
AKASG				PKPab	PKPab	03 57 00.7	-7.0
	comp=Z,0.4nm,0.5s,baz=47,slow=4.5,SNR=4.7						
TORD	**Torodi Ar. Bea**	**161.32**	**185**	PKPab	PKPab	03 57 48.0	-2.7
	comp=Z,0.9nm,0.8s,baz=174,slow=3.8,SNR=14						

IDC 18 03:39:02.1±1.8,1873S×17411W,h0km,mb4.0/5, mb1 4.2/6,mb1mx3.9/17,mbtmp4.1/6,ML1.7/1,Error ellipse: s-maj=57.3km s-min=25.0km az=128.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.29**	**25**	Pn	Pn	03 40 21.9	-0.4
	1.4nm,0.3s,baz=218,slow=20,SNR=2.6						
AFI				Sn	Sn	03 41 14.0	-10
	6.7nm,0.3s,baz=26,slow=21,SNR=6.8						
URZ	**Urewera**	**20.91**	**200**	P	P	03 43 46.2	+0.1
	6.6nm,0.5s,baz=39,slow=5.0,SNR=6.6						
CTA	**Charters Tower**	**37.35**	**261**	P	P	03 46 17.3	+1.1
	3.2nm,0.4s,baz=96,slow=9.7,SNR=5.2						
WRA	**Warramunga Arr**	**48.50**	**260**	P	P	03 47 46.3	-0.3
	0.7nm,0.3s,baz=98,slow=8.0,SNR=5.5						
ASAR	**Alice Springs**	**48.51**	**255**	P	P	03 47 46.9	+0.3
	1.5nm,0.7s,baz=88,slow=8.8,SNR=17						
ILAR	**Eielson Array**	**85.82**	**11**	P	P	03 51 43.3	-0.1
	0.2nm,0.6s,baz=242,slow=5.9,SNR=5.6						

NNC 18 03:45:04.8±3.3,5416N×8575E,h0km,mb4.0,mpv3.9, 11C-4D,Error ellipse: s-maj=31.9km s-min=19.9km az=43.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**5.56**	**235**	⇑Pn	Pn	03 46 29.0	+0.3
	9.5nm,0.7s						
KURK				⇓Sn	Sn	03 47 37.4	+4.0
	6.0nm,0.8s						
KURK				⇑Lg		03 48 07.5	
	20nm,1.1s						
MK02	**Makanchi Array**	**7.72**	**198**	⇑Pn	Pn	03 46 55.9	-2.6
	7.1nm,1.1s,baz=25,slow=14						
MK02				⇑Sn	Sn	03 48 25.2	-1.3
	6.4nm,0.8s,baz=27,slow=28						
MK02				⇑Lg		03 49 14.4	
	16nm,0.9s,baz=28,slow=33						
VOSK	**Vostochnaya**	**8.94**	**267**	⇑Pn	Pn	03 47 14.5	-0.6
	6.6nm,0.7s						
VOSK				⇓Sn	Sn	03 48 55.2	-1.3
	6.9nm,0.8s						
CHKZ	**Chkalovo**	**8.95**	**273**	⇑Pn	Pn	03 47 16.0	+0.6
	1.5nm,0.5s						
CHKZ				⇑Sn	Sn	03 48 55.4	-1.4
	5.5nm,1.1s						
CHKZ				⇑Lg		03 49 52.3	
	7.2nm,1.1s						
BVA0	**Borovoye Array**	**9.21**	**269**	⇓Pn	Pn	03 47 19.3	+0.4
	0.5nm,0.6s,baz=76,slow=16,SNR=19						
BVA0				⇓Sn	Sn	03 49 02.8	-0.4
	1.7nm,1.1s,baz=76,slow=23,SNR=16						
ZRNK	**Zerenda**	**10.04**	**270**	⇑Pn	Pn	03 47 31.7	+1.5
	1.6nm,0.5s						
ZRNK				⇑Sn	Sn	03 49 22.3	-1.3
	5.1nm,1.2s						

IDC 18 03:45:57.2±2.5,2215S×14817E,h0km,mb1 3.4/3, mb1mx3.3/10,mbtmp3.2/3,ML3.4/3,Error ellipse: s-maj=36.3km s-min=21.1km az=55.0,Queensland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**2.72**	**319**	Pn	Pn	03 46 42.8	+0.7
	5.7nm,0.3s,baz=128,slow=17,SNR=43						
CTA				Pg	Pg	03 46 48.2	-1.1
	13nm,0.3s,baz=146,slow=18,SNR=24						
CTA				Sn	Sn	03 47 17.6	+1.9
	6.6nm,0.3s,baz=260,slow=20,SNR=5.8						
CTA				Lg		03 47 23.3	
	24nm,0.3s,baz=48,slow=23,SNR=14						
STKA	**Stephens Creek**	**11.32**	**210**	Pn	Pn	03 48 35.8	-4.4
	0.5nm,0.3s,baz=45,slow=10,SNR=3.1						
STKA				Sn	Sn	03 50 42.4	-4.9
	0.2nm,0.3s,baz=285,slow=18,SNR=3.0						
STKA				Lg		03 51 58.3	
	baz=236,slow=17,SNR=3.6						
WRA	**Warramunga Arr**	**13.10**	**277**	Pn	Pn	03 49 03.5	-1.0
	0.2nm,0.3s,baz=96,slow=13,SNR=5.3						
WRA				Lg		03 52 53.8	
	0.3nm,0.3s,baz=107,slow=25,SNR=4.9						
ASAR	**Alice Springs**	**13.23**	**261**	Pn	Pn	03 49 05.4	-1.0
	0.1nm,0.3s,baz=93,slow=13,SNR=3.1						
ASAR				Sn	Sn	03 51 31.6	-2.6
	0.1nm,0.3s,baz=93,slow=23,SNR=4.6						
ASAR				Lg		03 52 58.0	
	0.1nm,0.3s,baz=80,slow=27,SNR=5.5						
TORD	**Torodi Ar. Bea**	**146.88**	**260**	PKPbc	PKPbc	04 05 41.4	-0.1
	0.2nm,0.4s,baz=101,slow=3.2,SNR=9.8						

*LDG **18** 03:47:31.6±0.1,4302N×0.13W,h2km,Md2.1/3,Ml2.0/4*
*STR **18** 03:47:31.3±0.2,4304N×0.12W,h5km±1km,Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 18 03:47:31.8±0.2,4304N×014W,h0km,mbLg1.1/6,Error ellipse: s-maj=2.6km s-min=1.3km az=15.0,PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.16**	**86**	Pg	Pg	03 47 34.7	-0.1
LABF				Sg	Sg	03 47 36.7	-0.1
LABF	**Labassere**	**0.16**	**86**	Pg	Pg	03 47 34.4	-0.3
LABF				Lg		03 47 36.6	
REYF	**Montagne du Re**	**0.19**	**280**	Pg	Pg	03 47 34.9	-0.5
REYF				Lg		03 47 37.7	
VIEF	**Viey**	**0.19**	**142**	Pg	Pg	03 47 35.2	-0.3
VIEF				Sg	Sg	03 47 38.0	0.0
VIEF	**Viey**	**0.19**	**142**	Pg	Pg	03 47 35.3	-0.2
VIEF				Lg		03 47 38.1	
ETSF	**Etsaut**	**0.34**	**246**	*e*Pg	Pg	03 47 37.9	-0.4
ETSF				*e*Sg	Sg	03 47 41.6	-1.1
	7.4nm,0.2s						
ETSF	**Etsaut**	**0.34**	**246**	Pg	Pg	03 47 37.9	-0.4
ETSF				Lg		03 47 41.6	
	3.7nm,0.2s						
EPF	**Esparros**	**0.35**	**91**	*e*Pg	Pg	03 47 38.1	-0.4
EPF				*e*Sg	Sg	03 47 43.1	0.0
	7.7nm,0.2s						
EPF	**Esparros**	**0.35**	**91**	Pg	Pg	03 47 38.1	-0.4
EPF				Lg		03 47 43.1	
	3.8nm,0.2s						
EBIE	**Bielsa**	**0.41**	**149**	Pg	Pg	03 47 39.3	-0.3
	0.4nm,0.0s,SNR=7.9						
EBIE				Lg		03 47 44.8	
	4.6nm,0.1s,SNR=12						
ATE	**Arette**	**0.41**	**277**	Pg	Pg	03 47 39.8	+0.1
ATE				Sg	Sg	03 47 45.0	-0.1
ATE	**Arette**	**0.41**	**277**	Pg	Pg	03 47 39.4	-0.3
ATE				Lg		03 47 44.8	
RESF	**Ens**	**0.42**	**123**	Pg	Pg	03 47 39.6	-0.2
RESF				Sg	Sg	03 47 45.3	+0.1
RESF	**Ens**	**0.42**	**123**	Pg	Pg	03 47 39.6	-0.2
RESF				Lg		03 47 45.4	
LARF	**Larrau**	**0.62**	**270**	Pg	Pg	03 47 43.9	+0.2
LARF				Sg	Sg	03 47 52.4	+0.6
LARF	**Larrau**	**0.62**	**270**	Pg	Pg	03 47 43.7	0.0
LARF				Lg		03 47 52.4	
MELF	**Melles**	**0.68**	**104**	Lg		03 47 53.1	
SJPF	**Ste Jean**	**0.80**	**276**	*e*Pg	Pg	03 47 47.1	0.0
SJPF				*e*Sg	Sg	03 47 57.7	+0.2
	1.7nm,0.3s						
SJPF	**Ste Jean**	**0.80**	**276**	Pg	Pg	03 47 47.1	0.0
SJPF				Lg		03 47 57.7	
	0.9nm,0.3s						
EGRA	**Graus**	**0.91**	**158**	Lg		03 48 02.4	
	0.7nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**1.02**	**281**	Lg		03 48 04.9	
	0.2nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**1.03**	**278**	Pg	Pg	03 47 51.1	-0.4
	0.1nm,0.1s,SNR=7.9						
ELIZ				Lg		03 48 05.2	
	0.3nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.34**	**191**	Pg	Pg	03 47 58.0	+0.6
	0.1nm,0.1s,SNR=7.9						
ESAC				Lg		03 48 15.0	
	1.4nm,0.1s,SNR=10						
EMIR	**Miracle**	**1.67**	**132**	Pg	Pg	03 48 01.8	-1.9
	0.3nm,0.1s,SNR=4.0						
EMIR				Lg		03 48 25.4	
	1.0nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.75**	**79**	*e*Pg	Pg	03 48 04.1	-1.2
MTLF				*e*Sg	Sg	03 48 26.5	-1.5
	0.9nm,0.3s						
MTLF	**Montolieu**	**1.75**	**79**	Pg	Pg	03 48 04.1	-1.2
MTLF				Lg		03 48 26.5	
	0.4nm,0.3s						
EPOB	**Poblet**	**1.91**	**151**	Lg		03 48 31.8	
	0.9nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.00**	**18**	*e*Pg	Pg	03 48 09.2	-1.0
LFF				*e*Sg	Sg	03 48 35.1	-1.1
	1.5nm,0.2s						
LFF	**La Frestale**	**2.00**	**18**	Pg	Pg	03 48 09.2	-1.0
LFF				Lg		03 48 35.1	
	0.8nm,0.2s						
CAF	**Calviac**	**2.47**	**39**	*e*Pg	Pg	03 48 17.7	-1.4
CAF				*e*Sg	Sg	03 48 49.1	-2.0
	1.0nm,0.2s						
CAF	**Calviac**	**2.47**	**39**	Pg	Pg	03 48 17.7	-1.4
CAF				Lg		03 48 49.1	
	0.0nm,0.2s						
RJF	**Les Rejaudoux**	**2.56**	**27**	*e*Sg	Sg	03 48 52.5	-1.6
MFF	**Saint Martin d**	**3.57**	**360**	*e*Pg	Pg	03 48 37.8	-2.3
MFF				*e*Sg	Sg	03 49 23.6	-2.7
	1.4nm,0.4s						
MFF	**Saint Martin d**	**3.57**	**360**	Pg	Pg	03 48 37.8	-2.3
MFF				Lg		03 49 23.6	
	0.7nm,0.4s						

*ISCJB **18** 03:51:26.0±0.3,4462N±002×920E±002,h5km±2km,Error ellipse: s-maj=2.6km s-min=2.0km az=169.5*
*NEIC **18** 03:51:26.7,4462N×927E,h4km,ML2.5(ROM), ML2.6(STR),ML2.7(LDG),After ROM.*
*ROM **18** 03:51:26.7±0.1,4462N×927E,h4km,Md2.9/21,Ml2.5/9, Error ellipse: s-maj=2.1km s-min=2.0km az=48.0*
*GEN **18** 03:51:26.1,4471N×925E,h0km,ML2.0*
*CSEM **18** 03:51:27.0±0.1,4454N×929E,h20km,ML2.8/10,Error ellipse: s-maj=1.7km s-min=1.1km az=3.0*
*LDG **18** 03:51:29.6±0.2,4448N×913E,h10km,Ml2.7/17,Error ellipse: s-maj=3.9km s-min=2.6km az=92.0*
*STR **18** 03:51:29.5±0.0,4447N×912E,h2km±1km,Ml1.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 18 03:51:26.9±0.2,4459N±002×920E±002,h9km±2km,n97, σ1§20/165,9C-3D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GENL	**Genova Univers**	**0.24**	**223**	P	**Pg**	**03 51 33.7**	**+1.8**
GENL				S	**Sg**	**03 51 38.7**	**+3.5**
BOB	**Bobbio (Coli)**	**0.25**	**44**	⇑*i*Pg	**Pg**	**03 51 30.2**	**-1.9**
BOB				Sg	**Sg**	**03 51 33.6**	**-1.9**
	2um,0.3s						
SC2M	**Scurtabr**	**0.30**	**127**	P	**Pg**	**03 51 33.4**	**+0.5**
SC2M				S	**Sg**	**03 51 39.1**	**+2.2**
CODM		**0.50**	**112**	P	**Pg**	**03 51 36.5**	**-0.2**
CODM				S	**Sg**	**03 51 43.9**	**+0.5**
GRAM		**0.63**	**98**	P	**Pg**	**03 51 38.4**	**-0.6**
GRAM				S	**Sg**	**03 51 46.6**	**-0.6**
QLNO	**Quiliano**	**0.67**	**247**	Pg	**Pg**	**03 51 41.5**	**+1.7**
BACM		**0.70**	**116**	P	**Pg**	**03 51 40.0**	**-0.4**
BACM				S	**Sg**	**03 51 49.8**	**+0.3**
VALM		**0.79**	**107**	P	**Pg**	**03 51 41.4**	**-0.7**
VALM				S	**Sg**	**03 51 52.0**	**-0.3**
FIN	**Finale Ligure**	**0.80**	**242**	Pg	**Pg**	**03 51 43.4**	**+1.0**
	54nm,0.4s						
FIN				S	**Sg**	**03 51 55.6**	**+2.7**
VINC	**Vinca**	**0.81**	**123**	P	**Pg**	**03 51 42.5**	**-0.1**
VINC				S	**Sg**	**03 51 53.8**	**+0.6**
ERBM	**Eremo**	**0.88**	**100**	Pg	**Pg**	**03 51 44.2**	**+0.3**
	31nm,0.4s						
RORO		**0.94**	**240**	P	**Pg**	**03 51 45.8**	**+0.8**
RORO				S	**Sg**	**03 51 59.1**	**+1.8**
VLC	**Villacollemand**	**0.95**	**116**	Pg	**Pg**	**03 51 44.9**	**-0.3**
	61nm,0.7s						
VLC	**Villacollemand**	**0.95**	**116**	*e*Pg	**Pg**	**03 51 44.5**	**-0.8**
VLC				*e*Sn	**Sn**	**03 52 01.7**	**+1.7**
VLC	**Villacollemand**	**0.95**	**116**	*e*Pg	**Pg**	**03 51 44.5**	**-0.7**
ROB	**Roburent**	**1.00**	**254**	P	**Pg**	**03 51 46.0**	**-0.1**
ROB				S	**Sg**	**03 51 59.6**	**+0.6**
GSCL	**Gusciola**	**1.02**	**103**	Pg	**Pg**	**03 51 46.8**	**+0.2**
	17nm,0.4s						
MONC	**Moncucco Torin**	**1.03**	**299**	Pg	**Pg**	**03 51 48.7**	**+2.0**
	53nm,0.4s						
BDI	**Bagni Di Lucca**	**1.13**	**117**	Pg	**Pg**	**03 51 47.9**	**-0.7**
	112nm,0.5s						
MAIM		**1.15**	**125**	P	**Pb**	**03 51 48.4**	**-0.4**
MONE	**Monesi**	**1.15**	**245**	P	**Pb**	**03 51 48.8**	**-0.2**
IMI	**Imperia**	**1.16**	**235**	Pg	**Pg**	**03 51 49.0**	**-0.2**
	40nm,0.4s						
MDI	**Monti di Nese**	**1.25**	**17**	Pg	**Pg**	**03 51 50.0**	**-0.8**
MDI				Sg	**Sg**	**03 52 06.6**	**-0.4**
	195nm,0.4s						
GROG	**Isola di Gorgo**	**1.26**	**156**	Pg	**Pg**	**03 51 50.5**	**-0.7**
	78nm,0.3s						
PZZT	**Monte Pizzetto**	**1.27**	**110**	Pg	**Pg**	**03 51 50.5**	**-0.9**
PII	**Pisa**	**1.29**	**132**	Pg	**Pg**	**03 51 50.9**	**-0.7**
	33nm,0.2s						
NEGI	**Negi**	**1.30**	**236**	P	**Pn**	**03 51 50.7**	**-0.5**
VAI	**Varese**	**1.32**	**347**	Pg	**Pg**	**03 51 51.6**	**-0.6**
	39nm,0.6s						
ENR	**Entracque**	**1.32**	**255**	P	**Pn**	**03 51 51.0**	**-0.5**
MUGIO	**Muggio**	**1.34**	**355**	Pg	**Pg**	**03 51 51.5**	**-1.2**
MUGIO				Sg	**Sg**	**03 52 08.2**	**-1.9**
ORO	**Oropa**	**1.35**	**321**	Pg	**Pg**	**03 51 52.2**	**-0.7**
	20nm,0.3s						
ORX	**Oropa**	**1.36**	**321**	P	**Pn**	**03 51 49.7**	**-2.3**
TRAV		**1.39**	**313**	P	**Pn**	**03 51 50.7**	**-1.7**
STV	**Sta Anna Valdi**	**1.39**	**256**	P	**Pn**	**03 51 52.2**	**-0.2**
SAL	**Salo**	**1.39**	**42**	Pg	**Pg**	**03 51 52.4**	**-1.2**
	122nm,0.8s						
SALO	**Salr**	**1.40**	**42**	Pg	**Pg**	**03 51 52.3**	**-1.4**
DOI	**San Damiano**	**1.40**	**267**	Pg	**Pg**	**03 51 53.8**	**0.0**
	37nm,0.4s						
AUTN	**L'Aution**	**1.40**	**246**	Pg	**Pg**	**03 51 54.2**	**+0.3**
AUTN				Sg	**Sg**	**03 52 13.9**	**+1.8**
AUTN	**L'Aution**	**1.40**	**246**	Pg	**Pg**	**03 51 53.3**	**-0.6**
AUTN				Sg	**S

	26nm,0.4s								
ORIF	**Oris-en-Rattie**	**2.39**	**279**	*e*Pn		**Pn**	**03 52 06.6**	**+0.4**	
ORIF				*e*Sn		**Sn**	**03 52 34.8**	**-0.7**	
ORIF				*e*Sg		**Sg**	**03 52 42.0**	**-1.7**	
	29nm,0.6s								
ORIF	**Oris-en-Rattie**	**2.39**	**279**	*e*Pn		**Pn**	**03 52 06.6**	**+0.4**	
ORIF				*e*Sn		**Sn**	**03 52 34.8**	**-0.7**	
ORIF				*e*Sg		**Sg**	**03 52 42.0**	**-1.7**	
	15nm,0.6s								
TAVF	**Tavernes**	**2.46**	**248**	Pn		**Pn**	**03 52 08.3**	**+1.1**	
TAVF	**Tavernes**	**2.46**	**248**	Pg		**Pg**	**03 52 15.7**	**+1.6**	
TAVF	**Tavernes**	**2.46**	**248**	Pg		**Pg**	**03 52 15.7**	**+1.6**	
SMRF	**Simiane la Rot**	**2.67**	**258**	*e*Pn		**Pn**	**03 52 09.4**	**-0.7**	
SMRF				*e*Sn		**Sn**	**03 52 40.0**	**-2.6**	
SMRF				*e*Sg		**Sg**	**03 52 50.8**	**-2.0**	
	15nm,0.7s								
SMRF	**Simiane la Rot**	**2.67**	**258**	*e*Pn		**Pn**	**03 52 09.4**	**-0.7**	
SMRF				*e*Sn		**Sn**	**03 52 40.0**	**-2.6**	
SMRF				*e*Sg		**Sg**	**03 52 50.8**	**-2.0**	
	7.5nm,0.7s								
PUYF	**Puyloubier**	**2.73**	**249**	Pn		**Pn**	**03 52 12.0**	**+1.1**	
DAVA	**Damuels**	**2.74**	**10**	⇑*i*Pn		**Pn**	**03 52 11.8**	**+0.8**	
DAVA				⇑*i*Sn		**Sn**	**03 52 45.9**	**+1.6**	
CABF	**La Chapelle**	**2.98**	**314**	*e*Pn		**Pn**	**03 52 15.7**	**+1.4**	
CABF				*e*Sn		**Sn**	**03 52 50.2**	**+0.1**	
	3.2nm,0.5s								
CABF	**La Chapelle**	**2.98**	**314**	*e*Pn		**Pn**	**03 52 15.7**	**+1.4**	
CABF				*e*Sn		**Sn**	**03 52 50.2**	**+0.1**	
	1.6nm,0.5s								
SQTA	**Sankt Quirin**	**2.98**	**27**	⇑*i*Pn		**Pn**	**03 52 15.5**	**+1.1**	
SQTA				⇑*i*Sn		**Sn**	**03 52 52.5**	**+2.3**	
MOTA	**Moosalm**	**3.06**	**25**	⇑*i*Pn		**Pn**	**03 52 16.9**	**+1.5**	
MOTA				⇑*i*Sn		**Sn**	**03 52 54.3**	**+2.1**	
WTTA	**Wattenberg**	**3.17**	**32**	⇓*i*Pn		**Pn**	**03 52 18.1**	**+1.1**	
WTTA				⇓*i*Sn		**Sn**	**03 52 56.1**	**+1.3**	
WATA	**Walderalm**	**3.21**	**30**	⇓*i*Pn		**Pn**	**03 52 18.1**	**+0.6**	
WATA				⇓*i*Sn		**Sn**	**03 52 54.5**	**-1.3**	
VIVF	**Saint-Julien-l**	**3.24**	**276**	*e*Pn		**Pn**	**03 52 18.2**	**+0.3**	
VIVF				*e*Sn		**Sn**	**03 52 54.7**	**-1.8**	
	6.3nm,0.5s								
VIVF	**Saint-Julien-l**	**3.24**	**276**	*e*Pn		**Pn**	**03 52 18.2**	**+0.3**	
VIVF				*e*Sn		**Sn**	**03 52 54.7**	**-1.8**	
	3.2nm,0.5s								
HINF	**Hinteralfeld**	**3.62**	**334**	*e*Pn		**Pn**	**03 52 25.0**	**+1.9**	
HINF				*e*Sn		**Sn**	**03 53 06.0**	**+0.1**	
	5.9nm,0.3s								
HINF	**Hinteralfeld**	**3.62**	**334**	*e*Pn		**Pn**	**03 52 25.0**	**+1.9**	
HINF				*e*Sn		**Sn**	**03 53 06.0**	**+0.1**	
	3.0nm,0.3s								
LASF	**Ste Croix**	**3.87**	**264**	*e*Pn		**Pn**	**03 52 26.8**	**+0.3**	
LASF				*e*Sn		**Sn**	**03 53 09.2**	**-2.8**	
	6.8nm,0.6s								
LASF	**Ste Croix**	**3.87**	**264**	*e*Pn		**Pn**	**03 52 26.8**	**+0.3**	
LASF				*e*Sn		**Sn**	**03 53 09.2**	**-2.8**	
	3.4nm,0.6s								
HAU	**Haudompre**	**3.95**	**331**	*e*Pn		**Pn**	**03 52 29.1**	**+1.5**	
HAU				*e*Sn		**Sn**	**03 53 14.2**	**+0.1**	
	12nm,0.4s								
HAU	**Haudompre**	**3.95**	**331**	*e*Pn		**Pn**	**03 52 29.1**	**+1.5**	
HAU				*e*Sn		**Sn**	**03 53 14.2**	**+0.1**	
	6.0nm,0.4s								
CDF	**Champ du Feu**	**4.05**	**342**	*e*Pn		**Pn**	**03 52 29.0**	**0.0**	
CDF				*e*Sn		**Sn**	**03 53 15.5**	**-1.1**	
	3.8nm,0.5s								
CDF	**Champ du Feu**	**4.05**	**342**	*e*Pn		**Pn**	**03 52 29.0**	**0.0**	
CDF				*e*Sn		**Sn**	**03 53 15.5**	**-1.1**	
	1.9nm,0.5s								
LOR	**Lormes**	**4.59**	**308**	*e*Pn		**Pn**	**03 52 37.6**	**+1.1**	
LOR				*e*Sn		**Sn**	**03 53 28.7**	**-1.2**	
	3.1nm,0.3s								
LOR	**Lormes**	**4.59**	**308**	*e*Pn		**Pn**	**03 52 37.6**	**+1.1**	
LOR				*e*Sn		**Sn**	**03 53 28.7**	**-1.2**	
	1.5nm,0.3s								
AVF	**Avril sur Loir**	**4.65**	**300**	*e*Pn		**Pn**	**03 52 38.2**	**+0.9**	
AVF				*e*Sn		**Sn**	**03 53 29.9**	**-1.5**	
SSF	**Saint Saulge**	**4.69**	**304**	*e*Pn		**Pn**	**03 52 38.6**	**+0.8**	
SSF				*e*Sn		**Sn**	**03 53 30.6**	**-1.6**	
	2.3nm,0.5s								
SSF	**Saint Saulge**	**4.69**	**304**	*e*Pn		**Pn**	**03 52 38.6**	**+0.8**	
SSF				*e*Sn		**Sn**	**03 53 30.6**	**-1.6**	
	1.1nm,0.5s								

IDC ***18*** *04:02:30.8±0.8, 109N×9699E, h0km, mb4.1/10, mb1 4.2/11, mb1mx4.0/18, mbtmp4.1/11, ML3.8/1, MS3.8/4, Ms1 3.8/4, ms1mx3.3/25, Error ellipse: s-maj=30.7km s-min=15.5km az=49.0*

BJI ***18*** *04:02:31.6, 062N×9725E, h40km, mB4.9, mb4.8, Ms4.5, Msz4.2*

ISCJB ***18*** *04:02:32.6±2.3, 106N±006×97.14E±007, h21km±16km, mb4.5/36, MS4.0/8, Error ellipse: s-maj=13.5km s-min=9.6km az=115.1*

MOS ***18*** *04:02:34.0±0.9, 1.10N×9706E, h33km, mb4.7/10, Error ellipse: s-maj=16.3km s-min=10.0km az=96.8*

NEIC ***18*** *04:02:36.0±0.5, 1.10N×97.18E, h30km, mb4.8/14, Error ellipse: s-maj=12.9km s-min=7.6km az=50.0*

ISC 18 04:02:36.7±2.8, 111N±007×9719E±008, h33km±19km, h34km±1.0km:pP-P, n59, σ1s07/60, mb4.5/36, MS4.0/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.42**	**46**	Pn	**Pn**	**04 03 12.7**	**-1.1**
	18nm,0.3s,baz=222,slow=6.6,SNR=61						
PSI				LR	LR	04 03 52.8	
	comp=Z,707nm,18.9s,baz=291,slow=33						
KULM	**Kulim**	**5.40**	**40**	*e*Pn	**Pn**	**04 03 54.1**	**-0.8**
QIZ	**Qiongzhong**	**21.70**	**34**	P	**P**	**04 07 25.9**	**+1.1**
QIZ				S	**S**	**04 11 18.3**	**-4.8**
QIZ				LR	LR		
	comp=E,519nm,13.8s						
QIZ				LR	LR		
	comp=Z,380nm,9.5s						
KMI	**Kunming**	**24.47**	**12**	P	**P**	**04 07 53.9**	**+1.4**
KMI				AP		04 08 00.8	
KMI				XP	sP	04 08 04.8	-1.2
KMI				PP		04 08 30.3	
KMI				S	**S**	**04 12 10.6**	**0.0**
KMI				XS	sS	04 12 24.8	-1.4
KMI				SS		04 13 06.3	
KMI				AMB	AMB		
	comp=Z,33nm,1.3s,mb4.6						
KMI				AMB	AMB		
	comp=Z,141nm,3.5s						
KMI				LR	LR		
	comp=N,725nm,14.3s,MS4.4						
KMI				LR	LR		
	comp=E,429nm,12.2s,MS4.4						
KMI				LR	LR		
	comp=Z,718nm,15.0s,MS4.3						
SHL	**Shillong**	**24.85**	**349**	*i* P	**P**	**04 07 55.5**	**-0.5**
JIRN	**Jiri**	**28.42**	**339**	*e*P	**P**	**04 08 29.6**	**+1.4**
	comp=Z,28nm,0.8s,mb4.9						
PKI	**Pulchoki**	**28.63**	**338**	*e*P	**P**	**04 08 31.1**	**+1.1**
	comp=Z,32nm,1.1s,mb5.0						
PKI	**Pulchoki**	**28.63**	**338**	*e*P	**P**	**04 08 31.1**	**+1.1**
PKI				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.0						
GUN	**Gumba**	**28.76**	**339**	*e*P	**P**	**04 08 32.6**	**+1.4**
	comp=Z,22nm,0.5s,mb5.1						
DMN	**Daman**	**28.78**	**337**	*e*P	**P**	**04 08 33.8**	**+2.4**
	comp=Z,28nm,1.0s,mb5.0						
KKN	**Kakani**	**28.88**	**338**	*e*P	**P**	**04 08 33.5**	**+1.3**
	comp=Z,23nm,0.9s,mb4.9						
KKN	**Kakani**	**28.88**	**338**	*e*P	**P**	**04 08 33.5**	**+1.3**
KKN				pmax	pmax		
	comp=Z,23nm,0.9s,mb4.9						
GKN	**Gorkha**	**29.32**	**337**	*e*P	**P**	**04 08 36.8**	**+0.7**
	comp=Z,13nm,0.6s,mb4.9						
KOLN	**Koldanda**	**29.53**	**335**	*e*P	**P**	**04 08 39.3**	**+1.3**
	comp=Z,20nm,0.7s,mb5.0						
CD2	**Chengdu**	**30.29**	**11**	*e*P	**P**	**04 08 44.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**33.89**	**126**	P	**P**	**04 09 16.6**	**+0.3**
	comp=Z,1.1nm,0.7s,mb3.9,baz=304,slow=19,SNR=4.8						
XAN	**Xi'an**	**34.55**	**17**	P	**P**	**04 09 20.6**	**-1.5**
XAN				AMB	AMB		
	comp=Z,15nm,1.3s,mb4.8						
NJ2	**Nanjing**	**36.95**	**31**	*e*P	**P**	**04 09 42.8**	**+0.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
GTA	**Gaotai**	**38.19**	**3**	*e*P	**P**	**04 09 53.1**	**0.0**
GTA				AP	pP	04 10 02.4	-0.4
GTA				XP	sP	04 10 06.3	-0.5
GTA				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.5						
HHC	**Hu-ho-hao-te**	**41.65**	**16**	*e*P	**P**	**04 10 23.3**	**+1.5**
HHC				AP	pP	04 10 33.4	+1.8
HHC				XP	sP	04 10 36.9	+1.3
HHC				PP	PP	04 12 03.5	+5.1
HHC				PCP	PcP	04 12 20.1	+1.8
HHC				SCP	ScP	04 16 04.6	-1.3
HHC				PCS	PcS	04 16 09.4	-0.3
HHC				S	**S**	**04 16 38.8**	**+2.7**
HHC				XS	sS	04 16 54.6	+2.4
HHC				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.3						
HHC				AMB	AMB		
	comp=Z,133nm,9.2s						
HHC				LR	LR		
	comp=N,334nm,17.5s,MS4.5						
HHC				LR	LR		
	comp=E,523nm,17.1s,MS4.5						
HHC				LR	LR		
	comp=Z,342nm,17.6s,MS4.3						
WRA	**Warramunga Arr**	**42.00**	**122**	P	**P**	**04 10 25.4**	**+0.7**
	comp=Z,2.3nm,0.6s,mb4.0,baz=300,slow=9.2,SNR=18						
WRAB	**Tennant Creek**	**42.01**	**122**	*e*P	**P**	**04 10 25.0**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
WRAB	**Tennant Creek**	**42.01**	**122**	*e*P	**P**	**04 10 25.0**	**+0.2**
	comp=Z,3.5nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**42.01**	**122**	*e*P	**P**	**04 10 25.5**	**+0.7**
BJT	**Baijiatuau**	**42.41**	**22**	*e*P	**P**	**04 10 28.6**	**+0.6**
BJT				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BJT	**Baijiatuau**	**42.41**	**22**	*e*P	**P**	**04 10 28.6**	**+0.6**
	comp=Z,7.9nm,0.5s,mb4.6						
BJI	**Beijing**	**42.43**	**22**	*e*P	**P**	**04 10 27.8**	**-0.4**
BJI				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.4						
ASAR	**Alice Springs**	**43.35**	**127**	P	**P**	**04 10 36.8**	**+1.1**
	comp=Z,1.2nm,0.6s,mb3.8,baz=299,slow=7.1,SNR=11						
WMQ	**Urumqi**	**43.36**	**350**	*e*P	**P**	**04 10 36.6**	**+0.9**
WMQ				AP	pP	04 10 46.6	+1.1
WMQ				XP	sP	04 10 50.6	+1.1
WMQ				PP	PP	04 12 19.9	+3.1
WMQ				PCP	PcP	04 12 25.3	+1.3
WMQ				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.7						
WMQ				LR	LR		
	comp=N,54nm,19.8s						
WMQ				LR	LR		
	comp=Z,36nm,18.4s,MS3.3						
KS15	**Wonju Array Si**	**45.90**	**34**	*e*P	**P**	**04 10 56.0**	**0.0**
SONM	**Songino Array**	**47.22**	**8**	P	**P**	**04 11 06.4**	**0.0**
	comp=Z,1.8nm,0.4s,mb4.3,baz=186,slow=9.2,SNR=25						
SONM				PcP	PcP	04 12 38.0	+0.6
	comp=Z,0.8nm,0.4s,baz=182,slow=3.6,SNR=4.9						
SONM				LR	LR	04 33 30.3	
	comp=Z,311nm,18.3s,MS4.3,baz=60,slow=39						
SONM	**Songino Array**	**47.22**	**8**	P	**P**	**04 11 06.4**	**0.0**
SONM						04 12 38.0	
MKAR	**Makanchi Array**	**47.32**	**346**	P	**P**	**04 11 07.3**	**+0.1**
	comp=Z,3.7nm,0.5s,mb4.5,baz=161,slow=8.9,SNR=47						
ULN	**Ulaanbaatar**	**47.35**	**9**	*e*P	**P**	**04 11 06.9**	**-0.5**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
ULN	**Ulaanbaatar**	**47.35**	**9**	*e*P	**P**	**04 11 06.9**	**-0.4**
	comp=Z,7.0nm,1.2s,mb4.5						
ZAK	**Zakamensk**	**49.36**	**5**	*e*P	**P**	**04 11 21.8**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.8s,mb4.3						
MJAR	**Matsushiro Arr**	**51.77**	**42**	P	**P**	**04 11 40.2**	**-0.8**
	comp=Z,1.2nm,0.5s,mb4.0,baz=216,slow=6.5,SNR=4.1						
MJAR				LR	LR	04 34 47.1	
	comp=Z,82nm,18.6s,MS3.8,baz=230,slow=37						
KURK	**Kurchatov**	**51.87**	**345**	*e*P	**P**	**04 11 41.8**	**0.0**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
KURK	**Kurchatov**	**51.87**	**345**	*e*P	**P**	**04 11 41.8**	**0.0**
	comp=Z,4.5nm,0.9s,mb4.4						
MDJ	**Mudanjiang**	**51.95**	**29**	P	**P**	**04 11 43.1**	**+0.7**
MDJ				AP	pP	04 11 52.1	-0.3
MDJ				XP	sP	04 11 56.0	-0.3
MDJ				PP	PP	04 13 41.5	+1.0
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,50nm,6.7s						
MDJ				LR	LR		
	comp=N,66nm,27.3s,MS3.6						
MDJ				LR	LR		
	comp=E,41nm,22.8s,MS3.6						
MDJ				LR	LR		
	comp=Z,101nm,18.2s,MS3.9						
CIT	**Chita**	**52.56**	**13**	*e*P	**P**	**04 11 46.9**	**0.0**
STKA	**Stephens Creek**	**53.31**	**132**	P	**P**	**04 11 52.2**	**-0.2**
	comp=Z,2.2nm,0.6s,mb4.3,baz=306,slow=8.2,SNR=6.7						
STKA	**Stephens Creek**	**53.31**	**132**	*e*P	**P**	**04 11 52.0**	**-0.4**
STKA				*e*		04 12 06.6	
KLR	**Kul'dur**	**56.34**	**27**	*e*P	**P**	**04 12 11.2**	**-3.2**
BRVK	**Borovoye**	**56.39**	**341**	*e*P	**P**	**04 12 14.2**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
BRVK	**Borovoye**	**56.39**	**341**	*e*P	**P**	**04 12 14.2**	**-0.6**
	comp=Z,3.2nm,0.9s,mb4.3						
ZRNK	**Zerenda**	**56.73**	**340**	*e*P	**P**	**04 12 15.9**	**-1.2**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
ZRNK	**Zerenda**	**56.73**	**340**	*e*P	**P**	**04 12 15.9**	**-1.3**
	comp=Z,3.1nm,0.9s,mb4.3						
CHKZ	**Chkalovo**	**56.80**	**341**	*e*P	**P**	**04 12 17.3**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
CHKZ	**Chkalovo**	**56.80**	**341**	*e*P	**P**	**04 12 17.3**	**-0.4**
	comp=Z,9.7nm,0.9s,mb4.8						
BOD	**Bodaibo**	**58.10**	**11**	*e*P	**P**	**04 12 25.9**	**-0.9**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
KMBO	**Kilima Mbogo**	**59.97**	**268**	LR	LR	04 37 24.4	
	comp=Z,70nm,18.0s,MS3.8,baz=253,slow=35						
BRTR	**Keskin Array B**	**69.16**	**312**	P	**P**	**04 13 38.2**	**-1.6**
	comp=Z,1.2nm,0.8s,mb3.9,baz=151,slow=7.0,SNR=6.2						
TIXI	**Tiksi**	**73.28**	**10**	*e*P	**P**	**04 14 01.6**	**-3.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
TIXI				MLR	MLR		
	comp=Z,121nm,13.0s,MS4.4						
AKASG	**Malin Array Be**	**75.32**	**322**	P	**P**	**04 14 15.2**	**-1.4**
	comp=Z,1.0nm,0.7s,mb3.9,baz=92,slow=4.8,SNR=5.2						
ARCES	**ARCESS Array B**	**82.61**	**340**	P	**P**	**04 14 55.0**	**-1.5**
	comp=Z,1.2nm,0.7s,mb4.0,baz=61,slow=7.5,SNR=5.4						
ARCES	**ARCESS Array B**	**82.61**	**340**	P	**P**	**04 14 55.0**	**-1.6**
GERES	**GERESS Array B**	**84.87**	**319**	P	**P**	**04 15 05.9**	**-2.2**
	comp=Z,0.9nm,0.9s,mb3.9,baz=104,slow=5.6,SNR=5.7						
CPUP	**Villa Florida**	**144.93**	**222**	PKP	PKPdf	04 22 12.2	+1.9
	comp=Z,4.6nm,1.1s,baz=72,slow=4.1,SNR=4.9						

IDC ***18*** *04:04:23.2±1.0, 2077S×17408W, h0km, mb4.4/8, mb1 4.6/10, mb1mx4.4/16, mbtmp4.4/10, ML3.7/2, MS3.9/4, Ms1 3.9/4, ms1mx3.2/26, Error ellipse: s-maj=44.1km s-min=16.9km az=150.0*

BJI ***18*** *04:04:26.5, 2060S×174.10W, h24km, mB5.2, mb4.9, Ms4.9, Msz4.4*

ISCJB ***18*** *04:04:27.3±0.3, 2057S±008×174.18W±007, h33km, mb4.6/36, MS4.0/5, Error ellipse: s-maj=13.7km s-min=6.8km az=111.6*

NEIC ***18*** *04:04:27.5±2.6, 2056S×174.13W, h24km±18km, mb4.7/23, Error ellipse: s-maj=12.0km s-min=6.0km az=151.0*

MOS ***18*** *04:04:27.1±1.1, 2059S×174.10W, h33km, mb4.9/12, Error ellipse: s-maj=18.1km s-min=12.2km az=137.0*

ISC 18 04:04:29.3±0.3, 2063S±008×17409W±006, h35km, (h38km±1.9km:pP-P), n92, σ0s90/74, mb4.6/36, MS4.0/5, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.04**	**19**	Pn	**Pn**	**04 06 07.4**	**-2.4**
	9.3nm,0.3s,baz=279,slow=4.1,SNR=7.4						
AFI				Sn	**Sn**	**04 07 18.6**	**-10**
	50nm,0.3s,baz=202,slow=23,SNR=6.2						
AFI	**Afiamalu**	**7.04**	**19**	*e*P	**Pn**	**04 06 08.4**	**-1.4**
AFI				pmax	pmax		
	comp=Z,56nm,0.5s						
AFI	**Afiamalu**	**7.04**	**19**	*e*Pn	**Pn**	**04 06 08.4**	**-1.4**
	comp=Z,56nm,0.5s						
RAR	**Rarotonga**	**13.39**	**95**	Pn	**Pn**	**04 07 35.2**	**-1.6**
	comp=Z,3.7nm,0.3s,baz=306,slow=8.7,SNR=8.3						
RAR				Sn	**Sn**	**04 09 44.4**	**-20**
	comp=Z,8.9nm,0.3s,baz=46,slow=19,SNR=5.5						
RAR				LR	LR	04 11 10.5	
	comp=Z,584nm,19.8s,baz=296,slow=30						
DZM	**Mont Dzumac**	**18.19**	**262**	P	**Pn**	**04 08 41.0**	**+2.1**
	comp=Z,0.5nm,0.3s,baz=81,slow=18,SNR=10						
URZ	**Urewera**	**19.15**	**202**	P	**Pn**	**04 08 50.9**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=150,slow=2.2,SNR=5.2						
URZ				S	**S**	**04 12 12.4**	**-12**
	comp=Z,0.3nm,0.3s,baz=147,slow=17,SNR=3.4						
TBI	**Tubuai**	**22.99**	**101**	*e*LR	LR	04 14 44.8	
	comp=Z,570nm,29.5s,baz=274						
PPT	**Papeete**	**23.36**	**87**	*e*LR	LR	04 14 50.5	
	comp=Z,637nm,26.6s,baz=260						
RPZ	**Rata Peaks**	**26.15**	**205**	P	**P**	**04 10 04.9**	**+4.8**
	comp=Z,4.0nm,0.4s,mb4.3,baz=181,slow=3.2,SNR=3.8						
HNR	**Honiara**	**27.39**	**290**	LR	LR	04 19 07.0	
	comp=Z,191nm,21.7s,MS3.6,baz=179,slow=32						
RKT	**Rikitea**	**36.32**	**101**	*e*LR	LR	04 20 55.0	
	comp=Z,466nm,28.8s,baz=275						
CTAO	**Charters Tower**	**37.12**	**264**	*e*P	**P**	**04 11 37.0**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
CTAO	**Charters Tower**	**37.12**	**264**	*e*P	**P**	**04 11 37.0**	**+0.6**
	comp=Z,10nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**41.04**	**245**	P	**P**	**04 12 06.8**	**-2.4**
	comp=Z,5.9nm,0.7s,mb4.3,baz=100,slow=9.7,SNR=12						
ASAR	**Alice Springs**	**48.05**	**256**	P	**P**	**04 13 04.7**	**-0.5**
	comp=Z,11nm,0.8s,mb4.9,baz=92,slow=8.2,SNR=77						
WB2	**Warramunga Arr**	**48.19**	**261**	*e*P	**P**	**04 13 05.2**	**-1.0**
WRAB	**Tennant Creek**	**48.20**	**261**	*e*P	**P**	**04 13 04.8**	**-1.5**
WRAB				*e*		04 13 21.4	
WRAB				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1						
WRAB	**Tennant Creek**	**48.20**	**261**	*e*P	**P**	**04 13 04.8**	**-1.4**
	comp=Z,18nm,1.0s,mb5.1						
WRAB				*e*		04 13 21.4	
WRA	**Warramunga Arr**	**48.20**	**261**	P	**P**	**04 13 05.4**	**-0.9**
	comp=Z,3.1nm,0.4s,mb4.7,baz=96,slow=7.2,SNR=29						
KAKA	**Kakadu**	**51.64**	**270**	*e*P	**P**	**04 13 32.1**	**-0.3**
	comp=Z,20nm,0.8s,mb5.1						
FORT	**Forrest**	**52.60**	**247**	*e*P	**P**	**04 13 38.8**	**-0.8**
	comp=Z,13nm,0.7s,mb5.0						
FITZ	**Fitzroy Crossi**	**56.63**	**261**	*e*P	**P**	**04 14 08.6**	**-0.2**
	comp=Z,8.8nm,1.2s,mb4.7						
FITZ	**Fitzroy Crossi**	**56.63**	**261**	P	**P**	**04 14 08.7**	**-0.1**
	comp=Z,1.4nm,0.4s,mb4.4,baz=163,slow=7.6,SNR=17						
SBA	**Scott Base**	**58.02**	**185**	*e*P	**P**	**04 14 20.0**	**+1.4**
SBA				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
SBA	**Scott Base**	**58.02**	**185**	*e*P	**P**	**04 14 20.0**	**+1.4**
	comp=Z,5.8nm,1.1s,mb4.5						
MBWA	**Marble Bar**	**61.39**	**257**	*e*P	**P**	**04 14 40.7**	**-1.1**
	comp=Z,17nm,0.8s,mb5.2						
QSPA	**South Pole Qui**	**69.45**	**180**	*e*P	**P**	**04 15 34.2**	**+0.3**
	comp=Z,16nm,1.2s,mb4.8						
MJAR	**Matsushiro Arr**	**72.54**	**321**	P	**P**	**04 15 53.2**	**+0.6**
	comp=Z,7.7nm,0.7s,mb4.7,baz=157,slow=5.8,SNR=23						
MAJO	**Matsushiro**	**72.54**	**321**	*e*P	**P**	**04 15 53.0**	**+0.4**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
MAJO	**Matsushiro**	**72.54**	**321**	*e*P	**P**	**04 15 53.0**	**+0.4**
	comp=Z,9.6nm,0.9s,mb4.7						
ASAJ	**Asahikawa**	**75.64**	**329**	LR	LR	04 41 48.7	
	comp=Z,93nm,21.8s,MS4.0,baz=0.1,slow=30						
CMB	**Columbia Colle**	**77.12**	**41**	*e*P	**P**	**04 16 19.4**	**+0.3**
CMB				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
CMB	**Columbia Colle**	**77.12**	**41**	*e*P	**P**	**04 16 19.4**	**+0.3**
	comp=Z,4.2nm,0.9s,mb4.4						
NVAR	**Mina Array Bea**	**78.65**	**41**	P	**P**	**04 16 28.4**	**+0.8**
	comp=Z,4.6nm,0.8s,mb4.5,baz=221,slow=8.6,SNR=32						
MNV	**Mina**	**78.74**	**42**	*e*P	**P**	**04 16 28.1**	**0.0**
MNV				*e*	pP	04 16 38.3	-0.8
MNV				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
MNV	**Mina**	**78.74**	**42**	*e*P	**P**	**04 16 28.1**	**0.0**
	comp=Z,6.5nm,0.9s,mb4.6						
MNV				*e*	pP	04 16 38.3	-0.8
PAHR	**Pah Rah Range**	**78.78**	**40**	*e*P	**P**	**04 16 28.8**	**+0.5**
	comp=Z,4.3nm,1.0s,mb4.3						
TPH	**Tonopah**	**79.11**	**42**	*e*P	**P**	**04 16 30.3**	**+0.2**
TPH				*e*	pP	04 16 42.6	+1.5
TPH				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
TPH	**Tonopah**	**79.11**	**42**	*e*P	**P**	**04 16 30.3**	**+0.1**
	comp=Z,9.7nm,1.1s,mb4.7						
TPH		

comp=Z,0.6nm,0.8s,mb3.9,baz=218,slow=4.4,SNR=6.3
HHC Hu-ho-hao-te 92.09 313 *e*P **P 04 17 36.1 +1.3**
HHC AP pP 04 17 46.6 +0.7
HHC XP sP 04 17 51.0 +1.1
HHC PP PP 04 21 19.9 +5.1
HHC S 04 28 33.9
HHC SS SS 04 34 47.8 +3.7
HHC AMB AMB
comp=Z,10.0nm,1.0s,mb5.1
HHC AMB AMB
comp=Z,64nm,5.8s
HHC LR LR
comp=N,164nm,22.7s,MS4.7
HHC LR LR
comp=E,242nm,20.6s,MS4.7
HHC LR LR
comp=Z,113nm,22.6s,MS4.3
KMI Kunming 92.69 296 P **P 04 17 38.9 +1.3**
KMI AP pP 04 17 49.6 +0.9
KMI XP sP 04 17 53.1 +0.4
KMI PP PP 04 21 26.0 +6.4
KMI S 04 28 37.8
KMI XS sS 04 28 56.9 -1.5
KMI SS SS 04 34 54.3 +1.6
KMI AMB AMB
comp=Z,8.0nm,1.1s,mb5.1
KMI LR LR
comp=Z,62nm,29.1s,MS3.9
CD2 Chengdu 93.96 301 *e*P **P 04 17 42.8 -0.6**
YKA Yellowknife Ar 95.12 24 P **P 04 17 47.5 -1.2**
comp=Z,0.5nm,0.9s,mb3.9,baz=235,slow=4.6,SNR=5.5
YKA Yellowknife Ar 95.12 24 P **P 04 17 47.5 -1.3**
ULM Lac du Bonnet 98.38 39 LR LR 04 55 40.7
comp=Z,45nm,18.8s,MS4.0,baz=334,slow=31
WMQ Urumqi 109.78 310 PDIF Pdif 04 18 54.8 +0.5
WMQ PP PP 04 23 32.4 +3.8
WMQ PP PP
comp=Z,93nm,4.6s
AKASG Malin Array Be 144.81 334 PKP PKPdf 04 24 00.9 -1.5
comp=Z,1.9nm,0.6s,baz=42,slow=4.3,SNR=11
MALT Malatya 146.88 309 *e*PKPbc PKPbc 04 24 09.5 +1.7
MALT *ep*PKPdf pPKPdf 04 24 21.5 +4.1
STHS Stebnicka Huta 148.78 341 *e*PKP PKPab 04 24 22.6 +5.8
STHS *e* 04 24 32.0
KOLS Kolonicke sedl 148.86 339 *e*PKP PKPab 04 24 18.7 +1.6
CLL Collm 148.88 351 *e*PKPbc PKPbc 04 24 13.0 -0.2
CLL *es*PKPab 04 24 28.0
CLL *ex* x 04 24 31.0
UPC Upice 149.13 347 *ep*PKP pPKPdf 04 24 28.5 +7.4
BRG Berggiesshubel 149.16 350 *e*P PKPab 04 24 26.0 +7.7
comp=Z,2.6nm,1.2s
BRG *i* 04 24 28.7
comp=Z,4.0nm,1.0s
DPC Dobruska-Polom 149.21 347 *e*PKPab PKPab 04 24 17.8 -0.8
DPC *ep*PKP pPKPdf 04 24 28.1 +6.8
BR131 Keskin Array S 149.58 315 *e*PKPbc PKPbc 04 24 14.8 -0.2
BR131 *e*PKPab PKPab 04 24 20.6 +0.6
BRTR Keskin Array B 149.58 315 PKPbc PKPbc 04 24 15.8 +0.9
comp=Z,2.2nm,0.9s,baz=130,slow=3.7,SNR=4.2
PRU Pruhonice 149.91 349 *e*PKPab PKPab 04 24 20.8 -0.6
KHC Kasperske Hory 150.90 350 *e*PKPbc PKPbc 04 24 20.1 +2.0
KHC *e*PKPab PKPab 04 24 26.2 +0.7
GERES GERESS Array B 151.16 349 PKPbc PKPbc 04 24 19.1 +0.4
comp=Z,0.3nm,0.5s,baz=354,slow=1.3,SNR=5.7
GERES PKPab PKPab 04 24 26.5 -0.1
comp=Z,0.7nm,0.6s,baz=5.7,slow=1.3,SNR=6.9

CSEM ***18*** *04:04:45.5±0.5, 3865N×2853W, h5km±3km, ML1.5, Error ellipse: s-maj=2.0km s-min=0.9km az=149.0, After PDA*
PDA ***18*** *04:04:45.5±0.5, 3865N×2853W, h5km±3km, MD2.8, ML1.5, Error ellipse: s-maj=2.0km s-min=0.9km az=149.0*
SVSA 18 04:04:45.5±0.5, 3865N×2853W, h5km±3km, MD2.8, ML1.5, Error ellipse: s-maj=2.0km s-min=0.9km az=149.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOR	**Horta**	**0.15**	**213**	*e*P	Pg	04 04 48.2	-0.3
HOR				*e*S	Sg	04 04 50.7	+0.1
CALA	**Caldeira**	**0.16**	**243**	*e*P	Pg	04 04 48.5	-0.1
CALA				*e*S	Sg	04 04 51.0	+0.3
PICO	**Pico**	**0.17**	**153**	*e*P	Pg	04 04 48.7	-0.2
PICO				*e*S	Sg	04 04 51.4	+0.2
ROSA	**Rosais**	**0.23**	**73**	*e*P	Pg	04 04 49.9	-0.1
ROSA				*e*S	Sg	04 04 52.9	-0.2
PMAN	**Manadas**	**0.34**	**93**	*e*S	Sg	04 04 56.4	-0.2
PMAN							
	30nm,0.2s						

IDC 18 04:13:46.9±1.1, 2811S×6319E, h0km, mb4.0/8, mb1 4.1/8, mb1mx4.0/17, mbtmp4.0/8, MS3.6/2, Ms1 3.6/2, ms1mx3.0/21, Error ellipse: s-maj=51.2km s-min=20.5km az=25.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSZ	**Lusaka**	**34.81**	**284**	P	P	04 20 39.8	+0.6
	1.7nm,0.7s,baz=97,slow=10,SNR=3.7						
WSAR	**Wadi Sarin**	**51.24**	**355**	LR	LR	04 38 46.0	
	comp=Z,44nm,19.3s,baz=43,slow=29						
ASAR	**Alice Springs**	**62.96**	**104**	P	P	04 24 16.1	+1.0
	2.7nm,0.8s,baz=242,slow=6.5,SNR=26						
WRA	**Warramunga Arr**	**64.69**	**100**	P	P	04 24 27.7	+1.1
	3.1nm,0.8s,baz=247,slow=5.7,SNR=9.6						
STKA	**Stephens Creek**	**66.58**	**115**	P	P	04 24 37.6	-1.2
	0.5nm,0.4s,baz=246,slow=4.3,SNR=3.4						
TORD	**Torodi Ar. Bea**	**72.26**	**296**	P	P	04 25 14.5	+0.5
	0.9nm,0.9s,baz=122,slow=4.3,SNR=5.1						
BRTR	**Keskin Array B**	**72.89**	**337**	P	P	04 25 17.6	-0.2
	1.4nm,0.9s,baz=158,slow=5.0,SNR=3.7						
MKAR	**Makanchi Array**	**76.53**	**13**	P	P	04 25 39.0	+0.2
	0.9nm,0.8s,baz=155,slow=3.5,SNR=4.9						
SONM	**Songino Array**	**84.98**	**28**	P	P	04 26 23.0	-1.0
	0.5nm,0.7s,baz=210,slow=4.5,SNR=4.2						
MDT	**Midelt**	**88.39**	**309**	LR	LR	05 04 38.2	
	comp=Z,50nm,20.0s,baz=111,slow=34						
YKA	**Yellowknife Ar**	**145.59**	**358**	PKPbc	PKPbc	04 33 26.2	-1.0
	0.9nm,0.5s,baz=350,slow=3.4,SNR=12						

CASC 18 04:22:12.1±2.9, 1326N×8979W, h17km±21km, MD3.5, ML3.9, 1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNJE	**San Jose**	**0.63**	**16**	*e*P	Pg	04 22 47.4	+23
SNJE				*e*S	Sg	04 22 56.9	+24
BOQS	**Boqueron**	**0.68**	**46**	*e*P	Pg	04 22 47.9	+22
BOQS				*e*S	Sg	04 22 57.4	+23
LFRS	**El Faro**	**0.79**	**63**	*e*P	Pb	04 22 49.1	+22
LFRS				*e*S	Sb	04 23 00.3	+23
LFU	**La Fuente**	**0.81**	**53**	*e*P	Pb	04 22 49.9	+22
LFU				*e*S	Sb	04 23 01.0	+23
RBDL	**Robledal**	**0.85**	**7**	*e*P	Pb	04 22 50.6	+22
LCBS	**La Ceiba**	**0.88**	**64**	*e*P	Pb	04 22 50.2	+21
IXG	**Ixpaco**	**1.11**	**324**	*e*P	Pb	04 22 31.6	-1.4
IXG				*e*S	Sb	04 22 46.2	-0.9
TP2	**Tecpan 2**	**1.93**	**322**	*e*P	Pn	04 22 44.9	+0.8
TP2				*e*S	Sn	04 23 09.9	+2.0

IDC 18 04:27:25.4±4.9, 106N×9937E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/17, mbtmp3.7/3, MS3.6/1, Ms1 3.6/1, ms1mx2.8/17, Error ellipse: s-maj=226.9km s-min=21.8km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**1.79**	**346**	Pn	Pn	04 27 56.0	-1.5
	0.6nm,0.3s,baz=107,slow=7.4,SNR=2.5						
WRA	**Warramunga Arr**	**40.13**	**123**	P	P	04 35 03.9	+1.0
	2.1nm,0.5s,baz=302,slow=9.0,SNR=9.3						
ASAR	**Alice Springs**	**41.59**	**128**	P	P	04 35 14.6	-0.5
	0.3nm,0.5s,baz=300,slow=7.7,SNR=4.9						
SONM	**Songino Array**	**46.99**	**6**	LR	LR	04 58 37.1	
	comp=Z,63nm,18.4s,baz=257,slow=40						
MKAR	**Makanchi Array**	**47.93**	**344**	P	P	04 36 05.9	+0.3
	0.5nm,0.5s,baz=162,slow=7.7,SNR=3.8						

ISCJB ***18*** *04:29:03.7±0.7, 6120S×007×160.1E±0.3, h10km, mb4.5/9, MS4.3/9, Error ellipse: s-maj=21.4km s-min=9.8km az=166.0*
IDC ***18*** *04:29:04.2±1.0, 6120S×15998E, h0km, mb4.4/4, mb1 4.5/6, mb1mx4.4/10, mbtmp4.4/6, ML3.7/2, MS4.3/11, Ms1 4.3/11, ms1mx4.1/13, Error ellipse: s-maj=50.2km s-min=24.4km az=65.0*
NEIC ***18*** *04:29:05.5±0.6, 6123S×16009E, h10km, mb4.8/7, Error ellipse: s-maj=22.0km s-min=10.3km az=82.0*
HRVD ***18*** *04:29:05.5±0.4, 6108S×16034E, h18km±1km, MW5.0/57, Centroid moment Tensor Solution. LP body waves: s14,c16;Mantle waves: s57,c80; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr~1.06±.19; Mθθ~1.41±.10; Mφφ2.46±.14; Mrθ1.90±.41; Mθφ2.01±.12; Mφr~0.94±.29; Best double couple: Mo3.59100×10^16 NP1:φ241.00000°, δ63.00000°, λ-27.00000°. NP2: φ344.00000°, δ66.00000°, λ-151.00000°. Principal axes: T 3.3190, Plg2.0000°, Azm112.0000°; N 0.5340, Plg53.0000°, Azm20.0000°; P -3.8630, Plg37.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***18*** *04:29:05.0±1.0, 6139S×15893E, h10km, mb5.0/4 Error ellipse: s-maj=99.9km s-min=16.0km az=96.4*
ISC 18 04:29:05.1±0.7, 6123S×007×1601E±03, h10km, n29, σ1§25/20, mb4.5/9, MS4.3/9, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**16.38**	**179**	Pn	Pn	**04 32 53.7**	**-1.4**
	0.2nm,0.3s,baz=351,slow=14,SNR=12						
VNDA				LR	LR	04 38 10.6	
	comp=Z,854nm,20.1s,baz=2.4,slow=33						
SBA	**Scott Base**	**16.84**	**175**	*e*P	Pn	**04 33 02.2**	**+1.2**
SBA				pmax	pmax		
	comp=Z,237nm,1.9s						
SBA	**Scott Base**	**16.84**	**175**	*e*P	Pn	**04 33 02.1**	**+1.2**
	comp=Z,237nm,1.9s						
RPZ	**Rata Peaks**	**18.71**	**25**	P	Pn	**04 33 22.7**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=188,slow=6.2,SNR=5.0						
RPZ				LR	LR	04 39 50.3	
	comp=Z,922nm,18.6s,baz=222,slow=34						
CASY	**Casey**	**21.99**	**235**	*e*P	P	**04 33 59.2**	**-0.1**
	comp=Z,25nm,1.5s,mb4.4						
URZ	**Urewera**	**25.32**	**33**	LR	LR	04 43 35.3	
	comp=Z,479nm,18.1s,MS4.0,baz=166,slow=34						
STKA	**Stephens Creek**	**31.76**	**329**	P	P	**04 35 28.6**	**-0.8**
	comp=Z,4.3nm,1.0s,mb4.2,baz=158,slow=9.3,SNR=5.3						
STKA				LR	LR	04 46 08.7	
	comp=Z,987nm,18.9s,MS4.5,baz=171,slow=32						
STKA	**Stephens Creek**	**31.76**	**329**	*e*P	P	**04 35 28.3**	**-1.2**
MAW	**Mawson**	**38.28**	**218**	LR	LR	04 52 41.4	
	comp=Z,585nm,18.0s,MS4.4,baz=272,slow=37						
ASAR	**Alice Springs**	**41.64**	**322**	P	P	**04 36 53.8**	**+0.2**
	comp=Z,6.5nm,0.8s,mb4.3,baz=163,slow=8.2,SNR=34						
ASAR				PcP	PcP		
	comp=Z,1.3nm,0.8s,baz=145,slow=3.9,SNR=4.8					04 38 52.0	+1.6
CTAO	**Charters Tower**	**42.24**	**340**	*e*P	P	**04 37 01.1**	**+2.7**
CTAO				pmax	pmax		
	comp=Z,30nm,1.3s,mb4.8						
CTAO	**Charters Tower**	**42.24**	**340**	*e*P	P	**04 37 01.1**	**+2.6**
	comp=Z,30nm,1.3s,mb4.8						
WB2	**Warramunga Arr**	**45.04**	**325**	*e*P	P	**04 37 22.6**	**+1.6**
WRA	**Warramunga Arr**	**45.04**	**325**	P	P	**04 37 20.2**	**-0.8**
	comp=Z,6.2nm,0.9s,mb4.4,baz=164,slow=6.7,SNR=17						
WRA				PcP	PcP	04 39 03.2	+1.4
	comp=Z,2.6nm,1.0s,baz=159,slow=3.1,SNR=6.7						
WRAB	**Tennant Creek**	**45.05**	**325**	*e*P	P	**04 37 20.5**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.8						
WRAB	**Tennant Creek**	**45.05**	**325**	*e*P	P	**04 37 20.5**	**-0.5**
	comp=Z,15nm,0.9s,mb4.8						
SNAA	**Sanae**	**46.85**	**187**	*e*P	P	**04 37 34.1**	**-1.2**
SNAA				pmax	pmax		
	comp=Z,14nm,1.5s						
SNAA	**Sanae**	**46.85**	**187**	*e*P	P	**04 37 34.1**	**-1.2**
	comp=Z,14nm,1.5s,mb4.7						
MBWA	**Marble Bar**	**48.85**	**307**	*e*P	P	**04 37 50.7**	**-0.1**
	comp=Z,9.2nm,0.9s,mb4.8						
PPT	**Papeete**	**56.13**	**62**	LR	LR	04 57 02.3	
	comp=Z,229nm,18.7s,MS4.3,baz=180,slow=30						
PSI	**Prapat**	**79.02**	**297**	LR	LR	05 13 39.1	
	comp=Z,184nm,18.0s,MS4.5,baz=160,slow=34						
CPUP	**Villa Florida**	**87.63**	**147**	LR	LR	05 17 09.5	
	comp=Z,72nm,19.6s,MS4.1,baz=292,slow=33						
LPAZ	**La Paz**	**93.76**	**134**	P	P	**04 42 24.4**	**+2.2**
	comp=Z,1.4nm,0.9s,mb4.4,baz=217,slow=4.1,SNR=6.2						
LPAZ				LR	LR	05 14 25.4	
	comp=Z,124nm,21.9s,MS4.3,baz=127,slow=29						
LPAZ	**La Paz**	**93.76**	**134**	*e*P	P	**04 42 24.4**	**+2.2**
LPAZ				pmax	pmax		
	comp=Z,3.0nm,1.1s						
LPAZ	**La Paz**	**93.76**	**134**	*e*P	P	**04 42 24.4**	**+2.1**
	comp=Z,2.7nm,1.1s,mb4.6						
LSZ	**Lusaka**	**94.75**	**226**	LR	LR	05 18 50.8	
	comp=Z,102nm,20.4s,MS4.3,baz=171,slow=32						
MJAR	**Matsushiro Arr**	**99.05**	**342**	LR	LR	05 24 42.5	
	comp=Z,65nm,19.6s,MS4.1,baz=55,slow=34						
TORD	**Torodi Ar. Bea**	**129.50**	**208**	PKP	PKPdf	04 48 12.9	-1.2
	comp=Z,0.8nm,1.1s,baz=20,slow=1.4,SNR=3.2						
ILAR	**Eielson Array**	**131.75**	**27**	PKP	PKPdf	04 48 17.2	-1.2
	comp=Z,0.3nm,0.9s,baz=270,slow=1.8,SNR=4.0						

HLW ***18*** *04:58:05.4, 3531N×2579E, h33km, Mb3.5*
IDC ***18*** *04:58:07.7±1.3, 3482N×2584E, h0km, mb3.7/5, mb1 3.6/8, mb1mx3.5/22, mbtmp3.5/8, ML3.9/2, MS2.6/1, Ms1 2.6/1, ms1mx2.2/35, Error ellipse: s-maj=23.2km s-min=10.8km az=15.0*
ISCJB ***18*** *04:58:07.7±0.3, 3480N±002×2589E±004, h10km, mb3.6/5, Error ellipse: s-maj=4.6km s-min=3.0km az=122.3*
CSEM ***18*** *04:58:07.3±0.1, 3481N×2596E, h8km, MD3.7, Error ellipse: s-maj=3.1km s-min=1.5km az=61.0*
NEIC ***18*** *04:58:08.6, 3481N×2579E, h16km, MD3.7(ATH), After ATH.*
ATH ***18*** *04:58:08.4, 3480N×2577E, h17km±2km, MD3.7/9*
THE ***18*** *04:58:09.9, 3480N×2569E, h10km*
ISC 18 04:58:09.5±0.3, 3484N±002×2581E±003, h10km, n45, σ1§00/57, mb3.6/5, 5C-4D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XRY	**Khrisi**	**0.10**	**292**	*e*PB	Pg	**04 58 12.0**	**-0.2**
XRY				*e*SB	Sg	**04 58 14.5**	**+0.4**
LAST	**Lasithi**	**0.43**	**320**	*e*Pg	Pg	**04 58 17.2**	**-0.7**
LAST				*e*Sg	Sg	**04 58 24.2**	**+0.7**
NPS	**Neapolis**	**0.46**	**339**	*i*PB	Pg	**04 58 17.7**	**-0.8**
NPS				*e*SB	Sg	**04 58 24.5**	**0.0**
NPS	**Neapolis**	**0.46**	**339**	*e*Pb	Pg	**04 58 17.7**	**-0.8**
NPS				*e*Sb	Sg	**04 58 24.6**	**+0.1**
SIVA	**Sivas**	**0.84**	**283**	*e*Pg	Pg	**04 58 25.0**	**-0.8**
SIVA				*e*Sg	Sg	**04 58 36.9**	**+0.1**
IDI	**Anoyia**	**0.88**	**301**	Pg	Pg	**04 58 25.0**	**-1.6**
	34nm,0.3s,baz=125,slow=16,SNR=155						
IDI				Lg		04 58 37.9	
	180nm,0.3s,baz=17,slow=24,SNR=28						
KARP	**Karpathos**	**1.31**	**57**	*e*PN	Pn	**04 58 33.5**	**-0.4**
KARP				*e*SN	Sn	**04 58 53.3**	**+1.8**
GVD	**Gavdhos**	**1.42**	**271**	*e*Pg	Pg	**04 58 35.8**	**-1.0**
GVD	**Gavdhos**	**1.42**	**271**	*e*Pg	Pg	**04 58 35.8**	**-1.0**
VAM	**Vamos**	**1.44**	**294**	*e*PN	Pn	**04 58 35.2**	**-0.5**
VAM				*e*SN	Sn	**04 58 56.0**	**+1.4**
SANT	**Santorini**	**1.56**	**349**	*e*Pg	Pg	**04 58 37.6**	**-1.8**
SANT	**Santorini**	**1.56**	**349**	*e*Pn	Pn	**04 58 36.6**	**-0.8**
SANT				*e*Sg	Sg	**04 58 59.0**	**-0.8**
SANT	**Santorini**	**1.56**	**349**	*e*Pn	Pn	**04 58 36.6**	**-0.7**
SANT	**Santorini**	**1.56**	**349**	*e*Pg	Pn	**04 58 37.6**	**+0.3**
SANT				*e*Sg	Sg	**04 58 59.0**	**-0.7**
THR3	**Thira Island,**	**1.61**	**348**	*e*Pb	Pb	**04 58 38.1**	**-1.2**
THR3				*e*Sb	Sb	**04 59 01.3**	**+1.7**
APE	**Apeiranthos**	**2.24**	**354**	*e*Pn	Pn	**04 58 47.2**	**+0.6**
APE				*e*Sn	Sn	**04 59 17.2**	**+2.8**
APE	**Apeiranthos**	**2.24**	**354**	*e*PB	Pn	**04 58 47.0**	**+0.3**
APE	**Apeiranthos**	**2.24**	**354**	*e*Pb	Pn	**04 58 46.7**	**0.0**
APE	**Apeiranthos**	**2.24**	**354**	*e*Pn	Pn	**04 58 47.2**	**+0.5**
ARG	**Arkhangelos**	**2.34**	**53**	*e*PN	Pn	**04 58 50.1**	**+2.1**
ARG	**Arkhangelos**	**2.34**	**53**	*e*Pn	Pn	**04 58 50.3**	**+2.3**
KYTH	**Kithira**	**2.68**	**303**	*e*PB	Pn	**04 58 54.5**	**+1.7**
KYTH	**Kithira**	**2.68**	**303**	*e*Pb	Pn	**04 58 55.5**	**+2.7**
SMG	**Samos**	**2.98**	**16**	*e*PN	Pn	**04 58 57.1**	**+0.2**
VLI	**Veliai**	**3.00**	**310**	*e*PN	Pn	**04 58 57.3**	**+0.2**
VLI	**Veliai**	**3.00**	**310**	*e*Pn	Pn	**04 58 57.8**	**+0.7**
SLUM		**3.37**	**189**	*i*P	Pn	**04 59 02.4**	**+0.2**
SLUM				S	Sn	**04 59 44.2**	**+1.9**
CHOS	**Chios island**	**3.55**	**3**	*e*Pn	Pn	**04 59 06.3**	**+1.7**
SWA1		**5.56**	**181**	⇑P	Pn	**04 59 32.5**	**+0.3**
SWA1				S	Sn	**05 00 36.2**	**0.0**
SWA2		**5.58**	**183**	*e*P	Pn	**04 59 32.9**	**+0.3**
AMAG	**Maghara**	**7.50**	**122**	⇓P	Pn	**04 59 57.5**	**-1.4**
BRTR	**Keskin Array B**	**7.92**	**50**	Pn	Pn	**05 00 04.0**	**-0.7**
	0.1nm,0.3s,baz=226,slow=5.8,SNR=3.2						
HFRF	**Wahat Farafira**	**7.96**	**164**	*i*P	Pn	**05 00 05.0**	**-0.2**
ASUT		**8.90**	**145**	*e*P	Pn	**05 00 17.8**	**-0.4**
HKAT	**Jabal Katrina**	**9.39**	**130**	⇑P	Pn	**05 00 24.1**	**-0.7**
VAE	**Valguarnera**	**9.59**	**289**	LR	LR	05 04 55.8	
	comp=Z,32nm,18.5s,baz=116,slow=42						
HDK1	**Dakhla**	**9.77**	**161**	⇑P	Pn	**05 00 30.8**	**+0.7**
AKASG	**Malin Array Be**	**16.05**	**8**	Pn	Pn	**05 01 55.3**	**0.0**
	0.5nm,0.3s,baz=197,slow=11,SNR=3.7						
GERES	**GERESS Array B**	**16.62**	**331**	Pn	Pn	**05 02 02.6**	**0.0**
	0.2nm,0.3s,baz=144,slow=29,SNR=3.5						
AKTK	**Aktyubinsk**	**28.08**	**46**	P	P	**05 04 00.2**	**-1.1**
AKTO	**Aktyubinsk**	**28.08**	**46**	P	P	**05 04 00.2**	**-1.1**
	0.5nm,0.4s,mb3.5,baz=241,slow=10,SNR=3.3						
TORD	**Torodi Ar. Bea**	**30.70**	**231**	P	P	**05 04 24.6**	**+0.1**
	1.0nm,0.5s,mb3.9,baz=35,slow=8.9,SNR=21						
ARCES	**ARCESS Array B**	**34.76**	**360**	P	P	**05 04 59.1**	**-0.8**
	1.0nm,0.8s,mb3.8,baz=181,slow=9.6,SNR=4.2						
MKAR	**Makanchi Array**	**43.51**	**56**	P	P	**05 06 12.8**	**-0.3**
	1.1nm,0.7s,mb3.7,baz=256,slow=8.1,SNR=7.2						
SONM	**Songino Array**	**59.28**	**51**	P	P	**05 08 11.3**	**0.0**
	0.2nm,0.5s,mb3.5,baz=282,slow=7.2,SNR=3.0						

IDC ***18*** *05:07:21.9±2.2, 007N×9751E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.6/17, mbtmp3.6/5, ML3.0/1, Error ellipse: s-maj=69.4km s-min=23.2km az=67.0*
ISCJB ***18*** *05:07:24.4±1.1, 0.1N±0.1×974E±0.2, h33km, mb3.9/6, Error ellipse: s-maj=22.3km s-min=15.9km az=138.4*
NEIC ***18*** *05:07:25.1±1.1, 0.06N×97.35E, mb4.2/2, Error ellipse: s-maj=21.8km s-min=15.6km az=67.0*
ISC 18 05:07:26.9±1.1, 01N±01×974E±01, h35km, n11, σ0§95/11, mb3.9/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.07**	**29**	Pn	Pn	**05 08 10.3**	**-2.6**
	1.9nm,0.3s,baz=224,slow=4.7,SNR=6.1						
PSI	**Prapat**	**3.07**	**29**	Pn	Pn	**05 08 10.3**	**-2.6**
KULM	**Kulim**	**6.08**	**32**	*e*Pn	Pn	**05 08 54.7**	**+0.5**
KKM	**Kota Kinabalu**	**19.67**	**72**	*e*P	Pn	**05 11 55.1**	**+0.7**
WRA	**Warramunga Arr**	**41.28**	**121**	P	P	**05 15 08.6**	**-0.2**
	0.7nm,0.4s,mb3.7,baz=301,slow=9.0,SNR=7.7						
SONM	**Songino Array**	**48.18**	**8**	P	P	**05 16 04.8**	**+1.1**
	0.3nm,0.6s,mb3.5,baz=188,slow=9.8,SNR=2.8						
MKAR	**Makanchi Array**	**48.35**	**346**	P	P	**05 16 05.3**	**+0.3**
	0.9nm,0.6s,mb4.0,baz=157,slow=6.6,SNR=6.1						
MKAR	**Makanchi Array**	**48.35**	**346**	P	P	**05 16 05.3**	**+0.3**
STKA	**Stephens Creek**	**52.47**	**132**	P	P	**05 16 35.8**	**-0.3**
	0.7nm,0.5s,mb3.9,baz=308,slow=12,SNR=2.7						
KURK	**Kurchatov**	**52.90**	**345**	*e*P	P	**05 16 39.9**	**+0.6**
	3.9nm,1.0s,mb4.3						
KURK				*e*pP	pP	05 16 47.4	-2.4
CHKZ	**Chkalovo**	**57.83**	**342**	*e*P	P	**05 17 13.7**	**-1.1**
	0.9nm,0.4s,mb4.2						
CHKZ				*e*pP	pP	05 17 21.1	-4.3

ISCJB ***18*** *05:41:08.3±2.7, 1955S×009×1690E±0.3, h72km±16km, mb3.8/5, Error ellipse: s-maj=43.8km s-min=10.1km az=31.5*
IDC ***18*** *05:41:08.4±5.2, 1984S×16931E, h72km±51km, mb3.7/5, mb1 3.9/6, mb1mx3.8/12, mbtmp4.0/6, ML4.6/1, Error ellipse: s-maj=109.9km s-min=34.7km az=143.0*
ISC 18 05:41:08.3±2.8, 1954S±009×1691E±03, h61km±17km, n8, σ0§88/9, mb4.0/5, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**2.03**	**336**	*i*P	Pn	**05 41 41.0**	**+0.8**
BKM				S	Sn	**05 42 03.8**	**-0.7**
DZM	**Mont Dzumac**	**3.54**	**224**	P	Pn	**05 42 01.7**	**+0.9**
	55nm,0.3s,baz=56,slow=12,SNR=398						
DZM				S	Sn	**05 42 40.2**	**-1.1**
	82nm,0.3s,baz=311,slow=22,SNR=20						
STKA	**Stephens Creek**	**27.58**	**238**	P	P	**05 46 49.4**	**-0.2**
	2.2nm,0.6s,mb4.0,baz=82,slow=11,SNR=9.6						
WRA	**Warramunga Arr**	**32.69**	**263**	P	P	**05 47 35.9**	**+1.2**
	0.5nm,0.4s,mb3.8,baz=98,slow=7.1,SNR=4.5						
ASAR	**Alice Springs**	**32.93**	**256**	P	P	**05 47 37.0**	**+0.1**
	4.0nm,0.6s,mb4.5,baz=86,slow=8.8,SNR=47						
SONM	**Songino Array**	**87.38**	**325**	P	P	**05 53 49.3**	**+0.5**
	0.4nm,0.6s,mb3.8,baz=152,slow=6.7,SNR=4.3						
ILAR	**Eielson Array**	**90.56**	**17**	P	P	**05 54 02.2**	**-1.5**
	0.3nm,0.6s,mb3.8,baz=239,slow=4.8,SNR=4.5						
GERES	**GERESS Array B**	**144.70**	**332**	PKPbc	PKPdf	06 00 36.2	-1.9
	0.8nm,0.6s,baz=2.6,slow=2.9,SNR=5.7						

IDC ***18*** *05:41:55.6±1.0, 3034S×17771W, h0km, mb4.6/5, mb1 4.8/6, mb1mx4.5/14, mbtmp4.6/6, ML3.9/1, MS3.8/6, Ms1 3.8/6, ms1mx3.4/18, Error ellipse: s-maj=27.7km s-min=19.5km az=120.0*
NEIC ***18*** *05:41:57.2±0.6, 3034S×17782W, h10km, mb4.8/9, Error ellipse: s-maj=15.5km s-min=12.4km az=102.0*
MOS ***18*** *05:41:59.8±1.8, 3038S×17786W, h33km, mb4.9/5, Error ellipse: s-maj=23.0km s-min=19.9km az=126.6*
ISCJB ***18*** *05:42:00.1±0.8, 3068S±005×1780W±0.1, h33km, mb4.6/12, MS3.8/4, Error ellipse: s-maj=16.3km s-min=6.0km az=26.2*
ISC 18 05:42:02.7±0.8, 3069S±005×1781W±0.1, h35km, n61, σ1§22/48, mb4.6/12, MS3.8/4, 1D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res

comp=Z,8.2nm,0.5s,mb4.9
STKA Stephens Creek 34.36 257 *e*P **P 05 48 46.6 +0.4**
comp=Z,6.1nm,0.6s,mb4.7
STKA Stephens Creek 34.36 257 P **P 05 48 47.1 +0.9**
comp=Z,12nm,0.8s,mb4.8,baz=98,slow=10,SNR=19
STKA Stephens Creek 34.36 257 *e*P **P 05 48 46.5 +0.3**
PMG Port Moresby 38.68 296 LR LR 06 01 05.1
comp=Z,45nm,19.4s,MS3.3,baz=217,slow=30
RKT Rikitea 38.97 90 *e*LR LR 05 59 33.3
comp=Z,271nm,30.0s
ASAR Alice Springs 43.04 267 P **P 05 49 59.6 +0.7**
comp=Z,3.4nm,0.4s,mb4.4,baz=105,slow=7.0,SNR=31
WB2 Warramunga Arr 44.04 272 *e*P **P 05 50 06.5 -0.5**
WRAB Tennant Creek 44.05 272 *e*P **P 05 50 07.1 0.0**
WRAB pmax pmax
comp=Z,9.0nm,0.5s,mb4.8
WRAB Tennant Creek 44.05 272 *e*P **P 05 50 07.1 +0.1**
comp=Z,8.9nm,0.5s,mb4.8
WRA Warramunga Arr 44.05 272 P **P 05 50 07.2 +0.1**
comp=Z,7.0nm,0.4s,mb4.8,baz=110,slow=8.1,SNR=133
FORT Forrest 45.92 255 *e*P **P 05 50 21.3 -0.7**
comp=Z,4.6nm,0.5s,mb4.7
VNDA Vanda 47.81 186 *e*P **P 05 50 35.7 -1.0**
VNDA pmax pmax
comp=Z,1.0nm,0.9s
VNDA Vanda 47.81 186 *e*P **P 05 50 35.7 -1.0**
comp=Z,1.3nm,0.9s,mb4.0
FITZ Fitzroy Crossi 52.30 270 *e*P **P 05 51 10.5 -0.3**
comp=Z,9.3nm,1.8s,mb4.4
CASY Casey 54.86 208 *e*P **P 05 51 30.7 +1.2**
comp=Z,6.6nm,0.6s,mb4.8
GUMO Guam 56.64 315 LR LR 06 13 07.0
comp=Z,61nm,19.8s,MS3.7,baz=151,slow=33
QSPA South Pole Qui 59.43 180 *e*P **P 05 52 04.9 +3.1**
comp=Z,14nm,0.8s,mb5.0
SYO Syowa Base 76.83 193⇓ *e*P pP 05 54 01.2 -0.7
PLCA Paso Flores 82.35 133 *e*P **P 05 54 21.2 +0.3**
PLCA pmax pmax
comp=Z,9.0nm,1.3s
PLCA Paso Flores 82.35 133 *e*P **P 05 54 21.2 +0.2**
comp=Z,9.1nm,1.3s,mb4.5
NVAR Mina Array Bea 88.48 43 P **P 05 54 48.3 -3.2**
comp=Z,1.0nm,0.8s,mb4.1,baz=215,slow=5.6,SNR=5.8
CPUP Villa Florida 99.85 128 LR LR 06 33 13.0
comp=Z,56nm,18.5s,MS4.1,baz=152,slow=31
MKAR Makanchi Array 117.91 310 PKP PKPdf 06 00 45.0 -0.6
comp=Z,0.5nm,0.7s,baz=79,slow=2.5,SNR=5.3
AKTK Aktyubinsk 134.25 312 PKP PKPdf 06 01 14.4 -2.3
AKTO Aktyubinsk 134.25 312 PKP PKPdf 06 01 14.4 -2.3
comp=Z,1.0nm,0.5s,baz=140,slow=1.3,SNR=2.8
ARCES ARCESS Array B 138.85 348 PKP PKPdf 06 01 22.0 -3.3
comp=Z,1.1nm,0.7s,baz=24,slow=3.3,SNR=3.9
JOF Joensuu 142.66 338 *e*p PKPdf 06 01 25.4 -6.7
comp=Z,0.9nm,0.4s
JOF Joensuu 142.66 338 *e*PKIKP PKPdf 06 01 25.4 -6.7
JOF pmax pmax
comp=Z,1.0nm,0.4s
NB2 NORSAR Subarra149.02 351 PKPa PKPdf 06 01 42.3 -0.6
comp=Z,3.6nm,0.7s,baz=14,slow=4.3
NOA NORSAR Array B 149.02 351 PKPbc PKPbc 06 01 42.6 -4.4
comp=Z,2.5nm,0.8s,baz=14,slow=4.3,SNR=6.2
AKASG Malin Array Be 151.49 322 PKPbc PKPbc 06 01 49.5 -3.4
comp=Z,2.9nm,0.6s,baz=49,slow=2.9,SNR=15
BRTR Keskin Array B 152.69 298 PKPbc PKPbc 06 01 54.5 -1.1
comp=Z,0.9nm,0.6s,baz=135,slow=7.5,SNR=4.1
BRTR PKPab PKPab 06 02 05.9 -0.5
comp=Z,1.0nm,0.7s,baz=151,slow=5.2,SNR=3.9
TORD Torodi Ar. Bea 162.54 179 PKPab PKPab 06 02 50.0 +1.1
comp=Z,1.4nm,0.6s,baz=184,slow=3.4,SNR=12

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*NEIC **18** 05:47:33.4±1.1,469N×9621E,h30km,mb4.2/2,Error ellipse: s-maj=29.8km s-min=14.4km az=58.0*
*IDC **18** 05:47:38.2±5.5,478N×9648E,h64km±39km,mb3.6/5, mb1 3.8/6,mb1mx3.5/18,mbtmp3.9/6,ML4.1/1,Error ellipse: s-maj=107.4km s-min=20.4km az=64.0*
*ISCJB **18** 05:47:39.1±3.4,49N±02×967E±03,h85km±23km,mb3.9/7, Error ellipse: s-maj=55.3km s-min=18.8km az=136.9*
ISC 18 05:47:40.0±3.4,49N±02×967E±03,h74km±23km,n11, σ0$51/11,mb3.9/7,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.06**	**132**	P		**Pn**	**Pn**	**05 48 26.1**	**+0.1**
	22nm,0.3s,baz=311,slow=13,SNR=85								
KULM	**Kulim**	**4.00**	**84**	*e*Pn		**Pn**	**Pn**	**05 48 38.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**36.59**	**129**	*e*P		**P**	**S**	**05 54 38.6**	**-0.2**
	6.7nm,1.4s,mb4.4								
MKAR	**Makanchi Array**	**43.56**	**346**	P		**P**		**05 55 36.4**	**0.0**
	0.3nm,0.5s,mb3.3,baz=164,slow=9.4,SNR=3.9								
MKAR	**Makanchi Array**	**43.56**	**346**	P		**P**		**05 55 36.4**	**0.0**
SONM	**Songino Array**	**43.60**	**10**	P		**P**		**05 55 36.9**	**+0.1**
	0.7nm,0.6s,mb3.6,baz=149,slow=3.4,SNR=3.0								
WRA	**Warramunga Arr**	**44.50**	**125**	P		**P**		**05 55 44.4**	**+0.4**
	1.7nm,0.6s,mb4.0,baz=302,slow=9.2,SNR=11								
WRAB	**Tennant Creek**	**44.51**	**125**	*e*P		**P**		**05 55 44.2**	**+0.2**
	2.2nm,0.7s,mb4.0								
WB2	**Warramunga Arr**	**44.51**	**125**	*e*P		**P**		**05 55 43.7**	**-0.3**
ASAR	**Alice Springs**	**46.09**	**130**	P		**P**		**05 55 57.5**	**+1.0**
	1.7nm,0.7s,mb3.9,baz=298,slow=7.8,SNR=13								
STKA	**Stephens Creek**	**56.24**	**134**	P		**P**		**05 57 11.4**	**-1.1**
	1.2nm,0.6s,mb4.1,baz=311,slow=8.2,SNR=3.3								

IDC 18 05:56:38.9±2.4,727S×15483E,h0km,mb3.8/5,mb1 3.9/5, mb1mx3.8/13,mbtmp3.7/5,Error ellipse: s-maj=82.6km s-min=28.8km az=121.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.52**	**236**	P		P	P	06 01 49.6	-1.2
	1.9nm,1.1s,baz=61,slow=9.8,SNR=5.0								
ASAR	**Alice Springs**	**25.87**	**229**	P		P	P	06 02 13.4	+1.3
	0.9nm,0.8s,baz=58,slow=9.3,SNR=6.1								
SONM	**Songino Array**	**69.47**	**327**	P		P	P	06 07 49.6	+0.5
	0.5nm,0.6s,baz=142,slow=6.0,SNR=5.0								
MKAR	**Makanchi Array**	**83.50**	**319**	P		P	P	06 09 08.7	+0.2
	0.8nm,0.9s,baz=101,slow=6.3,SNR=4.8								
YKA	**Yellowknife Ar**	**96.66**	**28**	P		P	P	06 10 10.4	-0.5
	0.4nm,0.9s,baz=264,slow=4.4,SNR=3.8								

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*IDC **18** 06:02:58.8±2.1,037N×97.13E,h0km,mb3.3/3,mb1 3.4/4, mb1mx3.3/17,mbtmp3.2/4,ML2.7/1,Error ellipse: s-maj=46.3km s-min=29.7km az=71.0*
*ISCJB **18** 06:03:01.0±6.2,04N±02×972E±02,h28km±45km,mb3.4/3, Error ellipse: s-maj=37.2km s-min=21.4km az=52.8*
*NEIC **18** 06:03:03.0±1.4,037N×97.14E,h30km,Error ellipse: s-maj=26.9km s-min=19.7km az=87.0*
ISC 18 06:03:03.0±6.4,04N±02×972E±02,h26km±47km,n5, σ0$46/6,mb3.4/3,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.94**	**36**	Pn		**Pn**	**Pn**	**06 03 47.9**	**-0.1**
	1.0nm,0.3s,baz=296,slow=23,SNR=6.6								
PSI				Sn		**Sn**	**Sn**	**06 04 22.4**	**-0.1**
	0.9nm,0.3s,baz=3.2,slow=18,SNR=3.3								
KULM	**Kulim**	**5.95**	**36**	*e*Pn		**Pn**	**Pn**	**06 04 29.6**	**+0.2**
WRA	**Warramunga Arr**	**41.65**	**121**	P		**P**		**06 10 49.1**	**-0.1**
	0.3nm,0.4s,mb3.3,baz=302,slow=9.0,SNR=5.9								
SONM	**Songino Array**	**47.90**	**8**	P		**P**		**06 11 39.4**	**+0.5**
	0.1nm,0.3s,mb3.3,baz=182,slow=10,SNR=3.1								
MKAR	**Makanchi Array**	**47.99**	**346**	P		**P**		**06 11 39.2**	**-0.4**
	0.3nm,0.5s,mb3.5,baz=162,slow=9.1,SNR=4.7								

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*ISCJB **18** 06:27:48.5±1.4,68S±02×1195E±03,h33km,mb3.8/2, Error ellipse: s-maj=47.1km s-min=11.5km az=107.9*
*IDC **18** 06:27:57.3±6.6,769S×11883E,h110km±75km,mb3.3/2, mb1 3.6/3,mb1mx3.3/14,mbtmp3.8/3,ML4.1/1,Error ellipse: s-maj=196.0km s-min=16.3km az=48.0*
ISC 18 06:27:53.6±3.2,65S±03×1202E±04,h53km±35km,n5, σ1$03/8,mb3.8/2,Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.68**	**156**	*e*P		**Pn**	**Pn**	**06 31 00.8**	**+10**
	8.8nm,1.0s								
FITZ				*e*S			**Sn**	**06 33 10.9**	**+0.2**
WRA	**Warramunga Arr**	**19.16**	**135**	P		**Pn**	**Pn**	**06 32 14.0**	**+0.1**
	0.6nm,0.3s,baz=306,slow=12,SNR=49								
WRA				S			**S**	**06 35 48.1**	**+1.3**
	0.2nm,0.3s,baz=306,slow=23,SNR=5.0								
WB2	**Warramunga Arr**	**19.17**	**135**	*e*P		**Pn**		**06 32 14.1**	**+0.1**
WB2				*e*S		**S**		**06 35 45.9**	**-1.1**
ASAR	**Alice Springs**	**21.55**	**144**	P		**P**		**06 32 37.6**	**-0.9**
	0.9nm,0.3s,mb3.6,baz=315,slow=8.5,SNR=26								
MKAR	**Makanchi Array**	**62.82**	**332**	P		**P**		**06 38 14.0**	**+0.2**
	0.7nm,0.8s,mb3.9,baz=133,slow=6.6,SNR=6.0								

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*IDC **18** 06:39:26.9±1.1,005N×9681E,h0km,mb3.7/7,mb1 3.8/8, mb1mx3.8/17,mbtmp3.7/8,ML3.1/1,Error ellipse: s-maj=39.6km s-min=19.8km az=48.0*
*ISCJB **18** 06:39:30.9±0.9,02N±01×971E±01,h35km,n15,σ1$10/13, mb3.8/8,Northern Sumatera*

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.17**	**36**	Pn		**Pn**	**Pn**	**06 40 19.6**	**-0.9**
	1.8nm,0.3s,baz=306,slow=5.8,SNR=4.8								
PSI				Sn		**Sn**	**Sn**	**06 41 06.5**	**+9.2**
	1.8nm,0.3s,baz=152,slow=11,SNR=4.9								
KULM	**Kulim**	**6.19**	**35**	*e*Pn		**Pn**	**Pn**	**06 41 02.0**	**0.0**
SHL	**Shillong**	**25.71**	**349**	*i* P		**P**	**P**	**06 45 02.5**	**+2.5**
WRA	**Warramunga Arr**	**41.62**	**121**	P		**P**	**P**	**06 47 18.1**	**+0.2**
	0.7nm,0.5s,mb3.5,baz=302,slow=9.0,SNR=9.9								
WRAB	**Tennant Creek**	**41.63**	**121**	P		**P**		**06 47 17.5**	**-0.5**
	4.5nm,0.9s,mb4.1								
ASAR	**Alice Springs**	**42.91**	**126**	P		**P**		**06 47 29.1**	**+0.8**
	0.5nm,0.4s,mb3.6,baz=292,slow=8.1,SNR=9.8								
SONM	**Songino Array**	**48.13**	**8**	P		**P**		**06 48 09.6**	**0.0**
	1.4nm,1.1s,mb3.9,baz=193,slow=8.7,SNR=6.3								
MKAR	**Makanchi Array**	**48.17**	**346**	P		**P**		**06 48 11.2**	**+1.3**
	1.5nm,0.8s,mb4.0,baz=167,slow=6.8,SNR=11								
BRTR	**Keskin Array B**	**69.69**	**313**	P		**P**		**06 50 38.5**	**-0.7**
	0.6nm,0.8s,mb3.6,baz=93,slow=5.8,SNR=3.5								
AKASG	**Malin Array Be**	**75.97**	**323**	P		**P**		**06 51 14.0**	**-2.5**
	0.3nm,0.3s,mb3.7,baz=90,slow=5.5,SNR=4.6								
ARCES	**ARCESS Array B**	**83.42**	**340**	P		**P**		**06 51 56.9**	**0.0**
	0.6nm,0.7s,mb3.7,baz=97,slow=4.9,SNR=6.1								
ARCES	**ARCESS Array B**	**83.42**	**340**	P		**P**		**06 51 56.9**	**0.0**
CPUP	**Villa Florida**	**144.19**	**221**	PKP		PKPdf		06 59 03.5	-1.7
	0.5nm,0.4s,baz=99,slow=4.2,SNR=5.1								
CPUP	**Villa Florida**	**144.19**	**221**	PKP		PKPdf		06 59 03.5	-1.8
JCT	**Junction City**	**145.52**	**26**	*e*PKPdf		PKPdf		06 59 07.3	-0.2

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*IDC **18** 06:42:18.1±1.9,6128S×16030E,h0km,mb4.1/3, mb1 4.3/5,mb1mx4.2/10,mbtmp4.2/5,ML3.7/2,MS4.0/8, Ms1 4.0/8,ms1mx3.9/15,Error ellipse: s-maj=54.4km s-min=35.7km az=76.0*
*ISCJB **18** 06:42:19.1±0.8,6114S±008×160.1E±04,h10km,mb4.1/5, MS3.9/7,Error ellipse: s-maj=29.7km s-min=10.8km az=165.8*
*NEIC **18** 06:42:20.4±0.7,6113S×16029E,h10km,mb4.2/4,Error ellipse: s-maj=33.4km s-min=12.1km az=81.0*
*HRVD **18** 06:42:20.4±0.5,6114S×16067E,h24km±2km,MW5.0/48, Centroid moment Tensor Solution. LP body waves: s16,c17;Mantle waves: s48,c61; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.53±.27; $M_{\theta\theta}$-0.57±.16; $M_{\phi\phi}$ 1.10±.24; $M_{r\theta}$ 0.51±.25; $M_{\theta\phi}$ 3.38±.25; $M_{\phi r}$-0.72±.24; Best double couple: M≥3.6(1000×10^{16} NP1:φ≥262.0000°,δ76.0000°,λ-9.0000°. NP2: φ≥354.0000°,δ81.0000°,λ-166.0000°. Principal axes: T 3.7630, Plg3.0000°, Azm128.0000°; N -0.3020, Plg74.0000°, Azm26.0000°; P -3.4580, Plg16.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 18 06:42:20.6±0.8,6116S±008×1601E±04,h10km,n20, σ0$97/11,mb4.1/5,MS3.9/7,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**16.45**	**179**	Pn		**Pn**	**Pn**	**06 46 09.6**	**-1.9**
	0.1nm,0.3s,baz=354,slow=11,SNR=12								
VNDA				LR		LR		06 50 58.2	
	comp=Z,297nm,21.0s,baz=2.9,slow=32								
VNDA	**Vanda**	**16.45**	**179**	*e*Pn		**Pn**		**06 46 10.1**	**-1.3**
	7.8nm,1.2s								
VNDA				LR		LR		06 50 58.2	
SBA	**Scott Base**	**16.91**	**175**	*e*P		**Pn**		**06 46 19.4**	**+2.0**
	47nm,1.5s								
RPZ	**Rata Peaks**	**18.65**	**25**	P		**Pn**		**06 46 38.7**	**-0.1**
	0.6nm,0.3s,baz=154,slow=7.7,SNR=5.5								
RPZ				LR		LR		06 53 07.2	
	comp=Z,689nm,18.5s,baz=317,slow=35								
RPZ	**Rata Peaks**	**18.65**	**25**	P		**Pn**		**06 46 38.7**	**-0.1**
RPZ				LR		LR		06 53 07.2	
URZ	**Urewera**	**25.26**	**33**	LR		LR		06 56 41.8	
	comp=Z,268nm,18.4s,MS3.8,baz=212,slow=34								
QSPA	**South Pole Qui**	**28.94**	**180**	P		**P**		**06 48 19.6**	**-0.3**
	2.1nm,0.7s,mb4.0								
STKA	**Stephens Creek**	**31.70**	**329**	P		**P**		**06 48 43.5**	**-0.9**
	1.0nm,0.6s,mb3.8,baz=180,slow=3.0,SNR=3.1								
STKA				LR		LR		07 00 05.0	
	comp=Z,545nm,18.2s,MS4.3,baz=296,slow=34								
STKA	**Stephens Creek**	**31.70**	**329**	*e*P		**P**		**06 48 43.8**	**-0.6**
RAO	**Raoul Island**	**35.10**	**35**	LR		LR		06 59 48.3	
	comp=Z,182nm,21.3s,MS3.8,baz=164,slow=30								
MAW	**Mawson**	**38.34**	**218**	LR		LR		07 05 47.1	
	comp=Z,374nm,19.4s,MS4.2,baz=94,slow=37								
ASAR	**Alice Springs**	**41.59**	**322**	P		**P**		**06 50 09.4**	**+0.8**
	3.4nm,0.8s,mb4.0,baz=162,slow=8.7,SNR=6.6								
WRA	**Warramunga Arr**	**44.99**	**325**	P		**P**		**06 50 36.1**	**+0.1**
	3.3nm,0.8s,mb4.2,baz=162,slow=6.7,SNR=12								
WRAB	**Tennant Creek**	**44.99**	**325**	P		**P**		**06 50 36.0**	**-0.1**
	6.3nm,1.0s,mb4.4								
AFI	**Afiamalu**	**51.37**	**36**	LR		LR		07 11 01.4	
	comp=Z,156nm,19.3s,MS4.0,baz=104,slow=34								
HNR	**Honiara**	**51.62**	**360**	LR		LR		07 08 35.6	
	comp=Z,142nm,19.4s,MS4.0,baz=178,slow=30								
PPT	**Papeete**	**56.09**	**62**	*e*LR		LR		07 07 49.0	
	204nm,25.5s								
PPT	**Papeete**	**56.09**	**62**	LR		LR		07 12 06.5	
	comp=Z,10nm,18.5s,MS3.0,baz=166,slow=32								
ILAR	**Eielson Array**	**131.69**	**27**	PKP		PKPdf		07 01 29.9	-3.9
	0.5nm,0.9s,baz=238,slow=3.6,SNR=4.4								
FCC	**Fort Churchill**	**144.60**	**60**	*e*PKPdf		PKPdf		07 01 54.0	-3.4

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*ISCJB **18** 06:49:43.4±1.1,3640N±005×705E±0.1,h187km±19km, Error ellipse: s-maj=18.7km s-min=5.4km az=134.7*
*NNC **18** 06:49:48.9±2.6,3685N×7031E,h177km±21km,mb2.8, mpv3.4,Error ellipse: s-maj=24.2km s-min=14.6km az=11.0*
ISC 18 06:49:43.4±1.2,3634N±006×704E±01,h170km±17km,n26, σ0$94/32,4C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**5.98**	**128**	*e*P		**Pn**	**Pn**	**06 51 12.0**	**+2.0**
DLH				*e*S		**Sn**	**Sn**	**06 52 18.0**	**0.0**
AML	**Almayashu**	**6.33**	**23**	P		**Pn**	**Pn**	**06 51 14.8**	**+0.3**
	SNR=95								
UCH	**Uchtor**	**6.70**	**27**	P		**Pn**	**Pn**	**06 51 19.8**	**+0.4**
	SNR=45								
KK31	**Karatay Array**	**6.75**	**1**	P		**Pn**	**Pn**	**06 51 19.6**	**-0.6**
	1.7nm,0.2s,baz=191,slow=14,SNR=48								
KK31				⇓S			**Sn**	**06 52 30.5**	**-5.8**
	5.1nm,0.5s,baz=197,slow=27,SNR=8.1								
EKS2	**Erkin-Say**	**6.84**	**22**	P		**Pn**	**Pn**	**06 51 21.5**	**+0.2**
	SNR=6.4								
AAK	**Ala-Archa**	**7.04**	**26**	P		**Pn**	**Pn**	**06 51 24.2**	**+0.2**
	SNR=6.6								
SDNR	**Sundarnagar**	**7.31**	**129**	*e*P		**Pn**	**Pn**	**06 51 26.0**	**-1.5**
SDNR				*e*S		**Sn**	**Sn**	**06 52 47.0**	**-2.6**
USP	**Ospenovka**	**7.61**	**23**	P		**Pn**	**Pn**	**06 51 31.2**	**-0.2**
	SNR=5.2								
TKM2	**Tokmak 2**	**7.71**	**30**	P		**Pn**	**Pn**	**06 51 32.8**	**0.0**
	SNR=13								
TKM2	**Tokmak 2**	**7.71**	**30**	⇓P		**Pn**	**Pn**	**06 51 32.9**	**+0.1**
	0.6nm,0.5s								
TKM2				⇓S			**Sn**	**06 52 55.1**	**-4.0**
	0.8nm,0.8s								
DDI	**Dehra Dun**	**8.80**	**131**	*ex*		x		06 53 07.0	
NDI	**New Delhi**	**9.58**	**141**	*e*P		**Pn**	**Pn**	**06 51 57.5**	**+0.1**
NDI				*e*S		**Sn**	**Sn**	**06 53 39.0**	**-4.9**
KUDL	**Kundal**	**9.68**	**146**	*e*P		**Pn**	**Pn**	**06 51 59.0**	**+0.3**
KUDL				*e*S		**Sn**	**Sn**	**06 53 40.6**	**-5.6**
KUDL				AML		AML	AML	06 53 45.1	
	comp=N,10nm,0.8s								
KUDL				AML		AML		06 53 45.2	
	comp=E,14nm,0.3s								
SONA	**Sohna**	**9.87**	**143**	*e*P		**Pn**	**Pn**	**06 52 02.8**	**+1.6**
SONA				*e*S		**Sn**	**Sn**	**06 53 45.7**	**-5.2**
SONA				AML		AML		06 53 49.0	
	comp=N,22nm,0.6s								
SONA				AML		AML		06 53 49.4	
	comp=E,28nm,0.3s								
MK02	**Makanchi Array**	**13.71**	**37**	⇑P		**Pn**	**Pn**	**06 52 52.7**	**+2.0**
	comp=E,3.6nm,1.1s								
KOLN	**Koldanda**	**14.09**	**124**	*e*P		**Pn**	**Pn**	**06 52 56.0**	**+0.5**
	comp=E,6.7nm,0.3s								
GKN	**Gorkha**	**14.66**	**121**	*e*P		**Pn**	**Pn**	**06 53 02.8**	**+0.3**
	comp=E,28nm,0.5s								
AB31	**Akbulak array**	**14.98**	**333**	⇑P		**Pn**	**Pn**	**06 53 07.3**	**+0.7**
	comp=E,1.4nm,0.3s,baz=138,slow=13,SNR=64								
DMN	**Daman**	**15.23**	**121**	*e*P		**Pn**	**Pn**	**06 53 09.1**	**-0.5**
	comp=E,12nm,0.5s								
KKN	**Kakani**	**15.24**	**120**	*e*P		**Pn**	**Pn**	**06 53 09.1**	**-0.6**
	comp=E,20nm,0.4s								
PKI	**Pulchoki**	**15.46**	**120**	*e*P		**Pn**	**Pn**	**06 53 12.6**	**+0.2**
	comp=E,35nm,0.6s								
GUN	**Gumba**	**15.59**	**118**	*e*P		**Pn**	**Pn**	**06 53 14.4**	**+0.4**
	comp=E,22nm,0.5s								
JIRN	**Jiri**	**15.96**	**118**	*e*P		**Pn**	**Pn**	**06 53 18.1**	**-0.4**
	comp=E,46nm,0.6s								
VOSK	**Vostochnaya**	**16.38**	**1**	⇓P		**Pn**	**Pn**	**06 53 23.1**	**-0.6**
	comp=E,0.6nm,0.5s								
ZRNK	**Zerenda**	**16.63**	**357**	⇑P		**Pn**	**Pn**	**06 53 25.5**	**-1.2**
	comp=E,1.1nm,0.6s								
AKTO	**Aktyubinsk**	**16.67**	**332**	⇑P		**Pn**	**Pn**	**06 53 26.1**	**-1.0**

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*IDC **18** 06:55:16.8±0.6,664S×15232E,h0km,mb4.6/12, mb1 4.8/13,mb1mx4.8/15,mbtmp4.6/13,ML3.8/1,MS3.4/6, Ms1 3.4/6,ms1mx3.2/17,Error ellipse: s-maj=21.1km s-min=16.8km az=127.0*
*BJI **18** 06:55:20.7,632S×15238E,h23km,mB5.2,mb4.8,Ms5.2, Msz4.3*
*ISCJB **18** 06:55:20.2±0.3,677S±004×15226E±005,h31km, mb4.8/43,MS3.8/10,Error ellipse: s-maj=7.2km s-min=6.0km az=69.4*
*MOS **18** 06:55:20.3±0.8,670S×15224E,h33km,mb5.0/15,Error ellipse: s-maj=11.8km s-min=11.5km az=151.2*
*HRVD **18** 06:55:21.6±0.6,677S×15222E,h19km±2km,MW4.8/39, Centroid moment Tensor Solution. LP body waves: s6,c6;Mantle waves: s39,c52; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.79±.26; $M_{\theta\theta}$ 1.59±.17; $M_{\phi\phi}$0.20±.18; $M_{r\theta}$ 0.17±.34; $M_{\theta\phi}$ 0.65±.08; $M_{\phi r}$-0.02±.45; Best double couple: $M_0$1.82600×10^{16} NP1:φ≥66.00000°, δ43.00000°,λ-94.00000°. NP2:φ≥251.00000°,δ47.00000°, λ-87.00000°. Principal axes: T 1.8520, Plg2.0000°, Azm339.0000°; N -0.0520, Plg2.0000°, Azm69.0000°; P -1.8000, Plg87.0000°, Azm205.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **18** 06:55:21.6±0.2,675S×15223E,mb5.0/22 Error ellipse: s-maj=7.1km s-min=5.8km az=129.0*
ISC 18 06:55:22.4±0.3,678S±004×15229E±005,h33km, h33km±.9km:pP-P,n104,σ1≥28/98,mb4.8/43,MS3.8/10, 3C-1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.72**	**242**	Pn		**Pn**	**Pn**	**06 56 45.9**	**+0.9**
	16nm,0.3s,baz=66,slow=5.4,SNR=39								
PMG				Sn		**Sn**	**Sn**	**06 57 51.5**	**+2.1**
	18nm,0.3s,baz=298,slow=21,SNR=6.9								
PMG	**Port Moresby**	**5.72**	**242**	*e*P		**Pn**	**Pn**	**06 56 43.3**	**-1.7**
PMG				*e*				06 57 48.8	
PMG				pmax	pmax				
	comp=Z,82nm,0.6s								
PMG	**Port Moresby**	**5.72**	**242**	*e*Pn		**Pn**	**Pn**	**06 56 43.3**	**-1.6**
	comp=Z,82nm,0.6s								
PMG				*e*Sn		**Sn**	**Sn**	**06 57 48.8**	**-0.6**
HNR	**Honiara**	**8.02**	**110**	LR		LR	LR	06 59 47.3	
	comp=Z,479nm,20.2s,baz=352,slow=34								
HNR	**Honiara**	**8.02**	**110**	*e*P		**Pn**	**Pn**	**06 57 17.4**	**+0.8**
CTA	**Charters Tower**	**14.47**	**203**	LR		LR	LR	07 03 25.8	
	comp=Z,52nm,18.9s,baz=188,slow=34								
KAKA	**Kakadu**	**20.43**	**252**	*e*P		**P**		**06 59 56.4**	**-0.4**
	comp=Z,156nm,0.4s								
DZM	**Mont Dzumac**	**20.44**	**140**	P		**P**		**06 59 58.5**	**+1.6**
	comp=Z,266nm,1.0s,baz=67,slow=13,SNR=7.2								
GUMO	**Guam**	**21.53**	**340**	LR		LR	LR	07 07 18.7	
	comp=Z,52nm,21.4s,MS2.9,baz=130,slow=34								
WRAB	**Tennant Creek**	**21.78**	**231**	P		**P**		**07 00 12.8**	**+1.4**
	comp=Z,200nm,0.7s,mb5.7,SNR=8.5								
WRAB	**Tennant Creek**	**21.78**	**231**	*e*P		**P**		**07 00 10.1**	**-1.3**
WRAB				*e**SP		sP		07 00 23.2	-1.1
WRAB				pmax	pmax				
	comp=Z,36nm,0.8s,mb4.8								
WRAB	**Tennant Creek**	**21.78**	**231**	*e*P		**P**		**07 00 10.1**	**-1.2**
	comp=Z,36nm,0.8s,mb4.8								
WRAB				*e*pP				07 00 18.0	
WRAB				*e*sP		sP		07 00 23.2	-1.1
WB2	**Warramunga Arr**	**21.79**	**231**	*e*P		**P**		**07 00 11.4**	**0.0**
WRA

MDJ					AMB	AMB			
	comp=Z,47nm,4.6s								
MDJ					LR	LR			
	comp=Z,56nm,30.8s,MS3.5								
ENH	**Enshi**	**55.14**	**314**	*e*P	**P**		**07 04 51.5**	**0.0**	
	comp=Z,21μm,0.6s								
CN2	**Changchun**	**55.89**	**337**	*e*P	**P**		**07 04 58.6**	**+1.7**	
KMI	**Kunming**	**57.69**	**305**	P	**P**		**07 05 11.9**	**+2.3**	
KMI					AMB	AMB			
	comp=Z,17nm,1.0s,mb5.0								
TBI	**Tubuai**	**58.23**	**113**	*e*LR	LR		07 05 29.0		
	comp=Z,191nm,29.2s								
KLR	**Kul'dur**	**58.59**	**344**	*e*P	**P**		**07 05 11.0**	**-5.0**	
PMOR	**Pomariorio Ree**	**59.16**	**103**	*e*P	**P**		**07 05 21.9**	**+2.0**	
	comp=Z,65nm,1.3s,mb5.5								
CD2	**Chengdu**	**59.65**	**312**	*e*P	**P**		**07 05 23.0**	**-0.3**	
CD2					AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.9								
HHC	**Hu-ho-hao-te**	**60.36**	**325**	*e*P	**P**		**07 05 30.0**	**+1.8**	
HHC					AP	pP	07 05 40.8	+2.5	
HHC					XP	sP	07 05 43.5	+1.4	
HHC					PCP	PcP	07 06 14.8	+1.8	
HHC					PP	PP	07 07 45.1	+3.7	
HHC					SCP	ScP	07 10 10.3	-1.4	
HHC					PCS	PcS	07 10 15.3	-0.2	
HHC					S	**S**	**07 13 42.5**	**+1.9**	
HHC					XS	sS	07 13 57.9	+0.7	
HHC					SCS	ScS	07 15 14.1	-2.3	
HHC					AMB	AMB			
	comp=Z,101nm,5.9s								
HHC					LR	LR			
	comp=N,205nm,15.9s,MS4.7								
HHC					LR	LR			
	comp=E,459nm,20.4s,MS4.7								
HHC					LR	LR			
	comp=Z,130nm,17.8s,MS4.1								
FX1	**Attu Island--F**	**62.02**	**14**	*e*P	**P**		**07 05 38.9**	**-0.6**	
FX1				*e*pP	pP		07 05 48.1	-1.4	
FX1				*e*sP	sP		07 05 51.1	-2.3	
LZH	**Lanzhou**	**62.30**	**317**	*e*P	**P**		**07 05 42.3**	**+1.0**	
LZH					AP	pP	07 05 52.4	+1.0	
LZH					XP	sP	07 05 56.4	+1.1	
LZH					PP	PP	07 08 01.5	+3.0	
LZH				*e*S	**S**		**07 14 04.3**	**-0.9**	
LZH					XS	sS	07 14 21.3	-0.6	
LZH				*e*SS	SS		07 18 09.8	+0.9	
LZH					AMB	AMB			
	comp=Z,21nm,0.4s,mb5.6								
LZH					LR	LR			
	comp=N,656nm,15.9s								
LZH					LR	LR			
	comp=Z,963nm,16.5s,MS5.0								
CASY	**Casey**	**65.99**	**197**	*e*P	**P**		**07 06 05.3**	**-0.2**	
	comp=Z,2.3nm,0.4s,mb4.6								
CIT	**Chita**	**67.26**	**335**	*e*P	**P**		**07 06 13.7**	**+0.1**	
CIT				*e*	pP		07 06 22.3	-1.5	
CIT				*e*			07 06 43.4		
CIT					pmax	pmax			
	comp=Z,25nm,1.7s,mb5.0								
ULN	**Ulaanbaatar**	**67.40**	**329**	*e*P	**P**		**07 06 14.7**	**+0.2**	
ULN					pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.4								
ULN	**Ulaanbaatar**	**67.40**	**329**	*e*P	**P**		**07 06 14.7**	**+0.2**	
	comp=Z,3.8nm,1.0s,mb4.4								
SONM	**Songino Array**	**67.72**	**328**	P	**P**		**07 06 16.1**	**-0.5**	
	comp=Z,3.7nm,1.0s,mb4.4,baz=151,slow=6.0,SNR=18								
SONM					LR	LR	07 32 18.4		
	comp=Z,43nm,21.9s,MS3.6,baz=252,slow=33								
VNDA	**Vanda**	**70.89**	**178**	P	**P**		**07 06 35.9**	**-0.2**	
	comp=Z,3.1nm,0.8s,mb4.3,baz=327,slow=6.9,SNR=17								
VNDA	**Vanda**	**70.89**	**178**	*e*P	**P**		**07 06 35.7**	**-0.4**	
VNDA					pmax	pmax			
	comp=Z,2.0nm,0.6s								
VNDA	**Vanda**	**70.89**	**178**	*e*P	**P**		**07 06 35.7**	**-0.4**	
	comp=Z,2.2nm,0.6s,mb4.3								
ZAK	**Zakamensk**	**70.91**	**329**	⇑*i*P	**P**		**07 06 35.6**	**-0.7**	
ZAK					pmax	pmax			
	comp=Z,12nm,1.5s,mb4.6								
BOD	**Bodaibo**	**71.45**	**340**	*e*P	**P**		**07 06 38.0**	**-1.5**	
BOD					pmax	pmax			
	comp=Z,7.0nm,1.2s,mb4.5								
JIRN	**Jiri**	**72.38**	**302**	*e*P	**P**		**07 06 46.7**	**+1.6**	
GUN	**Gumba**	**72.72**	**302**	*e*P	**P**		**07 06 48.5**	**+1.4**	
PKI	**Pulchoki**	**73.01**	**301**	*e*P	**P**		**07 06 48.8**	**-0.1**	
KKN	**Kakani**	**73.19**	**302**	*e*P	**P**		**07 06 50.7**	**+0.8**	
	comp=Z,27nm,1.1s,mb5.1								
KKN	**Kakani**	**73.19**	**302**	*e*P	**P**		**07 06 50.7**	**+0.8**	
KKN					pmax	pmax			
	comp=Z,27nm,1.1s,mb5.1								
DMN	**Daman**	**73.28**	**301**	*e*P	**P**		**07 06 50.8**	**+0.4**	
	comp=Z,49nm,1.2s,mb5.3								
GKN	**Gorkha**	**73.79**	**302**	*e*P	**P**		**07 06 54.1**	**+0.7**	
	comp=Z,39nm,1.0s,mb5.3								
KOLN	**Koldanda**	**74.61**	**301**	*e*P	**P**		**07 06 58.5**	**+0.3**	
	comp=Z,51nm,1.3s,mb5.3								
BILL	**Bilibino**	**75.29**	**5**	*e*P	**P**		**07 07 01.9**	**-0.2**	
BILL					pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.7								
BILL	**Bilibino**	**75.29**	**5**	*e*P	**P**		**07 07 01.9**	**-0.2**	
	comp=Z,8.9nm,1.0s,mb4.7								
WMQ	**Urumqi**	**76.85**	**318**	⇑P	**P**		**07 07 12.0**	**+1.0**	
WMQ					AP	pP	07 07 22.0	+0.6	
WMQ					XP	sP	07 07 26.0	+0.8	
WMQ					PP	PP	07 10 06.0	+1.9	
WMQ				*e*S	S		07 16 55.8	-0.5	
WMQ					AMB	AMB			
	comp=Z,5.0nm,0.9s,mb4.4								
WMQ					AMB	AMB			
	comp=Z,140nm,5.4s								
WMQ					LR	LR			
	comp=Z,23nm,22.3s,MS3.4								
SVW2	**Sparrevohn**	**78.83**	**23**	*e*P	**P**		**07 07 22.1**	**+0.1**	
TIXI	**Tiksi**	**79.78**	**353**	*e*P	**P**		**07 07 24.6**	**-2.6**	
TIXI				*e*S	S		07 17 22.8	-4.9	
TIXI					pmax	pmax			
	comp=Z,3.0nm,1.2s,mb4.1								
TTA	**Tatalina**	**79.78**	**21**	*e*P	**P**		**07 07 27.2**	**0.0**	
TTA					pmax	pmax			
	comp=Z,33nm,1.4s,mb5.1								
TTA	**Tatalina**	**79.78**	**21**	*e*P	**P**		**07 07 27.2**	**0.0**	
	comp=Z,33nm,1.4s,mb5.1								
DDI	**Dehra Dun**	**79.96**	**302**	*ex*	x		07 07 30.0		
MKAR	**Makanchi Array**	**81.48**	**319**	P	**P**		**07 07 35.9**	**-0.4**	
	comp=Z,3.7nm,0.9s,mb4.3,baz=100,slow=5.7,SNR=18								
PMR	**Palmer**	**81.68**	**24**	*e*P	**P**		**07 07 36.3**	**-1.1**	
QSPA	**South Pole Qui**	**83.20**	**180**	*e*P	**P**		**07 07 44.7**	**-0.6**	
	comp=Z,10nm,0.9s,mb4.8								
MAW	**Mawson**	**83.56**	**203**	P	**P**		**07 07 47.2**	**0.0**	
	comp=Z,2.8nm,0.8s,mb4.4,baz=72,slow=9.0,SNR=7.7								
KSH	**Kashi**	**83.83**	**311**	*e*P	**P**		**07 07 51.0**	**+2.4**	
KSH				*e*AP	pP		07 08 01.4	+2.4	
KSH				*e*XP	sP		07 08 05.4	+2.6	
KSH				*e*PP	PP		07 11 07.3	+5.3	
KSH				*e*SKS			07 18 06.3		
KSH				*e*S	S		07 18 11.1	+1.5	
KSH					AMB	AMB			
	comp=Z,127nm,4.2s								
KSH					LR	LR			
	comp=N,199nm,4.9s								
KSH					LR	LR			
	comp=E,164nm,6.3s								
KSH					LR	LR			
	comp=Z,145nm,5.5s								
COLA	**College**	**83.86**	**22**	*e*P	**P**		**07 07 47.0**	**-1.7**	
COLA				*e**PP	pP		07 07 56.1	-3.0	
COLA					pmax	pmax			
	comp=Z,10.0nm,0.8s,mb5.0								
COLA	**College**	**83.86**	**22**	*e*P	**P**		**07 07 47.0**	**-1.7**	
	comp=Z,10.0nm,0.8s,mb5.0								
COLA				*e*PcP	PcP		07 07 49.8	-2.9	
COLA				*e*pP	pP		07 07 56.1	-3.0	
ILAR	**Eielson Array**	**84.17**	**22**	P	**P**		**07 07 48.0**	**-2.2**	
	comp=Z,5.4nm,0.7s,mb4.8,baz=253,slow=5.3,SNR=42								
TKM2	**Tokmak 2**	**84.93**	**314**	P	**P**		**07 07 54.7**	**+0.6**	
	SNR=13								
KZA	**Kyzart**	**84.98**	**313**	P	**P**		**07 07 55.7**	**+1.4**	
	SNR=27								
KURK	**Kurchatov**	**85.01**	**322**	*e*P	**P**		**07 07 52.9**	**-1.6**	
KURK				*e**PP	pP		07 08 03.4	-1.6	
KURK				*e**SP	sP		07 08 06.2	-2.5	
KURK					pmax	pmax			
	comp=Z,20nm,1.2s,mb5.1								
KURK	**Kurchatov**	**85.01**	**322**	*e*P	**P**		**07 07 52.9**	**-1.6**	
	comp=Z,20nm,1.2s,mb5.1								
KURK				*e*PcP	PcP		07 07 56.2	-1.5	
KURK				*e*pP	pP		07 08 03.4	-1.6	
KURK				*e*sP	sP		07 08 06.2	-2.6	
UCH	**Uchtor**	**85.55**	**313**	P	**P**		**07 07 58.6**	**+1.4**	
	SNR=23								
AAK	**Ala-Archa**	**85.65**	**314**	P	**P**		**07 08 01.0**	**+3.3**	
	SNR=5.2								
AAK	**Ala-Archa**	**85.65**	**314**	P	**P**		**07 07 56.8**	**-0.9**	
	comp=Z,77nm,0.7s,SNR=6.1								
AAK	**Ala-Archa**	**85.65**	**314**	*e*P	**P**		**07 07 56.7**	**-1.0**	
AAK				*e**PP	pP		07 08 06.2	-2.0	
AAK				*e**SP	sP		07 08 10.6	-1.4	
AAK					pmax	pmax			
	comp=Z,14nm,1.0s,mb5.2								
AAK	**Ala-Archa**	**85.65**	**314**	*e*P	**P**		**07 07 56.7**	**-1.0**	
	comp=Z,14nm,1.0s,mb5.1								
AAK				*i* PcP	PcP		07 07 59.8	-0.8	
AAK				*e*pP	pP		07 08 06.2	-2.0	
AAK				*e*sP	sP		07 08 10.6	-1.4	
USP	**Ospenovka**	**85.79**	**314**	P	**P**		**07 08 01.4**	**+2.9**	
	SNR=6.4								
AML	**Almayashu**	**86.12**	**313**	P	**P**		**07 08 01.0**	**+1.0**	
	SNR=23								
EKS2	**Erkin-Say**	**86.17**	**314**	P	**P**		**07 08 03.6**	**+3.3**	
	SNR=6.9								
DAWY	**Dawson**	**86.78**	**24**	*e*P	**P**		**07 08 02.6**	**-0.7**	
DAWY				*e*pP	pP		07 08 11.2	-2.5	
CHKZ	**Chkalovo**	**90.50**	**324**	*e*P	**P**		**07 08 18.9**	**-1.9**	
CHKZ				*i* PcP	PcP		07 08 21.4	-0.6	
CHKZ				*e*pP	pP		07 08 27.8	-3.6	
BRVK	**Borovoye**	**90.58**	**323**	*e*P	**P**		**07 08 19.4**	**-1.8**	
BRVK					pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.6								
BRVK	**Borovoye**	**90.58**	**323**	*e*P	**P**		**07 08 19.4**	**-1.9**	
	comp=Z,2.1nm,0.7s,mb4.6								
BRVK				*e*PcP	PcP		07 08 22.3	0.0	
ZRNK	**Zerenda**	**91.32**	**323**	*e*P	**P**		**07 08 23.2**	**-1.5**	
ZRNK					pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.6								
ZRNK	**Zerenda**	**91.32**	**323**	*e*P	**P**		**07 08 23.2**	**-1.5**	
	comp=Z,1.8nm,0.7s,mb4.5								
SYO	**Syowa Base**	**91.65**	**199**	⇑*e*P	**P**		**07 08 27.0**	**+0.8**	
NVAR	**Mina Array Bea**	**93.69**	**52**	P	**P**		**07 08 36.9**	**+1.2**	
	comp=Z,1.3nm,0.8s,mb4.4,baz=251,slow=5.1,SNR=5.5								
YKA	**Yellowknife Ar**	**97.40**	**28**	P	**P**		**07 08 50.5**	**-2.0**	
	comp=Z,0.8nm,0.9s,mb4.1,baz=272,slow=4.6,SNR=7.7								
YKA	**Yellowknife Ar**	**97.40**	**28**	P	**P**		**07 08 50.5**	**-2.0**	
ARU	**Arti**	**97.66**	**326**	⇓*i*P	**P**		**07 08 51.7**	**-2.0**	
ARU				*e*			07 12 48.5		
ARU				*e*S			07 19 26.1		
ARU				*e*SS	SS		07 26 52.7	-4.3	
ARU					pmax	pmax			
	comp=Z,6.0nm,1.0s,mb5.1								
GERES	**GERESS Array B**	**125.45**	**328**	PKP	PKPdf		07 14 19.6	-0.4	
	comp=Z,0.4nm,0.4s,baz=51,slow=0.9,SNR=5.4								
ROSC	**El Rosal**	**133.59**	**90**	PKP	PKPdf		07 14 36.5	+1.1	
	comp=Z,3.4nm,0.5s,baz=101,slow=19,SNR=4.4								
LPAZ	**La Paz**	**133.90**	**120**	PKP	PKPdf		07 14 37.8	+1.7	
	comp=Z,1.3nm,0.7s,baz=174,slow=0.7,SNR=8.2								
CPUP	**Villa Florida**	**136.31**	**140**	PKP	PKPdf		07 14 40.6	+0.1	
	comp=Z,0.9nm,0.7s,baz=207,slow=5.4,SNR=4.9								
SDV	**Santo Domingo**	**137.44**	**84**	*e*PKPdf	PKPdf		07 14 43.8	+1.2	
BDFB	**Brasilia**	**149.99**	**138**	PKPbc	PKPbc		07 15 10.1	+0.7	
	comp=Z,6.0nm,0.6s,baz=299,slow=1.3,SNR=13								
TORD	**Torodi Ar. Bea**	**150.38**	**285**	PKPbc	PKPbc		07 15 10.2	-0.1	
	comp=Z,5.5nm,0.7s,baz=66,slow=2.7,SNR=36								

NEIC ***18*** *07:10:32.3,3634S×7111W,h3km,ML3.9(GUC), After GUC.*

GUC 18 07:10:31.9±0.9, 3634S×7111W, h0km±4km, ML3.9, 2C, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LNCH	**Linares**	**0.64**	**321**	*e*P		Pg	07 10 44.6	+0.5
LNCH				*i* S		Sg	07 10 54.8	+2.5
LNCH					AML	AML	07 10 56.5	
	comp=N,15μm,0.2s							
LNCH	**Linares**	**0.64**	**321**	*e*P		Pg	07 10 44.6	+0.5
LNCH				*i* S		Sg	07 10 54.8	+2.5
CCHI	**Chillan**	**0.82**	**251**	*e*P		Pg	07 10 48.1	+0.4
CCHI				*i* S		Sg	07 11 01.1	+2.7
CCHI					AML	AML	07 11 03.3	
	comp=E,3μm,0.6s							
CCHI	**Chillan**	**0.82**	**251**	*e*P		Pg	07 10 48.1	+0.4
CCHI				*i* S		Sg	07 11 01.1	+2.7
TALC	**Talca**	**1.03**	**335**	⇑*i*P		Pg	07 10 49.8	-1.9
TALC				*i* S		Sg	07 11 07.6	
	comp=N,4μm,0.4s							
TALC	**Talca**	**1.03**	**335**	⇑*i*P		Pg	07 10 49.8	-1.9
TALC				*i* S		Sg	07 11 04.4	-0.8
NICH	**Los Niches**	**1.34**	**356**	*e*P		Pg	07 10 56.7	-0.9
NICH				*i* S		Sg	07 11 15.3	+0.4
SFDO	**San Fernando**	**1.73**	**2**	*e*P		Pn	07 11 02.7	-0.5
RCDM	**Rinconada Maip**	**2.86**	**5**	*e*P		Pn	07 11 21.3	+2.6
RCDM				*i* S		Sn	07 11 57.9	+4.1
RCDM					AML	AML	07 12 01.7	
	comp=E,2μm,0.3s							
RCDM	**Rinconada Maip**	**2.86**	**5**	*e*P		Pn	07 11 21.3	+2.6
RCDM				*i* S		Sn	07 11 57.9	+4.1
LCCH	**Las Cruces**	**2.88**	**352**	*e*P		Pn	07 11 20.7	+1.6
FCH	**Farellones**	**3.08**	**13**	*e*P		Pn	07 11 25.4	+3.6

ISCJB ***18*** *07:45:18.9±0.2, 4021N±001×2258E±002, h10km, Error ellipse: s-maj=2.3km s-min=2.1km az=96.7*
ATH ***18*** *07:45:18.5, 4026N×2250E, h5km, MD3.6/9*
NEIC ***18*** *07:45:18.9, 4025N×2249E, h5km, MD3.2(SOF), MD3.3(PDG), MD3.6(ATH), After ATH.*
MOS ***18*** *07:45:18.9±1.3, 4030N×2250E, h10km, mb3.7/1, Error ellipse: s-maj=8.7km s-min=6.5km az=77.1*
SKO ***18*** *07:45:18.4, 4020N×2264E, h5km*
SOF ***18*** *07:45:18.5, 4026N×2264E, h5km, MD3.2*
THE ***18*** *07:45:19.5, 4021N×2254E, h11km, ML3.5*
PDG ***18*** *07:45:19.5±0.3, 4021N×2254E, h11km*
CSEM ***18*** *07:45:20.1±0.1, 4015N×2266E, h2km, ML3.5, Error ellipse: s-maj=3.2km s-min=3.1km az=86.0*

ISC 18 07:45:19.8±0.2, 4020N±001×2259E±002, h10km, n58, σ1§20/95, 12C, Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LIT	**Litokhoron**	**0.12**	**219**	*e*Pg		**Pg**	**07 45 22.0**	**-0.7**
LIT				*e*Sg		**Sg**	**07 45 24.1**	**-0.6**
LIT	**Litokhoron**	**0.12**	**219**	*e*Pg		**Pg**	**07 45 22.0**	**-0.7**
LIT				*e*Sg		**Sg**	**07 45 24.1**	**-0.7**
THE	**Thessaloniki**	**0.52**	**33**	*e*Pg		**Pg**	**07 45 30.1**	**+0.2**
THE				*e*Sg		**Sg**	**07 45 37.9**	**+1.1**
THE	**Thessaloniki**	**0.52**	**33**	*e*Pg		**Pg**	**07 45 30.1**	**+0.1**
THE				*e*Sg		**Sg**	**07 45 37.9**	**+1.1**
KZN	**Kozani**	**0.64**	**280**	*e*PB		**Pg**	**07 45 29.7**	**-2.5**
KZN				*e*SB		**Sg**	**07 45 38.0**	**-2.5**
PLG	**Polygyros**	**0.68**	**74**	*e*PB		**Pg**	**07 45 32.9**	**0.0**
PLG				*e*SB		**Sg**	**07 45 42.8**	**+1.0**
GRG	**Griva**	**0.77**	**349**	*e*Pg		**Pg**	**07 45 33.6**	**-1.1**
GRG				*e*Sg		**Sg**	**07 45 45.4**	**+0.5**
GRG	**Griva**	**0.77**	**349**	*e*Pg		**Pg**	**07 45 33.6**	**-1.2**
GRG				*e*Sg		**Sg**	**07 45 45.3**	**+0.4**
SOH	**Sokhos**	**0.85**	**43**	*e*Pg		**Pg**	**07 45 35.8**	**-0.5**
SOH				*e*Sg		**Sg**	**07 45 49.1**	**+1.7**
PAIG	**Paliouri**	**0.88**	**107**	*e*Pg		**Pg**	**07 45 36.7**	**0.0**
PAIG				*e*Sg		**Sg**	**07 45 50.3**	**+2.1**
XOR	**Xorichti**	**0.95**	**151**	*e*Pg		**Pg**	**07 45 37.9**	**-0.2**
XOR				*e*Sg		**Sg**	**07 45 52.1**	**+1.7**
KNT	**Kendrikon**	**0.99**	**14**	*e*Pg		**Pg**	**07 45 38.0**	**-0.9**
KNT				*e*Sg		**Sg**	**07 45 51.9**	**+1.0**
OUR	**Ouranopolis**	**1.07**	**82**	*e*Pg		**Pg**	**07 45 40.2**	**-0.3**
FNA	**Florina**	**1.10**	**303**	*e*Pg		**Pg**	**07 45 38.7**	**-2.2**
FNA				*e*Sg		**Sg**	**07 45 54.8**	**-0.4**
VAY	**Valandovo**	**1.12**	**359**	⇑*i*Pg		**Pg**	**07 45 38.9**	**-2.6**
VAY				*i* Sg		**Sg**	**07 45 53.9**	**-2.2**
VAY	**Valandovo**	**1.12**	**359**	⇑*i*Pg		**Pg**	**07 45 38.8**	**-2.6**
VAY				*i* Sg		**Sg**	**07 45 53.8**	**-2.3**
AGG	**Agios Georgios**	**1.19**	**190**	*e*Pg		**Pg**	**07 45 41.0**	**-0.8**
AGG				*e*Sg		**Sg**	**07 45 59.2**	**+1.1**
SRS	**Serrai**	**1.20**	**39**	*e*Pg		**Pg**	**07 45 41.5**	**-1.3**
SRS				*e*Sg		**Sg**	**07 45 58.1**	**-0.2**
BIA	**Bitola**	**1.27**	**311**	*e*Pg		**Pg**	**07 45 41.3**	**-2.9**
BIA				*i* Sg		**Sg**	**07 45 59.9**	**-0.7**
EVR	**Evrytania**	**1.41**	**206**	*e*PG		**Pg**	**07 45 45.4**	**-1.5**
EVR				*e*SB		**Sb**	**07 46 05.8**	**+1.5**
AOS	**Alonnisos**	**1.43**	**135**	*e*Pg		**Pg**	**07 45 44.8**	**-2.5**
AOS				*e*Sg		**Sg**	**07 46 04.5**	**-1.3**
JAN	**Janina**	**1.44**	**249**	*e*PB		**Pb**	**07 45 45.9**	**-0.9**
JAN				*e*SB		**Sb**	**07 46 04.3**	**-0.9**
KBN	**Korca**	**1.44**	**288**	*i* Pn		**Pn**	**07 45 42.3**	**-3.7**
KBN				*i* Sn		**Sn**	**07 46 08.8**	**+3.9**
NVR	**Nevrokopi**	**1.50**	**40**	*e*PG		**Pg**	**07 45 46.6**	**-2.1**
LSK	**Leskovik**	**1.53**	**269**	*i* Pn		**Pn**	**07 45 47.4**	**+0.3**
LSK				*i* Sn		**Sn**	**07 46 14.8**	**+7.8**
STIP	**Stip**	**1.53**	**349**	*e*Pn		**Pn**	**07 45 46.1**	**-1.1**
STIP				*e*Sn		**Sn**	**07 46 06.8**	**-0.3**
LKR	**Lokris**	**1.57**	**168**	*e*PG		**Pg**	**07 45 49.0**	**-1.0**
LKR	**Lokris**	**1.57**	**168**	*e*Pn		**Pn**	**07 45 48.3**	**+0.5**
MMB	**Musomiste**	**1.64**	**31**	*i* P		**Pn**	**07 45 47.0**	**-1.7**
KKB	**Krupnik**	**1.71**	**12**	*i* P		**Pn**	**07 45 50.0**	**+0.3**
SKO	**Skopje**	**1.98**	**334**	*e*Pn		**Pn**	**07 45 52.2**	**-1.1**
SKO	**Skopje**	**1.98**	**334**	*e*Pn		**Pn**	**07 45 52.1**	**-1.2**
RZN	**Rozhen**	**2.19**	**47**	*i* P		**Pn**	**07 45 57.0**	**+0.7**
KEK	**Kerkira**	**2.20**	**258**	*e*PG		**Pn**	**07 45 58.6**	**+2.2**
QSH	**Qafa e Shtames**	**2.43**	**304**	*i* Pn		**Pn**	**07 46 01.2**	**+1.6**
QSH				*i* Sn		**Sn**	**07 46 35.0**	**+5.7**
RDO	**Rodhopi**	**2.43**	**66**	*e*PB		**Pn**	**07 46 00.4**	**+0.8**
RDO	**Rodhopi**	**2.43**	**66**	*e*Pg		**Pg**	**07 46 05.3**	**-1.2**
VTS	**Vitosha**	**2.44**	**11**	*i* P		**Pn**	**07 46 00.0**	**+0.3**
VLS	**Valsamata**	**2.54**	**218**	*e*PN		**Pn**	**07 46 04.1**	**+3.0**
PGB	**Panagyurishte**	**2.63**	**26**	*i* Pg		**Pg**	**07 46 10.0**	**-0.3**
ALN	**Alexandroupoli**	**2.72**	**74**	*e*Pn		**Pn**	**07 46 02.9**	**-0.7**
DIM	**Dimitrovgrad**	**2.89**	**49**	*i* P		**Pg**	**07 46 16.0**	**+0.7**
ITM	**Ithomi**	**3.06**	**190**	*e*PN		**Pn**	**07 46 11.7**	**+3.5**
ITM	**Ithomi**	**3.06**	**190**	*e*Pn		**Pn**	**07 46 12.5**	**+4.3**
ULG	**Ulcinj**	**3.08**	**306**	⇑*i*Pn		**Pn**	**07 46 09.1**	**+0.6**
ULC				*e*Sn		**Sn**	**07 46 46.6**	**+1.2**
PVY	**Plav**	**3.10**	**321**	⇑*i*Pn		**Pn**	**07 46 09.4**	**+0.6**
PVY				*e*Sn		**Sn**	**07 46 47.2**	**+1.2**
IVA	**Berane**	**3.35**	**324**	⇑*i*Pn		**Pn**	**07 46 12.7**	**+0.5**
IVA				*e*Sn		**Sn**	**07 46 53.3**	**+1.2**
TTG	**Podgorica**	**3.36**	**313**	⇑*i*Pn		**Pn**	**07 46 12.4**	**0.0**
TTG				*e*Sn		**Sn**	**07 46 53.6**	**+1.3**
VLI	**Veliai**	**3.48**	**175**	*e*PN		**Pn**	**07 46 17.0**	**+3.0**
BUM	**Brajici-Budva**	**3.49**	**308**	⇑*i*Pn		**Pn**	**07 46 14.4**	**+0.3**
BUM				*e*Sn		**Sn**	**07 46 56.9**	**+1.4**
NKY	**Niksic**	**3.76**	**315**	⇑*i*Pn		**Pn**	**07 46 18.8**	**+1.0**
NKY				*e*Sn		**Sn**	**07 47 03.2**	**+1.1**
HCY	**Herceg Novi**	**3.82**	**307**	⇑*i*Pn		**Pn**	**07 46 18.6**	**-0.1**
HCY				*e*Sn		**Sn**	**07 47 04.3**	**+0.8**
APE	**Apeiranthos**	**3.88**	**143**	*e*Pn		**Pn**	**07 46 19.4**	**-0.1**
PLE	**Pljevlja**	**3.94**	**324**	⇑*i*Pn		**Pn**	**07 46 20.3**	**0.0**
PLE				*e*Sn		**Sn**	**07 47 07.8**	**+1.2**
BRY	**Bratogost**	**4.07**	**313**	⇑*i*Pn		**Pn**	**07 46 22.3**	**+0.2**
BRY				*e*Sn		**Sn**	**07 47 10.3**	**+0.7**
UPM	**Unac-Piva**	**4.08**	**319**	⇑*i*Pn		**Pn**	**07 46 22.8**	**+0.6**
UPM				*e*Sn		**Sn**	**07 47 10.5**	**+0.5**
TIP	**Timpagrande**	**4.61**	**259**	Pn		**Pn**	**07 46 26.4**	**-3.1**
TIP				*e*Sn		**Sn**	**07 47 22.9**	**-0.3**
TIP	**Timpagrande**	**4.61**	**259**	Pn		**Pn**	**07 46 26.4**	**-3.2**
TIP				*e*Sn		**Sn**	**07 47 22.9**	**-0.3**

NIED ***18*** *08:00:00,4050N×14380E,h11km,Mw3.8 Best double couple: M0 6.03000×10^14 NP1:φ=39.00000°,δ=72.00000°, λ=112.00000°. NP2:φ=166.00000°,δ=28.00000°,λ=40.00000°.*
ISCJB ***18*** *08:00:24.8±0.8, 4056N±004×14393E±008, h33km±9km, mb3.9/6, Error ellipse: s-maj=11.2km s-min=4.5km az=52.5*
JMA ***18*** *08:00:25.2±0.2, 4054N

0.4nm,0.4s,baz=111,slow=7.9,SNR=3.7

IDC ***18*** *08:20:34.3±1.4, 3546N×9461E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.6/21, mbtmp3.8/5, ML3.5/2, MS2.9/1, Ms1 2.9/1, ms1mx2.4/29, Error ellipse: s-maj=64.7km s-min=26.6km az=51.0*

ISCJB ***18*** *08:20:37.5±1.2, 355N×0.1×945E±0.1, h33km, mb3.6/3, Error ellipse: s-maj=21.1km s-min=16.1km az=29.8*

BJI ***18*** *08:20:38.1, 3569N×9450E, h11km, mb4.4, ML3.6*

ISC 18 08:20:39.7±1.3, 356N±02×945E±02, h35km, n8, σ1§25/8, mb3.6/3, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**5.73**	**47**	*eP*	**Pn**	**08 22 02.9**	**+0.7**
WMQ	**Urumqi**	**9.73**	**330**	*eP*	**Pn**	**08 23 01.3**	**+4.1**
XAN	**Xi'an**	**12.00**	**93**	P	**Pn**	**08 23 32.1**	**+4.0**
XAN				AMB	AMB		
	comp=Z,12nm,1.0s						
MKAR	**Makanchi Array**	**14.45**	**325**	Pn	**Pn**	**08 23 59.4**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=134,slow=14,SNR=16						
SONM	**Songino Array**	**15.13**	**32**	Pn	**Pn**	**08 24 10.0**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=223,slow=14,SNR=9.2						
SONM				LR	LR	08 30 20.0	
	comp=Z,45nm,21.7s,baz=77,slow=39						
AKTO	**Aktyubinsk**	**30.15**	**311**	P	**P**	**08 26 47.7**	**+1.5**
	comp=Z,0.8nm,0.7s,mb3.5,baz=107,slow=14,SNR=3.2						
NOA	**NORSAR Array B**	**56.45**	**325**	P	**P**	**08 30 18.1**	**+0.3**
	comp=Z,0.5nm,0.6s,mb3.7,baz=78,slow=6.4,SNR=3.1						
ASAR	**Alice Springs**	**69.76**	**142**	P	**P**	**08 31 45.5**	**-0.7**
	comp=Z,0.5nm,0.7s,mb3.6,baz=319,slow=6.4,SNR=5.0						

ISCJB ***18*** *08:25:57.0±1.0, 4256N±003×4331E±008, h13km±5km, Error ellipse: s-maj=9.8km s-min=5.6km az=26.9*

TIF ***18*** *08:25:56.8, 4252N×4333E, h18km±1km*

CSEM ***18*** *08:25:57.3, 4249N×4335E, h24km, mb3.5, After OBN*

MOS ***18*** *08:25:57.3±1.1, 4249N×4335E, h24km, mb3.5/1, Error ellipse: s-maj=25.4km s-min=10.0km az=56.6*

ISC 18 08:25:57.5±1.0, 4251N±003×4333E±008, h11km±6km, n15, σ1§03/30, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.11**	**52**	P	**Pg**	**08 26 00.6**	**+0.3**
ONI				S	**Sg**	**08 26 03.1**	**+0.7**
DIGR	**Digorskoe uzhe**	**0.43**	**25**	*i* Pg	**Pg**	**08 26 06.8**	**+0.9**
DIGR				*e*Sg	**Sg**	**08 26 13.7**	**+2.0**
ZEI	**Tsey**	**0.49**	**58**	*e*Pg	**Pg**	**08 26 08.6**	**+1.5**
ZEI				*e*Sg	**Sg**	**08 26 18.6**	**+4.9**
LACR	**Lac**	**0.78**	**66**	*i* Pg	**Pg**	**08 26 12.4**	**-0.1**
LACR				*e*Sg	**Sg**	**08 26 23.6**	**+0.9**
KORR	**Kora**	**0.79**	**43**	*e*Pg	**Pg**	**08 26 12.8**	**0.0**
KORR				*e*Sg	**Sg**	**08 26 24.2**	**+1.1**
ARNR	**Ardon**	**0.97**	**45**	*e*Pg	**Pg**	**08 26 15.8**	**-0.4**
ARNR				*e*Sg	**Sg**	**08 26 29.3**	**+0.4**
AKH	**Akhalkalaki**	**1.10**	**174**	P	**Pb**	**08 26 18.0**	**-0.6**
AKH				S	**Sb**	**08 26 32.8**	**-0.2**
KMSR	**Komsomolskaya**	**1.11**	**39**	*e*Pg	**Pg**	**08 26 18.1**	**-0.8**
KMSR				*e*Sg	**Sg**	**08 26 33.2**	**-0.2**
SNJR	**Sundja**	**1.23**	**62**	*e*Pg	**Pg**	**08 26 19.7**	**-1.3**
SNJR				*e*Sg	**Sg**	**08 26 36.0**	**-1.0**
BTKR	**Batakoyurt**	**1.24**	**46**	*e*Pg	**Pg**	**08 26 20.0**	**-1.3**
BTKR				*e*Sg	**Sg**	**08 26 36.7**	**-0.7**
TBLG	**Delisi**	**1.30**	**126**	P	**Pn**	**08 26 22.9**	**+1.2**
TBLG				S	**Sb**	**08 26 38.7**	**0.0**
TBLG	**Delisi**	**1.30**	**126**	Pg	**Pg**	**08 26 22.8**	**+0.3**
TBLG				Sg	**Sg**	**08 26 38.7**	**-0.8**
MTA	**Mtatsminda**	**1.36**	**126**	P	**Pn**	**08 26 22.1**	**-0.3**
MTA				S	**Sb**	**08 26 39.5**	**-0.8**
PRTR	**Priterechnaya**	**1.42**	**29**	*e*Pg	**Pg**	**08 26 23.0**	**-1.8**
PRTR				*e*Sg	**Sg**	**08 26 41.9**	**-1.4**
DGRG	**David-gareji**	**1.85**	**124**	P	**Pn**	**08 26 31.5**	**+2.3**
DGRG				S	**Sn**	**08 26 55.8**	**+3.1**

IDC ***18*** *08:33:36.0±0.6, 7743S×10607E, h0km, mb4.3/13, mb1 4.4/13, mb1mx4.4/17, mbtmp4.3/13, MS3.9/2, Ms1 3.9/2, ms1mx3.0/16, Error ellipse: s-maj=29.3km s-min=13.9km az=53.0*

MOS ***18*** *08:33:39.5±1.0, 7385S×10619E, h33km, mb5.1/13, Error ellipse: s-maj=20.9km s-min=10.2km az=121.4*

NEIC ***18*** *08:33:43.0±0.2, 7475S×10609E, mb4.8/23, Error ellipse: s-maj=9.4km s-min=4.9km az=51.0*

BJI ***18*** *08:33:42.6, 7505S×10610E, h49km, mB5.0, mb4.6, Ms3.9, Msz4.0*

ISCJB ***18*** *08:33:43.7±2.2, 7445S±006×10619E±008, h71km±20km, mb4.5/35, Error ellipse: s-maj=14.6km s-min=8.0km az=115.5*

ISC 18 08:33:44.3±2.5, 748S±006×10612E±009, h59km±23km, h51km±1.4km:pP-P, n77, σ0§99/67, mb4.6/35, MS3.9/3, 4C-2D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**16.79**	**37**	*e*Pn	**Pn**	**08 37 36.8**	**+1.4**
MBWA	**Marble Bar**	**18.92**	**137**	*eP*	**Pn**	**08 38 00.2**	**-1.2**
	4.9nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.74**	**121**	*eP*	**P**	**08 38 30.5**	**-0.2**
	14nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**21.74**	**121**	P	**P**	**08 38 30.9**	**+0.1**
	5.4nm,0.8s,mb4.0,baz=250,slow=2.7,SNR=9.0						
KAKA	**Kakadu**	**26.42**	**103**	*eP*	**P**	**08 39 17.0**	**+1.7**
	6.7nm,0.4s,mb4.5						
CHTO	**Chiang Mai**	**27.07**	**345**	*eP*	**P**	**08 39 21.3**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.9						
CHTO	**Chiang Mai**	**27.07**	**345**	*eP*	**P**	**08 39 21.3**	**+0.1**
	comp=Z,2.9nm,0.7s,mb3.9						
NWAO	**Narrogin (SRO)**	**27.34**	**159**	LR	LR	08 49 21.3	
	comp=Z,196nm,19.7s,MS3.7,baz=40,slow=34						
WRA	**Warramunga Arr**	**30.02**	**117**	P	**P**	**08 39 47.7**	**+0.3**
	comp=Z,2.9nm,0.9s,mb4.0,baz=288,slow=12,SNR=14						
WRA				PcP	PcP	08 42 49.3	+1.0
	comp=Z,0.7nm,0.5s,baz=306,slow=2.0,SNR=5.7						
WRAB	**Tennant Creek**	**30.03**	**117**	*eP*	**P**	**08 39 47.8**	**+0.3**
WRAB				*e**PP	pP	08 40 00.2	-1.9
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.8						
WRAB	**Tennant Creek**	**30.03**	**117**	*eP*	**P**	**08 39 47.8**	**+0.3**
	comp=Z,8.6nm,0.5s,mb4.7						
WRAB				*ep*P	pP	08 40 00.2	-1.9
WB2	**Warramunga Arr**	**30.03**	**117**	*eP*	**P**	**08 39 48.1**	**+0.5**
ASAR	**Alice Springs**	**31.13**	**124**	P	**P**	**08 39 58.0**	**+0.8**
	comp=Z,2.6nm,0.8s,mb4.1,baz=299,slow=7.4,SNR=19						
ASAR				PcP	PcP	08 42 53.1	+1.9
	comp=Z,0.4nm,0.8s,baz=322,slow=2.2,SNR=4.4						
KMI	**Kunming**	**32.57**	**354**	P	**P**	**08 40 15.6**	**+5.7**
KMI				S	**S**	**08 45 21.6**	**+0.4**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.4						
KMI				LR	LR		
	comp=N,158nm,15.3s,MS4.1						
KMI				LR	LR		
	comp=E,269nm,13.7s,MS4.1						
KMI				LR	LR		
	comp=Z,227nm,13.4s,MS4.0						
LSA	**Lhasa**	**39.67**	**339**	*eP*	**P**	**08 41 09.9**	**-0.6**
JIRN	**Jiri**	**39.90**	**332**	*eP*	**P**	**08 41 13.0**	**+0.6**
	comp=Z,14nm,0.6s,mb4.9						
PKI	**Pulchoki**	**40.20**	**331**	*eP*	**P**	**08 41 15.3**	**+0.5**
	comp=Z,3.1nm,0.2s,mb4.7						
PKI	**Pulchoki**	**40.20**	**331**	*eP*	**P**	**08 41 15.3**	**+0.5**
PKI				pmax	pmax		
	comp=Z,3.0nm,0.2s,mb4.7						
GUN	**Gumba**	**40.26**	**332**	*eP*	**P**	**08 41 15.3**	**0.0**
	comp=Z,28nm,0.6s,mb5.1						
DMN	**Daman**	**40.37**	**331**	*eP*	**P**	**08 41 16.6**	**+0.3**
	comp=Z,28nm,1.0s,mb4.9						
KKN	**Kakani**	**40.44**	**331**	*eP*	**P**	**08 41 16.4**	**-0.5**
	comp=Z,10nm,0.5s,mb4.8						
KKN	**Kakani**	**40.44**	**331**	*eP*	**P**	**08 41 16.4**	**-0.5**
KKN				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.8						
CTAO	**Charters Tower**	**40.83**	**112**	*eP*	**P**	**08 41 19.2**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.6						
CTAO	**Charters Tower**	**40.83**	**112**	*eP*	**P**	**08 41 19.2**	**-0.8**
	comp=Z,16nm,1.0s,mb4.6						
GKN	**Gorkha**	**40.93**	**330**	*eP*	**P**	**08 41 19.7**	**-1.2**
STKA	**Stephens Creek**	**40.98**	**131**	*eP*	**P**	**08 41 19.3**	**-2.0**
	comp=Z,4.5nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**40.98**	**131**	P	**P**	**08 41 19.4**	**-1.9**
	comp=Z,3.2nm,0.6s,mb4.2,baz=316,slow=7.5,SNR=8.6						
KOLN	**Koldanda**	**41.26**	**329**	*eP*	**P**	**08 41 23.6**	**0.0**
	comp=Z,24nm,0.7s,mb4.9						
NDI	**New Delhi**	**45.49**	**323**	*eP*	**P**	**08 41 55.5**	**-2.2**
NDI				*ex*	x	08 42 09.0	
GTA	**Gaotai**	**47.02**	**353**	*eP*	**P**	**08 42 11.0**	**+1.4**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb4.1						
SONM	**Songino Array**	**55.07**	**0**	P	**P**	**08 43 09.7**	**-0.4**
	comp=Z,0.9nm,0.5s,mb4.1,baz=182,slow=9.0,SNR=10						
MDJ	**Mudanjiang**	**56.01**	**20**	P	**P**	**08 43 17.5**	**+0.7**
MDJ				PP	PP	08 45 24.0	+1.9
MDJ				PCS	PcS	08 48 14.3	-0.7
MDJ				S	**S**	**08 50 56.0**	**-4.7**
MDJ				SS	SS	08 54 45.8	-1.6
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,61nm,4.4s						
MDJ				LR	LR		
	comp=N,34nm,24.1s						
MDJ				LR	LR		
	comp=E,26nm,18.1s						
MKAR	**Makanchi Array**	**58.04**	**341**	P	**P**	**08 43 29.7**	**-1.5**
	comp=E,2.6nm,0.6s,mb4.4,baz=145,slow=7.6,SNR=27						
KURK	**Kurchatov**	**62.65**	**341**	*eP*	**P**	**08 44 02.3**	**-0.3**
KURK				*e**PP	pP	08 44 15.8	-2.7
KURK				pmax	pmax		
	comp=Z,12nm,0.9s,mb5.0						
KURK	**Kurchatov**	**62.65**	**341**	*eP*	**P**	**08 44 02.3**	**-0.3**
	comp=Z,12nm,0.9s,mb5.0						
KURK				*ep*P	pP	08 44 15.8	-2.7
MAW	**Mawson**	**66.66**	**197**	P	**P**	**08 44 28.5**	**-0.2**
	comp=Z,6.1nm,0.7s,mb4.8,baz=37,slow=5.2,SNR=15						
MAW	**Mawson**	**66.66**	**197**	*eP*	**P**	**08 44 28.0**	**-0.7**
MAW				*e*	pP	08 44 41.9	-2.8
MAW				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MAW	**Mawson**	**66.66**	**197**	*eP*	**P**	**08 44 28.0**	**-0.7**
	comp=Z,9.2nm,1.0s,mb4.8						
MAW				*e*	pP	08 44 41.9	-2.9
BRVK	**Borovoye**	**67.53**	**338**	*eP*	**P**	**08 44 33.9**	**-0.4**
BRVK				*e**PP	pP	08 44 47.3	-3.0
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
BRVK	**Borovoye**	**67.53**	**338**	*eP*	**P**	**08 44 33.9**	**-0.4**
	comp=Z,8.7nm,1.0s,mb4.7						
BRVK				*ep*P	pP	08 44 47.3	-3.1
CHKZ	**Chkalovo**	**67.89**	**338**	*eP*	**P**	**08 44 36.1**	**-0.4**
CHKZ				*e*	pP	08 44 49.9	-2.7
CHKZ				pmax	pmax		
	comp=Z,21nm,0.6s,mb5.3						
CHKZ	**Chkalovo**	**67.89**	**338**	*eP*	**P**	**08 44 36.1**	**-0.4**
	comp=Z,21nm,0.6s,mb5.3						
CHKZ				*e*	pP	08 44 49.9	-2.7
ZRNK	**Zerenda**	**67.94**	**337**	*eP*	**P**	**08 44 36.3**	**-0.6**
ZRNK				*e**PP	pP	08 44 50.5	-2.4
ZRNK				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.2						
ZRNK	**Zerenda**	**67.94**	**337**	*eP*	**P**	**08 44 36.3**	**-0.6**
	comp=Z,14nm,0.6s,mb5.2						
ZRNK				*ep*P	pP	08 44 50.5	-2.4
KMBO	**Kilima Mbogo**	**68.90**	**272**	LR	LR	09 09 07.0	
	comp=Z,99nm,20.0s,MS4.0,baz=94,slow=31						
AKTK	**Aktyubinsk**	**71.09**	**330**	P	**P**	**08 44 55.6**	**-0.7**
AKTO	**Aktyubinsk**	**71.09**	**330**	P	**P**	**08 44 55.6**	**-0.7**
	comp=Z,1.6nm,0.5s,mb4.2,baz=103,slow=4.0,SNR=8.6						
SYO	**Syowa Base**	**74.75**	**200**	↑eX		08 45 15.0	
SYO	**Syowa Base**	**74.75**	**200**	↑*e*PcP	PcP	08 45 33.4	+1.6
VNDA	**Vanda**	**75.66**	**169**	P	**P**	**08 45 22.6**	**-0.5**
	comp=Z,2.4nm,0.8s,mb4.2,baz=320,slow=5.6,SNR=13						
VNDA	**Vanda**	**75.66**	**169**	*eP*	**P**	**08 45 22.7**	**-0.4**
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
VNDA	**Vanda**	**75.66**	**169**	*eP*	**P**	**08 45 22.7**	**-0.4**
	comp=Z,3.3nm,0.9s,mb4.3						
LSZ	**Lusaka**	**76.47**	**256**	*eP*	**P**	**08 45 28.7**	**+1.0**
LSZ				*e**PP	pP	08 45 41.4	-2.6
LSZ				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
LSZ	**Lusaka**	**76.47**	**256**	*eP*	**P**	**08 45 28.7**	**+1.0**
	comp=Z,6.8nm,0.7s,mb4.7						
LSZ				*ep*P	pP	08 45 41.4	-2.6
ASF	**Jabal al Asfar**	**76.71**	**305**	P	**P**	**08 45 30.3**	**+1.2**
	comp=Z,4.3nm,0.8s,mb4.4,baz=21,slow=2.4,SNR=5.4						
SBA	**Scott Base**	**76.74**	**169**	*eP*	**P**	**08 45 29.1**	**-0.2**
SBA				*e**PP	pP	08 45 43.7	-1.9
LBTB	**Lobatse**	**78.31**	**246**	*eP*	**P**	**08 45 39.1**	**+1.1**
LBTB				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
LBTB	**Lobatse**	**78.31**	**246**	*eP*	**P**	**08 45 39.0**	**+1.0**
	comp=Z,4.5nm,0.6s,mb4.6						
TIXI	**Tiksi**	**80.39**	**7**	*eP*	**P**	**08 45 46.3**	**-3.0**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
BR131	**Keskin Array S**	**81.49**	**312**	*eP*	**P**	**08 45 55.5**	**+0.3**
	comp=Z,7.5nm,0.8s,mb4.7						
BRTR	**Keskin Array B**	**81.49**	**312**	P	**P**	**08 45 55.3**	**+0.1**
	comp=Z,9.8nm,0.9s,mb4.8,baz=132,slow=7.4,SNR=41						
SUR	**Sutherland**	**82.09**	**238**	*eP*	**P**	**08 46 00.4**	**+2.1**
SUR				*e*PcP	PcP	08 46 06.2	+2.5
SUR				*ep*P	pP	08 46 16.1	+1.3
QSPA	**South Pole Qui**	**82.51**	**180**	*eP*	**P**	**08 46 00.1**	**-0.5**
	comp=Z,5.0nm,0.8s,mb4.6						
QSPA				*i* PcP	PcP	08 46 03.7	-1.8
QSPA				*ep*P	pP	08 46 15.7	-1.4
OBN	**Obninsk**	**84.65**	**327**	*eP*	**P**	08 46 26.5	-1.6
OBN				pmax	pmax		
	comp=Z,17nm,0.7s,mb5.3						
TIRR	**Tirgusor**	**86.50**	**315**	↓*i*P	**P**	**08 46 20.3**	**-0.4**
AKASG	**Malin Array Be**	**87.52**	**322**	P	**P**	**08 46 25.1**	**-0.5**
	comp=Z,0.3nm,0.2s,mb4.1,baz=92,slow=4.4,SNR=6.3						
VRI	**Vrincioaia**	**87.99**	**317**	↓*i*P	**P**	**08 46 29.5**	**+1.6**
PLOR	**Plostina**	**88.04**	**317**	↑*i*P	**P**	**08 46 29.9**	**+1.8**
MLR	**Muntele Rosu**	**88.44**	**316**	↑*i*P	**P**	**08 46 31.1**	**+1.1**
ARCES	**ARCESS Array B**	**93.68**	**340**	P	**P**	**08 46 53.0**	**-1.4**
	comp=Z,1.1nm,0.8s,mb4.3,baz=100,slow=5.0,SNR=3.6						
BDFB	**Brasilia**		**145.59**	**228**	PKPbc	PKPbc	08 53 17.5	+1.4
	comp=Z,5.4nm,0.7s,baz=152,slow=2.3,SNR=5.8						
CCM	**Cathedral Cave**	**145.74**	**25**	*e*PKPdf	PKPdf	08 53 17.4	+1.3
CCM				*ep*PKPdf	pPKPdf	08 53 31.5	-1.9
SSPA	**Standing Stone**	**146.79**	**6**	*e*PKPdf	PKPdf	08 53 17.3	-0.5
MIAR	**Mount Ida**	**147.53**	**31**	*e*PKPdf	PKPdf	08 53 18.2	-0.8
MIAR				*ep*PKPdf	pPKPdf	08 53 37.2	+0.8
WVT	**Waverly**	**148.76**	**22**	*e*PKP2	PKPab	08 53 25.7	-3.2
TZTN	**Tazewell**	**149.75**	**16**	*e*PKPbc	PKPbc	08 53 28.2	+0.8
TZTN				*ep*PKPdf	pPKPdf	08 53 40.8	+0.8
CPCT	**Cooper Cave**	**150.50**	**18**	*e*PKPbc	PKPbc	08 53 29.6	+0.4

IDC ***18*** *08:43:12.8±1.8, 2733N×9694E, h0km, mb3.2/4, mb1 3.5/4, mb1mx3.3/19, mbtmp3.3/4, Error ellipse: s-maj=78.9km s-min=23.8km az=70.0*

ISCJB ***18*** *08:43:15.2±1.0, 272N±0.1×968E±0.1, h33km, mb3.4/4, Error ellipse: s-maj=20.2km s-min=11.3km az=133.8*

ISC 18 08:43:16.2±8.2, 273N±01×968E±01, h24km±63km, n5, σ0§45/6, mb3.4/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**4.69**	**249**	*e*PN	**Pn**	**08 44 25.5**	**0.0**
SHL				*i* SN	**Sn**	**08 45 19.0**	**-0.1**
SONM	**Songino Array**	**21.84**	**18**	P	**P**	**08 48 06.4**	**-0.4**
	0.4nm,0.7s,mb2.9,baz=206,slow=9.6,SNR=2.8						
MKAR	**Makanchi Array**	**22.55**	**333**	P	**P**	**08 48 14.8**	**+0.4**
	0.4nm,0.5s,mb3.1,baz=145,slow=11,SNR=4.7						
WRA	**Warramunga Arr**	**59.43**	**138**	P	**P**	**08 53 16.9**	**0.0**
	0.4nm,0.4s,mb3.8,baz=329,slow=7.5,SNR=14						
ASAR	**Alice Springs**	**62.09**	**141**	P	**P**	**08 53 35.0**	**+0.1**
	0.2nm,0.4s,mb3.6,baz=320,slow=6.4,SNR=5.2						

ISCJB ***18*** *09:18:23.7±0.7, 4306N±004×7491E±004, h6km±5km, Error ellipse: s-maj=6.8km s-min=4.7km az=28.5*

NNC ***18*** *09:18:23.9±4.0, 4290N×7488E, h0km, mb3.0, mpv2.2, Error ellipse: s-maj=463.3km s-min=15.3km az=0.0*

KNET ***18*** *09:18:23.4±0.3, 4303N×7491E, h12km±3km, ml2.0, Error ellipse: s-maj=2.4km s-min=1.6km az=11.0*

ISC 18 09:18:23.7±0.7, 4307N±004×7491E±004, h10km±6km, n22, σ0§69/31, 18C-4D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHMS	**Chumysh**	**0.13**	**238**	↑P	**Pg**	**09 18 26.4**	**-0.4**
	305nm,0.2s,SNR=482						
CHMS				↓S	**Sg**	**09 18 28.3**	**-0.6**
	500nm,0.2s						
CHMS	**Chumysh**	**0.13**	**238**	P	**Pg**	**09 18 26.4**	**-0.3**
	SNR=482						
USP	**Ospenovka**	**0.36**	**304**	↑P	**Pg**	**09 18 31.3**	**+0.5**
	103nm,0.1s,SNR=123						
USP				↑S	**Sg**	**09 18 36.6**	**+1.1**
	209nm,0.2s						
USP	**Ospenovka**	**0.36**	**304**	P	**Pg**	**09 18 31.3**	**+0.5**
	SNR=123						
KBK	**Karagaybulak**	**0.41**	**176**	↑P	**Pg**	**09 18 32.0**	**+0.1**
	212nm,0.2s,SNR=65						
KBK				↑S	**Sg**	**09 18 38.2**	**+0.9**
	382nm,0.2s						
KBK	**Karagaybulak**	**0.41**	**176**	P	**Pg**	**09 18 31.5**	**-0.3**
	SNR=65						
TKM2	**Tokmak 2**	**0.53**	**106**	↑P	**Pg**	**09 18 33.8**	**-0.1**
	20nm,0.1s,SNR=135						
TKM2				↓S	**Sg**	**09 18 41.2**	**+0.3**
	154nm,0.2s						
TKM2	**Tokmak 2**	**0.53**	**106**	P	**Pg**	**09 18 33.9**	**-0.1**
	SNR=135						
TKM2	**Tokmak 2**	**0.53**	**106**	↑P	**Pg**	**09 18 33.9**	**-0.1**
	1.2nm,0.5s						
TKM2				↓S	**Sg**	**09 18 41.0**	**+0.1**
	0.7nm,0.2s						
AAK	**Ala-Archa**	**0.53**	**215**	↑P	**Pg**	**09 18 33.8**	**-0.2**
	35nm,0.2s,SNR=40						
AAK				↑S	**Sg**	**09 18 40.8**	**-0.2**
	69nm,0.2s						
AAK	**Ala-Archa**	**0.53**	**215**	P	**Pg**	**09 18 33.9**	**-0.2**
	SNR=40						
UCH	**Uchtor**	**0.89**	**199**	↑S	**Sg**	**09 18 52.1**	**-0.3**
	12nm,0.2s						
UCH	**Uchtor**	**0.89**	**199**	P	**Pg**	**09 18 40.4**	**-0.5**
	SNR=67						
EKS2	**Erkin-Say**	**0.93**	**244**	↑P	**Pg**	**09 18 41.4**	**-0.1**
	20nm,0.1s,SNR=19						
EKS2				↑S	**Sg**	**09 18 54.7**	**+1.2**
	32nm,0.3s						
EKS2	**Erkin-Say**	**0.93**	**244**	P	**Pg**	**09 18 41.4**	**-0.1**
	SNR=19						
KZA	**Kyzart**	**1.02**	**166**	↑P	**Pg**	**09 18 43.1**	**-0.3**
	15nm,0.2s,SNR=64						
KZA				↑S	**Sg**	**09 18 57.4**	**+0.6**
	19nm,0.2s						
KZA	**Kyzart**	**1.02**	**166**	P	**Pg**	**09 18 43.2**	**-0.2**
	SNR=64						
ULHL	**Ulahol**	**1.28**	**129**	↑P	**Pn**	**09 18 47.5**	**-0.3**
	5.1nm,0.1s,SNR=38						
ULHL	**Ulahol**	**1.28**	**129**	P	**Pn**	**09 18 47.5**	**-0.3**
	SNR=38						
AML	**Almayashu**	**1.30**	**224**	↑P	**Pn**	**09 18 48.0**	**+0.1**
	11nm,0.2s,SNR=14						
AML				↓S	**Sb**	**09 19 05.0**	**+0.1**
	20nm,0.2s						
AML	**Almayashu**	**1.30**	**224**	P	**Pn**	**09 18 48.0**	**+0.1**
	SNR=14						
KK31	**Karatay Array**	**3.22**	**272**	↑Pg	**Pg**	**09 19 23.0**	**-2.4**
	0.9nm,0.3s,baz=93,slow=16,SNR=17						
KK31				↑Lg		09 20 04.0	
	3.2nm,0.4s,baz=92,slow=28,SNR=6.5						

IDC ***18*** *09:33:57.6±2.6, 027N×9724E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/16, mbtmp3.6/5, Error ellipse: s-maj=115.2km s-min=22.7km az=55.0*

ISCJB ***18*** *09:34:01.4±1.3, 04N±0.1×974E±02, h33km, mb3.6/6, Error ellipse: s-maj=33.5km s-min=16.9km az=137.0*

NEIC ***18*** *09:34:02.4±1.0, 032N×9736E, h30km, mb3.9/1, Error ellipse: s-maj=26.6km s-min=13.1km az=68.0*

ISC 18 09:34:03.3±1.3, 04N±01×974E±02, h35km, n7, σ0§59/7, mb3.6/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.91**	**34**	*e*Pn	**Pn**	**09 35 27.9**	**-0.4**
WRA	**Warramunga Arr**	**41.47**	**121**	P	**P**	**09 41 46.8**	**+0.1**
	1.0nm,0.7s,mb3.6,baz=303,slow=9.1,SNR=9.2						
WRAB	**Tennant Creek**	**41.48**	**121**	P	**P**	**09 41 46.6**	**-0.2**
	2.1nm,0.8s,mb3.8						
ASAR	**Alice Springs**	**42.77**	**126**	P	**P**	**09 41 57.5**	**+0.2**
	0.3nm,0.9s,mb3.0,baz=294,slow=7.5,SNR=3.1						
SONM	**Songino Array**	**47.94**	**8**	P	**P**	**09 42 39.3**	**+1.0**
	0.2nm,0.4s,mb3.5,baz=201,slow=7.4,SNR=4.3						
MKAR	**Makanchi Array**	**48.09**	**346**	P	**P**	**09 42 39.8**	**+0.4**
	0.7nm,0.5s,mb3.9,baz=168,slow=8.8,SNR=6.7						
ARCES	**ARCESS Array B**	**83.37**	**340**	P	**P**	**09 46 25.7**	**-1.1**
	0.4nm,0.4s,mb3.8,baz=91,slow=5

HLID				*e*Sn		**Sn**	10 17 54.2	+8.2
TCUT	**Toone Canyon**	**3.17**	**194**	*e*Pn		**Pn**	10 17 14.1	+1.8
TCUT				*e*Sg		**Sg**	10 18 02.0	-2.0
SPUT	**South Promonto**	**3.27**	**209**	*e*Pn		**Pn**	10 17 14.0	+0.4
SPUT				*e*Sg		**Sg**	10 18 04.1	-3.0
CHMT	**Chamberlain Mo**	**3.39**	**324**	*e*Pn		**Pn**	10 17 16.0	+0.6
CHMT				*e*Pg		**Pg**	10 17 25.5	-1.7
CHMT				*e*Sg		**Sg**	10 18 10.7	-0.5
RWWY	**Rawlins**	**3.41**	**136**	*e*Pn		**Pn**	10 17 15.7	0.0
RWWY				*e*Sn		**Sn**	10 17 57.2	+1.0
MSO	**Missoula**	**3.64**	**318**	*e*Pn		**Pn**	10 17 19.0	+0.2
MSO				*e*Sn		**Sn**	10 18 04.9	+3.0
MSO				*e*Sg		**Sg**	10 18 19.5	+0.4
CTU	**Camp Tracy**	**3.65**	**197**	*e*Pn		**Pn**	10 17 20.8	+1.9
CTU				*e*Pg		**Pg**	10 17 29.4	-2.6
CTU				*e*Sg		**Sg**	10 18 15.4	-3.9
NOQ	**North Oquirrh**	**3.77**	**201**	*e*Pn		**Pn**	10 17 21.5	+0.9
NOQ				*e*Sn		**Sn**	10 18 08.5	+3.4
DAU	**Daniels Canyon**	**3.83**	**190**	*e*Pn		**Pn**	10 17 22.8	+1.3
DAU				*e*Sn		**Sn**	10 18 08.6	+1.9
LAO	**LASA Array**	**3.84**	**48**	*e*Pn		**Pn**	10 17 21.1	-0.4
LAO				*e*Sn		**Sn**	10 18 13.3	+6.6
MPU	**Maple Canyon**	**4.28**	**193**	*e*Pn		**Pn**	10 17 27.7	+0.1
MPU				*e*Pg		**Pg**	10 17 41.3	-2.9
DUG	**Dugway**	**4.39**	**205**	*e*Pn		**Pn**	10 17 29.7	+0.6
NLU	**North Lily Min**	**4.42**	**197**	*e*Pn		**Pn**	10 17 30.6	+1.0
NLU				*e*S		**Sb**	10 18 35.8	+2.3
RSSD	**Black Hills**	**4.56**	**89**	*e*Pn		**Pn**	10 17 30.6	-0.8
RSSD				*e*S		**Sb**	10 18 36.4	-1.0
PHWY	**Pilot Hill**	**4.63**	**127**	*e*Pn		**Pn**	10 17 33.6	+1.2
PHWY				*e*S		**Sn**	10 18 33.9	+7.7
TMUT	**Trail Mountain**	**4.93**	**188**	*e*Pn		**Pn**	10 17 38.1	+1.5
ELK	**Elko**	**4.99**	**228**	*e*Pn		**Pn**	10 17 38.6	+1.3
	23nm,0.6s							
ELK				*e*S		**Sb**	10 18 52.1	+2.3
BMO	**Blue Mountains**	**5.01**	**280**	*e*Pn		**Pn**	10 17 39.2	+1.6
	27nm,0.8s							
BMO				*e*Sn		**Sb**	10 18 49.0	-1.4
BMO				*e*Sg		**Sg**	10 19 02.6	-0.3
SRU	**San Rafael**	**5.08**	**181**	*e*Pn		**Pn**	10 17 40.3	+1.7
	90nm,0.8s							
SRU				*e*S		**Sb**	10 18 50.0	-2.5
WALA	**Waterton Lakes**	**5.45**	**335**	*e*Pn		**Pn**	10 17 43.7	+0.1
	14nm,0.6s							
WALA				*e*Pg		**Pg**	10 18 05.1	-1.3
WALA				*e*Sg		**Sg**	10 19 15.3	-1.7
SMCO	**Snowmass**	**5.62**	**152**	*e*Pn		**Pn**	10 17 45.4	-0.6
	48nm,0.7s							
ISCO	**Idaho Springs**	**5.64**	**139**	*e*Pn		**Pn**	10 17 47.2	+1.0
	33nm,0.6s							
MSU	**Marysvale**	**5.84**	**194**	*e*Pn		**Pn**	10 17 49.7	+0.7
PV10	**Paradox Valley**	**5.90**	**170**	*e*Pn		**Pn**	10 17 49.6	-0.2
PV01	**Paradox Valley**	**6.20**	**167**	*e*Pn		**Pn**	10 17 54.7	+0.7
NEW	**Newport**	**6.21**	**313**	Pn		**Pn**	10 17 54.8	+0.7
	1.1nm,0.3s,baz=132,slow=12,SNR=12							
NEW				Lg			10 19 35.8	
	3.1nm,0.3s,baz=51,slow=23,SNR=8.0							
NEW	**Newport**	**6.21**	**313**	*e*Pn		**Pn**	10 17 54.6	+0.6
	11nm,0.8s							
HAWA	**Hanford**	**6.83**	**292**	*e*Pn		**Pn**	10 18 03.8	+1.1
	0.6nm,0.6s							
NVAR	**Mina Array Bea**	**8.29**	**229**	Pn		**Pn**	10 18 25.7	+3.0
	0.2nm,0.3s,baz=50,slow=12,SNR=19							
NVAR				Lg			10 20 43.5	
	0.4nm,0.3s,baz=26,slow=32,SNR=4.3							
NVAR	**Mina Array Bea**	**8.29**	**229**	Pn		**Pn**	10 18 25.7	+3.0
NVAR				Lg			10 20 43.5	
ULM	**Lac du Bonnet**	**11.56**	**53**	Pn		**Pn**	10 19 02.8	-4.6
	1.8nm,0.3s,baz=237,slow=11,SNR=22							
ULM				Lg			10 22 15.7	
	1.3nm,0.3s,baz=163,slow=21,SNR=3.0							
ULM				LR		LR	10 23 38.6	
	comp=Z,79nm,19.1s,baz=279,slow=38							
YKA	**Yellowknife Ar**	**18.50**	**354**	P		**Pn**	10 20 36.4	-2.4
	baz=170,slow=10,SNR=6.7							
DLBC	**Dease Lake**	**18.72**	**327**	P		**Pn**	10 20 42.8	+1.4
	0.0nm,0.3s,baz=113,slow=13,SNR=3.2							
SADO	**Sadowa**	**22.22**	**78**	P		**P**	10 21 17.8	-1.3
	5.6nm,0.6s,mb4.2,baz=296,slow=11,SNR=6.9							
SADO				LR		LR	10 29 54.1	
	comp=Z,76nm,18.6s,baz=151,slow=37							
INK	**Inuvik**	**27.03**	**341**	P		**P**	10 22 04.0	-0.7
	0.8nm,0.7s,mb3.4,baz=135,slow=8.6,SNR=2.1							
ILAR	**Eielson Array**	**28.91**	**328**	P		**P**	10 22 22.9	+1.4
	1.7nm,0.8s,mb3.8,baz=123,slow=7.8,SNR=19							
SONM	**Songino Array**	**82.82**	**336**	P		**P**	10 28 47.6	+0.6
	1.4nm,0.8s,mb4.0,baz=19,slow=3.6,SNR=9.5							
MKAR	**Makanchi Array**	**88.71**	**351**	P		**P**	10 29 15.2	-1.0
	0.7nm,0.9s,mb4.0,baz=356,slow=3.6,SNR=5.7							

*ISCJB **18** 10:58:31.9±1.5, 4245N±010×4369E±009, h30km±6km, Error ellipse: s-maj=17.8km s-min=9.8km az=127.8*
*MOS **18** 10:58:32.4±0.8, 4250N×4372E, h32km, mb3.5/1, Error ellipse: s-maj=49.9km s-min=14.6km az=67.5*
ISC 18 10:58:32.0±1.5, 4244N±010×4370E±009, h29km±7km, n8, σ0§24/16, 1C, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.23**	**307**	P	**Pb**	10 58 38.4	**0.0**
ONI				S	**Sb**	10 58 42.6	**-0.2**
ZEI	**Tsey**	**0.36**	**25**	⇑*i*Pg	**Pb**	10 58 40.4	**+0.3**
ZEI				*i* S	**Sb**	10 58 46.2	**+0.5**
DIGR	**Digorskoe uzhe**	**0.46**	**350**	*e*Pg	**Pb**	10 58 41.8	**+0.1**
DIGR				*e*S	**Sb**	10 58 48.6	**+0.2**
LACR	**Lac**	**0.58**	**49**	*e*Pg	**Pb**	10 58 43.6	**-0.1**
LACR				*e*S	**Sb**	10 58 51.8	**+0.1**
KORR	**Kora**	**0.70**	**23**	*e*Pg	**Pb**	10 58 45.3	**-0.3**
KORR				*e*S	**Sb**	10 58 54.6	**-0.3**
ARNR	**Ardon**	**0.86**	**30**	*e*Pg	**Pn**	10 58 47.8	**-0.2**
ARNR				*e*S	**Sb**	10 58 59.1	**-0.4**
VLKR	**Vladikavkaz**	**0.94**	**50**	*e*Pg	**Pn**	10 58 49.2	**0.0**
VLKR				*e*S	**Sn**	10 59 01.5	**-0.1**
BTKR	**Batakoyurt**	**1.12**	**34**	*e*Pg	**Pn**	10 58 51.9	**+0.3**
BTKR				*e*S	**Sn**	10 59 06.2	**+0.2**

*TIF **18** 11:13:50.0, 4250N×4330E, h19km±1km*
*ISCJB **18** 11:13:51.0±1.0, 4251N±003×4325E±008, h19km, Error ellipse: s-maj=8.7km s-min=3.7km az=12.4*
*CSEM **18** 11:13:51.0, 4251N×4336E, h25km, mb3.6, After OBN*
*MOS **18** 11:13:51.4±0.9, 4251N×4336E, h25km, mb3.6/1, Error ellipse: s-maj=27.7km s-min=11.1km az=58.8*
ISC 18 11:13:50.4±1.1, 4256N±003×4323E±009, h19km±4km, n15, σ0§89/30, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.16**	**82**	P	**Pg**	11 13 54.5	**-0.5**
ONI				S	**Sg**	11 13 57.1	**-1.0**
DIGR	**Digorskoe uzhe**	**0.43**	**37**	*i* Pg	**Pg**	11 14 00.7	**+1.4**
DIGR				*e*Sg	**Sg**	11 14 07.6	**+2.4**
ZEI	**Tsey**	**0.54**	**66**	*e*Pg	**Pg**	11 14 01.5	**+0.3**
ZEI				*e*Sg	**Sg**	11 14 09.2	**+0.7**
KORR	**Kora**	**0.81**	**49**	*i* Pg	**Pg**	11 14 06.8	**+0.5**
KORR				*e*Sg	**Sg**	11 14 18.0	**+0.9**
LACR	**Lac**	**0.83**	**71**	*i* Pg	**Pg**	11 14 06.5	**-0.2**
LACR				*i* Sg	**Sg**	11 14 17.4	**-0.3**
ARNR	**Ardon**	**1.00**	**50**	*e*Pg	**Pg**	11 14 09.6	**-0.2**
ARNR				*e*Sg	**Sg**	11 14 23.0	**+0.1**
KMSR	**Komsomolskaya**	**1.12**	**43**	*e*Pg	**Pg**	11 14 11.9	**-0.4**
KMSR				*e*Sg	**Sg**	11 14 26.9	**-0.1**
AKH	**Akhalkalaki**	**1.16**	**170**	P	**Pn**	11 14 10.2	**-1.5**
AKH				S	**Sb**	11 14 26.6	**0.0**
BTKR	**Batakoyurt**	**1.26**	**49**	*e*Pg	**Pg**	11 14 13.8	**-1.0**
BTKR				*e*Sg	**Sg**	11 14 30.3	**-1.0**
TBLG	**Delisi**	**1.39**	**126**	P	**Pn**	11 14 15.4	**+0.6**
TBLG				S	**Sn**	11 14 32.7	**0.0**
PRTR	**Priterechnaya**	**1.42**	**32**	P	**Pn**	11 14 15.4	**+0.2**
PRTR				S	**Sn**	11 14 32.7	**-0.6**
PRTR	**Priterechnaya**	**1.42**	**32**	*e*Pg	**Pg**	11 14 16.9	**-0.9**
PRTR				*e*Sg	**Sg**	11 14 35.5	**-0.9**
MTA	**Mtatsminda**	**1.45**	**126**	P	**Pn**	11 14 17.2	**+1.6**
MTA				S	**Sn**	11 14 33.9	**-0.2**
SAMG	**Sameba**	**1.46**	**126**	P	**Pn**	11 14 15.4	**-0.3**
SAMG				S	**Sn**	11 14 33.6	**-0.7**
DGRG	**David-gareji**	**1.94**	**124**	P	**Pn**	11 14 24.4	**+2.0**
DGRG				S	**Sn**	11 14 51.8	**+5.5**

IDC 18 11:15:00.3±2.3, 1703S×17825W, h0km, mb4.1/5, mb1 4.4/5, mb1mx4.0/13, mbtmp4.1/5, Error ellipse: s-maj=127.1km s-min=24.2km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.19**	**240**	*e*P	P	11 22 29.5	-0.5
	1.5nm,0.6s						
STKA	**Stephens Creek**	**39.19**	**240**	P	P	11 22 29.7	-0.3
	2.0nm,0.4s,baz=80,slow=9.1,SNR=9.8						
WRA	**Warramunga Arr**	**44.95**	**259**	P	P	11 23 17.8	+0.8
	1.0nm,0.5s,baz=97,slow=7.0,SNR=46						
ASAR	**Alice Springs**	**45.18**	**253**	P	P	11 23 19.4	+0.6
	12nm,0.5s,baz=90,slow=8.1,SNR=262						
NVAR	**Mina Array Bea**	**78.69**	**44**	P	P	11 27 06.2	+1.8
	0.4nm,0.7s,baz=227,slow=9.2,SNR=4.1						
ILAR	**Eielson Array**	**85.00**	**13**	P	P	11 27 35.8	-1.8
	0.2nm,0.5s,baz=220,slow=5.1,SNR=7.5						

*ISCJB **18** 11:34:43.9±0.6, 4291N±004×090W±003, h8km, Error ellipse: s-maj=6.0km s-min=3.3km az=37.4*
*LDG **18** 11:34:43.9±0.2, 4288N×094W, h4km, Md1.7/3, Ml1.7/2, Error ellipse: s-maj=4.2km s-min=1.3km az=23.0*
*MDD **18** 11:34:44.8±0.5, 4292N×092W, h8km±8km, mbLg1.0/7, Error ellipse: s-maj=2.9km s-min=1.6km az=16.0, PRXIMO*
*STR **18** 11:34:44.6±0.6, 4293N×094W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 18 11:34:44.0±0.8, 4295N±005×090W±003, h17km±8km, n21, σ0§52/27, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LARF	**Larrau**	**0.11**	**325**	Pg	**Pg**	11 34 47.5	**-0.2**
LARF				Sg	**Sg**	11 34 49.8	**-0.4**
LARF	**Larrau**	**0.11**	**325**	Lg		11 34 49.9	
ATE	**Arette**	**0.20**	**46**	Pg	**Pg**	11 34 49.5	**+0.6**
ATE				Sg	**Sg**	11 34 53.1	**+0.9**
ATE	**Arette**	**0.20**	**46**	Pg	**Pg**	11 34 49.5	**+0.6**
ATE				Lg		11 34 53.2	
ETSF	**Etsaut**	**0.25**	**100**	*e*Pg	**Pg**	11 34 49.5	**-0.2**
ETSF				*e*Sg	**Sg**	11 34 53.2	**-0.4**
	7.9nm,0.2s						
ETSF	**Etsaut**	**0.25**	**100**	Pg	**Pg**	11 34 49.5	**-0.2**
ETSF				Lg		11 34 53.2	
	4.0nm,0.2s						
ORDF	**Ordiarp**	**0.27**	**354**	Pg	**Pg**	11 34 50.7	**+0.7**
ORDF				Lg		11 34 55.5	
SJPF	**Ste Jean**	**0.29**	**305**	*e*Pg	**Pg**	11 34 50.2	**-0.1**
SJPF				*e*Sg	**Sg**	11 34 53.9	**-0.7**
	15nm,0.3s						
SJPF	**Ste Jean**	**0.29**	**305**	Pg	**Pg**	11 34 50.2	**-0.1**
SJPF				Lg		11 34 53.9	
	7.5nm,0.3s						
IPRE	**Itoiz**	**0.36**	**248**	Pg	**Pg**	11 34 51.8	**+0.2**
	0.1nm,0.2s,SNR=4.6						
IPRE				Lg		11 34 56.2	
	3.2nm,0.2s,SNR=5.3						
OSSF	**Osses**	**0.41**	**320**	Pg	**Pg**	11 34 52.6	**+0.2**
OSSF				Sg	**Sg**	11 34 57.6	**-0.4**
OSSF	**Osses**	**0.41**	**320**	Pg	**Pg**	11 34 52.6	**+0.3**
OSSF				Lg		11 34 57.9	
IUSE	**Utxeti**	**0.48**	**270**	Pg	**Pg**	11 34 53.8	**+0.2**
	0.7nm,0.1s,SNR=7.9						
IUSE				Lg		11 34 59.7	
	1.5nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.51**	**296**	Pg	**Pg**	11 34 54.4	**+0.2**
	1.1nm,0.2s,SNR=8.2						
ELIZ				Lg		11 35 01.4	
	2.3nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.52**	**302**	Pg	**Pg**	11 34 54.6	**+0.2**
	0.4nm,0.1s,SNR=7.9						
EALK				Lg		11 35 01.4	
	1.9nm,0.1s,SNR=10						
EBIE	**Bielsa**	**0.81**	**108**	Pg	**Pg**	11 34 59.1	**-0.7**
	0.2nm,0.1s,SNR=7.9						
EBIE				Lg		11 35 10.7	
	0.8nm,0.1s,SNR=7.9						
EPF	**Esparros**	**0.91**	**84**	*e*Pg	**Pg**	11 35 01.7	**-0.1**
EPF				*e*Sg	**Sg**	11 35 14.6	**+0.8**
	1.7nm,0.2s						
EPF	**Esparros**	**0.91**	**84**	Pg	**Pg**	11 35 01.7	**-0.1**
EPF				Lg		11 35 14.6	
	0.9nm,0.2s						
ESAC	**San Caprasio**	**1.26**	**165**	Pg	**Pg**	11 35 09.0	**+0.6**
	2.3nm,0.1s,SNR=7.9						
ESAC				Lg		11 35 25.5	
	4.5nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**2.31**	**79**	*e*Pg	**Pg**	11 35 27.8	**-0.6**
MTLF				*e*Sg	**Sg**	11 35 57.6	**-0.9**
	1.0nm,0.3s						
MTLF	**Montolieu**	**2.31**	**79**	Pg	**Pg**	11 35 27.8	**-0.6**
MTLF				Lg		11 35 57.6	
	0.0nm,0.3s						

*ISCJB **18** 11:35:01.2±2.4, 385N±002×739E±0.1, h33km, Error ellipse: s-maj=21.9km s-min=15.6km az=166.4*
*NNC **18** 11:35:03.8±8.3, 3858N×7421E, h92km±95km, mb2.9, mpv3.1, Error ellipse: s-maj=92.5km s-min=56.2km az=178.0*
ISC 18 11:35:01.4±2.4, 384N±002×740E±01, h35km, n10, σ0§91/12, 5C, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**3.74**	**357**	P	**Pn**	11 35 55.8	**-0.8**
	SNR=39						
KZA	**Kyzart**	**3.81**	**14**	P	**Pn**	11 35 58.0	**+0.5**
	SNR=8.8						
UCH	**Uchtor**	**3.85**	**6**	P	**Pn**	11 35 57.1	**-1.0**
	SNR=55						
ULHL	**Ulahol**	**4.22**	**23**	P	**Pn**	11 36 07.0	**+3.9**
	SNR=6.6						
AAK	**Ala-Archa**	**4.25**	**5**	P	**Pn**	11 36 04.2	**+0.6**
	SNR=8.6						
EKS2	**Erkin-Say**	**4.27**	**358**	P	**Pn**	11 36 03.4	**-0.4**
	SNR=9.2						
KBK	**Karagaybulak**	**4.32**	**9**	P	**Pn**	11 36 05.5	**+1.0**
	SNR=5.3						
TKM2	**Tokmak 2**	**4.69**	**15**	⇑Pn	**Pn**	11 36 08.3	**-1.3**
	1.0nm,0.7s						
TKM2				⇑Sn	**Sn**	11 37 03.0	**+0.3**
	6.3nm,0.9s						
KK31	**Karatay Array**	**5.40**	**332**	⇑Pn	**Pn**	11 36 21.1	**+1.7**
	3.2nm,0.5s,baz=142,slow=14,SNR=21						
KK31				⇑Sn	**Sn**	11 37 20.0	**-0.2**
	12nm,0.9s,baz=156,slow=25						
AB31	**Akbulak array**	**14.83**	**322**	⇑Pn	**Pn**	11 38 28.0	**-0.5**
	1.4nm,0.8s,baz=125,slow=11,SNR=11						

IDC 18 11:40:11.4±1.3, 2012S×17446W, h0km, mb4.1/5, mb1 4.3/7, mb1mx4.0/18, mbtmp4.2/7, ML4.6/1, Error ellipse: s-maj=41.7km s-min=22.7km az=128.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.69**	**23**	Pn	Pn	11 41 51.9	+1.0
	3.7nm,0.3s,baz=151,slow=19,SNR=7.7						
AFI				Sn	Sn	11 43 03.0	-4.8
	6.5nm,0.3s,baz=197,slow=19,SNR=4.6						
RAO	**Raoul Island**	**9.62**	**198**	Sn	Sn	11 44 08.8	-11
	25nm,0.3s,baz=72,slow=19,SNR=4.8						
URZ	**Urewera**	**19.50**	**200**	P	Pn	11 44 38.4	-2.8
	1.8nm,0.3s,baz=340,slow=4.9,SNR=8.8						
RPZ	**Rata Peaks**	**26.46**	**204**	P	P	11 45 51.1	+1.0
	14nm,0.9s,baz=11,slow=8.1,SNR=4.3						
ASAR	**Alice Springs**	**47.84**	**256**	P	P	11 48 51.4	+0.5
	1.4nm,0.6s,baz=104,slow=7.5,SNR=25						
WRA	**Warramunga Arr**	**47.95**	**261**	P	P	11 48 51.6	-0.1
	0.5nm,0.4s,baz=95,slow=7.8,SNR=35						
FITZ	**Fitzroy Crossi**	**56.37**	**261**	P	P	11 49 55.2	+0.9
	2.6nm,1.0s,baz=132,slow=14,SNR=5.4						
NVAR	**Mina Array Bea**	**78.50**	**42**	P	P	11 52 14.5	+0.1
	0.7nm,0.8s,baz=224,slow=7.5,SNR=4.3						

IDC 18 11:49:25.1±1.1, 601S×15231E, h0km, mb4.0/5, mb1 4.3/7, mb1mx4.1/15, mbtmp4.2/7, ML4.0/2, Error ellipse: s-maj=36.7km s-min=20.7km az=143.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.12**	**236**	Pn	Pn	11 50 58.5	+1.8
	5.1nm,0.3s,baz=76,slow=6.6,SNR=19						
PMG				Sn	Sn	11 52 07.8	+0.4
	6.3nm,0.3s,baz=94,slow=23,SNR=7.2						
HNR	**Honiara**	**8.29**	**115**	Pn	Pn	11 51 27.8	+1.2
	14nm,0.3s,baz=257,slow=14,SNR=5.1						
WRA	**Warramunga Arr**	**22.29**	**230**	P	P	11 54 25.2	+1.3
	3.3nm,0.8s,baz=56,slow=10,SNR=18						
ASAR	**Alice Springs**	**24.94**	**223**	P	P	11 54 50.0	+0.1
	3.0nm,0.9s,baz=59,slow=8.6,SNR=19						
FITZ	**Fitzroy Crossi**	**28.67**	**243**	P	P	11 55 23.3	-0.3
	3.6nm,0.8s,baz=49,slow=7.2,SNR=15						
VNDA	**Vanda**	**71.65**	**178**	P	P	12 00 47.5	-1.1
	1.9nm,1.2s,baz=347,slow=3.0,SNR=3.8						
ILAR	**Eielson Array**	**83.46**	**22**	P	P	12 01 54.4	-0.1
	1.5nm,0.8s,baz=256,slow=5.3,SNR=21						
TORD	**Torodi Ar. Bea**	**150.19**	**286**	PKPbc	PKPbc	12 09 18.9	+1.0
	2.8nm,0.8s,baz=78,slow=2.5,SNR=16						

*ISCJB **18** 12:10:59.7±0.5, 3696N±003×2827E±003, h7km±4km, Error ellipse: s-maj=5.1km s-min=4.2km az=75.9*
*ATH **18** 12:10:59.2, 3698N×2819E, h16km±1km, MD3.5/6*
*NEIC **18** 12:10:59.0, 3698N×2830E, h3km, MD3.5(ATH), ML3.0(ISK), After ISK.*
*CSEM **18** 12:10:59.2±0.1, 3696N×2829E, h10km, MD3.5, Error ellipse: s-maj=2.8km s-min=2.0km az=23.0*
*ISK **18** 12:10:59.5, 3699N×2830E, h6km, ML3.0*
ISC 18 12:11:00.0±0.4, 3695N±003×2827E±003, h9km±4km, n30, σ1§15/41, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.18**	**3**	*i* PG	**Pg**	12 11 03.4	**-0.5**
DALT	**Dalyan (Mudla)**	**0.34**	**121**	*i* PG	**Pg**	12 11 06.4	**-0.4**
DALT				*i* SG	**Sg**	12 11 12.8	**+1.5**
DALT	**Dalyan (Mudla)**	**0.34**	**121**	Pg	**Pg**	12 11 06.4	**-0.4**
DALT				Sg	**Sg**	12 11 12.4	**+1.0**
DALT	**Dalyan (Mudla)**	**0.34**	**121**	*i* Pg	**Pg**	12 11 06.4	**-0.4**
DALT				Sg	**Sg**	12 11 12.4	**+1.1**
MLSB	**Milas**	**0.53**	**311**	PG	**Pg**	12 11 10.5	**+0.3**
DAT	**Datca**	**0.60**	**249**	PG	**Pg**	12 11 11.5	**-0.1**
BDRM	**Kayabasi**	**0.67**	**280**	*i* P	**Pg**	12 11 12.7	**-0.3**
BDRM				*i* S	**Sg**	12 11 23.9	**+2.1**
FETY	**Fethiye**	**0.72**	**115**	PG	**Pg**	12 11 13.3	**-0.6**
ARG	**Arkhangelos**	**0.74**	**189**	*e*PN	**Pg**	12 11 13.6	**-0.7**
ARG				*e*SN	**Sg**	12 11 25.1	**+1.1**
ARG	**Arkhangelos**	**0.74**	**189**	*e*Pb	**Pb**	12 11 13.1	**-2.0**
AYDN	**Tasoluk**	**0.78**	**336**	*i* P	**Pg**	12 11 14.0	**-0.9**
AYDN				*i* S	**Sg**	12 11 27.4	**+2.3**
BODT	**Bodrum**	**0.78**	**279**	PG	**Pg**	12 11 15.3	**+0.2**
NISR	**Nisiros**	**0.98**	**250**	*e*PN	**Pg**	12 11 16.5	**-2.3**
NISR	**Nisiros**	**0.98**	**250**	*e*Pb	**Pb**	12 11 19.0	**-0.2**
DENT	**Denizli**	**1.01**	**37**	PG	**Pg**	12 11 17.7	**-1.6**
KSL	**Kastellorizon**	**1.32**	**127**	*e*PN	**Pn**	12 11 25.5	**+0.8**
ELL	**Elmali**	**1.33**	**98**	PN	**Pn**	12 11 25.1	**+0.3**
SMG	**Samos**	**1.37**	**304**	*e*PN	**Pn**	12 11 24.0	**-1.4**
SMG				*e*SN	**Sn**	12 11 41.9	**-1.8**
MANT	**Manisa**	**1.56**	**8**	*i* P	**Pn**	12 11 28.0	**+0.1**
MANT				*i* S	**Sn**	12 11 53.2	**+5.0**
IZM	**Izmir**	**1.65**	**331**	*e*PN	**Pn**	12 11 29.8	**+0.5**
KARP	**Karpathos**	**1.66**	**213**	*e*PN	**Pn**	12 11 29.4	**0.0**
KARP				*e*SN	**Sn**	12 11 52.5	**+1.6**
KARP	**Karpathos**	**1.66**	**213**	*e*Pg	**Pn**	12 11 29.2	**-0.2**
KHL	**Karahalli**	**1.69**	**36**	*e*PN	**Pn**	12 11 29.3	**-0.5**
BCK	**Bucak**	**1.92**	**74**	*e*PN	**Pn**	12 11 32.9	**0.0**
BCK	**Bucak**	**1.92**	**74**	Pn	**Pn**	12 11 31.9	**-1.0**
URLA	**Izmir**	**1.94**	**317**	*i* P	**Pn**	12 11 33.6	**+0.5**
URLA				*i* S	**Sn**	12 12 05.5	**+7.8**
TKTP	**Tekketepe**	**1.96**	**56**	*i* P	**Pn**	12 11 35.6	**+2.2**
TKTP				*i* S	**Sn**	12 12 07.0	**+8.9**
APE	**Apeiranthos**	**2.20**	**274**	*e*PB	**Pn**	12 11 36.0	**-0.7**
PRK	**Paraskevi**	**2.78**	**326**	*e*PN	**Pn**	12 11 44.7	**-0.1**
PRK	**Paraskevi**	**2.78**	**326**	*e*Pb	**Pb**	12 11 52.0	**+2.1**

*ISCJB **18** 12:30:57.7±0.4, 4937N±002×680E±003, h0km, Error ellipse: s-maj=3.1km s-min=2.9km az=66.7*
*LDG **18** 12:30:59.5±0.1, 4939N×685E, h1km, Md2.7/3, Ml2.8/11, Error ellipse: s-maj=1.5km s-min=1.2km az=65.0, Suspected Mining induced.*
*NEIC **18** 12:30:59.5, 4939N×685E, h1km, ML2.8(LDG), After LDG.*
*CSEM **18** 12:30:59.4±0.1, 4939N×686E, h2km, ML2.7/

BAIF	**Baives**	**1.83**	**293**	*e*Pg	**Pg**	**12 31 33.6**	**-0.3**
BAIF				*e*Sg	**Sg**	**12 31 58.2**	**+0.6**
	14nm,0.7s						
BAIF	**Baives**	**1.83**	**293**	*e*Pg	**Pg**	**12 31 33.6**	**-0.3**
BAIF				*e*Sg	**Sg**	**12 31 58.2**	**+0.6**
	7.0nm,0.7s						
CABF	**La Chapelle**	**2.81**	**190**	*e*Pn	**Pn**	**12 31 44.3**	**-0.7**
LOR	**Lormes**	**2.89**	**224**	*e*Pn	**Pn**	**12 31 45.2**	**-0.9**
LOR				*e*Sn	**Sn**	**12 32 19.1**	**-2.5**
	7.6nm,0.5s						
LOR	**Lormes**	**2.89**	**224**	*e*Pn	**Pn**	**12 31 45.2**	**-0.9**
LOR				*e*Sn	**Sn**	**12 32 19.1**	**-2.5**
	3.8nm,0.5s						
SSF	**Saint Saulge**	**3.21**	**225**	*e*Pn	**Pn**	**12 31 49.2**	**-1.3**
SSF				*e*Sg	**Sg**	**12 32 40.7**	**-1.2**
	5.8nm,0.5s						
SSF	**Saint Saulge**	**3.21**	**225**	*e*Pn	**Pn**	**12 31 49.2**	**-1.3**
SSF				*e*Sg	**Sg**	**12 32 40.7**	**-1.2**
	2.9nm,0.5s						
GEC2	**GERESS Array S**	**4.55**	**94**	*e*Pn	**Pn**	**12 32 09.0**	**+0.1**
	SNR=1.9						

BJI ***18*** *12:40:16.9,3630N×7140E,h74km,Ms4.0*
IDC ***18*** *12:40:16.8±6.6,3622N×7139E,h70km±58km,mb3.5/9, mb1 3.7/11,mb1mx3.6/19,mbtmp3.9/11,ML4.1/2,Error ellipse: s-maj=33.5km s-min=19.3km az=14.0*
NEIC ***18*** *12:40:17.0±1.5,3625N×7144E,h74km±15km,mb4.0/6, Error ellipse: s-maj=18.6km s-min=6.2km az=59.0*
MOS ***18*** *12:40:18.8±1.5,3639N×7166E,h97km,mb4.3/7,Error ellipse: s-maj=13.6km s-min=7.4km az=100.2*
ISCJB ***18*** *12:40:20.1±0.5,3639N±002×7170E±005,h118km±6km, mb3.9/16,Error ellipse: s-maj=7.4km s-min=3.7km az=153.9*
NNC ***18*** *12:40:27.7±6.7,3700N×7079E,h127km±73km,mb3.4, mpv4.2,Error ellipse: s-maj=63.6km s-min=27.2km az=34.0*

ISC 18 12:40:21.4±0.4,3639N±002×7170E±005,h119km±6km, h108km±8.5km:pP-P,n88,σ1§36/105,mb3.9/16,8C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.56**	**176**	⇓P		**Pn**		**12 41 03.1**	**+1.2**
CHCP	**Chirah Chowk**	**3.01**	**154**	P		**Pn**		**12 41 09.9**	**+2.1**
CHCP				S		**Sn**		**12 41 43.0**	**-0.5**
THW	**Thamme Wali**	**3.58**	**179**	P		**Pn**		**12 41 15.5**	**+0.2**
SARP	**Sargodha**	**4.53**	**169**	P		**Pn**		**12 41 27.7**	**-0.2**
KSH	**Kashi**	**4.60**	**46**	P		**Pn**		**12 41 32.8**	**+3.9**
KSH				S		**Sn**		**12 42 23.1**	**+1.7**
KSH				Smax					
	comp=N,288nm,0.4s								
KSH				Smax					
	comp=E,269nm,0.5s								
DRP	**Derazinda**	**4.79**	**195**	P		**Pn**		**12 41 32.3**	**+0.8**
PONG	**Pong**	**5.65**	**140**	*e*P		**Pn**		**12 41 45.0**	**+1.9**
PONG				*e*S		**Sn**		**12 42 47.0**	**+0.2**
AML	**Almayashu**	**5.94**	**14**	P		**Pn**		**12 41 47.4**	**+0.3**
	SNR=168								
UCH	**Uchtor**	**6.23**	**20**	P		**Pn**		**12 41 51.7**	**+0.8**
	SNR=43								
KZA	**Kyzart**	**6.32**	**25**	P		**Pn**		**12 41 52.9**	**+0.8**
	SNR=18								
BHK	**Bhakra**	**6.32**	**140**	*ex*		x		12 43 07.5	
EKS2	**Erkin-Say**	**6.47**	**14**	P		**Pn**		**12 41 54.4**	**+0.2**
	SNR=37								
SDNR	**Sundarnagar**	**6.55**	**137**	*e*P		**Pn**		**12 41 55.8**	**+0.6**
SDNR				*e*S		**Sn**		**12 43 06.5**	**-2.0**
AAK	**Ala-Archa**	**6.60**	**18**	P		**Pn**		**12 41 56.5**	**+0.6**
	SNR=29								
AAK	**Ala-Archa**	**6.60**	**18**	*e*Pn		**Pn**		**12 41 55.8**	**-0.2**
KBK	**Karagaybulak**	**6.75**	**21**	P		**Pn**		**12 41 58.9**	**+1.0**
	SNR=15								
KK31	**Karatay Array**	**6.77**	**353**	⇑P		**Pn**		**12 41 56.4**	**-1.8**
	comp=E,39nm,0.4s,baz=180,slow=12,SNR=406								
KK31				⇑S		**Sn**		**12 43 07.6**	**-6.2**
	comp=E,33nm,0.6s,baz=179,slow=24,SNR=8.7								
KKAR	**Karatay Array**	**6.77**	**353**	*e*PN		**Pn**		**12 41 56.1**	**-2.1**
KKAR				pmax	pmax				
	comp=Z,17nm,0.3s								
ULHL	**Ulahol**	**6.83**	**30**	P		**Pn**		**12 42 00.5**	**+1.5**
	SNR=8.4								
SMLA	**Simla**	**6.94**	**137**	*e*P		**Pn**		**12 41 59.8**	**-0.8**
SMLA				*i* S		**Sn**		**12 43 14.4**	**-3.7**
SMLA				*e*S		**Sn**		**12 43 15.3**	**-2.7**
SMLA				AML	AML			12 43 21.8	
	comp=N,351nm,0.3s								
SMLA				AML	AML			12 43 22.4	
	comp=E,400nm,0.3s								
CHMS	**Chumysh**	**7.01**	**19**	P		**Pn**		**12 42 01.8**	**+0.4**
	SNR=17								
TKM2	**Tokmak 2**	**7.18**	**24**	P		**Pn**		**12 42 05.0**	**+1.2**
	SNR=7.8								
TKM2	**Tokmak 2**	**7.18**	**24**	⇓P		**Pn**		**12 42 04.5**	**+0.7**
	comp=E,2.5nm,0.7s								
TKM2				⇓S		**Sn**		**12 43 21.8**	**-2.0**
	comp=E,0.8nm,0.6s								
USP	**Ospenovka**	**7.20**	**17**	P		**Pn**		**12 42 04.5**	**+0.5**
	SNR=14								
KLP	**Kalpa**	**7.28**	**130**	*e*P		**Pn**		**12 42 06.4**	**+1.3**
KLP				*e*P				12 42 06.6	
KLP				*e*S		**Sn**		**12 43 22.4**	**-3.8**
KLP				*e*S		**Sn**		**12 43 24.9**	**-1.3**
DDI	**Dehra Dun**	**8.05**	**137**	*e*P		**Pn**		**12 42 16.5**	**+1.0**
DDI				*ex*		x		12 43 47.0	
JOSI	**Joshimath**	**8.77**	**129**	*e*P		**Pn**		**12 42 26.2**	**+1.0**
JOSI				*e*S		**Sn**		**12 43 55.5**	**-6.8**
NDI	**New Delhi**	**8.98**	**147**	*e*P		**Pn**		**12 42 27.2**	**-0.9**
NDI				*e*S		**Sn**		**12 44 01.7**	**-5.7**
NDI				*e*S		**Sn**		**12 44 02.0**	**-5.4**
NDI				AML	AML			12 44 08.3	
	comp=E,91nm,0.5s								
NDI				AML	AML			12 44 09.2	
	comp=N,49nm,0.2s								
KUDL	**Kundal**	**9.16**	**152**	*e*P		**Pn**		**12 42 29.8**	**-0.8**
KUDL				*e*S		**Sn**		**12 44 05.2**	**-6.6**
KUDL				AML	AML			12 44 10.3	
	comp=E,80nm,0.3s								
KUDL				AML	AML			12 44 12.5	
	comp=N,79nm,0.4s								
SONA	**Sohna**	**9.30**	**149**	*e*P		**Pn**		**12 42 31.3**	**-1.2**
SONA				*e*S		**Sn**		**12 44 09.8**	**-5.4**
SONA				AML	AML			12 44 13.5	
	comp=N,63nm,0.5s								
SONA				AML	AML			12 44 15.4	
	comp=E,83nm,0.4s								
AJM	**Ajmer**	**10.19**	**165**	*i* S		**Sn**		**12 44 29.0**	**-7.7**
AGRA	**Agra**	**10.56**	**148**	*e*S		**Sn**		**12 44 37.5**	**-8.2**
AGRA				AML	AML			12 45 07.9	
	comp=E,83nm,0.4s								
AGRA				AML	AML			12 45 13.9	
	comp=N,75nm,0.0s								
MK02	**Makanchi Array**	**13.05**	**34**	⇑P		**Pn**		**12 43 24.5**	**+2.3**
	comp=N,2.3nm,0.9s								
MKAR	**Makanchi Array**	**13.06**	**34**	P		**Pn**		**12 43 23.0**	**+0.6**
	comp=N,0.2nm,0.3s,baz=220,slow=13,SNR=11								
KOLN	**Koldanda**	**13.24**	**127**	*e*P		**Pn**		**12 43 23.7**	**-1.0**
	comp=N,15nm,0.3s								
GKN	**Gorkha**	**13.77**	**124**	*e*P		**Pn**		**12 43 29.9**	**-1.6**
	comp=N,30nm,0.3s								
BHPL	**Bhopal**	**14.01**	**158**	*e*P		**Pn**		**12 43 36.0**	**+1.5**
BHPL				*ex*		x		12 45 56.1	
DMN	**Daman**	**14.34**	**124**	*e*P		**Pn**		**12 43 37.9**	**-0.9**
	comp=N,22nm,0.4s								
KKN	**Kakani**	**14.34**	**123**	*e*P		**Pn**		**12 43 37.5**	**-1.3**
	comp=N,24nm,0.5s								
KKN	**Kakani**	**14.34**	**123**	*e*P		**Pn**		**12 43 37.5**	**-1.3**
KKN				pmax	pmax				
	comp=Z,24nm,0.5s								
PKI	**Pulchoki**	**14.57**	**123**	*e*P		**Pn**		**12 43 41.1**	**-0.6**
	comp=Z,18nm,0.4s								
PKI	**Pulchoki**	**14.57**	**123**	*e*P		**Pn**		**12 43 41.1**	**-0.6**
PKI				pmax	pmax				
	comp=Z,18nm,0.4s								
GUN	**Gumba**	**14.67**	**121**	*e*P		**Pn**		**12 43 41.8**	**-1.2**
JBP	**Jabalpur**	**15.00**	**149**	⇓*i*P		**Pn**		**12 43 52.6**	**+5.5**
JBP				*i* x		x		12 46 25.8	
JIRN	**Jiri**	**15.04**	**121**	*e*P		**Pn**		**12 43 46.5**	**-1.2**
	comp=Z,28nm,0.3s								
KURK	**Kurchatov**	**15.16**	**17**	⇓P		**Pn**		**12 43 51.8**	**+2.6**
	comp=Z,4.3nm,0.9s								
KURK	**Kurchatov**	**15.16**	**17**	*e*P		**Pn**		**12 43 51.4**	**+2.2**
KURK				pmax	pmax				
	comp=Z,7.0nm,0.8s								
KURK	**Kurchatov**	**15.16**	**17**	*e*P		**Pn**		**12 43 51.4**	**+2.2**
	comp=Z,6.8nm,0.8s								
AB31	**Akbulak array**	**15.46**	**330**	⇑P		**Pn**		**12 43 48.2**	**-4.6**
	comp=Z,3.6nm,0.3s,baz=145,slow=11,SNR=254								
AB31				⇑S		S		12 46 26.2	-25
	comp=E,8.1nm,0.5s,baz=152,slow=23,SNR=16								
AB31	**Akbulak array**	**15.46**	**330**	*e*P		**Pn**		**12 43 48.0**	**-4.9**
AB31				pmax	pmax				
	comp=Z,1.0nm,0.2s								
VOSK	**Vostochnaya**	**16.34**	**358**	⇓P		**Pn**		**12 44 00.7**	**-3.1**
	comp=Z,68nm,2.3s								
BVA0	**Borovoye Array**	**16.66**	**357**	⇓P		**Pn**		**12 44 07.3**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=176,slow=9.0,SNR=28								
BVA0	**Borovoye Array**	**16.66**	**357**	*i* P		**Pn**		**12 44 07.3**	**-0.4**
BVA0				pmax	pmax				
	comp=Z,1.0nm,0.7s								
ZRNK	**Zerenda**	**16.67**	**354**	⇑P		**Pn**		**12 44 05.2**	**-2.7**
	comp=Z,3.4nm,0.6s								
ZRNK	**Zerenda**	**16.67**	**354**	*e*P		**Pn**		**12 44 05.0**	**-2.8**
ZRNK				pmax	pmax				
	comp=Z,5.0nm,0.5s								
ZRNK	**Zerenda**	**16.67**	**354**	*e*P		**Pn**		**12 44 05.0**	**-2.9**
	comp=Z,5.3nm,0.5s								
BRVK	**Borovoye**	**16.70**	**357**	*e*P		**Pn**		**12 44 06.3**	**-1.9**
BRVK				pmax	pmax				
	comp=Z,7.0nm,0.9s								
BRVK	**Borovoye**	**16.70**	**357**	*e*P		**Pn**		**12 44 06.3**	**-1.9**
	comp=Z,6.6nm,0.9s								
BLSP	**Bilaspur**	**16.86**	**145**	*ex*		x		12 47 08.6	
AKTK	**Aktyubinsk**	**17.16**	**329**	P		**Pn**		**12 44 11.5**	**-2.3**
AKTK				S		**S**		**12 47 10.5**	**-15**
AKTO	**Aktyubinsk**	**17.16**	**329**	⇑P		**Pn**		**12 44 11.5**	**-2.3**
	comp=Z,0.1nm,0.7s								
AKTO				⇑S		**S**		**12 47 09.0**	**-16**
	comp=Z,0.1nm,0.6s								
AKTO	**Aktyubinsk**	**17.16**	**329**	P		**Pn**		**12 44 11.5**	**-2.3**
	comp=Z,3.3nm,0.3s,baz=136,slow=11,SNR=33								
AKTO				S		**S**		**12 47 10.5**	**-15**
	comp=Z,0.9nm,0.3s,baz=227,slow=23,SNR=6.5								
CHKZ	**Chkalovo**	**17.31**	**358**	⇓P		**Pn**		**12 44 12.4**	**-1.4**
	comp=Z,3.4nm,0.7s								
CHKZ	**Chkalovo**	**17.31**	**358**	*e*P		**Pn**		**12 44 14.1**	**-1.4**
CHKZ				pmax	pmax				
	comp=Z,4.0nm,0.5s								
CHKZ	**Chkalovo**	**17.31**	**358**	*e*P		**Pn**		**12 44 14.1**	**-1.4**
	comp=Z,4.3nm,0.5s								
BOK	**Bokaro**	**17.53**	**132**	AMb		AMB		12 47 23.9	
	comp=Z,7.9nm,0.9s								
ORR	**Orenburg**	**19.43**	**327**	*e*P		**P**		**12 44 38.7**	**+0.4**
ORR				*e*				12 48 02.1	
ORR				pmax	pmax				
	comp=Z,30nm,1.2s								
NVS	**Novosibirsk**	**20.09**	**20**	*i* P		**P**		**12 44 44.8**	**-0.7**
NVS				*e*S		**S**		**12 48 22.5**	**-2.1**
NVS				pmax	pmax				
	comp=Z,11nm,0.9s								
NVS				pmax	pmax				
	comp=N,13nm,1.2s								
NVS				pmax	pmax				
	comp=E,7.0nm,1.2s								
NVS				smax					
	comp=N,17nm,2.0s								
NVS				smax					
	comp=E,14nm,2.0s								
GNI	**Garni**	**21.46**	**288**	*e*P		**P**		**12 45 01.1**	**+0.9**
GNI				pmax	pmax				
	comp=Z,7.0nm,0.5s								
GNI	**Garni**	**21.46**	**288**	*e*P		**P**		**12 45 01.1**	**+1.0**
	comp=Z,6.5nm,0.5s,mb4.2								
ARU	**Arti**	**21.93**	**340**	⇓*i*P		**P**		**12 45 04.4**	**-0.7**
ARU				*e*S		**S**		**12 48 54.3**	**-5.3**
ARU				pmax	pmax				
	comp=Z,5.0nm,0.7s,mb4.0								
ARU	**Arti**	**21.93**	**340**	*e*P		**P**		**12 45 03.8**	**-1.3**
ZEI	**Tsey**	**22.30**	**295**	*e*P		**P**		**12 45 08.9**	**-0.1**
ZEI				pmax	pmax				
	comp=Z,5.0nm,1.0s,mb3.8								
KIV	**Kislovodsk**	**23.34**	**298**	*e*P		**P**		**12 45 19.3**	**+0.4**
KIV				pmax	pmax				
	comp=Z,8.0nm,0.7s,mb4.2								
SOC	**Sochi**	**25.43**	**296**	*e*P		**P**		**12 45 41.0**	**+3.1**
SOC				*e*				12 46 18.1	
SOC				*e*S		**S**		**12 49 57.3**	**+1.5**
SOC				pmax	pmax				
	comp=Z,21nm,0.8s,mb4.6								
ANN	**Anapa**	**27.18**	**299**	*e*P		**P**		**12 45 48.1**	**-5.6**
ANN				*i* *PP		pP		12 46 05.9	-14
ANN				pmax	pmax				
	comp=Z,44nm,1.2s,mb4.9								
SONM	**Songino Array**	**27.94**	**55**	P		**P**		**12 46 02.5**	**+2.1**
	comp=Z,0.2nm,0.5s,mb2.9,baz=234,slow=12,SNR=3.6								
BRTR	**Keskin Array B**	**30.00**	**288**	P		**P**		**12 46 19.0**	**+0.4**
	comp=Z,0.4nm,0.5s,mb3.3,baz=87,slow=8.5,SNR=2.3								
OBN	**Obninsk**	**30.39**	**319**	*e*P		**P**		**12 46 24.2**	**+2.1**
OBN				pmax	pmax				
	comp=Z,9.0nm,0.7s,mb4.5								
ARCES	**ARCESS Array B**	**41.47**	**337**	P		**P**		**12 47 56.9**	**+0.6**
	comp=Z,0.9nm,0.4s,mb4.0,baz=115,slow=7.6,SNR=16								
ARCES				pP		pP		12 48 22.2	-1.2
	comp=Z,1.6nm,0.7s,baz=126,slow=9.2,SNR=3.8								
NB2	**NORSAR Subarra**	**44.81**	**323**	P		**P**		**12 48 23.2**	**-0.1**
	comp=Z,1.7nm,0.5s,mb4.0,baz=95,slow=7.9								
NOA	**NORSAR Array B**	**44.81**	**323**	P		**P**		**12 48 23.5**	**+0.2**
	comp=Z,1.8nm,0.5s,mb4.1,baz=96,slow=7.7,SNR=10								
TORD	**Torodi Ar. Bea**	**66.28**	**269**	P		**P**		**12 50 55.1**	**-1.6**
	comp=Z,0.9nm,0.5s,mb3.8,baz=51,slow=5.4,SNR=16								
TORD				pP		pP		12 51 23.3	-2.8
	comp=Z,0.4nm,0.5s,baz=52,slow=5.5,SNR=4.1								
ILAR	**Eielson Array**	**74.73**	**16**	P		**P**		**12 51 49.6**	**+1.5**
	comp=Z,0.3nm,1.0s,mb3.0,baz=351,slow=3.2,SNR=4.2								
YKA	**Yellowknife Ar**	**81.33**	**3**	pP		pP		12 52 52.7	-2.1
	comp=Z,0.5nm,0.7s,baz=351,slow=5.3,SNR=5.9								
WRA	**Warramunga Arr**	**81.45**	**122**	P		**P**		**12 52 26.6**	**+1.5**
	comp=Z,0.2nm,0.4s,mb3.3,baz=324,slow=4.8,SNR=5.1								
ASAR	**Alice Springs**	**83.73**	**125**	P		**P**		**12 52 39.0**	**+2.0**
	comp=Z,0.3nm,0.6s,mb3.3,baz=299,slow=4.9,SNR=4.4								
STKA	**Stephens Creek**	**94.27**	**127**	P		**P**		**12 53 30.5**	**+3.4**
	comp=Z,1.4nm,0.8s,mb4.3,baz=352,slow=7.1,SNR=3.9								

IDC 18 12:43:00.5±27.0,2370S×17369W,h0km,mb4.2/4, mb1 4.4/4,mb1mx4.0/13,mbtmp4.2/4,Error ellipse: s-maj=494.0km s-min=149.0km az=78.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.26**	**268**	P		P	P	12 50 15.1	+1.2
	7.7nm,0.4s,baz=102,slow=9.9,SNR=13								
STKA	**Stephens Creek**	**40.16**	**248**	P		P	P	12 50 36.7	-1.6
	0.7nm,0.5s,baz=95,slow=12,SNR=3.4								
ASAR	**Alice Springs**	**47.76**	**259**	P		P	P	12 51 39.6	+0.3
	1.1nm,0.4s,baz=94,slow=7.4,SNR=23								
WRA	**Warramunga Arr**	**48.18**	**264**	P		P	P	12 51 43.2	+0.6
	1.5nm,0.5s,baz=100,slow=8.3,SNR=68								

ISCJB ***18*** *13:13:30.3±1.1,3749N±004×2204E±006,h4km±9km, mb3.4/3,Error ellipse: s-maj=8.4km s-min=5.9km az=117.9*
CSEM ***18*** *13:13:31.1,3749N×2204E,h15km,MD3.5/10,After ATH*
NEIC ***18*** *13:13:31.1,3749N×2204E,h15km,MD3.5(ATH),After ATH.*
ATH ***18*** *13:13:31.1,3750N×2204E,h14km±2km,MD3.5/10*
IDC ***18*** *13:13:33.0±1.4,3782N×2238E,h0km,mb3.5/3,mb1 3.6/4, mb1mx3.4/19,mbtmp3.5/4,ML2.7/1,Error ellipse: s-maj=37.3km s-min=25.9km az=113.0*

ISC 18 13:13:31.0±0.7,3753N±004×2205E±005,h4km±7km,n14, σ0§58/17,mb3.4/3,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.36**	**195**	*e*PB		**Pg**		**13 13 37.8**	**-0.1**
ITM				*e*SB		**Sg**		**13 13 42.8**	**+0.2**
RLS	**Riolos of Patr**	**0.70**	**319**	*e*PG		**Pg**		**13 13 44.7**	**+0.3**
RLS				*e*SB		**Sb**		**13 13 55.3**	**-0.4**
MGER	**Gerania Oros**	**1.06**	**64**	*e*PG		**Pg**		**13 13 51.5**	**+0.1**
VLI	**Veliai**	**1.08**	**138**	*e*PB		**Pb**		**13 13 51.4**	**-0.8**
VLS	**Valsamata**	**1.32**	**300**	*e*PB		**Pb**		**13 13 56.5**	**+0.2**
LKR	**Lokris**	**1.35**	**34**	*e*PB		**Pb**		**13 13 57.1**	**+0.3**
ATH	**Athens Observa**	**1.40**	**71**	*e*PB		**Pb**		**13 13 57.6**	**0.0**
EVR	**Evrytania**	**1.40**	**352**	*e*PB		**Pb**		**13 13 58.1**	**+0.5**
KYTH	**Kithira**	**1.48**	**147**	*e*PB		**Pb**		**13 13 58.5**	**-0.5**
PTL	**Penteli**	**1.53**	**70**	*e*PG		**Pg**		**13 14 00.0**	**-0.3**
IDI	**Anoyia**	**3.20**	**133**	Pn		**Pn**		**13 14 25.4**	**+3.3**
	0.9nm,0.3s,baz=340,slow=15,SNR=3.3								
IDI				Sn		**Sn**		**13 15 01.3**	**+0.6**
	2.0nm,0.3s,baz=355,slow=17,SNR=3.8								
TORD	**Torodi Ar. Bea**	**30.32**	**222**	P		**P**		**13 19 49.7**	**+6.2**
	0.2nm,0.7s,mb2.9,baz=28,slow=11,SNR=2.4								
ARCES	**ARCESS Array B**	**32.12**	**2**	P		**P**		**13 19 59.1**	**-0.2**
	1.5nm,0.8s,mb3.9,baz=193,slow=10,SNR=7.2								
MKAR	**Makanchi Array**	**44.62**	**58**	P		**P**		**13 21 43.7**	**-0.7**
	0.3nm,0.5s,mb3.4,baz=272,slow=8.6,SNR=3.0								

ISCJB ***18*** *13:58:55.4±0.3,4983N±003×1844E±002,h0km,Error ellipse: s-maj=3.9km s-min=2.0km az=26.3*
IPEC ***18*** *13:58:56.2±0.1,4976N×1855E,h0km,ML2.6/3,Error ellipse: s-maj=1.8km s-min=0.8km az=162.0*
PRU ***18*** *13:58:57.9,4982N×1843E,h0km*
VIE ***18*** *13:58:57.3±0.5,4969N×1844E,h0km,mb2.5/4,ML2.8/4, Error ellipse: s-maj=3.3km s-min=1.8km az=79.0 21 km SE of Ostrava Suspected Mining induced.*
CSEM ***18*** *13:58:57.5±0.2,4986N×1846E,h2km,ML3.4/3,Error ellipse: s-maj=3.6km s-min=2.4km az=23.0*

ISC 18 13:58:56.7±0.3,4980N±003×1845E±002,h0km,n36, σ1§11/64,3C-6D,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.20**	**281**	*e*PG		**Pg**		**13 59 01.9**	**+1.4**
OKC				*e*SG		**Sg**		**13 59 05.4**	**+2.3**
	799nm,0.7s								
OKC	**Ostrava-Krasne**	**0.20**	**281**	*e*Pg		**Pg**		**13 59 01.7**	**+1.2**
OKC				*e*Sg		**Sg**		**13 59 05.4**	**+2.3**
	799nm,0.7s								
RAC	**Raciborz**	**0.33**	**330**	*e*Pg		**Pg**		**13 59 04.0**	**+1.0**
RAC				*e*Sg		**Sg**		**13 59 09.9**	**+2.6**
MORC	**Moravsky Berou**	**0.59**	**268**	⇓*i*P		**Pg**		**13 59 08.5**	**+0.5**
MORC	**Moravsky Berou**	**0.59**	**268**	*e*Pg		**Pg**		**13 59 08.4**	**+0.4**
MORC				*e*Sg		**Sg**		**13 59 16.9**	**+1.3**
	100nm,0.4s								
LIKS	**Likavka**	**0.86**	**150**	*e*PN		**Pn**		**13 59 15.7**	**-0.4**
LIKS				*e*SN		**Sg**		**13 59 28.8**	**+4.4**
OJC	**Ojcow**	**0.97**	**64**	*e*Pg		**Pg**		**13 59 13.9**	**-1.3**
OJC				*e*Sg		**Sg**		**13 59 26.4**	**-1.3**
OJC	**Ojcow**	**0.97**	**64**	*e*Pg		**Pg**		**13 59 13.8**	**-1.4**
OJC				*e*Sg		**Sg**		**13 59 26.2**	**-1.5**
JAVC	**Velka Javorina**	**1.07**	**209**	*e*Pn		**Pn**		**13 59 18.5**	**-0.4**
NIE	**Niedzica**	**1.27**	**107**	*i* Pg		**Pg**		**13 59 20.4**	**-0.6**
NIE				*e*Sg		**Sg**		**13 59 38.7**	**+1.2**
VRAC	**Vranov**	**1.30**	**249**	⇑*i*P		**Pg**		**13 59 21.6**	**-0.1**
VRAC	**Vranov**	**1.30**	**249**	*e*Pn		**Pn**		**13 59 21.4**	**-0.7**
VRAC				*e*Sg		**Sg**		**13 59 39.3**	**+0.7**
	110nm,0.5s								
SMOL	**Smolenice**	**1.45**	**208**	*i* PN		**Pn**		**13 59 23.9**	**-0.2**
SMOL				*e*SN		**Sn**		**13 59 43.9**	**0.0**
DPC	**Dobruska-Polom**	**1.48**	**293**	*e*PG		**Pg**		**13 59 23.8**	**-1.2**
DPC				*e*SG		**Sg**		**13 59 45.0**	**+0.8**
	78nm,0.8s								
DPC	**Dobruska-Polom**	**1.48**	**293**	*e*Pg		**Pg**		**13 59 23.8**	**-1.2**
DPC				*e*Sg		**Sg**		**13 59 44.7**	**+0.5**
KRUC	**Moravsky**	**1.53**	**242**	*e*Pn		**Pn**		**13 59 24.2**	**-1.0**
KRUC				*e*Sg		**Sg**		**13 59 46.2**	**+0.3**
	58nm,0.5s								
UPC	**Upice**	**1.72**	**295**	*e*PG		**Pg**		**13 59 28.4**	**-1.3**
UPC				*e*SG		**Sg**		**13 59 52.4**	**+0.4**
KSP	**Ksiaz**	**1.73**	**308**	*e*Pn		**Pn**		**13 59 27.2**	**-0.8**
KSP				*e*Pg		**Pg**		**13 59 29.3**	**-0.6**
KSP				*e*Sg		**Sg**		**13 59 52.6**	**+0.2**
ZST	**Bratislava**	**1.83**	**209**	*e*PN		**Pn**		**13 59 29.1**	**-0.3**
ZST				*e*SN		**Sn**		**13 59 53.4**	**+0.1**
STHS	**Stebnicka Huta**	**1.86**	**101**	*e*PN		**Pn**		**13 59 31.4**	**+1.7**
STHS				*e*SN		**Sg**		**13 59 58.7**	**+2.4**
KECS	**Kecovo**	**1.88**	**134**	*e*PN		**Pn**		**13 59 29.0**	**-1.0**
KECS				*e*SN		**Sn**		**13 59 54.6**	**+0.2**
TREC	**Trest**	**2.00**	**256**	*e*PG		**Pg**		**13 59 33.0**	**-1.9**
PSZ	**Piszkesteto**	**2.11**	**153**	⇓*e*		**Pn**		**13 59 33.6**	**+0.4**
CRVS	**Cervenica-Dubn**	**2.16**

12nm,0.1s,SNR=34
EIBI S Sn 14 31 53.2 -2.7
40nm,0.2s,SNR=6.5
EIBI Ibiza 3.44 255 P Pn 14 31 15.3 +0.3
12nm,0.1s,SNR=34
EIBI S Sn 14 31 53.2 -2.7
40nm,0.2s,SNR=6.5
DFRA Djebel Bou Aff 3.45 177 P Pn 14 31 08.0 -7.1
PUYF Puyloubier 3.53 1 P Pn 14 31 18.4 +2.2
PGF Pioggiola 3.60 44 *e*Pn Pn 14 31 13.7 -3.5
PGF *e*Sn Sn 14 31 51.0 -8.8
221nm,0.3s
VALF Valcebollere 3.63 313 P Pn 14 31 18.1 +0.6
TREF Trevaresse 3.63 357 P Pn 14 31 20.3 +2.8
TREF S Sn 14 32 01.7 +1.3
TAVF Tavernes 3.63 5 P Pn 14 31 19.9 +2.3
TAVF S Sn 14 31 58.9 -1.6
EMIR Miracle 3.64 303 P Pn 14 31 18.2 +0.5
20nm,0.1s,SNR=28
EMIR S Sn 14 32 01.1 +0.3
102nm,0.4s,SNR=8.0
EMIR Miracle 3.64 303 P Pn 14 31 18.2 +0.5
20nm,0.1s,SNR=28
EMIR S Sn 14 32 01.1 +0.4
102nm,0.4s,SNR=8.0
FRF La Foret Royal 3.64 12 *e*Pn Pn 14 31 17.9 +0.2
FRF *e*Sn Sn 14 31 56.6 -4.1
166nm,0.3s
FRF La Foret Royal 3.64 12 *e*Pn Pn 14 31 17.9 +0.2
FRF *e*Sn Sn 14 31 56.6 -4.1
83nm,0.3s
CMAH Djebel Manchou 3.65 157 P Pn 14 31 10.5 -7.4
CKFL Kef-Lekhel 3.69 166 P Pn 14 31 10.0 -8.4
EPOB Poblet 3.71 293 P Pn 14 31 18.3 -0.4
7.0nm,0.1s,SNR=31
EPOB S Sn 14 32 00.8 -1.6
4.6nm,0.1s
EPOB Poblet 3.71 293 P Pn 14 31 18.3 -0.3
7.0nm,0.1s,SNR=31
LRDF Laroque-de-Fa 3.74 323 P Pn 14 31 18.8 -0.2
CARF Carcanieres 3.79 317 P Pn 14 31 19.8 +0.1
CARF S Sn 14 32 05.1 +0.7
CASM Ain Smara 3.79 169 P Pn 14 31 11.0 -8.8
SET Setif 3.79 183 P Pn 14 31 16.0 -3.8
PRAF Pradon 3.82 355 P Pn 14 31 22.5 +2.4
VILF Villemus 3.85 1 P Pn 14 31 23.3 +2.7
SMRF Simiane la Rot 3.98 360 *e*Pn Pn 14 31 23.9 +1.6
SMRF *e*Sn Sn 14 32 06.6 -2.4
55nm,0.3s
SMRF Simiane la Rot 3.98 360 *e*Pn Pn 14 31 23.9 +1.6
SMRF *e*Sn Sn 14 32 06.6 -2.4
28nm,0.3s
ABSA Djebel Ababsia 4.00 158 P Pn 14 31 14.0 -8.6
EBR Ebro Roquetas 4.00 284 *e*PN Pn 14 31 24.0 +1.4
EBR eSN Sn 14 32 11.5 +2.0
STOF St-Etienne Org 4.00 3 P Pn 14 31 26.3 +3.6
MVIF Mont Vial 4.06 16 P Pn 14 31 24.1 +0.6
GHAT Ghardimaou 4.09 148 *i* P Pn 14 31 15.5 -8.3
SBF Sospel 4.09 19 *e*Pn Pn 14 31 23.4 -0.5
SBF *e*Sn Sn 14 32 05.2 -6.7
212nm,0.3s
SBF Sospel 4.09 19 *e*Pn Pn 14 31 23.4 -0.5
SBF *e*Sn Sn 14 32 05.2 -6.7
106nm,0.3s
LUCF Luceram 4.10 18 P Pn 14 31 23.9 -0.1
ERTA Horta de San J 4.14 285 P Pn 14 31 24.3 -0.2
2.2nm,0.1s,SNR=6.8
ERTA S Sn 14 32 11.5 -1.6
6.3nm,0.1s,SNR=7.9
ERTA Horta de San J 4.14 285 P Pn 14 31 24.3 -0.3
2.2nm,0.1s,SNR=6.8
MTLF Montolieu 4.20 324 *e*Pn Pn 14 31 24.6 -0.8
MTLF *e*Sn Sn 14 32 12.9 -1.6
86nm,0.5s
MTLF Montolieu 4.20 324 *e*Pn Pn 14 31 24.6 -0.8
MTLF *e*Sn Sn 14 32 12.9 -1.6
43nm,0.5s
AUTN L'Aution 4.22 18 P Pn 14 31 25.9 +0.3
SAOF Saorge 4.24 19 P Pn 14 31 24.5 -1.4
SAOF S Sn 14 32 08.4 -7.1
LASF Ste Croix 4.28 343 *e*Pn Pn 14 31 26.7 +0.2
LASF *e*Sn Sn 14 32 12.5 -4.0
70nm,0.4s
LASF Ste Croix 4.28 343 *e*Pn Pn 14 31 26.7 +0.2
LASF *e*Sn Sn 14 32 12.5 -4.0
35nm,0.4s
SALF Salau 4.33 311 P Pn 14 31 28.6 +1.5
EMHD Djebel Mahouad 4.33 210 P Pg 14 31 42.0 -2.3
MLS Moulis 4.50 313 P Pn 14 31 31.8 +2.2
KRIT Krib 4.56 142 *i* P Pn 14 31 22.5 -7.8
SURF Saint Ours 4.57 11 P Pn 14 31 32.3 +1.9
EGRA Graus 4.57 300 P Pn 14 31 31.8 +1.3
52nm,0.4s,SNR=38
EGRA S Sn 14 32 21.6 -2.0
14nm,0.5s
OCF Saint Nazaire 4.58 357 P Pn 14 31 32.2 +1.5
OG26 St.-Nazaire-De 4.58 357 P Pn 14 31 32.2 +1.5
EMOS Mosqueruela 4.68 276 P Pn 14 31 33.5 +1.5
6.0nm,0.1s,SNR=41
EMOS S Sn 14 32 26.5 +0.2
6.7nm,0.2s
EMOS Mosqueruela 4.68 276 P Pn 14 31 33.5 +1.5
6.0nm,0.1s,SNR=41
EMOS S Sn 14 32 26.5 +0.2
6.7nm,0.2s
EBEN Beniarda 4.71 256 P Pn 14 31 33.3 +0.9
1.3nm,0.1s,SNR=10
EBEN S Sn 14 32 24.3 -2.7
13nm,0.4s
EBEN Beniarda 4.71 256 P Pn 14 31 33.3 +0.9
1.3nm,0.1s,SNR=10
EBEN S Sn 14 32 24.3 -2.8
13nm,0.4s
MBDF Montbardon 4.80 10 *e*Pn Pn 14 31 35.0 +1.3
MBDF *e*Sn Sn 14 32 25.9 -3.5
44nm,0.4s
MBDF Montbardon 4.80 10 *e*Pn Pn 14 31 35.0 +1.3
MBDF *e*Sn Sn 14 32 25.9 -3.5
22nm,0.4s
RESF Ens 4.86 307 P Pn 14 31 36.2 +1.7
EBNR Beni Rached 4.91 222 P Pb 14 31 48.0 +0.7
VIVF Saint-Julien-l 4.91 352 *e*Pn Pn 14 31 35.4 +0.3
VIVF *e*Sn Sn 14 32 27.3 -4.6
34nm,0.3s
VIVF Saint-Julien-l 4.91 352 *e*Pn Pn 14 31 35.4 +0.3
VIVF *e*Sn Sn 14 32 27.3 -4.6
17nm,0.3s
EBIE Bielsa 4.92 305 ⇓P Pn 14 31 36.6 +1.3
2.2nm,0.1s,SNR=18
EBIE S Sn 14 32 32.0 -0.2
25nm,0.7s
EBIE Bielsa 4.92 305 ⇓P Pn 14 31 36.6 +1.3
EBIE S Sn 14 32 32.0 -0.2
EBIE Bielsa 4.92 305 P Pn 14 31 36.6 +1.3
2.2nm,0.1s,SNR=18
ORIF Oris-en-Rattie 4.92 2 *e*Pn Pn 14 31 36.8 +1.5
ORIF *e*Sn Sn 14 32 28.9 -3.4
49nm,0.7s
ORIF Oris-en-Rattie 4.92 2 *e*Pn Pn 14 31 36.8 +1.5
ORIF *e*Sn Sn 14 32 28.9 -3.4
25nm,0.7s
ESAC San Caprasio 4.93 292 P Pn 14 31 37.0 +1.7
12nm,0.1s,SNR=15
ESAC S Sn 14 32 31.8 -0.6
101nm,0.5s
ESAC San Caprasio 4.93 292 P Pn 14 31 37.0 +1.6
12nm,0.1s,SNR=15
EPF Esparros 4.99 309 *e*Pn Pn 14 31 37.7 +1.5
EPF *e*Sn Sn 14 32 32.3 -1.6
26nm,0.6s
EPF Esparros 4.99 309 *e*Pn Pn 14 31 37.7 +1.5
EPF *e*Sn Sn 14 32 32.3 -1.6
13nm,0.6s
ECHE Chera 5.09 268 P Pn 14 31 39.0 +1.4
22nm,0.3s,SNR=42
ECHE S Sn 14 32 35.1 -1.3
9.0nm,0.6s
VIEF Viey 5.10 306 P Pn 14 31 39.0 +1.3
BNI Bardonecchia 5.11 8 *e*P Pn 14 31 38.0 +0.1
BNI pmax pmax
comp=Z,5.0nm,0.4s
BNI Bardonecchia 5.11 8 *e*Pn Pn 14 31 38.0 0.0
comp=Z,4.6nm,0.4s
BNI Bardonecchia 5.11 8 *e*Pn Pn 14 31 38.0 +0.1
comp=Z,4.8nm,0.4s

LABF Labassere 5.16 308 P Pn 14 31 40.6 +2.1
EANR 'Ain N'Sour 5.39 223 P Pn 14 31 47.0 +5.3
TROT Trozza 5.44 143 *i* P Pn 14 31 37.0 -5.4
REYF Montagne du Re 5.46 306 P Pn 14 31 44.3 +1.7
VLC Villacollemand 5.47 39 *e*Pn Pn 14 31 41.6 -1.2
VLC Villacollemand 5.47 39 *e*Pn Pn 14 31 41.6 -1.2
ETSF Etsaut 5.47 304 *e*Pn Pn 14 31 43.6 +0.7
ETSF *e*Sn Sn 14 32 44.2 -1.6
comp=Z,26nm,0.6s
ETSF Etsaut 5.47 304 *e*Pn Pn 14 31 43.6 +0.7
ETSF *e*Sn Sn 14 32 44.2 -1.6
comp=Z,13nm,0.6s
LBL Lubilhac 5.52 342 P Pn 14 31 44.3 +0.8
LPG La Plagne 5.56 8 *e*Pn Pn 14 31 46.6 +2.5
LPG *e*Sn Sn 14 32 44.7 -3.3
comp=Z,19nm,0.4s
LPG La Plagne 5.56 8 S Sn 14 32 44.7 -3.3
comp=Z,9.6nm,0.4s
LPG La Plagne 5.56 8 *e*Pn Pn 14 31 46.6 +2.5
LPG *e*Sn Sn 14 32 44.7 -3.3
comp=Z,9.6nm,0.4s
LPL La Plagne 5.58 8 *e*Pn Pn 14 31 46.0 +1.7
LPL *e*Sn Sn 14 32 45.3 -3.1
comp=Z,30nm,0.4s
LPL La Plagne 5.58 8 *e*Pn Pn 14 31 46.0 +1.7
LPL *e*Sn Sn 14 32 45.3 -3.1
comp=Z,15nm,0.4s
CAF Calviac 5.58 333 *e*Pn Pn 14 31 44.9 +0.5
CAF *e*Sn Sn 14 32 45.6 -3.0
comp=Z,38nm,0.3s
CAF Calviac 5.58 333 *e*Pn Pn 14 31 44.9 +0.5
CAF *e*Sn Sn 14 32 45.6 -3.0
comp=Z,19nm,0.3s
ATE Arette 5.66 305 P Pn 14 31 46.7 +1.3
COLF Collangettes 5.70 346 P Pn 14 31 46.4 +0.5
ETOB Tobarra 5.72 259 P Pn 14 31 47.4 +1.1
comp=Z,4.5nm,0.1s,SNR=15
ETOB S Sn 14 32 50.5 -1.5
comp=Z,14nm,0.4s
ETOB Tobarra 5.72 259 P Pn 14 31 47.4 +1.2
comp=Z,4.5nm,0.1s,SNR=15
ETOB S Sn 14 32 50.5 -1.4
comp=Z,14nm,0.4s
ETRT Tiaret 5.73 218 P Pn 14 31 45.0 -1.4
LARF Larrau 5.81 304 P Pn 14 31 48.8 +1.2
FRNF Fournols 5.84 338 P Pn 14 31 49.2 +1.3
IPRE Itoiz 5.95 300 P Pn 14 31 50.7 +1.3
comp=Z,6.4nm,0.4s,SNR=7.3
IPRE S Sn 14 32 56.6 -1.0
comp=Z,0.5nm,0.1s,SNR=7.9
IPRE Itoiz 5.95 300 P Pn 14 31 50.7 +1.3
comp=Z,6.4nm,0.4s,SNR=7.3
SJPF Ste Jean 6.00 303 *e*Pn Pn 14 31 51.0 +0.9
SJPF *e*Sn Sn 14 32 56.4 -2.5
comp=Z,10.0nm,0.4s
SJPF Ste Jean 6.00 303 *e*Pn Pn 14 31 51.0 +0.9
SJPF *e*Sn Sn 14 32 56.4 -2.5
comp=Z,5.0nm,0.4s
RJF Les Rejaudoux 6.10 332 *e*Pn Pn 14 31 51.5 0.0
RJF *e*Sn Sn 14 32 57.9 -3.5
comp=Z,16nm,0.3s
RJF Les Rejaudoux 6.10 332 *e*Pn Pn 14 31 51.5 0.0
RJF *e*Sn Sn 14 32 57.9 -3.5
comp=Z,7.8nm,0.3s
LFF La Frestale 6.11 325 *e*Pn Pn 14 31 52.0 +0.3
LFF *e*Sn Sn 14 32 58.7 -3.0
comp=Z,25nm,0.4s
LFF La Frestale 6.11 325 *e*Pn Pn 14 31 52.0 +0.3
LFF *e*Sn Sn 14 32 58.7 -3.0
comp=Z,13nm,0.4s
IUSE Utxeti 6.13 301 P Pn 14 31 51.5 -0.4
comp=Z,0.4nm,0.1s,SNR=7.9
IUSE S Sn 14 33 01.9 -0.3
comp=Z,0.3nm,0.1s,SNR=7.9
IUSE Utxeti 6.13 301 P Pn 14 31 51.5 -0.5
comp=Z,0.4nm,0.1s,SNR=7.9
PLDF La Plantade 6.15 347 P Pn 14 31 53.1 +1.0
ELIZ Elizondo 6.22 303 P Pn 14 31 54.6 +1.5
comp=Z,19nm,0.5s,SNR=11
ELIZ S Sn 14 33 01.9 -2.4
comp=Z,4.2nm,0.4s
EALK Alkurruntz 6.24 303 ⇓P Pn 14 31 54.7 +1.4
comp=Z,59nm,0.5s,SNR=18
EALK S Sn 14 33 04.4 -0.2
comp=Z,18nm,0.5s,SNR=7.9
AGO Saint Agoulin 6.32 344 P Pn 14 31 55.3 +0.8
EVIA Vianos 6.44 260 S Sn 14 33 07.9 -1.9
comp=Z,10nm,0.4s,SNR=7.9
CABF La Chapelle 6.62 3 *e*Pn Pn 14 31 58.3 -0.3
TCF Toulx Ste Croi 6.76 340 *e*Pn Pn 14 32 00.8 +0.2
TCF *e*Sn Sn 14 33 13.8 -3.8
comp=Z,12nm,0.5s
TCF Toulx Ste Croi 6.76 340 *e*Pn Pn 14 32 00.8 +0.2
TCF *e*Sn Sn 14 33 13.8 -3.8
comp=Z,6.2nm,0.5s
SMF Signal de Mont 6.77 350 *e*Pn Pn 14 32 01.3 +0.6
BGF Bois d'Agland 6.86 344 *e*Pn Pn 14 32 02.8 +0.9
BGF *e*Sn Sn 14 33 15.7 -4.4
comp=Z,30nm,0.5s
BGF Bois d'Agland 6.86 344 *e*Pn Pn 14 32 02.8 +0.9
BGF *e*Sn Sn 14 33 15.7 -4.4
comp=Z,15nm,0.5s
AVF Avril sur Loir 6.99 347 *e*Pn Pn 14 32 04.3 +0.6
SSF Saint Saulge 7.23 348 *e*Pn Pn 14 32 07.1 +0.2
VAE Valguarnera 7.32 107 LR LR 14 35 13.8
comp=Z,141nm,18.2s,baz=99,slow=42
LOR Lormes 7.38 351 *e*Pn Pn 14 32 09.4 +0.4
LOR *e*Sn Sn 14 33 27.8 -5.0
comp=Z,7.8nm,0.5s
LOR Lormes 7.38 351 *e*Pn Pn 14 32 09.4 +0.4
LOR *e*Sn Sn 14 33 27.8 -5.0
comp=Z,3.9nm,0.5s
ESDC Sonseca Array 7.38 271 Pn Pn 14 32 10.0 +0.9
comp=Z,1.7nm,0.3s,baz=82,slow=14,SNR=10
ESDC Sonseca Array 7.38 271 P Pn 14 32 10.1 +1.0
comp=Z,3.2nm,0.2s,baz=83,slow=14,SNR=14
ESDC Sonseca Array 7.38 271 P Pn 14 32 10.1 +1.0
comp=Z,3.2nm,0.2s,SNR=14
ESLA Sonseca Array 7.38 271 *e*Pn Pn 14 32 07.6 -1.5
ESLA Sonseca Array 7.38 271 *e*Pn Pn 14 32 07.6 -1.5
GUD Guadarrama 7.50 278 P Pn 14 32 12.9 +2.2
comp=Z,14nm,0.5s,SNR=11
GUD S Sn 14 33 33.1 -2.5
comp=Z,7.8nm,0.6s
ELAN Lanestosa 7.51 298 P Pn 14 32 11.3 +0.5
comp=Z,2.3nm,0.4s,SNR=4.8
ELAN S Sn 14 33 34.1 -2.0
comp=Z,12nm,0.5s
ELAN Lanestosa 7.51 298 P Pn 14 32 11.4 +0.5
MFF Saint Martin d 7.82 329 *e*Pn Pn 14 32 15.0 -0.2
HINF Hinteralfeld 7.87 6 *e*Pn Pn 14 32 15.0 -0.8
HINF *e*Sn Sn 14 33 38.3 -6.5
comp=Z,4.6nm,0.3s
HINF Hinteralfeld 7.87 6 P Pn 14 32 15.0 -0.8
HINF S Sn 14 33 38.3 -6.5
comp=Z,2.3nm,0.3s
HAU Haudompre 8.02 4 *e*Pn Pn 14 32 16.7 -1.2
HAU *e*Sn Sn 14 33 42.8 -5.9
comp=Z,16nm,0.4s
HAU Haudompre 8.02 4 *e*Pn Pn 14 32 16.7 -1.2
HAU *e*Sn Sn 14 33 42.8 -5.9
comp=Z,7.9nm,0.4s
CDF Champ du Feu 8.50 7 *e*Pn Pn 14 32 24.1 -0.3
CDF *e*Sn Sn 14 33 54.2 -6.1
comp=Z,5.3nm,0.5s
CDF Champ du Feu 8.50 7 *e*Pn Pn 14 32 24.1 -0.3
CDF *e*Sn Sn 14 33 54.2 -6.1
comp=Z,2.7nm,0.5s
MEZF Maizieres J'vi 8.51 357 *e*Pn Pn 14 32 23.7 -0.9
TIP Timpagrande 8.64 92 *e*Pn Pn 14 32 19.1 -7.2
EARI Arriondas 8.75 296 P Pn 14 32 29.6 +1.7
comp=Z,0.1nm,0.1s,SNR=4.6
EARI S Sn 14 34 02.4 -4.2
comp=Z,8.7nm,0.8s,SNR=7.9
EARI Arriondas 8.75 296 P Pn 14 32 29.6 +1.7
comp=Z,0.1nm,0.1s,SNR=4.6
LDF La Druitiere 9.53 336 *e*Pn Pn 14 32 37.9 -0.6
GRR Gorron 9.59 333 *e*Pn Pn 14 32 39.0 -0.3
FLN La Foliniere 9.79 336 *e*Pn Pn 14 32 41.7 -0.4
BAIF Baives 10.11 355 *e*Pn Pn 14 32 47.2 +0.7
GIVF Givet 10.12 357 *e*Pn Pn 14 32 45.8 -0.8
SGMF Saint Gilles 10.13 327 *e*Pn Pn 14 32 46.3 -0.4
ROSF Rostrenen 10.49 326 *e*Pn Pn 14 32 51.7 -0.1
GERES GERESS Array B 10.56 30 LR LR 14 37 25.4
comp=Z,32nm,19.0s,baz=72,slow=40

MDT Midelt 10.92 232 LR LR 14 37 02.2
comp=Z,39nm,19.1s,baz=208,slow=37
ESK Eskdalemuir 16.42 342 *e*Pn **Pn** **14 34 12.7 +1.0**
EKA Eskdalemuir Ar 16.42 342 Pn **Pn** **14 34 13.4 +1.6**
comp=Z,0.5nm,0.3s,baz=157,slow=14,SNR=5.2
AKASG Malin Array Be 19.66 49 P **Pn** **14 34 47.7 -3.9**
comp=Z,0.5nm,0.3s,baz=244,slow=11,SNR=2.8
TORD Torodi Ar. Bea 26.97 188 P **P** **14 36 00.7 -2.3**
comp=Z,1.0nm,0.7s,mb3.4,baz=0.2,slow=9.4,SNR=7.2
ARCES ARCESS Array B 31.42 13 P **P** **14 36 41.1 -1.5**
comp=Z,1.2nm,0.7s,mb3.9,baz=215,slow=11,SNR=3.8
ARE0 ARCESS Array S 31.42 13 P **P** **14 36 41.4 -1.2**
ARE0 ARCESS Array S 31.42 13 P **P** **14 36 41.4 -1.2**
ARU Arti 37.86 46 *e*P **P** **14 37 35.4 -2.9**
ARU *e* 14 37 43.0
ARU pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
ARU Arti 37.86 46 *e*P **P** **14 37 35.4 -2.8**
comp=Z,4.7nm,0.7s,mb4.3
ARU *e* 14 37 43.0
ARU Arti 37.86 46 *e*P **P** **14 37 35.4 -2.9**
comp=Z,5.0nm,0.7s,mb4.3
ZRNK Zerenda 44.12 51 *e*P **P** **14 38 27.6 -2.2**
ZRNK *e* 14 38 35.9
ZRNK pmax pmax
comp=Z,1.0nm,0.7s,mb3.6
ZRNK Zerenda 44.12 51 *e*P **P** **14 38 27.6 -2.1**
comp=Z,1.3nm,0.7s,mb3.8
ZRNK *e* 14 38 35.9
ZRNK Zerenda 44.12 51 *e*P **P** **14 38 27.6 -2.2**
comp=Z,1.0nm,0.7s,mb3.6
BRVK Borovoye 44.86 51 P **P** **14 38 33.6 -2.1**
BRVK pmax pmax
comp=Z,1.0nm,0.8s,mb3.7
BRVK Borovoye 44.86 51 P **P** **14 38 33.6 -2.1**
comp=Z,1.0nm,0.8s,mb3.7
BRVK Borovoye 44.86 51 P **P** **14 38 33.6 -2.1**
comp=Z,1.0nm,0.8s,mb3.7
CHKZ Chkalovo 44.95 50 *e*P **P** **14 38 34.4 -2.0**
CHKZ pmax pmax
comp=Z,1.0nm,0.8s,mb3.7
CHKZ Chkalovo 44.95 50 *e*P **P** **14 38 34.4 -2.0**
comp=Z,1.1nm,0.8s,mb3.7
CHKZ Chkalovo 44.95 50 *e*P **P** **14 38 34.4 -2.0**
comp=Z,1.0nm,0.8s,mb3.7
KMBO Kilima Mbogo 50.10 137 LR LR 15 04 18.3
comp=Z,41nm,18.2s,MS3.5,baz=91,slow=41
KURK Kurchatov 50.44 52 *e*P **P** **14 39 16.8 -2.2**
KURK *e* 14 39 23.3
KURK pmax pmax
comp=Z,12nm,1.8s,mb4.6
KURK Kurchatov 50.44 52 *e*P **P** **14 39 16.8 -2.2**
comp=Z,12nm,1.8s,mb4.6
KURK *e* 14 39 23.3
KURK Kurchatov 50.44 52 *e*P **P** **14 39 16.8 -2.2**
comp=Z,12nm,1.8s,mb4.6
MKAR Makanchi Array 54.07 56 P **P** **14 39 44.2 -1.8**
comp=Z,1.3nm,0.7s,mb4.0,baz=287,slow=6.3,SNR=12

CSEM ***18*** *14:55:55.2, 17.15S×177.91W, h33km, mb5.5*
SZGRF ***18*** *14:55:55.3, 17.33S×177.52W, h33km, Fiji Islands region*
ISCJB ***18*** *14:56:45.0±0.8, 17.64S±0.005×178.92W±0.05, h479km±9km, mb4.6/78, Error ellipse: s-maj=9.1km s-min=5.1km az=96.0*
BJI ***18*** *14:56:46.9, 17.41S×178.50W, h507km, mB4.6, mb4.7*
NEIC ***18*** *14:56:47.8±0.7, 17.62S×178.91W, h500km±8km, mb4.7/54, Error ellipse: s-maj=7.4km s-min=4.1km az=145.0*
MOS ***18*** *14:56:47.0±1.1, 17.44S×179.01W, h494km, mb4.8/29, Error ellipse: s-maj=12.2km s-min=9.3km az=53.8*
IDC ***18*** *14:56:49.7±1.3, 17.72S×179.00W, h525km±14km, mb4.2/17, mb1 4.4/18, mb1mx4.4/20, mbtmp5.1/18, Error ellipse: s-maj=12.2km s-min=8.5km az=131.0*

ISC 18 14:56:47.7±1.0**, 17.66S**×0.005×**178.88W**×0.005**, h498**km±12km**, h501**km±4.7km**:pP-P, n326,**c0≥**90**/178**, mb4.6**/78**, 53C-17D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.79**	**62**	P	**P**	**14 58 42.1**	**+0.3**
	25nm,0.3s,baz=276,slow=1.3,SNR=18						
AFI	**Afiamalu**	**7.79**	**62**	⇓*i*P	**P**	**14 58 41.6**	**-0.2**
AFI				*e*S	**S**	**15 00 10.4**	**-5.0**
AFI				pmax	pmax		
	comp=Z,156nm,0.6s						
AFI	**Afiamalu**	**7.79**	**62**	⇓*i*P	**P**	**14 58 41.6**	**-0.2**
	comp=Z,156nm,0.6s						
AFI				*e*S	**S**	**15 00 10.4**	**-5.0**
DZM	**Mont Dzumac**	**14.48**	**250**	P	**P**	**14 59 53.4**	**+1.1**
	comp=Z,3.1nm,0.3s,baz=63,slow=20,SNR=30						
PUZ	**Puketiti**	**20.49**	**186**	SN	**S**	**15 04 09.9**	**+1.7**
URZ	**Urewera**	**20.82**	**189**	P	**P**	**15 00 51.7**	**-2.0**
	comp=Z,35nm,0.6s,baz=17,slow=1.5,SNR=24						
URZ				S	**S**	**15 04 12.4**	**-1.1**
	comp=Z,8.1nm,0.7s,baz=196,slow=13,SNR=3.7						
MWZ	**Matawai**	**20.83**	**188**	SN	**S**	**15 04 09.3**	**-4.3**
SNZO	**South Karori**	**24.20**	**192**	*e*P	**P**	**15 01 23.0**	**-1.1**
	comp=Z,57nm,1.0s,mb5.0						
THZ	**Tophouse**	**25.03**	**195**	PN	**P**	**15 01 30.0**	**-1.5**
LTZ	**Lake Taylor**	**26.15**	**195**	PN	**P**	**15 01 39.9**	**-1.4**
RPZ	**Rata Peaks**	**27.33**	**196**	P	**P**	**15 01 50.4**	**-1.3**
	comp=Z,12nm,0.5s,mb4.6,baz=5.2,slow=4.2,SNR=16						
FOZ	**Fox Glacier**	**27.57**	**198**	PN	**P**	**15 01 52.5**	**-1.3**
JCZ	**Jackson Bay**	**28.32**	**199**	PN	**P**	**15 01 60.0**	**-0.4**
ARMA	**Armidale**	**29.68**	**239**	⇓*i*P	**P**	**15 02 14.1**	**+1.9**
WHZ	**Wether Hill Ro**	**30.21**	**198**	PN	**P**	**15 02 17.0**	**+0.2**
CTA	**Charters Tower**	**33.04**	**260**	*e*P	**P**	**15 02 41.4**	**+0.3**
	comp=Z,17nm,0.7s,mb4.6						
CTA	**Charters Tower**	**33.04**	**260**	P	**P**	**15 02 42.0**	**+0.9**
	comp=Z,21nm,0.6s,mb4.8,baz=87,slow=12,SNR=23						
CTA	**Charters Tower**	**33.04**	**260**	*e*P	**P**	**15 02 41.4**	**+0.3**
CTA				pmax	pmax		
	comp=Z,17nm,0.7s						
CTAO	**Charters Tower**	**33.04**	**260**	*e*P	**P**	**15 02 41.7**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,21nm,0.7s,mb4.7						
CTAO	**Charters Tower**	**33.04**	**260**	*e*P	**P**	**15 02 41.7**	**+0.6**
	comp=Z,21nm,0.7s,mb4.7						
CNB	**Canberra Magne**	**33.22**	**232**	⇓*i*P	**P**	**15 02 44.1**	**+1.5**
	comp=Z,74nm,0.6s,mb5.3						
TOO	**Toolangi**	**36.98**	**230**	*e*P	**P**	**15 03 15.2**	**+1.2**
	comp=Z,66nm,0.9s,mb5.1						
TOO	**Toolangi**	**36.98**	**230**	*e*P	**P**	**15 03 15.2**	**+1.2**
TOO				pmax	pmax		
	comp=Z,66nm,0.9s,mb5.1						
TAU	**Tasmania Unive**	**38.12**	**221**	*e*P	**P**	**15 03 24.0**	**+0.6**
TAU				pmax	pmax		
	comp=Z,47nm,0.9s,mb4.9						
TAU	**Tasmania Unive**	**38.12**	**221**	*e*P	**P**	**15 03 24.0**	**+0.6**
	comp=Z,47nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**38.35**	**241**	⇓*i*P	**P**	**15 03 24.6**	**-0.7**
	comp=Z,38nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**38.35**	**241**	P	**P**	**15 03 24.7**	**-0.6**
	comp=Z,41nm,0.5s,mb5.2,baz=90,slow=9.4,SNR=204						
STKA				ScP	ScP	15 08 24.6	-1.9
	comp=Z,1.9nm,0.7s,baz=31,slow=2.6,SNR=3.1						
WB2	**Warramunga Arr**	**44.22**	**259**	*e*P	**P**	**15 04 11.5**	**-0.4**
WB2				*e*S	**S**	**15 10 00.6**	**-7.9**
WB2				*e*		15 13 14.0	
WRAB	**Tennant Creek**	**44.22**	**259**	*e*P	**P**	**15 04 11.4**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**44.22**	**259**	*e*P	**P**	**15 04 11.4**	**-0.6**
	comp=Z,14nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**44.23**	**259**	P	**P**	**15 04 11.6**	**-0.4**
	comp=Z,8.1nm,0.6s,mb4.4,baz=97,slow=7.3,SNR=163						
WRA				PcP	PcP	15 05 45.6	-0.2
	comp=Z,2.7nm,0.7s,baz=87,slow=3.9,SNR=6.2						
WRA				ScP	ScP	15 08 49.2	-0.8
	comp=Z,1.4nm,0.7s,baz=93,slow=3.8,SNR=5.4						
WRA				S	**S**	**15 10 03.0**	**-5.7**
	comp=Z,2.5nm,0.9s,baz=93,slow=14,SNR=8.7						
WRA	**Warramunga Arr**	**44.23**	**259**	P	**P**	**15 04 11.6**	**-0.4**
WRA				pP		15 05 45.6	+1.4
WRA				S	**S**	**15 10 03.0**	**-5.7**
ASAR	**Alice Springs**	**44.42**	**254**	P	**P**	**15 04 14.1**	**+0.6**
	comp=Z,105nm,0.5s,mb5.5,baz=91,slow=7.9,SNR=4269						
ASAR				PcP	PcP	15 05 46.3	-0.2
	comp=Z,2.5nm,0.4s,baz=100,slow=4.4,SNR=4.5						
ASAR				ScP	ScP	15 08 50.2	-0.6
	comp=Z,2.7nm,0.7s,baz=99,slow=4.4,SNR=8.8						
ASAR				S	**S**	**15 10 08.1**	**-3.4**
	comp=Z,12nm,1.0s,baz=86,slow=16,SNR=42						
ASAR	**Alice Springs**	**44.42**	**254**	P	**P**	**15 04 14.1**	**+0.6**

ASAR pP 15 05 46.3 +0.5
ASAR S **S** **15 10 08.1 -3.3**
KAKA Kakadu 47.14 269 ⇑*i*P **P** **15 04 34.8 +0.6**
comp=Z,32nm,0.3s,mb5.2
GUMO Guam 47.37 309 P **P** **15 04 36.9 +1.0**
comp=Z,133nm,0.6s,mb5.5,baz=147,slow=7.6,SNR=12
FORT Forrest 49.70 244 ⇓*i*P **P** **15 04 53.3 -0.1**
comp=Z,66nm,0.5s,mb5.2
FITZ Fitzroy Crossi 52.62 260 *e*P **P** **15 05 15.5 +0.9**
comp=Z,5.1nm,0.3s,mb4.3
MBWA Marble Bar 57.70 256 *e*P **P** **15 05 50.1 0.0**
comp=Z,9.5nm,0.7s,mb4.2
KLBR Kellerberrin 58.53 243 *e*P **P** **15 05 55.3 -0.4**
comp=Z,27nm,0.7s,mb4.7
NWAO Narrogin (SRO) 58.93 242 *e*P **P** **15 05 58.4 0.0**
SBA Scott Base 60.63 183 *e*P **P** **15 06 11.5 +1.7**
SBA pmax pmax
comp=Z,11nm,1.1s,mb4.2
SBA Scott Base 60.63 183 *e*P **P** **15 06 11.5 +1.7**
comp=Z,11nm,1.1s,mb4.2
VNDA Vanda 60.65 185 P **P** **15 06 10.5 +0.6**
comp=Z,2.4nm,0.7s,mb3.8,baz=360,slow=7.3,SNR=12
VNDA Vanda 60.65 185 *e*P **P** **15 06 10.2 +0.4**
VNDA *e* 15 06 22.2
VNDA *e*PcP PcP 15 06 47.1 -1.1
CASY Casey 66.17 205 *e*P **P** **15 06 45.0 -0.3**
MJAR Matsushiro Arr 67.44 324 P **P** **15 06 52.9 -0.3**
comp=Z,26nm,0.7s,mb5.0,baz=158,slow=6.2,SNR=67
MAJO Matsushiro 67.44 324 *e*P **P** **15 06 52.3 -0.9**
MAJO pmax pmax
comp=Z,29nm,0.7s,mb5.0
MAJO Matsushiro 67.44 324 *e*P **P** **15 06 52.3 -0.9**
comp=Z,28nm,0.7s,mb5.0
MAT Matsushiro 67.44 324 P **P** **15 06 52.9 -0.3**
MAT Matsushiro 67.44 324 *e*P **P** **15 06 53.0 -0.2**
MAT pmax pmax
comp=Z,26nm,0.8s,mb4.9
MAT Matsushiro 67.44 324 *e*P **P** **15 06 53.0 -0.2**
comp=Z,26nm,0.8s,mb4.9
KKM Kota Kinabalu 68.25 284 ⇑*i*P **P** **15 06 58.7 +0.6**
FX1 Attu Island--F 70.59 355 ⇑*i*P **P** **15 07 11.0 -1.2**
KSM Kuching 72.21 277 *e*P **P** **15 07 22.6 +1.0**
QSPA South Pole Qui 72.39 180 *e*P **P** **15 07 22.8 +0.1**
comp=Z,18nm,0.9s,mb4.6
YSS Yuzh-Sakhalins 73.00 334 *e*P **P** **15 07 26.1 -0.1**
YSS pmax pmax
comp=Z,44nm,1.1s,mb4.9
YSS Yuzh-Sakhalins 73.00 334 *e*P **P** **15 07 26.1 -0.1**
comp=Z,44nm,1.1s,mb4.9
KS15 Wonju Array Si 74.24 319 P **P** **15 07 33.9 +0.6**
SSE Sheshan 75.24 310 *e*P **P** **15 07 39.3 +0.4**
SSE AMB AMB
comp=Z,47nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,190nm,3.8s
PTRM Twissleman Ran 76.78 46 *e*P **P** **15 07 47.8 +0.4**
NJ2 Nanjing 77.44 310 *e*P **P** **15 07 51.5 +0.5**
NJ2 AP pP 15 09 40.3 +2.2
NJ2 XP sP 15 10 32.8 +3.2
NJ2 PP PP 15 10 55.0 +0.8
NJ2 S S 15 16 59.0 -1.8
NJ2 XS sS 15 20 13.0 +1.5
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
NJ2 AMB AMB
comp=Z,150nm,9.4s
MDJ Mudanjiang 77.73 325 P **P** **15 07 53.3 +0.7**
MDJ AP pP 15 09 39.0 -0.7
MDJ XP sP 15 10 29.8 -1.5
MDJ PP PP 15 10 56.5 -0.1
MDJ S S 15 17 06.8 +3.0
MDJ SCS ScS 15 17 25.8 +0.6
MDJ XS sS 15 20 14.3 -0.5
MDJ SS SS 15 22 18.8 +1.4
MDJ AMB AMB
comp=Z,37nm,0.8s,mb4.9
MDJ AMB AMB
comp=Z,82nm,4.3s
MDJ Mudanjiang 77.73 325 *e*P **P** **15 07 53.3 +0.7**
comp=Z,26nm,0.8s,mb4.7
CMB Columbia Colle 77.97 44 *e*P **P** **15 07 53.9 0.0**
CMB pmax pmax
comp=Z,15nm,0.9s,mb4.4
CMB Columbia Colle 77.97 44 *e*P **P** **15 07 53.9 0.0**
comp=Z,15nm,0.9s,mb4.4
ISA Isabella 77.97 46 *e*P **P** **15 07 54.5 +0.6**
ISA pmax pmax
comp=Z,21nm,0.9s,mb4.6
ISA Isabella 77.97 46 *e*P **P** **15 07 54.5 +0.6**
comp=Z,21nm,0.9s,mb4.6
YBH Yreka Blue Hor 78.62 39 P **P** **15 07 58.2 +0.8**
comp=Z,10nm,0.7s,mb4.5,baz=190,slow=1.6,SNR=24
YBH Yreka Blue Hor 78.62 39 *e*P **P** **15 07 58.2 +0.8**
YBH pmax pmax
comp=Z,13nm,1.0s
YBH Yreka Blue Hor 78.62 39 *e*P **P** **15 07 58.1 +0.7**
comp=Z,13nm,1.0s,mb4.4
MTUM Tungsten Hills 78.81 45 *e*P **P** **15 07 59.4 +1.0**
DAC Darwin (Calif) 78.90 46 *e*P **P** **15 07 59.3 +0.4**
DAC pmax pmax
comp=Z,3.0nm,0.6s,mb4.0
DAC Darwin (Calif) 78.90 46 *e*P **P** **15 07 59.3 +0.4**
comp=Z,2.9nm,0.6s,mb4.0
HUMO Hull Mountain 78.99 39 *e*P **P** **15 07 59.8 +0.4**
comp=Z,14nm,1.0s,mb4.4
LASM Arnica Sink 79.23 40 P **P** **15 08 01.6 +1.0**
SNY Shenyang 79.51 320 ⇑P **P** **15 08 01.8 -0.3**
SNY AMB AMB
comp=Z,11nm,1.9s,mb4.1
SNY AMB AMB
comp=Z,86nm,4.1s
PAHR Pah Rah Range 79.55 43 *e*P **P** **15 08 02.7 +0.4**
comp=Z,14nm,0.9s,mb4.5
CN2 Changchun 79.55 323 *e*P **P** **15 08 02.8 +0.4**
CN2 AMB AMB
comp=Z,30nm,1.3s,mb4.7
NVAR Mina Array Bea 79.56 44 P **P** **15 08 03.0 +0.6**
comp=Z,10nm,0.8s,mb4.5,baz=215,slow=7.1,SNR=79
MNV Mina 79.66 44 *e*P **P** **15 08 03.2 +0.3**
MNV pmax pmax
comp=Z,23nm,1.3s,mb4.5
MNV Mina 79.66 44 *e*P **P** **15 08 03.2 +0.2**
comp=Z,23nm,1.3s,mb4.5
TPH Tonopah 80.09 45 *e*P **P** **15 08 04.8 -0.4**
TPH pmax pmax
comp=Z,6.0nm,0.8s,mb4.2
TPH Tonopah 80.09 45 *e*P **P** **15 08 04.8 -0.4**
comp=Z,5.5nm,0.8s,mb4.1
MOD Modoc 80.19 40 P **P** **15 08 06.0 +0.3**
SVW2 Sparrevohn 80.69 11 *e*P **P** **15 08 06.7 -1.6**
SLKM Skilak Lake 81.26 14 *e*P **P** **15 08 09.6 -1.7**
WVOR Wild Horse Val 81.51 41 *e*P **P** **15 08 12.9 +0.3**
WVOR pmax pmax
comp=Z,23nm,0.9s,mb4.7
WVOR Wild Horse Val 81.51 41 *e*P **P** **15 08 12.9 +0.3**
comp=Z,23nm,0.9s,mb4.7
FMW Mount Fremont 82.28 36 P **P** **15 08 16.9 +0.4**
TTA Tatalina 82.31 10 *e*P **P** **15 08 15.9 -0.8**
TTA pmax pmax
comp=Z,40nm,1.1s,mb4.9
TTA Tatalina 82.31 10 *e*P **P** **15 08 15.9 -0.8**
comp=Z,40nm,1.1s,mb4.9
EYAK Cordova Ski Ar 82.39 16 *e*P **P** **15 08 15.5 -1.5**
CCUT Cedar City 82.47 47 *e*P **P** **15 08 18.7 +1.2**
PMR Palmer 82.47 14 *e*P **P** **15 08 15.7 -1.8**
PMR pmax pmax
comp=Z,23nm,1.0s,mb4.7
PMR Palmer 82.47 14 *e*P **P** **15 08 15.7 -1.8**
comp=Z,23nm,1.0s,mb4.7
RMW Rattlesnake Mo 82.52 35 P **P** **15 08 18.1 +0.4**
ARUT Antelope Range 82.53 47 *e*P **P** **15 08 18.6 +0.8**
KULM Kulim 82.55 278 *e*P **P** **15 08 18.8 +0.9**
ELK Elko 82.79 43 ⇑*e*P **P** **15 08 19.2 +0.1**
ELK pmax pmax
comp=Z,12nm,0.8s
ELK Elko 82.79 43 ⇑*e*P **P** **15 08 19.2 +0.2**
comp=Z,12nm,0.8s,mb4.5
WUAZ Wupatki 82.93 49 *e*P **P** **15 08 20.4 +0.6**
comp=Z,21nm,1.0s,mb4.6
TBM Table Mountain 83.02 36 P **P** **15 08 20.5 +0.3**
RSW Rattlesnake Hi 83.15 37 P **P** **15 08 21.4 +0.5**
HAWA Hanford 83.18 37 *e*P **P** **15 08 20.3 -0.7**
comp=Z,3.1nm,1.3s,mb3.7
BJI Beijing 83.30 316 *e*P **P** **15 08 21.5 -0.1**
BJI AMB AMB
comp=Z,16nm,1.4s,mb4.4
MSU Marysvale 83.75 46 *e*P **P** **15 08 25.0 +1.1**
MAW Mawson 83.94 200 P **P** **15 08 24.3 -0.5**
comp=Z,2.9nm,1.0s,mb3.8,baz=165,slow=18,SNR=4.3
MAW Mawson 83.94 200 P **P** **15 08 24.6 -0.2**
SKAG Skagway 84.63 21 *e*P **P** **15 08 27.8 -0.4**
HLID Hailey 84.74 41 *e*P **P** **15 08 29.0 +0.2**
comp=Z,10nm,0.8s,mb4.5
TMUT Trail Mountain 84.79 46 *e*P **P** **15 08 29.6 +0.7**
SRU San Rafael 85.17 47 *e*P **P** **15 08 31.1 +0.2**
SRU pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
SRU San Rafael 85.17 47 *e*P **P** **15 08 31.1 +0.2**
comp=Z,5.0nm,0.7s,mb4.2
LAZ Ladron 85.56 52 *e*P **P** **15 08 33.4 +0.6**
NEW Newport 85.58 36 P **P** **15 08 32.2 -0.6**
comp=Z,6.5nm,0.6s,mb4.4,baz=242,slow=4.3,SNR=7.9
NEW Newport 85.58 36 *e*P **P** **15 08 31.8 -1.0**
NEW pmax pmax
comp=Z,12nm,1.1s
NEW Newport 85.58 36 *e*P **P** **15 08 31.8 -1.1**
comp=Z,12nm,1.1s,mb4.4
COLA College 85.63 13 *e*P **P** **15 08 30.8 -2.3**
COLA pmax pmax
comp=Z,29nm,1.2s,mb4.8
COLA College 85.63 13 *e*P **P** **15 08 30.8 -2.3**
comp=Z,29nm,1.2s,mb4.8
ILAR Eielson Array 85.75 13 P **P** **15 08 31.5 -2.2**
comp=Z,7.6nm,0.5s,mb4.6,baz=225,slow=5.2,SNR=100
XAN Xi'an 85.75 308 P **P** **15 08 34.6 +0.9**
XAN AMB AMB
comp=Z,26nm,1.0s,mb4.8
MNTX Cornudas Mount 85.81 55 *e*P **P** **15 08 34.1 +0.2**
comp=Z,7.1nm,0.9s,mb4.3
BNM Barren Site 85.84 52 *e*P **P** **15 08 34.8 +0.7**
PV10 Paradox Valley 85.88 48 *e*P **P** **15 08 34.2 0.0**
LPM Los Pinos Moun 85.91 52 *e*P **P** **15 08 35.2 +0.8**
HIA Hailar 85.91 325 P **P** **15 08 33.9 -0.5**
HIA pmax pmax
comp=Z,16nm,1.3s
HIA Hailar 85.91 325 P **P** **15 08 33.9 -0.6**
comp=Z,16nm,1.3s,mb4.5
PV01 Paradox Valley 86.11 48 *e*P **P** **15 08 35.7 +0.3**
BILL Bilibino 86.14 354 ⇑*i*P **P** **15 08 33.6 -1.9**
BILL pmax pmax
comp=Z,23nm,0.8s,mb4.9
BILL Bilibino 86.14 354 ⇑*i*P **P** **15 08 33.6 -1.9**
comp=Z,24nm,0.8s,mb4.9
ANMO Albuquerque 86.30 52 *e*P **P** **15 08 36.4 +0.1**
ANMO pmax pmax
comp=Z,8.0nm,1.1s
ANMO Albuquerque 86.30 52 *e*P **P** **15 08 36.4 +0.1**
comp=Z,8.2nm,1.1s,mb4.3
MCMT McKenzie Canyo 86.35 41 *e*P **P** **15 08 36.8 +0.3**
DLMT Dillon 86.76 40 *e*P **P** **15 08 38.5 +0.1**
comp=Z,18nm,1.1s,mb4.7
HHC Hu-ho-hao-te 86.78 315 *e*P **P** **15 08 37.8 -0.7**
HHC AP pP 15 10 31.3 +2.6
HHC XP sP 15 11 20.8 +1.4
HHC PP PP 15 12 11.4 +1.5
HHC SKS 15 18 16.3
HHC S 15 18 29.6
HHC XS sS 15 21 51.0 +0.6
HHC SS SS 15 24 32.8 +2.6
HHC AMB AMB
HHC comp=Z,25nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,130nm,5.5s
TPAW Teton Pass 86.91 42 *e*P **P** **15 08 39.5 +0.4**
comp=Z,21nm,1.2s,mb4.7
REDW Red Top Meadow 86.91 43 *e*P **P** **15 08 39.5 +0.3**
comp=Z,27nm,1.1s,mb4.9
DAWY Dawson 86.98 16 *e*P **P** **15 08 38.1 -1.3**
IMW Indian Meadow 87.11 42 *e*P **P** **15 08 40.7 +0.6**
comp=Z,20nm,0.8s,mb4.9
CHMT Chamberlain Mo 87.12 39 *e*P **P** **15 08 39.8 -0.4**
MOOW Moose Ponds 87.16 42 *e*P **P** **15 08 40.4 +0.1**
comp=Z,6.3nm,0.9s,mb4.3
QLMT Earthquake Lak 87.23 41 *e*P **P** **15 08 41.9 +1.2**
KMI Kunming 87.32 297 P **P** **15 08 42.3 +1.2**
KMI AP pP 15 10 32.3 +0.9
KMI AMB AMB
comp=Z,11nm,0.8s,mb4.6
FLWY Flagg Ranch 87.35 42 *e*P **P** **15 08 41.7 +0.5**
comp=Z,20nm,1.0s,mb4.8
PDAR Pinedale Array 87.48 44 P **P** **15 08 41.8 -0.1**
comp=Z,6.4nm,0.5s,mb4.6,baz=218,slow=3.2,SNR=45
BOZ Bozeman (W) 87.50 40 *e*P **P** **15 08 41.6 -0.3**
BOZ pmax pmax
comp=Z,20nm,1.5s,mb4.6
BOZ Bozeman (W) 87.50 40 *e*P **P** **15 08 41.6 -0.3**
comp=Z,20nm,1.5s,mb4.6
CPRX Cap Rock 87.51 54 *e*P **P** **15 08 42.4 +0.5**
SMCO Snowmass 87.68 48 *e*P **P** **15 08 43.3 +0.5**
comp=Z,6.2nm,0.8s,mb4.4
LKWY Lake 87.76 42 *e*P **P** **15 08 44.7 +1.6**
LKWY pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
LKWY Lake 87.76 42 *e*P **P** **15 08 44.6 +1.5**
comp=Z,6.8nm,0.8s,mb4.4
WALA Waterton Lakes 87.81 37 *e*P **P** **15 08 42.8 -0.6**
comp=Z,8.1nm,0.9s,mb4.5
RWWY Rawlins 88.58 45 *e*P **P** **15 08 46.6 -0.4**
comp=Z,27nm,1.3s,mb4.9
GCMT Greycliff 88.78 41 *e*P **P** **15 08 48.5 +0.7**
YAK Yakutsk 89.18 338 *e*P **P** **15 08 47.5 -2.3**
JCT Junction City 89.79 58 *e*P **P** **15 08 52.5 -0.1**
JCT pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
JCT Junction City 89.79 58 *e*P **P** **15 08 52.5 -0.1**
comp=Z,5.6nm,0.6s,mb4.6
LZH Lanzhou 90.39 308 *e*P **P** **15 08 56.5 +1.2**
LZH AP pP 15 10 52.0 +5.7
LZH XP sP 15 11 42.5 +5.7
LZH PP PP 15 12 42.0 +3.7
LZH AMB AMB
comp=Z,26nm,1.0s,mb5.0
CIT Chita 90.70 325 *e*P **P** **15 08 56.7 -0.1**
CIT pmax pmax
comp=Z,25nm,2.8s,mb4.7
INK Inuvik 91.77 15 ⇑*i*P **P** **15 08 59.5 -2.2**
INK pmax pmax
comp=Z,17nm,1.0s
INK Inuvik 91.77 15 ⇑*i*P **P** **15 08 59.5 -2.2**
comp=Z,17nm,1.0s,mb4.9
ULN Ulaanbaatar 92.68 320 *e*P **P** **15 09 05.1 -0.8**
ULN pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
ULN Ulaanbaatar 92.68 320 *e*P **P** **15 09 05.1 -0.8**
comp=Z,10nm,1.3s,mb4.7
SONM Songino Array 93.07 319 P **P** **15 09 07.6 -0.1**
comp=Z,1.0nm,0.5s,mb4.1,baz=118,slow=3.8,SNR=9.7
BOD Bodaibo 93.23 330 *e*P **P** **15 09 06.9 -1.5**
YKA Yellowknife Ar 94.30 25 P **P** **15 09 11.8 -1.5**
comp=Z,4.2nm,0.7s,mb4.5,baz=245,slow=4.4,SNR=29
YKW3 Yellowknife Ar 94.33 25 *e*P **P** **15 09 11.9 -1.5**
GTA Gaotai 94.53 310 *e*P **P** **15 09 14.8 +0.4**
GTA AMB AMB
comp=Z,4.0nm,1.0s,mb4.4
TIXI Tiksi 95.81 345 ⇑*i*P **P** **15 09 16.5 -3.6**
TIXI pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
MKAR Makanchi Array 108.64 314 PKiKP PKiKP 15 14 17.8 -1.8
comp=Z,1.6nm,0.5s,baz=186,slow=0.5,SNR=35
VOSK Vostochnaya 116.04 321 PKIKP PKPdf 15 14 31.5 -2.1
VOSK pmax pmax
comp=Z,3.0nm,0.8s
CHKZ Chkalovo 116.17 322 PKIKP PKPdf 15 14 31.5 -2.4
CHKZ pmax pmax
comp=Z,1.0nm,0.5s
BVA0 Borovoye Array 116.37 321 *i* PKIKP PKPdf 15 14 32.2 -2.0
KKAR Karatay Array 116.81 310 *i* PKIKP PKPdf 15 14 33.5 -1.6
ZRNK Zerenda 117.21 321 *e*PKIKP PKPdf 15 14 33.6 -2.3
ARU Arti 122.40 326 *e*PKIKP PKPdf 15 14 43.9 -1.9
ARU Arti 122.40 326 *e*PKPdf PKPdf 15 14 43.9 -1.9
ARCES ARCESS Array B 126.00 350 PKP PKPdf 15 14 50.8 -1.9
comp=Z,4.0nm,0.8s,baz=82,slow=0.8,SNR=21
NB2 NORSAR Subarra136.08 353 PKPa 15 14 58.9
comp=Z,1.4nm,0.7s,baz=14,slow=4.1
NOA NORSAR Array B136.08 353 PKP PKPdf 15 15 10.3 -1.5
comp=Z,1.5nm,0.7s,baz=14,slow=4.1,SNR=5.8
AKASG Malin Array Be 140.13 332 PKhKP 15 15 10.6
comp=Z,1.4nm,0.4s,baz=42,slow=3.8,SNR=13
AKASG PKP PKPdf 15 15 18.2 -0.9
comp=Z,2.5nm,0.4s,baz=46,slow=3.1,SNR=8.3
BOYT Boyabat 142.63 316 *i* P PKPdf 15 15 20.9 -2.7
LVV L'vov 143.00 335 *e*PKIKP PKPdf 15 15 21.2 -3.1
CTKT Corum 143.09 315 *i* P PKPdf 15 15 22.4 -2.0
BSEG Bad Segeberg 143.10 351 *e*PKPbc PKPdf 15 15 21.0 -3.5
KWP Kalwaria 143.67 336 *e*PKP PKPdf 15 15 23.7 -1.7
KOZT Kozan 143.73 310 *e*P PKPdf 15 15 23.9 -1.7
COBT Iskenderun 143.78 308 *i* P PKPdf 15 15 24.9 -0.7
DCN Croghan 143.79 9 *e*P PKPdf 15 15 20.1 -5.6
CDAG Cicekdag 143.84 314 *i* P PKPdf 15 15 24.4 -1.4
AVNT Avonos 143.88 313 *i* P PKPdf 15 15 21.4 -4.5
DLF Lyons Farm 143.94 8 *e*P PKPdf 15 15 21.0 -4.9
HTY Hatay 144.02 308 *e*P PKPdf 15 15 21.9 -4.1
ELDT Eldivan 144.06 316 *i* P PKPdf 15 15 25.7 -0.4
BURAR Bucovina Array 144.19 332 ⇓*i*P PKPdf 15 15 26.0 -0.3
OJC Ojcow 144.23 339 *e*PKP PKPdf 15 15 25.3 -1.1
KARA Karaisali 144.38 310 *e*P PKPdf 15 15 22.3 -4.4
STHS Stebnicka Huta 144.39 337 *e*PKP PKPdf 15 15 26.3 -0.4
KOLS Kolonicke sedl 144.40 336 *e*PKP PKPdf 15 15 26.2 -0.5
CFR Carcaliu 144.48 326 ⇑*i*P PKPdf 15 15 26.9 0.0
CFR Carcaliu 144.48 326 ⇑P PKPdf 15 15 26.9 0.0
NIE Niedzica 144.73 338 *e*PKP PKPdf 15 15 27.6 +0.3
CRVS Cervenica-Dubn 144.74 337 *e* PKPdf 15 15 29.0 +1.7
VRI Vrincioaia 144.74 328 ⇓*i*P PKPdf 15 15 27.3 0.0
VRI Vrincioaia 144.74 328 ⇓*i*P PKPdf 15 15 27.8 +0.5
VRI Vrincioaia 144.74 328 ⇓P PKPdf 15 15 27.3 0.0
KSP Ksiaz 144.75 343 *e*PKP PKPdf 15 15 27.5 +0.2
KSP Ksiaz 144.75 343 ⇑*i*PKIKP PKPdf 15 15 27.3 0.0
ANTO Ankara 144.79 315 ⇓*i*P PKPdf 15 15 27.7 +0.3
ANTO Ankara 144.79 315 *e*PKPdf PKPdf 15 15 27.1 -0.3
HARR Harsova 144.92 326 ⇑*i*P PKPdf 15 15 28.4 +0.8
HARR Harsova 144.92 326 ⇑P PKPdf 15 15 28.4 +0.8
SGKT Sivrigoynuk 144.92 317 *i* P PKPdf 15 15 26.6 -1.0
MERS Mersin 144.93 310 *e*P PKPbc 15 15 22.9 -4.7
IBBN Ibbenburen 145.04 353 *e*PKPbc PKPbc 15 15 27.8 -0.7
OKC Ostrava-Krasne 145.09 341 *e*PKP PKPdf 15 15 28.0 +0.1
CLZ Clausthal 145.12 350 *e*PKPbc PKPbc 15 15 27.9 -0.8
CLL Collm 145.13 347 *e*PKPbc PKPbc 15 15 27.9 -0.8
CLL Collm 145.13 347 ⇑*i*PKPbc PKPbc 15 15 28.0 -0.7
comp=Z,49nm,0.6s
CLL Collm 145.13 347 ⇑*i*PKIKP PKPdf 15 15 28.0 0.0
CLL pmax pmax
comp=Z,49nm,0.6s
UPC Upice 145.13 343 *e*PKP PKPdf 15 15 28.2 +0.2
DPC Dobruska-Polom 145.19 343 *e*PKP PKPdf 15 15 28.6 +0.5
BRG Berggiesshubel 145.32 346 *e*PKPbc PKPbc 15 15 28.7 -0.6
BRG Berggiesshubel 145.32 346 ⇑*i*PKP PKPdf 15 15 28.8 +0.5
comp=Z,15nm,0.8s
BRG Berggiesshubel 145.32 346 ⇑*i*PKP2 PKPab 15 15 28.8 -1.6
BRG pmax pmax
comp=Z,15nm,0.8s
MEST Erdemli 145.32 310 *i* P PKPdf 15 15 28.9 +0.6
MORC Moravsky Berou 145.34 341 ⇑*i*P PKPdf 15 15 29.3 +1.0
MORC Moravsky Berou 145.34 341 *e*PKPdf PKPdf 15 15 28.7 +0.4
MLR Muntele Rosu 145.39 329 ⇑*i*P PKPdf 15 15 29.1 +0.7
MLR Muntele Rosu 145.39 329 ⇑P PKPdf 15 15 29.1 +0.7
KECS Kecovo 145.45 337 *i* PKP PKPdf 15 15 29.3 +0.8
WTSB Winterswijk 145.48 354 *e*PKiKP PKiKP 15 15 28.8 -4.0
comp=Z,50nm,0.9s
IKL Isikli 145.80 309 *e*P PKPdf 15 15 30.1 +1.0
VOIR 145.87 329 ⇓*i*P PKPdf 15 15 29.9 +0.7
DRGR 145.92 333 ⇓*i*P PKPdf 15 15 30.5 +1.2
DRGR 145.92 333 ⇓*i*P PKPdf 15 15 30.9 +1.6
BUG Bochum--Univer 145.95 353 *e*PKPbc PKPbc 15 15 30.2 -0.9
PRU Pruhonice 145.99 344 *e*PKP PKPdf 15 15 30.4 +1.0
MTUR Matau 146.01 329 ⇑*i*P PKPab 15 15 43.7 +11
VRAC Vranov 146.04 342 ⇓*i*P PKPdf 15 15 31.4 +1.9
MOX Moxa 146.04 348 *e*PKPbc PKPbc 15 15 30.7 -0.7
MOX Moxa 146.04 348 *e*PKP PKPdf 15 15 30.5 +1.0
comp=Z,30nm,1.5s
MOX Moxa 146.04 348 *e*PKIKP PKPdf 15 15 30.5 +1.0
MOX pmax pmax
comp=Z,30nm,1.5s
WERD Werda 146.09 347 *e*PKPbc PKPbc 15 15 30.7 -0.8
PSZ Piszkesteto 146.14 337 ⇓*i*P PKPdf 15 15 31.6 +1.9
ERMK Ermenek 146.20 310 *i* P PKPdf 15 15 30.4 +0.7
NKC Novy Kostel 146.26 347 *e*PKP PKPdf 15 15 31.1 +1.2
BORA Eskisehir 146.32 317 *i* P PKPdf 15 15 31.6 +1.6
TREC Trest 146.37 343 *e*PKP PKPdf 15 15 31.7 +1.6
SMOL Smolenice 146.48 340 *e*PKP PKPdf 15 15 32.7 +2.4
MANZ Manzenberg 146.56 347 *e*PKPbc PKPbc 15 15 32.5 -0.3
ROTZ Rotzenmuhle 146.75 347 *e*PKPbc PKPbc 15 15 32.8 -0.5
HGN Heimansgroeve 146.75 354 *e*PKiKP PKiKP 15 15 34.9 -0.6
ZST Bratislava 146.87 340 *e*PKP PKPdf 15 15 33.4 +2.5
MEM Membach 146.90 354 PKPbc PKPbc 15 15 32.7 -1.0
EIL Elat 146.91 297 *e*PKPbc PKPbc 15 15 33.4 -0.4
TNS Taunus Mts 146.99 351 *e*PKPbc PKPbc 15 15 33.3 -0.7
TNS *e*PKPab PKPab 15 15 35.7 -1.3
ULDT Uludag 147.02 319 *i* P PKPdf 15 15 33.7 +2.5
GRF Grafenberg Arr 147.03 348 *e*PKPbc PKPbc 15 15 33.8 -0.3
GRF *e*PKPab PKPab 15 15 36.4 -0.7
KHC Kasperske Hory 147.03 345 *e*PKPdf PKPdf 15 15 30.8 -0.4
KHC *e*PKPbc PKPbc 15 15 33.7 -0.4
KHC PKPab PKPab 15 15 36.5 -0.6
KHC Kasperske Hory 147.03 345 *e*PKIKP PKPdf 15 15 30.8 -0.4
KHC *e* 15 15 36.5
SNF Seneffe 147.13 356 PKPbc PKPbc 15 15 33.3 -1.0
SNF PKPab PKPab 15 15 36.4 -1.2
WET Wettzell 147.18 346 *e*PKPbc PKPbc 15 15 34.1 -0.4
GEC2 GERESS Array S 147.26 345 *e*PKPbc PKPbc 15 15 34.2 -0.5
GERES GERESS Array B 147.26 345 PKPbc PKPbc 15 15 34.2 -0.5
comp=Z,15nm,0.7s,baz=25,slow=3.1,SNR=48
BZS Buzias 147.31 333 ⇑*i*P PKPdf 15 15 34.2 +2.6
GIVF Givet 147.50 356 ⇑*i*PKP1 PKPbc 15 15 34.7 -0.6
comp=Z,50nm,0.8s
DOU Dourbes 147.53 356 PKPbc PKPbc 15 15 34.7 -0.7
BAIF Baives 147.59 356 ⇑*i*PKP1 PKPbc 15 15 35.0 -0.5
comp=Z,52nm,0.8s
WLF Walferdange 147.82 354 *e*PKPbc PKPbc 15 15 35.8 -0.3
WLF Walferdange 147.82 354 PKPbc PKPbc 15 15 36.4 +0.2
WLF Walferdange 147.82 354 *e*PKPbc PKPbc 15 15 35.9 -0.3
MOA Molln 148.02 343 *i* P PKPbc 15 15 36.2 -0.5
comp=Z,17nm,1.4s,SNR=7.3
PKSM Moragy 148.03 337 ⇓*i*P PKPbc 15 15 35.7 -1.0
PKSM Moragy 148.03 337 PKP2 PKPbc 15 15 35.9 -0.8
ARSA Arzberg 148.20 341 ⇑*i*P PKPbc 15 15 36.2 -0.9
comp=Z,9.4nm,1.5s
STU Stuttgart 148.28 350 *e*PKPab PKPab 15 15 41.4 -0.9
FUR Furstenfeldbru 148.47 347 *e*PKPbc PKPbc 15 15 37.3 -0.5
FUR *e*PKPab PKPab 15 15 42.5 -0.5
BFO Black Forest 148.85 351 *e*PKPbc PKPbc 15 15 38.2 -0.5
BFO *e*PKPab PKPab 15 15 43.3 -1.3
CDF Champ du Feu 148.92 352 ⇑*i*PKP1 PKPbc 15 15 38.4 -0.5
comp=Z,22nm,0.5s
FLN La Foliniere 148.95 2 ⇑*i*PKP1 PKPbc 15 15 38.0 -1.0
comp=Z,77nm,0.9s
KBA Koelnbreinsper 148.98 344 *i* P PKPbc 15 15 37.8 -1.2
comp=Z,14nm,1.1s,SNR=15
GRUS Gruza 149.07 332 *i* P PKPbc 15 15 38.1 -1.1
MEZF Maizieres J'vi 149.07 355 ⇑*i*PKP1 PKPbc 15 15 39.0 -0.3
LDF La Druitiere 149.13 2 ⇑*i*PKP1 PKPbc 15 15 38.4 -1.0
comp=Z,16nm,0.4s
OBKA Obir 149.16 342 ⇑*i*P PKPbc 15 15 38.2 -1.3
comp=Z,13nm,1.4s
ROSF Rostrenen 149.20 6 *e*PKP1 PKPbc 15 15 38.4 -1.2
DIVS Divcibare 149.22 333 *i* P PKPbc 15 15 39.3 -0.3
WTTA Wattenberg 149.24 346 ⇑*i*P PKPbc 15 15 39.3 -0.3
comp=Z,38nm,1.2s
GRR Gorron 149.31 3 ⇑*i*PKP1 PKPbc 15 15 39.0 -0.8
comp=Z,35nm,0.6s
SGMF Saint Gilles 149.34 5 *e*PKP1 PKPbc 15 15 38.9 -1.0
comp=Z,82nm,0.9s
SQTA Sankt Quirin 149.37 346 ⇑*i*P PKPbc 15 15 39.5 -0.5
comp=Z,19nm,0.5s
HAU Haudompre 149.44 353 ⇑*i*PKP1 PKPbc 15 15 40.4 +0.3
comp=Z,24nm,0.5s
HINF Hinteralfeld 149.56 352 ⇑*i*PKP1 PKPbc 15 15 39.5 -0.9
comp=Z,17nm,0.8s
DAVA Damuels 149.59 348 ⇑*i*P PKPbc 15 15 40.0 -0.5
comp=Z,28nm,1.1s
QUIF Quistinic 149.62 6 *e*PKP1 PKPbc 15 15 39.3 -1.3
BBLS Bajina Basta - 149.66 333 *i* P PKPbc 15 15 41.0 +0.3
VOY Vojsko 149.78 342 *e*(P) PKPbc 15 15 39.6 -1.4
VOY *e* 15 15 46.7
LOR Lormes 150.39 356 ⇑*i*PKP1 PKPbc 15 15 41.9 -0.5
comp=Z,37nm,0.5s
SSF Saint Saulge 150.62 357 ⇑*i*PKP1 PKPbc 15 15 42.5 -0.4
comp=Z,35nm,0.5s
CABF La Chapelle 150.84 353 ⇑*i*PKP1 PKPbc 15 15 43.4 0.0
comp=Z,37nm,0.8s
AVF Avril sur Loir 150.90 357 ⇑*i*PKP1 PKPbc 15 15 42.6 -0.9
comp=Z,11nm,0.6s
SMF Signal de Mont 151.01 356 ⇑*i*PKP1 PKPbc 15 15 43.2 -0.6

MFF	**Saint Martin d**	**151.12**	**2**	⇑	*i*PKP1	PKPbc	15 15 43.3	-0.8
	comp=Z,26nm,0.6s								
BGF	**Bois d'Agland**	**151.15**	**358**	⇑	*i*PKP1	PKPbc	15 15 43.6	-0.5
	comp=Z,26nm,0.6s								
TCF	**Toulx Ste Croi**	**151.44**	**358**	⇑	*i*PKP1	PKPbc	15 15 44.1	-0.7
	comp=Z,18nm,0.8s								
LPL	**La Plagne**	**151.84**	**352**		*e*PKP1	PKPbc	15 15 46.0	+0.3
	comp=Z,11nm,0.7s								
LPG	**La Plagne**	**151.85**	**352**		*e*PKP1	PKPbc	15 15 46.2	+0.5
	comp=Z,10nm,0.6s								
BNI	**Bardonecchia**	**152.30**	**352**		*e*PKPdf	PKPdf	15 15 39.7	+0.3
BNI					*e*PKPbc	PKPbc	15 15 46.2	-0.5
BNI					*e*PKPab	PKPab	15 15 58.6	-0.4
RJF	**Les Rejaudoux**	**152.44**	**359**	⇑	*i*PKP1	PKPbc	15 15 46.3	-0.7
	comp=Z,13nm,0.7s								
ORIF	**Oris-en-Rattie**	**152.53**	**353**	⇑	*i*PKP1	PKPbc	15 15 46.9	-0.3
	comp=Z,10nm,0.7s								
MBDF	**Montbardon**	**152.60**	**351**	⇑	*i*PKP1	PKPbc	15 15 47.0	-0.4
	comp=Z,18nm,0.6s								
VIVF	**Saint-Julien-l**	**152.73**	**354**	⇑	*i*PKP1	PKPbc	15 15 47.3	-0.3
	comp=Z,16nm,0.8s								
LFF	**La Frestale**	**152.80**	**1**	⇑	*i*PKP1	PKPbc	15 15 47.2	-0.6
CAF	**Calviac**	**152.81**	**359**	⇑	*i*PKP1	PKPbc	15 15 47.3	-0.5
	comp=Z,11nm,0.6s								
LASF	**Ste Croix**	**153.57**	**356**		*e*PKP1	PKPbc	15 15 49.2	-0.2
	comp=Z,23nm,1.1s								
PCAB	**Cabril**	**154.78**	**16**		*e*PKPab	PKPab	15 16 10.0	+0.3
PBRG	**Braganca**	**155.01**	**14**		*e*PKPab	PKPab	15 16 10.1	-0.6
PVRL	**Vila Real**	**155.27**	**16**		*e*PKPab	PKPab	15 16 11.8	0.0
PVIS	**Viseu**	**155.75**	**17**		*e*PKPab	PKPab	15 16 13.5	-0.3
MTE	**Manteigas**	**156.14**	**17**		*e*PKPab	PKPab	15 16 15.2	-0.3
PTOM	**Tomar**	**156.61**	**19**		*e*PKPab	PKPab	15 16 17.0	-0.6
PCBR	**Castelo Branco**	**156.68**	**17**		*e*PKPab	PKPab	15 16 17.4	-0.4
ESDC	**Sonseca Array**	**157.63**	**10**		PKPab	PKPab	15 16 20.9	-1.1
	comp=Z,1.0nm,0.5s,baz=328,slow=3.9,SNR=7.7								
TORD	**Torodi Ar. Bea**	**175.48**	**187**		PKP	PKPdf	15 15 58.8	-1.2
	comp=Z,1.5nm,0.8s,baz=313,slow=1.1,SNR=10.0								

IDC 18 15:32:42.7±2.0, 967S×15973E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/13, mbtmp3.4/3, Error ellipse: s-maj=135.1km s-min=11.4km az=138.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.31**	**42**	Pn	Pg	15 32 55.1	+6.4
	1μm,0.3s,baz=206,slow=1.4,SNR=896						
HNR				Sn	Sg	15 33 00.8	+8.0
	7μm,0.3s,baz=261,slow=18,SNR=125						
WRA	**Warramunga Arr**	**26.55**	**244**	P	P	15 38 22.5	+0.2
	0.6nm,0.7s,baz=73,slow=9.8,SNR=7.3						
ASAR	**Alice Springs**	**28.32**	**237**	P	P	15 38 37.9	-0.2
	0.3nm,0.9s,baz=67,slow=8.5,SNR=3.9						
ILAR	**Eielson Array**	**84.18**	**20**	P	P	15 45 15.8	0.0
	0.2nm,0.5s,baz=258,slow=5.3,SNR=4.0						

IDC 18 15:56:52.9±1.6, 589S×15177E, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.9/14, mbtmp3.9/7, ML3.3/1, MS3.7/1, Ms1 3.7/1, ms1mx2.4/20, Error ellipse: s-maj=61.2km s-min=22.3km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.75**	**232**	Pn	Pn	15 58 21.7	+2.2
	5.7nm,0.3s,baz=37,slow=8.0,SNR=25						
PMG				Sn	Sn	15 59 21.0	-5.2
WRA	**Warramunga Arr**	**21.96**	**229**	P	P	16 01 48.2	0.0
	4.3nm,0.7s,baz=52,slow=11,SNR=19						
ASAR	**Alice Springs**	**24.66**	**222**	P	P	16 02 16.3	+1.1
	3.1nm,0.9s,baz=58,slow=8.9,SNR=42						
STKA	**Stephens Creek**	**27.55**	**199**	P	P	16 02 40.4	-1.0
	1.5nm,0.9s,baz=37,slow=16,SNR=3.2						
FITZ	**Fitzroy Crossi**	**28.24**	**242**	P	P	16 02 47.1	-0.4
	2.5nm,0.7s,baz=82,slow=12,SNR=7.0						
AFI	**Afiamalu**	**36.74**	**105**	LR	LR	16 14 42.4	
	comp=Z,125nm,21.0s,baz=333,slow=29						
MKAR	**Makanchi Array**	**80.47**	**319**	P	P	16 09 06.2	-0.4
	0.4nm,0.9s,baz=90,slow=3.0,SNR=3.2						
ILAR	**Eielson Array**	**83.55**	**22**	P	P	16 09 22.9	+0.1
	0.4nm,0.6s,baz=250,slow=5.3,SNR=5.3						
TORD	**Torodi Ar. Bea**	**149.64**	**286**	PKPbc	PKPbc	16 16 46.0	+1.6
	2.5nm,0.8s,baz=69,slow=2.3,SNR=15						

IDC 18 16:31:34.7±1.4, 221N×9678E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.5/18, mbtmp3.6/5, ML2.7/1, Error ellipse: s-maj=35.5km s-min=22.6km az=46.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.22**	**75**	Pn	Pn	16 32 14.8	+2.0
	2.0nm,0.3s,baz=282,slow=8.6,SNR=13						
PSI				Sn	Sn	16 32 40.6	-0.3
	2.6nm,0.3s,baz=254,slow=14,SNR=6.7						
WRA	**Warramunga Arr**	**42.92**	**123**	P	P	16 39 34.8	-0.3
	0.9nm,0.9s,baz=301,slow=9.1,SNR=6.2						
ASAR	**Alice Springs**	**44.34**	**128**	P	P	16 39 46.2	-0.3
	0.4nm,0.8s,baz=299,slow=8.4,SNR=6.8						
MKAR	**Makanchi Array**	**46.17**	**346**	P	P	16 40 00.7	-0.4
	1.9nm,0.7s,baz=161,slow=7.6,SNR=23						
SONM	**Songino Array**	**46.20**	**9**	P	P	16 40 00.9	-0.4
	0.5nm,0.3s,baz=180,slow=5.9,SNR=5.7						
LPAZ	**La Paz**	**159.60**	**226**	PKP	PKPdf	16 51 39.0	+3.6
	2.0nm,0.3s,baz=214,slow=7.3,SNR=18						

IDC 18 16:51:12.5±51.0, 3041S×17754E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.8/10, mbtmp3.8/3, Error ellipse: s-maj=898.4km s-min=157.5km az=97.0, North of New Zealand

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.71**	**258**	P	P	16 57 28.1	-0.9
	2.0nm,1.1s,baz=92,slow=18,SNR=3.0						
ASAR	**Alice Springs**	**39.26**	**269**	P	P	16 58 43.0	+0.3
	0.3nm,0.6s,baz=107,slow=7.0,SNR=12						
WRA	**Warramunga Arr**	**40.25**	**275**	P	P	16 58 51.7	+0.7
	1.0nm,0.4s,baz=112,slow=7.9,SNR=13						

*ISCJB **18** 16:52:35.8±1.3, 5333N×010.0×16325W±0.10, h38km±11km, mb3.7/6, Error ellipse: s-maj=16.8km s-min=8.6km az=143.2*
*IDC **18** 16:52:35.6±3.5, 5380N×16385W, h0km, mb3.7/7, mb1 3.8/10, mb1mx3.7/23, mbtmp3.7/10, ML3.2/3, Error ellipse: s-maj=83.5km s-min=16.7km az=160.0*
*NEIC **18** 16:52:36.8, 5342N×16333W, h22km, ML3.2(AEIC), After AEIC.*

ISC 18 16:52:36.4±2.3, 5341N±010×16332W±008, h23km±20km, n17, σ1§05/20, mb3.7/6, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**1.45**	**358**	P	**Pn**	**16 53 01.1**	**-0.1**
FALS				S	**Sn**	**16 53 22.0**	**+2.4**
AKUT	**Akutan**	**1.63**	**298**	P	**Pn**	**16 53 03.9**	**+0.2**
AKUT				S	**Sn**	**16 53 23.2**	**-0.7**
AKLV	**Akutan Long Va**	**1.74**	**297**	P	**Pn**	**16 53 05.3**	**+0.2**
AKLV				S	**Sn**	**16 53 26.1**	**-0.5**
UNV	**Unalaska Valle**	**1.95**	**284**	P	**Pn**	**16 53 07.5**	**-0.5**
SDPT	**Sand Point**	**2.56**	**39**	P	**Pn**	**16 53 17.2**	**+0.8**
OKCD	**Okmok Cone D**	**2.87**	**272**	P	**Pn**	**16 53 21.9**	**+1.2**
NIKO	**Nikolski**	**3.36**	**265**	P	**Pn**	**16 53 28.0**	**+0.6**
KDAK	**Kodiak Island**	**7.49**	**50**	Pn	**Pn**	**16 54 24.2**	**0.0**
	0.2nm,0.3s,baz=141,slow=13,SNR=3.2						
FX1	**Attu Island--F**	**14.11**	**277**	Pn	**Pn**	**16 55 54.5**	**-0.3**
	0.8nm,0.3s,baz=234,slow=7.4,SNR=8.7						
ILAR	**Eielson Array**	**14.12**	**30**	Pn	**Pn**	**16 55 52.6**	**-2.2**
	0.0nm,0.3s,baz=233,slow=8.9,SNR=2.8						
INK	**Inuvik**	**20.49**	**32**	P	**P**	**16 57 11.4**	**-1.3**
	0.8nm,0.5s,baz=243,slow=11,SNR=3.6						
YKA	**Yellowknife Ar**	**26.77**	**51**	P	**P**	**16 58 17.6**	**+3.2**
	0.4nm,0.5s,mb3.2,baz=272,slow=9.6,SNR=5.1						
SONM	**Songino Array**	**53.85**	**303**	P	**P**	**17 01 58.3**	**+0.8**
	0.7nm,0.8s,mb3.6,baz=40,slow=8.5,SNR=5.5						
ARCES	**ARCESS Array B**	**57.20**	**356**	P	**P**	**17 02 20.1**	**-1.5**
	3.3nm,1.0s,mb4.3,baz=20,slow=8.6,SNR=3.8						
MKAR	**Makanchi Array**	**65.66**	**317**	P	**P**	**17 03 18.3**	**-0.5**
	0.2nm,0.6s,mb3.4,baz=30,slow=7.0,SNR=3.5						
AKASG	**Malin Array Be**	**75.73**	**352**	P	**P**	**17 04 19.6**	**-0.4**
	0.3nm,0.3s,mb3.8,baz=6.0,slow=5.7,SNR=4.7						
BRTR	**Keskin Array B**	**86.09**	**347**	P	**P**	**17 05 16.4**	**+1.1**
	0.5nm,0.7s,mb3.9,baz=122,slow=1.9,SNR=3.6						

*ATH **18** 16:57:35.5, 3931N×2155E, h26km, MD3.3/6*
*NEIC **18** 16:57:35.5, 3930N×2155E, h26km, MD3.3(ATH), After ATH.*
*ISCJB **18** 16:57:37.0±0.5, 3931N±003×2158E±004, h21km±7km, Error ellipse: s-maj=5.8km s-min=4.8km az=37.2*
*CSEM **18** 16:57:36.9±0.1, 3929N×2154E, h20km, MD3.3, Error ellipse: s-maj=2.9km s-min=1.7km az=8.0*
*THE **18** 16:57:39.1, 3914N×2163E, h28km, ML3.0*

ISC 18 16:57:36.7±0.6, 3931N±004×2159E±004, h19km±5km, n19, σ1§09/27, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.42**	**156**	*e*Pg	**Pg**	**16 57 44.8**	**-0.7**
EVR				*e*Sg	**Sg**	**16 57 51.8**	**+0.3**
AGG	**Agios Georgios**	**0.65**	**116**	*e*Pg	**Pg**	**16 57 49.5**	**+0.2**
AGG				*e*Sg	**Sb**	**16 57 59.5**	**+1.5**
JAN	**Janina**	**0.67**	**302**	*e*PN	**Pb**	**16 57 48.1**	**-1.6**
JAN				*e*SN	**Sb**	**16 57 58.0**	**-0.6**
LKD	**Levkas**	**0.94**	**231**	*e*Pg	**Pg**	**16 57 55.1**	**0.0**
IGT	**Igoumenitsa**	**1.00**	**284**	*e*Pg	**Pg**	**16 57 57.0**	**+0.8**
KZN	**Kozani**	**1.01**	**8**	*e*PN	**Pn**	**16 57 55.1**	**-0.7**
KZN				*e*SN	**Sn**	**16 58 09.4**	**-0.1**
LIT	**Litokhoron**	**1.06**	**41**	*e*Pg	**Pg**	**16 57 58.8**	**+1.5**
LIT				*e*Sg	**Sg**	**16 58 14.5**	**+3.3**
XOR	**Xorichti**	**1.25**	**87**	*e*Pg	**Pg**	**16 58 00.1**	**-0.8**
XOR				*e*Sg	**Sg**	**16 58 16.2**	**-1.0**
RLS	**Riolos of Patr**	**1.25**	**184**	*e*PN	**Pn**	**16 57 59.1**	**0.0**
NEO	**Neokhori**	**1.27**	**89**	*e*PN	**Pn**	**16 58 00.1**	**+0.7**
LKR	**Lokris**	**1.28**	**120**	*e*PN	**Pn**	**16 58 00.2**	**+0.6**
VLS	**Valsamata**	**1.37**	**215**	*e*PN	**Pn**	**16 58 00.8**	**0.0**
KEK	**Kerkira**	**1.44**	**287**	*e*PN	**Pn**	**16 58 01.8**	**0.0**
FNA	**Florina**	**1.48**	**354**	*e*Pb	**Pb**	**16 58 06.1**	**+2.4**
FNA				*e*Sb	**Sb**	**16 58 26.9**	**+4.8**
PAIG	**Paliouri**	**1.73**	**68**	*e*Pb	**Pb**	**16 58 06.9**	**-1.0**
PAIG				*e*Sb	**Sb**	**16 58 28.4**	**-0.9**
GRG	**Griva**	**1.76**	**21**	*e*Pb	**Pb**	**16 58 08.8**	**+0.3**
PLG	**Polygyros**	**1.79**	**53**	*e*PB	**Pb**	**16 58 06.8**	**-2.0**
AOS	**Alonnisos**	**1.79**	**94**	*e*Pb	**Pb**	**16 58 07.7**	**-1.1**
OUR	**Ouranopolis**	**2.11**	**60**	*e*Pn	**Pn**	**16 58 13.2**	**+2.2**

IDC 18 17:15:29.2±1.7, 107S×12786E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.2/14, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=159.8km s-min=26.7km az=73.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.80**	**162**	P	Pn	17 20 01.0	-1.6
	0.1nm,0.3s,baz=340,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**23.21**	**166**	P	P	17 20 38.4	+0.6
	0.3nm,0.4s,baz=345,slow=12,SNR=9.8						
SONM	**Songino Array**	**52.18**	**342**	P	P	17 24 41.7	+0.1
	0.6nm,0.5s,baz=168,slow=7.4,SNR=4.7						

*NEIC **18** 17:32:07.8, 1730N×10139W, h20km, MD3.8(MEX), After MEX.*

MEX 18 17:32:07.8±0.8, 1730N×10139W, h20km±39km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.31**	**347**	*i* P	Pb	17 32 13.2	-1.5
ZIIG				*i* S	Sb	17 32 18.0	-1.2
CAIG	**El Cayaco**	**1.11**	**103**	*i* P	Pn	17 32 24.2	-4.0
CAIG				*i* S	Sb	17 32 37.0	-5.2
ACX	**Acapulco**	**1.48**	**107**	*i* P	Pn	17 32 31.5	-1.8
ACX				*i* S	Sn	17 32 47.0	-5.0
MEIG	**Mezcala**	**1.80**	**70**	*i* P	Pn	17 32 35.5	-2.1
MEIG				*i* S	Sn	17 32 56.7	-3.3
PLIG	**Platanillo**	**2.10**	**59**	*i* P	Pn	17 32 40.1	-1.7
PLIG				*i* S	Sn	17 33 02.2	-5.2
MOIG	**Morelia**	**2.37**	**5**	*e*P	Pn	17 32 43.7	-1.8
MOIG				*i* S	Sn	17 33 11.3	-2.6
UTMO	**Huajuapan**	**3.46**	**81**	*i* P	Pn	17 32 58.3	-2.3
UTMO				*i* S	Sn	17 33 37.5	-3.5

*BJI **18** 17:35:41.9, 086S×9726E, h15km, mB5.0, mb4.6, Ms4.5, Msz4.3*
*IDC **18** 17:35:45.1±0.5, 002N×9706E, h0km, mb4.4/20, mb1 4.5/21, mb1mx4.5/23, mbtmp4.4/21, ML3.5/1, MS3.9/8, Ms1 3.9/8, ms1mx3.7/20, Error ellipse: s-maj=17.3km s-min=12.5km az=45.0*
*ISCJB **18** 17:35:46.1±0.3, 003N±004×9709E±004, h15km, mb4.7/71, MS4.0/17, Error ellipse: s-maj=6.3km s-min=5.6km az=123.6*
*NEIC **18** 17:35:47.7±0.3, 012N×9715E, mb4.7/28, Error ellipse: s-maj=7.6km s-min=6.6km az=200.0*
*MOS **18** 17:35:49.0±1.1, 018N×9707E, h33km, mb4.9/23, Error ellipse: s-maj=13.2km s-min=7.4km az=101.4*

ISC 18 17:35:48.4±0.3, 005N±004×9712E±004, h16km, h16km±9km: pP-P, n140, σ1§29/142, mb4.7/71, MS4.0/17, 1C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.28**	**33**	Pn	**Pn**	**17 36 36.9**	**-2.2**
	5.6nm,0.3s,baz=193,slow=10,SNR=26						
PSI				Sn	**Sn**	**17 37 17.5**	**-0.2**
	7.4nm,0.3s,baz=171,slow=17,SNR=6.6						
PPI	**Padang Panjang**	**3.31**	**99**	P	**Pn**	**17 36 38.6**	**-0.9**
	403nm,0.8s						
IPM	**Ipoh**	**5.88**	**41**	P	**Pn**	**17 37 15.5**	**+0.6**
KULM	**Kulim**	**6.29**	**34**	*e*Pn	**Pn**	**17 37 19.0**	**-1.5**
KULM				*ep*P		17 37 23.9	
KGM	**Kluang**	**6.50**	**72**	P	**Pn**	**17 37 23.6**	**+0.3**
KSM	**Kuching**	**13.26**	**84**	P	**Pn**	**17 38 53.2**	**-2.8**
PALK	**Pallekele**	**17.88**	**294**	*e*P	**Pn**	**17 39 57.8**	**+1.4**
	21nm,0.9s						
CHTO	**Chiang Mai**	**18.74**	**5**	*e*P	**Pn**	**17 40 04.5**	**-2.3**
CHTO				pmax	pmax		
	comp=Z,12nm,0.9s						
CHTO	**Chiang Mai**	**18.74**	**5**	*e*P	**Pn**	**17 40 04.5**	**-2.4**
	comp=Z,12nm,0.9s						
CHTO				*e*		17 40 21.6	
NANT	**Nan**	**18.97**	**10**	P	**Pn**	**17 40 11.0**	**+1.4**
CHRT	**Chiangrai**	**19.88**	**7**	⇓P	**Pn**	**17 40 14.0**	**-6.5**
	comp=Z,118nm,0.8s						
KKM	**Kota Kinabalu**	**19.97**	**72**	P	**Pn**	**17 40 21.1**	**-0.5**
KKM	**Kota Kinabalu**	**19.97**	**72**	*e*P	**Pn**	**17 40 21.1**	**-1.5**
KKM				*ep*P	pP	17 40 24.4	-0.1
KKM				*e*		17 40 38.6	
TSM	**Tawau**	**21.16**	**78**	P	**P**	**17 40 34.2**	**+1.4**
QIZ	**Qiongzhong**	**22.62**	**33**	P	**P**	**17 40 51.8**	**+3.4**
QIZ				S	**S**	**17 44 55.8**	**-0.2**
QIZ				XS	sS	17 45 05.8	+2.2
QIZ				AMB	AMB		
	comp=Z,174nm,8.7s						
QIZ				LR	LR		
	comp=N,481nm,11.8s,MS4.3						
QIZ				LR	LR		
	comp=E,496nm,14.8s,MS4.3						
QIZ				LR	LR		
	comp=Z,442nm,12.4s,MS4.1						
QIZ	**Qiongzhong**	**22.62**	**33**	*e*P	**P**	**17 40 47.5**	**-1.0**
	comp=Z,24nm,1.0s,mb4.6						
QIZ				*ep*P		17 40 53.5	
HYB	**Hyderabad**	**25.14**	**314**	*i* P	**P**	**17 41 18.0**	**+5.3**
HYB				*e*		17 41 28.0	
KMI	**Kunming**	**25.52**	**12**	P	**P**	**17 41 18.4**	**+2.3**
KMI				AP	pP	17 41 24.0	+2.9
KMI				XP	sP	17 41 26.4	+3.3
KMI				PP		17 41 57.8	
KMI				S	**S**	**17 45 41.8**	**-1.0**
KMI				SCP	ScP	17 48 28.3	+2.4
KMI				PCS	PcS	17 48 30.6	+2.7
KMI				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.4						
KMI				AMB	AMB		
	comp=Z,202nm,6.3s						
KMI				LR	LR		
	comp=N,437nm,9.9s						
KMI				LR	LR		
	comp=E,329nm,11.2s						
KMI				LR	LR		
	comp=Z,477nm,12.4s,MS4.2						
SHL	**Shillong**	**25.87**	**349**	*e*P	**P**	**17 41 21.0**	**+1.7**
JIRN	**Jiri**	**29.39**	**340**	*e*P	**P**	**17 41 55.9**	**+5.1**
	comp=Z,23nm,0.7s,mb5.0						
GUN	**Gumba**	**29.73**	**340**	*e*P	**P**	**17 41 59.5**	**+5.7**
	comp=Z,38nm,0.7s,mb5.2						
DMN	**Daman**	**29.74**	**338**	*e*P	**P**	**17 41 59.8**	**+5.9**
	comp=Z,28nm,0.9s,mb5.0						
KKN	**Kakani**	**29.84**	**339**	*e*P	**P**	**17 41 59.6**	**+4.9**
	comp=Z,22nm,0.8s,mb4.9						
LSA	**Lhasa**	**30.03**	**350**	P	**P**	**17 42 02.3**	**+5.8**
LSA	**Lhasa**	**30.03**	**350**	*e*P	**P**	**17 41 51.3**	**-5.2**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.7						
LSA	**Lhasa**	**30.03**	**350**	*e*P	**P**	**17 41 51.3**	**-5.2**
	comp=Z,10nm,0.7s,mb4.7						
GKN	**Gorkha**	**30.27**	**338**	*e*P	**P**	**17 42 03.5**	**+4.9**
	comp=Z,20nm,0.7s,mb5.0						
KOLN	**Koldanda**	**30.47**	**336**	*e*P	**P**	**17 42 05.3**	**+5.0**
	comp=Z,22nm,0.7s,mb5.0						
CD2	**Chengdu**	**31.34**	**11**	*e*P	**P**	**17 42 08.0**	**0.0**
FITZ	**Fitzroy Crossi**	**33.33**	**124**	P	**P**	**17 42 26.2**	**+0.7**
	comp=Z,5.3nm,0.9s,mb4.5,baz=311,slow=12,SNR=6.4						
FITZ				LR	LR	17 55 49.7	
	comp=Z,82nm,19.3s,MS3.5,baz=138,slow=36						
XAN	**Xi'an**	**35.58**	**17**	P	**P**	**17 42 46.3**	**+1.3**
XAN				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.5						
XAN				LR	LR		
	comp=N,148nm,9.2s						
XAN				LR	LR		
	comp=E,318nm,13.5s						
XAN				LR	LR		
	comp=Z,351nm,14.0s,MS4.3						
LZH	**Lanzhou**	**36.40**	**9**	*e*P	**P**	**17 42 53.1**	**+1.1**
LZH				AP	pP	17 42 59.1	+2.0
LZH				XP	sP	17 43 02.0	+2.9
LZH				PP	PP	17 44 17.1	+2.3
LZH				AMB	AMB		
	comp=Z,23nm,1.4s,mb4.9						
NJ2	**Nanjing**	**37.89**	**31**	*e*P	**P**	**17 43 06.3**	**+1.7**
NJ2				AP	pP	17 43 12.5	+2.8
NJ2				XP	sP	17 43 15.0	+3.3
NJ2				PP	PP	17 44 36.4	+5.2
NJ2				S	**S**	**17 48 57.0**	**+1.7**
NJ2				XS	sS	17 49 10.0	+6.3
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,210nm,6.4s						
NJ2				LR	LR		
	comp=N,720nm,23.9s						
NJ2				LR	LR		
	comp=E,1μm,30.9s						
NJ2				LR	LR		
	comp=Z,470nm,28.2s,MS4.1						
GTA	**Gaotai**	**39.25**	**3**	*e*P	**P**	**17 43 20.4**	**+4.3**
GTA				AP	pP	17 43 27.8	+6.6
GTA				XP	sP	17 43 31.4	+8.2
GTA				AMB	AMB		
	comp=Z,2.0nm,0.9s,mb3.9						
JOW	**Kunigami**	**40.09**	**46**	LR	LR	17 58 06.1	
	comp=Z,229nm,19.6s,MS4.0,baz=125,slow=33						
WRA	**Warramunga Arr**	**41.50**	**121**	P	**P**	**17 43 34.6**	**-0.1**
	comp=Z,6.9nm,0.8s,mb4.3,baz=299,slow=9.1,SNR=17						
WRAB	**Tennant Creek**	**41.51**	**121**	*e*P	**P**	**17 43 34.9**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.6						
WRAB	**Tennant Creek**	**41.51**	**121**	*e*P	**P**	**17 43 34.9**	**+0.1**
	comp=Z,11nm,0.7s,mb4.6						
WRAB				*ep*P	pP	17 43 39.0	-0.8
WB2	**Warramunga Arr**	**41.51**	**121**	*e*P	**P**	**17 43 35.0**	**+0.2**
BTO	**Baotou**	**42.04**	**15**	*e*P	**P**	**17 43 43.1**	**+4.0**
HHC	**Hu-ho-hao-te**	**42.68**	**16**	*e*P	**P**	**17 43 45.4**	**+1.1**
HHC				AP	pP	17 43 51.4	+1.9
HHC				XP	sP	17 43 54.4	+2.9
HHC				PP	PP	17 45 28.3	+5.0
HHC				PCP	PcP	17 45 36.6	+0.6
HHC				SCP	ScP	17 49 26.3	+0.1
HHC				PCS	PcS	17 49 30.3	+2.2
HHC				S	**S**	**17 50 07.8**	**+0.9**
HHC				SCS	ScS	17 53 43.0	-2.0
HHC				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.5						
HHC				AMB	AMB		
	comp=Z,117nm,6.7s						
HHC				LR	LR		
	comp=N,298nm,14.5s,MS4.4						
HHC				LR	LR		
	comp=E,264nm,14.9s,MS4.4						
HHC				LR	LR		
	comp=Z,187nm,16.4s,MS4.1						
ASAR	**Alice Springs**	**42.77**	**126**	P	**P**	**17 43 45.4**	**+0.3**
	comp=Z,1.3nm,0.6s,mb3.8,baz=300,slow=8.0,SNR=13						
BJT	**Baijiatuan**	**43.41**	**21**	*e*P	**P**	**17 43 54.0**	**+3.8**
BJT				pmax	pmax		
	comp=Z,20nm,0.8s						
BJT	**Baijiatuan**	**43.41**	**21**	*e*P	**P**	**17 43 54.0**	**+3.8**
	comp=Z,20nm,0.8s,mb4.9						
BJI	**Beijing**	**43.43**	**21**	*e*P	**P**	**17 43 54.3**	**+3.9**
BJI				S	**S**	**17 50 31.0**	**+13**
BJI				LR	LR		
	comp=Z,92nm,31.2s,MS3.5						
WMQ	**Urumqi**	**44.39**	**350**	⇓ *i*P	**P**	**17 44 02.0**	**+3.9**
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.4						
WMQ				LR	LR		
	comp=N,85nm,21.5s,MS3.7						
WMQ				LR	LR		
	comp=E,61nm,25.8s,MS3.7						
WMQ				LR	LR		
	comp=Z,53nm,21.5s,MS3.4						
KS15	**Wonju Array Si**	**46.81

STKA	**Stephens Creek**	**52.65**	**131**	*e*P		**P**	**17 45 00.3**	**-1.4**
	comp=Z,7.9nm,0.8s,mb4.7								
STKA	**Stephens Creek**	**52.65**	**131**	P		**P**	**17 45 00.6**	**-1.1**
	comp=Z,3.9nm,0.7s,mb4.5,baz=308,slow=6.7,SNR=13								
HIA	**Hailar**	**52.75**	**18**	P		**P**	**17 45 01.8**	**-0.7**
KURK	**Kurchatov**	**52.88**	**345**	*e*P		**P**	**17 45 02.3**	**-1.1**
KURK				*e**PP	pP		17 45 07.5	-1.1
KURK					pmax	pmax			
	comp=Z,14nm,1.1s,mb4.8								
KURK	**Kurchatov**	**52.88**	**345**	*e*P		**P**	**17 45 02.3**	**-1.2**
	comp=Z,14nm,1.1s,mb4.8								
KURK				*e*pP	pP		17 45 07.5	-1.1
MDJ	**Mudanjiang**	**52.91**	**29**	P		**P**	**17 45 05.3**	**+1.7**
MDJ				AP	pP		17 45 08.4	-0.4
MDJ				PP	PP		17 47 04.8	+1.6
MDJ				SCP	ScP		17 50 11.5	+2.2
MDJ				S	**S**		**17 52 35.3**	**+3.3**
MDJ				SCS	ScS		17 54 53.8	+1.1
MDJ				AMB	AMB				
	comp=Z,4.0nm,1.0s,mb4.3								
MDJ				AMB	AMB				
	comp=Z,109nm,5.6s								
MDJ				LR	LR				
	comp=N,38nm,17.6s,MS3.9								
MDJ				LR	LR				
	comp=E,103nm,19.3s,MS3.9								
MDJ				LR	LR				
	comp=Z,116nm,15.8s,MS4.0								
CIT	**Chita**	**53.61**	**13**	*e*P		**P**	**17 45 13.6**	**+4.8**
KBD	**Kabd**	**55.31**	**306**	*e*P		**P**	**17 45 21.1**	**0.0**
RDF	**Al-Radifah**	**55.33**	**306**	*e*P		**P**	**17 45 21.4**	**+0.1**
RDF				AMb		AMB	17 45 27.2		
	comp=Z,79nm,1.0s,mb5.7								
NAY	**Al-Naaiem**	**55.70**	**306**	*e*P		**P**	**17 45 23.7**	**-0.3**
NAY				AMb		AMB	17 45 29.6		
	comp=Z,30nm,0.9s,mb5.3								
NVS	**Novosibirsk**	**55.79**	**350**	*e*P		**P**	**17 45 22.7**	**-1.9**
NVS				*i* *PP		pP	17 45 35.9	+6.0
NVS				*e*PPP			17 48 39.2		
NVS				*e*S		**S**	**17 53 02.9**	**-8.0**
NVS				pmax		pmax			
	comp=Z,17nm,1.0s,mb5.0								
NVS				pmax		pmax			
	comp=N,14nm,1.5s								
NVS				pmax		pmax			
	comp=E,10.0nm,1.4s								
NVS				smax					
	comp=N,17nm,2.0s								
NVS				smax					
	comp=E,24nm,2.0s								
MIB	**Mutribah**	**55.83**	**307**	*e*P		**P**	**17 45 25.0**	**+0.1**
MIB				AMb		AMB	17 45 30.9		
	comp=Z,95nm,0.8s								
BVA0	**Borovoye Array**	**57.31**	**341**	*i* P		**P**	**17 45 37.5**	**+2.1**
BVA0				pmax		pmax			
	comp=Z,1.0nm,0.9s,mb3.9								
KLR	**Kul'dur**	**57.32**	**26**	*e*P		**P**	**17 45 36.8**	**+1.4**
BRVK	**Borovoye**	**57.37**	**341**	*e*P		**P**	**17 45 34.3**	**-1.5**
BRVK				pmax		pmax			
	comp=Z,3.0nm,0.8s,mb4.4								
BRVK	**Borovoye**	**57.37**	**341**	*e*P		**P**	**17 45 34.3**	**-1.6**
	comp=Z,2.6nm,0.8s,mb4.3								
BRVK				*e*pP		pP	17 45 38.7	-2.4
ZRNK	**Zerenda**	**57.70**	**340**	*e*P		**P**	**17 45 36.8**	**-1.4**
ZRNK				pmax		pmax			
	comp=Z,4.0nm,0.9s,mb4.5								
ZRNK	**Zerenda**	**57.70**	**340**	*e*P		**P**	**17 45 36.8**	**-1.4**
	comp=Z,4.2nm,0.9s,mb4.5								
ZRNK				*e*pP		pP	17 45 41.0	-2.5
CHKZ	**Chkalovo**	**57.79**	**342**	*e*P		**P**	**17 45 37.0**	**-1.8**
CHKZ				*e**PP		pP	17 45 42.3	-1.8
CHKZ				*e*			17 45 51.0		
CHKZ				pmax		pmax			
	comp=Z,8.0nm,0.8s,mb4.8								
CHKZ	**Chkalovo**	**57.79**	**342**	*e*P		**P**	**17 45 37.0**	**-1.8**
	comp=Z,8.4nm,0.8s,mb4.8								
CHKZ				*e*pP		pP	17 45 42.3	-1.8
CHKZ				*e*			17 45 51.0		
AB31	**Akbulak array**	**58.49**	**332**	*i* P		**P**	**17 45 42.1**	**-1.6**
AB31				pmax		pmax			
	comp=Z,10.0nm,0.9s,mb4.8								
BOD	**Bodaibo**	**59.15**	**10**	*e*P		**P**	**17 45 47.7**	**-0.6**
BOD				pmax		pmax			
	comp=Z,6.0nm,1.0s,mb4.6								
KMBO	**Kilima Mbogo**	**59.88**	**269**	P		**P**	**17 45 53.4**	**+0.1**
	comp=Z,2.6nm,0.7s,mb4.4,baz=143,slow=10,SNR=2.4								
KMBO				LR		LR	18 06 15.2		
	comp=Z,84nm,19.4s,MS3.9,baz=88,slow=31								
KMBO	**Kilima Mbogo**	**59.88**	**269**	P		**P**	**17 45 53.4**	**+0.1**
KMBO				LR		LR	18 06 15.2		
GNI	**Garni**	**62.07**	**317**	P		**P**	**17 46 08.1**	**-0.1**
GNI				pmax		pmax			
	comp=Z,21nm,1.4s								
GNI	**Garni**	**62.07**	**317**	P		**P**	**17 46 08.1**	**-0.1**
	comp=Z,21nm,1.4s,mb5.1								
HNR	**Honiara**	**63.23**	**101**	P		**P**	**17 46 14.7**	**-1.2**
	comp=Z,12nm,0.4s,mb5.4,baz=263,slow=2.0,SNR=2.2								
HNR	**Honiara**	**63.23**	**101**	P		**P**	**17 46 11.2**	**-4.7**
ARU	**Arti**	**64.21**	**337**	*i* P		**P**	**17 46 24.0**	**+1.6**
ARU				*e*			17 48 38.0		
ARU				*e*S		**S**	**17 54 45.1**	**-14**
ARU				pmax		pmax			
	comp=Z,7.0nm,0.9s,mb4.7								
ARU	**Arti**	**64.21**	**337**	P		**P**	**17 46 24.6**	**+2.2**
	comp=Z,10nm,1.4s,mb4.7								
KIV	**Kislovodsk**	**65.13**	**320**	*e*P		**P**	**17 46 27.6**	**-0.8**
KIV				pmax		pmax			
	comp=Z,6.0nm,0.8s,mb4.7								
KIV	**Kislovodsk**	**65.13**	**320**	*e*P		**P**	**17 46 27.6**	**-0.8**
	comp=Z,6.4nm,0.8s,mb4.7								
MALT	**Malatya**	**65.84**	**313**	*e*P		**P**	**17 46 33.5**	**+0.5**
MALT				pmax		pmax			
	comp=Z,12nm,1.0s,mb4.9								
MALT	**Malatya**	**65.84**	**313**	*e*P		**P**	**17 46 33.5**	**+0.5**
	comp=Z,12nm,1.0s,mb4.9								
MALT				*e*pP		pP	17 46 37.9	-0.4
EIL	**Elat**	**66.00**	**303**	*e*P		**P**	**17 46 34.2**	**+0.2**
	comp=Z,275nm,1.0s								
EIL				*e*pP		pP	17 46 38.4	-1.0
YAK	**Yakutsk**	**66.54**	**16**	P		**P**	**17 46 37.4**	**-0.1**
YAK				pmax		pmax			
	comp=Z,31nm,1.2s,mb5.2								
YAK	**Yakutsk**	**66.54**	**16**	P		**P**	**17 46 37.4**	**-0.1**
	comp=Z,31nm,1.2s,mb5.2								
SOC	**Sochi**	**66.92**	**318**	*e*P		**P**	**17 46 33.6**	**-6.3**
SOC				*e*			17 47 12.1		
SOC				*e*			17 49 10.6		
SOC				pmax		pmax			
	comp=Z,28nm,0.8s,mb5.3								
BR131	**Keskin Array S**	**69.83**	**313**	*e*P		**P**	**17 46 57.0**	**-1.1**
	comp=Z,4.5nm,0.8s,mb4.5								
BR131				*e*pP		pP	17 47 01.4	-2.1
BRTR	**Keskin Array B**	**69.83**	**313**	P		**P**	**17 46 57.0**	**-1.1**
	comp=Z,5.7nm,0.8s,mb4.5,baz=126,slow=6.6,SNR=14								
SIM	**Simferopol'**	**71.16**	**318**	*ce*P		**P**	**17 47 10.2**	**+3.9**
SIM				pmax		pmax			
	comp=Z,28nm,0.6s,mb5.4								
MAW	**Mawson**	**71.58**	**193**	P		**P**	**17 47 08.1**	**-0.6**
	comp=Z,1.2nm,0.7s,mb3.9,baz=57,slow=17,SNR=2.9								
MAW				LR		LR	18 11 22.6		
	comp=Z,116nm,20.4s,MS4.1,baz=241,slow=30								
MAW	**Mawson**	**71.58**	**193**	P		**P**	**17 47 09.3**	**+0.5**
MAW				pmax		pmax			
	comp=Z,7.0nm,0.9s								
MAW	**Mawson**	**71.58**	**193**	P		**P**	**17 47 09.3**	**+0.6**
	comp=Z,6.9nm,0.9s,mb4.6								
MAW				*e*		pP	17 47 12.9	-1.2
LBTB	**Lobatse**	**73.31**	**244**	*e*P		**P**	**17 47 19.3**	**+0.2**
LBTB				pmax		pmax			
	comp=Z,10.0nm,0.9s,mb4.8								
LBTB	**Lobatse**	**73.31**	**244**	*e*P		**P**	**17 47 19.3**	**+0.2**
	comp=Z,9.7nm,0.9s,mb4.7								
LBTB				*e*pP		pP	17 47 23.9	-0.6
OBN	**Obninsk**	**73.56**	**329**	*e*P		**P**	**17 47 23.6**	**+3.1**
OBN				pmax		pmax			
	comp=Z,23nm,1.4s,mb4.9								
IDI	**Anoyia**	**75.52**	**306**	P		**P**	**17 47 31.0**	**-0.9**
	comp=Z,3.5nm,0.5s,mb4.6,baz=86,slow=16,SNR=4.8								
AKASG	**Malin Array Be**	**76.12**	**323**	P		**P**	**17 47 33.8**	**-1.6**
	comp=Z,19nm,0.9s,mb5.0,baz=92,slow=5.3,SNR=14								
AKASG	**Malin Array Be**	**76.12**	**323**	*i* P		**P**	**17 47 33.7**	**-1.7**
AKASG				pmax		pmax			
	comp=Z,19nm,0.9s								
MLR	**Muntele Rosu**	**76.85**	**317**	P		**P**	**17 47 38.9**	**-0.6**
	comp=Z,9.5nm,0.9s,mb4.7,baz=183,slow=3.2,SNR=6.3								
JOF	**Joensuu**	**79.15**	**335**	*ep*		**P**	**17 47 49.7**	**-2.6**
	comp=Z,3.4nm,0.8s,mb4.3								
JOF	**Joensuu**	**79.15**	**335**	*e*P		**P**	**17 47 49.7**	**-2.6**
JOF				pmax		pmax			
	comp=Z,3.0nm,0.8s,mb4.3								
KOLS	**Kolonicke sedl**	**80.04**	**320**	*e*		**P**	**17 48 01.7**	**+4.6**
TSUM	**Tsumeb**	**80.13**	**251**	P		**P**	**17 47 58.7**	**+1.1**
	comp=Z,22nm,2.0s,mb4.8								
TSUM				*e*		pP	17 48 03.0	-0.1
STHS	**Stebnicka Huta**	**80.80**	**320**	*e*P		**P**	**17 48 01.3**	**+0.1**
	comp=Z,4.9nm,0.9s,mb4.4								
STHS				*e*		pP	17 48 05.4	-1.2
KAF	**Kangasniemi**	**81.07**	**333**	*ep*		**P**	**17 48 01.2**	**-1.5**
	comp=Z,4.0nm,0.7s,mb4.5,baz=103,slow=4.9								
KAF	**Kangasniemi**	**81.07**	**333**	*e*P		**P**	**17 48 01.2**	**-1.5**
KAF				pmax		pmax			
	comp=Z,4.0nm,0.7s,mb4.5								
KECS	**Kecovo**	**81.12**	**319**	*e*P		**P**	**17 48 06.2**	**+3.3**
	comp=Z,2.4nm,0.9s,mb4.1								
ARCES	**ARCESS Array B**	**83.59**	**340**	P		**P**	**17 48 14.8**	**-1.1**
	comp=Z,1.3nm,0.7s,mb4.2,baz=95,slow=6.1,SNR=6.0								
ARCES	**ARCESS Array B**	**83.59**	**340**	P		**P**	**17 48 14.8**	**-1.1**
VNDA	**Vanda**	**84.72**	**169**	P		**P**	**17 48 20.8**	**-0.8**
	comp=Z,1.6nm,0.9s,mb4.1,baz=309,slow=6.5,SNR=2.6								
VNDA	**Vanda**	**84.72**	**169**	P		**P**	**17 48 23.0**	**+1.4**
VNDA				pmax		pmax			
	comp=Z,4.0nm,1.2s								
VNDA	**Vanda**	**84.72**	**169**	P		**P**	**17 48 23.0**	**+1.5**
	comp=Z,4.4nm,1.2s,mb4.5								
GERES	**GERESS Array B**	**85.82**	**319**	P		**P**	**17 48 24.3**	**-1.8**
	comp=Z,0.6nm,0.6s,mb4.0,baz=102,slow=17,SNR=5.8								
SBA	**Scott Base**	**85.82**	**169**	*e*P		**P**	**17 48 27.6**	**+0.5**
SBA				pmax		pmax			
	comp=Z,4.0nm,1.1s,mb4.6								
SBA	**Scott Base**	**85.82**	**169**	*e*P		**P**	**17 48 27.6**	**+0.5**
	comp=Z,4.5nm,1.1s,mb4.6								
SBA				*e*pP		pP	17 48 31.8	-0.7
HFS	**Hagfors**	**86.68**	**330**	P		**P**	**17 48 31.0**	**-0.3**
	comp=Z,6.5nm,0.9s,mb4.9,baz=77,slow=6.5,SNR=3.5								
NB2	**NORSAR Subarra**	**87.97**	**331**	P		**P**	**17 48 39.8**	**+2.3**
	comp=Z,5.9nm,1.0s,mb4.8,baz=97,slow=5.1								
NOA	**NORSAR Array B**	**87.97**	**331**	P		**P**	**17 48 37.0**	**-0.6**
	comp=Z,2.3nm,0.9s,mb4.4,baz=96,slow=4.9,SNR=4.7								
DAVOX	**Davos**	**88.07**	**317**	P		**P**	**17 48 39.5**	**+1.4**
	comp=Z,4.5nm,0.8s,mb4.7,baz=91,slow=10.0,SNR=4.4								
QSPA	**South Pole Qui**	**90.00**	**180**	P		**P**	**17 48 51.4**	**+4.4**
NVAR	**Mina Array Bea**	**129.76**	**36**	PKP		PKPdf	17 54 58.8	+2.0
	comp=Z,0.6nm,0.8s,baz=240,slow=5.1,SNR=2.4								
CPUP	**Villa Florida**	**144.10**	**221**	PKP		PKPdf	17 55 21.3	-1.9
	comp=Z,6.0nm,0.7s,baz=137,slow=5.8,SNR=6.7								
CPUP	**Villa Florida**	**144.10**	**221**	*e*PKPdf		PKPdf	17 55 21.5	-1.8
MIAR	**Mount Ida**	**144.16**	**15**	*e*PKIKP		PKPdf	17 55 25.3	+1.9
JCT	**Junction City**	**145.64**	**26**	*e*PKP2		PKPab	17 55 26.5	0.0

IDC 18 17:44:24.9±5.3, 1764S×17448W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/14, mbtmp4.0/4, ML2.3/1, Error ellipse: s-maj=226.1km s-min=31.8km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.53**	**35**	Pn	Pn	17 45 34.9	+0.2
	8.6nm,0.3s,baz=124,slow=4.2,SNR=16						
AFI				Sn	Sn	17 46 16.0	-12
	14nm,0.3s,baz=39,slow=22,SNR=10						
STKA	**Stephens Creek**	**42.05**	**242**	P	P	17 52 18.2	0.0
	0.5nm,0.6s,baz=27,slow=9.0,SNR=3.2						
WRA	**Warramunga Arr**	**48.36**	**259**	P	P	17 53 08.4	0.0
	0.3nm,0.4s,baz=96,slow=6.9,SNR=6.0						
ASAR	**Alice Springs**	**48.47**	**254**	P	P	17 53 10.0	+0.8
	3.0nm,0.5s,baz=89,slow=8.5,SNR=46						

IDC 18 17:46:23.3±3.3, 289S×14074E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/12, mbtmp3.7/4, MS3.9/1, Ms1 3.8/1, ms1mx2.6/18, Error ellipse: s-maj=100.9km s-min=27.8km az=93.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.07**	**200**	P	Pn	17 50 35.1	-0.6
	0.3nm,0.3s,baz=24,slow=12,SNR=18						
FITZ	**Fitzroy Crossi**	**21.16**	**223**	P	P	17 51 08.6	-1.4
	3.0nm,0.9s,baz=47,slow=7.6,SNR=8.3						
ASAR	**Alice Springs**	**21.69**	**197**	P	P	17 51 16.9	+1.2
	1.0nm,0.8s,baz=30,slow=9.1,SNR=8.8						
STKA	**Stephens Creek**	**28.85**	**178**	LR	LR	18 04 39.0	
	comp=Z,263nm,21.4s,baz=19,slow=38						
MKAR	**Makanchi Array**	**71.17**	**322**	P	P	17 57 44.5	+0.7
	1.1nm,0.9s,baz=118,slow=7.8,SNR=7.4						

*IDC **18** 18:02:43.6±1.4, 4346N×105.39W, h0km, mb4.1/1, mb1 3.9/6, mb1mx3.6/23, mbtmp3.7/6, ML3.7/3, MS2.8/1, Ms1 2.8/1, ms1mx2.0/26, Error ellipse: s-maj=34.8km s-min=7.5km az=153.0*

*ISCJB **18** 18:02:44.1±0.5, 4376N±004×105.19W±006, h0km, mb4.3/1, Error ellipse: s-maj=6.9km s-min=5.7km az=64.6*

*NEIC **18** 18:02:45.7±0.4, 4374N×105.19W, h0km, ML3.2, Error ellipse: s-maj=5.3km s-min=4.3km az=123.0, Suspected Mining explosion.*

NEIC 65 km [40 miles] SSE of Gillette.

ISC 18 18:02:45.6±0.5, 4377N±004×10517W±006, h0km, n34, σ0 97/35, mb4.3/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.89**	**66**	*e*Pn	**Pn**	**18 03 04.6**	**-0.7**
PHWY	**Pilot Hill**	**2.47**	**185**	*e*P	**Pn**	**18 03 26.7**	**-0.4**
RWWY	**Rawlins**	**2.56**	**217**	*e*Pn	**Pn**	**18 03 28.4**	**+0.1**
LAO	**LASA Array**	**3.02**	**346**	*e*Pn	**Pn**	**18 03 35.0**	**+0.4**
PDAR	**Pinedale Array**	**3.36**	**254**	Pn	**Pn**	**18 03 38.6**	**-0.7**
	5.4nm,0.3s,baz=69,slow=15,SNR=37						
PDAR				Pg	**Pg**	**18 03 44.5**	**-5.4**
	11nm,0.3s,baz=75,slow=19,SNR=39						
PDAR				Lg		18 04 19.7	
	4.4nm,0.3s,baz=84,slow=33,SNR=3.3						
GCMT	**Greyclift**	**3.79**	**304**	*e*Pn	**Pn**	**18 03 45.5**	**+0.3**
LKWY	**Lake**	**3.85**	**284**	*e*P	**Pn**	**18 03 47.0**	**+1.0**
LOHW	**Long Hollow**	**3.95**	**270**	*e*Pn	**Pn**	**18 03 48.5**	**+1.2**
ISCO	**Idaho Springs**	**3.98**	**185**	*e*P	**Pn**	**18 03 48.2**	**+0.4**
FLWY	**Flagg Ranch**	**4.01**	**276**	*e*Pn	**Pn**	**18 03 49.5**	**+1.2**
MOOW	**Moose Ponds**	**4.04**	**272**	*e*Pn	**Pn**	**18 03 48.9**	**+0.2**
REDW	**Red Top Meadow**	**4.15**	**266**	*e*Pn	**Pn**	**18 03 50.0**	**-0.2**
IMW	**Indian Meadow**	**4.18**	**274**	*e*Pn	**Pn**	**18 03 50.9**	**+0.4**
TPAW	**Teton Pass**	**4.21**	**268**	*e*Pn	**Pn**	**18 03 51.1**	**+0.1**
AHID	**Auburn Hatcher**	**4.45**	**259**	Pn	**Pn**	**18 03 54.2**	**0.0**
BOZ	**Bozeman (W)**	**4.98**	**294**	*e*Pn	**Pn**	**18 03 60.0**	**-1.5**
HWUT	**Hardware Ranch**	**5.19**	**248**	*e*Pn	**Pn**	**18 04 03.5**	**-0.9**
	9.5nm,0.4s						
TCUT	**Toone Canyon**	**5.32**	**242**	*e*Pn	**Pn**	**18 04 05.7**	**-0.6**
EGMT	**Eagleton**	**5.33**	**325**	*e*Pn	**Pn**	**18 04 06.5**	**+0.1**
	13nm,0.4s						
HRY	**Holter Researc**	**5.55**	**304**	*e*Pn	**Pn**	**18 04 09.3**	**-0.1**
DAU	**Daniels Canyon**	**5.63**	**236**	*e*Pn	**Pn**	**18 04 09.7**	**-0.9**
PV10	**Paradox Valley**	**6.13**	**210**	*e*Pn	**Pn**	**18 04 18.1**	**+0.7**
SRU	**San Rafael**	**6.15**	**223**	*e*Pn	**Pn**	**18 04 16.2**	**-1.5**
	17nm,0.6s						
PV01	**Paradox Valley**	**6.19**	**206**	*e*Pn	**Pn**	**18 04 18.4**	**+0.3**
TMUT	**Trail Mountain**	**6.36**	**227**	*e*Pn	**Pn**	**18 04 20.6**	**+0.1**
CHMT	**Chamberlain Mo**	**6.51**	**302**	*e*Pn	**Pn**	**18 04 22.4**	**-0.2**
MSU	**Marysvale**	**7.45**	**228**	*e*Pn	**Pn**	**18 04 35.2**	**-0.3**
MSU				Pg	**Pb**	**18 04 57.2**	**+1.6**
ULM	**Lac du Bonnet**	**9.07**	**41**	Pn	**Pn**	**18 04 57.8**	**+0.1**
	2.8nm,0.3s,baz=232,slow=13,SNR=18						
ULM				Lg		18 07 33.1	
	0.3nm,0.3s,baz=303,slow=17,SNR=2.6						
NVAR	**Mina Array Bea**	**11.25**	**246**	Pn	**Pn**	**18 05 23.6**	**-4.0**
	0.0nm,0.3s,baz=70,slow=12,SNR=2.2						
BBB	**Bella Bella**	**17.46**	**307**	LR	LR	18 14 04.8	
	comp=Z,32nm,19.6s,baz=155,slow=39						
SADO	**Sadowa**	**18.64**	**78**	P	**Pn**	**18 07 06.5**	**+1.4**
SADO	**Sadowa**	**18.64**	**78**	P	**Pn**	**18 07 06.5**	**+1.4**
	0.2nm,0.3s,baz=304,slow=18,SNR=3.0						
YKA	**Yellowknife Ar**	**19.56**	**347**	P	**Pn**	**18 07 15.8**	**-0.2**
	baz=154,slow=11,SNR=4.7						
ARCES	**ARCESS Array B**	**61.37**	**18**	P	**P**	**18 13 02.1**	**-1.1**
	1.3nm,0.5s,mb4.3,baz=335,slow=6.0,SNR=11						

*NNC **18** 18:03:45.0±2.5, 42.14N×76.16E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=17.2km s-min=13.9km az=1.0*

KNET 18 18:03:44.4±0.5, 4212N×7610E, h9km±2km, ml2.2, 17C-10D, Error ellipse: s-maj=3.4km s-min=2.3km az=151.0, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**0.17**	**41**	⇓P	Pg	18 03 48.0	+0.1
	108nm,0.1s,SNR=948						
ULHL				⇓S	Sg	18 03 50.9	+0.5
	833nm,0.2s						
ULHL	**Ulahol**	**0.17**	**41**	P	Pg	18 03 47.9	0.0
	SNR=948						
KZA	**Kyzart**	**0.63**	**266**	⇑P	Pg	18 03 56.8	+0.2
	37nm,0.2s,SNR=229						
KZA				⇑S	Sg	18 04 06.2	+1.4
	40nm,0.1s						
KZA	**Kyzart**	**0.63**	**266**	P	Pg	18 03 56.8	+0.2
	SNR=229						
TKM2	**Tokmak 2**	**0.88**	**335**	⇑P	Pg	18 04 01.9	+0.5
	32nm,0.2s,SNR=59						
TKM2				⇓S	Sg	18 04 15.3	+2.5
	46nm,0.1s						
TKM2	**Tokmak 2**	**0.88**	**335**	P	Pg	18 04 01.9	+0.6
	SNR=59						
TKM2	**Tokmak 2**	**0.88**	**335**	⇓P	Pg	18 04 01.9	+0.5
	0.3nm,0.2s						
TKM2				⇑S	Sg	18 04 15.0	+2.1
	0.4nm,0.3s						
KBK	**Karagaybulak**	**1.00**	**303**	⇓P	Pg	18 04 04.4	+0.7
	16nm,0.1s,SNR=13						
KBK				⇑S	Sg	18 04 19.0	+2.2
	81nm,0.2s						
KBK	**Karagaybulak**	**1.00**	**303**	P	Pg	18 04 04.3	+0.6
	SNR=13						
UCH	**Uchtor**	**1.18**	**276**	⇑P	Pb	18 04 06.8	-0.2
	5.4nm,0.1s,SNR=36						
UCH				⇓S	Sb	18 04 24.1	+1.7
	18nm,0.2s						
UCH	**Uchtor**	**1.18**	**276**	P	Pb	18 04 06.9	-0.1
	SNR=36						
KNDC	**Almaty**	**1.27**	**30**	⇑P	Pn	18 04 08.2	-0.1
	7.5nm,0.3s						
KNDC				⇑S	Sb	18 04 26.8	+1.8
	19nm,0.2s						
AAK	**Ala-Archa**	**1.29**	**294**	⇓P	Pn	18 04 09.2	+0.6
	9.4nm,0.1s,SNR=15						
AAK				⇑S	Sb	18 04 26.8	+1.2
	62nm,0.2s						
AAK	**Ala-Archa**	**1.29**	**294**	P	Pn	18 04 09.2	+0.6
	SNR=15						
CHMS	**Chumysh**	**1.32**	**312**	⇑P	Pn	18 04 10.2	+1.1
	5.8nm,0.1s,SNR=9.7						
CHMS				⇑S	Sb	18 04 28.7	+2.1
	21nm,0.2s						
CHMS	**Chumysh**	**1.32**	**312**	P	Pn	18 04 10.3	+1.2
	SNR=9.7						
USP	**Ospenovka**	**1.64**	**315**	⇓P	Pn	18 04 15.8	+2.3
	8.8nm,0.2s,SNR=8.4						
USP				⇑S	Sn	18 04 38.5	+3.8
	22nm,0.1s						
USP	**Ospenovka**	**1.64**	**315**	P	Pn	18 04 15.7	+2.3
	SNR=8.4						
AML	**Almayashu**	**1.79**	**271**	⇑P	Pn	18 04 18.0	+2.5
	12nm,0.2s,SNR=38						
AML				⇑S	Sn	18 04 42.6	+4.4
	19nm,0.2s						
AML	**Almayashu**	**1.79**	**271**	P	Pn	18 04 18.1	+2.6
	SNR=38						
EKS2	**Erkin-Say**	**1.80**	**288**	⇑P	Pn	18 04 19.1	+3.5
	3.6nm,0.2s,SNR=9.1						
EKS2				⇓S	Sn	18 04 44.2	+5.6
	12nm,0.2s						
EKS2	**Erkin-Say**	**1.80**	**288**	P	Pn	18 04 19.3	+3.6
	SNR=9.1						
KK31	**Karatay Array**	**4.24**	**285**	⇑Pg	Pg	18 05 06.4	+0.9
	0.3nm,0.3s,baz=92,slow=15,SNR=10						
KK31				Lg		18 05 58.8	
	1.7nm,0.5s,baz=100,slow=28,SNR=11						
MK02	**Makanchi Array**	**6.43**	**42**	⇓Lg		18 07 01.3	
	1.6nm,0.9s,baz=222,slow=27						
KURK	**Kurchatov**	**8.77**	**11**	⇑Lg		18 08 23.2	
	2.3nm,1.8s						

IDC 18 18:06:43.5±1.4, 329N×10144E, h0km, mb3.2/3, mb1 3.3/4, mb1mx3.2/17, mbtmp3.1/4, ML2.3/1, Error ellipse: s-maj=45.4km s-min=25.4km az=36.0, Malay Peninsula

| Code | Station Name | Δ° | AZ° | Phase ID | | Time | Res |
|---|---|---

σ0$95/12, **4C-1D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.74**	**35**	*e*PN	**Pn**	**18 17 19.0**	**-1.7**
XRY				*e*SN	**Sg**	**18 17 29.0**	**+0.9**
NPS	**Neapolis**	**1.05**	**20**	*e*PN	**Pn**	**18 17 24.0**	**-1.0**
NPS				*e*SN	**Sn**	**18 17 39.0**	**-0.7**
VAM	**Vamos**	**1.39**	**325**	*e*PN	**Pn**	**18 17 30.5**	**+0.9**
KARP	**Karpathos**	**2.07**	**52**	*e*PN	**Pn**	**18 17 41.0**	**+2.0**
SLUM		**2.77**	**179⇓**	*e*P	**Pn**	**18 17 49.1**	**+0.4**
SWA1		**5.01**	**175** ⇑	P	**Pn**	**18 18 19.8**	**+0.2**
SWA1				S	**Sn**	**18 19 08.7**	**-8.8**
SWA2		**5.02**	**177⇑**	*e*P	**Pn**	**18 18 19.5**	**0.0**
HBRG	**Burj al 'Arab**	**5.40**	**132** ⇑	P	**Pn**	**18 18 24.7**	**-0.1**
HFRF	**Wahat Farafira**	**7.60**	**158** ⇑	P	**Pn**	**18 18 54.3**	**-0.7**

BJI ***18*** *18:26:18.1, 32.35S×72.19W, h10km, mB4.9, Ms5.1, Msz4.9*
IDC ***18*** *18:26:18.3±0.7, 32.44S×71.78W, h0km, mb4.7/10, mb1 4.7/14, mb1mx4.5/18, mbtmp4.6/14, ML4.4/4, MS4.1/10, Ms1 4.1/10, ms1mx3.8/22, Error ellipse: s-maj=24.3km s-min=17.4km az=99.0*
MOS ***18*** *18:26:19.8±1.6, 32.45S×71.65W, h10km, mb5.2/4, Error ellipse: s-maj=18.6km s-min=10.8km az=89.0*
NEIC ***18*** *18:26:20.1±0.4, 32.43S×71.98W, h10km, mb4.8/12, ML4.9(GUC), Error ellipse: s-maj=8.8km s-min=4.7km az=63.0*
NEIC Felt [IV] at Papudo; [III] at Petorca, Rancagua, Santiago, Valparaiso and Vina del Mar; [II] at San Antonio and San Felipe.
HRVD ***18*** *18:26:20.1±0.7, 32.34S×72.14W, h24km±2km, MW5.0/28, Centroid moment Tensor Solution. LP body waves: s14,c16;Mantle waves: s28,c30; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.29±.47; Mθθ-0.17±.28; Mϕϕ-3.13±.28; Mrθ0.85±.55; Mθϕ-0.07±.17; Mϕr-3.11±.50; Best double couple: M♣4.54500×10^16 NP1:ϕs170.00000°,δ24.00000°,λ109.00000°. NP2: ϕs170.00000°,δ68.00000°,λ82.00000°. Principal axes: T 4.6850, Plg66.0000°, Azm66.0000°; N -0.2890, Plg7.0000°, Azm173.0000°; P -4.4050, Plg22.0000°, Azm266.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISCJB ***18*** *18:26:21.3±0.8, 32.45S±003×7201W±005, h26km±5km, mb4.6/19, MS4.2/6 Error ellipse: s-maj=7.7km s-min=3.7km az=134.1*
GUC ***18*** *18:26:22.6±1.0, 32.47S×71.85W, h13km±3km, ML4.9*
ISC 18 18:26:21.7±0.8, **3244S**±003×**7194W**±005, **h18**km±4km, **n111**, **σ1$00/92**, **mb4.6**/19, **MS4.2/6**, **15C-9D**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.44**	**103** ⇑	*i*P	**Pg**	**18 26 30.8**	**+0.2**
IHA	**Instituto Hidr**	**0.63**	**157** ⇓	*i*P	**Pg**	**18 26 34.0**	**-0.2**
IHA				*i*S	**Sg**	**18 26 42.6**	**0.0**
CHNG	**Los Chungos**	**0.67**	**34** ⇓	*i*P	**Pb**	**18 26 34.9**	**+0.1**
CHNG				*i*S	**Sb**	**18 26 44.3**	**+0.5**
ROCH	**El Roble**	**0.94**	**124** ⇑	*i*P	**Pb**	**18 26 39.0**	**-0.5**
LCCH	**Las Cruces**	**1.08**	**163** ⇑	*i*P	**Pb**	**18 26 41.2**	**-0.6**
JACH	**Jahuel**	**1.16**	**102** ⇑	*i*P	**Pn**	**18 26 42.2**	**-0.9**
RCDM	**Rinconada Maip**	**1.41**	**138**	*e*P	**Pn**	**18 26 46.1**	**-0.4**
RCDM				*i*S	**Sn**	**18 27 03.8**	**-0.9**
RCDM				AML	AML	18 27 06.1	
	comp=E,30μm,0.7s						
RCDM	**Rinconada Maip**	**1.41**	**138** ⇓	*i*P	**Pn**	**18 26 46.5**	**-0.1**
RCDM				*i*S	**Sn**	**18 27 03.8**	**-0.9**
TACH	**Talagante**	**1.47**	**145** ⇑	*i*P	**Pn**	**18 26 47.3**	**-0.1**
SAN	**Santiago**	**1.47**	**133**	*e*P	**Pn**	**18 26 47.3**	**0.0**
SAN				*i*S	**Sn**	**18 27 05.8**	**-0.3**
SAN				AML	AML	18 27 19.1	
	comp=E,19μm,0.1s						
SAN	**Santiago**	**1.47**	**133**	*e*P	**Pn**	**18 26 47.3**	**0.0**
SAN				*i*S	**Sn**	**18 27 05.8**	**-0.3**
STL	**Santa Lucia**	**1.48**	**133**	*e*P	**Pn**	**18 26 46.7**	**-0.7**
STL				*i*S	**Sn**	**18 27 05.4**	**-0.8**
STL				AML	AML	18 27 10.1	
	comp=E,19μm,0.5s						
DSCH	**Colegio Aleman**	**1.50**	**130**	*i*P	**Pn**	**18 26 47.1**	**-0.6**
DSCH				*i*S	**Sn**	**18 27 06.0**	**-0.8**
CMCH	**Combarbala**	**1.50**	**33** ⇓	*i*P	**Pn**	**18 26 47.6**	**0.0**
CMCH				*i*S	**Sn**	**18 27 07.5**	**+0.7**
CMCH				AML	AML	18 27 13.5	
	comp=N,96μm,0.6s						
CLCH	**Cerro Calan**	**1.52**	**129** ⇓	*i*P	**Pn**	**18 26 48.0**	**+0.1**
CLCH				*i*S	**Sn**	**18 27 06.9**	**-0.3**
CLCH				AML	AML	18 27 11.3	
	comp=E,47μm,0.3s						
CLCH				AML	AML	18 27 12.4	
	comp=N,54μm,0.5s						
FSR	**Penalolen**	**1.57**	**131**	*e*P	**Pn**	**18 26 49.0**	**+0.3**
FSR				*i*S	**Sn**	**18 27 08.4**	**-0.2**
FSR				AML	AML	18 27 15.4	
	comp=N,50μm,0.3s						
FCH	**Farellones**	**1.65**	**123** ⇓	*i*P	**Pn**	**18 26 49.9**	**+0.2**
FCH				*i*S	**Sn**	**18 27 11.2**	**+0.8**
FCH				AML	AML	18 27 13.3	
	comp=E,24μm,0.4s						
PCH	**Pirque**	**1.68**	**135** ⇑	*i*P	**Pn**	**18 26 50.5**	**+0.3**
PCH	**Pirque**	**1.68**	**135** ⇑	*i*P	**Pn**	**18 26 50.5**	**+0.3**
SJCH	**San Jose de Ma**	**1.79**	**132**	*e*P	**Pn**	**18 26 51.7**	**0.0**
SJCH				*i*S	**Sn**	**18 27 14.1**	**+0.1**
SJCH				AML	AML	18 27 18.9	
	comp=E,10μm,0.5s						
CHCH	**Chadas Angostu**	**1.84**	**144** ⇑	*i*P	**Pn**	**18 26 53.0**	**+0.6**
CHCH	**Chadas Angostu**	**1.84**	**144** ⇓	*i*P	**Pn**	**18 26 53.0**	**+0.7**
YECH	**El Yeso**	**1.98**	**129** ⇑	*i*P	**Pn**	**18 26 55.4**	**+1.1**
YECH				*i*S	**Sn**	**18 27 20.9**	**+2.3**
YECH				AML	AML	18 27 29.4	
	comp=N,7μm,0.5s						
CACH	**El Canelo**	**2.01**	**146** ⇑	*i*P	**Pn**	**18 26 56.1**	**+1.3**
LMEL	**Las Melosas**	**2.02**	**134** ⇑	*i*P	**Pn**	**18 26 55.9**	**+1.0**
LMEL				*i*S	**Sn**	**18 27 21.2**	**+1.5**
LMEL				AML	AML	18 27 27.3	
	comp=N,19μm,0.4s						
LMEL	**Las Melosas**	**2.02**	**134** ⇑	*i*P	**Pn**	**18 26 55.9**	**+1.0**
LMEL				*i*S	**Sn**	**18 27 21.2**	**+1.5**
CICH	**Cipreses**	**2.26**	**146** ⇓	*i*P	**Pn**	**18 26 59.2**	**+1.0**
TLL	**Tololo Astrono**	**2.47**	**23** ⇑	*i*P	**Pn**	**18 27 01.9**	**+0.8**
TLL				*i*S	**Sn**	**18 27 36.0**	**+5.2**
TLL				AML	AML	18 27 42.3	
	comp=E,19μm,0.5s						
TLL	**Tololo Astrono**	**2.47**	**23**	P	**Pn**	**18 27 01.9**	**+0.8**
TLL				*i*S	**Sn**	**18 27 36.0**	**+5.2**
CFAA	**Coronel Fontan**	**3.25**	**76**	Pn	**Pn**	**18 27 14.1**	**+2.3**
	comp=E,11nm,0.3s,baz=250,slow=12,SNR=193						
CFAA				Lg		18 27 58.5	
	comp=E,87nm,0.3s,baz=138,slow=17,SNR=19						
CFAA				LR	LR	18 28 43.5	
	comp=E,638nm,19.0s,baz=182,slow=47						
PLCA	**Paso Flores**	**8.35**	**173**	LR	LR	18 31 48.6	
	comp=E,774nm,18.6s,baz=351,slow=40						
PLCA	**Paso Flores**	**8.35**	**173**	*e*P	**Pn**	**18 28 21.7**	**-0.1**
PLCA				pmax	pmax		
	comp=E,16nm,0.7s						
PLCA	**Paso Flores**	**8.35**	**173**	*e*P	**Pn**	**18 28 21.7**	**-0.1**
	comp=Z,16nm,0.7s						
TRQA	**Tornquist**	**9.88**	**127**	*e*P	**Pn**	**18 28 42.2**	**-0.7**
	comp=Z,83nm,0.9s						
LVC	**Limon Verde**	**10.15**	**16**	Pn	**Pn**	**18 28 43.2**	**-3.3**
	comp=Z,0.5nm,0.3s,baz=201,slow=11,SNR=11						
LVC				Lg		18 31 30.2	
	comp=Z,16nm,0.3s,baz=329,slow=22,SNR=7.5						
LVC				LR	LR	18 32 44.0	
	comp=Z,1μm,20.9s,baz=211,slow=38						
LVC	**Limon Verde**	**10.15**	**16**	*e*P	**Pn**	**18 28 42.4**	**-4.1**
	comp=Z,37nm,0.8s						
CPUP	**Villa Florida**	**14.11**	**68**	Pn	**Pn**	**18 29 38.1**	**-2.6**
	comp=Z,1.2nm,0.3s,baz=221,slow=11,SNR=7.3						
CPUP				Sn	**Sn**	**18 32 13.5**	**-3.3**
	comp=Z,0.6nm,0.3s,baz=245,slow=15,SNR=2.3						
CPUP				Lg		18 33 28.2	
	comp=Z,7.3nm,0.3s,baz=316,slow=14,SNR=3.2						
CPUP				LR	LR	18 35 46.2	
	comp=Z,931nm,18.1s,baz=233,slow=41						
CPUP	**Villa Florida**	**14.11**	**68**	*e*P	**Pn**	**18 29 37.3**	**-3.4**
CPUP				pmax	pmax		
	comp=Z,76nm,0.6s						
CPUP	**Villa Florida**	**14.11**	**68**	*e*P	**Pn**	**18 29 37.3**	**-3.3**
	comp=Z,76nm,0.6s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**16.45**	**13**	Pn	**Pn**	**18 30 12.0**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=184,slow=9.7,SNR=42						
LPAZ				Sn	**Sn**	**18 33 26.1**	**+12**
	comp=Z,0.1nm,0.3s,baz=277,slow=15,SNR=1.8						
LPAZ	**La Paz**	**16.45**	**13**	*e*P	**Pn**	**18 30 12.2**	**+0.6**
LPAZ				pmax	pmax		
	comp=Z,32nm,0.9s						
LPAZ	**La Paz**	**16.45**	**13**	*e*P	**Pn**	**18 30 12.2**	**+0.6**
	comp=Z,32nm,0.9s						
SIV	**San Ignacio**	**19.12**	**34**	P	**Pn**	**18 30 42.0**	**-2.5**
	comp=Z,0.3nm,0.3s,baz=225,slow=12,SNR=39						
SIV				Lg		18 36 24.5	
	comp=Z,0.2nm,0.3s,baz=90,slow=20,SNR=2.1						
USHA	**Ushuaia**	**22.52**	**175**	P	**P**	**18 31 16.5**	**-3.9**
	comp=Z,12nm,0.9s,mb4.3,baz=328,slow=9.5,SNR=2.0						
USHA				LR	LR	18 40 46.9	
	comp=Z,444nm,18.9s,MS3.9,baz=20,slow=39						
SAML	**Samuel**	**24.75**	**21**	*e*P	**P**	**18 31 40.5**	**-1.6**
	comp=Z,24nm,1.1s,mb4.6						
ATAH	**Atahualpa**	**26.02**	**345**	LR	LR	18 41 06.6	
	comp=Z,184nm,18.2s,MS3.6,baz=119,slow=34						
BDFB	**Brasilia**	**27.42**	**58**	P	**P**	**18 32 04.8**	**-1.5**
	comp=Z,47nm,1.1s,mb4.9,baz=241,slow=7.3,SNR=31						
BDFB				LR	LR	18 43 21.1	
	comp=Z,558nm,20.5s,MS4.1,baz=230,slow=38						
OTAV	**Otavalo**	**33.08**	**348**	P	**P**	**18 32 58.2**	**+1.8**
	comp=Z,1.4nm,0.7s,mb4.0						
SDV	**Santo Domingo**	**41.11**	**2**	P	**P**	**18 34 04.7**	**+0.1**
	comp=Z,4.7nm,0.9s,mb4.1,baz=207,slow=4.0,SNR=4.2						
SDV	**Santo Domingo**	**41.11**	**2**	*e*P	**P**	**18 34 05.1**	**+0.6**
	comp=Z,3.7nm,0.7s,mb4.1						
SNAA	**Sanae**	**52.99**	**158**	P	**P**	**18 35 36.7**	**-0.6**
	comp=Z,2.9nm,0.9s,mb4.2,baz=275,slow=5.3,SNR=11						
RKT	**Rikitea**	**55.84**	**263**	*e*S	**S**	**18 43 45.0**	**+0.5**
	comp=Z,130nm,33.8s						
RKT				*e*LR	LR	18 52 17.8	
	comp=Z,215nm,25.2s						
QSPA	**South Pole Qui**	**57.79**	**180**	*e*P	**P**	**18 36 12.2**	**+0.4**
	comp=Z,14nm,0.9s,mb5.0						
SYO	**Syowa Base**	**67.28**	**159** ⇓	*e*P	**P**	**18 37 13.9**	**-1.3**
SYO	**Syowa Base**	**67.28**	**159** ⇑	*e*pP	pP	18 37 16.3	-4.7
TBI	**Tubuai**	**67.77**	**256**	*e*LR	LR	18 57 50.8	
	comp=Z,364nm,26.2s						
WVT	**Waverly**	**69.82**	**346**	*e*P	**P**	**18 37 30.6**	**-0.5**
WVT				*e**PP	pP	18 37 37.3	+0.4
WVT				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
WVT	**Waverly**	**69.82**	**346**	*e*P	**P**	**18 37 30.6**	**-0.5**
	comp=Z,11nm,0.9s,mb4.8						
WVT				*e*pP	pP	18 37 37.3	+0.5
PPT	**Papeete**	**70.56**	**261**	*e*LR	LR	18 59 03.1	
	comp=Z,142nm,23.2s						
PPT	**Papeete**	**70.56**	**261**	LR	LR	18 59 41.9	
	comp=Z,342nm,18.5s,MS4.6,baz=182,slow=28						
DBIC	**Dimbokro**	**74.61**	**72**	P	**P**	**18 37 58.5**	**-1.2**
	comp=Z,22nm,0.7s,mb5.2,baz=205,slow=6.2,SNR=24						
DBIC				LR	LR	19 11 45.8	
	comp=Z,124nm,18.1s,MS4.2,baz=198,slow=37						
DBIC	**Dimbokro**	**74.61**	**72**	*e*P	**P**	**18 37 58.8**	**-0.9**
DBIC				pmax	pmax		
	comp=Z,19nm,0.7s						
DBIC	**Dimbokro**	**74.61**	**72**	*e*P	**P**	**18 37 58.8**	**-0.9**
	comp=Z,20nm,0.7s,mb5.1						
MAW	**Mawson**	**74.65**	**164**	P	**P**	**18 37 59.2**	**-0.8**
	comp=Z,10nm,1.0s,mb4.7,baz=229,slow=7.1,SNR=8.0						
MAW				LR	LR	19 13 20.5	
	comp=Z,188nm,18.8s,MS4.4,baz=338,slow=38						
MAW	**Mawson**	**74.65**	**164**	*e*P	**P**	**18 37 58.1**	**-1.8**
MAW				pmax	pmax		
	comp=Z,13nm,1.0s						
MAW	**Mawson**	**74.65**	**164**	*e*P	**P**	**18 37 58.1**	**-1.9**
	comp=Z,13nm,1.0s,mb4.8						
SMCO	**Snowmass**	**78.33**	**333**	*e*P	**P**	**18 38 22.4**	**+1.6**
	comp=Z,8.2nm,1.0s,mb4.6						
TSUM	**Tsumeb**	**79.56**	**106**	*e*P	**P**	**18 38 27.7**	**+0.1**
	comp=Z,13nm,1.2s,mb4.7						
TSUM				*e*		18 38 36.8	
PDAR	**Pinedale Array**	**82.41**	**333**	P	**P**	**18 38 43.6**	**+0.9**
	comp=Z,0.5nm,0.8s,mb3.5,baz=168,slow=6.5,SNR=3.6						
NVAR	**Mina Array Bea**	**82.66**	**325**	P	**P**	**18 38 44.7**	**+0.6**
	comp=Z,1.1nm,0.9s,mb3.9,baz=138,slow=6.3,SNR=5.7						
NVAR	**Mina Array Bea**	**82.66**	**325**	P	**P**	**18 38 44.7**	**+0.6**
ELK	**Elko**	**83.08**	**328**	*e*P	**P**	**18 38 46.9**	**+0.7**
ELK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ELK	**Elko**	**83.08**	**328**	*e*P	**P**	**18 38 46.9**	**+0.7**
	comp=Z,3.1nm,1.1s,mb4.2						
TORD	**Torodi Ar. Bea**	**83.60**	**70**	P	**P**	**18 38 48.5**	**-0.4**
	comp=Z,18nm,0.8s,mb5.2,baz=256,slow=4.7,SNR=87						
ULM	**Lac du Bonnet**	**85.02**	**345**	P	**P**	**18 38 54.7**	**-1.4**
	comp=Z,3.9nm,0.8s,mb4.6,baz=166,slow=3.1,SNR=8.6						
SCHQ	**Schefferville**	**87.03**	**3**	P	**P**	**18 39 04.5**	**-1.6**
	comp=Z,6.0nm,1.0s,mb4.8,baz=178,slow=3.4,SNR=4.5						
LSZ	**Lusaka**	**90.21**	**108**	*e*P	**P**	**18 39 22.6**	**+1.5**
LSZ				*e**PP	pP	18 39 31.4	+4.4
LSZ				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb5.1						
LSZ	**Lusaka**	**90.21**	**108**	*e*P	**P**	**18 39 22.6**	**+1.5**
	comp=Z,9.6nm,1.1s,mb5.0						
LSZ				*e*pP	pP	18 39 31.4	+4.3
CLL	**Collm**	**111.64**	**42**	*e*PKiKP	PKiKP	18 44 53.0	-2.1
ASAR	**Alice Springs**	**118.99**	**207**	PKP	PKPdf	18 45 08.6	-0.7
	comp=Z,0.5nm,0.6s,baz=178,slow=3.8,SNR=4.9						
BRTR	**Keskin Array B**	**121.00**	**60**	PKP	PKPdf	18 45 12.2	-0.8
	comp=Z,1.2nm,0.8s,baz=177,slow=4.6,SNR=7.7						
AKASG	**Malin Array Be**	**121.07**	**47**	PKP	PKPdf	18 45 11.1	-2.1
	comp=Z,0.3nm,0.4s,baz=260,slow=3.5,SNR=5.9						
WRA	**Warramunga Arr**	**122.16**	**209**	PKP	PKPdf	18 45 14.4	-1.0
	comp=Z,1.2nm,0.8s,baz=158,slow=1.7,SNR=10.0						
ZRNK	**Zerenda**	**145.32**	**42**	*e*PKiKP	PKPdf	18 45 57.9	-0.5
CHKZ	**Chkalovo**	**145.95**	**40**	PKP2	PKPab	18 45 59.2	-1.5
CHKZ				pmax	pmax		
	comp=Z,25nm,1.2s						
BVA0	**Borovoye Array**	**146.07**	**41**	*i* PKP2	PKPab	18 45 59.8	-1.3
BVA0				pmax	pmax		
	comp=Z,4.0nm,1.6s						
YAK	**Yakutsk**	**147.29**	**341**	*e*PKP2	PKPab	18 46 03.3	-2.6
YAK				pmax	pmax		
	comp=Z,15nm,0.8s						
YAK				pmax	pmax		
	comp=N,2.0nm,1.4s						
YAK	**Yakutsk**	**147.29**	**341**	*e*PKPdf	PKPdf	18 46 01.6	-0.1
KKAR	**Karatay Array**	**148.71**	**59**	*i* PKP2	PKPab	18 46 06.3	-5.2
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HYB	**Hyderabad**	**149.47**	**112** ⇑	*i* PKP	PKPbc	18 46 09.5	-0.3
EKS2	**Erkin-Say**	**151.14**	**59**	P	PKPbc	18 46 14.2	+0.4
	SNR=17						
AML	**Almaashu**	**151.16**	**61**	P	PKPbc	18 46 14.8	+0.9
	SNR=12						
USP	**Ospenovka**	**151.56**	**58**	P	PKPbc	18 46 15.1	+0.4
	SNR=5.7						
NVS	**Novosibirsk**	**151.57**	**31**	*i* PKIKP	PKPdf	18 46 12.7	+4.2
NVS				*e*		18 46 22.5	
NVS				pmax	pmax		
	comp=Z,20nm,1.0s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.2s						
AAK	**Ala-Archa**	**151.67**	**59**	P	PKPbc	18 46 15.6	+0.6
	SNR=13						
FRU	**Bishkek**	**151.72**	**59**	*e*PKIKP	PKPbc	18 46 15.0	-0.1
FRU				*e*		18 46 24.0	
UCH	**Uchtor**	**151.75**	**60**	P	PKPbc	18 46 16.2	+1.0
	SNR=18						
KBK	**Karagaybulak**	**152.00**	**59**	P	PKPbc	18 46 16.1	+0.4
	SNR=6.6						
KZA	**Kyzart**	**152.32**	**60**	P	PKPbc	18 46 17.2	+0.7
	SNR=8.9						
TKM2	**Tokmak 2**	**152.41**	**58**	P	PKPbc	18 46 16.8	+0.1
	SNR=8.4						
ULHL	**Ulahol**	**153.01**	**60**	P	PKPbc	18 46 18.9	+0.9
	SNR=11						
BOD	**Bodaibo**	**154.30**	**353**	*e*PKIKP	PKPbc	18 46 18.6	-2.2
BOD				*e*		18 46 33.1	
BOD				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MKAR	**Makanchi Array**	**155.66**	**46**	PKP	PKPdf	18 46 12.8	-1.6
	comp=Z,0.8nm,0.8s,baz=241,slow=1.2,SNR=6.4						
MKAR				PKPab	PKPab	18 46 39.5	-1.1
	comp=Z,5.1nm,0.7s,baz=298,slow=4.0,SNR=25						
MDJ	**Mudanjiang**	**159.30**	**312**	PKP	PKPdf	18 46 19.0	+0.1
WMQ	**Urumqi**	**160.42**	**49**	PKP	PKPdf	18 46 19.6	-0.6
WMQ				XPKP		18 46 27.6	
WMQ				PP	PP	18 50 45.3	+1.9
WMQ				PP	PP		
	comp=Z,167nm,4.9s						
CN2	**Changchun**	**162.27**	**315**	*e*PKP	PKPdf	18 46 24.3	+2.1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**164.57**	**4**	PKPab	PKPab	18 47 19.6	+0.2
	comp=Z,1.5nm,1.0s,baz=357,slow=5.3,SNR=7.9						
GTA	**Gaotai**	**170.36**	**42**	*e*PKP	PKPdf	18 46 29.3	+0.8
HHC	**Hu-ho-hao-te**	**171.15**	**342**	*e*PKP	PKPdf	18 46 27.4	-1.5
HHC				PKP2	PKPab	18 47 48.8	+0.3
HHC				PKS		18 49 59.1	
HHC				PP	PP	18 51 40.9	+1.9
HHC				SKS	SKSdf	18 53 31.3	-0.1
HHC				SKKS	SKKSac	18 58 26.4	+1.3
HHC				PP	PP		
	comp=Z,86nm,9.4s						
HHC				LR	LR		
	comp=N,167nm,22.7s						
HHC				LR	LR		
	comp=E,128nm,22.7s						
HHC				LR	LR		
	comp=Z,157nm,22.6s						
LZH	**Lanzhou**	**174.96**	**43**	*e*PKP	PKPdf	18 46 25.8	-4.6
LZH				APKP		18 46 36.6	
LZH				LR	LR		
	comp=N,265nm,19.6s						
LZH				LR	LR		
	comp=Z,352nm,20.5s						
CD2	**Chengdu**	**176.03**	**111**	*e*PKP	PKPdf	18 46 26.3	-4.4

WEL 18 18:41:53.1±0.4, **3726S×17650E**, **h282**km±4km, **ML3.6**/8, **1C**, **Error ellipse: s-maj=9.1km s-min=5.2km az=90.0**, **North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.10**	**154**	PN	Pn	18 42 32.1	0.0
URZ				SN	S	18 43 02.0	-0.9
MWZ	**Matawai**	**1.34**	**143**	PN	Pn	18 42 33.6	+0.1
MWZ				SN	S	18 43 05.3	-0.2
BKZ	**Black Stump Fm**	**1.90**	**180** ⇑	PN	Pn	18 42 37.8	+0.3
BKZ				SN	S	18 43 12.2	-0.5
KNZ	**Kokohu**	**1.98**	**153**	PN	Pn	18 42 38.3	+0.2
WNVZ	**Wahianoa**	**2.18**	**199**	PN	Pn	18 42 40.5	+0.7
PXZ	**Pawanui**	**2.78**	**174**	PN	Pn	18 42 45.1	-0.3
PXZ				SN	S	18 43 26.5	-0.5
TSZ	**Takapari Road**	**2.82**	**188**	PN	Pn	18 42 45.4	-0.5
BFZ	**Birch Farm**	**3.42**	**183**	PN	Pn	18 42 51.5	-0.5
MRZ	**Mangatainoka R**	**3.47**	**192**	PN	Pn	18 42 51.4	-1.1
KIW	**Kapiti Island**	**3.80**	**199**	PN	Pn	18 42 55.0	-1.2
TCW	**Tory Channel**	**4.31**	**203**	PN	Pn	18 43 00.4	-1.5
TUWZ	**Tuamarina**	**4.61**	**205**	PN	Pn	18 43 03.9	-1.5
QRZ	**Quartz Range**	**4.71**	**220**	PN	Pn	18 43 04.0	-2.5
THZ	**Tophouse**	**5.29**	**211**	PN	Pn	18 43 11.6	-1.7
MQZ	**McQueen's Vall**	**7.07**	**203**	SN	S	18 44 51.3	-6.0

CASC 18 19:21:15.9±3.0, **847N×8309W**, **h9**km±7km, **MD4.2, ML3.9, 7C-7D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.20**	**338** ⇓	*i*P	Pg	19 21 19.7	-0.3
ACR				*e*S	Sg	19 21 23.9	+1.1
CTCR	**Cotoan**	**0.54**	**38** ⇓	*i*P	Pg	19 21 27.2	+0.8
DVD	**David**	**0.64**	**93** ⇓	*i*P	Pg	19 21 28.5	+0.3
DVD				*e*S	Sg	19 21 36.8	+0.3
CNI	**Changuinola**	**1.10**	**31** ⇓	*i*P	Pg	19 21 36.0	-1.1
BUS	**Buena Vista**	**1.27**	**329** ⇓	*e*P	Pn	19 21 37.3	-2.4
BUS				*e*S	Sb	19 21 59.4	+3.1
URSC	**Urasca**	**1.52**	**334** ⇑	*e*P	Pn	19 21 41.6	-1.6
LCR2	**La Lucha 2**	**1.55**	**325** ⇑	*e*P	Pn	19 21 42.1	-1.6
LCR2				*e*S	Sn	19 22 05.0	+1.0
OCM	**Ochomogo**	**1.66**	**329**	*e*P	Pn	19 21 43.8	-1.4
OCM				*e*S	Sn	19 22 07.5	+0.9
OCM				AML	AML	19 22 18.6	
	comp=N,2μm,0.5s						
VTU	**Volcan Turrial**	**1.68**	**337** ⇑	*e*P	Pn	19 21 44.7	-0.7
IRZ2	**Volcan Irazu 2**	**1.69**	**332** ⇑	*i*P	Pn	19 21 44.6	-1.0
IRZ2				*e*S	Sn	19 22 10.0	+2.6
LAJ	**Bijagual**	**1.72**	**324**	*e*P	Pn	19 21 49.1	+3.1
LAJ				*e*S	Sn	19 22 14.3	+6.3
SJS	**Escuela Geolog**	**1.74**	**327**	*e*P	Pn	19 21 45.1	-1.2
SJS				*e*S	Sn	19 22 10.9	+2.2
PRS1	**Puriscal**	**1.93**	**322**	*e*P	Pn	19 21 47.0	-1.9
PRS1				*e*S	Sn	19 22 13.4	+0.2
CGA2

KZA	**Kyzart**	**115.86**	**309**	P	PKPdf	19 39 57.9	-2.4		
	SNR=9.6								
AAK	**Ala-Archa**	**116.40**	**310**	P	PKPdf	19 39 57.2	-4.1		
	SNR=9.4								
UCH	**Uchtor**	**116.41**	**310**	P	PKPdf	19 39 59.4	-1.9		
	SNR=6.5								
EKS2	**Erkin-Say**	**116.93**	**310**	P	PKPdf	19 39 58.9	-3.4		
	SNR=17								
AML	**Almayashu**	**117.02**	**309**	P	PKPdf	19 40 03.2	+0.7		
	SNR=11								
ARCES	**ARCESS Array B**	**125.03**	**352**	PKP	PKPdf	19 40 16.1	-1.8		
	comp=E,3.8nm,0.8s,baz=17,slow=9.0,SNR=4.6								
SUW	**Suwalki**	**139.69**	**344**	*e*P	PKPdf	19 40 44.8	-0.6		
UPC	**Upice**	**144.56**	**349**	*e*PKP	PKPdf	19 40 51.5	-2.6		
BURAR	**Bucovina Array**	**144.63**	**337**	↓*i*P	PKPdf	19 40 52.6	-1.6		
DPC	**Dobruska-Polom**	**144.65**	**349**	*e*PKP	PKPdf	19 40 52.2	-2.0		
DPC				AMS	AMS	20 14 00.0			
	comp=E,500nm,22.0s								
OKC	**Ostrava-Krasne**	**144.76**	**346**	*e*PKP	PKPdf	19 40 45.5	-8.9		
OKC				AMS	AMS	20 13 00.0			
	comp=E,500nm,21.0s								
KMBO	**Kilima Mbogo**	**144.84**	**244**	PKP	PKPdf	19 40 54.6	+0.1		
	comp=E,1.5nm,0.5s,baz=256,slow=24,SNR=6.2								
PRU	**Pruhonice**	**145.31**	**350**	*e*PKP	PKPdf	19 40 54.5	-0.9		
PRU				*ep*PKP	pPKPdf	19 41 20.2	-1.1		
PRU				AMS	AMS	20 13 40.0			
	comp=E,400nm,16.6s								
MLR	**Muntele Rosu**	**146.10**	**335**	PKPbc	PKPbc	19 40 56.7	-1.1		
	comp=E,5.6nm,0.9s,baz=232,slow=3.0,SNR=7.7								
MLR	**Muntele Rosu**	**146.10**	**335**	↓*i*P	PKPdf	19 40 57.3	+0.6		
MLR	**Muntele Rosu**	**146.10**	**335**	↓P	PKPdf	19 40 57.3	+0.6		
BR131	**Keskin Array S**	**146.21**	**320**	*e*PKPdf	PKPdf	19 40 57.5	+0.6		
BRTR	**Keskin Array B**	**146.21**	**320**	PKPbc	PKPbc	19 40 57.0	-1.1		
	comp=E,2.8nm,0.8s,baz=107,slow=2.6,SNR=25								
KHC	**Kasperske Hory**	**146.30**	**351**	*e*PKP	PKPdf	19 40 56.7	-0.3		
KHC				*ep*PKP	pPKPdf	19 41 26.9	+3.9		
GERES	**GERESS Array B**	**146.56**	**351**	PKPbc	PKPbc	19 40 57.5	-1.6		
	comp=E,0.6nm,0.6s,baz=2.9,slow=2.7,SNR=7.1								
BFO	**Black Forest**	**147.61**	**357**	*e*PKIKP	PKPdf	19 40 59.7	+0.5		
DAVOX	**Davos**	**149.05**	**355**	PKPbc	PKPbc	19 41 05.2	-0.6		
	comp=E,1.6nm,0.4s,baz=351,slow=6.7,SNR=4.5								

*ISCJB **18** 19:27:23.4±1.8, 4252N±009×4350E±008, h10km, Error ellipse: s-maj=13.6km s-min=8.2km az=0.5*
*MOS **18** 19:27:23.5±1.1, 4253N×4348E, h5km, mb3.5/1, Error ellipse: s-maj=85.8km s-min=26.8km az=58.9*

ISC 18 19:27:22.8±2.6, 425N±01×434E±01, h15km±11km, n5, σ0§09/10, 2D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.07**	**6**	P	**Pg**	**19 27 26.0**	**+0.2**
ONI				S	**Sg**	**19 27 27.7**	**-0.1**
DIGR	**Digorskoe uzhe**	**0.40**	**15**	↓*i* PG	**Pg**	**19 27 30.9**	**0.0**
DIGR				*e*S	**Sg**	**19 27 36.3**	**-0.1**
ZEI	**Tsey**	**0.42**	**53**	↓*e* PG	**Pg**	**19 27 31.4**	**0.0**
ZEI				*e*S	**Sg**	**19 27 37.2**	**+0.1**
LACR	**Lac**	**0.70**	**63**	*e*PG	**Pg**	**19 27 36.5**	**-0.1**
LACR				*e*S	**Sg**	**19 27 45.8**	**-0.1**
KORR	**Kora**	**0.73**	**39**	*e*PG	**Pg**	**19 27 37.1**	**-0.1**
KORR				*e*S	**Sg**	**19 27 47.0**	**+0.1**

*SZGRF **18** 19:30:16.6, 5881N×169.70E, h33km, mb5.2, Bering Sea*
*BJI **18** 19:30:23.0, 6087N×165.86E, h4km, mB5.2, mb4.7, Ms5.1, Msz4.8*
*KRSC **18** 19:30:23.4±0.2, 6075N×166.05E, h2km±2km, ML4.8*
*ISCJB **18** 19:30:24.3±0.7, 6080N±002×165.94E±005, h8km±4km, mb4.9/156, MS4.6/50, Error ellipse: s-maj=4.6km s-min=2.9km az=95.0*
*IDC **18** 19:30:24.4±0.4, 6077N×165.86E, h0km, mb4.6/25, mb1 4.7/26, mb1mx4.7/29, mbtmp4.6/26, ML4.1/1, MS4.5/20, Ms1 4.5/20, ms1mx4.2/37, Error ellipse: s-maj=12.4km s-min=9.1km az=56.0*
*MOS **18** 19:30:24.3±0.9, 6077N×165.91E, h10km, mb5.2/71, MS4.6/25, Error ellipse: s-maj=10.7km s-min=4.7km az=92.4*
*NEIC **18** 19:30:25.5±2.9, 6080N×165.86E, h6km±18km, mb5.1/81, MS4.4/6, Error ellipse: s-maj=7.2km s-min=3.9km az=181.0*
*HRVD **18** 19:30:25.5±0.2, 6085N×165.93E, h12km±1km, MW5.0/92, Centroid moment Tensor Solution. LP body waves: s40,c47;Mantle waves: s92,c148; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr0.33±.09; Mθθ2.52±.09; Mφφ-2.85±.10; Mrθ-1.38±.29; Mθφ2.15±.08; Mφr-1.18±.27; Best double couple: M0 3.88900×10^16^ NP1:ϕ=298.00000°, δ65.00000°, λ11.00000°. NP2:ϕ=204.00000°, δ80.00000°, λ155.00000°. Principal axes: T 4.0560, Plg25.0000°, Azm158.0000°; N -0.3320, Plg63.0000°, Azm4.0000°; P -3.7230, Plg10.0000°, Azm253.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 18 19:30:26.1±0.8, 6082N±002×16595E±005, h10km±5km, h15km±1.4km: pP-P, n380, σ1§10/394, mb4.9/156, MS4.6/50, 18C-6D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TILR	**Tilichiki**	**0.40**	**172**	*i* P	**Pg**	**19 30 31.0**	**-2.9**
TILR				*e*S	**Sg**	**19 30 36.7**	**-2.4**
TILR				Smax			
	253μm,1.0s						
KAMR	**Kamenskoye**	**1.64**	**4**	*i* P	**Pn**	**19 30 54.3**	**-0.7**
KAMR				*e*S	**Sn**	**19 31 16.8**	**+0.6**
KAMR				Smax			
	15μm,3.0s						
OSSR	**Ossora**	**2.14**	**224**	*e*P	**Pn**	**19 30 59.2**	**-2.7**
OSSR				Smax			
	7μm,1.2s						
EVNR	**Evensk**	**3.40**	**292**	*e*P	**Pn**	**19 31 18.8**	**-0.4**
SMKR	**Semkarok**	**4.85**	**211**	*e*P	**Pn**	**19 31 38.5**	**-0.6**
SRKR	**Sorokina**	**4.87**	**213**	*e*P	**Pn**	**19 31 39.0**	**-0.3**
KBG	**Krutoberegovo**	**4.89**	**202**	*i* P	**Pn**	**19 31 39.1**	**-0.5**
KBG				Smax			
	830nm,1.1s						
KBTR	**Krutoberegovo**	**4.91**	**201**	P	**Pn**	**19 31 38.2**	**-1.7**
KBTR				S	**Sn**	**19 32 36.5**	**-0.3**
KBTR	**Krutoberegovo**	**4.91**	**201**	*i* P	**Pn**	**19 31 39.0**	**-0.9**
BDR	**Baidarnaya**	**4.93**	**212**	*e*P	**Pn**	**19 31 39.4**	**-0.8**
KLY	**Klyuchi**	**5.30**	**214**	P	**Pn**	**19 31 44.8**	**-0.5**
KRSR	**Krestovskiy**	**5.41**	**214**	P	**Pn**	**19 31 48.6**	**+1.8**
CIRR	**Tsirk**	**5.45**	**212**	P	**Pn**	**19 31 47.6**	**+0.2**
LGNR	**Loginova**	**5.50**	**212**	*e*P	**Pn**	**19 31 48.4**	**+0.4**
ZLN	**Zelenaya**	**5.53**	**212**	*e*P	**Pn**	**19 31 47.9**	**-0.5**
SRDR	**Srednnyy**	**5.57**	**219**	*e*P	**Pn**	**19 31 49.3**	**+0.3**
BKI	**Bering**	**5.64**	**180**	*e*P	**Pn**	**19 31 49.9**	**0.0**
KPT	**Kopyto**	**5.72**	**214**	P	**Pn**	**19 31 52.9**	**+1.8**
KMNR	**Kamenistaya**	**5.91**	**213**	*e*P	**Pn**	**19 31 53.6**	**0.0**
TUMR	**Tumrok**	**6.35**	**212**	P	**Pn**	**19 32 01.9**	**+2.2**
MKZ	**Mys Kozlova**	**6.68**	**202**	*e*P	**Pn**	**19 32 03.3**	**-0.9**
SEY	**Seymchan**	**6.75**	**294**	*e*P	**Pn**	**19 32 08.7**	**+3.5**
BILL	**Bilibino**	**7.25**	**1**	*e*PN	**Pn**	**19 32 12.3**	**+0.3**
BILL				pmax	pmax		
	comp=Z,50nm,0.6s						
BILL	**Bilibino**	**7.25**	**1**	*e*Pn	**Pn**	**19 32 11.5**	**-0.5**
	comp=Z,104nm,0.6s						
BILL				*e*Sn	**Sn**	**19 33 20.7**	**-14**
BILL	**Bilibino**	**7.25**	**1**	*i* P	**Pn**	**19 32 13.7**	**+1.7**
BILL				Smax			
	comp=Z,620nm,1.2s						
GNL	**Ganaly**	**8.35**	**215**	*e*P	**Pn**	**19 32 29.6**	**+2.4**
SPN	**Mys Shipunski**	**8.39**	**205**	P	**Pn**	**19 32 26.5**	**-1.2**
SPN				S	**Sn**	**19 33 58.1**	**-4.4**
SPN	**Mys Shipunski**	**8.39**	**205**	*e*P	**Pn**	**19 32 28.7**	**+1.0**
SPN				*e*S	**Sn**	**19 34 00.1**	**-2.4**
NLC	**Nalytchevo**	**8.47**	**208**	P	**Pn**	**19 32 30.0**	**+1.2**
SDLR	**Sedlovina**	**8.48**	**210**	*e*P	**Pn**	**19 32 30.3**	**+1.3**
AVH	**Avacha**	**8.53**	**211**	P	**Pn**	**19 32 33.5**	**+3.9**
UGLR	**Uglovaya**	**8.56**	**210**	*e*P	**Pn**	**19 32 32.0**	**+2.0**
PET	**Petropavlovsk**	**8.77**	**210**	*e*P	**Pn**	**19 32 32.7**	**-0.2**
PET				pmax	pmax		
	comp=Z,122nm,1.3s						
PET	**Petropavlovsk**	**8.77**	**210**	*c i*PN	**Pn**	**19 32 33.8**	**+0.9**
PET				pmax	pmax		
	comp=Z,1μm,4.5s						
PET				pmax	pmax		
	comp=Z,500nm,4.1s						
PET				MLR	MLR		
	comp=Z,5μm,17.0s						
PET				MLR	MLR		
	comp=Z,5μm,15.0s						
PET	**Petropavlovsk**	**8.77**	**210**	*e*Pn	**Pn**	**19 32 32.7**	**-0.3**
	comp=Z,122nm,1.3s						
FX1	**Attu Island--F**	**8.88**	**150**	Pn	**Pn**	**19 32 32.4**	**-2.1**
	comp=Z,7.0nm,0.3s,baz=348,slow=13,SNR=61						
FX1				Sn	**Sn**	**19 34 09.9**	**-4.7**
	baz=108,slow=20,SNR=1.7						
FX1				LR	LR	19 35 43.7	
	comp=Z,175nm,18.1s,baz=312,slow=36						
FX1	**Attu Island--F**	**8.88**	**150**	*e*Pn	**Pn**	**19 32 32.5**	**-2.0**
APC	**Apacha**	**9.26**	**215**	*e*P	**Pn**	**19 32 39.8**	**+0.2**
SKR	**Severo-Kuril's**	**11.56**	**213**	*e*PN	**Pn**	**19 33 06.0**	**-5.1**
SKR				pmax	pmax		
	comp=N,2μm,4.0s						
SKR				pmax	pmax		
	comp=E,2μm,4.0s						
SKR				pmax	pmax		
	comp=Z,2μm,4.0s						
SKR				pmax	pmax		
	comp=N,130nm,1.0s						
SKR				pmax	pmax		
	comp=E,130nm,1.0s						
SKR				pmax	pmax		
	comp=Z,180nm,1.0s						
SKR				MLR	MLR		
	comp=N,6μm,14.0s						
SKR				MLR	MLR		
	comp=Z,5μm,14.0s						
SKR				MLR	MLR		
	comp=E,7μm,12.0s						
SKR				MLR	MLR		
	comp=N,4μm,10.0s						
SKR				MLR	MLR		
	comp=E,3μm,10.0s						
SKR				MLR	MLR		
	comp=Z,3μm,10.0s						
OKH	**Okha**	**14.39**	**250**	*e*P	**Pn**	**19 33 41.2**	**-8.6**
OKH				*e*		19 36 37.6	
OKH				pmax	pmax		
	comp=Z,2μm,4.4s						
YAK	**Yakutsk**	**17.25**	**290**	*e*P	**Pn**	**19 34 25.6**	**-1.4**
YAK				pmax	pmax		
	comp=Z,120nm,0.7s						
YAK	**Yakutsk**	**17.25**	**290**	*e*P	**Pn**	**19 34 31.3**	**+4.3**
YAK				*e*S	**Sn**	**19 37 46.4**	**+7.5**
YAK				pmax	pmax		
	comp=Z,58nm,0.8s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,29nm,1.1s						
YAK				smax			
	comp=N,10.0nm,1.3s						
YAK				smax			
	comp=Z,5.0nm,1.4s						
YAK				smax			
	comp=E,13nm,2.3s						
YAK				MLR	MLR		
	comp=N,1μm,9.0s						
YAK				MLR	MLR		
	comp=Z,639nm,9.0s						
YAK				MLR	MLR		
	comp=E,695nm,12.0s						
YAK	**Yakutsk**	**17.25**	**290**	*e*Pn	**Pn**	**19 34 25.6**	**-1.5**
	comp=E,120nm,0.7s						
TTA	**Tatalina**	**17.88**	**67**	*e*P	**Pn**	**19 34 36.3**	**+1.4**
TTA				pmax	pmax		
	comp=Z,170nm,1.6s						
TTA	**Tatalina**	**17.88**	**67**	*e*P	**Pn**	**19 34 37.4**	**+2.5**
UGL	**Uglegorsk**	**17.94**	**240**	*e*P	**Pn**	**19 34 36.0**	**+0.4**
UGL				pmax	pmax		
	comp=Z,49nm,0.9s						
UGL				pmax	pmax		
	comp=N,800nm,6.0s						
UGL				pmax	pmax		
	comp=E,1μm,6.0s						
UGL				pmax	pmax		
	comp=Z,1μm,6.0s						
UGL				MLR	MLR		
	comp=N,2μm,13.0s						
UGL				MLR	MLR		
	comp=E,1μm,13.0s						
UGL				MLR	MLR		
	comp=Z,4μm,13.0s						
SDPT	**Sand Point**	**18.43**	**92**	*e*P	**Pn**	**19 34 42.8**	**+1.2**
SVW2	**Sparrevohn**	**18.50**	**72**	*e*P	**Pn**	**19 34 43.0**	**+0.5**
CHGN	**Chignik**	**18.97**	**88**	*e*P	**Pn**	**19 34 48.9**	**+0.8**
YSS	**Yuzh-Sakhalins**	**19.33**	**235**	*e*P	**Pn**	**19 34 52.2**	**-0.4**
YSS				*e*S	**Sn**	**19 38 30.0**	**+0.6**
YSS				pmax	pmax		
	comp=Z,100nm,1.6s						
YSS				pmax	pmax		
	comp=N,1μm,4.0s						
YSS				pmax	pmax		
	comp=Z,1μm,4.0s						
YSS				smax			
	comp=N,2μm,6.0s						
YSS				smax			
	comp=E,1μm,6.0s						
YSS				MLR	MLR		
	comp=E,2μm,14.0s						
YSS				MLR	MLR		
	comp=Z,3μm,14.0s						
COLA	**College**	**21.08**	**59**	*e*P	**P**	**19 35 10.5**	**0.0**
COLA				pmax	pmax		
	comp=Z,153nm,1.5s,mb5.1						
COLA	**College**	**21.08**	**59**	*e*P	**P**	**19 35 10.5**	**0.0**
	comp=Z,153nm,1.5s,mb5.1						
KDAK	**Kodiak Island**	**21.13**	**80**	P	**P**	**19 35 11.6**	**+0.6**
	comp=Z,7.2nm,0.7s,mb4.1,baz=315,slow=5.7,SNR=3.8						
KDAK				LR	LR	19 45 12.1	
	comp=Z,2μm,18.8s,MS4.4,baz=295,slow=42						
SLKM	**Skilak Lake**	**21.18**	**72**	P	**P**	**19 35 12.7**	**+1.1**
PMR	**Palmer**	**21.33**	**68**	P	**P**	**19 35 12.7**	**-0.5**
CLNS	**Chul'man**	**21.36**	**278**	*e*P	**P**	**19 35 13.7**	**+0.2**
CLNS				*e*		19 35 37.2	
CLNS				*e*S	**S**	**19 39 11.2**	**+0.7**
CLNS				*e*SS		19 39 57.2	
CLNS				pmax	pmax		
	comp=E,45nm,1.6s						
CLNS				pmax	pmax		
	comp=Z,58nm,1.6s,mb4.7						
CLNS				pmax	pmax		
	comp=N,14nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.2						
CLNS				pmax	pmax		
	comp=N,19nm,1.0s						
CLNS				pmax	pmax		
	comp=E,27nm,1.0s						
CLNS				smax			
	comp=N,17nm,1.0s						
CLNS				smax			
	comp=Z,6.0nm,0.7s						
CLNS				smax			
	comp=E,9.0nm,0.9s						
HABR	**Khabarovsk**	**21.49**	**249**	↓*i*P	**P**	**19 35 16.3**	**+1.4**
HABR				*e*S	**S**	**19 39 15.5**	**+2.4**
HABR				pmax	pmax		
	comp=Z,139nm,1.6s,mb5.0						
HABR				MLR	MLR		
	comp=Z,2μm,16.0s,MS4.5						
NRGR	**Nerungri**	**21.52**	**277**	*e*P	**P**	**19 35 16.4**	**+1.1**
NRGR				S	**S**	**19 39 16.4**	**+2.6**
NRGR				smax			
	comp=E,9.0nm,0.3s						
ASAJ	**Asahikawa**	**21.76**	**230**	P	**P**	**19 35 20.1**	**+2.2**
	comp=E,6.0nm,0.9s,mb4.0,baz=358,slow=21,SNR=5.1						
ASAJ				LR	LR	19 43 46.8	
	comp=E,2μm,20.0s,MS4.5,baz=42,slow=37						
KLR	**Kul'dur**	**22.49**	**254**	*e*P	**P**	**19 35 21.2**	**-4.4**
KLR				*e*S	**S**	**19 39 30.5**	**-2.1**
KLR				pmax	pmax		
	comp=E,64nm,1.8s						
KLR				pmax	pmax		
	comp=Z,100nm,1.8s,mb4.9						
KLR				smax			
	comp=N,1μm,11.0s						
KLR				smax			
	comp=E,900nm,11.0s						
KLR				MLR	MLR		
	comp=N,2μm,13.0s						
KLR				MLR	MLR		
	comp=Z,3μm,13.0s,MS4.9						
EYAK	**Cordova Ski Ar**	**23.23**	**69**	*e*P	**P**	**19 35 31.8**	**-1.7**
MENT	**Mentasta**	**23.33**	**63**	*e*P	**P**	**19 35 33.2**	**-1.3**
DAWY	**Dawson**	**24.83**	**59**	*e*P	**P**	**19 35 45.9**	**-2.6**
INK	**Inuvik**	**25.99**	**48**	P	**P**	**19 35 57.9**	**-1.1**
	comp=Z,31nm,1.2s,mb4.7,baz=288,slow=11,SNR=37						
INK				PcP	PcP	19 39 26.4	-0.8
	comp=Z,4.1nm,1.0s,baz=282,slow=4.1,SNR=4.7						
INK				LR	LR	19 47 53.9	
	comp=Z,2μm,18.2s,MS4.6,baz=183,slow=40						
INK	**Inuvik**	**25.99**	**48**	*e*P		**19 35 58.0**	**-1.0**
INK				pmax	pmax		
	comp=Z,112nm,1.5s						
INK	**Inuvik**	**25.99**	**48**	*e*P	**P**	**19 35 58.0**	**-1.0**
	comp=Z,112nm,1.5s,mb5.2						
BOD	**Bodaibo**	**26.10**	**287**	*e*P	**P**	**19 35 59.0**	**-1.0**
BOD				pmax	pmax		
	comp=Z,41nm,1.0s,mb4.9						
MDJ	**Mudanjiang**	**26.87**	**249**	P	**P**	**19 36 07.1**	**+0.1**
MDJ				AP	pP	19 36 10.0	+0.1
MDJ				XP	sP	19 36 11.4	+0.3
MDJ				S	**S**	**19 40 44.1**	**+0.6**
MDJ				XS	sS	19 40 49.3	+0.9
MDJ				SCP	ScP	19 43 09.8	+0.3
MDJ				PCS	PcS	19 43 11.0	+0.4
MDJ				SCS	ScS	19 47 00.5	+0.2
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,114nm,5.4s						
MDJ				LR	LR		
	comp=N,833nm,13.2s,MS4.5						
MDJ				LR	LR		
	comp=E,314nm,14.7s,MS4.5						
MDJ				LR	LR		
	comp=Z,1μm,14.7s,MS4.5						
CN2	**Changchun**	**29.42**	**253**	*e*P	**P**	**19 36 30.3**	**+0.6**
CN2				*e*AP	pP	19 36 34.5	+1.8
CN2				*e*S	**S**	**19 41 20.9**	**-2.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.4						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,2μm,14.0s,MS5.0						
CN2				LR	LR		
	comp=E,1μm,14.0s,MS5.0						
CN2				LR	LR		
	comp=Z,2μm,15.0s,MS4.7						
CIT	**Chita**	**29.52**	**277**	*e*P	**P**	**19 36 31.2**	**+0.6**
CIT				*e*		19 36 37.9	
CIT				pmax	pmax		
	comp=Z,36nm,2.0s,mb4.8						
MAT	**Matsushiro**	**30.00**	**229**	S	**S**	**19 41 37.0**	**+4.3**
MJAR	**Matsushiro Arr**	**30.00**	**229**	P	**P**	**19 36 33.2**	**-1.6**
	comp=Z,1.1nm,0.5s,mb3.9,baz=2.1,slow=8.6,SNR=6.5						
MJAR				LR	LR	19 49 52.2	
	comp=Z,1μm,18.1s,MS4.5,baz=25,slow=39						
MJAR	**Matsushiro Arr**	**30.00**	**229**	P	**P**	**19 36 33.2**	**-1.6**
MJAR				LR	LR	19 49 52.2	
DLBC	**Dease Lake**	**31.32**	**65**	P	**P**	**19 36 47.2**	**+0.7**
	comp=Z,6.8nm,0.9s,mb4.5,baz=299,slow=11,SNR=8.5						
DLBC	**Dease Lake**	**31.32**	**65**	*e*P	**P**	**19 36 47.8**	**+1.3**
SNY	**Shenyang**	**31.82**	**253**	↑P	**P**	**19 36 48.9**	**-2.0**
SNY				S	**S**	**19 41 59.4**	**-1.8**
SNY				XS	sS	19 42 04.3	-1.8
SNY				AMB	AMB		
	comp=Z,18nm,1.6s,mb4.7						
SNY				AMB	AMB		
	comp=Z,325nm,4.1s						
SNY				LR	LR		
	comp=N,1μm,13.1s						
SNY				LR	LR		
	comp=Z,863nm,13.2s,MS4.6						
JHJ	**Hachijo jima 2**	**32.53**	**223**	LR	LR	19 50 10.4	
	comp=Z,388nm,19.4s,MS4.1,baz=304,slow=37						
IRK	**Irkutsk**	**33.86**	**284**	*e*P	**P**	**19 37 09.4**	**+0.7**
IRK				*e*		19 38 16.5	
IRK				*e*		19 45 05.5	
IRK				pmax	pmax		
	comp=Z,115nm,1.0s,mb5.8						
TLY	**Talaya**	**34.52**	**283**	*e*P	**P**	**19 37 13.6**	**-0.9**
TLY				*e*		19 38 25.3	
TLY				*e*S	**S**	**19 42 39.9**	**-3.2**
TLY				*e*SS	SS	19 44 57.2	-15
TLY				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
TLY				MLR	MLR		
	comp=Z,2μm,15.0s,MS5.0						
TLY	**Talaya**	**34.52**	**283**	*e*P	**P**	**19 37 15.1**	**+0.7**
	comp=Z,8.0nm,1.1s,mb4.6						
ALE	**Alert**	**34.78**	**10**	P	**P**	**19 37 16.6**	**-0.1**
	comp=Z,165nm,1.0s,mb5.9,SNR=14						
DL2	**Dalian**	**35.04**	**252**	*e*P	**P**	**19 37 18.6**	**-0.3**
DL2				S	**S**	**19 42 52.5**	**+1.4**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
DL2				LR	LR		
	comp=N,530nm,12.7s,MS4.6						
DL2				LR	LR		
	comp=E,550nm,13.6s,MS4.6						
DL2				LR	LR		
	comp=Z,750nm,14.9s,MS4.6						
YKW3	**Yellowknife Ar**	**35.50**	**52**	*e*P	**P**	**19 37 20.9**	**-2.0**
YKA	**Yellowknife Ar**	**35.54**	**52**	P	**P**	**19 37 23.5**	**+0.3**
	comp=Z,3.1nm,0.6s,mb4.4,baz=301,slow=8.1,SNR=40						
YKA				PcP	PcP	19 39 50.7	-1.6
	comp=Z,2.2nm,0.9s,baz=306,slow=3.0,SNR=9.0						
YKA	**Yellowknife Ar**	**35.54**	**52**	P	**P**	**19 37 23.6**	**+0.3**
YKA				PcP	PcP	19 39 50.7	-1.6
ZAK	**Zakamensk**	**35.54**	**282**	*e*P	**P**	**19 37 23.2**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.5						
SONM	**Songino Array**	**35.76**	**276**	P	**P**	**19 37 24.9**	**-0.3**
	comp=Z,6.9nm,1.0s,mb4.5,baz=51,slow=6.8,SNR=30						
SONM				PcP	PcP	19 39 53.0	+0.1
	comp=Z,1.7nm,0.7s,baz=28,slow=3.5,SNR=4.4						
SONM				LR	LR	19 52 41.8	
	comp=Z,2μm,18.7s,MS4.8,baz=55,slow=37						
SONM	**Songino Array**	**35.76**	**276**	P	**P**	**19 37 24.9**	**-0.3**
SONM						19 39 53.0	
MOY	**Mondy**	**35.78**	**285**	*e*P	**P**	**19 37 23.9**	**-1.5**
MOY				pmax	pmax		
	comp=Z,39nm,2.2s,mb5.0						
BJI	**Beijing**	**36.72**	**259**	*e*P	**P**	**19 37 33.3**	**-0.1**
BJI				PP	PP	19 39 02.8	+5.8
BJI				S	**S**	**19 43 17.8**	**+0.8**
BJI				AMB	AMB		
	comp=Z,43nm,1.3s,mb5.1						
BJI				LR	LR		
	comp=N,930nm,13.7s,MS4.9						
BJI				LR	LR		
	comp=E,1μm,13.6s,MS4.9						
BJI				LR	LR		
	comp=Z,316nm,24.2s						
BJT	**Baijiatuau**	**36.74**	**259**	*e*P	**P**	**19 37 34.2**	**+0.6**
BJT				pmax	pmax		
	comp=Z,42nm,1.1s						
BJT				MLR	MLR		
	comp=Z,510nm,19.0s						
BJT	**Baijiatuau**	**36.74**	**259**	*e*P	**P**	**19 37 34.2**	**+0.7**
	comp=Z,42nm,1.1s,mb5.2						
BJT				LR	LR		
	comp=Z,510nm,19.0s,MS4.3						
CBIJ	**Chichi jima**	**37.37**	**216**	LR	LR	19 50 38.5	
	comp=Z,270nm,22.0s,MS4.0,baz=357,slow=33						
HHC	**Hu-ho-hao-te**	**38.33**	**264**	↑P	**P**	**19 37 47.0**	**0.0**
HHC				AP	pP	19 37 51.8	+1.8
HHC				XP	sP	19 37 54.1

NVS *i* 19 39 51.3
NVS *i* S **S** **19 44 29.6 -1.7**
NVS pmax pmax
comp=Z,18nm,1.0s,mb4.7
NVS pmax pmax
comp=N,11nm,1.2s
NVS pmax pmax
comp=E,14nm,1.2s
NVS smax
comp=N,19nm,2.0s
SSE Sheshan 41.71 245 *e*P **P** **19 38 14.8 -0.3**
SSE AP pP 19 38 17.8 -0.3
SSE XP sP 19 38 19.1 -0.2
SSE PP PP 19 39 50.3 -1.2
SSE PCP PcP 19 40 12.3 +0.7
SSE S **S** **19 44 30.9 -1.1**
SSE XS sS 19 44 35.8 -1.2
SSE SCS ScS 19 48 21.8 +3.2
SSE AMB AMB
comp=Z,53nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,302nm,3.5s
SSE LR LR
comp=N,327nm,17.2s,MS4.3
SSE LR LR
comp=E,82nm,17.2s,MS4.3
SSE LR LR
comp=Z,325nm,16.9s,MS4.3
EDM Edmonton 41.92 63 *e*P **P** **19 38 16.7 -0.1**
NJ2 Nanjing 41.96 248 *e*P **P** **19 38 19.3 +2.2**
NJ2 AP pP 19 38 23.3 +3.2
NJ2 XP sP 19 38 26.8 +5.5
NJ2 PP PP 19 39 57.9 +3.8
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.7
NJ2 AMB AMB
comp=Z,510nm,4.7s
NJ2 LR LR
comp=N,4μm,14.2s,MS5.5
NJ2 LR LR
comp=E,2μm,15.0s,MS5.5
NJ2 LR LR
comp=Z,1μm,14.6s,MS5.0
JOW Kunigami 42.44 234 LR LR 19 57 03.4
comp=Z,700nm,18.8s,MS4.6,baz=106,slow=38
DAG Danmarks Havn 42.62 2⇓ *i*P **P** **19 38 22.4 -0.1**
comp=Z,15nm,1.1s,mb4.6
DAG Danmarks Havn 42.62 2⇓ *e*P **P** **19 38 22.4 -0.1**
DAG pmax pmax
comp=Z,15nm,1.1s,mb4.6
DAG Danmarks Havn 42.62 2⇓ *e*P **P** **19 38 22.4 -0.1**
comp=Z,15nm,1.1s,mb4.6
WALA Waterton Lakes 44.62 67 *e*P **P** **19 38 38.4 -0.3**
comp=Z,53nm,1.4s,mb5.2
GTA Gaotai 45.19 273 *e*P **P** **19 38 43.9 +0.8**
GTA AP pP 19 38 48.4 +2.2
GTA XP sP 19 38 50.9 +3.5
GTA PCP PcP 19 40 25.8 +2.5
GTA PP PP 19 40 30.9 +2.2
GTA SCP ScP 19 44 16.0 0.0
GTA PCS PcS 19 44 17.5 +0.4
GTA S **S** **19 45 22.5 -0.3**
GTA XS sS 19 45 31.3 +3.5
GTA SS SS 19 48 34.9 -11
GTA SCS ScS 19 48 38.0 -2.3
GTA AMB AMB
comp=Z,10.0nm,2.0s,mb4.3
GTA AMB AMB
comp=Z,85nm,5.3s
GTA LR LR
comp=N,921nm,19.8s,MS4.9
GTA LR LR
comp=E,1μm,21.7s,MS4.9
GTA LR LR
comp=Z,2μm,16.3s
FCC Fort Churchill 45.59 46 *e*P **P** **19 38 44.4 -1.9**
FCC pmax pmax
comp=Z,68nm,1.2s,mb5.5
FCC Fort Churchill 45.59 46 *e*P **P** **19 38 44.4 -2.0**
comp=Z,68nm,1.2s,mb5.5
FFC Flin Flon 45.59 54 P **P** **19 38 45.0 -1.3**
comp=Z,121nm,1.3s,mb5.7,SNR=5.7
LZH Lanzhou 45.82 267 *e*P **P** **19 38 48.0 -0.1**
LZH AP pP 19 38 52.8 +1.6
LZH XP sP 19 38 55.9 +3.5
LZH PP PP 19 40 38.0 +2.6
LZH *e*S **S** **19 45 33.0 +1.0**
LZH XS sS 19 45 41.0 +4.0
LZH eSS SS 19 48 51.0 -5.5
LZH AMB AMB
comp=Z,30nm,1.2s,mb5.1
LZH AMB AMB
comp=Z,160nm,4.2s
LZH LR LR
comp=E,1μm,10.5s
LZH LR LR
comp=Z,2μm,13.4s,MS5.1
SUMG Summit 45.83 10 *e*P **P** **19 38 48.1 -0.1**
comp=Z,101nm,1.2s,mb5.6
BMO Blue Mountains 46.16 74 *e*P **P** **19 38 50.5 -0.4**
comp=Z,13nm,1.3s,mb4.7
MSO Missoula 46.25 69 *e*P **P** **19 38 51.5 -0.1**
comp=Z,9.0nm,1.1s,mb4.6
CHMT Chamberlain Mo 46.50 69 *e*P **P** **19 38 54.4 +0.9**
KURK Kurchatov 46.57 299 P **P** **19 38 52.5 -1.6**
comp=Z,291nm,0.8s,mb6.3,SNR=8.6
KURK Kurchatov 46.57 299 P **P** **19 38 52.4 -1.7**
KURK pmax pmax
comp=Z,11nm,0.7s,mb4.9
ARCES ARCESS Array B 46.91 342 P **P** **19 38 55.7 -1.0**
comp=Z,12nm,1.0s,mb4.8,baz=18,slow=8.3,SNR=13
ARCES PcP PcP 19 40 28.9 -0.4
comp=Z,7.0nm,1.0s,baz=349,slow=3.7,SNR=5.5
ARCES LR LR 20 00 51.2
comp=Z,423nm,18.3s,MS4.4,baz=33,slow=39
ARCES ARCESS Array B 46.91 342 P **P** **19 38 55.7 -1.0**
ARCES 19 40 29.0
ARCES ARCESS Array B 46.91 342 P **P** **19 38 55.6 -1.1**
ARCES PcP PcP 19 40 28.9 -0.4
ARCES LR LR 20 00 51.2
EGMT Eagleton 47.25 65 *e*P **P** **19 38 60.0 +0.6**
comp=Z,50nm,1.5s,mb5.2
APA Apatity 47.33 337⇑ *e*P **P** **19 39 08.0 +8.0**
APA pmax pmax
comp=Z,13nm,1.0s,mb4.8
WVOR Wild Horse Val 47.36 77 *e*P **P** **19 38 59.6 -0.6**
WVOR pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
WVOR Wild Horse Val 47.36 77 *e*P **P** **19 38 59.6 -0.7**
comp=Z,7.1nm,0.9s,mb4.6
WMQ Urumqi 47.65 286 ⇓P **P** **19 39 02.3 -0.2**
WMQ AP pP 19 39 06.5 +1.0
WMQ XP sP 19 39 09.3 +2.6
WMQ PCP PcP 19 40 32.3 +0.4
WMQ PP PP 19 40 53.3 -0.7
WMQ SCP ScP 19 44 24.6 -1.6
WMQ S **S** **19 45 56.3 -1.8**
WMQ XS sS 19 46 03.8 +0.6
WMQ SCS ScS 19 48 52.8 -3.5
WMQ LR LR
comp=N,948nm,16.8s,MS5.0
WMQ LR LR
comp=E,962nm,20.4s,MS5.0
WMQ LR LR
comp=Z,399nm,18.0s,MS4.4
CHKZ Chkalovo 47.66 307 P **P** **19 39 01.7 -0.8**
CHKZ pmax pmax
comp=Z,17nm,1.0s,mb5.0
CHKZ Chkalovo 47.66 307 *e*P **P** **19 39 01.8 -0.7**
comp=Z,20nm,1.0s,mb5.1
MKAR Makanchi Array 47.89 293 P **P** **19 39 01.8 -2.5**
comp=Z,3.9nm,0.7s,mb4.6,baz=45,slow=7.3,SNR=35
DLMT Dillon 47.97 70 *e*P **P** **19 39 04.9 -0.1**
comp=Z,94nm,2.1s,mb5.5
BOZ Bozeman (W) 48.20 69 *e*P **P** **19 39 07.1 +0.4**
BOZ pmax pmax
comp=Z,24nm,1.5s,mb5.0
BOZ Bozeman (W) 48.20 69 *e*P **P** **19 39 07.1 +0.4**
comp=Z,24nm,1.5s,mb5.0
BVA0 Borovoye Array 48.24 306 *i* P **P** **19 39 05.8 -1.2**
BVA0 pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
BRVK Borovoye 48.25 306 P **P** **19 39 06.1 -1.0**
comp=Z,132nm,1.0s,mb5.9,SNR=19
ZRNK Zerenda 48.84 307 *e*P **P** **19 39 10.5 -1.1**
ZRNK *e* 19 40 35.7
ZRNK pmax pmax
comp=Z,19nm,1.0s,mb5.1
ZRNK Zerenda 48.84 307 *e*P **P** **19 39 10.4 -1.2**
comp=Z,19nm,1.0s,mb5.1
ZRNK *e*PcP PcP 19 40 35.7 -0.5
GCMT Greycliff 48.98 67 *e*P **P** **19 39 12.9 +0.1**
GUMO Guam 49.60 207 LR LR 19 58 18.8
comp=Z,253nm,19.0s,MS4.2,baz=245,slow=34
SFJD Kangerlussuaq 49.69 18 P **P** **19 39 16.8 -1.4**
comp=Z,16nm,0.9s,mb5.0,baz=313,slow=8.1,SNR=10
SFJD LR LR 20 04 11.5
comp=Z,261nm,18.1s,MS4.3,baz=315,slow=41
SFJD Kangerlussuaq 49.69 18 *i* P **P** **19 39 18.2 0.0**
comp=Z,60nm,1.5s,mb5.4
SFJD Kangerlussuaq 49.69 18 *i* P **P** **19 39 18.2 0.0**
SFJD pmax pmax
comp=Z,60nm,1.5s,mb5.4
FLWY Flagg Ranch 49.82 70 *e*P **P** **19 39 20.4 +1.2**
comp=Z,31nm,1.3s,mb5.2
IMW Indian Meadow 49.85 70 *e*P **P** **19 39 20.1 +0.7**
comp=Z,45nm,1.6s,mb5.2
IMW *e*PcP PcP 19 40 41.5 +1.6
ARU Arti 49.95 316 P **P** **19 39 20.9 +0.8**
comp=Z,100nm,1.2s,mb5.7,SNR=7.2
ARU Arti 49.95 316⇑ *i*P **P** **19 39 19.0 -1.1**
ARU *e* 19 40 38.7
ARU *e* 19 41 13.4
ARU *e*S **S** **19 46 27.8 -2.7**
ARU *e* 19 49 10.4
ARU *e*SS SS 19 50 01.3 -2.0
ARU pmax pmax
comp=Z,25nm,1.3s,mb5.1
ARU Arti 49.95 316 *e*P **P** **19 39 18.1 -2.0**
comp=Z,25nm,1.1s,mb5.2
ARU LR LR
comp=Z,331nm,19.0s,MS4.4
CD2 Chengdu 50.05 263 *e*P **P** **19 39 21.3 +0.4**
CD2 AP pP 19 39 25.8 +1.8
CD2 XP sP 19 39 28.3 +3.1
CD2 PP PP 19 41 15.3 -0.6
CD2 S **S** **19 46 30.3 -1.7**
CD2 XS sS 19 46 37.9 +0.8
CD2 SS SS 19 49 59.8 -5.2
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CD2 LR LR
comp=E,710nm,13.2s
CD2 LR LR
comp=Z,180nm,10.8s,MS4.3
MOOW Moose Ponds 50.06 70 *e*P **P** **19 39 20.4 -0.6**
comp=Z,18nm,1.6s,mb4.8
TPAW Teton Pass 50.16 70 *e*P **P** **19 39 22.5 +0.8**
comp=Z,10nm,1.1s,mb4.8
LOHW Long Hollow 50.23 70 *e*P **P** **19 39 23.0 +0.8**
comp=Z,10nm,1.1s,mb4.8
NVAR Mina Array Bea 50.63 80 P **P** **19 39 25.4 +0.1**
comp=Z,1.5nm,0.7s,mb4.1,baz=316,slow=6.7,SNR=11
HWUT Hardware Ranch 51.34 72 *e*P **P** **19 39 31.2 +0.5**
comp=Z,26nm,1.4s,mb5.0
PDAR Pinedale Array 51.37 70 P **P** **19 39 30.4 -0.4**
comp=Z,5.2nm,0.8s,mb4.5,baz=318,slow=3.9,SNR=20
PDAR LR LR 20 02 19.0
comp=Z,620nm,19.4s,MS4.6,baz=347,slow=37
PDAR Pinedale Array 51.37 70 P **P** **19 39 30.4 -0.4**
PDAR LR LR 20 02 19.0
ULM Lac du Bonnet 51.42 54 P **P** **19 39 31.2 -0.1**
comp=Z,7.6nm,1.1s,mb4.6,baz=320,slow=8.1,SNR=11
ULM LR LR 20 02 06.9
comp=Z,406nm,18.1s,MS4.5,baz=0.8,slow=37
ULM Lac du Bonnet 51.42 54 P **P** **19 39 31.2 -0.1**
ULM LR LR 20 02 06.9
KLMR Klimovskoe 51.85 330 *e*P **P** **19 39 34.7 +0.2**
KLMR *e* 19 41 4.4
KLMR *e*S **S** **19 46 52.5 -4.4**
KLMR *e*SS SS 19 50 35.5 +1.9
KLMR pmax pmax
comp=Z,40nm,1.4s,mb5.2
JOF Joensuu 51.87 336 *e*p **P** **19 39 33.6 -1.0**
comp=Z,7.1nm,0.9s,mb4.6
JOF Joensuu 51.87 336 *e*P **P** **19 39 33.6 -1.0**
JOF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
RWWY Rawlins 53.29 69 *e*P **P** **19 39 46.6 +1.5**
comp=Z,5.6nm,0.8s,mb4.5
MSU Marysvale 53.50 75 *e*P **P** **19 39 48.3 +1.7**
KAF Kangasniemi 53.57 338 *e*p **P** **19 39 45.4 -1.8**
comp=Z,15nm,1.0s,mb4.9
KAF Kangasniemi 53.57 338 *e*P **P** **19 39 45.4 -1.8**
KAF pmax pmax
comp=Z,15nm,1.0s,mb4.9
SRU San Rafael 53.80 73 *e*P **P** **19 39 48.1 -0.8**
SRU pmax pmax
comp=Z,32nm,1.4s,mb5.1
SRU San Rafael 53.80 73 *e*P **P** **19 39 48.1 -0.7**
comp=Z,32nm,1.4s,mb5.1
TKM2 Tokmak 2 53.89 295 P **P** **19 39 51.7 +2.1**
SNR=6.3
USP Ospenovka 54.10 296 P **P** **19 39 52.9 +1.8**
SNR=10.0
ULHL Ulahol 54.14 294 P **P** **19 39 53.2 +1.8**
SNR=9.4
CHMS Chumysh 54.21 295 P **P** **19 39 54.2 +2.3**
SNR=5.9
KBK Karagaybulak 54.39 295 P **P** **19 39 55.1 +1.9**
SNR=11
NEN Nelson 54.51 79 *e*P **P** **19 39 54.2 +0.1**
PECR Pechory 54.57 324 *i* P **P** **19 39 55.2 +0.7**
PECR pmax pmax
comp=Z,50nm,1.6s,mb5.3
AAK Ala-Archa 54.61 295 P **P** **19 39 54.5 -0.3**
comp=Z,87nm,0.9s,mb5.8,SNR=6.2
AAK Ala-Archa 54.61 295 *e*PKIKP **P** **19 39 53.9 -0.9**
AAK pmax pmax
comp=Z,12nm,0.9s,mb4.9
AAK Ala-Archa 54.61 295 *e*P **P** **19 39 53.9 -0.9**
AAK pmax pmax
comp=Z,12nm,0.9s,mb4.9
AAK Ala-Archa 54.61 295 *e*P **P** **19 39 53.9 -0.9**
comp=Z,12nm,0.9s,mb4.9
AKTK Aktyubinsk 54.99 312 P **P** **19 39 56.8 -0.7**
AKTK PcP PcP 19 40 60.0 +0.7
AKTO Aktyubinsk 54.99 312 P **P** **19 39 56.8 -0.7**
comp=Z,7.5nm,1.0s,mb4.7,baz=35,slow=8.6,SNR=14
AKTO PcP PcP 19 40 60.0 +0.7
comp=Z,4.3nm,1.0s,baz=78,slow=1.4,SNR=3.6
ORR Orenburg 55.17 315⇑ *i*P **P** **19 39 59.7 +0.9**
ORR pmax pmax
comp=Z,40nm,1.8s,mb5.2
ORR MLR MLR
comp=Z,880nm,24.0s,MS4.8
AB31 Akbulak array 55.25 310 *i* P **P** **19 39 58.4 -1.0**
AB31 pmax pmax
comp=Z,21nm,1.2s,mb5.0
KMI Kunming 55.37 260 P **P** **19 40 01.5 +1.3**
KMI AP pP 19 40 04.5 +1.2
KMI XP sP 19 40 05.8 +1.3
KMI PCP PcP 19 41 02.3 +1.6
KMI PP PP 19 42 06.8 +2.9
KMI SCP ScP 19 44 59.6 0.0
KMI PCS PcS 19 45 00.8 +0.1
KMI S **S** **19 47 43.8 -0.8**
KMI XS sS 19 47 48.8 -0.9
KMI SCS ScS 19 49 47.4 -2.2
KMI SS SS 19 51 28.1 -0.9
KMI AMB AMB
comp=Z,8.0nm,0.9s,mb4.8
KMI AMB AMB
comp=Z,152nm,4.3s
KMI LR LR
comp=N,736nm,14.5s,MS5.0
KMI LR LR
comp=E,544nm,12.2s,MS5.0
KMI LR LR
comp=Z,684nm,14.2s,MS4.9
PV01 Paradox Valley 55.50 73 *e*P **P** **19 40 03.0 +1.8**
MOS Moscow 56.83 328 *e*P **P** **19 40 10.4 -0.3**
MOS *e* 19 41 07.2
MOS *e* 19 42 16.2
MOS pmax pmax
comp=Z,54nm,1.0s,mb5.5
MOS MLR MLR
comp=Z,800nm,15.9s,MS4.9
NB2 NORSAR Subarra 56.92 346 P **P** **19 40 09.4 -1.9**
comp=Z,20nm,1.0s,mb5.1,baz=14,slow=7.4
NOA NORSAR Array B 56.92 346 P **P** **19 40 09.6 -1.7**
comp=Z,18nm,1.1s,mb5.0,baz=14,slow=7.3,SNR=15
NOA PcP PcP 19 41 07.6 +0.9
NOA comp=Z,2.3nm,0.8s,baz=17,slow=2.7,SNR=3.6
NOA LR LR 20 09 01.4
comp=Z,182nm,19.3s,MS4.2,baz=0.0,slow=41
NOA NORSAR Array B 56.92 346 P **P** **19 40 09.6 -1.7**
NOA 19 41 07.6
LSA Lhasa 57.21 273 P **P** **19 40 14.3 +0.9**
LSA Lhasa 57.21 273 *e*P **P** **19 40 14.1 +0.7**
LSA pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
LSA Lhasa 57.21 273 *e*P **P** **19 40 14.1 +0.7**
comp=Z,4.0nm,0.7s,mb4.6
QIZ Qiongzhong 57.24 249 P **P** **19 40 14.8 +1.2**
QIZ S **S** **19 48 09.0 -0.5**
QIZ LR LR
comp=E,585nm,17.1s
QIZ LR LR
comp=Z,522nm,21.8s,MS4.6
SCHQ Schefferville 57.35 33 P **P** **19 40 13.6 -0.8**
comp=Z,22nm,1.1s,mb5.1,baz=358,slow=9.0,SNR=9.3
SCHQ LR LR 20 07 52.0
comp=Z,243nm,19.0s,MS4.3,baz=280,slow=39
SCHQ Schefferville 57.35 33 *e*P **P** **19 40 14.4 0.0**
comp=Z,40nm,1.2s,mb5.3
HFS Hagfors 57.48 344 P **P** **19 40 14.4 -0.9**
comp=Z,7.0nm,1.0s,mb4.7,baz=5.7,slow=3.0,SNR=8.3
OBN Obninsk 57.66 328 *e*P **P** **19 40 16.5 -0.1**
OBN *e* 19 41 10.5
OBN *e* 19 42 24.3
OBN *e*SS SS 19 52 10.9 +5.7
OBN pmax pmax
comp=Z,41nm,1.6s,mb5.2
OBN MLR MLR
comp=Z,900nm,17.0s,MS5.0
ANMO Albuquerque 59.07 73 LR LR 20 07 11.2
comp=Z,372nm,19.3s,MS4.5,baz=226,slow=37
ANMO Albuquerque 59.07 73 *e*P **P** **19 40 28.0 +1.6**
LAZ Ladron 59.20 74 *e*P **P** **19 40 29.8 +2.5**
LPM Los Pinos Moun 59.51 74 P **P** **19 40 30.3 +0.8**
VRHR Novokhopersk 59.84 323 *e*PKIKP **P** **19 40 32.5 +0.7**
VRHR pmax pmax
comp=Z,20nm,1.0s,mb5.1
VRHR pmax pmax
comp=N,30nm,1.1s
VRHR pmax pmax
comp=E,10.0nm,0.5s
VRHR Novokhopersk 59.84 323 *e*P **P** **19 40 32.5 +0.7**
VRHR pmax pmax
comp=Z,20nm,1.0s,mb5.1
VRHR pmax pmax
comp=N,30nm,1.1s
VRHR pmax pmax
comp=E,10.0nm,0.5s
VOR Voronezh 59.98 325 PKIKP **P** **19 40 32.0 -0.7**
VOR pmax pmax
comp=Z,60nm,1.8s,mb5.3
VOR Voronezh 59.98 325 P **P** **19 40 32.0 -0.7**
VOR pmax pmax
comp=Z,60nm,1.8s,mb5.3
GUN Gumba 61.27 276 *e*P **P** **19 40 42.3 +0.8**
comp=Z,28nm,0.8s,mb5.5
JIRN Jiri 61.33 276 *e*P **P** **19 40 40.5 -1.4**
KKN Kakani 61.66 277 *e*P **P** **19 40 42.6 -1.5**
GKN Gorkha 61.80 277 *e*P **P** **19 40 45.2 +0.2**
comp=Z,20nm,1.1s,mb5.2
CPRX Cap Rock 61.86 72 *e*P **P** **19 40 43.6 -1.9**
SADO Sadowa 62.30 47 LR LR 20 09 15.7
comp=Z,318nm,18.1s,MS4.5,baz=340,slow=37
GDL2 Guadalupe Moun 62.32 73 *e*P **P** **19 40 49.9 +1.3**
KOLN Koldanda 62.49 278 *e*P **P** **19 40 45.3 -4.4**
comp=Z,13nm,0.9s,mb5.1
WMOK Wichita Mounta 62.78 67 *e*P **P** **19 40 51.1 -0.6**
WMOK pmax pmax
comp=Z,32nm,1.4s,mb5.3
WMOK Wichita Mounta 62.78 67 *e*P **P** **19 40 51.1 -0.6**
comp=Z,32nm,1.4s,mb5.3
AKASG Malin Array Be 63.52 331 P **P** **19 40 55.4 -1.2**
comp=Z,7.2nm,0.8s,mb4.8,baz=22,slow=6.4,SNR=43
GKP Gorka Klasztor 63.55 340 *e*P **P** **19 40 57.5 +0.8**
FVM French Village 63.70 59 *e*P **P** **19 40 57.8 0.0**
FVM pmax pmax
comp=Z,38nm,1.3s,mb5.3
FVM French Village 63.70 59 *e*P **P** **19 40 57.8 0.0**
comp=Z,38nm,1.3s,mb5.3
EKA Eskdalemuir Ar 63.87 353 P **P** **19 40 58.6 -0.2**
comp=Z,12nm,1.0s,mb4.9,baz=2.5,slow=5.8,SNR=8.6
FRNY Flat Rock 64.17 43 *e*P **P** **19 41 00.6 -0.3**
GOF Gofitskoye 64.77 319 *e*P **P** **19 41 04.8 0.0**
GOF pmax pmax
comp=Z,40nm,1.0s,mb5.4
LBNH Lisbon 65.25 42 *e*P **P** **19 41 08.4 +0.6**
LBNH pmax pmax
comp=Z,38nm,1.1s,mb5.3
LBNH Lisbon 65.25 42 *e*P **P** **19 41 08.4 +0.6**
comp=Z,38nm,1.1s,mb5.3
MIAR Mount Ida 65.26 63 *e*P **P** **19 41 08.8 +0.8**
MIAR pmax pmax
comp=Z,20nm,1.3s,mb5.0
MIAR Mount Ida 65.26 63 *e*P **P** **19 41 08.8 +0.8**
comp=Z,20nm,1.3s,mb5.0
ABKT Ailbek 65.48 304 P **P** **19 41 10.6 +1.2**
comp=Z,81nm,1.0s,mb5.7,SNR=8.2
LVV L'vov 65.52 334 *e*P **P** **19 41 09.9 +0.2**
LVV *e*S S 19 49 57.2 +2.5
BINY Binghamton 65.67 46 *e*P **P** **19 41 09.7 -0.9**
comp=Z,22nm,1.2s,mb5.1
KIV Kislovodsk 65.87 319 *e*P **P** **19 41 12.4 +0.5**
KIV pmax pmax
comp=Z,13nm,1.0s,mb4.9
KIV MLR MLR
comp=Z,330nm,15.0s,MS4.7
KIV Kislovodsk 65.87 319 *e*P **P** **19 41 13.6 +1.7**
comp=Z,8.4nm,0.8s,mb4.8
JCT Junction City 65.89 71 *e*P **P** **19 41 13.1 +1.1**
JCT pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
JCT Junction City 65.89 71 *e*P **P** **19 41 13.1 +1.1**
comp=Z,5.7nm,0.6s,mb4.8
KWP Kalwaria 65.98 335 *e*P **P** **19 41 14.1 +1.5**
OJC Ojcow 66.01 337 *e*P **P** **19 41 13.6 +0.8**
KSP Ksiaz 66.05 339 *e*P **P** **19 41 13.8 +0.8**
KSP Ksiaz 66.05 339 *e*P **P** **19 41 13.6 +0.6**
CLL Collm 66.13 342⇑ *i*P **P** **19 41 13.5 -0.1**
comp=Z,21nm,1.2s,mb5.0
CLL Collm 66.13 342⇑ *e*P **P** **19 41 14.0 +0.4**
CLL pmax pmax
comp=Z,21nm,1.2s,mb5.0
SSPA Standing Stone 66.36 48 *e*P **P** **19 41 14.9 -0.1**
comp=Z,30nm,1.3s,mb5.2
WVT Waverly 66.37 58 *e*P **P** **19 41 14.0 -1.1**
comp=Z,14nm,0.7s,mb5.1
BRG Berggiesshubel 66.40 341 *e*P **P** **19 41 15.5 +0.2**
comp=Z,8.3nm,1.4s,mb4.6
BRG *e* 19 41 44.4
comp=Z,2.9nm,1.0s
BRG
comp=Z,252nm,15.7s
BRG
comp=N,169nm,14.3s
BRG
comp=E,301nm,14.3s
BRG Berggiesshubel 66.40 341 *e*P **P** **19 41 15.5 +0.2**
BRG *e* 19 41 44.4
BRG pmax pmax
comp=Z,80nm,1.4s,mb5.6
BRG MLR MLR
comp=Z,252nm,15.7s,MS4.5
BRG MLR MLR
comp=N,169nm,14.3s,MS4.7
BRG MLR MLR
comp=E,301nm,14.3s,MS4.7
UPC Upice 66.42 340 *e*P **P** **19 41 14.7 -0.7**
STHS Stebnicka Huta 66.49 336 *i* P **P** **19 41 16.9 +1.0**
comp=E,11nm,1.2s,mb4.8
DPC Dobruska-Polom 66.52 339 *e*P **P** **19 41 16.2 +0.2**
ZEI Tsey 66.53 317 *e*P **P** **19 41 15.8 -0.3**
ZEI *e*PP pP 19 41 24.5 +5.2
ZEI pmax pmax
comp=Z,12nm,1.1s,mb4.8
OKC Ostrava-Krasne 66.68 338 *e*P **P** **19 41 16.7 -0.4**
KOLS Kolonicke sedl 66.73 335 *e*P **P** **19 41 20.3 +2.9**
comp=Z,17nm,1.5s,mb4.8
ANN Anapa 66.74 323 *e*P **P** **19 41 20.1 +2.6**
ANN *e* 19 43 43.3

ANN eS S 19 50 13.4 +3.9
ANN pmax pmax
comp=Z,51nm,1.0s,mb5.5
ANN MLR MLR
comp=Z,157nm,22.0s,MS4.2
MORC Moravsky Berou 66.85 338 ⇓ *i* P **P 19 41 19.3 +1.1**
MORC Moravsky Berou 66.85 338 *e*P **P 19 41 17.9 -0.3**
MORC pmax pmax
comp=Z,28nm,1.6s,mb5.0
MORC Moravsky Berou 66.85 338 *e*P **P 19 41 17.9 -0.3**
comp=Z,28nm,1.6s,mb5.0
CRVS Cervenica-Dubn 66.93 335 *e*pP pP 19 41 23.5 +1.7
MOX Moxa 66.98 343 *e*P **P 19 41 19.1 +0.1**
comp=Z,12nm,1.3s,mb4.8
MOX Moxa 66.98 343 *e*P **P 19 41 19.1 +0.1**
MOX pmax pmax
comp=Z,12nm,1.3s,mb4.8
KECS Kecovo 67.53 336 *e*P **P 19 41 23.1 +0.6**
comp=Z,5.4nm,1.2s,mb4.5
SIM Simferopol' 67.56 325 *ce*P **P 19 41 24.1 +1.4**
SIM S S 19 50 23.0 +3.6
SIM pmax pmax
comp=Z,12nm,1.0s,mb4.9
SIM MLR MLR
comp=Z,560nm,17.0s,MS4.9
FWV Forest Hill 67.93 52 *e*P **P 19 41 24.1 -0.9**
GRA1 Grafenberg Arr 67.97 343 *e*P **P 19 41 25.8 +0.5**
comp=Z,26nm,1.4s,mb5.1
GRF Grafenberg Arr 67.97 343 *e*P **P 19 41 25.8 +0.5**
comp=Z,26nm,1.4s,mb5.1
GRF Grafenberg Arr 67.97 343 *e*P **P 19 41 25.8 +0.5**
GRF pmax pmax
comp=Z,26nm,1.4s,mb5.1
GRF Grafenberg Arr 67.97 343 *e*P **P 19 41 25.8 +0.5**
GRF pmax pmax
comp=Z,26nm,1.4s,mb5.1
SMOL Smolenice 68.09 338 *e*P **P 19 41 28.1 +2.1**
PSZ Piszkesteto 68.19 336 *e*P **P 19 41 25.6 -1.0**
PSZ pmax pmax
comp=Z,32nm,1.5s,mb5.1
PSZ Piszkesteto 68.19 336 *e*P **P 19 41 25.6 -1.0**
comp=Z,32nm,1.5s,mb5.1
ELN Prospectdale 68.26 52 *e*P **P 19 41 23.0 -4.1**
GIVF Givet 68.39 347 *e*P **P 19 41 27.2 -0.7**
comp=Z,24nm,1.0s,mb4.9
GIVF Givet 68.39 347 *e*P **P 19 41 27.2 -0.7**
GIVF pmax pmax
comp=Z,12nm,1.0s,mb4.9
GIVF Givet 68.39 347 *e*P **P 19 41 27.2 -0.7**
comp=Z,12nm,1.0s,mb4.9
BLA Blacksburg 68.40 52 *e*P **P 19 41 28.4 +0.4**
BLA pmax pmax
comp=Z,20nm,0.8s,mb5.2
BLA Blacksburg 68.40 52 *e*P **P 19 41 28.4 +0.4**
comp=Z,1.6nm,0.8s,mb4.1
GERES GERESS Array B 68.41 341 P **P 19 41 27.9 -0.1**
comp=Z,2.3nm,0.9s,mb4.2,baz=35,slow=4.9,SNR=11
GERES LR LR 20 15 40.4
comp=Z,303nm,19.3s,MS4.5,baz=192,slow=40
ZST Bratislava 68.45 338 *e*P **P 19 41 30.0 +1.7**
comp=Z,18nm,1.4s,mb4.8
BAIF Baives 68.50 347 *e*P **P 19 41 28.2 -0.4**
comp=Z,102nm,1.6s,mb5.3
BAIF Baives 68.50 347 *e*P **P 19 41 28.2 -0.4**
BAIF pmax pmax
comp=Z,51nm,1.6s,mb5.3
BAIF Baives 68.50 347 *e*P **P 19 41 28.2 -0.4**
comp=Z,51nm,1.6s,mb5.3
GNI Garni 68.58 315 P **P 19 41 30.9 +1.8**
comp=Z,3.6nm,0.6s,mb4.5,baz=182,slow=4.0,SNR=7.9
GNI Garni 68.58 315 *e*P **P 19 41 32.2 +3.1**
GNI pmax pmax
comp=Z,17nm,1.1s
GNI Garni 68.58 315 *e*P **P 19 41 32.2 +3.1**
comp=Z,17nm,1.1s,mb4.9
MLR Muntele Rosu 69.17 331 P **P 19 41 33.9 +1.2**
comp=Z,12nm,1.0s,mb4.8,baz=76,slow=2.2,SNR=11
MLR Muntele Rosu 69.17 331 S pP 19 41 36.7 +0.8
MOA Molln 69.28 340 ⇑ *i* P **P 19 41 34.0 +0.5**
comp=Z,16nm,1.5s,mb4.7
ARSA Arzberg 69.65 339 ⇑ *i* P **P 19 41 34.2 -1.5**
comp=Z,6.8nm,1.1s,mb4.5
CDF Champ du Feu 69.76 345 *e*P **P 19 41 36.0 -0.4**
comp=Z,40nm,1.4s,mb4.8
CDF Champ du Feu 69.76 345 *e*P **P 19 41 36.0 -0.4**
CDF pmax pmax
comp=Z,20nm,1.4s,mb4.8
CDF Champ du Feu 69.76 345 *e*P **P 19 41 36.0 -0.4**
comp=Z,20nm,1.4s,mb4.9
MEZF Maizieres J'vi 69.94 347 *e*P **P 19 41 37.1 -0.4**
KBA Koelnbreinspar 70.18 340 ⇑ *i* P **P 19 41 37.8 -1.2**
comp=Z,20nm,1.4s,mb4.8
FLN La Foliniere 70.22 351 *e*P **P 19 41 38.2 -1.0**
comp=Z,143nm,1.7s,mb5.3
FLN eR
comp=Z,286nm,20.8s
FLN La Foliniere 70.22 351 *e*P **P 19 41 38.2 -1.0**
FLN pmax pmax
comp=Z,72nm,1.7s,mb5.3
FLN MLR MLR
comp=Z,290nm,20.8s,MS4.5
FLN La Foliniere 70.22 351 *e*P **P 19 41 38.2 -1.0**
comp=Z,72nm,1.7s,mb5.3
FLN LR LR
comp=Z,290nm,20.8s,MS4.5
WTTA Wattenberg 70.27 342 ⇑ *i* P **P 19 41 37.5 -2.0**
comp=Z,10.0nm,1.1s,mb4.7
HAU Haudompre 70.28 346 *e*P **P 19 41 39.9 +0.3**
comp=Z,20nm,1.1s,mb4.7
HAU eR
comp=Z,209nm,20.0s
HAU Haudompre 70.28 346 *e*P **P 19 41 39.9 +0.3**
HAU pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
HAU MLR MLR
comp=Z,210nm,20.0s,MS4.4
HAU Haudompre 70.28 346 *e*P **P 19 41 39.9 +0.3**
comp=Z,10nm,1.1s,mb4.7
HAU LR LR
comp=Z,210nm,20.0s,MS4.4
MOTA Moosalm 70.28 342 ⇑ *i* P **P 19 41 40.6 +1.0**
comp=Z,8.1nm,1.3s,mb4.5
LDF La Druitiere 70.36 350 *e*P **P 19 41 38.8 -1.3**
comp=Z,77nm,1.5s,mb5.1
LDF La Druitiere 70.36 350 *e*P **P 19 41 38.8 -1.3**
LDF pmax pmax
comp=Z,38nm,1.5s,mb5.1
LDF La Druitiere 70.36 350 *e*P **P 19 41 38.8 -1.3**
comp=Z,38nm,1.5s,mb5.1
SQTA Sankt Quirin 70.38 342 ⇑ *i* P **P 19 41 41.4 +1.2**
comp=Z,11nm,1.3s,mb4.7
HINF Hinteralfeld 70.40 345 *e*P **P 19 41 39.2 -1.1**
comp=Z,77nm,1.9s,mb5.0
HINF Hinteralfeld 70.40 345 *e*P **P 19 41 39.2 -1.1**
HINF pmax pmax
comp=Z,38nm,1.9s,mb5.0
HINF Hinteralfeld 70.40 345 *e*P **P 19 41 39.2 -1.1**
comp=Z,38nm,1.9s,mb5.0
OBKA Obir 70.53 339 ⇑ *i* P **P 19 41 42.4 +1.3**
comp=Z,31nm,1.3s,mb5.1
GRR Gorron 70.62 351 *e*P **P 19 41 40.9 -0.8**
comp=Z,139nm,1.6s,mb5.3
GRR Gorron 70.62 351 *e*P **P 19 41 40.9 -0.8**
GRR pmax pmax
comp=Z,70nm,1.6s,mb5.3
GRR Gorron 70.62 351 *e*P **P 19 41 40.9 -0.8**
comp=Z,70nm,1.6s,mb5.3
ROSF Rostrenen 70.85 352 *e*P **P 19 41 42.3 -0.8**
DAVOX Davos 71.01 343 P **P 19 41 43.9 -0.2**
comp=Z,3.8nm,0.7s,mb4.5,baz=356,slow=10,SNR=4.2
LOR Lormes 71.29 347 *e*P **P 19 41 45.0 -0.7**
comp=Z,55nm,1.2s,mb5.0
LOR eR
comp=Z,245nm,18.5s
LOR Lormes 71.29 347 *e*P **P 19 41 45.0 -0.7**
LOR pmax pmax
comp=Z,28nm,1.2s,mb5.1
LOR MLR MLR
comp=Z,240nm,18.5s,MS4.5
LOR Lormes 71.29 347 *e*P **P 19 41 45.0 -0.7**
comp=Z,28nm,1.2s,mb5.1
LOR LR LR
comp=Z,240nm,18.5s,MS4.5
SSF Saint Saulge 71.53 347 *e*P **P 19 41 46.5 -0.7**
comp=Z,60nm,1.4s,mb5.0
SSF Saint Saulge 71.53 347 *e*P **P 19 41 46.5 -0.7**
SSF pmax pmax
comp=Z,30nm,1.4s,mb5.0
SSF Saint Saulge 71.53 347 *e*P **P 19 41 46.5 -0.7**
comp=Z,30nm,1.4s,mb5.0
CABF La Chapelle 71.68 346 *e*P **P 19 41 47.7 -0.4**
comp=Z,45nm,1.2s,mb5.0
CABF La Chapelle 71.68 346 *e*P **P 19 41 47.7 -0.4**
CABF pmax pmax
comp=Z,22nm,1.2s,mb5.0
CABF La Chapelle 71.68 346 *e*P **P 19 41 47.7 -0.4**
comp=Z,22nm,1.2s,mb5.0
AVF Avril sur Loir 71.82 348 *e*P **P 19 41 48.3 -0.6**
comp=Z,102nm,1.5s,mb5.2
AVF Avril sur Loir 71.82 348 *e*P **P 19 41 48.3 -0.6**
AVF pmax pmax
comp=Z,51nm,1.5s,mb5.2
AVF Avril sur Loir 71.82 348 *e*P **P 19 41 48.3 -0.6**
comp=Z,51nm,1.5s,mb5.2
SMF Signal de Mont 71.91 347 *e*P **P 19 41 48.8 -0.7**
comp=Z,65nm,1.5s,mb5.0
SMF Signal de Mont 71.91 347 *e*P **P 19 41 48.8 -0.7**
SMF pmax pmax
comp=Z,33nm,1.5s,mb5.0
SMF Signal de Mont 71.91 347 *e*P **P 19 41 48.8 -0.7**
comp=Z,32nm,1.5s,mb5.0
BGF Bois d'Agland 72.10 348 *e*P **P 19 41 50.0 -0.6**
comp=Z,23nm,1.1s,mb4.7
BGF Bois d'Agland 72.10 348 *e*P **P 19 41 50.0 -0.6**
BGF pmax pmax
comp=Z,12nm,1.1s,mb4.7
BGF Bois d'Agland 72.10 348 *e*P **P 19 41 50.0 -0.6**
comp=Z,12nm,1.1s,mb4.7
MALT Malatya 72.34 319 *e*P **P 19 41 54.3 +2.3**
MALT pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
MALT Malatya 72.34 319 *e*P **P 19 41 54.3 +2.3**
comp=Z,6.7nm,1.1s,mb4.5
MFF Saint Martin d 72.34 350 *e*P **P 19 41 51.8 -0.2**
comp=Z,30nm,1.3s,mb5.1
MFF Saint Martin d 72.34 350 *e*P **P 19 41 51.8 -0.2**
MFF pmax pmax
comp=Z,30nm,1.3s,mb5.1
MFF Saint Martin d 72.34 350 *e*P **P 19 41 51.8 -0.2**
comp=Z,30nm,1.3s,mb5.1
TCF Toulx Ste Croi 72.43 348 *e*P **P 19 41 52.0 -0.6**
comp=Z,36nm,1.2s,mb4.9
TCF Toulx Ste Croi 72.43 348 *e*P **P 19 41 52.0 -0.6**
TCF pmax pmax
comp=Z,18nm,1.2s,mb4.9
TCF Toulx Ste Croi 72.43 348 *e*P **P 19 41 52.0 -0.6**
comp=Z,18nm,1.2s,mb4.9
BR131 Keskin Array S 72.51 323 *e*P **P 19 41 55.0 +1.9**
comp=Z,3.3nm,0.8s,mb4.3
BRTR Keskin Array B 72.51 323 P **P 19 41 53.7 +0.6**
comp=Z,4.4nm,0.9s,mb4.4,baz=46,slow=3.6,SNR=17
LPL La Plagne 72.68 345 *e*P **P 19 41 54.5 +0.4**
LPG La Plagne 72.69 345 *e*P **P 19 41 54.7 +0.5**
comp=Z,29nm,1.2s,mb4.8
LPG La Plagne 72.69 345 *e*P **P 19 41 54.7 +0.5**
LPG pmax pmax
comp=Z,14nm,1.2s,mb4.8
LPG La Plagne 72.69 345 *e*P **P 19 41 54.7 +0.5**
comp=Z,14nm,1.2s,mb4.8
ORIF Oris-en-Rattie 73.37 345 *e*P **P 19 41 58.3 +0.1**
ORIF eR
comp=Z,231nm,20.0s
RJF Les Rejaudoux 73.47 349 *e*P **P 19 41 58.3 -0.5**
comp=Z,126nm,1.8s,mb5.2
RJF eR
comp=Z,331nm,20.8s
RJF Les Rejaudoux 73.47 349 *e*P **P 19 41 58.3 -0.5**
RJF pmax pmax
comp=Z,63nm,1.8s,mb5.2
RJF MLR MLR
comp=Z,330nm,20.8s,MS4.6
RJF Les Rejaudoux 73.47 349 *e*P **P 19 41 58.3 -0.5**
comp=Z,63nm,1.8s,mb5.2
RJF LR LR
comp=Z,330nm,20.8s,MS4.6
VIVF Saint-Julien-l 73.58 346 *e*P **P 19 41 59.1 -0.3**
comp=Z,17nm,1.1s,mb4.6
VIVF Saint-Julien-l 73.58 346 *e*P **P 19 41 59.1 -0.3**
VIVF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
VIVF Saint-Julien-l 73.58 346 *e*P **P 19 41 59.1 -0.3**
comp=Z,8.6nm,1.1s,mb4.6
CAF Calviac 73.79 348 *e*P **P 19 42 00.6 -0.1**
comp=Z,27nm,1.1s,mb4.8
CAF Calviac 73.79 348 *e*P **P 19 42 00.6 -0.1**
CAF pmax pmax
comp=Z,13nm,1.1s,mb4.8
CAF Calviac 73.79 348 *e*P **P 19 42 00.6 -0.1**
comp=Z,13nm,1.1s,mb4.8
LFF La Frestale 73.91 349 *e*P **P 19 42 01.1 -0.2**
comp=Z,137nm,1.6s,mb5.3
LFF La Frestale 73.91 349 *e*P **P 19 42 01.1 -0.2**
LFF pmax pmax
comp=Z,69nm,1.6s,mb5.3
LFF La Frestale 73.91 349 *e*P **P 19 42 01.1 -0.2**
comp=Z,68nm,1.6s,mb5.3
SBF Sospel 74.21 344 *e*P **P 19 42 02.4 -0.7**
comp=Z,64nm,1.3s,mb5.1
SBF Sospel 74.21 344 *e*P **P 19 42 02.4 -0.7**
SBF pmax pmax
comp=Z,32nm,1.3s,mb5.1
SBF Sospel 74.21 344 *e*P **P 19 42 02.4 -0.7**
comp=Z,32nm,1.3s,mb5.1
LMR La Mourre 74.85 345 *e*P **P 19 42 06.1 -0.7**
comp=Z,45nm,1.4s,mb4.9
LMR La Mourre 74.85 345 *e*P **P 19 42 06.1 -0.7**
LMR pmax pmax
comp=Z,23nm,1.4s,mb4.9
LMR La Mourre 74.85 345 *e*P **P 19 42 06.1 -0.7**
comp=Z,23nm,1.4s,mb4.9
MTLF Montolieu 75.35 348 *e*P **P 19 42 09.7 0.0**
comp=Z,41nm,1.3s,mb4.9
MTLF Montolieu 75.35 348 *e*P **P 19 42 09.7 0.0**
MTLF pmax pmax
comp=Z,21nm,1.3s,mb4.9
MTLF Montolieu 75.35 348 *e*P **P 19 42 09.7 0.0**
comp=Z,20nm,1.3s,mb4.9
EPF Esparros 75.84 349 *e*P **P 19 42 11.7 -0.8**
comp=Z,37nm,1.5s,mb4.8
EPF Esparros 75.84 349 *e*P **P 19 42 11.7 -0.8**
EPF pmax pmax
comp=Z,19nm,1.5s,mb4.8
EPF Esparros 75.84 349 *e*P **P 19 42 11.7 -0.8**
comp=Z,18nm,1.5s,mb4.8
ETSF Etsaut 76.05 350 *e*P **P 19 42 14.0 +0.3**
comp=Z,48nm,1.3s,mb5.0
ETSF Etsaut 76.05 350 *e*P **P 19 42 14.0 +0.3**
ETSF pmax pmax
comp=Z,24nm,1.3s,mb5.0
ETSF Etsaut 76.05 350 *e*P **P 19 42 14.0 +0.3**
comp=Z,24nm,1.3s,mb5.0
TIP Timpagrande 77.21 336 *e*P **P 19 42 20.9 +0.6**
PBRG Braganca 77.55 354 *e*P **P 19 42 23.9 +1.7**
comp=Z,33nm,1.5s,mb5.0
PVRL Vila Real 78.12 355 *e*P **P 19 42 25.9 +0.5**
comp=Z,17nm,1.2s,mb4.8
ESDC Sonseca Array 79.52 352 P **P 19 42 33.0 0.0**
comp=Z,6.4nm,0.9s,mb4.5,baz=6.8,slow=5.4,SNR=14
PCBR Castelo Branco 79.55 355 *e*P **P 19 42 33.3 +0.1**
comp=Z,25nm,1.1s,mb5.1
TAOE Nuku Hiva Isla 81.26 126 *e*LR LR 20 07 38.7
comp=Z,893nm,23.2s
PBEJ Beja 81.37 355 *e*P **P 19 42 42.3 -0.7**
comp=Z,7.2nm,1.2s,mb4.5
WRA Warramunga Arr 84.43 210 P **P 19 42 56.9 -1.9**
comp=Z,5.0nm,0.9s,mb4.7,baz=16,slow=5.3,SNR=16
PPT Papeete 85.87 138 *e*LR LR 20 09 46.4
comp=Z,336nm,21.8s
PPT Papeete 85.87 138 LR LR 20 16 02.9
comp=Z,415nm,18.5s,MS4.9,baz=356,slow=32
ASAR Alice Springs 88.11 209 P **P 19 43 14.9 -2.0**
comp=Z,1.4nm,0.9s,mb4.2,baz=18,slow=4.1,SNR=7.8
TBI Tubuai 91.31 140 *e*LR LR 20 12 17.2
comp=Z,380nm,23.2s,baz=336
RKT Rikitea 96.23 127 *e*LR LR 20 14 33.3
comp=Z,273nm,25.2s
ROSC El Rosal 99.72 61 LR LR 20 34 14.4
comp=Z,101nm,19.4s,MS4.3,baz=27,slow=38
SUR Sutherland 143.59 305 PKP PKPdf 19 50 00.6 -0.5
comp=Z,8.4nm,0.9s,baz=72,slow=3.2,SNR=2.3
MAW Mawson 147.96 225 PKPbc PKPbc 19 50 09.6 -2.0
comp=Z,7.7nm,1.0s,baz=12,slow=5.6,SNR=5.5

*ISCJB **18** 19:34:08.6±0.4,2792N±004×1396E±0.1,h526km±5km, mb3.7/12, Error ellipse: s-maj=15.1km s-min=6.2km az=157.2*
*IDC **18** 19:34:08.6±0.7,2793N×139.39E, h507km±8km, mb3.5/7, mb1 3.7/11, mb1mx3.4/20, mbtmp4.5/11, Error ellipse: s-maj=19.1km s-min=10.2km az=93.0*
*MOS **18** 19:34:08.3±0.6,2797N×139.18E, h521km, mb4.0/1, Error ellipse: s-maj=36.1km s-min=13.1km az=93.5*
*NEIC **18** 19:34:09.1±0.8,2793N×139.36E, h515km±12km, mb4.4/2, Error ellipse: s-maj=19.2km s-min=8.6km az=92.0*
*JMA **18** 19:34:09.4±0.1,2801N×139.73E, h530km, M4.2*
ISC 18 19:34:09.7±0.4, 2797N±004×1396E±01, h523km±5km, n43, σ1§08/51, mb3.7/12, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.42**	**111**	P	**P**	**19 35 19.2**	**+0.2**
	52nm,0.3s,baz=251,slow=22,SNR=50						
CBIJ				S	**S**	**19 36 13.4**	**-2.0**
	65nm,0.3s,baz=302,slow=21,SNR=13						
JHHJ	**Haha-jima-NKT**	**2.63**	**120**	P	**P**	**19 35 20.9**	**+0.8**
JHHJ				S	**S**	**19 36 17.4**	**-0.1**
JHJ2	**Mitsune**	**5.12**	**2**	P	**P**	**19 35 39.9**	**+1.0**
JHJ2				*e*S	**S**	**19 36 51.2**	**-0.7**
JHJ	**Hachijo jima 2**	**5.13**	**1**	P	**P**	**19 35 39.4**	**+0.4**
	12nm,0.3s,baz=72,slow=22,SNR=11						
JHJ				S	**S**	**19 36 49.4**	**-2.6**
	27nm,0.3s,baz=63,slow=23,SNR=10.0						
JWZ	**Kozaga**	**6.49**	**330**	P	**P**	**19 35 52.5**	**+0.9**
BSO1	**Boso 1**	**6.76**	**9**	P	**P**	**19 35 55.2**	**+1.0**
BSO1				*e*S	**S**	**19 37 19.5**	**-0.3**
JWY	**Kouya**	**7.13**	**332**	P	**P**	**19 36 00.0**	**+2.2**
JOD2	**Odawara 2**	**7.28**	**356**	P	**P**	**19 35 59.1**	**-0.3**
JOD2				*e*S	**S**	**19 37 27.8**	**-1.5**
JAI	**Aioi**	**7.31**	**324**	P	**P**	**19 36 00.8**	**+1.1**
JYN	**Shimob**	**7.56**	**353**	P	**P**	**19 36 02.5**	**+0.4**
JTO	**Tosashimizu**	**7.65**	**311**	P	**P**	**19 36 03.9**	**+0.9**
JRY	**Ryogami san**	**8.04**	**356**	P	**P**	**19 36 07.0**	**0.0**
MJAR	**Matsushiro Arr**	**8.63**	**352**	P	**P**	**19 36 12.1**	**-0.8**
	3.4nm,0.3s,baz=238,slow=25,SNR=26						
MAJO	**Matsushiro**	**8.63**	**352**	P	**P**	**19 36 12.4**	**-0.6**
MAT	**Matsushiro**	**8.63**	**352**	P	**P**	**19 36 12.2**	**-0.8**
MAT				*e*S	**S**	**19 37 51.5**	**-2.7**
MAT	**Matsushiro**	**8.63**	**352**	*e*P	**P**	**19 36 12.0**	**-1.0**
MAT				S	**S**	**19 37 52.0**	**-2.2**
MAT				pmax	pmax		
	comp=Z,18nm,0.5s						
MAT	**Matsushiro**	**8.63**	**352**	*e*P	**P**	**19 36 12.0**	**-1.0**
	comp=Z,18nm,0.5s						
MAT				S	**S**	**19 37 52.0**	**-2.2**
JHS	**Saijyo**	**8.95**	**323**	P	**P**	**19 36 17.6**	**+1.4**
JMK	**Ichinoseki**	**11.03**	**6**	P	**P**	**19 36 39.3**	**+1.4**
JOT	**Ohata**	**13.43**	**5**	P	**P**	**19 37 04.3**	**+1.3**
JKB	**Kayabe**	**13.93**	**4**	P	**P**	**19 37 09.2**	**+0.9**
JOSM	**Okushiri--Mats**	**14.08**	**359**	P	**P**	**19 37 10.5**	**+0.7**
GUMO	**Guam**	**15.12**	**160**	P	**P**	**19 37 21.7**	**+1.0**
	comp=Z,6.5nm,0.3s,baz=43,slow=20,SNR=4.5						
GUMO	**Guam**	**15.12**	**160**	P	**P**	**19 37 21.7**	**+1.0**
SONM	**Songino Array**	**32.52**	**317**	ScP	ScP	19 45 21.9	-0.5
	comp=Z,0.9nm,0.7s,baz=143,slow=2.2,SNR=4.9						
PSI	**Prapat**	**46.19**	**245**	P	**P**	**19 41 46.0**	**-1.2**
	comp=Z,4.3nm,0.4s,mb4.4,baz=58,slow=3.1,SNR=8.0						
FITZ	**Fitzroy Crossi**	**47.77**	**198**	*e*P	**P**	**19 41 59.2**	**+0.1**
	comp=Z,3.2nm,0.4s,mb4.2						
WRAB	**Tennant Creek**	**47.90**	**187**	*e*P	**P**	**19 41 59.8**	**-0.3**
WB2	**Warramunga Arr**	**47.91**	**187**	*e*P	**P**	**19 42 00.0**	**-0.1**
WRA	**Warramunga Arr**	**47.91**	**187**	P	**P**	**19 42 00.1**	**-0.1**
	comp=Z,2.5nm,0.3s,mb4.2,baz=1.9,slow=7.7,SNR=63						
MKAR	**Makanchi Array**	**48.17**	**309**	P	**P**	**19 42 01.4**	**-0.8**
	comp=Z,0.2nm,0.3s,mb3.1,baz=89,slow=11,SNR=5.1						
MKAR				ScP	ScP	19 46 22.3	-1.6
	comp=Z,0.5nm,0.7s,baz=78,slow=5.7,SNR=4.9						
ASAR	**Alice Springs**	**51.63**	**187**	P	**P**	**19 42 27.6**	**0.0**
	comp=Z,1.7nm,0.6s,mb3.5,baz=16,slow=12,SNR=33						
MBWA	**Marble Bar**	**52.50**	**204**	*e*P	**P**	**19 42 33.5**	**-0.2**
KDAK	**Kodiak Island**	**55.03**	**37**	P	**P**	**19 42 53.0**	**+1.3**
	comp=Z,1.5nm,0.3s,mb3.7,baz=344,slow=3.9,SNR=5.7						
KDAK	**Kodiak Island**	**55.03**	**37**	P	**P**	**19 42 53.0**	**+1.3**
STKA	**Stephens Creek**	**59.55**	**178**	P	**P**	**19 43 20.0**	**-2.5**
	comp=Z,1.5nm,0.6s,mb3.5,baz=2.8,slow=8.1,SNR=4.4						
INK	**Inuvik**	**63.17**	**25**	P	**P**	**19 43 46.8**	**+0.5**
	comp=Z,1.1nm,0.4s,mb3.7,baz=279,slow=5.1,SNR=15						
ARCES	**ARCESS Array B**	**71.97**	**340**	P	**P**	**19 44 40.0**	**-0.1**
	comp=Z,1.7nm,0.6s,mb3.6,baz=64,slow=8.3,SNR=16						
ARCES	**ARCESS Array B**	**71.97**	**340**	P	**P**	**19 44 40.0**	**-0.1**
YKA	**Yellowknife Ar**	**72.44**	**28**	P	**P**	**19 44 43.6**	**+0.8**
	comp=Z,0.8nm,0.4s,mb3.5,baz=298,slow=6.0,SNR=9.3						
JOF	**Joensuu**	**73.29**	**333**	*ep*	**P**	**19 44 46.3**	**-1.4**
	comp=Z,0.9nm,0.4s,mb3.5						
JOF	**Joensuu**	**73.29**	**333**	*e*P	**P**	**19 44 46.3**	**-1.4**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.6						
KAF	**Kangasniemi**	**75.69**	**334**	*ep*	**P**	**19 44 59.2**	**-2.0**
	comp=Z,3.4nm,0.8s,mb3.8						

*NEIC **18** 19:48:25.6, 3245S×7185W, h25km, ML2.7(GUC), After GUC.*
GUC 18 19:48:25.6±0.7, 3245S×7185W, h25km±9km, MD3.5, ML2.7, 8C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PACH	**Papudo**	**0.36**	**104**	⇓ *i* P	Pb	19 48 33.5	-0.1
PACH				*i* S	Sb	19 48 39.4	+0.4
CHNG	**Los Chungos**	**0.64**	**28**	⇑ *i* P	Pb	19 48 37.7	-0.4
CHNG				*i* S	Sb	19 48 47.0	+0.3
LCCH	**Las Cruces**	**1.05**	**167**	*i* P	Pn	19 48 43.9	-0.8
LCCH				*i* S	Sb	19 48 57.9	-0.5
JACH	**Jahuel**	**1.09**	**103**	⇑ *i* P	Pn	19 48 44.8	-0.4
JACH				*i* S	Sn	19 48 59.5	0.0
PEL	**Peldehue**	**1.20**	**125**	⇑ *i* P	Pn	19 48 46.8	0.0
PEL				*i* S	Sn	19 49 02.9	+0.7
PEL				AML	AML	19 49 06.3	
	comp=E,372nm,0.3s						
PEL	**Peldehue**	**1.20**	**125**	⇑ *i* P	Pn	19 48 46.8	0.0
PEL				*i* S	Sn	19 49 02.9	+0.7
RCDM	**Rinconada Maip**	**1.36**	**140**	*i* P	Pn	19 48 48.8	-0.1
RCDM				*i* S	Sn	19 49 07.0	+0.8
TACH	**Talagante**	**1.42**	**148**	⇑ *i* P	Pn	19 48 50.0	+0.2
TACH				*i* S	Sn	19 49 09.1	+1.4
CLCH	**Cerro Calan**	**1.45**	**131**	*i* P	Pn	19 48 51.0	+0.7
CLCH				*i* S	Sn	19 49 09.7	+1.1
CLCH				AML	AML	19 49 23.0	
	comp=E,106nm,0.5s						
CMCH	**Combarbala**	**1.47**	**30**	*i* P	Pn	19 48 50.5	+0.1
CMCH				*i* S	Sn	19 49 10.1	+1.3
CMCH				AML	AML	19 49 16.0	
	comp=N,380nm,0.5s						
CMCH	**Combarbala**	**1.47**	**30**	*i* P	Pn	19 48 50.5	+0.1
CMCH				*i* S	Sn	19 49 10.1	+1.3
FCH	**Farellones**	**1.58**	**124**	⇑ *i* P	Pn	19 48 52.8	+0.8
FCH				*i* S	Sn	19 49 13.8	+2.2
FCH				AML	AML	19 49 16.3	
	comp=E,108nm,0.2s						
PCH	**Pirque**	**1.62**	**136**	⇑ *i* P	Pn	19 48 53.6	+1.0
PCH				*i* S	Sn	19 49 14.8	+2.2
CHCH	**Chadas Angostu**	**1.79**	**146**	⇑ *i* P	Pn	19 48 56.0	+1.1
CHCH				*i* S	Sn	19 49 18.9	+2.2

*IDC **18** 20:00:47.5±2.5, 4334N×10520W, h0km, mb3.8/1, mb1 3.7/4, mb1mx3.5/20, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=56.5km s-min=8.4km az=154.0*
*ISCJB **18** 20:00:49.6±0.7, 4377N±004×10524W±008, h0km, mb4.0/1, Error ellipse: s-maj=8.1km s-min=6.1km az=178.5*
*NEIC **18** 20:00:50.4±0.9, 4371N×10522W, h0km, ML3.2, Error ellipse: s-maj=11.0km s-min=10.5km az=190.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.
ISC 18 20:00:50.2±0.6, 4376N±004×10514W±007, h0km, n23, σ1§30/27, mb4.0/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.88**	**65**	*e*Pn	**Pn**	**20 01 09.7**	**-0.1**
PHWY	**Pilot Hill**	**2.47**	**186**	*e*Pn	**Pn**	**20 01 32.2**	**+0.5**
PHWY				*e*Sn	**Sn**	**20 02 04.4**	**+1.9**
RWWY	**Rawlins**	**2.57**	**217**	*e*Pn	**Pn**	**20 01 33.6**	**+0.5**
RWWY				*e*Sn	**Sn**	**20 02 04.2**	**-0.8**
BW06	**Boulder Array**	**3.37**	**254**	*e*Pn	**Pn**	**20 01 43.8**	**-0.3**
BW06				*e*Sn	**Sn**	**20 02 27.7**	**+2.8**

PDAR Pinedale Array 3.37 254 Pn **Pn 20 01 43.9 -0.3**
6.0nm,0.3s,baz=74,slow=18,SNR=42
PDAR Pg **Pg 20 01 48.9 -6.0**
8.1nm,0.3s,baz=76,slow=20,SNR=55
PDAR Lg 20 02 28.1
8.3nm,0.3s,baz=78,slow=29,SNR=11
GCMT Greycliff 3.81 304 *e*Pn **Pn 20 01 51.0 +0.9**
LKWY Lake 3.87 284 *e*Pn **Pn 20 01 51.0 +0.1**
LOHW Long Hollow 3.96 270 *e*Pn **Pn 20 01 54.4 +2.1**
ISCO Idaho Springs 3.97 185 *e*Pn **Pn 20 01 51.1 -1.3**
FLWY Flagg Ranch 4.03 276 *e*Pn **Pn 20 01 51.2 -1.9**
MOOW Moose Ponds 4.06 272 *e*Pn **Pn 20 01 54.0 +0.4**
REDW Red Top Meadow 4.17 266 *e*Pn **Pn 20 01 52.1 -3.0**
IMW Indian Meadow 4.20 274 *e*Pn **Pn 20 01 56.4 +1.0**
TPAW Teton Pass 4.22 268 *e*Pn **Pn 20 01 53.7 -2.2**
AHID Auburn Hatcher 4.46 259 *e*Pg **Pg 20 02 12.0 -3.8**
BOZ Bozeman (W) 4.99 294 *e*Pn **Pn 20 02 05.2 -1.2**
HWUT Hardware Ranch 5.20 248 *e*Pn **Pn 20 02 09.0 -0.3**
10nm,0.7s
EGMT Eagleton 5.34 325 *e*Pn **Pn 20 02 12.3 +1.1**
8.1nm,0.7s
DLMT Dillon 5.56 289 *e*Pg **Pg 20 02 31.8 -5.0**
7.2nm,0.9s
CHMT Chamberlain Mo 6.53 302 *e*Pn **Pn 20 02 28.2 +0.7**
ULM Lac du Bonnet 9.06 41 Pn **Pn 20 03 00.5 -1.8**
1.0nm,0.3s,baz=238,slow=12,SNR=7.4
ULM Lg 20 05 38.5
0.3nm,0.3s,baz=314,slow=19,SNR=3.8
YKA Yellowknife Ar 19.57 347 P **Pn 20 05 22.4 +1.5**
baz=153,slow=8.5,SNR=3.9
ARCES ARCESS Array B 61.37 18 P **P 20 11 08.4 +0.5**
1.2nm,0.9s,mb4.0,baz=349,slow=7.8,SNR=5.6

*THE **18** 20:06:14.8, 41.95N×23.24E, h10km, ML3.2*
*ISCJB **18** 20:06:17.4±0.6, 4194N±004×23.16E±009, h24km±9km, Error ellipse: s-maj=11.8km s-min=6.1km az=20.9*
*CSEM **18** 20:06:17.4±0.1, 4194N×2313E, h20km, ML3.2, Error ellipse: s-maj=2.0km s-min=1.3km az=100.0*
*SOF **18** 20:06:17.0, 4196N×2319E, h17km, MD2.9*
*SKO **18** 20:06:18.5, 4185N×2300E, h46km*
ISC 18 20:06:17.3±0.5, 4191N±003×2317E±007, h12km±8km, n17, σ1§16/21, 2C-2D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KKB	**Krupnik**	**0.07**	**238**	*i* Pg		**Pg**	**20 06 21.2**	**+1.4**
MMB	**Musomiste**	**0.53**	**127**	*i* Pg		**Pg**	**20 06 29.2**	**+1.7**
VTS	**Vitosha**	**0.69**	**2**	*i* Pg		**Pg**	**20 06 30.7**	**+0.1**
VAY	**Valandovo**	**0.74**	**218**	*e*Pg		**Pg**	**20 06 31.9**	**+0.4**
VAY	**Valandovo**	**0.74**	**218**	*e*Pg		**Pg**	**20 06 31.9**	**+0.4**
STIP	**Stip**	**0.76**	**254**	*e*Pg		**Pg**	**20 06 32.0**	**0.0**
STIP	**Stip**	**0.76**	**254**	*e*Pg		**Pg**	**20 06 32.0**	**-0.1**
KNT	**Kendrikon**	**0.77**	**195**	*e*Pg		**Pg**	**20 06 30.1**	**-2.1**
KNT					*e*Sg	**Sg**	**20 06 43.1**	**+0.9**
SOH	**Sokhos**	**1.09**	**173**	*e*Pg		**Pg**	**20 06 36.0**	**-2.3**
SOH					*e*Sg	**Sg**	**20 06 52.4**	**-0.2**
GRG	**Griva**	**1.11**	**212**	*e*Pg		**Pg**	**20 06 36.6**	**-2.1**
GRG					*e*Sg	**Sg**	**20 06 54.1**	**+1.0**
THE	**Thessaloniki**	**1.28**	**187**	*e*Pg		**Pg**	**20 06 40.5**	**-1.5**
THE					*e*Sg	**Sg**	**20 06 59.6**	**+1.0**
BZS	**Buzias**	**3.88**	**344**	⇑ *i*P		**Pn**	**20 07 17.0**	**+0.4**
BZS	**Buzias**	**3.88**	**344**	*i*S		**Sg**	**20 08 21.5**	**-0.2**
MLR	**Muntele Rosu**	**4.11**	**28**	⇑ *i*P		**Pn**	**20 07 25.7**	**+5.9**
MLR	**Muntele Rosu**	**4.11**	**28**	*i*S		**Sg**	**20 08 28.3**	**-0.9**
PLOR	**Plostina**	**4.68**	**31**	⇓ *i*P		**Pn**	**20 07 28.8**	**+1.2**
VRI	**Vrincioaia**	**4.72**	**32**	⇓ *i*P		**Pn**	**20 07 28.5**	**+0.3**

*IDC **18** 20:07:22.3±1.6, 3247S×7208W, h0km, mb4.4/3, mb1 4.1/6, mb1mx3.9/15, mbtmp4.0/6, ML3.6/3, Error ellipse: s-maj=58.2km s-min=34.2km az=139.0*
*ISCJB **18** 20:07:26.3±0.8, 3246S±002×7196W±005, h23km±4km, mb4.2/3, Error ellipse: s-maj=7.7km s-min=3.7km az=160.9*
*NEIC **18** 20:07:27.3, 3245S×7186W, h29km, mb3.5/1, ML3.9(GUC), After GUC.*
*GUC **18** 20:07:27.3±1.0, 3245S×7186W, h29km±3km, MD4.2, ML3.9*
ISC 18 20:07:26.8±0.8, 3245S±002×7192W±005, h18km±4km, n49, σ0§74/71, mb4.2/3, 17C-9D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PACH	**Papudo**	**0.42**	**102**	⇓ *i*P		**Pg**	**20 07 35.5**	**+0.1**
PACH					*i*S	**Sg**	**20 07 41.5**	**+0.3**
IHA	**Instituto Hidr**	**0.62**	**158**	⇑ *i*P		**Pb**	**20 07 38.7**	**-0.4**
IHA					*i*S	**Sg**	**20 07 47.4**	**+0.1**
CHNG	**Los Chungos**	**0.67**	**32**	⇓ *i*P		**Pb**	**20 07 39.6**	**-0.3**
CHNG					*i*S	**Sb**	**20 07 49.1**	**+0.2**
CHNG					AML	AML	20 07 49.9	
	comp=E,4μm,0.4s							
ROCH	**El Roble**	**0.93**	**124**	⇑ *i*P		**Pb**	**20 07 43.7**	**-0.6**
ROCH					*i*S	**Sb**	**20 07 55.8**	**-0.4**
LCCH	**Las Cruces**	**1.06**	**164**	⇓ *i*P		**Pb**	**20 07 46.0**	**-0.6**
LCCH					*i*S	**Sb**	**20 07 59.6**	**-0.5**
JACH	**Jahuel**	**1.15**	**102**	⇑ *i*P		**Pn**	**20 07 46.9**	**-1.0**
JACH					*i*S	**Sb**	**20 08 01.8**	**-0.7**
PEL	**Peldehue**	**1.25**	**124**	⇑ *i*P		**Pn**	**20 07 48.9**	**-0.4**
PEL					*i*S	**Sb**	**20 08 05.0**	**-0.6**
PEL					AML	AML	20 08 07.2	
	comp=E,8μm,0.5s							
PEL	**Peldehue**	**1.25**	**124**	⇑ *i*P		**Pn**	**20 07 48.9**	**-0.4**
PEL					*i*S	**Sb**	**20 08 05.0**	**-0.6**
RCDM	**Rinconada Maip**	**1.40**	**138**	*e*P		**Pn**	**20 07 51.2**	**-0.1**
RCDM					*i*S	**Sn**	**20 08 08.5**	**-0.7**
RCDM					AML	AML	20 08 12.1	
	comp=E,2μm,0.5s							
RCDM	**Rinconada Maip**	**1.40**	**138**	*e*P		**Pn**	**20 07 51.2**	**-0.1**
RCDM					*i*S	**Sn**	**20 08 08.5**	**-0.7**
TACH	**Talagante**	**1.45**	**146**	⇓ *i*P		**Pn**	**20 07 52.1**	**0.0**
TACH					*i*S	**Sn**	**20 08 10.4**	**-0.3**
SAN	**Santiago**	**1.46**	**134**	*e*P		**Pn**	**20 07 52.2**	**+0.1**
SAN					*i*S	**Sn**	**20 08 10.5**	**-0.2**
SAN					AML	AML	20 08 15.0	
	comp=E,3μm,0.6s							
SAN	**Santiago**	**1.46**	**134**	*e*P		**Pn**	**20 07 52.2**	**+0.1**
SAN					*i*S	**Sn**	**20 08 10.5**	**-0.2**
STL	**Santa Lucia**	**1.46**	**133**	⇓ *i*P		**Pn**	**20 07 51.6**	**-0.5**
STL					*i*S	**Sn**	**20 08 10.2**	**-0.6**
STL					AML	AML	20 08 18.6	
	comp=E,1μm,0.6s							
DSCH	**Colegio Aleman**	**1.48**	**130**	⇑ *i*P		**Pn**	**20 07 52.0**	**-0.5**
DSCH					*i*S	**Sn**	**20 08 10.4**	**-0.8**
DSCH					AML	AML	20 08 13.1	
	comp=E,319nm,0.4s							
DSCH	**Colegio Aleman**	**1.48**	**130**	⇑ *i*P		**Pn**	**20 07 52.0**	**-0.5**
DSCH					*i*S	**Sn**	**20 08 10.4**	**-0.8**
CLCH	**Cerro Calan**	**1.50**	**129**	⇓ *i*P		**Pn**	**20 07 52.7**	**0.0**
CLCH					*i*S	**Sn**	**20 08 11.7**	**0.0**
CLCH					AML	AML	20 08 18.6	
	comp=E,3μm,0.8s							
CMCH	**Combarbala**	**1.50**	**32**	⇑ *i*P		**Pn**	**20 07 52.5**	**-0.2**
CMCH					*i*S	**Sn**	**20 08 12.0**	**+0.2**
CMCH					AML	AML	20 08 18.2	
	comp=N,13μm,0.7s							
CMCH	**Combarbala**	**1.50**	**32**	⇑ *i*P		**Pn**	**20 07 52.5**	**-0.2**
CMCH					*i*S	**Sn**	**20 08 12.0**	**+0.2**
FSR	**Penalolen**	**1.56**	**131**	*i*P		**Pn**	**20 07 53.9**	**+0.4**
FSR					*i*S	**Sn**	**20 08 13.4**	**+0.2**
FSR					AML	AML	20 08 25.2	
	comp=N,3μm,0.6s							
FSR	**Penalolen**	**1.56**	**131**	*i*P		**Pn**	**20 07 53.9**	**+0.4**
FSR					*i*S	**Sn**	**20 08 13.4**	**+0.2**
LNV	**Longovilo**	**1.56**	**164**	⇑ *i*P		**Pn**	**20 07 52.4**	**-1.1**
LNV					*i*S	**Sn**	**20 08 13.5**	**+0.2**
FCH	**Farellones**	**1.63**	**123**	⇑ *i*P		**Pn**	**20 07 54.5**	**0.0**
FCH					*i*S	**Sn**	**20 08 15.8**	**+0.8**
FCH					AML	AML	20 08 19.2	
	comp=N,1μm,0.5s							
PCH	**Pirque**	**1.66**	**135**	⇓ *i*P		**Pn**	**20 07 55.4**	**+0.4**
PCH					*i*S	**Sn**	**20 08 15.8**	**0.0**
CHCH	**Chadas Angostu**	**1.82**	**145**	⇑ *i*P		**Pn**	**20 07 57.9**	**+0.8**
CHCH					*i*S	**Sn**	**20 08 21.2**	**+1.5**
OVCH	**Ovalle**	**1.94**	**19**	⇑ *i*P		**Pn**	**20 07 59.3**	**+0.5**
OVCH					AML	AML	20 08 33.1	
	comp=N,4μm,0.7s							
CACH	**El Canelo**	**2.00**	**147**	⇑ *i*P		**Pn**	**20 08 00.7**	**+1.1**
LMEL	**Las Melosas**	**2.00**	**134**	⇑ *i*P		**Pn**	**20 08 00.5**	**+0.9**
LMEL					*i*S	**Sn**	**20 08 25.9**	**+1.7**
LMEL					AML	AML	20 08 30.2	
	comp=N,1μm,0.6s							
LMEL	**Las Melosas**	**2.00**	**134**	⇑ *i*P		**Pn**	**20 08 00.5**	**+0.9**
LMEL					*i*S	**Sn**	**20 08 25.9**	**+1.7**
CICH	**Cipreses**	**2.25**	**146**	⇓ *i*P		**Pn**	**20 08 03.8**	**+0.8**
SFDO	**San Fernando**	**2.29**	**161**	⇓ *i*P		**Pn**	**20 08 03.7**	**+0.1**
TLL	**Tololo Astrono**	**2.47**	**23**	⇑ *i*P		**Pn**	**20 08 06.6**	**+0.5**
TLL					AML	AML	20 08 48.6	
	comp=E,4μm,0.5s							
CFAA	**Coronel Fontan**	**3.24**	**76**	Pn		**Pn**	**20 08 18.4**	**+1.7**
	comp=E,1.6nm,0.3s,baz=247,slow=12,SNR=46							
CFAA					Sn	**Sn**	**20 09 03.1**	**+8.3**
	comp=E,8.0nm,0.3s,baz=119,slow=11,SNR=8.7							
PLCA	**Paso Flores**	**8.34**	**173**	*e*P		**Pn**	**20 09 26.5**	**-0.2**
TRQA	**Tornquist**	**9.86**	**127**	*e*P		**Pn**	**20 09 49.1**	**+1.5**
LVC	**Limon Verde**	**10.16**	**16**	Pn		**Pn**	**20 09 57.6**	**+5.9**
	comp=E,0.3nm,0.3s,baz=212,slow=9.5,SNR=2.2							
CPUP	**Villa Florida**	**14.10**	**68**	Pn		**Pn**	**20 10 49.9**	**+4.3**
	comp=E,0.3nm,0.3s,baz=203,slow=7.7,SNR=2.4							
LPAZ	**La Paz**	**16.46**	**13**	Pn		**Pn**	**20 11 17.6**	**+0.9**
	comp=E,0.2nm,0.3s,baz=189,slow=6.9,SNR=12							
LPAZ	**La Paz**	**16.46**	**13**	*e*P		**Pn**	**20 11 17.8**	**+1.1**
	comp=E,3.6nm,0.8s							
SIV	**San Ignacio**	**19.12**	**34**	P		**P**	**20 11 47.6**	**-2.0**
	comp=E,0.1nm,0.3s,baz=219,slow=16,SNR=5.4							
BDFB	**Brasilia**	**27.41**	**58**	P		**P**	**20 13 09.9**	**-1.3**
	comp=E,1.8nm,0.5s,mb3.9,baz=215,slow=16,SNR=3.2							
DBIC	**Dimbokro**	**74.59**	**72**	P		**P**	**20 19 04.3**	**-0.3**
	comp=E,2.9nm,0.6s,mb4.4,baz=271,slow=3.6,SNR=4.8							
TORD	**Torodi Ar. Bea**	**83.59**	**70**	P		**P**	**20 19 53.1**	**-0.8**
	comp=E,1.8nm,0.7s,mb4.3,baz=266,slow=3.9,SNR=13							
WRA	**Warramunga Arr**	**122.16**	**209**	PKP		PKPdf	20 26 19.6	-0.7
	comp=E,0.3nm,0.6s,baz=162,slow=1.8,SNR=8.8							
ZRNK	**Zerenda**	**145.32**	**42**	*e*PKPdf		PKPdf	20 27 02.6	-0.8
CHKZ	**Chkalovo**	**145.94**	**40**	*e*PKPdf		PKPdf	20 27 04.4	0.0
BRVK	**Borovoye**	**146.00**	**41**	*e*PKPdf		PKPdf	20 27 04.3	-0.2
MKAR	**Makanchi Array**	**155.65**	**46**	PKPab		PKPab	20 27 44.2	-1.4
	comp=E,0.7nm,0.6s,baz=291,slow=4.2,SNR=9.7							
MKAR	**Makanchi Array**	**155.65**	**46**	PKPab		PKPab	20 27 44.2	-1.4

*ISCJB **18** 20:09:01.6±0.7, 145S±02×663E±01, h10km, mb3.8/11, MS4.1/4, Error ellipse: s-maj=23.7km s-min=17.8km az=75.0*
*IDC **18** 20:09:01.8±0.9, 1450S×6631E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.8/17, mbtmp3.8/9, MS4.0/4, Ms1 4.0/4, ms1mx3.3/32, Error ellipse: s-maj=35.6km s-min=20.4km az=34.0*
*NEIC **18** 20:09:03.3±0.5, 1453S×6629E, h10km, mb4.4/1, Error ellipse: s-maj=19.9km s-min=14.9km az=217.0*
ISC 18 20:09:03.7±0.7, 145S±01×663E±01, h10km, n15, σ0§78/11, mb3.8/11, MS4.1/4, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PSI	**Prapat**	**36.63**	**65**	LR		LR	20 28 36.3	
	comp=Z,270nm,18.8s,MS4.0,baz=181,slow=32							
LSZ	**Lusaka**	**36.80**	**264**	P		**P**	**20 16 12.3**	**+0.7**
	0.7nm,0.3s,mb3.9,baz=77,slow=10,SNR=3.4							
FITZ	**Fitzroy Crossi**	**56.88**	**102**	LR		LR	20 39 17.9	
	comp=Z,104nm,19.1s,MS4.0,baz=57,slow=32							
BRTR	**Keskin Array B**	**61.93**	**332**	P		**P**	**20 19 23.4**	**-0.2**
	0.2nm,0.3s,mb3.7,baz=148,slow=7.3,SNR=4.5							
MKAR	**Makanchi Array**	**62.69**	**12**	P		**P**	**20 19 29.0**	**+0.4**
	1.5nm,1.0s,mb4.1,baz=203,slow=9.1,SNR=11							
ASAR	**Alice Springs**	**64.06**	**109**	P		**P**	**20 19 37.2**	**-0.5**
	1.2nm,1.0s,mb3.9,baz=279,slow=6.1,SNR=7.1							
WRA	**Warramunga Arr**	**64.85**	**105**	P		**P**	**20 19 42.6**	**-0.3**
	2.6nm,1.0s,mb4.2,baz=271,slow=5.8,SNR=9.6							
STKA	**Stephens Creek**	**70.14**	**119**	P		**P**	**20 20 18.3**	**+2.0**
	1.6nm,1.0s,mb3.9,baz=256,slow=1.3,SNR=3.4							
SONM	**Songino Array**	**71.63**	**27**	P		**P**	**20 20 25.6**	**+0.2**
	0.3nm,0.5s,mb3.5,baz=262,slow=3.0,SNR=4.3							
SONM					LR	LR	20 50 26.0	
	comp=Z,66nm,19.5s,MS3.9,baz=251,slow=35							
AKASG	**Malin Array Be**	**72.58**	**336**	P		**P**	**20 20 30.2**	**-0.9**
	0.2nm,0.4s,mb3.4,baz=125,slow=4.8,SNR=7.4							
QSPA	**South Pole Qui**	**75.57**	**180**	*e*P		**P**	**20 20 47.4**	**-1.1**
	3.1nm,0.9s,mb4.2							
GERES	**GERESS Array B**	**78.35**	**328**	P		**P**	**20 21 04.4**	**+0.1**
	0.3nm,0.7s,mb3.3,baz=316,slow=5.6,SNR=3.5							
MJAR	**Matsushiro Arr**	**84.58**	**50**	P		**P**	**20 21 36.9**	**-0.3**
	1.4nm,1.1s,mb4.0,baz=227,slow=5.0,SNR=4.8							
URZ	**Urewera**	**96.75**	**132**	LR		LR	20 54 54.6	
	comp=Z,137nm,19.2s,MS4.5,baz=232,slow=28							
PDAR	**Pinedale Array**	**151.61**	**354**	PKPbc		PKPbc	20 28 57.5	-0.6
	1.0nm,0.9s,baz=236,slow=0.5,SNR=7.0							

*MOS **18** 20:25:35.2±1.5, 6.17N×12597E, h33km, mb4.9/2, Error ellipse: s-maj=33.0km s-min=13.7km az=103.9*
*ISCJB **18** 20:25:47.3±0.4, 6.11N±005×12603E±007, h147km±5km, mb4.2/16, Error ellipse: s-maj=11.5km s-min=7.9km az=134.0*
*NEIC **18** 20:25:48.4±0.9, 6.12N×12604E, h141km±10km, mb4.7/6, Error ellipse: s-maj=19.7km s-min=8.7km az=80.0*
*IDC **18** 20:25:51.1±2.4, 6.10N×12609E, h170km±23km, mb4.0/10, mb1 4.1/10, mb1mx3.9/19, mbtmp4.5/10, Error ellipse: s-maj=25.5km s-min=9.2km az=72.0*
ISC 18 20:25:48.7±0.4, 612N±005×12602E±007, h143km±5km, n42, σ0§88/49, mb4.2/16, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MATI	**Mati**	**0.85**	**16**	*e*P		**Pn**	**20 26 10.9**	**-0.5**
MATI					*e*S	**Sn**	**20 26 29.0**	**+0.2**
DAV	**Davao City (W)**	**1.04**	**335**	⇑ *i*P		**Pn**	**20 26 13.5**	**+0.5**
DAV	**Davao City (W)**	**1.04**	**335**	*e*P		**Pn**	**20 26 12.7**	**-0.3**
KCP	**Kidapawan**	**1.27**	**314**	*i*P		**Pn**	**20 26 21.0**	**+5.7**
KCP					*i*S	**Sn**	**20 26 35.0**	**-0.6**
BUKP	**Musuan**	**1.99**	**332**	*e*P		**Pn**	**20 26 23.3**	**+0.2**
BUKP					*e*S	**Sn**	**20 26 49.5**	**-0.1**
CTBH	**Cotabato--PC H**	**2.07**	**302**	⇓ *i*P		**Pn**	**20 26 23.4**	**-0.7**
CTBH					*i*S	**Sn**	**20 26 39.6**	**-12**
BIPH	**Bislig**	**2.08**	**9**	⇑ *i*P		**Pn**	**20 26 23.8**	**-0.4**
BIPH					*i*S	**Sn**	**20 26 51.3**	**-0.2**
CGP	**Cagayan de Oro**	**2.66**	**331**	*i*P		**Pn**	**20 26 31.6**	**+0.2**
CGP					*i*S	**Sn**	**20 27 03.8**	**-0.6**
BUTP	**Butuan**	**2.85**	**352**	*e*P		**Pn**	**20 26 34.6**	**+0.7**
PAGZ	**Pagadian**	**3.13**	**303**	*e*P		**Pn**	**20 26 37.0**	**-0.3**
IPIL	**Ipil**	**3.80**	**296**	*e*P		**Pn**	**20 26 45.7**	**-0.4**
MSLP	**Maasin**	**4.15**	**344**	*e*P		**Pn**	**20 26 50.8**	**+0.2**
OCLP	**Ormoc**	**5.09**	**344**	*e*P		**Pn**	**20 27 04.2**	**+1.0**
GUIM	**Jordan**	**5.62**	**323**	*e*P		**Pn**	**20 27 10.5**	**+0.4**
CUYO	**Cuyo Island**	**6.82**	**314**	*e*P		**Pn**	**20 27 25.9**	**-0.3**
ENPP	**El Nido**	**8.24**	**308**	*e*P		**Pn**	**20 27 47.6**	**+2.3**
KAKA	**Kakadu**	**19.77**	**161**	*e*P		**P**	**20 30 08.6**	**+1.0**
	20nm,0.6s							
FITZ	**Fitzroy Crossi**	**24.07**	**181**	*e*P		**P**	**20 30 51.5**	**+0.8**
	11nm,0.4s,mb4.7							
FITZ	**Fitzroy Crossi**	**24.07**	**181**	P		**P**	**20 30 51.5**	**+0.8**
	5.9nm,0.4s,mb4.5,baz=13,slow=8.7,SNR=51							
PMG	**Port Moresby**	**26.11**	**126**	P		**P**	**20 31 09.2**	**0.0**
	21nm,0.8s,mb4.8,baz=286,slow=17,SNR=4.4							
WRAB	**Tennant Creek**	**27.16**	**163**	*e*P		**P**	**20 31 18.7**	**+0.1**
WRAB					pmax	pmax		
	comp=Z,12nm,0.4s,mb4.9							
WRAB	**Tennant Creek**	**27.16**	**163**	*e*P		**P**	**20 31 18.7**	**+0.1**
	comp=Z,12nm,0.4s,mb4.9							
WRA	**Warramunga Arr**	**27.16**	**163**	P		**P**	**20 31 18.4**	**-0.2**
	comp=Z,1.1nm,0.3s,mb3.9,baz=333,slow=11,SNR=60							
WRA					S	**S**	**20 35 44.1**	**-2.5**
	comp=Z,0.5nm,0.7s,baz=352,slow=16,SNR=4.1							
WB2	**Warramunga Arr**	**27.17**	**163**	⇑ *i*P		**P**	**20 31 18.8**	**+0.2**
MBWA	**Marble Bar**	**27.80**	**193**	*e*P		**P**	**20 31 24.1**	**-0.3**
ASAR	**Alice Springs**	**30.59**	**166**	P		**P**	**20 31 49.7**	**+0.7**
	comp=Z,2.2nm,0.5s,mb4.2,baz=338,slow=6.8,SNR=56							
ASAR					S	**S**	**20 36 39.2**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=333,slow=13,SNR=7.2							
MJAR	**Matsushiro Arr**	**32.27**	**19**	P		**P**	**20 32 03.1**	**-0.5**
	comp=Z,1.1nm,0.8s,mb3.8,baz=314,slow=8.8,SNR=5.5							
CTA	**Charters Tower**	**32.78**	**143**	P		**P**	**20 32 05.8**	**-2.3**
	comp=Z,6.2nm,0.9s,mb4.3,baz=9.5,slow=18,SNR=2.0							
CTA	**Charters Tower**	**32.78**	**143**	P		**P**	**20 32 05.8**	**-2.3**
FORT	**Forrest**	**36.74**	**177**	*e*P		**P**	**20 32 42.8**	**+0.7**
	comp=Z,5.2nm,0.4s,mb4.5							
KLBR	**Kellerberrin**	**38.32**	**191**	*e*P		**P**	**20 32 55.8**	**+0.4**
	comp=Z,29nm,1.1s,mb4.8							
MUN	**Mundaring**	**39.02**	**193**	*e*P		**P**	**20 33 01.8**	**+0.5**
NWAO	**Narrogin (SRO)**	**39.72**	**192**	P		**P**	**20 33 07.2**	**+0.1**
	comp=Z,13nm,0.6s,mb4.8,baz=40,slow=5.3,SNR=16							
STKA	**Stephens Creek**	**40.60**	**159**	*e*P		**P**	**20 33 13.4**	**-0.9**
	comp=Z,2.6nm,0.3s,mb4.3							
STKA	**Stephens Creek**	**40.60**	**159**	P		**P**	**20 33 12.4**	**-1.9**

	comp=Z,2.8nm,0.4s,mb4.2,baz=332,slow=10,SNR=18							
SONM	**Songino Array**	**44.82**	**341**	P		**P**	**20 33 49.7**	**+1.4**
	comp=Z,0.2nm,0.3s,mb3.2,baz=156,slow=4.7,SNR=3.6							
SONM					PcP	PcP	20 35 27.8	0.0
	comp=Z,0.2nm,0.5s,baz=160,slow=3.7,SNR=4.2							
DZM	**Mont Dzumac**	**48.50**	**127**	P		**P**	**20 34 18.1**	**+1.1**
	comp=Z,4.2nm,0.5s,mb4.3,baz=277,slow=17,SNR=6.0							
MKAR	**Makanchi Array**	**55.20**	**325**	P		**P**	**20 35 05.4**	**-1.2**
	comp=Z,0.4nm,0.5s,mb3.5,baz=122,slow=7.6,SNR=13							
TIXI	**Tiksi**	**65.48**	**1**	*e*P		**P**	**20 36 14.9**	**-1.5**
TIXI					pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1							
TTA	**Tatalina**	**79.10**	**27**	*e*P		**P**	**20 37 39.0**	**+1.7**
ARCES	**ARCESS Array B**	**87.97**	**340**	P		**P**	**20 38 21.3**	**-1.1**
	comp=Z,1.6nm,0.8s,mb3.9,baz=84,slow=6.8,SNR=7.4							
TORD	**Torodi Ar. Bea**	**121.48**	**289**	PKP		PKPdf	20 44 25.8	+0.7
	comp=Z,0.5nm,0.4s,baz=67,slow=1.8,SNR=27							

*IDC **18** 20:27:50.0±3.6, 1500S×16726E, h144km±28km, mb3.6/5, mb1 3.9/7, mb1mx3.7/14, mbtmp4.2/7, MS3.7/3, Ms1 3.7/3, ms1mx3.0/21, Error ellipse: s-maj=36.5km s-min=21.0km az=66.0*
*NEIC **18** 20:27:49.9±2.0, 1502S×16730E, h146km±15km, mb4.2/1, Error ellipse: s-maj=30.3km s-min=12.3km az=66.0*
*ISCJB **18** 20:27:50.8±1.6, 1515S±01×167.1E±02, h159km±13km, mb3.8/6, Error ellipse: s-maj=37.6km s-min=16.0km az=117.1*
ISC 18 20:27:51.1±1.6, 151S±01×1672E±02, h152km±13km, n13, σ0§39/9, mb3.8/6, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
BKM	**Butte a Klehm**	**2.77**	**159**	⇑ *i*P		**Pn**	**20 28 36.1**	**+0.5**
DZM	**Mont Dzumac**	**7.00**	**186**	P		**Pn**	**20 29 30.4**	**-0.8**
	6.4nm,0.3s,baz=42,slow=19,SNR=44							
DZM					LR	LR	20 31 19.1	
	comp=Z,115nm,18.2s,baz=30,slow=30							
HNR	**Honiara**	**9.04**	**307**	P		**Pn**	**20 29 58.3**	**0.0**
	16nm,0.3s,baz=98,slow=4.5,SNR=4.3							
WRA	**Warramunga Arr**	**31.69**	**256**	P		**P**	**20 34 00.4**	**+0.3**
	0.5nm,0.5s,mb3.5,baz=86,slow=9.5,SNR=3.1							
ASAR	**Alice Springs**	**32.50**	**250**	P		**P**	**20 34 07.6**	**+0.3**
	2.1nm,0.7s,mb4.0,baz=81,slow=8.7,SNR=13							
JOW	**Kunigami**	**56.26**	**318**	LR		LR	20 58 24.7	
	comp=Z,199nm,19.4s,baz=43,slow=33							
VNDA	**Vanda**	**62.52**	**181**	P		**P**	**20 37 58.8**	**+0.2**
	1.9nm,0.7s,mb4.0,baz=358,slow=6.1,SNR=14							
QSPA	**South Pole Qui**	**74.96**	**180**	*e*P		**P**	**20 39 15.6**	**+0.1**
	4.7nm,0.9s,mb4.1							
KDAK	**Kodiak Island**	**79.80**	**21**	LR		LR	21 06 34.3	
	comp=Z,86nm,21.2s,baz=94,slow=29							
SONM	**Songino Array**	**82.73**	**324**	P		**P**	**20 39 57.9**	**0.0**
	0.4nm,0.6s,mb3.3,baz=145,slow=6.2,SNR=5.4							
MKAR	**Makanchi Array**	**97.41**	**316**	P		**P**	**20 41 06.8**	**-0.6**
	0.4nm,0.5s,mb4.0,baz=97,slow=6.5,

SMRF	**Simiane la Rot**	**1.44**	**224**	*e*Pg	**Pg**	**20 39 39.9**	**+0.6**
SMRF				*e*Sg	**Sg**	**20 39 59.7**	**+1.7**
	60nm,0.5s						
SMRF	**Simiane la Rot**	**1.44**	**224**	*e*Pg	**Pg**	**20 39 39.9**	**+0.6**
SMRF				*e*Sg	**Sg**	**20 39 59.7**	**+1.7**
	30nm,0.5s						
VILF	**Villemus**	**1.47**	**218**	Pg	**Pg**	**20 39 40.1**	**+0.2**
VILF				Sg	**Sg**	**20 40 01.8**	**+2.9**
FRF	**La Foret Royal**	**1.48**	**189**	*e*Pg	**Pg**	**20 39 39.6**	**-0.5**
FRF				*e*Sg	**Sg**	**20 39 59.4**	**+0.1**
	43nm,0.2s						
FRF	**La Foret Royal**	**1.48**	**189**	*e*Pg	**Pg**	**20 39 39.6**	**-0.5**
FRF				*e*Sg	**Sg**	**20 39 59.4**	**+0.1**
	22nm,0.2s						
TAVF	**Tavernes**	**1.54**	**205**	Pg	**Pg**	**20 39 41.7**	**+0.3**
VIVF	**Saint-Julien-l**	**1.63**	**265**	*e*Pg	**Pg**	**20 39 42.5**	**-0.4**
VIVF				*e*Sn	**Sn**	**20 40 02.0**	**+0.6**
	54nm,0.6s						
VIVF	**Saint-Julien-l**	**1.63**	**265**	*e*Pg	**Pg**	**20 39 42.5**	**-0.4**
VIVF				*e*Sn	**Sn**	**20 40 02.0**	**+0.6**
	27nm,0.6s						
CABF	**La Chapelle**	**1.70**	**339**	*e*Pg	**Pg**	**20 39 43.6**	**-0.7**
CABF				*e*Sg	**Sg**	**20 40 06.2**	**-0.2**
	14nm,0.3s						
CABF	**La Chapelle**	**1.70**	**339**	*e*Pg	**Pg**	**20 39 43.6**	**-0.7**
CABF				*e*Sg	**Sg**	**20 40 06.2**	**-0.2**
	6.8nm,0.3s						
LMR	**La Mourre**	**1.72**	**191**	*e*Pg	**Pg**	**20 39 43.9**	**-0.8**
LMR				*e*Sg	**Sg**	**20 40 06.8**	**-0.2**
	35nm,0.2s						
LMR	**La Mourre**	**1.72**	**191**	*e*Pg	**Pg**	**20 39 43.9**	**-0.8**
LMR				*e*Sg	**Sg**	**20 40 06.8**	**-0.2**
	17nm,0.2s						
PUYF	**Puyloubier**	**1.74**	**212**	Pg	**Pg**	**20 39 45.0**	**-0.1**
PUYF				Sg	**Sg**	**20 40 07.9**	**+0.2**
PRAF	**Pradon**	**1.77**	**227**	Pg	**Pg**	**20 39 46.8**	**+1.2**
GELF	**Grande-Etoile**	**1.97**	**214**	Pg	**Pg**	**20 39 50.7**	**+1.2**
LASF	**Ste Croix**	**2.41**	**248**	*e*Pn	**Pn**	**20 39 51.9**	**+0.8**
LASF				*e*Sn	**Sn**	**20 40 20.6**	**0.0**
	8.2nm,0.3s						
LASF	**Ste Croix**	**2.41**	**248**	*e*Pn	**Pn**	**20 39 51.9**	**+0.8**
LASF				*e*Sn	**Sn**	**20 40 20.6**	**0.0**
	4.1nm,0.3s						
PLDF	**La Plantade**	**2.53**	**293**	Pn	**Pn**	**20 39 55.5**	**+2.7**
LBIL	**Lubilhac**	**2.63**	**276**	Pn	**Pn**	**20 39 55.4**	**+1.2**
SMF	**Signal de Mont**	**2.71**	**308**	*e*Pn	**Pn**	**20 39 55.6**	**+0.3**
SMF				*e*Sg	**Sg**	**20 40 38.2**	**-0.7**
	8.8nm,0.3s						
SMF	**Signal de Mont**	**2.71**	**308**	*e*Pn	**Pn**	**20 39 55.6**	**+0.3**
SMF				*e*Sg	**Sg**	**20 40 38.2**	**-0.7**
	4.4nm,0.3s						
HINF	**Hinteralfeld**	**2.79**	**359**	*e*Pn	**Pn**	**20 39 55.7**	**-0.8**
HINF				*e*Sg	**Sg**	**20 40 39.2**	**-2.3**
	5.2nm,0.3s						
HINF	**Hinteralfeld**	**2.79**	**359**	*e*Pn	**Pn**	**20 39 55.7**	**-0.8**
HINF				*e*Sg	**Sg**	**20 40 39.2**	**-2.3**
	2.6nm,0.3s						
PGF	**Pioggiola**	**2.88**	**148**	*e*Pn	**Pn**	**20 39 57.3**	**-0.4**
PGF				*e*Sn	**Sn**	**20 40 29.6**	**-2.8**
	4.1nm,0.3s						
PGF	**Pioggiola**	**2.88**	**148**	*e*Pn	**Pn**	**20 39 57.3**	**-0.4**
PGF				*e*Sn	**Sn**	**20 40 29.6**	**-2.8**
	2.0nm,0.3s						
AVF	**Avril sur Loir**	**3.07**	**306**	*e*Pn	**Pn**	**20 40 00.3**	**0.0**
AVF				*e*Sg	**Sg**	**20 40 49.7**	**-0.7**
	6.3nm,0.4s						
AVF	**Avril sur Loir**	**3.07**	**306**	*e*Pn	**Pn**	**20 40 00.3**	**0.0**
AVF				*e*Sg	**Sg**	**20 40 49.7**	**-0.7**
	3.2nm,0.4s						
LOR	**Lormes**	**3.11**	**317**	*e*Pn	**Pn**	**20 40 00.9**	**+0.1**
LOR				*e*Sg	**Sg**	**20 40 50.1**	**-1.5**
	3.4nm,0.3s						
LOR	**Lormes**	**3.11**	**317**	*e*Pn	**Pn**	**20 40 00.9**	**+0.1**
LOR				*e*Sg	**Sg**	**20 40 50.1**	**-1.5**
	1.7nm,0.3s						
SSF	**Saint Saulge**	**3.15**	**312**	*e*Pn	**Pn**	**20 40 02.6**	**+1.3**
SSF				*e*Sg	**Sg**	**20 40 50.8**	**-2.1**
	3.5nm,0.3s						
SSF	**Saint Saulge**	**3.15**	**312**	*e*Pn	**Pn**	**20 40 02.6**	**+1.3**
SSF				*e*Sg	**Sg**	**20 40 50.8**	**-2.1**
	1.8nm,0.3s						
BGF	**Bois d'Agland**	**3.26**	**300**	*e*Pn	**Pn**	**20 40 02.9**	**+0.1**
CAF	**Calviac**	**3.47**	**270**	*e*Pn	**Pn**	**20 40 06.7**	**+1.0**
MTLF	**Montolieu**	**3.80**	**245**	*e*Pn	**Pn**	**20 40 11.3**	**+1.1**
MTLF				*e*Sn	**Sn**	**20 40 53.6**	**-1.3**
	1.8nm,0.3s						
MTLF	**Montolieu**	**3.80**	**245**	*e*Pn	**Pn**	**20 40 11.3**	**+1.1**
MTLF				*e*Sn	**Sn**	**20 40 53.6**	**-1.3**
	0.9nm,0.3s						
RJF	**Les Rejaudoux**	**3.85**	**276**	*e*Pn	**Pn**	**20 40 11.8**	**+0.8**
RJF				*e*Sg	**Sg**	**20 41 15.2**	**-0.3**
	7.8nm,0.5s						
RJF	**Les Rejaudoux**	**3.85**	**276**	*e*Pn	**Pn**	**20 40 11.8**	**+0.8**
RJF				*e*Sg	**Sg**	**20 41 15.2**	**-0.3**
	3.9nm,0.5s						
MURB	**Monte Urbino**	**4.38**	**112**	Pg	**Pn**	**20 40 19.4**	**+1.1**
	48nm,0.3s						
GRR	**Gorron**	**6.34**	**305**	*e*Pn	**Pn**	**20 40 44.8**	**-0.3**

IDC ***18*** *20:39:52.2±3.3, 295S×138.10E, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.6/10, mbtmp3.6/4, ML3.8/2, Error ellipse: s-maj=110.0km s-min=17.0km az=90.0*

ISC 18 20:39:57.1±2.2, 30S±01×1382E±04, h35km, n7, σ0§75/9, mb3.4/1, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**11.19**	**210**	*e*P	**Pn**	**20 42 33.9**	**-0.6**
	5.8nm,0.6s						
WB2	**Warramunga Arr**	**17.24**	**192**	*e*P	**Pn**	**20 43 55.5**	**+0.5**
WRA	**Warramunga Arr**	**17.24**	**192**	P	**Pn**	**20 43 55.4**	**+0.4**
	0.3nm,0.3s,baz=14,slow=12,SNR=18						
WRA				S	**S**	**20 47 08.7**	**-5.1**
	0.1nm,0.3s,baz=6.9,slow=24,SNR=3.8						
FITZ	**Fitzroy Crossi**	**19.40**	**219**	*e*P	**Pn**	**20 44 24.2**	**+2.9**
	6.7nm,1.1s						
FITZ	**Fitzroy Crossi**	**19.40**	**219**	P	**Pn**	**20 44 21.0**	**-0.4**
	0.2nm,0.3s,baz=48,slow=16,SNR=12						
ASAR	**Alice Springs**	**20.94**	**191**	P	**P**	**20 44 36.1**	**-0.7**
	1.2nm,0.6s,baz=19,slow=11,SNR=25						
ASAR				S	**S**	**20 48 33.6**	**+5.3**
	0.7nm,0.6s,baz=13,slow=22,SNR=4.3						
MKAR	**Makanchi Array**	**69.72**	**323**	P	**P**	**20 51 03.4**	**0.0**
	0.3nm,0.6s,mb3.4,baz=117,slow=6.6,SNR=3.5						

KRSC 18 20:45:38.2±0.7, 5239N×15939E, h12km±3km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.54**	**275**	*i* P	Pg	20 45 50.0	+1.3
RUS				*i* S	Sg	20 45 58.3	+2.4
PET	**Petropavlovsk**	**0.78**	**325**	*i* P	Pg	20 45 54.0	+0.8
PET				*e*S	Sg	20 46 05.0	+1.6
NLC	**Nalytchevo**	**0.78**	**358**	*e*P	Pg	20 45 53.6	+0.2
NLC				*e*S	Sg	20 46 05.1	+1.5
SPN	**Mys Shipunski**	**0.81**	**28**	*e*P	Pg	20 45 54.8	+1.0
SPN				*e*S	Sg	20 46 06.7	+2.3
GRL	**Gorelyy**	**0.82**	**282**	*i* P	Pg	20 45 54.9	+0.8
GRL				*e*S	Sg	20 46 06.8	+2.0
UGLR	**Uglovaya**	**0.89**	**337**	*e*P	Pg	20 45 55.9	+0.5
SDLR	**Sedlovina**	**0.94**	**341**	*i* P	Pg	20 45 56.2	-0.2
SDLR				*e*S	Sg	20 46 10.1	+1.5
SMAR	**Somma**	**0.94**	**338**	*e*P	Pg	20 45 56.5	+0.1
AVH	**Avacha**	**0.96**	**336**	*i* P	Pg	20 45 57.1	+0.4
AVH				*e*S	Sg	20 46 10.9	+1.6
KOK	**Koryaka**	**1.01**	**333**	*e*P	Pb	20 45 57.8	+0.1
KOK				*e*S	Sg	20 46 12.2	+1.3
GNL	**Ganaly**	**1.57**	**327**	*i* P	Pn	20 46 06.1	+0.2
GNL				*e*S	Sn	20 46 26.9	+0.7
MIPR	**Malaya Ipel'ka**	**1.62**	**267**	*e*P	Pn	20 46 06.8	+0.3
MIPR				*e*S	Sn	20 46 27.8	+0.5
KII	**Karymskiy**	**1.65**	**1**	*e*P	Pn	20 46 08.4	+1.4
KII				*e*S	Sn	20 46 30.0	+1.9
MKZ	**Mys Kozlova**	**2.58**	**32**	*e*P	Pn	20 46 19.7	-0.1
MKZ				*e*S	Sn	20 46 51.3	+0.2
SKR	**Severo-Kuril's**	**2.66**	**231**	*e*P	Pn	20 46 20.1	-0.8
TUMR	**Tumrok**	**2.93**	**8**	*e*P	Pn	20 46 26.5	+1.9
KMNR	**Kamenistaya**	**3.41**	**8**	*e*P	Pn	20 46 33.8	+2.6
KPT	**Kopyto**	**3.62**	**7**	*e*P	Pn	20 46 35.7	+1.7
KOZ	**Kozyrevsk**	**3.69**	**4**	P	Pn	20 46 36.5	+1.5
ZLN	**Zelenaya**	**3.73**	**12**	*e*P	Pn	20 46 38.9	+3.4
LGNR	**Loginova**	**3.78**	**11**	*e*P	Pn	20 46 38.6	+2.4
LGNR				*e*S	Sn	20 47 22.6	+2.0
CIRR	**Tsirk**	**3.82**	**12**	*e*P	Pn	20 46 38.2	+1.4
KRSR	**Krestovskiy**	**3.90**	**10**	*e*P	Pn	20 46 40.7	+2.8
SRDR	**Sredinnyy**	**3.94**	**3**	*e*P	Pn	20 46 40.8	+2.3
KLY	**Klyuchi**	**4.00**	**10**	*e*S	Sn	20 47 27.8	+1.7
BDR	**Baidarnaya**	**4.32**	**13**	*e*P	Pn	20 46 45.8	+2.1
BDR				*e*S	Sn	20 47 34.9	+0.9
KBTR	**Krutoberegovo**	**4.32**	**26**	*e*P	Pn	20 46 45.1	+1.4
KBTR				*e*S	Sn	20 47 34.8	+0.8
KBG	**Krutoberegovo**	**4.33**	**25**	*e*P	Pn	20 46 45.8	+2.0
SMKR	**Semkarok**	**4.37**	**15**	*e*P	Pn	20 46 47.3	+2.9
SRKR	**Sorokina**	**4.40**	**13**	*e*P	Pn	20 46 46.6	+1.9

NEIC ***18*** *21:13:55.5, 3242S×7188W, h24km, ML3.3(GUC), After GUC.*

GUC 18 21:13:55.5±0.8, 3242S×7188W, h24km±3km, MD3.5, ML3.3, 5C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PACH	**Papudo**	**0.39**	**108**	⇓*i* P	Pb	21 14 04.3	+0.4
PACH				*i* S	Sb	21 14 10.0	+0.5
ROCH	**El Roble**	**0.92**	**127**	*i* P	Pb	21 14 12.3	-0.4
ROCH				*i* S	Sb	21 14 25.2	+0.7
LCCH	**Las Cruces**	**1.09**	**166**	*i* P	Pn	21 14 14.6	-0.6
LCCH				*i* S	Sb	21 14 28.8	-0.6
JACH	**Jahuel**	**1.11**	**104**	⇑*i* P	Pn	21 14 15.7	+0.1
JACH				*i* S	Sb	21 14 30.0	-0.2
PEL	**Peldehue**	**1.24**	**126**	*i* P	Pn	21 14 17.5	+0.2
PEL				*i* S	Sn	21 14 33.8	+0.6
PEL				AML	AML	21 14 34.8	
	comp=E,2μm,0.4s						
PEL	**Peldehue**	**1.24**	**126**	*i* P	Pn	21 14 17.5	+0.2
PEL				*i* S	Sn	21 14 33.8	+0.6
RCDM	**Rinconada Maip**	**1.40**	**140**	*i* P	Pn	21 14 19.9	+0.5
RCDM				*i* S	Sn	21 14 37.9	+0.7
RCDM				AML	AML	21 14 39.9	
	comp=N,546nm,0.1s						
RCDM	**Rinconada Maip**	**1.40**	**140**	*i* P	Pn	21 14 19.9	+0.5
RCDM				*i* S	Sn	21 14 37.9	+0.7
CMCH	**Combarbala**	**1.45**	**31**	AML	AML	21 14 42.4	
	comp=E,1μm,0.4s						
TACH	**Talagante**	**1.46**	**148**	*i* P	Pn	21 14 20.7	+0.3
TACH				*i* S	Sn	21 14 39.5	+0.7
CLCH	**Cerro Calan**	**1.49**	**131**	⇑*i* P	Pn	21 14 21.5	+0.8
CLCH				*i* S	Sn	21 14 40.6	+1.1
CLCH				AML	AML	21 14 44.4	
	comp=E,482nm,0.3s						
LNV	**Longovilo**	**1.58**	**166**	*i* P	Pn	21 14 22.3	+0.2
LNV				*i* S	Sn	21 14 42.6	+0.9
FCH	**Farellones**	**1.61**	**125**	⇑*i* P	Pn	21 14 23.5	+1.0
FCH				*i* S	Sn	21 14 45.0	+2.5
FCH				AML	AML	21 14 45.9	
	comp=N,358nm,0.2s						
PCH	**Pirque**	**1.66**	**137**	⇑*i* P	Pn	21 14 24.2	+1.1
PCH				*i* S	Sn	21 14 45.3	+1.7
CHCH	**Chadas Angostu**	**1.83**	**146**	⇑*i* P	Pn	21 14 26.3	+0.9
CHCH				*i* S	Sn	21 14 49.6	+1.8
CACH	**El Canelo**	**2.00**	**148**	*i* P	Pn	21 14 29.7	+1.8
CACH				*i* S	Sn	21 14 56.6	+4.5
CICH	**Cipreses**	**2.25**	**148**	*i* P	Pn	21 14 32.7	+1.4
CICH				*i* S	Sn	21 15 01.5	+3.1
TLL	**Tololo Astrono**	**2.42**	**23**	*i* P	Pn	21 14 35.4	+1.8
TLL				*i* S	Sn	21 15 05.3	+2.8
TLL				AML	AML	21 15 15.8	
	comp=E,273nm,0.4s						
TLL	**Tololo Astrono**	**2.42**	**23**	*i* P	Pn	21 14 35.4	+1.8
TLL				*i* S	Sn	21 15 05.3	+2.8

ISCJB ***18*** *21:27:51.7±2.1, 7759N±010×8.1E±06, h10km, Error ellipse: s-maj=18.4km s-min=14.1km az=164.3*
BER ***18*** *21:27:53.3±3.7, 7771N×823E, h0km±40km, ML2.6(NAO)*
CSEM ***18*** *21:27:53.9±0.2, 7769N×7.18E, h30km, ML2.6, Error ellipse: s-maj=7.0km s-min=2.8km az=86.0*
NAO ***18*** *21:27:53.6±2.9, 7774N×833E, ML2.6*

ISC 18 21:27:53.5±2.1, 7766N±010×84E±06, h10km, n4, σ0§91/7, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.46**	**28**	Pn	**Pn**	**21 28 18.7**	**-1.3**
KBS				Lg		21 28 35.1	
HSP	**Hornsund**	**1.71**	**109**	*e*P	**Pn**	**21 28 23.6**	**+0.3**
HSP				*e*S	**Sn**	**21 28 44.2**	**-1.0**
SPA0	**Spitsbergen Ar**	**1.76**	**69**	Pn	**Pn**	**21 28 25.4**	**+1.5**
	baz=253,slow=14						
SPA0				Sn	**Sn**	**21 28 46.8**	**+0.4**
	baz=252,slow=16						
ARA0	**ARCESS Array S**	**9.43**	**141**	Pn	**Pn**	**21 30 09.5**	**+0.2**
	baz=332,slow=12						
ARA0				Sn	**Sn**	**21 31 48.8**	**-6.6**
	baz=342,slow=22						

ISCJB ***18*** *21:48:22.4±2.4, 82S±0.1×1230E±0.1, h186km±25km, mb3.8/1, Error ellipse: s-maj=22.1km s-min=19.8km az=34.9*
IDC ***18*** *21:48:22.3±4.2, 821S×12285E, h175km±48km, mb3.5/1, mb1 3.6/4, mb1mx3.2/14, mbtmp4.0/4, Error ellipse: s-maj=114.5km s-min=33.5km az=66.0*
NEIC ***18*** *21:48:32.3±8.6, 865S×12342E, h210km±34km, mb4.1/2, Error ellipse: s-maj=107.6km s-min=24.1km az=156.0*

ISC 18 21:48:30.2±2.2, 85S±01×12331E±010, h206km±19km, n9, σ1§19/15, mb3.7/1, Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**9.81**	**167**	*e*P	**Pn**	**21 50 45.2**	**-1.7**
	4.3nm,0.6s						
FITZ				*e*S	**Sn**	**21 52 35.2**	**-1.5**
FITZ	**Fitzroy Crossi**	**9.81**	**167**	P	**Pn**	**21 50 44.8**	**-2.0**
	0.5nm,0.3s,baz=1.7,slow=10,SNR=23						
FITZ				S	**Sn**	**21 52 37.7**	**+1.0**
	1.3nm,0.3s,baz=148,slow=14,SNR=8.6						
KAKA	**Kakadu**	**9.90**	**116**	*e*P	**Pn**	**21 50 47.5**	**-0.5**
	9.4nm,0.6s						
KAKA				*e*S	**Sn**	**21 52 39.3**	**+0.5**
MBWA	**Marble Bar**	**13.05**	**195**	*e*P	**Pn**	**21 51 29.6**	**+1.4**
WRA	**Warramunga Arr**	**15.60**	**138**	P	**Pn**	**21 51 59.2**	**-0.1**
	0.3nm,0.3s,baz=311,slow=13,SNR=26						
WRA				S	**S**	**21 54 53.7**	**+1.6**
	0.6nm,0.3s,baz=312,slow=26,SNR=8.9						
WRAB	**Tennant Creek**	**15.60**	**138**	*e*P	**Pn**	**21 51 59.8**	**+0.4**
WB2	**Warramunga Arr**	**15.61**	**138**	*e*P	**Pn**	**21 51 59.9**	**+0.4**
WB2				*e*S	**S**	**21 54 50.6**	**-1.7**
ASAR	**Alice Springs**	**18.18**	**147**	P	**P**	**21 52 28.8**	**+1.3**
	0.6nm,0.3s,baz=325,slow=12,SNR=38						
ASAR				S	**S**	**21 55 52.0**	**+7.2**
	0.1nm,0.3s,baz=311,slow=18,SNR=6.3						
STKA	**Stephens Creek**	**28.81**	**146**	P	**P**	**21 54 07.5**	**-1.5**
	1.1nm,0.6s,mb3.7,baz=329,slow=8.4,SNR=7.7						

IDC ***18*** *21:53:16.2±0.8, 1971S×17468W, h0km, mb3.9/8, mb1 4.2/9, mb1mx4.1/16, mbtmp4.0/9, ML2.6/1, MS3.6/3, Ms1 3.6/3, ms1mx3.2/19, Error ellipse: s-maj=38.7km s-min=18.5km az=131.0*
ISCJB ***18*** *21:53:19.1±0.6, 197S±0.1×174.7W±0.2, h33km, mb4.0/10, MS3.9/2, Error ellipse: s-maj=26.2km s-min=12.5km az=63.3*
NEIC ***18*** *21:53:19.9±0.5, 1969S×17467W, h25km, mb4.7/2, Error ellipse: s-maj=23.2km s-min=10.9km az=121.0*

ISC 18 21:53:21.2±0.6, 197S±01×1746W±02, h35km, n14, σ0§98/12, mb4.0/10, MS3.9/2, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.37**	**26**	Pn	**Pn**	**21 54 51.4**	**-1.2**
	7.6nm,0.3s,baz=45,slow=0.9,SNR=4.9						
AFI				Sn	**Sn**	**21 55 54.9**	**-9.2**
	4.0nm,0.3s,baz=15,slow=20,SNR=2.1						
AFI				LR	LR	21 57 00.7	
	comp=Z,147nm,19.4s,baz=215,slow=35						
RPZ	**Rata Peaks**	**26.78**	**203**	P	**P**	**21 58 58.9**	**+1.1**
	5.5nm,0.5s,mb4.3,baz=7.5,slow=14,SNR=2.8						
STKA	**Stephens Creek**	**40.98**	**244**	P	**P**	**22 00 59.3**	**-1.3**
	0.7nm,0.4s,mb3.7,baz=113,slow=7.7,SNR=2.6						
STKA				LR	LR	22 16 03.6	

	comp=Z,107nm,19.5s,MS3.7,baz=202,slow=33						
ASAR	**Alice Springs**	**47.78**	**256**	P	**P**	**22 01 55.0**	**0.0**
	1.1nm,0.9s,mb3.9,baz=86,slow=8.8,SNR=7.7						
WRA	**Warramunga Arr**	**47.85**	**261**	P	**P**	**22 01 56.3**	**+0.8**
	0.5nm,0.4s,mb3.9,baz=97,slow=7.6,SNR=25						
SBA	**Scott Base**	**58.90**	**185**	*e*P	**P**	**22 03 17.3**	**+0.7**
	9.0nm,1.3s,mb4.6						
VNDA	**Vanda**	**59.00**	**186**	P	**P**	**22 03 16.3**	**-1.0**
	0.8nm,0.8s,mb3.8,baz=347,slow=7.4,SNR=3.9						
QSPA	**South Pole Qui**	**70.37**	**180**	*e*P	**P**	**22 04 30.0**	**-1.5**
	7.2nm,1.1s,mb4.5						
NVAR	**Mina Array Bea**	**78.29**	**42**	P	**P**	**22 05 18.7**	**+1.1**
	0.6nm,0.6s,mb3.7,baz=221,slow=8.7,SNR=5.1						
PDAR	**Pinedale Array**	**86.23**	**42**	P	**P**	**22 05 60.0**	**+0.9**
	0.5nm,0.4s,mb4.1,baz=43,slow=11,SNR=4.2						
ILAR	**Eielson Array**	**86.87**	**12**	P	**P**	**22 06 02.5**	**+0.3**
	0.5nm,0.5s,mb4.0,baz=229,slow=6.3,SNR=6.1						
LPAZ	**La Paz**	**99.42**	**111**	LR	LR	22 41 58.9	
	comp=Z,51nm,21.6s,MS4.0,baz=192,slow=29						
ARCES	**ARCESS Array B**	**128.67**	**351**	PKP	PKPdf	22 12 24.8	+0.2
	1.1nm,0.8s,baz=17,slow=1.3,SNR=6.6						
BRTR	**Keskin Array B**	**148.57**	**316**	PKPbc	PKPbc	22 13 05.6	+1.3
	0.5nm,0.6s,baz=117,slow=1.4,SNR=5.6						

LDG ***18*** *22:34:26.0±0.6, 5183N×744E, h1km, Ml3.0/3, Error ellipse: s-maj=12.2km s-min=7.6km az=34.0, Suspected Mining induced.*
ISCJB ***18*** *22:34:27.8±0.5, 5164N±003×7.15E±004, h0km, Error ellipse: s-maj=3.9km s-min=3.2km az=176.6*
CSEM ***18*** *22:34:29.1±0.1, 5168N×708E, h1km, ML3.0/3, Error ellipse: s-maj=2.6km s-min=1.1km az=74.0*
BUG ***18*** *22:34:29.5, 5161N×698E, h1km, ML1.6*
BNS ***18*** *22:34:29.6±0.7, 5166N×708E, h1km, ML2.1*
NEIC ***18*** *22:34:32.1±8.0, 5132N×699E, h5km, ML3.0(LDG), Error ellipse: s-maj=88.4km s-min=16.8km az=206.0*
BGR ***18*** *22:34:32.7±0.5, 5160N×726E, h1km, ML2.3/3, Error ellipse: s-maj=6.7km s-min=4.4km az=103.0*

ISC 18 22:34:29.1±0.4, 5164N±002×707E±003, h0km, n32, σ1§39/46, 1D, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BZER	**Hlnxe**	**0.12**	**262**	Pg	**Pg**	**22 34 31.7**	**+0.2**
BZER				Sg	**Sg**	**22 34 33.8**	**+0.7**
BUG	**Bochum--Univer**	**0.23**	**147**	⇓*i* Pg	**Pg**	**22 34 35.2**	**+1.6**
BUG				*e*Sg	**Sg**	**22 34 39.0**	**+2.4**
LAUG	**Laupendahl**	**0.30**	**195**	*e*Pg	**Pg**	**22 34 35.4**	**+0.6**
WTSB	**Winterswijk**	**0.37**	**333**	*e*Pg	**Pg**	**22 34 36.7**	**+0.5**
WTSB				*e*Sg	**Sg**	**22 34 42.0**	**+1.0**
HOBG	**Hohbusch**	**0.68**	**166**	*e*Pg	**Pg**	**22 34 42.9**	**+0.9**
HOBG				*e*Sg	**Sg**	**22 34 52.3**	**+1.4**
BNS	**Bensberg**	**0.68**	**174**	*e*Pg	**Pg**	**22 34 42.8**	**+0.7**
BNS				*e*Sg	**Sg**	**22 34 53.0**	**+2.1**
IBBN	**Ibbenburen**	**0.79**	**32**	*e*Pg	**Pg**	**22 34 46.5**	**+2.2**
	SNR=4.4						
IBBN				*e*Sg	**Sg**	**22 34 57.9**	**+3.3**
STB	**Steinbach**	**1.05**	**188**	*e*Pg	**Pg**	**22 34 50.1**	**+0.8**
STB				*e*Sg	**Sg**	**22 35 04.9**	**+1.9**
	47nm,0.8s						
HGN	**Heimansgroeve**	**1.13**	**220**	*e*Pn	**Pn**	**22 34 50.5**	**-1.7**
HGN				*e*Pg	**Pg**	**22 34 51.1**	**+0.4**
	18nm,0.2s						
HGN				*e*Sg	**Sg**	**22 35 06.6**	**+1.1**
BEBN	**Eben Emael**	**1.21**	**227**	P	**Pg**	**22 34 52.0**	**-0.4**
BEBN				S	**Sg**	**22 35 08.7**	**+0.6**
	comp=E,33nm,0.0s						
MEM	**Membach**	**1.23**	**213**	P	**Pg**	**22 34 52.2**	**-0.5**
BGG	**Burgeitz**	**1.44**	**173**	*e*Pg	**Pg**	**22 34 55.6**	**-1.2**
TNS	**Taunus Mts**	**1.67**	**148**	*e*Pn	**Pn**	**22 35 00.7**	**+1.2**
	SNR=2.2						
TNS				*e*Sg	**Sg**	**22 35 22.5**	**-0.1**
CLZ	**Clausthal**	**2.06**	**83**	*e*Pg	**Pg**	**22 35 08.1**	**-0.6**
	SNR=3.4						
CLZ				*e*Sg	**Sg**	**22 35 35.8**	**+0.4**
GIVF	**Givet**	**2.09**	**224**	*e*Pn	**Pn**	**22 35 04.8**	**-0.6**
GIVF				*e*Sn	**Sn**	**22 35 33.0**	**+0.8**
	comp=E,17nm,0.3s						
BAIF	**Baives**	**2.41**	**230**	*e*Pn	**Pn**	**22 35 08.7**	**-1.0**
BAIF				*e*Sn	**Sn**	**22 35 41.1**	**+1.2**
	comp=E,15nm,0.6s						
MOX	**Moxa**	**3.03**	**107**	*e*Sg	**Sg**	**22 36 04.0**	**-2.5**
MOX	**Moxa**	**3.03**	**107**	*e*SG	**Sg**	**22 36 04.2**	**-2.3**
CDF	**Champ du Feu**	**3.23**	**178**	*e*Pn	**Pn**	**22 35 19.6**	**-1.5**
**MEZ

comp=Z,384nm,0.1s
ORL smax
comp=N,388nm,0.5s
MOY Mondy 1.01 181 ⇑*i*Pg Pg 22 45 52.9 -1.0
MOY *e*Sg Sg 22 46 06.3 -0.9
MOY Pmax
comp=N,117nm,0.1s
MOY Smax
comp=N,771nm,0.4s
ARS Arshan 1.15 131 ⇑*i*Pg Pg 22 45 55.2 -1.3
ARS *e*Sg Sg 22 46 10.8 -0.8
ARS Pmax
comp=N,529nm,0.1s
ARS Smax
comp=N,2μm,0.4s
ARS Arshan 1.15 131 *e*PG Pg 22 45 55.3 -1.2
ARS *e* 22 46 11.3
ARS pmax pmax
comp=Z,384nm,0.1s
ARS smax
comp=E,1μm,0.2s
TLY Talaya 1.91 121 *e*Pg Pg 22 46 07.6 -3.2
TLY *e*Sg Sg 22 46 32.1 -3.4
TLY Pmax
comp=E,28nm,0.1s
TLY Smax
comp=E,268nm,0.5s
TLY Talaya 1.91 121 *e*PN Pn 22 46 07.7 +1.7
TLY *e* 22 46 08.2
TLY *e* 22 46 31.9
TLY pmax pmax
comp=Z,27nm,0.1s
TLY smax
comp=N,258nm,0.5s
IRK Irkutsk 2.04 101 *e*Pg Pg 22 46 10.5 -2.9
IRK *e*Sg Sg 22 46 36.6 -3.3
IRK Pmax
comp=N,319nm,0.1s
IRK Smax
comp=N,628nm,0.4s
IRK Irkutsk 2.04 101 *e*PN Pn 22 46 09.9 +2.0
IRK *e* 22 46 35.9
IRK pmax pmax
comp=Z,319nm,0.1s
IRK smax
comp=N,640nm,0.3s
LSTR Listvyanka 2.48 108 *e*PN Pn 22 46 14.5 +0.5
LSTR *e* 22 46 17.9
LSTR *e* 22 46 49.1
LSTR pmax pmax
comp=Z,22nm,0.4s
LSTR smax
comp=N,569nm,0.6s
ZAK Zakamensk 2.70 147 *e*Pg Pg 22 46 22.6 -3.4
ZAK *e*Sg Sg 22 46 58.3 -2.8
ZAK Pmax
comp=N,15nm,0.1s
ZAK Smax
comp=N,80nm,0.7s
TDJR Todzha 3.01 267 *e*Pn Pn 22 46 23.1 +1.9
TDJR *e*Pg Pg 22 46 27.8 -4.1
TDJR *e*Sg Sg 22 47 01.1 -3.9
BTMB Babushkin 3.13 106 *e*Pg Pg 22 46 30.2 -3.9
BTMB *e*Sg Sg 22 47 09.6 -5.0
BTMB *e* 22 47 12.0
BTMB Pmax
comp=N,21nm,0.4s
BTMB max
comp=N,321nm,1.0s
TRG Tyrgan 3.25 86 *i* Pn Pn 22 46 24.7 +0.2
TRG *e*Pg Pg 22 46 33.1 -3.3
TRG *e*Sn Sn 22 47 02.6 -0.2
TRG *e*Sg Sg 22 47 14.7 -3.8
TRG Pmax
comp=N,54nm,0.3s
TRG Smax
comp=N,80nm,0.5s
STDB Stepnoy Dvoret 3.32 97 *e*Pn Pn 22 46 27.4 +2.0
STDB *e*Sg Sg 22 47 18.0 -2.8
STDB Smax
comp=N,655nm,1.0s
KAB Kabansk 3.52 98 *e*Sg Sg 22 47 24.6 -2.6
KAB Smax
comp=N,581nm,1.3s
FFNB Fofonovo 3.58 98 *e*Pn Pn 22 46 29.9 +0.8
FFNB *e*Pg Pg 22 46 38.7 -4.2
FFNB *e*Sg Sg 22 47 24.4 -4.9
FFNB Pmax
comp=N,37nm,0.1s
FFNB Smax
comp=N,464nm,0.6s
ZRHB Zarechye 3.75 89 *e*Pn Pn 22 46 33.8 +2.5
ZRHB *e*Sg Sg 22 47 30.3 -4.2
ZRHB Smax
comp=N,290nm,1.0s
HRMR Khuramsha 3.81 104 *e*Pn Pn 22 46 32.7 +0.5
HRMR *e*Pg Pg 22 46 42.5 -4.7
HRMR *e*Sg Sg 22 47 31.0 -5.6
HRMR Pmax
comp=N,35nm,0.4s
HRMR Smax
comp=N,763nm,0.6s
TRTB Turuntaevo 4.08 94 *e*Pn Pn 22 46 36.4 +0.6
TRTB *e*Pg Pg 22 46 47.4 -4.9
TRTB *e*Sg Sg 22 47 40.1 -4.9
TRTB Pmax
comp=N,13nm,0.4s
TRTB Smax
comp=N,116nm,1.2s
OGRR Ongureny 4.08 74 *e*Pn Pn 22 46 35.6 -0.3
OGRR *e* 22 46 37.5
OGRR *e*Pg Pg 22 46 48.5 -3.8
OGRR *e*Sn Sn 22 47 21.8 -1.5
OGRR *e*Sg Sg 22 47 40.8 -4.4
OGRR Pmax
comp=N,30nm,0.4s
OGRR Smax
comp=N,87nm,0.6s
OGRR Ongureny 4.08 74 *e*PN Pn 22 46 35.6 -0.3
OGRR *e* 22 46 46.4
OGRR *e* 22 47 40.4
OGRR pmax pmax
comp=Z,30nm,0.5s
OGRR smax
comp=E,86nm,0.6s
ARDR Aradan 4.62 272 *e*Pg Pg 22 46 56.6 -6.1
ARDR *e*Sg Sg 22 47 55.5 -7.0
MXMB Maximikha 4.71 80 *e*Pg Pg 22 47 00.0 -4.4
MXMB *e*Sg Sg 22 47 59.8 -5.7
MXMB Pmax
comp=E,13nm,0.5s
MXMB Smax
comp=E,170nm,1.0s
SYVR Suvo 5.50 76 *e*Pn Pn 22 46 55.8 +0.4
SYVR *e*Pg Pg 22 47 13.2 -6.2
SYVR *e*Sn Sn 22 47 59.5 +1.3
SYVR *e*Sg Sg 22 48 23.4 -7.2
SYVR Pmax
comp=E,4.0nm,0.5s
SYVR Smax
comp=E,28nm,1.4s
NIZ Nizh Angarsk 5.89 55 *e*Pn Pn 22 47 01.7 +1.0
NIZ *e*Pg Pg 22 47 20.9 -6.0
NIZ *e*Sn Sn 22 48 06.1 -1.7
NIZ *e*Sg Sg 22 48 36.4 -6.7
NIZ Pmax
comp=E,10.0nm,0.2s
NIZ Smax
comp=E,121nm,1.3s
YLYR Ulyunkhan 6.41 66 *e*Pn Pn 22 47 08.4 +0.5
YLYR *e*Pg Pg 22 47 29.3 -7.5
YLYR *e* 22 48 22.5
YLYR *e*Sg Sg 22 48 52.3 -7.5
YLYR Pmax
comp=E,6.0nm,0.4s
YLYR Smax
comp=E,48nm,1.3s
YLYR Ulyunkhan 6.41 66 *e*PN Pn 22 47 08.4 +0.5
YLYR *e* 22 47 29.4
YLYR *e* 22 48 52.5
YLYR pmax pmax
comp=Z,3.0nm,0.5s
YLYR smax
comp=N,48nm,1.2s

KMO Kumora 6.78 58 *e*Pn Pn 22 47 13.6 +0.7
KMO *e* 22 47 20.1
KMO *e* 22 47 41.1
KMO *e*Sn Sn 22 48 28.0 -1.8
KMO *e*Sg Sn 22 49 03.2 +33
KMO Smax
comp=N,102nm,1.2s
KPC Khapcheranga 7.74 108 *e*Pn Pn 22 47 26.4 +0.2
KPC *e* 22 47 45.6
KPC *e*Sg Sn 22 49 34.1 +41
KPC Smax
comp=N,20nm,2.0s
UKT Uakit 7.94 64 *e*Pn Pn 22 47 29.4 +0.5
UKT *e* 22 48 00.5
UKT *e*Sg Sn 22 49 39.1 +41
UKT Smax
comp=N,19nm,1.3s

IDC 18 23:00:02.4±1.8, 723S×10619E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/15, mbtmp3.7/4, Error ellipse: s-maj=120.1km s-min=24.4km az=43.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.07**	**118**	P	P		23 06 12.7	-0.6
	0.5nm,0.6s,baz=289,slow=10,SNR=4.6							
ASAR	**Alice Springs**	**31.22**	**125**	P	P		23 06 24.9	+1.5
	0.4nm,0.4s,baz=302,slow=8.2,SNR=6.4							
MKAR	**Makanchi Array**	**57.83**	**341**	P	P		23 09 55.9	+0.2
	0.3nm,0.4s,baz=145,slow=8.6,SNR=5.1							
BRTR	**Keskin Array B**	**81.38**	**312**	P	P		23 12 21.4	+0.4
	0.7nm,0.6s,baz=116,slow=5.7,SNR=5.1							

*IDC **18** 23:04:07.2±9.5, 1474S×16628E, h171km±113km, mb3.4/3, mb1 3.5/4, mb1mx3.4/14, mbtmp3.9/4, Error ellipse: s-maj=206.6km s-min=68.6km az=80.0*
*ISCJB **18** 23:04:12.7±3.0, 151S±02×1657E±02, h198km±26km, mb3.6/5, Error ellipse: s-maj=32.4km s-min=22.6km az=89.5*
*NEIC **18** 23:04:12.6±2.4, 15.17S×16581E, h180km±21km, mb3.9/2, Error ellipse: s-maj=24.8km s-min=17.2km az=217.0*
ISC 18 23:04:12.9±3.0, 151S±02×1659E±02, h190km±25km, n10, σ1§03/11, mb3.8/5, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.00**	**176**	P	**Pn**		**23 05 51.6**	**-1.4**
	0.5nm,0.3s,baz=102,slow=9.3,SNR=6.1							
DZM				S	**Sn**		**23 07 13.5**	**+1.3**
	0.1nm,0.3s,baz=74,slow=19,SNR=1.9							
PMG	**Port Moresby**	**19.13**	**285**	*e*P	**P**		**23 08 20.4**	**-1.1**
STKA	**Stephens Creek**	**27.76**	**229**	P	**P**		**23 09 44.1**	**+0.3**
	2.4nm,0.5s,mb4.2,baz=49,slow=8.9,SNR=9.9							
WRAB	**Tennant Creek**	**30.43**	**256**	P	**P**		**23 10 08.0**	**+0.5**
	7.3nm,1.1s,mb4.3							
WRA	**Warramunga Arr**	**30.44**	**256**	P	**P**		**23 10 07.8**	**+0.3**
	0.2nm,0.4s,mb3.2,baz=85,slow=8.8,SNR=6.7							
ASAR	**Alice Springs**	**31.30**	**249**	P	**P**		**23 10 15.8**	**+0.8**
	0.8nm,0.5s,mb3.7,baz=81,slow=8.9,SNR=13							
MBWA	**Marble Bar**	**44.16**	**255**	*e*P	**P**		**23 12 02.8**	**+0.1**
VNDA	**Vanda**	**62.51**	**181**	*e*P	**P**		**23 14 14.4**	**-1.8**
	0.6nm,0.9s,mb3.4							
CASY	**Casey**	**62.72**	**202**	P	**P**		**23 14 17.0**	**-0.6**
BEH	**Bench**	**87.31**	**17**⇑	*e*P	**P**		**23 16 39.7**	**+1.6**

*IDC **18** 23:04:39.9±0.3, 5468N×16390E, h0km, mb5.4/30, mb1 5.4/31, mb1mx5.4/32, mbtmp5.4/31, ML5.3/2, MS5.2/32, Ms1 5.2/32, ms1mx5.1/42, Error ellipse: s-maj=11.0km s-min=8.4km az=144.0*
*BJI **18** 23:04:41.9, 5460N×16390E, h30km, mB5.6, mb5.4, Ms5.8, Msz5.4*
*CRAAG **18** 23:04:43.0, 5464N×16391E, Mb5.7*
*KRSC **18** 23:04:43.1±1.8, 5460N×16389E, h36km±6km, ML5.7*
*NEIC **18** 23:04:45.0±0.1, 5463N×16386E, h30km, mb5.7/176, MS5.3/12, MW5.7, Error ellipse: s-maj=3.2km s-min=2.0km az=178.0, Moment Tensor Solution. s23 Moment tensor: Scale 10^{17}Nm; M_{rr}1.18; $M_{\theta\theta}$-5.33; $M_{\phi\phi}$4.12; $M_{r\theta}$0.05; $M_{\theta\phi}$0.63; $M_{r\phi}$0.13; Best double couple: M_o4.80000×10^{17} NP1:ϕ_s49.00000°,δ88.00000°,λ2.00000°. NP2: ϕ_s319.00000°,δ88.00000°,λ178.00000°. Principal axes: T 4.1700, Plg3.0000°, Azm274.0000°; N 1.2000, Plg87.0000°, Azm86.0000°; P -5.3700, Plg0.0000°, Azm184.0000°;*
*MOS **18** 23:04:44.0±0.9, 5475N×16370E, h41km, mb5.9/120, MS5.4/46 Error ellipse: s-maj=6.7km s-min=5.2km az=80.8*
*ISCJB **18** 23:04:45.2±0.1, 5459N±002×16379E±002, h47km, mb5.6/294, MS5.4/100, Error ellipse: s-maj=2.7km s-min=1.7km az=137.4*
*HRVD **18** 23:04:45.0±0.1, 5455N×16404E, h26km, MW5.7/102, Centroid moment Tensor Solution. LP body waves: s96,c198;Mantle waves: s102,c279; Half duration: 1s7 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.91±.04; $M_{\theta\theta}$-3.15±.04; $M_{\phi\phi}$5.06±.04; $M_{r\theta}$0.40±.11; $M_{\theta\phi}$1.81±.04; $M_{r\phi}$0.68±.10; Best double couple: M_o4.54400×10^{17} NP1:ϕ_s327.00000°,δ80.00000°,λ-178.00000°. NP2: ϕ_s236.00000°,δ88.00000°,λ-10.00000°. Principal axes: T 5.5170, Plg6.0000°, Azm282.0000°; N -1.9470, Plg79.0000°, Azm45.0000°; P -3.5700, Plg9.0000°, Azm191.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*SZGRF **18** 23:04:48.9, 5589N×16345E, h10km, mb5.5, MS5.3, Off east coast of Kamchatka Peninsula, Russia*
ISC 18 23:04:47.1±0.1, 5466N±002×16373E±002, h49km, h49km±.8km: pP-P, n1206, σ1§02/1221, mb5.6/294, MS5.4/100, 135C-66D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.17**	**266**	*i* P	**Pn**		**23 05 05.1**	**-2.0**
BKI	**Bering**	**1.40**	**66**	*i* P	**Pn**		**23 05 04.8**	**-5.5**
BKI				*i* S	**Sn**		**23 05 20.3**	**-7.3**
KBTR	**Krutoberegovo**	**1.63**	**342**	*i* P	**Pn**		**23 05 09.6**	**-3.8**
KBG	**Krutoberegovo**	**1.70**	**340**	*i* P	**Pn**		**23 05 10.9**	**-3.4**
KBG				*i* S	**Sn**		**23 05 33.5**	**-1.4**
KBG				Smax				
	132μm,0.8s							
ZLN	**Zelenaya**	**2.15**	**310**	*i* P	**Pn**		**23 05 19.7**	**-0.8**
TUMR	**Tumrok**	**2.16**	**288**	*i* P	**Pn**		**23 05 20.1**	**-0.5**
CIRR	**Tsirk**	**2.24**	**312**	*i* P	**Pn**		**23 05 20.8**	**-0.9**
LGNR	**Loginova**	**2.25**	**311**	*i* P	**Pn**		**23 05 21.3**	**-0.5**
KMNR	**Kamenistaya**	**2.28**	**300**	*i* P	**Pn**		**23 05 21.6**	**-0.7**
SMKR	**Semkarok**	**2.31**	**327**	*i* P	**Pn**		**23 05 20.9**	**-1.8**
KRSR	**Krestovskiy**	**2.38**	**312**	*i* P	**Pn**		**23 05 22.4**	**-1.3**
BDR	**Baidarnaya**	**2.39**	**324**	*i* P	**Pn**		**23 05 22.4**	**-1.3**
KPT	**Kopyto**	**2.39**	**305**	*i* P	**Pn**		**23 05 23.0**	**-0.8**
KLY	**Klyuchi**	**2.41**	**315**	P	**Pn**		**23 05 21.3**	**-2.7**
KLY	**Klyuchi**	**2.41**	**315**	*e*P	**Pn**		**23 05 20.8**	**-3.2**
SRKR	**Sorokina**	**2.47**	**325**	*i* P	**Pn**		**23 05 23.3**	**-1.5**
KII	**Karymskiy**	**2.58**	**258**	P	**Pn**		**23 05 25.6**	**-0.8**
KII	**Karymskiy**	**2.58**	**258**	*e*P	**Pn**		**23 05 25.4**	**-1.0**
KOZR	**Kozyr**	**2.60**	**304**	PN	**Pn**		**23 05 26.5**	**-0.2**
KOZ	**Kozyrevsk**	**2.61**	**304**	*i* P	**Pn**		**23 05 26.5**	**-0.3**
SPN	**Mys Shipunski**	**2.70**	**236**	P	**Pn**		**23 05 25.4**	**-2.6**
SPN				S	**Sn**		**23 05 53.0**	**-6.4**
SPN	**Mys Shipunski**	**2.70**	**236**	*e*P	**Pn**		**23 05 25.2**	**-2.8**
SPN				*i* S	**Sn**		**23 05 54.9**	**-4.5**
SRDR	**Sredinnyy**	**2.82**	**308**	*i* P	**Pn**		**23 05 29.1**	**-0.6**
NLC	**Nalytchevo**	**2.99**	**242**	P	**Pn**		**23 05 29.8**	**-2.2**
NLC				S	**Sn**		**23 06 00.3**	**-6.4**
NLC	**Nalytchevo**	**2.99**	**242**	*i* P	**Pn**		**23 05 29.5**	**-2.5**
NLC				*e*S	**Sn**		**23 06 03.8**	**-2.9**
ESO	**Esso**	**3.14**	**296**	*i* P	**Pn**		**23 05 33.1**	**-1.0**
ESO				*e*S	**Sn**		**23 06 09.1**	**-1.2**
ESO				Smax				
	11μm,1.2s							
SDLR	**Sedlovina**	**3.18**	**246**	*i* P	**Pn**		**23 05 33.2**	**-1.4**
SMAR	**Somma**	**3.23**	**246**	*i* P	**Pn**		**23 05 33.9**	**-1.4**
SMAR				*i* S	**Sn**		**23 06 11.7**	**-0.8**
UGLR	**Uglovaya**	**3.25**	**245**	*i* P	**Pn**		**23 05 34.2**	**-1.3**
AVH	**Avacha**	**3.27**	**247**	*i* P	**Pn**		**23 05 34.7**	**-1.1**
AVH				*e*S	**Sn**		**23 06 13.1**	**-0.2**
KOK	**Koryaka**	**3.31**	**248**	*i* P	**Pn**		**23 05 35.3**	**-1.0**

KOK *e*S **Sn** **23 06 12.0 -2.4**
PET Petropavlovsk 3.43 243 P **Pn** **23 05 36.8 -1.2**
PET S **Sn** **23 06 12.5 -4.8**
PET Petropavlovsk 3.43 243 ⇑*i*Pn **Pn** **23 05 36.2 -1.8**
PET *e*Sn **Sn** **23 06 14.3 -3.0**
PET Petropavlovsk 3.43 243 *i* P **Pn** **23 05 36.2 -1.8**
PET *e*S **Sn** **23 06 15.5 -1.8**
GNL Ganaly 3.54 256 *i* P **Pn** **23 05 39.2 -0.3**
KRMR Karymshinskiy 3.80 243 *i* P **Pn** **23 05 41.9 -1.2**
KRMR *e*S **Sn** **23 06 24.2 -2.3**
RUS Russkaya 3.83 236 P **Pn** **23 05 41.7 -1.8**
RUS S **Sn** **23 06 20.9 -6.4**
RUS Russkaya 3.83 236 *e*P **Pn** **23 05 41.5 -2.0**
RUS *e*S **Sn** **23 06 22.8 -4.5**
GRL Gorelyy 3.98 240 *i* P **Pn** **23 05 45.3 -0.2**
GRL *e*S **Sn** **23 06 29.2 -1.7**
APC Apacha 4.27 249 *i* P **Pn** **23 05 49.8 +0.3**
APC *i* S **Sn** **23 06 37.1 -0.9**
APC Smax
8μm,1.1s
OSSR Ossora 4.62 356 *i* P **Pn** **23 05 54.0 -0.3**
OSSR *e*S **Sn** **23 06 45.5 -1.1**
OSSR Smax
4μm,0.7s
MIPR Malaya Ipel'ka 4.80 243 *i* P **Pn** **23 05 56.7 -0.2**
PAU Pauzhetka 5.26 235 *e*P **Pn** **23 06 02.2 -0.9**
PAU *e*S **Sn** **23 06 58.4 -4.0**
PAU Smax
4μm,1.2s
FX1 Attu Island--F 5.87 104 Pn **Pn** **23 06 05.3 -6.2**
862nm,0.3s,baz=322,slow=7.6,SNR=1441
FX1 Sn **Sn** **23 07 06.1 -11**
609nm,0.3s,baz=160,slow=19,SNR=9.1
FX1 LR LR 23 08 09.9
comp=Z,782nm,18.1s,baz=308,slow=36
FX1 Attu Island--F 5.87 104 *e*Pn **Pn** **23 06 05.5 -6.0**
FX1 *e*Sn **Sn** **23 07 07.2 -10**
SKR Severo-Kuril's 6.11 232 *e*PN **Pn** **23 06 08.2 -6.6**
SKR pmax pmax
comp=N,150nm,0.5s
SKR pmax pmax
comp=E,290nm,0.5s
SKR pmax pmax
comp=Z,390nm,0.5s
SKR pmax pmax
comp=Z,2μm,6.0s
SKR pmax pmax
comp=N,2μm,4.0s
SKR pmax pmax
comp=E,2μm,4.0s
SKR MLR MLR
comp=Z,20μm,22.0s
SKR MLR MLR
comp=N,53μm,20.0s
SKR MLR MLR
comp=E,38μm,20.0s
SMY Shemya 6.46 103 *e*Pn **Pn** **23 06 13.3 -6.2**
SMY *e*Sn **Sn** **23 07 22.6 -9.2**
KAMR Kamenskoye 7.92 8 *e*P **Pn** **23 06 38.9 -0.7**
KAMR *j* S **Sn** **23 08 05.3 -2.6**
OKH Okha 12.25 273 *i* PN **Pn** **23 07 36.0 -2.9**
OKH *e*S **Sn** **23 10 02.4 +8.5**
OKH pmax pmax
comp=Z,6μm,4.0s
OKH smax
comp=E,5μm,16.0s
OKH smax
comp=N,3μm,18.0s
BILL Bilibino 13.48 4⇓*i*PN **Pn** **23 07 56.2 +0.6**
BILL *e* 23 10 33.8
BILL pmax pmax
comp=Z,115nm,0.6s
BILL Bilibino 13.48 4⇓*i*Pn **Pn** **23 07 56.2 +0.6**
comp=Z,115nm,0.6s
BILL *e*Sn **Sn** **23 10 33.8 +10**
BILL Bilibino 13.48 4 *i* P **Pn** **23 07 55.7 +0.1**
KUR Kuril'sk 13.88 234 *e*P **Pn** **23 07 55.0 -6.0**
KUR *e*S **Sn** **23 10 25.0 -8.5**
KUR pmax pmax
comp=Z,300nm,1.0s
KUR smax
comp=N,280nm,1.0s
KUR smax
comp=E,190nm,1.0s
KUR smax
comp=N,3μm,3.0s
KUR smax
comp=E,5μm,3.0s
UGL Uglegorsk 14.48 256*c* *i* P **Pn** **23 08 09.5 +0.5**
UGL S **Sn** **23 10 42.0 -6.1**
UGL pmax pmax
comp=Z,350nm,1.1s
UGL smax
comp=N,2μm,8.0s
UGL smax
comp=E,1μm,8.0s
UGL MLR MLR
comp=Z,6μm,15.0s
UGL MLR MLR
comp=N,9μm,14.0s
UGL MLR MLR
comp=E,6μm,16.0s
SPIA Saint Paul Isl 14.77 70 *e*Pn **Pn** **23 08 10.0 -2.9**
YSS Yuzh-Sakhalins 15.30 248*α* *i*P **Pn** **23 08 18.9 -0.9**
YSS *e*S **S** **23 11 05.0 -17**
YSS pmax pmax
comp=N,120nm,1.0s
YSS pmax pmax
comp=Z,120nm,1.0s
YSS pmax pmax
comp=E,250nm,1.2s
YSS MLR MLR
comp=Z,13μm,16.0s
YSS MLR MLR
comp=N,11μm,12.0s
YSS MLR MLR
comp=E,8μm,14.0s
YSS Yuzh-Sakhalins 15.30 248 *e*Pn **Pn** **23 08 18.3 -1.4**
YUK Yuzh-Kuril'sk 15.72 235 *e*P **Pn** **23 08 19.8 -5.4**
YUK pmax pmax
comp=E,380nm,0.5s
YUK pmax pmax
comp=Z,380nm,0.5s
YUK pmax pmax
comp=E,2μm,2.0s
YUK pmax pmax
comp=Z,2μm,2.0s
YUK pmax pmax
comp=N,2μm,3.0s
YUK MLR MLR
comp=Z,3μm,15.0s
YUK MLR MLR
comp=N,10μm,14.0s
YUK MLR MLR
comp=E,13μm,16.0s
ASAJ Asahikawa 17.27 241 P **Pn** **23 08 41.8 -2.8**
comp=E,6.6nm,0.3s,baz=60,slow=7.3,SNR=45
ASAJ S **S** **23 11 54.8 -7.8**
comp=E,0.9nm,0.3s,baz=133,slow=19,SNR=4.0
ASAJ LR LR 23 15 38.6
comp=E,7μm,18.7s,baz=52,slow=38
AKUT Akutan 17.70 79 *e*P **Pn** **23 08 48.3 -1.7**
comp=E,2μm,1.3s
ERM Erimo 18.54 235 P **Pn** **23 08 56.9 -3.3**
comp=E,1μm,0.6s,SNR=10
HABR Khabarovsk 18.79 263⇑*i*P **Pn** **23 09 02.9 -0.3**
HABR *e*S **S** **23 12 31.7 -1.7**
HABR pmax pmax
comp=Z,964nm,1.6s
HABR MLR MLR
comp=Z,2μm,16.0s
FALS False Pass 18.87 76 *e*P **Pn** **23 09 01.0 -3.1**
YAK Yakutsk 19.14 306*c* *i*P **Pn** **23 09 03.3 -4.1**
YAK *e*S **S** **23 12 36.3 -4.2**
YAK pmax pmax
comp=E,318nm,1.3s
YAK pmax pmax
comp=Z,421nm,1.3s
YAK pmax pmax
comp=N,112nm,1.5s
YAK smax
comp=N,117nm,1.3s
YAK smax
comp=Z,53nm,1.5s
YAK smax
comp=E,54nm,1.0s

YAK MLR MLR
comp=E,6µm,14.0s
YAK MLR MLR
comp=Z,6µm,14.0s
YAK MLR MLR
comp=N,9µm,16.0s
YAK Yakutsk 19.14 306 *e*P **Pn 23 09 03.7 -3.7**
KLR Kul'dur 20.33 268 *e*P **P 23 09 13.0 -6.1**
KLR *e*S **S 23 13 00.0 -4.3**
KLR pmax pmax
comp=E,460nm,1.8s
KLR pmax pmax
comp=Z,550nm,1.8s
KLR MLR MLR
comp=Z,10µm,14.0s,MS5.3
SDPT Sand Point 20.40 73 *e*P **P 23 09 15.4 -4.5**
comp=Z,660nm,1.3s
SDPT LR LR
comp=Z,6µm,17.0s,MS5.0
CHGN Chignik 21.34 70 *e*P **P 23 09 26.6 -3.4**
CLNS Chul'man 21.77 292 *e*P **P 23 09 31.4 -3.2**
CLNS *e* 23 09 45.4
CLNS *e*PPP 23 09 53.4
CLNS *e*S **S 23 13 28.9 -3.6**
CLNS *e*SS 23 14 01.6
CLNS *e* 23 20 46.9
CLNS pmax pmax
comp=E,71nm,0.9s
CLNS pmax pmax
comp=Z,88nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,39nm,0.7s
CLNS smax
comp=E,2µm,11.9s
CLNS smax
comp=Z,243nm,8.4s
CLNS smax
comp=N,71nm,8.6s
CLNS MLR MLR
comp=Z,7µm,14.0s,MS5.2
CLNS MLR MLR
comp=N,2µm,13.0s,MS5.2
CLNS MLR MLR
comp=E,5µm,11.0s,MS5.2
NRGR Nerungri 21.90 291 *e*P **P 23 09 34.3 -1.6**
TTA Tatalina 22.09 52 P pP 23 09 48.3 -1.2
TTA Tatalina 22.09 52 *e*P **P 23 09 36.4 -1.6**
SVW2 Sparrevohn 22.27 57 *e*P **P 23 09 37.9 -2.0**
TIXI Tiksi 22.63 332 *e*P **P 23 09 39.3 -4.4**
TIXI *e**PP 23 09 49.3
TIXI *e**SP sP 23 09 54.4 -7.1
TIXI *e* 23 10 03.4
TIXI *e*S **S 23 13 44.0 -4.4**
TIXI *e*SS 23 14 18.1
TIXI pmax pmax
comp=Z,143nm,1.2s,mb5.3
TIXI pmax pmax
comp=Z,828nm,13.7s
TIXI pmax pmax
comp=N,284nm,14.8s
TIXI pmax pmax
comp=E,335nm,13.4s
TIXI MLR MLR
comp=Z,10µm,14.0s,MS5.4
TIXI Tiksi 22.63 332⇑ *i*P **P 23 09 42.1 -1.6**
VLA Vladivostok 23.69 254 *e*P **P 23 09 53.1 -1.2**
MDJ Mudanjiang 24.06 259 P **P 23 09 54.4 -3.2**
MDJ AP 23 10 03.0
MDJ XP sP 23 10 06.9 -9.2
MDJ XS sS 23 14 22.0 -11
MDJ SCP ScP 23 17 14.1 +1.6
MDJ PCS PcS 23 17 17.8 0.0
MDJ SCS ScS 23 21 00.9 +1.3
MDJ AMB AMB
comp=Z,41nm,1.0s,mb4.8
MDJ AMB AMB
comp=Z,426nm,6.5s
MDJ LR LR
comp=N,7µm,22.9s,MS5.1
MDJ LR LR
comp=E,3µm,22.9s,MS5.1
MDJ LR LR
comp=Z,3µm,15.3s
MDJ Mudanjiang 24.06 259 *e*P **P 23 09 54.7 -2.9**
comp=Z,68nm,1.0s,mb5.0
KDAK Kodiak Island 24.17 65 P **P 23 09 55.6 -3.1**
comp=Z,1µm,0.7s,mb6.4,SNR=26
KDAK Kodiak Island 24.17 65 P **P 23 09 55.3 -3.4**
comp=Z,126nm,0.7s,mb5.5,baz=298,slow=5.2,SNR=62
KDAK S **S 23 14 09.3 -4.1**
comp=Z,5.3nm,0.8s,baz=158,slow=18,SNR=3.0
KDAK Kodiak Island 24.17 65 P **P 23 09 55.3 -3.4**
KDAK S **S 23 14 09.3 -4.1**
SLKM Skilak Lake 24.93 58 *e*P **P 23 10 03.8 -1.8**
MAJO Matsushiro 25.21 235 *e*P **P 23 10 08.9 +0.7**
MAT Matsushiro 25.21 235 P **P 23 10 08.5 +0.3**
MAT S **S 23 14 34.1 +4.0**
MAT Matsushiro 25.21 235 *e*P **P 23 10 09.0 +0.8**
MAT *e*S **S 23 14 34.0 +3.9**
MAT pmax pmax
comp=Z,287nm,0.8s,mb5.8
MAT MLR MLR
comp=Z,4µm,20.0s,MS4.9
MAT Matsushiro 25.21 235 *e*P **P 23 10 09.0 +0.8**
comp=Z,287nm,0.8s,mb5.9
MAT *e*S **S 23 14 34.0 +3.9**
MAT LR LR
comp=Z,4µm,20.0s,MS4.9
MJAR Matsushiro Arr 25.21 235 P **P 23 10 09.1 +1.0**
comp=Z,142nm,0.8s,mb5.6,baz=31,slow=8.7,SNR=388
MJAR S **S 23 14 36.4 +6.4**
comp=Z,3.0nm,0.9s,baz=14,slow=7.8,SNR=4.8
MJAR LR LR 23 20 27.1
comp=Z,3µm,19.2s,MS4.9,baz=50,slow=37
MJAR Matsushiro Arr 25.21 235 P **P 23 10 09.1 +0.9**
MJAR S **S 23 14 36.4 +6.3**
PMR Palmer 25.34 55 *e*P **P 23 10 07.4 -1.9**
COLA College 25.76 47 P **P 23 10 11.5 -1.6**
COLA pmax pmax
comp=Z,160nm,1.0s,mb5.5
COLA College 25.76 47⇓ *e*P **P 23 10 11.3 -1.8**
comp=Z,165nm,0.9s,mb5.6
ILAR Eielson Array 26.17 48 P **P 23 10 14.5 -2.4**
comp=Z,88nm,0.8s,mb5.4,baz=261,slow=8.2,SNR=368
ILAR LR LR 23 21 42.1
comp=Z,7µm,18.0s,MS5.2,baz=283,slow=39
CN2 Changchun 26.93 262 *e*P **P 23 10 19.9 -3.7**
CN2 *e*S **S 23 14 52.8 -4.4**
CN2 AMB AMB
comp=Z,20nm,1.5s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,9µm,20.0s,MS5.4
CN2 LR LR
comp=E,5µm,20.0s,MS5.4
CN2 LR LR
comp=Z,8µm,15.0s,MS5.4
MID Middleton Isla 27.04 59 *e*P **P 23 10 23.4 -1.2**
EYAK Cordova Ski Ar 27.11 57 *e*P **P 23 10 23.1 -2.2**
EYAK *e*pP pP 23 10 35.9 -2.1
EYAK *e*sP sP 23 10 42.2 -1.6
HIA Hailar 27.28 277 *e*P **P 23 10 25.5 -1.3**
BOD Bodaibo 27.31 297 *e*P **P 23 10 24.3 -2.8**
BOD pmax pmax
comp=Z,71nm,1.5s,mb5.0
JHJ Hachijo jima 2 27.35 228 P **P 23 10 27.6 +0.2**
comp=Z,28nm,0.3s,mb5.3,baz=78,slow=14,SNR=4.0
JHJ LR LR 23 20 44.0
comp=Z,2µm,18.2s,MS4.7,baz=238,slow=35
MENT Mentasta 27.70 51 *e*P **P 23 10 28.9 -1.7**
SNY Shenyang 29.23 261⇑ P **P 23 10 40.8 -3.4**
SNY PP PP 23 11 34.3 -16
SNY S **S 23 15 33.8 +0.3**
SNY XS sS 23 15 45.6 -9.3
SNY SS SS 23 17 11.0 -28
SNY AMB AMB
comp=Z,37nm,1.5s,mb4.9
SNY AMB AMB
comp=Z,323nm,5.8s
SNY LR LR
comp=N,4µm,10.8s,MS5.5
SNY LR LR
comp=E,6µm,13.2s,MS5.5
SNY LR LR
comp=Z,7µm,16.3s,MS5.4
DAWY Dawson 29.47 48 *e*P **P 23 10 44.6 -1.8**
CIT Chita 29.56 286 *e*P **P 23 10 43.5 -3.6**
CIT *e* pP 23 10 56.7 -3.2
CIT *e* 23 11 45.5
CIT *e* 23 15 43.6
CIT pmax pmax
comp=Z,66nm,2.0s,mb5.0
KS15 Wonju Array Si 29.82 250 *e*P **P 23 10 51.3 +1.8**
INCN Inchon 30.48 251 P **P 23 10 56.2 +1.0**
INK Inuvik 31.30 40 P **P 23 11 00.8 -1.6**
comp=Z,22nm,0.8s,mb5.0,baz=278,slow=6.5,SNR=43
INK Inuvik 31.30 40 *e*P **P 23 11 01.0 -1.5**
JNU Nakatsue 31.55 240 P **P 23 11 06.4 +1.8**
comp=Z,34nm,0.6s,mb5.3,baz=140,slow=13,SNR=7.9
JNU LR LR 23 23 19.5
comp=Z,4µm,20.7s,MS5.0,baz=39,slow=35
DL2 Dalian 32.28 258 P **P 23 11 11.3 +0.2**
DL2 PP PP 23 12 21.8 -2.9
DL2 S **S 23 16 23.0 +1.8**
DL2 AMB AMB
comp=Z,50nm,0.8s,mb5.4
DL2 AMB AMB
comp=Z,370nm,5.6s
DL2 LR LR
comp=N,6µm,18.9s,MS5.4
DL2 LR LR
comp=E,5µm,18.7s,MS5.4
DL2 LR LR
comp=Z,3µm,13.5s
SKAG Skagway 32.45 56 *e*P **P 23 11 11.8 -0.8**
SKAG *e*pP pP 23 11 26.4 +1.1
SKAG *e*sP sP 23 11 32.1 +0.9
SIT Sitka 33.30 60 *e*P **P 23 11 19.9 -0.1**
SIT pmax pmax
comp=Z,325nm,2.1s,mb5.9
SIT MLR MLR
comp=Z,4µm,19.0s,MS5.2
SIT Sitka 33.30 60 *e*P **P 23 11 19.9 -0.1**
comp=Z,325nm,2.1s,mb5.9
SIT LR LR
comp=Z,4µm,19.0s,MS5.2
IRK Irkutsk 34.57 291 *e*P **P 23 11 27.9 -3.2**
IRK *e* 23 12 53.7
IRK pmax pmax
comp=Z,89nm,1.6s,mb5.5
BJI Beijing 34.66 265 *e*P **P 23 11 29.6 -2.2**
BJI PP PP 23 12 50.4 -0.6
BJI S **S 23 16 57.0 -1.0**
BJI AMB AMB
comp=Z,15nm,2.0s,mb4.6
BJI AMB AMB
comp=Z,401nm,5.8s
BJI LR LR
comp=N,12µm,15.4s,MS5.8
BJI LR LR
comp=E,8µm,14.8s,MS5.8
BJI LR LR
comp=Z,2µm,24.8s
CRAG Craig 35.06 62 *e*P **P 23 11 35.2 -0.1**
CRAG *e*pP pP 23 11 47.2 -0.9
TLY Talaya 35.19 291 P **P 23 11 35.6 -0.7**
comp=Z,144nm,0.8s,mb6.0,SNR=11
TLY Talaya 35.19 291 *c i*P **P 23 11 34.1 -2.2**
TLY *e* 23 12 56.6
TLY *e*PPP 23 13 11.6
TLY *e*S **S 23 17 03.1 -3.0**
TLY *e*SS SS 23 19 25.4 -15
TLY pmax pmax
comp=Z,41nm,1.4s,mb5.2
TLY MLR MLR
comp=Z,6µm,17.0s,MS5.4
TLY Talaya 35.19 291⇑ *i*P **P 23 11 34.9 -1.4**
ULN Ulaanbaatar 35.25 283 *e*P **P 23 11 35.9 -1.0**
DLBC Dease Lake 35.38 56 *e*P **P 23 11 38.4 +0.4**
SONM Songino Array 35.64 283 P **P 23 11 38.8 -1.4**
comp=Z,13nm,0.6s,mb5.0,baz=59,slow=8.5,SNR=37
SONM PcP PcP 23 14 08.7 +0.8
comp=Z,13nm,0.8s,baz=80,slow=1.8,SNR=5.7
SONM LR LR 23 27 52.3
comp=Z,3µm,18.1s,MS5.1,baz=47,slow=39
SONM Songino Array 35.64 283 P **P 23 11 38.8 -1.4**
SONM 23 14 08.7
ZAK Zakamensk 36.03 289⇑ *i*P **P 23 11 42.2 -1.4**
ZAK *e* 23 13 07.1
ZAK pmax pmax
comp=Z,91nm,1.6s,mb5.5
MOY Mondy 36.63 292 *e*P **P 23 11 46.9 -1.8**
MOY *e* 23 13 13.8
MOY pmax pmax
comp=Z,102nm,2.4s,mb5.2
HHC Hu-ho-hao-te 36.81 270⇑ P **P 23 11 47.9 -2.3**
HHC AP pP 23 11 57.4 -5.7
HHC XP sP 23 12 01.8 -7.1
HHC PP PP 23 13 13.5 -1.2
HHC PCP PcP 23 14 11.0 -0.4
HHC S **S 23 17 28.6 -2.3**
HHC XS sS 23 17 44.8 -7.9
HHC SCP ScP 23 17 54.4 +0.3
HHC PCS PcS 23 17 58.0 -1.5
HHC SCS ScS 23 21 59.3 -1.8
HHC AMB AMB
comp=Z,31nm,1.4s,mb5.0
HHC AMB AMB
comp=Z,232nm,8.2s
HHC LR LR
comp=N,6µm,13.0s,MS5.7
HHC LR LR
comp=E,6µm,14.4s,MS5.7
HHC LR LR
comp=Z,8µm,13.4s,MS5.7
BTO Baotou 37.86 271 *e*P **P 23 11 56.8 -2.3**
BTO S **S 23 17 38.9 -8.0**
BTO AMB AMB
comp=Z,67nm,1.7s,mb5.1
JOW Kunigami 37.97 237 P **P 23 12 01.4 +1.3**
comp=Z,39nm,0.4s,mb5.5,baz=38,slow=7.8,SNR=8.3
SSE Sheshan 38.23 250 *e*P **P 23 12 02.0 -0.3**
SSE AP pP 23 12 08.1 -7.1
SSE XP sP 23 12 10.8 -10
SSE PP PP 23 13 28.9 -1.4
SSE PCP PcP 23 14 16.6 +0.8
SSE S **S 23 17 54.3 +1.7**
SSE XS sS 23 18 04.8 -10
SSE AMB AMB
comp=Z,61nm,0.8s,mb5.4
SSE AMB AMB
comp=Z,409nm,3.6s
SSE LR LR
comp=N,2µm,21.2s,MS5.1
SSE LR LR
comp=E,3µm,21.1s,MS5.1
SSE LR LR
comp=Z,3µm,16.7s,MS5.1
NJ2 Nanjing 38.79 253 *e*P **P 23 12 07.5 +0.6**
NJ2 AP pP 23 12 18.0 -1.9
NJ2 XP sP 23 12 21.1 -4.6
NJ2 PP PP 23 13 40.9 +4.5
NJ2 S **S 23 18 02.0 +1.1**
NJ2 XS sS 23 18 18.0 -4.8
NJ2 AMB AMB
comp=Z,100nm,1.0s,mb5.5
NJ2 AMB AMB
comp=Z,520nm,8.0s
NJ2 LR LR
comp=N,10µm,16.6s,MS5.9
NJ2 LR LR
comp=E,14µm,18.6s,MS5.9
NJ2 LR LR
comp=Z,2µm,24.1s
YKW3 Yellowknife Ar 40.50 45 *e*P **P 23 12 19.6 -1.5**
YKA Yellowknife Ar 40.54 45 P **P 23 12 19.8 -1.6**
comp=Z,11nm,0.8s,mb4.6,baz=298,slow=8.1,SNR=79
YKA LR LR 23 29 53.6
comp=Z,5µm,20.4s,MS5.3,baz=280,slow=37
YKA Yellowknife Ar 40.54 45 P **P 23 12 19.8 -1.6**
YKA LR LR 23 29 53.6
RES Resolute Bay 41.04 23 *e*P **P 23 12 24.5 -1.1**
ALE Alert 41.07 8 P **P 23 12 18.9 -6.9**
comp=Z,408nm,1.1s,mb6.0,SNR=7.6
WHN Wuhan 42.45 256 *e*P **P 23 12 37.0 -0.1**
WHN S **S 23 18 52.8 -2.6**
WHN LR LR
comp=Z,7µm,18.3s,MS5.6
XAN Xi'an 42.99 264 P **P 23 12 39.8 -1.6**
XAN PP PP 23 14 27.1 +5.2
XAN S **S 23 19 01.9 -1.4**
XAN SS SS 23 22 12.6 -3.9
XAN AMB AMB
comp=Z,31nm,1.6s,mb4.8
XAN AMB AMB
comp=Z,412nm,11.1s
XAN LR LR
comp=N,5µm,18.7s,MS5.7
XAN LR LR
comp=E,8µm,19.1s,MS5.7
XAN LR LR
comp=Z,5µm,16.5s,MS5.5
PGC Sidney 43.70 67 *e*P **P 23 12 46.7 -0.5**
NVS Novosibirsk 43.99 305⇑ *i*P **P 23 12 46.9 -2.7**
NVS *e* 23 14 27.7
NVS *i* S **S 23 19 11.4 -6.6**
NVS pmax pmax
comp=N,328nm,1.6s
NVS pmax pmax
comp=Z,670nm,1.6s,mb6.1
NVS pmax pmax
comp=E,515nm,1.3s
NVS smax
comp=N,160nm,2.0s
NVS smax
comp=E,74nm,2.0s
LZH Lanzhou 44.49 271⇓ P **P 23 12 53.6 +0.1**
LZH AP pP 23 13 02.1 -4.6
LZH XP sP 23 13 06.4 -6.1
LZH PP PP 23 14 40.0 +2.0
LZH S **S 23 19 30.0 +4.8**
LZH XS sS 23 19 38.0 -9.3
LZH *e*SS SS 23 22 44.0 -1.8
LZH AMB AMB
comp=Z,160nm,1.2s,mb5.6
LZH AMB AMB
comp=Z,1µm,5.8s
LZH LR LR
comp=N,16µm,13.6s
LZH LR LR
comp=Z,14µm,14.4s,MS6.0
QZH Quanzhou 44.49 247 P **P 23 12 55.8 +2.3**
QZH AP pP 23 13 07.1 +0.4
QZH S **S 23 19 26.5 +1.3**
QZH AMB AMB
comp=Z,260nm,1.5s,mb5.7
QZH AMB AMB
comp=Z,3µm,5.3s
QZH LR LR
comp=N,4µm,15.8s
QZH LR LR
comp=E,2µm,10.6s
QZH LR LR
comp=Z,4µm,15.4s,MS5.4
GTA Gaotai 44.56 277 P **P 23 12 52.8 -1.3**
GTA AP pP 23 12 59.3 -8.0
GTA PCP PcP 23 14 37.1 +0.6
GTA SCP ScP 23 18 27.4 +2.9
GTA S **S 23 19 25.3 -0.9**
GTA SCS ScS 23 22 48.3 +0.8
GTA AMB AMB
comp=Z,44nm,1.8s,mb5.0
GTA AMB AMB
comp=Z,658nm,5.7s
GTA LR LR
comp=N,8µm,15.6s,MS5.8
GTA LR LR
comp=E,3µm,16.4s,MS5.8
GTA LR LR
comp=Z,4µm,19.8s,MS5.4
GNW Green Mountain 44.69 67 *e*P **P 23 12 55.0 -0.1**
KBS Kingsbay 45.61 353 *e*P **P 23 13 02.7 +0.3**
KBS AMb AMB 23 13 17.7
comp=Z,108nm,1.3s,mb5.6
KBS *e*S **S 23 19 43.9 +2.5**
KBS Kingsbay 45.61 353 *e*P **P 23 13 02.6 +0.2**
KBS *e* pP 23 13 17.1 +1.4
LON Longmire 45.73 68 *e*P **P 23 13 01.6 -1.8**
EDM Edmonton 46.10 56 *e*P **P 23 13 02.1 -4.2**
POHA Pohakuloa 46.52 122 P **P 23 13 07.3 -2.2**
HOOD Mount Hood Mea 46.72 69 *e*P **P 23 13 11.0 -0.1**
HAWA Hanford 47.18 67 *e*P **P 23 13 14.1 -0.6**
HAWA *e* pP 23 13 25.8 -2.3
NEW Newport 47.26 63 *e*P **P 23 13 13.4 -2.0**
NEW *e**PP pP 23 13 27.1 -1.6
NEW pmax pmax
comp=Z,62nm,1.0s
NEW Newport 47.26 63 *e*P **P 23 13 13.4 -2.0**
comp=Z,62nm,1.0s,mb5.5
NEW *e*pP pP 23 13 27.1 -1.6
HUMO Hull Mountain 47.77 73 *e*P **P 23 13 19.1 -0.2**
SGCP Mt. Cagua 48.27 238 *e*P **P 23 13 23.4 +0.2**
WALA Waterton Lakes 48.41 61 *e*P **P 23 13 23.8 -0.5**
WALA *e* pP 23 13 36.4 -1.1
WMQ Urumqi 48.47 290⇑ *i*P **P 23 13 24.3 -0.4**
WMQ AP pP 23 13 31.8 -6.2
WMQ XP sP 23 13 35.3 -8.4
WMQ PCP PcP 23 14 50.5 +0.3
WMQ PP PP 23 15 16.6 -1.1
WMQ SCP ScP 23 18 42.3 +1.5
WMQ PCS PcS 23 18 45.3 -1.0
WMQ S **S 23 20 22.6 +0.5**
WMQ XS sS 23 20 35.8 -8.7
WMQ SCS ScS 23 23 12.5 -0.6
WMQ AMB AMB
comp=Z,118nm,1.0s,mb5.9
WMQ AMB AMB
comp=Z,1µm,4.2s
WMQ LR LR
comp=N,8µm,19.6s,MS5.8
WMQ LR LR
comp=E,6µm,20.4s,MS5.8
WMQ LR LR
comp=Z,3µm,21.5s,MS5.2
YBH Yreka Blue Hor 48.48 73 LR LR 23 31 20.9
comp=Z,3µm,20.6s,MS5.2,baz=331,slow=33
YBH Yreka Blue Hor 48.48 73 *e*P **P 23 13 25.1 +0.3**
YBH *e* pP 23 13 36.9 -1.3
KHMM Horse Mountain 48.49 75 *e*P **P 23 13 24.9 +0.1**
KHMM *e* pP 23 13 37.5 -0.7
KURK Kurchatov 48.72 303 P **P 23 13 25.9 -0.7**
comp=Z,2µm,1.6s
KURK Kurchatov 48.72 303 *e*P **P 23 13 25.3 -1.3**
KURK *e**PP pP 23 13 39.2 -0.8
KURK pmax pmax
comp=Z,707nm,1.3s,mb6.5
KURK Kurchatov 48.72 303 *e*P **P 23 13 25.3 -1.3**
comp=Z,707nm,1.3s,mb6.5
KURK *e*pP pP 23 13 39.2 -0.8
BSMT Bassoo Peak 48.73 62 *e*P **P 23 13 26.1 -0.7**
BSMT *e* pP 23 13 39.4 -0.7
DAG Danmarks Havn 48.83 1⇑ *i*P **P 23 13 26.3 -1.2**
comp=Z,42nm,1.0s,mb5.4
DAG Danmarks Havn 48.83 1⇑ *e*P **P 23 13 26.3 -1.2**
DAG pmax pmax
comp=Z,42nm,1.0s,mb5.4
DAG Danmarks Havn 48.83 1⇑ *e*P **P 23 13 26.3 -1.2**
comp=Z,42nm,1.0s,mb5.4
CVP Callao Caves 48.84 238 *e*P **P 23 13 29.0 +1.4**
BJO Bjornoya 48.95 348 *e*P **P 23 13 28.4 0.0**
BJO AMb AMB 23 13 43.1
comp=Z,305nm,1.0s,mb6.3
BJO1 Bjornoya 48.98 348 *e*P **P 23 13 28.4 -0.2**
comp=Z,305nm,1.0s,mb6.3
APYP Conner 48.99 238 *e*P **P 23 13 28.5 -0.3**
HKC Hong Kong 48.99 249⇑ *i*P **P 23 13 36.0 +7.2**
HKC *i* S **S 23 20 34.0 +4.4**
PALP Palanan 49.09 237 *e*P **P 23 13 30.7 +1.2**
WDC Whiskeytown Da 49.35 74 P **P 23 13 31.4 -0.1**
WDC pmax pmax
comp=Z,58nm,1.3s,mb5.5
WDC Whiskeytown Da 49.35 74 *e*P **P 23 13 31.1 -0.4**
WDC *e* pP 23 13 44.1 -0.7
BMO Blue Mountains 49.37 67 *e*P **P 23 13 30.7 -0.9**
comp=Z,145nm,1.6s,mb5.8
BMO *e* pP 23 13 43.6 -1.4
MK31 Makanchi Array 49.40 297 P **P 23 13 29.9 -1.9**
MK31 pmax pmax
comp=Z,78nm,0.9s,mb5.7
MKAR Makanchi Array 49.40 297 P **P 23 13 30.6 -1.3**
comp=Z,58nm,0.7s,mb5.7,baz=51,slow=5.0,SNR=422
MKAR S **S 23 20 36.0 +0.8**
comp=Z,0.7nm,0.7s,baz=50,slow=18,SNR=4.6

ABRA	**Dolores**	**49.44**	**239**	*e*P		**P**	**23 13 35.3**	**+3.2**
CAUP	**Cauayan**	**49.49**	**237**	*e*P		**P**	**23 13 34.7**	**+2.2**
MOD	**Modoc**	**49.70**	**72**	*e*P		**P**	**23 13 34.3**	**+0.1**
	comp=Z,81nm,1.0s,mb5.7							
MOD				*e*		pP	23 13 46.0	-1.6
GYA	**Guiyang**	**49.92**	**260**	⇑*i*P		**P**	**23 13 36.3**	**+0.5**
GYA				AP		pP	23 13 43.8	-5.4
GYA				XP		sP	23 13 46.9	-8.0
GYA				PCP		PcP	23 14 57.9	+2.4
GYA				PP		PP	23 15 31.3	+0.4
GYA				SCP		ScP	23 18 50.8	+3.8
GYA				S		**S**	**23 20 43.1**	**+0.6**
GYA				SCS		ScS	23 23 24.6	+1.7
GYA				SS		SS	23 24 08.8	-6.9
GYA				AMB		AMB		
	comp=Z,170nm,1.0s,mb6.0							
GYA				AMB		AMB		
	comp=Z,770nm,6.3s							
GYA				LR		LR		
	comp=N,5μm,19.4s,MS5.6							
GYA				LR		LR		
	comp=E,3μm,18.8s,MS5.6							
GYA				LR		LR		
	comp=Z,2μm,19.7s,MS5.1							
CHMT	**Chamberlain Mo**	**50.14**	**62**	*e*P		**P**	**23 13 36.0**	**-1.4**
CHMT				*e*		pP	23 13 49.2	-1.6
WVOR	**Wild Horse Val**	**50.26**	**70**	*e*P		**P**	**23 13 37.8**	**-0.6**
WVOR				*e**PP		pP	23 13 50.1	-1.7
WVOR				pmax		pmax		
	comp=Z,177nm,1.7s,mb5.8							
WVOR	**Wild Horse Val**	**50.26**	**70**	*e*P		**P**	**23 13 37.8**	**-0.6**
	comp=Z,176nm,1.7s,mb5.8							
WVOR				*e*pP		pP	23 13 50.1	-1.7
FFC	**Flin Flon**	**50.38**	**49**	P		**P**	**23 13 38.5**	**-0.8**
	comp=Z,201nm,1.0s,mb6.1,SNR=6.2							
FFC	**Flin Flon**	**50.38**	**49**	*e*P		**P**	**23 13 38.1**	**-1.2**
FFC				*e**PP		pP	23 13 51.7	-1.0
FFC				*e*			23 14 56.2	
FFC				pmax		pmax		
	comp=Z,54nm,1.2s,mb5.5							
FFC	**Flin Flon**	**50.38**	**49**	*e*P		**P**	**23 13 38.1**	**-1.1**
	comp=Z,54nm,1.2s,mb5.5							
FFC				*e*pP		pP	23 13 51.7	-0.9
FFC				*e*PcP		PcP	23 14 56.2	-1.0
CHKZ	**Chkalovo**	**50.55**	**310**	*e*P		**P**	**23 13 39.0**	**-1.6**
BALP	**Baler**	**50.64**	**237**	*e*P		**P**	**23 13 41.9**	**+0.7**
NSHM	**Saint Helena R**	**50.73**	**76**	*e*P		**P**	**23 13 41.6**	**-0.3**
NSHM				*e*pP		pP	23 13 54.6	-0.7
OHCM	**Honcut**	**50.80**	**75**	P		**P**	**23 13 41.3**	**-1.1**
FCC	**Fort Churchill**	**50.90**	**41**	*e*P		**P**	**23 13 41.6**	**-1.6**
FCC				pmax		pmax		
	comp=Z,165nm,1.3s,mb5.8							
FCC	**Fort Churchill**	**50.90**	**41**	*e*P		**P**	**23 13 41.6**	**-1.6**
	comp=Z,165nm,1.3s,mb5.8							
BOLP	**Bolinao**	**50.91**	**239**	*e*P		**P**	**23 13 46.2**	**+2.9**
HRY	**Holter Researc**	**51.00**	**62**	*e*P		**P**	**23 13 43.2**	**-0.7**
BVA0	**Borovoye Array**	**51.08**	**309**	*i* P		**P**	**23 13 43.5**	**-1.1**
BVA0				pmax		pmax		
	comp=Z,15nm,0.8s,mb5.0							
BRVK	**Borovoye**	**51.11**	**309**	P		**P**	**23 13 43.2**	**-1.6**
	comp=Z,1μm,0.9s,SNR=53							
BRVK	**Borovoye**	**51.11**	**309**	*e*P		**P**	**23 13 43.6**	**-1.2**
BRVK				*e**PP		pP	23 13 57.9	-0.3
BRVK				pmax		pmax		
	comp=Z,112nm,0.8s,mb5.8							
BRVK	**Borovoye**	**51.11**	**309**	*e*P		**P**	**23 13 43.6**	**-1.2**
	comp=Z,112nm,0.8s,mb5.8							
BRVK				*e*pP		pP	23 13 57.9	-0.4
EGMT	**Eagleton**	**51.17**	**59**	*e*P		**P**	**23 13 43.8**	**-1.5**
LRM	**Limekiln Ridge**	**51.28**	**63**	*e*P		**P**	**23 13 45.4**	**-0.6**
PVCP	**Virac**	**51.28**	**233**	*e*P		**P**	**23 13 47.7**	**+1.6**
POLP	**Polillio Island**	**51.34**	**236**	*e*P		**P**	**23 13 48.3**	**+1.9**
SCZP	**Santa Cruz**	**51.43**	**239**	*e*P		**P**	**23 13 48.0**	**+0.8**
DLMT	**Dillon**	**51.51**	**64**	*e*P		**P**	**23 13 46.9**	**-0.9**
	comp=Z,95nm,1.3s,mb5.6							
PAHR	**Pah Rah Range**	**51.71**	**73**	*e*P		**P**	**23 13 48.7**	**-0.6**
	comp=Z,62nm,1.2s,mb5.4							
PAHR				*e*pP		pP	23 14 01.6	-1.1
PAHR				*e*sP		sP	23 14 09.5	+1.1
MCMT	**McKenzie Canyo**	**51.74**	**64**	*e*P		**P**	**23 13 48.7**	**-0.8**
MCMT				*e*pP		pP	23 14 01.8	-1.2
ZRNK	**Zerenda**	**51.76**	**310**	*e*P		**P**	**23 13 48.4**	**-1.2**
ZRNK				pmax		pmax		
	comp=Z,199nm,1.2s,mb5.9							
ZRNK	**Zerenda**	**51.76**	**310**	*e*P		**P**	**23 13 48.4**	**-1.2**
	comp=Z,199nm,1.2s,mb5.9							
HLID	**Hailey**	**51.77**	**66**	*e*P		**P**	**23 13 49.4**	**-0.3**
BOZ	**Bozeman (W)**	**51.82**	**63**	*e*P		**P**	**23 13 49.6**	**-0.5**
BOZ				pmax		pmax		
	comp=Z,139nm,1.6s,mb5.6							
BOZ	**Bozeman (W)**	**51.82**	**63**	*e*P		**P**	**23 13 49.5**	**-0.5**
	comp=Z,139nm,1.6s,mb5.6							
KEV	**Kevo**	**51.99**	**342**	*e*p		**P**	**23 13 44.7**	**-6.7**
	comp=Z,14nm,0.9s,mb4.9							
KEV	**Kevo**	**51.99**	**342**	P		**P**	**23 13 55.4**	**+4.0**
KEV				pmax		pmax		
	comp=Z,210nm,1.9s,mb5.7							
KEV	**Kevo**	**51.99**	**342**	*e*P		**P**	**23 13 50.0**	**-1.4**
	comp=Z,212nm,1.9s,mb5.8							
KEV				*e*pP		pP	23 14 03.3	-1.5
LVZ	**Lovozero**	**52.06**	**338**	*i* P		**P**	**23 13 50.7**	**-1.2**
LVZ				*i* S		**S**	**23 21 08.7**	**-3.5**
LVZ				pmax		pmax		
	comp=Z,22nm,0.9s,mb5.1							
LVZ				pmax		pmax		
	comp=N,7.0nm,0.8s							
LVZ				pmax		pmax		
	comp=E,4.0nm,0.8s							
LVZ				smax				
	comp=Z,79nm,2.3s							
LVZ				smax				
	comp=N,288nm,5.9s							
LVZ				smax				
	comp=E,506nm,6.8s							
LVZ				MLR		MLR		
	comp=Z,4μm,23.0s,MS5.4							
LVZ				MLR		MLR		
	comp=N,2μm,21.0s,MS5.3							
LVZ				MLR		MLR		
	comp=E,1μm,17.0s,MS5.3							
SUMG	**Summit**	**52.12**	**8**	*e*P		**P**	**23 13 51.3**	**-1.0**
AUQP	**San Andres**	**52.20**	**234**	*e*P		**P**	**23 13 56.2**	**+3.2**
CMB	**Columbia Colle**	**52.32**	**75**	*e*P		**P**	**23 13 53.4**	**-0.4**
ARCES	**ARCESS Array B**	**52.45**	**343**	P		**P**	**23 13 53.3**	**-1.4**
	comp=E,10.0nm,0.9s,mb4.8,baz=30,slow=7.6,SNR=20							
ARCES				LR		LR	23 39 52.1	
	comp=E,2μm,19.1s,MS5.2,baz=157,slow=40							
ARE0	**ARCESS Array S**	**52.45**	**343**	*e*P		**P**	**23 13 53.8**	**-0.9**
QLMT	**Earthquake Lak**	**52.48**	**63**	*e*P		**P**	**23 13 55.0**	**0.0**
WAKR	**Walker**	**52.52**	**74**	*e*P		**P**	**23 13 55.6**	**+0.3**
APA	**Apatity**	**52.61**	**338**	⇓*i*P		**P**	**23 13 55.0**	**-0.9**
APA				*i*		pP	23 14 08.0	-1.4
APA				pmax		pmax		
	comp=Z,42nm,1.0s,mb5.3							
SAO	**San Andreas Ge**	**52.61**	**77**	P		**P**	**23 13 55.7**	**-0.3**
SAO				pmax		pmax		
	comp=Z,26nm,1.3s,mb5.0							
SAO	**San Andreas Ge**	**52.61**	**77**	*e*P		**P**	**23 13 55.1**	**-0.9**
	comp=Z,26nm,1.3s,mb5.0							
SAO				*e*pP		pP	23 14 08.1	-1.4
SAO				*e*sP		sP	23 14 14.8	-0.3
GCMT	**Greycliff**	**52.73**	**61**	*e*P		**P**	**23 13 56.4**	**-0.4**
GCMT				*e*pP		pP	23 14 09.4	-0.9
YMR	**Madison River**	**52.83**	**63**	*e*P		**P**	**23 13 57.5**	**-0.1**
	comp=Z,222nm,1.6s,mb5.8							
YMR				*e*pP		pP	23 14 10.8	-0.3
YMR				*e*sP		sP	23 14 17.8	+1.1
LUBP	**Lubang**	**53.01**	**237**	*e*P		**P**	**23 13 57.8**	**-1.1**
LKWY	**Lake**	**53.20**	**63**	*e*P		**P**	**23 14 03.2**	**+2.9**
LKWY				pmax		pmax		
	comp=Z,90nm,1.2s,mb5.6							
LKWY	**Lake**	**53.20**	**63**	*e*P		**P**	**23 14 03.2**	**+3.0**
	comp=Z,90nm,1.2s,mb5.6							
KMI	**Kunming**	**53.20**	**262**	P		**P**	**23 14 00.8**	**+0.5**
KMI				AP		pP	23 14 08.6	-5.2
KMI				XP		sP	23 14 11.3	-8.1
KMI				PCP		PcP	23 15 09.1	+1.4
KMI				PP		PP	23 16 02.3	+1.7
KMI				SCP		ScP	23 19 03.4	+2.2
KMI				PCS		PcS	23 19 06.3	-0.3
KMI				S		**S**	**23 21 28.1**	**+0.5**
KMI				XS		sS	23 21 40.8	-9.4
KMI				SCS		ScS	23 23 45.5	-0.1
KMI				SS		SS	23 25 06.8	-0.8
KMI				AMB		AMB		
	comp=Z,121nm,1.6s,mb5.6							
KMI				AMB		AMB		
	comp=Z,1μm,4.8s							
KMI				LR		LR		
	comp=N,7μm,21.0s,MS5.8							
KMI				LR		LR		
	comp=E,6μm,22.8s,MS5.8							
KMI				LR		LR		
	comp=Z,3μm,18.4s,MS5.4							
NVAR	**Mina Array Bea**	**53.21**	**74**	P		**P**	**23 14 00.3**	**-0.1**
	comp=Z,17nm,0.8s,mb5.0,baz=305,slow=5.9,SNR=91							
ELK	**Elko**	**53.27**	**69**	*e*P		**P**	**23 14 00.6**	**-0.2**
MNV	**Mina**	**53.29**	**73**	*e*P		**P**	**23 14 00.8**	**-0.1**
OCLP	**Ormoc**	**53.31**	**231**	*e*P		**P**	**23 14 01.9**	**+0.8**
OTRP	**Odiongan**	**53.35**	**234**	*e*P		**P**	**23 14 04.1**	**+2.7**
FLWY	**Flagg Ranch**	**53.37**	**64**	*e*P		**P**	**23 14 02.3**	**+0.8**
IMW	**Indian Meadow**	**53.38**	**64**	*e*P		**P**	**23 14 02.1**	**+0.6**
IMW				*e*		pP	23 14 18.6	+3.5
TRO	**Tromso**	**53.40**	**345**	*e*P		**P**	**23 14 02.0**	**+0.2**
TRO				*e*S		**S**	**23 21 31.6**	**+1.1**
DCID1	**Drake Creek**	**53.46**	**64**	*e*P		**P**	**23 14 07.8**	**+5.6**
MOOW	**Moose Ponds**	**53.58**	**64**	*e*P		**P**	**23 14 02.9**	**-0.2**
	comp=Z,168nm,1.8s,mb5.7							
TPAW	**Teton Pass**	**53.65**	**64**	*e*P		**P**	**23 14 04.1**	**+0.5**
	comp=Z,80nm,1.3s,mb5.5							
TPAW				*e*		pP	23 14 16.6	-0.6
ARU	**Arti**	**53.68**	**318**	P		**P**	**23 14 03.4**	**-0.4**
	comp=Z,786nm,0.5s,SNR=33							
ARU	**Arti**	**53.68**	**318**	⇑*i*P		**P**	**23 14 02.9**	**-0.9**
ARU				*e*			23 15 08.0	
ARU				*e*			23 16 04.4	
ARU				*e*PPP			23 17 10.2	
ARU				*e*S		**S**	**23 21 36.1**	**+2.0**
ARU				*e*			23 23 45.9	
ARU				*e*SS		SS	23 25 12.6	-2.6
ARU				*e*SSS			23 27 06.4	
ARU				pmax		pmax		
	comp=Z,56nm,0.8s,mb5.5							
ARU				MLR		MLR		
	comp=Z,7μm,20.0s,MS5.7							
ARU				MLR		MLR		
	comp=N,4μm,19.0s,MS5.6							
ARU				MLR		MLR		
	comp=E,3μm,19.0s,MS5.6							
ARU	**Arti**	**53.68**	**318**	*e*P		**P**	**23 14 02.9**	**-1.0**
	comp=E,79nm,0.6s,mb5.8							
ARU				*e*			23 14 09.7	
SJMP	**San Jose**	**53.69**	**235**	*e*P		**P**	**23 14 04.6**	**+0.7**
LOHW	**Long Hollow**	**53.75**	**64**	*e*P		**P**	**23 14 04.5**	**+0.2**
	comp=E,84nm,1.3s,mb5.5							
REDW	**Red Top Meadow**	**53.79**	**64**	*e*P		**P**	**23 14 06.5**	**+1.8**
	comp=E,121nm,1.5s,mb5.6							
MTUM	**Tungsten Hills**	**53.82**	**75**	*e*P		**P**	**23 14 06.2**	**+1.3**
LAO	**LASA Array**	**53.84**	**58**	*e*P		**P**	**23 14 06.4**	**+1.4**
	comp=E,114nm,1.2s,mb5.7							
HVU	**Hansel Valley**	**53.88**	**67**	*e*P		**P**	**23 14 05.7**	**+0.4**
QIZ	**Qiongzhong**	**54.01**	**251**	P		**P**	**23 14 09.1**	**+2.9**
QIZ				AP		pP	23 14 19.3	-0.4
QIZ				S		**S**	**23 21 42.9**	**+4.4**
QIZ				SS		SS	23 25 20.5	+0.2
QIZ				AMB		AMB		
	comp=Z,61nm,1.6s,mb5.3							
QIZ				AMB		AMB		
	comp=Z,1μm,7.3s							
QIZ				LR		LR		
	comp=E,3μm,17.2s							
QIZ				LR		LR		
	comp=Z,3μm,17.1s,MS5.4							
QIZ	**Qiongzhong**	**54.01**	**251**	*e*P		**P**	**23 14 08.8**	**+2.6**
	comp=Z,110nm,1.0s,mb5.7							
QIZ				*e*pP		pP	23 14 21.1	+1.3
MSLP	**Maasin**	**54.01**	**230**	*e*P		**P**	**23 14 07.0**	**+0.8**
TPH	**Tonopah**	**54.06**	**73**	*e*P		**P**	**23 14 06.5**	**-0.1**
TPH				*e*		pP	23 14 20.8	+0.7
AHID	**Auburn Hatcher**	**54.08**	**65**	*e*P		**P**	**23 14 06.8**	**+0.1**
SGF	**Sodankyl**	**54.10**	**341**	P		**P**	**23 14 05.4**	**-1.5**
BGU	**Big Grassy Mou**	**54.34**	**68**	*e*P		**P**	**23 14 15.1**	**+6.4**
SPUT	**South Promonto**	**54.38**	**67**	*e*P		**P**	**23 14 09.3**	**+0.4**
BUSP	**Coron**	**54.53**	**236**	*e*P		**P**	**23 14 12.0**	**+2.0**
JMIC	**Jan Mayen**	**54.53**	**357**	*e*P		**P**	**23 14 08.3**	**-1.7**
JMIC				AMS		AMS	23 43 03.0	
	comp=Z,719nm,13.3s,MS4.9							
GUIM	**Jordan**	**54.60**	**233**	*e*P		**P**	**23 14 09.7**	**-0.8**
HWUT	**Hardware Ranch**	**54.65**	**66**	*e*P		**P**	**23 14 11.2**	**+0.4**
	comp=Z,96nm,1.3s,mb5.7							
BUTP	**Butuan**	**54.71**	**228**	*e*P		**P**	**23 14 12.4**	**+1.1**
BW06	**Boulder Array**	**54.89**	**64**	*e*P		**P**	**23 14 12.2**	**-0.4**
	comp=Z,123nm,1.5s,mb5.7							
PDAR	**Pinedale Array**	**54.89**	**64**	P		**P**	**23 14 12.0**	**-0.6**
	comp=Z,10.0nm,0.8s,mb4.9,baz=336,slow=3.3,SNR=40							
DUG	**Dugway**	**54.98**	**68**	*e*P		**P**	**23 14 13.4**	**+0.2**
DUG				pmax		pmax		
	comp=Z,183nm,1.6s,mb5.9							
DUG	**Dugway**	**54.98**	**68**	*e*P		**P**	**23 14 13.4**	**+0.2**
	comp=Z,183nm,1.6s,mb5.9							
NOQ	**North Oquirrh**	**55.02**	**67**	*e*P		**P**	**23 14 14.5**	**+0.9**
TCUT	**Toone Canyon**	**55.08**	**67**	*e*P		**P**	**23 14 15.1**	**+1.2**
ISA	**Isabella**	**55.08**	**76**	*e*P		**P**	**23 14 13.5**	**-0.5**
DAC	**Darwin (Calif)**	**55.13**	**75**	*e*P		**P**	**23 14 14.3**	**-0.1**
CUYO	**Cuyo Island**	**55.14**	**234**	*e*P		**P**	**23 14 15.5**	**+1.1**
TPNV	**Topopah Spring**	**55.40**	**73**	*e*P		**P**	**23 14 16.5**	**+0.2**
TPNV				pmax		pmax		
	comp=Z,94nm,1.1s,mb5.7							
TPNV	**Topopah Spring**	**55.40**	**73**	*e*P		**P**	**23 14 16.5**	**+0.2**
	comp=Z,94nm,1.1s,mb5.7							
TKM2	**Tokmak 2**	**55.52**	**297**	P		**P**	**23 14 17.4**	**+0.3**
	SNR=22							
NLU	**North Lily Min**	**55.54**	**68**	*e*P		**P**	**23 14 18.0**	**+0.7**
LOF	**Lofoten**	**55.55**	**347**	*e*P		**P**	**23 14 17.6**	**+0.2**
LOF				AMb		AMB	23 14 24.1	
	comp=Z,162nm,1.2s,mb5.9							
LOF	**Lofoten**	**55.55**	**347**	*e*P		**P**	**23 14 17.6**	**+0.2**
	comp=Z,162nm,1.3s,mb5.9							
ENPP	**El Nido**	**55.59**	**236**	*e*P		**P**	**23 14 19.1**	**+1.5**
DAU	**Daniels Canyon**	**55.66**	**67**	P		**P**	**23 14 19.0**	**+0.9**
DAU	**Daniels Canyon**	**55.66**	**67**	*e*P		**P**	**23 14 18.7**	**+0.6**
ULHL	**Ulahol**	**55.66**	**296**	P		**P**	**23 14 18.6**	**+0.4**
	SNR=111							
MPU	**Maple Canyon**	**55.74**	**68**	*e*P		**P**	**23 14 18.7**	**0.0**
USP	**Ospenovka**	**55.84**	**298**	P		**P**	**23 14 19.8**	**+0.4**
	SNR=62							
CHMS	**Chumysh**	**55.90**	**298**	P		**P**	**23 14 20.1**	**+0.2**
	SNR=27							
BUKP	**Musuan**	**55.93**	**228**	*e*P		**P**	**23 14 21.3**	**+1.2**
BUKP	**Musuan**	**55.93**	**228**	*e*P		**P**	**23 14 21.4**	**+1.3**
SFJD	**Kangerlussuaq**	**55.95**	**16**	*i* P		**P**	**23 14 18.6**	**-1.6**
	comp=Z,220nm,1.7s,mb5.9							
SFJD				*i* S		**S**	**23 22 09.3**	**+4.7**
SFJD								
	comp=Z,2μm,20.0s							
SFJD	**Kangerlussuaq**	**55.95**	**16**	*i* P		**P**	**23 14 18.6**	**-1.6**
SFJD				*i* S		**S**	**23 22 09.3**	**+4.7**
SFJD				pmax		pmax		
	comp=Z,220nm,1.7s,mb5.9							
SFJD				MLR		MLR		
	comp=Z,2μm,20.0s,MS5.1							
KBK	**Karagaybulak**	**56.04**	**297**	P		**P**	**23 14 21.0**	**+0.1**
	SNR=73							
FRU	**Bishkek**	**56.09**	**298**	⇑*i*P		**P**	**23 14 21.0**	**-0.2**
FRU				*e*			23 14 40.0	
FRU				*e*			23 22 10.0	
FRU				pmax		pmax		
	comp=Z,440nm,2.0s,mb6.1							
ULM	**Lac du Bonnet**	**56.17**	**49**	P		**P**	**23 14 21.4**	**-0.5**
	comp=Z,15nm,1.0s,mb5.0,baz=314,slow=7.5,SNR=21							
ULM				LR		LR	23 40 46.3	
	comp=Z,3μm,19.7s,MS5.4,baz=222,slow=39							
MATI	**Mati**	**56.25**	**227**	*e*P		**P**	**23 14 21.9**	**-0.4**
GSC	**Goldstone**	**56.28**	**75**	P		**P**	**23 14 30.3**	**+7.7**
GSC	**Goldstone**	**56.28**	**75**	*e*P		**P**	**23 14 22.6**	**0.0**
AAK	**Ala-Archa**	**56.29**	**297**	P		**P**	**23 14 22.8**	**+0.2**
	SNR=71							
AAK	**Ala-Archa**	**56.29**	**297**	P		**P**	**23 14 21.4**	**-1.3**
	comp=Z,518nm,0.8s,mb6.6,SNR=53							
AAK	**Ala-Archa**	**56.29**	**297**	*e*P		**P**	**23 14 21.2**	**-1.5**
AAK				pmax		pmax		
	comp=Z,249nm,1.4s,mb6.0							
AAK	**Ala-Archa**	**56.29**	**297**	*e*P		**P**	**23 14 21.1**	**-1.5**
	comp=Z,249nm,1.4s,mb6.0							
KZA	**Kyzart**	**56.30**	**297**	P		**P**	**23 14 23.7**	**+1.0**
	SNR=86							
OUL	**Oulu**	**56.30**	**340**	P		**P**	**23 14 21.2**	**-1.5**
SHPR	**Sheep Range**	**56.33**	**73**	*e*P		**P**	**23 14 23.0**	**+0.1**
ARUT	**Antelope Range**	**56.35**	**71**	*e*P		**P**	**23 14 22.8**	**-0.3**
ARUT				*e**PP		pP	23 14 34.7	-2.0
ARUT				*e**SP		sP	23 14 42.6	+0.3
MWC	**Mount Wilson**	**56.36**	**77**	*e*P		**P**	**23 14 23.1**	**0.0**
LSA	**Lhasa**	**56.46**	**275**	P		**P**	**23 14 25.0**	**+1.1**
LSA				XP		sP	23 14 40.5	-2.6
LSA				PCP		PcP	23 15 16.9	-3.4
LSA				PCS		PcS	23 19 24.4	+3.5
LSA				S		**S**	**23 22 11.8**	**+0.4**
LSA				AMB		AMB		
	comp=Z,430nm,4.9s							
LSA				LR		LR		
	comp=N,2μm,18.2s,MS5.5							
LSA				LR		LR		
	comp=E,3μm,14.5s,MS5.5							
LSA				LR		LR		
	comp=Z,4μm,13.6s,MS5.7							
LSA	**Lhasa**	**56.46**	**275**	*e*P		**P**	**23 14 25.2**	**+1.3**
LSA				*e**PP		pP	23 14 39.1	+1.6
LSA				pmax		pmax		
	comp=Z,117nm,0.9s,mb5.9							
LSA	**Lhasa**	**56.46**	**275**	*e*P		**P**	**23 14 25.2**	**+1.3**
	comp=Z,117nm,0.9s,mb5.9							
LSA				*e*pP		pP	23 14 39.1	+1.6
TMUT	**Trail Mountain**	**56.48**	**68**	*e*P		**P**	**23 14 24.9**	**+0.9**
MVU	**Marysvale**	**56.51**	**69**	*e*P		**P**	**23 14 24.6**	**+0.3**
	comp=Z,201nm,1.8s,mb5.8							
MVU				*e*pP		pP	23 14 35.8	-2.0
MSU	**Marysvale**	**56.52**	**69**	*e*P		**P**	**23 14 24.9**	**+0.6**
CCUT	**Cedar City**	**56.57**	**71**	*e*P		**P**	**23 14 25.1**	**+0.5**
CCUT				*e*pP		pP	23 14 37.7	-0.6
UCH	**Uchtor**	**56.57**	**297**	P		**P**	**23 14 25.5**	**+0.8**
	SNR=40							
EKS2	**Erkin-Say**	**56.64**	**298**	P		**P**	**23 14 26.0**	**+0.8**
	SNR=7.1							
KLMR	**Klimovskoe**	**56.65**	**331**	*c i*P		**P**	**23 14 24.9**	**-0.3**
KLMR				*e*S		**S**	**23 22 16.1**	**+2.3**
KLMR				pmax		pmax		
	comp=Z,390nm,1.5s,mb6.2							
KLMR				pmax		pmax		
	comp=Z,130nm,3.0s							
KLMR				MLR		MLR		
	comp=Z,4μm,22.0s,MS5.5							
PAGZ	**Pagadian**	**56.70**	**230**	*e*P		**P**	**23 14 25.2**	**-0.3**
RWWY	**Rawlins**	**56.88**	**63**	*e*P		**P**	**23 14 26.8**	**-0.1**
RWWY				*e*		pP	23 14 43.4	+3.0
SRU	**San Rafael**	**56.98**	**68**	*e*P		**P**	**23 14 27.8**	**+0.2**
JOF	**Joensuu**	**57.02**	**336**	*e*p		**P**	**23 14 26.2**	**-1.7**
	comp=Z,53nm,0.6s,mb5.8							
JOF	**Joensuu**	**57.02**	**336**	*e*P		**P**	**23 14 26.2**	**-1.7**
JOF				pmax		pmax		
	comp=Z,53nm,0.6s,mb5.8							
AML	**Almayashu**	**57.06**	**298**	P		**P**	**23 14 29.8**	**+1.7**
	SNR=7.8							
IPIL	**Ipil**	**57.11**	**231**	*e*P		**P**	**23 14 28.5**	**0.0**
NEN	**Nelson**	**57.13**	**74**	*e*P		**P**	**23 14 28.7**	**+0.1**
MOR8	**Moi Rana**	**57.27**	**346**	*e*P		**P**	**23 14 27.2**	**-2.3**
MOR8				AMb		AMB	23 14 35.0	
	comp=Z,84nm,1.4s,mb5.6							
MOR8	**Moi Rana**	**57.27**	**346**	*e*P		**P**	**23 14 27.2**	**-2.3**
	comp=Z,84nm,1.4s,mb5.6							
PFO	**Pinyon Flat Ob**	**57.71**	**76**	P		**P**	**23 14 31.1**	**-1.6**
	comp=Z,100nm,0.9s,mb5.8,SNR=6.3							
PFO	**Pinyon Flat Ob**	**57.71**	**76**	*e*P		**P**	**23 14 32.0**	**-0.7**
PFO				*e**PP		pP	23 14 45.4	-1.0
PFO				pmax		pmax		
	comp=Z,27nm,1.1s,mb5.2							
PFO	**Pinyon Flat Ob**	**57.71**	**76**	*e*P		**P**	**23 14 32.0**	**-0.7**
	comp=Z,27nm,1.1s,mb5.2							
PFO				*e*pP		pP	23 14 45.4	-1.0
KSH	**Kashi**	**57.77**	**294**	⇑*i*P		**P**	**23 14 33.4**	**+0.3**
KSH				*e*AP		pP	23 14 43.3	-3.4
KSH				*e*XP		sP	23 14 46.8	-5.6
KSH				*e*PCP		PcP	23 15 26.3	+0.9
KSH				*e*PP		PP	23 16 42.3	+0.8
KSH				*e*SCP		ScP	23 19 22.1	+0.8
KSH				*e*PCS		PcS	23 19 26.3	-0.4
KSH				*e*S		**S**	**23 22 25.5**	**-3.0**
KSH				*e*XS		sS	23 22 42.3	-9.1
KSH				*e*SCS		ScS	23 24 16.5	-1.9
KSH				AMB		AMB		
	comp=Z,268nm,1.5s,mb6.0							
KSH				LR		LR		
	comp=N,4μm,15.0s,MS5.8							
KSH				LR		LR		
	comp=E,4μm,13.8s,MS5.8							
KSH				LR		LR		

PUL MLR MLR
comp=Z,4μm,16.0s,MS5.6
PUL MLR MLR
comp=N,2μm,17.0s,MS5.5
PUL MLR MLR
comp=E,2μm,15.0s,MS5.5
PUL Pulkovo 60.01 335 *e*P **P 23 14 47.9 -0.7**
BAKI Biak 60.14 212 P **P 23 14 49.2 -0.4**
CHG Chiang Mai 60.31 261 ⇓P **P 23 14 52.1 +1.4**
comp=E,150nm,1.0s,mb6.0
CHTO Chiang Mai 60.31 261 *e*P **P 23 14 52.2 +1.5**
CHTO *e**PP pP 23 15 06.2 +1.8
CHTO pmax pmax
comp=Z,227nm,1.1s,mb6.1
CHTO Chiang Mai 60.31 261 *e*P **P 23 14 52.2 +1.5**
comp=Z,227nm,1.1s,mb6.1
CHTO *e*pP pP 23 15 06.2 +1.8
GUN Gumba 60.84 278 *e*P **P 23 14 54.5 +0.2**
comp=Z,217nm,0.7s,mb6.4
JIRN Jiri 60.85 277 *e*P **P 23 14 54.7 +0.3**
comp=Z,404nm,1.4s,mb6.4
MEF Metsahovi 60.97 338 P **P 23 14 54.1 -1.1**
KKN Kakani 61.28 278 *e*P **P 23 14 57.4 +0.1**
comp=Z,364nm,0.9s,mb6.5
KKN Kakani 61.28 278 *e*P **P 23 14 57.4 +0.1**
KKN pmax pmax
comp=Z,364nm,0.9s,mb6.5
PKI Pulchoki 61.37 278 *e*P **P 23 14 58.1 +0.2**
comp=Z,249nm,1.2s,mb6.2
PKI Pulchoki 61.37 278 *e*P **P 23 14 58.1 +0.2**
PKI pmax pmax
comp=Z,249nm,1.2s,mb6.2
SWI Sorong 61.45 218 P **P 23 14 58.1 -0.3**
MOS Moscow 61.47 329 *e*P **P 23 15 00.1 +1.5**
MOS *e* 23 15 39.2
MOS *e*S **S 23 23 19.7 +3.4**
MOS pmax pmax
comp=Z,300nm,0.9s,mb6.4
MOS pmax pmax
comp=N,129nm,0.8s
MOS pmax pmax
comp=Z,324nm,0.8s,mb6.5
MOS smax
comp=E,2μm,4.3s
MOS MLR MLR
comp=Z,2μm,15.9s,MS5.4
MOS MLR MLR
comp=N,2μm,14.1s
GKN Gorkha 61.49 279 *e*P **P 23 14 58.3 -0.4**
comp=N,722nm,1.3s,mb6.7
DMN Daman 61.52 278 *e*P **P 23 14 59.3 +0.4**
comp=N,825nm,1.3s,mb6.7
KKM Kota Kinabalu 61.62 236 P **P 23 15 02.1 +2.5**
KKM Kota Kinabalu 61.62 236 P **P 23 15 01.2 +1.6**
VSU Vasula 62.03 336 *e*P **P 23 15 01.8 -0.5**
NST Nakhon Sawan 62.14 257 P **P 23 15 04.5 +1.4**
ANMO Albuquerque 62.24 68 LR LR 23 40 39.4
comp=N,2μm,20.9s,MS5.2,baz=339,slow=35
ANMO Albuquerque 62.24 68 *e*P **P 23 15 04.0 +0.2**
KOLN Koldanda 62.26 279 *e*P **P 23 15 03.8 -0.1**
comp=N,684nm,1.4s,mb6.6
LAZ Ladron 62.29 69 *e*P **P 23 15 03.9 -0.2**
LAZ *e*pP pP 23 15 17.8 -0.1
OBN Obninsk 62.32 329 P **P 23 15 03.0 -1.3**
comp=N,1μm,0.8s,SNR=10
OBN Obninsk 62.32 329 *e*P **P 23 15 03.4 -0.9**
OBN *i* S **S 23 23 29.0 +2.0**
OBN pmax pmax
comp=Z,390nm,1.9s,mb6.2
OBN MLR MLR
comp=Z,3μm,23.0s,MS5.4
OBN Obninsk 62.32 329 *e*P **P 23 15 03.4 -0.9**
TSM Tawau 62.35 234 P **P 23 15 06.3 +1.8**
LENM Lemitar 62.55 69 *e*P **P 23 15 06.4 +0.6**
NB2 NORSAR Subarra 62.60 345 P **P 23 15 05.0 -1.2**
comp=Z,168nm,1.2s,mb6.0,baz=18,slow=6.9
NB2 NORSAR Subarra 62.60 345 P **P 23 15 05.0 -1.2**
NB2 P 23 15 08.3
NOA NORSAR Array B 62.60 345 P **P 23 15 05.0 -1.2**
comp=Z,26nm,0.9s,mb5.4,baz=18,slow=6.7,SNR=57
NOA LR LR 23 48 15.0
comp=Z,1μm,19.4s,MS5.1,baz=355,slow=42
LPM Los Pinos Moun 62.63 69 *e*P **P 23 15 06.9 +0.5**
BNM Barren Site 62.75 69 *e*P **P 23 15 07.7 +0.5**
NAO01 NORSAR Array S 62.84 345 *e*P **P 23 15 06.9 -0.8**
CBKS Cedar Bluff 62.84 61 *e*P **P 23 15 07.0 -0.8**
CBKS pmax pmax
comp=Z,100nm,1.1s,mb5.9
CBKS Cedar Bluff 62.84 61 *e*P **P 23 15 06.8 -1.0**
comp=Z,100nm,1.1s,mb5.9
DLH Dalhousie 62.94 289 *e*P **P 23 15 09.0 +0.5**
HFA0 Hagfors New Ar 63.08 344 P **P 23 15 08.6 -0.7**
HYA Hoyanger 63.16 348 *e*P **P 23 15 10.1 +0.2**
SCHQ Schefferville 63.24 30 P **P 23 15 09.6 -0.8**
comp=Z,46nm,1.0s,mb5.5,baz=2.5,slow=7.4,SNR=18
SCHQ PKPPKP 23 44 07.5
comp=Z,3.8nm,0.8s,baz=108,slow=3.2,SNR=2.9
SCHQ LR LR 23 46 43.6
comp=Z,2μm,18.4s,MS5.4,baz=321,slow=40
SCHQ Schefferville 63.24 30 P **P 23 15 09.6 -0.8**
SCHQ P'P' 23 44 07.5
SCHQ LR LR 23 46 43.6
SMLA Simla 63.35 287 *e*P **P 23 15 09.9 -1.3**
SMLA *i* x x 23 23 38.2
PONG Pong 63.40 288 *e*P **P 23 15 11.0 -0.5**
SUE Sulen 63.43 349 *e*P **P 23 15 15.9 +4.2**
DDI Dehra Dun 63.47 285 *i* P **P 23 15 11.5 -0.4**
CAL Calcutta 63.54 272 *e*P **P 23 15 11.7 -0.7**
CAL *e*P 23 15 12.4
CAL *e*S **S 23 23 46.1 +3.9**
NIL Nilore 63.59 291 P **P 23 15 13.4 +0.7**
comp=Z,385nm,1.0s,mb6.4,SNR=9.7
HNR Honiara 63.93 184 P **P 23 15 14.4 -0.6**
comp=Z,32nm,0.5s,mb5.6,baz=223,slow=2.3,SNR=5.5
HNR LR LR 23 41 55.8
comp=Z,3μm,18.4s,MS5.5,baz=0.7,slow=35
HNR Honiara 63.93 184 *e*P **P 23 15 14.5 -0.5**
HNR *e*pP pP 23 15 28.3 -0.5
ASK Askoy 63.94 348 *e*P **P 23 15 14.9 -0.1**
BOK Bokaro 63.99 275 *i* P **P 23 15 15.1 -0.3**
BER Bergen 64.02 348 *e*P **P 23 15 15.2 -0.4**
BER AMb AMB 23 15 17.3
comp=Z,102nm,1.2s,mb5.7
BER *e*P 23 15 23.1
BER *e*sP sP 23 15 29.3 -5.7
BER *e*S **S 23 23 47.2 -1.0**
BER AMS AMS 23 51 49.5
comp=Z,734nm,12.7s,MS5.1
BER Bergen 64.02 348 *e*P **P 23 15 15.2 -0.4**
comp=Z,102nm,1.2s,mb5.7
BER *e*P 23 15 23.1
BER LR LR
comp=Z,734μm,12.7s
VRHR Novokhopersk 64.09 324 *e*P **P 23 15 14.3 -1.7**
VRHR S **S 23 23 47.8 -1.3**
VRHR pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
VRHR pmax pmax
comp=N,5.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR MLR MLR
comp=Z,4μm,17.0s,MS5.6
VRHR MLR MLR
comp=N,2μm,24.0s
VRHR MLR MLR
comp=E,2μm,16.0s
EGD Espegrend 64.14 348 *e*P **P 23 15 16.2 -0.1**
EGD *e*sP sP 23 15 30.1 -5.6
KONO Kongsberg 64.17 346 *e*P **P 23 15 14.6 -1.9**
KONO *e*S **S 23 23 52.6 +2.4**
KONO Kongsberg 64.17 346 *e*P **P 23 15 16.4 -0.2**
KSU1 Kansas State U 64.19 58 *e*P **P 23 15 14.4 -2.3**
KSU1 *e*pP pP 23 15 28.4 -2.2
ODD1 Odda 64.32 347 *e*P **P 23 15 16.1 -1.4**
ODD1 AMb AMB 23 15 31.8
comp=Z,156nm,1.1s,mb6.0
ODD1 Odda 64.32 347 *e*P **P 23 15 16.1 -1.4**
comp=Z,156nm,1.1s,mb6.0
VOR Voronezh 64.37 325 P **P 23 15 21.0 +3.1**
VOR *e**PP pP 23 15 28.5 -3.2
VOR S **S 23 23 52.0 -0.6**
VOR pmax pmax
comp=Z,240nm,1.7s,mb6.0
VOR pmax pmax
comp=N,110nm,1.6s
VOR pmax pmax
comp=E,70nm,1.6s
VOR smax
comp=N,150nm,2.5s
VOR smax
comp=E,100nm,2.5s
IZAR Zarasai 64.58 335 *e*P **P 23 15 18.8 -0.5**
IZAR AMb AMB 23 15 34.4
comp=Z,824nm,1.5s,mb6.5
ISAL Salakas 64.78 335 *e*P **P 23 15 20.2 -0.3**
ISAL AMb AMB 23 15 35.0
comp=Z,725nm,1.7s,mb6.4
VRSR Storozhevoye 64.81 325 *e*P **P 23 15 20.2 -0.5**
VRSR *e**PP pP 23 15 28.7 -5.9
VRSR *e*S **S 23 23 58.7 +0.7**
VRSR *e* 23 25 09.1
VRSR pmax pmax
comp=E,5.0nm,0.9s
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=N,10.0nm,1.0s
VRSR smax
comp=N,40nm,3.3s
VRSR smax
comp=E,20nm,3.3s
VRSR smax
comp=Z,20nm,3.5s
VRSR MLR MLR
comp=Z,60nm,17.0s
VRSR MLR MLR
comp=E,10.0nm,21.0s
BLS5 Blasjo 64.82 347 *e*P **P 23 15 21.3 +0.6**
BLS5 AMb AMB 23 15 33.5
comp=Z,37nm,0.9s,mb5.4
BLS5 Blasjo 64.82 347 *e*P **P 23 15 21.3 +0.6**
comp=Z,37nm,0.9s,mb5.4
AMTX Amarillo 64.84 65 *e*P **P 23 15 20.4 -0.5**
IDID Didziasalis 64.85 334 *e*P **P 23 15 20.7 -0.3**
IDID AMb AMB 23 15 36.2
comp=Z,883nm,1.7s,mb6.5
KMY Karmoy 65.17 348 *e*P **P 23 15 23.6 +0.5**
KMY *e*sP sP 23 15 36.2 -6.3
AAI Ambon 65.18 220 P **P 23 15 23.1 0.0**
NDI New Delhi 65.19 285 *e*P **P 23 15 22.0 -1.2**
NDI *e*P 23 15 23.1
NDI AMb AMB 23 15 38.9
comp=Z,256nm,1.8s,mb6.0
NDI *e*x x 23 24 01.0
MNTX Cornudas Mount 65.30 70 *e*P **P 23 15 23.7 -0.2**
comp=Z,51nm,1.0s,mb5.5
MNK Minsk 65.31 333 *e*P **P 23 15 22.0 -1.9**
MNK *e*S S 23 24 06.0 +1.9
MNK MLR MLR
comp=Z,5μm,16.0s,MS5.8
PMG Port Moresby 65.33 198 P **P 23 15 23.7 -0.4**
comp=Z,78nm,0.8s,mb5.8,baz=8.6,slow=7.1,SNR=17
PMG LR LR 23 38 03.1
comp=Z,1μm,20.4s,MS5.0,baz=184,slow=31
PMG Port Moresby 65.33 198 *e*P **P 23 15 23.9 -0.2**
TLE Tual 65.40 214 P **P 23 15 25.8 +1.2**
PCI Palu 66.06 229 P **P 23 15 28.1 -0.7**
WMOK Wichita Mounta 66.47 63 *e*P **P 23 15 30.7 -0.7**
WMOK pmax pmax
comp=Z,56nm,0.9s,mb5.6
WMOK Wichita Mounta 66.47 63 *e*P **P 23 15 30.7 -0.7**
comp=Z,56nm,0.9s,mb5.6
ORE Reay 66.69 353 *e*P **P 23 15 32.2 -0.6**
OTO Tongue 66.79 353 *e*P **P 23 15 33.3 -0.2**
SUW Suwalki 66.91 336 *e*Pd **P 23 15 33.7 -0.5**
SUW *e*pP pP 23 15 38.5 -10
SUW *e*sP sP 23 15 46.7 -7.0
SUW *e*S S 23 24 26.3 +2.8
SUW *e*sS sS 23 24 34.0 -13
SUW L 23 45 31.1
comp=Z,3.6nm,21.0s
SUW Suwalki 66.91 336⇓ *e*P **P 23 15 33.7 -0.5**
SUW *e**SP sP 23 15 46.7 -7.0
SUW *e*S S 23 24 26.3 +2.8
SUW MLR MLR
comp=Z,4μm,21.0s,MS5.6
SUW Suwalki 66.91 336⇓ *e*P **P 23 15 33.7 -0.5**
SUW *e*pP pP 23 15 38.5 -10
SUW *e*sP sP 23 15 46.7 -7.0
SUW *e*S S 23 24 26.3 +2.8
SUW *e*sS sS 23 24 34.0 -13
MUD Monsted U'grnd 67.31 345⇑ *i*P **P 23 15 37.3 +0.5**
comp=Z,38nm,1.2s,mb5.3
MUD *i* pP 23 15 49.7 -1.0
MUD *i* S S 23 24 36.6 +8.2
MUD
comp=Z,2μm,18.0s
MUD Monsted U'grnd 67.31 345⇑ *i*P **P 23 15 37.3 +0.5**
MUD *i* pP 23 15 49.7 -1.0
MUD *i* S S 23 24 36.6 +8.2
MUD pmax pmax
comp=Z,38nm,1.2s,mb5.3
MUD MLR MLR
comp=Z,2μm,18.0s,MS5.3
MUD Monsted U'grnd 67.31 345⇑ *i*P **P 23 15 37.3 +0.5**
comp=Z,38nm,1.2s,mb5.3
MUD *i* pP 23 15 49.7 -1.0
MUD *i* S S 23 24 36.6 +8.2
COP Copenhagen 67.53 343 *i* P **P 23 15 38.6 +0.4**
COP *i* pP 23 15 50.8 -1.3
COP *i* S S 23 24 35.8 +4.8
COP
comp=Z,650nm,20.0s
MCD Coleburn Disti 67.62 352 *e*P **P 23 15 38.0 -0.6**
CCM Cathedral Cave 67.62 56 *e*P **P 23 15 37.3 -1.4**
CCM pmax pmax
comp=Z,60nm,1.1s,mb5.5
CCM Cathedral Cave 67.62 56 *e*P **P 23 15 37.2 -1.5**
comp=Z,60nm,1.1s,mb5.5
BSD Bornholm Skovb 67.63 341 *i* P **P 23 15 42.4 +3.6**
comp=Z,82nm,1.5s,mb5.5
BSD *i* S S 23 24 43.1 +11
BSD
comp=Z,1μm,19.0s
BSD Bornholm Skovb 67.63 341 *e*P **P 23 15 42.4 +3.6**
BSD pmax pmax
comp=Z,82nm,1.5s,mb5.5
BSD MLR MLR
comp=Z,1μm,19.0s,MS5.2
BSD Bornholm Skovb 67.63 341 *e*P **P 23 15 42.4 +3.6**
comp=Z,82nm,1.5s,mb5.5
BSD *i* S S 23 24 43.1 +11
SLM Saint Louis 67.64 54 *e*P **P 23 15 37.4 -1.4**
JBP Jabalpur 67.88 279⇓ *i*P **P 23 15 41.8 +1.5**
JBP *ex* x 23 15 48.8
comp=Z,265nm,1.5s
JBP *i* S S 23 24 39.4 +4.2
ABKT Ailbek 68.00 305 P **P 23 15 41.7 +0.6**
comp=Z,1μm,1.1s,SNR=51
FVM French Village 68.07 55 *e*P **P 23 15 40.3 -1.2**
AJM Ajmer 68.33 285 *e*P **P 23 15 43.1 -0.1**
AJM AMb AMB 23 15 50.2
comp=Z,303nm,1.5s,mb6.1
AKASG Malin Array Be 68.34 331 P **P 23 15 42.1 -1.1**
comp=Z,14nm,0.6s,mb5.1,baz=26,slow=5.9,SNR=59
KSM Kuching 68.48 240 P **P 23 15 45.1 +1.0**
MAK Makhachkala 68.64 315 *e*P **P 23 15 45.6 +0.5**
MAK *i* 23 16 07.2
MAK *i* S S 23 24 48.4 +4.1
MAK *e* 23 25 36.4
MAK *e*SS SS 23 29 03.1 -6.2
MAK pmax pmax
comp=Z,417nm,1.6s,mb6.1
MAK pmax pmax
comp=N,481nm,2.0s
MAK pmax pmax
comp=E,484nm,2.0s
MAK MLR MLR
comp=E,6μm,13.0s,MS6.2
MAK MLR MLR
comp=Z,4μm,13.0s,MS5.8
MAK MLR MLR
comp=N,8μm,15.0s,MS6.2
GOF Gofitskoye 68.66 319 *e*P **P 23 15 50.2 +5.0**
SNG Songkhla 68.79 252 P **P 23 15 48.0 +1.9**
SIUC Southern Illin 68.86 54 *e*P **P 23 15 45.6 -0.8**
GKP Gorka Klasztor 68.92 339 *e*P **P 23 15 46.5 -0.3**
GKP *e*pP pP 23 15 51.3 -9.5
GKP *e*sP sP 23 16 00.1 -6.2
GKP *e*S S 23 24 52.5 +5.0
GKP L 23 47 03.9
comp=Z,2.4nm,23.1s
BLO Bloomington 68.94 52 *e*P **P 23 15 46.5 -0.4**
BLO pmax pmax
comp=Z,43nm,0.9s,mb5.4
BLO Bloomington 68.94 52 *e*P **P 23 15 46.5 -0.5**
comp=Z,43nm,0.9s,mb5.4
WAR Warsaw 69.05 336 *e*P **P 23 15 49.3 +1.7**
WAR *e*pP pP 23 15 52.8 -8.8
WAR *e*sP sP 23 16 01.6 -5.5
WAR *e*S S 23 24 52.9 +3.9
WAR *e*sS sS 23 25 02.7 -10
WAR *e*SKS 23 25 35.1
WAR L 23 44 14.8
comp=Z,2.2nm,27.1s
WAR Warsaw 69.05 336 *e*P **P 23 15 49.3 +1.7**
WAR *e**SP sP 23 16 01.6 -5.5
WAR *e*S S 23 24 52.9 +3.9
WAR *e* 23 25 35.1
WAR MLR MLR
comp=Z,2μm,27.1s,MS5.3
EAB Aberfoyle 69.08 353 *e*P **P 23 15 47.1 -0.7**
EAB AMb AMB 23 15 53.8
comp=Z,124nm,1.5s,mb5.6
ESY Stoneypath 69.22 352 *e*P **P 23 15 48.0 -0.7**
ESY AMb AMB 23 15 54.4
comp=Z,138nm,1.7s,mb5.6
JCT Junction City 69.25 67 P **P 23 15 48.5 -0.4**
JCT pmax pmax
comp=Z,57nm,1.0s,mb5.5
JCT Junction City 69.25 67 *e*P **P 23 15 48.3 -0.6**
comp=Z,58nm,1.0s,mb5.5
MIAR Mount Ida 69.27 59 P **P 23 15 48.0 -1.0**
MIAR pmax pmax
comp=Z,68nm,1.2s,mb5.5
BHPL Bhopal 69.28 281 *e*P **P 23 15 49.2 +0.1**
BHPL AMb AMB 23 15 56.2
comp=Z,283nm,1.3s,mb6.0
EAU Auchinoon 69.36 352 *e*P **P 23 15 49.6 +0.1**
EAU AMb AMB 23 15 55.1
comp=Z,188nm,1.2s,mb5.9
ERPA Erie 69.36 45 *e*P **P 23 15 48.9 -0.7**
USIN University of 69.38 53 *e*P **P 23 15 48.9 -0.8**
EBL Broad Law 69.39 352 *e*P **P 23 15 49.8 0.0**
EBL AMb AMB 23 15 55.2
comp=Z,78nm,1.4s,mb5.5
LONY Lake Ozonia 69.40 40 *e*P **P 23 15 47.1 -2.8**
LONY *e*pP pP 23 16 01.4 -2.4
PGBU Glenifferbraes 69.47 353 *e*P **P 23 15 49.2 -1.0**
BSEG Bad Segeberg 69.56 344 *e*P **P 23 15 50.8 0.0**
comp=Z,41nm,1.2s,mb5.2
BSEG Bad Segeberg 69.56 344 *e*P **P 23 15 50.8 0.0**
BSEG pmax pmax
comp=Z,41nm,1.2s,mb5.2
FRNY Flat Rock 69.59 40 *e*P **P 23 15 48.5 -2.5**
FRNY *e*pP pP 23 16 03.3 -1.7
ACSO Alum Creek Sta 69.65 49 *e*P **P 23 15 50.7 -0.6**
comp=Z,104nm,1.4s,mb5.6
UALR University of 69.70 58 *e*P **P 23 15 56.4 +4.8**
KIV Kislovodsk 69.72 319 P **P 23 15 52.9 +1.1**
comp=Z,292nm,1.0s,mb6.2,SNR=11
KIV Kislovodsk 69.72 319 *e*P **P 23 15 51.8 0.0**
KIV *e* 23 16 10.5
KIV *e* 23 18 22.8
KIV *e*PPP 23 20 03.6
KIV *e*S S 23 24 58.9 +1.9
KIV pmax pmax
comp=Z,600nm,4.3s
KIV pmax pmax
comp=Z,83nm,1.2s,mb5.5
KIV MLR MLR
comp=Z,3μm,18.0s,MS5.6
KIV Kislovodsk 69.72 319⇑ *e*P **P 23 15 51.9 +0.1**
WCI Wyandotte Cave 69.80 52 *e*P **P 23 15 51.5 -0.8**
WCI pmax pmax
comp=Z,147nm,1.5s,mb5.7
WCI Wyandotte Cave 69.80 52 *e*P **P 23 15 51.5 -0.8**
comp=Z,147nm,1.5s,mb5.7
ESK Eskdalemuir 69.86 352 *e*P **P 23 15 52.2 -0.5**
ESK *e*P 23 15 52.5
ESK AMb AMB 23 15 59.4
comp=Z,92nm,1.6s,mb5.5
ESK Eskdalemuir 69.86 352 P **P 23 15 52.5 -0.1**
ESK AMb AMB 23 15 59.4
comp=Z,92nm,1.6s,mb5.5
ESK Eskdalemuir 69.86 352 P **P 23 15 50.5 -2.2**
GLAT Glass 69.99 55 P **P 23 15 54.1 +0.7**
BBH Bruntsheil 70.02 352 *e*P **P 23 15 53.4 -0.3**
BHH Howats Hill 70.08 352 *e*P **P 23 15 54.0 0.0**
UTMT University of 70.13 55 *e*P **P 23 15 54.4 +0.1**
VIS Vishakhapatnam 70.21 273 *e*P **P 23 15 55.1 +0.3**
VIS AMb AMB 23 16 04.3
comp=Z,278nm,1.3s,mb6.0
ZEI Tsey 70.25 317 *e*P **P 23 15 55.4 +0.3**
ZEI pmax pmax
comp=Z,84nm,1.2s,mb5.5
MIV Mineville/With 70.26 40 *e*P **P 23 15 57.8 +2.7**
MIV *e*pP pP 23 16 09.5 +0.4
KULM Kulim 70.34 251 *e*P **P 23 15 56.3 +0.7**
KULM *e*pP pP 23 16 12.6 +3.0
KULM *e*sP sP 23 16 17.1 +2.0
RUE Ruedersdorf 70.35 341 *e*P **P 23 16 01.0 +5.3**
LVV L'vov 70.55 334 *e*P **P 23 16 01.8 +5.0**
LVV *e* 23 18 38.2
LVV *e*S S 23 25 11.3 +4.7
LVV *e*PS 23 25 32.2
LVV MLR MLR
comp=E,2μm,17.0s,MS5.5
LVV MLR MLR
comp=N,2μm,18.0s,MS5.5
LVV MLR MLR
comp=Z,2μm,18.0s,MS5.5
CKE Keswick 70.58 352 *e*P **P 23 15 57.3 +0.3**
LBNH Lisbon 70.71 39 *e*P **P 23 15 57.0 -0.9**
LBNH pmax pmax
comp=Z,95nm,1.4s,mb5.5
LBNH Lisbon 70.71 39 *e*P **P 23 15 57.0 -0.9**
comp=Z,95nm,1.4s,mb5.5
WVT Waverly 70.79 54 *e*P **P 23 15 57.3 -1.0**
WVT *e**PP pP 23 16 12.3 -0.1
WVT pmax pmax
comp=Z,180nm,1.6s,mb5.8
WVT Waverly 70.79 54 *e*P **P 23 15 57.3 -1.1**
comp=Z,180nm,1.6s,mb5.8
WVT *e*pP pP 23 16 12.3 -0.1
TBLG Delisi 70.80 316 P **P 23 15 59.0 +0.6**
IPM Ipoh 70.81 250 P **P 23 16 00.0 +1.6**
IPM Ipoh 70.81 250 P **P 23 15 58.3 -0.1**
BINY Binghamton 70.91 43 *e*P **P 23 15 57.5 -1.6**
comp=Z,116nm,1.5s,mb5.6
BINY *e*pP pP 23 16 11.1 -2.0
ANN Anapa 70.93 323 *e*P **P 23 16 03.8 +4.6**
ANN *i* *PP pP 23 16 13.9 +0.7
ANN *e* pP 23 16 21.2 +8.0
ANN pmax pmax
comp=Z,83nm,1.5s,mb5.4
KWP Kalwaria 71.06 334 *e*P **P 23 16 00.6 +0.7**
KWP *e*pP pP 23 16 05.5 -8.5
KWP *e*sP sP 23 16 13.8 -5.7
KWP *e*S S 23 25 12.3 -0.3
KWP *e*sS sS 23 25 26.9 -9.1
KWP *e*SKS 23 25 54.0
KWP L 23 45 49.1
comp=Z,3.1nm,25.4s
KWP Kalwaria 71.06 334 *e*P **P 23 16 00.6 +0.7**
KWP *e**SP sP 23 16 13.8 -5.7
KWP *e*S S 23 25 12.3 -0.3
KWP *e* 23 25 54.0
KWP MLR MLR
comp=Z,3μm,25.4s,MS5.5
KWP Kalwaria 71.06 334 *e*P **P 23 16 00.6 +0.7**
KWP *e*pP pP 23 16 05.5 -8.5
KWP *e*sP sP 23 16 13.8 -5.7
KWP *e*S S 23 25 12.3 -0.3
KWP *e*sS sS 23 25 26.9 -9.1
KWP *e*SKS 23 25 54.0
WIM Isle of Man 71.14 353 *e*P **P 23 16 00.2 -0.2**
SOC Sochi 71.16 320*c i*P **P 23 16 04.4 +3.8**
SOC *e* pP 23 16 13.5 -1.1
SOC *e* 23 18 37.7
SOC *e*PPP 23 20 15.6
SOC *i* S S 23 25 17.3 +3.5

SOC eSS SS 23 29 48.0 0.0
SOC pmax pmax
comp=Z,224nm,1.8s,mb5.8
SOC pmax pmax
comp=Z,88nm,1.4s,mb5.5
OJC Ojcow 71.21 336 eP **P 23 16 01.2 +0.3**
OJC ePcP PcP 23 16 20.5 -0.1
OJC ePP PP 23 18 39.9 +0.7
OJC eS S 23 25 17.8 +3.4
OJC eScS ScS 23 26 05.8 +4.5
OJC L 23 48 26.9
comp=Z,9.4nm,18.8s
WVL Waterville 71.25 37 eP **P 23 16 01.2 +0.1**
comp=Z,70nm,1.2s,mb5.5
AFI Afiamalu 71.40 155 LR LR 23 47 05.9
comp=Z,995nm,18.4s,MS5.1,baz=339,slow=36
KSP Ksiaz 71.40 339 eP **P 23 16 02.3 +0.3**
KSP epP pP 23 16 06.4 -10
KSP esP sP 23 16 14.9 -6.7
KSP eS S 23 25 21.2 +4.7
KSP L 23 46 47.2
comp=Z,4.0nm,24.5s
KSP Ksiaz 71.40 339⇓ eP **P 23 16 02.3 +0.3**
KSP epP pP 23 16 06.8 -9.3
KSP e pP 23 16 14.5 -1.6
KSP ePP PP 23 18 41.8 +1.0
KSP eS S 23 25 19.5 +3.0
KSP eSS SS 23 29 47.0 -4.7
KSP LR LR
comp=Z,5μm,24.5s,MS5.7
SSPA Standing Stone 71.47 45 eP **P 23 16 01.1 -1.4**
MCWV Mont Chateau 71.47 47 eP **P 23 16 02.1 -0.3**
comp=Z,70nm,1.0s,mb5.5
LHO Holmfirth 71.50 351 eP **P 23 16 01.6 -1.0**
IBBN Ibbenburen 71.54 345 eP **P 23 16 02.6 -0.3**
IBBN Ibbenburen 71.54 345 P **P 23 16 02.4 -0.5**
CLZ Clausthal 71.57 343 eP **P 23 16 03.3 +0.2**
comp=Z,56nm,1.2s,mb5.4
CLZ Clausthal 71.57 343 eP **P 23 16 03.3 +0.2**
CLZ pmax pmax
comp=Z,56nm,1.2s,mb5.4
PLAL Pickwick Lake 71.61 55 eP **P 23 16 01.9 -1.3**
comp=Z,50nm,0.8s,mb5.5
CLL Collm 71.61 341 eP **P 23 16 03.3 0.0**
comp=Z,62nm,1.2s,mb5.4
CLL e 23 16 07.4
CLL esP sP 23 16 16.7 -6.2
CLL eS S 23 25 24.4 +5.4
CLL eSS SS 23 29 59.3 +4.4
CLL eSSS 23 33 20.5
CLL eLR LR 23 40 02.7
CLL eL 23 47 07.9
comp=Z,3μm,22.0s
CLL Collm 71.61 341 eP **P 23 16 03.0 -0.3**
comp=Z,61nm,1.2s,mb5.4
CLL *i* x x 23 16 07.0
CLL *i* sP sP 23 16 16.1 -6.8
comp=Z,263nm,1.5s
CLL eS S 23 25 20.0 +1.0
CLL eSS SS 23 29 54.0 -0.9
CLL eSSS 23 33 18.0
CLL L 23 49 00.0
comp=Z,2μm,21.7s
CLL Collm 71.61 341 eP **P 23 16 03.0 -0.3**
CLL eS S 23 25 20.0 +1.0
CLL pmax pmax
comp=Z,61nm,1.2s,mb5.4
CLL MLR MLR
comp=Z,3μm,23.6s,MS5.5
CLL Collm 71.61 341 P **P 23 16 02.5 -0.8**
STHS Stebnicka Huta 71.62 335 *i* P **P 23 16 04.0 +0.7**
comp=Z,54nm,1.2s,mb5.3
STHS *e* pP 23 16 12.8 -4.6
KGM Kluang 71.63 246 P **P 23 16 05.0 +1.6**
RAC Raciborz 71.70 337 eP **P 23 16 04.2 +0.3**
RAC MLR MLR
comp=Z,3μm,16.7s,MS5.6
KBI1 Birley Grange 71.76 351 eP **P 23 16 03.6 -0.6**
HKT Hockley 71.76 64 eP **P 23 16 03.9 -0.3**
HKT pmax pmax
comp=Z,66nm,1.6s,mb5.3
HKT Hockley 71.76 64 eP **P 23 16 03.9 -0.3**
comp=Z,66nm,1.6s,mb5.3
UPC Upice 71.78 339 eP **P 23 16 04.9 +0.6**
UPC epP pP 23 16 09.7 -8.6
UPC esP sP 23 16 18.5 -5.4
KIS Kishinev 71.78 329 eP **P 23 16 03.0 -1.3**
KIS e pP 23 16 16.0 -2.4
KIS e 23 18 48.0
KIS eS S 23 25 21.0 0.0
KIS e 23 25 50.0
KIS eSS SS 23 29 51.0 -6.6
KIS MLR MLR
comp=N,3μm,16.0s,MS5.7
KIS MLR MLR
comp=E,2μm,16.0s,MS5.7
KIS MLR MLR
comp=Z,4μm,16.0s,MS5.8
KIS MLR MLR
comp=Z,6μm,16.0s
KOLS Kolonicke sedl 71.81 334 eP **P 23 16 05.4 +0.9**
KOLS e 23 16 12.0
KOLS e pP 23 16 20.6 +2.1
KOLS Kolonicke sedl 71.81 334 eP **P 23 16 05.4 +0.9**
comp=Z,43nm,1.4s,mb5.2
KOLS e 23 16 12.0
KOLS e pP 23 16 20.6 +2.1
KOLS LR LR
comp=Z,7μm,24.6s,MS5.9
NIE Niedzica 71.84 336 eP **P 23 16 05.6 +0.9**
NIE e pP 23 16 19.9 +1.2
NIE Niedzica 71.84 336 eP **P 23 16 05.6 +0.9**
NIE e pP 23 16 19.9 +1.2
BRG Berggiesshubel 71.85 340 eP **P 23 16 04.3 -0.4**
comp=Z,31nm,1.2s,mb5.1
BRG Berggiesshubel 71.85 340 *i* P **P 23 16 04.4 -0.3**
comp=Z,97nm,1.6s,mb5.5
BRG *i* 23 16 09.4
BRG e pP 23 16 17.8 -1.0
BRG e 23 16 34.0
BRG e 23 20 38.0
BRG S S 23 25 25.0 +3.3
BRG SS SS 23 29 56.0 -2.5
BRG
comp=Z,2μm,26.2s
BRG
comp=N,820nm,18.6s
BRG
comp=E,2μm,18.6s
BRG Berggiesshubel 71.85 340 *i* P **P 23 16 04.4 -0.3**
BRG e pP 23 16 17.8 -0.9
BRG S S 23 25 25.0 +3.3
BRG SS SS 23 29 56.0 -2.5
BRG pmax pmax
comp=Z,97nm,1.6s,mb5.5
BRG MLR MLR
comp=Z,2μm,26.2s,MS5.2
BRG MLR MLR
comp=N,820nm,18.6s
BRG MLR MLR
comp=E,2μm,18.6s
BRG Berggiesshubel 71.85 340 P **P 23 16 03.9 -0.8**
DPC Dobruska-Polom 71.86 339 eP **P 23 16 05.4 +0.6**
DPC epP pP 23 16 10.9 -7.9
DPC esP sP 23 16 19.0 -5.4
DPC ex x 23 18 55.5
DPC eS S 23 25 27.1 +5.3
DPC AMS AMS 23 50 40.0
comp=E,2μm,16.3s
DPC Dobruska-Polom 71.86 339 eP **P 23 16 05.4 +0.6**
DPC e pP 23 16 19.0 +0.2
DPC eS S 23 25 27.1 +5.3
DPC MLR MLR
comp=Z,2μm,16.3s,MS5.4
DPC Dobruska-Polom 71.86 339 P **P 23 16 05.5 +0.7**
EMMW East Machias 71.88 36 eP **P 23 16 04.8 -0.1**
comp=Z,113nm,1.4s,mb5.6
SIM Simferopol' 71.94 325 *ce*P **P 23 16 06.0 +0.7**
SIM e pP 23 16 18.4 -0.9
SIM e 23 18 50.0
SIM eS S 23 25 26.0 +3.2
SIM ePS 23 26 08.0
SIM pmax pmax
comp=Z,31nm,0.9s,mb5.2
SIM MLR MLR
comp=Z,5μm,15.0s,MS5.9
OKC Ostrava-Krasne 71.95 337 eP **P 23 16 05.7 +0.4**
OKC epP pP 23 16 11.1 -8.2
OKC esP sP 23 16 20.2 -4.7
OKC ePP PP 23 18 55.1 +10
OKC eS S 23 25 28.1 +5.3
OKC AMS AMS 23 53 00.0
comp=Z,3μm,16.4s
OKC Ostrava-Krasne 71.95 337 eP **P 23 16 05.7 +0.4**
OKC e pP 23 16 20.2 +0.9
OKC eS S 23 25 28.1 +5.3
OKC MLR MLR
comp=Z,3μm,16.4s,MS5.6
OKC Ostrava-Krasne 71.95 337 P **P 23 16 06.1 +0.8**
IAS Iasi 71.98 330 P **P 23 16 05.7 +0.2**
WTSB Winterswijk 72.02 345 eP **P 23 16 05.5 -0.2**
KWE Weaver Farm 72.02 351 eP **P 23 16 05.7 -0.1**
CRVS Cervenica-Dubn 72.04 335 eP **P 23 16 06.4 +0.5**
CRVS e 23 16 11.7
CRVS e pP 23 16 24.7 +4.8
CRVS ePP PP 23 18 41.9 -4.4
CRVS Cervenica-Dubn 72.04 335 eP **P 23 16 06.4 +0.5**
comp=Z,56nm,1.7s,mb5.2
CRVS e 23 16 11.7
CRVS e pP 23 16 24.7 +4.8
CRVS ePP PP 23 18 41.9 -4.4
CRVS LR LR
comp=Z,4μm,19.5s,MS5.7
UZH Uzhgorod 72.08 334 eP **P 23 16 06.0 -0.1**
UZH eS S 23 25 28.0 +3.6
UZH eSP 23 26 09.0
UZH MLR MLR
comp=Z,790nm,16.0s,MS5.1
DCN Croghan 72.10 354⇑ *i*P **P 23 16 11.3 +5.0**
DCN Croghan 72.10 354⇑ *i*P pP 23 16 20.4 +0.1
DCN Croghan 72.10 354⇑ *i*P **P 23 16 05.0 -1.3**
DCN ⇑ *i*P 23 16 11.3
DCN ⇑ *i*P pP 23 16 20.4 +0.1
DLF Lyons Farm 72.11 354⇑ *i*P **P 23 16 11.3 +5.0**
DLF Lyons Farm 72.11 354⇑ *i*P pP 23 16 20.5 +0.2
DLF Lyons Farm 72.11 354⇑ *i*P **P 23 16 04.9 -1.4**
DLF ⇑ *i*P 23 16 11.3
DLF ⇑ *i*P pP 23 16 20.5 +0.2
GNI Garni 72.13 315 eP **P 23 16 08.2 +1.8**
GNI Garni 72.13 315 LR LR 23 53 42.6
comp=Z,3μm,18.1s,MS5.6,baz=26,slow=41
GNI Garni 72.13 315 eP **P 23 16 08.2 +1.8**
MORC Moravsky Berou 72.14 338⇑ *i*P **P 23 16 06.7 +0.2**
MORC Moravsky Berou 72.14 338 P **P 23 16 07.0 +0.5**
MORC Moravsky Berou 72.14 338 eP **P 23 16 06.3 -0.1**
KAKA Kakadu 72.15 212⇓ *i*P **P 23 16 06.4 -0.1**
comp=Z,185nm,0.8s,mb6.1
BURAR Bucovina Array 72.25 332⇓ *i*P **P 23 16 06.9 -0.2**
BURAR Bucovina Array 72.25 332⇓ P **P 23 16 06.9 -0.3**
HRV Harvard--Oak R 72.35 40 eP **P 23 16 10.7 +3.0**
HRV pmax pmax
comp=Z,88nm,1.4s,mb5.5
HRV Harvard--Oak R 72.35 40 eP **P 23 16 10.7 +3.0**
comp=Z,88nm,1.4s,mb5.5
ARTV Artvin 72.37 318 *i* P **P 23 16 08.5 +0.6**
SWET Sewanee 72.43 54 eP **P 23 16 06.8 -1.4**
TZTN Tazewell 72.43 51 eP **P 23 16 07.6 -0.6**
DIGO Kars 72.46 316 *i* P **P 23 16 14.6 +6.2**
BUG Bochum--Univer 72.46 345 eP **P 23 16 07.9 -0.5**
MOX Moxa 72.50 342 eP **P 23 16 08.8 +0.2**
comp=Z,36nm,1.1s,mb5.2
MOX Moxa 72.50 342 eP **P 23 16 08.3 -0.3**
comp=Z,230nm,1.9s,mb5.8
MOX *e* 23 18 56.8
MOX
comp=Z,2μm,22.0s
MOX Moxa 72.50 342 eP **P 23 16 08.3 -0.3**
MOX *e* 23 18 56.8
MOX pmax pmax
comp=Z,230nm,1.9s,mb5.8
MOX MLR MLR
comp=Z,2μm,22.0s,MS5.3
MOX Moxa 72.50 342 P **P 23 16 08.1 -0.5**
PRA Prague 72.51 340 P **P 23 16 10.0 +1.3**
PRA pP pP 23 16 14.0 -8.8
PRA sP sP 23 16 21.0 -7.3
WES Weston 72.54 40 P **P 23 16 12.6 +3.8**
WES pmax pmax
comp=Z,79nm,1.1s,mb5.6
WES Weston 72.54 40 eP **P 23 16 10.8 +1.9**
comp=Z,80nm,1.1s,mb5.6
TANN Tannenbergstha 72.57 341 eP **P 23 16 09.3 +0.3**
PRU Pruhonice 72.57 340 eP **P 23 16 09.3 +0.3**
PRU epP pP 23 16 14.5 -8.6
PRU esP sP 23 16 22.5 -6.1
PRU ex x 23 19 01.9
PRU eS S 23 25 41.1 +11
PRU AMS AMS 23 49 40.0
comp=Z,2μm,20.3s
PRU Pruhonice 72.57 340 eP **P 23 16 09.3 +0.3**
PRU e pP 23 16 22.5 -0.6
PRU MLR MLR
comp=Z,2μm,20.3s,MS5.4
PRU Pruhonice 72.57 340 P **P 23 16 09.5 +0.5**
HLM1 Long Mynd 72.61 351 eP **P 23 16 09.4 +0.1**
UBBA Unterbreizbach 72.62 343 eP **P 23 16 09.1 -0.2**
KECS Kecovo 72.67 335 eP **P 23 16 09.6 0.0**
comp=Z,57nm,2.0s,mb5.2
KECS e 23 16 15.2
KECS e pP 23 16 23.0 -0.7
SSP1 Stoney Pound 72.73 352 eP **P 23 16 09.8 -0.2**
NKC Novy Kostel 72.74 341 eP **P 23 16 10.2 +0.1**
NKC epP pP 23 16 15.5 -8.6
NKC esP sP 23 16 23.9 -5.8
NKC ex x 23 19 03.1
NKC eS S 23 25 42.2 +10
NKC AMS AMS 23 47 20.0
comp=Z,3μm,25.3s
NKC Novy Kostel 72.74 341 eP **P 23 16 10.2 +0.1**
NKC e pP 23 16 23.9 -0.2
NKC MLR MLR
comp=Z,3μm,25.3s,MS5.5
NKC Novy Kostel 72.74 341 P **P 23 16 10.5 +0.4**
PAL Palisades 72.75 42 P **P 23 16 09.2 -0.9**
PAL pmax pmax
comp=Z,66nm,1.2s,mb5.4
PAL Palisades 72.75 42 eP **P 23 16 08.5 -1.6**
comp=Z,66nm,1.2s,mb5.4
VRAC Vranov 72.79 338 LR LR 23 53 58.8
comp=Z,2μm,18.3s,MS5.5,baz=23,slow=41
VRAC Vranov 72.79 338⇑ *i*P **P 23 16 10.8 +0.5**
VRAC Vranov 72.79 338 P **P 23 16 11.0 +0.7**
FWV Forest Hill 72.79 49 eP **P 23 16 09.0 -1.3**
FWV epP pP 23 16 23.8 -0.6
CPCT Cooper Cave 72.89 53 eP **P 23 16 10.1 -0.8**
CPNY Central Park 72.91 42 eP **P 23 16 09.9 -1.2**
CPNY epP pP 23 16 23.6 -1.5
SDMD Soldier's Deli 72.93 45 eP **P 23 16 09.7 -1.5**
JAVC Velka Javorina 72.97 337 P **P 23 16 13.2 +1.8**
TREC Trest 73.03 339 eP **P 23 16 12.2 +0.4**
TREC epP pP 23 16 17.0 -8.9
TREC esP sP 23 16 25.9 -5.5
TREC ex x 23 19 08.8
TREC eS S 23 25 40.4 +5.1
TREC AMS AMS 23 54 40.0
comp=Z,2μm,15.6s
TREC Trest 73.03 339 eP **P 23 16 12.2 +0.4**
TREC e pP 23 16 25.9 0.0
TREC eS S 23 25 40.4 +5.1
TREC MLR MLR
comp=Z,2μm,15.6s,MS5.5
KRUC Moravsky 73.06 338 P **P 23 16 12.8 +0.8**
ELN Prospectdale 73.11 49 eP **P 23 16 10.8 -1.5**
MCH1 Michaelchurch 73.14 351 eP **P 23 16 11.5 -0.9**
MCH1 eP 23 16 11.7
MCH1 Michaelchurch 73.14 351 P **P 23 16 11.7 -0.7**
HYB Hyderabad 73.22 276 *i* P **P 23 16 13.0 +0.1**
HYB esP sP 23 16 27.0 -5.5
HYB eS S 23 25 38.0 +0.7
HYB eSS SS 23 30 26.0 +6.5
HYB Hyderabad 73.22 276⇓ *i*P **P 23 16 13.0 +0.1**
HYB pmax pmax
comp=Z,280nm,1.0s,mb6.2
HYB Hyderabad 73.22 276⇓ *i*P **P 23 16 13.0 +0.1**
comp=Z,280nm,1.0s,mb6.2
ROTZ Rotzenmuhle 73.23 341 eP **P 23 16 13.7 +0.7**
BLA Blacksburg 73.27 49 eP **P 23 16 12.4 -0.8**
BLA e*PP pP 23 16 26.3 -0.9
BLA pmax pmax
comp=Z,40nm,1.0s,mb5.3
BLA Blacksburg 73.27 49 eP **P 23 16 12.4 -0.7**
comp=Z,4.2nm,1.0s
BLA epP pP 23 16 26.3 -0.9
HGN Heimansgroeve 73.32 345 eP **P 23 16 13.1 -0.4**
HGN ePP PP 23 19 25.9 +29
HGN ePPP 23 21 17.6
HGN eS S 23 25 44.9 +6.4
HGN eSS SS 23 30 36.2 +15
HGN eSSS 23 34 53.6
BEBN Eben Emael 73.32 346 AP pP 23 16 18.1 -9.5
BEBN XP sP 23 16 26.5 -6.6
PSZ Piszkesteto 73.34 336⇓ eP **P 23 16 14.6 +1.0**
PSZ Piszkesteto 73.34 336 eP **P 23 16 15.0 +1.4**
PSZ pmax pmax
comp=Z,200nm,1.7s,mb5.8
VRI Vrincioaia 73.42 330⇓ *i*P **P 23 16 14.3 +0.2**
TNS Taunus Mts 73.45 344 eP **P 23 16 14.6 +0.3**
comp=Z,36nm,1.5s,mb5.1
TNS Taunus Mts 73.45 344 eP **P 23 16 14.6 +0.3**
TNS pmax pmax
comp=Z,36nm,1.5s,mb5.1
MEM Membach 73.46 345 P **P 23 16 13.8 -0.5**
MEM AP pP 23 16 19.0 -9.3
MEM XP sP 23 16 27.3 -6.5
PLOR Plostina 73.46 330⇓ *i*P **P 23 16 14.4 +0.1**
HGH Gray Hill 73.48 351 eP **P 23 16 13.7 -0.7**
HGH AMb AMB 23 16 19.8
comp=Z,179nm,1.1s,mb5.9
GRA1 Grafenberg Arr 73.49 342 eP **P 23 16 14.9 +0.4**
comp=Z,97nm,1.4s,mb5.5
GRA1 e 23 16 19.4
GRA1 e pP 23 16 28.5 0.0
GRA1 LR LR
comp=Z,2μm,22.0s,MS5.3
GRF Grafenberg Arr 73.49 342 eP **P 23 16 14.9 +0.4**
comp=Z,97nm,1.4s,mb5.5
GRF e 23 16 19.4
GRF e pP 23 16 28.5 0.0
GRF eL 23 49 20.6
comp=Z,2μm,22.0s
GRF Grafenberg Arr 73.49 342 eP **P 23 16 14.9 +0.4**
GRF e pP 23 16 28.5 0.0
GRF pmax pmax
comp=Z,97nm,1.4s,mb5.5
GRF MLR MLR
comp=Z,2μm,22.0s,MS5.3
GRF Grafenberg Arr 73.49 342 eP **P 23 16 14.9 +0.4**
GRF e pP 23 16 28.5 0.0
GRF pmax pmax
comp=Z,97nm,1.4s,mb5.5
GRF MLR MLR
comp=Z,2μm,22.0s,MS5.3
LATR Latur 73.57 279 eP **P 23 16 15.9 +0.9**
LATR eP 23 16 15.9
KHC Kasperske Hory 73.58 340 eP **P 23 16 15.6 +0.6**
KHC epP pP 23 16 21.0 -8.1
KHC esP sP 23 16 29.2 -5.4
KHC ex x 23 19 09.3
KHC eS S 23 25 42.9 +1.5
KHC AMS AMS 23 52 20.0
comp=Z,2μm,16.7s
KHC Kasperske Hory 73.58 340 eP **P 23 16 15.6 +0.6**
KHC e pP 23 16 29.2 +0.1
KHC eS S 23 25 42.9 +1.5
KHC MLR MLR
comp=Z,2μm,16.7s,MS5.5
KHC Kasperske Hory 73.58 340⇑ eP **P 23 16 15.0 0.0**
CFR Carcaliu 73.63 329⇓ *i*P **P 23 16 15.1 -0.2**
CFR Carcaliu 73.63 329⇓ P **P 23 16 15.1 -0.2**
DRGR 73.68 333⇓ *i*P **P 23 16 15.5 -0.1**
DRGR 73.68 333 P **P 23 16 16.2 +0.6**
ERZM Erzurum 73.69 317 *i* P **P 23 16 17.2 +1.5**
EZM Erzurum 73.69 317 eP **P 23 16 17.9 +2.2**
WET Wettzell 73.70 341 eP **P 23 16 16.2 +0.5**
comp=Z,53nm,1.3s,mb5.3
WET Wettzell 73.70 341 eP **P 23 16 16.2 +0.5**
WET pmax pmax
comp=Z,53nm,1.3s,mb5.3
ZST Bratislava 73.72 337 eP **P 23 16 16.9 +1.0**
comp=Z,191nm,1.7s,mb5.8
ZST e 23 16 21.9
ZST e pP 23 16 30.3 +0.4
CBN Corbin 73.73 46 eP **P 23 16 20.3 +4.4**
SNF Seneffe 73.80 347 AP pP 23 16 21.0 -9.4
SNF XP sP 23 16 29.7 -6.2
SRO Srobarova 73.81 337 eP **P 23 16 18.1 +1.7**
GERES GERESS Array B 73.83 340 P **P 23 16 16.6 +0.1**
comp=Z,10nm,0.9s,mb4.8,baz=35,slow=4.9,SNR=50
GERES LR LR 23 53 07.0
comp=Z,3μm,19.1s,MS5.5,baz=22,slow=39
SRO1 Iza 73.88 337 eP **P 23 16 18.1 +1.4**
GUMT Gumushane 73.94 319 eP **P 23 16 17.5 +0.4**
BUD Budapest 73.95 336⇓ esP pP 23 16 31.5 +0.2
BUD Budapest 73.95 336⇓ eP pP 23 16 31.5 +0.2
MLR Muntele Rosu 73.99 331 LR LR 23 52 58.4
comp=Z,3μm,19.2s,MS5.6,baz=201,slow=39
MLR Muntele Rosu 73.99 331⇑ *i*P **P 23 16 18.2 +0.8**
MLR Muntele Rosu 73.99 331 P **P 23 16 18.4 +1.0**
TOD Tromm 73.99 343 eP **P 23 16 17.8 +0.4**
GRSN GIRESUNGRSN 74.00 320 *i* P **P 23 16 16.9 -0.6**
VANB Van 74.00 315 eP pP 23 16 29.1 -2.4
TVAN Van 74.05 315 *i* P **P 23 16 18.5 +0.8**
SIND Sindeldorf 74.11 343 P **P 23 16 18.2 +0.1**
GIVF Givet 74.12 346 eP **P 23 16 17.5 -0.7**
comp=Z,256nm,1.6s,mb5.6
GIVF Givet 74.12 346 eP **P 23 16 17.5 -0.7**
GIVF pmax pmax
comp=Z,128nm,1.6s,mb5.6
GIVF Givet 74.12 346 eP **P 23 16 17.5 -0.7**
comp=Z,128nm,1.6s,mb5.6
HEX Exmoor 74.13 352 eP **P 23 16 18.1 -0.1**
HARR Harsova 74.14 329⇓ *i*P **P 23 16 18.1 -0.2**
DOU Dourbes 74.16 346 AP pP 23 16 23.0 -10
DOU XP sP 23 16 31.6 -6.4
TIRR Tirgusor 74.20 328 eP **P 23 16 18.6 0.0**
TIRR *e* pP 23 16 32.5 -0.2
BAIF Baives 74.25 346 eP **P 23 16 18.5 -0.4**
comp=Z,208nm,1.5s,mb5.5
BAIF Baives 74.25 346 eP **P 23 16 18.5 -0.4**
BAIF pmax pmax
comp=Z,104nm,1.5s,mb5.5
BAIF Baives 74.25 346 eP **P 23 16 18.5 -0.4**
comp=Z,104nm,1.5s,mb5.5
VOIR 74.29 331⇓ *i*P **P 23 16 20.2 +1.0**
VOIR 74.29 331⇓ P **P 23 16 20.2 +1.0**
PKSN Nyarlorinc 74.30 335 eP **P 23 16 20.6 +1.4**
PKS7 Kunszentmiklos 74.33 336⇓ eP **P 23 16 20.5 +1.1**
SOP Sopron 74.33 338⇓ esP sP 23 16 34.5 -4.5
SOP Sopron 74.33 338 P **P 23 16 20.7 +1.3**
SOP *e* pP 23 16 34.5 +1.0
WLF Walferdange 74.36 345 eP **P 23 16 20.0 +0.5**
WLF Walferdange 74.36 345 AP pP 23 16 24.3 -9.4
WLF XP sP 23 16 33.3 -5.9
WLF Walferdange 74.36 345 eP **P 23 16 20.2 +0.7**
WLF pmax pmax
comp=Z,109nm,1.5s,mb5.6
WLF Walferdange 74.36 345 eP **P 23 16 20.2 +0.7**
comp=Z,109nm,1.5s,mb5.6
KTD Kalmit 74.39 344 eP **P 23 16 19.5 -0.2**
MTUR Matau 74.48 331 P **P 23 16 22.2 +1.9**
BNGL BINGOL 74.59 317 *i* P **P 23 16 22.3 +1.4**
PKS8 Sarbogard 74.60 336⇓ eP **P 23 16 21.5 +0.5**
MOA Molln 74.66 339⇑ *i*P **P 23 16 21.8 +0.5**
comp=Z,63nm,1.7s,mb5.3,SNR=11
KVT Kavak 74.68 322 eP **P 23 16 22.9 +1.5**
STU Stuttgart 74.73 343 eP **P 23 16 21.8 +0.1**
STU Stuttgart 74.73 343 P **P 23 16 26.7 +5.0**
STU *e* pP 23 16 36.3 +0.5
STU pmax pmax
comp=Z,46nm,1.0s,mb5.4
STU Stuttgart 74.73 343 eP **P 23 16 21.9 +0.2**
comp=Z,46nm,1.0s,mb5.4
STU ePcP PcP 23 16 35.7 0.0
LANF Langenberg 74.76 344 eP **P 23 16 22.1 +0.2**
BOYT Boyabat 74.78 323 *i* P **P 23 16 22.7 +0.7**
BYBT Boyabat 74.79 323 eP **P 23 16 22.2 +0.2**
LBG Lerchenberg 74.91 343 P **P 23 16 23.1 +0.4**
FUR Furstenfeldbru 74.95 341 eP **P 23 16 23.5 +0.5**
comp=Z,62nm,1.3s,mb5.4

FUR Furstenfeldbru 74.95 341 *e*P **P** **23 16 23.5 +0.5**
FUR pmax pmax
comp=Z,62nm,1.3s,mb5.4
ARSA Arzberg 74.97 338⇑*i*P **P** **23 16 24.0 +0.9**
comp=Z,109nm,2.2s,mb5.4,SNR=7.9
BUCH Bad Urach 75.02 343 P **P** **23 16 24.2 +0.8**
POO Poona 75.03 281 *e*P **P** **23 16 22.0 -1.5**
BZS Buzias 75.05 334⇑*i*P **P** **23 16 23.3 -0.3**
BZS Buzias 75.05 334 P **P** **23 16 24.1 +0.5**
CUKT Cukurca 75.06 314 *e*P **P** **23 16 25.0 +1.4**
BTMT Batman 75.11 316 *e*P **P** **23 16 17.5 -6.4**
STR Strasbourg 75.15 344 *e*P **P** **23 16 24.7 +0.6**
BALT Daday 75.21 324 *i*P **P** **23 16 25.6 +1.1**
PKSM Moragy 75.24 336⇓*i*P **P** **23 16 24.7 +0.1**
PKSM Moragy 75.24 336 P **P** **23 16 25.3 +0.7**
BFO Black Forest 75.31 343 *e*P **P** **23 16 24.9 -0.1**
comp=Z,48nm,1.3s,mb5.3
BFO Black Forest 75.31 343 P **P** **23 16 25.3 +0.3**
comp=Z,222nm,0.9s,mb6.1,SNR=6.0
BFO Black Forest 75.31 343 *e*P **P** **23 16 24.9 -0.1**
BFO pmax pmax
comp=Z,48nm,1.3s,mb5.3
BOM Bombay 75.33 282 *e*P **P** **23 16 27.5 +2.3**
SVSK Karacayir 75.35 320 *e*P **P** **23 16 26.4 +1.1**
WLS Welschbruch 75.39 344 *e*P **P** **23 16 25.6 +0.1**
CDF Champ du Feu 75.40 344⇑*i*P **P** **23 16 25.4 -0.2**
comp=Z,128nm,1.2s,mb5.4
CDF Champ du Feu 75.40 344⇑*i*P **P** **23 16 25.4 -0.2**
CDF pmax pmax
comp=Z,64nm,1.2s,mb5.4
CDF Champ du Feu 75.40 344⇑*i*P **P** **23 16 25.4 -0.2**
comp=Z,64nm,1.2s,mb5.4
GUT Gutenstein 75.42 343 P **P** **23 16 26.3 +0.6**
TOS Tosya 75.43 323 *e*P **P** **23 16 25.7 -0.1**
SPAK Spaichingen-Ko 75.45 343 P **P** **23 16 26.7 +0.8**
RHK1 Bakonya 75.48 336⇑*e*P **P** **23 16 26.1 +0.1**
SVST Sivas 75.49 320 *i*P **P** **23 16 27.5 +1.4**
CTKT Corum 75.53 322 *i*P **P** **23 16 27.0 +0.7**
KBA Koelnbreinsper 75.59 340 *i*P **P** **23 16 28.1 +1.4**
comp=Z,187nm,1.6s,mb5.8,SNR=23
KBA Koelnbreinsper 75.59 340 *i*P **P** **23 16 28.1 +1.5**
KBA pmax pmax
comp=Z,187nm,1.6s,mb5.8
ECH Echery 75.61 344 *e*P **P** **23 16 26.5 -0.3**
UBR Ueberruh 75.63 342 P **P** **23 16 27.7 +0.8**
MEZF Maizieres J'vi 75.65 346 *e*P **P** **23 16 26.9 -0.1**
comp=Z,338nm,1.7s,mb5.7
MEZF Maizieres J'vi 75.65 346 *e*P **P** **23 16 26.9 -0.1**
comp=Z,338nm,1.7s,mb6.0
WATA Walderalm 75.69 341 *i*P **P** **23 16 28.2 +1.0**
comp=Z,180nm,1.5s,mb5.8,SNR=15
WATA Walderalm 75.69 341 *i*P **P** **23 16 28.2 +1.0**
WATA pmax pmax
comp=Z,180nm,1.5s,mb5.8
SAFT Safranbolu 75.71 324 *e*P **P** **23 16 27.8 +0.4**
KIZ Kirchzarten 75.74 343 P **P** **23 16 27.4 -0.1**
WTTA Wattenberg 75.75 341⇑*i*P **P** **23 16 28.4 +0.9**
comp=Z,182nm,1.5s,mb5.8,SNR=10
WTTA Wattenberg 75.75 341⇑*i*P **P** **23 16 28.4 +0.9**
WTTA pmax pmax
comp=Z,182nm,1.5s,mb5.8
WTTA Wattenberg 75.75 341⇑*i*P **P** **23 16 28.4 +0.9**
comp=Z,182nm,1.5s,mb5.8
MOTA Moosalm 75.77 341⇓*i*P **P** **23 16 28.1 +0.4**
comp=Z,117nm,1.4s,mb5.6,SNR=10
MOTA Moosalm 75.77 341⇓*i*P **P** **23 16 28.1 +0.4**
MOTA pmax pmax
comp=Z,117nm,1.4s,mb5.6
THEF They Montfort 75.78 345 *e*P **P** **23 16 28.0 +0.3**
FELD Feldberg im Sc 75.80 343 *e*P **P** **23 16 27.8 -0.1**
SISB Singen-Schiene 75.82 343 P **P** **23 16 29.0 +1.0**
ELZG Elazig 75.83 318 *i*P **P** **23 16 29.4 +1.4**
SQTA Sankt Quirin 75.87 341⇓*i*P **P** **23 16 29.0 +0.7**
comp=Z,233nm,1.7s,mb5.8,SNR=8.7
SQTA Sankt Quirin 75.87 341⇓*i*P **P** **23 16 29.0 +0.8**
SQTA pmax pmax
comp=Z,233nm,1.7s,mb5.8
DIY Diyarbakir 75.87 317 *e*P **P** **23 16 34.0 +5.7**
OBKA Obir 75.88 339⇓*i*P **P** **23 16 29.0 +0.7**
comp=Z,170nm,1.6s,mb5.7,SNR=32
OBKA Obir 75.88 339⇓*i*P **P** **23 16 29.0 +0.7**
comp=Z,170nm,1.6s,mb5.7
CTA Charters Tower 75.94 197⇓*i*P **P** **23 16 28.1 -0.5**
comp=Z,68nm,0.8s,mb5.6
CTA *e*pP pP 23 16 42.7 -0.1
CTA Charters Tower 75.94 197 P **P** **23 16 28.3 -0.3**
comp=Z,89nm,0.8s,mb5.7,baz=6.8,slow=6.9,SNR=50
CTA Charters Tower 75.94 197⇓*i*P **P** **23 16 28.1 -0.5**
CTA *e**PP pP 23 16 42.7 -0.1
CTA pmax pmax
comp=Z,66nm,0.8s
CTAO Charters Tower 75.94 197 *e*P **P** **23 16 28.3 -0.3**
HAU Haudompre 75.94 345⇑*i*P **P** **23 16 29.3 +0.6**
comp=Z,285nm,1.6s,mb5.7
HAU *e*R
comp=Z,2µm,20.8s
HAU Haudompre 75.94 345⇑*i*P **P** **23 16 29.3 +0.6**
HAU pmax pmax
comp=Z,143nm,1.6s,mb5.7
HAU MLR MLR
comp=Z,2µm,20.8s,MS5.4
HAU Haudompre 75.94 345⇑*i*P **P** **23 16 29.3 +0.6**
comp=Z,142nm,1.6s,mb5.7
HAU LR LR
comp=Z,2µm,20.8s,MS5.4
CANT Cankiri 75.95 323 *e*P **P** **23 16 29.1 +0.4**
MOF Molkenrain 75.97 344 *e*P **P** **23 16 28.6 -0.2**
HINF Hinteralfeld 76.05 344 *e*P **P** **23 16 28.8 -0.5**
comp=Z,157nm,1.5s,mb5.4
HINF Hinteralfeld 76.05 344 *e*P **P** **23 16 28.8 -0.5**
HINF pmax pmax
comp=Z,78nm,1.5s,mb5.4
HINF Hinteralfeld 76.05 344 *e*P **P** **23 16 28.8 -0.5**
comp=Z,78nm,1.5s,mb5.4
DAVA Damuels 76.05 342 *i*P **P** **23 16 30.3 +1.0**
comp=Z,59nm,1.8s,mb5.2,SNR=5.8
MSL Mosul 76.09 314 *ex* x 23 16 31.5
MSL *i* x 23 16 44.0
MSL *ex* x 23 26 12.0
FLN La Foliniere 76.09 349⇑*i*P **P** **23 16 28.8 -0.7**
comp=Z,157nm,1.0s,mb5.6
FLN *e*R
comp=Z,2µm,21.0s
FLN La Foliniere 76.09 349⇑*i*P **P** **23 16 28.8 -0.7**
FLN pmax pmax
comp=Z,79nm,1.0s,mb5.6
FLN MLR MLR
comp=Z,2µm,21.0s,MS5.3
FLN La Foliniere 76.09 349⇑*i*P **P** **23 16 28.8 -0.7**
comp=Z,78nm,1.0s,mb5.6
FLN LR LR
comp=Z,2µm,21.0s,MS5.3
WILA Wila 76.10 343⇑P **P** **23 16 29.6 +0.1**
ELDT Eldivan 76.12 323 *i*P **P** **23 16 30.7 +1.0**
MARD Mardin 76.15 316 *i*P **P** **23 16 30.4 +0.6**
MYA Malataya 76.20 319 *e*P **P** **23 16 35.4 +5.2**
MALT Malatya 76.21 319 *e*P **P** **23 16 28.4 -1.7**
MALT Malatya 76.21 319⇑*i*P **P** **23 16 31.4 +1.2**
MALT Malatya 76.21 319 P **P** **23 16 31.9 +1.7**
MALT Malatya 76.21 319 *e*P **P** **23 16 31.0 +0.8**
MALT *e* pP 23 16 49.6 +5.3
LDF La Druitiere 76.22 349⇑*i*P **P** **23 16 29.5 -0.8**
comp=Z,111nm,1.1s,mb5.4
LDF La Druitiere 76.22 349⇑*i*P **P** **23 16 29.5 -0.8**
LDF pmax pmax
comp=Z,56nm,1.1s,mb5.4
LDF La Druitiere 76.22 349⇑*i*P **P** **23 16 29.5 -0.8**
comp=Z,56nm,1.1s,mb5.4
PVL Pavlikeni 76.25 330 *e*P **P** **23 16 36.0 +5.6**
BRES Bressanone 76.27 341 P **P** **23 16 31.6 +1.1**
BBS Basel-Blauen 76.28 344 P **P** **23 16 31.2 +0.6**
LJU Ljubljana 76.33 338 *e*PKPdf **P** **23 16 31.4 +0.6**
LJU *i* PKPbc pP 23 16 44.0 -1.0
LJU Ljubljana 76.33 338 P **P** **23 16 31.5 +0.7**
LJU *i* PKPbc pP 23 16 44.0 -1.0
DZM Mont Dzumac 76.45 177 P **P** **23 16 32.3 +0.7**
comp=Z,69nm,1.0s,mb5.6,baz=28,slow=7.1,SNR=20
DZM LR LR 23 47 09.7
comp=Z,1µm,19.4s,MS5.2,baz=203,slow=33
SISC Sisak 76.47 337 iP **P** **23 16 31.4 -0.3**
VOY Vojsko 76.47 339 *e*PKPbc pP 23 16 45.1 -0.7
VOY *e* 23 17 15.2
VISS Visnje 76.49 338 *e*PKPdf **P** **23 16 31.3 -0.5**
VISS *e*PKPbc pP 23 16 44.3 -1.6

LOMF Lomont 76.50 344 *e*P **P** **23 16 31.4 -0.4**
GRR Gorron 76.50 350⇑*i*P **P** **23 16 31.4 -0.5**
comp=Z,126nm,0.9s,mb5.5
GRR Gorron 76.50 350⇑*i*P **P** **23 16 31.4 -0.5**
GRR pmax pmax
comp=Z,63nm,0.9s,mb5.5
GRR Gorron 76.50 350⇑*i*P **P** **23 16 31.4 -0.5**
comp=Z,63nm,0.9s,mb5.5
SGKT Sivrigoynuk 76.52 324 *i*P **P** **23 16 32.2 +0.3**
DAVOX Davos 76.54 342 LR LR 23 52 15.8
comp=Z,2µm,21.6s,MS5.4,baz=25,slow=37
CDAG Cicekdag 76.56 322 *i*P **P** **23 16 32.7 +0.5**
JMB Yambol 76.56 329 *e*P **P** **23 16 33.0 +0.8**
BOLS Boljevac 76.62 333⇑*i*P **P** **23 16 32.5 0.0**
BOJS Bojanci 76.68 338 *e*PKPdf **P** **23 16 32.6 -0.2**
BOJS *e*PKPbc pP 23 16 45.9 -1.1
HENT Hendek 76.69 325 *i*P **P** **23 16 33.1 +0.2**
BNN Bunyan 76.71 321 *e*P **P** **23 16 34.4 +1.4**
BR131 Keskin Array S 76.73 323 *e*P **P** **23 16 33.2 +0.1**
BRTR Keskin Array B 76.73 323 P **P** **23 16 33.1 0.0**
comp=Z,8.0nm,0.8s,mb4.7,baz=52,slow=3.9,SNR=60
BRMO Bormio 76.74 341 P **P** **23 16 34.4 +1.2**
ROSF Rostrenen 76.79 351 *e*P **P** **23 16 32.9 -0.6**
comp=Z,342nm,1.5s,mb5.8
ROSF Rostrenen 76.79 351 *e*P **P** **23 16 32.9 -0.6**
ROSF pmax pmax
comp=Z,171nm,1.5s,mb5.8
ROSF Rostrenen 76.79 351 *e*P **P** **23 16 32.9 -0.6**
comp=Z,171nm,1.5s,mb5.8
SGMF Saint Gilles 76.81 351 *e*P **P** **23 16 33.1 -0.5**
comp=Z,477nm,1.8s,mb5.8
SGMF Saint Gilles 76.81 351 *e*P **P** **23 16 33.1 -0.5**
SGMF pmax pmax
comp=Z,239nm,1.8s,mb5.8
SGMF Saint Gilles 76.81 351 *e*P **P** **23 16 33.1 -0.5**
comp=Z,239nm,1.8s,mb5.8
URFA Urfa 76.82 318 *e*P **P** **23 16 36.7 +3.1**
LOD Lodumlu 76.89 323 *e*P **P** **23 16 31.2 -2.8**
ANTO Ankara 76.90 323 *e*P **P** **23 16 35.4 +1.3**
ANTO Ankara 76.90 323 P **P** **23 16 35.5 +1.4**
ANTO pmax pmax
comp=Z,120nm,1.4s,mb5.6
ANTO Ankara 76.90 323 P **P** **23 16 35.4 +1.3**
MDU Mudurnu 76.90 325 *e*P **P** **23 16 31.9 -2.2**
KLYT Kilyos 76.91 327 *e*P **P** **23 16 32.6 -1.5**
TUE Stuetta 76.93 342 P **P** **23 16 35.9 +1.6**
ATAB Bozova 77.00 318 *i*P **P** **23 16 36.1 +1.5**
KAMT Kaman 77.02 322 *e*P **P** **23 16 35.4 +0.6**
LOR Lormes 77.03 346⇑*i*P **P** **23 16 34.3 -0.5**
comp=Z,303nm,1.6s,mb5.7
LOR *e*R
comp=Z,2µm,19.8s
LOR Lormes 77.03 346⇑*i*P **P** **23 16 34.3 -0.5**
LOR pmax pmax
comp=Z,151nm,1.6s,mb5.7
LOR MLR MLR
comp=Z,2µm,19.8s,MS5.5
LOR Lormes 77.03 346⇑*i*P **P** **23 16 34.3 -0.5**
comp=Z,151nm,1.6s,mb5.7
LOR LR LR
comp=Z,2µm,19.8s,MS5.5
ISK Istanbul-Kandi 77.07 327 *e*P **P** **23 16 42.2 +7.2**
EDRB Edirne 77.08 328 *e*P **P** **23 16 33.3 -1.8**
HRT Hereke 77.09 326 *e*P **P** **23 16 32.6 -2.6**
AVNT Avonos 77.14 321 *i*P **P** **23 16 32.5 -2.9**
HYF Humbligny 77.19 347 *e*P **P** **23 16 35.6 -0.1**
ELBA Catalca 77.20 327 *i*P **P** **23 16 35.5 -0.3**
QUIF Quistinic 77.20 351 *e*P **P** **23 16 35.2 -0.6**
SSF Saint Saulge 77.28 346⇑*i*P **P** **23 16 35.9 -0.3**
comp=Z,139nm,1.6s,mb5.3
SSF Saint Saulge 77.28 346⇑*i*P **P** **23 16 35.9 -0.3**
SSF pmax pmax
comp=Z,70nm,1.6s,mb5.3
SSF Saint Saulge 77.28 346⇑*i*P **P** **23 16 35.9 -0.3**
comp=Z,70nm,1.6s,mb5.3
CABF La Chapelle 77.34 344⇑*i*P **P** **23 16 36.7 +0.1**
comp=Z,251nm,1.6s,mb5.6
CABF La Chapelle 77.34 344⇑*i*P **P** **23 16 36.7 +0.1**
CABF pmax pmax
comp=Z,125nm,1.6s,mb5.6
CABF La Chapelle 77.34 344⇑*i*P **P** **23 16 36.7 +0.1**
comp=Z,126nm,1.6s,mb5.6
GZT Gaziantep 77.38 319 *i*P **P** **23 16 37.9 +1.1**
YLV Yalova 77.42 326 *e*P **P** **23 16 36.7 -0.3**
VTS Vitosha 77.43 331 *e*P **P** **23 16 37.0 -0.1**
GOA Goa 77.47 279 *e*P **P** **23 16 37.0 -0.3**
SAL Salo 77.55 341 P **P** **23 16 38.0 +0.3**
AVF Avril sur Loir 77.57 346⇑*i*P **P** **23 16 37.5 -0.3**
comp=Z,221nm,1.4s,mb5.6
AVF Avril sur Loir 77.57 346⇑*i*P **P** **23 16 37.5 -0.3**
AVF pmax pmax
comp=Z,111nm,1.4s,mb5.6
AVF Avril sur Loir 77.57 346⇑*i*P **P** **23 16 37.5 -0.3**
comp=Z,110nm,1.4s,mb5.6
MMK Mattmark 77.58 343⇑P **P** **23 16 39.4 +1.5**
SMF Signal de Mont 77.64 346 *e*P **P** **23 16 37.8 -0.4**
comp=Z,286nm,1.5s,mb5.7
SMF Signal de Mont 77.64 346 *e*P **P** **23 16 37.8 -0.4**
SMF pmax pmax
comp=Z,143nm,1.5s,mb5.7
SMF Signal de Mont 77.64 346 *e*P **P** **23 16 37.8 -0.4**
comp=Z,143nm,1.5s,mb5.7
DIX Grande Dixence 77.64 343⇑P **P** **23 16 39.1 +0.9**
KDZ Kurdzhali 77.66 329 *e*P **P** **23 16 39.0 +0.7**
NVLJ Novalja 77.66 338 *i*P **P** **23 16 37.7 -0.6**
MCGN Macugnaga 77.67 343 P **P** **23 16 40.0 +1.6**
GAZ Gaziantep 77.67 319 *e*P **P** **23 16 43.6 +5.2**
BORA Eskisehir 77.68 325 *i*P **P** **23 16 38.3 -0.2**
PLE Pljevlja 77.76 334⇓*i*P **P** **23 16 39.5 +0.6**
BGF Bois d'Agland 77.86 347 *e*P **P** **23 16 39.1 -0.4**
comp=Z,186nm,1.6s,mb5.5
BGF Bois d'Agland 77.86 347 *e*P **P** **23 16 39.1 -0.4**
BGF pmax pmax
comp=Z,93nm,1.6s,mb5.5
BGF Bois d'Agland 77.86 347 *e*P **P** **23 16 39.1 -0.4**
comp=Z,93nm,1.6s,mb5.5
ESKT Eskisehir 77.88 325 *i*P **P** **23 16 39.5 0.0**
ULDT Uludag 77.88 326 *i*P **P** **23 16 39.4 -0.2**
MFT Murefte 77.89 328 *e*P **P** **23 16 40.2 +0.6**
KOZT Kozan 77.92 320 *e*P **P** **23 16 38.8 -1.0**
MRMT Marmara Adasi 77.95 327 *e*P **P** **23 16 36.0 -3.9**
ORO Oropa 77.99 343 P **P** **23 16 41.1 +0.9**
UPM Unac-Piva 78.00 334⇓*i*P **P** **23 16 40.2 0.0**
RKY Sarkoy-Tekirda 78.01 328 *e*P **P** **23 16 40.0 -0.2**
IVA Berane 78.06 334⇓*i*P **P** **23 16 40.8 +0.2**
BNT Bandirma 78.08 327 *e*P **P** **23 16 36.7 -3.9**
RDO Rodhopi 78.09 329 *e*P **P** **23 16 41.0 +0.3**
KIZT Kizilcal 78.10 324 *e*P **P** **23 16 41.5 +0.8**
BHD Baghdad 78.12 312 *ex* x 23 16 39.0
BHD *ex* x 23 26 32.0
MFF Saint Martin d 78.19 349⇑*i*P **P** **23 16 41.2 -0.1**
comp=Z,356nm,1.8s,mb5.7
MFF Saint Martin d 78.19 349⇑*i*P **P** **23 16 41.2 -0.1**
MFF pmax pmax
comp=Z,178nm,1.8s,mb5.7
MFF Saint Martin d 78.19 349⇑*i*P **P** **23 16 41.2 -0.1**
comp=Z,178nm,1.8s,mb5.7
MMB Musomiste 78.21 330 *e*P **P** **23 16 42.0 +0.6**
TCF Toulx Ste Croi 78.21 347⇑*i*P **P** **23 16 41.1 -0.3**
comp=Z,111nm,1.3s,mb5.3
TCF Toulx Ste Croi 78.21 347⇑*i*P **P** **23 16 41.1 -0.3**
TCF pmax pmax
comp=Z,56nm,1.3s,mb5.3
TCF Toulx Ste Croi 78.21 347⇑*i*P **P** **23 16 41.1 -0.3**
comp=Z,56nm,1.3s,mb5.3
RAVA Ravarino 78.25 340 P **P** **23 16 44.1 +2.5**
PVY Plav 78.30 334 *e*P **P** **23 16 41.8 -0.1**
LPL La Plagne 78.30 344 *e*P **P** **23 16 43.0 +1.1**
comp=Z,95nm,1.0s,mb5.4
LPL La Plagne 78.30 344 *e*P **P** **23 16 43.0 +1.1**
LPL pmax pmax
comp=Z,47nm,1.0s,mb5.4
LPL La Plagne 78.30 344 *e*P **P** **23 16 43.0 +1.1**
comp=Z,47nm,1.0s,mb5.4
LPG La Plagne 78.32 344⇑*i*P **P** **23 16 43.2 +1.2**
comp=Z,210nm,1.1s,mb5.7
LPG La Plagne 78.32 344⇑*i*P **P** **23 16 43.2 +1.2**
LPG pmax pmax
comp=Z,105nm,1.1s,mb5.7
LPG La Plagne 78.32 344⇑*i*P **P** **23 16 43.2 +1.2**
comp=Z,105nm,1.1s,mb5.7
AGO Saint Agoulin 78.32 346 *e*P **P** **23 16 42.6 +0.6**
PLDF La Plantade 78.33 346 *e*P **P** **23 16 43.0 +0.9**
NKY Niksic 78.34 334⇓*i*P **P** **23 16 41.5 -0.6**

CEYT Ceyhan 78.37 320 *e*P **P** **23 16 43.0 +0.7**
BRY Bratogost 78.37 335⇓*i*P **P** **23 16 41.9 -0.4**
KARA Karaisali 78.41 321 *e*P **P** **23 16 43.4 +0.9**
WRAB Tennant Creek 78.44 208 P **P** **23 16 42.0 -0.6**
comp=Z,1µm,0.9s,SNR=41
WRAB Tennant Creek 78.44 208 *e*P **P** **23 16 42.3 -0.3**
WRAB *e**PP pP 23 16 57.7 +0.9
WRAB pmax pmax
comp=Z,263nm,0.9s,mb6.2
WRAB Tennant Creek 78.44 208 *e*P **P** **23 16 42.3 -0.3**
comp=Z,263nm,0.9s,mb6.2
WRAB *e*pP pP 23 16 57.7 +0.9
WB2 Warramunga Arr 78.44 208⇓*i*P **P** **23 16 41.9 -0.8**
WB2 *e*pP pP 23 16 57.6 +0.7
WB2 *e*sP sP 23 17 05.3 +2.9
WRA Warramunga Arr 78.45 208 P **P** **23 16 41.9 -0.8**
comp=Z,122nm,0.8s,mb5.9,baz=20,slow=6.1,SNR=315
DST Dursunbey 78.53 326 *e*P **P** **23 16 43.0 -0.2**
BOB Bobbio (Coli) 78.56 342 P **P** **23 16 44.2 +0.9**
COBT Iskenderun 78.61 319 *i*P **P** **23 16 44.2 +0.6**
BANOM Banah 78.63 299⇑P **P** **23 16 43.9 +0.2**
SNR=18
PYM Petit Puy Mans 78.63 346 *e*P **P** **23 16 44.4 +0.7**
TTG Podgorica 78.64 334⇓*i*P **P** **23 16 43.1 -0.6**
ZCCA Zocca 78.67 340 P **P** **23 16 46.1 +2.2**
GDM Grand'Maison 78.71 344 *e*P **P** **23 16 44.8 +0.7**
ERBM Eremo 78.72 341 P **P** **23 16 45.9 +1.7**
TAOE Nuku Hiva Isla 78.72 123 *e*S S 23 26 36.5 -1.4
comp=Z,2µm,26.3s
TAOE *e*LR LR 23 40 32.9
comp=Z,3µm,27.5s,baz=332
GRN Grenoble 78.73 344 *e*P **P** **23 16 44.2 0.0**
BALB Balikesir 78.74 327 *e*P **P** **23 16 43.6 -0.7**
GSCL Gusciola 78.75 341 P **P** **23 16 46.4 +2.0**
BNI Bardonecchia 78.76 344 P **P** **23 16 45.6 +1.2**
BNI pmax pmax
comp=Z,47nm,1.0s,mb5.4
BNI Bardonecchia 78.76 344 *e*P **P** **23 16 45.2 +0.8**
COLF Collangettes 78.77 346 *e*P **P** **23 16 44.2 -0.3**
KONT Konya--Tatoy 78.77 323 *e*P **P** **23 16 44.3 -0.1**
RSM Repubblica di 78.78 339 P **P** **23 16 46.2 +1.7**
HCY Herceg Novi 78.81 335⇓*i*P **P** **23 16 44.0 -0.7**
FNVD Fontana Vidola 78.82 340 P **P** **23 16 46.2 +1.4**
BUM Brajici-Budva 78.85 334⇓*i*P **P** **23 16 44.4 -0.5**
SEI Scarperia 78.88 340 P **P** **23 16 47.6 +2.5**
KRTS Karatas 78.89 320 *e*P **P** **23 16 46.4 +1.2**
AOI Ancona 78.90 338 P **P** **23 16 46.0 +0.8**
SFI Santa Sofia 78.93 340 P **P** **23 16 46.8 +1.5**
VMG Vicchio 78.94 340 P **P** **23 16 47.1 +1.7**
MNGI Mangalore 78.94 277 *ex* x 23 16 37.3
MERS Mersin 78.95 321 *e*P **P** **23 16 45.0 -0.4**
VLC Villacollemand 78.97 341 *e*P **P** **23 16 46.7 +1.1**
HTY Hatay 79.01 319 *e*P **P** **23 16 43.0 -2.8**
BDI Dhgni Di Lucca 79.02 341 P **P** **23 16 46.5 +0.6**
ORIF Oris-en-Rattie 79.02 344⇑*i*P **P** **23 16 46.8 +0.9**
comp=Z,238nm,1.4s,mb5.6
ORIF *e*R
comp=Z,2µm,22.2s
ORIF Oris-en-Rattie 79.02 344⇑*i*P **P** **23 16 46.8 +0.9**
ORIF pmax pmax
comp=Z,119nm,1.4s,mb5.6
ORIF Oris-en-Rattie 79.02 344⇑*i*P **P** **23 16 46.8 +0.9**
comp=Z,119nm,1.4s,mb5.6
FRNF Fournols 79.05 347 *e*P **P** **23 16 46.7 +0.7**
EZN Ezine 79.06 328 *e*P **P** **23 16 40.9 -5.2**
MBDF Montbardon 79.06 343 *e*P **P** **23 16 46.8 +0.7**
comp=Z,31nm,0.8s,mb5.0
MBDF Montbardon 79.06 343 *e*P **P** **23 16 46.8 +0.7**
MBDF pmax pmax
comp=Z,160nm,0.8s,mb6.0
MBDF Montbardon 79.06 343 *e*P **P** **23 16 46.8 +0.7**
comp=Z,16nm,0.8s,mb5.0
ULC Ulcinj 79.08 334⇓*i*P **P** **23 16 45.9 -0.2**
ARV Arcevia 79.09 339 P **P** **23 16 47.1 +0.8**
LBL Lubilhac 79.11 346 *e*P **P** **23 16 46.7 +0.4**
CING Cingoli 79.16 339 P **P** **23 16 47.7 +1.1**
GRG Griva 79.17 331 *e*P **P** **23 16 46.7 0.0**
BADI Badiali 79.23 339 P **P** **23 16 48.9 +1.9**
RJF Les Rejaudoux 79.27 347 *e*P **P** **23 16 47.3 +0.1**
comp=Z,108nm,1.2s,mb5.3
RJF *e*R
comp=Z,3µm,20.2s
RJF Les Rejaudoux 79.27 347 *e*P **P** **23 16 47.3 +0.1**
RJF pmax pmax
comp=Z,54nm,1.2s,mb5.3
RJF MLR MLR
comp=Z,3µm,20.3s,MS5.6
RJF Les Rejaudoux 79.27 347 *e*P **P** **23 16 47.3 +0.1**
comp=Z,54nm,1.2s,mb5.3
RJF LR LR
comp=Z,3µm,20.3s,MS5.6
VIVF Saint-Julien-l 79.27 345 *e*P **P** **23 16 47.6 +0.4**
comp=Z,286nm,1.5s,mb5.7
VIVF Saint-Julien-l 79.27 345 *e*P **P** **23 16 47.6 +0.4**
VIVF pmax pmax
comp=Z,143nm,1.5s,mb5.7
VIVF Saint-Julien-l 79.27 345 *e*P **P** **23 16 47.6 +0.4**
comp=Z,143nm,1.5s,mb5.7
SURF Saint Ours 79.30 343 *e*P **P** **23 16 48.6 +1.2**
FIN Finale Ligure 79.32 342 P **P** **23 16 47.7 +0.2**
SNTG Esanatoglia 79.33 339 P **P** **23 16 48.8 +1.3**
PII Pisa 79.36 341 P **P** **23 16 47.6 -0.1**
TKTP Tekketepe 79.39 324 *i*P **P** **23 16 47.5 -0.4**
PLG Polygyros 79.41 330 *e*P **P** **23 16 47.5 -0.5**
FITZ Fitzroy Crossi 79.42 217⇓*i*P **P** **23 16 48.2 +0.1**
comp=Z,145nm,0.9s,mb5.9
FITZ *e*pP pP 23 17 03.1 +0.8
ISP Isparta 79.50 324 *e*P **P** **23 16 48.0 -0.4**
ISP Isparta 79.50 324 *e*P **P** **23 16 49.5 +1.0**
ISP *e*PcP PcP 23 16 56.3 0.0
ISP *e*pP pP 23 17 02.8 +0.1
CAF Calviac 79.57 347 *e*P **P** **23 16 49.2 +0.4**
comp=Z,227nm,1.5s,mb5.6
CAF Calviac 79.57 347 *e*P **P** **23 16 49.2 +0.4**
CAF pmax pmax
comp=Z,114nm,1.5s,mb5.6
CAF Calviac 79.57 347 *e*P **P** **23 16 49.2 +0.4**
comp=Z,114nm,1.5s,mb5.6
PRK Paraskevi 79.61 328 *e*P **P** **23 16 49.0 0.0**
SAOF Saorge 79.65 343 *e*P **P** **23 16 48.6 -0.7**
AUTN L'Aution 79.67 343 *e*P **P** **23 16 49.3 -0.1**
IMI Imperia 79.67 343 P **P** **23 16 49.6 +0.2**
LFF La Frestale 79.72 348⇑*i*P **P** **23 16 49.9 +0.2**
comp=Z,265nm,1.5s,mb5.6
LFF La Frestale 79.72 348⇑*i*P **P** **23 16 49.9 +0.2**
LFF pmax pmax
comp=Z,132nm,1.5s,mb5.6
LFF La Frestale 79.72 348⇑*i*P **P** **23 16 49.9 +0.2**
comp=Z,132nm,1.5s,mb5.7
ERMK Ermenek 79.74 322 *i*P **P** **23 16 48.1 -1.6**
PAIG Paliouri 79.76 330 *e*P **P** **23 16 49.4 -0.5**
LUCF Luceram 79.78 343 *e*P **P** **23 16 50.7 +0.7**
UMR Umm Al-Rimmam 79.78 307 *e*P **P** **23 16 49.6 -0.4**
UMR AMb AMB 23 16 59.2
comp=Z,232nm,0.5s,mb6.4
TERO Teramo 79.79 338 P **P** **23 16 50.9 +0.9**
SBF Sospel 79.79 343 *e*P **P** **23 16 50.2 +0.1**
comp=Z,283nm,1.6s,mb5.7
SBF Sospel 79.79 343 *e*P **P** **23 16 50.2 +0.1**
SBF pmax pmax
comp=Z,142nm,1.6s,mb5.7
SBF Sospel 79.79 343 *e*P **P** **23 16 50.2 +0.1**
comp=Z,142nm,1.6s,mb5.7
MVIF Mont Vial 79.81 343 *e*P **P** **23 16 50.4 +0.3**
IKL Isikli 79.81 321 *e*P **P** **23 16 49.0 -1.1**
GRFL Gerfalco 79.83 340 P **P** **23 16 50.8 +0.5**
REVF Revere 79.92 343 *e*P **P** **23 16 50.7 -0.1**
WBK Wadi Bani Khal 79.96 295⇑P **P** **23 16 52.0 +1.0**
SNR=21
SMRF Simiane la Rot 79.99 344 *e*P **P** **23 16 50.8 -0.3**
comp=Z,349nm,1.7s,mb5.7
SMRF Simiane la Rot 79.99 344 *e*P **P** **23 16 50.8 -0.3**
comp=Z,349nm,1.7s,mb6.0
CALN Calern 79.99 343 *e*P **P** **23 16 51.6 +0.5**
KDAG Bornova 80.06 327 *i*P **P** **23 16 55.2 +3.7**
IZM Izmir 80.07 327 *e*P **P** **23 16 50.5 -1.0**
SMDO Samad 80.08 296⇑P **P** **23 16 52.0 +0.4**
SNR=20
AQU L'Aquila 80.09 338⇑*i*P **P** **23 16 53.7 +2.0**
AQU L'Aquila 80.09 338 *e*P **P** **23 16 52.4 +0.7**
AQU *e* pP 23 17 08.2 +2.3
KBD Kabd 80.11 307 *e*P **P** **23 16 51.5 -0.2**
KBD AMb AMB 23 17 07.6
comp=Z,863nm,0.9s,mb6.7

FGMS	**Monte Sant'Ang**	**80.13**	**336**	P		**P**	**23 16 52.1**	**+0.2**
LASF	**Ste Croix**	**80.15**	**345**	*e*P		**P**	**23 16 52.7**	**+0.7**
	comp=Z,194nm,1.6s,mb5.5							
FRF	**La Foret Royal**	**80.22**	**343**	*e*P		**P**	**23 16 52.3**	**-0.1**
	comp=Z,239nm,1.7s,mb5.6							
FRF	**La Foret Royal**	**80.22**	**343**	*e*P		**P**	**23 16 52.3**	**-0.1**
FRF					pmax	pmax		
	comp=Z,119nm,1.7s,mb5.5							
FRF	**La Foret Royal**	**80.22**	**343**	*e*P		**P**	**23 16 52.3**	**-0.1**
	comp=Z,119nm,1.7s,mb5.5							
PRAF	**Pradon**	**80.22**	**344**	*e*P		**P**	**23 16 56.4**	**+4.0**
FIAM	**Fiamignano**	**80.23**	**338**	P		**P**	**23 16 53.5**	**+1.1**
RGNG	**Rignano Grg**	**80.25**	**336**	P		**P**	**23 16 52.5**	**0.0**
NAY	**Al-Naaiem**	**80.26**	**307**	*e*P		**P**	**23 16 52.3**	**-0.3**
NAY					AMb	AMB	23 17 01.8	
	comp=Z,176nm,0.5s,mb6.2							
TAVF	**Tavernes**	**80.26**	**344**	*e*P		**P**	**23 16 53.6**	**+1.0**
URLA	**Izmir**	**80.31**	**327**	*i* P		**P**	**23 16 52.2**	**-0.7**
TREF	**Trevaresse**	**80.36**	**344**	*e*P		**P**	**23 16 55.6**	**+2.5**
QRN	**Al-Qurain**	**80.37**	**307**	*e*P		**P**	**23 16 53.1**	**-0.1**
QRN					AMb	AMB	23 17 03.3	
	comp=Z,547nm,0.8s,mb6.5							
RDF	**Al-Radifah**	**80.39**	**307**	*e*P		**P**	**23 16 53.3**	**+0.1**
RDF					AMb	AMB	23 17 01.3	
	comp=Z,577nm,1.1s,mb6.4							
PUYF	**Puyloubier**	**80.40**	**344**	*e*P		**P**	**23 16 54.2**	**+0.9**
XOR	**Xorichti**	**80.42**	**330**	*e*P		**P**	**23 16 52.6**	**-0.8**
CIGN	**Sant'Elia a Pi**	**80.42**	**337**	P		**P**	**23 16 54.5**	**+1.1**
CHOS	**Chios island**	**80.46**	**328**	*e*P		**P**	**23 16 53.6**	**-0.1**
LMR	**La Mourre**	**80.46**	**343**	*e*P		**P**	**23 16 53.9**	**+0.2**
	comp=Z,222nm,1.4s,mb5.6							
LMR	**La Mourre**	**80.46**	**343**	*e*P		**P**	**23 16 53.9**	**+0.2**
LMR					pmax	pmax		
	comp=Z,111nm,1.4s,mb5.6							
LMR	**La Mourre**	**80.46**	**343**	*e*P		**P**	**23 16 53.9**	**+0.2**
	comp=Z,111nm,1.4s,mb5.6							
VVLD	**Villa Vallelon**	**80.50**	**338**	P		**P**	**23 16 54.4**	**+0.5**
RNI2	**Rionero Sannit**	**80.55**	**337**	P		**P**	**23 16 55.9**	**+1.8**
CERT	**Cerreto**	**80.57**	**338**	P		**P**	**23 16 54.5**	**+0.3**
MIDA	**Miranda**	**80.58**	**337**	P		**P**	**23 16 55.3**	**+1.0**
PMOR	**Pomariorio Ree**	**80.58**	**133**	*e*P		**P**	**23 16 54.2**	**-0.1**
	comp=Z,63nm,1.1s,mb5.5							
PMOR					*e*pP	pP	23 17 07.8	-0.8
	comp=Z,93nm,1.2s							
GELF	**Grande-Etoile**	**80.59**	**344**	*e*P		**P**	**23 16 54.9**	**+0.5**
JMDO	**Jabal Madar**	**80.61**	**295**	⇑P		**P**	**23 16 54.9**	**+0.4**
	SNR=32							
SDI	**San Donato**	**80.62**	**338**	P		**P**	**23 16 54.5**	**0.0**
ARQ	**Araqi**	**80.64**	**297**	⇑P		**P**	**23 16 54.7**	**0.0**
	SNR=26							
FG5	**Orsara di Pugl**	**80.69**	**336**	P		**P**	**23 16 56.1**	**+1.2**
ELL	**Elmali**	**80.69**	**324**	*e*P		**P**	**23 16 54.7**	**-0.2**
FG4	**Candela**	**80.78**	**336**	P		**P**	**23 16 56.2**	**+0.9**
BSY	**Bisya**	**80.78**	**296**	⇑P		**P**	**23 16 55.7**	**+0.3**
	SNR=36							
PGF	**Pioggiola**	**80.79**	**341**	*e*P		**P**	**23 16 55.7**	**+0.3**
	comp=Z,150nm,1.2s,mb5.5							
PGF	**Pioggiola**	**80.79**	**341**	*e*P		**P**	**23 16 55.7**	**+0.3**
PGF					pmax	pmax		
	comp=Z,75nm,1.2s,mb5.5							
PGF	**Pioggiola**	**80.79**	**341**	*e*P		**P**	**23 16 55.7**	**+0.3**
	comp=Z,75nm,1.2s,mb5.5							
SGG	**Gregorio Mates**	**80.80**	**337**	P		**P**	**23 16 56.5**	**+1.0**
RDP	**Rocca di Papa**	**80.81**	**338**	P		**P**	**23 16 56.1**	**+0.6**
MA9	**Marino**	**80.81**	**338**	P		**P**	**23 16 56.4**	**+0.9**
YER	**Yerkesik**	**80.89**	**325**	*e*P		**P**	**23 16 54.7**	**-1.3**
MLSB	**Milas**	**80.91**	**326**	*e*P		**P**	**23 16 53.7**	**-2.3**
RFI	**Roccamonfina**	**80.97**	**337**	P		**P**	**23 16 57.1**	**+0.7**
AGG	**Agios Georgios**	**80.99**	**331**	*e*P		**P**	**23 16 48.4**	**-8.1**
CORF	**Corte**	**81.00**	**341**	*e*P		**P**	**23 16 57.2**	**+0.7**
FETY	**Fethiye**	**81.08**	**325**	*e*P		**P**	**23 16 56.1**	**-0.9**
CSS	**Prodhromos**	**81.08**	**321**	*e*P		**P**	**23 16 56.9**	**0.0**
	comp=Z,253nm,1.6s,mb5.9							
CSS					*e*PcP	PcP	23 17 02.8	-0.4
CSS					*e*pP	pP	23 17 10.4	-0.8
DALT	**Dalyan (Mudla)**	**81.10**	**325**	*e*P		**P**	**23 16 56.1**	**-1.0**
MTLF	**Montolieu**	**81.11**	**346**	*e*P		**P**	**23 16 57.7**	**+0.6**
	comp=Z,203nm,1.5s,mb5.5							
MTLF	**Montolieu**	**81.11**	**346**	*e*P		**P**	**23 16 57.7**	**+0.6**
MTLF					pmax	pmax		
	comp=Z,101nm,1.5s,mb5.5							
MTLF	**Montolieu**	**81.11**	**346**	*e*P		**P**	**23 16 57.7**	**+0.6**
	comp=Z,101nm,1.5s,mb5.5							
MRLC	**Muro Lucano**	**81.14**	**336**	P		**P**	**23 16 58.4**	**+1.1**
BHL	**Bhannes**	**81.15**	**319**	*e*P		**P**	**23 16 57.4**	**+0.1**
PTRP	**Pietrapertosa**	**81.23**	**336**	P		**P**	**23 16 59.0**	**+1.3**
SGO	**Sicignano**	**81.37**	**336**	P		**P**	**23 16 58.7**	**+0.2**
LRDF	**Laroque-de-Fa**	**81.46**	**346**	*e*P		**P**	**23 16 59.7**	**+0.7**
DAT	**Datca**	**81.49**	**326**	*e*P		**P**	**23 16 51.2**	**-7.9**
ORI	**Oriolo Calabro**	**81.57**	**335**	P		**P**	**23 17 00.5**	**+1.0**
OSPF	**L'Ospedale**	**81.61**	**341**	*e*P		**P**	**23 16 59.8**	**0.0**
MLS	**Moulis**	**81.63**	**347**	*e*P		**P**	**23 17 00.4**	**+0.5**
EPF	**Esparros**	**81.65**	**348**	⇑*i*P		**P**	**23 16 59.8**	**-0.2**
	comp=Z,110nm,1.3s,mb5.3							
EPF	**Esparros**	**81.65**	**348**	⇑*i*P		**P**	**23 16 59.8**	**-0.2**
EPF					pmax	pmax		
	comp=Z,55nm,1.3s,mb5.3							
EPF	**Esparros**	**81.65**	**348**	⇑*i*P		**P**	**23 16 59.8**	**-0.2**
	comp=Z,55nm,1.3s,mb5.3							
EALK	**Alkurruntz**	**81.68**	**349**	⇓P		**P**	**23 17 00.7**	**+0.5**
	comp=Z,138nm,1.9s,mb5.6							
MGR	**Morigerati**	**81.71**	**336**	P		**P**	**23 17 00.7**	**+0.4**
ELIZ	**Elizondo**	**81.74**	**349**	⇓P		**P**	**23 17 02.0**	**+1.5**
ELIZ					pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6							
ELIZ	**Elizondo**	**81.74**	**349**	⇓P		**P**	**23 17 02.0**	**+1.6**
	comp=Z,3.9nm,0.5s,mb4.6							
SJPF	**Ste Jean**	**81.76**	**349**	⇑*i*P		**P**	**23 17 01.5**	**+1.0**
	comp=Z,31nm,0.9s,mb4.9							
SJPF	**Ste Jean**	**81.76**	**349**	⇑*i*P		**P**	**23 17 01.5**	**+1.0**
SJPF					pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0							
SJPF	**Ste Jean**	**81.76**	**349**	⇑*i*P		**P**	**23 17 01.5**	**+1.0**
	comp=Z,16nm,0.9s,mb4.9							
ARG	**Arkhangelos**	**81.78**	**325**	*e*P		**P**	**23 17 00.0**	**-0.6**
RAR	**Rarotonga**	**81.78**	**146**	LR		LR	23 52 23.9	
	comp=Z,670nm,18.8s,MS5.0,baz=188,slow=35							
CUC	**Castrocucco**	**81.79**	**336**	P		**P**	**23 17 02.7**	**+2.0**
LARF	**Larrau**	**81.80**	**349**	*e*P		**P**	**23 17 01.7**	**+0.9**
VIEF	**Viey**	**81.84**	**348**	*e*P		**P**	**23 17 02.0**	**+1.0**
ELAN	**Lanestosa**	**81.87**	**351**	⇓P		**P**	**23 17 01.5**	**+0.4**
	comp=Z,97nm,1.2s,mb5.6							
ETSF	**Etsaut**	**81.89**	**348**	⇑*i*P		**P**	**23 17 02.0**	**+0.7**
	comp=Z,194nm,1.3s,mb5.6							
ETSF	**Etsaut**	**81.89**	**348**	⇑*i*P		**P**	**23 17 02.0**	**+0.7**
ETSF					pmax	pmax		
	comp=Z,97nm,1.3s,mb5.6							
ETSF	**Etsaut**	**81.89**	**348**	⇑*i*P		**P**	**23 17 02.0**	**+0.7**
	comp=Z,97nm,1.3s,mb5.6							
EARI	**Arriondas**	**81.96**	**352**	⇑P		**P**	**23 17 06.1**	**+4.5**
	comp=Z,111nm,1.1s,mb5.7							
EBIE	**Bielsa**	**82.02**	**348**	⇓P		**P**	**23 17 03.4**	**+1.5**
	comp=Z,17nm,0.8s,mb5.0							
VALF	**Valcebollere**	**82.06**	**346**	*e*P		**P**	**23 17 03.0**	**+0.9**
ASAR	**Alice Springs**	**82.11**	**207**	P		**P**	**23 17 02.2**	**-0.1**
	comp=Z,136nm,0.8s,mb5.9,baz=14,slow=4.8,SNR=543							
ASAR					PKKPbc	PKKPbc	23 35 30.3	-0.5
	comp=Z,0.8nm,0.9s,baz=184,slow=2.8,SNR=4.5							
ASAR					PKPPKP		23 43 36.2	
	comp=Z,0.7nm,0.8s,baz=148,slow=2.0,SNR=5.6							
PPT	**Papeete**	**82.18**	**136**	*e*P		**P**	**23 17 02.7**	**-0.1**
	comp=Z,42nm,1.3s,mb5.2							
PPT	**Papeete**	**82.18**	**136**	*e*S		S	23 27 13.6	-0.5
	comp=Z,1µm,25.5s							
PPT					*e*SS	SS	23 32 34.7	+0.1
	comp=Z,468nm,29.2s							
PPT					*e*LQ		23 38 43.4	
	comp=Z,4µm,28.5s							
PPT					*e*LR	LR	23 42 01.6	
	comp=Z,3µm,29.8s,baz=338							
PPT	**Papeete**	**82.18**	**136**	LR		LR	23 50 02.0	
	comp=Z,665nm,18.1s,MS5.0,baz=336,slow=33							
ASF	**Jabal al Asfar**	**82.19**	**317**	LR		LR	23 59 44.4	
	comp=Z,2µm,20.4s,MS5.4,baz=268,slow=40							
VLS	**Valsamata**	**82.26**	**332**	*e*P		**P**	**23 17 02.5**	**-0.7**
PAE	**Paea**	**82.27**	**136**	*e*P		**P**	**23 17 02.8**	**-0.4**
	comp=Z,96nm,1.0s,mb5.7							
TIP	**Timpagrande**	**82.33**	**335**	*e*P		**P**	**23 17 03.9**	**+0.4**
EGRA	**Graus**	**82.48**	**348**	⇑P		**P**	**23 17 05.4**	**+1.1**
	comp=Z,14nm,0.8s,mb5.0							
TVO	**Taravao**	**82.51**	**135**	*e*P		**P**	**23 17 04.4**	**-0.1**
	comp=Z,67nm,1.1s,mb5.6							
EMIR	**Miracle**	**82.60**	**347**	P		**P**	**23 17 06.5**	**+1.5**
	comp=Z,18nm,0.8s,mb5.2							
STS	**Santiago**	**82.60**	**354**	⇓P		**P**	**23 17 09.8**	**+4.8**
STS					pmax	pmax		
	comp=Z,42nm,1.2s,mb5.3							
STS	**Santiago**	**82.60**	**354**	⇓P		**P**	**23 17 09.8**	**+4.8**
	comp=Z,42nm,1.2s,mb5.3							
GRI	**Girifalco**	**82.75**	**335**	P		**P**	**23 17 06.8**	**+1.1**
VLI	**Veliai**	**82.95**	**329**	*e*P		**P**	**23 17 10.0**	**+3.2**
ESAC	**San Caprasio**	**83.04**	**348**	P		**P**	**23 17 07.1**	**-0.1**
	comp=Z,46nm,0.8s,mb5.6							
EPOB	**Peblet**	**83.21**	**347**	P		**P**	**23 17 08.9**	**+0.7**
	comp=Z,210nm,1.9s,mb5.8							
EZAM	**Zamans**	**83.35**	**354**	⇑P		**P**	**23 17 09.6**	**+0.8**
EZAM					pmax	pmax		
	comp=Z,23nm,1.0s,mb5.2							
EZAM	**Zamans**	**83.35**	**354**	⇑P		**P**	**23 17 09.6**	**+0.8**
	comp=Z,23nm,1.0s,mb5.2							
SLNA	**Salina**	**83.38**	**336**	P		**P**	**23 17 09.1**	**+0.1**
PBRG	**Braganca**	**83.56**	**353**	*e*P		**P**	**23 17 10.2**	**+0.3**
	comp=Z,43nm,1.5s,mb5.4							
ELOB	**Lobios**	**83.59**	**354**	P		**P**	**23 17 15.4**	**+5.3**
	comp=Z,67nm,1.5s,mb5.5							
USI	**Ustica**	**83.62**	**337**	P		**P**	**23 17 11.1**	**+0.9**
VSL	**Villasalto**	**83.67**	**340**	*e*P		**P**	**23 17 09.8**	**-0.7**
	comp=Z,50nm,1.0s,mb5.6							
IDI	**Anoyia**	**83.67**	**327**	LR		LR	23 58 28.1	
	comp=Z,1µm,21.8s,MS5.2,baz=195,slow=39							
ERTA	**Horta de San J**	**83.70**	**347**	P		**P**	**23 17 12.1**	**+1.5**
	comp=Z,147nm,1.9s,mb5.8							
MTTG	**Motta San Giov**	**83.71**	**335**	P		**P**	**23 17 10.7**	**0.0**
PCAB	**Cabril**	**83.74**	**354**	*e*P		**P**	**23 17 11.2**	**+0.3**
	comp=Z,48nm,1.6s,mb5.4							
VAM	**Vamos**	**83.78**	**328**	*e*P		**P**	**23 17 11.0**	**0.0**
XRY	**Khrisi**	**83.80**	**326**	*e*P		**P**	**23 17 10.0**	**-1.1**
EBR	**Ebro Roquetas**	**83.81**	**347**	*e*PCP		PcP	23 17 12.8	-2.4
PVRL	**Vila Real**	**84.16**	**354**	*e*P		**P**	**23 17 13.0**	**0.0**
	comp=Z,69nm,1.1s,mb5.7							
PTO	**Porto**	**84.35**	**354**	*e*P		**P**	**23 17 14.4**	**+0.5**
	comp=Z,66nm,1.4s,mb5.6							
MBWA	**Marble Bar**	**84.37**	**221**	*e*P		**P**	**23 17 13.3**	**-0.7**
EMOS	**Mosqueruela**	**84.38**	**348**	⇓P		**P**	**23 17 15.5**	**+1.4**
	comp=Z,133nm,1.4s,mb5.9							
ERC	**Erice**	**84.40**	**337**	P		**P**	**23 17 15.1**	**+0.9**
GUD	**Guadarrama**	**84.50**	**351**	⇑P		**P**	**23 17 15.2**	**+0.5**
GUD					pmax	pmax		
	comp=Z,39nm,1.4s,mb5.3							
GUD	**Guadarrama**	**84.50**	**351**	⇑P		**P**	**23 17 15.2**	**+0.5**
	comp=Z,39nm,1.4s,mb5.3							
LVI	**Isola Levanzo**	**84.50**	**338**	P		**P**	**23 17 15.5**	**+0.8**
VAE	**Valguarnera**	**84.51**	**336**	LR		LR	23 57 41.3	
	comp=Z,2µm,19.7s,MS5.6,baz=242,slow=38							
ETOS	**Mallorca**	**84.53**	**345**	⇑P		**P**	**23 17 16.5**	**+1.6**
	comp=Z,224nm,2.4s,mb5.9							
AGST	**Augusta-Monte**	**84.53**	**335**	P		**P**	**23 17 14.6**	**-0.2**
SSY	**Sortino**	**84.66**	**335**	P		**P**	**23 17 15.6**	**+0.1**
CLTB	**Caltabellotta**	**84.70**	**337**	P		**P**	**23 17 16.8**	**+1.1**
PVIS	**Viseu**	**84.72**	**354**	*e*P		**P**	**23 17 16.2**	**+0.4**
	comp=Z,72nm,1.2s,mb5.7							
HAVL	**Avola**	**84.84**	**335**	P		**P**	**23 17 16.7**	**+0.3**
HMDC	**Modica**	**84.92**	**335**	P		**P**	**23 17 15.5**	**+0.7**
MTE	**Manteigas**	**85.02**	**353**	*e*P		**P**	**23 17 17.7**	**+0.4**
	comp=Z,85nm,1.3s,mb5.7							
MTE	**Manteigas**	**85.02**	**353**	*e*S			23 27 52.1	
MTE	**Manteigas**	**85.02**	**353**	*e*LQ			23 41 01.7	
MTE					*e*LR	LR	23 45 17.7	
MTE	**Manteigas**	**85.02**	**353**	*e*P		**P**	**23 17 18.0**	**+0.7**
EIL	**Elat**	**85.17**	**317**	*e*P		**P**	**23 17 18.4**	**+0.3**
ECHE	**Chera**	**85.20**	**348**	⇑P		**P**	**23 17 19.2**	**+1.0**
ECHE					pmax	pmax		
	comp=Z,23nm,0.9s,mb5.3							
ECHE	**Chera**	**85.20**	**348**	⇑P		**P**	**23 17 19.2**	**+1.0**
	comp=Z,23nm,0.9s,mb5.3							
ARMA	**Armidale**	**85.37**	**190**	*e*P		**P**	**23 17 19.6**	**+0.5**
ARMA					*e*pP	pP	23 17 35.0	+1.6
ESDC	**Sonseca Array**	**85.44**	**351**	P		**P**	**23 17 19.8**	**+0.4**
	comp=Z,25nm,0.8s,mb5.4,baz=3.1,slow=5.0,SNR=72							
ESDC	**Sonseca Array**	**85.44**	**351**	⇑P		**P**	**23 17 19.9**	**+0.5**
	comp=Z,18nm,0.7s,mb5.3							
ESLA	**Sonseca Array**	**85.44**	**351**	*e*P		**P**	**23 17 19.9**	**+0.5**
EIBI	**Ibiza**	**85.46**	**346**	P		**P**	**23 17 21.9**	**+2.4**
	comp=Z,78nm,1.6s,mb5.6							
PCBR	**Castelo Branco**	**85.57**	**353**	*e*P		**P**	**23 17 20.4**	**+0.4**
	comp=Z,54nm,1.2s,mb5.7							
PTS	**Pantelleria**	**85.70**	**338**	P		**P**	**23 17 21.5**	**+0.8**
PTOM	**Tomar**	**85.85**	**354**	*e*P		**P**	**23 17 21.9**	**+0.5**
	comp=Z,59nm,1.0s,mb5.8							
EBEN	**Beniarda**	**85.99**	**347**	⇓P		**P**	**23 17 23.6**	**+1.4**
	comp=Z,265nm,1.8s,mb6.2							
ETOB	**Tobarra**	**86.21**	**348**	⇓P		**P**	**23 17 23.2**	**0.0**
	comp=Z,430nm,3.2s							
EVIA	**Vianos**	**86.32**	**349**	P		**P**	**23 17 24.2**	**+0.4**
EVIA					pmax	pmax		
	comp=Z,22nm,0.9s,mb5.4							
EVIA	**Vianos**	**86.32**	**349**	P		**P**	**23 17 24.2**	**+0.4**
	comp=Z,22nm,0.9s,mb5.4							
CMAH	**Djebel Manchou**	**86.82**	**341**	P		**P**	**23 17 26.0**	**-0.2**
EADA	**Adamuz**	**87.00**	**351**	P		**P**	**23 17 27.6**	**+0.5**
	comp=Z,282nm,2.9s,mb6.0							
EHUE	**Huescar**	**87.14**	**349**	⇑P		**P**	**23 17 28.3**	**+0.5**
EHUE					pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0							
EHUE	**Huescar**	**87.14**	**349**	⇑P		**P**	**23 17 28.3**	**+0.5**
	comp=Z,8.9nm,0.8s,mb5.0							
ABSA	**Djebel Ababsia**	**87.15**	**341**	P		**P**	**23 17 27.0**	**-0.8**
DFRA	**Djebel Bou Aff**	**87.18**	**342**	P		**P**	**23 17 29.5**	**+1.5**
EQES	**Quesada**	**87.21**	**350**	P		**P**	**23 17 29.1**	**+1.0**
	comp=Z,234nm,3.0s							
PBEJ	**Beja**	**87.40**	**353**	*e*P		**P**	**23 17 28.8**	**-0.2**
	comp=Z,28nm,1.4s,mb5.3							
TBI	**Tubuai**	**87.44**	**138**	*e*S			23 28 04.9	
	comp=Z,389nm,32.5s							
TBI					*e*SS	SS	23 33 52.9	+0.9
	comp=Z,249nm,24.2s							
TBI					*e*LQ		23 41 04.8	
	comp=Z,1µm,38.8s							
TBI					*e*LR	LR	23 44 29.0	
	comp=Z,1µm,31.2s,baz=330							
ELUQ	**Luque**	**87.57**	**350**	P		**P**	**23 17 30.5**	**+0.7**
ELUQ					pmax	pmax		
	comp=Z,8.0nm,0.9s,mb5.0							
ELUQ	**Luque**	**87.57**	**350**	P		**P**	**23 17 30.5**	**+0.6**
	comp=Z,7.5nm,0.9s,mb4.9							
EMIN	**Mina Concepcio**	**87.57**	**352**	⇓P		**P**	**23 17 29.6**	**-0.3**
	comp=Z,133nm,2.2s,mb5.8							
SET	**Setif**	**87.60**	**343**	P		**P**	**23 17 30.0**	**0.0**
CKHR	**Kef el Ahmar**	**87.76**	**342**	P		**P**	**23 17 31.0**	**+0.3**
ENIJ	**Nijar**	**87.94**	**349**	P		**P**	**23 17 31.4**	**-0.2**
ELOJ	**Sierra Loja**	**87.97**	**350**	⇑P		**P**	**23 17 32.2**	**+0.5**
ELOJ					pmax	pmax		
	comp=Z,26nm,1.1s,mb5.4							
ELOJ	**Sierra Loja**	**87.97**	**350**	⇑P		**P**	**23 17 32.2**	**+0.5**
	comp=Z,26nm,1.1s,mb5.4							
EMHD	**Djebel Mahouad**	**88.00**	**345**	P		**P**	**23 17 33.0**	**+1.1**
ERON	**Agron**	**88.06**	**350**	⇓P		**P**	**23 17 32.2**	**+0.1**
	comp=Z,7.0nm,0.8s,mb4.9							
EGUA	**Guajares**	**88.22**	**350**	⇑P		**P**	**23 17 33.0**	**+0.1**
STKA	**Stephens Creek**	**88.27**	**199**	*e*P		**P**	**23 17 30.8**	**-2.4**
	comp=Z,57nm,1.0s,mb5.8							
STKA					*e*pP	pP	23 17 46.4	-1.2
STKA	**Stephens Creek**	**88.27**	**199**	P		**P**	**23 17 31.1**	**-2.1**
	comp=Z,71nm,0.9s,mb5.9,baz=348,slow=6.2,SNR=114							
STKA					LR	LR	23 52 05.1	
	comp=Z,1µm,20.4s,MS5.3,baz=6.7,slow=32							
ESPR	**Espera**	**88.40**	**352**	P		**P**	**23 17 34.6**	**+0.8**
	comp=Z,27nm,0.9s,mb5.5							
EANR	**'Ain N'Sour**	**88.52**	**346**	P		**P**	**23 17 35.0**	**+0.6**
EMIJ	**Mijas**	**88.60**	**351**	P		**P**	**23 17 36.2**	**+1.4**
	comp=Z,14nm,0.8s,mb5.3							
EJIF	**Jimena Fronter**	**88.78**	**351**	⇓P		**P**	**23 17 36.6**	**+1.0**
EJIF					pmax	pmax		
	comp=Z,46nm,1.3s,mb5.7							
EJIF	**Jimena Fronter**	**88.78**	**351**	⇓P		**P**	**23 17 36.6**	**+1.0**
	comp=Z,46nm,1.3s,mb5.7							
RIV	**Riverview**	**88.80**	**190**	*e*P		**P**	**23 17 36.1**	**+0.5**
ETRT	**Tiaret**	**89.04**	**346**	P		**P**	**23 17 37.0**	**+0.2**
CNB	**Canberra Magne**	**90.46**	**192**	⇓*i*P		**P**	**23 17 43.6**	**+0.2**
	comp=Z,53nm,1.0s,mb5.8							
FORT	**Forrest**	**90.47**	**210**	*e*P		**P**	**23 17 42.8**	**-0.7**
	comp=Z,125nm,0.8s,mb6.3							
FORT					*e*pP	pP	23 17 58.8	+0.9
URZ	**Urewera**	**93.26**	**169**	P		**P**	**23 17 54.5**	**-1.9**
	comp=Z,9.8nm,0.8s,mb5.3,baz=250,slow=9.4,SNR=3.1							
RKT	**Rikitea**	**93.49**	**126**	*e*LQ			23 43 23.1	
	comp=Z,2µm,34.8s							
RKT	**Rikitea**	**93.49**	**126**	*e*PS		PS	23 30 17.6	-3.5
	comp=Z,322nm,28.2s							
RKT	**Rikitea**	**93.49**	**126**	*e*SS		SS	23 35 19.7	+0.3
	comp=Z,469nm,31.5s							
RKT					*e*LR	LR	23 47 04.7	
	comp=Z,669nm,24.2s,baz=329							
JTS	**JuntasAbangare**	**93.64**	**67**	LR		LR	00 05 01.8	
	comp=Z,716nm,18.4s,MS5.2,baz=328,slow=39							
KLBR	**Kellerberrin**	**94.57**	**218**	*e*P		**P**	**23 18 01.0**	**-1.4**
	comp=Z,42nm,1.1s,mb5.8							
CPD	**Cerro la Pandu**	**96.17**	**47**	P		**P**	**23 18 09.8**	**+0.1**
CPD	**Cerro la Pandu**	**96.17**	**47**	*e*P		**P**	**23 18 09.6**	**-0.1**
CPD					*e*pP	pP	23 18 22.4	-1.8
RPZ	**Rata Peaks**	**98.20**	**175**	LR		LR	00 04 22.5	
	comp=Z,2µm,18.0s,MS5.6,baz=0.1,slow=36							
TORD	**Torodi Ar. Bea**	**110.76**	**341**	PKiKP		PKiKP	23 23 14.1	-0.3
	comp=Z,1.5nm,0.7s,baz=357,slow=2.8,SNR=5.5							
TORD					PP	PP	23 23 49.7	-2.3
	comp=Z,2.4nm,0.8s,baz=5.6,slow=5.7,SNR=5.6							
TORD					PKKPbc	PKKPbc	23 34 11.1	-1.6
	comp=Z,1.1nm,0.8s,baz=195,slow=2.6,SNR=5.4							
TORD					PKKP	PKKPbc	23 34 21.8	+9.2
	comp=Z,1.4nm,0.7s,baz=195,slow=4.5,SNR=6.9							
DBIC	**Dimbokro**	**118.15**	**347**	PKP		PKPdf	23 23 28.4	-0.3
	comp=Z,4.6nm,0.8s,baz=24,slow=3.9,SNR=6.5							
DRV	**Dumont d'Urvil**	**122.32**	**191**	PP		PP	23 25 20.0	+7.2
DRV	**Dumont d'Urvil**	**122.32**	**191**	SS		SS	23 41 54.0	+4.9
LPAZ	**La Paz**	**124.85**	**67**	PKP		PKPdf	23 23 41.4	-0.1
	comp=Z,3.2nm,0.8s,baz=28,slow=4.4,SNR=14							
LSZ	**Lusaka**	**127.83**	**301**	PKiKP		PKPdf	23 23 48.3	+1.1
LSZ	**Lusaka**	**127.83**	**301**	*e*PKPdf		PKPdf	23 23 47.7	+0.5
LSZ					*ep*PKPdf	pPKPdf	23 24 02.8	+0.7
SIV	**San Ignacio**	**128.27**	**60**	PKP		PKPdf	23 23 47.7	-0.3
	comp=Z,8.5nm,0.9s,baz=15,slow=0.9,SNR=30							
VNDA	**Vanda**	**131.92**	**181**	PKP		PKPdf	23 23 53.5	-1.4
	comp=Z,5.3nm,0.8s,baz=319,slow=4.1,SNR=26							
BDFB	**Brasilia**	**133.95**	**45**	PKP		PKPdf	23 23 59.2	+0.4
	comp=Z,2.8nm,0.6s,baz=249,slow=2.2,SNR=5.1							
BDFB					PP	PP	23

*CSEM **18** 23:37:22.4±0.1, 35.11N×4462E, h30km, mb4.5/10, Error ellipse: s-maj=4.4km s-min=1.9km az=27.0*
*NEIC **18** 23:37:23.4±0.5, 3480N×4454E, h30km, mb4.4/12, MN4.2(TEH), Error ellipse: s-maj=18.2km s-min=5.7km az=203.0*
NEIC Felt at Kirkuk.

ISC 18 23:37:25.0±0.3, 3505N±005×4469E±004, h35km, n106, σ1§28/107, mb4.1/24, MS4.2/1, 1C-3D, Iraq

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**1.44**	**103**	*e*Pn	**Pn**	**23 37 49.1**	**+0.5**
IDHR	**Dehrash**	**1.44**	**103**	Pn	**Pn**	**23 37 49.0**	**+0.4**
IGHG	**Ghaleghazi**	**1.71**	**114**	*e*Pn	**Pn**	**23 37 53.7**	**+1.5**
IGHG				*e*Sn	**Sn**	**23 38 21.7**	**+8.9**
IGHG	**Ghaleghazi**	**1.71**	**114**	Pn	**Pn**	**23 37 53.7**	**+1.5**
IGHG				Sn	**Sn**	**23 38 21.6**	**+8.8**
BHD	**Baghdad**	**1.79**	**188**	*ex*	x	23 37 54.0	
BHD				*ex*	x	23 38 18.0	
MSL	**Mosul**	**1.80**	**314**	*ex*	x	23 37 55.0	
MSL				*i* x	x	23 38 20.5	
MSL				*i* x	x	23 38 22.5	
MSL				*i* x	x	23 38 25.0	
ILIN	**Laeen**	**1.87**	**93**	*e*Pn	**Pn**	**23 37 56.7**	**+2.2**
CUKT	**Cukurca**	**2.36**	**339**	*e*P	**Pn**	**23 38 05.1**	**+3.8**
VANT	**Van**	**3.55**	**343**	*e*P	**Pn**	**23 38 20.0**	**+2.4**
BTMT	**Batman**	**4.06**	**322**	*e*P	**Pn**	**23 38 24.9**	**+0.3**
IRAZ	**Razeghan**	**4.31**	**84**	*e*Pn	**Pn**	**23 38 42.8**	**+15**
DIY	**Diyarbakir**	**4.58**	**310**	*e*P	**Pn**	**23 38 47.1**	**+15**
GNI	**Garni**	**5.09**	**0**	*e*P	**Pn**	**23 38 43.7**	**+4.9**
GNI	**Garni**	**5.09**	**0**	Pn	**Pn**	**23 38 43.9**	**+5.1**
	0.3nm,0.3s,baz=134,slow=6.6,SNR=3.1						
GNI	**Garni**	**5.09**	**0**	*e*P	**Pn**	**23 38 44.0**	**+5.2**
GNI				pmax	pmax		
	comp=Z,25nm,0.8s						
GNI	**Garni**	**5.09**	**0**	*e*Pn	**Pn**	**23 38 44.0**	**+5.2**
	comp=Z,25nm,0.8s						
GNI	**Garni**	**5.09**	**0**	*e*Pn	**Pn**	**23 38 44.0**	**+5.2**
	comp=Z,25nm,0.8s						
URFA	**Urfa**	**5.31**	**298**	*e*P	**Pn**	**23 39 00.6**	**+19**
EZM	**Erzurum**	**5.52**	**332**	*e*P	**Pn**	**23 38 49.1**	**+4.4**
IPIR	**Pirpir**	**5.67**	**113**	*e*Pn	**Pn**	**23 38 47.3**	**+0.5**
IPIR				*e*Sn	**Sn**	**23 39 55.7**	**+5.0**
IPIR	**Pirpir**	**5.67**	**113**	Pn	**Pn**	**23 38 47.3**	**+0.5**
IPIR				Sn	**Sn**	**23 39 55.6**	**+4.9**
IVRN	**Varamin**	**5.78**	**88**	*e*Sn	**Sn**	**23 40 00.4**	**+7.2**
IKLH	**Kalahroud**	**5.97**	**105**	*e*Pn	**Pn**	**23 38 51.9**	**+1.1**
MALT	**Malatya**	**5.99**	**305**	*e*P	**Pn**	**23 39 07.4**	**+16**
MYA	**Malataya**	**6.00**	**305**	*e*P	**Pn**	**23 39 08.1**	**+17**
ISFB	**Sefidab**	**6.26**	**94**	*e*Sn	**Sn**	**23 40 12.0**	**+7.0**
GAZ	**Gaziantep**	**6.41**	**291**	*e*P	**Pn**	**23 39 09.4**	**+13**
IZEF	**Zefreh**	**6.70**	**107**	*e*Pn	**Pn**	**23 39 01.5**	**+0.6**
IZEF	**Zefreh**	**6.70**	**107**	Pn	**Pn**	**23 39 01.4**	**+0.5**
ASF	**Jabal al Asfar**	**7.10**	**248**	Pn	**Pn**	**23 39 05.7**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=289,slow=12,SNR=11						
ASF				LR	LR	23 42 10.7	
	comp=Z,166nm,20.5s,baz=267,slow=41						
CEYT	**Ceyhan**	**7.50**	**288**	*e*P	**Pn**	**23 39 14.2**	**+2.3**
KOZT	**Kozan**	**7.56**	**291**	*e*P	**Pn**	**23 39 15.5**	**+2.9**
KRTS	**Karatas**	**7.72**	**284**	*e*P	**Pn**	**23 39 18.2**	**+3.4**
KARA	**Karaisali**	**8.10**	**289**	*e*P	**Pn**	**23 39 16.2**	**-3.8**
KIV	**Kislovodsk**	**9.03**	**351**	*e*P	**Pn**	**23 39 38.0**	**+5.2**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KIV	**Kislovodsk**	**9.03**	**351**	*e*P	**Pn**	**23 39 38.0**	**+5.2**
	comp=Z,5.0nm,0.6s						
EIL	**Elat**	**9.82**	**240**	*e*Pn	**Pn**	**23 39 42.2**	**-1.4**
BRTR	**Keskin Array B**	**9.95**	**301**	Pn	**Pn**	**23 39 51.4**	**+6.0**
	comp=Z,0.1nm,0.3s,baz=120,slow=8.5,SNR=3.9						
IDI	**Anoyia**	**16.19**	**277**	Pn	**Pn**	**23 41 14.1**	**+4.3**
	comp=Z,1.5nm,0.3s,baz=74,slow=12,SNR=17						
WSAR	**Wadi Sarin**	**16.91**	**130**	Pn	**Pn**	**23 41 15.3**	**-3.6**
	comp=Z,0.4nm,0.3s,baz=299,slow=10,SNR=6.0						
AKTK	**Aktyubinsk**	**18.19**	**28**	P	**Pn**	**23 41 33.5**	**-1.2**
AKTK	**Aktyubinsk**	**18.19**	**28**	P	**Pn**	**23 41 33.5**	**-1.1**
AKTO	**Aktyubinsk**	**18.19**	**28**	Pn	**Pn**	**23 41 33.5**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=218,slow=14,SNR=10						
BURAR	**Bucovina Array**	**19.21**	**317**	⇓*i*P	**Pn**	**23 41 47.0**	**0.0**
AKASG	**Malin Array Be**	**19.26**	**329**	P	**Pn**	**23 41 45.9**	**-1.7**
	comp=Z,0.9nm,0.3s,baz=137,slow=11,SNR=7.1						
DRGR		**20.26**	**312**	⇓*i*P	**P**	**23 41 58.6**	**+1.3**
OBN	**Obninsk**	**20.84**	**347**	⇓*e*P	**P**	**23 42 02.1**	**-1.5**
OBN				pmax	pmax		
	comp=Z,20nm,1.2s						
OBN	**Obninsk**	**20.84**	**347**	*e*P	**P**	**23 42 02.1**	**-1.5**
	comp=Z,20nm,1.2s						
PKSM	**Moragy**	**22.59**	**307**	⇑*i*P	**P**	**23 42 24.5**	**+2.1**
ARU	**Arti**	**23.39**	**20**	*e*P	**P**	**23 42 29.6**	**-1.1**
ARU	**Arti**	**23.39**	**20**	*e*P	**P**	**23 42 28.9**	**-1.9**
	comp=Z,5.8nm,1.0s,mb4.0						
ATD	**Arta Tunnel**	**23.47**	**185**	P	**P**	**23 42 30.8**	**-0.6**
	comp=Z,16nm,1.1s,mb4.3,baz=350,slow=17,SNR=3.0						
GERES	**GERESS Array B**	**26.64**	**311**	P	**P**	**23 43 00.4**	**+0.1**
	comp=Z,0.2nm,0.3s,mb3.1,baz=105,slow=11,SNR=3.1						
PGF	**Pioggiola**	**28.64**	**296**	*e*P	**P**	**23 43 18.9**	**+0.7**
	comp=Z,12nm,0.9s,mb4.3						
PGF	**Pioggiola**	**28.64**	**296**	*e*P	**P**	**23 43 18.9**	**+0.7**
PGF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
PGF	**Pioggiola**	**28.64**	**296**	*e*P	**P**	**23 43 18.9**	**+0.7**
	comp=Z,6.1nm,0.9s,mb4.3						
FINES	**FINESS Array B**	**28.96**	**342**	P	**P**	**23 43 20.7**	**-0.3**
	comp=Z,0.3nm,0.4s,mb3.4,baz=139,slow=12,SNR=4.9						
FINES	**FINESS Array B**	**28.96**	**342**	P	**P**	**23 43 20.7**	**-0.3**
SBF	**Sospel**	**29.87**	**298**	*e*P	**P**	**23 43 28.4**	**-0.7**
	comp=Z,12nm,0.6s,mb4.5						
SBF	**Sospel**	**29.87**	**298**	*e*P	**P**	**23 43 28.4**	**-0.7**
SBF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.5						
SBF	**Sospel**	**29.87**	**298**	*e*P	**P**	**23 43 28.4**	**-0.7**
	comp=Z,6.1nm,0.6s,mb4.5						
MBDF	**Montbardon**	**30.42**	**300**	*e*P	**P**	**23 43 33.8**	**-0.1**
	comp=Z,14nm,0.6s,mb4.6						
MBDF	**Montbardon**	**30.42**	**300**	*e*P	**P**	**23 43 33.8**	**-0.1**
MBDF				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.6						
MBDF	**Montbardon**	**30.42**	**300**	*e*P	**P**	**23 43 33.8**	**-0.1**
	comp=Z,6.8nm,0.6s,mb4.5						
FRF	**La Foret Royal**	**30.42**	**298**	*e*P	**P**	**23 43 34.8**	**+0.8**
	comp=Z,5.9nm,0.7s,mb4.1						
FRF	**La Foret Royal**	**30.42**	**298**	*e*P	**P**	**23 43 34.8**	**+0.8**
FRF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
FRF	**La Foret Royal**	**30.42**	**298**	*e*P	**P**	**23 43 34.8**	**+0.8**
	comp=Z,3.0nm,0.7s,mb4.1						
MKAR	**Makanchi Array**	**30.46**	**56**	P	**P**	**23 43 34.9**	**+0.5**
	comp=Z,0.7nm,0.6s,mb3.5,baz=258,slow=6.1,SNR=11						
LMR	**La Mourre**	**30.51**	**297**	*e*P	**P**	**23 43 34.5**	**-0.3**
LPG	**La Plagne**	**30.51**	**302**	*e*P	**P**	**23 43 33.9**	**-0.9**
	comp=Z,6.9nm,0.5s,mb4.4						
LPG	**La Plagne**	**30.51**	**302**	*e*P	**P**	**23 43 33.9**	**-0.9**
LPG				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.4						
LPG	**La Plagne**	**30.51**	**302**	*e*P	**P**	**23 43 33.9**	**-0.9**
	comp=Z,3.5nm,0.5s,mb4.4						
BNI	**Bardonecchia**	**30.52**	**301**	*e*P	**P**	**23 43 34.8**	**0.0**
BNI				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
BNI	**Bardonecchia**	**30.52**	**301**	*e*P	**P**	**23 43 34.8**	**0.0**
	comp=Z,7.6nm,0.8s,mb4.6						
BNI	**Bardonecchia**	**30.52**	**301**	*e*P	**P**	**23 43 34.8**	**0.0**
	comp=Z,8.0nm,0.8s,mb4.6						
LPL	**La Plagne**	**30.53**	**302**	*e*P	**P**	**23 43 34.7**	**-0.2**
ORIF	**Oris-en-Rattie**	**31.07**	**300**	*e*P	**P**	**23 43 38.5**	**-1.2**
	comp=Z,7.6nm,0.6s,mb4.4						
ORIF	**Oris-en-Rattie**	**31.07**	**300**	*e*P	**P**	**23 43 38.5**	**-1.2**
ORIF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
ORIF	**Oris-en-Rattie**	**31.07**	**300**	*e*P	**P**	**23 43 38.5**	**-1.2**
	comp=Z,3.8nm,0.6s,mb4.4						
CABF	**La Chapelle**	**31.11**	**304**	*e*P	**P**	**23 43 40.9**	**+0.9**
	comp=Z,9.9nm,0.7s,mb4.5						
CABF	**La Chapelle**	**31.11**	**304**	*e*P	**P**	**23 43 40.9**	**+0.9**
CABF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
CABF	**La Chapelle**	**31.11**	**304**	*e*P	**P**	**23 43 40.9**	**+0.9**
	comp=Z,4.9nm,0.7s,mb4.5						
HAU	**Haudompre**	**31.16**	**306**	*e*P	**P**	**23 43 38.0**	**-2.4**
HFS	**Hagfors**	**32.12**	**331**	P	**P**	**23 43 48.9**	**0.0**
	comp=Z,2.8nm,0.5s,mb4.3,baz=134,slow=11,SNR=15						
SMF	**Signal de Mont**	**32.65**	**303**	*e*P	**P**	**23 43 52.8**	**-0.8**
	comp=Z,7.4nm,0.8s,mb4.4						
SMF	**Signal de Mont**	**32.65**	**303**	*e*P	**P**	**23 43 52.8**	**-0.8**
SMF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
SMF	**Signal de Mont**	**32.65**	**303**	*e*P	**P**	**23 43 52.8**	**-0.8**
	comp=Z,3.7nm,0.8s,mb4.4						
LOR	**Lormes**	**32.71**	**305**	*e*P	**P**	**23 43 54.9**	**+0.8**
SSF	**Saint Saulge**	**32.93**	**304**	*e*P	**P**	**23 43 56.4**	**+0.4**
	comp=Z,13nm,1.0s,mb4.5						
SSF	**Saint Saulge**	**32.93**	**304**	*e*P	**P**	**23 43 56.4**	**+0.4**
SSF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
SSF	**Saint Saulge**	**32.93**	**304**	*e*P	**P**	**23 43 56.4**	**+0.4**
	comp=Z,6.6nm,1.0s,mb4.5						
NOA	**NORSAR Array B**	**33.65**	**331**	P	**P**	**23 44 01.2**	**-1.1**
	comp=Z,1.7nm,0.9s,mb4.0,baz=152,slow=3.7,SNR=2.9						
KOLN	**Koldanda**	**33.83**	**91**	*e*P	**P**	**23 44 05.7**	**+1.8**
GKN	**Gorkha**	**34.60**	**90**	*e*P	**P**	**23 44 11.0**	**+0.5**
DMN	**Daman**	**35.13**	**91**	*e*P	**P**	**23 44 13.8**	**-1.3**
KKN	**Kakani**	**35.20**	**90**	*e*P	**P**	**23 44 13.0**	**-2.7**
PKI	**Pulchoki**	**35.39**	**91**	*e*P	**P**	**23 44 16.1**	**-1.3**
GUN	**Gumba**	**35.65**	**90**	*e*P	**P**	**23 44 18.1**	**-1.5**
	comp=Z,47nm,1.1s,mb5.3						
ARCES	**ARCESS Array B**	**36.13**	**349**	P	**P**	**23 44 22.3**	**-1.4**
	comp=Z,1.0nm,0.7s,mb3.8,baz=178,slow=8.4,SNR=3.6						
EKA	**Eskdalemuir Ar**	**38.39**	**317**	P	**P**	**23 44 42.2**	**-0.7**
	comp=Z,1.3nm,0.6s,mb3.9,baz=104,slow=9.3,SNR=7.3						
TORD	**Torodi Ar. Bea**	**44.45**	**252**	P	**P**	**23 45 32.5**	**0.0**
	comp=Z,0.6nm,0.8s,mb3.4,baz=38,slow=8.1,SNR=6.0						
JMIC	**Jan Mayen**	**45.48**	**338**	LR	LR	00 04 33.8	
	comp=Z,324nm,20.5s,MS4.2,baz=114,slow=36						
SONM	**Songino Array**	**46.81**	**54**	P	**P**	**23 45 51.0**	**-0.2**
	comp=Z,0.4nm,0.5s,mb3.6,baz=282,slow=8.4,SNR=2.9						
DBIC	**Dimbokro**	**53.50**	**250**	P	**P**	**23 46 41.9**	**+0.1**
	comp=Z,1.7nm,0.5s,mb4.2,baz=38,slow=12,SNR=7.2						
DBIC	**Dimbokro**	**53.50**	**250**	P	**P**	**23 46 41.9**	**0.0**
ILAR	**Eielson Array**	**80.10**	**5**	P	**P**	**23 49 30.6**	**-0.6**
	comp=Z,0.5nm,0.8s,mb3.5,baz=320,slow=3.1,SNR=4.6						

*INMG **18** 23:37:31.9±1.0, 3808N×859W, h2km±3km, MD1.7, ML1.4, Error ellipse: s-maj=2.4km s-min=1.7km az=94.0*
*IGIL **18** 23:37:32.5, 3807N×858W, h2km, ML1.6*
MDD 18 23:37:31.8±0.5, 3808N×859W, h3km±7km, mbLg1.5/4, Error ellipse: s-maj=5.0km s-min=2.6km az=109.0, PRXIMO SIN SOLUCIN, Portugal

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOE	**Montemor**	**0.48**	**23**	*e*Pg	Pg	23 37 40.6	-0.4
MOE				*e*Sg	Sg	23 37 47.7	+0.5
PTEO	**Sao Teotonio**	**0.54**	**192**	*e*Pg	Pg	23 37 41.8	-0.4
PTEO				*e*Sg	Sg	23 37 49.2	-0.1
PTEO							
	9.3nm,0.1s						
PBEJ	**Beja**	**0.57**	**95**	*e*Pg	Pg	23 37 42.5	-0.3
PBEJ				*e*Sg	Sg	23 37 50.2	0.0
PBEJ							
	6.7nm,0.2s						
MORF	**Marmelete**	**0.77**	**184**	*e*P	Pg	23 37 46.2	-0.4
MORF				*e*S	Sg	23 37 56.3	-0.4
MORF				*e*S	Sg	23 37 56.3	-0.4
MORF				AML	AML	23 37 59.1	
	comp=N,19nm,0.2s						
MORF	**Marmelete**	**0.77**	**184**	*e*P	Pg	23 37 46.2	-0.4
MORF				*e*S	Sg	23 37 56.3	-0.4
EGRO	**El Granado**	**1.03**	**122**	Pg	Pg	23 37 50.1	-1.4
	comp=N,0.3nm,0.1s,SNR=7.9						
EGRO				Lg		23 38 04.6	
	comp=N,1.6nm,0.1s,SNR=10						
EBAD	**Badajoz**	**1.41**	**61**	Pg	Pg	23 37 56.9	-1.9
	comp=N,0.6nm,0.1s,SNR=4.0						
EBAD				Lg		23 38 15.6	
	comp=N,3.9nm,0.1s,SNR=20						
PTOM	**Tomar**	**1.54**	**5**	*e*P	Pn	23 37 58.7	-1.5
PTOM				*e*S	Sn	23 38 18.3	-2.5
PTOM							
	comp=N,4.7nm,0.3s						
EMIN	**Mina Concepcio**	**1.55**	**101**	Pn	Pn	23 37 59.2	-1.1
	comp=N,0.1nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	23 38 19.0	-1.8
	comp=N,0.2nm,0.1s,SNR=5.9						
PCBR	**Castelo Branco**	**1.96**	**26**	*e*Sn	Sn	23 38 29.9	-1.2
PCBR							
	comp=N,1.7nm,0.2s						
PCBR	**Castelo Branco**	**1.96**	**26**	Sn	Sn	23 38 29.9	-1.2
	comp=N,0.9nm,0.2s						

*IDC **18** 23:51:13.1±6.6, 1901N×103.14W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.8/20, mbtmp3.7/5, Error ellipse: s-maj=161.9km s-min=67.8km az=31.0*
*ISCJB **18** 23:51:18.3±0.7, 1876N±006×10377W±004, h62km±7km, mb3.7/5, Error ellipse: s-maj=10.7km s-min=4.5km az=54.2*
*MEX **18** 23:51:20.5±0.5, 1878N×10374W, h12km±7km, MD4.6*
*NEIC **18** 23:51:21.0, 1877N×10375W, h20km, MD4.6(MEX), After MEX.*
NEIC Felt at Colima.

ISC 18 23:51:19.5±0.7, 1879N±006×10380W±004, h55km±8km, n29, σ1§00/42, mb3.7/5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COLM	**Colima**	**0.41**	**15**	*i* P	**Pn**	**23 51 30.0**	**-0.1**
CJM	**Chamela**	**1.37**	**301**	*i* P	**Pn**	**23 51 42.7**	**+0.4**
CJM				*i* S	**Sn**	**23 51 59.8**	**+0.4**
SFJM	**Santa Fe**	**1.84**	**23**	*i* P	**Pn**	**23 51 48.0**	**-0.7**
SFJM				*i* S	**Sn**	**23 52 10.5**	**-0.4**
ZIIG	**Zihuatanejo**	**2.51**	**117**	*e*P	**Pn**	**23 51 56.8**	**-1.1**
MOIG	**Morelia**	**2.63**	**70**	*i* P	**Pn**	**23 51 59.4**	**0.0**
MOIG				*i* S	**Sn**	**23 52 29.4**	**-0.8**
MOIG	**Morelia**	**2.63**	**70**	*i* P	**Pn**	**23 51 59.4**	**0.0**
MOIG				*i* S	**Sn**	**23 52 31.8**	**+1.7**
MRX	**Morelia**	**2.63**	**69**	*i* P	**Pn**	**23 52 00.0**	**+0.4**
MRX				*i* S	**Sn**	**23 52 36.0**	**+5.7**
CAIG	**El Cayaco**	**3.79**	**117**	*i* P	**Pn**	**23 52 15.8**	**+0.4**
CAIG				*i* S	**Sn**	**23 52 57.6**	**-1.0**
MEIG	**Mezcala**	**4.07**	**101**	*i* P	**Pn**	**23 52 16.8**	**-2.4**
MEIG				*i* S	**Sn**	**23 53 05.9**	**+0.4**
PLIG	**Platanillo**	**4.10**	**95**	*i* P	**Pn**	**23 52 18.9**	**-0.7**
PLIG				*i* S	**Sn**	**23 53 05.8**	**-0.5**
ACX	**Acapulco**	**4.17**	**117**	*e*P	**Pn**	**23 52 22.0**	**+1.4**
ACX	**Acapulco**	**4.17**	**117**	*e*P	**Pn**	**23 52 21.0**	**+0.4**
UNM	**Universidad Na**	**4.41**	**82**	*e*P	**Pn**	**23 52 21.0**	**-2.9**
UNM				*i* S	**Sn**	**23 53 14.3**	**+0.4**
YAIG	**Yautepec**	**4.49**	**88**	*i* P	**Pn**	**23 52 26.7**	**+1.8**
YAIG				*i* S	**Sn**	**23 53 16.1**	**+0.3**
PPM	**Popocatepetl**	**4.91**	**86**	*e*P	**Pn**	**23 52 30.1**	**-0.6**
PPM				*e*P		23 52 32.0	
PPM				*i* S	**Sn**	**23 53 27.6**	**+1.3**
UTMO	**Huajuapan**	**5.78**	**99**	*i* P	**Pn**	**23 52 43.2**	**+0.5**
UTMO				*i* S	**Sn**	**23 53 46.6**	**-1.0**
VHO	**Vista Hermosa**	**6.94**	**103**	*i* P	**Pn**	**23 52 59.5**	**+0.9**
VHO				*i* S	**Sn**	**23 54 17.4**	**+1.2**
OXX	**Oaxaca**	**6.95**	**103**	*e*P	**Pn**	**23 52 53.5**	**-5.2**
BNM	**Barren Site**	**15.51**	**351**	P	**Pn**	**23 54 54.8**	**+0.1**
BNM				*e*		23 55 00.7	
LPM	**Los Pinos Moun**	**15.67**	**351**	*e*P	**Pn**	**23 54 56.7**	**0.0**
ANMO	**Albuquerque**	**16.27**	**352**	Pn	**Pn**	**23 55 05.5**	**+1.1**
	0.1nm,0.3s,baz=165,slow=11,SNR=9.1						
ANMO	**Albuquerque**	**16.27**	**352**	*e*P	**Pn**	**23 55 04.9**	**+0.6**
	5.5nm,0.9s						
WMOK	**Wichita Mounta**	**16.50**	**15**	P	**Pn**	**23 55 03.7**	**-3.6**
	9.4nm,1.5s						
PV10	**Paradox Valley**	**20.05**	**348**	*e*P	**P**	**23 55 46.5**	**-1.5**
PV10				*e*		23 55 51.8	
NVAR	**Mina Array Bea**	**23.29**	**330**	P	**P**	**23 56 24.4**	**+1.9**
	1.6nm,0.7s,mb3.5,baz=146,slow=11,SNR=9.7						
PDAR	**Pinedale Array**	**24.40**	**350**	P	**P**	**23 56 33.2**	**+0.5**
	0.9nm,0.7s,mb3.3,baz=158,slow=9.7,SNR=6.5						
YKA	**Yellowknife Ar**	**44.31**	**353**	P	**P**	**23 59 22.5**	**-1.5**
	0.5nm,0.6s,mb3.4,baz=163,slow=7.8,SNR=7.7						
ILAR	**Eielson Array**	**54.14**	**339**	P	**P**	**00 00 39.4**	**+0.3**
	1.1nm,0.7s,mb3.9,baz=151,slow=6.8,SNR=13						
ARCES	**ARCESS Array B**	**84.92**	**16**	P	**P**	**00 03 48.3**	**-0.3**
	2.1nm,0.9s,mb4.2,baz=336,slow=2.0,SNR=3.9						

*ISCJB **19** 00:22:44.9±0.5, 2829S×7091W±009, h61km±5km, mb4.0/5, Error ellipse: s-maj=13.7km s-min=4.3km az=9.0*
*NEIC **19** 00:22:45.0, 2832S×7082W, h50km, mb4.1/2, After GUC.*
NEIC Felt [III] at Vallenar and [II] at Copiapo, Freirina and Huasco.
*IDC **19** 00:22:45.7±1.0, 2826S×7098W, h51km±7km, mb3.8/4, mb1 3.8/9, mb1mx3.7/19, mbtmp3.9/9, MS3.8/1, Ms1 3.8/1, ms1mx2.9/20, Error ellipse: s-maj=24.8km s-min=11.6km az=76.0*
*GUC **19** 00:22:45.5±0.8, 2832S×7082W, h50km±5km, ML4.5*

ISC 19 00:22:45.9±0.5, 2828S±003×7097W±010, h49km±6km, n31, σ0§96/42, mb4.0/5, 4C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.35**	**147**	⇓*i*P	**Pn**	**00 22 55.0**	**-0.4**
VACH				*i* S	**Sn**	**00 23 01.0**	**-1.1**
CPCH	**Copiapo**	**1.07**	**31**	⇑*i*P	**Pn**	**00 23 04.4**	**-0.1**
CPCH				*i* S	**Sn**	**00 23 18.4**	**+0.1**
CPCH				AML	AML	00 23 22.2	
	comp=E,46μm,0.1s						
CPCH	**Copiapo**	**1.07**	**31**	⇑*i*P	**Pn**	**00 23 04.4**	**-0.1**
CPCH				*i* S	**Sn**	**00 23 18.4**	**+0.1**
CDCH	**Caldera**	**1.21**	**6**	⇓*i*P	**Pn**	**00 23 06.5**	**0.0**
CDCH				*i* S	**Sn**	**00 23 23.3**	**+1.6**
LSCH	**La Serena**	**1.64**	**188**	⇑*i*P	**Pn**	**00 23 12.1**	**0.0**
LSCH				*i* S	**Sn**	**00 23 32.4**	**+0.3**
LSCH				AML	AML	00 23 34.8	
	comp=E,4μm,0.5s						
LSCH	**La Serena**	**1.64**	**188**	⇑*i*P	**Pn**	**00 23 12.1**	**0.0**
LSCH				*i* S	**Sn**	**00 23 32.4**	**+0.3**
TLL	**Tololo Astrono**	**1.88**	**176**	*e*P	**Pn**	**00 23 16.0**	**+0.5**
TLL				*i* S	**Sn**	**00 23 38.8**	**+0.7**
TLL				AML	AML	00 23 48.0	
	comp=N,7μm,0.6s						
TLL	**Tololo Astrono**	**1.88**	**176**	*e*P	**Pn**	**00 23 16.0**	**+0.5**
TLL				*i* S	**Sn**	**00 23 38.8**	**+0.7**
CMCH	**Combarbala**	**2.88**	**180**	*e*P	**Pn**	**00 23 28.7**	**-0.5**
CMCH				*i* S	**Sn**	**00 24 02.6**	**0.0**
CFAA	**Coronel Fontan**	**4.07**	**145**	P	**Pn**	**00 23 47.3**	**+1.7**
	comp=N,2.2nm,0.3s,baz=317,slow=13,SNR=119						
CFAA				S	**Sn**	**00 24 33.2**	**+1.2**
	comp=N,6.1nm,0.3s,baz=218,slow=17,SNR=11						
CFAA	**Coronel Fontan**	**4.07**	**145**	P	**Pn**	**00 23 47.3**	**+1.7**
CFAA				S	**Sn**	**00 24 33.2**	**+1.2**
LVC	**Limon Verde**	**5.95**	**19**	P	**Pn**	**00 24 09.7**	**-1.5**
	comp=N,1.1nm,0.3s,baz=222,slow=11,SNR=2.8						
LVC				S	**Sn**	**00 25 19.6**	**+1.6**
	comp=N,7.0nm,0.3s,baz=70,slow=16,SNR=3.1						
LVC	**Limon Verde**	**5.95**	**19**	*e*Pn	**Pn**	**00 24 10.2**	**-1.1**
LVC				*e*Sn	**Sn**	**00 25 21.2**	**+3.2**
LPAZ	**La Paz**	**12.22**	**13**	P	**Pn**	**00 25 35.6**	**-1.6**
	comp=N,0.1nm,0.3s,baz=196,slow=15,SNR=4.0						
LPAZ	**La Paz**	**12.22**	**13**	*e*Pn	**Pn**	**00 25 37.3**	**+0.1**
	comp=N,2.7nm,0.6s						
CPUP	**Villa Florida**	**12.29**	**84**	P	**Pn**	**00 25 37.0**	**-1.1**
	comp=N,0.2nm,0.3s,baz=256,slow=12,SNR=3.0						
CPUP				LR	LR	00 29 59.0	
	comp=N,471nm,20.3s,baz=347,slow=35						
CPUP	**Villa Florida**	**12.29**	**84**	*e*Pn	**Pn**	**00 25 36.2**	**-1.9**
	comp=N,26nm,0.7s						
TRQA	**Tornquist**	**12.31**	**145**	*e*Pn	**Pn**	**00 25 39.5**	**+1.1**
	comp=N,16nm,0.8s						
TRQA				*e*Sn	**Sn**	**00 27 40.6**	**-13**
PLCA	**Paso Flores**	**12.42**	**179**	Pn	**Pn**	**00 25 38.3**	**-1.7**
SIV	**San Ignacio**	**15.28**	**39**	P	**Pn**	**00 26 18.3**	**0.0**
	comp=N,0.2nm,0.3s,baz=232,slow=15,SNR=16						

VNDA	**Vanda**	**54.65**	**185**	P		**P**	**01 23 34.8**	**+2.6**
	2.0nm,0.5s,mb3.6,baz=357,slow=6.8,SNR=17							
VNDA				ScP		ScP	01 27 33.8	+3.0
	0.4nm,0.3s,baz=10,slow=2.1,SNR=5.9							
VNDA	**Vanda**	**54.65**	**185**	*e*P		**P**	**01 23 35.1**	**+2.9**
	1.6nm,0.5s,mb3.5							
MBWA	**Marble Bar**	**55.44**	**260**	*e*P		**P**	**01 23 38.2**	**+0.5**
CASY	**Casey**	**60.37**	**206**	*e*P		**P**	**01 24 12.1**	**+1.2**
	4.7nm,0.8s,mb3.9							
QSPA	**South Pole Qui**	**66.45**	**180**	*e*P		**P**	**01 24 54.6**	**+4.7**
	18nm,0.7s,mb4.7							
MJAR	**Matsushiro Arr**	**71.69**	**326**	P		**P**	**01 25 19.9**	**-1.3**
	4.9nm,0.7s,mb4.0,baz=161,slow=5.5,SNR=13							
MAW	**Mawson**	**78.01**	**200**	P		**P**	**01 25 58.4**	**+1.9**
	5.1nm,1.0s,mb3.8,baz=150,slow=9.2,SNR=7.6							
MAW	**Mawson**	**78.01**	**200**	*e*P		**P**	**01 25 58.8**	**+2.3**
MDJ	**Mudanjiang**	**82.05**	**326**	P		**P**	**01 26 17.8**	**+0.2**
MDJ				AP		pP	01 28 10.0	-7.9
MDJ				XP		sP	01 29 03.8	-11
MDJ				PP		PP	01 29 33.4	-2.5
MDJ				S		S	01 35 48.6	+2.7
MDJ				XS		sS	01 39 10.6	-10
MDJ				SS		SS	01 41 24.0	+2.4
MDJ				AMB		AMB		
	comp=Z,6.0nm,1.0s,mb4.0							
MDJ				AMB		AMB		
	comp=Z,75nm,4.7s							
SYO	**Syowa Base**	**83.28**	**193**↓	*e*P		**P**	**01 26 24.0**	**+0.2**
SYO	**Syowa Base**	**83.28**	**193**↓	*e*PcP		PcP	01 26 28.8	+2.0
SNAA	**Sanae**	**84.94**	**179**	*e*P		**P**	**01 26 31.0**	**-0.9**
	comp=Z,1.6nm,0.4s,mb3.9							
HHC	**Hu-ho-hao-te**	**90.24**	**315**	*e*P		**P**	**01 26 59.0**	**+2.2**
HHC				AP		pP	01 28 58.6	-1.3
HHC				XP		sP	01 29 51.3	-5.0
HHC				PP		PP	01 30 44.9	+4.0
HHC				SKS			01 36 37.3	
HHC				S			01 37 04.0	
HHC				XS		sS	01 40 36.5	-6.6
HHC				SS		SS	01 43 23.9	+3.9
HHC				AMB		AMB		
	comp=Z,13nm,1.1s,mb4.7							
HHC				AMB		AMB		
	comp=Z,137nm,5.6s							
CD2	**Chengdu**	**90.95**	**303**	*e*P		**P**	**01 27 00.3**	**+0.2**
ILAR	**Eielson Array**	**91.76**	**14**	P		**P**	**01 27 02.1**	**-1.7**
	comp=Z,2.6nm,0.7s,mb3.7,baz=224,slow=6.4,SNR=6.2							
CPRX	**Cap Rock**	**91.79**	**55**	P		**P**	**01 27 02.2**	**-1.7**
MKAR	**Makanchi Array**	**111.98**	**313**	PKiKP		PKiKP	01 32 26.9	-0.5
	comp=Z,0.4nm,0.6s,baz=108,slow=0.4,SNR=5.7							
ARCES	**ARCESS Array B**	**131.62**	**348**	PKhKP			01 32 54.1	
	comp=Z,0.5nm,0.5s,baz=90,slow=1.5,SNR=4.8							
ARCES				PKP		PKPdf	01 33 04.0	-1.0
	comp=Z,1.1nm,0.8s,baz=45,slow=2.4,SNR=7.8							
ARCES	**ARCESS Array B**	**131.62**	**348**	PKP			01 32 54.1	
ARCES				PKP		PKPdf	01 33 04.0	-1.0
KMBO	**Kilima Mbogo**	**136.25**	**241**	SKPbc		SKPbc	01 35 57.0	+3.8
	comp=Z,0.3nm,0.3s,baz=90,slow=6.1,SNR=3.6							
FINES	**FINESS Array B**	**138.20**	**342**	PKhKP			01 33 07.4	
	comp=Z,0.8nm,0.6s,baz=152,slow=34,SNR=4.0							
FINES				PKP		PKPdf	01 33 17.4	+0.2
	comp=Z,0.7nm,0.3s,baz=106,slow=3.0,SNR=9.2							
FINES				SKPbc		SKPbc	01 36 00.1	+1.4
	comp=Z,1.5nm,0.6s,baz=77,slow=4.1,SNR=8.0							
FINES	**FINESS Array B**	**138.20**	**342**	PKP			01 33 07.4	
FINES				PKP		PKPdf	01 33 17.4	+0.2
FINES				SKPbc		SKPbc	01 36 00.1	+1.4
NB2	**NORSAR Subarra**	**141.82**	**351**	PKPa			01 33 18.9	
	comp=Z,1.8nm,0.7s,baz=14,slow=3.1							
NOA	**NORSAR Array B**	**141.82**	**351**	PKhKP			01 33 18.8	
	comp=Z,2.6nm,0.7s,baz=16,slow=4.7,SNR=9.2							
NOA	**NORSAR Array B**	**141.82**	**351**	PKP			01 33 18.8	
ELZG	**Elazig**	**143.77**	**303**	*i* P		PKPdf	01 33 28.3	+1.2
AKASG	**Malin Array Be**	**144.75**	**327**	PKP		PKPdf	01 33 28.5	-0.4
	comp=Z,7.6nm,0.5s,baz=45,slow=4.0,SNR=29							
AKASG				SKPbc		SKPbc	01 36 17.5	+2.3
	comp=Z,0.3nm,0.2s,baz=48,slow=1.9,SNR=7.4							
AKASG	**Malin Array Be**	**144.75**	**327**	PKP		PKPdf	01 33 28.5	-0.4
AKASG				SKPbc		SKPbc	01 36 17.5	+2.3
GZT	**Gaziantep**	**145.11**	**302**	*i* P		PKPdf	01 33 31.3	+1.8
BOYT	**Boyabat**	**145.95**	**310**	*i* P		PKPbc	01 33 33.7	+0.9
COBT	**Iskenderun**	**146.31**	**301**	*i* P		PKPbc	01 33 34.8	+1.0
ELDT	**Eldivan**	**147.32**	**309**	*i* P		PKPbc	01 33 37.2	+0.7
BR131	**Keskin Array S**	**147.43**	**308**	*e*PKPdf		PKPbc	01 33 36.5	-0.3
BRTR	**Keskin Array B**	**147.43**	**308**	PKPbc		PKPbc	01 33 37.0	+0.2
	comp=Z,2.4nm,0.6s,baz=114,slow=3.8,SNR=15							
BRTR				PKPab		PKPab	01 33 41.0	+0.2
	comp=Z,2.4nm,0.6s,baz=97,slow=3.6,SNR=17							
SGKT	**Sivrigoynuk**	**148.26**	**310**	*i* P		PKPbc	01 33 39.2	+0.3
KOLS	**Kolonicke sedl**	**149.25**	**331**	*e*PKP		PKPab	01 33 44.5	-3.8
STHS	**Stebnicka Huta**	**149.34**	**332**	*e*PKP		PKPbc	01 33 42.2	+0.7
CRVS	**Cervenica-Dubn**	**149.63**	**332**	*e*PKP		PKPbc	01 33 42.6	+0.4
OKC	**Ostrava-Krasne**	**150.24**	**336**	*e*PKP		PKPbc	01 33 43.6	-0.1
OKC				*ex*		x	01 33 51.5	
KECS	**Kecovo**	**150.37**	**332**	*e*PKP		PKPab	01 33 52.6	-0.3
UPC	**Upice**	**150.42**	**339**	*e*PKP		PKPbc	01 33 44.5	+0.4
DPC	**Dobruska-Polom**	**150.45**	**339**	*e*PKP		PKPbc	01 33 44.6	+0.4
DPC				*ex*		x	01 33 53.8	
CLL	**Collm**	**150.60**	**343**	*e*PKPbc		PKPbc	01 33 45.0	+0.5
	comp=Z,10.0nm,0.7s							
CLL				*i* PKPab		PKPab	01 33 53.2	-0.7
	comp=Z,8.0nm,0.8s							
BRG	**Berggiesshubel**	**150.74**	**342**	*i* P		PKPbc	01 33 45.0	+0.2
	comp=Z,4.5nm,0.8s							
BRG				*e*			01 33 54.1	
	comp=Z,2.2nm,0.8s							
PRU	**Pruhonice**	**151.34**	**340**	*e*PKP		PKPbc	01 33 46.2	0.0
SMOL	**Smolenice**	**151.59**	**335**	*e*PKP		PKPab	01 33 58.8	+0.7
KHC	**Kasperske Hory**	**152.39**	**341**	*e*PKP		PKPbc	01 33 48.7	+0.2
GERES	**GERESS Array B**	**152.61**	**340**	PKPbc		PKPbc	01 33 49.1	+0.1
	comp=Z,0.7nm,0.7s,baz=48,slow=2.0,SNR=5.2							
GERES				PKPab		PKPab	01 34 02.1	-0.4
	comp=Z,0.4nm,0.6s,baz=54,slow=6.8,SNR=3.5							
BAIF	**Baives**	**153.41**	**354**	*e*PKP2		PKPab	01 34 04.8	-1.1
	comp=Z,4.9nm,0.7s							
CDF	**Champ du Feu**	**154.60**	**349**	*e*PKP2		PKPab	01 34 10.5	-0.5
	comp=Z,6.9nm,0.8s							
HAU	**Haudompre**	**155.16**	**350**	*e*PKP2		PKPab	01 34 13.2	-0.1
	comp=Z,12nm,0.9s							
SSF	**Saint Saulge**	**156.45**	**354**	*e*PKP2		PKPab	01 34 18.5	-0.4
	comp=Z,4.6nm,0.5s							
AVF	**Avril sur Loir**	**156.73**	**354**	*e*PKP2		PKPab	01 34 18.9	-1.3
SMF	**Signal de Mont**	**156.83**	**353**	*e*PKP2		PKPab	01 34 20.0	-0.6
ORIF	**Oris-en-Rattie**	**158.23**	**349**	*e*PKP2		PKPab	01 34 26.8	+0.1
	comp=Z,9.4nm,0.8s							
VIVF	**Saint-Julien-l**	**158.49**	**351**	*e*PKP2		PKPab	01 34 27.7	-0.1
SBF	**Sospel**	**158.91**	**345**	*e*PKP2		PKPab	01 34 29.2	-0.5
DBIC	**Dimbokro**	**162.50**	**164**	PKPab		PKPab	01 34 48.4	+3.0
	comp=Z,3.7nm,0.9s,baz=313,slow=7.0,SNR=3.9							
TORD	**Torodi Ar. Bea**	**169.46**	**189**	PKPab		PKPab	01 35 18.1	+1.9
	comp=Z,1.0nm,0.6s,baz=180,slow=4.1,SNR=16							

IDC 19 01:30:30.8±15.0, 2030N×14499E, h210km±154km, mb3.2/8, mb1 3.4/8, mb1mx3.3/19, mbtmp3.7/8, MS3.6/1, Ms1 3.6/1, ms1mx2.4/10, Error ellipse: s-maj=36.6km s-min=18.4km az=79.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**16.64**	**296**	LR	LR	01 38 45.0	
	comp=Z,245nm,21.7s,baz=142,slow=30						
WB2	**Warramunga Arr**	**41.33**	**195**	*e*P	P	01 37 56.4	+0.5
WRA	**Warramunga Arr**	**41.33**	**195**	P	P	01 37 55.8	-0.1
	0.5nm,0.4s,baz=14,slow=8.6,SNR=6.4						
SONM	**Songino Array**	**41.48**	**321**	P	P	01 37 56.8	-0.3
	0.5nm,0.4s,baz=132,slow=6.9,SNR=5.6						
FITZ	**Fitzroy Crossi**	**42.62**	**208**	*e*P	P	01 38 06.4	+0.1
	8.5nm,1.4s						
FITZ	**Fitzroy Crossi**	**42.62**	**208**	P	P	01 38 06.2	-0.1
	1.2nm,0.8s,baz=36,slow=14,SNR=5.7						
ASAR	**Alice Springs**	**45.02**	**194**	P	P	01 38 25.9	+0.5
	0.2nm,0.3s,baz=12,slow=7.0,SNR=3.2						
MKAR	**Makanchi Array**	**56.88**	**313**	P	P	01 39 54.2	+0.6
	0.6nm,0.5s,baz=61,slow=8.5,SNR=9.5						
ILAR	**Eielson Array**	**62.52**	**27**	P	P	01 40 31.3	-0.7
	0.5nm,0.8s,baz=254,slow=5.8,SNR=4.6						
YKA	**Yellowknife Ar**	**76.89**	**28**	P	P	01 42 00.0	+0.4
	0.4nm,0.5s,baz=292,slow=5.5,SNR=7.8						
FINES	**FINESS Array B**	**85.16**	**335**	P	P	01 42 42.2	-1.0
	0.7nm,0.4s,baz=66,slow=4.8,SNR=12						

*ISCJB **19** 01:41:39.9±1.8, 007N±004×9687E±005, h5km±11km, mb4.5/51, MS4.0/12, Error ellipse: s-maj=9.0km s-min=6.8km az=146.8*

*IDC **19** 01:41:40.4±0.6, 007N×9680E, h0km, mb4.3/17, mb1 4.4/18, mb1mx4.4/19, mbtmp4.3/18, ML3.8/1, MS3.9/7, Ms1 3.8/7, ms1mx3.5/19, Error ellipse: s-maj=20.3km s-min=13.2km az=48.0*

*BJI **19** 01:41:43.7, 001N×9694E, h33km, mB5.0, mb4.7, Ms4.5, Msz4.2*

*MOS **19** 01:41:43.9±0.9, 0.15N×9688E, h33km, mb4.8/16, Error ellipse: s-maj=13.2km s-min=7.7km az=105.8*

*NEIC **19** 01:41:45.3±0.3, 0.11N×9690E, mb4.6/15, Error ellipse: s-maj=10.4km s-min=6.3km az=58.0*

ISC 19 01:41:41.3±2.0, 006N±004×9685E±005, h1km±12km, n93, σ1§12/98, mb4.6/51, MS4.0/12, 1C-4D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.42**	**37**	Pn	**Pn**	**01 42 33.0**	**-2.8**
	8.6nm,0.3s,baz=196,slow=9.8,SNR=30						
PSI				Sn	**Sn**	**01 43 16.8**	**-0.1**
	7.8nm,0.3s,baz=143,slow=17,SNR=5.1						
PSI				LR	LR	01 44 05.6	
	comp=Z,2μm,21.8s,baz=222,slow=43						
PSI	**Prapat**	**3.42**	**37**	P	**Pn**	**01 42 33.0**	**-2.7**
PSI						01 43 16.8	
PSI	**Prapat**	**3.42**	**37**	Pn	**Pn**	**01 42 33.0**	**-2.8**
PSI				Sn	**Sn**	**01 43 16.8**	**-0.1**
PSI				LR	LR	01 44 05.5	
KULM	**Kulim**	**6.43**	**36**	*e*Pn	**Pn**	**01 43 15.6**	**-1.5**
CHG	**Chiang Mai**	**18.75**	**6**	⇓P	**Pn**	**01 46 00.9**	**-1.0**
	28nm,0.9s						
CHTO	**Chiang Mai**	**18.75**	**6**	*e*P	**Pn**	**01 46 01.1**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,30nm,1.2s						
CHTO	**Chiang Mai**	**18.75**	**6**	*e*P	**Pn**	**01 46 01.1**	**-0.8**
	comp=Z,30nm,1.2s						
NANT	**Nan**	**19.00**	**11**	⇓P	**Pn**	**01 46 04.0**	**-1.0**
	comp=Z,238nm,1.0s						
KKM	**Kota Kinabalu**	**20.22**	**73**	*e*P	**P**	**01 46 18.1**	**+0.5**
KMI	**Kunming**	**25.56**	**12**	P	**P**	**01 47 13.3**	**+1.7**
KMI				AP		01 47 21.5	
KMI				XP	sP	01 47 24.5	+12
KMI				PP		01 47 55.8	
KMI				PCP	PcP	01 50 40.8	-2.1
KMI				S	**S**	**01 51 41.0**	**+0.8**
KMI				XS	sS	01 51 55.1	+14
KMI				SCP	ScP	01 54 16.8	-6.5
KMI				PCS	PcS	01 54 20.3	-3.2
KMI				AMB	AMB		
	comp=Z,29nm,1.0s,mb4.9						
KMI				AMB	AMB		
	comp=Z,151nm,5.0s						
KMI				LR	LR		
	comp=N,509nm,11.8s,MS4.3						
KMI				LR	LR		
	comp=E,360nm,13.6s,MS4.3						
KMI				LR	LR		
	comp=Z,577nm,12.8s,MS4.3						
SHL	**Shillong**	**25.81**	**350**	*i* P	**P**	**01 47 17.0**	**+3.1**
GYA	**Guiyang**	**27.90**	**19**↓	*i* P	**P**	**01 47 33.0**	**+0.3**
GYA				AP		01 47 40.3	
GYA				XP	sP	01 47 44.6	+11
GYA				PP		01 48 19.8	
GYA				S	**S**	**01 52 13.1**	**-4.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
GYA				AMB	AMB		
	comp=Z,90nm,3.6s						
GYA				LR	LR		
	comp=N,480nm,15.6s,MS4.3						
GYA				LR	LR		
	comp=E,410nm,16.0s,MS4.3						
GYA				LR	LR		
	comp=Z,470nm,15.8s,MS4.2						
JIRN	**Jiri**	**29.29**	**340**	*e*P	**P**	**01 47 46.8**	**+1.7**
	comp=Z,23nm,0.7s,mb5.1						
GUN	**Gumba**	**29.62**	**340**	*e*P	**P**	**01 47 49.1**	**+1.0**
	comp=Z,54nm,0.7s,mb5.5						
LSA	**Lhasa**	**29.97**	**350**	*e*P	**P**	**01 47 52.5**	**+1.3**
LSA				*e*		01 48 03.0	
GKN	**Gorkha**	**30.15**	**338**	*e*P	**P**	**01 47 54.2**	**+1.4**
KOLN	**Koldanda**	**30.35**	**336**	*e*P	**P**	**01 47 55.4**	**+0.9**
	comp=Z,35nm,0.7s,mb5.3						
MBWA	**Marble Bar**	**30.73**	**135**	*e*P	**P**	**01 47 58.5**	**+0.6**
CD2	**Chengdu**	**31.37**	**11**	P	**P**	**01 48 03.0**	**-0.5**
CD2				AP		01 48 12.5	
CD2				XP	sP	01 48 16.5	+13
CD2				PP	PP	01 49 07.1	-7.1
CD2				S	**S**	**01 53 07.3**	**-4.4**
CD2				XS	sS	01 53 23.1	+11
CD2				SS	SS	01 54 55.5	-30
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				LR	LR		
	comp=E,380nm,19.2s						
CD2				LR	LR		
	comp=Z,200nm,12.0s						
ENH	**Enshi**	**32.36**	**21**	*e*P	**P**	**01 48 13.8**	**+1.6**
FITZ	**Fitzroy Crossi**	**33.56**	**124**	*e*P	**P**	**01 48 22.9**	**+0.2**
	comp=Z,9.6nm,1.1s,mb4.6						
FITZ	**Fitzroy Crossi**	**33.56**	**124**	P	**P**	**01 48 22.9**	**+0.2**
	comp=Z,3.9nm,0.8s,mb4.4,baz=309,slow=10,SNR=11						
XAN	**Xi'an**	**35.65**	**17**	P	**P**	**01 48 40.3**	**-0.5**
XAN				AMB	AMB		
	comp=Z,15nm,1.5s,mb4.6						
LZH	**Lanzhou**	**36.43**	**10**	*e*P	**P**	**01 48 47.5**	**0.0**
LZH				AP		01 48 52.6	
LZH				AMB	AMB		
	comp=Z,22nm,1.4s,mb4.8						
MUN	**Mundaring**	**36.75**	**152**	*e*P	**P**	**01 48 52.8**	**+2.6**
NWAO	**Narrogin (SRO)**	**38.02**	**152**	P	**P**	**01 48 59.5**	**-1.5**
GTA	**Gaotai**	**39.26**	**4**	*e*P	**P**	**01 49 11.8**	**+0.4**
GTA				AP		01 49 16.3	
GTA				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.1						
WRA	**Warramunga Arr**	**41.74**	**121**	P	**P**	**01 49 32.2**	**+0.3**
	comp=Z,9.3nm,0.9s,mb4.5,baz=298,slow=9.2,SNR=23						
WRAB	**Tennant Creek**	**41.75**	**121**	*e*P	**P**	**01 49 32.1**	**+0.1**
WRAB				*e*PP		01 49 41.3	
WRAB				*e*SP	sP	01 49 46.2	+14
WRAB				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.8						
WRAB	**Tennant Creek**	**41.75**	**121**	*e*P	**P**	**01 49 32.1**	**+0.2**
	comp=Z,18nm,1.0s,mb4.8						
WRAB				epP		01 49 41.3	
WRAB				esP	sP	01 49 46.2	+14
WB2	**Warramunga Arr**	**41.75**	**121**	*e*P	**P**	**01 49 31.5**	**-0.5**
FORT	**Forrest**	**42.64**	**139**	*e*P	**P**	**01 49 40.9**	**+1.6**
	comp=Z,8.0nm,0.6s,mb4.6						
HHC	**Hu-ho-hao-te**	**42.74**	**16**	*e*P	**P**	**01 49 41.6**	**+1.5**
HHC				AP		01 49 51.5	
HHC				XP	sP	01 49 55.5	+15
HHC				PP	PP	01 51 23.8	+4.7
HHC				PCP	PcP	01 51 32.5	+0.8
HHC				SCP	ScP	01 55 19.5	-4.2
HHC				PCS	PcS	01 55 23.5	-0.3
HHC				S	**S**	**01 56 05.3**	**+0.6**
HHC				XS	sS	01 56 20.8	+16
HHC				SS	SS	01 59 08.5	-6.5
HHC				SCS	ScS	01 59 37.4	-5.2
HHC				AMB	AMB		
	comp=Z,24nm,1.3s,mb4.8						
HHC				AMB	AMB		
	comp=Z,119nm,5.2s						
HHC				LR	LR		
	comp=N,176nm,13.7s,MS4.3						
HHC				LR	LR		
	comp=E,192nm,12.4s,MS4.3						
HHC				LR	LR		
	comp=Z,205nm,13.5s,MS4.2						
ASAR	**Alice Springs**	**43.00**	**126**	P	**P**	**01 49 42.8**	**+0.6**
	comp=Z,2.9nm,0.4s,mb4.3,baz=293,slow=8.2,SNR=43						
BJI	**Beijing**	**43.52**	**22**	*e*P	**P**	**01 49 46.3**	**-0.1**
BJI				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.7						
WMQ	**Urumqi**	**44.33**	**351**	⇑P	**P**	**01 49 53.6**	**+0.7**
WMQ				AP		01 50 03.1	
WMQ				XP	sP	01 50 07.1	+14
WMQ				PP	PP	01 51 38.6	+2.5
WMQ				*e*S	**S**	**01 56 25.6**	**-2.3**
WMQ				XS	sS	01 56 41.8	+13
WMQ				AMB	AMB		
	comp=Z,14nm,1.5s,mb4.5						
WMQ				LR	LR		
	comp=N,31nm,20.7s,MS3.5						
WMQ				LR	LR		
	comp=E,64nm,23.2s,MS3.5						
WMQ				LR	LR		
	comp=Z,70nm,20.7s,MS3.6						
ULHL	**Ulahol**	**45.92**	**339**	P	**P**	**01 50 06.4**	**+0.8**
	SNR=6.4						
UCH	**Uchtor**	**46.55**	**337**	P	**P**	**01 50 12.0**	**+1.5**
	SNR=9.4						
KBK	**Karagaybulak**	**46.75**	**338**	P	**P**	**01 50 13.8**	**+1.7**
	SNR=6.2						
AML	**Almayashu**	**46.80**	**336**	P	**P**	**01 50 14.1**	**+1.7**
	SNR=8.3						
AAK	**Ala-Archa**	**46.91**	**337**	*e*P	**P**	**01 50 13.5**	**+0.2**
AAK				*e**PP		01 50 23.2	
AAK				*e**SP	sP	01 50 28.3	+15
AAK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.8						
AAK	**Ala-Archa**	**46.91**	**337**	*e*P	**P**	**01 50 13.5**	**+0.2**
	comp=Z,7.7nm,1.1s,mb4.8						
AAK				*ep*P		01 50 23.2	
AAK				*es*P	sP	01 50 28.3	+15
FRU	**Bishkek**	**47.03**	**338**	*e*P	**P**	**01 50 19.0**	**+4.7**
USP	**Ospenovka**	**47.45**	**338**	P	**P**	**01 50 18.6**	**+1.1**
	SNR=13						
MK31	**Makanchi Array**	**48.26**	**347**	P	**P**	**01 50 23.4**	**-0.4**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.8						
MKAR	**Makanchi Array**	**48.26**	**347**	P	**P**	**01 50 23.7**	**-0.1**
	comp=Z,7.4nm,0.7s,mb4.9,baz=154,slow=6.7,SNR=67						
SONM	**Songino Array**	**48.30**	**9**	P	**P**	**01 50 24.8**	**+0.7**
	comp=Z,3.9nm,0.7s,mb4.6,baz=192,slow=8.4,SNR=25						
SONM				LR	LR	02 12 01.7	
	comp=Z,168nm,18.9s,MS4.0,baz=210,slow=38						
KKAR	**Karatay Array**	**48.92**	**334**	P	**P**	**01 50 29.0**	**+0.1**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
ZAK	**Zakamensk**	**50.43**	**5**	*i* P	**P**	**01 50 40.5**	**+0.1**
ZAK				*e*		01 52 40.6	
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.8s,mb4.4						
ZAK				pmax	pmax		
	comp=Z,8.0nm,2.0s,mb4.3						
PMG	**Port Moresby**	**50.95**	**102**	P	**P**	**01 50 43.4**	**-0.9**
	comp=Z,13nm,0.7s,mb5.0,baz=307,slow=7.4,SNR=4.4						
CTAO	**Charters Tower**	**52.32**	**116**	*e*P	**P**	**01 50 55.3**	**+0.8**
CTAO				*e**PP		01 51 03.3	
CTAO				*e**SP	sP	01 51 10.4	+15
MJAR	**Matsushiro Arr**	**52.76**	**42**	P	**P**	**01 50 57.5**	**-0.4**
	comp=Z,1.4nm,0.8s,mb4.0,baz=222,slow=8.4,SNR=5.1						
MJAR				LR	LR	02 13 58.3	
	comp=Z,116nm,18.5s,MS4.0,baz=210,slow=37						
KURK	**Kurchatov**	**52.80**	**346**	*e*P	**P**	**01 50 57.6**	**-0.5**
KURK				*e**PP		01 51 06.6	
KURK				pmax	pmax		
	comp=Z,20nm,1.4s,mb4.8						
KURK	**Kurchatov**	**52.80**	**346**	*e*P	**P**	**01 50 57.6**	**-0.5**
	comp=Z,20nm,1.4s,mb4.8						
KURK				*ep*P		01 51 06.6	
STKA	**Stephens Creek**	**52.86**	**131**	*e*P	**P**	**01 50 57.4**	**-1.2**
	comp=Z,11nm,1.5s,mb4.6						
STKA	**Stephens Creek**	**52.86**	**131**	P	**P**	**01 50 57.7**	**-0.9**
	comp=Z,8.4nm,0.9s,mb4.7,baz=306,slow=7.1,SNR=12						
STKA				LR	LR	02 15 59.6	
	comp=Z,111nm,18.6s,MS3.9,baz=203,slow=39						
MDJ	**Mudanjiang**	**53.02**	**29**	P	**P**	**01 51 01.4**	**+1.6**
MDJ				AP		01 51 07.8	
MDJ				XP	sP	01 51 10.3	+10
MDJ				PP	PP	01 53 01.5	+2.1
MDJ				SCP	ScP	01 56 05.6	-1.4
MDJ				PCS	PcS	01 56 08.1	+0.9
MDJ				S	**S**	**01 58 31.8**	**+1.3**
MDJ				XS	sS	01 58 42.6	+12
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,111nm,4.2s						
MDJ				LR	LR		
	comp=N,59nm,23.8s						
MDJ				LR	LR		
	comp=E,86nm,16.6s						
MDJ				LR	LR		
	comp=Z,121nm,19.0s,MS4.0						
CIT	**Chita**	**53.65**	**13**	*e*P	**P**	**01 51 04.8**	**+0.4**
CIT				pmax	pmax		
	comp=Z,36nm,1.5s,mb5.2						
NVS	**Novosibirsk**	**55.73**	**351**	*i* P	**P**	**01 51 17.7**	**-1.8**
NVS				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.8						
NVS				pmax	pmax		
	comp=N,13nm,1.5s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.5s						
VOSK	**Vostochnaya**	**56.76**	**341**	P	**P**	**01 51 25.6**	**-1.3**
VOSK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
BRVK	**Borovoye**	**57.27**	**341**	*e*P	**P**	**01 51 25.1**	**-5.4**
BRVK				*e**PP		01 51 37.8	
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
BRVK	**Borovoye**	**57.27**	**341**	*e*P	**P**	**01 51 25.1**

TIXI				pmax	pmax			
	comp=Z,11nm,1.1s,mb4.8							
TIXI				MLR	MLR			
	comp=Z,132nm,16.0s,MS4.3							
AKASG	**Malin Array Be**	**75.95**	**323**	P	**P**	**01 53 28.2**	**-1.5**
	comp=Z,1.8nm,0.5s,mb4.5,baz=91,slow=4.6,SNR=12							
SYO	**Syowa Base**	**78.82**	**198**	*e*PcP	PcP	01 53 52.2	-2.4
FINES	**FINESS Array B**	**80.84**	**333**	P	**P**	**01 53 55.9**	**-1.0**
	comp=Z,1.1nm,0.6s,mb4.1,baz=109,slow=3.9,SNR=9.3							
ARCES	**ARCESS Array B**	**83.49**	**340**	P	**P**	**01 54 10.6**	**-0.2**
	comp=Z,0.5nm,0.4s,mb4.1,baz=105,slow=3.8,SNR=12							
VNDA	**Vanda**	**84.78**	**169**	P	**P**	**01 54 16.4**	**-1.0**
	comp=Z,3.3nm,1.3s,mb4.4,baz=247,slow=3.5,SNR=3.8							
GERES	**GERESS Array B**	**85.44**	**319**	P	**P**	**01 54 18.1**	**-2.5**
	comp=Z,0.7nm,0.8s,mb4.0,baz=101,slow=5.6,SNR=8.3							
CLL	**Collm**	**86.10**	**321**	*e*P	**P**	**01 54 23.0**	**-0.9**
	comp=Z,13nm,1.4s,mb4.9							
CLL	**Collm**	**86.10**	**321**	*e*P	**P**	**01 54 23.0**	**-0.9**
NB2	**NORSAR Subarra**	**87.83**	**331**	P	**P**	**01 54 30.7**	**-1.6**
	comp=Z,3.1nm,0.8s,mb4.7,baz=95,slow=5.1							
NOA	**NORSAR Array B**	**87.83**	**331**	P	**P**	**01 54 31.0**	**-1.3**
	comp=Z,1.6nm,0.9s,mb4.4,baz=96,slow=4.6,SNR=4.0							
NOA				LR	LR	02 35 17.8		
	comp=Z,23nm,18.0s,MS3.6,baz=325,slow=37							
TORD	**Torodi Ar. Bea**	**95.01**	**283**	P	**P**	**01 55 04.6**	**-1.1**
	comp=Z,0.8nm,1.1s,mb4.1,baz=98,slow=4.3,SNR=7.5							
CPUP	**Villa Florida**	**143.93**	**222**	PKP	PKPdf	02 01 16.9	-1.6	
	comp=Z,2.9nm,0.6s,baz=109,slow=2.8,SNR=16							
CPUP	**Villa Florida**	**143.93**	**222**	*e*PKPdf	PKPdf	02 01 16.7	-1.8	
CPUP				*ep*PKPdf	pPKPdf	02 01 25.8	+7.0	
CPUP				*es*PKPdf		02 01 32.6		

NIED ***19*** *02:15:00,27.70N×129.40E, h35km, Mw4.1 Best double couple: M0=1.78000×10^15 NP1:φ=212.00000°, δ=71.00000°, λ=-132.00000°. NP2:φ=102.00000°, δ=45.00000°, λ=-27.00000°*

IDC ***19*** *02:15:50.9±0.8, 2705N×12695E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/20, mbtmp3.8/7, Error ellipse: s-maj=26.3km s-min=17.3km az=41.0*

ISCJB ***19*** *02:15:51.8±0.8, 2763N±005×12960E±007, h42km±9km, mb3.9/6, Error ellipse: s-maj=11.8km s-min=7.7km az=56.4*

JMA ***19*** *02:15:51.7±0.1, 2761N×12960E, h42km±5km, M4.0*

NEIC ***19*** *02:15:59.1±2.8, 2708N×12734E, h64km±27km, MG3.9(JMA), Error ellipse: s-maj=50.3km s-min=16.9km az=77.0*

ISC 19 02:15:52.1±1.3, 2766N±005×12960E±007, h32km±9km, n18, σ0§78/20, mb3.9/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.59**	**283**	P	**Pb**	**02 16 03.9**	**-0.1**
JTK				S	**Sb**	**02 16 12.4**	**+0.3**
JAM	**Amami Oshima**	**0.75**	**1**	P	**Pn**	**02 16 06.7**	**+0.2**
JAM				S	**Sn**	**02 16 17.3**	**+0.5**
JOW	**Kunigami**	**1.43**	**235**	Pn	**Pn**	**02 16 15.8**	**-0.1**
	84nm,0.3s,baz=100,slow=20,SNR=73						
JOW				Sn	**Sn**	**02 16 34.0**	**+0.5**
	133nm,0.3s,baz=152,slow=24,SNR=9.9						
JOW	**Kunigami**	**1.43**	**235**	P	**Pn**	**02 16 15.6**	**-0.3**
JIH	**Iheya**	**1.57**	**247**	P	**Pn**	**02 16 17.8**	**0.0**
JIH				*e*S	**Sn**	**02 16 36.9**	**-0.2**
JJT2	**Tamagusuku 2**	**2.24**	**228**	P	**Pn**	**02 16 27.1**	**+0.2**
JMZ	**Minamidaito 2**	**2.34**	**141**	P	**Pn**	**02 16 27.4**	**-0.9**
JAGN	**Aguni-jima**	**2.35**	**244**	P	**Pn**	**02 16 28.4**	**-0.1**
JKE	**Kume jima 2**	**2.83**	**243**	P	**Pn**	**02 16 34.5**	**-0.6**
WRA	**Warramunga Arr**	**47.54**	**174**	P	**P**	**02 24 24.8**	**+0.4**
	0.7nm,0.5s,mb3.9,baz=353,slow=8.4,SNR=6.1						
ASAR	**Alice Springs**	**51.19**	**175**	P	**P**	**02 24 53.6**	**+1.3**
	0.5nm,0.6s,mb3.7,baz=3.7,slow=14,SNR=8.0						
STKA	**Stephens Creek**	**60.29**	**168**	P	**P**	**02 26 01.0**	**+3.5**
	2.7nm,1.0s,mb4.2,baz=323,slow=5.1,SNR=3.4						
STKA	**Stephens Creek**	**60.29**	**168**	P	**P**	**02 26 01.0**	**+3.5**
FINES	**FINESS Array B**	**72.23**	**331**	P	**P**	**02 27 14.1**	**0.0**
	1.1nm,0.5s,mb4.0,baz=60,slow=6.8,SNR=14						
YKA	**Yellowknife Ar**	**76.72**	**25**	P	pP	02 27 51.0	+0.8
	0.3nm,0.8s,baz=300,slow=5.9,SNR=4.2						
YKA	**Yellowknife Ar**	**76.72**	**25**	P	pP	02 27 51.0	+0.8
BRTR	**Keskin Array B**	**77.12**	**308**	P	**P**	**02 27 40.0**	**-2.4**
	0.4nm,0.5s,mb3.6,baz=9,slow=5.3,SNR=4.3						
NOA	**NORSAR Array B**	**78.57**	**334**	P	**P**	**02 27 50.2**	**-0.3**
	0.6nm,0.6s,mb3.7,baz=52,slow=5.6,SNR=2.9						

NEIC 19 02:49:40.6, 5821N×15591W, h148km, mb3.4/1, After AEIC., Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.82**	**102**	P	Pn	02 50 12.4	-1.0
KDAK				S	Sn	02 50 37.3	-1.4
CHGN	**Chignik**	**2.34**	**217**	*e*P	Pn	02 50 17.8	-1.8
SVW2	**Sparrevohn**	**2.91**	**3**	*e*P	Pn	02 50 25.0	-1.6
SLKM	**Skilak Lake**	**3.72**	**49**	*e*Pn	Pn	02 50 35.6	-1.4
SLKM				*e*Sn	Sn	02 51 17.6	-3.2
SDPT	**Sand Point**	**3.81**	**223**	*e*P	Pn	02 50 35.8	-2.4
SEW	**Seward**	**3.83**	**58**	P	Pn	02 50 37.6	-0.9
SEW				S	Sn	02 51 19.7	-3.9
FIB	**Fire Island**	**4.15**	**42**	P	Pn	02 50 41.4	-1.3
RC01	**Rabbit Creek A**	**4.26**	**45**	P	Pn	02 50 42.2	-1.9
RC01				S	Sn	02 51 30.1	-3.5
TT01	**Tatalina**	**4.72**	**359**	P	Pn	02 50 48.5	-1.6
TTA	**Tatalina**	**4.74**	**359**	*e*P	Pn	02 50 48.8	-1.6
PMR	**Palmer**	**4.81**	**42**	*e*Pn	Pn	02 50 49.6	-1.8
KNK	**Knik Glacier**	**4.95**	**46**	P	Pn	02 50 50.3	-2.9
GHO	**Glory Hole Cre**	**5.01**	**41**	P	Pn	02 50 51.2	-2.8
MID	**Middleton Isla**	**5.12**	**72**	*e*P	Pn	02 50 54.2	-1.3
SML	**Sawmill**	**5.24**	**43**	P	Pn	02 50 53.9	-3.3
EYAK	**Cordova Ski Ar**	**5.70**	**61**	P	Pn	02 51 01.5	-1.7
KTH	**Kantishna Hill**	**5.89**	**22**	P	Pn	02 51 03.9	-1.8
BMRM	**Bremner River**	**6.37**	**59**	P	Pn	02 51 10.3	-1.9
MENT	**Mentasta**	**7.65**	**47**	*e*P	Pn	02 51 27.0	-2.2
IL1	**Eielson Array**	**7.87**	**29**	P	Pn	02 51 28.2	-3.9
IM3	**Indian Mountai**	**7.87**	**6**	P	Pn	02 51 30.6	-1.6
DAWY	**Dawson**	**9.89**	**47**	*e*Pn	Pn	02 51 57.0	-2.2
DLBC	**Dease Lake**	**13.58**	**78**	*e*P	Pn	02 52 50.7	+3.6
INK	**Inuvik**	**14.18**	**35**	*e*P	Pn	02 52 49.9	-4.9
	0.8nm,0.4s						

ISCJB ***19*** *03:22:27.0±0.7, 603N±0.1×167.1E±02, h10km, mb3.9/10, Error ellipse: s-maj=16.5km s-min=11.7km az=38.7*

IDC ***19*** *03:22:28.1±1.0, 6038N×16694E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.7/24, mbtmp3.8/8, ML3.4/1, Error ellipse: s-maj=28.0km s-min=15.3km az=66.0*

MOS ***19*** *03:22:32.0±0.8, 6117N×16700E, h10km, mb4.1/5, Error ellipse: s-maj=37.7km s-min=15.8km az=88.0*

NEIC ***19*** *03:22:33.5±1.1, 6107N×16701E, h10km, mb4.2/5, Error ellipse: s-maj=25.0km s-min=9.8km az=180.0*

ISC 19 03:22:28.9±0.7, 603N±01×1671E±02, h10km, n24, σ0§70/25, mb3.9/10, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BILL	**Bilibino**	**7.75**	**358**	*e*PN	**Pn**	**03 24 15.5**	**-6.3**
BILL	**Bilibino**	**7.75**	**358**	*e*Pn	**Pn**	**03 24 15.5**	**-6.3**
FX1	**Attu Island--F**	**8.19**	**153**	Pn	**Pn**	**03 24 27.3**	**-0.4**
	1.5nm,0.3s,baz=327,slow=14,SNR=8.5						
FX1				Sn	**Sn**	**03 25 53.1**	**-7.1**
	0.6nm,0.3s,baz=286,slow=20,SNR=2.5						
COLA	**College**	**20.88**	**58**	*e*P	**P**	**03 27 11.3**	**+0.2**
COLA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
COLA	**College**	**20.88**	**58**	*e*P	**P**	**03 27 11.3**	**+0.2**
	comp=Z,3.5nm,1.0s						
ILAR	**Eielson Array**	**21.30**	**58**	P	**P**	**03 27 15.5**	**-0.2**
	comp=Z,1.4nm,0.7s,mb3.4,baz=252,slow=7.9,SNR=22						
DAWY	**Dawson**	**24.63**	**58**	*e*P	**P**	**03 27 49.0**	**-0.4**
INK	**Inuvik**	**25.93**	**47**	P	**P**	**03 28 01.0**	**-0.2**
	comp=Z,2.9nm,0.5s,mb4.0,baz=303,slow=7.9,SNR=16						
INK	**Inuvik**	**25.93**	**47**	*e*P	**P**	**03 28 01.5**	**+0.3**
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	**Inuvik**	**25.93**	**47**	*e*P	**P**	**03 28 01.5**	**+0.2**
	comp=Z,3.2nm,0.6s,mb4.0						
YKA	**Yellowknife Ar**	**35.42**	**52**	P	**P**	**03 29 26.5**	**+1.5**
	comp=Z,0.2nm,0.5s,mb3.3,baz=302,slow=8.1,SNR=3.4						
KURK	**Kurchatov**	**47.30**	**300**	*e*P	**P**	**03 31 03.3**	**+0.8**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
KURK	**Kurchatov**	**47.30**	**300**	*e*P	**P**	**03 31 03.2**	**+0.7**
	comp=Z,1.1nm,0.5s,mb4.0						
ARCES	**ARCESS Array B**	**47.55**	**343**	P	**P**	**03 31 03.3**	**-1.2**
	comp=Z,1.2nm,0.6s,mb4.1,baz=30,slow=8.7,SNR=7.9						
CHKZ	**Chkalovo**	**48.39**	**308**	*e*P	**P**	**03 31 11.1**	**+0.1**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
CHKZ	**Chkalovo**	**48.39**	**308**	*e*P	**P**	**03 31 11.1**	**+0.1**
	comp=Z,1.9nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**49.58**	**308**	*e*P	**P**	**03 31 20.5**	**+0.4**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
ZRNK	**Zerenda**	**49.58**	**308**	*e*P	**P**	**03 31 20.5**	**+0.4**
	comp=Z,1.0nm,0.6s,mb4.0						
FINES	**FINESS Array B**	**54.90**	**338**	P	**P**	**03 31 58.4**	**-1.3**
	comp=Z,0.8nm,0.6s,mb4.0,baz=15,slow=7.9,SNR=5.5						
FINES	**FINESS Array B**	**54.90**	**338**	P	**P**	**03 31 58.4**	**-1.3**
AKTK	**Aktyubinsk**	**55.73**	**313**	P	**P**	**03 32 06.0**	**+0.4**
AKTO	**Aktyubinsk**	**55.73**	**313**	P	**P**	**03 32 06.0**	**+0.4**
	comp=Z,0.9nm,0.7s,mb3.9,baz=6.3,slow=9.2,SNR=3.9						
NB2	**NORSAR Subarra**	**57.53**	**346**	P	**P**	**03 32 17.8**	**-0.7**
	comp=Z,1.3nm,0.5s,mb4.2,baz=14,slow=7.4						
NOA	**NORSAR Array B**	**57.53**	**346**	P	**P**	**03 32 18.1**	**-0.3**
	comp=Z,1.6nm,0.5s,mb4.3,baz=13,slow=7.3,SNR=4.0						

ISCJB ***19*** *03:37:34.6±0.4, 3312N±002×525W±003, h10km, Error ellipse: s-maj=4.0km s-min=3.2km az=20.7*

NEIC ***19*** *03:37:35.7, 3299N×545W, h0km, MG3.8(MDD), After MDD.*

MDD ***19*** *03:37:36.4±0.4, 3302N×5.18W, h7km±5km, mb3.7/6, Error ellipse: s-maj=5.5km s-min=3.7km az=89.0, PRXIMO*

CNRM ***19*** *03:37:36.7, 3302N×5.15W, h6km, MD3.4*

CSEM ***19*** *03:37:36.9±0.1, 3288N×5.24W, h15km, MD3.4, Error ellipse: s-maj=2.4km s-min=1.6km az=99.0*

INMG ***19*** *03:37:38.2±0.6, 3308N×5.07W, h31km, ML2.3, Error ellipse: s-maj=13.2km s-min=4.8km az=68.0*

ISC 19 03:37:35.7±0.4, 3304N±002×522W±003, h10km, n33, σ1§03/58, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZD	**Col de Zad**	**0.15**	**94**	*i* P	**Pg**	**03 37 38.0**	**-1.0**
CZD				*e*S	**Sg**	**03 37 42.0**	**+0.7**
MIF	**Mishlifen**	**0.36**	**358**	*i* P	**Pg**	**03 37 43.5**	**+0.6**
MIF				*i* S	**Sg**	**03 37 49.0**	**+1.2**
IFR	**Ifrane**	**0.48**	**9**	P	**Pg**	**03 37 50.5**	**+5.5**
IFR				S	**Sg**	**03 37 57.0**	**+5.6**
KIB	**El Ksiba**	**0.83**	**236**	*i* P	**Pg**	**03 37 52.0**	**+0.2**
KIB				*i* S	**Sg**	**03 38 05.0**	**+2.3**
TGT	**Taghat**	**1.03**	**7**	*i* P	**Pg**	**03 37 56.0**	**+0.4**
TGT				*i* S	**Sg**	**03 38 10.0**	**+1.0**
ZFT	**Errachidia**	**1.24**	**144**	*i* P	**Pn**	**03 37 58.5**	**-0.6**
ZFT				*i* S	**Sb**	**03 38 14.0**	**-1.3**
TZC	**Tazercounte**	**1.40**	**231**	*i* P	**Pn**	**03 38 00.0**	**-1.3**
TZC				*i* S	**Sn**	**03 38 20.0**	**+0.2**
AVE	**Averroes**	**1.86**	**278**	P	**Pg**	**03 38 11.5**	**+0.1**
AVE				S	**Sg**	**03 38 35.5**	**0.0**
OUK	**Oukaimeden**	**2.90**	**232**	*e*P	**Pn**	**03 38 22.0**	**+0.1**
OUK				*i* S	**Sn**	**03 38 56.0**	**-0.8**
CIA	**Chichaoua**	**3.34**	**245**	*e*P	**Pn**	**03 39 20.0**	**+1.0**
CIA				*i* S	**Sn**	**03 39 08.0**	**+0.2**
EMIJ	**Mijas**	**3.53**	**6**	P	**Pn**	**03 38 31.4**	**+0.8**
	1.0nm,0.3s,SNR=7.9						
EMIJ				S	**Sn**	**03 39 13.4**	**+1.0**
	0.8nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**4.85**	**338**	P	**Pn**	**03 38 48.8**	**+0.1**
	5.0nm,0.3s,SNR=10						
EGRO				S	**Sn**	**03 39 42.6**	**-2.3**
	1.7nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.85**	**338**	P	**Pn**	**03 38 48.8**	**+0.1**
	5.0nm,0.3s,SNR=10						
EGRO				S	**Sn**	**03 39 42.6**	**-2.3**
	1.7nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.86**	**346**	P	**Pn**	**03 38 48.9**	**0.0**
	5.2nm,1.0s,SNR=12						
EMIN				S	**Sn**	**03 39 43.6**	**-1.6**
	0.5nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.86**	**346**	P	**Pn**	**03 38 48.9**	**0.0**
	5.2nm,1.0s,SNR=12						
EMIN				S	**Sn**	**03 39 43.6**	**-1.6**
	0.5nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**5.14**	**6**	P	**Pn**	**03 38 53.6**	**+0.9**
	3.3nm,1.0s,SNR=5.2						
EADA				S	**Sn**	**03 39 50.7**	**-1.3**
	0.9nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**5.14**	**6**	P	**Pn**	**03 38 53.6**	**+0.9**
	3.3nm,1.0s,SNR=5.2						
EADA				S	**Sn**	**03 39 50.7**	**-1.4**
	0.9nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	**5.33**	**328**	*e*Pn	**Pn**	**03 38 55.4**	**+0.1**
PTEO				*e*Sn	**Sn**	**03 39 53.5**	**-3.3**
PTEO							
	5.6nm,0.7s						
PTEO	**Sao Teotonio**	**5.33**	**328**	*e*Pn	**Pn**	**03 38 55.4**	**+0.1**
PTEO				*e*Sn	**Sn**	**03 39 53.5**	**-3.3**
PBEJ	**Beja**	**5.42**	**337**	*e*Pn	**Pn**	**03 38 56.7**	**+0.1**
PBEJ				*e*Sn	**Sn**	**03 39 56.0**	**-3.0**
PBEJ							
	1.5nm,0.3s						
PBEJ	**Beja**	**5.42**	**337**	*e*Pn	**Pn**	**03 38 56.7**	**+0.1**
PBEJ				*e*Sn	**Sn**	**03 39 56.0**	**-3.0**
EBAD	**Badajoz**	**5.88**	**346**	P	**Pn**	**03 39 03.0**	**+0.1**
	1.5nm,0.3s,SNR=13						
EBAD				S	**Sn**	**03 40 06.4**	**-4.0**
	1.1nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**5.88**	**346**	P	**Pn**	**03 39 03.0**	**+0.1**
	1.5nm,0.3s,SNR=13						
EBAD				S	**Sn**	**03 40 06.4**	**-4.0**
	1.1nm,0.2s,SNR=7.9						
MOE	**Montemor**	**6.03**	**336**	*e*Pn	**Pn**	**03 39 05.5**	**+0.5**
MOE				*e*Sn	**Sn**	**03 40 10.9**	**-3.2**
ETOB	**Tobarra**	**6.33**	**27**	P	**Pn**	**03 39 11.8**	**+2.7**
	0.5nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**6.33**	**27**	P	**Pn**	**03 39 11.8**	**+2.7**
	0.5nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**7.02**	**346**	*e*Pn	**Pn**	**03 39 18.5**	**-0.1**
PCBR				*e*Sn	**Sn**	**03 40 33.5**	**-5.0**
PTOM	**Tomar**	**7.05**	**339**	*e*Pn	**Pn**	**03 39 19.0**	**+0.1**
MTE	**Manteigas**	**7.58**	**346**	*e*Pn	**Pn**	**03 39 26.3**	**+0.1**
PVIS	**Viseu**	**7.95**	**345**	*e*Pn	**Pn**	**03 39 31.7**	**+0.4**
PVRL	**Vila Real**	**8.46**	**347**	*e*Pn	**Pn**	**03 39 38.4**	**+0.2**
PBRG	**Braganca**	**8.83**	**353**	*e*Pn	**Pn**	**03 39 42.8**	**-0.6**
PCAB	**Cabril**	**8.94**	**346**	*e*Pn	**Pn**	**03 39 45.0**	**+0.2**

PRE 19 03:39:01.6±0.8, 2137S×3284E, h5km, ML3.6, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFT	**Belfast (SA)**	**5.01**	**210**	*e*P	Pn	03 40 18.4	+1.0
BFT				*e*S	Sn	03 41 14.7	-1.0
BFT				AML	AML	03 41 28.7	
	comp=Z,12nm,0.5s						
POGA	**Pongola**	**6.08**	**190**	*e*P	Pn	03 40 32.9	+0.8
POGA				*e*S	Sn	03 41 38.5	-3.7
POGA				AML	AML	03 42 28.6	
	comp=Z,30nm,0.6s						
LBTB	**Lobatse**	**7.59**	**240**	*e*P	Pn	03 40 53.6	+0.7
LBTB				*e*S	Sn	03 42 16.2	-3.1
LBTB				AML	AML	03 43 19.9	
	comp=Z,17nm,0.6s						

NEIC ***19*** *04:01:29.3, 3835N×2177E, h25km, MD3.3(ATH), After ATH.*

THE ***19*** *04:01:29.9, 3832N×2186E, h10km, ML2.9*

ATH ***19*** *04:01:29.5, 3835N×2179E, h23km±3km, MD3.3/8*

CSEM ***19*** *04:01:29.8±0.2, 3833N×2184E, h2km, MD3.3, Error ellipse: s-maj=4.9km s-min=3.5km az=123.0*

ISCJB ***19*** *04:01:30.2±0.6, 3837N±004×2174E±006, h23km±7km, Error ellipse: s-maj=8.7km s-min=5.1km az=68.2*

ISC 19 04:01:30.0±0.6, 3833N±004×2184E±005, h12km±7km, n15, σ1§15/23, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.40**	**227**	*e*PB	**Pg**	**04 01 37.8**	**-0.2**
RLS				*e*SB	**Sg**	**04 01 44.2**	**+0.8**
EVR	**Evrytania**	**0.58**	**358**	*e*PN	**Pg**	**04 01 40.5**	**-0.9**
EVR				*e*SN	**Sg**	**04 01 49.9**	**+0.8**
AGG	**Agios Georgios**	**0.79**	**29**	*e*Pg	**Pg**	**04 01 44.5**	**-0.8**
AGG				*e*Sg	**Sg**	**04 01 56.6**	**+1.0**
LKR	**Lokris**	**0.96**	**70**	*e*PN	**Pn**	**04 01 48.1**	**-1.2**
VLS	**Valsamata**	**1.00**	**261**	*e*PN	**Pn**	**04 01 47.6**	**-2.2**
LKD	**Levkas**	**1.00**	**292**	*e*Pg	**Pg**	**04 01 48.2**	**-1.2**
LKD				*e*Sg	**Sg**	**04 02 04.8**	**+2.4**
LKD	**Levkas**	**1.00**	**292**	*e*Pg	**Pg**	**04 01 48.2**	**-1.2**
LKD				*e*Sg	**Sg**	**04 02 04.8**	**+2.3**
ITM	**Ithomi**	**1.15**	**177**	*e*PN	**Pn**	**04 01 52.2**	**+0.2**
MGER	**Gerania Oros**	**1.17**	**107**	*e*PN	**Pn**	**04 01 52.5**	**+0.3**
NEO	**Neokhori**	**1.45**	**48**	*e*PN	**Pn**	**04 01 56.5**	**+0.4**
XOR	**Xorichti**	**1.48**	**45**	*e*Pg	**Pg**	**04 01 57.0**	**-1.4**
XOR				*e*Sg	**Sg**	**04 02 17.9**	**+0.4**
AOS	**Alonnisos**	**1.80**	**62**	*e*Pb	**Pb**	**04 02 01.3**	**-1.6**
AOS				*e*Sb	**Sb**	**04 02 25.9**	**+0.4**
VLI	**Veliai**	**1.83**	**151**	*e*PN	**Pn**	**04 02 02.9**	**+1.6**
LIT	**Litokhoron**	**1.84**	**16**	*e*Pb	**Pb**	**04 02 02.3**	**-1.2**
LIT				*e*Sb	**Sb**	**04 02 27.7**	**+1.3**
CHOS	**Chios island**	**3.31**	**88**	*e*Pn	**Pn**	**04 02 23.2**	**+1.5**

ISCJB ***19*** *04:06:43.0±0.8, 2261S±008×661W±02, h263km±22km, mb3.7/1, Error ellipse: s-maj=29.3km s-min=11.9km az=13.6*

IDC ***19*** *04:06:43.6±1.1, 2254S×6614W, h256km±19km, mb3.5/1, mb1 3.1/6, mb1mx3.0/17, mbtmp3.7/6, Error ellipse: s-maj=28.4km s-min=16.9km az=110.0*

NEIC ***19*** *04:06:43.9±0.8, 2261S×6601W, h245km±16km, mb3.2/1, Error ellipse: s-maj=22.1km s-min=11.9km az=108.0*

ISC 19 04:06:44.1±0.8, 2258S±008×661W±02, h255km±22km, n11, σ0§83/14, mb3.7/1, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.59**	**269**	P	**Pn**	**04 07 33.6**	**+1.0**
	17nm,0.3s,baz=91,slow=6.2,SNR=164						
LVC				S	**S**	**04 08 10.9**	**-0.1**
	6.7nm,0.3s,baz=225,slow=21,SNR=2.1						
LPAZ	**La Paz**	**6.54**	**343**	P	**Pn**	**04 08 19.9**	**+0.9**
	0.2nm,0.3s,baz=165,slow=11,SNR=9.6						
LPAZ				S	**S**	**04 09 34.3**	**-0.9**
	0.1nm,0.3s,baz=263,slow=18,SNR=6.0						
LPAZ	**La Paz**	**6.54**	**343**	P	**Pn**	**04 08 19.9**	**+0.9**
LPAZ				S	**S**	**04 09 34.3**	**-0.9**
SIV	**San Ignacio**	**8.09**	**37**	P	**Pn**	**04 08 37.5**	**-1.0**
	0.9nm,0.3s,baz=231,slow=12,SNR=28						
CFAA	**Coronel Fontan**	**9.19**	**191**	P	**Pn**	**04 08 51.4**	**-0.9**
	0.1nm,0.3s,baz=13,slow=12,SNR=22						
CFAA				S	**S**	**04 10 27.2**	**-8.9**
	0.1nm,0.3s,baz=146,slow=21,SNR=10						
CFAA	**Coronel Fontan**	**9.19**	**191**	P	**Pn**	**04 08 51.4**	**-0.9**
CFAA				S	**S**	**04 10 27.2**	**-8.9**
SAML	**Samuel**	**13.84**	**12**	*e*P	**Pn**	**04 09 50.5**	**+0.5**
	1.1nm,0.9s						
BDFB	**Brasilia**	**18.42**	**71**	P	**P**	**04 10 42.0**	**+1.1**
	0.3nm,0.3s,baz=252,slow=9.6,SNR=5.2						
TORD	**Torodi Ar. Bea**	**75.29**	**69**	P	**P**	**04 17 58.6**	**-0.5**
	0.8nm,0.4s,mb3.7,baz=257,slow=5.9,SNR=44						
MKAR	**Makanchi Array**	**144.91**	**39**	PKP	PKPdf	04 25 51.2	+0.6
	0.7nm,0.9s,baz=290,slow=4.3,SNR=5.6						
MKAR	**Makanchi Array**	**144.91**	**39**	PKP	PKPdf	04 25 51.2	+0.6

PRU ***19*** *04:17:02.6, 4413N×1686E, h0km*

ISCJB ***19*** *04:17:06.3±0.2, 4445N±001×1737E±003, h10km, Error ellipse: s-maj=2.9km s-min=1.9km az=129.1*

MOS ***19*** *04:17:06.9±2.9, 4444N×1760E, h10km, mb3.7/1, Error ellipse: s-maj=13.0km s-min=5.8km az=101.1*

CSEM ***19*** *04:17:06.5±0.1, 4452N×1722E, h2km, MD3.5, Error ellipse: s-maj=1.7km s-min=1.4km az=71.0*

PDG ***19*** *04:17:07.0±0.2, 4426N×1750E, h0km±11km*

SZGRF ***19*** *04:17:07.5, 4461N×1780E, h10km, mb3.4, Northwestern Balkan Peninsula*

NEIC ***19*** *04:17:07.0, 4426N×1750E, h0km, MD3.5(PDG), ML2.7(LJU), After PDG.*

ISC 19 04:17:07.3±0.2, 4443N±002×1736E±003, h10km, n85, σ1§16/135, 23C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.34**	**338**	P	**Pg**	**04 17 13.2**	**-0.8**
SISC	**Sisak**	**1.25**	**326**	*e*Pg	**Pg**	**04 17 30.6**	**-0.8**
SISC				Sg	**Sg**	**04 17 47.6**	**0.0**
SISC	**Sisak**	**1.25**	**326**	*e*Pg	**Pg**	**04 17 30.5**	**-0.9**
SISC				Sg

ARSA	**Arzberg**	**3.10**	**336**	*i* Pn		**Pn**	04 17 56.2	**0.0**	
	SNR=23								
ARSA	**Arzberg**	**3.10**	**336**	*e*Pn		**Pn**	04 17 56.4	**+0.2**	
ARSA				*e*Sn		**Sn**	04 18 30.0	**-3.3**	
BZS	**Buzias**	**3.24**	**67**	⇓*i*P		**Pg**	04 18 07.8	**-1.6**	
BZS	**Buzias**	**3.24**	**67**	S		**Sn**	04 18 36.6	**-0.2**	
BUD	**Budapest**	**3.26**	**20**	⇑*e*Pg		**Pg**	04 18 05.9	**-3.9**	
BUD				*e*Sg		**Sg**	04 18 56.1	**+4.0**	
SOP	**Sopron**	**3.30**	**351**	*e*PB		**Pn**	04 17 59.5	**+0.5**	
SOP				*e*Sg		**Sg**	04 18 54.1	**+0.9**	
ARV	**Arcevia**	**3.33**	**255**	Pn		**Pn**	04 17 59.0	**-0.4**	
SRO1	**Iza**	**3.38**	**10**	*e*SN		**Sn**	04 18 40.8	**+0.4**	
SRO2	**Moca**	**3.41**	**12**	*e*PN		**Pn**	04 18 00.2	**-0.3**	
SRO	**Srobarova**	**3.44**	**11**	*e*PN		**Pn**	04 18 02.1	**+1.1**	
SRO				*e*SN		**Sn**	04 18 41.2	**-0.7**	
NRCA	**Norcia**	**3.47**	**244**	Pn		**Pn**	04 18 00.5	**-0.9**	
CII	**Carovilli**	**3.52**	**221**	Pn		**Pn**	04 18 02.6	**+0.6**	
AQU	**L'Aquila**	**3.56**	**236**	*e*Pg		**Pg**	04 18 14.3	**-1.2**	
SG1	**Sgolgore (BA)**	**3.63**	**188**	*e*Pn		**Pn**	04 18 02.3	**-1.2**	
VVLD	**Villa Vallelon**	**3.75**	**228**	Pn		**Pn**	04 18 05.1	**-0.1**	
SGG	**Gregorio Mates**	**3.75**	**217**	Pn		**Pn**	04 18 05.7	**+0.5**	
SDI	**San Donato**	**3.77**	**225**	Pn		**Pn**	04 18 05.8	**+0.4**	
ZST	**Bratislava**	**3.77**	**357**	*e*PN		**Pn**	04 18 05.0	**-0.4**	
ZST				*e*SN		**Sn**	04 18 47.6	**-2.2**	
ZST	**Bratislava**	**3.77**	**357**	*e*Pn		**Pn**	04 18 05.0	**-0.4**	
ZST				*e*Sn		**Sn**	04 18 47.6	**-2.2**	
KBA	**Koelnbreinsper**	**3.86**	**315**	⇑*i*Pn		**Pn**	04 18 07.4	**+0.7**	
KBA				⇑*i*Sn		**Sn**	04 18 57.1	**+4.9**	
KBA	**Koelnbreinsper**	**3.86**	**315**	*e*Pn		**Pn**	04 18 08.1	**+1.4**	
SKO	**Skopje**	**3.87**	**128**	*e*Pn		**Pn**	04 18 15.6	**+8.8**	
FVI	**Forni Avoltri**	**3.88**	**305**	P		**Pn**	04 18 10.5	**+3.5**	
PSZ	**Piszkesteto**	**3.90**	**26**	⇓*e*Pn		**Pn**	04 18 06.8	**-0.5**	
PSZ				*e*Pg		**Pg**	04 18 19.8	**-2.3**	
PSZ				*e*Sg		**Sg**	04 19 16.2	**+3.5**	
PSZ	**Piszkesteto**	**3.90**	**26**	*e*Pn		**Pn**	04 18 06.9	**-0.4**	
PSZ				*e*Pg		**Pg**	04 18 21.7	**-0.4**	
PSZ	**Piszkesteto**	**3.90**	**26**	*e*Pn		**Pn**	04 18 06.9	**-0.4**	
PSZ	**Piszkesteto**	**3.90**	**26**	*e*Pg		**Pg**	04 18 21.7	**-0.4**	
MOA	**Molln**	**4.04**	**329**	⇑*i*Pn		**Pn**	04 18 10.1	**+0.9**	
	SNR=22								
MOA				⇓*i*Sn		**Sn**	04 18 56.3	**-0.2**	
MOA	**Molln**	**4.04**	**329**	*e*Pn		**Pn**	04 18 10.2	**+1.0**	
MOA				*e*Sn		**Sn**	04 18 56.6	**+0.1**	
SMOL	**Smolenice**	**4.08**	**1**	*e*SN		**Sn**	04 18 56.5	**-1.1**	
DRGR		**4.43**	**56**	⇓*i*P		**Pg**	04 18 30.0	**-2.2**	
KECS	**Kecovo**	**4.59**	**27**	*e*PN		**Pn**	04 18 19.0	**+2.3**	
KECS				*e*SN		**Sn**	04 19 10.0	**-0.1**	
KECS	**Kecovo**	**4.59**	**27**	*e*Pn		**Pn**	04 18 19.0	**+2.3**	
KECS				*e*Sn		**Sn**	04 19 10.0	**-0.1**	
WTTA	**Wattenberg**	**4.90**	**307**	⇑*i*Pn		**Pn**	04 18 22.7	**+1.7**	
WTTA				⇓*i*Sn		**Sn**	04 19 21.2	**+3.4**	
WTTA	**Wattenberg**	**4.90**	**307**	*e*Pn		**Pn**	04 18 23.0	**+2.0**	
VRAC	**Vranov**	**4.91**	**354**	⇑*i*P		**Pn**	04 18 30.8	**+10**	
GEC2	**GERESS Array S**	**5.08**	**332**	*e*Pn		**Pn**	04 18 23.8	**+0.3**	
GEC2				*e*Sn		**Sn**	04 19 21.9	**-0.3**	
TIP	**Timpagrande**	**5.27**	**185**	*e*Pn		**Pn**	04 18 24.3	**-1.8**	
KHC	**Kasperske Hory**	**5.37**	**332**	*e*PN		**Pn**	04 18 27.9	**+0.5**	
KHC				*ex*		x	04 18 36.5		
KHC				*e*SN		**Sn**	04 19 27.4	**-1.9**	
WET	**Wettzell**	**5.63**	**328**	*e*Sn		**Sn**	04 19 34.7	**-1.0**	
PRU	**Pruhonice**	**5.88**	**342**	*e*SN		**Sn**	04 19 37.6	**-4.3**	
BRG	**Berggiesshubel**	**6.84**	**342**	SG		**Sb**	04 20 23.2	**-4.8**	
	comp=Z,2.2nm,0.8s								
CLL	**Collm**	**7.47**	**338**	*e*Sb		**Sb**	04 20 52.0	**+5.8**	

*ISCJB **19** 04:20:03.7±0.6,2196S×007×68.1W±0.1,h125km±10km, mb3.8/2, Error ellipse: s-maj=19.8km s-min=9.5km az=51.3*
*IDC **19** 04:20:04.6±0.8,2187S×68.15W,h116km±11km,mb3.5/3, mb1 3.6/5,mb1mx3.4/15,mbtmp3.9/5, Error ellipse: s-maj=31.3km s-min=18.9km az=124.0*
*NEIC **19** 04:20:04.4±0.7,2191S×68.14W,h122km±9km,mb3.6/2, Error ellipse: s-maj=18.0km s-min=9.1km az=112.0*
*GUC **19** 04:20:06.6±0.7,2215S×6826W,h122km±5km,MD3.7, ML3.8*

ISC 19 04:20:04.9±0.6,2194S±007×682W±01,h124km±10km,n15, σ1§21/21,mb3.8/2,2C-3D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.95**	**225**	⇑*i*P	**Pn**	**04 20 27.1**	**+0.3**
LVC				*i* S	**Sn**	**04 20 43.3**	**-0.1**
LVC	**Limon Verde**	**0.95**	**225**	P	**Pn**	**04 20 27.1**	**+0.3**
	417nm,0.3s,baz=31,slow=8.4,SNR=1818						
LVC				S	**Sn**	**04 20 43.9**	**+0.5**
	112nm,0.3s,baz=149,slow=9.1,SNR=7.0						
CEN1	**Los Morros**	**2.35**	**232**	⇓*i*P	**Pn**	**04 20 45.2**	**+2.2**
CEN1				*i* S	**Sn**	**04 21 14.9**	**+2.7**
CEN1				AML	AML	04 21 24.2	
	comp=N,264nm,0.5s						
ANCH	**Antofagasta**	**2.69**	**229**	⇓*i*P	**Pn**	**04 20 47.2**	**0.0**
ANCH				*i* S	**Sn**	**04 21 17.3**	**-2.5**
ANCH				AML	AML	04 21 28.3	
	comp=N,443nm,0.5s						
ANCH	**Antofagasta**	**2.69**	**229**	⇓*i*P	**Pn**	**04 20 47.2**	**0.0**
ANCH				*i* S	**Sn**	**04 21 17.3**	**-2.5**
CPN1	**Cerro Paranal**	**3.36**	**217**	⇑*i*P	**Pn**	**04 20 56.2**	**+0.1**
CPN1				*i* S	**Sn**	**04 21 34.0**	**-1.6**
CPN1				AML	AML	04 21 46.0	
	comp=E,224nm,0.5s						
LPAZ	**La Paz**	**5.63**	**1**	P	**Pn**	**04 21 26.1**	**-0.2**
	comp=E,1.0nm,0.3s,baz=170,slow=7.4,SNR=39						
SIV	**San Ignacio**	**8.96**	**50**	P	**Pn**	**04 22 08.8**	**-2.6**
	comp=E,3.8nm,0.3s,baz=236,slow=12,SNR=106						
CFAA	**Coronel Fontan**	**9.62**	**180**	P	**Pn**	**04 22 20.2**	**-0.1**
	comp=E,0.0nm,0.3s,baz=356,slow=15,SNR=6.3						
CFAA				S	**Sn**	**04 24 00.7**	**-5.8**
	comp=E,0.0nm,0.3s,baz=66,slow=23,SNR=3.7						
SAML	**Samuel**	**13.79**	**21**	*e*P	**Pn**	**04 23 15.2**	**+0.2**
	comp=E,1.2nm,0.7s						
TRQA	**Tornquist**	**16.93**	**163**	*e*P	**Pn**	**04 23 54.2**	**0.0**
	comp=E,3.5nm,0.7s						
BDFB	**Brasilia**	**20.09**	**75**	P	**P**	**04 24 29.4**	**+0.8**
	comp=E,1.5nm,0.6s,baz=243,slow=6.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**76.87**	**70**	P	**P**	**04 31 44.1**	**+0.9**
	comp=E,1.1nm,0.5s,mb3.8,baz=258,slow=5.6,SNR=39						
YKA	**Yellowknife Ar**	**91.83**	**340**	P	**P**	**04 32 58.1**	**-0.7**
	comp=E,0.3nm,0.5s,mb3.7,baz=136,slow=4.4,SNR=6.9						
ASAR	**Alice Springs**	**129.83**	**207**	PKP	PKPdf	04 39 01.1	+1.6
	comp=E,0.3nm,0.5s,baz=169,slow=2.6,SNR=4.4						

*LDG **19** 04:27:14.3±0.0,4309N×049W,h4km,Md2.1/3,Ml2.1/4, Error ellipse: s-maj=1.0km s-min=0.7km az=162.0*
*STR **19** 04:27:14.4±0.1,4306N×050W,h2km±1km,Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 19 04:27:14.8±0.4,4310N×048W,h4km±7km,mbLg1.2/8, Error ellipse: s-maj=2.8km s-min=1.6km az=8.0, PRXIMO,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.07**	**114**	P	Pg	04 27 16.4	0.0
REYF				Lg		04 27 17.8	
ATE	**Arette**	**0.16**	**265**	Pg	Pg	04 27 17.5	-0.5
ATE				Sg	Sg	04 27 19.8	-0.3
ATE	**Arette**	**0.16**	**265**	Pg	Pg	04 27 17.5	-0.5
ATE				Lg		04 27 20.0	
ETSF	**Etsaut**	**0.21**	**196**	*e*Pg	Pg	04 27 18.5	-0.3
ETSF				*e*Sg	Sg	04 27 21.1	-0.5
	37nm,0.3s						
ETSF	**Etsaut**	**0.21**	**196**	Pg	Pg	04 27 18.5	-0.3
ETSF				Lg		04 27 21.1	
	19nm,0.3s						
FDAF	**Les Forges d'A**	**0.29**	**193**	Pg	Pg	04 27 20.2	-0.2
FDAF				Lg		04 27 24.4	
VIEF	**Viey**	**0.43**	**120**	Pg	Pg	04 27 22.5	-0.5
VIEF				Sg	Sg	04 27 28.4	-0.2
VIEF	**Viey**	**0.43**	**120**	Pg	Pg	04 27 22.6	-0.4
VIEF				Lg		04 27 28.4	
SJPF	**Ste Jean**	**0.55**	**272**	*e*Pg	Pg	04 27 24.7	-0.6
SJPF				*e*Sg	Sg	04 27 31.9	-0.4
	4.7nm,0.3s						
SJPF	**Ste Jean**	**0.55**	**272**	Pg	Pg	04 27 24.7	-0.6
SJPF				Lg		04 27 31.9	
	2.3nm,0.3s						
EPF	**Esparros**	**0.61**	**96**	*e*Pg	Pg	04 27 25.9	-0.5
EPF				*e*Sg	Sg	04 27 34.1	-0.2
	4.4nm,0.3s						
EPF	**Esparros**	**0.61**	**96**	Pg	Pg	04 27 25.9	-0.5
EPF				Lg		04 27 34.1	
	2.2nm,0.3s						
EBIE	**Bielsa**	**0.62**	**132**	Pg	Pg	04 27 26.1	-0.5
	0.5nm,0.1s,SNR=7.9						
EBIE				Lg		04 27 34.2	
	2.7nm,0.2s,SNR=11						
EALK	**Alkurruntz**	**0.76**	**279**	Pg	Pg	04 27 30.1	+0.7
	0.4nm,0.1s,SNR=7.9						
EALK				Lg		04 27 38.8	
	0.9nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**0.77**	**275**	Pg	Pg	04 27 28.7	-0.9
	0.4nm,0.1s,SNR=7.9						
ELIZ				Lg		04 27 40.1	
	1.1nm,0.2s,SNR=4.0						
EGRA	**Graus**	**1.08**	**147**	Lg		04 27 49.4	
	0.3nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.38**	**180**	Pg	Pg	04 27 41.7	+0.5
	2.4nm,0.1s,SNR=7.9						
ESAC				Lg		04 28 00.4	
	10.0nm,0.3s,SNR=6.9						
MTLF	**Montolieu**	**1.99**	**82**	*e*Pg	Pg	04 27 51.2	-1.7
MTLF				*e*Sg	Sg	04 28 17.3	-1.4
	2.3nm,0.4s						
MTLF	**Montolieu**	**1.99**	**82**	Pg	Pg	04 27 51.2	-1.7
MTLF				Lg		04 28 17.3	
	1.1nm,0.4s						
LFF	**La Frestale**	**2.04**	**25**	*e*Pg	Pg	04 27 52.4	-1.5
LFF				*e*Sg	Sg	04 28 19.2	-1.1
	5.1nm,0.3s						
LFF	**La Frestale**	**2.04**	**25**	Pg	Pg	04 27 52.4	-1.5
LFF				Lg		04 28 19.2	
	2.5nm,0.3s						
CAF	**Calviac**	**2.59**	**44**	*e*Pg	Pg	04 28 02.3	-2.1
CAF				*e*Sg	Sg	04 28 36.0	-2.0
	1.3nm,0.2s						
CAF	**Calviac**	**2.59**	**44**	Pg	Pg	04 28 02.3	-2.1
CAF				Lg		04 28 36.0	
	0.6nm,0.2s						
RJF	**Les Rejaudoux**	**2.63**	**32**	*e*Pg	Pg	04 28 02.6	-2.6
RJF				*e*Sg	Sg	04 28 37.4	-1.9
	1.4nm,0.2s						
RJF	**Les Rejaudoux**	**2.63**	**32**	Pg	Pg	04 28 02.6	-2.6
RJF				Lg		04 28 37.4	
	0.7nm,0.2s						

*IDC **19** 04:33:29.4±1.1,4014N×1950E,h0km,mb3.6/7, mb1 3.7/13,mb1mx3.6/27,mbtmp3.6/13,ML3.7/6,MS2.9/2, Ms1 2.9/2,ms1mx2.3/26, Error ellipse: s-maj=16.9km s-min=16.1km az=77.0*
*NEIC **19** 04:33:29.6,4016N×1964E,h11km,MD3.7(PDG), MD4.0(ATH), After ATH.*
*ATH **19** 04:33:29.5,4016N×1964E,h11km±2km,MD4.0/10*
*MOS **19** 04:33:30.7±1.7,4017N×1974E,h10km,mb4.0/1, Error ellipse: s-maj=8.8km s-min=5.7km az=110.3*
*ISCJB **19** 04:33:31.3±0.2,4013N±002×1973E±002,h10km,mb3.5/6, Error ellipse: s-maj=3.0km s-min=2.4km az=62.0*
*TIR **19** 04:33:31.0,4013N×1991E,h10km,Ml3.6*
*PDG **19** 04:33:32.3±0.6,4008N×1971E,h11km±1km*
*CSEM **19** 04:33:32.8±0.1,4009N×1973E,h10km,MD4.0, Error ellipse: s-maj=1.9km s-min=1.8km az=51.0*

ISC 19 04:33:31.4±0.6,4016N±002×1973E±002,h2km±4km,n98, σ1§42/136,mb3.5/6,14C-9D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.26**	**57**	*i* Pg	**Pg**	**04 33 35.6**	**-0.7**
TPE				*i* Sg	**Sg**	**04 33 40.4**	**+0.7**
SRN	**Sarande**	**0.35**	**143**	*i* Pg	**Pg**	**04 33 36.5**	**-1.6**
SRN				*i* Sg	**Sg**	**04 33 42.0**	**-0.6**
VLO	**Vlora**	**0.36**	**330**	*i* Pg	**Pg**	**04 33 40.4**	**+2.1**
VLO				*i* Sg	**Sg**	**04 33 50.8**	**+7.8**
KEK	**Kerkira**	**0.45**	**173**	*e*PB	**Pg**	**04 33 38.9**	**-1.1**
LSK	**Leskovik**	**0.67**	**90**	*i* Pg	**Pg**	**04 33 41.6**	**-2.6**
KBN	**Korca**	**0.93**	**60**	*i* Pg	**Pg**	**04 33 47.8**	**-1.5**
JAN	**Janina**	**1.00**	**120**	*e*PG	**Pg**	**04 33 49.1**	**-1.4**
JAN				*e*SB	**Sb**	**04 34 03.7**	**-1.2**
LCI	**Lecce**	**1.25**	**279**	Pn	**Pn**	**04 33 56.2**	**+0.4**
LCI				Sn	**Sn**	**04 34 16.6**	**+3.4**
QSH	**Qafa e Shtames**	**1.37**	**6**	*i* Pn	**Pn**	**04 33 58.0**	**+0.5**
QSH				*i* Sn	**Sn**	**04 34 21.0**	**+4.8**
BIA	**Bitola**	**1.49**	**54**	⇑*i*Pn	**Pn**	**04 33 58.2**	**-0.9**
BIA				*i* Sn	**Sn**	**04 34 20.4**	**+1.3**
KZN	**Kozani**	**1.57**	**84**	*e*PB	**Pb**	**04 34 00.2**	**-0.9**
KZN				*e*SB	**Sb**	**04 34 23.2**	**+1.8**
ULC	**Ulcinj**	**1.84**	**349**	⇑*i*Pn	**Pn**	**04 34 03.8**	**-0.1**
ULC				*e*Sn	**Sn**	**04 34 32.6**	**+4.8**
PE1	**Pezze di Greco**	**1.87**	**291**	*e*Pn	**Pn**	**04 34 04.3**	**-0.2**
EVR	**Evrytania**	**2.03**	**127**	*e*PN	**Pn**	**04 34 07.2**	**+0.6**
EVR				*e*SN	**Sn**	**04 34 33.9**	**+1.4**
VLS	**Valsamata**	**2.09**	**161**	*e*PN	**Pn**	**04 34 07.0**	**-0.4**
BCI	**Bajram Curri**	**2.22**	**6**	*i* Pn	**Pn**	**04 34 10.5**	**+1.3**
SKO	**Skopje**	**2.23**	**35**	⇑*i*Pn	**Pn**	**04 34 10.4**	**+1.1**
SKO	**Skopje**	**2.23**	**35**	⇑*i*Pn	**Pn**	**04 34 10.3**	**+1.0**
BUM	**Brajici-Budva**	**2.23**	**344**	⇓*i*Pn	**Pn**	**04 34 09.4**	**+0.1**
BUM				*e*Sn	**Sn**	**04 34 41.8**	**+4.4**
BUM	**Brajici-Budva**	**2.23**	**344**	⇓*i*Pn	**Pn**	**04 34 09.4**	**+0.1**
TTG	**Podgorica**	**2.30**	**351**	⇑*i*Pn	**Pn**	**04 34 10.3**	**0.0**
TTG				*e*Sn	**Sn**	**04 34 43.4**	**+4.3**
BAI	**Bari**	**2.37**	**295**	*e*Pn	**Pn**	**04 34 11.3**	**+0.1**
STIP	**Stip**	**2.41**	**50**	*i* Pn	**Pn**	**04 34 13.7**	**+1.9**
SG1	**Sgolgore (BA)**	**2.42**	**287**	*e*Pn	**Pn**	**04 34 10.3**	**-1.7**
PVY	**Plav**	**2.44**	**4**	⇑*i*Pn	**Pn**	**04 34 13.6**	**+1.4**
PVY				*e*Sn	**Sn**	**04 34 47.7**	**+5.0**
HCY	**Herceg Novi**	**2.47**	**338**	⇓*i*Pn	**Pn**	**04 34 11.9**	**-0.7**
HCY				*e*Sn	**Sn**	**04 34 47.4**	**+4.1**
TIP	**Timpagrande**	**2.49**	**248**	*e*Pn	**Pn**	**04 34 12.3**	**-0.7**
TIP	**Timpagrande**	**2.49**	**248**	*e*Pn	**Pn**	**04 34 12.3**	**-0.6**
RLS	**Riolos of Patr**	**2.49**	**147**	*e*PB	**Pn**	**04 34 12.2**	**-0.8**
NKY	**Niksic**	**2.71**	**349**	⇓*i*Pn	**Pn**	**04 34 16.1**	**+0.2**
NKY				*e*Sn	**Sn**	**04 34 52.3**	**+3.1**
IVA	**Berane**	**2.71**	**3**	⇑*i*Pn	**Pn**	**04 34 17.7**	**+1.7**
IVA				*e*Sn	**Sn**	**04 34 53.3**	**+3.9**
TREB	**Trebinje**	**2.76**	**338**	P	**Pn**	**04 34 15.9**	**-0.7**
TREB				S	**Sn**	**04 34 51.3**	**+0.8**
CDT	**Castel del Mon**	**2.79**	**290**	*e*Pn	**Pn**	**04 34 17.1**	**+0.1**
NEO	**Neokhori**	**2.83**	**106**	*e*Pn	**Pn**	**04 34 17.0**	**-0.5**
PTRP	**Pietrapertosa**	**2.83**	**279**	Pn	**Pn**	**04 34 18.8**	**+1.3**
PLG	**Polygyros**	**2.85**	**84**	*e*PB	**Pn**	**04 34 18.6**	**+0.7**
BRY	**Bratogost**	**2.88**	**342**	⇑*i*Pn	**Pn**	**04 34 20.2**	**+1.9**
BRY				*e*Sn	**Sn**	**04 34 57.0**	**+3.5**
GRI	**Girifalco**	**2.89**	**244**	Pn	**Pn**	**04 34 18.3**	**-0.1**
GRI				Sn	**Sn**	**04 34 55.3**	**+1.7**
LKR	**Lokris**	**2.95**	**120**	*e*PN	**Pn**	**04 34 18.7**	**-0.5**
CUC	**Castrocucco**	**3.01**	**268**	Pn	**Pn**	**04 34 22.7**	**+2.7**
UPM	**Unac-Piva**	**3.10**	**349**	⇓*i*Pn	**Pn**	**04 34 23.4**	**+2.1**
UPM				*e*Sn	**Sn**	**04 35 03.8**	**+4.8**
STON	**Ston**	**3.11**	**331**	*i* Pn	**Pn**	**04 34 20.6**	**-0.8**
STON				*i* Sn	**Sn**	**04 34 58.3**	**-0.9**
STON	**Ston**	**3.11**	**331**	*i* Pn	**Pn**	**04 34 20.6**	**-0.8**
STON				*i* Sn	**Sn**	**04 34 58.2**	**-0.9**
SLCN	**Sala Consilina**	**3.14**	**276**	Pn	**Pn**	**04 34 23.1**	**+1.2**
PLE	**Pljevlja**	**3.18**	**356**	⇓*i*Pn	**Pn**	**04 34 23.9**	**+1.5**
PLE				*e*Sn	**Sn**	**04 35 06.6**	**+5.7**
MGR	**Morigerati**	**3.20**	**271**	Pn	**Pn**	**04 34 24.5**	**+1.8**
FGMS	**Monte Sant'Ang**	**3.25**	**300**	Pn	**Pn**	**04 34 24.0**	**+0.6**
MS1	**Monte Sant'Ang**	**3.26**	**300**	*e*Pn	**Pn**	**04 34 23.9**	**+0.4**
MRLC	**Muro Lucano**	**3.29**	**282**	Pn	**Pn**	**04 34 26.3**	**+2.4**
SGO	**Sicignano**	**3.40**	**278**	Pn	**Pn**	**04 34 26.2**	**+0.8**
ITM	**Ithomi**	**3.43**	**149**	*e*PN	**Pn**	**04 34 26.5**	**+0.6**
RGNG	**Rignano Grg**	**3.49**	**297**	Pn	**Pn**	**04 34 27.3**	**+0.7**
CEL	**Celeste**	**3.53**	**239**	Pn	**Pn**	**04 34 26.7**	**-0.5**
CEL				Sn	**Sn**	**04 35 08.5**	**-1.0**
SOI	**Samo**	**3.54**	**235**	Pn	**Pn**	**04 34 26.8**	**-0.5**
FG5	**Orsara di Pugl**	**3.57**	**290**	Pn	**Pn**	**04 34 30.3**	**+2.5**
MTTG	**Motta San Giov**	**3.81**	**237**	Pn	**Pn**	**04 34 30.8**	**-0.2**
CIGN	**Sant'Elia a Pi**	**3.95**	**294**	Pn	**Pn**	**04 34 35.1**	**+2.1**
VLI	**Veliai**	**4.26**	**143**	*e*PN	**Pn**	**04 34 38.5**	**+1.3**
MIDA	**Miranda**	**4.41**	**291**	Pn	**Pn**	**04 34 41.9**	**+2.7**
KYTH	**Kithira**	**4.66**	**145**	*e*PN	**Pn**	**04 34 43.8**	**+1.0**
SDI	**San Donato**	**4.74**	**291**	Pn	**Pn**	**04 34 46.0**	**+2.1**
INTR	**Introdacqua**	**4.78**	**295**	Pn	**Pn**	**04 34 45.2**	**+0.9**
HAVL	**Avola**	**4.82**	**230**	Pn	**Pn**	**04 34 41.9**	**-3.0**
HAVL				Sn	**Sn**	**04 35 36.5**	**-4.7**
VVLD	**Villa Vallelon**	**4.93**	**292**	Pn	**Pn**	**04 34 48.0**	**+1.6**
VAE	**Valguarnera**	**4.94**	**239**	Pn	**Pn**	**04 34 44.8**	**-1.8**
	6.7nm,0.3s,baz=135,slow=12,SNR=3.7						
NRCA	**Norcia**	**5.64**	**300**	Pn	**Pn**	**04 34 57.7**	**+1.5**
	4.4nm,0.6s						
ARV	**Arcevia**	**6.07**	**306**	Pn	**Pn**	**04 35 02.6**	**+0.5**
ARV				Sn	**Sn**	**04 36 09.8**	**-2.3**
PKSM	**Moragy**	**6.10**	**353**	⇑*e*P	**Pn**	**04 35 01.4**	**-1.2**
BOJS	**Bojanci**	**6.28**	**330**	*e*Pn	**Pn**	**04 34 54.1**	**-11**
BOJS				*e*		04 35 05.2	
BOJS				*e*(Sn)	**Sn**	**04 36 15.1**	**-2.1**
IDI	**Anoyia**	**6.35**	**138**	Pn	**Pn**	**04 35 06.3**	**+0.3**
	1.2nm,0.3s,baz=317,slow=9.0,SNR=7.7						
IDI				Sn	**Sn**	**04 36 14.5**	**-4.6**
	1.6nm,0.3s,baz=60,slow=21,SNR=3.7						
CRES	**Cresnjev**	**6.47**	**332**	*i* Pn	**Pn**	**04 34 55.7**	**-12**
CRES				*i* Sn	**Sn**	**04 36 19.6**	**-2.4**
LEGS	**Legarje**	**6.63**	**332**	*i* Pn	**Pn**	**04 34 57.9**	**-12**
LEGS				*i* Sn	**Sn**	**04 36 23.0**	**-2.9**
LEGS	**Legarje**	**6.63**	**332**	*i* Sn	**Sn**	**04 36 23.0**	**-2.9**
SFI	**Santa Sofia**	**6.96**	**305**	P	**Pn**	**04 35 17.7**	**+3.4**
SFI				pmax	pmax		
	comp=Z,13nm,0.7s						
SFI	**Santa Sofia**	**6.96**	**305**	P	**Pn**	**04 35 17.7**	**+3.4**
	comp=Z,13nm,0.7s						
MLR	**Muntele Rosu**	**7.02**	**39**	Pn	**Pn**	**04 35 18.5**	**+3.4**
	comp=Z,0.5nm,0.3s,baz=175,slow=16,SNR=7.2						
VOY	**Vojsko**	**7.26**	**326**	*e*Pn	**Pn**	**04 35 18.0**	**-0.4**
VOY				*e*Sn	**Sn**	**04 36 38.5**	**-2.9**
PERS	**Pernice**	**7.29**	**334**	*e*Pn	**Pn**	**04 35 18.2**	**-0.7**
PERS				*i* Sn	**Sn**	**04 36 38.1**	**-4.2**
OBKA	**Obir**	**7.38**	**331**	⇑*i*Pn	**Pn**	**04 35 19.7**	**-0.5**
OBKA				⇑*i*Sn	**Sn**	**04 36 42.9**	**-1.6**
ROBS	**Robic**	**7.59**	**325**	*e*Pn	**Pn**	**04 35 22.0**	**-1.0**
ROBS				*i* Sn	**Sn**	**04 36 46.1**	**-3.5**
PTCC	**Patocco-Chiusa**	**7.78**	**325**	Pn	**Pn**	**04 35 25.1**	**-0.5**
KBA	**Koelnbreinsper**	**8.32**	**328**	⇓*i*Pn	**Pn**	**04 35 33.5**	**+0.4**
KBA				⇑*i*Sn	**Sn**	**04 37 05.8**	**-1.8**
MOA	**Molln**	**8.64**	**335**	⇑*i*Pn	**Pn**	**04 35 37.0**	**-0.4**
MOA				⇑*i*Sn	**Sn**	**04 37 12.8**	**-2.5**
WTTA	**Wattenberg**	**9.20**	**323**	⇓*i*Pn	**Pn**	**04 35 45.6**	**+0.5**
WTTA				⇓*i*Sn	**Sn**	**04 37 27.6**	**-1.6**
GERES	**GERESS Array B**	**9.69**	**336**	Pn	**Pn**	**04 35 50.0**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=163,slow=14,SNR=11						
DAVOX	**Davos**	**9.75**	**316**	Pn	**Pn**	**04 35 51.5**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=144,slow=18,SNR=3.2						
DAVOX				Sn	**Sn**	**04 37 41.7**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=55,slow=16,SNR=4.0						
DAVOX				LR	LR	04 40 19.7	
	comp=Z,58nm,18.9s,baz=261,slow=43						
DAVOX	**Davos**	**9.75**	**316**	Pn	**Pn**	**04 35 51.5**	**-1.0**
KHC	**Kasperske Hory**	**9.98**	**336**	*e*S	**Sn**	**04 37 44.6**	**-3.7**
BRTR	**Keskin Array

ASAR	**Alice Springs**	**41.74 269**	P		**P**	**04 48 30.1**	**+0.3**
	0.2nm,0.3s,mb3.3,baz=110,slow=6.9,SNR=4.7						
WRAB	**Tennant Creek**	**42.84 274**	*e*P		**P**	**04 48 38.4**	**-0.2**
	2.6nm,0.9s,mb4.0						
WRA	**Warramunga Arr**	**42.84 274**	P		**P**	**04 48 38.7**	**+0.1**
	1.0nm,0.4s,mb3.9,baz=112,slow=7.8,SNR=5.5						
FINES	**FINESS Array B**	**145.78 338**	PKPbc	PKPbc		05 00 11.7	-6.4
	0.9nm,0.7s,baz=76,slow=5.9,SNR=8.0						

NEIC ***19*** *04:48:49.8±3.2, 5058N×1822E, h5km, MG2.6(WAR), Error ellipse: s-maj=41.5km s-min=9.3km az=165.0*
WAR ***19*** *04:48:53.9, 4998N×1857E, ML2.5, Mining Induced*
ISCJB ***19*** *04:48:53.4±0.4, 4995N±003×1852E±003, h0km, Error ellipse: s-maj=4.2km s-min=2.3km az=24.9*
IPEC ***19*** *04:48:53.6±0.1, 4996N×1858E, h2km±1km, ML2.3/3, Error ellipse: s-maj=2.2km s-min=0.7km az=161.0*
VIE ***19*** *04:48:56.0±0.6, 4974N×1842E, h0km, mb1.6/2, ML2.6/3, Error ellipse: s-maj=4.1km s-min=2.6km az=74.0 16 km SE of Ostrava Suspected Mining induced.*
PRU ***19*** *04:48:55.1, 4998N×1846E, h0km*
CSEM ***19*** *04:48:56.2±0.1, 4995N×1839E, h2km, ML3.2/3, Error ellipse: s-maj=3.2km s-min=2.1km az=10.0*

ISC 19 04:48:54.2±0.4, 4994N±003×1851E±002, h0km, n31, σ1§22/56, 2C, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.25**	**306**	*e*Pg	**Pg**	**04 48 59.8**	**+0.9**
RAC				*e*Sg	**Sg**	**04 49 04.5**	**+2.3**
OKC	**Ostrava-Krasne**	**0.25**	**247**	*e*PG	**Pg**	**04 48 59.9**	**+0.9**
OKC				*e*SG	**Sg**	**04 49 04.4**	**+2.1**
OKC	**Ostrava-Krasne**	**0.25**	**247**	*e*Pg	**Pg**	**04 48 59.8**	**+0.8**
OKC				*e*Sg	**Sg**	**04 49 03.4**	**+1.1**
MORC	**Moravsky Berou**	**0.65**	**256**	*e*Pg	**Pg**	**04 49 06.7**	**+0.2**
MORC				*e*Sg	**Sg**	**04 49 16.2**	**+1.3**
MORC	**Moravsky Berou**	**0.65**	**256**	*e*Pg	**Pg**	**04 49 06.8**	**+0.3**
MORC				*e*Sg	**Sg**	**04 49 15.5**	**+0.6**
	81nm,0.4s						
OJC	**Ojcow**	**0.88**	**71**	*e*Pgd	**Pg**	**04 49 09.1**	**-1.9**
OJC				*i* Sg	**Sg**	**04 49 20.8**	**-1.6**
LIKS	**Likavka**	**0.97**	**156**	*e*SN	**Sn**	**04 49 29.8**	**+0.3**
JAVC	**Velka Javorina**	**1.21**	**207**	*e*Pg	**Pg**	**04 49 18.2**	**+0.8**
NIE	**Niedzica**	**1.28**	**113**	*i* Pg	**Pg**	**04 49 17.9**	**-0.9**
NIE				*e*Sg	**Sg**	**04 49 36.7**	**+1.3**
VRAC	**Vranov**	**1.40**	**244**	*e*Pg	**Pg**	**04 49 20.3**	**-0.6**
VRAC				*e*Sg	**Sg**	**04 49 39.0**	**0.0**
	43nm,0.3s						
DPC	**Dobruska-Polom**	**1.47**	**287**	*e*PG	**Pg**	**04 49 21.0**	**-1.3**
DPC				*e*SG	**Sg**	**04 49 40.7**	**-0.6**
DPC	**Dobruska-Polom**	**1.47**	**287**	*e*Pg	**Pg**	**04 49 21.2**	**-1.1**
DPC				*e*Sg	**Sg**	**04 49 40.7**	**-0.6**
SMOL	**Smolenice**	**1.59**	**207**	*e*SN	**Sn**	**04 49 45.4**	**+0.6**
KRUC	**Moravsky**	**1.63**	**238**	*e*Pn	**Pn**	**04 49 23.9**	**-0.2**
KRUC				*e*Sg	**Sg**	**04 49 46.4**	**-0.2**
	17nm,0.2s						
KSP	**Ksiaz**	**1.68**	**303**	Pn	**Pn**	**04 49 26.1**	**+1.3**
KSP				*e*Pg	**Pg**	**04 49 28.3**	**+1.9**
KSP				*e*Sg	**Sg**	**04 49 48.2**	**0.0**
STHS	**Stebnicka Huta**	**1.85**	**105**	*e*PN	**Pb**	**04 49 28.4**	**-0.5**
STHS				*e*SN	**Sg**	**04 49 55.5**	**+1.8**
STHS	**Stebnicka Huta**	**1.85**	**105**	*e*Pn	**Pb**	**04 49 28.5**	**-0.4**
STHS				*e*Sn	**Sg**	**04 49 55.5**	**+1.8**
STHS				*e*Lg		04 50 00.0	
STHS	**Stebnicka Huta**	**1.85**	**105**	*e*Pn	**Pb**	**04 49 28.5**	**-0.4**
STHS				*e*Sn	**Sg**	**04 49 55.5**	**+1.8**
KECS	**Kecovo**	**1.95**	**138**	*e*	**Pn**	**04 49 26.8**	**-1.7**
KECS	**Kecovo**	**1.95**	**138**	*e*PG	**Pg**	**04 49 32.5**	**+0.9**
KECS				*e*SN	**Sn**	**04 49 55.7**	**+2.0**
KECS	**Kecovo**	**1.95**	**138**	*e*Pg	**Pg**	**04 49 32.5**	**+0.9**
KECS				*e*Sn	**Sn**	**04 49 55.7**	**+2.0**
KECS				*e*Lg		04 50 10.0	
ZST	**Bratislava**	**1.97**	**208**	*e*SN	**Sn**	**04 49 53.6**	**-0.7**
ZST	**Bratislava**	**1.97**	**208**	*e*Sn	**Sn**	**04 49 53.6**	**-0.7**
CRVS	**Cervenica-Dubn**	**2.19**	**117**	*e*PN	**Pb**	**04 49 34.1**	**-0.6**
CRVS				*e*SN	**Sg**	**04 50 03.9**	**-0.7**
PSZ	**Piszkesteto**	**2.22**	**155**	*e*Pn	**Pg**	**04 49 37.0**	**+0.3**
PSZ				*e*Sn	**Sg**	**04 50 09.6**	**+4.2**
PSZ	**Piszkesteto**	**2.22**	**155**	*e*Pn	**Pg**	**04 49 37.0**	**+0.3**
PRU	**Pruhonice**	**2.56**	**273**	*e*SG	**Sg**	**04 50 14.8**	**-1.7**
BRG				SG	**Sb**	**04 50 29.8**	**+2.2**
	4.4nm,0.5s						
BRG	**Berggiesshubel**	**3.07**	**290**	PG	**Pb**	**04 49 50.5**	**+0.9**
KHC	**Kasperske Hory**	**3.31**	**258**	*e*PN	**Pn**	**04 49 46.0**	**-1.2**
KHC				*e*PG	**Pg**	**04 49 54.5**	**-3.1**
KHC				*e*SN	**Sn**	**04 50 27.5**	**+0.2**
KHC				*e*SG	**Sg**	**04 50 37.8**	**-2.8**
MOA	**Molln**	**3.49**	**235**	⇑*i*Pn	**Pn**	**04 49 48.6**	**-1.1**
MOA				⇑*i*Sg	**Sg**	**04 50 45.3**	**-1.1**
	comp=Z,4.2nm,0.4s						
CLL	**Collm**	**3.76**	**293**	*e*Sg	**Sg**	**04 50 54.0**	**-1.1**

IDC ***19*** *04:48:50.5±1.7, 2018S×1740E, h0km, mb4.0/6, mb1 4.3/6, mb1mx4.0/15, mbtmp4.0/6, MS3.7/6, Ms1 3.7/6, ms1mx3.3/20, Error ellipse: s-maj=75.2km s-min=22.9km az=146.0*
ISCJB ***19*** *04:48:54.2±0.7, 198S±01×1742W±02, h33km, mb4.3/11, MS3.9/4, Error ellipse: s-maj=24.0km s-min=13.0km az=76.0*
NEIC ***19*** *04:48:55.0±0.6, 1980S×17421W, h25km, mb4.6/4, Error ellipse: s-maj=20.9km s-min=11.4km az=131.0*
MOS ***19*** *04:48:57.1±3.0, 1958S×17453W, h33km, mb4.7/3, Error ellipse: s-maj=25.9km s-min=17.2km az=142.8*

ISC 19 04:48:56.3±0.7, 198S±01×1742W±02, h35km, n33, σ0§95/21, mb4.3/11, MS3.9/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.30**	**22**	Pn	**Pn**	**04 50 25.3**	**-1.4**
	9.6nm,0.3s,baz=246,slow=18,SNR=8.4						
AFI				Sn	**Sn**	**04 51 31.1**	**-6.2**
	15nm,0.3s,baz=198,slow=20,SNR=4.2						
RAR	**Rarotonga**	**13.57**	**98**	Pn	**Pn**	**04 51 54.2**	**-12**
	5.6nm,0.3s,baz=267,slow=9.6,SNR=12						
RAR				LR	LR	04 55 37.2	
	comp=Z,376nm,21.5s,baz=224,slow=30						
DZM	**Mont Dzumac**	**18.24**	**259**	P	**Pn**	**04 53 14.6**	**+8.0**
	0.4nm,0.3s,baz=89,slow=8.2,SNR=6.5						
DZM				LR	LR	04 57 43.4	
	comp=Z,80nm,19.1s,baz=25,slow=29						
TBI	**Tubuai**	**23.25**	**103**	*e*LR	LR	04 59 10.2	
	216nm,28.8s						
PPT	**Papeete**	**23.41**	**89**	*e*LR	LR	04 59 27.3	
	258nm,25.5s						
RPZ	**Rata Peaks**	**26.86**	**204**	P	**P**	**04 54 40.5**	**+6.9**
	12nm,0.8s,mb4.5,baz=42,slow=6.6,SNR=5.8						
HNR	**Honiara**	**27.04**	**289**	LR	LR	05 03 51.4	
	comp=Z,132nm,18.8s,MS3.5,baz=180,slow=33						
RKT	**Rikitea**	**36.56**	**102**	*e*LR	LR	05 05 16.8	
	202nm,29.2s						
CTA	**Charters Tower**	**37.14**	**263**	P	**P**	**04 56 04.0**	**+0.4**
	2.9nm,0.5s,mb4.4,baz=90,slow=11,SNR=4.9						
CTAO	**Charters Tower**	**37.14**	**263**	*e*P	**P**	**04 56 03.6**	**0.0**
CTAO				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.5						
CTAO	**Charters Tower**	**37.14**	**263**	*e*P	**P**	**04 56 03.6**	**0.0**
	comp=Z,2.5nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**41.32**	**244**	P	**P**	**04 56 37.0**	**-1.6**
	comp=Z,2.5nm,0.7s,mb4.0,baz=78,slow=9.6,SNR=5.8						
STKA	**Stephens Creek**	**41.32**	**244**	*e*P	**P**	**04 56 37.9**	**-0.7**
ASAR	**Alice Springs**	**48.17**	**256**	P	**P**	**04 57 32.9**	**-0.2**
	comp=Z,1.5nm,0.6s,mb4.2,baz=98,slow=7.1,SNR=10						
ASAR				PcP	PcP	04 59 01.1	+1.1
	comp=Z,1.1nm,0.8s,baz=116,slow=3.8,SNR=4.2						
WRAB	**Tennant Creek**	**48.25**	**261**	*e*P	**P**	**04 57 33.9**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.8						
WRAB	**Tennant Creek**	**48.25**	**261**	*e*P	**P**	**04 57 33.9**	**+0.2**
	comp=Z,3.1nm,0.3s,mb4.8						
WRA	**Warramunga Arr**	**48.26**	**261**	P	**P**	**04 57 33.4**	**-0.4**
	comp=Z,1.6nm,0.5s,mb4.3,baz=97,slow=7.6,SNR=11						
SBA	**Scott Base**	**58.83**	**185**	*e*P	**P**	**04 58 51.8**	**+0.6**
SBA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
SBA	**Scott Base**	**58.83**	**185**	*e*P	**P**	**04 58 51.8**	**+0.5**
	comp=Z,3.3nm,0.8s,mb4.4						
QSPA	**South Pole Qui**	**70.26**	**180**	*e*P	**P**	**05 00 05.2**	**-0.8**
	comp=Z,9.3nm,1.1s,mb4.6						
MJAR	**Matsushiro Arr**	**71.85**	**321**	P	**P**	**05 00 17.3**	**+1.7**
	comp=Z,2.6nm,0.6s,mb4.3,baz=149,slow=5.6,SNR=5.7						

NVAR	**Mina Array Bea**	**78.09**	**42**	P	**P**	**05 00 52.5**	**+0.9**
	comp=Z,0.7nm,0.8s,mb3.6,baz=221,slow=8.0,SNR=4.8						
NVAR	**Mina Array Bea**	**78.09**	**42**	P	**P**	**05 00 52.5**	**+0.9**
MAW	**Mawson**	**83.41**	**199**	LR	LR	05 35 39.2	
	comp=Z,85nm,19.9s,MS4.1,baz=247,slow=34						
ILAR	**Eielson Array**	**86.89**	**11**	P	**P**	**05 01 38.0**	**+0.5**
	comp=Z,0.7nm,0.7s,mb4.0,baz=216,slow=6.1,SNR=10						
ULM	**Lac du Bonnet**	**97.80**	**39**	LR	LR	05 40 04.5	
	comp=Z,41nm,18.8s,MS3.9,baz=309,slow=31						
LPAZ	**La Paz**	**98.98**	**111**	LR	LR	05 35 27.0	
	comp=Z,47nm,21.0s,MS4.0,baz=202,slow=28						
AKASG	**Malin Array Be**	**144.04**	**335**	PKP	PKPdf	05 08 26.6	-1.5
	comp=Z,0.7nm,0.3s,baz=43,slow=4.3,SNR=7.8						
CLL	**Collm**	**148.06**	**351**	*e*PKPbc	PKPbc	05 08 40.0	+1.9
	comp=Z,7.0nm,1.1s						
CLL	**Collm**	**148.06**	**351**	*e*PKP2	PKPab	05 08 40.0	-0.9
CLL				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BRG	**Berggiesshubel**	**148.34**	**350**	*e*P	PKPdf	05 08 44.1	+8.7
	comp=Z,3.5nm,1.2s						
BRG				*e*		05 08 48.0	
	comp=Z,2.8nm,0.8s						
BRTR	**Keskin Array B**	**148.94**	**316**	PKPbc	PKPbc	05 08 42.0	+1.5
	comp=Z,0.9nm,0.8s,baz=90,slow=4.3,SNR=6.1						
ASF	**Jabal al Asfar**	**149.59**	**300**	PKPbc	PKPbc	05 08 43.6	+1.6
	comp=Z,0.8nm,0.6s,baz=149,slow=6.1,SNR=2.6						

ISK ***19*** *04:49:07.2, 39.13N×3606E, h5km, MD3.6, ML3.6*
ISCJB ***19*** *04:49:08.1±0.7, 3911N±002×3607E±003, h1km±5km, Error ellipse: s-maj=4.0km s-min=2.9km az=86.1*
CSEM ***19*** *04:49:08.3±0.1, 3911N×3606E, h5km, MD3.6, Error ellipse: s-maj=2.1km s-min=1.6km az=37.0*

ISC 19 04:49:08.8±0.6, 3910N±002×3605E±003, h1km±4km, n35, σ0§89/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNN	**Bunyan**	**0.29**	**214**	*i* PG	**Pg**	**04 49 14.3**	**-0.1**
YOZ	**Yozgat**	**0.79**	**314**	*i* PG	**Pg**	**04 49 23.0**	**-0.9**
YOZ				*i* SG	**Sg**	**04 49 34.4**	**+0.3**
SVST	**Sivas**	**0.97**	**46**	*i* P	**Pg**	**04 49 25.8**	**-1.6**
SVST				*i* S	**Sg**	**04 49 40.3**	**+0.3**
AVNT	**Avonos**	**0.99**	**252**	*i* P	**Pg**	**04 49 23.1**	**-4.6**
AVNT				*i* S	**Sg**	**04 49 37.6**	**-2.8**
SVSK	**Karacayir**	**1.10**	**41**	*i* PG	**Pg**	**04 49 27.8**	**-2.0**
SVSK				*i* SG	**Sg**	**04 49 44.5**	**+0.4**
CDAG	**Cicekdag**	**1.41**	**293**	*i* P	**Pn**	**04 49 34.1**	**-1.4**
CDAG				*i* S	**Sg**	**04 49 54.7**	**+0.8**
KOZT	**Kozan**	**1.62**	**186**	*i* PN	**Pn**	**04 49 37.9**	**-0.6**
CTKT	**Corum**	**1.81**	**328**	*i* P	**Pn**	**04 49 41.9**	**+0.8**
CTKT				*i* S	**Sg**	**04 50 08.1**	**+1.1**
KAMT	**Kaman**	**1.84**	**279**	*i* PN	**Pn**	**04 49 41.3**	**-0.2**
KARA	**Karaisali**	**1.99**	**204**	PN	**Pn**	**04 49 43.6**	**-0.1**
MYA	**Malataya**	**2.01**	**112**	PN	**Pn**	**04 49 44.4**	**+0.6**
MALT	**Malatya**	**2.01**	**112**	PN	**Pn**	**04 49 43.8**	**-0.1**
CEYT	**Ceyhan**	**2.10**	**187**	PN	**Pn**	**04 49 45.4**	**+0.3**
GZT	**Gaziantep**	**2.10**	**145**	*i* P	**Pn**	**04 49 46.1**	**+0.9**
GZT				*i* S	**Sn**	**04 50 11.8**	**-0.3**
GAZ	**Gaziantep**	**2.13**	**154**	PN	**Pn**	**04 49 46.0**	**+0.5**
ELZG	**Elazig**	**2.37**	**104**	*i* P	**Pn**	**04 49 48.8**	**0.0**
ELZG				*i* S	**Sn**	**04 50 14.7**	**-3.8**
ATAB	**Bozova**	**2.40**	**132**	*i* P	**Pb**	**04 49 52.7**	**0.0**
ATAB				*i* S	**Sg**	**04 50 27.5**	**+1.7**
CANT	**Cankiri**	**2.41**	**310**	PN	**Pn**	**04 49 49.1**	**-0.2**
ELDT	**Eldivan**	**2.46**	**305**	*i* P	**Pn**	**04 49 50.1**	**+0.1**
ELDT				*i* S	**Sn**	**04 50 21.7**	**+1.0**
BOYT	**Boyabat**	**2.48**	**340**	*i* P	**Pn**	**04 49 50.6**	**+0.2**
BOYT				*i* S	**Sn**	**04 50 21.0**	**-0.4**
TOS	**Tosya**	**2.49**	**322**	PN	**Pn**	**04 49 50.8**	**+0.4**
GRSN	**GIRESUNGRSN**	**2.50**	**42**	*i* P	**Pn**	**04 49 50.0**	**-0.6**
GRSN				*i* S	**Sn**	**04 50 22.8**	**+1.2**
MERS	**Mersin**	**2.53**	**209**	PN	**Pn**	**04 49 51.2**	**+0.1**
BYBT	**Boyabat**	**2.57**	**338**	PN	**Pn**	**04 49 51.9**	**+0.4**
COBT	**Iskenderun**	**2.58**	**176**	*i* P	**Pn**	**04 49 50.6**	**-1.1**
COBT				*i* S	**Sb**	**04 50 29.5**	**+1.5**
LOD	**Lodumlu**	**2.67**	**288**	*e*PN	**Pn**	**04 49 53.2**	**+0.3**
MEST	**Erdemli**	**2.92**	**212**	*i* P	**Pn**	**04 49 57.9**	**+1.4**
MEST				*i* S	**Sn**	**04 50 30.7**	**-1.6**
GUMT	**Gumushane**	**2.97**	**62**	*e*PN	**Pn**	**04 49 57.2**	**+0.1**
BALT	**Daday**	**3.18**	**321**	*i* P	**Pn**	**04 50 00.2**	**+0.3**
BALT				*i* S	**Sn**	**04 50 36.6**	**-1.9**
KIZT	**Kizilcal**	**3.26**	**268**	*e*PN	**Pn**	**04 50 01.9**	**+0.8**
SAFT	**Safranbolu**	**3.35**	**311**	*e*PN	**Pn**	**04 50 02.2**	**-0.1**
SGKT	**Sivrigoynuk**	**3.41**	**297**	*i* P	**Pn**	**04 50 03.5**	**+0.3**
SGKT				*i* S	**Sb**	**04 50 52.1**	**0.0**
MDU	**Mudurnu**	**3.97**	**292**	*e*PN	**Pn**	**04 50 11.1**	**+0.2**
MARD	**Mardin**	**4.12**	**114**	*i* P	**Pn**	**04 50 12.9**	**-0.1**
MARD				*i* S	**Sb**	**04 51 10.9**	**-1.7**
BORA	**Eskisehir**	**4.40**	**282**	*i* P	**Pn**	**04 50 16.6**	**-0.1**
BORA				*i* S	**Sg**	**04 51 30.4**	**+0.2**

ISCJB ***19*** *05:09:33.0±0.8, 2572N±006×585E±0.1, h10km, mb3.7/5, Error ellipse: s-maj=16.9km s-min=7.5km az=156.6*
OMAN ***19*** *05:09:34.0, 2585N×5857E, h30km, Error ellipse: s-maj=47.8km s-min=8.2km az=229.0*
IDC ***19*** *05:09:40.8±2.7, 2541N×5871E, h94km±46km, mb3.4/6, mb1 3.4/7, mb1mx3.2/24, mbtmp3.7/7, Error ellipse: s-maj=49.6km s-min=25.9km az=119.0*

ISC 19 05:09:34.2±0.8, 2569N±006×585E±01, h10km, n13, σ1§19/14, mb3.7/5, 3C-2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**1.96**	**277**	⇑P	**Pn**	**05 10 06.2**	**-1.3**
	SNR=63						
BIDO	**Bidbid**	**2.18**	**188**	⇑P	**Pn**	**05 10 10.5**	**-0.1**
	SNR=56						
HOQ	**Hoqain**	**2.34**	**207**	⇑P	**Pn**	**05 10 12.4**	**-0.4**
	SNR=23						
ASHO	**Ashiyiah**	**2.40**	**246**	⇓P	**Pn**	**05 10 13.8**	**+0.3**
	SNR=26						
WSAR	**Wadi Sarin**	**2.45**	**176**	P	**Pn**	**05 10 16.0**	**+1.8**
	6.2nm,0.3s,baz=337,slow=12,SNR=57						
WSAR				S	**Sn**	**05 10 42.1**	**-2.0**
	14nm,0.3s,baz=297,slow=17,SNR=18						
SMDO	**Samad**	**2.65**	**188**	⇓P	**Pn**	**05 10 17.7**	**+0.7**
	SNR=20						
WBK	**Wadi Bani Khal**	**3.10**	**171**	P	**Pn**	**05 10 24.1**	**+0.9**
	SNR=16						
ASF	**Jabal al Asfar**	**19.93**	**294**	P	**Pn**	**05 14 10.0**	**+2.2**
	0.7nm,0.5s,baz=53,slow=10,SNR=2.6						
AKTO	**Aktyubinsk**	**24.71**	**359**	P	**P**	**05 14 55.5**	**+0.1**
	2.4nm,0.6s,mb3.9,baz=168,slow=8.0,SNR=10.0						
BRTR	**Keskin Array B**	**25.04**	**310**	P	**P**	**05 14 59.8**	**+1.3**
	0.5nm,0.7s,mb3.1,baz=134,slow=12,SNR=3.4						
FINES	**FINESS Array B**	**41.91**	**337**	P	**P**	**05 17 23.9**	**-1.0**
	1.3nm,0.6s,mb3.7,baz=138,slow=9.3,SNR=6.3						
ARCES	**ARCESS Array B**	**47.94**	**345**	P	**P**	**05 18 11.6**	**-1.3**
	0.9nm,0.7s,mb3.9,baz=129,slow=8.4,SNR=6.4						
TORD	**Torodi Ar. Bea**	**54.61**	**268**	P	**P**	**05 19 01.8**	**-1.1**
	0.9nm,0.8s,mb3.8,baz=65,slow=7.1,SNR=12						

NEIC 19 05:15:15.4, 5385N×16402W, h16km, ML3.0(AEIC)**, After AEIC., Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**1.07**	**19**	P	Pb	05 15 33.6	-2.0
FALS				S	Sb	05 15 48.5	-0.8
AKA	**Akutan**	**1.08**	**286**	P	Pb	05 15 33.6	-2.0
AKA				S	Sb	05 15 48.3	-1.1
AKUT	**Akutan**	**1.08**	**286**	*e*P	Pb	05 15 33.4	-2.2
AKLV	**Akutan Long Va**	**1.19**	**286**	P	Pn	05 15 35.1	-2.3
AKLV				S	Sb	05 15 50.6	-2.0
UNV	**Unalaska Valle**	**1.47**	**271**	P	Pn	05 15 38.4	-2.9
SDPT	**Sand Point**	**2.55**	**52**	*e*P	Pn	05 15 54.8	-1.3
CHGN	**Chignik**	**4.05**	**50**	*e*P	Pn	05 16 15.4	-1.3
DAWY	**Dawson**	**16.19**	**41**	*e*P	Pn	05 19 03.0	+0.8

IDC ***19*** *05:30:44.4±1.0, 3322S×17853W, h0km, mb4.6/4, mb1 4.8/5, mb1mx4.3/13, mbtmp4.6/5, ML4.5/1, MS3.7/2, Ms1 3.7/2, ms1mx3.0/22, Error ellipse: s-maj=30.0km s-min=26.1km az=98.0*
NEIC ***19*** *05:30:51.4±6.7, 3376S×17872W, h48km±55km, mb4.7/2, Error ellipse: s-maj=66.0km s-min=23.0km az=206.0*
ISCJB ***19*** *05:30:52.6±1.5, 3373S±006×1794W±02, h33km, mb4.5/5, Error ellipse: s-maj=28.3km s-min=7.7km az=21.1*
MOS ***19*** *05:30:54.6±3.2, 3351S×17973W, h33km, mb4.7/1, Error ellipse: s-maj=56.1km s-min=49.5km az=162.0*

ISC 19 05:30:53.4±1.5, 3369S±007×1792W±02, h35km, n39, σ1§12/31, mb4.5/5, 3D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.55**	**14**	Pn	**Pn**	**05 31 46.1**	**-14**
	30nm,0.3s,baz=197,slow=19,SNR=4.4						
RAO				Sn	**Sn**	**05 32 36.4**	**-15**
	47nm,0.3s,baz=90,slow=20,SNR=3.0						
PUZ	**Puketiti**	**4.85**	**205**	PN	**Pn**	**05 32 03.4**	**-0.5**
PUZ				SN	**Sn**	**05 33 04.5**	**+5.8**
MWZ	**Matawai**	**5.35**	**209**	*e*PN	**Pn**	**05 32 11.4**	**+0.6**
MWZ				SN	**Sn**	**05 33 18.0**	**+6.8**
URZ	**Urewera**	**5.47**	**212**	Pn	**Pn**	**05 32 13.5**	**+1.1**
	12nm,0.3s,baz=24,slow=7.6,SNR=37						
URZ				Sn	**Sn**	**05 33 21.2**	**+7.2**
	6.9nm,0.3s,baz=146,slow=21,SNR=9.1						
URZ	**Urewera**	**5.47**	**212**	PN	**Pn**	**05 32 13.6**	**+1.3**
URZ				SN	**Sn**	**05 33 19.7**	**+5.7**
BFZ	**Birch Farm**	**7.88**	**206**	PN	**Pn**	**05 32 44.8**	**-0.6**
BFZ				SN	**Sn**	**05 34 14.6**	**+1.2**
MRZ	**Mangatainoka R**	**8.12**	**209**	PN	**Pn**	**05 32 46.3**	**-2.5**
MRZ				SN	**Sn**	**05 34 19.8**	**+0.4**
KIW	**Kapiti Island**	**8.57**	**212**	SN	**Sn**	**05 34 31.9**	**+1.5**
THZ	**Tophouse**	**10.21**	**216**	SN	**Sn**	**05 35 09.9**	**-0.8**
KHZ	**Kahutara**	**10.43**	**211**	SN	**Sn**	**05 35 13.2**	**-2.9**
MQZ	**McQueen's Vall**	**11.86**	**210**	SN	**Sn**	**05 35 44.8**	**-6.3**
RPZ	**Rata Peaks**	**12.58**	**214**	Pn	**Pn**	**05 33 48.4**	**-1.4**
	1.3nm,0.3s,baz=29,slow=18,SNR=5.6						
RPZ				Sn	**Sn**	**05 36 03.4**	**-5.2**
	1.0nm,0.3s,baz=336,slow=8.7,SNR=6.0						
DZM	**Mont Dzumac**	**17.17**	**309**	LR	LR	05 40 16.9	
	comp=Z,223nm,19.1s,baz=19,slow=33						
TBI	**Tubuai**	**27.98**	**76**	*e*LR	LR	05 42 53.0	
	70nm,29.8s						
STKA	**Stephens Creek**	**32.90**	**262**	LR	LR	05 47 56.1	
	comp=Z,166nm,19.7s,baz=25,slow=31						
CTA	**Charters Tower**	**33.51**	**285**	*e*P	**P**	**05 37 31.1**	**+1.6**
	6.7nm,0.9s,mb4.6						
CTA	**Charters Tower**	**33.51**	**285**	P	**P**	**05 37 30.0**	**+0.6**
	5.0nm,0.5s,mb4.7,baz=116,slow=11,SNR=11						
CTA	**Charters Tower**	**33.51**	**285**	*e*P	**P**	**05 37 31.1**	**+1.6**
CTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
RKT	**Rikitea**	**40.02**	**87**	*e*LR	LR	05 48 29.9	
	comp=Z,104nm,28.2s						
ASAR	**Alice Springs**	**42.05**	**271**	P	**P**	**05 38 42.0**	**+0.4**
	comp=Z,7.2nm,0.7s,mb4.4,baz=112,slow=7.3,SNR=69						
WB2	**Warramunga Arr**	**43.33**	**276**	*e*P	**P**	**05 38 51.6**	**-0.4**
WRA	**Warramunga Arr**	**43.34**	**276**	P	**P**	**05 38 51.8**	**-0.3**
	comp=Z,10nm,0.7s,mb4.7,baz=117,slow=7.5,SNR=73						
FITZ	**Fitzroy Crossi**	**51.44**	**273**	*e*P	**P**	**05 39 54.4**	**-0.7**
	comp=Z,5.7nm,0.6s,mb4.7						
MAW	**Mawson**	**68.89**	**201**	P	**P**	**05 41 55.6**	**+1.0**
	comp=Z,3.9nm,1.0s,mb4.3,baz=143,slow=10,SNR=4.7						
VNA3	**Neumayer Olymp**	**75.10**	**177**	⇓*i*	**P**	**05 42 39.9**	**+8.2**
VNA3				*e*		05 42 40.4	
VNA3				*e*		05 42 41.9	
VNA3				*e*		05 42 46.2	
VNA2	**Neumayer--Watz**	**75.52**	**177**	⇓*i*	**P**	**05 42 42.4**	**+8.2**
	baz=171,slow=4.7						
VNA2				*e*		05 42 42.9	
VNA2				*e*		05 42 44.4	
VNA2				*e*		05 42 49.1	
VNA1	**Neumayer--Stat**	**75.76**	**177**	⇓*i*	**P**	**05 42 44.0**	**+8.5**
VNA1				*e*		05 42 44.6	
VNA1			

KURK	**Kurchatov**	**61.70**	**328**	*e*P		**P**		06 22 52.8	+1.2
KURK				pmax		pmax			
	comp=Z,5.0nm,0.6s,mb4.8								
KURK	**Kurchatov**	**61.70**	**328**	*e*P		**P**		06 22 52.8	+1.2
	comp=Z,4.7nm,0.6s,mb4.8								
TIXI	**Tiksi**	**67.83**	**1**	*e*P		**P**		06 23 30.4	-1.2
TIXI				pmax		pmax			
	comp=Z,2.0nm,0.9s,mb4.2								
ZRNK	**Zerenda**	**68.00**	**327**	*e*P		**P**		06 23 32.9	+0.2
ZRNK				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.6								
ZRNK	**Zerenda**	**68.00**	**327**	*e*P		**P**		06 23 32.9	+0.2
	comp=Z,4.5nm,0.8s,mb4.5								
VNDA	**Vanda**	**83.44**	**173**	P		**P**		06 25 00.8	-0.2
	comp=Z,0.7nm,0.9s,mb3.7,baz=335,slow=5.8,SNR=3.2								
SBA	**Scott Base**	**84.35**	**172**	P		**P**		06 25 06.4	+0.8
ILAR	**Eielson Array**	**85.12**	**25**	P		**P**		06 25 10.6	+1.1
	comp=Z,0.5nm,1.0s,mb3.6,baz=276,slow=5.8,SNR=5.3								
BRTR	**Keskin Array B**	**89.97**	**310**	P		**P**		06 25 33.0	+0.3
	comp=Z,1.0nm,0.8s,mb4.2,baz=111,slow=5.4,SNR=5.0								
INK	**Inuvik**	**90.17**	**21**	*e*P		**P**		06 25 34.4	+0.7
INK				pmax		pmax			
	comp=Z,20nm,2.3s								
INK	**Inuvik**	**90.17**	**21**	*e*P		**P**		06 25 34.4	+0.7
	comp=Z,20nm,2.3s,mb5.0								
ARCES	**ARCESS Array B**	**90.42**	**340**	P		**P**		06 25 34.2	-0.7
ARCES	comp=Z,1.1nm,0.7s,mb4.3,baz=79,slow=6.5,SNR=4.7			LR		LR		07 07 08.8	
	comp=Z,51nm,20.3s,MS3.9,baz=233,slow=36								
ARCES	**ARCESS Array B**	**90.42**	**340**	P		**P**		06 25 34.2	-0.7
ARCES				LR		LR		07 07 08.8	
QSPA	**South Pole Qui**	**93.65**	**180**	*e*P		**P**		06 25 51.0	+1.2
BMO	**Blue Mountains**	**105.42**	**42**	*e*PKPdf		PKiKP		06 30 56.8	+0.5

*NEIC **19** 06:16:20.8, 1920N×102.73W, h44km, MD4.0(MEX), After MEX.*

MEX 19 06:16:20.6±1.1, 1920N×10272W, h9km±12km, MD4.0, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COLM	**Colima**	**0.92**	**269**	*i* P	Pg	06 16 35.0	-3.3
COLM				*i* S	Sg	06 16 47.5	-2.8
SFJM	**Santa Fe**	**1.31**	**347**	*i* P	Pn	06 16 41.0	-4.1
SFJM				*i* S	Sb	06 16 58.0	-4.3
MOIG	**Morelia**	**1.52**	**72**	*i* P	Pn	06 16 44.0	-3.8
MOIG				*i* S	Sn	06 17 03.3	-4.4
MOIG	**Morelia**	**1.52**	**72**	*i* P	Pn	06 16 44.3	-3.6
MOIG				*i* S	Sn	06 17 01.9	-5.8
MRX	**Morelia**	**1.52**	**71**	*e*P	Pn	06 16 45.0	-3.0
MRX				*i* S	Sn	06 17 06.0	-1.9
ZIIG	**Zihuatanejo**	**1.98**	**143**	*i* P	Pn	06 16 50.9	-3.4
ZIIG				*i* S	Sn	06 17 14.1	-5.2
ZIIG	**Zihuatanejo**	**1.98**	**143**	*i* P	Pn	06 16 50.9	-3.4
ZIIG				*i* S	Sn	06 17 15.8	-3.5
CJM	**Chamela**	**2.22**	**278**	*i* P	Pn	06 16 56.2	-1.3
CJM				*i* S	Sn	06 17 20.5	-4.6
CJM	**Chamela**	**2.22**	**278**	*e*P	Pn	06 16 52.6	-5.0
CJM				*i* S	Sn	06 17 20.5	-4.6
PLIG	**Platanillo**	**3.15**	**104**	*i* P	Pn	06 17 08.5	-1.8
PLIG				*i* S	Sn	06 17 43.9	-4.1
PLIG	**Platanillo**	**3.15**	**104**	*i* P	Pn	06 17 08.5	-1.8
PLIG				*i* S	Sn	06 17 40.6	-7.4
CAIG	**El Cayaco**	**3.17**	**132**	*e*P	Pn	06 17 08.6	-2.0
CAIG				*i* S	Sn	06 17 44.9	-3.5
MEIG	**Mezcala**	**3.20**	**113**	*i* P	Pn	06 17 10.0	-1.1
MEIG				*i* S	Sn	06 17 45.3	-4.0
ACX	**Acapulco**	**3.53**	**131**	*e*P	Pn	06 17 14.0	-1.6
ZAIG	**Zacatecas**	**3.55**	**2**	*e*P	Pn	06 17 12.9	-3.0
ZAIG				*i* S	Sn	06 17 54.7	-3.2
ZAIG	**Zacatecas**	**3.55**	**2**	*e*P	Pn	06 17 10.8	-5.0
ZAIG				*i* S	Sn	06 17 54.7	-3.2
UTMO	**Huajuapan**	**4.86**	**106**	*e*S	Sn	06 18 28.2	-1.9

IDC 19 06:17:49.6±5.2, 886S×15895E, h53km±58km, mb3.5/5, mb1 3.8/5, mb1mx3.6/14, mbtmp3.8/5, MS3.3/2, Ms1 3.3/2, ms1mx2.9/19, Error ellipse: s-maj=58.5km s-min=21.6km az=153.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.13**	**120**	P	Pn	06 18 09.6	+0.4
	274nm,0.3s,baz=266,slow=7.2,SNR=46						
HNR				S	Sn	06 18 23.8	+0.1
	1μm,0.3s,baz=84,slow=19,SNR=72						
WRA	**Warramunga Arr**	**26.22**	**242**	P	P	06 23 19.8	+0.4
	1.2nm,0.9s,baz=67,slow=8.8,SNR=4.8						
ASAR	**Alice Springs**	**28.12**	**235**	P	P	06 23 36.0	-0.4
	0.4nm,0.9s,baz=62,slow=8.4,SNR=4.1						
FITZ	**Fitzroy Crossi**	**33.62**	**251**	P	P	06 24 25.6	+0.7
	1.4nm,0.5s,baz=97,slow=9.4,SNR=13						
RAR	**Rarotonga**	**41.58**	**112**	LR	LR	06 39 34.3	
	comp=Z,43nm,19.9s,baz=298,slow=31						
TGY	**Tagaytay City**	**44.08**	**301**	LR	LR	06 42 46.1	
	comp=Z,4.3nm,18.6s,baz=144,slow=34						
ILAR	**Eielson Array**	**83.70**	**20**	P	P	06 30 12.6	-0.1
	0.5nm,0.4s,baz=248,slow=5.0,SNR=17						
MKAR	**Makanchi Array**	**87.40**	**318**	P	P	06 30 31.1	0.0
	0.3nm,0.5s,baz=95,slow=6.5,SNR=5.1						

*CSEM **19** 06:32:24.6±0.1, 3899N×1552E, h30km, ML3.8/7, Error ellipse: s-maj=1.6km s-min=1.2km az=115.0*
*NEIC **19** 06:32:25.1, 3900N×1553E, h23km, ML2.9(ROM), After ROM.*

ROM 19 06:32:25.1±0.1, 3900N×1553E, h23km±4km, Md3.0/19, Ml2.9/18, 1D, Error ellipse: s-maj=2.5km s-min=1.8km az=92.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLNA	**Salina**	**0.69**	**231**	Pg	Pb	06 32 38.7	+0.2
	565nm,0.3s						
LLI	**Lipari**	**0.71**	**219**	Pg	Pb	06 32 40.1	+1.3
	867nm,0.5s						
GRI	**Girifalco**	**0.72**	**104**	Pg	Pb	06 32 38.8	-0.2
	1μm,0.3s						
MSRU	**Castanea**	**0.73**	**181**	⇓*i* Pg	Pb	06 32 38.9	-0.3
MSRU				Sg	Sb	06 32 50.3	+1.5
	404nm,0.2s						
VPL	**Vulcano Piano**	**0.75**	**215**	Pg	Pb	06 32 39.4	-0.1
	524nm,0.6s						
SCLL	**Scilla**	**0.76**	**169**	Pg	Pb	06 32 39.5	-0.1
SCLL				Sg	Sb	06 32 51.7	+2.3
	95nm,0.4s						
CEL	**Celeste**	**0.79**	**158**	Pg	Pb	06 32 39.9	-0.3
CEL				Sg	Sb	06 32 52.0	+1.5
	528nm,0.5s						
IFIL	**Filicudi I Eol**	**0.87**	**240**	Pg	Pb	06 32 41.0	-0.4
IFIL				Sg	Sb	06 32 54.2	+1.6
	2μm,0.5s						
PLAC	**Placanica**	**0.90**	**127**	Pg	Pb	06 32 41.8	-0.2
	188nm,0.7s						
SERS	**Sersale**	**0.91**	**87**	Pg	Pb	06 32 42.1	0.0
SERS				Sg	Sb	06 32 54.7	+0.9
	396nm,0.4s						
TIP	**Timpagrande**	**0.98**	**79**	Pg	Pb	06 32 43.3	0.0
TIP				Sg	Sb	06 32 57.5	+1.7
MTTG	**Motta San Giov**	**1.00**	**172**	Pg	Pn	06 32 44.9	+1.1
MTTG				Sg	Sb	06 32 57.7	+1.1
	408nm,0.8s						
SOI	**Samo**	**1.01**	**156**	Pg	Pn	06 32 43.2	-0.7
SOI				Sg	Sb	06 32 57.7	+0.9
	297nm,0.4s						
CUC	**Castrocucco**	**1.02**	**13**	Pg	Pn	06 32 44.0	0.0
CUC				Sg	Sb	06 32 58.1	+1.1
MMME	**Mongiuffi-Meli**	**1.08**	**191**	Pg	Pn	06 32 44.3	-0.5
	108nm,0.4s						
MGR	**Morigerati**	**1.14**	**1**	Pg	Pn	06 32 45.9	+0.3
	145nm,0.4s						
SCHR	**S. Chirico Rap**	**1.27**	**19**	Pg	Pn	06 32 48.7	+1.2
	45nm,0.4s						
ORI	**Oriolo Calabro**	**1.28**	**34**	Pg	Pn	06 32 49.8	+2.2
	280nm,0.4s						
CMPR	**Campora**	**1.33**	**353**	Pg	Pn	06 32 48.2	0.0
CMPR				Sg	Sn	06 33 08.2	+3.0
	182nm,0.6s						
SLCN	**Sala Consilina**	**1.39**	**3**	Pg	Pn	06 32 51.8	+2.7
	208nm,0.6s						
CDRU	**Civita di Ruta**	**1.50**	**354**	Pg	Pn	06 32 50.9	+0.3
	100nm,0.4s						

AGST	**Augusta-Monte**	**1.75**	**188**	Pg		Pn		06 32 54.6	+0.5
	57nm,0.4s								
SG1	**Sgolgore (BA)**	**2.04**	**25**	*e*Pn		Pn		06 32 58.9	+0.8
AMUR	**Altamura**	**2.08**	**23**	Pg		Pn		06 32 59.5	+0.9
	11nm,0.3s								

*IDC **19** 06:34:11.6±1.1, 1.19N×9690E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.9/19, mbtmp4.0/9, ML3.1/1, Error ellipse: s-maj=37.8km s-min=19.5km az=46.0*
*BJI **19** 06:34:12.2, 127N×9732E, h11km, mB5.4, mb4.7*
*NEIC **19** 06:34:14.9±0.7, 1.19N×9707E, mb4.9/6, Error ellipse: s-maj=16.1km s-min=10.4km az=205.0*
*MOS **19** 06:34:14.8±0.8, 122N×9695E, h33km, mb4.5/3, Error ellipse: s-maj=22.0km s-min=15.6km az=110.7*
*ISCJB **19** 06:34:15.1±0.8, 13N±01×97.13E±009, h33km, mb4.3/18, MS4.1/1, Error ellipse: s-maj=16.4km s-min=11.4km az=50.5*

ISC 19 06:34:17.5±0.8, 13N±01×9718E±009, h35km, (h18km±3.5km: pP-P), n27, σ1s12/27, mb4.3/18, MS4.1/1, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.32**	**49**	Pn	**Pn**	**06 34 53.4**	**+0.3**
	4.3nm,0.3s,baz=208,slow=4.3,SNR=58						
PSI	**Prapat**	**2.32**	**49**	Pn	**Pn**	**06 34 53.4**	**+0.3**
KULM	**Kulim**	**5.29**	**41**	*e*Pn	**Pn**	**06 35 34.4**	**+0.4**
KKM	**Kota Kinabalu**	**19.57**	**75**	*e*P	**Pn**	**06 38 42.1**	**-1.7**
SHL	**Shillong**	**24.69**	**348**	*e*P	**P**	**06 39 35.0**	**-0.1**
GYA	**Guiyang**	**26.66**	**19**	⇑*i*P	**P**	**06 39 54.0**	**+1.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
JIRN	**Jiri**	**28.28**	**339**	*e*P	**P**	**06 40 08.7**	**+1.2**
	comp=Z,32nm,0.9s,mb5.0						
GUN	**Gumba**	**28.62**	**339**	*e*P	**P**	**06 40 11.7**	**+1.2**
	comp=Z,28nm,0.8s,mb5.0						
KKN	**Kakani**	**28.73**	**338**	*e*P	**P**	**06 40 12.8**	**+1.3**
GKN	**Gorkha**	**29.17**	**337**	*e*P	**P**	**06 40 16.3**	**+0.9**
	comp=Z,13nm,0.5s,mb4.9						
KOLN	**Koldanda**	**29.39**	**335**	*e*P	**P**	**06 40 18.3**	**+1.0**
	comp=Z,18nm,0.7s,mb4.9						
LZH	**Lanzhou**	**35.19**	**9**	*e*P	**P**	**06 41 07.4**	**-0.7**
LZH				AP	pP	06 41 14.5	-3.8
LZH				XP	sP	06 41 17.9	-4.6
LZH				AMB	AMB		
	comp=Z,22nm,1.4s,mb4.9						
GTA	**Gaotai**	**38.04**	**3**	*e*P	**P**	**06 41 32.8**	**+0.4**
GTA				AP	pP	06 41 39.3	-3.3
GTA				XP	sP	06 41 42.3	-4.5
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.1						
WRA	**Warramunga Arr**	**42.09**	**122**	P	**P**	**06 42 06.8**	**+0.9**
	comp=Z,1.6nm,0.6s,mb3.8,baz=300,slow=9.1,SNR=10						
ASAR	**Alice Springs**	**43.45**	**127**	P	**P**	**06 42 18.6**	**+1.6**
	comp=Z,1.1nm,0.7s,mb3.7,baz=296,slow=8.1,SNR=10						
SONM	**Songino Array**	**47.07**	**8**	P	**P**	**06 42 46.0**	**+0.3**
	comp=Z,4.3nm,0.8s,mb4.5,baz=189,slow=9.2,SNR=31						
MKAR	**Makanchi Array**	**47.17**	**346**	P	**P**	**06 42 46.6**	**+0.1**
	comp=Z,2.1nm,0.4s,mb4.4,baz=160,slow=8.9,SNR=41						
KLR	**Kul'dur**	**56.20**	**27**	*e*P	**P**	**06 43 51.6**	**-2.3**
ZRNK	**Zerenda**	**56.58**	**340**	*e*P	**P**	**06 43 55.6**	**-1.0**
ZRNK				*e**PP	pP	06 44 01.2	-6.0
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**56.58**	**340**	*e*P	**P**	**06 43 55.6**	**-1.0**
	comp=Z,1.9nm,0.6s,mb4.3						
ZRNK				*e*pP	pP	06 44 01.2	-6.0
CHKZ	**Chkalovo**	**56.66**	**341**	*e*P	**P**	**06 43 56.1**	**-1.1**
CHKZ				*e**PP	pP	06 44 02.5	-5.3
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
CHKZ	**Chkalovo**	**56.66**	**341**	*e*P	**P**	**06 43 56.1**	**-1.1**
	comp=Z,4.7nm,0.6s,mb4.7						
CHKZ				*e*pP	pP	06 44 02.5	-5.3
BRTR	**Keskin Array B**	**69.05**	**312**	P	**P**	**06 45 19.4**	**-0.3**
	comp=Z,0.3nm,0.6s,mb3.4,baz=100,slow=6.1,SNR=2.2						
TIXI	**Tiksi**	**73.12**	**10**	*e*P	**P**	**06 45 39.0**	**-5.3**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
TIXI				MLR	MLR		
	comp=Z,74nm,15.0s,MS4.1						
AKASG	**Malin Array Be**	**75.19**	**322**	P	**P**	**06 45 54.2**	**-2.2**
	comp=Z,0.2nm,0.2s,mb3.6,baz=99,slow=4.7,SNR=4.0						
FINES	**FINESS Array B**	**79.93**	**333**	P	**P**	**06 46 21.2**	**-1.6**
	comp=Z,1.9nm,0.9s,mb4.0,baz=106,slow=6.2,SNR=3.8						
ARCES	**ARCESS Array B**	**82.47**	**340**	P	**P**	**06 46 35.6**	**-0.6**
	comp=Z,1.6nm,0.7s,mb4.0,baz=103,slow=5.2,SNR=8.8						

IDC 19 07:10:01.0±2.5, 2024S×17438W, h0km, mb3.7/4, mb1 4.1/5, mb1mx3.9/15, mbtmp3.8/5, ML2.7/1, Error ellipse: s-maj=107.9km s-min=25.3km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.77**	**22**	Pn	Pn	07 11 41.3	-0.3
	9.0nm,0.3s,baz=323,slow=10,SNR=9.0						
AFI				Sn	Sn	07 12 55.2	-4.2
	4.0nm,0.3s,baz=217,slow=20,SNR=2.9						
ASAR	**Alice Springs**	**47.88**	**256**	P	P	07 18 41.0	+0.3
	1.3nm,0.9s,baz=92,slow=7.7,SNR=10						
WRA	**Warramunga Arr**	**48.00**	**261**	P	P	07 18 42.0	+0.3
	0.7nm,0.5s,baz=99,slow=7.9,SNR=4.7						
NVAR	**Mina Array Bea**	**78.54**	**42**	P	P	07 22 04.2	0.0
	0.5nm,0.6s,baz=210,slow=7.3,SNR=5.6						
ILAR	**Eielson Array**	**87.35**	**11**	P	P	07 22 50.4	+0.5
	0.2nm,0.5s,baz=222,slow=5.5,SNR=5.3						

IDC 19 07:10:15.6±2.2, 1452S×6612E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/18, mbtmp3.7/5, MS3.2/1, Ms1 3.2/1, ms1mx2.7/19, Error ellipse: s-maj=83.6km s-min=29.0km az=47.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**31.47**	**292**	LR	LR	07 26 20.0	
	comp=Z,39nm,20.4s,baz=101,slow=31						
BRTR	**Keskin Array B**	**61.86**	**332**	P	P	07 20 36.8	+0.2
	0.3nm,0.4s,baz=157,slow=4.1,SNR=3.5						
MKAR	**Makanchi Array**	**62.73**	**12**	P	P	07 20 42.2	-0.3
	0.3nm,0.5s,baz=198,slow=8.8,SNR=4.1						
ASAR	**Alice Springs**	**64.21**	**109**	P	P	07 20 52.5	+0.3
	0.5nm,0.8s,baz=270,slow=6.4,SNR=5.4						
WRA	**Warramunga Arr**	**65.01**	**105**	P	P	07 20 58.3	+0.9
	0.9nm,0.7s,baz=269,slow=5.9,SNR=6.6						
SONM	**Songino Array**	**71.71**	**27**	P	P	07 21 39.9	+0.5
	0.4nm,0.5s,baz=235,slow=5.4,SNR=3.8						
PDAR	**Pinedale Array**	**151.60**	**353**	PKPbc	PKPbc	07 30 12.3	+0.6
	1.5nm,0.7s,baz=37,slow=2.3,SNR=8.9						

*IDC **19** 07:23:56.6±2.1, 3199S×17809W, h0km, mb4.0/2, mb1 4.3/3, mb1mx4.0/14, mbtmp4.1/3, MS3.0/2, Ms1 3.0/2, ms1mx2.8/17, Error ellipse: s-maj=57.0km s-min=28.3km az=125.0*

ISC 19 07:23:55.5±3.4, 323S±01×1773W±05, h35km, n13, σ1s48/9, mb3.9/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.11**	**350**	Pn	**Pn**	**07 24 42.9**	**+0.9**
	53nm,0.3s,baz=278,slow=20,SNR=10.0						
RAO				Sn	**Sn**	**07 25 15.8**	**-2.2**
	61nm,0.3s,baz=108,slow=22,SNR=4.1						
PUZ	**Puketiti**	**6.79**	**211**	PN	**Pn**	**07 25 31.1**	**-1.4**
PUZ				SN	**Sn**	**07 26 51.5**	**+3.0**
MWZ	**Matawai**	**7.33**	**214**	SN	**Sn**	**07 27 01.6**	**-0.3**
URZ	**Urewera**	**7.47**	**216**	LR	LR	07 28 12.0	
	comp=Z,141nm,18.2s,baz=235,slow=35						
BFZ	**Birch Farm**	**9.82**	**210**	SN	**Sn**	**07 27 59.7**	**-3.4**
DZM	**Mont Dzumac**	**17.68**	**301**	LR	LR	07 31 36.5	
	comp=Z,48nm,21.3s,baz=210,slow=27						
ASAR	**Alice Springs**	**43.63**	**269**	P	**P**	**07 31 58.0**	**+1.6**
	0.7nm,0.5s,mb3.7,baz=108,slow=7.5,SNR=12						
WB2	**Warramunga Arr**	**44.78**	**274**	*e*P	**P**	**07 32 06.0**	**+0.3**
WRA	**Warramunga Arr**	**44.79**	**274**	P	**P**	**07 32 06.4**	**+0.7**
	1.9nm,0.5s,mb4.2,baz=113,slow=7.9,SNR=28						
KAF	**Kangasniemi**	**146.56**	**340**	*ep*	PKPdf	07 43 37.5	+5.9
	0.7nm,0.3s						
FINES	**FINESS Array B**	**147.15**	**339**	PKPbc	PKPbc	07 43 39.2	+4.4
	2.2nm,0.5s,baz=62,slow=4.5,SNR=23						

NOA	**NORSAR Array B**	**150.74**	**352**	PKPbc		PKPbc		07 43 47.7	+3.8
	0.6nm,0.6s,baz=13,slow=4.1,SNR=3.4								
BRTR	**Keskin Array B**	**154.00**	**295**	PKPbc		PKPbc		07 43 55.9	+4.7
	0.3nm,0.6s,baz=99,slow=4.5,SNR=2.7								

IDC 19 07:35:41.4±2.0, 470S×15201E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/13, mbtmp3.4/3, Error ellipse: s-maj=142.1km s-min=28.2km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.92**	**227**	P	P	07 40 46.3	-0.6
	0.5nm,0.3s,baz=54,slow=10.0,SNR=8.4						
ASAR	**Alice Springs**	**25.69**	**221**	P	P	07 41 14.2	+1.1
	0.4nm,0.5s,baz=58,slow=8.9,SNR=5.3						
ILAR	**Eielson Array**	**82.37**	**22**	P	P	07 48 05.0	-0.1
	0.2nm,0.6s,baz=237,slow=5.3,SNR=5.9						

*LDG **19** 07:58:41.5±0.2, 4292N×054E, h7km, Md1.9/2, Ml1.8/2, Error ellipse: s-maj=5.5km s-min=2.5km az=4.0*
*STR **19** 07:58:41.7±0.2, 4294N×055E, h2km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 19 07:58:41.8±0.4, 4293N×055E, h4km±9km, mbLg0.9/4, Error ellipse: s-maj=3.5km s-min=2.1km az=11.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MELF	**Melles**	**0.16**	**112**	Pg	Pg	07 58 44.6	-0.4
MELF				Sg	Sg	07 58 48.1	+0.9
MELF	**Melles**	**0.16**	**112**	Pg	Pg	07 58 44.7	-0.3
MELF				Lg		07 58 47.4	
EPF	**Esparros**	**0.18**	**302**	*e*Pg	Pg	07 58 45.0	-0.4
EPF				*e*Sg	Sg	07 58 47.4	-0.4
	24nm,0.2s						
EPF	**Esparros**	**0.18**	**302**	Pg	Pg	07 58 45.0	-0.4
EPF				Lg		07 58 47.4	
	12nm,0.2s						
RESF	**Ens**	**0.20**	**231**	Pg	Pg	07 58 45.6	-0.2
RESF				Sg	Sg	07 58 48.8	+0.4
RESF	**Ens**	**0.20**	**231**	Pg	Pg	07 58 45.6	-0.2
RESF				Lg		07 58 48.8	
LABF	**Labassere**	**0.37**	**288**	Pg	Pg	07 58 48.6	-0.3
LABF				Sg	Sg	07 58 54.1	+0.3
LABF	**Labassere**	**0.37**	**288**	Pg	Pg	07 58 49.0	+0.1
LABF				Lg		07 58 54.0	
EBIE	**Bielsa**	**0.39**	**231**	Pg	Pg	07 58 48.9	-0.5
	1.2nm,0.2s,SNR=7.9						
EBIE				Lg		07 58 54.2	
	1.8nm,0.1s,SNR=8.6						
ETSF	**Etsaut**	**0.82**	**268**	*e*Pg	Pg	07 58 56.8	-0.7
ETSF				*e*Sg	Sg	07 59 08.3	+0.2
	3.5nm,0.3s						
ETSF	**Etsaut**	**0.82**	**268**	Pg	Pg	07 58 56.8	-0.7
ETSF				Lg		07 59 08.3	
	1.8nm,0.3s						
MTLF	**Montolieu**	**1.28**	**71**	*e*Pn	Pn	07 59 04.7	-1.8
MTLF				*e*Sg	Sg	07 59 23.8	+0.7
	2.2nm,0.2s						
MTLF	**Montolieu**	**1.28**	**71**	Pn	Pn	07 59 04.7	-1.8
MTLF				Lg		07 59 23.8	
	1.1nm,0.2s						
SJPF	**Ste Jean**	**1.32**	**278**	*e*Pg	Pg	07 59 06.9	-0.2
SJPF				*e*Sg	Sg	07 59 23.8	-0.3
	1.2nm,0.3s						
SJPF	**Ste Jean**	**1.32**	**278**	Pg	Pg	07 59 06.9	-0.2
SJPF				Lg		07 59 23.8	
	0.6nm,0.3s						

*LDG **19** 08:13:57.0±0.1, 4307N×062W, h5km, Error ellipse: s-maj=2.2km s-min=1.2km az=7.0*

MDD 19 08:13:57.4±0.3, 4308N×059W, h0km, mbLg1.0/9, Error ellipse: s-maj=3.8km s-min=1.5km az=10.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATE	**Arette**	**0.08**	**272**	Pg	Pg	08 13 58.9	0.0
ATE				Lg		08 14 00.6	
REYF	**Montagne du Re**	**0.15**	**95**	Pg	Pg	08 14 00.6	-0.1
REYF				Lg		08 14 02.7	
ETSF	**Etsaut**	**0.19**	**172**	*e*Pg	Pg	08 14 00.6	-0.3
ETSF				*e*Sg	Sg	08 14 03.2	-0.1
	41nm,0.2s						
ETSF	**Etsaut**	**0.19**	**172**	Pg	Pg	08 14 00.6	-0.3
ETSF				Lg		08 14 03.2	
	21nm,0.2s						
LARF	**Larrau**	**0.29**	**261**	Pg	Pg	08 14 02.6	-0.4
LARF				Lg		08 14 07.0	
SJPF	**Ste Jean**	**0.46**	**274**	*e*Pg	Pg	08 14 05.6	-0.6
SJPF				*e*Sg	Sg	08 14 11.0	-1.3
	4.5nm,0.3s						
SJPF	**Ste Jean**	**0.46**	**274**	Pg	Pg	08 14 05.6	-0.6
SJPF				Lg		08 14 11.0	
	2.2nm,0.3s						
IPRE	**Itoiz**	**0.62**	**244**	Pg	Pg	08 14 09.3	0.0
	0.1nm,0.4s,SNR=7.9						
IPRE				Lg		08 14 18.6	
	7.3nm,1.4s,SNR=7.9						
EBIE	**Bielsa**	**0.67**	**126**	Pg	Pg	08 14 09.3	-0.9
	5.2nm,0.8s						
EBIE				Lg		08 14 17.9	
	2.1nm,0.3s,SNR=11						
EALK	**Alkurruntz**

BALB	**Balikesir**	**1.76**	**32**	*e*PN	**Pn**	**08 15 08.3**	**+0.9**
BALB	**Balikesir**	**1.76**	**32**	*e*Pn	**Pn**	**08 15 08.3**	**+0.8**
DALT	**Dalyan (Mudla)**	**2.09**	**131**	*e*PN	**Pn**	**08 15 11.5**	**-0.6**
RKY	**Sarkoy-Tekirda**	**2.56**	**9**	*e*PN	**Pn**	**08 15 20.7**	**+2.2**

NNC 19 08:16:48.9±10.0, 3842N×7282E, h114km±92km, mb2.5, mpv3.1, 1C-4D, Error ellipse: s-maj=125.3km s-min=66.3km az=15.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**4.97**	**24**	⇓P	Pn	08 18 01.8	+0.4
TKM2				⇓S	Sn	08 18 58.5	+0.9
	0.3nm,0.6s						
KK31	**Karatay Array**	**4.99**	**340**	P	Pn	08 18 01.6	-0.1
	1.0nm,0.3s,baz=155,slow=12,SNR=21						
KK31				S	Sn	08 18 59.2	+0.9
	11nm,0.3s,baz=142,slow=22,SNR=35						
AB31	**Akbulak array**	**14.25**	**324**	⇓P	Pn	08 20 01.5	-3.8
	0.8nm,0.5s,baz=145,slow=12,SNR=23						
AB31				⇓S	Sn	08 22 32.4	-10
	0.8nm,0.6s,baz=138,slow=25,SNR=2.9						
AKTO	**Aktyubinsk**	**15.96**	**324**	⇑P	Pn	08 20 27.1	+0.2
	0.1nm,1.0s						

MAN 19 08:32:21.5, 955N×12205E, h24km, mb3.1, ML4.4, MS1.6, 2C, Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**1.19**	**100**	⇑*i*P	Pn	08 32 42.0	-0.6
SNPH				*i* S	Sn	08 32 58.5	+0.5
GUIM	**Jordan**	**1.20**	**26**	*e*P	Pn	08 32 42.1	-0.7
GUIM				*e*S	Sn	08 32 58.8	+0.5
DCPH	**Dipolog City**	**1.61**	**127**	⇑*e*P	Pn	08 32 48.3	-0.1
CUYO	**Cuyo Island**	**1.64**	**322**	*e*P	Pn	08 32 49.0	+0.1
TBP	**Tagbilaran**	**1.80**	**85**	*e*P	Pn	08 32 51.6	+0.7
TBP				*e*S	Sn	08 33 14.3	+1.4
PAGZ	**Pagadian**	**2.14**	**142**	*e*P	Pn	08 32 56.4	+0.7

*IDC **19** 08:56:03.4±3.0, 3387S×17867W, h0km, mb4.1/2, mb1 4.4/4, mb1mx4.1/13, mbtmp4.3/4, ML4.0/2, Error ellipse: s-maj=68.1km s-min=38.4km az=115.0*
*ISCJB **19** 08:56:07.6±2.3, 349S±02×1776W±03, h123km±23km, mb4.0/2, Error ellipse: s-maj=54.9km s-min=17.3km az=73.2*
ISC 19 08:56:08.6±2.2, 348S±02×1777W±03, h103km±24km, n12, σ0§94/18, mb4.0/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**4.66**	**223**	PN	**Pn**	**08 57 17.4**	**+0.7**
PUZ				SN	**Sn**	**08 58 10.6**	**+1.0**
MWZ	**Matawai**	**5.26**	**226**	PN	**Pn**	**08 57 24.4**	**-0.4**
MWZ				SN	**Sn**	**08 58 24.7**	**+0.6**
URZ	**Urewera**	**5.46**	**229**	Pn	**Pn**	**08 57 27.1**	**-0.5**
	5.7nm,0.3s,baz=73,slow=4.2,SNR=43						
URZ				Sn	**Sn**	**08 58 29.2**	**+0.1**
	6.4nm,0.3s,baz=142,slow=19,SNR=7.1						
URZ	**Urewera**	**5.46**	**229**	PN	**Pn**	**08 57 27.3**	**-0.3**
URZ				SN	**Sn**	**08 58 28.5**	**-0.6**
BKZ	**Black Stump Fm**	**6.42**	**225**	PN	**Pn**	**08 57 40.8**	**+0.3**
BKZ				SN	**Sn**	**08 58 52.1**	**-0.1**
PXZ	**Pawanui**	**6.83**	**218**	SN	**Sn**	**08 59 02.5**	**+0.2**
BFZ	**Birch Farm**	**7.63**	**217**	SN	**Sn**	**08 59 21.9**	**+0.2**
MRZ	**Mangatainoka R**	**7.96**	**220**	PN	**Pn**	**08 57 59.7**	**-1.7**
MRZ				SN	**Sn**	**08 59 27.8**	**-1.9**
RPZ	**Rata Peaks**	**12.49**	**221**	Pn	**Pn**	**08 59 05.2**	**+2.6**
	0.6nm,0.3s,baz=56,slow=7.3,SNR=3.7						
RPZ				Sn	**Sn**	**09 01 10.5**	**-9.5**
	0.3nm,0.3s,baz=102,slow=15,SNR=3.6						
ASAR	**Alice Springs**	**43.31**	**271**	P	**P**	**09 04 00.5**	**+0.4**
	2.2nm,0.7s,mb4.0,baz=114,slow=7.4,SNR=32						
WRA	**Warramunga Arr**	**44.69**	**276**	P	**P**	**09 04 10.6**	**-0.5**
	2.8nm,0.8s,mb4.1,baz=118,slow=7.4,SNR=17						
FINES	**FINESS Array B**	**149.29**	**338**	PKPbc	PKPbc	09 15 49.8	+4.6
	3.0nm,0.8s,baz=132,slow=5.4,SNR=5.9						

*IDC **19** 08:56:38.3±3.2, 3393S×17878W, h0km, mb3.9/2, mb1 4.2/4, mb1mx4.0/13, mbtmp4.1/4, ML3.9/2, MS3.3/3, Ms1 3.3/3, ms1mx2.9/31, Error ellipse: s-maj=72.2km s-min=39.4km az=113.0*
*ISCJB **19** 08:56:39.8±2.6, 340S±01×1786W±04, h33km, mb3.8/2, Error ellipse: s-maj=51.4km s-min=11.6km az=35.3*
ISC 19 08:56:41.3±2.6, 340S±01×1785W±04, h35km, n11, σ0§83/13, mb3.8/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.78**	**6**	LR	LR	08 59 27.9	
	comp=Z,250nm,19.5s,baz=150,slow=36						
PUZ	**Puketiti**	**4.83**	**212**	PN	**Pn**	**08 57 52.7**	**+1.2**
PUZ				SN	**Sn**	**08 58 46.8**	**+0.6**
MWZ	**Matawai**	**5.38**	**216**	PN	**Pn**	**08 57 58.0**	**-1.0**
MWZ				SN	**Sn**	**08 59 00.4**	**+0.7**
URZ	**Urewera**	**5.53**	**219**	Pn	**Pn**	**08 58 01.7**	**+0.5**
	5.5nm,0.3s,baz=65,slow=0.7,SNR=7.4						
URZ				Sn	**Sn**	**08 59 02.8**	**-0.8**
	2.0nm,0.3s,baz=129,slow=22,SNR=2.4						
URZ				LR	LR	09 00 16.5	
	comp=Z,337nm,18.1s,baz=244,slow=40						
URZ	**Urewera**	**5.53**	**219**	PN	**Pn**	**08 58 01.4**	**+0.2**
URZ				SN	**Sn**	**08 59 02.6**	**-1.0**
MRZ	**Mangatainoka R**	**8.14**	**214**	SN	**Sn**	**09 00 01.2**	**-6.5**
RPZ	**Rata Peaks**	**12.65**	**217**	Pn	**Pn**	**08 59 37.2**	**-1.4**
	0.5nm,0.3s,baz=90,slow=2.0,SNR=2.5						
RPZ				Sn	**Sn**	**09 01 46.3**	**-12**
	0.4nm,0.3s,baz=47,slow=19,SNR=3.1						
DZM	**Mont Dzumac**	**17.83**	**308**	LR	LR	09 06 11.8	
	comp=Z,134nm,19.0s,baz=213,slow=33						
ASAR	**Alice Springs**	**42.64**	**271**	P	**P**	**09 04 34.6**	**+0.3**
	1.1nm,0.7s,mb3.7,baz=113,slow=7.4,SNR=5.1						
WRA	**Warramunga Arr**	**43.95**	**276**	P	**P**	**09 04 45.0**	**+0.1**
	1.3nm,0.5s,mb3.9,baz=118,slow=7.6,SNR=11						
FINES	**FINESS Array B**	**148.37**	**338**	PKPbc	PKPbc	09 16 24.7	+0.8
	2.4nm,0.8s,baz=42,slow=3.1,SNR=4.2						

*ISCJB **19** 09:00:16.9±0.6, 6475N±003×302E±0.1, h0km, mb3.5/2, Error ellipse: s-maj=8.7km s-min=3.6km az=45.1*
*IDC **19** 09:00:18.0±1.7, 6465N×3138E, h0km, mb3.4/2, mb1 3.3/6, mb1mx3.2/20, mbtmp3.3/6, ML2.7/4, Error ellipse: s-maj=26.5km s-min=10.1km az=95.0*
*NAO **19** 09:00:18.7±1.3, 6465N×3079E, ML2.4*
*HEL **19** 09:00:20.2±0.2, 6455N×3076E, h0km, ML1.9, ML2.4(NAO), Explosion*
*BER **19** 09:00:20.6±3.1, 6469N×3047E, h0km, ML2.4(NAO), Suspected explosion*
ISC 19 09:00:18.2±0.6, 6467N±003×305E±01, h0km, n21, σ1§55/35, mb3.5/2, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOF	**Joensuu**	**1.79**	**169**	*e*P	**Pn**	**09 00 49.7**	**-0.7**
JOF				*e*S	**Sn**	**09 01 10.3**	**-3.5**
SUF	**Sumiainen**	**2.77**	**227**	*e*P	**Pn**	**09 01 06.7**	**+2.9**
SUF				*e*S	**Sn**	**09 01 38.7**	**+0.8**
SUF				*e*SG	**Sg**	**09 01 44.5**	**-2.5**
SUF				MSG		09 01 44.9	
	comp=Z,3.3nm,0.2s						
APA0	**Apatity Array**	**3.11**	**18**	*e*P	**Pn**	**09 01 08.6**	**0.0**
APA0				*e*SG	**Sg**	**09 01 58.6**	**+0.4**
APA0	**Apatity Array**	**3.11**	**18**	Pn	**Pn**	**09 01 08.6**	**0.0**
	baz=193,slow=14						
APA0				Lg		09 01 58.6	
	baz=193,slow=28						
KAF	**Kangasniemi**	**3.20**	**218**	*e*P	**Pn**	**09 01 12.0**	**+2.3**
KAF				*e*S	**Sn**	**09 01 47.9**	**-0.6**
KEF	**Keuruu**	**3.58**	**228**	*e*P	**Pn**	**09 01 17.0**	**+2.1**
KEF				*e*S	**Sn**	**09 01 58.9**	**+1.0**
FIA0	**FINESS Array S**	**3.82**	**214**	*e*P	**Pn**	**09 01 19.0**	**+0.7**
FIA0				*e*S	**Sn**	**09 02 02.3**	**-1.6**
FIA0	**FINESS Array S**	**3.82**	**214**	Pn	**Pn**	**09 01 19.6**	**+1.3**
	baz=38,slow=14						
FIA0				Pg	**Pg**	**09 01 26.9**	**-4.5**
	baz=32,slow=14						
FIA0				Lg		09 02 17.9	
	baz=38,slow=37						
FINES	**FINESS Array B**	**3.82**	**214**	Pn	**Pn**	**09 01 19.6**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=37,slow=13,SNR=7.3						
FINES				Pg	**Pg**	**09 01 27.8**	**-3.7**
	comp=Z,1.8nm,0.3s,baz=31,slow=15,SNR=12						
FINES				Lg		09 02 18.4	
	comp=Z,2.2nm,0.3s,baz=34,slow=30,SNR=4.2						
FINES				Rg		09 02 37.7	
	comp=Z,38nm,1.2s,baz=37,slow=26,SNR=11						
VAF	**Ylistaro**	**3.85**	**248**	*e*P	**Pn**	**09 01 20.6**	**+2.0**
VAF				*e*S	**Sn**	**09 02 06.3**	**+1.8**
VAF				*e*SG	**Sg**	**09 02 19.3**	**-2.5**
ARA0	**ARCESS Array S**	**5.26**	**340**	Pn	**Pn**	**09 01 37.9**	**-0.2**
	baz=152,slow=16						
ARA0				Sn	**Sn**	**09 02 37.0**	**-2.4**
	baz=154,slow=22						
ARA0				Lg		09 02 59.1	
	baz=153,slow=37						
ARA0	**ARCESS Array S**	**5.26**	**340**	*e*SB	**Sb**	**09 02 59.1**	**+4.3**
ARCES	**ARCESS Array B**	**5.26**	**340**	Pn	**Pn**	**09 01 37.7**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=154,slow=13,SNR=23						
ARCES				Sn	**Sn**	**09 02 37.1**	**-2.3**
	comp=Z,0.5nm,0.3s,baz=154,slow=22,SNR=5.5						
ARCES				Lg		09 02 59.4	
	comp=Z,0.7nm,0.3s,baz=152,slow=29,SNR=12						
HFS	**Hagfors**	**9.03**	**248**	*e*S	**Sn**	**09 04 06.7**	**-5.5**
HFS				*e*SG	**Sg**	**09 04 59.9**	**-8.2**
HFS	**Hagfors**	**9.03**	**248**	Sn	**Sn**	**09 04 06.7**	**-5.5**
	baz=47,slow=22						
HFS				Lg		09 04 59.9	
	baz=47,slow=28						
HFS	**Hagfors**	**9.03**	**248**	Pn	**Pn**	**09 02 29.9**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=46,slow=13,SNR=4.7						
HFS				Lg		09 04 59.1	
	comp=Z,0.3nm,0.3s,baz=52,slow=29,SNR=4.1						
NB2	**NORSAR Subarra**	**9.54**	**256**	Pn	**Pn**	**09 02 37.9**	**+1.1**
	baz=60,slow=14						
NB2	**NORSAR Subarra**	**9.54**	**256**	*e*P	**Pn**	**09 02 37.9**	**+1.1**
NOA	**NORSAR Array B**	**9.54**	**256**	Pn	**Pn**	**09 02 37.2**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=64,slow=13,SNR=4.1						
NOA				Lg		09 05 15.3	
	comp=Z,0.3nm,0.3s,baz=32,slow=22,SNR=5.2						
BRTR	**Keskin Array B**	**25.05**	**174**	P	**P**	**09 05 44.7**	**+0.6**
	comp=Z,0.6nm,0.7s,mb3.5,baz=3.7,slow=9.0,SNR=4.6						
TORD	**Torodi Ar. Bea**	**55.17**	**215**	P	**P**	**09 09 51.8**	**-0.7**
	comp=Z,0.3nm,0.7s,mb3.5,baz=1.1,slow=6.5,SNR=4.1						

CASC 19 09:09:38.0±1.8, 1306N×8423W, h12km±28km, MD4.0, ML3.3, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CONN	**Concepcion**	**2.02**	**223**	*e*P	Pn	09 10 11.9	+0.1
MADN	**Villa Maderas**	**2.08**	**218**	*e*P	Pn	09 10 11.0	-1.6
MADN				*e*S	Sn	09 10 38.5	+0.2
MGAN	**Managua**	**2.17**	**246**	*i*	Sg	09 10 46.4	-1.4
	comp=E,310nm,0.3s						
MGAN				*i*		09 10 47.1	
	comp=N,276nm,0.2s						
TICN	**Ticuantepe**	**2.21**	**243**	*e*P	Pn	09 10 12.8	-1.6
COPN	**Copaltepe**	**2.47**	**250**	*e*P	Pn	09 10 17.6	-0.4
PRS1	**Puriscal**	**3.05**	**182**	*e*P	Pn	09 10 28.4	+2.3
PRS1				*e*S	Sn	09 11 06.6	+4.1
URSC	**Urasca**	**3.23**	**172**	*e*P	Pn	09 10 28.6	+0.1
URSC				*e*S	Sn	09 11 07.7	+0.8
LCR2	**La Lucha 2**	**3.30**	**176**	*e*P	Pn	09 10 30.8	+1.4
LCR2				*e*S	Sn	09 11 09.9	+1.3
BUS	**Buena Vista**	**3.51**	**172**	*e*P	Pn	09 10 33.7	+1.4
BUS				*e*S	Sn	09 11 15.7	+2.0

MOS 19 09:11:15.7±0.2, 4275N×4437E, h29km, mb3.5/1, 4C-1D, Error ellipse: s-maj=31.6km s-min=19.7km az=94.2, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LACR	**Lac**	**0.09**	**324**	⇑*i*PG	Pb	09 11 21.7	+0.9
LACR				*i* S	Sb	09 11 26.1	+1.8
ZEI	**Tsey**	**0.35**	**273**	⇓*i*PG	Pb	09 11 24.8	+1.1
ZEI				*i* S	Sb	09 11 31.5	+2.3
VLKR	**Vladikavkaz**	**0.37**	**37**	⇑*i*PG	Pb	09 11 25.5	+1.4
VLKR				*e*S	Sb	09 11 32.5	+2.7
KORR	**Kora**	**0.40**	**327**	⇑*i*PG	Pb	09 11 26.0	+1.5
KORR				*i* S	Sb	09 11 33.4	+2.8
ARNR	**Ardon**	**0.44**	**351**	⇑*i*PG	Pb	09 11 26.5	+1.3
ARNR				*i* S	Sb	09 11 34.4	+2.8
SNJR	**Sundja**	**0.46**	**45**	*e*PG	Pb	09 11 26.6	+1.3
SNJR				*e*S	Sb	09 11 34.6	+2.7

MOS 19 09:21:58.3±0.8, 4256N×4346E, h22km, mb3.5/1, 4C-1D, Error ellipse: s-maj=73.4km s-min=21.1km az=55.7, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.02**	**340**	P	Pb	09 22 01.4	-0.7
ONI				S	Sb	09 22 03.1	-1.5
DIGR	**Digorskoe uzhe**	**0.35**	**15**	⇓*i*PG	Pb	09 22 06.2	+0.3
DIGR				*i* S	Sb	09 22 11.9	+0.8
ZEI	**Tsey**	**0.39**	**57**	⇑*i*PG	Pb	09 22 07.0	+0.5
ZEI				*i* S	Sb	09 22 13.4	+1.4
LACR	**Lac**	**0.67**	**66**	⇑*i*PG	Pb	09 22 11.8	+0.5
LACR				*i* S	Sb	09 22 21.7	+1.5
KORR	**Kora**	**0.69**	**40**	⇑*i*PG	Pb	09 22 12.2	+0.6
KORR				*i* S	Sb	09 22 22.2	+1.5
ARNR	**Ardon**	**0.87**	**43**	⇑*i*PG	Pb	09 22 15.3	+0.6
ARNR				*i* S	Sb	09 22 27.8	+1.9

*IDC **19** 09:32:56.6±1.3, 283S×140.12E, h0km, mb3.7/3, mb1 4.1/4, mb1mx3.9/12, mbtmp3.9/4, ML3.9/1, Error ellipse: s-maj=72.4km s-min=17.5km az=109.0*
*ISCJB **19** 09:32:59.8±1.3, 29S±0.1×140.1E±03, h33km, mb3.8/2, Error ellipse: s-maj=40.4km s-min=14.0km az=46.0*
*NEIC **19** 09:33:01.9±1.2, 289S×140.13E, h35km, mb4.0/1, Error ellipse: s-maj=50.6km s-min=16.7km az=119.0*
ISC 19 09:33:02.9±3.0, 28S±02×1399E±03, h53km±27km, n10, σ1§02/11, mb3.8/2, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**12.30**	**216**	*e*P	**Pn**	**09 35 54.9**	**-0.3**
	22nm,0.6s						
WRAB	**Tennant Creek**	**17.86**	**197**	*e*P	**Pn**	**09 37 07.1**	**-0.4**
WB2	**Warramunga Arr**	**17.87**	**197**	*e*P	**Pn**	**09 37 07.1**	**-0.5**
WRA	**Warramunga Arr**	**17.87**	**197**	P	**Pn**	**09 37 07.2**	**-0.5**
	0.5nm,0.3s,baz=23,slow=12,SNR=9.9						
WRA				S	**Sn**	**09 40 21.3**	**-8.8**
	0.1nm,0.3s,baz=12,slow=23,SNR=3.4						
FITZ	**Fitzroy Crossi**	**20.65**	**222**	*e*P	**P**	**09 37 41.4**	**+3.4**
	6.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.65**	**222**	P	**P**	**09 37 40.5**	**+2.5**
	3.3nm,0.7s,baz=51,slow=13,SNR=6.6						
FITZ				S	**S**	**09 41 24.7**	**-1.1**
	1.9nm,0.8s,baz=73,slow=18,SNR=2.8						
ASAR	**Alice Springs**	**21.53**	**195**	P	**P**	**09 37 48.9**	**+1.4**
	1.8nm,0.6s,mb3.7,baz=29,slow=10.0,SNR=8.4						
ASAR				S	**S**	**09 41 48.0**	**+5.0**
	1.2nm,1.0s,baz=8.6,slow=27,SNR=3.8						
ILAR	**Eielson Array**	**85.44**	**24**	P	**P**	**09 45 34.2**	**-0.5**
	0.8nm,0.7s,mb3.9,baz=270,slow=5.3,SNR=9.0						
ARCES	**ARCESS Array B**	**100.99**	**341**	P	Pdif	09 46 48.2	+1.6
	0.9nm,0.7s,baz=58,slow=4.6,SNR=4.0						
LPAZ	**La Paz**	**146.42**	**125**	PKPbc	PKPbc	09 52 41.6	+3.7
	0.8nm,0.9s,baz=320,slow=1.2,SNR=5.1						

*IDC **19** 09:36:04.8±4.7, 497N×9625E, h20km±29km, mb4.2/14, mb1 4.3/14, mb1mx4.1/22, mbtmp4.3/14, MS3.9/5, Ms1 4.0/5, ms1mx3.3/17, Error ellipse: s-maj=34.6km s-min=12.5km az=49.0*
*MOS **19** 09:36:05.1±1.3, 487N×9603E, h33km, mb4.8/6, Error ellipse: s-maj=21.5km s-min=11.2km az=121.8*
*NEIC **19** 09:36:06.6±0.4, 493N×9618E, h30km, mb4.8/11, Error ellipse: s-maj=16.5km s-min=6.7km az=46.0*
*ISCJB **19** 09:36:10.7±1.5, 498N±007×9635E±009, h86km±14km, mb4.4/28, Error ellipse: s-maj=17.3km s-min=7.9km az=106.8*
*BJI **19** 09:36:10.7, 543N×9573E, h6km, mb4.5*
ISC 19 09:36:12.2±1.4, 500N±007×9634E±009, h81km±13km, n51, σ0§98/50, mb4.4/28, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.38**	**130**	Pn	**Pn**	**09 37 01.8**	**-0.9**
	15nm,0.3s,baz=304,slow=11,SNR=91						
PSI				Sn	**Sn**	**09 37 44.9**	**+3.3**
	17nm,0.3s,baz=191,slow=17,SNR=4.2						
PSI				Lg		09 37 57.6	
	22nm,0.3s,baz=168,slow=8.4,SNR=6.1						
PSI				LR	LR	09 38 39.9	
	comp=Z,2μm,19.6s,baz=297,slow=44						
PSI	**Prapat**	**3.38**	**130**	P	**Pn**	**09 37 01.8**	**-0.9**
PSI						09 37 44.9	
PKT	**Phuket**	**3.56**	**31**	P	**Pn**	**09 37 06.5**	**+1.3**
KULM	**Kulim**	**4.30**	**86**	*e*Pn	**Pn**	**09 37 13.1**	**-2.1**
KULM				*e*Sn	**Sn**	**09 38 03.2**	**-0.9**
SNG	**Songkhla**	**4.77**	**63**	P	**Pn**	**09 37 22.0**	**+0.4**
	500nm,0.8s						
NNT	**Nongplab**	**8.25**	**24**	P	**Pn**	**09 38 05.0**	**-4.1**
CHTO	**Chiang Mai**	**13.96**	**10**	*e*P	**Pn**	**09 39 27.8**	**+1.5**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CHTO	**Chiang Mai**	**13.96**	**10**	*e*Pn	**Pn**	**09 39 27.8**	**+1.6**
	comp=Z,6.8nm,0.8s						
HYB	**Hyderabad**	**21.34**	**307**	*i* P	**P**	**09 40 52.0**	**-0.7**
HYB				*e*		09 40 55.0	
HYB	**Hyderabad**	**21.34**	**307**	*e*P	**P**	**09 40 52.0**	**-0.7**
HYB				pmax	pmax		
	comp=Z,33nm,0.6s,mb4.8						
HYB	**Hyderabad**	**21.34**	**307**	*e*P	**P**	**09 40 52.0**	**-0.7**
	comp=Z,33nm,0.6s,mb4.8						
GYA	**Guiyang**	**23.51**	**24**	⇑*i*P	**P**	**09 41 20.0**	**+5.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
JIRN	**Jiri**	**24.52**	**338**	*e*P	**P**	**09 41 24.6**	**+0.6**
	comp=Z,13nm,0.7s,mb4.5						
GUN	**Gumba**	**24.86**	**338**	*e*P	**P**	**09 41 27.9**	**+0.8**
	comp=Z,15nm,0.6s,mb4.6						
GKN	**Gorkha**	**25.44**	**335**	*e*P	**P**	**09 41 32.9**	**+0.5**
	comp=Z,27nm,0.6s,mb4.8						
KOLN	**Koldanda**	**25.69**	**333**	*e*P	**P**	**09 41 34.8**	**+0.2**
	comp=Z,18nm,0.7s,mb4.6						
LZH	**Lanzhou**	**31.70**	**12**	*e*P	**P**	**09 42 35.5**	**+7.5**
LZH				XP	sP	09 42 46.5	-10
LZH				AMB	AMB		
	comp=Z,28nm,1.2s,mb4.9						
GTA	**Gaotai**	**34.40**	**5**	*e*P	**P**	**09 42 57.3**	**+5.7**
GTA				AP	pP	09 43 03.6	-7.0
GTA				XP	sP	09 43 07.5	-12
GTA				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.4						
FITZ	**Fitzroy Crossi**	**36.91**	**129**	*e*P	**P**	**09 43 12.7**	**-0.3**
	comp=Z,11nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**36.91**	**129**	P	**P**	**09 43 12.5**	**-0.5**
	comp=Z,6.7nm,0.8s,mb4.6,baz=348,slow=4.8,SNR=6.2						
BJI	**Beijing**	**39.20**	**24**	*e*P	**P**	**09 43 37.6**	**+5.3**
BJI				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.5						
WSAR	**Wadi Sarin**	**40.63**	**300**	P	**P**	**09 43 44.6**	**+0.4**
	comp=Z,4.8nm,0.5s,mb4.6,baz=97,slow=6.8,SNR=15						
NWAO	**Narrogin (SRO)**	**42.61**	**154**	P	**P**	**09 44 00.6**	**+0.2**
	comp=Z,15nm,0.9s,mb4.7,baz=313,slow=10,SNR=4.8						
NWAO	**Narrogin (SRO)**	**42.61**	**154**	*e*P	**P**	**09 44 00.4**	**0.0**
NWAO				pmax	pmax		
	comp=Z,18nm,1.0s						
NWAO	**Narrogin (SRO)**	**42.61**	**154**	*e*P	**P**	**09 44 00.4**	**0.0**
	comp=Z,18nm,1.0s,mb4.8						
NWAO				P		09 44 00.6	
MKAR	**Makanchi Array**	**43.37**	**346**	P	**P**	**09 44 06.3**	**-0.2**
	comp=Z,1.3nm,0.8s,mb3.7,baz=160,slow=7.7,SNR=7.9						
SONM	**Songino Array**	**43.54**	**10**	P	**P**	**09 44 09.2**	**+1.4**
	comp=Z,3.1nm,0.9s,mb4.0,baz=189,slow=8.2,SNR=8.7						
WRA	**Warramunga Arr**	**44.83**	**125**	P	**P**	**09 44 18.9**	**+0.7**
	comp=Z,4.1nm,0.5s,mb4.4,baz=302,slow=9.3,SNR=37						
WRAB	**Tennant Creek**	**44.83**	**125**	*e*P	**P**	**09 44 18.9**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.6						
WRAB	**Tennant Creek**	**44.83**	**125**	*e*P	**P**	**09 44 18.9**	**+0.7**
	comp=Z,5.9nm,0.5s,mb4.6						
WB2	**Warramunga Arr**	**44.84**	**125**	*e*P	**P**	**09 44 18.8**	**+0.6**
ASAR	**Alice Springs**	**46.41**	**129**	P	**P**	**09 44 31.2**	**+0.7**
	comp=Z,11nm,0.8s,mb4.7,baz=298,slow=7.7,SNR=74						
ASAR				ScP	ScP	09 49 58.0	+7.7
	comp=Z,0.5nm,0.8s,baz=303,slow=5.5,SNR=4.1						
FORT	**Forrest**	**46.74**	**142**	*e*P	**P**	**09 44 34.4**	**+1.2**
	comp=Z,42nm,0.7s,mb5.3						
MJAR	**Matsushiro Arr**	**49.55**	**45**	LR	LR	10 05 32.3	
	comp=Z,106nm,20.9s,baz=255,slow=36						
CHKZ	**Chkalovo**	**52.87**	**341**	*e*P	**P**	**09 45 19.1**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
CHKZ	**Chkalovo**	**52.87**	**341**	*e*P	**P**	**09 45 19.1**	**-0.5**
	comp=Z,5.4nm,0.8s,mb4.6						
KLR	**Kul'dur**	**53.29**	**28**	*e*P	**P**	**09 45 29.4**	**+6.6**
AKTK	**Aktyubinsk**	**55.50**	**331**	P	**P**	**09 45 37.8**	**-1.0**
AKTO	**Aktyubinsk**	**55.50**	**331**	P	**P**	**09 45 37.8**	**-1.0**
	comp=Z,1.0nm,0.4s,mb4.2,baz=141,slow=5.8,SNR=4.0						
STKA	**Stephens Creek**	**56.55**	**134**	P	**P**	**09 45 44.8**	**-1.5**

mb1 3.7/6,mb1mx3.5/21,mbtmp3.5/6,ML3.2/4,MS3.1/1, Ms1 3.1/1,ms1mx2.2/25,Error ellipse: s-maj=24.4km s-min=14.3km az=111.0

ISC 19 10:15:34.2±1.3, 6359N±004×1523W±01, h10km±8km, n30, σ1§04/35, mb3.5/1, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.62**	**92**	P		**Pg**	**10 15 46.2**	**0.0**
KTH				S		**Sg**	**10 15 54.8**	**+0.4**
TTA	**Tatalina**	**1.80**	**250**	*e*P		**Pn**	**10 16 03.9**	**-1.5**
COLA	**College**	**2.34**	**54**	P		**Pn**	**10 16 12.2**	**-0.5**
GHO	**Glory Hole Cre**	**2.40**	**138**	P		**Pn**	**10 16 13.4**	**-0.2**
PMR	**Palmer**	**2.48**	**142**	*e*P		**Pn**	**10 16 14.5**	**-0.2**
IM3	**Indian Mountai**	**2.49**	**346**	P		**Pn**	**10 16 15.9**	**+1.1**
SML	**Sawmill**	**2.56**	**132**	P		**Pn**	**10 16 14.4**	**-1.4**
FIB	**Fire Island**	**2.62**	**157**	P		**Pn**	**10 16 16.0**	**-0.7**
ILAR	**Eielson Array**	**2.65**	**61**	Pn		**Pn**	**10 16 16.4**	**-0.7**
	1.1nm,0.3s,baz=242,slow=13,SNR=38							
ILAR				Pg		**Pg**	**10 16 24.4**	**-0.7**
	15nm,0.3s,baz=239,slow=17,SNR=108							
ILAR				Lg			10 16 58.0	
	62nm,0.3s,baz=238,slow=30,SNR=19							
IL1	**Eielson Array**	**2.66**	**61**	P		**Pn**	**10 16 16.4**	**-0.7**
RC01	**Rabbit Creek A**	**2.78**	**153**	P		**Pn**	**10 16 18.8**	**0.0**
KNK	**Knik Glacier**	**2.82**	**139**	P		**Pn**	**10 16 19.9**	**+0.5**
SVW2	**Sparrevohn**	**2.93**	**213**	*e*P		**Pn**	**10 16 19.2**	**-1.7**
PAX	**Paxson**	**3.15**	**98**	P		**Pn**	**10 16 24.5**	**+0.5**
SLKM	**Skilak Lake**	**3.24**	**161**	P		**Pn**	**10 16 24.3**	**-0.9**
SEW	**Seward**	**3.75**	**158**	P		**Pn**	**10 16 33.1**	**+0.9**
COLD	**Coldfoot**	**3.76**	**13**	P		**Pn**	**10 16 34.0**	**+1.6**
MENT	**Mentasta**	**3.94**	**96**	*e*P		**Pn**	**10 16 36.2**	**+1.5**
EYAK	**Cordova Ski Ar**	**4.33**	**132**	*e*P		**Pn**	**10 16 42.0**	**+1.8**
BMRM	**Bremner River**	**4.45**	**123**	P		**Pn**	**10 16 42.3**	**+0.5**
DAWY	**Dawson**	**5.74**	**79**	*e*P		**Pn**	**10 16 58.6**	**-0.9**
DAWY				*e*Pg		**Pg**	**10 17 20.6**	**-3.5**
DAWY				*e*Sg		**Sg**	**10 18 33.1**	**-5.4**
KDAK	**Kodiak Island**	**5.82**	**181**	Pn		**Pn**	**10 17 01.6**	**+0.9**
	1.7nm,0.3s,baz=349,slow=9.8,SNR=10							
TNA	**Tin City**	**7.01**	**293**	P		**Pn**	**10 17 17.6**	**+0.6**
WHY	**Whitehorse**	**8.67**	**102**	P		**Pn**	**10 17 39.9**	**+0.2**
INK	**Inuvik**	**8.99**	**50**	Pn		**Pn**	**10 17 45.2**	**+1.1**
	0.8nm,0.3s,baz=244,slow=15,SNR=31							
INK				Sn		**Sn**	**10 19 23.3**	**-2.1**
	0.1nm,0.3s,baz=139,slow=20,SNR=2.0							
INK				Lg			10 20 19.6	
	0.1nm,0.3s,baz=294,slow=12,SNR=2.2							
INK	**Inuvik**	**8.99**	**50**	Pn		**Pn**	**10 17 45.2**	**+1.1**
INK				Sn		**Sn**	**10 19 23.3**	**-2.1**
INK				Lg			10 20 19.6	
DLBC	**Dease Lake**	**11.94**	**105**	Pn		**Pn**	**10 18 25.5**	**+1.0**
	0.1nm,0.3s,baz=346,slow=17,SNR=3.2							
DLBC				Lg			10 21 46.1	
	0.1nm,0.3s,baz=80,slow=18,SNR=3.2							
YKA	**Yellowknife Ar**	**16.97**	**77**	Pn		**Pn**	**10 19 31.4**	**-0.4**
	baz=282,slow=10,SNR=5.5							
BBB	**Bella Bella**	**17.07**	**121**	LR		LR	10 25 49.3	
	comp=Z,66nm,21.5s,baz=307,slow=36							
PDAR	**Pinedale Array**	**32.12**	**110**	P		**P**	**10 22 05.4**	**+3.6**
	0.5nm,0.6s,mb3.5,baz=322,slow=7.2,SNR=2.3							

IDC 19 10:25:51.0±2.0, 400N×12733E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/17, mbtmp3.7/4, Error ellipse: s-maj=158.8km s-min=24.8km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.77**	**164**	P		P	10 31 15.2	+0.8
	1.4nm,0.6s,baz=344,slow=10,SNR=12							
ASAR	**Alice Springs**	**28.23**	**167**	P		P	10 31 46.6	+1.0
	0.2nm,0.4s,baz=341,slow=7.9,SNR=5.8							
STKA	**Stephens Creek**	**38.17**	**160**	P		P	10 33 10.9	-1.2
	1.8nm,0.8s,baz=348,slow=9.3,SNR=3.0							
MKAR	**Makanchi Array**	**57.68**	**325**	P		P	10 35 43.4	+0.2
	0.4nm,0.4s,baz=123,slow=7.7,SNR=6.7							

NNC 19 10:28:37.9±5.8, 5436N×8600E, h0km, mb3.8, mpv3.3, 4C-3D, Error ellipse: s-maj=44.1km s-min=15.1km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.80**	**234**	⇑Pn		Pn	10 30 06.0	+0.9
	1.9nm,0.6s							
KURK				⇓Sn		Sn	10 31 15.3	+3.0
	2.3nm,0.7s							
KURK				⇓Lg			10 31 51.3	
	6.6nm,0.7s							
MK02	**Makanchi Array**	**7.96**	**199**	Pn		Pn	10 30 34.7	-0.1
	baz=26,slow=13							
MK02				⇑Sn		Sn	10 32 06.5	+1.0
	3.6nm,0.7s,baz=25,slow=27							
MK02				⇑Lg			10 32 51.7	
	4.9nm,0.8s,baz=30,slow=32							
CHKZ	**Chkalovo**	**9.09**	**272**	Sn		Sn	10 32 29.8	-3.4
VOSK	**Vostochnaya**	**9.10**	**266**	⇑Pn		Pn	10 30 51.5	+1.1
	1.0nm,0.4s							
VOSK				⇓Sn		Sn	10 32 31.6	-1.9
	3.5nm,0.7s							
ZRNK	**Zerenda**	**10.19**	**269**	Sn		Sn	10 33 01.7	+1.4

IDC 19 10:32:37.7±25.0, 435N×12651E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/18, mbtmp3.9/4, Error ellipse: s-maj=423.6km s-min=97.0km az=149.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.32**	**182**	P		P	10 37 36.8	-0.1
	0.7nm,0.6s,baz=15,slow=16,SNR=4.8							
WRA	**Warramunga Arr**	**25.33**	**163**	P		P	10 38 06.4	+0.2
	4.2nm,0.5s,baz=343,slow=10,SNR=48							
ASAR	**Alice Springs**	**28.76**	**166**	P		P	10 38 38.0	+1.0
	0.3nm,0.3s,baz=343,slow=8.0,SNR=15							
STKA	**Stephens Creek**	**38.78**	**159**	P		P	10 40 03.7	-0.2
	1.6nm,0.5s,baz=338,slow=12,SNR=8.9							

IDC 19 10:32:43.9±37.0, 614N×12624E, h0km, mb4.3/3, mb1 4.4/3, mb1mx3.8/18, mbtmp4.3/3, Error ellipse: s-maj=621.2km s-min=160.0km az=160.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.12**	**163**	P		P	10 38 28.6	+0.1
	5.6nm,0.4s,baz=343,slow=10.0,SNR=6.3							
ASAR	**Alice Springs**	**30.56**	**166**	P		P	10 38 59.8	+0.6
	0.7nm,0.5s,baz=342,slow=8.3,SNR=7.4							
STKA	**Stephens Creek**	**40.54**	**160**	P		P	10 40 24.9	+0.1
	2.0nm,0.4s,baz=322,slow=15,SNR=6.8							

NNC 19 10:37:57.8±2.2, 5416N×8652E, h0km, mb4.0, mpv3.6, 8C-4D, Error ellipse: s-maj=22.6km s-min=11.5km az=73.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.93**	**238**	⇑Pn		Pn	10 39 27.0	+0.1
	6.1nm,0.7s							
KURK				⇓Sn		Sn	10 40 35.6	0.0
	2.7nm,0.6s							
KURK				⇓Lg			10 41 09.4	
	17nm,1.3s							
MK05	**Makanchi Array**	**7.85**	**202**	⇑Pn		Pn	10 39 53.4	+0.1
	1.6nm,0.8s,baz=27,slow=14							
MK05				⇓Sn		Sn	10 41 23.0	+0.2
	2.3nm,0.7s,baz=22,slow=26							
MK05				⇑Lg			10 42 09.0	
	13nm,0.9s,baz=24,slow=28							
VOSK	**Vostochnaya**	**9.39**	**267**	⇑Pn		Pn	10 40 14.4	+0.1
	3.7nm,0.5s							
VOSK				⇓Sn		Sn	10 41 53.8	-6.7
	9.0nm,0.8s							
CHKZ	**Chkalovo**	**9.40**	**273**	⇑Pn		Pn	10 40 12.1	-2.3
	1.5nm,0.6s							
CHKZ				⇑Sn		Sn	10 41 51.9	-8.9
	2.7nm,0.8s							
BVA0	**Borovoye Array**	**9.66**	**270**	Sn		Sn	10 41 59.2	-8.1
	0.8nm,0.7s,baz=274,slow=40,SNR=7.7							
ZRNK	**Zerenda**	**10.49**	**270**	⇓Pn		Pn	10 40 29.7	+0.2
	2.5nm,0.6s							
ZRNK				⇑Sn		Sn	10 42 20.7	-6.9
	6.2nm,1.1s							

SKHL 19 11:12:52.6±0.3, 5603N×12960E, h10km, mb3.9/5, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BMKR	**Bomnak**	**1.39**	**198**	*e*Pg		Pg	11 13 18.4	-0.9
BMKR					AMB	AMB	11 13 19.0	
	22nm,0.4s							
BMKR				*e*Sg		Sg	11 13 37.1	-0.3
BMKR				A			11 13 38.6	
	154nm,0.4s							
KROS	**Kirovskiy**	**2.20**	**224**	*e*Pn		Pn	11 13 28.1	-1.0
KROS				*e*Pg		Pg	11 13 31.5	-3.2
KROS					AMB	AMB	11 13 33.9	
	16nm,0.5s							
KROS				*e*Sg		Sg	11 14 00.5	-2.7
KROS				A			11 14 02.7	
	58nm,0.4s							
KROS				A			11 14 02.7	
	130nm,0.4s							
KROS				A			11 14 02.7	
	120nm,0.4s							
ZEA	**Zeya**	**2.67**	**212**	*e*Pn		Pn	11 13 34.9	-0.7
ZEA				*e*Pg		Pg	11 13 40.0	-3.7
ZEA					AMB	AMB	11 13 41.1	
	24nm,0.2s							
ZEA				*e*Sg		Sg	11 14 14.4	-3.9
ZEA				A			11 14 14.7	
	120nm,0.3s							
CLNS	**Chul'man**	**2.74**	**289**	*e*rx		rx	11 13 43.6	
CLNS				*e*Sg		Sg	11 14 17.7	-2.8
CLNS				A			11 14 21.6	
	103nm,0.2s							
CLNS				A			11 14 21.6	
	144nm,0.4s							
YASR	**Yasnyy**	**2.90**	**200**	*e*Pn		Pn	11 13 38.0	-0.8
YASR				*e*Pg		Pg	11 13 44.6	-3.6
YASR					AMB	AMB	11 13 45.8	
	6.0nm,0.3s							
YASR					AMB	AMB	11 13 45.8	
	7.0nm,0.3s							
YASR					AMB	AMB	11 13 45.8	
	14nm,0.3s							
YASR				*e*Sg		Sg	11 14 23.1	-2.7
YASR				A			11 14 26.0	
	410nm,1.0s							
YASR				A			11 14 26.0	
	90nm,1.0s							
YASR				A			11 14 26.0	
	97nm,1.0s							
EKMR	**Ekimchan**	**3.55**	**145**	*e*Pn		Pn	11 13 48.0	+0.3
EKMR				*e*Pg		Pg	11 13 56.5	-4.1
EKMR					AMB	AMB	11 14 03.0	
	5.0nm,0.3s							
EKMR				*e*Sg		Sg	11 14 43.2	-3.4
EKMR				A			11 14 47.6	
	36nm,0.4s							
EKMR				A			11 14 47.6	
	28nm,0.4s							
EKMR				A			11 14 47.6	
	16nm,0.4s							
TUP	**Tupik**	**5.75**	**258**	*e*Pn		Pn	11 14 19.1	+1.1
TUP				*e*Pg		Pg	11 14 38.4	-4.3
TUP					AMB	AMB	11 14 40.4	
	12nm,0.6s							
TUP				*e*Sn		Sn	11 15 24.6	+0.6
TUP				*e*Sg		Sg	11 15 50.6	-6.6
TUP				A			11 15 58.3	
	34nm,1.0s							

IDC 19 11:22:10.5±2.3, 851S×15476E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/14, mbtmp3.8/5, ML2.8/1, Error ellipse: s-maj=47.4km s-min=31.9km az=111.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.56**	**263**	Pn		Pn	11 24 03.1	+1.2
	0.8nm,0.3s,baz=243,slow=16,SNR=3.0							
PMG				Sn		Sn	11 25 31.4	+3.1
	0.9nm,0.3s,baz=302,slow=19,SNR=2.4							
WRA	**Warramunga Arr**	**22.79**	**238**	P		P	11 27 13.2	-1.4
	0.4nm,0.5s,baz=63,slow=9.7,SNR=9.8							
ASAR	**Alice Springs**	**25.02**	**231**	P		P	11 27 35.5	-0.6
	2.1nm,0.7s,baz=63,slow=9.3,SNR=28							
STKA	**Stephens Creek**	**26.28**	**206**	P		P	11 27 49.4	+1.9
	2.2nm,0.8s,baz=29,slow=13,SNR=4.2							
SONM	**Songino Array**	**70.47**	**328**	P		P	11 33 27.7	+0.9
	0.2nm,0.3s,baz=111,slow=3.6,SNR=4.3							

IDC 19 11:26:05.8±7.3, 1614S×16781E, h193km±75km, mb3.2/3, mb1 3.3/4, mb1mx3.2/14, mbtmp3.7/4, Error ellipse: s-maj=75.7km s-min=36.8km az=165.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.04**	**192**	P		Pn	11 27 33.1	-0.4
	1.1nm,0.3s,baz=135,slow=9.5,SNR=27							
DZM				S		Sn	11 28 44.0	+1.3
	0.5nm,0.3s,baz=139,slow=19,SNR=2.6							
WRA	**Warramunga Arr**	**32.02**	**258**	P		P	11 32 13.7	-0.3
	0.2nm,0.3s,baz=83,slow=7.8,SNR=9.9							
ASAR	**Alice Springs**	**32.69**	**251**	P		P	11 32 20.5	+0.7
	0.6nm,0.4s,baz=77,slow=9.0,SNR=36							
SONM	**Songino Array**	**83.93**	**323**	P		P	11 38 14.9	+0.9
	0.7nm,0.8s,baz=148,slow=4.2,SNR=4.5							
ARCES	**ARCESS Array B**	**121.74**	**345**	PKP		PKPdf	11 44 35.5	-1.2
	0.5nm,0.4s,baz=79,slow=1.9,SNR=8.9							

*ISCJB **19** 11:29:14.8±1.2, 6762N±003×335E±02, h0km, Error ellipse: s-maj=10.4km s-min=4.6km az=180.0*
*CSEM **19** 11:29:14.1±0.7, 6741N×3449E, h1km, ML2.4, Error ellipse: s-maj=16.9km s-min=10.6km az=83.0, Mining explosion.*
*NAO **19** 11:29:16.4±1.2, 6758N×3381E, ML2.5*
*HEL **19** 11:29:16.4±0.3, 6768N×3385E, h0km, ML2.7, ML2.4(BER), ML2.5(NAO), Explosion*
*IDC **19** 11:29:18.7±2.4, 6769N×3350E, h0km, mb1 3.4/4, mb1mx3.1/20, mbtmp3.4/4, ML3.4/4, Error ellipse: s-maj=26.1km s-min=9.1km az=75.0*

ISC 19 11:29:17.1±1.0, 6763N±003×335E±02, h0km, n35, σ1§57/68, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.19**	**262**	*i* P		**Pg**	**11 29 22.8**	**+2.0**
APA0				*i* S		**Sg**	**11 29 27.2**	**+4.0**
APA0				*e*RG			11 29 28.7	
APA0	**Apatity Array**	**0.19**	**262**	Pg		**Pg**	**11 29 22.8**	**+2.0**
	baz=95,slow=16							
APA0				Lg			11 29 27.2	
	baz=87,slow=37							
APA0				Rg			11 29 28.7	
	baz=87,slow=37							
KU4	**Liikasenvaara**	**2.00**	**232**	*e*P		**Pn**	**11 29 53.5**	**+1.4**
KU4				*e*SG		**Sg**	**11 30 22.0**	**+0.8**
KU4	**Liikasenvaara**	**2.00**	**232**	P		**Pn**	**11 29 53.4**	**+1.4**
KU4				Sg		**Sg**	**11 30 22.0**	**+0.8**
MSF	**Maaselka**	**2.47**	**228**	*e*P		**Pn**	**11 30 00.0**	**+1.5**
MSF				*e*S		**Sn**	**11 30 29.7**	**+0.2**
MSF				*e*SB		**Sb**	**11 30 34.9**	**+1.7**
MSF				MSG			11 30 38.9	
	comp=Z,41nm,0.2s							
MSF	**Maaselka**	**2.47**	**228**	P		**Pn**	**11 30 00.0**	**+1.4**
MSF				S		**Sn**	**11 30 29.6**	**+0.2**
MSF				Sg		**Sg**	**11 30 34.9**	**-1.5**
	comp=Z,41nm,0.2s							
SGF	**Sodankyl**	**2.68**	**269**	*e*P		**Pn**	**11 30 02.4**	**+0.9**
SGF				*e*S		**Sn**	**11 30 36.5**	**+1.9**
KEV	**Kevo**	**3.19**	**315**	*e*P		**Pn**	**11 30 09.4**	**+1.0**
KEV				*e*S		**Sn**	**11 30 46.3**	**-0.8**
ARA0	**ARCESS Array S**	**3.50**	**307**	*e*P		**Pn**	**11 30 13.4**	**+0.7**
ARA0				*e*PG		**Pg**	**11 30 21.5**	**-2.6**
ARA0				*e*S		**Sn**	**11 30 55.0**	**+0.3**
ARA0				*e*SG		**Sg**	**11 31 04.8**	**-4.6**
ARA0	**ARCESS Array S**	**3.50**	**307**	Pn		**Pn**	**11 30 13.4**	**+0.7**
	baz=122,slow=16							
ARA0				Pg		**Pg**	**11 30 21.5**	**-2.6**
	baz=115,slow=16							
ARA0				Sn		**Sn**	**11 30 55.0**	**+0.3**
	baz=118,slow=28							
ARA0				Lg			11 31 04.8	
	baz=119,slow=37							
ARA0	**ARCESS Array S**	**3.50**	**307**	Pg		**Pg**	**11 30 21.5**	**-2.6**
	SNR=90							
ARA0				Sn		**Sn**	**11 30 55.0**	**+0.2**
	SNR=50							
ARCES	**ARCESS Array B**	**3.50**	**307**	Pn		**Pn**	**11 30 13.2**	**+0.6**
	comp=Z,12nm,0.3s,baz=122,slow=15,SNR=1352							
ARCES				Pg		**Pg**	**11 30 21.0**	**-3.1**
	comp=Z,3.8nm,0.3s,baz=115,slow=15,SNR=19							
ARCES				Sn		**Sn**	**11 30 54.9**	**+0.1**
	comp=Z,8.3nm,0.3s,baz=122,slow=27,SNR=15							
ARCES				Lg			11 31 04.5	
	comp=Z,11nm,0.3s,baz=110,slow=31,SNR=12							
OUL	**Oulu**	**3.98**	**234**	*e*P		**Pn**	**11 30 20.5**	**+1.1**
OUL				*e*S		**Sn**	**11 31 08.8**	**+1.9**
OUL	**Oulu**	**3.98**	**234**	P		**Pn**	**11 30 20.5**	**+1.1**
OUL				S		**Sn**	**11 31 08.7**	**+1.9**
KTK1	**Kautokeino**	**4.05**	**295**	*e*P		**Pn**	**11 30 22.0**	**+1.7**
KTK1				*e*SG		**Sg**	**11 31 24.1**	**-3.0**
KTK1				AML	AML		11 31 27.2	
	comp=Z,26nm,0.1s							
KIF	**Kilpisjarvi**	**4.90**	**292**	*e*P		**Pn**	**11 30 32.1**	**+0.1**
KIF				*e*S		**Sn**	**11 31 27.9**	**-1.5**
KIF	**Kilpisjarvi**	**4.90**	**292**	P		**Pn**	**11 30 32.1**	**+0.1**
TRO	**Tromso**	**5.69**	**297**	*e*P		**Pn**	**11 30 42.9**	**+0.2**
TRO				AML	AML		11 31 49.8	
	comp=Z,5.4nm,0.2s							
SUF	**Sumiainen**	**5.82**	**215**	*e*P		**Pn**	**11 30 46.3**	**+1.7**
SUF				*e*S		**Sn**	**11 31 50.3**	**-1.7**
SUF	**Sumiainen**	**5.82**	**215**	P		**Pn**	**11 30 46.3**	**+1.7**
SUF				S		**Sn**	**11 31 50.2**	**-1.8**
KAF	**Kangasniemi**	**6.33**	**212**	*e*P		**Pn**	**11 30 53.2**	**+1.6**
KAF				*e*S		**Sn**	**11 32 01.4**	**-3.2**
KAF	**Kangasniemi**	**6.33**	**212**	P		**Pn**	**11 30 53.1**	**+1.5**
KAF				S		**Sn**	**11 32 01.3**	**-3.2**
KEF	**Keuruu**	**6.59**	**218**	*e*P		**Pn**	**11 30 55.1**	**-0.1**
KEF				*e*S		**Sn**	**11 32 08.6**	**-2.6**
KEF	**Keuruu**	**6.59**	**218**	P		**Pn**	**11 30 55.1**	**-0.2**
KEF				S		**Sn**	**11 32 08.5**	**-2.6**
FIA0	**FINESS Array S**	**6.98**	**211**	*e*P		**Pn**	**11 30 59.7**	**-0.9**
FIA0				*e*S		**Sn**	**11 32 17.9**	**-2.7**
FIA0	**FINESS Array S**	**6.98**	**211**	Pn		**Pn**	**11 30 59.5**	**-1.1**
	baz=23,slow=14							
FIA0				Sn		**Sn**	**11 32 16.9**	**-3.8**
	baz=40,slow=22							
FIA0				Lg			11 32 50.5	
	baz=16,slow=28							
FINES	**FINESS Array B**	**6.98**	**211**	Pn		**Pn**	**11 30 59.5**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=30,slow=14,SNR=9.4							
FINES				Sn		**Sn**	**11 32 18.3**	**-2.3**
	comp=Z,1.8nm,0.3s,baz=34,slow=22,SNR=4.5							
FINES				Lg			11 32 52.5	
	comp=Z,4.3nm,0.3s,baz=25,slow=23,SNR=8.1							
LOF	**Lofoten**	**7.54**	**283**	*e*P		**Pn**	**11 31 06.9**	**-1.3**
LOF				AML	AML		11 32 34.1	
	comp=Z,4.6nm,0.6s							
MOR8	**Moi Rana**	**7.62**	**268**	*e*P		**Pn**	**11 31 04.7**	**-4.7**
MOR8				AML	AML		11 32 40.2	
	comp=Z,3.8nm,0.4s							
HFS	**Hagfors**	**11.46**	**239**	Sn		**Sn**	**11 34 00.5**	**-10**
	baz=50,slow=16							
HFS				Lg			11 35 08.7	
	baz=66,slow=28							
HFS	**Hagfors**	**11.46**	**239**	Pn		**Pn**	**11 31 59.6**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=36,slow=12,SNR=6.2							
HFS				Sn		**Sn**	**11 34 05.4**	**-5.3**
	comp=Z,0.3nm,0.3s,baz=50,slow=23,SNR=4.7							
HFS				Lg			11 35 12.6	
	comp=Z,0.4nm,0.3s,baz=52,slow=26,SNR=3.4							
NOA	**NORSAR Array B**	**11.64**	**246**	Pn		**Pn**	**11 32 02.4**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=40,slow=10,SNR=2.5							
SPA0	**Spitsbergen Ar**	**11.64**	**342**	Pn		**Pn**	**11 31 59.6**	**-4.9**
	baz=146,slow=16							
SPA0				Sn		**Sn**	**11 34 08.9**	**-6.2**
	baz=138,slow=37							
SPA0	**Spitsbergen Ar**	**11.64**	**342**	*e*P		**Pn**	**11 31 59.6**	**-4.9**
SPA0				*e*S		**Sn**	**11 34 08.9**	**-6.2**
SPA0	**Spitsbergen Ar**	**11.64**	**342**	Sn		**Sn**	**11 34 08.9**	**-6.3**
	SNR=50							

IDC 19 11:53:17.8±2.5, 2395S×6697W, h175km±26km, mb3.3/1, mb1 3.3/5, mb1mx3.2/16, mbtmp3.8/5, Error ellipse: s-maj=38.2km s-min=27.1km az=155.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.23**	**306**	P		Pn	11 53 58.0	+1.0
	5.5nm,0.3s,baz=135,slow=6.4,SNR=128							
LVC				S		Sn	11 54 28.0	+0.7
	11nm,0.3s,baz=11,slow=21,SNR=7.1							
LPAZ	**La Paz**	**7.70**	**352**	P		Pn	11 55 08.7	+1.6
	0.3nm,0.3s,baz=142,slow=12,SNR=7.3							
LPAZ				S		Sn	11 56 35.2	+1.9
	0.0nm,0.3s,baz=310,slow=18,SNR=3.0							
SIV	**San Ignacio**	**9.66**	**36**	P		Pn	11 55 32.2	-0.6
	0.1nm,0.3s,baz=220,slow=14,SNR=8.0							
BDFB	**Brasilia**	**19.64**	**69**	P		P	11 57 34.0	+1.0
	0.7nm,0.3s,baz=249,slow=12,SNR=13							
TORD	**Torodi Ar. Bea**	**76.52**	**69**	P		P	12 04 48.2	-0.3
	0.3nm,0.3s,baz=260,slow=5.7,SNR=4.3							
MKAR	**Makanchi Array**	**146.47**	**39**	PKPbc		PKPbc	12 12 38.0	-0.2
	0.3nm,0.6s,baz=306,slow=4.3,SNR=3.6							

IDC 19 11:55:55.9±2.3, 555N×9457E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/19, mbtmp3.7/5, Error ellipse: s-maj=101.7km s-min=21.5km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.13**	**122**	Pn		Pn	11 57 19.0	+5.1
	1.8nm,0.3s,baz=313,slow=16,SNR=4.4							
MKAR	**Makanchi Array**	**42.44**	**347**	P		P	12 03 53.0	+0.6
	1.9nm,0.6s,baz=168,slow=7.6,SNR=20							
SONM	**Songino Array**	**43.33**	**12**	P		P	12 03 59.6	0.0
	0.6nm,0.7s,baz=205,slow=6.4,SNR=3.4							
WRA	**Warramunga Arr**	**46.59**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOJS	**Bojanci**	**0.48**	**38**	*i* Pg	**Pg**	**12 39 29.5**	**-1.0**
BOJS				*i* Sg	**Sg**	**12 39 36.5**	**-0.4**
BOJS	comp=Z,12nm,0.1s						
NVLJ	**Novalja**	**0.56**	**177**	*i* Pg	**Pg**	**12 39 31.5**	**-0.4**
NVLJ				*i* Sg	**Sg**	**12 39 40.4**	**+1.1**
VISS	**Visnje**	**0.68**	**1**	*i* Pg	**Pg**	**12 39 33.1**	**-1.1**
VISS				*i* Sg	**Sg**	**12 39 41.8**	**-1.2**
CRES	**Cresnjev**	**0.83**	**32**	*e*Sg	**Sg**	**12 39 47.5**	**-0.3**
LEGS	**Legarje**	**0.89**	**23**	*i* Sg	**Sg**	**12 39 51.5**	**+1.6**
GCIS	**Gornji Cirnik**	**0.93**	**37**	*e*Sg	**Sg**	**12 39 50.9**	**-0.3**
JAVS	**Javornik**	**0.94**	**325**	*i* Pg	**Pg**	**12 39 38.2**	**-0.9**
JAVS				*i* Sg	**Sg**	**12 39 51.8**	**+0.5**
GOLS	**Golise**	**1.05**	**32**	*e*Sg	**Sg**	**12 39 57.1**	**+2.2**
GORS	**Gorjuse**	**1.33**	**334**	*i* Pg	**Pg**	**12 39 45.8**	**-0.7**
GORS				*i* Sg	**Sg**	**12 40 04.4**	**+0.6**
CADS	**Cadrg**	**1.34**	**326**	*i* Pg	**Pg**	**12 39 46.4**	**-0.4**
CADS				*i* Sg	**Sg**	**12 40 05.3**	**+1.1**

*IDC **19** 13:02:38.7±1.1,9705×12456E,h0km,mb3.9/3,mb1 4.0/6, mb1mx3.9/13,mbtmp3.9/6,ML3.8/3,Error ellipse: s-maj=94.4km s-min=20.9km az=69.0*
*ISCJB **19** 13:02:39.7±0.6,1010S×10615E×124.15E±0.008,h33km, mb4.5/7,Error ellipse: s-maj=12.8km s-min=5.9km az=116.6*
*NEIC **19** 13:02:40.5±0.7,9945×12385E,h10km,Error ellipse: s-maj=24.6km s-min=11.6km az=55.0*

ISC 19 13:02:42.3±0.6,997S×1009×1244E±01,h35km,n15, σ1♀39/22,mb4.5/7,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.17**	**172**	*e*P	**Pn**	**13 04 40.1**	**+1.8**
FITZ	6.1nm,0.3s			*e*S	**Sn**	**13 06 08.2**	**-1.1**
FITZ	**Fitzroy Crossi**	**8.17**	**172**	Pn	**Pn**	**13 04 40.5**	**+2.2**
FITZ	1.5nm,0.3s,baz=14,slow=11,SNR=41			Sn	**Sn**	**13 06 09.4**	**+0.1**
KAKA	4.8nm,0.3s,baz=295,slow=22,SNR=10 **Kakadu**	**8.32**	**110**	*e*P	**Pn**	**13 04 48.1**	**+7.8**
KAKA	6.7nm,0.3s			*e*S	**Sn**	**13 06 20.2**	**+7.2**
WRA	**Warramunga Arr**	**13.78**	**137**	Pn	**Pn**	**13 05 56.0**	**+1.0**
WRA	0.4nm,0.3s,baz=315,slow=14,SNR=25			Sn	**Sn**	**13 08 25.9**	**-0.9**
WRAB	1.0nm,0.3s,baz=308,slow=24,SNR=8.0 **Tennant Creek**	**13.78**	**137**	*e*P	**Pn**	**13 05 56.1**	**+1.0**
WRAB				*e*S	**Sn**	**13 08 23.9**	**-2.9**
WB2	**Warramunga Arr**	**13.78**	**137**	*e*P	**Pn**	**13 05 56.8**	**+1.7**
WB2				*e*S	**Sn**	**13 08 23.3**	**-3.6**
ASAR	**Alice Springs**	**16.35**	**148**	Pn	**Pn**	**13 06 31.6**	**+2.5**
ASAR	0.5nm,0.3s,baz=314,slow=12,SNR=31			Sn	**Sn**	**13 09 27.3**	**-2.1**
GUN	0.4nm,0.3s,baz=309,slow=20,SNR=15 **Gumba**	**53.01**	**316**	*e*P	**P**	**13 11 55.0**	**-0.6**
PKI	9.1nm,0.5s,mb5.0 **Pulchoki**	**53.11**	**316**	*e*P	**P**	**13 11 55.4**	**-1.0**
GKN	5.0nm,0.4s,mb4.8 **Gorkha**	**53.92**	**316**	*e*P	**P**	**13 12 01.3**	**-0.9**
KOLN	5.0nm,0.3s,mb4.9 **Koldanda**	**54.49**	**315**	*e*P	**P**	**13 12 05.4**	**-1.1**
SONM	16nm,1.0s,mb4.9 **Songino Array**	**59.74**	**346**	P	**P**	**13 12 44.0**	**+0.4**
MKAR	0.5nm,0.5s,mb3.9,baz=161,slow=9.6,SNR=4.8 **Makanchi Array**	**67.86**	**330**	P	**P**	**13 13 37.5**	**+0.5**
MKAR	1.2nm,0.4s,mb4.3,baz=131,slow=7.6,SNR=26 **Makanchi Array**	**67.86**	**330**	P	**P**	**13 13 37.5**	**+0.5**
VNDA	**Vanda** 0.5nm,0.6s,mb3.6,baz=322,slow=10,SNR=6.3	**70.24**	**172**	P	**P**	**13 13 55.5**	**+3.8**

*NEIC **19** 13:06:56.9,3698S×17740E,h146km,MG4.0(WEL),After WEL.*

WEL 19 13:06:58.0±0.5,3703S×17748E,h140km±6km,ML4.0/8, Error ellipse: s-maj=7.9km s-min=6.6km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.85**	**129**	PN	Pn	13 07 20.8	+0.2
MXZ				SN	Sn	13 07 37.1	-0.6
MXZ	**Matakaoa Point**	**0.85**	**129**	P	Pn	13 07 20.8	+0.2
PUZ	**Puketiti**	**1.21**	**149**	PN	Pn	13 07 23.8	0.0
PUZ				SN	Sn	13 07 42.5	-1.0
PUZ	**Puketiti**	**1.21**	**149**	P	Pn	13 07 23.8	0.0
URZ	**Urewera**	**1.26**	**193**	PN	Pn	13 07 24.0	-0.4
URZ				SN	Sn	13 07 45.1	+0.7
URZ	**Urewera**	**1.26**	**193**	P	Pn	13 07 24.0	-0.3
MWZ	**Matawai**	**1.30**	**178**	PN	Pn	13 07 24.8	0.0
MWZ				SN	Sn	13 07 46.3	+1.1
MWZ	**Matawai**	**1.30**	**178**	P	Pn	13 07 24.8	0.0
MWZ				S	Sn	13 07 46.3	+1.2
TAZ	**Tarawera**	**1.42**	**212**	PN	Pn	13 07 26.4	+0.3
TAZ	**Tarawera**	**1.42**	**212**	P	Pn	13 07 27.0	+1.0
KNZ	**Kokohu**	**1.99**	**176**	PN	Pn	13 07 32.4	-0.1
KNZ	**Kokohu**	**1.99**	**176**	*e*P	Pn	13 07 32.4	-0.1
BKZ	**Black Stump Fm**	**2.27**	**200**	PN	Pn	13 07 34.8	-1.0
BKZ				SN	Sn	13 08 03.5	-1.4
BKZ	**Black Stump Fm**	**2.27**	**200**	P	Pn	13 07 35.0	-0.8
KATZ	**Kakaramea**	**2.40**	**215**	PN	Pn	13 07 38.2	+0.8
KATZ	**Kakaramea**	**2.40**	**215**	P	Pn	13 07 38.2	+0.8
KRVZ	**Karewarewa**	**2.52**	**215**	PN	Pn	13 07 39.7	+0.8
HIZ	**Hauiti**	**2.55**	**234**	*e*PN	Pn	13 07 39.8	+0.5
OTVZ	**Oturere**	**2.56**	**213**	PN	Pn	13 07 39.7	+0.2
NGZ	**Ngauruhoe**	**2.60**	**214**	PN	Pn	13 07 40.4	+0.5
NGZ				SN	Sn	13 08 13.1	+0.9
NGZ	**Ngauruhoe**	**2.60**	**214**	P	Pn	13 07 40.4	+0.4
WPVZ	**Whakapapa**	**2.65**	**214**	PN	Pn	13 07 41.3	+0.7
WPVZ	**Whakapapa**	**2.65**	**214**	P	Pn	13 07 41.3	+0.7
TUVZ	**Tukino**	**2.66**	**212**	PN	Pn	13 07 40.8	+0.2
TUVZ	**Tukino**	**2.66**	**212**	P	Pn	13 07 40.8	+0.2
FWVZ	**Far West T-bar**	**2.69**	**214**	PN	Pn	13 07 41.3	+0.2
FWVZ	**Far West T-bar**	**2.69**	**214**	P	Pn	13 07 41.3	+0.3
WNVZ	**Wahianoa**	**2.73**	**212**	PN	Pn	13 07 41.5	-0.1
WNVZ	**Wahianoa**	**2.73**	**212**	P	Pn	13 07 41.5	0.0
MOVZ	**Moawhango**	**2.73**	**209**	PN	Pn	13 07 40.7	-0.9
MOVZ				SN	Sn	13 08 14.9	-0.3
MOVZ	**Moawhango**	**2.73**	**209**	P	Pn	13 07 40.7	-0.9
PKVZ	**Pokaka**	**2.81**	**216**	PN	Pn	13 07 42.4	-0.2
MTVZ	**Mangateitei**	**2.83**	**213**	PN	Pn	13 07 42.7	-0.2
PXZ	**Pawanui**	**3.03**	**189**	PN	Pn	13 07 43.8	-1.7
TSZ	**Takapari Road**	**3.25**	**201**	PN	Pn	13 07 46.0	-2.2
TSZ	**Takapari Road**	**3.25**	**201**	P	Pn	13 07 46.1	-2.1
WAZ	**Wanganui**	**3.35**	**215**	PN	Pn	13 07 48.5	-1.0
BFZ	**Birch Farm**	**3.77**	**194**	*e*P	Pn	13 07 51.7	-3.3
MRZ	**Mangatainoka R**	**3.92**	**202**	PN	Pn	13 07 54.1	-2.9
MRZ	**Mangatainoka R**	**3.92**	**202**	P	Pn	13 07 54.1	-2.8
KIW	**Kapiti Island**	**4.32**	**207**	P	Pn	13 07 59.0	-3.2
CAW	**Cannon Point**	**4.48**	**204**	P	Pn	13 08 00.8	-3.6
PAWZ	**Paruwai Farm**	**4.63**	**199**	P	Pn	13 08 02.3	-4.0
MSWZ	**Moikau Station**	**4.71**	**201**	P	Pn	13 08 03.4	-4.0
MRW	**Makara Radio**	**4.71**	**206**	P	Pn	13 08 03.7	-3.8
WEL	**Wellington**	**4.74**	**206**	P	Pn	13 08 04.2	-3.6
SNZO	**South Karori**	**4.78**	**206**	P	Pn	13 08 04.4	-4.0
TCW	**Tory Channel**	**4.86**	**210**	P	Pn	13 08 05.5	-3.9
NNZ	**Nelson**	**5.25**	**216**	*e*P	Pn	13 08 11.1	-3.6
QRZ	**Quartz Range**	**5.41**	**224**	*e*P	Pn	13 08 13.4	-3.3
THZ	**Tophouse**	**5.90**	**215**	*e*P	Pn	13 08 19.2	-4.1
KHZ	**Kahutara**	**6.17**	**208**	*e*P	Pn	13 08 22.3	-4.7
LTZ	**Lake Taylor**	**7.00**	**213**	*e*P	Pn	13 08 33.4	-4.6

IDC 19 13:14:04.4±3.6,4924N×15261E,h246km±65km,mb3.2/2, mb1 3.4/4,mb1mx2.9/21,mbtmp4.1/4,Error ellipse: s-maj=81.8km s-min=26.7km az=151.0,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.58**	**237**	P	Pn	13 16 04.8	-0.1
FX1	1.0nm,0.3s,baz=67,slow=14,SNR=11 **Attu Island--F**	**13.42**	**66**	P	Pn	13 17 05.6	0.0
FX1	1.4nm,0.3s,baz=252,slow=16,SNR=17			S	S	13 19 22.1	-12
MJAR	0.9nm,0.3s,baz=162,slow=18,SNR=4.3 **Matsushiro Arr**	**16.47**	**225**	P	P	13 17 40.3	-0.2
MKAR	4.3nm,0.3s,baz=19,slow=11,SNR=1.9 **Makanchi Array**	**45.54**	**295**	P	P	13 21 59.5	-0.1
	1.1nm,0.5s,baz=68,slow=8.4,SNR=14						
FINES	**FINESS Array B**	**61.65**	**334**	P	P	13 23 55.3	-0.9
	0.3nm,0.3s,baz=44,slow=8.3,SNR=1.2						

IDC 19 13:29:28.5±3.7,522S×14966E,h0km,mb3.2/2,mb1 3.6/2, mb1mx3.3/12,mbtmp3.3/2,Error ellipse: s-maj=137.1km s-min=46.9km az=113.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.90**	**224**	P	P	13 34 13.8	+1.5
	0.5nm,0.3s,baz=50,slow=10,SNR=19						
ASAR	**Alice Springs**	**23.81**	**218**	P	P	13 34 42.3	-0.8
	0.5nm,0.7s,baz=49,slow=8.7,SNR=7.3						
TORD	**Torodi Ar. Bea**	**147.44**	**286**	PKPbc	PKPbc	13 49 14.9	+0.6
	1.2nm,0.6s,baz=85,slow=2.4,SNR=9.0						

IDC 19 13:35:43.4±13.0,043N×9708E,h62km±98km,mb3.5/4, mb1 3.6/5,mb1mx3.4/18,mbtmp3.7/5,ML2.8/1,Error ellipse: s-maj=150.8km s-min=23.8km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.99**	**38**	P	Pn	13 36 27.1	-1.2
	1.4nm,0.3s,baz=212,slow=9.5,SNR=3.6						
WRA	**Warramunga Arr**	**41.73**	**121**	P	P	13 43 26.7	+0.4
	0.6nm,0.6s,baz=303,slow=8.9,SNR=12						
ASAR	**Alice Springs**	**43.03**	**126**	P	P	13 43 37.0	+0.3
	0.7nm,0.8s,baz=294,slow=7.5,SNR=12						
SONM	**Songino Array**	**47.91**	**8**	P	P	13 44 16.3	+1.0
	0.3nm,0.5s,baz=192,slow=5.8,SNR=4.2						
ARCES	**ARCESS Array B**	**83.22**	**340**	P	P	13 48 02.0	-0.9
	1.7nm,1.0s,baz=104,slow=5.1,SNR=4.6						

*NNC **19** 13:42:44.2±11.0,4686N×8561E,h19km±35km,mb3.4, mpv3.0,Error ellipse: s-maj=62.3km s-min=44.7km az=90.0*

BJI 19 13:42:33.2,4702N×8561E,h10km,ML3.3,3C-2D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK09	**Makanchi Array**	**2.30**	**265**	⇑Pn	Pn	13 43 20.5	+9.3
	2.7nm,0.5s,baz=93,slow=16						
MK09				⇑Lg		13 43 56.8	
	15nm,0.3s,baz=78,slow=34						
WMQ	**Urumqi**	**3.52**	**155**	PG	Pg	13 43 37.5	-3.1
WMQ				SG	Sg	13 44 20.3	-5.9
WMQ				Smax			
	comp=N,28nm,0.5s						
WMQ				Smax			
	comp=E,35nm,0.5s						
KURK	**Kurchatov**	**5.91**	**311**	⇓Pn	Pn	13 44 11.9	+11
	comp=E,0.7nm,0.2s						
KURK				⇑Sn	Sn	13 45 21.5	+13
	comp=E,1.9nm,0.2s						
KURK				⇓Lg		13 45 56.4	
	comp=E,6.4nm,0.5s						

*NIED **19** 13:47:00,36.10N×142.00E,h20km,Mw3.6 Best double couple: M0 2.67000×10^14 NP1:ϕ=355.00000°,δ=85.00000°, λ=51.00000°. NP2:ϕ=259.00000°,δ=39.00000°,λ=172.00000°.*
*NEIC **19** 13:47:48.9±1.5,3593N×14203E,h10km,mb4.5/1, MW3.6(NIED),Error ellipse: s-maj=39.5km s-min=12.3km az=222.0*
*ISCJB **19** 13:47:49.8±0.8,3607N±004×14209E±007,h33km, mb3.7/5,Error ellipse: s-maj=8.6km s-min=5.6km az=165.8*
*MOS **19** 13:47:49.4±1.1,3599N×142.11E,h33km,mb4.7/1,Error ellipse: s-maj=33.2km s-min=18.1km az=25.0*
*JMA **19** 13:47:49.7±0.2,3610N×14204E,h66km,M3.5*
*IDC **19** 13:47:54.0±6.9,3596N×14191E,h42km±52km,mb3.3/4, mb1 3.5/5,mb1mx3.3/20,mbtmp3.6/5,ML3.9/2,Error ellipse: s-maj=66.0km s-min=18.1km az=79.0*

ISC 19 13:47:51.4±0.8,3609N±004×14205E±008,h35km,n25, σ0♀79/32,mb3.7/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.04**	**249**	P	**Pn**	**13 48 08.8**	**-0.6**
CHOJ				*e*S	**Sn**	**13 48 23.5**	**+0.8**
JHO	**Hitachi**	**1.30**	**294**	P	**Pn**	**13 48 11.7**	**-1.3**
ONAJ	**Iwakimizuishiy**	**1.43**	**316**	P	**Pn**	**13 48 13.8**	**-1.0**
JFK	**Kawauchi**	**1.59**	**324**	P	**Pn**	**13 48 16.1**	**-0.9**
BSO1	**Boso 1**	**1.68**	**212**	P	**Pn**	**13 48 18.0**	**-0.2**
BSO1				*e*S	**Sn**	**13 48 39.6**	**+1.2**
BSO3	**Boso 3**	**1.79**	**225**	P	**Pn**	**13 48 19.7**	**-0.1**
JFT	**Otama**	**1.98**	**317**	P	**Pn**	**13 48 22.5**	**+0.1**
JFT				*e*S	**Sn**	**13 48 46.2**	**+0.2**
JMM	**Marumori**	**2.04**	**331**	P	**Pn**	**13 48 23.4**	**+0.2**
JAG	**Ashikaga**	**2.12**	**280**	P	**Pn**	**13 48 23.4**	**-0.9**
JFY	**Yanaizu**	**2.29**	**306**	P	**Pn**	**13 48 27.0**	**+0.3**
JKT	**Katashina**	**2.35**	**288**	P	**Pn**	**13 48 27.7**	**+0.2**
JOD2	**Odawara 2**	**2.54**	**252**	P	**Pn**	**13 48 30.1**	**0.0**
JRY	**Ryogami san**	**2.55**	**269**	P	**Pn**	**13 48 29.5**	**-0.7**
JRY				*e*S	**Sn**	**13 48 59.8**	**-0.2**
MJAR	**Matsushiro Arr**	**3.13**	**279**	P	**Pn**	**13 48 39.0**	**+0.8**
	17nm,0.3s,baz=95,slow=8.5,SNR=12						
MAJO	**Matsushiro**	**3.13**	**279**	*e*P	**Pn**	**13 48 38.5**	**+0.3**
MAT	**Matsushiro**	**3.13**	**279**	P	**Pn**	**13 48 38.4**	**+0.2**
MAT				*e*S	**Sn**	**13 49 14.9**	**+0.5**
MAT	**Matsushiro**	**3.13**	**279**	*e*P	**Pn**	**13 48 38.0**	**-0.2**
MAT				S	**Sn**	**13 49 15.0**	**+0.6**
JHJ	**Hachijo jima 2**	**3.50**	**213**	P	**Pn**	**13 48 43.1**	**-0.2**
	34nm,0.3s,baz=54,slow=14,SNR=9.7						
JHJ				S	**Sn**	**13 49 21.9**	**-1.6**
	35nm,0.3s,baz=67,slow=23,SNR=8.1						
SONM	**Songino Array**	**28.74**	**305**	P	**P**	**13 53 48.4**	**+2.9**
	0.7nm,0.5s,mb3.6,baz=93,slow=10,SNR=4.3						
MKAR	**Makanchi Array**	**45.06**	**303**	P	**P**	**13 56 04.5**	**+0.7**
	0.5nm,0.7s,mb3.5,baz=87,slow=9.8,SNR=5.7						
MKAR	**Makanchi Array**	**45.06**	**303**	P	**P**	**13 56 04.5**	**+0.7**
CTAO	**Charters Tower**	**56.01**	**175**	*e*P	**P**	**13 57 25.6**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
CTAO	**Charters Tower**	**56.01**	**175**	*e*P	**P**	**13 57 25.6**	**-0.8**
	comp=Z,5.0nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**56.20**	**189**	P	**P**	**13 57 28.6**	**+0.8**
	comp=Z,0.5nm,0.7s,mb3.6,baz=5.7,slow=7.3,SNR=7.2						
ASAR	**Alice Springs**	**59.92**	**189**	P	**P**	**13 57 54.7**	**+0.8**
	comp=Z,0.2nm,0.8s,mb3.2,baz=6.7,slow=8.8,SNR=4.5						

*ISCJB **19** 13:48:04.8±0.4,4936N±002×687E±003,h0km,Error ellipse: s-maj=3.4km s-min=2.5km az=108.2*
*NEIC **19** 13:48:06.7,4938N×692E,h1km,ML2.9(LDG),After LDG.*
*BGR **19** 13:48:06.2±0.4,4936N×687E,h1km,ML2.0/3,Error ellipse: s-maj=8.9km s-min=5.6km az=33.0*
*CSEM **19** 13:48:06.9±0.1,4937N×690E,h2km,ML2.8/9,Error ellipse: s-maj=1.8km s-min=1.4km az=52.0*
*LDG **19** 13:48:06.7±0.1,4938N×692E,h1km,Ml2.9/10,Error ellipse: s-maj=1.3km s-min=1.1km az=71.0,Suspected Mining induced.*

ISC 19 13:48:05.7±0.4,4937N±002×688E±004,h0km,n33, σ0♀99/62,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WLF	**Walferdange**	**0.56**	**303**	*e*Pg	**Pg**	**13 48 17.5**	**+1.1**
	SNR=3.1						
WLF				*e*Sg	**Sg**	**13 48 23.5**	**-0.2**
WLF	**Walferdange**	**0.56**	**303**	P	**Pg**	**13 48 17.5**	**+1.1**
WLF				S	**Sg**	**13 48 23.3**	**-0.4**
	comp=E,18nm,0.0s						
WLF	**Walferdange**	**0.56**	**303**	*e*P	**Pg**	**13 48 17.2**	**+0.8**
WLF	**Walferdange**	**0.56**	**303**	*e*P	**Pg**	**13 48 17.2**	**+0.8**
WLF	**Walferdange**	**0.56**	**303**	Pg	**Pg**	**13 48 17.5**	**+1.1**
	SNR=3.1						
CDF	**Champ du Feu**	**0.99**	**164**	*e*Pg	**Pg**	**13 48 25.9**	**+1.2**
CDF				*e*Sg	**Sg**	**13 48 38.0**	**+0.5**
	comp=E,33nm,0.3s						
CDF	**Champ du Feu**	**0.99**	**164**	*e*Pg	**Pg**	**13 48 25.9**	**+1.2**
CDF				*e*Sg	**Sg**	**13 48 38.0**	**+0.5**
	comp=E,16nm,0.3s						
RFYF	**Reffroy**	**1.18**	**232**	*e*Pn	**Pn**	**13 48 29.6**	**+0.1**
TNS	**Taunus Mts**	**1.33**	**49**	*e*Pg	**Pg**	**13 48 30.0**	**-1.2**
	SNR=4.2						
TNS				*e*Sg	**Sg**	**13 48 49.0**	**+0.5**
MEM	**Membach**	**1.37**	**336**	P	**Pg**	**13 48 32.1**	**+0.2**
MEM				S	**Sg**	**13 48 50.6**	**+0.9**
	comp=N,14nm,0.0s						
HAU	**Haudompre**	**1.41**	**195**	*e*Pg	**Pg**	**13 48 34.0**	**+1.4**
HAU				*e*Sg	**Sg**	**13 48 51.4**	**+0.5**
	comp=N,43nm,0.4s						
HAU	**Haudompre**	**1.41**	**195**	*e*Pg	**Pg**	**13 48 34.0**	**+1.4**
HAU				*e*Sg	**Sg**	**13 48 51.4**	**+0.5**
	comp=N,21nm,0.4s						
BFO	**Black Forest**	**1.41**	**137**	*e*Pg	**Pg**	**13 48 32.4**	**-0.4**
	SNR=6.1						
BFO				*e*Sg	**Sg**	**13 48 50.7**	**-0.3**
BFO	**Black Forest**	**1.41**	**137**	*e*P	**Pn**	**13 48 31.7**	**-1.0**
BFO				*e*S	**Sg**	**13 48 50.7**	**-0.3**
BFO	**Black Forest**	**1.41**	**137**	*e*P	**Pn**	**13 48 31.7**	**-0.9**
BFO	**Black Forest**	**1.41**	**137**	Pg	**Pg**	**13 48 32.4**	**-0.4**
	SNR=6.1						
BFO				Sg	**Sg**	**13 48 50.7**	**-0.4**
MEZF	**Maizieres J'vi**	**1.48**	**235**	*e*Pg	**Pg**	**13 48 34.8**	**+0.7**
MEZF				*e*Sg	**Sg**	**13 48 54.3**	**+1.0**
	comp=N,22nm,0.4s						
MEZF	**Maizieres J'vi**	**1.48**	**235**	*e*Pg	**Pg**	**13 48 34.8**	**+0.7**
MEZF				*e*Sg	**Sg**	**13 48 54.3**	**+1.0**
	comp=N,11nm,0.4s						
GIVF	**Givet**	**1.52**	**300**	*e*Pg	**Pg**	**13 48 35.5**	**+0.6**
GIVF				*e*Sg	**Sg**	**13 48 55.8**	**+1.1**
HINF	**Hinteralfeld**	**1.55**	**181**	*e*Pg	**Pg**	**13 48 35.7**	**+0.3**
HINF				*e*Sg	**Sg**	**13 48 56.0**	**+0.5**
	comp=N,70nm,0.3s						
HINF	**Hinteralfeld**	**1.55**	**181**	*e*Pg	**Pg**	**13 48 35.7**	**+0.3**
HINF				*e*Sg	**Sg**	**13 48 56.0**	**+0.5**
	comp=N,35nm,0.3s						
DOU	**Dourbes**	**1.65**	**297**	P	**Pn**	**13 48 36.1**	**+0.1**
DOU				S	**Sn**	**13 48 55.7**	**-2.2**
	comp=E,11nm,0.0s						
DOU				APKP		01 29 54.4	
SFTF	**Sexfontaines**	**1.68**	**227**	*e*Pn	**Pn**	**13 48 36.0**	**-0.4**
SFTF				*e*Sn	**Sn**	**13 48 58.0**	**-0.6**
SFTF				*e*Sg	**Sg**	**13 49 01.2**	**+1.4**
	comp=E,15nm,0.4s						
SFTF	**Sexfontaines**	**1.68**	**227**	*e*Pn	**Pn**	**13 48 36.0**	**-0.4**
SFTF				*e*Sn	**Sn**	**13 48 58.0**	**-0.6**
SFTF				*e*Sg	**Sg**	**13 49 01.2**	**+1.4**
	comp=E,7.4nm,0.4s						
BAIF	**Baives**	**1.87**	**293**	*e*Pg	**Pg**	**13 48 41.7**	**+0.2**
BAIF				*e*Sn	**Sn**	**13 49 01.0**	**-2.2**
BAIF				*e*Sg	**Sg**	**13 49 06.0**	**+0.3**
	comp=E,21nm,0.6s						
BAIF	**Baives**	**1.87**	**293**	*e*Pg	**Pg**	**13 48 41.7**	**+0.2**
BAIF				*e*Sn	**Sn**	**13 49 01.0**	**-2.2**
BAIF				*e*Sg	**Sg**	**13 49 06.0**	**+0.3**
	comp=E,10nm,0.6s						
CABF	**La Chapelle**	**2.81**	**191**	*e*Sg	**Sg**	**13 49 35.1**	**-0.8**
	comp=E,7.6nm,0.5s						
CABF	**La Chapelle**	**2.81**	**191**	*e*Sg	**Sg**	**13 49 35.1**	**-0.8**
	comp=E,3.8nm,0.5s						
SMF	**Signal de Mont**	**3.40**	**218**	*e*Pn	**Pn**	**13 48 58.7**	**-1.3**
SMF				*e*Sn	**Sn**	**13 49 37.5**	**-3.5**
SMF				*e*Sg	**Sg**	**13 49 54.1**	**-0.9**
	comp=E,6.7nm,0.3s						
SMF	**Signal de Mont**	**3.40**	**218**	*e*Pn	**Pn**	**13 48 58.7**	**-1.3**
SMF				*e*Sn	**Sn**	**13 49 37.5**	**-3.5**
SMF				*e*Sg	**Sg**	**13 49 54.1**	**-0.9**
	comp=E,3.3nm,0.3s						
AVF	**Avril sur Loir**	**3.50**	**224**	*e*Sn	**Sn**	**13 49 40.6**	**-2.8**
	comp=E,4.3nm,0.4s						
AVF	**Avril sur Loir**	**3.50**	**224**	*e*Sn	**Sn**	**13 49 40.6**	**-2.8**
	comp=E,2.2nm,0.4s						
GEC2	**GERESS Array S**	**4.51**	**94**	*e*Pn	**Pn**	**13 49 15.8**	**+0.5**

*MOS **19** 13:55:05.6±1.1,5569N×11036E,h12km,mb4.3/1,Error ellipse: s-maj=50.3km s-min=17.3km az=142.1*

BYKL 19 13:55:06.0±0.2,5557N×11045E,h3km±18km,5C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMO	**Kumora**	**0.53**	**53**	⇑*i*Pg	Pg	13 55 15.3	-0.9
KMO				*e*Sg	Sg	13 55 22.8	-0.3
KMO				Pmax			
	245nm,0.4s						
KMO				Smax			
	1μm,1.8s						
KMO	**Kumora**	**0.53**	**53**	*e*PG	Pg	13 55 15.2	-1.0
KMO				*e*		13 55 22.3	
KMO				pmax	pmax		
	comp=Z,244nm,0.3s						
KMO				smax			
	comp=E,1μm,1.7s						
NIZ	**Nizh Angarsk**	**0.55**	**292**	*e*Pg	Pg	13 55 16.8	+0.2
NIZ				*e*Sg	Sg	13 55 24.2	+0.4
NIZ				*e*Sb	Sg	13 55 25.7	+1.9
NIZ				Pmax			
	comp=E,22nm,0.1s						
NIZ				max			
	comp=E,312nm,0.3s						
YLYR	**Ulyunkhan**	**0.81**	**149**	⇑*i*Pg	Pg	13 55 20.4	-1.1
YLYR				*e*Pb	Pb	13 55 22.0	-0.6
YLYR				*e*Sg	Sg	13 55 31.3	-0.6
YLYR				*e*Sb	Sb	13 55 34.2	+0.3
YLYR				max			
	comp=E,24nm,0.1s						
YLYR				max			
	comp=E,300nm,0.5s						
YOA	**Uoyan**	**0.91**	**51**	⇓*i*PG	Pg	13

NLYR				*e*PgPg			13 56 05.4		
NLYR				*e*Sg		Sg	13 56 42.5	-2.7	
NLYR				max					
	comp=N,50nm,0.8s								
NLYR				Smax					
	comp=N,105nm,1.5s								
ZRHB	**Zarechye**	**3.59**	**214**	*e*Pg		Pg	13 56 10.1	-4.8	
ZRHB				*e*Sg		Sg	13 56 57.3	-4.1	
ZRHB				Pmax					
	comp=N,37nm,0.7s								
ZRHB				Smax					
	comp=N,149nm,1.0s								
TRG	**Tyrgan**	**3.71**	**222**	*e*Pn		Pn	13 56 04.8	+0.7	
TRG				Pg		Pg	13 56 11.8	-5.2	
TRG				*e*Sg		Sg	13 57 00.3	-4.8	
TRG				Pmax					
	comp=N,12nm,0.7s								
TRG				Smax					
	comp=N,98nm,1.1s								
TRTB	**Turuntaevo**	**3.74**	**208**	⇓*i*Pn		Pn	13 56 05.3	+0.7	
TRTB				*e*Pg		Pg	13 56 13.2	-4.5	
TRTB				*e*Sg		Sg	13 57 01.6	-4.5	
TRTB				Pmax					
	comp=N,9.0nm,0.7s								
TRTB				Smax					
	comp=N,46nm,1.0s								
CIT	**Chita**	**4.00**	**151**	*e*Pn		Pn	13 56 05.9	-2.3	
CIT				*e*Sg		Sg	13 57 09.3	-5.3	
CIT				Smax					
	comp=N,45nm,1.5s								
HRMR	**Khuramsha**	**4.46**	**209**	*e*Pn		Pn	13 56 14.6	+0.1	
HRMR				*e*Pg		Pg	13 56 25.1	-6.4	
HRMR				*e*Sg		Sg	13 57 24.3	-5.1	
HRMR				Pmax					
	comp=N,13nm,0.6s								
HRMR				Smax					
	comp=N,136nm,0.7s								
CRS	**Chara**	**4.56**	**70**	*e*Pn		Pn	13 56 16.2	+0.3	
CRS				*e*Pg		Pg	13 56 27.1	-6.3	
CRS				*e*Sg		Sg	13 57 27.7	-4.8	
CRS				Pmax					
	comp=N,51nm,0.7s								
CRS				Smax					
	comp=N,84nm,1.7s								
CRS	**Chara**	**4.56**	**70**	*e*PN		Pn	13 56 16.4	+0.5	
CRS				*e*			13 56 26.9		
CRS				*e*			13 57 26.4		
CRS				pmax		pmax			
	comp=Z,51nm,0.8s								
CRS				smax					
	comp=E,83nm,1.6s								
TUP	**Tupik**	**5.59**	**98**	*e*Sn		Sn	13 57 30.1	-4.7	
TUP				*e*Sg		Sg	13 57 59.0	-6.5	
TUP				Smax					
	comp=E,51nm,1.1s								
TLY	**Talaya**	**5.62**	**229**	*e*Pn		Pn	13 56 30.0	-0.4	
TLY				*e*Pg		Pg	13 56 47.5	-6.2	
TLY				*e*Sn		Sn	13 57 34.5	-1.0	
TLY				*e*Sg		Sg	13 57 59.4	-7.1	
TLY				Pmax					
	comp=E,4.0nm,0.5s								
TLY				Smax					
	comp=E,16nm,0.4s								
ARS	**Arshan**	**6.00**	**236**	*e*Pn		Pn	13 56 35.7	0.0	
ARS				*e*			13 57 43.4		
ARS				*e*Sg		Sg	13 58 10.1	-8.7	
ARS				Smax					
	comp=E,108nm,1.0s								
ZAK	**Zakamensk**	**6.76**	**223**	*e*Pn		Pn	13 56 47.8	+1.7	
ZAK				*e*Sg		Sg	13 58 35.1	-8.0	
ZAK				Smax					
	comp=E,21nm,1.5s								
ZAK	**Zakamensk**	**6.76**	**223**	*e*PN		Pn	13 56 47.6	+1.5	
ZAK				*e*			13 58 33.2		
ZAK				pmax		pmax			
	comp=Z,3.0nm,0.7s								
MOY	**Mondy**	**6.85**	**239**	*e*Pn		Pn	13 56 49.1	+1.8	
MOY				*e*			13 56 57.2		
MOY				*e*			13 58 07.0		
MOY				*e*Sg		Sg	13 58 37.5	-8.4	
MOY				Smax					
	comp=Z,33nm,1.6s								
ORL	**Orlik**	**6.96**	**249**	*e*Pn		Pn	13 56 50.1	+1.3	
ORL				*e*			13 58 08.0		
ORL				*e*Sg		Sg	13 58 41.6	-7.9	
ORL				Smax					
	comp=Z,66nm,1.5s								
ORL	**Orlik**	**6.96**	**249**	*e*PN		Pn	13 56 50.1	+1.3	
ORL				*e*S		Sn	13 58 07.7	-0.8	
ORL				*e*S		Sn	13 58 43.5	+35	
ORL				smax					
	comp=N,66nm,1.4s								
TDJR	**Todzha**	**9.03**	**255**	*e*Pn		Pn	13 57 17.9	+0.7	
TDJR				*e*			13 59 04.8		
TDJR				*e*Sg		Sn	13 59 45.1	+46	

IDC 19 13:57:04.9±1.6, 524S×15022E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.7/14, mbtmp3.7/5, ML2.8/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/25, Error ellipse: s-maj=90.0km s-min=25.2km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.13**	**216**	Pn	Pn	13 58 23.3	+0.3
	2.3nm,0.3s,baz=40,slow=4.6,SNR=9.6						
PMG				Sn	Sn	13 59 18.3	-4.6
	3.0nm,0.3s,baz=151,slow=19,SNR=4.2						
HNR	**Honiara**	**10.51**	**114**	LR	LR	14 03 14.7	
	comp=Z,56nm,21.1s,baz=88,slow=35						
WRA	**Warramunga Arr**	**21.26**	**225**	P	P	14 01 52.4	-0.3
	1.2nm,0.4s,baz=50,slow=10,SNR=18						
WRA				PcP	PcP	14 05 57.8	+0.1
	0.2nm,0.4s,baz=47,slow=2.1,SNR=5.0						
ASAR	**Alice Springs**	**24.14**	**219**	P	P	14 02 22.1	-0.4
	0.7nm,0.7s,baz=50,slow=9.1,SNR=11						
FITZ	**Fitzroy Crossi**	**27.20**	**240**	P	P	14 02 51.4	+1.1
	1.3nm,0.5s,baz=60,slow=12,SNR=6.6						
ILAR	**Eielson Array**	**83.54**	**23**	P	P	14 09 34.0	-0.8
	0.5nm,0.9s,baz=260,slow=5.1,SNR=4.4						
TORD	**Torodi Ar. Bea**	**147.98**	**286**	PKPbc	PKPbc	14 16 53.7	+1.5
	2.1nm,0.6s,baz=38,slow=2.9,SNR=18						

*ISCJB **19** 14:00:22.0±0.2, 4684N±001×1436E±001, h10km, Error ellipse: s-maj=1.6km s-min=1.4km az=155.5*
*VIE **19** 14:00:22.9±0.2, 4681N×1437E, h9km, mb2.6/5, ML3.5/5, Error ellipse: s-maj=1.4km s-min=1.3km az=49.0 5 km N of Sankt Veit a.d. Glan felt 5 EMS98 at St.Veit an der Glan / CARINTHIA*
*LJU **19** 14:00:22.3, 4682N×1437E, h0km, ML3.2*
*NEIC **19** 14:00:23.4±0.3, 4677N×1431E, h10km, ML3.2(LJU), ML3.3(FUR), ML3.6(LDG), Error ellipse: s-maj=5.2km s-min=3.2km az=196.0*
*BGR **19** 14:00:23.2±0.3, 4682N×1430E, h10km, ML3.5, Error ellipse: s-maj=17.8km s-min=14.5km az=44.0*
*MOS **19** 14:00:23.6±1.3, 4671N×1440E, h10km, mb4.0/1, Error ellipse: s-maj=7.0km s-min=5.8km az=109.4*
*CSEM **19** 14:00:23.0±0.0, 4680N×1437E, h12km, ML3.9/8, Error ellipse: s-maj=0.7km s-min=0.6km az=5.0*
*LDG **19** 14:00:24.3±0.2, 4671N×1444E, h10km, Ml3.6/5, Error ellipse: s-maj=6.6km s-min=4.0km az=22.0*
*PRU **19** 14:00:25.6, 4687N×1437E, h0km*

ISC 19 14:00:23.3±0.2, 4682N±001×1436E±001, h10km, n138, σ1§23/244, 37C-26D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OBKA	**Obir**	**0.34**	**157**	*e*Pg	**Pg**	**14 00 29.7**	**-0.2**
	comp=Z,413nm,0.1s,SNR=1247						
OBKA				⇓*i*Sg	**Sg**	**14 00 34.1**	**-0.4**
	comp=E,2μm,0.1s						
OBKA	**Obir**	**0.34**	**157**	*i* Pg	**Pg**	**14 00 29.7**	**-0.2**
	320nm,0.1s,SNR=1247						
OBKA				⇓*e*Sg	**Sg**	**14 00 34.1**	**-0.4**
	2μm,0.1s						
OBKA	**Obir**	**0.34**	**157**	*e*Pg	**Pg**	**14 00 28.9**	**-1.0**
OBKA				*e*Sg	**Sg**	**14 00 33.8**	**-0.6**
OBKA	**Obir**	**0.34**	**157**	Pg	**Pg**	**14 00 29.7**	**-0.3**
	319nm,0.1s,SNR=1000						
OBKA				Sg	**Sg**	**14 00 33.8**	**-0.7**
PERS	**Pernice**	**0.55**	**109**	⇑*i*Pg	**Pg**	**14 00 33.5**	**-0.5**
PERS				*i* Sg	**Sg**	**14 00 40.5**	**-0.8**
PERS							
	comp=Z,525nm,0.1s						
PERS	**Pernice**	**0.55**	**109**	⇑*i*Pg	**Pg**	**14 00 33.5**	**-0.5**
PERS				*i* Sg	**Sg**	**14 00 40.5**	**-0.8**
PERS	**Pernice**	**0.55**	**109**	⇑*i*Pg	**Pg**	**14 00 33.5**	**-0.5**
PERS				*i* Sg	**Sg**	**14 00 40.5**	**-0.8**
	comp=Z,525nm,0.1s						
BISS	**Bistriski jare**	**0.56**	**108**	⇑*i*Pg	**Pg**	**14 00 33.6**	**-0.5**
BISS				*i* Sg	**Sg**	**14 00 40.7**	**-0.6**
GORS	**Gorjuse**	**0.56**	**207**	⇓*i*Pg	**Pg**	**14 00 34.0**	**-0.2**
GORS				*e*Sg	**Sg**	**14 00 41.1**	**-0.5**
GORS							
	comp=Z,1μm,0.2s						
GORS	**Gorjuse**	**0.56**	**207**	⇓*i*Pg	**Pg**	**14 00 34.0**	**-0.2**
GORS				*e*Sg	**Sg**	**14 00 41.1**	**-0.5**
	comp=Z,1μm,0.2s						
LSR	**Lussari**	**0.67**	**239**	⇑*i*Pg	**Pg**	**14 00 36.2**	**0.0**
LSR				*i* Sg	**Sg**	**14 00 45.8**	**+0.8**
CADS	**Cadrg**	**0.73**	**216**	⇓*i*Pg	**Pg**	**14 00 37.0**	**-0.4**
CADS				*e*Sg	**Sg**	**14 00 46.7**	**-0.2**
CADS							
	comp=Z,2μm,0.2s						
CADS	**Cadrg**	**0.73**	**216**	⇓*i*Pg	**Pg**	**14 00 37.0**	**-0.4**
CADS				*e*Sg	**Sg**	**14 00 46.7**	**-0.3**
	comp=Z,2μm,0.2s						
KBA	**Koelnbreinsper**	**0.74**	**291**	⇑*e*Pg	**Pg**	**14 00 37.6**	**0.0**
	comp=Z,39nm,0.1s,SNR=55						
KBA	**Koelnbreinsper**	**0.74**	**291**	⇑*i*Pg	**Pg**	**14 00 37.6**	**0.0**
	comp=Z,56nm,0.1s,SNR=55						
KBA				⇑*i*Sg	**Sg**	**14 00 47.7**	**+0.4**
	comp=Z,240nm,0.2s						
KBA	**Koelnbreinsper**	**0.74**	**291**	*e*Pg	**Pg**	**14 00 37.5**	**-0.1**
KBA				*e*Sg	**Sg**	**14 00 48.0**	**+0.8**
KBA	**Koelnbreinsper**	**0.74**	**291**	⇑*e*Pg	**Pg**	**14 00 37.6**	**0.0**
KBA				*i* Sg	**Sg**	**14 00 47.7**	**+0.4**
LJU	**Ljubljana**	**0.79**	**171**	⇓*i*Pg	**Pg**	**14 00 38.1**	**-0.3**
LJU				*i* Sg	**Sg**	**14 00 49.5**	**+0.8**
PTCC	**Patocco-Chiusa**	**0.81**	**239**	Pg	**Pg**	**14 00 38.5**	**-0.4**
PTCC				Sg	**Sg**	**14 00 49.6**	**+0.2**
DRE	**Drenchia**	**0.81**	**218**	⇓*i*Pg	**Pg**	**14 00 38.4**	**-0.6**
DRE				*i* Sg	**Sg**	**14 00 49.4**	**-0.3**
DRE	**Drenchia**	**0.81**	**218**	*i* Pg	**Pg**	**14 00 38.3**	**-0.7**
DRE				*i* Sg	**Sg**	**14 00 49.3**	**-0.3**
VOY	**Vojsko**	**0.85**	**202**	⇓*e*Pg	**Pg**	**14 00 38.8**	**-0.9**
VOY				*e*Sg	**Sg**	**14 00 50.1**	**-0.7**
GROS	**Grobnik**	**0.86**	**114**	*i* Pg	**Pg**	**14 00 38.9**	**-1.0**
PLRO	**Paularo**	**0.88**	**252**	⇑*e*Pg	**Pg**	**14 00 39.7**	**-0.5**
PLRO				*e*Sg	**Sg**	**14 00 51.9**	**+0.3**
PDKS	**Podkum**	**0.88**	**150**	⇓*i*Pg	**Pg**	**14 00 39.9**	**-0.3**
ARSA	**Arzberg**	**0.91**	**61**	⇑*e*Pg	**Pg**	**14 00 40.3**	**-0.4**
	comp=Z,38nm,0.2s,SNR=111						
ARSA				⇑*i*Sg	**Sg**	**14 00 52.4**	**-0.1**
	comp=Z,601nm,0.3s						
ARSA	**Arzberg**	**0.91**	**61**	*e*Pg	**Pg**	**14 00 40.3**	**-0.4**
ARSA				*e*Sg	**Sg**	**14 00 52.3**	**-0.2**
GMNA	**Gemona**	**0.95**	**235**	Pg	**Pg**	**14 00 42.0**	**+0.5**
GMNA				Sg	**Sg**	**14 00 56.0**	**+2.2**
COLI	**Coloredo**	**0.96**	**225**	⇓*e*Pg	**Pg**	**14 00 41.3**	**-0.5**
COLI				*e*Sg	**Sg**	**14 00 54.8**	**+0.3**
BAD	**Bernadia**	**0.97**	**233**	⇓*i*Pg	**Pg**	**14 00 41.3**	**-0.6**
BAD				*i* Sg	**Sg**	**14 00 54.7**	**+0.2**
ZOU	**Zoufplan**	**0.99**	**255**	⇑*i*Pg	**Pg**	**14 00 41.8**	**-0.5**
ZOU				*i* Sg	**Sg**	**14 00 56.0**	**+0.8**
BOO	**Bordano**	**1.00**	**241**	⇑*e*Pg	**Pg**	**14 00 41.9**	**-0.7**
BOO				*e*Sg	**Sg**	**14 00 56.2**	**+0.6**
DOBS	**Dobrina**	**1.02**	**131**	*i* Pg	**Pg**	**14 00 42.1**	**-0.7**
DOBS				*i* Sg	**Sg**	**14 00 55.3**	**-0.8**
MOA	**Molln**	**1.03**	**356**	⇑*e*Pg	**Pg**	**14 00 43.3**	**+0.2**
	comp=Z,38nm,0.3s,SNR=41						
MOA				⇑*i*Sg	**Sg**	**14 00 57.0**	**+0.5**
	comp=Z,136nm,0.3s						
MOA	**Molln**	**1.03**	**356**	*e*Pg	**Pg**	**14 00 43.8**	**+0.7**
MOA				*e*Sg	**Sg**	**14 00 58.1**	**+1.5**
BUA	**Buia**	**1.04**	**235**	⇑*i*Pg	**Pg**	**14 00 43.3**	**-0.1**
BUA				*i* Sg	**Sg**	**14 00 57.4**	**+0.5**
CEY	**Cerknica**	**1.08**	**178**	⇓*i*Pg	**Pg**	**14 00 43.2**	**-0.9**
CEY				*i* Sg	**Sg**	**14 00 59.5**	**+1.4**
CEY							
	comp=Z,142nm,0.2s						
CEY	**Cerknica**	**1.08**	**178**	⇓*i*Pg	**Pg**	**14 00 43.2**	**-0.9**
CEY				*i* Sg	**Sg**	**14 00 59.5**	**+1.4**
CEY	**Cerknica**	**1.08**	**178**	⇓*i*Pg	**Pg**	**14 00 43.2**	**-0.9**
CEY				*i* Sg	**Sg**	**14 00 59.5**	**+1.3**
	comp=Z,142nm,0.2s						
FVI	**Forni Avoltri**	**1.11**	**259**	Pg	**Pg**	**14 00 43.8**	**-0.8**
MPRI	**Monte Prat**	**1.11**	**239**	*e*Pg	**Pg**	**14 00 43.1**	**-1.5**
MPRI				*e*Sg	**Sg**	**14 00 59.8**	**+0.8**
TRI	**Trieste**	**1.19**	**201**	Pg	**Pg**	**14 00 44.5**	**-1.6**
TRI				Sg	**Sg**	**14 01 01.4**	**-0.1**
CSMI	**Casera Mimoias**	**1.22**	**256**	*i* Pg	**Pg**	**14 00 45.7**	**-0.9**
CSMI				*i* Sg	**Sg**	**14 01 03.7**	**+1.3**
BGLD	**Berchtesgaden**	**1.24**	**313**	⇓*i*Pg	**Pg**	**14 00 46.6**	**-0.5**
BGLD				*i* Sg	**Sg**	**14 01 04.0**	**+0.8**
TLI	**Talmassons**	**1.25**	**225**	⇑*e*Pg	**Pg**	**14 00 48.6**	**+1.3**
TLI				*e*Sg	**Sg**	**14 01 03.7**	**+0.2**
CRES	**Cresnjev**	**1.25**	**142**	*i* Pg	**Pg**	**14 00 46.5**	**-0.8**
GCIS	**Gornji Cirnik**	**1.30**	**137**	⇓*i*Pg	**Pg**	**14 00 48.0**	**-0.2**
GCIS				*i* Sg	**Sg**	**14 01 04.5**	**-0.5**
MLNI	**Malnisio**	**1.38**	**242**	*e*Pg	**Pg**	**14 00 49.1**	**-0.7**
MLNI				*e*Sg	**Sg**	**14 01 08.6**	**+0.8**
RMOA	**Moar Alm**	**1.39**	**313**	⇑*i*Pg	**Pg**	**14 00 51.5**	**+1.6**
BOJS	**Bojanci**	**1.46**	**154**	⇓*i*Pg	**Pg**	**14 00 50.5**	**-0.7**
BOJS							
	comp=Z,255nm,0.5s						
BOJS	**Bojanci**	**1.46**	**154**	⇓*i*Pg	**Pg**	**14 00 50.5**	**-0.7**
	comp=Z,255nm,0.5s						
SEST	**Monte Rota**	**1.48**	**268**	Pg	**Pg**	**14 00 50.7**	**-0.9**
SEST				Sg	**Sg**	**14 01 12.7**	**+2.0**
CSO	**Casso**	**1.51**	**249**	⇓*e*Pg	**Pg**	**14 00 51.2**	**-1.0**
CSO				*e*Sg	**Sg**	**14 01 13.2**	**+1.5**
AFL	**Alpe Faloria**	**1.53**	**260**	⇑*e*Pg	**Pg**	**14 00 51.7**	**-0.9**
CAE	**Caneva**	**1.56**	**239**	⇑*i*Pg	**Pg**	**14 00 53.4**	**+0.2**
CAE				*i* Sg	**Sg**	**14 01 14.7**	**+1.3**
SOP	**Sopron**	**1.73**	**59**	⇑*e*Pn	**Pn**	**14 00 54.8**	**+1.4**
SOP				*e*Sn	**Sn**	**14 01 18.8**	**+3.3**
FAU	**Forcella Aurin**	**1.75**	**251**	⇓*i*Pg	**Pg**	**14 00 56.0**	**-0.8**
FAU				*i* Sg	**Sg**	**14 01 18.7**	**-0.7**
BRES	**Bressanone**	**1.81**	**267**	Pg	**Pg**	**14 00 56.8**	**-1.2**
SCE	**Schlegeis**	**1.83**	**278**	⇓*i*Pn	**Pn**	**14 00 56.8**	**+2.1**
MTLO	**Montello**	**1.86**	**238**	⇓*e*Pn	**Pn**	**14 00 58.4**	**+3.2**
WTTA	**Wattenberg**	**1.92**	**284**	⇓*e*Pg	**Pg**	**14 00 58.7**	**-1.3**
	comp=Z,36nm,0.2s,SNR=43						
WTTA				⇑*i*Sg	**Sg**	**14 01 25.8**	**+1.0**
	comp=Z,146nm,0.5s						
WTTA	**Wattenberg**	**1.92**	**284**	*e*Pg	**Pg**	**14 00 58.7**	**-1.3**
WTTA				*e*Sg	**Sg**	**14 01 25.1**	**+0.3**
WTTA	**Wattenberg**	**1.92**	**284**	Pg	**Pg**	**14 00 58.7**	**-1.3**
	comp=Z,36nm,0.2s,SNR=43						
WTTA				Sg	**Sg**	**14 01 25.1**	**+0.3**
WATA	**Walderalm**	**1.97**	**286**	*e*Pg	**Pg**	**14 00 60.0**	**-1.1**
	comp=Z,62nm,0.3s,SNR=15						
WATA	**Walderalm**	**1.97**	**286**	⇑*e*Pg	**Pg**	**14 00 60.0**	**-1.1**
	comp=Z,29nm,0.2s,SNR=15						
WATA				⇑*i*Sg	**Sg**	**14 01 28.1**	**+1.4**
	comp=Z,142nm,0.6s						
WATA	**Walderalm**	**1.97**	**286**	*e*Pg	**Pg**	**14 00 60.0**	**-1.1**
WATA				*i* Sg	**Sg**	**14 01 28.1**	**+1.4**
CGRP	**Cima Grappa**	**2.01**	**243**	⇑*e*Pn	**Pn**	**14 00 58.6**	**+1.4**
CGRP				*e*Sn	**Sn**	**14 01 26.0**	**+3.7**
CTI	**Castel Tesino**	**2.03**	**249**	Pg	**Pg**	**14 01 00.5**	**-1.6**
GEC2	**GERESS Array S**	**2.07**	**348**	*e*Pg	**Pg**	**14 01 01.7**	**-1.3**
GEC2				*e*Sg	**Sg**	**14 01 29.9**	**-0.1**
APPI	**Appiano**	**2.18**	**262**	Pg	**Pg**	**14 01 03.2**	**-1.9**
SQTA	**Sankt Quirin**	**2.19**	**282**	*e*Pg	**Pg**	**14 01 03.6**	**-1.7**
	comp=Z,56nm,0.3s,SNR=37						
SQTA	**Sankt Quirin**	**2.19**	**282**	⇑*e*Pg	**Pg**	**14 01 03.5**	**-1.8**
	comp=Z,111nm,0.6s,SNR=37						
SQTA				⇓*i*Sg	**Sg**	**14 01 36.7**	**+3.0**
	comp=Z,58nm,0.3s						
SQTA	**Sankt Quirin**	**2.19**	**282**	*e*Pg	**Pg**	**14 01 03.6**	**-1.7**
SQTA				*i* Sg	**Sg**	**14 01 36.7**	**+3.0**
NVLJ	**Novalja**	**2.29**	**171**	*i* Pn	**Pn**	**14 01 02.6**	**+1.6**
NVLJ				*i* Sn	**Sn**	**14 01 34.9**	**+5.6**
NVLJ	**Novalja**	**2.29**	**171**	*i* Pn	**Pn**	**14 01 02.5**	**+1.5**
MOTA	**Moosalm**	**2.29**	**284**	*e*Pg	**Pg**	**14 01 04.4**	**-2.7**
	comp=Z,17nm,0.2s,SNR=11						
MOTA	**Moosalm**	**2.29**	**284**	⇑*i*Pg	**Pg**	**14 01 04.3**	**-2.9**
	comp=Z,6.1nm,0.2s,SNR=11						
MOTA				⇑*i*Sg	**Sg**	**14 01 37.4**	**+0.7**
	comp=Z,65nm,0.4s						
MOTA	**Moosalm**	**2.29**	**284**	*e*Pg	**Pg**	**14 01 04.4**	**-2.7**
MOTA				*i* Sg	**Sg**	**14 01 37.4**	**+0.7**
MOTA	**Moosalm**	**2.29**	**284**	*e*Pg	**Pg**	**14 01 04.4**	**-2.7**
MOTA				Sg	**Sg**	**14 01 37.4**	**+0.7**
	comp=Z,65nm,0.4s						
ZST	**Bratislava**	**2.31**	**52**	*e*PN	**Pn**	**14 01 02.9**	**+1.5**
ZST				*e*SN	**Sn**	**14 01 33.1**	**+3.2**
KHC	**Kasperske Hory**	**2.37**	**347**	*e*Pn	**Pn**	**14 01 04.9**	**+2.7**
KHC				*e*S	**Sn**	**14 01 35.4**	**+4.1**
	comp=Z,132nm,0.5s						
KHC				*e*Sg	**Sg**	**14 01 38.4**	**-1.1**
	comp=Z,132nm,0.5s						
TEOL	**Teolo**	**2.37**	**233**	⇑*e*Pn	**Pn**	**14 01 04.0**	**+1.8**
FUR	**Furstenfeldbru**	**2.49**	**304**	*e*Pg	**Pg**	**14 01 10.1**	**-0.8**
WET	**Wettzell**	**2.53**	**337**	*e*Pg	**Pg**	**14 01 11.2**	**-0.5**
WET				*e*Sg	**Sg**	**14 01 44.0**	**-0.5**
RHK1	**Bakonya**	**2.67**	**104**	⇑*i*P	**Pn**	**14 01 06.7**	**+0.4**
RHK1				*e*S	**Sn**	**14 01 38.9**	**+0.3**
	comp=Z,2.7nm,0.7s						
PKS9	**Tamasi**	**2.71**	**94**	*e*P	**Pn**	**14 01 07.2**	**+0.4**
PKS9				Pg	**Pg**	**14 01 15.7**	**+0.5**
PKS9	**Tamasi**	**2.71**	**94**	Pg	**Pg**	**14 01 15.7**	**+0.5**
PKSG		**2.81**	**77**	⇓*e*P	**Pn**	**14 01 10.3**	**+2.0**
PKSG				*e*S	**Sn**	**14 01 43.8**	**+1.6**
	comp=Z,0.9nm,0.6s						
VRAC	**Vranov**	**2.91**	**30**	*e*Sg	**Sg**	**14 01 52.0**	**-4.6**
PKS8	**Sarbogard**	**2.96**	**87**	⇑*e*P	**Pn**	**14 01 10.8**	**+0.5**
PKS8				*e*S	**Sn**	**14 01 45.5**	**-0.4**
	comp=Z,0.2nm,0.4s						
PKSM	**Moragy**	**3.02**	**100**	⇑*e*Pn	**Pn**	**14 01 11.6**	**+0.5**
PKSM				*e*Sn	**Sn**	**14 01 45.0**	**-2.3**
DAVA	**Damuels**	**3.10**	**280**	⇑*i*Sn	**Sn**	**14 01 48.9**	**-0.3**
DAVA	**Damuels**	**3.10**	**280**	⇑*i*Pn	**Pn**	**14 01 13.5**	**+1.3**
	SNR=8.6						
DAVA				⇑*i*Sn	**Sn**	**14 01 48.9**	**-0.3**
DAVA	**Damuels**	**3.10**	**280**	*e*Pn	**Pn**	**14 01 15.5**	**+3.3**
DAVA				*e*Pg	**Pg**	**14 01 21.0**	**-1.6**
DAVA				*e*Sg	**Sg**	**14 02 03.9**	**+1.1**
DAVA	**Damuels**	**3.10**	**280**	Pg	**Pg**	**14 01 21.0**	**-1.6**
DAVA				*i* Sn	**Sn**	**14 01 49.0**	**-0.3**
DAVA				Sg	**Sg**	**14 02 03.9**	**+1.1**
PRU	**Pruhonice**	**3.17**	**2**	*e*PN	**Pn**	**14 01 16.8**	**+3.6**
PRU				*e*PG	**Pg**	**14 01 24.4**	**+0.3**
PRU				*e*SG	**Sg**	**14 02 05.0**	**-0.2**
	comp=Z,47nm,0.5s						
PRU	**Pruhonice**	**3.17**	**2**	*e*P	**Pn**	**14 01 16.8**	**+3.6**
PRU				*e*		14 02 05.0	
PRU				smax			
	comp=N,47nm,0.5s						
MANZ	**Manzenberg**	**3.51**	**335**	*e*Pn	**Pn**	**14 01 20.6**	**+2.8**
GRA1	**Grafenberg Arr**	**3.56**	**325**	Pg	**Pg**	**14 01 30.3**	**-1.1**
GRA1				Sg	**Sg**	**14 02 15.8**	**-1.7**
GRF	**Grafenberg Arr**	**3.56**	**325**	*e*Pg	**Pg**	**14 01 30.3**	**-1.1**
GRF				*e*Sg	**Sg**	**14 02 15.8**	**-1.7**
MORC	**Moravsky Berou**	**3.64**	**35**	P	**Pn**	**14 01 21.3**	**+1.6**
MORC	**Moravsky Berou**	**3.64**	**35**	Pn	**Pn**	**14 01 21.2**	**+1.5**
MORC				*e*Sg	**Sg**	**14 02 19.9**	**-0.4**
WERN	**Wernitzgruen**	**3.71**	**340**	*e*Pn	**Pn**	**14 01 24.0**	**+3.3**
DPC	**Dobruska-Polom**	**3.77**	**20**	*e*PN	**Pn**	**14 01 24.2**	**+2.8**
TANN	**Tannenbergstha**	**3.81**	**341**	*e*Sg	**Sg**	**14 02 23.5**	**-2.2**
UPC	**Upice**	**3.85**	**16**	*e*PN	**Pn**	**14 01 24.1**	**+1.6**
UPC				*e*PG	**Pg**	**14 01 38.0**	**+1.0**
PSZ	**Piszkesteto**	**3.92**	**72**	⇑*e*Pn	**Pn**	**14 01 27.2**	**+3.7**
PSZ				*e*Sn	**Sn**	**14 02 08.2**	**-1.3**
STU	**Stuttgart**	**3.99**	**301**	*e*Pn	**Pn**	**14 01 26.5**	**+2.0**
BRG	**Berggiesshubel**	**4.07**	**356**	*e*Sg	**Sg**	**14 02 32.7**	**-1.2**
BRG	**Berggiesshubel**	**4.07**	**356**	PG	**Pb**	**14 01 32.8**	**-2.2**
BRG				SG	rx	14 01 52.2	
	comp=N,6.1nm,0.3s						
BRG	**Berggiesshubel**	**4.07**	**356**	SG	**Sg**	**14 02 32.6**	**-1.2**
	comp=N,16nm,0.6s						
NRCA	**Norcia**	**4.08**	**193**	Pg	**Pn**	**14 01 26.1**	**+0.4**
MOX	**Moxa**	**4.24**	**336**	*e*Pn	**Pn

	43nm,0.3s								
AAK	**Ala-Archa**	**1.55**	**187**	⇑	P		**Pn**	**14 11 22.0**	**-1.1**
	7.1nm,0.2s,SNR=15								
AAK				⇑	S		**Sn**	**14 11 43.6**	**+0.3**
	24nm,0.3s								
EKS2	**Erkin-Say**	**1.67**	**205**	⇑	P		**Pn**	**14 11 23.2**	**-1.5**
	7.3nm,0.2s,SNR=28								
EKS2				⇓	S		**Sn**	**14 11 44.8**	**-1.3**
	32nm,0.3s								
UCH	**Uchtor**	**1.95**	**185**	⇑	P		**Pn**	**14 11 29.1**	**+0.5**
	7.8nm,0.4s,SNR=10								
UCH				⇓	S		**Sn**	**14 11 55.4**	**+2.2**
	16nm,0.4s								
KZA	**Kyzart**	**2.13**	**170**	⇑	P		**Pn**	**14 11 32.7**	**+1.6**
	4.8nm,0.3s,SNR=10								
KZA				⇓	S		**Sn**	**14 12 03.5**	**+5.9**
	13nm,0.3s								
AML	**Almayashu**	**2.18**	**201**	⇑	P		**Pn**	**14 11 32.2**	**+0.4**
	12nm,0.2s,SNR=19								
AML				⇑	S		**Sn**	**14 12 01.2**	**+2.4**
	38nm,0.5s								
ULHL	**Ulahol**	**2.22**	**150**	⇑	P		**Pn**	**14 11 33.9**	**+1.5**
	9.5nm,0.3s,SNR=24								
ULHL				⇓	S		**Sn**	**14 12 06.0**	**+6.2**
	11nm,0.4s								
KK31	**Karatay Array**	**3.25**	**252**	⇓	Pn		**Pn**	**14 11 47.4**	**+1.0**
	0.2nm,0.3s,baz=78,slow=12,SNR=3.0								
KK31					Pg		**Pg**	**14 11 51.1**	**-6.5**
	1.0nm,0.3s,baz=73,slow=15,SNR=15								
KK31				⇑	Sn		**Sn**	**14 12 29.6**	**+4.5**
	2.7nm,0.6s,baz=52,slow=25,SNR=3.8								
MK09	**Makanchi Array**	**5.91**	**61**	⇓	Pn		**Pn**	**14 12 22.3**	**-0.7**
	0.6nm,0.6s,baz=240,slow=13								
MK09				⇓	Sn		**Sn**	**14 13 30.9**	**+0.2**
	0.8nm,0.7s,baz=215,slow=27								
MK09				⇓	Lg			14 14 00.0	
	1.0nm,0.8s,baz=257,slow=28								

MAN 19 14:15:08.3, 1347N×12019E, h46km, mb2.9, ML4.3, MS1.7, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
LUBP	**Lubang**	**0.27**	**12**	*eP*	Pn		14 15 12.1	-4.6
LUBP				*eS*	Sn		14 15 15.5	-7.1
PGP	**Puerto Galera**	**0.75**	**88**	*eP*	Pn		14 15 25.0	+2.5
PGP				*eS*	Sn		14 15 35.0	+2.3
TGY	**Tagaytay City**	**0.96**	**49**	⇑ *iP*	Pn		14 15 26.1	+0.7
TGY				*i* S	Sn		14 15 49.0	+11
BUSP	**Coron**	**1.46**	**180**	*eP*	Pn		14 15 33.5	+1.3
BUSP				*eS*	Sn		14 15 51.5	+1.4
BOAC	**Boac**	**1.61**	**90**	*eP*	Pn		14 15 34.9	+0.6
OTRP	**Odiongan**	**2.10**	**121**	*eP*	Pn		14 15 44.8	+3.9
SCZP	**Santa Cruz**	**2.31**	**353**	*eP*	Pn		14 15 44.7	+1.0
ENPP	**El Nido**	**2.37**	**198**	*eP*	Pn		14 15 45.2	+0.5
BALP	**Baler**	**2.63**	**31**	*eP*	Pn		14 15 49.5	+1.4
CUYO	**Cuyo Island**	**2.73**	**163**	*eP*	Pn		14 15 50.8	+1.2

*IDC **19** 14:43:34.6±5.6, 100N×96.98E, h0km, mb4.0/6, mb1 4.0/7, mb1mx3.9/20, mbtmp4.0/7, ML3.3/1, Error ellipse: s-maj=126.6km s-min=35.7km az=160.0*

*ISCJB **19** 14:43:36.3±0.8, 09N±0.1×97.16E±008, h33km, mb4.5/31, Error ellipse: s-maj=15.6km s-min=10.8km az=1.4*

*MOS **19** 14:43:36.6±0.9, 0.96N×96.98E, h33km, mb4.6/12, Error ellipse: s-maj=19.0km s-min=8.3km az=96.9*

*BJI **19** 14:43:36.3, 102N×9723E, h29km, mB4.8, mb4.7*

*NEIC **19** 14:43:38.2±0.7, 0.96N×97.16E, h30km, mb4.6/15, Error ellipse: s-maj=14.1km s-min=9.8km az=184.0*

ISC 19 14:43:38.8±0.8, 09N±01×9719E±007, h35km, n52, σ0$88/53, mb4.5/31, 2C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PSI	**Prapat**	**2.55**	**43**	Pn	**Pn**		**14 44 17.9**	**+0.2**
	6.1nm,0.3s,baz=226,slow=6.7,SNR=66							
KULM	**Kulim**	**5.55**	**39**	*e*Pn	**Pn**		**14 44 58.1**	**-0.8**
KSM	**Kuching**	**13.13**	**87**	Pn	**Pn**		**14 46 42.7**	**-0.1**
QIZ	**Qiongzhong**	**21.86**	**34**	P	**P**		**14 48 28.0**	**-0.3**
	42nm,1.2s,mb4.7							
GYA	**Guiyang**	**26.98**	**19**	P	**P**		**14 49 17.5**	**+0.3**
GYA				AMB	AMB			
	comp=Z,10.0nm,1.0s,mb4.3							
JIRN	**Jiri**	**28.60**	**339**	*e*P	**P**		**14 49 32.5**	**+0.9**
	comp=Z,52nm,1.1s,mb5.2							
PKI	**Pulchoki**	**28.80**	**338**	*e*P	**P**		**14 49 34.0**	**+0.5**
GUN	**Gumba**	**28.94**	**339**	*e*P	**P**		**14 49 35.3**	**+0.6**
	comp=Z,27nm,0.7s,mb5.1							
DMN	**Daman**	**28.95**	**337**	*e*P	**P**		**14 49 36.4**	**+1.6**
KKN	**Kakani**	**29.05**	**338**	*e*P	**P**		**14 49 36.0**	**+0.4**
LSA	**Lhasa**	**29.19**	**349**	*e*P	**P**		**14 49 37.0**	**+0.1**
LSA				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.3							
LSA	**Lhasa**	**29.19**	**349**	*e*P	**P**		**14 49 37.0**	**+0.1**
	comp=Z,3.6nm,0.6s,mb4.3							
GKN	**Gorkha**	**29.48**	**337**	*e*P	**P**		**14 49 40.0**	**+0.5**
	comp=Z,28nm,1.0s,mb5.0							
ENH	**Enshi**	**31.44**	**21**	P	**P**		**14 49 59.6**	**+2.8**
	comp=Z,0.8nm,0.4s,mb3.9							
XAN	**Xi'an**	**34.73**	**17**	P	**P**		**14 50 24.8**	**-0.7**
XAN				AMB	AMB			
	comp=Z,14nm,1.0s,mb4.8							
GTA	**Gaotai**	**38.38**	**3**	*e*P	**P**		**14 50 56.8**	**+0.2**
GTA				AP	pP		14 51 04.6	-2.2
GTA				XP	sP		14 51 08.9	-2.1
GTA				AMB	AMB			
	comp=Z,6.0nm,0.8s,mb4.4							
BJT	**Baijiatuau**	**42.58**	**22**	P	**P**		**14 51 32.1**	**+0.8**
BJT				pmax	pmax			
	comp=Z,16nm,0.7s							
BJT	**Baijiatuau**	**42.58**	**22**	P	**P**		**14 51 32.1**	**+0.8**
	comp=Z,16nm,0.7s,mb4.9							
BJI	**Beijing**	**42.60**	**22**	*e*P	**P**		**14 51 32.3**	**+0.8**
BJI				AMB	AMB			
	comp=Z,16nm,0.6s,mb4.9							
AAK	**Ala-Archa**	**46.24**	**337**	*e*P	**P**		**14 51 58.9**	**-1.7**
SONM	**Songino Array**	**47.40**	**8**	P	**P**		**14 52 10.2**	**+0.5**
	comp=Z,4.6nm,0.8s,mb4.5,baz=190,slow=9.4,SNR=30							
MK31	**Makanchi Array**	**47.50**	**346**	P	**P**		**14 52 10.4**	**0.0**
MK31				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3							
MKAR	**Makanchi Array**	**47.50**	**346**	P	**P**		**14 52 10.9**	**+0.4**
	comp=Z,3.7nm,0.7s,mb4.5,baz=158,slow=9.1,SNR=23							
ULN	**Ulaanbaatar**	**47.53**	**9**	c *iP*	**P**		**14 52 10.9**	**+0.2**
ULN	**Ulaanbaatar**	**47.53**	**9**	*e*P	**P**		**14 52 10.7**	**0.0**
	comp=Z,3.3nm,0.4s,mb4.7							
TLY	**Talaya**	**50.87**	**5**	⇑ *iP*	**P**		**14 52 36.6**	**+0.4**
TLY				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.4							
TLY	**Talaya**	**50.87**	**5**	*e*P	**P**		**14 52 36.5**	**+0.4**
	comp=Z,2.3nm,0.7s,mb4.2							
HIA	**Hailar**	**51.90**	**19**	*e*P	**P**		**14 52 44.3**	**+0.4**
KURK	**Kurchatov**	**52.05**	**345**	*e*P	**P**		**14 52 43.1**	**-1.9**
KURK				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3							
KURK	**Kurchatov**	**52.05**	**345**	*e*P	**P**		**14 52 43.1**	**-1.9**
	comp=Z,3.5nm,0.8s,mb4.3							
KRAR	**Krasnoyarsk**	**55.02**	**357**	*e*P	**P**		**14 53 06.9**	**+0.1**
KRAR				pmax	pmax			
	comp=Z,10.0nm,0.4s,mb5.2							
VOSK	**Vostochnaya**	**56.06**	**341**	P	**P**		**14 53 13.9**	**-0.3**
VOSK				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.3							
BRVK	**Borovoye**	**56.57**	**341**	P	**P**		**14 53 15.2**	**-2.7**
BRVK				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.4							
BRVK	**Borovoye**	**56.57**	**341**	P	**P**		**14 53 15.2**	**-2.7**
	comp=Z,2.8nm,0.8s,mb4.3							
ZRNK	**Zerenda**	**56.90**	**340**	*e*P	**P**		**14 53 19.5**	**-0.8**
ZRNK				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.3							
ZRNK	**Zerenda**	**56.90**	**340**	*e*P	**P**		**14 53 19.5**	**-0.8**
	comp=Z,1.9nm,0.7s,mb4.2							
CHKZ	**Chkalovo**	**56.98**	**341**	*e*P	**P**		**14 53 20.6**	**-0.2**
CHKZ				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.7							
CHKZ	**Chkalovo**	**56.98**	**341**	*e*P	**P**		**14 53 20.6**	**-0.2**
	comp=Z,4.8nm,0.6s,mb4.7							
AB31	**Akbulak array**	**57.75**	**332**	*i* P	**P**		**14 53 26.2**	**0.0**
AB31				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.5							
BOD	**Bodaibo**	**58.28**	**10**	*e*P	**P**		**14 53 29.9**	**-0.1**
BOD				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.5							
AKTK	**Aktyubinsk**	**59.47**	**332**	P	**P**		**14 53 37.6**	**-0.5**
AKTO	**Aktyubinsk**	**59.47**	**332**	P	**P**		**14 53 37.6**	**-0.5**
	comp=Z,0.7nm,0.3s,mb4.2,baz=157,slow=7.7,SNR=8.3							
AKTO	**Aktyubinsk**	**59.47**	**332**	*i* P	**P**		**14 53 37.6**	**-0.6**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.8s,mb3.9							
ARU	**Arti**	**63.43**	**337**	⇓ *iP*	**P**		**14 54 04.2**	**-0.7**
ARU				*e*			14 56 24.2	
ARU				*e*S	**S**		**15 02 35.9**	**+0.6**
ARU				*e*SS	SS		15 06 42.3	-0.2
ARU				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.5							
ARU	**Arti**	**63.43**	**337**	P	**P**		**14 54 03.0**	**-1.9**
	comp=Z,3.5nm,0.8s,mb4.5							
YAK	**Yakutsk**	**65.69**	**16**	*e*P	**P**		**14 54 19.8**	**+0.1**
YAK				pmax	pmax			
	comp=Z,12nm,0.9s,mb4.9							
YAK	**Yakutsk**	**65.69**	**16**	*e*P	**P**		**14 54 18.8**	**-0.9**
	comp=Z,7.8nm,0.6s,mb4.9							
CASY	**Casey**	**67.73**	**174**	P	**P**		**14 54 33.4**	**+0.7**
BRTR	**Keskin Array B**	**69.28**	**312**	P	**P**		**14 54 43.2**	**+0.8**
	comp=Z,0.4nm,0.7s,mb3.5,baz=124,slow=8.7,SNR=3.0							
TIXI	**Tiksi**	**73.46**	**10**	*e*P	**P**		**14 55 05.5**	**-2.1**
TIXI				*e*			14 57 49.0	
TIXI				*e*PPP			14 59 31.5	
TIXI				*e*S	S		15 04 30.2	-4.4
TIXI				*e*			15 05 11.0	
TIXI				*e*SS	SS		15 09 20.9	+3.5
TIXI				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.2							
AKASG	**Malin Array Be**	**75.47**	**322**	P	**P**		**14 55 19.4**	**+0.1**
	comp=Z,0.8nm,0.6s,mb3.8,baz=89,slow=5.4,SNR=2.9							
FINES	**FINESS Array B**	**80.23**	**333**	P	**P**		**14 55 46.3**	**+0.5**
	comp=Z,1.5nm,0.8s,mb4.0,baz=137,slow=8.9,SNR=5.5							

*ISCJB **19** 14:44:25.0±0.1, 0.29S±002×124.83E±0.002, h56km, mb5.9/173, MS5.7/67, Error ellipse: s-maj=3.6km s-min=2.4km az=147.3*

*NEIC **19** 14:44:24.9±0.1, 0.14S×124.71E, h35km, mb6.0/83, ME5.9, MS5.6/7, MW6.1, Error ellipse: s-maj=5.1km s-min=3.6km az=72.0, Moment Tensor Solution. s33 Moment tensor: Scale 10¹⁸Nm; Mrr0.99; Mθθ0.01; Mϕϕ-1.00; Mrθ0.36; Mθϕ0.88; Mϕr1.25; Best double couple: M₀1.90000×10¹⁸ NP1:ϕs120.00000°, δ36.00000°, λ34.00000°. NP2: ϕs120.00000°, δ36.00000°, λ34.00000°. Principal axes: T 1.8800, Plg53.0000°, Azm309.0000°; N -0.0400, Plg29.0000°, Azm170.0000°; P -1.8400, Plg20.0000°, Azm68.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt [III] at Manado, Indonesia. Also felt at Tomohon, Indonesia.

*IDC **19** 14:44:24.3±1.1, 0.18S×124.81E, h33km±7km, mb5.5/38, mb1 5.4/39, mb1mx5.4/39, mbtmp5.7/39, ML5.0/1, MS5.7/7, Ms1 5.7/7, ms1mx5.1/25 Error ellipse: s-maj=9.8km s-min=6.9km az=67.0*

*BJI **19** 14:44:24.9, 0.10S×124.70E, h35km, mB6.0, mb5.7, Ms5.8, Msz5.7*

*HRVD **19** 14:44:24.9±0.1, 0.24S×124.92E, h31km, MW6.3/116, Centroid moment Tensor Solution. LP body waves: s116,c281;Mantle waves: s112,c363; Half duration: 3s4 Moment tensor: Scale 10¹⁸Nm; Mrr1.68±.02; Mθθ-1.62±.01; Mϕϕ-0.05±.02; Mrθ-0.07±.03; Mθϕ-1.46±.01; Mϕr2.52±.04; Best double couple: M₀3.29500×10¹⁸ NP1:ϕs267.00000°, δ38.00000°, λ149.00000°. NP2: ϕs22.00000°, δ72.00000°, λ56.00000°. Principal axes: T 3.6420, Plg51.0000°, Azm254.0000°; N -0.6880, Plg32.0000°, Azm34.0000°; P -2.9470, Plg20.0000°, Azm137.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*MOS **19** 14:44:24.3±1.3, 0.06N×124.63E, h33km, mb6.2/66, MS5.7/37 Error ellipse: s-maj=8.9km s-min=4.6km az=114.1*

ISC 19 14:44:27.0±0.1, 030S±002×12485E±002, h58km, h58km±1.3km: pP-P, n788, σ1§25/579, mb5.9/173, MS5.7/67, 114C-64D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
AAI	**Ambon**	**4.74**	**135**	P	**Pn**		**14 45 32.8**	**-3.0**
	14μm,1.2s							
PCI	**Palu**	**5.05**	**263**	P	**Pn**		**14 45 41.3**	**+1.2**
	4μm,1.1s							
SWI	**Sorong**	**6.43**	**95**	P	**Pn**		**14 45 57.8**	**-1.2**
	2μm,1.1s							
KCP	**Kidapawan**	**7.27**	**2**	*e*P	**Pn**		**14 46 13.0**	**+2.5**
MATI	**Mati**	**7.34**	**11**	*e*P	**Pn**		**14 46 14.3**	**+2.8**
DAV	**Davao City (W)**	**7.36**	**6**	⇓ *e*Pn	**Pn**		**14 46 12.7**	**+1.0**
	6μm,1.3s							
CTBH	**Cotabato--PC H**	**7.50**	**355**	⇑ *iP*	**Pn**		**14 46 15.8**	**+2.1**
CTBH				*i* S	**Sn**		**14 47 19.1**	**-18**
TARAI	**Tarakan**	**8.12**	**296**	P	**Pn**		**14 46 23.9**	**+1.7**
	2μm,1.1s							
BUKP	**Musuan**	**8.13**	**1**	*e*P	**Pn**		**14 46 22.8**	**+0.5**
PAGZ	**Pagadian**	**8.23**	**350**	*e*P	**Pn**		**14 46 22.8**	**-0.8**
IPIL	**Ipil**	**8.35**	**344**	⇓ *iP*	**Pn**		**14 46 24.4**	**-0.9**
IPIL	**Ipil**	**8.35**	**344**	*e*P	**Pn**		**14 46 24.9**	**-0.4**
BIPH	**Bislig**	**8.56**	**10**	⇓ *iP*	**Pn**		**14 46 27.8**	**-0.4**
BIPH				*i* S	**Sn**		**14 48 03.6**	**+0.3**
CGP	**Cagayan de Oro**	**8.70**	**359**	⇓ *e*P	**Pn**		**14 46 31.6**	**+1.5**
DCPH	**Dipolog City**	**8.95**	**350**	*e*P	**Pn**		**14 46 34.4**	**+0.8**
BUTP	**Butuan**	**9.24**	**5**	*e*P	**Pn**		**14 46 38.9**	**+1.4**
TLE	**Tual**	**9.49**	**124**	P	**Pn**		**14 46 38.8**	**-2.0**
	8μm,1.3s							
SNPH	**Sibulan**	**9.72**	**350**	*e*P	**Pn**		**14 46 46.5**	**+2.5**
	5μm,0.8s							
TBP	**Tagbilaran**	**9.98**	**354**	*e*P	**Pn**		**14 46 47.4**	**-0.2**
SCPH	**Surigao**	**10.04**	**4**	⇓ *e*P	**Pn**		**14 46 49.5**	**+1.1**
MSLP	**Maasin**	**10.37**	**0**	*e*P	**Pn**		**14 46 52.5**	**-0.4**
LLP	**Lapu-Lapu**	**10.59**	**355**	*e*P	**Pn**		**14 46 58.1**	**+2.2**
KKM	**Kota Kinabalu**	**10.68**	**306**	P	**Pn**		**14 46 59.1**	**+1.9**
KKM	**Kota Kinabalu**	**10.68**	**306**	⇓ *e*Pn	**Pn**		**14 46 58.6**	**+1.4**
KKM				*e*Sn	**Sn**		**14 49 03.2**	**+8.0**
GUIM	**Jordan**	**11.09**	**348**	*e*P	**Pn**		**14 47 03.1**	**+0.3**
OCLP	**Ormoc**	**11.28**	**359**	*e*P	**Pn**		**14 47 07.1**	**+1.7**
BAKI	**Biak**	**11.29**	**95**	P	**Pn**		**14 47 04.3**	**-1.1**
	842nm,1.5s							
BATP	**Bataraza**	**11.45**	**322**	*e*P	**Pn**		**14 47 07.7**	**0.0**
CUYO	**Cuyo Island**	**11.72**	**341**	*e*P	**Pn**		**14 47 13.1**	**+1.8**
PPR	**Puerto Princes**	**11.72**	**329**	⇑ *iP*	**Pn**		**14 47 14.8**	**+3.5**
RCP	**Roxas**	**11.97**	**350**	*e*P	**Pn**		**14 47 16.8**	**+2.0**
KALP	**Kalibo**	**12.16**	**348**	*e*P	**Pn**		**14 47 24.0**	**+6.6**
ENPP	**El Nido**	**12.64**	**335**	*e*P	**Pn**		**14 47 25.3**	**+1.4**
KMMI	**Kalianget**	**12.76**	**238**	P	**Pn**		**14 47 29.5**	**+4.0**
	897nm,2.3s							
OTRP	**Odiongan**	**12.89**	**347**	*e*P	**Pn**		**14 47 28.9**	**+1.6**
BUSP	**Coron**	**13.07**	**339**	*e*P	**Pn**		**14 47 31.7**	**+2.0**
AUQP	**San Andres**	**13.71**	**351**	*e*P	**Pn**		**14 47 42.6**	**+4.2**
PVCP	**Virac**	**13.83**	**357**	⇑ *iP*	**Pn**		**14 47 39.7**	**-0.3**
PVCP	**Virac**	**13.83**	**357**	*e*P	**Pn**		**14 47 39.8**	**-0.2**
BOAC	**Boac**	**13.99**	**348**	*e*P	**Pn**		**14 47 43.1**	**+0.9**
PGP	**Puerto Galera**	**14.25**	**344**	*e*P	**Pn**		**14 47 49.0**	**+3.4**
GQP	**Guinayangan**	**14.32**	**351**	⇑ *e*P	**Pn**		**14 47 48.4**	**+1.9**
KAKA	**Kakadu**	**14.44**	**149**	⇓ *iP*	**Pn**		**14 47 46.3**	**-1.8**
	1μm,0.8s							
KSM	**Kuching**	**14.65**	**277**	⇑ *e*Pn	**Pn**		**14 47 51.1**	**+0.3**
KSM				*e*ScP	ScP		14 56 30.3	+1.3
LUBP	**Lubang**	**14.68**	**342**	*e*P	**Pn**		**14 47 51.4**	**+0.3**
LQP	**Lukban**	**14.69**	**347**	*e*P	**Pn**		**14 47 55.5**	**+4.1**
TGY	**Tagaytay City**	**14.83**	**345**	Pn	**Pn**		**14 47 54.6**	**+1.5**
	11nm,0.3s,baz=251,slow=1.5,SNR=26							
TGY				LR	LR		14 54 37.1	
	comp=Z,110nm,19.6s,baz=186,slow=42							
TGY	**Tagaytay City**	**14.83**	**345**	⇓ *e*P	**Pn**		**14 47 53.6**	**+0.4**
	1405μm,17.0s							
POLP	**Polilio Island**	**15.21**	**349**	*e*P	**Pn**		**14 47 59.6**	**+1.5**
JAY	**Jayapura**	**16.00**	**98**	P	**Pn**		**14 48 06.4**	**-1.7**
	168nm,1.3s							
BALP	**Baler**	**16.27**	**349**	*e*P	**Pn**		**14 48 13.8**	**+2.3**
BJII	**Banjamegara**	**16.64**	**245**	P	**Pn**		**14 48 19.7**	**+3.5**
	3μm,1.6s							
SCZP	**Santa Cruz**	**16.71**	**343**	*e*P	**Pn**		**14 48 18.0**	**+1.0**
BCPH	**Baguio City Da**	**17.11**	**346**	⇑ *e*P	**Pn**		**14 48 24.8**	**+2.8**
BOLP	**Bolinao**	**17.28**	**344**	*e*P	**Pn**		**14 48 23.8**	**-0.4**
CAUP	**Cauayan**	**17.40**	**350**	*e*P	**Pn**		**14 48 26.5**	**+0.9**
PALP	**Palanan**	**17.42**	**352**	⇓ *iP*	**Pn**		**14 48 27.0**	**+1.1**
PALP	**Palanan**	**17.42**	**352**	*e*P	**Pn**		**14 48 26.3**	**+0.4**
MMPI	**Merauke**	**17.47**	**118**	P	**Pn**		**14 48 22.0**	**-4.5**
	9μm,1.5s							
JCJI	**Jatiwangi**	**17.65**	**249**	P	**Pn**		**14 48 32.5**	**+3.8**
	4μm,2.0s							
FITZ	**Fitzroy Crossi**	**17.70**	**178**	*e*P	**Pn**		**14 48 28.1**	**-1.3**
	334nm,0.7s							
FITZ				*e*S	**S**		**14 51 35.8**	**-14**
FITZ	**Fitzroy Crossi**	**17.70**	**178**	P	**Pn**		**14 48 28.4**	**-1.0**
	4.3nm,0.3s,baz=8.4,slow=12,SNR=50							
FITZ				S	**S**		**14 51 47.5**	**-2.6**
	1.1nm,0.3s,baz=93,slow=12,SNR=7.1							
CVP	**Callao Caves**	**18.14**	**351**	*e*P	**Pn**		**14 48 35.0**	**+0.3**
ABRA	**Dolores**	**18.30**	**347**	*e*P	**Pn**		**14 48 35.9**	**-0.7**
APYP	**Conner**	**18.40**	**349**	*e*P	**Pn**		**14 48 37.5**	**-0.3**
SGCP	**Mt. Cagua**	**18.64**	**352**	*e*P	**Pn**		**14 48 40.5**	**-0.1**
MBWA	**Marble Bar**	**21.32**	**193**	⇑ *e*P	**P**		**14 49 10.0**	**+1.1**
	932nm,1.1s,mb6.0							
WRAB	**Tennant Creek**	**21.61**	**155**	P	**P**		**14 49 11.0**	**-1.0**
	3μm,1.0s,mb6.7,SNR=62							
WRAB	**Tennant Creek**	**21.61**	**155**	⇓ *iP*	**P**		**14 49 11.1**	**-0.9**
WRAB				*e*S	**S**		**14 53 04.7**	**-3.3**
WRAB				pmax	pmax			
	comp=Z,4μm,1.1s,mb6.7							
WRAB	**Tennant Creek**	**21.61**	**155**	⇓ *i*P	**P**		**14 49 11.1**	**-0.9**
	comp=Z,4μm,1.1s,mb6.7							
WRAB				*e*			14 49 32.0	
WRAB				*e*S	**S**		**14 53 04.7**	**-3.4**
WRA	**Warramunga Arr**	**21.61**	**155**	P	**P**		**14 49 11.6**	**-0.4**
	comp=Z,208nm,1.1s,mb5.5,baz=333,slow=11,SNR=138							
WRA				S	**S**		**14 53 04.0**	**-4.1**
	comp=Z,55nm,1.2s,baz=333,slow=18,SNR=3.3							
WRA				ScP	ScP		14 56 47.8	+3.9
	comp=Z,30nm,1.2s,baz=356,slow=2.9,SNR=5.0							
WRA				ScS	ScS		15 00 31.1	+3.0
	comp=Z,7.2nm,1.1s,baz=300,slow=3.8,SNR=5.0							
WRA				P3KPbc			15 23 03.5	
	comp=Z,2.1nm,0.9s,baz=150,slow=3.9,SNR=9.9							
WRA	**Warramunga Arr**	**21.61**	**155**	P	**P**		**14 49 11.7**	**-0.4**
WRA				S	**S**		**14 53 04.0**	**-4.1**
WRA				ScP	ScP		14 56 47.8	+3.9
WRA				ScS	ScS		15 00 31.1	+3.0
WB2	**Warramunga Arr**	**21.62**	**155**	⇓ *iP*	**P**		**14 49 11.0**	**-1.1**
WB2				*i* S	**S**		**14 53 03.7**	**-4.5**
WB2				*e*SCS	ScS		15 00 30.0	+1.8
KGM	**Kluang**	**21.65**	**276**	P	**P**		**14 49 14.6**	**+2.1**
KSI	**Kapahiang**	**22.49**	**261**	P	**P**		**14 49 21.0**	**-0.4**
	comp=Z,658nm,1.8s,mb5.8							
PMG	**Port Moresby**	**23.97**	**113**	P	**P**		**14 49 35.6**	**-0.2**
	comp=Z,184nm,0.8s,mb5.6,baz=326,slow=8.3,SNR=42							
PMG				S	**S**		**14 53 48.1**	**-0.4**
	comp=Z,22nm,1.1s,baz=165,slow=20,SNR=1.6							
PMG	**Port Moresby**	**23.97**	**113**	⇓ *e*P	**P**		**14 49 34.9**	**-1.0**
PMG				pmax	pmax			
	comp=Z,2μm,1.3s							
PMG	**Port Moresby**	**23.97**	**113**	⇓ *e*P	**P**		**14 49 34.9**	**-1.0**
	comp=Z,2μm,1.3s,mb6.3							
PMG				*e*			14 49 56.8	
GUMO	**Guam**	**24.16**	**54**	P	**P**		**14 49 37.3**	**-0.3**
	comp=Z,398nm,0.8s,mb5.9,baz=187,slow=7.0,SNR=18							
GUMO				S	**S**		**14 53 51.8**	**+0.2**
	comp=Z,55nm,1.0s,baz=0.0,slow=20,SNR=2.3							
QIZ	**Qiongzhong**	**24.21**	**323**	P	**P**		**14 49 37.6**	**-0.5**
QIZ				AP			14 49 51.8	
QIZ				XP	sP		14 49 56.4	-2.9
QIZ				S	S		**14 53 48.3**	**-4.1**
QIZ				XS	sS		14 54 06.8	-10
QIZ				AMB	AMB			
	comp=Z,316nm,1.9s,mb5.4							
QIZ				LR	LR			
	comp=N,14μm,19.9s							
QIZ				LR	LR			
	comp=Z,23μm,20.3s,MS5.7							
QIZ	**Qiongzhong**	**24.21**	**323**	⇑ *iP*	**P**		**14 49 37.6**	**-0.4**
	comp=Z,699nm,1.4s,mb5.9			

CTAO eScP ScP 14 57 09.1 +5.0
NST Nakhon Sawan 29.12 304 P **P** **14 50 21.0 -1.2**
comp=Z,117nm,0.9s,mb5.6
BSI Banda Aceh 30.07 281 P **P** **14 50 30.1 -0.5**
comp=Z,136nm,0.9s,mb5.7
NANT Nan 30.38 310 P **P** **14 50 31.0 -2.4**
comp=Z,2μm,1.0s,mb6.7
FORT Forrest 30.46 175 *e*P **P** **14 50 35.0 +1.0**
comp=Z,236nm,0.7s,mb6.0
FORT eS **S** **14 55 27.2 -3.8**
FORT eSCP ScP 14 57 13.4 +3.8
SSE Sheban 31.42 354 P **P** **14 50 44.6 +2.1**
SSE S **S** **14 55 46.8 +0.8**
SSE AMB AMB
comp=Z,66nm,1.1s,mb5.4
SSE AMB AMB
comp=Z,2μm,10.8s
SSE LR LR
comp=N,8μm,25.2s,MS5.4
SSE LR LR
comp=E,6μm,25.3s,MS5.4
SSE LR LR
comp=Z,10μm,23.3s,MS5.4
CHRT Chiangrai 31.71 311 ⇑P **P** **14 50 46.0 +0.9**
comp=Z,487nm,1.2s,mb6.2
CHG Chiang Mai 31.75 308 ⇑P **P** **14 50 45.8 +0.4**
comp=Z,150nm,1.1s,mb5.7
CHTO Chiang Mai 31.75 308⇑ *e*P **P** **14 50 45.3 -0.1**
CHTO *e* 14 53 37.6
CHTO pmax pmax
comp=Z,290nm,1.2s,mb6.0
CHTO Chiang Mai 31.75 308⇑ *e*P **P** **14 50 45.3 -0.2**
comp=Z,292nm,1.3s,mb6.0
CHTO *e*PcP PcP 14 53 37.5 +1.9
CHTO *e*ScP ScP 14 57 17.4 +3.5
KLBR Kellerberrin 31.84 192 *e*P **P** **14 50 46.5 +0.3**
comp=Z,53nm,0.7s,mb5.5
GYA Guiyang 31.86 328⇑ *i*P **P** **14 50 47.3 +0.9**
GYA AP pP 14 51 01.3 +0.3
GYA PP PP 14 51 55.1 -4.1
GYA PCP PcP 14 53 38.9 +3.0
GYA S **S** **14 55 48.0 -4.9**
GYA SCP ScP 14 57 19.5 +5.2
GYA SCS ScS 15 01 13.8 +1.1
GYA AMB AMB
comp=Z,230nm,1.6s,mb5.8
GYA AMB AMB
comp=Z,3μm,14.1s
GYA LR LR
comp=N,11μm,20.1s,MS5.6
GYA LR LR
comp=E,8μm,19.2s,MS5.6
GYA LR LR
comp=Z,13μm,19.8s,MS5.6
CBIJ Chichi jima 31.94 30 P **P** **14 50 46.6 -0.5**
comp=Z,148nm,0.5s,mb6.1,baz=199,slow=4.4,SNR=16
WHN Wuhan 32.26 343 P **P** **14 50 50.0 +0.1**
WHN XP sP 14 51 06.3 -5.1
WHN PP PP 14 51 54.0 -10
WHN S **S** **14 56 02.0 +2.9**
WHN LR LR
comp=Z,24μm,18.4s,MS5.9
MUN Mundaring 32.55 194 *e*P **P** **14 50 53.4 +1.0**
MUN *i*S **S** **14 56 02.8 -0.8**
NJ2 Nanjing 32.68 351 *e*P **P** **14 50 54.6 +1.1**
NJ2 AP pP 14 51 08.5 +0.4
NJ2 PP PP 14 52 02.6 -5.6
NJ2 S **S** **14 56 04.0 -1.6**
NJ2 XS sS 14 56 26.0 -4.3
NJ2 AMB AMB
comp=Z,50nm,0.8s,mb5.5
NJ2 AMB AMB
comp=Z,1μm,4.2s
NJ2 LR LR
comp=N,13μm,16.4s
NJ2 LR LR
comp=E,29μm,27.5s
NJ2 LR LR
comp=Z,4μm,25.7s
KMI Kunming 33.12 321 ⇑P **P** **14 50 58.3 +0.9**
KMI AP pP 14 51 13.3 +1.3
KMI PP PP 14 52 10.6 -2.5
KMI PCP PcP 14 53 40.3 +0.9
KMI S **S** **14 56 12.6 +0.2**
KMI SCP ScP 14 57 18.4 -0.2
KMI PCS PcS 14 57 24.8 -0.1
KMI SS SS 14 58 16.3 -21
KMI SCS ScS 15 01 17.3 -1.8
KMI AMB AMB
comp=Z,105nm,2.0s,mb5.4
KMI AMB AMB
comp=Z,2μm,5.6s
KMI LR LR
comp=N,10μm,17.2s,MS5.7
KMI LR LR
comp=E,8μm,17.2s,MS5.7
KMI LR LR
comp=Z,15μm,19.0s,MS5.7
NWAO Narrogin (SRO) 33.23 192 P **P** **14 50 59.1 +0.7**
comp=Z,32nm,0.6s,mb5.4,baz=17,slow=8.7,SNR=24
NWAO LR LR 15 07 01.2
comp=Z,12μm,18.3s,MS5.7,baz=240,slow=41
NWAO Narrogin (SRO) 33.23 192 *e*P **P** **14 50 59.5 +1.1**
NWAO pmax pmax
comp=Z,220nm,1.3s
NWAO Narrogin (SRO) 33.23 192 *e*P **P** **14 50 59.0 +0.6**
comp=Z,224nm,1.4s,mb5.9
NWAO *e* 14 51 19.2
JNU Nakatsue 33.73 9 P **P** **14 51 02.3 -0.4**
comp=Z,225nm,0.8s,mb6.2,baz=166,slow=6.3,SNR=17
PBA Port Blair 34.03 291 *ex* x 14 51 50.3
PBA *ex* x 14 55 54.5
STKA Stephens Creek 35.17 155⇓ *i*P **P** **14 51 14.1 -1.0**
comp=Z,166nm,1.2s,mb5.8
STKA *e*S **S** **14 56 44.3 +0.2**
STKA Stephens Creek 35.17 155 P **P** **14 51 14.4 -0.7**
comp=Z,190nm,1.0s,mb6.0,baz=324,slow=8.4,SNR=133
STKA S **S** **14 56 43.1 -1.0**
comp=Z,85nm,1.2s,baz=204,slow=19,SNR=4.1
STKA SCP ScP 14 57 29.0 +3.1
comp=Z,76nm,1.3s,baz=331,slow=5.8,SNR=3.8
STKA LR LR 15 06 53.9
comp=Z,5μm,21.6s,MS5.2,baz=336,slow=38
HNR Honiara 36.08 106 P **P** **14 51 22.9 -0.1**
comp=Z,140nm,0.7s,mb6.0,baz=124,slow=2.4,SNR=32
HNR S **S** **14 56 54.2 -3.9**
comp=Z,5.1nm,0.3s,baz=266,slow=14,SNR=1.4
HNR Honiara 36.08 106 P **P** **14 51 23.4 +0.4**
HNR pmax pmax
comp=Z,790nm,1.4s,mb6.5
HNR Honiara 36.08 106⇓ *e*P **P** **14 51 22.5 -0.5**
comp=Z,788nm,1.4s,mb6.5
JHJ Hachijo jima 2 36.10 22 P **P** **14 51 22.2 -0.8**
comp=Z,53nm,0.6s,mb5.7,baz=255,slow=20,SNR=2.4
CD2 Chengdu 36.95 329 P **P** **14 51 29.3 -1.0**
CD2 AP pP 14 51 46.4 +1.3
CD2 S **S** **14 57 05.4 -5.9**
CD2 XS sS 14 57 33.6 -2.7
CD2 SS SS 14 59 35.8 -19
CD2 AMB AMB
comp=Z,120nm,0.9s,mb5.7
CD2 AMB AMB
comp=Z,2μm,7.8s
CD2 LR LR
comp=N,6μm,18.6s
CD2 LR LR
comp=Z,9μm,21.2s,MS5.5
TIA Tai'an 37.03 350 *e*P **P** **14 51 29.3 -1.8**
TIA *e*S **S** **14 57 12.5 -0.1**
TIA LR LR
comp=N,1μm,17.0s
XAN Xi'an 37.29 338 P **P** **14 51 31.9 -1.4**
XAN S **S** **14 57 09.0 -7.5**
XAN SCP ScP 14 57 32.3 -1.4
XAN PCS PcS 14 57 44.3 +4.3
XAN AMB AMB
comp=Z,133nm,1.4s,mb5.6
XAN LR LR
comp=N,4μm,16.5s
XAN LR LR
comp=Z,6μm,17.2s,MS5.5
INCN Inchon 37.63 2 *e*P **P** **14 51 36.1 -0.1**
comp=Z,76nm,0.8s,mb5.5
KS15 Wonju Array Si 37.66 4 *e*P **P** **14 51 36.0 -0.4**
MAJO Matsushiro 38.70 17 P **P** **14 51 43.5 -1.6**
MAJO pmax pmax
comp=Z,140nm,0.8s,mb5.7
MAJO Matsushiro 38.70 17⇑ *e*P **P** **14 51 43.4 -1.8**
comp=Z,142nm,0.8s,mb5.8
MAJO *e*S **S** **14 57 33.9 -3.9**
MAT Matsushiro 38.70 17 P **P** **14 51 43.2 -1.9**
MAT S **S** **14 57 30.0 -7.8**
MAT Matsushiro 38.70 17 *e*P **P** **14 51 43.0 -2.1**
MAT *e*S **S** **14 57 30.0 -7.8**
MAT pmax pmax
comp=Z,100nm,1.0s,mb5.5
MAT MLR MLR
comp=Z,9μm,21.0s,MS5.5
MAT Matsushiro 38.70 17 *e*P **P** **14 51 43.0 -2.1**
comp=Z,100nm,1.0s,mb5.5
MAT *e*S **S** **14 57 30.0 -7.8**
MAT LR LR
comp=Z,9μm,21.0s,MS5.5
MJAR Matsushiro Arr 38.70 17 P **P** **14 51 43.1 -2.0**
comp=Z,28nm,0.4s,mb5.4,baz=194,slow=8.0,SNR=13
MJAR PcP PcP 14 53 56.7 +0.7
comp=Z,34nm,0.4s,baz=194,slow=4.3,SNR=4.9
MJAR S **S** **14 57 34.0 -3.8**
comp=Z,44nm,0.4s,baz=191,slow=12,SNR=3.0
MJAR SS SS 15 00 31.4 +1.3
comp=Z,9.3nm,0.3s,baz=239,slow=11,SNR=0.7
MJAR Matsushiro Arr 38.70 17 P **P** **14 51 43.1 -2.0**
MJAR 14 53 56.7
MJAR S **S** **14 57 34.0 -3.8**
IMP Imphal 38.96 312 *e*P **P** **14 51 47.0 -0.3**
IMP *ex* x 14 53 59.0
DL2 Dalian 39.13 356 P **P** **14 51 49.3 +0.6**
DL2 AP pP 14 52 02.4 -1.2
DL2 PP PP 14 53 23.1 +3.8
DL2 S **S** **14 57 44.1 -0.2**
DL2 SS SS 15 00 31.6 -7.2
DL2 SCS ScS 15 01 53.4 +1.1
DL2 AMB AMB
comp=Z,90nm,0.7s,mb5.6
DL2 AMB AMB
comp=Z,710nm,5.7s
DL2 LR LR
comp=N,6μm,21.8s,MS5.5
DL2 LR LR
comp=E,3μm,21.3s,MS5.5
DL2 LR LR
comp=Z,7μm,21.7s,MS5.4
ARMA Armidale 39.30 142⇓ *i*P **P** **14 51 52.1 +2.0**
ARMA *e*S **S** **14 57 50.8 +4.0**
BJT Baijiatuau 40.91 350⇑ *e*P **P** **14 52 01.8 -1.6**
BJT pmax pmax
comp=Z,347nm,1.4s
BJT Baijiatuau 40.91 350⇑ *e*P **P** **14 52 01.8 -1.6**
comp=Z,347nm,1.4s,mb5.8
BJI Beijing 40.93 350 *e*P **P** **14 52 02.9 -0.7**
BJI AP pP 14 52 13.5 -5.0
BJI XP sP 14 52 21.0 -4.3
BJI PP PP 14 53 36.8 -2.0
BJI PCP PcP 14 54 04.1 +1.0
BJI S **S** **14 58 04.9 -6.2**
BJI XS sS 14 58 32.3 -4.1
BJI SS SS 15 01 09.1 -5.5
BJI SCS ScS 15 02 02.8 -0.1
BJI AMB AMB
comp=Z,148nm,1.3s,mb5.5
BJI AMB AMB
comp=Z,713nm,3.2s
BJI LR LR
comp=N,8μm,30.0s,MS5.5
BJI LR LR
comp=E,5μm,25.0s,MS5.5
BJI LR LR
comp=Z,15μm,28.3s,MS5.7
SHL Shillong 40.93 311 *i*P **P** **14 52 03.0 -0.6**
SHL *i*x x 14 58 54.0
LZH Lanzhou 41.14 334⇓ P **P** **14 52 06.3 +0.9**
LZH S **S** **14 58 14.0 -0.3**
LZH SS SS 15 01 14.0 -4.9
LZH AMB AMB
comp=Z,600nm,1.2s,mb6.1
LZH AMB AMB
comp=Z,3μm,5.0s
LZH LR LR
comp=E,17μm,15.5s
LZH LR LR
comp=Z,32μm,20.1s,MS6.2
RIV Riverview 41.48 146 *e*P **P** **14 52 11.0 +2.8**
RIV *i* 14 52 32.6
CNB Canberra Magne 41.66 149⇓ *i*P **P** **14 52 11.3 +1.7**
comp=Z,165nm,1.1s,mb5.6
TOO Toolangi 41.69 155 *e*P **P** **14 52 12.6 +2.8**
comp=Z,184nm,1.1s,mb5.6
TOO *e*SCP ScP 14 57 54.4 +3.7
TOO *i*S **S** **14 58 28.9 +6.5**
TOO Toolangi 41.69 155 *e*P **P** **14 52 12.6 +2.8**
TOO *i*S **S** **14 58 28.9 +6.5**
TOO pmax pmax
comp=Z,184nm,1.1s,mb5.6
SNY Shenyang 41.95 359 ⇑P **P** **14 52 11.3 -0.7**
SNY AP pP 14 52 27.3 +0.3
SNY PP PP 14 53 48.1 -1.8
SNY S **S** **14 58 20.5 -5.8**
SNY XS sS 14 58 42.6 -9.0
SNY AMB AMB
comp=Z,1μm,1.3s,mb6.3
SNY AMB AMB
comp=Z,2μm,12.0s
SNY LR LR
comp=N,6μm,19.2s,MS5.8
SNY LR LR
comp=E,10μm,20.4s,MS5.8
SNY LR LR
comp=Z,14μm,27.0s
CAL Calcutta 42.19 305 *e*P **P** **14 52 11.7 -2.2**
CAL *ex* x 14 52 12.7
comp=Z,3μm,0.2s
CAL *ex* x 14 53 59.0
HHC Hu-ho-hao-te 42.70 345⇑ *i*P **P** **14 52 17.5 -0.6**
HHC AP pP 14 52 32.9 -0.2
HHC PP PP 14 54 00.5 +2.5
HHC PCP PcP 14 54 09.4 +0.5
HHC SCP ScP 14 57 53.4 -1.4
HHC PCS PcS 14 57 59.6 -1.5
HHC S **S** **14 58 37.6 +0.2**
HHC SS SS 15 01 42.9 -6.7
HHC SCS ScS 15 02 09.6 -4.2
HHC AMB AMB
comp=Z,51nm,1.6s,mb5.0
HHC AMB AMB
comp=Z,2μm,6.5s
HHC LR LR
comp=N,5μm,17.6s,MS5.6
HHC LR LR
comp=E,5μm,17.8s,MS5.6
HHC LR LR
comp=Z,9μm,19.0s,MS5.7
BTO Baotou 42.90 343 *e*P **P** **14 52 18.3 -1.4**
BTO S **S** **14 58 32.3 -7.9**
BTO AMB AMB
comp=Z,46nm,2.2s
VLA Vladivostok 43.69 7*d i*P **P** **14 52 26.5 +0.5**
VLA pmax pmax
comp=Z,162nm,0.9s,mb5.8
VLA MLR MLR
comp=Z,5μm,18.0s,MS5.4
VLA Vladivostok 43.69 7 *i*Pr 14 52 26.6
LSA Lhasa 43.85 316 P **P** **14 52 29.3 +2.0**
LSA AP pP 14 52 41.8 -0.6
LSA XP sP 14 52 47.4 -1.7
LSA PP PP 14 54 13.6 +3.4
LSA S **S** **14 58 48.8 -5.3**
LSA SS SS 15 02 04.5 -7.4
LSA SCS ScS 15 02 25.9 +5.0
LSA AMB AMB
comp=Z,180nm,2.2s,mb5.4
LSA LR LR
comp=N,4μm,29.9s,MS5.5
LSA LR LR
comp=E,7μm,29.0s,MS5.5
LSA LR LR
comp=Z,12μm,37.1s
LSA Lhasa 43.85 316⇑ *i*P **P** **14 52 27.8 +0.5**
LSA *e* 14 54 12.9
LSA pmax pmax
comp=Z,104nm,0.8s,mb5.6
LSA Lhasa 43.85 316⇑ *i*P **P** **14 52 27.8 +0.5**
comp=Z,104nm,0.8s,mb5.6
LSA *e*PcP PcP 14 54 12.9 +0.1
LSA *e*ScP ScP 14 58 01.8 +2.4
GTK Gangtok 44.35 311 *ex* x 14 52 56.0
VIS Vishakhapatnam 44.60 296 *e*P **P** **14 52 32.8 -0.5**
VIS *ex* x 14 54 23.4
PALK Pallekele 44.67 281⇑ *e*P **P** **14 52 33.1 -0.8**
comp=Z,49nm,1.0s,mb5.3
PALK *e*PcP PcP 14 54 18.2 +2.6
BOK Bokaro 44.76 305 *e*P **P** **14 52 34.2 -0.5**
MDJ Mudanjiang 44.92 5 P **P** **14 52 35.6 -0.3**
MDJ AP pP 14 52 49.8 -1.2
MDJ XP sP 14 52 54.3 -3.5
MDJ PP PP 14 54 20.9 -0.8
MDJ SCP ScP 14 58 04.6 +0.8
MDJ PCS PcS 14 58 10.4 +0.2
MDJ S **S** **14 59 12.3 +2.6**
MDJ XS sS 14 59 32.8 -2.4
MDJ SCS ScS 15 02 28.3 +0.6
MDJ AMB AMB
comp=Z,169nm,1.6s,mb5.6
MDJ AMB AMB
comp=Z,1μm,8.0s
MDJ LR LR
comp=N,5μm,22.8s,MS5.5
MDJ LR LR
comp=E,5μm,22.8s,MS5.5
MDJ LR LR
comp=Z,9μm,26.1s,MS5.6
MDJ Mudanjiang 44.92 5⇑ *i*P **P** **14 52 35.4 -0.5**
comp=Z,329nm,1.1s,mb6.1
ERM Erimo 45.25 19 *e*P **P** **14 52 37.5 -1.0**
GTA Gaotai 45.69 333 P **P** **14 52 42.6 +0.6**
GTA AP pP 14 52 58.3 +1.2
GTA PCP PcP 14 54 22.0 +2.9
GTA PP PP 14 54 28.9 -0.9
GTA SCP ScP 14 58 08.9 +1.9
GTA PCS PcS 14 58 16.3 +3.0
GTA S **S** **14 59 15.8 -4.9**
GTA XS sS 14 59 42.6 -3.7
GTA SCS ScS 15 02 32.3 -0.4
GTA AMB AMB
comp=Z,203nm,1.1s,mb6.0
GTA AMB AMB
comp=Z,1μm,5.7s
GTA LR LR
comp=N,8μm,20.5s,MS5.9
GTA LR LR
comp=E,10μm,18.6s,MS5.9
GTA LR LR
comp=Z,17μm,19.8s,MS6.0
MDRS Chennai 46.17 288 *e*P **P** **14 52 45.3 -0.4**
MDRS AMb AMB 14 52 49.1
comp=Z,205nm,1.0s,mb6.0
JIRN Jiri 46.36 310 *e*P **P** **14 52 46.7 -0.5**
comp=Z,379nm,0.7s,mb6.5
GUN Gumba 46.72 310 *e*P **P** **14 52 49.5 -0.6**
comp=Z,853nm,0.9s,mb6.7
PKI Pulchoki 46.91 309 *e*P **P** **14 52 50.7 -0.9**
comp=Z,423nm,1.1s,mb6.3
PKI Pulchoki 46.91 309 *e*P **P** **14 52 50.7 -0.9**
PKI pmax pmax
comp=Z,423nm,1.1s,mb6.3
TAU Tasmania Unive 46.96 157 P **P** **14 52 55.8 +3.9**
TAU pmax pmax
comp=Z,190nm,1.2s,mb5.9
TAU Tasmania Unive 46.96 157 *e*P **P** **14 52 54.7 +2.8**
comp=Z,185nm,1.3s,mb5.8
ASAJ Asahikawa 46.97 17 P **P** **14 52 51.6 -0.4**
comp=Z,25nm,0.3s,mb5.6,baz=226,slow=9.0,SNR=61
ASAJ S **S** **14 59 37.9 -1.3**
comp=Z,4.8nm,0.9s,baz=3.2,slow=18,SNR=2.5
KKN Kakani 47.12 310 *e*P **P** **14 52 52.2 -1.0**
comp=Z,588nm,1.1s,mb6.4
KKN Kakani 47.12 310 *e*P **P** **14 52 52.2 -1.0**
KKN pmax pmax
comp=Z,589nm,1.1s,mb6.4
DMN Daman 47.17 309 *e*P **P** **14 52 52.9 -0.7**
comp=Z,748nm,1.1s,mb6.5
BLSP Bilaspur 47.22 301 *e*P **P** **14 52 52.3 -1.6**
BLSP AMb AMB 14 52 57.2
comp=Z,244nm,1.3s,mb6.0
BLSP *ex* x 14 54 46.2
GKN Gorkha 47.72 309 *e*P **P** **14 52 56.9 -1.0**
comp=Z,751nm,1.0s,mb6.7
YUK Yuzh-Kuril'sk 47.96 20 P **P** **14 53 00.5 +0.8**
YUK *e* pP 14 53 11.9 -3.0
YUK eS **S** **14 59 53.0 -0.1**
YUK eSS SS 15 02 50.1 -32
YUK smax
comp=N,2μm,2.0s
YUK smax
comp=E,2μm,2.0s
KOLN Koldanda 48.42 309 *e*P **P** **14 53 02.7 -0.5**
comp=E,791nm,0.9s,mb6.8
TRD Trivandrum 48.52 282 *e*P **P** **14 53 03.4 -0.6**
TRD AMb AMB 14 53 07.0
comp=Z,116nm,0.2s,mb6.6
HYB Hyderabad 48.85 294⇑ *i*P **P** **14 53 05.0 -1.6**
HYB *e* 14 53 33.0
HYB *e*PcP PcP 14 54 33.0 +2.6
HYB *e*PP PP 14 55 04.0 +3.8
HYB *e*ScP ScP 14 58 19.5 -0.8
HYB *e*PcS PcS 14 58 27.5 +0.8
HYB *e*S **S** **15 00 02.0 -3.7**
HYB *e*ScS ScS 15 02 55.0 +1.5
HYB LR LR 15 16 28.0
comp=Z,13nm,20.0s
HYB Hyderabad 48.85 294⇑ *e*P **P** **14 53 05.0 -1.6**
HYB pmax pmax
comp=Z,290nm,1.0s,mb6.3
HYB Hyderabad 48.85 294⇑ *e*P **P** **14 53 05.0 -1.6**
comp=Z,290nm,1.0s,mb6.3
HYB *e* 14 53 07.0
HYB *e*S **S** **15 00 00.0 -5.7**
HABR Khabarovsk 49.38 9⇑ *i*P **P** **14 53 10.5 -0.1**
HABR *e*S **S** **15 00 12.1 -1.0**
HABR pmax pmax
comp=Z,483nm,1.5s,mb6.3
HABR MLR MLR
comp=Z,3μm,18.0s,MS5.4
JBP Jabalpur 49.45 301⇑ *e*P **P** **14 53 10.6 -0.5**
JBP *ex* x 14 53 14.2
comp=Z,162nm,0.9s
JBP *e*S **S** **15 00 14.0 -0.1**
HIA Hailar 49.57 356*c i*P **P** **14 53 11.6 -0.5**
HIA Hailar 49.57 356⇑ *i*P **P** **14 53 11.1 -1.0**
comp=Z,98nm,0.8s,mb5.9
HIA *e*ScP ScP 14 58 22.6 -0.7
YSS Yuzh-Sakhalins 49.61 16*c i*P **P** **14 53 12.0 -0.3**
YSS *e**PP pP 14 53 28.0 +0.4
YSS *e* 14 54 40.0
YSS *e* 14 55 13.0
YSS *e*PPP 14 55 55.0
YSS *i*S **S** **15 00 12.0 -4.3**
YSS Yuzh-Sakhalins 49.61 16⇑ *i*P **P** **14 53 11.3 -1.0**
comp=Z,214nm,1.2s,mb6.0
YSS *e*pP pP 14 53 27.4 -0.2
KLR Kul'dur 49.70 6 *e*P **P** **14 53 08.7 -4.3**
KLR Kul'dur 49.70 6 *e*P **P** **14 53 08.7 -4.3**
KLR *e*SSS 15 05 15.5
KLR pmax pmax
comp=E,85nm,1.8s
KLR pmax pmax
comp=Z,280nm,1.8s,mb6.0
KLR pmax pmax
comp=N,1μm,8.0s
KLR pmax pmax
comp=Z,2μm,8.0s
KLR MLR MLR
comp=N,3μm,16.0s
KLR MLR MLR
comp=Z,4μm,16.0s,MS5.5
SONM Songino Array 50.57 344 P **P** **14 53 19.0 -0.6**
comp=Z,46nm,0.8s,mb5.5,baz=157,slow=8.9,SNR=54
SONM SCP ScP 14 58 30.7 +3.1
comp=Z,6.6nm,0.8s,baz=149,slow=4.9,SNR=5.0
SONM PKPPKP 15 23 52.7
comp=Z,0.2nm,0.3s,baz=276,slow=2.4,SNR=4.3
LATR Latur 50.95 294 *e*P **P** **14 53 20.5 -2.0**
MNGI Mangalore 51.31 287 *e*P **P** **14 53 25.3 +0.1**
MNGI AMb AMB 14 53 27.7
comp=Z,149nm,0.3s,mb6.3

LGTI Lohaghat 51.80 309 *e*P P **P** **14 53 30.0 +1.1**
DGAR Diego Garcia 52.72 261 P P **P** **14 53 34.7 -0.9**
comp=Z,2µm,1.0s,SNR=7.0
DGAR Diego Garcia 52.72 261 P P **P** **14 53 34.1 -1.5**
DGAR pmax pmax
comp=Z,320nm,1.0s,mb6.2
DGAR Diego Garcia 52.72 261 *e*P P **P** **14 53 33.8 -1.8**
comp=Z,315nm,1.0s,mb6.2
CIT Chita 53.00 351 *e*P P **P** **14 53 38.6 +0.9**
CIT *e* pP 14 53 53.4 +0.2
CIT *e* 14 54 46.3
CIT *e*S ScS 15 03 22.9 +0.9
CIT pmax pmax
comp=Z,211nm,1.6s,mb5.8
POO Poona 53.46 293⇓ *i*P P **P** **14 53 39.0 -2.1**
comp=Z,180nm,1.0s,mb6.0
ZAK Zakamensk 53.75 343 *e*P P **P** **14 53 42.8 -0.4**
ZAK pmax pmax
comp=Z,147nm,1.8s,mb5.6
NDI New Delhi 53.88 307 *e*P P **P** **14 53 42.0 -2.1**
NDI *e*P 14 53 42.8
NDI *ex* x 15 01 08.0
DDI Dehra Dun 53.90 309 *i*P P **P** **14 53 44.0 -0.3**
DDI *ex* x 14 58 45.0
BOM Bombay 54.50 294 *e*P P **P** **14 53 46.1 -2.6**
TLY Talaya 54.81 344 P P **P** **14 53 50.0 -0.9**
comp=Z,641nm,0.8s,mb6.7,SNR=32
TLY Talaya 54.81 344⇑ *i*P P **P** **14 53 49.4 -1.5**
TLY *e* 14 54 52.6
TLY *e* 14 55 55.2
TLY *e*S S **15 01 23.2 -4.3**
TLY *e*PS 15 01 41.1
TLY *e* 15 03 35.4
TLY pmax pmax
comp=Z,101nm,0.9s,mb5.8
TLY MLR MLR
comp=Z,7µm,22.0s,MS5.7
TLY Talaya 54.81 344⇑ *e*P P **P** **14 53 49.8 -1.1**
comp=Z,94nm,0.9s,mb5.8
SMLA Simla 54.93 309⇓ *i*P P **P** **14 53 49.4 -2.4**
comp=Z,140nm,0.3s,mb6.5
SMLA *e*P 14 53 50.6
SMLA AMb AMB 14 53 55.4
comp=Z,1µm,1.6s,mb6.6
SMLA *i* x x 15 01 24.5
WMQ Urumqi 55.02 328⇓ *i*P P **P** **14 53 53.1 +0.6**
WMQ AP pP 14 54 08.5 +0.5
WMQ PCP PcP 14 54 54.1 +0.6
WMQ PP PP 14 55 58.1 +2.1
WMQ SCP ScP 14 58 46.1 -0.9
WMQ PCS PcS 14 58 53.3 -0.1
WMQ S **S** **15 01 27.8 -2.6**
WMQ SCS ScS 15 03 33.1 -3.3
WMQ AMB AMB
comp=Z,209nm,1.0s,mb6.1
WMQ AMB AMB
comp=Z,869nm,3.1s
WMQ AMB AMB
comp=Z,2µm,11.7s
WMQ LR LR
comp=N,12µm,18.6s,MS6.0
WMQ LR LR
comp=E,8µm,21.8s,MS6.0
WMQ LR LR
comp=Z,9µm,23.8s,MS5.8
IRK Irkutsk 55.15 345⇑ *i*P P **P** **14 53 51.6 -1.7**
IRK *e* 14 54 57.8
IRK *e* 15 03 35.1
IRK pmax pmax
comp=Z,232nm,1.8s,mb5.9
AJM Ajmer 55.16 303 *e*P P **P** **14 53 53.1 -0.4**
AJM AMb AMB 14 54 00.2
comp=Z,141nm,1.4s,mb5.8
SDNR Sundarnagar 55.24 310 *e*P P **P** **14 53 53.5 -0.5**
SDNR *ex* x 15 01 31.0
MOY Mondy 55.57 342 *e*P P **P** **14 53 57.2 +0.8**
MOY pmax pmax
comp=Z,307nm,1.9s,mb6.0
PONG Pong 56.22 310 *e*P P **P** **14 54 00.0 -1.0**
NRGR Nerungri 56.78 360 *e*P P **P** **14 54 06.5 +1.5**
NRGR S **S** **15 01 53.0 -0.7**
NRGR smax
comp=N,26nm,0.3s
CLNS Chul'man 56.96 0 *e*P P **P** **14 54 06.0 -0.3**
CLNS *e**PP pP 14 54 12.6 -9.3
CLNS *e* 14 55 03.1
CLNS *e*S S **15 01 51.8 -4.3**
CLNS *e*SS SS 15 05 42.9 -2.3
CLNS pmax pmax
comp=E,40nm,0.7s
CLNS pmax pmax
comp=Z,121nm,0.7s,mb6.0
CLNS pmax pmax
comp=N,90nm,0.8s
CLNS smax
comp=N,544nm,15.7s
CLNS smax
comp=Z,1µm,11.9s
CLNS smax
comp=E,1µm,14.9s
CLNS MLR MLR
comp=Z,5µm,19.0s,MS5.6
CLNS MLR MLR
comp=N,800nm,18.0s
SKR Severo-Kuril's 57.34 23 *e*P P **P** **14 54 05.0 -3.9**
SKR *e* 14 54 13.5
SKR *e* 14 56 22.0
SKR *e*S S **15 01 52.0 -9.0**
SKR *e*PS 15 02 18.0
SKR *e* 15 03 48.0
SKR pmax pmax
comp=Z,2µm,6.0s
SKR pmax pmax
comp=N,180nm,1.0s
SKR pmax pmax
comp=E,130nm,1.0s
SKR pmax pmax
comp=Z,180nm,1.0s,mb6.1
SKR smax
comp=N,5µm,14.0s
SKR smax
comp=E,4µm,14.0s
SKR MLR MLR
comp=N,2µm,18.0s,MS5.5
SKR MLR MLR
comp=E,3µm,18.0s,MS5.5
SKR MLR MLR
comp=Z,3µm,18.0s,MS5.4
JCZ Jackson Bay 58.47 144 PN P **P** **14 54 19.9 +3.0**
JCZ Jackson Bay 58.47 144 *e*P P **P** **14 54 19.9 +3.0**
BOD Bodaibo 58.59 353 *e*P P **P** **14 54 16.9 -0.8**
BOD *e* 15 04 00.8
BOD pmax pmax
comp=Z,225nm,1.4s,mb6.0
NIL Nilore 58.99 310 P P **P** **14 54 22.7 +2.2**
comp=Z,475nm,0.7s,mb6.6,SNR=11
WVZ Waitaha Valley 59.09 142 PN P **P** **14 54 20.7 -0.5**
WVZ Waitaha Valley 59.09 142 *e*P P **P** **14 54 21.0 -0.2**
LBZ Lake Benmore 59.49 144 PN P **P** **14 54 25.8 +1.8**
LBZ Lake Benmore 59.49 144 *e*P P **P** **14 54 25.8 +1.9**
RPZ Rata Peaks 59.64 143 LR LR 15 19 50.1
comp=Z,10µm,21.7s,MS5.9,baz=308,slow=36
RPZ Rata Peaks 59.64 143 PN P **P** **14 54 27.3 +2.3**
RPZ Rata Peaks 59.64 143 P P **P** **14 54 27.3 +2.3**
KSH Kashi 59.65 318⇑ *i*P P **P** **14 54 25.3 +0.3**
KSH *e*AP pP 14 54 41.6 +0.9
KSH *e*PCP PcP 14 55 12.0 +0.4
KSH *e*PP PP 14 56 38.3 +1.2
KSH *e*SCP ScP 14 59 06.3 -1.1
KSH *e*PCS PcS 14 59 12.0 -1.8
KSH *e*S **S** **15 02 25.8 -5.3**
KSH *e*XS sS 15 02 55.3 -2.2
KSH *e*SCS ScS 15 04 05.0 -5.1
KSH *e*SS SS 15 06 24.3 -3.0
KSH AMB AMB
comp=Z,439nm,1.2s,mb6.4
KSH AMB AMB
comp=Z,1µm,3.4s
KSH LR LR
comp=N,5µm,15.7s,MS5.9
KSH LR LR
comp=E,5µm,16.8s,MS5.9
KSH LR LR
comp=Z,8µm,20.7s,MS5.8

THZ Tophouse 59.76 140 PN P **P** **14 54 25.5 -0.3**
THZ Tophouse 59.76 140 *e*P P **P** **14 54 27.8 +2.0**
MK31 Makanchi Array 59.85 327 P P **P** **14 54 24.9 -1.5**
MK31 pmax pmax
comp=Z,51nm,0.6s,mb5.7
MKAR Makanchi Array 59.85 327 P P **P** **14 54 24.9 -1.5**
comp=Z,64nm,0.5s,mb5.9,baz=123,slow=9.3,SNR=122
MKAR ScP ScP 14 59 11.0 +2.7
comp=Z,10nm,0.9s,baz=123,slow=5.3,SNR=5.1
MKAR S **S** **15 02 39.3 +5.6**
comp=Z,2.3nm,0.9s,baz=114,slow=14,SNR=3.9
MKAR PKP2bc 15 23 59.0
comp=Z,2.5nm,0.8s,baz=295,slow=3.0,SNR=11
MKAR P4KPbc 15 31 32.5
comp=Z,2.6nm,0.6s,baz=131,slow=4.1,SNR=32
MKAR Makanchi Array 59.85 327 *i*P P **P** **14 54 25.0 -1.4**
MKAR pmax pmax
comp=E,65nm,0.5s
MKAR Makanchi Array 59.85 327 P P **P** **14 54 24.9 -1.5**
MKAR ScP ScP 14 59 11.0 +2.7
MKAR S **S** **15 02 39.3 +5.6**
MKAR ⇑*e* 15 23 59.0
PET Petropavlovsk 60.15 23*c* *i*P P **P** **14 54 28.8 +0.3**
PET *e**PP pP 14 54 44.9 +0.7
PET *e* 14 56 43.3
PET *i*S S **15 02 36.6 -0.9**
PET *e* 15 04 06.1
PET *e*SS SS 15 06 29.5 -5.7
PET *e*SSS 15 09 04.7
PET pmax pmax
comp=Z,92nm,1.4s,mb5.6
PET pmax pmax
comp=Z,800nm,14.0s
PET MLR MLR
comp=Z,2µm,19.0s,MS5.3
PET Petropavlovsk 60.15 23⇑ *i*P P **P** **14 54 28.6 +0.1**
comp=Z,256nm,1.3s,mb6.1
SNZO South Karori 60.71 139⇓ *e*P P **P** **14 54 32.2 -0.1**
comp=Z,188nm,0.8s,mb6.3
AAA Alma-Ata 60.92 322 *e*P P **P** **14 54 32.8 -0.9**
AAA *e*S S **15 02 45.2 -2.2**
AAA pmax pmax
comp=Z,2µm,2.6s,mb6.7
AAA smax
comp=E,3µm,10.8s
AAA MLR MLR
comp=Z,5µm,26.2s,MS5.5
BKZ Black Stump Fm 60.94 136 PN P **P** **14 54 35.0 +1.2**
BKZ Black Stump Fm 60.94 136 P P **P** **14 54 35.3 +1.5**
MRZ Mangatainoka R 60.99 138 PN P **P** **14 54 34.5 +0.3**
MRZ Mangatainoka R 60.99 138 *e*P P **P** **14 54 34.5 +0.3**
MWZ Matawai 61.31 135 PN P **P** **14 54 38.3 +1.9**
MWZ Matawai 61.31 135 *e*P P **P** **14 54 38.3 +2.0**
BFZ Birch Farm 61.45 137 PN P **P** **14 54 37.5 +0.2**
BFZ Birch Farm 61.45 137 *e*P P **P** **14 54 39.4 +2.1**
TKM2 Tokmak 2 61.59 321 *i*P P **P** **14 54 38.4 +0.2**
TKM2 pmax pmax
comp=Z,462nm,1.4s,mb6.4
TKM2 Tokmak 2 61.59 321 *i*P P **P** **14 54 38.5 +0.3**
KRAR Krasnoyarsk 61.84 340 *e*P P **P** **14 54 38.7 -1.2**
KRAR pmax pmax
comp=Z,34nm,1.3s,mb5.3
KRAR MLR MLR
comp=Z,5µm,20.0s,MS5.7
AAK Ala-Archa 62.15 320 P P **P** **14 54 42.4 +0.4**
comp=Z,1µm,1.0s,mb6.9,SNR=69
AAK Ala-Archa 62.15 320*c* *i*P P **P** **14 54 40.5 -1.5**
AAK pmax pmax
comp=Z,287nm,1.3s,mb6.2
AAK MLR MLR
comp=Z,8µm,19.0s,MS5.9
AAK Ala-Archa 62.15 320⇑ *e*P P **P** **14 54 40.2 -1.8**
comp=Z,956nm,1.8s,mb6.6
FRU Bishkek 62.16 320 *e*P P **P** **14 54 42.0 -0.1**
FRU *i* 14 55 27.0
FRU *e*S S **15 03 02.0 -1.1**
FRU pmax pmax
comp=Z,680nm,2.0s,mb6.4
FRU MLR MLR
comp=E,8µm,22.0s
FRU MLR MLR
comp=Z,7µm,22.0s,MS5.8
YAK Yakutsk 62.28 3*c* *i*P P **P** **14 54 42.4 -0.5**
YAK *e**PP pP 14 54 50.6 -8.1
YAK *e* 14 55 22.9
YAK *e* 14 56 56.5
YAK *e*S S **15 02 57.5 -7.1**
YAK *e**SS sS 15 03 13.1 -18
YAK *e* 15 04 28.7
YAK pmax pmax
comp=Z,255nm,0.9s,mb6.3
YAK pmax pmax
comp=N,65nm,1.3s
YAK pmax pmax
comp=E,20nm,1.0s
YAK pmax pmax
comp=Z,56nm,1.6s,mb5.4
YAK pmax pmax
comp=N,21nm,0.8s
YAK pmax pmax
comp=E,30nm,1.8s
YAK smax
comp=N,137nm,1.4s
YAK smax
comp=Z,35nm,1.2s
YAK smax
comp=E,135nm,1.5s
YAK Yakutsk 62.28 3⇑ *i*P P **P** **14 54 41.9 -1.0**
comp=E,602nm,0.8s,mb6.8
YAK *e*S S **15 03 01.5 -3.1**
KURK Kurchatov 64.17 329 P P **P** **14 54 53.4 -2.0**
comp=E,3µm,0.5s,SNR=61
KURK Kurchatov 64.17 329⇑ *e*P P **P** **14 54 53.3 -2.1**
NVS Novosibirsk 64.65 335 *i*P P **P** **14 54 56.2 -2.3**
NVS *i*S S **15 03 26.8 -7.3**
NVS *e* 15 04 38.9
NVS pmax pmax
comp=Z,179nm,1.3s,mb5.9
NVS pmax pmax
comp=N,155nm,1.4s
NVS pmax pmax
comp=E,131nm,1.4s
NVS smax
comp=E,278nm,2.2s
NVS smax
comp=N,187nm,2.4s
KK31 Karatay Array 64.95 319 *i*P P **P** **14 55 00.6 +0.1**
KK31 pmax pmax
comp=Z,478nm,1.5s,mb6.3
KK31 Karatay Array 64.95 319 *i*P P **P** **14 55 00.7 +0.2**
KKAR Karatay Array 64.95 319 P P **P** **14 55 00.6 +0.1**
KKAR pmax pmax
comp=Z,717nm,1.5s,mb6.5
FX1 Attu Island--F 66.49 30 *e*P P **P** **14 55 11.6 +1.2**
CASY Casey 66.62 186 *e*P P **P** **14 55 12.3 +1.1**
SMY Shemya 66.87 30 *e*P P **P** **14 55 14.5 +1.7**
SMY pmax pmax
comp=Z,179nm,1.1s,mb6.0
SMY MLR MLR
comp=Z,3µm,21.0s,MS5.5
SMY Shemya 66.87 30 *e*P P **P** **14 55 14.5 +1.7**
comp=Z,178nm,1.1s,mb6.0
SMY LR LR
comp=Z,3µm,21.0s,MS5.5
DRV Dumont d'Urvil 67.09 174 P P **P** **14 55 16.0 +1.8**
DRV S S 15 04 06.0 +2.3
DRV L 15 12 00.0
WSAR Wadi Sarin 68.36 295 P P **P** **14 55 21.3 -0.9**
comp=Z,37nm,0.9s,mb5.4,baz=90,slow=6.4,SNR=15
WSAR LR LR 15 28 32.4
comp=Z,5µm,20.0s,MS5.7,baz=327,slow=39
JMDO Jabal Madar 68.69 294 ⇑P P **P** **14 55 23.8 -0.5**
SNR=10
SMDO Samad 68.86 295 ⇑P P **P** **14 55 24.8 -0.5**
SNR=7.0
BIDO Bidbid 68.86 295 ⇓P P **P** **14 55 24.9 -0.4**
SNR=18
VOSK Vostochnaya 69.24 328 P P **P** **14 55 26.5 -1.2**
VOSK pmax pmax
comp=Z,72nm,0.8s,mb5.7
BSY Bisya 69.58 294 ⇓P P **P** **14 55 29.4 -0.3**
SNR=10
HOQ Hogain 69.61 295 ⇑P P **P** **14 55 29.8 -0.2**
SNR=11
BVA0 Borovoye Array 69.70 328 *i*P P **P** **14 55 30.1 -0.4**
BVA0 pmax pmax
comp=Z,22nm,1.1s,mb5.0
BRVK Borovoye 69.78 328 P P **P** **14 55 30.3 -0.7**
comp=Z,915nm,1.0s,mb6.7,SNR=35
BRVK Borovoye 69.78 328⇑ *e*P P **P** **14 55 29.0 -2.0**
BRVK pmax pmax
comp=Z,106nm,1.0s,mb5.7
BRVK Borovoye 69.78 328⇑ *e*P P **P** **14 55 29.0 -2.0**
comp=Z,106nm,1.0s,mb5.7
MIR Mirnyy 69.83 193⇑ *i*P P **P** **14 55 33.5 +2.2**
MIR pmax pmax
comp=Z,1µm,1.9s,mb6.4
CHKZ Chkalovo 69.91 329 *e*P P **P** **14 55 31.4 -0.4**
CHKZ pmax pmax
comp=Z,100nm,0.9s,mb5.8
CHKZ Chkalovo 69.91 329⇑ *e*P P **P** **14 55 29.6 -2.2**
comp=Z,101nm,0.8s,mb5.8
ARQ Araqi 70.29 295 ⇓P P **P** **14 55 33.6 -0.5**
SNR=19
ZRNK Zerenda 70.40 328 *i*P P **P** **14 55 33.0 -1.8**
ZRNK pmax pmax
comp=Z,137nm,0.8s,mb5.9
ZRNK Zerenda 70.40 328⇑ *e*P P **P** **14 55 32.8 -2.0**
comp=Z,125nm,0.7s,mb6.0
ASHO Ashiyiah 70.92 296 ⇓P P **P** **14 55 37.0 -1.0**
SNR=15
TIXI Tiksi 71.88 1⇑ *i*P P **P** **14 55 40.6 -3.2**
TIXI *e* pP 14 55 59.2 -0.7
TIXI *e* 14 58 17.2
TIXI *e*S S 15 04 49.7 -10
TIXI *e* 15 05 44.7
TIXI pmax pmax
comp=Z,589nm,2.1s,mb6.2
TIXI pmax pmax
comp=Z,164nm,8.2s
TIXI pmax pmax
comp=N,137nm,8.7s
TIXI pmax pmax
comp=E,63nm,14.0s
TIXI MLR MLR
comp=Z,4µm,20.0s,MS5.7
TIXI MLR MLR
comp=N,2µm,19.0s,MS5.6
TIXI MLR MLR
comp=E,2µm,19.0s,MS5.6
TIXI Tiksi 71.88 1⇑ *i*P P **P** **14 55 42.1 -1.7**
ABKT Ailbek 72.00 310 P P **P** **14 55 44.6 +0.2**
comp=E,520nm,0.9s,mb6.5,SNR=18
VAN Vannovskaya 72.01 310 *e*P P **P** **14 55 45.1 +0.6**
WHFO Wadi Hawf 72.12 289 ⇓P P **P** **14 55 44.4 -0.8**
SNR=8.5
ABTO Aybut 72.51 288 ⇓P P **P** **14 55 47.1 -0.4**
SNR=8.0
BILL Bilibino 73.91 15*c* *i*P P **P** **14 55 54.7 -1.0**
BILL pmax pmax
comp=Z,101nm,2.4s,mb5.3
BILL MLR MLR
comp=Z,3µm,19.0s,MS5.7
BILL Bilibino 73.91 15⇑ *e*P P **P** **14 55 54.5 -1.2**
comp=Z,34nm,0.9s,mb5.3
AB31 Akbulak array 74.11 322 *i*P P **P** **14 55 56.3 -0.6**
AB31 pmax pmax
comp=Z,118nm,0.9s,mb5.8
AKTK Aktyubinsk 75.67 323 P P **P** **14 56 05.1 -0.9**
AKTK S S 15 05 39.5 -3.3
AKTO Aktyubinsk 75.67 323 P P **P** **14 56 05.1 -0.9**
comp=Z,106nm,0.8s,mb5.8,baz=112,slow=8.6,SNR=56
AKTO S S 15 05 39.5 -3.3
comp=Z,3.5nm,0.9s,baz=201,slow=21,SNR=16
MUKL Al Mukalla 76.35 285 *e*P P **P** **14 56 04.8 -5.0**
ARU Arti 77.35 329 P P **P** **14 56 14.5 -0.9**
comp=Z,729nm,1.3s,mb6.5,SNR=21
ARU Arti 77.35 329⇑ *i*P P **P** **14 56 13.5 -1.9**
ARU *e* pP 14 56 30.9 -0.8
ARU *e* 14 59 08.0
ARU *e*PPP 15 00 55.6
ARU *e*S S 15 05 59.2 -1.9
ARU *e* 15 06 22.6
ARU *e*SS ScS 15 06 27.6 -0.8
ARU *e*SS SS 15 11 02.2 +1.8
ARU *e*SSS 15 14 21.7
ARU pmax pmax
comp=Z,171nm,1.2s,mb5.8
ARU Arti 77.35 329⇑ *e*P P **P** **14 56 13.4 -2.1**
comp=Z,148nm,1.0s,mb5.9
ORR Orenburg 77.99 323⇑ *i*P P **P** **14 56 17.7 -1.3**
ORR S S 15 06 00.0 -8.1
ORR MLR MLR
comp=Z,11µm,29.0s,MS6.0
KIP Kipapa 78.14 68 *e*P P **P** **14 56 20.9 +1.1**
HON Honolulu 78.14 68 P P **P** **14 56 25.0 +5.2**
HON Honolulu 78.14 68 *e*P P **P** **14 56 20.5 +0.7**
OPO Ambohidratompo 78.21 251 P P **P** **14 56 22.3 +2.1**
comp=Z,122nm,0.9s,mb5.8,baz=78,slow=4.8,SNR=130
AKUT Akutan 78.28 34 *e*P P **P** **14 56 22.6 +2.0**
comp=Z,724nm,1.4s,mb6.4
AKUT LR LR
comp=Z,3µm,23.0s,MS5.5
QRN Al-Qurain 78.70 299 *e*P P **P** **14 56 21.6 -1.3**
QRN AMb AMB 14 56 28.6
comp=Z,144nm,0.7s,mb6.0
KBD Kabd 78.94 300 *e*P P **P** **14 56 23.2 -1.1**
KBD AMb AMB 14 56 32.0
comp=Z,268nm,0.6s,mb6.3
UMR Umm Al-Rimmam 78.97 300 *e*P P **P** **14 56 24.0 -0.3**
UMR AMb AMB 14 56 45.9
comp=Z,109nm,0.7s,mb5.9
RDF Al-Radifah 79.04 299 *e*P P **P** **14 56 23.6 -1.2**
MIB Mutribah 79.32 300 *e*P P **P** **14 56 24.8 -1.5**
MIB AMb AMB 14 56 34.0
comp=Z,211nm,0.8s,mb6.1
NAY Al-Naaiem 79.34 300 *e*P P **P** **14 56 24.8 -1.6**
NAY AMb AMB 14 56 32.8
comp=Z,60nm,0.8s,mb5.6
MAW Mawson 79.35 200⇑ *i*P P **P** **14 56 27.9 +1.5**
comp=Z,43nm,0.9s,mb5.4
MAW *i*S S 15 06 23.7 +1.2
MAW Mawson 79.35 200 P P **P** **14 56 28.0 +1.6**
comp=Z,53nm,0.9s,mb5.5,baz=68,slow=6.4,SNR=42
MAW S S 15 06 18.5 -4.1
comp=Z,2.3nm,1.0s,baz=167,slow=5.0,SNR=2.4
MAW LR LR 15 25 55.6
comp=Z,4µm,19.9s,MS5.7,baz=59,slow=31
VNDA Vanda 79.70 172 P P **P** **14 56 29.1 +0.8**
comp=Z,16nm,0.8s,mb5.0,baz=313,slow=6.2,SNR=73
VNDA PKKPbc PKKPbc 15 15 17.7 +2.8
comp=Z,1.7nm,1.1s,baz=49,slow=3.8,SNR=3.6
VNDA LR LR 15 32 00.5
comp=Z,6µm,21.8s,MS5.9,baz=327,slow=36
VNDA Vanda 79.70 172 P P **P** **14 56 29.0 +0.7**
VNDA pmax pmax
comp=Z,16nm,0.5s
VNDA Vanda 79.70 172 *e*P P **P** **14 56 28.9 +0.6**
comp=Z,16nm,0.5s,mb5.2
MAUI Maui 79.73 69 *i*P P **P** **14 56 27.0 -1.5**
LBOS 79.98 284⇓ *e*P P **P** **14 56 32.2 +2.3**
POHA Pohakuloa 80.33 70 *e*P P **P** **14 56 34.6 +2.8**
comp=Z,944nm,0.9s,mb6.7
SBA Scott Base 80.63 172 P P **P** **14 56 35.0 +1.6**
SBA pmax pmax
comp=Z,36nm,0.8s,mb5.3
SBA Scott Base 80.63 172 *e*P P **P** **14 56 34.7 +1.3**
comp=Z,36nm,0.8s,mb5.3
MAK Makhachkala 80.96 314*c* *i*P P **P** **14 56 35.9 +0.8**
MAK *e* 14 56 46.7
MAK *e* 14 59 33.6
MAK *e*PPP 15 01 34.8
MAK *i*S S 15 06 36.3 -3.1
MAK *i* 15 06 49.2
MAK *i*SS SS 15 12 00.5 +6.0
MAK pmax pmax
comp=Z,178nm,1.1s,mb5.9
SDPT Sand Point 81.56 34 *e*P P **P** **14 56 38.6 +0.3**
comp=Z,339nm,1.0s,mb6.2
SDPT LR LR
comp=Z,4µm,23.0s,MS5.7
BHD Baghdad 82.20 303 *ex* x 14 56 40.0
BHD *ex* x 14 56 58.0
BHD *ex* x 15 06 47.0
ATD Arta Tunnel 82.23 282 P P **P** **14 56 43.2 +1.4**
comp=Z,66nm,0.9s,mb5.6,baz=80,slow=0.9,SNR=18
ATD S S 15 06 51.5 -1.1
comp=Z,2.8nm,0.4s,baz=141,slow=6.5,SNR=2.8
DGRG David-gareji 82.31 312 P P **P** **14 56 42.7 +0.5**
GNI Garni 82.63 310 P P **P** **14 56 43.9 0.0**

comp=Z,20nm,0.7s,mb5.2,baz=1.8,slow=2.1,SNR=8.7
GNI S S 15 06 53.4 -3.3
comp=Z,2.7nm,0.4s,baz=194,slow=12,SNR=1.7
GNI Garni 82.63 310 P **P** **14 56 45.6 +1.7**
GNI pmax pmax
comp=Z,120nm,1.0s
GNI Garni 82.63 310 *eP* **P** **14 56 43.7 -0.2**
comp=Z,115nm,0.9s,mb5.9
MTA Mtatsminda 82.78 312 P **P** **14 56 44.6 0.0**
TBLG Delisi 82.82 312 P **P** **14 56 45.4 +0.5**
CHGN Chignik 82.90 33 *eP* **P** **14 56 46.0 +0.7**
MSL Mosul 83.53 306 *ex* x 14 56 49.0
MSL *ex* x 14 57 09.0
MSL *ex* x 15 07 06.0
ZEI Tsey 83.56 313 *eP* **P** **14 56 50.0 +1.3**
ZEI *e* 14 59 58.8
ZEI *eS* S 15 07 06.8 +0.7
ZEI pmax pmax
comp=Z,98nm,1.1s,mb5.8
ZEI smax
comp=N,132nm,2.1s
DIGO Kars 83.70 311 *i* P **P** **14 56 49.4 0.0**
AKH Akhalkalaki 83.71 312 P **P** **14 56 51.4 +1.9**
GOF Gofitskoye 84.43 315 *eP* **P** **14 56 53.8 +0.7**
GOF pmax pmax
comp=Z,80nm,0.8s,mb5.9
KIV Kislovodsk 84.56 314 P **P** **14 56 54.1 +0.3**
comp=Z,268nm,0.8s,mb6.4,SNR=19
KIV Kislovodsk 84.56 314*c* *i* P **P** **14 56 53.2 -0.6**
KIV pmax pmax
comp=Z,33nm,1.2s,mb5.3
KIV MLR MLR
comp=Z,3μm,21.0s,MS5.7
KIV Kislovodsk 84.56 314 *eP* **P** **14 56 53.7 -0.1**
comp=Z,82nm,0.8s,mb5.9
ARTV Artvin 84.86 311 *i* P **P** **14 56 55.7 +0.4**
PECR Pechory 85.12 326⇑ *i* P **P** **14 56 54.7 -1.9**
PECR *i* pP 14 57 12.0 -1.1
PECR *eS* 15 07 18.0
PECR *e* 15 08 23.3
PECR pmax pmax
comp=Z,640nm,2.0s,mb6.4
PECR pmax pmax
comp=Z,2μm,3.0s
PECR smax
comp=N,2μm,7.0s
PECR MLR MLR
comp=Z,3μm,20.0s,MS5.7
PECR MLR MLR
comp=Z,4μm,21.0s
ERZM Erzurum 85.19 310 *i* P **P** **14 56 59.2 +2.3**
SVW2 Sparrevohn 85.22 29 *eP* **P** **14 56 57.9 +0.8**
BNGL BINGOL 85.28 309 *i* P **P** **14 56 58.2 +0.8**
TTA Tatalina 85.32 27 *eP* **P** **14 56 59.0 +1.4**
MARD Mardin 85.46 307 *i* P **P** **14 56 57.9 -0.4**
PPT Papeete 85.68 107 *ePP* PP 15 00 19.6 +0.6
comp=Z,1μm,25.8s
PPT Papeete 85.68 107 *eS* S 15 07 30.5
comp=Z,14μm,26.5s
PPT *eSS* SS 15 13 08.3 +3.8
comp=Z,5μm,29.5s
PPT *eLR* LR 15 24 20.2
comp=Z,9μm,25.8s
PPT Papeete 85.68 107 P **P** **14 56 57.7 -1.7**
comp=Z,29nm,0.5s,mb5.8,baz=122,slow=9.6,SNR=3.5
TBI Tubuai 85.92 113 *ePP* PP 15 00 24.8 +3.9
comp=Z,802nm,28.0s
TBI Tubuai 85.92 113 *eS* S 15 07 31.9
comp=Z,13μm,28.0s
TBI *eLR* LR 15 24 27.1
comp=Z,6μm,30.2s
VRHR Novokhopersk 85.97 321 *eP* **P** **14 56 59.8 -1.0**
VRHR *eS* 15 07 24.0
VRHR pmax pmax
comp=Z,370nm,0.9s,mb6.6
VRHR pmax pmax
comp=N,20nm,0.5s
VRHR pmax pmax
comp=E,90nm,0.7s
VRHR smax
comp=N,970nm,9.7s
VRHR smax
comp=Z,930nm,13.2s
VRHR smax
comp=E,1μm,10.7s
VRHR MLR MLR
comp=Z,4μm,28.0s,MS5.7
VRHR MLR MLR
comp=N,2μm,19.0s
DRBT Darb Altahta 86.21 307⇓ P **P** **14 57 08.9 +6.9**
KDAK Kodiak Island 86.28 32 P **P** **14 57 03.0 +0.7**
comp=N,452nm,1.8s,mb6.4,SNR=7.1
KDAK Kodiak Island 86.28 32 P **P** **14 57 03.5 +1.1**
comp=N,33nm,0.7s,mb5.7,baz=244,slow=5.4,SNR=27
KDAK S 15 07 24.1
comp=N,8.2nm,1.2s,baz=106,slow=20,SNR=2.2
SOC Sochi 86.68 314*c* *i* P **P** **14 57 03.3 -1.0**
SOC *e* 14 57 10.4
SOC *e**PP pP 14 57 19.5 -1.3
SOC *e* 15 00 23.4
SOC *ePPP* 15 02 25.8
SOC *e* 15 07 23.8
SOC *e* 15 07 41.2
SOC *e* 15 08 26.7
SOC pmax pmax
comp=Z,701nm,2.3s,mb6.5
SOC pmax pmax
comp=Z,192nm,1.2s,mb6.2
ELZG Elazig 86.95 308 *i* P **P** **14 57 07.7 +2.1**
JHLN Al Jahlan 87.26 306⇑ P **P** **14 57 08.9 +1.8**
PMOR Pomariorio Pier 87.27 105 *eP* **P** **14 57 12.4 +5.2**
comp=Z,84nm,1.2s,mb5.8
MALT Malatya 87.38 308⇓ *i* P **P** **14 57 08.7 +1.0**
MALT Malatya 87.38 308 P **P** **14 57 08.4 +0.7**
MALT pmax pmax
comp=Z,300nm,1.5s,mb6.3
MALT Malatya 87.38 308⇑ *eP* **P** **14 57 07.8 +0.2**
comp=Z,299nm,1.5s,mb6.3
ATAB Bozova 87.45 307 *i* P **P** **14 57 08.4 +0.4**
VRSR Storozhevoye 87.51 321 *eP* **P** **14 57 08.4 +0.1**
VRSR *e**PP pP 14 57 25.4 +0.5
VRSR *eS* 15 07 42.8
VRSR pmax pmax
comp=Z,50nm,0.8s,mb5.8
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,50nm,0.9s
VRSR smax
comp=N,390nm,6.4s
VRSR smax
comp=Z,120nm,7.8s
VRSR smax
comp=E,10.0nm,3.2s
VOR Voronezh 87.54 322 *eP* **P** **14 57 06.5 -2.0**
VOR pmax pmax
comp=Z,900nm,2.0s,mb6.7
KMBO Kilima Mbogo 87.60 269 P **P** **14 57 10.6 +1.8**
comp=Z,140nm,0.9s,mb6.2,baz=64,slow=6.9,SNR=182
KMBO S 15 07 39.3
comp=Z,0.5nm,0.3s,baz=232,slow=24,SNR=3.3
KMBO LR LR 15 34 55.0
comp=Z,8μm,20.4s,MS6.1,baz=91,slow=35
KMBO Kilima Mbogo 87.60 269⇑ *iP* **P** **14 57 11.3 +2.5**
comp=Z,584nm,1.5s,mb6.6
GRSN GIRESUNGRSN 87.61 311 *i* P **P** **14 57 07.7 -1.1**
SLKM Skilak Lake 87.75 30 P **P** **14 57 09.2 -0.3**
SLKM Skilak Lake 87.75 30 *eP* **P** **14 57 08.6 -0.9**
KLMR Klimovskoe 87.98 331*c* *iP* **P** **14 57 08.8 -1.8**
KLMR *eS* 15 07 31.8
KLMR pmax pmax
comp=Z,710nm,8.9s
KLMR pmax pmax
comp=Z,560nm,1.5s,mb6.6
SYO Syowa Base 88.01 201⇓ *eP* **P** **14 57 11.4 +0.7**
SYO Syowa Base 88.01 201 ⇓ *i* PcP PcP 14 57 12.6 +0.1
SYO Syowa Base 88.01 201 *eSH* SKSac 15 07 36.6 +2.4
GZT Gaziantep 88.02 307 *i* P **P** **14 57 11.8 +1.1**
ZALF Zalf 88.08 303⇓ P **P** **14 57 13.5 +2.4**
ROOS tl_alroos 88.15 304⇓ P **P** **14 57 13.3 +1.9**
PMR Palmer 88.36 29 P **P** **14 57 13.0 +0.6**
PMR pmax pmax
comp=Z,34nm,1.0s,mb5.5
PMR Palmer 88.36 29 *eP* **P** **14 57 12.7 +0.3**
comp=Z,45nm,1.1s,mb5.6
PMR LR LR
comp=Z,3μm,22.0s,MS5.6
ANN Anapa 88.38 315*c* *iP* **P** **14 57 11.1 -1.3**
ANN *e**PP pP 14 57 26.5 -2.5
ANN *eS* 15 07 34.2
ANN pmax pmax
comp=Z,153nm,0.6s,mb6.4
ANN Anapa 88.38 315 *i* P **P** **14 57 11.2 -1.2**
ASF Jabal al Asfar 88.43 302 P **P** **14 57 13.3 +0.6**
comp=Z,39nm,0.9s,mb5.7,baz=330,slow=2.2,SNR=63
ASF S 15 07 37.6
comp=Z,0.6nm,0.6s,baz=162,slow=19,SNR=1.7
SALA Sala 88.58 303⇓ P **P** **14 57 15.5 +2.1**
KFRA Kufra 88.58 305⇓ P **P** **14 57 15.7 +2.3**
MOS Moscow 88.68 326*a* *iP* **P** **14 57 13.4 -0.5**
MOS *e**PP pP 14 57 30.0 -0.5
MOS *e* 15 00 42.5
MOS *e* 15 07 37.6
MOS *i* S 15 07 49.7
MOS pmax pmax
comp=Z,1μm,2.1s,mb6.9
MOS pmax pmax
comp=Z,515nm,1.6s,mb6.6
MOS MLR MLR
comp=N,3μm,22.0s,MS5.8
MOS MLR MLR
comp=E,3μm,22.0s,MS5.8
MOS MLR MLR
comp=Z,5μm,22.0s,MS5.9
MOS Moscow 88.68 326 *eP* **P** **14 57 13.4 -0.5**
DRWC Darouich 88.72 306⇓ P **P** **14 57 15.8 +1.7**
TOTH TOTAH 88.85 303⇓ P **P** **14 57 16.4 +1.7**
BTCH Batrach 88.88 306⇓ P **P** **14 57 15.8 +1.0**
FKH Fakeheh 88.89 304 *eP* **P** **14 57 15.3 +0.4**
WRDH Warideh 88.90 305⇓ P **P** **14 57 16.2 +1.3**
BIDA Albida 88.97 305⇑ P **P** **14 57 16.6 +1.4**
QASN Qassioun 88.98 303⇓ P **P** **14 57 17.1 +1.8**
COBT Iskenderun 89.05 306 *i* P **P** **14 57 15.9 +0.3**
SLNF Slenfeh 89.06 305⇓ P **P** **14 57 16.0 +0.4**
COLA College 89.12 25*c* *iP* **P** **14 57 15.2 -0.7**
COLA College 89.12 25 *eP* **P** **14 57 15.1 -0.8**
comp=Z,13nm,0.8s,mb5.3
TCHB Talchebab 89.22 303⇓ P **P** **14 57 18.2 +1.7**
BRBR Barbar 89.25 303⇓ P **P** **14 57 17.8 +1.3**
OBN Obninsk 89.26 325 P **P** **14 57 16.9 +0.3**
comp=Z,2μm,1.1s,SNR=23
OBN Obninsk 89.26 325*c* *iP* **P** **14 57 15.4 -1.2**
OBN *e**PP pP 14 57 32.1 -1.1
OBN *e* 15 00 46.9
OBN *e* 15 07 37.2
OBN *eSS* SS 15 13 57.5 +0.8
OBN pmax pmax
comp=Z,283nm,1.2s,mb6.5
OBN MLR MLR
comp=Z,4μm,18.0s,MS5.8
OBN Obninsk 89.26 325⇑ *iP* **P** **14 57 15.2 -1.4**
comp=Z,742nm,1.4s,mb6.8
BHL Bhannes 89.50 304 *eP* **P** **14 57 17.9 +0.2**
ILAR Eielson Array 89.53 25 P **P** **14 57 16.1 -1.8**
comp=Z,13nm,1.1s,mb5.2,baz=274,slow=3.8,SNR=48
ILAR PP PP 15 00 43.8 -6.1
comp=Z,4.6nm,1.0s,baz=264,slow=7.7,SNR=4.1
ILAR PKKP PKKPbc 15 14 50.0 -2.0
comp=Z,2.0nm,0.7s,baz=78,slow=0.4,SNR=9.1
ILAR PKPPKP 15 23 01.2
comp=Z,0.9nm,0.9s,baz=90,slow=1.6,SNR=6.9
QSPA South Pole Qui 89.63 180 P **P** **14 57 19.7 +1.4**
QSPA SKSac SKSac 15 07 44.7 +0.9
QSPA South Pole Qui 89.63 180⇑ *iP* **P** **14 57 19.3 +1.0**
comp=Z,92nm,1.3s,mb6.0
MMAI Mount Meron Ar 89.70 303 P **P** **14 57 19.0 +0.4**
comp=Z,6.9nm,0.5s,mb5.3,baz=90,slow=7.5,SNR=21
MMAI PP PP 15 00 49.5 -1.7
comp=Z,3.9nm,0.9s,baz=82,slow=12,SNR=2.5
EYAK Cordova Ski Ar 89.97 30 *eP* **P** **14 57 19.1 -0.8**
EIL Elat 90.06 300⇑ *iP* **P** **14 57 20.5 +0.1**
comp=Z,7μm,2.0s
BOYT Boyabat 90.16 311 *i* P **P** **14 57 20.7 -0.1**
AVNT Avonos 90.19 309 *i* P **P** **14 57 17.5 -3.4**
CTKT Corum 90.25 310 *i* P **P** **14 57 20.6 -0.6**
LVZ Lovozero 90.36 338 P **P** **14 57 21.8 +0.1**
comp=Z,402nm,1.0s,mb6.7,SNR=7.8
LVZ Lovozero 90.36 338 *eP* **P** **14 57 19.6 -2.1**
LVZ pmax pmax
comp=E,12nm,1.0s
LVZ pmax pmax
comp=Z,65nm,1.0s,mb5.9
LVZ pmax pmax
comp=N,4.0nm,0.8s
LVZ MLR MLR
comp=E,4μm,20.0s,MS5.9
LVZ MLR MLR
comp=Z,7μm,20.0s,MS6.1
LVZ MLR MLR
comp=N,3μm,22.0s,MS5.9
CDAG Cicekdag 90.56 309 *i* P **P** **14 57 22.0 -0.7**
SIM Simferopol' 90.74 315*ce* **P** **14 57 22.7 -0.8**
SIM *e* 15 01 03.0
SIM *e* 15 07 50.0
SIM *eS* 15 08 09.0
SIM pmax pmax
comp=Z,94nm,0.8s,mb6.2
SIM pmax pmax
comp=Z,1μm,17.0s
MEST Erdemli 90.75 306 *i* P **P** **14 57 22.9 -0.6**
APA Apatity 90.83 337⇑ *iP* **P** **14 57 23.0 -0.9**
APA *i* 14 57 31.0
APA *i* 15 01 03.0
APA *e* 15 07 45.0
APA *i* S 15 08 14.0
APA *ePS* PS 15 09 20.0 -11
APA *ePPS* 15 10 00.0
APA pmax pmax
comp=Z,68nm,1.2s,mb5.8
APA pmax pmax
comp=Z,1μm,10.0s
MENT Mentasta 90.92 27 *eP* **P** **14 57 24.7 +0.4**
BR131 Keskin Array S 91.13 310⇑ *eP* **P** **14 57 24.3 -1.0**
comp=Z,18nm,0.9s,mb5.4
BRTR Keskin Array B 91.13 310 P **P** **14 57 24.1 -1.2**
comp=Z,11nm,0.7s,mb5.3,baz=129,slow=5.5,SNR=21
BRTR PP PP 15 00 39.0 -24
comp=Z,4.3nm,0.9s,baz=71,slow=6.6,SNR=3.7
BRTR S 15 07 56.6
comp=Z,0.4nm,0.7s,baz=101,slow=7.5,SNR=2.6
BRTR PKKP PKKPbc 15 14 52.1 +4.3
comp=Z,0.7nm,0.7s,baz=222,slow=1.7,SNR=4.1
ELDT Eldivan 91.28 310 *i* P **P** **14 57 26.7 +0.7**
BALT Daday 91.30 311 *i* P **P** **14 57 26.6 +0.5**
CSS Prodhromos 91.42 305⇑ *iP* **P** **14 57 26.3 -0.4**
comp=Z,78nm,1.0s,mb6.0
ERMK Ermenek 91.74 306 *i* P **P** **14 57 26.8 -1.3**
ANTO Ankara 91.78 310 P **P** **14 57 28.8 +0.4**
JOF Joensuu 91.89 333 *ep* **P** **14 57 27.0 -1.8**
comp=Z,112nm,0.9s,mb6.2
SGKT Sivrigoynuk 92.33 310 *i* P **P** **14 57 21.5 -9.3**
PUL Pulkovo 92.56 330⇑ *eP* **P** **14 57 31.6 -0.3**
DAWY Dawson 92.80 26⇑ *eP* **P** **14 57 33.3 +0.2**
KEV Kevo 93.01 340 *ep* **P** **14 57 29.7 -4.3**
comp=Z,21nm,0.9s,mb5.6
KEV Kevo 93.01 340 *eP* **P** **14 57 31.6 -2.4**
KEV pmax pmax
comp=Z,100nm,1.6s,mb6.0
ARCES ARCESS Array B 93.56 340 P **P** **14 57 34.5 -2.1**
comp=Z,31nm,0.9s,mb5.8,baz=76,slow=5.1,SNR=39
ARCES ScS ScS 15 08 42.0 +0.1
comp=Z,1.8nm,0.8s,baz=79,slow=7.5,SNR=3.5
ARCES PKKP PKKPbc 15 14 40.9 -0.8
comp=Z,2.7nm,1.1s,baz=258,slow=3.8,SNR=5.8
ARCES ARCESS Array B 93.56 340 P **P** **14 57 34.5 -2.0**
ARCES 15 08 42.0
ARCES ARCESS Array B 93.56 340 P **P** **14 57 34.5 -2.1**
ARCES ScS ScS 15 08 42.0 +0.1
ARCES PKKP PKKPbc 15 14 40.9 -0.8
ARE0 ARCESS Array S 93.56 340 *eP* **P** **14 57 34.4 -2.1**
ISP Isparta 93.62 308 ⇓ *iP* **P** **14 57 33.9 -2.9**
ISP Isparta 93.62 308 *eP* **P** **14 57 35.6 -1.2**
ISP Isparta 93.62 308 P **P** **14 57 33.0 -3.9**
AKASG Malin Array Be 93.81 321 P **P** **14 57 36.1 -1.5**
comp=Z,11nm,0.6s,mb5.5,baz=76,slow=4.0,SNR=55
AKASG PP PP 15 01 25.6 +1.9
comp=Z,5.3nm,0.9s,baz=69,slow=7.3,SNR=4.0
KAF Kangasniemi 94.28 332 *ep* **P** **14 57 37.7 -2.1**
comp=Z,51nm,0.9s,mb6.0,baz=79,slow=4.2
KAF Kangasniemi 94.28 332 *eP* **P** **14 57 37.7 -2.1**
KAF pmax pmax
comp=Z,51nm,0.9s,mb6.0
MNK Minsk 94.33 325⇓ *iP* **P** **14 57 37.0 -3.1**
MNK *e* 15 08 10.0
MNK pmax pmax
comp=Z,1μm,1.0s
MNK pmax pmax
comp=E,910nm,1.5s
MNK pmax pmax
comp=N,340nm,2.0s
KTK1 Kautokeino 94.44 339 *eP* **P** **14 57 40.7 +0.1**
KTK1 AMb AMB 14 57 42.6
comp=Z,68nm,1.5s,mb5.8
KTK1 Kautokeino 94.44 339 *eP* **P** **14 57 40.7 +0.1**
comp=Z,68nm,1.5s,mb5.9
BJO Bjornoya 94.45 345 AMS AMS 15 47 05.0
comp=Z,3μm,17.8s,MS5.7
FINES FINESS Array B 94.47 332 P **P** **14 57 38.6 -2.1**
comp=Z,14nm,0.7s,mb5.5,baz=86,slow=6.3,SNR=34
FINES ScS ScS 15 08 54.2 +4.7
comp=Z,2.9nm,1.0s,baz=101,slow=7.2,SNR=3.5
FINES FINESS Array B 94.47 332 *i* P **P** **14 57 39.0 -1.7**
FINES pmax pmax
comp=Z,14nm,0.7s
VSU Vasula 94.52 329*c* *i* P **P** **14 57 38.7 -2.2**
INK Inuvik 94.58 21 P **P** **14 57 40.2 -1.0**
comp=Z,65nm,1.2s,mb5.9,baz=294,slow=4.5,SNR=50
INK S 15 08 11.9
comp=Z,1.1nm,0.9s,baz=253,slow=20,SNR=10
INK PKKP PKKPbc 15 14 36.7 -2.3
comp=Z,1.9nm,0.6s,baz=106,slow=4.7,SNR=7.1
INK Inuvik 94.58 21 P **P** **14 57 40.4 -0.8**
INK pmax pmax
comp=Z,96nm,1.2s
INK Inuvik 94.58 21 *eP* **P** **14 57 40.3 -0.9**
comp=Z,96nm,1.3s,mb6.1
KBS Kingsbay 94.61 350 *eP* **P** **14 57 41.0 -0.4**
KBS *ePP* PP 15 01 27.9 -2.0
KBS *e*SKSa 15 08 10.8
KBS *eSS* SS 15 15 12.8 -0.9
KBS AMS AMS 15 43 17.2
comp=Z,2μm,23.9s,MS5.4
TIRR Tirgusor 94.82 314⇑ *eP* **P** **14 57 40.7 -1.6**
IDID Didziasalis 94.88 325 *eP* **P** **14 57 42.3 -0.3**
IDID AMb AMB 14 57 48.1
comp=Z,3μm,0.9s
TAOE Nuku Hiva Isla 94.89 99 *e*SKSac SKSac 15 08 18.1 +4.9
comp=Z,14μm,26.5s
TAOE *e*LR LR 15 28 45.6
comp=Z,16μm,23.4s
CFR Carcaliu 94.96 315⇑ *iP* **P** **14 57 45.7 +2.7**
CFR Carcaliu 94.96 315⇑ *P* **P** **14 57 46.0 +3.0**
ELBA Catalca 95.05 311 *i* P **P** **14 57 42.0 -1.3**
IZAR Zarasai 95.11 326 *eP* **P** **14 57 43.0 -0.6**
IZAR AMb AMB 14 57 49.1
comp=Z,2μm,1.0s
MANT Manisa 95.12 308 *i* P **P** **14 57 42.5 -1.3**
HARR Harsova 95.14 315⇓ *iP* **P** **14 57 43.4 -0.4**
HARR Harsova 95.14 315⇓ P **P** **14 57 43.1 -0.7**
ISAL Salakas 95.19 326 *eP* **P** **14 57 43.4 -0.6**
ISAL AMb AMB 14 57 49.4
comp=Z,1μm,0.9s
SKAG Skagway 95.25 30 *eP* **P** **14 57 46.7 +2.4**
comp=Z,73nm,1.2s,mb6.0
SKAG LR LR
comp=Z,3μm,22.0s,MS5.7
SIT Sitka 95.60 33 P **P** **14 57 48.5 +2.6**
SIT pmax pmax
comp=Z,54nm,1.1s,mb5.9
SIT Sitka 95.60 33 *eP* **P** **14 57 44.4 -1.5**
comp=Z,18nm,1.2s,mb5.4
SIT *ePP* pP 14 58 01.5 -1.1
TRO Tromso 95.80 340 *eP* **P** **14 57 45.1 -1.7**
TRO *ePP* PP 15 01 37.7 -1.4
TRO *e*SKSa 15 08 18.1
TRO *eSS* SS 15 15 29.8 -0.7
TRO AMS AMS 15 43 05.7
comp=Z,2μm,28.7s,MS5.4
VRI Vrincioaia 95.89 316⇑ *iP* **P** **14 57 47.7 +0.5**
VRI Vrincioaia 95.89 316⇑ *P* **P** **14 57 48.0 +0.8**
VRI Vrincioaia 95.89 316 P **P** **14 57 47.7 +0.5**
PLOR Plostina 95.94 316⇑ *iP* **P** **14 57 48.1 +0.7**
PLOR Plostina 95.94 316⇓ P **P** **14 57 48.3 +0.9**
LSZ Lusaka 96.35 255 P **P** **14 57 50.7 +1.4**
comp=Z,83nm,0.7s,mb6.3,baz=93,slow=4.5,SNR=119
LSZ PP PP 15 01 40.7 -2.7
comp=Z,46nm,1.3s,baz=78,slow=7.6,SNR=9.8
LSZ Lusaka 96.35 255 P **P** **14 57 50.6 +1.3**
LSZ pmax pmax
comp=Z,82nm,0.8s,mb6.2
LSZ Lusaka 96.35 255⇑ *iP* **P** **14 57 50.5 +1.2**
comp=Z,82nm,0.8s,mb6.2
LSZ *ePP* PP 15 01 36.6 -6.8
MLR Muntele Rosu 96.47 316 P **P** **14 57 49.2 -0.6**
comp=Z,19nm,0.8s,mb5.6,baz=346,slow=2.2,SNR=34
MLR PP PP 15 01 42.7 -1.6
comp=Z,12nm,0.9s,baz=212,slow=3.3,SNR=3.5
MLR Muntele Rosu 96.47 316⇑ *iP* **P** **14 57 50.0 +0.2**
MLR Muntele Rosu 96.47 316 P **P** **14 57 49.7 -0.1**
URLA Izmir 96.67 308 *i* P **P** **14 57 49.6 -1.1**
BURAR Bucovina Array 96.73 318⇑ *iP* **P** **14 57 52.0 +1.0**
BURAR Bucovina Array 96.73 318⇑ *P* **P** **14 57 51.8 +0.7**
SUW Suwalki 97.10 324 *eP* **P** **14 57 52.0 -0.7**
SUW *ep*P pP 14 58 07.1 -2.3
SUW *es*P sP 14 58 13.6 -2.2
SUW *e*SKS 15 08 25.9
SUW *eS* 15 09 07.4
SUW *eSS* SS 15 16 22.0 +33
SUW L 15 42 05.0
comp=Z,3.7nm,26.6s
SUW Suwalki 97.10 324 *eP* **P** **14 57 52.0 -0.7**
SUW *e**PP pP 14 58 07.1 -2.3
SUW *e* 15 08 25.9
SUW *eS* 15 09 07.4
SUW MLR MLR
comp=Z,4μm,26.6s,MS5.7
SUW Suwalki 97.10 324⇑ *eP* **P** **14 57 51.4 -1.3**
comp=Z,424nm,1.3s,mb6.7
SUW *ep*P pP 14 58 07.1 -2.3
SUW *es*P sP 14 58 13.6 -2.2
SUW *ePP* PP 15 01 49.2 0.0
SUW *e*SKS 15 08 25.9
SUW *eS* 15 09 07.4
SUW *eSS* SS 15 16 22.0 +33
NVL N'lazarevskaya 97.16 198⇑ *iP* **P** **14 57 55.4 +2.4**
NVL *i* S 15 08 24.0
NVL *e* 15 10 51.4
NVL pmax pmax
comp=Z,55nm,1.9s,mb5.7
LVV L'vov 97.22 320 *i* P **P** **14 57 53.3 +0.1**
LVV *i* pP 14 58 09.5 -0.4
LVV *e* 15 01 54.8
LVV *e* 15 08 24.3
LVV *i* S 15 09 14.1
KWP Kalwaria 98.09 320 *eP* **P** **14 57 57.3 +0.1**
KWP *e*SKS 15 08 59.6
KWP L 15 42 00.7
comp=Z,4.3nm,27.9s
KWP Kalwaria 98.09 320 *eP* **P** **14 57 57.3 +0.1**
KWP *e*SKS 15 08 59.6
DLBC Dease Lake 98.14 31 P **P** **14 57 57.5 +0.1**
comp=Z,2.9nm,0.8s,mb4.9,baz=253,slow=5.3,SNR=6.9
DLBC PP PP 15 02 09.3 +12
comp=Z,5.3nm,1.0s,baz=266,slow=9.3,SNR=4.3
DLBC PKKPbc PKKPbc 15 14 32.6 +3.2
comp=Z,1.9nm,0.8s,baz=188,slow=7.1,SNR=4.8
DLBC Dease Lake 98.14 31 *eP* **P** **14 57 58.9 +1.5**
DLBC *ep*P pP 14 58 12.9 -1.2
LBTB Lobatse 98.26 245 P **P** **14 58 00.4 +2.5**
LBTB pmax pmax
comp=Z,8.0nm,0.8s,mb5.3
LBTB Lobatse 98.26 245 *eP* **P** **14 57 59.4 +1.4**
comp=Z,8.1nm,0.8s,mb5.3
LBTB *ePP* PP 15 01 55.2 -2.8
IDI Anoyia 98.31 305 P **P** **14 57 57.7 -0.4**
comp=Z,11nm,0.7s,mb5.5,baz=74,slow=4.6,SNR=7.7
IDI PP PP 15 01 57.9 -0.5
comp=Z,8.1nm,1.0s,baz=45,slow=10.0,SNR=3.0
MOR8 Moi Rana 98.42 337 *eP* **P** **14 57 56.8 -1.8**
MOR8 AMb AMB 14 57 58.5
comp=Z,49nm,1.9s,mb5.7
MOR8 Moi Rana 98.42 337 *eP* **P** **14 57 56.8 -1.8**
comp=Z,49nm,1.8s,mb5.7

UZH	**Uzhgorod**	**98.52**	319	*c*	*i*	P	**P**	**14 58 00.0 +0.9**
UZH					*e*			15 02 02.0
UZH					*e*S			15 09 20.0
DRGR		**98.53**	**317**	⇓	*i*	P	**P**	**14 58 01.9 +2.8**
DRGR		**98.53**	**317**		P		**P**	**14 58 00.8 +1.6**
WAR	**Warsaw**	**98.69**	**323**		*e*	P	**P**	**14 58 00.1 +0.2**
WAR					*e*SKS			15 08 42.9
WAR					L			15 44 28.0
	comp=Z,5.6nm,24.5s							
GVD	**Gavdhos**	**99.01**	**305**		*e*	P	**P**	**14 58 00.4 -0.8**
RKT	**Rikitea**	**99.24**	**113**		*e*	PP	PP	15 02 07.9 +2.4
	comp=Z,665nm,28.8s							
RKT	**Rikitea**	**99.24**	**113**		*e*	PS	PS	15 11 07.5 +4.5
	comp=Z,2µm,26.2s							
RKT	**Rikitea**	**99.24**	**113**		*e*	SKSac	SKSac	15 08 37.2 +1.6
	comp=Z,5µm,28.5s							
RKT					*e*	SS	SS	15 16 07.6 -11
	comp=Z,3µm,36.8s							
RKT					*e*	LR	LR	15 30 37.1
	comp=Z,4µm,29.8s							
VAY	**Valandovo**	**99.42**	**312**		*i*	P	**P**	**14 58 00.5 -2.6**
BZS	**Buzias**	**99.47**	**316**	⇑	*i*	P	**P**	**14 58 05.1 +1.8**
BZS	**Buzias**	**99.47**	**316**	⇓	*i*	P	**P**	**14 58 05.0 +1.7**
BZS	**Buzias**	**99.47**	**316**			P	**P**	**14 58 03.4 +0.1**
STIP	**Stip**	**99.66**	**312**		*e*	P	Pdif	14 58 04.0 -0.1
OJC	**Ojcow**	**99.84**	**321**		*e*	Pdiff	Pdif	14 58 04.2 -0.8
OJC					*e*	PP	PP	15 02 11.7 +1.6
OJC					*e*	SKSac	SKSac	15 08 41.4 +2.8
OJC					*e*S			15 09 30.1
OJC					*e*SS	SS	SS	15 16 30.6 +3.3
OJC					L			15 46 24.5
	comp=Z,22nm,21.4s							
NSS	**Namsos**	**99.96**	**336**		*e*	P	Pdif	14 58 04.2 -1.3
NSS						AMS	AMS	15 47 12.2
	comp=Z,5µm,15.1s,MS6.1							
SKO	**Skopje**	**100.17**	**313**		*e*	P	Pdif	14 58 05.7 -0.7
PSZ	**Piszkesteto**	**100.23**	**319**	⇑	*e*	P	Pdif	14 58 06.4 -0.3
PSZ	**Piszkesteto**	**100.23**	**319**	⇓	*i*	P	Pdif	14 58 08.4 +1.7
GRUS	**Gruza**	**100.39**	**315**		*i*	P	Pdif	14 58 08.0 +0.6
HFS	**Hagfors**	**100.67**	**332**		*e*	P	Pdif	14 58 07.2 -1.5
	comp=Z,9.2nm,0.7s,baz=74,slow=6.3,SNR=22							
GKP	**Gorka Klasztor**	**100.72**	**324**		*e*	P	Pdif	14 58 09.9 +1.0
GKP					*e*SKS			15 08 45.4
GKP					L			15 45 11.3
	comp=Z,3.8nm,24.5s							
SNAA	**Sanae**	**100.86**	**195**			PKKPbc	PKKPbc	15 14 21.3 -0.4
	comp=Z,1.1nm,0.9s,baz=324,slow=7.8,SNR=5.0							
DIVS	**Divcibare**	**100.86**	**315**		*i*	P	Pdif	14 58 08.0 -1.5
OKC	**Ostrava-Krasne**	**100.96**	**321**		*e*	PDIF	Pdif	14 58 09.6 -0.3
OKC					*e*	PP	PP	15 02 18.0 -0.6
OKC					*e*SDIF	Sdif	Sdif	15 09 40.7 -2.9
OKC						AMS	AMS	15 50 10.0
	comp=Z,5µm,17.8s							
OKC	**Ostrava-Krasne**	**100.96**	**321**		*i*	P	Pdif	14 58 09.6 -0.3
OKC					*e*			15 02 18.0
OKC					*e*			15 09 40.7
OKC						MLR	MLR	
	comp=Z,5µm,17.8s,MS6.1							
DAG	**Danmarks Havn**	**100.97**	**352**	⇓	*i*	P	Pdif	14 58 08.2 -1.8
	comp=Z,30nm,1.1s							
DAG	**Danmarks Havn**	**100.97**	**352**	⇓	*e*	P	Pdif	14 58 08.2 -1.8
DAG						pmax	pmax	
	comp=Z,30nm,1.1s							
DAG	**Danmarks Havn**	**100.97**	**352**	⇓	*e*	P	Pdif	14 58 08.2 -1.8
	comp=Z,30nm,1.1s							
MORC	**Moravsky Berou**	**101.36**	**321**	⇑	*i*	P	Pdif	14 58 13.5 +1.8
MORC	**Moravsky Berou**	**101.36**	**321**			P	Pdif	14 58 13.5 +1.8
MORC						pmax	pmax	
	comp=Z,72nm,1.7s							
MORC	**Moravsky Berou**	**101.36**	**321**	⇑	*e*	Pdif	Pdif	14 58 11.4 -0.3
	comp=Z,72nm,1.7s							
MORC					*e*	PP	PP	15 02 24.0 +2.4
PKSM	**Moragy**	**101.40**	**317**	⇓	*i*	P	Pdif	14 58 14.6 +2.7
PKSM	**Moragy**	**101.40**	**317**	⇑		P	Pdif	14 58 13.5 +1.6
PKSM	**Moragy**	**101.40**	**317**	⇑	*e*	P	Pdif	14 58 11.6 -0.3
NB2	**NORSAR Subarra**	**101.52**	**333**			P	Pdif	14 58 10.9 -1.5
	comp=Z,34nm,1.1s,baz=72,slow=4.6							
NOA	**NORSAR Array B**	**101.52**	**333**			P	Pdif	14 58 10.3 -2.1
	comp=Z,12nm,0.9s,baz=71,slow=4.5,SNR=31							
NOA						PP	PP	15 02 25.3 +2.5
	comp=Z,4.2nm,0.9s,baz=68,slow=7.7,SNR=2.7							
BSD	**Bornholm Skovb**	**101.55**	**327**		*i*	P	Pdif	14 58 12.9 +0.3
	comp=Z,68nm,1.1s							
BSD					*i*			15 02 26.5
BSD					*i*	S	SKSac	15 08 52.5 +5.6
BSD					*i*			15 09 45.4
BSD								
	comp=Z,3µm,20.0s							
BSD	**Bornholm Skovb**	**101.55**	**327**		*i*	P	Pdif	14 58 12.9 +0.3
BSD					*i*			15 02 26.5
BSD					*i*	S	SKSac	15 08 52.5 +5.6
BSD					*i*			15 09 45.4
BSD						pmax	pmax	
	comp=Z,68nm,1.1s							
BSD						MLR	MLR	
	comp=Z,3µm,20.0s,MS5.8							
BSD	**Bornholm Skovb**	**101.55**	**327**		*i*	P	Pdif	14 58 12.9 +0.3
	comp=Z,68nm,1.1s							
BSD					*i*			15 02 26.5
BSD					*i*	S	SKSac	15 08 52.5 +5.6
BSD					*i*			15 09 45.4
NAO01	**NORSAR Array S**	**101.74**	**333**		*e*	Pdif	Pdif	14 58 12.1 -1.3
	comp=Z,19nm,1.0s							
KSP	**Ksiaz**	**101.88**	**322**		*e*	P	Pdif	14 58 15.4 +1.4
KSP					*e*SKS			15 09 49.9
KSP					*e*SS			15 17 43.2
KSP					L			15 40 16.5
	comp=Z,5.1nm,29.3s							
KSP	**Ksiaz**	**101.88**	**322**		*e*	Pdif	Pdif	14 58 15.5 +1.5
KSP					*e*	PP	PP	15 02 17.0 -8.5
KSP					*e*	Sdif	Sdif	15 09 48.0 -3.3
KSP					*e*	SP	SP	15 11 20.0 -3.9
KSP					*e*	SS	SS	15 16 53.0 -2.6
KSP						LR	LR	
	comp=Z,11µm,25.2s,MS6.3							
DPC	**Dobruska-Polom**	**101.98**	**322**		*e*	PDIF	Pdif	14 58 15.1 +0.6
DPC					*e*	PP	PP	15 02 29.4 +3.1
DPC					*e*	x	x	15 09 42.2
DPC					*e*	PS	PS	15 11 35.5 +3.2
DPC						AMS	AMS	15 46 00.0
	comp=Z,6µm,23.8s							
ZST	**Bratislava**	**102.00**	**319**		*e*	P	Pdif	14 58 15.5 +0.9
ZST					*e*	PP	PP	15 02 33.9 +7.5
ZST	**Bratislava**	**102.00**	**319**	⇑	*e*	SKSp	SKSac	15 08 54.1 +5.1
VRAC	**Vranov**	**102.07**	**321**			P	Pdif	14 58 15.3 +0.5
	comp=Z,17nm,1.1s,baz=114,slow=2.8,SNR=25							
VRAC						PP	PP	15 02 28.7 +1.8
	comp=Z,3.2nm,0.5s,baz=94,slow=5.3,SNR=4.8							
VRAC	**Vranov**	**102.07**	**321**	⇑		P	Pdif	14 58 15.8 +0.9
VRAC	**Vranov**	**102.07**	**321**			P	Pdif	14 58 17.6 +2.7
RES	**Resolute Bay**	**102.09**	**10**			P	Pdif	14 58 16.9 +2.0
RES						pmax	pmax	
	comp=Z,15nm,1.0s							
RES	**Resolute Bay**	**102.09**	**10**		*e*	Pdif	Pdif	14 58 13.6 -1.3
	comp=Z,15nm,1.0s							
DOMB	**Dombas**	**102.10**	**334**		*e*	P	Pdif	14 58 15.3 +0.3
DOMB						AMb	AMB	14 58 18.5
	comp=Z,54nm,1.7s							
DOMB	**Dombas**	**102.10**	**334**		*e*	P	Pdif	14 58 15.3 +0.3
	comp=Z,54nm,1.7s							
UPC	**Upice**	**102.14**	**322**		*e*	PDIF	Pdif	14 58 15.5 +0.3
UPC	**Upice**	**102.14**	**322**		*i*	P	Pdif	14 58 15.5 +0.3
VNA2	**Neumayer--Watz**	**102.48**	**194**	⇑	*i*	Pdiff	Pdif	14 58 19.9 +3.2
	baz=131,slow=3.1							
VNA2					*e*			14 58 29.1
VNA2					*e*			14 58 32.2
VNA2					*e*			14 58 36.7
VNA2					*e*			14 58 40.5
VNA2					*e*			14 58 46.1
VNA2					*e*			14 58 50.7
VNA2					*e*			14 58 56.4
VNA2					*e*			14 58 59.9
VNA2					*e*			14 59 05.5
VNA2					*e*			14 59 11.4
VNA2					*e*			14 59 16.3
VNA2					*e*			14 59 23.7
VNA2					*e*			14 59 41.2
VNA2					*e*			15 02 39.2
VNA2					*e*			15 02 47.6
VNA2					*e*			15 02 56.9
VNA2					*e*			15 03 02.8
MOL	**Molde**	**102.54**	**335**		*e*	P	Pdif	14 58 17.4 +0.4
COP	**Copenhagen**	**102.73**	**328**		*i*	P	Pdif	14 58 17.2 -0.6
COP					*i*	S	PP	15 02 33.2 +1.3
COP					*i*			15 08 51.0
	comp=Z,2µm,19.0s							
TREC	**Trest**	**102.77**	**321**		*e*	PDIF	Pdif	14 58 18.7 +0.7
KONO	**Kongsberg**	**102.78**	**332**		*e*	P	Pdif	14 58 15.9 -2.2
KONO					*e*	PP	PP	15 02 30.9 -1.3
KONO					*e*	SKSa		15 08 49.2
VNA3	**Neumayer Olymp**	**102.82**	**194**	⇑	*i*	Pdiff	Pdif	14 58 21.2 +3.0
VNA3					*e*			14 58 28.7
VNA3					*e*			14 58 31.5
VNA3					*e*			14 58 37.3
VNA3					*e*			14 58 40.8
VNA3					*e*			14 58 46.8
VNA3					*e*			14 58 51.1
VNA3					*e*			14 58 56.8
VNA3					*e*			14 58 59.9
VNA3					*e*			14 59 05.2
VNA3					*e*			14 59 12.2
VNA3					*e*			14 59 16.0
VNA3					*e*			14 59 23.4
VNA3					*e*			15 02 40.7
VNA3					*e*			15 02 49.4
VNA3					*e*			15 02 59.1
VNA3					*e*			15 03 04.2
VNA1	**Neumayer--Stat**	**102.88**	**194**	⇑	*i*	Pdiff	Pdif	14 58 21.6 +3.1
VNA1					*e*			14 58 29.6
VNA1					*e*			14 58 37.8
VNA1					*e*			14 58 43.4
VNA1					*e*			14 58 48.5
VNA1					*e*			14 58 56.8
VNA1					*e*			14 59 00.4
VNA1					*e*			14 59 16.4
VNA1					*e*			14 59 43.1
VNA1					*e*			15 02 38.8
VNA1					*e*			15 02 48.2
VNA1					*e*			15 02 56.9
VNA1					*e*			15 03 01.9
RUE	**Ruedersdorf**	**102.95**	**324**		*e*	Pdiff	Pdif	14 58 20.1 +1.3
RUE	**Ruedersdorf**	**102.95**	**324**	⇑	*e*	Pdif	Pdif	14 58 18.6 -0.2
PRU	**Pruhonice**	**103.19**	**322**		*e*	PDIF	Pdif	14 58 20.0 +0.2
PRU					*e*	PP	PP	15 02 31.6 -3.7
PRU					*e*	SDIF	Sdif	15 09 56.6 -5.6
PRU						AMS	AMS	15 46 40.0
	comp=Z,5µm,23.0s							
PRU	**Pruhonice**	**103.19**	**322**		*i*	P	Pdif	14 58 20.0 +0.2
PRU					*e*			15 02 31.6
PRU					*e*			15 09 56.6
PRU						MLR	MLR	
	comp=Z,5µm,23.0s,MS5.9							
ARSA	**Arzberg**	**103.26**	**319**	⇑	*i*	P	Pdif	14 58 22.1 +2.0
	comp=Z,16nm,1.2s							
JMIC	**Jan Mayen**	**103.30**	**346**		*e*	P	Pdif	14 58 20.5 +0.2
JMIC						AMS	AMS	15 44 59.9
	comp=Z,2µm,22.1s,MS5.5							
BRG	**Berggiesshubel**	**103.31**	**323**		*e*	P	Pdif	14 58 20.6 +0.2
	comp=Z,38nm,1.5s							
BRG						PP	PP	15 02 28.0 -8.2
BRG						SKS	SKSac	15 08 56.0 +0.8
BRG						S	SKKSac	15 09 44.0 +7.5
BRG						PS	PS	15 11 08.0 -38
BRG						SS	SS	15 17 01.0 -14
BRG								
	comp=N,1µm,20.9s							
BRG								
	comp=E,2µm,20.6s							
BRG								
	comp=Z,2µm,19.7s							
BRG	**Berggiesshubel**	**103.31**	**323**		*e*	P	Pdif	14 58 20.5 +0.1
BRG								15 08 56.0
BRG						pmax	pmax	
	comp=Z,38nm,1.5s							
BRG						MLR	MLR	
	comp=N,1µm,20.9s,MS5.8							
BRG						MLR	MLR	
	comp=E,2µm,20.6s,MS5.8							
BRG						MLR	MLR	
	comp=Z,2µm,19.7s,MS5.7							
PERS	**Pernice**	**103.68**	**318**		*e*	Pdiff	Pdif	14 58 21.6 -0.5
CLL	**Collm**	**103.75**	**323**	⇓	*i*	Pdiff	Pdif	14 58 23.6 +1.2
	comp=Z,45nm,1.6s							
CLL					*e*	PP	PP	15 02 36.5 -3.0
CLL					*e*	PPP		15 04 52.0
CLL					*e*	SKSac	SKSac	15 08 57.5 +0.3
CLL					*e*	Sdiff	Sdif	15 10 03.9 -3.0
CLL					*e*	PS	PS	15 11 46.2 -4.7
CLL					*e*	PPS		15 12 40.7
CLL					*e*	SS	SS	15 17 22.7 +1.2
CLL					*e*	SSS		15 21 37.6
CLL					*e*	L		15 53 15.4
	comp=Z,4µm,22.0s							
CLL	**Collm**	**103.75**	**323**	⇓	*i*	Pdif	Pdif	14 58 23.5 +1.1
	comp=Z,45nm,1.6s							
CLL					*e*	PP	PP	15 02 41.0 +1.5
CLL					*e*	PPP		15 04 56.0
CLL					*e*	SKSac	SKSac	15 09 00.0 +2.8
CLL					*e*	Sdif	Sdif	15 10 04.0 -2.9
CLL					*e*	PS	PS	15 11 57.0 +6.1
CLL					*e*	PPS		15 12 46.0
CLL					*e*	SS	SS	15 17 42.0 +21
CLL					*e*	SSS		15 21 36.0
CLL					LmV			15 53 00.0
	comp=Z,4µm,21.3s							
CLL	**Collm**	**103.75**	**323**	⇓	*i*	Pdif	Pdif	14 58 23.5 +1.1
CLL					*e*			15 09 00.0
CLL					*e*S	Sdif	Sdif	15 10 04.0 -2.9
CLL						pmax	pmax	
	comp=Z,45nm,1.6s							
CLL						MLR	MLR	
	comp=Z,4µm,21.3s,MS5.9							
BOJS	**Bojanci**	**103.87**	**317**		*e*	Pdiff	Pdif	14 58 22.0 -0.9
BOJS					*e*			14 58 39.0
YKW3	**Yellowknife Ar**	**103.89**	**24**		*e*	Pdif	Pdif	14 58 23.5 +0.6
YKW3					*e*pP			14 58 38.2
YKA	**Yellowknife Ar**	**103.92**	**24**			Pdiff	Pdif	14 58 23.0 -0.1
	comp=Z,1.2nm,0.7s,baz=294,slow=4.7,SNR=11							
YKA						PKiKP	PKiKP	15 02 41.6 +1.2
	comp=Z,2.4nm,0.8s,baz=298,slow=1.8,SNR=8.5							
YKA						PKKPbc	PKKPbc	15 14 12.3 -0.4
	comp=Z,2.1nm,0.8s,baz=112,slow=2.5,SNR=8.1							
MOA	**Molln**	**103.93**	**319**		*i*	P	Pdif	14 58 25.1 +2.0
	comp=Z,29nm,1.2s,SNR=9.7							
KHC	**Kasperske Hory**	**104.02**	**321**		*e*	PDIF	Pdif	14 58 21.6 -2.0
KHC					*e*	PP	PP	15 02 37.0 -4.5
KHC					*e*SKS			15 08 57.5
KHC						AMS	AMS	15 47 10.0
	comp=Z,7µm,23.6s							
KHC	**Kasperske Hory**	**104.02**	**321**		*e*	P	PKiKP	15 02 29.0 -12
KHC	**Kasperske Hory**	**104.02**	**321**		*i*	P	Pdif	14 58 21.6 -2.0
KHC					*e*			15 02 37.0
KHC					*e*			15 08 57.5
KHC						MLR	MLR	
	comp=Z,7µm,23.6s,MS6.1							
GEC2	**GERESS Array S**	**104.02**	**321**		*e*	Pdiff	Pdif	14 58 24.6 +1.0
GERES	**GERESS Array B**	**104.02**	**321**			Pdiff	Pdif	14 58 23.5 0.0
	comp=Z,3.6nm,0.8s,baz=83,slow=4.2,SNR=15							
GERES						PKiKP	PKiKP	15 02 42.1 +1.5
	comp=Z,1.9nm,0.7s,baz=96,slow=1.0,SNR=4.0							
TIP	**Timpagrande**	**104.17**	**310**		*e*	Pdif	Pdif	14 58 24.3 +0.1
MUD	**Monsted U'grnd**	**104.18**	**329**		*i*	P	Pdif	14 58 25.8 +1.5
	comp=Z,19nm,0.9s							
MUD					*i*			15 02 46.5
MUD								
	comp=Z,3µm,19.0s							
MUD	**Monsted U'grnd**	**104.18**	**329**		*e*	P	Pdif	14 58 25.8 +1.5
MUD					*i*			15 02 46.5
MUD						pmax	pmax	
	comp=Z,19nm,0.9s							
MUD						MLR	MLR	
	comp=Z,3µm,19.0s,MS5.9							
MUD	**Monsted U'grnd**	**104.18**	**329**		*e*	P	Pdif	14 58 25.8 +1.5
	comp=Z,19nm,0.9s							
MUD					*i*			15 02 46.5
LJU	**Ljubljana**	**104.22**	**318**		*e*	Pdiff	Pdif	14 58 25.8 +1.4
LJU					*e*			14 58 41.2
LJU					*e*			15 00 09.6
LJU					*e*	PP	PP	15 02 45.5 +2.4
LJU					*e*	SKSac	SKSac	15 09 00.1 +0.7
LJU					*e*S		Sdif	15 09 46.4 -24
NKC	**Novy Kostel**	**104.41**	**322**		*e*	PDIF	Pdif	14 58 25.4 +0.1
NKC						AMS	AMS	15 47 30.0
	comp=Z,3µm,17.9s							
WERD	**Werda**	**104.43**	**322**		*e*	Pdiff	Pdif	14 58 24.9 -0.5
BER	**Bergen**	**104.44**	**333**		*e*	P	Pdif	14 58 25.7 +0.3
BER					*e*	PP	PP	15 02 42.6 -2.0
BER					*e*SKSa			15 09 02.6
BER						AMS	AMS	15 49 30.4
	comp=Z,7µm,17.9s,MS6.2							
WET	**Wettzell**	**104.46**	**321**		*e*	Pdiff	Pdif	14 58 26.9 +1.4
WET					*e*	PP	PP	15 02 43.5 -1.3
WET	**Wettzell**	**104.46**	**321**		*e*	P	Pdif	14 58 26.9 +1.4
WET					*e*			15 02 43.4
BSEG	**Bad Segeberg**	**104.47**	**326**		*e*	Pdiff	Pdif	14 58 27.4 +1.9
BSEG					*e*	PP	PP	15 02 45.0 +0.2
VOY	**Vojsko**	**104.66**	**318**		*e*	PP	Px	15 01 55.5
VOY					*e*		PP	15 02 42.2 -4.0
VOY					*e*			15 02 53.2
MANZ	**Manzenberg**	**104.69**	**322**		*e*	Pdiff	Pdif	14 58 26.8 +0.3
ROTZ	**Rotzenmuhle**	**104.70**	**322**		*e*	Pdiff	Pdif	14 58 27.5 +1.0
ROTZ						*e*PP	PP	15 02 47.1 +0.6
KBA	**Koelnbreinsper**	**104.74**	**319**	⇑	*i*	P	Pdif	14 58 28.1 +1.3
	comp=Z,8.9nm,1.3s							
KBA	**Koelnbreinsper**	**104.74**	**319**	⇑	*i*	P	Pdif	14 58 28.1 +1.4
KBA						pmax	pmax	
	comp=Z,9.0nm,1.3s							
KBA	**Koelnbreinsper**	**104.74**	**319**	⇑	*i*	P	Pdif	14 58 28.1 +1.3
	comp=Z,8.9nm,1.3s							
MOX	**Moxa**	**104.79**	**323**		*e*	Pdiff	Pdif	14 58 28.1 +1.1
MOX					*e*	PP	PP	15 02 49.6 +2.4
MOX	**Moxa**	**104.79**	**323**		*e*	P	Pdif	14 58 28.7 +1.7
	comp=Z,58nm,1.8s							
MOX					*e*			15 02 51.0
MOX								
	comp=Z,3µm,22.0s							
MOX	**Moxa**	**104.79**	**323**		*e*	P	Pdif	14 58 28.7 +1.7
MOX					*e*			15 02 51.0
MOX						pmax	pmax	
	comp=Z,58nm,1.8s							
MOX						MLR	MLR	
	comp=Z,3µm,22.0s,MS5.8							
CLZ	**Clausthal**	**105.14**	**324**		*e*	Pdiff	Pdif	14 58 19.4 -9.1
CLZ					*e*	PP	PP	15 02 50.2 +0.4
GRF	**Grafenberg Arr**	**105.33**	**322**		*e*	Pdiff	Pdif	14 58 30.6 +1.2
GRF					*e*	PP	PP	15 02 53.4 +2.2
GRF					*e*	Sdiff	Sdif	15 10 26.1 +6.1
GRF					*e*	SS	SS	15 17 51.7 +8.7
GRF					*e*L			15 55 46.0
	comp=Z,3µm,21.8s							
GRF	**Grafenberg Arr**	**105.33**	**322**		*e*	P	Pdif	14 58 30.6 +1.2
GRF					*e*			15 02 53.4
GRF					*e*S	Sdif	Sdif	15 10 26.1 +6.1
GRF					*e*SS	SS	SS	15 17 51.7 +8.7
UBBA	**Unterbreizbach**	**105.70**	**323**		*e*	Pdiff	Pdif	14 58 32.7 +1.7
UBBA					*e*	PP	PP	15 02 55.9 +1.9
FUR	**Furstenfeldbru**	**105.77**	**320**		*e*	Pdiff	Pdif	14 58 31.0 -0.3
KIPM	**Iron Peak**	**106.72**	**48**		*e*	PKKPdf	PKKPdf	15 14 21.1 +4.9
KIPM					*e*	PKKPab	PKKPab	15 14 24.1 +4.3
YBH	**Yreka Blue Hor**	**106.81**	**46**			PKKPab	PKKPab	15 14 20.7 +1.2
	comp=Z,3.2nm,0.9s,baz=160,slow=4.3,SNR=4.9							
YBH	**Yreka Blue Hor**	**106.81**	**46**		*e*	PKPdf	PKiKP	15 02 45.6 -0.1
TNS	**Taunus Mts**	**106.84**	**323**		*e*	Pdiff	Pdif	14 58 38.7 +2.6
TNS					*e*	PP	PP	15 03 03.7 +1.3
STU	**Stuttgart**	**106.88**	**321**		*e*	PP	PP	15 03 05.2 +2.5
DAVOX	**Davos**	**107.10**	**319**			Pdiff	Pdif	14 58 37.9 +0.7
	comp=Z,7.7nm,1.0s,baz=159,slow=5.0,SNR=9.6							
HOPS	**Hopland**	**107.23**	**49**		*e*	PKKPdf	PKKPdf	15 14 19.6 +4.3
BFO	**Black Forest**	**107.57**	**321**		*e*	PP	PP	15 03 10.3 +2.6
BFO	**Black Forest**	**107.57**	**321**		*e*	P	Pdif	14 58 38.1 -1.2
NSHM	**Saint Helena R**	**107.69**	**50**		*e*	PKKPdf	PKKPdf	15 14 18.6 +4.2
CDF	**Champ du Feu**	**108.20**	**322**		*e*	P	Pdif	14 58 41.2 -0.9
WLF	**Walferdange**	**108.42**	**323**		*e*	PP	PP	15 03 16.3 +2.4
HINF	**Hinteralfeld**	**108.68**	**321**		*e*	P	Pdif	14 58 43.1 -1.2
HAU	**Haudompre**	**108.93**	**321**		*e*	P	Pdif	14 58 45.4 0.0
GIVF	**Givet**	**109.05**	**324**		*e*	P	Pdif	14 58 45.5 -0.4
	comp=Z,56nm,1.2s							
GIVF	**Givet**	**109.05**	**324**		*e*	P	Pdif	14 58 45.5 -0.4
GIVF						pmax	pmax	
	comp=Z,28nm,1.2s							
GIVF	**Givet**	**109.05**	**324**		*e*	P	Pdif	14 58 45.5 -0.4
	comp=Z,28nm,1.2s							
BAIF	**Baives**	**109.42**	**324**		*e*	P	Pdif	14 58 47.4 -0.2
WVOR	**Wild Horse Val**	**109.51**	**45**		*e*	PKKPbc	PKKPbc	15 13 59.7 +4.2
WVOR					*e*	PKKPab	PKKPab	15 14 10.0 +2.5
LPG	**La Plagne**	**109.58**	**319**		*e*	P	Pdif	14 58 48.0 -0.2
	comp=Z,18nm,1.0s							
LPL	**La Plagne**	**109.58**	**319**		*e*	P	Pdif	14 58 47.8 -0.5
PAHR	**Pah Rah Range**	**109.79**	**48**		*e*	PKKPab	PKKPab	15 14 08.6 +2.3
WALA	**Waterton Lakes**	**110.19**	**37**		*e*	PKKPab	PKKPab	15 14 07.2 +2.7
ORIF	**Oris-en-Rattie**	**110.36**	**318**		*e*	P	Pdif	14 58 51.3 -0.4
	comp=Z,30nm,1.3s							
LOR	**Lormes**	**110.77**	**321**		*e*	P	Pdif	14 58 53.1 -0.4
EKA	**Eskdalemuir Ar**	**110.87**	**331**			PKiKP	PKiKP	15 02 55.0 +1.6
	comp=Z,1.3nm,0.6s,baz=41,slow=3.1,SNR=4.2							
EKA						PKKPbc	PKKPbc	15 13 52.8 +1.8
	comp=Z,1.6nm,0.6s,baz=245,slow=2.9,SNR=4.1							
EKA						PKKPab	PKKPab	15 14 02.2 +0.7
	comp=Z,2.8nm,1.0s,baz=247,slow=4.3,S

CCUT	**Cedar City**	**114.95**	**48**	*e*PKKPbc	PKKPbc	15 13 41.5	+4.1
CCUT				*e*PKKPab	PKKPab	15 13 48.1	+4.7
TCUT	**Toone Canyon**	**115.03**	**44**	*e*PKPdf	PKiKP	15 03 02.9	+1.6
TCUT				*e*PKKPab	PKKPab	15 13 44.9	+1.9
TCUT				*e*PKKPdf	PKKPdf	15 14 01.6	+0.9
EBIE	**Bielsa**	**115.05**	**318**	PKP	PKiKP	15 03 04.4	+3.0
MPU	**Maple Canyon**	**115.30**	**45**	*e*PKKPbc	PKKPbc	15 13 40.2	+4.1
MPU				*e*PKKPab	PKKPab	15 13 46.2	+4.3
DAU	**Daniels Canyon**	**115.41**	**45**	*e*PKKPbc	PKKPbc	15 13 39.9	+4.1
DAU				*e*PKKPab	PKKPab	15 13 44.5	+3.1
MSU	**Marysvale**	**115.48**	**47**	*e*PKIKP	PKPdf	15 03 05.1	+2.9
MSU				*e*		15 13 40.0	
MSU				*e*		15 13 45.6	
PDAR	**Pinedale Array**	**115.60**	**42**	PKP	PKPdf	15 03 03.2	+0.8
	comp=Z,4.2nm,1.0s,baz=236,slow=1.6,SNR=14						
PDAR				PKKPbc	PKKPbc	15 13 38.0	+2.9
	comp=Z,7.1nm,0.9s,baz=121,slow=3.0,SNR=9.5						
LAO	**LASA Array**	**115.87**	**37**	*e*PKPdf	PKPdf	15 03 04.7	+1.7
LAO				*e*PKKPbc	PKKPbc	15 13 36.4	+2.2
LAO				*e*PKKPab	PKKPab	15 13 42.7	+3.3
TMUT	**Trail Mountain**	**115.88**	**46**	*e*PKKPbc	PKKPbc	15 13 37.4	+3.2
TMUT				*e*PKKPab	PKKPab	15 13 42.9	+3.6
EMOS	**Mosqueruela**	**116.44**	**316**	PKP	PKPdf	15 03 04.9	+0.8
SRU	**San Rafael**	**116.44**	**46**	*e*PKKPbc	PKKPbc	15 13 35.2	+3.0
ECHE	**Chera**	**117.10**	**315**	PKIKP	PKPdf	15 03 07.0	+1.7
ELAN	**Lanestosa**	**117.16**	**320**	PKP	PKPdf	15 03 06.6	+1.2
RWWY	**Rawlins**	**117.64**	**42**	*e*PKKPbc	PKKPbc	15 13 28.8	+0.9
RWWY				*e*PKKPab	PKKPab	15 13 33.9	+2.3
ETOB	**Tobarra**	**117.90**	**315**	PKP	PKPdf	15 03 09.0	+2.1
PV01	**Paradox Valley**	**118.24**	**46**	*e*PKPdf	PKPdf	15 03 09.8	+2.3
PV01				*e*PKKPab	PKKPab	15 13 30.4	+1.4
EVIA	**Vianos**	**118.58**	**315**	PKIKP	PKPdf	15 03 10.5	+2.3
MVCO	**Mesa Verde**	**118.67**	**47**	*e*PKPdf	PKPdf	15 03 11.8	+3.4
MVCO				*e*PKKPbc	PKKPbc	15 13 27.2	+2.9
GUD	**Guadarrama**	**118.84**	**318**	PKIKP	PKPdf	15 03 11.0	+2.3
SMCO	**Snowmass**	**118.93**	**44**	*e*PKKPbc	PKKPbc	15 13 26.5	+3.2
PHWY	**Pilot Hill**	**118.99**	**42**	*e*PKKPbc	PKKPbc	15 13 24.5	+1.4
ENIJ	**Nijar**	**119.07**	**313**	PKIKP	PKPdf	15 03 10.6	+1.5
ESDC	**Sonseca Array**	**119.15**	**316**	PKP	PKPdf	15 03 11.5	+2.2
	comp=Z,0.5nm,0.4s,baz=46,slow=2.5,SNR=12						
ESDC				PP	PP	15 04 32.1	+2.2
	comp=Z,7.2nm,1.1s,baz=58,slow=7.9,SNR=5.4						
ESDC				SKKPbc		15 17 11.0	
	comp=Z,0.2nm,0.3s,baz=298,slow=3.6,SNR=4.3						
ESDC	**Sonseca Array**	**119.15**	**316**	PKP	PKPdf	15 03 11.1	+1.9
ULM	**Lac du Bonnet**	**119.38**	**29**	PKP	PKPdf	15 03 09.9	+0.2
	comp=Z,8.6nm,0.8s,baz=304,slow=1.8,SNR=15						
ULM				PKKPbc	PKKPbc	15 13 24.1	+2.4
	comp=Z,7.6nm,1.0s,baz=127,slow=5.4,SNR=6.9						
ISCO	**Idaho Springs**	**119.59**	**43**	*e*PKIKP	PKPdf	15 03 12.5	+2.4
ECAL	**Calabor**	**119.92**	**320**	PKP	PKPdf	15 03 12.1	+1.4
ERON	**Agron**	**120.21**	**314**	PKP	PKPdf	15 03 12.4	+1.1
EADA	**Adamuz**	**120.26**	**315**	PKP	PKPdf	15 03 13.4	+2.0
ELDJ	**Sierra Loja**	**120.40**	**314**	PKIKP	PKPdf	15 03 13.2	+1.5
STS	**Santiago**	**120.57**	**322**	PKIKP	PKPdf	15 03 15.0	+3.0
ELOB	**Lobios**	**120.80**	**320**	PKP	PKPdf	15 03 12.7	+0.2
LAZ	**Ladron**	**120.80**	**49**	*e*PKKPbc	PKKPbc	15 13 21.4	+4.9
PVRL	**Vila Real**	**120.89**	**320**	*e*PKPdf	PKPdf	15 03 15.6	+3.0
LENM	**Lemitar**	**121.02**	**50**	*e*PKPdf	PKPdf	15 03 15.9	+3.0
ANMO	**Albuquerque**	**121.09**	**48**	PKKPbc	PKKPbc	15 13 18.6	+3.3
	comp=Z,5.2nm,1.0s,baz=150,slow=7.8,SNR=8.6						
ANMO	**Albuquerque**	**121.09**	**48**	PKIKP	PKPdf	15 03 15.6	+2.6
ANMO	**Albuquerque**	**121.09**	**48**	*e*PKPdf	PKPdf	15 03 15.3	+2.3
MTE	**Manteigas**	**121.22**	**319**	*e*PKPdf	PKPdf	15 03 13.9	+0.7
MTE	**Manteigas**	**121.22**	**319**	*e*PP	PP	15 04 44.4	+0.3
MTE				*e*SKS	Sx	15 14 02.7	
LPM	**Los Pinos Moun**	**121.22**	**49**	*e*PKKPbc	PKKPbc	15 13 18.0	+3.2
PVIS	**Viseu**	**121.29**	**319**	*e*PKPdf	PKPdf	15 03 12.4	-1.0
BNM	**Barren Site**	**121.29**	**49**	*e*PKKPbc	PKKPbc	15 13 18.7	+4.1
PCBR	**Castelo Branco**	**121.46**	**318**	*e*PKPdf	PKPdf	15 03 15.7	+2.0
EJIF	**Jimena Fronter**	**121.66**	**314**	PKIKP	PKPdf	15 03 16.4	+2.3
EBAD	**Badajoz**	**121.68**	**317**	PKP	PKPdf	15 03 16.0	+1.9
ESPR	**Espera**	**121.75**	**314**	PKP	PKPdf	15 03 15.9	+1.6
EMIN	**Mina Concepcio**	**121.91**	**316**	PKP	PKPdf	15 03 16.3	+1.7
PTOM	**Tomar**	**122.19**	**318**	*e*PKPdf	PKPdf	15 03 15.5	+0.4
TORD	**Torodi Ar. Bea**	**122.28**	**285**	PKP	PKPdf	15 03 16.7	+1.4
	comp=Z,38nm,0.7s,baz=60,slow=1.6,SNR=99						
TORD				PKKPbc	PKKPbc	15 13 14.5	+3.7
	comp=Z,6.7nm,0.9s,baz=262,slow=4.5,SNR=8.5						
TORD				PKKP	PKKPdf	15 13 44.3	-2.7
	comp=Z,7.5nm,0.9s,baz=283,slow=3.1,SNR=5.7						
TORD				SKKPbc		15 17 00.4	
	comp=Z,4.2nm,1.2s,baz=252,slow=3.8,SNR=4.4						
MDT	**Midelt**	**122.55**	**310**	PKP	PKPdf	15 03 17.3	+1.5
	comp=Z,30nm,1.2s,baz=75,slow=2.7,SNR=11						
EGRO	**El Granado**	**122.59**	**316**	PKP	PKPdf	15 03 18.3	+2.5
PBEJ	**Beja**	**122.62**	**316**	*e*PKPdf	PKPdf	15 03 18.6	+2.7
EYMN	**Ely**	**123.05**	**28**	*e*PKPdf	PKPdf	15 03 16.8	0.0
PLOU	**Loures**	**123.06**	**318**	*e*PKPdf	PKPdf	15 03 19.0	+2.2
ECSD	**EROS,Sioux Fal**	**123.15**	**35**	*e*PKPdf	PKPdf	15 03 17.3	+0.4
MNTX	**Cornudas Mount**	**123.23**	**52**	*e*PKPdf	PKPdf	15 03 19.0	+2.0
MNTX				*e*PKKPbc	PKKPbc	15 13 08.4	+1.2
GDL2	**Guadalupe Moun**	**123.82**	**51**	*e*PKKPab	PKKPab	15 13 07.3	+2.4
CPRX	**Cap Rock**	**123.85**	**49**	*e*PKPdf	PKPdf	15 03 19.4	+1.1
CPRX				*e*PKKPbc	PKKPbc	15 13 08.3	+3.6
CLNB	**Carlsbad**	**124.17**	**50**	*e*PKPab	PKPab	15 13 06.9	+3.5
SCHQ	**Schefferville**	**124.81**	**8**	PKP	PKPdf	15 03 19.9	-0.2
	comp=Z,16nm,0.7s,baz=18,slow=3.1,SNR=18						
WMOK	**Wichita Mounta**	**126.80**	**45**	*e*PKIKP	PKPdf	15 03 25.5	+1.6
JCT	**Junction City**	**128.08**	**50**	*e*PKIKP	PKPdf	15 03 29.0	+2.6
DBIC	**Dimbokro**	**129.44**	**278**	PKP	PKPdf	15 03 30.6	+1.7
	comp=Z,32nm,0.9s,baz=48,slow=1.5,SNR=13						
MIAR	**Mount Ida**	**130.51**	**42**	*e*PKPdf	PKPdf	15 03 33.8	+2.8
MIAR				*e*SKP		15 06 52.8	
UALR	**University of**	**131.20**	**41**	*e*PKPdf	PKPdf	15 03 35.5	+3.2
HKT	**Hockley**	**131.35**	**49**	SKPbc	SKPbc	15 06 56.0	+3.4
HKT	**Hockley**	**131.35**	**49**	*e*PKPdf	PKPdf	15 03 35.2	+2.6
HKT				*e*SKP		15 06 57.8	
WCI	**Wyandotte Cave**	**132.63**	**34**	*e*PKIKP	PKPdf	15 03 37.3	+2.3
WCI				*e*		15 03 51.0	
WCI	**Wyandotte Cave**	**132.63**	**34**	*e*PKPdf	PKPdf	15 03 37.3	+2.3
WCI				*ep*PKPdf	pPKPdf	15 03 51.0	-1.2
WCI				*e*SKP		15 06 59.0	
ACSO	**Alum Creek Sta**	**132.87**	**29**	*e*PKPdf	PKPdf	15 03 37.6	+2.1
ACSO				*e*SKP		15 07 01.4	
WVT	**Waverly**	**133.19**	**37**	*e*PKIKP	PKPdf	15 03 36.0	-0.1
WVT				*e*		15 06 05.0	
WVT	**Waverly**	**133.19**	**37**	*e*PKPdf	PKPdf	15 03 36.0	0.0
WVT				*e*PP	PP	15 06 05.0	+1.8
WVT				*e*SKP		15 07 01.6	
OXF	**Oxford**	**133.27**	**40**	*e*PKPdf	PKPdf	15 03 38.5	+2.3
OXF				*e*SKP		15 07 02.8	
NCB	**Newcomb**	**133.31**	**19**	*e*PKPpre		15 03 34.0	
NCB				*e*SKP		15 07 00.7	
LBNH	**Lisbon**	**133.77**	**17**	*e*PKPdf	PKPdf	15 03 38.5	+1.3
PLAL	**Pickwick Lake**	**133.81**	**38**	*e*PKPdf	PKPdf	15 03 38.1	+0.9
PLAL				*e*PP	PP	15 06 10.8	+3.7
PLAL				*e*SKP		15 07 03.3	
PDA	**Ponta Delgada**	**133.89**	**327**	*e*		15 59 28.0	
ADH	**Angra Heroismo**	**134.04**	**329**	*i* LR	LR	15 48 35.0	
BINY	**Binghamton**	**134.26**	**22**	*e*PKPdf	PKPdf	15 03 40.2	+2.1
SSPA	**Standing Stone**	**134.85**	**25**	*e*PKPdf	PKPdf	15 03 41.2	+2.0
SSPA				*e*SKP		15 07 07.6	
SWET	**Sewanee**	**134.95**	**36**	*e*PKPdf	PKPdf	15 03 39.9	+0.5
WES	**Weston**	**135.65**	**17**	PKIKP	PKPdf	15 03 44.5	+3.8
LRAL	**Lakeview Retre**	**135.75**	**39**	*e*PKPpre		15 03 35.0	
LRAL				*e*PKPdf	PKPdf	15 03 43.7	+2.8
FWV	**Forest Hill**	**135.99**	**30**	*e*PKPdf	PKPdf	15 03 43.4	+2.1
BLA	**Blacksburg**	**136.48**	**30**	*e*PKPpre		15 03 41.1	
BLA				*ep*PKPdf	pPKPdf	15 03 58.4	-1.0
BLA				*e*SKP		15 07 11.7	
PLCA	**Paso Flores**	**136.82**	**163**	PKHKP		15 03 36.6	
	comp=Z,3.2nm,1.0s,baz=221,slow=1.7,SNR=4.3						
PLCA				PKP	PKPdf	15 03 44.5	+1.7
	comp=Z,23nm,0.9s,baz=221,slow=1.0,SNR=15						
PLCA				SKP		15 07 16.3	
	comp=Z,37nm,1.2s,baz=196,slow=3.8,SNR=10						
PLCA	**Paso Flores**	**136.82**	**163**	PKHKP		15 03 36.6	
PLCA						15 03 44.6	
TRQA	**Tornquist**	**141.31**	**171**	*e*PKPpre		15 03 46.1	
TRQA				*e*SKP		15 07 28.3	
FCH	**Farellones**	**143.64**	**158** ⇑	*i*P	PKPdf	15 03 52.3	-2.8
LPA	**La Plata**	**144.87**	**176**	*ce*PKP	PKPdf	15 03 59.0	+1.7
LPA				SKIKP		15 07 35.0	
LPA							
	comp=Z,3μm,22.0s						
CFAA	**Coronel Fontan**	**145.93**	**160**	PKPbc	PKPbc	15 04 02.0	+2.1
	comp=Z,4.9nm,0.7s,baz=218,slow=3.4,SNR=15						
TLL	**Tololo Astrono**	**146.23**	**155**	*e*P	PKPdf	15 04 02.9	+3.3
BBSR	**BB Station**	**146.85**	**15**	*e*PKPbc	PKPbc	15 04 04.2	+1.6
JTS	**JuntasAbangare**	**148.74**	**71**	PKP	PKPdf	15 04 06.1	+2.3
	comp=Z,89nm,1.0s,baz=262,slow=4.2,SNR=8.4						
JTS				PKPbc	PKPbc	15 04 10.6	+2.9
	comp=Z,89nm,1.0s,baz=276,slow=5.0,SNR=26						
JTS	**JuntasAbangare**	**148.74**	**71**	PKP	PKPdf	15 04 06.1	+2.3
JTS				PKPbc	PKPbc	15 04 10.6	+2.9
CPUP	**Villa Florida**	**153.44**	**176**	PKPdf	PKPdf	15 04 13.6	+2.6
CPUP	**Villa Florida**	**153.44**	**176**	PKP	PKPdf	15 04 13.4	+2.5
	comp=Z,12nm,0.9s,baz=148,slow=0.8,SNR=12						
CPUP				PKPbc	PKPbc	15 04 20.9	+2.2
	comp=Z,15nm,0.5s,baz=144,slow=1.6,SNR=21						
LVC	**Limon Verde**	**153.57**	**150**	PKPbc	PKPbc	15 04 21.5	+2.6
	comp=Z,35nm,0.8s,baz=276,slow=3.9,SNR=8.1						
LVC				PKPab	PKPab	15 04 34.6	+3.0
	comp=Z,31nm,0.8s,baz=257,slow=3.1,SNR=4.9						
CAM4	**Nova Friburgo**	**154.36**	**208**	(P)	PKPdf	15 04 13.0	+0.7
CAM4				*i*		15 04 15.4	
CAM4				*i*		15 04 24.0	
CAM4				*i*		15 04 44.7	
CAM4				*i*		15 04 58.9	
ATAH	**Atahualpa**	**155.70**	**108**	PKP	PKPdf	15 04 17.2	+3.1
	comp=Z,20nm,1.0s,baz=327,slow=4.0,SNR=7.6						
ATAH				PKPab	PKPab	15 04 45.2	+4.5
	comp=Z,35nm,1.0s,baz=157,slow=3.9,SNR=9.7						
OTAV	**Otavalo**	**156.69**	**90**	*e*PKPdf	PKPdf	15 04 18.5	+3.0
LPAZ	**La Paz**	**159.12**	**143**	PKPdf	PKPdf	15 04 22.3	+3.9
LPAZ	**La Paz**	**159.12**	**143**	PKP	PKPdf	15 04 22.4	+3.9
	comp=Z,9.5nm,1.0s,baz=264,slow=2.5,SNR=22						
LPAZ				PKPab	PKPab	15 04 58.9	+3.5
	comp=Z,17nm,0.8s,baz=155,slow=4.9,SNR=8.5						
LPAZ	**La Paz**	**159.12**	**143**	PKP	PKPdf	15 04 22.4	+3.9
LPAZ				PKPab	PKPab	15 04 58.9	+3.5
SJG	**San Juan**	**159.26**	**31**	PKP	PKPdf	15 04 20.9	+2.3
	comp=Z,7.6nm,0.2s,baz=315,slow=4.3,SNR=4.3						
ROSC	**El Rosal**	**160.31**	**76**	PKP	PKPdf	15 04 22.5	+2.7
	comp=Z,16nm,0.7s,baz=104,slow=9.1,SNR=9.8						
SDV	**Santo Domingo**	**162.38**	**61**	PKP	PKPdf	15 04 23.7	+1.8
	comp=Z,36nm,1.0s,baz=346,slow=1.1,SNR=26						
SDV	**Santo Domingo**	**162.38**	**61**	*e*PKPdf	PKPdf	15 04 23.4	+1.5
BDFB	**Brasilia**	**162.66**	**204**	PKP	PKPdf	15 04 24.3	+2.1
	comp=Z,23nm,1.0s,baz=34,slow=2.2,SNR=14						
BDFB				PKPab	PKPab	15 05 12.4	+1.5
	comp=Z,34nm,1.0s,baz=193,slow=4.5,SNR=7.3						
SIV	**San Ignacio**	**162.78**	**160**	PKP	PKPdf	15 04 25.1	+2.7
	comp=Z,18nm,1.0s,baz=186,slow=1.4,SNR=31						
SIV				PKPab	PKPab	15 05 13.9	+2.5
	comp=Z,15nm,0.9s,baz=219,slow=2.9,SNR=5.6						
SAML	**Samuel**	**167.81**	**139**	PKPdf	PKPdf	15 04 29.0	+2.4
SAML	**Samuel**	**167.81**	**139**	*e*PKPdf	PKPdf	15 04 28.7	+2.1
SAML				*e*PKPab	PKPab	15 05 35.2	+1.6

*IDC **19** 14:55:29.7±0.9,2.14N×12685E,h0km,mb4.1/10, mb1 4.3/10,mb1mx4.2/18,mbtmp4.1/10,Error ellipse: s-maj=63.2km s-min=15.9km az=71.0*
*ISCJB **19** 14:55:33.3±4.8,22N±0.1×1269E±0.2,h39km±42km, mb4.4/17,Error ellipse: s-maj=41.8km s-min=10.8km az=123.6*
*MOS **19** 14:55:33.1±1.0,2.16N×12670E,h33km,mb5.0/5,Error ellipse: s-maj=55.1km s-min=14.6km az=114.3*
*NEIC **19** 14:55:36.0±2.5,2.14N×12693E,h48km±22km,mb4.8/8, Error ellipse: s-maj=25.8km s-min=7.3km az=62.0*

ISC 19 14:55:36.0±3.2,22N±01×1270E±02,h48km±28km,n29, σ0§79/29,mb4.4/17,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**11.38**	**290**	*e*Pn	**Pn**	**14 58 16.4**	**+0.5**
KSM	**Kuching**	**16.65**	**268**	*e*Pn	**Pn**	**14 59 26.1**	**+0.2**
FITZ	**Fitzroy Crossi**	**20.18**	**184**	P	**P**	**15 00 05.6**	**-0.9**
	6.5nm,0.9s,baz=46,slow=7.8,SNR=6.1						
WRAB	**Tennant Creek**	**23.13**	**162**	*e*P	**P**	**15 00 38.4**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,92nm,1.3s,mb5.0						
WRAB	**Tennant Creek**	**23.13**	**162**	*e*P	**P**	**15 00 38.4**	**+0.4**
	comp=Z,92nm,1.3s,mb5.0						
WRA	**Warramunga Arr**	**23.13**	**162**	P	**P**	**15 00 37.6**	**-0.5**
	comp=Z,4.2nm,0.4s,mb4.2,baz=337,slow=11,SNR=23						
ASAR	**Alice Springs**	**26.55**	**166**	P	**P**	**15 01 10.2**	**+0.9**
	comp=Z,1.4nm,0.4s,mb3.9,baz=344,slow=12,SNR=10						
ENH	**Enshi**	**32.49**	**331**	P	**P**	**15 01 58.9**	**-3.1**
	comp=Z,0.9nm,0.7s,mb3.7						
STKA	**Stephens Creek**	**36.60**	**159**	P	**P**	**15 02 36.7**	**-0.8**
	comp=Z,4.9nm,1.1s,mb4.3,baz=325,slow=12,SNR=4.4						
STKA	**Stephens Creek**	**36.60**	**159**	P	**P**	**15 02 36.6**	**-0.8**
LSA	**Lhasa**	**43.65**	**312**	P	**P**	**15 03 35.6**	**-0.3**
LSA				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
LSA	**Lhasa**	**43.65**	**312**	P	**P**	**15 03 35.5**	**-0.3**
	comp=Z,8.9nm,1.0s,mb4.5						
TAU	**Tasmania Unive**	**48.48**	**160**	P	**P**	**15 04 09.2**	**-4.7**
TAU				pmax	pmax		
	comp=Z,88nm,1.3s,mb5.6						
TAU	**Tasmania Unive**	**48.48**	**160**	P	**P**	**15 04 09.2**	**-4.7**
	comp=Z,88nm,1.3s,mb5.6						
SONM	**Songino Array**	**48.84**	**342**	P	**P**	**15 04 17.3**	**+0.6**
	comp=Z,0.6nm,0.5s,mb3.9,baz=152,slow=8.2,SNR=5.2						
MKAR	**Makanchi Array**	**58.96**	**326**	P	**P**	**15 05 30.5**	**-0.1**
	comp=Z,2.0nm,0.4s,mb4.5,baz=119,slow=7.7,SNR=29						
KURK	**Kurchatov**	**63.17**	**328**	*e*P	**P**	**15 05 58.6**	**-0.5**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0						
KURK	**Kurchatov**	**63.17**	**328**	*e*P	**P**	**15 05 58.6**	**-0.5**
	comp=Z,8.5nm,0.8s,mb4.9						
CASY	**Casey**	**69.30**	**187**	P	**P**	**15 06 38.3**	**0.0**
	comp=Z,24nm,1.6s,mb4.9						
ZRNK	**Zerenda**	**69.47**	**327**	*e*P	**P**	**15 06 38.2**	**-1.1**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
ZRNK	**Zerenda**	**69.47**	**327**	*e*P	**P**	**15 06 38.2**	**-1.2**
	comp=Z,5.9nm,0.9s,mb4.5						
AKTK	**Aktyubinsk**	**75.02**	**322**	P	**P**	**15 07 12.3**	**-0.1**
AKTO	**Aktyubinsk**	**75.02**	**322**	P	**P**	**15 07 12.3**	**-0.1**
	comp=Z,2.8nm,0.7s,mb4.3,baz=122,slow=7.1,SNR=3.9						
ARU	**Arti**	**76.37**	**328**	*e*P	**P**	**15 07 20.1**	**-0.1**
ARU				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
ARU	**Arti**	**76.37**	**328**	*e*P	**P**	**15 07 20.1**	**-0.1**
	comp=Z,16nm,1.0s,mb4.9						
VNDA	**Vanda**	**81.85**	**173**	P	**P**	**15 07 50.8**	**+0.6**
	comp=Z,1.5nm,0.9s,mb3.9,baz=302,slow=6.8,SNR=4.4						
VNDA	**Vanda**	**81.85**	**173**	P	**P**	**15 07 50.8**	**+0.6**
VNDA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
ILAR	**Eielson Array**	**86.41**	**25**	P	**P**	**15 08 14.3**	**+1.0**
	comp=Z,0.5nm,1.0s,mb3.7,baz=297,slow=4.0,SNR=3.9						
ASF	**Jabal al Asfar**	**88.91**	**302**	P	**P**	**15 08 26.8**	**+1.5**
	comp=Z,0.8nm,0.5s,mb4.3,baz=149,slow=5.9,SNR=3.7						

IDC 19 14:57:48.1±1.6,627S×13019E,h0km,mb4.3/2,mb1 4.5/5, mb1mx4.1/13,mbtmp4.3/5,ML4.2/3,MS5.0/1,Ms1 5.0/1, ms1mx3.4/24,Error ellipse: s-maj=89.1km s-min=22.9km az=71.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.57**	**200**	Pn	Pn	15 00 47.9	-0.3
	1.3nm,0.3s,baz=38,slow=14,SNR=14						
FITZ				Sn	Sn	15 02 53.4	-16
	1.4nm,0.3s,baz=90,slow=20,SNR=4.9						
FITZ				LR	LR	15 06 04.1	
	comp=Z,6μm,19.9s,baz=13,slow=40						
WRA	**Warramunga Arr**	**14.18**	**164**	Pn	Pn	15 01 12.5	+2.4
	1.0nm,0.3s,baz=332,slow=14,SNR=6.5						
WRA				Sn	Sn	15 03 35.8	-12
	2.6nm,0.3s,baz=331,slow=24,SNR=9.5						
ASAR	**Alice Springs**	**17.66**	**169**	P	Pn	15 01 56.5	+1.0
	1.2nm,0.3s,baz=340,slow=9.6,SNR=15						
ASAR				S	Sn	15 05 05.0	-7.8
	0.7nm,0.3s,baz=360,slow=27,SNR=7.2						
STKA	**Stephens Creek**	**27.62**	**159**	P	P	15 03 36.7	-0.5
	2.7nm,0.9s,baz=333,slow=14,SNR=3.2						
MKAR	**Makanchi Array**	**67.72**	**327**	P	P	15 08 47.6	+0.3
	1.8nm,0.4s,baz=117,slow=8.1,SNR=20						

NEIC 19 14:59:23.2,3081S×7165W,h37km,MG3.7(GUC),4C-1D, After GUC.,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OVCH	**Ovalle**	**0.43**	**62** ⇑	*i*P	Pn	14 59 33.1	+0.1
OVCH				*i* S	Sn	14 59 40.2	+0.4
CMCH	**Combarbala**	**0.66**	**123** ⇑	*i*P	Pn	14 59 36.5	+0.4
CMCH				*i* S	Sn	14 59 46.4	+1.2
LSCH	**La Serena**	**0.97**	**21**	*i* P	Pn	14 59 40.8	+0.6
LSCH				*i* S	Sn	14 59 54.1	+1.3
TLL	**Tololo Astrono**	**0.97**	**49**	*i* P	Pn	14 59 41.2	+0.9
TLL				*i* S	Sn	14 59 54.5	+1.6
PACH	**Papudo**	**1.73**	**174**	*e*P	Pn	14 59 51.6	+0.9
JACH	**Jahuel**	**2.07**	**155**	*e*P	Pn	14 59 57.1	+1.7
ROCH	**El Roble**	**2.22**	**166** ⇓	*i*P	Pn	14 59 59.1	+1.6
LCCH	**Las Cruces**	**2.66**	**179** ⇑	*i*P	Pn	15 00 04.0	+0.6
RCDM	**Rinconada Maip**	**2.76**	**165**	*i* P	Pn	15 00 06.4	+1.5
RCDM				*i* S	Sn	15 00 39.0	+1.9
TACH	**Talagante**	**2.90**	**168**	*e*P	Pn	15 00 08.0	+1.3
PCH	**Pirque**	**2.96**	**161**	*e*P	Pn	15 00 09.5	+1.9
CHCH	**Chadas Angostu**	**3.22**	**165**	*e*P	Pn	15 00 12.9	+1.7
CHCH				*i* S	Sn	15 00 50.0	+1.6
LMEL	**Las Melosas**	**3.26**	**158**	*e*P	Pn	15 00 14.5	+2.7
LMEL				*i* S	Sn	15 00 53.0	+3.6
CACH	**El Canelo**	**3.41**	**165** ⇑	*i*P	Pn	15 00 16.1	+2.3
SFDO	**San Fernando**	**3.83**	**172**	*e*P	Pn	15 00 20.8	+1.2

*ISCJB **19** 15:07:22.7±0.8, 1847S×0.10×17795W±0.09,h620km±12km, mb3.9/17,Error ellipse: s-maj=17.0km s-min=10.3km az=110.3*
*IDC **19** 15:07:23.9±1.2, 1835S×17789W,h624km±17km,mb3.3/11, mb1 3.4/13,mb1mx3.4/19,mbtmp4.3/13,Error ellipse: s-maj=18.2km s-min=10.4km az=146.0*
*NEIC **19** 15:07:23.6±0.9, 1844S×17777W,h621km±13km,mb4.1/9, Error ellipse: s-maj=16.1km s-min=10.2km az=140.0*

ISC 19 15:07:23.6±0.8,185S±01×17781W±009,h616km±11km, n31,σ1§03/36,mb3.9/17,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.37**	**53**	P	**P**	**15 09 17.5**	**-0.1**
	3.8nm,0.3s,baz=74,slow=23,SNR=6.3						
AFI				S	**S**	**15 10 50.0**	**-0.9**
	0.9nm,0.3s,baz=53,slow=20,SNR=2.8						
AFI	**Afiamalu**	**7.37**	**53**	*e*Pn	**P**	**15 09 17.3**	**-0.3**
AFI				S	**S**	**15 10 50.0**	**-0.9**
AFI				*e*Sn	**S**	**15 10 50.5**	**-0.4**
DZM	**Mont Dzumac**	**15.19**	**254**	P

GRUS				Sn	Sn	15 41 17.2	+0.2
DIVS	**Divcibare**	**1.71**	**5**	*i* Pn	Pn	15 40 56.6	+0.4
DIVS				Sn	Sn	15 41 20.3	+1.6
BIA	**Bitola**	**1.80**	**139**	*e*Pn	Pn	15 40 57.7	+0.4
STIP	**Stip**	**1.93**	**110**	*e*Pn	Pn	15 40 57.1	-2.0
VAY	**Valandovo**	**2.35**	**116**	*e*Pn	Pn	15 41 07.1	+2.2
VAY				*i* Sn	Sn	15 41 36.1	+1.8
MGR	**Morigerati**	**3.90**	**236**	Pn	Pn	15 41 26.3	+0.1
TIP	**Timpagrande**	**3.94**	**217**	*e*Pn	Pn	15 41 25.1	-1.7
TIP	**Timpagrande**	**3.94**	**217**	*e*Pn	Pn	15 41 25.1	-1.7
BOJS	**Bojanci**	**4.51**	**315**	*e*Pn	Pn	15 41 36.9	+2.2
BOJS				*e*Sn	Sn	15 42 34.0	+6.4
VISS	**Visnje**	**4.93**	**315**	*i* Pn	Pn	15 41 42.6	+2.2
VISS				*e*Sn	Sn	15 42 38.4	+0.5

IDC 19 15:44:50.9±2.1, 1965S×17447W, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.8/16, mbtmp3.8/5, ML1.8/1, Error ellipse: s-maj=89.8km s-min=22.0km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.27**	**25**	Pn	Pn	15 46 24.2	-0.4
	1.4nm,0.3s,baz=300,slow=20,SNR=4.3						
AFI				Sn	Sn	15 47 38.1	+1.2
	4.2nm,0.3s,baz=310,slow=18,SNR=3.5						
STKA	**Stephens Creek**	**41.14**	**244**	P	P	15 52 34.9	-1.8
	1.6nm,0.8s,baz=96,slow=9.9,SNR=3.9						
ASAR	**Alice Springs**	**47.94**	**256**	P	P	15 53 31.9	+0.9
	0.6nm,0.6s,baz=94,slow=7.9,SNR=25						
WRA	**Warramunga Arr**	**48.01**	**261**	P	P	15 53 32.8	+1.2
	0.3nm,0.4s,baz=96,slow=7.9,SNR=26						
NVAR	**Mina Array Bea**	**78.16**	**42**	P	P	15 56 52.6	+0.7
	0.5nm,0.5s,baz=234,slow=13,SNR=4.4						
AKASG	**Malin Array Be**	**143.79**	**334**	PKP	PKPdf	16 04 26.9	-1.0
	0.9nm,0.5s,baz=42,slow=4.3,SNR=5.0						

IDC 19 16:06:40.0±2.8, 2040S×17578W, h0km, mb4.1/6, mb1 4.3/6, mb1mx4.1/14, mbtmp4.0/6, Error ellipse: s-maj=163.0km s-min=23.2km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.71**	**244**	P	P	16 14 14.7	+0.7
	3.4nm,1.0s,baz=92,slow=6.6,SNR=3.1						
ASAR	**Alice Springs**	**46.57**	**256**	P	P	16 15 10.3	+0.8
	4.1nm,0.9s,baz=89,slow=8.3,SNR=30						
WRA	**Warramunga Arr**	**46.67**	**261**	P	P	16 15 09.1	-1.3
	1.5nm,0.9s,baz=99,slow=7.5,SNR=11						
NVAR	**Mina Array Bea**	**79.54**	**42**	P	P	16 18 48.1	-0.6
	0.7nm,0.8s,baz=234,slow=8.8,SNR=2.6						
ILAR	**Eielson Array**	**87.77**	**12**	P	P	16 19 30.4	-0.5
	0.4nm,0.7s,baz=216,slow=6.9,SNR=5.2						
YKA	**Yellowknife Ar**	**95.56**	**24**	P	P	16 20 07.4	+0.3
	0.7nm,0.9s,baz=236,slow=4.4,SNR=5.1						
BRTR	**Keskin Array B**	**148.29**	**314**	PKPbc	PKPbc	16 26 30.4	+2.3
	0.7nm,0.8s,baz=83,slow=3.3,SNR=2.6						

IDC 19 16:11:07.7±2.5, 1976S×17476W, h0km, mb3.6/4, mb1 4.0/5, mb1mx3.9/15, mbtmp3.7/5, ML2.1/1, Error ellipse: s-maj=117.5km s-min=25.2km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.48**	**27**	Pn	Pn	16 12 44.4	+0.1
	2.1nm,0.3s,baz=146,slow=20,SNR=6.3						
AFI				Sn	Sn	16 13 53.0	-5.9
	1.4nm,0.3s,baz=276,slow=18,SNR=3.2						
ASAR	**Alice Springs**	**47.65**	**256**	P	P	16 19 45.9	+0.2
	0.7nm,0.8s,baz=95,slow=7.6,SNR=6.3						
WRA	**Warramunga Arr**	**47.72**	**261**	P	P	16 19 46.7	+0.5
	0.4nm,0.7s,baz=96,slow=7.3,SNR=10.0						
NVAR	**Mina Array Bea**	**78.42**	**42**	P	P	16 23 10.3	+0.1
	0.7nm,0.8s,baz=229,slow=8.2,SNR=3.6						
ILAR	**Eielson Array**	**86.95**	**12**	P	P	16 23 55.2	+0.5
	0.7nm,0.8s,baz=224,slow=6.1,SNR=6.2						
ARCES	**ARCESS Array B**	**128.71**	**351**	PKP	PKPdf	16 30 15.4	-1.6
	0.9nm,0.8s,baz=63,slow=0.3,SNR=3.8						

*NEIC **19** 16:17:53.4, 1266N×5994W, h12km, MD4.0(FDF), After FDF.*

TRN 19 16:17:52.5, 1261N×6010W, h76km, MD3.7, M4.3(FDF)**, 1C-3D, Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FCV	**Fort Charlotte**	**1.25**	**296**	*e*P	Pn	16 18 15.6	+1.2
FCV				*e*S	Sn	16 18 32.9	+2.1
SSV	**Crater Summit**	**1.29**	**304**	*e*P	Pn	16 18 16.5	+1.6
SSV				*e*S	Sn	16 18 34.0	+2.3
SVV	**Soufriere Volc**	**1.30**	**303**	*e*P	Pn	16 18 16.6	+1.5
SVV				*e*S	Sn	16 18 33.5	+1.4
SVB	**Belmont**	**1.31**	**300**	*e*P	Pn	16 18 16.5	+1.3
SVB				*e*S	Sn	16 18 34.3	+2.1
GRIC	**Isle de Caille**	**1.49**	**258**	*e*P	Pn	16 18 18.9	+1.4
GRIC				*e*S	Sn	16 18 36.9	+0.5
GRSS	**Sisters**	**1.51**	**258**	*e*P	Pn	16 18 19.1	+1.3
GRSS				*e*S	Sn	16 18 36.6	-0.3
GRW	**Mount Saint Ca**	**1.59**	**254**	*e*P	Pn	16 18 20.1	+1.2
GRW				*e*S	Sn	16 18 40.7	+1.9
BIM	**Bigot**	**2.12**	**334**⇓	*e*P	Pn	16 18 27.1	+1.2
BIM				*e*S	Sn	16 18 52.5	+1.1
CRM	**Caravelle**	**2.28**	**340**⇓	*e*P	Pn	16 18 29.1	+1.1
CRM				*e*S	Sn	16 18 55.6	+0.5
FDF	**Fort de France**	**2.35**	**334**⇑	*e*P	Pn	16 18 30.6	+1.6
FDF				*e*S	Sn	16 18 58.2	+1.4
MGG	**Marie-Galante**	**3.50**	**340**	*e*P	Pn	16 18 45.0	+0.5
TBG	**Guadaloupe-3**	**3.56**	**335**	*e*P	Pn	16 18 47.7	+2.3
PHG	**Guadaloupe-2**	**3.70**	**336**	*e*P	Pn	16 18 49.6	+2.2
DEG	**La Desirade**	**3.80**	**346**	*e*P	Pn	16 18 49.0	+0.4
DEG				*e*S	Sn	16 19 31.9	-0.2
LZG	**Guadaloupe-1**	**3.87**	**335**⇓	*e*P	Pn	16 18 52.2	+2.5
SEG	**Port Louis**	**4.01**	**340**	*e*P	Pn	16 18 54.0	+2.4

*ISCJB **19** 16:36:07.8±1.6, 4116N±008×7666E±0.1, h10km, Error ellipse: s-maj=11.7km s-min=10.6km az=92.2*
*KNET **19** 16:36:09.9±0.8, 4130N×7614E, h2km±3km, ml2.7, Error ellipse: s-maj=4.7km s-min=4.1km az=147.0*
*NNC **19** 16:36:17.7±11.0, 4151N×7639E, h0km, mb2.5, mpv2.4, Error ellipse: s-maj=87.3km s-min=37.9km az=138.0*

ISC 19 16:36:08.5±1.6, 4119N±007×767E±01, h10km, n14, σ1°24/24, 11C-14D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**1.09**	**344**	⇓P	Pb	16 36 27.7	-1.8
	29nm,0.2s,SNR=33						
ULHL				⇑S	Sg	16 36 42.1	-1.7
	81nm,0.2s						
KZA	**Kyzart**	**1.37**	**310**	⇓P	Pn	16 36 29.7	-4.0
	29nm,0.1s,SNR=66						
KZA				⇓S	Sb	16 36 46.2	-5.7
	199nm,0.3s						
TKM2	**Tokmak 2**	**1.90**	**336**	⇓P	Pn	16 36 41.5	+0.6
	14nm,0.1s,SNR=24						
TKM2				⇓S	Sn	16 37 05.9	+1.0
	45nm,0.1s						
TKM2	**Tokmak 2**	**1.90**	**336**	⇓P	Pn	16 36 41.4	+0.5
	0.4nm,0.3s						
TKM2				⇓S	Sn	16 37 05.4	+0.6
	1.9nm,0.5s						
UCH	**Uchtor**	**1.91**	**304**	⇑P	Pn	16 36 38.9	-2.1
	13nm,0.2s,SNR=52						
UCH				⇑S	Sn	16 37 01.2	-3.9
	59nm,0.2s						
KBK	**Karagaybulak**	**1.94**	**320**	⇓P	Pn	16 36 40.9	-0.6
	18nm,0.1s,SNR=24						
KBK				⇑S	Sn	16 37 05.5	-0.4
	184nm,0.3s						
KNDC	**Almaty**	**2.04**	**6**	⇓Lg		16 37 15.5	
	56nm,0.4s						
AAK	**Ala-Archa**	**2.16**	**312**	⇑P	Pn	16 36 44.3	-0.2
	21nm,0.2s,SNR=22						
AAK				⇑S	Sn	16 37 11.2	-0.2
	53nm,0.3s						
CHMS	**Chumysh**	**2.29**	**323**	⇑P	Pn	16 36 47.5	+1.1
	12nm,0.2s,SNR=8.0						
CHMS				⇓S	Sn	16 37 15.6	+1.0
	53nm,0.2s						

AML	**Almayashu**	**2.41**	**294**	⇑P	Pn	16 36 46.9	-1.0
	17nm,0.2s,SNR=37						
AML				⇓S	Sn	16 37 16.0	-1.5
	89nm,0.6s						
EKS2	**Erkin-Say**	**2.60**	**305**	⇓P	Pn	16 36 50.9	+0.3
	3.7nm,0.2s,SNR=6.8						
EKS2				⇓S	Sn	16 37 23.1	+1.0
	43nm,0.5s						
USP	**Ospenovka**	**2.62**	**323**	⇑P	Pn	16 36 52.8	+1.9
	17nm,0.2s,SNR=23						
USP				⇑S	Sn	16 37 24.7	+2.0
	55nm,0.3s						
KK31	**Karatay Array**	**4.95**	**295**	⇑Pn	Pb	16 37 36.7	+1.5
	0.5nm,0.3s,baz=120,slow=16,SNR=5.4						
KK31				Sn	Sb	16 38 34.4	-0.3
	3.2nm,0.6s,baz=112,slow=29,SNR=8.2						
MK09	**Makanchi Array**	**6.90**	**34**	⇓Lg		16 39 49.6	
	1.0nm,0.7s,baz=218,slow=27						

*IDC **19** 16:40:18.7±0.8, 1994S×17472W, h0km, mb4.1/9, mb1 4.3/10, mb1mx4.2/18, mbtmp4.1/10, ML2.5/1, MS3.2/1, Ms1 3.2/1, ms1mx2.9/17, Error ellipse: s-maj=35.1km s-min=17.4km az=137.0*
*ISCJB **19** 16:40:21.6±0.7, 1995S±01×17417W±02, h33km, mb4.1/8, Error ellipse: s-maj=28.0km s-min=13.3km az=82.5*
*MOS **19** 16:40:21.9±1.7, 1980S×17466W, h33km, mb4.9/1, Error ellipse: s-maj=34.2km s-min=19.6km az=137.4*
*NEIC **19** 16:40:22.4±0.7, 1985S×17469W, h25km, mb4.7/1, Error ellipse: s-maj=27.3km s-min=12.5km az=133.0*

ISC 19 16:40:23.7±0.7, 1995S±01×1747W±02, h35km, n18, σ1°14/17, mb4.1/8, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.55**	**26**	Pn	Pn	16 41 55.7	-1.9
	5.5nm,0.3s,baz=211,slow=19,SNR=13						
AFI				Sn	Sn	16 43 04.2	-6.8
	2.5nm,0.3s,baz=54,slow=19,SNR=2.9						
AFI				LR	LR	16 44 02.3	
	comp=Z,213nm,19.4s,baz=16,slow=34						
AFI	**Afiamalu**	**6.55**	**26**	*e*Pn	Pn	16 41 54.8	-2.8
AFI				*e*Sn	Sn	16 42 59.3	-12
RPZ	**Rata Peaks**	**26.60**	**204**	P	P	16 45 58.6	-0.1
	3.7nm,0.4s,mb4.3,baz=122,slow=14,SNR=6.4						
CTA	**Charters Tower**	**36.66**	**263**	P	P	16 47 28.0	+1.1
	2.8nm,0.5s,mb4.4,baz=97,slow=15,SNR=8.5						
CTAO	**Charters Tower**	**36.66**	**263**	P	P	16 47 28.5	+1.6
CTAO				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.6						
CTAO	**Charters Tower**	**36.66**	**263**	P	P	16 47 28.5	+1.6
	comp=Z,11nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**40.86**	**244**	P	P	16 48 00.6	-1.5
	comp=Z,1.0nm,0.5s,baz=118,slow=12,SNR=3.7						
STKA	**Stephens Creek**	**40.86**	**244**	*e*P	P	16 48 00.7	-1.5
ASAR	**Alice Springs**	**47.69**	**256**	P	P	16 48 56.5	-0.2
	comp=Z,1.5nm,0.7s,mb4.1,baz=95,slow=8.3,SNR=14						
WRA	**Warramunga Arr**	**47.77**	**261**	P	P	16 48 57.5	0.0
	comp=Z,0.4nm,0.3s,mb4.0,baz=96,slow=7.4,SNR=29						
VNDA	**Vanda**	**58.83**	**186**	P	P	16 50 17.8	-0.8
	comp=Z,0.8nm,0.9s,mb3.8,baz=34,slow=3.6,SNR=3.9						
NVAR	**Mina Array Bea**	**78.46**	**42**	P	P	16 52 22.1	+1.1
	comp=Z,1.5nm,0.8s,mb4.0,baz=214,slow=7.0,SNR=8.2						
ANMO	**Albuquerque**	**84.60**	**50**	P	P	16 52 54.7	+1.2
	comp=Z,0.9nm,0.7s,mb4.0,baz=254,slow=7.4,SNR=3.8						
ANMO	**Albuquerque**	**84.60**	**50**	P	P	16 52 54.7	+1.2
ILAR	**Eielson Array**	**87.05**	**12**	P	P	16 53 06.4	+0.8
	comp=Z,1.5nm,0.9s,mb4.2,baz=206,slow=6.0,SNR=11						
ARCES	**ARCESS Array B**	**128.83**	**351**	PKP	PKPdf	16 59 27.9	+0.4
	comp=Z,0.9nm,0.8s,baz=350,slow=1.5,SNR=4.1						
CLL	**Collm**	**148.05**	**351**⇓	*i*PKPbc	PKPbc	17 00 06.9	+1.4
	comp=Z,7.0nm,0.7s						
GERES	**GERESS Array B**	**150.32**	**349**	PKPbc	PKPbc	17 00 12.6	+1.4
	comp=Z,0.5nm,0.7s,baz=3.8,slow=4.0,SNR=5.3						

IDC 19 16:42:34.6±3.5, 400S×10310E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/16, mbtmp4.0/5, Error ellipse: s-maj=190.3km s-min=23.3km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**26.14**	**124**	P	P	16 48 12.4	+2.0
	1.5nm,0.8s,baz=345,slow=20,SNR=3.7						
WRA	**Warramunga Arr**	**34.32**	**120**	P	P	16 49 22.6	-0.2
	0.7nm,0.3s,baz=298,slow=8.6,SNR=18						
ASAR	**Alice Springs**	**35.58**	**126**	P	P	16 49 34.5	+0.9
	1.1nm,0.4s,baz=300,slow=7.6,SNR=29						
STKA	**Stephens Creek**	**45.52**	**132**	P	P	16 50 54.5	-1.4
	0.8nm,0.3s,baz=313,slow=11,SNR=7.4						
MKAR	**Makanchi Array**	**53.82**	**342**	P	P	16 51 59.3	+0.2
	0.6nm,0.5s,baz=158,slow=8.5,SNR=11						

JMA 19 16:42:38.4, 3331N×13136E, h8km±1km, M3.7, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OIT2	**Oita 2**	**0.08**	**112**	P	Pg	16 42 40.5	0.0
JKI	**Kunimi**	**0.37**	**28**	P	Pg	16 42 45.9	+0.4
JKI				S	Sg	16 42 50.7	+0.3
JTA	**Tamana**	**0.78**	**244**	S	Sg	16 43 03.7	+0.3

MAN 19 17:07:23.1, 1811N×12078E, h5km, mb1.9, ML3.7, MS0.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.26**	**325**⇑	*i*P	Pg	17 07 28.8	+0.6
ABRA	**Dolores**	**0.46**	**188**	*e*P	Pg	17 07 32.0	+0.1
APYP	**Conner**	**0.51**	**119**	*e*P	Pg	17 07 33.2	+0.4
APYP				*e*S	Sg	17 07 41.3	+1.9
CAUP	**Cauayan**	**1.53**	**139**	*e*P	Pn	17 07 51.2	+0.2

*ISCJB **19** 17:41:51.3±1.2, 17N±01.1×988E±0.1, h116km±9km, mb4.3/15, Error ellipse: s-maj=21.0km s-min=12.0km az=93.5*
*IDC **19** 17:41:53.9±1.6, 186N×9900E, h115km±8km, mb3.6/7, mb1 3.7/7, mb1mx3.5/16, mbtmp4.0/7, Error ellipse: s-maj=55.1km s-min=14.3km az=55.0*
*MOS **19** 17:41:53.0±0.9, 184N×9894E, h129km, mb4.8/3, Error ellipse: s-maj=30.7km s-min=15.4km az=114.0*
*NEIC **19** 17:41:53.3±1.1, 174N×9879E, h118km±9km, mb4.7/8, Error ellipse: s-maj=16.1km s-min=9.3km az=225.0*

ISC 19 17:41:52.9±1.2, 18N±01×988E±01, h111km±8km, n26, σ0°9/26, mb4.3/15, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**1.03**	**7**	P	Pn	17 42 15.4	+1.0
	166nm,0.3s,baz=356,slow=19,SNR=400						
PSI				S	Sn	17 42 29.9	-0.9
	83nm,0.3s,baz=56,slow=20,SNR=48						
KULM	**Kulim**	**3.95**	**28**	*i*Pn	Pn	17 42 51.9	+0.3
KKM	**Kota Kinabalu**	**17.89**	**76**	*e*P	Pn	17 45 55.0	+0.5
PALK	**Pallekele**	**18.84**	**287**	*e*P	P	17 46 03.4	-0.6
	32nm,1.2s						
MBWA	**Marble Bar**	**30.65**	**139**	P	P	17 47 56.0	-0.6
	31nm,1.7s,mb4.8						
WRA	**Warramunga Arr**	**41.00**	**124**	P	P	17 49 24.7	-0.2
	8.6nm,0.4s,mb5.0,baz=303,slow=9.0,SNR=55						
WRAB	**Tennant Creek**	**41.01**	**124**	*e*P	P	17 49 24.6	-0.4
WRAB				pmax	pmax		
	comp=Z,16nm,0.5s,mb5.1						
WRAB	**Tennant Creek**	**41.01**	**124**	*e*P	P	17 49 24.6	-0.4
	comp=Z,16nm,0.5s,mb5.1						
ASAR	**Alice Springs**	**42.49**	**129**	P	P	17 49 36.2	-0.8
	comp=Z,1.7nm,0.5s,mb4.0,baz=300,slow=7.7,SNR=23						
KS15	**Wonju Array Si**	**44.45**	**34**	P	P	17 49 52.0	-0.8
SONM	**Songino Array**	**46.35**	**7**	P	P	17 50 08.1	+0.4
	comp=Z,0.8nm,0.4s,mb3.8,baz=191,slow=9.2,SNR=14						
MKAR	**Makanchi Array**	**47.09**	**345**	P	P	17 50 14.0	+0.5
	comp=Z,1.3nm,0.5s,mb3.9,baz=153,slow=8.5,SNR=28						
MKAR	**Makanchi Array**	**47.09**	**345**	P	P	17 50 14.0	+0.5
KURK	**Kurchatov**	**51.67**	**344**	*e*P	P	17 50 48.7	+0.4
	comp=Z,2.3nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**52.57**	**133**	P	P	17 50 56.5	+1.6
	comp=Z,0.6nm,0.3s,mb4.1,baz=297,slow=4.5,SNR=4.3						
ZRNK	**Zerenda**	**56.68**	**339**	P	P	17 51 22.8	-1.8
	comp=Z,0.9nm,0.6s,mb4.0						
BOD	**Bodaibo**	**57.17**	**10**	*e*P	P	17 51 28.1	0.0
BOD				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
YSS	**Yuzh-Sakhalins**	**58.99**	**34**	P	P	17 51 40.4	-0.3
YSS				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.0						
YSS	**Yuzh-Sakhalins**	**58.99**	**34**	P	P	17 51 40.4	-0.3
	comp=Z,17nm,1.1s,mb5.0						
BRTR	**Keskin Array B**	**69.91**	**312**	P	P	17 52 53.3	+1.4
	comp=Z,0.3nm,0.5s,mb3.4,baz=129,slow=6.6,SNR=2.7						
FINES	**FINESS Array B**	**80.23**	**332**	P	P	17 53 51.4	+0.3
	comp=Z,0.6nm,0.4s,mb3.8,baz=94,slow=7.6,SNR=6.0						
FINES				pP	pP	17 54 20.6	+1.1
	comp=Z,2.6nm,1.0s,baz=106,slow=12,SNR=2.1						
FINES	**FINESS Array B**	**80.23**	**332**	P	P	17 53 51.4	+0.3
FINES				pP	pP	17 54 20.6	+1.1
SUR	**Sutherland**	**80.81**	**237**	P	P	17 53 48.6	-5.6
	comp=Z,62nm,1.4s,mb5.2						
ARCES	**ARCESS Array B**	**82.54**	**340**	P	P	17 54 03.1	-0.1
	comp=Z,0.7nm,0.7s,mb3.6,baz=123,slow=6.6,SNR=4.6						
ARCES				pP	pP	17 54 33.4	+1.6
	comp=Z,0.5nm,0.6s,baz=95,slow=4.3,SNR=1.4						
ARCES	**ARCESS Array B**	**82.54**	**340**	P	P	17 54 03.1	-0.1
ARCES				pP	pP	17 54 33.4	+1.6
NOA	**NORSAR Array B**	**87.28**	**331**	pP	pP	17 54 56.7	+0.9
	comp=Z,0.8nm,0.8s,baz=130,slow=2.6,SNR=1.8						

*IDC **19** 17:42:04.5±2.3, 621S×14803E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.8/13, mbtmp3.7/6, ML3.6/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/22, Error ellipse: s-maj=70.9km s-min=16.4km az=97.0*
*NEIC **19** 17:42:08.4±2.8, 729S×14998E, h128km±19km, mb4.1/2, Error ellipse: s-maj=40.7km s-min=20.3km az=113.0*
*ISCJB **19** 17:42:14.3±3.3, 63S±02×1477E±03, h88km±32km, mb3.4/5, Error ellipse: s-maj=53.3km s-min=26.1km az=31.7*

ISC 19 17:42:14.5±3.7, 63S±02×1476E±03, h67km±36km, n12, σ0°87/13, mb3.4/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.17**	**188**	Pn	Pn	17 43 01.4	-0.6
	14nm,0.3s,baz=344,slow=5.6,SNR=67						
PMG				Pg	Pn	17 43 06.3	+4.4
	32nm,0.3s,baz=8.4,slow=9.8,SNR=44						
PMG				Sn	Sn	17 43 39.2	+0.7
	13nm,0.3s,baz=36,slow=19,SNR=4.1						
PMG				Lg		17 43 47.4	
	26nm,0.3s,baz=79,slow=23,SNR=6.2						
PMG				LR	LR	17 43 57.2	
	comp=Z,358nm,21.4s,baz=89,slow=34						
WRAB	**Tennant Creek**	**18.73**	**222**	*e*P	Pn	17 46 28.0	-0.8
	9.2nm,1.1s						
WB2	**Warramunga Arr**	**18.73**	**222**	*e*P	Pn	17 46 28.2	-0.7
WRA	**Warramunga Arr**	**18.74**	**222**	P	Pn	17 46 28.3	-0.7
	0.2nm,0.3s,baz=46,slow=11,SNR=8.2						
ASAR	**Alice Springs**	**21.76**	**216**	P	P	17 47 01.4	+0.9
	2.0nm,0.5s,mb3.7,baz=52,slow=8.7,SNR=97						
FITZ	**Fitzroy Crossi**	**24.45**	**239**	P	P	17 47 28.7	+1.7
	1.5nm,0.5s,mb3.5,baz=55,slow=10.0,SNR=9.9						
STKA	**Stephens Creek**	**26.11**	**192**	*e*P	P	17 47 41.5	-0.5
	2.3nm,1.5s,mb3.4						
STKA	**Stephens Creek**	**26.11**	**192**	P	P	17 47 40.9	-1.2
	2.5nm,0.7s,mb3.8,baz=17,slow=12,SNR=7.1						
SONM	**Songino Array**	**64.91**	**331**	P	P	17 52 47.5	+0.7
	0.3nm,0.6s,mb3.3,baz=134,slow=6.2,SNR=2.5						
BHK	**Bhakra**	**77.40**	**304**	*e*P	P	17 54 01.6	-0.7
MKAR	**Makanchi Array**	**78.06**	**320**	P	P	17 54 06.0	+0.1
	1.1nm,0.4s,mb2.9,baz=92,slow=5.0,SNR=2.3						
TORD	**Torodi Ar. Bea**	**145.73**	**284**	PKPbc	PKPbc	18 01 47.0	+1.2
	1.0nm,0.6s,baz=75,slow=3.9,SNR=6.6						

*ISCJB **19** 17:46:46.7±0.5, 3886N±003×2348E±005, h18km±9km, Error ellipse: s-maj=6.0km s-min=4.4km az=169.8*
*NEIC **19** 17:46:46.3, 3886N×2338E, h25km, ML3.0(ATH), After ATH.*
*ATH **19** 17:46:46.8, 3886N×2340E, h17km±13km, ML3.0*
*CSEM **19** 17:46:46.6±0.1, 3886N×2346E, h20km, ML3.0, Error ellipse: s-maj=2.5km s-min=1.6km az=78.0*
*THE **19** 17:46:46.5, 3885N×2346E, h9km, ML2.2*

ISC 19 17:46:46.5±0.5, 3885N±002×2347E±004, h13km±5km, n17, σ0°62/25, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKR	**Lokris**	**0.41**	**242**	*e*PB	Pg	17 46 54.0	-0.8
LKR				*e*SB	Sg	17 47 00.5	+0.1
AOS	**Alonnisos**	**0.46**	**45**	*e*Pg	Pg	17 46 55.2	-0.3
AOS				*e*Sg	Sg	17 47 01.7	+0.1
NEO	**Neokhori**	**0.50**	**338**	*e*PB	Pg	17 46 56.2	-0.1
NEO				*e*SB	Sg	17 47 03.0	+0.1
XOR	**Xorichti**	**0.56**	**338**	*e*Pg	Pg	17 46 57.3	-0.2
XOR				*e*Sg	Sg	17 47 05.0	+0.1
PTL	**Penteli**	**0.85**	**159**	*e*PN	Pg	17 47 03.5	+0.4
MGER	**Gerania Oros**	**0.88**	**191**	*e*PN	Pg	17 47 04.0	+0.6
MGER				*e*SN	Sg	17 47 15.5	+0.6
ATH	**Athens Observa**	**0.90**	**167**	*e*PB	Pg	17 47 03.5	-0.3
ATH	**Athens Observa**	**0.90**	**167**	*e*Pb	Pg	17 47 03.0	-0.8
AGG	**Agios Georgios**	**0.90**	**282**	*e*Pg	Pg	17 47 02.9	-

0.3nm,0.5s,baz=85,slow=6.2,SNR=2.4

IGQ ***19*** *17:53:42.8, 4.26S×8085W, h0km±18km, Mb4.6, Ms4.4, Error ellipse: s-maj=38.2km s-min=8.6km az=111.6*
ISCJB ***19*** *17:53:44.4±0.5, 4.53S±004×8090W±006, h42km, mb4.2/15, MS4.6/5, Error ellipse: s-maj=8.6km s-min=5.4km az=28.3*
IDC ***19*** *17:53:45.7±0.8, 4.42S×8071W, h39km±4km, mb3.7/11, mb1 4.0/14, mb1mx3.9/21, mbtmp4.1/14, ML4.4/3, MS3.6/7, Ms1 3.6/7, ms1mx3.3/26, Error ellipse: s-maj=27.8km s-min=12.4km az=51.0*
NEIC ***19*** *17:53:46.7±1.2, 4.47S×8064W, h47km±13km, mb4.4/6, Error ellipse: s-maj=14.9km s-min=8.3km az=52.0*
NEIC Felt [III] at Mancora and Talara, Peru.
BJI ***19*** *17:53:52.3, 3.79S×8035W, h33km, mB5.0, Ms5.2, Msz5.0*

ISC 19 17:53:46.4±0.5, 4.54S±004×8089W±006, h44km, h44km±.8km:pP-P,n72,σ1§15/59,mb4.2/15,MS4.6/5,3C-5D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALI	**Salinas**	**2.34**	**357**	P	**Pn**	**17 54 21.3**	**-1.1**
ATAH	**Atahualpa**	**3.48**	**135**	Pn	**Pn**	**17 54 40.8**	**+2.8**
	26nm,0.3s,baz=329,slow=7.8,SNR=49						
ATAH				Sn	**Sn**	**17 55 24.7**	**+6.8**
	86nm,0.3s,baz=2.2,slow=16,SNR=9.5						
ATAH				LR	LR	17 56 06.4	
	comp=Z,400nm,18.1s,baz=165,slow=40						
IGUA	**Igualata**	**3.77**	**37**	P	**Pn**	**17 54 42.7**	**+0.7**
ARRY	**Arrayan**	**3.87**	**39**	⇑P	**Pn**	**17 54 42.7**	**-0.7**
PATA	**Patacocha**	**3.89**	**39**	⇑P	**Pn**	**17 54 43.5**	**-0.1**
CUSU	**Cusua**	**3.91**	**38**	P	**Pn**	**17 54 45.0**	**+1.2**
RETU	**Refugio**	**3.92**	**39**	P	**Pn**	**17 54 45.5**	**+1.5**
JUIV	**Juive**	**3.93**	**38**	P	**Pn**	**17 54 44.4**	**+0.3**
ULBA	**Ulba**	**3.95**	**39**	P	**Pn**	**17 54 44.1**	**-0.2**
RUN5	**Runtun**	**3.96**	**38**	P	**Pn**	**17 54 44.2**	**-0.4**
QIL1	**Quilotoa**	**4.16**	**28**	⇑P	**Pn**	**17 54 45.6**	**-1.6**
QIL1				S	**Sn**	**17 55 33.8**	**-0.8**
PISA	**Pisayambo**	**4.27**	**36**	P	**Pn**	**17 54 50.0**	**+1.2**
CAMI	**Rancho Maria**	**4.52**	**32**	P	**Pn**	**17 54 53.8**	**+1.6**
TAMB	**Tambo**	**4.58**	**33**	P	**Pn**	**17 54 54.6**	**+1.6**
MAG1	**Magdalena**	**4.58**	**14**	P	**Pn**	**17 54 52.5**	**-0.5**
VC1	**Cotopaxi 1**	**4.60**	**33**	⇓P	**Pn**	**17 54 53.4**	**+0.1**
ANTI	**Antisana**	**4.89**	**34**	P	**Pn**	**17 54 57.0**	**-0.3**
TERV	**Terraza Guagua**	**4.90**	**28**	P	**Pn**	**17 54 57.9**	**+0.4**
GGP	**Refugio Guagua**	**4.91**	**28**	⇓P	**Pn**	**17 54 57.7**	**+0.2**
PINO	**Pino**	**4.92**	**28**	P	**Pn**	**17 54 58.0**	**+0.3**
OTAV	**Otavalo**	**5.34**	**27**	*e*Pn	**Pn**	**17 55 02.8**	**-0.6**
	117nm,0.4s						
OTAV				*e*Sn	**Sn**	**17 56 03.0**	**-0.6**
ANGU	**Angureal**	**5.39**	**32**	P	**Pn**	**17 55 05.4**	**+1.2**
CAYA	**Cayambe**	**5.42**	**32**	P	**Pn**	**17 55 05.4**	**+0.8**
COTA	**Cotacachi**	**5.47**	**28**	P	**Pn**	**17 55 05.9**	**+0.6**
NNA	**Nana**	**8.41**	**152**	*e*Pn	**Pn**	**17 55 43.0**	**-2.6**
	20nm,0.4s						
NNA				*e*Sn	**Sn**	**17 57 31.6**	**+12**
PAYG	**Puerto Ayora**	**10.14**	**292**	*e*Pn	**Pn**	**17 56 13.6**	**+4.2**
ROSC	**El Rosal**	**11.40**	**35**	LR	LR	18 01 17.3	
	comp=Z,613nm,20.0s,baz=205,slow=40						
JTS	**JuntasAbangare**	**15.28**	**345**	LR	LR	18 01 14.2	
	comp=Z,400nm,19.4s,baz=33,slow=30						
SDV	**Santo Domingo**	**16.81**	**37**	Pn	**Pn**	**17 57 36.1**	**-2.4**
	1.7nm,0.3s,baz=244,slow=7.4,SNR=22						
SDV				LR	LR	18 04 56.3	
	comp=Z,250nm,19.1s,baz=224,slow=40						
SDV	**Santo Domingo**	**16.81**	**37**	Pn	**Pn**	**17 57 36.1**	**-2.4**
SDV				*e*		17 57 50.0	
SDV				*e*		17 57 54.7	
SDV				LR	LR	18 04 56.3	
LPAZ	**La Paz**	**17.12**	**134**	P	**Pn**	**17 57 43.8**	**+1.5**
	0.6nm,0.3s,baz=327,slow=10,SNR=20						
LPAZ				LR	LR	18 05 42.0	
	comp=Z,246nm,18.7s,baz=24,slow=42						
LPAZ	**La Paz**	**17.12**	**134**	*e*Pn	**Pn**	**17 57 43.7**	**+1.4**
	3.8nm,0.7s						
SAML	**Samuel**	**18.11**	**105**	*e*P	**Pn**	**17 57 51.9**	**-2.6**
LVC	**Limon Verde**	**21.38**	**148**	P	**P**	**17 58 31.8**	**+1.8**
	7.0nm,0.7s,mb4.1,baz=338,slow=8.6,SNR=6.2						
LVC	**Limon Verde**	**21.38**	**148**	*e*P	**P**	**17 58 32.1**	**+2.1**
	15nm,1.0s,mb4.3						
SIV	**San Ignacio**	**22.54**	**122**	P	**P**	**17 58 40.5**	**-1.9**
	2.2nm,0.6s,mb3.8,baz=308,slow=11,SNR=11						
SJG	**San Juan**	**26.80**	**32**	P	**P**	**17 59 21.5**	**-0.7**
	14nm,0.2s,mb5.1,baz=297,slow=14,SNR=3.6						
SJG				pP	pP	17 59 31.7	-2.2
	20nm,0.6s,baz=225,slow=6.6,SNR=2.2						
MTP	**Monte Pirata**	**27.10**	**34**	*e*P	**P**	**17 59 30.0**	**+5.0**
CPUP	**Villa Florida**	**31.26**	**136**	P	**P**	**18 00 01.2**	**-0.7**
	0.4nm,0.3s,mb3.7,baz=303,slow=2.9,SNR=3.1						
CPUP				LR	LR	18 15 15.3	
	comp=Z,114nm,19.2s,MS3.5,baz=207,slow=41						
CPUP	**Villa Florida**	**31.26**	**136**	P	**P**	**18 00 01.2**	**-0.7**
CPUP				LR	LR	18 15 15.3	
BDFB	**Brasilia**	**34.13**	**111**	P	**P**	**18 00 25.5**	**-1.5**
	3.1nm,0.7s,mb4.3,baz=257,slow=7.7,SNR=4.0						
BDFB				pP	pP	18 00 38.0	-0.9
	3.6nm,0.7s,baz=240,slow=7.0,SNR=2.5						
WMOK	**Wichita Mounta**	**42.55**	**338**	P	**P**	**18 01 46.5**	**+8.8**
	12nm,1.4s,mb4.4						
CPRX	**Cap Rock**	**43.26**	**331**	P	**P**	**18 01 43.5**	**+0.1**
ANMO	**Albuquerque**	**46.07**	**331**	P	**P**	**18 02 05.6**	**-0.2**
	4.5nm,0.8s,mb4.5						
HWUT	**Hardware Ranch**	**53.78**	**332**	P	**P**	**18 03 04.8**	**+0.4**
	4.5nm,0.8s,mb4.5						
PDAR	**Pinedale Array**	**53.78**	**334**	P	**P**	**18 03 04.7**	**+0.4**
	0.7nm,0.7s,mb3.7,baz=126,slow=7.5,SNR=4.3						
PDAR				sP	sP	18 03 20.1	-1.8
	1.8nm,0.9s,baz=141,slow=7.6,SNR=5.1						
NVAR	**Mina Array Bea**	**55.03**	**324**	P	**P**	**18 03 14.9**	**+1.5**
	1.0nm,0.7s,mb4.0,baz=127,slow=6.9,SNR=5.2						
ULM	**Lac du Bonnet**	**56.09**	**348**	P	**P**	**18 03 20.1**	**-0.9**
	1.0nm,0.4s,mb4.2,baz=137,slow=5.8,SNR=3.9						
ULM				pP	pP	18 03 31.4	-2.2
	6.4nm,0.7s,baz=153,slow=8.0,SNR=3.4						
ULM				sP	sP	18 03 36.1	-2.5
	6.4nm,0.7s,baz=147,slow=9.2,SNR=7.5						
YKA	**Yellowknife Ar**	**71.62**	**344**	P	**P**	**18 05 02.2**	**-1.0**
	0.7nm,0.8s,mb3.6,baz=132,slow=6.7,SNR=4.0						
YKA				pP	pP	18 05 14.7	-1.3
	1.0nm,0.6s,baz=145,slow=5.9,SNR=5.1						
YKA	**Yellowknife Ar**	**71.62**	**344**	P	**P**	**18 05 02.2**	**-1.0**
YKA				pP	pP	18 05 14.7	-1.3
DBIC	**Dimbokro**	**76.70**	**82**	P	**P**	**18 05 32.7**	**-0.1**
	6.0nm,1.1s,mb4.5,baz=256,slow=8.3,SNR=2.2						
DBIC				pP	pP	18 05 45.3	-0.5
	5.1nm,0.8s,baz=210,slow=10,SNR=2.2						
RAR	**Rarotonga**	**78.02**	**249**	LR	LR	18 32 29.9	
	comp=Z,114nm,18.3s,MS4.2,baz=154,slow=30						
VNA3	**Neumayer Olymp**	**79.73**	**162**	⇓*i*	**P**	**18 05 49.3**	**-0.3**
VNA3				*e*		18 05 53.0	
VNA3				*e*	pP	18 06 01.8	-0.8
VNA3				*e*		18 06 10.2	
VNA3				*e*		18 06 28.1	
VNA3				*e*		18 06 30.6	
VNA2	**Neumayer--Watz**	**80.36**	**161**	⇓*i*	**P**	**18 05 52.6**	**-0.4**
	baz=314,slow=8.1						
VNA2				*e*		18 05 56.9	
VNA2				*e*	pP	18 06 05.2	-0.8
VNA2				*e*		18 06 13.4	
VNA2				*e*		18 06 31.2	
VNA2				*e*		18 06 33.9	
INK	**Inuvik**	**81.26**	**343**	P	**P**	**18 05 59.7**	**+1.9**
	12nm,1.4s,mb4.6						
ESDC	**Sonseca Array**	**82.87**	**49**	pP	pP	18 06 17.6	-1.8
	0.7nm,0.6s,baz=261,slow=4.9,SNR=3.0						
TORD	**Torodi Ar. Bea**	**83.82**	**76**	P	**P**	**18 06 09.6**	**-1.5**
	1.1nm,0.7s,mb4.1,baz=276,slow=6.0,SNR=12						
TORD				pP	pP	18 06 22.6	-1.6
	1.8nm,0.9s,baz=278,slow=6.4,SNR=5.5						
ILAR	**Eielson Array**	**84.11**	**337**	P	**P**	**18 06 11.2**	**-1.3**
	0.1nm,0.5s,baz=114,slow=2.2,SNR=3.3						
ILAR				pP	pP	18 06 24.0	-1.7
	0.6nm,0.9s,baz=144,slow=3.5,SNR=4.4						
SYO	**Syowa Base**	**96.25**	**162**	⇓*e*P	**P**	**18 07 16.6**	**+6.7**
MDJ	**Mudanjiang**	**131.96**	**331**	PKP	PKPdf	18 13 07.3	+12
MKAR	**Makanchi Array**	**135.46**	**16**	PKP	PKPdf	18 12 59.9	-1.6
	0.3nm,0.8s,baz=336,slow=3.2,SNR=2.8						
MKAR				pPKP	pPKPdf	18 13 12.5	-2.7
	0.5nm,0.8s,baz=11,slow=2.5,SNR=4.6						
ASAR	**Alice Springs**	**135.99**	**229**	PKP	PKPdf	18 13 03.2	+0.7
	0.8nm,0.7s,baz=122,slow=2.0,SNR=11						
ASAR				pPKP	pPKPdf	18 13 15.3	-0.8
	0.6nm,0.7s,baz=129,slow=2.9,SNR=4.0						
SONM	**Songino Array**	**136.42**	**353**	PKP	PKPdf	18 13 04.2	+0.9
	0.4nm,0.7s,baz=304,slow=2.8,SNR=4.3						
WB2	**Warramunga Arr**	**137.67**	**234**	*e*P	PKPdf	18 13 05.6	0.0
WRA	**Warramunga Arr**	**137.68**	**234**	PKP	PKPdf	18 13 06.0	+0.4
	1.3nm,0.7s,baz=116,slow=2.0,SNR=13						
WMQ	**Urumqi**	**139.60**	**13**	*e*PKP	PKPdf	18 13 18.6	+9.5
HHC	**Hu-ho-hao-te**	**142.16**	**345**	*e*PKP	PKPdf	18 13 24.9	+11
HHC				PP	PP		
	comp=Z,84nm,8.9s						
HHC				LR	LR		
	comp=N,132nm,20.0s,MS5.0						
HHC				LR	LR		
	comp=E,242nm,23.8s,MS5.0						
HHC				LR	LR		
	comp=Z,152nm,21.5s,MS4.7						
GTA	**Gaotai**	**145.29**	**359**	*e*PKP	PKPdf	18 13 19.4	+0.2
FITZ	**Fitzroy Crossi**	**145.49**	**229**	*e*P	PKPdf	18 13 20.7	+1.2
	comp=Z,12nm,0.8s						
NJ2	**Nanjing**	**146.97**	**328**	*e*PKP	PKPdf	18 13 27.9	+5.9
NJ2				PKP2	PKPab	18 13 36.5	+11
NJ2				APKP		18 13 38.1	
NJ2				XPKP		18 13 41.4	
NJ2				PKS		18 17 01.0	
NJ2				PP	PP	18 17 03.0	+14
NJ2				PP	PP		
	comp=Z,150nm,7.6s						
NJ2				LR	LR		
	comp=N,820nm,31.4s,MS5.6						
NJ2				LR	LR		
	comp=E,1μm,32.8s,MS5.6						
NJ2				LR	LR		
	comp=Z,350nm,34.6s,MS4.9						
LZH	**Lanzhou**	**148.31**	**353**	*e*PKP	PKPdf	18 13 35.1	+11
LZH				APKP		18 13 45.8	
LZH				XPKP		18 13 49.4	
LZH				LR	LR		
	comp=E,136nm,19.7s						
LZH				LR	LR		
	comp=Z,352nm,20.6s,MS5.1						
CD2	**Chengdu**	**153.41**	**351**	*e*PKP	PKPdf	18 13 38.9	+6.8

MAN 19 17:55:55.5, 1006N×12616E, h13km, mb3.1, ML4.4, MS1.9, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.72**	**248**	⇓*e*P	Pg	17 56 09.2	-0.2
SCPH				*e*S	Sg	17 56 19.8	+1.0
BUTP	**Butuan**	**1.21**	**206**	*e*P	Pn	17 56 12.3	-5.7
MSLP	**Maasin**	**1.29**	**273**	*e*P	Pn	17 56 18.4	-0.7
MSLP				*e*S	Sb	17 56 34.5	-1.5
PLP	**Palo**	**1.60**	**313**	*e*P	Pn	17 56 22.8	-0.6
PLP				*e*S	Sn	17 56 44.8	+0.8
BESP	**Borongan**	**1.69**	**335**	*e*P	Pn	17 56 25.0	+0.3
OCLP	**Ormoc**	**1.82**	**303**	*e*P	Pn	17 56 27.5	+1.1
TBP	**Tagbilaran**	**2.30**	**261**	*e*P	Pn	17 56 33.3	+0.3
TBP				*e*S	Sn	17 57 02.2	+1.1
BUKP	**Musuan**	**2.42**	**207**	*e*P	Pn	17 56 35.5	+0.7
PAGZ	**Pagadian**	**3.52**	**232**	*e*P	Pn	17 56 52.8	+3.0
GUIM	**Jordan**	**3.56**	**279**	*e*P	Pn	17 56 51.4	+1.0
PVCP	**Virac**	**4.03**	**331**	⇓*i*P	Pn	17 56 58.4	+1.6
PVCP	**Virac**	**4.03**	**331**	*e*P	Pn	17 56 57.2	+0.4
CUYO	**Cuyo Island**	**5.12**	**279**	*e*P	Pn	17 57 12.8	+0.9

ISCJB ***19*** *18:07:18.8±0.3, 4500N±001×693E±003, h7km±3km, Error ellipse: s-maj=3.1km s-min=2.4km az=147.8*
ROM ***19*** *18:07:18.6±0.3, 4496N×673E, h18km±4km, Md2.6/7, Ml2.3/4, Error ellipse: s-maj=4.4km s-min=2.9km az=8.0*
CSEM ***19*** *18:07:18.8±0.1, 4504N×694E, h10km, ML3.1/7, Error ellipse: s-maj=2.0km s-min=1.8km az=83.0*
MOS ***19*** *18:07:19.1±1.1, 4504N×693E, h10km, mb3.7/1, Error ellipse: s-maj=11.3km s-min=5.8km az=99.7*
GEN ***19*** *18:07:19.4, 4501N×689E, h7km, ML2.0*
LDG ***19*** *18:07:20.4±0.2, 4505N×691E, h2km, Ml3.2/4, Error ellipse: s-maj=4.9km s-min=3.1km az=81.0*
NEIC ***19*** *18:07:20.4, 4505N×691E, h2km, ML2.8(STR), ML3.2(LDG), After LDG.*
STR ***19*** *18:07:20.8±0.3, 4497N×702E, h5km±1km, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 19 18:07:19.4±0.3, 4501N±001×693E±002, h3km±5km, n52, σ0§68/91, 3C, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FENE	**Fenestrelle**	**0.10**	**75**	P	**Pg**	**18 07 22.1**	**+0.8**
RRL	**Cesana Torines**	**0.14**	**231**	P	**Pg**	**18 07 22.2**	**+0.2**
BNI	**Bardonecchia**	**0.19**	**285**	⇑*i*Pg	**Pg**	**18 07 23.0**	**0.0**
BNI				Sg	**Sg**	**18 07 25.3**	**-0.1**
	202nm,0.2s						
BNI	**Bardonecchia**	**0.19**	**285**	*e*P	**Pg**	**18 07 22.8**	**-0.2**
BNI				⇑*i*Pg	**Pg**	**18 07 23.0**	**0.0**
BNI				Sg	**Sg**	**18 07 25.3**	**-0.1**
BNI	**Bardonecchia**	**0.19**	**285**	⇑*i*Pg	**Pg**	**18 07 23.0**	**0.0**
BNI				Sg	**Sg**	**18 07 25.3**	**-0.1**
	202nm,0.2s						
RSP	**Reno Superiore**	**0.27**	**58**	P	**Pg**	**18 07 25.6**	**+1.0**
MBDF	**Montbardon**	**0.30**	**202**	*e*Pg	**Pg**	**18 07 25.5**	**+0.3**
MBDF				*e*Sg	**Sg**	**18 07 29.7**	**+0.6**
	493nm,0.2s						
MBDF	**Montbardon**	**0.30**	**202**	*e*Pg	**Pg**	**18 07 25.5**	**+0.3**
MBDF				*e*Sg	**Sg**	**18 07 29.7**	**+0.6**
	247nm,0.2s						
LPG	**La Plagne**	**0.51**	**346**	*e*Pg	**Pg**	**18 07 29.3**	**+0.2**
LPG				*e*Sg	**Sg**	**18 07 35.9**	**+0.2**
	134nm,0.2s						
LPG	**La Plagne**	**0.51**	**346**	*e*Pg	**Pg**	**18 07 29.3**	**+0.2**
LPG				*e*Sg	**Sg**	**18 07 35.9**	**+0.2**
	67nm,0.2s						
PZZ	**Prazzo**	**0.52**	**166**	P	**Pg**	**18 07 29.3**	**0.0**
LPL	**La Plagne**	**0.53**	**345**	*e*Pg	**Pg**	**18 07 29.8**	**+0.2**
LPL				*e*Sg	**Sg**	**18 07 35.9**	**-0.5**
	92nm,0.2s						
LPL	**La Plagne**	**0.53**	**345**	*e*Pg	**Pg**	**18 07 29.8**	**+0.2**
LPL				*e*Sg	**Sg**	**18 07 35.9**	**-0.5**
	46nm,0.2s						
DOI	**San Damiano**	**0.55**	**156**	Pg	**Pg**	**18 07 30.3**	**+0.4**
DOI				Sg	**Sg**	**18 07 37.5**	**+0.4**
	558nm,0.4s						
MONC	**Moncucco Torin**	**0.71**	**84**	Pg	**Pg**	**18 07 34.9**	**+1.9**
MONC				Sg	**Sg**	**18 07 47.0**	**+4.8**
	92nm,0.4s						
ORIF	**Oris-en-Rattie**	**0.75**	**264**	*e*Pg	**Pg**	**18 07 33.4**	**-0.4**
ORIF				*e*Sg	**Sg**	**18 07 42.8**	**-0.8**
	242nm,0.4s						
ORIF	**Oris-en-Rattie**	**0.75**	**264**	*e*Pg	**Pg**	**18 07 33.4**	**-0.4**
ORIF				*e*Sg	**Sg**	**18 07 42.8**	**-0.8**
	121nm,0.4s						
TRAV		**0.77**	**48**	P	**Pg**	**18 07 34.0**	**-0.1**
TRAV				S	**Sg**	**18 07 44.1**	**0.0**
MRGE	**Morge**	**0.77**	**7**	Pg	**Pg**	**18 07 34.3**	**+0.2**
	68nm,0.5s						
STV	**Sta Anna Valdi**	**0.81**	**160**	P	**Pg**	**18 07 34.8**	**-0.2**
STV				S	**Sg**	**18 07 45.3**	**-0.2**
ENR	**Entracque**	**0.85**	**156**	P	**Pg**	**18 07 35.6**	**-0.2**
ENR				S	**Sg**	**18 07 46.5**	**-0.3**
ORO	**Oropa**	**0.97**	**50**	Pg	**Pg**	**18 07 38.1**	**+0.2**
	45nm,0.2s						
ORX	**Oropa**	**0.97**	**49**	P	**Pg**	**18 07 37.5**	**-0.5**
ORX				S	**Sg**	**18 07 50.0**	**-0.6**
ROB	**Roburent**	**0.98**	**136**	P	**Pg**	**18 07 37.9**	**-0.2**
ROB				S	**Sg**	**18 07 50.5**	**-0.3**
AUTN	**L'Aution**	**1.07**	**160**	Pg	**Pg**	**18 07 39.5**	**-0.4**
AUTN				Sg	**Sg**	**18 07 53.6**	**-0.2**
MONE	**Monesi**	**1.10**	**147**	P	**Pg**	**18 07 39.7**	**-0.7**
MONE				S	**Sg**	**18 07 53.6**	**-1.1**
SAOF	**Saorge**	**1.11**	**156**	Pg	**Pg**	**18 07 40.7**	**0.0**
SAOF				Sg	**Sg**	**18 07 55.0**	**-0.2**
MVIF	**Mont Vial**	**1.12**	**172**	Pg	**Pg**	**18 07 41.2**	**+0.3**
MVIF				Sg	**Sg**	**18 07 56.0**	**+0.6**
LUCF	**Luceram**	**1.15**	**165**	Pg	**Pg**	**18 07 41.6**	**+0.1**
LUCF				Sg	**Sg**	**18 07 57.0**	**+0.6**
SBF	**Sospel**	**1.20**	**162**	*e*Pn	**Pn**	**18 07 42.3**	**-0.8**
RORO		**1.21**	**137**	P	**Pg**	**18 07 41.4**	**-1.1**
FIN	**Finale Ligure**	**1.21**	**131**	Pg	**Pg**	**18 07 42.3**	**-0.3**
FIN				Sg	**Sg**	**18 07 59.1**	**+0.8**
	36nm,0.5s						
FIN	**Finale Ligure**	**1.21**	**131**	P	**Pg**	**18 07 41.2**	**-1.4**
FIN	**Finale Ligure**	**1.21**	**131**	Pg	**Pg**	**18 07 42.3**	**-0.3**
FIN				Sg	**Sg**	**18 07 59.1**	**+0.8**
	36nm,0.5s						
MMK	**Mattmark**	**1.27**	**34**	Pg	**Pg**	**18 07 43.6**	**-0.2**
NEGI	**Negi**	**1.28**	**154**	P	**Pg**	**18 07 42.1**	**-1.9**
NEGI				S	**Sg**	**18 07 57.3**	**-3.3**
IMI	**Imperia**	**1.29**	**148**	Pg	**Pg**	**18 07 43.4**	**-0.8**
IMI				Sg	**Sg**	**18 08 00.6**	**-0.3**
	16nm,0.1s						
REVF	**Revere**	**1.30**	**166**	Pg	**Pg**	**18 07 45.2**	**+0.8**
SMRF	**Simiane la Rot**	**1.42**	**224**	*e*Pg	**Pg**	**18 07 47.5**	**+1.0**
SMRF				*e*Sg	**Sg**	**18 08 05.5**	**+0.6**
	49nm,0.5s						
SMRF	**Simiane la Rot**	**1.42**	**224**	*e*Pg	**Pg**	**18 07 47.5**	**+1.0**
SMRF				*e*Sg	**Sg**	**18 08 05.5**	**+0.6**
	25nm,0.5s						
FRF	**La Foret Royal**	**1.46**	**188**	*e*Pg	**Pg**	**18 07 48.1**	**+0.7**
FRF				*e*Sg	**Sg**	**18 08 07.2**	**+0.9**
	41nm,0.2s						
FRF	**La Foret Royal**	**1.46**	**188**	*e*Pn	**Pn**	**18 07 47.1**	**+0.5**
FRF				*e*Pg	**Pg**	**18 07 48.1**	**+0.7**
FRF				*e*Sg	**Sg**	**18 08 07.2**	**+0.9**
FRF	**La Foret Royal**	**1.46**	**188**	*e*Pg	**Pg**	**18 07 48.1**	**+0.7**
FRF				*e*Sg	**Sg**	**18 08 07.2**	**+0.9**
	20nm,0.2s						
VIVF	**Saint-Julien-l**	**1.61**	**265**	*e*Pg	**Pg**	**18 07 50.3**	**0.0**
VIVF				*e*Sg	**Sg**	**18 08 09.4**	**-1.8**
	37nm,0.4s						
VIVF	**Saint-Julien-l**	**1.61**	**265**	*e*Pg	**Pg**	**18 07 50.3**	**0.0**
VIVF				*e*Sg	**Sg**	**18 08 09.4**	**-1.8**
	18nm,0.4s						
LMR	**La Mourre**	**1.70**	**190**	*e*Pn	**Pn**	**18 07 50.5**	**+0.6**
LMR				*e*Sg	**Sg**	**18 08 14.4**	**+0.4**
	32nm,0.2s						
LMR	**La Mourre**	**1.70**	**190**	*e*Pn	**Pn**	**18 07 50.5**	**+0.6**
LMR				*e*Sg	**Sg**	**18 08 14.4**	**+0.4**
	16nm,0.2s						
LASF	**Ste Croix**	**2.39**	**248**	*e*Pn	**Pn**	**18 07 59.7**	**+0.3**
LASF				*e*Sn	**Sn**	**18 08 28.2**	**-1.0**
PLDF	**La Plantade**	**2.52**	**294**	Pn	**Pn**	**18 08 02.3**	**+1.1**
LBL	**Lubilhac**	**2.62**	**276**	Pn	**Pn**	**18 08 02.9**	**+0.3**
AGO	**Saint Agoulin**	**2.87**	**293**	Pn	**Pn**	**18 08 06.4**	**+0.4**
PGF	**Pioggiola**	**2.88**	**148**	*e*Pn	**Pn**	**18 08 05.9**	**-0.2**
PGF				*e*P		18 08 09.3	

BJI ***19*** *18:12:37.2, 5783N×12138E, h14km, mB5.1, mb4.4, ML5.2, Ms4.6, Msz4.0*
ISCJB ***19*** *18:12:39.6±0.2, 5743N±002×12071E±003, h1km, mb4.0/19, MS3.5/5, Error ellipse: s-maj=3.5km s-min=2.3km az=179.0*
BYKL ***19*** *18:12:40.4±0.2, 5745N×12085E, h1km±12km*
MOS ***19*** *18:12:40.5±1.1, 5745N×12072E, h10km, mb4.3/7, Error ellipse: s-maj=10.9km s-min=8.5km az=57.7*
IDC ***19*** *18:12:41.2±0.8, 5734N×12065E, h0km, mb3.8/10, mb1 4.0/12, mb1mx3.8/23, mbtmp3.8/12, ML3.4/2, MS3.6/3, Ms1 3.6/3, ms1mx3.1/18, Error ellipse: s-maj=21.2km s-min=17.6km az=46.0*
NEIC ***19*** *18:12:42.5±0.5, 5738N×12064E, h10km, mb4.3/4, Error ellipse: s-maj=12.6km s-min=9.1km az=151.0*

ISC 19 18:12:40.9±0.2, 5742N±002×12079E±003, h1km, n88, σ1§26/132, mb4.0/19, MS3.5/5, 3C-5D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNR	**Khani**	**0.67**	**222**	⇓*i*Pg	**Pg**	**18 12 53.5**	**-0.2**
KHNR				*e*Sg	**Sg**	**18 13 02.0**	**-0.4**
YKLR	**Yuktali**	**0.96**	**150**	⇑*i*Pg	**Pg**	**18 12 58.5**	**-0.8**
YKLR				Pmax		18 13 03.8	
	3.0nm,0.2s						
YKLR				*e*Sg	**Sg**	**18 13 10.9**	**-0.8**
YKLR				*e*		18 13 17.2	
YKLR				max		18 13 17.5	
	4μm,0.1s						
CRS	**Chara**	**1.47**	**250**	⇓*i*Pg	**Pn**	**18 13 08.2**	**-0.3**
CRS				Pmax		18 13 09.0	
	7μm,1.0s						
CRS				*e*Sg	**Sg**	**18 13 27.5**	**-0.6**
CRS				Smax		18 13 30.1	
	5μm,1.3s						
CRS	**Chara**	**1.47**	**250**	*e*P	**Pn**	**18 13 08.2**	**-0.3**
CRS				*e*		18 13 27.0	
CRS				pmax	pmax		
	comp=Z,6μm,1.0s						
CRS				smax			
	comp=E,5μm,1.0s						
NRGR	**Nerungri**	**2.28**	**108**	*e*P	**Pn**	**18 13 21.1**	**+1.4**
NRGR				S	**Sn**	**18 13 49.7**	**+1.2**
NRGR				smax			
	comp=N,190nm,0.2s						

comp=Z,750nm,0.7s
UKT Uakit 4.42 247 *i* Pn **Pn** 18 13 49.8 +0.7
UKT *e*Pg **Pb** 18 14 00.5 +1.2
UKT Pmax 18 14 04.4
comp=Z,371nm,1.7s
UKT *e*Sn **Sn** 18 14 38.8 -2.4
UKT *e*Sg **Sb** 18 14 57.7 +4.6
UKT Smax 18 15 17.9
comp=Z,1μm,0.9s
UKT Uakit 4.42 247 *e*P **Pb** 18 14 00.4 +1.1
UKT pmax pmax
comp=Z,368nm,0.7s
KROS Kirovskiy 4.59 128 *e*Pg **Pb** 18 14 00.5 -1.7
KROS Pmax 18 14 05.9
comp=Z,92nm,0.5s
KROS *e*Sn **Sn** 18 14 41.6 -3.8
KROS *e*Sg **Sb** 18 15 00.5 +2.5
KROS Smax 18 15 03.8
comp=Z,410nm,0.6s
YOA Uoyan 5.15 259 *e*Pn **Pn** 18 13 59.0 -0.1
YOA *e*Pg **Pb** 18 14 12.8 +1.0
YOA Pmax 18 14 22.9
comp=Z,2μm,1.5s
YOA *e*Sg **Sb** 18 15 20.0 +5.9
YOA Smax 18 15 40.7
comp=Z,12μm,1.9s
YOA Uoyan 5.15 259 *e*P **Pb** 18 14 14.2 +2.4
YOA pmax pmax
comp=Z,2μm,1.3s
CGD Chagda 5.38 72 *e* **Pn** 18 14 04.0 +1.7
CGD max 18 14 06.0
comp=Z,290nm,0.1s
CGD *e*Sg **Sg** 18 15 24.9 -8.9
CGD Smax 18 15 27.4
comp=Z,2μm,0.2s
CGD Smax 18 15 50.3
KMO Kumora 5.51 258 *e*Pn **Pn** 18 14 04.6 +0.5
KMO *e* 18 14 17.3
KMO *e* 18 14 22.1
KMO max 18 14 25.2
comp=Z,225nm,1.3s
KMO *e*Sg **Sg** 18 15 32.0 -5.9
KMO Smax 18 15 45.1
comp=Z,2μm,1.1s
KMO Kumora 5.51 258 *e*P **Pn** 18 14 04.8 +0.7
KMO *e*S **Sn** 18 15 04.6 -3.4
YLYR Ulyunkhan 5.95 249 ǁ *i*Pn **Pn** 18 14 10.9 +0.7
YLYR *e*Pg **Pg** 18 14 27.8 -7.2
YLYR Pmax 18 14 36.3
comp=Z,116nm,1.4s
YLYR *e*Sg **Sg** 18 15 46.1 -6.1
YLYR Smax 18 15 59.6
comp=Z,1μm,1.9s
YLYR Ulyunkhan 5.95 249 *e*P **Pn** 18 14 11.0 +0.8
TBGR Tabaga 6.29 42 *e*Pn **Pn** 18 14 12.9 -1.9
TBGR *e*Pg **Pb** 18 14 33.2 +2.0
TBGR *e*Sn **Sn** 18 15 22.3 -5.0
TBGR *e*Sg **Sb** 18 15 53.2 +6.2
NIZ Nizh Angarsk 6.43 260 *e*Pn **Pn** 18 14 17.3 +0.6
NIZ *e*Pg **Pg** 18 14 37.2 -6.9
NIZ Pmax 18 14 44.1
comp=Z,103nm,1.4s
NIZ *e*Sn **Sn** 18 15 26.4 -4.3
NIZ *e*Sg **Sg** 18 15 59.5 -7.9
NIZ Smax 18 16 27.3
comp=Z,785nm,1.9s
NIZ Nizh Angarsk 6.43 260 *e*P **Pn** 18 14 18.7 +2.0
NIZ pmax pmax
comp=Z,104nm,1.4s
YAK Yakutsk 6.45 40 *e*Pn **Pn** 18 14 17.0 +0.1
YAK *e*Pg **Pb** 18 14 34.9 +1.0
YAK *e*Sn **Sn** 18 15 26.7 -4.4
YAK *e*Sg **Sb** 18 15 57.4 +6.0
YAK Yakutsk 6.45 40 *e*P **Pn** 18 14 17.9 +1.0
YAK *e* 18 15 26.8
YAK pmax pmax
comp=Z,7.0nm,1.1s
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK smax
comp=E,26nm,0.7s
YAK smax
comp=Z,31nm,0.7s
YAK smax
comp=N,116nm,1.6s
YAK MLR MLR
comp=Z,208nm,7.0s
YAK Yakutsk 6.45 40 *e*P **Pn** 18 14 14.7 -2.3
comp=Z,46nm,0.8s
CIT Chita 6.84 221 *e*Pg **Pg** 18 14 44.6 -7.4
CIT Pmax 18 14 45.5
comp=Z,96nm,1.0s
CIT *e*Sg **Sg** 18 16 11.6 -9.0
CIT Smax 18 16 23.3
comp=Z,3μm,1.3s
SYVR Suvo 7.19 243 *e*Pn **Pn** 18 14 27.6 +0.5
SYVR *e*Pg **Pg** 18 14 50.8 -7.8
SYVR Pmax 18 14 54.1
comp=Z,167nm,1.3s
SYVR *e*Sg **Sg** 18 16 23.8 -8.0
SYVR Smax 18 16 34.3
comp=Z,2μm,1.5s
MXMB Maximikha 8.03 244 *e*Sg **Sg** 18 16 51.4 -7.3
MXMB Smax 18 17 06.1
comp=Z,2μm,1.3s
HIA Hailar 8.19 185 *e*P **Pn** 18 14 47.4 +6.5
HIA Hailar 8.19 185 *e*P **Pn** 18 14 37.1 -3.9
comp=Z,20nm,0.6s
OGRR Ongureny 8.38 249 *e*Pn **Pn** 18 14 44.3 +0.8
OGRR *e*Pg **Pg** 18 15 13.3 -8.2
OGRR Pmax 18 15 18.9
comp=Z,43nm,1.5s
OGRR *e*Sg **Sg** 18 17 00.9 -9.2
OGRR Smax 18 17 15.1
comp=Z,389nm,2.1s
TRTB Turuntaevo 9.20 241 *e* **Pn** 18 14 58.3 +3.6
TRTB *e*Pg Pn 18 15 28.1 +33
TRTB Pmax 18 15 32.2
comp=Z,38nm,1.4s
TRTB *e*Sg Sn 18 17 25.6 +47
TRTB Smax 18 17 35.2
comp=Z,874nm,1.4s
KPC Khapcheranga 9.20 216 *e*Pn **Pn** 18 14 54.4 -0.4
KPC *e*Sg Sn 18 17 24.9 +46
KPC Smax 18 17 35.3
comp=Z,1μm,1.6s
ZRHB Zarechye 9.22 244 *e*Pg Px 18 15 28.0
ZRHB Pmax 18 15 35.0
comp=Z,83nm,1.1s
ZRHB *e*Sg Sx 18 17 28.7
ZRHB Smax 18 17 46.2
comp=Z,3μm,2.0s
TRG Tyrgan 9.50 247 *e*P **Pn** 18 15 01.1 +2.3
TRG pmax pmax
comp=Z,26nm,1.6s
FFNB Fofonovo 9.73 242 *e*Sg Sx 18 17 43.3
FFNB Smax 18 18 05.2
comp=Z,2μm,1.2s
HRMR Khuramsha 9.91 240 *e*Pn **Pn** 18 15 05.3 +0.9
HRMR *e*Pg Pn 18 15 39.0 +35
HRMR Pmax 18 15 44.0
comp=Z,60nm,1.3s
HRMR *e*Sg Sn 18 17 47.8 +52
HRMR Smax 18 17 57.9
comp=Z,2μm,2.0s
KLR Kul'dur 10.49 137 *e*P **Pn** 18 15 12.4 0.0
KLR MLR MLR
comp=N,3μm,10.0s
KLR MLR MLR
comp=E,3μm,10.0s
KLR MLR MLR
comp=Z,900nm,7.0s
IRK Irkutsk 10.84 248 *e*Sg Sx 18 18 16.2
IRK Smax 18 18 33.3
comp=Z,368nm,1.7s
TLY Talaya 11.48 247 *e*P **Pn** 18 15 27.0 +1.0
ARS Arshan 11.96 250 *e*Sg Sx 18 18 51.7
ARS Smax 18 19 18.0
comp=Z,553nm,2.0s
BTGS Batagay 12.05 26 *e*Sg Sx 18 18 51.1
ZAK Zakamensk 12.48 243 *e*P **Pn** 18 15 42.4 +2.8
ZAK *e* 18 17 58.0
ZAK pmax pmax
comp=Z,36nm,2.1s
ZAK smax
comp=N,336nm,1.4s
ULN Ulaanbaatar 12.67 227 *e*P **Pn** 18 15 43.8 +1.6
ULN Ulaanbaatar 12.67 227 *e*P **Pn** 18 15 39.8 -2.4
comp=N,2.5nm,0.6s
SONM Songino Array 12.96 228 Pn **Pn** 18 15 47.1 +0.9
comp=N,0.3nm,0.3s,baz=32,slow=11,SNR=12
SONM Lg 18 19 25.9
comp=N,3.3nm,0.3s,baz=34,slow=30,SNR=12
TIXI Tiksi 14.68 10 ⇑ *i*P **Pn** 18 16 02.8 -6.8
TIXI pmax pmax
comp=Z,13nm,1.5s
KRAR Krasnoyarsk 15.35 277 *e*P **Pn** 18 16 13.5 -5.1
KRAR pmax pmax
comp=Z,33nm,1.1s
HHC Hu-ho-hao-te 17.62 204 *e*P **Pn** 18 16 52.6 +4.9
HHC AMB AMB
comp=Z,11nm,1.1s
HHC AMB AMB
comp=Z,99nm,7.0s
ASAJ Asahikawa 19.06 125 P **Pn** 18 17 04.8 -0.4
comp=Z,0.2nm,0.3s,baz=12,slow=9.3,SNR=2.8
NVS Novosibirsk 20.91 279 *e*P **P** 18 17 23.9 -0.9
NVS *e*S **S** 18 21 07.3 -11
NVS pmax pmax
comp=Z,30nm,1.9s
NVS pmax pmax
comp=N,10.0nm,1.3s
NVS pmax pmax
comp=E,23nm,1.4s
NVS smax
comp=N,21nm,1.8s
PET Petropavlovsk 21.84 85 *i* P **P** 18 17 35.7 +0.9
PET MLR MLR
comp=Z,100nm,15.0s,MS3.4
PET Petropavlovsk 21.84 85 *e*P **P** 18 17 35.7 +1.0
comp=Z,26nm,1.0s,mb4.6
GTA Gaotai 22.61 226 *e*P **P** 18 17 43.4 +0.4
GTA AP 18 17 51.0
GTA XP sP 18 17 53.8 +10
GTA AMB AMB
comp=Z,4.0nm,1.4s,mb3.8
BILL Bilibino 22.79 44 ⇑ *i*P **P** 18 17 45.3 +0.4
BILL pmax pmax
comp=Z,9.0nm,1.2s,mb4.2
BILL Bilibino 22.79 44 *e*P **P** 18 17 44.8 -0.1
comp=Z,8.7nm,1.1s,mb4.2
KURK Kurchatov 25.30 273 *e*P **P** 18 18 07.9 -1.0
KURK pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
KURK Kurchatov 25.30 273 *e*P **P** 18 18 07.9 -1.0
comp=Z,4.3nm,0.9s,mb4.2
NJ2 Nanjing 25.40 184 *e*P **P** 18 18 11.9 +2.0
NJ2 AP 18 18 16.1
NJ2 XP sP 18 18 19.0 +8.7
NJ2 PP 18 18 51.6
NJ2 S **S** 18 22 37.0 -0.3
NJ2 XS sS 18 22 51.0 +13
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
NJ2 AMB AMB
comp=Z,530nm,4.0s
NJ2 LR LR
comp=N,610nm,16.0s
NJ2 LR LR
comp=E,1μm,22.7s
NJ2 LR LR
comp=Z,170nm,14.7s,MS3.7
MKAR Makanchi Array 25.58 262 P **P** 18 18 11.1 -0.4
comp=Z,1.5nm,0.7s,mb3.7,baz=51,slow=9.6,SNR=16
MKAR Makanchi Array 25.58 262 *i* P **P** 18 18 11.1 -0.4
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 25.58 262 P **P** 18 18 11.1 -0.4
CHKZ Chkalovo 28.10 284 *e*P **P** 18 18 31.7 -2.5
CHKZ pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
CHKZ Chkalovo 28.10 284 *e*P **P** 18 18 31.7 -2.4
comp=Z,6.8nm,1.0s,mb4.4
ZRNK Zerenda 29.30 284 *e*P **P** 18 18 43.8 -1.0
JOW Kunigami 31.03 167 LR LR 18 32 18.1
comp=Z,86nm,18.2s,MS3.5,baz=355,slow=38
AAK Ala-Archa 32.50 263 *e*P **P** 18 19 11.0 -2.0
AAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
ARU Arti 32.93 295 *e*P **P** 18 19 14.5 -2.3
ARU *e* 18 20 20.7
ARU *e*S **S** 18 24 30.8 -4.8
ARU *e*SS SS 18 26 26.6 -30
AKTK Aktyubinsk 36.40 287 P **P** 18 19 45.6 -1.3
AKTO Aktyubinsk 36.40 287 P **P** 18 19 45.6 -1.3
comp=Z,1.0nm,0.6s,mb3.8,baz=45,slow=1.4,SNR=2.2
KLMR Klimovskoe 39.33 310 *e*P **P** 18 20 09.6 -2.0
KLMR pmax pmax
comp=Z,10.0nm,1.6s,mb4.2
ARCES ARCESS Array B 39.67 327 P **P** 18 20 14.6 +0.2
comp=Z,1.3nm,0.8s,mb3.6,baz=58,slow=12,SNR=8.3
ARCES LR LR 18 41 01.1
comp=Z,109nm,18.2s,MS3.7,baz=337,slow=43
ILAR Eielson Array 41.37 40 P **P** 18 20 28.8 +0.3
comp=Z,1.1nm,0.8s,mb3.6,baz=299,slow=8.6,SNR=13
FINES FINESS Array B 44.26 317 P **P** 18 20 52.1 +0.1
comp=Z,2.9nm,0.6s,mb4.2,baz=51,slow=9.0,SNR=12
FINES LR LR 18 41 55.7
comp=Z,55nm,18.7s,MS3.5,baz=333,slow=40
NB2 NORSAR Subarra 49.73 323 P **P** 18 21 35.0 +0.3
comp=Z,0.9nm,0.6s,mb3.9,baz=40,slow=7.4
NOA NORSAR Array B 49.73 323 P **P** 18 21 34.6 0.0
comp=Z,1.3nm,0.5s,mb4.1,baz=42,slow=7.9,SNR=7.2
AKASG Malin Array Be 50.23 304 P **P** 18 21 37.5 -1.0
comp=Z,1.1nm,0.4s,mb4.2,baz=40,slow=8.5,SNR=9.4
CLL Collm 56.57 314 *i* P **P** 18 22 24.7 -0.4
comp=Z,8.0nm,1.2s,mb4.6
GERES GERESS Array B 58.24 312 P **P** 18 22 37.9 +1.0
comp=Z,0.3nm,0.6s,mb3.5,baz=41,slow=9.1,SNR=3.9
WRA Warramunga Arr 77.90 167 P **P** 18 24 39.6 -0.8
comp=Z,0.4nm,0.7s,mb3.7,baz=352,slow=6.7,SNR=6.2
ASAR Alice Springs 81.52 168 P **P** 18 25 00.6 +0.5
comp=Z,0.3nm,0.6s,mb3.6,baz=351,slow=4.2,SNR=8.1

MAN 19 18:39:26.3, 1348N×12340E, h88km, mb2.3, ML3.9, MS2.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AUQP	**San Andres**	**0.72**	**258**	*e*P		Pn		18 39 44.4	+1.7
PVCP	**Virac**	**0.75**	**81**	⇑ *i*P		Pn		18 39 44.6	+1.5
PVCP				*i* S		Sn		18 39 53.9	-1.7
PVCP	**Virac**	**0.75**	**81**	*e*P		Pn		18 39 44.5	+1.5
BOAC	**Boac**	**1.51**	**269**	*e*P		Pn		18 39 52.2	+0.2
POLP	**Polilio Island**	**1.88**	**311**	*e*P		Pn		18 39 57.7	+0.8

*MOS **19** 19:33:36.2±0.8, 4063N×3504E, h10km, mb3.7/3, Error ellipse: s-maj=22.5km s-min=9.1km az=84.7*
*IDC **19** 19:33:37.3±1.6, 4074N×3478E, h0km, mb3.4/4, mb1 3.5/7, mb1mx3.4/21, mbtmp3.5/7, ML3.7/3, MS2.8/1, Ms1 2.8/1, ms1mx2.0/28, Error ellipse: s-maj=33.2km s-min=12.1km az=111.0*
*ISCJB **19** 19:33:38.3±0.4, 4073N±002×3487E±002, h13km±3km, mb3.3/4, Error ellipse: s-maj=3.1km s-min=2.9km az=103.3*
*ISK **19** 19:33:38.6, 4073N×3490E, h20km, ML3.7*
*CSEM **19** 19:33:38.7±0.1, 4074N×3484E, h20km, mb3.5/3, Error ellipse: s-maj=2.1km s-min=1.7km az=79.0*

ISC 19 19:33:39.2±0.4, 4072N±002×3484E±003, h9km±3km, n70, σ1°25/101, mb3.3/4, 4C, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTKT	**Corum**	**0.10**	**201**	*i* P		**Pg**		**19 33 40.7**	**-0.9**
CTKT				*i* S		**Sg**		**19 33 44.7**	**+1.3**
TOS	**Tosya**	**0.69**	**298**	*i* PG		**Pg**		**19 33 52.8**	**+0.2**
BOYT	**Boyabat**	**0.70**	**4**	*i* P		**Pg**		**19 33 53.0**	**+0.2**
BOYT				*i* S		**Sg**		**19 34 04.6**	**+2.6**
BYBT	**Boyabat**	**0.75**	**356**	*i* PG		**Pg**		**19 33 54.0**	**+0.3**
CANT	**Cankiri**	**0.93**	**264**	*i* PG		**Pg**		**19 33 56.8**	**-0.3**
CANT				*i* SG		**Sg**		**19 34 11.9**	**+2.8**
KVT	**Kavak**	**0.99**	**68**	*i* PG		**Pg**		**19 33 56.7**	**-1.4**
KVT				*i* SG		**Sg**		**19 34 10.6**	**-0.4**
ELDT	**Eldivan**	**1.10**	**259**	*i* P		**Pg**		**19 33 59.1**	**-1.1**
ELDT				*i* S		**Sg**		**19 34 13.2**	**-1.2**
YOZ	**Yozgat**	**1.14**	**161**	*i* PN		**Pn**		**19 33 59.0**	**-2.2**
CDAG	**Cicekdag**	**1.15**	**198**	*i* P		**Pb**		**19 33 58.6**	**-2.5**
CDAG				*i* S		**Sg**		**19 34 13.7**	**-2.5**
CDAG	**Cicekdag**	**1.15**	**198**	*i* P		**Pb**		**19 33 58.6**	**-2.6**
CDAG				*i* S		**Sg**		**19 34 13.6**	**-2.5**
BRTR	**Keskin Array B**	**1.35**	**223**	Pg		**Pg**		**19 34 01.8**	**-3.3**
	171nm,0.3s,baz=61,slow=15,SNR=2822								
BRTR				Lg				19 34 20.6	
	114nm,0.3s,baz=67,slow=26,SNR=22								
BALT	**Daday**	**1.37**	**307**	*i* P		**Pn**		**19 34 05.0**	**+0.6**
BALT				*i* S		**Sb**		**19 34 25.2**	**+2.8**
KAMT	**Kaman**	**1.60**	**213**	*i* PN		**Pn**		**19 34 06.3**	**-1.3**
SAFT	**Safranbolu**	**1.71**	**289**	*i* PN		**Pn**		**19 34 09.3**	**+0.2**
ANTO	**Ankara**	**1.78**	**242**	PN		**Pn**		**19 34 10.7**	**+0.6**
LOD	**Lodumlu**	**1.79**	**243**	PN		**Pn**		**19 34 10.4**	**+0.2**
SVSK	**Karacayir**	**1.84**	**115**	PN		**Pn**		**19 34 10.4**	**-0.4**
SVST	**Sivas**	**1.88**	**120**	*i* P		**Pn**		**19 34 12.0**	**+0.7**
SVST				*i* S		**Sn**		**19 34 38.5**	**+3.3**
AVNT	**Avonos**	**1.94**	**180**	*i* P		**Pn**		**19 34 08.2**	**-4.0**
AVNT				*i* S		**Sn**		**19 34 36.7**	**+0.1**
BNN	**Bunyan**	**2.02**	**157**	PN		**Pn**		**19 34 12.7**	**-0.7**
SGKT	**Sivrigoynuk**	**2.12**	**267**	*i* P		**Pn**		**19 34 15.6**	**+0.9**
SGKT				*i* S		**Sn**		**19 34 39.4**	**-1.7**
GRSN	**GIRESUNGRSN**	**2.61**	**84**	*i* P		**Pn**		**19 34 23.8**	**+2.3**
GRSN				*i* S		**Sn**		**19 34 59.1**	**+5.8**
MDU	**Mudurnu**	**2.77**	**266**	PN		**Pn**		**19 34 24.0**	**+0.3**
KIZT	**Kizilcal**	**2.92**	**232**	PN		**Pn**		**19 34 25.9**	**+0.1**
HENT	**Hendek**	**2.99**	**273**	*i* P		**Pn**		**19 34 27.6**	**+0.8**
HENT				*i* S		**Sg**		**19 35 18.4**	**+3.2**
ESKT	**Eskisehir**	**3.28**	**250**	*i* P		**Pn**		**19 34 30.5**	**-0.2**
ESKT				*i* S		**Sn**		**19 35 12.3**	**+2.4**
SEYT	**Eskypehyr**	**3.28**	**250**	*i* P		**Pn**		**19 34 30.5**	**-0.2**
SEYT				*i* S		**Sn**		**19 35 12.3**	**+2.5**
KOZT	**Kozan**	**3.32**	**166**	PN		**Pn**		**19 34 31.5**	**+0.2**
KONT	**Konya--Tatoy**	**3.37**	**216**	*e*PN		**Pn**		**19 34 32.7**	**+0.8**
BORA	**Eskisehir**	**3.45**	**257**	*i* P		**Pg**		**19 34 45.1**	**-0.3**
BORA				*i* S		**Sn**		**19 35 13.8**	**-0.3**
KARA	**Karaisali**	**3.46**	**177**	PN		**Pn**		**19 34 33.7**	**+0.6**
GUMT	**Gumushane**	**3.55**	**93**	*e*PN		**Pn**		**19 34 34.5**	**+0.2**
MALT	**Malatya**	**3.67**	**130**	*e*PN		**Pn**		**19 34 35.9**	**-0.2**
MALT	**Malatya**	**3.67**	**130**	⇑ *i*P		**Pn**		**19 34 44.7**	**+8.6**
CEYT	**Ceyhan**	**3.77**	**169**	*e*PN		**Pn**		**19 34 37.8**	**+0.3**
YAL	**Yalta**	**3.80**	**353**	*e*P		**Pn**		**19 34 37.5**	**-0.4**
YAL				*i* S		**Sn**		**19 35 21.4**	**-1.3**
YAL				pmax	pmax				
	comp=Z,20nm,0.5s								
YAL				smax					
	comp=N,20nm,0.5s								
YAL				smax					
	comp=E,30nm,0.5s								
YAL	**Yalta**	**3.80**	**353**	*e*P		**Pn**		**19 34 37.5**	**-0.4**
	comp=E,20nm,0.5s								
YAL				*i* S		**Sn**		**19 35 21.4**	**-1.3**
MERS	**Mersin**	**3.85**	**184**	*e*PN		**Pn**		**19 34 39.5**	**+0.9**
ADVT	**Abdulvahap**	**3.89**	**267**	*e*PN		**Pn**		**19 34 39.3**	**+0.2**
ELZG	**Elazig**	**3.90**	**123**	*i* P		**Pn**		**19 34 41.6**	**+2.4**
ELZG				*i* S		**Sg**		**19 35 46.3**	**+2.1**
SEV	**Sevastopol'**	**3.92**	**348**	*e*P		**Pn**		**19 34 40.3**	**+0.8**
SEV				*i* S		**Sn**		**19 35 26.4**	**+0.8**
SEV				pmax	pmax				
	comp=Z,10.0nm,0.3s								
SEV				smax					
	comp=N,20nm,0.4s								
SEV				smax					
	comp=E,10.0nm,0.4s								
SEV	**Sevastopol'**	**3.92**	**348**	*e*P		**Pn**		**19 34 40.3**	**+0.8**
	comp=E,10.0nm,0.3s								
SEV				*i* S		**Sn**		**19 35 26.4**	**+0.8**
GZT	**Gaziantep**	**3.97**	**147**	*i* P		**Pn**		**19 34 41.0**	**+0.8**
GZT				*i* S		**Sg**		**19 35 52.0**	**+5.3**
ALU	**Alushta**	**3.98**	**356**	*e*P		**Pn**		**19 34 41.1**	**+0.8**
ALU				*e*S		**Sn**		**19 35 26.1**	**-0.9**
ALU				pmax	pmax				
	comp=Z,20nm,0.4s								
ALU				smax					
	comp=N,50nm,0.3s								
ALU				smax					
	comp=E,40nm,0.4s								
ALU	**Alushta**	**3.98**	**356**	*e*P		**Pn**		**19 34 41.1**	**+0.8**
	comp=E,20nm,0.4s								
ALU				*e*S		**Sn**		**19 35 26.1**	**-0.9**
	comp=E,50nm,0.3s								
SUDU	**Sudak**	**4.17**	**2**	*e*P		**Pn**		**19 34 41.8**	**-1.2**
SUDU				*e*S		**Sn**		**19 35 30.2**	**-1.6**
SUDU				pmax	pmax				
	comp=Z,30nm,0.4s								
SUDU				smax					
	comp=N,100nm,0.8s								
SUDU				smax					
	comp=E,100nm,1.0s								
SUDU	**Sudak**	**4.17**	**2**	*e*P		**Pn**		**19 34 41.8**	**-1.2**
	comp=E,30nm,0.4s								
SUDU				*e*S		**Sn**		**19 35 30.2**	**-1.6**
	comp=E,100nm,0.8s								
FEO	**Feodosiya**	**4.32**	**5**	*e*P		**Pn**		**19 34 46.7**	**+1.7**
FEO				*e*S		**Sn**		**19 35 37.1**	**+1.7**
FEO				pmax	pmax				
	comp=Z,100nm,0.4s								
FEO				smax					
	comp=N,70nm,0.8s								
FEO	**Feodosiya**	**4.32**	**5**	*e*P		**Pn**		**19 34 46.7**	**+1.7**
	comp=N,100nm,0.4s								
FEO				*e*S		**Sn**		**19 35 37.1**	**+1.7**
	comp=N,70nm,0.8s								
ERMK	**Ermenek**	**4.34**	**201**	*i* P		**Pg**		**19 35 03.0**	**+0.7**
ERMK				*i* S		**Sg**		**19 35 56.7**	**-1.8**
TKTP	**Tekketepe**	**4.40**	**234**	*i* P		**Pn**		**19 34 46.4**	**+0.3**
TKTP				*i* S		**Sn**		**19 35 39.6**	**+2.1**
GDZ	**Gediz**	**4.43**	**250**	*i* P		**Pb**		**19 34 55.0**	**-2.0**
GDZ				*i* S		**Sg**		**19 36 09.0**	**+7.7**
SOC	**Sochi**	**4.62**	**50**	*c i*P		**Pn**		**19 34 47.8**	**-1.3**
SOC				*e*				19 35 48.8	
SOC				pmax	pmax				
	comp=Z,8.0nm,0.6s								
SOC	**Sochi**	**4.62**	**50**	*i* P		**Pn**		**19 34 47.8**	**-1.3**
	comp=Z,8.0nm,0.6s								
CFR	**Carcaliu**	**6.63**	**314**	⇑ *i*P		**Pn**		**19 35 16.8**	**0.0**
MMAI	**Mount Meron Ar**	**7.70**	**176**	Pn		**Pn**		**19 35 31.2**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=350,slow=13,SNR=9.2								
BURAR	**Bucovina Array**	**9.76**	**318**	⇑ *i*P		**Pn**		**19 35 58.9**	**-0.7**
AKASG	**Malin Array Be**	**10.72**	**340**	Pn		**Pn**		**19 36 08.4**	**-4.4**
	comp=Z,1.0nm,0.3s,baz=166,slow=12,SNR=3.4								
AKASG				Sn		**Sn**		**19 38 10.4**	**-2.6**
	comp=Z,1.5nm,0.3s,baz=156,slow=23,SNR=4.0								
AKASG	**Malin Array Be**	**10.72**	**340**	P		**Pn**		**19 36 08.5**	**-4.4**
AKASG								19 38 10.4	
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.3s								
AKASG				smax					
	comp=N,2.0nm,0.3s								
VRAC	**Vranov**	**15.47**	**310**	LR		LR		19 44 17.7	
	comp=N,35nm,20.3s,baz=184,slow=42								
AKTK	**Aktyubinsk**	**18.84**	**51**	P		**Pn**		**19 37 58.2**	**-1.6**
AKTO	**Aktyubinsk**	**18.84**	**51**	P		**Pn**		**19 37 58.2**	**-1.6**
	comp=N,0.1nm,0.3s,baz=235,slow=13,SNR=3.2								
FINES	**FINESS Array B**	**21.43**	**348**	P		**P**		**19 38 27.4**	**0.0**
	comp=N,1.0nm,0.7s,mb3.3,baz=169,slow=7.9,SNR=4.1								
FINES	**FINESS Array B**	**21.43**	**348**	P		**P**		**19 38 27.5**	**0.0**
FINES				pmax	pmax				
	comp=Z,1.0nm,0.7s								
ARU	**Arti**	**22.05**	**37**	*e*P		**P**		**19 38 30.7**	**-3.4**
HFS	**Hagfors**	**23.45**	**333**	P		**P**		**19 38 48.8**	**-0.1**
	comp=Z,1.7nm,0.8s,mb3.5,baz=151,slow=16,SNR=3.9								
HFS	**Hagfors**	**23.45**	**333**	P		**P**		**19 38 48.8**	**-0.2**
HFS				pmax	pmax				
	comp=Z,2.0nm,0.8s								
NOA	**NORSAR Array B**	**24.96**	**332**	P		**P**		**19 39 02.6**	**-0.2**
	comp=Z,1.2nm,0.9s,mb3.4,baz=129,slow=9.2,SNR=2.6								
NOA	**NORSAR Array B**	**24.96**	**332**	P		**P**		**19 39 02.6**	**-0.2**
NOA				pmax	pmax				
	comp=Z,1.0nm,0.9s								
TORD	**Torodi Ar. Bea**	**39.93**	**236**	P		**P**		**19 41 13.5**	**0.0**
	comp=Z,0.3nm,0.7s,mb3.1,baz=14,slow=6.5,SNR=2.4								

*UCR **19** 19:41:57.6, 8.11N×8286W, h5km, MD4.7*
*ISCJB **19** 19:41:58.1±0.7, 808N±008×8300W±005, h10km, mb4.3/16, MS3.5/2, Error ellipse: s-maj=12.2km s-min=5.3km az=55.5*
*IDC **19** 19:41:59.5±1.4, 844N×8275W, h0km, mb4.1/9, mb1 4.3/10, mb1mx4.1/21, mbtmp4.2/10, ML4.4/1, MS3.4/3, Ms1 3.3/3, ms1mx3.0/18, Error ellipse: s-maj=47.5km s-min=15.7km*

az=39.0
*CASC **19** 19:42:00.8±2.3, 8.41N×82.90W, h0km±5km, MD4.3, MW3.6, mb4.6(NEIC)*
*MOS **19** 19:42:00.2±0.9, 8.58N×82.78W, h10km, mb4.8/5, Error ellipse: s-maj=39.7km s-min=15.2km az=118.7*
*UPA **19** 19:42:01.0, 8.42N×82.89W, h0km, MD4.2, MW3.6*
*NEIC **19** 19:42:02.1±0.7, 8.38N×82.83W, h20km, mb4.6/5, Error ellipse: s-maj=26.4km s-min=13.5km az=50.0*

ISC 19 19:42:00.2±0.7, 8.19N±0.08×82.98W±0.05, h10km, n41, σ1§22/40, mb4.3/16, MS3.5/2, 4C-4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.50**	**338**	⇓*i*P	**Pg**	**19 42 08.3**	**-1.6**
DVD	**David**	**0.58**	**65**	⇓*i*P	**Pg**	**19 42 11.0**	**-0.4**
BUS	**Buena Vista**	**1.56**	**331**	⇑*e*P	**Pn**	**19 42 26.5**	**-1.4**
URSC	**Urasca**	**1.82**	**334**	*e*P	**Pn**	**19 42 30.6**	**-0.9**
LCR2	**La Lucha 2**	**1.85**	**327**	⇓*e*P	**Pn**	**19 42 31.5**	**-0.4**
SJS	**Escuela Geolog**	**2.04**	**329**	⇑*e*P	**Pn**	**19 42 35.9**	**+1.4**
SJS				*e*S	**Sn**	**19 43 01.3**	**+1.3**
PRS1	**Puriscal**	**2.22**	**324**	⇑*e*P	**Pn**	**19 42 36.9**	**-0.1**
CGA2	**Cerro Gallo 2**	**2.34**	**321**	*e*P	**Pn**	**19 42 39.5**	**+0.9**
CGA2				*e*S	**Sn**	**19 43 10.5**	**+3.1**
JTS	**JuntasAbangare**	**2.86**	**317**	Pn	**Pn**	**19 42 46.0**	**+0.2**
	51nm,0.3s,baz=133,slow=2.8,SNR=60						
JTS				Sn	**Sn**	**19 43 21.6**	**+1.4**
	27nm,0.3s,baz=334,slow=21,SNR=6.6						
JTS				Lg		19 43 31.1	
	47nm,0.3s,baz=301,slow=22,SNR=8.6						
JTS	**JuntasAbangare**	**2.86**	**317**	P	**Pn**	**19 42 46.0**	**+0.2**
JTS						19 43 21.6	
VCR	**Vista de Mar**	**3.25**	**307**	⇓*e*P	**Pn**	**19 42 51.0**	**-0.2**
LIM1	**Limonal**	**3.36**	**318**	*e*P	**Pn**	**19 42 52.9**	**+0.3**
UPA	**Univ. de Panam**	**3.50**	**77**	*e*P	**Pn**	**19 42 55.2**	**+0.6**
UPA				*e*S	**Sn**	**19 43 37.9**	**+1.8**
SJG	**San Juan**	**19.11**	**57**	LR	LR	19 52 31.4	
	comp=Z,52nm,18.6s,baz=209,slow=34						
PTP	**Ponta Puerca**	**19.62**	**58**	⇑*i*P	Px	19 42 04.7	
PTP				*e*S	Sx	19 42 10.6	
CCM	**Cathedral Cave**	**30.66**	**347**	*e*P	**P**	**19 48 14.1**	**-0.7**
CCM				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
CCM	**Cathedral Cave**	**30.66**	**347**	*e*P	**P**	**19 48 14.1**	**-0.7**
	comp=Z,7.6nm,0.8s,mb4.6						
SIV	**San Ignacio**	**32.37**	**138**	P	**P**	**19 48 30.6**	**+0.8**
	comp=Z,0.3nm,0.4s,mb3.5,baz=302,slow=9.5,SNR=4.1						
HWUT	**Hardware Ranch**	**41.80**	**327**	*e*P	**P**	**19 49 47.5**	**-2.4**
	comp=Z,4.8nm,0.9s,mb4.1						
BDFB	**Brasilia**	**41.95**	**124**	LR	LR	20 08 05.2	
	comp=Z,64nm,18.6s,MS3.5,baz=298,slow=37						
ULM	**Lac du Bonnet**	**43.28**	**348**	P	**P**	**19 49 59.9**	**-2.0**
	comp=Z,9.9nm,0.8s,mb4.6,baz=161,slow=8.1,SNR=16						
ULM	**Lac du Bonnet**	**43.28**	**348**	P	**P**	**19 49 59.9**	**-2.0**
NVAR	**Mina Array Bea**	**43.78**	**319**	P	**P**	**19 50 07.9**	**+1.9**
	comp=Z,1.0nm,0.7s,mb3.6,baz=120,slow=7.2,SNR=6.3						
WVOR	**Wild Horse Val**	**46.32**	**323**	*e*P	**P**	**19 50 27.3**	**+1.1**
WVOR				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
WVOR	**Wild Horse Val**	**46.32**	**323**	*e*P	**P**	**19 50 27.3**	**+1.1**
	comp=Z,7.2nm,1.1s,mb4.5						
SCHQ	**Schefferville**	**48.28**	**12**	P	**P**	**19 50 40.0**	**-1.4**
	comp=Z,2.8nm,1.0s,mb4.2,baz=216,slow=9.9,SNR=3.7						
SCHQ	**Schefferville**	**48.28**	**12**	P	**P**	**19 50 40.0**	**-1.4**
EDM	**Edmonton**	**51.20**	**337**	*e*P	**P**	**19 51 02.7**	**-0.9**
YKA	**Yellowknife Ar**	**58.89**	**343**	P	**P**	**19 51 57.9**	**-1.3**
	comp=Z,3.2nm,0.9s,mb4.4,baz=137,slow=7.0,SNR=16						
YKA	**Yellowknife Ar**	**58.89**	**343**	P	**P**	**19 51 57.9**	**-1.3**
INK	**Inuvik**	**68.58**	**342**	*e*P	**P**	**19 53 04.2**	**+1.1**
INK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
INK	**Inuvik**	**68.58**	**342**	*e*P	**P**	**19 53 04.2**	**+1.0**
	comp=Z,5.6nm,1.0s,mb4.5						
SUMG	**Summit**	**69.67**	**13**	*e*P	**P**	**19 53 08.6**	**-1.3**
	comp=Z,10nm,1.0s,mb4.7						
ILAR	**Eielson Array**	**71.67**	**336**	P	**P**	**19 53 22.3**	**+0.2**
	comp=Z,1.7nm,0.7s,mb4.1,baz=117,slow=4.5,SNR=18						
TORD	**Torodi Ar. Bea**	**83.03**	**78**	P	**P**	**19 54 27.6**	**+1.8**
	comp=Z,1.0nm,0.8s,mb3.9,baz=263,slow=4.7,SNR=4.9						
HFS	**Hagfors**	**86.28**	**30**	P	**P**	**19 54 41.7**	**-0.4**
	comp=Z,1.8nm,0.8s,mb4.4,baz=224,slow=10.0,SNR=3.2						
ARCES	**ARCESS Array B**	**88.74**	**19**	P	**P**	**19 54 53.3**	**-0.7**
	comp=Z,1.2nm,0.7s,mb4.3,baz=302,slow=7.0,SNR=4.7						
BILL	**Bilibino**	**90.05**	**339**	*e*P	**P**	**19 55 01.6**	**+1.5**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.5						
FINES	**FINESS Array B**	**91.79**	**27**	LR	LR	20 30 03.8	
	comp=Z,21nm,20.9s,MS3.6,baz=348,slow=32						
TIXI	**Tiksi**	**97.60**	**350**	*e*P	**P**	**19 55 33.2**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb4.5						
WRA	**Warramunga Arr**	**142.05**	**248**	PKP	PKPdf	20 01 33.9	+1.4
	comp=Z,0.8nm,1.0s,baz=97,slow=2.6,SNR=5.3						

*PRU **19** 19:49:08.9, 50.15N×18.37E, h0km*
*CSEM **19** 19:49:08.6±0.2, 50.13N×18.40E, h1km, ML3.0/4, Error ellipse: s-maj=4.6km s-min=2.3km az=172.0*
*IPEC **19** 19:49:08.6±0.1, 50.09N×18.45E, h1km±2km, ML2.1/4, Error ellipse: s-maj=2.0km s-min=0.7km az=162.0*
*VIE **19** 19:49:11.3±1.0, 49.98N×18.20E, h0km, mb1.5/2, ML2.5/4, Error ellipse: s-maj=6.0km s-min=5.8km az=164.0 17 km NNW of Ostrava Suspected Mining induced.*

WAR 19 19:49:09.3, 50.08N×18.44E, ML2.5, 2C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.16**	**270**	*e*Pg	Pg	19 49 12.7	+0.4
RAC				*e*Sg	Sg	19 49 15.7	+1.4
OKC	**Ostrava-Krasne**	**0.31**	**217**	*e*PG	Pg	19 49 15.3	+0.1
OKC				*e*SG	Sg	19 49 20.0	+0.8
	149nm,0.5s						
OKC	**Ostrava-Krasne**	**0.31**	**217**	*e*Pg	Pg	19 49 14.8	-0.4
OKC				*e*Sg	Sg	19 49 18.6	-0.6
MORC	**Moravsky Berou**	**0.65**	**242**	*e*Pg	Pg	19 49 21.2	-0.6
MORC				*e*Sg	Sg	19 49 29.7	-0.6
	39nm,0.2s						
OJC	**Ojcow**	**0.89**	**81**	*e*Pg	Pg	19 49 26.0	-0.3
OJC				*e*Sg	Sg	19 49 38.0	+0.2
OJC	**Ojcow**	**0.89**	**81**	*e*Pg	Pg	19 49 25.3	-1.0
OJC				*e*Sg	Sg	19 49 36.5	-1.3
JAVC	**Velka Javorina**	**1.32**	**202**	*e*Pg	Pg	19 49 34.4	-0.3
JAVC				*e*Sg	Sg	19 49 52.3	+0.5
	19nm,0.7s						
DPC	**Dobruska-Polom**	**1.38**	**282**	*e*PG	Pg	19 49 34.4	-1.4
DPC				*e*SG	Sg	19 49 52.4	-1.4
	33nm,0.5s						
DPC	**Dobruska-Polom**	**1.38**	**282**	*e*Pg	Pg	19 49 34.3	-1.5
DPC				*e*Sg	Sg	19 49 52.2	-1.6
NIE	**Niedzica**	**1.39**	**118**	*e*Pg	Pg	19 49 36.0	+0.1
NIE				*e*Sg	Sg	19 49 55.7	+1.8
VRAC	**Vranov**	**1.43**	**238**	*e*Pg	Pg	19 49 35.0	-1.6
VRAC				*e*Sg	Sg	19 49 53.8	-1.3
	30nm,0.3s						
KSP	**Ksiaz**	**1.57**	**300**	*e*Pg	Pg	19 49 36.7	-2.6
KSP				*e*Sg	Sg	19 49 57.3	-2.3
UPC	**Upice**	**1.61**	**286**	*e*PG	Pg	19 49 37.7	-2.5
KRUC	**Moravsky**	**1.68**	**233**	*e*Pg	Pg	19 49 39.0	-2.4
KRUC				*e*Sg	Sg	19 50 01.1	-2.1
	15nm,0.2s						
SMOL	**Smolenice**	**1.70**	**203**	*e*PN	Pn	19 49 39.7	-0.5
SMOL				*e*SN	Sn	19 50 03.6	+0.9
TREC	**Trest**	**2.07**	**249**	*e*PG	Pg	19 49 45.7	-3.3
PRU	**Pruhonice**	**2.51**	**269**	*e*SG	Sg	19 50 25.8	-4.2
KHC	**Kasperske Hory**	**3.30**	**255**	*e*PG	Pg	19 50 10.0	-2.6
KHC				*e*SG	Sg	19 50 52.3	-3.0
MOA	**Molln**	**3.54**	**232**	⇑*i*Pn	Pn	19 50 04.8	-0.7
MOA				⇑*i*Sg	Sg	19 51 01.1	-2.0
	comp=Z,4.3nm,0.3s						
CLL	**Collm**	**3.67**	**292**	*e*Sg	Sg	19 51 07.0	-0.1

NEIC 19 20:15:32.2, 59.98N×152.86W, h102km, MG3.3 (AEIC), After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLKM	**Skilak Lake**	**1.42**	**67**	P	Pn	20 15 56.5	-1.1
SEW	**Seward**	**1.72**	**84**	P	Pn	20 15 59.6	-1.6
SVW2	**Sparrevohn**	**1.75**	**311**	*e*P	Pn	20 16 00.3	-1.3
FIB	**Fire Island**	**1.78**	**47**	P	Pn	20 16 01.6	-0.4
RC01	**Rabbit Creek A**	**1.90**	**53**	P	Pn	20 16 02.7	-0.8
KDAK	**Kodiak Island**	**2.21**	**176**	P	Pn	20 16 05.2	-2.3
PMR	**Palmer**	**2.44**	**47**	*e*P	Pn	20 16 09.6	-0.9
GHO	**Glory Hole Cre**	**2.63**	**45**	P	Pn	20 16 11.9	-1.2
SML	**Sawmill**	**2.87**	**48**	P	Pn	20 16 14.3	-2.0
TT01	**Tatalina**	**3.30**	**334**	P	Pn	20 16 20.7	-1.3
TTA	**Tatalina**	**3.32**	**334**	*e*P	Pn	20 16 20.9	-1.4
MID	**Middleton Isla**	**3.35**	**97**	*e*P	Pn	20 16 20.8	-1.8
EYAK	**Cordova Ski Ar**	**3.59**	**78**	*e*Pn	Pn	20 16 23.8	-2.0
KTH	**Kantishna Hill**	**3.70**	**14**	P	Pn	20 16 26.1	-1.2
BMRM	**Bremner River**	**4.21**	**73**	P	Pn	20 16 32.8	-1.3
PAX	**Paxson**	**4.64**	**47**	P	Pn	20 16 38.6	-1.5
CHGN	**Chignik**	**4.72**	**221**	*e*P	Pn	20 16 39.9	-1.2
MENT	**Mentasta**	**5.29**	**52**	*e*P	Pn	20 16 48.5	-0.3
COLA	**College**	**5.43**	**23**	P	Pn	20 16 49.4	-1.3
IM3	**Indian Mountai**	**6.04**	**357**	P	Pn	20 16 58.2	-0.7
PNL	**Peninsula**	**6.80**	**87**	P	Pn	20 17 07.8	-1.5
COLD	**Coldfoot**	**7.37**	**8**	P	Pn	20 17 15.9	-1.1
DAWY	**Dawson**	**7.54**	**51**	*e*Pn	Pn	20 17 17.8	-1.5
BM3	**Burnt Mountain**	**8.31**	**23**	P	Pn	20 17 26.9	-2.9
SKAG	**Skagway**	**8.87**	**86**	*e*P	Pn	20 17 37.3	-0.2
WHY	**Whitehorse**	**8.95**	**78**	P	Pn	20 17 36.8	-1.7
SIT	**Sitka**	**9.62**	**100**	*e*P	Pn	20 17 44.8	-2.9
	4.2nm,0.3s						
CRAG	**Craig**	**11.46**	**105**	*e*P	Pn	20 18 11.4	-1.2
	3.8nm,0.5s						

CASC 19 20:23:47.1±2.4, 52N×8313W, h0km±4km, MD4.3, ML4.1, 7C-7D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.14**	**343**	⇓*i*P	Pg	20 23 51.6	+1.8
CTCR	**Cotoan**	**0.52**	**44**	⇓*i*P	Pg	20 23 59.1	+2.0
DVD	**David**	**0.67**	**97**	⇓*e*P	Pg	20 24 00.6	+0.6
CNI	**Changuinola**	**1.08**	**34**	⇓*i*P	Pg	20 24 08.2	+0.4
BUS	**Buena Vista**	**1.21**	**329**	⇓*e*P	Pg	20 24 09.4	-0.8
BUS				*e*S	Sg	20 24 28.6	+2.7
URSC	**Urasca**	**1.46**	**334**	⇑*e*P	Pn	20 24 13.4	-1.3
LCR2	**La Lucha 2**	**1.50**	**325**	*e*P	Pn	20 24 14.0	-1.1
LCR2				*e*S	Sg	20 24 35.4	+0.3
OCM	**Ochomogo**	**1.60**	**329**	⇓*e*P	Pn	20 24 15.9	-0.7
OCM				*e*S	Sn	20 24 39.5	+1.6
OCM				AML	AML	20 24 45.3	
	comp=N,2μm,0.8s						
IRZ2	**Volcan Irazu 2**	**1.63**	**332**	⇑*e*P	Pn	20 24 16.6	-0.5
IRZ2				*e*S	Sn	20 24 42.7	+4.0
SJS	**Escuela Geolog**	**1.69**	**327**	*e*P	Pn	20 24 17.9	+0.1
SJS				*e*S	Sn	20 24 42.5	+2.4
PRS1	**Puriscal**	**1.87**	**321**	⇓*e*P	Pn	20 24 19.2	-1.1
PRS1				*e*S	Sn	20 24 45.1	+0.5
CGA2	**Cerro Gallo 2**	**1.99**	**318**	⇓*e*P	Pn	20 24 22.4	+0.4
CGA2				*e*S	Sn	20 24 50.1	+2.5
EPA	**Esparza**	**2.06**	**315**	⇑*e*P	Pn	20 24 22.9	0.0
CAO	**Cobano**	**2.28**	**301**	*e*P	Pn	20 24 25.6	-0.4
AZU	**Azuero**	**2.91**	**104**	*e*P	Pn	20 24 35.1	+0.4
VCR	**Vista de Mar**	**2.94**	**303**	⇑*e*P	Pn	20 24 34.7	-0.4
LIM1	**Limonal**	**3.02**	**316**	⇑*e*P	Pn	20 24 38.1	+1.9
PTP	**Ponta Puerca**	**19.56**	**59**	⇑*i*P		20 23 56.0	

*MOS **19** 20:31:43.7±1.1, 56.54N×118.69E, h10km, mb3.7/4, Error ellipse: s-maj=12.1km s-min=8.7km az=59.0*
*ISCJB **19** 20:31:44.0±0.3, 56.64N±0.003×118.76E±0.03, h10km, mb3.5/4, MS2.9/1, Error ellipse: s-maj=4.5km s-min=2.4km az=176.9*
*IDC **19** 20:31:44.8±2.3, 56.52N×118.69E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/21, mbtmp3.5/4, ML3.0/1, MS2.8/2, Ms1 2.9/2, ms1mx2.2/31, Error ellipse: s-maj=64.7km s-min=24.0km az=139.0*
*BYKL **19** 20:31:45.1±0.2, 56.66N×118.72E, h11km±3km*

ISC 19 20:31:45.5±0.3, 56.65N±0.003×118.73E±0.003, h10km, n58, σ1§07/92, mb3.5/4, MS2.9/1, 8C-1D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRS	**Chara**	**0.36**	**315**	⇑*i*Pg	**Pg**	**20 31 51.5**	**-1.1**
CRS				Pmax		20 31 52.6	
	2μm,0.8s						
CRS				*e*Sg	**Sg**	**20 31 56.5**	**-0.8**
CRS				Smax		20 31 59.1	
	6μm,1.3s						
CRS	**Chara**	**0.36**	**315**	*e*PG	**Pg**	**20 31 51.5**	**-1.1**
CRS				*e*		20 31 56.4	
CRS				pmax	pmax		
	comp=Z,18μm,0.2s						
CRS				smax			
	comp=E,5μm,1.0s						
YKLR	**Yuktali**	**1.62**	**91**	*e*Pg	**Pg**	**20 32 14.4**	**-2.1**
YKLR				Pmax		20 32 18.6	
	comp=E,3.0nm,0.2s						
YKLR				*e*Sg	**Sg**	**20 32 36.4**	**-1.1**
YKLR				Smax		20 32 41.4	
	comp=E,7μm,0.2s						
NLYR	**Nelyaty**	**1.68**	**266**	⇑*i*Pg	**Pg**	**20 32 14.5**	**-3.3**
NLYR				Pmax		20 32 15.7	
	comp=E,612nm,0.4s						
NLYR				*e*Sg	**Sg**	**20 32 37.6**	**-2.0**
NLYR				Smax		20 32 40.4	
	comp=E,1μm,0.7s						
NLYR	**Nelyaty**	**1.68**	**266**	⇑*i*PN	**Pn**	**20 32 14.3**	**-0.7**
NLYR				*e*		20 32 37.2	
NLYR				pmax	pmax		
	comp=Z,618nm,0.3s						
NLYR				smax			
	comp=E,2μm,1.2s						
TUP	**Tupik**	**2.33**	**162**	*e*Pn	**Pn**	**20 32 24.0**	**+0.1**
TUP				*e*Pg	**Pb**	**20 32 26.6**	**-1.1**
TUP				Pmax		20 32 29.2	
	comp=E,188nm,0.2s						
TUP				*e*Sg	**Sb**	**20 32 56.6**	**+0.1**
TUP				Smax		20 33 00.4	
	comp=E,1μm,0.7s						
TUP	**Tupik**	**2.33**	**162**	*e*PN	**Pb**	**20 32 27.8**	**+0.1**
TUP				*e*		20 32 56.7	
TUP				pmax	pmax		
	comp=Z,188nm,0.2s						
TUP				smax			
	comp=E,1μm,0.6s						
BOD	**Bodaibo**	**2.82**	**297**	⇑*i*Pn	**Pn**	**20 32 30.4**	**-0.3**
BOD				*e*Pg	**Pb**	**20 32 34.7**	**-1.3**
BOD				*e*PgPg		20 32 38.0	
BOD				max		20 32 38.8	
	comp=E,172nm,0.5s						
BOD				*e*Sg	**Sb**	**20 33 10.6**	**0.0**
BOD				Smax		20 33 14.0	
	comp=E,1μm,0.8s						
BOD				*e*SgSg		20 33 17.9	
BOD	**Bodaibo**	**2.82**	**297**	*e*PN	**Pn**	**20 32 30.1**	**-0.6**
BOD				*e*		20 32 34.9	
BOD				*e*		20 33 10.2	
BOD				pmax	pmax		
	comp=Z,181nm,0.8s						
BOD				smax			
	comp=N,1μm,0.8s						
SVKR	**Severomuysk**	**2.92**	**262**	*e*Pn	**Pn**	**20 32 31.9**	**-0.1**
SVKR				*e*Pg	**Pb**	**20 32 36.9**	**-0.8**
SVKR				Pmax		20 32 40.8	
	comp=N,292nm,0.7s						
SVKR				*e*Sg	**Sb**	**20 33 14.3**	**+0.8**
SVKR				Smax		20 33 18.1	
	comp=N,835nm,0.7s						
SVKR	**Severomuysk**	**2.92**	**262**	*e*PN	**Pb**	**20 32 36.6**	**-1.1**
UKT	**Uakit**	**3.09**	**250**	*e*Pn	**Pn**	**20 32 34.1**	**-0.2**
UKT				⇑*i*Pg	**Pb**	**20 32 39.2**	**-1.3**
UKT				Pmax		20 32 43.6	
	comp=N,81nm,0.6s						
UKT				*e*Sn	**Sn**	**20 33 09.8**	**-1.4**
UKT				*e*Sg	**Sb**	**20 33 19.8**	**+1.6**
UKT				Smax		20 33 24.6	
	comp=N,351nm,0.6s						
UKT	**Uakit**	**3.09**	**250**	*e*PN	**Pb**	**20 32 39.4**	**-1.1**
UKT				*e*		20 33 19.6	
UKT				pmax	pmax		
	comp=Z,124nm,0.5s						
UKT				smax			
	comp=N,347nm,0.7s						
NRGR	**Nerungri**	**3.31**	**87**	*e*PN	**Pn**	**20 32 38.6**	**+1.3**
NRGR				S	**Sn**	**20 33 13.6**	**-3.1**
NRGR				smax			
	comp=E,14nm,0.1s						
CLNS	**Chul'man**	**3.40**	**84**	*e*Pn	**Pn**	**20 32 38.9**	**+0.3**
CLNS				*e*		20 32 41.6	
CLNS				*e*		20 32 49.9	
CLNS				max		20 32 53.7	
	comp=E,169nm,0.1s						
CLNS				*e*		20 33 23.1	
CLNS				*e*Sg	**Sg**	**20 33 30.6**	**-4.1**
CLNS				Smax		20 33 32.5	
	comp=E,498nm,0.2s						
CLNS				*e*SgSg		20 33 35.3	
CLNS	**Chul'man**	**3.40**	**84**	*e*PN	**Pn**	**20 32 41.1**	**+2.5**
CLNS				*e*		20 32 47.8	
CLNS				*e*S	**Sn**	**20 32 22.5**	**+3.5**
CLNS				*e*		20 33 28.8	
CLNS				pmax	pmax		
	comp=E,10.0nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,18nm,0.3s						
CLNS				pmax	pmax		
	comp=N,8.0nm,0.2s						
CLNS				smax			
	comp=N,42nm,0.2s						
CLNS				smax			
	comp=E,40nm,0.2s						
CLNS				smax			
	comp=Z,19nm,0.3s						
TNDR	**Tynda**	**3.69**	**112**	*e*Pn	**Pn**	**20 32 43.2**	**+0.6**
TNDR				*e*Pg	**Pb**	**20 32 51.2**	**+0.4**
TNDR				Pmax		20 32 53.0	
	comp=Z,358nm,0.2s						
TNDR				*e*PgPg		20 32 54.4	
TNDR				*e*Sn	**Sn**	**20 33 26.2**	**0.0**
TNDR				*e*Sg	**Sb**	**20 33 40.1**	**+4.4**
TNDR				Smax		20 33 47.5	
	comp=Z,3μm,0.3s						
YOA	**Uoyan**	**3.93**	**265**	*e*Pn	**Pn**	**20 32 46.4**	**+0.6**
YOA				*e*Pg	**Pb**	**20 32 55.6**	**+0.8**
YOA				Pmax		20 33 16.1	
	comp=Z,265nm,0.7s						
YOA				*e*Sg	**Sb**	**20 33 46.7**	**+4.3**
YOA				Smax		20 34 11.0	
	comp=Z,2μm,1.9s						
YOA	**Uoyan**	**3.93**	**265**	⇑*i*PN	**Pb**	**20 32 56.1**	**+1.3**
YOA				*e*		20 33 48.6	
YOA				pmax	pmax		
	comp=Z,330nm,0.8s						
YOA				smax			
	comp=E,2μm,1.6s						
ALDR	**Aldan**	**4.09**	**59**	*e*Pn	**Pn**	**20 32 48.9**	**+0.8**
ALDR				*e*Pg	**Pb**	**20 32 58.6**	**+0.9**
ALDR				Pmax		20 33 06.8	
	comp=E,111nm,0.1s						
ALDR				*e*Sn	**Sn**	**20 33 36.7**	**+0.6**
ALDR				*e*Sg	**Sb**	**20 33 53.4**	**+6.2**
ALDR				Smax		20 33 55.3	
	comp=E,1μm,0.1s						
ALDR						20 34 15.7	
KMO	**Kumora**	**4.27**	**263**	⇑*i*Pn	**Pn**	**20 32 50.5**	**0.0**
KMO				*e*Pg	**Pb**	**20 33 00.5**	**-0.1**
KMO				Pmax		20 33 04.3	
	comp=E,146nm,1.2s						
KMO				*e*Sg	**Sb**	**20 33 57.1**	**+4.9**
KMO				Smax		20 34 06.1	
	comp=E,454nm,1.1s						
KMO	**Kumora**	**4.27**	**263**	*e*PN	**Pn**	**20 32 50.5**	**0.0**
KMO				*e*		20 33 01.4	
KMO				*e*S	**Sn**	**20 33 39.3**	**-1.0**
KMO				*e*		20 33 55.9	
KMO				pmax	pmax		
	comp=Z,145nm,1.0s						
KMO				smax			
	comp=E,450nm,1.2s						
YLYR	**Ulyunkhan**	**4.63**	**251**	⇑*i*Pn	**Pn**	**20 32 55.7**	**+0.2**
YLYR				*e*Pg	**Pb**	**20 33 07.8**	**+1.0**
YLYR				Pmax		20 33 13.0	
	comp=E,39nm,0.6s						
YLYR				*e*Sg	**Sb**	**20 34 08.5**	**+5.9**
YLYR				Smax		20 34 16.0	
	comp=E,264nm,1.5s						
YLYR	**Ulyunkhan**	**4.63**	**251**	*e*PN	**Pn**	**20 32 55.7**	**+0.2**
YLYR				*e*		20 33 07.6	
YLYR				*e*		20 34 06.6	
YLYR				pmax	pmax		
	comp=Z,39nm,0.6s						
YLYR				smax			
	comp=E,267nm,1.2s						
NIZ	**Nizh Angarsk**	**5.20**	**264**	*e*Pn	**Pn**	**20 33 04.1**	**+0.7**
NIZ				*e*Pg	**Pb**	**20 33 18.1**	**+1.5**
NIZ				Pmax		20 33 23.8	
	comp=E,55nm,0.6s						
NIZ				*e*Sg	**Sb**	**20 34 26.6**	**+7.5**
NIZ				Smax		20 34 39.1	
	comp=E,207nm,1.8s						
NIZ	**Nizh Angarsk**	**5.20**	**264**	*e*PN	**Pn**	**20 33 03.7**	**+0.3**
NIZ				*e*		20 33 18.1	
NIZ				*e*		20 34 24.3	
NIZ				pmax	pmax		
	comp=Z,65nm,1.1s						
NIZ				smax			
	comp=E,202nm,1.9s						
CIT	**Chita**	**5.54**	**215**	*e*Pg	**Pb**	**20 33 25.0**	**+2.8**
CIT				Pmax		20 33 28.7	
	comp=E,18nm,0.5s						
CIT				*e*Sg	**Sb**	**20 34 36.7**	**+8.0**
CIT				Smax		20 34 57.3	
	comp=E,334nm,1.0s						
SYVR	**Suvo**	**5.83**	**243**	*e*Pn	**Pn**	**20 33 12.0**	**0.0**
SYVR				*e*Pg	**Pb**	**20 33 29.1**	**+1.8**
SYVR				Pmax		20 33 33.3	
	comp=E,39nm,0.8s						
SYVR				*e*Sg	**Sb**	**20 34 45.6**	**+8.4**
SYVR				Smax		20 34 52.2	
	comp=E,355nm,1.5s						
SYVR	**Suvo**	**5.83**	**243**	*e*PN	**Pn**	**20 33 12.1**	**+0.1**
SYVR				*e*		20 33 29.6	
SYVR				*e*		20 34 48.8	
SYVR				pmax	pmax		
	comp=

ZRHB				Smax			20 36 34.0	
	comp=Z,589nm,1.1s							
KPC	**Khapcheranga**	**7.93**	**211**	*e*Pn		**Pn**	**20 33 39.5**	**-1.3**
KPC				*e*			20 33 51.9	
KPC				*e*Pg		Pn	20 34 07.9	+27
KPC				Pmax			20 34 10.9	
	comp=Z,7.0nm,0.9s							
KPC				*e*Sg		Sn	20 35 51.5	+41
KPC				Smax			20 36 31.7	
	comp=Z,149nm,2.1s							
KPC	**Khapcheranga**	**7.93**	**211**	*e*PN		**Pn**	**20 33 39.5**	**-1.3**
KPC				*e*			20 34 07.9	
KPC				pmax	pmax			
	comp=Z,7.0nm,0.9s							
TRG	**Tyrgan**	**8.16**	**247**	*e*PN		**Pn**	**20 33 43.0**	**-0.9**
TRG				*e*			20 34 14.0	
HRMR	**Khuramsha**	**8.54**	**239**	*e*Pn		**Pn**	**20 33 49.2**	**0.0**
HRMR				*e*Pg		Pn	20 34 19.9	+31
HRMR				Pmax			20 34 20.6	
	comp=Z,16nm,0.7s							
HRMR				*e*Sg		Sn	20 36 10.3	+45
HRMR				Smax			20 36 24.6	
	comp=Z,579nm,1.5s							
TLY	**Talaya**	**10.14**	**247**	*e*Sg		Sx	20 37 00.0	
TLY				Smax			20 37 09.4	
	comp=Z,15nm,0.9s							
TLY	**Talaya**	**10.14**	**247**	*e*P		**Pn**	**20 34 12.3**	**+1.2**
KLR	**Kul'dur**	**10.80**	**128**	*e*P		**Pn**	**20 34 19.3**	**-0.8**
KLR				*e*			20 36 23.7	
ULN	**Ulaanbaatar**	**11.32**	**224**	*e*P		**Pn**	**20 34 27.0**	**-0.3**
MOY	**Mondy**	**11.52**	**252**	*e*Sg		Sx	20 37 41.8	
MOY				Smax			20 38 07.3	
	comp=Z,66nm,2.0s							
MOY	**Mondy**	**11.52**	**252**	*e*P		**Pn**	**20 34 30.1**	**+0.1**
SONM	**Songino Array**	**11.60**	**226**	Pn		**Pn**	**20 34 30.5**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=33,slow=14,SNR=5.1							
SONM				Lg			20 37 48.2	
	comp=Z,0.7nm,0.3s,baz=39,slow=31,SNR=5.3							
ORL	**Orlik**	**11.71**	**257**	*e*Pn		**Pn**	**20 34 32.6**	**0.0**
ORL				*e*Sg		Sn	20 37 46.9	+64
ORL				Smax			20 37 55.9	
	comp=Z,53nm,1.7s							
TIXI	**Tiksi**	**15.65**	**12**	*e*P		**Pn**	**20 35 19.4**	**-6.7**
TIXI				*e*SS			20 38 25.0	
TIXI				pmax	pmax			
	comp=Z,5.0nm,1.1s							
TIXI				MLR	MLR			
	comp=Z,27nm,11.0s							
ASAJ	**Asahikawa**	**19.59**	**120**	LR		LR	20 43 57.8	
	comp=Z,25nm,21.7s,baz=225,slow=38							
BILL	**Bilibino**	**24.13**	**43**	*e*P		**P**	**20 36 55.2**	**-6.3**
BILL				pmax	pmax			
	comp=Z,5.0nm,1.6s,mb3.7							
MKAR	**Makanchi Array**	**24.36**	**262**	P		**P**	**20 37 04.4**	**+0.8**
	comp=Z,0.8nm,0.7s,mb3.3,baz=55,slow=9.7,SNR=6.1							
MKAR	**Makanchi Array**	**24.36**	**262**	*i* P		**P**	**20 37 05.1**	**+1.6**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ILAR	**Eielson Array**	**42.69**	**39**	P		**P**	**20 39 43.5**	**+1.1**
	comp=Z,0.6nm,0.6s,mb3.5,baz=289,slow=5.1,SNR=5.7							
ILAR	**Eielson Array**	**42.69**	**39**	P		**P**	**20 39 43.5**	**+1.1**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
FINES	**FINESS Array B**	**44.05**	**316**	P		**P**	**20 39 53.9**	**+0.4**
	comp=Z,0.6nm,0.7s,mb3.5,baz=68,slow=11,SNR=3.7							
FINES	**FINESS Array B**	**44.05**	**316**	P		**P**	**20 39 53.9**	**+0.5**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
NOA	**NORSAR Array B**	**49.66**	**322**	LR		LR	21 06 09.8	
	comp=Z,15nm,21.8s,MS2.9,baz=0.0,slow=42							

MOS ***19*** *20:47:16.6±1.9, 57.34N×120.66E, h13km, mb4.4/1, Error ellipse: s-maj=21.1km s-min=14.3km az=47.7*

BYKL 19 20:47:14.4±0.3, 5745N×12087E, 1C-2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.72**	**223**	*i*Pg		Pg	20 47 27.7	-0.5
KHNR				*e*Sg		Sg	20 47 36.5	-1.0
YKLR	**Yuktali**	**0.96**	**153**	*i* Pg		Pg	20 47 32.7	-0.1
YKLR				Pmax			20 47 37.5	
	3.0nm,0.2s							
YKLR				*e*Sg		Sg	20 47 45.4	+0.1
YKLR				*e*			20 47 51.3	
YKLR				max			20 47 52.8	
	717nm,0.2s							
CRS	**Chara**	**1.52**	**250**	*i*Pg		Pg	20 47 42.5	-1.0
CRS				Pmax			20 47 43.1	
	534nm,1.0s							
CRS				*e*Sg		Sg	20 48 01.9	-1.4
CRS				Smax			20 48 03.0	
	465nm,1.3s							
CRS	**Chara**	**1.52**	**250**	*e*P		Pn	20 47 42.3	-0.5
CRS				*e*			20 48 01.5	
CRS				pmax	pmax			
	comp=Z,534nm,1.0s							
CRS				smax				
	comp=N,465nm,1.7s							
NRGR	**Nerungri**	**2.25**	**109**	*e*P		Pn	20 47 56.5	+3.6
NRGR				S		Sn	20 48 23.8	+2.5
NRGR				smax				
	comp=E,29nm,0.1s							
CLNS	**Chul'man**	**2.28**	**104**	*e*P		Pn	20 47 56.6	+3.4
CLNS				*e*S		Sn	20 48 24.4	+2.4
CLNS				pmax	pmax			
	comp=Z,71nm,0.4s							
CLNS				pmax	pmax			
	comp=N,18nm,0.3s							
CLNS				pmax	pmax			
	comp=E,21nm,0.3s							
CLNS				smax				
	comp=N,28nm,0.3s							
CLNS				smax				
	comp=E,79nm,0.3s							
CLNS				smax				
	comp=Z,13nm,0.2s							
ALDR	**Aldan**	**2.68**	**62**	Pmax			20 18 08.3	
	comp=Z,149nm,0.1s							
ALDR				*e*Pg		Pg	20 48 02.6	-3.2
ALDR				*e*Sg		Sg	20 48 37.5	-3.0
ALDR				Smax			20 48 39.0	
	comp=Z,2μm,0.1s							
NLYR	**Nelyaty**	**2.99**	**253**	*e*Pn		Pn	20 48 03.6	+0.6
NLYR				*e*Pg		Pg	20 48 08.0	-3.7
NLYR				Pmax			20 48 08.7	
	comp=Z,142nm,0.8s							
NLYR				*e*Sg		Sg	20 48 46.7	-3.7
NLYR				Smax			20 48 52.8	
	comp=Z,522nm,1.1s							
NLYR				*e*			20 48 59.6	
NLYR	**Nelyaty**	**2.99**	**253**	*e*P		Pn	20 48 03.4	+0.4
NLYR				*e*			20 48 46.1	
NLYR				pmax	pmax			
	comp=Z,141nm,0.3s							
NLYR				smax				
	comp=E,522nm,1.1s							
TUP	**Tupik**	**3.08**	**190**	*e*Pn		Pn	20 48 04.2	0.0
TUP				*e*Pg		Pg	20 48 08.9	-4.5
TUP				*e*PgPg			20 48 13.0	
TUP				max			20 48 13.9	
	comp=E,101nm,0.7s							
TUP				*e*Sg		Sg	20 48 47.9	-5.3
TUP				Smax			20 48 49.5	
	comp=E,420nm,0.9s							
TUP				*e*			20 48 56.5	
TUP	**Tupik**	**3.08**	**190**	*e*P		Pn	20 48 08.9	+4.7
TUP				*e*			20 48 47.8	
TUP				pmax	pmax			
	comp=Z,102nm,0.6s							
TUP				smax				
	comp=E,420nm,1.0s							
TNDR	**Tynda**	**3.15**	**135**	*e*Pn		Pn	20 48 06.0	+0.7
TNDR				max			20 48 16.5	
	comp=E,185nm,0.2s							
TNDR				*e*			20 48 44.1	
TNDR				*e*Sg		Sg	20 48 52.2	-3.5
TNDR				Smax			20 48 55.4	
	comp=E,3μm,0.4s							
BOD	**Bodaibo**	**3.71**	**279**	*e*Pn		Pn	20 48 13.4	+0.5
BOD				*e*Pg		Pg	20 48 21.2	-4.3
BOD				Pmax			20 48 23.5	
	comp=E,30nm,0.6s							
BOD				*e*Sg		Sg	20 49 08.9	-4.7
BOD				Smax			20 49 14.8	
	comp=E,272nm,1.1s							
BOD	**Bodaibo**	**3.71**	**279**	*e*P		Pn	20 48 12.4	-0.5
BOD				pmax	pmax			
	comp=Z,38nm,0.3s							
SVKR	**Severomuysk**	**4.24**	**255**	*e*Pg		Pg	20 48 31.0	-4.6
SVKR				Pmax			20 48 34.4	
	comp=Z,77nm,0.8s							
SVKR				*e*Sg		Sg	20 49 25.7	-4.9
SVKR				Smax			20 49 31.8	
	comp=Z,292nm,1.1s							
SVKR	**Severomuysk**	**4.24**	**255**	*e*P		Pn	20 48 30.8	+11
SVKR				pmax	pmax			
	comp=Z,97nm,1.2s							
UKT	**Uakit**	**4.47**	**247**	*e*Pn		Pn	20 48 24.3	+0.9
UKT				*e*Pg		Pg	20 48 34.6	-5.5
UKT				Pmax			20 48 37.0	
	comp=Z,30nm,0.9s							
UKT				*e*Sg		Sg	20 49 31.1	-7.0
UKT				Smax			20 49 41.5	
	comp=Z,103nm,1.2s							
UKT	**Uakit**	**4.47**	**247**	*e*P		Pn	20 48 34.3	+11
UKT				pmax	pmax			
	comp=Z,30nm,0.6s							
YOA	**Uoyan**	**5.20**	**259**	*e*Pg		Pg	20 48 47.3	-6.7
YOA				Pmax			20 48 57.0	
	comp=Z,153nm,1.4s							
YOA				*e*Sg		Sg	20 49 54.1	-7.3
YOA				Smax			20 50 14.7	
	comp=Z,987nm,2.1s							
YOA	**Uoyan**	**5.20**	**259**	*i*P		Pn	20 48 47.9	+14
YOA				pmax	pmax			
	comp=Z,156nm,1.0s							
CGD	**Chagda**	**5.33**	**72**	*e*Pn		Pn	20 48 34.9	-0.3
CGD				max			20 48 39.1	
	comp=Z,100nm,0.1s							
CGD				*e*Sg		Sg	20 49 57.4	-8.3
CGD				Smax			20 50 00.3	
	comp=Z,723nm,0.2s							
KMO	**Kumora**	**5.56**	**258**	*e*Pn		Pn	20 48 39.4	+1.1
KMO				*e*Pg		Pg	20 48 55.0	-5.9
KMO				Pmax			20 49 05.0	
	comp=Z,42nm,1.5s							
KMO				*e*Sg		Sg	20 50 06.1	-6.8
KMO				Smax			20 50 27.2	
	comp=Z,165nm,1.3s							
KMO	**Kumora**	**5.56**	**258**	*e*P		Pn	20 48 38.4	+0.1
KMO				*e*S		Sn	20 49 38.4	-4.5
KMO				pmax	pmax			
	comp=Z,42nm,1.4s							
KMO				smax				
	comp=E,165nm,1.4s							
YLYR	**Ulyunkhan**	**6.01**	**249**	*e*P		Pn	20 48 42.9	-1.6
YAK	**Yakutsk**	**6.40**	**40**	*e*Sn		Sn	20 50 00.3	-3.3
YAK				*e*Sg		Sg	20 50 31.3	-8.5
YAK				Smax			20 50 33.9	
	comp=E,52nm,0.2s							
YAK	**Yakutsk**	**6.40**	**40**	*e*P		Pn	20 48 46.6	-3.2
YAK				*e*			20 50 00.9	
YAK				pmax	pmax			
	comp=Z,3.0nm,0.6s							
YAK				smax				
	comp=N,16nm,1.1s							
YAK				smax				
	comp=E,15nm,0.7s							
YAK				smax				
	comp=Z,6.0nm,0.7s							
YAK				MLR	MLR			
	comp=Z,16nm,7.0s							
NIZ	**Nizh Angarsk**	**6.48**	**260**	*e*Sg		Sg	20 50 33.6	-8.8
NIZ				Smax			20 50 56.9	
	comp=Z,70nm,1.2s							
CIT	**Chita**	**6.89**	**221**	*e*Sg		Sg	20 50 46.0	-10
CIT				Smax			20 50 57.6	
	comp=Z,198nm,1.4s							
SYVR	**Suvo**	**7.24**	**243**	*e*Sn		Sn	20 50 19.5	-4.9
SYVR				*e*Sg		Sg	20 50 58.9	-8.0
SYVR				Smax			20 51 07.0	
	comp=Z,202nm,1.8s							
TRTB	**Turuntaevo**	**9.25**	**241**	*e*Sg		Sn	20 51 59.9	+46
TRTB				Smax			20 52 09.6	
	comp=Z,80nm,1.5s							
KPC	**Khapcheranga**	**9.25**	**217**	*e*Sg		Sn	20 51 59.3	+45
KPC				Smax			20 52 09.5	
	comp=Z,94nm,1.6s							
ZRHB	**Zarechye**	**9.28**	**244**	*e*Sg		Sn	20 52 01.4	+47
ZRHB				Smax			20 52 20.4	
	comp=Z,305nm,1.6s							
HRMR	**Khuramsha**	**9.96**	**240**	*e*Sg		Sn	20 52 22.0	+51
HRMR				Smax			20 52 32.2	
	comp=Z,198nm,1.7s							
TIXI	**Tiksi**	**14.64**	**10**	*e*P		Pn	20 50 37.9	-4.8
TIXI				pmax	pmax			
	comp=Z,2.0nm,0.7s							
TIXI				MLR	MLR			
	comp=Z,46nm,12.0s							

IDC 19 20:47:19.2±1.5, 024S×12493E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.4/15, mbtmp3.4/3, Error ellipse: s-maj=183.1km s-min=25.5km az=63.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.64**	**155**	P		P	20 52 10.8	-0.3
	0.8nm,0.8s,baz=334,slow=11,SNR=6.7							
ASAR	**Alice Springs**	**24.87**	**160**	P		P	20 52 43.8	+0.4
	0.5nm,0.8s,baz=335,slow=8.2,SNR=4.7							
ASAR				PcP		PcP	20 56 20.4	+0.9
	0.4nm,0.5s,baz=353,slow=1.8,SNR=6.7							
MKAR	**Makanchi Array**	**59.84**	**327**	P		P	20 57 26.3	-0.1
	0.4nm,0.4s,baz=127,slow=8.2,SNR=7.3							

NEIC ***19*** *20:47:36.9±1.6, 3074S×17769W, h84km±11km, mb4.4/1, Error ellipse: s-maj=38.4km s-min=13.3km az=103.0*

ISCJB ***19*** *20:47:37.3±1.1, 3058S±007×1784W±02, h57km±13km, mb4.1/6, MS3.6/1, Error ellipse: s-maj=26.7km s-min=9.7km az=32.2*

IDC ***19*** *20:47:38.2±1.7, 3057S×17804W, h74km±14km, mb3.8/5, mb1 4.0/6, mb1mx3.8/15, mbtmp4.1/6, MS3.6/1, Ms1 3.6/1, ms1mx2.8/21, Error ellipse: s-maj=32.8km s-min=15.0km az=107.0*

ISC 19 20:47:38.8±1.0, 3056S±007×1782W±02, h63km±11km, n14, σ0878/14, mb4.1/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.33**	**12**	P		**Pn**	**20 48 02.4**	**+1.1**
	205nm,0.3s,baz=94,slow=23,SNR=13							
RAO				S		**Sn**	**20 48 17.6**	**-0.5**
	424nm,0.3s,baz=237,slow=22,SNR=6.1							
RAO	**Raoul Island**	**1.33**	**12**	*e*P		**Pn**	**20 48 02.2**	**+0.9**
RAO				*e*S		**Sn**	**20 48 17.5**	**-0.6**
URZ	**Urewera**	**8.59**	**205**	P		**Pn**	**20 49 39.1**	**-1.3**
	0.7nm,0.3s,baz=231,slow=6.5,SNR=3.3							
URZ				S		**Sn**	**20 51 16.5**	**+0.7**
	12nm,0.3s,baz=61,slow=23,SNR=23							
CTA	**Charters Tower**	**33.62**	**280**	P		**P**	**20 54 14.6**	**+1.4**
	4.1nm,0.6s,mb4.5,baz=106,slow=9.2,SNR=6.2							
STKA	**Stephens Creek**	**34.25**	**257**	P		**P**	**20 54 18.7**	**+0.1**
	2.3nm,0.6s,mb4.3,baz=98,slow=11,SNR=7.7							
PMG	**Port Moresby**	**38.49**	**296**	LR		LR	21 06 23.9	
	comp=Z,95nm,21.7s,baz=209,slow=29							
ASAR	**Alice Springs**	**42.90**	**267**	P		**P**	**20 55 31.2**	**+0.2**
	0.5nm,0.5s,mb3.5,baz=106,slow=7.6,SNR=11							
WRAB	**Tennant Creek**	**43.90**	**272**	*e*P		**P**	**20 55 39.1**	**0.0**
	4.5nm,0.7s,mb4.3							
WRA	**Warramunga Arr**	**43.90**	**272**	P		**P**	**20 55 38.3**	**-0.8**
	1.6nm,0.5s,mb4.0,baz=112,slow=7.9,SNR=47							
FITZ	**Fitzroy Crossi**	**52.16**	**270**	P		**P**	**20 56 42.0**	**-0.9**
	1.7nm,0.7s,mb4.1,baz=297,slow=9.0,SNR=4.6							
VNA3	**Neumayer Olymp**	**78.16**	**176**	*e*		**P**	**20 59 31.9**	**+0.6**
VNA3				*e*			20 59 37.3	
VNA3				*e*			20 59 38.2	
VNA2	**Neumayer--Watz**	**78.59**	**177**	*e*		**P**	**20 59 33.3**	**-0.4**
	baz=191,slow=7.0							
VNA2				*e*			20 59 35.5	
VNA2				*e*			20 59 38.5	
VNA2				*e*			20 59 39.6	
FINES	**FINESS Array B**	**145.22**	**340**	PKPbc	PKPbc	PKPbc	21 07 04.9	-4.1
	0.7nm,0.3s,baz=54,slow=4.5,SNR=16							
TORD	**Torodi Ar. Bea**	**162.67**	**180**	PKPab	PKPab	PKPab	21 08 20.8	-1.5
	0.4nm,0.5s,baz=179,slow=3.9,SNR=8.6							

IDC ***19*** *20:57:53.2±1.1, 1124N×8568W, h0km, mb3.9/7, mb1 4.2/7, mb1mx3.9/19, mbtmp3.9/7, MS3.5/1, Ms1 3.5/1, ms1mx2.7/25, Error ellipse: s-maj=59.7km s-min=10.3km az=56.0*

NEIC ***19*** *20:57:53.0±1.6, 1086N×8594W, h10km, mb4.5/3, Error ellipse: s-maj=49.7km s-min=12.7km az=220.0*

CASC ***19*** *20:57:54.8±2.3, 1054N×8620W, h10km, MD3.8, mb4.5(NEIC)*

ISCJB ***19*** *20:57:56.5±1.1, 106N±0.1×86.1W±0.1, h65km±8km, mb4.0/10, Error ellipse: s-maj=25.0km s-min=6.4km az=88.6*

ISC 19 20:57:57.6±1.1, 106N±01×861W±01, h58km±8km, n37, σ1°04/39, mb4.0/10, 8C-5D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LIM1	**Limonal**	**0.81**	**85**	*i* P		**Pn**	**20 58 11.1**	**-2.0**
LIM1				*i* S		**Sn**	**20 58 24.9**	**+0.5**
MADN	**Villa Maderas**	**0.93**	**35**	*e*P		**Pn**	**20 58 15.2**	**+0.5**
CONN	**Concepcion**	**1.02**	**25**	*e*P		**Pn**	**20 58 16.1**	**+0.2**
JTS	**JuntasAbangare**	**1.16**	**107**	Pg		**Pn**	**20 58 14.8**	**-2.8**
	47nm,0.3s,baz=282,slow=8.2,SNR=123							
JTS				Lg			20 58 32.8	
	98nm,0.3s,baz=246,slow=13,SNR=15							
APON	**Apoyo**	**1.27**	**0**	*e*P		**Pn**	**20 58 19.8**	**+0.6**
TICN	**Ticuantepe**	**1.40**	**354**	*e*P		**Pn**	**20 58 21.4**	**+0.5**
TISN	**Laguna Tiscapa**	**1.51**	**353**	*e*P		**Pn**	**20 58 22.5**	**+0.1**
MGAN	**Managua**	**1.51**	**354**	*e*P		**Pn**	**20 58 22.7**	**+0.3**
COPN	**Copaltepe**	**1.62**	**342**	*e*P		**Pn**	**20 58 23.3**	**-0.5**
COPN				*e*S		**Sn**	**20 58 47.8**	**+4.2**
CGA2	**Cerro Gallo 2**	**1.70**	**111**	*e*P		**Pn**	**20 58 25.5**	**+0.6**
CGA2				*e*S		**Sn**	**20 58 52.1**	**+6.6**
PRS1	**Puriscal**	**1.85**	**110**	*e*P		**Pn**	**20 58 26.5**	**-0.4**
MIRN	**Miramar**	**1.90**	**341**	*e*P		**Pn**	**20 58 27.4**	**-0.2**
LEON	**Leon**	**1.94**	**336**	*e*P		**Pn**	**20 58 27.6**	**-0.6**
CNGN	**Cerro Negro**	**1.95**	**342**	*e*P		**Pn**	**20 58 27.8**	**-0.6**
TEL3	**Telica 3**	**2.07**	**339**	*e*P		**Pn**	**20 58 29.0**	**-0.1**
LAJ	**Bijagual**	**2.07**	**112**	*e*P		**Pn**	**20 58 24.4**	**-5.6**
TELN	**Telica**	**2.09**	**339**	*e*P		**Pn**	**20 58 29.8**	**-0.4**
LCR2	**La Lucha 2**	**2.22**	**113**	*e*P		**Pn**	**20 58 32.6**	**+0.5**
LCR2				*e*S		**Sn**	**20 59 03.7**	**+5.4**
CRIN	**San Cristobal**	**2.26**	**335**	*e*P		**Pn**	**20 58 32.8**	**+0.2**
URSC	**Urasca**	**2.40**	**109**	*e*P		**Pn**	**20 58 35.3**	**+0.9**
BUS	**Buena Vista**	**2.52**	**115**	*e*P		**Pn**	**20 58 36.6**	**+0.6**
BUS				*e*S		**Sn**	**20 59 13.1**	**+7.5**
LCBS	**La Ceiba**	**4.13**	**317**	*e*P		Px	20 59 10.8	
LCBS				*e*S		Sx	21 00 00.3	
LFRS	**El Faro**	**4.17**	**316**	*e*P		Px	20 59 09.5	
LFRS				*e*S		Sx	20 59 59.0	
ATAH	**Atahualpa**	**19.12**	**156**	LR		LR	21 08 41.7	
	comp=Z,147nm,21.8s,baz=120,slow=33							
JCT	**Junction City**	**23.51**	**329**	*e*P		**P**	**21 03 01.1**	**-1.2**
	4.6nm,0.6s,mb4.1							
JSC	**Jenkinsville**	**23.95**	**10**	P		**P**	**21 03 07.2**	**+0.9**
MIAR	**Mount Ida**	**24.77**	**345**	*e*P		**P**	**21 03 13.9**	**+0.1**
	16nm,1.0s,mb4.5							
WMOK	**Wichita Mounta**	**26.65**	**336**	*e*P		**P**	**21 03 33.5**	**+2.7**
	12nm,0.9s,mb4.4							
WMOK				*e*pP		pP	21 03 40.4	-4.7
ANMO	**Albuquerque**	**30.51**	**326**	P		**P**	**21 04 07.1**	**+1.9**
	1.2nm,0.7s,mb3.8,baz=126,slow=8.7,SNR=3.6							
ANMO	**Albuquerque**	**30.51**	**326**	P		**P**	**21 04 07.1**	**+1.9**
PDAR	**Pinedale Array**	**38.00**	**332**	P		**P**	**21 05 10.2**	**+0.3**
	1.1nm,0.7s,mb3.7,baz=125,slow=9.9,SNR=6.4							
NVAR	**Mina Array Bea**	**39.95**	**319**	P		**P**	**21 05 29.0**	**+2.8**
	2.7nm,0.8s,mb4.1,baz=128,slow=8.0,SNR=16							
NVAR	**Mina Array Bea**	**39.95**	**319**	P		**P**	**21 05 29.0**	**+2.8**
ULM	**Lac du Bonnet**	**40.32**	**350**	P		**P**	**21 05 27.3**	**-1.9**
	2.2nm,0.8s,mb3.9,baz=180,slow=9.1,SNR=4.0							
SCHQ	**Schefferville**	**46.64**	**15**	P		**P**	**21 06 18.8**	**-1.3**
	2.0nm,0.6s,mb4.2,baz=226,slow=8.0,SNR=5.7							
YKA	**Yellowknife Ar**	**55.71**	**344**	P		**P**	**21 07 27.3**	**-0.8**
	0.7nm,0.7s,mb3.8,baz=140,slow=7.2,SNR=5.2							
ILAR	**Eielson Array**	**68.21**	**336**	P		**P**	**21 08 51.0**	**-1.0**
	0.6nm,0.8s,mb3.6,baz=114,slow=5.5,SNR=4.7							

PRE 19 21:10:34.1±1.6, 2154S×3312E, h5km, ML3.5, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BFT	**Belfast (SA)**	**5.00**	**214**	*e*P		Pn	21 11 50.9	+1.2
BFT				*e*S		Sn	21 12 47.6	-0.3
BFT				AML	AML	AML	21 13 20.9	
	comp=Z,15nm,0.6s							
POGA	**Pongola**	**5.96**	**193**	*e*P		Pn	21 12 03.5	+0.6
POGA				*e*S		Sn	21 13 07.5	-4.2
POGA				AML	AML	AML	21 13 18.7	
	comp=Z,7.6nm,0.4s							
LBTB	**Lobatse**	**7.73**	**242**	*e*P		Pn	21 12 28.2	+0.9
LBTB				*e*S		Sn	21 13 51.5	-3.7
LBTB				AML	AML	AML	21 14 43.6	
	comp=Z,18nm,0.5s							

IDC 19 21:16:13.9±1.9, 606N×7317W, h142km±13km, mb3.7/1, mb1 3.7/2, mb1mx3.1/20, mbtmp4.1/2, Error ellipse: s-maj=349.6km s-min=8.7km az=133.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.67**	**224**	P		Pn	21 16 44.5	-0.2
	30nm,0.3s,baz=97,slow=18,SNR=26							
ROSC				S		Sn	21 17 09.2	+1.0
	38nm,0.3s,baz=84,slow=23,SNR=12							
SDV	**Santo Domingo**	**3.77**	**42**	P		Pn	21 17 11.9	+1.0
	13nm,0.3s,baz=216,slow=5.3,SNR=27							
SDV				S		Sn	21 17 55.7	+0.6
	5.7nm,0.3s,baz=58,slow=18,SNR=12							
ARCES	**ARCESS Array B**	**87.40**	**20**	P		P	21 28 45.0	0.0
	3.0nm,1.1s,baz=285,slow=6.1,SNR=3.5							
WRA	**Warramunga Arr**	**149.93**	**240**	PKPbc	PKPbc	PKPbc	21 35 47.9	+0.6
	0.4nm,0.8s,baz=108,slow=2.8,SNR=7.5							

IDC 19 21:40:40.9±2.1, 647S×12958E, h0km, mb3.6/1, mb1 3.8/4, mb1mx3.6/13, mbtmp3.6/4, ML3.5/3, Error ellipse: s-maj=90.0km s-min=27.5km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.18**	**198**	Pn		Pn	21 43 36.5	+0.9
	0.2nm,0.3s,baz=92,slow=23,SNR=8.9							
FITZ				Sn		Sn	21 45 37.3	-15

THE ***19*** *21:47:59.5, 4044N×21.15E, h2km, ML2.7*
NEIC ***19*** *21:48:00.2, 4037N×2128E, h25km, MD3.3(ATH), After ATH.*
ATH ***19*** *21:48:00.1, 4038N×21.27E, h25km±2km, MD3.3/4*
ISC 19 21:47:59.4±0.5, 4042N±003×2116E±003, h4km±5km, n20, σ1§01/32, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.35**	**306**	*i* Pg	**Pg**	**21 48 05.4**	**-0.7**
KBN				*i* Sg	**Sg**	**21 48 11.3**	**+0.6**
FNA	**Florina**	**0.40**	**24**	*e*Pg	**Pg**	**21 48 06.6**	**-0.5**
FNA				*e*Sg	**Sg**	**21 48 12.9**	**+0.6**
KZN	**Kozani**	**0.48**	**103**	*e*PB	**Pg**	**21 48 08.8**	**+0.1**
KZN				*e*SB	**Sg**	**21 48 15.0**	**+0.1**
LSK	**Leskovik**	**0.50**	**238**	*i* Pg	**Pg**	**21 48 08.0**	**-1.0**
LSK				*i* Sg	**Sg**	**21 48 16.4**	**+0.8**
BIA	**Bitola**	**0.61**	**12**	⇑*i* Pg	**Pg**	**21 48 09.2**	**-2.0**
BIA				*i* Sg	**Sg**	**21 48 19.4**	**+0.2**
JAN	**Janina**	**0.80**	**197**	*e*PN	**Pg**	**21 48 15.5**	**+0.9**
LIT	**Litokhoron**	**1.07**	**107**	*e*Pg	**Pg**	**21 48 19.1**	**-0.8**
LIT				*e*Sg	**Sg**	**21 48 35.8**	**+2.1**
IGT	**Igoumenitsa**	**1.09**	**216**	*e*Pg	**Pg**	**21 48 20.4**	**+0.2**
GRG	**Griva**	**1.09**	**60**	*e*Pg	**Pg**	**21 48 19.0**	**-1.3**
GRG				*e*Sg	**Sg**	**21 48 36.1**	**+1.7**
VAY	**Valandovo**	**1.40**	**49**	*e*Pn	**Pn**	**21 48 24.9**	**-0.8**
QSH	**Qafa e Shtames**	**1.46**	**320**	*i* Pn	**Pn**	**21 48 28.2**	**+1.7**
QSH				*i* Sn	**Sn**	**21 48 49.1**	**+3.1**
QSH	**Qafa e Shtames**	**1.46**	**320**	*e*Pn	**Pn**	**21 48 28.2**	**+1.7**
QSH				*i* Sn	**Sn**	**21 48 49.1**	**+3.1**
KNT	**Kendrikon**	**1.52**	**60**	*e*Pg	**Pn**	**21 48 25.9**	**-1.4**
KNT				*e*Sg	**Sg**	**21 48 48.4**	**+0.3**
EVR	**Evrytania**	**1.58**	**161**	*e*PN	**Pn**	**21 48 28.0**	**-0.2**
AGG	**Agios Georgios**	**1.66**	**147**	*e*Pb	**Pn**	**21 48 28.4**	**-0.9**
AGG				*e*Sb	**Sb**	**21 48 52.8**	**+0.9**
LKD	**Levkas**	**1.75**	**193**	*e*Pb	**Pb**	**21 48 31.2**	**-0.9**
XOR	**Xorichti**	**1.89**	**123**	*e*Pb	**Pn**	**21 48 31.4**	**-1.0**
PAIG	**Paliouri**	**1.99**	**103**	*e*Pn	**Pn**	**21 48 33.6**	**-0.3**
VLS	**Valsamata**	**2.28**	**191**	*e*PN	**Pn**	**21 48 38.0**	**+0.2**
AOS	**Alonnisos**	**2.44**	**120**	*e*Pn	**Pn**	**21 48 39.7**	**-0.3**
AOS				*e*Sn	**Sn**	**21 49 10.9**	**+0.6**

ISCJB ***19*** *21:50:35.3±2.7, 192S±0.1×1692E±0.1, h155km±20km, mb4.3/13, Error ellipse: s-maj=27.4km s-min=14.6km az=78.8*
IDC ***19*** *21:50:35.9±3.2, 1921S×169.17E, h149km±24km, mb4.0/11, mb1 4.1/12, mb1mx4.1/17, mbtmp4.4/12, MS2.8/1, Ms1 2.8/1, ms1mx2.1/25, Error ellipse: s-maj=26.4km s-min=17.9km az=45.0*
NEIC ***19*** *21:50:35.6±2.2, 1917S×16926E, h149km±17km, mb4.5/5, Error ellipse: s-maj=19.9km s-min=11.0km az=219.0*
ISC 19 21:50:35.4±2.7, 192S±01×1693E±01, h146km±19km, n40, σ0§98/26, mb4.3/13, 3C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.88**	**222**	P	**Pn**	**21 51 34.2**	**+0.3**
	28nm,0.3s,baz=56,slow=18,SNR=176						
DZM				S	**Sn**	**21 52 18.5**	**-0.8**
	42nm,0.3s,baz=284,slow=23,SNR=17						
DZM				LR	LR	21 52 58.3	
	comp=Z,129nm,21.1s,baz=40,slow=37						
URZ	**Urewera**	**20.17**	**162**	P	**P**	**21 55 00.3**	**+2.0**
	23nm,0.6s,baz=325,slow=6.4,SNR=10						
CTA	**Charters Tower**	**21.69**	**264**	*e*P	**P**	**21 55 16.3**	**+1.8**
	7.0nm,1.1s,mb4.0						
CTA	**Charters Tower**	**21.69**	**264**	P	**P**	**21 55 15.8**	**+1.3**
	4.6nm,0.5s,mb4.2,baz=83,slow=12,SNR=8.6						
CTAO	**Charters Tower**	**21.69**	**264**	*e*P	**P**	**21 55 15.9**	**+1.4**
SNZO	**South Karori**	**22.51**	**169**	*e*P	**P**	**21 55 21.6**	**-1.3**
CNB	**Canberra Magne**	**23.81**	**224**	*e*P	**P**	**21 55 35.9**	**+1.1**
	13nm,0.7s,mb4.6						
RPZ	**Rata Peaks**	**24.47**	**177**	P	**P**	**21 55 41.7**	**+0.9**
	11nm,0.9s,mb4.4,baz=175,slow=6,9,SNR=3.2						
STKA	**Stephens Creek**	**27.88**	**238**	⇑*i* P	**P**	**21 56 10.4**	**-1.0**
	3.4nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**27.88**	**238**	P	**P**	**21 56 10.3**	**-1.1**
	4.9nm,0.7s,mb4.4,baz=51,slow=7.7,SNR=17						
STKA				PcP	PcP	21 59 21.3	-2.1
	2.6nm,1.0s,baz=108,slow=6.4,SNR=4.0						
WB2	**Warramunga Arr**	**32.87**	**263**	*e*P	**P**	**21 56 54.7**	**-0.7**
WRAB	**Tennant Creek**	**32.87**	**263**	*e*P	**P**	**21 56 54.2**	**-1.1**
WRA	**Warramunga Arr**	**32.88**	**263**	P	**P**	**21 56 54.9**	**-0.5**
	3.3nm,0.6s,mb4.3,baz=89,slow=8.3,SNR=52						
WRA				PcP	PcP	21 59 37.2	+0.6
	0.5nm,0.6s,baz=92,slow=2.8,SNR=4.5						
ASAR	**Alice Springs**	**33.16**	**256**	P	**P**	**21 56 58.0**	**+0.1**
	12nm,0.6s,mb4.8,baz=85,slow=8.7,SNR=118						
FITZ	**Fitzroy Crossi**	**41.27**	**264**	*e*P	**P**	**21 58 07.1**	**+0.9**
	16nm,0.6s,mb4.8						
MBWA	**Marble Bar**	**46.38**	**259**	*e*P	**P**	**21 58 48.0**	**+0.9**
VNDA	**Vanda**	**58.46**	**182**	P	**P**	**22 00 15.8**	**-0.2**
	0.7nm,0.5s,mb3.7,baz=359,slow=5.5,SNR=6.3						
QSPA	**South Pole Qui**	**70.84**	**180**	*e*P	**P**	**22 01 36.2**	**0.0**
	10nm,0.8s,mb4.6						
MAW	**Mawson**	**78.47**	**202**	P	**P**	**22 02 20.7**	**+0.6**
	4.1nm,0.7s,mb4.2,baz=115,slow=9.3,SNR=6.7						
SONM	**Songino Array**	**87.22**	**323**	P	**P**	**22 03 06.3**	**+1.1**
	0.9nm,0.7s,mb3.7,baz=147,slow=6.5,SNR=7.4						
SNAA	**Sanae**	**89.19**	**182**	P	**P**	**22 03 13.5**	**-1.0**
	1.3nm,0.6s,mb4.0,baz=204,slow=6.7,SNR=21						
VNA3	**Neumayer Olymp**	**89.78**	**180**	⇑*i*	**P**	**22 03 16.1**	**-1.2**
VNA3				*e*		22 03 17.8	
VNA2	**Neumayer--Watz**	**90.07**	**181**	⇑*i*	**P**	**22 03 17.9**	**-0.7**
	baz=186,slow=4.6						
VNA2				*e*		22 03 19.7	
ILAR	**Eielson Array**	**90.20**	**17**	P	**P**	**22 03 17.9**	**-1.4**
	1.3nm,0.8s,mb3.9,baz=242,slow=5.6,SNR=7.7						
VNA1	**Neumayer--Stat**	**90.36**	**181**	*e*	**P**	**22 03 20.9**	**+0.9**
VNA1				*e*		22 03 22.2	
ARCES	**ARCESS Array B**	**125.05**	**345**	PKP	PKPdf	22 09 17.3	-1.0
	0.6nm,0.4s,baz=80,slow=2.3,SNR=9.0						
ARCES	**ARCESS Array B**	**125.05**	**345**	PKP	PKPdf	22 09 17.3	-1.0
KHC	**Kasperske Hory**	**144.32**	**332**	*e*PKP	PKPdf	22 09 53.0	-1.1
GERES	**GERESS Array B**	**144.48**	**332**	PKP	PKPdf	22 09 53.8	-0.5
	2.5nm,0.6s,baz=31,slow=3.6,SNR=27						
IDI	**Anoyia**	**144.74**	**304**	PKP	PKPdf	22 09 54.2	-0.6
	2.8nm,0.5s,baz=152,slow=15,SNR=9.5						
GIVF	**Givet**	**146.77**	**342**	*e*PKP1	PKPbc	22 10 00.4	+0.2
BAIF	**Baives**	**146.99**	**342**	*e*PKP1	PKPbc	22 10 01.1	+0.3
CDF	**Champ du Feu**	**147.43**	**338**	*e*PKP1	PKPbc	22 10 02.3	+0.3
	5.1nm,0.6s						
HAU	**Haudompre**	**148.10**	**338**	*e*PKP1	PKPbc	22 10 04.0	+0.2
CABF	**La Chapelle**	**149.38**	**337**	*e*PKP1	PKPbc	22 10 07.7	+0.6
	5.6nm,0.6s						
LOR	**Lormes**	**149.58**	**340**	*e*PKP1	PKPbc	22 10 07.7	+0.1
	4.3nm,0.6s						
SSF	**Saint Saulge**	**149.88**	**340**	*e*PKP1	PKPbc	22 10 08.5	+0.2
	8.4nm,0.8s						
BGF	**Bois d'Agland**	**150.53**	**341**	*e*PKP1	PKPbc	22 10 10.9	+1.1
ORIF	**Oris-en-Rattie**	**150.88**	**335**	*e*PKP1	PKPbc	22 10 11.1	+0.5
	11nm,0.9s						
SBF	**Sospel**	**151.09**	**332**	*e*PKP1	PKPbc	22 10 12.6	+1.5
	84nm,1.1s						

ISCJB ***19*** *21:54:23.0±0.6, 3423N±001×3529E±003, h6km±3km, Error ellipse: s-maj=3.6km s-min=2.4km az=30.9*
GRAL ***19*** *21:54:24.6±0.8, 3425N×3531E, h0km±233km, MD3.5*
CSEM ***19*** *21:54:25.1±0.1, 3419N×3527E, h30km, ML3.5, Error ellipse: s-maj=1.9km s-min=1.2km az=118.0*
NSSC ***19*** *21:54:25.1, 3424N×3539E, h9km±1km*
HLW ***19*** *21:54:34.7, 3377N×3480E, h25km, Mb3.4*
GII ***19*** *21:54:41.3±1.0, 3419N×3522E, h2km±7km, ML3.3/11, Mw3.3/7*
ISC 19 21:54:24.2±0.5, 3424N±002×3534E±003, h8km±3km, n68, σ0§68/111, 4C-15D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.42**	**142**	*i* Pg	**Pg**	**21 54 32.8**	**+0.4**
BHL				*i* Sg	**Sg**	**21 54 38.3**	**+0.4**
HWQ	**Hawqa**	**0.50**	**85**	*i* Pg	**Pg**	**21 54 33.6**	**-0.3**
HWQ				*i* Sg	**Sg**	**21 54 40.8**	**+0.3**
MATL	**Matirih**	**0.74**	**181**	*i* Pg	**Pg**	**21 54 38.5**	**0.0**
MATL	**Matirih**	**0.74**	**181**	*i* Pg	**Pg**	**21 54 38.5**	**-0.1**
FKH	**Fakeheh**	**0.88**	**90**	*i* Pg	**Pg**	**21 54 40.8**	**-0.3**
FKH				*i* Sg	**Sg**	**21 54 53.5**	**+1.0**
HAWK	**Haweek**	**0.92**	**72**	⇑P	**Pg**	**21 54 41.7**	**-0.3**
HAWK				⇑S	**Sg**	**21 54 53.4**	**-0.6**
HAWK	**Haweek**	**0.92**	**72**	⇑*i* P	**Pg**	**21 54 41.7**	**-0.3**
HAWK				⇑*i* S	**Sg**	**21 54 53.4**	**-0.6**
BRBR	**Barbar**	**0.96**	**148**	⇑P	**Pg**	**21 54 42.9**	**+0.1**
BRBR				⇑S	**Sg**	**21 54 55.7**	**+0.4**
BRBR	**Barbar**	**0.96**	**148**	⇑*i* P	**Pg**	**21 54 42.9**	**+0.1**
BRBR				⇑*i* S	**Sg**	**21 54 55.7**	**+0.4**
MARH	**Ras Al Marh**	**0.97**	**102**	⇑P	**Pg**	**21 54 42.8**	**0.0**
MARH				⇑S	**Sg**	**21 54 55.5**	**+0.1**
MARH	**Ras Al Marh**	**0.97**	**102**	⇑*i* P	**Pg**	**21 54 42.8**	**0.0**
MARH				⇑*i* S	**Sg**	**21 54 55.5**	**+0.1**
QASN	**Qassioun**	**1.05**	**132**	⇑P	**Pg**	**21 54 44.3**	**0.0**
QASN				⇑S	**Sg**	**21 54 57.7**	**-0.2**
QASN	**Qassioun**	**1.05**	**132**	⇑*i* P	**Pg**	**21 54 44.3**	**0.0**
QASN				⇑*i* S	**Sg**	**21 54 57.7**	**-0.2**
KSDI	**Kefar Szold**	**1.07**	**166**	Pg	**Pg**	**21 54 44.2**	**-0.7**
KSDI				Sg	**Sg**	**21 54 59.2**	**+0.4**
BIDA	**Albida**	**1.12**	**46**	⇓P	**Pg**	**21 54 45.2**	**-0.5**
BIDA				⇓S	**Sg**	**21 55 00.5**	**+0.2**
BIDA	**Albida**	**1.12**	**46**	⇓*i* P	**Pg**	**21 54 45.2**	**-0.5**
BIDA				⇓*i* S	**Sg**	**21 55 00.4**	**+0.1**
MMA0B	**Mount Meron ar**	**1.22**	**178**	Pg	**Pg**	**21 54 46.3**	**-1.3**
MMA0B				Sg	**Sg**	**21 55 02.6**	**-0.8**
TOTH	**TOTAH**	**1.26**	**134**	⇑P	**Pn**	**21 54 47.8**	**-0.3**
TOTH				⇑S	**Sb**	**21 55 04.0**	**-0.5**
TOTH	**TOTAH**	**1.26**	**134**	⇑*i* P	**Pn**	**21 54 47.8**	**-0.3**
TOTH				⇑*i* S	**Sb**	**21 55 04.0**	**-0.5**
SLNF	**Slenfeh**	**1.54**	**28**	⇑P	**Pn**	**21 54 52.1**	**+0.1**
SLNF				⇑S	**Sn**	**21 55 11.3**	**-0.8**
SLNF	**Slenfeh**	**1.54**	**28**	⇑*i* P	**Pn**	**21 54 52.1**	**+0.2**
SLNF				⇑*i* S	**Sn**	**21 55 11.3**	**-0.8**
WRDH	**Warideh**	**1.54**	**34**	⇑P	**Pn**	**21 54 52.3**	**+0.2**
WRDH	**Warideh**	**1.54**	**34**	⇑*i* P	**Pn**	**21 54 52.3**	**+0.3**
WRDH				⇑S	**Sn**	**21 55 12.1**	**-0.2**
KFRA	**Kufra**	**1.55**	**50**	⇓P	**Pn**	**21 54 52.3**	**+0.3**
KFRA				⇓S	**Sn**	**21 55 11.7**	**-0.6**
KFRA	**Kufra**	**1.55**	**50**	⇓*i* P	**Pn**	**21 54 52.3**	**+0.2**
KFRA				⇓*i* S	**Sn**	**21 55 11.7**	**-0.6**
RABH	**Abou Rabah**	**1.55**	**82**	⇓P	**Pn**	**21 54 52.2**	**+0.1**
RABH	**Abou Rabah**	**1.55**	**82**	⇓*i* P	**Pn**	**21 54 52.2**	**0.0**
RABH				⇓*i* S	**Sn**	**21 55 11.5**	**-1.0**
ROOS	**tl_alroos**	**1.61**	**92**	⇑P	**Pn**	**21 54 53.1**	**+0.1**
ROOS	**tl_alroos**	**1.61**	**92**	⇑*i* P	**Pn**	**21 54 53.1**	**+0.1**
OFRI	**'Ofer**	**1.64**	**191**	Pn	**Pn**	**21 54 52.2**	**-1.1**
TCHB	**Talchebab**	**1.65**	**161**	⇑P	**Pn**	**21 54 53.1**	**-0.3**
TCHB				⇑S	**Sn**	**21 55 14.8**	**0.0**
TCHB	**Talchebab**	**1.65**	**161**	⇑*i* P	**Pn**	**21 54 53.1**	**-0.4**
TCHB				⇑*i* S	**Sn**	**21 55 14.8**	**0.0**
ARNB	**Al Arnab**	**1.70**	**17**	⇑P	**Pn**	**21 54 53.6**	**-0.6**
ARNB				⇑S	**Sn**	**21 55 15.1**	**-1.1**
MMLI	**Mount Malkishu**	**1.79**	**178**	Pn	**Pn**	**21 54 55.0**	**-0.5**
MMLI				Sn	**Sn**	**21 55 18.9**	**+0.5**
SALA	**Sala**	**1.91**	**142**	⇓P	**Pn**	**21 54 57.9**	**+0.7**
SALA				⇓S	**Sn**	**21 55 21.0**	**-0.3**
SALA	**Sala**	**1.91**	**142**	⇓*i* P	**Pn**	**21 54 57.8**	**+0.7**
SALA				⇓*i* S	**Sn**	**21 55 21.0**	**-0.4**
SLTI	**Sal'it**	**2.01**	**187**	Pn	**Pn**	**21 54 58.0**	**-0.4**
SLTI				Sn	**Sn**	**21 55 23.6**	**0.0**
BTCH	**Batrach**	**2.02**	**27**	⇑P	**Pn**	**21 54 59.1**	**+0.6**
BTCH				⇑S	**Sn**	**21 55 23.5**	**-0.4**
BTCH	**Batrach**	**2.02**	**27**	⇑*i* P	**Pn**	**21 54 59.1**	**+0.6**
BTCH				⇑*i* S	**Sn**	**21 55 23.5**	**-0.4**
KRTS	**Karatas**	**2.33**	**1**	*e*PN	**Pn**	**21 55 05.9**	**+3.0**
COBT	**Iskenderun**	**2.40**	**18**	*i* P	**Pn**	**21 55 04.5**	**+0.7**
COBT				*i* S	**Sn**	**21 55 35.2**	**+1.9**
IKL	**Isikli**	**2.42**	**326**	PN	**Pn**	**21 55 04.0**	**0.0**
IKL				SN	**Sn**	**21 55 29.0**	**-4.8**
MEST	**Erdemli**	**2.54**	**338**	*i* P	**Pn**	**21 55 06.1**	**+0.4**
MEST				*i* S	**Sn**	**21 55 34.5**	**-2.3**
MEST	**Erdemli**	**2.54**	**338**	*i* P	**Pn**	**21 55 06.1**	**+0.3**
MEST				*i* S	**Sn**	**21 55 34.5**	**-2.4**
DRGI	**Dragot**	**2.63**	**179**	Pn	**Pn**	**21 55 07.3**	**+0.3**
MKRJ	**Makawir**	**2.69**	**175**	Pn	**Pn**	**21 55 08.0**	**+0.2**
MERS	**Mersin**	**2.71**	**346**	*e*PN	**Pn**	**21 55 09.2**	**+1.1**
AMAZ	**Amatzia**	**2.72**	**188**	Pn	**Pn**	**21 55 08.6**	**+0.4**
AMAZ				Sn	**Sn**	**21 55 41.4**	**+0.2**
CEYT	**Ceyhan**	**2.79**	**7**	*e*PN	**Pn**	**21 55 14.0**	**+4.9**
MZDA	**Masada**	**2.92**	**180**	Pn	**Pn**	**21 55 11.0**	**+0.1**
KARA	**Karaisali**	**3.03**	**356**	*e*PN	**Pn**	**21 55 14.2**	**+1.8**
ERMK	**Ermenek**	**3.12**	**321**	*i* P	**Pn**	**21 55 13.8**	**+0.2**
ERMK				*i* S	**Sn**	**21 55 50.3**	**-0.7**
KOZT	**Kozan**	**3.26**	**7**	*e*PN	**Pn**	**21 55 20.6**	**+4.9**
GAZ	**Gaziantep**	**3.30**	**27**	*e*P	**Pn**	**21 55 23.5**	**+7.3**
KZIT	**Kziot**	**3.41**	**194**	Pn	**Pn**	**21 55 18.0**	**+0.3**
GZT	**Gaziantep**	**3.60**	**29**	*i* P	**Pn**	**21 55 20.9**	**+0.6**
GZT				*i* S	**Sn**	**21 56 09.1**	**+6.1**
ZFRI	**Zfri**	**3.67**	**182**	Pn	**Pn**	**21 55 21.1**	**-0.2**
PRNI	**Paran**	**3.88**	**184**	Pn	**Pn**	**21 55 24.8**	**+0.6**
PRNI				Sn	**Sn**	**21 56 11.1**	**+1.2**
AMAG	**Maghara**	**4.01**	**207**	⇑P	**Pn**	**21 55 25.3**	**-0.7**
HRFI	**Mount Harif**	**4.20**	**184**	Pn	**Pn**	**21 55 28.5**	**+0.1**
EIL	**Elat**	**4.56**	**184**	Pn	**Pn**	**21 55 34.0**	**+0.5**
HHAG	**Hagoal**	**5.08**	**214**	P	**Pn**	**21 55 40.0**	**-0.7**
HHAG				S	**Sn**	**21 56 27.8**	**-12**
KOT	**Kottamia**	**5.23**	**216**	⇑P	**Pn**	**21 55 41.9**	**-0.8**
GLL	**Jalalah**	**5.58**	**215**	⇑P	**Pn**	**21 55 47.1**	**-0.3**
GLL				S	**Sn**	**21 56 39.1**	**-13**
HKAT	**Jabal Katrina**	**5.81**	**192**	P	**Pn**	**21 55 51.2**	**+0.5**
TR2		**5.99**	**194**	⇑P	**Pn**	**21 55 53.7**	**+0.5**
SWA1		**9.58**	**241**	P	**Pn**	**21 56 42.4**	**0.0**
SWA1				S	**Sn**	**21 58 16.1**	**-14**
SWA2		**9.78**	**242**	P	**Pn**	**21 56 45.4**	**+0.3**
	2μm,0.2s						

MOS ***19*** *21:57:17.7±1.0, 2659N×5460E, h10km, mb3.9/1, Error ellipse: s-maj=40.8km s-min=18.6km az=114.5*
OMAN ***19*** *21:57:20.5, 2792N×5464E, h30km, Error ellipse: s-maj=1193.0km s-min=105.7km az=344.0*
IDC ***19*** *21:57:22.8±1.3, 2736N×5485E, h0km, mb3.7/7, mb1 3.8/10, mb1mx3.6/25, mbtmp3.7/10, ML3.6/2, Error ellipse: s-maj=27.5km s-min=21.9km az=37.0*
NEIC ***19*** *21:57:26.5, 2743N×5497E, h14km, mb3.5/2, ML3.5(THR), After THR.*
KISR ***19*** *21:57:26.9±1.1, 2759N×5470E, h33km, ML3.8*
ISCJB ***19*** *21:57:26.6±0.6, 2730N±006×5478E±004, h41km±10km, mb3.6/8, Error ellipse: s-maj=10.2km s-min=5.0km az=50.9*
CSEM ***19*** *21:57:26.4±0.1, 2735N×5488E, h40km, mb3.5/2, Error ellipse: s-maj=4.8km s-min=3.6km az=2.0*
THR ***19*** *21:57:26.3±0.5, 2744N×5493E, h14km±6km, ML3.5*
ISC 19 21:57:26.0±0.9, 2746N±004×5492E±004, h18km±6km, n36, σ1§18/47, mb3.6/8, 2C-2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.11**	**93**	*e*PG	**Pg**	**21 57 47.0**	**-0.6**
BNDS				AML	AML	21 58 09.6	
	comp=E,1μm,0.5s						
BNDS				AML	AML	21 58 13.0	
	comp=N,1μm,0.4s						
BNDS	**Bandar-Abbas**	**1.11**	**93**	*e*Pg	**Pg**	**21 57 46.0**	**-1.6**
GHIR	**Ghir-Karzin**	**1.90**	**296**	*e*PG	**Pg**	**21 58 01.3**	**-1.2**
GHIR				AML	AML	21 58 40.3	
	comp=E,540nm,0.6s						
GHIR				AML	AML	21 58 41.2	
	comp=N,470nm,0.6s						
GHIR	**Ghir-Karzin**	**1.90**	**296**	*e*Pg	**Pg**	**21 58 01.0**	**-1.5**
GHIR				*e*Sg	**Sg**	**21 58 28.0**	**+0.8**
GHIR	**Ghir-Karzin**	**1.90**	**296**	*e*Pg	**Pg**	**21 58 01.3**	**-1.2**
	SNR=90						
GHIR				*e*Sg	**Sg**	**21 58 28.0**	**+0.8**
BANOM	**Banah**	**1.96**	**141**	⇑P	**Pn**	**21 57 58.9**	**+0.6**
	SNR=20						
BANOM	**Banah**	**1.96**	**141**	P	**Pn**	**21 57 58.9**	**+0.5**
	SNR=20						
KRBR	**Kerman**	**2.99**	**32**	*e*PN	**Pn**	**21 58 16.0**	**+3.5**
KRBR				*e*SG	**Sg**	**21 59 00.1**	**-1.9**
KRBR				AML	AML	21 59 10.1	
	comp=E,98nm,0.5s						
KRBR	**Kerman**	**2.99**	**32**	*e*Pn	**Pn**	**21 58 15.0**	**+2.5**
KRBR				*e*Sg	**Sg**	**21 59 00.0**	**-2.1**
KRBR	**Kerman**	**2.99**	**32**	*e*Pn	**Pn**	**21 58 15.0**	**+2.5**
KRBR				*e*Sg	**Sg**	**21 59 00.2**	**-1.9**
	SNR=90						
ARQ	**Araqi**	**4.35**	**160**	⇓P	**Pn**	**21 58 31.9**	**+0.7**
	SNR=5.4						
SMDO	**Samad**	**5.22**	**146**	⇑P	**Pn**	**21 58 43.3**	**+0.2**
	SNR=14						
WSAR	**Wadi Sarin**	**5.38**	**141**	Pn	**Pn**	**21 58 45.2**	**-0.1**
	comp=E,3.1nm,0.3s,baz=302,slow=9.6,SNR=27						
WSAR				Sn	**Sn**	**21 59 45.2**	**-1.5**
	comp=E,0.5nm,0.3s,baz=157,slow=19,SNR=2.7						
WSAR	**Wadi Sarin**	**5.38**	**141**	Pn	**Pn**	**21 58 45.2**	**-0.1**
WSAR				Sn	**Sn**	**21 59 45.2**	**-1.5**
QRN	**Al-Qurain**	**6.32**	**283**	*e*P	**Pn**	**21 58 59.0**	**+0.8**
QRN				*e*S	**Sn**	**22 00 09.0**	**-0.8**
QRN				AML	AML	22 00 58.8	
	comp=Z,33nm,0.4s						
KBD	**Kabd**	**6.60**	**287**	*e*P	**Pn**	**21 59 04.0**	**+1.9**
KBD				*e*S	**Sn**	**22 00 14.9**	**-1.9**
KBD				AML	AML	22 00 57.4	
	comp=Z,75nm,0.5s						
RDF	**Al-Radifah**	**6.67**	**284**	*e*P	**Pn**	**21 59 04.1**	**+1.1**
RDF				*e*S	**Sn**	**22 00 17.4**	**-1.1**
RDF				AML	AML	22 01 01.1	
	comp=Z,18nm,0.3s						
NAY	**Al-Naaiem**	**7.00**	**287**	*e*P	**Pn**	**21 59 08.4**	**+0.9**
NAY				*e*S	**Sn**	**22 00 25.5**	**-1.1**
NAY				AML	AML	22 01 02.6	
	comp=Z,11nm,0.6s						
MIB	**Mutribah**	**7.06**	**291**	*e*P	**Pn**	**21 59 10.0**	**+1.6**
MIB				AML	AML	22 00 54.7	
	comp=Z,15nm,0.3s						
WHFO	**Wadi Hawf**	**9.55**	**187**	⇓P	**Pn**	**21 59 42.4**	**-0.2**
	SNR=7.5						
GNI	**Garni**	**15.21**	**329**	Pn	**Pn**	**22 01 01.5**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=137,slow=19,SNR=1.9						
MALT	**Malatya**	**17.55**	**312**	P	**Pn**	**22 01 27.7**	**-2.0**
MMAI	**Mount Meron Ar**	**17.74**	**293**	P	**Pn**	**22 01 32.6**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=84,slow=16,SNR=3.0						
BR131	**Keskin Array S**	**21.48**	**310**	*e*P	**P**	**22 02 10.6**	**-2.9**
	comp=Z,0.8nm,0.5s,mb3.3						
BRTR	**Keskin Array B**	**21.48**	**310**	P	**P**	**22 02 13.7**	**+0.2**
	comp=Z,1.6nm,0.9s,mb3.3,baz=131,slow=13,SNR=8.7						
AKTK	**Aktyubinsk**	**23.07**	**5**	P	**P**	**22 02 31.2**	**+0.7**
AKTK	**Aktyubinsk**	**23.07**	**5**	P	**P**	**22 02 31.2**	**+0.7**
AKTO	**Aktyubinsk**	**23.07**	**5**	P	**P**	**22 02 31.2**	**+0.7**
	comp=Z,1.0nm,0.4s,mb3.6,baz=145,slow=9.0,SNR=3.8						
IDI	**Anoyia**	**26.73**	**294**	P	**P**	**22 03 04.6**	**+0.2**
	comp=Z,2.5nm,0.8s,mb3.8,baz=78,slow=9.3,SNR=1.9						
ZRNK	**Zerenda**	**27.54**	**19**	*e*P	**P**	**22 03 15.4**	**+3.7**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
ZRNK	**Zerenda**	**27.54**	**19**	*e*P	**P**	**22 03 15.4**	**+3.7**
	comp=Z,0.7nm,0.6s,mb3.5						
MKAR	**Makanchi Array**	**28.90**	**41**	P	**P**	**22 03 24.4**	**+0.6**
	comp=Z,0.2nm,0.4s,mb3.2,baz=238,slow=8.5,SNR=4.6						
FINES	**FINESS Array B**	**39.08**	**338**	P	**P**	**22 04 52.1**	**+0.1**
	comp=Z,0.9nm,0.4s,mb3.8,baz=139,slow=9.9,SNR=17						
NB2	**NORSAR Subarra**	**44.49**	**331**	P	**P**	**22 05 35.4**	**-0.8**
	comp=Z,0.7nm,0.7s,mb3.5,baz=117,slow=7.9						
NOA	**NORSAR Array B**	**44.49**	**331**	P	**P**	**22 05 35.5**	**-0.8**
	comp=Z,0.8nm,0.7s,mb3.6,baz=

mb4.9/65,MS4.6/23,Error ellipse: s-maj=7.3km s-min=4.7km az=111.2

BJI ***19*** *22:19:22.4,8.70S×106.00E,h28km,mB5.2,mb4.9,Ms5.0, Msz4.7*

MOS ***19*** *22:19:22.3±1.0,8.48S×106.08E,h33km,mb5.1/23,Error ellipse: s-maj=14.8km s-min=7.7km az=116.7*

NEIC ***19*** *22:19:23.0±0.2,8.69S×105.98E,mb5.0/23,Error ellipse: s-maj=8.3km s-min=5.0km az=47.0*

ISC 19 22:19:23.3±0.2,870S±003×10595E±004,h31km, h31km±.8km:pP-P,n137,σ1ᵗ19/135,mb4.9/65,MS4.6/23, 15C-5D,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JCJI	**Jatiwangi**	**3.17**	**46**	P			Pn	22 20 08.6	-2.5
	3μm,0.8s								
BJII	**Banjamegara**	**3.96**	**70**	P			Pn	22 20 22.7	+0.8
	160nm,0.9s								
COCO	**West Island**	**9.62**	**248**	*e*Pn			Pn	22 21 38.1	-1.4
	902nm,1.2s								
COCO				*e*Sn			Sn	22 23 24.9	-1.6
PSI	**Prapat**	**13.40**	**328**	LR			LR	22 29 02.9	
	comp=Z,2μm,19.2s,baz=140,slow=44								
BSI	**Banda Aceh**	**17.66**	**323**	P			Pn	22 23 37.0	+10
	112nm,1.0s								
KKM	**Kota Kinabalu**	**17.86**	**35**	*e*Pn			Pn	22 23 28.9	-0.5
MBWA	**Marble Bar**	**18.17**	**135**	*e*Pn			Pn	22 23 31.4	-1.8
	19nm,1.0s								
MBWA				*e*Sn			Sn	22 26 52.9	-2.0
FITZ	**Fitzroy Crossi**	**21.29**	**118**	⇓*i*P			P	22 24 07.6	+0.4
	62nm,0.9s,mb4.9								
FITZ	**Fitzroy Crossi**	**21.29**	**118**	P			P	22 24 07.7	+0.4
	23nm,0.8s,mb4.6,baz=265,slow=6.6,SNR=33								
DAV	**Davao City (W)**	**25.06**	**52**	*e*P			P	22 24 46.8	+1.9
KLBR	**Kellerberrin**	**25.29**	**156**	*e*P			P	22 24 46.7	-0.2
	23nm,1.0s,mb4.7								
NWAO	**Narrogin (SRO)**	**26.27**	**158**	P			P	22 24 57.8	+2.0
	16nm,1.2s,mb4.4,baz=333,slow=11,SNR=3.4								
NWAO				LR			LR	22 34 53.4	
	comp=Z,629nm,20.7s,MS4.1,baz=335,slow=36								
KAKA	**Kakadu**	**26.32**	**101**	*e*P			P	22 24 56.3	0.0
	30nm,0.8s,mb4.9								
QIZ	**Qiongzhong**	**27.82**	**8**	P			P	22 25 11.3	+1.6
QIZ				S			S	22 29 53.3	+2.6
QIZ				AMB			AMB		
	comp=Z,209nm,5.3s								
QIZ				LR			LR		
	comp=E,2μm,16.8s								
QIZ				LR			LR		
	comp=Z,2μm,16.8s,MS4.7								
CHTO	**Chiang Mai**	**28.20**	**346**	*e*P			P	22 25 12.4	-0.6
	comp=Z,25nm,1.1s,mb4.8								
WRA	**Warramunga Arr**	**29.64**	**115**	P			P	22 25 26.1	+0.3
	comp=Z,5.8nm,0.7s,mb4.4,baz=287,slow=11,SNR=44								
WRAB	**Tennant Creek**	**29.64**	**115**	P			P	22 25 27.3	+1.4
	comp=Z,61nm,0.5s,mb5.6,SNR=8.2								
WRAB	**Tennant Creek**	**29.64**	**115**	*c*/*i*P			P	22 25 27.3	+1.4
WRAB	**Tennant Creek**	**29.64**	**115**	*e*P			P	22 25 26.1	+0.2
	comp=Z,18nm,0.9s,mb4.8								
WB2	**Warramunga Arr**	**29.65**	**115**	*e*P			P	22 25 27.0	+1.0
ASAR	**Alice Springs**	**30.61**	**122**	P			P	22 25 34.6	+0.2
	comp=Z,2.6nm,0.8s,mb4.1,baz=295,slow=8.3,SNR=13								
GZH	**Guangzhou**	**32.41**	**13**	P			P	22 25 57.3	+7.0
GZH				LR			LR		
	comp=N,946nm,16.5s,MS4.7								
GZH				LR			LR		
	comp=E,679nm,16.8s,MS4.7								
GZH				LR			LR		
	comp=Z,1μm,14.3s,MS4.8								
TRD	**Trivandrum**	**33.56**	**300**	⇓*ex*			x	22 26 36.4	
KMI	**Kunming**	**33.76**	**355**	P			P	22 26 04.3	+2.2
KMI				AP			pP	22 26 12.3	+1.1
KMI				XP			sP	22 26 15.8	+0.8
KMI				PP			PP	22 27 19.6	+0.8
KMI				PCP			PcP	22 28 40.9	-0.1
KMI				S			S	22 31 28.1	+4.4
KMI				XS			sS	22 31 41.8	+3.1
KMI				SCP			ScP	22 32 23.0	-0.4
KMI				PCS			PcS	22 32 26.3	-0.6
KMI				SCS			ScS	22 36 23.5	-1.4
KMI				AMB			AMB		
	comp=Z,11nm,1.1s,mb4.7								
KMI				AMB			AMB		
	comp=Z,211nm,9.0s								
KMI				LR			LR		
	comp=N,2μm,13.4s,MS5.1								
KMI				LR			LR		
	comp=E,990nm,13.1s,MS5.1								
KMI				LR			LR		
	comp=Z,3μm,13.7s,MS5.2								
GYA	**Guiyang**	**34.95**	**1**	⇑*i*P			P	22 26 12.5	+0.1
GYA				AP			pP	22 26 20.1	-1.4
GYA				XP			sP	22 26 25.5	+0.2
GYA				PP			PP	22 27 31.0	-1.0
GYA				S			S	22 31 46.3	+4.2
GYA				AMB			AMB		
	comp=Z,10.0nm,0.7s,mb4.8								
GYA				AMB			AMB		
	comp=Z,250nm,5.1s								
GYA				LR			LR		
	comp=N,880nm,15.2s,MS4.8								
GYA				LR			LR		
	comp=E,1μm,15.5s,MS4.8								
GYA				LR			LR		
	comp=Z,960nm,15.2s,MS4.7								
SHL	**Shillong**	**36.71**	**338**	*i*P			P	22 26 27.0	-0.5
HYB	**Hyderabad**	**37.50**	**314**	*i*P			P	22 26 35.0	+0.8
WHN	**Wuhan**	**39.84**	**11**	P			P	22 26 54.3	+0.5
WHN				*e*S			S	22 33 04.0	+7.7
WHN				LR			LR		
	comp=Z,2μm,12.6s,MS5.2								
STKA	**Stephens Creek**	**40.31**	**130**	*e*P			P	22 26 56.4	-1.4
	comp=Z,4.4nm,0.6s,mb4.4								
STKA	**Stephens Creek**	**40.31**	**130**	P			P	22 26 56.4	-1.4
	comp=Z,5.8nm,0.7s,mb4.4,baz=304,slow=8.8,SNR=17								
STKA	**Stephens Creek**	**40.31**	**130**	*e*P			P	22 26 56.4	-1.4
STKA				*ep*P			pP	22 27 04.8	-2.2
STKA				*es*P			sP	22 27 08.7	-2.1
CTA	**Charters Tower**	**40.54**	**111**	*e*P			P	22 27 01.2	+1.6
	comp=Z,19nm,1.0s,mb4.7								
CTA	**Charters Tower**	**40.54**	**111**	P			P	22 27 01.0	+1.4
	comp=Z,13nm,0.9s,mb4.5,baz=284,slow=9.5,SNR=5.6								
CTA				LR			LR	22 42 34.6	
	comp=Z,562nm,21.5s,MS4.4,baz=278,slow=34								
CTA	**Charters Tower**	**40.54**	**111**	*e*P			P	22 27 01.2	+1.6
CTA				pmax			pmax		
	comp=Z,19nm,1.0s								
CTAO	**Charters Tower**	**40.54**	**111**	*e*P			P	22 26 57.8	-1.8
CTAO				*e**PP			pP	22 27 07.2	-1.6
PMG	**Port Moresby**	**40.68**	**94**	*d*/*i*P			P	22 27 03.0	+2.2
LSA	**Lhasa**	**40.75**	**340**	P			P	22 27 02.4	+1.0
JIRN	**Jiri**	**40.89**	**333**	*e*P			P	22 27 03.4	+0.8
	comp=Z,277nm,1.3s,mb5.7								
PKI	**Pulchoki**	**41.18**	**332**	*e*P			P	22 27 05.6	+0.7
GUN	**Gumba**	**41.25**	**333**	*e*P			P	22 27 06.6	+1.1
	comp=Z,287nm,1.3s,mb5.7								
DMN	**Daman**	**41.35**	**331**	*e*P			P	22 27 07.1	+0.8
	comp=Z,93nm,1.0s,mb5.4								
KKN	**Kakani**	**41.42**	**332**	*e*P			P	22 27 07.6	+0.7
	comp=Z,159nm,1.0s,mb5.6								
KKN	**Kakani**	**41.42**	**332**	*e*P			P	22 27 07.6	+0.7
KKN				pmax			pmax		
	comp=Z,159nm,1.0s,mb5.6								
GKN	**Gorkha**	**41.91**	**331**	*e*P			P	22 27 11.5	+0.6
SSE	**Sheshan**	**42.17**	**20**	P			P	22 27 13.1	+0.1
SSE				AP			pP	22 27 22.0	-0.3
SSE				XP			sP	22 27 24.8	-1.2
SSE				PP			PP	22 28 51.8	+0.8
SSE				S			S	22 33 32.8	+1.8
SSE				XS			sS	22 33 48.0	+1.8
SSE				SCS			ScS	22 37 14.5	+1.6
SSE				AMB			AMB		
	comp=Z,45nm,0.8s,mb5.2								
SSE				AMB			AMB		
	comp=Z,190nm,4.5s								
SSE				LR			LR		
	comp=N,153nm,19.9s,MS4.0								
SSE				LR			LR		
	comp=E,163nm,19.8s,MS4.0								
SSE				LR			LR		
	comp=Z,194nm,19.8s,MS4.0								
KOLN	**Koldanda**	**42.22**	**330**	*e*P			P	22 27 14.2	+0.8
	comp=Z,95nm,0.9s,mb5.4								
NJ2	**Nanjing**	**42.35**	**16**	*e*P			P	22 27 16.8	+2.3
NJ2				AP			pP	22 27 26.4	+2.7
NJ2				XP			sP	22 27 30.3	+2.8
NJ2				PP			PP	22 28 57.8	+4.9
NJ2				S			S	22 33 36.0	+2.4
NJ2				XS			sS	22 33 52.0	+3.2
NJ2				LR			LR		
	comp=N,240nm,16.1s								
NJ2				LR			LR		
	comp=E,290nm,21.9s								
NJ2				LR			LR		
	comp=Z,260nm,27.0s								
XAN	**Xi'an**	**42.59**	**4**	P			P	22 27 14.8	-1.7
XAN				S			S	22 33 37.9	+0.7
XAN				AMB			AMB		
	comp=Z,16nm,0.9s,mb4.8								
XAN				AMB			AMB		
	comp=Z,196nm,9.2s								
XAN				LR			LR		
	comp=N,683nm,14.5s								
XAN				LR			LR		
	comp=Z,1μm,14.7s,MS4.9								
LZH	**Lanzhou**	**44.59**	**358**	*e*P			P	22 27 32.4	-0.1
LZH				AP			pP	22 27 41.3	-0.5
LZH				XP			sP	22 27 44.3	-1.2
LZH				PP			PP	22 29 18.0	+1.2
LZH				S			S	22 34 09.4	+3.1
LZH				XS			sS	22 34 25.0	+3.4
LZH				*e*SS			SS	22 37 23.0	-3.6
LZH				AMB			AMB		
	comp=Z,30nm,1.2s,mb5.0								
LZH				AMB			AMB		
	comp=Z,180nm,4.6s								
LZH				LR			LR		
	comp=E,2μm,13.2s								
LZH				LR			LR		
	comp=Z,2μm,14.2s,MS5.2								
DDI	**Dehra Dun**	**47.15**	**327**	*ex*			x	22 27 53.0	
GTA	**Gaotai**	**48.20**	**354**	*e*P			P	22 28 01.0	+0.1
GTA				PCP			PcP	22 29 29.1	+1.3
GTA				PP			PP	22 29 51.6	-1.7
GTA				SCP			ScP	22 33 21.8	+1.7
GTA				PCS			PcS	22 33 23.3	-0.3
GTA				S			S	22 34 59.6	+1.5
GTA				SCS			ScS	22 37 51.8	+0.3
GTA				SS			SS	22 38 21.9	-5.6
GTA				AMB			AMB		
	comp=Z,21nm,1.6s,mb4.9								
GTA				AMB			AMB		
	comp=Z,247nm,6.8s								
GTA				LR			LR		
	comp=N,624nm,14.5s,MS5.0								
GTA				LR			LR		
	comp=E,928nm,16.0s,MS5.0								
GTA				LR			LR		
	comp=Z,619nm,18.2s,MS4.6								
BTO	**Baotou**	**49.20**	**4**	*e*P			P	22 28 07.1	-1.4
BJI	**Beijing**	**49.41**	**10**	*e*P			P	22 28 09.1	-1.0
BJI				PP			PP	22 30 04.4	+0.1
BJI				S			S	22 35 20.8	+5.8
BJI				AMB			AMB		
	comp=Z,24nm,1.1s,mb5.1								
BJI				AMB			AMB		
	comp=Z,165nm,2.9s,mb5.6								
HHC	**Hu-ho-hao-te**	**49.57**	**6**	*e*P			P	22 28 11.3	-0.1
HHC				AP			pP	22 28 19.0	-1.8
HHC				XP			sP	22 28 21.8	-2.7
HHC				PCP			PcP	22 29 31.9	-0.9
HHC				PP			PP	22 30 06.6	+0.8
HHC				SCP			ScP	22 33 25.5	-0.4
HHC				PCS			PcS	22 33 28.5	-0.9
HHC				S			S	22 35 18.3	+1.0
HHC				XS			sS	22 35 28.9	-3.9
HHC				SCS			ScS	22 37 59.1	-1.6
HHC				SS			SS	22 38 46.6	-3.0
HHC				AMB			AMB		
	comp=Z,19nm,1.2s,mb5.0								
HHC				AMB			AMB		
	comp=Z,108nm,3.9s								
HHC				LR			LR		
	comp=N,854nm,16.1s,MS5.0								
HHC				LR			LR		
	comp=E,820nm,18.2s,MS5.0								
HHC				LR			LR		
	comp=Z,718nm,16.0s,MS4.8								
KS15	**Wonju Array Si**	**50.28**	**23**	*e*P			P	22 28 15.9	-0.9
SNY	**Shenyang**	**52.81**	**17**	⇑P			P	22 28 33.8	-1.9
SNY				AP			pP	22 28 46.4	+1.2
SNY				XP			sP	22 28 50.9	+2.1
SNY				PP			PP	22 30 34.0	-1.2
SNY				S			S	22 36 06.4	+4.3
SNY				XS			sS	22 36 17.0	-0.7
SNY				AMB			AMB		
	comp=Z,10.0nm,1.1s,mb4.7								
SNY				AMB			AMB		
	comp=Z,144nm,9.0s								
SNY				LR			LR		
	comp=N,362nm,18.6s,MS4.7								
SNY				LR			LR		
	comp=E,481nm,14.4s,MS4.7								
SNY				LR			LR		
	comp=Z,355nm,17.4s,MS4.5								
WMQ	**Urumqi**	**54.83**	**344**	⇑*i*P			P	22 28 51.1	+0.6
WMQ				AP			pP	22 29 00.1	+0.1
WMQ				XP			sP	22 29 03.1	-0.5
WMQ				PCP			PcP	22 29 53.6	+1.1
WMQ				PP			PP	22 30 55.6	+2.2
WMQ				SCP			ScP	22 33 48.6	-0.1
WMQ				S			S	22 36 29.3	-0.2
WMQ				XS			sS	22 36 43.1	-2.0
WMQ				AMB			AMB		
	comp=Z,48nm,1.2s,mb5.4								
WMQ				AMB			AMB		
	comp=Z,68nm,8.9s								
WMQ				LR			LR		
	comp=N,504nm,15.0s								
WMQ				LR			LR		
	comp=Z,266nm,22.4s								
CN2	**Changchun**	**55.16**	**17**	*e*P			P	22 28 51.1	-1.8
CN2				*ex*P			sP	22 29 03.8	-2.2
CN2				*es*			S	22 36 33.0	-0.9
CN2				AMB			AMB		
	comp=Z,20nm,1.2s,mb5.0								
CN2				AMB			AMB		
	comp=Z,200nm,6.0s								
CN2				LR			LR		
	comp=N,600nm,16.0s,MS4.9								
CN2				LR			LR		
	comp=E,500nm,16.0s,MS4.9								
CN2				LR			LR		
	comp=Z,300nm,18.0s,MS4.4								
WSAR	**Wadi Sarin**	**56.12**	**305**	P			P	22 29 02.5	+2.7
	comp=Z,12nm,1.2s,mb4.8,baz=86,slow=4.9,SNR=4.2								
SONM	**Songino Array**	**56.28**	**0**	P			P	22 29 01.0	+0.1
	comp=Z,6.5nm,0.8s,mb4.7,baz=174,slow=6.6,SNR=41								
ULN	**Ulaanbaatar**	**56.32**	**1**	*e*P			P	22 29 00.6	-0.6
ULN				*e**PP			pP	22 29 09.9	-0.8
ULN				pmax			pmax		
	comp=Z,54nm,1.7s,mb5.3								
ULN	**Ulaanbaatar**	**56.32**	**1**	*e*P			P	22 29 00.6	-0.6
	comp=Z,54nm,1.7s,mb5.3								
ULN				*ep*P			pP	22 29 09.9	-0.8
VLA	**Vladivostok**	**56.72**	**23**	*c*/*i*P			P	22 29 02.8	-1.2
VLA				pmax			pmax		
	comp=Z,13nm,0.8s,mb5.0								
MDJ	**Mudanjiang**	**57.20**	**20**	P			P	22 29 05.8	-1.6
MDJ				S			S	22 37 06.6	+5.6
MDJ				SCS			ScS	22 38 53.5	-1.0
MDJ				SS			SS	22 40 49.5	-0.7
MDJ				AMB			AMB		
	comp=Z,7.0nm,1.0s,mb4.7								
MDJ				AMB			AMB		
	comp=Z,156nm,6.5s								
MDJ				LR			LR		
	comp=N,201nm,18.2s,MS4.6								
MDJ				LR			LR		
	comp=E,331nm,14.1s,MS4.6								
MDJ				LR			LR		
	comp=Z,151nm,15.1s,MS4.2								
OPO	**Ambohidratompo**	**57.73**	**254**	P			P	22 29 14.0	+2.9
	comp=Z,6.1nm,1.0s,mb4.6,baz=84,slow=7.9,SNR=5.5								
AAK	**Ala-Archa**	**58.60**	**333**	⇑*e*P			P	22 29 16.0	-1.2
AAK				pmax			pmax		
	comp=Z,11nm,2.4s,mb4.5								
FRU	**Bishkek**	**58.71**	**333**	*e*P			P	22 29 18.0	0.0
FRU				*e*				22 29 34.0	
FRU	**Bishkek**	**58.71**	**333**	*e*P			P	22 29 18.0	0.0
FRU				*e*				22 29 34.0	
ZAK	**Zakamensk**	**58.88**	**358**	*e*P			P	22 29 19.0	-0.2
ZAK				pmax			pmax		
	comp=Z,23nm,1.8s,mb4.9								
HIA	**Hailar**	**58.97**	**10**	*e*P			P	22 29 17.9	-1.9
MKAR	**Makanchi Array**	**59.13**	**341**	P			P	22 29 20.9	0.0
	comp=Z,9.4nm,0.6s,mb5.0,baz=148,slow=7.8,SNR=72								
TLY	**Talaya**	**60.16**	**358**	*e*P			P	22 29 28.2	+0.2
TLY				*e*S			S	22 37 39.0	-0.5
TLY				pmax			pmax		
	comp=Z,13nm,1.4s,mb4.8								
TLY				MLR			MLR		
	comp=Z,583nm,17.0s,MS4.8								
TLY	**Talaya**	**60.16**	**358**	*e*P			P	22 29 28.1	0.0
	comp=Z,24nm,1.8s,mb4.9								
MOY	**Mondy**	**60.27**	**356**	*e*P			P	22 29 29.3	+0.5
MOY				pmax			pmax		
	comp=Z,50nm,2.4s,mb5.1								
IRK	**Irkutsk**	**60.71**	**359**	*e*P			P	22 29 31.5	-0.3
IRK				*e*				22 30 10.1	
IRK				*e*				22 31 54.2	
IRK				pmax			pmax		
	comp=Z,147nm,0.8s,mb6.2								
KURK	**Kurchatov**	**63.74**	**341**	*e*P			P	22 29 51.9	-0.2
	comp=Z,32nm,1.1s,mb5.3								
KURK				*ep*P			pP	22 30 00.3	-1.4
YSS	**Yuzh-Sakhalins**	**64.35**	**27**	*c*/*i*P			P	22 29 54.4	-1.7
YSS				pmax			pmax		
	comp=Z,52nm,1.5s,mb5.3								
NVS	**Novosibirsk**	**66.11**	**346**	*i*P			P	22 30 05.5	-2.0
NVS				pmax			pmax		
	comp=Z,36nm,1.8s,mb5.1								
NVS				pmax			pmax		
	comp=N,22nm,1.6s								
NVS				pmax			pmax		
	comp=E,23nm,1.4s								
BOD	**Bodaibo**	**66.61**	**5**	*e*P			P	22 30 08.7	-2.0
BOD				pmax			pmax		
	comp=Z,12nm,1.0s,mb4.9								
BRVK	**Borovoye**	**68.59**	**338**	*e*P			P	22 30 23.0	-0.2
BRVK				pmax			pmax		
	comp=Z,8.0nm,1.0s,mb4.6								
BRVK	**Borovoye**	**68.59**	**338**	*e*P			P	22 30 23.0	-0.2
	comp=Z,8.4nm,1.0s,mb4.6								
KMBO	**Kilima Mbogo**	**68.78**	**272**	P			P	22 30 27.4	+3.0
	comp=Z,1.9nm,0.9s,mb4.0,baz=59,slow=17,SNR=4.4								
KMBO	**Kilima Mbogo**	**68.78**	**272**	*e*P			P	22 30 25.0	+0.7
KMBO				pmax			pmax		
	comp=Z,5.0nm,1.2s								
KMBO	**Kilima Mbogo**	**68.78**	**272**	*e*P			P	22 30 25.0	+0.7
	comp=Z,5.0nm,1.2s,mb4.3								
CHKZ	**Chkalovo**	**68.96**	**338**	⇑*e*P			P	22 30 25.1	-0.3
	comp=Z,18nm,0.9s,mb5.0								
ZRNK	**Zerenda**	**68.99**	**337**	*e*P			P	22 30 24.9	-0.8
ZRNK				*e*				22 30 49.1	
ZRNK				pmax			pmax		
	comp=Z,8.0nm,0.8s,mb4.7								
ZRNK	**Zerenda**	**68.99**	**337**	*e*P			P	22 30 24.9	-0.8
	comp=Z,7.8nm,0.8s,mb4.7								
ZRNK				PcP			PcP	22 30 49.1	-0.6
AKTK	**Aktyubinsk**	**72.06**	**330**	P			P	22 30 44.0	-0.3
AKTK				LR			LR	23 07 14.6	
AKTO	**Aktyubinsk**	**72.06**	**330**	P			P	22 30 44.0	-0.3
	comp=Z,3.0nm,0.8s,mb4.3,baz=110,slow=12,SNR=8.2								
AKTO				LR			LR	23 07 14.6	
	comp=Z,164nm,20.1s,MS4.3,baz=13,slow=40								
YAK	**Yakutsk**	**72.89**	**11**	*c*/*i*P			P	22 30 47.5	-1.8
YAK				pmax			pmax		
	comp=Z,56nm,1.4s,mb5.3								
SYO	**Syowa Base**	**73.56**	**200**	⇓*e*P			P	22 30 56.6	+3.3
SYO	**Syowa Base**	**73.56**	**200**	⇑*es*P			sP	22 31 06.8	+0.1
ORR	**Orenburg**	**74.41**	**330**	*d*/*i*P			P	22 30 58.1	-0.1
ORR				pmax			pmax		
	comp=Z,20nm,2.0s,mb4.7								
GNI	**Garni**	**74.43**	**316**	*c*/*i*P			P	22 30 58.1	-0.2
GNI				pmax			pmax		
	comp=Z,12nm,1.7s								
VNDA	**Vanda**	**74.50**	**169**	P			P	22 30 58.8	0.0
	comp=Z,1.8nm,0.8s,mb4.0,baz=289,slow=7.9,SNR=7.2								
ARU	**Arti**	**75.70**	**335**	⇑*i*P			P	22 31 05.2	-0.5
ARU				*e*				22 31 20.4	
ARU				*e*				22 33 54.5	
ARU				*e*PPP				22 35 36.6	
ARU				*es*			S	22 40 44.3	-0.8
ARU				*es*			SS	22 45 35.5	-1.4
ARU				pmax			pmax		
	comp=Z,13nm,1.3s,mb4.7								
ARU	**Arti**	**75.70**	**335**	⇑*i*P			P	22 31 05.2	-0.5
ARU				*e*				22 31 20.4	
ARU				pmax			pmax		
	comp=Z,13nm,1.3s,mb4.7								
ARU	**Arti**	**75.70**	**335**	*e*P			P	22 31 05.4	-0.3
	comp=Z,23nm,1.3s,mb5.0								
ARU				*ep*P			pP	22 31 13.3	-2.2
PET	**Petropavlovsk**	**75.98**	**30**	*e*P			P	22 31 09.8	+2.5
PET				*e*S			S	22 40 49.0	+0.8
PET				*e*PS				22 41 20.7	
PET				pmax			pmax		
	comp=Z,100nm,15.3s								
PET				smax					
	comp=E,100nm,14.5s								
PET				smax					
	comp=N,100nm,12.2s								
PET				MLR			MLR		
	comp=Z,100nm,15.0s,MS4.2								
KIV	**Kislovodsk**	**77.45**	**319**	*e*P			P	22 31 16.2	+0.6
KIV				*e*				22 31 25.1	
KIV				pmax			pmax		
	comp=Z,7.0nm,0.9s,mb4.6								
KIV	**Kislovodsk**	**77.45**	**319**	*e*P			P	22 31 16.2	+0.6
	comp=Z,6.9nm,0.9s,mb4.6								
KIV				*e*PcP			PcP	22 31 25.1	-0.8
GOF	**Gofitskoye**	**77.70**	**320**	*e*P			P	22 31 11.5	-5.5
SOC	**Sochi**	**79.26**	**317**	*e*P			P	22 31 24.5	-1.1
SOC				*e*				22 31 33.7	
SOC				*e*				22 34 19.3	
SOC				*es*			S	22 41 16.0	-7.7
SOC				*e*SSS				22 49 50.0	
SOC				pmax			pmax		
	comp=Z,4.0nm,0.7s,mb4.5								
QSPA	**South Pole Qui**	**81.30**	**180**	*e*P			P	22 31 37.3	+0.7
	comp=Z,12nm,0.9s,mb4.8								
TIXI	**Tiksi**	**81.61**	**7**	*e*P			P	22 31 32.6	-5.6
TIXI				*e*S			S	22 41 40.1	-8.2
TIXI				*e*SS			SS	22 46 58.0	-7.6
TIXI				pmax			pmax		
	comp=Z,8.0nm,0.9s,mb4.7								
TIXI				smax					
	comp=N,78nm,15.3s								
TIXI				smax

BILL					pmax	pmax			
	comp=Z,8.0nm,1.7s,mb4.7								
AKASG	**Malin Array Be**	**88.37**	**322**	P		P		22 32 11.5	-0.6
	comp=Z,1.9nm,0.8s,mb4.4,baz=93,slow=4.5,SNR=11								
AKASG					PP	PP		22 35 47.3	+7.4
	comp=Z,1.0nm,0.7s,baz=92,slow=6.7,SNR=6.8								
AKASG	**Malin Array Be**	**88.37**	**322**	*i* P		P		22 32 11.5	-0.6
AKASG					pmax	pmax			
	comp=Z,2.0nm,0.8s								
VNA2	**Neumayer--Watz**	**89.25**	**198**	*e*P		P		22 32 18.4	+2.1
VNA2				*e*				22 32 22.8	
VNA2				*e*				22 32 28.2	
VNA2				*e*				22 32 34.3	
VNA2				*e*				22 32 38.0	
VNA2				*e*				22 32 49.1	
VNA2				*e*				22 33 07.7	
VNA1	**Neumayer--Stat**	**89.63**	**198**	*e*P		P		22 32 20.4	+2.4
VNA1				*e*				22 32 25.1	
VNA1				*e*				22 32 31.0	
VNA1				*e*				22 32 36.2	
VNA1				*e*				22 32 40.6	
VNA1				*e*				22 32 49.5	
VNA1				*e*				22 33 10.0	
VNA3	**Neumayer Olymp**	**89.78**	**197**	*e*P		P		22 32 20.6	+1.9
VNA3				*e*				22 32 24.4	
VNA3				*e*				22 32 30.5	
VNA3				*e*				22 32 36.3	
VNA3				*e*				22 32 40.5	
VNA3				*e*				22 32 50.2	
VNA3				*e*				22 33 10.3	
FINES	**FINESS Array B**	**92.76**	**332**	P		P		22 32 32.1	-0.4
	comp=Z,1.1nm,0.8s,mb4.4,baz=116,slow=7.0,SNR=7.1								
ARCES	**ARCESS Array B**	**94.76**	**340**	P		P		22 32 41.0	-0.7
	comp=Z,2.5nm,0.8s,mb4.7,baz=75,slow=5.5,SNR=6.8								
VRAC	**Vranov**	**96.10**	**319**	LR		LR		23 15 10.6	
	comp=Z,80nm,21.2s,MS4.2,baz=222,slow=35								
GERES	**GERESS Array B**	**97.96**	**318**	PP		PP		22 36 55.5	+0.5
	comp=Z,0.1nm,0.4s,baz=75,slow=6.2,SNR=3.5								
GERES					LR	LR		23 24 11.9	
	comp=Z,100nm,20.7s,MS4.3,baz=200,slow=40								
HFS	**Hagfors**	**98.60**	**330**	LR		LR		23 22 36.3	
	comp=Z,141nm,20.2s,MS4.5,baz=167,slow=38								
PPT	**Papeete**	**100.99**	**110**	*e*LR		LR		23 06 08.0	
	comp=Z,204nm,22.0s								
RKT	**Rikitea**	**112.56**	**119**	*e*LR		LR		23 11 29.7	
	comp=Z,196nm,28.2s								
YKA	**Yellowknife Ar**	**118.80**	**20**	PKP		PKPdf		22 38 08.1	-0.3
	comp=Z,0.4nm,0.7s,baz=337,slow=2.5,SNR=4.8								
NVAR	**Mina Array Bea**	**130.48**	**46**	PKP		PKPdf		22 38 33.3	+2.5
	comp=Z,1.2nm,0.6s,baz=197,slow=3.1,SNR=4.3								
BDFB	**Brasilia**	**144.65**	**227**	PKP		PKPdf		22 38 58.2	+1.4
	comp=Z,3.7nm,0.6s,baz=96,slow=2.3,SNR=7.1								
NCB	**Newcomb**	**144.86**	**0**	*e*PKPdf		PKPdf		22 38 57.1	-0.1
JCT	**Junction City**	**147.62**	**44**	*e*PKPdf		PKPdf		22 39 03.9	+2.1
JCT				*e*PKPbc		PKPbc		22 39 06.2	+1.6
SSPA	**Standing Stone**	**148.01**	**6**	*e*PKPdf		PKPdf		22 39 03.5	+1.0
WVT	**Waverly**	**149.94**	**23**	*e*PKHKP				22 39 06.4	
WVT								22 39 11.4	
HKT	**Hockley**	**150.62**	**41**	*e*PKIKP		PKPdf		22 39 07.4	+0.7
HKT				*e*				22 39 14.4	
HKT				*e*				22 39 23.3	
PLAL	**Pickwick Lake**	**150.85**	**24**	*e*PKPdf		PKPdf		22 39 08.1	+1.1
PLAL				*e*PKPbc		PKPbc		22 39 12.9	+0.2
SWET	**Swanee**	**151.45**	**21**	*e*PKPdf		PKPdf		22 39 09.2	+1.3
SWET				*e*PKPbc		PKPbc		22 39 14.2	+0.2
SWET				*e*PKPab		PKPab		22 39 23.6	+1.2

NIED **19** *22:20:00,36.00N×14.020E,h68km,Mw3.7 Best double couple: M₀4.34000×10¹⁴ NP1:φs184.00000°,δ67.00000°, λ-69.00000°. NP2:φs320.00000°,δ30.00000°, λ-130.00000°.*
MOS **19** *22:20:13.5±0.7,35.82N×140.21E,h78km,mb4.6/1,Error ellipse: s-maj=34.8km s-min=18.5km az=37.4*
ISCJB **19** *22:20:14.1±0.5,35.94N±0.003×140.17E±0.005,h72km±4km, mb3.7/6,Error ellipse: s-maj=7.5km s-min=4.8km az=146.9*
NEIC **19** *22:20:15.4,35.99N×140.16E,h60km,MG3.4(JMA),After JMA.*
JMA **19** *22:20:15.4±0.1,35.99N×140.16E,h60km±1km,M3.6*
JMA Felt I J1.
IDC **19** *22:20:15.7±2.0,35.87N×140.19E,h74km±20km,mb3.4/6, mb1 3.7/7,mb1mx3.4/21,mbtmp3.8/7,MS3.1/1,Ms1 3.1/1, ms1mx2.2/16,Error ellipse: s-maj=26.3km s-min=8.9km az=65.0*

ISC 19 22:20:15.1±0.5,3594N±0.003×14017E±0.005,h65km±5km, n23,σ0§75/38,mb3.7/6,2C-6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.29**	**4**	⇓P	**Pn**	**22 20 25.3**	**-0.3**
JYT				*e*S	**Sn**	**22 20 32.6**	**-0.7**
TOK	**Tokyo**	**0.42**	**233**	⇓P	**Pn**	**22 20 27.9**	**+1.2**
JAG	**Ashikaga**	**0.75**	**310**	⇓P	**Pn**	**22 20 30.0**	**-0.3**
JAG				*e*S	**Sn**	**22 20 40.8**	**-0.6**
JRY	**Ryogami san**	**1.03**	**275**	⇓P	**Pn**	**22 20 33.9**	**+0.2**
JRY				*e*S	**Sn**	**22 20 47.8**	**+0.3**
JOD2	**Odawara 2**	**1.11**	**233**	⇑P	**Pn**	**22 20 34.7**	**0.0**
JOD2				*e*S	**Sn**	**22 20 48.6**	**-0.7**
JKT	**Katashina**	**1.11**	**318**	P	**Pn**	**22 20 34.5**	**-0.2**
JKT				*e*S	**Sn**	**22 20 49.7**	**+0.3**
BSO3	**Boso 3**	**1.17**	**166**	P	**Pn**	**22 20 35.5**	**0.0**
BSO3				*e*S	**Sn**	**22 20 51.9**	**+1.1**
JIM2	**Oshima 3**	**1.36**	**206**	P	**Pn**	**22 20 37.2**	**-0.8**
JIM2				*e*S	**Sn**	**22 20 54.2**	**-1.0**
JYN	**Shimob**	**1.39**	**252**	⇑P	**Pn**	**22 20 39.0**	**+0.6**
JYN				*e*S	**Sn**	**22 20 56.2**	**+0.2**
BSO1	**Boso 1**	**1.44**	**152**	P	**Pn**	**22 20 39.1**	**0.0**
JFY	**Yanaizu**	**1.51**	**346**	⇓P	**Pn**	**22 20 40.2**	**+0.2**
JFY				*e*S	**Sn**	**22 20 59.1**	**+0.3**
MJAR	**Matsushiro Arr**	**1.69**	**291**	P	**Pn**	**22 20 43.2**	**+0.7**
	34nm,0.3s,baz=97,slow=13,SNR=10						
MJAR				S	**Sn**	**22 21 04.6**	**+1.4**
	24nm,0.3s,baz=86,slow=20,SNR=5.3						
MJAR	**Matsushiro Arr**	**1.69**	**291**	P	**Pn**	**22 20 43.2**	**+0.7**
MJAR				S	**Sn**	**22 21 04.6**	**+1.4**
MAJO	**Matsushiro**	**1.69**	**291**	⇓*e*Pn	**Pn**	**22 20 43.1**	**+0.6**
MAJO				*e*Sn	**Sn**	**22 21 01.0**	**-2.2**
MAT	**Matsushiro**	**1.69**	**291**	P	**Pn**	**22 20 42.8**	**+0.3**
MAT				*e*S	**Sn**	**22 21 02.5**	**-0.7**
MAT	**Matsushiro**	**1.69**	**291**	*e*P	**Pn**	**22 20 43.0**	**+0.5**
MAT				S	**Sn**	**22 21 03.0**	**-0.2**
JHJ	**Hachijo jima 2**	**2.83**	**187**	P	**Pn**	**22 20 59.2**	**+1.3**
	45nm,0.3s,baz=261,slow=22,SNR=15						
JHJ				S	**Sn**	**22 21 30.4**	**-0.5**
	43nm,0.3s,baz=270,slow=20,SNR=5.1						
JHJ				LR	LR	22 21 31.8	
	comp=Z,378nm,20.4s,baz=82,slow=28						
SONM	**Songino Array**	**27.59**	**306**	P	**P**	**22 25 57.1**	**+1.0**
	0.3nm,0.5s,mb3.0,baz=88,slow=4.5,SNR=4.2						
MKAR	**Makanchi Array**	**43.86**	**303**	P	**P**	**22 28 14.9**	**0.0**
	0.4nm,0.8s,mb3.2,baz=83,slow=9.1,SNR=3.2						
ILAR	**Eielson Array**	**50.95**	**32**	P	**P**	**22 29 09.4**	**-0.5**
	1.3nm,0.7s,mb4.0,baz=267,slow=5.8,SNR=9.8						
INK	**Inuvik**	**55.82**	**27**	P	**P**	**22 29 44.9**	**-0.7**
	0.7nm,0.6s,mb3.9,baz=291,slow=7.5,SNR=8.6						
WRA	**Warramunga Arr**	**55.85**	**187**	P	**P**	**22 29 44.7**	**-1.1**
	1.0nm,0.5s,mb4.1,baz=1.2,slow=7.5,SNR=12						
ARCES	**ARCESS Array B**	**64.67**	**339**	P	**P**	**22 30 46.3**	**+0.2**
	1.7nm,0.9s,mb3.9,baz=46,slow=7.7,SNR=3.3						

NIED **19** *22:21:00,34.20N×135.10E,h5km,Mw3.8 Best double couple: M₀5.70000×10¹⁴ NP1:φs215.00000°,δ54.00000°, λ117.00000°. NP2:φs355.00000°,δ44.00000°,λ59.00000°.*
JMA **19** *22:21:21.8,34.19N×135.13E,h6km±1km,M3.9 Broadband fault plane solution: P waves. NP1: φs212.00000°,δ49.00000°,λ118.00000°. NP2: φs352.00000°,δ49.00000°,λ62.00000°. Principal axes: T Plg69.0000°, Azm192.0000°; N Plg21.0000°, Azm12.0000°; P Plg0.0000°, Azm102.0000°;*
JMA Felt III J1.
ISCJB **19** *22:21:21.4±0.6,34.17N±0.003×135.10E±0.003,h11km±4km, mb3.8/7 Error ellipse: s-maj=5.0km s-min=4.4km az=101.1*
NEIC **19** *22:21:21.8,34.19N×135.13E,h6km,mb4.0/1,After JMA.*
MOS **19** *22:21:25.4±0.9,34.16N×135.24E,h53km,mb4.9/3,Error ellipse: s-maj=21.6km s-min=14.5km az=70.7*
IDC **19** *22:21:29.9±1.7,34.27N×135.47E,h81km±16km,mb3.6/6, mb1 3.8/9,mb1mx3.6/23,mbtmp4.0/9,Error ellipse: s-maj=18.0km s-min=14.1km az=170.0*

ISC 19 22:21:22.0±0.5,3418N±0.003×13512E±0.003,h3km±4km,n25, σ0§98/35,mb3.8/7,7D,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAJ2	**Tsuna**	**0.31**	**321**	⇓P	**Pg**	**22 21 27.9**	**0.0**
JAJ2				S	**Sg**	**22 21 32.1**	**+0.2**
JWM	**Minabe**	**0.38**	**149**	⇓P	**Pg**	**22 21 29.5**	**+0.1**
JWM				S	**Sg**	**22 21 34.9**	**+0.5**
JWY	**Kouya**	**0.40**	**84**	⇓P	**Pg**	**22 21 29.1**	**-0.5**
JWY				S	**Sg**	**22 21 35.0**	**+0.2**
JHE	**Heguri**	**0.67**	**45**	⇓P	**Pg**	**22 21 34.4**	**-0.4**
JHE				S	**Sg**	**22 21 43.2**	**-0.2**
JAI	**Aioi**	**0.68**	**235**	⇓P	**Pg**	**22 21 34.5**	**-0.5**
JAI				*e*S	**Sg**	**22 21 43.7**	**-0.1**
JWZ	**Kozaga**	**0.82**	**142**	⇓P	**Pg**	**22 21 37.4**	**-0.3**
JWZ				S	**Sg**	**22 21 48.6**	**+0.3**
JKS	**Kasai**	**0.83**	**344**	⇓P	**Pg**	**22 21 37.4**	**-0.6**
JKS				S	**Sg**	**22 21 48.5**	**-0.3**
MAJO	**Matsushiro**	**3.45**	**46**	*e*P	**Pn**	**22 22 15.9**	**-0.9**
MAT	**Matsushiro**	**3.45**	**46**	P	**Pn**	**22 22 17.2**	**+0.4**
MAT				S	**Sn**	**22 22 59.4**	**+1.2**
MAT	**Matsushiro**	**3.45**	**46**	P	**Pn**	**22 22 17.0**	**+0.2**
MAT				S	**Sb**	**22 23 09.0**	**+2.8**
MJAR	**Matsushiro Arr**	**3.45**	**46**	P	**Pn**	**22 22 19.3**	**+2.5**
	baz=243,slow=13,SNR=1.7						
JNU	**Nakatsue**	**3.69**	**255**	P	**Pb**	**22 22 29.8**	**+1.8**
	15nm,0.3s,baz=66,slow=13,SNR=17						
JNU				S	**Sb**	**22 23 15.2**	**+2.1**
	6.1nm,0.3s,baz=72,slow=20,SNR=2.1						
JHJ	**Hachijo jima 2**	**4.03**	**104**	P	**Pn**	**22 22 24.3**	**-0.4**
	baz=348,slow=9.3,SNR=1.9						
KS15	**Wonju Array Si**	**6.72**	**301**	*e*Pn	**Pn**	**22 23 02.5**	**+0.9**
ULN	**Ulaanbaatar**	**25.04**	**312**	*e*P	**P**	**22 26 47.3**	**-0.1**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
ULN	**Ulaanbaatar**	**25.04**	**312**	*e*P	**P**	**22 26 47.3**	**-0.1**
	comp=Z,3.2nm,0.8s,mb3.9						
SONM	**Songino Array**	**25.44**	**311**	P	**P**	**22 26 50.6**	**-0.5**
	comp=Z,2.4nm,0.9s,mb3.7,baz=120,slow=9.4,SNR=12						
MKAR	**Makanchi Array**	**41.37**	**304**	P	**P**	**22 29 09.0**	**-0.4**
	comp=Z,0.9nm,0.8s,mb3.5,baz=97,slow=9.9,SNR=4.4						
WRA	**Warramunga Arr**	**53.83**	**181**	P	**P**	**22 30 44.5**	**-1.6**
	comp=Z,3.1nm,0.8s,mb4.3,baz=358,slow=7.7,SNR=8.7						
ASAR	**Alice Springs**	**57.54**	**181**	P	**P**	**22 31 12.6**	**-0.3**
	comp=Z,0.4nm,0.5s,mb3.7,baz=7.5,slow=12,SNR=5.7						
ARCES	**ARCESS Array B**	**64.81**	**339**	P	**P**	**22 32 00.2**	**-1.9**
	comp=Z,1.3nm,0.8s,mb4.0,baz=46,slow=8.7,SNR=3.9						
MOS	**Moscow**	**66.42**	**322**	*e*P	**P**	**22 32 12.5**	**-0.1**
FINES	**FINESS Array B**	**68.87**	**331**	P	**P**	**22 32 26.5**	**-1.5**
	comp=Z,1.1nm,0.8s,mb3.8,baz=112,slow=2.1,SNR=4.1						
FINES	**FINESS Array B**	**68.87**	**331**	P	**P**	**22 32 26.5**	**-1.6**
FINES	**FINESS Array B**	**68.87**	**331**	P	**P**	**22 32 26.5**	**-1.5**

ISCJB **19** *22:52:03.6±0.3,34.60N±0.003×25.71E±0.004,h33km,mb3.5/5, Error ellipse: s-maj=4.5km s-min=3.4km az=131.2*
THE **19** *22:52:04.5,34.71N×25.91E,h4km*
CSEM **19** *22:52:04.0±0.1,34.57N×25.80E,h30km,MD3.8,Error ellipse: s-maj=1.9km s-min=1.4km az=41.0*
IDC **19** *22:52:05.9±1.4,34.90N×25.92E,h53km±13km,mb3.5/5, mb1 3.6/9,mb1mx3.4/24,mbtmp3.7/9,ML3.8/4,Error ellipse: s-maj=22.0km s-min=13.9km az=16.0*
ATH **19** *22:52:06.4,34.82N×25.63E,h31km±1km,MD3.8/13*
NEIC **19** *22:52:06.4,34.82N×25.63E,h31km,MD3.8(ATH),After ATH.*
HLW **19** *22:52:09.3,34.43N×26.05E,h33km,Mb3.5*

ISC 19 22:52:05.1±0.6,3466N±0.003×2574E±0.003,h25km±6km,n61, σ1§31/74,mb3.6/5,2C-6D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.21**	**351**	*e*PB	**Pb**	**22 52 11.5**	**+0.6**
LAST	**Lasithi**	**0.54**	**337**	*e*Pg	**Pb**	**22 52 15.8**	**-0.2**
LAST				*e*Sg	**Sb**	**22 52 24.9**	**+1.5**
NPS	**Neapolis**	**0.61**	**350**	*e*PB	**Pb**	**22 52 16.4**	**-0.7**
SIVA	**Sivas**	**0.84**	**295**	*e*Pg	**Pb**	**22 52 22.2**	**+1.1**
SIVA				*e*Sg	**Sb**	**22 52 36.3**	**+4.4**
IDI	**Anoyia**	**0.93**	**312**	P	**Pn**	**22 52 22.8**	**+0.1**
	117nm,0.3s,baz=139,slow=16,SNR=657						
IDI				S	**Sb**	**22 52 35.9**	**+1.3**
	148nm,0.3s,baz=3.6,slow=19,SNR=16						
GVD	**Gavdhos**	**1.37**	**278**	*e*Pg	**Pn**	**22 52 30.4**	**+1.8**
GVD				*e*Sg	**Sn**	**22 52 52.0**	**+6.0**
GVD	**Gavdhos**	**1.37**	**278**	*e*PN	**Pn**	**22 52 30.0**	**+1.4**
KARP	**Karpathos**	**1.46**	**53**	*e*PN	**Pn**	**22 52 32.6**	**+2.7**
VAM	**Vamos**	**1.46**	**301**	*e*PN	**Pn**	**22 52 31.6**	**+1.7**
KARN	**Karanos**	**1.67**	**297**	*e*Pb	**Pb**	**22 52 34.5**	**-0.6**
KARN				*e*Sb	**Sb**	**22 52 57.0**	**+1.4**
THR1	**Thera Island**	**1.72**	**353**	*e*Pb	**Pb**	**22 52 33.4**	**-2.6**
THR1				*e*Sb	**Sb**	**22 52 55.8**	**-1.4**
SANT	**Santorini**	**1.72**	**353**	*e*Pb	**Pb**	**22 52 33.6**	**-2.4**
SANT	**Santorini**	**1.72**	**353**	*e*Pn	**Pn**	**22 52 33.0**	**-0.5**
SANT				*e*Sn	**Sn**	**22 52 49.6**	**-5.0**
SANT	**Santorini**	**1.72**	**353**	*e*Pn	**Pn**	**22 52 33.0**	**-0.5**
SANT	**Santorini**	**1.72**	**353**	*e*Pb	**Pb**	**22 52 33.6**	**-2.4**
SANT				*e*Sn	**Sn**	**22 52 49.6**	**-5.0**
THR3	**Thira Island,**	**1.76**	**351**	*e*Pb	**Pb**	**22 52 34.0**	**-2.8**
NISR	**Nisiros**	**2.25**	**30**	*e*PB	**Pb**	**22 52 43.0**	**-2.1**
APE	**Apeiranthos**	**2.41**	**356**	*e*PN	**Pn**	**22 52 43.1**	**+0.2**
APE	**Apeiranthos**	**2.41**	**356**	*e*Pn	**Pn**	**22 52 42.9**	**0.0**
APE	**Apeiranthos**	**2.41**	**356**	*e*Pn	**Pn**	**22 52 43.0**	**+0.1**
ARG	**Arkhangelos**	**2.49**	**51**	*e*PN	**Pn**	**22 52 46.5**	**+2.4**
DAT	**Datca**	**2.55**	**35**	*e*PN	**Pn**	**22 52 45.1**	**+0.3**
BODT	**Bodrum**	**2.71**	**28**	*e*PN	**Pn**	**22 52 48.5**	**+1.4**
KYTH	**Kithira**	**2.73**	**307**	*e*PN	**Pn**	**22 52 48.0**	**+0.6**
VLI	**Veliai**	**3.07**	**313**	*e*PN	**Pn**	**22 52 52.0**	**0.0**
DALT	**Dalyan (Mudla)**	**3.16**	**47**	*e*PN	**Pn**	**22 52 53.9**	**+0.6**
SMG	**Samos**	**3.17**	**16**	*e*PN	**Pn**	**22 52 55.1**	**+1.7**
SLUM		**3.19**	**188**	⇓P	**Pn**	**22 52 54.6**	**+0.9**
SLUM				S	**Sn**	**22 53 27.4**	**-3.6**
YER	**Yerkesik**	**3.22**	**39**	*i* PN	**Pn**	**22 52 55.6**	**+1.5**
FETY	**Fethiye**	**3.36**	**53**	*e*PN	**Pn**	**22 52 56.5**	**+0.4**
PTL	**Penteli**	**3.70**	**336**	*e*PN	**Pn**	**22 53 01.0**	**+0.3**
MGER	**Gerania Oros**	**3.87**	**330**	*e*PN	**Pn**	**22 53 03.5**	**+0.4**
ELL	**Elmali**	**3.98**	**57**	*e*PN	**Pn**	**22 53 06.3**	**+1.7**
XOR	**Xorichti**	**5.12**	**337**	*e*Pn	**Pn**	**22 53 20.7**	**+0.6**
AGG	**Agios Georgios**	**5.14**	**329**	*e*Pn	**Pn**	**22 53 21.6**	**+1.2**
SWA1		**5.38**	**180**	⇓P	**Pn**	**22 53 24.7**	**+0.8**
SWA1				S	**Sn**	**22 54 19.3**	**-5.7**
SWA2		**5.41**	**183**	⇓P	**Pn**	**22 53 24.9**	**+0.7**
SWA2				S	**Sn**	**22 54 20.6**	**-5.0**
SWA2		**5.41**	**183**	P	**Pn**	**22 53 24.9**	**+0.7**
SWA2				S	**Sn**	**22 54 20.6**	**-5.0**
HSAF	**As Saff**	**7.04**	**134**	⇓P	**Pn**	**22 53 46.0**	**-0.6**
AMAG	**Maghara**	**7.47**	**120**	⇓P	**Pn**	**22 53 51.7**	**-0.7**
HFRF	**Wahat Farafira**	**7.81**	**163**	⇑P	**Pn**	**22 53 57.1**	**0.0**
BRTR	**Keskin Array B**	**8.08**	**49**	P	**Pn**	**22 54 01.7**	**+0.8**
	0.0nm,0.3s,baz=238,slow=16,SNR=2.8						
MMAI	**Mount Meron Ar**	**8.21**	**99**	P	**Pn**	**22 54 01.4**	**-1.2**
	2.0nm,0.3s,baz=292,slow=11,SNR=23						
MMAI				S	**Sn**	**22 55 31.4**	**-3.1**
	1.8nm,0.3s,baz=284,slow=24,SNR=5.7						
SOI	**Samo**	**8.52**	**296**	Pn	**Pn**	**22 54 06.2**	**-0.6**
	5.5nm,0.2s						
CEL	**Celeste**	**8.70**	**297**	Pn	**Pn**	**22 54 08.9**	**-0.5**
	11nm,0.6s						
MTTG	**Motta San Giov**	**8.76**	**295**	Pn	**Pn**	**22 54 09.6**	**-0.6**
	12nm,0.4s						
AGST	**Augusta-Monte**	**8.90**	**290**	Pn	**Pn**	**22 54 10.2**	**-2.0**
	32nm,0.3s						
HAVL	**Avola**	**8.92**	**288**	Pn	**Pn**	**22 54 11.1**	**-1.3**
	76nm,0.2s						
SSY	**Sortino**	**9.00**	**289**	Pn	**Pn**	**22 54 11.7**	**-1.8**
	49nm,0.5s						
HMDC	**Modica**	**9.19**	**288**	Pn	**Pn**	**22 54 15.0**	**-1.0**
	63nm,0.3s						
HVZN	**Vizzini**	**9.29**	**289**	Pn	**Pn**	**22 54 16.3**	**-1.1**
	89nm,0.7s						
VAE	**Valguarnera**	**9.59**	**290**	P	**Pn**	**22 54 22.3**	**+0.8**
	2.4nm,0.3s,baz=85,slow=14,SNR=12						
HDK1	**Dakhla**	**9.63**	**160**	⇑P	**Pn**	**22 54 22.4**	**+0.4**
GTR	**Jabal at Tayr**	**10.03**	**154**	⇓P	**Pn**	**22 54 27.7**	**+0.1**
AKASG	**Malin Array Be**	**16.23**	**8**	P	**Pn**	**22 55 48.2**	**-3.2**
	0.6nm,0.3s,baz=202,slow=11,SNR=5.8						
GERES	**GERESS Array B**	**16.75**	**331**	P	**Pn**	**22 55 54.6**	**-3.4**
	0.1nm,0.3s,baz=149,slow=12,SNR=4.0						
HFS	**Hagfors**	**26.67**	**347**	P	**P**	**22 57 36.3**	**-5.6**
	0.7nm,0.7s,mb3.3,baz=168,slow=11,SNR=3.0						
FINES	**FINESS Array B**	**26.80**	**0**	P	**P**	**22 57 38.0**	**-5.2**
	0.4nm,0.4s,mb3.3,baz=169,slow=9.2,SNR=5.7						
EKA	**Eskdalemuir Ar**	**28.72**	**325**	P	**P**	**22 57 57.9**	**-2.4**
	0.8nm,0.8s,mb3.5,baz=129,slow=10,SNR=2.4						
TORD	**Torodi Ar. Bea**	**30.54**	**231**	P	**P**	**22 58 16.7**	**+0.3**
	0.8nm,0.5s,mb3.8,baz=33,slow=8.8,SNR=26						
ARCES	**ARCESS Array B**	**34.93**	**360**	P	**P**	**22 58 51.0**	**-3.8**
	1.3nm,0.7s,mb4.0,baz=171,slow=9.6,SNR=7.4						

BJI **19** *22:54:36.4,57.39N×121.07E,h7km,mB4.6,mb4.4,ML5.1, Ms4.8,Msz4.1*
BYKL **19** *22:54:37.9±0.3,57.45N×120.87E,h2km±14km, #FAULT_PLANE Typ Strike Dip Rake NP NS Plane Author # FM 24.00 6.00 -136.00 18 0 IEC + 260.00 60.00 -53.00 IEC #PRINAX sc T_val T_azim T_pl B_val B_azim B_pl P_val P_azim P_pl Author + eTv eTa eTp eBv eBa eBp ePv ePa ePp fCLVD # 325.00 8.00 60.00 31.00 222.00 58.00 IEC + 1.00 5.51 3.60 2.08 7.77 3.60 IEC*
ISCJB **19** *22:54:38.1±0.2,57.39N±0.003×120.68E±0.004,h10km, mb4.1/28,MS3.7/5,Error ellipse: s-maj=4.4km s-min=2.7km az=170.2*
MOS **19** *22:54:38.4±1.1,57.47N×120.63E,h10km,mb4.4/8,Error ellipse: s-maj=10.0km s-min=7.9km az=47.1*
IDC **19** *22:54:38.2±0.8,57.42N×120.70E,h0km,mb4.1/15, mb1 4.2/16,mb1mx4.1/25,mbtmp4.0/16,ML3.6/1,MS3.7/4, Ms1 3.7/4,ms1mx3.2/26,Error ellipse: s-maj=20.0km s-min=17.6km az=4.0*
NEIC **19** *22:54:39.8±0.5,57.38N×120.67E,h10km,mb4.2/8,Error ellipse: s-maj=12.1km s-min=8.1km az=134.0*

ISC 19 22:54:39.6±0.2,5740N±0.003×12073E±0.004,h10km,n112, σ1§25/144,mb4.1/28,MS3.7/5,8C-9D,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.63**	**221**	⇓*i*Pg	**Pg**	**22 54 51.1**	**-0.7**
KHNR				*e*Sg	**Sg**	**22 54 59.8**	**-0.3**
YKLR	**Yuktali**	**0.96**	**148**	*i* Pg	**Pg**	**22 54 56.1**	**-1.9**
YKLR				Pmax		22 54 57.7	
	3.0nm,0.2s						
YKLR				*e*Sg	**Sg**	**22 55 08.5**	**-1.9**
YKLR				*e*		22 55 14.6	
YKLR				max		22 55 15.5	
	10μm,0.1s						
CRS	**Chara**	**1.43**	**251**	⇓*i*Pg	**Pg**	**22 55 05.8**	**-1.3**
CRS				Pmax		22 55 06.3	
	9μm,0.9s						
CRS				*e*Sg	**Sg**	**22 55 24.9**	**-0.7**
CRS				Smax		22 55 26.0	
	6μm,1.1s						
CRS	**Chara**	**1.43**	**251**	*e*P	**Pn**	**22 55 05.6**	**0.0**
CRS				*e*		22 55 24.8	
CRS				pmax	pmax		
	comp=Z,9μm,0.9s						
CRS				smax			
	comp=E,5μm,0.9s						
NRGR	**Nerungri**	**2.31**	**107**	*e*P	**Pn**	**22 55 18.7**	**+1.1**
NRGR				S	**Sn**	**22 55 47.2**	**+1.1**
NRGR				smax			
	comp=N,249nm,0.1s						
CLNS	**Chul'man**	**2.34**	**102**	*e*Pg	**Pg**	**22 55 19.1**	**-5.3**
CLNS				Pmax		22 55 23.2	
	comp=N,681nm,0.1s						
CLNS				*e*Sg	**Sg**	**22 55 49.9**	**-4.9**
CLNS				Smax		22 55 51.7	
	comp=N,2μm,0.1s						
CLNS	**Chul'man**	**2.34**	**102**	*e*P	**Pn**	**22 55 18.5**	**+0.4**
CLNS				*e*S	**Sn**	**22 55 46.7**	**-0.2**
CLNS				pmax	pmax		
	comp=N,21nm,0.3s						
CLNS				pmax	pmax		
	comp=E,15nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,81nm,0.3s						
CLNS				smax			
	comp=N,237nm,0.3s						
CLNS				smax			
	comp=E,546nm,0.3s						
CLNS				smax			
	comp=Z,92nm,0.2s						
ALDR	**Aldan**	**2.77**	**62**	*e*Pn	**Pn**

KMO Smax 22 57 50.7
comp=Z,2μm,1.3s
KMO Kumora 5.47 258 *e*P **Pn** **22 56 02.2 +1.1**
KMO *e*S **Sn** **22 57 02.8 -1.3**
KMO pmax pmax
comp=Z,263nm,0.8s
KMO smax
comp=E,2μm,1.4s
YLYR Ulyunkhan 5.92 249⇓ *i*Pn **Pn** **22 56 08.5 +1.3**
YLYR *e*Pg **Pg** **22 56 25.3 -7.6**
YLYR Pmax 22 56 29.7
comp=E,150nm,1.0s
YLYR *e*Sg **Sg** **22 57 43.7 -5.8**
YLYR Smax 22 57 57.3
comp=E,1μm,2.1s
YLYR Ulyunkhan 5.92 249 *e*P **Pn** **22 56 08.6 +1.4**
YLYR pmax pmax
comp=Z,151nm,0.9s
TBGR Tabaga 6.33 42 *e*Pn **Pn** **22 56 11.6 -1.3**
TBGR *e*Sn **Sn** **22 57 19.7 -5.5**
TBGR *e*Sg **Sg** **22 57 49.5 -13**
NIZ Nizh Angarsk 6.39 260 *e*Pn **Pn** **22 56 15.1 +1.3**
NIZ *e* 22 56 35.5
NIZ max 22 56 41.7
comp=Z,129nm,1.5s
NIZ *e*Sg **Sg** **22 57 56.8 -8.0**
NIZ Smax 22 58 16.8
comp=Z,998nm,1.3s
NIZ Nizh Angarsk 6.39 260 *e*P **Pn** **22 56 16.5 +2.7**
NIZ pmax pmax
comp=Z,129nm,1.4s
YAK Yakutsk 6.48 41 Pg **Pg** **22 56 32.4 -11**
YAK *e*Sn **Sn** **22 57 24.2 -4.8**
YAK *e*Sg **Sg** **22 57 54.5 -13**
YAK Yakutsk 6.48 41 *e*P **Pn** **22 56 20.6 +5.6**
YAK *e* 22 57 25.7
YAK pmax pmax
comp=Z,3.0nm,0.8s
YAK pmax pmax
comp=N,5.0nm,1.4s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK smax
comp=N,113nm,1.3s
YAK smax
comp=Z,63nm,1.6s
YAK smax
comp=E,49nm,0.7s
YAK MLR MLR
comp=Z,176nm,9.0s
YAK MLR MLR
comp=N,1μm,10.0s
YAK MLR MLR
comp=E,1μm,10.0s
YAK Yakutsk 6.48 41 *e*Pn **Pn** **22 56 16.6 +1.6**
comp=E,94nm,0.6s
YAK *e*Sn **Sn** **22 57 41.3 +12**
CIT Chita 6.80 221 *e*Pn **Pn** **22 56 20.4 +1.0**
CIT *e*Pg **Pg** **22 56 41.7 -8.2**
CIT Pmax 22 56 43.0
comp=E,120nm,1.0s
CIT *e*Sg **Sg** **22 58 09.2 -8.8**
CIT Smax 22 58 20.9
comp=E,4μm,1.3s
SYVR Suvo 7.15 243 *e*Pn **Pn** **22 56 25.1 +0.9**
SYVR *e*Pg **Pg** **22 56 48.3 -8.2**
SYVR Pmax 22 56 51.8
comp=E,262nm,1.5s
SYVR *e*Sg **Sg** **22 58 21.2 -7.8**
SYVR Smax 22 58 30.3
comp=E,3μm,1.8s
MXMB Maximikha 7.99 244 *e*Pn **Pn** **22 56 36.8 +1.1**
MXMB *e*Pg Pn 22 57 02.9 +27
MXMB Pmax 22 57 09.0
comp=E,95nm,0.7s
MXMB *e*Sg Sn 22 58 48.4 +42
MXMB Smax 22 59 03.3
comp=E,2μm,1.1s
HIA Hailar 8.17 185⇑ *i*P **Pn** **22 56 34.9 -3.3**
HIA Hailar 8.17 185 *e*Pn **Pn** **22 56 34.9 -3.3**
comp=E,38nm,0.9s
HIA *e*Sn **Sn** **22 58 06.4 -4.2**
OGRR Ongureny 8.35 249 *e*Pn **Pn** **22 56 41.9 +1.3**
OGRR *e*Pg Pn 22 57 10.9 +30
OGRR Pmax 22 57 16.5
comp=E,60nm,1.8s
OGRR *e*Sg Sn 22 58 59.3 +44
OGRR Smax 22 59 09.1
comp=E,463nm,1.5s
TRTB Turuntaevo 9.16 241 *e*Pn **Pn** **22 56 53.1 +1.4**
TRTB *e*Pg Pn 22 57 24.2 +32
TRTB Pmax 22 57 29.8
comp=E,48nm,1.3s
TRTB *e*Sg Sn 22 59 23.0 +48
TRTB Smax 22 59 32.2
comp=E,1μm,1.4s
KPC Khapcheranga 9.17 216 *e*Pn **Pn** **22 56 51.0 -0.8**
KPC *e*Sg Sn 22 59 22.5 +47
KPC Smax 22 59 35.8
comp=E,1μm,1.2s
KPC Khapcheranga 9.17 216 *e*P **Pn** **22 56 52.4 +0.6**
KPC pmax pmax
comp=Z,14nm,0.4s
TRG Tyrgan 9.46 247 *e*Pn **Pn** **22 56 57.5 +1.6**
TRG *e*Pg Pn 22 57 30.8 +35
TRG Pmax 22 57 42.8
comp=Z,29nm,1.7s
TRG *e*Sg Sn 22 59 33.6 +51
TRG Smax 22 59 54.4
comp=Z,445nm,1.5s
FFNB Fofonovo 9.69 242 *e*Sg Sx 22 59 42.0
FFNB Smax 23 00 02.9
comp=Z,2μm,1.3s
KAB Kabansk 9.74 243 *e*Sg Sx 22 59 43.1
HRMR Khuramsha 9.87 240 *e*Pn **Pn** **22 57 02.5 +1.0**
HRMR *e*Pg Pn 22 57 36.7 +35
HRMR Pmax 22 57 41.6
comp=Z,70nm,1.5s
HRMR *e*Sg Sn 22 59 45.3 +53
HRMR Smax 22 59 55.5
comp=Z,3μm,1.8s
KLR Kul'dur 10.50 137 *e*P **Pn** **22 57 05.3 -4.8**
KLR MLR MLR
comp=Z,1μm,7.0s
LSTR Listvyanka 10.74 246 *e*Pn **Pn** **22 57 14.7 +1.3**
LSTR *e*Pg Pn 22 57 53.4 +40
LSTR Pmax 22 57 57.8
comp=Z,14nm,1.0s
LSTR *e*Sg Sn 23 00 11.5 +58
LSTR Smax 23 00 54.5
comp=Z,282nm,1.7s
TLY Talaya 11.44 247 *e*Sg Sx 23 00 35.0
TLY Smax
comp=Z,159nm,1.3s
TLY Talaya 11.44 247 P **Pn** **22 57 25.4 +2.4**
TLY pmax pmax
comp=Z,5.0nm,0.6s
TLY Talaya 11.44 247 Pn **Pn** **22 57 25.4 +2.4**
comp=Z,4.8nm,0.6s
ARS Arshan 11.92 250 *e*Sg Sx 23 00 49.3
ARS Smax 23 01 14.6
comp=Z,824nm,1.9s
ZAK Zakamensk 12.44 243 *e*P **Pn** **22 57 40.0 +3.4**
ZAK *e* 22 59 56.0
ZAK pmax pmax
comp=Z,40nm,1.7s
ZAK smax
comp=E,425nm,1.7s
ULN Ulaanbaatar 12.63 227 *e*P **Pn** **22 57 40.8 +1.5**
ULN pmax pmax
comp=Z,2.0nm,0.6s
ULN Ulaanbaatar 12.63 227 *e*Pn **Pn** **22 57 40.8 +1.6**
comp=Z,2.5nm,0.6s
MOY Mondy 12.79 252 *e*Pn **Pn** **22 57 43.4 +1.9**
MOY max 22 57 44.6
comp=Z,30nm,2.1s
MOY *e*Sg 23 01 16.8
MOY Smax 23 01 45.1
comp=Z,441nm,2.2s
MOY Mondy 12.79 252 *e*P **Pn** **22 57 40.4 -1.1**
MOY pmax pmax
comp=Z,17nm,1.2s
SONM Songino Array 12.92 228 Pn **Pn** **22 57 43.9 +0.8**
comp=Z,0.3nm,0.3s,baz=35,slow=14,SNR=11
SONM Lg 23 01 22.7
comp=Z,3.7nm,0.3s,baz=51,slow=22,SNR=17
ORL Orlik 12.94 257 *e*Pn **Pn** **22 57 44.1 +0.6**
ORL max 22 58 28.2
comp=Z,20nm,1.9s
ORL *e*Sg 23 01 21.5
ORL Smax 23 01 36.8
comp=Z,241nm,1.4s
TIXI Tiksi 14.70 10*d* *i*P **Pn** **22 58 00.9 -6.6**
TIXI pmax pmax
comp=Z,7.0nm,0.7s
KRAR Krasnoyarsk 15.32 277⇑ *i*P **Pn** **22 58 15.7 -0.1**
KRAR pmax pmax
comp=Z,25nm,0.5s
VLA Vladivostok 15.95 149 *e*P **Pn** **22 58 18.9 -5.1**
VLA pmax pmax
comp=Z,2.0nm,0.6s
YSS Yuzh-Sakhalins 17.00 119⇑ *i*P **Pn** **22 58 30.2 -7.2**
YSS pmax pmax
comp=Z,16nm,1.2s
ASAJ Asahikawa 19.07 125 LR LR 23 07 12.0
comp=Z,131nm,18.2s,baz=102,slow=40
NVS Novosibirsk 20.88 279 *e*P **P** **22 59 19.0 -2.8**
NVS *e*S **S** **23 03 03.8 -11**
NVS pmax pmax
comp=N,16nm,1.2s
NVS pmax pmax
comp=E,24nm,1.2s
NVS pmax pmax
comp=Z,20nm,1.2s
NVS smax
comp=N,31nm,1.6s
PET Petropavlovsk 21.87 85⇓ *i*P **P** **22 59 35.0 +2.5**
PET pmax pmax
comp=Z,28nm,1.3s,mb4.5
PET MLR MLR
comp=Z,100nm,21.0s,MS3.2
GTA Gaotai 22.57 226 *e*P **P** **22 59 41.8 +1.9**
GTA AP 22 59 46.6
GTA XP sP 22 59 49.5 +5.4
GTA S **S** **23 03 43.1 -4.5**
GTA AMB AMB
comp=Z,3.0nm,1.1s,mb3.6
GTA AMB AMB
comp=Z,158nm,7.2s
GTA LR LR
comp=N,959nm,11.4s,MS4.7
GTA LR LR
comp=E,1μm,12.6s,MS4.7
GTA LR LR
comp=Z,275nm,12.9s,MS3.9
BILL Bilibino 22.83 44 *e*P **P** **22 59 43.5 +0.8**
BILL pmax pmax
comp=Z,4.0nm,0.7s,mb4.0
BILL Bilibino 22.83 44 *e*P **P** **22 59 43.5 +0.9**
comp=Z,4.2nm,0.7s,mb4.0
MJAR Matsushiro Arr 23.90 143 LR LR 23 08 04.5
comp=Z,206nm,18.9s,MS3.6,baz=330,slow=34
KURK Kurchatov 25.27 273 *e*P **P** **23 00 05.2 -0.7**
KURK pmax pmax
comp=Z,5.0nm,0.8s,mb4.1
KURK Kurchatov 25.27 273 *e*P **P** **23 00 05.2 -0.7**
comp=Z,5.0nm,0.8s,mb4.1
MKAR Makanchi Array 25.55 262 P **P** **23 00 07.4 -1.0**
comp=Z,1.2nm,0.6s,mb3.6,baz=63,slow=10,SNR=17
MKAR Makanchi Array 25.55 262 *i* P **P** **23 00 08.3 -0.1**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
CHKZ Chkalovo 28.07 284 *e*P **P** **23 00 30.2 -1.0**
CHKZ pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
CHKZ Chkalovo 28.07 284 *e*P **P** **23 00 30.2 -1.1**
comp=Z,8.0nm,0.9s,mb4.3
ZRNK Zerenda 29.27 284 *e*P **P** **23 00 41.3 -0.6**
ZRNK pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
ZRNK Zerenda 29.27 284 *e*P **P** **23 00 41.2 -0.6**
comp=Z,3.1nm,0.9s,mb4.0
FX1 Attu Island--F 29.68 76 LR LR 23 12 40.5
comp=Z,4.8nm,18.4s,baz=305,slow=36
AAK Ala-Archa 32.46 263⇑ *i*P **P** **23 01 09.5 -0.5**
AAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
AAK Ala-Archa 32.46 263 *e*P **P** **23 01 09.1 -1.0**
comp=Z,1.9nm,0.6s,mb4.1
ARU Arti 32.91 295 *e*P **P** **23 01 12.4 -1.5**
ARU pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
ARU Arti 32.91 295 *e*P **P** **23 01 12.4 -1.6**
comp=Z,1.8nm,0.6s,mb4.2
AKTK Aktyubinsk 36.38 287 P **P** **23 01 44.8 +0.8**
AKTO Aktyubinsk 36.38 287 P **P** **23 01 44.8 +0.8**
comp=Z,0.9nm,0.4s,mb4.0,baz=79,slow=12,SNR=5.6
KEV Kevo 39.11 327 *ep* **P** **23 02 05.8 -1.2**
comp=Z,2.0nm,0.5s,mb4.1
KEV Kevo 39.11 327 *e*P **P** **23 02 05.8 -1.2**
KEV pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
KLMR Klimovskoe 39.32 310 *e*P **P** **23 02 08.2 -0.5**
KLMR pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
ARCES ARCESS Array B 39.67 327 P **P** **23 02 10.5 -1.2**
comp=Z,1.2nm,0.5s,mb3.9,baz=60,slow=11,SNR=13
ARCES ARCESS Array B 39.67 327 P **P** **23 02 10.5 -1.2**
JOF Joensuu 41.40 316 *ep* **P** **23 02 25.2 -0.8**
comp=Z,2.9nm,0.5s,mb4.2
JOF Joensuu 41.40 316 *e*P **P** **23 02 25.2 -0.8**
JOF pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
ILAR Eielson Array 41.41 40 P **P** **23 02 25.6 -0.4**
comp=Z,1.4nm,0.5s,mb3.9,baz=293,slow=4.5,SNR=14
KDAK Kodiak Island 43.39 51 P **P** **23 02 42.4 +0.2**
comp=Z,3.8nm,0.8s,mb4.2,baz=260,slow=17,SNR=3.0
INK Inuvik 43.46 31 P **P** **23 02 44.9 +2.2**
comp=Z,0.8nm,0.7s,mb3.5,baz=325,slow=6.9,SNR=3.4
FINES FINESS Array B 44.25 317 P **P** **23 02 48.2 -1.0**
comp=Z,2.3nm,0.7s,mb4.0,baz=52,slow=8.9,SNR=21
FINES FINESS Array B 44.25 317 P **P** **23 02 48.1 -1.0**
JMIC Jan Mayen 46.99 340 LR LR 23 24 01.5
comp=Z,130nm,20.6s,MS3.9,baz=82,slow=38
HFS Hagfors 49.57 321 P **P** **23 03 29.9 -0.9**
comp=Z,8.7nm,0.5s,mb5.0,baz=64,slow=6.8,SNR=59
NB2 NORSAR Subarra 49.72 323 P **P** **23 03 30.9 -1.0**
comp=Z,3.3nm,0.5s,mb4.6,baz=40,slow=7.4
NOA NORSAR Array B 49.72 323 P **P** **23 03 31.1 -0.8**
comp=Z,2.8nm,0.5s,mb4.6,baz=43,slow=7.9,SNR=17
NAO01 NORSAR Array S 49.98 323 *e*P **P** **23 03 33.5 -0.3**
comp=Z,3.4nm,0.6s,mb4.5
AKASG Malin Array Be 50.22 304 P **P** **23 03 34.7 -1.0**
comp=Z,2.7nm,0.4s,mb4.6,baz=40,slow=8.5,SNR=19
AKASG Malin Array Be 50.22 304 P **P** **23 03 34.7 -1.0**
YKA Yellowknife A 53.01 29 LR LR 23 27 42.7
comp=Z,65nm,19.5s,MS3.7,baz=330,slow=37
DRGR 56.01 305⇓ *i*P **P** **23 04 21.8 +3.5**
BZS Buzias 57.40 305⇑ *i*P **P** **23 04 27.1 -1.1**
GERES GERESS Array B 58.23 312 P **P** **23 04 33.6 -0.4**
comp=Z,0.4nm,0.6s,mb3.6,baz=44,slow=8.3,SNR=5.8
EKA Eskdalemuir Ar 58.83 326 P **P** **23 04 39.4 +1.1**
comp=Z,1.2nm,0.6s,mb4.1,baz=33,slow=6.4,SNR=8.5
PDAR Pinedale Array 71.69 37 P **P** **23 06 00.8 -0.8**
comp=Z,0.4nm,0.4s,mb3.7,baz=20,slow=6.2,SNR=3.5
WRA Warramunga Arr 77.88 167 P **P** **23 06 36.9 -0.6**
comp=Z,0.9nm,0.8s,mb3.7,baz=352,slow=6.7,SNR=6.9
ASAR Alice Springs 81.51 168 P **P** **23 06 58.5 +1.3**
comp=Z,0.3nm,0.6s,mb3.4,baz=349,slow=4.9,SNR=4.4
STKA Stephens Creek 90.66 162 *e*P **P** **23 07 37.6 -4.8**
TORD Torodi Ar. Bea 93.78 301 P **P** **23 07 55.8 -1.0**
comp=Z,0.3nm,0.7s,mb3.8,baz=12,slow=4.5,SNR=8.8

PRU ***19*** *23:01:50.6, 41.92N×35.24E, h0km, M4.6*
CSEM ***19*** *23:01:53.2, 42.63N×35.97E, h2km, mb4.5*
IDC ***19*** *23:01:54.7±0.5, 42.61N×35.85E, h0km, mb4.3/15, mb1 4.4/24, mb1mx4.4/28, mbtmp4.3/24, ML4.3/8, MS3.5/3, Ms1 3.5/3, ms1mx2.9/29, Error ellipse: s-maj=11.7km s-min=8.3km az=39.0*
ISCJB ***19*** *23:01:54.3±0.1, 42.62N×35.93E×002, h10km, mb4.5/60, Error ellipse: s-maj=1.9km s-min=1.9km az=44.1*
NEIC ***19*** *23:01:56.2±0.2, 42.65N×35.91E, h10km, mb4.6/43, Error ellipse: s-maj=4.5km s-min=3.2km az=13.0*
BJI ***19*** *23:01:56.1, 42.60N×35.90E, h10km, mb4.6*
ISK ***19*** *23:01:57.3, 42.56N×35.98E, h38km, ML4.5*
MOS ***19*** *23:01:57.2±1.5, 42.63N×35.87E, h33km, mb4.7/31, Error ellipse: s-maj=4.8km s-min=3.2km az=44.4*

ISC 19 23:01:56.3±0.8, 42.62N×0.01×35.91E±0.02, h11km±5km, n397, σ1°12/459, mb4.5/60, 28C-21D, Black Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOYT	**Boyabat**	**1.41**	**212**	*i* P	**Pn**	**23 02 21.5**	**-0.4**
BOYT				*i* S	**Sn**	**23 02 29.9**	**-11**
BYBT	**Boyabat**	**1.43**	**217**	*i* PN	**Pn**	**23 02 21.5**	**-0.6**
BYBT				*i* SN	**Sn**	**23 02 39.5**	**-1.4**
KVT	**Kavak**	**1.54**	**176**	*i* PN	**Pn**	**23 02 22.4**	**-1.3**
KVT				*i* SN	**Sn**	**23 02 39.5**	**-4.1**
BZK	**Bozkurt**	**1.56**	**246**	*i* PN	**Pn**	**23 02 24.4**	**+0.5**
TOS	**Tosya**	**2.12**	**222**	*i* PN	**Pn**	**23 02 32.4**	**+0.8**
CTKT	**Corum**	**2.16**	**203**	*i* P	**Pn**	**23 02 32.1**	**-0.1**
CTKT				*i* S	**Sn**	**23 02 58.4**	**-0.6**
BALT	**Daday**	**2.17**	**241**	*i* P	**Pn**	**23 02 33.1**	**+0.8**
BALT				*i* S	**Sn**	**23 03 01.5**	**+2.4**
YAL	**Yalta**	**2.26**	**326**⇑	*e*P	**Pn**	**23 02 35.5**	**+1.9**
YAL				S	**Sn**	**23 03 01.7**	**+0.3**
YAL				*i* S	**Sn**	**23 03 03.2**	**+1.8**
YAL				pmax	pmax		
	comp=Z,90nm,0.4s						
YAL				smax			
	comp=N,540nm,0.5s						
YAL				smax			
	comp=E,440nm,0.5s						
ALU	**Alushta**	**2.33**	**333**	*i* P	**Pn**	**23 02 36.6**	**+2.0**
ALU				*i* S	**Sn**	**23 03 05.5**	**+2.3**
ALU				pmax	pmax		
	comp=Z,570nm,0.5s						
ALU				smax			
	comp=N,2μm,0.5s						
ALU				smax			
	comp=E,3μm,0.5s						
SUDU	**Sudak**	**2.36**	**344**⇑	*i* P	**Pn**	**23 02 37.7**	**+2.7**
SUDU				*e*S	**Sn**	**23 03 07.7**	**+3.8**
SUDU				pmax	pmax		
	comp=Z,210nm,0.5s						
SUDU				smax			
	comp=N,3μm,0.5s						
SUDU				smax			
	comp=E,2μm,0.5s						
FEO	**Feodosiya**	**2.43**	**351**⇓	*e*P	**Pn**	**23 02 38.3**	**+2.4**
FEO				*i* S	**Sn**	**23 03 09.2**	**+3.7**
FEO				pmax	pmax		
	comp=Z,200nm,0.3s						
FEO				smax			
	comp=N,820nm,0.6s						
FEO				smax			
	comp=E,1μm,0.5s						
ANN	**Anapa**	**2.44**	**26**	*i* P	**Pn**	**23 02 37.1**	**+1.0**
ANN				*i* S	**Sn**	**23 03 06.1**	**+0.2**
ANN				pmax	pmax		
	comp=Z,133nm,1.4s						
ANN				MLR	MLR		
	comp=Z,50nm,3.0s						
ANN	**Anapa**	**2.44**	**26**	*i* P	**Pn**	**23 02 37.1**	**+1.0**
	comp=Z,133nm,1.4s						
ANN				*i* S	**Sn**	**23 03 06.1**	**+0.2**
	comp=Z,50nm,3.0s						
GRSN	**GIRESUNGRSN**	**2.44**	**133**	*i* P	**Pn**	**23 02 34.4**	**-1.7**
GRSN				*i* S	**Sn**	**23 02 55.7**	**-10**
SEV	**Sevastopol'**	**2.52**	**321**	*e*P	**Pn**	**23 02 37.7**	**+0.6**
SEV				*e*S	**Sn**	**23 03 08.3**	**+0.5**
SEV				pmax	pmax		
	comp=Z,50nm,0.5s						
SEV				smax			
	comp=N,450nm,0.6s						
SEV				smax			
	comp=E,460nm,0.6s						
SEV	**Sevastopol'**	**2.52**	**321**	*e*P	**Pn**	**23 02 37.7**	**+0.6**
	comp=E,50nm,0.5s						
SEV				*e*S	**Sn**	**23 03 08.3**	**+0.5**
CANT	**Cankiri**	**2.65**	**221**	*i* PN	**Pn**	**23 02 38.9**	**+0.1**
SIM	**Simferopol'**	**2.67**	**331**	*c*eP	**Pn**	**23 02 41.3**	**+2.2**
SIM				*e*S	**Sn**	**23 03 13.5**	**+2.1**
SIM				pmax	pmax		
	comp=Z,408nm,0.3s						
SIM				MLR	MLR		
	comp=Z,600nm,20.0s						
KERU	**Kerch**	**2.72**	**8**	*e*P	**Pn**	**23 02 42.0**	**+2.1**
SAFT	**Safranbolu**	**2.77**	**241**	*i* PN	**Pn**	**23 02 41.4**	**+0.8**
SVSK	**Karacayir**	**2.82**	**163**	*i* PN	**Pn**	**23 02 40.5**	**-0.8**
ELDT	**Eldivan**	**2.83**	**222**	*i* P	**Pn**	**23 02 41.7**	**+0.4**
ELDT				*i* S	**Sn**	**23 03 11.9**	**-3.5**
SOC	**Sochi**	**2.95**	**70***d*	*i*P	**Pn**	**23 02 42.8**	**-0.2**
SOC				*e*		23 03 17.1	
SOC				pmax	pmax		
	comp=Z,634nm,1.0s						
SOC				smax			
	comp=N,3μm,0.9s						
SOC				MLR	MLR		
	comp=Z,786nm,9.0s						
SOC	**Sochi**	**2.95**	**70**	*i* P	**Pn**	**23 02 42.8**	**-0.2**
	comp=Z,634nm,1.0s						
SOC				*e*S	**Sn**	**23 03 17.1**	**-1.3**
	comp=Z,786nm,9.0s						
SVST	**Sivas**	**2.95**	**164**	*i* P	**Pn**	**23 02 42.8**	**-0.3**
SVST				*i* S	**Sn**	**23 03 17.2**	**-1.3**
YOZ	**Yozgat**	**3.01**	**189**	*i* PN	**Pn**	**23 02 43.9**	**0.0**
CDAG	**Cicekdag**	**3.21**	**202**	*i* P	**Pn**	**23 02 46.5**	**-0.1**
CDAG				*i* S	**Sn**	**23 03 30.4**	**+5.6**
BR131	**Keskin Array S**	**3.36**	**211**⇑	*i*Pn	**Pn**	**23 02 48.3**	**-0.3**
BR131				*e*Sn	**Sn**	**23 03 28.9**	**+0.3**
BR131	**Keskin Array S**	**3.36**	**211**⇑	*i*Pn	**Pn**	**23 02 48.3**	**-0.4**
BR131				*e*Sn	**Sn**	**23 03 28.9**	**+0.4**
BRTR	**Keskin Array B**	**3.36**	**211**	Pn	**Pn**	**23 02 48.1**	**-0.5**
	comp=Z,15nm,0.3s,baz=31,slow=8.2,SNR=220						
BRTR				Sn	**Sn**	**23 03 28.8**	**+0.3**
	comp=Z,73nm,0.3s,baz=34,slow=22,SNR=16						
GUMT	**Gumushane**	**3.44**	**128**	*i* PN	**Pn**	**23 02 49.2**	**-0.6**
SGKT	**Sivrigoynuk**	**3.54**	**236**	*i* P	**Pn**	**23 02 51.9**	**+0.8**
SGKT				*i* S	**Sn**	**23 03 38.6**	**+5.6**
LOD	**Lodumlu**	**3.61**	**222**	*i* PN	**Pn**	**23 02 52.0**	**-0.2**
ANTO	**Ankara**	**3.62**	**222**	*i* PN	**Pn**	**23 02 51.9**	**-0.3**
ANTO	**Ankara**	**3.62**	**222**	⇓*i*P	**Pn**	**23 02 52.0**	**-0.2**
ANTO	**Ankara**	**3.62**	**222**	P	**Pn**	**23 02 52.7**	**+0.5**
ANTO	**Ankara**	**3.62**	**222**	P	**Pn**	**23 02 52.7**	**+0.5**
KAMT	**Kaman**	**3.65**	**208**	*i* PN	**Pn**	**23 02 52.6**	**0.0**
BNN	**Bunyan**	**3.76**	**181**	PN	**Pn**	**23 02 54.4**	**+0.2**
MDU	**Mudurnu**	**4.13**	**240**	PN	**Pn**	**23 02 59.5**	**+0.3**
HENT	**Hendek**	**4.16**	**246**	*i* P	**Pn**	**23 03 01.1**	**+1.4**
HENT				*i* S	**Sn**	**23 03 44.5**	**-3.7**
MYA	**Malataya**	**4.70**	**155**	PN	**Pn**	**23 03 05.6**	**-1.3**
MALT	**Malatya**	**4.71**	**155**	PN	**Pn**	**23 03 05.5**	**-1.7**
MALT	**Malatya**	**4.71**	**155**⇑	*i*P	**Pn**	**23 03 05.6**	**-1.6**
MALT	**Malatya**	**4.71**	**155**	P	**Pn**	**23 03 05.8**	**-1.4**
ARTV	**Artvin**	**4.71**	**106**	*i* P	**Pn**	**23 03 06.0**	**-1.3**
ARTV				*i* S	**Sn**	**23 03 57.4**	**-4.5**
ELZG	**Elazig**	**4.74**	**149**	*i* P	**Pn**	**23 03 06.9**	**-0.7**
ELZG				*i* S	**Sn**	**23 04 06.6**	**+4.2**
GPA	**Golpazari**	**4.81**	**243**	PN	**Pn**	**23 03 10.2**	**+1.6**
KIZT	**Kizilcal**	**4.83**	**221**	PN	**Pn**	**23 03 08.7**	**-0.2**
ESKT	**Eskisehir**	**4.92**	**233**	*i* P	**Pn**	**23 03 10.5**	**+0.4**
ESKT				*i* S	**Sn**	**23 04 07.9**	**+0.9**
SEYT	**Eskypehyr**	**4.92**	**233**	*i* P	**Pn**	**23 03 10.5**	**+0.4**
SEYT				*i* S	**Sn**	**23 04 07.9**	**+0.9**
EZM	**Erzurum**	**4.92**	**122**	PN	**Pn**	**23 03 10.2**	**0.0**
ERZM	**Erzurum**	**4.92**	**122**	*i* P	**Pn**	**23 03 10.3**	**+0.1**
ERZM				*i* S	**Sn**	**23 03 54.3**	**-13**
BORA	**Eskisehir**	**4.94**	**238**	*i* P	**Pn**	**23 03 10.1**	**-0.3**
BORA				*i* S	**Sn**	**23 04 07.7**	**+0.2**
HRT	**Hereke**	**5.00**	**251**	PN	**Pn**	**23 03 11.5**	**+0.2**
KIV	**Kislovodsk**	**5.12**	**73**⇓	*i*P	**Pn**	**23 03 13.3**	**+0.4**
KIV				pmax	pmax		
	comp=Z,310nm,0.6s						
KIV	**Kislovodsk**	**5.12**	**73**⇓	*i*P	**Pn**	**23 03 13.3**	**+0.4**
KIV				*e*		23 04 10.1	
KIV				pmax	pmax		
	comp=Z,310nm,0.6s						
KIV	**Kislovodsk**	**5.12**	**73**⇓	*i*Pn	**Pn**	**23 03 13.3**	**+0.4**
	comp=Z,310nm,0.6s						
KIV				*e*S	**Sn**	**23 04 10.1**	**-1.9**
KOZT	**Kozan**	**5.13**	**181**	PN	**Pn**	**23 03 13.6**	**+0.6**
ISK	**Istanbul-Kandi**	**5.35**	**255**	*e*PN	**Pn**	**23 03 15.5**	**-0.5**
KARA	**Karaisali**	**5.39**	**187**	*e*PN	**Pn**	**23 03 18.2**	**+1.6**
KONT	**Konya--Tatoy**	**5.40**	**211**	*e*PN	**Pn**	**23 03 17.5**	**+0.8**
BNGL	**BINGOL**	**5.41**	**131**	*i* P	**Pb**	**23 03 25.4**	**-5.3**
BNGL				*i* S	**Sb**	**23 04 33.7**	**-1.8**
GAZ	**Gaziantep**	**5.53**	**169**	*e*PN	**Pn**	**23 03 19.3**	**+0.8**
GOF	**Gofitskoye**	**5.70**	**62**⇑	*i*P	**Pn**	**23 03 21.3**	**+0.5**
GOF				*i*		23 03 29.9	
GOF				pmax	pmax		
	comp=Z,100nm,0.8s						

GOF Gofitskoye 5.70 62⇑ *i*P **Pn 23 03 21.3 +0.5**
GOF *i* S **Sn 23 04 26.6 +0.4**
GOF pmax pmax
comp=Z,100nm,0.8s
GOF smax
comp=N,600nm,1.3s
GOF smax
comp=E,400nm,1.3s
GOF Gofitskoye 5.70 62 *i*P **Pn 23 03 21.3 +0.5**
comp=E,100nm,0.8s
GOF *i* S **Sn 23 04 26.6 +0.4**
KARS Kars 5.75 108 *e*PN **Pn 23 03 22.0 +0.6**
PSN Preselentsi 5.75 283 *i*P **Pn 23 03 20.0 -1.5**
TIRR Tirgusor 5.75 291⇓ *i*Pn **Pn 23 03 19.6 -2.0**
TIRR *e*Sn **Sn 23 04 22.8 -4.7**
TIRR Tirgusor 5.75 291 *i*P **Pn 23 03 19.6 -1.9**
ELBA Catalca 5.77 258 *i*P **Pn 23 03 21.1 -0.7**
ELBA *i* S **Sn 23 04 23.9 -4.1**
CTT Catalca 5.77 258 *e*PN **Pn 23 03 21.3 -0.5**
AKH Akhalkalaki 5.78 100 P **Pn 23 03 22.4 +0.5**
MERS Mersin 5.84 191 *e*PN **Pn 23 03 25.4 +2.6**
ZEI Tsey 5.89 86 *e*P **Pn 23 03 24.7 +1.3**
ZEI pmax pmax
comp=Z,266nm,0.3s
ZEI Tsey 5.89 86 *e*P **Pn 23 03 24.7 +1.3**
ZEI *e* 23 04 29.6
ZEI pmax pmax
comp=Z,266nm,0.3s
ZEI smax
comp=N,415nm,0.6s
ZEI Tsey 5.89 86 *e*P **Pn 23 03 24.7 +1.3**
comp=N,266nm,0.3s
DRWC Darouich 6.02 174⇓ P **Pn 23 03 25.4 +0.2**
COBT Iskenderun 6.10 177 *i*P **Pn 23 03 25.9 -0.3**
GOR Gori 6.11 93 P **Pn 23 03 26.6 +0.1**
BTMT Batman 6.14 134 *e*PN **Pn 23 03 27.9 +1.1**
HARR Harsova 6.15 292⇓ *i*P **Pn 23 03 25.4 -1.6**
HARR Harsova 6.15 292 S **Sn 23 04 31.3 -5.9**
HARR Harsova 6.15 292⇓ P **Pn 23 03 25.4 -1.5**
CFR Carcaliu 6.17 297⇑ *i*P **Pn 23 03 25.6 -1.7**
CFR Carcaliu 6.17 297 S **Sn 23 04 32.8 -5.0**
CFR Carcaliu 6.17 297⇑ P **Pn 23 03 25.6 -1.6**
CFR Carcaliu 6.17 297 P **Pn 23 03 25.7 -1.6**
TKTP Tekketepe 6.26 225 *i*P **Pn 23 03 29.5 +1.0**
TKTP *i* S **Sn 23 04 38.9 -1.1**
PRD Provadia 6.28 278 *i*P **Pn 23 03 28.0 -0.7**
ISP Isparta 6.31 223 *e*P **Pn 23 03 30.9 +1.7**
ISP *e* 23 04 40.6
ISP pmax pmax
comp=Z,43nm,0.8s
ISP Isparta 6.31 223 *e*Pn **Pn 23 03 30.9 +1.7**
comp=Z,43nm,0.8s
ISP *e*Sn **Sn 23 04 40.6 -0.7**
ISP Isparta 6.31 223 *e*Pn **Pn 23 03 30.9 +1.7**
comp=Z,43nm,0.8s
ISP *e*Sn **Sn 23 04 40.6 -0.6**
BNT Bandirma 6.41 252 *e*PN **Pn 23 03 30.5 -0.1**
BTCH Batrach 6.59 176⇓ P **Pn 23 03 32.9 -0.1**
IKL Isikli 6.60 196 *e*PN **Pn 23 03 35.4 +2.2**
TBLG Delisi 6.62 95 P **Pn 23 03 34.3 +0.9**
TBLG Delisi 6.62 95 P **Pn 23 03 33.6 +0.1**
TBLG S **Sn 23 04 48.0 -0.9**
TBLG Delisi 6.62 95 P **Pn 23 03 33.6 +0.1**
TBLG S **Sn 23 04 48.0 -0.9**
MTA Mtatsminda 6.67 95 P **Pn 23 03 34.5 +0.4**
KIS Kishinev 6.68 313 *e*P **Pn 23 03 34.0 -0.3**
KIS *e*S **Sn 23 04 42.0 -8.3**
KIS smax
comp=N,1500µm,1.0s
KIS Kishinev 6.68 313 *e*P **Pn 23 03 34.0 -0.3**
comp=N,1500µm,1.0s
SAMG Sameba 6.68 95 P **Pn 23 03 34.4 +0.1**
EDRB Edirne 6.85 267 *e*PN **Pn 23 03 34.2 -2.4**
JMB Yambol 6.89 272 *i*P **Pn 23 03 36.0 -1.2**
SLNF Slenfeh 7.02 178⇓ P **Pn 23 03 39.1 +0.2**
GNI Garni 7.08 107 *e*PN **Pn 23 03 40.9 +1.0**
GNI Garni 7.08 107 Pn **Pn 23 03 41.5 +1.6**
comp=N,0.7nm,0.3s,baz=322,slow=1.7,SNR=14
GNI LR LR 23 07 14.3
comp=N,202nm,19.4s,baz=197,slow=45
GNI Garni 7.08 107*c* *i*P **Pn 23 03 41.0 +1.1**
GNI Garni 7.08 107*c* *i*P **Pn 23 03 41.0 +1.1**
GNI Garni 7.08 107 *i*P **Pn 23 03 41.0 +1.1**
WRDH Warideh 7.11 177⇓ P **Pn 23 03 40.3 +0.1**
DGRG David-gareji 7.14 96 P **Pn 23 03 42.7 +2.1**
DGRG S **Sn 23 05 10.5 +8.8**
VRI Vrincioaia 7.35 299⇓ *i*P **Pn 23 03 42.8 -0.7**
VRI Vrincioaia 7.35 299 S **Sn 23 05 03.9 -2.9**
VRI Vrincioaia 7.35 299 P **Pn 23 03 43.2 -0.3**
VRI Vrincioaia 7.35 299 P **Pn 23 03 43.2 -0.3**
SZH Strazhica 7.35 278 *i*P **Pn 23 03 42.6 -0.9**
PLDR Plostina 7.39 299⇑ *i*P **Pn 23 03 43.7 -0.4**
PLOR Plostina 7.39 299 S **Sn 23 05 05.8 -2.1**
KFRA Kufra 7.43 174⇓ P **Pn 23 03 44.7 +0.2**
ELL Elmali 7.47 220 *e*PN **Pn 23 03 45.7 +0.6**
IAS Iasi 7.48 311 P **Pn 23 03 45.2 -0.1**
BIDA Albida 7.60 177⇓ P **Pn 23 03 47.4 +0.5**
DIM Dimitrovgrad 7.71 269 *i*P **Pn 23 03 45.5 -2.9**
MLR Muntele Rosu 7.73 295 Pn **Pn 23 03 48.6 -0.1**
comp=N,3.8nm,0.3s,baz=121,slow=3.4,SNR=22
MLR Sn **Sn 23 05 14.2 -2.0**
comp=N,2.2nm,0.3s,baz=104,slow=20,SNR=3.1
MLR Muntele Rosu 7.73 295⇑ *i*P **Pn 23 03 48.3 -0.4**
MLR Muntele Rosu 7.73 295 S **Sn 23 05 14.2 -2.0**
MLR Muntele Rosu 7.73 295 P **Pn 23 03 48.5 -0.2**
MLR Muntele Rosu 7.73 295 P **Pn 23 03 48.5 -0.2**
EZN Ezine 7.74 252 *e*PN **Pn 23 03 48.8 -0.1**
ZIMR 7.78 281⇓ *i*P **Pn 23 03 47.7 -1.7**
ZIMR 7.78 281⇓ P **Pn 23 03 47.7 -1.7**
PVL Pavlikeni 7.79 278 *i*P **Pn 23 03 49.0 -0.5**
KDZ Kurdzhali 7.86 266 *i*P **Pn 23 03 49.0 -1.5**
CSS Prodhromos 7.91 196 *e*Pn **Pn 23 03 52.5 +1.4**
comp=N,22nm,0.8s
CSS Prodhromos 7.91 196 *e*Pn **Pn 23 03 52.5 +1.4**
comp=N,22nm,0.8s
FETY Fethiye 7.96 224 *e*PN **Pn 23 03 52.6 +0.7**
YER Yerkesik 8.02 229 *e*PN **Pn 23 03 53.9 +1.2**
MTUR Matau 8.25 292⇓ *i*P **Pn 23 03 54.9 -1.0**
VOIR 8.32 293⇑ *i*P **Pn 23 03 55.5 -1.3**
VOIR 8.32 293 S **Sn 23 05 27.0 -3.6**
VOIR 8.32 293⇑ P **Pn 23 03 55.5 -1.3**
PGB Panagyurishte 8.67 274 *i*P **Pn 23 04 01.2 -0.3**
VRSR Storozhevoye 8.89 13⇑ *i*P **Pn 23 04 04.6 0.0**
VRSR *e*S **Sn 23 05 37.3 -7.3**
VRSR pmax pmax
comp=Z,1.0nm,0.5s
VRSR pmax pmax
comp=N,2.0nm,0.8s
VRSR pmax pmax
comp=E,1.0nm,0.9s
VRSR smax
comp=N,10.0nm,1.7s
VRSR smax
comp=E,90nm,0.8s
VRSR smax
comp=Z,10.0nm,0.8s
VRSR MLR MLR
comp=Z,5.0nm,18.0s
VRSR MLR MLR
comp=N,7.0nm,21.0s
VRSR MLR MLR
comp=E,6.0nm,20.0s
VRSR Storozhevoye 8.89 13 *i*P **Pn 23 04 04.6 0.0**
comp=E,2.0nm,0.8s
BURAR Bucovina Array 9.06 307⇑ *i*P **Pn 23 04 05.7 -1.2**
BURAR Bucovina Array 9.06 307 S **Sn 23 05 43.5 -5.4**
BURAR Bucovina Array 9.06 307⇑ P **Pn 23 04 05.7 -1.2**
AKASG Malin Array Be 9.29 333 Pn **Pn 23 04 07.8 -2.4**
comp=E,12nm,0.3s,baz=149,slow=9.2,SNR=31
AKASG Sn **Sn 23 05 49.0 -5.7**
comp=E,8.1nm,0.3s,baz=152,slow=25,SNR=11
VRHR Novokhopersk 9.34 23 *e*P **Pn 23 04 11.2 +0.5**
VRHR *e*S **Sn 23 05 48.6 -7.1**
VRHR pmax pmax
comp=Z,30nm,0.5s
VRHR pmax pmax
comp=N,40nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR smax
comp=N,80nm,0.5s
VRHR smax
comp=Z,40nm,0.4s
VRHR smax
comp=E,310nm,1.1s
VRHR Novokhopersk 9.34 23 *e*P **Pn 23 04 11.2 +0.5**
comp=E,40nm,0.9s
VTS Vitosha 9.37 274 *i*P **Pn 23 04 10.5 -0.7**
VOR Voronezh 9.39 13 *e*P **Pn 23 04 10.5 -0.9**
VOR pmax pmax
comp=Z,70nm,1.0s
VOR Voronezh 9.39 13 *e*P **Pn 23 04 10.5 -0.9**
comp=Z,70nm,1.0s
MMAI Mount Meron Ar 9.60 183 Pn **Pn 23 04 15.3 +1.0**
comp=Z,8.9nm,0.3s,baz=357,slow=13,SNR=78
MMAI Sn **Sn 23 05 57.9 -4.2**
comp=Z,0.4nm,0.3s,baz=8.9,slow=20,SNR=2.8
DRGR 10.28 298 P **Pn 23 04 21.4 -2.3**
ASF Jabal al Asfar 10.46 175 Pn **Pn 23 04 27.1 +1.0**
comp=Z,0.2nm,0.3s,baz=282,slow=2.0,SNR=14
ASF LR LR 23 09 00.4
comp=Z,684nm,21.0s,baz=249,slow=41
BZS Buzias 10.71 291 P **Pn 23 04 28.2 -1.3**
LVV L'vov 10.93 315 *e*P **Pn 23 04 41.3 +8.8**
LVV *e*S **Sn 23 06 27.7 -7.0**
GRUS Gruza 11.16 282 *i*Pn **Pn 23 04 32.1 -3.6**
GRUS Sn **Sn 23 06 28.3 -12**
IDI Anoyia 11.27 233 LR LR 23 09 24.1
comp=Z,184nm,20.0s,baz=81,slow=40
KOLS Kolonicke sedl 11.42 308 *e*PN **Pn 23 04 38.6 -0.6**
KOLS Kolonicke sedl 11.42 308 *e*SN **Sn 23 06 40.8 -5.9**
KWP Kalwaria 11.53 312 *e*P **Pn 23 04 41.9 +1.2**
DIVS Divcibare 11.69 283 *i*Pn **Pn 23 04 40.6 -2.2**
DIVS Sn **Sn 23 06 43.0 -10**
CRVS Cervenica-Dubn 11.88 307 *e*PN **Pn 23 04 43.3 -2.2**
CRVS Cervenica-Dubn 11.88 307 *e*SN **Sn 23 06 54.0 -4.0**
STHS Stebnicka Huta 12.24 309 *e*PN **Pn 23 04 48.0 -2.5**
STHS Stebnicka Huta 12.24 309 *e*SN **Sn 23 06 59.7 -7.2**
STHS Stebnicka Huta 12.24 309 *e*Pn **Pn 23 04 48.1 -2.4**
KECS Kecovo 12.29 304 *e*PN **Pn 23 04 48.7 -2.5**
KECS Kecovo 12.29 304 *e*SN **Sn 23 07 00.7 -7.4**
PSZ Piszkesteto 12.46 301 *e*P **Pn 23 04 51.3 -2.2**
PSZ *e*PP 23 05 00.5
OBN Obninsk 12.51 2⇑ *e*P **Pn 23 04 53.9 -0.3**
OBN *e*S **Sn 23 07 14.6 +1.1**
OBN pmax pmax
comp=Z,20nm,1.5s
OBN Obninsk 12.51 2 *e*Pn **Pn 23 04 53.6 -0.6**
comp=Z,22nm,0.4s
OBN *e*Sn **Sn 23 07 08.9 -4.6**
OBN Obninsk 12.51 2 *e*P **Pn 23 04 53.9 -0.3**
comp=Z,20nm,1.5s
OBN *e*S **Sn 23 07 14.6 +1.1**
NIE Niedzica 12.78 307 *e*P **Pn 23 04 56.7 -1.2**
NIE *e*S **Sn 23 07 09.8 -10**
EIL Elat 12.95 184 *e*Pn **Pn 23 05 00.4 +0.3**
comp=Z,247nm,0.9s
EIL Elat 12.95 184 *e*Pn **Pn 23 05 00.4 +0.3**
comp=Z,247nm,0.9s
MOS Moscow 13.18 4 *e*P **Pn 23 04 56.9 -6.4**
MOS *e*SS 23 07 32.5
MOS Moscow 13.18 4 *e*S **Sn 23 07 32.5 +2.7**
OJC Ojcow 13.45 310 *e*P **Pn 23 05 05.1 -1.9**
OJC *e*S **Sn 23 07 24.3 -12**
SUW Suwalki 14.17 328 *e*P **Pn 23 05 16.5 -0.4**
SUW *e* 23 07 47.3
SUW pmax pmax
comp=Z,26nm,0.5s
SUW Suwalki 14.17 328 *e*Pn **Pn 23 05 16.5 -0.4**
comp=Z,26nm,0.5s
SUW *e*Sn **Sn 23 07 47.3 -6.8**
SUW Suwalki 14.17 328 *e*P **Pn 23 05 16.5 -0.4**
comp=Z,26nm,0.5s
MORC Moravsky Berou 14.57 306 *e*P **Pn 23 05 21.1 -1.2**
MORC pmax pmax
comp=Z,7.0nm,1.1s
MORC Moravsky Berou 14.57 306 *e*Pn **Pn 23 05 21.1 -1.3**
comp=Z,7.4nm,1.1s
MORC Moravsky Berou 14.57 306 *e*P **Pn 23 05 21.1 -1.2**
comp=Z,7.0nm,1.1s
VISS Visnje 15.44 289 *i*P **Pn 23 05 40.4 +6.5**
DPC Dobruska-Polom 15.52 307 *e*P **Pn 23 05 40.7 +5.7**
ORR Orenburg 15.63 48 *e*P **Pn 23 05 33.8 -2.6**
ORR pmax pmax
comp=Z,10.0nm,0.7s
ORR Orenburg 15.63 48 *e*P **Pn 23 05 33.8 -2.6**
comp=Z,10.0nm,0.7s
OBKA Obir 15.70 292⇑ *i*P **Pn 23 05 43.3 +5.9**
comp=Z,11nm,0.9s
UPC Upice 15.76 307 *e*P **Pn 23 05 48.7 +11**
MOA Molln 16.10 296⇑ *i*P **Pn 23 05 47.2 +4.7**
comp=Z,6.3nm,1.1s
PRU Pruhonice 16.47 304 *e*P **Pn 23 05 51.2 +4.0**
AQU L'Aquila 16.60 277 *e*P **Pn 23 05 49.4 +0.5**
AQU pmax pmax
comp=Z,19nm,0.8s
AQU L'Aquila 16.60 277 *e*Pn **Pn 23 05 49.4 +0.4**
comp=Z,19nm,0.8s
AQU L'Aquila 16.60 277 *e*P **Pn 23 05 49.4 +0.5**
comp=Z,19nm,0.8s
GERES GERESS Array B 16.68 300 Pn **Pn 23 05 49.0 -0.9**
comp=Z,0.1nm,0.3s,baz=96,slow=14,SNR=6.0
KHC Kasperske Hory 16.83 300 *e*P **Pn 23 06 00.0 +8.2**
KHC Kasperske Hory 16.83 300⇑ *e*P **Pn 23 05 55.9 +4.1**
VSU Vasula 16.87 343 *i*P **Pn 23 05 50.4 -1.9**
AKTK Aktyubinsk 17.06 55 P **Pn 23 05 52.4 -2.3**
AKTK S **Sn 23 08 47.5 -17**
AKTK Aktyubinsk 17.06 55 P **Pn 23 05 52.3 -2.4**
AKTO Aktyubinsk 17.06 55 P **Pn 23 05 52.4 -2.3**
comp=Z,1.3nm,0.3s,baz=258,slow=10,SNR=12
AKTO S **Sn 23 08 47.5 -17**
comp=Z,0.3nm,0.3s,baz=112,slow=19,SNR=3.2
BRG Berggiesshubel 17.12 306 *e*P 23 06 06.4
comp=Z,3.5nm,1.1s
WET Wettzell 17.28 300 *e*P **Pn 23 05 58.1 +0.7**
comp=Z,12nm,1.4s
WET Wettzell 17.28 300 *e*P **Pn 23 05 58.1 +0.7**
WET pmax pmax
comp=Z,12nm,1.4s
NKC Novy Kostel 17.83 303 *e*P **Pn 23 06 07.3 +3.1**
CLL Collm 17.83 307 *e*P **Pn 23 06 06.2 +1.9**
comp=Z,6.0nm,0.8s
CLL Collm 17.83 307⇑ *i*pP pP 23 06 06.1 -2.1
comp=Z,6.0nm,0.7s
CLL *i* sPP 23 06 19.8
CLL Collm 17.83 307⇑ *i*P **Pn 23 06 06.1 +1.8**
CLL pmax pmax
comp=Z,6.0nm,0.7s
ROTZ Rotzenmuhle 17.85 302 *e*P **Pn 23 06 06.9 +2.3**
comp=Z,21nm,2.1s
MOTA Moosalm 18.14 294⇓ *i*P **Pn 23 06 09.5 +1.4**
comp=Z,10nm,0.9s
MOTA Moosalm 18.14 294⇓ *i*P **Pn 23 06 09.5 +1.4**
MOTA pmax pmax
comp=Z,10.0nm,0.9s
KLMR Klimovskoe 18.39 6*c* *i*P **Pn 23 06 11.6 +0.4**
KLMR pmax pmax
comp=Z,100nm,2.0s
KLMR Klimovskoe 18.39 6 *i*P **Pn 23 06 11.6 +0.4**
comp=Z,100nm,2.0s
GRA1 Grafenberg Arr 18.45 301 *e*P **Pn 23 06 12.9 +0.9**
comp=Z,48nm,1.7s
GRF Grafenberg Arr 18.45 301 *e*P **Pn 23 06 12.9 +0.9**
comp=Z,48nm,1.7s
GRF Grafenberg Arr 18.45 301 *e*P **Pn 23 06 12.9 +0.9**
GRF pmax pmax
comp=Z,48nm,1.7s
GRF Grafenberg Arr 18.45 301 *e*P **Pn 23 06 12.9 +0.9**
GRF pmax pmax
comp=Z,48nm,1.7s
DAVOX Davos 18.93 292 P **Pn 23 06 18.8 +1.0**
comp=Z,1.2nm,0.3s,baz=79,slow=9.1,SNR=16
UBBA Unterbreizbach 19.49 304 *e*P **Pn 23 06 24.9 +0.5**
comp=Z,37nm,1.9s
CLZ Clausthal 19.55 307 *e*P **Pn 23 06 26.9 +1.7**
comp=Z,21nm,1.4s
CLZ Clausthal 19.55 307 *e*P **Pn 23 06 26.9 +1.7**
CLZ pmax pmax
comp=Z,21nm,1.4s
FINES FINESS Array B 19.76 346 P **Pn 23 06 25.2 -2.4**
comp=Z,4.0nm,0.3s,baz=153,slow=13,SNR=24
FINES S **Sn 23 09 52.5 -17**
comp=Z,2.0nm,0.3s,baz=154,slow=20,SNR=5.3
PGF Pioggiola 19.79 279 *e*P **Pn 23 06 27.5 -0.5**
comp=Z,91nm,1.4s
PGF Pioggiola 19.79 279 *e*P **Pn 23 06 27.5 -0.5**
PGF pmax pmax
comp=Z,45nm,1.4s
PGF Pioggiola 19.79 279 *e*P **Pn 23 06 27.5 -0.5**
comp=Z,46nm,1.4s
ARU Arti 20.05 39⇑ *i*P **P 23 06 27.9 -1.4**
ARU *e* 23 06 51.5
ARU *e*S **S 23 10 10.5 -4.0**
ARU *e*SS 23 10 30.3
ARU pmax pmax
comp=Z,13nm,0.8s
ARU Arti 20.05 39 *e*P **P 23 06 27.8 -1.5**
comp=Z,29nm,0.8s
ARU *e*S **S 23 10 11.0 -3.5**
ARU Arti 20.05 39 *i*P **P 23 06 27.9 -1.4**
comp=Z,13nm,0.8s
ARU *e*S **S 23 10 11.0 -3.5**
BFO Black Forest 20.11 296 *e*P **P 23 06 27.1 -2.8**
FELD Feldberg im Sc 20.28 295 *e*P **P 23 06 34.3 +2.5**
TNS Taunus Mts 20.32 301 *e*P **P 23 06 33.4 +1.1**
comp=Z,16nm,0.9s
TNS Taunus Mts 20.32 301 *e*P **P 23 06 33.4 +1.1**
TNS pmax pmax
comp=Z,16nm,0.9s
BSEG Bad Segeberg 20.33 313 *e*P **P 23 06 33.6 +1.2**
comp=Z,16nm,0.9s
BSEG Bad Segeberg 20.33 313 *e*P **P 23 06 33.6 +1.2**
BSEG pmax pmax
comp=Z,16nm,0.9s
LANF Langenberg 20.53 298 *e*P **P 23 06 35.5 +1.0**
SBF Sospel 20.74 283 *e*P **P 23 06 38.2 +1.3**
comp=Z,91nm,0.9s
SBF Sospel 20.74 283 *e*P **P 23 06 38.2 +1.3**
SBF pmax pmax
comp=Z,45nm,0.9s
SBF Sospel 20.74 283 *e*P **P 23 06 38.2 +1.3**
comp=Z,45nm,0.9s
CDF Champ du Feu 20.81 296 *e*P **P 23 06 37.7 +0.1**
ECH Echery 20.87 295 *e*P **P 23 06 43.7 +5.4**
LOMF Lomont 21.04 293 *e*P **P 23 06 46.2 +6.1**
HINF Hinteralfeld 21.05 294 *e*P **P 23 06 40.5 +0.3**
comp=Z,14nm,0.8s,mb4.0
HINF Hinteralfeld 21.05 294 *e*P **P 23 06 40.5 +0.3**
HINF pmax pmax
comp=Z,7.0nm,0.8s,mb4.0
HINF Hinteralfeld 21.05 294 *e*P **P 23 06 40.5 +0.3**
comp=Z,7.1nm,0.8s,mb4.0
LPG La Plagne 21.10 288 *e*P **P 23 06 42.6 +1.9**
comp=Z,24nm,0.8s,mb4.3
LPG La Plagne 21.10 288 *e*P **P 23 06 42.6 +1.9**
LPG pmax pmax
comp=Z,12nm,0.8s,mb4.3
LPG La Plagne 21.10 288 *e*P **P 23 06 42.6 +1.9**
comp=Z,12nm,0.8s,mb4.3
LPL La Plagne 21.11 288 *e*P **P 23 06 41.5 +0.6**
comp=Z,22nm,0.6s,mb4.4
LPL La Plagne 21.11 288 *e*P **P 23 06 41.5 +0.6**
LPL pmax pmax
comp=Z,11nm,0.6s,mb4.4
LPL La Plagne 21.11 288 *e*P **P 23 06 41.5 +0.6**
comp=Z,11nm,0.6s,mb4.4
MBDF Montbardon 21.14 286 *e*P **P 23 06 42.7 +1.6**
comp=Z,47nm,0.8s,mb4.6
MBDF Montbardon 21.14 286 *e*P **P 23 06 42.7 +1.6**
MBDF pmax pmax
comp=Z,23nm,0.8s,mb4.6
MBDF Montbardon 21.14 286 *e*P **P 23 06 42.7 +1.6**
comp=Z,24nm,0.8s,mb4.6
FRF La Foret Royal 21.35 283 *e*P **P 23 06 44.3 +0.9**
comp=Z,65nm,0.9s,mb4.7
FRF La Foret Royal 21.35 283 *e*P **P 23 06 44.3 +0.9**
FRF pmax pmax
comp=Z,33nm,0.9s,mb4.7
FRF La Foret Royal 21.35 283 *e*P **P 23 06 44.3 +0.9**
comp=Z,33nm,0.9s,mb4.7
HAU Haudompre 21.40 295 *e*P **P 23 06 44.3 +0.4**
LMR La Mourre 21.48 282 *e*P **P 23 06 45.6 +0.8**
comp=Z,28nm,1.0s,mb4.2
LMR La Mourre 21.48 282 *e*P **P 23 06 45.6 +0.8**
LMR pmax pmax
comp=Z,14nm,1.0s,mb4.2
LMR La Mourre 21.48 282 *e*P **P 23 06 45.6 +0.8**
comp=Z,14nm,1.0s,mb4.2
CABF La Chapelle 21.54 291 *e*P **P 23 06 45.7 +0.3**
comp=Z,67nm,0.7s,mb4.9
CABF La Chapelle 21.54 291 *e*P **P 23 06 45.7 +0.3**
CABF pmax pmax
comp=Z,33nm,0.7s,mb4.9
CABF La Chapelle 21.54 291 *e*P **P 23 06 45.7 +0.3**
comp=Z,33nm,0.7s,mb4.9
WLF Walferdange 21.69 299 *e*P **P 23 06 46.7 -0.4**
comp=Z,18nm,1.1s,mb4.4
ORIF Oris-en-Rattie 21.75 286 *e*P **P 23 06 47.7 0.0**
comp=Z,20nm,0.8s,mb4.3
ORIF Oris-en-Rattie 21.75 286 *e*P **P 23 06 47.7 0.0**
ORIF pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
ORIF Oris-en-Rattie 21.75 286 *e*P **P 23 06 47.7 0.0**
comp=Z,10nm,0.8s,mb4.3
SMRF Simiane la Rot 22.07 284 *e*P **P 23 06 52.3 +1.2**
comp=Z,56nm,1.0s,mb4.7
SMRF Simiane la Rot 22.07 284 *e*P **P 23 06 52.3 +1.2**
comp=Z,28nm,1.0s,mb4.7
HFS Hagfors 22.17 330 P **P 23 06 52.0 -0.1**
comp=Z,7.9nm,0.5s,mb4.4,baz=133,slow=12,SNR=21
HFS S **S 23 10 51.4 -4.8**
comp=Z,5.5nm,0.8s,baz=145,slow=21,SNR=4.2
MEZF Maizieres J'vi 22.30 296 *e*P **P 23 06 54.3 +0.8**
GIVF Givet 22.60 300 *e*P **P 23 06 56.9 +0.1**
comp=Z,28nm,0.9s,mb4.4
GIVF Givet 22.60 300 *e*P **P 23 06 56.9 +0.1**
GIVF pmax pmax
comp=Z,14nm,0.9s,mb4.4
GIVF Givet 22.60 300 *e*P **P 23 06 56.9 +0.1**
comp=Z,14nm,0.9s,mb4.4
VIVF Saint-Julien-l 22.61 286 *e*P **P 23 06 57.5 +0.6**
BAIF Baives 22.99 300 *e*P **P 23 07 00.6 -0.3**
comp=Z,36nm,1.1s,mb4.4
BAIF Baives 22.99 300 *e*P **P 23 07 00.6 -0.3**
BAIF pmax pmax
comp=Z,18nm,1.1s,mb4.4
BAIF Baives 22.99 300 *e*P **P 23 07 00.6 -0.3**
comp=Z,18nm,1.1s,mb4.4
LOR Lormes 23.06 293 *e*P **P 23 07 00.7 -1.0**
comp=Z,18nm,0.7s,mb4.3
LOR Lormes 23.06 293 *e*P **P 23 07 00.7 -1.0**
LOR pmax pmax
comp=Z,9.0nm,0.7s,mb4.3
LOR Lormes 23.06 293 *e*P **P 23 07 00.7 -1.0**
comp=Z,8.8nm,0.7s,mb4.3
SMF Signal de Mont 23.08 291 *e*P **P 23 07 01.3 -0.6**
comp=Z,47nm,1.1s,mb4.5
SMF Signal de Mont 23.08 291 *e*P **P 23 07 01.3 -0.6**
SMF pmax pmax
comp=Z,24nm,1.1s,mb4.5
SMF Signal de Mont 23.08 291 *e*P **P 23 07 01.3 -0.6**
comp=Z,24nm,1.1s,mb4.5
PLDF La Plantade 23.27 289 *e*P **P 23 07 05.2 +1.4**
LASF Ste Croix 23.28 285 *e*P **P 23 07 04.1 +0.1**
comp=Z,58nm,1.2s,mb4.6
LASF Ste Croix 23.28 285 *e*P **P 23 07 04.1 +0.1**
comp=Z,29nm,1.2s,mb4.6
SSF Saint Saulge 23.30 292 *e*P **P 23 07 03.4 -0.8**
comp=Z,16nm,0.8s,mb4.2
SSF Saint Saulge 23.30 292 *e*P **P 23 07 03.4 -0.8**
SSF pmax pmax
comp=Z,8.0nm,0.8s,mb4.2
SSF Saint Saulge 23.30 292 *e*P **P 23 07 03.4 -0.8**
comp=Z,8.2nm,0.8s,mb4.2
AVF Avril sur Loir 23.41 291 *e*P **P 23 07 04.5 -0.9**
comp=Z,123nm,1.3s,mb4.9
AVF Avril sur Loir 23.41 291 *e*P **P 23 07 04.5 -0.9**
AVF pmax pmax
comp=Z,62nm,1.3s,mb4.9
AVF Avril sur Loir 23.41 291 *e*P **P 23 07 04.5 -0.9**
comp=Z,62nm,1.3s,mb4.9
KONO Kongsberg 23.48 326 *e*P **P 23 07 05.2 -0.9**
LBL Lubilhac 23.58 288 *e*P **P 23 07 09.6 +2.5**
AGO Saint Agoulin 23.60 290 *e*P **P 23 07 08.4 +1.2**
NAO01 NORSAR Array S 23.69 329 *e*P **P 23 07 07.3 -0.7**
comp=Z,11nm,0.9s,mb4.3
NAO01 NORSAR Array S 23.69 329 *e*P **P 23 07 07.3 -0.7**
comp=Z,11nm,0.9s,mb4.3
NB2 NORSAR Subarra 23.69 330 P **P 23 07 07.7 -0.3**
comp=Z,2.9nm,0.7s,mb3.8,baz=125,slow=10
NOA NORSAR Array B 23.69 330 P **P 23 07 07.7 -0.3**
comp=Z,2.2nm,0.6s,mb3.8,baz=127,slow=9.6,SNR=9.7
NOA NORSAR Array B 23.69 330 P **P 23 07 07.7 -0.3**
BGF Bois d'Agland 23.77 291 *e*P **P 23 07 08.3 -0.5**

comp=Z,63nm,1.2s,mb4.6
BGF Bois d'Agland 23.77 291 *eP* **P 23 07 08.3 -0.5**
BGF pmax pmax
comp=Z,32nm,1.2s,mb4.6
BGF Bois d'Agland 23.77 291 *eP* **P 23 07 08.3 -0.5**
comp=Z,32nm,1.2s,mb4.6
TCF Toulx Ste Croi 24.23 290 *eP* **P 23 07 13.3 +0.3**
comp=Z,20nm,0.9s,mb4.3
TCF Toulx Ste Croi 24.23 290 *eP* **P 23 07 13.3 +0.3**
TCF pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
TCF Toulx Ste Croi 24.23 290 *eP* **P 23 07 13.3 +0.3**
comp=Z,10nm,0.9s,mb4.3
EJON La Jonquera 24.25 281 P **P 23 07 13.4 +0.2**
comp=Z,3.6nm,0.6s,mb4.0
EJON La Jonquera 24.25 281 P **P 23 07 13.4 +0.2**
comp=Z,3.6nm,0.6s,mb4.0
ZRNK Zerenda 24.31 53 *eP* **P 23 07 13.4 -0.3**
ZRNK pmax pmax
comp=Z,13nm,0.8s,mb4.4
ZRNK Zerenda 24.31 53 *eP* **P 23 07 13.4 -0.4**
comp=Z,13nm,0.8s,mb4.4
ZRNK Zerenda 24.31 53 *eP* **P 23 07 13.4 -0.3**
comp=Z,13nm,0.8s,mb4.4
MTLF Montolieu 24.57 283 *eP* **P 23 07 16.3 +0.2**
RJF Les Rejaudoux 24.79 288 *eP* **P 23 07 18.5 +0.4**
EMIR Miracle 25.36 280 P **P 23 07 22.7 -0.5**
comp=Z,4.0nm,0.7s,mb4.1
EMIR Miracle 25.36 280 P **P 23 07 22.7 -0.5**
comp=Z,4.0nm,0.7s,mb4.1
LFF La Frestale 25.38 287 *eP* **P 23 07 24.0 +0.5**
CHKZ Chkalovo 25.41 52 *eP* **P 23 07 23.6 -0.1**
CHKZ pmax pmax
comp=Z,14nm,0.8s,mb4.5
CHKZ Chkalovo 25.41 52 *eP* **P 23 07 23.6 -0.1**
comp=Z,14nm,0.8s,mb4.5
CHKZ Chkalovo 25.41 52 *eP* **P 23 07 23.6 -0.1**
comp=Z,14nm,0.8s,mb4.5
MLS Moulis 25.45 283 *eP* **P 23 07 24.6 +0.5**
MFF Saint Martin d 25.83 291 *eP* **P 23 07 27.8 +0.3**
NSS Namsos 25.84 336 *eP* **P 23 07 27.4 -0.2**
EPF Esparros 25.98 283 *eP* **P 23 07 28.5 -0.4**
comp=Z,11nm,0.7s,mb4.2
EPF Esparros 25.98 283 *eP* **P 23 07 28.5 -0.4**
EPF pmax pmax
comp=Z,6.0nm,0.7s,mb4.2
EPF Esparros 25.98 283 *eP* **P 23 07 28.5 -0.4**
comp=Z,5.5nm,0.7s,mb4.2
RESF Ens 26.02 283 *eP* **P 23 07 30.6 +1.3**
EGRA Graus 26.17 281 P **P 23 07 31.0 +0.4**
comp=Z,8.2nm,0.6s,mb4.4
EGRA Graus 26.17 281 P **P 23 07 31.0 +0.4**
comp=Z,8.2nm,0.6s,mb4.4
EBIE Bielsa 26.19 282 P **P 23 07 31.3 +0.5**
comp=Z,7.5nm,0.6s,mb4.4
EBIE Bielsa 26.19 282 P **P 23 07 31.3 +0.5**
comp=Z,7.5nm,0.6s,mb4.4
MOR8 Moi Rana 26.42 340 *eP* **P 23 07 33.8 +0.9**
MOR8 AMb AMB 23 07 39.1
comp=Z,14nm,1.3s,mb4.3
ETSF Etsaut 26.65 283 *eP* **P 23 07 35.5 +0.6**
comp=Z,29nm,0.8s,mb4.6
ETSF Etsaut 26.65 283 *eP* **P 23 07 35.5 +0.6**
ETSF pmax pmax
comp=Z,15nm,0.8s,mb4.6
ETSF Etsaut 26.65 283 *eP* **P 23 07 35.5 +0.6**
comp=Z,14nm,0.8s,mb4.6
SJPF Ste Jean 27.08 284 *eP* **P 23 07 39.3 +0.4**
SGMF Saint Gilles 27.36 295 *eP* **P 23 07 42.4 +1.0**
ARCES ARCESS Array B 27.52 352 P **P 23 07 43.2 +0.5**
comp=Z,4.3nm,0.7s,mb4.2,baz=170,slow=8.4,SNR=31
ARCES ARCESS Array B 27.52 352 P **P 23 07 43.2 +0.5**
EKA Eskdalemuir Ar 28.22 310 P **P 23 07 49.4 +0.3**
comp=Z,3.5nm,0.8s,mb4.0,baz=104,slow=9.2,SNR=9.4
AAK Ala-Archa 28.23 77 *eP* **P 23 07 47.6 -1.5**
AAK pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
AAK Ala-Archa 28.23 77 *eP* **P 23 07 47.6 -1.5**
comp=Z,4.8nm,0.6s,mb4.3
AAK Ala-Archa 28.23 77 *eP* **P 23 07 47.6 -1.5**
comp=Z,4.8nm,0.6s,mb4.3
FRU Bishkek 28.27 76 *eP* **P 23 07 58.5 +9.0**
FRU *e* 23 08 35.0
FRU pmax pmax
comp=E,70nm,2.0s
TRO Tromso 28.46 348 *eP* **P 23 07 52.5 +1.3**
TRO AMb AMB 23 07 55.1
comp=Z,21nm,1.8s,mb4.5
ELAN Lanestosa 28.64 285 P **P 23 07 53.1 +0.4**
comp=Z,19nm,0.6s,mb5.0
ELAN Lanestosa 28.64 285 P **P 23 07 53.1 +0.3**
comp=Z,19nm,0.6s,mb5.0
EARI Arriondas 29.89 286 P **P 23 08 03.0 -0.9**
comp=Z,18nm,0.7s,mb4.9
EARI Arriondas 29.89 286 P **P 23 08 03.0 -0.8**
comp=Z,18nm,0.7s,mb4.9
ESDC Sonseca Array 29.98 278 P **P 23 08 04.2 -0.5**
comp=Z,2.4nm,0.8s,mb4.0,baz=68,slow=9.4,SNR=7.0
KURK Kurchatov 30.05 59 *eP* **P 23 08 04.1 -1.2**
MKAR Makanchi Array 32.85 66 P **P 23 08 30.1 +0.2**
comp=Z,0.5nm,0.5s,mb3.7,baz=271,slow=8.7,SNR=8.2
KOLN Koldanda 41.15 95 *eP* **P 23 09 40.7 +0.2**
comp=Z,45nm,1.0s,mb5.1
TORD Torodi Ar. Bea 41.66 235 P **P 23 09 44.2 -0.5**
comp=Z,57nm,0.6s,mb5.3,baz=36,slow=8.9,SNR=168
GKN Gorkha 41.79 94 *eP* **P 23 09 45.6 -0.1**
comp=Z,49nm,0.7s,mb5.3
DMN Daman 42.35 94 *eP* **P 23 09 50.6 +0.3**
comp=Z,51nm,0.8s,mb5.2
KKN Kakani 42.38 94 *eP* **P 23 09 50.5 0.0**
comp=Z,32nm,0.7s,mb5.0
KKN Kakani 42.38 94 *eP* **P 23 09 50.5 0.0**
KKN pmax pmax
comp=Z,33nm,0.7s,mb5.1
PKI Pulchoki 42.59 94 *eP* **P 23 09 52.4 +0.1**
GUN Gumba 42.75 93 *eP* **P 23 09 53.7 +0.1**
JIRN Jiri 43.12 93 *eP* **P 23 09 56.8 +0.3**
KMBO Kilima Mbogo 43.56 178 P **P 23 10 00.7 +0.6**
comp=Z,0.6nm,0.5s,mb3.6,baz=24,slow=24,SNR=4.8
KMBO Kilima Mbogo 43.56 178‖ *eP* **P 23 10 01.3 +1.2**
LSA Lhasa 45.68 88 P **P 23 10 15.4 -1.6**
LSA Lhasa 45.68 88 *eP* **P 23 10 17.2 +0.2**
LSA pmax pmax
comp=Z,11nm,0.6s,mb5.0
LSA Lhasa 45.68 88 *eP* **P 23 10 17.2 +0.2**
comp=Z,11nm,0.6s,mb5.0
SONM Songino Array 48.34 58 P **P 23 10 38.3 +0.5**
comp=Z,0.7nm,0.6s,mb3.9,baz=289,slow=9.0,SNR=6.8
SHL Shillong 48.50 92 *eP* **P 23 10 37.0 -2.0**
BOD Bodaibo 49.35 44 *eP* **P 23 10 44.7 -0.9**
BOD pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
DBIC Dimbokro 50.72 237 P **P 23 10 55.3 -0.6**
comp=Z,7.4nm,0.5s,mb4.9,baz=26,slow=8.8,SNR=20
TIXI Tiksi 51.11 24 *eP* **P 23 11 04.4 +5.5**
TIXI pmax pmax
comp=Z,6.0nm,1.5s,mb4.3
GYA Guiyang 58.86 81 P **P 23 11 54.6 -0.4**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
SCHQ Schefferville 62.87 321 P **P 23 12 22.0 -0.2**
comp=Z,3.3nm,0.8s,mb4.5,baz=46,slow=8.7,SNR=3.7
BILL Bilibino 63.56 19 *eP* **P 23 12 26.3 -0.5**
BILL *e* 23 13 00.1
BILL *eSS* SS 23 25 04.3 -3.1
BILL pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
NJ2 Nanjing 64.32 69 *eP* **P 23 12 32.5 +0.7**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.3
INK Inuvik 69.11 356 P **P 23 13 02.4 0.0**
comp=Z,2.5nm,1.0s,mb4.1,baz=50,slow=6.1,SNR=7.6
FCC Fort Churchill 70.82 335 *eP* **P 23 13 12.9 0.0**
FCC pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
FCC Fort Churchill 70.82 335 *eP* **P 23 13 12.9 0.0**
comp=Z,7.5nm,1.1s,mb4.5
YKW3 Yellowknife Ar 72.53 346 *eP* **P 23 13 23.4 +0.2**
YKA Yellowknife Ar 72.59 346 P **P 23 13 23.9 +0.4**
comp=Z,7.6nm,0.7s,mb4.8,baz=21,slow=6.0,SNR=45
YKA Yellowknife Ar 72.59 346 *i P* **P 23 13 23.8 +0.3**
YKA pmax pmax
comp=Z,8.0nm,0.7s
YKA Yellowknife Ar 72.59 346 P **P 23 13 23.9 +0.4**
ILAR Eielson Array 72.93 1 P **P 23 13 25.6 +0.1**
comp=Z,0.5nm,0.6s,mb3.6,baz=353,slow=5.7,SNR=9.8

DAWY Dawson 73.59 358 *eP* **P 23 13 30.2 +0.7**
SML Sawmill 75.87 2 *eP* **P 23 13 42.4 -0.2**
FX1 Attu Island--F 77.99 25 P **P 23 13 55.2 +0.7**
comp=Z,5.8nm,0.5s,mb4.8,baz=330,slow=8.1,SNR=4.2
ULM Lac du Bonnet 78.38 331 P **P 23 13 56.5 -0.2**
comp=Z,7.2nm,0.7s,mb4.7,baz=28,slow=5.7,SNR=18
ULM Lac du Bonnet 78.38 331 P **P 23 13 56.5 -0.3**
KDAK Kodiak Island 79.71 5 P **P 23 14 04.7 +0.6**
baz=270,slow=13
EDM Edmonton 80.93 342 *eP* **P 23 14 11.3 +0.7**

CASC 19 23:02:26.6±2.1, 1407N×9155W, h54km±13km, MD3.9, 3C-8D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.26**	**341**⇓	*eP*	Pn		23 02 37.8	+2.1
JAT				*eS*	Sn		23 02 42.7	+0.5
FUG	**Fuego 3**	**0.78**	**62**⇓	*iP*	Pn		23 02 42.3	+0.8
TP2	**Tecpan 2**	**0.87**	**36**	*eP*	Pn		23 02 43.2	+0.5
TP2				*eS*	Sn		23 02 55.9	+1.4
PCG	**Pacaya**	**0.97**	**71**⇓	*eP*	Pn		23 02 45.2	+1.3
PCG				*eS*	Sn		23 02 58.0	+1.2
IXG	**Ixpaco**	**1.07**	**85**	*eP*	Pn		23 02 45.6	+0.3
IXG				*eS*	Sn		23 02 59.1	-0.1
GCG	**Guatemala City**	**1.11**	**63**⇓	*eP*	Pn		23 02 46.7	+0.8
GCG				*eS*	Sn		23 03 03.1	+3.0
RBDL	**Robledal**	**1.81**	**89**⇓	*eP*	Pn		23 03 09.7	+14
RBDL				*eS*	Sn		23 03 32.8	+16
SBLS	**San Blas**	**1.89**	**97**⇑	*eP*	Pn		23 03 11.2	+15
SBLS				*eS*	Sn		23 03 34.7	+16
SNJE	**San Jose**	**1.90**	**96**⇓	*eP*	Pn		23 03 11.5	+15
SNJE				*eS*	Sn		23 03 35.8	+16
BOQS	**Boqueron**	**2.23**	**98**⇓	*eP*	Pn		23 03 16.4	+15
BOQS				*eS*	Sn		23 03 44.0	+16
LFRS	**El Faro**	**2.46**	**100**⇑	*eP*	Pn		23 03 19.3	+15
LFRS				*eS*	Sn		23 03 48.2	+15
LCBS	**La Ceiba**	**2.53**	**99**⇓	*eP*	Pn		23 03 20.6	+15
LCBS				*eS*	Sn		23 03 50.9	+16
SNVI	**San Vicente**	**2.67**	**100**⇑	*eP*	Pn		23 03 21.8	+15
SNVI				*eS*	Sn		23 03 54.4	+16

*CSEM **19** 23:30:40.7, 1206N×4382E, h10km, ML4.2, After DHMR*
DHMR 19 23:30:40.7±1.2, 1206N×4382E, h10km±8km, ML4.2, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.20**	**14**	*i P*	Pn		23 31 03.3	-0.2
TRBA				*i S*	Sb		23 31 19.7	+0.6
TRBA					AML	AML	23 31 27.5	
	comp=N,4μm,0.6s							
ADEN	**Aden**	**1.34**	**58**	*i P*	Pn		23 31 05.2	-0.3
ADEN				*i S*	Sb		23 31 24.4	+1.3
ADEN					AML	AML	23 31 30.0	
	comp=E,5μm,0.9s							
ADEN	**Aden**	**1.34**	**58**	*i P*	Pn		23 31 05.2	-0.2
ADEN				*i S*	Sb		23 31 24.4	+1.3
	comp=E,2μm,0.9s							
UDYN	**Al 'Udayn**	**1.91**	**4**	*i P*	Pn		23 31 15.1	+2.0
UDYN				*i S*	Sn		23 31 41.0	+3.9
UDYN					AML	AML	23 31 50.6	
	comp=N,3μm,0.5s							
UDYN	**Al 'Udayn**	**1.91**	**4**	*i P*	Pn		23 31 15.1	+1.9
UDYN				*i S*	Sn		23 31 41.0	+3.8
	comp=N,2μm,0.5s							
LBOS		**2.28**	**37**	*i P*	Pn		23 31 20.2	+1.9
LBOS				*i S*	Sn		23 31 51.3	+4.9
BDHA	**Al Bayda'**	**2.56**	**42**	*i P*	Pn		23 31 24.7	+2.6
BDHA				*i S*	Sn		23 32 00.1	+6.8
DHBB	**Dhamar BB**	**2.56**	**12**	*i P*	Pn		23 31 25.3	+3.1
DHBB				*i S*	Sn		23 32 00.0	+6.7
HAJJ	**Hajjah**	**3.63**	**357**	*i P*	Pn		23 31 39.4	+2.5
HAJJ				*i S*	Sn		23 32 25.2	+5.5
HAJJ					AML	AML	23 32 39.9	
	comp=N,1μm,0.6s							
HAJJ	**Hajjah**	**3.63**	**357**	*i P*	Pn		23 31 39.3	+2.4
HAJJ				*i S*	Sn		23 32 25.2	+5.5
	comp=N,649nm,0.6s							

*ISCJB **19** 23:35:36.8±5.8, 79S±05×1154E±07, h307km±59km, mb3.3/6, Error ellipse: s-maj=127.3km s-min=23.3km az=112.5*
*NEIC **19** 23:35:41.3±6.1, 767S×11572E, h332km±68km, mb3.2/2, Error ellipse: s-maj=103.1km s-min=18.8km az=58.0*
*IDC **19** 23:35:45.7±11.0, 803S×11545E, h389km±131km, mb2.9/4, mb1 3.0/5, mb1mx2.8/15, mbtmp3.6/5, Error ellipse: s-maj=125.0km s-min=30.8km az=53.0*
ISC 19 23:35:44.3±5.1, 77S±05×1158E±07, h365km±61km, n7, σ1§12/8, mb3.2/6, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.09**	**138**	P	P		**23 38 47.7**	**-0.5**
	0.1nm,0.3s,baz=325,slow=12,SNR=4.1							
FITZ				S	S		**23 41 19.8**	**-0.8**
	0.1nm,0.3s,baz=176,slow=19,SNR=5.5							
WRA	**Warramunga Arr**	**21.69**	**126**	P	P		**23 40 06.7**	**+0.2**
	0.4nm,0.3s,mb3.1,baz=299,slow=12,SNR=10.0							
WRAB	**Tennant Creek**	**21.69**	**126**	P	P		**23 40 07.5**	**+1.0**
	1.0nm,0.5s,mb3.3							
ASAR	**Alice Springs**	**23.52**	**135**	P	P		**23 40 24.5**	**+1.4**
	0.6nm,0.4s,mb3.1,baz=308,slow=9.3,SNR=7.9							
STKA	**Stephens Creek**	**33.99**	**139**	P	P		**23 41 54.3**	**-0.7**
	1.0nm,0.5s,mb3.3,baz=309,slow=9.5,SNR=3.8							
ENH	**Enshi**	**38.22**	**351**	P	P		**23 42 29.7**	**-0.8**
	0.3nm,0.3s,mb3.0							
MKAR	**Makanchi Array**	**61.89**	**335**	P	P		**23 45 26.4**	**+0.2**
	0.3nm,0.4s,mb3.1,baz=150,slow=6.9,SNR=6.4							

*NEIC **19** 23:43:29.1, 33.10S×72.13W, h42km, MG2.8(GUC), After GUC.*
GUC 19 23:43:29.1±0.9, 3310S×7213W, h42km±2km, MD3.6, ML2.8, 12C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.41**	**80**⇓	*iP*	Pn		23 43 39.0	+0.2
IHA				*i S*	Sn		23 43 46.5	+0.9
LCCH	**Las Cruces**	**0.60**	**129**⇑	*iP*	Pn		23 43 41.2	0.0
LCCH				*i S*	Sn		23 43 50.3	+0.5
PACH	**Papudo**	**0.81**	**46**⇑	*iP*	Pn		23 43 44.6	+0.6
PACH				*i S*	Sn		23 43 55.8	+1.0
ROCH	**El Roble**	**0.94**	**83**	*eP*	Pn		23 43 47.0	+1.1
TACH	**Talagante**	**1.14**	**119**⇑	*iP*	Pn		23 43 49.5	+0.9
TACH				*i S*	Sn		23 44 04.4	+1.4
RCDM	**Rinconada Maip**	**1.17**	**110**⇑	*iP*	Pn		23 43 50.1	+1.1
RCDM				*i S*	Sn		23 44 05.5	+1.8
RCDM					AML	AML	23 44 07.8	
	comp=N,368nm,0.2s							
RCDM	**Rinconada Maip**	**1.17**	**110**⇑	*iP*	Pn		23 43 50.1	+1.1
RCDM				*i S*	Sn		23 44 05.5	+1.8
CHNG	**Los Chungos**	**1.32**	**24**⇑	*iP*	Pn		23 43 51.3	+0.2
CHNG				*i S*	Sn		23 44 07.5	0.0
CHNG					AML	AML	23 44 08.2	
	comp=E,73nm,0.3s							
JACH	**Jahuel**	**1.36**	**73**⇓	*iP*	Pn		23 43 52.8	+1.3
JACH				*i S*	Sn		23 44 10.7	+2.4
CLCH	**Cerro Calan**	**1.36**	**103**⇑	*iP*	Pn		23 43 53.9	+2.2
CLCH				*i S*	Sn		23 44 11.8	+3.3
CLCH					AML	AML	23 44 16.6	
	comp=E,245nm,0.3s							
CHCH	**Chadas Angostu**	**1.48**	**124**	*eP*	Pn		23 43 54.8	+1.5
CHCH				*i S*	Sn		23 44 13.5	+2.0
FCH	**Farellones**	**1.56**	**99**⇑	*iP*	Pn		23 43 56.5	+2.3
FCH				*i S*	Sn		23 44 16.7	+3.5
FCH					AML	AML	23 44 19.1	
	comp=E,181nm,0.2s							
CACH	**El Canelo**	**1.63**	**129**	*eP*	Pn		23 43 57.2	+2.0
CACH				*i S*	Sn		23 44 17.8	+2.8
SFDO	**San Fernando**	**1.77**	**149**⇑	*iP*	Pn		23 43 58.0	+0.8
SFDO				*i S*	Sn		23 44 20.0	+1.5
LMEL	**Las Melosas**	**1.77**	**115**⇓	*iP*	Pn		23 43 59.5	+2.3
LMEL				*i S*	Sn		23 44 21.7	+3.2
LMEL					AML	AML	23 44 23.7	
	comp=N,236nm,0.3s							
LMEL	**Las Melosas**	**1.77**	**115**⇓	*iP*	Pn		23 43 59.5	+2.3
LMEL				*i S*	Sn		23 44 21.7	+3.2
CICH	**Cipreses**	**1.87**	**131**⇑	*iP*	Pn		23 44 00.2	+1.6
CICH				*i S*	Sn		23 44 23.4	+2.4
CMCH	**Combarbala**	**2.15**	**27**⇑	*iP*	Pn		23 44 02.6	+0.3
CMCH				*i S*	Sn		23 44 28.3	+0.6
CMCH					AML	AML	23 44 29.8	
	comp=E,235nm,0.7s							
CMCH	**Combarbala**	**2.15**	**27**⇑	*iP*	Pn		23 44 02.6	+0.3
CMCH				*i S*	Sn		23 44 28.3	+0.6

MAN 19 23:49:42.4, 1781N×11927E, h1km, mb1.7, ML3.5, MS8.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.39**	**97**	*eP*	Pn		23 50 08.5	-0.4
BOLP	**Bolinao**	**1.55**	**156**	*eP*	Pn		23 50 10.7	-0.4
APYP	**Conner**	**1.88**	**88**	*eP*	Pn		23 50 15.3	-0.3
APYP				*eS*	Sn		23 50 40.1	+0.1
CVP	**Callao Caves**	**2.44**	**92**	*eP*	Pn		23 50 24.0	+0.7
CVP				*eS*	Sn		23 50 54.0	+0.3
CAUP	**Cauayan**	**2.59**	**109**	*eP*	Pn		23 50 28.1	+2.7
PALP	**Palanan**	**3.11**	**103**	*eP*	Pn		23 50 32.5	0.0

MAN 19 23:52:48.6, 890N×12402E, h15km, mb3.0, ML4.4, MS2.3, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.89**	**300**	*eP*	Pb		23 53 05.0	-0.8
SNPH				*i S*	Sb		23 53 17.5	0.0
PAGZ	**Pagadian**	**1.22**	**211**	*eP*	Pn		23 53 10.2	-0.9
PAGZ				*eS*	Sb		23 53 27.3	+0.5
LLP	**Lapu-Lapu**	**1.41**	**358**	*eP*	Pn		23 53 12.8	-1.0
LLP				*eS*	Sn		23 53 29.4	-2.7
BUKP	**Musuan**	**1.44**	**134**	*eP*	Pn		23 53 14.9	+0.7
MSLP	**Maasin**	**1.48**	**34**	*eP*	Pn		23 53 14.2	-0.5
SCPH	**Surigao**	**1.70**	**59**⇓	*eP*	Pn		23 53 16.4	-1.2
IPIL	**Ipil**	**1.81**	**233**	*eP*	Pn		23 53 21.2	+2.0
GUIM	**Jordan**	**2.22**	**321**	*eP*	Pn		23 53 23.4	-1.5

*CSEM **20** 00:16:21.3±1.3, 3858N×3019W, h0km, ML2.7, Error ellipse: s-maj=17.0km s-min=5.9km az=167.0, After PDA*
*PDA **20** 00:16:21.3±1.3, 3858N×3019W, h0km, MD3.5, ML2.7, Error ellipse: s-maj=17.0km s-min=5.9km az=167.0*
SVSA 20 00:16:21.3±1.3, 3858N×3019W, h0km, MD3.5, ML2.7, Error ellipse: s-maj=17.0km s-min=5.9km az=167.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**1.09**	**89**	*eP*	Pg		00 16 38.9	-3.3
PTCA				*eS*	Sg		00 16 52.1	-4.2
PTCA								
	42nm,0.2s							
PTCA	**Ponta do Capel**	**1.09**	**89**	*eP*	Pg		00 16 38.9	-3.3
PTCA				*eS*	Sg		00 16 52.1	-4.2
CALA	**Caldeira**	**1.16**	**89**	*eP*	Pg		00 16 39.9	-3.7
CALA				*eS*	Sg		00 16 53.8	-4.9
PCED	**Cedros**	**1.16**	**87**	*eP*	Pg		00 16 39.2	-4.4
PCED				*eS*	Sg		00 16 53.3	-5.4
PCED								
	92nm,0.2s							
PCED	**Cedros**	**1.16**	**87**	*eP*	Pg		00 16 39.2	-4.4
PCED				*eS*	Sg		00 16 53.3	-5.4
HOR	**Horta**	**1.22**	**92**	*eS*	Sg		00 16 54.9	-5.6
PCND	**Candelaria**	**1.36**	**94**	*eP*	Pg		00 16 43.2	-4.1
PCND				*eS*	Sg		00 16 58.5	-6.4
PCND								
	21nm,0.4s							
PICO	**Pico**	**1.38**	**93**	*eP*	Pg		00 16 42.6	-5.2
PICO				*eS*	Sg		00 16 59.0	-6.7
PBOI	**Pico dos Bois**	**1.43**	**95**	*eP*	Pn		00 16 43.8	-4.6
PBOI				*eS*	Sg		00 17 00.3	-6.9
PBOI								
	25nm,0.2s							
PTEI	**Pico do Teixo**	**1.44**	**93**	*eS*	Sg		00 17 00.9	-6.6
PTEI								
	45nm,0.4s							
ROSA	**Rosais**	**1.53**	**84**	*i P*	Pn		00 16 44.8	-5.0
ROSA				*eS*	Sb		00 17 03.2	-7.2
PAMA	**Santo Amaro**	**1.57**	**86**	*eP*	Pn		00 16 46.1	-4.4
PAMA				*eS*	Sn		00 17 04.2	-7.3
PAMA								
	21nm,0.1s							
PID	**Ribeirinha**	**1.63**	**94**	*eP*	Pn		00 16 46.3	-4.9
PMAN	**Manadas**	**1.64**	**88**	*eP*	Pn		00 16 46.2	-5.2
PMAN				*eS*	Sn		00 17 05.6	-7.6
PMAN								
	34nm,0.4s							
PMAN	**Manadas**	**1.64**	**88**	*eP*	Pn		00 16 46.2	-5.2
PMAN				*eS*	Sn		00 17 05.6	-7.6
STGR	**Santa Cruz**	**1.78**	**73**	*erx*			00 17 01.8	
PGRA	**Graciosa**	**1.78**	**75**	*erx*			00 17 08.8	
ASBA	**Santa Barbara**	**2.24**	**86**	*erx*			00 17 23.0	
PSBA	**Serra de Santa**	**2.25**	**84**	*erx*			00 17 22.1	
PPAD	**Pico dos Padre**	**2.27**	**86**	*eS*	Sn		00 17 21.6	-7.2
PPAD								
	15nm,0.2s							
RIB2	**Ribeirinha**	**2.36**	**87**	*erx*			00 17 24.3	
SET4	**Mosteiros**	**3.52**	**100**	*eP*	Pn		00 17 12.9	-4.4
SET2	**Ginetes**	**3.53**	**101**	*eP*	Pn		00 17 12.9	-4.4
PFET	**Feteiras**	**3.55**	**101**	*eP*	Pn		00 17 13.0	-4.6
PSAN	**Santo Antonio**	**3.59**	**100**	*eP*	Pn		00 17 13.7	-4.4
FAC	**Faja de Cima**	**3.66**	**101**	*eP*	Pn		00 17 15.1	-4.1
CML	**Cha da Macela**	**3.74**	**101**	*eP*	Pn		00 17 15.9	-4.4
PVER	**Pico Vermelho**	**3.76**	**101**	*eP*	Pn		00 17 16.9	-3.7
PMAT	**Coroa da Mata**	**3.79**	**100**	*eP*	Pn		00 17 16.9	-4.1
LFA	**Lagoa do Fogo**	**3.79**	**101**	*eP*	Pn		00 17 16.7	-4.3
PRCH	**Ribeira Ch**	**3.81**	**101**	*eP*	Pn		00 17 16.7	-4.4
MESC	**Monte Escuro**	**3.82**	**100**	*eP*	Pn		00 17 16.8	-4.5
VIF	**Vila Franca**	**3.83**	**101**	*eP*	Pn		00 17 17.6	-3.9
PCNG	**Congro**	**3.86**	**101**	*eP*	Pn		00 17 17.6	-4.3
FRA1	**Furnas**	**3.90**	**101**	*eP*	Pn		00 17 17.7	-4.7
PFAD	**Fenais da Ajud**	**3.90**	**99**	*eP*	Pn		00 17 18.1	-4.4
MIRA	**Miradouro**	**3.95**	**100**	*eP*	Pn		00 17 18.9	-4.2
PSMN	**Pico do Norte,**	**4.35**	**110**	*eP*	Pn		00 17 23.0	-5.6

*CSEM **20** 00:25:35.3, 1194N×4391E, h10km, ML4.5, After DHMR*
DHMR 20 00:25:35.3±1.4, 1194N×4391E, h10km±7km, ML4.5, 2C-1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.30**	**9**	*i P*	Pn		00 25 59.8	+0.3
TRBA				*i S*	Sb		00 26 17.4	+0.8
ADEN	**Aden**	**1.34**	**51**	*i P*	Pn		00 26 00.1	+0.1
ADEN				⇑*i S*	Sb		00 26 19.2	+1.5
ADEN					AML	AML	00 26 26.6	
	comp=E,18μm,0.7s							
ADEN	**Aden**	**1.34**	**51**	*i P*	Pn		00 26 00.1	+0.1
ADEN				⇑*i S*	Sb		00 26 19.2	+1.5
	comp=E,9μm,0.7s							
UDYN	**Al 'Udayn**	**2.02**	**2**	*i P*	Pn		00 26 11.2	+1.8
UDYN				*i S*	Sn		00 26 37.7	+3.1
UDYN	**Al 'Uday

*NEIC **20** 00:40:17.4, 38.15N×2265E, h9km, ML3.1(ATH), After ATH.*
*CSEM **20** 00:40:17.9±0.1, 38.14N×2268E, h2km, ML3.1, Error ellipse: s-maj=2.0km s-min=1.4km az=84.0*
*ATH **20** 00:40:17.3, 38.14N×2265E, h9km±3km, MD3.4/14, ML3.1*
*THE **20** 00:40:18.2, 38.19N×2282E, h10km, ML3.2*
ISC 20 00:40:17.4±0.4, 3813N±002×2266E±003, h1km±4km, n32, σ0°94/50, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MGER	**Gerania Oros**	**0.50**	**107**	*e*PG	**Pg**	**00 40 26.8**	**-0.1**
MGER				*e*SB	**Sg**	**00 40 33.5**	**+0.2**
LKR	**Lokris**	**0.58**	**27**	⇑*i*PB	**Pg**	**00 40 27.9**	**-0.6**
LKR				*e*SB	**Sg**	**00 40 36.2**	**+0.1**
ATH	**Athens Observa**	**0.85**	**101**	*e*PB	**Pg**	**00 40 33.9**	**+0.2**
ATH				*e*SB	**Sg**	**00 40 45.5**	**+0.8**
AGG	**Agios Georgios**	**0.93**	**344**	*e*Pg	**Pg**	**00 40 34.9**	**-0.2**
AGG				*e*Sg	**Sg**	**00 40 48.7**	**+1.5**
KVR	**Kavouri**	**0.93**	**109**	*e*PN	**Pg**	**00 40 36.0**	**+0.8**
KVR				*e*SB	**Sg**	**00 40 48.5**	**+1.3**
RLS	**Riolos of Patr**	**0.94**	**266**	*e*PB	**Pb**	**00 40 35.2**	**-1.3**
RLS				*e*SB	**Sb**	**00 40 48.6**	**-0.9**
PTL	**Penteli**	**0.95**	**95**	*e*PN	**Pg**	**00 40 36.0**	**+0.3**
PTL				*e*SB	**Sg**	**00 40 48.5**	**+0.5**
EVR	**Evrytania**	**1.03**	**320**	*e*PN	**Pg**	**00 40 37.2**	**+0.1**
EVR				*e*SB	**Sg**	**00 40 51.5**	**+1.1**
ITM	**Ithomi**	**1.11**	**212**	*e*PN	**Pg**	**00 40 38.6**	**-0.2**
ITM				*e*SB	**Sg**	**00 40 53.0**	**-0.2**
NEO	**Neokhori**	**1.25**	**20**	*e*PN	**Pg**	**00 40 40.3**	**-1.1**
NEO				*e*SB	**Sg**	**00 40 57.8**	**+0.2**
XOR	**Xorichti**	**1.30**	**18**	*e*Pg	**Pg**	**00 40 41.5**	**-0.8**
XOR				*e*Sg	**Sg**	**00 40 59.2**	**0.0**
AOS	**Alonnisos**	**1.41**	**42**	*e*Pg	**Pn**	**00 40 42.4**	**-1.8**
AOS				*e*Sg	**Sg**	**00 41 01.5**	**-1.2**
VLI	**Veliai**	**1.43**	**171**	*e*PN	**Pn**	**00 40 43.3**	**-1.1**
VLS	**Valsamata**	**1.63**	**272**	*e*PG	**Pg**	**00 40 47.5**	**-1.2**
LKD	**Levkas**	**1.68**	**291**	*e*Pb	**Pb**	**00 40 49.5**	**+0.4**
LKD				*e*Sb	**Sb**	**00 41 14.1**	**+3.4**
KYTH	**Kithira**	**1.87**	**171**	*e*PG	**Pg**	**00 40 52.5**	**-0.8**
PAIG	**Paliouri**	**1.96**	**24**	*e*Pb	**Pn**	**00 40 49.9**	**-1.8**
LIT	**Litokhoron**	**1.97**	**356**	*e*Pb	**Pn**	**00 40 51.4**	**-0.5**
LIT				*e*Sb	**Sn**	**00 41 17.0**	**-0.2**
JAN	**Janina**	**2.08**	**318**	*e*PN	**Pn**	**00 40 54.6**	**+1.3**
KZN	**Kozani**	**2.28**	**343**	*e*PB	**Pn**	**00 40 56.5**	**+0.4**
IGT	**Igoumenitsa**	**2.29**	**308**	*e*Pn	**Pn**	**00 40 58.1**	**+1.8**
OUR	**Ouranopolis**	**2.43**	**25**	*e*Pn	**Pn**	**00 40 56.9**	**-1.3**
APE	**Apeiranthos**	**2.52**	**114**	*e*Pn	**Pn**	**00 40 58.9**	**-0.5**
APE	**Apeiranthos**	**2.52**	**114**	*e*PN	**Pn**	**00 41 01.5**	**+2.1**
SOH	**Sokhos**	**2.74**	**11**	*e*Pn	**Pn**	**00 41 02.1**	**-0.3**
SOH				*e*Sn	**Sn**	**00 41 35.7**	**-0.4**
FNA	**Florina**	**2.83**	**340**	*e*Pn	**Pn**	**00 41 04.0**	**+0.3**
FNA				*e*Sn	**Sn**	**00 41 40.5**	**+2.2**
GRG	**Griva**	**2.83**	**356**	*e*Pn	**Pn**	**00 41 03.4**	**-0.2**
KARN	**Karanos**	**2.91**	**159**	*e*Pn	**Pn**	**00 41 05.3**	**+0.5**
VAM	**Vamos**	**2.99**	**155**	*e*PN	**Pn**	**00 41 06.5**	**+0.6**
SRS	**Serrai**	**3.07**	**13**	*e*Pn	**Pn**	**00 41 06.4**	**-0.6**
TIP	**Timpagrande**	**4.74**	**285**	*e*Pn	**Pn**	**00 41 30.9**	**+1.0**
TIP				*e*Sn	**Sn**	**00 42 20.4**	**-5.0**
TIP	**Timpagrande**	**4.74**	**285**	*e*Pn	**Pn**	**00 41 30.9**	**+1.0**
TIP				*e*Sn	**Sn**	**00 42 20.4**	**-5.0**

*BYKL **20** 00:47:58.2±0.4, 5745N×12091E, h2km±19km*
*MOS **20** 00:47:59.1±1.1, 5746N×12066E, h10km, mb4.3/11, Error ellipse: s-maj=10.9km s-min=9.2km az=60.3*
*IDC **20** 00:48:00.9±1.2, 5752N×12047E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.8/21, mbtmp3.8/10, ML3.1/1, MS3.5/8, Ms1 3.5/8, ms1mx3.2/23, Error ellipse: s-maj=26.0km s-min=23.1km az=131.0*
*NEIC **20** 00:48:03.8±0.7, 5773N×120.12E, h10km, mb4.0/6, Error ellipse: s-maj=14.7km s-min=9.2km az=92.0*
ISC 20 00:48:00.1±0.3, 5741N±003×12073E±004, h10km, n81, σ1°32/113, mb4.0/17, MS3.6/7, 4D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNR	**Khani**	**0.64**	**220**	⇓*i*Pg	**Pg**	**00 48 11.6**	**-0.9**
KHNR				*i* Sg	**Sg**	**00 48 20.4**	**-0.4**
CRS	**Chara**	**1.44**	**250**	⇓*i*Pg	**Pg**	**00 48 26.3**	**-1.4**
CRS				Pmax		00 48 27.1	
	3μm,0.9s						
CRS				*i* Sg	**Sg**	**00 48 46.4**	**+0.1**
CRS				Smax		00 48 46.9	
	3μm,1.5s						
CRS	**Chara**	**1.44**	**250**	*e*P	**Pn**	**00 48 26.1**	**-0.1**
CRS				*e*		00 48 45.6	
CRS				pmax	pmax		
	comp=Z,4μm,0.9s						
CRS				smax			
	comp=N,3μm,1.6s						
NRGR	**Nerungri**	**2.31**	**107**	*e*P	**Pn**	**00 48 40.0**	**+1.8**
NRGR				S	**Sn**	**00 49 07.6**	**+0.9**
NRGR				smax			
	comp=E,85nm,0.1s						
CLNS	**Chul'man**	**2.34**	**102**	*e*	**Pn**	**00 48 38.0**	**-0.6**
CLNS				*e*Pg	**Pg**	**00 48 40.3**	**-4.7**
CLNS				Pmax		00 48 41.8	
	comp=E,2μm,0.3s						
CLNS				*e*		00 49 09.2	
CLNS				*e*Sg	**Sg**	**00 49 10.5**	**-4.9**
CLNS				Smax		00 49 13.5	
	comp=E,8μm,0.2s						
CLNS	**Chul'man**	**2.34**	**102**	*e*P	**Pn**	**00 48 39.2**	**+0.6**
CLNS				*e*S	**Sn**	**00 49 08.2**	**+0.8**
CLNS				pmax	pmax		
	comp=Z,306nm,0.4s						
CLNS				pmax	pmax		
	comp=N,83nm,0.3s						
CLNS				pmax	pmax		
	comp=E,46nm,0.3s						
CLNS				smax			
	comp=N,132nm,0.3s						
CLNS				smax			
	comp=E,306nm,0.3s						
CLNS				smax			
	comp=Z,166nm,0.3s						
CLNS				MLR	MLR		
	comp=Z,500nm,10.0s						
ALDR	**Aldan**	**2.77**	**62**	*e*Pg	**Pg**	**00 48 46.3**	**-6.8**
ALDR				Pmax		00 48 53.4	
	comp=Z,836nm,0.3s						
ALDR				*e*Sg	**Sg**	**00 49 21.7**	**-7.3**
ALDR				Smax		00 49 22.1	
	comp=Z,11μm,0.3s						
NLYR	**Nelyaty**	**2.90**	**254**	*e*Pn	**Pn**	**00 48 47.5**	**+1.1**
NLYR				*e*Pg	**Pg**	**00 48 52.2**	**-3.6**
NLYR				Pmax		00 48 52.7	
	comp=Z,985nm,0.5s						
NLYR				*e*Sg	**Sg**	**00 49 31.5**	**-1.9**
NLYR				Smax		00 49 36.4	
	comp=Z,3μm,1.4s						
NLYR	**Nelyaty**	**2.90**	**254**	*e*P	**Pn**	**00 48 47.5**	**+1.1**
NLYR				*e*		00 49 29.7	
NLYR				pmax	pmax		
	comp=Z,1μm,0.4s						
NLYR				smax			
	comp=N,3μm,1.4s						
TUP	**Tupik**	**3.02**	**189**	*e*Pn	**Pn**	**00 48 47.8**	**-0.2**
TUP				*e*Pg	**Pg**	**00 48 52.8**	**-5.2**
TUP				Pmax		00 48 58.2	
	comp=N,673nm,0.7s						
TUP				*e*Sn	**Sn**	**00 49 24.0**	**-0.3**
TUP				*e*Sg	**Sg**	**00 49 31.9**	**-5.3**
TUP				Smax		00 49 33.4	
	comp=N,4μm,0.8s						
TUP	**Tupik**	**3.02**	**189**	*e*P	**Pn**	**00 48 47.8**	**-0.2**
TUP				*e*S	**Sn**	**00 49 23.4**	**-0.9**
TUP				pmax	pmax		
	comp=Z,698nm,0.6s						
TUP				smax			
	comp=E,4μm,0.9s						
TNDR	**Tynda**	**3.18**	**134**	*e*Pn	**Pn**	**00 48 49.8**	**-0.3**
TNDR				*e*Pg	**Pg**	**00 48 55.6**	**-5.4**
TNDR				Pmax		00 48 59.9	
	comp=E,2μm,0.3s						
TNDR				*e*Sn	**Sn**	**00 49 27.2**	**-0.9**
TNDR				*e*Sg	**Sg**	**00 49 36.3**	**-5.9**
TNDR				Smax		00 49 36.6	
	comp=E,20μm,0.5s						
BOD	**Bodaibo**	**3.64**	**279**	⇓*i*Pn	**Pn**	**00 48 57.1**	**+0.6**
BOD				*e*Pg	**Pg**	**00 49 05.0**	**-4.9**
BOD				Pmax		00 49 10.0	
	comp=E,151nm,0.5s						
BOD				*e*Sg	**Sg**	**00 49 51.7**	**-5.4**
BOD				Smax		00 49 58.8	
	comp=E,2μm,1.2s						
BOD	**Bodaibo**	**3.64**	**279**	*e*P	**Pn**	**00 48 56.8**	**+0.3**
BOD				pmax	pmax		
	comp=Z,237nm,0.4s						
SVKR	**Severomuysk**	**4.15**	**255**	*e*Pn	**Pn**	**00 49 03.2**	**-0.4**
SVKR				*e*Pg	**Pg**	**00 49 15.1**	**-4.6**
SVKR				Pmax		00 49 18.8	
	comp=Z,536nm,0.7s						
SVKR				*e*Sg	**Sg**	**00 50 11.3**	**-2.2**
SVKR				Smax		00 50 16.0	
	comp=Z,2μm,1.1s						
SVKR	**Severomuysk**	**4.15**	**255**	*e*P	**Pn**	**00 49 02.5**	**-1.1**
UKT	**Uakit**	**4.39**	**247**	*e*Pn	**Pn**	**00 49 07.9**	**+1.2**
UKT				*e*Pg	**Pg**	**00 49 18.2**	**-5.9**
UKT				Pmax		00 49 21.8	
	comp=Z,253nm,1.6s						
UKT				*e*Sg	**Sg**	**00 50 15.4**	**-5.6**
UKT				Smax		00 50 25.5	
	comp=Z,613nm,1.2s						
UKT	**Uakit**	**4.39**	**247**	*e*P	**Pb**	**00 49 18.3**	**+1.1**
UKT				pmax	pmax		
	comp=Z,238nm,0.6s						
YOA	**Uoyan**	**5.12**	**259**	*e*Pg	**Pg**	**00 49 31.8**	**-6.3**
YOA				Pmax		00 49 41.0	
	comp=Z,1μm,1.2s						
YOA				*e*Sg	**Sg**	**00 50 39.1**	**-5.3**
YOA				Smax		00 50 49.2	
	comp=Z,7μm,2.1s						
YOA	**Uoyan**	**5.12**	**259**	*e*P	**Pb**	**00 49 32.0**	**+2.3**
YOA				pmax	pmax		
	comp=Z,1μm,1.3s						
CGD	**Chagda**	**5.42**	**71**	*e*	**Pn**	**00 49 19.9**	**-1.0**
CGD				*e*Pg	**Pg**	**00 49 31.3**	**-13**
CGD				Pmax		00 49 35.2	
	comp=Z,1μm,0.3s						
CGD				*e*Sg	**Sg**	**00 50 42.2**	**-12**
CGD				Smax		00 50 48.2	
	comp=Z,18μm,0.3s						
CGD						00 51 09.2	
KMO	**Kumora**	**5.47**	**258**	*e*Pn	**Pn**	**00 49 22.3**	**+0.6**
KMO				*e*Pg	**Pg**	**00 49 37.7**	**-7.3**
KMO				Pmax		00 49 42.9	
	comp=Z,147nm,1.1s						
KMO				*e*Sg	**Sg**	**00 50 48.5**	**-7.4**
KMO				Smax		00 51 01.1	
	comp=Z,946nm,1.2s						
KMO	**Kumora**	**5.47**	**258**	*e*P	**Pn**	**00 49 22.8**	**+1.1**
KMO				*e*S	**Sn**	**00 50 23.0**	**-1.7**
TBGR	**Tabaga**	**6.32**	**42**	*e*Pn	**Pn**	**00 49 31.5**	**-1.8**
TBGR				*e*Pg	**Pg**	**00 49 49.4**	**-12**
TBGR				*e*Sg	**Sg**	**00 51 08.2**	**-15**
NIZ	**Nizh Angarsk**	**6.39**	**260**	*e*Pn	**Pn**	**00 49 35.5**	**+1.2**
NIZ				*e*Pg	**Pg**	**00 49 56.6**	**-6.0**
NIZ				Pmax		00 49 59.5	
	comp=Z,61nm,1.4s						
NIZ				*e*Sg	**Sg**	**00 51 20.8**	**-4.6**
NIZ				Smax		00 51 28.4	
	comp=Z,444nm,2.0s						
NIZ	**Nizh Angarsk**	**6.39**	**260**	*e*P	**Pn**	**00 49 35.8**	**+1.5**
NIZ				pmax	pmax		
	comp=Z,62nm,1.6s						
YAK	**Yakutsk**	**6.48**	**41**	*e*P	**Pn**	**00 49 32.2**	**-3.3**
CIT	**Chita**	**6.81**	**221**	*e*Pg	**Pg**	**00 50 02.5**	**-8.0**
CIT				Pmax		00 50 03.6	
	comp=Z,42nm,0.9s						
CIT				*e*Sg	**Sg**	**00 51 30.3**	**-8.4**
CIT				Smax		00 51 34.0	
	comp=Z,1μm,1.6s						
SYVR	**Suvo**	**7.15**	**243**	*e*Pg	**Pg**	**00 50 09.7**	**-7.4**
SYVR				Pmax		00 50 11.7	
	comp=Z,113nm,1.6s						
SYVR				*e*Sg	**Sg**	**00 51 43.2**	**-6.5**
SYVR				Smax		00 51 51.1	
	comp=Z,1μm,1.5s						
MXMB	**Maximikha**	**7.99**	**244**	*e*Pn	**Pn**	**00 49 57.9**	**+1.6**
MXMB				*e*Pg	Pn	00 50 25.8	+30
MXMB				Pmax		00 50 31.2	
	comp=Z,40nm,1.1s						
MXMB				*e*Sg	Sn	00 52 09.7	+43
MXMB				Smax		00 52 17.9	
	comp=Z,1μm,1.4s						
HIA	**Hailar**	**8.18**	**185**	*e*P	**Pn**	**00 49 55.5**	**-3.3**
HIA	**Hailar**	**8.18**	**185**	*e*Sn	**Sn**	**00 51 44.2**	**+13**
OGRR	**Ongureny**	**8.35**	**249**	*e*Pn	**Pn**	**00 50 02.0**	**+0.8**
OGRR				*e*Pg	Pn	00 50 30.7	+30
OGRR				Pmax		00 50 37.1	
	comp=Z,34nm,1.4s						
OGRR				*e*Sg	Sn	00 52 18.6	+43
OGRR				Smax		00 52 33.5	
	comp=Z,233nm,2.3s						
OGRR	**Ongureny**	**8.35**	**249**	*e*P	**Pn**	**00 50 02.4**	**+1.2**
TRTB	**Turuntaevo**	**9.16**	**241**	*e*Pn	**Pn**	**00 50 16.0**	**+3.6**
TRTB				*e*Pg	Pn	00 50 44.2	+32
TRTB				Pmax		00 50 49.0	
	comp=Z,25nm,1.7s						
TRTB				*e*Sg	Sn	00 52 43.8	+48
TRTB				Smax		00 52 54.8	
	comp=Z,492nm,1.9s						
KPC	**Khapcheranga**	**9.17**	**216**	*e*Pn	**Pn**	**00 50 11.8**	**-0.7**
KPC				max		00 50 40.7	
	comp=Z,7.0nm,0.6s						
KPC				*e*Sg	Sn	00 52 42.9	+47
KPC				Smax		00 52 53.5	
	comp=Z,704nm,1.6s						
KPC	**Khapcheranga**	**9.17**	**216**	*e*P	**Pn**	**00 50 12.2**	**-0.3**
KPC				pmax	pmax		
	comp=Z,16nm,0.8s						
TRG	**Tyrgan**	**9.46**	**247**	*e*Sg	Sx	00 52 56.2	
TRG				Smax		00 53 15.1	
	comp=Z,193nm,1.7s						
FFNB	**Fofonovo**	**9.69**	**242**	*e*Sg	Sx	00 53 02.8	
FFNB				Smax		00 53 12.1	
	comp=Z,829nm,1.1s						
KLR	**Kul'dur**	**10.50**	**137**	*e*P	**Pn**	**00 50 28.0**	**-2.7**
KLR				MLR	MLR		
	comp=Z,800nm,8.0s						
TLY	**Talaya**	**11.45**	**247**	*e*P	**Pn**	**00 50 45.7**	**+2.1**
TLY				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ZAK	**Zakamensk**	**12.44**	**243**	*e*P	**Pn**	**00 51 00.9**	**+3.7**
ZAK				*e*		00 53 16.4	
ZAK				pmax	pmax		
	comp=Z,23nm,1.8s						
ZAK				smax			
	comp=E,185nm,1.7s						
ULN	**Ulaanbaatar**	**12.64**	**227**	*e*P	**Pn**	**00 51 06.2**	**+6.3**
SONM	**Songino Array**	**12.92**	**228**	Pn	**Pn**	**00 51 05.3**	**+1.5**
	comp=E,0.1nm,0.3s,baz=22,slow=12,SNR=5.2						
SONM				Sn	**Sn**	**00 53 30.2**	**+2.5**
	comp=E,0.5nm,0.3s,baz=40,slow=17,SNR=4.7						
SONM				Lg		00 54 44.1	
	comp=E,6.0nm,0.3s,baz=28,slow=28,SNR=16						
SONM				LR	LR	00 55 48.8	
	comp=E,64nm,20.4s,baz=177,slow=36						
SONM	**Songino Array**	**12.92**	**228**	P	**Pn**	**00 51 05.3**	**+1.5**
SONM						00 53 30.2	
TIXI	**Tiksi**	**14.70**	**10**	⇓*i*P	**Pn**	**00 51 21.5**	**-6.5**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NVS	**Novosibirsk**	**20.88**	**279**	*e*P	**P**	**00 52 42.6**	**+0.2**
NVS				*e*S	**S**	**00 56 23.9**	**-11**
NVS				pmax	pmax		
	comp=Z,27nm,1.8s						
NVS				pmax	pmax		
	comp=N,11nm,1.4s						
NVS				pmax	pmax		
	comp=E,21nm,1.5s						
NVS				smax			
	comp=N,14nm,1.7s						
BILL	**Bilibino**	**22.82**	**44**	*e*P	**P**	**00 53 01.5**	**-1.6**
BILL				pmax	pmax		
	comp=Z,12nm,3.0s						
BILL	**Bilibino**	**22.82**	**44**	*e*P	**P**	**00 53 07.1**	**+4.0**
	comp=Z,1.5nm,0.3s,mb3.9						
MJAR	**Matsushiro Arr**	**23.90**	**143**	LR	LR	01 01 25.6	
	comp=Z,105nm,18.6s,MS3.3,baz=320,slow=33						
KURK	**Kurchatov**	**25.27**	**273**	*e*P	**P**	**00 53 26.3**	**-0.1**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.7						
KURK	**Kurchatov**	**25.27**	**273**	*e*P	**P**	**00 53 26.2**	**-0.2**
	comp=Z,2.3nm,0.8s,mb3.8						
MKAR	**Makanchi Array**	**25.55**	**262**	P	**P**	**00 53 29.1**	**+0.1**
	comp=Z,1.2nm,0.6s,mb3.6,baz=50,slow=7.9,SNR=9.2						
MKAR	**Makanchi Array**	**25.55**	**262**	*i* P	**P**	**00 53 31.2**	**+2.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CHKZ	**Chkalovo**	**28.07**	**284**	*e*P	**P**	**00 53 50.8**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
CHKZ	**Chkalovo**	**28.07**	**284**	*e*P	**P**	**00 53 50.8**	**-0.9**
	comp=Z,2.1nm,0.5s,mb4.0						
BRVK	**Borovoye**	**28.54**	**283**	*e*P	**P**	**00 53 55.5**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
BRVK	**Borovoye**	**28.54**	**283**	*e*P	**P**	**00 53 55.5**	**-0.4**
	comp=Z,1.3nm,0.6s,mb3.8						
ARU	**Arti**	**32.91**	**295**	*e*P	**P**	**00 54 34.1**	**-0.3**
ARU				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ARU	**Arti**	**32.91**	**295**	*e*P	**P**	**00 54 34.1**	**-0.3**
	comp=Z,1.0nm,0.4s,mb4.1						
KEV	**Kevo**	**39.10**	**327**	*e*p	**P**	**00 55 26.7**	**-0.8**
	comp=Z,3.5nm,0.7s,mb4.2						
KEV	**Kevo**	**39.10**	**327**	*e*P	**P**	**00 55 26.7**	**-0.8**
KEV				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
KLMR	**Klimovskoe**	**39.31**	**310**	*e*P	**P**	**00 55 27.9**	**-1.3**
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.3						
ARCES	**ARCESS Array B**	**39.66**	**327**	P	**P**	**00 55 32.3**	**+0.2**
	comp=Z,1.9nm,0.7s,mb4.0,baz=60,slow=9.8,SNR=9.5						
ARCES				LR	LR	01 16 09.6	
	comp=Z,61nm,18.1s,MS3.5,baz=71,slow=43						
JOF	**Joensuu**	**41.40**	**316**	*e*p	**P**	**00 55 45.5**	**-1.0**
	comp=Z,3.9nm,0.8s,mb4.1						
JOF	**Joensuu**	**41.40**	**316**	*e*P	**P**	**00 55 45.5**	**-1.0**
JOF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
ILAR	**Eielson Array**	**41.40**	**40**	P	**P**	**00 55 48.0**	**+1.4**
	comp=Z,1.2nm,0.6s,mb3.7,baz=288,slow=4.5,SNR=18						
FINES	**FINESS Array B**	**44.25**	**317**	P	**P**	**00 56 09.2**	**-0.4**
	comp=Z,2.1nm,0.7s,mb4.0,baz=46,slow=8.2,SNR=15						
FINES				LR	LR	01 16 19.6	
	comp=Z,30nm,19.5s,MS3.2,baz=171,slow=38						
NB2	**NORSAR Subarra**	**49.72**	**323**	P	**P**	**00 56 52.8**	**+0.4**
	comp=Z,2.1nm,0.5s,mb4.4,baz=41,slow=7.4						
NOA	**NORSAR Array B**	**49.72**	**323**	P	**P**	**00 56 53.0**	**+0.6**
	comp=Z,2.2nm,0.5s,mb4.5,baz=44,slow=8.0,SNR=16						
NOA				LR	LR	01 19 08.9	
	comp=Z,48nm,18.9s,MS3.5,baz=225,slow=38						
NOA	**NORSAR Array B**	**49.72**	**323**	P	**P**	**00 56 53.0**	**+0.6**
NOA				LR	LR	01 19 08.9	
AKASG	**Malin Array Be**	**50.22**	**304**	P	**P**	**00 56 56.5**	**+0.4**
	comp=Z,2.0nm,0.4s,mb4.5,baz=41,slow=8.4,SNR=14						
AKASG	**Malin Array Be**	**50.22**	**304**	*i* P	**P**	**00 56 57.0**	**+0.8**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
SOC	**Sochi**	**50.28**	**291**	*e*P	**P**	**00 57 01.7**	**+5.1**
SOC				*e*S	**S**	**01 04 16.4**	**+7.3**
YKA	**Yellowknife Ar**	**53.00**	**29**	LR	LR	01 18 26.2	
	comp=Z,41nm,20.8s,MS3.5,baz=135,slow=34						
BRTR	**Keskin Array B**	**56.19**	**292**	P	**P**	**00 57 42.8**	**+2.7**
	comp=Z,0.3nm,0.6s,mb3.5,baz=53,slow=7.0,SNR=3.0						
KHC	**Kasperske Hory**	**58.05**	**312**	*e*P	**P**	**00 57 53.5**	**+0.2**
GERES	**GERESS Array B**	**58.23**	**312**	P	**P**	**00 57 55.7**	**+1.2**
	comp=Z,0.7nm,0.7s,mb3.8,baz=36,slow=7.4,SNR=7.4						
GERES				LR	LR	01 24 38.7	
	comp=Z,60nm,19.4s,MS3.7,baz=273,slow=38						
GERES	**GERESS Array B**	**58.23**	**312**	P	**P**	**00 57 55.7**	**+1.2**
GERES				LR	LR	01 24 38.6	
WRA	**Warramunga Arr**	**77.89**	**167**	P	**P**	**01 00 01.3**	**+3.2**
	comp=Z,0.2nm,0.4s,mb3.4,baz=348,slow=6.8,SNR=4.7						
AFI	**Afiamalu**	**89.98**	**116**	LR	LR	01 38 26.8	
	comp=Z,86nm,18.9s,MS4.2,baz=92,slow=34						

*CSEM **20** 00:51:53.7, 1207N×4388E, h7km, ML4.1, After DHMR*
DHMR 20 00:51:53.7±1.2, 1207N×4388E, h8km±8km, ML4.1, 3D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**1.18**	**11**	⇓*i*P	**Pg**	**00 52 15.6**	**-0.7**
TRBA				*i* S	Sg	**00 52 32.7**	**+1.1**
TRBA				AML	AML	00 52 38.1	
	comp=E,4μm,0.5s						
ADEN	**Aden**	**1.29**	**57**	⇓*i*P	Pn	00 52 17.8	-0.2
ADEN				*i* S	Sb	00 52 35.5	+0.5
ADEN				AML	AML	00 52 42.6	
	comp=E,6μm,0.9s						
ADEN	**Aden**	**1.29**	**57**	⇓*i*P	Pn	00 52 17.8	-0.3
ADEN				*i* S	Sb	00 52 35.5	+0.5
	comp=E,3μm,0.9s						
UDYN	**Al 'Udayn**	**1.89**	**3**	*i* P	Pn	00 52 27.9	+1.6
UDYN				*i* S	Sn	00 52 53.8	+3.5
UDYN				AML	AML	00 53 03.4	
	comp=N,2μm,0.5s						
UDYN	**Al 'Udayn**	**1.89**	**3**	*i* P	Pn	00 52 27.9	+1.6
UDYN				*i* S	Sn	00 52 53.8	+3.5
	comp=N,1μm,0.5s						
LBOS		**2.24**	**37**	*i* P	Pn	00 52 33.8	+2.7
LBOS				*i* S	Sn	00 53 03.5	+4.6
BDHA	**Al Bayda'**	**2.51**	**41**	*i* P	Pn	00 52 37.0	+2.1
BDHA				*i* S	Sn	00 53 12.2	+6.5
BDHA				AML	AML	00 53 25.6	
	comp=E,1μm,0.4s						
BDHA	**Al Bayda'**	**2.51**	**41**	*i* P	Pn	00 52 37.0	+2.2
BDHA				*i* S	Sn	00 53 12.2	+6.5
	comp=E,584nm,0.4s						
DHBB	**Dhamar BB**	**2.54**	**11**	*i* P	Pn	00 52 37.7	+2.5
DHBB				*i* S	Sn	00 53 12.6	+6.3
HAJJ	**Hajjah**	**3.62**	**356**	*i* P	Pn	00 52 52.3	+2.2
HAJJ				*i* S	Sn	00 53 38.9	+6.0
HAJJ				AML	AML	00 53 52.7	
	comp=N,604nm,0.5s						
HAJJ	**Hajjah**	**3.62**	**356**	*i

POGA				AML	AML	01 12 30.6	
	comp=Z,20nm,0.5s						
KSR	**Koster**	**7.01 233**	*e*P	P	Pn	01 11 33.1	+2.0
LBTB	**Lobatse**	**7.64 244**	*e*P	P	Pn	01 11 40.4	+0.6
LBTB			*e*S	S	Sn	01 13 03.4	-3.4
LBTB				AML	AML	01 13 20.1	
	comp=Z,6.6nm,1.1s						
SWZ	**Schweizer**	**8.92 231**	*e*P	P	Pn	01 11 58.2	+1.0
SWZ			*e*S	S	Sn	01 13 33.8	-4.3
SWZ				AML	AML	01 14 13.4	
	comp=Z,4.9nm,0.8s						
HVD	**Hendrik Verwoe**	**11.15 216**	*e*P	P	Pn	01 12 28.9	+1.1
HVD			*e*S	S	Sn	01 14 27.4	-5.4
HVD				AML	AML	01 14 35.4	
	comp=Z,4.1nm,0.5s						

MOS ***20*** *01:10:18.6±0.8, 469S×152.03E, h33km, mb4.8/6, Error ellipse: s-maj=18.8km s-min=15.8km az=63.3*
ISCJB ***20*** *01:10:26.1±2.1, 493S±0.10×152.06E±0.08, h103km±19km, mb4.5/26, Error ellipse: s-maj=16.7km s-min=11.5km az=127.7*
IDC ***20*** *01:10:27.4±1.0, 491S×152.05E, h103km±8km, mb4.1/11, mb1 4.3/12, mb1mx4.3/16, mbtmp4.4/12, MS3.3/2, Ms1 3.3/2, ms1mx2.9/20, Error ellipse: s-maj=22.0km s-min=12.7km az=121.0*
NEIC ***20*** *01:10:27.2±0.3, 493S×152.04E, mb4.8/14, Error ellipse: s-maj=8.8km s-min=6.2km az=131.0*
BJI ***20*** *01:10:27.2, 490S×152.00E, h101km, mB4.8, mb4.8*
ISC 20 01:10:28.9±1.5, 503S±008×152.10E±007, h115km±14km, h108km±4.8km; pP-P, n61, σ0.88/53, mb4.5/25, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**6.55**	**228**	P		**Pn**	**01 12 02.7**	**0.0**
	4.6nm,0.3s,baz=36,slow=6.1,SNR=8.7							
PMG				S		**Sn**	**01 13 16.2**	**+0.2**
	16nm,0.3s,baz=152,slow=21,SNR=18							
PMG	**Port Moresby**	**6.55**	**228**	*e*P		**Pn**	**01 12 03.2**	**+0.5**
PMG				pmax		pmax		
	comp=Z,70nm,0.9s							
PMG	**Port Moresby**	**6.55**	**228**	*e*Pn		**Pn**	**01 12 03.2**	**+0.4**
	comp=Z,70nm,0.9s							
PMG				*e*			01 12 29.6	
GUMO	**Guam**	**19.84**	**339**	LR		LR	01 21 54.4	
	comp=Z,38nm,20.1s,baz=34,slow=35							
KAKA	**Kakadu**	**20.86**	**247**	*e*P		**P**	**01 15 01.5**	**0.0**
	comp=Z,17nm,0.5s							
KAKA				*e*S		**S**	**01 18 45.9**	**-1.7**
DZM	**Mont Dzumac**	**21.91**	**142**	P		**P**	**01 15 14.1**	**+1.3**
	comp=Z,13nm,0.9s,mb4.2,baz=42,slow=20,SNR=4.3							
WRAB	**Tennant Creek**	**22.76**	**228**	*e*P		**P**	**01 15 21.4**	**-0.1**
WRAB				pmax		pmax		
	comp=Z,65nm,1.0s,mb4.9							
WRAB	**Tennant Creek**	**22.76**	**228**	*e*P		**P**	**01 15 21.4**	**-0.1**
	comp=Z,65nm,1.0s,mb4.9							
WRAB				*e*			01 15 40.9	
WB2	**Warramunga Arr**	**22.76**	**228**	*e*P		**P**	**01 15 20.4**	**-1.1**
WB2				*e*pP			01 15 43.3	
WB2				*e*S		**S**	**01 19 24.1**	**+2.7**
WRA	**Warramunga Arr**	**22.77**	**228**	P		**P**	**01 15 21.9**	**+0.3**
	comp=Z,6.4nm,0.4s,mb4.3,baz=50,slow=10.0,SNR=51							
WRA				pP			01 15 41.9	
	comp=Z,26nm,0.9s,baz=51,slow=9.8,SNR=16							
WRA				PcP		PcP	01 19 10.0	+0.9
	comp=Z,0.9nm,0.9s,baz=64,slow=3.8,SNR=5.8							
ASAR	**Alice Springs**	**25.51**	**222**	P		**P**	**01 15 46.6**	**+0.1**
	comp=Z,4.1nm,0.5s,mb4.1,baz=57,slow=8.5,SNR=29							
ASAR				pP		pP	01 16 09.7	-1.7
	comp=Z,9.8nm,0.8s,baz=56,slow=8.8,SNR=16							
STKA	**Stephens Creek**	**28.47**	**199**	P		**P**	**01 16 11.8**	**-1.2**
	comp=Z,1.6nm,0.7s,mb3.6,baz=316,slow=20,SNR=3.4							
STKA	**Stephens Creek**	**28.47**	**199**	*e*P		**P**	**01 16 11.9**	**-1.1**
FITZ	**Fitzroy Crossi**	**28.94**	**241**	*e*P		**P**	**01 16 16.3**	**-0.9**
	comp=Z,10nm,0.4s,mb4.8							
FITZ				*e*pP		pP	01 16 38.9	-3.5
FITZ	**Fitzroy Crossi**	**28.94**	**241**	P		**P**	**01 16 17.2**	**0.0**
	comp=Z,6.5nm,0.5s,mb4.5,baz=68,slow=6.8,SNR=38							
MBWA	**Marble Bar**	**35.25**	**240**	*e*P		**P**	**01 17 12.4**	**+0.1**
	comp=Z,7.8nm,0.3s,mb5.0							
KKM	**Kota Kinabalu**	**37.47**	**287**	P		**P**	**01 17 31.1**	**-0.1**
KULM	**Kulim**	**52.39**	**281**	*e*P		**P**	**01 19 29.2**	**0.0**
MDJ	**Mudanjiang**	**53.39**	**340**	P		**P**	**01 19 38.3**	**+1.8**
MDJ				AP		pP	01 20 06.6	+2.7
MDJ				AMB		AMB		
	comp=Z,5.0nm,0.7s,mb4.7							
MDJ				AMB		AMB		
	comp=Z,53nm,4.2s							
KMI	**Kunming**	**56.53**	**304**	P		**P**	**01 20 03.8**	**+4.6**
KMI				S		**S**	**01 27 43.3**	**+1.6**
KMI				XS		sS	01 28 29.6	+0.3
KMI				SS		SS	01 31 35.3	+4.6
KMI				AMB		AMB		
	comp=Z,8.0nm,0.7s,mb4.9							
KMI				LR		LR		
	comp=Z,54nm,22.1s							
GTA	**Gaotai**	**65.35**	**318**	*e*P		**P**	**01 20 59.6**	**+0.8**
GTA				AMB		AMB		
	comp=Z,8.0nm,0.8s,mb4.6							
ULN	**Ulaanbaatar**	**65.82**	**329**	*e*P		**P**	**01 21 01.7**	**-0.1**
SONM	**Songino Array**	**66.14**	**328**	P		**P**	**01 21 03.8**	**-0.1**
	comp=Z,1.4nm,0.5s,mb4.0,baz=148,slow=5.9,SNR=9.0							
SONM				pP		pP	01 21 28.7	-3.5
	comp=Z,1.6nm,0.9s,baz=150,slow=5.9,SNR=3.7							
SONM				LR		LR	01 48 01.6	
	comp=Z,55nm,18.7s,baz=192,slow=34							
SONM	**Songino Array**	**66.14**	**328**	P		**P**	**01 21 03.8**	**-0.1**
SONM				*PP		pP	01 21 28.8	-3.5
LSA	**Lhasa**	**67.79**	**305**	*e*P		**P**	**01 21 15.7**	**+1.4**
LSA				pmax		pmax		
	comp=Z,5.0nm,0.6s,mb4.5							
LSA	**Lhasa**	**67.79**	**305**	*e*P		**P**	**01 21 15.7**	**+1.4**
	comp=Z,4.5nm,0.6s,mb4.5							
ZAK	**Zakamensk**	**69.32**	**329**	*e*P		**P**	**01 21 18.6**	**-5.2**
ZAK				pmax		pmax		
	comp=Z,6.0nm,1.4s,mb4.2							
JIRN	**Jiri**	**71.30**	**301**	*e*P		**P**	**01 21 36.3**	**+0.4**
	comp=Z,11nm,0.7s,mb4.8							
GUN	**Gumba**	**71.64**	**301**	*e*P		**P**	**01 21 38.4**	**+0.5**
	comp=Z,24nm,0.7s,mb5.2							
PKI	**Pulchoki**	**71.94**	**301**	*e*P		**P**	**01 21 39.6**	**-0.1**
KKN	**Kakani**	**72.11**	**301**	*e*P		**P**	**01 21 41.2**	**+0.5**
DMN	**Daman**	**72.21**	**301**	*e*P		**P**	**01 21 41.7**	**+0.4**
	comp=Z,18nm,0.7s,mb5.0							
GKN	**Gorkha**	**72.72**	**301**	*e*P		**P**	**01 21 44.3**	**0.0**
KOLN	**Koldanda**	**73.55**	**301**	*e*P		**P**	**01 21 49.3**	**+0.1**
	comp=Z,12nm,0.6s,mb4.8							
SLKM	**Skilak Lake**	**79.17**	**25**	*e*P		**P**	**01 22 20.4**	**-0.5**
MKAR	**Makanchi Array**	**80.03**	**319**	P		**P**	**01 22 24.6**	**-1.0**
	comp=Z,1.3nm,0.6s,mb3.9,baz=99,slow=6.5,SNR=8.6							
COLA	**College**	**82.32**	**22**	*e*P		**P**	**01 22 36.2**	**-1.5**
COLA				*e*			01 22 41.8	
COLA				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb4.6							
COLA	**College**	**82.32**	**22**	*e*P		**P**	**01 22 36.2**	**-1.5**
	comp=Z,6.0nm,0.6s,mb4.6							
COLA				*e*PcP		PcP	01 22 41.8	-0.8
ILAR	**Eielson Array**	**82.63**	**22**	P		**P**	**01 22 37.6**	**-1.7**
	comp=Z,6.1nm,0.6s,mb4.6,baz=247,slow=5.5,SNR=41							
KURK	**Kurchatov**	**83.51**	**322**	*e*P		**P**	**01 22 41.8**	**-2.1**
KURK				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.1							
KURK	**Kurchatov**	**83.51**	**322**	*e*P		**P**	**01 22 41.8**	**-2.1**
	comp=Z,1.7nm,0.6s,mb4.0							
AAK	**Ala-Archa**	**84.31**	**314**	*e*P		**P**	**01 22 47.8**	**-0.1**
AAK				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.1							
AAK	**Ala-Archa**	**84.31**	**314**	*e*P		**P**	**01 22 47.8**	**-0.1**
	comp=Z,2.5nm,0.6s,mb4.2							
DAWY	**Dawson**	**85.28**	**24**	*e*P		**P**	**01 22 53.3**	**+0.5**
DLBC	**Dease Lake**	**87.93**	**31**	*e*P		**P**	**01 23 06.4**	**+0.7**
ZRNK	**Zerenda**	**89.81**	**323**	*e*P		**P**	**01 23 13.5**	**-1.0**
ZRNK				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.3							
ZRNK	**Zerenda**	**89.81**	**323**	*e*P		**P**	**01 23 13.5**	**-1.0**
	comp=Z,0.8nm,0.4s,mb4.2							
NVAR	**Mina Array Bea**	**92.77**	**52**	P		**P**	**01 23 29.4**	**+1.2**
	comp=Z,1.6nm,0.7s,mb4.5,baz=261,slow=4.2,SNR=5.9							
BMO	**Blue Mountains**	**93.93**	**45**	*e*P		**P**	**01 23 33.8**	**+0.3**
YKA	**Yellowknife Ar**	**95.95**	**28**	P		**P**	**01 23 42.1**	**-0.7**
	comp=Z,1.4nm,0.6s,mb4.5,baz=273,slow=4.9,SNR=15							
PDAR	**Pinedale Array**	**99.52**	**48**	P		Pdif	01 23 58.2	-0.6
	comp=Z,1.1nm,0.7s,baz=204,slow=0.9,SNR=6.3							
NB2	**NORSAR Subarra**	**116.88**	**340**	PKPd		PKPdf	01 28 59.0	-0.8
	comp=Z,0.6nm,0.6s,baz=44,slow=1.9							
NOA	**NORSAR Array B**	**116.88**	**340**	PKP		PKPdf	01 28 58.9	-1.0
	comp=Z,0.9nm,0.6s,baz=51,slow=1.9,SNR=6.7							
CLL	**Collm**	**122.71**	**331**	*e*PKPdf		PKPdf	01 29 11.0	0.0
GERES	**GERESS Array B**	**123.88**	**328**	PKP		PKPdf	01 29 12.9	-0.4
	comp=Z,1.0nm,0.6s,baz=84,slow=1.5,SNR=15							
LPAZ	**La Paz**	**134.93**	**119**	PKP		PKPdf	01 29 37.2	+2.9
	comp=Z,0.6nm,0.5s,baz=49,slow=6.0,SNR=4.5							
LPAZ	**La Paz**	**134.93**	**119**	PKP		PKPdf	01 29 37.2	+2.9
SDV	**Santo Domingo**	**137.43**	**82**	*e*PKPdf		PKPdf	01 29 41.2	+2.3
TORD	**Torodi Ar. Bea**	**149.71**	**287**	PKPbc		PKPbc	01 30 05.8	+0.7
	comp=Z,8.8nm,0.7s,baz=90,slow=2.8,SNR=84							
BDFB	**Brasilia**	**151.40**	**136**	PKPbc		PKPbc	01 30 11.0	+1.9
	comp=Z,2.6nm,0.5s,baz=297,slow=1.4,SNR=6.7							
DBIC	**Dimbokro**	**157.01**	**275**	PKPab		PKPab	01 30 42.5	+0.9
	comp=Z,2.3nm,0.6s,baz=55,slow=4.4,SNR=4.4							

NEIC ***20*** *01:14:03.2, 3947S×174.39E, h221km, MG4.1(WEL), After WEL.*
WEL 20 01:14:03.7±0.3, 3950S×174.41E, h217km±2km, ML4.1/15, 2C-6D, Error ellipse: s-maj=2.6km s-min=1.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NEZ	**North Egmont**	**0.33**	**312**	PN		Pn	01 14 32.4	+0.2
NEZ	**North Egmont**	**0.33**	**312**	P		Pn	01 14 32.4	+0.1
NRZ	**Ngariki Road**	**0.41**	**293**	PN		Pn	01 14 32.3	-0.2
NRZ	**Ngariki Road**	**0.41**	**293**	P		Pn	01 14 32.3	-0.1
PKE	**Pukeiti**	**0.45**	**312**	PN		Pn	01 14 32.3	-0.3
PKE				SN		S	01 14 54.6	+0.5
PKE	**Pukeiti**	**0.45**	**312**	P		Pn	01 14 32.3	-0.3
PKE				S		S	01 14 55.4	+0.3
VRZ	**Vera Road**	**0.46**	**36**	PN		Pn	01 14 31.9	-0.7
VRZ				*e*SN		Pn	01 14 53.7	-1.4
VRZ	**Vera Road**	**0.46**	**36**	P		Pn	01 14 31.9	-0.7
VRZ				S		S	01 14 54.2	-0.9
NWEZ	**Newall Road**	**0.48**	**298**	PN		Pn	01 14 32.5	-0.2
WAZ	**Wanganui**	**0.51**	**121**	PN		Pn	01 14 33.5	+0.7
WAZ				*e*SN		S	01 14 55.3	-0.1
WAZ				SN		S	01 14 55.4	-0.1
WAZ	**Wanganui**	**0.51**	**121**	P		Pn	01 14 33.5	+0.7
PKVZ	**Pokaka**	**0.75**	**74**	PN		Pn	01 14 33.5	-0.2
MTVZ	**Mangateitei**	**0.82**	**83**	PN		Pn	01 14 34.2	+0.1
MTVZ				SN		S	01 14 57.2	-0.7
TRVZ	**Turoa**	**0.90**	**78**	PN		Pn	01 14 34.7	+0.1
TWVZ	**Taurewa**	**0.90**	**62**	PN		Pn	01 14 34.2	-0.4
TWVZ				SN		S	01 14 57.4	-1.3
TWVZ	**Taurewa**	**0.90**	**62**	P		Pn	01 14 34.2	-0.4
FWVZ	**Far West T-bar**	**0.91**	**75**	⇑PN		Pn	01 14 34.2	+0.1
FWVZ				SN		S	01 14 58.1	-0.7
FWVZ	**Far West T-bar**	**0.91**	**75**	P		Pn	01 14 34.7	0.0
WPVZ	**Whakapapa**	**0.93**	**72**	PN		Pn	01 14 34.7	-0.1
WPVZ				SN		S	01 14 58.3	-0.7
WPVZ	**Whakapapa**	**0.93**	**72**	P		Pn	01 14 34.7	0.0
WNVZ	**Wahianoa**	**0.93**	**80**	⇓PN		Pn	01 14 34.9	+0.1
WNVZ				SN		S	01 14 58.2	-0.8
WNVZ	**Wahianoa**	**0.93**	**80**	P		Pn	01 14 34.9	+0.1
NGZ	**Ngauruhoe**	**0.97**	**71**	⇓PN		Pn	01 14 35.0	-0.1
NGZ	**Ngauruhoe**	**0.97**	**71**	P		Pn	01 14 35.0	0.0
TUVZ	**Tukino**	**0.99**	**77**	PN		Pn	01 14 35.3	+0.2
TUVZ				SN		S	01 14 58.7	-1.0
TUVZ	**Tukino**	**0.99**	**77**	P		Pn	01 14 35.3	+0.2
WTVZ	**West Tongariro**	**0.99**	**68**	⇓PN		Pn	01 14 35.0	-0.1
WTVZ	**West Tongariro**	**0.99**	**68**	P		Pn	01 14 35.0	-0.1
OTVZ	**Oturere**	**1.02**	**71**	PN		Pn	01 14 35.5	+0.2
KRVZ	**Karewarewa**	**1.03**	**68**	PN		Pn	01 14 35.3	-0.1
KRVZ				SN		S	01 14 59.3	-0.8
HIZ	**Hauiti**	**1.04**	**19**	⇓PN		Pn	01 14 34.4	-1.1
HIZ				*e*SN		S	01 14 58.4	-1.9
HIZ	**Hauiti**	**1.04**	**19**	P		Pn	01 14 34.4	-1.0
HIZ				S		S	01 14 58.3	-1.9
MOVZ	**Moawhango**	**1.04**	**85**	⇓PN		Pn	01 14 35.1	-0.3
MOVZ				SN		S	01 14 58.2	-2.0
MOVZ	**Moawhango**	**1.04**	**85**	P		Pn	01 14 35.1	-0.3
KATZ	**Kakaramea**	**1.12**	**63**	PN		Pn	01 14 35.8	-0.2
KATZ	**Kakaramea**	**1.12**	**63**	P		Pn	01 14 35.8	-0.2
TSZ	**Takapari Road**	**1.32**	**116**	PN		Pn	01 14 37.8	+0.4
TSZ	**Takapari Road**	**1.32**	**116**	P		Pn	01 14 37.8	+0.4
DUWZ	**D'Urville Isla**	**1.36**	**196**	PN		Pn	01 14 37.6	-0.2
KIW	**Kapiti Island**	**1.42**	**165**	PN		Pn	01 14 38.1	-0.1
MRZ	**Mangatainoka R**	**1.47**	**143**	PN		Pn	01 14 38.5	-0.1
MRZ				SN		S	01 15 04.9	-1.0
MRZ	**Mangatainoka R**	**1.47**	**143**	*e*P		Pn	01 14 38.5	-0.1
BKZ	**Black Stump Fm**	**1.65**	**79**	⇓PN		Pn	01 14 39.6	-0.5
BKZ				SN		S	01 15 06.5	-2.2
BKZ	**Black Stump Fm**	**1.65**	**79**	P		Pn	01 14 39.7	-0.4
CAW	**Cannon Point**	**1.69**	**163**	PN		Pn	01 14 40.2	-0.3
CAW	**Cannon Point**	**1.69**	**163**	P		Pn	01 14 40.3	-0.2
TIWZ	**Tintock**	**1.71**	**139**	PN		Pn	01 14 40.6	0.0
TCW	**Tory Channel**	**1.72**	**183**	PN		Pn	01 14 40.5	-0.3
TCW				SN		S	01 15 08.0	-1.8
TCW	**Tory Channel**	**1.72**	**183**	P		Pn	01 14 40.6	-0.2
MRW	**Makara Radio**	**1.74**	**173**	PN		Pn	01 14 40.7	-0.3
MRW	**Makara Radio**	**1.74**	**173**	P		Pn	01 14 40.7	-0.3
SNZO	**South Karori**	**1.82**	**173**	PN		Pn	01 14 41.3	-0.5
SNZO	**South Karori**	**1.82**	**173**	*e*Pn		Pn	01 14 43.1	+1.4
SNZO				*e*Sn		S	01 15 10.2	-1.3
BFZ	**Birch Farm**	**1.84**	**131**	*e*PN		Pn	01 14 42.1	+0.2
BFZ	**Birch Farm**	**1.84**	**131**	*e*P		Pn	01 14 42.1	+0.2
MTW	**Mount Morrison**	**1.86**	**154**	PN		Pn	01 14 41.7	-0.4
MTW	**Mount Morrison**	**1.86**	**154**	P		Pn	01 14 41.7	-0.4
NNZ	**Nelson**	**1.89**	**204**	⇑PN		Pn	01 14 41.6	-0.8
NNZ				SN		S	01 15 10.4	-2.3
NNZ	**Nelson**	**1.89**	**204**	P		Pn	01 14 41.6	-0.8
QRZ	**Quartz Range**	**1.96**	**227**	PN		Pn	01 14 41.3	-1.8
QRZ	**Quartz Range**	**1.96**	**227**	P		Pn	01 14 41.3	-1.8
MSWZ	**Moikau Station**	**2.02**	**162**	PN		Pn	01 14 43.0	-0.6
MSWZ	**Moikau Station**	**2.02**	**162**	P		Pn	01 14 43.0	-0.6
PAWZ	**Paruwai Farm**	**2.04**	**158**	PN		Pn	01 14 43.3	-0.5
PAWZ	**Paruwai Farm**	**2.04**	**158**	P		Pn	01 14 43.3	-0.5
TRWZ	**Traveller**	**2.13**	**153**	PN		Pn	01 14 44.8	0.0
BSWZ	**Blackbirch Sta**	**2.25**	**190**	PN		Pn	01 14 45.8	-0.2
BSWZ	**Blackbirch Sta**	**2.25**	**190**	P		Pn	01 14 46.1	+0.1
URZ	**Urewera**	**2.44**	**60**	PN		Pn	01 14 46.0	-2.0
URZ				SN		S	01 15 18.2	-4.5
URZ	**Urewera**	**2.44**	**60**	P		Pn	01 14 46.1	-1.9
THZ	**Tophouse**	**2.54**	**206**	P		Pn	01 14 47.8	-1.2
KNZ	**Kokohu**	**2.58**	**80**	*e*P		Pn	01 14 48.0	-0.6
MWZ	**Matawai**	**2.69**	**65**	P		Pn	01 14 49.2	-1.1
KHZ	**Kahutara**	**2.99**	**193**	P		Pn	01 14 53.0	-1.1
DSZ	**Denniston Nort**	**3.00**	**221**	P		Pn	01 14 52.3	-1.9
PUZ	**Puketiti**	**3.32**	**66**	P		Pn	01 14 56.0	-1.9
LTZ	**Lake Taylor**	**3.66**	**206**	*e*P		Pn	01 14 50.0	-12
MQZ	**McQueen's Vall**	**4.41**	**197**	P		Pn	01 15 08.3	-2.8
WVZ	**Waitaha Valley**	**4.52**	**217**	*e*P		Pn	01 15 10.2	-2.3
ODZ	**Otahua Downs**	**6.21**	**206**	*e*P		Pn	01 15 31.5	-2.3
JCZ	**Jackson Bay**	**6.23**	**221**	*e*P		Pn	01 15 30.1	-3.9
EAZ	**Earnscleugh**	**6.86**	**212**	*e*P		Pn	01 15 38.6	-3.6
TAU	**Tasmania Unive**	**20.64**	**252**	*e*P		P	01 18 25.2	-1.3
	57nm,1.1s							

IDC ***20*** *01:37:14.3±1.3, 1999S×174.34W, h0km, mb3.9/5, mb1 4.3/7, mb1mx4.1/16, mbtmp4.0/7, ML4.4/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/26, Error ellipse: s-maj=59.3km s-min=23.3km az=152.0*
MOS ***20*** *01:37:16.3±0.9, 2014S×174.21W, h33km, mb4.7/2, Error ellipse: s-maj=68.2km s-min=21.2km az=0.2*
ISCJB ***20*** *01:37:18.2±0.7, 197S±0.1×174.5W±0.1, h33km, mb4.3/10, Error ellipse: s-maj=20.8km s-min=9.4km az=81.9*
NEIC ***20*** *01:37:19.4±0.6, 1993S×174.28W, h35km, mb4.8/5, Error ellipse: s-maj=20.3km s-min=13.2km az=162.0*
ISC 20 01:37:20.1±0.6, 198S±01×1744W±01, h35km, n22, σ0.93/21, mb4.3/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**6.34**	**24**	Pn		**Pn**	**01 38 50.5**	**-0.5**
	4.0nm,0.3s,baz=307,slow=20,SNR=3.8							
AFI				Sn		**Sn**	**01 39 56.8**	**-5.3**
	6.0nm,0.3s,baz=230,slow=23,SNR=4.2							
AFI	**Afiamalu**	**6.34**	**24**	*e*P		**Pn**	**01 38 50.6**	**-0.4**
AFI				*e*			01 40 00.8	
AFI				pmax		pmax		
	comp=Z,14nm,0.5s							
AFI	**Afiamalu**	**6.34**	**24**	*e*Pn		**Pn**	**01 38 50.6**	**-0.4**
	comp=Z,14nm,0.5s							
AFI				*e*Sn		**Sn**	**01 40 00.8**	**-1.3**
RAR	**Rarotonga**	**13.80**	**99**	Pn		**Pn**	**01 40 28.1**	**-5.1**
	comp=Z,1.8nm,0.3s,baz=103,slow=14,SNR=3.0							
RAR				T			01 54 43.5	
	comp=Z,11nm,0.3s,baz=102,slow=17,SNR=5.3							
HNR	**Honiara**	**26.81**	**289**	P		**P**	**01 42 56.8**	**-0.2**
HNR				pmax		pmax		
	comp=Z,97nm,0.8s,mb5.4							
HNR	**Honiara**	**26.81**	**289**	P		**P**	**01 42 56.8**	**-0.2**
	comp=Z,97nm,0.8s,mb5.4							
CTA	**Charters Tower**	**36.92**	**263**	LR		LR	01 56 59.8	
	comp=Z,66nm,18.8s,baz=231,slow=32							
CTAO	**Charters Tower**	**36.92**	**263**	*e*P		**P**	**01 44 25.3**	**-0.3**
CTAO				pmax		pmax		
	comp=Z,2.0nm,0.4s,mb4.3							
CTAO	**Charters Tower**	**36.92**	**263**	*e*P		**P**	**01 44 25.3**	**-0.2**
	comp=Z,2.2nm,0.4s,mb4.3							
ASAR	**Alice Springs**	**47.97**	**256**	P		**P**	**01 45 55.0**	**-0.3**
	comp=Z,0.6nm,0.7s,mb3.7,baz=93,slow=8.5,SNR=6.2							
WRAB	**Tennant Creek**	**48.03**	**261**	*e*P		**P**	**01 45 55.9**	**0.0**
WRAB				pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.7							
WRAB	**Tennant Creek**	**48.03**	**261**	*e*P		**P**	**01 45 55.9**	**+0.1**
	comp=Z,6.8nm,1.0s,mb4.6							
WRA	**Warramunga Arr**	**48.04**	**261**	P		**P**	**01 45 55.9**	**0.0**
	comp=Z,0.3nm,0.3s,mb3.8,baz=97,slow=7.1,SNR=5.3							
QSPA	**South Pole Qui**	**70.31**	**180**	*e*P		**P**	**01 48 30.2**	**+0.1**
	comp=Z,7.7nm,1.2s,mb4.5							
NVAR	**Mina Array Bea**	**78.20**	**42**	P		**P**	**01 49 17.1**	**+1.1**
	comp=Z,1.7nm,0.6s,mb4.2,baz=218,slow=7.1,SNR=7.4							
MCMT	**McKenzie Canyo**	**85.23**	**39**	P		**P**	**01 49 52.7**	**-0.3**
MCMT				*e*PcP		PcP	01 49 55.3	-0.8
PDAR	**Pinedale Array**	**86.14**	**42**	P		**P**	**01 49 59.5**	**+2.0**
	comp=Z,0.3nm,0.5s,mb3.8,baz=207,slow=1.3,SNR=3.7							
ILAR	**Eielson Array**	**86.88**	**11**	P		**P**	**01 50 01.1**	**0.0**
	comp=Z,1.1nm,0.8s,mb4.2,baz=234,slow=6.4,SNR=12							
DAWY	**Dawson**	**87.86**	**15**	*e*P		**P**	**01 50 07.1**	**+1.2**
TRQA	**Tornquist**	**94.45**	**133**	P		**P**	**01 50 34.5**	**-2.0**
	comp=Z,8.3nm,1.3s,mb5.0							
BRTR	**Keskin Array B**	**148.75**	**316**	PKPbc		PKPbc	01 57 03.3	-0.4
	comp=Z,0.6nm,0.7s,baz=134,slow=4.1,SNR=5.1							
GERES	**GERESS Array B**	**150.25**	**349**	PKPbc		PKPbc	01 57 08.5	+1.1
	comp=Z,0.7nm,0.9s,baz=349,slow=2.0,SNR=3.9							

CSEM ***20*** *01:47:28.2, 1217N×4385E, h5km, ML3.5, After DHMR*
DHMR 20 01:47:28.2±1.0, 1217N×4385E, h5km±4km, ML3.5, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TRBA	**At Turbah**	**1.08**	**14**	*i* P		Pg	01 47 48.8	-0.2
TRBA				*i* S		Sg	01 48 04.1	+1.1
TRBA				AML		AML	01 48 11.3	
	comp=E,1μm,0.5s							
ADEN	**Aden**	**1.26**	**62**	*i* P		Pg	01 47 51.8	-0.5
ADEN				*i* S		Sg	01 48 09.4	+0.7
ADEN				AML		AML	01 48 16.0	

JHO	**Hitachi**	**9.14**	**360**	P	**P**	**02 20 10.8**	**+1.1**
JNG	**Nsakai**	**9.18**	**347**	P	**P**	**02 20 11.1**	**+0.9**
MJAR	**Matsushiro Arr**	**9.29**	**348**	P	**P**	**02 20 12.3**	**+0.9**
	12nm,0.3s,baz=169,slow=9.1,SNR=8.3						
WRA	**Warramunga Arr**	**47.50**	**188**	P	**P**	**02 25 53.8**	**+0.1**
	0.5nm,0.3s,mb3.4,baz=6.3,slow=7.9,SNR=6.6						
JIRN	**Jiri**	**47.90**	**284**	*eP*	**P**	**02 25 56.6**	**-0.1**
	15nm,0.7s,mb4.4						
GUN	**Gumba**	**48.11**	**284**	*eP*	**P**	**02 25 58.3**	**0.0**
	11nm,0.6s,mb4.3						
KKN	**Kakani**	**48.65**	**284**	*eP*	**P**	**02 26 01.9**	**-0.5**
MKAR	**Makanchi Array**	**49.16**	**309**	P	**P**	**02 26 04.6**	**-1.6**
	1.0nm,0.8s,mb3.2,baz=84,slow=11,SNR=4.6						
KOLN	**Koldanda**	**50.11**	**284**	*eP*	**P**	**02 26 12.2**	**-0.9**
ASAR	**Alice Springs**	**51.23**	**188**	P	**P**	**02 26 21.6**	**+0.2**
	0.2nm,0.3s,mb2.9,baz=7.6,slow=4.6,SNR=6.9						
CHKZ	**Chkalovo**	**56.67**	**318**	*eP*	**P**	**02 26 59.2**	**-0.8**
	1.9nm,0.4s,mb3.8						
BRVK	**Borovoye**	**56.89**	**317**	*eP*	**P**	**02 27 01.2**	**-0.3**
	2.3nm,0.5s,mb3.8						
ZRNK	**Zerenda**	**57.67**	**317**	*eP*	**P**	**02 27 06.2**	**-0.7**
	1.6nm,0.4s,mb3.7						
ARCES	**ARCESS Array B**	**72.74**	**341**	P	**P**	**02 28 43.2**	**+1.2**
	2.0nm,0.9s,mb3.6,baz=68,slow=7.2,SNR=5.8						
JOF	**Joensuu**	**74.14**	**333**	*ep*	**P**	**02 28 50.0**	**0.0**
	2.6nm,0.7s,mb3.9						
KAF	**Kangasniemi**	**76.54**	**334**	*ep*	**P**	**02 29 03.0**	**-0.4**
	2.3nm,0.5s,mb4.0,baz=55,slow=5.2						
FINES	**FINESS Array B**	**77.01**	**333**	P	**P**	**02 29 06.3**	**+0.3**
	1.6nm,0.4s,mb4.0,baz=65,slow=5.4,SNR=46						
NOA	**NORSAR Array B**	**82.76**	**338**	P	**P**	**02 29 36.6**	**+0.3**
	0.5nm,0.7s,mb3.1,baz=46,slow=5.6,SNR=3.6						

FUNV 20 02:20:19.6, 1212N×6989W, h14km, MW3.5, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MONV	**Montecano**	**0.18**	**206**	⇑*iP*	Pg	02 20 24.1	+0.2
IMOV	**Isla Los Monje**	**1.02**	**283**	*eP*	Pb	02 20 37.6	-1.3
DABV	**Dabajuro**	**1.40**	**212**	*eP*	Pn	02 20 43.9	-0.7
DABV				*eS*	Sn	02 21 02.4	-0.5
JACV	**Jacura**	**1.46**	**135**	*eP*	Pn	02 20 44.6	-0.8
SIQV	**Siquisique**	**1.47**	**177**	*eP*	Pn	02 20 44.5	-1.0
SIQV				*eS*	Sn	02 21 03.8	-0.8
SANV	**Sanarito**	**2.63**	**172**	*eP*	Pn	02 21 00.8	-0.8
VIRV	**Villa del Rosa**	**2.95**	**237**	*eP*	Pn	02 21 05.4	-0.6
VIRV				*eS*	Sn	02 21 39.2	-1.9
VIGV	**El Vigia**	**3.57**	**204**	*eP*	Pn	02 21 13.9	-0.6
VIGV				*eS*	Sn	02 21 53.3	-3.1
BAUV	**El Baul**	**3.64**	**150**	*eP*	Pn	02 21 15.0	-0.5
BAUV				*eS*	Sn	02 21 54.9	-3.4
SOCV	**Socops**	**3.93**	**194**	*eP*	Pn	02 21 18.8	-0.7
SOCV				*eS*	Sn	02 22 02.0	-3.4
CUPV	**Cœpira**	**4.52**	**117**	*eP*	Pn	02 21 26.4	-1.1
CUPV				*eS*	Sn	02 22 15.9	-3.9
CAOV	**Caicara del Or**	**5.92**	**143**	*eP*	Pn	02 21 45.1	-1.7
CAOV				*eS*	Sn	02 22 47.7	-6.7
PAYV	**Puerto Ayacuch**	**7.01**	**161**	*eP*	Pn	02 21 59.6	-2.2

IDC 20 02:27:18.1±1.5, 550S×14563E, h0km, mb3.7/3, mb1 4.0/5, mb1mx3.7/13, mbtmp3.8/5, ML3.2/2, Error ellipse: s-maj=59.2km s-min=26.8km az=107.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.17**	**159**		Pn	02 28 21.9	-1.1
	5.9nm,0.3s,baz=296,slow=12,SNR=13						
PMG					Sn	02 29 09.2	-3.1
	20nm,0.3s,baz=145,slow=22,SNR=12						
WRA	**Warramunga Arr**	**18.08**	**216**	P	Pn	02 31 29.1	-1.5
	0.1nm,0.3s,baz=41,slow=11,SNR=3.7						
ASAR	**Alice Springs**	**21.30**	**211**	P	P	02 32 06.3	0.0
	1.5nm,0.6s,baz=36,slow=13,SNR=9.4						
STKA	**Stephens Creek**	**26.51**	**188**	P	P	02 32 58.8	+1.6
	0.8nm,0.4s,baz=13,slow=12,SNR=3.5						
ILAR	**Eielson Array**	**85.56**	**23**	P	P	02 39 58.5	+0.3
	0.5nm,0.7s,baz=255,slow=5.0,SNR=6.4						
TORD	**Torodi Ar. Bea**	**143.65**	**285**	PKP	PKPdf	02 46 54.1	-0.9
	0.3nm,0.4s,baz=64,slow=3.6,SNR=15						

MAN 20 02:28:01.9, 901N×12336E, h18km, mb2.8, ML4.3, MS3.7, 2D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.36**	**340**	⇓*iP*	Pg	02 28 09.0	-0.4
SNPH				*i* S	Sg	02 28 15.5	+1.0
TBP	**Tagbilaran**	**0.84**	**36**	⇓*iP*	Pb	02 28 18.8	+0.8
TBP				*i* S	Sb	02 28 28.1	-0.8
PAGZ	**Pagadian**	**1.15**	**179**	*eP*	Pn	02 28 22.0	-1.1
PAGZ				*eS*	Sb	02 28 38.6	+0.8
LLP	**Lapu-Lapu**	**1.43**	**25**	*eP*	Pn	02 28 26.1	-0.9
LLP				*eS*	Sn	02 28 43.0	-2.4
IPIL	**Ipil**	**1.44**	**213**	*eP*	Pn	02 28 27.2	+0.2
IPIL				*eS*	Sn	02 28 46.3	+0.8
GUIM	**Jordan**	**1.78**	**335**	*eP*	Pn	02 28 32.4	+0.6

*LDG **20** 02:36:36.3±0.1, 4477N×852E, h3km, Md2.4/3, Ml2.3/12, Error ellipse: s-maj=2.1km s-min=1.3km az=74.0*

ROM 20 02:36:39.9±0.4, 4462N×843E, h10km, Md2.2/4, Ml1.9/2, Error ellipse: s-maj=5.3km s-min=2.6km az=101.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FIN	**Finale Ligure**	**0.44**	**201**	Pg	Pg	02 36 48.7	+0.2
FIN				Sg	Sg	02 36 55.4	+1.2
	18nm,0.1s						
MONC	**Moncucco Torin**	**0.58**	**322**	Pg	Pg	02 36 51.2	+0.1
	116nm,1.8s						
IMI	**Imperia**	**0.81**	**209**	Pg	Pg	02 36 55.7	+0.3
	11nm,0.2s						
DOI	**San Damiano**	**0.85**	**263**	Pg	Pg	02 36 56.2	-0.1
DOI				Sg	Sg	02 37 07.6	+0.2
	72nm,0.4s						
SBF	**Sospel**	**1.04**	**224**	*eP*g	Pg	02 36 59.7	-0.2
SBF				*eS*g	Sg	02 37 14.4	+1.0
	24nm,0.2s						
MBDF	**Montbardon**	**1.19**	**276**	*eP*g	Pg	02 36 59.8	-2.9
MBDF				*eS*g	Sg	02 37 15.9	-2.2
	14nm,0.4s						
LPG	**La Plagne**	**1.48**	**307**	*eP*g	Pg	02 37 04.1	-4.2
LPG				*eS*g	Sg	02 37 22.3	-5.2
	2.5nm,0.3s						
LPL	**La Plagne**	**1.50**	**307**	*eP*g	Pg	02 37 04.2	-4.5
LPL				*eS*g	Sg	02 37 22.9	-5.3
	3.3nm,0.3s						
FRF	**La Foret Royal**	**1.66**	**231**	*eP*g	Pg	02 37 10.0	-1.8
FRF				*eS*g	Sg	02 37 33.2	-0.1
	13nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.84**	**280**	*eP*g	Pg	02 37 11.1	-4.1
ORIF				*eS*g	Sg	02 37 35.4	-3.6
	3.6nm,0.4s						
LMR	**La Mourre**	**1.89**	**228**	*eP*g	Pg	02 37 14.3	-1.8
LMR				*eS*g	Sg	02 37 40.2	-0.4
	7.0nm,0.2s						
PGF	**Pioggiola**	**2.11**	**168**	*eP*n	Pn	02 37 12.5	-2.7
PGF				*eS*n	Sn	02 37 39.1	-2.4
	1.2nm,0.3s						
SMRF	**Simiane la Rot**	**2.15**	**254**	*eP*g	Pg	02 37 18.0	-3.1
SMRF				*eS*g	Sg	02 37 47.0	-1.9
	4.6nm,0.4s						
CABF	**La Chapelle**	**2.58**	**321**	*eP*n	Pn	02 37 16.5	-5.3
CABF				*eS*g	Sg	02 37 54.9	-8.0
	1.4nm,0.3s						
VIVF	**Saint-Julien-l**	**2.69**	**276**	*eP*n	Pn	02 37 19.6	-3.6
VIVF				*eS*n	Sn	02 37 51.5	-4.3
	0.9nm,0.4s						
LOR	**Lormes**	**4.15**	**311**	*eP*n	Pn	02 37 37.6	-5.6
LOR				*eS*n	Sn	02 38 23.2	-8.5
	4.2nm,0.6s						

MAN 20 02:46:42.1, 1338N×12012E, h1km, mb2.3, ML3.9, MS3.4, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.37**	**20**	*eP*	Pg	02 46 49.5	+0.2
PGP	**Puerto Galera**	**0.82**	**82**	*eP*	Pg	02 46 58.5	+0.6
TGY	**Tagaytay City**	**1.07**	**48**	⇑*iP*	Pg	02 47 04.3	+1.7
TGY				*i* S	Sg	02 47 23.5	+7.0
BUSP	**Coron**	**1.37**	**177**	*eP*	Pn	02 47 06.7	-1.8
BUSP				*eS*	Sg	02 47 27.7	+1.4
ENPP	**El Nido**	**2.27**	**197**	*eP*	Pn	02 47 22.1	+1.4
BALP	**Baler**	**2.74**	**31**	*eP*	Pn	02 47 27.1	-0.1

GUC 20 03:06:33.8±0.9, 3137S×6969W, h131km±14km, MD3.8, ML3.2, 6C-4D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**1.14**	**279**	⇓*iP*	Pn	03 06 58.5	+0.3
CMCH				*i* S	Sn	03 07 17.6	+1.0
CMCH				AML	AML	03 07 19.4	
	comp=N,1μm,0.5s						
OVCH	**Ovalle**	**1.50**	**300**	⇓*iP*	Pn	03 07 02.5	+0.5
OVCH				*i* S	Sn	03 07 23.8	+0.3
OVCH				AML	AML	03 07 24.8	
	comp=N,356nm,0.4s						
TLL	**Tololo Astrono**	**1.53**	**321**	⇓*iP*	Pn	03 07 03.6	+1.3
TLL				*i* S	Sn	03 07 25.6	+1.5
TLL				AML	AML	03 07 27.4	
	comp=N,243nm,0.4s						
CHNG	**Los Chungos**	**1.63**	**251**	⇑*iP*	Pn	03 07 03.8	+0.4
CHNG				*i* S	Sn	03 07 25.9	-0.1
CHNG				AML	AML	03 07 32.3	
	comp=E,115nm,0.6s						
LSCH	**La Serena**	**1.98**	**317**	⇑*iP*	Pn	03 07 08.0	+0.5
LSCH				*i* S	Sn	03 07 33.5	+0.1
LSCH				AML	AML	03 07 34.2	
	comp=E,175nm,0.5s						
FCH	**Farellones**	**2.02**	**194**	⇑*iP*	Pn	03 07 09.3	+1.2
FCH				*i* S	Sn	03 07 35.6	+1.3
FCH				AML	AML	03 07 38.7	
	comp=E,153nm,0.3s						
CLCH	**Cerro Calan**	**2.15**	**199**	*eP*	Pn	03 07 10.2	+0.6
CLCH				*eS*	Sn	03 07 37.5	+0.4
CLCH				AML	AML	03 07 42.2	
	comp=E,108nm,0.2s						
PCH	**Pirque**	**2.35**	**197**	⇓*iP*	Pn	03 07 13.1	+1.0
PCH				*i* S	Sn	03 07 43.3	+1.6
LCO	**Las Campanas**	**2.50**	**339**	⇑*iP*	Pn	03 07 14.7	+0.7
LCO				*i* S	Sn	03 07 46.1	+1.1
LMEL	**Las Melosas**	**2.51**	**190**	⇑*iP*	Pn	03 07 14.8	+0.7
LMEL				AML	AML	03 07 51.6	
	comp=N,95nm,0.2s						
TACH	**Talagante**	**2.51**	**204**	*eP*	Pn	03 07 14.3	+0.1
TACH				*i* S	Sn	03 07 45.5	+0.3
CHCH	**Chadas Angostu**	**2.69**	**197**	⇑*iP*	Pn	03 07 17.0	+0.6

MEX 20 03:15:06.3±1.7, 1682N×10052W, h5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.33**	**48**	*i* P	Pg	03 15 11.2	-1.5
CAIG				*i* S	Sg	03 15 16.6	-0.4
ACX	**Acapulco**	**0.58**	**86**	*eP*	Pg	03 15 17.0	-0.5
ACX				*i* S	Sg	03 15 26.0	+0.9
MEIG	**Mezcala**	**1.40**	**38**	*i* P	Pn	03 15 29.2	-3.2
MEIG				*i* S	Sb	03 15 48.0	-2.9

NNC 20 03:23:35.3±8.3, 3784N×7165E, h190km±88km, mb2.4, mpv3.2, 4C-2D, Error ellipse: s-maj=76.8km s-min=41.9km az=12.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.33**	**351**	⇑P	Pn	03 24 53.9	+0.2
	8.6nm,0.5s,baz=179,slow=13,SNR=92						
KK31				S	Sn	03 25 56.3	+1.0
	2.7nm,0.3s,baz=168,slow=21,SNR=20						
TKM2	**Tokmak 2**	**5.90**	**29**	⇑P	Pn	03 24 59.6	-1.5
	0.3nm,0.6s						
TKM2				⇑S	Sn	03 26 09.9	+1.1
	0.2nm,0.5s						
AB31	**Akbulak array**	**14.20**	**327**	P	Pn	03 26 50.2	+2.2
	0.9nm,0.6s,baz=133,slow=14,SNR=21						
AB31				⇑S	Sn	03 29 22.8	-3.6
	2.9nm,0.7s,baz=157,slow=23,SNR=6.9						
AKTO	**Aktyubinsk**	**15.91**	**327**	⇓P	Pn	03 27 11.4	+2.5
AKTO				⇓S	S	03 30 03.6	-1.7
	12nm,0.1s						

*IDC **20** 03:23:39.5±1.8, 3994S×17658E, h0km, mb4.1/3, mb1 4.2/4, mb1mx4.0/10, mbtmp4.0/4, ML3.4/1, MS4.5/2, Ms1 4.5/2, ms1mx3.5/16, Error ellipse: s-maj=41.8km s-min=21.3km az=126.0*

*ISCJB **20** 03:23:42.8±0.5, 4007S±003×17678E±006, h53km±5km, mb4.0/4, MS4.5/2, Error ellipse: s-maj=7.5km s-min=4.0km az=31.8*

*NEIC **20** 03:23:43.0±0.5, 4009S×17685E, h38km±7km, mb4.2/1, ML4.1(WEL), Error ellipse: s-maj=8.0km s-min=3.4km az=107.0*

*WEL **20** 03:23:44.8±0.2, 3997S×17670E, h31km±1km, ML4.2/37, Error ellipse: s-maj=2.1km s-min=1.0km az=90.0*

WEL Felt in the Hawke's Bay region, maximum reported intensity MM 4.

ISC 20 03:23:43.8±0.5, 4004S±003×17676E±006, h44km±5km, n96, σ0s98/102, mb4.0/4, MS4.5/2, 2C-5D, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PXZ	**Pawanui**	**0.08**	**83**	P*	**Pn**	**03 23 51.4**	**+0.7**
PXZ				*eS**	**Sn**	**03 23 56.2**	**+0.6**
TSZ	**Takapari Road**	**0.61**	**268**	PN	**Pn**	**03 23 55.7**	**-0.4**
TSZ				S*	**Sn**	**03 24 04.1**	**-0.9**
BFZ	**Birch Farm**	**0.75**	**211**	⇑PN	**Pn**	**03 23 59.8**	**+1.9**
BFZ				*e*SN	**Sn**	**03 24 11.4**	**+3.2**
BFZ	**Birch Farm**	**0.75**	**211**	P	**Pn**	**03 23 59.8**	**+1.9**
BFZ				S	**Sn**	**03 24 12.6**	**+4.4**
BKZ	**Black Stump Fm**	**0.90**	**347**	⇓PN	**Pn**	**03 23 59.3**	**-0.7**
BKZ				SN	**Sn**	**03 24 08.9**	**-2.8**
BKZ	**Black Stump Fm**	**0.90**	**347**	P	**Pn**	**03 23 59.3**	**-0.6**
TIWZ	**Tintock**	**0.99**	**222**	⇓PN	**Pn**	**03 24 02.6**	**+1.4**
MOVZ	**Moawhango**	**1.00**	**309**	⇑PN	**Pn**	**03 24 00.8**	**-0.6**
MOVZ				SN	**Sn**	**03 24 12.3**	**-2.0**
MOVZ	**Moawhango**	**1.00**	**309**	P	**Pn**	**03 24 00.8**	**-0.6**
MRZ	**Mangatainoka R**	**1.09**	**235**	⇓PN	**Pn**	**03 24 03.4**	**+0.8**
MRZ				SN	**Sn**	**03 24 17.5**	**+0.9**
WNVZ	**Wahianoa**	**1.15**	**308**	⇓PN	**Pn**	**03 24 03.6**	**+0.3**
WNVZ	**Wahianoa**	**1.15**	**308**	P	**Pn**	**03 24 03.6**	**+0.3**
TUVZ	**Tukino**	**1.15**	**312**	PN	**Pn**	**03 24 03.8**	**+0.4**
TUVZ				SN	**Sn**	**03 24 16.8**	**-1.2**
TUVZ	**Tukino**	**1.15**	**312**	P	**Pn**	**03 24 03.7**	**+0.3**
MTVZ	**Mangateitei**	**1.19**	**303**	PN	**Pn**	**03 24 04.2**	**+0.3**
TRVZ	**Turoa**	**1.19**	**308**	PN	**Pn**	**03 24 04.2**	**+0.2**
DRZ	**Dome Shelter**	**1.20**	**309**	PN	**Pn**	**03 24 04.5**	**+0.5**
DRZ	**Dome Shelter**	**1.20**	**309**	P	**Pn**	**03 24 04.6**	**+0.6**
OTVZ	**Oturere**	**1.22**	**316**	PN	**Pn**	**03 24 04.3**	**0.0**
FWVZ	**Far West T-bar**	**1.22**	**310**	PN	**Pn**	**03 24 04.3**	**0.0**
FWVZ	**Far West T-bar**	**1.22**	**310**	P	**Pn**	**03 24 04.3**	**0.0**
KNZ	**Kokohu**	**1.24**	**35**	PN	**Pn**	**03 24 04.7**	**+0.1**
KNZ	**Kokohu**	**1.24**	**35**	P	**Pn**	**03 24 04.7**	**+0.1**
NGZ	**Ngauruhoe**	**1.24**	**314**	PN	**Pn**	**03 24 04.6**	**-0.1**
NGZ	**Ngauruhoe**	**1.24**	**314**	P	**Pn**	**03 24 04.7**	**0.0**
WPVZ	**Whakapapa**	**1.26**	**311**	PN	**Pn**	**03 24 04.8**	**0.0**
HATZ	**Hinemaiaia**	**1.26**	**336**	PN	**Pn**	**03 24 04.7**	**-0.2**
HATZ	**Hinemaiaia**	**1.26**	**336**	P	**Pn**	**03 24 04.6**	**-0.3**
RITZ	**Rihia Road**	**1.27**	**326**	PN	**Pn**	**03 24 05.6**	**+0.5**
RITZ	**Rihia Road**	**1.27**	**326**	P	**Pn**	**03 24 05.8**	**+0.8**
KRVZ	**Karewarewa**	**1.28**	**317**	*e*PN	**Pn**	**03 24 05.2**	**0.0**
WTVZ	**West Tongariro**	**1.29**	**315**	PN	**Pn**	**03 24 05.2**	**-0.1**
WTVZ	**West Tongariro**	**1.29**	**315**	P	**Pn**	**03 24 05.3**	**0.0**
PKVZ	**Pokaka**	**1.32**	**304**	PN	**Pn**	**03 24 05.8**	**0.0**
KATZ	**Kakaramea**	**1.35**	**322**	PN	**Pn**	**03 24 06.3**	**+0.3**
KATZ	**Kakaramea**	**1.35**	**322**	P	**Pn**	**03 24 06.6**	**+0.5**
WAZ	**Wanganui**	**1.40**	**281**	PN	**Pn**	**03 24 07.7**	**+1.0**
WAZ	**Wanganui**	**1.40**	**281**	P	**Pn**	**03 24 07.9**	**+1.2**
RATZ	**Rangitukua**	**1.40**	**327**	PN	**Pn**	**03 24 07.2**	**+0.4**
RATZ	**Rangitukua**	**1.40**	**327**	P	**Pn**	**03 24 07.7**	**+0.9**
TWVZ	**Taurewa**	**1.41**	**313**	PN	**Pn**	**03 24 06.9**	**0.0**
TWVZ	**Taurewa**	**1.41**	**313**	P	**Pn**	**03 24 07.1**	**+0.2**
MTW	**Mount Morrison**	**1.47**	**220**	PN	**Pn**	**03 24 08.1**	**+0.3**
MTW	**Mount Morrison**	**1.47**	**220**	P	**Pn**	**03 24 08.4**	**+0.6**
WHTZ	**Whakaora**	**1.51**	**335**	*e*PN	**Pn**	**03 24 09.3**	**+1.0**
WHTZ	**Whakaora**	**1.51**	**335**	P	**Pn**	**03 24 10.1**	**+1.8**
WATZ	**Wairara**	**1.55**	**329**	P	**Pn**	**03 24 09.7**	**+0.8**
TRWZ	**Traveller**	**1.58**	**211**	PN	**Pn**	**03 24 09.9**	**+0.6**
KIW	**Kapiti Island**	**1.63**	**239**	PN	**Pn**	**03 24 10.3**	**+0.3**
KIW	**Kapiti Island**	**1.63**	**239**	P	**Pn**	**03 24 10.5**	**+0.5**
CAW	**Cannon Point**	**1.67**	**230**	PN	**Pn**	**03 24 10.6**	**+0.1**
CAW	**Cannon Point**	**1.67**	**230**	P	**Pn**	**03 24 10.7**	**+0.2**
PAWZ	**Paruwai Farm**	**1.68**	**217**	PN	**Pn**	**03 24 11.1**	**+0.4**
PAWZ	**Paruwai Farm**	**1.68**	**217**	P	**Pn**	**03 24 11.1**	**+0.5**
MSWZ	**Moikau Station**	**1.79**	**219**	PN	**Pn**	**03 24 12.0**	**-0.2**
MSWZ	**Moikau Station**	**1.79**	**219**	P	**Pn**	**03 24 12.1**	**0.0**
VRZ	**Vera Road**	**1.80**	**300**	P	**Pn**	**03 24 11.9**	**-0.4**
URZ	**Urewera**	**1.80**	**9**	PN	**Pn**	**03 24 11.5**	**-0.8**
	11nm,0.3s,baz=230,slow=6.8,SNR=41						
URZ					Sn	**03 24 33.3**	**-0.7**
	21nm,0.3s,baz=237,slow=18,SNR=14						
URZ	**Urewera**	**1.80**	**9**	PN	**Pn**	**03 24 11.6**	**-0.7**
URZ	**Urewera**	**1.80**	**9**	P	**Pn**	**03 24 11.6**	**-0.7**
MWZ	**Matawai**	**1.81**	**20**	PN	**Pn**	**03 24 11.8**	**-0.6**
MWZ	**Matawai**	**1.81**	**20**	P	**Pn**	**03 24 11.9**	**-0.5**
TAZ	**Tarawera**	**1.82**	**354**	PN	**Pn**	**03 24 12.2**	**-0.3**
TAZ	**Tarawera**	**1.82**	**354**	P	**Pn**	**03 24 12.2**	**-0.3**
MRW	**Makara Radio**	**1.97**	**232**	PN	**Pn**	**03 24 14.3**	**-0.3**
MRW	**Makara Radio**	**1.97**	**232**	P	**Pn**	**03 24 14.3**	**-0.3**
RAEZ	**Rainy Point**	**1.98**	**292**	P	**Pn**	**03 24 17.0**	**+2.3**
BHW	**Baring Head**	**1.98**	**226**	P	**Pn**	**03 24 12.4**	**-2.4**
SNZO	**South Karori**	**2.01**	**230**	⇓PN	**Pn**	**03 24 14.8**	**-0.4**
SNZO	**South Karori**	**2.01**	**230**	P	**Pn**	**03 24 14.8**	**-0.4**
HIZ	**Hauiti**	**2.12**	**315**	PN	**Pn**	**03 24 17.2**	**+0.5**
HIZ	**Hauiti**	**2.12**	**315**	P	**Pn**	**03 24 17.4**	**+0.7**
NEZ	**North Egmont**	**2.19**	**290**	P	**Pn**	**03 24 20.2**	**+2.5**
TCW	**Tory Channel**	**2.22**	**237**	P	**Pn**	**03 24 17.8**	**-0.3**
PUZ	**Puketiti**	**2.29**	**31**	*eP*	**Pn**	**03 24 18.2**	**-0.8**
NRZ	**Ngariki Road**	**2.29**	**287**	P	**Pn**	**03 24 20.8**	**+1.8**
PKE	**Pukeiti**	**2.30**	**291**	P	**Pn**	**03 24 21.7**	**+2.5**
BSWZ	**Blackbirch Sta**	**2.75**	**232**	P	**Pn**	**03 24 24.5**	**-0.9**
NNZ	**Nelson**	**2.83**	**244**	P	**Pn**	**03 24 25.9**	**-0.5**
QRZ	**Quartz Range**	**3.32**	**255**	P	**Pn**	**03 24 32.4**	**-0.8**
THZ	**Tophouse**	**3.39**	**238**	*eP*	**Pn**	**03 24 33.0**	**-1.1**
KHZ	**Kahutara**	**3.40**	**225**	*eP*	**Pn**	**03 24 33.0**	**-1.2**
DSZ	**Denniston Nort**	**4.12**	**244**	*eP*	**Pn**	**03 24 43.7**	**-0.5**
LTZ	**Lake Taylor**	**4.35**	**230**	*eP*	**Pn**	**03 24 45.1**	**-2.2**
MQZ	**McQueen's Vall**	**4.78**	**219**	*eP*	**Pn**	**03 24 52.4**	**-0.8**
RPZ	**Rata Peaks**	**5.62**	**227**	Pn	**Pn**	**03 25 04.1**	**-0.7**
	1.2nm,0.3s,baz=84,slow=21,SNR=5.0						
RPZ					Sn	**03 26 03.0**	**-5.0**
	6.6nm,0.3s,baz=0.7,slow=22,SNR=23						
LBZ	**Lake Benmore**	**6.53**	**226**	*eP*	**Pn**	**03 25 15.9**	**-1.4**
ODZ	**Otahua Downs**	**6.74**	**220**	P	**Pn**	**03 25 17.9**	**-2.2**
STKA	**Stephens Creek**	**29.46**	**275**	P	P	**03 29 43.7**	**+0.3**
	2.3nm,0.6s,mb4.1,baz=108,slow=10,SNR=10						
ASAR	**Alice Springs**	**39.49**	**281**	P	P	**03 31 10.6**	**+0.6**
	0.6nm,0.4s,mb3.7,baz=121,slow=6.3,SNR=13						
PMG	**Port Moresby**	**40.30**	**311**	LR	LR	03 45 46.6	
	comp=Z,3μm,20.1s,MS5.1,baz=77,slow=33						
WRAB	**Tennant Creek**	**41.37**	**286**	*eP*	P	**03 31 26.1**	**+0.6**
	3.8nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**41.37**	**286**	P	P	**03 31 26.0**	**+0.5**
	1.2nm,0.3s,mb4.0,baz=125,slow=8.2,SNR=19						
FITZ	**Fitzroy Crossi**	**48.99**	**281**	LR	LR	03 53 22.1	
	comp=Z,133nm,20.3s,MS3.9,baz=83,slow=36						
ARCES	**ARCESS Array B**	**146.78**	**342**	PKPbc	PKPbc	03 43 20.7	-0.3
	1.5nm,0.8s,baz=43,slow=2.5,SNR=6.1						
TORD	**Torodi Ar. Bea**	**152.86**	**191**	PKPbc	PKPbc	03 43 39.2	+3.2
	0.7nm,1.1s,baz=152,slow=3.2,SNR=5.1						

MEX 20 03:29:25.7±0.9, 1689N×10056W, h5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.32**	**60**	*i* P	Pg	03 29 31.0	-1.0
CAIG				*i* S	Sg	03 29 36.7	+0.5
ACX	**Acapulco**	**0.61**	**92**	*i* P	Pg	03 29 37.0	-0.5
ACX				*i* S	Sg	03 29 46.0	+0.5

FITZ	**Fitzroy Crossi**	**35.33**	**254**	P		**P**	**03 44 09.9**	**0.0**
	3.3nm,0.6s,mb4.4,baz=106,slow=8.8,SNR=3.5							
RAR	**Rarotonga**	**38.76**	**111**	LR		LR	03 57 19.1	
	comp=Z,252nm,18.1s,MS4.1,baz=251,slow=31							
MBWA	**Marble Bar**	**41.26**	**250**	*e*P		**P**	**03 44 59.4**	**-0.4**
	8.6nm,0.8s,mb4.4							
KKM	**Kota Kinabalu**	**47.87**	**288**	*e*P		**P**	**03 45 52.0**	**-0.5**
KKM				*e*pP		pP	03 45 58.5	-8.1
PPT	**Papeete**	**48.01**	**104**	*e*S		**S**	**03 52 51.6**	**+4.0**
	119nm,27.5s							
PPT				*e*LQ			03 57 34.1	
	349nm,24.5s							
PPT				*e*LR		LR	03 59 34.7	
	457nm,22.2s,baz=279							
PPT	**Papeete**	**48.01**	**104**	LR		LR	04 01 55.8	
	comp=Z,476nm,18.1s,MS4.5,baz=263,slow=31							
TBI	**Tubuai**	**48.51**	**112**	*e*LQ			03 57 47.0	
	484nm,28.5s							
TBI				*e*LR		LR	03 59 48.2	
	241nm,33.2s							
MJAR	**Matsushiro Arr**	**51.70**	**336**	P		**P**	**03 46 21.2**	**-0.3**
	27nm,0.3s,mb5.6,baz=165,slow=8.4,SNR=6.0							
MAJO	**Matsushiro**	**51.70**	**336**	*e*P		**P**	**03 46 20.9**	**-0.6**
	5.1nm,0.5s,mb4.7							
MAT	**Matsushiro**	**51.70**	**336**	P		**P**	**03 46 21.2**	**-0.3**
MAT	**Matsushiro**	**51.70**	**336**	*e*P		**P**	**03 46 21.0**	**-0.5**
RKT	**Rikitea**	**61.80**	**111**	*e*LR		LR	04 06 09.3	
	380nm,26.0s							
VNDA	**Vanda**	**66.90**	**180**	P		**P**	**03 48 06.8**	**+0.4**
	1.9nm,0.7s,mb4.2,baz=343,slow=6.1,SNR=14							
SONM	**Songino Array**	**75.79**	**325**	P		**P**	**03 49 00.3**	**+0.2**
	2.6nm,0.6s,mb4.3,baz=141,slow=5.8,SNR=16							
SONM				LR		LR	04 24 17.6	
	comp=Z,177nm,18.3s,MS4.4,baz=251,slow=37							
SHL	**Shillong**	**76.52**	**300**	*e*P		**P**	**03 49 13.5**	**+9.3**
KDAK	**Kodiak Island**	**77.82**	**23**	P		**P**	**03 49 12.7**	**+1.2**
	8.1nm,0.6s,mb4.8,baz=230,slow=7.9,SNR=6.8							
KDAK				LR		LR	04 20 47.2	
	comp=Z,158nm,18.0s,MS4.4,baz=294,slow=34							
BILL	**Bilibino**	**78.52**	**2**	*e*P		**P**	**03 49 15.0**	**-0.3**
	6.9nm,0.8s,mb4.6							
QSPA	**South Pole Qui**	**79.40**	**180**	*e*P		**P**	**03 49 19.6**	**-0.6**
	5.0nm,0.8s,mb4.5							
JIRN	**Jiri**	**82.00**	**300**	*e*P		**P**	**03 49 32.6**	**-1.5**
DMN	**Daman**	**82.91**	**300**	*e*P		**P**	**03 49 38.7**	**-0.2**
GKN	**Gorkha**	**83.42**	**300**	*e*P		**P**	**03 49 41.6**	**+0.1**
	5.3nm,0.2s,mb5.2							
MAW	**Mawson**	**83.49**	**202**	P		**P**	**03 49 41.1**	**-0.7**
	4.5nm,0.7s,mb4.6,baz=111,slow=7.3,SNR=14							
MAW				LR		LR	04 23 28.9	
	comp=Z,128nm,18.4s,MS4.3,baz=60,slow=33							
KOLN	**Koldanda**	**84.24**	**300**	*e*P		**P**	**03 49 45.9**	**+0.2**
	10nm,0.7s,mb5.1							
COLA	**College**	**84.26**	**19**	*e*P		**P**	**03 49 45.6**	**-0.2**
	3.3nm,0.7s,mb4.6							
ILAR	**Eielson Array**	**84.52**	**20**	P		**P**	**03 49 46.0**	**-1.1**
	1.1nm,0.5s,mb4.2,baz=252,slow=5.1,SNR=22							
ILAR				LR		LR	04 24 17.3	
	comp=Z,133nm,20.0s,MS4.3,baz=185,slow=33							
BBB	**Bella Bella**	**86.70**	**36**	LR		LR	04 20 32.9	
	comp=Z,93nm,21.3s,MS4.2,baz=148,slow=30							
YBH	**Yreka Blue Hor**	**86.71**	**47**	P		**P**	**03 49 59.9**	**+2.0**
	2.3nm,0.7s,mb4.5,baz=285,slow=2.0,SNR=8.7							
YBH				LR		LR	04 26 34.6	
	comp=Z,161nm,18.8s,MS4.5,baz=338,slow=34							
DAWY	**Dawson**	**86.75**	**22**	*e*P		**P**	**03 49 59.3**	**+1.2**
DAWY				*e*pP		pP	03 50 06.9	-6.6
DLBC	**Dease Lake**	**88.11**	**29**	LR		LR	04 31 59.2	
	comp=Z,158nm,18.1s,MS4.5,baz=272,slow=37							
NVAR	**Mina Array Bea**	**89.07**	**51**	P		**P**	**03 50 11.4**	**+2.2**
	1.8nm,0.8s,mb4.5,baz=241,slow=9.5,SNR=5.0							
WVOR	**Wild Horse Val**	**89.82**	**47**	*e*P		**P**	**03 50 11.9**	**-0.8**
	3.0nm,0.7s,mb4.7							
MKAR	**Makanchi Array**	**90.26**	**318**	P		**P**	**03 50 14.5**	**-0.3**
	2.3nm,0.5s,mb4.7,baz=93,slow=5.9,SNR=20							
INK	**Inuvik**	**90.92**	**20**	*e*P		**P**	**03 50 18.1**	**+0.3**
	1.4nm,1.0s,mb4.2							
BMO	**Blue Mountains**	**91.34**	**45**	*e*P		**P**	**03 50 21.2**	**+1.4**
	2.1nm,0.8s,mb4.5							
NEW	**Newport**	**92.25**	**41**	LR		LR	04 32 47.8	
	comp=Z,130nm,18.1s,MS4.4,baz=304,slow=36							
KURK	**Kurchatov**	**93.55**	**321**	*e*P		**P**	**03 50 29.2**	**-0.8**
	2.1nm,0.8s,mb4.6							
PDAR	**Pinedale Array**	**96.45**	**48**	LR		LR	04 32 35.4	
	comp=Z,88nm,19.2s,MS4.3,baz=258,slow=34							
YKA	**Yellowknife Ar**	**96.58**	**28**	P		**P**	**03 50 42.5**	**-1.3**
	0.8nm,0.6s,mb4.3,baz=260,slow=4.9,SNR=9.6							
YKA				LR		LR	04 27 22.8	
	comp=Z,84nm,20.1s,MS4.2,baz=260,slow=31							
YKA	**Yellowknife Ar**	**96.58**	**28**	P		**P**	**03 50 42.5**	**-1.3**
YKA				LR		LR	04 27 22.8	
SNAA	**Sanae**	**97.23**	**185**	P		**P**	**03 50 45.6**	**-1.2**
	0.5nm,0.8s,mb4.0,baz=263,slow=20,SNR=3.7							
ARCES	**ARCESS Array B**	**114.78**	**344**	PKP		PKiKP	03 55 52.8	-1.6
	1.0nm,0.7s,baz=48,slow=1.8,SNR=5.6							
TORD	**Torodi Ar. Bea**	**159.32**	**279**	PKPab		PKPab	03 57 53.2	+0.8
	0.4nm,0.8s,baz=65,slow=4.8,SNR=4.4							

*IDC **20** 03:38:24.1±3.7,2955×140.48E,h0km,mb3.8/4,mb1 4.0/5, mb1mx3.9/12,mbtmp3.9/5,MS4.3/1,Ms1 4.3/1, ms1mx2.7/23,Error ellipse: s-maj=127.0km s-min=23.1km az=94.0*

*ISCJB **20** 03:38:28.5±2.0,30S±01×140.1E±04,h33km,mb3.8/3, MS4.3/1,Error ellipse: s-maj=61.4km s-min=15.2km az=10.6*

ISC 20 03:38:30.3±2.0,30S±01×1402E±04,h35km,n9,σ0$77/8, mb3.8/3,MS4.3/1,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**12.34**	**218**	*e*P	**Pn**	**03 41 22.5**	**-0.9**
	23nm,0.5s						
WB2	**Warramunga Arr**	**17.77**	**198**	*e*P	**Pn**	**03 42 33.8**	**-1.0**
WRA	**Warramunga Arr**	**17.78**	**198**	P	**Pn**	**03 42 35.5**	**+0.7**
	0.5nm,0.3s,baz=22,slow=12,SNR=14						
FITZ	**Fitzroy Crossi**	**20.72**	**223**	*e*P	**P**	**03 43 09.3**	**+1.7**
	7.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.72**	**223**	P	**P**	**03 43 08.5**	**+0.9**
	2.7nm,0.6s,baz=84,slow=14,SNR=11						
ASAR	**Alice Springs**	**21.42**	**196**	P	**P**	**03 43 15.3**	**+0.2**
	2.9nm,0.9s,mb3.6,baz=31,slow=11,SNR=27						
RAO	**Raoul Island**	**47.50**	**128**	LR	LR	04 03 01.2	
	comp=Z,335nm,21.2s,MS4.3,baz=120,slow=31						
SONM	**Songino Array**	**58.66**	**334**	P	**P**	**03 48 23.9**	**-0.1**
	0.3nm,0.5s,mb3.6,baz=152,slow=6.7,SNR=4.4						
MKAR	**Makanchi Array**	**70.97**	**322**	P	**P**	**03 49 44.1**	**-0.1**
	2.4nm,0.7s,mb4.2,baz=111,slow=7.8,SNR=14						

*NEIC **20** 03:43:24.9, 1680N×10055W,h5km,MD3.7(MEX),After MEX.*

MEX 20 03:43:25.0±1.1,1682N×10055W,h5km,MD3.7,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.35**	**49**	*i* P	Pg	03 43 30.4	-1.4
CAIG				*i* S	Sg	03 43 36.1	-0.3
ACX	**Acapulco**	**0.60**	**85**	*e*P	Pg	03 43 36.0	-0.6
ACX				*e*S	Sg	03 43 45.0	+0.5
ZIIG	**Zihuatanejo**	**1.18**	**312**	*i* P	Pg	03 43 44.8	-2.8
ZIIG				*i* S	Sg	03 43 58.8	-4.0
MEIG	**Mezcala**	**1.41**	**39**	*i* P	Pn	03 43 48.3	-3.0
MEIG				*i* S	Sb	03 44 06.8	-3.3
PLIG	**Platanillo**	**1.85**	**32**	*e*P	Pn	03 43 53.8	-3.6
PLIG				*i* S	Sn	03 44 17.8	-3.4
VHO	**Vista Hermosa**	**3.66**	**86**	*i* P	Pn	03 44 19.6	-2.6
VHO				*i* S	Sn	03 45 02.1	-3.6

MEX 20 03:58:52.1±1.0,1685N×10054W,h5km,MD3.5,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.33**	**54**	*i* P	Pg	03 58 57.3	-1.1
CAIG				*i* S	Sg	03 59 03.1	+0.4
ACX	**Acapulco**	**0.60**	**89**	*i* P	Pg	03 59 03.0	-0.6
ACX				*i* S	Sg	03 59 12.0	+0.6
MEIG	**Mezcala**	**1.38**	**39**	*i* P	Pn	03 59 15.4	-2.6
MEIG				*i* S	Sb	03 59 32.5	-3.9

CASC 20 04:09:35.8±1.6,842N×8298W,h0km±5km,MD3.9,3C-1D,

Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.30**	**320**	*i*P	Pg	04 09 42.5	+0.9
ACR				*e*S	Sg	04 09 48.2	+2.8
ACR				*e*S	Sg	04 09 48.2	+2.8
CNI	**Changuinola**	**1.09**	**25**	*e*S	Sg	04 10 12.7	+1.9
BUS	**Buena Vista**	**1.37**	**326**	*e*P	Pg	04 10 01.1	-0.9
BUS				*e*S	Sg	04 10 22.0	+2.2
BUS				*e*S	Sg	04 10 22.0	+2.3
URSC	**Urasca**	**1.61**	**331**	*e*P	Pn	04 10 05.1	-0.4
URSC				*e*S	Sn	04 10 29.6	+2.6
LCR2	**La Lucha 2**	**1.66**	**322**	*e*P	Pn	04 10 06.3	+0.2
LCR2				*e*S	Sn	04 10 30.1	+2.0
ICR	**Volcan Irazu**	**1.77**	**331**	*e*P	Pn	04 10 08.3	+0.7
ICR				*e*S	Sn	04 10 33.8	+3.1
PRS1	**Puriscal**	**2.04**	**320**	*e*P	Pn	04 10 11.2	-0.2
PRS1				*e*S	Sn	04 10 39.7	+2.2
CGA2	**Cerro Gallo 2**	**2.16**	**317**	*e*P	Pn	04 10 14.0	+0.9
AZU	**Azuero**	**2.75**	**103**	*e*P	Pn	04 10 21.2	+0.2
AZU				*e*S	Sn	04 10 56.3	+1.3

*BYKL **20** 04:12:28.1±0.4,5741N×12092E,h9km±25km*
*MOS **20** 04:12:28.0±1.4,5751N×12076E,h10km,mb3.9/5,Error ellipse: s-maj=18.8km s-min=16.2km az=96.3*
*IDC **20** 04:12:30.6±15.0,5767N×12035E,h0km,mb3.7/5, mb1 3.7/6,mb1mx3.5/21,mbtmp3.6/6,ML3.3/1,Error ellipse: s-maj=319.0km s-min=38.5km az=112.0*

ISC 20 04:12:27.5±0.5,5737N±004×12069E±004,h10km,n40, σ1$85/67,mb3.7/5,1C-1D,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHNR	**Khani**	**0.59**	**221**	*i*Pg	**Pg**	**04 12 40.7**	**+1.6**
KHNR				*i* Sg	**Sg**	**04 12 49.5**	**+2.6**
CRS	**Chara**	**1.40**	**251**	*i*Pg	**Pg**	**04 12 55.5**	**+1.1**
CRS				Pmax		04 12 58.9	
	283nm,1.0s						
CRS				*i* Sg	**Sg**	**04 13 14.6**	**+2.0**
CRS				Smax		04 13 15.6	
	413nm,0.6s						
NRGR	**Nerungri**	**2.32**	**106**	*e*P	**Pn**	**04 13 09.4**	**+3.7**
NRGR				S	**Sn**	**04 13 35.9**	**+1.6**
NRGR				smax			
	comp=N,19nm,0.2s						
CLNS	**Chul'man**	**2.35**	**101**	*e*Pg	**Pg**	**04 13 08.6**	**-4.1**
CLNS				Pmax		04 13 16.4	
	comp=N,195nm,0.3s						
CLNS				*e*Sn	**Sn**	**04 13 33.4**	**-1.8**
CLNS				*e*Sg	**Sg**	**04 13 39.4**	**-3.8**
CLNS				Smax		04 13 39.8	
	comp=N,2μm,0.3s						
CLNS	**Chul'man**	**2.35**	**101**	*e*P	**Pn**	**04 13 07.6**	**+1.4**
CLNS				*e*S	**Sn**	**04 13 35.1**	**-0.1**
CLNS				pmax	pmax		
	comp=N,4.0nm,0.3s						
CLNS				pmax	pmax		
	comp=E,9.0nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,17nm,0.3s						
CLNS				smax			
	comp=N,17nm,0.3s						
CLNS				smax			
	comp=E,33nm,0.3s						
CLNS				smax			
	comp=Z,17nm,0.3s						
ALDR	**Aldan**	**2.80**	**62**	*e*Pn	**Pn**	**04 13 10.3**	**-2.1**
ALDR				*e*Pg	**Pg**	**04 13 15.8**	**-5.5**
ALDR				Pmax		04 13 18.3	
	comp=Z,144nm,0.3s						
ALDR				*e*Sg	**Sg**	**04 13 50.5**	**-7.1**
ALDR				Smax		04 13 50.8	
	comp=Z,3μm,0.4s						
NLYR	**Nelyaty**	**2.87**	**254**	*i* Pn	**Pn**	**04 13 16.8**	**+3.4**
NLYR				*e*Pg	**Pg**	**04 13 22.7**	**+0.1**
NLYR				Pmax		04 13 24.1	
	comp=Z,108nm,0.7s						
NLYR				*e*Sn	**Sn**	**04 13 52.7**	**+4.7**
NLYR				*e*Sg	**Sg**	**04 14 00.1**	**+0.3**
NLYR				Smax		04 14 03.5	
	comp=Z,473nm,1.4s						
NLYR	**Nelyaty**	**2.87**	**254**	*e*P	**Pn**	**04 13 16.4**	**+3.0**
TUP	**Tupik**	**2.98**	**188**	*e*Pn	**Pn**	**04 13 16.8**	**+1.9**
TUP				*e*Pg	**Pg**	**04 13 22.6**	**-2.1**
TUP				Pmax		04 13 25.5	
	comp=Z,127nm,0.6s						
TUP				*e*Sn	**Sn**	**04 13 52.3**	**+1.6**
TUP				*e*Sg	**Sg**	**04 14 01.2**	**-2.1**
TUP				Smax		04 14 03.2	
	comp=Z,936nm,0.8s						
TUP	**Tupik**	**2.98**	**188**	*e*P	**Pn**	**04 13 17.3**	**+2.4**
TUP				*e*S	**Sn**	**04 13 52.6**	**+1.9**
TUP				pmax	pmax		
	comp=Z,128nm,0.6s						
TUP				smax			
	comp=E,913nm,0.8s						
TNDR	**Tynda**	**3.17**	**133**	*e*Pn	**Pn**	**04 13 18.7**	**+1.3**
TNDR				*e*Pg	**Pg**	**04 13 24.7**	**-3.5**
TNDR				Pmax		04 13 30.5	
	comp=E,791nm,0.6s						
TNDR				*e*Sn	**Sn**	**04 13 55.3**	**+0.1**
TNDR				*e*Sg	**Sg**	**04 14 04.7**	**-4.5**
TNDR				Smax		04 14 05.9	
	comp=E,4μm,0.6s						
BOD	**Bodaibo**	**3.63**	**280**	*e*Pn	**Pn**	**04 13 26.4**	**+2.7**
BOD				*e*Pg	**Pg**	**04 13 35.6**	**-1.4**
BOD				Pmax		04 13 38.4	
	comp=E,25nm,0.6s						
BOD				*e*Sn	**Sn**	**04 14 09.3**	**+2.7**
BOD				*e*Sg	**Sg**	**04 14 22.8**	**-1.2**
BOD				Smax		04 14 27.9	
	comp=E,281nm,1.0s						
BOD	**Bodaibo**	**3.63**	**280**	*e*P	**Pn**	**04 13 26.7**	**+3.0**
BOD				pmax	pmax		
	comp=Z,27nm,0.6s						
SVKR	**Severomuysk**	**4.12**	**255**	*e*Pg	**Pg**	**04 13 45.3**	**-1.2**
SVKR				Pmax		04 13 50.2	
	comp=Z,56nm,0.4s						
SVKR				*e*Sg	**Sg**	**04 14 40.3**	**+0.4**
SVKR				Smax		04 14 55.0	
	comp=Z,428nm,1.2s						
UKT	**Uakit**	**4.35**	**247**	*e*Pn	**Pn**	**04 13 38.1**	**+4.4**
UKT				*e*Pg	**Pg**	**04 13 49.2**	**-1.7**
UKT				Pmax		04 13 52.4	
	comp=Z,30nm,0.6s						
UKT				*e*Sg	**Sg**	**04 14 45.3**	**-2.0**
UKT				Smax		04 14 56.5	
	comp=Z,80nm,1.4s						
YOA	**Uoyan**	**5.09**	**260**	*e*Sg	**Sg**	**04 15 09.4**	**-1.5**
YOA				Smax		04 15 23.8	
	comp=Z,1μm,1.7s						
KMO	**Kumora**	**5.45**	**258**	*e*Pg	**Pg**	**04 14 08.2**	**-3.6**
KMO				Pmax		04 14 14.2	
	comp=Z,19nm,0.9s						
KMO				*e*Sg	**Sg**	**04 15 19.0**	**-3.4**
KMO				Smax		04 15 30.5	
	comp=Z,184nm,1.3s						
KMO	**Kumora**	**5.45**	**258**	*e*P	**Pn**	**04 13 54.0**	**+5.3**
KMO				pmax	pmax		
	comp=Z,19nm,1.0s						
CGD	**Chagda**	**5.45**	**71**	*e*Sn	**Sn**	**04 14 46.6**	**-4.9**
CGD				*e*Sg	**Sg**	**04 15 10.3**	**-12**
CGD				Smax		04 15 16.7	
	comp=Z,4μm,0.3s						
YLYR	**Ulyunkhan**	**5.89**	**249**	*e*Pg	**Pg**	**04 14 16.0**	**-4.3**
YLYR				Pmax		04 14 29.5	
	comp=Z,7.0nm,1.2s						
YLYR				*e*Sg	**Sg**	**04 15 34.2**	**-2.3**
YLYR				Smax		04 15 39.0	
	comp=Z,109nm,1.8s						
YLYR	**Ulyunkhan**	**5.89**	**249**	*e*P	**Pg**	**04 14 16.2**	**-4.1**
YLYR				pmax	pmax		
	comp=Z,14nm,0.8s						
NIZ	**Nizh Angarsk**	**6.37**	**260**	*e*Sg	**Sg**	**04 15 49.5**	**-2.4**
NIZ				Smax		04 15 58.7	
	comp=Z,66nm,1.1s						
CIT	**Chita**	**6.77**	**221**	*e*Pg	**Pg**	**04 14 31.6**	**-5.5**
CIT				Pmax		04 14 34.1	
	comp=Z,13nm,0.8s						
CIT				*e*Sg	**Sg**	**04 15 59.7**	**-5.1**
CIT				Smax		04 16 02.7	
	comp=Z,227nm,1.4s						

SYVR	**Suvo**	**7.12**	**243**	*e*Pg	**Pg**	**04 14 39.9**	**-3.9**
SYVR				Pmax		04 14 42.8	
	comp=Z,13nm,1.4s						
SYVR				*e*Sg	**Sg**	**04 16 13.8**	**-2.2**
SYVR				Smax		04 16 21.9	
	comp=Z,152nm,1.7s						
MXMB	**Maximikha**	**7.96**	**244**	*e*Sg	Sx	04 16 39.2	
MXMB				Smax		04 16 46.3	
	comp=Z,257nm,1.3s						
OGRR	**Ongureny**	**8.32**	**249**	*e*Pn	**Pn**	**04 14 29.8**	**+1.7**
OGRR				*e*		04 16 15.7	
OGRR				*e*Sg	Sn	04 16 47.2	+45
OGRR				Smax		04 17 06.0	
	comp=Z,39nm,1.1s						
KPC	**Khapcheranga**	**9.13**	**216**	*e*Sg	Sx	04 17 14.1	
KPC				Smax		04 17 24.5	
	comp=Z,91nm,1.4s						
SONM	**Songino Array**	**12.88**	**228**	Pn	**Pn**	**04 15 35.4**	**+4.8**
	comp=Z,0.2nm,0.3s,baz=31,slow=14,SNR=3.7						
SONM				Lg		04 19 17.3	
	comp=Z,0.9nm,0.3s,baz=39,slow=28,SNR=8.4						
SONM	**Songino Array**	**12.88**	**228**	P	**Pn**	**04 15 35.4**	**+4.7**
MKAR	**Makanchi Array**	**25.52**	**262**	P	**P**	**04 17 59.9**	**+3.8**
	comp=Z,0.7nm,0.8s,mb3.2,baz=56,slow=8.8,SNR=3.2						
MKAR	**Makanchi Array**	**25.52**	**262**	P	**P**	**04 17 59.9**	**+3.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**39.68**	**327**	P	**P**	**04 20 02.1**	**+2.3**
	comp=Z,1.1nm,0.7s,mb3.7,baz=45,slow=10,SNR=3.8						
ARCES	**ARCESS Array B**	**39.68**	**327**	P	**P**	**04 20 02.1**	**+2.3**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**44.26**	**317**	P	**P**	**04 20 37.8**	**+0.6**
	comp=Z,1.1nm,0.8s,mb3.6,baz=48,slow=8.3,SNR=5.6						
FINES	**FINESS Array B**	**44.26**	**317**	P	**P**	**04 20 37.8**	**+0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NB2	**NORSAR Subarra**	**49.73**	**323**	P	**P**	**04 21 21.0**	**+1.1**
	comp=Z,0.8nm,0.7s,mb3.9,baz=41,slow=7.4						
NOA	**NORSAR Array B**	**49.73**	**323**	P	**P**	**04 21 20.8**	**+0.8**
	comp=Z,0.5nm,0.6s,mb3.8,baz=40,slow=7.1,SNR=3.5						
NOA	**NORSAR Array B**	**49.73**	**323**	P	**P**	**04 21 20.8**	**+0.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**50.22**	**304**	P	**P**	**04 21 24.4**	**+0.8**
	comp=Z,0.9nm,0.5s,mb4.1,baz=41,slow=8.6,SNR=7.1						
AKASG	**Malin Array Be**	**50.22**	**304**	P	**P**	**04 21 24.4**	**+0.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*SSNC **20** 04:13:48.2, 1805N×7720W,h0km,MD3.0,ML2.8*

JSN 20 04:13:54.3±1.1,1816N×7668W,h0km±6km,MD2.9,3C-5D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GWJ	**Greenwich**	**0.10**	**210**	*i*P	Pg	04 13 56.6	+0.4
STH	**Stony Hill**	**0.15**	**237**	*i*P	Pg	04 13 57.3	+0.1
STH				*i* S	Sg	04 13 59.5	+0.4
HOJ	**Hope**	**0.17**	**204**	*i*P	Pg	04 13 57.3	-0.2
CMJ	**Castle Mountai**	**0.29**	**94**	*i*P	Pg	04 14 00.9	+1.0
BBJ	**Bamboo Saint A**	**0.60**	**292**	*e*P	Pg	04 14 05.9	0.0
CVJ	**Coleyville**	**0.82**	**275**	*e*P	Pg	04 14 09.1	-0.9
MCJ	**Malvern**	**0.99**	**257**	*e*P	Pg	04 14 11.9	-1.3
MCJ				*e*S	Sg	04 14 26.7	+0.7
MBJ	**Montego Bay**	**1.15**	**282**	*e*P	Pg	04 14 14.7	-1.6
MBJ				*i* S	Sg	04 14 30.8	-0.6
LMGC	**Las Mercedes**	**1.92**	**351**	*e*P	Pn	04 14 21.0	-7.2
	baz=185						
LMGC				*e*S	Sn	04 14 45.3	-7.8
	comp=N,65nm,0.1s						
LMGC				*e*			
	comp=E,54nm,0.1s						

*BYKL **20** 04:14:05.5±0.4,5745N×12089E*
*IDC **20** 04:14:05.6±0.8,5725N×12051E,h0km,mb3.9/13, mb1 4.1/14,mb1mx3.9/22,mbtmp3.8/14,Error ellipse: s-maj=21.0km s-min=18.2km az=133.0*
*ISCJB **20** 04:14:05.6±0.3,5725N±003×12055E±004,h10km, mb4.0/24,MS4.0/2,Error ellipse: s-maj=4.7km s-min=3.2km az=147.1*
*MOS **20** 04:14:05.8±1.2,5733N×12056E,h10km,mb4.3/15,Error ellipse: s-maj=13.7km s-min=9.6km az=83.0*
*NEIC **20** 04:14:07.3±0.4,5725N×12054E,h10km,mb4.0/6,Error ellipse: s-maj=11.4km s-min=7.2km az=139.0*
*BJI **20** 04:14:10.0,5720N×12050E,h10km,mB4.6,mb4.5,ML4.7, Ms4.3,Msz3.8*

ISC 20 04:14:07.1±0.3,5728N±003×12053E±003,h10km,n80, σ1$27/94,mb4.0/24,MS4.0/2,3C,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHNR	**Khani**	**0.47**	**220**	*e*Pg	**Pg**	**04 14 19.4**	**+3.1**
KHNR				*e*Sg	**Sg**	**04 14 28.4**	**+5.9**
CRS	**Chara**	**1.29**	**254**	*e*Pg	**Pg**	**04 14 34.0**	**+2.1**
CRS				Pmax		04 14 35.7	
	1μm,0.8s						
CRS				*i* Sg	**Sg**	**04 14 53.3**	**+4.6**
CRS				Smax		04 14 53.7	
	3μm,1.2s						
CRS	**Chara**	**1.29**	**254**	*e*P	**Pn**	**04 14 34.5**	**+3.3**
CRS				*e*		04 14 53.4	
CRS				pmax	pmax		
	comp=Z,1μm,0.8s						
CRS				smax			
	comp=E,2μm,0.6s						
NRGR	**Nerungri**	**2.38**	**104**	*e*P	**Pn**	**04 14 46.6**	**+0.5**
NRGR				S	**Sn**	**04 15 15.9**	**+0.6**
NRGR				smax			
	comp=E,104nm,0.1s						
CLNS	**Chul'man**	**2.42**	**99**	*e*Pg	**Pn**	**04 14 46.7**	**0.0**
CLNS				Pmax		04 14 54.7	
	comp=E,2μm,0.4s						
CLNS				*e*Sg	**Sn**	**04 15 16.6**	**+0.2**
CLNS				Smax		04 15 19.1

TNDR				*e*Sn	**Sn**	**04 15 33.1**	**-1.8**
TNDR				*e*Sg	**Sg**	**04 15 43.2**	**-5.7**
TNDR				Smax		04 15 47.6	
	comp=E,10μm,0.6s						
BOD	**Bodaibo**	**3.56**	**281**	*e*Sg	**Sg**	**04 16 00.2**	**-1.2**
BOD				Smax		04 16 06.5	
	comp=E,898nm,0.6s						
BOD	**Bodaibo**	**3.56**	**281**	*e*P	**Pg**	**04 15 12.0**	**-3.2**
BOD				pmax	pmax		
	comp=Z,113nm,0.7s						
SVKR	**Severomuysk**	**4.02**	**256**	*e*Sg	**Sg**	**04 16 15.1**	**-1.0**
SVKR				Smax		04 16 34.5	
	comp=Z,2μm,1.4s						
UKT	**Uakit**	**4.24**	**248**	*e*Pg	**Pg**	**04 15 24.7**	**-3.6**
UKT				Pmax		04 15 31.3	
	comp=Z,142nm,0.9s						
UKT				*e*Sg	**Sg**	**04 16 23.3**	**+0.1**
UKT				Smax		04 16 35.1	
	comp=Z,408nm,0.7s						
UKT	**Uakit**	**4.24**	**248**	*e*P	**Pg**	**04 15 25.9**	**-2.4**
YOA	**Uoyan**	**4.99**	**260**	*e*Sg	**Sg**	**04 16 44.9**	**-2.3**
YOA				Smax		04 17 02.5	
	comp=Z,4μm,1.7s						
KMO	**Kumora**	**5.34**	**259**	*e*Sg	**Sg**	**04 16 55.6**	**-3.1**
KMO				Smax		04 17 10.4	
	comp=Z,894nm,1.2s						
KMO	**Kumora**	**5.34**	**259**	*e*P	**Pn**	**04 15 28.4**	**+1.5**
CGD	**Chagda**	**5.56**	**70**	*e*Sg	**Sb**	**04 16 48.1**	**-2.8**
CGD				Smax		04 16 52.0	
	comp=Z,13μm,0.3s						
YLYR	**Ulyunkhan**	**5.78**	**249**	*e*Sg	**Sg**	**04 17 12.2**	**-0.3**
YLYR				Smax		04 17 28.0	
	comp=Z,446nm,1.7s						
NIZ	**Nizh Angarsk**	**6.27**	**261**	*e*Pg	**Pg**	**04 16 02.9**	**-4.2**
NIZ				Pmax		04 16 10.4	
	comp=Z,42nm,1.0s						
NIZ				*e*Sg	**Sg**	**04 17 26.0**	**-2.2**
NIZ				Smax		04 17 38.0	
	comp=Z,302nm,0.8s						
YAK	**Yakutsk**	**6.64**	**40***c*	*i*P	**Pn**	**04 15 45.1**	**+0.4**
YAK	**Yakutsk**	**6.64**	**40**	*e*Pn	**Pn**	**04 15 44.8**	**+0.1**
	comp=Z,161nm,0.8s						
CIT	**Chita**	**6.65**	**220**	*e*Sg	**Sg**	**04 17 39.9**	**-0.5**
CIT				Smax		04 17 41.5	
	comp=Z,1μm,1.6s						
SYVR	**Suvo**	**7.00**	**243**	*e*Pg	**Pg**	**04 16 15.9**	**-5.2**
SYVR				Pmax		04 16 26.5	
	comp=Z,100nm,1.1s						
SYVR				*e*Sg	**Sg**	**04 17 51.4**	**-0.4**
SYVR				Smax		04 18 00.7	
	comp=Z,534nm,1.6s						
HIA	**Hailar**	**8.05**	**184**	*e*P	**Pb**	**04 16 20.0**	**-6.5**
OGRR	**Ongureny**	**8.21**	**249**	*e*Sg	Sx	04 18 27.0	
OGRR				Smax		04 18 43.5	
	comp=Z,120nm,2.0s						
KPC	**Khapcheranga**	**9.01**	**216**	*e*Sg	Sx	04 18 50.5	
KPC				Smax		04 19 03.3	
	comp=Z,246nm,1.2s						
TRG	**Tyrgan**	**9.32**	**247**	*e*Sg	Sx	04 19 01.8	
TRG				Smax		04 19 09.8	
	comp=Z,100nm,1.6s						
KLR	**Kul'dur**	**10.49**	**136**	*e*P	**Pn**	**04 16 33.8**	**-3.6**
KLR				MLR	MLR		
	comp=N,800nm,9.0s						
KLR				MLR	MLR		
	comp=E,700nm,9.0s						
TLY	**Talaya**	**11.30**	**247**	*e*P	**Pn**	**04 16 48.7**	**+0.2**
ZAK	**Zakamensk**	**12.29**	**243**	*e*P	**Pn**	**04 17 05.4**	**+3.3**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.6s						
ULN	**Ulaanbaatar**	**12.47**	**227**⇑	*i*P	**Pn**	**04 17 11.0**	**+6.4**
SONM	**Songino Array**	**12.76**	**228**	Pn	**Pn**	**04 17 06.8**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=37,slow=15,SNR=3.2						
SONM				Lg		04 20 52.0	
	comp=Z,2.0nm,0.3s,baz=43,slow=26,SNR=5.4						
TIXI	**Tiksi**	**14.84**	**10**	*e*P	**Pn**	**04 17 39.0**	**+2.1**
TIXI				*e*S	**Sn**	**04 20 20.8**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,17nm,0.7s						
TIXI				MLR	MLR		
	comp=Z,256nm,14.0s						
YSS	**Yuzh-Sakhalins**	**17.04**	**118***c*	*i*P	**Pn**	**04 18 16.9**	**+12**
YSS				pmax	pmax		
	comp=Z,59nm,1.6s						
NVS	**Novosibirsk**	**20.80**	**279**	*e*P	**P**	**04 18 50.5**	**+2.1**
GTA	**Gaotai**	**22.41**	**226**	*e*P	**P**	**04 19 09.3**	**+3.6**
GTA				AP		04 19 15.8	
GTA				XP	sP	04 19 20.1	+10
GTA				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb3.7						
GTA				AMB	AMB		
	comp=Z,155nm,6.5s						
GTA				LR	LR		
	comp=N,212nm,12.2s,MS3.9						
GTA				LR	LR		
	comp=E,193nm,11.8s,MS3.9						
GTA				LR	LR		
	comp=Z,185nm,10.5s,MS3.8						
BILL	**Bilibino**	**22.99**	**44**	*e*P	**P**	**04 19 11.8**	**0.0**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.1						
BILL	**Bilibino**	**22.99**	**44**	*e*P	**P**	**04 19 11.8**	**0.0**
	comp=Z,8.0nm,1.0s,mb4.1						
LZH	**Lanzhou**	**23.97**	**215**	*e*P	**P**	**04 19 26.8**	**+5.2**
LZH				AMB	AMB		
	comp=Z,21nm,1.4s,mb4.4						
KURK	**Kurchatov**	**25.16**	**273**	*e*P	**P**	**04 19 32.7**	**+0.2**
NJ2	**Nanjing**	**25.26**	**183**	*e*P	**P**	**04 19 38.5**	**+5.2**
NJ2				AP	pP	04 19 42.5	+6.2
NJ2				XP	sP	04 19 45.9	+8.3
NJ2				S	**S**	**04 24 05.0**	**+6.1**
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,110nm,11.5s						
NJ2				LR	LR		
	comp=N,860nm,25.7s,MS4.2						
NJ2				LR	LR		
	comp=E,530nm,27.6s,MS4.2						
NJ2				LR	LR		
	comp=Z,260nm,20.2s						
MKAR	**Makanchi Array**	**25.42**	**262**	P	**P**	**04 19 36.0**	**+1.1**
	comp=Z,1.7nm,0.6s,mb3.8,baz=56,slow=8.7,SNR=10.0						
MKAR	**Makanchi Array**	**25.42**	**262**	P	**P**	**04 19 36.0**	**+1.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SSE	**Sheshan**	**26.19**	**179**	P	**P**	**04 19 48.9**	**+7.2**
SSE				AMB	AMB		
	comp=Z,46nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,116nm,6.6s						
CHKZ	**Chkalovo**	**28.00**	**284**	*e*P	**P**	**04 19 58.1**	**+0.1**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
CHKZ	**Chkalovo**	**28.00**	**284**	*e*P	**P**	**04 19 58.1**	**+0.1**
	comp=Z,1.8nm,0.6s,mb3.9						
ENH	**Enshi**	**28.08**	**201**	*e*P	**P**	**04 19 59.2**	**+0.4**
	comp=Z,0.7nm,0.5s,mb3.5						
ZRNK	**Zerenda**	**29.20**	**284**	*e*P	**P**	**04 20 09.7**	**+1.0**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
ZRNK	**Zerenda**	**29.20**	**284**	*e*P	**P**	**04 20 09.7**	**+1.0**
	comp=Z,2.1nm,0.9s,mb3.9						
AAK	**Ala-Archa**	**32.34**	**263**	*e*P	**P**	**04 20 37.7**	**+1.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
AAK	**Ala-Archa**	**32.34**	**263**	*e*P	**P**	**04 20 37.3**	**+0.8**
	comp=Z,2.0nm,0.6s,mb4.1						
KLMR	**Klimovskoe**	**39.31**	**310**	*e*P	**P**	**04 21 36.3**	**+0.1**
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.4						
ARCES	**ARCESS Array B**	**39.71**	**327**	P	**P**	**04 21 37.5**	**-2.0**
	comp=Z,2.1nm,0.9s,mb3.9,baz=40,slow=9.6,SNR=4.7						
ARCES	**ARCESS Array B**	**39.71**	**327**	P	**P**	**04 21 37.5**	**-2.0**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
JOF	**Joensuu**	**41.41**	**316**	*e*p	**P**	**04 21 53.9**	**+0.3**
	comp=Z,5.9nm,0.8s,mb4.3						
JOF	**Joensuu**	**41.41**	**316**	*e*P	**P**	**04 21 53.9**	**+0.3**
JOF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.3						
ILAR	**Eielson Array**	**41.57**	**40**	P	**P**	**04 21 54.5**	**-0.3**
	comp=Z,0.5nm,0.5s,mb3.4,baz=299,slow=9.1,SNR=6.2						
ILAR	**Eielson Array**	**41.57**	**40**	P	**P**	**04 21 54.6**	**-0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**43.61**	**31**	P	**P**	**04 22 12.3**	**+0.8**
	comp=Z,1.6nm,0.9s,mb3.8,baz=340,slow=12,SNR=3.4						
INK	**Inuvik**	**43.61**	**31**	*e*P	**P**	**04 22 12.1**	**+0.6**
INK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
INK	**Inuvik**	**43.61**	**31**	*e*P	**P**	**04 22 12.1**	**+0.6**
	comp=Z,2.0nm,0.9s,mb3.9						
FINES	**FINESS Array B**	**44.26**	**317**	P	**P**	**04 22 16.6**	**-0.1**
	comp=Z,2.3nm,0.8s,mb4.0,baz=55,slow=7.2,SNR=8.1						
FINES	**FINESS Array B**	**44.26**	**317**	P	**P**	**04 22 16.6**	**-0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MAK	**Makhachkala**	**46.64**	**285**	*e*P	**P**	**04 22 46.4**	**+11**
NB2	**NORSAR Subarra**	**49.75**	**323**	P	**P**	**04 22 59.2**	**-0.4**
	comp=Z,2.0nm,0.6s,mb4.3,baz=44,slow=7.9						
NOA	**NORSAR Array B**	**49.75**	**323**	P	**P**	**04 22 59.1**	**-0.5**
	comp=Z,2.0nm,0.6s,mb4.3,baz=43,slow=7.9,SNR=7.4						
NOA	**NORSAR Array B**	**49.75**	**323**	P	**P**	**04 22 59.1**	**-0.5**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**50.20**	**304**	P	**P**	**04 23 02.6**	**-0.3**
	comp=Z,2.2nm,0.5s,mb4.5,baz=41,slow=8.5,SNR=12						
AKASG	**Malin Array Be**	**50.20**	**304**	P	**P**	**04 23 02.6**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YKA	**Yellowknife Ar**	**53.16**	**28**	P	**P**	**04 23 24.9**	**-0.2**
	comp=Z,0.4nm,0.7s,mb3.4,baz=333,slow=7.8,SNR=4.0						
GERES	**GERESS Array B**	**58.23**	**312**	P	**P**	**04 24 01.4**	**-0.1**
	comp=Z,0.6nm,0.8s,mb3.7,baz=39,slow=8.6,SNR=4.7						
GERES	**GERESS Array B**	**58.23**	**312**	P	**P**	**04 24 01.4**	**-0.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PDAR	**Pinedale Array**	**71.85**	**36**	P	**P**	**04 25 30.9**	**+0.9**
	comp=Z,0.6nm,0.6s,mb3.7,baz=29,slow=3.4,SNR=3.8						
WRA	**Warramunga Arr**	**77.79**	**167**	P	**P**	**04 26 03.9**	**-0.6**
	comp=Z,1.2nm,0.8s,mb3.9,baz=350,slow=6.4,SNR=7.3						
WRA	**Warramunga Arr**	**77.79**	**167**	P	**P**	**04 26 03.9**	**-0.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**81.42**	**168**	P	**P**	**04 26 23.7**	**-0.5**
	comp=Z,0.4nm,0.6s,mb3.5,baz=345,slow=3.7,SNR=5.1						
TORD	**Torodi Ar. Bea**	**93.75**	**301**	P	**P**	**04 27 23.6**	**-0.5**
	comp=Z,0.3nm,0.7s,mb3.8,baz=8.2,slow=4.9,SNR=6.1						

CSEM ***20*** *04:15:14.9±0.1, 4022N×2251E, h12km, ML3.2, Error ellipse: s-maj=1.8km s-min=1.4km az=121.0*
NEIC ***20*** *04:15:14.6, 4021N×2254E, h20km, MD3.0(SOF), MD3.4(ATH), After ATH.*
ATH ***20*** *04:15:14.5, 4021N×2251E, h19km±2km, MD3.4/8*
ISCJB ***20*** *04:15:14.5±0.4, 4021N±002×2258E±003, h10km±3km, Error ellipse: s-maj=4.3km s-min=3.0km az=23.9*
THE ***20*** *04:15:15.1, 4021N×2255E, h6km, ML3.2*
SOF ***20*** *04:15:15.1, 4034N×2253E, h10km, MD3.0*

ISC 20 04:15:15.1±0.3, 4021N±002×2256E±003, h10km±3km, n35, σ0§93/50, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIT	**Litokhoron**	**0.12**	**206**	*e*Pg	**Pg**	**04 15 17.6**	**-0.4**
LIT				*e*Sg	**Sg**	**04 15 19.8**	**-0.3**
THE	**Thessaloniki**	**0.52**	**36**	*e*Pg	**Pg**	**04 15 25.5**	**+0.1**
THE				*e*Sg	**Sg**	**04 15 33.5**	**+1.2**
KZN	**Kozani**	**0.61**	**279**	*e*PN	**Pg**	**04 15 25.4**	**-1.6**
KZN				*e*SN	**Sg**	**04 15 34.8**	**-0.2**
KZN	**Kozani**	**0.61**	**279**	*e*Pn	**Pg**	**04 15 25.6**	**-1.4**
KZN				*e*Sn	**Sg**	**04 15 35.8**	**+0.8**
PLG	**Polygyros**	**0.70**	**76**	*e*PN	**Pn**	**04 15 28.6**	**-2.4**
PLG				*e*SN	**Sg**	**04 15 38.8**	**+1.0**
PLG	**Polygyros**	**0.70**	**76**	*e*Pn	**Pn**	**04 15 28.6**	**-2.4**
PLG				*e*Sn	**Sg**	**04 15 37.8**	**0.0**
GRG	**Griva**	**0.76**	**351**	*e*Pg	**Pg**	**04 15 28.9**	**-0.8**
GRG				*e*Sg	**Sg**	**04 15 41.0**	**+1.4**
SOH	**Sokhos**	**0.86**	**45**	*e*Pg	**Pg**	**04 15 31.4**	**-0.4**
SOH				*e*Sg	**Sg**	**04 15 43.9**	**+0.9**
PAIG	**Paliouri**	**0.91**	**108**	*e*Pg	**Pg**	**04 15 31.6**	**-0.9**
XOR	**Xorichti**	**0.97**	**150**	*e*Pg	**Pg**	**04 15 34.0**	**+0.1**
XOR				*e*Sg	**Sg**	**04 15 47.7**	**+1.1**
KNT	**Kendrikon**	**0.98**	**15**	*e*Pg	**Pg**	**04 15 33.4**	**-0.7**
KNT				*e*Sg	**Sg**	**04 15 47.4**	**+0.5**
NEO	**Neokhori**	**1.04**	**150**	*e*PN	**Pn**	**04 15 34.7**	**-1.0**
NEO				*e*SN	**Sn**	**04 15 48.6**	**-1.6**
FNA	**Florina**	**1.07**	**303**	*e*Pg	**Pg**	**04 15 34.5**	**-1.1**
FNA				*e*Sg	**Sg**	**04 15 49.9**	**+0.4**
OUR	**Ouranopolis**	**1.10**	**83**	*e*Pg	**Pg**	**04 15 35.6**	**-0.6**
SRS	**Serrai**	**1.20**	**41**	*e*Pg	**Pg**	**04 15 37.4**	**-0.8**
AGG	**Agios Georgios**	**1.20**	**189**	*e*Pg	**Pg**	**04 15 37.6**	**-0.6**
AGG				*e*Sg	**Sg**	**04 15 55.1**	**+1.3**
EVR	**Evrytania**	**1.42**	**204**	*e*PN	**Pn**	**04 15 41.1**	**+0.2**
EVR				*e*SN	**Sn**	**04 15 59.9**	**+0.3**
JAN	**Janina**	**1.43**	**248**	*e*PN	**Pn**	**04 15 41.0**	**0.0**
JAN	**Janina**	**1.43**	**248**	*e*Pn	**Pn**	**04 15 41.5**	**+0.5**
NVR	**Nevrokopi**	**1.51**	**41**	*e*PB	**Pb**	**04 15 42.0**	**-1.2**
STIP	**Stip**	**1.51**	**349**	*i*Pn	**Pn**	**04 15 41.9**	**-0.3**
STIP				*e*Sn	**Sn**	**04 16 02.4**	**+0.6**
LKR	**Lokris**	**1.59**	**168**	*e*PN	**Pn**	**04 15 44.5**	**+1.1**
MMB	**Musomiste**	**1.64**	**32**	P	**Pn**	**04 15 43.0**	**-0.9**
KKB	**Krupnik**	**1.70**	**13**	*e*P	**Pn**	**04 15 44.9**	**+0.1**
IGT	**Igoumenitsa**	**1.84**	**249**	*e*Pb	**Pb**	**04 15 49.9**	**+1.0**
SKO	**Skopje**	**1.95**	**335**	*e*Pn	**Pn**	**04 15 46.8**	**-1.5**
KEK	**Kerkira**	**2.18**	**258**	*e*PN	**Pn**	**04 15 51.5**	**+0.1**
RZN	**Rozhen**	**2.20**	**47**	P	**Pn**	**04 15 53.4**	**+1.7**
VTS	**Vitosha**	**2.43**	**11**	P	**Pn**	**04 15 55.0**	**+0.2**
RDO	**Rodhopi**	**2.45**	**67**	*e*PB	**Pn**	**04 15 56.8**	**+1.7**
VLS	**Valsamata**	**2.54**	**218**	*e*PB	**Pn**	**04 15 58.0**	**+1.6**
KDZ	**Kurdzhali**	**2.60**	**55**	*e*P	**Pn**	**04 15 57.0**	**-0.2**
ALN	**Alexandroupoli**	**2.74**	**74**	*e*Pn	**Pn**	**04 15 59.1**	**-0.1**
CHOS	**Chios island**	**3.27**	**123**	*e*Pn	**Pn**	**04 16 06.7**	**+0.3**
APE	**Apeiranthos**	**3.91**	**142**	*e*Pn	**Pn**	**04 16 15.1**	**-0.1**

IDC ***20*** *04:16:02.8±1.2, 5765N×12045E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/20, mbtmp3.8/5, Error ellipse: s-maj=40.1km s-min=28.3km az=54.0*
BYKL ***20*** *04:16:02.5±0.5, 5737N×12090E, h10km*

ISC 20 04:16:00.3±0.6, 5732N±004×12076E±004, h10km, n25, σ1§63/29, mb3.8/5, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNR	**Khani**	**0.58**	**227**	*e*Pg	**Pg**	**04 16 14.4**	**+2.8**
KHNR				*e*Sg	**Sg**	**04 16 23.1**	**+3.9**
CRS	**Chara**	**1.42**	**254**	*e*Pg	**Pg**	**04 16 29.0**	**+1.4**
CRS				Pmax		04 16 30.5	
	443nm,0.8s						
CRS				*e*Sg	**Sg**	**04 16 48.2**	**+2.2**
CRS				Smax		04 16 49.1	
	828nm,1.1s						
CLNS	**Chul'man**	**2.31**	**100**	*e*Pg	**Pg**	**04 16 42.0**	**-2.6**
CLNS				Pmax		04 16 45.2	
	660nm,0.3s						
CLNS				*e*Sg	**Sg**	**04 17 12.5**	**-2.1**
CLNS				Smax		04 17 15.2	
	3μm,0.3s						
NLYR	**Nelyaty**	**2.89**	**255**	*e*Pg	**Pg**	**04 16 55.7**	**0.0**
NLYR				Pmax		04 17 01.7	
	168nm,0.6s						
NLYR				*e*Sg	**Sg**	**04 17 33.4**	**+0.2**
NLYR				Smax		04 17 41.1	
	934nm,1.1s						
TUP	**Tupik**	**2.93**	**189**	*e*Pn	**Pn**	**04 16 50.6**	**+3.6**
TUP				*e*Pg	**Pg**	**04 16 56.2**	**-0.3**
TUP				Pmax		04 16 56.7	
	240nm,0.6s						
TUP				*e*Sn	**Sn**	**04 17 24.9**	**+2.6**
TUP				*e*Sg	**Sg**	**04 17 34.4**	**-0.2**
TUP				Smax		04 17 36.7	
	1μm,0.9s						
TNDR	**Tynda**	**3.10**	**133**	*e*Sn	**Sn**	**04 17 29.3**	**+2.8**
TNDR				*e*Sg	**Sg**	**04 17 38.8**	**-1.2**
TNDR				Smax		04 17 40.0	
	5μm,0.3s						
BOD	**Bodaibo**	**3.67**	**281**	*e*Sg	**Sg**	**04 17 56.8**	**-1.4**
BOD				Smax		04 18 01.3	
	556nm,1.3s						
SVKR	**Severomuysk**	**4.14**	**256**	*e*Sg	**Sg**	**04 18 13.5**	**+0.1**
SVKR				Smax		04 18 28.6	
	819nm,1.4s						
UKT	**Uakit**	**4.36**	**248**	*e*Sg	**Sg**	**04 18 20.4**	**0.0**
UKT				Smax		04 18 29.8	
	212nm,0.9s						
YOA	**Uoyan**	**5.11**	**260**	*e*Sg	**Sg**	**04 18 42.1**	**-2.4**
YOA				Smax		04 18 56.7	
	2μm,1.6s						
CGD	**Chagda**	**5.43**	**71**	*e*Sg	**Sg**	**04 18 47.1**	**-7.7**
CGD				Smax		04 18 53.3	
	7μm,0.4s						
YLYR	**Ulyunkhan**	**5.90**	**250**	*e*Sg	**Sg**	**04 19 08.8**	**-0.9**
YLYR				Smax		04 19 22.6	
	188nm,1.2s						
NIZ	**Nizh Angarsk**	**6.39**	**261**	*e*Sg	**Sg**	**04 19 23.5**	**-2.0**
NIZ				Smax		04 19 32.6	
	110nm,1.4s						
CIT	**Chita**	**6.75**	**221**	*e*Sg	**Sg**	**04 19 33.2**	**-3.8**
CIT				Smax		04 19 36.2	
	367nm,1.5s						
SYVR	**Suvo**	**7.12**	**244**	*e*Sg	**Sg**	**04 19 46.3**	**-2.7**
SYVR				Smax		04 19 56.5	
	228nm,1.5s						
OGRR	**Ongureny**	**8.33**	**249**	*e*Sg	Sx	04 20 24.5	
OGRR				Smax		04 20 39.4	
	49nm,1.6s						
KPC	**Khapcheranga**	**9.11**	**217**	*e*Sg	Sx	04 20 47.2	
KPC				Smax		04 20 58.1	
	125nm,1.3s						
TRG	**Tyrgan**	**9.44**	**247**	*e*Sg	Sx	04 20 58.7	
TRG				Smax		04 21 11.5	
	74nm,1.5s						
SONM	**Songino Array**	**12.87**	**229**	Lg		04 22 51.1	
	baz=306,slow=50,SNR=1.8						
ILAR	**Eielson Array**	**41.46**	**40**	P	**P**	**04 23 49.3**	**+2.0**
	0.6nm,0.5s,mb3.5,baz=295,slow=5.4,SNR=5.4						
FINES	**FINESS Array B**	**44.32**	**317**	P	**P**	**04 24 12.2**	**+1.7**
	1.0nm,0.7s,mb3.6,baz=52,slow=9.0,SNR=3.2						
NB2	**NORSAR Subarra**	**49.80**	**323**	P	**P**	**04 24 53.0**	**-0.2**
	comp=Z,1.4nm,0.6s,mb4.2,baz=41,slow=7.4						
NOA	**NORSAR Array B**	**49.80**	**323**	P	**P**	**04 24 53.4**	**+0.2**
	comp=Z,1.1nm,0.6s,mb4.1,baz=42,slow=7.8,SNR=5.1						
AKASG	**Malin Array Be**	**50.28**	**304**	P	**P**	**04 24 57.4**	**+0.5**
	comp=Z,1.3nm,0.4s,mb4.3,baz=42,slow=8.7,SNR=7.9						
WRA	**Warramunga Arr**	**77.80**	**167**	P	**P**	**04 28 03.7**	**+5.9**
	comp=Z,0.3nm,0.5s,mb3.4,baz=353,slow=6.2,SNR=4.8						

ISC 20 04:24:00.6±0.6, 3792N±003×2899E±005, h10km, n7, σ0§48/12, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DENT	**Denizli**	**0.17**	**169**	*i*PG	**Pg**	**04 24 04.3**	**0.0**
DENT				*i*SG	**Sg**	**04 24 07.0**	**+0.2**
KHL	**Karahalli**	**0.58**	**46**	PG	**Pg**	**04 24 10.6**	**-1.3**
MANT	**Manisa**	**0.66**	**329**	*i*P	**Pg**	**04 24 13.4**	**0.0**
MANT				*i*S	**Sg**	**04 24 22.3**	**+0.2**
AYDN	**Tasoluk**	**0.92**	**254**	*i*P	**Pg**	**04 24 18.2**	**-0.1**
AYDN				*i*S	**Sg**	**04 24 30.4**	**+0.1**
YER	**Yerkesik**	**0.97**	**216**	PG	**Pg**	**04 24 18.9**	**-0.3**
TKTP	**Tekketepe**	**1.06**	**83**	*i*P	**Pg**	**04 24 21.7**	**+0.8**
TKTP				*i*S	**Sg**	**04 24 40.0**	**+5.3**
GDZ	**Gediz**	**1.23**	**18**	*i*P	**Pn**	**04 24 24.0**	**+0.2**
GDZ				*i*S	**Sb**	**04 24 40.0**	**+0.2**

IDC 20 04:26:01.4±6.6, 647S×3766W, h0km, mb4.0/1, mb1 4.3/2, mb1mx3.6/20, mbtmp4.2/2, ML4.5/1, MS3.6/1, Ms1 3.6/1, ms1mx2.9/20, Error ellipse: s-maj=468.3km s-min=27.4km az=141.0, Brazil

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDFB	**Brasilia**	**13.65**	**227**	Pn	Pn	04 29 17.5	+1.3
	1.4nm,0.3s,baz=62,slow=13,SNR=13						
BDFB				Sn	Sn	04 31 40.3	-8.3
	1.4nm,0.3s,baz=319,slow=12,SNR=3.5						
BDFB				Lg		04 33 12.3	
	2.6nm,0.3s,baz=321,slow=22,SNR=3.3						
ROSC	**El Rosal**	**38.30**	**286**	LR	LR	04 51 27.9	
	comp=Z,81nm,18.2s,baz=78,slow=40						
TORD	**Torodi Ar. Bea**	**43.67**	**63**	P	P	04 34 08.1	+0.2
	1.5nm,0.7s,baz=249,slow=8.8,SNR=20						
ASAR	**Alice Springs**	**148.94**	**165**	PKPbc	PKPbc	04 45 52.0	+0.8
	0.6nm,0.6s,baz=184,slow=3.1,SNR=6.9						

MAN 20 04:50:35.4, 1898N×12123E, h1km, mb2.0, ML3.7, MS4.3, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGCP	**Mt. Cagua**	**1.07**	**133**	*e*P	Pg	04 50 56.3	+0.4
APYP	**Conner**	**1.11**	**179**	*e*P	Pg	04 50 56.8	+0.1
APYP				*e*S	Sg	04 51 14.2	+3.1
CVP	**Callao Caves**	**1.39**	**156**	*e*P	Pn	04 51 02.0	+0.1
CVP				*e*S	Sg	04 51 22.0	+1.9

BJI ***20*** *04:57:50.0, 3496N×13998E, h71km, mB5.1, mb4.6*
ISCJB ***20*** *04:57:51.8±0.2, 3517N±003×14005E±003, h69km, mb4.4/67, Error ellipse: s-maj=3.7km s-min=3.4km az=16.9*
MOS ***20*** *04:57:51.1±0.9, 3506N×13998E, h70km, mb4.7/30, Error ellipse: s-maj=11.8km s-min=6.8km az=115.3*
JMA ***20*** *04:57:52.0±0.2, 3520N×14011E, h74km±2km, M4.7 Broadband fault plane solution: P waves. NP1: φs122.00000°, δ8.00000°, λ-17.00000°. NP2:φs229.00000°, δ87.00000°, λ-98.00000

JHJ LR LR 04 58 52.7
comp=Z,1μm,18.1s,baz=328,slow=30
MJAR Matsushiro Arr 2.03 314 P **Pn 04 58 24.6 -0.7**
102nm,0.3s,baz=139,slow=14,SNR=351
MAJO Matsushiro 2.03 314 *eP* **Pn 04 58 24.6 -0.7**
MAT Matsushiro 2.03 314 P **Pn 04 58 24.9 -0.4**
MAT S **Sn 04 58 49.7 0.0**
MAT Matsushiro 2.03 314 *eP* **Pn 04 58 25.0 -0.3**
MAT *eS* **Sn 04 58 50.0 +0.3**
CBIJ Chichi jima 8.23 166 P **Pn 04 59 46.6 -3.1**
73nm,0.3s,baz=313,slow=6.2,SNR=26
CBIJ S **Sn 05 01 12.5 -8.6**
49nm,0.3s,baz=316,slow=22,SNR=5.0
ASAJ Asahikawa 9.19 12 P **Pn 04 59 57.5 -5.3**
4.7nm,0.3s,baz=200,slow=30,SNR=15
ASAJ S **Sn 05 01 35.8 -8.7**
0.5nm,0.3s,baz=290,slow=31,SNR=3.2
YUK Yuzh-Kuril'sk 9.96 25 P **Pn 05 00 10.1 -3.3**
YSS Yuzh-Sakhalins 11.98 9 *eP* **Pn 05 00 36.5 -4.5**
YSS pmax pmax
comp=Z,40nm,0.7s
YSS Yuzh-Sakhalins 11.98 9 *ePn* **Pn 05 00 37.3 -3.7**
MDJ Mudanjiang 12.39 323 P **Pn 05 00 48.8 +2.3**
MDJ AMB AMB
comp=Z,7.0nm,0.8s
MDJ AMB AMB
comp=Z,43nm,4.8s
MDJ Mudanjiang 12.39 323 *ePn* **Pn 05 00 48.5 +2.0**
comp=Z,13nm,0.9s
JOW Kunigami 13.03 234 LR LR 05 05 30.2
comp=Z,96nm,18.7s,baz=211,slow=35
SNY Shenyang 14.50 302 P **Pn 05 01 11.4 -3.1**
SNY S **Sn 05 03 55.6 +1.7**
SNY SS 05 04 13.1
SNY AMB AMB
comp=Z,7.0nm,0.5s
SNY AMB AMB
comp=Z,154nm,4.3s
SSE Sheshan 16.28 261 P **Pn 05 01 33.0 -4.3**
SSE AP pP 05 01 44.1 -9.4
SSE S **S 05 04 31.5 -14**
SSE XS sS 05 04 57.0 -12
SSE AMB AMB
comp=Z,46nm,0.7s
SSE AMB AMB
comp=Z,46nm,3.1s
NJ2 Nanjing 17.90 266 *eP* **Pn 05 01 54.1 -3.1**
NJ2 AMB AMB
comp=Z,10.0nm,0.7s
HIA Hailar 20.53 320 *eP* **P 05 02 23.1 -2.5**
GUMO Guam 21.90 167 LR LR 05 10 35.2
comp=Z,104nm,20.4s,baz=10,slow=35
PET Petropavlovsk 22.22 31 *eP* **P 05 02 43.2 -0.5**
PET pmax pmax
comp=Z,35nm,1.0s,mb4.6
PET Petropavlovsk 22.22 31 *eP* **P 05 02 43.2 -0.5**
comp=Z,35nm,1.0s,mb4.6
YAK Yakutsk 27.70 350⇑ *eP* **P 05 03 35.4 +0.9**
YAK pmax pmax
comp=Z,21nm,0.9s,mb4.7
YAK Yakutsk 27.70 350 *eP* **P 05 03 35.1 +0.6**
comp=Z,31nm,0.8s,mb4.9
SONM Songino Array 27.97 307 P **P 05 03 37.6 +0.6**
comp=Z,0.9nm,0.5s,mb3.5,baz=108,slow=7.8,SNR=6.9
SONM LR LR 05 14 34.5
comp=Z,129nm,21.5s,baz=248,slow=36
BOD Bodaibo 28.58 331 *eP* **P 05 03 41.6 -0.8**
BOD pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
ZAK Zakamensk 30.61 311 *eP* **P 05 03 55.8 -4.6**
ZAK pmax pmax
comp=Z,8.0nm,2.2s,mb4.1
BILL Bilibino 36.16 16 *eP* **P 05 04 49.2 +0.6**
BILL pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
BILL Bilibino 36.16 16 *eP* **P 05 04 49.1 +0.6**
comp=Z,8.4nm,1.1s,mb4.6
TIXI Tiksi 37.05 354⇑ *eP* **P 05 04 56.2 +0.1**
TIXI pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
WMQ Urumqi 40.72 299 *eP* **P 05 05 25.5 -1.3**
NVS Novosibirsk 43.36 315 *eP* pP 05 06 02.1 -3.8
MK31 Makanchi Array 44.20 304 P **P 05 05 54.7 -0.3**
MK31 pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
MKAR Makanchi Array 44.20 304 P **P 05 05 55.2 +0.2**
comp=Z,2.3nm,0.6s,mb4.1,baz=90,slow=10.0,SNR=21
MKAR pP pP 05 06 13.0 +0.3
comp=Z,3.4nm,0.7s,baz=88,slow=9.9,SNR=6.5
MKAR Makanchi Array 44.20 304⇑ *eP* **P 05 05 55.2 +0.2**
MKAR Makanchi Array 44.20 304 P **P 05 05 55.2 +0.2**
MKAR pP pP 05 06 13.0 +0.3
JIRN Jiri 46.08 276 *eP* **P 05 06 10.4 +0.5**
comp=Z,17nm,0.6s,mb5.0
GUN Gumba 46.24 277 *eP* **P 05 06 11.2 +0.1**
KURK Kurchatov 46.24 309 *eP* **P 05 06 12.5 +1.4**
PKI Pulchoki 46.75 277 *eP* **P 05 06 15.2 0.0**
GKN Gorkha 47.21 277 *eP* **P 05 06 18.8 0.0**
comp=Z,11nm,0.5s,mb4.9
KAKA Kakadu 48.12 190 *eP* **P 05 06 22.1 -3.7**
comp=Z,10nm,0.8s,mb4.7
KOLN Koldanda 48.15 278 *eP* **P 05 06 25.4 -0.6**
comp=Z,26nm,1.3s,mb4.9
KDAK Kodiak Island 49.27 41 P **P 05 06 33.8 -0.8**
comp=Z,12nm,0.7s,mb4.9,baz=284,slow=8.1,SNR=6.3
TKM2 Tokmak 2 49.56 299 *i P* **P 05 06 37.8 +1.0**
TKM2 pmax pmax
comp=Z,13nm,0.7s,mb5.0
AAK Ala-Archa 50.42 299 *eP* **P 05 06 45.4 +2.1**
AAK *e**PP pP 05 07 00.0 -1.3
VOSK Vostochnaya 50.72 313 P **P 05 06 44.7 -0.9**
VOSK pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
CHKZ Chkalovo 50.80 314 *eP* **P 05 06 46.3 +0.1**
CHKZ pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
CHKZ Chkalovo 50.80 314 *eP* **P 05 06 46.3 +0.1**
comp=Z,3.3nm,0.6s,mb4.5
PMR Palmer 50.82 36 *eP* **P 05 06 46.4 +0.1**
PMR pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
PMR Palmer 50.82 36 *eP* **P 05 06 46.4 +0.1**
comp=Z,4.5nm,0.6s,mb4.7
BVA0 Borovoye Array 51.03 313 P **P 05 06 47.5 -0.4**
BVA0 pmax pmax
comp=Z,1.0nm,1.2s,mb3.7
ILAR Eielson Array 51.70 32 P **P 05 06 52.5 -0.4**
comp=Z,4.3nm,0.8s,mb4.5,baz=272,slow=6.4,SNR=49
ZRNK Zerenda 51.87 313 *eP* **P 05 06 55.4 +1.2**
ZRNK *e**PP pP 05 07 11.8 -0.5
ZRNK pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
ZRNK Zerenda 51.87 313 *eP* **P 05 06 55.4 +1.2**
comp=Z,3.7nm,0.6s,mb4.6
ZRNK *ep*P pP 05 07 11.8 -0.4
KK31 Karatay Array 53.11 301 *i P* **P 05 07 03.5 +0.1**
KK31 pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
KKAR Karatay Array 53.11 301 *i P* **P 05 07 03.5 +0.1**
KKAR pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
MENT Mentasta 53.24 34 *eP* **P 05 07 04.4 +0.1**
FITZ Fitzroy Crossi 54.68 197 *eP* **P 05 07 14.0 -0.8**
comp=Z,6.3nm,0.4s,mb5.0
DAWY Dawson 55.01 32 *eP* **P 05 07 18.7 +1.6**
WRAB Tennant Creek 55.03 187 *eP* **P 05 07 16.6 -0.7**
WRAB pmax pmax
comp=Z,21nm,0.4s,mb5.5
WRAB Tennant Creek 55.03 187 *eP* **P 05 07 16.6 -0.7**
comp=Z,21nm,0.4s,mb5.5
WB2 Warramunga Arr 55.04 187 *eP* **P 05 07 16.5 -0.9**
WRA Warramunga Arr 55.04 187 P **P 05 07 16.7 -0.7**
comp=Z,17nm,0.4s,mb5.4,baz=2.2,slow=7.6,SNR=431
WRA Warramunga Arr 55.04 187 *i P* **P 05 07 16.7 -0.7**
WRA pmax pmax
comp=Z,17nm,0.4s
INK Inuvik 56.59 26 P **P 05 07 28.1 -0.4**
comp=Z,2.7nm,0.7s,mb4.4,baz=290,slow=7.3,SNR=16
INK Inuvik 56.59 26 *eP* **P 05 07 27.9 -0.6**
INK pmax pmax
comp=Z,5.0nm,1.0s
INK Inuvik 56.59 26 *eP* **P 05 07 27.9 -0.6**
comp=Z,4.6nm,1.0s,mb4.5
ARU Arti 57.04 319⇑ *iP* **P 05 07 31.1 -0.6**
ARU *e* 05 09 39.6
ARU *eS* **S 05 15 24.6 +3.7**
ARU *eSS* SS 05 19 11.7 +1.3
ARU pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ARU Arti 57.04 319 *eP* **P 05 07 31.1 -0.5**
ARU *ep*P pP 05 07 49.5 -0.6
SKAG Skagway 57.89 37 *eP* **P 05 07 38.5 +0.9**
AB31 Akbulak array 58.31 311 *i P* **P 05 07 39.9 -0.7**
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
ASAR Alice Springs 58.77 187 P **P 05 07 43.2 -0.5**
comp=Z,3.0nm,0.5s,mb4.6,baz=18,slow=12,SNR=37
AKTK Aktyubinsk 59.11 312 P **P 05 07 46.7 +0.6**
AKTK pP pP 05 08 03.9 -0.7
AKTK LR LR 05 36 52.1
AKTO Aktyubinsk 59.11 312 P **P 05 07 46.7 +0.6**
comp=Z,2.2nm,0.8s,mb4.2,baz=66,slow=13,SNR=6.1
AKTO pP pP 05 08 03.9 -0.7
comp=Z,11nm,0.9s,baz=78,slow=12,SNR=14
AKTO LR LR 05 36 52.1
comp=Z,34nm,20.5s,baz=264,slow=40
MBWA Marble Bar 59.20 202 *eP* **P 05 07 45.8 -1.0**
comp=Z,9.3nm,0.6s,mb5.0
DLBC Dease Lake 60.82 37 P **P 05 07 58.7 +0.9**
comp=Z,1.9nm,0.8s,mb4.2,baz=296,slow=11,SNR=6.1
DLBC Dease Lake 60.82 37 P **P 05 07 58.7 +0.9**
RES Resolute Bay 64.71 14 *eP* **P 05 08 22.5 -1.2**
RES *e**PP pP 05 08 42.5 +0.1
RES pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
RES Resolute Bay 64.71 14 *eP* **P 05 08 22.4 -1.3**
comp=Z,8.2nm,0.9s,mb4.6
RES *ep*P pP 05 08 42.5 0.0
ARCES ARCESS Array B 65.37 339 P **P 05 08 27.0 -1.0**
comp=Z,1.0nm,0.6s,mb3.8,baz=57,slow=7.9,SNR=6.1
ARCES LR LR 05 40 18.8
comp=Z,35nm,20.0s,baz=347,slow=39
YKW3 Yellowknife Ar 65.97 29 *eP* **P 05 08 30.8 -1.1**
YKA Yellowknife Ar 66.01 29 P **P 05 08 31.1 -1.0**
comp=Z,2.1nm,0.7s,mb4.0,baz=300,slow=6.2,SNR=14
YKA pP pP 05 08 50.4 -0.4
comp=Z,2.1nm,0.9s,baz=300,slow=6.6,SNR=4.8
YKA Yellowknife Ar 66.01 29 P **P 05 08 31.1 -1.0**
YKA pP pP 05 08 50.4 -0.4
FORT Forrest 66.52 191 *eP* **P 05 08 35.0 -0.4**
comp=Z,24nm,0.5s,mb5.3
STKA Stephens Creek 66.67 179 *eP* **P 05 08 33.3 -3.0**
comp=Z,3.1nm,0.7s,mb4.2
STKA Stephens Creek 66.67 179 P **P 05 08 33.8 -2.6**
comp=Z,4.9nm,0.8s,mb4.4,baz=320,slow=5.6,SNR=7.3
STKA Stephens Creek 66.67 179 *eP* **P 05 08 33.5 -2.8**
JOF Joensuu 67.10 332 *ep* **P 05 08 37.2 -1.9**
comp=Z,1.4nm,0.4s,mb4.1
JOF Joensuu 67.10 332 *eP* **P 05 08 37.2 -1.9**
JOF pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
MAK Makhachkala 68.74 308 *eP* **P 05 08 48.1 -1.2**
MAK *e* 05 17 40.2
OBN Obninsk 68.94 323 *eP* **P 05 08 50.2 -0.3**
OBN *i* pP 05 09 08.7 -0.7
OBN pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
KAF Kangasniemi 69.47 333 *ep* **P 05 08 50.6 -3.3**
baz=50,slow=5.8
FINES FINESS Array B 69.96 332 P **P 05 08 56.0 -0.9**
comp=Z,2.1nm,0.6s,mb4.1,baz=59,slow=6.8,SNR=17
FINES pP pP 05 09 15.5 -0.3
comp=Z,4.3nm,0.7s,baz=71,slow=8.3,SNR=7.3
FINES FINESS Array B 69.96 332 *i P* **P 05 08 56.0 -0.9**
FINES pmax pmax
comp=Z,2.0nm,0.6s
KIV Kislovodsk 71.29 311 *c iP* **P 05 09 05.5 +0.5**
KIV pmax pmax
comp=Z,12nm,1.0s,mb4.7
KIV Kislovodsk 71.29 311 *eP* **P 05 09 04.8 -0.2**
KIV *ep*P pP 05 09 23.1 -0.8
GNI Garni 71.93 307 *eP* **P 05 09 08.9 +0.1**
GNI pmax pmax
comp=Z,2.0nm,0.8s
NEW Newport 72.28 43 *eP* **P 05 09 11.3 +0.4**
NEW pmax pmax
comp=Z,7.0nm,0.9s
NEW Newport 72.28 43 *eP* **P 05 09 11.3 +0.4**
comp=Z,7.0nm,0.9s,mb4.5
SUMG Summit 72.58 360 *eP* **P 05 09 12.8 +0.2**
SUMG *ep*P pP 05 09 32.4 +0.7
AKASG Malin Array Be 75.10 322 P **P 05 09 26.3 -1.1**
comp=Z,1.3nm,0.5s,mb3.9,baz=49,slow=6.0,SNR=9.4
AKASG pP pP 05 09 45.0 -1.5
comp=Z,2.7nm,0.5s,baz=48,slow=6.0,SNR=6.6
AKASG Malin Array Be 75.10 322 *i P* **P 05 09 32.7 +5.3**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
NB2 NORSAR Subarra 75.49 337 P **P 05 09 28.6 -1.0**
comp=Z,1.3nm,0.7s,mb3.8,baz=42,slow=5.9
NOA NORSAR Array B 75.49 337 P **P 05 09 28.2 -1.4**
comp=Z,2.5nm,0.8s,mb4.0,baz=39,slow=5.7,SNR=11
NOA LR LR 05 43 42.3
comp=Z,20nm,19.4s,baz=225,slow=36
HRY Holter Researc 76.11 42 *eP* **P 05 09 33.4 +0.2**
FCC Fort Churchill 76.20 26 *eP* **P 05 09 32.6 -1.1**
FCC *e* 05 09 45.2
FCC *e**PP pP 05 09 52.8 0.0
FCC pmax pmax
comp=Z,6.0nm,1.1s,mb4.2
FCC Fort Churchill 76.20 26 *eP* **P 05 09 32.6 -1.1**
comp=Z,6.2nm,1.1s,mb4.2
FCC *ePcP* PcP 05 09 45.2 -0.2
FCC *ep*P pP 05 09 52.8 0.0
LRM Limekiln Ridge 76.30 43 *eP* **P 05 09 35.0 +0.8**
LRM *ep*P pP 05 09 55.3 +1.9
EGMT Eagleton 76.44 40 *eP* **P 05 09 35.3 +0.3**
comp=Z,7.8nm,1.0s,mb4.4
DLMT Dillon 76.49 44 *eP* **P 05 09 36.0 +0.7**
comp=Z,15nm,1.3s,mb4.6
DLMT *ep*P pP 05 09 56.2 +1.8
DLMT *es*P sP 05 10 04.2 +1.9
HLID Hailey 76.50 46 *eP* **P 05 09 35.8 +0.4**
comp=Z,0.8nm,0.4s,mb3.8
BOZ Bozeman (W) 76.86 43 *eP* **P 05 09 37.5 +0.1**
BOZ pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
BOZ Bozeman (W) 76.86 43 *eP* **P 05 09 37.5 +0.1**
comp=Z,1.6nm,0.9s,mb3.8
NVAR Mina Array Bea 77.04 52 P **P 05 09 39.1 +0.8**
comp=Z,3.0nm,0.6s,mb4.2,baz=297,slow=4.6,SNR=14
MALT Malatya 77.05 308 *eP* **P 05 09 39.4 +1.0**
MALT *e**PP pP 05 09 58.2 +0.6
MALT pmax pmax
comp=Z,11nm,1.1s,mb4.5
MALT Malatya 77.05 308 *eP* **P 05 09 39.4 +1.0**
comp=Z,11nm,1.1s,mb4.5
MALT *ep*P pP 05 09 58.2 +0.6
ELK Elko 77.64 49 *eP* **P 05 09 43.2 +1.4**
IMW Indian Meadow 78.31 44 *eP* **P 05 09 47.3 +1.8**
comp=Z,4.1nm,0.8s,mb4.2
TPAW Teton Pass 78.56 45 *eP* **P 05 09 48.4 +1.6**
KWP Kalwaria 79.00 324 *eP* **P 05 09 49.7 +0.4**
BRTR Keskin Array B 79.25 311 P **P 05 09 51.0 +0.3**
comp=Z,0.9nm,0.8s,mb3.7,baz=84,slow=3.8,SNR=6.3
BRTR pP pP 05 10 09.4 -0.5
comp=Z,8.7nm,1.0s,baz=102,slow=4.0,SNR=18
HWUT Hardware Ranch 79.35 46 *eP* **P 05 09 51.6 +0.5**
comp=Z,6.7nm,1.0s,mb4.4
DUG Dugway 79.46 48 *eP* **P 05 09 53.0 +1.3**
DUG pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
DUG Dugway 79.46 48 *eP* **P 05 09 53.0 +1.2**
comp=Z,5.0nm,0.9s,mb4.3
KOLS Kolonicke sedl 79.69 324 *e* **P 05 10 00.9 +7.9**
TCUT Toone Canyon 79.74 47 *eP* **P 05 09 54.8 +1.5**
BW06 Boulder Array 79.81 45 *eP* **P 05 09 53.5 -0.1**
comp=Z,1.4nm,0.6s,mb4.0
PDAR Pinedale Array 79.81 45 P **P 05 09 53.9 +0.2**
comp=Z,1.1nm,0.6s,mb3.9,baz=308,slow=5.3,SNR=7.8
STHS Stebnicka Huta 79.85 324 *epP* pP 05 10 13.6 +0.4
OJC Ojcow 79.98 326 *eP* pP 05 10 13.3 -0.6
SHPR Sheep Range 80.19 52 *eP* **P 05 09 56.9 +1.2**
MPU Maple Canyon 80.28 48 *eP* **P 05 09 57.9 +1.7**
KECS Kecovo 80.86 324 *e* pP 05 10 21.3 +2.7
MSU Marysvale 80.87 49 *eP* **P 05 10 00.4 +1.1**
NEN Nelson 80.90 53 *eP* **P 05 10 00.4 +0.9**
PFO Pinyon Flat Ob 81.04 55 *eP* **P 05 10 00.9 +0.6**
PFO pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
PFO Pinyon Flat Ob 81.04 55 *eP* **P 05 10 00.9 +0.6**
comp=Z,8.8nm,1.0s,mb4.5
SRU San Rafael 81.52 48 *eP* **P 05 10 02.6 -0.2**
PSZ Piszkesteto 81.53 324 *eP* **P 05 10 02.9 0.0**
PSZ pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
PSZ Piszkesteto 81.53 324 *eP* **P 05 10 02.9 0.0**
comp=Z,2.4nm,0.8s,mb4.1
ASF Jabal al Asfar 81.62 303 P **P 05 10 04.2 +0.9**
comp=Z,1.2nm,0.4s,mb4.1,baz=13,slow=19,SNR=2.3
ASF pP pP 05 10 23.2 +0.5
comp=Z,4.1nm,0.8s,baz=55,slow=1.4,SNR=3.0
ULM Lac du Bonnet 81.71 32 P **P 05 10 02.8 -1.0**
comp=Z,1.6nm,0.7s,mb4.0,baz=315,slow=3.3,SNR=2.9
BRG Berggiesshubel 82.10 329 *eP* pP 05 10 24.6 -0.6
comp=Z,3.4nm,0.8s
CLL Collm 82.17 330 *epP* pP 05 10 25.0 -0.6
comp=Z,16nm,1.0s
PV10 Paradox Valley 82.88 48 *eP* **P 05 10 11.2 +1.3**
PV01 Paradox Valley 83.32 48 *eP* **P 05 10 13.4 +1.2**
PV01 *epP* pP 05 10 31.5 -0.1
KHC Kasperske Hory 83.56 328 *epP* pP 05 10 30.0 -2.8
SMCO Snowmass 83.60 46 *eP* **P 05 10 14.4 +0.8**
GERES GERESS Array B 83.72 328 P **P 05 10 13.8 -0.4**
comp=Z,0.7nm,0.7s,mb3.6,baz=46,slow=4.4,SNR=5.0
GERES pP pP 05 10 32.4 -1.3
comp=Z,2.4nm,0.8s,baz=40,slow=5.2,SNR=8.4
GERES LR LR 05 50 01.0
comp=Z,34nm,20.2s,baz=97,slow=37
GERES GERESS Array B 83.72 328 P **P 05 10 13.8 -0.4**
GERES *PP pP 05 10 32.4 -1.2
MVCO Mesa Verde 83.95 48 *eP* **P 05 10 15.8 +0.4**
ISCO Idaho Springs 83.99 45 *eP* **P 05 10 16.7 +1.1**
GRF Grafenberg Arr 84.14 329 *eP* pP 05 10 35.7 -0.1
comp=Z,10.0nm,1.0s
EIL Elat 84.45 302 *eP* **P 05 10 18.1 +0.2**
comp=Z,117nm,0.9s,mb5.7
EIL *epP* pP 05 10 37.7 +0.3
TUC Tucson 85.61 53 *eP* **P 05 10 23.8 +0.1**
TUC pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
TUC Tucson 85.61 53 *eP* **P 05 10 23.8 +0.1**
comp=Z,1.8nm,1.1s,mb3.9
ANMO Albuquerque 86.67 49⇑ *eP* **P 05 10 29.9 +0.9**
ANMO Albuquerque 86.67 49 *eP* **P 05 10 29.5 +0.6**
comp=Z,3.1nm,1.3s,mb4.1
SCHQ Schefferville 87.47 15 P **P 05 10 32.1 -0.7**
comp=Z,4.5nm,0.9s,mb4.4,baz=322,slow=4.1,SNR=5.2
SADO Sadowa 92.90 27 LR LR 05 56 47.3
comp=Z,44nm,21.6s,baz=190,slow=38
TORD Torodi Ar. Bea 117.83 313 PKP PKPdf 05 16 30.9 -0.4
comp=Z,1.0nm,0.9s,baz=31,slow=1.6,SNR=5.4
TORD *ePKP* pPKPdf 05 16 51.0 -0.7
comp=Z,0.7nm,0.7s,baz=354,slow=0.9,SNR=3.3
SAML Samuel 146.39 45 *ePKPbc* PKPbc 05 17 25.2 -0.7
LPAZ La Paz 148.62 60 *ePKPbc* PKPbc 05 17 33.2 +1.3
comp=Z,3.7nm,0.8s,baz=5.0,slow=3.5,SNR=12
LPAZ La Paz 148.62 60 *ePKPdf* PKPdf 05 17 28.2 0.0
LPAZ *ePKPbc* PKPbc 05 17 32.9 +0.9
LPAZ PKPbc PKPbc 05 17 33.2 +1.3
LVC Limon Verde 151.87 71 *ePKPbc* PKPbc 05 17 40.8 +1.0

MAN 20 04:58:59.4, 1361N×12187E, h14km, mb2.1, ML3.8, MS2.1, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LQP	**Lukban**	**0.59**	**328**	*eP*		Pg	04 59 12.0	+0.9
GQP	**Guinayangan**	**0.64**	**62**⇑	*eP*		Pg	04 59 10.8	-1.0
GQP				*eS*		Sg	04 59 20.6	+0.3
AUQP	**San Andres**	**0.83**	**110**	*eP*		Pg	04 59 15.6	0.0
POLP	**Polilio Island**	**1.12**	**4**	*eP*		Pb	04 59 19.2	-1.3
POLP				*eS*		Sb	04 59 36.2	+1.3
OTRP	**Odiongan**	**1.25**	**173**	*eP*		Pn	04 59 20.9	-1.5
LUBP	**Lubang**	**1.58**	**275**	*eP*		Pn	04 59 26.1	-1.0
PVCP	**Virac**	**2.22**	**90**	*eP*		Pn	04 59 37.9	+2.0

*MOS **20** 05:10:43.6±2.4, 5726N×12059E, h9km, mb4.3/1, Error ellipse: s-maj=30.0km s-min=20.0km az=146.5*

BYKL 20 05:10:39.0±0.3, 5743N×12088E, h2km±19km**, 2C-1D, Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNR	**Khani**	**0.71**	**224**⇑	*iPg*		Pg	05 10 52.5	-0.1
KHNR				*eSg*		Sg	05 11 01.3	-0.5
CRS	**Chara**	**1.52**	**251**⇓	*iPg*		Pg	05 11 07.1	-1.0
CRS				*eSg*		Sg	05 11 26.3	-1.5
CRS				Pmax				
	164nm,0.7s							
CRS				Smax				
	386nm,0.9s							
CRS	**Chara**	**1.52**	**251**	*eP*		Pn	05 11 07.1	-0.1
CRS				*e*			05 11 25.8	
CRS				pmax	pmax			
	comp=Z,165nm,0.8s							
CRS				smax				
	comp=E,397nm,0.9s							
NRGR	**Nerungri**	**2.24**	**109**	*eP*		Pn	05 11 21.7	+4.6
NRGR				S		Sn	05 11 47.8	+2.5
NRGR				smax				
	comp=N,10.0nm,0.1s							
CLNS	**Chul'man**	**2.27**	**104**	*ePg*		Pg	05 11 19.4	-3.1
CLNS				*eSg*		Sg	05 11 49.7	-2.1
CLNS				Pmax				
	comp=N,93nm,0.3s							
CLNS				Smax				
	comp=N,1μm,0.3s							
CLNS	**Chul'man**	**2.27**	**104**	*eP*		Pn	05 11 19.5	+2.0
CLNS				*eS*		Sn	05 11 48.2	+2.2
CLNS				pmax	pmax			
	comp=N,4.0nm,0.3s							
CLNS				pmax	pmax			
	comp=E,4.0nm,0.3s							
CLNS				pmax	pmax			
	comp=Z,10.0nm,0.3s							
CLNS				smax				
	comp=E,30nm,0.2s							
CLNS				smax				
	comp=N,60nm,0.3s							
CLNS				smax				
	comp=Z,12nm,0.3s							
CLNS				MLR	MLR			
	comp=Z,100nm,11.0s							
ALDR	**Aldan**	**2.69**	**62**	*ePg*		Pg	05 11 26.6	-3.9
ALDR				*eSg*		Sg	05 12 01.2	-4.1
ALDR				Pmax				
	comp=Z,71nm,0.3s							
ALDR				Smax				
	comp=Z,615nm,0.2s							
NLYR	**Nelyaty**	**2.99**	**254**⇑	*iPn*		Pn	05 11 28.2	+0.8
NLYR				*ePg*		Pg	05 11 32.9	-3.4
NLYR				*eSn*		Sn	05 12 02.4	-1.3
NLYR				*eSg*		Sg	05 12 10.3	-4.7
NLYR				Pmax				
	comp=Z,48nm,0.8s							
NLYR				Smax				
	comp=Z,242nm,1.0s							
NLYR	**Nelyaty**	**2.99**	**254**	*eP*		Pn	05 11 27.9	+0.5
NLYR				*e*			05 12 09.2	
NLYR				pmax	pmax			
	comp=Z,47nm,0.5s							
NLYR				smax				
	comp=N,241nm,1.0s							
TUP	**Tupik**	**3.06**	**190**	*ePn*		Pn	05 11 28.5	+0.2
TUP				*ePg*		Pg	05 11 33.9	-3.7
TUP				*eSn*		Sn	05 12 03.7	-1.8
TUP				*eSg*		Sg	05 12 12.9	-4.3
TUP				Pmax				
	comp=N,49nm,0.8s							
TUP				Smax				
	comp=N,509nm,0.4s							
TUP	**Tupik**	**3.06**	**190**	*eP*		Pn	05 11 29.0	+0.7
TUP				*eS*		Sn	05 12 04.4	-1.1
TUP				pmax	pmax			
	comp=Z,48nm,0.5s							
TUP				smax				
	comp=E,512nm,0.6s							
TNDR	**Tynda**	**3.13**	**135**	*ePn*		Pn	05 11 30.1	+0.7
TNDR				*ePg*		Pg	05 11 36.2	-2.9
TNDR				*eSn*		Sn	05 12 07.4	0.0
TNDR				*eSg*		Sg	05 12 16.0	-3.7
TNDR				Pmax				

comp=E,109nm,0.2s
TNDR Smax
comp=E,1µm,0.3s
BOD Bodaibo 3.72 279 *e*Pn Pn 05 11 38.0 +0.6
BOD *e*Pg Pg 05 11 45.7 -4.6
BOD *e*Sn Sn 05 12 19.9 -1.9
BOD *e*Sg Sg 05 12 32.7 -5.8
BOD Pmax
comp=E,15nm,0.7s
BOD Smax
comp=E,97nm,0.6s
SVKR Severomuysk 4.24 255 *e*Sg Sg 05 12 49.9 -5.2
SVKR Smax
comp=E,167nm,1.0s
UKT Uakit 4.47 247 *e*Pg Pg 05 11 59.3 -5.3
UKT *e*Sg Sg 05 12 56.3 -6.3
UKT Pmax
comp=E,11nm,0.7s
UKT Smax
comp=E,51nm,0.9s
UKT Uakit 4.47 247 *e*P Pg 05 11 59.2 -5.4
UKT pmax pmax
comp=Z,12nm,0.7s
YOA Uoyan 5.20 259 *e*Sg Sg 05 13 19.0 -7.0
YOA Smax
comp=Z,330nm,1.4s
CGD Chagda 5.33 72 *e* Pn 05 12 01.8 +2.2
CGD *e*Sg Sg 05 13 23.5 -6.8
CGD Smax
comp=Z,2µm,0.3s
KMO Kumora 5.56 258 *e*Pg Pg 05 12 19.4 -6.1
KMO *e*Sg Sg 05 13 30.6 -7.0
KMO Pmax
comp=Z,7.0nm,0.5s
KMO Smax
comp=Z,86nm,1.0s
YLYR Ulyunkhan 6.00 249 *e*P Pn 05 12 10.2 +1.4
YLYR pmax pmax
comp=Z,7.0nm,0.7s
NIZ Nizh Angarsk 6.48 260 Pg Pg 05 12 36.1 -7.0
NIZ *e*Sg Sg 05 13 58.2 -8.8
NIZ Pmax
comp=Z,2.0nm,0.7s
NIZ Smax
comp=Z,27nm,1.4s
NIZ Nizh Angarsk 6.48 260 *e*P Pn 05 12 19.4 +4.1
NIZ pmax pmax
comp=Z,3.0nm,0.9s
CIT Chita 6.88 221 *e*Sg Sg 05 14 11.0 -9.0
CIT Smax
comp=Z,118nm,1.4s
KPC Khapcheranga 9.24 217 *e*Pn Pn 05 12 52.8 -0.4
KPC *e*Sn Sn 05 14 32.8 -4.9
KPC *e*Sg Sn 05 15 25.6 +48
KPC Smax
comp=Z,30nm,0.7s

MOS ***20*** *05:17:36.2*±*1.1,3851*N×*3158E,h10*km*,mb4.2/1,Error ellipse: s-maj=15.9km s-min=7.3km az=87.3*
NEIC ***20*** *05:17:38.0,3860*N×*3121E,h5*km*,ML3.7(ISK),After ISK.*
ISK ***20*** *05:17:38.6,3860*N×*3120E,h5*km*,ML3.9*
IDC ***20*** *05:17:39.3*±*1.3,3860*N×*3122E,h0*km*,mb3.7/2,mb1 3.7/7, mb1mx3.5/23,mbtmp3.6/7,ML3.6/5,MS2.8/3,Ms1 2.8/3, ms1mx2.4/36,Error ellipse: s-maj=19.4km s-min=14.6km az=139.0*
ISCJB ***20*** *05:17:39.5*±*0.5,3862*N±*002*×*3121*E±*002,h3*km±*4km, mb3.7/3,Error ellipse: s-maj=3.2km s-min=2.5km az=114.9*
CSEM ***20*** *05:17:42.0*±*0.1,3863*N×*3122E,h40*km*,ML3.7,Error ellipse: s-maj=1.7km s-min=1.5km az=136.0*
ISC 20 05:17:40.5±**0.5,3862N**±**002**×**3122E**±**002,h5**km±**4km,n109,** σ**1§09**/143,**mb3.7/3,8C-4D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIZT	**Kizilcal**	**0.58**	**63**	*i* PG	**Pg**	**05 17 51.3**	**-0.4**
TKTP	**Tekketepe**	**0.91**	**231**	*i* P	**Pg**	**05 17 57.3**	**-0.8**
TKTP				*i* S	**Sg**	**05 18 10.6**	**+0.7**
ESKT	**Eskisehir**	**0.95**	**342**	*i* P	**Pg**	**05 17 58.2**	**-0.5**
ESKT				*i* S	**Sg**	**05 18 10.3**	**-0.7**
SEYT	**Eskypehyr**	**0.95**	**342**	*i* P	**Pg**	**05 17 58.2**	**-0.5**
SEYT				*i* S	**Sg**	**05 18 10.3**	**-0.7**
ISP	**Isparta**	**0.95**	**216**	*i* PG	**Pg**	**05 17 56.9**	**-1.6**
ISP				*i* SG	**Sg**	**05 18 12.4**	**+1.2**
ISP	**Isparta**	**0.95**	**216**	*c* P	**Pg**	**05 17 57.0**	**-1.8**
ISP	**Isparta**	**0.95**	**216**	*e*Pg	**Pg**	**05 17 56.9**	**-1.9**
ISP				*e*Sn	**Sn**	**05 18 11.9**	**-2.7**
KONT	**Konya--Tatoy**	**1.12**	**126**	*i* PN	**Pn**	**05 18 00.1**	**-2.8**
BCK	**Bucak**	**1.26**	**204**	PN	**Pn**	**05 18 02.8**	**-2.0**
KHL	**Karahalli**	**1.36**	**258**	PN	**Pn**	**05 18 05.0**	**-1.3**
BORA	**Eskisehir**	**1.40**	**335**	*i* P	**Pn**	**05 18 06.7**	**0.0**
BORA				*i* S	**Sb**	**05 18 28.0**	**+2.8**
BORA	**Eskisehir**	**1.40**	**335**	*i* P	**Pn**	**05 18 07.2**	**+0.5**
BORA				*i* S	**Sb**	**05 18 26.7**	**+1.5**
BORA	**Eskisehir**	**1.40**	**335**	*i* P	**Pn**	**05 18 07.2**	**+0.5**
BORA				*i* S	**Sb**	**05 18 26.7**	**+1.4**
GDZ	**Gediz**	**1.44**	**290**	*i* P	**Pn**	**05 18 07.0**	**-0.3**
GDZ				*i* S	**Sb**	**05 18 27.0**	**+0.5**
LOD	**Lodumlu**	**1.75**	**43**	PN	**Pn**	**05 18 11.1**	**-0.4**
ANTO	**Ankara**	**1.75**	**44**	PN	**Pn**	**05 18 10.9**	**-0.7**
ANTO	**Ankara**	**1.75**	**44**	⇑*i*P	**Pn**	**05 18 11.5**	**-0.1**
ANTO	**Ankara**	**1.75**	**44**	*e*Pn	**Pn**	**05 18 11.0**	**-0.6**
ANTO	**Ankara**	**1.75**	**44**	P	**Pn**	**05 18 11.5**	**-0.1**
ANTB	**Antalya**	**1.77**	**195**	PN	**Pn**	**05 18 11.8**	**-0.1**
GPA	**Golpazari**	**1.81**	**337**	PN	**Pn**	**05 18 12.2**	**-0.3**
MDU	**Mudurnu**	**1.85**	**360**	PN	**Pn**	**05 18 13.4**	**+0.5**
DENT	**Denizli**	**1.93**	**244**	PN	**Pn**	**05 18 12.8**	**-1.2**
SGKT	**Sivrigoynuk**	**2.06**	**18**	*i* P	**Pn**	**05 18 16.5**	**+0.7**
SGKT				*i* S	**Sg**	**05 18 54.9**	**+8.2**
KAMT	**Kaman**	**2.08**	**68**	PN	**Pn**	**05 18 16.8**	**+0.6**
MANT	**Manisa**	**2.09**	**267**	*i* P	**Pn**	**05 18 15.7**	**-0.6**
MANT				*i* S	**Sn**	**05 18 46.0**	**+3.3**
ELL	**Elmali**	**2.14**	**210**	PN	**Pn**	**05 18 17.0**	**+0.1**
BR131	**Keskin Array S**	**2.18**	**59**	*e*Pn	**Pn**	**05 18 16.6**	**-1.0**
BR131				*e*Pg	**Pg**	**05 18 21.7**	**-0.7**
BR131				*e*Sg	**Sg**	**05 18 50.4**	**-0.3**
BR131	**Keskin Array S**	**2.18**	**59**	*e*Pn	**Pn**	**05 18 16.6**	**-0.9**
BRTR	**Keskin Array B**	**2.18**	**59**	Pn	**Pn**	**05 18 17.0**	**-0.5**
	2.5nm,0.3s,baz=240,slow=15,SNR=60						
BRTR				Lg		05 18 49.1	
	6.1nm,0.3s,baz=244,slow=27,SNR=6.8						
BRTR	**Keskin Array B**	**2.18**	**59**	Pn	**Pn**	**05 18 17.0**	**-0.5**
IZI	**Iznik**	**2.19**	**322**	PN	**Pn**	**05 18 17.0**	**-0.6**
HENT	**Hendek**	**2.22**	**354**	*i* P	**Pn**	**05 18 18.4**	**+0.4**
HENT				*i* S	**Sn**	**05 18 48.9**	**+3.0**
ULDT	**Uludag**	**2.22**	**314**	*i* P	**Pb**	**05 18 22.3**	**+1.1**
ULDT				*i* S	**Sb**	**05 18 52.8**	**+3.8**
DST	**Dursunbey**	**2.25**	**297**	PN	**Pn**	**05 18 18.5**	**+0.1**
ORLT	**Orhaneli**	**2.30**	**309**	PN	**Pn**	**05 18 19.6**	**+0.5**
ERMK	**Ermenek**	**2.38**	**145**	*i* P	**Pn**	**05 18 22.8**	**+2.4**
ERMK				*i* S	**Sn**	**05 18 53.5**	**+3.5**
HRT	**Hereke**	**2.51**	**332**	PN	**Pn**	**05 18 22.1**	**+0.1**
ELDT	**Eldivan**	**2.53**	**42**	*i* P	**Pn**	**05 18 22.3**	**0.0**
ELDT				*i* S	**Sg**	**05 19 05.4**	**+3.5**
FETY	**Fethiye**	**2.61**	**221**	PN	**Pn**	**05 18 23.2**	**-0.1**
CDAG	**Cicekdag**	**2.65**	**67**	*i* P	**Pn**	**05 18 25.0**	**+1.1**
CDAG				*i* S	**Sn**	**05 18 57.5**	**+1.0**
AKS	**Akhisar**	**2.68**	**277**	PN	**Pn**	**05 18 24.0**	**-0.3**
CANT	**Cankiri**	**2.72**	**42**	PN	**Pn**	**05 18 25.3**	**+0.4**
BTOK	**Tokmak**	**2.73**	**296**	*i* P	**Pn**	**05 18 24.7**	**-0.3**
BTOK				*i* S	**Sg**	**05 19 09.1**	**+0.8**
YER	**Yerkesik**	**2.75**	**238**	PN	**Pn**	**05 18 25.8**	**+0.4**
DALT	**Dalyan (Mudla)**	**2.76**	**229**	*e*PN	**Pn**	**05 18 25.8**	**+0.4**
KCT	**Karacabey**	**2.76**	**308**	*e*PN	**Pn**	**05 18 26.3**	**+0.8**
BALB	**Balikesir**	**2.79**	**293**	*e*PN	**Pn**	**05 18 26.4**	**+0.5**
AYDN	**Tasoluk**	**2.80**	**251**	*i* P	**Pn**	**05 18 25.7**	**-0.3**
AYDN				*i* S	**Sn**	**05 19 06.8**	**+6.6**
SAFT	**Safranbolu**	**2.85**	**23**	*e*PN	**Pn**	**05 18 26.3**	**-0.4**
ISK	**Istanbul-Kandi**	**2.96**	**326**	*e*PN	**Pn**	**05 18 27.9**	**-0.3**
IKL	**Isikli**	**3.08**	**140**	*e*PN	**Pn**	**05 18 30.5**	**+0.6**
BNT	**Bandirma**	**3.09**	**305**	*e*PN	**Pn**	**05 18 30.2**	**+0.2**
KDAG	**Bornova**	**3.11**	**267**	*i* P	**Pg**	**05 18 40.2**	**+0.1**
KDAG				*i* S	**Sg**	**05 19 25.7**	**+5.3**
EDC	**Edincik**	**3.12**	**305**	*e*PN	**Pn**	**05 18 30.2**	**-0.2**
KLYT	**Kilyos**	**3.12**	**328**	*e*PN	**Pn**	**05 18 31.0**	**+0.6**
MERS	**Mersin**	**3.15**	**123**	*e*PN	**Pn**	**05 18 32.0**	**+1.2**
TOS	**Tosya**	**3.24**	**41**	*e*PN	**Pn**	**05 18 32.5**	**+0.4**
ELBA	**Catalca**	**3.32**	**321**	*i* P	**Pb**	**05 18 37.6**	**-2.3**
ELBA				*i* S	**Sb**	**05 19 25.0**	**+4.4**
CTT	**Catalca**	**3.32**	**321**	*e*PN	**Pn**	**05 18 33.5**	**+0.4**
KARA	**Karaisali**	**3.32**	**113**	*e*PN	**Pn**	**05 18 33.6**	**+0.4**
YOZ	**Yozgat**	**3.35**	**71**	*e*PN	**Pn**	**05 18 34.6**	**+1.0**
BALT	**Daday**	**3.35**	**29**	*i* P	**Pn**	**05 18 33.5**	**-0.1**
BALT				*i* S	**Sb**	**05 19 26.2**	**+4.5**
BALT	**Daday**	**3.35**	**29**	*i* P	**Pn**	**05 18 33.5**	**-0.1**
BDRM	**Kayabasi**	**3.37**	**244**	*i* P	**Pn**	**05 18 33.4**	**-0.4**
BDRM				*i* S	**Sg**	**05 19 34.0**	**+5.4**
CTKT	**Corum**	**3.41**	**53**	*i* P	**Pn**	**05 18 35.8**	**+1.4**
CTKT				*i* S	**Sn**	**05 19 20.3**	**+5.1**
DAT	**Datca**	**3.45**	**238**	*e*PN	**Pn**	**05 18 35.3**	**+0.3**
BODT	**Bodrum**	**3.46**	**245**	*e*PN	**Pn**	**05 18 34.6**	**-0.5**
URLA	**Izmir**	**3.64**	**267**	*i* P	**Pn**	**05 18 37.9**	**+0.3**
URLA				*i* S	**Sg**	**05 19 40.0**	**+2.6**
RKY	**Sarkoy-Tekirda**	**3.74**	**305**	*e*PN	**Pn**	**05 18 40.3**	**+1.3**
KOZT	**Kozan**	**3.81**	**106**	*e*PN	**Pn**	**05 18 40.3**	**+0.4**
BOYT	**Boyabat**	**3.98**	**44**	*i* P	**Pn**	**05 18 42.9**	**+0.6**
BOYT				*i* S	**Sg**	**05 19 45.4**	**-3.0**
EZN	**Ezine**	**3.99**	**289**	*e*PN	**Pn**	**05 18 43.0**	**+0.6**
CSS	**Prodhromos**	**4.02**	**154**	*e*Pg	**Pb**	**05 18 50.9**	**-0.9**
CSS				*e*Sg	**Sb**	**05 19 42.1**	**+1.3**
SVSK	**Karacayir**	**4.67**	**72**	*e*PN	**Pn**	**05 18 53.8**	**+2.1**
EDRB	**Edirne**	**4.71**	**315**	*e*PN	**Pn**	**05 18 52.0**	**-0.2**
APE	**Apeiranthos**	**4.76**	**253**	⇑*i*P	**Pn**	**05 18 52.8**	**-0.2**
APE	**Apeiranthos**	**4.76**	**253**	*e*P	**Pn**	**05 18 52.9**	**-0.1**
APE	**Apeiranthos**	**4.76**	**253**	⇑P	**Pn**	**05 18 52.9**	**-0.1**
IDI	**Anoyia**	**6.06**	**239**	Pn	**Pn**	**05 19 11.5**	**+0.7**
	0.9nm,0.3s,baz=51,slow=13,SNR=14						
IDI				Sn	**Sn**	**05 20 18.2**	**-2.4**
	1.2nm,0.3s,baz=309,slow=18,SNR=4.1						
IDI				LR	LR	05 21 34.1	
	comp=Z,60nm,21.8s,baz=58,slow=39						
SEV	**Sevastopol'**	**6.20**	**16**	*e*P	**Pn**	**05 19 12.4**	**-0.4**
SEV				*e*S	**Sn**	**05 20 23.0**	**-1.1**
TIRR	**Tirgusor**	**6.21**	**341**	*e*Pn	**Pn**	**05 19 11.9**	**-0.9**
TIRR				*e*Sn	**Sn**	**05 20 22.3**	**-1.8**
TIRR	**Tirgusor**	**6.21**	**341**	*e*P	**Pn**	**05 19 11.9**	**-0.9**
TIRR				*e*S	**Sn**	**05 20 22.3**	**-1.9**
YAL	**Yalta**	**6.26**	**20**	*e*P	**Pn**	**05 19 12.0**	**-1.6**
YAL				*e*S	**Sn**	**05 20 22.0**	**-3.6**
YAL				pmax	pmax		
	comp=Z,20nm,0.6s						
YAL				smax			
	comp=E,10.0nm,0.7s						
YAL	**Yalta**	**6.26**	**20**	*e*P	**Pn**	**05 19 12.0**	**-1.6**
	comp=E,20nm,0.6s						
YAL				*e*S	**Sn**	**05 20 22.0**	**-3.6**
MMAI	**Mount Meron Ar**	**6.54**	**147**	Pn	**Pn**	**05 19 16.6**	**-0.8**
	comp=E,1.7nm,0.3s,baz=326,slow=13,SNR=10						
HARR	**Harsova**	**6.55**	**339**	⇓*i*P	**Pn**	**05 19 16.6**	**-0.9**
SUDU	**Sudak**	**6.88**	**23**	*e*P	**Pn**	**05 19 19.7**	**-2.3**
SUDU				*e*S	**Sn**	**05 20 34.7**	**-6.0**
SUDU				pmax	pmax		
	comp=Z,20nm,0.6s						
SUDU				smax			
	comp=N,20nm,0.7s						
SUDU				smax			
	comp=E,30nm,0.7s						
SUDU	**Sudak**	**6.88**	**23**	*e*P	**Pn**	**05 19 19.7**	**-2.3**
	comp=E,20nm,0.6s						
CFR	**Carcaliu**	**6.95**	**342**	⇑*i*P	**Pn**	**05 19 22.7**	**-0.3**
CFR	**Carcaliu**	**6.95**	**342**	⇑P	**Pn**	**05 19 22.7**	**-0.3**
MLR	**Muntele Rosu**	**7.91**	**332**	Pn	**Pn**	**05 19 36.9**	**+0.6**
	comp=E,0.3nm,0.3s,baz=145,slow=13,SNR=8.5						
MLR	**Muntele Rosu**	**7.91**	**332**	⇑*i*P	**Pn**	**05 19 37.7**	**+1.5**
MLR	**Muntele Rosu**	**7.91**	**332**	⇑P	**Pn**	**05 19 37.7**	**+1.4**
BURAR	**Bucovina Array**	**10.00**	**336**	⇓*i*P	**Pn**	**05 20 06.9**	**+2.0**
BURAR	**Bucovina Array**	**10.00**	**336**	⇓P	**Pn**	**05 20 06.9**	**+2.0**
KIV	**Kislovodsk**	**10.14**	**55**	*e*P	**Pn**	**05 20 01.7**	**-5.1**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.6s						
GNI	**Garni**	**10.58**	**77**	LR	LR	05 24 09.8	
	comp=Z,44nm,21.1s,baz=183,slow=37						
AKASG	**Malin Array Be**	**12.17**	**354**	Pn	**Pn**	**05 20 32.9**	**-1.7**
	comp=Z,1.2nm,0.3s,baz=168,slow=12,SNR=7.6						
AKASG	**Malin Array Be**	**12.17**	**354**	*i* P	**Pn**	**05 20 34.4**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**12.17**	**354**	*i* P	**Pn**	**05 20 34.4**	**-0.1**
	comp=Z,1.0nm,0.4s						
GERES	**GERESS Array B**	**16.24**	**315**	LR	LR	05 27 51.7	
	comp=Z,46nm,18.8s,baz=104,slow=38						
OBN	**Obninsk**	**16.89**	**11**	*e*P	**Pn**	**05 21 33.6**	**-4.2**
OBN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
OBN	**Obninsk**	**16.89**	**11**	*e*P	**Pn**	**05 21 33.6**	**-4.2**
	comp=Z,2.0nm,1.0s						
ARU	**Arti**	**25.39**	**37**	⇓*i*P	**P**	**05 23 05.4**	**-3.5**
ARU				*e*PPP		05 23 47.5	
ARU				*e*S	**S**	**05 27 30.8**	**-5.1**
ARU				*e*SS		05 28 22.4	
ARU				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.9						
NOA	**NORSAR Array B**	**25.68**	**337**	P	**P**	**05 23 11.8**	**+0.3**
	comp=Z,0.5nm,0.8s,mb3.1,baz=137,slow=9.1,SNR=2.7						
NOA	**NORSAR Array B**	**25.68**	**337**	P	**P**	**05 23 11.8**	**+0.3**
TORD	**Torodi Ar. Bea**	**36.44**	**224**	P	**P**	**05 24 45.1**	**-1.1**
	comp=Z,1.4nm,0.7s,mb4.0,baz=37,slow=9.3,SNR=12						
BILL	**Bilibino**	**68.45**	**17**	*e*P	**P**	**05 28 38.8**	**-4.8**

ISCJB ***20*** *05:36:04.1*±*0.2,4318*N±*001*×*003*E±*001,h9km±2km,Error ellipse: s-maj=2.1km s-min=1.7km az=120.7*
STR ***20*** *05:36:06.4*±*0.1,4299*N×*001E,h5km±1km,Ml3.5,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***20*** *05:36:06.6*±*0.1,4303*N×*002W,h2km,Md3.8/3,Ml3.7/35, Error ellipse: s-maj=1.2km s-min=0.9km az=8.0*
NEIC ***20*** *05:36:06.4,4299*N×*001E,h5km,ML3.5(STR), ML3.7(LDG),MN3.1(MDD),After STR.*
MDD ***20*** *05:36:07.1*±*0.2,4301*N×*000W,h0km,mbLg3.1/27,Error ellipse: s-maj=1.7km s-min=1.1km az=9.0,PRXIMO*
CSEM ***20*** *05:36:07.2*±*0.0,4303*N×*002E,h10km,ML3.5/42,Error ellipse: s-maj=0.8km s-min=0.7km az=145.0*
ISC 20 05:36:05.6±**0.2,43113N**±**0010**×**002E**±**001,h9**km±**1km, n212,**σ**1§22/396,1C-1D,France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.08**	**147**	Pg	**Pg**	**05 36 08.7**	**+1.0**
LABF	**Labassere**	**0.08**	**147**	Pg	**Pg**	**05 36 08.7**	**+1.0**
LABF				Lg		05 36 10.2	
VIEF	**Viey**	**0.23**	**179**	Pg	**Pg**	**05 36 09.5**	**-0.8**
VIEF	**Viey**	**0.23**	**179**	Pg	**Pg**	**05 36 09.6**	**-0.7**
VIEF				Lg		05 36 11.6	
EPF	**Esparros**	**0.25**	**109**	*e*Pg	**Pg**	**05 36 11.7**	**+1.1**
EPF				*e*Sg	**Sg**	**05 36 15.1**	**+1.0**
	2µm,0.2s						
EPF	**Esparros**	**0.25**	**109**	*e*Pg	**Pg**	**05 36 11.7**	**+1.1**
EPF				*e*Sg	**Sg**	**05 36 15.1**	**+1.0**
	756nm,0.2s						
REYF	**Montagne du Re**	**0.30**	**262**	Pg	**Pg**	**05 36 12.1**	**+0.5**
REYF	**Montagne du Re**	**0.30**	**262**	Pg	**Pg**	**05 36 12.2**	**+0.6**
REYF				Lg		05 36 16.5	
RESF	**Ens**	**0.39**	**142**	Pg	**Pg**	**05 36 13.0**	**-0.2**
RESF	**Ens**	**0.39**	**142**	Pg	**Pg**	**05 36 13.1**	**-0.1**
RESF				Lg		05 36 17.8	
EBIE	**Bielsa**	**0.44**	**168**	⇑Pg	**Pg**	**05 36 13.3**	**-0.8**
	1µm,0.4s,SNR=18						
EBIE				Lg		05 36 18.0	
	2µm,0.1s,SNR=5.0						
EBIE	**Bielsa**	**0.44**	**168**	Pg	**Pg**	**05 36 13.3**	**-0.8**
EBIE				Lg		05 36 18.3	
EBIE	**Bielsa**	**0.44**	**168**	Pg	**Pg**	**05 36 13.3**	**-0.8**
	1µm,0.4s,SNR=18						
EBIE				Lg		05 36 18.0	
	2µm,0.1s,SNR=5.0						
ETSF	**Etsaut**	**0.47**	**243**	*e*Pg	**Pg**	**05 36 14.7**	**-0.1**
ETSF				*e*Sg	**Sg**	**05 36 20.2**	**-0.8**
	1µm,0.3s						
ETSF	**Etsaut**	**0.47**	**243**	*e*Pg	**Pg**	**05 36 14.7**	**-0.1**
ETSF				*e*Sg	**Sg**	**05 36 20.2**	**-0.8**
	639nm,0.3s						
FDAF	**Les Forges d'A**	**0.52**	**236**	Pg	**Pg**	**05 36 15.3**	**-0.4**
FDAF				Lg		05 36 21.5	
ATE	**Arette**	**0.53**	**267**	Pg	**Pg**	**05 36 15.9**	**+0.1**
ATE				Sg	**Sg**	**05 36 23.7**	**+1.0**
ATE	**Arette**	**0.53**	**267**	Pg	**Pg**	**05 36 16.2**	**+0.5**
ATE				Lg		05 36 23.8	
MELF	**Melles**	**0.60**	**114**	Pg	**Pg**	**05 36 17.3**	**+0.2**
MELF	**Melles**	**0.60**	**114**	Pg	**Pg**	**05 36 17.4**	**+0.2**
MELF				Lg		05 36 25.2	
ORDF	**Ordiarp**	**0.70**	**279**	Pg	**Pg**	**05 36 20.3**	**+1.1**
ORDF				Sg	**Sg**	**05 36 36.0**	**+2.3**
ORDF	**Ordiarp**	**0.70**	**279**	Pg	**Pg**	**05 36 20.0**	**+0.8**
ORDF				Lg		05 36 30.1	
LARF	**Larrau**	**0.74**	**264**	Pg	**Pg**	**05 36 20.2**	**+0.4**
LARF				Sg	**Sg**	**05 36 30.3**	**+0.8**
LARF	**Larrau**	**0.74**	**264**	Pg	**Pg**	**05 36 20.3**	**+0.5**
LARF				Lg		05 36 30.5	
MLS	**Moulis**	**0.81**	**101**	Pg	**Pg**	**05 36 21.4**	**+0.3**
MLS				Sg	**Sg**	**05 36 32.7**	**+1.1**
MLS	**Moulis**	**0.81**	**101**	Pg	**Pg**	**05 36 20.7**	**-0.4**
MLS				Lg		05 36 33.0	
SJPF	**Ste Jean**	**0.91**	**270**	*e*Pg	**Pg**	**05 36 23.3**	**+0.2**
SJPF				*e*Sg	**Sg**	**05 36 35.1**	**+0.2**
	175nm,0.3s						
SJPF	**Ste Jean**	**0.91**	**270**	*e*Pg	**Pg**	**05 36 23.3**	**+0.2**
SJPF				*e*Sg	**Sg**	**05 36 35.1**	**+0.2**
	87nm,0.3s						
SALF	**Salau**	**0.93**	**112**	Pg	**Pg**	**05 36 23.8**	**+0.3**
SALF				Sg	**Sg**	**05 36 35.5**	**-0.1**
SALF	**Salau**	**0.93**	**112**	Pg	**Pg**	**05 36 23.0**	**-0.5**
SALF				Lg		05 36 35.6	
EGRA	**Graus**	**0.94**	**166**	Pg	**Pg**	**05 36 23.0**	**-0.7**
	57nm,0.2s,SNR=63						
EGRA				Lg		05 36 34.5	
	212nm,0.5s,SNR=12						
EGRA	**Graus**	**0.94**	**166**	Pg	**Pg**	**05 36 23.1**	**-0.7**
EGRA				Lg		05 36 35.0	
OSSF	**Osses**	**0.94**	**279**	Pg	**Pg**	**05 36 24.0**	**+0.2**
OSSF	**Osses**	**0.94**	**279**	Pg	**Pg**	**05 36 24.1**	**+0.3**
IPRE	**Itoiz**	**1.05**	**253**	Pg	**Pg**	**05 36 25.9**	**+0.1**
	15nm,0.3s,SNR=13						
IPRE				Lg		05 36 39.4	
	110nm,0.4s,SNR=19						
IPRE	**Itoiz**	**1.05**	**253**	Pg	**Pg**	**05 36 25.9**	**+0.1**
	15nm,0.3s,SNR=13						
CSOR	**Sort**	**1.10**	**131**	Pg	**Pg**	**05 36 26.3**	**-0.5**
CSOR				Lg		05 36 40.3	
	241nm,0.3s						
EALK	**Alkurruntz**	**1.12**	**276**	Pg	**Pg**	**05 36 27.8**	**+0.7**
	28nm,0.3s,SNR=24						
EALK				Lg		05 36 43.4	
	126nm,0.4s,SNR=12						
EALK	**Alkurruntz**	**1.12**	**276**	Pg	**Pg**	**05 36 28.0**	**+0.9**
EALK				Lg		05 36 42.9	
EALK	**Alkurruntz**	**1.12**	**276**	Pg	**Pg**	**05 36 28.0**	**+0.9**
ELIZ	**Elizondo**	**1.13**	**273**	Pg	**Pg**	**05 36 28.2**	**+0.9**
	30nm,0.4s,SNR=34						
ELIZ				Lg		05 36 44.1	
	86nm,0.2s,SNR=15						
ELIZ	**Elizondo**	**1.13**	**273**	Pg	**Pg**	**05 36 28.2**	**+0.9**
ELIZ				Lg		05 36 43.2	
GRBF	**Gourbit**	**1.15**	**103**	Pg	**Pg**	**05 36 28.4**	**+0.7**
IUSE	**Utxeti**	**1.16**	**262**	Pg	**Pg**	**05 36 28.4**	**+0.6**
	3.1nm,0.1s,SNR=7.9						
IUSE				Lg		05 36 44.5	
	73nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**1.16**	**262**	Pg	**Pg**	**05 36 28.4**	**+0.6**
	3.1nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**1.22**	**254**	Pg	**Pg**	**05 36 29.6**	**+0.6**
	37nm,0.5s,SNR=10						
EARA				Lg		05 36 46.4	
	84nm,0.3s,SNR=5.8						
PAND	**Andorre**	**1.27**	**117**	Pg	**Pg**	**05 36 30.3**	**+0.3**
PAND				Lg		05 36 45.7	
CORG	**Organya**	**1.30**	**132**	Pg	**Pg**	**05 36 29.9**	**-0.7**
CORG				Lg		05 36 46.5	
	116nm,0.4s						
CAVN	**Les Avellanes**	**1.34**	**156**	Pg	**Pg**	**05 36 30.5**	**-0.9**
CAVN				Lg		05 36 46.4	
	768nm,0.2s						
LPEF	**Le Peyrat**	**1.40**	**96**	Pg	**Pg**	**05 36 33.3**	**+0.9**
LPEF				Lg		05 36 52.9	
ESAC	**San Caprasio**	**1.44**	**195**	⇓Pg	**Pg**	**05 36 32.4**	**-0.8**
	367nm,0.3s,SNR=18						
ESAC				Lg		05 36 49.1	
	1µm,0.3s,SNR=4.6						
ESAC	**San Caprasio**	**1.44**	**195**	Pg	**Pg**	**05 36 32.4**	**-0.8**
ESAC				Lg		05 36 51.0	
ESAC	**San Caprasio**	**1.44**	**195**	Pg	**Pg**	**05 36 32.4**	**-0.8**
	367nm,0.3s,SNR=18						
CLLI	**Llivia**	**1.57**	**113**	Pg	**Pg**	**05 36 35.4**	**-0.4**
CLLI				Lg		05 36 56.3	
	100nm,0.5s						
CARF	**Carcanieres**	**1.59**	**104**	Pg	**Pg**	**05 36 36.2**	**+0.2**
CARF				Sg	**Sg**	**05 36 57.0**	**+0.4**
CARF	**Carcanieres**	**1.59**	**104**	Pn	**Pn**	**05 36 36.2**	**+2.3**
CARF				Sn	**Sn**	**05 36 57.9**	**+3.4**
MTLF	**Montolieu**	**1.62**	**81**	*e*Pg	**Pg**	**05 36 37.7**	**+0.9**
MTLF				*e*Sg	**Sg**	**05 36 58.9**	**+1.0**
	294nm,0.2s						
**MTLF

RJF					*e*Sg	**Sg**	05 37 26.3	+2.3
RJF	**Les Rejaudoux**	**2.44**	**26**		*e*Pg	**Pg**	05 36 53.7	+1.3
RJF					*e*Sg	**Sg**	05 37 26.3	+2.3
	59nm,0.2s							
ELAN	**Lanestosa**	**2.53**	**274**		Pn	**Pn**	05 36 49.2	+2.4
	12nm,0.7s,SNR=12							
ELAN					Sn	**Sn**	05 37 20.8	+3.1
	5.7nm,0.2s,SNR=6.5							
ELAN	**Lanestosa**	**2.53**	**274**		Pn	**Pn**	05 36 49.2	+2.4
	12nm,0.7s,SNR=12							
EMOS	**Mosqueruela**	**2.77**	**188**		Pn	**Pn**	05 36 50.8	+0.6
	6.4nm,0.3s,SNR=16							
EMOS					Sn	**Sn**	05 37 20.7	-3.1
	6.6nm,0.2s,SNR=4.0							
EMOS					Lg		05 37 30.7	
	20nm,0.2s,SNR=7.7							
EMOS	**Mosqueruela**	**2.77**	**188**		Pn	**Pn**	05 36 50.8	+0.6
	6.4nm,0.3s,SNR=16							
EMOS					Sn	**Sn**	05 37 20.7	-3.1
	6.6nm,0.2s,SNR=4.0							
LASF	**Ste Croix**	**2.95**	**70**		*e*Pg	**Pg**	05 37 02.7	+0.5
LASF					*e*Sg	**Sg**	05 37 41.2	+0.8
	192nm,0.5s							
LASF	**Ste Croix**	**2.95**	**70**		Pn	**Pn**	05 36 53.3	+0.6
LASF					Pg	**Pg**	05 37 02.7	+0.5
LASF					Lg		05 37 41.2	
	96nm,0.5s							
LASF	**Ste Croix**	**2.95**	**70**		*e*Pn	**Pn**	05 36 53.3	+0.6
LASF					*e*Pg	**Pg**	05 37 02.7	+0.5
LASF					*e*Sg	**Sg**	05 37 41.2	+0.8
LASF	**Ste Croix**	**2.95**	**70**		*e*Pg	**Pg**	05 37 02.7	+0.5
LASF					*e*Sg	**Sg**	05 37 41.2	+0.8
	96nm,0.5s							
LBL	**Lubilhac**	**3.15**	**47**		Pn	**Pn**	05 36 55.8	+0.5
VERF	**Verneugheol**	**3.17**	**33**		Pn	**Pn**	05 36 56.5	+0.8
PYM	**Petit Puy Mans**	**3.40**	**38**		Pn	**Pn**	05 37 00.6	+1.8
MFF	**Saint Martin d**	**3.49**	**358**		*e*Pg	**Pg**	05 37 12.4	-0.1
MFF					*e*Sg	**Sg**	05 37 59.0	+1.3
	34nm,0.3s							
MFF	**Saint Martin d**	**3.49**	**358**		Pn	**Pn**	05 37 00.9	+0.8
MFF					Pg	**Pg**	05 37 12.4	-0.1
MFF	**Saint Martin d**	**3.49**	**358**		*e*Pn	**Pn**	05 37 00.9	+0.8
MFF					*e*Pg	**Pg**	05 37 12.4	-0.1
MFF					*e*Sg	**Sg**	05 37 59.0	+1.3
MFF	**Saint Martin d**	**3.49**	**358**		*e*Pg	**Pg**	05 37 12.4	-0.1
MFF					*e*Sg	**Sg**	05 37 59.0	+1.3
	17nm,0.3s							
TCF	**Toulx Ste Croi**	**3.54**	**25**		*e*Pg	**Pg**	05 37 13.2	-0.2
TCF					*e*Sn	**Sn**	05 37 41.8	-0.9
TCF					*e*Sg	**Sg**	05 37 59.7	+0.4
	43nm,0.3s							
TCF	**Toulx Ste Croi**	**3.54**	**25**		*e*Pn	**Pn**	05 37 01.2	+0.5
TCF					*e*Pg	**Pg**	05 37 13.2	-0.2
TCF					*e*Sn	**Sn**	05 37 41.8	-0.9
TCF					*e*Sg	**Sg**	05 37 59.7	+0.4
TCF	**Toulx Ste Croi**	**3.54**	**25**		*e*Pg	**Pg**	05 37 13.2	-0.2
TCF					*e*Sn	**Sn**	05 37 41.8	-0.9
TCF					*e*Sg	**Sg**	05 37 59.7	+0.4
	22nm,0.3s							
ECHE	**Chera**	**3.60**	**192**		Pn	**Pn**	05 37 02.1	+0.6
	5.9nm,0.4s,SNR=6.1							
ECHE					Pg	**Pg**	05 37 14.6	+0.1
	SNR=7.9							
ECHE					Sn	**Sn**	05 37 42.0	-2.1
	2.1nm,0.2s,SNR=7.9							
ECHE					Lg		05 37 58.2	
	6.2nm,0.3s,SNR=6.7							
AGO	**Saint Agoulin**	**3.69**	**36**		Pn	**Pn**	05 37 04.7	+1.9
VIVF	**Saint-Julien-l**	**3.79**	**61**		*e*Pg	**Pg**	05 37 17.8	-0.3
VIVF					*e*Sg	**Sg**	05 38 06.7	-0.5
	72nm,0.4s							
VIVF	**Saint-Julien-l**	**3.79**	**61**		*e*P	**Pn**	05 37 08.8	+4.7
VIVF					*e*Pg	**Pg**	05 37 17.8	-0.3
VIVF					*e*Sg	**Sg**	05 38 06.7	-0.5
VIVF	**Saint-Julien-l**	**3.79**	**61**		*e*Pg	**Pg**	05 37 17.8	-0.3
VIVF					*e*Sg	**Sg**	05 38 06.7	-0.5
	36nm,0.4s							
EARI	**Arriondas**	**3.83**	**275**		Pn	**Pn**	05 37 06.9	+2.3
	12nm,0.8s,SNR=9.0							
EARI					Sn	**Sn**	05 37 50.1	+0.4
	1.6nm,0.2s,SNR=5.0							
EARI	**Arriondas**	**3.83**	**275**		Pn	**Pn**	05 37 06.9	+2.2
	12nm,0.8s,SNR=9.0							
EARI					Sn	**Sn**	05 37 50.2	+0.4
	1.6nm,0.2s,SNR=5.0							
ETOS	**Mallorca**	**3.95**	**147**		Pn	**Pn**	05 37 07.2	+0.9
	7.0nm,0.8s,SNR=5.6							
ETOS					Sn	**Sn**	05 37 50.6	-2.2
	3.4nm,0.3s,SNR=5.0							
ETOS	**Mallorca**	**3.95**	**147**		Pn	**Pn**	05 37 07.2	+0.8
	7.0nm,0.8s,SNR=5.6							
ETOS	**Mallorca**	**3.95**	**147**		P	**Pn**	05 37 07.8	+1.4
ETOS					Sn	**Sn**	05 37 50.6	-2.2
	3.4nm,0.3s,SNR=5.0							
GUD	**Guadarrama**	**3.97**	**233**		Pn	**Pn**	05 37 08.1	+1.4
	8.2nm,0.3s,SNR=5.5							
GUD					Sn	**Sn**	05 37 51.9	-1.5
	2.7nm,0.3s,SNR=5.7							
GUD					Lg		05 38 10.9	
	SNR=7.9							
GUD	**Guadarrama**	**3.97**	**233**		Pn	**Pn**	05 37 08.1	+1.4
	8.2nm,0.3s,SNR=5.5							
GUD					Sn	**Sn**	05 37 51.9	-1.5
	2.7nm,0.3s,SNR=5.7							
BGF	**Bois d'Agland**	**3.99**	**29**		*e*Pg	**Pg**	05 37 22.6	+0.6
BGF					*e*Sg	**Sg**	05 38 15.2	+1.5
	191nm,0.4s							
BGF	**Bois d'Agland**	**3.99**	**29**		*e*Pn	**Pn**	05 37 08.4	+1.5
BGF					*e*Pg	**Pg**	05 37 22.6	+0.6
BGF					*e*Sg	**Sg**	05 38 15.2	+1.5
BGF	**Bois d'Agland**	**3.99**	**29**		*e*Pg	**Pg**	05 37 22.6	+0.6
BGF					*e*Sg	**Sg**	05 38 15.2	+1.5
	95nm,0.4s							
SMRF	**Simiane la Rot**	**4.13**	**76**		*e*Pg	**Pg**	05 37 24.1	-0.7
SMRF					*e*Sg	**Sg**	05 38 17.7	-0.6
	46nm,0.4s							
SMRF	**Simiane la Rot**	**4.13**	**76**		*e*Pn	**Pn**	05 37 09.6	+0.7
SMRF					*e*Pg	**Pg**	05 37 24.1	-0.7
SMRF					*e*Sg	**Sg**	05 38 17.7	-0.6
SMRF	**Simiane la Rot**	**4.13**	**76**		*e*Pg	**Pg**	05 37 24.1	-0.7
SMRF					*e*Sg	**Sg**	05 38 17.7	-0.6
	23nm,0.4s							
EIBI	**Ibiza**	**4.20**	**166**		Pn	**Pn**	05 37 09.4	-0.5
	0.7nm,0.2s,SNR=7.9							
EIBI					Sn	**Sn**	05 37 55.2	-3.9
	5.4nm,0.2s,SNR=7.9							
EIBI	**Ibiza**	**4.20**	**166**		Pn	**Pn**	05 37 09.4	-0.5
	0.7nm,0.2s,SNR=7.9							
EIBI					Sn	**Sn**	05 37 55.2	-3.9
	5.4nm,0.2s,SNR=7.9							
AVF	**Avril sur Loir**	**4.37**	**32**		*e*Pg	**Pg**	05 37 29.0	-0.4
AVF					*e*Sg	**Sg**	05 38 26.8	+0.8
	30nm,0.4s							
AVF	**Avril sur Loir**	**4.37**	**32**		*e*Pn	**Pn**	05 37 13.5	+1.3
AVF					*e*Pg	**Pg**	05 37 29.0	-0.4
AVF					*e*Sg	**Sg**	05 38 26.8	+0.8
AVF	**Avril sur Loir**	**4.37**	**32**		*e*Pg	**Pg**	05 37 29.0	-0.4
AVF					*e*Sg	**Sg**	05 38 26.8	+0.8
	15nm,0.4s							
EBEN	**Beniarda**	**4.41**	**182**		Pn	**Pn**	05 37 12.8	+0.1
	0.6nm,0.2s,SNR=7.9							
EBEN					Sn	**Sn**	05 38 00.7	-3.5
	1.6nm,0.2s,SNR=7.9							
EBEN					Lg		05 38 24.9	
	11nm,0.4s,SNR=7.9							
EBEN	**Beniarda**	**4.41**	**182**		Pn	**Pn**	05 37 12.8	+0.1
	0.6nm,0.2s,SNR=7.9							
EBEN					Sn	**Sn**	05 38 00.7	-3.5
	1.6nm,0.2s,SNR=7.9							
SMF	**Signal de Mont**	**4.46**	**36**		*e*Pg	**Pg**	05 37 31.1	+0.1
SMF					*e*Sg	**Sg**	05 38 29.3	+0.6
	18nm,0.2s							
SMF	**Signal de Mont**	**4.46**	**36**		*e*Pn	**Pn**	05 37 14.4	+1.1
SMF					*e*Pg	**Pg**	05 37 31.1	+0.1
SMF					*e*Sg	**Sg**	05 38 29.3	+0.6
SMF	**Signal de Mont**	**4.46**	**36**		*e*Pg	**Pg**	05 37 31.1	+0.1
SMF					*e*Sg	**Sg**	05 38 29.3	+0.6
	8.9nm,0.2s							
HYF	**Humbligny**	**4.55**	**23**		*e*Pn	**Pn**	05 37 15.6	+1.0
HYF					*e*Sg	**Sg**	05 38 32.6	+0.9
ESDC	**Sonseca Array**	**4.56**	**222**		Pn	**Pn**	05 37 15.7	+1.0
	1.7nm,0.1s,baz=43,slow=14,SNR=14							
ESDC					Sn	**Sn**	05 38 04.3	-3.5
	4.6nm,0.2s,baz=43,slow=24,SNR=10							
ESDC	**Sonseca Array**	**4.56**	**222**		Pn	**Pn**	05 37 15.7	+1.0
	1.7nm,0.1s,SNR=14							
ESDC					Sn	**Sn**	05 38 04.3	-3.5
	4.6nm,0.2s,SNR=10							
ORIF	**Oris-en-Rattie**	**4.60**	**65**		*e*Pn	**Pn**	05 37 15.7	+0.4
ORIF					*e*Sg	**Sg**	05 38 32.9	-0.3
	42nm,0.9s							
ORIF	**Oris-en-Rattie**	**4.60**	**65**		*e*Pn	**Pn**	05 37 15.7	+0.4
ORIF					*e*Sg	**Sg**	05 38 32.9	-0.3
	21nm,0.9s							
ETOB	**Tobarra**	**4.62**	**195**		Pn	**Pn**	05 37 16.5	+1.0
	3.4nm,0.7s,SNR=6.6							
ETOB					Sn	**Sn**	05 38 05.8	-3.6
	1.6nm,0.2s,SNR=5.0							
ETOB					Lg		05 38 32.7	
	18nm,0.7s,SNR=7.9							
ETOB	**Tobarra**	**4.62**	**195**		Pn	**Pn**	05 37 16.5	+0.9
	3.4nm,0.7s,SNR=6.6							
ETOB					Sn	**Sn**	05 38 05.8	-3.5
	1.6nm,0.2s,SNR=5.0							
SSF	**Saint Saulge**	**4.66**	**31**		*e*Pg	**Pg**	05 37 34.0	-0.8
SSF					*e*Sn	**Sn**	05 38 08.6	-1.7
SSF					*e*Sg	**Sg**	05 38 34.5	-0.6
	30nm,0.4s							
SSF	**Saint Saulge**	**4.66**	**31**		*e*Pn	**Pn**	05 37 16.5	+0.4
SSF					*e*Pg	**Pg**	05 37 34.0	-0.8
SSF					*e*Sn	**Sn**	05 38 08.6	-1.7
SSF					*e*Sg	**Sg**	05 38 34.5	-0.6
SSF	**Saint Saulge**	**4.66**	**31**		*e*Pg	**Pg**	05 37 34.0	-0.8
SSF					*e*Sn	**Sn**	05 38 08.6	-1.7
SSF					*e*Sg	**Sg**	05 38 34.5	-0.6
	15nm,0.4s							
LMR	**La Mourre**	**4.75**	**85**		*e*Pn	**Pn**	05 37 18.5	+1.1
LMR					*e*Sg	**Sg**	05 38 36.3	-1.8
	12nm,0.3s							
LMR	**La Mourre**	**4.75**	**85**		*e*Pn	**Pn**	05 37 18.5	+1.1
LMR					*e*Sg	**Sg**	05 38 36.3	-1.8
	5.9nm,0.3s							
FRF	**La Foret Royal**	**4.86**	**82**		*e*Pg	**Pg**	05 37 36.5	-2.1
FRF					*e*Sg	**Sg**	05 38 38.5	-3.1
	31nm,0.6s							
FRF	**La Foret Royal**	**4.86**	**82**		*e*Pn	**Pn**	05 37 19.5	+0.6
FRF					*e*Pg	**Pg**	05 37 36.5	-2.1
FRF					*e*Sg	**Sg**	05 38 38.5	-3.1
FRF	**La Foret Royal**	**4.86**	**82**		*e*Pg	**Pg**	05 37 36.5	-2.1
FRF					*e*Sg	**Sg**	05 38 38.5	-3.1
	16nm,0.6s							
LOR	**Lormes**	**4.96**	**32**		*e*Pg	**Pg**	05 37 38.5	-2.2
LOR					*e*Sn	**Sn**	05 38 16.7	-1.1
LOR					*e*Sg	**Sg**	05 38 43.5	-1.5
	22nm,0.3s							
LOR	**Lormes**	**4.96**	**32**		*e*Pn	**Pn**	05 37 21.0	+0.7
LOR					*e*Pg	**Pg**	05 37 38.5	-2.2
LOR					*e*Sn	**Sn**	05 38 16.7	-1.1
LOR					*e*Sg	**Sg**	05 38 43.5	-1.5
LOR	**Lormes**	**4.96**	**32**		*e*Pg	**Pg**	05 37 38.5	-2.2
LOR					*e*Sn	**Sn**	05 38 16.7	-1.1
LOR					*e*Sg	**Sg**	05 38 43.5	-1.5
	11nm,0.3s							
ECAL	**Calabor**	**5.13**	**259**		Pn	**Pn**	05 37 23.7	+1.2
	1.6nm,0.2s,SNR=7.9							
ECAL					Sn	**Sn**	05 38 20.3	-1.5
	6.2nm,0.3s,SNR=4.8							
ECAL	**Calabor**	**5.13**	**259**		Pn	**Pn**	05 37 23.7	+1.2
	1.6nm,0.2s,SNR=7.9							
ECAL					Sn	**Sn**	05 38 20.3	-1.5
	6.2nm,0.3s,SNR=4.8							
MBDF	**Montbardon**	**5.14**	**69**		*e*Pg	**Pg**	05 37 43.1	-0.9
MBDF					*e*Sg	**Sg**	05 38 49.9	-0.7
	12nm,0.6s							
MBDF	**Montbardon**	**5.14**	**69**		*e*Pn	**Pn**	05 37 23.6	+0.9
MBDF					*e*Pg	**Pg**	05 37 43.1	-0.9
MBDF					*e*Sg	**Sg**	05 38 49.9	-0.7
MBDF	**Montbardon**	**5.14**	**69**		*e*Pg	**Pg**	05 37 43.1	-0.9
MBDF					*e*Sg	**Sg**	05 38 49.9	-0.7
	6.1nm,0.6s							
PBRG	**Braganca**	**5.17**	**258**		*e*Pn	**Pn**	05 37 24.4	+1.3
PBRG					*e*Sn	**Sn**	05 38 22.2	-0.6
PBRG								
	6.5nm,0.6s							
PBRG	**Braganca**	**5.17**	**258**		*e*Pn	**Pn**	05 37 24.4	+1.3
PBRG					*e*Sn	**Sn**	05 38 22.2	-0.6
	6.5nm,0.6s							
EPON	**Pontenova**	**5.24**	**275**		Pn	**Pn**	05 37 26.0	+1.9
	0.6nm,0.1s,SNR=5.2							
EPON					Sn	**Sn**	05 38 25.1	+0.5
	2.6nm,0.2s,SNR=6.0							
EPON	**Pontenova**	**5.24**	**275**		Pn	**Pn**	05 37 26.0	+1.9
	0.6nm,0.1s,SNR=5.2							
EPON					Sn	**Sn**	05 38 25.1	+0.4
	2.6nm,0.2s,SNR=6.0							
QUIF	**Quistinic**	**5.30**	**336**		*e*Pg	**Pg**	05 37 45.2	-1.9
QUIF					*e*Sn	**Sn**	05 38 24.0	-2.1
QUIF					*e*Sg	**Sg**	05 38 54.7	-1.0
	20nm,0.3s							
QUIF	**Quistinic**	**5.30**	**336**		*e*Pn	**Pn**	05 37 25.4	+0.5
QUIF					*e*Pg	**Pg**	05 37 45.2	-1.9
QUIF					*e*Sn	**Sn**	05 38 24.0	-2.1
QUIF					*e*Sg	**Sg**	05 38 54.7	-1.0
QUIF	**Quistinic**	**5.30**	**336**		*e*Pg	**Pg**	05 37 45.2	-1.9
QUIF					*e*Sn	**Sn**	05 38 24.0	-2.1
QUIF					*e*Sg	**Sg**	05 38 54.7	-1.0
	9.9nm,0.3s							
GRR	**Gorron**	**5.31**	**354**		*e*Pg	**Pg**	05 37 45.7	-1.6
GRR					*e*Sn	**Sn**	05 38 24.5	-1.9
GRR					*e*Sg	**Sg**	05 38 56.4	+0.3
	20nm,0.4s							
GRR	**Gorron**	**5.31**	**354**		*e*Pn	**Pn**	05 37 25.6	+0.5
GRR					*e*Pg	**Pg**	05 37 45.7	-1.6
GRR					*e*Sn	**Sn**	05 38 24.5	-1.9
GRR					*e*Sg	**Sg**	05 38 56.4	+0.3
GRR	**Gorron**	**5.31**	**354**		*e*Pg	**Pg**	05 37 45.7	-1.6
GRR					*e*Sn	**Sn**	05 38 24.5	-1.9
GRR					*e*Sg	**Sg**	05 38 56.4	+0.3
	10nm,0.4s							
ERUA	**La Rua**	**5.32**	**265**		Pn	**Pn**	05 37 26.6	+1.4
	2.2nm,0.2s,SNR=7.9							
ERUA					Sn	**Sn**	05 38 25.6	-1.0
	2.2nm,0.2s,SNR=7.9							
EMUR	**La Murta**	**5.35**	**191**		Pn	**Pn**	05 37 26.2	+0.5
	0.5nm,0.1s,SNR=4.0							
EMUR	**La Murta**	**5.35**	**191**		Pn	**Pn**	05 37 26.2	+0.6
	0.5nm,0.1s,SNR=4.0							
LPL	**La Plagne**	**5.38**	**61**		*e*Pn	**Pn**	05 37 27.0	+0.9
LPL					*e*Sg	**Sg**	05 38 57.6	-0.9
	14nm,0.6s							
LPG	**La Plagne**	**5.39**	**61**		*e*Pn	**Pn**	05 37 27.5	+1.3
LPG					*e*Sg	**Sg**	05 38 57.8	-0.8
	22nm,0.6s							
SGMF	**Saint Gilles**	**5.45**	**342**		*e*Pg	**Pg**	05 37 48.5	-1.4
SGMF					*e*Sn	**Sn**	05 38 27.2	-2.6
SGMF					*e*Sg	**Sg**	05 38 58.6	-1.9
	48nm,0.7s							
SGMF	**Saint Gilles**	**5.45**	**342**		Pn	**Pn**	05 37 27.8	+0.8
SGMF					Pg	**Pg**	05 37 48.5	-1.4
SGMF	**Saint Gilles**	**5.45**	**342**		*e*Pn	**Pn**	05 37 27.8	+0.8
SGMF					*e*Pg	**Pg**	05 37 48.5	-1.4
SGMF					*e*Sn	**Sn**	05 38 27.2	-2.6
SGMF					*e*Sg	**Sg**	05 38 58.6	-1.9
SGMF	**Saint Gilles**	**5.45**	**342**		*e*Pg	**Pg**	05 37 48.5	-1.4
SGMF					*e*Sn	**Sn**	05 38 27.2	-2.6
SGMF					*e*Sg	**Sg**	05 38 58.6	-1.9
	24nm,0.7s							
SBF	**Sospel**	**5.45**	**80**		*e*Pn	**Pn**	05 37 27.4	+0.4
SBF					*e*Sg	**Sg**	05 38 58.3	-2.3
	62nm,0.9s							
LDF	**La Druitiere**	**5.48**	**359**		*e*Pg	**Pg**	05 37 50.1	-0.5
LDF					*e*Sn	**Sn**	05 38 29.2	-1.4
LDF					*e*Sg	**Sg**	05 39 01.2	-0.4
	28nm,0.5s							
LDF	**La Druitiere**	**5.48**	**359**		*e*Pn	**Pn**	05 37 27.4	0.0
LDF					*e*Pg	**Pg**	05 37 50.1	-0.5
LDF					*e*Sn	**Sn**	05 38 29.2	-1.4
LDF					*e*Sg	**Sg**	05 39 01.2	-0.4
LDF	**La Druitiere**	**5.48**	**359**		*e*Pg	**Pg**	05 37 50.1	-0.5
LDF					*e*Sn	**Sn**	05 38 29.2	-1.4
LDF					*e*Sg	**Sg**	05 39 01.2	-0.4
	14nm,0.5s							
CABF	**La Chapelle**	**5.55**	**49**		*e*Pg	**Pg**	05 37 51.2	-0.8
CABF					*e*Sg	**Sg**	05 39 02.8	-1.1
	61nm,0.9s							
CABF	**La Chapelle**	**5.55**	**49**		Pn	**Pn**	05 37 28.9	+0.5
CABF					Pg	**Pg**	05 37 51.2	-0.8
CABF	**La Chapelle**	**5.55**	**49**		*e*Pn	**Pn**	05 37 28.9	+0.5
CABF					*e*Pg	**Pg**	05 37 51.2	-0.8
CABF					*e*Sg	**Sg**	05 39 02.8	-1.1
	30nm,0.9s							
FLN	**La Foliniere**	**5.66**	**357**		*e*Pg	**Pg**	05 37 53.6	-0.4
FLN					*e*Sn	**Sn**	05 38 33.0	-2.0
FLN					*e*Sg	**Sg**	05 39 06.9	-0.4
	15nm,0.5s							
FLN	**La Foliniere**	**5.66**	**357**		*e*Pn	**Pn**	05 37 30.4	+0.5
FLN					*e*Pg	**Pg**	05 37 53.6	-0.4
FLN					*e*Sn	**Sn**	05 38 33.0	-2.0
FLN					*e*Sg	**Sg**	05 39 06.9	-0.4
FLN	**La Foliniere**	**5.66**	**357**		*e*Pg	**Pg**	05 37 53.6	-0.4
FLN					*e*Sn	**Sn**	05 38 33.0	-2.0
FLN					*e*Sg	**Sg**	05 39 06.9	-0.4
	7.3nm,0.5s							
ROSF	**Rostrenen**	**5.71**	**337**		*e*Pn	**Pn**	05 37 31.2	+0.7
ROSF					*e*Sn	**Sn**	05 38 33.3	-2.9
ROSF					*e*Sg	**Sg**	05 39 08.1	-0.8
	6.5nm,0.3s							
ROSF	**Rostrenen**	**5.71**	**337**		*e*Pn	**Pn**	05 37 31.2	+0.7
ROSF					*e*Sn	**Sn**	05 38 33.3	-2.9
ROSF					*e*Sg	**Sg**	05 39 08.1	-0.8
	3.2nm,0.3s							
PVRL	**Vila Real**	**6.03**	**255**		*e*Sn	**Sn**	05 38 42.0	-2.1
PVRL								
	7.0nm,0.3s							
PVRL	**Vila Real**	**6.03**	**255**		Sn	**Sn**	05 38 42.0	-2.1
	3.5nm,0.3s							
EADA	**Adamuz**	**6.05**	**217**		Pn	**Pn**	05 37 35.7	+0.5
	0.4nm,0.1s,SNR=7.9							
EADA					Sn	**Sn**	05 38 40.1	-4.5
	0.2nm,0.4s,SNR=7.9							
EADA					Lg		05 39 16.6	
	5.7nm,0.5s,SNR=7.9							
EADA	**Adamuz**	**6.05**	**217**		Pn	**Pn**	05 37 35.7	+0.5
	0.4nm,0.1s,SNR=7.9							
EADA					Sn	**Sn**	05 38 40.2	-4.4
ELOB	**Lobios**	**6.10**	**261**		Pn	**Pn**	05 37 36.9	+1.0
	0.5nm,0.1s,SNR=7.9							
ELOB					Sn	**Sn**	05 38 44.2	-1.6
	1.9nm,0.3s,SNR=7.9							
ELOB	**Lobios**	**6.10**	**261**		Pn	**Pn**	05 37 36.9	+1.0
	0.5nm,0.1s,SNR=7.9							
ELOB					Sn	**Sn**	05 38 44.2	-1.6
	1.9nm,0.3s,SNR=7.9							
PCAB	**Cabril**	**6.12**	**259**		*e*Pn	**Pn**	05 37 37.0	+0.8
MTE	**Manteigas**	**6.27**	**247**		*e*Sn	**Sn**	05 38 47.6	-2.4
MTE					*e*Sg	**Sg**	05 39 23.3	-3.6
MTE								
	8.6nm,0.7s							
PVIS	**Viseu**	**6.37**	**251**		*e*Sn	**Sn**	05 38 50.0	-2.5
PVIS								
	5.1nm,0.8s							
PVIS	**Viseu**	**6.37**	**251**		Sn	**Sn**	05 38 50.0	-2.5
	2.5nm,0.8s							
MEZF	**Maizieres J'vi**	**6.43**	**31**		*e*Pn	**Pn**	05 37 41.0	+0.5
MEZF					*e*Sg	**Sg**	05 39 31.1	-1.1
	30nm,0.5s							
MEZF	**Maizieres J'vi**	**6.43**	**31**		*e*Pn	**Pn**	05 37 41.0	+0.5
MEZF					*e*Sg	**Sg**	05 39 31.1	-1.1
	15nm,0.5s							
PCBR	**Castelo Branco**	**6.51**	**242**		*e*Sn	**Sn**	05 38 51.9	-4.0
PCBR								
	3.7nm,0.4s							
PCBR	**Castelo Branco**	**6.51**	**242**		Sn	**Sn**	05 38 51.9	-4.0
	1.9nm,0.4s							
HAU	**Haudompre**	**6.61**	**40**		*e*Pn	**Pn**	05 37 43.5	+0.6
HAU					*e*Sg	**Sg**	05 39 36.6	-1.1
	15nm,0.5s							
HAU	**Haudompre**	**6.61**	**40**		*e*Pn	**Pn**	05 37 43.5	+0.6
HAU					*e*Sg	**Sg**	05 39 36.6	-1.1
	7.3nm,0.5s							
PGF	**Pioggiola**	**6.63**	**92**		*e*Pn	**Pn**	05 37 42.4	-0.8
PGF					*e*Sn	**Sn**	05 38 55.4	-3.5
	7.3nm,0.5s							
PGF	**Pioggiola**	**6.63**	**92**		*e*Pn	**Pn**	05 37 42.4

CSLB	**Castelbuono** 103nm,0.4s	**0.78**	**291**	Pg	Pg	05 56 54.1	-0.4
LLI	**Lipari** 2µm,0.6s	**0.79**	**359**	Pg	Pg	05 56 54.6	-0.1
GIB	**Gibilmanna** 658nm,0.5s	**0.82**	**294**	Pg	Pg	05 56 55.8	+0.5
SCLL	**Scilla** 54nm,0.6s	**0.84**	**44**	Pg	Pg	05 56 55.1	-0.5
SLNA	**Salina** 260nm,0.3s	**0.91**	**353**	Pg	Pg	05 56 56.2	-0.8
CEL	**Celeste** 217nm,0.6s	**0.94**	**50**	Pg	Pg	05 56 57.0	-0.7
SOI	**Samo** 182nm,0.4s	**0.95**	**64**	Pg	Pg	05 56 57.1	-0.7
IFIL	**Filicudi I Eol** 2µm,0.3s	**0.96**	**341**	Pg	Pg	05 56 56.6	-1.4
IFIL				Sg	Sg	05 57 10.9	+0.4
CORL	**Corleone** 423nm,1.1s	**1.34**	**281**	Pg	Pg	05 57 04.5	-0.7
CLTB	**Caltabellotta** 98nm,0.3s	**1.40**	**267**	Pg	Pg	05 57 05.4	-0.8
PLAC	**Placanica** 45nm,0.5s	**1.40**	**55**	Pg	Pg	05 57 05.1	-1.3
SERS	**Sersale** 59nm,1.0s	**1.93**	**44**	Pg	Pg	05 57 13.1	-3.3
TIP	**Timpagrande** 67nm,1.2s	**2.07**	**42**	Pg	Pg	05 57 14.5	-4.6
CMPR	**Campora** 24nm,0.9s	**2.67**	**5**	Pg	Pg	05 57 21.7	-8.9
SCHR	**S. Chirico Rap** 30nm,0.9s	**2.68**	**18**	Pg	Pg	05 57 23.1	-7.7
CDRU	**Civita di Ruta** 11nm,0.6s	**2.84**	**5**	Pg	Pg	05 57 24.5	-9.3

*LDG **20** 06:07:55.3±0.3, 44.46N×7.63E, h2km, Md2.1/3, Ml1.8/6, Error ellipse: s-maj=5.8km s-min=2.3km az=84.0*
*ISCJB **20** 06:07:57.4±1.1, 44.51N±0.03×7.76E±0.1, h22km±7km, Error ellipse: s-maj=13.0km s-min=5.3km az=161.4*
*STR **20** 06:07:58.5±0.9, 44.52N×7.34E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 20 06:07:57.0±1.1, 4451N±0.03×076E±0.1, h17km±5km, n11, σ1§14/21, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUTN	**L'Aution**	**0.53**	**191**	Pg	**Pg**	**06 08 08.2**	**+0.7**
AUTN				Sg	**Sg**	**06 08 16.0**	**+1.4**
MBDF	**Montbardon** 7.9nm,0.2s	**0.60**	**291**	*e*Pg	**Pg**	**06 08 08.7**	**-0.3**
MBDF				*e*Sg	**Sg**	**06 08 15.8**	**-1.2**
LUCF	**Luceram** 2.6nm,0.2s	**0.64**	**194**	Pg	**Pg**	**06 08 10.6**	**+1.0**
LUCF				Sg	**Sg**	**06 08 18.9**	**+0.8**
SBF	**Sospel** 1.3nm,0.3s	**0.66**	**188**	*e*Pg	**Pg**	**06 08 07.0**	**-2.9**
SBF				*e*Sg	**Sg**	**06 08 14.3**	**-4.4**
LPG	**La Plagne** 3.7nm,0.3s	**1.14**	**330**	*e*Pg	**Pn**	**06 08 18.2**	**0.0**
LPG				*e*Sg	**Sn**	**06 08 34.4**	**+1.0**
FRF	**La Foret Royal** 2.8nm,0.4s	**1.16**	**215**	*e*Pg	**Pn**	**06 08 16.7**	**-1.7**
FRF				*e*Sg	**Sn**	**06 08 32.1**	**-1.7**
LPL	**La Plagne** 2.5nm,0.3s	**1.16**	**330**	*e*Pg	**Pn**	**06 08 18.3**	**-0.2**
LPL				*e*Sg	**Sn**	**06 08 33.9**	**-0.1**
ORIF	**Oris-en-Rattie** 2.1nm,0.3s	**1.27**	**289**	*e*Pg	**Pn**	**06 08 20.7**	**+0.8**
ORIF				*e*Sg	**Sn**	**06 08 36.2**	**-0.3**
LMR	**La Mourre** 3.4nm,0.5s	**1.40**	**213**	*e*Pg	**Pn**	**06 08 21.2**	**-0.6**
LMR				*e*Sg	**Sn**	**06 08 39.5**	**-0.3**
SMRF	**Simiane la Rot** 3.4nm,0.5s	**1.52**	**250**	*e*Pg	**Pn**	**06 08 24.2**	**+0.7**
SMRF				*e*Sg	**Sn**	**06 08 45.0**	**+2.1**
VIVF	**Saint-Julien-l** 11nm,0.6s	**2.09**	**281**	*e*Pn	**Pn**	**06 08 31.4**	**+0.2**

*ISCJB **20** 06:08:53.4±0.4, 43.12N±0.02×004E±0.02, h5km, Error ellipse: s-maj=3.4km s-min=2.6km az=156.6*
*STR **20** 06:08:54.1±0.2, 4301N×001E, h10km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **20** 06:08:54.7±0.1, 4303N×000W, h7km, Md2.0/3, Ml2.1/6, Error ellipse: s-maj=1.7km s-min=1.0km az=174.0*
*MDD **20** 06:08:55.4±0.3, 4300N×000W, h5km±5km, mbLg1.5/16, Error ellipse: s-maj=1.8km s-min=1.3km az=36.0, PRXIMO*

ISC 20 06:08:54.2±0.5, 4305N±003×003E±002, h14km±5km, n39, σ0§76/46, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.04**	**98**	Pg	**Pg**	**06 08 56.7**	**0.0**
LABF				Sg	**Sg**	**06 08 58.4**	**-0.1**
LABF	**Labassere** 3.6nm,0.3s,SNR=7.9	**0.04**	**98**	Pg	**Pg**	**06 08 57.1**	**+0.3**
LABF				Lg		06 08 58.4	
VIEF	**Viey** 3.6nm,0.3s,SNR=4.6	**0.17**	**180**	Pg	**Pg**	**06 08 57.9**	**-0.3**
VIEF				Sg	**Sg**	**06 08 59.9**	**-1.2**
VIEF	**Viey** 6.1nm,0.3s	**0.17**	**180**	Pg	**Pg**	**06 08 58.0**	**-0.3**
VIEF				Lg		06 08 59.9	
EPF	**Esparros** 3.0nm,0.3s	**0.23**	**95**	*e*Pg	**Pg**	**06 09 00.1**	**+0.9**
EPF				*e*Sg	**Sg**	**06 09 03.2**	**+0.5**
EPF	**Esparros** 2.2nm,0.3s,SNR=7.6	**0.23**	**95**	Pg	**Pg**	**06 09 00.1**	**+0.9**
EPF				Lg		06 09 03.2	
REYF	**Montagne du Re** 14nm,0.2s	**0.31**	**273**	Pg	**Pg**	**06 09 00.5**	**0.0**
REYF				Sg	**Sg**	**06 09 05.1**	**+0.3**
REYF	**Montagne du Re** 4.6nm,0.3s,SNR=7.9	**0.31**	**273**	Pg	**Pg**	**06 09 00.6**	**0.0**
REYF				Lg		06 09 04.9	
RESF	**Ens** 6.4nm,0.3s,SNR=7.9	**0.34**	**137**	Pg	**Pg**	**06 09 01.4**	**+0.4**
RESF				Sg	**Sg**	**06 09 05.8**	**+0.1**
RESF	**Ens** 19nm,0.3s,SNR=18	**0.34**	**137**	Pg	**Pg**	**06 09 01.4**	**+0.4**
RESF				Lg		06 09 06.0	
EBIE	**Bielsa** 19nm,0.3s,SNR=64	**0.38**	**167**	Pg	**Pg**	**06 09 01.7**	**-0.1**
EBIE				Lg		06 09 06.0	
ETSF	**Etsaut** 18nm,0.2s	**0.46**	**250**	*e*Pg	**Pg**	**06 09 03.0**	**-0.2**
ETSF				*e*Sg	**Sg**	**06 09 08.5**	**-0.9**
ETSF	**Etsaut** 9.1nm,0.2s	**0.46**	**250**	Pg	**Pg**	**06 09 03.0**	**-0.2**
ETSF				Lg		06 09 08.5	
ATE	**Arette** 2.3nm,0.4s	**0.53**	**274**	Pg	**Pg**	**06 09 05.2**	**+0.5**
ATE	**Arette**	**0.53**	**274**	Pg	**Pg**	**06 09 05.2**	**+0.6**
ATE				Lg		06 09 12.3	
MELF	**Melles** 2.2nm,0.4s	**0.57**	**108**	Pg	**Pg**	**06 09 04.4**	**-0.9**
MELF	**Melles**	**0.57**	**108**	Pg	**Pg**	**06 09 05.8**	**+0.5**
MELF				Lg		06 09 13.7	
EGRA	**Graus** 9.6nm,0.8s,SNR=7.9	**0.88**	**166**	Lg		06 09 21.7	
SALF	**Salau** 4.7nm,0.4s	**0.90**	**108**	Pg	**Pg**	**06 09 12.3**	**+0.6**
SALF				Sg	**Sg**	**06 09 24.3**	**+0.8**
SALF	**Salau** 2.3nm,0.4s	**0.90**	**108**	Pg	**Pg**	**06 09 12.3**	**+0.7**
SALF				Lg		06 09 23.9	
SJPF	**Ste Jean** 4.7nm,0.4s	**0.92**	**274**	*e*Pg	**Pg**	**06 09 11.4**	**-0.5**
SJPF				*e*Sg	**Sg**	**06 09 23.2**	**-0.8**
SJPF	**Ste Jean** 2.3nm,0.4s	**0.92**	**274**	Pg	**Pg**	**06 09 11.4**	**-0.5**
SJPF				Lg		06 09 23.2	
CSOR	**Sort** 2.2nm,0.4s	**1.06**	**129**	Pg	**Pg**	**06 09 15.9**	**+1.3**
CSOR				Lg		06 09 28.4	
EALK	**Alkurruntz** 1.4nm,1.1s,SNR=4.0	**1.13**	**279**	Pg	**Pg**	**06 09 18.6**	**+2.6**
EALK				Lg		06 09 32.2	
ELIZ	**Elizondo** 7.1nm,0.9s,SNR=7.9	**1.14**	**276**	Lg		06 09 31.7	
IUSE	**Utxeti** 9.7nm,0.8s,SNR=7.9	**1.16**	**265**	Pg	**Pg**	**06 09 17.7**	**+1.2**
IUSE				Lg		06 09 31.8	
CORG	**Organya** 0.9nm,0.1s	**1.26**	**130**	Lg		06 09 35.0	
CAVN	**Les Avellanes** 13nm,0.2s	**1.29**	**155**	Pg	**Pg**	**06 09 19.3**	**+0.4**
CAVN				Lg		06 09 34.5	
ESAC	**San Caprasio** 2.0nm,0.3s,SNR=7.9	**1.38**	**196**	Pg	**Pg**	**06 09 20.5**	**-0.2**
ESAC				Lg		06 09 38.3	
CLLI	**Llivia** 41nm,0.2s,SNR=15	**1.54**	**111**	Lg		06 09 46.1	
EMIR	**Miracle** 3.6nm,0.3s,SNR=7.9	**1.59**	**135**	Pg	**Pg**	**06 09 23.6**	**-1.1**
EMIR				Lg		06 09 44.8	
MTLF	**Montolieu** 3.6nm,0.3s,SNR=4.6	**1.63**	**79**	*e*Pg	**Pg**	**06 09 25.9**	**+0.4**
MTLF				*e*Sg	**Sg**	**06 09 47.1**	**+0.5**
MTLF	**Montolieu** 6.1nm,0.3s	**1.63**	**79**	Pg	**Pg**	**06 09 25.9**	**+0.4**
MTLF				Lg		06 09 47.1	
EPOB	**Poblet** 3.0nm,0.3s,SNR=4.0	**1.87**	**155**	Pg	**Pg**	**06 09 29.2**	**-0.9**
EPOB				Lg		06 09 53.7	
ERTA	**Horta de San J** 2.2nm,0.3s,SNR=7.6	**2.11**	**174**	Lg		06 10 00.9	
CAF	**Calviac** 14nm,1.0s,SNR=7.9	**2.38**	**37**	*e*Pg	**Pg**	**06 09 39.3**	**-0.5**
CAF				*e*Sg	**Sg**	**06 10 10.7**	**0.0**
RJF	**Les Rejaudoux** 1.3nm,0.2s	**2.49**	**25**	*e*Pg	**Pg**	**06 09 42.3**	**+0.3**
RJF				*e*Sg	**Sg**	**06 10 14.3**	**0.0**
LASF	**Ste Croix** 0.9nm,0.2s	**2.97**	**69**	*e*Pg	**Pg**	**06 09 49.9**	**-1.1**
LASF				*e*Sg	**Sg**	**06 10 28.7**	**-0.8**
VIVF	**Saint-Julien-l** 1.5nm,0.2s 0.8nm,0.3s	**3.81**	**60**	*e*Sg	**Sg**	**06 10 55.2**	**-1.3**

*ISCJB **20** 06:14:36.7±0.4, 43.11N±0.02×003E±0.03, h0km, Error ellipse: s-maj=3.4km s-min=2.7km az=149.7*
*STR **20** 06:14:37.4±0.2, 4300N×000E, h10km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **20** 06:14:38.7±0.2, 4300N×000E, h0km, mbLg1.5/18, Error ellipse: s-maj=2.0km s-min=1.5km az=38.0, PRXIMO*
*LDG **20** 06:14:38.0±0.1, 4301N×001W, h7km, Md2.1/3, Ml2.1/4, Error ellipse: s-maj=1.4km s-min=0.9km az=175.0*

ISC 20 06:14:37.5±0.5, 4305N±003×001E±003, h13km±5km, n39, σ0§64/45, 1C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.04**	**88**	Pg	**Pg**	**06 14 40.2**	**+0.2**
LABF				Sg	**Sg**	**06 14 41.6**	**-0.1**
LABF	**Labassere**	**0.04**	**88**	Pg	**Pg**	**06 14 40.3**	**+0.3**
VIEF	**Viey**	**0.16**	**177**	Pg	**Pg**	**06 14 41.1**	**-0.3**
VIEF				Sg	**Sg**	**06 14 43.0**	**-1.1**
VIEF	**Viey**	**0.16**	**177**	Pg	**Pg**	**06 14 41.1**	**-0.2**
EPF	**Esparros**	**0.24**	**93**	*e*Pg	**Pg**	**06 14 43.3**	**+0.6**
EPF				*e*Sg	**Sg**	**06 14 46.8**	**+0.7**
EPF	**Esparros** 27nm,0.2s	**0.24**	**93**	Pg	**Pg**	**06 14 43.3**	**+0.6**
EPF				Lg		06 14 46.8	
REYF	**Montagne du Re** 14nm,0.2s	**0.30**	**275**	Pg	**Pg**	**06 14 43.6**	**-0.1**
REYF				Sg	**Sg**	**06 14 48.2**	**+0.4**
REYF	**Montagne du Re**	**0.30**	**275**	Pg	**Pg**	**06 14 43.7**	**+0.1**
REYF				Lg		06 14 48.0	
RESF	**Ens** 23nm,0.3s	**0.34**	**135**	Pg	**Pg**	**06 14 44.6**	**+0.2**
RESF				Sg	**Sg**	**06 14 49.1**	**+0.1**
RESF	**Ens**	**0.34**	**135**	Pg	**Pg**	**06 14 44.6**	**+0.3**
EBIE	**Bielsa** 1.3nm,0.1s,SNR=18	**0.37**	**165**	⇑Pg	**Pg**	**06 14 44.9**	**-0.1**
EBIE				Lg		06 14 49.4	
ETSF	**Etsaut** 38nm,0.1s,SNR=62	**0.45**	**251**	*e*Pg	**Pg**	**06 14 46.3**	**0.0**
ETSF				*e*Sg	**Sg**	**06 14 51.6**	**-0.7**
ATE	**Arette** 23nm,0.3s	**0.52**	**275**	Pg	**Pg**	**06 14 48.4**	**+0.6**
ATE	**Arette**	**0.52**	**275**	Pg	**Pg**	**06 14 48.2**	**+0.4**
ATE				Lg		06 14 55.5	
MELF	**Melles**	**0.57**	**107**	Pg	**Pg**	**06 14 48.8**	**0.0**
MELF	**Melles**	**0.57**	**107**	Pg	**Pg**	**06 14 48.9**	**+0.2**
MELF				Lg		06 14 56.5	
EGRA	**Graus** 11nm,0.8s,SNR=7.9	**0.88**	**165**	Lg		06 15 05.3	
SALF	**Salau** 2.3nm,0.3s	**0.91**	**108**	Pg	**Pg**	**06 14 55.3**	**+0.2**
SALF	**Salau**	**0.91**	**108**	Pg	**Pg**	**06 14 55.4**	**+0.2**
SALF				Lg		06 15 07.2	
SJPF	**Ste Jean** 2.9nm,0.3s	**0.91**	**275**	*e*Pg	**Pg**	**06 14 54.8**	**-0.3**
SJPF				*e*Sg	**Sg**	**06 15 06.5**	**-0.5**
SJPF	**Ste Jean** 1.4nm,0.3s	**0.91**	**275**	Pg	**Pg**	**06 14 54.8**	**-0.3**
SJPF				Lg		06 15 06.5	
CSOR	**Sort** 2.2nm,0.3s	**1.06**	**129**	Pg	**Pg**	**06 14 59.3**	**+1.3**
CSOR				Lg		06 15 12.5	
EALK	**Alkurruntz** 6.8nm,1.2s,SNR=7.9	**1.13**	**279**	Lg		06 15 16.7	
ELIZ	**Elizondo** 0.2nm,0.1s,SNR=7.9	**1.14**	**277**	Pg	**Pg**	**06 15 02.0**	**+2.6**
ELIZ				Lg		06 15 15.6	
IUSE	**Utxeti** 3.7nm,1.2s,SNR=7.9	**1.15**	**266**	Lg		06 15 17.4	
CORG	**Organya** 2.4nm,0.5s,SNR=7.9	**1.26**	**130**	Pg	**Pg**	**06 15 02.4**	**+0.6**
CORG				Lg		06 15 18.5	
CAVN	**Les Avellanes** 0.9nm,0.2s	**1.28**	**155**	Pg	**Pg**	**06 15 02.1**	**-0.1**
CAVN				Lg		06 15 18.7	
ESAC	**San Caprasio** 12nm,0.1s	**1.37**	**195**	Pg	**Pg**	**06 15 04.3**	**+0.4**
ESAC				Lg		06 15 23.1	
EMIR	**Miracle** 1.7nm,0.7s,SNR=7.9	**1.59**	**135**	Pg	**Pg**	**06 15 07.6**	**-0.5**
EMIR				Lg		06 15 29.9	
MTLF	**Montolieu** 4.3nm,0.2s	**1.64**	**79**	*e*Pg	**Pg**	**06 15 09.3**	**+0.3**
MTLF				*e*Sg	**Sg**	**06 15 30.3**	**0.0**
MTLF	**Montolieu** 2.2nm,0.2s	**1.64**	**79**	Pg	**Pg**	**06 15 09.3**	**+0.3**
MTLF				Lg		06 15 30.3	
EPOB	**Poblet** 0.1nm,0.1s,SNR=7.9	**1.87**	**155**	Pg	**Pg**	**06 15 12.3**	**-1.1**
EPOB				Lg		06 15 36.9	
ERTA	**Horta de San J** 23nm,1.0s,SNR=7.9	**2.10**	**173**	Lg		06 15 44.0	
CAF	**Calviac** 1.6nm,0.2s	**2.39**	**38**	*e*Pg	**Pg**	**06 15 22.8**	**-0.6**
CAF				*e*Sg	**Sg**	**06 15 54.4**	**0.0**
CAF	**Calviac** 0.8nm,0.2s	**2.39**	**38**	Pg	**Pg**	**06 15 22.8**	**-0.6**
CAF				Lg		06 15 54.4	
RJF	**Les Rejaudoux** 1.4nm,0.2s	**2.50**	**25**	*e*Pg	**Pg**	**06 15 25.5**	**0.0**
RJF				*e*Sg	**Sg**	**06 15 57.7**	**-0.3**
RJF	**Les Rejaudoux** 0.7nm,0.2s	**2.50**	**25**	Pg	**Pg**	**06 15 25.5**	**0.0**
RJF				Lg		06 15 57.7	
EMOS	**Mosqueruela** 8.4nm,1.5s,SNR=7.9	**2.70**	**188**	Lg		06 16 02.5	
LASF	**Ste Croix**	**2.98**	**68**	*e*Pg	**Pg**	**06 15 33.5**	**-1.1**
LASF				*e*Sg	**Sg**	**06 16 12.7**	**-0.5**

IDC 20 06:15:30.7±2.9, 980S×11709E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.6/15, mbtmp3.6/5, ML3.7/2, Error ellipse: s-maj=170.1km s-min=21.3km az=52.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.6nm,0.3s,baz=341,slow=15,SNR=14	**11.70**	**136**	Pn	Pn	06 18 18.8	-0.1
FITZ				Sn	Sn	06 20 17.4	-13
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=298,slow=13,SNR=11	**19.47**	**123**	P	Pn	06 19 59.7	-0.4
ASAR	**Alice Springs** 1.1nm,0.8s,baz=311,slow=10,SNR=14	**21.17**	**133**	P	P	06 20 17.6	+0.1
SONM	**Songino Array** 0.4nm,0.5s,baz=177,slow=6.6,SNR=4.0	**58.15**	**352**	P	P	06 25 26.2	-0.1
MKAR	**Makanchi Array** 1.2nm,0.4s,baz=149,slow=7.1,SNR=10	**64.32**	**334**	P	P	06 26 08.3	+0.2

*IDC **20** 06:15:37.7±0.9, 1005S×11191E, h0km, mb4.1/6, mb1 4.2/7, mb1mx4.0/15, mbtmp4. 1/7, ML4.2/1, MS3.7/6, Ms1 3.7/6, ms1mx3.3/21, Error ellipse: s-maj=58.0km s-min=19.6km az=46.0*
*ISCJB **20** 06:15:41.0±0.5, 100S±0.01×112.0E±0.02, h33km, mb4.5/14, MS3.7/6, Error ellipse: s-maj=29.6km s-min=8.5km az=98.4*
*BJI **20** 06:15:41.6, 1058S×11180E, h67km, mb4.6*
*MOS **20** 06:15:41.3±0.8, 992S×11193E, h33km, mb4.5/1, Error ellipse: s-maj=43.0km s-min=16.4km az=131.0*
*NEIC **20** 06:15:43.4±0.5, 999S×112.03E, mb5.0/6, Error ellipse: s-maj=31.5km s-min=8.3km az=46.0*

ISC 20 06:15:43.0±0.5, 101S±01×1119E±02, h35km, n30, σ0§86/24, mb4.5/14, MS3.7/6, 1C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.8nm,0.3s,baz=272,slow=22,SNR=8.5	**15.48**	**122**	Pn	**Pn**	**06 19 16.4**	**-2.2**
FITZ				Sn	**Sn**	**06 21 53.8**	**-15**
NWAO	**Narrogin (SRO)** 0.3nm,0.3s,baz=186,slow=17,SNR=2.3	**23.24**	**169**	LR	LR	06 29 36.9	
WRA	**Warramunga Arr** 4.9nm,0.9s,mb3.9,baz=289,slow=12,SNR=15	**23.71**	**117**	P	**P**	**06 20 52.0**	**+0.2**
WRA				PcP	PcP	06 24 36.3	+1.3
WRAB	**Tennant Creek** 0.4nm,0.3s,baz=305,slow=1.7,SNR=7.5	**23.72**	**117**	*e*P	**P**	**06 20 52.3**	**+0.5**
WRAB				*e*PP		06 21 03.2	
ASAR	**Alice Springs** 2.8nm,0.6s,mb4.0,baz=297,slow=9.2,SNR=16	**24.92**	**126**	P	**P**	**06 21 04.2**	**+1.4**
CTA	**Charters Tower** comp=Z,122nm,18.0s,MS3.7,baz=52,slow=36	**34.52**	**111**	LR	LR	06 36 25.5	
STKA	**Stephens Creek** 2.9nm,0.8s,mb4.3,baz=6.6,slow=7.6,SNR=4.6	**34.95**	**133**	P	**P**	**06 22 31.2**	**-0.4**
STKA				LR	LR	06 37 19.1	
GYA	**Guiyang** comp=Z,126nm,21.5s,MS3.6,baz=21,slow=37	**36.70**	**352**	⇑*i*P	**P**	**06 22 48.8**	**+2.2**
GYA				AMB	AMB		
JIRN	**Jiri** comp=Z,20nm,0.7s,mb5.0	**45.07**	**327**	*e*P	**P**	**06 23 55.4**	**-0.1**
PKI	**Pulchoki**	**45.42**	**326**	*e*P	**P**	**06 23 58.2**	**-0.1**
GUN	**Gumba** comp=Z,9.1nm,0.2s,mb5.2	**45.44**	**327**	*e*P	**P**	**06 23 58.6**	**+0.2**
DMN	**Daman** comp=Z,34nm,1.1s,mb5.2	**45.62**	**326**	*e*P	**P**	**06 23 59.6**	**-0.3**
GKN	**Gorkha**	**46.19**	**326**	*e*P	**P**	**06 24 03.7**	**-0.6**
LZH	**Lanzhou**	**46.57**	**351**	*e*P	**P**	**06 24 08.5**	**+1.2**
LZH				AP	pP	06 24 24.0	+6.3
LZH				AMB	AMB		
KOLN	**Koldanda** comp=Z,15nm,0.7s,mb5.0	**46.59**	**325**	*e*P	**P**	**06 24 07.1**	**-0.4**
MJAR	**Matsushiro Arr** comp=Z,44nm,19.6s,MS3.5,baz=65,slow=35	**52.57**	**27**	LR	LR	06 46 16.4	
ULN	**Ulaanbaatar**	**57.87**	**356**	*e*P	**P**	**06 25 30.6**	**-0.6**
MKAR	**Makanchi Array** comp=Z,1.6nm,0.5s,mb4.4,baz=138,slow=6.9,SNR=9.9	**62.52**	**337**	P	**P**	**06 26 02.8**	**-0.3**
MAW	**Mawson** comp=Z,60nm,19.7s,MS3.8,baz=239,slow=29	**65.91**	**198**	LR	LR	06 47 26.8	
KURK	**Kurchatov**	**67.13**	**338**	*e*P	**P**	**06 26 32.3**	**-0.8**
VNDA	**Vanda** comp=Z,0.6nm,0.7s,mb3.6,baz=333,slow=6.8,SNR=3.3	**72.06**	**170**	P	**P**	**06 27 03.7**	**+0.2**
ZRNK	**Zerenda**	**72.69**	**334**	*e*P	**P**	**06 27 06.5**	**-0.8**
ZRNK				*e**PP	pP	06 27 17.9	-0.2
ZRNK				pmax	pmax		
ZRNK	**Zerenda** comp=Z,3.0nm,0.8s,mb4.3	**72.69**	**334**	*e*P	**P**	**06 27 06.5**	**-0.7**
ZRNK	comp=Z,2.6nm,0.8s,mb4.2			*e*pP	pP	06 27 17.9	-0.2
KMBO	**Kilima Mbogo** comp=Z,70nm,20.3s,MS3.9,baz=94,slow=31	**74.73**	**272**	LR	LR	06 53 47.0	
ARU	**Arti**	**79.55**	**333**	*e*P	**P**	**06 27 40.3**	**-5.9**
QSPA	**South Pole Qui** comp=Z,7.2nm,1.1s,mb4.5	**79.91**	**180**	*e*P	**P**	**06 27 49.0**	**+0.8**
BRTR	**Keskin Array B** comp=Z,2.1nm,0.9s,mb4.4,baz=125,slow=6.5,SNR=10	**87.53**	**311**	P	**P**	**06 28 27.4**	**+0.1**
WVOR	**Wild Horse Val**	**125.45**	**45**	*e*PKIKP	PKPdf	06 34 42.6	+2.3
CCM	**Cathedral Cave**	**145.24**	**33**	*e*PKIKP	PKPdf	06 35 17.7	+0.8

*IDC **20** 06:21:28.2±3.5, 1137S×11592E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.7/14, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=177.8km s-min=21.9km az=48.0*
*ISCJB **20** 06:21:29.1±0.7, 118S±02×1157E±02, h33km, mb4.6/5, Error ellipse: s-maj=37.5km s-min=9.9km az=99.0*
*NEIC **20** 06:21:30.6±0.7, 1181S×11554E, h25km, mb4.3/2, Error ellipse: s-maj=36.1km s-min=8.9km az=47.0*

ISC 20 06:21:31.2±0.7, 116S±02×1163E±02, h35km, n14, σ0§83/17, mb4.6/5, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**10.11**	**161**	*e*Pn	**Pn**	**06 23 54.1**	**+0.3**
FITZ	**Fitzroy Crossi** 5.6nm,0.8s	**11.14**	**127**	*e*P	**Pn**	**06 24 12.1**	**+4.1**
FITZ				*e*S	**Sn**	**06 26 10.3**	**-1.0**
FITZ	**Fitzroy Crossi** 0.5nm,0.3s,baz=317,slow=11,SNR=6.7	**11.14**	**127**	Pn	**Pn**	**06 24 12.4**	**+4.4**
FITZ				Sn	**Sn**	**06 26 10.7**	**-0.6**
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=294,slow=12,SNR=6.2	**19.26**	**118**	P	**Pn**	**06 25 59.3**	**+5.4**
WRA				S	**S**	**06 29 24.6**	**-4.4**
WRAB	**Tennant Creek** 3.4nm,0.8s	**19.27**	**118**	*e*P	**Pn**	**06 26 01.0**	**+7.1**
ASAR	**Alice Springs** 0.9nm,0.6s,baz=299,slow=10,SNR=8.3	**20.64**	**128**	P	**P**	**06 26 14.8**	**+7.1**
JIRN	**Jiri** 12nm,0.4s,mb5.3	**48.68**	**324**	*e*P	**P**	**06 30 12.0**	**0.0**
GUN	**Gumba**	**49.05**	**324**	*e*P	**P**	**06 30 14.9**	**+0.1**
DMN	**Daman** 6.2nm,0.4s,mb5.0	**49.28**	**323**	*e*P	**P**	**06 30 16.1**	**-0.5**
GKN	**Gorkha**	**49.85**	**323**	*e*P	**P**	**06 30 20.2**	**-0.7**
KOLN	**Koldanda** 10nm,0.7s,mb5.0	**50.31**	**322**	*e*P	**P**	**06 30 23.9**	**-0.4**
SONM	**Songino Array** 0.4nm,0.6s,mb3.6,baz=174,slow=6.2,SNR=4.1	**59.77**	**352**	P	**P**	**06 31 33.6**	**+0.9**
MKAR	**Makanchi Array** 0.5nm,0.3s,mb4.0,baz=145,slow=6.8,SNR=14	**65.56**	**335**	P	**P**	**06 32 11.6**	**+0.3**
MKAR	**Makanchi Array**	**65.56**	**335**	P	**P**	**06 32 11.6**	**+0.3**

*SZGRF **20** 06:23:59.6, 7264N×760W, h33km, mb4.4, Jan Mayen Island region*
*ISCJB **20** 06:24:03.5±0.4, 7160N±005×547W±009, h10km, mb4.1/11, MS3.4/9, Error ellipse: s-maj=6.9km s-min=4.1km az=150.4*
*NAO **20** 06:24:03.0±1.4, 7139N×536W*
*IDC **20** 06:24:04.3±1.3, 7145N×530W, h0km, mb3.8/4, mb1 4.0/8, mb1mx3.7/23, mbtmp3.9/8, ML3.6/4, MS3.4/13, Ms1 3.4/13, ms1mx3.3/24, Error ellipse: s-maj=29.2km s-min=17.8km az=13.0*
*NEIC **20** 06:24:06.1, 7145N×552W, h0km, mb4.5/4, MD4.3(BER), After BER.*
*CSEM **20** 06:24:06.1±0.1, 7120N×521W, h35km, ML2.9, Error ellipse: s-maj=3.7km s-min=1.9km az=175.0*
*BER **20** 06:24:08.3±4.2, 7201N×817W, h10km±34km, MD4.3, ML2.9*

ISC 20 06:24:04.8±0.4, 7153N±004×563W±008, h10km, n75, σ1§52/80, mb4.1/11, MS3.4/9, 2D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**1.02**	**239**	*e*P	**Pg**	**06 24 24.3**	**-0.1**
JNW	**Jan Mayen West**	**1.04**	**242**	*e*P	**Pg**	**06 24 24.8**	**0.0**

JMIC	**Jan Mayen**	**1.08**	**241**	*e*P	**Pb**	**06 24 25.3**	**-0.3**
	SNR=53							
JMIC				*e*S	**Sg**	**06 24 38.8**	**-0.9**
	SNR=53							
JMI	**Jan Mayen**	**1.17**	**240**	*e*P	**Pb**	**06 24 26.9**	**-0.3**
JMI				*e*Sg	**Sg**	**06 24 41.8**	**-0.8**
JMI				AML	AML	06 24 43.6		
	comp=Z,435nm,0.4s							
JMI	**Jan Mayen**	**1.17**	**240**	*e*P	**Pb**	**06 24 26.9**	**-0.3**
JMI				*e*Sg	**Sg**	**06 24 41.8**	**-0.8**
JMI	**Jan Mayen**	**1.17**	**240**	*e*P	**Pb**	**06 24 26.9**	**-0.3**
	SNR=53							
JMI				*e*Sg	**Sg**	**06 24 41.8**	**-0.8**
	SNR=95							
DAG	**Danmarks Havn**	**6.34**	**332**⇓	*i*P	**Pn**	**06 25 38.8**	**+0.4**
	comp=Z,30nm,0.5s							
DAG								
	comp=Z,2μm,18.0s							
DAG	**Danmarks Havn**	**6.34**	**332**⇓	*e*P	**Pn**	**06 25 38.8**	**+0.4**
	comp=Z,30nm,0.5s							
LOF	**Lofoten**	**7.43**	**108**	*e*P	**Pn**	**06 25 51.7**	**-1.6**
TRO	**Tromso**	**8.37**	**91**	*e*P	**Pn**	**06 26 01.6**	**-4.5**
STOK	**Stokkvaagen**	**8.47**	**119**	*e*P	**Pn**	**06 26 04.3**	**-3.2**
STOK				*e*S	**Sn**	**06 27 30.9**	**-12**
STOK				AML	AML	06 27 33.3		
	comp=Z,9.5nm,0.6s							
STOK	**Stokkvaagen**	**8.47**	**119**	*e*P	**Pn**	**06 26 04.3**	**-3.2**
STOK				*e*S	**Sn**	**06 27 30.9**	**-12**
STOK	**Stokkvaagen**	**8.47**	**119**	*e*P	**Pn**	**06 26 04.3**	**-3.2**
	SNR=48							
STOK				*e*S	**Sn**	**06 27 30.9**	**-12**
	comp=Z,9.5nm,0.6s,SNR=48							
KBS	**Kingsbay**	**8.62**	**23**	Pn	**Pn**	**06 26 10.1**	**+0.5**
KBS				Sn	**Sn**	**06 27 43.7**	**-3.1**
SPA0	**Spitsbergen Ar**	**8.73**	**31**	Pn	**Pn**	**06 26 12.7**	**+1.5**
	baz=222,slow=14							
MOR8	**Moi Rana**	**8.99**	**117**	*e*P	**Pn**	**06 26 12.6**	**-2.1**
NSS	**Namsos**	**9.59**	**128**	*e*P	**Pn**	**06 26 19.5**	**-3.4**
NSS				*e*S	**Sn**	**06 27 58.4**	**-12**
KTK1	**Kautokeino**	**10.02**	**91**	*e*P	**Pn**	**06 26 27.7**	**-1.1**
SUMG	**Summit**	**10.10**	**291**	*e*Pn	**Pn**	**06 26 33.6**	**+3.6**
	comp=Z,5.3nm,0.8s							
ARA0	**ARCESS Array S**	**10.50**	**86**	Pn	**Pn**	**06 26 33.1**	**-2.3**
	baz=292,slow=11							
ARCES	**ARCESS Array B**	**10.50**	**86**	Pn	**Pn**	**06 26 33.2**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=291,slow=11,SNR=14							
ARCES				LR	LR	06 29 53.7		
	comp=Z,103nm,21.5s,baz=186,slow=34							
NB2	**NORSAR Subarra**	**12.45**	**139**	Pn	**Pn**	**06 26 59.5**	**-2.5**
	baz=322,slow=14							
NB2	**NORSAR Subarra**	**12.45**	**139**	Pn	**Pn**	**06 26 59.5**	**-2.6**
	SNR=53							
NOA	**NORSAR Array B**	**12.45**	**139**	Pn	**Pn**	**06 26 58.2**	**-3.9**
	comp=Z,0.3nm,0.3s,baz=335,slow=13,SNR=4.1							
NOA	**NORSAR Array B**	**12.45**	**139**	Pn	**Pn**	**06 26 58.2**	**-3.9**
HFS	**Hagfors**	**13.80**	**136**	Pn	**Pn**	**06 27 18.0**	**-2.5**
	baz=330,slow=12							
HFS	**Hagfors**	**13.80**	**136**	Pn	**Pn**	**06 27 18.1**	**-2.5**
	comp=Z,3.1nm,0.3s,baz=338,slow=10,SNR=127							
HFS				LR	LR	06 32 31.8		
	comp=Z,302nm,19.2s,baz=256,slow=37							
KAF	**Kangasniemi**	**15.48**	**111**	*e*p	**Pn**	**06 27 39.3**	**-3.9**
	comp=Z,3.0nm,0.7s							
FIA0	**FINESS Array S**	**15.94**	**113**	P	**Pn**	**06 27 46.2**	**-2.9**
	baz=328,slow=14							
FINES	**FINESS Array B**	**15.94**	**113**	Pn	**Pn**	**06 27 46.2**	**-3.0**
	comp=Z,0.4nm,0.3s,baz=327,slow=9.9,SNR=7.8							
FINES				LR	LR	06 33 12.9		
	comp=Z,142nm,21.0s,baz=332,slow=35							
FINES	**FINESS Array B**	**15.94**	**113**	Pn	**Pn**	**06 27 46.2**	**-3.0**
FINES				LR	LR	06 33 12.9		
SFJD	**Kangerlussuaq**	**16.23**	**276**	LR	LR	06 33 32.9		
	comp=Z,108nm,18.2s,baz=56,slow=35							
EKA	**Eskdalemuir Ar**	**16.30**	**175**	Pn	**Pn**	**06 27 53.5**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=354,slow=12,SNR=8.7							
JOF	**Joensuu**	**16.39**	**103**	*e*p	**Pn**	**06 27 54.8**	**-0.2**
	comp=Z,8.0nm,0.7s							
CLL	**Collm**	**21.96**	**148**	*e*P	**P**	**06 29 00.0**	**+1.3**
BAIF	**Baives**	**22.01**	**163**	*e*P	**P**	**06 29 02.1**	**+2.9**
	comp=Z,54nm,1.4s,mb4.5							
GIVF	**Givet**	**22.03**	**162**	*e*P	**P**	**06 29 02.1**	**+2.7**
	comp=Z,49nm,1.1s,mb4.5							
BRG	**Berggiesshubel**	**22.54**	**146**	*e*P	**P**	**06 29 06.0**	**+1.1**
	comp=Z,3.9nm,1.1s,mb3.8							
NKC	**Novy Kostel**	**22.91**	**149**	*e*P	**P**	**06 29 08.9**	**+0.1**
FLN	**La Foliniere**	**22.97**	**171**	*e*P	**P**	**06 29 09.4**	**0.0**
KSP	**Ksiaz**	**23.01**	**143**	*e*P	**P**	**06 29 11.0**	**+1.2**
GRA1	**Grafenberg Arr**	**23.24**	**152**	*e*P	**P**	**06 29 15.5**	**+3.2**
GRF	**Grafenberg Arr**	**23.24**	**152**	*e*P	**P**	**06 29 15.5**	**+3.2**
	comp=Z,8.0nm,0.9s,mb4.2							
UPC	**Upice**	**23.27**	**143**	*e*P	**P**	**06 29 13.3**	**+0.7**
DPC	**Dobruska-Polom**	**23.48**	**143**	*e*P	**P**	**06 29 14.9**	**+0.1**
PRU	**Pruhonice**	**23.50**	**146**	*e*P	**P**	**06 29 17.2**	**+2.2**
CDF	**Champ du Feu**	**23.96**	**148**	*e*P	**P**	**06 29 21.5**	**+2.2**
KHC	**Kasperske Hory**	**24.16**	**148**	*ex*	**P**	**06 29 22.5**	**+1.4**
GERES	**GERESS Array B**	**24.46**	**148**	P	**P**	**06 29 24.9**	**+1.1**
	comp=Z,1.8nm,0.8s,mb3.6,baz=354,slow=9.1,SNR=9.1							
GERES				LR	LR	06 37 35.9		
	comp=Z,55nm,21.9s,MS3.0,baz=104,slow=33							
GERES	**GERESS Array B**	**24.46**	**148**	P	**P**	**06 29 24.9**	**+1.1**
GERES				LR	LR	06 37 35.9		
VRAC	**Vranov**	**24.53**	**143**	LR	LR	06 38 15.1		
	comp=Z,81nm,18.6s,MS3.2,baz=14,slow=35							
LOR	**Lormes**	**24.75**	**164**	*e*P	**P**	**06 29 27.5**	**+1.0**
	comp=Z,24nm,1.1s,mb4.3							
LOR	**Lormes**	**24.75**	**164**	*e*P	**P**	**06 29 27.5**	**+1.0**
	comp=Z,12nm,1.1s,mb4.3							
SSF	**Saint Saulge**	**24.92**	**165**	*e*P	**P**	**06 29 28.8**	**+0.7**
SMF	**Signal de Mont**	**25.36**	**165**	*e*P	**P**	**06 29 33.6**	**+1.5**
DAVOX	**Davos**	**25.89**	**155**	LR	LR	06 40 38.1		
	comp=Z,59nm,19.8s,MS3.1,baz=268,slow=39							
AKASG	**Malin Array Be**	**26.12**	**124**	P	**P**	**06 29 38.2**	**-0.7**
	comp=Z,0.9nm,0.5s,mb3.6,baz=336,slow=11,SNR=4.8							
RJF	**Les Rejaudoux**	**26.53**	**169**	*e*P	**P**	**06 29 43.2**	**+0.6**
LPL	**La Plagne**	**26.76**	**160**	*e*P	**P**	**06 29 45.9**	**+1.2**
LPG	**La Plagne**	**26.78**	**160**	*e*P	**P**	**06 29 46.0**	**+1.1**
	comp=Z,18nm,1.1s,mb4.2							
LPG	**La Plagne**	**26.78**	**160**	*e*P	**P**	**06 29 46.0**	**+1.1**
	comp=Z,9.2nm,1.1s,mb4.2							
MBDF	**Montbardon**	**27.54**	**161**	*e*P	**P**	**06 29 53.5**	**+1.8**
	comp=Z,24nm,1.1s,mb4.4							
MBDF	**Montbardon**	**27.54**	**161**	*e*P	**P**	**06 29 53.5**	**+1.8**
	comp=Z,12nm,1.1s,mb4.4							
MLR	**Muntele Rosu**	**30.15**	**133**	LR	LR	06 42 34.5		
	comp=Z,291nm,20.9s,MS3.9,baz=327,slow=37							
SCHQ	**Scheffervill e**	**30.47**	**270**	LR	LR	06 42 31.2		
	comp=Z,54nm,18.2s,MS3.2,baz=168,slow=36							
YKA	**Yellowknife Ar**	**37.69**	**314**	P	**P**	**06 31 22.7**	**+2.4**
	comp=Z,0.6nm,0.6s,mb3.5,baz=26,slow=8.5,SNR=4.8							
YKA				LR	LR	06 46 33.6		
	comp=Z,99nm,19.5s,MS3.6,baz=100,slow=36							
YKA	**Yellowknife Ar**	**37.69**	**314**	P	**P**	**06 31 22.7**	**+2.4**
YKA				LR	LR	06 46 33.6		
ILAR	**Eielson Array**	**41.42**	**336**	LR	LR	06 49 60.0		
	comp=Z,46nm,21.0s,MS3.3,baz=179,slow=38							
ULM	**Lac du Bonnet**	**43.46**	**291**	LR	LR	06 50 14.8		
	comp=Z,40nm,18.3s,MS3.4,baz=26,slow=36							
PDAR	**Pinedale Array**	**54.22**	**298**	LR	LR	06 56 47.1		
	comp=Z,72nm,20.2s,MS3.7,baz=244,slow=36							
TORD	**Torodi Ar. Bea**	**58.52**	**172**	P	**P**	**06 34 01.9**	**+0.6**
	comp=Z,1.3nm,0.6s,mb4.1,baz=356,slow=6.8,SNR=14							

*IDC **20** 06:47:15.4±1.0,2053S×174.36W,h0km,mb3.7/5, mb1 4.1/6,mb1mx4.0/15,mbtmp3.8/6,ML3.6/1,Error ellipse: s-maj=44.5km s-min=25.0km az=146.0*
*ISCJB **20** 06:47:17.1±0.9,202S±0.1×174.4W±0.2,h33km,mb3.9/7, Error ellipse: s-maj=26.2km s-min=8.8km az=70.8*
*NEIC **20** 06:47:17.3±0.9,2034S×174.35W,h15km,mb4.9/1,Error ellipse: s-maj=30.2km s-min=13.8km az=138.0*

ISC 20 06:47:20.0±0.9,202S±01×1744W±02,h35km,n15, σ1$27/11,mb3.9/7,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.77**	**22**	Op Pn		**Pn**	**06 48 56.0**	**-0.8**
	1.4nm,0.3s,baz=264,slow=21,SNR=3.6							
AFI				Sn		**Sn**	**06 50 11.9**	**-0.9**
	1.8nm,0.3s,baz=211,slow=21,SNR=2.2							
RAR	**Rarotonga**	**13.71**	**97**	Pn		**Pn**	**06 50 14.4**	**-17**
	4.5nm,0.3s,baz=95,slow=16,SNR=4.5							
DZM	**Mont Dzumac**	**17.97**	**261**	P		**Pn**	**06 51 27.7**	**+0.8**
	0.2nm,0.3s,baz=211,slow=23,SNR=4.0							
STKA	**Stephens Creek**	**40.95**	**244**	P		**P**	**06 54 56.6**	**-2.5**
	1.0nm,0.5s,mb3.7,baz=122,slow=9.2,SNR=2.9							
ASAR	**Alice Springs**	**47.87**	**256**	P		**P**	**06 55 54.8**	**+0.4**
	0.7nm,0.5s,mb4.0,baz=92,slow=8.1,SNR=9.2							
WRA	**Warramunga Arr**	**47.99**	**261**	P		**P**	**06 55 55.3**	**-0.1**
	0.4nm,0.3s,mb3.9,baz=96,slow=7.7,SNR=18							
VNDA	**Vanda**	**58.49**	**186**	P		**P**	**06 57 11.2**	**-1.4**
	0.5nm,0.7s,mb3.7,baz=7.4,slow=8.0,SNR=4.4							
SAO	**San Andreas Ge**	**75.56**	**41**	*e*P		**P**	**06 59 02.3**	**+1.4**
	6.7nm,0.6s,mb4.8							
NVAR	**Mina Array Bea**	**78.55**	**42**	P		**P**	**06 59 18.5**	**+0.8**
	0.6nm,0.7s,mb3.7,baz=212,slow=7.5,SNR=5.1							
ILAR	**Eielson Array**	**87.35**	**11**	P		**P**	**07 00 05.8**	**+2.4**
	0.5nm,0.9s,mb3.7,baz=186,slow=6.8,SNR=4.6							
AKASG	**Malin Array Be**	**144.35**	**334**	PKP	PKPdf		07 06 52.2	-0.1
	0.6nm,0.4s,baz=36,slow=3.0,SNR=7.2							
AKASG	**Malin Array Be**	**144.35**	**334**	PKP	PKPdf		07 06 52.2	-0.1
PRCH	**Ribeira Ch**	**147.90**	**50**	*e*S			07 13 16.7	
PRCH								
	25nm,0.3s							
BRTR	**Keskin Array B**	**149.11**	**315**	PKPbc	PKPbc		07 07 07.3	+2.9
	0.6nm,0.7s,baz=90,slow=4.3,SNR=4.2							
GERES	**GERESS Array B**	**150.73**	**349**	PKPbc	PKPbc		07 07 12.1	+3.7
	0.3nm,0.2s,baz=282,slow=2.6,SNR=4.2							

*IDC **20** 06:55:56.2±0.7,2073S×174.12W,h0km,mb4.3/11, mb1 4.5/11,mb1mx4.4/15,mbtmp4.2/11,MS4.0/5, Ms1 4.0/5,ms1mx3.6/20,Error ellipse: s-maj=30.7km s-min=18.0km az=129.0*
*BJI **20** 06:55:56.7,2108S×174.03W,h15km,mB5.1,mb5.0,Ms4.9, Msz4.6*
*ISCJB **20** 06:55:57.0±0.3,2076S±0.007×174.15W±0.007,h15km, mb4.6/37,MS4.2/8,Error ellipse: s-maj=12.2km s-min=7.8km az=103.2*
*NEIC **20** 06:55:58.5±0.2,2068S×174.17W,h15km,mb4.7/18,Error ellipse: s-maj=11.3km s-min=5.4km az=138.0*
*MOS **20** 06:55:59.8±0.9,2068S×174.21W,h33km,mb4.8/10,Error ellipse: s-maj=19.6km s-min=13.4km az=50.7*

ISC 20 06:55:58.8±0.3,2077S±008×17410W±007,h16km, h16km±1.4km:pP-P,n95,σ0$85/74,mb4.6/37,MS4.2/8,1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.18**	**18**	Op Pn		**Pn**	**06 57 38.2**	**-4.9**
	14nm,0.3s,baz=107,slow=9.0,SNR=11							
AFI				Sn		**Sn**	**06 58 50.7**	**-14**
	2.7nm,0.3s,baz=17,slow=22,SNR=2.0							
AFI	**Afiamalu**	**7.18**	**18**	*e*P		**Pn**	**06 57 38.3**	**-4.8**
AFI				pmax		pmax		
	comp=Z,47nm,0.4s							
AFI	**Afiamalu**	**7.18**	**18**	*e*Pn		**Pn**	**06 57 38.3**	**-4.8**
	comp=Z,48nm,0.4s							
AFI				*e*Sn		**Sn**	**06 58 49.7**	**-15**
RAR	**Rarotonga**	**13.39**	**94**	Pn		**Pn**	**06 58 56.0**	**-12**
	comp=Z,9.2nm,0.3s,baz=237,slow=11,SNR=7.1							
RAR				Sn		Sn	07 01 08.0	-29
	comp=Z,2.5nm,0.3s,baz=82,slow=16,SNR=3.4							
RAR				LR		LR	07 02 34.5	
	comp=Z,542nm,19.1s,baz=224,slow=30							
TBI	**Tubuai**	**22.97**	**101**	*e*LQ			07 05 07.9	
	comp=Z,286nm,29.2s							
TBI				*e*LR		LR	07 06 02.9	
	comp=Z,366nm,26.8s,baz=278							
PPT	**Papeete**	**23.38**	**86**	*e*LQ			07 05 13.6	
	comp=Z,434nm,26.0s							
PPT				*e*LR		LR	07 06 10.9	
	comp=Z,304nm,23.8s,baz=268							
PPT	**Papeete**	**23.38**	**86**	LR		LR	07 07 10.0	
	comp=Z,237nm,19.7s,MS3.6,baz=249,slow=29							
RPZ	**Rata Peaks**	**26.01**	**205**	P		**P**	**07 01 31.4**	**+0.4**
	comp=Z,5.6nm,0.7s,mb4.2,baz=121,slow=20,SNR=4.0							
RKT	**Rikitea**	**36.30**	**101**	*e*LR		LR	07 12 05.2	
	comp=Z,229nm,28.8s							
PMG	**Port Moresby**	**38.97**	**281**	*e*P		**P**	**07 03 22.7**	**-1.5**
STKA	**Stephens Creek**	**40.97**	**245**	*e*P		**P**	**07 03 39.1**	**-1.7**
	comp=Z,2.4nm,0.7s,mb3.9							
STKA	**Stephens Creek**	**40.97**	**245**	P		**P**	**07 03 39.0**	**-1.8**
	comp=Z,2.5nm,0.8s,mb3.9,baz=84,slow=14,SNR=5.1							
ASAR	**Alice Springs**	**48.01**	**256**	P		**P**	**07 04 37.1**	**+0.1**
	comp=Z,6.3nm,0.9s,mb4.6,baz=94,slow=7.8,SNR=36							
ASAR				S		**S**	**07 11 33.1**	**-1.3**
	comp=Z,0.8nm,0.9s,baz=93,slow=17,SNR=3.7							
WB2	**Warramunga Ar**	**48.16**	**261**	*e*P		**P**	**07 04 38.2**	**0.0**
WRAB	**Tennant Creek**	**48.17**	**261**	*e*P		**P**	**07 04 37.4**	**-0.8**
WRAB	**Tennant Creek**	**48.17**	**261**	*e*P		**P**	**07 04 38.2**	**0.0**
	comp=Z,6.4nm,1.0s,mb4.6							
WRA	**Warramunga Arr**	**48.18**	**261**	P		**P**	**07 04 38.0**	**-0.3**
	comp=Z,1.7nm,0.6s,mb4.2,baz=96,slow=7.8,SNR=27							
SBA	**Scott Base**	**57.87**	**185**	*e*P		**P**	**07 05 50.9**	**+1.1**
SBA				pmax		pmax		
	comp=Z,9.0nm,1.1s,mb4.7							
SBA	**Scott Base**	**57.87**	**185**	*e*P		**P**	**07 05 50.9**	**+1.2**
	comp=Z,8.5nm,1.1s,mb4.7							
VNDA	**Vanda**	**57.99**	**186**	P		**P**	**07 05 51.4**	**+0.7**
	comp=Z,2.6nm,0.9s,mb4.2,baz=25,slow=7.9,SNR=8.6							
VNDA	**Vanda**	**57.99**	**186**	*e*P		**P**	**07 05 51.0**	**+0.4**
VNDA				pmax		pmax		
	comp=Z,9.0nm,1.7s							
VNDA	**Vanda**	**57.99**	**186**	*e*P		**P**	**07 05 51.0**	**+0.3**
	comp=Z,8.7nm,1.7s,mb4.5							
MBWA	**Marble Bar**	**61.35**	**257**	*e*P		**P**	**07 06 13.8**	**+0.1**
	comp=Z,4.5nm,0.6s,mb4.8							
QSPA	**South Pole Qui**	**69.30**	**180**	*e*P		**P**	**07 07 05.3**	**0.0**
	comp=Z,18nm,1.1s,mb4.9							
MJAR	**Matsushiro Arr**	**72.65**	**321**	P		**P**	**07 07 26.4**	**+0.8**
	comp=Z,2.3nm,0.6s,mb4.3,baz=155,slow=6.4,SNR=7.1							
MJAR				LR		LR	07 33 31.6	
	comp=Z,51nm,20.1s,MS3.8,baz=215,slow=31							
MJAR	**Matsushiro Arr**	**72.65**	**321**	P		**P**	**07 07 26.4**	**+0.8**
MJAR				LR		LR	07 33 31.6	
ISA	**Isabella**	**76.96**	**44**	*e*P		**P**	**07 07 50.1**	**-0.5**
ISA				pmax		pmax		
	comp=Z,2.0nm,0.3s,mb4.5							
ISA	**Isabella**	**76.96**	**44**	*e*P		**P**	**07 07 50.1**	**-0.5**
	comp=Z,1.9nm,0.3s,mb4.5							
PFO	**Pinyon Flat Ob**	**77.08**	**46**	*e*P		**P**	**07 07 51.0**	**-0.2**
PFO				pmax		pmax		
	comp=Z,10.0nm,1.4s,mb4.5							
PFO	**Pinyon Flat Ob**	**77.08**	**46**	*e*P		**P**	**07 07 51.0**	**-0.2**
	comp=Z,10.0nm,1.4s,mb4.5							
CMB	**Columbia Colle**	**77.23**	**41**	*e*P		**P**	**07 07 51.5**	**-0.6**
CMB				pmax		pmax		
	comp=Z,7.0nm,1.1s,mb4.5							
CMB	**Columbia Colle**	**77.23**	**41**	*e*P		**P**	**07 07 51.5**	**-0.6**
	comp=Z,7.0nm,1.1s,mb4.5							
DAC	**Darwin (Calif)**	**77.90**	**44**	*e*P		**P**	**07 07 56.3**	**+0.4**
MTUM	**Tungsten Hills**	**77.94**	**42**	*e*P		**P**	**07 07 55.9**	**-0.2**
NVAR	**Mina Array Bea**	**78.76**	**41**	P		**P**	**07 08 00.6**	**0.0**
	comp=Z,2.1nm,0.7s,mb4.2,baz=219,slow=7.8,SNR=19							
MNV	**Mina**	**78.86**	**42**	*e*P		**P**	**07 08 01.3**	**+0.2**
MNV				pmax		pmax		
	comp=Z,15nm,1.3s,mb4.8							
MNV	**Mina**	**78.86**	**42**	*e*P		**P**	**07 08 01.2**	**+0.1**
	comp=Z,15nm,1.3s,mb4.8							
TPH	**Tonopah**	**79.22**	**42**	*e*P		**P**	**07 08 03.6**	**+0.5**
TPH				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.6							
TPH	**Tonopah**	**79.22**	**42**	*e*P		**P**	**07 08 03.6**	**+0.5**
	comp=Z,7.1nm,0.9s,mb4.6							
NEN	**Nelson**	**79.34**	**45**	*e*P		**P**	**07 08 03.9**	**+0.2**
SHPR	**Sheep Range**	**79.62**	**45**	*e*P		**P**	**07 08 05.4**	**+0.1**
TUC	**Tucson**	**80.31**	**50**	*e*P		**P**	**07 08 08.7**	**-0.3**
SSE	**Sheshan**	**80.69**	**308**	P		**P**	**07 08 12.4**	**+1.3**
SSE				AMB		AMB		
	comp=Z,38nm,0.8s,mb5.4							
SSE				AMB		AMB		
	comp=Z,56nm,3.6s							
MAW	**Mawson**	**82.52**	**199**	P		**P**	**07 08 20.5**	**-0.2**
	comp=Z,4.2nm,0.9s,mb4.5,baz=127,slow=7.5,SNR=5.1							
MAW				LR		LR	07 45 02.4	
	comp=Z,124nm,18.7s,MS4.3,baz=64,slow=36							
MAW	**Mawson**	**82.52**	**199**	*e*P		**P**	**07 08 21.2**	**+0.5**
MAW				pmax		pmax		
	comp=Z,6.0nm,0.9s							
MAW	**Mawson**	**82.52**	**199**	*e*P		**P**	**07 08 21.1**	**+0.4**
	comp=Z,5.7nm,0.9s,mb4.6							
HABR	**Khabarovsk**	**82.53**	**329**	*e*P		**P**	**07 08 18.9**	**-1.9**
HABR				*e*S		S	07 18 31.9	-5.1
MSU	**Marysvale**	**82.71**	**44**	*e*P		**P**	**07 08 22.8**	**+1.1**
MDJ	**Mudanjiang**	**82.88**	**323**	P		**P**	**07 08 24.0**	**+1.4**
MDJ				AP		pP	07 08 27.4	-0.4
MDJ				PP		PP	07 11 33.9	+0.9
MDJ				S		S	07 18 43.6	+3.0
MDJ				SS		SS	07 24 04.5	+1.0
MDJ				AMB		AMB		
	comp=Z,5.0nm,0.9s,mb4.5							
MDJ				AMB		AMB		
	comp=Z,52nm,6.1s							
MDJ				LR		LR		
	comp=N,61nm,37.7s							
MDJ				LR		LR		
	comp=E,39nm,28.2s							
MDJ				LR		LR		
	comp=Z,66nm,18.8s							
NJ2	**Nanjing**	**82.89**	**308**	*e*P		**P**	**07 08 24.9**	**+2.2**
NJ2				AP		pP	07 08 28.8	+0.9
NJ2				XP		sP	07 08 31.5	+1.7
NJ2				PP		PP	07 11 35.0	+1.9
NJ2				S		S	07 18 41.0	+0.2
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.8							
NJ2				AMB		AMB		
	comp=Z,70nm,10.0s							
NJ2				LR		LR		
	comp=N,680nm,24.0s,MS5.1							
NJ2				LR		LR		
	comp=E,580nm,23.8s,MS5.1							
NJ2				LR		LR		
	comp=Z,400nm,21.0s,MS4.8							
BMO	**Blue Mountains**	**83.30**	**37**	*e*P		**P**	**07 08 24.2**	**-0.6**
	comp=Z,2.1nm,0.9s,mb4.2							
MNTX	**Cornudas Mount**	**83.96**	**53**	*e*P		**P**	**07 08 27.9**	**-0.2**
	comp=Z,9.3nm,1.6s,mb4.7							
SRU	**San Rafael**	**84.12**	**44**	*e*P		**P**	**07 08 29.0**	**0.0**
HLID	**Hailey**	**84.19**	**39**	*e*P		**P**	**07 08 29.7**	**+0.4**
	comp=Z,5.4nm,1.0s,mb4.6							
ANMO	**Albuquerque**	**84.76**	**50**	*e*P		**P**	**07 08 32.0**	**-0.2**
ANMO	**Albuquerque**	**84.76**	**50**	*e*P		**P**	**07 08 32.5**	**+0.3**
	comp=Z,5.9nm,1.2s,mb4.6							
CN2	**Changchun**	**84.78**	**321**	*e*P		**P**	**07 08 34.1**	**+1.8**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.5s,mb5.2							
SNY	**Shenyang**	**84.80**	**318**	⇑P		**P**	**07 08 31.9**	**-0.5**
SNY				AMB		AMB		
	comp=Z,8.0nm,0.4s,mb5.2							
PV01	**Paradox Valley**	**84.90**	**46**	*e*P		**P**	**07 08 32.6**	**-0.3**
PLCA	**Paso Flores**	**86.41**	**132**	LR	LR		07 36 24.0	
	comp=Z,146nm,20.9s,MS4.4,baz=182,slow=28							
PDAR	**Pinedale Array**	**86.69**	**42**	P		**P**	**07 08 41.2**	**-0.7**
	comp=Z,1.4nm,0.8s,mb4.2,baz=158,slow=2.9,SNR=6.9							
VNA3	**Neumayer Olymp**	**87.59**	**175**	*e*P		**P**	**07 08 45.1**	**-1.1**
VNA3				*e*			07 08 47.4	
VNA3				*e*		pP	07 08 50.4	-1.0
VNA3				*e*		pP	07 08 51.7	+0.3
VNA3				*e*			07 08 57.3	
VNA3				*e*			07 09 00.9	
VNA3				*e*			07 09 04.0	
VNA3				*e*			07 13 55.0	
VNA3				*e*			07 14 03.6	
VNA3				*e*			07 14 07.7	
WALA	**Waterton Lakes**	**87.68**	**35**	*e*P		**P**	**07 08 46.0**	**-0.6**
	comp=Z,2.1nm,0.6s,mb4.5							
COLA	**College**	**87.74**	**11**	*e*P		**P**	**07 08 45.5**	**-1.4**
COLA	**College**	**87.74**	**11**	*e*P		**P**	**07 08 46.2**	**-0.7**
	comp=Z,4.9nm,1.1s,mb4.7							
COLA				*e*			07 08 57.3	
ILAR	**Eielson Array**	**87.82**	**11**	P		**P**	**07 08 46.1**	**-1.1**
	comp=Z,0.5nm,0.8s,mb3.8,baz=222,slow=6.1,SNR=5.7							
VNA2	**Neumayer--Watz**	**88.08**	**176**	*e*P		**P**	**07 08 48.1**	**-0.4**
	baz=213,slow=3.4							
VNA2				*e*			07 08 50.3	
VNA2				*

IDC ***20*** *07:01:05.9±0.8, 2081S×174.11W, h0km, mb4.1/9, mb1 4.3/10, mb1mx4.3/15, mbtmp4.1/10, ML4.4/1, MS3.5/1, Ms1 3.5/1, ms1mx3.0/21, Error ellipse: s-maj=32.4km s-min=19.7km az=130.0*

ISCJB ***20*** *07:01:07.7±0.7, 2061S±0.010×1740W±0.02, h33km, mb4.4/14, Error ellipse: s-maj=21.8km s-min=12.7km az=35.0*

NEIC ***20*** *07:01:08.3±0.4, 2078S×174.14W, h15km, mb4.9/6, Error ellipse: s-maj=15.7km s-min=10.2km az=114.0*

MOS ***20*** *07:01:09.1±2.0, 2054S×174.12W, h33km, mb4.6/1, Error ellipse: s-maj=32.9km s-min=18.5km az=63.8*

ISC 20 07:01:10.6±0.6, 2073S±009×1740W±01, h35km, n33, σ1§38/23, mb4.4/14, 2C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.12**	**18**	Pn	**Pn**	**07 02 48.1**	**-4.2**
	5.3nm,0.3s,baz=286,slow=22,SNR=6.8						
AFI				Sn	**Sn**	**07 04 01.4**	**-11**
	3.7nm,0.3s,baz=18,slow=20,SNR=2.3						
AFI	**Afiamalu**	**7.12**	**18**	*e*Pn	**Pn**	**07 02 48.1**	**-4.1**
RAR	**Rarotonga**	**13.34**	**95**	Pn	**Pn**	**07 04 06.3**	**-11**
	7.4nm,0.3s,baz=294,slow=6.1,SNR=6.7						
RAR				Sn	Sn	07 06 16.4	-28
	3.3nm,0.3s,baz=158,slow=5.6,SNR=2.6						
DZM	**Mont Dzumac**	**18.22**	**262**	LR	LR	07 09 55.1	
	comp=Z,131nm,18.4s,baz=201,slow=29						
URZ	**Urewera**	**19.07**	**202**	P	**Pn**	**07 05 29.8**	**-1.1**
	1.1nm,0.3s,baz=2.3,slow=5.2,SNR=3.7						
SNZO	**South Karori**	**22.63**	**202**	*e*P	**P**	**07 06 06.1**	**-2.2**
	28nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**41.04**	**245**	P	**P**	**07 08 49.1**	**-1.3**
	1.8nm,0.4s,mb4.0,baz=90,slow=12,SNR=5.9						
STKA	**Stephens Creek**	**41.04**	**245**	*e*P	**P**	**07 08 50.3**	**-0.1**
ASAR	**Alice Springs**	**48.07**	**256**	P	**P**	**07 09 47.1**	**+0.5**
	1.8nm,0.5s,mb4.4,baz=91,slow=8.6,SNR=25						
WRAB	**Tennant Creek**	**48.23**	**261**	*e*P	**P**	**07 09 48.1**	**+0.3**
	16nm,1.4s,mb4.9						
WRA	**Warramunga Arr**	**48.24**	**261**	P	**P**	**07 09 47.7**	**-0.2**
	0.7nm,0.4s,mb4.1,baz=97,slow=6.8,SNR=22						
SBA	**Scott Base**	**57.91**	**185**	*e*P	**P**	**07 11 00.4**	**+1.2**
	47nm,2.0s,mb5.2						
VNDA	**Vanda**	**58.04**	**186**	P	**P**	**07 10 59.8**	**-0.2**
	1.1nm,0.8s,mb4.0,baz=31,slow=7.7,SNR=6.1						
VNDA	**Vanda**	**58.04**	**186**	*e*P	**P**	**07 11 00.3**	**+0.3**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
VNDA	**Vanda**	**58.04**	**186**	*e*P	**P**	**07 11 00.3**	**+0.3**
	comp=Z,1.2nm,0.5s,mb4.2						
MBWA	**Marble Bar**	**61.41**	**257**	*e*P	**P**	**07 11 23.6**	**+0.3**
	comp=Z,31nm,1.6s,mb5.2						
QSPA	**South Pole Qui**	**69.34**	**180**	*e*P	**P**	**07 12 14.7**	**+0.2**
	comp=Z,9.2nm,0.9s,mb4.7						
MJAR	**Matsushiro Arr**	**72.65**	**321**	P	**P**	**07 12 36.3**	**+1.7**
	comp=Z,0.9nm,0.4s,mb4.1,baz=154,slow=6.7,SNR=4.7						
NVAR	**Mina Array Bea**	**78.69**	**41**	P	**P**	**07 13 10.5**	**+1.3**
	comp=Z,1.1nm,0.6s,mb4.0,baz=217,slow=8.1,SNR=7.8						
NVAR	**Mina Array Bea**	**78.69**	**41**	P	**P**	**07 13 10.5**	**+1.3**
MAW	**Mawson**	**82.57**	**199**	P	**P**	**07 13 29.9**	**0.0**
	comp=Z,2.4nm,0.8s,mb4.3,baz=90,slow=5.1,SNR=4.3						
PDAR	**Pinedale Array**	**86.63**	**42**	P	**P**	**07 13 51.3**	**+0.9**
	comp=Z,0.5nm,0.4s,mb4.1,baz=208,slow=3.1,SNR=3.5						
ILAR	**Eielson Array**	**87.77**	**11**	P	**P**	**07 13 56.5**	**+0.5**
	comp=Z,0.2nm,0.8s,mb3.4,baz=226,slow=3.6,SNR=3.7						
ARCES	**ARCESS Array B**	**129.77**	**351**	PKP	PKPdf	07 20 17.4	+1.3
	comp=Z,3.1nm,1.0s,baz=0.0,slow=1.2,SNR=5.8						
FINES	**FINESS Array B**	**136.97**	**346**	PKP	PKPdf	07 20 30.1	+0.5
	comp=Z,1.3nm,1.1s,baz=35,slow=7.0,SNR=3.7						
AKASG	**Malin Array Be**	**144.93**	**334**	PKP	PKPdf	07 20 43.6	-0.3
	comp=Z,1.1nm,0.4s,baz=39,slow=3.9,SNR=10						
CLL	**Collm**	**148.99**	**351**	*e*PKPbc	PKPbc	07 20 56.0	+1.2
CLL				*es*PKPab		07 21 11.0	
BRTR	**Keskin Array B**	**149.69**	**315**	PKPbc	PKPbc	07 20 58.2	+1.7
	comp=Z,0.9nm,0.6s,baz=137,slow=2.3,SNR=5.7						
VRI	**Vrincioaia**	**149.69**	**331**	⇑*i*P	PKPdf	07 20 54.8	+2.9
VRI				S	PKPbc	07 20 56.6	+0.1
PLOR	**Plostina**	**149.74**	**331**	⇑*i*P	PKPdf	07 20 54.7	+2.8
PLOR	**Plostina**	**149.74**	**331**	S	PKPbc	07 20 57.0	+0.3
KHC	**Kasperske Hory**	**151.02**	**350**	*e*P	PKPab	07 21 13.0	+5.7
GERES	**GERESS Array B**	**151.27**	**349**	PKPbc	PKPbc	07 21 01.6	+1.3
	comp=Z,0.4nm,0.4s,baz=90,slow=2.7,SNR=3.9						

ISCJB ***20*** *07:05:55.1±0.2, 3772N×001×1498E×003, h10km, mb3.7/7, Error ellipse: s-maj=3.5km s-min=2.0km az=30.8*

CSEM ***20*** *07:05:55.6±0.1, 3765N×1494E, h12km, ML4.1, Error ellipse: s-maj=1.5km s-min=1.1km az=82.0*

ROM ***20*** *07:05:56.1±0.1, 3766N×1496E, h18km±1km, Ml3.7/31, Error ellipse: s-maj=1.7km s-min=1.3km az=82.0*

PDG ***20*** *07:05:56.1±0.8, 3771N×1496E, h11km±1km*

IDC ***20*** *07:05:57.0±1.1, 3754N×1462E, h54km±17km, mb3.4/7, mb1 3.6/10, mb1mx3.4/24, mbtmp3.7/10, ML4.0/3, MS2.9/3, Ms1 2.9/3, ms1mx2.5/20, Error ellipse: s-maj=34.7km s-min=23.4km az=5.0*

NEIC ***20*** *07:05:56.0, 3765N×1495E, h12km, MD4.1(PDG), ML4.1(ROM), ML4.1(CSEM), After ROM.*

ISC 20 07:05:56.4±0.3, 3767N±002×1494E±003, h15km±2km, n87, σ1§01/108, mb3.7/7, 11C-7D, Sicily

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESLN	**Serra La Nave**	**0.04**	**56**	Pg	**Pg**	**07 05 58.9**	**-0.2**
ESLN				Sg	**Sg**	**07 06 01.3**	**+0.4**
	126µm,0.3s						
MNO	**Monte Soro**	**0.32**	**324**	Pg	**Pg**	**07 06 03.7**	**+0.6**
	307nm,0.4s						
MMME	**Mongiuffi-Meli**	**0.36**	**44**	Pg	**Pg**	**07 06 03.8**	**0.0**
MMME				Sg	**Sg**	**07 06 10.3**	**+1.5**
	9µm,0.4s						
HAGA	**Augusta**	**0.42**	**156**	Pg	**Pg**	**07 06 04.2**	**-0.7**
HAGA				Sg	**Sg**	**07 06 11.4**	**+0.8**
	13µm,0.6s						
VAE	**Valguarnera**	**0.46**	**245**	P	**Pg**	**07 06 07.2**	**+1.6**
	246nm,0.3s,baz=76,slow=5.9,SNR=165						
AGST	**Augusta-Monte**	**0.48**	**151**	*i* Pg	**Pg**	**07 06 05.1**	**-0.7**
AGST				Sg	**Sg**	**07 06 12.8**	**+0.6**
HVZN	**Vizzini**	**0.52**	**200**	⇓*e*Pg	**Pg**	**07 06 06.0**	**-0.7**
HVZN				Sg	**Sg**	**07 06 14.7**	**+0.9**
	25µm,0.5s						
SSY	**Sortino**	**0.53**	**168**	Pg	**Pg**	**07 06 06.1**	**-0.7**
SSY				Sg	**Sg**	**07 06 14.8**	**+0.9**
	25µm,0.4s						
MTTG	**Motta San Giov**	**0.69**	**61**	⇓*i*Pg	**Pg**	**07 06 09.6**	**-0.2**
VPL	**Vulcano Piano**	**0.71**	**3**	⇓*i*Pg	**Pg**	**07 06 10.0**	**-0.2**
	6µm,0.4s						
MSI	**Messina ING**	**0.72**	**42**	Pg	**Pg**	**07 06 10.1**	**-0.4**
HMDC	**Modica**	**0.72**	**190**	Pg	**Pg**	**07 06 09.3**	**-1.2**
HMDC				Sg	**Sg**	**07 06 20.6**	**+0.5**
	14µm,0.7s						
HAVL	**Avola**	**0.73**	**168**	Pg	**Pg**	**07 06 09.5**	**-1.1**
HAVL				Sg	**Sg**	**07 06 20.6**	**+0.4**
	14µm,0.4s						
MSRU	**Castanea**	**0.74**	**37**	⇓*i*Pg	**Pg**	**07 06 10.2**	**-0.7**
	3µm,0.4s						
CSLB	**Castelbuono**	**0.74**	**291**	Pg	**Pg**	**07 06 10.7**	**-0.2**
	842nm,0.4s						
LLI	**Lipari**	**0.77**	**1**	Pg	**Pg**	**07 06 11.3**	**-0.1**
	11µm,0.6s						
GIB	**Gibilmanna**	**0.79**	**294**	Pg	**Pg**	**07 06 11.8**	**+0.1**
	4µm,0.6s						
SCLL	**Scilla**	**0.85**	**46**	Pg	**Pg**	**07 06 12.0**	**-0.8**
SLNA	**Salina**	**0.89**	**355**	Pg	**Pg**	**07 06 12.8**	**-0.9**
CEL	**Celeste**	**0.96**	**52**	⇓*i*Pg	**Pg**	**07 06 13.9**	**-1.0**
	2µm,0.7s						
SOI	**Samo**	**0.97**	**65**	⇓*i*Pg	**Pg**	**07 06 14.0**	**-1.2**
	1µm,0.5s						
CORL	**Corleone**	**1.31**	**280**	Pg	**Pg**	**07 06 21.2**	**-0.4**
	2µm,0.5s						
CLTB	**Caltabellotta**	**1.37**	**267**	Pg	**Pg**	**07 06 22.0**	**-0.7**
PLAC	**Placanica**	**1.42**	**56**	Pg	**Pn**	**07 06 21.8**	**+0.2**
	529nm,0.6s						
GRI	**Girifalco**	**1.64**	**45**	Pg	**Pn**	**07 06 24.4**	**-0.3**
	679nm,0.7s						
USI	**Ustica**	**1.73**	**307**	Pg	**Pn**	**07 06 24.6**	**-1.3**
	1µm,0.7s						
WDD	**Wield Dalam**	**1.83**	**191**	Pg	**Pn**	**07 06 26.7**	**-0.6**
	2µm,0.7s						
SERS	**Sersale**	**1.94**	**45**	Pg	**Pn**	**07 06 28.9**	**+0.1**
	376nm,0.9s						
TIP	**Timpagrande**	**2.08**	**43**	Pg	**Pn**	**07 06 31.1**	**+0.4**
	466nm,1.3s						
TIP	**Timpagrande**	**2.08**	**43**	*e*Pn	**Pn**	**07 06 30.8**	**+0.1**
TIP				Pg	**Pn**	**07 06 31.1**	**+0.4**
TIP	**Timpagrande**	**2.08**	**43**	Pg	**Pn**	**07 06 31.1**	**+0.4**
	466nm,1.3s						
LVI	**Isola Levanzo**	**2.08**	**279**	Pg	**Pn**	**07 06 31.9**	**+1.2**
CUC	**Castrocucco**	**2.42**	**16**	Pg	**Pn**	**07 06 34.7**	**-0.7**
CUC				Sg	**Sn**	**07 07 04.2**	**-0.5**
	325nm,0.5s						
PTS	**Pantelleria**	**2.50**	**251**	Pg	**Pn**	**07 06 36.1**	**-0.4**
	107nm,0.3s						
MGR	**Morigerati**	**2.51**	**11**	Pg	**Pn**	**07 06 35.6**	**-1.0**
	159nm,0.5s						
CMPR	**Campora**	**2.66**	**6**	Pg	**Pn**	**07 06 37.7**	**-1.0**
	95nm,0.5s						
SCHR	**S. Chirico Rap**	**2.67**	**19**	Pg	**Pn**	**07 06 39.6**	**+0.7**
	142nm,0.5s						
SLCN	**Sala Consilina**	**2.77**	**11**	Pg	**Pn**	**07 06 40.7**	**+0.5**
	267nm,0.5s						
CDRU	**Civita di Ruta**	**2.83**	**6**	Pg	**Pn**	**07 06 40.7**	**-0.3**
	53nm,0.4s						
SGO	**Sicignano**	**2.90**	**6**	Pg	**Pn**	**07 06 42.1**	**+0.1**
	33nm,0.3s						
MCRV	**Calabrutti - M**	**3.11**	**3**	Pg	**Pn**	**07 06 46.4**	**+1.5**
	79nm,0.7s						
SNAL	**S. Angelo Dei**	**3.25**	**4**	Pg	**Pn**	**07 06 48.1**	**+1.2**
	189nm,1.0s						
CAFE	**Carife**	**3.36**	**4**	Pg	**Pn**	**07 06 49.9**	**+1.6**
	164nm,1.2s						
AMUR	**Altamura**	**3.48**	**21**	Pg	**Pn**	**07 06 50.0**	**0.0**
	59nm,1.0s						
NOCI	**Noci**	**3.52**	**27**	Pg	**Pn**	**07 06 50.0**	**-0.6**
	115nm,0.9s						
RGNG	**Rignano Grg**	**4.03**	**7**	Pg	**Pn**	**07 06 58.5**	**+1.0**
ULC	**Ulcinj**	**5.42**	**36**	⇑*i*Pn	**Pn**	**07 07 17.2**	**+0.5**
ULC				*e*Sn	**Sn**	**07 08 19.2**	**+0.4**
HCY	**Herceg Novi**	**5.50**	**29**	⇑*i*Pn	**Pn**	**07 07 18.4**	**+0.7**
HCY				*e*Sn	**Sn**	**07 08 21.2**	**+0.5**
BUM	**Brajici-Budva**	**5.53**	**32**	⇑*i*Pn	**Pn**	**07 07 19.9**	**+1.6**
BUM				*e*Sn	**Sn**	**07 08 21.6**	**0.0**
TTG	**Podgorica**	**5.79**	**34**	⇑*i*Pn	**Pn**	**07 07 20.8**	**-1.0**
TTG				*e*Sn	**Sn**	**07 08 28.0**	**-0.1**
BRY	**Bratogost**	**5.91**	**27**	⇑*i*Pn	**Pn**	**07 07 24.1**	**+0.8**
BRY				*e*Sn	**Sn**	**07 08 30.0**	**-0.3**
NKY	**Niksic**	**6.00**	**30**	⇑*i*Pn	**Pn**	**07 07 25.5**	**+0.9**
NKY				*e*Sn	**Sn**	**07 08 33.0**	**-0.1**
PVY	**Plav**	**6.25**	**37**	⇑*i*Pn	**Pn**	**07 07 28.8**	**+0.8**
PVY				*e*Sn	**Sn**	**07 08 38.6**	**-0.6**
UPM	**Unac-Piva**	**6.30**	**28**	⇑*i*Pn	**Pn**	**07 07 30.4**	**+1.6**
UPM				*e*Sn	**Sn**	**07 08 40.9**	**+0.4**
IVA	**Berane**	**6.43**	**35**	⇑*i*Pn	**Pn**	**07 07 31.3**	**+0.7**
IVA				*e*Sn	**Sn**	**07 08 43.2**	**-0.5**
PLE	**Pljevlja**	**6.59**	**30**	⇑*i*Pn	**Pn**	**07 07 33.8**	**+1.0**
PLE				*e*Sn	**Sn**	**07 08 48.0**	**+0.4**
PGF	**Pioggiola**	**6.66**	**319**	*e*P	**Pn**	**07 07 36.7**	**+3.0**
DIVS	**Divcibare**	**7.47**	**29**	*i* Pn	**Pn**	**07 07 44.6**	**-0.3**
DIVS				Sn	**Sn**	**07 09 07.3**	**-2.0**
GRUS	**Gruza**	**7.60**	**33**	*i* Pn	**Pn**	**07 07 45.6**	**-1.0**
GRUS				Sn	**Sn**	**07 09 15.0**	**+2.5**
IDI	**Anoyia**	**8.36**	**104**	P	**Pn**	**07 07 57.4**	**+0.3**
	1.5nm,0.3s,baz=293,slow=12,SNR=6.0						
IDI				S	**Sn**	**07 09 23.8**	**-7.5**
	8.3nm,0.3s,baz=308,slow=21,SNR=14						
LMR	**La Mourre**	**8.55**	**314**	*e*P	**Pn**	**07 07 58.9**	**-0.8**
	11nm,0.5s						
LMR	**La Mourre**	**8.55**	**314**	*e*P	**Pn**	**07 07 58.9**	**-0.8**
	5.7nm,0.5s						
FRF	**La Foret Royal**	**8.62**	**316**	*e*P	**Pn**	**07 08 00.7**	**+0.1**
SMRF	**Simiane la Rot**	**9.48**	**315**	*e*P	**Pn**	**07 08 14.3**	**+1.9**
DAVOX	**Davos**	**9.84**	**339**	LR	LR	07 12 01.4	
	comp=Z,47nm,21.2s,baz=313,slow=37						
LPG	**La Plagne**	**9.93**	**325**	*e*P	**Pn**	**07 08 26.6**	**+8.0**
LPL	**La Plagne**	**9.95**	**325**	*e*P	**Pn**	**07 08 26.2**	**+7.3**
VOIR		**10.84**	**41**	⇑*i*P	**Pn**	**07 08 34.8**	**+3.8**
GERES	**GERESS Array B**	**11.20**	**356**	P	**Pn**	**07 08 36.1**	**+0.1**
	0.2nm,0.3s,baz=168,slow=13,SNR=5.3						
GERES				LR	LR	07 13 43.1	
	comp=Z,74nm,18.8s,baz=268,slow=41						
MLR	**Muntele Rosu**	**11.35**	**43**	P	**Pn**	**07 08 40.8**	**+2.8**
	0.3nm,0.3s,baz=302,slow=22,SNR=5.3						
MLR	**Muntele Rosu**	**11.35**	**43**	⇓*i*P	**Pn**	**07 08 41.0**	**+3.0**
SMF	**Signal de Mont**	**12.16**	**321**	*e*P	**Pn**	**07 08 57.6**	**+8.5**
AVF	**Avril sur Loir**	**12.51**	**320**	*e*P	**Pn**	**07 09 03.6**	**+10**
LOR	**Lormes**	**12.59**	**323**	*e*P	**Pn**	**07 09 01.0**	**+6.1**
SSF	**Saint Saulge**	**12.61**	**322**	*e*P	**Pn**	**07 09 04.9**	**+10**
LDF	**La Druitiere**	**15.46**	**320**	*e*P	**Pn**	**07 09 40.8**	**+6.9**
	2.4nm,0.3s						
GRR	**Gorron**	**15.72**	**318**	*e*P	**Pn**	**07 09 43.4**	**+6.2**
FLN	**La Foliniere**	**15.75**	**320**	*e*P	**Pn**	**07 09 44.2**	**+6.5**
	6.5nm,0.2s						
AKASG	**Malin Array Be**	**16.53**	**33**	P	**Pn**	**07 09 45.3**	**-2.4**
	0.3nm,0.3s,baz=228,slow=11,SNR=4.8						
MDT	**Midelt**	**16.88**	**259**	LR	LR	07 16 58.5	
	comp=Z,44nm,18.1s,baz=88,slow=40						
EKA	**Eskdalemuir Ar**	**21.50**	**331**	P	**P**	**07 10 42.0**	**-2.7**
	0.7nm,0.4s,mb3.4,baz=142,slow=11,SNR=6.7						
HFS	**Hagfors**	**22.49**	**358**	P	**P**	**07 10 52.5**	**-2.8**
	2.2nm,0.7s,mb3.7,baz=163,slow=10,SNR=6.6						
NOA	**NORSAR Array B**	**23.51**	**355**	P	**P**	**07 11 03.1**	**-2.9**
	0.7nm,0.7s,mb3.2,baz=180,slow=8.7,SNR=3.3						
FINES	**FINESS Array B**	**24.80**	**13**	P	**P**	**07 11 14.8**	**-2.9**
	1.1nm,0.7s,mb3.5,baz=191,slow=7.8,SNR=7.2						
ARCES	**ARCESS Array B**	**32.43**	**7**	P	**P**	**07 12 22.1**	**-3.7**
	0.9nm,0.8s,mb3.7,baz=174,slow=9.9,SNR=6.8						
MKAR	**Makanchi Array**	**49.30**	**57**	P	**P**	**07 14 43.6**	**-1.1**
	0.4nm,0.4s,mb3.8,baz=269,slow=7.5,SNR=4.0						
MKAR				pP	pP	07 14 57.5	+8.1
	1.5nm,0.6s,baz=281,slow=7.4,SNR=6.6						
SCHQ	**Schefferville**	**55.80**	**316**	P	**P**	**07 15 27.3**	**-5.6**
	4.2nm,1.0s,mb4.4,baz=50,slow=7.9,SNR=3.8						

IDC ***20*** *07:19:41.6±2.4, 3226N×5945E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/21, mbtmp3.6/7, ML3.2/1, Error ellipse: s-maj=53.8km s-min=26.2km az=153.0*

TEH ***20*** *07:19:43.3, 3243N×5955E, h0km, Mn4.0*

CSEM ***20*** *07:19:43.5±0.1, 3252N×5952E, h16km, ML4.0, Error ellipse: s-maj=2.4km s-min=1.7km az=90.0*

THR ***20*** *07:19:44.9±0.6, 3245N×5946E, h18km±11km, ML3.8*

NEIC ***20*** *07:19:44.7, 3244N×5946E, h15km, mb3.7/3, ML3.8(THR), After THR.*

ISCJB ***20*** *07:19:46.1±1.7, 3252N±004×5937E±005, h32km±16km, mb3.6/8, Error ellipse: s-maj=7.8km s-min=6.4km az=106.1*

ISC 20 07:19:45.3±1.8, 3246N±004×5948E±005, h15km±14km, n56, σ1§18/60, mb3.6/8, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZHSF	**Zahedan**	**3.05**	**158**	*e*PN	**Pn**	**07 20 34.3**	**+1.3**
ZHSF				*e*Sg	**Sg**	**07 21 19.9**	**-3.4**
ZHSF	**Zahedan**	**3.05**	**158**	*e*Pn	**Pn**	**07 20 34.0**	**+0.9**
ZHSF				*e*Sg	**Sg**	**07 21 19.9**	**-3.5**
	SNR=91						
KRBR	**Kerman**	**3.40**	**224**	*e*PN	**Pn**	**07 20 38.8**	**+1.0**
KRBR	**Kerman**	**3.40**	**224**	*e*Pn	**Pn**	**07 20 38.0**	**+0.2**
IBAF	**Bafgh**	**3.44**	**256**	*e*Pn	**Pn**	**07 20 38.1**	**-0.2**
IMYA	**Miamay**	**3.90**	**7**	*e*Pn	**Pn**	**07 20 43.9**	**-0.8**
IPAY	**Payeh**	**4.00**	**354**	*e*Pn	**Pn**	**07 20 45.7**	**-0.3**
IPAY	**Payeh**	**4.00**	**354**	Pn	**Pn**	**07 20 45.6**	**-0.4**
IMEH	**Mehriz**	**4.28**	**257**	*e*Pn	**Pn**	**07 20 49.3**	**-0.6**
ICHK	**Chekchek**	**4.30**	**268**	*e*Pn	**Pn**	**07 20 49.9**	**-0.3**
IKRD	**Kardeh**	**4.37**	**350**	*e*Pn	**Pn**	**07 20 49.6**	**-1.6**
IKRD	**Kardeh**	**4.37**	**350**	Pn	**Pn**	**07 20 49.5**	**-1.7**
ISFR	**Esferayen**	**4.73**	**345**	*e*Pn	**Pn**	**07 20 55.8**	**-0.3**
ISFR	**Esferayen**	**4.73**	**345**	Pn	**Pn**	**07 20 55.7**	**-0.4**
ISAD	**Sadrabad**	**4.95**	**265**	*e*Sn	**Sn**	**07 21 54.9**	**-1.1**
IEMG	**Emamqoli**	**4.98**	**352**	*e*Pn	**Pn**	**07 20 59.3**	**-0.3**
IEMG	**Emamqoli**	**4.98**	**352**	Pn	**Pn**	**07 20 59.2**	**-0.4**
IANJ	**Anjiloo**	**5.51**	**304**	*e*Pn	**Pn**	**07 21 06.4**	**-0.5**
IANJ	**Anjiloo**	**5.51**	**304**	Pn	**Pn**	**07 21 06.3**	**-0.6**
NASN	**Na^{i}in**	**5.64**	**275**	*e*PN	**Pn**	**07 21 10.5**	**+1.9**
NASN				AML	AML	07 22 46.7	
	comp=N,56nm,0.8s						
NASN				AML	AML	07 22 55.7	
	comp=E,42nm,0.7s						
NASN	**Na^{i}in**	**5.64**	**275**	*e*Pn	**Pn**	**07 21 10.0**	**+1.4**
BNDS	**Bandar-Abbas**	**5.81**	**211**	*e*Pn	**Pn**	**07 21 12.7**	**+1.8**
BNDS				AML	AML	07 23 07.9	
	comp=N,32nm,0.7s						
BNDS				AML	AML	07 23 09.1	
	comp=E,35nm,0.7s						
BNDS	**Bandar-Abbas**	**5.81**	**211**	*e*Pn	**Pn**	**07 21 12.0**	**+1.1**
IZEF	**Zefreh**	**6.05**	**276**	*e*Pn	**Pn**	**07 21 14.9**	**+0.7**
IKIA	**Kiasar**	**6.08**	**309**	*e*Pn	**Pn**	**07 21 15.0**	**+0.4**
ISHM	**Shahmirzad**	**6.12**	**305**	*e*Pn	**Pn**	**07 21 16.2**	**+1.0**
ISHM	**Shahmirzad**	**6.12**	**305**	Pn	**Pn**	**07 21 16.1**	**+0.9**
IGLO	**Galoogah**	**6.26**	**309**	*e*Pn	**Pn**	**07 21 15.7**	**-1.4**
ISFB	**Sefidab**	**6.35**	**289**	*e*Pn	**Pn**	**07 21 18.4**	**+0.1**
ISFB				*e*Sn	**Sn**	**07 22 28.1**	**-2.4**
ISFB	**Sefidab**	**6.35**	**289**	Pn	**Pn**	**07 21 18.3**	**0.0**
ISFB				Sn	**Sn**	**07 22 28.1**	**-2.4**
IFIR	**Firoozkooh**	**6.42**	**301**	*e*Pn	**Pn**	**07 21 18.3**	**-1.1**
IDMV	**Damavand**	**6.92**	**299**	*e*Pn	**Pn**	**07 21 25.7**	**-0.5**
IVRN	**Varamin**	**6.94**	**293**	*e*Pn	**Pn**	**07 21 26.4**	**0.0**
DAMV	**Damavand**	**6.99**	**299**	*e*PN	**Pn**	**07 21 29.0**	**+1.9**
IPRN	**Paran-Amol**	**7.07**	**304**	*e*Pn	**Pn**	**07 21 30.8**	**+2.5**
IPRN	**Paran-Amol**	**7.07**	**304**	Pn	**Pn**	**07 21 30.7**	**+2.4**
IPIR	**Pirpir**	**7.25**	**274**	*e*Pn	**Pn**	**07 21 35.2**	**+4.4**
IAFJ	**Afjeh**	**7.27**	**300**	*e*Pn	**Pn**	**07 21 30.7**	**-0.4**
CHTH	**Charan**	**7.73**	**299**	*e*PN	**Pn**	**07 21 39.3**	**+2.0**
ASAO	**Ashtian**	**8.17**	**287**	*e*PN	**Pn**	**07 21 44.9**	**+1.6**
ASAO	**Ashtian**	**8.17**	**287**	*e*Pn	**Pn**	**07 21 44.0**	**+0.7**
WSAR	**Wadi Sarin**	**9.22**	**185**	Pn	**Pn**	**07 21 58.3**	**+0.5**
	comp=E,0.2nm,0.3s,baz=340,slow=12,SNR=3.5						
AAK	**Ala-Archa**	**15.62**	**45**	P	**Pn**	**07 23 27.8**	**+2.8**
	comp=E,1.7nm,0.4s						
AKTK	**Aktyubinsk**	**17.99**	**357**	P	**Pn**	**07 23 54.5**	**-0.3**
AKTK	**Aktyubinsk**	**17.99**	**357**	P	**Pn**	**07 23 54.5**	**-0.3**
AKTO	**Aktyubinsk**	**17.99**	**357**	P	**Pn**	**07 23 54.5**	**-0.3**
	comp=E,0.1nm,0.3s,baz=171,slow=13,SNR=3.9						
ZRNK	**Zerenda**	**21.60**	**16**	*e*P	**P**	**07 24 34.1**	**-0.5**
	comp=E,2.1nm,0.6s,mb3.7						
ZRNK	**Zerenda**	**21.60**	**16**	*e*P	**P**	**07 24 34.2**	**-0.4**
BRTR	**Keskin Array B**	**22.06**	**296**	P	**P**	**07 24 40.4**	**+0.8**
	comp=E,1.5nm,1.0s,mb3.4,baz=115,slow=11,SNR=4.6						
BRTR	**Keskin Array B**	**22.06**	**296**	P	**P**	**07 24 40.3**	**+0.8**
MKAR	**Makanchi Array**	**22.55**	**44**	P	**P**	**07 24 46.4**	**+1.6**
	comp=E,1.0nm,0.8s,mb3.3,baz=230,slow=11,SNR=6.8						
KURK	**Kurchatov**	**23.06**	**32**	*e*P	**P**	**07 24 51.4**	**+1.2**
	comp=E,7.4nm,1.3s,mb4.0						
FINES	**FINESS Array B**	**36.14**	**333**	P	**P**	**07 26 46.2**	**-0.7**
	comp=E,0.8nm,0.9s,mb3.7,baz=134,slow=12,SNR=3.2						
GERES	**GERESS Array B**	**37.77**	**309**	P	**P**	**07 27 00.2**	**-0.6**
	comp=E,0.9nm,0.7s,mb3.6,baz=94,slow=8.0,SNR=4.6						
TORD	**Torodi Ar. Bea**	**55.97**	**264**	P	**P**	**07 29 21.5**	**-1.5**
	comp=E,2.0nm,0.8s,mb4.2,baz=61,slow=6.0,SNR=12						
ILAR	**Eielson Array**	**80.91**	**11**	P	**P**	**07 31 57.5**	**-1.5**
	comp=E,0.2nm,0.6s,mb3.2,baz=324,slow=5.5,SNR=4.6						

IDC ***20*** *07:33:40.1±0.6, 2077S×174.07W, h0km, mb4.

VNDA **Vanda** **57.93 186** P **P** **07 43 35.1 +0.7**
comp=Z,2.6nm,1.0s,mb4.2,baz=358,slow=7.5,SNR=8.8
VNDA LR LR 08 03 47.7
comp=Z,139nm,19.6s,MS4.1,baz=325,slow=31
VNDA **Vanda** **57.93 186** P **P** **07 43 35.3 +0.9**
VNDA pmax pmax
comp=Z,10.0nm,1.4s
VNDA **Vanda** **57.93 186** P **P** **07 43 35.3 +0.9**
comp=Z,9.7nm,1.4s,mb4.6
KLBR **Kellerberrin** **61.28 245** *e*P **P** **07 43 57.9 +0.4**
comp=Z,64nm,1.5s,mb5.5
MBWA **Marble Bar** **61.41 257** *e*P **P** **07 43 57.5 -0.8**
comp=Z,13nm,0.7s,mb5.2
NWAO **Narrogin (SRO)** **61.54 243** LR LR 08 09 05.2
comp=Z,220nm,18.9s,MS4.3,baz=143,slow=34
NWAO **Narrogin (SRO)** **61.54 243** *e*P **P** **07 43 59.4 +0.2**
NWAO pmax pmax
comp=Z,36nm,1.4s
NWAO **Narrogin (SRO)** **61.54 243** *e*P **P** **07 43 59.4 +0.2**
comp=Z,36nm,1.4s,mb5.3
MUN **Mundaring** **62.53 244** *e*P **P** **07 44 07.1 +1.3**
CASY **Casey** **65.26 206** *e*P **P** **07 44 25.9 +2.2**
comp=Z,11nm,1.0s,mb4.8
QSPA **South Pole Qui** **69.23 180** *e*P **P** **07 44 49.7 +0.7**
comp=Z,22nm,1.1s,mb5.0
MJAR **Matsushiro Arr** **72.74 321** P **P** **07 45 10.4 +0.2**
comp=Z,3.6nm,0.7s,mb4.4,baz=152,slow=5.8,SNR=8.2
FX1 **Atu Island--F** **74.25 352** LR LR 08 14 32.7
comp=Z,9.5nm,20.1s,MS3.1,baz=198,slow=33
MWC **Mount Wilson** **76.36 45** *e*P **P** **07 45 31.0 -0.2**
ISA **Isabella** **76.96 44** *e*P **P** **07 45 35.1 +0.5**
ISA pmax pmax
comp=Z,22nm,1.3s,mb4.9
ISA **Isabella** **76.96 44** *e*P **P** **07 45 35.1 +0.5**
comp=Z,22nm,1.3s,mb4.9
PFO **Pinyon Flat Ob** **77.07 46** *e*P **P** **07 45 35.2 0.0**
PFO *e**PP pP 07 45 46.8 -0.1
KSM **Kuching** **77.15 277** *e*P **P** **07 45 38.0 +2.4**
CMB **Columbia Colle** **77.23 41** *e*P **P** **07 45 35.9 -0.3**
CMB pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
CMB **Columbia Colle** **77.23 41** *e*P **P** **07 45 35.9 -0.2**
comp=Z,6.1nm,1.0s,mb4.5
OHCM **Honcut** **77.41 39** *e*P **P** **07 45 36.8 -0.3**
GSC **Goldstone** **77.83 45** *e*P **P** **07 45 39.3 -0.2**
GLA **Glamis** **77.86 48** *e*P **P** **07 45 40.4 +0.8**
DAC **Darwin (Calif)** **77.90 44** *e*P **P** **07 45 40.1 +0.2**
MTUM **Tungsten Hills** **77.94 42** *e*P **P** **07 45 40.6 +0.5**
WAKR **Walker** **78.11 41** *e*P **P** **07 45 41.4 +0.4**
YBH **Yreka Blue Hor** **78.28 37** *e*P **P** **07 45 41.6 -0.4**
YBH pmax pmax
comp=Z,32nm,1.9s
YBH **Yreka Blue Hor** **78.28 37** *e*P **P** **07 45 41.6 -0.4**
comp=Z,32nm,1.9s,mb4.9
NVAR **Mina Array Bea** **78.76 41** P **P** **07 45 44.3 -0.3**
comp=Z,4.8nm,0.8s,mb4.5,baz=219,slow=7.4,SNR=27
MNV **Mina** **78.86 41** *e*P **P** **07 45 45.2 +0.1**
MNV pmax pmax
comp=Z,24nm,1.3s,mb5.0
MNV **Mina** **78.86 41** *e*P **P** **07 45 45.2 +0.1**
comp=Z,24nm,1.3s,mb5.0
TPH **Tonopah** **79.22 42** *e*P **P** **07 45 47.6 +0.5**
TPH pmax pmax
comp=Z,17nm,1.1s,mb4.9
TPH **Tonopah** **79.22 42** *e*P **P** **07 45 47.5 +0.4**
comp=Z,17nm,1.1s,mb4.9
NEN **Nelson** **79.33 45** *e*P **P** **07 45 47.7 0.0**
NEN *e*pP pP 07 45 59.2 -0.3
SHPR **Sheep Range** **79.62 45** *e*P **P** **07 45 49.7 +0.4**
TUC **Tucson** **80.30 50** *e*P **P** **07 45 52.9 -0.1**
TUC pmax pmax
comp=Z,11nm,1.3s,mb4.6
TUC **Tucson** **80.30 50** *e*P **P** **07 45 52.9 -0.1**
comp=Z,11nm,1.3s,mb4.6
SSE **Sheshan** **80.79 308** P **P** **07 45 56.6 +1.0**
SSE AMB AMB
comp=Z,16nm,1.0s,mb4.9
SSE AMB AMB
comp=Z,78nm,4.9s
ARUT **Antelope Range** **81.48 44** *e*P **P** **07 45 59.1 -0.2**
ELK **Elko** **82.04 41** *e*P **P** **07 46 02.3 0.0**
ELK pmax pmax
comp=Z,23nm,1.9s
ELK **Elko** **82.04 41** *e*P **P** **07 46 02.3 +0.1**
comp=Z,23nm,1.9s,mb4.8
MAW **Mawson** **82.48 199** *e*P **P** **07 46 04.9 +0.4**
comp=Z,4.9nm,1.0s,mb4.4
MAW **Mawson** **82.48 199** P **P** **07 46 04.7 +0.1**
comp=Z,7.1nm,1.1s,mb4.5,baz=140,slow=5.2,SNR=6.3
MAW **Mawson** **82.48 199** *e*P **P** **07 46 04.9 +0.4**
MAW pmax pmax
comp=Z,5.0nm,1.0s
HABR **Khabarovsk** **82.62 329** *e*P **P** **07 46 07.6 +2.3**
HABR *e*S S 07 56 22.4 +2.6
MVU **Marysvale** **82.68 44** *e*pP pP 07 46 17.4 0.0
MSU **Marysvale** **82.71 44** *e*P **P** **07 46 06.8 +1.1**
MDJ **Mudanjiang** **82.98 323** P **P** **07 46 08.6 +1.5**
MDJ AP pP 07 46 18.3 -0.7
MDJ XP sP 07 46 21.9 -1.4
MDJ AMB AMB
comp=Z,7.0nm,1.1s,mb4.6
MDJ AMB AMB
comp=Z,87nm,6.6s
MDJ **Mudanjiang** **82.98 323** *e*P **P** **07 46 07.2 +0.1**
comp=Z,3.7nm,0.4s,mb4.8
BMO **Blue Mountains** **83.31 37** *e*P **P** **07 46 08.5 -0.4**
BMO *e*pP pP 07 46 19.4 -1.2
TMUT **Trail Mountain** **83.77 44** *e*P **P** **07 46 12.1 +0.9**
MNTX **Cornudas Mount** **83.94 53** *e*P **P** **07 46 11.8 -0.2**
comp=Z,14nm,1.5s,mb4.9
LAZ **Ladron** **83.99 50** *e*P **P** **07 46 10.9 -1.4**
SRU **San Rafael** **84.11 44** *e*P **P** **07 46 13.3 +0.3**
HLID **Hailey** **84.19 39** *e*P **P** **07 46 13.7 +0.3**
comp=Z,9.2nm,1.0s,mb4.9
BNM **Barren Site** **84.23 50** *e*P **P** **07 46 13.9 +0.4**
LPM **Los Pinos Moun** **84.31 50** *e*P **P** **07 46 14.5 +0.6**
TCUT **Toone Canyon** **84.64 42** *e*P **P** **07 46 16.0 +0.3**
TCUT *e*pP pP 07 46 26.4 -1.1
TTA **Tatalina** **84.69 8** *e*P **P** **07 46 15.8 -0.1**
TTA *e**PP pP 07 46 27.5 -0.2
PV10 **Paradox Valley** **84.71 46** *e*P **P** **07 46 13.8 -2.2**
ANMO **Albuquerque** **84.74 50** *e*P **P** **07 46 16.3 +0.2**
HWUT **Hardware Ranch** **84.81 42** *e*P **P** **07 46 16.2 -0.3**
comp=Z,2.1nm,0.8s,mb4.3
CN2 **Changchun** **84.88 321** *e*P **P** **07 46 18.3 +1.5**
PV01 **Paradox Valley** **84.89 46** *e*P **P** **07 46 16.5 -0.4**
PV01 *e* 07 46 31.9
GDL2 **Guadalupe Moun** **84.94 53** *e*P **P** **07 46 17.4 +0.3**
CPRX **Cap Rock** **85.70 52** *e*P **P** **07 46 20.8 -0.1**
CPRX *e*pP pP 07 46 32.8 0.0
CPRX *es*P sP 07 46 37.8 +0.6
MCMT **McKenzie Canyo** **85.84 39** *e*P **P** **07 46 21.7 +0.1**
MCMT *e*pP pP 07 46 33.7 +0.1
MCMT *es*P sP 07 46 37.8 0.0
SKAG **Skagway** **86.06 19** P **P** **07 46 23.4 +0.7**
TPAW **Teton Pass** **86.23 41** *e*P **P** **07 46 25.1 +1.9**
comp=Z,18nm,1.6s,mb5.0
PDAR **Pinedale Array** **86.69 42** P **P** **07 46 25.1 -0.7**
comp=Z,1.7nm,0.8s,mb4.3,baz=208,slow=2.9,SNR=8.3
DLBC **Dease Lake** **86.95 21** LR LR 08 19 49.8
comp=Z,112nm,18.1s,MS4.3,baz=211,slow=32
BOZ **Bozeman (W)** **87.02 38** *e*P **P** **07 46 26.9 -0.5**
BOZ pmax pmax
comp=Z,11nm,1.6s,mb4.8
BOZ **Bozeman (W)** **87.02 38** *e*P **P** **07 46 26.9 -0.5**
comp=Z,11nm,1.6s,mb4.8
SYO **Syowa Base** **87.18 192**‖ *e*P **P** **07 46 26.2 -2.0**
SYO **Syowa Base** **87.18 192**‖ *e*PcP PcP 07 46 29.8 -0.5
SYO **Syowa Base** **87.18 192**‖ *e*pP pP 07 46 38.9 -1.2
VNA3 **Neumayer Olymp** **87.52 175**‖ *i*P **P** **07 46 29.0 -0.8**
VNA3 *e* 07 46 30.9
VNA3 *e* 07 46 36.4
VNA3 *e* pP 07 46 39.9 -1.8
VNA3 *e* pP 07 46 42.2 +0.5
VNA3 *e* 07 46 44.7
VNA3 *e* 07 46 56.0
VNA3 *e* 07 47 00.0
VNA3 *e* 07 47 06.4
WALA **Waterton Lakes** **87.69 35** *e*P **P** **07 46 29.9 -0.7**
comp=Z,2.4nm,0.6s,mb4.6
COLA **College** **87.79 11** *e*P **P** **07 46 30.1 -1.0**
COLA pmax pmax
comp=Z,12nm,1.2s,mb5.0
COLA **College** **87.79 11** *e*P **P** **07 46 30.1 -1.0**
comp=Z,12nm,1.2s,mb5.0
ILAR **Eielson Array** **87.87 11** P **P** **07 46 30.4 -1.1**
comp=Z,5.9nm,1.2s,mb4.7,baz=220,slow=4.9,SNR=16
ILAR LR LR 08 23 59.4
comp=Z,68nm,19.2s,MS4.1,baz=0,8,slow=34
VNA2 **Neumayer--Watz** **88.01 176**‖ *i*P **P** **07 46 32.0 -0.1**
VNA2 *e* 07 46 33.5
VNA2 *e* 07 46 39.8
VNA2 *e* pP 07 46 44.4 +0.3
VNA2 *e* 07 46 47.8
VNA2 *e* 07 46 50.6
VNA2 *e* 07 46 58.3
VNA2 *e* 07 47 03.2
VNA2 *e* 07 47 11.0
VNA1 **Neumayer--Stat** **88.21 175**‖ *i*P **P** **07 46 33.1 0.0**
VNA1 *e* 07 46 35.3
VNA1 *e* 07 46 41.3
VNA1 *e* pP 07 46 45.4 +0.4
VNA1 *e* 07 46 48.9
VNA1 *e* 07 46 51.8
VNA1 *e* 07 47 00.1
VNA1 *e* 07 47 04.4
VNA1 *e* 07 47 11.8
BJI **Beijing** **88.78 314** *e*P **P** **07 46 40.4 +4.6**
BJI AMB AMB
comp=Z,9.0nm,1.3s,mb4.9
DAWY **Dawson** **88.81 14** *e*P **P** **07 46 35.9 0.0**
BILL **Bilibino** **89.80 353** *e*P **P** **07 46 40.3 -0.3**
BILL pmax pmax
comp=Z,26nm,1.8s,mb5.3
BILL **Bilibino** **89.80 353** *e*P **P** **07 46 40.3 -0.3**
comp=Z,26nm,1.8s,mb5.2
GYA **Guiyang** **90.07 298** P **P** **07 46 42.8 +1.0**
GYA AP pP 07 46 52.9 -0.9
GYA XP sP 07 46 57.6 -0.5
GYA PP PP 07 50 19.3 +4.0
GYA SKS 07 57 09.4
GYA S 07 57 31.9
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
GYA AMB AMB
comp=Z,110nm,4.2s
GYA LR LR
comp=N,460nm,20.8s,MS5.0
GYA LR LR
comp=E,450nm,21.0s,MS5.0
GYA LR LR
comp=Z,410nm,21.2s,MS4.8
EDM **Edmonton** **90.41 32** *e*P **P** **07 46 43.2 -0.2**
HHC **Hu-ho-hao-te** **92.28 313** *e*P **P** **07 46 52.3 +0.2**
HHC AP pP 07 47 02.8 -1.2
HHC XP sP 07 47 06.8 -1.6
HHC PP PP 07 50 35.5 +2.7
HHC SKS 07 57 20.8
HHC S 07 57 49.3
HHC XS sS 07 58 07.8 -4.5
HHC SS SS 08 04 02.4 -0.6
HHC AMB AMB
comp=Z,7.0nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,107nm,5.6s
HHC LR LR
comp=N,122nm,22.5s,MS4.8
HHC LR LR
comp=E,320nm,21.6s,MS4.8
HHC LR LR
comp=Z,127nm,19.8s,MS4.4
KMI **Kunming** **92.84 296** P **P** **07 46 55.3 +0.6**
KMI AP pP 07 47 07.9 +1.3
KMI XP sP 07 47 13.5 +2.5
KMI PP PP 07 50 37.8 +0.6
KMI S 07 57 54.8
KMI XS sS 07 58 16.1 -1.2
KMI AMB AMB
comp=Z,13nm,0.9s,mb5.4
KMI AMB AMB
comp=Z,118nm,4.5s
KMI LR LR
comp=N,150nm,16.2s,MS4.7
KMI LR LR
comp=E,158nm,19.1s,MS4.7
KMI LR LR
comp=Z,152nm,19.8s,MS4.5
INK **Inuvik** **93.66 14** *e*P **P** **07 46 56.9 -1.6**
INK pmax pmax
comp=Z,4.0nm,1.2s
INK **Inuvik** **93.66 14** *e*P **P** **07 46 56.9 -1.6**
comp=Z,4.1nm,1.2s,mb4.7
CD2 **Chengdu** **94.13 301** *e*P **P** **07 46 59.8 -0.8**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.3
YKA **Yellowknife Ar** **95.29 24** P **P** **07 47 04.8 -1.1**
comp=Z,0.9nm,0.7s,mb4.3,baz=241,slow=4.3,SNR=7.9
YKA **Yellowknife Ar** **95.29 24** P **P** **07 47 04.8 -1.1**
LZH **Lanzhou** **95.95 306** *e*P **P** **07 47 10.1 +1.2**
LZH AP pP 07 47 20.8 -0.1
LZH XP sP 07 47 24.6 -0.7
LZH PP PP 07 51 04.5 +3.0
LZH *e*SKS 07 57 42.4
LZH *e*S 07 58 22.1
LZH XS sS 07 58 40.1 -4.4
LZH *e*SS SS 08 04 56.3 +0.9
LZH AMB AMB
comp=Z,15nm,1.4s,mb5.2
LZH AMB AMB
comp=Z,69nm,6.5s
LZH LR LR
comp=N,436nm,18.9s
LZH LR LR
comp=Z,752nm,19.8s,MS5.2
ULN **Ulaanbaatar** **98.08 318** *e*P **P** **07 47 18.1 -0.4**
LPAZ **La Paz** **98.47 111** LR LR 08 21 18.5
comp=Z,83nm,19.7s,MS4.2,baz=206,slow=29
TIXI **Tiksi** **100.05 344** *e*P Pdif 07 47 26.2 -1.2
TIXI pmax pmax
comp=Z,7.0nm,2.5s
WMQ **Urumqi** **109.97 310** PDIF Pdif 07 48 10.3 -1.2
WMQ PP PP 07 52 48.1 +1.7
WMQ PP PP
comp=Z,34nm,8.7s
WMQ LR LR
comp=N,42nm,21.2s,MS4.1
WMQ LR LR
comp=E,24nm,19.8s,MS4.1
WMQ LR LR
comp=Z,80nm,22.0s,MS4.2
MKAR **Makanchi Array** **114.14 313** PKP PKiKP 07 52 19.5 -1.7
comp=Z,0.4nm,0.6s,baz=82,slow=1.7,SNR=2.9
POO **Poona** **116.49 281** *e*P PP 07 53 33.0 +0.3
KURK **Kurchatov** **116.77 317** *i* PKIKP PKPdf 07 52 25.9 -0.3
CHKZ **Chkalovo** **121.51 321** *e*PKIKP PKPdf 07 52 35.3 -0.1
ZRNK **Zerenda** **122.57 320** *e*PKIKP PKPdf 07 52 36.7 -0.7
ARU **Arti** **127.58 326** *i* PKIKP PKPdf 07 52 46.0 -1.0
ARU *e* 07 54 44.1
ARU *e* 07 59 48.6
ARU MLR MLR
comp=Z,100nm,20.0s,MS4.5
ARCES **ARCESS Array B** **129.88 351** PKP PKPdf 07 52 51.4 0.0
comp=Z,3.1nm,0.8s,baz=354,slow=1.2,SNR=8.7
FINES **FINESS Array B** **137.07 346** PKP PKPdf 07 53 05.3 +0.5
comp=Z,2.9nm,1.0s,baz=0,0,slow=4.4,SNR=5.0
KIV **Kislovodsk** **141.83 316** *i* PKIKP PKPdf 07 53 16.3 +2.8
ERZM **Erzurum** **144.35 310** *i* P PKPdf 07 53 18.6 +0.6
ANN **Anapa** **144.73 320** *i* PKIKP PKPdf 07 53 19.1 +0.5
ANN pmax pmax
comp=Z,54nm,1.3s
BNGL **BINGOL** **144.85 309** *i* P PKPdf 07 53 21.7 +2.8
AKASG **Malin Array Be** **145.03 334** PKP PKPdf 07 53 18.3 -0.8
comp=Z,5.4nm,0.6s,baz=40,slow=4.1,SNR=31
MARD **Mardin** **145.68 306** *i* P PKPdf 07 53 22.2 +1.9
ELZG **Elazig** **146.59 309** *i* P PKPbc 07 53 26.4 +3.0
BSEG **Bad Segeberg** **146.79 355** *e*PKPbc PKPbc 07 53 22.7 -1.3
MALT **Malatya** **147.06 309**‖ *i*P PKPbc 07 53 27.6 +2.9
MALT **Malatya** **147.06 309** *e*PKPab PKPab 07 53 27.3 +0.9
LVV **L'vov** **147.72 338** *e*PKP2 PKPbc 07 53 25.4 -1.2
RUE **Ruedersdorf** **147.84 351** *e*PKPbc PKPbc 07 53 25.6 -1.3
GZT **Gaziantep** **148.06 308** *i* P PKPbc 07 53 29.0 +1.5
BOYT **Boyabat** **148.08 317** *i* P PKPbc 07 53 29.8 +2.2
IBBN **Ibbenburen** **148.56 358** *e*PKPbc PKPbc 07 53 27.5 -1.3
CLZ **Clausthal** **148.87 355** *e*PKPbc PKPbc 07 53 28.9 -0.6
KSP **Ksiaz** **148.97 347** *e*PKP2 PKPab 07 53 31.7 -2.3
BALT **Daday** **148.99 318** *i* P PKPbc 07 53 32.3 +2.4
STHS **Stebnicka Huta** **149.00 340** *e*PKP PKPbc 07 53 31.6 +1.7
KOLS **Kolonicke sedl** **149.08 339** *e*PKP PKPbc 07 53 31.7 +1.6
KOLS *e* 07 53 41.3
BURAR **Bucovina Array** **149.09 334**‖ *i*P PKPbc 07 53 32.4 +2.3
CLL **Collm** **149.10 351** *e*PKPbc PKPbc 07 53 29.0 -1.1
CLL **Collm** **149.10 351** *i* PKPbc PKPbc 07 53 30.5 +0.4
comp=Z,41nm,1.7s
CLL *e*PKPab PKPab 07 53 34.0 -0.5
comp=Z,20nm,1.3s
CLL *i* sPKPbc 07 53 45.4
CLL **Collm** **149.10 351** *i* PKP2 PKPbc 07 53 30.5 +0.4
CLL pmax pmax
comp=Z,41nm,1.7s
COBT **Iskenderun** **149.35 307** *i* P PKPbc 07 53 32.7 +2.0
UPC **Upice** **149.35 347** *e*PKPbc PKPbc 07 53 31.7 +0.9
UPC *ep*PKP pPKPdf 07 53 42.2 +3.5
BRG **Berggiesshubel** **149.38 350** *e*PKPbc PKPbc 07 53 29.9 -0.9
BRG **Berggiesshubel** **149.38 350** *e*P PKPbc 07 53 31.5 +0.6
comp=Z,3.7nm,0.9s
BRG **Berggiesshubel** **149.38 350** *e*PKP2 PKPbc 07 53 31.5 +0.7
BRG pmax pmax
comp=Z,4.0nm,0.9s
CRVS **Cervenica-Dubn** **149.38 340** *e*PKP PKPbc 07 53 33.9 +3.1
AVNT **Avonos** **149.41 312** *i* P PKPdf 07 53 28.2 +1.8
DPC **Dobruska-Polom** **149.44 347** *ep*PKP pPKPdf 07 53 42.4 +3.6
BUG **Bochum--Univer** **149.44 358** *e*PKPbc PKPbc 07 53 29.6 -1.4
OKC **Ostrava-Krasne** **149.49 344** *e*PKPbc PKPbc 07 53 32.0 +0.9
OKC *ep*PKP pPKPdf 07 53 40.5 +1.6
ELDT **Eldivan** **149.52 316** *i* P PKPbc 07 53 32.8 +1.6
MORC **Moravsky Berou** **149.70 345**‖ *i*P PKPbc 07 53 32.7 +1.1
MORC **Moravsky Berou** **149.70 345** *e*PKPbc PKPbc 07 53 32.8 +1.2
BR131 **Keskin Array S** **149.78 315** *e*PKPdf PKPdf 07 53 26.3 -0.7
BR131 *e*PKPbc PKPbc 07 53 33.1 +1.3
BR131 *e*PKPab PKPab 07 53 38.2 +1.0
BRTR **Keskin Array B** **149.78 315** PKPbc PKPbc 07 53 32.7 +0.9
comp=Z,3.5nm,0.8s,baz=134,slow=2.6,SNR=17
VRI **Vrincioaia** **149.79 331**‖ *i*P PKPbc 07 53 33.3 +1.5
MOX **Moxa** **149.93 353** *e*PKPbc PKPbc 07 53 32.1 -0.1
MOX **Moxa** **149.93 353** *e*PKP PKPbc 07 53 33.0 +0.8
comp=Z,18nm,1.6s
MOX **Moxa** **149.93 353** *e*PKP2 PKPbc 07 53 33.0 +0.8
MOX pmax pmax
comp=Z,18nm,1.6s
WERD **Werda** **150.03 352** *e*PKPbc PKPbc 07 53 31.5 -0.9
KECS **Kecovo** **150.06 340** *e*PKP PKPbc 07 53 33.4 +0.9
KECS *e* 07 53 37.0
PRU **Pruhonice** **150.13 349** *e*PKPbc PKPbc 07 53 32.8 +0.1
ASF **Jabal al Asfar** **150.22 299** PKPbc PKPbc 07 53 34.2 +1.3
comp=Z,3.4nm,0.7s,baz=299,slow=5.0,SNR=6.4
NKC **Novy Kostel** **150.22 352** *e*PKPbc PKPbc 07 53 33.7 +0.8
ANTO **Ankara** **150.26 316**‖ *i*P PKPbc 07 53 34.6 +1.6
ANTO **Ankara** **150.26 316** *e*PKPbc PKPbc 07 53 34.8 +1.8
MEM **Membach** **150.29 360** PKPbc PKPbc 07 53 33.6 +0.6
MEM E 07 53 36.5
SGKT **Sivrigoynuk** **150.35 317** *i* P PKPbc 07 53 34.0 +0.8
MLR **Muntele Rosu** **150.43 331** PKPbc PKPbc 07 53 33.9 +0.5
comp=Z,15nm,1.2s,baz=26,slow=4.0,SNR=8.2
MLR **Muntele Rosu** **150.43 331**‖ *i*P PKPbc 07 53 34.7 +1.3
MANZ **Manzenberg** **150.51 352** *e*PKPbc PKPbc 07 53 32.9 -0.7
TREC **Trest** **150.61 347** *e*PKPbc PKPbc 07 53 34.4 +0.6
ROTZ **Rotzenmuhle** **150.71 352** *e*PKPbc PKPbc 07 53 33.3 -0.8
PSZ **Piszkesteto** **150.74 341** *e*PKIKP PKPbc 07 53 35.2 +1.1
DOU **Dourbes** **150.78 2** PKPbc PKPbc 07 53 34.6 +0.4
DOU APKPbc 07 53 44.5
GIVF **Givet** **150.78 2** *e*PKP1 PKPbc 07 53 34.0 -0.2
BAIF **Baives** **150.81 2** *e*PKP1 PKPbc 07 53 34.2 -0.1
MEST **Erdemli** **150.88 309** *i* P PKPbc 07 53 35.1 +0.7
GRF **Grafenberg Arr** **150.91 353** *e*PKPbc PKPbc 07 53 34.6 +0.1
GRF *ep*PKPbc pPKPbc 07 53 49.4 +2.6
KHC **Kasperske Hory** **151.12 350** *e*PKPbc PKPbc 07 53 35.5 +0.5
KHC *ep*PKP pPKPdf 07 53 44.5 +3.0
WLF **Walferdange** **151.24 360** *e*PKPbc PKPbc 07 53 34.6 -0.7
GEC2 **GERESS Array S** **151.38 349** *e*PKPbc PKPbc 07 53 34.6 -1.0
GERES **GERESS Array B** **151.38 349** PKPbc PKPbc 07 53 35.9 +0.3
comp=Z,1.9nm,0.7s,baz=8.5,slow=2.7,SNR=11
ROSF **Rostrenen** **151.57 13** *e*PKP1 PKPbc 07 53 34.9 -1.2
FLN **La Foliniere** **151.66 9** *e*PKP1 PKPbc 07 53 35.6 -0.7
comp=Z,132nm,1.4s
ERMK **Ermenek** **151.75 310** *i* P PKPbc 07 53 35.4 -1.0
SGMF **Saint Gilles** **151.80 12** *e*PKP1 PKPbc 07 53 35.6 -1.0
LDF **La Druitiere** **151.88 9** *e*PKP1 PKPbc 07 53 36.0 -0.8
comp=Z,256nm,1.8s
GRR **Gorron** **151.97 10** *e*PKP1 PKPbc 07 53 36.4 -0.6
QUIF **Quistinic** **152.00 13** *e*PKP1 PKPbc 07 53 36.7 -0.3
STU **Stuttgart** **152.01 355** *e*PKPbc PKPbc 07 53 35.9 -1.2
BZS **Buzias** **152.14 336**‖ *i*P PKPbc 07 53 37.7 +0.3
FUR **Furstenfeldbru** **152.41 352** *e*PKPbc PKPbc 07 53 36.7 -1.2
EIL **Elat** **152.42 294** *e*PKPbc PKPbc 07 53 39.9 +1.9
CDF **Champ du Feu** **152.47 358** *e*PKP1 PKPbc 07 53 37.9 -0.2
PKSM **Moragy** **152.65 341**‖ *i*P PKPbc 07 53 39.0 +0.5
LOR **Lormes** **153.58 3** *e*PKP1 PKPbc 07 53 40.6 +0.1
comp=Z,30nm,1.2s
SSF **Saint Saulge** **153.76 4** *e*PKP1 PKPbc 07 53 40.7 -0.2
MFF **Saint Martin d** **153.82 10** *e*PKP1 PKPbc 07 53 40.5 -0.5
SMF **Signal de Mont** **154.20 3** *e*PKP1 PKPbc 07 53 41.9 0.0
BOJS **Bojanci** **154.24 345** *e*PKPdf PKPbc 07 53 46.2 +4.3
TCF **Toulx Ste Croi** **154.43 6** *e*PKP1 PKPbc 07 53 42.1 -0.3
RJF **Les Rejaudoux** **155.32 8** *e*PKP1 PKPdf 07 53 44.0 +8.8
comp=Z,47nm,1.3s
TORD **Torodi Ar. Bea** **171.32 151** PKPab PKPbc 07 55 10.1 -0.5
comp=Z,1.1nm,0.8s,baz=201,slow=2.5,SNR=4.7

IDC 20 07:54:25.5±2.0, 1494S×6624E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.8/4, MS4.2/4, Ms1 4.1/4, ms1mx3.5/17, Error ellipse: s-maj=87.6km s-min=29.0km az=43.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAW	**Mawson**	**52.67**	**182**	LR	LR	08 20 35.1	
	comp=Z,300nm,18.7s,baz=52,slow=30						
ASAR	**Alice Springs**	**63.95**	**109**	P	P	08 05 01.1	+0.7
	1.3nm,0.8s,baz=267,slow=5.8,SNR=11						
WRA	**Warramunga Arr**	**64.78**	**105**	P	P	08 05 06.4	+0.6
	2.8nm,0.9s,baz=267,slow=5.8,SNR=13						
SONM	**Songino Array**	**72.03**	**27**	P	P	08 05 51.4	+0.2
	0.9nm,0.9s,baz=206,slow=7.5,SNR=4.2						
SONM				LR	LR	08 36 03.2	
	comp=Z,157nm,18.8s,baz=75,slow=35						
AKASG	**Malin Array Be**	**72.95**	**336**	P	P	08 05 56.8	+0.1
	0.1nm,0.2s,baz=129,slow=5.0,SNR=4.4						
MJAR	**Matsushiro Arr**	**84.89**	**50**	LR	LR	08 43 49.3	
	comp=Z,74nm,21.9s,baz=95,slow=35						
ARCES	**ARCESS Array B**	**88.98**	**347**	LR	LR	08 49 10.6	
	comp=Z,94nm,19.9s,baz=96,slow=37						
ILAR	**Eielson Array**	**125.33**	**17**	PKP	PKPdf	08 13 27.4	-0.8
	0.4nm,0.9s,baz=316,slow=3.8,SNR=3.5						
PDAR	**Pinedale Array**	**152.03**	**353**	PKPbc	PKPbc	08 14 23.1	+0.5
	1.5nm,0.8s,baz=103,slow=3.2,SNR=7.5						

*ISCJB **20** 08:12:32.0±0.7, 2025S±0.1×1734W±0.1, h33km, mb4.2/7, Error ellipse: s-maj=16.1km s-min=12.1km az=96.8*
*IDC **20** 08:12:32.4±1.8, 20.16S×17397W, h0km, mb4.2/6, mb1 4.4/7, mb1mx4.1/17, mbtmp4.2/7, ML4.8/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/24, Error ellipse: s-maj=50.4km s-min=26.2km az=111.0*
*NEIC **20** 08:12:32.6±8.4, 20.16S×17340W, h17km±58km, mb4.8/1, Error ellipse: s-maj=21.0km s-min=15.1km az=105.0*

ISC 20 08:12:34.8±0.7, 2023S±0.010×1734W±0.01, h35km, n13, σ1§29/15, mb4.2/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.47**	**14**	Pn	**Pn**	**08 14 05.9**	**-1.5**
	6.5nm,0.3s,baz=158,slow=6.1,SNR=11						
AFI				Sn	**Sn**	**08 15 12.4**	**-7.5**
	6.1nm,0.3s,baz=229,slow=20,SNR=2.6						
AFI				LR	LR	08 15 50.3	
	comp=Z,63nm,21.2s,baz=285,slow=30						
AFI				T		08 20 54.6	
	4.1nm,0.3s,baz=45,slow=20,SNR=5.0						
AFI	**Afiamalu**	**6.47**	**14**	Pn	**Pn**	**08 14 05.9**	**-1.5**
AFI				*ep*Pn	**Pn**	**08 14 06.6**	**-0.8**
AFI				Sn	**Sn**	**08 15 12.4**	**-7.5**
AFI				LR	LR	08 15 50.3	
RAR	**Rarotonga**	**12.78**	**97**	Pn	**Pn**	**08 15 33.2**	**-0.6**
	2.5nm,0.3s,baz=173,slow=18,SNR=16						
DZM	**Mont Dzumac**	**18.90**	**261**	P	**Pn**	**08 16 53.0**	**-0.1**
	0.3nm,0.3s,baz=103,slow=18,SNR=4.8						
URZ	**Urewera**	**19.77**	**203**	P	**Pn**	**08 17 03.3**	**-0.2**
	2.7nm,0.3s,baz=342,slow=8.1,SNR=8.2						
RPZ	**Rata Peaks**	**26.79**	**206**	P	**P**	**08 18 13.1**	**+1.7**
	5.0nm,0.8s,mb4.1,baz=18,slow=20,SNR=2.3						

STKA	**Stephens Creek**	**41.81**	**245**	P	**P**	**08 20 18.5**	**-2.5**
	2.6nm,0.7s,mb4.0,baz=86,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**48.79**	**256**	P	**P**	**08 21 15.2**	**-1.0**
	1.2nm,0.6s,mb4.1,baz=98,slow=7.7,SNR=20						
WRA	**Warramunga Arr**	**48.92**	**261**	P	**P**	**08 21 16.9**	**-0.4**
	1.1nm,0.5s,mb4.2,baz=96,slow=7.8,SNR=37						
MJAR	**Matsushiro Arr**	**72.64**	**321**	P	**P**	**08 24 00.4**	**+1.7**
	3.2nm,0.7s,mb4.4,baz=161,slow=6.1,SNR=7.8						
MAJO	**Matsushiro**	**72.64**	**321**	*e*P	**P**	**08 23 59.4**	**+0.6**
	4.0nm,0.5s,mb4.6						
ILAR	**Eielson Array**	**87.15**	**11**	P	**P**	**08 25 19.4**	**+2.2**
	0.9nm,1.1s,mb3.9,baz=215,slow=5.2,SNR=4.1						
AKASG	**Malin Array Be**	**144.74**	**335**	PKP	PKPdf	08 32 09.2	+1.4
	0.3nm,0.3s,baz=38,slow=4.1,SNR=7.3						

IDC 20 08:37:06.2±3.1, 546S×15188E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.7/15, mbtmp3.8/4, ML2.8/1, Error ellipse: s-maj=111.8km s-min=42.0km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.11**	**230**	Pn	Pn	08 38 38.5	+0.8
	1.4nm,0.3s,baz=26,slow=13,SNR=3.8						
PMG				Sn	Sn	08 39 43.2	-5.1
	4.4nm,0.3s,baz=184,slow=18,SNR=8.0						
WRA	**Warramunga Arr**	**22.32**	**228**	P	P	08 42 03.9	-1.5
	0.7nm,0.4s,baz=53,slow=10,SNR=15						
ASAR	**Alice Springs**	**25.05**	**222**	P	P	08 42 32.5	+0.4
	0.9nm,0.8s,baz=62,slow=8.1,SNR=7.9						
FITZ	**Fitzroy Crossi**	**28.54**	**242**	P	P	08 43 05.1	+1.5
	1.2nm,0.3s,baz=64,slow=12,SNR=17						
TORD	**Torodi Ar. Bea**	**149.63**	**287**	PKPbc	PKPbc	08 56 58.4	+0.6
	0.8nm,0.7s,baz=103,slow=2.3,SNR=8.0						

*CSEM **20** 08:59:39.8±0.2, 3720N×2787E, h26km, MD2.6, Error ellipse: s-maj=8.6km s-min=4.9km az=179.0*
*ISK **20** 08:59:39.0, 3732N×2792E, h30km, MD2.6*
*ISCJB **20** 08:59:41.8±0.7, 3714N±004×2786E±005, h10km, Error ellipse: s-maj=6.3km s-min=5.2km az=143.9*

ISC 20 08:59:42.2±0.7, 3714N±004×2786E±005, h10km, n7, σ0§63/11, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSB	**Milas**	**0.17**	**336**	PG	**Pg**	**08 59 45.2**	**-0.6**
MLSB				SG	**Sg**	**08 59 48.3**	**+0.1**
YER	**Yerkesik**	**0.34**	**91**	PG	**Pg**	**08 59 48.4**	**-0.4**
YER				SG	**Sg**	**08 59 53.3**	**0.0**
BDRM	**Kayabasi**	**0.34**	**257**	*i* P	**Pg**	**08 59 48.9**	**-0.1**
BDRM				*i* S	**Sg**	**08 59 53.1**	**-0.4**
BODT	**Bodrum**	**0.45**	**260**	PG	**Pg**	**08 59 50.7**	**-0.2**
DAT	**Datca**	**0.47**	**209**	PG	**Pg**	**08 59 52.7**	**+1.3**
AYDN	**Tasoluk**	**0.52**	**2**	*i* P	**Pg**	**08 59 51.7**	**-0.5**
AYDN				*i* S	**Sg**	**09 00 00.1**	**+1.0**
FETY	**Fethiye**	**1.10**	**117**	*e*PN	**Pn**	**08 59 59.4**	**-4.3**

*ISCJB **20** 09:19:07.1±0.4, 4378N±003×1257E±004, h62km±4km, Error ellipse: s-maj=5.2km s-min=3.5km az=93.7*
*NEIC **20** 09:19:08.9, 4370N×1262E, h40km, MD2.8(ROM), After ROM.*
*ROM **20** 09:19:08.9±0.1, 4370N×1262E, h40km±3km, Md2.8/15, Ml2.8/12, Error ellipse: s-maj=2.6km s-min=1.9km az=126.0*
*CSEM **20** 09:19:08.1±0.1, 4373N×1262E, h40km, ML2.8/7, Error ellipse: s-maj=2.2km s-min=1.9km az=64.0*
*LDG **20** 09:19:09.2±0.4, 4385N×1246E, h10km, Ml2.7/5, Error ellipse: s-maj=9.3km s-min=4.2km az=114.0*

ISC 20 09:19:08.2±0.4, 4377N±003×1260E±003, h54km±5km, n44, σ0§94/70, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSM	**Repubblica di**	**0.20**	**326**	Pg	**Pn**	**09 19 17.0**	**+0.1**
RSM				Sg	**Sn**	**09 19 23.4**	**+0.2**
	309nm,0.5s						
PESA	**Pesaro**	**0.25**	**45**	Pg	**Pn**	**09 19 16.9**	**-0.4**
PESA				Sg	**Sn**	**09 19 24.4**	**+0.6**
	1µm,0.4s						
BADI	**Badiali**	**0.36**	**225**	Pg	**Pn**	**09 19 17.3**	**-1.0**
BADI				Sg	**Sn**	**09 19 25.5**	**0.0**
	1µm,0.7s						
ARVD	**Arcevia**	**0.37**	**137**	Pg	**Pn**	**09 19 17.0**	**-1.3**
ARVD				Sg	**Sn**	**09 19 24.0**	**-1.6**
	522nm,0.6s						
MURB	**Monte Urbino**	**0.51**	**186**	Pg	**Pn**	**09 19 19.1**	**-0.7**
MURB				Sg	**Sn**	**09 19 27.8**	**-0.4**
	2µm,0.4s						
SFI	**Santa Sofia**	**0.56**	**284**	Pg	**Pn**	**09 19 21.2**	**+0.8**
SFI				Sg	**Sn**	**09 19 31.1**	**+1.8**
	168nm,0.4s						
CING	**Cingoli**	**0.58**	**132**	Pg	**Pn**	**09 19 20.2**	**-0.5**
CING				Sg	**Sn**	**09 19 29.7**	**0.0**
	439nm,0.3s						
AOI	**Ancona**	**0.76**	**106**	Pg	**Pn**	**09 19 23.4**	**+0.5**
	399nm,0.3s						
VMG	**Vicchio**	**0.79**	**285**	Pg	**Pn**	**09 19 25.0**	**+1.8**
	541nm,0.8s						
SEI	**Scarperia**	**0.94**	**288**	Pg	**Pn**	**09 19 27.1**	**+1.8**
	226nm,0.3s						
CSNT	**Castellina Chi**	**0.99**	**253**	Pg	**Pn**	**09 19 26.4**	**+0.5**
CSNT				Sg	**Sn**	**09 19 39.1**	**+0.1**
	140nm,0.6s						
NRCA	**Norcia**	**1.01**	**158**	Pg	**Pn**	**09 19 25.9**	**-0.2**
	39nm,0.2s						
SACS	**San Casciano d**	**1.05**	**209**	Pg	**Pn**	**09 19 26.3**	**-0.3**
SACS				Sg	**Sn**	**09 19 39.8**	**-0.5**
	118nm,0.5s						
GRFL	**Gerfalco**	**1.33**	**243**	Pg	**Pn**	**09 19 31.0**	**+0.5**
	16nm,0.6s						
TERO	**Teramo**	**1.36**	**147**	Pg	**Pn**	**09 19 31.3**	**+0.5**
	134nm,0.6s						
CAMP	**Campotosto**	**1.37**	**154**	Pg	**Pn**	**09 19 31.1**	**+0.2**
	85nm,0.4s						
MNS	**Montasola**	**1.38**	**177**	Pg	**Pn**	**09 19 31.4**	**+0.2**
	118nm,0.6s						
AQU	**L'Aquila**	**1.53**	**157**	*e*Pn	**Pn**	**09 19 35.5**	**+2.3**
AQU				*e*Sn	**Pn**	**09 19 57.9**	**+6.0**
AQU	**L'Aquila**	**1.53**	**157**	*e*Pn	**Pn**	**09 19 35.5**	**+2.3**
KNDS	**Knezji Dol**	**2.17**	**35**	*i* Sn	**Sn**	**09 20 08.2**	**+0.6**
CEY	**Cerknica**	**2.36**	**33**	*i* Pn	**Pn**	**09 19 44.3**	**-0.2**
CEY				*i* Sn	**Sn**	**09 20 12.4**	**+0.2**
CEY	**Cerknica**	**2.36**	**33**	*i* Pn	**Pn**	**09 19 44.3**	**-0.2**
CEY				*i* Sn	**Sn**	**09 20 12.4**	**+0.1**
JAVS	**Javornik**	**2.37**	**26**	*i* Pn	**Pn**	**09 19 44.3**	**-0.3**
JAVS				*e*Sn	**Sn**	**09 20 11.9**	**-0.5**
VOY	**Vojsko**	**2.44**	**22**	*e*Pn	**Pn**	**09 19 45.6**	**0.0**
VOY				*e*Sn	**Sn**	**09 20 13.5**	**-0.8**
CADS	**Cadrg**	**2.59**	**18**	*i* Pn	**Pn**	**09 19 47.7**	**+0.1**
GORS	**Gorjuse**	**2.73**	**21**	*i* Sn	**Sn**	**09 20 21.7**	**+0.3**
PDKS	**Podkum**	**2.86**	**36**	*i* Pn	**Pn**	**09 19 51.9**	**+0.6**
PDKS				*i* Sn	**Sn**	**09 20 25.1**	**+0.6**
PGF	**Pioggiola**	**2.90**	**246**	*e*Pn	**Pn**	**09 19 52.7**	**+0.8**
PGF				*e*Sn	**Sn**	**09 20 25.7**	**+0.2**
	4.6nm,0.4s						
PGF	**Pioggiola**	**2.90**	**246**	*e*Pn	**Pn**	**09 19 52.7**	**+0.8**
PGF				*e*Sn	**Sn**	**09 20 25.7**	**+0.2**
	2.3nm,0.4s						
SBF	**Sospel**	**3.74**	**273**	*e*Pn	**Pn**	**09 20 05.1**	**+1.7**
SBF				*e*Sn	**Sn**	**09 20 43.8**	**-2.3**
	2.3nm,0.2s						
SBF	**Sospel**	**3.74**	**273**	*e*Pn	**Pn**	**09 20 05.1**	**+1.7**
SBF				*e*Sn	**Sn**	**09 20 43.8**	**-2.3**
	1.1nm,0.2s						
FRF	**La Foret Royal**	**4.32**	**269**	*e*Pn	**Pn**	**09 20 12.0**	**+0.6**
FRF				*e*Sn	**Sn**	**09 20 58.1**	**-2.4**
	2.6nm,0.4s						
FRF	**La Foret Royal**	**4.32**	**269**	*e*Pn	**Pn**	**09 20 12.0**	**+0.6**
FRF				*e*Sn	**Sn**	**09 20 58.1**	**-2.4**
	1.3nm,0.4s						
LMR	**La Mourre**	**4.45**	**267**	*e*Pn	**Pn**	**09 20 13.1**	**0.0**
LMR				*e*Sn	**Sn**	**09 21 00.8**	**-2.7**
	2.0nm,0.3s						
LMR	**La Mourre**	**4.45**	**267**	*e*Pn	**Pn**	**09 20 13.1**	**0.0**
LMR				*e*Sn	**Sn**	**09 21 00.8**	**-2.7**
	1.0nm,0.3s						
LPG	**La Plagne**	**4.52**	**295**	*e*Pn	**Pn**	**09 20 14.1**	**+0.1**
LPL	**La Plagne**	**4.54**	**295**	*e*Pn	**Pn**	**09 20 14.0**	**-0.3**
SMRF	**Simiane la Rot**	**5.08**	**275**	*e*Pn	**Pn**	**09 20 22.5**	**+0.7**
KHC	**Kasperske Hory**	**5.41**	**7**	*e*PN	**Pn**	**09 20 25.4**	**-0.8**
KHC				*ex*	x	09 20 59.0	
KHC				*e*SN	**Sn**	**09 21 24.3**	**-2.8**
CABF	**La Chapelle**	**5.41**	**304**	*e*Pn	**Pn**	**09 20 26.4**	**+0.1**
HINF	**Hinteralfeld**	**5.70**	**317**	*e*Pn	**Pn**	**09 20 29.8**	**-0.5**
HINF				*e*Sn	**Sn**	**09 21 30.2**	**-4.2**
	2.9nm,0.3s						
HINF	**Hinteralfeld**	**5.70**	**317**	*e*Pn	**Pn**	**09 20 29.8**	**-0.5**
HINF				*e*Sn	**Sn**	**09 21 30.2**	**-4.2**
	1.5nm,0.3s						
CDF	**Champ du Feu**	**5.94**	**323**	*e*Pn	**Pn**	**09 20 33.3**	**-0.2**
HAU	**Haudompre**	**6.08**	**316**	*e*Pn	**Pn**	**09 20 35.4**	**-0.1**

IDC 20 09:34:05.3±3.1, 1446S×6684E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.4/19, mbtmp3.6/3, Error ellipse: s-maj=110.7km s-min=36.8km az=51.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**64.35**	**105**	P	P	09 44 43.7	+1.0
	0.6nm,0.8s,baz=270,slow=5.9,SNR=8.4						
AKTO	**Aktyubinsk**	**65.07**	**354**	P	P	09 44 48.2	+0.7
	0.6nm,0.5s,baz=156,slow=10.0,SNR=2.5						
SONM	**Songino Array**	**71.34**	**27**	P	P	09 45 26.5	-0.4
	0.2nm,0.7s,baz=193,slow=5.9,SNR=1.8						
PDAR	**Pinedale Array**	**151.62**	**354**	PKPbc	PKPbc	09 54 01.0	-0.4
	0.5nm,0.5s,baz=46,slow=2.6,SNR=3.6						

MEX 20 09:38:16.7±0.7, 1648N×9894W, h16km±17km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**1.01**	**292**	*e*P	Pb	09 38 32.0	-3.9
ACX				*i* S	Sb	09 38 45.0	-4.0
MEIG	**Mezcala**	**1.58**	**336**	*e*P	Pn	09 38 40.9	-3.1
MEIG				*i* S	Sn	09 38 59.4	-4.7
UTMO	**Huajuapan**	**1.72**	**39**	*i* P	Pn	09 38 41.5	-4.5
UTMO				*i* S	Sn	09 39 01.4	-6.3
PLIG	**Platanillo**	**1.98**	**344**	*e*P	Pn	09 38 47.2	-2.3
PLIG				*i* S	Sn	09 39 08.7	-5.2
VHO	**Vista Hermosa**	**2.19**	**74**	*e*P	Pn	09 38 50.4	-2.0
VHO				*i* S	Sn	09 39 15.9	-3.3

*NEIC **20** 09:42:16.2, 1657N×9887W, h16km, MD3.6(MEX), After MEX.*

MEX 20 09:42:16.2±0.7, 1657N×9887W, h16km±10km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**1.05**	**287**	*e*P	Pb	09 42 32.0	-3.9
ACX				*i* S	Sb	09 42 45.0	-4.4
CAIG	**El Cayaco**	**1.42**	**290**	*i* P	Pn	09 42 37.8	-3.6
CAIG				*i* S	Sn	09 42 55.0	-4.8
MEIG	**Mezcala**	**1.53**	**332**	*e*P	Pn	09 42 40.1	-2.7
MEIG				*i* S	Sn	09 42 56.0	-6.4
UTMO	**Huajuapan**	**1.62**	**39**	*i* P	Pn	09 42 40.9	-3.1
UTMO				*i* S	Sn	09 43 01.1	-3.4
PLIG	**Platanillo**	**1.91**	**342**	*i* P	Pn	09 42 45.1	-3.0
PLIG				*i* S	Sn	09 43 06.9	-5.0
VHO	**Vista Hermosa**	**2.10**	**76**	*i* P	Pn	09 42 48.2	-2.5
VHO				*i* S	Sn	09 43 11.3	-5.3

*ISCJB **20** 09:46:10.9±0.6, 2862S±003×6746W±007, h127km±10km, mb3.9/4, Error ellipse: s-maj=10.4km s-min=4.3km az=4.0*
*IDC **20** 09:46:11.4±1.1, 2863S×6736W, h113km±12km, mb3.8/4, mb1 3.6/9, mb1mx3.5/19, mbtmp4.0/9, Error ellipse: s-maj=23.7km s-min=9.9km az=99.0*
*NEIC **20** 09:46:13.7, 2857S×6760W, h130km, mb4.2/1, After GUC.*
*GUC **20** 09:46:13.7±0.9, 2857S×6760W, h130km, ML4.3*

ISC 20 09:46:11.9±0.5, 2862S±003×6743W±007, h118km±10km, n32, σ1§16/48, mb3.9/4, 4C-6D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**2.88**	**295**	*e*P	**Pn**	**09 46 57.4**	**+0.9**
CPCH				*i* S	**Sn**	**09 47 30.1**	**-0.8**
LCO	**Las Campanas**	**2.90**	**262**	↓*i*P	**Pn**	**09 46 58.2**	**+1.4**
LCO				*i* S	**Sn**	**09 47 32.7**	**+1.4**
CFAA	**Coronel Fontan**	**3.05**	**193**	P	**Pn**	**09 46 59.9**	**+1.1**
	baz=0.8,slow=12						
CFAA				S	**Sn**	**09 47 34.6**	**-0.4**
	20nm,0.3s,baz=183,slow=17,SNR=28						
TLL	**Tololo Astrono**	**3.33**	**242**	↑*i*P	**Pn**	**09 47 03.9**	**+1.4**
TLL				*i* S	**Sn**	**09 47 42.7**	**+1.2**
TLL				AML	AML	09 47 46.9	
	comp=N,685nm,0.7s						
TLL	**Tololo Astrono**	**3.33**	**242**	↑*i*P	**Pn**	**09 47 03.9**	**+1.4**
TLL				*i* S	**Sn**	**09 47 42.7**	**+1.2**
CDCH	**Caldera**	**3.38**	**296**	↓*i*P	**Pn**	**09 47 03.8**	**+0.6**
CDCH				*i* S	**Sn**	**09 47 40.7**	**-2.1**
CDCH				AML	AML	09 47 41.1	
	comp=E,295nm,0.4s						
CDCH	**Caldera**	**3.38**	**296**	↓*i*P	**Pn**	**09 47 03.8**	**+0.6**
CDCH				S	**Sn**	**09 47 40.7**	**-2.1**
LSCH	**La Serena**	**3.57**	**248**	↓*i*P	**Pn**	**09 47 05.7**	**0.0**
LSCH				*i* S	**Sn**	**09 47 45.7**	**-1.6**
LSCH				AML	AML	09 47 49.8	
	comp=E,341nm,0.3s						
LSCH	**La Serena**	**3.57**	**248**	↓*i*P	**Pn**	**09 47 05.7**	**0.0**
LSCH				*i* S	**Sn**	**09 47 45.7**	**-1.6**
CRCH	**Chaqaral**	**3.63**	**308**	↑*i*P	**Pn**	**09 47 07.8**	**+1.2**
CRCH				*i* S	**Sn**	**09 47 47.5**	**-1.3**
CRCH				AML	AML	09 47 56.9	
	comp=E,302nm,0.3s						
CRCH	**Chaqaral**	**3.63**	**308**	↑*i*P	**Pn**	**09 47 07.8**	**+1.2**
CRCH				*i* S	**Sn**	**09 47 47.5**	**-1.3**
CMCH	**Combarbala**	**4.01**	**230**	↓*i*P	**Pn**	**09 47 11.1**	**-0.5**
CMCH				*i* S	**Sn**	**09 47 56.9**	**-0.8**
CPN1	**Cerro Paranal**	**4.79**	**326**	*e*P	**Pn**	**09 47 23.6**	**+1.6**
CPN1				*i* S	**Sn**	**09 48 16.2**	**-0.3**
CHNG	**Los Chungos**	**4.79**	**226**	*e*P	**Pn**	**09 47 20.8**	**-1.3**
CHNG				*i* S	**Sn**	**09 48 13.7**	**-2.8**
FCH	**Farellones**	**5.29**	**207**	*e*P	**Pn**	**09 47 29.7**	**+0.9**
FCH				*i* S	**Sn**	**09 48 29.7**	**+1.0**
PEL	**Peldehue**	**5.31**	**211**	*e*P	**Pn**	**09 47 29.0**	**+0.1**
PEL				*i* S	**Sn**	**09 48 27.9**	**-1.0**
CLCH	**Cerro Calan**	**5.46**	**209**	*e*P	**Pn**	**09 47 31.1**	**+0.2**
CLCH				*i* S	**Sn**	**09 48 32.8**	**+0.3**
CEN1	**Los Morros**	**5.78**	**334**	*i* P	**Pn**	**09 47 34.2**	**-1.1**
CEN1				*i* S	**Sn**	**09 48 35.4**	**-4.9**
LVC	**Limon Verde**	**6.13**	**347**	P	**Pn**	**09 47 42.0**	**+1.9**
	comp=E,2.6nm,0.3s,baz=176,slow=11,SNR=19						
LVC				S	**Sn**	**09 48 48.3**	**-0.6**
	comp=E,3.4nm,0.3s,baz=32,slow=19,SNR=6.4						
CPUP	**Villa Florida**	**9.25**	**78**	P	**Pn**	**09 48 20.8**	**-1.5**
	comp=E,1.1nm,0.3s,baz=232,slow=12,SNR=16						
LPAZ	**La Paz**	**12.29**	**357**	P	**Pn**	**09 49 05.0**	**+2.1**
	comp=E,0.3nm,0.3s,baz=183,slow=7.0,SNR=9.3						
SIV	**San Ignacio**	**13.87**	**26**	P	**Pn**	**09 49 21.9**	**-1.6**
	comp=E,0.2nm,0.3s,baz=210,slow=15,SNR=14						
SAML	**Samuel**	**19.97**	**12**	*e*P	**P**	**09 50 35.7**	**+0.8**
	comp=E,10.0nm,0.9s						
BDFB	**Brasilia**	**22.10**	**58**	P	**P**	**09 50 55.5**	**-2.0**
	comp=E,2.9nm,0.3s,mb4.0,baz=234,slow=10,SNR=5.7						
VNA3	**Neumayer Olymp**	**52.94**	**160**	*e*	**P**	**09 55 15.8**	**-0.2**
VNA3				*e*		09 55 17.8	
VNA2	**Neumayer--Watz**	**53.53**	**159**	*e*	**P**	**09 55 20.3**	**0.0**
	baz=286,slow=8.6						
VNA2				*e*		09 55 22.9	
VNA2				*e*		09 55 31.2	
SNAA	**Sanae**	**55.15**	**160**	P	**P**	**09 55 31.7**	**-0.4**
	comp=E,0.1nm,0.5s,mb3.1,baz=294,slow=9.7,SNR=5.6						
DBIC	**Dimbokro**	**69.68**	**70**	P	**P**	**09 57 08.8**	**+0.1**
	comp=E,6.6nm,1.1s,mb4.4,baz=217,slow=5.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**78.61**	**68**	P	**P**	**09 58 01.7**	**+1.1**
	comp=E,1.0nm,0.5s,mb4.0,baz=277,slow=6.8,SNR=26						
ASAR	**Alice Springs**	**124.10**	**204**	PKP	PKPdf	10 04 56.0	-0.4
	comp=E,0.7nm,0.4s,baz=139,slow=1.8,SNR=14						
WRA	**Warramunga Arr**	**127.34**	**206**	PKP	PKPdf	10 05 02.6	0.0
	comp=E,1.6nm,0.5s,baz=160,slow=1.9,SNR=58						
MKAR	**Makanchi Array**	**150.21**	**44**	PKPbc	PKPbc	10 05 49.2	+0.2
	comp=E,0.8nm,0.8s,baz=286,slow=2.0,SNR=4.5						

*NEIC **20** 09:49:32.0, 1728N×9484W, h141km, MD3.6(MEX), After MEX.*

MEX 20 09:49:32.0±1.0, 1728N×9484W, h141km±10km, MD3.6, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.19**	**193**	*i* P	Pn	09 49 49.8	-1.3
CMIG				*i* S	Sn	09 50 03.5	-2.1
TUIG	**Tuzandepetl**	**0.85**	**28**	*i* P	Pn	09 49 53.5	-1.1
TUIG				*i* S	Sn	09 50 09.8	-2.1
OXX	**Oaxaca**	**1.81**	**264**	*i* P	Pn	09 50 03.5	-0.8
OXX				*i* S	Sn	09 50 28.0	-1.1
VHO	**Vista Hermosa**	**1.82**	**264**	*i* P	Pn	09 50 02.6	-1.8
VHO				*i* S	Sn	09 50 27.4	-1.9

*IDC **20** 09:51:15.8±1.2, 5278N×15976E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/21, mbtmp3.9/4, ML3.8/1, MS3.4/1, Ms1 3.4/1, ms1mx2.0/31, Error ellipse: s-maj=39.0km s-min=17.2km az=3.0*
*MOS **20** 09:51:18.5±0.8, 5249N×16037E, h27km, mb4.6/1, Error ellipse: s-maj=20.0km s-min=10.0km az=91.6*
*ISCJB **20** 09:51:21.5±0.6, 5269N±004×16027E±006, h45km±8km, mb3.9/4, Error ellipse: s-maj=7.9km s-min=4.2km az=105.6*
*KRSC **20** 09:51:21.9±0.6, 5273N×16018E, h34km±3km, ML4.0*

ISC 20 09:51:22.7±0.6, 5268N±004×16020E±005, h40km±11km, n48, σ1§02/70, mb3.9/4, 1C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.43**	**345**	P	**Pn**	**09 51 31.2**	**-1.3**
SPN				S	**Sn**	**09 51 38.2**	**-1.2**
SPN	**Mys Shipunski**	**0.43**	**345**	*i* P	**Pn**	**09 51 31.3**	**-1.2**
SPN				*e*S	**Sn**	**09 51 38.2**	**-1.2**
NLC	**Nalytchevo**	**0.71**	**314**	*i* P	**Pn**	**09 51 35.2**	**-1.1**
NLC				*e*S	**Sn**	**09 51 45.1**	**-1.0**
UGLR	**Uglovaya**	**0.99**	**303**	*i* P	**Pn**	**09 51 39.7**	**-0.4**
UGLR				*e*S	**Sn**	**09 51 52.4**	**-0.4**
SDLR	**Sedlovina**	**1.00**	**307**	*i* P	**Pn**	**09 51 39.6**	**-0.6**
SDLR				*e*S	**Sn**	**09 51 52.7**	**-0.3**
PET	**Petropavlovsk**	**1.00**	**291**	*c i* PN	**Pn**	**09 51 39.6**	**-0.6**
PET				*e*S	**Sn**	**09 51 52.8**	**-0.3**
PET	**Petropavlovsk**	**1.00**	**291**	*i* P	**Pn**	**09 51 39.7**	**-0.5**
PET				*e*S	**Sn**	**09 51 52.4**	**-0.7**
SMAR	**Somma**	**1.03**	**305**	*i* P	**Pn**	**09 51 40.1**	**-0.5**
SMAR				*e*S	**Sn**	**09 51 53.9**	**+0.1**
AVH	**Avacha**	**1.06**	**304**	*i* P	**Pn**	**09 51 40.8**	**-0.3**
AVH				*e*S	**Sn**	**09 51 54.4**	**-0.2**
RUS	**Russkaya**	**1.06**	**257**	*i* P	**Pn**	**09 51 40.4**	**-0.7**
RUS				*e*S	**Sn**	**09 51 54.4**	**-0.2**
KOK	**Koryaka**	**1.13**	**303**	*e*P	**Pn**	**09 51 41.5**	**-0.5**
KRMR	**Karymshinskiy**	**1.27**	**278**	*i* P	**Pn**	**09 51 43.4**	**-0.5**
KRMR				*i* S	**Sn**	**09 51 59.1**	**-0.6**
GRL	**Gorelyy**	**1.30**	**265**	*e*P	**Pn**	**09 51 44.7**	**+0.3**
GRL				*e*S	**Sn**	**09 52 01.1**	**+0.5**
KII	**Karymskiy**	**1.43**	**342**	*i* P	**Pn**	**09 51 45.8**	**-0.3**
KII				*e*S	**Sn**	**09 52 03.6**	**-0.1**
GNL	**Ganaly**	**1.70**	**308**	*e*P	**Pn**	**09 51 50.5**	**+0.7**
GNL				*e*S	**Sn**	**09 52 10.8**	**+0.5**
APC	**Apacha**	**1.86**	**279**	*i* P	**Pn**	**09 51 52.9**	**+0.8**
APC				*e*S	**Sn**	**09 52 15.5**	**+1.1**
APC				Smax			
	160nm,0.6s						
MKZ	**Mys Kozlova**	**2.09**	**25**	P	**Pn**	**09 51 53.5**	**-1.7**
MKZ				S	**Sn**	**09 52 17.1**	**-2.8**
MKZ	**Mys Kozlova**	**2.09**	**25**	*i* P	**Pn**	**09 51 53.6**	**-1.6**
MKZ				*e*S	**Sn**	**09 52 17.4**	**-2.5**
MIPR	**Malaya Ipel'ka**	**2.15**	**260**	*e*P	**Pn**	**09 51 56.8**	**+0.8**
PAU	**Pauzhetka**	**2.42**	**241**	*e*P	**Pn**	**09 52 01.0**	**+1.3**
TUMR	**Tumrok**	**2.61**	**359**	*e*P	**Pn**	**09 52 03.0**	**+0.7**
TUMR				*e*S	**Sn**	**09 52 32.6**	**-0.1**
KMNR	**Kamenistaya**	**3.08**	**0**	*e*P	**Pn**	**09 52 10.0**	**+1.2**
SKR	**Severo-Kuril's**	**3.24**	**233**	*e*PN	**Pn**	**09 52 07.1**	**-3.8**
SKR				pmax	pmax		
	comp=Z,50nm,0.4s						
KPT	**Kopyto**	**3.29**	**0**	*e*P	**Pn**	**09 52 12.7**	**+1.0**
ZLN	**Zelenaya**	**3.36**	**6**	*e*P	**Pn**	**09 52 13.9**	**+1.2**
ESO	**Esso**	**3.37**	**345**	*i* P	**Pn**	**09 52 13.3**	**+0.5**
KOZ	**Kozyrevsk**	**3.39**	**357**	*e*P	**Pn**	**09 52 14.0**	**+0.9**
KOZR	**Kozyr**	**3.40**	**357**	PN	**Pn**	**09 52 14.0**	**+0.8**
LGNR	**Loginova**	**3.42**	**5**	*e*P	**Pn**	**09 52 14.3**	**+0.8**
CIRR	**Tsirk**	**3.46**	**5**	*e*P	**Pn**	**09 52 15.4**	**+1.4**
KRSR	**Krestovskiy**	**3.55**	**3**	*e*P	**Pn**	**09 52 15.8**	**+0.5**
KLY	**Klyuchi**	**3.65**	**4**	P	**Pn**	**09 52 19.1**	**+2.5**
KLY	**Klyuchi**	**3.65**	**4**	*e*P	**Pn**	**09 52 18.1**	**+1.5**
SRDR	**Sredinn

comp=N,86nm,0.6s
CHGN Chignik 13.44 63 *e*P **Pn 09 59 33.3 -1.2**
SVW2 Sparrevohn 16.22 46 *e*Pn **Pn 10 00 10.8 +1.4**
KDAK Kodiak Island 16.81 59 P **Pn 10 00 15.1 -1.6**
comp=N,5.7nm,0.3s,baz=264,slow=5.4,SNR=96
KDAK S **S 10 03 12.2 -12**
comp=N,0.5nm,0.3s,baz=37,slow=20,SNR=5.9
TTA Tatalina 16.84 40 *e*P **Pn 10 00 19.5 +2.5**
BILL Bilibino 17.32 343 *d i*P **Pn 10 00 24.9 +2.0**
BILL pmax pmax
comp=Z,144nm,1.3s
BILL Bilibino 17.32 343 *e*P **Pn 10 00 24.7 +1.8**
comp=Z,3.0nm,0.8s
SLKM Skilak Lake 18.53 51 *e*P **P 10 00 36.3 +0.8**
PMR Palmer 19.32 48 *e*P **P 10 00 44.8 +0.8**
PMR pmax pmax
comp=Z,3.0nm,0.5s
PMR Palmer 19.32 48 *e*P **P 10 00 44.8 +0.8**
comp=Z,3.1nm,0.5s
COLA College 20.94 40 *e*P **P 10 01 03.0 +1.5**
COLA pmax pmax
comp=Z,15nm,0.8s
COLA College 20.94 40 *e*P **P 10 01 03.0 +1.5**
comp=Z,15nm,0.8s
ILAR Eielson Array 21.28 40 P **P 10 01 03.5 -1.6**
comp=Z,1.6nm,0.5s,mb3.6,baz=258,slow=9.2,SNR=26
ILAR PcP PcP 10 05 02.8 -1.7
comp=Z,0.7nm,0.7s,baz=268,slow=3.3,SNR=4.2
ILAR ScP ScP 10 08 25.2 -4.0
comp=Z,0.4nm,0.6s,baz=282,slow=3.6,SNR=4.6
ILAR Eielson Array 21.28 40 P **P 10 01 03.6 -1.5**
ILAR 10 05 02.8
MENT Mentasta 22.10 46 *e*P **P 10 01 14.7 +0.9**
DAWY Dawson 24.23 44 *e*P **P 10 01 34.0 +0.3**
YSS Yuzh-Sakhalins 24.40 273⇑ *e*P **P 10 01 34.7 -0.5**
YSS pmax pmax
comp=Z,54nm,1.4s,mb4.9
ASAJ Asahikawa 25.85 267 P **P 10 01 48.8 +0.4**
comp=Z,15nm,0.9s,mb4.6,baz=27,slow=11,SNR=6.6
ASAJ Asahikawa 25.85 267 P **P 10 01 48.8 +0.4**
ASAJ pmax pmax
comp=Z,15nm,0.9s
INK Inuvik 27.42 36 P **P 10 02 03.1 +0.6**
comp=Z,4.8nm,0.6s,mb4.3,baz=250,slow=7.9,SNR=43
INK Inuvik 27.42 36 *e*P **P 10 02 02.8 +0.3**
INK pmax pmax
comp=Z,6.0nm,0.8s
INK Inuvik 27.42 36 *e*P **P 10 02 02.8 +0.4**
comp=Z,5.9nm,0.8s,mb4.3
YAK Yakutsk 28.31 310 *d i*P **P 10 02 09.5 -0.9**
YAK pmax pmax
comp=Z,15nm,1.0s,mb4.7
HABR Khabarovsk 28.48 281 *e*P **P 10 02 10.1 -1.8**
HABR *e*S **S 10 06 49.7 -0.1**
DLBC Dease Lake 28.73 57 LR LR 10 13 02.9
comp=Z,59nm,20.1s,baz=39,slow=35
TIXI Tiksi 29.62 330 *e*P **P 10 02 19.8 -2.1**
TIXI pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
KLR Kul'dur 30.16 284 *e*P **P 10 02 23.8 -2.9**
KLR pmax pmax
comp=E,20nm,1.2s
KLR pmax pmax
comp=Z,25nm,1.2s,mb4.8
MJAR Matsushiro Arr 33.04 259 P **P 10 02 52.6 +0.7**
comp=Z,3.4nm,0.6s,mb4.2,baz=44,slow=7.1,SNR=13
MJAR PcP PcP 10 05 33.2 +0.6
comp=Z,2.7nm,0.7s,baz=54,slow=1.3,SNR=7.2
MDJ Mudanjiang 33.60 278 P **P 10 02 55.6 -1.3**
MDJ AP pP 10 03 23.9 -1.3
MDJ XP sP 10 03 39.1 -1.1
MDJ AMB AMB
comp=Z,4.0nm,0.9s,mb4.2
MDJ AMB AMB
comp=Z,65nm,4.5s
YKA Yellowknife Ar 35.41 47 P **P 10 03 12.8 +0.4**
comp=Z,1.2nm,0.3s,mb4.0,baz=56,slow=3.5,SNR=26
YKA pP pP 10 03 41.5 +0.6
comp=Z,10.0nm,0.7s,baz=284,slow=8.4,SNR=24
YKA PcP PcP 10 05 38.6 -0.8
comp=Z,0.4nm,0.4s,baz=283,slow=2.9,SNR=9.7
YKA LR LR 10 19 29.2
comp=Z,36nm,18.3s,baz=275,slow=39
YKA Yellowknife Ar 35.41 47 P **P 10 03 12.9 +0.5**
YKA *PP pP 10 03 41.5 +0.6
YKA 10 05 38.6
YKA Yellowknife Ar 35.41 47 P **P 10 03 12.8 +0.4**
YKA pP pP 10 03 41.5 +0.6
YKA PcP PcP 10 05 38.6 -0.8
YKA LR LR 10 19 29.2
CN2 Changchun 36.57 279 *e*P **P 10 03 23.8 +1.5**
BOD Bodaibo 36.87 306 *e*P **P 10 03 23.6 -1.2**
BOD *e* 10 08 58.1
BOD pmax pmax
comp=Z,17nm,1.2s,mb4.5
HIA Hailar 37.22 290 *d i*P **P 10 03 27.6 -0.2**
SNY Shenyang 38.81 278 ⇓P **P 10 03 42.0 +0.9**
SNY AMB AMB
comp=Z,14nm,0.7s,mb4.7
HUMO Hull Mountain 39.00 81 *e*P **P 10 03 43.7 +1.0**
comp=Z,4.7nm,0.8s,mb4.2
HUMO *e*PcP PcP 10 05 51.1 +0.8
EDM Edmonton 39.25 61 *e*P **P 10 03 44.2 -0.6**
CIT Chita 39.45 297 *e*P **P 10 03 46.8 +0.3**
CIT pmax pmax
comp=Z,67nm,1.1s,mb5.2
NEW Newport 39.47 70 P **P 10 03 45.6 -1.0**
comp=Z,3.8nm,0.6s,mb4.2,baz=291,slow=5.1,SNR=7.1
YBH Yreka Blue Hor 39.65 82 P **P 10 03 49.9 +1.8**
comp=Z,9.9nm,0.8s,mb4.5,baz=331,slow=3.0,SNR=24
YBH pP pP 10 04 17.6 +0.5
comp=Z,5.3nm,0.9s,baz=301,slow=4.6,SNR=3.4
YBH Yreka Blue Hor 39.65 82 *e*P **P 10 03 49.8 +1.7**
YBH pmax pmax
comp=Z,9.0nm,0.9s
YBH Yreka Blue Hor 39.65 82 P **P 10 03 49.9 +1.8**
YBH *PP pP 10 04 17.6 +0.5
YBH pmax pmax
comp=Z,10.0nm,0.8s
YBH pmax pmax
comp=Z,5.0nm,0.9s
YBH Yreka Blue Hor 39.65 82 *e*P **P 10 03 49.8 +1.7**
comp=Z,9.1nm,0.9s,mb4.4
WVOR Wild Horse Val 41.72 78 *e*P **P 10 04 05.5 +0.4**
WVOR pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
WVOR Wild Horse Val 41.72 78 *e*P **P 10 04 05.5 +0.4**
comp=Z,5.1nm,0.8s,mb4.2
MSO Missoula 42.06 70 *e*P **P 10 04 06.9 -0.9**
comp=Z,1.6nm,0.8s,mb3.7
CMB Columbia Colle 43.31 84 *e*P **P 10 04 18.3 +0.4**
CMB pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
CMB Columbia Colle 43.31 84 *e*P **P 10 04 18.3 +0.4**
comp=Z,6.8nm,1.0s,mb4.2
HRY Holter Researc 43.34 69 *e*P **P 10 04 17.6 -0.6**
HLID Hailey 43.60 74 *e*P **P 10 04 20.3 0.0**
comp=Z,4.8nm,0.8s,mb4.2
HLID *e*pP pP 10 04 49.5 -0.2
BMN Battle Mountai 43.77 79 P **P 10 04 22.4 +0.8**
BMN pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
BMN Battle Mountai 43.77 79 P **P 10 04 22.4 +0.9**
comp=Z,4.0nm,0.7s,mb4.2
EGMT Eagleton 43.81 66 *e*P **P 10 04 20.7 -1.2**
comp=Z,5.4nm,0.9s,mb4.2
BOZ Bozeman (W) 44.05 70 *e*P **P 10 04 23.3 -0.5**
BOZ *e* pP 10 04 54.9 +1.6
BOZ pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
BOZ Bozeman (W) 44.05 70 *e*P **P 10 04 23.3 -0.5**
comp=Z,6.3nm,0.7s,mb4.3
BOZ *e* pP 10 04 54.9 +1.6
NVAR Mina Array Bea 44.34 82 P **P 10 04 27.1 +1.0**
comp=Z,7.6nm,0.8s,mb4.4,baz=302,slow=6.5,SNR=49
NVAR pP pP 10 04 55.4 -0.3
comp=Z,2.7nm,0.8s,baz=297,slow=6.2,SNR=4.0
NVAR ScP ScP 10 09 46.9 -0.9
comp=Z,0.2nm,0.6s,baz=358,slow=5.4,SNR=2.3
MNV Mina 44.43 82 *e*P **P 10 04 27.6 +0.7**
MNV *e*PP pP 10 04 54.2 -2.2
MNV pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
MNV Mina 44.43 82 *e*P **P 10 04 27.6 +0.8**
comp=Z,7.2nm,0.9s,mb4.3
MNV *e*pP pP 10 04 54.2 -2.2

ELK Elko 44.77 78 *e*P **P 10 04 30.2 +0.6**
ELK pmax pmax
comp=Z,5.0nm,0.8s
ELK Elko 44.77 78 *e*P **P 10 04 30.1 +0.5**
comp=Z,4.8nm,0.8s,mb4.2
MTUM Tungsten Hills 44.86 84 *e*P **P 10 04 31.5 +1.2**
TLY Talaya 44.96 301 *e*P **P 10 04 30.9 -0.2**
TLY *e* 10 05 12.9
TLY pmax pmax
comp=Z,7.0nm,0.7s,mb4.4
TLY Talaya 44.96 301 *e*P **P 10 04 31.6 +0.6**
comp=Z,5.1nm,0.6s,mb4.3
ULN Ulaanbaatar 45.18 295⇑ *e*P **P 10 04 33.7 +0.9**
ULN Ulaanbaatar 45.18 295 *e*P **P 10 04 33.4 +0.6**
comp=Z,25nm,1.1s,mb4.8
ULN *e*PcP PcP 10 06 11.1 +0.2
TPH Tonopah 45.22 82 *e*P **P 10 04 34.2 +1.1**
TPH pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
TPH Tonopah 45.22 82 *e*P **P 10 04 34.2 +1.0**
comp=Z,10nm,0.8s,mb4.5
SONM Songino Array 45.56 295 P **P 10 04 36.9 +1.1**
comp=Z,13nm,0.7s,mb4.6,baz=56,slow=9.1,SNR=103
SONM PcP PcP 10 06 12.4 +0.2
comp=Z,3.6nm,1.0s,baz=54,slow=2.1,SNR=5.5
SONM ScP ScP 10 09 52.1 -0.7
comp=Z,1.0nm,0.9s,baz=67,slow=3.0,SNR=4.6
SONM Songino Array 45.56 295 P **P 10 04 36.9 +1.1**
SONM 10 06 12.4
ZAK Zakamensk 45.86 300 *e*P **P 10 04 38.6 +0.5**
ZAK pmax pmax
comp=Z,22nm,1.5s,mb4.6
FCC Fort Churchill 46.13 46 *e*P **P 10 04 39.8 -0.5**
FCC pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
FCC Fort Churchill 46.13 46 *e*P **P 10 04 39.8 -0.5**
comp=Z,8.7nm,0.8s,mb4.4
LAO LASA Array 46.55 66 *e*P **P 10 04 43.1 -0.4**
comp=Z,3.4nm,0.6s,mb4.2
LAO *e*PcP PcP 10 06 16.5 +0.8
DUG Dugway 46.57 77 *e*P **P 10 04 44.0 +0.3**
DUG *e*PP pP 10 05 14.1 +0.6
DUG pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
DUG Dugway 46.57 77 *e*P **P 10 04 44.0 +0.2**
comp=Z,3.9nm,0.7s,mb4.2
DUG *e*pP pP 10 05 14.1 +0.5
HHC Hu-ho-hao-te 46.66 284 *e*P **P 10 04 45.4 +0.9**
HHC AP pP 10 05 14.6 +0.4
HHC XP sP 10 05 28.8 0.0
HHC PCP PcP 10 06 16.4 +0.3
HHC PP PP 10 06 38.1 +2.3
HHC SCP ScP 10 09 57.9 +0.5
HHC PCS PcS 10 10 10.8 -0.3
HHC S **S 10 11 23.1 -0.8**
HHC XS sS 10 12 13.8 -1.6
HHC SCS ScS 10 14 24.8 -1.0
HHC AMB AMB
comp=Z,17nm,1.2s,mb4.5
HHC AMB AMB
comp=Z,94nm,5.5s
HHC LR LR
comp=N,112nm,18.3s
HHC LR LR
comp=E,228nm,17.8s
HHC LR LR
comp=Z,135nm,18.8s
PDAR Pinedale Array 46.94 72 P **P 10 04 46.0 -0.6**
comp=Z,7.8nm,0.8s,mb4.4,baz=306,slow=4.3,SNR=31
PDAR pP pP 10 05 16.9 +0.5
comp=Z,5.0nm,0.9s,baz=316,slow=4.1,SNR=5.5
GUMO Guam 47.47 229 LR LR 10 25 01.0
comp=Z,33nm,19.2s,baz=92,slow=36
CCUT Cedar City 47.91 80 *e*P **P 10 04 55.0 +0.9**
NJ2 Nanjing 47.92 270 *e*P **P 10 04 54.3 +0.1**
NJ2 AP pP 10 05 26.8 +2.7
NJ2 XP sP 10 05 42.9 +4.3
NJ2 PP PP 10 06 47.5 +0.3
NJ2 S **S 10 11 38.0 -3.7**
NJ2 XS sS 10 12 35.0 +1.6
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
NJ2 AMB AMB
comp=Z,90nm,7.0s
NJ2 LR LR
comp=N,310nm,20.6s
NJ2 LR LR
comp=E,250nm,18.0s
NJ2 LR LR
comp=Z,290nm,26.2s
MVU Marysvale 48.00 78 *e*P **P 10 05 06.1 +11**
MSU Marysvale 48.01 78 *e*P **P 10 04 55.1 +0.2**
SRU San Rafael 48.63 76 *e*P **P 10 05 00.1 +0.5**
SRU pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
SRU San Rafael 48.63 76 *e*P **P 10 05 00.1 +0.5**
comp=Z,5.7nm,0.6s,mb4.4
GLA Glamis 49.99 86 *e*P **P 10 05 10.5 +0.6**
PV10 Paradox Valley 49.99 76 *e*P **P 10 05 10.4 +0.5**
PV10 *e*ScP ScP 10 10 11.8 +0.2
ULM Lac du Bonnet 50.05 56 P **P 10 05 09.3 -1.1**
comp=Z,3.3nm,0.8s,mb4.0,baz=312,slow=6.9,SNR=3.1
ULM Lac du Bonnet 50.05 56 P **P 10 05 09.3 -1.1**
PV01 Paradox Valley 50.43 76 *e*P **P 10 05 13.0 -0.2**
SUMG Summit 52.85 14 *e*P **P 10 05 31.2 -0.1**
comp=Z,15nm,1.0s,mb4.7
SUMG *e*pP pP 10 06 02.2 +0.5
TUC Tucson 52.98 83 *e*P **P 10 05 32.6 +0.4**
TUC *e*PP pP 10 06 00.0 -2.6
TUC pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
TUC Tucson 52.98 83 *e*P **P 10 05 32.6 +0.4**
comp=Z,3.3nm,0.9s,mb4.1
TUC *e*pP pP 10 06 00.0 -2.6
EYMN Ely 53.73 56 *e*P **P 10 05 36.7 -1.0**
comp=Z,8.1nm,0.9s,mb4.5
ANMO Albuquerque 53.81 78 *e*P **P 10 05 35.8 -2.4**
LZH Lanzhou 54.36 285 *e*P **P 10 05 43.0 +0.8**
LZH AP pP 10 06 12.6 -0.2
LZH XP sP 10 06 26.8 -0.4
LZH PP PP 10 07 47.8 +2.3
LZH AMB AMB
comp=Z,30nm,1.2s,mb4.9
GTA Gaotai 54.51 290 ⇓P **P 10 05 44.3 +1.0**
GTA AP pP 10 06 14.4 +0.5
GTA XP sP 10 06 28.4 +0.1
GTA PCP PcP 10 06 47.8 +2.8
GTA PP PP 10 07 48.6 +1.8
GTA SCP ScP 10 10 32.8 +1.7
GTA PCS PcS 10 10 46.1 +1.3
GTA S **S 10 13 13.0 +0.8**
GTA SCS ScS 10 15 18.1 -1.4
GTA AMB AMB
comp=Z,30nm,0.9s,mb5.0
GTA AMB AMB
comp=Z,54nm,5.7s
GTA LR LR
comp=N,167nm,17.1s
GTA LR LR
comp=E,218nm,18.3s
GTA LR LR
comp=Z,81nm,13.7s
MNTX Cornudas Mount 56.70 80 *e*P **P 10 05 59.3 +0.4**
comp=Z,3.1nm,0.8s,mb4.2
MNTX *e*pP pP 10 06 29.8 0.0
KEV Kevo 56.89 349 ep **P 10 05 59.3 -1.0**
ARCES ARCESS Array B 57.27 350 P **P 10 06 02.3 -0.7**
comp=Z,7.4nm,0.6s,mb4.7,baz=30,slow=7.9,SNR=25
ARE0 ARCESS Array S 57.27 350 *e*P **P 10 06 02.4 -0.6**
CD2 Chengdu 57.98 280 *e*P **P 10 06 07.4 -0.6**
WMQ Urumqi 58.24 302 *e*P **P 10 06 11.1 +1.4**
WMQ AP pP 10 06 41.8 +1.1
WMQ XP sP 10 06 56.8 +1.8
WMQ PCP PcP 10 07 01.1 +1.5
WMQ PP PP 10 08 23.1 +3.1
WMQ AMB AMB
comp=Z,3.0nm,0.5s,mb4.4
WMQ AMB AMB
comp=Z,137nm,4.5s
WMQ LR LR
comp=N,64nm,25.0s
WMQ LR LR
comp=E,70nm,23.2s
WMQ LR LR
comp=Z,31nm,17.5s

MKAR Makanchi Array 58.93 307 P **P 10 06 13.8 -0.7**
comp=Z,1.0nm,0.6s,mb3.9,baz=49,slow=6.6,SNR=8.5
MKAR pP pP 10 06 45.5 0.0
comp=Z,2.0nm,0.7s,baz=56,slow=5.7,SNR=5.0
MKAR Makanchi Array 58.93 307 P **P 10 06 13.8 -0.7**
MKAR pP pP 10 06 45.5 0.0
SCHQ Schefferville 60.02 38 P **P 10 06 21.7 -0.3**
comp=Z,4.9nm,0.6s,mb4.5,baz=326,slow=7.8,SNR=11
SCHQ Schefferville 60.02 38 P **P 10 06 21.7 -0.3**
ZRNK Zerenda 60.42 319 *e*P **P 10 06 24.0 -0.7**
ZRNK pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
ZRNK Zerenda 60.42 319 *e*P **P 10 06 24.0 -0.7**
comp=Z,2.3nm,0.6s,mb4.2
JOF Joensuu 62.72 344 *ep* **P 10 06 38.5 -1.6**
comp=Z,25nm,0.7s,mb5.2
JOF Joensuu 62.72 344 *e*P **P 10 06 38.5 -1.6**
JOF pmax pmax
comp=Z,25nm,0.7s,mb5.2
KLMR Klimovskoe 63.04 339 *e*P **P 10 06 41.8 -0.5**
KLMR pmax pmax
comp=Z,20nm,1.5s,mb4.7
ALLY Alegheny Colle 63.91 55 *e*P **P 10 06 48.2 +0.2**
KAF Kangasniemi 64.25 347 *ep* **P 10 06 48.2 -2.1**
comp=Z,20nm,0.7s,mb5.1,baz=15,slow=5.8
KAF Kangasniemi 64.25 347 *e*P **P 10 06 48.2 -2.1**
KAF pmax pmax
comp=Z,20nm,0.7s,mb5.1
FINES FINESS Array B 64.93 346 P **P 10 06 53.7 -0.9**
comp=Z,11nm,0.7s,mb4.8,baz=28,slow=8.6,SNR=50
FINES pP pP 10 07 25.4 -0.8
comp=Z,2.8nm,0.9s,baz=20,slow=6.3,SNR=2.9
FINES LR LR 10 37 42.9
comp=Z,28nm,18.7s,baz=162,slow=38
FINES FINESS Array B 64.93 346 *i* P **P 10 06 53.7 -0.9**
FINES pmax pmax
comp=Z,11nm,0.7s
FINES FINESS Array B 64.93 346 P **P 10 06 53.7 -1.0**
FINES pP pP 10 07 25.4 -0.8
FINES LR LR 10 37 42.9
SWET Sewanee 65.56 64 *e*P **P 10 06 57.5 -1.2**
AAK Ala-Archa 65.76 309⇑ *e*P **P 10 06 59.1 -0.9**
AAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
LSA Lhasa 66.39 288 *e*P **P 10 07 06.8 +2.8**
LSA pmax pmax
comp=Z,59nm,1.2s,mb5.3
LSA Lhasa 66.39 288 *e*P **P 10 07 06.8 +2.8**
comp=Z,59nm,1.2s,mb5.3
NB2 NORSAR Subarra 66.89 354 P **P 10 07 06.7 -0.5**
comp=Z,20nm,1.1s,mb4.9,baz=7.1,slow=6.5
NOA NORSAR Array B 66.89 354 P **P 10 07 06.8 -0.4**
comp=Z,6.4nm,0.8s,mb4.5,baz=8.6,slow=6.3,SNR=18
NOA pP pP 10 07 39.4 +0.5
comp=Z,4.0nm,0.8s,baz=7.4,slow=6.3,SNR=6.2
KONO Kongsberg 68.37 355⇑ *e*P **P 10 07 17.8 +1.3**
OBN Obninsk 68.92 338 *e*P **P 10 07 19.7 -0.2**
OBN pmax pmax
comp=Z,17nm,1.0s,mb4.7
SHL Shillong 69.02 285 *e*P **P 10 07 21.0 +0.5**
GUN Gumba 70.79 291 *e*P **P 10 07 32.9 +1.6**
comp=Z,179nm,0.8s
JIRN Jiri 70.80 290 *e*P **P 10 07 33.1 +1.7**
comp=Z,154nm,0.8s
KKN Kakani 71.23 291 *e*P **P 10 07 35.3 +1.3**
comp=Z,67nm,0.7s,mb5.5
KKN Kakani 71.23 291 *e*P **P 10 07 35.3 +1.3**
KKN pmax pmax
comp=Z,67nm,0.7s,mb5.5
PKI Pulchoki 71.32 291 *e*P **P 10 07 35.5 +1.0**
comp=Z,63nm,0.8s,mb5.4
PKI Pulchoki 71.32 291 *e*P **P 10 07 35.5 +1.0**
PKI pmax pmax
comp=Z,63nm,0.8s,mb5.4
GKN Gorkha 71.44 292 *e*P **P 10 07 36.1 +0.9**
comp=Z,80nm,0.9s,mb5.4
DMN Daman 71.47 291 *e*P **P 10 07 36.4 +1.0**
comp=Z,53nm,0.9s,mb5.3
KOLN Koldanda 72.21 292 *e*P **P 10 07 40.7 +0.9**
comp=Z,55nm,1.1s,mb5.2
AKASG Malin Array Be 74.63 341 P **P 10 07 53.2 -0.8**
comp=Z,3.0nm,0.3s,mb4.4,baz=21,slow=5.9,SNR=38
AKASG pP pP 10 08 25.9 -0.5
comp=Z,1.8nm,0.5s,baz=19,slow=5.8,SNR=4.7
AKASG Malin Array Be 74.63 341 *i* P **P 10 07 53.2 -0.8**
AKASG pmax pmax
comp=Z,3.0nm,0.3s
AKASG Malin Array Be 74.63 341 P **P 10 07 53.2 -0.8**
AKASG pP pP 10 08 25.9 -0.5
KAKA Kakadu 76.33 228 *e*P **P 10 08 03.9 +0.2**
comp=Z,9.6nm,0.6s,mb4.6
GOF Gofitskoye 76.35 330 *e*P **P 10 08 02.9 -0.9**
CLL Collm 76.41 352 *e*P **P 10 08 04.0 -0.2**
BRG Berggiesshubel 76.75 351 *e*P **P 10 08 05.1 -1.0**
comp=Z,2.5nm,0.9s,mb3.8
BRG Berggiesshubel 76.75 351 *e*P **P 10 08 05.1 -1.0**
BRG pmax pmax
comp=Z,3.0nm,0.9s,mb3.9
DPC Dobruska-Polom 77.02 349 *e*P **P 10 08 07.6 +0.1**
DPC *e*pP pP 10 08 40.1 0.0
STHS Stebnicka Huta 77.27 346 *i* P **P 10 08 09.9 +0.9**
OKC Ostrava-Krasne 77.30 348 *e*P **P 10 08 08.9 -0.2**
MORC Moravsky Berou 77.43 348 ⇓*i*P **P 10 08 10.4 +0.5**
MORC Moravsky Berou 77.43 348 ⇑P **P 10 08 10.4 +0.6**
KIV Kislovodsk 77.45 330 *e*P **P 10 08 09.0 -1.0**
KIV pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
PRU Pruhonice 77.57 350 *e*P **P 10 08 08.6 -2.0**
KOLS Kolonicke sedl 77.58 345 *e*P **P 10 08 11.2 +0.5**
VRAC Vranov 78.01 349 ⇓*i*P **P 10 08 13.7 +0.6**
VRAC Vranov 78.01 349 ⇓P **P 10 08 13.7 +0.6**
GIVF Givet 78.13 357 *e*P **P 10 08 13.4 -0.4**
BAIF Baives 78.20 357 *e*P **P 10 08 14.0 -0.1**
comp=Z,60nm,1.4s,mb4.7
BAIF Baives 78.20 357 *e*P **P 10 08 14.0 -0.1**
BAIF pmax pmax
comp=Z,30nm,1.4s,mb4.7
BAIF Baives 78.20 357 *e*P **P 10 08 14.0 -0.1**
comp=Z,30nm,1.4s,mb4.7
KECS Kecovo 78.30 346 *e*P **P 10 08 14.8 +0.1**
BURAR Bucovina Array 78.36 343 ⇓*i*P **P 10 08 14.9 -0.1**
BURAR Bucovina Array 78.36 343 ⇓P **P 10 08 14.9 -0.1**
KHC Kasperske Hory 78.51 351 *e*P **P 10 08 15.4 -0.4**
GERES GERESS Array B 78.78 351 P **P 10 08 16.8 -0.5**
comp=Z,1.8nm,0.8s,mb3.8,baz=35,slow=5.1,SNR=8.2
ZST Bratislava 79.04 348 *e*P **P 10 08 19.5 +0.8**
FLN La Foliniere 79.56 0 *e*P **P 10 08 20.9 -0.7**
CDF Champ du Feu 79.71 355 *e*P **P 10 08 21.9 -0.5**
MEZF Maizieres J'vi 79.72 356 *e*P **P 10 08 22.3 -0.1**
comp=Z,24nm,0.9s,mb4.5
MEZF Maizieres J'vi 79.72 356 *e*P **P 10 08 22.3 -0.1**
comp=Z,24nm,0.9s,mb4.8
LDF La Druitiere 79.73 360 *e*P **P 10 08 21.7 -0.8**
comp=Z,12nm,0.6s,mb4.5
LDF La Druitiere 79.73 360 *e*P **P 10 08 21.7 -0.8**
LDF pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
LDF La Druitiere 79.73 360 *e*P **P 10 08 21.7 -0.8**
comp=Z,6.3nm,0.6s,mb4.4
GRR Gorron 79.94 0 *e*P **P 10 08 24.0 +0.4**
comp=Z,40nm,0.9s,mb4.8
GRR Gorron 79.94 0 *e*P **P 10 08 24.0 +0.4**
GRR pmax pmax
comp=Z,20nm,0.9s,mb4.8
GRR Gorron 79.94 0 *e*P **P 10 08 24.0 +0.4**
comp=Z,20nm,0.9s,mb4.8
HAU Haudompre 80.17 356 *e*P **P 10 08 24.3 -0.5**
GNI Garni 80.20 327 *e*P **P 10 08 26.3 +1.3**
GNI pmax pmax
comp=Z,5.0nm,1.0s
MLR Muntele Rosu 80.26 342⇑ *i*P **P 10 08 26.6 +1.3**
MLR Muntele Rosu 80.26 342⇑P **P 10 08 26.6 +1.2**
HINF Hinteralfeld 80.33 355 *e*P **P 10 08 24.9 -0.8**
comp=Z,46nm,1.4s,mb4.6
HINF Hinteralfeld 80.33 355 *e*P **P 10 08 24.9 -0.8**
HINF pmax pmax
comp=Z,23nm,1.4s,mb4.6
HINF Hinteralfeld 80.33 355 *e*P **P 10 08 24.9 -0.8**
comp=Z,23nm,1.4s,mb4.6
VOIR 80.48 342 ⇓*i*P **P 10 08 27.3 +0.8**
VOIR 80.48 342 ⇓P **P 10 08 27.3 +0.8**
HARR Harsova 80.63 340 S S 10 17 57.0 -27
BZS Buzias 80.91 345⇑*i*P **P 10 08 29.0 +0.2**
BZS Buzias 80.91 345⇑P **P 10 08 29.0 +0.2**
LOR Lormes 81.00 357 *e*P **P 10 08 28.9 -0.3**

SSF	Saint Saulge	81.22	357	*e*P		P	10 08 30.1	-0.3
AVF	Avril sur Loir	81.49	358	*e*P		P	10 08 31.6	-0.2
	comp=Z,14nm,1.1s,mb4.2							
AVF	Avril sur Loir	81.49	358	*e*P		P	10 08 31.6	-0.2
AVF				pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.2							
AVF	Avril sur Loir	81.49	358	*e*P		P	10 08 31.6	-0.2
	comp=Z,7.1nm,1.0s,mb4.2							
CABF	La Chapelle	81.57	356	*e*P		P	10 08 32.4	+0.1
	comp=Z,35nm,1.1s,mb4.6							
CABF	La Chapelle	81.57	356	*e*P		P	10 08 32.4	+0.1
CABF				pmax	pmax			
	comp=Z,17nm,1.1s,mb4.6							
CABF	La Chapelle	81.57	356	*e*P		P	10 08 32.4	+0.1
	comp=Z,17nm,1.1s,mb4.6							
SMF	Signal de Mont	81.62	357	*e*P		P	10 08 33.2	+0.7
	comp=Z,32nm,1.1s,mb4.6							
SMF	Signal de Mont	81.62	357	*e*P		P	10 08 33.2	+0.7
SMF				pmax	pmax			
	comp=Z,16nm,1.1s,mb4.6							
SMF	Signal de Mont	81.62	357	*e*P		P	10 08 33.2	+0.7
	comp=Z,16nm,1.1s,mb4.6							
MFF	Saint Martin d	81.73	360	*e*P		P	10 08 32.9	-0.2
WRAB	Tennant Creek	81.89	223	*e*P		P	10 08 32.8	-1.1
WB2	Warramunga Arr	81.90	223	*e*P		P	10 08 33.9	-0.1
WRA	Warramunga Arr	81.90	223	P		P	10 08 33.6	-0.4
	comp=Z,5.2nm,0.8s,mb4.2,baz=31,slow=5.9,SNR=38							
WRA				PKiKP	PKiKP		10 13 55.4	-0.7
	comp=Z,0.3nm,0.9s,baz=138,slow=36,SNR=6.0							
TCF	Toulx Ste Croi	82.02	358	*e*P		P	10 08 34.2	-0.4
	comp=Z,24nm,1.0s,mb4.5							
TCF	Toulx Ste Croi	82.02	358	*e*P		P	10 08 34.2	-0.4
TCF				pmax	pmax			
	comp=Z,12nm,1.0s,mb4.5							
TCF	Toulx Ste Croi	82.02	358	*e*P		P	10 08 34.2	-0.4
	comp=Z,12nm,1.0s,mb4.5							
LPG	La Plagne	82.65	355	*e*P		P	10 08 38.8	+0.9
	comp=Z,14nm,0.9s,mb4.4							
LPG	La Plagne	82.65	355	*e*P		P	10 08 38.8	+0.9
LPG				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.4							
LPG	La Plagne	82.65	355	*e*P		P	10 08 38.8	+0.9
	comp=Z,7.2nm,0.9s,mb4.4							
HYB	Hyderabad	83.16	289	*i* P		P	10 08 41.0	+0.5
ORIF	Oris-en-Rattie	83.27	356	*e*P		P	10 08 42.6	+1.5
VIVF	Saint-Julien-l	83.38	357	*e*P		P	10 08 40.8	-0.9
MBDF	Montbardon	83.41	355	*e*P		P	10 08 42.2	+0.4
BRTR	Keskin Array B	83.96	334	P		P	10 08 44.5	-0.1
	comp=Z,1.9nm,0.8s,mb3.9,baz=46,slow=3.6,SNR=11							
FITZ	Fitzroy Crossi	84.20	231	*e*P		P	10 08 46.4	+0.6
	comp=Z,6.1nm,0.6s,mb4.5							
SMRF	Simiane la Rot	84.22	356	*e*P		P	10 08 46.6	+0.7
	comp=Z,31nm,0.9s,mb4.7							
SMRF	Simiane la Rot	84.22	356	*e*P		P	10 08 46.6	+0.7
	comp=Z,31nm,0.9s,mb5.0							
SBF	Sospel	84.24	354	*e*P		P	10 08 45.6	-0.4
	comp=Z,93nm,1.2s,mb5.1							
SBF	Sospel	84.24	354	*e*P		P	10 08 45.6	-0.4
SBF				pmax	pmax			
	comp=Z,47nm,1.2s,mb5.1							
SBF	Sospel	84.24	354	*e*P		P	10 08 45.6	-0.4
	comp=Z,46nm,1.2s,mb5.1							
FRF	La Foret Royal	84.58	355	*e*P		P	10 08 47.5	-0.3
	comp=Z,16nm,0.7s,mb4.5							
FRF	La Foret Royal	84.58	355	*e*P		P	10 08 47.5	-0.3
FRF				pmax	pmax			
	comp=Z,8.0nm,0.7s,mb4.6							
FRF	La Foret Royal	84.58	355	*e*P		P	10 08 47.5	-0.3
	comp=Z,8.0nm,0.7s,mb4.6							
LMR	La Mourre	84.82	355	*e*P		P	10 08 48.7	-0.2
MTLF	Montolieu	84.96	358	*e*P		P	10 08 49.6	-0.1
	comp=Z,25nm,1.1s,mb4.5							
MTLF	Montolieu	84.96	358	*e*P		P	10 08 49.6	-0.1
MTLF				pmax	pmax			
	comp=Z,12nm,1.1s,mb4.5							
MTLF	Montolieu	84.96	358	*e*P		P	10 08 49.6	-0.1
	comp=Z,12nm,1.1s,mb4.5							
AQU	L'Aquila	85.23	350	⇓ *i* P		P	10 08 51.9	+0.9
AQU	L'Aquila	85.23	350	⇓P		P	10 08 51.9	+0.9
ASAR	Alice Springs	85.40	221	P		P	10 08 52.1	+0.3
	comp=Z,2.5nm,0.8s,mb4.0,baz=20,slow=5.4,SNR=23							
ASAR				pP	pP		10 09 23.4	-1.6
	comp=Z,0.5nm,0.7s,baz=17,slow=5.4,SNR=2.7							
PGF	Pioggiola	85.44	353	*e*P		P	10 08 51.7	-0.3
	comp=Z,118nm,1.2s,mb5.2							
PGF	Pioggiola	85.44	353	*e*P		P	10 08 51.7	-0.3
PGF				pmax	pmax			
	comp=Z,59nm,1.2s,mb5.2							
PGF	Pioggiola	85.44	353	*e*P		P	10 08 51.7	-0.3
	comp=Z,59nm,1.2s,mb5.2							
ESDC	Sonseca Array	88.59	3	P		P	10 09 05.4	-1.8
	comp=Z,0.6nm,0.5s,mb3.8,baz=349,slow=2.3,SNR=5.1							
STKA	Stephens Creek	90.03	212	*e*P		P	10 09 12.9	-1.0
	comp=Z,4.3nm,0.7s,mb4.5							
STKA	Stephens Creek	90.03	212	P		P	10 09 12.8	-1.2
	comp=Z,5.4nm,0.7s,mb4.6,baz=344,slow=5.8,SNR=10.0							
TORD	Torodi Ar. Bea	115.05	358	PKP		PKiKP	10 14 53.6	-1.1
	comp=Z,0.4nm,0.5s,baz=353,slow=2.4,SNR=9.2							
DBIC	Dimbokro	121.38	5	PKP		PKPdf	10 15 06.0	-0.8
	comp=Z,1.0nm,0.3s,baz=299,slow=4.6,SNR=6.1							
MAW	Mawson	146.47	218	PKPbc		PKPbc	10 15 53.8	-1.1
	comp=Z,4.1nm,0.6s,baz=102,slow=6.0,SNR=12							
MAW	Mawson	146.47	218	PKP2		PKPab	10 15 53.8	-2.3
MAW				pmax	pmax			
	comp=Z,4.0nm,0.6s							

IDC 20 10:33:16.1±2.2, 015N×9693E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.5/18, mbtmp3.6/5, ML2.8/1, Error ellipse: s-maj=64.2km s-min=23.7km az=63.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	3.30	37	Pn	Pn	10 34 08.3	-0.6
	1.2nm,0.3s,baz=304,slow=3.6,SNR=4.7						
WRA	Warramunga Arr	41.73	121	P	P	10 41 07.1	+0.3
	0.5nm,0.6s,baz=301,slow=8.8,SNR=9.1						
ASAR	Alice Springs	43.00	126	P	P	10 41 17.4	+0.3
	0.4nm,0.6s,baz=297,slow=8.8,SNR=6.7						
MKAR	Makanchi Array	48.19	347	P	P	10 41 58.0	-0.1
	1.0nm,0.5s,baz=163,slow=8.6,SNR=8.4						
SONM	Songino Array	48.20	9	P	P	10 41 58.5	+0.3
	0.7nm,0.6s,baz=186,slow=8.2,SNR=5.7						

*IDC **20** 10:39:41.0±1.8, 1989S×17301W, h0km, mb4.1/3, mb1 4.2/5, mb1mx3.9/18, mbtmp4.2/5, ML4.2/1, MS3.6/2, Ms1 3.6/2, ms1mx2.8/22, Error ellipse: s-maj=50.4km s-min=30.1km az=152.0*

*ISCJB **20** 10:39:59.9±1.4, 184S±02×1718W±0.1, h301km±14km, mb3.9/7, Error ellipse: s-maj=25.2km s-min=16.4km az=151.4*

*NEIC **20** 10:40:00.4±1.0, 1831S×17182W, h291km±11km, mb4.1/4, Error ellipse: s-maj=17.3km s-min=11.4km az=166.0*

ISC 20 10:40:01.2±1.4, 183S±02×1718W±01, h298km±14km, n16, σ0s80/16, mb3.9/7, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.38	360	Pn	Pn	10 41 12.3	+0.8
	3.3nm,0.3s,baz=126,slow=20,SNR=6.2						
AFI				Sn	S	10 42 16.0	+8.0
	3.2nm,0.3s,baz=114,slow=20,SNR=2.8						
AFI	Afiamalu	4.38	360	*e*Pn	Pn	10 41 10.6	-0.9
AFI				Sn	S	10 42 16.0	+8.0
RAR	Rarotonga	11.66	106	Pn	Pn	10 42 39.6	+0.1
	1.2nm,0.3s,baz=290,slow=20,SNR=3.5						
RAO	Raoul Island	12.25	206	LR	LR	10 45 09.1	
	comp=Z,213nm,20.1s,baz=97,slow=32						
CTAO	Charters Tower	39.60	260	*e*P	P	10 47 03.6	-0.7
	2.1nm,0.4s,mb3.8						
STKA	Stephens Creek	44.01	243	P	P	10 47 35.2	-4.6
	1.2nm,0.5s,mb3.4,baz=88,slow=11,SNR=3.9						
WRAB	Tennant Creek	50.74	259	*e*P	P	10 48 30.8	-0.5
	5.1nm,0.8s,mb3.9						
ASAR	Alice Springs	50.75	254	P	P	10 48 31.9	+0.7
	3.4nm,0.9s,mb3.7,baz=88,slow=8.2,SNR=25						
WRA	Warramunga Arr	50.75	259	P	P	10 48 32.4	+1.1
	1.7nm,0.8s,mb3.4,baz=96,slow=6.9,SNR=18						
NWAO	Narrogin (SRO)	64.58	242	*e*P	P	10 50 06.6	-0.5
	21nm,1.4s,mb4.6						
KDAK	Kodiak Island	77.48	10	LR	LR	11 22 03.0	
	comp=Z,43nm,19.3s,baz=26,slow=32						
WVOR	Wild Horse Val	77.77	37	*e*P	P	10 51 25.5	-0.1
	2.6nm,0.4s,mb4.3						
SVW2	Sparrevohn	80.20	8	*e*P	P	10 51 38.8	0.0
TCUT	Toone Canyon	81.36	42	*e*P	P	10 51 45.9	+1.0
DCID1	Drake Creek	82.86	40	*e*P	P	10 51 52.3	-0.3
HBAR	Harrisburg	93.51	54	*e*P	P	10 52 39.9	-3.4

*IGIL **20** 10:53:21.4, 3750N×860W, h0km, ML2.4*
*INMG **20** 10:53:23.9±1.4, 3743N×860W, h12km±3km, ML2.1, Error ellipse: s-maj=5.1km s-min=2.5km az=61.0*

MDD 20 10:53:22.6±0.4, 3738N×860W, h11km, mbLg2.2/8, Error ellipse: s-maj=4.3km s-min=3.3km az=77.0, PRXIMO, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	Marmelete	0.08	208	*e*P	Pg	10 53 24.5	-0.5
MORF				*e*S	Sg	10 53 26.7	0.0
MORF				*e*S	Sg	10 53 26.8	0.0
MORF				AML	AML	10 53 27.0	
	comp=E,1μm,0.1s						
MORF	Marmelete	0.08	208	*e*P	Pg	10 53 24.5	-0.5
MORF				*e*S	Sg	10 53 26.7	-0.1
PTEO	Sao Teotonio	0.19	330	*i* Pg	Pg	10 53 27.2	+0.5
PTEO				*e*Sg	Sg	10 53 29.6	+0.1
PTEO							
	comp=E,98nm,0.1s						
PBEJ	Beja	0.87	42	*e*P	Pg	10 53 39.1	-0.3
PBEJ				*e*S	Sg	10 53 50.5	-0.3
PBEJ							
	comp=E,32nm,0.1s						
EGRO	El Granado	0.91	80	Pg	Pg	10 53 39.0	-1.1
	comp=E,11nm,0.7s,SNR=29						
EGRO				Lg		10 53 50.5	
	comp=E,32nm,0.3s,SNR=25						
MOE	Montemor	1.16	10	*e*P	Pb	10 53 44.7	0.0
MOE				*e*S	Sb	10 53 59.1	-0.6
MOE	Montemor	1.16	10	Pg	Pg	10 53 43.7	-1.2
MOE				Lg		10 53 58.5	
PLOU	Loures	1.57	344	*e*S	Sn	10 54 08.3	-2.3
PLOU							
	comp=E,18nm,0.4s						
PLOU	Loures	1.57	344	Sn	Sn	10 54 08.3	-2.3
	comp=E,9.1nm,0.4s						
EMIN	Mina Concepcio	1.58	75	Pn	Pn	10 53 50.6	0.0
	comp=E,2.9nm,0.7s,SNR=6.9						
EMIN				Sn	Sn	10 54 10.6	-0.4
	comp=E,7.4nm,0.3s,SNR=23						
ALMR	Almeirim	1.77	1	*e*P	Pn	10 53 50.6	-2.6
ALMR				*e*S	Sn	10 54 10.9	-4.9
ALMR				*e*S	Sn	10 54 10.9	-4.9
ALMR				AML	AML	10 54 13.6	
	comp=E,27nm,1.0s						
ALMR	Almeirim	1.77	1	*e*P	Pn	10 53 50.6	-2.6
ALMR				*e*S	Sn	10 54 10.9	-4.9
EBAD	Badajoz	1.86	42	Pg	Pg	10 53 55.8	-2.5
	comp=E,2.0nm,0.3s,SNR=5.1						
EBAD				Lg		10 54 20.3	
	comp=E,13nm,0.6s,SNR=6.3						
PTOM	Tomar	2.24	4	*e*Sn	Sn	10 54 24.0	-3.3
PTOM				*e*Sg	Sg	10 54 31.5	-3.1
PTOM							
	comp=E,20nm,0.3s						
ESPR	Espera	2.25	102	Pn	Pn	10 53 59.7	-0.1
	comp=E,0.4nm,0.4s,SNR=7.9						
ESPR				Pg	Pg	10 54 03.6	-2.2
	comp=E,2.2nm,0.3s,SNR=5.1						
ESPR				Sn	Sn	10 54 26.1	-1.5
	comp=E,0.8nm,0.5s,SNR=7.9						
ESPR				Lg		10 54 33.9	
	comp=E,2.0nm,0.2s,SNR=7.9						
PCBR	Castelo Branco	2.61	19	*e*Sn	Sn	10 54 32.7	-3.8
PCBR				*e*Sg	Sg	10 54 42.5	-4.0
PCBR							
	comp=E,14nm,0.4s						
MTE	Manteigas	3.13	15	*e*Sg	Sg	10 54 58.1	-5.0
MTE							
	comp=E,7.4nm,0.6s						
EADA	Adamuz	3.29	75	Sn	Sn	10 54 49.3	-3.8
	comp=E,1.5nm,0.3s,SNR=6.1						
EADA				Lg		10 55 04.4	
	comp=E,2.5nm,0.3s,SNR=5.8						
PVIS	Viseu	3.38	9	*e*Sn	Sn	10 54 51.0	-4.4
PVIS							
	comp=E,4.3nm,0.2s						
PVIS	Viseu	3.38	9	Sn	Sn	10 54 51.0	-4.4
	comp=E,2.2nm,0.2s						
PVRL	Vila Real	3.95	10	*e*Sn	Sn	10 55 03.1	-6.5
ESDC	Sonseca Array	4.30	56	Sn	Sn	10 55 13.9	-4.2
	comp=E,2.5nm,0.3s,baz=241,slow=24,SNR=7.9						
ESDC				Lg		10 55 38.5	
	comp=E,1.0nm,0.3s,baz=237,slow=32,SNR=4.0						
ELOB	Lobios	4.50	5	Pn	Pn	10 54 31.4	+0.7
	comp=E,0.7nm,0.3s,SNR=4.0						
ELOB				Sn	Sn	10 55 18.3	-4.8
	comp=E,4.7nm,1.4s,SNR=7.9						
ELOB				Lg		10 55 46.4	
	comp=E,13nm,1.0s,SNR=7.9						
GUD	Guadarrama	4.76	45	Sn	Sn	10 55 26.4	-3.0
	comp=E,1.8nm,0.7s,SNR=4.0						
GUD				Lg		10 55 53.7	
	comp=E,2.5nm,0.4s,SNR=7.9						
ECAL	Calabor	4.78	17	Sn	Sn	10 55 26.9	-3.0
	comp=E,7.2nm,0.7s,SNR=4.0						
ECAL				Lg		10 55 54.7	
	comp=E,5.9nm,0.4s,SNR=7.9						

*ISCJB **20** 10:56:51.6±1.3, 215S±0.1×179.1W±0.1, h586km±19km, mb4.2/12, Error ellipse: s-maj=18.4km s-min=14.7km az=137.2*

*NEIC **20** 10:56:51.9±0.7, 2149S×17908W, h574km±9km, mb4.3/11, Error ellipse: s-maj=10.6km s-min=7.8km az=154.0*

*IDC **20** 10:56:58.1±2.9, 2172S×17945W, h635km±35km, mb3.2/4, mb1 3.4/6, mb1mx3.1/14, mbtmp4.2/6, Error ellipse: s-maj=38.4km s-min=22.0km az=153.0*

ISC 20 10:56:52.1±1.2, 215S±01×1791W±01, h576km±17km, n27, σ0s51/24, mb4.2/12, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	10.26	44	*e*P	P	10 59 12.5	-0.4
DZM	Mont Dzumac	13.49	265	P	P	10 59 46.7	+0.9
	0.4nm,0.3s,baz=135,slow=20,SNR=4.7						
URZ	Urewera	17.01	190	P	P	11 00 20.0	+0.3
	0.5nm,0.3s,baz=337,slow=15,SNR=5.0						
SNZO	South Karori	20.43	194	*e*P	P	11 00 50.4	-0.3
	64nm,1.2s						
CTA	Charters Tower	32.43	266	*e*P	P	11 02 36.5	+0.8
	2.8nm,0.3s,mb4.4						
CTAO	Charters Tower	32.43	266	*e*P	P	11 02 35.9	+0.2
	3.1nm,0.4s,mb4.3						
PMG	Port Moresby	34.63	285	*e*P	P	11 02 53.7	-0.5
	16nm,0.8s,mb4.7						
STKA	Stephens Creek	36.47	245	*e*P	P	11 03 07.9	-1.5
	2.2nm,1.2s,mb3.6						
STKA	Stephens Creek	36.47	245	P	P	11 03 08.2	-1.1
	1.2nm,0.4s,mb3.8,baz=59,slow=14,SNR=5.1						
ASAR	Alice Springs	43.34	258	P	P	11 04 04.5	+0.4
	4.2nm,0.5s,mb4.2,baz=96,slow=7.8,SNR=84						
ASAR				S	S	11 09 44.8	-6.0
	0.8nm,0.9s,baz=90,slow=16,SNR=5.1						
WB2	Warramunga Arr	43.49	263	⇓ *i* P	P	11 04 05.1	-0.2
WRAB	Tennant Creek	43.49	263	*e*P	P	11 04 04.8	-0.5
	7.3nm,0.8s,mb4.3						
WRA	Warramunga Arr	43.50	263	P	P	11 04 05.2	-0.2
	2.9nm,0.3s,mb4.3,baz=96,slow=7.6,SNR=287						
WRA				S	S	11 09 43.6	-9.4
	0.6nm,1.0s,baz=101,slow=13,SNR=3.3						
KAKA	Kakadu	47.02	273	*e*P	P	11 04 32.3	0.0
	5.2nm,0.5s,mb4.3						
FORT	Forrest	48.00	247	*e*P	P	11 04 39.5	0.0
	11nm,0.9s,mb4.4						
FITZ	Fitzroy Crossi	51.93	263	*e*P	P	11 05 08.8	+0.6
	6.4nm,1.0s,mb3.9						
MBWA	Marble Bar	56.68	258	*e*P	P	11 05 41.6	+0.1
	4.0nm,0.4s,mb4.0						
KLBR	Kellerberrin	56.74	246	*e*P	P	11 05 41.8	-0.1
	43nm,1.6s,mb4.4						
MJAR	Matsushiro Arr	70.45	325	P	P	11 07 09.7	+0.4
	1.1nm,0.6s,mb3.5,baz=149,slow=5.4,SNR=4.9						
SNAA	Sanae	87.03	179	*e*P	P	11 08 36.7	-0.3
PLCA	Paso Flores	89.29	134	*e*P	P	11 08 48.4	+0.8
GCMT	Greycliff	91.78	41	*e*P	P	11 08 59.0	-0.1
ARCES	ARCESS Array B	129.73	349	PKP	PKPdf	11 14 55.6	-0.9
	0.9nm,0.7s,baz=101,slow=3.9,SNR=5.5						
FINES	FINESS Array B	136.46	343	PKP	PKPdf	11 15 10.2	+1.2
	0.2nm,0.5s,baz=106,slow=5.1,SNR=3.8						
AKASG	Malin Array Be	143.41	330	PKP	PKPdf	11 15 19.5	-2.1
	2.9nm,0.6s,baz=43,slow=4.2,SNR=11						
BRTR	Keskin Array B	146.77	311	PKPbc	PKPbc	11 15 30.7	+0.6
	0.9nm,0.6s,baz=135,slow=4.3,SNR=4.8						
GERES	GERESS Array B	150.89	343	PKPbc	PKPbc	11 15 40.9	+0.8
	0.2nm,0.5s,baz=75,slow=1.5,SNR=4.2						

*STR **20** 11:01:14.0±0.2, 4311N×103W, h10km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **20** 11:01:15.1±0.1, 4310N×103W, h5km, Md2.0/3, Ml2.1/4, Error ellipse: s-maj=1.7km s-min=1.3km az=17.0*

MDD 20 11:01:15.4±0.3, 4311N×103W, h8km±3km, mbLg1.5/13, Error ellipse: s-maj=2.0km s-min=1.2km az=17.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LARF	Larrau	0.08	157	Pg	Pg	11 01 17.2	-0.2
LARF				Sg	Sg	11 01 18.6	-0.2
LARF	Larrau	0.08	157	Pg	Pg	11 01 17.2	-0.1
LARF				Lg		11 01 18.8	
ORDF	Ordiarp	0.12	33	Pg	Pg	11 01 18.1	-0.1
ORDF				Sg	Sg	11 01 20.2	+0.2
ORDF	Ordiarp	0.12	33	Pg	Pg	11 01 18.2	0.0
ORDF				Lg		11 01 20.2	
SJPF	Ste Jean	0.14	272	*e*Pg	Pg	11 01 18.4	-0.1
SJPF				*e*Sg	Sg	11 01 20.2	-0.3
	249nm,0.2s						
SJPF	Ste Jean	0.14	272	Pg	Pg	11 01 18.4	-0.1
SJPF				Lg		11 01 20.2	
	124nm,0.2s						
OSSF	Osses	0.23	311	Pg	Pg	11 01 19.7	-0.2
OSSF				Sg	Sg	11 01 22.9	-0.1
OSSF	Osses	0.23	311	Pg	Pg	11 01 19.8	-0.1
OSSF				Lg		11 01 22.9	
ATE	Arette	0.24	95	Pg	Pg	11 01 20.0	-0.2
ATE				Sg	Sg	11 01 23.8	+0.3
ATE	Arette	0.24	95	Pg	Pg	11 01 20.1	-0.2
ATE				Lg		11 01 23.8	
EALK	Alkurruntz	0.37	288	Pg	Pg	11 01 22.4	-0.2
	0.2nm,0.0s,SNR=17						
EALK				Lg		11 01 27.3	
	21nm,0.1s,SNR=28						
ELIZ	Elizondo	0.37	279	Pg	Pg	11 01 22.4	-0.2
	2.6nm,0.1s,SNR=14						
ELIZ				Lg		11 01 26.9	
	11nm,0.1s,SNR=7.9						
IPRE	Itoiz	0.39	219	Pg	Pg	11 01 22.3	-0.7
	0.2nm,0.0s,SNR=12						
IPRE				Lg		11 01 28.8	
	12nm,0.2s,SNR=7.9						
ETSF	Etsaut	0.40	121	*e*Pg	Pg	11 01 22.6	-0.7
ETSF				*e*Sg	Sg	11 01 28.1	-0.5
	37nm,0.3s						
ETSF	Etsaut	0.40	121	Pg	Pg	11 01 22.6	-0.7
ETSF				Lg		11 01 28.1	
	18nm,0.3s						
IUSE	Utxeti	0.41	247	Pg	Pg	11 01 23.3	-0.2
	1.0nm,0.1s,SNR=7.9						
IUSE				Lg		11 01 29.1	
	10.0nm,0.1s,SNR=7.9						
EARA	Aranguren	0.53	230	Pg	Pg	11 01 24.8	-0.8
	1.3nm,0.1s,SNR=7.9						
EARA				Lg		11 01 32.8	
	4.8nm,0.1s,SNR=7.9						
EBIE	Bielsa	0.96	116	Pg	Pg	11 01 32.8	-1.1
	0.0nm,0.0s,SNR=7.9						
EBIE				Lg		11 01 46.0	
	1.3nm,0.1s,SNR=10						
EPF	Esparros	1.01	94	*e*Pg	Pg	11 01 33.6	-1.1
EPF				*e*Sg	Sg	11 01 47.3	-0.5
	7.0nm,0.4s						
EPF	Esparros	1.01	94	Pg	Pg	11 01 33.6	-1.1
EPF				Lg		11 01 47.3	
	3.5nm,0.4s						
EGRA	Graus	1.35	132	Pg	Pg	11 01 41.7	+0.4
	1.0nm,0.2s,SNR=7.9						
EGRA				Lg		11 01 59.8	
	2.1nm,0.2s,SNR=7.9						
ESAC	San Caprasio	1.45	163	Pg	Pg	11 01 43.1	-0.1
	1.0nm,0.1s,SNR=4.6						
ESAC				Lg		11 02 01.2	
	2.2nm,0.1s,SNR=8.4						
LFF	La Frestale	2.23	34	*e*Pg	Pg	11 01 56.3	-1.9
LFF				*e*Sg	Sg	11 02 25.2	-1.9
	2.4nm,0.2s						
LFF	La Frestale	2.23	34	Pg	Pg	11 01 56.3	-1.9
LFF				Lg		11 02 25.2	
	1.2nm,0.2s						
EPOB	Poblet	2.35	138	Pg	Pg	11 01 56.6	-3.8
	0.0nm,0.0s,SNR=7.9						
EPOB				Lg		11 02 29.1	
	0.0nm,0.1s,SNR=7.9						
ERTA	Horta de San J	2.38	154	Lg		11 02 31.0	
	0.4nm,0.1s,SNR=7.9						
MTLF	Montolieu	2.38	83	*e*Pn	Pn	11 01 53.0	-1.8
MTLF				*e*Sn	Sn	11 02 21.8	-2.5
	3.1nm,0.3s						
MTLF	Montolieu	2.38	83	Pn	Pn	11 01 53.0	-1.8
MTLF				Sn	Sn	11 02 21.8	-2.5
	1.6nm,0.3s						
EMOS	Mosqueruela	2.77	171	Lg		11 02 42.4	
	0.1nm,0.0s,SNR=7.9						
RJF	Les Rejaudoux	2.86	39	*e*Pg	Pg	11 02 08.4	-1.8
RJF				*e*Sg	Sg	11 02 44.7	-2.5
	2.6nm,0.3s						
RJF	Les Rejaudoux	2.86	39	Pg	Pg	11 02 08.4	-1.8
RJF				Lg		11 02 44.7	
	1.3nm,0.3s						

*STR **20** 11:01:45.4±0.4,

IUSE				Lg			11 02 00.0		
	2.5nm,0.2s,SNR=7.9								
MTLF	**Montolieu**	**2.39**	**83**	*e*Pn	Pn		11 02 25.0	-1.1	

CASC 20 11:35:10.9±3.1, 1327N×8939W, h25km±24km, MD3.5, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**0.44**	**20**	*e*P	Pb	11 35 06.3	-14
SNET				*e*S	Sb	11 35 12.6	-14
LFRS	**El Faro**	**0.47**	**42**	*e*P	Pb	11 35 42.4	+22
BOQS	**Boqueron**	**0.47**	**13**	*e*P	Pb	11 35 42.6	+22
BOQS				*e*S	Sb	11 35 49.6	+22
LCBS	**La Ceiba**	**0.55**	**46**	*e*P	Pb	11 35 43.3	+21
LBRS	**Las Brisas**	**0.57**	**36**	*e*P	Pb	11 35 43.8	+21
SBLS	**San Blas**	**0.61**	**338**	*e*P	Pb	11 35 43.9	+21
SBLS				*e*S	Sb	11 35 53.4	+22
SNVI	**San Vicente**	**0.63**	**57**	*e*P	Pb	11 35 43.8	+20
SNVI				*e*S	Sb	11 35 55.0	+23
VSM	**San Miguel**	**1.10**	**82**	*e*P	Pn	11 35 51.1	+21
VSM				*e*S	Sn	11 36 06.1	+21
IXG	**Ixpaco**	**1.37**	**311**	*e*P	Pn	11 35 34.0	-0.5
IXG				*e*S	Sn	11 35 51.9	+0.1
TP2	**Tecpan 2**	**2.19**	**314**	*e*S	Sn	11 36 15.5	+3.7

*STR **20** 11:47:55.9±0.2, 4297N×031E, h10km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **20** 11:47:56.8±0.1, 4295N×030E, h10km, Md1.8/3, Ml1.7/3, Error ellipse: s-maj=2.5km s-min=0.9km az=175.0*

MDD 20 11:47:57.5±0.3, 4295N×031E, h0km, mbLg0.9/5, Error ellipse: s-maj=2.3km s-min=2.0km az=167.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPF	**Esparros**	**0.08**	**15**	*e*Pg	Pg	11 47 59.2	+0.1
EPF				*e*Sg	Sg	11 48 00.9	+0.7
	9.7nm,0.2s						
EPF	**Esparros**	**0.08**	**15**	Pg	Pg	11 47 59.2	+0.1
EPF				Lg		11 48 00.9	
	4.8nm,0.2s						
LABF	**Labassere**	**0.20**	**299**	Pg	Pg	11 48 00.9	-0.5
LABF				Sg	Sg	11 48 03.9	-0.1
LABF	**Labassere**	**0.20**	**299**	Pg	Pg	11 48 00.9	-0.4
LABF				Lg		11 48 04.0	
VIEF	**Viey**	**0.22**	**253**	Pg	Pg	11 48 01.5	-0.3
VIEF				Sg	Sg	11 48 04.9	+0.2
VIEF	**Viey**	**0.22**	**253**	Pg	Pg	11 48 01.6	-0.2
VIEF				Lg		11 48 05.0	
EBIE	**Bielsa**	**0.29**	**205**	Pg	Pg	11 48 03.3	+0.1
	0.4nm,0.1s,SNR=7.9						
EBIE				Lg		11 48 07.5	
	0.5nm,0.1s,SNR=7.4						
MELF	**Melles**	**0.34**	**103**	Pg	Pg	11 48 03.6	-0.4
MELF				Sg	Sg	11 48 08.2	-0.2
MELF	**Melles**	**0.34**	**103**	Pg	Pg	11 48 03.7	-0.3
MELF				Lg		11 48 08.0	
ETSF	**Etsaut**	**0.64**	**266**	*e*Pg	Pg	11 48 08.7	-1.1
ETSF				*e*Sg	Sg	11 48 16.9	-1.3
	4.8nm,0.2s						
ETSF	**Etsaut**	**0.64**	**266**	Pg	Pg	11 48 08.7	-1.1
ETSF				Lg		11 48 16.9	
	2.4nm,0.2s						
EGRA	**Graus**	**0.76**	**180**	Pg	Pg	11 48 10.9	-1.1
	0.0nm,0.2s,SNR=7.9						
EGRA				Lg		11 48 22.7	
	0.2nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**1.14**	**279**	*e*Pg	Pg	11 48 17.8	-1.6
SJPF				*e*Sg	Sg	11 48 33.0	-1.1
	2.2nm,0.3s						
SJPF	**Ste Jean**	**1.14**	**279**	Pg	Pg	11 48 17.8	-1.6
SJPF				Lg		11 48 33.0	
	1.1nm,0.3s						
ESAC	**San Caprasio**	**1.36**	**205**	Pg	Pg	11 48 23.2	-0.4
	4.1nm,0.2s,SNR=4.0						
ESAC				Lg		11 48 41.9	
	3.3nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**1.36**	**282**	Lg		11 48 42.5	
	0.8nm,0.2s,SNR=4.0						
ELIZ	**Elizondo**	**1.36**	**280**	Lg		11 48 40.6	
	0.8nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**1.45**	**74**	*e*Pg	Pg	11 48 24.3	-1.0
MTLF				*e*Sg	Sg	11 48 42.6	-1.5
	1.1nm,0.3s						
MTLF	**Montolieu**	**1.45**	**74**	Pg	Pg	11 48 24.3	-1.0
MTLF				Lg		11 48 42.6	
	0.6nm,0.3s						
EPOB	**Poblet**	**1.70**	**160**	Pg	Pg	11 48 27.3	-2.8
	0.1nm,0.1s,SNR=7.9						
EPOB				Lg		11 48 51.2	
	1.4nm,1.0s,SNR=7.9						
LASF	**Ste Croix**	**2.81**	**65**	*e*Sg	Sg	11 49 25.5	-2.5
	0.6nm,0.3s						
LASF	**Ste Croix**	**2.81**	**65**	Lg		11 49 25.5	
	0.3nm,0.3s						

IDC 20 12:16:33.2±4.8, 2131S×17669W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/13, mbtmp3.8/3, Error ellipse: s-maj=188.5km s-min=77.0km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.55**	**245**	P	P	12 23 56.6	-0.8
	2.4nm,0.9s,baz=90,slow=10,SNR=3.3						
ASAR	**Alice Springs**	**45.53**	**257**	P	P	12 24 54.9	+0.4
	0.8nm,0.6s,baz=95,slow=7.1,SNR=15						
WRA	**Warramunga Arr**	**45.70**	**263**	P	P	12 24 56.7	+0.9
	0.3nm,0.3s,baz=96,slow=8.0,SNR=32						
AKASG	**Malin Array Be**	**144.31**	**332**	PKP	PKPdf	12 36 10.5	-0.6
	0.4nm,0.3s,baz=36,slow=3.6,SNR=4.4						

*ISCJB **20** 12:34:28.6±0.2, 4323N×001×1888E×002, h2km, Error ellipse: s-maj=2.6km s-min=1.9km az=131.8*
*PDG **20** 12:34:29.7±0.4, 43.16N×1889E, h2km±1km*
*NEIC **20** 12:34:29.7, 43.16N×1889E, h2km, ML3.2(PDG), After PDG.*
*CSEM **20** 12:34:30.2±0.1, 4328N×1893E, h5km, ML3.2, Error ellipse: s-maj=1.7km s-min=1.3km az=163.0*
*PRU **20** 12:34:37.4, 4347N×1839E, h0km*

ISC 20 12:34:29.7±0.2, 4321N±001×1890E±002, h2km, n74, σ1§24/108, 20C-14D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	**Unac-Piva**	**0.01**	**131**	⇓*i*Pg	**Pg**	**12 34 30.8**	**+0.6**
UPM				*e*Sg	**Sg**	**12 34 32.0**	**+1.5**
UPM	**Unac-Piva**	**0.01**	**131**	⇓*i*Pg	**Pg**	**12 34 30.8**	**+0.6**
UPM				*e*Sg	**Sg**	**12 34 32.0**	**+1.5**
PLE	**Pljevlja**	**0.38**	**72**	⇑*i*Pg	**Pg**	**12 34 37.0**	**-0.1**
PLE				*e*Sg	**Sg**	**12 34 43.3**	**+1.2**
BRY	**Bratogost**	**0.40**	**220**	⇓*i*Pg	**Pg**	**12 34 36.2**	**-1.3**
BRY				*e*Sg	**Sg**	**12 34 42.0**	**-0.7**
NKY	**Niksic**	**0.41**	**169**	⇑*i*Pg	**Pg**	**12 34 36.3**	**-1.2**
NKY				*e*Sg	**Sg**	**12 34 42.0**	**-0.8**
TREB	**Trebinje**	**0.64**	**219**	P	**Pg**	**12 34 40.4**	**-1.5**
IVA	**Berane**	**0.81**	**115**	⇑*i*Pg	**Pg**	**12 34 44.5**	**-0.8**
IVA				*e*Sg	**Sg**	**12 34 56.8**	**+1.0**
HCY	**Herceg Novi**	**0.82**	**201**	⇓*i*Pg	**Pg**	**12 34 43.6**	**-1.8**
HCY				*e*Sg	**Sg**	**12 34 56.0**	**0.0**
TTG	**Podgorica**	**0.83**	**161**	⇑*i*Pg	**Pg**	**12 34 43.1**	**-2.5**
TTG				*i*Sg	**Sg**	**12 34 56.4**	**+0.1**
BUM	**Brajici-Budva**	**0.91**	**180**	⇑*i*Pg	**Pg**	**12 34 45.2**	**-2.0**
BUM				*i*Sg	**Sg**	**12 34 58.9**	**-0.2**
STON	**Ston**	**0.94**	**249**	*i*Pg	**Pg**	**12 34 45.3**	**-2.5**
STON				*i*Sg	**Sg**	**12 34 59.9**	**0.0**
STON	**Ston**	**0.94**	**249**	*i*Pg	**Pg**	**12 34 45.2**	**-2.5**
STON				*i*Sg	**Sg**	**12 34 59.8**	**-0.1**
PVY	**Plav**	**1.00**	**128**	⇑*i*Pg	**Pg**	**12 34 47.7**	**-1.3**
PVY				*e*Sg	**Sg**	**12 35 03.1**	**+1.1**
DIVS	**Divcibare**	**1.19**	**42**	*i*Pn	**Pn**	**12 34 54.8**	**+1.4**
DIVS				Sn	**Sn**	**12 35 12.6**	**+2.5**
BCI	**Bajram Curri**	**1.21**	**134**	*i*Pn	**Pn**	**12 34 52.0**	**-1.6**
BCI				*i*Sn	**Sn**	**12 35 10.8**	**+0.3**
ULC	**Ulcinj**	**1.28**	**168**	⇑*i*Pg	**Pg**	**12 34 52.1**	**-2.1**
ULC				*i*Sg	**Sg**	**12 35 10.9**	**+0.2**
QSH	**Qafa e Shtames**	**1.85**	**156**	*i*Pn	**Pg**	**12 35 05.0**	**-0.1**
QSH				*i*Sn	**Sg**	**12 35 32.0**	**+2.9**
BLY	**Banja Luka**	**1.97**	**322**	P	**Pn**	**12 35 05.1**	**+1.0**
BLY				S	**Sg**	**12 35 33.2**	**+0.2**
SKO	**Skopje**	**2.25**	**123**	*i*Pn	**Pn**	**12 35 08.4**	**+0.5**
RHK3	**Tenkes**	**2.71**	**350**	⇓*e*P	**Pn**	**12 35 13.4**	**-0.9**
BIA	**Bitola**	**2.84**	**140**	*e*Pn	**Pb**	**12 35 19.9**	**-1.2**
STIP	**Stip**	**2.87**	**121**	*e*Pn	**Pn**	**12 35 15.4**	**-1.1**
STIP				*e*Sn	**Sn**	**12 35 43.4**	**-8.1**
STIP	**Stip**	**2.87**	**121**	*e*Pn	**Pn**	**12 35 15.3**	**-1.1**
STIP				*e*Sn	**Sn**	**12 35 43.3**	**-8.2**
SG1	**Sgolgore (BA)**	**2.89**	**216**	*e*Pn	**Pn**	**12 35 16.0**	**-0.7**
RGNG	**Rignano Grg**	**2.89**	**239**	Pn	**Pn**	**12 35 17.5**	**+0.8**
RHK1	**Bakonya**	**2.94**	**349**	⇓*e*P	**Pn**	**12 35 16.6**	**-0.8**
RHK1				Pg	**Pg**	**12 35 25.4**	**-0.7**
RHK1				*e*S	**Sn**	**12 35 50.2**	**-3.1**
RHK1	**Bakonya**	**2.94**	**349**	Pg	**Pg**	**12 35 25.4**	**-0.7**
RHK1				*e*S	**Sn**	**12 35 50.2**	**-3.1**
	2.2nm,0.2s						
PKSM	**Moragy**	**3.00**	**357**	⇑*i*P	**Pn**	**12 35 17.6**	**-0.7**
PKSM	**Moragy**	**3.00**	**357**	⇑*e*Pn	**Pn**	**12 35 17.0**	**-1.3**
PKSM				*e*Sn	**Sg**	**12 36 07.0**	**+0.8**
PKSM	**Moragy**	**3.00**	**357**	⇑*i*P	**Pn**	**12 35 17.6**	**-0.7**
BZS	**Buzias**	**3.10**	**38**	⇓*i*P	**Pn**	**12 35 19.6**	**+0.1**
BZS	**Buzias**	**3.10**	**38**	⇓P	**Pn**	**12 35 19.6**	**+0.1**
NVLJ	**Novalja**	**3.21**	**296**	*i*Pn	**Pg**	**12 35 26.0**	**-5.2**
NVLJ				*i*Sn	**Sg**	**12 36 08.2**	**-4.5**
VAY	**Valandovo**	**3.32**	**123**	*e*Pn	**Pn**	**12 35 23.5**	**+0.9**
PKS9	**Tamasi**	**3.40**	**353**	⇓*i*P	**Pn**	**12 35 23.2**	**-0.6**
BOJS	**Bojanci**	**3.48**	**312**	*i*Pn	**Pn**	**12 35 25.3**	**+0.6**
CRES	**Cresnjev**	**3.59**	**318**	*i*Pn	**Pn**	**12 35 21.9**	**-4.4**
GOLS	**Golise**	**3.64**	**321**	*i*Pn	**Pn**	**12 35 27.6**	**+0.5**
PKS8	**Sarbogard**	**3.67**	**358**	⇑*e*P	**Pn**	**12 35 26.4**	**-1.0**
CII	**Carovilli**	**3.71**	**248**	Pn	**Pn**	**12 35 30.1**	**+2.1**
CSSN	**Cassano Irpino**	**3.72**	**232**	Pn	**Pn**	**12 35 28.8**	**+0.7**
SGO	**Sicignano**	**3.77**	**227**	Pn	**Pn**	**12 35 29.5**	**+0.7**
MIDA	**Miranda**	**3.78**	**247**	Pn	**Pn**	**12 35 29.8**	**+0.9**
SGG	**Gregorio Mates**	**3.81**	**243**	Pn	**Pn**	**12 35 30.0**	**+0.6**
INTR	**Introdacqua**	**3.87**	**254**	Pn	**Pn**	**12 35 29.9**	**-0.3**
VISS	**Visnje**	**3.89**	**313**	*i*Pn	**Pn**	**12 35 30.9**	**+0.5**
TERO	**Teramo**	**3.93**	**263**	Pn	**Pn**	**12 35 31.6**	**+0.6**
MGR	**Morigerati**	**3.96**	**220**	Pn	**Pn**	**12 35 32.4**	**+0.9**
PDKS	**Podkum**	**3.98**	**317**	*i*Pn	**Pn**	**12 35 31.8**	**+0.1**
PDKS				*e*Sn	**Sg**	**12 36 46.1**	**+8.5**
SDI	**San Donato**	**4.05**	**250**	Pn	**Pn**	**12 35 33.6**	**+0.9**
VVLD	**Villa Vallelon**	**4.12**	**253**	Pn	**Pn**	**12 35 34.6**	**+1.0**
AQU	**L'Aquila**	**4.13**	**260**	⇓*i*P	**Pn**	**12 35 35.5**	**+1.7**
AQU	**L'Aquila**	**4.13**	**260**	⇓P	**Pn**	**12 35 35.5**	**+1.7**
CING	**Cingoli**	**4.16**	**274**	Pn	**Pn**	**12 35 35.4**	**+1.2**
PKSG		**4.20**	**355**	*e*P	**Pn**	**12 35 31.5**	**-3.2**
NRCA	**Norcia**	**4.25**	**267**	Pn	**Pn**	**12 35 36.3**	**+0.8**
ARV	**Arcevia**	**4.35**	**276**	Pn	**Pn**	**12 35 37.8**	**+1.0**
FIAM	**Fiamignano**	**4.36**	**259**	Pn	**Pn**	**12 35 38.8**	**+1.9**
DRGR		**4.49**	**36**	⇑*i*P	**Pn**	**12 35 39.7**	**+1.0**
DRGR		**4.49**	**36**	⇑P	**Pn**	**12 35 39.7**	**+1.0**
OBKA	**Obir**	**4.52**	**318**	⇑*i*Pn	**Pn**	**12 35 39.8**	**+0.7**
OBKA				⇓*i*Sn	**Sn**	**12 36 31.8**	**-0.4**
VOY	**Vojsko**	**4.55**	**310**	*e*Pn	**Pn**	**12 35 41.8**	**+2.3**
VOY				*e*Sn	**Sb**	**12 36 44.5**	**-1.0**
MNS	**Montasola**	**4.65**	**262**	Pn	**Pn**	**12 35 41.6**	**+0.7**
ARSA	**Arzberg**	**4.69**	**331**	⇓*i*Pn	**Pn**	**12 35 41.5**	**+0.1**
ARSA				⇓*i*Sn	**Sn**	**12 36 33.5**	**-2.9**
PSZ	**Piszkesteto**	**4.76**	**8**	⇓*e*Pn	**Pn**	**12 35 43.0**	**+0.6**
PSZ				*e*Sg	**Sg**	**12 37 06.3**	**+3.7**
ZST	**Bratislava**	**5.14**	**346**	*e*Pg	**Pg**	**12 36 05.1**	**-3.1**
ZST				*e*Sn	**Sn**	**12 36 43.2**	**-4.3**
SFI	**Santa Sofia**	**5.17**	**280**	Pn	**Pn**	**12 35 50.1**	**+2.1**
	13nm,0.4s						
KECS	**Kecovo**	**5.39**	**11**	*e*PN	**Pn**	**12 35 51.2**	**+0.2**
KECS				*e*SN	**Sn**	**12 36 50.7**	**-2.9**
VMG	**Vicchio**	**5.39**	**280**	Pn	**Pn**	**12 35 53.0**	**+1.9**
	20nm,0.6s						
KBA	**Koelnbreinsper**	**5.51**	**316**	⇑*i*Pn	**Pn**	**12 35 53.2**	**+0.5**
KBA				⇑*i*Sn	**Sn**	**12 36 55.1**	**-1.5**
MLR	**Muntele Rosu**	**5.54**	**63**	⇓*i*P	**Pb**	**12 36 05.5**	**-1.7**
MOA	**Molln**	**5.66**	**327**	⇑*i*Pn	**Pn**	**12 35 54.6**	**-0.3**
MOA				⇑*i*Sn	**Sn**	**12 36 58.3**	**-2.1**
KHC	**Kasperske Hory**	**6.97**	**330**	*e*PN	**Pn**	**12 36 16.6**	**+3.8**
KHC				*e*SN	**Sn**	**12 37 28.4**	**-4.3**
DPC	**Dobruska-Polom**	**7.36**	**347**	*e*SN	**Sn**	**12 37 38.4**	**-3.7**

IDC 20 12:37:38.4±2.4, 2018S×17422W, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.8/16, mbtmp3.8/5, ML1.9/1, MS3.5/1, Ms1 3.5/1, ms1mx2.9/19, Error ellipse: s-maj=105.1km s-min=25.6km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.65**	**21**	Pn	Pn	12 39 17.6	+0.3
	1.5nm,0.3s,baz=144,slow=22,SNR=4.2						
AFI				Sn	Sn	12 40 28.8	-5.0
	1.4nm,0.3s,baz=119,slow=19,SNR=2.5						
RAR	**Rarotonga**	**13.56**	**97**	Pn	Pn	12 40 38.4	-14
	2.2nm,0.3s,baz=124,slow=23,SNR=6.3						
CTA	**Charters Tower**	**37.05**	**263**	LR	LR	12 56 14.3	
	comp=Z,76nm,20.6s,baz=229,slow=30						
STKA	**Stephens Creek**	**41.13**	**244**	P	P	12 45 23.3	-0.8
	1.7nm,0.7s,baz=101,slow=11,SNR=3.7						
ASAR	**Alice Springs**	**48.05**	**256**	P	P	12 46 20.0	+0.6
	0.8nm,0.7s,baz=100,slow=7.6,SNR=11						
WRA	**Warramunga Arr**	**48.16**	**261**	P	P	12 46 21.1	+0.8
	0.6nm,0.7s,baz=96,slow=7.6,SNR=8.5						
NVAR	**Mina Array Bea**	**78.39**	**42**	P	P	12 49 41.1	+0.4
	0.3nm,0.6s,baz=231,slow=5.7,SNR=3.7						

*STR **20** 12:50:11.3±0.2, 4311N×103W, h10km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **20** 12:50:12.3±0.0, 4310N×103W, h8km, Md1.7/2, Ml1.6/1, Error ellipse: s-maj=1.0km s-min=0.5km az=22.0*

MDD 20 12:50:13.0±0.2, 4311N×103W, h0km, mbLg1.1/7, Error ellipse: s-maj=2.1km s-min=1.3km az=15.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LARF	**Larrau**	**0.08**	**155**	Pg	Pg	12 50 14.5	0.0
LARF				Sg	Sg	12 50 16.1	+0.6
LARF	**Larrau**	**0.08**	**155**	Pg	Pg	12 50 14.5	0.0
LARF				Lg		12 50 16.0	
ORDF	**Ordiarp**	**0.13**	**33**	Pg	Pg	12 50 15.4	0.0
ORDF				Sg	Sg	12 50 17.5	+0.4
ORDF	**Ordiarp**	**0.13**	**33**	Pg	Pg	12 50 15.4	0.0
ORDF				Lg		12 50 17.4	
SJPF	**Ste Jean**	**0.14**	**272**	*e*Pg	Pg	12 50 15.7	0.0
SJPF				*e*Sg	Sg	12 50 17.8	+0.2
	65nm,0.2s						
SJPF	**Ste Jean**	**0.14**	**272**	Pg	Pg	12 50 15.7	0.0
SJPF				Lg		12 50 17.8	
	32nm,0.2s						
OSSF	**Osses**	**0.23**	**311**	Pg	Pg	12 50 17.1	-0.2
OSSF				Sg	Sg	12 50 20.1	-0.1
OSSF	**Osses**	**0.23**	**311**	Pg	Pg	12 50 17.1	-0.2
OSSF				Lg		12 50 20.1	
ATE	**Arette**	**0.24**	**95**	Pg	Pg	12 50 17.3	-0.4
ATE				Sg	Sg	12 50 20.9	+0.1
ATE	**Arette**	**0.24**	**95**	Pg	Pg	12 50 17.3	-0.4
ATE				Lg		12 50 21.1	
EALK	**Alkurruntz**	**0.37**	**288**	Pg	Pg	12 50 19.6	-0.5
	1.0nm,0.1s,SNR=13						
EALK				Lg		12 50 24.9	
	7.1nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**0.37**	**279**	Pg	Pg	12 50 19.7	-0.4
	0.6nm,0.1s,SNR=7.9						
ELIZ				Lg		12 50 24.7	
	5.3nm,0.2s,SNR=14						
IPRE	**Itoiz**	**0.39**	**218**	Pg	Pg	12 50 20.2	-0.2
	0.6nm,0.1s,SNR=7.9						
IPRE				Lg		12 50 25.6	
	2.3nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.40**	**121**	*e*Pg	Pg	12 50 20.0	-0.8
ETSF				*e*Sg	Sg	12 50 25.4	-0.6
	9.7nm,0.3s						
ETSF	**Etsaut**	**0.40**	**121**	Pg	Pg	12 50 20.0	-0.8
ETSF				Lg		12 50 25.4	
	4.8nm,0.3s						
IUSE	**Utxeti**	**0.41**	**247**	Pg	Pg	12 50 20.6	-0.3
	1.0nm,0.1s,SNR=7.9						
IUSE				Lg		12 50 26.2	
	5.9nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.96**	**116**	Pg	Pg	12 50 30.8	-0.6
	0.2nm,0.1s,SNR=7.9						
EBIE				Lg		12 50 43.5	
	1.0nm,0.1s,SNR=7.9						
EPF	**Esparros**	**1.01**	**94**	*e*Sg	Sg	12 50 44.5	-0.9
	1.4nm,0.2s						
EPF	**Esparros**	**1.01**	**94**	Lg		12 50 44.5	
	0.7nm,0.2s						
ESAC	**San Caprasio**	**1.45**	**163**	Pg	Pg	12 50 38.3	-2.4
	4.8nm,0.3s,SNR=7.9						
ESAC				Lg		12 50 59.1	
	SNR=7.9						

*ISCJB **20** 13:30:35.4±4.1, 46S±04×1518E±04, h107km±34km, mb3.8/4, Error ellipse: s-maj=94.3km s-min=28.0km az=83.3*
*IDC **20** 13:30:35.1±2.9, 4.44S×15163E, h87km±24km, mb3.8/4, mb1 4.0/5, mb1mx3.6/16, mbtmp4.1/5, Error ellipse: s-maj=96.4km s-min=16.2km az=129.0*
*NEIC **20** 13:30:35.2±1.6, 4.00S×151.12E, mb4.2/1, Error ellipse: s-maj=97.2km s-min=17.3km az=125.0*

ISC 20 13:30:34.8±2.6, 47S±04×1520E±04, h96km±18km, n10, σ0§70/11, mb3.8/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.72**	**226**	P	**Pn**	**13 32 11.8**	**+1.1**
	7.8nm,0.3s,baz=58,slow=11,SNR=25						
PMG				S	**Sn**	**13 33 25.1**	**-0.7**
	8.0nm,0.3s,baz=132,slow=21,SNR=12						
KAKA	**Kakadu**	**20.92**	**246**	*e*P	**P**	**13 35 10.2**	**+0.6**
	12nm,0.3s						
WRAB	**Tennant Creek**	**22.92**	**227**	*e*P	**P**	**13 35 30.1**	**-0.6**
WRAB				*e*pP		13 35 47.5	
WB2	**Warramunga Arr**	**22.93**	**227**	*e*P	**P**	**13 35 30.3**	**-0.4**
WRA	**Warramunga Arr**	**22.93**	**227**	P	**P**	**13 35 30.5**	**-0.2**
	3.1nm,0.5s,mb3.9,baz=51,slow=10.0,SNR=67						
WRA				pP		13 35 49.4	
	2.7nm,0.6s,baz=53,slow=10,SNR=6.5						
WRA				S	**S**	**13 39 34.6**	**+1.3**
	0.7nm,0.9s,baz=45,slow=18,SNR=3.2						
ASAR	**Alice Springs**	**25.70**	**221**	P	**P**	**13 35 56.5**	**+0.5**
	1.4nm,0.5s,mb3.7,baz=57,slow=8.7,SNR=18						
ASAR				pP	pP	13 36 17.4	+0.1
	1.2nm,0.7s,baz=41,slow=8.9,SNR=11						
FITZ	**Fitzroy Crossi**	**29.03**	**241**	*e*P	**P**	**13 36 24.3**	**-1.4**
	6.7nm,1.1s,mb4.2						
FITZ	**Fitzroy Crossi**	**29.03**	**241**	P	**P**	**13 36 25.5**	**-0.2**
	1.8nm,0.6s,mb3.9,baz=67,slow=13,SNR=15						
ILAR	**Eielson Array**	**82.37**	**22**	P	**P**	**13 42 46.0**	**0.0**
	0.8nm,0.7s,mb3.7,baz=244,slow=5.4,SNR=14						
TORD	**Torodi Ar. Bea**	**149.55**	**288**	PKPbc	PKPbc	13 50 14.8	+1.8
	2.7nm,0.7s,baz=84,slow=2.2,SNR=18						

*ATH **20** 13:41:31.7, 4099N×2489E, h4km, MD3.0/3*
*THE **20** 13:41:32.0, 4099N×2486E, h7km*
*ISCJB **20** 13:41:32.3±0.6, 4102N±007×2489E±005, h20km±11km, Error ellipse: s-maj=12.5km s-min=5.5km az=164.2*
*CSEM **20** 13:41:32.3±0.2, 4104N×2487E, h20km, MD3.0, Error ellipse: s-maj=7.0km s-min=2.7km az=176.0*

ISC 20 13:41:31.4±0.9, 4103N±007×2485E±004, h18km±18km, n9, σ0§90/14, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDO	**Rodhopi**	**0.53**	**77**	*e*PG	**Pg**	**13 41 41.9**	**-0.1**
RDO				*e*SG	**Sg**	**13 41 48.5**	**-0.6**
NVR	**Nevrokopi**	**0.82**	**294**	*e*PG	**Pg**	**13 41 47.9**	**+0.6**
ALN	**Alexandroupoli**	**0.91**	**98**	*e*Pg	**Pg**	**13 41 49.3**	**+0.2**
ALN				*e*Sg	**Sg**	**13 42 02.1**	**+1.0**
OUR	**Ouranopolis**	**0.96**	**224**	*e*Pg	**Pg**	**13 41 49.5**	**-0.5**
OUR				*e*Sg	**Sg**	**13 42 03.6**	**+1.0**
SRS	**Serrai**	**0.96**	**276**	*e*Pg	**Pg**	**13 41 50.0**	**0.0**
SRS				*e*Sg	**Sg**	**13 42 04.0**	**+1.4**
SOH	**Sokhos**	**1.16**	**260**	*e*Pg	**Pg**	**13 41 53.1**	**-0.6**
PLG	**Polygyros**	**1.25**	**239**	*e*PB	**Pb**	**13 41 55.0**	**+0.5**
PAIG	**Paliouri**	**1.42**	**220**	*e*Pg	**Pg**	**13 41 56.0**	**-2.7**
KNT	**Kendrikon**	**1.48**	**276**	*e*Pg	**Pg**	**13 41 58.8**	**-1.2**
KNT				*e*Sg	**Sg**	**13 42 19.1**	**-0.2**

*SKO **20** 13:45:12.8, 4139N×2228E, h15km*
*ISCJB **20** 13:45:13.4±0.7, 4146N±004×2239E±005, h10km, Error ellipse: s-maj=7.0km s-min=4.3km az=77.3*
*CSEM **20** 13:45:13.9±0.1, 4148N×2238E, h10km, ML2.6, Error ellipse: s-maj=1.8km s-min=1.0km az=38.0*
*THE **20** 13:45:14.1, 4146N×2242E, h17km, ML2.6*

ISC 20 13:45:14.0±0.8, 4147N±004×2240E±005, h10km, n8, σ0§75/14, Northwestern Balkan Peninsula

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LBTB Lobatse 46.21 268 P **P** **14 04 09.2 +0.7**
comp=Z,3.1nm,0.6s,mb4.4,baz=151,slow=7.3,SNR=8.0
LBTB Lobatse 46.21 268 P **P** **14 04 09.2 +0.8**
LBTB pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
LBTB Lobatse 46.21 268 *e*P **P** **14 04 08.2 -0.3**
comp=Z,13nm,1.1s,mb4.8
KSM Kuching 47.46 46 *e*P **P** **14 04 19.7 +1.5**
LSZ Lusaka 48.97 281 *e*P **P** **14 04 31.5 +1.6**
LSZ pmax pmax
comp=Z,16nm,0.6s,mb5.2
LSZ Lusaka 48.97 281 *e*P **P** **14 04 31.5 +1.7**
comp=Z,16nm,0.6s,mb5.2
ASAR Alice Springs 49.22 92 P **P** **14 04 32.2 +0.4**
comp=Z,7.5nm,1.0s,mb4.7,baz=237,slow=4.5,SNR=28
KMBO Kilima Mbogo 51.23 303 P **P** **14 04 48.4 +1.4**
comp=Z,0.7nm,0.3s,mb4.0,baz=80,slow=6.1,SNR=4.4
KMBO LR LR 14 23 26.6
comp=Z,132nm,18.3s,MS4.0,baz=92,slow=32
KMBO Kilima Mbogo 51.23 303 *e*P **P** **14 04 49.5 +2.5**
KMBO pmax pmax
comp=Z,7.0nm,1.4s
KMBO Kilima Mbogo 51.23 303 *e*P **P** **14 04 49.5 +2.5**
comp=Z,7.3nm,1.4s,mb4.4
WRA Warramunga Arr 51.35 88 P **P** **14 04 48.5 +0.5**
comp=Z,11nm,0.9s,mb4.8,baz=240,slow=6.6,SNR=23
WB2 Warramunga Arr 51.36 88 *e*P **P** **14 04 47.7 -0.3**
WRAB Tennant Creek 51.37 88 P **P** **14 04 49.0 +1.0**
comp=Z,105nm,1.2s,mb5.6,SNR=6.5
WRAB Tennant Creek 51.37 88 *e*P **P** **14 04 49.0 +1.0**
WRAB Tennant Creek 51.37 88 *e*P **P** **14 04 48.1 +0.1**
comp=Z,58nm,1.4s,mb5.3
STKA Stephens Creek 51.99 105 *e*P **P** **14 04 52.2 -0.5**
comp=Z,9.2nm,1.0s,mb4.7
STKA Stephens Creek 51.99 105 P **P** **14 04 51.6 -1.1**
comp=Z,9.6nm,0.9s,mb4.7,baz=243,slow=7.2,SNR=10
STKA LR LR 14 22 54.6
comp=Z,630nm,18.8s,MS4.7,baz=215,slow=31
HYB Hyderabad 52.70 0 *i*P **P** **14 04 58.5 +0.6**
HYB Hyderabad 52.70 0 *e*P **P** **14 04 58.5 +0.6**
HYB pmax pmax
comp=Z,50nm,1.0s,mb5.4
HYB Hyderabad 52.70 0 *e*P **P** **14 04 58.5 +0.6**
comp=Z,50nm,1.0s,mb5.4
SNAA Sanae 53.90 203 P **P** **14 05 06.4 -0.4**
comp=Z,0.8nm,1.1s,baz=22,slow=7.6,SNR=4.1
POO Poona 53.97 355⇓ *i*P **P** **14 05 05.0 -2.3**
comp=Z,50nm,1.0s,mb5.4
VNDA Vanda 54.19 165 P **P** **14 05 10.3 +1.4**
comp=Z,4.3nm,1.1s,mb4.3,baz=264,slow=8.7,SNR=7.8
VNDA LR LR 14 25 59.5
comp=Z,359nm,19.0s,MS4.5,baz=16,slow=34
VNDA Vanda 54.19 165 *e*P **P** **14 05 09.1 +0.2**
comp=Z,10nm,1.4s,mb4.6
QSPA South Pole Qui 54.58 180 *e*P **P** **14 05 12.0 +0.2**
SBA Scott Base 55.21 165 *e*P **P** **14 05 14.2 -2.1**
SBA pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
SBA Scott Base 55.21 165 *e*P **P** **14 05 14.2 -2.2**
comp=Z,3.8nm,1.0s,mb4.4
VNA2 Neumayer--Watz 55.45 203 *e*P **P** **14 05 18.4 +0.4**
VNA2 *e* pP 14 05 21.5 +0.3
VNA2 *e* pP 14 05 22.8 +1.6
VNA2 *e* 14 05 31.6
TSUM Tsumeb 55.49 270 *e*P **P** **14 05 20.0 +1.6**
comp=Z,15nm,1.1s,mb5.0
VNA3 Neumayer Olymp 56.12 203 *e*P **P** **14 05 22.2 -0.7**
VNA3 *e* pP 14 05 26.2 +0.1
VNA3 *e* 14 05 27.6
VNA3 *e* 14 05 36.2
CTAO Charters Tower 60.98 95 *e*P **P** **14 05 58.6 +1.8**
CTAO pmax pmax
comp=Z,24nm,1.2s,mb5.2
CTAO Charters Tower 60.98 95 *e*P **P** **14 05 58.6 +1.9**
comp=Z,24nm,1.2s,mb5.2
WSAR Wadi Sarin 61.38 339 P **P** **14 05 59.5 +0.1**
comp=Z,6.1nm,1.0s,mb4.7,baz=162,slow=7.4,SNR=4.0
PKI Pulchoki 63.16 7 *e*P **P** **14 06 10.8 -0.6**
comp=Z,74nm,1.3s,mb5.7
PKI Pulchoki 63.16 7 *e*P **P** **14 06 10.8 -0.6**
PKI pmax pmax
comp=Z,74nm,1.3s,mb5.7
DMN Daman 63.17 7 *e*P **P** **14 06 11.3 -0.1**
comp=Z,62nm,1.0s,mb5.7
KOLN Koldanda 63.20 5 *e*P **P** **14 06 11.4 -0.2**
comp=Z,67nm,1.2s,mb5.7
JIRN Jiri 63.33 8 *e*P **P** **14 06 12.7 +0.2**
comp=Z,56nm,1.0s,mb5.6
KKN Kakani 63.37 7 *e*P **P** **14 06 12.3 -0.4**
comp=Z,57nm,1.0s,mb5.6
KKN Kakani 63.37 7 *e*P **P** **14 06 12.3 -0.4**
KKN pmax pmax
comp=Z,57nm,1.0s,mb5.7
GKN Gorkha 63.52 6 *e*P **P** **14 06 13.3 -0.4**
comp=Z,72nm,1.0s,mb5.7
GUN Gumba 63.55 8 *e*P **P** **14 06 13.7 -0.2**
comp=Z,237nm,1.5s,mb6.0
KMI Kunming 64.65 25 P **P** **14 06 22.8 +1.6**
KMI AP pP 14 06 26.0 +1.6
KMI XP sP 14 06 27.3 +1.7
KMI PCP PcP 14 06 56.3 +1.3
KMI PP PP 14 08 47.3 +4.0
KMI PCS 14 10 59.3
KMI S **S** **14 15 02.4 +1.3**
KMI XS sS 14 15 08.6 +2.1
KMI SCS ScS 14 16 16.4 +0.6
KMI SS SS 14 19 14.8 +3.0
KMI AMB AMB
comp=Z,16nm,0.9s,mb5.0
KMI AMB AMB
comp=Z,160nm,3.7s
KMI LR LR
comp=N,175nm,18.7s,MS4.4
KMI LR LR
comp=E,149nm,18.0s,MS4.4
KMI LR LR
comp=Z,181nm,25.5s
DDI Dehra Dun 65.54 360 *ex* x 14 06 27.0
LSA Lhasa 66.05 12 P **P** **14 06 31.3 +1.1**
LSA Lhasa 66.05 12 *e*P **P** **14 06 30.7 +0.5**
LSA pmax pmax
comp=Z,16nm,0.9s,mb5.0
LSA Lhasa 66.05 12 *e*P **P** **14 06 30.7 +0.5**
comp=Z,16nm,0.9s,mb5.0
GYA Guiyang 67.28 28⇓ *i*P **P** **14 06 38.8 +0.7**
GYA AP pP 14 06 43.1 +1.8
GYA XP sP 14 06 46.4 +3.9
GYA PP PP 14 09 05.5 -0.8
GYA S S 14 15 22.3 -11
GYA AMB AMB
comp=Z,30nm,1.1s,mb5.2
GYA AMB AMB
comp=Z,120nm,4.3s
GYA LR LR
comp=N,460nm,18.2s,MS4.9
GYA LR LR
comp=E,430nm,18.6s,MS4.9
GYA LR LR
comp=Z,490nm,18.4s,MS4.8
PMG Port Moresby 67.43 85⇑ *e*P **P** **14 06 41.3 +2.2**
CD2 Chengdu 70.33 23 *e*P **P** **14 06 58.5 +1.4**
WHN Wuhan 74.00 32 ⇑P **P** **14 07 19.8 +0.7**
XAN Xi'an 74.94 26 P **P** **14 07 24.5 -0.1**
XAN AMB AMB
comp=Z,59nm,1.1s,mb5.4
XAN LR LR
comp=N,114nm,16.7s
XAN LR LR
comp=Z,140nm,17.0s,MS4.3
LZH Lanzhou 75.16 21 *e*P **P** **14 07 25.5 -0.3**
LZH AP pP 14 07 30.3 +1.2
LZH XP sP 14 07 32.5 +2.2
LZH PP PP 14 10 16.5 +2.5
LZH *e*S S 14 17 04.3 -0.2
LZH XS sS 14 17 12.1 +2.2
LZH *e*SS SS 14 21 56.5 +2.9
LZH AMB AMB
comp=Z,23nm,1.5s,mb4.9
LZH AMB AMB
comp=Z,135nm,6.2s
LZH LR LR
comp=N,336nm,16.8s
LZH LR LR
comp=Z,545nm,17.7s,MS4.9
EIL Elat 76.65 322 *e*P **P** **14 07 34.7 +0.5**
comp=Z,92nm,0.8s,mb5.8

GTA Gaotai 77.22 17 *e*P **P** **14 07 37.5 0.0**
GTA AP pP 14 07 41.6 +0.8
GTA XP sP 14 07 44.8 +2.8
GTA PP PP 14 10 27.4 -3.9
GTA SCS ScS 14 17 51.9 -3.2
GTA AMB AMB
comp=Z,10.0nm,1.6s,mb4.5
GTA AMB AMB
comp=Z,135nm,5.7s
GTA LR LR
comp=N,75nm,17.5s,MS4.3
GTA LR LR
comp=E,79nm,15.2s,MS4.3
GTA LR LR
comp=Z,105nm,12.5s,MS4.4
NJ2 Nanjing 77.29 34 *e*P **P** **14 07 38.8 +0.9**
NJ2 AP pP 14 07 42.4 +1.2
NJ2 XP sP 14 07 45.3 +2.9
NJ2 PP PP 14 10 33.8 +1.8
NJ2 S S 14 17 28.0 +0.1
NJ2 XS sS 14 17 38.0 +4.7
NJ2 AMB AMB
comp=Z,50nm,0.8s,mb5.5
NJ2 AMB AMB
comp=Z,450nm,6.8s
NJ2 LR LR
comp=N,240nm,16.1s
NJ2 LR LR
comp=E,290nm,21.9s
NJ2 LR LR
comp=Z,260nm,27.0s
SSE Sheshan 77.61 37 P **P** **14 07 39.3 -0.4**
SSE PP PP 14 10 33.0 -1.6
SSE S S 14 17 30.9 -0.4
SSE SCS ScS 14 17 56.9 -1.4
SSE SS SS 14 22 30.5 -0.2
SSE AMB AMB
comp=Z,38nm,0.8s,mb5.4
SSE AMB AMB
comp=Z,66nm,5.4s
SSE LR LR
comp=N,67nm,23.0s,MS4.1
SSE LR LR
comp=E,89nm,23.0s,MS4.1
SSE LR LR
comp=Z,80nm,20.9s,MS4.0
AAK Ala-Archa 77.91 357 *e*P **P** **14 07 40.7 -0.7**
AAK pmax pmax
comp=Z,17nm,1.2s,mb4.8
AAK Ala-Archa 77.91 357 *e*P **P** **14 07 40.7 -0.7**
comp=Z,16nm,1.2s,mb4.8
JOW Kunigami 77.98 44 LR LR 14 36 07.9
comp=Z,91nm,21.2s,MS4.1,baz=71,slow=31
KK31 Karatay Array 78.62 354 *i*P **P** **14 07 45.5 +0.2**
KK31 pmax pmax
comp=Z,39nm,0.9s,mb5.3
KKAR Karatay Array 78.62 354 P **P** **14 07 45.5 +0.2**
KKAR pmax pmax
comp=Z,35nm,0.9s,mb5.3
WMQ Urumqi 79.48 7 ⇑P **P** **14 07 49.5 -0.5**
WMQ AP pP 14 07 53.5 +0.2
WMQ XP sP 14 07 56.5 +2.0
WMQ PCP PcP 14 07 58.0 0.0
WMQ PP PP 14 10 51.5 +1.2
WMQ *e*S S 14 17 49.6 -1.8
WMQ AMB AMB
comp=Z,15nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,247nm,4.9s
WMQ LR LR
comp=N,148nm,28.8s,MS4.4
WMQ LR LR
comp=E,215nm,28.8s,MS4.4
WMQ LR LR
comp=Z,155nm,28.8s,MS4.2
GUMO Guam 79.65 65 LR LR 14 40 26.3
comp=Z,51nm,20.1s,MS3.9,baz=228,slow=34
BTO Baotou 81.23 24 *e*P **P** **14 07 58.9 -0.6**
GNI Garni 81.43 335 *d i*P **P** **14 08 01.2 +0.7**
GNI pmax pmax
comp=Z,9.0nm,1.3s
HHC Hu-ho-hao-te 81.97 25 *e*P **P** **14 08 03.3 -0.1**
HHC AP pP 14 08 08.0 +1.3
HHC XP sP 14 08 10.4 +2.5
HHC PP PP 14 11 14.8 +3.9
HHC S S 14 18 16.9 -0.5
HHC SKS 14 18 20.0
HHC XS sS 14 18 25.5 +2.6
HHC SS SS 14 23 41.4 +5.4
HHC AMB AMB
comp=Z,18nm,1.3s,mb4.8
HHC AMB AMB
comp=Z,118nm,6.4s
HHC LR LR
comp=N,180nm,17.8s,MS4.7
HHC LR LR
comp=E,212nm,18.0s,MS4.7
HHC LR LR
comp=Z,156nm,17.5s,MS4.4
MK31 Makanchi Array 82.07 3 P **P** **14 08 02.3 -1.6**
MK31 pmax pmax
comp=Z,15nm,1.1s,mb4.8
MKAR Makanchi Array 82.07 3 P **P** **14 08 02.6 -1.3**
comp=Z,6.9nm,0.9s,mb4.6,baz=166,slow=6.4,SNR=36
MALT Malatya 82.25 329 *e*P **P** **14 08 05.3 +0.5**
MALT pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
MALT Malatya 82.25 329 *e*P **P** **14 08 05.2 +0.4**
comp=Z,3.5nm,1.0s,mb4.2
BJT Baijiatuau 82.92 28 *e*P **P** **14 08 07.3 -1.0**
BJT pmax pmax
comp=Z,28nm,1.4s
BJT Baijiatuau 82.92 28 *e*P **P** **14 08 07.3 -1.0**
comp=Z,28nm,1.4s,mb5.1
BJI Beijing 82.95 28 *e*P **P** **14 08 07.6 -0.8**
BJI AMB AMB
comp=Z,13nm,1.1s,mb4.9
BJI LR LR
comp=Z,81nm,32.1s,MS3.9
BRTR Keskin Array B 85.48 327 P **P** **14 08 21.4 0.0**
comp=Z,5.0nm,0.9s,mb4.6,baz=148,slow=7.3,SNR=23
BR131 Keskin Array S 85.48 327 *e*P **P** **14 08 21.5 +0.2**
comp=Z,4.3nm,0.8s,mb4.6
BR131 *e* 14 08 28.7
KIV Kislovodsk 85.51 335⇑ *e*P **P** **14 08 21.0 -0.5**
KIV pmax pmax
comp=Z,10.0nm,1.4s,mb4.8
KIV MLR MLR
comp=Z,100nm,21.0s,MS4.2
KURK Kurchatov 85.92 0 P **P** **14 08 23.8 +0.3**
comp=Z,194nm,0.8s,SNR=15
KURK Kurchatov 85.92 0 *e*P **P** **14 08 23.1 -0.4**
KURK *e* 14 08 30.2
KURK pmax pmax
comp=Z,35nm,1.0s,mb5.5
KURK Kurchatov 85.92 0 *e*P **P** **14 08 23.1 -0.4**
comp=Z,34nm,1.0s,mb5.5
KURK *e* 14 08 30.2
AB31 Akbulak array 86.01 348 P **P** **14 08 23.2 -0.8**
AB31 pmax pmax
comp=Z,3.0nm,1.0s,mb4.5
SOC Sochi 86.25 333 *e*P **P** **14 08 28.9 +3.8**
SOC *e*PPP 14 13 41.7
SONM Songino Array 86.76 19 P **P** **14 08 26.9 -0.8**
comp=Z,5.8nm,0.9s,mb4.8,baz=186,slow=5.0,SNR=37
SONM PP PP 14 11 50.2 +0.3
comp=Z,1.7nm,1.2s,baz=190,slow=4.5,SNR=5.5
SONM LR LR 14 45 01.7
comp=Z,124nm,18.6s,MS4.3,baz=212,slow=34
SONM Songino Array 86.76 19 P **P** **14 08 26.9 -0.8**
SONM 14 11 50.2
TORD Torodi Ar. Bea 86.94 288 P **P** **14 08 30.5 +2.0**
comp=Z,3.6nm,1.0s,mb4.5,baz=127,slow=5.1,SNR=7.6
ULN Ulaanbaatar 86.96 19⇑ *e*P **P** **14 08 27.7 -0.9**
ULN Ulaanbaatar 86.96 19 *e*P **P** **14 08 27.4 -1.3**
comp=Z,13nm,1.0s,mb5.1
AKTK Aktyubinsk 87.48 347 P **P** **14 08 29.5 -1.7**
AKTO Aktyubinsk 87.48 347 P **P** **14 08 29.5 -1.7**
comp=Z,2.8nm,0.8s,mb4.5,baz=94,slow=0.9,SNR=11
AKTO Aktyubinsk 87.48 347 P **P** **14 08 29.5 -1.7**
AKTO pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
SNY Shenyang 87.49 32 P **P** **14 08 30.8 -0.4**
SNY AMB AMB
comp=Z,8.0nm,0.5s,mb5.2

ANN Anapa 88.14 332 *e*P **P** **14 08 34.0 -0.3**
ANN pmax pmax
comp=Z,18nm,1.0s,mb5.3
DBIC Dimbokro 88.28 279 LR LR 14 43 27.3
comp=Z,345nm,20.3s,MS4.8,baz=101,slow=32
ZAK Zakamensk 88.39 16 *e*P **P** **14 08 35.0 -0.5**
ZAK pmax pmax
comp=Z,13nm,1.8s,mb4.9
BVA0 Borovoye Array 88.49 355 *i*P **P** **14 08 35.0 -1.0**
BVA0 pmax pmax
comp=Z,1.0nm,1.1s,mb4.0
ZRNK Zerenda 88.52 354 *e*P **P** **14 08 34.9 -1.2**
ZRNK pmax pmax
comp=Z,1.0nm,0.7s,mb4.2
ZRNK Zerenda 88.52 354 *e*P **P** **14 08 34.9 -1.2**
comp=Z,1.1nm,0.7s,mb4.3
BRVK Borovoye 88.53 355 *e*P **P** **14 08 34.6 -1.6**
BRVK pmax pmax
comp=Z,2.0nm,0.8s,mb4.5
BRVK Borovoye 88.53 355 *e*P **P** **14 08 34.6 -1.5**
comp=Z,2.4nm,0.8s,mb4.6
CHKZ Chkalovo 89.13 355 *i*P **P** **14 08 37.8 -1.2**
CHKZ pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
CHKZ Chkalovo 89.13 355 *e*P **P** **14 08 37.6 -1.3**
comp=Z,9.7nm,0.9s,mb5.1
ZAL Zalesovo 89.32 4 P **P** **14 08 40.6 +0.7**
comp=Z,2.6nm,0.8s,mb4.6,baz=295,slow=6.7
ZAL LR LR 14 47 42.9
comp=Z,113nm,20.6s,MS4.3,baz=269,slow=35
ZAL Zalesovo 89.32 4 P **P** **14 08 40.6 +0.7**
ZAL LR LR 14 47 42.9
TLY Talaya 89.69 15 *e*P **P** **14 08 41.2 -0.4**
TLY pmax pmax
comp=Z,4.0nm,1.1s,mb4.7
TLY Talaya 89.69 15 *e*P **P** **14 08 41.2 -0.4**
comp=Z,4.2nm,1.1s,mb4.7
CN2 Changchun 89.89 32 *e*P **P** **14 08 44.3 +1.8**
NVS Novosibirsk 90.15 3 *e*P **P** **14 08 38.9 -4.8**
NVS pmax pmax
comp=Z,15nm,1.4s,mb5.1
NVS pmax pmax
comp=N,8.0nm,1.3s
NVS pmax pmax
comp=E,7.0nm,1.2s
MJAR Matsushiro Arr 90.82 44 P **P** **14 08 46.7 -0.2**
comp=E,5.0nm,1.1s,mb4.8,baz=197,slow=5.3,SNR=8.1
MJAR Matsushiro Arr 90.82 44 P **P** **14 08 46.7 -0.2**
HIA Hailar 92.14 26 *e*P **P** **14 08 50.5 -2.5**
HIA pmax pmax
comp=Z,10.0nm,0.9s
HIA Hailar 92.14 26 *e*P **P** **14 08 50.5 -2.5**
comp=Z,9.9nm,0.9s,mb5.1
MDJ Mudanjiang 92.38 34 P **P** **14 08 53.8 -0.3**
MDJ AP pP 14 08 57.1 -0.3
MDJ PP PP 14 12 34.3 -0.5
MDJ S 14 19 59.9
MDJ SS SS 14 26 08.9 +0.7
MDJ AMB AMB
comp=Z,7.0nm,1.0s,mb5.0
MDJ AMB AMB
comp=Z,56nm,4.5s
MDJ LR LR
comp=N,68nm,25.3s,MS4.1
MDJ LR LR
comp=E,71nm,26.3s,MS4.1
MDJ LR LR
comp=Z,86nm,20.2s
MDJ Mudanjiang 92.38 34 P **P** **14 08 53.3 -0.8**
CIT Chita 92.52 21 *e*P **P** **14 08 54.2 -0.6**
CIT pmax pmax
comp=Z,26nm,1.6s,mb5.4
ARU Arti 93.16 349 *e*P **P** **14 08 57.5 -0.2**
ARU *e* 14 12 37.0
ARU *e*S 14 19 27.4
ARU *e*PS PS 14 21 12.4 -5.6
PLOR Plostina 93.47 327⇑ *i*P **P** **14 08 59.7 +0.6**
MLR Muntele Rosu 93.51 326⇑ *i*P **P** **14 09 00.2 +0.9**
MLR Muntele Rosu 93.51 326 ⇑P **P** **14 09 00.2 +0.9**
PLCA Paso Flores 98.84 203 LR LR 14 45 49.6
comp=Z,354nm,20.6s,MS4.8,baz=68,slow=30
FRB Frobisher Bay 145.30 335 PKPbc PKPbc 14 15 19.8 -1.3
comp=Z,16nm,0.9s,baz=74,slow=3.6,SNR=5.2
FRB Frobisher Bay 145.30 335 PKPbc PKPbc 14 15 19.8 -1.3
SKAG Skagway 147.64 32 *e*PKPbc PKPbc 14 15 27.5 -0.5
SKAG *e* 14 15 35.5
DLBC Dease Lake 150.47 30 PKPbc PKPbc 14 15 35.0 -0.2
comp=Z,1.6nm,0.5s,baz=292,slow=6.4,SNR=9.5
DLBC Dease Lake 150.47 30 *e*PKPbc PKPbc 14 15 35.2 +0.1
DLBC *e* 14 15 41.9
YKA Yellowknife Ar 151.87 13 PKPbc PKPbc 14 15 36.8 -1.6
comp=Z,3.2nm,1.0s,baz=342,slow=2.4,SNR=7.5
YKA Yellowknife Ar 151.87 13 PKPbc PKPbc 14 15 36.8 -1.6
NVAR Mina Array Bea 166.44 73 PKPab PKPab 14 16 50.9 +0.3
comp=Z,0.5nm,0.8s,baz=243,slow=4.0,SNR=3.2
HRY Holter Researc 166.53 31 *e*PKPab PKPab 14 16 50.5 -0.5
PDAR Pinedale Array 170.59 38 PKPab PKPab 14 17 08.1 -0.9
comp=Z,0.7nm,0.8s,baz=347,slow=6.1,SNR=5.7

IDC ***20*** *14:35:31.1±1.3, 191S×125.88E, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.8/17, mbtmp3.9/5, ML3.9/2, Error ellipse: s-maj=130.3km s-min=20.1km az=70.0*
ISCJB ***20*** *14:35:33.8±0.6, 2.1S±0.1×1255E±0.1, h33km, mb4.1/7, Error ellipse: s-maj=24.4km s-min=10.9km az=107.2*
NEIC ***20*** *14:35:36.2±0.6, 205S×12.554E, h35km, mb4.3/5, Error ellipse: s-maj=20.9km s-min=9.8km az=59.0*
ISC 20 14:35:35.9±0.6, 22S±0.1×125.4E±0.1, h35km, n12, σ0s 71/12, mb4.1/7, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**15.57**	**284**	P		**Pn**	**14 39 12.4**	**-0.2**
KSM				*e*			14 39 20.1	
FITZ	**Fitzroy Crossi**	**15.78**	**179**	Pn		**Pn**	**14 39 20.4**	**+5.1**
	0.1nm,0.3s,baz=28,slow=15,SNR=3.4							
WRAB	**Tennant Creek**	**19.63**	**154**	*e*P		**Pn**	**14 40 02.2**	**-0.7**
	7.7nm,0.6s							
WRA	**Warramunga Arr**	**19.64**	**154**	P		**Pn**	**14 40 02.0**	**-0.9**
	0.8nm,0.3s,baz=331,slow=12,SNR=50							
PMG	**Port Moresby**	**22.74**	**109**	P		**P**	**14 40 34.7**	**0.0**
	19nm,0.9s,mb4.5							
ASAR	**Alice Springs**	**22.84**	**160**	P		**P**	**14 40 37.6**	**+1.8**
	1.6nm,0.6s,mb3.6,baz=345,slow=12,SNR=30							
ULN	**Ulaanbaatar**	**52.41**	**344**	P		**P**	**14 44 44.5**	**-0.2**
	1.6nm,0.8s,mb4.0							
SONM	**Songino Array**	**52.56**	**344**	P		**P**	**14 44 45.9**	**0.0**
	1.0nm,0.7s,mb3.9,baz=156,slow=9.9,SNR=7.3							
MKAR	**Makanchi Array**	**61.78**	**328**	P		**P**	**14 45 50.9**	**0.0**
	0.6nm,0.5s,mb4.0,baz=122,slow=7.9,SNR=11							
MKAR	**Makanchi Array**	**61.78**	**328**	P		**P**	**14 45 50.9**	**-0.1**
KURK	**Kurchatov**	**66.11**	**330**	*e*P		**P**	**14 46 19.8**	**+0.4**
	3.6nm,0.8s,mb4.5							
ZRNK	**Zerenda**	**72.33**	**328**	*e*P		**P**	**14 46 58.0**	**0.0**
	1.9nm,0.6s,mb4.2							

IDC 20 14:41:44.9±2.4, 1955S×17470W, h0km, mb3.6/4, mb1 4.0/5, mb1mx3.8/16, mbtmp3.7/5, ML1.8/1, Error ellipse: s-maj=115.1km s-min=24.7km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.27**	**27**	Pn		Pn	14 43 19.5	+0.9
	1.4nm,0.3s,baz=330,slow=22,SNR=5.2							
AFI				Sn		Sn	14 44 25.3	-5.6
	2.4nm,0.3s,baz=72,slow=22,SNR=3.8							
RAR	**Rarotonga**	**14.10**	**99**	Pn		Pn	14 44 53.4	-12
	0.7nm,0.3s,baz=347,slow=12,SNR=3.6							
RAR				T			14 58 56.1	
	2.7nm,0.3s,baz=182,slow=5.3,SNR=3.5							
ASAR	**Alice Springs**	**47.76**	**255**	P		P	14 50 23.9	+0.3
	0.2nm,0.4s,baz=87,slow=7.7,SNR=5.7							
WRA	**Warramunga Arr**	**47.81**	**260**	P		P	14 50 24.6	+0.5
	0.3nm,0.3s,baz=97,slow=7.5,SNR=25							
NVAR	**Mina Array Bea**	**78.23**	**42**	P		P	14 53 46.6	+0.2
	0.7nm,0.7s,baz=215,slow=7.0,SNR=4.7							
ILAR	**Eielson Array**	**86.74**	**12**	P		P	14 54 30.5	-0.3
	0.5nm,0.7s,baz=222,slow=5.7,SNR=5.4							
ARCES	**ARCESS Array B**	**128.51**	**351**	PKP		PKPdf	15 00 52.7	-1.0
	2.8nm,0.9s,baz=332,slow=4.4,SNR=6.7							

MEX 20 14:44:10.3±0.4, 1927N×9423W, h48km±52km, MD3.9,

Bay of Campeche

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVV	**El Vigia**	**1.33**	**233**	*i* P	Pn	14 44 31.0	-1.5
EVV				*i* S	Sn	14 44 47.0	-2.1
OXX	**Oaxaca**	**3.22**	**228**	*i* P	Pn	14 45 00.0	+1.7
OXX				*i* S	Sn	14 45 38.0	+2.6
VHO	**Vista Hermosa**	**3.23**	**228**	*i* P	Pn	14 44 58.5	0.0
VHO				*i* S	Sn	14 45 33.6	-2.2
CCIG	**Comitan**	**3.57**	**146**	*i* P	Pn	14 45 01.8	-1.4
CCIG				*i* S	Sn	14 45 43.1	-1.0
UTMO	**Huajuapan**	**3.68**	**248**	*i* P	Pn	14 45 03.4	-1.3
UTMO				*i* S	Sn	14 45 46.2	-0.6

IDC 20 15:54:07.7±4.2, 1494S×17772W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/14, mbtmp3.8/4, Error ellipse: s-maj=191.6km s-min=32.5km az=136.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.70**	**238**	P	P	16 01 50.1	+0.2
	1.2nm,0.8s,baz=83,slow=8.1,SNR=3.1						
WRA	**Warramunga Arr**	**45.89**	**257**	P	P	16 02 32.3	+0.4
	0.3nm,0.9s,baz=90,slow=8.2,SNR=4.5						
ASAR	**Alice Springs**	**46.30**	**251**	P	P	16 02 35.5	+0.4
	2.3nm,0.5s,baz=85,slow=8.3,SNR=115						
ILAR	**Eielson Array**	**82.86**	**13**	P	P	16 06 33.8	-0.3
	0.6nm,0.8s,baz=227,slow=7.5,SNR=6.2						
VNA3	**Neumayer Olymp**	**93.65**	**176**	*e*	P	16 07 21.0	-5.0
VNA2	**Neumayer--Watz**	**94.10**	**177**	*e*	P	16 07 27.3	-0.8
	baz=237,slow=2.7						

*IDC **20** 16:18:39.3±1.6, 3095N×5013E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/22, mbtmp3.7/6, ML3.8/1, Error ellipse: s-maj=36.2km s-min=29.0km az=31.0*
*THR **20** 16:18:42.2±0.4, 3086N×5017E, h18km±9km, ML3.5*
*ISCJB **20** 16:18:42.4±0.3, 3099N±003×5009E±003, h10km, mb3.6/5, Error ellipse: s-maj=4.5km s-min=3.1km az=101.5*
*CSEM **20** 16:18:43.3±0.1, 3099N×5014E, h20km, ML3.5, Error ellipse: s-maj=2.2km s-min=1.1km az=139.0*
*KISR **20** 16:18:43.5±1.1, 3095N×5006E, h33km, ML3.2*
*TEH **20** 16:18:44.7, 3099N×5016E, h8km, Mn3.5*

ISC 20 16:18:43.5±0.3, 3097N±003×5011E±003, h10km, n38, σ1§09/52, mb3.6/5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.59**	**316**	*e*Pg	**Pg**	**16 19 13.3**	**-0.8**
SHGR				*e*Sg	**Sg**	**16 19 36.1**	**+1.4**
SHGR				AML	AML	16 19 44.9	
	comp=N,589nm,0.6s						
SHGR				AML	AML	16 19 45.4	
	comp=E,629nm,0.5s						
SHGR	**Shooshtar-Gavs**	**1.59**	**316**	*e*Pg	**Pg**	**16 19 13.3**	**-0.8**
	SNR=91						
SHGR				*e*Sg	**Sg**	**16 19 36.2**	**+1.5**
	SNR=91						
IPIR	**Pirpir**	**1.83**	**21**	*e*Pn	**Pn**	**16 19 15.8**	**+0.7**
IPIR				*e*Sn	**Sn**	**16 19 38.9**	**+0.6**
IGAR	**Garneh**	**2.19**	**54**	*e*Pn	**Pn**	**16 19 20.6**	**+0.6**
IGAR				*e*Sn	**Sn**	**16 19 47.1**	**0.0**
UMR	**Umm Al-Rimmam**	**2.51**	**236**	*e*P	**Pn**	**16 19 24.7**	**+0.3**
UMR				AML	AML	16 19 59.8	
	comp=Z,68nm,0.2s						
IKLH	**Kalahroud**	**2.65**	**28**	*e*Pn	**Pn**	**16 19 28.3**	**+2.0**
MIB	**Mutribah**	**2.66**	**245**	*e*P	**Pn**	**16 19 26.6**	**+0.1**
MIB				AML	AML	16 20 13.8	
	comp=Z,94nm,0.5s						
IZEF	**Zefreh**	**2.69**	**44**	*e*Pn	**Pn**	**16 19 27.3**	**+0.4**
IZEF				*e*Sn	**Sn**	**16 19 59.2**	**-0.3**
KBD	**Kabd**	**2.75**	**230**	*e*P	**Pn**	**16 19 27.9**	**+0.2**
KBD				*e*S	**Sn**	**16 20 01.9**	**+0.9**
KBD				AML	AML	16 20 12.7	
	comp=Z,245nm,0.3s						
KBD	**Kabd**	**2.75**	**230**	*e*P	**Pn**	**16 19 27.9**	**+0.2**
KBD				*e*S	**Sn**	**16 20 01.9**	**+0.9**
QRN	**Al-Qurain**	**2.92**	**221**	*e*P	**Pn**	**16 19 30.0**	**-0.1**
QRN				*e*S	**Sn**	**16 20 05.4**	**+0.2**
QRN				AML	AML	16 20 07.0	
	comp=Z,116nm,0.2s						
NASN	**Na'in**	**2.93**	**51**	*e*PN	**Pn**	**16 19 30.8**	**+0.6**
IMOK	**Mook**	**2.96**	**130**	*e*Pn	**Pn**	**16 19 31.9**	**+1.3**
RDF	**Al-Radifah**	**3.01**	**228**	*e*P	**Pn**	**16 19 31.4**	**+0.1**
RDF				AML	AML	16 20 11.1	
	comp=Z,113nm,0.3s						
NAY	**Al-Naaiem**	**3.02**	**236**	*e*P	**Pn**	**16 19 31.9**	**+0.5**
NAY				*e*S	**Sn**	**16 20 07.0**	**-0.5**
NAY				AML	AML	16 20 08.4	
	comp=Z,22nm,0.4s						
NAY	**Al-Naaiem**	**3.02**	**236**	*e*P	**Pn**	**16 19 31.9**	**+0.5**
NAY				*e*S	**Sn**	**16 20 07.1**	**-0.5**
ISAD	**Sadrabad**	**3.20**	**72**	*e*Sn	**Sn**	**16 20 11.3**	**-0.7**
ASAO	**Ashtian**	**3.57**	**359**	*e*Pn	**Pn**	**16 19 40.4**	**+1.5**
GHIR	**Ghir-Karzin**	**3.67**	**136**	*e*Pn	**Pn**	**16 19 38.6**	**-1.6**
GHIR				AML	AML	16 20 46.4	
	comp=E,78nm,0.6s						
ISFB	**Sefidab**	**3.82**	**27**	*e*Pn	**Pn**	**16 19 42.8**	**+0.4**
ISFB				*e*Sn	**Sn**	**16 20 25.1**	**-2.3**
ICHK	**Chekchek**	**3.88**	**70**	*e*Pn	**Pn**	**16 19 43.5**	**+0.3**
IMEH	**Mehriz**	**3.88**	**83**	*e*Pn	**Pn**	**16 19 43.4**	**+0.1**
IVRN	**Varamin**	**4.24**	**18**	*e*Pn	**Pn**	**16 19 48.5**	**+0.3**
IBAF	**Bafgh**	**4.71**	**81**	*e*Pn	**Pn**	**16 19 54.8**	**+0.1**
ILIN	**Laeen**	**4.74**	**327**	*e*Pn	**Pn**	**16 19 55.9**	**+0.8**
ILIN				*e*Sn	**Sn**	**16 20 48.8**	**-1.3**
IDHR	**Dehrash**	**4.86**	**321**	*e*Pn	**Pn**	**16 19 57.3**	**+0.6**
IDHR				*e*Sn	**Sn**	**16 20 51.9**	**-1.2**
IDMV	**Damavand**	**4.87**	**19**	*e*Pn	**Pn**	**16 19 57.0**	**+0.2**
ILAS	**Lasjerd**	**5.01**	**28**	*e*Pn	**Pn**	**16 19 58.5**	**-0.2**
IFIR	**Firoozkooh**	**5.16**	**25**	*e*Pn	**Pn**	**16 20 00.9**	**+0.1**
IKIA	**Kiasar**	**6.01**	**29**	*e*Pn	**Pn**	**16 20 12.7**	**+0.2**
WSAR	**Wadi Sarin**	**10.81**	**133**	Pn	**Pn**	**16 21 14.4**	**-3.9**
	comp=E,0.8nm,0.3s,baz=336,slow=16,SNR=13						
WSAR				Sn	**Sn**	**16 23 07.9**	**-11**
	comp=E,0.9nm,0.3s,baz=274,slow=23,SNR=5.1						
BRTR	**Keskin Array B**	**16.01**	**308**	Pn	**Pn**	**16 22 29.3**	**+0.5**
	comp=E,0.1nm,0.3s,baz=130,slow=15,SNR=2.6						
AKTO	**Aktyubinsk**	**20.32**	**15**	P	**P**	**16 23 22.3**	**+2.5**
	comp=E,1.1nm,0.3s,baz=195,slow=12,SNR=5.2						
AKASG	**Malin Array Be**	**25.11**	**328**	P	**P**	**16 24 05.7**	**-2.7**
	comp=E,0.3nm,0.3s,mb3.3,baz=136,slow=9.4,SNR=4.4						
MKAR	**Makanchi Array**	**29.36**	**48**	P	**P**	**16 24 44.3**	**-2.3**
	comp=E,0.5nm,0.7s,mb3.3,baz=242,slow=7.8,SNR=4.3						
FINES	**FINESS Array B**	**34.31**	**340**	P	**P**	**16 25 27.3**	**-2.8**
	comp=E,0.4nm,0.3s,mb3.8,baz=139,slow=11,SNR=6.9						
HFS	**Hagfors**	**37.88**	**331**	P	**P**	**16 25 57.6**	**-3.1**
	comp=E,0.4nm,0.3s,mb3.6,baz=110,slow=12,SNR=3.0						
TORD	**Torodi Ar. Bea**	**47.85**	**259**	P	**P**	**16 27 19.4**	**-2.0**
	comp=E,0.7nm,0.7s,mb3.8,baz=58,slow=8.2,SNR=3.3						

MAN 20 16:35:21.7, 971N×12210E, h23km, mb3.2, ML4.5, MS3.0, 1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**1.03**	**28**	*e*P	Pn	16 35 40.3	-0.5
GUIM				*e*S	Sb	16 35 54.2	+0.2
SNPH	**Sibulan**	**1.18**	**108**	⇓*i*P	Pn	16 35 42.0	-0.7
SNPH				*i* S	Sn	16 35 58.0	-0.1
CUYO	**Cuyo Island**	**1.56**	**317**	*e*P	Pn	16 35 48.5	+0.6
TBP	**Tagbilaran**	**1.74**	**90**	*e*P	Pn	16 35 50.5	0.0
TBP				*e*S	Sn	16 36 13.6	+1.7
LLP	**Lapu-Lapu**	**1.94**	**72**	*e*P	Pn	16 35 53.0	-0.1
LLP				*e*S	Sn	16 36 17.7	+0.9
IPIL	**Ipil**	**1.96**	**166**	*e*P	Pn	16 35 53.1	-0.5
IPIL				*e*S	Sn	16 36 13.7	-3.7
PAGZ	**Pagadian**	**2.24**	**145**	*e*P	Pn	16 35 58.6	+1.2
MSLP	**Maasin**	**2.75**	**81**	*e*P	Pn	16 36 06.1	+1.7
BUSP	**Coron**	**2.95**	**321**	*e*P	Pn	16 36 07.8	+0.7
ENPP	**El Nido**	**3.02**	**300**	*e*P	Pn	16 36 09.0	+0.8

*ISCJB **20** 16:36:58.0±0.7, 5145N±007×17843W±004, h56km±5km, mb4.5/55, MS3.6/12, Error ellipse: s-maj=11.2km s-min=4.1km az=160.8*
*BJI **20** 16:36:57.5, 5178N×17866W, h46km, mB5.0, mb4.7, Ms4.2, Msz3.9*
*IDC **20** 16:36:58.2±2.8, 5151N×17852W, h44km±25km, mb4.0/22, mb1 4.2/23, mb1mx4.1/28, mbtmp4.2/23, ML4.5/1, MS3.4/6, Ms1 3.4/6, ms1mx2.9/34, Error ellipse: s-maj=18.9km s-min=11.8km az=155.0*
*MOS **20** 16:36:58.5±1.0, 5152N×17845W, h59km, mb4.6/23, Error ellipse: s-maj=10.7km s-min=8.6km az=102.5*
*NEIC **20** 16:37:00.3±0.8, 5156N×17845W, h59km±6km, mb4.6/25, ML4.5(AEIC), Error ellipse: s-maj=11.5km s-min=4.7km az=172.0*

ISC 20 16:36:59.7±0.6, 5148N±007×17843W±005, h57km±5km, h61km±1.1km:pP-P, n133, σ1§08/134, mb4.5/55, MS3.6/12, 1C-3D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.43**	**267**	P	**Pn**	**16 37 21.1**	**-2.2**
AMKA				S	**Sn**	**16 37 39.1**	**-1.9**
ATKA	**Atka Island**	**2.72**	**73**	P	**Pn**	**16 37 41.5**	**+0.5**
ATKA				S	**Sn**	**16 38 11.9**	**-0.7**
SMY	**Shemya**	**4.77**	**288**	P	**Pn**	**16 38 09.4**	**+0.4**
FX1	**Attu Island--F**	**5.36**	**288**	P	**Pn**	**16 38 17.6**	**+0.5**
	7.8nm,0.3s,baz=313,slow=23,SNR=55						
FX1				S	**Sn**	**16 39 20.1**	**+2.6**
	3.7nm,0.3s,baz=300,slow=22,SNR=2.6						
FX1	**Attu Island--F**	**5.36**	**288**	P	**Pn**	**16 38 17.6**	**+0.5**
FX1				S	**Sn**	**16 39 20.1**	**+2.6**
FX1				pmax	pmax		
	comp=Z,8.0nm,0.3s						
FX1				smax			
	comp=N,4.0nm,0.3s						
FX1	**Attu Island--F**	**5.36**	**288**	*e*P	**Pn**	**16 38 18.4**	**+1.3**
SPIA	**Saint Paul Isl**	**7.44**	**37**	P	**Pn**	**16 38 48.7**	**+3.1**
UNV	**Unalaska Valle**	**7.63**	**67**	P	**Pn**	**16 38 49.7**	**+1.6**
PET	**Petropavlovsk**	**14.11**	**285**	*e*P	**Pn**	**16 40 15.2**	**-1.4**
KDAK	**Kodiak Island**	**16.17**	**57**	P	**Pn**	**16 40 41.7**	**-1.5**
	comp=N,2.0nm,0.3s,baz=252,slow=5.9,SNR=27						
KDAK				S	**S**	**16 43 40.1**	**-12**
	comp=N,0.2nm,0.3s,baz=98,slow=16,SNR=5.2						
SLKM	**Skilak Lake**	**18.05**	**49**	*e*P	**Pn**	**16 41 06.4**	**+0.1**
BILL	**Bilibino**	**18.21**	**341**	*e*P	**Pn**	**16 41 09.6**	**+1.3**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BILL	**Bilibino**	**18.21**	**341**	*e*Pn	**Pn**	**16 41 09.6**	**+1.3**
	comp=Z,3.6nm,0.6s						
COLA	**College**	**20.69**	**38**	*e*P	**P**	**16 41 36.2**	**+1.3**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
COLA	**College**	**20.69**	**38**	*e*P	**P**	**16 41 36.2**	**+1.2**
	comp=Z,3.8nm,0.5s						
ILAR	**Eielson Array**	**21.02**	**39**	P	**P**	**16 41 37.5**	**-1.0**
	comp=Z,0.9nm,0.4s,mb3.5,baz=242,slow=9.8,SNR=22						
ILAR				PcP	PcP	16 45 42.2	-1.3
	comp=Z,1.0nm,0.5s,baz=287,slow=3.6,SNR=12						
ILAR				ScP	ScP	16 49 16.6	+1.1
	comp=Z,0.3nm,0.5s,baz=274,slow=4.0,SNR=5.8						
ILAR	**Eielson Array**	**21.02**	**39**	P	**P**	**16 41 37.6**	**-0.9**
ILAR						16 45 42.3	
DAWY	**Dawson**	**23.87**	**43**	*e*P	**P**	**16 42 02.7**	**-5.1**
YSS	**Yuzh-Sakhalins**	**25.54**	**275**	⇓*i*P	**P**	**16 42 24.0**	**+1.0**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s,mb4.8						
YSS	**Yuzh-Sakhalins**	**25.54**	**275**	*e*P	**P**	**16 42 22.1**	**-0.9**
	comp=Z,17nm,0.6s,mb4.7						
ASAJ	**Asahikawa**	**26.94**	**270**	P	**P**	**16 42 34.4**	**-1.3**
	comp=Z,18nm,1.0s,mb4.6,baz=359,slow=5.0,SNR=10						
ASAJ				LR	LR	16 53 07.8	
	comp=Z,35nm,21.6s,MS2.9,baz=67,slow=36						
ASAJ	**Asahikawa**	**26.94**	**270**	P	**P**	**16 42 34.4**	**-1.2**
ASAJ				pmax	pmax		
	comp=Z,18nm,1.0s						
ASAJ				MLR	MLR		
	comp=Z,35nm,21.6s						
INK	**Inuvik**	**27.24**	**35**	P	**P**	**16 42 38.0**	**-0.4**
	comp=Z,0.7nm,0.3s,mb3.6,baz=246,slow=5.4,SNR=14						
INK				PcP	PcP	16 45 56.5	-0.5
	comp=Z,2.0nm,0.6s,baz=260,slow=2.6,SNR=9.1						
INK	**Inuvik**	**27.24**	**35**	P	**P**	**16 42 38.0**	**-0.3**
INK						16 45 56.6	
INK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**27.24**	**35**	*e*P	**P**	**16 42 37.9**	**-0.5**
DLBC	**Dease Lake**	**28.11**	**57**	LR	LR	16 52 33.0	
	comp=Z,74nm,19.9s,MS3.3,baz=290,slow=33						
TIXI	**Tiksi**	**30.66**	**330**	*e*P	**P**	**16 43 08.5**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.6						
KLR	**Kul'dur**	**31.38**	**286**	*e*P	**P**	**16 43 11.2**	**-3.8**
MJAR	**Matsushiro Arr**	**34.03**	**261**	P	**P**	**16 43 38.8**	**+0.6**
	comp=Z,3.6nm,0.7s,mb4.4,baz=51,slow=7.9,SNR=12						
MJAR				LR	LR	16 55 23.6	
	comp=Z,69nm,21.2s,MS3.4,baz=80,slow=32						
MAJO	**Matsushiro**	**34.03**	**261**	*e*P	**P**	**16 43 38.3**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
MAJO	**Matsushiro**	**34.03**	**261**	*e*P	**P**	**16 43 38.3**	**+0.1**
	comp=Z,11nm,0.9s,mb4.8						
MAT	**Matsushiro**	**34.03**	**261**	P	**P**	**16 43 38.6**	**+0.4**
MAT	**Matsushiro**	**34.03**	**261**	*e*P	**P**	**16 43 39.0**	**+0.8**
MAT				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
MAT	**Matsushiro**	**34.03**	**261**	*e*P	**P**	**16 43 39.0**	**+0.8**
	comp=Z,8.4nm,0.9s,mb4.7						
VLA	**Vladivostok**	**34.13**	**276**	*e*P	**P**	**16 43 38.1**	**-1.0**
VLA				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.9						
MDJ	**Mudanjiang**	**34.79**	**280**	P	**P**	**16 43 44.5**	**-0.2**
MDJ				AP	pP	16 43 59.4	+0.3
MDJ				XP	sP	16 44 06.8	+1.0
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,58nm,7.0s						
MDJ				LR	LR		
	comp=N,25nm,18.1s,MS3.3						
MDJ				LR	LR		
	comp=E,50nm,22.6s,MS3.3						
MDJ				LR	LR		
	comp=Z,38nm,25.6s,MS3.0						
YKA	**Yellowknife Ar**	**34.99**	**47**	P	**P**	**16 43 46.0**	**-0.5**
	comp=Z,0.9nm,0.5s,mb4.0,baz=282,slow=7.3,SNR=7.2						
YKA				LR	LR	16 58 03.0	
	comp=Z,43nm,19.1s,MS3.2,baz=230,slow=36						
YKA	**Yellowknife Ar**	**34.99**	**47**	P	**P**	**16 43 46.0**	**-0.5**
YKA				LR	LR	16 58 03.0	
CN2	**Changchun**	**37.76**	**281**	*e*P	**P**	**16 44 11.5**	**+1.4**
NEW	**Newport**	**38.63**	**70**	P	**P**	**16 44 17.8**	**+0.4**
	comp=Z,6.9nm,0.6s,mb4.5,baz=295,slow=7.3,SNR=11						
NEW	**Newport**	**38.63**	**70**	P	**P**	**16 44 17.8**	**+0.4**
NEW				pmax	pmax		
	comp=Z,7.0nm,0.6s						
NEW	**Newport**	**38.63**	**70**	*e*P	**P**	**16 44 17.2**	**-0.2**
	comp=Z,8.8nm,0.8s,mb4.5						
RES	**Resolute Bay**	**39.55**	**24**	*e*P	**P**	**16 44 26.0**	**+0.9**
RES				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.1						
RES	**Resolute Bay**	**39.55**	**24**	*e*P	**P**	**16 44 25.9**	**+0.8**
	comp=Z,3.7nm,1.0s,mb4.1						
INCN	**Inchon**	**40.66**	**272**	P	**P**	**16 44 34.2**	**-0.1**
	comp=Z,18nm,1.0s,mb4.7						
HLID	**Hailey**	**42.69**	**75**	*e*P	**P**	**16 44 51.1**	**+0.3**
	comp=Z,4.3nm,1.2s,mb4.0						
NVAR	**Mina Array Bea**	**43.31**	**83**	P	**P**	**16 44 56.9**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=293,slow=5.9,SNR=5.2						
DUG	**Dugway**	**45.62**	**77**	*e*P	**P**	**16 45 14.7**	**+0.4**
DUG				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
DUG	**Dugway**	**45.62**	**77**	*e*P	**P**	**16 45 14.7**	**+0.4**
	comp=Z,9.7nm,1.1s,mb4.7						
FCC	**Fort Churchill**	**45.72**	**46**	*e*P	**P**	**16 45 13.4**	**-1.7**
PDAR	**Pinedale Array**	**46.06**	**73**	P	**P**	**16 45 18.2**	**+0.5**
	comp=Z,4.3nm,0.6s,mb4.6,baz=305,slow=5.2,SNR=17						
ULN	**Ulaanbaatar**	**46.42**	**296**	*e*P	**P**	**16 45 20.6**	**0.0**
ULN				*e*		16 46 54.5	
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ULN	**Ulaanbaatar**	**46.42**	**296**	*e*P	**P**	**16 45 20.6**	**0.0**
	comp=Z,1.5nm,0.6s,mb4.1						
ULN				*e*PcP	PcP	16 46 54.5	-0.1
SONM	**Songino Array**	**46.81**	**297**	P	**P**	**16 45 24.0**	**+0.4**
	comp=Z,1.0nm,0.5s,mb4.0,baz=64,slow=6.8,SNR=15						
SONM				LR	LR	17 05 50.8	
	comp=Z,83nm,18.6s,MS3.7,baz=74,slow=37						
JOW	**Kunigami**	**46.82**	**259**	LR	LR	17 01 59.3	
	comp=Z,45nm,21.2s,MS3.4,baz=103,slow=32						
MSU	**Marysvale**	**47.04**	**79**	*e*P	**P**	**16 45 26.2**	**+0.8**
ZAK	**Zakamensk**	**47.10**	**301**	*e*P	**P**	**16 45 27.4**	**+1.5**
ZAK				*e*		16 46 55.1	
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3						
TMUT	**Trail Mountain**	**47.15**	**77**	*e*P	**P**	**16 45 26.7**	**+0.4**
SRU	**San Rafael**	**47.68**	**77**	*e*P	**P**	**16 45 30.9**	**+0.5**
SRU				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
SRU	**San Rafael**	**47.68**	**77**	*e*P	**P**	**16 45 30.9**	**+0.5**
	comp=Z,3.4nm,0.6s,mb4.5						
HHC	**Hu-ho-hao-te**	**47.88**	**286**	*e*P	**P**	**16 45 32.5**	**+0.5**
HHC				AP	pP	16 45 48.0	+1.1
HHC				PCP	PcP	16 47 02.0	+2.2
HHC				PP	PP	16 47 24.4	+0.2
HHC				PCS	PcS	16 50 56.9	+1.4
HHC				S	**S**	**16 52 23.0**	**-2.1**
HHC				XS	sS	16 52 49.0	-1.2
HHC				SCS	ScS	16 55 17.9	-2.2
HHC				SS	SS	16 55 45.5	-8.7
HHC				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.8						
HHC				AMB	AMB		
	comp=Z,154nm,5.3s						
HHC				LR	LR		
	comp=N,116nm,16.5s,MS4.3						
HHC				LR	LR		
	comp=E,211nm,15.6s,MS4.3						
HHC				LR	LR		
	comp=Z,122nm,15.6s,MS4.0						
NJ2	**Nanjing**	**49.04**	**272**	*e*P	**P**	**16 45 42.1**	**+1.2**
NJ2				AP	pP	16 45 56.1	+0.2
NJ2				XP	sP	16 46 04.0	+1.6
NJ2				PP	PP	16 47 34.3	-0.5
NJ2				S	**S**	**16 52 41.0**	**-0.4**
NJ2				XS	sS	16 53 06.0	-0.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,100nm,5.0s						
NJ2				LR	LR		
	comp=N,540nm,39.4s						
NJ2				LR	LR		
	comp=E,370nm,32.5s						
NJ2				LR	LR		
	comp=Z,300nm,34.2s						
PV01	**Paradox Valley**	**49.48**	**77**	*e*P	**P**	**16 45 43.7**	**-0.5**
ANMO	**Albuquerque**	**52.84**	**79**	*e*P	**P**	**16 46 09.7**	**+0.3**
WHN	**Wuhan**	**52.88**	**274**	*e*P	**P**	**16 46 09.0**	**-0.7**
XAN	**Xi'an**	**53.87**	**281**	P	**P**	**16 46 16.8**	**-0.2**
XAN				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.6						
LZH	**Lanzhou**	**55.58**	**286**	⇑P	**P**	**16 46 30.0**	**+0.7**
LZH				AP	pP	16 46 46.0	+1.4
LZH				XP	sP	16 46 53.0	+2.0
LZH				PP	PP	16 48 35.6	+1.7
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
LZH				AMB	AMB		
	comp=Z,167nm,5.1s						
MNTX	**Cornudas Mount**	**55.70**	**81**	*e*P	**P**	**16 46 30.3**	**+0.1**
	comp=Z,2.3nm,0.9s,mb4.2						
GTA	**Gaotai**	**55.74**	**292**	*e*P	**P**	**16 46 31.3**	**+0.8**
GTA				AP	pP	16 46 47.3	+1.5
GTA				PCP	PcP	16 47 32.3	+3.1
GTA				PP	PP	16 48 36.5	+1.2
GTA				SCP	ScP	16 51 24.6	+1.4
GTA				PCS	PcS	16 51 29.9	+0.5
GTA				S	**S**	**16 54 14.3**	**+1.3**
GTA				SCS	ScS	16 56 11.4	-3.2
GTA				SS	SS	16 57 51.8	-7.2
GTA				AMB	AMB		
	comp=Z,14nm,0.8s,mb5.0						
GTA				AMB	AMB		
	comp=Z,103nm,7.2s						
GTA				LR	LR		
	comp=N,77nm,9.9s						
GTA				LR	LR		
	comp=E,47nm,9.9s						
GTA				LR	LR		
	comp=Z,57nm,11.0s,MS3.9						
ARCES	**ARCESS Array B**	**58.03**	**350**	P	**P**	**16 46 45.4**	**-1.3**
	comp=Z,1.0nm,0.4s,mb4.2,baz=20,slow=7.4,SNR=25						
ARE0	**ARCESS Array S**	**58.03**	**350**	*e*P	**P**	**16 46 43.5**	**-3.2**
KURK	**Kurchatov**	**59.12**	**314**	*e*P	**P**	**16 46 54.6**	**+0.3**
KURK	**Kurchatov**	**59.12**	**314**	*e*P	**P**	**16 46 51.7**	**-2.5**
	comp=Z,5.5nm,1.0s,mb4.5						
CD2	**Chengdu**	**59.18**	**282**	*e*P	**P**	**16 46 53.8**	**-0.9**
WMQ	**Urumqi**	**59.48**	**303**	⇓P	**P**	**16 46 56.8**	**0.0**
WMQ				AP	pP	16 47 13.3	+1.2
WMQ				PCP	PcP	16 47 42.8	-1.1
WMQ				PP	PP	16 49 10.5	+2.0
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,91nm,4.1s						
WMQ				LR	LR		
	comp=N,38nm,16.4s						
WMQ				LR	LR		
	comp=Z,28nm,17.8s,MS3.4						
MKAR	**Makanchi Array**	**60.15**	**309**	P	**P**	**16 47 00.3**	**-1.1**
	comp=Z,1.1nm,0.4s,mb4.3,baz=48,slow=6.3,SNR=29						
MKAR	**Makanchi Array**	**60.15**	**309**	*i* P	**P

SHL	**Shillong**	**70.25**	**286**	*e*P		**P**	**16 48 07.5**	**+0.8**
GUN	**Gumba**	**72.03**	**292**	*e*P		**P**	**16 48 18.8**	**+1.2**
	comp=Z,176nm,0.5s							
JIRN	**Jiri**	**72.04**	**292**	*e*P		**P**	**16 48 19.2**	**+1.6**
	comp=Z,121nm,0.6s							
KKN	**Kakani**	**72.47**	**293**	*e*P		**P**	**16 48 21.4**	**+1.2**
	comp=Z,61nm,0.6s							
KKN	**Kakani**	**72.47**	**293**	*e*P		**P**	**16 48 21.4**	**+1.2**
KKN				pmax	pmax			
	comp=Z,61nm,0.6s							
PKI	**Pulchoki**	**72.56**	**292**	*e*P		**P**	**16 48 21.8**	**+1.1**
	comp=Z,52nm,0.6s,mb5.6							
PKI	**Pulchoki**	**72.56**	**292**	*e*P		**P**	**16 48 21.8**	**+1.1**
PKI				pmax	pmax			
	comp=Z,52nm,0.6s,mb5.6							
GKN	**Gorkha**	**72.68**	**293**	*e*P		**P**	**16 48 22.3**	**+0.9**
	comp=Z,55nm,0.6s							
DMN	**Daman**	**72.71**	**293**	*e*P		**P**	**16 48 22.8**	**+1.2**
	comp=Z,32nm,0.7s,mb5.4							
KOLN	**Koldanda**	**73.45**	**294**	*e*P		**P**	**16 48 26.7**	**+0.7**
	comp=Z,23nm,0.8s,mb5.1							
AKASG	**Malin Array Be**	**75.52**	**342**	P		**P**	**16 48 36.9**	**-1.1**
	comp=Z,1.3nm,0.4s,mb4.2,baz=19,slow=5.8,SNR=4.6							
AKASG	**Malin Array Be**	**75.52**	**342**	*i* P		**P**	**16 48 38.4**	**+0.4**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
KIV	**Kislovodsk**	**78.49**	**331**	*e*P		**P**	**16 48 53.9**	**-0.8**
KIV				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3							
GERES	**GERESS Array B**	**79.52**	**352**	P		**P**	**16 49 00.1**	**-0.1**
	comp=Z,0.8nm,0.6s,mb3.9,baz=14,slow=5.9,SNR=5.0							
RAO	**Raoul Island**	**80.38**	**180**	LR		LR	17 19 11.4	
	comp=Z,325nm,18.5s,MS4.7,baz=92,slow=32							
WRA	**Warramunga Arr**	**82.25**	**224**	P		**P**	**16 49 13.6**	**-1.2**
	comp=Z,0.9nm,0.7s,mb3.8,baz=31,slow=5.8,SNR=12							
WRA	**Warramunga Arr**	**82.25**	**224**	*i* P		**P**	**16 49 13.6**	**-1.2**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
PSI	**Prapat**	**83.23**	**266**	P		**P**	**16 49 19.8**	**-0.1**
	comp=Z,8.3nm,0.8s,mb4.8,baz=6.4,slow=3.7,SNR=6.9							
PSI	**Prapat**	**83.23**	**266**	P		**P**	**16 49 19.8**	**-0.1**
PSI				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.8							
HYB	**Hyderabad**	**84.40**	**291**	*i* P		**P**	**16 49 26.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**84.71**	**232**	P		**P**	**16 49 27.6**	**+0.2**
	comp=Z,3.2nm,0.7s,mb4.5,baz=12,slow=5.7,SNR=8.2							
BRTR	**Keskin Array B**	**84.95**	**336**	P		**P**	**16 49 28.7**	**+0.1**
	comp=Z,2.1nm,0.8s,mb4.3,baz=44,slow=2.7,SNR=12							
BRTR	**Keskin Array B**	**84.95**	**336**	P		**P**	**16 49 28.7**	**+0.1**
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
ASAR	**Alice Springs**	**85.72**	**223**	P		**P**	**16 49 32.0**	**-0.5**
	comp=Z,1.3nm,0.7s,mb4.3,baz=23,slow=5.6,SNR=30							
ASAR	**Alice Springs**	**85.72**	**223**	P		**P**	**16 49 32.0**	**-0.5**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ESDC	**Sonseca Array**	**89.09**	**4**	P		**P**	**16 49 47.4**	**-1.3**
	comp=Z,0.4nm,0.4s,mb4.1,baz=347,slow=3.9,SNR=4.0							
STKA	**Stephens Creek**	**90.14**	**213**	P		**P**	**16 49 51.3**	**-2.3**
	comp=Z,1.5nm,0.7s,mb4.4,baz=0.0,slow=5.1,SNR=6.6							
TORD	**Torodi Ar. Bea**	**115.64**	**360**	PKP		PKPdf	16 55 34.6	-0.8
	comp=Z,0.4nm,0.3s,baz=5.8,slow=2.4,SNR=7.6							
DBIC	**Dimbokro**	**121.82**	**8**	PKP		PKPdf	16 55 46.5	-0.8
	comp=Z,1.7nm,0.4s,baz=349,slow=7.3,SNR=8.0							
DBIC	**Dimbokro**	**121.82**	**8**	PKIKP		PKPdf	16 55 46.5	-0.8
DBIC				pmax	pmax			
	comp=Z,2.0nm,0.4s							
MAW	**Mawson**	**146.71**	**218**	PKPbc		PKPbc	16 56 33.6	-1.5
	comp=Z,5.7nm,0.9s,baz=20,slow=3.8,SNR=8.9							
MAW	**Mawson**	**146.71**	**218**	*e*PKPdf		PKPdf	16 56 33.1	-0.2
LBTB	**Lobatse**	**147.82**	**316**	*e*PKP2		PKPab	16 56 38.7	-2.0

*IDC **20** 16:45:14.7±0.7,2083S×17397W,h0km,mb4.2/12, mb1 4.4/12,mb1mx4.3/19,mbtmp4.2/12,MS3.7/6, Ms1 3.8/6,ms1mx3.4/25,Error ellipse: s-maj=29.0km s-min=17.6km az=142.0*

*ISCJB **20** 16:45:16.3±4.3,2082S±009×17403W±009,h21km±29km, mb4.5/27,MS3.8/5,Error ellipse: s-maj=17.1km s-min=10.9km az=102.1*

*MOS **20** 16:45:18.3±1.1,2085S×17400W,h33km,mb4.8/13,Error ellipse: s-maj=20.5km s-min=15.8km az=50.9*

*BJI **20** 16:45:19.7,2070S×17410W,h32km,mB5.1,mb4.7,Ms4.7, Msz4.0*

*NEIC **20** 16:45:19.7±0.3,2073S×17406W,mb4.6/18,Error ellipse: s-maj=15.4km s-min=8.7km az=142.0*

*SZGRF **20** 16:45:20.2,2088S×17518W,h33km,Tonga Islands*

ISC 20 16:45:22.3±2.9,2084S±009×17394W±008,h55km±25km, h35km±1.9km:pP-P,n99,σ1s11/62,mb4.5/27,MS3.8/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.20**	**17**	Pn	**Pn**	**16 46 56.3**	**-8.6**
	5.9nm,0.3s,baz=28,slow=0.4,SNR=9.0						
AFI				Sn	**Sn**	**16 48 10.9**	**-14**
	6.0nm,0.3s,baz=78,slow=22,SNR=3.5						
AFI				T		16 54 25.1	
	3.3nm,0.3s,baz=167,slow=23,SNR=4.4						
AFI	**Afiamalu**	**7.20**	**17**	*e*Pn	**Pn**	**16 46 55.8**	**-9.1**
	30nm,0.3s						
AFI				*e*Sn	Sn	16 47 59.7	-26
RAR	**Rarotonga**	**13.24**	**94**	Pn	**Pn**	**16 48 15.0**	**-12**
	7.4nm,0.3s,baz=252,slow=10,SNR=22						
RAR				LR	LR	16 51 39.7	
	comp=Z,301nm,21.1s,baz=271,slow=29						
DZM	**Mont Dzumac**	**18.30**	**263**	P	**Pn**	**16 49 33.5**	**+1.4**
	0.3nm,0.3s,baz=109,slow=20,SNR=4.1						
DZM				LR	LR	16 53 56.6	
	comp=Z,145nm,19.5s,baz=28,slow=29						
TBI	**Tubuai**	**22.82**	**101**	*e*LQ		16 54 23.4	
	262nm,27.0s						
TBI				*e*LR	LR	16 55 20.2	
	256nm,27.0s,baz=273						
PPT	**Papeete**	**23.23**	**86**	*e*LQ		16 54 29.3	
	361nm,23.5s						
PPT				*e*LR	LR	16 55 27.1	
	220nm,24.0s						
PPT	**Papeete**	**23.23**	**86**	LR	LR	16 56 50.1	
	comp=Z,138nm,18.0s,MS3.5,baz=281,slow=30						
RKT	**Rikitea**	**36.14**	**101**	*e*LR	LR	17 01 30.4	
	205nm,27.2s,baz=266						
CTA	**Charters Tower**	**37.23**	**264**	P	**P**	**16 52 30.0**	**+1.5**
	7.9nm,0.9s,mb4.5,baz=154,slow=11,SNR=6.1						
CTAO	**Charters Tower**	**37.23**	**264**	*e*P	**P**	**16 52 27.9**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.8						
CTAO	**Charters Tower**	**37.23**	**264**	*e*P	**P**	**16 52 27.9**	**-0.5**
	comp=Z,16nm,1.1s,mb4.8						
STKA	**Stephens Creek**	**41.08**	**245**	P	**P**	**16 52 58.2**	**-2.3**
	comp=Z,3.4nm,0.7s,mb4.1,baz=110,slow=12,SNR=8.6						
STKA	**Stephens Creek**	**41.08**	**245**	*e*P	**P**	**16 52 59.3**	**-1.2**
ASAR	**Alice Springs**	**48.13**	**256**	P	**P**	**16 53 55.6**	**-1.1**
	comp=Z,5.9nm,0.9s,mb4.6,baz=95,slow=7.5,SNR=22						
ASAR				PcP	PcP	16 55 24.1	+0.5
	comp=Z,0.9nm,0.8s,baz=137,slow=4.9,SNR=4.6						
ASAR				S	**S**	**17 00 52.0**	**+0.5**
	comp=Z,0.8nm,1.0s,baz=90,slow=16,SNR=4.4						
WRAB	**Tennant Creek**	**48.30**	**261**	P	**P**	**16 53 54.7**	**-3.3**
WRAB				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
WRAB	**Tennant Creek**	**48.30**	**261**	P	**P**	**16 53 54.7**	**-3.3**
	comp=Z,13nm,1.1s,mb4.9						
WRA	**Warramunga Arr**	**48.31**	**261**	P	**P**	**16 53 56.5**	**-1.6**
	comp=Z,2.3nm,0.8s,mb4.2,baz=93,slow=7.7,SNR=16						
MIDW	**Midway**	**48.88**	**356**	P	**P**	**16 53 59.5**	**-3.0**
GUMO	**Guam**	**52.39**	**307**	LR	LR	17 12 23.9	
	comp=Z,47nm,20.7s,MS3.5,baz=96,slow=31						
FITZ	**Fitzroy Crossi**	**56.74**	**262**	P	**P**	**16 55 01.1**	**+0.6**
	comp=Z,2.3nm,0.9s,mb4.2,baz=102,slow=9.3,SNR=7.0						
SBA	**Scott Base**	**57.81**	**185**	*e*P	**P**	**16 55 09.4**	**+1.4**
SBA				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
SBA	**Scott Base**	**57.81**	**185**	*e*P	**P**	**16 55 09.4**	**+1.4**
	comp=Z,5.2nm,0.9s,mb4.6						
VNDA	**Vanda**	**57.94**	**186**	P	**P**	**16 55 10.0**	**+1.1**
	comp=Z,0.8nm,0.8s,mb3.8,baz=1.8,slow=7.9,SNR=7.4						
VNDA	**Vanda**	**57.94**	**186**	*e*P	**P**	**16 55 09.6**	**+0.7**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
VNDA	**Vanda**	**57.94**	**186**	*e*P	**P**	**16 55 09.6**	**+0.7**
	comp=Z,2.2nm,0.9s,mb4.2						
MBWA	**Marble Bar**	**61.48**	**257**	*e*P	**P**	**16 55 31.8**	**-1.4**
	comp=Z,18nm,1.1s,mb5.1						
QSPA	**South Pole Qui**	**69.23**	**180**	*e*P	**P**	**16 56 23.2**	**-0.1**
	comp=Z,7.2nm,0.9s,mb4.6						
MJAR	**Matsushiro Arr**	**72.79**	**321**	P	**P**	**16 56 45.9**	**+1.0**
	comp=Z,2.2nm,0.7s,mb4.2,baz=157,slow=6.4,SNR=11						
MAJO	**Matsushiro**	**72.79**	**321**	*e*P	**P**	**16 56 45.2**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
MAJO	**Matsushiro**	**72.79**	**321**	*e*P	**P**	**16 56 45.2**	**+0.3**
	comp=Z,7.0nm,0.9s,mb4.6						
KKM	**Kota Kinabalu**	**73.53**	**283**	*e*P	**P**	**16 56 52.3**	**+3.1**
CMB	**Columbia Colle**	**77.19**	**41**	P	**P**	**16 57 09.7**	**-0.6**
CMB				*e*PP	pP	16 57 20.5	-5.3
CMB				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
CMB	**Columbia Colle**	**77.19**	**41**	P	**P**	**16 57 09.7**	**-0.6**
	comp=Z,7.4nm,1.2s,mb4.5						
CMB				*e*pP	pP	16 57 20.5	-5.3
OHCM	**Honcut**	**77.37**	**39**	P	**P**	**16 57 05.2**	**-6.0**
MTUM	**Tungsten Hills**	**77.89**	**42**	*e*P	**P**	**16 57 14.7**	**+0.5**
NVAR	**Mina Array Bea**	**78.72**	**41**	P	**P**	**16 57 18.9**	**+0.2**
	comp=Z,2.6nm,0.8s,mb4.2,baz=216,slow=7.0,SNR=11						
MNV	**Mina**	**78.81**	**41**	*e*P	**P**	**16 57 19.1**	**-0.1**
MNV				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
MNV	**Mina**	**78.81**	**41**	*e*P	**P**	**16 57 19.1**	**-0.1**
	comp=Z,5.7nm,1.1s,mb4.4						
TPH	**Tonopah**	**79.17**	**42**	P	**P**	**16 57 17.8**	**-3.4**
WVOR	**Wild Horse Val**	**81.00**	**38**	*e*P	**P**	**16 57 31.2**	**+0.1**
WVOR				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
WVOR	**Wild Horse Val**	**81.00**	**38**	*e*P	**P**	**16 57 31.2**	**+0.1**
	comp=Z,3.0nm,0.9s,mb4.3						
CCUT	**Cedar City**	**81.34**	**44**	*e*P	**P**	**16 57 33.0**	**+0.1**
MAW	**Mawson**	**82.50**	**199**	P	**P**	**16 57 39.1**	**+0.1**
MAW				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MAW	**Mawson**	**82.50**	**199**	P	**P**	**16 57 39.0**	**+0.1**
	comp=Z,2.2nm,0.7s,mb4.3						
MVU	**Marysvale**	**82.63**	**44**	*e*P	pP	16 57 50.9	-4.4
MSU	**Marysvale**	**82.66**	**44**	*e*P	**P**	**16 57 40.9**	**+1.1**
MDJ	**Mudanjiang**	**83.02**	**323**	P	**P**	**16 57 43.2**	**+1.6**
	comp=Z,11nm,1.4s,mb4.7						
TMUT	**Trail Mountain**	**83.72**	**44**	*e*P	**P**	**16 57 46.3**	**+1.0**
HLID	**Hailey**	**84.15**	**39**	*e*P	**P**	**16 57 47.8**	**+0.3**
	comp=Z,5.9nm,1.0s,mb4.7						
HLID				*e*pP	pP	16 57 57.3	-5.9
ANMO	**Albuquerque**	**84.69**	**50**	*e*P	**P**	**16 57 50.7**	**+0.5**
ANMO				pmax	pmax		
	comp=Z,6.0nm,1.2s						
ANMO	**Albuquerque**	**84.69**	**50**	*e*P	**P**	**16 57 50.7**	**+0.5**
	comp=Z,6.2nm,1.2s,mb4.6						
PDAR	**Pinedale Array**	**86.65**	**42**	P	**P**	**16 57 59.6**	**-0.2**
	comp=Z,1.6nm,0.8s,mb4.3,baz=224,slow=4.1,SNR=7.5						
VNA3	**Neumayer Olymp**	**87.51**	**175**	*e*PKPdf	**P**	**16 58 03.4**	**-0.7**
SNAA	**Sanae**	**87.53**	**177**	P	**P**	**16 58 03.5**	**-0.7**
	comp=Z,0.9nm,0.9s,mb4.0,baz=234,slow=6.0,SNR=6.9						
SNAA	**Sanae**	**87.53**	**177**	*e*P	**P**	**16 58 00.9**	**-3.3**
SNAA				pmax	pmax		
	comp=Z,13nm,1.5s						
SNAA	**Sanae**	**87.53**	**177**	*e*P	**P**	**16 58 00.9**	**-3.3**
	comp=Z,13nm,1.5s,mb4.9						
KULM	**Kulim**	**87.58**	**277**	*e*P	**P**	**16 58 07.0**	**+2.6**
WALA	**Waterton Lakes**	**87.65**	**35**	P	**P**	**16 58 03.9**	**-0.9**
	comp=Z,4.3nm,1.0s,mb4.6						
ILAR	**Eielson Array**	**87.86**	**11**	P	**P**	**16 58 04.8**	**-0.9**
	comp=Z,0.7nm,0.8s,mb3.9,baz=208,slow=6.9,SNR=6.4						
VNA2	**Neumayer--Watz**	**88.00**	**176**	*e*PKPdf	**P**	**16 58 06.2**	**-0.2**
	baz=222,slow=2.1						
BILL	**Bilibino**	**89.81**	**353**	*e*P	**P**	**16 58 14.5**	**-0.4**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.6						
BILL	**Bilibino**	**89.81**	**353**	*e*P	**P**	**16 58 14.5**	**-0.4**
	comp=Z,3.9nm,1.2s,mb4.6						
KMI	**Kunming**	**92.90**	**296**	P	**P**	**16 58 29.6**	**+0.3**
KMI				AP	pP	16 58 40.8	-4.4
KMI				XP	sP	16 58 46.3	-4.9
KMI				AMB	AMB		
	comp=Z,4.0nm,1.7s,mb4.6						
KMI				LR	LR		
	comp=Z,34nm,25.9s,MS3.7						
INK	**Inuvik**	**93.65**	**14**	P	**P**	**16 58 32.2**	**-0.5**
	comp=Z,0.8nm,0.8s,mb4.2,baz=268,slow=5.6,SNR=5.5						
INK	**Inuvik**	**93.65**	**14**	*e*P	**P**	**16 58 31.8**	**-0.9**
INK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
INK	**Inuvik**	**93.65**	**14**	*e*P	**P**	**16 58 31.8**	**-0.8**
	comp=Z,1.4nm,0.9s,mb4.4						
YKA	**Yellowknife Ar**	**95.27**	**24**	LR	LR	17 35 06.0	
	comp=Z,43nm,18.0s,MS4.0,baz=255,slow=31						
LPAZ	**La Paz**	**98.41**	**111**	LR	LR	17 38 48.4	
	comp=Z,91nm,18.0s,MS4.3,baz=38,slow=33						
MK31	**Makanchi Array**	**114.20**	**313**	PKIKP	PKiKP	17 03 57.8	+2.3
MK31				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MKAR	**Makanchi Array**	**114.20**	**313**	PKP	PKiKP	17 03 55.0	-0.5
	comp=Z,0.5nm,0.8s,baz=22,slow=3.9,SNR=4.7						
MKAR	**Makanchi Array**	**114.20**	**313**	PKP	PKiKP	17 03 55.0	-0.5
ZRNK	**Zerenda**	**122.62**	**320**	*e*PKIKP	PKPdf	17 04 11.3	-0.4
ZRNK				*e*		17 04 23.7	
ARCES	**ARCESS Array B**	**129.89**	**351**	PKP	PKPdf	17 04 25.7	+0.1
	comp=Z,1.2nm,0.7s,baz=18,slow=1.5,SNR=5.3						
ARCES	**ARCESS Array B**	**129.89**	**351**	PKP	PKPdf	17 04 25.7	+0.1
FINES	**FINESS Array B**	**137.09**	**346**	PKP	PKPdf	17 04 39.5	+0.4
	comp=Z,1.2nm,0.9s,baz=235,slow=6.7,SNR=3.7						
FINES	**FINESS Array B**	**137.09**	**346**	PKP	PKPdf	17 04 39.5	+0.4
AKASG	**Malin Array Be**	**145.07**	**334**	PKPbc	PKPbc	17 04 52.8	-0.1
	comp=Z,3.6nm,0.6s,baz=41,slow=4.2,SNR=13						
MALT	**Malatya**	**147.12**	**309**	*e*PKP2	PKPab	17 05 01.1	+0.3
CLL	**Collm**	**149.11**	**351**	*e*PKPbc	PKPbc	17 05 04.0	-0.4
	comp=Z,6.0nm,0.9s						
CLL	**Collm**	**149.11**	**351**	*e*PKPbc	PKPbc	17 05 04.0	-0.4
CLL				*i* sPKPab		17 05 20.5	
CLL	**Collm**	**149.11**	**351**	*e*PKP2	PKPab	17 05 04.0	-4.8
CLL				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KOLS	**Kolonicke sedl**	**149.11**	**339**	*e*PKP	PKPab	17 05 10.2	+1.4
BRG	**Berggiesshubel**	**149.39**	**350**	*e*PKPbc	PKPbc	17 05 05.9	+0.8
BRG	**Berggiesshubel**	**149.39**	**350**	*e*P	PKPbc	17 05 04.7	-0.4
	comp=Z,3.7nm,1.0s						
BRG	**Berggiesshubel**	**149.39**	**350**	*e*PKP2	PKPbc	17 05 04.7	-0.4
BRG				pmax	pmax		
	comp=Z,4.0nm,1.0s						
DPC	**Dobruska-Polom**	**149.46**	**347**	*e*PKP	PKPbc	17 05 06.1	+0.9
BR131	**Keskin Array S**	**149.83**	**315**	*e*PKPbc	PKPbc	17 05 06.9	+0.8
BRTR	**Keskin Array B**	**149.83**	**315**	PKPbc	PKPbc	17 05 07.3	+1.2
	comp=Z,2.2nm,0.8s,baz=118,slow=2.8,SNR=16						
MOX	**Moxa**	**149.94**	**353**	*e*PKPbc	PKPbc	17 05 06.7	+0.3
KECS	**Kecovo**	**150.08**	**341**	*e*PKP	PKPbc	17 05 08.6	+1.8
KECS				*e*		17 05 20.3	
PRU	**Pruhonice**	**150.15**	**349**	*e*PKP	PKPbc	17 05 07.6	+0.7
MANZ	**Manzenberg**	**150.52**	**352**	*e*PKPbc	PKPbc	17 05 08.9	+1.1
TNS	**Taunus Mts**	**150.62**	**357**	*e*PKPbc	PKPbc	17 05 09.2	+1.2
ROTZ	**Rotzenmuhle**	**150.73**	**352**	*e*PKPbc	PKPbc	17 05 09.1	+0.8
GRF	**Grafenberg Arr**	**150.92**	**353**	*e*PKPbc	PKPbc	17 05 09.1	+0.4
KHC	**Kasperske Hory**	**151.14**	**350**	*e*PKP	PKPbc	17 05 09.5	+0.2
GEC2	**GERESS Array S**	**151.40**	**349**	*e*PKPbc	PKPbc	17 05 10.2	+0.4
GERES	**GERESS Array B**	**151.40**	**349**	PKPbc	PKPbc	17 05 10.5	+0.7
	comp=Z,1.9nm,0.8s,baz=5.7,slow=2.7,SNR=8.3						
BFO	**Black Forest**	**152.51**	**357**	*e*PKPbc	PKPbc	17 05 13.4	+1.0

MEX 20 16:45:52.6±0.6,1826N×10045W,h47km±35km,MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.85**	**112**	*i* P	Pn	16 46 06.7	-1.6
MEIG				*i* S	Sn	16 46 17.7	-2.1
PLIG	**Platanillo**	**0.91**	**81**	*i* P	Pn	16 46 07.6	-1.4
PLIG				*i* S	Sn	16 46 19.3	-1.8
CAIG	**El Cayaco**	**1.21**	**172**	*i* P	Pn	16 46 11.1	-2.1
CAIG				*i* S	Sn	16 46 26.6	-1.8
ACX	**Acapulco**	**1.47**	**160**	*i* P	Pn	16 46 16.5	-0.2
UTMO	**Huajuapan**	**2.55**	**99**	*i* P	Pn	16 46 31.2	-0.3
UTMO				*i* S	Sn	16 46 59.2	-2.1

*MOS **20** 16:52:32.2±1.2,2319S×6909W,h59km,mb5.1/17,Error ellipse: s-maj=17.1km s-min=8.8km az=111.8*

*ISCJB **20** 16:52:35.6±0.2,2341S±003×6902W±004,h94km, mb4.6/49,Error ellipse: s-maj=5.8km s-min=3.8km az=17.2*

*NEIC **20** 16:52:36.9±0.2,2339S×6904W,mb4.7/40,Error ellipse: s-maj=8.8km s-min=5.2km az=78.0*

*IDC **20** 16:52:37.3±0.4,2331S×6910W,h93km±3km,mb4.5/12, mb1 4.6/15,mb1mx4.5/17,mbtmp4.8/15,MS3.5/4, Ms1 3.5/4,ms1mx3.2/19,Error ellipse: s-maj=15.1km s-min=8.9km az=93.0*

*GUC **20** 16:52:37.4±0.7,2348S×6903W,h72km±16km,ML4.8*

*BJI **20** 16:52:38.8,2340S×6900W,h93km,mB5.0*

ISC 20 16:52:37.4±0.2,2343S±003×6907W±004,h96km, h96km±.8km:pP-P,n169,σ1s13/132,mb4.6/49,12C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.83**	**10**	⇓*i* P	**Pn**	**16 52 55.1**	**-0.5**
LVC				*i* S	**Sn**	**16 53 08.6**	**-0.7**
LVC				AML	AML	16 53 10.1	
	comp=N,70μm,0.7s						
LVC	**Limon Verde**	**0.83**	**10**	P	**Pn**	**16 52 55.3**	**-0.2**
	comp=N,2μm,0.3s,baz=186,slow=7.2,SNR=2491						
LVC				S	**Sn**	**16 53 08.3**	**-0.9**
	comp=N,6μm,0.3s,baz=55,slow=20,SNR=319						
LVC	**Limon Verde**	**0.83**	**10**	*e*Pn	**Pn**	**16 52 54.5**	**-1.1**
LVC				*e*Sn	**Sn**	**16 53 07.2**	**-2.1**
CEN1	**Los Morros**	**1.04**	**272**	⇓*i* P	**Pn**	**16 52 59.1**	**+1.2**
CEN1				*i* S	**Sn**	**16 53 15.2**	**+1.9**
CEN1				AML	AML	16 53 16.9	
	comp=N,29μm,0.7s						
ANCH	**Antofagasta**	**1.26**	**258**	⇑*i* P	**Pn**	**16 53 00.0**	**-0.4**
ANCH				*i* S	**Sn**	**16 53 17.0**	**-0.8**
ANCH				AML	AML	16 53 18.1	
	comp=N,20μm,0.3s						
ANCH	**Antofagasta**	**1.26**	**258**	⇑*i* P	**Pn**	**16 53 00.0**	**-0.4**
ANCH				*i* S	**Sn**	**16 53 17.0**	**-0.8**
CPN1	**Cerro Paranal**	**1.71**	**225**	⇑*i* P	**Pn**	**16 53 06.1**	**+0.1**
CPN1				*i* S	**Sn**	**16 53 28.6**	**+0.9**
CPN1				AML	AML	16 53 31.1	
	comp=E,8μm,0.3s						
CRCH	**Chaqaral**	**3.23**	**206**	*e*P	**Pn**	**16 53 25.1**	**-0.9**
CRCH				*e*S	**Sn**	**16 54 02.7**	**-0.9**
CRCH				AML	AML	16 54 25.4	
	comp=N,3μm,0.4s						
CRCH	**Chaqaral**	**3.23**	**206**	*e*P	**Pn**	**16 53 25.1**	**-0.9**
CRCH				*e*S	**Sn**	**16 54 02.7**	**-0.9**
CPCH	**Copiapo**	**4.08**	**196**	*e*P	**Pn**	**16 53 36.1**	**-1.5**
CPCH				*i* S	**Sn**	**16 54 22.1**	**-2.1**
LCO	**Las Campanas**	**5.75**	**194**	⇑*i* P	**Pn**	**16 53 57.9**	**-2.3**
LCO				*i* S	**Sn**	**16 55 03.1**	**-1.6**
LPAZ	**La Paz**	**7.16**	**7**	P	**Pn**	**16 54 18.9**	**-0.4**
	comp=N,5.2nm,0.3s,baz=191,slow=9.4,SNR=72						
LPAZ				LR	LR	16 57 06.1	
	comp=N,100nm,21.8s,baz=316,slow=38						
LPAZ	**La Paz**	**7.16**	**7**	P	**Pn**	**16 54 18.9**	**-0.5**
LPAZ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
LPAZ				MLR	MLR		
	comp=Z,100nm,21.8s						
LPAZ	**La Paz**	**7.16**	**7**	*e*Pn	**Pn**	**16 54 18.7**	**-0.7**
CFAA	**Coronel Fontan**	**8.18**	**175**	P	**Pn**	**16 54 32.5**	**-0.7**
	comp=Z,6.1nm,0.3s,baz=351,slow=13,SNR=320						
CFAA				S	**Sn**	**16 55 59.9**	**-4.0**
	comp=Z,1.2nm,0.3s,baz=223,slow=19,SNR=4.0						
SIV	**San Ignacio**	**10.55**	**47**	P	**Pn**	**16 55 00.8**	**-4.8**
	comp=Z,8.4nm,0.3s,baz=250,slow=10,SNR=181						
SIV				S	**Sn**	**16 56 50.5**	**-11**
	comp=Z,6.4nm,0.3s,baz=139,slow=22,SNR=6.4						
CPUP	**Villa Florida**	**11.04**	**108**	P	**Pn**	**16 55 11.2**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=267,slow=12,SNR=30						
CPUP	**Villa Florida**	**11.04**	**108**	P	**Pn**	**16 55 11.2**	**-1.0**
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.3s		

	comp=Z,32nm,1.1s,mb5.1									
NVL					pmax	pmax				
	comp=N,5.0nm,0.8s									
NVL					pmax	pmax				
	comp=E,10.0nm,1.2s									
NVL					MLR	MLR				
	comp=Z,761nm,18.8s									
NVL					MLR	MLR				
	comp=N,220nm,20.0s									
NVL					MLR	MLR				
	comp=E,189nm,18.4s									
QSPA	**South Pole Qui**	**66.77**	**180**	*e*P	**P**		**17 03 20.0**	**+1.5**		
	comp=E,28nm,0.6s,mb5.3									
BNM	**Barren Site**	**67.48**	**327**	*e*P	**P**		**17 03 23.5**	**+0.4**		
BNM				*e*pP	pP		17 03 47.4	+0.2		
LPM	**Los Pinos Moun**	**67.61**	**327**	*e*P	**P**		**17 03 23.6**	**-0.3**		
LPM				*e*pP	pP		17 03 48.5	+0.5		
ANMO	**Albuquerque**	**68.04**	**327**	*e*P	**P**		**17 03 27.2**	**+0.7**		
ANMO				*e**PP	pP		17 03 50.9	+0.2		
ANMO				pmax	pmax					
	comp=Z,9.0nm,0.9s									
ANMO	**Albuquerque**	**68.04**	**327**	*e*P	**P**		**17 03 27.2**	**+0.7**		
	comp=Z,8.9nm,0.9s,mb4.6									
ANMO				*e*pP	pP		17 03 50.9	+0.2		
TUC	**Tucson**	**68.27**	**323**	*e*P	**P**		**17 03 28.6**	**+0.7**		
TUC				*e**PP	pP		17 03 53.3	+1.2		
TUC				pmax	pmax					
	comp=Z,8.0nm,1.0s,mb4.5									
TUC	**Tucson**	**68.27**	**323**	*e*P	**P**		**17 03 28.6**	**+0.6**		
	comp=Z,8.1nm,1.0s,mb4.5									
TUC				*e*pP	pP		17 03 53.3	+1.1		
DBIC	**Dimbokro**	**69.43**	**73**	P	**P**		**17 03 35.4**	**+0.2**		
	comp=Z,12nm,0.7s,mb4.8,baz=220,slow=6.1,SNR=26									
DBIC				pP	pP		17 04 00.9	+1.5		
	comp=Z,4.0nm,0.7s,baz=206,slow=9.4,SNR=2.4									
DBIC	**Dimbokro**	**69.43**	**73**	P	**P**		**17 03 35.4**	**+0.2**		
DBIC				*PP	pP		17 04 00.9	+1.5		
DBIC				pmax	pmax					
	comp=Z,13nm,0.7s									
DBIC				pmax	pmax					
	comp=Z,4.0nm,0.7s									
DBIC	**Dimbokro**	**69.43**	**73**	⇓*e*P	**P**		**17 03 35.2**	**0.0**		
DBIC				*e*pP	pP		17 03 59.7	+0.3		
DBIC				*e*sP	sP		17 04 10.0	+0.1		
SDCO	**Great Sand Dun**	**69.83**	**330**	*e*P	**P**		**17 03 37.8**	**+0.2**		
	comp=Z,133nm,1.1s,mb5.7									
MVCO	**Mesa Verde**	**70.83**	**328**	*e*P	**P**		**17 03 44.2**	**+0.5**		
MVCO				*e*pP	pP		17 04 08.1	+0.1		
PV01	**Paradox Valley**	**71.59**	**328**	*e*P	**P**		**17 03 49.2**	**+0.9**		
PV01				*e*pP	pP		17 04 12.1	-0.5		
SMCO	**Snowmass**	**71.67**	**330**	*e*P	**P**		**17 03 49.7**	**+1.0**		
	comp=Z,9.7nm,1.0s,mb4.6									
SMCO				*e*pP	pP		17 04 13.9	+0.8		
NEN	**Nelson**	**73.00**	**322**	*e*P	**P**		**17 03 56.6**	**0.0**		
SRU	**San Rafael**	**73.31**	**327**	*e*P	**P**		**17 03 58.7**	**+0.2**		
SRU				*e**PP	pP		17 04 22.7	-0.3		
SRU				pmax	pmax					
	comp=Z,20nm,1.2s,mb4.8									
SRU	**San Rafael**	**73.31**	**327**	*e*P	**P**		**17 03 58.7**	**+0.2**		
	comp=Z,20nm,1.2s,mb4.8									
SRU				*e*pP	pP		17 04 22.7	-0.2		
CCUT	**Cedar City**	**73.59**	**325**	*e*P	**P**		**17 04 01.8**	**+1.7**		
CCUT				*e*pP	pP		17 04 25.8	+1.3		
CCUT				*e*sP	sP		17 04 36.5	+1.6		
MSU	**Marysvale**	**73.69**	**326**	*e*P	**P**		**17 04 01.5**	**+0.8**		
MSU				*e*			17 04 16.3			
MSU				*e**PP	pP		17 04 25.6	+0.4		
SBA	**Scott Base**	**73.91**	**191**	*e*P	**P**		**17 04 03.6**	**+1.6**		
SBA				pmax	pmax					
	comp=Z,9.0nm,1.1s,mb4.4									
SBA	**Scott Base**	**73.91**	**191**	*e*P	**P**		**17 04 03.6**	**+1.6**		
	comp=Z,9.5nm,1.1s,mb4.4									
RSSD	**Black Hills**	**74.47**	**335**	*e*P	**P**		**17 04 13.9**	**+8.7**		
TPNV	**Topopah Spring**	**74.72**	**322**	*e*P	**P**		**17 04 08.1**	**+1.4**		
TPNV				pmax	pmax					
	comp=Z,6.0nm,0.6s,mb4.5									
TPNV	**Topopah Spring**	**74.72**	**322**	*e*P	**P**		**17 04 08.1**	**+1.4**		
	comp=Z,6.1nm,0.6s,mb4.5									
PPT	**Papeete**	**74.75**	**257**	LR	LR		17 27 09.4			
	comp=Z,92nm,18.3s,baz=151,slow=28									
SYO	**Syowa Base**	**74.76**	**159**⇑	*i*P	**P**		**17 04 07.1**	**+0.2**		
SYO	**Syowa Base**	**74.76**	**159**⇑	*e*PcP	PcP		17 04 16.0	-4.6		
VNDA	**Vanda**	**74.93**	**190**	P	**P**		**17 04 09.4**	**+1.5**		
	comp=Z,3.5nm,1.0s,mb4.0,baz=129,slow=4.4,SNR=12									
VNDA	**Vanda**	**74.93**	**190**	*e*P	**P**		**17 04 09.1**	**+1.2**		
VNDA				pmax	pmax					
	comp=Z,2.0nm,0.9s									
VNDA	**Vanda**	**74.93**	**190**	*e*P	**P**		**17 04 09.1**	**+1.2**		
	comp=Z,2.1nm,0.9s,mb3.9									
DUG	**Dugway**	**75.28**	**327**	*e*P	**P**		**17 04 10.6**	**+0.7**		
DUG				*e**PP	pP		17 04 35.6	+1.1		
DUG				pmax	pmax					
	comp=Z,7.0nm,1.0s,mb4.3									
DUG	**Dugway**	**75.28**	**327**	*e*P	**P**		**17 04 10.6**	**+0.7**		
	comp=Z,6.6nm,1.0s,mb4.3									
DUG				*e*pP	pP		17 04 35.6	+1.1		
PDAR	**Pinedale Array**	**75.70**	**330**	P	**P**		**17 04 12.1**	**-0.2**		
	comp=Z,0.9nm,0.6s,mb3.7,baz=134,slow=6.4,SNR=6.8									
PDAR				pP	pP		17 04 36.2	-0.7		
	comp=Z,0.8nm,0.6s,baz=139,slow=8.3,SNR=2.5									
PDAR				sP	sP		17 04 48.5	+1.3		
	comp=Z,1.3nm,0.5s,baz=128,slow=9.4,SNR=3.3									
HWUT	**Hardware Ranch**	**75.74**	**328**	*e*P	**P**		**17 04 13.2**	**+0.7**		
TPH	**Tonopah**	**76.07**	**323**	*e*P	**P**		**17 04 15.2**	**+0.8**		
MTUM	**Tungsten Hills**	**76.32**	**321**	*e*P	**P**		**17 04 16.4**	**+0.5**		
HVU	**Hansel Valley**	**76.46**	**328**	*e*P	**P**		**17 04 16.1**	**-0.5**		
HVU				pmax	pmax					
	comp=Z,8.0nm,0.8s,mb4.5									
HVU	**Hansel Valley**	**76.46**	**328**	*e*P	**P**		**17 04 16.1**	**-0.5**		
	comp=Z,8.4nm,0.8s,mb4.5									
REDW	**Red Top Meadow**	**76.76**	**330**	*e*P	**P**		**17 04 18.0**	**-0.3**		
	comp=Z,16nm,1.2s,mb4.6									
LOHW	**Long Hollow**	**76.84**	**330**	*e*P	**P**		**17 04 18.9**	**+0.1**		
	comp=Z,3.1nm,0.6s,mb4.2									
LOHW				*e*pP	pP		17 04 44.0	+0.6		
TPAW	**Teton Pass**	**76.91**	**330**	*e*P	**P**		**17 04 19.7**	**+0.6**		
	comp=Z,8.9nm,0.8s,mb4.5									
TPAW				*e*pP	pP		17 04 44.3	+0.5		
NVAR	**Mina Array Bea**	**76.92**	**322**	P	**P**		**17 04 20.1**	**+0.8**		
	comp=Z,2.1nm,0.8s,mb3.9,baz=146,slow=7.4,SNR=14									
NVAR				pP	pP		17 04 43.9	+0.1		
	comp=Z,0.6nm,0.6s,baz=140,slow=6.8,SNR=2.9									
NVAR	**Mina Array Bea**	**76.92**	**322**	P	**P**		**17 04 20.1**	**+0.8**		
NVAR				pP	pP		17 04 43.9	0.0		
MOOW	**Moose Ponds**	**77.01**	**330**	*e*P	**P**		**17 04 19.5**	**-0.2**		
	comp=Z,3.7nm,0.9s,mb4.1									
ULM	**Lac du Bonnet**	**77.11**	**343**	P	**P**		**17 04 18.6**	**-1.6**		
	comp=Z,8.0nm,0.6s,mb4.7,baz=156,slow=4.9,SNR=16									
ULM				LR	LR		17 38 51.5			
	comp=Z,33nm,18.9s,baz=328,slow=36									
IMW	**Indian Meadow**	**77.22**	**330**	*e*P	**P**		**17 04 21.5**	**+0.7**		
	comp=Z,20nm,1.4s,mb4.6									
IMW				*e*pP	pP		17 04 45.7	+0.2		
FLWY	**Flagg Ranch**	**77.25**	**331**	*e*P	**P**		**17 04 21.8**	**+0.8**		
	comp=Z,18nm,1.0s,mb4.8									
FLWY				*e*pP	pP		17 04 46.0	+0.3		
SUR	**Sutherland**	**77.74**	**120**	*e*P	**P**		**17 04 25.9**	**+2.1**		
	comp=Z,30nm,1.0s,mb5.0									
YMR	**Madison River**	**77.83**	**331**	*e*P	**P**		**17 04 25.0**	**+0.8**		
	comp=Z,26nm,1.4s,mb4.8									
YMR				*e*pP	pP		17 04 50.4	+1.4		
SCHQ	**Schefferville**	**77.96**	**1**	P	**P**		**17 04 23.6**	**-1.5**		
	comp=Z,5.4nm,0.8s,mb4.3,baz=147,slow=3.9,SNR=5.3									
SCHQ	**Schefferville**	**77.96**	**1**	*e*P	**P**		**17 04 23.5**	**-1.5**		
	comp=Z,6.4nm,0.8s,mb4.4									
SCHQ				*e*pP	pP		17 04 44.0	-5.7		
TORD	**Torodi Ar. Bea**	**78.14**	**70**	P	**P**		**17 04 26.1**	**+0.1**		
	comp=Z,21nm,0.6s,mb5.1,baz=255,slow=5.3,SNR=158									
TORD				pP	pP		17 04 52.1	+1.3		
	comp=Z,9.5nm,0.5s,baz=256,slow=5.2,SNR=5.8									
TORD				sP	sP		17 05 02.1	+1.0		
	comp=Z,9.3nm,0.6s,baz=253,slow=5.4,SNR=3.9									
PAHR	**Pah Rah Range**	**78.41**	**323**	*e*P	**P**		**17 04 27.9**	**+0.4**		
	comp=Z,18nm,1.0s,mb4.8									
PAHR				*e*pP	pP		17 04 52.5	+0.3		
HLID	**Hailey**	**78.59**	**328**	*e*P	**P**		**17 04 29.3**	**+0.8**		
HLID				*e*pP	pP		17 04 54.2	+0.9		
MCMT	**McKenzie Canyo**	**78.81**	**330**	*e*P	**P**		**17 04 30.4**	**+0.7**		
OHCM	**Honcut**	**79.35**	**321**	P	**P**		**17 04 33.2**	**+0.6**		
TSUM	**Tsumeb**	**79.63**	**106**	*e*P	**P**		**17 04 36.0**	**+1.9**		
	comp=Z,25nm,1.0s,mb5.0									
TSUM				*e*pP	pP		17 05 01.4	+2.4		
TSUM				*e*sP	sP		17 05 11.3	+2.1		
MOD	**Modoc**	**80.43**	**324**	*e*P	**P**		**17 04 38.4**	**-0.1**		
	comp=Z,6.9nm,1.0s,mb4.4									
MOD				*e*pP	pP		17 05 03.9	+0.6		
BMO	**Blue Mountains**	**80.95**	**328**	*e*P	**P**		**17 04 40.9**	**-0.3**		
	comp=Z,12nm,1.2s,mb4.6									
BMO				*e*pP	pP		17 05 05.9	-0.2		
WALA	**Waterton Lakes**	**82.50**	**332**	*e*P	**P**		**17 04 48.8**	**-0.6**		
	comp=Z,10.0nm,1.0s,mb4.6									
MAW	**Mawson**	**82.53**	**163**	P	**P**		**17 04 50.3**	**+0.8**		
	comp=Z,12nm,0.5s,mb4.9,baz=212,slow=6.0,SNR=84									
MAW				pP	pP		17 05 15.6	+1.1		
	comp=Z,5.9nm,0.8s,baz=252,slow=10,SNR=4.6									
MAW	**Mawson**	**82.53**	**163**	P	**P**		**17 04 50.3**	**+0.8**		
MAW				*PP	pP		17 05 15.6	+1.1		
MAW				pmax	pmax					
	comp=Z,12nm,0.5s									
MAW				pmax	pmax					
	comp=Z,6.0nm,0.8s									
MAW	**Mawson**	**82.53**	**163**	*e*P	**P**		**17 04 50.1**	**+0.5**		
	comp=Z,6.5nm,0.5s,mb4.7									
MAW				*e*pP	pP		17 05 15.2	+0.7		
NEW	**Newport**	**83.33**	**330**	*e*P	**P**		**17 04 51.5**	**-2.2**		
LBTB	**Lobatse**	**84.35**	**115**	*e*P	**P**		**17 04 59.8**	**+1.0**		
LBTB				*e**PP	pP		17 05 25.5	+1.6		
LBTB				pmax	pmax					
	comp=Z,12nm,0.8s,mb4.8									
LBTB	**Lobatse**	**84.35**	**115**	*e*P	**P**		**17 04 59.8**	**+1.0**		
	comp=Z,12nm,0.8s,mb4.8									
LBTB				*e*pP	pP		17 05 25.5	+1.6		
LBTB				*e*sP	sP		17 05 35.9	+1.8		
FCC	**Fort Churchill**	**84.47**	**347**	*e*P	**P**		**17 04 58.3**	**-1.2**		
FCC				*e**PP	pP		17 05 22.6	-1.9		
FCC				pmax	pmax					
	comp=Z,10.0nm,1.3s,mb4.5									
FCC	**Fort Churchill**	**84.47**	**347**	*e*P	**P**		**17 04 58.3**	**-1.2**		
	comp=Z,9.6nm,1.3s,mb4.5									
FCC				*e*pP	pP		17 05 22.6	-1.9		
ESDC	**Sonseca Array**	**87.31**	**44**	P	**P**		**17 05 13.3**	**-0.2**		
	comp=Z,0.9nm,0.7s,mb3.8,baz=284,slow=3.5,SNR=4.2									
CASY	**Casey**	**90.57**	**180**	*e*P	**P**		**17 05 30.1**	**+1.3**		
	comp=Z,12nm,0.9s,mb5.0									
CASY				*e*pP	pP		17 05 56.2	+2.1		
YKA	**Yellowknife Ar**	**92.95**	**341**	P	**P**		**17 05 38.5**	**-1.3**		
	comp=Z,4.4nm,0.7s,mb4.9,baz=138,slow=4.5,SNR=20									
YKA				pP	pP		17 06 04.1	-1.0		
	comp=Z,3.3nm,0.7s,baz=139,slow=4.4,SNR=8.4									
YKA	**Yellowknife Ar**	**92.95**	**341**	P	**P**		**17 05 38.5**	**-1.3**		
YKA				pP	pP		17 06 04.1	-1.0		
BRTR	**Keskin Array B**	**114.05**	**55**	PKP	PKiKP		17 11 04.5	-0.7		
	comp=Z,0.7nm,0.7s,baz=208,slow=2.4,SNR=5.6									
ANN	**Anapa**	**117.61**	**50**	*i* PKIKP	PKPdf		17 11 02.4	-10		
ANN				pmax	pmax					
	comp=Z,11nm,1.1s									
BILL	**Bilibino**	**124.25**	**338**	*i* PKIKP	PKPdf		17 11 23.7	-1.2		
ASAR	**Alice Springs**	**128.14**	**207**	PKP	PKPdf		17 11 32.9	+0.5		
	comp=Z,3.1nm,0.8s,baz=140,slow=1.8,SNR=43									
ASAR				pPKP	pPKPdf		17 11 58.9	+0.2		
	comp=Z,1.2nm,0.8s,baz=136,slow=2.2,SNR=4.0									
ARU	**Arti**	**129.81**	**35**	*i* PKIKP	PKPdf		17 11 34.8	-0.7		
ARU				*e*			17 13 44.7			
ARU				*e*			17 18 33.7			
TIXI	**Tiksi**	**130.68**	**353**	⇑*i* PKIKP	PKPdf		17 11 36.8	-0.4		
WB2	**Warramunga Arr**	**131.21**	**210**	*e*PKP	PKPdf		17 11 39.3	+1.1		
WRA	**Warramunga Arr**	**131.22**	**210**	PKP	PKPdf		17 11 39.3	+1.1		
	comp=Z,1.9nm,0.5s,baz=154,slow=1.5,SNR=48									
WRA				pPKP	pPKPdf		17 12 06.0	+1.5		
	comp=Z,1.0nm,0.7s,baz=157,slow=1.7,SNR=3.6									
PET	**Petropavlovsk**	**133.50**	**322**	⇑*i* PKIKP	PKPdf		17 11 40.8	-1.7		
ZRNK	**Zerenda**	**136.74**	**36**	*e*PKIKP	PKPdf		17 11 48.9	+0.4		
ZRNK				*e*			17 12 14.5			
YAK	**Yakutsk**	**139.35**	**347**	⇑*i* PKIKP	PKPdf		17 11 53.7	+0.4		
KURK	**Kurchatov**	**143.01**	**34**	⇑*i* PKIKP	PKPdf		17 11 56.8	-3.1		
ZAL	**Zalesovo**	**143.75**	**26**	PKP	PKPdf		17 12 00.1	-1.0		
	comp=Z,2.1nm,0.4s,baz=27,slow=17,SNR=4.4									
AAK	**Ala-Archa**	**144.31**	**49**	P	PKPdf		17 12 01.8	-0.4		
	SNR=8.0									
AAK	**Ala-Archa**	**144.31**	**49**	*i* PKIKP	PKPdf		17 12 01.1	-1.1		
AAK	**Ala-Archa**	**144.31**	**49**	*e*PKPdf	PKPdf		17 12 00.8	-1.3		
AAK				*e*pPKPdf	pPKPdf		17 12 27.6	-1.0		
FRU	**Bishkek**	**144.32**	**48**	*e*PKIKP	PKPdf		17 12 02.0	-0.2		
CHMS	**Chumysh**	**144.35**	**48**	P	PKPdf		17 12 01.7	-0.6		
	SNR=6.7									
UCH	**Uchtor**	**144.46**	**49**	P	PKPdf		17 12 03.0	+0.6		
	SNR=14									
KBK	**Karagaybulak**	**144.61**	**48**	P	PKPdf		17 12 03.2	+0.5		
	SNR=26									
TKM2	**Tokmak 2**	**144.96**	**48**	P	PKPdf		17 12 04.0	+0.7		
	SNR=12									
KZA	**Kyzart**	**145.03**	**49**	P	PKPbc		17 12 05.0	+2.0		
	SNR=22									
YSS	**Yuzh-Sakhalins**	**145.35**	**321**	PKIKP	PKPdf		17 12 04.0	0.0		
YSS				*e*			17 12 30.0			
BOD	**Bodaibo**	**145.57**	**357**	⇑*i* PKIKP	PKPdf		17 12 02.9	-1.5		
BOD				*e*			17 12 29.2			
BOD				pmax	pmax					
	comp=Z,23nm,1.2s									
BOD				pmax	pmax					
	comp=Z,9.0nm,0.8s									
ULHL	**Ulahol**	**145.65**	**49**	P	PKPdf		17 12 07.0	+2.5		
	SNR=6.3									
MKAR	**Makanchi Array**	**147.26**	**38**	PKPbc	PKPbc		17 12 07.5	-2.1		
	comp=Z,12nm,0.8s,baz=328,slow=1.5,SNR=48									
MKAR				pPKPbc	pPKPbc		17 12 35.5	-0.2		
	comp=Z,7.5nm,0.8s,baz=304,slow=3.1,SNR=7.1									
HYB	**Hyderabad**	**149.12**	**95**	*i* PKP	PKPdf		17 12 15.5	+5.3		
HYB				*e*PKPAB	PKPab		17 12 20.0	+0.9		
HYB				*e*			17 12 33.0			
HYB				*e*			17 12 42.5			
HYB	**Hyderabad**	**149.12**	**95**	*e*P	PKPdf		17 12 15.5	+5.3		
NDI	**New Delhi**	**149.33**	**73**	*ex*	x		17 12 14.5			
KLR	**Kul'dur**	**149.47**	**333**	*e*PKHKP			17 12 11.8			
DDI	**Dehra Dun**	**149.96**	**70**	*ex*	x		17 12 17.0			
MOY	**Mondy**	**150.79**	**13**	*e*PKIKP	PKPdf		17 12 19.4	+6.5		
CIT	**Chita**	**151.38**	**357**	*e*PKIKP	PKPdf		17 12 20.4	+6.6		
CIT				*e*			17 12 46.9			
JBP	**Jabalpur**	**151.60**	**84**	⇓*e*P	PKPdf		17 12 21.1	+7.0		
JBP				*e*S			17 12 48.3			
WMQ	**Urumqi**	**152.09**	**38**	PKP	PKPdf		17 12 14.1	-0.8		
WMQ				PKP2	PKPab		17 12 32.3	+0.9		
WMQ				APKP			17 12 40.1			
WMQ				XPKP			17 12 50.6			
WMQ				PP	PP		17 16 04.8	+1.3		
WMQ				PP	PP					
	comp=Z,71nm,4.3s									
WMQ				LR	LR					
	comp=N,72nm,25.0s									
WMQ				LR	LR					
	comp=Z,34nm,19.0s									
ZAK	**Zakamensk**	**152.44**	**11**	*e*PKIKP	PKPdf		17 12 21.4	+6.0		
ZAK				pmax	pmax					
	comp=Z,7.0nm,1.8s									
MJAR	**Matsushiro Arr**	**153.11**	**305**	PKPbc	PKPbc		17 12 23.8	0.0		
	comp=Z,2.5nm,0.8s,baz=118,slow=1.4,SNR=7.8									
MJAR				PKPab	PKPab		17 12 36.2	+0.6		
	comp=Z,3.4nm,0.9s,baz=94,slow=2.6,SNR=7.0									
MJAR				pPKPbc	pPKPbc		17 12 50.4	+0.4		
	comp=Z,3.5nm,0.8s,baz=94,slow=1.3,SNR=6.4									
MJAR	**Matsushiro Arr**	**153.11**	**305**	PKPbc	PKPbc		17 12 23.8	0.0		
MJAR				PKPab	PKPab		17 12 36.2	+0.5		
MJAR				pPKPbc	pPKPbc		17 12 50.4	+0.4		
MAT	**Matsushiro**	**153.11**	**305**	PKP2	PKPab		17 12 36.0	+0.3		
SONM	**Songino Array**	**155.38**	**7**	PKP	PKPdf		17 12 20.3	+0.8		
	comp=Z,1.2nm,0.8s,baz=285,slow=1.4,SNR=9.8									
SONM				PKPbc	PKPdf		17 12 28.9	+9.4		
	comp=Z,1.1nm,0.7s,baz=315,slow=0.9,SNR=8.7									
SONM				PKPab	PKPab		17 12 45.5	+0.2		
	comp=Z,1.7nm,0.8s,baz=335,slow=4.1,SNR=10									
CN2	**Changchun**	**156.43**	**333**	*e*PKP	PKPdf		17 12 19.9	-1.0		
PSI	**Prapat**	**156.43**	**149**	PKPab	PKPab		17 12 51.1	+1.3		
	comp=Z,2.9nm,0.5s,baz=117,slow=19,SNR=4.5									
GTA	**Gaotai**	**161.49**	**28**	PKP	PKPdf		17 12 28.5	+1.7		
GTA				PKS			17 16 01.3			
GTA				PP	PP		17 16 58.4	+3.1		
GTA				SKS	SKSdf		17 19 21.8	-1.3		
GTA				SKKS	SKKSac		17 23 36.5	+1.6		
GTA				PP	PP					
	comp=Z,100nm,7.6s									
GTA				LR	LR					
	comp=N,53nm,11.0s									
GTA				LR	LR					
	comp=E,58nm,10.6s									
GTA				LR	LR					
	comp=Z,76nm,9.1s									
HHC	**Hu-ho-hao-te**	**162.62**	**358**	*e*PKP	PKPdf		17 12 26.8	-1.2		
HHC				PKP2	PKPab		17 13 17.9	+1.1		
HHC				PKS			17 16 01.5			
HHC				PP	PP					
	comp=Z,88nm,7.7s									
HHC				LR	LR					
	comp=N,108nm,19.0s									
HHC				LR	LR					
	comp=E,130nm,19.6s									
HHC				LR	LR					
	comp=Z,73nm,16.0s									
LZH	**Lanzhou**	**165.97**	**24**	*e*PKP	PKPdf		17 12 32.1	+1.1		
LZH				APKP			17 12 59.0			
LZH				XPKP			17 13 09.6			
LZH				LR	LR					
	comp=N,212nm,19.6s									
LZH				LR	LR					
	comp=Z,345nm,20.5s									
NJ2	**Nanjing**	**168.91**	**323**	*e*PKP	PKPdf		17 12 32.3	-0.8		
NJ2				APKP			17 12 58.0			
NJ2				XPKP			17 13 10.6			
NJ2				PKS			17 16 04.0			
NJ2				PP	PP		17 17 36.0	+2.1		
NJ2				PP	PP					
	comp=Z,100nm,7.2s									
NJ2				LR	LR					
	comp=N,360nm,27.4s									
NJ2				LR	LR					
	comp=E,370nm,36.6s									
NJ2				LR	LR					
	comp=Z,240nm,24.5s									
CD2	**Chengdu**	**170.19**	**39**	*e*PKP	PKPdf		17 12 30.8	-3.1		
KMI	**Kunming**	**172.34**	**76**	PKP	PKPdf		17 12 34.9	0.0		

*NNC **20** 17:02:25.5±2.0, 41.77N×77.43E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=12.8km s-min=10.4km az=146.0*
*ISCJB **20** 17:02:27.6±1.0, 41.95N±0.05×77.66E±0.08, h10km, Error ellipse: s-maj=8.4km s-min=6.9km az=149.6*
*KNET **20** 17:02:27.2±0.8, 41.93N×77.32E, h3km±3km, ml3.2, Error ellipse: s-maj=9.2km s-min=4.0km az=32.0*
*BJI **20** 17:02:29.6, 41.74N×77.67E, h8km, ML3.2*

ISC 20 17:02:28.7±1.0, 4195N±0.05×7764E±0.08, h10km, n15, σ1.9 21/24, 9C-14D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**1.08**	**287**	⇑P	**Pg**	**17 02 43.5**	**-5.9**
	60nm,0.1s,SNR=807						
ULHL				⇓S	**Sg**	**17 02 57.3**	**-6.3**
	348nm,0.2s						
KNDC	**Almaty**	**1.36**	**339**	⇓P	**Pn**	**17 02 52.8**	**-1.0**
	118nm,0.3s						
KNDC				⇓S	**Sb**	**17 03 13.3**	**+1.5**
	102nm,0.3s						
TKM2	**Tokmak 2**	**1.80**	**303**	⇓P	**Pn**	**17 02 57.7**	**-2.0**
	105nm,0.2s,SNR=72						
TKM2				⇓S	**Sn**	**17 03 21.9**	**-0.7**
	530nm,0.1s						
TKM2	**Tokmak 2**	**1.80**	**303**	⇑P	**Pn**	**17 02 57.6**	**-2.1**
	1.0nm,0.2s						
TKM2				⇓S	**Sn**	**17 03 21.5**	**-1.1**
	18nm,0.5s						
KBK	**Karagaybulak**	**2.12**	**290**	P	**Pn**	**17 03 02.6**	**-1.5**

*NEIC **20** 17:28:17.9±0.9,3163S×17898W,h114km±10km,mb4.7/4, Error ellipse: s-maj=19.0km s-min=10.2km az=104.0*
*IDC **20** 17:28:18.3±2.4,3155S×17901W,h114km±73km,mb3.8/4, mb1 3.9/7,mb1mx3.7/17,mbtmp4.2/7,Error ellipse: s-maj=171.5km s-min=12.7km az=108.0*
ISC 20 17:28:17.3±0.6,3166S.005×**1793W**±.01**,h89**km±8km**,n41,** σ1ᵍ**43**/55**,mb4.4**/9**,2C,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.66**	**26**	P	**Pn**	**17 28 58.5**	**+0.3**
	37nm,0.3s,baz=99,slow=23,SNR=4.7						
RAO				S	**Sn**	**17 29 28.0**	**-1.6**
	272nm,0.3s,baz=98,slow=21,SNR=11						
RAO	**Raoul Island**	**2.66**	**26**	P	**Pn**	**17 28 58.5**	**+0.3**
RAO				S	**Sn**	**17 29 28.0**	**-1.6**
MXZ	**Matakaoa Point**	**6.23**	**198**	*e*SN	**Sn**	**17 31 01.8**	**+5.4**
PUZ	**Puketiti**	**6.72**	**197**	PN	**Pn**	**17 29 56.2**	**+2.8**
PUZ				SN	**Sn**	**17 31 12.1**	**+3.7**
PUZ	**Puketiti**	**6.72**	**197**	*e*P	**Pn**	**17 29 56.4**	**+3.1**
PUZ				S	**Sn**	**17 31 12.1**	**+3.7**
MWZ	**Matawai**	**7.17**	**201**	PN	**Pn**	**17 30 01.9**	**+2.5**
MWZ				*e*SN	**Sn**	**17 31 23.2**	**+4.0**
MWZ	**Matawai**	**7.17**	**201**	*e*P	**Pn**	**17 30 02.0**	**+2.6**
MWZ				S	**Sn**	**17 31 26.2**	**+6.9**
URZ	**Urewera**	**7.23**	**203**	P	**Pn**	**17 30 04.0**	**+3.6**
	0.7nm,0.3s,baz=300,slow=20,SNR=14						
URZ				S	**Sn**	**17 31 25.8**	**+5.0**
	4.5nm,0.3s,baz=153,slow=14,SNR=17						
URZ	**Urewera**	**7.23**	**203**	PN	**Pn**	**17 30 03.5**	**+3.2**
BKZ	**Black Stump Fm**	**8.26**	**204**	PN	**Pn**	**17 30 15.6**	**+1.3**
BKZ	**Black Stump Fm**	**8.26**	**204**	*e*P	**Pn**	**17 30 16.3**	**+2.0**
PXZ	**Pawanui**	**8.93**	**200**	PN	**Pn**	**17 30 22.8**	**-0.7**
PXZ				*e*SN	**Sn**	**17 32 01.0**	**-1.3**
TSZ	**Takapari Road**	**9.24**	**204**	PN	**Pn**	**17 30 22.8**	**-4.9**
BFZ	**Birch Farm**	**9.71**	**201**	PN	**Pn**	**17 30 34.2**	**+0.1**
BFZ				*e*SN	**Sn**	**17 32 20.0**	**-1.4**
BFZ	**Birch Farm**	**9.71**	**201**	P	**Pn**	**17 30 34.2**	**+0.1**
MRZ	**Mangatainoka R**	**9.91**	**203**	PN	**Pn**	**17 30 35.4**	**-1.4**
MRZ				*e*SN	**Sn**	**17 32 24.9**	**-1.2**
MRZ	**Mangatainoka R**	**9.91**	**203**	P	**Pn**	**17 30 35.4**	**-1.4**
MRZ				S	**Sn**	**17 32 26.7**	**+0.6**
TIWZ	**Tintock**	**9.91**	**202**	PN	**Pn**	**17 30 37.1**	**+0.3**
CAW	**Cannon Point**	**10.48**	**204**	*e*PN	**Pn**	**17 30 44.6**	**0.0**
CAW	**Cannon Point**	**10.48**	**204**	P	**Pn**	**17 30 44.6**	**0.0**
MSWZ	**Moikau Station**	**10.69**	**203**	*e*SN	**Sn**	**17 32 43.0**	**-2.2**
NNZ	**Nelson**	**11.23**	**210**	PN	**Pn**	**17 30 57.2**	**+2.4**
NNZ				*e*SN	**Sn**	**17 32 57.3**	**-1.1**
QRZ	**Quartz Range**	**11.30**	**214**	*e*SN	**Sn**	**17 33 00.7**	**+0.8**
THZ	**Tophouse**	**11.88**	**210**	*e*PN	**Pn**	**17 31 01.6**	**-2.0**
THZ				*e*SN	**Sn**	**17 33 12.2**	**-1.9**
KHZ	**Kahutara**	**12.18**	**206**	*e*SN	**Sn**	**17 33 17.8**	**-3.6**
MQZ	**McQueen's Vall**	**13.62**	**206**	SN	**Sn**	**17 33 48.5**	**-7.8**
RPZ	**Rata Peaks**	**14.26**	**210**	P	**Pn**	**17 31 39.0**	**+4.0**
	0.6nm,0.3s,baz=59,slow=19,SNR=3.8						
RPZ				S	**Sn**	**17 34 04.2**	**-7.7**
	0.4nm,0.3s,baz=34,slow=20,SNR=5.7						
HNR	**Honiara**	**29.36**	**314**	P	**P**	**17 34 10.6**	**-1.1**
	45nm,1.2s,mb5.0						
CTA	**Charters Tower**	**32.97**	**282**	P	**P**	**17 34 45.0**	**+1.4**
	6.0nm,0.9s,mb4.4,baz=95,slow=12,SNR=3.9						
CTAO	**Charters Tower**	**32.97**	**282**	P	**P**	**17 34 45.3**	**+1.7**
STKA	**Stephens Creek**	**33.17**	**259**	P	**P**	**17 34 45.5**	**+0.2**
	2.1nm,0.6s,mb4.1,baz=108,slow=13,SNR=5.8						
STKA	**Stephens Creek**	**33.17**	**259**	*e*P	**P**	**17 34 45.3**	**0.0**
ASAR	**Alice Springs**	**41.99**	**269**	P	**P**	**17 35 59.9**	**+0.2**
	2.3nm,0.4s,mb4.2,baz=107,slow=7.4,SNR=57						
WRAB	**Tennant Creek**	**43.09**	**274**	*e*P	**P**	**17 36 08.2**	**-0.3**
WRA	**Warramunga Arr**	**43.09**	**274**	P	**P**	**17 36 08.5**	**0.0**
	7.9nm,0.3s,mb4.9,baz=111,slow=8.0,SNR=172						
FITZ	**Fitzroy Crossi**	**51.30**	**272**	P	**P**	**17 37 12.3**	**+0.1**
	0.4nm,0.5s,mb3.8,baz=85,slow=11,SNR=3.7						
QSPA	**South Pole Qui**	**58.46**	**180**	*e*P	**P**	**17 38 03.6**	**-0.3**
	2.8nm,0.5s,mb4.5						
SNAA	**Sanae**	**76.93**	**179**	*e*P	**P**	**17 39 58.3**	**-1.7**
	0.7nm,0.4s,mb3.7						
VNA3	**Neumayer Olymp**	**77.12**	**177**⇑	*i*	**P**	**17 40 01.9**	**+0.8**
VNA3				*e*		17 40 03.1	
VNA2	**Neumayer--Watz**	**77.55**	**177**⇑	*i*	**P**	**17 40 04.6**	**+1.2**
	baz=191,slow=6.0						
VNA2				*e*		17 40 05.7	
ISA	**Isabella**	**87.94**	**45**	P	**P**	**17 40 52.2**	**-5.0**
	11nm,0.8s,mb4.9						

*MOS **20** 17:29:10.8±0.4,5728N×12081E,h14km,mb4.3/1,Error ellipse: s-maj=33.1km s-min=24.0km az=61.2*
BYKL 20 17:29:08.9±0.4,5742N×12092E,h3km±18km**,1C-1D, Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRS	**Chara**	**1.54**	**251**	*i*Pg	Pg	17 29 36.8	-1.5
CRS				*e*Sg	Sg	17 29 56.0	-2.2
CRS				Pmax			
	122nm,0.9s						
CRS				Smax			
	263nm,0.4s						
CRS	**Chara**	**1.54**	**251**	*e*P	Pn	17 29 37.0	-0.2
CRS				*e*		17 29 56.1	
CRS				pmax	pmax		
	comp=Z,119nm,0.7s						
CRS				smax			
	comp=E,267nm,0.6s						
NRGR	**Nerungri**	**2.21**	**109**	*e*P	Pn	17 29 49.0	+2.5
NRGR				S	Sn	17 30 17.2	+2.8
NRGR				smax			
	comp=N,13nm,0.1s						
CLNS	**Chul'man**	**2.24**	**103**	*e*Pg	Pg	17 29 49.0	-2.9
CLNS				*e*Sg	Sg	17 30 18.8	-2.2
CLNS				Pmax			
	comp=N,181nm,0.3s						
CLNS				Smax			
	comp=N,4μm,0.4s						
CLNS	**Chul'man**	**2.24**	**103**	*e*P	Pn	17 29 49.0	+2.1
CLNS				*e*		17 30 18.8	
CLNS				pmax	pmax		
	comp=E,7.0nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,22nm,0.3s						
CLNS				pmax	pmax		
	comp=N,12nm,0.4s						
CLNS				smax			
	comp=E,435nm,0.4s						
CLNS				smax			
	comp=N,182nm,0.3s						
CLNS				smax			
	comp=Z,103nm,0.3s						
ALDR	**Aldan**	**2.67**	**62**	*e*Pn	Pn	17 29 51.7	-1.1
ALDR				*e*Pg	Pg	17 29 56.5	-3.6
ALDR				*e*Sn	Sn	17 30 26.2	+0.6
ALDR				*e*Sg	Sg	17 30 31.2	-3.5
ALDR				Pmax			
	comp=Z,81nm,0.3s						
ALDR				Smax			
	comp=Z,1μm,0.2s						
NLYR	**Nelyaty**	**3.00**	**254**⇑	*i*Pn	Pn	17 29 57.9	+0.5
NLYR				*e*Pg	Pg	17 30 02.7	-3.8
NLYR				*e*Sn	Sn	17 30 32.8	-1.1
NLYR				*e*Sg	Sg	17 30 40.6	-4.9
NLYR				Pmax			
	comp=Z,58nm,0.3s						
NLYR				Smax			
	comp=Z,230nm,1.4s						
NLYR	**Nelyaty**	**3.00**	**254**	*e*P	Pn	17 29 57.9	+0.5
NLYR				*e*		17 30 38.8	
NLYR				pmax	pmax		
	comp=Z,57nm,0.4s						
NLYR				smax			
	comp=N,255nm,1.4s						
TUP	**Tupik**	**3.05**	**191**	*e*Pn	Pn	17 29 58.2	+0.2
TUP				*e*Pg	Pg	17 30 03.9	-3.5
TUP				*e*Sn	Sn	17 30 34.9	-0.1
TUP				*e*Sg	Sg	17 30 42.4	-4.5
TUP				Pmax			
	comp=N,60nm,0.5s						
TUP				Smax			
	comp=N,527nm,0.9s						
TUP	**Tupik**	**3.05**	**191**	*e*P	Pn	17 29 58.0	0.0
TUP				*e*S	Sn	17 30 33.8	-1.2
TUP				pmax	pmax		
	comp=Z,62nm,1.6s						
TUP				smax			
	comp=E,528nm,0.9s						
TNDR	**Tynda**	**3.11**	**135**	*e*Pn	Pn	17 29 59.5	+0.7
TNDR				*e*Pg	Pg	17 30 04.9	-3.6
TNDR				*e*Sn	Sn	17 30 35.2	-1.3
TNDR				*e*Sg	Sg	17 30 46.0	-2.9
TNDR				Pmax			
	comp=E,113nm,0.1s						
TNDR				Smax			
	comp=E,2μm,0.4s						
BOD	**Bodaibo**	**3.74**	**279**	*e*Pn	Pn	17 30 07.8	+0.3
BOD				*e*Pg	Pg	17 30 16.7	-3.9
BOD				*e*Sn	Sn	17 30 51.7	-0.4
BOD				*e*Sg	Sg	17 31 02.6	-6.5
BOD				Pmax			
	comp=E,11nm,0.5s						
BOD				Smax			
	comp=E,120nm,0.6s						
SVKR	**Severomuysk**	**4.26**	**255**	*e*Pg	Pg	17 30 25.4	-5.1
SVKR				*e*Sg	Sg	17 31 20.8	-4.8
SVKR				Pmax			
	comp=E,20nm,0.5s						
SVKR				Smax			
	comp=E,201nm,1.1s						
UKT	**Uakit**	**4.49**	**248**	*e*Pg	Pg	17 30 29.1	-5.7
UKT				*e*Sg	Sg	17 31 26.6	-6.4
UKT				Pmax			
	comp=E,15nm,0.6s						
UKT				Smax			
	comp=E,39nm,0.6s						
UKT	**Uakit**	**4.49**	**248**	*e*P	Pg	17 30 29.7	-5.1
UKT				pmax	pmax		
	comp=Z,15nm,0.6s						
KROS	**Kirovskiy**	**4.53**	**129**	*e*Pg	Pg	17 30 28.0	-7.7
KROS				*e*Sg	Sg	17 31 28.4	-6.1
YOA	**Uoyan**	**5.22**	**260**	*e*Pg	Pg	17 30 43.7	-5.2
YOA				*e*Sg	Sg	17 31 50.8	-5.8
YOA				Pmax			
	comp=Z,49nm,1.4s						
YOA				Smax			
	comp=Z,350nm,1.0s						
YOA	**Uoyan**	**5.22**	**260**	*e*P	Pg	17 30 45.7	-3.2
YOA				pmax	pmax		
	comp=Z,56nm,1.2s						
CGD	**Chagda**	**5.32**	**71**	*e*Pn	Pn	17 30 30.6	+1.4
CGD				*e*Sg	Sg	17 31 51.8	-7.8
CGD				Smax			
	comp=Z,2μm,0.3s						
KMO	**Kumora**	**5.58**	**258**	*e*Pg	Pg	17 30 50.2	-5.6
KMO				*e*Sg	Sg	17 32 02.2	-5.9
KMO				Pmax			
	comp=Z,11nm,0.9s						
KMO				Smax			
	comp=Z,91nm,1.1s						
CIT	**Chita**	**6.89**	**221**	*e*Pg	Pg	17 31 13.1	-7.7
CIT				*e*Sg	Sg	17 32 40.5	-10
CIT				Pmax			
	comp=Z,6.0nm,0.3s						
CIT				Smax			
	comp=Z,107nm,1.4s						
KPC	**Khapcheranga**	**9.24**	**217**	*e*Sg	Sx	17 33 54.1	
KPC				Smax			
	comp=Z,52nm,1.5s						
KPC	**Khapcheranga**	**9.24**	**217**	*e*P	Pn	17 31 24.8	+1.7
KPC				pmax	pmax		
	comp=Z,1.0nm,0.8s						

IDC 20 17:45:10.4±15.0,1463S×6684E,h0km**,mb3.7**/4**, mb1 3.9**/4**,mb1mx3.6**/19**,mbtmp3.7**/4**,Error ellipse: s-maj=495.1km s-min=33.5km az=62.0,Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**62.70**	**12**	P	P	17 55 38.5	+1.5
	1.1nm,1.0s,baz=214,slow=8.6,SNR=4.7						
ASAR	**Alice Springs**	**63.51**	**109**	P	P	17 55 42.8	+0.4
	1.3nm,1.0s,baz=276,slow=6.7,SNR=8.3						
WRA	**Warramunga Arr**	**64.31**	**105**	P	P	17 55 48.8	+1.2
	2.5nm,1.0s,baz=260,slow=6.2,SNR=10						
SONM	**Songino Array**	**71.50**	**27**	P	P	17 56 31.6	-1.3
	0.1nm,0.4s,baz=250,slow=4.2,SNR=3.0						

MAN 20 18:20:28.0,961N×12206E,h23km**,mb3.3,ML4.5,MS3.4, 3C-1D,Negros**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**1.14**	**27**	*e*P	Pn	18 20 47.0	-1.4
GUIM				*e*S	Sb	18 21 01.8	-1.5
SNPH	**Sibulan**	**1.19**	**103**⇑	*i*P	Pn	18 20 48.0	-1.3
SNPH				*i* S	Sn	18 21 05.5	+0.7
CUYO	**Cuyo Island**	**1.60**	**320**	*e*P	Pn	18 20 55.2	+0.4
TBP	**Tagbilaran**	**1.78**	**87**	*e*P	Pn	18 20 57.5	+0.1
TBP				*e*S	Sn	18 21 20.3	+1.0
IPIL	**Ipil**	**1.88**	**164**⇑	*i*P	Pn	18 20 59.8	+1.1
IPIL				*i* S	Sn	18 21 22.0	+0.2
IPIL	**Ipil**	**1.88**	**164**	*e*P	Pn	18 20 59.4	+1.2
IPIL				*e*S	Sn	18 21 21.4	-0.4
RCP	**Roxas**	**2.05**	**19**⇓	*e*P	Pn	18 21 02.7	+1.7
RCP				*e*S	Sn	18 21 27.7	+1.8
KALP	**Kalibo**	**2.07**	**8**⇑	*e*P	Pn	18 21 09.7	+8.3
PAGZ	**Pagadian**	**2.19**	**143**	*e*P	Pn	18 21 05.2	+2.2
MSLP	**Maasin**	**2.81**	**79**	*e*P	Pn	18 21 12.9	+1.4
BUSP	**Coron**	**3.00**	**323**	*e*P	Pn	18 21 14.5	+0.5
ENPP	**El Nido**	**3.04**	**302**	*e*P	Pn	18 21 15.6	+1.0

*MOS **20** 18:42:43.5±1.9,1119S×11706E,h33km,mb4.8/19,Error ellipse: s-maj=25.6km s-min=11.5km az=103.1*
*ISCJB **20** 18:42:44.9±0.3,1131S±004×11705E±006,h53km, mb4.8/54,MS3.9/13,Error ellipse: s-maj=8.9km s-min=4.9km az=117.5*
*NEIC **20** 18:42:47.0±0.3,1124S×11706E,mb5.0/24,Error ellipse: s-maj=10.6km s-min=5.3km az=58.0*
*BJI **20** 18:42:46.9,1120S×117.10E,h52km,mB5.0,mb4.8,Ms4.7, Msz4.3*
*IDC **20** 18:42:47.4±0.7,1114S×117.19E,h54km±5km,mb4.2/12, mb1 4.3/13,mb1mx4.2/15,mbtmp4.4/13,MS3.7/8, Ms1 3.7/8,ms1mx3.4/21,Error ellipse: s-maj=24.6km s-min=13.0km az=65.0*
ISC 20 18:42:47.3±0.3,1126S±004×**11708E**±006**,h55**km**,** **h55**km±.6km**:pP-P,n129,**σ1ᵍ**09**/132**,mb4.8**/54**,MS3.9**/13**, 6C-3D,South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**3.54**	**64**	P	**Pn**	**18 43 47.4**	**+7.7**
	753nm,0.8s						
KMMI	**Kalianget**	**5.19**	**323**	P	**Pn**	**18 43 59.8**	**-2.5**
	215nm,0.9s						
BJII	**Banjamegara**	**8.25**	**298**	P	**Pn**	**18 44 45.0**	**+0.7**
	64nm,0.6s						
MBWA	**Marble Bar**	**10.17**	**166**	*e*Pn	**Pn**	**18 45 03.0**	**-7.5**
	178nm,0.3s						
MBWA				*e*Sn	**Sn**	**18 46 42.7**	**-20**
PCI	**Palu**	**10.64**	**15**	P	**Pn**	**18 45 22.0**	**+5.0**
	109nm,1.1s						
FITZ	**Fitzroy Crossi**	**10.71**	**130**	*e*P	**Pn**	**18 45 12.9**	**-5.1**
	41nm,0.5s						
FITZ				*e*S	**Sn**	**18 47 05.2**	**-11**
FITZ	**Fitzroy Crossi**	**10.71**	**130**	P	**Pn**	**18 45 13.9**	**-4.0**
	5.7nm,0.3s,baz=305,slow=9.1,SNR=95						
FITZ				S	**Sn**	**18 47 06.6**	**-10**
	5.5nm,0.3s,baz=209,slow=14,SNR=9.6						
FITZ				LR	LR	18 49 47.6	
	comp=Z,171nm,18.2s,baz=67,slow=39						
KSM	**Kuching**	**14.33**	**332**	*e*Pn	**Pn**	**18 46 06.4**	**-0.6**
KSI	**Kapahiang**	**16.22**	**297**	P	**Pn**	**18 46 26.2**	**-5.3**
	160nm,0.9s						
KKM	**Kota Kinabalu**	**17.21**	**357**	*e*Pn	**Pn**	**18 46 45.6**	**+1.8**
SWI	**Sorong**	**17.46**	**55**	P	**Pn**	**18 46 46.6**	**-0.3**
	78nm,0.9s						
WRA	**Warramunga Arr**	**18.72**	**120**	P	**Pn**	**18 47 00.8**	**-1.4**
	1.4nm,0.3s,baz=284,slow=14,SNR=109						
WRA				S	**S**	**18 50 18.3**	**-13**
	1.2nm,0.3s,baz=288,slow=24,SNR=5.6						
WRAB	**Tennant Creek**	**18.72**	**120**	Pn	**Pn**	**18 47 02.0**	**-0.2**
	83nm,0.4s,SNR=18						
WRAB	**Tennant Creek**	**18.72**	**120**	*e*P	**Pn**	**18 47 02.9**	**+0.7**
WRAB	**Tennant Creek**	**18.72**	**120**	*e*Pn	**Pn**	**18 47 01.1**	**-1.1**
	15nm,0.6s						
WRAB				*e*Sn	**Sn**	**18 50 14.4**	**-17**
WB2	**Warramunga Arr**	**18.73**	**120**	*e*P	**Pn**	**18 47 02.3**	**0.0**
WB2				*e*S	**S**	**18 50 13.8**	**-18**
ASAR	**Alice Springs**	**20.22**	**130**	P	**P**	**18 47 18.7**	**+1.1**
	11nm,0.7s,baz=298,slow=9.6,SNR=64						
ASAR				S	**S**	**18 50 54.4**	**-7.0**
	16nm,1.0s,baz=314,slow=24,SNR=13						
KLBR	**Kellerberrin**	**20.24**	**178**⇓	*i*P	**P**	**18 47 16.6**	**-1.3**
	73nm,0.3s						
KLBR				*e*S	S	18 50 39.4	-23
MUN	**Mundaring**	**20.64**	**182**	*e*P	**P**	**18 47 21.8**	**-0.3**
MUN				*e*S	**S**	**18 50 53.0**	**-17**
BAKI	**Biak**	**21.38**	**63**	P	**P**	**18 47 40.5**	**+10**
	103nm,1.1s,mb5.1						
NWAO	**Narrogin (SRO)**	**21.57**	**180**	P	**P**	**18 47 33.2**	**+1.0**
	98nm,0.6s,mb5.4,baz=7.9,slow=10,SNR=78						
NWAO				LR	LR	18 56 07.6	
	comp=Z,161nm,19.7s,MS3.4,baz=123,slow=37						
NWAO	**Narrogin (SRO)**	**21.57**	**180**	*e*P	**P**	**18 47 33.2**	**+1.1**
NWAO				pmax	pmax		
	comp=Z,72nm,0.6s						
NWAO	**Narrogin (SRO)**	**21.57**	**180**	*e*P	**P**	**18 47 33.2**	**+1.0**
	comp=Z,72nm,0.6s,mb5.3						
NWAO				*e*S	**S**	**18 51 11.9**	**-16**
FORT	**Forrest**	**21.93**	**154**	*e*P	**P**	**18 47 35.8**	**-0.2**
	comp=Z,43nm,0.6s,mb5.1						
FORT				*e*S	**S**	**18 51 25.7**	**-9.3**
PSI	**Prapat**	**22.83**	**307**	P	**P**	**18 47 44.6**	**-0.9**
	comp=Z,9.4nm,0.8s,mb4.3,baz=137,slow=8.4,SNR=7.3						
PSI				LR	LR	18 56 49.1	
	comp=Z,160nm,20.7s,MS3.5,baz=147,slow=37						
KULM	**Kulim**	**23.19**	**314**	*e*P	**P**	**18 47 46.1**	**-3.2**
TSI	**Tuntungan**	**23.55**	**307**	P	**P**	**18 47 51.8**	**-0.8**
	comp=Z,232nm,1.4s,mb5.4						
CTA	**Charters Tower**	**29.39**	**111**	LR	LR	19 00 07.3	
	comp=Z,76nm,18.1s,MS3.4,baz=22,slow=36						
PMG	**Port Moresby**	**29.64**	**89**	LR	LR	19 01 32.0	
	comp=Z,101nm,19.9s,MS3.5,baz=43,slow=38						
STKA	**Stephens Creek**	**30.54**	**136**	*e*P	**P**	**18 48 54.8**	**-0.6**
	comp=Z,4.1nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**30.54**	**136**	P	**P**	**18 48 55.0**	**-0.4**
	comp=Z,4.2nm,0.6s,mb4.4,baz=317,slow=8.0,SNR=8.2						
STKA				LR	LR	19 02 04.1	
	comp=Z,171nm,18.9s,MS3.7,baz=210,slow=38						
KMI	**Kunming**	**38.77**	**339**	P	**P**	**18 50 11.0**	**+4.6**
KMI				AP	pP	18 50 24.1	+3.6
KMI				XP	sP	18 50 30.6	+3.6
KMI				S	**S**	**18 56 04.0**	**+4.2**
KMI				XS	sS	18 56 28.5	+4.8
KMI				SS	SS	18 58 49.6	-2.7
KMI				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.3						
KMI				AMB	AMB		
	comp=Z,45nm,4.6s						
KMI				LR	LR		
	comp=N,171nm,14.5s,MS4.1						
KMI				LR	LR		
	comp=E,107nm,15.6s,MS4.1						
KMI				LR	LR		
	comp=Z,127nm,16.7s,MS3.8						
SSE	**Sheshan**	**42.30**	**5**	P	**P**	**18 50 37.6**	**+2.2**
SSE				AMB	AMB		
	comp=Z,15nm,0.7s,mb4.7						
SSE				AMB	AMB		
	comp=Z,46nm,8.7s						
NJ2	**Nanjing**	**43.10**	**2**	*e*P	**P**	**18 50 43.3**	**+1.4**
NJ2				AP	pP	18 50 58.3	+2.0
NJ2				XP	sP	18 51 04.9	+2.2
NJ2				PP	PP	18 52 26.6	+3.8
NJ2				S	**S**	**18 57 04.0**	**-0.1**
NJ2				XS	sS	18 57 26.0	-2.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,60nm,12.0s						
NJ2				LR	LR		
	comp=N,180nm,31.0s,MS4.0						
NJ2				LR	LR		
	comp=E,260nm,30.5s,MS4.0						
NJ2				LR	LR		
	comp=Z,290nm,33.5s,MS4.0						
CD2	**Chengdu**	**43.84**	**343**	P	**P**	**18 50 52.5**	**+4.6**
CD2				AP	pP	18 51 05.6	+3.3
CD2				XP	sP	18 51 13.4	+4.7
CD2				S	**S**	**18 57 22.9**	**+8.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2				AMB	AMB		
	comp=Z,40nm,6.9s						
CD2				LR	LR		
	comp=N,100nm,3.9s						
CD2				LR	LR		
	comp=Z,90nm,5.5s						
HYB	**Hyderabad**	**47.55**	**306**	*i* P	**P**	**18 51 16.0**	**-1.2**
HYB				*e*	pP	18 51 31.0	-0.7
HYB	**Hyderabad**	**47.55**	**306**	*e*P	**P**	**18 51 16.0**	**-1.2**
LSA	**Lhasa**	**47.78**	**329**	P	**P**	**18 51 20.6**	**+1.6**
LSA	**Lhasa**	**47.78**	**329**	*e*P	**P**	**18 51 19.3**	**+0.3**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
LSA	**Lhasa**	**47.78**	**329**	*e*P	**P**	**18 51 19.3**	**+0.3**
	comp=Z,7.9nm,0.8s,mb4.8						
LZH	**Lanzhou**	**48.72**	**346**	*e*P	**P**	**18 51 32.3**	**+6.1**
LZH				*e*S	**S**	**18 58 30.4**	**+5.6**
LZH				AMB	AMB		
	comp=Z,23nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,125nm,5.8s						
LZH				LR	LR		
	comp=N,636nm,14.9s						
LZH				LR	LR		
	comp=Z,952nm,15.7s,MS4.9						
JIRN	**Jiri**	**48.92**	**323**	*e*P	**P**	**18 51 27.8**	**+0.1**
	comp=Z,66nm,0.6s,mb5.8						
GUN	**Gumba**	**49.29**	**323**	*e*P	**P**	**18 51 30.8**	**+0.2**
	comp=Z,43nm,0.5s,mb5.7						
PKI	**Pulchoki**	**49.32**	**322**	*e*P	**P**	**18 51 30.3**	**-0.5**
KS15	**Wonju Array Si**	**49.49**	**11**	P	**P**	**18 51 33.3**	**+1.1**
KS15				*e*pP	pP	18 51 46.2	-0.6
DMN	**Daman**	**49.53**	**322**	*e*P	**P**	**18 51 32.3**	**-0.1**
	comp=Z,52nm,1.0s,mb5.5						
KKN	**Kakani**	**49.56**	**322**	*e*P	**P**	**18 51 32.4**	**-0.2**
	comp=Z,20nm,0.8s,mb5.2						
KKN	**Kakani**	**49.56**	**322**	*e*P	**P**	**18 51 32.4**	**-0.2**
KKN				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.2						
GKN	**Gorkha**	**50.10**	**322**	*e*P	**P**	**18 51 36.1**	**-0.6**
	comp=Z,27nm,0.7s,mb5.4						
KOLN	**Koldanda**	**50.57**	**321**	*e*P	**P**	**18 51 39.6**	**-0.7**
	comp=Z,26nm,0.7s,mb5.3						
MJAR	**Matsushiro Arr**	**51.54**	**22**	P	**P**	**18 51 45.0**	**-2.6**
	comp=Z,2.0nm,0.8s,m

GTA SS SS 19 03 04.8 +2.6
GTA AMB AMB
comp=Z,2.0nm,1.1s,mb4.0
GTA AMB AMB
comp=Z,104nm,6.8s
GTA LR LR
comp=N,74nm,9.9s
GTA LR LR
comp=E,79nm,8.8s
GTA LR LR
comp=Z,71nm,10.3s,MS4.0
SNY Shenyang 53.16 6 P **P 18 52 02.8 +3.2**
SNY AMB AMB
comp=Z,5.0nm,0.4s,mb4.8
NDI New Delhi 55.32 317 *ex* x 18 52 12.5
RPZ Rata Peaks 56.50 135 LR LR 19 16 21.2
comp=Z,311nm,18.6s,MS4.4,baz=181,slow=36
MDJ Mudanjiang 56.76 11 P **P 18 52 25.8 +0.3**
MDJ AMB AMB
comp=Z,25nm,0.8s,mb5.3
MDJ AMB AMB
comp=Z,58nm,4.4s
MDJ Mudanjiang 56.76 11 *e*P **P 18 52 25.9 +0.3**
comp=Z,11nm,0.8s,mb4.9
MDJ *e* 18 52 34.2
MDJ *e*pP pP 18 52 40.1 -0.3
SDNR Sundarnagar 57.31 319 *e*P **P 18 52 30.0 +0.5**
ULN Ulaanbaatar 59.53 352 *e*P **P 18 52 45.0 +0.1**
ULN *e* 18 52 49.8
ULN *e*pP pP 18 52 59.3 -0.6
SONM Songino Array 59.59 352 P **P 18 52 45.2 -0.1**
comp=Z,6.5nm,0.7s,mb4.8,baz=171,slow=8.4,SNR=75
HIA Hailar 60.31 2 *e*P **P 18 52 50.3 +0.1**
WMQ Urumqi 60.99 336⇓ *i*P **P 18 52 55.8 +0.9**
WMQ AP pP 18 53 10.1 +0.2
WMQ XP sP 18 53 17.0 +0.8
WMQ PCP PcP 18 53 38.3 +0.5
WMQ PP PP 18 55 12.8 +3.1
WMQ S **S 19 01 08.0 -1.3**
WMQ XS sS 19 01 35.8 +1.2
WMQ AMB AMB
comp=Z,15nm,0.6s,mb5.3
WMQ AMB AMB
comp=Z,57nm,3.7s
WMQ LR LR
comp=N,48nm,23.8s
WMQ LR LR
comp=Z,33nm,23.8s,MS3.4
ZAK Zakamensk 62.55 350 *e*P **P 18 53 04.8 -0.6**
ZAK pmax pmax
comp=Z,6.0nm,1.9s,mb4.4
TLY Talaya 63.75 351 P **P 18 53 10.8 -2.5**
MK31 Makanchi Array 65.63 335 P **P 18 53 25.2 -0.4**
MK31 pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
MKAR Makanchi Array 65.63 335 P **P 18 53 25.7 +0.1**
comp=Z,11nm,0.5s,mb5.1,baz=149,slow=7.2,SNR=165
MKAR pP pP 18 53 40.8 +0.1
comp=Z,23nm,0.6s,baz=150,slow=7.2,SNR=26
AAK Ala-Archa 66.29 327⇑ *e*P **P 18 53 29.4 -0.4**
AAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
AAK Ala-Archa 66.29 327 *e*P **P 18 53 28.3 -1.5**
comp=Z,14nm,0.8s,mb5.1
AAK *e*pP pP 18 53 43.7 -1.3
FRU Bishkek 66.36 327 *e*P **P 18 53 31.5 +1.2**
MAW Mawson 66.48 200 P **P 18 53 31.4 +0.4**
comp=Z,1.1nm,0.7s,mb4.0,baz=63,slow=6.8,SNR=4.8
MAW Mawson 66.48 200 P **P 18 53 30.6 -0.4**
MAW pmax pmax
comp=Z,2.0nm,0.7s
MAW Mawson 66.48 200 P **P 18 53 30.6 -0.4**
comp=Z,2.4nm,0.7s,mb4.3
KK31 Karatay Array 68.78 325 *i* P **P 18 53 45.2 -0.3**
KK31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
KKAR Karatay Array 68.78 325 *i* P **P 18 53 45.2 -0.3**
KKAR pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
BOD Bodaibo 68.88 358 *e*P **P 18 53 45.8 -0.3**
BOD *e* pP 18 54 00.5 -0.9
BOD pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
BOD pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
VNDA Vanda 70.07 171 P **P 18 53 54.2 +0.7**
comp=Z,0.7nm,0.9s,baz=338,slow=5.4,SNR=2.5
VNDA Vanda 70.07 171 P **P 18 53 54.2 +0.7**
KURK Kurchatov 70.21 335 P **P 18 53 54.3 0.0**
comp=Z,67nm,0.8s,mb5.6,SNR=5.2
KURK Kurchatov 70.21 335 *e*P **P 18 53 54.0 -0.3**
KURK *e* 18 54 02.1
KURK *e**PP pP 18 54 09.1 -0.5
KURK pmax pmax
comp=Z,25nm,0.8s,mb5.2
KURK Kurchatov 70.21 335⇑ *e*P **P 18 53 54.2 -0.1**
KURK Kurchatov 70.21 335 *e*P **P 18 53 54.0 -0.3**
comp=Z,25nm,0.8s,mb5.2
KURK *e* 18 54 02.1
KURK *e*pP pP 18 54 09.1 -0.6
ZAL Zalesovo 70.49 340 P **P 18 53 56.0 -0.1**
comp=Z,4.0nm,0.5s,mb4.6,baz=338,slow=4.8,SNR=13
ZAL *e*pP pP 18 54 11.2 -0.2
comp=Z,9.7nm,0.6s,baz=347,slow=5.1,SNR=14
NVS Novosibirsk 71.76 340 *e*P **P 18 54 01.0 -2.7**
NVS pmax pmax
comp=N,6.0nm,1.0s
NVS pmax pmax
comp=E,6.0nm,1.0s
NVS pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
ABKT Ailbek 73.67 315 P **P 18 54 15.3 +0.3**
comp=Z,39nm,1.1s,mb5.2,SNR=5,3
YAK Yakutsk 73.72 6⇑ *e*P **P 18 54 15.1 -0.3**
YAK pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
YAK Yakutsk 73.72 6 *e*P **P 18 54 14.9 -0.5**
comp=Z,18nm,1.0s,mb4.9
YAK *e*pP pP 18 54 30.1 -0.7
VOSK Vostochnaya 74.94 333 P **P 18 54 21.9 -0.6**
VOSK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
SYO Syowa Base 75.08 201⇑ *e*P **P 18 54 22.0 -1.2**
BVA0 Borovoye Array 75.41 333 *i* P **P 18 54 25.4 +0.2**
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
CHKZ Chkalovo 75.75 334 *e*P **P 18 54 27.1 0.0**
CHKZ *e**PP pP 18 54 41.7 -0.9
CHKZ pmax pmax
comp=Z,15nm,0.6s,mb5.1
CHKZ Chkalovo 75.75 334 *e*P **P 18 54 27.1 -0.1**
comp=Z,15nm,0.6s,mb5.1
CHKZ *e*pP pP 18 54 41.7 -0.8
ZRNK Zerenda 75.99 332 *i* P **P 18 54 28.2 -0.2**
ZRNK pmax pmax
comp=Z,12nm,0.6s,mb5.0
ZRNK Zerenda 75.99 332 *e*P **P 18 54 28.2 -0.2**
comp=Z,15nm,0.6s,mb5.1
ZRNK *e* 18 54 34.5
ZRNK *e*pP pP 18 54 43.0 -0.9
ZRNK *e*sP sP 18 54 46.9 -3.2
AB31 Akbulak array 78.33 326 P **P 18 54 41.4 -0.2**
AB31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
KMBO Kilima Mbogo 79.80 271 P **P 18 54 50.9 +1.2**
comp=Z,0.5nm,0.3s,mb3.9,baz=56,slow=9.7,SNR=9.1
KMBO LR LR 19 25 28.2
comp=Z,52nm,18.5s,MS3.9,baz=90,slow=32
KMBO Kilima Mbogo 79.80 271 *e*P **P 18 54 51.6 +2.0**
KMBO *e* 18 54 58.0
KMBO pmax pmax
comp=Z,1.0nm,0.7s
KMBO Kilima Mbogo 79.80 271 *e*P **P 18 54 51.6 +2.0**
comp=Z,0.9nm,0.7s,mb3.8
KMBO *e* 18 54 58.0
AKTO Aktyubinsk 80.02 326 *i* P **P 18 54 50.6 -0.2**
AKTO pmax pmax
comp=Z,3.0nm,1.5s,mb4.0
ARU Arti 82.92 331⇓ *i*P **P 18 55 05.6 -0.5**
ARU *e* pP 18 55 20.6 -1.2
ARU *e* 18 58 16.3
ARU *e*S S 19 05 20.8 +0.2
ARU *e*SS SS 19 10 40.4 -4.2
ARU pmax pmax
comp=Z,7.0nm,1.5s,mb4.5
ARU Arti 82.92 331 *e*P **P 18 55 04.8 -1.3**
comp=Z,1.5nm,0.6s,mb4.2
ARU *e* pP 18 55 20.6 -1.2
TIXI Tiksi 83.10 4⇑ *e*P **P 18 55 06.3 -0.7**
TIXI *i* *PP pP 18 55 21.2 -1.5
TIXI pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
LSZ Lusaka 86.04 255 *e*P **P 18 55 23.0 +1.1**
LSZ pmax pmax
comp=Z,3.0nm,0.6s,mb4.7
LSZ Lusaka 86.04 255 *e*P **P 18 55 23.0 +1.1**
comp=Z,3.2nm,0.6s,mb4.7
BILL Bilibino 86.48 17 *e*P **P 18 55 23.4 -0.6**
BILL pmax pmax
comp=Z,7.0nm,2.5s,mb4.5
LBTB Lobatse 86.64 245 *e*P **P 18 55 26.2 +1.3**
LBTB pmax pmax
comp=Z,12nm,1.1s,mb5.0
LBTB Lobatse 86.64 245 *e*P **P 18 55 26.2 +1.3**
comp=Z,12nm,1.1s,mb5.1
KIV Kislovodsk 86.77 316⇑ *e*P **P 18 55 27.0 +1.6**
KIV pmax pmax
comp=Z,3.0nm,1.1s,mb4.4
GOF Gofitskoye 86.89 317 *e*P **P 18 55 22.3 -3.7**
MALT Malatya 88.16 309 *e*P **P 18 55 34.0 +1.8**
MALT pmax pmax
comp=Z,6.0nm,1.1s,mb4.7
MALT Malatya 88.16 309 *e*P **P 18 55 34.0 +1.8**
comp=Z,5.8nm,1.1s,mb4.7
EIL Elat 88.77 300 P **P 18 55 32.2 -2.8**
comp=Z,230nm,1.2s
VNA2 Neumayer--Watz 89.96 196 *e*P **P 18 55 42.1 +1.5**
baz=92,slow=4.2
VNA2 *e* 18 55 42.7
VNA2 *e* 18 55 45.2
VNA3 Neumayer Olymp 90.36 195 *e*P **P 18 55 43.6 +1.1**
VNA3 *e* 18 55 44.5
VNA3 *e* 18 55 47.4
BR131 Keskin Array S 92.12 310 *e*P **P 18 55 51.0 +0.4**
comp=Z,3.8nm,0.9s,mb4.7
BR131 *e*pP pP 18 56 06.6 +0.1
BRTR Keskin Array B 92.12 310 P **P 18 55 50.8 +0.2**
comp=Z,3.4nm,0.9s,mb4.7,baz=116,slow=5.6,SNR=23
BRTR pP pP 18 56 06.4 -0.1
comp=Z,2.3nm,0.8s,baz=116,slow=5.7,SNR=7.9
FINES FINESS Array B 100.28 331 P Pdif 18 56 26.7 -0.9
comp=Z,1.0nm,0.9s,baz=145,slow=7.0,SNR=3.8
FINES FINESS Array B 100.28 331 *i* P Pdif 18 56 29.2 +1.6
FINES pmax pmax
comp=Z,1.0nm,0.9s
TORD Torodi Ar. Bea 116.97 279 PKP PKPdf 19 01 27.3 +1.5
comp=Z,1.6nm,0.6s,baz=66,slow=1.5,SNR=18
TORD pPKP pPKPdf 19 01 43.0 +0.8
comp=Z,0.4nm,0.6s,baz=91,slow=1.6,SNR=2.6
DBIC Dimbokro 122.54 271 PKP PKPdf 19 01 38.3 +1.8
comp=Z,2.7nm,0.6s,baz=93,slow=3.2,SNR=9.9
DBIC Dimbokro 122.54 271 *e*PKPdf PKPdf 19 01 37.8 +1.3
WCI Wyandotte Cave 145.97 34 *e*PKPbc PKPbc 19 02 22.2 +1.5
WCI *e* 19 02 28.9
WCI *e*pPKPdf pPKPdf 19 02 37.4 +1.0
ACSO Alum Creek Sta 146.13 28 *e*PKPbc PKPbc 19 02 23.1 +1.8
ACSO *e* 19 02 29.2
ACSO *e*pPKPbc pPKPbc 19 02 38.3 +0.8
WVT Waverly 146.53 38 *e*PKPbc PKPbc 19 02 24.3 +1.9
WVT *e* 19 02 30.8
WVT *e*pPKPbc pPKPbc 19 02 39.5 +0.9
BDFB Brasilia 149.47 209 PKPbc PKPbc 19 02 32.8 +2.6
comp=Z,3.5nm,0.9s,baz=333,slow=1.7,SNR=4.0
LPAZ La Paz 152.15 169 PKPbc PKPbc 19 02 40.5 +4.0
comp=Z,1.5nm,0.5s,baz=84,slow=4.9,SNR=3.9

IDC 20 19:12:53.5±9.1**, 888S**×**13173E, h74**km±94km**, mb3.7/1, mb1 3.7/4, mb1mx3.4/13, mbtmp3.8/4, ML3.5/3, Error ellipse: s-maj=97.5km s-min=44.3km az=52.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.91**	**212**	P		Pn	19 15 26.6	-0.2
	0.3nm,0.3s,baz=34,slow=13,SNR=29						
FITZ				S		Sn	19 17 20.3	-6.7
	1.1nm,0.3s,baz=220,slow=16,SNR=4.0						
WRA	**Warramunga Arr**	**11.29**	**167**	P		Pn	19 15 32.2	+0.4
	0.3nm,0.3s,baz=351,slow=13,SNR=34						
WRA				S		Sn	19 17 36.7	+0.5
	1.1nm,0.3s,baz=330,slow=22,SNR=5.9						
ASAR	**Alice Springs**	**14.85**	**172**	P		Pn	19 16 19.9	+0.6
	0.4nm,0.3s,baz=346,slow=8.4,SNR=15						
ASAR				S		Sn	19 19 03.8	+1.0
	0.3nm,0.3s,baz=350,slow=22,SNR=4.6						
MKAR	**Makanchi Array**	**70.73**	**326**	P		P	19 24 01.7	+0.1
	0.8nm,0.5s,baz=115,slow=8.2,SNR=18						

*IDC **20** 19:23:40.8±2.2, 2379S×17998E, h518km±16km, mb3.9/9, mb1 4.0/10, mb1mx3.7/17, mbtmp4.8/10, Error ellipse: s-maj=24.9km s-min=19.3km az=63.0*
*NEIC **20** 19:23:43.1±1.8, 2385S×17986E, h542km±16km, mb4.5/15, Error ellipse: s-maj=21.7km s-min=11.5km az=62.0*
*BJI **20** 19:23:43.1, 2380S×17990E, h542km, mB4.5, mb4.0*
*ISCJB **20** 19:23:44.2±1.7, 2382S±009×1797E±0.1, h564km±18km, mb4.4/20, Error ellipse: s-maj=20.3km s-min=11.1km az=115.4*
*MOS **20** 19:23:50.5±0.9, 2382S×17951E, h644km, mb4.6/5, Error ellipse: s-maj=25.5km s-min=17.7km az=167.1*

ISC 20 19:23:43.9±1.6**, 2396S**±009×**1798E**±01**, h546km**±16km**, n64, σ0892/52, mb4.4/20, 9D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.47**	**276**	P	**P**	**19 26 27.9**	**+0.7**
	0.5nm,0.3s,baz=94,slow=21,SNR=6.2						
URZ	**Urewera**	**14.44**	**189**	P	**P**	**19 26 46.7**	**-0.9**
	1.0nm,0.3s,baz=194,slow=11,SNR=5.4						
URZ				S	**S**	**19 29 18.3**	**-0.6**
	2.2nm,0.3s,baz=235,slow=21,SNR=16						
HNR	**Honiara**	**23.86**	**304**	P	**P**	**19 28 05.5**	**-9.2**
	24nm,0.7s,mb4.9						
CTA	**Charters Tower**	**31.32**	**270**⇓	*i*P	**P**	**19 29 20.7**	**+0.9**
	22nm,0.3s,mb5.2						
CTA	**Charters Tower**	**31.32**	**270**	P	**P**	**19 29 20.8**	**+1.0**
	31nm,0.4s,mb5.2,baz=95,slow=11,SNR=96						
CTAO	**Charters Tower**	**31.32**	**270**	*e*P	**P**	**19 29 20.5**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,38nm,0.5s,mb5.2						
CTAO	**Charters Tower**	**31.32**	**270**	*e*P	**P**	**19 29 20.5**	**+0.7**
	comp=Z,38nm,0.5s,mb5.2						
TAU	**Tasmania Unive**	**32.78**	**227**	*e*P	**P**	**19 29 33.6**	**+1.4**
TAU				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.7						
TAU	**Tasmania Unive**	**32.78**	**227**	*e*P	**P**	**19 29 33.6**	**+1.4**
	comp=Z,22nm,0.8s,mb4.7						
PMG	**Port Moresby**	**34.37**	**289**	P	**P**	**19 29 45.3**	**-0.2**
	comp=Z,25nm,0.7s,mb4.8,baz=39,slow=4.5,SNR=7.3						
PMG	**Port Moresby**	**34.37**	**289**	*e*P	**P**	**19 29 45.4**	**-0.1**
PMG				pmax	pmax		
	comp=Z,27nm,0.8s						
PMG	**Port Moresby**	**34.37**	**289**	*e*P	**P**	**19 29 45.4**	**-0.1**
	comp=Z,27nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**34.56**	**248**⇓	*i*P	**P**	**19 29 46.2**	**-0.9**
	comp=Z,3.5nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**34.56**	**248**	P	**P**	**19 29 46.2**	**-0.9**
	comp=Z,3.8nm,0.4s,mb4.3,baz=94,slow=10.0,SNR=21						
STKA				PcP	PcP	19 32 05.2	-0.9
	comp=Z,1.2nm,0.4s,baz=20,slow=6.8,SNR=2.9						
ASAR	**Alice Springs**	**41.87**	**261**	P	**P**	**19 30 47.0**	**+0.5**
	comp=Z,9.9nm,0.4s,mb4.7,baz=98,slow=7.5,SNR=184						
ASAR				PcP	PcP	19 32 29.6	+0.3
	comp=Z,1.3nm,0.6s,baz=110,slow=4.9,SNR=5.2						
ASAR				ScP	ScP	19 35 31.6	+3.7
	comp=Z,2.0nm,0.8s,baz=110,slow=4.3,SNR=11						
ASAR				S	**S**	**19 36 25.7**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=196,slow=12,SNR=4.7						
ASAR	**Alice Springs**	**41.87**	**261**	P	**P**	**19 30 47.0**	**+0.5**
ASAR					pP	19 32 29.6	+6.1
ASAR				S	**S**	**19 36 25.7**	**+0.5**
WB2	**Warramunga Arr**	**42.24**	**266**⇓	*i*P	**P**	**19 30 49.1**	**-0.3**
WRAB	**Tennant Creek**	**42.24**	**266**⇓	*i*P	**P**	**19 30 49.1**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,34nm,0.7s,mb5.0						
WRAB	**Tennant Creek**	**42.24**	**266**⇓	*i*P	**P**	**19 30 49.1**	**-0.2**
	comp=Z,34nm,0.7s,mb5.0						
WRA	**Warramunga Arr**	**42.25**	**266**	P	**P**	**19 30 49.1**	**-0.3**
	comp=Z,15nm,0.3s,mb5.0,baz=96,slow=8.4,SNR=339						
WRA				ScP	ScP	19 35 33.7	+4.4
	comp=Z,1.8nm,0.8s,baz=99,slow=3.9,SNR=7.4						
WRA				S	**S**	**19 36 29.0**	**-1.6**
	comp=Z,0.8nm,1.0s,baz=111,slow=12,SNR=3.2						
FORT	**Forrest**	**46.15**	**250**	*e*P	**P**	**19 31 19.4**	**-0.1**
	comp=Z,64nm,0.6s,mb5.3						
KAKA	**Kakadu**	**46.16**	**275**⇓	*i*P	**P**	**19 31 19.1**	**-0.5**
	comp=Z,9.8nm,0.3s,mb4.8						
FITZ	**Fitzroy Crossi**	**50.67**	**266**	*e*P	**P**	**19 31 53.7**	**+0.6**
	comp=Z,13nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**50.67**	**266**	P	**P**	**19 31 53.9**	**+0.7**
	comp=Z,7.9nm,0.6s,mb4.3,baz=129,slow=6.5,SNR=54						
SBA	**Scott Base**	**54.31**	**183**	*e*P	**P**	**19 32 21.9**	**+2.8**
KLBR	**Kellerberrin**	**54.82**	**247**⇓	*i*P	**P**	**19 32 22.7**	**0.0**
	comp=Z,12nm,0.7s,mb4.2						
NWAO	**Narrogin (SRO)**	**55.07**	**246**	P	**P**	**19 32 24.3**	**-0.1**
	comp=Z,4.3nm,0.6s,mb3.9,baz=16,slow=12,SNR=7.7						
NWAO	**Narrogin (SRO)**	**55.07**	**246**	*e*P	**P**	**19 32 24.2**	**-0.3**
NWAO				pmax	pmax		
	comp=Z,3.0nm,0.5s						
NWAO	**Narrogin (SRO)**	**55.07**	**246**	*e*P	**P**	**19 32 24.2**	**-0.3**
	comp=Z,3.0nm,0.5s,mb3.8						
MBWA	**Marble Bar**	**55.21**	**260**	*e*P	**P**	**19 32 25.0**	**-0.5**
MUN	**Mundaring**	**56.07**	**247**	*e*P	**P**	**19 32 31.7**	**+0.3**
CASY	**Casey**	**59.99**	**206**	*e*P	**P**	**19 32 57.1**	**-0.8**
	comp=Z,3.1nm,0.4s,mb4.0						
QSPA	**South Pole Qui**	**66.12**	**180**	*e*P	**P**	**19 33 38.9**	**+1.6**
	comp=Z,5.2nm,0.6s,mb4.2						
KKM	**Kota Kinabalu**	**68.77**	**287**	*e*P	**P**	**19 33 53.7**	**+0.3**
MJAR	**Matsushiro Arr**	**71.86**	**326**	P	**P**	**19 34 10.4**	**-1.4**
	comp=Z,1.8nm,0.8s,mb3.6,baz=162,slow=4.8,SNR=6.1						
MAJO	**Matsushiro**	**71.86**	**326**	P	**P**	**19 34 10.8**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.2						
MAJO	**Matsushiro**	**71.86**	**326**	P	**P**	**19 34 10.8**	**-1.0**
	comp=Z,9.7nm,1.0s,mb4.2						
KSM	**Kuching**	**71.96**	**280**	*e*P	**P**	**19 34 12.5**	**+0.2**
MAW	**Mawson**	**77.64**	**200**	*e*P	**P**	**19 34 44.9**	**+0.8**
	comp=Z,3.2nm,0.6s,mb3.8						
MAW	**Mawson**	**77.64**	**200**	P	**P**	**19 34 44.9**	**+0.8**
	comp=Z,3.5nm,0.6s,mb3.9,baz=119,slow=7.0,SNR=18						
MAW	**Mawson**	**77.64**	**200**	*e*P	**P**	**19 34 44.9**	**+0.8**
MAW				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KULM	**Kulim**	**82.30**	**279**	*e*P	**P**	**19 35 08.4**	**-0.1**
SYO	**Syowa Base**	**82.92**	**193**⇓	*e*P	**P**	**19 35 11.0**	**-0.6**
SNAA	**Sanae**	**84.61**	**179**	*e*P	**P**	**19 35 17.1**	**-2.9**
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SNAA	**Sanae**	**84.61**	**179**	*e*P	**P**	**19 35 17.1**	**-2.9**
	comp=Z,1.2nm,0.5s,mb3.7						
VNA3	**Neumayer Olymp**	**84.83**	**177**	*e*	**P**	**19 35 21.0**	**0.0**
VNA2	**Neumayer--Watz**	**85.24**	**178**	*e*	**P**	**19 35 23.2**	**+0.2**
	baz=182,slow=5.2						
KMI	**Kunming**	**89.15**	**298**	P	**P**	**19 35 43.6**	**+2.2**
KMI				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb4.1						
MKAR	**Makanchi Array**	**112.08**	**313**	PKiKP	PKiKP	19 41 16.1	-1.3
	comp=Z,0.3nm,0.5s,baz=204,slow=1.4,SNR=6.3						
ARCES	**ARCESS Array B**	**131.91**	**348**	PKP	PKPdf	19 41 53.5	-1.9
	comp=Z,2.5nm,0.9s,baz=78,slow=2.8,SNR=9.2						
ARCES				SKPbc	SKPbc	19 44 30.1	-0.4
	comp=Z,1.8nm,0.8s,baz=38,slow=4.6,SNR=4.7						
KAF	**Kangasniemi**	**137.85**	**342**	*e*p	PKPdf	19 41 56.0	-10
	comp=Z,3.8nm,1.0s						
FINES	**FINESS Array B**	**138.45**	**341**	PKhKP		19 41 56.0	
	comp=Z,0.3nm,0.3s,baz=43,slow=5.0,SNR=8.8						
FINES				PKP	PKPdf	19 42 06.9	-0.6
	comp=Z,0.7nm,0.4s,baz=67,slow=6.4,SNR=11						
FINES				SKPbc	SKPbc	19 44 50.6	-0.2
	comp=Z,1.7nm,1.0s,baz=42,slow=2.3,SNR=3.9						
NB2	**NORSAR Subarra**	**142.12**	**351**	PKPa		19 42 08.8	
	comp=Z,0.5nm,0.5s,baz=11,slow=3.2						
NOA	**NORSAR Array B**	**142.12**	**351**	PKhKP		19 42 07.8	
	comp=Z,0.9nm,0.7s,baz=8.8,slow=2.3,SNR=5.1						
AKASG	**Malin Array Be**	**144.94**	**327**	PKP	PKPdf	19 42 18.1	-0.9
	comp=Z,2.5nm,0.3s,baz=43,slow=4.2,SNR=36						
AKASG				SKPbc	SKPbc	19 45 07.7	+0.6
	comp=Z,1.2nm,0.6s,baz=38,slow=2.5,SNR=6.5						
BR131	**Keskin Array S**	**147.49**	**307**	*e*PKPbc	PKPbc	19 42 26.4	-0.3
BR131				*e*		19 42 30.7	
BRTR	**Keskin Array B**	**147.49**	**307**	PKPbc	PKPbc	19 42 26.2	-0.5
	comp=Z,2.9nm,0.6s,baz=144,slow=3.5,SNR=14						
BRTR				PKPab	PKPab	19 42 30.6	-0.1
	comp=Z,3.1nm,0.6s,baz=86,slow=4.1,SNR=21						
KOLS	**Kolonicke sedl**	**149.45**	**330**	*e*PKP	PKPdf	19 42 33.6	+7.2
STHS	**Stebnicka Huta**	**149.54**	**332**	*e*PKP	PKPdf	19 42 32.0	+5.4
KECS	**Kecovo**	**150.58**	**331**	*e*	PKPab	19 42 39.3	-4.2
CLL	**Collm**	**150.87**	**343**⇓	*i*PKPbc	PKPbc	19 42 34.3	-0.6
	comp=Z,9.0nm,0.8s						
CLL				*e*PKPab	PKPab	19 42 44.0	-0.7
BRG	**Berggiesshubel**	**150.99**	**341**	*i* P	PKPdf	19 42 34.8	+5.9
	comp=Z,3.7nm,0.5s						
ZST	**Bratislava**	**152.20**	**335**	*e*	PKPab	19 42 46.1	-4.3
TORD	**Torodi Ar. Bea**	**169.10**	**190**	PKPab	PKPab	19 44 04.6	+0.4
	comp=Z,0.7nm,0.6s,baz=159,slow=4.2,SNR=11						

*ISCJB **20** 19:50:43.3±2.4, 58S±0.1×1468E±0.1, h71km±26km, mb3.6/6, Error ellipse: s-maj=25.8km s-min=13.9km az=63.5*
*IDC **20** 19:50:45.3±3.0, 592S×14664E, h73km±32km, mb3.5/5, mb1 3.7/7, mb1mx3.6/15, mbtmp3.8/7, Error ellipse: s-maj=34.3km s-min=12.3km az=116.0*
*NEIC **20** 19:50:47.3±2.8, 588S×14659E, h90km±31km, mb4.3/4, Error ellipse: s-maj=28.5km s-min=17.9km az=134.0*

ISC 20 19:50:48.4±1.8**, 60S**±01×**1468E**±02**, h108**km±21km**, n20, σ084/22, mb3.6/6, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.36**	**174**	P	**Pn**	**19 51 39.3**	**+0.2**
	20nm,0.3s,baz=32,slow=5.6,SNR=87						
PMG				S	**Sn**	**19 52 17.8**	**-0.5**
	46nm,0.3s,baz=166,slow=22,SNR=13						
PMG	**Port Moresby**	**3.36**	**174**	*e*Pn	**Pn**	**19 51 39.2**	**+0.1**
CTA	**Charters Tower**	**13.97**	**182**	*e*P	**Pn**	**19 54 05.5**	**+4.0**
	3.1nm,0.3s						
CTA	**Charters Tower**	**13.97**	**182**	P	**Pn**	**19 54 05.5**	**+3.9**
	1.4nm,0.3s,baz=357,slow=14,SNR=16						
CTAO	**Charters Tower**	**13.97**	**182**	*e*P	**Pn**	**19 54 06.4**	**+4.9**
	9.9nm,0.9s						
KAKA	**Kakadu**	**15.62**	**244**	*e*P	**Pn**	**19 54 21.6**	**-0.8**
	9.0nm,0.4s						
WRAB	**Tennant Creek**	**18.35**	**220**	*e*P	**P**	**19 54 54.5**	**+0.2**
	14nm,0.8s						
WB2	**Warramunga Arr**	**18.36**	**220**	*e*P	**P**	**19 54 55.9**	**+1.4**
WRA	**Warramunga Arr**	**18.36**	**220**	P	**P**	**19 54 54.8**	**+0.3**
	0.5nm,0.3s,baz=38,slow=11,SNR=40						
WRA				S	**S**	**19 58 18.2**	**-0.5**
	0.2nm,0.3s,baz=38,slow=25,SNR=4.6						
ASAR	**Alice Springs**	**21.46**	**214**	P	**P**	**19 55 29.1**	**+1.1**
	0.9nm,0.4s,mb3.5,baz=42,slow=9.0,SNR=26						
ASAR				S	**S**	**19 59 24.4**	**+4.5**
	0.6nm,0.7s,baz=30,slow=21,SNR=4.1						
FITZ	**Fitzroy Crossi**	**23.86**	**238**	*e*P	**P**	**19 55 51.9**	**+0.2**
	7.3nm,0.5s,mb4.3						
FITZ	**Fitzroy Crossi**	**23.86**	**238**	P	**P**	**19 55 52.1**	**+0.4**
	4.2nm,0.5s,mb4.0,baz=60,slow=8.2,SNR=48						
MBWA	**Marble Bar**	**30.21**	**238**	P	**P**	**19 56 46.1**	**-2.4**
KULM	**Kulim**	**47.41**	**283**	*e*P	**P**	**19 59 12.2**	**+0.4**
ULN	**Ulaanbaatar**	**64.04**	**331**	P	**P**	**20 01 10.5**	**-0.1**
	0.9nm,0.6s,mb3.8						
SONM	**Songino Array**	**64.34**	**331**	P	**P**	**20 01 13.0**	**+0.5**
	0.3nm,0.4s,mb3.5,baz=140,slow=5.7,SNR=4.7						
MKAR	**Makanchi Array**	**77.39**	**321**	P	**P**	**20 02 31.2**	**-0.2**
	0.3nm,0.7s,mb3.2,baz=99,slow=6.3,SNR=4.3						
ILAR	**Eielson Array**	**85.60**	**23**	P	**P**	**20 03 14.0**	**-0.7**
	0.5nm,0

PALP	**Palanan**	**2.26**	**149**	*e*P	Pn	19 56 11.3	+0.5
MSLP	**Maasin**	**9.51**	**158**	*e*P	Pn	19 58 07.0	+17

*STR **20** 20:38:26.2±0.3, 43.11N×103W, h10km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **20** 20:38:27.1±0.1, 43.10N×104W, h8km, Md1.9/3, Ml1.4/1, Error ellipse: s-maj=1.9km s-min=1.2km az=11.0*

MDD 20 20:38:27.7±0.4**, 4312N×103W, h7**km±5km**, mbLg0.8/7, Error ellipse: s-maj=2.6km s-min=1.5km az=5.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LARF	**Larrau**	**0.09**	**158**	Pg	Pg	20 38 29.4	-0.3
LARF				Sg	Sg	20 38 30.9	-0.2
LARF	**Larrau**	**0.09**	**158**	Pg	Pg	20 38 29.4	-0.2
LARF				Lg		20 38 31.0	
ORDF	**Ordiarp**	**0.12**	**36**	Pg	Pg	20 38 30.2	0.0
ORDF				Sg	Sg	20 38 32.4	+0.5
ORDF	**Ordiarp**	**0.12**	**36**	Pg	Pg	20 38 30.4	+0.1
ORDF				Lg		20 38 32.4	
SJPF	**Ste Jean**	**0.14**	**268**	*e*Pg	Pg	20 38 30.5	-0.1
SJPF				*e*Sg	Sg	20 38 32.4	-0.2
	36nm,0.2s						
SJPF	**Ste Jean**	**0.14**	**268**	Pg	Pg	20 38 30.5	-0.1
SJPF				Lg		20 38 32.4	
	18nm,0.2s						
ATE	**Arette**	**0.24**	**97**	Pg	Pg	20 38 32.0	-0.5
ATE				Sg	Sg	20 38 36.0	+0.3
ATE	**Arette**	**0.24**	**97**	Pg	Pg	20 38 32.2	-0.2
ATE				Lg		20 38 35.9	
EALK	**Alkurruntz**	**0.36**	**287**	Pg	Pg	20 38 34.3	-0.4
	1.2nm,0.3s,SNR=7.9						
EALK				Lg		20 38 39.4	
	7.4nm,0.4s,SNR=7.9						
ELIZ	**Elizondo**	**0.37**	**277**	Pg	Pg	20 38 34.9	+0.1
	0.5nm,0.2s,SNR=8.8						
ELIZ				Lg		20 38 38.8	
	1.7nm,0.2s,SNR=7.6						
IPRE	**Itoiz**	**0.39**	**218**	Lg		20 38 41.4	
	2.7nm,0.3s,SNR=7.9						
ETSF	**Etsaut**	**0.41**	**122**	*e*Pg	Pg	20 38 34.9	-0.7
ETSF				*e*Sg	Sg	20 38 40.3	-0.7
	7.1nm,0.3s						
ETSF	**Etsaut**	**0.41**	**122**	Pg	Pg	20 38 34.9	-0.7
ETSF				Lg		20 38 40.3	
	3.5nm,0.3s						
IUSE	**Utxeti**	**0.41**	**246**	Pg	Pg	20 38 35.1	-0.6
	0.8nm,0.2s,SNR=7.9						
IUSE				Lg		20 38 41.2	
	1.3nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.96**	**116**	Lg		20 38 58.0	
	0.5nm,0.2s,SNR=7.9						
EPF	**Esparros**	**1.01**	**94**	*e*Pg	Pg	20 38 46.5	-0.5
EPF				*e*Sg	Sg	20 38 59.2	-0.9
	1.1nm,0.2s						
EPF	**Esparros**	**1.01**	**94**	Pg	Pg	20 38 46.5	-0.5
EPF				Lg		20 38 59.2	
	0.6nm,0.2s						
EGRA	**Graus**	**1.35**	**132**	Lg		20 39 12.7	
	0.6nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**1.46**	**163**	Lg		20 39 15.2	
	1.1nm,0.4s,SNR=7.9						

MAN 20 20:42:48.7, 952N×12506E, h28km**, mb2.1, ML3.8, MS3.9, 3C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.50**	**59**⇑	*e*P	Pb	20 42 59.9	+0.9
SCPH				*e*S	Sb	20 43 04.2	-1.8
MSLP	**Maasin**	**0.64**	**342**	*e*P	Pb	20 43 02.7	+1.4
BUTP	**Butuan**	**0.78**	**135**	*e*P	Pb	20 43 03.5	-0.2
CGP	**Cagayan de Oro**	**1.12**	**199**⇓	*e*P	Pn	20 43 08.0	-0.5
CGP				*i* S	Sn	20 43 20.4	-2.6
TBP	**Tagbilaran**	**1.19**	**278**⇑	*i* P	Pn	20 43 09.8	+0.3
TBP				*i* S	Sn	20 43 24.6	-0.1
BUKP	**Musuan**	**1.63**	**180**	*e*P	Pn	20 43 16.2	+0.7

*ISCJB **20** 20:57:36.3±1.3, 3765N±007×2090E±007, h2km, Error ellipse: s-maj=11.0km s-min=6.5km az=74.7*
*ATH **20** 20:57:36.2, 3768N×2085E, h14km±6km, MD3.3/3*
*NEIC **20** 20:57:36.2, 3768N×2085E, h13km, MD3.3(ATH), After ATH.*
*THE **20** 20:57:39.6, 3775N×2105E, h10km*
*CSEM **20** 20:57:39.3±0.2, 3771N×2108E, h2km, MD3.3, Error ellipse: s-maj=6.5km s-min=3.0km az=53.0*

ISC 20 20:57:36.5±1.5**, 3763N**±007×**2088E**±008**, h2**km±8km**, n10,** σ0**$77/14, 1D, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.59**	**337**	*e*PG	**Pg**	**20 57 46.4**	**-1.4**
VLS				*e*SB	**Sg**	**20 57 54.9**	**-0.6**
RLS	**Riolos of Patr**	**0.63**	**47**⇓	*i* PB	**Pg**	**20 57 47.3**	**-1.3**
RLS				*e*SB	**Sg**	**20 57 56.7**	**0.0**
ITM	**Ithomi**	**0.95**	**118**	*e*PN	**Pg**	**20 57 55.3**	**+0.6**
LKD	**Levkas**	**1.09**	**350**	*e*Pg	**Pg**	**20 57 58.6**	**+1.2**
LKD				*e*Sg	**Sg**	**20 58 12.9**	**+1.5**
EVR	**Evrytania**	**1.47**	**29**	*e*PB	**Pn**	**20 58 04.0**	**-0.1**
AGG	**Agios Georgios**	**1.79**	**39**	*e*Pg	**Pn**	**20 58 09.0**	**+0.5**
AGG				*e*Sg	**Sn**	**20 58 31.6**	**-0.3**
IGT	**Igoumenitsa**	**1.94**	**347**	*e*Pb	**Pn**	**20 58 12.6**	**-0.1**
LKR	**Lokris**	**1.95**	**58**	*e*PN	**Pn**	**20 58 11.0**	**+0.3**
XOR	**Xorichti**	**2.50**	**46**	*e*Pn	**Pn**	**20 58 18.1**	**-0.2**
LIT	**Litokhoron**	**2.76**	**26**	*e*Pn	**Pn**	**20 58 21.6**	**-0.2**

*IDC **20** 20:59:05.6±4.0, 22.19S×17965W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/14, mbtmp4.0/3, MS3.6/1, Ms1 3.6/1, ms1mx2.7/18, Error ellipse: s-maj=237.3km s-min=44.0km az=156.0*

NEIC 20 20:59:42.9±1.7**, 2521S×17965W, h350**km**, mb3.8/2, Error ellipse: s-maj=101.0km s-min=23.3km az=160.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.31**	**159**	LR	LR	21 02 49.8	
	comp=Z,483nm,21.0s,baz=226,slow=31						
CTAO	**Charters Tower**	**31.82**	**272**	*e*P	P	21 05 35.9	-0.3
	4.0nm,0.8s						
STKA	**Stephens Creek**	**34.55**	**250**	*e*P	P	21 05 59.4	-0.2
ASAR	**Alice Springs**	**42.15**	**262**	P	P	21 07 03.4	+1.2
	1.0nm,0.4s,baz=93,slow=7.6,SNR=28						
WRAB	**Tennant Creek**	**42.64**	**267**	*e*P	P	21 07 06.7	+0.5
	3.6nm,0.8s						
WRA	**Warramunga Arr**	**42.65**	**267**	P	P	21 07 07.1	+0.8
	1.0nm,0.4s,baz=100,slow=6.6,SNR=30						
FITZ	**Fitzroy Crossi**	**51.06**	**267**	P	P	21 08 10.9	+0.3
	0.5nm,0.5s,baz=95,slow=12,SNR=5.2						
ARCES	**ARCESS Array B**	**133.23**	**348**	PKP	PKPdf	21 18 18.2	+0.7
	2.4nm,1.0s,baz=29,slow=2.8,SNR=5.0						
ARCES	**ARCESS Array B**	**133.23**	**348**	PKP	PKPdf	21 18 18.2	+0.7
NB2	**NORSAR Subarra**	**143.42**	**351**	PKPa	PKPdf	21 18 34.7	-1.3
	comp=Z,1.2nm,0.6s,baz=16,slow=3.3						
NOA	**NORSAR Array B**	**143.42**	**351**	PKP	PKPdf	21 18 34.6	-1.4
	comp=Z,1.7nm,0.8s,baz=18,slow=2.2,SNR=9.0						
BRTR	**Keskin Array B**	**148.61**	**306**	PKPbc	PKPbc	21 18 48.6	-0.4
	comp=Z,0.3nm,0.4s,baz=114,slow=3.5,SNR=3.7						

*NEIC **20** 21:06:31.1±0.8, 168N×9769E, h30km, mb3.8/1, Error ellipse: s-maj=16.8km s-min=11.9km az=75.0*
*ISCJB **20** 21:06:35.9±5.1, 20N±03×98.1E±04, h75km±36km, mb3.8/7, Error ellipse: s-maj=73.9km s-min=19.2km az=115.1*
*IDC **20** 21:06:37.0±4.5, 201N×98.16E, h69km±33km, mb3.5/6, mb1 3.6/6, mb1mx3.4/18, mbtmp3.8/6, Error ellipse: s-maj=56.8km s-min=19.6km az=58.0*

ISC 20 21:06:34.0±7.1**, 18N**±03×**978E**±05**, h48**km±53km**, n9,** σ0**$61/10, mb3.8/7, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.46**	**48**	P	**Pn**	**21 06 57.3**	**-0.5**
	26nm,0.3s,baz=253,slow=6.9,SNR=75						
PSI				S	**Sn**	**21 07 09.9**	**-5.8**
	27nm,0.3s,baz=220,slow=8.9,SNR=17						
KULM	**Kulim**	**4.44**	**39**	*e*Pn	**Pn**	**21 07 39.5**	**+0.8**

WRA	**Warramunga Arr**	**41.83**	**123**	P	**P**	**21 14 19.0**	**+0.1**
	0.7nm,0.5s,mb3.5,baz=302,slow=9.1,SNR=9.4						
WRAB	**Tennant Creek**	**41.84**	**123**	*e*P	**P**	**21 14 19.1**	**0.0**
	1.2nm,0.5s,mb3.8						
ASAR	**Alice Springs**	**43.27**	**128**	P	**P**	**21 14 30.6**	**0.0**
	0.2nm,0.4s,mb3.2,baz=173,slow=40,SNR=3.3						
SONM	**Songino Array**	**46.43**	**8**	P	**P**	**21 14 55.8**	**0.0**
	1.0nm,0.7s,mb3.9,baz=192,slow=8.4,SNR=13						
MKAR	**Makanchi Array**	**46.80**	**345**	P	**P**	**21 14 59.1**	**+0.4**
	3.3nm,0.6s,mb4.4,baz=156,slow=8.8,SNR=53						
FINES	**FINESS Array B**	**79.74**	**332**	P	**P**	**21 18 36.5**	**-0.2**
	0.5nm,0.4s,mb3.8,baz=105,slow=6.1,SNR=11						
FINES				pP	pP	21 18 52.8	+2.0
	1.2nm,1.0s,baz=90,slow=5.7,SNR=1.2						
ARCES	**ARCESS Array B**	**82.17**	**340**	P	**P**	**21 18 49.1**	**-0.5**
	3.1nm,1.0s,mb4.2,baz=86,slow=5.0,SNR=4.9						

*MOS **20** 21:09:09.6±1.4, 1300N×8896W, h33km, mb4.6/5, Error ellipse: s-maj=26.9km s-min=9.0km az=113.9*
*BJI **20** 21:09:11.3, 1290N×8910W, h35km, mB4.8, Ms5.2, Msz4.9*
*NEIC **20** 21:09:11.3±0.5, 1286N×8910W, h35km, mb4.5/11, MD4.8(SNET), Error ellipse: s-maj=17.2km s-min=7.8km az=56.0*
NEIC Felt [III] at San Salvador.
*ISCJB **20** 21:09:12.5±0.5, 1297N±006×8898W±005, h62km±5km, mb4.3/23, Error ellipse: s-maj=11.5km s-min=4.0km az=74.1*
*CASC **20** 21:09:12.4±2.9, 1310N×8899W, h75km±29km, MD4.5, ML4.7, mb4.5(NEIC)*
*IDC **20** 21:09:13.3±3.4, 1310N×8886W, h56km±31km, mb4.0/14, mb1 4.2/16, mb1mx4.0/25, mbtmp4.3/16, ML4.4/1, MS3.9/12, Ms1 3.9/12, ms1mx3.7/20, Error ellipse: s-maj=33.4km s-min=11.5km az=64.0*

ISC 20 21:09:14.4±0.4**, 1303N**±006×**8891W**±005**, h60**km±5km**, n112,** σ1$21/87**, mb4.3/23, 2C-6D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.58**	**7**	*e*P	Px	21 09 29.6	
LFRS	**El Faro**	**0.61**	**346**⇓	*i* P	Px	21 09 29.2	
LCBS	**La Ceiba**	**0.63**	**354**⇓	*i* P	Px	21 09 29.8	
LBRS	**Las Brisas**	**0.72**	**350**	*e*P	Px	21 09 30.9	
SNET	**Serv Nac Est T**	**0.73**	**335**	*e*P	Px	21 09 26.6	
SNET				*e*S	Sx	21 09 37.9	
SNET				*i*		21 09 39.3	
	comp=Z,42μm,0.4s						
VSM	**San Miguel**	**0.74**	**57**⇓	*e*P	Px	21 09 33.1	
BLLM	**Bellamira**	**0.77**	**58**	*e*P	Px	21 09 33.2	
BLLM				*e*S	Sx	21 09 47.9	
BOQS	**Boqueron**	**0.79**	**333**⇑	*i* P	Px	21 09 31.3	
SBLS	**San Blas**	**1.06**	**319**⇓	*i* P	Px	21 09 34.0	
SNJE	**San Jose**	**1.07**	**321**⇓	*i* P	Px	21 09 34.3	
CNCH	**Conchagua**	**1.08**	**77**⇓	*e*P	Px	21 09 37.2	
CRIN	**San Cristobal**	**1.84**	**100**	*e*P	**Pn**	**21 09 43.7**	**0.0**
IXG	**Ixpaco**	**1.89**	**307**	*e*P	**Pn**	**21 09 40.5**	**-3.8**
IXG				*e*S	**Sn**	**21 10 00.9**	**-6.0**
LEON	**Leon**	**2.06**	**107**	*e*P	**Pn**	**21 09 45.3**	**-1.3**
TEL3	**Telica 3**	**2.06**	**102**	*e*P	**Pn**	**21 09 46.2**	**-0.5**
TELN	**Telica**	**2.07**	**102**	*e*P	**Pn**	**21 09 46.4**	**-0.4**
CNGN	**Cerro Negro**	**2.22**	**103**	*e*P	**Pn**	**21 09 48.5**	**-0.3**
MIRN	**Miramar**	**2.22**	**105**	*e*P	**Pn**	**21 09 47.9**	**-1.0**
COPN	**Copaltepe**	**2.42**	**110**	*e*P	**Pn**	**21 09 50.1**	**-1.4**
TP2	**Tecpan 2**	**2.69**	**311**	*e*P	**Pn**	**21 09 53.5**	**-1.7**
TP2				*e*S	**Sn**	**21 10 26.2**	**-0.5**
TISN	**Laguna Tiscapa**	**2.72**	**109**	*e*P	**Pn**	**21 09 55.0**	**-0.7**
MGAN	**Managua**	**2.74**	**108**	*e*P	**Pn**	**21 09 55.0**	**-0.9**
MGAN				*e*S	**Sn**	**21 10 28.0**	**+0.1**
MGAN				*i*		21 10 35.9	
	comp=E,2μm,0.6s						
TICN	**Ticuantepe**	**2.80**	**110**	*e*P	**Pn**	**21 09 57.3**	**+0.7**
APON	**Apoyo**	**2.99**	**111**	*e*P	**Pn**	**21 09 58.9**	**-0.4**
LIM1	**Limonal**	**4.26**	**122**	*i* P	**Pn**	**21 10 17.2**	**+0.5**
VCR	**Vista de Mar**	**4.32**	**132**	*e*P	**Pn**	**21 10 16.6**	**-0.8**
CCIG	**Comitan**	**4.50**	**316**	*i* P	**Pn**	**21 10 21.6**	**+1.6**
CCIG				*i* S	**Sn**	**21 11 22.6**	**+12**
JTS	**JuntasAbangare**	**4.74**	**125**	P	**Pn**	**21 10 23.8**	**+0.6**
	comp=E,4.1nm,0.3s,baz=320,slow=18,SNR=20						
JTS				S	**Sn**	**21 11 16.2**	**-0.6**
	comp=E,18nm,0.3s,baz=301,slow=20,SNR=4.5						
JTS				Lg		21 11 35.4	
	comp=E,17nm,0.3s,baz=287,slow=22,SNR=9.7						
JTS	**JuntasAbangare**	**4.74**	**125**	*e*Pn	**Pn**	**21 10 23.0**	**-0.2**
JTS				*e*Sn	**Sn**	**21 11 27.5**	**+11**
JTS				Lg		21 11 35.4	
CGA2	**Cerro Gallo 2**	**5.29**	**124**	*e*P	**Pn**	**21 10 33.1**	**+2.3**
PRS1	**Puriscal**	**5.43**	**123**	*e*P	**Pn**	**21 10 35.3**	**+2.6**
LAJ	**Bijagual**	**5.65**	**123**	*e*P	**Pn**	**21 10 33.1**	**-2.6**
LCR2	**La Lucha 2**	**5.81**	**124**	*e*P	**Pn**	**21 10 39.9**	**+1.9**
URSC	**Urasca**	**5.95**	**122**	*e*P	**Pn**	**21 10 41.8**	**+2.0**
BUS	**Buena Vista**	**6.12**	**124**⇓	*e*P	**Pn**	**21 10 44.8**	**+2.6**
OXX	**Oaxaca**	**8.55**	**299**	*e*P	**Pn**	**21 11 15.0**	**-0.5**
VHO	**Vista Hermosa**	**8.56**	**299**	*e*P	**Pn**	**21 11 15.8**	**+0.3**
VHO				*i* S	**Sn**	**21 12 50.1**	**-0.5**
SOR	**Soroa**	**11.21**	**29**	*e*P	**Pn**	**21 11 57.1**	**+5.3**
OTAV	**Otavalo**	**16.40**	**140**	*e*Pn	**Pn**	**21 13 00.8**	**+0.2**
	comp=E,2.7nm,0.9s						
DWPF	**Disney**	**16.55**	**24**	*e*Pn	**Pn**	**21 13 07.6**	**+5.2**
SDV	**Santo Domingo**	**18.41**	**101**	P	**Pn**	**21 13 24.6**	**-0.6**
	comp=E,1.2nm,0.3s,baz=274,slow=4.1,SNR=14						
SDV	**Santo Domingo**	**18.41**	**101**	*e*P	**Pn**	**21 13 25.4**	**+0.2**
LRAL	**Lakeview Retre**	**19.99**	**5**	*e*P	**P**	**21 13 44.6**	**+2.8**
	comp=E,16nm,0.8s						
JCT	**Junction City**	**20.07**	**332**	*e*P	**P**	**21 13 43.2**	**+0.5**
JCT				pmax	pmax		
	comp=Z,9.0nm,0.6s						
JCT	**Junction City**	**20.07**	**332**	*e*P	**P**	**21 13 43.2**	**+0.5**
	comp=Z,9.0nm,0.6s						
OXF	**Oxford**	**21.39**	**359**	*e*P	**P**	**21 13 56.6**	**-0.4**
OXF				pmax	pmax		
	comp=Z,20nm,0.6s,mb4.6						
OXF	**Oxford**	**21.39**	**359**	*e*P	**P**	**21 13 56.6**	**-0.4**
	comp=Z,20nm,0.6s,mb4.6						
PLAL	**Pickwick Lake**	**21.87**	**2**	*e*P	**P**	**21 14 04.8**	**+2.8**
UALR	**University of**	**21.87**	**352**	*e*P	**P**	**21 14 02.8**	**+0.7**
	comp=Z,25nm,1.1s,mb4.6						
SWET	**Sewanee**	**22.25**	**6**	*e*P	**P**	**21 14 06.8**	**+0.7**
ATAH	**Atahualpa**	**22.47**	**152**	P	**P**	**21 14 09.7**	**+1.2**
	comp=Z,7.0nm,0.9s,mb4.1,baz=315,slow=12,SNR=5.3						
WVT	**Waverly**	**23.02**	**2**	*e*P	**P**	**21 14 15.2**	**+1.0**
WVT				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.3						
WVT	**Waverly**	**23.02**	**2**	*e*P	**P**	**21 14 15.2**	**+0.9**
	comp=Z,13nm,1.1s,mb4.3						
LPIG	**La Paz**	**23.05**	**302**	LR	LR	21 24 02.7	
	comp=Z,148nm,19.5s,baz=77,slow=39						
WMOK	**Wichita Mounta**	**23.39**	**339**	*e*P	**P**	**21 14 16.5**	**-1.3**
MNTX	**Cornudas Mount**	**23.97**	**323**	*e*P	**P**	**21 14 22.4**	**-0.6**
	comp=Z,12nm,1.4s,mb4.1						
CCM	**Cathedral Cave**	**25.01**	**356**	*e*P	**P**	**21 14 32.2**	**-0.4**
FWV	**Forest Hill**	**25.50**	**15**	*e*P	**P**	**21 14 37.7**	**+0.8**
ANMO	**Albuquerque**	**26.99**	**327**	LR	LR	21 27 24.7	
	comp=Z,148nm,20.7s,baz=271,slow=40						
ANMO	**Albuquerque**	**26.99**	**327**	*e*P	**P**	**21 14 51.7**	**+1.2**
SDMD	**Soldier's Deli**	**28.36**	**20**	*e*P	**P**	**21 15 02.9**	**+0.2**
ISCO	**Idaho Springs**	**30.46**	**334**	*e*P	**P**	**21 15 23.0**	**+1.7**
ISCO				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
ISCO	**Idaho Springs**	**30.46**	**334**	*e*P	**P**	**21 15 23.0**	**+1.7**
	comp=Z,4.0nm,0.8s,mb4.2						
SMCO	**Snowmass**	**30.56**	**332**	*e*P	**P**	**21 15 24.6**	**+2.5**
GLA	**Glamis**	**30.93**	**314**	*e*P	**P**	**21 15 26.4**	**+1.0**
SRU	**San Rafael**	**32.26**	**328**	*e*P	**P**	**21 15 37.9**	**+0.8**
SADO	**Sadowa**	**32.72**	**13**	P	**P**	**21 15 40.3**	**-0.8**
	comp=Z,12nm,0.7s,mb5.0,baz=214,slow=8.3,SNR=9.0						
SAML	**Samuel**	**33.61**	**129**	*e*P	**P**	**21 15 48.5**	**-0.4**
	comp=Z,8.2nm,1.1s,mb4.6						
SNCC	**San Nicolas Is**	**34.40**	**311**	*e*P	**P**	**21 15 53.2**	**-2.6**
PDAR	**Pinedale Array**	**34.60**	**333**	P	**P**	**21 15 57.3**	**-0.2**
	comp=Z,1.3nm,0.6s,mb4.0,baz=125,slow=11,SNR=7.1						
PDAR				PcP	PcP	21 18 30.1	-0.6
	comp=Z,0.9nm,0.5s,baz=126,slow=4.1,SNR=4.6						
LPAZ	**La Paz**	**35.64**	**144**	P	**P**	**21 16 06.3**	**-0.1**
	comp=Z,0.9nm,0.7s,mb3.8,baz=340,slow=11,SNR=7.2						
REDW	**Red Top Meadow**	**35.65**	**332**	*e*P	**P**	**21 16 07.0**	**+0.5**
LOHW	**Long Hollow**	**35.74**	**333**	*e*P	**P**	**21 16 09.1**	**+1.9**
	comp=Z,5.6nm,0.6s,mb4.7						
TPAW	**Teton Pass**	**35.80**	**332**	*e*P	**P**	**21 16 08.5**	**+0.7**
	comp=Z,4.1nm,0.6s,mb4.5						
MOOW	**Moose Ponds**	**35.91**	**333**	*e*P	**P**	**21 16 09.9**	**+1.2**
NVAR	**Mina Array Bea**	**36.34**	**319**	P	**P**	**21 16 11.6**	**-0.8**
	comp=Z,1.3nm,0.8s,mb3.9,baz=125,slow=9.0,SNR=6.4						
NVAR				PcP	PcP	21 18 37.2	+1.3
	comp=Z,1.1nm,0.6s,baz=129,slow=5.0,SNR=5.3						
NVAR	**Mina Array Bea**	**36.34**	**319**	P	**P**	**21 16 11.6**	**-0.8**
NVAR				PcP	PcP	21 18 37.2	+1.3
ULM	**Lac du Bonnet**	**37.55**	**353**	P	**P**	**21 16 20.6**	**-2.1**
	comp=Z,4.3nm,0.7s,mb4.3,baz=172,slow=9.9,SNR=5.6						
ULM				LR	LR	21 33 49.6	
	comp=Z,182nm,20.2s,baz=191,slow=39						
BOZ	**Bozeman (W)**	**37.79**	**334**	*e*P	**P**	**21 16 25.1**	**+0.4**
LRM	**Limekiln Ridge**	**38.29**	**333**	*e*P	**P**	**21 16 29.4**	**+0.5**
SIV	**San Ignacio**	**39.87**	**136**	P	**P**	**21 16 42.2**	**+0.1**
	comp=Z,8.5nm,0.8s,mb4.5,baz=314,slow=11						
SIV				PcP	PcP	21 18 47.5	+0.7
	comp=Z,1.6nm,0.8s,baz=197,slow=8.1,SNR=3.2						
SCHQ	**Schefferville**	**45.15**	**18**	P	**P**	**21 17 23.1**	**-1.8**
	comp=Z,6.9nm,0.8s,mb4.6,baz=212,slow=8.2,SNR=8.3						
SCHQ				LR	LR	21 38 40.6	
	comp=Z,123nm,19.1s,baz=322,slow=39						
FCC	**Fort Churchill**	**45.81**	**356**	*e*P	**P**	**21 17 28.4**	**-1.8**
FCC				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
FCC	**Fort Churchill**	**45.81**	**356**	*e*P	**P**	**21 17 28.4**	**-1.8**
	comp=Z,5.5nm,0.6s,mb4.7						
BDFB	**Brasilia**	**49.48**	**124**	LR	LR	21 41 45.9	
	comp=Z,130nm,21.8s,baz=295,slow=40						
CPUP	**Villa Florida**	**49.74**	**142**	P	**P**	**21 17 59.6**	**-0.9**
	comp=Z,0.4nm,0.4s,mb3.8,baz=307,slow=7.3,SNR=3.8						
YKA	**Yellowknife Ar**	**52.69**	**345**	P	**P**	**21 18 20.9**	**-1.7**
	comp=Z,2.0nm,0.4s,mb4.4,baz=146,slow=6.8,SNR=35						
YKA				LR	LR	21 43 39.5	
	comp=Z,124nm,19.8s,baz=140,slow=39						
DLBC	**Dease Lake**	**54.78**	**335**	P	**P**	**21 18 37.7**	**-0.2**
	comp=Z,3.2nm,0.7s,mb4.5,baz=180,slow=8.1,SNR=6.6						
DLBC	**Dease Lake**	**54.78**	**335**	P	**P**	**21 18 37.7**	**-0.2**
TAOE	**Nuku Hiva Isla**	**55.34**	**250**	*e*LR	LR	21 34 27.5	
	comp=Z,851nm,24.6s						
PLCA	**Paso Flores**	**56.13**	**163**	P	**P**	**21 18 47.4**	**-0.2**
	comp=Z,4.0nm,1.0s,mb4.4,baz=340,slow=8.5,SNR=7.5						
RKT	**Rikitea**	**57.65**	**232**	*e*LR	LR	21 35 29.3	
	comp=Z,264nm,28.2s						
ILAR	**Eielson Array**	**64.92**	**336**	P	**P**	**21 19 45.5**	**-2.0**
	comp=Z,1.2nm,0.8s,mb4.0,baz=135,slow=5.5,SNR=13						
ILAR				LR	LR	21 54 48.1	
	comp=Z,108nm,18.1s,baz=359,slow=42						
PPT	**Papeete**	**67.15**	**244**	*e*LR	LR	21 39 55.2	
	comp=Z,320nm,25.0s,baz=59						
PPT	**Papeete**	**67.15**	**244**	LR	LR	21 43 38.6	
	comp=Z,220nm,18.7s,baz=64,slow=31						
TBI	**Tubuai**	**69.38**	**239**	*e*LR	LR	21 40 56.4	
	comp=Z,232nm,28.0s,baz=59						
DBIC	**Dimbokro**	**82.75**	**85**	LR	LR	21 53 35.4	
	comp=Z,70nm,20.2s,baz=281,slow=32						
BILL	**Bilibino**	**83.47**	**339**	*e*P	**P**	**21 21 35.9**	**+0.5**
NOA	**NORSAR Array B**	**83.55**	**29**	LR	LR	21 55 14.2	
	comp=Z,45nm,21.2s,baz=285,slow=33						
ARCES	**ARCESS Array B**	**86.10**	**19**	P	**P**	**21 21 47.5**	**-1.1**
	comp=Z,1.7nm,0.8s,mb4.3,baz=304,slow=3.9,SNR=4.4						
GERES	**GERESS Array B**	**88.42**	**40**	LR	LR	21 59 09.9	
	comp=Z,78nm,19.7s,baz=283,slow=34						
FINES	**FINESS Array B**	**90.08**	**26**	LR	LR	22 02 32.8	
	comp=Z,57nm,18.9s,baz=328,slow=36						
TIXI	**Tiksi**	**91.81**	**349**	*e*P	**P**	**21 22 13.5**	**-2.1**
SONM	**Songino Array**	**117.89**	**348**	PKP	PKPdf	21 27 53.2	-0.8
	comp=Z,0.4nm,0.6s,baz=238,slow=0.3,SNR=9.1						
HHC	**Hu-ho-hao-te**	**123.14**	**342**	*e*PKP	PKPdf	21 28 03.4	-0.7
HHC				XPKP		21 28 17.8	
HHC				PP	PP	21 29 44.9	+0.5
HHC				PKS		21 31 38.8	
HHC				SKS	SKSdf	21 35 09.8	-1.0
HHC				SKKS	SKKSac	21 36 38.0	+0.1
HHC				SS	SS	21 46 28.3	+3.7
HHC				LR	LR		
	comp=N,81nm,18.4s						
HHC				LR	LR		
	comp=E,113nm,18.9s						
HHC				LR	LR		
	comp=Z,109nm,18.3s						
WMQ	**

*IDC **20** 21:23:23.7±0.8, 1978S×17447W, h0km, mb4.1/9, mb1 4.3/11, mb1mx4.2/20, mbtmp4.2/11, ML3.4/2, Error ellipse: s-maj=34.1km s-min=17.1km az=135.0*
*ISCJB **20** 21:23:27.3±0.7, 199S±0.1×1745W±0.2, h33km, mb4.1/10, Error ellipse: s-maj=25.3km s-min=13.1km az=81.1*
*NEIC **20** 21:23:28.9±0.5, 1978S×17443W, h35km, mb4.2/2, Error ellipse: s-maj=21.7km s-min=10.1km az=131.0*

ISC 20 21:23:29.0±0.7, 198S±01×1744W±02, h35km, n19, σ1℅12/17, mb4.1/10, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.41**	**23**	Pn	**Pn**	**21 24 58.3**	**-2.5**
	5.6nm,0.3s,baz=81,slow=6.4,SNR=6.8						
AFI				Sn	**Sn**	**21 26 04.8**	**-7.9**
	16nm,0.3s,baz=94,slow=21,SNR=8.5						
AFI	**Afiamalu**	**6.41**	**23**	*e*Pn	**Pn**	**21 24 58.7**	**-2.1**
	82nm,0.7s						
AFI				*e*Sn	**Sn**	**21 26 03.6**	**-9.1**
URZ	**Urewera**	**19.78**	**200**	P	**Pn**	**21 27 55.9**	**-1.9**
	1.0nm,0.3s,baz=11,slow=5.2,SNR=4.5						
RPZ	**Rata Peaks**	**26.75**	**204**	P			
	7.3nm,0.5s,mb4.5,baz=27,slow=6.8,SNR=6.1						
CTA	**Charters Tower**	**36.94**	**263**	P	**P**	**21 30 34.7**	**0.0**
	2.7nm,0.5s,mb4.4,baz=18,slow=3.7,SNR=5.9						
CTAO	**Charters Tower**	**36.94**	**263**	*e*P	**P**	**21 30 34.5**	**-0.2**
	2.0nm,0.5s,mb4.2						
ASAR	**Alice Springs**	**47.98**	**256**	P	**P**	**21 32 04.2**	**-0.1**
	0.8nm,0.8s,mb3.8,baz=100,slow=8.0,SNR=8.5						
WRAB	**Tennant Creek**	**48.05**	**261**	*e*P	**P**	**21 32 06.8**	**+1.9**
	1.2nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**48.06**	**261**	P	**P**	**21 32 03.6**	**-1.3**
	0.4nm,0.5s,mb3.7,baz=96,slow=7.4,SNR=16						
MJAR	**Matsushiro Arr**	**71.76**	**321**	P	**P**	**21 34 48.1**	**+0.4**
	2.0nm,0.7s,mb4.1,baz=154,slow=6.1,SNR=7.7						
NVAR	**Mina Array Bea**	**78.24**	**42**	P	**P**	**21 35 26.2**	**+1.1**
	2.3nm,0.7s,mb4.2,baz=214,slow=7.6,SNR=12						
ANMO	**Albuquerque**	**84.36**	**50**	P	**P**	**21 35 58.6**	**+1.1**
	1.5nm,1.0s,mb4.1,baz=210,slow=7.2,SNR=4.0						
PDAR	**Pinedale Array**	**86.18**	**42**	P	**P**	**21 36 07.0**	**+0.3**
	0.3nm,0.5s,mb3.8,baz=202,slow=11,SNR=3.6						
ILAR	**Eielson Array**	**86.96**	**11**	P	**P**	**21 36 10.1**	**-0.4**
	1.5nm,0.7s,mb4.3,baz=234,slow=6.4,SNR=17						
DAWY	**Dawson**	**87.93**	**15**	*e*P	**P**	**21 36 15.6**	**+0.4**
ARCES	**ARCESS Array B**	**128.84**	**351**	PKP	PKPdf	21 42 32.2	-0.6
	2.5nm,0.7s,baz=20,slow=3.9,SNR=6.0						
CLL	**Collm**	**148.07**	**351**	*i*PKPbc	PKPbc	21 43 11.2	+0.3
BRTR	**Keskin Array B**	**148.84**	**316**	PKPbc	PKPbc	21 43 13.2	+0.4
	0.7nm,0.8s,baz=143,slow=2.6,SNR=5.4						
GERES	**GERESS Array B**	**150.34**	**349**	PKPbc	PKPbc	21 43 14.7	-1.9
	1.4nm,0.8s,baz=116,slow=3.1,SNR=8.2						

*ISCJB **20** 21:37:35.5±1.6, 180S±04×1787W±03, h600km, mb3.3/6, Error ellipse: s-maj=62.7km s-min=19.8km az=105.5*
*IDC **20** 21:37:36.0±5.9, 1800S×17860W, h593km±66km, mb2.8/6, mb1 3.1/6, mb1mx2.9/13, mbtmp3.8/6, Error ellipse: s-maj=55.7km s-min=25.0km az=139.0*
*NEIC **20** 21:37:38.3±6.0, 1808S×17865W, h624km±70km, Error ellipse: s-maj=56.4km s-min=31.2km az=141.0*

ISC 20 21:37:36.6±1.6, 180S±04×1786W±03, h600km, n11, σ0℅90/8, mb3.3/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.42**	**241**	P	**P**	**21 44 07.6**	**-0.6**
	0.9nm,0.8s,mb3.4,baz=78,slow=20,SNR=3.0						
WRA	**Warramunga Arr**	**44.43**	**260**	P	**P**	**21 44 55.8**	**+0.3**
	0.3nm,0.4s,mb3.1,baz=96,slow=7.5,SNR=16						
WRA				PcP	PcP	21 46 26.3	+0.6
	0.2nm,0.4s,baz=90,slow=3.8,SNR=6.1						
WRA	**Warramunga Arr**	**44.43**	**260**	P	**P**	**21 44 55.8**	**+0.3**
WRA				PcP	PcP	21 46 26.3	+0.6
ASAR	**Alice Springs**	**44.58**	**254**	P	**P**	**21 44 57.0**	**+0.4**
	1.1nm,0.5s,mb3.6,baz=88,slow=8.9,SNR=17						
ASAR				PcP	PcP	21 46 26.7	+0.5
	0.3nm,0.5s,baz=97,slow=4.5,SNR=4.8						
MJAR	**Matsushiro Arr**	**67.86**	**323**	P	**P**	**21 47 36.7**	**+0.4**
	0.8nm,0.6s,mb3.4,baz=128,slow=0.5,SNR=5.1						
MJAR	**Matsushiro Arr**	**67.86**	**323**	P	**P**	**21 47 36.7**	**+0.4**
NVAR	**Mina Array Bea**	**79.62**	**44**	P	**P**	**21 48 43.8**	**+1.1**
	0.6nm,0.8s,mb3.0,baz=216,slow=7.5,SNR=3.2						
ILAR	**Eielson Array**	**86.02**	**13**	P	**P**	**21 49 12.9**	**-1.7**
	0.4nm,0.4s,mb3.4,baz=222,slow=5.1,SNR=10						
BRTR	**Keskin Array B**	**144.71**	**315**	PKP	PKPdf	21 56 05.8	-0.2
	0.7nm,0.8s,baz=90,slow=3.1,SNR=3.9						
CLL	**Collm**	**145.51**	**347**	*e*PKPbc	PKPbc	21 56 09.0	+0.2
GERES	**GERESS Array B**	**147.65**	**345**	PKPbc	PKPbc	21 56 14.3	-0.2
	0.7nm,0.5s,baz=18,slow=5.6,SNR=5.5						

PRE 20 21:42:28.4±1.3, 2107S×3329E, h5km, ML3.6, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BFT	**Belfast (SA)**	**5.47**	**212**	*e*P	Pn	21 43 52.5	+1.9
BFT				*e*S	Sn	21 44 52.8	-1.1
BFT				AML	AML	21 45 25.4	
	comp=Z,23nm,0.4s						
POGA	**Pongola**	**6.45**	**193**	*e*P	Pn	21 44 03.7	-0.3
POGA				*e*S	Sn	21 45 14.3	-3.8
POGA				AML	AML	21 45 50.2	
	comp=Z,12nm,0.5s						
SLR	**Silverton**	**6.53**	**224**	*e*P	Pn	21 44 06.5	+1.4
SLR				*e*S	Sn	21 45 17.2	-2.8
SLR				AML	AML	21 45 39.6	
	comp=Z,12nm,0.5s						
LBTB	**Lobatse**	**8.10**	**240**	*e*P	Pn	21 44 27.4	+0.8
LBTB				*e*S	Sn	21 45 54.9	-3.6
LBTB				AML	AML	21 46 38.1	
	comp=Z,5.7nm,0.6s						

MOS 20 21:49:20.7±1.5, 4263N×4349E, h28km, mb3.6/1, 2C-1D, Error ellipse: s-maj=27.4km s-min=13.4km az=56.2, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DIGR	**Digorskoe uzhe**	**0.28**	**14**	⇓*i*PG	Pb	21 49 28.0	+0.4
DIGR				*i* S	Sb	21 49 33.4	+1.0
ZEI	**Tsey**	**0.33**	**65**	⇑*i*PG	Pb	21 49 29.0	+0.6
ZEI				*i* S	Sb	21 49 35.0	+1.3
KORR	**Kora**	**0.62**	**43**	*e*PG	Pb	21 49 33.5	+0.4
KORR				*e*S	Sb	21 49 42.9	+1.4
LACR	**Lac**	**0.62**	**72**	⇑*i*PG	Pb	21 49 33.5	+0.4
LACR				*i* S	Sb	21 49 42.9	+1.4
ARNR	**Ardon**	**0.81**	**46**	*e*PG	Pb	21 49 36.5	+0.4
ARNR				*i* S	Sb	21 49 47.9	+1.3
SNJR	**Sundja**	**1.07**	**65**	*e*PG	Pn	21 49 40.4	+0.6
SNJR				*e*S	Sn	21 49 55.0	+1.4
BTKR	**Batakoyurt**	**1.07**	**46**	*e*PG	Pn	21 49 40.5	+0.7
BTKR				*e*S	Sn	21 49 55.1	+1.4
SHAR	**Shatzhatmas**	**1.26**	**332**	*e*PG	Pn	21 49 46.5	+4.0
SHAR				*e*S	Sn	21 50 03.4	+4.9

MOS 20 21:59:47.0±1.4, 4266N×4371E, h22km, mb3.7/1, 5C-2D, Error ellipse: s-maj=16.4km s-min=9.6km az=85.2, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZEI	**Tsey**	**0.17**	**52**	*i* PG	Pb	21 59 53.1	+1.1
ZEI				*e*		21 59 58.8	
DIGR	**Digorskoe uzhe**	**0.25**	**338**	⇑*i*PG	Pb	21 59 51.8	-1.3
DIGR				*i* S	Sb	21 59 57.4	+0.2
LACR	**Lac**	**0.46**	**69**	⇓*i*PG	Pb	21 59 57.6	+1.2
LACR				*i* S	Sb	22 00 07.3	+4.5
KORR	**Kora**	**0.50**	**32**	⇑*i*PG	Pb	21 59 57.9	+0.8
KORR				*i* S	Sb	22 00 07.8	+3.9
ARNR	**Ardon**	**0.67**	**38**	⇓*i*PG	Pb	22 00 01.0	+1.0
ARNR				*e*S	Sb	22 00 13.1	+4.2
SNJR	**Sundja**	**0.91**	**63**	*e*PG	Pb	22 00 04.9	+0.9
SNJR				*e*S	Sb	22 00 20.1	+4.5
BTKR	**Batakoyurt**	**0.93**	**40**	*e*PG	Pb	22 00 04.7	+0.2
BTKR				*e*S	Sb	22 00 20.1	+3.6
SHAR	**Shatzhatmas**	**1.32**	**325**	⇑*e*PG	Pn	22 00 10.4	+0.3
SHAR				*e*S	Sn	22 00 27.3	+0.3
PYA	**Pyatigorsk**	**1.45**	**341**	*e*PG	Pn	22 00 14.6	+2.7
PYA				*e*S	Sn	22 00 33.9	+3.7
KIV0	**Kislovodsk Arr**	**1.49**	**330**	⇑*e*PG	Pn	22 00 13.2	+0.8
KIV0				*e*S	Sn	22 00 32.5	+1.3
KIV	**Kislovodsk**	**1.49**	**330**	⇑*e*PG	Pn	22 00 13.0	+0.5
KIV				*e*S	Sn	22 00 32.6	+1.4

MOS 20 22:01:24.5±0.7, 4259N×4347E, h23km, mb3.5/1, 2C-1D, Error ellipse: s-maj=59.1km s-min=16.2km az=54.3, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DIGR	**Digorskoe uzhe**	**0.32**	**15**	⇑*i*PG	Pb	22 01 32.1	+0.4
DIGR				*i* S	Sb	22 01 37.6	+1.1
ZEI	**Tsey**	**0.36**	**60**	⇑*i*PG	Pb	22 01 33.0	+0.6
ZEI				*i* S	Sb	22 01 39.1	+1.4
LACR	**Lac**	**0.65**	**69**	⇓*i*PG	Pb	22 01 37.8	+0.6
LACR				*i* S	Sb	22 01 47.4	+1.5
KORR	**Kora**	**0.66**	**41**	*e*PG	Pb	22 01 38.0	+0.6
KORR				*e*S	Sb	22 01 47.8	+1.6
ARNR	**Ardon**	**0.84**	**45**	*e*PG	Pb	22 01 41.1	+0.6
ARNR				*e*S	Sb	22 01 53.2	+1.8
BTKR	**Batakoyurt**	**1.11**	**45**	*e*PG	Pn	22 01 45.4	+0.8

*ISCJB **20** 22:04:52.7±0.5, 43.13N±003×100W±003, h14km±4km, Error ellipse: s-maj=5.6km s-min=3.9km az=18.8*
*STR **20** 22:04:52.4±0.2, 43.11N×103W, h10km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **20** 22:04:54.0±0.3, 43.12N×102W, h6km±4km, mbLg1.3/14, Error ellipse: s-maj=2.2km s-min=1.4km az=11.0, PRXIMO*
*LDG **20** 22:04:53.6±0.1, 43.10N×103W, h3km, Md2.0/3, Ml1.8/3, Error ellipse: s-maj=1.7km s-min=1.2km az=18.0*

ISC 20 22:04:53.3±0.5, 4313N±003×101W±003, h11km±4km, n30, σ0℅51/45, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LARF	**Larrau**	**0.10**	**170**	Pg	**Pg**	**22 04 55.5**	**-0.5**
LARF				Sg	**Sg**	**22 04 57.0**	**-0.8**
LARF	**Larrau**	**0.10**	**170**	Pg	**Pg**	**22 04 55.6**	**-0.4**
LARF				Lg		22 04 57.1	
ORDF	**Ordiarp**	**0.10**	**34**	Pg	**Pg**	**22 04 56.4**	**+0.4**
ORDF				Sg	**Sg**	**22 04 58.5**	**+0.6**
ORDF	**Ordiarp**	**0.10**	**34**	Pg	**Pg**	**22 04 56.5**	**+0.5**
ORDF				Lg		22 04 58.5	
SJPF	**Ste Jean**	**0.16**	**263**	*e*Pg	**Pg**	**22 04 56.8**	**-0.1**
SJPF				*e*Sg	**Sg**	**22 04 58.8**	**-0.6**
	101nm,0.2s						
SJPF	**Ste Jean**	**0.16**	**263**	Pg	**Pg**	**22 04 56.8**	**-0.1**
SJPF				Lg		22 04 58.8	
	50nm,0.2s						
OSSF	**Osses**	**0.22**	**304**	Pg	**Pg**	**22 04 58.1**	**+0.1**
OSSF				Sg	**Sg**	**22 05 01.3**	**+0.2**
OSSF	**Osses**	**0.22**	**304**	Pg	**Pg**	**22 04 58.2**	**+0.2**
OSSF				Lg		22 05 01.3	
ATE	**Arette**	**0.23**	**101**	Pg	**Pg**	**22 04 58.3**	**+0.1**
ATE				Sg	**Sg**	**22 05 02.4**	**+1.0**
ATE	**Arette**	**0.23**	**101**	Pg	**Pg**	**22 04 58.4**	**+0.2**
ATE				Lg		22 05 02.0	
EALK	**Alkurruntz**	**0.37**	**284**	Pg	**Pg**	**22 05 00.7**	**0.0**
	0.7nm,0.1s,SNR=11						
EALK				Lg		22 05 05.7	
	10nm,0.1s,SNR=5.5						
ELIZ	**Elizondo**	**0.38**	**275**	Pg	**Pg**	**22 05 00.8**	**-0.1**
	0.9nm,0.1s,SNR=13						
ELIZ				Lg		22 05 05.8	
	5.3nm,0.1s,SNR=4.0						
ETSF	**Etsaut**	**0.40**	**125**	*e*Pg	**Pg**	**22 05 01.1**	**-0.2**
ETSF				*e*Sg	**Sg**	**22 05 06.4**	**-0.3**
	16nm,0.3s						
ETSF	**Etsaut**	**0.40**	**125**	Pg	**Pg**	**22 05 01.1**	**-0.2**
ETSF				Lg		22 05 06.4	
	8.0nm,0.3s						
IPRE	**Itoiz**	**0.41**	**218**	Pg	**Pg**	**22 05 01.5**	**0.0**
	1.4nm,0.1s,SNR=4.0						
IPRE				Lg		22 05 07.1	
	4.2nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**0.44**	**245**	Pg	**Pg**	**22 05 01.8**	**-0.1**
	1.2nm,0.1s,SNR=7.9						
IUSE				Lg		22 05 07.5	
	5.3nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.55**	**230**	Pg	**Pg**	**22 05 05.1**	**+1.0**
	0.7nm,0.1s,SNR=4.0						
EARA				Lg		22 05 11.6	
	2.1nm,0.1s,SNR=4.0						
EBIE	**Bielsa**	**0.96**	**117**	Pg	**Pg**	**22 05 12.3**	**+0.5**
	3.1nm,0.6s,SNR=6.2						
EBIE				Lg		22 05 24.4	
	1.6nm,0.1s,SNR=7.3						
EPF	**Esparros**	**0.99**	**95**	*e*Pg	**Pg**	**22 05 12.2**	**-0.3**
EPF				*e*Sg	**Sg**	**22 05 25.5**	**+0.1**
	2.8nm,0.3s						
EPF	**Esparros**	**0.99**	**95**	Pg	**Pg**	**22 05 12.2**	**-0.3**
EPF				Lg		22 05 25.5	
	1.4nm,0.3s						
EGRA	**Graus**	**1.35**	**133**	Pg	**Pg**	**22 05 19.6**	**+0.2**
	0.5nm,0.2s,SNR=7.9						
EGRA				Lg		22 05 37.5	
	0.7nm,0.2s,SNR=5.3						
ESAC	**San Caprasio**	**1.47**	**164**	Pg	**Pg**	**22 05 21.4**	**-0.1**
	2.5nm,0.2s,SNR=7.9						
ESAC				Lg		22 05 40.7	
	10nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.78**	**274**	Lg		22 05 50.6	
	17nm,1.1s,SNR=4.0						
LFF	**La Frestale**	**2.20**	**34**	*e*Pn	**Pn**	**22 05 30.0**	**+0.1**
LFF				*e*Sg	**Sg**	**22 06 04.2**	**0.0**
	1.3nm,0.2s						
LFF	**La Frestale**	**2.20**	**34**	Pn	**Pn**	**22 05 30.0**	**+0.1**
LFF				Lg		22 06 04.2	
	0.6nm,0.2s						
EMIR	**Miracle**	**2.23**	**122**	Lg		22 06 05.8	
	SNR=4.0						
EPOB	**Poblet**	**2.36**	**138**	Lg		22 06 08.2	
	0.5nm,0.2s,SNR=4.0						
ERTA	**Horta de San J**	**2.39**	**155**	Lg		22 06 09.2	
	0.7nm,0.2s,SNR=7.9						
CAF	**Calviac**	**2.85**	**50**	*e*Pn	**Pn**	**22 05 38.7**	**-0.1**
CAF				*e*Sg	**Sg**	**22 06 23.4**	**-1.6**
	0.4nm,0.2s						
CAF	**Calviac**	**2.85**	**50**	Pn	**Pn**	**22 05 38.7**	**-0.1**
CAF				Lg		22 06 23.4	
	0.2nm,0.2s						

CASC 20 22:12:35.0±2.7, 840N×8294W, h18km±8km, MD4.0, ML3.6, 11C-8D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.34**	**318**	⇓*e*P	Pg	22 12 42.0	-0.2
ACR				⇓*i*P		22 12 42.0	
ACR				*e*S	Sg	22 12 47.9	+0.8
DVD	**David**	**0.48**	**85**	⇑*i*P	Pg	22 12 45.2	+0.4
CTCR	**Cotoan**	**0.53**	**20**	⇓*i*P	Pg	22 12 46.2	+0.7
CTCR				*e*S	Sg	22 12 54.7	+2.1
CNI	**Changuinola**	**1.10**	**22**	⇓*i*P	Pb	22 12 55.1	-0.3
CNI				*e*S	Sb	22 13 10.8	+1.4
BUS	**Buena Vista**	**1.41**	**325**	⇑*e*P	Pn	22 12 58.8	-1.0
BUS				⇑*i*P		22 12 59.1	
BUS				*e*S	Sn	22 13 18.5	+0.6
URSC	**Urasca**	**1.65**	**330**	⇑*e*P	Pn	22 13 02.9	-0.3
URSC				⇑*i*P		22 13 03.0	
URSC				*e*S	Sn	22 13 25.0	+1.1
LCR2	**La Lucha 2**	**1.70**	**322**	⇓*e*P	Pn	22 13 03.5	-0.3
LCR2				⇑*i*P		22 13 03.2	
LCR2				*e*S	Sn	22 13 28.0	+2.9
OCM	**Ochomogo**	**1.80**	**326**	*i* P	Pn	22 13 05.1	-0.1
OCM				*e*S	Sn	22 13 29.4	+1.9
OCM				AML	AML	22 13 34.4	
	comp=N,540nm,0.2s						
IRZ2	**Volcan Irazu 2**	**1.83**	**329**	⇓*i*P	Pn	22 13 05.6	+0.1
LAJ	**Bijagual**	**1.87**	**321**	*e*P	Pn	22 13 08.4	+2.3
LAJ				⇑*i*P		22 13 08.4	
PRS1	**Puriscal**	**2.08**	**319**	⇑*e*P	Pn	22 13 08.7	-0.3
PRS1				⇑*e*P		22 13 08.7	
CGA2	**Cerro Gallo 2**	**2.20**	**317**	*e*P	Pn	22 13 11.4	+0.7
CGA2				⇑*i*P		22 13 11.5	
CGA2				*e*S	Sn	22 13 40.2	+2.7
CAO	**Cobano**	**2.50**	**301**	⇑*i*P	Pn	22 13 13.2	-1.6
AZU	**Azuero**	**2.71**	**103**	*e*P	Pn	22 13 19.0	+1.3
AZU				*e*S	Sn	22 13 51.2	+1.2
VCR	**Vista de Mar**	**3.17**	**303**	*e*P	Pn	22 13 24.0	0.0
RIN3	**Volcan Rincon**	**3.38**	**315**	⇓*i*P	Pn	22 13 28.8	+1.9
PTP	**Ponta Puerca**	**19.47**	**58**	⇑*i*P		22 12 40.8	

PRE 20 22:45:15.1±1.1, 2805S×2679E, h2km, ML3.6, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSR	**Koster**	**2.19**	**2**	*e*P	Pn	22 45 53.4	+1.0
KSR				*e*S	Sn	22 46 21.3	+1.1
KSR				AML	AML	22 46 24.5	
	comp=Z,1μm,0.2s						
SLR	**Silverton**	**2.66**	**30**	*e*P	Pn	22 45 59.9	+1.0
SLR				*e*S	Sn	22 46 31.4	-0.3
SLR				AML	AML	22 46 47.4	
	comp=Z,205nm,0.3s						
UPI	**Upington**	**4.90**	**265**	*e*P	Pn	22 46 30.9	+1.2
UPI				*e*S	Sn	22 47 25.2	-1.8
UPI				AML	AML	22 47 30.4	
	comp=Z,24nm,0.5s						

*NEIC **20** 23:55:40.6±2.9, 3003S×17789W, h387km±23km, mb3.4/1, Error ellipse: s-maj=79.0km s-min=14.0km az=83.0*
*ISCJB **20** 23:55:43.1±1.2, 3021S±007×1787W±03, h363km±15km, mb3.0/2, Error ellipse: s-maj=43.1km s-min=8.6km az=20.3*
*IDC **20** 23:55:45.4±1.3, 3005S×17906W, h326km±13km, mb2.8/1, mb1 3.3/3, mb1mx3.0/13, mbtmp4.0/3, Error ellipse: s-maj=31.9km s-min=21.8km az=111.0*

ISC 20 23:55:45.1±1.3, 3032S±007×1788W±03, h350km±15km, n31, σ1℅34/40, mb3.0/2, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.33**	**37**	P	**Pn**	**23 56 29.6**	**-2.7**
	67nm,0.3s,baz=275,slow=23,SNR=5.4						
RAO				S	**S**	**23 57 00.9**	**-9.3**
	136nm,0.3s,baz=84,slow=18,SNR=5.2						
RAO	**Raoul Island**	**1.33**	**37**	P	**Pn**	**23 56 29.6**	**-2.7**
RAO				S	**S**	**23 57 00.9**	**-9.3**
PUZ	**Puketiti**	**8.10**	**197**	*e*PN	**Pn**	**23 57 42.0**	**+1.7**
PUZ				SN	**S**	**23 59 14.0**	**-0.3**
PUZ	**Puketiti**	**8.10**	**197**	*e*P	**Pn**	**23 57 43.9**	**+3.6**
PUZ				S	**S**	**23 59 14.0**	**-0.3**
MWZ	**Matawai**	**8.54**	**200**	*e*PN	**Pn**	**23 57 46.9**	**+1.4**
MWZ				*e*SN	**S**	**23 59 23.2**	**-0.8**
MWZ	**Matawai**	**8.54**	**200**	P	**Pn**	**23 57 50.0**	**+4.5**
MWZ				S	**S**	**23 59 25.6**	**+1.7**
URZ	**Urewera**	**8.60**	**202**	P	**Pn**	**23 57 49.6**	**+3.4**
	3.4nm,0.3s,baz=261,slow=4.0,SNR=23						
URZ				S	**S**	**23 59 27.4**	**+2.2**
	3.7nm,0.3s,baz=109,slow=24,SNR=12						
URZ	**Urewera**	**8.60**	**202**	*e*PN	**Pn**	**23 57 47.1**	**+0.8**
URZ				*e*SN	**S**	**23 59 23.7**	**-1.6**
URZ	**Urewera**	**8.60**	**202**	P	**Pn**	**23 57 47.6**	**+1.4**
KNZ	**Kokohu**	**9.14**	**197**	*e*PN	**Pn**	**23 57 56.5**	**+3.8**
KNZ				*e*SN	**S**	**23 59 35.9**	**-1.2**
BKZ	**Black Stump Fm**	**9.62**	**202**	*e*PN	**Pn**	**23 57 57.9**	**-0.6**
BKZ				*e*SN	**S**	**23 59 46.7**	**-1.0**
BKZ	**Black Stump Fm**	**9.62**	**202**	P	**Pn**	**23 58 00.4**	**+2.0**
BKZ				S	**S**	**23 59 49.5**	**+1.8**
WNVZ	**Wahianoa**	**10.08**	**205**	*e*PN	**Pn**	**23 58 05.6**	**+1.7**
WNVZ	**Wahianoa**	**10.08**	**205**	P	**Pn**	**23 58 05.6**	**+1.7**
BFZ	**Birch Farm**	**11.08**	**200**	*e*PN	**Pn**	**23 58 16.8**	**+1.0**
BFZ				*e*SN	**S**	**00 00 17.9**	**-2.0**
BFZ	**Birch Farm**	**11.08**	**200**	*e*P	**Pn**	**23 58 17.0**	**+1.1**
MRZ	**Mangatainoka R**	**11.27**	**202**	*e*PN	**Pn**	**23 58 18.8**	**+0.7**
MRZ				*e*SN	**S**	**00 00 17.9**	**-6.2**
CAW	**Cannon Point**	**11.84**	**203**	*e*PN	**Pn**	**23 58 25.0**	**+0.2**
CAW	**Cannon Point**	**11.84**	**203**	P	**Pn**	**23 58 25.4**	**+0.5**
NNZ	**Nelson**	**12.57**	**208**	*e*SN	**S**	**00 00 49.0**	**-2.9**
THZ	**Tophouse**	**13.22**	**208**	*e*PN	**Pn**	**23 58 40.8**	**-0.4**
THZ				*e*SN	**S**	**00 01 01.4**	**-3.7**
KHZ	**Kahutara**	**13.53**	**205**	*e*PN	**Pn**	**23 58 44.8**	**0.0**
MQZ	**McQueen's Vall**	**14.98**	**205**	SN	**S**	**00 01 39.6**	**-0.8**
DZM	**Mont Dzumac**	**15.55**	**298**	P	**P**	**23 59 05.8**	**+0.3**
	0.6nm,0.3s,baz=166,slow=19,SNR=9.1						
WRAB	**Tennant Creek**	**43.37**	**273**	P	**P**	**00 03 13.1**	**-0.9**
	1.3nm,0.6s,mb3.2						
WRA	**Warramunga Arr**	**43.37**	**273**	P	**P**	**00 03 14.3**	**+0.3**
	0.2nm,0.2s,mb2.8,baz=110,slow=7.9,SNR=5.7						
ARCES	**ARCESS Array B**	**138.36**	**347**	PKP	PKPdf	00 14 30.6	+1.5
	1.0nm,0.9s,baz=46,slow=2.6,SNR=5.8						
FINES	**FINESS Array B**	**144.82**	**339**	PKP	PKPdf	00 14 40.9	+0.3
	1.0nm,0.3s,baz=50,slow=3.5,SNR=32						
NOA	**NORSAR Array B**	**148.56**	**351**	PKPbc	PKPbc	00 14 52.1	+1.2
	0.7nm,0.6s,baz=14,slow=4.1,SNR=4.0						
AKASG	**Malin Array Be**	**150.80**	**322**	PKPbc	PKPbc	00 14 57.6	+1.3
	0.7nm,0.5s,baz=48,slow=2.9,SNR=6.1						
TORD	**Torodi Ar. Bea**	**162.90**	**182**	PKPab	PKPab	00 16 02.1	+5.0
	0.4nm,1.0s,baz=169,slow=3.1,SNR=4.1						

GUC 21 00:16:40.9±0.7, 3146S×6980W, h150km, MD3.6, ML2.9, 2C, San Juan Province

| Code | Station Name |

1.9nm,0.5s,baz=56,slow=8.9,SNR=6.7
ASAR S **S** **00 42 03.5 +0.2**
0.6nm,0.6s,baz=41,slow=22,SNR=4.5
STKA Stephens Creek 26.12 197 *eP* **P 00 38 26.1 -0.7**
3.3nm,0.4s,mb4.2
STKA Stephens Creek 26.12 197 P **P 00 38 25.7 -1.1**
9.3nm,0.9s,mb4.3,baz=14,slow=9.1,SNR=18
STKA LR LR 00 47 42.0
comp=Z,122nm,20.6s,MS3.4,baz=206,slow=34
STKA Stephens Creek 26.12 197 *eP* **P 00 38 26.2 -0.6**
FITZ Fitzroy Crossi 26.41 243 *eP* **P 00 38 29.9 +0.6**
7.9nm,0.4s,mb4.6
FITZ Fitzroy Crossi 26.41 243 P **P 00 38 30.0 +0.6**
3.2nm,0.3s,mb4.3,baz=59,slow=10.0,SNR=21
MBWA Marble Bar 32.70 241 *eP* **P 00 39 25.6 +0.4**
2.5nm,0.7s,mb4.2
RAO Raoul Island 37.36 131 LR LR 00 51 03.7
comp=Z,2µm,20.5s,MS4.8,baz=20,slow=29
MJAR Matsushiro Arr 44.65 346 P **P 00 41 04.6 -0.6**
0.6nm,0.4s,mb3.7,baz=172,slow=6.1,SNR=4.4
QSPA South Pole Qui 83.08 180 *eP* pP 00 45 32.3 +1.4
ILAR Eielson Array 85.06 23 P **P 00 45 27.7 -0.3**
0.8nm,0.8s,mb3.9,baz=265,slow=5.0,SNR=5.1
ILAR pP pP 00 45 41.0 0.0
1.4nm,0.8s,baz=257,slow=5.3,SNR=6.7
GERES GERESS Array B 124.43 327 PKP PKPdf 00 51 52.6 +1.4
GERES 0.8nm,0.9s,baz=340,slow=5.3,SNR=4.2 pPKP pPKPdf 00 52 05.7 +1.1
0.8nm,0.7s,baz=79,slow=2.9,SNR=4.5
TORD Torodi Ar. Bea 148.40 284 PKPbc PKPbc 00 52 41.3 +2.7
3.9nm,0.5s,baz=56,slow=3.0,SNR=132
TORD pPKPbc pPKPbc 00 52 53.5 +1.6
4.2nm,0.5s,baz=44,slow=2.9,SNR=12
BDFB Brasilia 151.24 141 PKPbc PKPbc 00 52 48.9 +3.3
1.3nm,0.4s,baz=225,slow=3.3,SNR=3.7

*NEIC **21** 00:50:17.7, 37.41S×179.45E, h12km, ML3.9(WEL), After WEL.*
WEL 21 00:50:18.2±0.4, 38.38S×179.39E, h12km, ML3.1/5, Error ellipse: s-maj=3.2km s-min=2.6km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.88**	**258**	P*	Pb	00 50 34.1	-1.3
MXZ				S*	Sb	00 50 46.4	-0.7
MXZ	**Matakaoa Point**	**0.88**	**258**	P	Pg	00 50 34.1	-1.1
MXZ				S	Sg	00 50 47.7	+1.0
PUZ	**Puketiti**	**1.13**	**232**	P*	Pb	00 50 38.7	-1.0
PUZ				S*	Sb	00 50 53.7	-0.6
PUZ	**Puketiti**	**1.13**	**232**	*eP*	Pb	00 50 38.8	-0.8
PUZ				S	Sb	00 50 53.7	-0.6
MWZ	**Matawai**	**1.75**	**237**	*ePN*	Pn	00 50 48.0	-0.4
URZ	**Urewera**	**2.01**	**243**	PN	Pn	00 50 51.4	-0.4
URZ				SN	Sn	00 51 15.7	-1.1
URZ	**Urewera**	**2.01**	**243**	P	Pn	00 50 51.5	-0.3
KNZ	**Kokohu**	**2.12**	**219**	PN	Pn	00 50 52.6	-0.8
BKZ	**Black Stump Fm**	**2.89**	**231**	*ePN*	Pn	00 51 02.7	-1.3
BKZ	**Black Stump Fm**	**2.89**	**231**	*eP*	Pn	00 51 02.9	-1.1

*ISCJB **21** 01:12:37.4±1.7, 27.5S±0.1×102.3E±0.1, h198km±16km, mb3.7/13, Error ellipse: s-maj=26.0km s-min=12.2km az=113.4*
*NEIC **21** 01:12:38.9±1.1, 27.1S×102.3E, h194km±11km, mb4.1/4, Error ellipse: s-maj=14.9km s-min=7.4km az=57.0*
*IDC **21** 01:12:39.4±2.8, 26.2S×102.4E, h193km±26km, mb3.5/9, mb1 3.6/10, mb1mx3.4/18, mbtmp4.0/10, Error ellipse: s-maj=45.4km s-min=11.2km az=54.0*
ISC 21 01:12:38.6±1.6, 27.5S±0.1×102.3E±0.1, h193km±16km, n18, σ0.6s45/17, mb3.7/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.44**	**328**	P	**Pn**	**01 14 11.3**	**-0.1**
3.0nm,0.3s,baz=164,slow=11,SNR=16							
KULM	**Kulim**	**8.13**	**348**	*eP*	**Pn**	**01 14 33.9**	**+0.4**
KKM	**Kota Kinabalu**	**16.41**	**58**	P	**Pn**	**01 16 17.3**	**-0.7**
FITZ	**Fitzroy Crossi**	**27.52**	**125**	P	**P**	**01 18 07.5**	**+0.4**
1.8nm,0.9s,mb3.7,baz=311,slow=9.3,SNR=4.1							
NWAO	**Narrogin (SRO)**	**33.15**	**157**	P	**P**	**01 18 56.0**	**-0.6**
34nm,1.5s,mb4.7							
ENH	**Enshi**	**33.52**	**11**	*eP*	**P**	**01 18 59.5**	**-0.3**
0.5nm,0.5s,mb3.3							
WRA	**Warramunga Arr**	**35.66**	**121**	P	**P**	**01 19 17.7**	**-0.4**
0.5nm,0.4s,mb3.4,baz=301,slow=11,SNR=6.8							
WRAB	**Tennant Creek**	**35.66**	**121**	*eP*	**P**	**01 19 18.5**	**+0.4**
2.5nm,0.6s,mb3.9							
ASAR	**Alice Springs**	**36.98**	**127**	P	**P**	**01 19 30.1**	**+0.8**
0.8nm,0.6s,mb3.5,baz=302,slow=8.2,SNR=13							
ASAR				PcP	PcP	01 21 46.5	+0.5
0.3nm,0.5s,baz=314,slow=2.7,SNR=4.4							
STKA	**Stephens Creek**	**46.97**	**133**	P	**P**	**01 20 50.2**	**+0.1**
1.5nm,0.3s,mb3.7,baz=326,slow=8.4,SNR=7.7							
STKA	**Stephens Creek**	**46.97**	**133**	*eP*	**P**	**01 20 50.4**	**+0.3**
SONM	**Songino Array**	**50.48**	**4**	P	**P**	**01 21 17.4**	**+0.6**
1.6nm,0.6s,mb3.5,baz=186,slow=9.7,SNR=14							
MKAR	**Makanchi Array**	**52.37**	**343**	P	**P**	**01 21 30.8**	**+0.1**
0.8nm,0.6s,mb3.3,baz=132,slow=8.3,SNR=8.8							
ZAL	**Zalesovo**	**58.32**	**348**	P	**P**	**01 22 13.6**	**+0.4**
1.2nm,0.8s,mb3.5,baz=281,slow=3.4,SNR=8.1							
CASY	**Casey**	**63.70**	**176**	*eP*	**P**	**01 22 49.1**	**-0.3**
2.9nm,0.9s,mb3.9							
FINES	**FINESS Array B**	**85.82**	**332**	P	**P**	**01 24 55.9**	**-0.3**
1.9nm,1.1s,mb3.7,baz=126,slow=9.7,SNR=4.6							
ARCES	**ARCESS Array B**	**87.93**	**340**	P	**P**	**01 25 06.0**	**-0.5**
4.1nm,1.0s,mb4.2,baz=101,slow=5.6,SNR=6.6							
BDFB	**Brasilia**	**145.42**	**237**	PKPbc	PKPbc	01 31 57.0	+3.2
1.1nm,0.5s,baz=4.0,slow=5.2,SNR=3.7							

*STR **21** 01:14:19.3±0.6, 43.01N×001W, h10km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **21** 01:14:20.3±0.0, 43.01N×002W, h5km, Md2.0/3, Ml1.4/3, Error ellipse: s-maj=0.9km s-min=0.5km az=176.0*
MDD 21 01:14:20.5±0.4, 4300N×002W, h8km±4km, mbLg1.2/5, Error ellipse: s-maj=2.3km s-min=2.0km az=70.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.08**	**57**	Pg	Pg	01 14 22.4	-0.1
LABF				Sg	Sg	01 14 23.9	0.0
LABF	**Labassere**	**0.08**	**57**	Pg	Pg	01 14 22.4	-0.1
LABF				Lg		01 14 23.8	
VIEF	**Viey**	**0.12**	**167**	Pg	Pg	01 14 23.2	0.0
VIEF				Sg	Sg	01 14 25.3	+0.2
VIEF	**Viey**	**0.12**	**167**	Pg	Pg	01 14 23.3	+0.1
VIEF				Lg		01 14 25.3	
EPF	**Esparros**	**0.26**	**84**	*ePg*	Pg	01 14 25.5	-0.2
EPF				*eSg*	Sg	01 14 29.3	+0.1
5.6nm,0.2s							
EPF	**Esparros**	**0.26**	**84**	Pg	Pg	01 14 25.5	-0.2
EPF				Lg		01 14 29.3	
2.8nm,0.2s							
RESF	**Ens**	**0.33**	**127**	Pg	Pg	01 14 26.7	-0.2
RESF				Sg	Sg	01 14 31.5	+0.3
RESF	**Ens**	**0.33**	**127**	Pg	Pg	01 14 26.8	-0.1
RESF				Lg		01 14 31.5	
EBIE	**Bielsa**	**0.34**	**160**	Pg	Pg	01 14 27.0	-0.1
1.1nm,0.1s,SNR=18							
EBIE				Lg		01 14 31.6	
9.5nm,0.1s,SNR=18							
ETSF	**Etsaut**	**0.41**	**255**	*ePg*	Pg	01 14 28.4	-0.2
ETSF				*eSg*	Sg	01 14 33.6	-0.4
2.5nm,0.2s							
ETSF	**Etsaut**	**0.41**	**255**	Pg	Pg	01 14 28.4	-0.2
ETSF				Lg		01 14 33.6	
1.2nm,0.2s							
SJPF	**Ste Jean**	**0.89**	**277**	*ePg*	Pg	01 14 37.2	-0.5
SJPF				*eSg*	Sg	01 14 48.8	-0.5
SJPF				*eSn*	Sn	01 14 50.6	-2.0
0.4nm,0.2s							
SJPF	**Ste Jean**	**0.89**	**277**	Pg	Pg	01 14 37.2	-0.5
SJPF				Lg		01 14 48.8	
SJPF				Sn	Sn	01 14 50.6	-2.0
0.2nm,0.2s							
ESAC	**San Caprasio**	**1.32**	**195**	Pg	Pg	01 14 45.1	-0.9
2.7nm,0.2s,SNR=7.9							
ESAC				Lg		01 15 04.2	
8.4nm,0.2s,SNR=6.6							
EMIR	**Miracle**	**1.58**	**133**	Lg		01 15 12.0	
SNR=7.9							
MTLF	**Montolieu**	**1.67**	**78**	*ePg*	Pg	01 14 50.4	-2.1
MTLF				*eSg*	Sg	01 15 13.2	-0.9
0.4nm,0.2s							
MTLF	**Montolieu**	**1.67**	**78**	Pg	Pg	01 14 50.4	-2.1
MTLF				Lg		01 15 13.2	
0.2nm,0.2s							
EPOB	**Poblet**	**1.84**	**153**	Lg		01 15 18.3	
0.4nm,0.1s,SNR=7.9							
ERTA	**Horta de San J**	**2.06**	**173**	Lg		01 15 26.4	
1.3nm,0.2s,SNR=7.9							
CAF	**Calviac**	**2.44**	**37**	*eSg*	Sg	01 15 37.0	-1.9
0.4nm,0.2s							
CAF	**Calviac**	**2.44**	**37**	Lg		01 15 37.0	
0.2nm,0.2s							

*IDC **21** 01:27:52.7±2.8, 28.75S×70.98W, h0km, mb4.3/1, mb1 4.0/2, mb1mx3.6/14, mbtmp3.9/2, ML3.6/1, Error ellipse: s-maj=105.1km s-min=67.8km az=87.0*
*ISCJB **21** 01:27:55.3±2.9, 26.99S±0.07×71.38W±0.08, h15km±20km, mb4.2/1, Error ellipse: s-maj=12.4km s-min=11.0km az=91.9*
*NEIC **21** 01:27:56.2, 27.04S×71.35W, h25km, ML3.7(GUC), After GUC.*
*GUC **21** 01:27:56.2±0.6, 27.04S×71.35W, h25km±7km, ML3.7*
ISC 21 01:27:55.1±3.0, 27.04S±0.07×71.41W±0.01, h2km±17km, n11, σ0.9s50/15, mb4.2/1, 3C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.51**	**94**	*i*P	**Pg**	**01 28 05.5**	**+0.7**
CDCH				*i* S	**Sg**	**01 28 12.1**	**+0.6**
CDCH				AML	AML	01 28 12.6	
comp=N,2µm,0.4s							
CPCH	**Copiapo**	**0.98**	**109**	*i*P	**Pg**	**01 28 13.0**	**-1.0**
CPCH				*i* S	**Sg**	**01 28 26.2**	**-0.5**
CPCH				AML	AML	01 28 28.0	
comp=E,13µm,0.1s							
CPCH	**Copiapo**	**0.98**	**109**	*i*P	**Pg**	**01 28 13.0**	**-1.0**
CPCH				*i* S	**Sg**	**01 28 26.2**	**-0.5**
LCO	**Las Campanas**	**2.06**	**163**	*i*P	**Pn**	**01 28 30.7**	**0.0**
LCO				*i* S	**Sn**	**01 28 57.1**	**+0.1**
TLL	**Tololo Astrono**	**3.16**	**171**	*eP*	**Pn**	**01 28 46.4**	**+0.5**
TLL				*i* S	**Sn**	**01 29 24.1**	**-0.1**
TLL				AML	AML	01 29 42.2	
comp=N,417nm,0.7s							
TLL	**Tololo Astrono**	**3.16**	**171**	*eP*	**Pn**	**01 28 46.4**	**+0.5**
TLL				*i* S	**Sn**	**01 29 24.1**	**-0.1**
LVC	**Limon Verde**	**4.95**	**28**	*eP*	**Pn**	**01 29 10.5**	**0.0**
LPAZ	**La Paz**	**11.12**	**16**	Pn	**Pn**	**01 30 54.9**	**+20**
comp=N,0.1nm,0.3s,baz=198,slow=6.9,SNR=4.7							
TORD	**Torodi Ar. Bea**	**81.34**	**71**	P	**P**	**01 40 12.9**	**-0.4**
comp=N,1.9nm,0.7s,mb4.2,baz=257,slow=4.9,SNR=31							
ZAL	**Zalesovo**	**147.91**	**27**	PKPbc	PKPbc	01 47 42.8	+0.9
comp=N,0.8nm,0.7s,baz=319,slow=3.2,SNR=4.1							
MKAR	**Makanchi Array**	**151.39**	**39**	PKPbc	PKPbc	01 47 50.2	-0.3
comp=N,0.7nm,0.7s,baz=320,slow=1.8,SNR=6.8							

*IDC **21** 02:07:34.4±0.6, 162N×8.52W, h0km, mb4.6/20, mb1 4.8/24, mb1mx4.7/27, mbtmp4.7/24, ML4.0/2, MS5.6/24, Ms1 5.6/24, ms1mx5.5/29, Error ellipse: s-maj=22.9km s-min=11.4km az=61.0*
*ISCJB **21** 02:07:34.1±1.3, 153N±0.003×83.52W±0.003, h6km±7km, mb5.1/140, MS5.7/157, Error ellipse: s-maj=6.2km s-min=3.8km az=111.6*
*NEIC **21** 02:07:36.4±0.2, 155N×8.531W, h10km, mb5.3/123, MS5.7/115, MW5.9, Error ellipse: s-maj=6.6km s-min=3.9km az=45.0, Moment Tensor Solution. s46 Moment tensor: Scale 10^18 Nm; Mrr=0.00; Mθθ=0.00; Mφφ=0.00; Mrθ=0.00; Mrφ=0.00; Mθφ=0.00; Best double couple: M0=1.00000×10^18 NP1:φ=4.00000°, δ=89.00000°, λ=154.00000°. NP2:φ=95.00000°, δ=64.00000°, λ=1.00000°. Principal axes: T 1.0000, Plg=19.0000°, Azm=316.0000°; N 0.0800, Plg=64.0000°, Azm=181.0000°; P -1.0800, Plg=17.0000°, Azm=52.0000°;*
*HRVD **21** 02:07:36.4±0.1, 148N×8.534W, h14km, MW6.0/108, Centroid moment Tensor Solution. LP body waves: s101,c225;Mantle waves: s108,c390; Half duration: 2±5 Moment tensor: Scale 10^18 Nm; Mrr=0.07±.01; Mθθ=0.28±.01; Mφφ=-0.34±.01; Mrθ=-0.02±.01; Mrφ=1.25±.01; Mθφ=0.20±.02; Best double couple: M0=1.30400×10^18 NP1:φ=97.00000°, δ=81.00000°, λ=-1.00000°. NP2:φ=187.00000°, δ=89.00000°, λ=-171.00000°. Principal axes: T 1.2660, Plg=5.0000°, Azm=322.0000°; N 0.0760, Plg=81.0000°, Azm=194.0000°; P -1.3420, Plg=7.0000°, Azm=52.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*BJI **21** 02:07:37.9, 150N×8.530W, h10km, mB5.6, Ms6.0, Msz5.7*
*MOS **21** 02:07:40.8±1.1, 189N×8.535W, h38km, mb5.5/58, MS5.7/35, Error ellipse: s-maj=9.3km s-min=5.5km az=96.8*
*SZGRF **21** 02:07:48.3, 2.04N×84.78W, h33km, mb5.2, MS5.9, Off coast of central America*
*CASC **21** 02:07:49.0, 2.42N×85.05W, h6km, MD4.9, ML4.3, mb5.3(NEIC)*
ISC 21 02:07:39.6±1.1, 152N±0.003×8534W±0.003, h29km±7km, n532, σ1.1s23/389, mb5.1/140, MS5.7/157, 17C-2D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAYG	**Puerto Ayora**	**5.40**	**246**	*ePn*	**Pn**	**02 08 58.1**	**+0.1**
117nm,0.8s							
OTAV	**Otavalo**	**7.01**	**100**	*ePn*	**Pn**	**02 09 17.9**	**-2.2**
178nm,1.0s							
DVD	**David**	**7.45**	**23**	*eP*	**Pn**	**02 09 24.3**	**-2.0**
AZU	**Azuero**	**8.02**	**39**	*i*P	**Pn**	**02 09 33.5**	**-0.6**
BUS	**Buena Vista**	**8.14**	**11**	*eP*	**Pn**	**02 09 35.5**	**-0.3**
BUS				*eS*	**Sn**	**02 10 60.0**	**-6.7**
LCR2	**La Lucha 2**	**8.28**	**9**	*eP*	**Pn**	**02 09 37.0**	**-0.6**
LCR2				*eS*	**Sn**	**02 11 02.6**	**-7.5**
CNI	**Changuinola**	**8.34**	**20**	*eP*	**Pn**	**02 09 38.1**	**-0.3**
LAJ	**Bijagual**	**8.38**	**8**	*eP*	**Pn**	**02 09 34.3**	**-4.7**
URSC	**Urasca**	**8.41**	**11**	*eP*	**Pn**	**02 09 38.6**	**-0.8**
URSC				*eS*	**Sn**	**02 11 05.6**	**-7.7**
PRS1	**Puriscal**	**8.47**	**7**	*eP*	**Pn**	**02 09 38.3**	**-1.9**
PRS1				*eS*	**Sn**	**02 11 04.5**	**-10**
CGA2	**Cerro Gallo 2**	**8.49**	**6**	*eP*	**Pn**	**02 09 40.0**	**-0.5**
ICR	**Volcan Irazu**	**8.54**	**10**	*eP*	**Pn**	**02 09 42.2**	**+1.0**
ICR				*eS*	**Sn**	**02 11 09.9**	**-6.7**
VCR	**Vista de Mar**	**8.56**	**358**	*eP*	**Pn**	**02 09 39.7**	**-1.7**
VCR				*eS*	**Sn**	**02 11 06.5**	**-10**
JTS	**JuntasAbangare**	**8.72**	**3**	Pn	**Pn**	**02 09 42.7**	**-1.0**
4µm,0.9s,SNR=23							
JTS	**JuntasAbangare**	**8.72**	**3**	Pn	**Pn**	**02 09 41.1**	**-2.7**
3.4nm,0.3s,baz=171,slow=7.4,SNR=65							
JTS				Sn	**Sn**	**02 11 12.0**	**-9.1**
2.9nm,0.3s,baz=166,slow=15,SNR=2.5							
JTS				LR	LR	02 12 31.8	
comp=Z,26µm,18.4s,baz=188,slow=34							
JTS	**JuntasAbangare**	**8.72**	**3**	*eP*	**Pn**	**02 09 42.6**	**-1.1**
JTS	**JuntasAbangare**	**8.72**	**3**	*ePn*	**Pn**	**02 09 41.6**	**-2.1**
796nm,1.0s							
LIM1	**Limonal**	**9.12**	**1**	*i* P	**Pn**	**02 09 47.2**	**-2.0**
UPA	**Univ. de Panam**	**9.40**	**38**	*i*P	**Pn**	**02 09 53.8**	**+0.8**
UPA				*eS*	**Sn**	**02 11 43.6**	**+5.9**
SSNN	**San Juan del S**	**9.72**	**357**	*eP*	**Pn**	**02 09 58.1**	**+0.7**
SSNN				*eS*	**Sn**	**02 11 48.2**	**+2.6**
CONN	**Concepcion**	**9.99**	**358**	*eP*	**Pn**	**02 10 02.7**	**+1.7**
TICN	**Ticuantepe**	**10.49**	**355**	*eP*	**Pn**	**02 10 09.6**	**+1.7**
TISN	**Laguna Tiscapa**	**10.60**	**355**	*eP*	**Pn**	**02 10 10.4**	**+1.0**
MGAN	**Managua**	**10.60**	**355**	*eP*	**Pn**	**02 10 11.3**	**+1.9**
MGAN				*eS*	**Sn**	**02 12 10.6**	**+3.5**
COPN	**Copaltepe**	**10.67**	**353**	*eP*	**Pn**	**02 10 12.0**	**+1.7**
COPN				*i*		02 12 16.7	
comp=Z,100nm,0.5s							
MOMJ	**Momotombo**	**10.89**	**354**	*eP*	**Pn**	**02 10 14.9**	**+1.6**
MOMJ				*i*		02 10 24.0	
comp=Z,128nm,0.6s							
LEON	**Leon**	**10.94**	**352**	*eP*	**Pn**	**02 10 15.1**	**+1.0**
MIRN	**Miramar**	**10.94**	**353**	*eP*	**Pn**	**02 10 15.5**	**+1.5**
ATAH	**Atahualpa**	**10.94**	**141**	Pn	**Pn**	**02 10 15.9**	**+1.9**
comp=Z,18nm,0.3s,baz=337,slow=8.1,SNR=58							
ATAH				Sn	**Sn**	**02 12 16.2**	**+0.8**
baz=162,slow=19,SNR=2.1							
CNGN	**Cerro Negro**	**10.99**	**353**	*eP*	**Pn**	**02 10 16.4**	**+1.6**
TEL3	**Telica 3**	**11.08**	**352**	*eP*	**Pn**	**02 10 16.9**	**+0.9**
TELN	**Telica**	**11.11**	**352**	*eP*	**Pn**	**02 10 18.5**	**+2.0**
CRIN	**San Cristobal**	**11.24**	**351**	*eP*	**Pn**	**02 10 20.1**	**+1.9**
ROSC	**El Rosal**	**11.48**	**73**	Pn	**Pn**	**02 10 19.7**	**-1.8**
comp=Z,0.9nm,0.3s,baz=89,slow=14,SNR=20							
ROSC				LR	LR	02 14 31.6	
comp=Z,38µm,18.6s,baz=227,slow=37							
IXG	**Ixpaco**	**13.55**	**338**	*eP*	**Pn**	**02 10 52.4**	**+2.6**
TP2	**Tecpan 2**	**14.32**	**337**	*eP*	**Pn**	**02 11 02.9**	**+2.5**
NNA	**Nana**	**15.85**	**148**	*eP*	**Pn**	**02 11 20.6**	**0.0**
comp=Z,338nm,1.5s							
CCIG	**Comitan**	**16.13**	**336**	*i*P	**Pn**	**02 11 23.9**	**-0.2**
SDV	**Santo Domingo**	**16.37**	**63**	Pn	**Pn**	**02 11 22.2**	**-5.0**
SDV	**Santo Domingo**	**16.37**	**63**	Pn	**Pn**	**02 11 22.8**	**-4.4**
comp=Z,0.4nm,0.3s,baz=270,slow=9.1,SNR=7.8							
SDV				LR	LR	02 17 14.9	
comp=Z,47µm,20.6s,baz=257,slow=36							
SDV	**Santo Domingo**	**16.37**	**63**	*eP*	**Pn**	**02 11 22.5**	**-4.7**
comp=Z,283nm,0.9s							
HUIG	**Huatulco**	**17.70**	**324**	*i*P	**Pn**	**02 11 42.5**	**-1.3**
VHO	**Vista Hermosa**	**19.09**	**325**	*i*P	**Pn**	**02 12 00.3**	**-0.5**
OXX	**Oaxaca**	**19.09**	**325**	*eP*	**Pn**	**02 12 04.0**	**+3.2**
LMGC	**Las Mercedes**	**20.16**	**23**	*eP*	**P**	**02 12 11.5**	**+0.1**
LMGC				*eS*	**S**	**02 15 49.9**	**-6.3**
comp=N,10µm,16.2s							
LMGC				*e*			
comp=E,104µm,16.9s							
RCC	**Rio Carpintero**	**20.65**	**27**	*eP*	**P**	**02 12 15.1**	**-1.6**
RCC				*e*			
comp=E,256µm,20.5s							
CCCC	**Ccc**	**20.91**	**20**	*eP*	**P**	**02 12 20.3**	**+0.7**
SOR	**Soroa**	**21.27**	**6**	*eP*	**P**	**02 12 22.8**	**-0.7**
HLGC	**Holguin**	**21.28**	**25**	*eP*	**P**	**02 12 23.1**	**-0.5**
CAIG	**El Cayaco**	**21.30**	**317**	*i*P	**P**	**02 12 23.2**	**-0.6**
MASC	**Masc**	**21.49**	**30**	*eP*	**P**	**02 12 27.4**	**+1.6**
MOAC	**Moa**	**21.56**	**27**	*eP*	**P**	**02 12 24.5**	**-2.1**
MOAC				*e*			
comp=E,21nm,8.9s							
PLIG	**Platanillo**	**21.78**	**321**	*i*P	**P**	**02 12 29.6**	**+0.7**
UNM	**Universidad Na**	**22.29**	**323**	*eP*	**P**	**02 12 26.0**	**-8.4**
ARE	**Arequipa**	**22.50**	**143**	*eP*	**P**	**02 12 40.0**	**+3.4**
SAML	**Samuel**	**24.41**	**116**	P	**P**	**02 12 52.8**	**-2.6**
SAML				S	**S**	**02 17 16.3**	**+3.0**
SAML	**Samuel**	**24.41**	**116**	*eP*	**P**	**02 12 52.6**	**-2.7**
comp=E,399nm,1.7s,mb5.6							
SAML				LR	LR		
comp=Z,32µm,19.0s,MS5.8							
LPAZ	**La Paz**	**24.53**	**137**	P	**P**	**02 12 56.8**	**+0.3**
comp=Z,30nm,0.9s,mb4.8,baz=331,slow=12,SNR=68							
LPAZ	**La Paz**	**24.53**	**137**	*eP*	**P**	**02 12 56.2**	**-0.3**
LPAZ				pmax	pmax		
comp=Z,134nm,1.1s							
LPAZ				MLR	MLR		
comp=Z,42µm,22.0s							
LPAZ	**La Paz**	**24.53**	**137**	*eP*	**P**	**02 12 56.2**	**-0.3**
comp=Z,134nm,1.1s,mb5.4							
LPAZ				LR	LR		
comp=Z,42µm,22.0s,MS5.9							
SJG	**San Juan**	**25.04**	**48**	P	**P**	**02 12 58.9**	**-2.2**
comp=Z,132nm,1.1s,mb5.4,baz=246,slow=6.0,SNR=17							
SJG	**San Juan**	**25.04**	**48**	*eP*	**P**	**02 12 59.2**	**-1.9**
SJG				pmax	pmax		
comp=Z,294nm,1.3s							
SJG				MLR	MLR		
comp=Z,13µm,22.0s							
SJG	**San Juan**	**25.04**	**48**	*eP*	**P**	**02 12 59.2**	**-1.9**
comp=Z,294nm,1.3s,mb5.7							
SJG				LR	LR		
comp=Z,13µm,22.0s,MS5.4							
CPD	**Cerro la Pandu**	**25.17**	**48**	*eP*	**P**	**02 13 00.9**	**-1.4**
TRN	**Trinidad (W)**	**25.45**	**68**	*eP*	**P**	**02 13 04.8**	**0.0**
MTP	**Monte Pirata**	**25.47**	**48**	*eP*	**P**	**02 13 03.0**	**-2.0**
SFJM	**Santa Fe**	**25.58**	**319**	*eP*	**P**	**02 13 07.5**	**+1.5**
FCV	**Fort Charlotte**	**26.51**	**63**	*e*	**P**	**02 13 21.1**	**+6.7**
SVB	**Belmont**	**26.55**	**63**	*eP*	**P**	**02 13 11.6**	**-3.3**
SSV	**Crater Summit**	**26.63**	**63**	*eP*	**P**	**02 13 08.1**	**-7.4**
SSV	**Crater Summit**	**26.63**	**63**	*e*	**P**	**02 13 19.0**	**+3.6**
DWPF	**Disney**	**26.71**	**8**	*eP*	**P**	**02 13 15.6**	**-0.6**
comp=Z,129nm,1.4s,mb5.3							
DWPF				LR	LR		
comp=Z,13µm,20.0s,MS5.5							
ZAIG	**Zacatecas**	**26.95**	**323**	*i*P	**P**	**02 13 18.2**	**-0.2**
LZG	**Guadaloupe-1**	**27.39**	**57**	*eP*	**P**	**02 13 29.8**	**+7.5**
SCG	**Saint Claude**	**27.42**	**57**	*eP*	**P**	**02 13 27.7**	**+5.2**
LVC	**Limon Verde**	**28.84**	**147**	P	**P**	**02 13 36.3**	**+1.0**
comp=Z,5.6nm,0.9s,mb4.3,baz=312,slow=9.0,SNR=4.2							
LVC				LR	LR	02 25 26.2	
comp=Z,24µm,20.2s,MS5.8,baz=344,slow=37							
LVC	**Limon Verde**	**28.84**	**147**	*eP*	**P**	**02 13 35.8**	**+0.5**
comp=Z,84nm,1.6s,mb5.2							
LVC				LR	LR		
comp=Z,29µm,20.0s,MS5.9							
SIV	**San Ignacio**	**29.62**	**127**	P	**P**	**02 13 40.5**	**-1.7**
comp=Z,3.6nm,0.9s,mb4.1,baz=293,slow=12,SNR=11							
HKT	**Hockley**	**29.98**	**342**	*eP*	**P**	**02 13 45.2**	**-0.2**
HKT				pmax	pmax		
comp=Z,156nm,1.8s,mb5.4							
HKT				MLR	MLR		
comp=Z,9µm,19.0s,MS5.4							
HKT	**Hockley**	**29.98**	**342**	*eP*	**P**	**02 13 45.1**	**-0.3**
comp=Z,156nm,1.8s,mb5.4							
HKT				LR	LR		
comp=Z,9µm,19.0

BLA **Blacksburg** 35.81 7 eP P 02 14 34.2 -2.1
BLA pmax pmax
comp=Z,18nm,2.0s,mb4.7
BLA MLR MLR
comp=Z,737nm,22.0s
BLA Blacksburg 35.81 7 eP P 02 14 34.2 -2.0
comp=Z,18nm,2.0s,mb4.7
BLA LR LR
comp=Z,737nm,22.0s
CPRX Cap Rock 35.85 333 eP P 02 14 36.5 -0.2
FWV Forest Hill 36.13 6 eP P 02 14 39.6 +0.5
BBSR BB Station 36.33 30 PFAKE 02 14 50.0 +9.3
BBSR LR LR
comp=Z,12µm,22.0s,MS5.6
USIN University of 36.33 357 eP P 02 14 39.1 -1.6
comp=Z,142nm,1.4s,mb5.7
AMTX Amarillo 36.52 337 eP P 02 14 42.7 +0.3
comp=Z,75nm,1.2s,mb5.4
AMTX LR LR
comp=Z,3µm,20.0s,MS5.1
WCI Wyandotte Cave 36.55 359 eP P 02 14 40.7 -1.9
WCI pmax pmax
comp=Z,75nm,1.4s,mb5.3
WCI MLR MLR
comp=Z,4µm,20.0s,MS5.2
WCI Wyandotte Cave 36.55 359 eP P 02 14 40.7 -1.8
comp=Z,75nm,1.4s,mb5.3
WCI LR LR
comp=Z,4µm,20.0s,MS5.2
FVM French Village 36.59 353 eP P 02 14 41.8 -1.1
FVM pmax pmax
comp=Z,44nm,1.4s,mb5.1
FVM French Village 36.59 353 eP P 02 14 41.8 -1.1
comp=Z,44nm,1.4s,mb5.1
CFAA Coronel Fontan 36.72 155 P P 02 14 43.5 -0.6
comp=Z,1.5nm,1.0s,baz=329,slow=8.5,SNR=9.0
CCM Cathedral Cave 36.76 352 eP P 02 14 42.2 -2.2
CCM pmax pmax
comp=Z,88nm,1.3s,mb5.4
CCM MLR MLR
comp=Z,3µm,20.0s,MS5.1
CCM Cathedral Cave 36.76 352 eP P 02 14 42.2 -2.3
comp=Z,88nm,1.3s,mb5.4
CCM LR LR
comp=Z,3µm,20.0s,MS5.1
CBN Corbin 37.24 10 PFAKE 02 15 00.0 +12
CBN LR LR
comp=Z,27µm,20.0s,MS6.0
BLO Bloomington 37.49 358 eP P 02 14 48.0 -2.6
BLO pmax pmax
comp=Z,53nm,1.2s,mb5.2
BLO Bloomington 37.49 358 eP P 02 14 48.0 -2.6
comp=Z,53nm,1.2s,mb5.2
BNM Barren Site 38.08 331 eP P 02 14 57.5 +1.9
LPM Los Pinos Moun 38.21 331 eP P 02 14 58.2 +1.6
MCWV Mont Chateau 38.29 7 eP P 02 14 55.8 -1.5
comp=Z,24nm,1.0s,mb4.9
LAZ Ladron 38.53 330 eP P 02 15 00.8 +1.5
ACSO Alum Creek Sta 38.59 3 eP P 02 15 00.8 +0.9
comp=Z,26nm,1.2s,mb4.8
ACSO LR LR
comp=Z,4µm,20.0s,MS5.2
ANMO Albuquerque 38.65 332 LR LR 02 30 16.0
comp=Z,9µm,20.1s,MS5.6,baz=87,slow=35
ANMO Albuquerque 38.65 332 eP P 02 15 00.3 0.0
ANMO Albuquerque 38.65 332 eP P 02 15 00.1 -0.2
comp=Z,22nm,1.0s,mb4.8
ANMO LR LR
comp=Z,9µm,22.0s,MS5.6
CPUP Villa Florida 38.70 138 P P 02 14 59.8 -1.0
comp=Z,6.5nm,1.1s,mb4.3,baz=297,slow=9.2,SNR=6.3
CPUP LR LR 02 33 02.5
comp=Z,15µm,18.5s,MS5.8,baz=303,slow=40
CPUP Villa Florida 38.70 138 eP P 02 14 59.4 -1.4
CPUP pmax pmax
comp=Z,106nm,1.5s
CPUP MLR MLR
comp=Z,2µm,20.0s
CPUP Villa Florida 38.70 138 eP P 02 14 59.4 -1.4
comp=Z,106nm,1.5s,mb5.3
CPUP LR LR
comp=Z,2µm,20.0s,MS5.0
KSU1 Kansas State U 38.80 346 eP P 02 15 00.9 -0.7
TUC Tucson 38.89 325 PFAKE 02 15 10.0 +7.7
TUC LR LR
comp=Z,29µm,21.0s,MS6.1
CBKS Cedar Bluff 39.39 342 eP P 02 15 05.1 -1.4
CBKS pmax pmax
comp=Z,254nm,1.8s,mb5.7
CBKS MLR MLR
comp=Z,7µm,20.0s,MS5.5
CBKS Cedar Bluff 39.39 342 eP P 02 15 05.0 -1.5
comp=Z,254nm,1.8s,mb5.7
CBKS LR LR
comp=Z,7µm,20.0s,MS5.5
SSPA Standing Stone 39.52 9 eP P 02 15 05.3 -2.3
comp=Z,49nm,1.5s,mb5.0
SSPA LR LR
comp=Z,14µm,20.0s,MS5.8
BDFB Brasilia 40.64 116 P P 02 15 16.2 -0.7
comp=Z,6.8nm,0.8s,mb4.3,baz=274,slow=9.4,SNR=8.4
BDFB PcP PcP 02 17 17.0 -1.5
comp=Z,17nm,1.3s,baz=272,slow=1.3,SNR=3.1
BDFB LR LR 02 33 30.4
comp=Z,32µm,18.6s,MS6.2,baz=296,slow=38
BDFB Brasilia 40.64 116 P P 02 15 16.2 -0.7
BDFB 02 17 17.0
ERPA Erie 40.70 6 PFAKE 02 15 30.0 +13
ERPA LR LR
comp=Z,12µm,19.0s,MS5.8
BINY Binghamton 41.37 11 eP P 02 15 22.9 0.0
comp=Z,33nm,1.2s,mb4.8
BINY LR LR
comp=Z,14µm,22.0s,MS5.8
MVCO Mesa Verde 41.44 332 eP P 02 15 22.7 -0.8
PV01 Paradox Valley 42.22 332 eP P 02 15 30.6 +0.8
ISCO Idaho Springs 42.34 337 eP P 02 15 30.4 -0.4
ISCO pmax pmax
comp=Z,37nm,1.3s,mb4.8
ISCO MLR MLR
comp=Z,8µm,21.0s,MS5.6
ISCO Idaho Springs 42.34 337 eP P 02 15 30.4 -0.5
comp=Z,37nm,1.3s,mb4.9
ISCO LR LR
comp=Z,8µm,21.0s,MS5.6
SMCO Snowmass 42.37 335 eP P 02 15 31.2 +0.1
comp=Z,169nm,1.5s,mb5.5
WES Weston 42.59 15 PFAKE 02 15 40.0 +7.1
WES LR LR
comp=Z,7µm,19.0s,MS5.6
PV10 Paradox Valley 42.63 332 eP P 02 15 33.0 -0.2
HRV Harvard--Oak R 42.64 15 PFAKE 02 15 40.0 +6.7
HRV LR LR
comp=Z,6µm,19.0s,MS5.5
PFO Pinyon Flat Ob 43.22 321 eP P 02 15 38.4 +0.4
PFO pmax pmax
comp=Z,38nm,1.4s,mb4.9
PFO MLR MLR
comp=Z,8µm,22.0s,MS5.6
PFO Pinyon Flat Ob 43.22 321 eP P 02 15 38.4 +0.5
comp=Z,38nm,1.4s,mb4.9
PFO LR LR
comp=Z,8µm,22.0s,MS5.6
NCB Newcomb 43.41 12 PFAKE 02 15 50.0 +10
NCB LR LR
comp=Z,7µm,21.0s,MS5.6
SADO Sadowa 43.42 6 P P 02 15 38.6 -1.0
comp=Z,17nm,1.0s,mb4.7,baz=208,slow=4.9,SNR=6.3
PHWY Pilot Hill 43.57 338 eP P 02 15 40.4 -0.4
NEN Nelson 43.62 324 eP P 02 15 40.0 -1.2
SRU San Rafael 43.92 331 eP P 02 15 44.2 +0.6
SRU pmax pmax
comp=Z,143nm,1.6s,mb5.5
SRU San Rafael 43.92 331 eP P 02 15 44.2 +0.6
comp=Z,143nm,1.6s,mb5.5
PLCA Paso Flores 44.16 164 P P 02 15 45.2 -0.4
PLCA Paso Flores 44.16 164 eP P 02 15 45.2 -0.3
PLCA pmax pmax
comp=Z,42nm,1.2s
PLCA MLR MLR
comp=Z,10µm,20.0s
PLCA Paso Flores 44.16 164 eP P 02 15 45.1 -0.4
comp=Z,42nm,1.2s,mb5.0
PLCA LR LR
comp=Z,10µm,20.0s,MS5.7
CCUT Cedar City 44.16 328 eP P 02 15 46.4 +0.9

MSU Marysvale 44.27 330 eP P 02 15 46.9 +0.5
MVU Marysvale 44.28 329 PFAKE 02 16 00.0 +13
MVU LR LR
comp=Z,6µm,20.0s,MS5.5
ARUT Antelope Range 44.38 328 eP P 02 15 48.8 +1.5
TMUT Trail Mountain 44.39 331 eP P 02 15 47.7 +0.3
LPA La Plata 44.41 147 eP P 02 15 45.0 -2.5
LPA eS S 02 22 22.0 +1.7
LPA eSS SS 02 25 45.0 +5.3
LPA
comp=Z,16µm,22.0s
RWWY Rawlins 44.58 337 eP P 02 15 50.0 +1.1
comp=Z,59nm,1.4s,mb5.2
TRQA Tornquist 44.90 154 eP P 02 15 50.4 -1.1
comp=Z,41nm,1.4s,mb5.1
TRQA LR LR
comp=Z,19µm,22.0s,MS6.0
SNCC San Nicolas Is 44.98 318 PFAKE 02 16 00.0 +7.9
SNCC LR LR
comp=Z,4µm,22.0s,MS5.3
MPU Maple Canyon 45.16 331 eP P 02 15 53.5 0.0
comp=Z,18nm,1.0s,mb4.8
MPU LR LR
comp=Z,27µm,21.0s,MS6.2
DAU Daniels Canyon 45.29 332 eP P 02 15 55.7 +1.1
NLU North Lily Min 45.32 331 eP P 02 15 55.7 +0.9
TPNV Topopah Spring 45.34 325 PFAKE 02 16 10.0 +15
TPNV LR LR
comp=Z,2µm,19.0s,MS5.1
DAC Darwin (Calif) 45.68 323 eP P 02 15 57.9 +0.2
DAC pmax pmax
comp=Z,15nm,1.1s,mb4.8
DAC MLR MLR
comp=Z,11µm,19.0s,MS5.8
DAC Darwin (Calif) 45.68 323 eP P 02 15 57.9 +0.2
comp=Z,15nm,1.1s,mb4.8
DAC LR LR
comp=Z,11µm,19.0s,MS5.8
ISA Isabella 45.82 322 PFAKE 02 16 10.0 +11
ISA LR LR
comp=Z,2µm,20.0s,MS5.0
DUG Dugway 45.87 331 eP P 02 15 59.8 +0.7
DUG e 02 17 36.9
DUG pmax pmax
comp=Z,14nm,1.1s,mb4.8
DUG MLR MLR
comp=Z,10µm,19.0s,MS5.8
DUG Dugway 45.87 331 eP P 02 15 59.8 +0.7
comp=Z,14nm,1.1s,mb4.8
DUG ePcP PcP 02 17 36.9 +0.8
DUG LR LR
comp=Z,10µm,19.0s,MS5.8
NOQ North Oquirrh 45.89 331 eP P 02 15 59.2 -0.1
comp=Z,64nm,1.4s,mb5.4
TCUT Toone Canyon 45.92 332 eP P 02 16 00.4 +0.9
HWUT Hardware Ranch 46.38 333 eP P 02 16 01.8 -1.3
comp=Z,92nm,1.4s,mb5.5
HWUT ePcP PcP 02 17 37.9 +0.1
HWUT LR LR
comp=Z,17µm,21.0s,MS6.0
BW06 Boulder Array 46.44 335 eP P 02 16 03.2 -0.4
comp=Z,33nm,1.4s,mb5.1
BW06 LR LR
comp=Z,17µm,19.0s,MS6.0
PDAR Pinedale Array 46.44 335 P P 02 16 03.2 -0.4
comp=Z,4.8nm,0.9s,mb4.4,baz=140,slow=7.2,SNR=14
PDAR LR LR 02 36 12.7
comp=Z,16µm,18.2s,MS6.0,baz=147,slow=37
EYMN Ely 46.55 354 PFAKE 02 16 20.0 +15
EYMN LR LR
comp=Z,5µm,20.0s,MS5.5
SPUT South Promonto 46.55 332 eP P 02 16 03.7 -0.8
TPH Tonopah 46.68 325 eP P 02 16 05.4 -0.1
TPH pmax pmax
comp=Z,34nm,1.3s,mb5.1
TPH MLR MLR
comp=Z,8µm,19.0s,MS5.7
TPH Tonopah 46.68 325 eP P 02 16 05.4 -0.1
comp=Z,34nm,1.3s,mb5.1
TPH LR LR
comp=Z,8µm,19.0s,MS5.7
MTUM Tungsten Hills 46.98 323 eP P 02 16 08.4 +0.5
AHID Auburn Hatcher 47.09 334 P P 02 16 10.1 +1.3
comp=Z,8.5nm,0.4s,mb5.0
AHID LR LR
comp=Z,9µm,21.0s,MS5.7
MNV Mina 47.46 325 eP P 02 16 12.6 +1.0
MNV pmax pmax
comp=Z,82nm,1.6s,mb5.4
MNV MLR MLR
comp=Z,8µm,19.0s,MS5.7
MNV Mina 47.46 325 eP P 02 16 12.6 +1.0
comp=Z,82nm,1.6s,mb5.4
MNV LR LR
comp=Z,8µm,19.0s,MS5.7
REDW Red Top Meadow 47.47 335 eP P 02 16 12.0 +0.3
comp=Z,135nm,1.3s,mb5.7
ELK Elko 47.50 329 eP P 02 16 12.5 +0.6
ELK e 02 17 43.7
ELK pmax pmax
comp=Z,104nm,1.9s
ELK MLR MLR
comp=Z,25µm,20.0s
ELK Elko 47.50 329 eP P 02 16 12.5 +0.6
comp=Z,104nm,1.9s,mb5.5
ELK ePcP PcP 02 17 43.6 +1.9
ELK LR LR
comp=Z,25µm,20.0s,MS6.2
NVAR Mina Array Bea 47.54 325 P P 02 16 12.4 +0.2
comp=Z,11nm,1.0s,mb4.8,baz=145,slow=7.7,SNR=23
LOHW Long Hollow 47.57 335 eP P 02 16 12.4 -0.1
comp=Z,60nm,1.5s,mb5.4
TPAW Teton Pass 47.61 335 eP P 02 16 12.2 -0.6
comp=Z,94nm,1.4s,mb5.6
MOOW Moose Ponds 47.74 335 eP P 02 16 13.6 -0.1
comp=Z,16nm,1.2s,mb4.9
IMW Indian Meadow 47.94 335 eP P 02 16 15.1 -0.3
comp=Z,26nm,1.3s,mb5.1
CAM4 Nova Friburgo 47.99 122 (P) P 02 16 17.6 +1.9
FLWY Flagg Ranch 47.99 335 eP P 02 16 14.7 -1.0
comp=Z,65nm,1.4s,mb5.5
LKWY Lake 48.26 336 PFAKE 02 16 30.0 +12
LKWY LR LR
comp=Z,13µm,21.0s,MS5.9
BMN Battle Mountai 48.32 327 eP P 02 16 19.6 +1.3
BMN pmax pmax
comp=Z,17nm,1.1s,mb5.0
BMN MLR MLR
comp=Z,18µm,20.0s,MS6.0
BMN Battle Mountai 48.32 327 eP P 02 16 19.6 +1.3
comp=Z,17nm,1.1s,mb5.0
BMN LR LR
comp=Z,18µm,20.0s,MS6.0
YFT Old Faithful 48.35 336 eP P 02 16 18.1 -0.3
SAO San Andreas Ge 48.38 321 PFAKE 02 16 30.0 +11
SAO LR LR
comp=Z,7µm,21.0s,MS5.6
CMB Columbia Colle 48.52 323 eP P 02 16 21.0 +1.2
CMB pmax pmax
comp=Z,10.0nm,1.5s,mb4.6
CMB MLR MLR
comp=Z,6µm,20.0s,MS5.5
CMB Columbia Colle 48.52 323 eP P 02 16 21.0 +1.2
comp=Z,10nm,1.5s,mb4.6
CMB LR LR
comp=Z,6µm,20.0s,MS5.5
LAO LASA Array 48.54 341 PFAKE 02 16 30.0 +10
LAO LR LR
comp=Z,6µm,21.0s,MS5.5
YMR Madison River 48.58 336 eP P 02 16 21.7 +1.5
comp=Z,81nm,1.6s,mb5.5
YMR LR LR
comp=Z,11µm,20.0s,MS5.8
QLMT Earthquake Lak 48.90 335 eP P 02 16 24.0 +1.3
GCMT Greycliff 48.99 338 eP P 02 16 22.0 -1.4
PAHR Pah Rah Range 49.02 325 eP P 02 16 24.5 +0.8
comp=Z,138nm,2.2s,mb5.6
HLID Hailey 49.22 332 eP P 02 16 23.5 -1.7
comp=Z,74nm,1.6s,mb5.5
ULM Lac du Bonnet 49.38 351 P P 02 16 23.5 -2.9
comp=Z,8.1nm,0.9s,mb4.8,baz=190,slow=8.6,SNR=6.8
ULM LR LR 02 40 48.7
comp=Z,2µm,18.6s,MS5.2,baz=295,slow=40
MCMT McKenzie Canyo 49.50 334 eP P 02 16 27.4 0.0
BOZ Bozeman (W) 49.65 336 eP P 02 16 28.0 -0.4
BOZ pmax pmax
comp=Z,40nm,1.4s,mb5.3
BOZ MLR MLR
comp=Z,5µm,19.0s,MS5.6
BOZ Bozeman (W) 49.65 336 eP P 02 16 28.0 -0.5
comp=Z,40nm,1.4s,mb5.2
BOZ LR LR
comp=Z,5µm,19.0s,MS5.6
DLMT Dillon 49.82 335 eP P 02 16 29.9 +0.1
comp=Z,85nm,1.8s,mb5.5
RCBR Riachuelo 49.91 99 PFAKE 02 16 40.0 +10
RCBR LR LR
comp=Z,10µm,20.0s,MS5.8
OHCM Honcut 50.01 323 eP P 02 16 31.5 +0.4
WVOR Wild Horse Val 50.49 328 eP P 02 16 34.7 -0.1
WVOR pmax pmax
comp=Z,71nm,1.4s,mb5.5
WVOR MLR MLR
comp=Z,23µm,19.0s,MS6.2
WVOR Wild Horse Val 50.49 328 eP P 02 16 34.7 -0.1
comp=Z,71nm,1.4s,mb5.5
WVOR LR LR
comp=Z,23µm,19.0s,MS6.2
HRY Holter Researc 50.60 337 eP P 02 16 35.6 -0.1
PTCN Pitcairn Islan 50.75 236 PFAKE 02 16 50.0 +13
PTCN LR LR
comp=Z,11µm,19.0s,MS5.9
HOPS Hopland 50.76 322 PFAKE 02 16 50.0 +13
HOPS LR LR
comp=Z,7µm,19.0s,MS5.7
EGMT Eagleton 50.91 339 eP P 02 16 38.3 +0.3
comp=Z,36nm,1.4s,mb5.1
EGMT LR LR
comp=Z,5µm,21.0s,MS5.5
MOD Modoc 51.02 327 eP P 02 16 38.9 +0.1
comp=Z,24nm,1.3s,mb5.0
MOD LR LR
comp=Z,10µm,22.0s,MS5.8
CHMT Chamberlain Mo 51.34 336 eP P 02 16 40.4 -0.8
WDC Whiskeytown Da 51.43 324 PFAKE 02 16 50.0 +8.1
WDC LR LR
comp=Z,4µm,21.0s,MS5.5
MSO Missoula 51.55 335 eP P 02 16 41.7 -1.2
comp=Z,24nm,1.1s,mb5.0
MSO LR LR
comp=Z,8µm,22.0s,MS5.7
BMO Blue Mountains 51.56 331 eP P 02 16 42.0 -0.9
comp=Z,42nm,1.6s,mb5.1
BMO LR LR
comp=Z,4µm,19.0s,MS5.5
YBH Yreka Blue Hor 52.26 325 eP P 02 16 46.8 -1.3
YBH pmax pmax
comp=Z,15nm,1.2s
YBH MLR MLR
comp=Z,7µm,20.0s
YBH Yreka Blue Hor 52.26 325 eP P 02 16 46.8 -1.3
comp=Z,15nm,1.2s,mb4.8
YBH LR LR
comp=Z,7µm,20.0s,MS5.7
KHMM Horse Mountain 52.31 323 eP P 02 16 49.3 +0.8
HUMO Hull Mountain 52.96 326 PFAKE 02 17 10.0 +17
HUMO LR LR
comp=Z,6µm,19.0s,MS5.7
WALA Waterton Lakes 53.32 337 eP P 02 16 55.1 -0.8
comp=Z,22nm,1.0s,mb5.0
KBO Bosley Butte 53.44 325 eP P 02 16 57.0 +0.3
HAWA Hanford 53.75 331 PFAKE 02 17 10.0 +11
HAWA LR LR
comp=Z,506nm,19.0s,MS4.6
KEBM Edson Butte 53.91 325 eP P 02 17 01.5 +1.2
NEW Newport 54.03 334 LR LR 02 40 53.8
comp=Z,8µm,19.1s,MS5.8,baz=141,slow=37
NEW Newport 54.03 334 eP P 02 17 00.3 -0.8
NEW pmax pmax
comp=Z,16nm,1.3s
NEW MLR MLR
comp=Z,9µm,19.0s
NEW Newport 54.03 334 eP P 02 17 00.3 -0.8
comp=Z,16nm,1.3s,mb4.8
NEW LR LR
comp=Z,9µm,19.0s,MS5.9
RKT Rikitea 54.14 240 eS S 02 24 34.5 -2.2
comp=Z,3µm,30.0s
RKT eLQ 02 30 27.6
comp=Z,5µm,26.8s
RKT eLR LR 02 32 47.0
comp=Z,19µm,27.5s,baz=69
COR Corvallis 54.44 327 PFAKE 02 17 20.0 +16
COR LR LR
comp=Z,9µm,19.0s,MS5.9
FFC Flin Flon 54.76 348 eP P 02 17 04.8 -1.6
FFC pmax pmax
comp=Z,76nm,2.0s,mb5.4
FFC MLR MLR
comp=Z,5µm,21.0s,MS5.5
FFC Flin Flon 54.76 348 eP P 02 17 04.8 -1.6
comp=Z,76nm,2.0s,mb5.4
FFC LR LR
comp=Z,5µm,21.0s,MS5.5
SCHQ Schefferville 55.26 13 P P 02 17 09.2 -0.9
comp=Z,10nm,1.1s,mb4.8,baz=212,slow=9.0,SNR=3.8
SCHQ LR LR 02 42 44.1
comp=Z,4µm,18.1s,MS5.5,baz=206,slow=38
SCHQ Schefferville 55.26 13 eP P 02 17 09.2 -0.8
comp=Z,110nm,2.0s,mb5.5
SCHQ LR LR
comp=Z,11µm,22.0s,MS5.9
TAOE Nuku Hiva Isla 55.57 258 eS S 02 24 54.2 -1.8
comp=Z,5µm,26.8s
TAOE eLQ 02 31 09.8
comp=Z,28µm,32.8s
TAOE eLR LR 02 33 29.4
comp=Z,78µm,26.9s
EDM Edmonton 56.52 340 eP P 02 17 17.7 -1.3
OCWA Octopus Mounta 56.98 330 eP P 02 17 23.3 +1.0
comp=Z,50nm,1.5s,mb5.3
FCC Fort Churchill 57.50 355 eP P 02 17 24.6 -1.4
FCC pmax pmax
comp=Z,38nm,1.1s,mb5.3
FCC Fort Churchill 57.50 355 eP P 02 17 24.6 -1.3
comp=Z,38nm,1.1s,mb5.3
EFI East Falkland 57.81 160 PFAKE 02 17 40.0 +12
EFI LR LR
comp=Z,10µm,21.0s,MS5.9
PMOR Pomariorio Ree 63.99 253 eP P 02 18 07.6 -2.6
comp=Z,48nm,1.3s,mb5.4
YKA Yellowknife Ar 64.65 345 P P 02 18 12.0 -2.5
comp=Z,11nm,1.0s,mb4.8,baz=142,slow=6.4,SNR=15
YKA LR LR 02 48 08.7
comp=Z,5µm,19.9s,MS5.7,baz=160,slow=38
YKA Yellowknife Ar 64.65 345 P P 02 18 12.0 -2.5
YKA LR LR 02 48 08.7
YKW3 Yellowknife Ar 64.71 345 eP P 02 18 12.5 -2.3
PPT Papeete 66.00 250 eS S 02 27 07.1 -2.0
comp=Z,2µm,26.5s
PPT eSS SS 02 31 24.8 +0.2
comp=Z,1µm,27.5s
PPT eLQ 02 35 26.3
comp=Z,15µm,31.0s
PPT eLR LR 02 38 17.0
comp=Z,32µm,25.0s,baz=81
PPT Papeete 66.00 250 LR LR 02 39 45.2
comp=Z,12µm,21.8s,MS6.1,baz=68,slow=29
DLBC Dease Lake 66.66 336 eP P 02 18 28.2 +0.7
TBI Tubuai 67.00 244 eS S 02 27 17.9 -3.3
comp=Z,2µm,25.8s
TBI eLQ 02 35 53.5
comp=Z,7µm,35.5s
TBI eLR LR 02 38 43.7
comp=Z,20µm,26.8s,baz=76
PMSA Palmer Station 67.95 170 PFAKE 02 18 50.0 +14
PMSA LR LR
comp=Z,5µm,20.0s,MS5.7
SIT Sitka 68.08 333 PFAKE 02 18 50.0 +14
SIT LR LR
comp=Z,11µm,20.0s,MS6.1
HOPE Hope Point 68.63 152 PFAKE 02 18 50.0 +10
HOPE LR LR
comp=Z,12µm,22.0s,MS6.1
SKAG Skagway 69.46 335 eP P 02 18 44.8 -0.2
comp=Z,6.8nm,0.7s,mb4.7
SFJD Kangerlussuaq 69.69 14 P P 02 18 45.6 -0.9
comp=Z,7.3nm,0.7s,mb4.7,baz=185,slow=6.4,SNR=5.9
SFJD LR LR 02 48 37.0
comp=Z,3µm,20.1s,MS5.5,baz=198,slow=35
SFJD Kangerlussuaq 69.69 14 i P P 02 18 47.2 +0.7
comp=Z,18nm,1.1s,mb4.9
SFJD i S S 02 27 51.7 -1.5

SFJD *i* 02 35 31.8
SFJD
comp=Z,4µm,18.0s
SFJD Kangerlussuaq 69.69 14 *i* P **P 02 18 47.2 +0.7**
SFJD *i* S S 02 27 51.7 -1.5
SFJD pmax pmax
comp=Z,18nm,1.1s,mb4.9
SFJD MLR MLR
comp=Z,4µm,18.0s,MS5.7
POHA Pohakuloa 70.86 290 PFAKE 02 19 10.0 +16
POHA LR LR
comp=Z,8µm,20.0s,MS6.0
ASCN Ascension 71.39 99 PFAKE 02 19 10.0 +13
ASCN LR LR
comp=Z,4µm,20.0s,MS5.6
RES Resolute Bay 73.30 357 *e*P **P 02 19 09.2 +1.0**
RES pmax pmax
comp=Z,50nm,1.5s,mb5.2
RES Resolute Bay 73.30 357 *e*P **P 02 19 09.2 +1.0**
comp=Z,50nm,1.5s,mb5.2
KIP Kipapa 73.32 292 PFAKE 02 19 20.0 +12
KIP LR LR
comp=Z,6µm,19.0s,MS5.9
DAWY Dawson 73.64 338 *e*P **P 02 19 09.7 -0.5**
INK Inuvik 74.20 343 *e*P **P 02 19 11.4 -2.1**
INK pmax pmax
comp=Z,50nm,1.0s
INK Inuvik 74.20 343 *e*P **P 02 19 11.4 -2.1**
comp=Z,50nm,1.0s,mb5.4
RAR Rarotonga 76.06 248 LR LR 02 46 15.4
comp=Z,3µm,18.2s,MS5.6,baz=84,slow=30
PMR Palmer 76.45 334 *e*P **P 02 19 24.6 -1.8**
PMR pmax pmax
comp=Z,3.0nm,0.3s,mb4.7
PMR MLR MLR
comp=Z,4µm,21.0s,MS5.7
PMR Palmer 76.45 334 *e*P **P 02 19 24.6 -1.8**
comp=Z,2.8nm,0.3s,mb4.7
PMR LR LR
comp=Z,4µm,21.0s,MS5.7
SUMG Summit 76.65 13 *e*P **P 02 19 25.8 -1.8**
comp=Z,58nm,1.1s,mb5.4
ILAR Eielson Array 76.83 337 P **P 02 19 27.9 -0.7**
comp=Z,12nm,1.0s,mb4.8,baz=136,slow=3.9,SNR=26
ILAR LR LR 02 55 11.1
comp=Z,6µm,18.3s,MS6.0,baz=129,slow=37
COLA College 77.24 337 *e*P **P 02 19 31.0 +0.1**
COLA pmax pmax
comp=Z,37nm,1.5s,mb5.1
COLA MLR MLR
comp=Z,7µm,20.0s,MS6.0
COLA College 77.24 337 *e*P **P 02 19 31.0 +0.1**
comp=Z,37nm,1.5s,mb5.1
COLA LR LR
comp=Z,7µm,20.0s,MS6.0
TRIS Tristan da Cun 77.43 128 PFAKE 02 19 40.0 +8.1
TRIS LR LR
comp=Z,7µm,22.0s,MS5.9
BORG Borgarnes 77.78 23 PFAKE 02 19 40.0 +6.1
BORG LR LR
comp=Z,4µm,20.0s,MS5.7
SVW2 Sparrevohn 79.21 332 *e*P **P 02 19 41.8 0.0**
EGRO El Granado 79.45 52 P **P 02 19 46.8 +3.7**
comp=Z,74nm,2.1s,mb5.2
PCBR Castelo Branco 79.71 50 *e*P **P 02 19 45.6 +1.1**
comp=Z,18nm,1.4s,mb4.8
MTE Manteigas 79.73 49 *e*P **P 02 19 44.9 +0.3**
comp=Z,53nm,1.6s,mb5.2
MTE Manteigas 79.73 49 *e*S S 02 29 51.1 +5.8
TTA Tatalina 79.94 334 *e*P **P 02 19 45.4 -0.3**
EMIN Mina Concepcio 80.12 52 P **P 02 19 49.2 +2.5**
comp=Z,35nm,3.6s
DBIC Dimbokro 80.38 84 P **P 02 19 48.7 +0.5**
comp=Z,28nm,1.2s,mb5.1,baz=261,slow=6.2,SNR=5.2
DBIC LR LR 02 52 52.8
comp=Z,2µm,20.1s,MS5.4,baz=249,slow=34
DBIC Dimbokro 80.38 84 *e*P **P 02 19 49.2 +1.1**
DBIC pmax pmax
comp=Z,37nm,1.2s
DBIC MLR MLR
comp=Z,2µm,20.0s
DBIC Dimbokro 80.38 84 *e*P **P 02 19 49.2 +1.1**
comp=Z,37nm,1.2s,mb5.2
DBIC LR LR
comp=Z,2µm,20.0s,MS5.5
ESPR Espera 80.68 53 P **P 02 19 53.6 +3.9**
comp=Z,27nm,1.6s,mb4.9
EJIF Jimena Fronter 80.95 53 P **P 02 19 58.2 +7.0**
EMIJ Mijas 81.52 53 P **P 02 19 58.3 +4.1**
comp=Z,6.6nm,0.8s,mb4.6
EADA Adamuz 81.80 52 P **P 02 19 59.1 +3.4**
comp=Z,8.4nm,1.3s,mb4.5
ELUQ Luque 82.00 52 P **P 02 19 59.7 +3.0**
ELUQ pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
ELUQ Luque 82.00 52 P **P 02 19 59.7 +2.9**
comp=Z,7.2nm,1.1s,mb4.5
ELOJ Sierra Loja 82.06 53 P **P 02 19 59.7 +2.6**
ELOJ pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
ELOJ Sierra Loja 82.06 53 P **P 02 19 59.7 +2.7**
comp=Z,7.4nm,1.0s,mb4.6
GUD Guadarrama 82.32 49 P **P 02 20 01.0 +2.6**
GUD pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
GUD Guadarrama 82.32 49 P **P 02 20 01.0 +2.5**
comp=Z,2.8nm,0.7s,mb4.3
ERON Agron 82.33 53 P **P 02 19 59.3 +0.9**
comp=Z,3.4nm,0.7s,mb4.4
ESDC Sonseca Array 82.39 50 P **P 02 19 57.2 -1.6**
comp=Z,2.6nm,0.9s,mb4.2,baz=283,slow=6.5,SNR=12
ESDC Sonseca Array 82.39 50 P **P 02 19 58.1 -0.7**
comp=Z,1.9nm,0.4s,mb4.4
ESLA Sonseca Array 82.39 50 *e*P **P 02 19 59.1 +0.3**
comp=Z,25nm,1.7s,mb4.9
ESLA LR LR
comp=Z,9µm,21.0s,MS6.1
EQES Quesada 82.96 52 P **P 02 20 03.9 +2.2**
comp=Z,32nm,1.4s,mb5.2
DAG Danmarks Havn 83.30 12⇑ *i*P **P 02 20 02.7 -0.8**
DAG
comp=Z,4.1nm,0.7s,mb4.6
DAG
comp=Z,5µm,17.0s
DAG Danmarks Havn 83.30 12⇑ *e*P **P 02 20 02.7 -0.8**
DAG pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
DAG MLR MLR
comp=Z,5µm,17.0s,MS6.0
DAG Danmarks Havn 83.30 12⇑ *e*P **P 02 20 02.7 -0.8**
comp=Z,4.1nm,0.7s,mb4.6
DAG LR LR
comp=Z,5µm,17.0s,MS6.0
EHUE Huescar 83.34 52 P **P 02 20 06.8 +3.1**
EHUE pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
EHUE Huescar 83.34 52 P **P 02 20 06.8 +3.0**
comp=Z,9.7nm,0.9s,mb4.8
EVIA Vianos 83.46 51 P **P 02 20 08.0 +3.7**
EVIA pmax pmax
comp=Z,17nm,0.9s,mb5.1
EVIA Vianos 83.46 51 P **P 02 20 08.0 +3.7**
comp=Z,17nm,0.9s,mb5.1
ROSF Rostrenen 83.59 42 *e*P **P 02 20 05.8 +0.8**
comp=Z,161nm,1.5s,mb5.6
ROSF Rostrenen 83.59 42 *e*P **P 02 20 05.8 +0.8**
ROSF pmax pmax
comp=Z,81nm,1.5s,mb5.6
ROSF Rostrenen 83.59 42 *e*P **P 02 20 05.8 +0.8**
comp=Z,80nm,1.5s,mb5.6
ENIJ Nijar 83.60 53 P **P 02 20 11.0 +5.9**
ENIJ pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
ENIJ Nijar 83.60 53 P **P 02 20 11.0 +6.0**
comp=Z,7.0nm,0.8s,mb4.8
QUIF Quistinic 83.63 42 *e*P **P 02 20 06.2 +1.0**
SGMF Saint Gilles 84.06 42 *e*P **P 02 20 08.2 +0.8**
ETOB Tobarra 84.21 51 P **P 02 20 10.3 +2.2**
comp=Z,29nm,1.0s,mb5.4
ESK Eskdalemuir 84.28 35 *e*P **P 02 20 07.8 -0.7**
ESK pmax pmax
comp=Z,40nm,1.1s,mb5.5
ESK MLR MLR
comp=Z,4µm,22.0s,MS5.7
ESK Eskdalemuir 84.28 35 *e*P **P 02 20 07.8 -0.7**
comp=Z,40nm,1.1s,mb5.5
ESK LR LR
comp=Z,4µm,22.0s,MS5.7

JMIC Jan Mayen 84.29 19 *e* **P 02 20 12.6 +4.0**
JMIC *i* 02 31 23.2
JMIC AMS AMS 02 54 26.0
comp=Z,1µm,22.3s,MS5.2
EMUR La Murta 84.41 52 P **P 02 20 14.3 +5.2**
comp=Z,8.3nm,0.7s,mb5.0
SJPF Ste Jean 84.67 47 *e*P **P 02 20 11.5 +1.0**
ETSF Etsaut 85.15 47 *e*P **P 02 20 13.7 +0.8**
comp=Z,83nm,1.7s,mb5.3
ETSF Etsaut 85.15 47 *e*P **P 02 20 13.7 +0.8**
ETSF pmax pmax
comp=Z,41nm,1.7s,mb5.3
ETSF Etsaut 85.15 47 *e*P **P 02 20 13.7 +0.8**
comp=Z,41nm,1.7s,mb5.3
ESAC San Caprasio 85.17 48 P **P 02 20 14.6 +1.6**
comp=Z,27nm,0.9s,mb5.4
GRR Gorron 85.20 42 *e*P **P 02 20 13.4 +0.2**
comp=Z,184nm,1.5s,mb5.7
GRR Gorron 85.20 42 *e*P **P 02 20 13.4 +0.2**
GRR pmax pmax
comp=Z,92nm,1.5s,mb5.7
GRR Gorron 85.20 42 *e*P **P 02 20 13.4 +0.2**
comp=Z,92nm,1.5s,mb5.7
FLN La Foliniere 85.47 41 *e*P **P 02 20 15.2 +0.7**
comp=Z,79nm,1.1s,mb5.4
FLN *e*R
comp=Z,2µm,22.2s
FLN La Foliniere 85.47 41 *e*P **P 02 20 15.2 +0.7**
FLN pmax pmax
comp=Z,40nm,1.1s,mb5.5
FLN MLR MLR
comp=Z,2µm,22.3s,MS5.5
FLN La Foliniere 85.47 41 *e*P **P 02 20 15.2 +0.7**
comp=Z,40nm,1.1s,mb5.5
FLN LR LR
comp=Z,2µm,22.3s,MS5.5
MFF Saint Martin d 85.60 44 *e*P **P 02 20 15.6 +0.5**
comp=Z,230nm,1.7s,mb5.8
MFF Saint Martin d 85.60 44 *e*P **P 02 20 15.6 +0.5**
MFF pmax pmax
comp=Z,115nm,1.7s,mb5.8
MFF Saint Martin d 85.60 44 *e*P **P 02 20 15.6 +0.5**
comp=Z,115nm,1.7s,mb5.8
EBIE Bielsa 85.66 47 P **P 02 20 18.8 +3.4**
comp=Z,9.3nm,1.0s,mb5.0
LDF La Druitiere 85.70 42 *e*P **P 02 20 16.7 +1.1**
comp=Z,232nm,1.6s,mb5.9
LDF La Druitiere 85.70 42 *e*P **P 02 20 16.7 +1.1**
LDF pmax pmax
comp=Z,116nm,1.6s,mb5.9
LDF La Druitiere 85.70 42 *e*P **P 02 20 16.7 +1.1**
comp=Z,116nm,1.6s,mb5.9
EGRA Graus 85.77 48 P **P 02 20 16.6 +0.6**
comp=Z,30nm,1.7s,mb5.2
EPF Esparros 85.81 47 *e*P **P 02 20 17.1 +0.9**
comp=Z,165nm,1.8s,mb5.7
EPF Esparros 85.81 47 *e*P **P 02 20 17.1 +0.9**
EPF pmax pmax
comp=Z,83nm,1.8s,mb5.7
EPF Esparros 85.81 47 *e*P **P 02 20 17.1 +0.9**
comp=Z,83nm,1.8s,mb5.7
LFF La Frestale 86.16 45 *e*P **P 02 20 18.4 +0.5**
comp=Z,151nm,1.4s,mb5.7
LFF La Frestale 86.16 45 *e*P **P 02 20 18.4 +0.5**
LFF pmax pmax
comp=Z,76nm,1.4s,mb5.7
LFF La Frestale 86.16 45 *e*P **P 02 20 18.4 +0.5**
comp=Z,76nm,1.4s,mb5.7
RJF Les Rejaudoux 86.72 45 *e*P **P 02 20 21.9 +1.3**
comp=Z,203nm,1.8s,mb5.8
RJF *e*R
comp=Z,2µm,22.8s
RJF Les Rejaudoux 86.72 45 *e*P **P 02 20 21.9 +1.3**
RJF pmax pmax
comp=Z,102nm,1.8s,mb5.8
RJF MLR MLR
comp=Z,2µm,22.8s,MS5.5
RJF Les Rejaudoux 86.72 45 *e*P **P 02 20 21.9 +1.3**
comp=Z,102nm,1.8s,mb5.8
RJF LR LR
comp=Z,2µm,22.8s,MS5.5
TORD Torodi Ar. Bea 86.78 77 P **P 02 20 20.5 -0.5**
comp=Z,3.5nm,1.0s,mb4.5,baz=290,slow=2.7,SNR=13
VNA3 Neumayer Olymp 86.84 162 *e*P **P 02 20 20.5 -0.7**
VNA3 *e* 02 20 24.3
VNA3 *e* 02 20 26.8
VNA3 *e* 02 20 33.9
VNA3 *e* 02 20 53.3
VNA3 *e* 02 21 03.9
AFI Afiamalu 86.90 256 LR LR 02 49 21.9
comp=Z,5µm,21.1s,MS5.9,baz=87,slow=29
AFI Afiamalu 86.90 256 PFAKE 02 20 30.0 +8.5
AFI LR LR
comp=Z,6µm,22.0s,MS6.0
CAF Calviac 87.10 45 *e*P **P 02 20 23.8 +1.3**
comp=Z,75nm,1.6s,mb5.4
CAF Calviac 87.10 45 *e*P **P 02 20 23.8 +1.3**
CAF pmax pmax
comp=Z,38nm,1.6s,mb5.4
CAF Calviac 87.10 45 *e*P **P 02 20 23.8 +1.3**
comp=Z,38nm,1.6s,mb5.4
MTLF Montolieu 87.19 47 *e*P **P 02 20 23.2 +0.2**
comp=Z,45nm,1.1s,mb5.3
MTLF Montolieu 87.19 47 *e*P **P 02 20 23.2 +0.2**
MTLF pmax pmax
comp=Z,23nm,1.1s,mb5.3
MTLF Montolieu 87.19 47 *e*P **P 02 20 23.2 +0.2**
comp=Z,23nm,1.1s,mb5.3
TCF Toulx Ste Croi 87.22 44 *e*P **P 02 20 24.1 +1.0**
comp=Z,72nm,1.4s,mb5.4
TCF Toulx Ste Croi 87.22 44 *e*P **P 02 20 24.1 +1.0**
TCF pmax pmax
comp=Z,36nm,1.4s,mb5.4
TCF Toulx Ste Croi 87.22 44 *e*P **P 02 20 24.1 +1.0**
comp=Z,36nm,1.4s,mb5.4
VNA2 Neumayer--Watz 87.49 161 *e*P **P 02 20 23.3 -1.1**
VNA2 *e* 02 20 27.4
VNA2 *e* pP 02 20 30.4 -3.4
VNA2 *e* 02 20 37.0
VNA2 *e* 02 20 56.5
VNA2 *e* 02 21 06.6
BGF Bois d'Agland 87.66 44 *e*P **P 02 20 26.3 +1.1**
comp=Z,99nm,1.5s,mb5.5
BGF Bois d'Agland 87.66 44 *e*P **P 02 20 26.3 +1.1**
BGF pmax pmax
comp=Z,49nm,1.5s,mb5.5
BGF Bois d'Agland 87.66 44 *e*P **P 02 20 26.3 +1.1**
comp=Z,50nm,1.5s,mb5.5
SSF Saint Saulge 88.11 43 *e*P **P 02 20 28.0 +0.6**
LOR Lormes 88.35 43 *e*P **P 02 20 29.5 +1.0**
LOR *e*R
comp=Z,3µm,22.5s
LOR Lormes 88.35 43 *e*P **P 02 20 29.5 +1.0**
LOR LR LR
comp=Z,3µm,22.5s,MS5.6
LASF Ste Croix 88.38 46 *e*P **P 02 20 29.2 +0.6**
comp=Z,99nm,1.7s,mb5.5
VIVF Saint-Julien-l 88.95 45 *e*P **P 02 20 31.6 +0.3**
comp=Z,63nm,1.6s,mb5.4
VIVF Saint-Julien-l 88.95 45 *e*P **P 02 20 31.6 +0.3**
VIVF pmax pmax
comp=Z,32nm,1.6s,mb5.4
VIVF Saint-Julien-l 88.95 45 *e*P **P 02 20 31.6 +0.3**
comp=Z,32nm,1.6s,mb5.4
GIVF Givet 88.95 40 *e*P **P 02 20 32.5 +1.2**
comp=Z,210nm,1.9s,mb5.8
GIVF Givet 88.95 40 *e*P **P 02 20 32.5 +1.2**
GIVF pmax pmax
comp=Z,105nm,1.9s,mb5.8
GIVF Givet 88.95 40 *e*P **P 02 20 32.5 +1.2**
comp=Z,105nm,1.9s,mb5.8
BER Bergen 89.03 30 *e*PP PP 02 23 56.1 -5.6
BER *e*SKSa 02 31 00.2
BER AMS AMS 02 55 57.6
comp=Z,3µm,22.8s,MS5.7
SNAA Sanae 89.06 162 *e*P **P 02 20 31.3 -0.6**
SNAA *e* 02 20 34.8
SNAA *e* pP 02 20 38.3 -3.0
SNAA *e* 02 20 43.5
SNAA *e* 02 21 02.2
SNAA *e* 02 21 12.1
SNAA Sanae 89.06 162 *e*P **P 02 20 30.4 -1.5**
SNAA pmax pmax
comp=Z,17nm,1.2s
SNAA Sanae 89.06 162 *e*P **P 02 20 30.4 -1.5**
comp=Z,17nm,1.2s,mb5.2

MEZF Maizieres J'vi 89.14 42 *e*P **P 02 20 33.1 +0.9**
WLF Walferdange 89.83 41 *e*P **P 02 20 35.0 -0.4**
WLF pmax pmax
comp=Z,14nm,1.1s,mb5.2
WLF Walferdange 89.83 41 *e*P **P 02 20 35.0 -0.4**
comp=Z,14nm,1.1s,mb5.2
KBS Kingsbay 89.93 11 *e* 02 31 24.7
KBS AMS AMS 03 02 58.8
comp=Z,1µm,19.5s,MS5.4
KBS Kingsbay 89.93 11 PFAKE 02 20 50.0 +14
KBS LR LR
comp=Z,2µm,20.0s,MS5.6
MOL Molde 90.00 28 AML AML 02 53 31.2
comp=Z,2µm,25.0s
BUG Bochum--Univer 90.46 39 *e*PS PS 02 32 34.3 -7.4
MIDW Midway 91.08 298 PFAKE 02 20 50.0 +8.7
MIDW LR LR
comp=Z,2µm,19.0s,MS5.6
KONO Kongsberg 91.21 30 *e*P **P 02 20 35.2 -6.7**
KONO *e* 02 31 09.0
KONO *e* 02 32 45.3
KONO Kongsberg 91.21 30 *e*P pP 02 20 52.3 +1.0
KONO *e* 02 31 15.2
KONO *e* 02 32 45.3
KONO LR LR
comp=Z,3µm,22.0s,MS5.7
TNS Taunus Mts 91.28 40 *e*PS PS 02 32 46.9 -3.9
BFO Black Forest 91.33 42 *e*PS PS 02 32 47.9 -3.5
QSPA South Pole Qui 91.55 180 *e*P **P 02 20 47.4 +3.9**
comp=Z,32nm,1.0s,mb5.6
QSPA LR LR
comp=Z,2.0nm,22.0s
NAO01 NORSAR Array S 91.73 29 PFAKE 02 21 00.0 +16
NAO01 LR LR
comp=Z,3µm,21.0s,MS5.8
NSS Namsos 91.79 25 *e*PP PP 02 24 23.1 -0.5
NSS AMS AMS 02 56 38.6
comp=Z,2µm,23.4s,MS5.5
NSS Namsos 91.79 25 *e*P **P 02 20 46.6 +2.0**
NB2 NORSAR Subarra 91.87 29 P **P 02 20 42.6 -2.3**
comp=Z,8.1nm,1.1s,mb5.0,baz=273,slow=4.6
NOA NORSAR Array B 91.87 29 P **P 02 20 42.6 -2.3**
comp=Z,3.3nm,1.0s,mb4.6,baz=274,slow=4.5,SNR=6.1
NOA LR LR 02 57 33.4
comp=Z,2µm,22.0s,MS5.6,baz=275,slow=33
STU Stuttgart 91.87 41 *e*PS PS 02 32 53.1 -4.3
BSEG Bad Segeberg 92.13 36 *e*PS PS 02 32 57.5 -2.7
UBBA Unterbreizbach 92.22 39 *e*PS PS 02 32 56.7 -4.6
CLZ Clausthal 92.36 38 *e*PS PS 02 33 00.2 -2.6
BJO Bjornoya 92.41 15 AMS AMS 02 58 35.0
comp=Z,2µm,19.5s,MS5.6
RAO Raoul Island 92.98 241 LR LR 02 52 25.3
comp=Z,2µm,18.4s,MS5.6,baz=91,slow=29
RAO Raoul Island 92.98 241 PFAKE 02 21 00.0 +10
RAO LR LR
comp=Z,4µm,21.0s,MS5.8
GRF Grafenberg Arr 93.11 40 *e*P **P 02 20 55.8 +5.2**
comp=Z,18nm,1.9s,mb5.2
GRF *e*S 02 32 03.6
GRF *e*PS PS 02 33 08.6 -2.5
GRF *e*SS SS 02 38 29.4 +19
GRF *e*L 02 56 28.1
comp=Z,5µm,21.7s
GRF Grafenberg Arr 93.11 40 *e*P **P 02 20 55.8 +5.2**
GRF *e*PS PS 02 33 08.6 -2.5
GRF pmax pmax
comp=Z,18nm,1.9s,mb5.2
GRF MLR MLR
comp=Z,5µm,21.7s,MS5.9
GRF Grafenberg Arr 93.11 40 *e*P **P 02 20 55.8 +5.2**
GRF *e*PS PS 02 33 08.6 -2.5
GRF pmax pmax
comp=Z,18nm,1.9s,mb5.2
MOX Moxa 93.26 39 *e*PS PS 02 33 06.3 -6.5
FUR Furstenfeldbru 93.30 42 *e*PS PS 02 33 10.3 -3.0
TRO Tromso 93.53 20 *e* Px 02 22 21.0
TRO *e* 02 31 51.3
TRO *e* SS 02 38 17.7 +1.3
TRO AMS AMS 02 57 17.0
comp=Z,1µm,19.7s,MS5.4
MANZ Manzenberg 93.65 40 *e*PS PS 02 33 12.5 -4.6
ROTZ Rotzenmuhle 93.74 40 *e*PS PS 02 33 15.4 -2.6
NVL N'lazarevskaya 93.80 161⇑ *i*P pP 02 21 05.8 +2.5
NVL *i* S SKSac 02 31 29.9 +3.5
NVL *e*PS 02 32 10.8
NVL *i* 02 33 20.8
NVL *i* 02 38 33.3
NVL pmax pmax
comp=Z,16nm,1.3s,mb5.3
NVL pmax pmax
comp=Z,4µm,22.4s
NKC Novy Kostel 93.83 40 *e*P **P 02 20 58.9 +4.9**
NKC *ex* x 02 38 37.6
NKC AMS AMS 02 55 10.0
comp=Z,8µm,24.4s
CLL Collm 94.05 39 *e*P **P 02 20 56.0 +1.0**
comp=Z,23nm,1.9s,mb5.3
CLL *e*PP PP 02 24 39.3 -2.0
CLL *e*SKSac SKSac 02 31 30.1 +2.3
CLL *e*S 02 32 05.5
CLL *e*PS PS 02 33 18.0 -3.5
CLL *e*SS SS 02 38 35.6 +12
CLL *e*SSS 02 42 08.2
CLL *e*LR LR 02 51 31.2
CLL *e*L 02 56 23.5
comp=Z,5µm,22.0s
CLL Collm 94.05 39 *e*P **P 02 20 56.0 +1.0**
CLL *e*SKSac SKSac 02 31 29.0 +1.2
CLL *e*S 02 32 06.0
CLL *e*PS PS 02 33 17.0 -4.5
CLL *e*SS SS 02 38 19.0 -4.7
CLL *e*SSS 02 42 05.0
CLL Collm 94.05 39 *e*P **P 02 20 56.0 +1.0**
CLL *e* 02 31 29.0
CLL *e*S 02 32 06.0
CLL MLR MLR
comp=Z,6µm,26.0s,MS5.9
WET Wettzell 94.25 41 *e*PS PS 02 33 20.8 -2.9
RUE Ruedersdorf 94.37 37 *e*PS PS 02 33 21.0 -4.0
BRG Berggiesshubel 94.70 39 *e*PS PS 02 33 24.3 -4.3
BRG Berggiesshubel 94.70 39 *e*P **P 02 20 57.5 -0.4**
comp=Z,2.5nm,1.4s,mb4.5
BRG PP PP 02 24 42.0 -4.3
BRG SKS 02 31 31.0
BRG S 02 32 15.0
BRG PS PS 02 33 21.0 -7.6
BRG SS SS 02 38 33.0 +0.1
BRG
comp=N,2µm,23.0s
BRG
comp=E,2µm,25.8s
BRG
comp=Z,3µm,25.6s
BRG Berggiesshubel 94.70 39 *e*P **P 02 20 57.5 -0.4**
BRG 02 24 42.0
BRG 02 31 31.0
BRG PS PS 02 33 21.0 -7.6
BRG SS SS 02 38 33.0 +0.1
BRG pmax pmax
comp=Z,3.0nm,1.4s,mb4.5
BRG MLR MLR
comp=N,2µm,23.0s,MS5.7
BRG MLR MLR
comp=E,2µm,25.8s,MS5.7
BRG MLR MLR
comp=Z,3µm,25.6s,MS5.7
KHC Kasperske Hory 94.70 41 *e*pP pP 02 21 10.4 +3.0
KHC *e*SP SP 02 33 25.8 +0.9
KHC AMS AMS 02 55 10.0
comp=Z,6µm,25.2s
KHC Kasperske Hory 94.70 41⇑ *e*P **P 02 20 56.9 -1.1**
GEC2 GERESS Array S 94.82 41 *e*PS PS 02 33 22.6 -7.4
GERES GERESS Array B 94.82 41 P **P 02 20 57.4 -1.1**
comp=Z,0.5nm,0.6s,mb4.1,baz=258,slow=4.6,SNR=4.0
GERES LR LR 02 57 16.4
comp=Z,2µm,21.3s,MS5.5,baz=278,slow=32
SMY Shemya 95.19 323 PFAKE 02 21 10.0 +10
SMY LR LR
comp=Z,2µm,19.0s,MS5.7
PRU Pruhonice 95.20 40 *e*P **P 02 21 03.7 +3.4**
PRU *e*SP SP 02 33 28.6 -1.8
PRU *e*SS SS 02 38 49.8 +10
PRU AMS AMS 02 55 50.0
comp=Z,8µm,25.4s

SBA	**Scott Base**	**95.21**	**192**	PFAKE		02 21 10.0	+10		
SBA				LR	LR				
	comp=Z,2μm,19.0s,MS5.6								
BILL	**Bilibino**	**95.41**	**339**	P	**P**	**02 21 02.0**	**+0.8**		
BILL				*e*		02 21 15.3			
BILL				*e*		02 32 14.0			
BILL				*e*PS	PS	02 33 42.8	+6.4		
BILL				*e*SS	SS	02 38 45.6	+2.5		
BILL				pmax	pmax				
	comp=Z,6.0nm,1.2s,mb4.9								
BILL	**Bilibino**	**95.41**	**339**	*e*P	**P**	**02 21 01.8**	**+0.6**		
	comp=Z,35nm,1.4s,mb5.6								
BILL				LR	LR				
	comp=Z,3μm,19.0s,MS5.7								
AQU	**L'Aquila**	**95.45**	**47**	*e*P	**P**	**02 21 01.0**	**-0.4**		
AQU				pmax	pmax				
	comp=Z,22nm,1.2s,mb5.5								
AQU	**L'Aquila**	**95.45**	**47**	*e*P	**P**	**02 21 01.0**	**-0.4**		
	comp=Z,22nm,1.2s,mb5.5								
ARCES	**ARCESS Array B**	**95.77**	**19**	P	**P**	**02 21 03.4**	**+0.6**		
	comp=Z,3.3nm,0.8s,mb4.8,baz=302,slow=19,SNR=4.0								
ARCES				LR	LR	02 58 56.0			
	comp=Z,2μm,21.9s,MS5.6,baz=295,slow=32								
ARCES	**ARCESS Array B**	**95.77**	**19**	P	**P**	**02 21 03.4**	**+0.6**		
ARCES				LR	LR	02 58 56.0			
TREC	**Trest**	**95.92**	**40**	*e*P	**P**	**02 21 04.7**	**+1.2**		
TREC				*e*SP	SP	02 33 37.5	-0.8		
UPC	**Upice**	**96.05**	**39**	*e*P	**P**	**02 21 09.7**	**+5.6**		
DPC	**Dobruska-Polom**	**96.28**	**39**	*e*pP	pP	02 21 10.8	-3.8		
DPC				*e*SP	SP	02 33 43.4	+1.2		
DPC				*e*SS	SS	02 39 03.0	+7.6		
DPC				AMS	AMS	02 56 30.0			
	comp=Z,7μm,23.3s								
VNDA	**Vanda**	**96.31**	**192**	LR	LR	02 56 08.9			
	comp=Z,1μm,19.4s,MS5.5,baz=115,slow=30								
OKC	**Ostrava-Krasne**	**97.53**	**39**	*e*SP	SP	02 33 56.0	+0.2		
OKC				AMS	AMS	02 57 30.0			
	comp=Z,6μm,24.1s								
SNZO	**South Karori**	**98.48**	**229**	PFAKE		02 21 30.0	+15		
SNZO				LR	LR				
	comp=Z,4μm,19.0s,MS5.9								
FINES	**FINESS Array B**	**98.76**	**27**	LR	LR	03 01 45.4			
	comp=Z,2μm,21.7s,MS5.5,baz=279,slow=33								
LVZ	**Lovozero**	**99.48**	**19**	PFAKE		02 21 30.0	+10		
LVZ				LR	LR				
	comp=Z,2μm,22.0s,MS5.5								
TSUM	**Tsumeb**	**102.70**	**109**	PFAKE		02 21 50.0	+16		
TSUM				LR	LR				
	comp=Z,5μm,22.0s,MS6.0								
SYO	**Syowa Base**	**103.34**	**162**	*e*PP	PP	02 25 48.9	-3.4	⇓	
PET	**Petropavlovsk**	**104.11**	**326**	PFAKE		02 21 50.0	+10		
PET				LR	LR				
	comp=Z,1μm,20.0s,MS5.4								
SUR	**Sutherland**	**104.44**	**123**	PFAKE		02 21 50.0	+8.4		
SUR				LR	LR				
	comp=Z,4μm,21.0s,MS5.9								
OBN	**Obninsk**	**106.39**	**31**	PFAKE		02 26 10.0	+8.7		
OBN				LR	LR				
	comp=Z,1μm,21.0s,MS5.5								
WAKE	**Wake Island**	**106.45**	**290**	PFAKE		02 26 10.0	+8.5		
WAKE				LR	LR				
	comp=Z,4μm,19.0s,MS6.0								
DRV	**Dumont d'Urvil**	**107.70**	**197**	SP	SP	02 35 45.0	+1.7		
DRV				SS	SS	02 41 35.0	+1.5		
LBTB	**Lobatse**	**109.58**	**116**	PFAKE		02 26 20.0	+13		
LBTB				LR	LR				
	comp=Z,5μm,22.0s,MS6.0								
ANTO	**Ankara**	**110.25**	**46**	PFAKE		02 26 20.0	+11		
ANTO				LR	LR				
	comp=Z,943nm,20.0s,MS5.4								
MAW	**Mawson**	**110.48**	**168**	PFAKE		02 26 20.0	+11		
MAW				LR	LR				
	comp=Z,9μm,22.0s,MS6.3								
BRTR	**Keskin Array B**	**110.91**	**46**	PP	PP	02 26 50.9	+3.1		
	comp=Z,0.4nm,0.8s,baz=276,slow=2.8,SNR=4.0								
YAK	**Yakutsk**	**111.27**	**343**	PFAKE		02 26 20.0	+9.5		
YAK				LR	LR				
	comp=Z,2μm,22.0s,MS5.7								
ANN	**Anapa**	**111.52**	**40**	*i* PKIKP	PKiKP	02 26 07.2	-3.8		
ANN				*e*PS	PS	02 36 09.3	-15		
ANN				pmax	pmax				
	comp=Z,6.0nm,1.0s								
LSZ	**Lusaka**	**113.08**	**106**	PFAKE		02 26 30.0	+16		
LSZ				LR	LR				
	comp=Z,5μm,20.0s,MS6.1								
CASY	**Casey**	**114.39**	**187**	PFAKE		02 26 30.0	+14		
CASY				LR	LR				
	comp=Z,3μm,19.0s,MS5.9								
HNR	**Honiara**	**114.62**	**260**	PFAKE		02 26 30.0	+13		
HNR				LR	LR				
	comp=Z,4μm,20.0s,MS6.0								
KIV	**Kislovodsk**	**115.25**	**39**	PFAKE		02 26 30.0	+12		
KIV				LR	LR				
	comp=Z,2μm,22.0s,MS5.8								
ARU	**Arti**	**115.27**	**21**	PFAKE		02 26 30.0	+12		
ARU				LR	LR				
	comp=Z,2μm,20.0s,MS5.7								
YSS	**Yuzh-Sakhalins**	**115.99**	**325**	PFAKE		02 26 30.0	+10		
YSS				LR	LR				
	comp=Z,1μm,20.0s,MS5.5								
TAU	**Tasmania Unive**	**117.60**	**221**	PFAKE		02 26 30.0	+7.4		
TAU				LR	LR				
	comp=Z,4μm,22.0s,MS6.0								
CHKZ	**Chkalovo**	**121.47**	**17**	*e*PKIKP	PKPdf	02 26 29.2	-0.9		
ZRNK	**Zerenda**	**121.62**	**18**	*e*PKIKP	PKPdf	02 26 28.8	-1.6		
BRVK	**Borovoye**	**121.91**	**17**	PKIKP	PKPdf	02 26 31.2	+0.3		
BRVK				MLR	MLR				
	comp=Z,2μm,22.0s,MS5.7								
KMBO	**Kilima Mbogo**	**122.61**	**90**	PFAKE		02 26 50.0	+18		
KMBO				LR	LR				
	comp=Z,3μm,22.0s,MS5.9								
MDJ	**Mudanjiang**	**124.53**	**330**	PKP	PKPdf	02 26 35.3	-0.6		
MDJ				PKS		02 30 11.8			
MDJ				SKS	SKSdf	02 33 47.0	+1.3		
MDJ				SS	SS	02 45 15.1	+1.5		
MDJ				PP	PP				
	comp=Z,117nm,7.1s								
MDJ				LR	LR				
	comp=N,1μm,18.0s,MS5.7								
MDJ				LR	LR				
	comp=E,1μm,19.8s,MS5.7								
MDJ				LR	LR				
	comp=Z,1μm,21.6s,MS5.6								
MJAR	**Matsushiro Arr**	**124.60**	**318**	PKP	PKPdf	02 26 36.0	-0.1		
	comp=Z,1.2nm,1.0s,baz=87,slow=4.6,SNR=3.2								
MAT	**Matsushiro**	**124.60**	**318**	PP	PP	02 28 25.0	+2.1		
KURK	**Kurchatov**	**126.19**	**13**	*i*PKIKP	PKPdf	02 26 39.5	+0.4	⇑	
KURK	**Kurchatov**	**126.19**	**13**	*e*PKPdf	PKPdf	02 26 39.3	+0.2		
TLY	**Talaya**	**126.45**	**353**	*i* PKIKP	PKPdf	02 26 45.8	+6.2		
TLY				*e*		02 28 36.7			
TLY				*e*		02 38 28.0			
TLY				pmax	pmax				
	comp=Z,5.0nm,1.4s								
TLY				MLR	MLR				
	comp=Z,2μm,21.0s,MS5.7								
STKA	**Stephens Creek**	**126.48**	**231**	PKP	PKPdf	02 26 40.3	+0.7		
	comp=Z,3.5nm,0.9s,baz=70,slow=2.3,SNR=4.5								
STKA	**Stephens Creek**	**126.48**	**231**	*e*PKPdf	PKPdf	02 26 40.0	+0.4		
CN2	**Changchun**	**127.13**	**332**	*e*PKP	PKPdf	02 26 36.9	-4.0		
CN2				XPKP		02 26 50.0			
CN2				PP	PP				
	comp=Z,200nm,10.0s								
CN2				LR	LR				
	comp=N,1μm,22.0s,MS5.7								
CN2				LR	LR				
	comp=E,1μm,22.0s,MS5.7								
CN2				LR	LR				
	comp=Z,1μm,21.0s,MS5.6								
PMG	**Port Moresby**	**127.21**	**259**	*e*PKIKP	PKPdf	02 26 41.5	+0.4		
ZAK	**Zakamensk**	**127.78**	**353**	*e*PKIKP	PKPdf	02 26 38.9	-3.2		
ZAK				pmax	pmax				
	comp=Z,9.0nm,1.8s								
ZAK				pmax	pmax				
	comp=Z,10.0nm,1.9s								
SNY	**Shenyang**	**129.53**	**332**	PKP	PKPdf	02 26 51.8	+6.3	⇑	
SNY				LR	LR				
	comp=E,1μm,22.2s								
SNY				LR	LR				
	comp=Z,1μm,21.4s,MS5.6								
ULN	**Ulaanbaatar**	**129.64**	**349**	*i*PKIKP	PKPdf	02 26 45.7	0.0	⇑	
ULN	**Ulaanbaatar**	**129.64**	**349**	*e*PKPdf	PKPdf	02 26 46.5	+0.8		
SONM	**Songino Array**	**129.79**	**350**	PKP	PKPdf	02 26 46.3	+0.3		
	comp=Z,3.3nm,1.0s,baz=337,slow=0.7,SNR=7.9								
MKAR	**Makanchi Array**	**130.68**	**11**	PKP	PKPdf	02 26 48.2	+0.5		
	comp=Z,3.2nm,1.1s,baz=329,slow=2.1,SNR=6.6								
FRU	**Bishkek**	**132.30**	**20**	*e*PKIKP	PKPdf	02 26 57.5	+6.8		
FRU				MLR	MLR				
	comp=Z,2μm,24.0s,MS5.7								
AAK	**Ala-Archa**	**132.44**	**20**	*e*PKIKP	PKPdf	02 26 49.7	-1.3		
DL2	**Dalian**	**132.74**	**331**	*e*PKP	PKPdf	02 26 47.8	-3.8		
DL2				PP	PP	02 29 19.3	+3.1		
DL2				SS	SS	02 47 02.5	+7.4		
DL2				PP	PP				
	comp=Z,240nm,8.7s								
DL2				LR	LR				
	comp=N,450nm,17.3s,MS5.4								
DL2				LR	LR				
	comp=E,490nm,18.1s,MS5.4								
DL2				LR	LR				
	comp=Z,760nm,19.8s,MS5.4								
WMQ	**Urumqi**	**134.44**	**7**	PKP	PKPdf	02 26 54.8	+0.1		
WMQ				XPKP		02 27 02.0			
WMQ				PP	PP	02 29 30.8	+3.8		
WMQ				PKS		02 30 29.8			
WMQ				SKS	SKSdf	02 34 04.3	+0.5		
WMQ				SKKS	SKKSac	02 36 21.8	+1.3		
WMQ				PP	PP				
	comp=Z,70nm,5.8s								
WMQ				LR	LR				
	comp=N,2μm,21.5s,MS6.0								
WMQ				LR	LR				
	comp=E,2μm,20.0s,MS6.0								
WMQ				LR	LR				
	comp=Z,3μm,21.5s,MS6.0								
HHC	**Hu-ho-hao-te**	**135.11**	**342**	*e*PKP	PKPdf	02 27 00.4	+4.4		
HHC				PP	PP	02 29 39.3	+8.0		
HHC				PKS		02 30 34.0			
HHC				SKS	SKSdf	02 34 10.3	+5.3		
HHC				SKKS	SKKSac	02 36 30.3	+5.7		
HHC				SS	SS	02 47 33.5	+10		
HHC				PP	PP				
	comp=Z,106nm,10.8s								
HHC				LR	LR				
	comp=N,1μm,22.9s,MS5.8								
HHC				LR	LR				
	comp=E,1μm,21.0s,MS5.8								
HHC				LR	LR				
	comp=Z,2μm,23.9s,MS5.7								
ASAR	**Alice Springs**	**136.08**	**237**	PKP	PKPdf	02 26 58.6	+0.8		
	comp=Z,4.5nm,1.1s,baz=127,slow=3.4,SNR=4.5								
WB2	**Warramunga Arr**	**137.10**	**242**	*e*PKP	PKPdf	02 26 57.6	-2.1		
WRAB	**Tennant Creek**	**137.10**	**242**	*i* PKIKP	PKPdf	02 27 00.9	+1.2		
WRAB	**Tennant Creek**	**137.10**	**242**	*e*PKPdf	PKPdf	02 27 00.3	+0.6		
WRA	**Warramunga Arr**	**137.11**	**242**	PKP	PKPdf	02 27 00.6	+0.9		
	comp=Z,11nm,1.0s,baz=106,slow=1.7,SNR=16								
SSE	**Sheshan**	**138.91**	**324**	PKP	PKPdf	02 27 04.4	+1.4		
SSE				PP	PP	02 29 59.4	+4.3		
SSE				SS	SS	02 48 12.6	+3.6		
SSE				PP	PP				
	comp=Z,91nm,12.0s								
SSE				LR	LR				
	comp=N,627nm,20.0s,MS5.6								
SSE				LR	LR				
	comp=E,993nm,20.0s,MS5.6								
SSE				LR	LR				
	comp=Z,1μm,22.9s,MS5.5								
GTA	**Gaotai**	**139.00**	**354**	*e*PKP	PKPdf	02 27 10.3	+7.1		
GTA				PP	PP	02 30 06.5	+11		
GTA				PP	PP				
	comp=Z,234nm,6.8s								
GTA				LR	LR				
	comp=N,1μm,23.6s,MS5.7								
GTA				LR	LR				
	comp=E,1μm,22.8s,MS5.7								
GTA				LR	LR				
	comp=Z,2μm,24.3s,MS5.7								
NJ2	**Nanjing**	**139.50**	**328**	*e*PKP	PKPdf	02 27 00.0	-4.1		
NJ2				XPKP		02 27 14.3			
NJ2				PP	PP	02 29 59.0	+0.3		
NJ2				PKS		02 30 35.0			
NJ2				PP	PP				
	comp=Z,110nm,10.2s								
NJ2				LR	LR				
	comp=N,2μm,32.0s,MS5.7								
NJ2				LR	LR				
	comp=E,2μm,34.4s,MS5.7								
NJ2				LR	LR				
	comp=Z,630nm,34.0s,MS5.1								
LZH	**Lanzhou**	**141.62**	**348**	*e*PKP	PKPdf	02 27 10.0	+2.1		
LZH				XPKP		02 27 14.6			
LZH				PP	PP	02 30 15.6	+3.9		
LZH				PKS		02 30 44.8			
LZH				SKS	SKSdf	02 34 17.3	+1.4		
LZH				SKKS	SKKSac	02 37 05.4	+2.3		
LZH				SS	SS	02 48 43.8	+3.1		
LZH				PP	PP				
	comp=Z,567nm,8.5s								
LZH				LR	LR				
	comp=E,1μm,18.6s								
LZH				LR	LR				
	comp=Z,2μm,20.3s,MS5.9								
XAN	**Xi'an**	**142.17**	**341**	PKP	PKPdf	02 27 07.5	-1.4		
XAN				PP	PP				
	comp=Z,123nm,5.9s								
XAN				LR	LR				
	comp=N,1μm,21.3s,MS5.8								
XAN				LR	LR				
	comp=E,2μm,22.4s,MS5.8								
XAN				LR	LR				
	comp=Z,2μm,28.3s								
DDI	**Dehra Dun**	**144.60**	**25**	*e*P	PKPdf	02 27 13.0	-0.2		
QZH	**Quanzhou**	**144.93**	**320**	PKP	PKPdf	02 27 10.1	-3.7		
QZH				LR	LR				
	comp=N,2μm,23.2s,MS6.1								
QZH				LR	LR				
	comp=E,3μm,26.8s,MS6.1								
QZH				LR	LR				
	comp=Z,5μm,29.2s,MS6.1								
FITZ	**Fitzroy Crossi**	**145.41**	**240**	*e*PKP	PKPdf	02 27 14.6	0.0		
	comp=Z,68nm,1.5s								
NDI	**New Delhi**	**145.63**	**28**	*e*P	PKPdf	02 27 15.0	0.0		
CD2	**Chengdu**	**146.61**	**346**	*e*PKP	PKPdf	02 27 12.3	-4.3		
CD2				SKS	SKSdf	02 34 20.0	-3.4		
CD2				PP	PP				
	comp=Z,170nm,9.6s								
CD2				LR	LR				
	comp=E,720nm,19.2s								
CD2				LR	LR				
	comp=Z,1μm,22.8s,MS5.6								
MBWA	**Marble Bar**	**148.71**	**230**	*e*PKPbc	PKPbc	02 27 25.3	+1.4		
MBWA				*e*PKPab	PKPab	02 29 6.9	+1.9		
KOLN	**Koldanda**	**149.00**	**19**	*e*P	PKPdf	02 27 23.2	+2.6		
	comp=Z,86nm,1.3s								
GKN	**Gorkha**	**149.11**	**17**	*e*P	PKPdf	02 27 22.6	+1.8		
	comp=Z,207nm,1.4s								
KKN	**Kakani**	**149.50**	**17**	*e*P	PKPbc	02 27 26.6	+0.7		
	comp=Z,242nm,1.4s								
GZH	**Guangzhou**	**149.51**	**324**	PKP	PKPbc	02 27 28.1	+2.2		
GUN	**Gumba**	**149.55**	**15**	*e*P	PKPbc	02 27 26.9	+0.9		
	comp=Z,317nm,1.3s								
DMN	**Daman**	**149.62**	**17**	*e*P	PKPbc	02 27 26.2	0.0		
	comp=Z,199nm,1.5s								
PKI	**Pulchoki**	**149.74**	**16**	*e*P	PKPbc	02 27 27.4	+0.9		
	comp=Z,230nm,1.5s								
GYA	**Guiyang**	**149.87**	**338**	PKP	PKPdf	02 27 25.1	+3.1		
GYA				PP	PP	02 31 10.8	+10		
GYA				SS	SS	02 50 22.8	+8.2		
GYA				PP	PP				
	comp=Z,140nm,6.3s								
GYA				LR	LR				
	comp=N,810nm,27.4s,MS5.6								
GYA				LR	LR				
	comp=E,1μm,27.2s,MS5.6								
GYA				LR	LR				
	comp=Z,990nm,21.8s								
JIRN	**Jiri**	**149.87**	**15**	*e*P	PKPbc	02 27 27.9	+1.1		
	comp=Z,248nm,1.5s								
BHPL	**Bhopal**	**150.22**	**33**	*ex*	x	02 27 33.7			
BHPL				*i* x	x	02 27 40.4			
BHPL				AML	AML	02 27 41.4			
	comp=Z,57nm,1.6s								
JBP	**Jabalpur**	**151.61**	**29**	*i* x	x	02 27 44.8			
KMI	**Kunming**	**152.38**	**344**	PKP	PKPdf	02 27 25.0	-0.8		
KMI				XPKP		02 27 29.6			
KMI				PKP2	PKPab	02 27 43.8	+1.0		
KMI				PKS		02 30 57.6			
KMI				PP	PP	02 31 14.3	-0.7		
KMI				SKS	SKSdf	02 34 29.8	-1.2		
KMI				PP	PP				
	comp=Z,171nm,7.8s								
KMI				LR	LR				
	comp=N,1μm,20.6s,MS5.8								
KMI				LR	LR				
	comp=E,1μm,24.7s,MS5.8								
KMI				LR	LR				
	comp=Z,2μm,23.1s,MS5.8								
BOK	**Bokaro**	**153.44**	**18**	*e*P	PKPdf	02 27 26.7	-0.6		
BOK				AMb	AMB	02 27 55.3			
	comp=Z,48nm,1.4s								
BLSP	**Bilaspur**	**153.51**	**27**	*e*P	PKPdf	02 27 27.6	+0.1		
BLSP				AMb	AMB	02 27 43.0			
	comp=Z,26nm,1.6s								
QIZ	**Qiongzhong**	**154.71**	**325**	PKP	PKPdf	02 27 25.1	-4.1		
QIZ				PP	PP	02 31 27.8	-0.3		
QIZ				LR	LR				
	comp=N,1μm,19.2s								
QIZ				LR	LR				
	comp=Z,2μm,21.6s,MS5.8								
CAL	**Calcutta**	**155.31**	**14**	*ex*	x	02 24 12.8			
CAL				*ex*	x	02 27 52.8			
HYB	**Hyderabad**	**155.38**	**39**	*i* PKP	PKPdf	02 27 29.5	-0.6		
HYB				*e*		02 27 55.5			
HYB	**Hyderabad**	**155.38**	**39**	*e*P	PKPab	02 27 55.5	0.0		

*MOS **21** 02:09:54.6±1.9,4284N×4720E,h9km,mb4.2/1,Error ellipse: s-maj=11.5km s-min=8.3km az=6.6*
*ISCJB **21** 02:09:57.4±0.5,4286N±004×47.17E±003,h10km,Error ellipse: s-maj=5.7km s-min=3.2km az=13.0*
*CSEM **21** 02:09:57.5±0.2,4284N×4725E,h5km,mb4.2,Error ellipse: s-maj=5.3km s-min=3.2km az=178.0*

ISC 21 02:09:57.6±0.5,4287N±004×4722E±003,h10km,n23, σ1§28/41,4C-3D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res	
				Op	ISC	h m s	ISC	
MAK	**Makhachkala**	**0.23**	**66**	*e*PG	**Pg**	**02 10 02.7**	**+0.3**	
MAK				*e*		02 10 08.2		
MAK				pmax	pmax			
	comp=Z,128nm,0.1s							
MAK				smax				
	comp=N,2μm,0.2s							
MAK				smax				
	comp=E,8μm,0.4s							
MAK	**Makhachkala**	**0.23**	**66**	*e*Pg	**Pg**	**02 10 02.7**	**+0.3**	
	comp=E,128nm,0.1s							
MAK				*e*Sg	**Sg**	**02 10 08.2**	**+2.6**	
	comp=E,2μm,0.2s							
MNSR	**Manas**	**0.41**	**113**	*i*PG	**Pg**	**02 10 05.0**	**-0.5**	⇑
MNSR				*e*S	**Sg**	**02 10 13.0**	**+2.1**	
MNSR				pmax	pmax			
	comp=Z,320nm,0.3s							
MNSR	**Manas**	**0.41**	**113**	*i* Pg	**Pg**	**02 10 05.0**	**-0.5**	
	comp=Z,320nm,0.3s							
MNSR				*e*Sg	**Sg**	**02 10 13.0**	**+2.1**	
DLMR	**Dylym**	**0.48**	**296**	*i*PG	**Pg**	**02 10 00.5**	**-6.4**	⇑
DLMR				pmax	pmax			
	comp=Z,829nm,0.3s							
DLMR	**Dylym**	**0.48**	**296**	*i* Pg	**Pg**	**02 10 00.5**	**-6.4**	
	comp=Z,829nm,0.3s							
XNZR	**Khunzakh**	**0.50**	**229**	*e*PG	**Pg**	**02 10 06.3**	**-0.9**	
XNZR				*i* S	**Sg**	**02 10 14.3**	**+0.5**	
XNZR				pmax	pmax			
	comp=Z,170nm,0.6s							
XNZR	**Khunzakh**	**0.50**	**229**	*e*Pg	**Pg**	**02 10 06.3**	**-0.9**	
	comp=Z,170nm,0.6s							
XNZR				*i* Sg	**Sg**	**02 10 14.3**	**+0.5**	
GNBR	**Gunib**	**0.51**	**201**	*i*PG	**Pg**	**02 10 04.8**	**-2.7**	⇓
GNBR				*e*S	**Sg**	**02 10 14.8**	**+0.5**	
GNBR				pmax	pmax			
	comp=Z,169nm,0.3s							
GNBR	**Gunib**	**0.51**	**201**	*i* Pg	**Pg**	**02 10 04.8**	**-2.7**	
	comp=Z,169nm,0.3s							
GNBR				*e*Sg	**Sg**	**02 10 14.8**	**+0.5**	
URKR	**Urkarakh**	**0.77**	**156**	*e*PG	**Pg**	**02 10 11.0**	**-1.3**	
URKR				pmax	pmax			
	comp=Z,124nm,0.5s							
URKR	**Urkarakh**	**0.77**	**156**	*e*Pg	**Pg**	**02 10 11.0**	**-1.3**	
	comp=Z,124nm,0.5s							
SNJR	**Sundja**	**1.78**	**277**	*i* Pn	**Pn**	**02 10 28.2**	**-0.1**	
SNJR				*i* Sg	**Sg**	**02 10 54.5**	**-0.2**	
VLKR	**Vladikavkaz**	**1.87**	**276**	*e*Pn	**Pn**	**02 10 29.4**	**-0.2**	
VLKR				*i* Sg	**Sg**	**02 10 56.5**	**-1.3**	
BTKR	**Batakoyurt**	**2.02**	**285**	*i* Pn	**Pn**	**02 10 32.2**	**+0.5**	
BTKR				*i* Sg	**Sg**	**02 11 01.5**	**-1.1**	
LACR	**Lac**	**2.15**	**270**	*e*PN	**Pn**	**02 10 32.4**	**-1.0**	
LACR				*i* S	**Sn**	**02 11 01.7**	**+1.6**	
TBLG	**Delisi**	**2.16**	**239**	PN	**Pn**	**02 10 35.3**	**+1.7**	
TBLG				S	**Sn**	**02 11 04.9**	**+4.5**	
ARNR	**Ardon**	**2.18**	**280**	*i*PN	**Pn**	**02 10 33.8**	**0.0**	⇑
ARNR				*i* S	**Sn**	**02 11 04.1**	**+3.3**	
KMSR	**Komsomolskaya**	**2.20**	**284**	*e*PN	**Pn**	**02 10 34.5**	**+0.4**	⇓
KMSR				*i* S	**Sn**	**02 11 05.4**	**+4.0**	
KORR	**Kora**	**2.32**	**277**	*i* Pn	**Pn**	**02 10 35.4**	**-0.4**	
KORR				*i* Sn	**Sn**	**02 11 06.9**	**+2.5**	
ZEI	**Tsey**	**2.44**	**269**	*e*Pn	**Pn**	**02 10 36.2**	**-1.3**	
ZEI				*i* Sn	**Sn**	**02 11 08.2**	**+0.8**	
DIGR	**Digorskoe uzhe**	**2.67**	**272**	*i* Pn	**Pn**	**02 10 39.5**	**-1.1**	
DIGR				*i* Sn	**Sn**	**02 11 14.2**	**+1.2**	
AB31	**Akbulak array**	**10.90**	**50**	Pn	**Pn**	**02 12 30.9**	**-2.8**	⇑
	comp=Z,0.3nm,0.2s,baz=228,slow=12,SNR=18							
AB31				Sn	**Sn**	**02 14 26.0**	**-10**	⇓
	comp=Z,1.0nm,0.3s,baz=237,slow=21,SNR=9.6							

IDC 21 02:11:07.9±2.0,324S×12992E,h0km,mb3.9/2,mb1 4.1/4, mb1mx3.8/17,mbtmp3.9/4,ML3.5/2,Error ellipse: s-maj=115.7km s-min=16.9km az=74.0,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**15.35**	**196**	Pn	Pn	02 14 46.1	+0.3
	0.1nm,0.3s,baz=36,slow=17,SNR=2.6						
WRA	**Warramunga Arr**	**17.15**	**166**	P	Pn	02 15 07.6	-1.3
	0.3nm,0.3s,baz=346,slow=12,SNR=7.2						
ASAR	**Alice Springs**	**20.66**	**170**	P	P	02 15 47.5	-1.7
	4.1nm,0.4s,baz=351,slow=10,

	comp=Z,6.0nm,0.6s							
CTAO	**Charters Tower**	**34.54**	**277**	*e*P		**P**	**02 28 53.5**	**+1.4**
CTAO				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb4.7							
CTAO	**Charters Tower**	**34.54**	**277**	*e*P		**P**	**02 28 53.5**	**+1.5**
	comp=Z,6.2nm,0.6s,mb4.7							
STKA	**Stephens Creek**	**35.51**	**256**	*e*P		**P**	**02 28 59.7**	**-0.7**
	comp=Z,8.4nm,0.7s,mb4.8							
STKA	**Stephens Creek**	**35.51**	**256**	P		**P**	**02 28 59.7**	**-0.7**
	comp=Z,12nm,0.8s,mb4.9,baz=92,slow=8.6,SNR=17							
STKA	**Stephens Creek**	**35.51**	**256**	*e*P		**P**	**02 28 59.8**	**-0.6**
ASAR	**Alice Springs**	**44.02**	**266**	P		**P**	**02 30 10.7**	**-0.6**
	comp=Z,3.4nm,0.7s,mb4.2,baz=102,slow=7.2,SNR=30							
WB2	**Warramunga Arr**	**44.93**	**271**	*e*P		**P**	**02 30 17.3**	**-1.2**
WRAB	**Tennant Creek**	**44.94**	**271**	*e*P		**P**	**02 30 17.9**	**-0.7**
WRAB				pmax		pmax		
	comp=Z,35nm,1.0s,mb5.1							
WRAB	**Tennant Creek**	**44.94**	**271**	*e*P		**P**	**02 30 17.9**	**-0.6**
	comp=Z,35nm,1.0s,mb5.1							
WRA	**Warramunga Arr**	**44.94**	**271**	P		**P**	**02 30 18.5**	**-0.1**
	comp=Z,16nm,0.8s,mb4.9,baz=110,slow=7.5,SNR=51							
VNDA	**Vanda**	**48.97**	**186**	P		**P**	**02 30 51.0**	**+0.9**
	comp=Z,0.7nm,0.6s,mb3.9,baz=12,slow=7.8,SNR=5.7							
VNDA	**Vanda**	**48.97**	**186**	P		**P**	**02 30 51.0**	**+0.9**
FITZ	**Fitzroy Crossi**	**53.23**	**269**	*e*P		**P**	**02 31 21.4**	**-0.7**
	comp=Z,14nm,0.9s,mb4.9							
CASY	**Casey**	**56.24**	**208**	*e*P		**P**	**02 31 43.6**	**-0.3**
	comp=Z,14nm,0.6s,mb5.2							
QSPA	**South Pole Qui**	**60.50**	**180**	*e*P		**P**	**02 32 15.7**	**+2.0**
	comp=Z,8.3nm,0.9s,mb4.8							
MAW	**Mawson**	**73.35**	**200**	*e*P		**P**	**02 33 36.4**	**+0.9**
	comp=Z,2.6nm,0.6s,mb4.3							
MAW	**Mawson**	**73.35**	**200**	P		**P**	**02 33 36.2**	**+0.7**
	comp=Z,3.7nm,0.9s,mb4.3,baz=138,slow=4.2,SNR=6.9							
MAW	**Mawson**	**73.35**	**200**	*e*P		**P**	**02 33 36.4**	**+0.9**
MAW				pmax		pmax		
	comp=Z,3.0nm,0.6s							
MJAR	**Matsushiro Arr**	**78.09**	**325**	P		**P**	**02 34 02.4**	**-0.2**
	comp=Z,1.5nm,0.7s,mb4.0,baz=155,slow=5.3,SNR=7.0							
YSS	**Yuzh-Sakhalins**	**84.42**	**334**	P		**P**	**02 34 36.6**	**+0.4**
ILAR	**Eielson Array**	**96.97**	**13**	P		**P**	**02 35 34.0**	**-1.4**
	comp=Z,0.4nm,0.8s,mb3.9,baz=229,slow=5.5,SNR=4.7							
MKAR	**Makanchi Array**	**117.93**	**310**	PKP		PKPdf	02 40 49.5	-0.9
	comp=Z,0.5nm,0.6s,baz=80,slow=1.4,SNR=3.9							
MKAR	**Makanchi Array**	**117.93**	**310**	PKP		PKPdf	02 40 49.5	-0.9
CHKZ	**Chkalovo**	**126.33**	**317**	*e*PKIKP		PKPdf	02 41 05.6	-0.9
BRVK	**Borovoye**	**126.51**	**316**	*e*PKIKP		PKPdf	02 41 06.3	-0.6
ZRNK	**Zerenda**	**127.28**	**316**	*e*PKIKP		PKPdf	02 41 07.6	-0.7
ARCES	**ARCESS Array B**	**138.00**	**348**	PKP		PKPdf	02 41 27.2	-1.3
	comp=Z,2.5nm,0.8s,baz=242,slow=1.9,SNR=5.6							
JOF	**Joensuu**	**142.00**	**339**	*e*p		PKPdf	02 41 34.7	-1.1
KAF	**Kangasniemi**	**144.09**	**342**	*e*p		PKPdf	02 41 30.9	-8.5
	comp=Z,7.1nm,1.1s							
FINES	**FINESS Array B**	**144.69**	**341**	PKP		PKPdf	02 41 38.4	-2.1
	comp=Z,7.8nm,0.6s,baz=60,slow=3.1,SNR=67							
ZEI	**Tsey**	**144.81**	**303**	*e*PKIKP		PKPdf	02 41 39.8	-0.9
OBN	**Obninsk**	**145.01**	**326**	↓*i*PKIKP		PKPdf	02 41 40.4	-0.6
OBN				pmax		pmax		
	comp=Z,36nm,1.6s							
KIV	**Kislovodsk**	**145.49**	**306**	*e*PKIKP		PKPdf	02 41 42.3	+0.4
KIV	**Kislovodsk**	**145.49**	**306**	*e*PKPbc		PKPbc	02 41 42.3	+0.4
VRSR	**Storozhevoye**	**145.51**	**319**	*e*PKIKP		PKPdf	02 41 41.9	0.0
VRSR				pmax		pmax		
	comp=N,2.0nm,0.8s							
VRSR				pmax		pmax		
	comp=Z,5.0nm,0.8s							
VRSR				pmax		pmax		
	comp=E,3.0nm,0.9s							
NB2	**NORSAR Subarra**	**148.09**	**352**	PKPa			02 41 48.3	
	comp=Z,4.7nm,0.8s,baz=10.0,slow=2.9							
NOA	**NORSAR Array B**	**148.09**	**352**	PKPbc		PKPbc	02 41 48.6	-0.8
	comp=Z,3.6nm,0.7s,baz=14,slow=4.3,SNR=14							
MALT	**Malatya**	**149.51**	**296**	*e*PKP2		PKPbc	02 41 53.5	+0.5
AKASG	**Malin Array Be**	**151.18**	**324**	PKPbc		PKPbc	02 41 56.6	-0.4
	comp=Z,6.3nm,0.7s,baz=46,slow=2.8,SNR=25							
SUW	**Suwalki**	**151.55**	**335**	*e*PKIKP		PKPbc	02 41 57.2	-0.7
EIL	**Elat**	**152.27**	**278**	*e*PKPbc		PKPbc	02 42 00.4	+0.8
BR131	**Keskin Array S**	**152.97**	**300**	*e*PKPbc		PKPbc	02 42 01.2	+0.1
BRTR	**Keskin Array B**	**152.97**	**300**	PKPbc		PKPbc	02 42 01.4	+0.3
	comp=Z,1.2nm,0.7s,baz=141,slow=5.3,SNR=9.7							
BRTR				PKPab		PKPab	02 42 10.8	-1.6
	comp=Z,2.0nm,0.8s,baz=129,slow=6.1,SNR=7.8							
KWP	**Kalwaria**	**155.03**	**329**	*e*PKP2		PKPab	02 42 21.3	+0.2
UPC	**Upice**	**156.94**	**338**	*e*P		PKPab	02 42 29.8	+0.5
DPC	**Dobruska-Polom**	**156.98**	**338**	*e*P		PKPab	02 42 29.2	-0.2
KHC	**Kasperske Hory**	**158.90**	**340**	*e*P		PKPab	02 42 30.5	-7.2
KHC				x		x	02 42 38.5	
GERES	**GERESS Array B**	**159.12**	**340**	PKPab		PKPab	02 42 38.3	-0.4
	comp=Z,0.7nm,0.9s,baz=45,slow=4.5,SNR=5.5							
TORD	**Torodi Ar. Bea**	**163.57**	**176**	PKP		PKPdf	02 42 07.0	+0.3
	comp=Z,1.2nm,1.1s,baz=170,slow=7.0,SNR=3.9							
TORD				PKPab		PKPab	02 42 58.2	0.0
	comp=Z,0.9nm,0.6s,baz=170,slow=3.7,SNR=8.4							
MTE	**Manteigas**	**166.21**	**36**	eLQ			02 41 26.5	
MTE				eLR		LR	02 45 09.4	
	comp=Z,4µm,24.5s							

IDC ***21*** *02:24:37.9±0.9, 137N×8542W, h0km, mb4.0/7, mb1 4.3/10, mb1mx4.0/23, mbtmp4.1/10, ML3.8/2, Error ellipse: s-maj=30.6km s-min=15.6km az=57.0*
ISCJB ***21*** *02:24:38.4±0.4, 150N×006×8525W±006, h10km, mb4.1/15, Error ellipse: s-maj=10.5km s-min=6.9km az=89.9*
NEIC ***21*** *02:24:39.7±0.4, 145N×8528W, h10km, mb4.6/10, Error ellipse: s-maj=9.8km s-min=6.9km az=45.0*
MOS ***21*** *02:24:41.7±0.9, 159N×8535W, h33km, mb4.9/4, Error ellipse: s-maj=31.8km s-min=16.5km az=104.7*

ISC 21 02:24:40.4±0.5, 147N±006×8525W±006, h10km, n33, σ1°11/32, mb4.1/15, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAYG	**Puerto Ayora**	**5.47**	**247**	*e*Pn	**Pn**	**02 26 01.9**	**-0.1**
	96nm,0.8s						
OTAV	**Otavalo**	**6.91**	**100**	*e*Pn	**Pn**	**02 26 21.7**	**+0.1**
	18nm,0.6s						
OTAV				*e*Sn	**Sn**	**02 27 38.3**	**-2.0**
JTS	**JuntasAbangare**	**8.76**	**2**	Pn	**Pn**	**02 26 47.6**	**+0.5**
	1.8nm,0.3s,baz=245,slow=7.3,SNR=16						
ATAH	**Atahualpa**	**10.85**	**141**	Pn	**Pn**	**02 27 18.7**	**+3.1**
	9.9nm,0.3s,baz=324,slow=11,SNR=66						
ROSC	**El Rosal**	**11.40**	**73**	Pn	**Pn**	**02 27 24.9**	**+1.6**
	0.4nm,0.3s,baz=99,slow=21,SNR=4.6						
NNA	**Nana**	**15.77**	**148**	*e*Pn	**Pn**	**02 28 21.7**	**-0.7**
SDV	**Santo Domingo**	**16.30**	**63**	Pn	**Pn**	**02 28 30.8**	**+1.5**
	0.2nm,0.3s,baz=253,slow=8.0,SNR=8.8						
SDV	**Santo Domingo**	**16.30**	**63**	*e*P	**Pn**	**02 28 29.0**	**-0.3**
	90nm,1.6s						
ARE	**Arequipa**	**22.41**	**143**	*e*P	**P**	**02 29 41.0**	**+2.0**
SAML	**Samuel**	**24.30**	**116**	*e*P	**P**	**02 29 57.9**	**-0.1**
	42nm,1.4s,mb4.7						
LPAZ	**La Paz**	**24.44**	**137**	P	**P**	**02 30 00.5**	**+1.3**
	27nm,1.2s,mb4.6,baz=329,slow=12,SNR=43						
LPAZ	**La Paz**	**24.44**	**137**	*e*P	**P**	**02 30 00.0**	**+0.8**
LPAZ				pmax	pmax		
	comp=Z,41nm,1.3s						
LPAZ	**La Paz**	**24.44**	**137**	*e*P	**P**	**02 29 60.0**	**+0.8**
	comp=Z,41nm,1.3s,mb4.7						
SJG	**San Juan**	**25.00**	**47**	P	**P**	**02 30 06.2**	**+1.9**
	comp=Z,4.3nm,0.4s,mb4.4,baz=238,slow=7.1,SNR=4.3						
SJG	**San Juan**	**25.00**	**47**	*e*P	**P**	**02 30 04.3**	**0.0**
SJG				pmax	pmax		
	comp=Z,84nm,1.7s						
SJG	**San Juan**	**25.00**	**47**	*e*P	**P**	**02 30 04.2**	**0.0**
	comp=Z,84nm,1.7s,mb5.0						
SIV	**San Ignacio**	**29.52**	**127**	P	**P**	**02 30 43.9**	**-1.0**
	comp=Z,1.4nm,0.7s,mb3.8,baz=306,slow=8.6,SNR=7.8						
MNTX	**Cornudas Mount**	**35.57**	**330**	*e*P	**P**	**02 31 37.3**	**-0.5**
	comp=Z,7.4nm,1.6s,mb4.4						
CFAA	**Coronel Fontan**	**36.65**	**155**	P	**P**	**02 31 46.3**	**-0.7**
	comp=Z,0.2nm,0.4s,mb3.3,baz=299,slow=14,SNR=3.7						
SMCO	**Snowmass**	**42.45**	**335**	*e*P	**P**	**02 32 36.0**	**+0.6**
	comp=Z,2.1nm,0.7s,mb3.9						
CCUT	**Cedar City**	**44.25**	**328**	*e*P	**P**	**02 32 51.2**	**+1.3**
PDAR	**Pinedale Array**	**46.52**	**335**	P	**P**	**02 33 09.1**	**+1.2**
	comp=Z,0.5nm,0.7s,mb3.6,baz=158,slow=5.3,SNR=2.5						
NVAR	**Mina Array Bea**	**47.63**	**325**	P	**P**	**02 33 16.7**	**+0.1**
	comp=Z,0.7nm,0.8s,mb3.7,baz=159,slow=7.7,SNR=3.6						
TPAW	**Teton Pass**	**47.69**	**335**	*e*P	**P**	**02 33 16.6**	**-0.5**
	comp=Z,6.3nm,1.4s,mb4.5						
WVOR	**Wild Horse Val**	**50.57**	**328**	*e*P	**P**	**02 33 39.2**	**+0.1**
WVOR				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
WVOR	**Wild Horse Val**	**50.57**	**328**	*e*P	**P**	**02 33 39.2**	**0.0**
	comp=Z,4.4nm,1.0s,mb4.3						
YKA	**Yellowknife Ar**	**64.71**	**345**	P	**P**	**02 35 16.5**	**-2.1**
	comp=Z,0.6nm,0.6s,mb3.8,baz=142,slow=6.0,SNR=5.3						
INK	**Inuvik**	**74.27**	**343**	*e*P	**P**	**02 36 16.9**	**-0.8**
INK				pmax	pmax		
	comp=Z,13nm,1.5s						
INK	**Inuvik**	**74.27**	**343**	*e*P	**P**	**02 36 16.9**	**-0.8**
	comp=Z,13nm,1.5s,mb4.6						
SUMG	**Summit**	**76.67**	**13**	*e*P	**P**	**02 36 30.5**	**-0.9**
	comp=Z,6.3nm,1.1s,mb4.5						
ILAR	**Eielson Array**	**76.90**	**337**	P	**P**	**02 36 31.3**	**-1.5**
	comp=Z,0.8nm,1.0s,mb3.6,baz=134,slow=2.3,SNR=4.8						
ASAR	**Alice Springs**	**136.14**	**237**	PKP	PKPdf	02 44 01.6	-0.3
	comp=Z,0.4nm,0.8s,baz=131,slow=4.2,SNR=3.9						
WRA	**Warramunga Arr**	**137.18**	**242**	PKP	PKPdf	02 44 01.5	-2.3
	comp=Z,0.3nm,0.5s,baz=115,slow=1.4,SNR=7.6						

CASC 21 02:33:00.4±2.3, 1412N×9202W, h81km±35km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.42**	**62**	*e*P	Pn	02 33 12.9	-0.6
TP2	**Tecpan 2**	**1.17**	**56**	*e*P	Pn	02 33 22.4	+0.9
IXG	**Ixpaco**	**1.52**	**88**	*e*P	Pn	02 33 25.9	0.0
IXG				*e*S	Sn	02 33 49.8	+4.5
SNJE	**San Jose**	**2.35**	**96**	*e*P	Pn	02 33 44.4	+7.3
SNJE				*e*S	Sn	02 34 13.4	+8.3
LFRS	**El Faro**	**2.91**	**99**	*e*P	Pn	02 33 52.5	+8.0
LFRS				*e*S	Sn	02 34 27.0	+8.4

ISCJB ***21*** *02:49:07.9±0.7, 4416N×003×4409E±006, h4km±8km, Error ellipse: s-maj=8.5km s-min=3.8km az=110.9*
CSEM ***21*** *02:49:08.1, 4422N×4427E, h27km, mb3.7, Error ellipse: s-maj=14.3km s-min=6.7km az=12.0, After OBN*
MOS ***21*** *02:49:08.6±0.8, 4422N×4427E, h27km, mb3.7/1, Error ellipse: s-maj=14.3km s-min=6.7km az=91.2*
TIF ***21*** *02:49:08.2, 4419N×4418E, h23km±1km*

ISC 21 02:49:08.6±0.8, 4418N±004×4412E±006, h4km±8km, n18, σ1°07/32, 3C, Ukraine - Moldova - Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRTR	**Priterechnaya**	**0.44**	**164**	*i* Pg	**Pg**	**02 49 17.3**	**+0.1**
PRTR				*i* Sg	**Sg**	**02 49 24.6**	**+1.6**
TRKR	**Terskaya**	**0.64**	**136**	*i* Pg	**Pg**	**02 49 20.6**	**-0.3**
TRKR				*i* Sg	**Sg**	**02 49 30.3**	**+1.2**
PYA	**Pyatigorsk**	**0.78**	**260**	↑*i*PG	**Pg**	**02 49 25.6**	**+2.1**
KMSR	**Komsomolskaya**	**0.82**	**171**	*e*Pg	**Pg**	**02 49 24.1**	**-0.2**
KMSR				*i* Sg	**Sg**	**02 49 36.4**	**+1.4**
BTKR	**Batakoyurt**	**0.86**	**159**	*i* Pg	**Pg**	**02 49 24.9**	**-0.3**
BTKR				*i* Sg	**Sg**	**02 49 37.8**	**+1.4**
BEYR	**Belyy Ugol+**	**0.95**	**260**	*i* Pg	**Pg**	**02 49 27.9**	**+1.0**
ARNR	**Ardon**	**1.00**	**173**	*e*Pg	**Pg**	**02 49 27.3**	**-0.5**
ARNR				*i* Sg	**Sg**	**02 49 41.9**	**+1.2**
KIV	**Kislovodsk**	**1.05**	**258**	↑*i*PG	**Pg**	**02 49 28.8**	**-0.1**
KORR	**Kora**	**1.09**	**182**	*i* Pg	**Pg**	**02 49 28.8**	**-0.8**
KORR				*i* Sg	**Sg**	**02 49 44.6**	**+0.8**
SHAR	**Shatzhatmas**	**1.13**	**248**	↑*i*PG	**Pg**	**02 49 30.2**	**-0.2**
GOF	**Gofitskoye**	**1.17**	**319**	*e*PG	**Pg**	**02 49 30.0**	**-1.1**
GOF				*i* S	**Sg**	**02 49 48.0**	**+1.7**
GOF				pmax	pmax		
	comp=Z,90nm,0.8s						
GOF				smax			
	comp=E,400nm,1.0s						
GOF	**Gofitskoye**	**1.17**	**319**	*e*Pg	**Pg**	**02 49 30.0**	**-1.1**
	comp=E,90nm,0.8s						
GOF				*i* Sg	**Sg**	**02 49 48.0**	**+1.7**
VLKR	**Vladikavkaz**	**1.20**	**160**	*e*Pg	**Pg**	**02 49 30.6**	**-1.1**
VLKR				*e*Sg	**Sg**	**02 49 47.6**	**+0.3**
SNJR	**Sundja**	**1.22**	**155**	*e*Pg	**Pg**	**02 49 30.8**	**-1.2**
SNJR				*i* Sg	**Sg**	**02 49 48.0**	**+0.2**
DIGR	**Digorskoe uzhe**	**1.34**	**197**	*i* Pg	**Pg**	**02 49 32.6**	**-1.7**
DIGR				*i* Sg	**Sg**	**02 49 51.2**	**-0.4**
LACR	**Lac**	**1.36**	**174**	*i* Pg	**Pg**	**02 49 33.1**	**-1.6**
LACR				*i* Sg	**Sg**	**02 49 51.9**	**-0.4**
ZEI	**Tsey**	**1.42**	**187**	*i* Pg	**Pg**	**02 49 33.7**	**-2.1**
ZEI				*i* Sg	**Sg**	**02 49 53.0**	**-1.2**
TBLG	**Delisi**	**2.49**	**169**	Pn	**Pn**	**02 49 49.5**	**-0.4**
TBLG				Sn	**Sn**	**02 50 21.4**	**+0.7**

ISCJB ***21*** *02:55:53.6±1.3, 3766N±004×4428E±008, h1km±6km, Error ellipse: s-maj=11.1km s-min=6.8km az=19.9*
CSEM ***21*** *02:55:57.0±0.3, 3769N×4396E, h15km, MD4.0, Error ellipse: s-maj=7.3km s-min=2.0km az=93.0*
ISK ***21*** *02:55:57.0, 3759N×4409E, h32km, MD4.0*

ISC 21 02:55:54.8±1.4, 3767N±004×4427E±008, h2km±6km, n20, σ0°90/27, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CUKT	**Cukurca**	**0.68**	**232**	*i* PG	**Pg**	**02 56 08.2**	**+0.4**
CUKT				*i* SG	**Sg**	**02 56 16.2**	**-0.3**
VANT	**Van**	**1.04**	**318**	PG	**Pg**	**02 56 15.3**	**+0.4**
VANT				SG	**Sg**	**02 56 29.4**	**+1.0**
TVAN	**Van**	**1.10**	**322**	*i* P	**Pg**	**02 56 16.1**	**+0.1**
TVAN				*i* S	**Sg**	**02 56 30.3**	**+0.1**
MSL	**Mosul**	**1.67**	**215**	*i* x	x	02 56 28.0	
MSL				*i* x	x	02 56 29.7	
MSL				*i* x	x	02 56 48.0	
MSL				*i* x	x	02 56 49.5	
BTMT	**Batman**	**2.26**	**284**	PN	**Pn**	**02 56 33.5**	**+0.2**
BEST	**Besiri**	**2.39**	**276**	*i* P	**Pn**	**02 56 30.0**	**+0.9**
BEST				*i* S	**Sn**	**02 57 05.5**	**+0.5**
BNGL	**BINGOL**	**2.77**	**299**	*i* P	**Pb**	**02 56 43.6**	**-1.5**
BNGL				*i* S	**Sg**	**02 57 24.8**	**+0.9**
MARD	**Mardin**	**2.80**	**264**	*i* P	**Pn**	**02 56 41.0**	**+0.3**
MARD				*i* S	**Sn**	**02 57 16.9**	**+1.8**
DIGO	**Kars**	**2.83**	**346**	*i* P	**Pg**	**02 56 50.1**	**+1.0**
DIGO				*i* S	**Sg**	**02 57 32.2**	**+6.4**
ERZM	**Erzurum**	**3.19**	**315**	*i* P	**Pb**	**02 56 50.1**	**-2.1**
ERZM				*i* S	**Sg**	**02 57 35.7**	**-1.5**
EZM	**Erzurum**	**3.19**	**315**	*e*PN	**Pn**	**02 56 46.1**	**+0.1**
DIY	**Diyarbakir**	**3.21**	**275**	*e*PN	**Pn**	**02 56 45.4**	**-1.0**
ELZG	**Elazig**	**4.25**	**283**	*i* P	**Pn**	**02 57 01.1**	**+0.4**
ELZG				*i* S	**Sb**	**02 58 01.0**	**-1.2**
URFA	**Urfa**	**4.34**	**269**	*e*PN	**Pn**	**02 57 01.1**	**-0.7**
BHD	**Baghdad**	**4.39**	**179**	*ex*	x	02 57 21.0	
BHD				*ex*	x	02 58 36.5	
GUMT	**Gumushane**	**4.66**	**308**	*e*PN	**Pn**	**02 57 06.5**	**+0.3**
MALT	**Malatya**	**4.66**	**280**	*e*PN	**Pn**	**02 57 05.4**	**-0.9**
MYA	**Malataya**	**4.67**	**280**	*e*PN	**Pn**	**02 57 05.8**	**-0.5**
GAZ	**Gaziantep**	**5.64**	**267**	*e*PN	**Pn**	**02 57 19.7**	**-0.1**
SVSK	**Karacayir**	**6.11**	**294**	*e*PN	**Pn**	**02 57 27.3**	**+1.1**

ATH ***21*** *02:58:39.2, 3975N×2402E, h10km, MD2.8/3*
ISCJB ***21*** *02:58:41.0±0.7, 3976N±003×2377E±006, h11km±7km, Error ellipse: s-maj=8.0km s-min=4.4km az=8.5*
THE ***21*** *02:58:41.5, 3975N×2375E, h10km, ML2.3*
CSEM ***21*** *02:58:41.5±0.1, 3976N×2381E, h15km, ML2.3, Error ellipse: s-maj=3.3km s-min=1.7km az=97.0*

ISC 21 02:58:41.4±0.7, 3976N±003×2380E±006, h14km±7km, n13, σ0°62/19, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAIG	**Paliouri**	**0.19**	**331**	*e*Pg	**Pg**	**02 58 45.9**	**+0.1**
PAIG	**Paliouri**	**0.19**	**331**	*e*Pg	**Pg**	**02 58 45.8**	**0.0**
AOS	**Alonnisos**	**0.59**	**174**	*e*Pg	**Pg**	**02 58 52.6**	**-0.3**
AOS				*e*Sg	**Sg**	**02 59 01.2**	**+0.5**
OUR	**Ouranopolis**	**0.59**	**14**	*e*Pg	**Pg**	**02 58 53.0**	**0.0**
XOR	**Xorichtí**	**0.61**	**230**	*e*Pg	**Pg**	**02 58 53.2**	**-0.1**
XOR				*e*Sg	**Sg**	**02 59 01.7**	**+0.3**
NEO	**Neokhori**	**0.63**	**225**	*e*PB	**Pg**	**02 58 53.6**	**-0.1**
PLG	**Polygyros**	**0.67**	**336**	*e*PB	**Pg**	**02 58 53.3**	**-1.2**
LIT	**Litokhoron**	**1.06**	**289**	*e*Pg	**Pb**	**02 59 00.3**	**-1.3**
LIT				*e*Sg	**Sg**	**02 59 15.5**	**-0.3**
SOH	**Sokhos**	**1.12**	**342**	*e*Pg	**Pg**	**02 59 02.3**	**-0.6**
SOH				*e*Sg	**Sg**	**02 59 18.3**	**+0.9**
AGG	**Agios Georgios**	**1.35**	**238**	*e*Pg	**Pn**	**02 59 05.3**	**-0.6**
AGG				*e*Sg	**Sg**	**02 59 25.8**	**+0.7**
KNT	**Kendrikon**	**1.56**	**334**	*e*Pg	**Pn**	**02 59 09.7**	**+0.9**
KNT				*e*Sg	**Sg**	**02 59 32.2**	**+0.5**
NVR	**Nevrokopi**	**1.59**	**2**	*e*PB	**Pn**	**02 59 09.3**	**+0.2**
FNA	**Florina**	**2.12**	**300**	*e*Pn	**Pn**	**02 59 16.9**	**+0.6**

IDC 21 03:14:39.6±5.2, 2085S×17673W, h0km, mb4.2/3, mb1 4.3/3, mb1mx3.9/12, mbtmp4.2/3, Error ellipse: s-maj=198.8km s-min=83.1km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.71**	**245**	P	P	03 22 04.6	-0.7
	1.0nm,0.3s,baz=75,slow=8.0,SNR=3.2						
ASAR	**Alice Springs**	**45.59**	**257**	P	P	03 23 02.1	+0.7
	3.2nm,0.8s,baz=93,slow=8.1,SNR=24						
WRA	**Warramunga Arr**	**45.73**	**262**	P	P	03 23 03.0	+0.5
	3.1nm,1.0s,baz=97,slow=7.9,SNR=12						
AKASG	**Malin Array Be**	**143.88**	**332**	PKP	PKPdf	03 34 16.0	-0.9
	0.6nm,0.5s,baz=34,slow=2.9,SNR=5.3						

IDC 21 03:20:46.8±7.9, 244N×9469E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/20, mbtmp4.0/5, Error ellipse: s-maj=197.2km s-min=91.1km az=135.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**45.48**	**348**	P	P	03 29 06.5	-1.3
	0.6nm,0.6s,baz=169,slow=7.5,SNR=6.2						
SONM	**Songino Array**	**46.34**	**11**	P	P	03 29 14.1	-0.4
	0.7nm,0.5s,baz=192,slow=8.7,SNR=4.5						
ZAL	**Zalesovo**	**51.97**	**353**	P	P	03 29 59.2	+1.5
	3.6nm,0.5s,baz=304,slow=6.2,SNR=10						
FINES	**FINESS Array B**	**77.75**	**333**	P	P	03 32 45.4	-0.3
	0.4nm,0.5s,baz=104,slow=8.0,SNR=3.6						
ARCES	**ARCESS Array B**	**80.53**	**341**	P	P	03 33 00.7	-0.2
	1.2nm,0.8s,baz=94,slow=3.6,SNR=6.6						

IGIL ***21*** *03:24:36.4, 3650N×720W, h27km, ML2.2*
INMG ***21*** *03:24:38.3±1.3, 3651N×7.17W, h31km, MD2.4, ML2.0, Error ellipse: s-maj=5.9km s-min=2.6km az=35.0*

MDD 21 03:24:37.4±0.9, 3663N×709W, h16km±5km, mbLg2.3/5, 2C-1D, Error ellipse: s-maj=8.5km s-min=3.7km az=29.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EGRO	**El Granado**	**0.95**	**341**	Pg	Pg	03 24 54.7	-1.1
	SNR=45						
EGRO				Lg		03 25 07.6	
	31nm,0.1s,SNR=26						
ESPR	**Espera**	**1.02**	**76**	⇑Pg	Pg	03 24 55.9	-1.3
	7.5nm,0.2s,SNR=18						
ESPR				Lg		03 25 09.4	
	42nm,0.2s,SNR=79						
EMIN	**Mina Concepcio**	**1.18**	**16**	⇓Pg	Pg	03 24 58.3	-1.9
	1.1nm,0.1s,SNR=18						
EMIN				Lg		03 25 13.1	
	4.7nm,0.1s,SNR=9.0						
EJIF	**Jimena Fronter**	**1.32**	**97**	Pg	Pg	03 25 00.6	-2.2
	1.3nm,0.2s,SNR=11						
EJIF				Lg		03 25 18.0	
	0.8nm,0.1s,SNR=5.0						
MORF	**Marmelete**	**1.42**	**299**	*e*P	Pn	03 24 58.9	-3.6
MORF				*e*S	Sn	03 25 15.5	-5.4
MORF				*e*S	Sn	03 25 15.5	-5.4
MORF				AML	AML	03 25 18.0	
	comp=N,29nm,0.1s						
MORF	**Marmelete**	**1.42**	**299**	*e*P	Pn	03 24 58.9	-3.6
MORF				*e*S	Sn	03 25 15.5	-5.4
**PB

comp=N,0.5nm,0.2s,SNR=7.9
ECAL Sn Sn 03 26 53.4 -3.4
comp=N,1.3nm,0.2s,SNR=7.9
EBEN Beniarda 5.83 67 Sn Sn 03 27 05.5 -4.2
comp=N,0.3nm,0.3s,SNR=7.9
EMOS Mosqueruela 6.39 52 Sn Sn 03 27 20.1 -3.4
SNR=7.9

IDC 21 03:46:54.4±8.2,1007S×10994E,h37km±72km, mb3.7/7, mb1 3.8/9, mb1mx3.7/17, mbtmp3.9/9, ML4.0/2, Error ellipse: s-maj=55.6km s-min=18.7km az=49.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**16.85**	**319**	Pn	Pn	03 50 46.8	-0.6
	1.8nm,0.3s,baz=139,slow=20,SNR=4.7						
FITZ	**Fitzroy Crossi**	**17.18**	**119**	P	Pn	03 50 51.1	-0.4
	0.1nm,0.3s,baz=293,slow=9.2,SNR=7.1						
WRA	**Warramunga Arr**	**25.49**	**115**	P	P	03 52 19.8	+0.6
	0.8nm,0.5s,baz=286,slow=12,SNR=9.5						
ASAR	**Alice Springs**	**26.56**	**124**	P	P	03 52 29.4	+0.6
	1.5nm,0.6s,baz=299,slow=7.3,SNR=34						
STKA	**Stephens Creek**	**36.44**	**131**	P	P	03 53 55.5	-0.1
	2.1nm,0.9s,baz=342,slow=9.4,SNR=3.6						
MJAR	**Matsushiro Arr**	**53.44**	**28**	P	P	03 56 10.3	-0.4
	1.1nm,0.7s,baz=197,slow=7.9,SNR=5.3						
SONM	**Songino Array**	**57.73**	**357**	P	P	03 56 42.0	+0.6
	0.4nm,0.5s,baz=156,slow=7.6,SNR=3.5						
MKAR	**Makanchi Array**	**61.76**	**339**	P	P	03 57 09.3	+0.2
	1.0nm,0.5s,baz=149,slow=7.2,SNR=9.6						
MKAR				pP	pP	03 57 23.4	+3.1
	1.9nm,0.6s,baz=151,slow=7.5,SNR=7.7						
BRTR	**Keskin Array B**	**86.03**	**311**	P	P	03 59 31.1	0.0
	0.6nm,0.6s,baz=128,slow=5.5,SNR=4.1						

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*NSSC **21** 03:48:15.6, 3900N×4428E, h43km*
*NSSP **21** 03:48:30.3, 3832N×4235E, h5km, ML4.5*
*BJI **21** 03:48:31.3, 3793N×4219E, h23km, mB5.4, mb4.8, Ms4.9, Msz4.6*
*NEIC **21** 03:48:31.0, 3800N×4261E, h5km, mb4.9/106, ML4.8(ISK), After ISK.*
NEIC Felt in the Bitlis-Pervari area.
*ISK **21** 03:48:31.9, 3800N×4261E, h5km, ML4.8*
*ISCJB **21** 03:48:32.0±0.1, 3796N±001×4274E±002, h5km, mb4.8/174, MS4.4/28, Error ellipse: s-maj=2.1km s-min=1.8km az=141.4*
*MOS **21** 03:48:33.2±1.0, 3793N×4256E, h10km, mb5.1/82, MS4.2/29, Error ellipse: s-maj=4.8km s-min=2.7km az=131.8*
*IDC **21** 03:48:34.3±0.5, 3812N×4256E, h0km, mb4.5/27, mb1 4.6/35, mb1mx4.6/38, mbtmp4.5/35, ML4.0/7, MS4.2/12, Ms1 4.2/12, ms1mx3.9/31, Error ellipse: s-maj=10.0km s-min=7.9km az=135.0*
*SZGRF **21** 03:48:38.8, 3762N×4146E, h10km, mb5.0, Turkey*
*CSEM **21** 03:48:38.1, 3798N×4249E, h46km, mb5.0*

ISC 21 03:48:33.9±0.1, 3799N±001×4274E±002, h5km, (h18km±2.9km:pP-P), n685, σ119/24/748, mb4.8/174, MS4.4/28, 82C-43D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANT	**Van**	**0.68**	**48**	*i* PG	**Pg**	**03 48 45.3**	**-1.8**
TVAN	**Van**	**0.75**	**44**	*i* P	**Pg**	**03 48 47.2**	**-1.1**
CUKT	**Cukurca**	**1.01**	**137**	*i* PN	**Pn**	**03 48 54.1**	**-0.6**
BTMT	**Batman**	**1.01**	**282**	*i* PG	**Pg**	**03 48 52.0**	**-1.3**
BEST	**Besiri**	**1.17**	**266**	*i* P	**Pg**	**03 48 55.9**	**-0.4**
BEST				*i* S	**Sg**	**03 49 13.0**	**+1.5**
BNGL	**BINGOL**	**1.58**	**308**	*i* P	**Pn**	**03 49 01.6**	**-0.9**
BNGL	**BINGOL**	**1.58**	**308**	*i* P	**Pn**	**03 49 01.6**	**-1.0**
BNGL				*i* S	**Sn**	**03 49 23.3**	**0.0**
MARD	**Mardin**	**1.70**	**247**	*i* P	**Pn**	**03 49 04.2**	**0.0**
MARD				*i* S	**Sn**	**03 49 29.0**	**+2.7**
MSL	**Mosul**	**1.72**	**171**	*i* x	x	03 49 07.0	
MSL				*i* x	x	03 49 08.5	
MSL				*i* x	x	03 49 10.5	
MSL				*i* x	x	03 49 31.5	
MSL				*i* x	x	03 49 33.2	
MSL				*i* x	x	03 49 35.5	
DIY	**Diyarbakir**	**1.99**	**268**	PN	**Pn**	**03 49 06.4**	**-1.9**
ERZM	**Erzurum**	**2.19**	**331**	*i* P	**Pg**	**03 49 12.3**	**+1.3**
ERZM				*i* S	**Sg**	**03 49 47.5**	**+3.0**
EZM	**Erzurum**	**2.19**	**331**	PN	**Pn**	**03 49 10.5**	**-0.6**
VNNZ	**Vanand**	**2.27**	**21**	P	**Pn**	**03 49 05.1**	**-7.0**
VNNZ				S	**Sn**	**03 49 43.7**	**+3.2**
VRNZ	**Vardanashen**	**2.34**	**28**	P	**Pn**	**03 49 08.4**	**-4.7**
VRNZ				S	**Sn**	**03 49 44.8**	**+2.5**
AKSZ	**Araks**	**2.37**	**22**	P	**Pn**	**03 49 07.1**	**-6.4**
AKSZ				S	**Sn**	**03 49 41.5**	**-1.4**
NPPZ	**NPP**	**2.43**	**26**	P	**Pn**	**03 49 08.4**	**-5.9**
NPPZ				S	**Sn**	**03 49 42.2**	**-2.1**
DIGO	**Kars**	**2.47**	**11**	*i* P	**Pn**	**03 49 16.8**	**+1.9**
DIGO				*i* S	**Sg**	**03 49 58.5**	**+5.2**
ARUZ	**Aruch**	**2.52**	**24**	P	**Pn**	**03 49 08.6**	**-6.9**
ARUZ				S	**Sn**	**03 49 43.5**	**-3.1**
KARS	**Kars**	**2.63**	**6**	PN	**Pn**	**03 49 17.6**	**+0.6**
GNI	**Garni**	**2.66**	**35**	PN	**Pn**	**03 49 18.2**	**+0.8**
GNI	**Garni**	**2.66**	**35**	Pn	**Pn**	**03 49 19.8**	**+2.4**
	8.3nm,0.3s,baz=240,slow=1.4,SNR=21						
GNI				Lg		03 50 00.1	
	32nm,0.3s,baz=30,slow=21,SNR=6.1						
GNI				LR	LR	03 50 09.3	
	comp=Z,614nm,21.5s,baz=216,slow=36						
GNI	**Garni**	**2.66**	**35**	*e*Pn	**Pn**	**03 49 18.7**	**+1.2**
GNI	**Garni**	**2.66**	**35**	*e*Pn	**Pn**	**03 49 18.7**	**+1.3**
AMBZ	**Amberd**	**2.67**	**26**	P	**Pn**	**03 49 10.7**	**-6.9**
KAPZ	**Kaputan**	**2.78**	**33**	⇓P	**Pn**	**03 49 17.3**	**-1.8**
KAPZ				S	**Sn**	**03 49 53.7**	**+0.7**
EZC	**Erzincan**	**2.88**	**308**	*e*PN	**Pn**	**03 49 23.9**	**+3.4**
ELZG	**Elazig**	**3.00**	**281**	*i* P	**Pn**	**03 49 20.9**	**-1.3**
ELZG				*i* S	**Sn**	**03 49 48.5**	**-1.0**
URFA	**Urfa**	**3.16**	**261**	PN	**Pn**	**03 49 23.0**	**-1.3**
URFA				SN	**Sn**	**03 50 00.4**	**-1.9**
ARTV	**Artvin**	**3.25**	**349**	*i* P	**Pn**	**03 49 26.9**	**+1.3**
ARTV				*i* S	**Sb**	**03 50 16.4**	**+4.3**
MALT	**Malatya**	**3.42**	**277**	PN	**Pn**	**03 49 26.6**	**-1.2**
MALT	**Malatya**	**3.42**	**277**	*e*Pn	**Pn**	**03 49 26.7**	**-1.2**
MALT				*ep*Pn		03 49 35.2	
MYA	**Malataya**	**3.42**	**277**	PN	**Pn**	**03 49 27.1**	**-0.8**
MNKR	**ALMNKUR**	**3.45**	**235**	⇓P	**Pn**	**03 49 31.7**	**+3.4**
MNKR				⇓S	**Sg**	**03 50 27.6**	**+2.8**
AKH	**Akhalkalaki**	**3.46**	**9**	P	**Pg**	**03 49 43.0**	**+2.7**
AKH				S	**Sg**	**03 50 31.8**	**+6.6**
GUMT	**Gumushane**	**3.54**	**315**	*e*PN	**Pn**	**03 49 29.5**	**0.0**
ATAB	**Bozova**	**3.56**	**263**	*i* P	**Pn**	**03 49 28.8**	**-1.1**
ATAB				*i* S	**Sg**	**03 50 24.2**	**-4.3**
ATAB	**Bozova**	**3.56**	**263**	*i* P	**Pn**	**03 49 28.8**	**-1.1**
ATAB				*i* S	**Sn**	**03 50 15.5**	**+3.1**
DGRG	**David-gareji**	**4.01**	**30**	P	**Pg**	**03 49 49.1**	**-1.6**
DGRG				S	**Sg**	**03 50 38.2**	**-4.4**
MTA	**Mtatsminda**	**4.02**	**22**	P	**Pg**	**03 49 48.0**	**-3.0**
MTA				S	**Sg**	**03 50 40.7**	**-2.4**
TBLG	**Delisi**	**4.04**	**22**	P	**Pg**	**03 49 47.6**	**-3.7**
TBLG				S	**Sg**	**03 50 43.7**	**0.0**
JHLN	**Al Jahlan**	**4.16**	**237**	⇑P	**Pn**	**03 49 39.1**	**+1.1**
JHLN				⇑S	**Sb**	**03 50 40.1**	**+2.1**
JHLN	**Al Jahlan**	**4.16**	**237**	⇑*i*P	**Pn**	**03 49 39.1**	**+1.1**
GZT	**Gaziantep**	**4.16**	**263**	*i* P	**Pn**	**03 49 36.5**	**-1.6**
GZT				*i* S	**Sn**	**03 50 15.5**	**-11**
SLMH	**Al Salmeh**	**4.24**	**247**	⇑*i*P	**Pn**	**03 49 39.2**	**+0.1**
GAZ	**Gaziantep**	**4.47**	**261**	*e*PN	**Pn**	**03 49 41.2**	**-1.1**
AMRG		**4.53**	**4**	P	**Pn**	**03 49 46.2**	**+3.1**
GRSN	**GIRESUNGRSN**	**4.54**	**312**	*i* P	**Pn**	**03 49 43.9**	**+0.7**
GRSN				*i* S	**Sb**	**03 50 47.4**	**-1.7**
ZEI	**Tsey**	**4.86**	**10**	*e*P	**Pn**	**03 49 50.9**	**+3.3**
ZEI				*e*		03 50 45.4	
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.1s						
ZEI	**Tsey**	**4.86**	**10**	*e*P	**Pn**	**03 49 50.9**	**+3.3**
	comp=Z,6.0nm,0.1s						
ZEI				*e*S	**Sn**	**03 50 45.4**	**+1.2**
SVST	**Sivas**	**4.86**	**293**	*i* P	**Pn**	**03 49 51.3**	**+3.6**
SVST				*i* S	**Sg**	**03 51 18.1**	**+8.2**
SVSK	**Karacayir**	**4.88**	**295**	*e*PN	**Pn**	**03 49 47.4**	**-0.5**
BHD	**Baghdad**	**4.89**	**164**	*i* x	x	03 49 48.0	
BHD				*i* x	x	03 49 38.0	
BHD				*i* x	x	03 50 06.0	
BHD				*i* x	x	03 50 43.0	
BHD				*i* x	x	03 51 06.0	
DRWC	**Darouich**	**5.03**	**256**	⇓P	**Pn**	**03 49 49.2**	**-0.9**
DRWC				⇓S	**Sb**	**03 50 58.1**	**-5.2**
DRWC	**Darouich**	**5.03**	**256**	⇓*i*P	**Pn**	**03 49 49.2**	**-0.9**
TOKT	**Tokat**	**5.35**	**298**	*e*PN	**Pn**	**03 49 54.8**	**+0.4**
COBT	**Iskenderun**	**5.38**	**256**	*i* P	**Pn**	**03 49 53.9**	**-0.9**
COBT				*i* S	**Sb**	**03 51 15.1**	**+1.9**
BTCH	**Batrach**	**5.39**	**251**	⇑P	**Pn**	**03 49 54.6**	**-0.4**
BTCH				⇑S	**Sb**	**03 51 06.7**	**-6.9**
BTCH	**Batrach**	**5.39**	**251**	⇑*i*P	**Pn**	**03 49 54.6**	**-0.4**
BNN	**Bunyan**	**5.49**	**281**	*e*PN	**Pn**	**03 49 56.7**	**+0.5**
KOZT	**Kozan**	**5.51**	**267**	*e*PN	**Pn**	**03 49 57.0**	**+0.5**
KFRA	**Kufra**	**5.53**	**242**	⇓P	**Pn**	**03 49 57.5**	**+0.7**
KFRA				⇓S	**Sb**	**03 51 12.0**	**-5.5**
KFRA	**Kufra**	**5.53**	**242**	⇓*i*P	**Pn**	**03 49 57.5**	**+0.6**
HTY	**Hatay**	**5.60**	**253**	*e*PN	**Pn**	**03 49 58.1**	**+0.2**
CEYT	**Ceyhan**	**5.65**	**262**	*e*PN	**Pn**	**03 49 57.6**	**-0.9**
WRDH	**Warideh**	**5.66**	**246**	⇓P	**Pn**	**03 49 58.7**	**+0.1**
WRDH				⇓S	**Sb**	**03 51 15.0**	**-6.1**
WRDH	**Warideh**	**5.66**	**246**	⇓*i*P	**Pn**	**03 49 58.7**	**+0.1**
RABH	**Abou Rabah**	**5.71**	**233**	⇑P	**Pn**	**03 50 00.9**	**+1.5**
RABH				⇑S	**Sb**	**03 51 17.0**	**-5.8**
RABH	**Abou Rabah**	**5.71**	**233**	⇑*i*P	**Pn**	**03 50 00.9**	**+1.5**
SLNF	**Slenfeh**	**5.75**	**247**	⇓P	**Pn**	**03 50 00.1**	**+0.1**
SLNF	**Slenfeh**	**5.75**	**247**	⇓*i*P	**Pn**	**03 50 00.1**	**+0.1**
ARNB	**Al Arnab**	**5.83**	**251**	⇑P	**Pn**	**03 50 00.9**	**0.0**
ARNB				⇑S	**Sb**	**03 51 17.9**	**-8.1**
ARNB	**Al Arnab**	**5.83**	**251**	⇑*i*P	**Pn**	**03 50 00.9**	**-0.1**
ROOS	**tl_alroos**	**5.83**	**231**	⇓P	**Pn**	**03 50 01.9**	**+0.8**
ROOS				⇓S	**Sb**	**03 51 19.1**	**-7.2**
ROOS	**tl_alroos**	**5.83**	**231**	⇓*i*P	**Pn**	**03 50 01.9**	**+0.8**
KIV	**Kislovodsk**	**5.96**	**360**	*e*P	**Pn**	**03 50 04.0**	**+1.2**
KIV				*e*S	**Sn**	**03 51 12.8**	**+1.4**
KIV				pmax	pmax		
	comp=Z,40nm,1.2s						
KIV				MLR	MLR		
	comp=Z,5μm,13.0s						
KIV	**Kislovodsk**	**5.96**	**360**	*e*Pn	**Pn**	**03 50 05.5**	**+2.6**
	comp=Z,159nm,1.1s						
KIV	**Kislovodsk**	**5.96**	**360**	*e*P	**Pn**	**03 50 04.0**	**+1.2**
	comp=Z,40nm,1.2s						
KIV				*e*S	**Sn**	**03 51 12.8**	**+1.4**
	comp=Z,5μm,13.0s						
BIDA	**Albida**	**5.96**	**242**	⇑P	**Pn**	**03 50 03.3**	**+0.4**
BIDA				⇑S	**Sb**	**03 51 22.0**	**-8.1**
BIDA	**Albida**	**5.96**	**242**	⇑*i*P	**Pn**	**03 50 03.3**	**+0.4**
KVT	**Kavak**	**6.03**	**303**	*e*PN	**Pn**	**03 50 04.5**	**+0.8**
YOZ	**Yozgat**	**6.03**	**288**	*e*PN	**Pn**	**03 50 04.1**	**+0.3**
SOC	**Sochi**	**6.04**	**339**	*e*P	**Pn**	**03 50 04.9**	**+1.0**
SOC				*e*		03 51 10.2	
SOC				pmax	pmax		
	comp=Z,60nm,0.7s						
SOC				MLR	MLR		
	comp=Z,4μm,13.0s						
SOC	**Sochi**	**6.04**	**339**	*i* P	**Pn**	**03 50 04.9**	**+1.0**
	comp=Z,60nm,0.7s						
KRTS	**Karatas**	**6.04**	**259**	*e*PN	**Pn**	**03 50 03.7**	**-0.3**
KARA	**Karaisali**	**6.15**	**266**	*e*PN	**Pn**	**03 50 06.3**	**+0.9**
MAK	**Makhachkala**	**6.15**	**35**	*e*P	**Pn**	**03 50 10.4**	**+5.0**
MAK				*e*S	**Sn**	**03 51 25.9**	**+10**
MAK				pmax	pmax		
	comp=Z,180nm,1.6s						
MAK				MLR	MLR		
	comp=Z,2μm,11.0s						
HAWK	**Haweek**	**6.18**	**238**	⇓P	**Pn**	**03 50 07.1**	**+1.3**
HAWK				⇓S	**Sn**	**03 51 27.8**	**+11**
HAWK	**Haweek**	**6.18**	**238**	⇓*i*P	**Pn**	**03 50 07.1**	**+1.3**
FKH	**Fakeheh**	**6.35**	**236**	*e*Pn	**Pn**	**03 50 08.8**	**+0.6**
HWQ	**Hawqa**	**6.63**	**238**	*e*Pn	**Pn**	**03 50 12.7**	**+0.6**
MERS	**Mersin**	**6.64**	**263**	*e*PN	**Pn**	**03 50 12.6**	**+0.5**
CTKT	**Corum**	**6.71**	**296**	*i* P	**Pn**	**03 50 15.5**	**+2.5**
CTKT				*i* S	**Sb**	**03 51 52.6**	**+1.2**
ZALF	**Zalf**	**6.71**	**223**	⇑P	**Pn**	**03 50 13.7**	**+0.6**
ZALF	**Zalf**	**6.71**	**223**	⇑*i*P	**Pn**	**03 50 13.7**	**+0.6**
CDAG	**Cicekdag**	**6.74**	**287**	*i* P	**Pn**	**03 50 15.7**	**+2.2**
CDAG				*i* S	**Sg**	**03 52 20.0**	**+10**
TOTH	**TOTAH**	**6.91**	**230**	⇓P	**Pn**	**03 50 17.4**	**+1.5**
TOTH	**TOTAH**	**6.91**	**230**	⇓*i*P	**Pn**	**03 50 17.4**	**+1.6**
BOYT	**Boyabat**	**6.95**	**302**	*i* P	**Pn**	**03 50 19.1**	**+2.7**
BOYT				*i* S	**Sn**	**03 51 41.1**	**+5.3**
BHL	**Bhannes**	**7.05**	**237**	*e*Pn	**Pn**	**03 50 19.0**	**+1.3**
BRBR	**Barbar**	**7.17**	**232**	⇑P	**Pn**	**03 50 21.1**	**+1.7**
BRBR	**Barbar**	**7.17**	**232**	⇑*i*P	**Pn**	**03 50 21.1**	**+1.7**
KAMT	**Kaman**	**7.20**	**284**	*e*PN	**Pn**	**03 50 20.3**	**+0.5**
SALA	**Sala**	**7.20**	**225**	⇓P	**Pn**	**03 50 21.5**	**+1.7**
SALA	**Sala**	**7.20**	**225**	⇓*i*P	**Pn**	**03 50 21.5**	**+1.7**
BRTR	**Keskin Array B**	**7.31**	**287**	Pn	**Pn**	**03 50 20.9**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=105,slow=12,SNR=51						
BRTR				Pg	**Pg**	**03 50 47.2**	**-6.8**
	comp=Z,1.2nm,0.3s,baz=107,slow=12,SNR=7.2						
BRTR				Lg		03 52 24.1	
	baz=118,slow=25,SNR=1.7						
BRTR	**Keskin Array B**	**7.31**	**287**	P	**Pn**	**03 50 20.9**	**-0.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BR131	**Keskin Array S**	**7.31**	**287**	*e*Pn	**Pn**	**03 50 21.3**	**-0.1**
	comp=Z,60nm,0.8s						
BR131	**Keskin Array S**	**7.31**	**287**	*e*Pn	**Pn**	**03 50 21.3**	**-0.1**
	comp=Z,60nm,0.8s						
TOS	**Tosya**	**7.40**	**297**	*e*PN	**Pn**	**03 50 23.4**	**+0.9**
IKL	**Isikli**	**7.45**	**259**	*e*PN	**Pn**	**03 50 23.4**	**+0.2**
KSDI	**Kefar Szold**	**7.50**	**232**	P	**Pn**	**03 50 25.5**	**+1.6**
MATL	**Matirih**	**7.52**	**236**	*e*Pn	**Pn**	**03 50 32.6**	**+8.5**
ASF	**Jabal al Asfar**	**7.53**	**221**	Pn	**Pn**	**03 50 25.4**	**+1.1**
	comp=Z,2.2nm,0.3s,baz=292,slow=9.1,SNR=22						
ASF				Pg	**Pg**	**03 50 49.8**	**-8.2**
	comp=Z,3.7nm,0.3s,baz=279,slow=12,SNR=7.8						
ASF				Lg		03 52 37.3	
	comp=Z,11nm,0.3s,baz=86,slow=21,SNR=8.1						
ELDT	**Eldivan**	**7.65**	**292**	*i* P	**Pn**	**03 50 27.0**	**+1.0**
ELDT				*i* S	**Sg**	**03 52 34.9**	**-4.6**
TCHB	**Talchebab**	**7.67**	**228**	⇑P	**Pn**	**03 50 27.6**	**+1.3**
TCHB	**Talchebab**	**7.67**	**228**	⇑*i*P	**Pn**	**03 50 27.6**	**+1.3**
MMAI	**Mount Meron Ar**	**7.77**	**233**	Pn	**Pn**	**03 50 28.9**	**+1.2**
	comp=Z,2.7nm,0.3s,baz=74,slow=17,SNR=16						
MMAI				Pg	**Pg**	**03 50 59.7**	**-3.1**
	comp=Z,9.3nm,0.3s,baz=58,slow=15,SNR=12						
MMAI				Lg		03 52 39.1	
	comp=Z,15nm,0.3s,baz=64,slow=31,SNR=3.6						
ANN	**Anapa**	**7.89**	**331**	*e*P	**Pn**	**03 50 31.6**	**+2.3**
ANN				*e*S	**Sn**	**03 52 02.1**	**+3.2**
ANN				pmax	pmax		
	comp=Z,15nm,0.8s						
ANN				MLR	MLR		
	comp=N,3μm,18.0s						
ANN				MLR	MLR		
	comp=Z,529nm,18.0s						
ANN	**Anapa**	**7.89**	**331**	*e*P	**Pn**	**03 50 31.6**	**+2.3**
	comp=Z,15nm,0.8s						
ANN				*e*S	**Sn**	**03 52 02.1**	**+3.2**
ANTO	**Ankara**	**7.98**	**287**	*e*P	**Pn**	**03 50 30.8**	**+0.3**
ANTO				pmax	pmax		
	comp=Z,159nm,1.1s						
ANTO	**Ankara**	**7.98**	**287**	*e*Pn	**Pn**	**03 50 30.8**	**+0.2**
	comp=Z,159nm,1.1s						
ANTO	**Ankara**	**7.98**	**287**	*e*Pn	**Pn**	**03 50 30.8**	**+0.3**
	comp=Z,159nm,1.1s						
MMLI	**Mount Malkishu**	**8.16**	**229**	P	**Pn**	**03 50 35.8**	**+2.8**
CSS	**Prodhromos**	**8.16**	**251**	*e*Pn	**Pn**	**03 50 30.2**	**-2.9**
	comp=Z,108nm,0.9s						
CSS	**Prodhromos**	**8.16**	**251**	*e*Pn	**Pn**	**03 50 30.2**	**-2.8**
	comp=Z,108nm,0.9s						
KONT	**Konya--Tatoy**	**8.20**	**273**	*e*PN	**Pn**	**03 50 33.7**	**+0.1**
OFRI	**'Ofer**	**8.30**	**232**	P	**Pn**	**03 50 37.5**	**+2.6**
SAFT	**Safranbolu**	**8.41**	**296**	*e*PN	**Pn**	**03 50 36.5**	**0.0**
SLTI	**Sal'it**	**8.53**	**230**	P	**Pn**	**03 50 41.2**	**+3.2**
KIZT	**Kizilcal**	**8.57**	**279**	*e*PN	**Pn**	**03 50 39.3**	**+0.6**
DRGI	**Dragot**	**8.79**	**226**	P	**Pn**	**03 50 46.7**	**+5.1**
MIB	**Mutribah**	**9.01**	**154**	*e*P	**Pn**	**03 50 44.4**	**-0.3**
MIB				AMb	AMB	03 52 33.4	
	comp=Z,177nm,0.7s						
MZDA	**Masada**	**9.02**	**225**	P	**Pn**	**03 50 50.6**	**+5.8**
MDU	**Mudurnu**	**9.28**	**289**	*e*PN	**Pn**	**03 50 48.8**	**+0.4**
UMR	**Umm Al-Rimmam**	**9.38**	**152**	*e*P	**Pn**	**03 50 49.5**	**-0.2**
UMR				AML	AML	03 52 42.2	
	comp=Z,49nm,0.4s						
NAY	**Al-Naaiem**	**9.49**	**155**	*e*P	**Pn**	**03 50 50.5**	**-0.7**
NAY				AMb	AMB	03 52 37.6	
	comp=Z,59nm,0.8s						
SIM	**Simferopol'**	**9.50**	**320**	P	**Pn**	**03 50 55.0**	**+3.7**
SIM				pmax	pmax		
	comp=Z,17nm,1.0s						
SIM	**Simferopol'**	**9.50**	**320**	P	**Pn**	**03 50 55.0**	**+3.7**
	comp=Z,17nm,1.0s						
ISP	**Isparta**	**9.67**	**273**	*e*P	**Pn**	**03 50 54.1**	**+0.4**
ISP	**Isparta**	**9.67**	**273**	*e*Pn	**Pn**	**03 50 57.2**	**+3.5**
	comp=Z,16nm,0.8s						
KBD	**Kabd**	**9.71**	**153**	*e*P	**Pn**	**03 50 53.8**	**-0.4**
KBD				AML	AML	03 52 46.7	
	comp=Z,97nm,0.5s						
RDF	**Al-Radifah**	**9.89**	**155**	*e*P	**Pn**	**03 50 56.3**	**-0.4**
RDF				AML	AML	03 52 45.4	
	comp=Z,39nm,0.6s						
PRNI	**Paran**	**9.95**	**222**	P	**Pn**	**03 51 04.4**	**+6.8**
MBH	**Mount Berech**	**10.44**	**221**	P	**Pn**	**03 51 11.3**	**+7.0**
EIL	**Elat**	**10.52**	**220**	*e*Pn	**Pn**	**03 51 03.7**	**-1.7**
	comp=Z,1μm,0.9s						
TIRR	**Tirgusor**	**12.57**	**305**	*e*Pn	**Pn**	**03 51 33.3**	**-0.1**
TIRR				*e*PcP	PcP	03 57 07.8	-4.5
HARR	**Harsova**	**12.98**	**306**	P	**Pn**	**03 51 40.7**	**+1.7**
CFR	**Carcaliu**	**13.07**	**308**	P	**Pn**	**03 51 42.8**	**+2.5**
ALN	**Alexandroupoli**	**13.23**	**288**	*e*P	**Pn**	**03 51 41.5**	**-0.9**
VRSR	**Storozhevoye**	**13.46**	**350**	*e*P	**Pn**	**03 51 46.5**	**+0.9**
VRSR				pmax	pmax		
	comp=Z,9.0nm,1.4s						
VRSR				pmax	pmax		
	comp=N,10.0nm,1.1s						
VRSR				pmax	pmax		
	comp=E,5.0nm,1.1s						
VRSR				MLR	MLR		
	comp=N,30nm,17.0s						
VRSR				MLR	MLR		
	comp=E,20nm,17.0s						
VRSR				MLR	MLR		
	comp=Z,20nm,17.0s						
VRSR	**Storozhevoye**	**13.46**	**350**	*e*P	**Pn**	**03 51 46.5**	**+0.9**
	comp=Z,9.0nm,1.4s						
RDO	**Rodhopi**	**13.64**	**289**	P	**Pn**	**03 51 49.4**	**+1.3**
APE	**Apeiranthos**	**13.70**	**271**	⇓P	**Pn**	**03 51 53.9**	**+5.1**
KDZ	**Kurdzhali**	**13.81**	**291**	*e*P	**Pn**	**03 51 51.5**	**+1.2**
SANT	**Santorini**	**13.88**	**269**	*e*Pn	**Pn**	**03 51 42.7**	**-8.6**
	comp=Z,37nm,0.9s						
VOR	**Voronezh**	**13.97**	**351**	*e*P	**Pn**	**03 51 52.2**	**-0.3**
VOR				pmax	pmax		
	comp=N,390nm,1.7s						
VOR				pmax	pmax		
	comp=Z,230nm,1.7s						
LAST	**Lasithi**	**14.16**	**264**	*e*P	**Pn**	**03 51 56.4**	**+1.2**
VRI	**Vrincioaia**	**14.27**	**309**	⇑*i*P	**Pn**	**03 51 56.7**	**+0.1**
VRI	**Vrincioaia**	**14.27**	**309**	⇓P	**Pn**	**03 51 56.3**	**-0.3**
VRI	**Vrincioaia**	**14.27**	**309**	P	**Pn**	**03 51 57.3**	**+0.7**
VRI	**Vrincioaia**	**14.27**	**309**	P	**Pn**	**03 51 57.3**	**+0.7**
PLOR	**Plostina**	**14.31**	**308**	P	**Pn**	**03 51 58.1**	**+0.9**
RZN	**Rozhen**	**14.33**	**291**	*e*P	**Pn**	**03 51 57.0**	**-0.5**
IDI	**Anoyia**	**14.59**	**265**	Pn	**Pn**	**03 52 01.0**	**0.0**
	comp=Z,0.6nm,0.3s,baz=61,slow=11,SNR=27						
IDI				LR	LR	03 57 07.3	
	comp=Z,213nm,20.4s,baz=98,slow=96						
MLR	**Muntele Rosu**	**14.59**	**306**	Pn	**Pn**	**03 52 01.9**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=128,slow=6.4,SNR=22						
MLR	**Muntele Rosu**	**14.59**	**306**	⇓*i*P	**Pn**	**03 52 01.9**	**+0.9**
MLR	**Muntele Rosu**	**14.59**	**306**	⇑P	**Pn**	**03 52 02.0**	**+1.0**
MLR	**Muntele Rosu**	**14.59**	**306**	P	**Pn**	**03 52 01.9**	**+0.9**
SIVA	**Sivas**	**14.73**	**264**	*e*P	**Pn**	**03 52 03.9**	**+1.0**
SIVA	**Sivas**	**14.73**	**264**	P	**Pn**	**03 52 04.0**	**+1.2**
OUR	**Ouranopolis**	**14.74**	**285**	*e*P	**Pn**	**03 52 03.9**	**+0.8**
PAIG	**Paliouri**	**14.96**	**283**	*e*P	**Pn**	**03 52 04.5**	**-1.5**

comp=N,900nm,17.5s
MOS Moscow 18.09 351 *e*P **Pn 03 52 44.9 -1.0**
comp=N,138nm,1.7s
DIVS Divcibare 18.19 297 *i* Pn **Pn 03 52 48.7 +1.5**
DIVS Divcibare 18.19 297 *e*P **Pn 03 52 48.0 +0.8**
PECR Pechory 18.36 2 *i* P **Pn 03 52 49.0 -0.2**
PECR *e*S **Sn 03 56 16.4 +1.8**
PECR pmax pmax
comp=Z,3μm,1.6s
PECR pmax pmax
comp=Z,1μm,4.0s
PECR pmax pmax
comp=N,800nm,5.0s
PECR smax
comp=N,1μm,5.0s
PECR smax
comp=E,1μm,5.0s
PECR MLR MLR
comp=N,1μm,14.0s
PECR MLR MLR
comp=E,1μm,14.0s
PECR MLR MLR
comp=Z,2μm,14.0s
PECR Pechory 18.36 2 *i* P **Pn 03 52 49.0 -0.2**
comp=Z,800nm,5.0s
KOLS Kolonicke sedl 18.39 313 *i* P **Pn 03 52 50.1 +0.4**
KOLS *e* 03 52 56.1
ULC Ulcinj 18.42 290⇑ *i*P **Pn 03 52 52.2 +2.1**
TTG Podgorica 18.46 291⇑ *i*P **Pn 03 52 51.3 +0.9**
PLE Pljevlja 18.48 294⇑ *i*P **Pn 03 52 53.0 +2.3**
KWP Kalwaria 18.50 315 *e*P **Pn 03 52 50.8 -0.1**
BBLS Bajina Basta - 18.56 296 *i* Pn **Pn 03 52 53.9 +2.2**
NKY Niksic 18.69 292⇑ *i*P **Pn 03 52 53.5 +0.1**
BUM Brajici-Budva 18.71 291⇑ *i*P **Pn 03 52 54.8 +1.2**
ARQ Araqi 18.78 137 ⇓P **Pn 03 52 52.5 -1.8**
SNR=7.5
UPM Unac-Piva 18.81 294⇑ *i*P **Pn 03 52 54.9 +0.1**
CRVS Cervenica-Dubn 18.85 312 *e*P **Pn 03 52 56.1 +0.9**
HCY Herceg Novi 19.02 291⇑ *i*P **Pn 03 52 57.8 +0.5**
BRY Bratogost 19.04 293⇑ *i*P **Pn 03 52 57.0 -0.5**
STHS Stebnicka Huta 19.22 313 *e*P **Pn 03 52 59.3 -0.4**
KECS Kecovo 19.25 310 *e*P **Pn 03 52 59.5 -0.5**
PSZ Piszkesteto 19.38 308⇑ *e*PPP 03 53 01.8
PSZ Piszkesteto 19.38 308⇑ *i*P **Pn 03 53 01.8 +0.2**
MNK Minsk 19.40 333 *e*P **Pn 03 52 57.0 -4.9**
MNK pmax pmax
comp=Z,450nm,1.2s
BSY Bisya 19.62 137 ⇓P **Pn 03 53 03.1 -1.4**
SNR=14
PKSM Moragy 19.63 302⇑ *i*P **Pn 03 53 04.3 -0.3**
PKSM Moragy 19.63 302 *e*P **Pn 03 53 04.1 -0.5**
NIE Niedzica 19.76 313 *e*P **Pn 03 53 05.9 -0.2**
BUD Budapest 19.77 306⇑ *e*PPP 03 53 06.1
SMDO Samad 19.84 134 ⇑P **Pn 03 53 06.5 -0.6**
SNR=14
RHK1 Bakonya 19.98 302⇑ *e*P **Pn 03 53 07.7 -1.0**
WSAR Wadi Sarin 20.03 133 P **P 03 53 10.8 +3.1**
comp=Z,18nm,0.6s,baz=303,slow=9.1,SNR=9.2
WSAR S **S 03 56 47.2 -6.0**
comp=Z,4.9nm,1.0s,baz=102,slow=11,SNR=3.1
WSAR Wadi Sarin 20.03 133 P **P 03 53 10.8 +3.1**
WSAR S **S 03 56 47.2 -6.0**
SRO2 Moca 20.27 307 *i* P **P 03 53 11.9 +1.7**
LIKS Likavka 20.31 311 *e*P **P 03 53 11.4 +0.7**
TIP Timpagrande 20.33 281⇑ *i*P **P 03 53 10.7 -0.3**
TIP Timpagrande 20.33 281⇑ *i*P **P 03 53 10.7 -0.2**
SRO Srobarova 20.34 307 *e*P **P 03 53 11.9 +0.9**
SRO Srobarova 20.34 307 *e*P **P 03 53 12.0 +1.0**
SRO1 Iza 20.37 306 *e*P **P 03 53 13.1 +1.7**
JMDO Jabal Madar 20.41 135 ⇓P **P 03 53 11.7 -0.2**
SNR=11
OJC Ojcow 20.42 314 *e*P **P 03 53 11.7 -0.2**
OJC *e*S **S 03 56 56.0 -5.0**
OJC L 04 03 05.5
comp=Z,5.0nm,18.7s
OJC Ojcow 20.42 314 *e*P **P 03 53 11.7 -0.2**
comp=Z,5μm,18.7s
OJC *e*S **S 03 56 56.0 -5.0**
IDID Didziasalis 20.43 333 *e*P **P 03 53 11.6 -0.4**
IDID AMb AMB 03 53 17.7
comp=Z,1μm,1.0s
IDID Didziasalis 20.43 333 *e*P **P 03 53 11.6 -0.4**
comp=Z,1μm,1.0s,SNR=40
WAR Warsaw 20.82 320 *e*P **P 03 53 17.4 +1.2**
ISAL Salakas 20.85 333 *e*P **P 03 53 16.3 -0.2**
ISAL AMb AMB 03 53 21.1
comp=Z,2μm,1.0s
ISAL Salakas 20.85 333 *e*P **P 03 53 16.3 -0.3**
comp=Z,2μm,1.0s,SNR=35
SUW Suwalki 20.90 326 *e*P **P 03 53 16.9 -0.2**
IZAR Zarasai 20.95 333 *e*P **P 03 53 17.5 -0.1**
IZAR AMb AMB 03 53 22.1
comp=Z,2μm,1.1s
IZAR Zarasai 20.95 333 *e*P **P 03 53 17.5 -0.1**
comp=Z,2μm,1.1s,SNR=35
JAVC Velka Javorina 21.11 309 P **P 03 53 20.3 +0.9**
SMOL Smolenice 21.13 308 *e*P **P 03 53 21.5 +1.9**
OKC Ostrava-Krasne 21.21 312 *e*P **P 03 53 20.8 +0.4**
OKC AMS AMS 04 05 30.0
comp=Z,800nm,14.1s
OKC Ostrava-Krasne 21.21 312 P **P 03 53 19.8 -0.6**
OKC Ostrava-Krasne 21.21 312 *e*P **P 03 53 20.8 +0.4**
comp=Z,800nm,14.1s
ZST Bratislava 21.23 307 *e*P **P 03 53 21.4 +0.7**
ARU Arti 21.25 25⇑ *i*P **P 03 53 22.7 +1.8**
ARU *e* 03 53 44.2
ARU *e*PPP 03 53 53.2
ARU *e*S **S 03 57 19.7 +2.2**
ARU pmax pmax
comp=Z,79nm,1.0s,mb5.0
ARU MLR MLR
comp=N,400nm,18.0s
ARU MLR MLR
comp=Z,500nm,18.0s,MS4.0
ARU Arti 21.25 25⇑ *e*P **P 03 53 22.8 +1.8**
comp=Z,75nm,0.9s,mb5.0
ARU Arti 21.25 25 *i* P **P 03 53 22.7 +1.8**
comp=Z,79nm,1.0s,mb5.0
RAC Raciborz 21.28 312 *e*P **P 03 53 21.9 +0.7**
RAC MLR MLR
comp=Z,1μm,17.4s,MS4.3
RAC Raciborz 21.28 312 *e*P **P 03 53 21.9 +0.7**
comp=Z,1μm,17.4s
KOGS Kog 21.29 302 *e*P **P 03 53 21.6 +0.3**
SOP Sopron 21.42 305⇓ *e*PPP 03 53 24.1
MORC Moravsky Berou 21.54 311 ⇓ *i*P **P 03 53 24.4 +0.4**
MORC Moravsky Berou 21.54 311⇑ *e*P **P 03 53 23.9 -0.1**
MORC pmax pmax
comp=Z,67nm,1.1s,mb5.0
MORC Moravsky Berou 21.54 311⇑ *e*P **P 03 53 23.9 -0.1**
comp=Z,67nm,1.1s,mb5.0
MORC Moravsky Berou 21.54 311⇑ *e*P **P 03 53 23.9 -0.1**
comp=Z,67nm,1.1s,mb5.0
KK31 Karatay Array 21.66 68 *i* P **P 03 53 26.9 +1.6**
KK31 pmax pmax
comp=Z,94nm,1.1s,mb5.1
KK31 Karatay Array 21.66 68 *i* P **P 03 53 26.9 +1.6**
comp=Z,94nm,1.1s,mb5.1
KKAR Karatay Array 21.66 68 P **P 03 53 26.9 +1.6**
KKAR pmax pmax
comp=Z,103nm,1.1s,mb5.2
KKAR Karatay Array 21.66 68 P **P 03 53 26.9 +1.6**
comp=Z,103nm,1.1s,mb5.2
VRAC Vranov 21.93 309 P **P 03 53 28.3 +0.1**
comp=Z,14nm,0.9s,mb4.4,baz=104,slow=9.0,SNR=18
VRAC LR LR 04 03 55.0
comp=Z,820nm,18.5s,MS4.2,baz=104,slow=42
VRAC Vranov 21.93 309 ⇓ *i*P **P 03 53 29.1 +0.9**
VRAC Vranov 21.93 309⇑ P **P 03 53 29.6 +1.4**
VRAC Vranov 21.93 309 P **P 03 53 29.1 +0.9**
VRAC Vranov 21.93 309 *e*P **P 03 53 28.6 +0.4**
ARSA Arzberg 21.97 304 ⇓ *i*P **P 03 53 29.2 +0.6**
comp=Z,44nm,1.1s,mb4.8,SNR=17
MIDA Miranda 22.14 288 P **P 03 53 30.4 0.0**
HVZN Vizzini 22.20 277 P **P 03 53 30.3 -0.8**
WHFO Wadi Hawf 22.21 151 ⇓P **P 03 53 31.6 +0.5**
SNR=80
SVE Sverdlovsk 22.27 26⇓ *e*P **P 03 53 35.0 +3.1**
SVE *e* 03 54 18.0
SVE pmax pmax
comp=Z,120nm,2.2s,mb4.9
SVE Sverdlovsk 22.27 26 *e*P **P 03 53 35.0 +3.1**
comp=Z,120nm,2.2s,mb4.9
LJU Ljubljana 22.37 300 *e*P **P 03 53 34.5 +1.6**

VAE Valguarnera 22.38 277 P **P 03 53 34.0 +1.0**
comp=Z,18nm,0.5s,mb4.8,baz=37,slow=3.3,SNR=11
DPC Dobruska-Polom 22.49 312 *e*P **P 03 53 33.2 -0.9**
DPC AMS AMS 04 04 30.0
comp=Z,800nm,13.8s
DPC Dobruska-Polom 22.49 312 P **P 03 53 32.2 -1.9**
DPC Dobruska-Polom 22.49 312 *e*P **P 03 53 33.2 -0.9**
comp=Z,800nm,13.8s
ABTO Ayhut 22.55 153⇑P **P 03 53 35.2 +0.4**
SNR=16
TREC Trest 22.61 309 *e*P **P 03 53 35.0 -0.4**
WDD Wield Dalam 22.63 273 P **P 03 53 34.8 -0.8**
TERO Teramo 22.64 291 P **P 03 53 35.6 -0.2**
KSP Ksiaz 22.70 313 *e*P **P 03 53 36.2 -0.2**
KSP *e**PP 03 53 39.3
UPC Upice 22.73 312 *e*P **P 03 53 36.1 -0.6**
RBK Rabkut 22.75 151⇑P **P 03 53 37.5 +0.5**
SNR=18
AQU L'Aquila 22.78 290⇓ *i*P **P 03 53 35.5 -1.8**
AQU L'Aquila 22.78 290 *e*P **P 03 53 35.4 -1.9**
AQU pmax pmax
comp=Z,102nm,1.1s,mb5.2
AQU L'Aquila 22.78 290 *e*P **P 03 53 35.4 -1.9**
comp=Z,102nm,1.1s,mb5.2
AQU L'Aquila 22.78 290 *e*P **P 03 53 35.4 -1.9**
comp=Z,102nm,1.1s,mb5.2
VOY Vojsko 22.80 300 *e*P **P 03 53 34.4 -3.1**
VOY *e* 03 53 38.2
VOY *e* 03 54 11.5
MOA Molln 22.95 305⇑ *i*P **P 03 53 39.0 -0.1**
comp=Z,54nm,1.1s,mb4.9,SNR=36
CING Cingoli 22.98 293 P **P 03 53 38.8 -0.5**
KLMR Klimovskoe 22.98 356 *e* P **P 03 53 37.5 -1.8**
KLMR *e*S **S 03 57 52.0 +1.8**
KLMR pmax pmax
comp=Z,330nm,1.5s,mb5.5
KLMR pmax pmax
comp=Z,180nm,6.8s
KLMR MLR MLR
comp=Z,2μm,13.0s,MS4.7
KLMR Klimovskoe 22.98 356 *i* P **P 03 53 37.5 -1.8**
comp=Z,2μm,13.0s
VSU Vasula 22.98 338 P **P 03 53 37.8 -1.5**
VSU Vasula 22.98 338 *e*P **P 03 53 38.6 -0.7**
FIAM Fiamignano 22.99 290 P **P 03 53 40.2 +0.7**
GKP Gorka Klasztor 23.31 319 *e*P **P 03 53 43.0 +0.2**
KBA Koelnbreinsper 23.38 302 *i* P **P 03 53 45.0 +1.5**
comp=Z,91nm,1.0s,mb5.2,SNR=13
KBA Koelnbreinsper 23.38 302 *i* P **P 03 53 45.0 +1.5**
KBA pmax pmax
comp=Z,91nm,1.0s,mb5.2
PRU Pruhonice 23.42 310 *e*P **P 03 53 43.0 -1.0**
PRU AMS AMS 04 05 00.0
comp=Z,700nm,16.3s
PRU Pruhonice 23.42 310 P **P 03 53 43.3 -0.7**
ZRNK Zerenda 23.54 42 *i* P **P 03 53 48.0 +2.7**
ZRNK pmax pmax
comp=Z,35nm,1.3s,mb4.6
ZRNK Zerenda 23.54 42 *e*P **P 03 53 47.6 +2.3**
comp=Z,38nm,1.2s,mb4.7
GEC2 GERESS Array S 23.58 307 *e*P **P 03 53 44.5 -1.2**
comp=Z,24nm,1.2s,mb4.5
GEC2 GERESS Array S 23.58 307 *e*P **P 03 53 44.5 -1.2**
GEC2 pmax pmax
comp=Z,24nm,1.2s,mb4.5
GERES GERESS Array B 23.58 307 P **P 03 53 45.2 -0.5**
comp=Z,10nm,0.9s,mb4.2,baz=108,slow=8.6,SNR=38
GERES LR LR 04 04 38.6
comp=Z,418nm,18.6s,MS3.9,baz=6.4,slow=41
GERES GERESS Array B 23.58 307 P **P 03 53 45.2 -0.5**
GERES pmax pmax
comp=Z,10.0nm,0.9s
GERES MLR MLR
comp=Z,418nm,18.6s
KHC Kasperske Hory 23.74 307 *e*P **P 03 53 46.0 -1.1**
KHC x x 03 53 57.5
KHC AMS AMS 04 06 00.0
comp=Z,800nm,9.1s
KHC Kasperske Hory 23.74 307 P **P 03 53 43.6 -3.5**
BRG Berggiesshubel 24.09 312 *e*P **P 03 53 49.8 -0.5**
comp=Z,35nm,1.2s,mb4.7
BRG Berggiesshubel 24.09 312 *i* P **P 03 53 49.8 -0.6**
comp=Z,26nm,1.5s,mb4.5
BRG Berggiesshubel 24.09 312 *i* P **P 03 53 49.8 -0.5**
BRG pmax pmax
comp=Z,26nm,1.5s,mb4.4
BRG Berggiesshubel 24.09 312 P **P 03 53 49.7 -0.6**
WET Wettzell 24.19 307 *e*P **P 03 53 49.8 -1.4**
comp=Z,46nm,1.4s,mb4.7
WET Wettzell 24.19 307 *e*P **P 03 53 49.8 -1.4**
WET pmax pmax
comp=Z,46nm,1.4s,mb4.7
BRVK Borovoye 24.28 43 *e*P **P 03 53 54.4 +2.4**
BRVK pmax pmax
comp=Z,12nm,1.0s,mb4.3
BRVK Borovoye 24.28 43 *e*P **P 03 53 54.4 +2.3**
comp=Z,12nm,1.0s,mb4.3
BVA0 Borovoye Array 24.32 43 *i* P **P 03 53 56.8 +4.4**
BVA0 pmax pmax
comp=Z,6.0nm,1.1s,mb3.9
VOSK Vostochnaya 24.50 44 P **P 03 53 55.4 +1.3**
VOSK pmax pmax
comp=Z,11nm,1.0s,mb4.3
WTTA Wattenberg 24.56 302 *i* P **P 03 53 54.0 -0.6**
comp=Z,72nm,1.0s,mb5.1,SNR=34
WTTA Wattenberg 24.56 302 *i* P **P 03 53 54.0 -0.6**
WTTA pmax pmax
comp=Z,72nm,1.0s,mb5.2
AAK Ala-Archa 24.57 69 *e*P **P 03 53 56.0 +1.3**
AAK pmax pmax
comp=Z,41nm,1.4s,mb4.8
AAK Ala-Archa 24.57 69 *e*P **P 03 53 56.0 +1.3**
comp=Z,41nm,1.4s,mb4.8
WATA Walderalm 24.61 302 *i* P **P 03 53 54.3 -0.8**
comp=Z,56nm,1.0s,mb5.0,SNR=35
WATA Walderalm 24.61 302 *i* P **P 03 53 54.3 -0.8**
WATA pmax pmax
comp=Z,56nm,1.0s,mb5.0
FRU Bishkek 24.66 69 *e*P **P 03 53 58.0 +2.5**
FRU pmax pmax
comp=Z,225nm,2.0s,mb5.3
CHKZ Chkalovo 24.74 42 *e*P **P 03 53 58.5 +2.3**
CHKZ pmax pmax
comp=Z,36nm,1.4s,mb4.7
CHKZ Chkalovo 24.74 42 *e*P **P 03 53 58.5 +2.2**
comp=Z,36nm,1.4s,mb4.7
NKC Novy Kostel 24.77 309 *e*P **P 03 53 56.0 -0.6**
NKC AMS AMS 04 07 10.0
comp=Z,1μm,18.0s
NKC Novy Kostel 24.77 309 P **P 03 53 55.3 -1.3**
ROTZ Rotzenmuhle 24.78 308 *e*P **P 03 53 56.8 +0.2**
comp=Z,170nm,1.9s,mb5.2
CLL Collm 24.80 312 *e*(P) **P 03 53 56.0 -0.8**
comp=Z,66nm,1.0s,mb5.1
CLL *e*S **S 03 58 17.0 -2.7**
CLL Collm 24.80 312 *e*P **P 03 53 56.0 -0.8**
CLL *e*S **S 03 58 17.0 -2.7**
CLL pmax pmax
comp=Z,66nm,1.0s,mb5.1
CLL MLR MLR
comp=Z,1μm,13.3s,MS4.6
CLL Collm 24.80 312 P **P 03 53 56.1 -0.7**
RUE Ruedersdorf 24.80 315 *e*P **P 03 53 56.9 +0.1**
comp=Z,106nm,1.3s,mb5.2
RUE Ruedersdorf 24.80 315 *e*P **P 03 53 57.3 +0.5**
comp=Z,79nm,1.3s,mb5.1
SQTA Sankt Quirin 24.83 302⇑ *i*P **P 03 53 56.5 -0.6**
comp=Z,66nm,1.0s,mb5.1,SNR=19
SQTA Sankt Quirin 24.83 302⇑ *i*P **P 03 53 56.5 -0.6**
SQTA pmax pmax
comp=Z,66nm,1.0s,mb5.1
MANZ Manzenberg 24.91 309 *e*P **P 03 53 58.1 +0.3**
comp=Z,34nm,1.2s,mb4.8
MOTA Moosalm 24.93 302⇑ *i*P **P 03 53 56.9 -1.1**
comp=Z,122nm,1.0s,mb5.4,SNR=95
MOTA Moosalm 24.93 302⇑ *i*P **P 03 53 56.9 -1.0**
MOTA pmax pmax
comp=Z,122nm,1.0s,mb5.4
WERD Werda 24.93 310 *e*P **P 03 53 57.6 -0.3**
comp=Z,34nm,1.5s,mb4.7
FUR Furstenfeldbru 24.98 304 *e*P **P 03 53 56.8 -1.6**
comp=Z,161nm,0.9s,mb5.5
FUR Furstenfeldbru 24.98 304 *e*P **P 03 53 56.8 -1.6**
FUR pmax pmax
comp=Z,161nm,0.9s,mb5.5
FUR Furstenfeldbru 24.98 304 P **P 03 53 57.7 -0.7**

MEF Metsahovi 25.11 338 P **P 03 53 58.2 -1.4**
GRA1 Grafenberg Arr 25.38 308 *e*P **P 03 54 01.8 -0.2**
comp=Z,161nm,1.0s,mb5.5
GRF Grafenberg Arr 25.38 308 *e*P **P 03 54 01.8 -0.2**
comp=Z,161nm,1.0s,mb5.5
GRF Grafenberg Arr 25.38 308 *e*P **P 03 54 01.8 -0.2**
GRF pmax pmax
comp=Z,161nm,1.0s,mb5.5
GRF Grafenberg Arr 25.38 308 *e*P **P 03 54 01.8 -0.2**
GRF pmax pmax
comp=Z,161nm,1.0s,mb5.5
MOX Moxa 25.41 310 *e*P **P 03 54 02.8 +0.5**
comp=Z,26nm,1.3s,mb4.6
MOX
comp=Z,800nm,16.0s
MOX Moxa 25.41 310 *e*P **P 03 54 02.8 +0.5**
MOX pmax pmax
comp=Z,26nm,1.3s,mb4.6
MOX MLR MLR
comp=Z,800nm,16.0s,MS4.3
DAVOX Davos 25.66 301 P **P 03 54 04.2 -0.5**
comp=Z,29nm,0.7s,mb4.9,baz=108,slow=7.8,SNR=30
DAVOX LR LR 04 06 55.4
comp=Z,773nm,18.2s,MS4.3,baz=191,slow=43
FINES FINESS Array B 25.68 341 P **P 03 54 04.2 -0.6**
comp=Z,27nm,0.8s,mb4.8,baz=144,slow=11,SNR=41
FINES LR LR 04 05 35.8
comp=Z,634nm,18.4s,MS4.2,baz=127,slow=40
FINES FINESS Array B 25.68 341 P **P 03 54 04.2 -0.5**
FINES pmax pmax
comp=Z,27nm,0.8s
FINES MLR MLR
comp=Z,634nm,18.5s
FINES FINESS Array B 25.68 341 P **P 03 54 04.2 -0.6**
FINES LR LR 04 05 35.8
DAVA Damuels 25.74 302 *i* P **P 03 54 04.5 -0.8**
comp=Z,109nm,1.4s,mb5.2,SNR=29
KSH Kashi 25.88 76 P **P 03 54 08.1 +1.5**
KSH AP pP 03 54 12.6 +4.5
KSH XP sP 03 54 15.1 +6.4
KSH PP 03 54 51.5
KSH S **S 03 58 38.1 +1.2**
KSH XS sS 03 58 45.1 +5.7
KSH SS 03 59 48.1
KSH AMB AMB
comp=Z,261nm,3.3s
KSH LR LR
comp=N,947nm,11.2s,MS4.7
KSH LR LR
comp=E,1μm,12.5s,MS4.7
KSH LR LR
comp=Z,741nm,12.6s,MS4.4
VDL Val di Lei 25.90 300 ⇓P **P 03 54 07.4 +0.6**
JOF Joensuu 25.92 348 *ep* **P 03 54 05.1 -1.8**
comp=Z,250nm,1.4s,mb5.5
CORF Corte 25.93 290 *e*P **P 03 54 07.1 0.0**
VSL Villasalto 25.99 284 *e*P **P 03 54 06.7 -0.8**
comp=Z,30nm,1.0s,mb4.8
PGF Pioggiola 26.04 291⇑ *i*P **P 03 54 07.0 -1.1**
comp=Z,146nm,1.2s,mb5.1
PGF Pioggiola 26.04 291⇑ *i*P **P 03 54 07.0 -1.1**
PGF pmax pmax
comp=Z,73nm,1.2s,mb5.1
PGF Pioggiola 26.04 291⇑ *i*P **P 03 54 07.0 -1.1**
comp=Z,73nm,1.2s,mb5.1
KAF Kangasniemi 26.20 342 *ep* **P 03 54 09.4 -0.1**
baz=148,slow=7.0
LLS Linth-Limmern 26.26 301⇑P **P 03 54 09.3 -0.8**
TMCR Tamitsa 26.36 355 *e*P **P 03 54 12.5 +1.5**
TMCR pmax pmax
comp=Z,50nm,1.3s,mb4.9
TMCR pmax pmax
comp=N,70nm,1.0s
TMCR pmax pmax
comp=E,10.0nm,0.9s
WILA Wila 26.41 302⇑P **P 03 54 10.8 -0.6**
UBBA Unterbreizbach 26.44 310 *e*P **P 03 54 12.3 +0.6**
comp=Z,21nm,1.5s,mb4.5
STU Stuttgart 26.46 305 *e*P **P 03 54 09.7 -2.1**
comp=Z,52nm,1.2s,mb4.9
STU Stuttgart 26.46 305 *e*P **P 03 54 10.3 -1.5**
STU pmax pmax
comp=Z,43nm,1.1s,mb4.9
STU Stuttgart 26.46 305 *e*P **P 03 54 10.3 -1.5**
comp=Z,43nm,1.1s,mb4.9
CLZ Clausthal 26.52 312 *e*P **P 03 54 11.8 -0.6**
comp=Z,36nm,1.0s,mb4.9
CLZ Clausthal 26.52 312 *e*P **P 03 54 11.8 -0.6**
CLZ pmax pmax
comp=Z,36nm,1.0s,mb4.9
MUO Muotathal 26.53 301⇑P **P 03 54 11.8 -0.7**
ZUR Zurich 26.62 302⇑P **P 03 54 12.7 -0.6**
SLE Schleitheim 26.74 302⇑P **P 03 54 13.7 -0.7**
TOD Tromm 26.88 307 *e*P **P 03 54 15.2 -0.4**
BFO Black Forest 26.94 304 *e*P **P 03 54 16.9 +0.7**
SULZ Sulz-Cheisache 26.96 302⇑P **P 03 54 15.5 -0.8**
FELD Feldberg im Sc 27.08 303 *e*P **P 03 54 19.1 +1.6**
LKBD Leukerbad 27.16 299⇑P **P 03 54 17.1 -1.1**
SBF Sospel 27.17 294 *e*P **P 03 54 17.6 -0.7**
comp=Z,280nm,1.2s,mb5.4
SBF Sospel 27.17 294 *e*P **P 03 54 17.6 -0.7**
SBF pmax pmax
comp=Z,140nm,1.2s,mb5.4
SBF Sospel 27.17 294 *e*P **P 03 54 17.6 -0.7**
comp=Z,140nm,1.2s,mb5.4
LUCF Luceram 27.24 294 *e*P **P 03 54 17.8 -1.1**
TNS Taunus Mts 27.25 308 *e*P **P 03 54 18.3 -0.6**
comp=Z,56nm,1.3s,mb4.9
TNS Taunus Mts 27.25 308 *e*P **P 03 54 18.3 -0.6**
TNS pmax pmax
comp=Z,56nm,1.3s,mb4.9
DIX Grande Dixence 27.28 299⇑P **P 03 54 18.7 -0.6**
BSEG Bad Segeberg 27.30 316 *e*P **P 03 54 19.8 +0.4**
comp=Z,47nm,1.1s,mb4.9
BSEG Bad Segeberg 27.30 316 *e*P **P 03 54 19.8 +0.4**
BSEG pmax pmax
comp=Z,47nm,1.1s,mb4.9
BBS Basel-Blauen 27.36 302 *e*P **P 03 54 19.1 -0.8**
LANF Langenberg 27.40 305 *e*P **P 03 54 18.9 -1.4**
CDF Champ du Feu 27.65 304 *e*P **P 03 54 20.8 -1.7**
comp=Z,12nm,0.9s,mb4.2
CDF Champ du Feu 27.65 304 *e*P **P 03 54 20.8 -1.7**
CDF pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
CDF Champ du Feu 27.65 304 *e*P **P 03 54 20.8 -1.7**
comp=Z,6.0nm,0.9s,mb4.2
MBDF Montbardon 27.66 296⇑ *i*P **P 03 54 22.0 -0.7**
comp=Z,33nm,0.8s,mb4.7
MBDF Montbardon 27.66 296⇑ *i*P **P 03 54 22.0 -0.7**
MBDF pmax pmax
comp=Z,17nm,0.8s,mb4.7
MBDF Montbardon 27.66 296⇑ *i*P **P 03 54 22.0 -0.7**
comp=Z,17nm,0.8s,mb4.7
ECH Echery 27.70 303 *e*P **P 03 54 21.7 -1.2**
LPL La Plagne 27.72 297 *e*P **P 03 54 22.4 -0.8**
BNI Bardonecchia 27.74 296 *e*P **P 03 54 22.4 -0.9**
BNI pmax pmax
comp=Z,31nm,1.0s,mb4.9
BNI Bardonecchia 27.74 296 *e*P **P 03 54 22.4 -0.9**
comp=Z,31nm,1.0s,mb4.9
FRF La Foret Royal 27.75 293 *e*P **P 03 54 22.6 -0.8**
comp=Z,106nm,1.4s,mb5.0
FRF La Foret Royal 27.75 293 *e*P **P 03 54 22.6 -0.8**
FRF pmax pmax
comp=Z,53nm,1.4s,mb5.0
FRF La Foret Royal 27.75 293 *e*P **P 03 54 22.6 -0.8**
comp=Z,53nm,1.4s,mb5.0
LOMF Lomont 27.80 301 *e*P **P 03 54 23.7 -0.2**
HINF Hinteralfeld 27.84 302 *e*P **P 03 54 22.7 -1.6**
comp=Z,15nm,0.9s,mb4.3
HINF Hinteralfeld 27.84 302 *e*P **P 03 54 22.7 -1.6**
HINF pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
HINF Hinteralfeld 27.84 302 *e*P **P 03 54 22.7 -1.6**
comp=Z,7.7nm,0.9s,mb4.3
LMR La Mourre 27.85 293 *e*P **P 03 54 23.3 -1.1**
HAU Haudompre 28.20 303 *e*P **P 03 54 27.3 -0.2**
comp=Z,53nm,1.3s,mb4.7
HAU *e*R
comp=Z,628nm,20.2s
HAU Haudompre 28.20 303 *e*P **P 03 54 27.3 -0.2**
HAU pmax pmax
comp=Z,26nm,1.3s,mb4.7
HAU MLR MLR
comp=Z,630nm,20.3s,MS4.2
HAU Haudompre 28.20 303 *e*P **P 03 54 27.3 -0.2**

comp=Z,26nm,1.3s,mb4.7
HAU LR LR
comp=Z,630nm,20.3s,MS4.2
IBBN Ibbenburen 28.20 312 *e*P **P 03 54 27.8 +0.3**
comp=Z,324nm,2.5s,mb5.5
CABF La Chapelle 28.24 300 *e*P **P 03 54 27.3 -0.5**
comp=Z,259nm,1.4s,mb5.4
CABF La Chapelle 28.24 300 *e*P **P 03 54 27.3 -0.5**
CABF pmax pmax
comp=Z,130nm,1.4s,mb5.4
CABF La Chapelle 28.24 300 *e*P **P 03 54 27.3 -0.5**
comp=Z,130nm,1.4s,mb5.4
ORIF Oris-en-Rattie 28.30 296 *e*P **P 03 54 26.9 -1.5**
comp=Z,23nm,1.0s,mb4.5
ORIF *e*R
comp=Z,443nm,19.5s
ORIF Oris-en-Rattie 28.30 296 *e*P **P 03 54 26.9 -1.5**
ORIF pmax pmax
comp=Z,12nm,1.0s,mb4.5
ORIF Oris-en-Rattie 28.30 296 *e*P **P 03 54 26.9 -1.5**
comp=Z,12nm,1.0s,mb4.5
KURK Kurchatov 28.34 52 *e*P **P 03 54 31.1 +2.4**
KURK pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
KURK Kurchatov 28.34 52 *e*P **P 03 54 31.1 +2.4**
comp=Z,9.2nm,0.9s,mb4.4
SMRF Simiane la Rot 28.52 294 *e*P **P 03 54 29.5 -0.8**
comp=Z,54nm,1.5s,mb4.8
SMRF Simiane la Rot 28.52 294 *e*P **P 03 54 29.5 -0.8**
comp=Z,27nm,1.5s,mb4.8
WLF Walferdange 28.58 306 P **P 03 54 30.6 -0.3**
WLF Walferdange 28.58 306 *e*P **P 03 54 30.6 -0.3**
WLF pmax pmax
comp=Z,27nm,1.1s,mb4.9
WLF Walferdange 28.58 306 *e*P **P 03 54 30.6 -0.2**
comp=Z,27nm,1.1s,mb4.9
WTSB Winterswijk 28.68 311⇑ *e*P **P 03 54 32.4 +0.7**
comp=Z,60nm,2.1s,mb5.0
HFS Hagfors 28.79 330 P **P 03 54 32.3 -0.4**
comp=Z,18nm,0.8s,mb4.8,baz=134,slow=8.5,SNR=32
HFS LR LR 04 07 13.7
comp=Z,859nm,18.6s,MS4.4,baz=126,slow=39
HFA0 Hagfors New Ar 28.80 330 P **P 03 54 31.7 -1.1**
MUD Monsted U'grnd 28.92 321 *i* P **P 03 54 34.9 +1.0**
comp=Z,63nm,1.7s,mb5.1
MUD *i* 03 55 12.8
MUD
comp=Z,380nm,16.0s
MUD Monsted U'grnd 28.92 321 *i* P **P 03 54 34.9 +1.0**
comp=Z,63nm,1.7s,mb5.1
MUD *i* 03 55 12.8
HGN Heimansgroeve 28.93 308 *e*P **P 03 54 33.6 -0.4**
comp=Z,47nm,1.7s,mb4.9
HGN *e*PP PP 03 55 49.5 +10
HGN *e*S **S 03 59 44.8 +20**
VIVF Saint-Julien-l 29.16 296⇑ *i*P **P 03 54 34.4 -1.6**
comp=Z,16nm,0.7s,mb4.5
VIVF Saint-Julien-l 29.16 296⇑ *i*P **P 03 54 34.4 -1.6**
VIVF pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
VIVF Saint-Julien-l 29.16 296⇑ *i*P **P 03 54 34.4 -1.6**
comp=Z,8.1nm,0.7s,mb4.5
GIVF Givet 29.50 307 *e*P **P 03 54 38.6 -0.5**
DOU Dourbes 29.65 306 P **P 03 54 38.9 -1.5**
LASF Ste Croix 29.75 294 *e*P **P 03 54 40.1 -1.2**
comp=Z,68nm,1.4s,mb4.9
LASF Ste Croix 29.75 294 *e*P **P 03 54 40.1 -1.2**
comp=Z,34nm,1.4s,mb4.9
SMF Signal de Mont 29.79 299⇑ *i*P **P 03 54 40.3 -1.2**
comp=Z,71nm,1.2s,mb5.0
SMF Signal de Mont 29.79 299⇑ *i*P **P 03 54 40.3 -1.2**
SMF pmax pmax
comp=Z,35nm,1.2s,mb5.0
SMF Signal de Mont 29.79 299⇑ *i*P **P 03 54 40.3 -1.2**
comp=Z,35nm,1.2s,mb5.0
LOR Lormes 29.81 301⇑ *i*P **P 03 54 40.3 -1.5**
comp=Z,52nm,1.2s,mb4.8
LOR *e*R
comp=Z,856nm,19.5s
LOR Lormes 29.81 301⇑ *i*P **P 03 54 40.3 -1.5**
LOR pmax pmax
comp=Z,26nm,1.2s,mb4.8
LOR MLR MLR
comp=Z,860nm,19.5s,MS4.4
LOR Lormes 29.81 301⇑ *i*P **P 03 54 40.3 -1.5**
comp=Z,26nm,1.2s,mb4.8
LOR LR LR
comp=Z,860nm,19.5s,MS4.4
BAIF Baives 29.89 306 *e*P **P 03 54 42.2 -0.3**
PLDF La Plantade 29.91 298 *e*P **P 03 54 42.0 -0.7**
SSF Saint Saulge 30.04 300⇑ *i*P **P 03 54 42.5 -1.3**
comp=Z,80nm,1.5s,mb4.9
SSF Saint Saulge 30.04 300⇑ *i*P **P 03 54 42.5 -1.3**
SSF pmax pmax
comp=Z,40nm,1.5s,mb4.9
SSF Saint Saulge 30.04 300⇑ *i*P **P 03 54 42.5 -1.3**
comp=Z,40nm,1.5s,mb4.9
APA Apatity 30.09 353 *e*P **P 03 54 41.0 -3.3**
APA *i* 03 55 40.0
APA *i* 03 55 51.5
AVF Avril sur Loir 30.13 300⇑ *i*P **P 03 54 43.3 -1.3**
comp=Z,75nm,1.1s,mb5.0
AVF Avril sur Loir 30.13 300⇑ *i*P **P 03 54 43.3 -1.3**
AVF pmax pmax
comp=Z,38nm,1.1s,mb5.0
AVF Avril sur Loir 30.13 300⇑ *i*P **P 03 54 43.3 -1.3**
comp=Z,38nm,1.1s,mb5.0
KONO Kongsberg 30.23 327⇑ *e*P **P 03 54 45.4 -0.1**
MK31 Makanchi Array 30.23 60 P **P 03 54 46.5 +1.0**
MK31 pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
MKAR Makanchi Array 30.23 60 P **P 03 54 46.7 +1.2**
comp=Z,5.6nm,0.6s,mb4.5,baz=257,slow=9.3,SNR=44
MKAR Makanchi Array 30.23 60 P **P 03 54 46.7 +1.2**
MKAR pmax pmax
comp=Z,6.0nm,0.6s
MKAR Makanchi Array 30.23 60 P **P 03 54 46.7 +1.2**
AGO Saint Agoulin 30.26 298 *e*P **P 03 54 45.4 -0.3**
NB2 NORSAR Subarra 30.32 330 P **P 03 54 44.8 -1.5**
comp=Z,30nm,1.4s,mb4.8,baz=125,slow=8.6
NB2 NORSAR Subarra 30.32 330 P **P 03 54 45.5 -0.8**
NOA NORSAR Array B 30.32 330 P **P 03 54 44.9 -1.4**
comp=Z,4.3nm,0.8s,mb4.2,baz=126,slow=8.8,SNR=13
NOA LR LR 04 08 09.6
comp=Z,635nm,18.4s,MS4.3,baz=90,slow=39
NOA NORSAR Array B 30.32 330 P **P 03 54 44.9 -1.4**
NOA pmax pmax
comp=Z,4.0nm,0.8s
NOA MLR MLR
comp=Z,635nm,18.4s
NAO01 NORSAR Array S 30.34 329 *e*P **P 03 54 45.5 -1.0**
comp=Z,5.9nm,0.7s,mb4.4
BGF Bois d'Agland 30.47 299 *e*P **P 03 54 46.2 -1.4**
HYF Humbligny 30.64 301 *e*P **P 03 54 48.4 -0.7**
TCF Toulx Ste Croi 30.90 299⇑ *i*P **P 03 54 50.5 -0.9**
comp=Z,66nm,1.3s,mb5.0
TCF Toulx Ste Croi 30.90 299⇑ *i*P **P 03 54 50.5 -0.9**
TCF pmax pmax
comp=Z,33nm,1.3s,mb5.0
TCF Toulx Ste Croi 30.90 299⇑ *i*P **P 03 54 50.5 -0.9**
comp=Z,33nm,1.3s,mb5.0
ETOS Mallorca 30.96 286 P **P 03 54 51.6 -0.3**
comp=Z,46nm,1.3s,mb5.2
MTLF Montolieu 30.98 293 *e*P **P 03 54 50.6 -1.5**
comp=Z,20nm,1.0s,mb4.6
MTLF Montolieu 30.98 293 *e*P **P 03 54 50.6 -1.5**
MTLF pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
MTLF Montolieu 30.98 293 *e*P **P 03 54 50.6 -1.5**
comp=Z,10nm,1.0s,mb4.6
CAF Calviac 31.01 296 *e*P **P 03 54 51.4 -1.0**
comp=Z,34nm,1.3s,mb4.7
CAF Calviac 31.01 296 *e*P **P 03 54 51.4 -1.0**
CAF pmax pmax
comp=Z,17nm,1.3s,mb4.7
CAF Calviac 31.01 296 *e*P **P 03 54 51.4 -1.0**
comp=Z,17nm,1.3s,mb4.7
RJF Les Rejaudoux 31.39 297 *e*P **P 03 54 55.2 -0.5**
RJF *e*R
comp=Z,498nm,17.5s
RJF Les Rejaudoux 31.39 297 *e*P **P 03 54 55.2 -0.5**
RJF LR LR
comp=Z,500nm,17.5s,MS4.2
LFF La Frestale 31.95 296 *e*P **P 03 54 59.7 -1.0**
comp=Z,29nm,1.0s,mb4.8
LFF La Frestale 31.95 296 *e*P **P 03 54 59.7 -1.0**
LFF pmax pmax
comp=Z,14nm,1.0s,mb4.8
LFF La Frestale 31.95 296 *e*P **P 03 54 59.7 -1.0**
comp=Z,14nm,1.0s,mb4.8
NVS Novosibirsk 32.05 45 *e*P **P 03 55 00.5 -1.0**
NVS pmax pmax
comp=N,11nm,1.4s
NVS pmax pmax
comp=Z,20nm,1.4s,mb4.8
NVS pmax pmax
comp=E,5.0nm,1.0s
NVS pmax pmax
comp=N,9.0nm,1.7s
NVS pmax pmax
comp=E,13nm,1.7s
NVS pmax pmax
comp=Z,21nm,1.7s,mb4.7
EPF Esparros 32.37 293 *e*P **P 03 55 03.9 -0.5**
comp=Z,16nm,0.9s,mb4.5
EPF Esparros 32.37 293 *e*P **P 03 55 03.9 -0.5**
EPF pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
EPF Esparros 32.37 293 *e*P **P 03 55 03.9 -0.5**
comp=Z,8.1nm,0.9s,mb4.5
EGRA Graus 32.48 291 P **P 03 55 06.4 +1.1**
comp=Z,19nm,0.8s,mb5.0
MFF Saint Martin d 32.53 299 *e*P **P 03 55 04.3 -1.5**
comp=Z,50nm,1.1s,mb5.1
MFF Saint Martin d 32.53 299 *e*P **P 03 55 04.3 -1.5**
MFF pmax pmax
comp=Z,25nm,1.1s,mb5.1
MFF Saint Martin d 32.53 299 *e*P **P 03 55 04.3 -1.5**
comp=Z,25nm,1.1s,mb5.1
EBIE Bielsa 32.55 292 P **P 03 55 05.5 -0.4**
comp=Z,5.1nm,0.7s,mb4.6
LDF La Druitiere 32.56 303 *e*P **P 03 55 04.8 -1.2**
comp=Z,40nm,1.2s,mb4.9
LDF La Druitiere 32.56 303 *e*P **P 03 55 04.8 -1.2**
LDF pmax pmax
comp=Z,20nm,1.2s,mb4.9
LDF La Druitiere 32.56 303 *e*P **P 03 55 04.8 -1.2**
comp=Z,20nm,1.2s,mb4.9
ERTA Horta de San J 32.64 289 P **P 03 55 06.1 -0.6**
comp=Z,9.8nm,0.9s,mb4.7
ZAL Zalesovo 32.73 47 P **P 03 55 10.5 +3.0**
comp=Z,1.5nm,0.4s,mb4.3,baz=211,slow=9.1,SNR=5.0
ZAL Zalesovo 32.73 47 P **P 03 55 10.5 +3.0**
ZAL pmax pmax
comp=Z,2.0nm,0.4s
FLN La Foliniere 32.80 303 *e*P **P 03 55 06.5 -1.6**
comp=Z,63nm,1.1s,mb5.1
FLN *e*R
comp=Z,502nm,18.2s
FLN La Foliniere 32.80 303 *e*P **P 03 55 06.5 -1.6**
FLN pmax pmax
comp=Z,31nm,1.1s,mb5.2
FLN MLR MLR
comp=Z,500nm,18.3s,MS4.2
FLN La Foliniere 32.80 303 *e*P **P 03 55 06.5 -1.6**
comp=Z,31nm,1.1s,mb5.2
FLN LR LR
comp=Z,500nm,18.3s,MS4.2
ARCES ARCESS Array B 32.95 349 P **P 03 55 08.8 -0.5**
comp=Z,1.5nm,0.4s,mb4.2,baz=161,slow=9.0,SNR=15
ARCES LR LR 04 09 06.5
comp=Z,899nm,19.3s,MS4.5,baz=138,slow=38
ARCES ARCESS Array B 32.95 349 P **P 03 55 08.8 -0.6**
ARCES pmax pmax
comp=Z,2.0nm,0.4s
ARCES MLR MLR
comp=Z,899nm,19.3s
ARCES ARCESS Array B 32.95 349 P **P 03 55 08.8 -0.6**
ARCES LR LR 04 09 06.5
ARE0 ARCESS Array S 32.95 349 *e*P **P 03 55 09.7 +0.3**
GRR Gorron 33.04 303 *e*P **P 03 55 08.6 -1.6**
comp=Z,90nm,1.1s,mb5.3
GRR Gorron 33.04 303 *e*P **P 03 55 08.6 -1.6**
GRR pmax pmax
comp=Z,45nm,1.1s,mb5.3
GRR Gorron 33.04 303 *e*P **P 03 55 08.6 -1.6**
comp=Z,45nm,1.1s,mb5.3
ETSF Etsaut 33.04 292 *e*P **P 03 55 08.8 -1.4**
comp=Z,69nm,1.4s,mb5.1
ETSF Etsaut 33.04 292 *e*P **P 03 55 08.8 -1.4**
ETSF pmax pmax
comp=Z,35nm,1.4s,mb5.1
ETSF Etsaut 33.04 292 *e*P **P 03 55 08.8 -1.4**
comp=Z,34nm,1.4s,mb5.1
ESAC San Caprasio 33.12 290 P **P 03 55 10.4 -0.6**
comp=Z,20nm,0.9s,mb5.0
EMOS Mosqueruela 33.34 288 P **P 03 55 12.7 -0.1**
comp=Z,26nm,0.9s,mb5.2
EBEN Beniarda 33.48 285 P **P 03 55 12.1 -1.9**
comp=Z,25nm,1.0s,mb5.1
SJPF Ste Jean 33.51 293 *e*P **P 03 55 13.9 -0.4**
comp=Z,66nm,1.2s,mb5.1
SJPF Ste Jean 33.51 293 *e*P **P 03 55 13.9 -0.4**
SJPF pmax pmax
comp=Z,33nm,1.2s,mb5.1
SJPF Ste Jean 33.51 293 *e*P **P 03 55 13.9 -0.4**
comp=Z,33nm,1.2s,mb5.1
ECHE Chera 33.86 287 P **P 03 55 17.8 +0.4**
ECHE pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
ECHE Chera 33.86 287 P **P 03 55 17.8 +0.4**
comp=Z,6.3nm,1.0s,mb4.5
WMQ Urumqi 34.14 66 P **P 03 55 18.5 -1.3**
WMQ PP PP 03 56 33.5 -3.5
WMQ PCP PcP 03 57 54.5 -2.4
WMQ *e*S **S 04 00 43.5 -2.9**
WMQ AMB AMB
comp=Z,12nm,1.2s,mb4.7
WMQ AMB AMB
comp=Z,135nm,2.3s,mb5.5
WMQ LR LR
comp=N,519nm,21.2s,MS4.5
WMQ LR LR
comp=E,745nm,21.2s,MS4.5
WMQ LR LR
comp=Z,496nm,20.0s,MS4.2
SGMF Saint Gilles 34.17 302 *e*P **P 03 55 18.8 -1.2**
comp=Z,173nm,1.1s,mb5.6
SGMF Saint Gilles 34.17 302 *e*P **P 03 55 18.8 -1.2**
SGMF pmax pmax
comp=Z,86nm,1.1s,mb5.6
SGMF Saint Gilles 34.17 302 *e*P **P 03 55 18.8 -1.2**
comp=Z,86nm,1.1s,mb5.6
CART Cartagena 34.34 283 *e*P **P 03 55 21.6 +0.1**
comp=Z,20nm,1.0s,mb5.0
EMUR La Murta 34.46 284 P **P 03 55 21.7 -0.9**
comp=Z,7.3nm,0.8s,mb4.7
ETOB Tobarra 34.50 285 P **P 03 55 23.0 +0.1**
comp=Z,9.9nm,0.7s,mb4.8
QUIF Quistinic 34.58 302 *e*P **P 03 55 22.0 -1.6**
comp=Z,156nm,1.1s,mb5.5
QUIF Quistinic 34.58 302 *e*P **P 03 55 22.0 -1.6**
QUIF pmax pmax
comp=Z,78nm,1.1s,mb5.5
QUIF Quistinic 34.58 302 *e*P **P 03 55 22.0 -1.6**
comp=Z,78nm,1.1s,mb5.5
ROSF Rostrenen 34.65 302⇑ *i*P **P 03 55 22.8 -1.4**
comp=Z,96nm,1.1s,mb5.3
ROSF Rostrenen 34.65 302⇑ *i*P **P 03 55 22.8 -1.4**
ROSF pmax pmax
comp=Z,48nm,1.1s,mb5.3
ROSF Rostrenen 34.65 302⇑ *i*P **P 03 55 22.8 -1.4**
comp=Z,48nm,1.1s,mb5.3
ELAN Lanestosa 35.09 293 P **P 03 55 26.8 -1.3**
comp=Z,11nm,0.9s,mb4.8
EKA Eskdalemuir Ar 35.20 315 P **P 03 55 28.5 -0.4**
comp=Z,17nm,0.9s,mb5.0,baz=106,slow=8.2,SNR=30
EKA Eskdalemuir Ar 35.20 315 P **P 03 55 28.5 -0.4**
EKA pmax pmax
comp=Z,17nm,0.9s
ESK Eskdalemuir 35.22 315 *e*P **P 03 55 28.6 -0.5**
ESK pmax pmax
comp=Z,29nm,1.1s,mb5.1
ESK Eskdalemuir 35.22 315 *e*P **P 03 55 28.6 -0.5**
comp=Z,29nm,1.1s,mb5.1
EVIA Vianos 35.23 285 P **P 03 55 29.4 +0.2**
EVIA pmax pmax
comp=Z,12nm,0.7s,mb4.9
EVIA Vianos 35.23 285 P **P 03 55 29.4 +0.2**
comp=Z,12nm,0.7s,mb4.9
ENIJ Nijar 35.42 283 P **P 03 55 30.2 -0.7**
ENIJ pmax pmax
comp=Z,16nm,0.9s,mb5.0
ENIJ Nijar 35.42 283 P **P 03 55 30.2 -0.7**
comp=Z,16nm,0.9s,mb5.0
EHUE Huescar 35.50 284 P **P 03 55 31.6 +0.1**
EHUE pmax pmax
comp=Z,12nm,0.8s,mb4.9
EHUE Huescar 35.50 284 P **P 03 55 31.6 0.0**
comp=Z,12nm,0.8s,mb4.9
KOLN Koldanda 35.55 94 *e*P **P 03 55 30.8 -1.1**
comp=Z,20nm,1.0s,mb5.0
EQES Quesada 35.87 284 P **P 03 55 34.3 -0.4**
comp=Z,39nm,0.9s,mb5.3
GUD Guadarrama 36.05 289 P **P 03 55 35.2 -1.0**
GUD pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
GUD Guadarrama 36.05 289 P **P 03 55 35.2 -1.0**
comp=Z,4.3nm,0.8s,mb4.4
ESDC Sonseca Array 36.11 288 P **P 03 55 34.8 -2.0**
comp=Z,17nm,1.1s,mb4.9,baz=70,slow=8.8,SNR=12
ESDC Sonseca Array 36.11 288 P **P 03 55 35.4 -1.4**
comp=Z,5.5nm,0.6s,mb4.7
GKN Gorkha 36.26 93 *e*P **P 03 55 36.3 -1.7**
comp=Z,23nm,0.8s,mb5.2
EGUA Guajares 36.51 283 P **P 03 55 39.3 -0.9**
EGUA pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
EGUA Guajares 36.51 283 P **P 03 55 39.3 -0.8**
comp=Z,2.5nm,0.7s,mb4.2
ERON Agron 36.64 283 P **P 03 55 40.2 -1.1**
comp=Z,12nm,1.0s,mb4.7
DMN Daman 36.81 94 *e*P **P 03 55 43.4 +0.7**
comp=Z,57nm,1.0s,mb5.3
ELUQ Luque 36.85 284 P **P 03 55 42.0 -1.1**
ELUQ pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
ELUQ Luque 36.85 284 P **P 03 55 42.0 -1.1**
comp=Z,4.0nm,0.7s,mb4.4
KKN Kakani 36.86 93 *e*P **P 03 55 43.2 0.0**
ELOJ Sierra Loja 36.87 284 P **P 03 55 41.9 -1.4**
ELOJ pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
ELOJ Sierra Loja 36.87 284 P **P 03 55 41.9 -1.4**
comp=Z,4.2nm,0.8s,mb4.3
DLF Lyons Farm 36.90 311⇑ *i*P **P 03 55 42.6 -0.9**
EADA Adamuz 36.93 285 P **P 03 55 42.9 -0.9**
comp=Z,13nm,1.1s,mb4.7
PKI Pulchoki 37.06 93 *e*P **P 03 55 46.5 +1.6**
comp=Z,22nm,0.8s,mb5.0
PKI Pulchoki 37.06 93 *e*P **P 03 55 46.5 +1.6**
PKI pmax pmax
comp=Z,22nm,0.8s,mb5.0
GUN Gumba 37.28 93 *e*P **P 03 55 46.8 +0.1**
DCN Croghan 37.35 311⇑ *i*P **P 03 55 46.5 -0.8**
EMIJ Mijas 37.52 283 P **P 03 55 47.0 -1.7**
comp=Z,32nm,0.9s,mb5.0
JIRN Jiri 37.64 93 *e*P **P 03 55 51.1 +1.3**
comp=Z,25nm,0.9s,mb5.0
ECAL Calabor 37.71 292 P **P 03 55 51.3 +0.9**
comp=Z,9.1nm,0.7s,mb4.6
EJIF Jimena Fronter 38.09 283 P **P 03 55 52.5 -1.1**
EJIF pmax pmax
comp=Z,12nm,0.9s,mb4.6
EJIF Jimena Fronter 38.09 283 P **P 03 55 52.5 -1.0**
comp=Z,12nm,0.9s,mb4.6
ESPR Espera 38.26 284 P **P 03 55 53.4 -1.6**
comp=Z,12nm,0.9s,mb4.6
PVRL Vila Real 38.56 291 *e*P **P 03 55 54.9 -2.7**
comp=Z,29nm,1.6s,mb4.8
MDT Midelt 38.62 277 P **P 03 55 58.4 +0.4**
comp=Z,10nm,1.0s,mb4.5,baz=92,slow=9.8,SNR=12
MTE Manteigas 38.63 290 *e*P **P 03 55 55.8 -2.3**
comp=Z,53nm,1.1s,mb5.2
MTE Manteigas 38.63 290 *e*LR LR 04 06 20.4
comp=Z,344nm,19.1s
MTE Manteigas 38.63 290 *e*P **P 03 55 56.7 -1.4**
comp=Z,31nm,0.8s,mb5.1
EBAD Badajoz 38.63 287 P **P 03 55 57.0 -1.1**
comp=Z,9.5nm,1.3s,mb4.4
EMIN Mina Concepcio 38.63 285 P **P 03 55 57.1 -1.0**
comp=Z,15nm,0.9s,mb4.7
ELOB Lobios 38.69 292 P **P 03 55 59.7 +1.0**
comp=Z,16nm,1.1s,mb4.7
PCBR Castelo Branco 38.71 289 *e*P **P 03 55 57.2 -1.6**
comp=Z,52nm,1.1s,mb5.2
PVIS Viseu 38.81 290 *e*P **P 03 55 58.4 -1.3**
comp=Z,43nm,1.4s,mb5.0
KMBO Kilima Mbogo 39.25 189 P **P 03 56 06.3 +3.0**
comp=Z,0.5nm,0.3s,mb3.7,baz=212,slow=23,SNR=3.6
KMBO Kilima Mbogo 39.25 189 P **P 03 56 06.4 +3.1**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
EGRO El Granado 39.31 285 P **P 03 56 03.1 -0.7**
comp=Z,7.5nm,0.8s,mb4.5
PTOM Tomar 39.46 289 *e*P **P 03 56 04.3 -0.8**
comp=Z,75nm,1.0s,mb5.4
PBEJ Beja 39.47 286 *e*P **P 03 56 02.1 -3.0**
comp=Z,19nm,1.0s,mb4.8
PLOU Loures 40.20 288 *e*P **P 03 56 08.2 -3.1**
comp=Z,74nm,1.9s,mb5.1
MOY Mondy 42.40 52 *e*P **P 03 56 33.7 +4.4**
MOY pmax pmax
comp=Z,32nm,2.7s,mb4.5
SHL Shillong 43.12 92 *e*P **P 03 56 37.0 +1.9**
GTA Gaotai 43.92 70 *e*P **P 03 56 43.6 +2.0**
GTA AP pP 03 56 47.3 +4.1
GTA XP sP 03 56 49.3 +5.5
GTA PP PP 03 58 26.8 +3.0
GTA S **S 04 03 12.3 -1.2**
GTA SS SS 04 06 20.1 -10
GTA AMB AMB
comp=Z,5.0nm,1.1s,mb4.2
GTA AMB AMB
comp=Z,319nm,5.7s
GTA LR LR
comp=N,478nm,19.0s,MS4.6
GTA LR LR
comp=E,446nm,17.9s,MS4.6
GTA LR LR
comp=Z,480nm,19.0s,MS4.4
ZAK Zakamensk 43.97 53 *e*P **P 03 56 44.3 +2.3**
ZAK pmax pmax
comp=Z,24nm,1.8s,mb4.6
ZAK pmax pmax
comp=Z,9.0nm,1.8s,mb4.2
TORD Torodi Ar. Bea 44.03 247 P **P 03 56 41.2 -1.2**
comp=Z,8.3nm,1.0s,mb4.4,baz=50,slow=8.6,SNR=33
TLY Talaya 44.04 52 *e*P **P 03 56 47.4 +4.8**
TLY *e* 03 58 26.9
TLY *e*SS SS 04 06 23.7 -8.4
TLY pmax pmax
comp=Z,2.0nm,1.0s,mb3.8
TLY MLR MLR
comp=Z,386nm,17.0s,MS4.4
IRK Irkutsk 44.36 51 *e*P **P 03 56 48.4 +3.3**
IRK pmax pmax
comp=Z,36nm,1.5s,mb4.9
SONM Songino Array 46.43 56 P **P 03 57 01.9 +0.3**
comp=Z,0.8nm,0.6s,mb3.9,baz=264,slow=8.8,SNR=6.7
SONM PP PP 03 58 52.7 +2.3
comp=Z,1.4nm,1.1s,baz=290,slow=11,SNR=3.4
SONM Songino Array 46.43 56 P **P 03 57 01.9 +0.3**
SONM 03 58 52.7
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM pmax pmax
comp=Z,1.0nm,1.1s
ULN Ulaanbaatar 46.86 56 *e*P **P 03 57 06.5 +1.6**
ULN pmax pmax
comp=Z,15nm,0.9s,mb4.9
ULN Ulaanbaatar 46.86 56 *e*P **P 03 57 06.5 +1.6**
comp=Z,15nm,0.9s,mb4.9
CFTV Fuerteventura 47.86 276 P **P 03 57 13.9 +1.2**
comp=Z,32nm,1.2s,mb5.2
LZH Lanzhou 48.03 73 *e*P **P 03 57 12.6 -1.4**
LZH PP PP 03 59 04.8 -1.3
LZH *e*S **S 04 04 10.3 -2.4**
LZH *e*SS SS 04 07 33.6 -7.9
LZH AMB AMB
comp=Z,27nm,1.4s,mb5.1
LZH AMB AMB
comp=Z,99nm,7.1s
LZH LR LR
comp=N,845nm,15.2s
LZH LR LR
comp=Z,987nm,18.3s,MS4.8
BOD Bodaibo 49.18 42 *e*P **P 03 57 23.2 +0.3**
BOD pmax pmax
comp=Z,17nm,1.1s,mb5.0

CIT	**Chita**	**50.03**	**50**	*e*P		**P**	**03 57 30.4**	**+1.0**
CD2	**Chengdu**	**50.03**	**79**	*e*P		**P**	**03 57 26.3**	**-3.1**
CD2					AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8							
SUMG	**Summit**	**51.62**	**338**	*e*P		**P**	**03 57 41.7**	**+0.4**
	comp=Z,36nm,1.5s,mb5.1							
SUMG					*e*PP	PP	03 59 39.7	+1.0
KMI	**Kunming**	**51.91**	**86**	P		**P**	**03 57 44.3**	**+0.8**
KMI					PCP	PcP	03 58 55.8	-0.4
KMI					PP	PP	03 59 43.3	+2.0
KMI					S	**S**	**04 05 04.1**	**-2.7**
KMI					SS	SS	04 08 38.4	-5.1
KMI					AMB	AMB		
	comp=Z,11nm,0.6s,mb5.0							
KMI					LR	LR		
	comp=N,351nm,18.3s,MS4.7							
KMI					LR	LR		
	comp=E,463nm,17.0s,MS4.7							
KMI					LR	LR		
	comp=Z,443nm,16.0s,MS4.6							
HHC	**Hu-ho-hao-te**	**51.98**	**64**	⇑P		**P**	**03 57 43.5**	**-0.6**
HHC					PCP	PcP	03 58 57.0	+0.5
HHC					PP	PP	03 59 41.6	-0.4
HHC					SCP	ScP	04 02 52.6	-1.4
HHC					S	**S**	**04 05 06.5**	**-1.3**
HHC					SCS	ScS	04 07 31.1	-3.8
HHC					SS	SS	04 08 39.0	-5.7
HHC					AMB	AMB		
	comp=Z,14nm,1.2s,mb4.8							
HHC					AMB	AMB		
	comp=Z,512nm,11.4s							
HHC					LR	LR		
	comp=N,430nm,17.6s,MS4.7							
HHC					LR	LR		
	comp=E,532nm,17.9s,MS4.7							
HHC					LR	LR		
	comp=Z,632nm,19.0s,MS4.7							
CHTO	**Chiang Mai**	**52.20**	**95**	*e*P		**P**	**03 57 46.7**	**+1.0**
CHTO					pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6							
CHTO	**Chiang Mai**	**52.20**	**95**	*e*P		**P**	**03 57 46.6**	**+0.9**
	comp=Z,6.7nm,0.8s,mb4.6							
XAN	**Xi'an**	**52.66**	**73**	P		**P**	**03 57 49.8**	**+0.7**
XAN					AP	pP	03 57 56.8	+6.1
XAN					AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.6							
DBIC	**Dimbokro**	**53.13**	**246**	P		**P**	**03 57 51.3**	**-1.3**
	comp=Z,8.2nm,1.0s,mb4.6,baz=23,slow=3.0,SNR=11							
DBIC	**Dimbokro**	**53.13**	**246**	P		**P**	**03 57 51.3**	**-1.3**
DBIC					pmax	pmax		
	comp=Z,8.0nm,1.0s							
DBIC	**Dimbokro**	**53.13**	**246**	*e*P		**P**	**03 57 50.9**	**-1.7**
	comp=Z,10nm,1.1s,mb4.7							
GYA	**Guiyang**	**54.34**	**82**	P		**P**	**03 57 59.3**	**-2.1**
GYA					PP	PP	04 00 02.6	-0.7
GYA					SCP	ScP	04 03 02.8	-1.5
GYA					S	**S**	**04 05 35.8**	**-4.1**
GYA					AMB	AMB		
	comp=Z,30nm,1.2s,mb5.1							
GYA					AMB	AMB		
	comp=Z,110nm,3.9s							
GYA					LR	LR		
	comp=N,370nm,17.9s,MS4.7							
GYA					LR	LR		
	comp=E,390nm,18.4s,MS4.7							
GYA					LR	LR		
	comp=Z,310nm,18.9s,MS4.4							
LSZ	**Lusaka**	**54.72**	**197**	P		**P**	**03 58 06.3**	**+2.1**
	comp=Z,5.4nm,0.9s,mb4.6,baz=1.6,slow=6.4,SNR=9.4							
LSZ	**Lusaka**	**54.72**	**197**	P		**P**	**03 58 06.3**	**+2.1**
LSZ					pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5							
LSZ	**Lusaka**	**54.72**	**197**	*e*P		**P**	**03 58 06.3**	**+2.1**
	comp=Z,6.0nm,0.9s,mb4.6							
OPO	**Ambohidratompo**	**56.41**	**175**	P		**P**	**03 58 19.8**	**+3.4**
	comp=Z,1.1nm,0.3s,mb4.3,baz=332,slow=5.3,SNR=6.6							
MATP	**Matopo**	**59.63**	**196**	P		**P**	**03 58 42.0**	**+3.1**
	comp=Z,7.3nm,0.8s,mb4.7,baz=6.5,slow=6.1,SNR=13							
CN2	**Changchun**	**60.30**	**56**	*e*P		**P**	**03 58 43.6**	**0.0**
CN2				*e*S		**S**	**04 06 56.8**	**-1.6**
CN2					AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9							
CN2					AMB	AMB		
	comp=Z,200nm,3.0s							
CN2					LR	LR		
	comp=N,300nm,19.0s,MS4.7							
CN2					LR	LR		
	comp=E,400nm,19.0s,MS4.7							
CN2					LR	LR		
	comp=Z,600nm,21.0s,MS4.7							
KLR	**Kul'dur**	**61.85**	**48**	*e*P		**P**	**03 58 52.0**	**-2.0**
PSI	**Prapat**	**62.03**	**110**	P		**P**	**03 58 58.2**	**+2.9**
	comp=Z,7.8nm,0.9s,mb4.8,baz=301,slow=8.7,SNR=5.0							
PSI	**Prapat**	**62.03**	**110**	P		**P**	**03 58 58.2**	**+2.9**
PSI					pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8							
HABR	**Khabarovsk**	**64.13**	**48**	*e*P		**P**	**03 59 07.5**	**-1.7**
HABR				*e*S		**S**	**04 07 44.1**	**-2.6**
HABR					pmax	pmax		
	comp=Z,23nm,1.7s,mb4.9							
HABR					MLR	MLR		
	comp=Z,313nm,14.4s,MS4.6							
LBTB	**Lobatse**	**64.71**	**197**	P		**P**	**03 59 15.6**	**+2.6**
	comp=Z,5.9nm,1.0s,mb4.6,baz=28,slow=5.1,SNR=4.9							
LBTB	**Lobatse**	**64.71**	**197**	*e*P		**P**	**03 59 17.3**	**+4.3**
LBTB					pmax	pmax		
	comp=Z,16nm,1.2s,mb4.9							
LBTB	**Lobatse**	**64.71**	**197**	*e*P		**P**	**03 59 17.3**	**+4.4**
	comp=Z,16nm,1.2s,mb4.9							
BILL	**Bilibino**	**66.19**	**20**	P		**P**	**03 59 26.0**	**+3.4**
BILL				*e*			03 59 32.3	
BILL					pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5							
BILL	**Bilibino**	**66.19**	**20**	*e*P		**P**	**03 59 22.8**	**+0.2**
	comp=Z,13nm,1.4s,mb4.8							
SCHQ	**Schefferville**	**69.71**	**324**	P		**P**	**03 59 43.3**	**-1.4**
	comp=Z,4.2nm,1.0s,mb4.3,baz=60,slow=14,SNR=2.9							
MJAR	**Matsushiro Arr**	**72.38**	**57**	P		**P**	**04 00 02.8**	**+1.9**
	comp=Z,1.4nm,0.3s,mb4.3,baz=316,slow=5.5,SNR=4.3							
MJAR	**Matsushiro Arr**	**72.38**	**57**	P		**P**	**04 00 02.8**	**+1.9**
MJAR					pmax	pmax		
	comp=Z,1.0nm,0.3s							
INK	**Inuvik**	**73.99**	**359**	*e*P		**P**	**04 00 09.7**	**-0.7**
INK					pmax	pmax		
	comp=Z,29nm,1.9s							
INK	**Inuvik**	**73.99**	**359**	*e*P		**P**	**04 00 09.7**	**-0.7**
	comp=Z,29nm,1.9s,mb4.9							
FCC	**Fort Churchill**	**77.13**	**339**	*e*P		**P**	**04 00 29.0**	**+0.5**
FCC					pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6							
FCC	**Fort Churchill**	**77.13**	**339**	*e*P		**P**	**04 00 29.0**	**+0.5**
	comp=Z,9.4nm,1.2s,mb4.6							
COLA	**College**	**77.14**	**5**	*e*P		**P**	**04 00 28.4**	**-0.1**
COLA					pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7							
COLA	**College**	**77.14**	**5**	*e*P		**P**	**04 00 28.4**	**-0.1**
	comp=Z,13nm,1.3s,mb4.7							
ILAR	**Eielson Array**	**77.30**	**4**	P		**P**	**04 00 28.6**	**-0.7**
	comp=Z,0.9nm,1.0s,mb3.7,baz=339,slow=4.0,SNR=6.4							
ILAR					LR	LR	04 38 40.1	
	comp=Z,210nm,20.7s,MS4.4,baz=103,slow=39							
ILAR	**Eielson Array**	**77.30**	**4**	P		**P**	**04 00 28.7**	**-0.7**
ILAR					pmax	pmax		
	comp=Z,1.0nm,1.0s							
ILAR					MLR	MLR		
	comp=Z,210nm,20.7s							
YKW3	**Yellowknife Ar**	**78.15**	**350**	*e*P		**P**	**04 00 33.4**	**-0.8**
YKA	**Yellowknife Ar**	**78.21**	**349**	P		**P**	**04 00 33.7**	**-0.8**
	comp=Z,3.0nm,0.9s,mb4.2,baz=16,slow=5.8,SNR=7.5							
YKA	**Yellowknife Ar**	**78.21**	**349**	*i* P		**P**	**04 00 34.5**	**0.0**
YKA					pmax	pmax		
	comp=Z,3.0nm,1.0s							
YKA	**Yellowknife Ar**	**78.21**	**349**	P		**P**	**04 00 33.7**	**-0.8**
DAWY	**Dawson**	**78.27**	**1**	*e*P		**P**	**04 00 34.3**	**-0.5**
FFC	**Flin Flon**	**82.81**	**340**	*e*P		**P**	**04 00 59.1**	**-0.1**
FFC					pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5							
FFC	**Flin Flon**	**82.81**	**340**	*e*P		**P**	**04 00 59.1**	**-0.1**
	comp=Z,5.2nm,0.9s,mb4.6							
SSPA	**Standing Stone**	**84.77**	**319**	*e*P		**P**	**04 01 09.0**	**-0.2**
	comp=Z,18nm,1.2s,mb5.1							
CHMT	**Chamberlain Mo**	**92.78**	**344**	*e*P		**P**	**04 01 46.9**	**-0.5**
BDFB	**Brasilia**	**100.04**	**258**	LR		LR	04 51 34.5	
	comp=Z,263nm,21.6s,MS4.7,baz=112,slow=38							

IDC ***21*** *04:43:20.5±0.7, 2938S×177.10W, h0km, mb4.5/11, mb1 4.7/12, mb1mx4.6/16, mbtmp4.5/12, ML2.9/1, MS4.4/12, Ms1 4.4/12, ms1mx4.1/24, Error ellipse: s-maj=24.2km s-min=19.5km az=135.0*

BJI ***21*** *04:43:21.0, 2990S×17690W, h20km, mB5.4, mb5.1*

ISCJB ***21*** *04:43:22.2±2.5, 2997S±004×17708W±009, h25km±17km, mb4.9/22, MS4.4/12, Error ellipse: s-maj=13.2km s-min=6.7km az=5.3*

NEIC ***21*** *04:43:22.6±0.3, 2987S×17690W, h20km, mb5.0/12, Error ellipse: s-maj=11.6km s-min=6.9km az=121.0*

MOS ***21*** *04:43:24.7±1.4, 2944S×17705W, h33km, mb5.1/7, Error ellipse: s-maj=15.1km s-min=14.3km az=41.8*

ISC 21 04:43:23.0±2.6, 2987S±004×17704W±008, h19km±16km, n138, σ1§25/76, mb4.9/22, MS4.4/12, 6C-4D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.98**	**309**	Pn		**Pn**	**04 43 41.3**	**-0.4**
	886nm,0.3s,baz=129,slow=3.6,SNR=173							
RAO				LR		LR	04 43 46.2	
	comp=Z,22μm,20.0s,baz=0.0,slow=35							
RAO				Sn		**Sn**	**04 43 54.4**	**-0.8**
	14μm,0.3s,baz=93,slow=22,SNR=40							
RAO	**Raoul Island**	**0.98**	**309**	Pn		**Pn**	**04 43 41.3**	**-0.4**
RAO				LR		LR	04 43 46.2	
RAO				Sn		**Sn**	**04 43 54.4**	**-0.8**
PUZ	**Puketiti**	**9.06**	**204**	*e*PN		**Pn**	**04 45 30.9**	**-1.9**
PUZ				*e*SN		**Sn**	**04 47 12.4**	**-1.9**
PUZ	**Puketiti**	**9.06**	**204**	*e*P		**Pn**	**04 45 30.9**	**-1.9**
PUZ				S		**Sn**	**04 47 17.1**	**+2.9**
MWZ	**Matawai**	**9.56**	**207**	*e*PN		**Pn**	**04 45 38.6**	**-1.0**
MWZ	**Matawai**	**9.56**	**207**	*e*P		**Pn**	**04 45 39.1**	**-0.6**
URZ	**Urewera**	**9.67**	**209**	Pn		**Pn**	**04 45 40.3**	**-0.8**
	0.9nm,0.3s,baz=302,slow=4.0,SNR=13							
URZ				Sn		**Sn**	**04 47 31.1**	**+2.0**
	5.1nm,0.3s,baz=133,slow=12,SNR=4.5							
URZ	**Urewera**	**9.67**	**209**	*e*PN		**Pn**	**04 45 40.1**	**-1.0**
URZ				*e*SN		**Sn**	**04 47 28.1**	**-1.0**
URZ				*e*SN		**Sn**	**04 47 29.9**	**+0.8**
URZ	**Urewera**	**9.67**	**209**	*e*P		**Pn**	**04 45 40.3**	**-0.8**
BKZ	**Black Stump Fm**	**10.69**	**208**	*e*PN		**Pn**	**04 45 51.8**	**-3.3**
MRZ	**Mangatainoka R**	**12.33**	**207**	SN		**Sn**	**04 48 28.6**	**-5.8**
SNZO	**South Karori**	**13.23**	**208**	*e*Pn		**Pn**	**04 46 29.4**	**-0.4**
SNZO				*e*Sn		**Sn**	**04 48 54.3**	**-2.1**
QRZ	**Quartz Range**	**13.84**	**215**	*e*PN		**Pn**	**04 46 40.6**	**+2.4**
THZ	**Tophouse**	**14.38**	**212**	*e*PN		**Pn**	**04 46 44.8**	**-0.7**
THZ				*e*SN		**Sn**	**04 49 17.4**	**-7.1**
THZ	**Tophouse**	**14.38**	**212**	*e*P		**Pn**	**04 46 47.5**	**+2.0**
THZ				S		**Sn**	**04 49 17.7**	**-6.8**
KHZ	**Kahutara**	**14.63**	**209**	*e*PN		**Pn**	**04 46 49.1**	**+0.2**
KHZ	**Kahutara**	**14.63**	**209**	*e*P		**Pn**	**04 46 49.3**	**+0.3**
MQZ	**McQueen's Vall**	**16.07**	**208**	*e*SN		**Sn**	**04 49 53.8**	**-12**
AFI	**Afiamalu**	**16.61**	**18**	Pn		**Pn**	**04 47 09.3**	**-5.6**
	3.0nm,0.3s,baz=139,slow=20,SNR=2.7							
AFI				Sn		**Sn**	**04 50 02.8**	**-16**
	4.0nm,0.3s,baz=147,slow=11,SNR=3.5							
DZM	**Mont Dzumac**	**16.75**	**294**	Pn		**Pn**	**04 47 21.5**	**+5.0**
	0.2nm,0.3s,baz=100,slow=16,SNR=11							
DZM				LR		LR	04 52 20.7	
	comp=Z,2μm,19.6s,baz=204,slow=33							
RPZ	**Rata Peaks**	**16.76**	**211**	P		**Pn**	**04 47 17.4**	**+0.7**
	2.2nm,0.3s,baz=38,slow=19,SNR=5.4							
RPZ				S		**Sn**	**04 50 14.0**	**-8.3**
	1.0nm,0.3s,baz=15,slow=18,SNR=3.6							
RAR	**Rarotonga**	**17.80**	**65**	P		**Pn**	**04 47 25.3**	**-4.2**
	0.6nm,0.3s,baz=240,slow=16,SNR=2.9							
RAR				LR		LR	04 52 43.0	
	comp=Z,600nm,20.1s,baz=225,slow=32							
TBI	**Tubuai**	**25.46**	**82**	*e*LQ			04 53 44.8	
	571nm,25.8s							
TBI				*e*LR		LR	04 55 08.2	
	1μm,28.2s,baz=244							
PPT	**Papeete**	**27.89**	**70**	*e*LQ			04 54 37.6	
	622nm,23.8s							
PPT				*e*LR		LR	04 56 08.5	
	1μm,26.8s,baz=237							
PPT	**Papeete**	**27.89**	**70**	LR		LR	04 57 02.7	
	comp=Z,661nm,21.0s,MS4.2,baz=247,slow=30							
HNR	**Honiara**	**29.60**	**309**	LR		LR	04 58 51.0	
	comp=Z,367nm,21.6s,MS4.0,baz=178,slow=32							
CTA	**Charters Tower**	**34.54**	**278**	*e*P		**P**	**04 50 12.8**	**+2.6**
	6.4nm,0.4s,mb4.9							
CTA	**Charters Tower**	**34.54**	**278**	P		**P**	**04 50 11.8**	**+1.6**
	15nm,0.9s,mb4.9,baz=94,slow=10,SNR=5.5							
CTA				LR		LR	05 02 55.5	
	comp=Z,1μm,18.2s,MS4.7,baz=85,slow=34							
CTA	**Charters Tower**	**34.54**	**278**	*e*P		**P**	**04 50 12.8**	**+2.6**
CTA					pmax	pmax		
	comp=Z,6.0nm,0.4s							
CTAO	**Charters Tower**	**34.54**	**278**	*e*P		**P**	**04 50 12.5**	**+2.3**
CTAO					pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9							
CTAO	**Charters Tower**	**34.54**	**278**	*e*P		**P**	**04 50 12.5**	**+2.3**
	comp=Z,9.8nm,0.6s,mb4.9							
STKA	**Stephens Creek**	**35.41**	**256**	⇑*i*P		**P**	**04 50 18.5**	**+0.8**
	comp=Z,12nm,0.8s,mb4.9							
STKA	**Stephens Creek**	**35.41**	**256**	P		**P**	**04 50 18.6**	**+0.9**
	comp=Z,21nm,1.0s,mb5.0,baz=88,slow=7.6,SNR=20							
STKA				LR		LR	05 03 34.9	
	comp=Z,859nm,18.7s,MS4.5,baz=70,slow=34							
STKA	**Stephens Creek**	**35.41**	**256**	*e*P		**P**	**04 50 17.4**	**-0.2**
RKT	**Rikitea**	**38.09**	**90**	*e*LR		LR	05 00 59.3	
	comp=Z,684nm,28.2s,baz=252							
PMG	**Port Moresby**	**39.14**	**294**	LR		LR	05 04 22.6	
	comp=Z,573nm,20.3s,MS4.4,baz=121,slow=32							
TAOE	**Nuku Hiva Isla**	**40.34**	**66**	*e*LR		LR	05 01 55.4	
	comp=Z,2μm,26.1s							
ASAR	**Alice Sprgs**	**43.97**	**266**	P		**P**	**04 51 29.2**	**+0.4**
	comp=Z,5.2nm,0.7s,mb4.4,baz=112,slow=7.9,SNR=41							
WB2	**Warramunga Arr**	**44.90**	**271**	*e*P		**P**	**04 51 36.2**	**-0.1**
WRAB	**Tennant Creek**	**44.91**	**271**	P		**P**	**04 51 37.0**	**+0.6**
	comp=Z,164nm,1.1s,mb5.8,SNR=10.0							
WRAB	**Tennant Creek**	**44.91**	**271**	*d*i*P*		**P**	**04 51 37.2**	**+0.8**
WRAB	**Tennant Creek**	**44.91**	**271**	*e*P		**P**	**04 51 36.7**	**+0.3**
	comp=Z,47nm,1.0s,mb5.3							
WRA	**Warramunga Arr**	**44.91**	**271**	P		**P**	**04 51 36.4**	**0.0**
	comp=Z,23nm,1.0s,mb5.0,baz=113,slow=7.0,SNR=63							
FORT	**Forrest**	**46.98**	**254**	*e*P		**P**	**04 51 53.3**	**+0.5**
	comp=Z,28nm,0.7s,mb5.3							
VNDA	**Vanda**	**48.70**	**186**	P		**P**	**04 52 10.3**	**+4.2**
	comp=Z,1.4nm,1.1s,mb3.9,baz=1.1,slow=7.4,SNR=6.1							
VNDA	**Vanda**	**48.70**	**186**	P		**P**	**04 52 10.3**	**+4.2**
FITZ	**Fitzroy Crossi**	**53.19**	**269**	*e*P		**P**	**04 52 39.8**	**-0.1**
	comp=Z,24nm,1.1s,mb5.0							
FITZ	**Fitzroy Crossi**	**53.19**	**269**	P		**P**	**04 52 40.6**	**+0.7**
	comp=Z,18nm,1.1s,mb4.9,baz=113,slow=11,SNR=12							
KLBR	**Kellerberrin**	**55.30**	**250**	*e*P		**P**	**04 52 55.2**	**-0.1**
	comp=Z,24nm,1.1s,mb5.2							
CASY	**Casey**	**55.99**	**208**	*e*P		**P**	**04 53 02.6**	**+2.4**
CASY	**Casey**	**55.99**	**208**	*e*P		**P**	**04 53 01.9**	**+1.7**
	comp=Z,20nm,0.7s,mb5.2							
QSPA	**South Pole Qui**	**60.24**	**180**	*e*P		**P**	**04 53 34.1**	**+4.2**
	comp=Z,12nm,0.9s,mb4.9							
MIR	**Mirnyy**	**62.97**	**207**	*d*i*P*		**P**	**04 53 53.0**	**+4.7**
MIR					pmax	pmax		
	comp=Z,210nm,1.5s,mb6.0							
MAW	**Mawson**	**73.09**	**200**	*e*P		**P**	**04 54 54.7**	**+2.7**
	comp=Z,4.7nm,0.8s,mb4.5							
MAW	**Mawson**	**73.09**	**200**	P		**P**	**04 54 54.8**	**+2.8**
	comp=Z,7.3nm,1.1s,mb4.5,baz=135,slow=8.3,SNR=7.4							
MAW	**Mawson**	**73.09**	**200**	*e*P		**P**	**04 54 54.7**	**+2.7**
MAW					pmax	pmax		
	comp=Z,5.0nm,0.8s							
KSM	**Kuching**	**75.74**	**280**	*e*P		**P**	**04 55 08.6**	**+1.2**
MJAR	**Matsushiro Arr**	**78.29**	**325**	P		**P**	**04 55 18.6**	**-3.1**
	comp=Z,1.7nm,0.7s,mb4.1,baz=155,slow=5.1,SNR=6.4							
MJAR				LR		LR	05 28 53.2	
	comp=Z,127nm,18.1s,MS4.3,baz=260,slow=35							
SNAA	**Sanae**	**78.66**	**178**	LR		LR	05 27 23.5	
	comp=Z,50nm,19.0s,MS3.9,baz=303,slow=33							
SNAA	**Sanae**	**78.66**	**178**	*e*P		**P**	**04 55 23.6**	**-0.1**
SNAA					pmax	pmax		
	comp=Z,7.0nm,1.0s							
SNAA	**Sanae**	**78.66**	**178**	*e*P		**P**	**04 55 23.6**	**-0.2**
	comp=Z,6.7nm,1.0s,mb4.5							
ASAJ	**Asahikawa**	**82.36**	**332**	P		**P**	**04 55 43.4**	**-0.3**
	comp=Z,11nm,1.0s,mb4.8,baz=248,slow=26,SNR=3.6							
YSS	**Yuzh-Sakhalins**	**84.64**	**334**	⇓*i*P		**P**	**04 55 56.0**	**+0.7**
YSS				*e*		pP	04 56 01.0	-0.7
YSS					pmax	pmax		
	comp=Z,30nm,1.0s,mb5.4							
YSS	**Yuzh-Sakhalins**	**84.64**	**334**	*e*P		**P**	**04 55 55.8**	**+0.5**
	comp=Z,28nm,1.1s,mb5.3							
PSI	**Prapat**	**86.21**	**275**	LR		LR	05 37 09.2	
	comp=Z,368nm,19.1s,MS4.8,baz=169,slow=38							
NVAR	**Mina Array Bea**	**87.29**	**42**	P		**P**	**04 56 08.5**	**+0.1**
	comp=Z,1.0nm,0.9s,mb4.1,baz=206,slow=6.3,SNR=7.0							
MDJ	**Mudanjiang**	**88.67**	**325**	P		**P**	**04 56 15.3**	**+0.3**
MDJ					AMB	AMB		
	comp=Z,11nm,0.9s,mb5.2							
MDJ					AMB	AMB		
	comp=Z,103nm,6.3s							
CN2	**Changchun**	**90.23**	**322**	⇑P		**P**	**04 56 22.5**	**+0.2**
CN2					AMB	AMB		
	comp=Z,30nm,1.1s,mb5.5							
KLR	**Kul'dur**	**91.00**	**329**	*e*P		**P**	**04 56 22.2**	**-3.7**
BJI	**Beijing**	**93.13**	**315**	P		**P**	**04 56 33.8**	**-2.0**
ATAH	**Atahualpa**	**93.99**	**100**	LR		LR	05 26 41.3	
	comp=Z,332nm,22.0s,MS4.8,baz=196,slow=28							
MCMT	**McKenzie Canyo**	**94.54**	**40**	*e*P		**P**	**04 56 42.2**	**0.0**
SMCO	**Snowmass**	**94.68**	**47**	*e*P		**P**	**04 56 43.1**	**+0.2**
	comp=Z,2.8nm,0.6s,mb4.9							
JTS	**JuntasAbangare**	**96.84**	**82**	LR		LR	05 30 36.3	
	comp=Z,122nm,20.1s,MS4.4,baz=215,slow=29							
ILAR	**Eielson Array**	**97.23**	**13**	P		**P**	**04 56 52.4**	**-2.1**
	comp=Z,0.9nm,0.9s,mb4.2,baz=219,slow=6.5,SNR=6.2							
ILAR					PP	PP	05 00 43.2	-7.6
	comp=Z,0.7nm,1.0s,baz=209,slow=9.8,SNR=4.1							
MKAR	**Makanchi Array**	**118.07**	**310**	PKP		PKPdf	05 02 07.8	-0.8
	comp=Z,1.3nm,0.9s,baz=48,slow=2.0,SNR=6.3							
KURK	**Kurchatov**	**121.28**	**314**	*i* PKIKP		PKPdf	05 02 13.5	-1.3
KURK	**Kurchatov**	**121.28**	**314**	*e*PKPdf		PKPdf	05 02 13.7	-1.1
AAK	**Ala-Archa**	**122.51**	**304**	*i* PKIKP		PKPdf	05 02 15.7	-1.4
CHKZ	**Chkalovo**	**126.49**	**317**	*e*PKIKP		PKPdf	05 02 24.0	-0.7
BRVK	**Borovoye**	**126.67**	**316**	*e*PKIKP		PKPdf	05 02 24.7	-0.4
ZRNK	**Zerenda**	**127.44**	**316**	*e*PKIKP		PKPdf	05 02 26.3	-0.2
ARU	**Arti**	**133.21**	**321**	*i* PKIKP		PKPdf	05 02 36.2	-1.3
ARU					MLR	MLR		
	comp=Z,100nm,18.0s,MS4.6							
ARU					MLR	MLR		
	comp=E,100nm,16.0s							
AKTK	**Aktyubinsk**	**134.35**	**313**	PKP		PKPdf	05 02 39.5	-0.1
AKTO	**Aktyubinsk**	**134.35**	**313**	PKP		PKPdf	05 02 39.5	-0.1
	comp=E,2.1nm,0.8s,baz=185,slow=3.4,SNR=6.6							
KEV	**Kevo**	**137.79**	**348**	*e*pkp		PKPdf	05 02 56.1	+10
ARCES	**ARCESS Array B**	**138.25**	**348**	PKP		PKPdf	05 02 44.7	-2.2
	comp=E,2.7nm,0.9s,baz=359,slow=4.9,SNR=5.0							
ARCES	**ARCESS Array B**	**138.25**	**348**	PKP		PKPdf	05 02 44.7	-2.2
JOF	**Joensuu**	**142.23**	**339**	*e*pkp		PKPdf	05 02 53.3	-0.8
KAF	**Kangasniemi**	**144.32**	**341**	*e*pkp		PKPdf	05 02 54.2	-3.6
	baz=64,slow=1.3							
MOS	**Moscow**	**144.36**	**326**	*e*PKIKP		PKPdf	05 02 55.1	-2.7
MOS					pmax	pmax		
	comp=Z,39nm,1.2s							
GNI	**Garni**	**144.56**	**298**	*e*PKIKP		PKPdf	05 02 58.2	0.0
ZEI	**Tsey**	**144.93**	**303**	*e*PKIKP		PKPdf	05 02 59.1	+0.3
FINES	**FINESS Array B**	**144.93**	**341**	PKP		PKPdf	05 02 56.9	-2.0
	comp=Z,9.8nm,0.8s,baz=57,slow=3.3,SNR=58							
OBN	**Obninsk**	**145.21**	**326**	*c i* PKIKP		PKPdf	05 02 58.5	-0.8
OBN					pmax	pmax		
	comp=Z,82nm,1.5s							
OBN					MLR	MLR		
	comp=Z,100nm,22.0s,MS4.5							
KIV	**Kislovodsk**	**145.61**	**305**	⇑*i* PKIKP		PKPdf	05 03 00.5	+0.5
KIV	**Kislovodsk**	**145.61**	**305**	*e*PKPbc		PKPbc	05 03 00.7	+0.5
VRSR	**Storozhevoye**	**145.68**	**319**	⇓*i* PKIKP		PKPdf	05 03 00.4	+0.3
VRSR					pmax	pmax		
	comp=Z,10.0nm,1.0s							
VRSR					pmax	pmax		
	comp=N,4.0nm,0.8s							
VRSR					pmax	pmax		
	comp=E,5.0nm,1.0s							
VSU	**Vasula**	**147.07**

Azm273.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
*NEIC **21** 05:11:38.9±0.2,3732S×7364W,mb5.1/51 Error ellipse: s-maj=6.1km s-min=5.0km az=106.0*
*BJI **21** 05:11:38.9,3730S×7360W,h22km,mB5.1,Ms5.3,Msz5.0*
*MOS **21** 05:11:39.7±1.3,3725S×7363W,h34km,mb5.3/24,Error ellipse: s-maj=16.8km s-min=8.2km az=95.6*

ISC 21 05:11:39.2±0.2,3730S±003×7367W±005,h23km, h23km±.6km:pP-P,n205,σ1$06/161,mb4.9/60,MS4.7/9, 13C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**1.45**	**62**	⇑*iP*			**Pn**	**05 12 06.0**	**+2.0**
CCHI				*i*	S		**Sn**	**05 12 33.4**	**+11**
CCHI					AML	AML		05 12 46.2	
	comp=N,37μm,0.6s								
CCHI					AML	AML		05 12 46.3	
	comp=N,65μm,0.6s								
CCHI	**Chillan**	**1.45**	**62**	⇑*iP*			**Pn**	**05 12 06.0**	**+2.0**
CCHI					S		**Sn**	**05 12 33.4**	**+11**
LNCH	**Linares**	**2.21**	**50**	*eP*			**Pn**	**05 12 15.9**	**+1.5**
LNCH				*i*	S		**Sn**	**05 12 54.0**	**+13**
TALC	**Talca**	**2.51**	**42**	*eP*			**Pn**	**05 12 17.8**	**-0.8**
TALC				*i*	S		**Sn**	**05 12 59.0**	**+11**
TALC					AML	AML		05 13 07.6	
	comp=E,21μm,0.9s								
TALC	**Talca**	**2.51**	**42**	*eP*			**Pn**	**05 12 17.8**	**-0.8**
TALC				*i*	S		**Sn**	**05 12 59.0**	**+11**
VLCH	**Valdivia**	**2.52**	**173**	⇑*iP*			**Pn**	**05 12 17.1**	**-1.7**
VLCH				*i*	S		**Sn**	**05 12 47.7**	**-1.1**
VLCH					AML	AML		05 13 20.2	
	comp=E,23μm,0.8s								
VLCH	**Valdivia**	**2.52**	**173**	⇑*iP*			**Pn**	**05 12 17.1**	**-1.7**
VLCH				*i*	S		**Sn**	**05 12 47.7**	**-1.1**
NICH	**Los Niches**	**3.03**	**41**	*eP*			**Pn**	**05 12 26.1**	**+0.4**
SFDO	**San Fernando**	**3.44**	**40**	⇑*iP*			**Pn**	**05 12 31.6**	**+0.2**
LNV	**Longovilo**	**3.81**	**30**	⇑*iP*			**Pn**	**05 12 35.6**	**-0.8**
CICH	**Cipreses**	**3.98**	**43**	*eP*			**Pn**	**05 12 39.8**	**+1.1**
CACH	**El Canelo**	**4.04**	**39**	*eP*			**Pn**	**05 12 39.8**	**+0.2**
CHCH	**Chadas Angostu**	**4.16**	**37**	*eP*			**Pn**	**05 12 41.1**	**-0.2**
PLCA	**Paso Flores**	**4.20**	**146**	Pn			**Pn**	**05 12 41.5**	**-0.3**
	comp=E,1.6nm,0.3s,baz=315,slow=13,SNR=46								
PLCA	**Paso Flores**	**4.20**	**146**	*e*Pn			**Pn**	**05 12 43.2**	**+1.4**
TACH	**Talagante**	**4.27**	**32**	*eP*			**Pn**	**05 12 42.1**	**-0.6**
LMEL	**Las Melosas**	**4.46**	**40**	*eP*			**Pn**	**05 12 45.9**	**+0.6**
PCH	**Pirque**	**4.48**	**36**	⇓*iP*			**Pn**	**05 12 45.5**	**-0.1**
CLCH	**Cerro Calan**	**4.66**	**34**	*eP*			**Pn**	**05 12 44.9**	**-3.2**
PEL	**Peldehue**	**4.81**	**31**	*eP*			**Pn**	**05 12 49.7**	**-0.5**
PEL				*i*	S		**Sn**	**05 13 53.2**	**+8.0**
CFAA	**Coronel Fontan**	**7.24**	**40**	Pn			**Pn**	**05 13 22.4**	**-1.1**
	comp=E,0.3nm,0.3s,baz=221,slow=13,SNR=37								
CFAA					Sn		**Sn**	**05 14 44.0**	**-1.0**
	comp=E,0.4nm,0.3s,baz=196,slow=15,SNR=2.1								
CFAA					Lg			05 15 10.9	
	comp=E,0.5nm,0.3s,baz=337,slow=22,SNR=7.0								
TRQA	**Tornquist**	**9.30**	**98**	*e*Pn			**Pn**	**05 13 48.5**	**-3.3**
TRQA				*ep*Pn				05 13 54.4	
LPA	**La Plata**	**12.95**	**84**	*ce*P			**Pn**	**05 14 38.0**	**-3.8**
LPA				*ep*P				05 14 43.0	
LVC	**Limon Verde**	**15.20**	**17**	Pn			**Pn**	**05 15 10.3**	**-2.0**
	comp=E,0.3nm,0.3s,baz=226,slow=9.6,SNR=11								
LVC					Lg			05 18 56.3	
	comp=E,0.1nm,0.3s,baz=36,slow=12,SNR=4.9								
LVC	**Limon Verde**	**15.20**	**17**	*e*Pn			**Pn**	**05 15 08.5**	**-3.8**
	comp=E,23nm,0.8s								
CPUP	**Villa Florida**	**17.65**	**56**	P			**Pn**	**05 15 43.0**	**-0.4**
	comp=E,0.9nm,0.3s,baz=214,slow=11,SNR=12								
CPUP					Lg			05 20 52.9	
	comp=E,0.3nm,0.3s,baz=304,slow=14,SNR=2.2								
CPUP					LR	LR		05 22 29.8	
	comp=E,1μm,18.2s,baz=217,slow=37								
CPUP	**Villa Florida**	**17.65**	**56**	*eP*			**Pn**	**05 15 43.9**	**+0.4**
CPUP					pmax	pmax			
	comp=Z,42nm,0.8s								
CPUP	**Villa Florida**	**17.65**	**56**	*eP*			**Pn**	**05 15 43.9**	**+0.4**
	comp=Z,42nm,0.8s								
USHA	**Ushuaia**	**17.90**	**170**	P			**Pn**	**05 15 46.2**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=333,slow=9.0,SNR=1.8								
USHA					LR	LR		05 23 46.7	
	comp=Z,3μm,18.0s,baz=324,slow=41								
ARE	**Arequipa**	**20.84**	**6**	*eP*			**P**	**05 16 21.0**	**+1.7**
LPAZ	**La Paz**	**21.50**	**15**	P			**P**	**05 16 28.4**	**+2.1**
	comp=Z,44nm,1.0s,mb4.8,baz=180,slow=9.3,SNR=51								
LPAZ	**La Paz**	**21.50**	**15**	⇑*eP*			**P**	**05 16 28.1**	**+1.8**
LPAZ					pmax	pmax			
	comp=Z,69nm,1.1s								
LPAZ	**La Paz**	**21.50**	**15**	⇑*eP*			**P**	**05 16 28.1**	**+1.8**
	comp=Z,69nm,1.1s,mb4.9								
SIV	**San Ignacio**	**23.98**	**31**	P			**P**	**05 16 51.3**	**-0.5**
	comp=Z,18nm,1.1s,mb4.4,baz=222,slow=10,SNR=35								
NNA	**Nana**	**25.36**	**353**	*eP*			**P**	**05 17 03.5**	**-1.0**
	comp=Z,13nm,0.9s,mb4.5								
SAML	**Samuel**	**29.78**	**21**	*eP*			**P**	**05 17 42.8**	**-1.2**
	comp=Z,34nm,1.4s,mb4.9								
ATAH	**Atahualpa**	**30.46**	**351**	P			**P**	**05 17 49.5**	**-0.5**
	comp=Z,2.9nm,0.8s,mb4.1,baz=149,slow=10,SNR=2.7								
BDFB	**Brasilia**	**31.33**	**53**	P			**P**	**05 17 57.7**	**0.0**
	comp=Z,14nm,1.1s,mb4.7,baz=221,slow=9.5,SNR=12								
BDFB					LR	LR		05 31 53.0	
	comp=Z,2μm,20.2s,MS4.8,baz=104,slow=39								
OTAV	**Otavalo**	**37.61**	**352**	*eP*			**P**	**05 18 53.1**	**+1.1**
	comp=Z,64nm,1.6s,mb5.1								
ROSC	**El Rosal**	**41.94**	**359**	P			**P**	**05 19 29.6**	**+1.5**
	comp=Z,6.5nm,0.8s,mb4.3,baz=58,slow=23,SNR=4.6								
SDV	**Santo Domingo**	**46.03**	**4**	*eP*			**P**	**05 19 59.7**	**-1.2**
	comp=Z,28nm,1.1s,mb5.1								
SDV					LR	LR			
	comp=Z,541nm,22.0s,MS4.5								
VNA3	**Neumayer Olymp**	**46.84**	**157**	*eP*			**P**	**05 20 07.9**	**+0.7**
VNA3				*e*		pP		05 20 13.0	-1.5
VNA3				*e*		pP		05 20 16.1	+1.6
VNA3				*e*				05 20 17.8	
VNA3				*e*				05 20 27.6	
VNA1	**Neumayer--Stat**	**47.20**	**156**	*eP*			**P**	**05 20 11.1**	**+1.1**
VNA1				*e*		pP		05 20 16.3	-1.0
VNA1				*e*		pP		05 20 19.7	+2.4
VNA1				*e*				05 20 20.9	
VNA1				*e*				05 20 32.1	
VNA2	**Neumayer--Watz**	**47.52**	**156**	*eP*			**P**	**05 20 13.5**	**+1.0**
	baz=281,slow=7.8								
VNA2				*e*		pP		05 20 18.4	-1.4
VNA2				*e*		pP		05 20 21.9	+2.1
VNA2				*e*				05 20 23.1	
VNA2				*e*				05 20 30.2	
VNA2				*e*				05 20 33.5	
JTS	**JuntasAbangare**	**48.51**	**345**	P			**P**	**05 20 21.7**	**+1.5**
	comp=Z,13nm,1.2s,mb4.8,baz=180,slow=7.1,SNR=2.7								
JTS	**JuntasAbangare**	**48.51**	**345**	*eP*			**P**	**05 20 20.9**	**+0.7**
SNAA	**Sanae**	**49.06**	**157**	P			**P**	**05 20 24.1**	**-0.3**
	comp=Z,7.4nm,0.9s,mb4.7,baz=275,slow=6.8,SNR=39								
SNAA	**Sanae**	**49.06**	**157**	*eP*			**P**	**05 20 22.4**	**-2.0**
SNAA				*e*		pP		05 20 27.4	-4.3
SNAA				*e*		pP		05 20 30.8	-0.9
SNAA				*e*				05 20 32.4	
SNAA				*e*				05 20 38.9	
SNAA				*e*				05 20 42.8	
SNAA	**Sanae**	**49.06**	**157**	⇑*iP*			**P**	**05 20 22.4**	**-2.0**
SNAA					pmax	pmax			
	comp=Z,30nm,1.0s								
SNAA	**Sanae**	**49.06**	**157**	⇑*iP*			**P**	**05 20 22.4**	**-2.0**
	comp=Z,30nm,1.0s,mb5.3								
QSPA	**South Pole Qui**	**52.94**	**180**	*eP*			**P**	**05 20 54.0**	**+0.4**
	comp=Z,31nm,1.2s,mb5.1								
MAIT	**Maitri**	**53.81**	**156**	*eP*			**P**	**05 21 00.4**	**+0.4**
NVL	**N'lazarevskaya**	**53.84**	**156**	⇓*iP*			**P**	**05 21 00.5**	**+0.3**
NVL				*e*S			**S**	**05 28 39.2**	**+5.4**
NVL					pmax	pmax			
	comp=Z,18nm,1.2s,mb4.9								
NVL					pmax	pmax			
	comp=Z,1μm,18.8s								
RKT	**Rikitea**	**53.98**	**267**	*eS*			**S**	**05 28 34.7**	**-0.9**
	comp=Z,362nm,26.8s								
RKT					*e*LR	LR		05 36 38.3	
	comp=Z,972nm,27.2s,baz=120								
VNDA	**Vanda**	**60.61**	**192**	P			**P**	**05 21 48.6**	**+0.5**
	comp=Z,1.8nm,0.8s,mb4.2,baz=48,slow=2.5,SNR=7.2								
SYO	**Syowa Base**	**63.30**	**158**	⇓*eP*			**P**	**05 22 00.5**	**-5.6**
SYO	**Syowa Base**	**63.30**	**158**	*eS*			sP	05 22 12.9	-3.5
SYO	**Syowa Base**	**63.30**	**158**	⇑*ePcP*			PcP	05 22 37.8	-5.3
TBI	**Tubuai**	**65.31**	**259**	*eS*			S	05 31 01.6	-0.1
	comp=Z,609nm,28.5s								
TBI					*e*LR	LR		05 41 57.4	
	comp=Z,713nm,27.2s,baz=129								
TAOE	**Nuku Hiva Isla**	**66.00**	**277**	*eS*			S	05 31 06.7	-3.4
	comp=Z,1μm,30.0s								
TAOE					*e*LR	LR		05 42 14.6	
	comp=Z,2μm,26.5s								
PPT	**Papeete**	**68.52**	**264**	*eS*			S	05 31 38.2	-2.2
	comp=Z,241nm,22.5s								
PPT					*e*LR	LR		05 43 25.8	
	comp=Z,836nm,25.2s,baz=122								
PPT	**Papeete**	**68.52**	**264**	LR			LR	05 44 44.5	
	comp=Z,542nm,19.5s,MS4.8,baz=122,slow=29								
HKT	**Hockley**	**70.05**	**340**	*eP*			**P**	**05 22 47.4**	**-1.8**
HKT				*e*PP		pP		05 22 55.1	-1.6
HKT					pmax	pmax			
	comp=Z,7.0nm,1.3s,mb4.4								
HKT	**Hockley**	**70.05**	**340**	*eP*			**P**	**05 22 47.4**	**-1.8**
	comp=Z,7.1nm,1.3s,mb4.4								
HKT					*ep*P	pP		05 22 55.1	-1.6
MAW	**Mawson**	**70.40**	**164**	P			**P**	**05 22 50.8**	**-0.5**
	comp=Z,8.2nm,1.0s,mb4.6,baz=200,slow=4.7,SNR=8.8								
MAW					LR	LR		05 54 10.2	
	comp=Z,598nm,18.2s,MS4.9,baz=230,slow=36								
MAW	**Mawson**	**70.40**	**164**	*eP*			**P**	**05 22 50.7**	**-0.6**
MAW				*e*PP		pP		05 22 59.1	+0.3
MAW					pmax	pmax			
	comp=Z,25nm,1.4s								
MAW	**Mawson**	**70.40**	**164**	*eP*			**P**	**05 22 50.7**	**-0.6**
	comp=Z,26nm,1.4s,mb5.0								
MAW					*ep*P	pP		05 22 59.1	+0.2
LRAL	**Lakeview Retre**	**71.07**	**348**	*eP*			**P**	**05 22 54.6**	**-0.8**
	comp=Z,21nm,1.3s,mb4.9								
NATX	**Nacogdoches**	**71.45**	**341**	*eP*			**P**	**05 22 57.6**	**-0.1**
	comp=Z,40nm,1.1s,mb5.3								
NATX					*ep*P	pP		05 23 04.3	-0.9
JCT	**Junction City**	**71.73**	**336**	*eP*			**P**	**05 22 58.8**	**-0.6**
JCT				*e*PP		pP		05 23 06.1	-0.8
JCT					pmax	pmax			
	comp=Z,87nm,1.6s,mb5.4								
JCT					MLR	MLR			
	comp=Z,135nm,19.0s,MS4.2								
JCT	**Junction City**	**71.73**	**336**	*eP*			**P**	**05 22 58.8**	**-0.6**
	comp=Z,87nm,1.6s,mb5.4								
JCT					*ep*P	pP		05 23 06.1	-0.9
JCT					LR	LR			
	comp=Z,135nm,19.0s,MS4.2								
SWET	**Sewanee**	**73.04**	**350**	*eP*			**P**	**05 23 05.9**	**-1.3**
SWET				*ep*P		pP		05 23 14.5	-0.3
PLAL	**Pickwick Lake**	**73.15**	**348**	*eP*			**P**	**05 23 06.3**	**-1.5**
	comp=Z,13nm,1.3s,mb4.7								
PLAL					LR	LR			
	comp=Z,261nm,19.0s,MS4.5								
WVT	**Waverly**	**74.23**	**348**	*eP*			**P**	**05 23 12.8**	**-1.4**
WVT				*e*PP		pP		05 23 19.8	-2.0
WVT					pmax	pmax			
	comp=Z,67nm,1.6s,mb5.3								
WVT	**Waverly**	**74.23**	**348**	*eP*			**P**	**05 23 12.8**	**-1.4**
	comp=Z,67nm,1.6s,mb5.3								
WVT					*ep*P	pP		05 23 19.8	-2.0
MNTX	**Cornudas Mount**	**74.77**	**332**	*eP*			**P**	**05 23 16.0**	**-1.3**
	comp=Z,8.1nm,1.0s,mb4.6								
MNTX					*ep*P	pP		05 23 22.9	-2.0
GDL2	**Guadalupe Moun**	**74.85**	**333**	*eP*			**P**	**05 23 19.4**	**+1.6**
WMOK	**Wichita Mounta**	**75.38**	**339**	*eP*			**P**	**05 23 19.9**	**-0.9**
WMOK				*e*PP		pP		05 23 26.5	-1.9
WMOK					pmax	pmax			
	comp=Z,33nm,1.6s,mb5.0								
WMOK	**Wichita Mounta**	**75.38**	**339**	*eP*			**P**	**05 23 19.9**	**-1.0**
	comp=Z,33nm,1.6s,mb5.0								
WMOK					*ep*P	pP		05 23 26.5	-1.9
CPRX	**Cap Rock**	**75.42**	**334**	*eP*			**P**	**05 23 20.9**	**-0.2**
CPRX				*e*PP		pP		05 23 27.7	-1.0
AMTX	**Amarillo**	**76.39**	**337**	*eP*			**P**	**05 23 25.2**	**-1.5**
	comp=Z,47nm,1.4s,mb5.2								
AMTX					*ep*P	pP		05 23 32.7	-1.5
FVM	**French Village**	**76.49**	**346**	*eP*			**P**	**05 23 25.8**	**-1.4**
FVM					pmax	pmax			
	comp=Z,52nm,1.5s,mb5.2								
FVM	**French Village**	**76.49**	**346**	*eP*			**P**	**05 23 25.8**	**-1.4**
	comp=Z,52nm,1.5s,mb5.2								
CASY	**Casey**	**76.70**	**182**	*eP*			**P**	**05 23 26.6**	**-1.8**
	comp=Z,12nm,1.0s,mb4.8								
CCM	**Cathedral Cave**	**76.72**	**346**	*eP*			**P**	**05 23 26.5**	**-2.0**
CCM					pmax	pmax			
	comp=Z,38nm,1.3s,mb5.2								
CCM	**Cathedral Cave**	**76.72**	**346**	*eP*			**P**	**05 23 26.5**	**-2.0**
	comp=Z,38nm,1.3s,mb5.2								
TUC	**Tucson**	**77.44**	**328**	*eP*			**P**	**05 23 32.0**	**-0.5**
TUC					pmax	pmax			
	comp=Z,14nm,1.3s,mb4.7								
TUC	**Tucson**	**77.44**	**328**	*eP*			**P**	**05 23 32.0**	**-0.5**
	comp=Z,14nm,1.3s,mb4.7								
DBIC	**Dimbokro**	**77.49**	**72**	P			**P**	**05 23 34.1**	**+1.3**
	comp=Z,12nm,0.9s,mb4.8,baz=207,slow=6.3,SNR=9.7								
DBIC					LR	LR		05 57 03.9	
	comp=Z,464nm,18.2s,MS4.8,baz=211,slow=35								
DBIC	**Dimbokro**	**77.49**	**72**	*eP*			**P**	**05 23 33.3**	**+0.5**
DBIC					pmax	pmax			
	comp=Z,20nm,1.1s								
DBIC	**Dimbokro**	**77.49**	**72**	*eP*			**P**	**05 23 33.3**	**+0.5**
	comp=Z,20nm,1.1s,mb5.0								
LPM	**Los Pinos Moun**	**77.57**	**333**	*eP*			**P**	**05 23 33.2**	**-0.1**
LPM					*ep*P	pP		05 23 40.0	-0.9
ACSO	**Alum Creek Sta**	**77.63**	**353**	*eP*			**P**	**05 23 31.8**	**-1.8**
	comp=Z,7.1nm,0.7s,mb4.7								
LAZ	**Ladron**	**77.84**	**332**	*eP*			**P**	**05 23 34.3**	**-0.5**
LAZ					*ep*P	pP		05 23 41.8	-0.5
ANMO	**Albuquerque**	**78.08**	**333**	*eP*			**P**	**05 23 35.9**	**-0.2**
ANMO				*e*PP		pP		05 23 42.9	-0.8
ANMO					pmax	pmax			
	comp=Z,22nm,1.4s								
ANMO	**Albuquerque**	**78.08**	**333**	*eP*			**P**	**05 23 35.9**	**-0.2**
	comp=Z,22nm,1.4s,mb4.9								
ANMO					*ep*P	pP		05 23 42.9	-0.8
CBKS	**Cedar Bluff**	**79.46**	**340**	*eP*			**P**	**05 23 43.3**	**-0.4**
CBKS					pmax	pmax			
	comp=Z,28nm,1.2s,mb5.1								
CBKS	**Cedar Bluff**	**79.46**	**340**	*eP*			**P**	**05 23 43.3**	**-0.4**
	comp=Z,28nm,1.2s,mb5.1								
TSUM	**Tsumeb**	**79.58**	**106**	P			**P**	**05 23 44.8**	**+0.4**
	comp=Z,17nm,1.3s,mb4.8								
MVCO	**Mesa Verde**	**80.83**	**332**	*eP*			**P**	**05 23 50.6**	**-0.5**
MVCO				*ep*P		pP		05 23 57.7	-1.0
PFO	**Pinyon Flat Ob**	**81.03**	**325**	*eP*			**P**	**05 23 52.9**	**+0.8**
PFO				*e*PP		pP		05 23 59.6	-0.2
PFO					pmax	pmax			
	comp=Z,22nm,1.3s,mb4.9								
PFO	**Pinyon Flat Ob**	**81.03**	**325**	*eP*			**P**	**05 23 52.9**	**+0.8**
	comp=Z,22nm,1.3s,mb4.9								
PFO					*ep*P	pP		05 23 59.6	-0.2
PV01	**Paradox Valley**	**81.68**	**333**	*eP*			**P**	**05 23 56.9**	**+1.3**
NEN	**Nelson**	**82.02**	**327**	*eP*			**P**	**05 23 57.4**	**0.0**
NEN					*ep*P	pP		05 24 03.9	-1.1
SMCO	**Snowmass**	**82.05**	**334**	*eP*			**P**	**05 23 57.9**	**+0.4**
	comp=Z,30nm,1.3s,mb5.1								
PV10	**Paradox Valley**	**82.06**	**333**	P			**P**	**05 23 59.6**	**+2.0**
LBTB	**Lobatse**	**82.11**	**115**	*eP*			**P**	**05 23 58.6**	**+0.7**
LBTB					pmax	pmax			
	comp=Z,23nm,1.0s,mb5.1								
LBTB	**Lobatse**	**82.11**	**115**	*eP*			**P**	**05 23 58.6**	**+0.8**
	comp=Z,23nm,1.0s,mb5.1								
ISCO	**Idaho Springs**	**82.15**	**336**	*eP*			**P**	**05 23 57.4**	**-0.6**
ISCO					pmax	pmax			
	comp=Z,17nm,1.4s,mb4.8								
ISCO	**Idaho Springs**	**82.15**	**336**	*eP*			**P**	**05 23 57.4**	**-0.6**
	comp=Z,17nm,1.4s,mb4.8								
CCUT	**Cedar City**	**83.02**	**329**	*eP*			**P**	**05 24 04.0**	**+1.4**
CCUT					*ep*P	pP		05 24 10.5	+0.3
ARUT	**Antelope Range**	**83.25**	**329**	*eP*			**P**	**05 24 05.1**	**+1.3**
ARUT				*e*PP		pP		05 24 11.0	-0.5
SRU	**San Rafael**	**83.26**	**332**	*eP*			**P**	**05 24 03.6**	**-0.2**
SRU				*e*PP		pP		05 24 10.3	-1.2
SRU					pmax	pmax			
	comp=Z,18nm,1.3s,mb4.9								
SRU	**San Rafael**	**83.26**	**332**	*eP*			**P**	**05 24 03.6**	**-0.2**
	comp=Z,18nm,1.3s,mb4.9								
SRU					*ep*P	pP		05 24 10.3	-1.2
MSU	**Marysvale**	**83.37**	**331**	*eP*			**P**	**05 24 05.6**	**+1.2**
MSU				*e*		pP		05 24 11.4	-0.7
PHWY	**Pilot Hill**	**83.46**	**336**	*eP*			**P**	**05 24 04.2**	**-0.6**
PHWY					*ep*P	pP		05 24 10.9	-1.6
TMUT	**Trail Mountain**	**83.68**	**332**	*eP*			**P**	**05 24 03.8**	**-2.2**
RWWY	**Rawlins**	**84.37**	**335**	*eP*			**P**	**05 24 10.2**	**+0.7**
	comp=Z,31nm,1.4s,mb5.2								
MPU	**Maple Canyon**	**84.47**	**332**	*eP*			**P**	**05 24 10.5**	**+0.5**
	comp=Z,24nm,1.2s,mb5.2								
MPU					*ep*P	pP		05 24 17.5	-0.1
NLU	**North Lily Min**	**84.58**	**331**	*eP*			**P**	**05 24 11.8**	**+1.2**
NLU					*ep*P	pP		05 24 19.0	+0.8
DAU	**Daniels Canyon**	**84.67**	**332**	*eP*			**P**	**05 24 11.9**	**+0.9**
DAU				*e*PP		pP		05 24 17.9	-0.8
DUG	**Dugway**	**85.08**	**331**	*eP*			**P**	**05 24 13.6**	**+0.6**
DUG					pmax	pmax			
	comp=Z,43nm,1.6s,mb5.3								
DUG	**Dugway**	**85.08**	**331**	*eP*			**P**	**05 24 13.6**	**+0.5**
	comp=Z,43nm,1.6s,mb5.3								
MTUM	**Tungsten Hills**	**85.09**	**326**	*eP*			**P**	**05 24 15.1**	**+1.9**
MTUM					*ep*P	pP		05 24 21.9	+1.1
TPH	**Tonopah**	**85.09**	**327**	*eP*			**P**	**05 24 15.4**	**+2.3**
TPH				*e*PP		pP		05 24 21.8	+1.0
TPH					pmax	pmax			
	comp=Z,16nm,1.3s,mb5.0								
TPH	**Tonopah**	**85.09**	**327**	*eP*			**P**	**05 24 15.4**	**+2.2**
	comp=Z,16nm,1.3s,mb5.0								
TPH					*ep*P	pP		05 24 21.8	+0.9
TCUT	**Toone Canyon**	**85.34**	**332**	*eP*			**P**	**05 24 15.8**	**+1.4**
TCUT					*ep*P	pP		05 24 22.3	+0.3
RSSD	**Black Hills**	**85.59**	**339**	*eP*			**P**	**05 24 14.8**	**-0.8**
RSSD				*e*PP		pP		05 24 21.9	-1.4
RSSD					pmax	pmax			
	comp=Z,11nm,1.0s,mb5.0								
RSSD	**Black Hills**	**85.59**	**339**	*eP*			**P**	**05 24 14.8**	**-0.8**
	comp=Z,11nm,1.0s,mb5.0								
RSSD					*ep*P	pP		05 24 21.9	-1.4
HWUT	**Hardware Ranch**	**85.83**	**332**	*eP*			**P**	**05 24 16.9**	**+0.1**
	comp=Z,50nm,1.4s,mb5.6								
HWUT					*ep*P	pP		05 24 24.5	0.0
NVAR	**Mina Array Bea**	**85.86**	**326**	P			**P**	**05 24 18.2**	**+1.2**
	comp=Z,0.3nm,0.6s,mb3.7,baz=199,slow=5.2,SNR=3.1								
NVAR	**Mina Array Bea**	**85.86**	**326**	P			**P**	**05 24 18.2**	**+1.2**
SPUT	**South Promonto**	**85.90**	**332**	P			**P**	**05 24 17.3**	**+0.1**
PDAR	**Pinedale Array**	**86.13**	**334**	P			**P**	**05 24 18.2**	**0.0**
	comp=Z,2.7nm,1.1s,mb4.4,baz=151,slow=3.4,SNR=10								
PDAR					LR	LR		05 57 57.5	
	comp=Z,155nm,19.4s,MS4.4,baz=58,slow=32								
BW06	**Boulder Array**	**86.13**	**334**	*eP*			**P**	**05 24 17.7**	**-0.6**
	comp=Z,14nm,1.4s,mb5.0								
ELK	**Elko**	**86.50**	**330**	*eP*			**P**	**05 24 20.6**	**+0.5**
ELK				*e*PP		pP		05 24 28.2	+0.4
ELK					pmax	pmax			
	comp=Z,20nm,1.4s								
ELK	**Elko**	**86.50**	**330**	*eP*			**P**	**05 24 20.6**	**+0.4**
	comp=Z,20nm,1.4s,mb5.2								
ELK					*ep*P	pP		05 24 28.2	+0.4
TORD	**Torodi Ar. Bea**	**86.57**	**71**	P			**P**	**05 24 20.5**	**0.0**
	comp=Z,3.7nm,0.8s,mb4.7,baz=238,slow=3.6,SNR=20								
LOHW	**Long Hollow**	**87.23**	**334**	*eP*			**P**	**05 24 26.9**	**+3.2**
	comp=Z,11nm,1.2s,mb5.0								
TPAW	**Teton Pass**	**87.25**	**334**	*eP*			**P**	**05 24 23.6**	**-0.2**
	comp=Z,10nm,1.1s,mb5.0								
MOOW	**Moose Ponds**	**87.40**	**334**	*eP*			**P**	**05 24 26.1**	**+1.6**
	comp=Z,19nm,1.8s,mb5.0								
DCID1	**Drake Creek**	**87.42**	**334**	*eP*			**P**	**05 24 24.8**	**+0.2**
IMW

	comp=Z,1.5nm,1.0s,baz=93,slow=2.4,SNR=5.7								
MKAR					PKPab	PKPab	05 32 15.2	-0.1	
	comp=Z,1.9nm,0.8s,baz=287,slow=4.7,SNR=6.0								
MDJ	**Mudanjiang**	**161.01**	**300**		PKP	PKPdf	05 31 37.3	-0.2	
CN2	**Changchun**	**164.10**	**300**	*e*	PKP	PKPdf	05 31 39.0	-1.5	
WMQ	**Urumqi**	**164.43**	**59**		PKP	PKPdf	05 31 40.0	-0.8	
WMQ					APKP		05 31 48.0		
WMQ					XPKP		05 31 51.3		
WMQ					PP	PP	05 36 23.0	+1.7	
WMQ					PP	PP			
	comp=Z,62nm,7.2s								
WMQ					LR	LR			
	comp=N,145nm,24.3s								
WMQ					LR	LR			
	comp=E,616nm,24.3s								
WMQ					LR	LR			
	comp=Z,142nm,20.8s								
SSE	**Sheshan**	**166.24**	**248**		PKP	PKPdf	05 31 40.8	-1.5	
ZAK	**Zakamensk**	**166.74**	**9**	*e*	PKP2	PKPab	05 32 44.6	-1.0	
ZAK					pmax	pmax			
	comp=Z,12nm,1.8s								
KMI	**Kunming**	**167.48**	**165**		PKP	PKPdf	05 31 44.1	+0.8	
KMI					APKP		05 31 51.8		
KMI					XPKP		05 31 54.3		
KMI					PKP2	PKPab	05 32 51.9	+3.0	
KMI					PKS		05 35 14.5		
KMI					PP	PP	05 36 41.9	+4.7	
KMI					SKS	SKSdf	05 38 43.9	-1.7	
KMI					SKKS	SKKSac	05 43 25.3	+2.2	
KMI					SS	SS	05 57 26.8	+4.2	
KMI					PP	PP			
	comp=Z,172nm,7.4s								
KMI					LR	LR			
	comp=N,216nm,18.0s								
KMI					LR	LR			
	comp=E,227nm,16.1s								
KMI					LR	LR			
	comp=Z,159nm,15.5s								
NJ2	**Nanjing**	**168.44**	**247**	*e*	PKP	PKPdf	05 31 42.3	-1.6	
NJ2					APKP		05 31 51.5		
NJ2					XPKP		05 31 55.1		
NJ2					PKS		05 35 15.0		
NJ2					PP	PP			
	comp=Z,80nm,7.0s								
NJ2					LR	LR			
	comp=N,1μm,33.6s								
NJ2					LR	LR			
	comp=E,770nm,38.2s								
NJ2					LR	LR			
	comp=Z,360nm,26.8s								
GYA	**Guiyang**	**169.19**	**182**	*e*	PKP	PKPdf	05 31 44.3	-0.1	
GYA					APKP		05 31 55.3		
GYA					XPKP		05 31 58.8		
GYA					PP	PP			
	comp=Z,120nm,8.9s								
GYA					LR	LR			
	comp=N,190nm,20.8s								
GYA					LR	LR			
	comp=E,210nm,21.4s								
GYA					LR	LR			
	comp=Z,160nm,20.8s								
ULN	**Ulaanbaatar**	**169.43**	**357**	*e*	PKIKP	PKPdf	05 31 45.5	+0.9	
ULN				*e*			05 32 57.3		
SONM	**Songino Array**	**169.47**	**360**		PKPab	PKPab	05 32 56.4	-1.3	
	comp=Z,2.2nm,1.1s,baz=301,slow=1.4,SNR=5.9								
CD2	**Chengdu**	**173.28**	**161**	*e*	PKP	PKPdf	05 31 42.6	-3.9	
CD2					PP	PP	05 37 06.0	-0.2	
CD2					SKS	SKSdf	05 38 40.5	-7.6	
CD2					SS	SS	05 58 15.6	-4.4	
CD2					PP	PP			
	comp=Z,80nm,9.5s								
CD2					LR	LR			
	comp=N,140nm,16.8s								
CD2					LR	LR			
	comp=Z,110nm,15.6s								
GTA	**Gaotai**	**174.46**	**66**	*e*	PKP	PKPdf	05 31 46.8	-0.1	
GTA					APKP		05 31 53.8		
GTA					XPKP		05 31 56.4		
HHC	**Hu-ho-hao-te**	**174.60**	**313**	*e*	PKP	PKPdf	05 31 45.1	-1.8	
HHC					APKP		05 31 56.0		
HHC					XPKP		05 31 58.8		
HHC					PKP2	PKPab	05 33 20.9	+0.4	
HHC					PKS		05 35 15.8		
HHC					PP	PP	05 37 14.8	+2.1	
HHC					PP	PP			
	comp=Z,67nm,15.3s								
HHC					LR	LR			
	comp=N,125nm,20.7s								
HHC					LR	LR			
	comp=E,218nm,24.3s								
HHC					LR	LR			
	comp=Z,67nm,12.5s								
LZH	**Lanzhou**	**177.66**	**120**	*e*	PKP	PKPdf	05 31 46.5	-1.1	
LZH					APKP		05 31 54.1		
LZH					XPKP		05 31 56.5		
LZH					PKP2	PKPab	05 33 34.1	0.0	
LZH					PKS		05 35 17.3		
LZH				*e*	PP	PP	05 37 28.3	+1.1	
LZH					SKS	SKSdf	05 38 45.3	-3.7	
LZH					SKKS	SKKSac	05 44 10.4	-1.6	
LZH				*e*	SS	SS	05 58 57.9	-4.0	
LZH					PP	PP			
	comp=Z,175nm,9.4s								
LZH					LR	LR			
	comp=E,485nm,18.7s								
LZH					LR	LR			
	comp=Z,598nm,20.4s								

*IDC **21** 05:30:47.4±1.0, 127N×12176E, h0km, mb4.1/5, mb1 4.3/6, mb1mx3.9/18, mbtmp4.1/6, ML4.3/1, Error ellipse: s-maj=113.2km s-min=18.4km az=66.0*

*ISCJB **21** 05:30:50.6±2.8, 10N±02×1212E±03, h35km±26km, mb4.3/12, Error ellipse: s-maj=49.0km s-min=9.5km az=117.2*

*NEIC **21** 05:30:53.2±1.9, 104N×12124E, h44km±18km, mb4.4/8, Error ellipse: s-maj=34.4km s-min=6.7km az=59.0*

ISC 21 05:30:52.9±2.4, 10N±02×1213E±03, h37km±23km, n20, σ0°59/20, mb4.3/12, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**7.09**	**315**	*e*Pn	**Pn**	**05 32 33.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**19.50**	**167**	*e*P	**Pn**	**05 35 18.6**	**+0.4**
	9.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.50**	**167**	P	**Pn**	**05 35 18.6**	**+0.4**
	0.6nm,0.3s,baz=346,slow=9.0,SNR=22						
WRAB	**Tennant Creek**	**24.47**	**149**	*e*P	**P**	**05 36 07.3**	**-0.9**
	3.0nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**24.47**	**149**	P	**P**	**05 36 08.5**	**+0.2**
	4.5nm,0.5s,mb4.2,baz=327,slow=10,SNR=46						
WB2	**Warramunga Arr**	**24.48**	**149**	*e*P	**P**	**05 36 08.5**	**+0.2**
ASAR	**Alice Springs**	**27.45**	**154**	P	**P**	**05 36 36.0**	**+0.8**
	1.9nm,0.5s,mb3.9,baz=344,slow=14,SNR=40						
ASAR				PcP	PcP	05 39 53.1	0.0
	0.4nm,0.4s,baz=341,slow=2.0,SNR=5.6						
FORT	**Forrest**	**32.29**	**169**	*e*P	**P**	**05 37 18.6**	**+0.5**
	12nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**37.98**	**151**	*e*P	**P**	**05 38 05.9**	**-1.1**
	2.1nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**37.98**	**151**	P	**P**	**05 38 05.8**	**-1.3**
	2.5nm,0.4s,mb4.2,baz=339,slow=7.7,SNR=9.8						
STKA	**Stephens Creek**	**37.98**	**151**	*e*P	**P**	**05 38 05.7**	**-1.4**
JIRN	**Jiri**	**42.78**	**311**	*e*P	**P**	**05 38 47.3**	**+0.6**
	4.6nm,0.3s,mb4.6						
GUN	**Gumba**	**43.14**	**311**	*e*P	**P**	**05 38 50.0**	**+0.3**
	8.0nm,0.4s,mb4.8						
PKI	**Pulchoki**	**43.32**	**311**	*e*P	**P**	**05 38 51.3**	**+0.2**
GKN	**Gorkha**	**44.13**	**311**	*e*P	**P**	**05 38 57.6**	**0.0**
KOLN	**Koldanda**	**44.80**	**310**	*e*P	**P**	**05 39 01.7**	**-1.3**
	7.4nm,0.7s,mb4.6						
ULN	**Ulaanbaatar**	**48.25**	**347**	*e*P	**P**	**05 39 30.4**	**+0.4**
	1.7nm,0.8s,mb4.1						
SONM	**Songino Array**	**48.37**	**347**	P	**P**	**05 39 31.4**	**+0.4**
	1.2nm,0.7s,mb4.0,baz=163,slow=9.6,SNR=3.7						
MKAR	**Makanchi Array**	**56.84**	**329**	P	**P**	**05 40 33.6**	**0.0**
	0.8nm,0.5s,mb4.0,baz=127,slow=8.1,SNR=8.8						
KURK	**Kurchatov**	**61.23**	**331**	*e*P	**P**	**05 41 03.8**	**-0.2**
	2.5nm,0.9s,mb4.3						

WEL 21 05:32:53.3±0.2, 4137S×17312E, h95km±2km, ML3.7/13, 8C-2D, Error ellipse: s-maj=1.4km s-min=1.3km az=0.0,

South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.24**	**53**	PN	Pn	05 33 06.6	-0.4
NNZ				SN	Sn	05 33 16.3	-0.9
THZ	**Tophouse**	**0.43**	**202**	PN	Pn	05 33 08.0	-0.1
THZ				SN	Sn	05 33 17.8	-1.2
TUWZ	**Tuamarina**	**0.62**	**96**	PN	Pn	05 33 09.7	+0.2
TUWZ				SN	Sn	05 33 21.6	0.0
BSWZ	**Blackbirch Sta**	**0.66**	**122**	PN	Pn	05 33 09.9	0.0
BSWZ				*e*SN	Sn	05 33 22.6	+0.2
QRZ	**Quartz Range**	**0.70**	**320**	PN	Pn	05 33 10.0	-0.2
QRZ				SN	Sn	05 33 21.8	-1.1
DUWZ	**D'Urville Isla**	**0.83**	**47**	PN	Pn	05 33 12.0	+0.5
DUWZ				SN	Sn	05 33 25.4	+0.3
TCW	**Tory Channel**	**0.88**	**80**	⇑PN	Pn	05 33 12.4	+0.4
TCW				SN	Sn	05 33 25.9	-0.3
CMWZ	**Cape Campbell**	**0.90**	**115**	PN	Pn	05 33 12.4	+0.1
DSZ	**Denniston Nort**	**1.06**	**249**	⇓PN	Pn	05 33 13.7	-0.3
KHZ	**Kahutara**	**1.10**	**164**	⇑PN	Pn	05 33 14.4	0.0
KHZ				SN	Sn	05 33 29.3	-1.0
SNZO	**South Karori**	**1.19**	**88**	⇑PN	Pn	05 33 15.1	-0.4
SNZO				SN	Sn	05 33 31.3	-1.0
MRW	**Makara Radio**	**1.20**	**84**	⇑PN	Pn	05 33 15.4	-0.2
MRW				SN	Sn	05 33 31.3	-1.1
WEL	**Wellington**	**1.24**	**87**	PN	Pn	05 33 15.8	-0.3
BHW	**Baring Head**	**1.32**	**92**	⇑PN	Pn	05 33 16.3	-0.7
KIW	**Kapiti Island**	**1.44**	**70**	PN	Pn	05 33 18.6	0.0
KIW				SN	Sn	05 33 37.1	-0.5
CAW	**Cannon Point**	**1.49**	**81**	⇑PN	Pn	05 33 18.6	-0.6
LTZ	**Lake Taylor**	**1.55**	**204**	⇓PN	Pn	05 33 19.9	0.0
MSWZ	**Moikau Station**	**1.60**	**92**	⇑PN	Pn	05 33 19.5	-1.0
PAWZ	**Paruwai Farm**	**1.73**	**91**	⇑PN	Pn	05 33 21.0	-1.2
MTW	**Mount Morrison**	**1.81**	**84**	PN	Pn	05 33 21.9	-1.2
TRWZ	**Traveller**	**1.93**	**92**	PN	Pn	05 33 23.6	-1.2
MRZ	**Mangatainoka R**	**1.99**	**70**	PN	Pn	05 33 24.4	-1.1
MRZ				SN	Sn	05 33 48.2	-1.9
NRZ	**Ngariki Road**	**2.12**	**17**	PN	Pn	05 33 28.3	+1.1
WAZ	**Wanganui**	**2.15**	**42**	*e*PN	Pn	05 33 27.7	+0.1
NWEZ	**Newall Road**	**2.17**	**15**	PN	Pn	05 33 29.2	+1.4
TIWZ	**Tintock**	**2.17**	**75**	PN	Pn	05 33 26.5	-1.4
NEZ	**North Egmont**	**2.22**	**20**	PN	Pn	05 33 29.4	+0.9
PKE	**Pukeiti**	**2.27**	**17**	PN	Pn	05 33 30.3	+1.2
RAEZ	**Rainy Point**	**2.29**	**25**	PN	Pn	05 33 31.0	+1.5
MQZ	**McQueen's Vall**	**2.37**	**188**	PN	Pn	05 33 28.6	-1.8
MQZ				SN	Sn	05 33 54.5	-4.4

IDC 21 05:36:35.0±1.7, 011N×9697E, h0km, mb3.8/4, mb1 3.8/5, mb1mx3.5/19, mbtmp3.7/5, ML2.9/1, Error ellipse: s-maj=53.1km s-min=28.8km az=50.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.31**	**36**	Pn	Pn	05 37 27.6	-0.4
	1.3nm,0.3s,baz=288,slow=19,SNR=5.3						
WRA	**Warramunga Arr**	**41.66**	**121**	P	P	05 44 25.6	+0.4
	0.3nm,0.4s,baz=304,slow=9.1,SNR=3.7						
MKAR	**Makanchi Array**	**48.24**	**346**	P	P	05 45 18.3	+0.8
	0.5nm,0.5s,baz=156,slow=8.1,SNR=6.9						
FINES	**FINESS Array B**	**80.85**	**333**	P	P	05 48 50.2	-0.6
	1.2nm,1.0s,baz=96,slow=5.7,SNR=4.0						
ARCES	**ARCESS Array B**	**83.48**	**340**	P	P	05 49 04.0	-0.6
	2.0nm,0.8s,baz=98,slow=6.2,SNR=7.2						

*IDC **21** 06:10:16.6±0.6, 1630N×9295E, h0km, mb4.2/17, mb1 4.4/17, mb1mx4.3/21, mbtmp4.2/17, MS3.6/1, Ms1 3.6/1, ms1mx2.6/22, Error ellipse: s-maj=22.4km s-min=13.5km az=48.0*

*BJI **21** 06:10:18.1, 1607N×9319E, h32km, mB4.3, mb4.4, Ms4.1, Msz4.0*

*MOS **21** 06:10:20.6±0.9, 1647N×9311E, h33km, mb4.7/10, Error ellipse: s-maj=15.2km s-min=7.3km az=113.2*

*ISCJB **21** 06:10:21.1±0.4, 1663N±005×9294E±005, h33km, mb4.3/33, MS4.1/1, Error ellipse: s-maj=8.1km s-min=5.8km az=48.8*

*NEIC **21** 06:10:21.4±0.5, 1646N×9293E, h30km, mb4.8/5, Error ellipse: s-maj=15.3km s-min=7.3km az=52.0*

ISC 21 06:10:19.6±2.2, 1653N±005×9296E±005, h10km±14km, h35km±4.4km; pP-P, n77, σ1°21/82, mb4.3/33, MS4.1/1, 5C-1D, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHTO	**Chiang Mai**	**6.14**	**67**	*i* P	**Pn**	**06 11 49.8**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,11nm,0.6s						
CHTO	**Chiang Mai**	**6.14**	**67**	*i* Pn	**Pn**	**06 11 49.8**	**-0.5**
	comp=Z,11nm,0.6s						
CAL	**Calcutta**	**7.40**	**325**	*ex*	x	06 10 34.4	
CAL				*ex*	x	06 10 49.4	
CAL				*ex*	x	06 13 28.9	
CAL				*eS*	**Sn**	**06 13 28.9**	**-2.7**
CAL				*ex*	x	06 14 30.7	
SHL	**Shillong**	**9.04**	**354**	*e*PN	**Pn**	**06 12 32.0**	**+1.8**
SHL				*eP*		06 12 32.0	
SHL				*i* SN	**Sn**	**06 14 09.0**	**-3.1**
SHL				*eS*	**Sn**	**06 14 09.0**	**-3.1**
VIS	**Vishakhapatnam**	**9.28**	**279**	*eP*	**Pn**	**06 12 32.4**	**-1.1**
VIS				*i* x	x	06 12 35.0	
VIS				AMb	AMB	06 12 35.9	
	comp=Z,22nm,0.5s						
VIS				*i* x	x	06 14 04.6	
VIS				*eS*	**Sn**	**06 14 08.2**	**-10**
BOK	**Bokaro**	**9.81**	**319**	*eP*	**Pn**	**06 12 41.5**	**+0.8**
BOK				*i* x	x	06 12 42.2	
BOK				*i* x	x	06 13 58.2	
BOK				*eS*	**Sn**	**06 14 24.9**	**-6.0**
BOK				*eS*	**Sn**	**06 14 25.2**	**-5.8**
BLSP	**Bilaspur**	**11.63**	**300**	*eP*	**Pn**	**06 13 04.9**	**-0.8**
BLSP				AMb	AMB	06 13 06.8	
	comp=Z,9.0nm,0.3s						
BLSP				*eS*	**Sn**	**06 15 06.5**	**-9.2**
JIRN	**Jiri**	**12.72**	**332**	*eP*	**Pn**	**06 13 19.5**	**-1.0**
PKI	**Pulchoki**	**13.02**	**329**	*eP*	**Pn**	**06 13 23.3**	**-1.3**
	comp=Z,65nm,0.7s						
PKI	**Pulchoki**	**13.02**	**329**	*eP*	**Pn**	**06 13 23.3**	**-1.3**
PKI				pmax	pmax		
	comp=Z,65nm,0.7s						
GUN	**Gumba**	**13.08**	**331**	*eP*	**Pn**	**06 13 24.9**	**-0.5**
GUN				*eS*	**Sn**	**06 15 42.9**	**-8.0**
DMN	**Daman**	**13.20**	**328**	*eP*	**Pn**	**06 13 26.1**	**-1.0**
	comp=Z,49nm,0.6s						
LSA	**Lhasa**	**13.21**	**353**	*i* P	**Pn**	**06 13 28.8**	**+1.6**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.4s						
LSA	**Lhasa**	**13.21**	**353**	*i* Pn	**Pn**	**06 13 28.8**	**+1.5**
	comp=Z,9.0nm,0.4s						
KKN	**Kakani**	**13.26**	**329**	*eP*	**Pn**	**06 13 27.8**	**-0.1**
GKN	**Gorkha**	**13.76**	**327**	*eP*	**Pn**	**06 13 33.5**	**-1.3**
	comp=Z,28nm,0.3s						
HYB	**Hyderabad**	**13.81**	**276**	*i* P	**Pn**	**06 13 43.0**	**+7.6**
HYB				*e*		06 15 57.0	
HYB				*eS*	**Sn**	**06 16 09.0**	**+0.1**
HYB	**Hyderabad**	**13.81**	**276**	*eP*	**Pn**	**06 13 43.0**	**+7.6**
HYB				*eS*	**Sn**	**06 16 09.0**	**+0.1**
KOLN	**Koldanda**	**14.14**	**324**	*eP*	**Pn**	**06 13 38.9**	**-1.0**
	comp=Z,38nm,0.4s						
KOLN				*eS*	**Sn**	**06 16 08.7**	**-8.2**
PSI	**Prapat**	**14.85**	**156**	Pn	**Pn**	**06 13 50.5**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=324,slow=17,SNR=2.4						
PSI				LR	LR	06 20 07.2	
	comp=Z,203nm,19.0s,baz=171,slow=40						
BHPL	**Bhopal**	**16.06**	**297**	*eP*	**Pn**	**06 14 05.2**	**-0.2**
BHPL				AMb	AMB	06 14 09.4	
	comp=Z,7.6nm,0.4s						
BHPL				*ex*	x	06 16 53.3	
POO	**Poona**	**18.33**	**279**	*ex*	x	05 58 55.0	
NDI	**New Delhi**	**18.88**	**313**	*ex*	x	06 14 45.5	
NDI				*ex*	x	06 17 56.5	
LZH	**Lanzhou**	**21.75**	**24**	⇑P	**P**	**06 15 13.3**	**+2.1**
LZH				AP		06 15 21.6	
LZH				XP	sP	06 15 25.5	+10
LZH				AMB	AMB		
	comp=Z,36nm,1.4s,mb4.6						
LZH				AMB	AMB		
	comp=Z,51nm,4.9s						
LZH				LR	LR		
	comp=N,478nm,14.2s						
LZH				LR	LR		
	comp=Z,637nm,17.5s,MS4.1						
XAN	**Xi'an**	**22.58**	**36**	P	**P**	**06 15 19.6**	**-0.4**
XAN				AP		06 15 31.3	
XAN				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.3						
GTA	**Gaotai**	**23.57**	**13**	*eP*	**P**	**06 15 32.3**	**+1.8**
GTA				AP		06 15 37.1	
GTA				XP	sP	06 15 40.6	+6.1
GTA				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.2						
MK31	**Makanchi Array**	**31.45**	**346**	P	**P**	**06 16 42.3**	**+1.2**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
MKAR	**Makanchi Array**	**31.45**	**346**	P	**P**	**06 16 42.8**	**+1.7**
	comp=Z,8.6nm,0.7s,mb4.7,baz=152,slow=9.9,SNR=37						
SONM	**Songino Array**	**33.12**	**17**	P	**P**	**06 16 56.5**	**+0.7**
	comp=Z,0.8nm,0.6s,mb3.9,baz=197,slow=7.6,SNR=7.3						
SONM				PcP	PcP	06 19 38.3	-0.6
	comp=Z,0.8nm,0.7s,baz=175,slow=2.4,SNR=4.4						
ZAK	**Zakamensk**	**34.77**	**12**	*eP*	**P**	**06 17 08.0**	**-2.2**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.8s,mb4.3						
KURK	**Kurchatov**	**35.99**	**344**	*eP*	**P**	**06 17 21.4**	**+0.7**
KURK				*e**PP	pP	06 17 32.6	+8.9
KURK				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
KURK	**Kurchatov**	**35.99**	**344**	*eP*	**P**	**06 17 21.4**	**+0.7**
	comp=Z,19nm,0.9s,mb5.0						
KURK				*e*pP	pP	06 17 32.6	+8.9
ZAL	**Zalesovo**	**37.86**	**352**	P	**P**	**06 17 38.1**	**+1.5**
	comp=Z,4.3nm,0.7s,mb4.3,baz=312,slow=6.7,SNR=14						
JNU	**Nakatsue**	**37.93**	**57**	P	**P**	**06 17 36.5**	**-0.7**
	comp=Z,18nm,0.3s,mb5.2,baz=89,slow=0.9,SNR=5.0						
NVS	**Novosibirsk**	**38.96**	**351**	*eP*	**P**	**06 17 42.5**	**-3.3**
NVS				pmax	pmax		
	comp=N,5.0nm,0.9s						
NVS				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
VOSK	**Vostochnaya**	**40.05**	**339**	P	**P**	**06 17 55.5**	**+0.6**
VOSK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.6						
BVA0	**Borovoye Array**	**40.50**	**339**	*i* P	**P**	**06 17 58.9**	**+0.3**
ZRNK	**Zerenda**	**40.93**	**338**	*eP*	**P**	**06 18 02.8**	**+0.6**
ZRNK				*e**PP	pP	06 18 13.6	+8.4
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.4						
ZRNK	**Zerenda**	**40.93**	**338**	*eP*	**P**	**06 18 02.8**	**+0.7**
	comp=Z,7.6nm,0.8s,mb4.4						
ZRNK				*e*pP	pP	06 18 13.6	+8.4
CHKZ	**Chkalovo**	**40.96**	**340**	*eP*	**P**	**06 18 02.9**	**+0.4**
CHKZ				pmax	pmax		
	comp=Z,23nm,0.7s,mb4.9						
CHKZ	**Chkalovo**	**40.96**	**340**	*eP*	**P**	**06 18 02.9**	**+0.5**
	comp=Z,23nm,0.7s,mb4.9						
AB31	**Akbulak array**	**42.22**	**328**	*i* P	**P**	**06 18 14.0**	**+1.3**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
AKTO	**Aktyubinsk**	**43.92**	**328**	P	**P**	**06 18 27.2**	**+0.6**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.6						
BOD	**Bodaibo**	**44.11**	**16**	*eP*	**P**	**06 18 24.7**	**-3.4**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.8s,mb3.9						
MJAR	**Matsushiro Arr**	**44.64**	**54**	P	**P**	**06 18 32.0**	**-0.3**
	comp=Z,1.2nm,0.8s,mb3.8,baz=270,slow=13,SNR=5.6						
FITZ	**Fitzroy Crossi**	**47.11**	**136**	*eP*	**P**	**06 18 50.1**	**-1.7**
	comp=Z,9.2nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**47.11**	**136**	P	**P**	**06 18 50.2**	**-1.6**
	comp=Z,4.7nm,0.9s,mb4.4,baz=314,slow=3.2,SNR=7.1						
ARU	**Arti**	**47.56**	**335**	*eP*	**P**	**06 18 55.8**	**+0.5**
ARU				*e**PP	pP	06 19 03.9	+5.6
ARU	**Arti**	**47.56**	**335**	*eP*	**P**	**06 18 55.8**	**+0.5**
ARU				*e*pP	pP	06 19 03.9	+5.6
KIV	**Kislovodsk**	**50.33**	**314**	*eP*	**P**	**06 19 17.9**	**+1.3**
KIV				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1						
WRA	**Warramunga Arr**	**54.47**	**130**	P	**P**	**06 19 45.3**	**-2.0**
	comp=Z,3.9nm,0.9s,mb4.3,baz=316,slow=7.6,SNR=13						
BR131	**Keskin Array S**	**56.12**	**307**	*eP*	**P**	**06 19 59.8**	**+0.6**
	comp=Z,1.2nm,0.6s,mb4.1						
BRTR	**Keskin Array B**	**56.12**	**307**	P	**P**	**06 19 59.2**	**0.0**
	comp=Z,2.9nm,0.9s,mb4.3,baz=120,slow=7.3,SNR=15						
ASAR	**Alice Springs**	**56.54**	**134**	P	**P**	**06 20 00.8**	**-1.3**
	comp=Z,1.6nm,0.7s,mb4.2,baz=310,slow=6.9,SNR=12						
AKASG	**Malin Array Be**	**60.78**	**319**	P	**P**	**06 20 30.4**	**-1.3**
	comp=Z,1.2nm,0.6s,mb4.2,baz=86,slow=6.4,SNR=8.4						
AKASG	**Malin Array Be**	**60.78**	**319**	P	**P**	**06 20 30.4**	**-1.3**
VRI	**Vrincioaia**	**61.81**	**313**	⇑P	**P**	**06 20 39.4**	**+0.7**
PLOR	**Plostina**	**61.86**	**313**	⇓P	**P**	**06 20 41.0**	**+2.0**
MLR	**Muntele Rosu**	**62.32**	**313**	⇑P	**P**	**06 20 43.7**	**+1.6**
BURAR	**Bucovina Array**	**62.99**	**315**	⇑P	**P**	**06 20 47.8**	**+1.2**
FINES	**FINESS Array B**	**64.60**	**331**	P	**P**	**06 20 56.6**	**-0.5**
	comp=Z,2.2nm,0.7s,mb4.3,baz=101,slow=8.0,SNR=10						
DRGR		**64.65**	**314**	⇑P	**P**	**06 20 58.6**	**+1.1**
KWP	**Kalwaria**	**64.81**	**317**	*eP*	**P**	**06 20 58.9**	**+0.3**
KWP				pmax	pmax		
	comp=Z,46nm,0.4s						
KWP	**Kalwaria**	**64.81**	**317**	*eP*	**P**	**06 20 58.9**	**+0.3**
	comp=Z,46nm,0.4s						
ARCES	**ARCESS Array B**	**66.79**	**339**	P	**P**	**06 21 11.4**	**+0.1**
	comp=Z,3.0nm,0.6s,mb4.5,baz=93,slow=7.1,SNR=18						
STKA	**Stephens Creek**	**67.00**	**136**	P	**P**	**06 21 09.2**	**-3.5**
	comp=Z,2.2nm,0.8s,mb4.2,baz=314,slow=9.6,SNR=3.2						
BRG	**Berggiesshubel**	**70.45**	**319**	*eP*	**P**	**06 21 34.9**	**+0.7**
	comp=Z,2.2nm,1.0s,mb4.1						
BRG	**Berggiesshubel**	**70.45**	**319**	*eP*	**P**	**06 21 34.9**	**+0.7**
BRG				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
GERES

CDCH	**Caldera**	**2.77**	**9**	⇑*iP*		Pn		06 12 08.7	+0.6
CDCH					AML	AML		06 12 54.9	
	comp=E,97nm,0.9s								
CLCH	**Cerro Calan**	**3.64**	**169**	*e*P		Pn		06 12 21.6	+1.5
CLCH				*i* S		Sn		06 13 04.4	+2.2
LVC	**Limon Verde**	**7.49**	**17**	*e*Pn		Pn		06 13 12.6	-0.4
TRQA	**Tornquist**	**11.30**	**139**	*e*Pn		Pn		06 14 01.5	-3.8
LPAZ	**La Paz**	**13.78**	**13**	*e*Pn		Pn		06 14 39.0	-0.1

IDC 21 06:13:37.0±1.7, 715S×15483E, **h0**km, **mb4.1/6, mb1 4.2/6, mb1mx4.1/14, mbtmp4.1/6, MS3.4/2, Ms1 3.3/2, ms1mx2.7/25, Error ellipse: s-maj=62.4km s-min=23.7km az=112.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**15.31**	**212**	LR		LR	06 22 08.2	
	comp=Z,87nm,20.0s,baz=66,slow=33							
WB2	**Warramunga Arr**	**23.58**	**235**	*e*P		P	06 18 49.1	-0.3
WRA	**Warramunga Arr**	**23.59**	**235**	P		P	06 18 48.9	-0.6
	3.8nm,0.9s,baz=61,slow=9.6,SNR=18							
ASAR	**Alice Springs**	**25.94**	**228**	P		P	06 19 11.4	+0.5
	1.2nm,0.7s,baz=62,slow=9.3,SNR=11							
STKA	**Stephens Creek**	**27.52**	**205**	*e*P		P	06 19 26.1	+0.9
	3.2nm,0.9s							
STKA	**Stephens Creek**	**27.52**	**205**	P		P	06 19 25.7	+0.5
	4.0nm,0.8s,baz=27,slow=13,SNR=7.8							
STKA				LR		LR	06 28 51.3	
	comp=Z,109nm,20.6s,baz=24,slow=33							
SONM	**Songino Array**	**69.38**	**327**	P		P	06 24 46.4	-0.1
	0.8nm,0.7s,baz=123,slow=5.3,SNR=4.8							
MKAR	**Makanchi Array**	**83.41**	**319**	P		P	06 26 06.8	+0.7
	1.1nm,0.8s,baz=122,slow=4.4,SNR=9.1							
YKA	**Yellowknife Ar**	**96.55**	**28**	P		P	06 27 07.8	-0.7
	1.0nm,0.9s,baz=269,slow=4.5,SNR=5.3							
TORD	**Torodi Ar. Bea**	**152.90**	**285**	PKPbc		PKPbc	06 33 36.8	+0.7
	0.2nm,0.4s,baz=50,slow=2.3,SNR=4.4							
TORD				PKPab		PKPab	06 33 48.9	+1.8
	0.6nm,0.6s,baz=102,slow=2.5,SNR=4.9							

*ISCJB **21** 06:30:16.5±0.2, 24.18S±003×6681W±003, h176km, mb4.4/25, Error ellipse: s-maj=4.4km s-min=3.9km az=167.5*

*MOS **21** 06:30:16.4±1.2, 24.18S×6689W, h172km, mb4.8/5, Error ellipse: s-maj=17.9km s-min=10.4km az=106.8*

*NEIC **21** 06:30:17.8±0.2, 24.16S×6681W, mb4.6/20, Error ellipse: s-maj=6.2km s-min=4.5km az=80.0*

*IDC **21** 06:30:18.2±0.8, 24.11S×6680W, h179km±7km, mb4.2/11, mb1 4.3/18, mb1mx4.3/20, mbtmp4.7/18, Error ellipse: s-maj=12.3km s-min=9.1km az=74.0*

*BJI **21** 06:30:19.7, 24.20S×6680W, h175km, mB5.1*

*GUC **21** 06:30:19.4±1.1, 24.18S×6721W, h200km, ML5.1*

ISC 21 06:30:18.2±0.2, 2418S±003×6686W±003, h177km, h177km±2.3km:pP-P, n116, σ0s96/102, mb4.4/25, 10C-11D, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LVC	**Limon Verde**	**2.45**	**309**	⇑*iP*		**Pn**	**06 31 01.7**	**+1.6**
LVC				*i* S		**Sn**	**06 31 34.1**	**+1.5**
LVC				AML		AML	06 31 37.6	
	comp=N,2μm,0.5s							
LVC	**Limon Verde**	**2.45**	**309**	P		**Pn**	**06 31 01.6**	**+1.5**
	comp=N,120nm,0.3s,baz=130,slow=7.4,SNR=1923							
LVC				S		**Sn**	**06 31 33.5**	**+0.9**
	comp=N,489nm,0.3s,baz=125,slow=18,SNR=42							
LVC	**Limon Verde**	**2.45**	**309**	⇑*iPn*		**Pn**	**06 31 01.6**	**+1.5**
LVC				*e*S		**Sn**	**06 31 32.7**	**0.0**
CEN1	**Los Morros**	**3.16**	**284**	⇓*iP*		**Pn**	**06 31 10.3**	**+1.6**
CEN1				*i* S		**Sn**	**06 31 48.3**	**+0.4**
CEN1				AML		AML	06 31 50.9	
	comp=N,4μm,0.7s							
CPN1	**Cerro Paranal**	**3.26**	**261**	⇑*iP*		**Pn**	**06 31 10.6**	**+0.7**
CPN1				*i* S		**Sn**	**06 31 49.5**	**-0.7**
CPN1				AML		AML	06 31 50.2	
	comp=E,4μm,0.4s							
ANCH	**Antofagasta**	**3.29**	**278**	⇑*iP*		**Pn**	**06 31 11.0**	**+0.7**
ANCH				*i* S		**Sn**	**06 31 49.8**	**-1.0**
ANCH				AML		AML	06 31 52.7	
	comp=N,6μm,0.6s							
ANCH	**Antofagasta**	**3.29**	**278**	⇑*iP*		**Pn**	**06 31 11.0**	**+0.7**
ANCH				*i* S		**Sn**	**06 31 49.8**	**-1.0**
CPCH	**Copiapo**	**4.46**	**224**	⇑*iP*		**Pn**	**06 31 24.2**	**-0.9**
CPCH				*i* S		**Sn**	**06 32 16.2**	**-1.4**
CDCH	**Caldera**	**4.60**	**230**	⇓*iP*		**Pn**	**06 31 25.7**	**-1.2**
CDCH				*i* S		**Sn**	**06 32 17.0**	**-3.6**
CFAA	**Coronel Fontan**	**7.49**	**189**	P		**Pn**	**06 32 05.1**	**+0.3**
	comp=N,1.3nm,0.3s,baz=14,slow=12,SNR=221							
CFAA				S		**Sn**	**06 33 26.6**	**-2.4**
	comp=N,2.0nm,0.3s,baz=255,slow=20,SNR=15							
LPAZ	**La Paz**	**7.94**	**351**	P		**Pn**	**06 32 10.9**	**+0.2**
	comp=N,12nm,0.3s,baz=162,slow=10,SNR=211							
LPAZ				S		**Sn**	**06 33 39.6**	**-0.2**
	comp=N,1.0nm,0.3s,baz=312,slow=19,SNR=6.4							
LPAZ	**La Paz**	**7.94**	**351**	*e*P		**Pn**	**06 32 10.8**	**+0.1**
LPAZ							06 33 29.9	
LPAZ				pmax		pmax		
	comp=Z,34nm,0.4s							
LPAZ	**La Paz**	**7.94**	**351**	*e*Pn		**Pn**	**06 32 10.8**	**+0.1**
	comp=Z,34nm,0.4s							
LPAZ				Sn		**Sn**	**06 33 29.9**	**-10**
ARE	**Arequipa**	**8.82**	**330**	*e*P		**Pn**	**06 32 19.0**	**-3.3**
ARE				*e*S		**Sn**	**06 33 54.0**	**-6.8**
CPUP	**Villa Florida**	**8.89**	**106**	P		**Pn**	**06 32 22.8**	**-0.3**
	comp=Z,2.0nm,0.3s,baz=263,slow=11,SNR=25							
CPUP	**Villa Florida**	**8.89**	**106**	*e*P		**Pn**	**06 32 23.0**	**-0.1**
CPUP				pmax		pmax		
	comp=Z,96nm,0.6s							
CPUP	**Villa Florida**	**8.89**	**106**	*e*Pn		**Pn**	**06 32 23.0**	**-0.1**
	comp=Z,96nm,0.6s							
SIV	**San Ignacio**	**9.79**	**35**	P		**Pn**	**06 32 33.8**	**-1.3**
	comp=Z,5.9nm,0.3s,baz=221,slow=12,SNR=94							
TRQA	**Tornquist**	**14.44**	**164**	*e*Pn		**Pn**	**06 33 33.9**	**-0.6**
	comp=Z,32nm,0.7s							
TRQA				*e*Sn		**Sn**	**06 36 17.3**	**+2.0**
NNA	**Nana**	**15.39**	**320**	*e*Pn		**Pn**	**06 33 46.3**	**+0.2**
	comp=Z,96nm,1.3s							
SAML	**Samuel**	**15.55**	**14**	*e*Pn		**Pn**	**06 33 47.0**	**-1.1**
	comp=Z,16nm,0.6s							
SAML				*e*S		**S**	**06 36 33.8**	**-7.2**
PLCA	**Paso Flores**	**16.79**	**190**	P		**Pn**	**06 34 03.1**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=9,0,slow=12,SNR=48							
PLCA	**Paso Flores**	**16.79**	**190**	*e*P		**Pn**	**06 34 02.5**	**-0.6**
PLCA				pmax		pmax		
	comp=Z,36nm,0.8s							
PLCA	**Paso Flores**	**16.79**	**190**	*e*P		**Pn**	**06 34 02.5**	**-0.6**
	comp=Z,36nm,0.8s							
BDFB	**Brasilia**	**19.63**	**68**	P		**P**	**06 34 33.3**	**+0.1**
	comp=Z,6.1nm,0.3s,baz=250,slow=9.9,SNR=197							
ATAH	**Atahualpa**	**20.35**	**325**	P		**P**	**06 34 41.0**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=122,slow=7.5,SNR=3.1							
CAM4	**Nova Friburgo**	**22.39**	**90**	⇓*iP*		**P**	**06 35 01.5**	**-0.3**
CAM4				*i*			06 35 03.9	
CAM4				*i*			06 35 10.1	
CAM3	**Guarapari**	**24.57**	**87**	⇑*iP*		**P**	**06 35 20.7**	**-1.0**
CAM3				*i*			06 35 24.5	
CAM3				*i*			06 35 33.0	
OTAV	**Otavalo**	**26.75**	**333**	*e*P		**P**	**06 35 43.0**	**+1.6**
EFI	**East Falkland**	**28.27**	**168**	*e*P		**P**	**06 35 55.5**	**+0.7**
USHA	**Ushuaia**	**30.63**	**182**	P		**P**	**06 36 16.1**	**+0.4**
	comp=Z,16nm,0.8s,mb4.8,baz=5.4,slow=11,SNR=6.2							
SDV	**Santo Domingo**	**33.07**	**353**	*e*P		**P**	**06 36 35.8**	**-1.2**
SDV				*e*pP		pP	06 37 12.2	-1.8
RCBR	**Riachuelo**	**34.89**	**63**	*e*P		**P**	**06 36 52.5**	**-0.2**
	comp=Z,7.3nm,0.6s,mb4.5							
RCBR				*e*pP		pP	06 37 28.6	-1.3
VNA3	**Neumayer Olymp**	**56.94**	**161**	⇓*iP*		**P**	**06 39 45.5**	**+0.6**
VNA3				*e*			06 39 46.2	
VNA3				*e*			06 39 48.7	
VNA3				*e*			06 40 03.0	
VNA3				*e*		pP	06 40 26.1	+0.6
VNA3				*e*			06 40 37.8	
VNA3				*e*			06 40 44.5	
VNA1	**Neumayer--Stat**	**57.13**	**160**	⇓*iP*		**P**	**06 39 47.3**	**+1.1**
VNA1				*e*			06 39 47.9	
VNA1				*e*			06 39 50.6	
VNA1				*e*			06 40 05.8	
VNA1				*e*		pP	06 40 27.4	+0.5
VNA1				*e*			06 40 39.4	
VNA1				*e*			06 40 45.0	

VNA2	**Neumayer--Watz**	**57.50**	**160**	⇓*iP*		**P**		**06 39 49.6**	**+0.8**
	baz=277,slow=8.5								
VNA2				*e*				06 39 50.2	
VNA2				*e*				06 39 52.4	
VNA2				*e*				06 40 07.0	
VNA2				*e*				06 40 13.1	
VNA2				*e*		pP		06 40 30.0	+0.5
VNA2				*e*				06 40 38.8	
VNA2				*e*				06 40 51.7	
SNAA	**Sanae**	**59.14**	**161**	⇓*iP*		**P**		**06 39 57.9**	**-2.2**
SNAA				*e*				06 39 58.7	
SNAA				*e*				06 40 00.9	
SNAA				*e*				06 40 16.4	
SNAA				*e*				06 40 44.2	
SNAA	**Sanae**	**59.14**	**161**	*e*P		**P**		**06 39 58.2**	**-1.9**
SNAA				*e**PP		pP		06 40 44.4	+3.3
SNAA				pmax		pmax			
	comp=Z,16nm,0.7s								
SNAA	**Sanae**	**59.14**	**161**	*e*P		**P**		**06 39 58.2**	**-2.0**
	comp=Z,16nm,0.7s,mb5.0								
SNAA				*e*pP		pP		06 40 44.4	+3.3
LRAL	**Lakeview Retre**	**60.05**	**341**	*e*P		**P**		**06 40 05.1**	**-1.3**
	comp=Z,3.0nm,0.6s,mb4.3								
LRAL				*e*pP		pP		06 40 47.3	-0.1
LRAL				*e*PcP		PcP		06 40 51.6	+1.2
SWET	**Sewanee**	**61.78**	**342**	*e*P		**P**		**06 40 17.1**	**-0.9**
SWET				*e*PcP		PcP		06 40 57.2	-0.2
SWET				*e*pP		pP		06 40 59.2	-0.1
MAIT	**Maitri**	**63.63**	**159**	*e*P		**P**		**06 40 31.2**	**+0.9**
NVL	**N'lazarevskaya**	**63.66**	**159**	⇓*iP*		**P**		**06 40 30.6**	**+0.1**
NVL				pmax		pmax			
	comp=Z,26nm,0.8s,mb5.1								
NVL				pmax		pmax			
	comp=N,4.0nm,0.6s								
NVL				pmax		pmax			
	comp=E,11nm,0.9s								
QSPA	**South Pole Qui**	**66.02**	**180**	⇓*iP*		**P**		**06 40 46.3**	**+0.6**
	comp=E,32nm,0.6s,mb5.3								
MNTX	**Cornudas Mount**	**66.67**	**325**	*e*P		**P**		**06 40 49.0**	**-0.8**
	comp=E,5.1nm,0.9s,mb4.3								
MNTX				*e*pP		pP		06 41 34.0	+2.3
DBIC	**Dimbokro**	**67.74**	**71**	P		**P**		**06 40 55.8**	**-0.8**
	comp=E,2.7nm,0.5s,mb4.3,baz=214,slow=4.8,SNR=5.6								
DBIC	**Dimbokro**	**67.74**	**71**	*e*P		**P**		**06 40 56.3**	**-0.2**
DBIC				*e*PcP		PcP		06 41 21.0	-1.0
DBIC				*e*pP		pP		06 41 37.5	-1.0
LPM	**Los Pinos Moun**	**69.36**	**326**	*e*P		**P**		**06 41 07.6**	**+1.0**
LAZ	**Ladron**	**69.69**	**325**	*e*P		**P**		**06 41 09.9**	**+1.2**
LAZ				*e*PcP		PcP		06 41 33.5	+3.3
LAZ				*e*pP		pP		06 41 50.7	-0.1
ANMO	**Albuquerque**	**69.77**	**326**	*e*P		**P**		**06 41 09.5**	**+0.4**
ANMO				pmax		pmax			
	comp=Z,5.0nm,0.9s								
ANMO	**Albuquerque**	**69.77**	**326**	*e*P		**P**		**06 41 09.5**	**+0.4**
	comp=Z,4.5nm,0.9s,mb4.2								
PV01	**Paradox Valley**	**73.31**	**327**	*e*P		**P**		**06 41 30.0**	**-0.3**
SYO	**Syowa Base**	**73.33**	**159**	⇑*iP*		**P**		**06 41 30.4**	**0.0**
SYO	**Syowa Base**	**73.33**	**159**	⇑*iPcP*		PcP		06 41 37.8	-8.0
SYO	**Syowa Base**	**73.33**	**159**	⇑*ePP*		PP		06 44 13.0	-3.2
SBA	**Scott Base**	**73.54**	**190**	*e*P		**P**		**06 41 32.3**	**+0.7**
VNDA	**Vanda**	**74.54**	**190**	P		**P**		**06 41 38.7**	**+1.3**
	comp=Z,5.2nm,0.9s,mb4.2,baz=124,slow=4.7,SNR=20								
VNDA	**Vanda**	**74.54**	**190**	*e*P		**P**		**06 41 36.4**	**-1.0**
VNDA				P				06 41 38.7	
SRU	**San Rafael**	**75.04**	**326**	*e*P		**P**		**06 41 40.8**	**+0.5**
SRU				pmax		pmax			
	comp=Z,6.0nm,0.8s,mb4.3								
SRU	**San Rafael**	**75.04**	**326**	*e*P		**P**		**06 41 40.8**	**+0.5**
	comp=Z,5.8nm,0.8s,mb4.3								
CCUT	**Cedar City**	**75.38**	**323**	*e*P		**P**		**06 41 44.0**	**+1.8**
CCUT				*e*PcP		PcP		06 41 55.9	+1.4
CCUT				*e*pP		pP		06 42 27.3	+2.2
MVU	**Marysvale**	**75.46**	**325**	*e*P		**P**		**06 41 54.6**	**+12**
ARUT	**Antelope Range**	**75.59**	**324**	*e*P		**P**		**06 41 44.5**	**+1.1**
ARUT				*e**PP		pP		06 42 23.2	-3.1
ARUT				*e**SP		sP		06 42 47.5	+2.3
SUR	**Sutherland**	**75.61**	**119**	*e*P		**P**		**06 41 43.8**	**+0.3**
TORD	**Torodi Ar. Bea**	**76.51**	**69**	P		**P**		**06 41 47.9**	**-0.7**
	comp=Z,5.8nm,0.7s,mb4.3,baz=256,slow=5.4,SNR=83								
PDAR	**Pinedale Array**	**77.37**	**329**	P		**P**		**06 41 52.9**	**-0.5**
	comp=Z,1.5nm,0.6s,mb3.8,baz=135,slow=7.9,SNR=9.0								
HWUT	**Hardware Ranch**	**77.45**	**327**	*e*P		**P**		**06 41 54.2**	**+0.4**
	comp=Z,4.3nm,0.6s,mb4.3								
HWUT				*e*pP		pP		06 42 36.7	-0.2
TSUM	**Tsumeb**	**77.48**	**106**	*e*P		**P**		**06 41 54.5**	**+0.5**
ULM	**Lac du Bonnet**	**78.44**	**341**	P		**P**		**06 41 57.5**	**-1.8**
	comp=Z,6.0nm,0.6s,mb4.4,baz=156,slow=6.8,SNR=16								
ULM	**Lac du Bonnet**	**78.44**	**341**	P		**P**		**06 41 57.5**	**-1.8**
LOHW	**Long Hollow**	**78.51**	**329**	*e*P		**P**		**06 42 00.2**	**+0.6**
	comp=Z,5.0nm,0.9s,mb4.1								
TPAW	**Teton Pass**	**78.58**	**329**	*e*P		**P**		**06 42 00.2**	**+0.2**
	comp=Z,14nm,1.4s,mb4.4								
SCHQ	**Schefferville**	**78.69**	**0**	P		**P**		**06 41 59.5**	**-1.1**
	comp=Z,2.5nm,0.6s,mb4.0,baz=185,slow=16,SNR=6.5								
NVAR	**Mina Array Bea**	**78.76**	**321**	P		**P**		**06 42 01.6**	**+0.5**
	comp=Z,1.0nm,0.6s,mb3.6,baz=145,slow=7.3,SNR=11								
IMW	**Indian Meadow**	**78.88**	**329**	*e*P		**P**		**06 42 02.6**	**+0.9**
	comp=Z,4.7nm,0.8s,mb4.2								
YMR	**Madison River**	**79.48**	**330**	*e*P		**P**		**06 42 06.3**	**+1.3**
	comp=Z,4.9nm,0.6s,mb4.3								
GCMT	**Greycliff**	**79.76**	**331**	*e*P		**P**		**06 42 05.8**	**-0.6**
MAW	**Mawson**	**81.22**	**163**	⇓*iP*		**P**		**06 42 14.6**	**+0.3**
	comp=Z,18nm,0.6s,mb4.9								
MAW	**Mawson**	**81.22**	**163**	P		**P**		**06 42 14.8**	**+0.5**
	comp=Z,30nm,0.8s,mb5.0,baz=218,slow=6.5,SNR=66								
MAW	**Mawson**	**81.22**	**163**	⇓*iP*		**P**		**06 42 14.6**	**+0.3**
MAW				pmax		pmax			
	comp=Z,18nm,0.6s								
HRY	**Holter Researc**	**81.43**	**331**	*e*P		**P**		**06 42 15.2**	**-0.1**
EGMT	**Eagleton**	**81.53**	**332**	*e*P		**P**		**06 42 15.4**	**-0.4**
	comp=Z,10.0nm,1.1s,mb4.4								
EGMT				*e*pP		pP		06 42 59.1	-0.2
LBTB	**Lobatse**	**82.20**	**114**	*e*P		**P**		**06 42 19.4**	**+0.1**
ESDC	**Sonseca Array**	**86.44**	**44**	P		**P**		**06 42 41.3**	**+0.6**
	comp=Z,1.4nm,0.7s,mb3.8,baz=248,slow=4.5,SNR=7.2								
EDM	**Edmonton**	**86.98**	**334**	*e*P		**P**		**06 42 41.6**	**-1.7**
CASY	**Casey**	**89.80**	**179**	*e*P		**P**		**06 42 57.2**	**+0.6**
CASY	**Casey**	**89.80**	**179**	*e*P		**P**		**06 42 56.7**	**+0.1**
YKA	**Yellowknife Ar**	**94.34**	**340**	P		**P**		**06 43 16.3**	**-1.2**
	comp=Z,3.0nm,0.6s,mb4.6,baz=134,slow=4.4,SNR=30								
YKA	**Yellowknife Ar**	**94.34**	**340**	P		**P**		**06 43 16.3**	**-1.2**
ASAR	**Alice Springs**	**128.34**	**204**	PKP		PKPdf		06 49 03.3	-0.3
	comp=Z,5.7nm,0.7s,baz=142,slow=2.1,SNR=61								
WRA	**Warramunga Arr**	**131.52**	**207**	PKP		PKPdf		06 49 09.7	+0.1
	comp=Z,3.7nm,0.5s,baz=158,slow=1.7,SNR=5.0								
WRA				SKPbc		SKPbc		06 52 17.1	-1.2
	comp=Z,1.1nm,0.6s,baz=156,slow=3.9,SNR=14								
ZRNK	**Zerenda**	**136.13**	**37**	*e*PKIKP		PKPdf		06 49 18.3	+0.1
NVS	**Novosibirsk**	**142.21**	**28**	*e*PKIHKP				06 49 24.5	
NVS				pmax		pmax			
	comp=Z,7.0nm,1.0s								
NVS				pmax		pmax			
	comp=E,10.0nm,1.4s								
ZAL	**Zalesovo**	**143.49**	**28**	PKP		PKPdf		06 49 30.2	-1.4
	comp=E,4.9nm,0.6s,baz=213,slow=5.6,SNR=16								
ZAL	**Zalesovo**	**143.49**	**28**	PKP		PKPdf		06 49 30.2	-1.4
BOD	**Bodaibo**	**146.39**	**359**	*e*PKIKP		PKPdf		06 49 35.1	-1.5
BOD				pmax		pmax			
	comp=Z,11nm,0.8s								
MKAR	**Makanchi Array**	**146.58**	**40**	PKPbc		PKPbc		06 49 36.8	-2.0
	comp=Z,17nm,0.8s,baz=312,slow=2.7,SNR=67								
HYB	**Hyderabad**	**147.03**	**95**	*i* PKP		PKPdf		06 49 40.0	+2.3
HYB				*e*				06 49 42.5	
HYB				*e*				06 49 46.5	
HYB	**Hyderabad**	**147.03**	**95**	*e*P		PKPdf		06 49 40.0	+2.3
GUMO	**Guam**	**148.26**	**256**	PKPbc		PKPbc		06 49 43.3	+0.1
	comp=Z,66nm,0.8s,baz=211,slow=2.8,SNR=3.6								
MOY	**Mondy**	**151.02**	**16**	*e*PKIKP		PKPdf		06 49 50.5	+6.5
MOY				pmax		pmax			
	comp=Z,25nm,1.9s								
KLR	**Kul'dur**	**151.04**	**334**	*e*PKIKP		PKPdf		06 49 45.2	+1.1
WMQ	**Urumqi**	**151.40**	**41**	PKP		PKPdf		06 49 50.8	+6.2
WMQ				PKP2		PKPab		06 50 07.9	+8.2
WMQ				APKP				06 50 35.0	
WMQ				XPKP				06 50 52.9	
WMQ				PP		PP			
	comp=Z,140nm,5.6s								
WMQ				LR		LR			
	comp=E,616nm,24.3s								
WMQ				LR		LR			
	comp=Z,75nm,21.4s								
TLY	**Talaya**	**151.59**	**12**	*e*PKIKP		PKPdf		06 49 45.1	+0.2
TLY				pmax		pmax			
	comp=Z,5.0nm,0.9s								

CIT	**Chita**	**152.20**	**359**	*e*PKIKP		PKPdf		06 49 52.4	+6.6
MJAR	**Matsushiro Arr**	**155.19**	**306**	PKPbc		PKPdf		06 49 58.4	+8.3
	comp=Z,3.7nm,1.1s,baz=359,slow=0.5,SNR=5.5								
MJAR				PKPab		PKPab		06 50 15.8	0.0
	comp=Z,4.4nm,0.9s,baz=73,slow=1.9,SNR=10.0								
MAT	**Matsushiro**	**155.19**	**306**	PKP2		PKPab		06 50 15.6	-0.2
MDJ	**Mudanjiang**	**155.60**	**331**	PKP		PKPdf		06 49 50.5	-0.1
SONM	**Songino Array**	**155.79**	**11**	PKP		PKPdf		06 49 49.9	-1.0
	comp=Z,1.2nm,0.8s,baz=310,slow=1.9,SNR=5.4								
SONM				PKPab		PKPab		06 50 17.7	-0.7
	comp=Z,1.5nm,0.7s,baz=328,slow=4.9,SNR=5.8								
CN2	**Changchun**	**157.98**	**336**	*e*PKP		PKPdf		06 49 55.3	+1.6
HHC	**Hu-ho-hao-te**	**163.33**	**4**	*e*PKP		PKPdf		06 50 00.9	+1.4
HHC				APKP				06 50 42.9	
HHC				PKP2		PKPab		06 50 54.8	+3.6
HHC				XPKP				06 51 01.0	
HHC				PKS				06 53 32.3	
HHC				SKS		SKSdf		06 56 47.9	+0.6
HHC				SKKS		SKKSac		07 01 12.3	+5.0
HHC				PP		PP			
	comp=Z,127nm,9.4s								
HHC				LR		LR			
	comp=N,121nm,22.4s								
HHC				LR		LR			
	comp=E,92nm,22.2s								
HHC				LR		LR			
	comp=Z,92nm,21.4s								
LZH	**Lanzhou**	**165.68**	**32**	PKP		PKPdf		06 50 01.3	-0.2
LZH				APKP				06 50 48.5	
LZH				PKP2		PKPab		06 51 03.4	+1.9
LZH				XPKP				06 51 06.9	
CD2	**Chengdu**	**169.32**	**49**	*e*PKP		PKPdf		06 50 02.8	-1.3
SSE	**Sheshan**	**170.09**	**316**	PKP		PKPdf		06 50 06.6	+2.0
KMI	**Kunming**	**170.49**	**82**	PKP		PKPdf		06 50 03.6	-1.2
NJ2	**Nanjing**	**170.68**	**329**	*e*PKP		PKPdf		06 50 06.5	+1.6
NJ2				APKP				06 50 48.4	
NJ2				PKS				06 53 37.0	
NJ2				PP		PP		06 55 17.0	+2.7
NJ2				PP		PP			
	comp=Z,70nm,10.1s								
NJ2				LR		LR			
	comp=N,780nm,35.8s								
NJ2				LR		LR			
	comp=E,630nm,25.3s								
NJ2				LR		LR			
	comp=Z,720nm,30.0s								

*TIF **21** 07:03:08.6, 43.76N×4306E, h18km±2km*

MOS 21 07:03:09.4±2.2, 4340N×4303E, h20km, mb3.8/1, 3C-6D, Error ellipse: s-maj=22.9km s-min=12.6km az=22.2, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DIGR	**Digorskoe uzhe**	**0.64**	**141**	⇑*iPG*		Pb	07 03 26.0	+4.1
DIGR				*i* S		Sb	07 03 38.1	+7.7
KORR	**Kora**	**0.82**	**112**	⇑*iPG*		Pb	07 03 27.5	+2.5
KORR				*i* S		Sb	07 03 40.9	+5.3
ZEI	**Tsey**	**0.90**	**134**	⇓*iPG*		Pb	07 03 29.8	+3.6
ZEI				*i* S		Sb	07 03 44.7	+7.0
KMSR	**Komsomolskaya**	**0.92**	**91**	⇓*iPG*		Pb	07 03 27.7	+1.0
KMSR				*e*S		Sb	07 03 41.0	+2.5
ARNR	**Ardon**	**0.94**	**103**	⇓*iPG*		Pb	07 03 28.8	+1.9
ARNR				*e*S		Sb	07 03 42.9	+4.0
PRTR	**Priterechnaya**	**0.97**	**68**	⇓*iPG*		Pb	07 03 26.7	-0.9
PRTR				*i* S		Sb	07 03 39.3	-0

JOM Ohasama 1.04 318 ⇓P Pn 07 22 54.0 -0.5
JOU Okura 1.24 255 ⇓P Pn 07 22 57.3 +0.1
JTH Tanohata 1.26 349 P Pn 07 22 56.3 -1.2
JMM Marumori 1.38 233 ⇓P Pn 07 22 58.6 -0.5
JYK Kaneyama 1.45 279 ⇓P Pn 07 23 00.2 +0.2
MJAR Matsushiro Arr 3.82 237 P Pn 07 23 34.0 +1.3
18nm,0.3s,baz=38,slow=11,SNR=118
MJAR LR LR 07 25 23.9
comp=Z,1μm,18.6s,baz=50,slow=44
MJAR Matsushiro Arr 3.82 237 P Pn 07 23 34.0 +1.3
MJAR pmax pmax
comp=Z,19nm,0.3s
MJAR MLR MLR
comp=Z,1μm,18.6s
MAJO Matsushiro 3.82 237 eP Pn 07 23 34.6 +1.9
MAT Matsushiro 3.82 237 P Pn 07 23 34.2 +1.5
MAT eS Sn 07 24 21.5 +5.1
MAT Matsushiro 3.82 237 eP Pn 07 23 34.0 +1.3
MAT S Sn 07 24 28.0 +12
ASAJ Asahikawa 5.42 3 P Pn 07 23 54.6 0.0
comp=Z,4.3nm,0.3s,baz=211,slow=9.3,SNR=21
ASAJ S Sn 07 24 57.2 +1.5
comp=Z,4.8nm,0.3s,baz=307,slow=23,SNR=3.1
ASAJ Asahikawa 5.42 3 P Pn 07 23 54.7 +0.1
ASAJ S Sn 07 24 57.2 +1.5
ASAJ pmax pmax
comp=Z,4.0nm,0.3s
ASAJ smax
comp=N,5.0nm,0.3s
JHJ Hachijo jima 2 5.90 200 P Pn 07 24 01.6 +0.4
comp=N,29nm,0.3s,baz=216,slow=12,SNR=6.3
JHJ S Sn 07 25 06.0 -1.6
comp=N,47nm,0.3s,baz=65,slow=22,SNR=7.1
YUK Yuzh-Kuril'sk 6.00 26 eP Pn 07 24 01.5 -1.1
YUK eS Sn 07 25 03.5 -6.5
YUK pmax pmax
comp=Z,360nm,0.3s
YUK pmax pmax
comp=N,130nm,0.3s
YUK smax
comp=N,2μm,0.7s
YUK smax
comp=E,1μm,0.6s
YUK smax
comp=N,1μm,0.4s
YUK smax
comp=E,350nm,0.4s
YSS Yuzh-Sakhalins 8.26 3 ⇓*i*P Pn 07 24 33.8 +0.2
YSS eS Sn 07 26 01.2 -4.3
YSS pmax pmax
comp=Z,50nm,0.9s
YSS MLR MLR
comp=Z,200nm,17.0s
YSS Yuzh-Sakhalins 8.26 3 *e*Pn Pn 07 24 33.5 -0.1
comp=Z,42nm,1.0s
VLA Vladivostok 8.96 303 *i* P Pn 07 24 42.8 -0.3
VLA pmax pmax
comp=Z,67nm,1.3s
MDJ Mudanjiang 11.12 306 P Pn 07 25 14.5 +1.8
MDJ AMB AMB
comp=Z,17nm,1.0s
MDJ AMB AMB
comp=Z,57nm,4.2s
MDJ Mudanjiang 11.12 306 *e*Pn Pn 07 25 15.4 +2.7
comp=Z,16nm,0.8s
KS15 Wonju Array Si 11.35 268 *e*Pn Pn 07 25 17.2 +1.4
CBIJ Chichi jima 11.57 180 S Sn 07 27 20.1 -6.6
comp=Z,4.7nm,0.3s,baz=295,slow=20,SNR=2.1
KLR Kul'dur 12.92 328 *e*P Pn 07 25 33.7 -3.6
KLR MLR MLR
comp=N,600nm,14.0s
KLR MLR MLR
comp=E,500nm,14.0s
KLR MLR MLR
comp=Z,700nm,14.0s
CN2 Changchun 13.58 297 *e*P Pn 07 25 50.3 +4.0
CN2 *e*XP 07 26 06.0
CN2 eS Sn 07 28 20.8 +5.0
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,17.0s
CN2 LR LR
comp=E,300nm,17.0s
CN2 LR LR
comp=Z,300nm,18.0s
PET Petropavlovsk 18.28 33 *e*P pP 07 27 01.5 +4.6
PET MLR MLR
comp=Z,300nm,14.0s
SSE Sheshan 18.80 253 P Pn 07 26 52.0 -0.9
SSE AP pP 07 27 03.6 +1.0
SSE XP sP 07 27 10.0 +1.8
SSE S S 07 30 21.5 -1.8
SSE AMB AMB
comp=Z,52nm,0.7s
SSE AMB AMB
comp=Z,56nm,7.5s
SSE LR LR
comp=N,123nm,18.7s
SSE LR LR
comp=E,144nm,18.6s
SSE LR LR
comp=Z,177nm,12.4s
HIA Hailar 19.23 311 *e*P Pn 07 26 57.2 -0.8
HIA pmax pmax
comp=Z,13nm,0.8s
HIA Hailar 19.23 311 *e*P Pn 07 26 57.2 -0.8
comp=Z,13nm,0.8s
NJ2 Nanjing 20.12 258 *e*P P 07 27 08.4 +1.9
NJ2 AP 07 27 18.4
NJ2 XP sP 07 27 23.1 +0.4
NJ2 PP 07 27 29.9
NJ2 S S 07 30 50.0 0.0
NJ2 AMB AMB
comp=Z,10.0nm,0.8s
NJ2 AMB AMB
comp=Z,220nm,10.0s
NJ2 LR LR
comp=N,360nm,18.0s,MS3.9
NJ2 LR LR
comp=E,460nm,20.8s,MS3.9
NJ2 LR LR
comp=Z,410nm,23.2s,MS3.7
HHC Hu-ho-hao-te 23.58 285 *e*P P 07 27 43.5 +0.5
HHC AP 07 27 53.8
HHC XP sP 07 28 00.8 +1.1
HHC PP 07 28 17.3
HHC PCP PcP 07 31 29.1 +2.1
HHC S S 07 31 52.4 -1.6
HHC XS sS 07 32 09.3 -4.1
HHC SS 07 32 38.9
HHC SCP ScP 07 35 02.0 +0.4
HHC PCS PcS 07 35 09.3 +2.9
HHC AMB AMB
comp=Z,16nm,1.2s,mb4.3
HHC AMB AMB
comp=Z,121nm,6.7s
HHC LR LR
comp=N,152nm,12.7s,MS4.0
HHC LR LR
comp=E,362nm,13.7s,MS4.0
HHC LR LR
comp=Z,412nm,13.1s,MS4.1
CIT Chita 23.94 313 *e*P P 07 27 46.1 -0.2
CIT pmax pmax
comp=Z,62nm,2.1s,mb4.7
YAK Yakutsk 24.59 346 *e*P P 07 27 51.1 -1.2
YAK pmax pmax
comp=Z,16nm,0.6s,mb4.7
GUMO Guam 25.12 174 LR LR 07 37 10.7
comp=Z,78nm,18.2s,MS3.3,baz=35,slow=35
BOD Bodaibo 26.48 325 *e*P P 07 28 06.8 -2.6
BOD pmax pmax
comp=Z,8.0nm,1.4s,mb4.1
ULN Ulaanbaatar 26.97 301 *e*P P 07 28 14.2 +0.4
ULN pmax pmax
comp=Z,5.0nm,0.9s,mb4.0
ULN Ulaanbaatar 26.97 301 *e*P P 07 28 14.2 +0.4
comp=Z,5.0nm,0.9s,mb4.0
XAN Xi'an 27.10 270 P P 07 28 15.5 +0.6
XAN AMB AMB
comp=Z,5.0nm,0.8s,mb4.1
SONM Songino Array 27.41 301 P P 07 28 18.5 +0.8
comp=Z,2.3nm,0.8s,mb3.8,baz=101,slow=7.5,SNR=11
SONM LR LR 07 39 37.0
comp=Z,168nm,18.2s,MS3.6,baz=90,slow=37
SONM Songino Array 27.41 301 P P 07 28 18.5 +0.8
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM MLR MLR
comp=Z,168nm,18.2s
TLY Talaya 29.74 309 *e*P P 07 28 38.9 +0.5
TLY pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
TLY MLR MLR
comp=Z,236nm,17.0s,MS3.9
TLY Talaya 29.74 309 P P 07 28 39.2 +0.7
comp=Z,7.1nm,0.6s,mb4.6
ZAK Zakamensk 29.75 306 ⇑*i*P P 07 28 38.6 0.0
ZAK pmax pmax
comp=Z,16nm,1.3s,mb4.6
LZH Lanzhou 30.43 277 *e*P P 07 28 45.1 +0.5
LZH AP pP 07 28 54.1 -2.2
LZH XP sP 07 28 59.0 -2.6
LZH AMB AMB
comp=Z,21nm,1.4s,mb4.7
MOY Mondy 31.36 308 *e*P P 07 28 52.8 0.0
GYA Guiyang 32.13 258 P P 07 28 58.8 -0.7
GYA AP pP 07 29 10.6 -0.8
GYA XP sP 07 29 16.0 -0.6
GYA PP PP 07 30 05.4 -7.2
GYA S S 07 34 04.6 -4.4
GYA SCP ScP 07 35 27.4 -0.4
GYA SCS ScS 07 39 24.3 -2.3
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
GYA AMB AMB
comp=Z,70nm,3.0s
GYA LR LR
comp=N,280nm,15.8s,MS4.2
GYA LR LR
comp=E,300nm,15.6s,MS4.2
GYA LR LR
comp=Z,310nm,16.0s,MS4.1
BILL Bilibino 32.26 17 *e*P P 07 29 00.0 -0.6
BILL *e**PP pP 07 29 14.0 +1.5
BILL pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
BILL Bilibino 32.26 17 *e*P P 07 29 00.0 -0.6
comp=Z,4.3nm,0.9s,mb4.3
BILL *e*pP pP 07 29 14.0 +1.5
CD2 Chengdu 32.31 268 *e*P P 07 29 00.8 -0.3
CD2 AP pP 07 29 12.8 -0.2
CD2 XP sP 07 29 18.1 -0.1
CD2 PP PP 07 30 09.8 -4.9
CD2 S S 07 34 10.8 -1.0
CD2 XS sS 07 34 31.1 -0.5
CD2 SS SS 07 36 08.3 -23
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
CD2 LR LR
comp=E,130nm,15.6s
CD2 LR LR
comp=Z,110nm,16.8s,MS3.6
GTA Gaotai 32.69 285 *e*P P 07 29 05.3 +0.8
GTA AP pP 07 29 14.6 -1.7
GTA XP sP 07 29 18.8 -2.8
GTA PP PP 07 30 14.3 -4.6
GTA PCP PcP 07 31 50.8 +1.4
GTA S S 07 34 17.3 -0.4
GTA SS SS 07 36 13.5 -26
GTA AMB AMB
comp=Z,9.0nm,1.2s,mb4.6
GTA AMB AMB
comp=Z,86nm,5.3s
GTA LR LR
comp=N,149nm,16.3s,MS4.2
GTA LR LR
comp=E,334nm,17.1s,MS4.2
GTA LR LR
comp=Z,452nm,16.3s,MS4.3
KMI Kunming 35.84 260 P P 07 29 33.3 +1.6
KMI AP pP 07 29 46.8 +3.2
KMI XP sP 07 29 52.4 +3.5
KMI PP PP 07 30 56.1 +2.4
KMI S S 07 35 05.4 -0.9
KMI XS sS 07 35 29.8 +3.6
KMI SS SS 07 37 29.8 -14
KMI AMB AMB
comp=Z,9.0nm,0.6s,mb4.9
KMI AMB AMB
comp=Z,32nm,3.1s
KMI LR LR
comp=N,162nm,17.9s,MS4.0
KMI LR LR
comp=E,191nm,16.9s,MS4.0
KMI LR LR
comp=Z,176nm,18.8s,MS3.9
WMQ Urumqi 40.66 295 ⇑*i*P P 07 30 12.8 +0.6
WMQ AP pP 07 30 26.4 +2.1
WMQ XP sP 07 30 32.9 +3.4
WMQ PP PP 07 31 50.6 +4.2
WMQ *e*S S 07 36 18.8 -0.3
WMQ AMB AMB
comp=Z,19nm,1.2s,mb4.6
WMQ AMB AMB
comp=Z,20nm,6.1s
WMQ LR LR
comp=N,42nm,20.3s
WMQ LR LR
comp=Z,75nm,20.3s,MS3.5
ZAL Zalesovo 41.28 311 P P 07 30 18.0 +0.7
comp=Z,4.7nm,0.7s,mb4.2,baz=19,slow=8.5,SNR=16
ZAL Zalesovo 41.28 311 P P 07 30 18.0 +0.7
ZAL pmax pmax
comp=Z,5.0nm,0.7s
NVS Novosibirsk 42.15 312 *e*P P 07 30 21.7 -2.8
NVS pmax pmax
comp=N,4.0nm,1.0s
NVS pmax pmax
comp=E,10.0nm,1.0s
NVS pmax pmax
comp=Z,9.0nm,1.0s,mb4.3
MK31 Makanchi Array 43.77 301 P P 07 30 37.2 -0.4
MK31 pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
MKAR Makanchi Array 43.77 301 P P 07 30 37.9 +0.3
comp=Z,4.3nm,0.6s,mb4.3,baz=84,slow=9.7,SNR=38
MKAR Makanchi Array 43.77 301 P P 07 30 37.9 +0.3
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 43.77 301 P P 07 30 37.9 +0.3
KURK Kurchatov 45.41 307 *e*P P 07 30 50.1 -0.5
KURK *e**PP pP 07 31 03.7 +0.9
KURK pmax pmax
comp=Z,31nm,0.8s,mb5.2
KURK Kurchatov 45.41 307 *e*P P 07 30 50.1 -0.5
comp=Z,31nm,0.8s,mb5.2
KURK *e*pP pP 07 31 03.7 +0.9
COLA College 47.35 33 *e*P P 07 31 04.8 -1.0
JIRN Jiri 47.49 274 *e*P P 07 31 07.0 0.0
GUN Gumba 47.62 275 *e*P P 07 31 08.6 +0.7
ILAR Eielson Array 47.77 33 P P 07 31 08.8 -0.2
comp=Z,1.6nm,0.8s,mb4.1,baz=269,slow=6.4,SNR=19
ILAR Eielson Array 47.77 33 P P 07 31 08.9 -0.2
ILAR pmax pmax
comp=Z,2.0nm,0.8s
KKN Kakani 48.14 275 *e*P P 07 31 12.6 +0.6
comp=Z,30nm,0.7s,mb5.4
KKN Kakani 48.14 275 *e*P P 07 31 12.6 +0.6
KKN pmax pmax
comp=Z,30nm,0.7s,mb5.4
PKI Pulchoki 48.15 274 *e*P P 07 31 12.6 +0.6
DMN Daman 48.36 275 *e*P P 07 31 14.2 +0.5
GKN Gorkha 48.54 275 *e*P P 07 31 15.5 +0.4
comp=Z,25nm,0.8s,mb5.3
KOLN Koldanda 49.46 276 *e*P P 07 31 22.9 +0.8
CHKZ Chkalovo 49.64 312 *i* P P 07 31 23.0 -0.4
CHKZ pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
CHKZ Chkalovo 49.64 312 *e*P P 07 31 22.3 -1.2
comp=Z,4.2nm,0.6s,mb4.7
BVA0 Borovoye Array 49.92 311 *i* P P 07 31 25.2 -0.4
BRVK Borovoye 49.97 311 *e*P P 07 31 25.5 -0.5
BRVK pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
BRVK Borovoye 49.97 311 *e*P P 07 31 25.5 -0.5
comp=Z,3.7nm,0.6s,mb4.6
AAK Ala-Archa 50.25 297 *e*P P 07 31 27.6 -0.5
AAK pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
AAK Ala-Archa 50.25 297 *e*P P 07 31 27.6 -0.5
comp=Z,1.6nm,0.6s,mb4.2
ZRNK Zerenda 50.75 312 *e*P P 07 31 31.9 0.0
ZRNK pmax pmax
comp=Z,16nm,1.2s,mb4.8
ZRNK Zerenda 50.75 312 *e*P P 07 31 31.9 0.0
comp=Z,16nm,1.2s,mb4.8
KAKA Kakadu 51.95 192 *e*P pP 07 31 51.9 -1.3
comp=Z,1.1nm,0.8s
INK Inuvik 52.63 28 P P 07 31 46.2 +0.3
comp=Z,1.2nm,0.5s,mb4.1,baz=246,slow=7.2,SNR=9.2
INK Inuvik 52.63 28 P P 07 31 46.2 +0.3
INK pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 52.63 28 P P 07 31 46.2 +0.3
KK31 Karatay Array 52.83 299 *i* P P 07 31 47.2 -0.2
KKAR Karatay Array 52.83 299 *i* P P 07 31 47.2 -0.2
SVE Sverdlovsk 54.31 318 ⇓*e*P P 07 31 59.0 +0.8
SVE *e* pP 07 32 11.0 +0.3
SVE MLR MLR
comp=N,200nm,13.0s,MS4.5
SVE MLR MLR
comp=E,200nm,13.0s,MS4.5
SVE MLR MLR
comp=Z,400nm,13.0s,MS4.7
ARU Arti 55.53 318 *e*P P 07 32 06.6 -0.4
ARU pmax pmax
comp=Z,12nm,0.9s,mb4.9
ARU Arti 55.53 318 *e*P P 07 32 06.6 -0.4
comp=Z,12nm,0.9s,mb4.9
AB31 Akbulak array 57.34 310 *i* P P 07 32 19.7 -0.2
AKTK Aktyubinsk 58.03 311 P P 07 32 24.6 -0.2
AKTK LR LR 07 58 45.6
AKTO Aktyubinsk 58.03 311 P P 07 32 24.6 -0.2
comp=Z,4.0nm,0.7s,mb4.5,baz=67,slow=12,SNR=16
AKTO LR LR 07 58 45.6
comp=Z,99nm,18.4s,MS4.0,baz=0.0,slow=37
AKTO Aktyubinsk 58.03 311 *i* P P 07 32 23.9 -0.8
AKTO pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
WRAB Tennant Creek 58.78 189 *e*P P 07 32 29.4 -0.6
WRAB *e**PP pP 07 32 41.6 -1.0
WRAB pmax pmax
comp=Z,12nm,0.9s,mb4.9
WRAB Tennant Creek 58.78 189 *e*P P 07 32 29.4 -0.6
comp=Z,12nm,0.9s,mb4.9
WRAB *e*pP pP 07 32 41.6 -1.0
WB2 Warramunga Arr 58.79 189 *e*P P 07 32 29.4 -0.7
WRA Warramunga Arr 58.79 189 P P 07 32 29.8 -0.3
comp=Z,3.8nm,0.8s,mb4.5,baz=6.2,slow=6.9,SNR=28
WRA Warramunga Arr 58.79 189 *i* P P 07 32 29.7 -0.4
WRA pmax pmax
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 62.06 31 *i* P pP 07 33 04.9 -0.2
YKA pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 62.52 189 P P 07 32 55.6 +0.1
comp=Z,1.5nm,0.7s,mb4.2,baz=12,slow=5.0,SNR=19
ASAR Alice Springs 62.52 189 P P 07 32 55.6 +0.1
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ARCES ARCESS Array B 62.66 339 P P 07 32 56.0 -0.4
comp=Z,1.3nm,0.6s,mb4.3,baz=57,slow=7.4,SNR=8.6
ARCES LR LR 08 02 16.8
comp=Z,66nm,19.6s,MS3.8,baz=196,slow=38
ARCES ARCESS Array B 62.66 339 P P 07 32 56.0 -0.4
ARCES pmax pmax
comp=Z,1.0nm,0.6s
ARCES MLR MLR
comp=Z,66nm,19.6s
ARCES ARCESS Array B 62.66 339 P P 07 32 56.0 -0.4
ARCES LR LR 08 02 16.8
JOF Joensuu 64.79 332 *e*p P 07 33 09.7 -0.7
comp=Z,9.5nm,1.1s,mb4.7
KAF Kangasniemi 67.11 333 *e*p P 07 33 25.4 +0.1
comp=Z,9.5nm,1.0s,mb4.8
KAF Kangasniemi 67.11 333 *e*P P 07 33 25.4 +0.1
KAF pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
OBN Obninsk 67.13 323 P P 07 33 24.0 -1.5
OBN *e* pP 07 33 38.2 -0.1
OBN pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
OBN MLR MLR
comp=Z,100nm,14.0s,MS4.2
FINES FINESS Array B 67.63 332 P P 07 33 28.1 -0.5
comp=Z,5.6nm,0.8s,mb4.6,baz=53,slow=7.4,SNR=24
FINES FINESS Array B 67.63 332 P P 07 33 28.1 -0.5
FINES pmax pmax
comp=Z,6.0nm,0.8s
YBH Yreka Blue Hor 68.85 53 P P 07 33 37.3 +1.0
comp=Z,1.3nm,0.7s,mb3.9,baz=58,slow=6.7,SNR=3.8
YBH Yreka Blue Hor 68.85 53 P P 07 33 37.3 +1.1
YBH pmax pmax
comp=Z,1.0nm,0.7s
SUMG Summit 69.02 0 *e*P P 07 33 37.2 -0.1
comp=Z,11nm,1.3s,mb4.6
STKA Stephens Creek 70.22 181 P P 07 33 43.0 -1.7
comp=Z,1.0nm,0.8s,mb3.8,baz=326,slow=13,SNR=3.0
STKA Stephens Creek 70.22 181 P P 07 33 43.0 -1.7
ZEI Tsey 70.23 309 *e*P P 07 33 44.8 0.0
ZEI pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
KIV Kislovodsk 70.28 311 *e*P P 07 33 46.2 +1.1
KIV pmax pmax
comp=Z,20nm,0.9s,mb5.0
KIV Kislovodsk 70.28 311 *e*P P 07 33 46.1 +1.1
comp=Z,20nm,0.9s,mb5.0
WSAR Wadi Sarin 71.03 285 P P 07 33 50.3 +0.7
comp=Z,6.3nm,0.9s,mb4.5,baz=145,slow=7.2,SNR=3.6
GNI Garni 71.20 307 LR LR 08 08 11.1
comp=Z,77nm,18.5s,MS4.0,baz=147,slow=38
SOC Sochi 72.24 312 *e*P P 07 33 55.3 -1.6
SOC *e* 07 34 00.6
SOC *e**PP pP 07 34 09.9 +0.1
SOC pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
ANN Anapa 72.82 314 *e*P pP 07 34 14.1 +0.8
ANN *e*S 07 43 54.1
ANN pmax pmax
comp=Z,16nm,1.0s,mb4.9
NB2 NORSAR Subarra 72.89 337 P P 07 34 00.2 -0.6
comp=Z,4.4nm,0.8s,mb4.4,baz=39,slow=6.2
NOA NORSAR Array B 72.89 337 P P 07 34 00.4 -0.4
comp=Z,3.1nm,0.7s,mb4.3,baz=39,slow=5.9,SNR=14
NOA NORSAR Array B 72.89 337 P P 07 34 00.4 -0.4
NOA pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 73.36 322 P P 07 34 03.3 -0.3
comp=Z,3.5nm,0.5s,mb4.5,baz=45,slow=6.0,SNR=25
AKASG Malin Array Be 73.36 322 *i* P P 07 34 03.2 -0.3
AKASG pmax pmax
comp=Z,4.0nm,0.5s
NVAR Mina Array Bea 73.51 54 P P 07 34 04.8 +0.3
comp=Z,0.8nm,0.9s,mb3.6,baz=298,slow=3.6,SNR=3.8
PDAR Pinedale Array 76.07 46 P P 07 34 19.2 0.0
comp=Z,1.2nm,0.8s,mb3.9,baz=321,slow=2.1,SNR=6.8
MALT Malatya 76.23 308 ⇓*i*P P 07 34 22.2 +2.1
BURAR Bucovina Array 77.39 322 ⇓*i*P P 07 34 27.5 +0.8
KOLS Kolonicke sedl 77.83 324 *e*P P 07 34 27.8 -1.4
VRI Vrincioaia 77.85 320 ⇑*i*P P 07 34 30.9 +1.6
VRI Vrincioaia 77.85 320 ⇑P P 07 34 30.9 +1.7
SRU San Rafael 77.86 49 *e*P P 07 34 30.0 +0.7
SRU pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
SRU San Rafael 77.86 49 *e*P P 07 34 29.9 +0.6
comp=Z,2.8nm,0.8s,mb4.2
PLOR Plostina 77.90 320 ⇑*i*P P 07 34 30.6 +1.1
STHS Stebnicka Huta 77.95 325 *e*P P 07 34 29.8 0.0
OJC Ojcow 78.00 326 *e*P P 07 34 30.7 +0.6
BRTR Keskin Array B 78.21 312 P P 07 34 31.4 +0.1
comp=Z,1.1nm,0.5s,mb4.0,baz=73,slow=4.1,SNR=8.3
BRTR Keskin Array B 78.21 312 P P 07 34 31.4 +0.2
BRTR pmax pmax
comp=Z,1.0nm,0.5s
CRVS Cervenica-Dubn 78.23 325 *e*P P 07 34 28.2 -3.1
MLR Muntele Rosu 78.51 320 LR LR 08 12 22.0
comp=Z,90nm,18.5s,MS4.1,baz=75,slow=38
KECS Kecovo 78.97 325 *e*P P 07 34 33.2 -2.2
OKC Ostrava-Krasne 79.00 327 *e*P P 07 34 32.6 -3.0
MORC Moravsky Berou 79.30 327 ⇑*i*P P 07 34 37.7 +0.5
MORC Moravsky Berou 79.30 327 ⇓P P 07 34 38.2 +1.0
MORC Moravsky Berou 79.30 327 *e*P P 07 34 37.8 +0.5

comp=Z,3.2nm,0.8s,mb4.3
DPC Dobruska-Polom 79.37 328 eP P 07 34 38.6 +1.0
UPC Upice 79.38 328 eP P 07 34 38.4 +0.7
BRG Berggiesshubel 79.93 330 eP P 07 34 41.3 +0.7
comp=Z,3.2nm,0.9s,mb4.2
BRG Berggiesshubel 79.93 330 eP P 07 34 41.3 +0.6
BRG pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
CLL Collm 79.96 330⇑iP P 07 34 40.3 -0.5
comp=Z,11nm,0.9s,mb4.8
CLL ePP PP 07 37 43.0 +0.2
CLL Collm 79.96 330⇑iP P 07 34 40.3 -0.5
CLL pmax pmax
comp=Z,11nm,0.9s,mb4.8
PRU Pruhonice 80.38 329 eP P 07 34 43.7 +0.6
TREC Trest 80.53 328 eP P 07 34 44.4 +0.5
KHC Kasperske Hory 81.44 329 eP P 07 34 48.8 +0.1
GERES GERESS Array B 81.62 328 P P 07 34 50.1 +0.4
comp=Z,0.7nm,0.7s,mb3.7,baz=30,slow=6.0,SNR=4.5
GERES GERESS Array B 81.62 328 P P 07 34 50.1 +0.4
GERES pmax pmax
comp=Z,1.0nm,0.7s
GRF Grafenberg Arr 81.93 330 eP P 07 34 52.1 +0.8
comp=Z,8.0nm,0.9s,mb4.7
GRF Grafenberg Arr 81.93 330 eP P 07 34 52.1 +0.8
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GRF Grafenberg Arr 81.93 330 eP P 07 34 52.1 +0.8
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
ANMO Albuquerque 83.05 50 eP P 07 34 57.0 -0.1
CDF Champ du Feu 84.48 332 eP P 07 35 04.6 +0.2
comp=Z,25nm,1.2s,mb4.9
CDF Champ du Feu 84.48 332 eP P 07 35 04.6 +0.2
CDF pmax pmax
comp=Z,13nm,1.2s,mb4.9
CDF Champ du Feu 84.48 332 eP P 07 35 04.6 +0.2
comp=Z,13nm,1.2s,mb4.9
HINF Hinteralfeld 85.13 332 eP P 07 35 07.4 -0.3
HAU Haudompre 85.16 332 eP P 07 35 07.7 -0.2
CABF La Chapelle 86.42 331 eP P 07 35 14.2 +0.1
comp=Z,29nm,1.2s,mb5.1
CABF La Chapelle 86.42 331 eP P 07 35 14.2 +0.1
CABF pmax pmax
comp=Z,15nm,1.3s,mb5.1
CABF La Chapelle 86.42 331 eP P 07 35 14.2 +0.1
comp=Z,15nm,1.3s,mb5.0
LOR Lormes 86.68 333 eP P 07 35 15.3 -0.1
comp=Z,24nm,1.1s,mb5.0
LOR Lormes 86.68 333 eP P 07 35 15.3 -0.1
LOR pmax pmax
comp=Z,12nm,1.1s,mb5.0
LOR Lormes 86.68 333 eP P 07 35 15.3 -0.1
comp=Z,12nm,1.1s,mb5.0
FLN La Foliniere 86.84 336 eP P 07 35 16.0 -0.2
comp=Z,127nm,1.7s,mb5.6
FLN La Foliniere 86.84 336 eP P 07 35 16.0 -0.2
FLN pmax pmax
comp=Z,63nm,1.7s,mb5.6
FLN La Foliniere 86.84 336 eP P 07 35 16.0 -0.2
comp=Z,64nm,1.7s,mb5.6
SSF Saint Saulge 86.98 333 eP P 07 35 17.6 +0.7
comp=Z,18nm,1.2s,mb4.8
SSF Saint Saulge 86.98 333 eP P 07 35 17.6 +0.7
SSF pmax pmax
comp=Z,9.0nm,1.2s,mb4.9
SSF Saint Saulge 86.98 333 eP P 07 35 17.6 +0.7
comp=Z,8.8nm,1.2s,mb4.9
LPL La Plagne 87.10 330 eP P 07 35 17.8 +0.4
LPG La Plagne 87.10 330 eP P 07 35 18.0 +0.5
comp=Z,16nm,1.1s,mb4.8
LPG La Plagne 87.10 330 eP P 07 35 18.0 +0.5
LPG pmax pmax
comp=Z,8.0nm,1.1s,mb4.9
LPG La Plagne 87.10 330 eP P 07 35 18.0 +0.5
comp=Z,7.8nm,1.1s,mb4.8
SMF Signal de Mont 87.22 333 eP P 07 35 18.1 +0.1
comp=Z,24nm,1.3s,mb5.0
SMF Signal de Mont 87.22 333 eP P 07 35 18.1 +0.1
SMF pmax pmax
comp=Z,12nm,1.3s,mb5.0
SMF Signal de Mont 87.22 333 eP P 07 35 18.1 +0.1
comp=Z,12nm,1.3s,mb5.0
AVF Avril sur Loir 87.27 333 eP P 07 35 18.3 0.0
comp=Z,21nm,1.0s,mb5.0
AVF Avril sur Loir 87.27 333 eP P 07 35 18.3 0.0
AVF pmax pmax
comp=Z,11nm,1.0s,mb5.0
AVF Avril sur Loir 87.27 333 eP P 07 35 18.3 0.0
comp=Z,11nm,1.0s,mb5.0
GRR Gorron 87.29 336 eP P 07 35 18.3 0.0
comp=Z,28nm,1.1s,mb5.1
GRR Gorron 87.29 336 eP P 07 35 18.3 0.0
GRR pmax pmax
comp=Z,14nm,1.1s,mb5.1
GRR Gorron 87.29 336 eP P 07 35 18.3 0.0
comp=Z,14nm,1.1s,mb5.1
TCF Toulx Ste Croi 88.10 334 eP P 07 35 22.5 +0.3
CAF Calviac 89.33 333 eP P 07 35 28.7 +0.7
LPAZ La Paz 145.31 58 PKPbc PKPbc 07 42 10.2 +1.1
comp=Z,0.7nm,0.7s,baz=48,slow=5.6,SNR=3.6
LPAZ La Paz 145.31 58 PKIKP PKPdf 07 42 10.2 +1.0
LPAZ pmax pmax
comp=Z,1.0nm,0.7s

*NEIC **21** 07:36:29.9, 2763S×7071W, h36km, MG3.6(GUC), After GUC.*

GUC 21 07:36:29.9±0.7, 2763S×7071W, h36km±5km, ML3.6, 4C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPCH	Copiapo	0.41	50	⇑iP		Pn		07 36 39.0	-0.3
CPCH				i S		Sn		07 36 46.3	+0.6
CPCH				AML		AML		07 36 47.9	
	comp=E,34μm,0.1s								
CPCH	Copiapo	0.41	50	⇑iP		Pn		07 36 39.0	-0.3
CPCH				i S		Sn		07 36 46.3	+0.6
CDCH	Caldera	0.56	349	⇓iP		Pn		07 36 41.2	-0.2
CDCH				i S		Sn		07 36 49.8	+0.3
CDCH				AML		AML		07 36 50.4	
	comp=N,4μm,0.2s								
CDCH	Caldera	0.56	349	⇓iP		Pn		07 36 41.2	-0.2
CDCH				i S		Sn		07 36 49.8	+0.3
LCO	Las Campanas	1.38	180	i P		Pn		07 36 54.0	+1.3
LCO				i S		Sn		07 37 13.3	+3.7
TLL	Tololo Astrono	2.53	182	⇑iP		Pn		07 37 10.7	+2.1
TLL				i S		Sn		07 37 41.5	+3.4
TLL				AML		AML		07 38 03.5	
	comp=E,153nm,0.4s								
TLL	Tololo Astrono	2.53	182	⇑iP		Pn		07 37 10.7	+2.1
TLL				i S		Sn		07 37 41.5	+3.4
LVC	Limon Verde	5.25	18	ePn		Pn		07 37 45.5	-0.3
	comp=E,194nm,0.3s								

*IDC **21** 07:46:27.6±0.8, 2979S×7147W, h0km, mb4.0/7, mb1 4.0/11, mb1mx3.9/18, mbtmp3.9/11, ML4.1/4, MS3.5/1, Ms1 3.5/1, ms1mx2.6/20, Error ellipse: s-maj=28.9km s-min=18.6km az=104.0*

*ISCJB **21** 07:46:29.4±1.1, 2977S±002×7178W±007, h18km±8km, mb3.9/9, Error ellipse: s-maj=10.0km s-min=4.1km az=10.8*

*NEIC **21** 07:46:31.1, 2978S×7161W, h27km, mb4.2/2, ML4.4(GUC), After GUC.*

*GUC **21** 07:46:31.1±0.9, 2978S×7161W, h27km±6km, ML4.4*

ISC 21 07:46:29.2±1.1, 2975S±002×7172W±006, h6km±6km, n39, σ1°07/52, mb3.9/9, 7C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TLL	Tololo Astrono	0.90	118	eP		Pg		07 46 46.8	+0.4
TLL				i S		Sg		07 46 57.7	-0.3
TLL				AML		AML		07 47 01.2	
	comp=N,35μm,0.5s								
TLL	Tololo Astrono	0.90	118	eP		Pg		07 46 46.8	+0.4
TLL				i S		Sg		07 46 57.7	-0.3
OVCH	Ovalle	0.97	153	eP		Pg		07 46 47.5	-0.3
OVCH				i S		Sg		07 46 59.5	-0.8
OVCH				AML		AML		07 47 05.2	
	comp=E,7μm,0.4s								
OVCH	Ovalle	0.97	153	eP		Pg		07 46 47.5	-0.3
OVCH				i S		Sg		07 46 59.5	-0.8
LCO	Las Campanas	1.15	51	eP		Pg		07 46 51.5	+0.2
LCO				i S		Sg		07 47 06.1	-0.2
VACH	Vallenar	1.44	36	eP		Pn		07 46 57.1	+1.4
VACH				i S		Sb		07 47 15.8	+0.9
CMCH	Combarbala	1.55	157	⇑iP		Pn		07 46 56.4	-0.9
CMCH				i S		Sn		07 47 16.3	-1.4
CMCH				AML		AML		07 47 19.4	
	comp=E,18μm,0.8s								
CMCH	Combarbala	1.55	157	⇑iP		Pn		07 46 56.4	-0.9
CMCH				i S		Sn		07 47 16.3	-1.4
CHNG	Los Chungos	2.14	175	⇑iP		Pn		07 47 05.2	-0.1
CHNG				AML		AML		07 47 42.9	
	comp=E,1μm,0.5s								
CPCH	Copiapo	2.67	27	⇓iP		Pn		07 47 12.9	+0.3
CPCH				i S		Sn		07 47 45.9	+0.7
CPCH				AML		AML		07 47 58.5	
	comp=E,4μm,0.1s								
CPCH	Copiapo	2.67	27	⇓iP		Pn		07 47 12.9	+0.3
CPCH				i S		Sn		07 47 45.9	+0.7
JACH	Jahuel	3.08	162	⇑iP		Pn		07 47 19.3	+1.0
JACH				i S		Sn		07 47 55.7	+0.3
PEL	Peldehue	3.50	166	⇑iP		Pn		07 47 24.7	+0.6
PEL				AML		AML		07 48 32.1	
	comp=E,2μm,0.5s								
CFAA	Coronel Fontan	3.52	123	Pn		Pn		07 47 26.0	+1.6
	comp=E,2.8nm,0.3s,baz=307,slow=12,SNR=195								
CFAA				Sn		Sn		07 48 08.9	+2.5
	comp=E,3.4nm,0.3s,baz=245,slow=7.7,SNR=3.8								
CFAA				Lg				07 48 19.6	
	comp=E,9.4nm,0.3s,baz=214,slow=23,SNR=16								
CLCH	Cerro Calan	3.77	165	⇑iP		Pn		07 47 28.5	+0.6
TACH	Talagante	3.95	171	⇑iP		Pn		07 47 30.9	+0.5
CHCH	Chadas Angostu	4.27	168	i P		Pn		07 47 35.3	+0.6
LMEL	Las Melosas	4.29	163	eP		Pn		07 47 36.6	+1.7
LMEL				i S		Sn		07 48 25.3	+0.1
CACH	El Canelo	4.46	168	eP		Pn		07 47 38.1	+0.9
CICH	Cipreses	4.69	167	i P		Pn		07 47 41.1	+0.6
SFDO	San Fernando	4.89	173	eP		Pn		07 47 44.1	+0.9
LVC	Limon Verde	7.54	20	Pn		Pn		07 48 18.2	-1.4
	comp=E,1.7nm,0.3s,baz=160,slow=9.1,SNR=19								
LVC				Sn		Sn		07 49 52.2	+6.8
	comp=E,1.8nm,0.3s,baz=245,slow=14,SNR=3.8								
LVC				Lg				07 50 20.1	
	comp=E,9.7nm,0.3s,baz=292,slow=17,SNR=6.2								
LVC				LR		LR		07 51 12.3	
	comp=E,303nm,18.9s,baz=74,slow=38								
PLCA	Paso Flores	11.00	175	Pn		Pn		07 49 06.3	-0.7
	comp=E,0.1nm,0.3s,baz=337,slow=13,SNR=2.8								
PLCA	Paso Flores	11.00	175	Pn		Pn		07 49 06.3	-0.7
TRQA	Tornquist	11.57	138	ePn		Pn		07 49 13.9	-1.0
	comp=E,31nm,1.1s								
CPUP	Villa Florida	13.16	78	Pn		Pn		07 49 34.5	-2.0
	comp=E,0.4nm,0.3s,baz=232,slow=14,SNR=6.5								
LPAZ	La Paz	13.80	15	Pn		Pn		07 49 48.6	+3.4
	comp=E,0.5nm,0.3s,baz=184,slow=7.8,SNR=26								
SIV	San Ignacio	16.83	38	Pn		Pn		07 50 24.4	-1.0
	comp=E,0.6nm,0.3s,baz=216,slow=11,SNR=24								
SAML	Samuel	22.18	23	eP		P		07 51 25.4	-0.6
	comp=E,4.5nm,0.9s,mb3.9								
BDFB	Brasilia	25.92	62	P		P		07 52 00.1	-1.9
	comp=E,5.2nm,0.8s,mb4.1,baz=229,slow=7.5,SNR=10.0								
SNAA	Sanae	55.43	159	P		P		07 56 02.4	-2.0
	comp=E,0.8nm,0.7s,mb3.9,baz=265,slow=8.1,SNR=9.3								
VNDA	Vanda	68.32	191	P		P		07 57 30.5	-0.7
	comp=E,0.6nm,0.9s,mb3.6,baz=38,slow=7.4,SNR=2.9								
MAW	Mawson	77.17	164	P		P		07 58 22.2	-1.6
	comp=E,1.4nm,0.8s,mb4.0,baz=262,slow=6.8,SNR=5.0								
HWUT	Hardware Ranch	79.97	331	eP		P		07 58 39.3	+0.1
	comp=E,3.4nm,0.7s,mb4.4								
HWUT				ePP		PP		07 58 48.6	+7.3
PDAR	Pinedale Array	80.11	333	P		P		07 58 40.1	+0.1
	comp=E,0.6nm,0.6s,mb3.7,baz=132,slow=6.4,SNR=4.5								
NVAR	Mina Array Bea	80.57	325	P		P		07 58 44.0	+1.5
	comp=E,0.7nm,0.8s,mb3.6,baz=163,slow=7.3,SNR=4.8								
NVAR	Mina Array Bea	80.57	325	P		P		07 58 44.0	+1.5
TORD	Torodi Ar. Bea	82.52	70	P		P		07 58 51.2	-1.5
	comp=E,1.9nm,0.8s,mb4.2,baz=270,slow=4.6,SNR=12								
WRA	Warramunga Arr	124.58	210	PKP		PKPdf		08 05 28.4	-1.0
	comp=E,0.6nm,0.6s,baz=156,slow=1.6,SNR=9.3								

*ISCJB **21** 07:57:17.7±0.4, 3339S±009×7792E±010, h10km, mb4.2/19, MS3.9/11, Error ellipse: s-maj=12.9km s-min=11.7km az=45.6*

*MOS **21** 07:57:17.7±0.8, 3345S×7783E, h10km, mb4.2/1, Error ellipse: s-maj=24.9km s-min=18.4km az=116.3*

*IDC **21** 07:57:18.1±0.5, 3336S×7788E, h0km, mb4.1/18, mb1 4.3/18, mb1mx4.2/22, mbtmp4.1/18, MS3.9/11, Ms1 3.9/11, ms1mx3.6/21, Error ellipse: s-maj=19.5km s-min=14.7km az=15.0*

*NEIC **21** 07:57:19.6±0.4, 3335S×7790E, h10km, mb4.6/1, Error ellipse: s-maj=12.2km s-min=11.3km az=203.0*

ISC 21 07:57:19.5±0.4, 3335S±009×7790E±010, h10km, n31, σ0°68/23, mb4.2/19, MS3.9/11, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DGAR	Diego Garcia	26.30	348	eP		P		08 02 55.5	+0.3
COCO	West Island	27.27	44	eP		P		08 03 03.1	-0.8
NWAO	Narrogin (SRO)	32.81	105	LR		LR		08 13 54.9	
	comp=Z,171nm,20.6s,MS3.7,baz=250,slow=30								
MAW	Mawson	35.39	190	P		P		08 04 16.9	+1.6
	2.6nm,0.7s,mb4.2,baz=13,slow=14,SNR=6.3								
MAW				LR		LR		08 15 10.6	
	comp=Z,95nm,20.1s,MS3.5,baz=246,slow=30								
FITZ	Fitzroy Crossi	45.23	83	P		P		08 05 36.7	-0.1
	3.7nm,0.9s,mb4.2,baz=198,slow=5.9,SNR=4.5								
FITZ				LR		LR		08 20 03.4	
	comp=Z,98nm,21.5s,MS3.7,baz=56,slow=30								
MATP	Matopo	45.51	274	P		P		08 05 38.5	-0.5
	1.8nm,0.8s,mb4.1,baz=118,slow=14,SNR=3.0								
LBTB	Lobatse	46.01	266	P		P		08 05 42.8	-0.2
	2.5nm,0.6s,mb4.3,baz=119,slow=8.9,SNR=5.5								
LSZ	Lusaka	48.27	279	P		P		08 06 01.0	+0.4
	6.9nm,0.7s,mb4.8,baz=129,slow=7.8,SNR=14								
ASAR	Alice Springs	49.65	94	P		P		08 06 11.8	+0.6
	3.9nm,0.9s,mb4.5,baz=245,slow=6.5,SNR=30								
KMBO	Kilima Mbogo	49.79	301	P		P		08 06 11.4	-0.9
	0.4nm,0.3s,mb4.0,baz=49,slow=20,SNR=3.1								
KMBO				LR		LR		08 22 25.1	
	comp=Z,51nm,20.0s,MS3.5,baz=79,slow=30								
WRA	Warramunga Arr	51.63	90	P		P		08 06 26.3	+0.2
	7.2nm,0.8s,mb4.7,baz=245,slow=7.4,SNR=29								
STKA	Stephens Creek	52.91	107	P		P		08 06 34.2	-1.4
	1.5nm,0.9s,mb3.9,baz=336,slow=13,SNR=2.8								
STKA				LR		LR		08 24 15.3	
	comp=Z,164nm,18.5s,MS4.1,baz=206,slow=31								
SNAA	Sanae	55.82	202	P		P		08 06 56.4	-0.5
	0.7nm,1.0s,mb3.7,baz=167,slow=11,SNR=2.7								
VNDA	Vanda	56.41	165	P		P		08 07 00.5	-0.5
	1.2nm,0.8s,mb4.0,baz=238,slow=7.2,SNR=8.1								
VNDA				LR		LR		08 29 29.8	
	comp=Z,118nm,21.7s,MS3.9,baz=276,slow=34								
VNDA	Vanda	56.41	165	P		P		08 07 00.5	-0.5
VNDA				LR		LR		08 29 29.9	
QSPA	South Pole Qui	56.80	180	eP		P		08 07 03.9	+0.1
	5.7nm,1.0s,mb4.6								
CTA	Charters Tower	61.51	96	LR		LR		08 31 10.9	
	comp=Z,144nm,19.0s,MS4.2,baz=230,slow=33								
PMG	Port Moresby	67.59	87	LR		LR		08 38 24.5	
	comp=Z,96nm,19.0s,MS4.0,baz=10,slow=36								
HNR	Honiara	78.27	94	LR		LR		08 41 36.5	
	comp=Z,56nm,18.6s,MS3.9,baz=178,slow=34								
MKAR	Makanchi Array	79.88	3	P		P		08 09 28.2	-0.1
	0.7nm,0.7s,mb3.7,baz=166,slow=6.2,SNR=6.4								
BRTR	Keskin Array B	83.45	327	P		P		08 09 46.9	-0.3
	0.8nm,0.8s,mb3.8,baz=145,slow=5.4,SNR=5.0								
SONM	Sonjino Array	84.77	19	P		P		08 09 55.5	+1.6
	0.9nm,0.7s,mb4.0,baz=184,slow=7.0,SNR=4.2								
AKTK	Aktyubinsk	85.26	347	P		P		08 09 56.6	+0.3
AKTO	Aktyubinsk	85.26	347	P		P		08 09 56.6	+0.3
	2.2nm,1.0s,mb4.2,baz=159,slow=2.5,SNR=6.0								
TORD	Torodi Ar. Bea	85.94	288	P		P		08 09 59.5	-0.3
	1.9nm,0.8s,mb4.4,baz=115,slow=4.3,SNR=12								
ZAL	Zalesovo	87.14	4	LR		LR		08 46 47.2	
	comp=Z,69nm,21.1s,MS4.0,baz=84,slow=34								
DBIC	Dimbokro	87.61	280	LR		LR		08 45 02.7	
	comp=Z,76nm,18.0s,MS4.2,baz=169,slow=33								
MLR	Muntele Rosu	91.49	326	P		P		08 10 26.6	+0.5
	2.7nm,0.8s,mb4.7,baz=151,slow=14,SNR=4.1								
AKASG	Malin Array Be	94.06	331	P		P		08 10 37.8	-0.1
	0.7nm,0.4s,mb4.5,baz=144,slow=3.8,SNR=6.2								
SCHQ	Schefferville	147.32	322	PKPbc		PKPbc		08 17 04.4	+1.2
	3.6nm,1.1s,baz=41,slow=9.3,SNR=4.0								
YKA	Yellowknife Ar	149.78	12	PKPbc		PKPbc		08 17 10.8	+1.2
	1.4nm,0.9s,baz=315,slow=3.9,SNR=4.3								

*NIED **21** 08:24:00, 4320N×14580E, h44km, Mw3.4 Best double couple: M0 1.35000×10^14 NP1:φ±50.00000°, δ67.00000°, λ82.00000°. NP2:φ±250.00000°, δ24.00000°, λ108.00000°.*

JMA 21 08:24:33.4±0.1, 4318N×14577E, h50km±1km, M3.6, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.19	354	P		Pn		08 24 41.6	0.0
NEM2				eS		Sn		08 24 47.4	-0.1
JAK	Akkeshi	0.81	257	P		Pn		08 24 48.4	-0.1
JAK				eS		Sn		08 24 59.6	0.0
JNK	Nakash	0.87	298	P		Pn		08 24 49.0	-0.3
JNK				eS		Sn		08 25 00.4	-0.6
JRA	Rausu	0.89	328	P		Pn		08 24 49.8	+0.1
JRA				eS		Sn		08 25 01.8	+0.2
JOB	Onbets	1.45	260	P		Pn		08 24 57.2	+0.1
JOB				eS		Sn		08 25 15.3	+0.3
JAR	Ashorobuto	1.47	275	P		Pn		08 24 57.7	+0.3
JAR				eS		Sn		08 25 16.3	+0.8
JTKR	Abashiri--Toko	1.57	301	P		Pn		08 24 59.6	+0.8

*IDC **21** 08:53:56.4±1.0, 3609N×6928E, h0km, mb3.7/9, mb1 4.0/11, mb1mx3.8/20, mbtmp3.8/11, ML3.8/2, MS3.3/4, Ms1 3.3/4, ms1mx2.8/26, Error ellipse: s-maj=25.0km s-min=19.8km az=24.0*

*NEIC **21** 08:53:58.2±0.5, 3622N×6924E, h10km, mb4.5/12, Error ellipse: s-maj=10.3km s-min=5.3km az=224.0*

*MOS **21** 08:53:59.9±0.9, 3627N×6919E, h32km, mb4.1/9, Error ellipse: s-maj=11.3km s-min=6.7km az=91.9*

*ISCJB **21** 08:54:03.0±0.8, 3640N±003×6930E±006, h65km±10km, mb3.8/11, Error ellipse: s-maj=8.9km s-min=4.9km az=150.7*

*BJI **21** 08:54:04.6, 3634N×6980E, h10km, mb4.2, ML4.1*

*NNC **21** 08:54:07.3±0.9, 3683N×6886E, h33km, mb4.0, mpv3.8, Error ellipse: s-maj=9.4km s-min=5.6km az=11.0*

ISC 21 08:54:04.8±0.7, 3641N±003×6921E±007, h65km±9km, n78, σ1°36/89, mb3.9/11, 12C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CEP	Cherat	3.40	139	⇑P		Pn		08 54 56.9	+1.5
CEP				S		Sn		08 55 39.0	+4.6
THW	Thamme Wali	4.17	149	P		Pn		08 55 05.8	-0.1
SBDP	Sheikh Budin	4.31	162	P		Pn		08 55 07.8	0.0
CHCP	Chirah Chowk	4.31	128	⇓P		Pn		08 55 09.1	+1.3
KSH	Kashi	6.18	58	eP		Pn		08 55 35.8	+2.4
KSH				S		Sn		08 56 45.6	+3.0
KSH				Smax					
	comp=N,83nm,0.4s								
KSH				Smax					
	comp=E,57nm,0.2s								
KK31	Karatay Array	6.76	8	Pn		Pn		08 55 42.0	+0.6
	comp=E,8.1nm,0.4s,baz=201,slow=18,SNR=130								
KK31				⇑Sn		Sn		08 56 57.6	+0.7
	comp=E,8.6nm,0.3s,baz=190,slow=22,SNR=6.3								
KK31				⇑Lg				08 57 31.6	
	comp=E,33nm,0.6s,baz=194,slow=29,SNR=5.4								
KKAR	Karatay Array	6.76	8	ePN		Pn		08 55 42.0	+0.6
KKAR				pmax	pmax				
	comp=Z,2.0nm,0.3s								
AAK	Ala-Archa	7.44	32	eP		Pn		08 55 50.8	+0.2
AAK	Ala-Archa	7.44	32	ePn		Pn		08 55 50.3	-0.3
	comp=Z,22nm,0.4s								
FRU	Bishkek	7.65	31	eP		Pn		08 55 54.8	+1.2
FRU				eS		Sn		08 57 21.5	+2.7
FRU				pmax	pmax				
	comp=Z,36nm,1.5s								
FRU				smax					
	comp=E,105nm,1.2s								
BHK	Bhakra	7.79	128	ex		x		08 56 13.8	
SDNR	Sundarnagar	8.09	125	eP		Pn		08 55 59.5	-0.1
SDNR				eS		Sn		08 57 24.6	-5.0
TKM2	Tokmak 2	8.16	35	⇑Pn		Pn		08 56 01.1	+0.7
	comp=E,1.2nm,0.6s								
TKM2				⇓Sn		Sn		08 57 30.6	-0.5
	comp=E,3.8nm,0.8s								
TKM2	Tokmak 2	8.16	35	P		Pn		08 56 00.7	+0.3
TKM2				S		Sn		08 57 30.5	-0.6
TKM2				pmax	pmax				
	comp=Z,7.0nm,0.6s								
TKM2				smax					
	comp=Z,24nm,0.9s								
SMLA	Simla	8.46	126	i P		Pn		08 56 05.0	+0.4
SMLA				i S		Sn		08 57 33.3	-5.3
NDI	New Delhi	10.24	136	eP		Pn		08 56 28.0	-0.9
NDI				eS		Sn		08 58 14.0	-8.1
MK02	Makanchi Array	14.24	39	⇑Pn		Pn		08 57 21.0	-2.1
	comp=Z,2.9nm,0.7s								
MKAR	Makanchi Array	14.24	39	Pn		Pn		08 57 21.2	-1.9
	comp=Z,0.1nm,0.3s,baz=229,slow=14,SNR=14								
MKAR	Makanchi Array	14.24	39	Pn		Pn		08 57 21.2	-2.0
AB31	Akbulak array	14.51	335	⇓Pn		Pn		08 57 23.4	-3.2
	comp=Z,19nm,0.6s,baz=152,slow=12,SNR=121								
AB31				⇑Sn		Sn		08 59 56.3	-10
	comp=Z,2.1nm,0.4s,baz=154,slow=24,SNR=4.2								
AB31	Akbulak array	14.51	335	eP		Pn		08 57 23.3	-3.3
AB31				eS		Sn		08 59 59.0	-7.2
AB31				pmax	pmax				
	comp=Z,19nm,0.6s								
AB31				smax					
	comp=Z,1.0nm,0.4s								
KOLN	Koldanda	14.92	121	eP		Pn		08 57 27.2	-4.7
	comp=Z,23nm,0.7s								
GKN	Gorkha	15.50	118	eP		Pn		08 57 34.8	-4.6
	comp=Z,34nm,0.5s								
KURK	Kurchatov	15.82	22	eP		Pn		08 57 42.9	-0.6
DMN	Daman	16.07	119	eP		Pn		08 57 42.7	-3.9
	comp=Z,36nm,0.6s								
KKN	Kakani	16.09	118	eP		Pn		08 57 43.3	-3.5
	comp=Z,50nm,0.5s								
KKN	Kakani	16.09	118	eP		Pn		08 57 43.3	-3.5
KKN				pmax	pmax				
	comp=Z,50nm,0.5s								
AKTK	Aktyubinsk	16.18	334	Pn		Pn		08 57 46.5	-1.5
AKTK				LR		LR		09 04 37.2	
AKTO	Aktyubinsk	16.18	334	⇑Pn		Pn		08 57 46.6	-1.4
	comp=Z,0.3nm,0.7s								
AKTO				⇑Sn		Sn		09 00 37.0	-10
	comp=Z,0.1nm,0.7s								
AKTO	Aktyubinsk	16.18	334	Pn		Pn		08 57

comp=Z,7.9nm,1.8s
CHKZ Chkalovo 17.30 3 *e*P **Pn** 08 58 01.5 -0.4
CHKZ pmax pmax
comp=Z,3.0nm,0.4s
CHKZ Chkalovo 17.30 3 *e*P **Pn** 08 58 01.5 -0.4
comp=Z,3.0nm,0.4s
ORR Orenburg 18.37 330 *e*P **Pn** 08 58 15.5 +0.6
ORR pmax pmax
comp=Z,10.0nm,0.8s
LSA Lhasa 19.55 104 *e*P **Pn** 08 58 30.3 +1.3
LSA Lhasa 19.55 104 *e*P **Pn** 08 58 28.1 -0.9
LSA pmax pmax
comp=Z,11nm,0.6s
LSA Lhasa 19.55 104 *e*P **Pn** 08 58 28.1 -0.9
comp=Z,11nm,0.6s
GNI Garni 19.55 288 *e*P **Pn** 08 58 28.7 -0.3
ZAL Zalesovo 20.61 27 P **P** 08 58 40.2 +1.6
comp=Z,2.9nm,0.6s,baz=256,slow=9.5,SNR=5.1
ZAL Zalesovo 20.61 27 P **P** 08 58 40.3 +1.7
ZAL pmax pmax
comp=Z,3.0nm,0.6s
HYB Hyderabad 20.65 154 *i* P **P** 08 58 40.0 +0.9
HYB Hyderabad 20.65 154 *e*P **P** 08 58 40.0 +0.9
ARU Arti 21.28 344 *e*P **P** 08 58 46.6 +0.7
ARU pmax pmax
comp=Z,11nm,0.4s,mb4.5
ARU Arti 21.28 344 *e*P **P** 08 58 46.6 +0.7
comp=Z,11nm,0.4s,mb4.5
KIV Kislovodsk 21.56 299 *e*P **P** 08 58 49.6 +0.8
KIV pmax pmax
comp=Z,8.0nm,0.6s,mb4.3
KIV Kislovodsk 21.56 299 *e*P **P** 08 58 49.6 +0.7
comp=Z,7.6nm,0.6s,mb4.3
SHL Shillong 22.19 113 *ex* x 08 59 10.0
ASF Jabal al Asfar 26.96 270 LR LR 09 13 02.4
comp=Z,58nm,21.7s,baz=5.8,slow=42
SONM Songino Array 29.58 56 P **P** 09 00 05.0 +1.5
comp=Z,1.2nm,0.8s,mb3.7,baz=248,slow=9.8,SNR=6.8
SONM Songino Array 29.58 56 P **P** 09 00 05.0 +1.5
SONM pmax pmax
comp=Z,1.0nm,0.8s
TIRR Tirgusor 31.81 297 *e*P **P** 09 00 22.0 -1.2
AKASG Malin Array Be 31.88 309 P **P** 09 00 25.9 +2.1
comp=Z,0.5nm,0.3s,mb3.8,baz=87,slow=7.1,SNR=5.5
AKASG Malin Array Be 31.88 309 P **P** 09 00 26.0 +2.2
AKASG pmax pmax
comp=Z,1.0nm,0.3s
FINES FINESS Array B 36.76 327 P **P** 09 01 07.9 +1.9
comp=Z,1.5nm,0.6s,mb4.0,baz=117,slow=12,SNR=12
FINES LR LR 09 17 38.4
comp=Z,68nm,19.1s,baz=170,slow=38
FINES FINESS Array B 36.76 327 P **P** 09 01 07.9 +1.9
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES MLR MLR
comp=Z,68nm,19.1s
ARCES ARCESS Array B 40.69 338 P **P** 09 01 43.9 +5.1
comp=Z,2.1nm,0.7s,mb3.9,baz=99,slow=11,SNR=3.3
ARCES LR LR 09 18 12.4
comp=Z,35nm,19.0s,baz=236,slow=36
ARCES ARCESS Array B 40.69 338 P **P** 09 01 43.9 +5.1
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES MLR MLR
comp=Z,35nm,19.0s
NB2 NORSAR Subarra 43.59 323 P **P** 09 02 03.5 +1.0
comp=Z,3.0nm,0.8s,mb4.1,baz=97,slow=8.6
NOA NORSAR Array B 43.59 323 P **P** 09 02 03.8 +1.3
comp=Z,0.9nm,0.6s,mb3.7,baz=97,slow=8.0,SNR=5.0
NOA NORSAR Array B 43.59 323 P **P** 09 02 03.8 +1.3
NOA pmax pmax
comp=Z,1.0nm,0.6s
TORD Torodi Ar. Bea 64.27 268 P **P** 09 04 33.8 +0.6
comp=Z,0.7nm,0.8s,mb3.8,baz=52,slow=6.2,SNR=4.5
ILAR Eielson Array 75.25 15 P **P** 09 05 41.4 +0.7
comp=Z,0.5nm,0.9s,mb3.4,baz=331,slow=4.0,SNR=4.7
ILAR Eielson Array 75.25 15 P **P** 09 05 41.4 +0.7
ILAR pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 83.18 121 P **P** 09 06 23.2 -0.7
comp=Z,0.3nm,0.6s,mb3.5,baz=324,slow=5.0,SNR=5.6
ASAR Alice Springs 85.39 124 P **P** 09 06 35.0 -0.1
comp=Z,0.5nm,0.8s,mb3.7,baz=303,slow=4.8,SNR=3.9
ASAR Alice Springs 85.39 124 P **P** 09 06 35.1 0.0
ASAR pmax pmax
comp=Z,1.0nm,0.8s

*NEIC **21** 09:12:31.9, 4022S×17354E, h209km, MG3.7(WEL), After WEL.*
WEL 21 09:12:32.1±0.3, 4021S×17355E, h206km±2km, ML3.7/8, 5C, Error ellipse: s-maj=2.3km s-min=1.7km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.66**	**154**	PN	Pn	09 13 00.8	+0.3
DUWZ				SN	Sn	09 13 22.2	-0.3
QRZ	**Quartz Range**	**0.99**	**231**	PN	Pn	09 13 02.0	-0.3
QRZ				SN	Sn	09 13 24.3	-1.6
QRZ	**Quartz Range**	**0.99**	**231**	P	Pn	09 13 02.0	-0.4
QRZ				S	Sn	09 13 24.3	-1.6
NNZ	**Nelson**	**1.02**	**187**	PN	Pn	09 13 02.4	-0.1
NNZ				SN	Sn	09 13 25.0	-1.2
NNZ				SN	Sn	09 13 25.3	-1.0
NNZ	**Nelson**	**1.02**	**187**	P	Pn	09 13 02.4	-0.1
NNZ				S	Sn	09 13 25.3	-0.9
TCW	**Tory Channel**	**1.15**	**151**	PN	Pn	09 13 03.9	+0.4
TCW				SN	Sn	09 13 27.1	-0.8
TCW	**Tory Channel**	**1.15**	**151**	P	Pn	09 13 03.9	+0.5
TCW				S	Sn	09 13 27.2	-0.6
WAZ	**Wanganui**	**1.19**	**68**	PN	Pn	09 13 04.5	+0.7
WAZ				SN	Sn	09 13 28.6	+0.1
WAZ	**Wanganui**	**1.19**	**68**	P	Pn	09 13 04.7	+0.9
WAZ				S	Sn	09 13 29.1	+0.7
KIW	**Kapiti Island**	**1.23**	**123**	PN	Pn	09 13 04.2	+0.2
KIW				SN	Sn	09 13 27.6	-1.3
KIW	**Kapiti Island**	**1.23**	**123**	P	Pn	09 13 04.3	+0.3
KIW				S	Sn	09 13 27.6	-1.3
MRW	**Makara Radio**	**1.35**	**140**	⇑PN	Pn	09 13 05.1	+0.1
MRW	**Makara Radio**	**1.35**	**140**	P	Pn	09 13 05.1	+0.1
SNZO	**South Karori**	**1.41**	**142**	⇑PN	Pn	09 13 05.4	-0.1
SNZO				SN	Sn	09 13 30.4	-1.1
WEL	**Wellington**	**1.42**	**140**	PN	Pn	09 13 05.5	-0.1
WEL	**Wellington**	**1.42**	**140**	P	Pn	09 13 05.6	0.0
VRZ	**Vera Road**	**1.43**	**41**	PN	Pn	09 13 05.3	-0.4
VRZ				SN	Sn	09 13 30.8	-1.0
VRZ	**Vera Road**	**1.43**	**41**	*e*P	Pn	09 13 05.4	-0.3
CAW	**Cannon Point**	**1.47**	**128**	⇑PN	Pn	09 13 06.0	0.0
CAW	**Cannon Point**	**1.47**	**128**	P	Pn	09 13 06.0	0.0
BSWZ	**Blackbirch Sta**	**1.53**	**171**	PN	Pn	09 13 06.5	0.0
BSWZ	**Blackbirch Sta**	**1.53**	**171**	P	Pn	09 13 06.6	+0.1
BHW	**Baring Head**	**1.57**	**140**	PN	Pn	09 13 06.4	-0.4
BHW	**Baring Head**	**1.57**	**140**	P	Pn	09 13 06.4	-0.5
MRZ	**Mangatainoka R**	**1.62**	**107**	PN	Pn	09 13 07.3	-0.1
MRZ				SN	Sn	09 13 33.5	-1.3
MRZ	**Mangatainoka R**	**1.62**	**107**	P	Pn	09 13 07.3	0.0
MRZ				S	Sn	09 13 33.8	-1.0
THZ	**Tophouse**	**1.63**	**197**	⇑PN	Pn	09 13 07.1	-0.4
THZ	**Tophouse**	**1.63**	**197**	P	Pn	09 13 07.1	-0.3
MTVZ	**Mangateitei**	**1.69**	**62**	PN	Pn	09 13 07.8	-0.3
MTVZ				SN	Sn	09 13 35.4	-0.6
MTW	**Mount Morrison**	**1.77**	**123**	PN	Pn	09 13 08.4	-0.3
MTW	**Mount Morrison**	**1.77**	**123**	P	Pn	09 13 08.1	-0.6
MSWZ	**Moikau Station**	**1.77**	**134**	PN	Pn	09 13 08.4	-0.4
MSWZ	**Moikau Station**	**1.77**	**134**	P	Pn	09 13 08.4	-0.3
TRVZ	**Turoa**	**1.79**	**60**	PN	Pn	09 13 08.5	-0.5
WNVZ	**Wahianoa**	**1.81**	**62**	PN	Pn	09 13 08.9	-0.2
WNVZ	**Wahianoa**	**1.81**	**62**	P	Pn	09 13 08.9	-0.2
FWVZ	**Far West T-bar**	**1.81**	**59**	PN	Pn	09 13 08.9	-0.3
FWVZ	**Far West T-bar**	**1.81**	**59**	P	Pn	09 13 08.9	-0.3
WPVZ	**Whakapapa**	**1.84**	**58**	PN	Pn	09 13 09.0	-0.4
WPVZ	**Whakapapa**	**1.84**	**58**	P	Pn	09 13 09.0	-0.4
PAWZ	**Paruwai Farm**	**1.85**	**130**	PN	Pn	09 13 09.1	-0.4
PAWZ	**Paruwai Farm**	**1.85**	**130**	P	Pn	09 13 09.1	-0.4
TSZ	**Takapari Road**	**1.86**	**86**	PN	Pn	09 13 09.4	-0.2
TSZ	**Takapari Road**	**1.86**	**86**	*e*P	Pn	09 13 09.5	-0.1
TIWZ	**Tintock**	**1.87**	**108**	PN	Pn	09 13 09.6	-0.2
TUVZ	**Tukino**	**1.88**	**61**	PN	Pn	09 13 09.7	0.0
TUVZ	**Tukino**	**1.88**	**61**	P	Pn	09 13 09.8	0.0
MOVZ	**Moawhango**	**1.88**	**66**	PN	Pn	09 13 09.1	-0.6
MOVZ	**Moawhango**	**1.88**	**66**	P	Pn	09 13 09.2	-0.6
NGZ	**Ngauruhoe**	**1.89**	**58**	PN	Pn	09 13 09.5	-0.4
NGZ	**Ngauruhoe**	**1.89**	**58**	P	Pn	09 13 09.5	-0.4
WTVZ	**West Tongariro**	**1.92**	**56**	PN	Pn	09 13 09.7	-0.5
WTVZ	**West Tongariro**	**1.92**	**56**	P	Pn	09 13 09.7	-0.5
OTVZ	**Oturere**	**1.94**	**58**	PN	Pn	09 13 10.2	-0.2
KRVZ	**Karewarewa**	**1.96**	**56**	PN	Pn	09 13 10.1	-0.5
HIZ	**Hauiti**	**1.97**	**31**	PN	Pn	09 13 09.8	-1.0
TRWZ	**Traveller**	**2.02**	**127**	PN	Pn	09 13 10.9	-0.2
DSZ	**Denniston Nort**	**2.03**	**220**	*e*P	Pn	09 13 10.5	-0.8
KATZ	**Kakaramea**	**2.07**	**54**	P	Pn	09 13 11.2	-0.5
BFZ	**Birch Farm**	**2.11**	**104**	PN	Pn	09 13 12.1	-0.1
BFZ	**Birch Farm**	**2.11**	**104**	P	Pn	09 13 12.1	-0.1
KHZ	**Kahutara**	**2.21**	**180**	⇑PN	Pn	09 13 12.1	-1.1
KHZ	**Kahutara**	**2.21**	**180**	P	Pn	09 13 12.1	-1.1
PXZ	**Pawanui**	**2.55**	**87**	PN	Pn	09 13 16.5	-0.3
LTZ	**Lake Taylor**	**2.75**	**200**	*e*P	Pn	09 13 17.7	-1.4
URZ	**Urewera**	**3.38**	**56**	*e*P	Pn	09 13 24.4	-2.1
KNZ	**Kokohu**	**3.40**	**71**	P	Pn	09 13 25.7	-1.0
WVZ	**Waitaha Valley**	**3.56**	**215**	*e*P	Pn	09 13 26.7	-1.9
MQZ	**McQueen's Vall**	**3.56**	**190**	*e*P	Pn	09 13 25.8	-2.9
MWZ	**Matawai**	**3.61**	**60**	P	Pn	09 13 27.6	-1.7
RPZ	**Rata Peaks**	**3.97**	**207**	*e*P	Pn	09 13 31.7	-1.9
PUZ	**Puketiti**	**4.24**	**61**	*e*P	Pn	09 13 35.0	-2.0
FOZ	**Fox Glacier**	**4.42**	**219**	*e*P	Pn	09 13 35.5	-3.8
JCZ	**Jackson Bay**	**5.25**	**221**	*e*P	Pn	09 13 46.8	-3.0
ODZ	**Otahua Downs**	**5.29**	**203**	*e*P	Pn	09 13 48.3	-1.9
WKZ	**Wanaka**	**5.70**	**214**	*e*P	Pn	09 13 48.2	-7.3

CASC 21 09:13:55.6±1.5, 1346N×9054W, h27km±5km, MD3.5, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.71**	**7**	*e*P	Pb	09 14 09.3	-0.1
IXG				*e*S	Sb	09 14 19.9	+1.1
FUG	**Fuego 3**	**1.02**	**343**	*e*P	Pn	09 14 14.9	+0.7
FUG				*e*S	Sn	09 14 29.8	+2.2
RBDL	**Robledal**	**1.05**	**52**	*e*P	Pn	09 14 22.8	+8.3
RBDL				*e*S	Sn	09 14 37.4	+9.1
BOQS	**Boqueron**	**1.26**	**77**	*e*P	Pn	09 14 25.5	+8.2
BOQS				*e*S	Sn	09 14 43.2	+10
JAT	**Jato**	**1.36**	**309**	*e*P	Pn	09 14 19.1	+0.2
TP2	**Tecpan 2**	**1.39**	**341**	*e*P	Pn	09 14 19.6	+0.4
TP2				*e*S	Sn	09 14 38.4	+1.6
LFRS	**El Faro**	**1.45**	**83**	*e*P	Pn	09 14 28.0	+8.0
LFRS				*e*S	Sn	09 14 47.6	+10
LBRS	**Las Brisas**	**1.48**	**79**	*e*P	Pn	09 14 28.8	+8.3
LBRS				*e*S	Sn	09 14 47.5	+8.6
LCBS	**La Ceiba**	**1.53**	**83**	*e*P	Pn	09 14 29.4	+8.2
LCBS				*e*S	Sn	09 14 49.5	+9.3
SNVI	**San Vicente**	**1.66**	**85**	*e*P	Pn	09 14 30.9	+8.0
SNVI				*e*S	Sn	09 14 52.6	+9.3

*CSEM **21** 09:18:06.6±0.1, 3542N×483W, h35km, ML3.6/7, Error ellipse: s-maj=3.8km s-min=2.4km az=70.0*
*IGIL **21** 09:18:09.7, 3750N×480W, h31km, ML2.0*
*INMG **21** 09:18:09.8±1.0, 3567N×482W, h31km, ML2.5, Error ellipse: s-maj=4.5km s-min=3.6km az=9.0*
*CNRM **21** 09:18:12.5, 3520N×463W, h30km, MD3.1*
MDD 21 09:18:07.8±0.5, 3546N×481W, h41km±36km, mb3.6/15, 1C-2D, Error ellipse: s-maj=7.2km s-min=4.8km az=82.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.75**	**108**	*i* P	Pn	09 18 22.0	0.0
MPAL				*i* S	Sn	09 18 32.5	+0.3
TOU	**Touzarine**	**1.00**	**120**	*i* P	Pn	09 18 25.5	+0.1
TOU				*i* S	Sn	09 18 37.5	-0.8
EMIJ	**Mijas** SNR=18	**1.10**	**2**	⇑P	Pn	09 18 25.4	-1.4
EMIJ				S	Sn	09 18 38.4	-2.3
	21nm,0.3s,SNR=6.8						
EJIF	**Jimena Fronter**	**1.12**	**332**	P	Pn	09 18 28.0	+1.0
	0.3nm,0.3s,SNR=7.9						
EJIF				S	Sn	09 18 41.5	+0.3
	0.9nm,0.3s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.12**	**332**	Pg	Pn	09 18 28.8	+1.8
	0.4nm,0.1s,SNR=7.9						
ESPR	**Espera**	**1.64**	**329**	P	Pn	09 18 34.4	+0.3
	0.4nm,0.2s,SNR=7.9						
ESPR				S	Sn	09 18 53.3	-0.7
	1.0nm,0.1s,SNR=7.9						
ESPR	**Espera**	**1.64**	**329**	Pn	Pn	09 18 34.4	+0.3
	0.4nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**1.70**	**36**	P	Pn	09 18 33.5	-1.4
	0.8nm,0.3s,SNR=7.9						
EGUA				S	Sn	09 18 53.1	-2.4
	0.5nm,0.2s,SNR=7.9						
ERON	**Agron**	**1.75**	**27**	P	Pn	09 18 35.0	-0.7
	1.9nm,0.2s,SNR=7.9						
ERON				S	Sn	09 18 53.7	-3.1
	1.0nm,0.1s,SNR=7.9						
ELOJ	**Sierra Loja**	**1.76**	**17**	P	Pn	09 18 37.3	+1.5
	0.6nm,0.1s,SNR=7.9						
ELOJ				S	Sn	09 18 55.0	-2.0
	1.2nm,0.2s,SNR=7.9						
MIF	**Mishlifen**	**2.08**	**190**	*i* P	Pn	09 18 39.5	-0.7
MIF				*i* S	Sn	09 19 02.5	-2.4
ELUQ	**Luque**	**2.14**	**12**	P	Pn	09 18 40.1	-0.9
	1.8nm,0.2s,SNR=7.9						
ELUQ				S	Sn	09 19 06.5	+0.2
	3.2nm,0.2s,SNR=7.9						
CZD	**Col de Zad**	**2.43**	**185**	*i* P	Pn	09 18 45.0	-0.1
CZD				*i* S	Sn	09 19 11.5	-2.1
EADA	**Adamuz**	**2.71**	**4**	⇓P	Pn	09 18 48.2	-0.6
	1.9nm,0.2s,SNR=18						
EADA				S	Sn	09 19 18.3	-2.0
	2.4nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**2.71**	**4**	Pn	Pn	09 18 48.2	-0.6
	1.9nm,0.2s,SNR=18						
EADA				Lg		09 19 18.3	
	2.4nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.72**	**30**	P	Pn	09 18 50.2	+1.1
	1.2nm,0.1s,SNR=7.9						
EQES				S	Sn	09 19 19.7	-1.0
	1.0nm,0.1s,SNR=7.9						
EQES	**Quesada**	**2.72**	**30**	Pg	Pn	09 18 50.2	+1.2
	1.2nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.74**	**327**	⇓P	Pn	09 18 48.5	-0.8
	0.5nm,0.1s,SNR=18						
EMIN				S	Sn	09 19 17.8	-3.5
	6.5nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.74**	**327**	Pn	Pn	09 18 48.5	-0.8
	0.5nm,0.1s,SNR=18						
EMIN				Sn	Sn	09 19 17.8	-3.4
	6.5nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.98**	**315**	P	Pn	09 18 51.9	-0.7
	4.9nm,0.1s,SNR=27						
EGRO				S	Sn	09 19 24.0	-3.1
	0.2nm,0.1s,SNR=5.4						
EGRO	**El Granado**	**2.98**	**315**	Pn	Pn	09 18 51.9	-0.7
	4.9nm,0.1s,SNR=27						
EGRO				Sn	Sn	09 19 24.0	-3.1
	0.2nm,0.1s,SNR=5.4						
PBEJ	**Beja**	**3.54**	**317**	*e*Pn	Pn	09 19 00.1	-0.2
PBEJ				*e*Sn	Sn	09 19 37.2	-3.7
PBEJ							
	5.8nm,0.1s						
PBEJ	**Beja**	**3.54**	**317**	*e*Pn	Pn	09 19 00.1	-0.2
PBEJ				*e*Sn	Sn	09 19 37.2	-3.7
	5.8nm,0.1s						
MORF	**Marmelete**	**3.60**	**302**	*e*P	Pn	09 18 54.7	-6.4
MORF				*e*S	Sn	09 19 28.1	-14
MORF				*e*S	Sn	09 19 28.1	-14
MORF				AML	AML	09 19 35.9	
	comp=N,4.6nm,0.1s						
MORF	**Marmelete**	**3.60**	**302**	*e*P	Pn	09 18 54.7	-6.4
MORF				*e*S	Sn	09 19 28.1	-14
EBAD	**Badajoz**	**3.73**	**332**	P	Pn	09 19 02.1	-0.7
	comp=N,0.6nm,0.1s,SNR=30						
EBAD				S	Sn	09 19 42.1	-3.3
	comp=N,18nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.73**	**332**	Pn	Pn	09 19 02.1	-0.7
	comp=N,0.6nm,0.1s,SNR=30						
EBAD				Sn	Sn	09 19 42.1	-3.4
	comp=N,18nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	**3.77**	**305**	*e*Sn	Sn	09 19 43.6	-3.0
PTEO							
	comp=N,4.0nm,0.1s						
PTEO	**Sao Teotonio**	**3.77**	**305**	*e*Sn	Sn	09 19 43.6	-3.0
	comp=N,4.0nm,0.1s						
ETOB	**Tobarra**	**4.11**	**38**	P	Pn	09 19 07.6	-0.5
	comp=N,0.8nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.11**	**38**	Pn	Pn	09 19 07.6	-0.5
	comp=N,0.8nm,0.2s,SNR=7.9						
MOE	**Montemor**	**4.16**	**318**	*e*Sn	Sn	09 19 52.6	-3.6
ESDC	**Sonseca Array**	**4.26**	**9**	P	Pn	09 19 09.2	-0.9
	comp=N,0.6nm,0.1s,baz=195,slow=12,SNR=7.9						
ESDC				S	Sn	09 19 53.8	-4.8
	baz=186,slow=23,SNR=7.9						
ESDC	**Sonseca Array**	**4.26**	**9**	Pn	Pn	09 19 09.2	-0.9
	comp=N,0.6nm,0.1s,SNR=7.9						
ESDC				Sn	Sn	09 19 53.8	-4.7
	SNR=7.9						
PCBR	**Castelo Branco**	**4.85**	**335**	*e*Pn	Pn	09 19 17.6	-0.7
PCBR				*e*Sn	Sn	09 20 08.2	-5.0
PCBR							
	comp=N,8.7nm,0.2s						
PCBR	**Castelo Branco**	**4.85**	**335**	*e*Pn	Pn	09 19 17.6	-0.7
PCBR				*e*Sn	Sn	09 20 08.2	-5.0
	comp=N,8.7nm,0.2s						
PLOU	**Loures**	**4.86**	**316**	*e*Sn	Sn	09 20 09.9	-3.6
PLOU							
	comp=N,9.9nm,0.2s						
PLOU	**Loures**	**4.86**	**316**	*e*Sn	Sn	09 20 09.9	-3.6
	comp=N,9.9nm,0.2s						
PTOM	**Tomar**	**5.04**	**326**	*e*Pn	Pn	09 19 20.5	-0.3
PTOM				*e*Sn	Sn	09 20 13.0	-4.7
MTE	**Manteigas**	**5.38**	**337**	*e*Sn	Sn	09 20 21.0	-5.2
MTE							
	comp=N,3.9nm,0.4s						
MTE	**Manteigas**	**5.38**	**337**	*e*Sn	Sn	09 20 21.0	-5.2
	comp=N,3.9nm,0.4s						
PVIS	**Viseu**	**5.78**	**336**	*e*Pn	Pn	09 19 30.6	-0.4
PVIS				*e*Sn	Sn	09 20 31.0	-5.0
PVIS							
	comp=N,5.3nm,0.1s						
PVRL	**Vila Real**	**6.23**	**339**	*e*Pn	Pn	09 19 36.6	-0.7
PVRL				*e*Sn	Sn	09 20 41.8	-5.4
PVRL							
	comp=N,8.6nm,0.2s						
PBRG	**Braganca**	**6.51**	**347**	*e*Pn	Pn	09 19 40.3	-0.7
PBRG				*e*Sn	Sn	09 20 48.1	-5.9
PBRG							
	comp=N,2.1nm,0.1s						
ECAL	**Calabor**	**6.64**	**347**	P	Pn	09 19 42.4	-0.5
	comp=N,1.9nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**6.64**	**347**	Pn	Pn	09 19 42.4	-0.4
	comp=N,1.9nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.88**	**339**	P	Pn	09 19 45.5	-0.6
	comp=N,0.8nm,0.2s,SNR=7.9						
ELOB				S	Sn	09 20 57.1	-6.0
	comp=N,1.6nm,0.4s,SNR=7.9						
ELOB	**Lobios**	**6.88**	**339**	Pn	Pn	09 19 45.5	-0.6
	comp=N,0.8nm,0.2s,SNR=7.9						

*BJI **21** 09:28:35.2, 6180N×15030W, h51km, mB4.8, mb4.9, Ms4.7, Msz4.3*
*ISCJB **21** 09:28:36.5±0.3, 6184N±003×15032W±007, h64km±4km, mb4.2/13, Error ellipse: s-maj=5.9km s-min=5.2km az=86.5*
*NEIC **21** 09:28:38.2, 6180N×15034W, h51km, ML4.1(AEIC), ML4.3(PMR), After AEIC.*
NEIC Felt [IV] at Anchorage, Chickaloon and Willow; [III] at Chugiak, Eagle River, Elmendorf AFB, Talkeetna and Wasilla; [II] at Palmer.
*IDC **21** 09:28:41.5±1.2, 6206N×15020W, h94km±12km, mb3.6/9, mb1 3.8/13, mb1mx3.6/22, mbtmp3.9/13, MS3.1/2, Ms1 3.1/2, ms1mx2.5/21, Error ellipse: s-maj=15.9km s-min=9.3km az=107.0*
ISC 21 09:28:37.6±0.4, 6181N±003×15037W±007, h55km±5km, n46, σ1s04/56, mb4.2/13, MS4.2/2, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMR	**Palmer**	**0.63**	**110**	P	**Pn**	**09 28 50.1**	**-0.7**
PMR				S	**Sn**	**09 28 59.9**	**-0.3**
FIB	**Fire Island**	**0.66**	**172**	P	**Pn**	**09 28 51.6**	**+0.6**
FIB				S	**Sn**	**09 29 02.7**	**+1.9**
GHO	**Glory Hole Cre**	**0.69**	**93**	P	**Pn**	**09 28 51.4**	**0.0**
RC01	**Rabbit Creek A**	**0.79**	**157**	P	**Pn**	**09 28 52.0**	**-0.7**
RC01				S	**Sn**	**09 29 03.5**	**-0.2**
SML	**Sawmill**	**0.97**	**89**	P	**Pn**	**09 28 54.7**	**-0.3**
SML				S	**Sn**	**09 29 07.9**	**+0.1**
SLKM	**Skilak Lake**	**1.31**	**177**	*e*Pn	**Pn**	**09 28 59.2**	**-0.4**
KTH	**Kantishna Hill**	**1.77**	**352**	P	**Pn**	**09 29 06.4**	**+0.7**
SEW	**Seward**	**1.77**	**165**	P	**Pn**	**09 29 05.0**	**-0.9**
PAX	**Paxson**	**2.56**	**61**	P	**Pn**	**09 29 17.4**	**+0.7**
EYAK	**Cordova Ski Ar**	**2.57**	**117**	P	**Pn**	**09 29 15.9**	**-0.9**
SVW2	**Sparrevohn**	**2.60**	**256**	*e*Pn	**Pn**	**09 29 16.9**	**-0.3**
TT01	**Tatalina**	**2.85**	**295**	P	**Pn**	**09 29 20.4**	**-0.3**
TTA	**Tatalina**	**2.86**	**296**	*e*Pn	**Pn**	**09 29 20.3**	**-0.4**
BMRM	**Bremner River**	**2.90**	**104**	P	**Pn**	**09 29 20.2**	**-1.1**
MID	**Middleton Isla**	**3.11**	**139**	*e*P	**Pn**	**09 29 24.8**	**+0.6**
COLA	**College**	**3.27**	**19**	P	**Pn**	**09 29 26.5**	**+0.1**
MENT	**Mentasta**	**3.30**	**67**	*e*P	**Pn**	**09 29 27.2**	**+0.5**
ILAR	**Eielson Array**	**3.36**	**26**	P	**Pn**	**09 29 28.3**	**+0.7**
	35nm,0.3s,baz=212,slow=14,SNR=1994						
ILAR				S	**Sn**	**09 30 05.3**	**-0.9**
	51nm,0.3s,baz=215,slow=21,SNR=52						
KDAK	**Kodiak Island**	**4.20**	**196**	P	**Pn**	**09 29 46.2**	**+7.2**
	19nm,0.3s,baz=23,slow=11,SNR=30						
KDAK				S	**Sn**	**09 30 37.8**	**+11**
	23nm,0.3s,baz=290,slow=23,SNR=4.0						
KDAK	**Kodiak Island**	**4.20**	**196**	P	**Pn**	**09 29 39.0**	**-0.1**
KDAK				S	**Sn**	**09 30 37.8**	**+11**
KDAK	**Kodiak Island**	**4.20**	**196**	P	**Pn**	**09 29 46.2**	**+7.2**
IM3	**Indian Mountai**	**4.44**	**342**	P	**Pn**	**09 29 42.3**	**-0.1**
DAWY	**Dawson**	**5.50**	**61**	*e*Pn	**Pn**	**09 29 57.

comp=Z,54nm,4.5s
LZH LR LR
comp=N,307nm,15.3s
LZH LR LR
comp=Z,396nm,18.2s,MS4.7
AKASG **Malin Array Be 67.84 0** P **P 09 39 26.9 -2.9**
comp=Z,0.3nm,0.3s,mb3.8,baz=355,slow=6.1,SNR=4.0
KMI Kunming 75.73 296 P **P 09 40 16.9 -0.3**
KMI AP pP 09 40 32.1 -0.7
KMI XP sP 09 40 37.9 -1.0
KMI AMB AMB
comp=Z,15nm,0.5s,mb5.2
KMI LR LR
comp=Z,38nm,20.0s,MS3.7

IDC 21 10:17:17.8±9.8, 1475S×16750E, h126km±106km, mb3.4/3, mb1 3.6/4, mb1mx3.4/15, mbtmp3.9/4, ML4.1/1, Error ellipse: s-maj=216.2km s-min=66.1km az=88.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.35**	**188**	P	Pn	10 19 02.6	+0.1
	3.2nm,0.3s,baz=12,slow=9.3,SNR=30						
DZM				S	Sn	10 20 24.9	+0.7
	3.1nm,0.3s,baz=136,slow=23,SNR=8.3						
STKA	**Stephens Creek**	**29.15**	**230**	P	P	10 23 06.8	-0.1
	0.6nm,0.5s,baz=50,slow=6.7,SNR=5.7						
WRA	**Warramunga Arr**	**32.03**	**256**	P	P	10 23 32.6	+0.3
	0.5nm,0.8s,baz=86,slow=9.0,SNR=5.6						
ASAR	**Alice Springs**	**32.87**	**249**	P	P	10 23 40.2	+0.6
	0.9nm,0.6s,baz=78,slow=9.1,SNR=17						

JMA 21 10:33:34.6±0.2, 4406N×14839E, h0km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**2.04**	**251**	P	Pn	10 34 10.9	+0.7
NEM2				*e*S	Sn	10 34 37.0	+0.6
JNK	**Nakash**	**2.70**	**261**	P	Pn	10 34 20.4	+1.2
JAK	**Akkeshi**	**2.89**	**250**	P	Pn	10 34 23.0	+1.1
JAK				*e*S	Sn	10 34 58.9	+1.6
JAR	**Ashorobuto**	**3.44**	**259**	P	Pn	10 34 31.5	+2.1
JCH	**Churui**	**3.94**	**250**	P	Pn	10 34 38.1	+1.8
JCH				*e*S	Sn	10 35 25.5	+2.2
JNBK	**Urakawa-nobuka**	**4.49**	**249**	P	Pn	10 34 46.0	+2.1
JKB	**Kayabe**	**5.82**	**251**	P	Pn	10 35 03.7	+1.6

IDC 21 10:41:08.5±9.5, 337N×9612E, h71km±65km, mb3.2/4, mb1 3.3/5, mb1mx3.1/20, mbtmp3.4/5, ML2.9/1, Error ellipse: s-maj=141.5km s-min=22.3km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.86**	**101**	P	Pn	10 41 52.3	+0.5
	1.7nm,0.3s,baz=312,slow=12,SNR=6.7						
WRA	**Warramunga Arr**	**44.11**	**123**	P	P	10 49 09.8	+0.1
	0.3nm,0.5s,baz=300,slow=9.1,SNR=6.0						
MKAR	**Makanchi Array**	**44.90**	**347**	P	P	10 49 15.9	-0.1
	0.6nm,0.3s,baz=161,slow=9.2,SNR=16						
SONM	**Songino Array**	**45.18**	**10**	P	P	10 49 18.4	+0.2
	0.7nm,0.7s,baz=207,slow=5.0,SNR=4.2						
ASAR	**Alice Springs**	**45.57**	**128**	P	P	10 49 22.0	+0.7
	0.3nm,1.0s,baz=295,slow=8.0,SNR=4.1						

IDC 21 10:45:32.9±69.0, 1794S×17751E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/13, mbtmp4.0/3, Error ellipse: s-maj=1217.0km s-min=152.2km az=77.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**35.23**	**240**	P	P	10 52 29.0	+0.1
	1.1nm,0.6s,baz=77,slow=10,SNR=3.2						
WRA	**Warramunga Arr**	**40.80**	**260**	P	P	10 53 15.9	0.0
	0.4nm,0.3s,baz=94,slow=7.7,SNR=21						
ASAR	**Alice Springs**	**41.04**	**254**	P	P	10 53 18.6	+0.7
	3.1nm,0.5s,baz=90,slow=7.8,SNR=96						

*IDC **21** 10:50:30.9±2.0, 0.10N×9691E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/20, mbtmp3.7/7, ML3.0/1, Error ellipse: s-maj=62.6km s-min=19.6km az=64.0*
*ISCJB **21** 10:50:34.0±1.1, 02N±01×970E±02, h33km, mb3.8/7, Error ellipse: s-maj=25.8km s-min=13.9km az=154.8*
*NEIC **21** 10:50:35.5±0.8, 0.15N×9700E, h30km, mb3.9/1, Error ellipse: s-maj=20.1km s-min=10.7km az=76.0*
ISC 21 10:50:36.7±1.1, 02N±01×971E±02, h35km, n9, σ0§58/9, mb3.8/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.18**	**36**	Pn	**Pn**	**10 51 23.9**	**-0.3**
	1.5nm,0.3s,baz=196,slow=14,SNR=4.4						
KULM	**Kulim**	**6.19**	**35**	*e*Pn	**Pn**	**10 52 05.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**33.48**	**124**	P	**P**	**10 57 12.6**	**0.0**
	1.9nm,1.1s,mb4.0,baz=84,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**41.65**	**121**	P	**P**	**10 58 22.2**	**+0.6**
	0.7nm,0.5s,mb3.5,baz=303,slow=8.7,SNR=13						
ASAR	**Alice Springs**	**42.93**	**126**	P	**P**	**10 58 32.5**	**+0.6**
	0.8nm,0.5s,mb3.7,baz=294,slow=8.0,SNR=23						
SONM	**Songino Array**	**48.12**	**8**	P	**P**	**10 59 13.9**	**+0.8**
	0.4nm,0.5s,mb3.7,baz=188,slow=8.7,SNR=3.1						
MKAR	**Makanchi Array**	**48.16**	**346**	P	**P**	**10 59 13.3**	**-0.1**
	0.9nm,0.5s,mb4.0,baz=156,slow=7.7,SNR=13						
STKA	**Stephens Creek**	**52.81**	**131**	P	**P**	**10 59 47.3**	**-1.2**
	1.0nm,0.6s,mb3.9,baz=314,slow=12,SNR=3.8						
ZRNK	**Zerenda**	**57.52**	**340**	P	**P**	**11 00 22.2**	**-0.3**
	0.5nm,0.4s,mb3.9						

*CSEM **21** 10:56:36.8±0.3, 3802N×4278E, h15km, MD3.5, Error ellipse: s-maj=10.1km s-min=6.1km az=162.0*
*ISCJB **21** 10:56:37.2±0.5, 3815N±004×4277E±004, h15km, Error ellipse: s-maj=5.3km s-min=4.0km az=170.4*
*ISK **21** 10:56:37.3, 3811N×4268E, h26km, MD3.5, ML3.5*
ISC 21 10:56:37.1±0.9, 3807N±005×4278E±004, h9km±8km, n14, σ1§10/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANT	**Van**	**0.61**	**52**	PG	**Pg**	**10 56 48.6**	**-0.4**
VANT				SG	**Sg**	**10 56 58.3**	**+1.3**
TVAN	**Van**	**0.68**	**47**	*i* P	**Pg**	**10 56 50.9**	**+0.7**
TVAN				*i* S	**Sg**	**10 57 04.1**	**+5.0**
BTMT	**Batman**	**1.02**	**277**	PN	**Pg**	**10 56 56.5**	**-0.2**
BTMT				SN	**Sg**	**10 57 11.8**	**+1.7**
CUKT	**Cukurca**	**1.05**	**141**	PN	**Pn**	**10 56 57.4**	**-0.6**
CUKT				SN	**Sn**	**10 57 13.5**	**+0.8**
BEST	**Besiri**	**1.20**	**262**	*i* P	**Pb**	**10 56 59.3**	**-0.7**
BEST				*i* S	**Sg**	**10 57 15.7**	**-0.2**
BNGL	**BINGOL**	**1.55**	**305**	*i* P	**Pg**	**10 57 05.7**	**-1.2**
BNGL				*i* S	**Sg**	**10 57 28.1**	**+1.1**
MARD	**Mardin**	**1.75**	**245**	*i* P	**Pn**	**10 57 07.7**	**0.0**
MARD				*i* S	**Sn**	**10 57 31.7**	**+1.6**
DIY	**Diyarbakir**	**2.02**	**266**	PN	**Pn**	**10 57 10.1**	**-1.2**
ERZM	**Erzurum**	**2.14**	**330**	*i* P	**Pg**	**10 57 15.4**	**-2.8**
ERZM				*i* S	**Sg**	**10 57 45.8**	**-0.1**
EZM	**Erzurum**	**2.14**	**329**	PN	**Pn**	**10 57 11.7**	**-1.2**
DIGO	**Kars**	**2.39**	**11**	*i* P	**Pg**	**10 57 23.5**	**+0.5**
DIGO				*i* S	**Sg**	**10 58 03.8**	**+10**
ELZG	**Elazig**	**3.02**	**279**	*i* P	**Pn**	**10 57 24.5**	**-0.5**
ELZG				*i* S	**Sn**	**10 58 04.3**	**+3.1**
URFA	**Urfa**	**3.20**	**260**	*e*PN	**Pn**	**10 57 27.1**	**-0.4**
MYA	**Malataya**	**3.44**	**276**	*e*PN	**Pn**	**10 57 29.8**	**-1.0**

*NAO **21** 10:57:58.6, 51.12N×1522E, h33km, mb4.1*
*ISCJB **21** 10:58:00.1±0.1, 5147N±001×1604E±001, h0km, mb4.7/67, MS4.3/5, Error ellipse: s-maj=1.5km s-min=1.3km az=169.8*
*MOS **21** 10:58:00.9±1.3, 5152N×1595E, h10km, mb4.8/30, Error ellipse: s-maj=4.3km s-min=2.8km az=73.5*
*LDG **21** 10:58:00.7±0.1, 5150N×1631E, h1km, Ml5.1/38, Error ellipse: s-maj=3.4km s-min=2.4km az=158.0, Suspected Mining induced.*
*CSEM **21** 10:58:00.6, 5152N×1610E, h4km, mb4.6*
*BJI **21** 10:58:00.8, 5189N×1574E, h8km, mB4.8, mb4.8, Ms4.9, Msz4.4*
*IPEC **21** 10:58:01.7±0.3, 5154N×1644E, h0km, ML4.2/4, Error ellipse: s-maj=3.5km s-min=1.9km az=92.0*
*BGR **21** 10:58:01.1±0.5, 5152N×1620E, h1km, ML4.8, Error ellipse: s-maj=5.6km s-min=4.4km az=123.0*
*NEIC **21** 10:58:02.4±0.2, 5151N×1603E, h5km, mb4.8/34, ML4.5(STR), ML4.8(FUR), ML5.2(SZGRF), Error ellipse: s-maj=2.8km s-min=2.6km az=126.0*
*IDC **21** 10:58:02.9±1.5, 5150N×1599E, h6km±10km, mb4.1/15, mb1 4.2/25, mb1mx4.2/30, mbtmp4.1/25, ML4.1/10, MS2.8/2, Ms1 2.8/2, ms1mx2.3/29, Error ellipse: s-maj=8.2km s-min=6.2km az=83.0*
*WAR **21** 10:58:03.1, 5150N×1609E, ML4.1, Mining Induced*
*VIE **21** 10:58:03.8±0.5, 5135N×1599E, h0km, mb3.8/9, ML4.0/11, Ms4.6/1, Error ellipse: s-maj=3.2km s-min=2.4km az=171.0 76 km WNW of Breslau Suspected Mining induced.*
*PRU **21** 10:58:03.1, 5145N×1605E, h0km, M4.8, Felt In Dvur Kralove*
*STR **21** 10:58:05.4±0.4, 5085N×16.18E, h5km±1km, Ml4.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*UPP **21** 10:58:30.1, 5366N×1579E, h0km, ML3.5, Suspected Mining explosion.*
ISC 21 10:58:01.6±0.1, 51519N±0010×1607E±001, h0km, n466, σ1§22/591, mb4.7/67, MS4.3/5, 27C-19D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.69**	**168**	*i* Pgd	**Pg**	**10 58 15.4**	**+0.5**
KSP				*i* Sg	**Sg**	**10 58 24.3**	**+0.4**
KSP				*e*L		10 58 28.0	
KSP	**Ksiaz**	**0.69**	**168**	*e*Pg	**Pg**	**10 58 15.4**	**+0.5**
KSP				*e*Sg	**Sg**	**10 58 24.3**	**+0.4**
KSP				*e*S	**Sg**	**10 58 28.0**	**+4.1**
UPC	**Upice**	**1.01**	**182**	*e*PG	**Pg**	**10 58 21.4**	**+0.4**
UPC	**Upice**	**1.01**	**182**	P	**Pg**	**10 58 21.3**	**+0.3**
DPC	**Dobruska-Polom**	**1.18**	**172**	*e*PG	**Pg**	**10 58 24.2**	**-0.1**
DPC				*e*SG	**Sg**	**10 58 39.1**	**-0.5**
	2μm,0.7s						
DPC				AMS	AMS	10 58 50.0	
	18μm,2.5s						
DPC	**Dobruska-Polom**	**1.18**	**172**	*e*P	**Pg**	**10 58 24.2**	**-0.1**
DPC				*e*		10 58 39.1	
DPC				smax			
	comp=N,2μm,0.7s						
DPC				MLR	MLR		
	comp=Z,18μm,2.5s						
DPC	**Dobruska-Polom**	**1.18**	**172**	P	**Pg**	**10 58 23.0**	**-1.3**
DPC	**Dobruska-Polom**	**1.18**	**172**	*e*Pg	**Pg**	**10 58 24.1**	**-0.2**
DPC				*e*Sg	**Sg**	**10 58 38.8**	**-0.8**
DPC				*e*S	**Sg**	**10 58 39.1**	**-0.5**
	comp=Z,18μm,2.5s						
BRG	**Berggiesshubel**	**1.48**	**245**	*e*Pg	**Pg**	**10 58 29.0**	**-1.0**
BRG				*e*Sg	**Sg**	**10 58 50.7**	**+1.4**
BRG	**Berggiesshubel**	**1.48**	**245**	PN	**Pn**	**10 58 28.9**	**-0.6**
BRG				PG	**Pg**	**10 58 30.9**	**+0.8**
BRG				SG	**Sg**	**10 58 50.8**	**+1.5**
	comp=Z,1μm,0.5s						
BRG							
	comp=N,4μm,3.1s						
BRG							
	comp=E,3μm,4.6s						
BRG							
	comp=Z,5μm,4.5s						
BRG	**Berggiesshubel**	**1.48**	**245**	P	**Pn**	**10 58 29.0**	**-0.5**
BRG						10 58 50.8	
BRG				smax			
	comp=N,1μm,0.5s						
BRG				MLR	MLR		
	comp=N,4μm,3.1s						
BRG				MLR	MLR		
	comp=E,3μm,4.6s						
BRG				MLR	MLR		
	comp=Z,5μm,4.5s						
BRG	**Berggiesshubel**	**1.48**	**245**	P	**Pn**	**10 58 27.6**	**-1.9**
BRG	**Berggiesshubel**	**1.48**	**245**	Pg	**Pn**	**10 58 29.0**	**-0.5**
BRG				Sg	**Sg**	**10 58 50.7**	**+1.4**
RUE	**Ruedersdorf**	**1.71**	**305**	*e*Pg	**Pg**	**10 58 32.2**	**-2.2**
RUE				*e*Sg	**Sg**	**10 58 58.8**	**+2.3**
PRA	**Prague**	**1.78**	**216**	PG	**Pg**	**10 58 34.0**	**-1.8**
PRA				SG	**Sg**	**10 59 00.0**	**+1.1**
PRU	**Pruhonice**	**1.81**	**213**	*e*PN	**Pn**	**10 58 33.8**	**-0.3**
PRU				*e*PG	**Pg**	**10 58 35.3**	**-1.1**
PRU				*e*SG	**Sg**	**10 58 58.4**	**-1.5**
	comp=Z,3μm,1.0s						
PRU				AMS	AMS	10 59 10.0	
	comp=Z,7μm,4.8s						
PRU	**Pruhonice**	**1.81**	**213**	*e*P	**Pn**	**10 58 33.8**	**-0.3**
PRU				*e*		10 58 58.4	
PRU				smax			
	comp=N,3μm,1.0s						
PRU				MLR	MLR		
	comp=Z,7μm,4.8s						
PRU	**Pruhonice**	**1.81**	**213**	P	**Pn**	**10 58 32.6**	**-1.5**
PRU	**Pruhonice**	**1.81**	**213**	*e*Pg	**Pg**	**10 58 35.3**	**-1.1**
PRU				*e*Sg	**Sg**	**10 58 58.4**	**-1.5**
	comp=Z,3μm,1.0s						
GKP	**Gorka Klasztor**	**1.89**	**22**	*e*Pn	**Pn**	**10 58 36.0**	**+0.8**
GKP				*e*Pg	**Pg**	**10 58 42.5**	**+4.6**
GKP				*e*Sn	**Sn**	**10 59 05.6**	**+5.8**
CLL	**Collm**	**1.93**	**265**	*e*Pn	**Pn**	**10 58 35.2**	**-0.5**
CLL				*e*Sg	**Sg**	**10 59 05.3**	**+1.7**
CLL	**Collm**	**1.93**	**265**	*i*Pn	**Pn**	**10 58 35.2**	**-0.5**
	comp=Z,153nm,0.5s						
CLL				*e*Pg	**Pg**	**10 58 39.0**	**+0.4**
CLL				*ex*	x	10 58 43.0	
CLL				*e*Sn	**Sn**	**10 58 57.0**	**-3.6**
CLL				*e*Sg	**Sg**	**10 59 05.0**	**+1.4**
	comp=Z,1μm,0.8s						
CLL	**Collm**	**1.93**	**265**	P	**Pn**	**10 58 34.1**	**-1.6**
CLL	**Collm**	**1.93**	**265**	Pn	**Pn**	**10 58 35.2**	**-0.5**
CLL				*e*S	**Sn**	**10 58 57.0**	**-3.6**
CLL				Sg	**Sg**	**10 59 05.3**	**+1.7**
RAC	**Raciborz**	**1.97**	**136**	*e*P	**Pn**	**10 58 35.2**	**-1.1**
RAC				*e*		10 59 05.5	
RAC	**Raciborz**	**1.97**	**136**	*e*Pg	**Pg**	**10 58 39.2**	**-0.2**
RAC				*e*Sg	**Sg**	**10 59 05.5**	**+0.5**
MORC	**Moravsky Berou**	**1.98**	**151**	*i*P	**Pn**	**10 58 35.8**	**-0.6**
MORC	**Moravsky Berou**	**1.98**	**151**	*i*Pn	**Pn**	**10 58 35.7**	**-0.6**
MORC				*e*Sn	**Sn**	**10 59 00.8**	**-1.1**
MORC	**Moravsky Berou**	**1.98**	**151**	*i*Pn	**Pn**	**10 58 35.7**	**-0.7**
MORC				*e*Sn	**Sn**	**10 59 00.8**	**-1.1**
MORC				*e*Sg	**Sg**	**10 59 01.2**	**-4.1**
OKC	**Ostrava-Krasne**	**2.14**	**141**	*e*PG	**Pg**	**10 58 41.5**	**-1.2**
OKC				*e*SG	**Sg**	**10 59 08.5**	**-1.9**
OKC				AMS	AMS	10 59 20.0	
	comp=Z,4μm,4.2s						
OKC	**Ostrava-Krasne**	**2.14**	**141**	P	**Pn**	**10 58 36.5**	**-2.1**
OKC	**Ostrava-Krasne**	**2.14**	**141**	*e*Pg	**Pg**	**10 58 41.5**	**-1.2**
OKC				*e*Sg	**Sg**	**10 59 08.5**	**-1.9**
VRAC	**Vranov**	**2.24**	**171**	Pn	**Pn**	**10 58 39.8**	**-0.1**
	comp=Z,30nm,0.3s,baz=344,slow=15,SNR=101						
VRAC				Lg		10 59 11.8	
	comp=Z,91nm,0.3s,baz=251,slow=23,SNR=6.4						
VRAC	**Vranov**	**2.24**	**171**	*i*P	**Pn**	**10 58 39.7**	**-0.2**
VRAC	**Vranov**	**2.24**	**171**	P	**Pn**	**10 58 39.8**	**-0.1**
VRAC				pmax	pmax		
	comp=Z,30nm,0.3s						
VRAC				MLR	MLR		
	comp=N,91nm,0.3s						
VRAC	**Vranov**	**2.24**	**171**	P	**Pn**	**10 58 39.6**	**-0.4**
VRAC	**Vranov**	**2.24**	**171**	*e*Pn	**Pn**	**10 58 39.8**	**-0.1**
VRAC				*e*Sg	**Sg**	**10 59 10.8**	**-2.8**
	comp=N,1μm,0.6s						
TREC	**Trest**	**2.26**	**190**	*e*PN	**Pn**	**10 58 40.2**	**0.0**
TREC				*e*PG	**Pg**	**10 58 44.0**	**-0.9**
KRUC	**Moravsky**	**2.47**	**175**	P	**Pn**	**10 58 42.3**	**-0.8**
KRUC				*e*Sg	**Sg**	**10 59 19.3**	**-1.7**
	comp=N,501nm,0.4s						
WERD	**Werda**	**2.61**	**247**	*e*Pn	**Pn**	**10 58 45.2**	**+0.2**
WERD				*e*Sg	**Sg**	**10 59 25.9**	**+0.5**
NKC	**Novy Kostel**	**2.63**	**242**	*e*PN	**Pn**	**10 58 46.0**	**+0.7**
NKC				*e*SG	**Sg**	**10 59 26.4**	**+0.3**
	comp=N,2μm,0.9s						
NKC				AMS	AMS	10 59 40.0	
	comp=N,5μm,5.1s						
NKC	**Novy Kostel**	**2.63**	**242**	P	**Pn**	**10 58 44.8**	**-0.5**
NKC	**Novy Kostel**	**2.63**	**242**	*e*Pn	**Pn**	**10 58 46.0**	**+0.7**
NKC				*e*Sg	**Sg**	**10 59 26.4**	**+0.3**
	comp=N,2μm,0.9s						
OJC	**Ojcow**	**2.70**	**117**	*i* Pnd		10 58 44.1	
OJC				*i* Pg	**Pg**	**10 58 52.7**	**-0.6**
OJC				*i* Sn	**Sn**	**10 59 16.9**	**-2.7**
OJC				*i* Sg	**Sg**	**10 59 28.1**	**-0.2**
OJC	**Ojcow**	**2.70**	**117**	*i* P	**Pn**	**10 58 44.1**	**-2.1**
OJC				*i*		10 59 16.9	
OJC	**Ojcow**	**2.70**	**117**	*i* Pg	**Pg**	**10 58 52.7**	**-0.6**
OJC				*i* Sn	**Sn**	**10 59 16.9**	**-2.7**
OJC				*i* Sg	**Sg**	**10 59 28.1**	**-0.2**
JAVC	**Velka Javorina**	**2.86**	**158**	P	**Pn**	**10 58 49.3**	**+0.9**
JAVC				*e*Sg	**Sg**	**10 59 32.5**	**-0.9**
	comp=N,3μm,1.3s						
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PN	**Pn**	**10 58 48.5**	**-0.2**
KHC				*e*PG	**Pg**	**10 58 54.8**	**-1.9**
KHC				*e*SG	**Sg**	**10 59 33.2**	**-0.8**
KHC				AMS	AMS	10 59 50.0	
	comp=N,3μm,5.1s						
KHC	**Kasperske Hory**	**2.87**	**215**	P	**Pn**	**10 58 47.3**	**-1.4**
MOX	**Moxa**	**2.94**	**254**	*e*Pn	**Pn**	**10 58 49.6**	**0.0**
MOX				*e*Sg	**Sg**	**10 59 37.3**	**+1.3**
MOX	**Moxa**	**2.94**	**254**	*e*PN	**Pn**	**10 58 49.5**	**-0.1**
MOX				*e*PG	**Pg**	**10 58 57.6**	**-0.4**
MOX				*e*SG	**Sg**	**10 59 37.7**	**+1.6**
	comp=Z,700nm,11.0s						
MOX	**Moxa**	**2.94**	**254**	P	**Pn**	**10 58 48.4**	**-1.2**
MANZ	**Manzenberg**	**2.94**	**240**	*e*Pn	**Pn**	**10 58 50.3**	**+0.6**
ROTZ	**Rotzenmuhle**	**3.02**	**236**	*e*Pn	**Pn**	**10 58 50.8**	**+0.2**
ROTZ				*e*Sg	**Sg**	**10 59 37.8**	**-0.8**
GEC2	**GERESS Array S**	**3.08**	**211**	*e*Pn	**Pn**	**10 58 51.6**	**+0.1**
GERES	**GERESS Array B**	**3.08**	**211**	Pn	**Pn**	**10 58 51.7**	**+0.2**
	comp=Z,31nm,0.3s,baz=32,slow=12,SNR=400						
GERES				Pg	**Pg**	**10 58 58.3**	**-2.4**
	comp=Z,51nm,0.3s,baz=28,slow=17,SNR=66						
GERES				Lg		10 59 38.2	
	comp=Z,99nm,0.3s,baz=28,slow=30,SNR=9.9						
GERES				LR	LR	11 00 17.3	
	comp=Z,161nm,18.2s,baz=270,slow=44						
GERES	**GERESS Array B**	**3.08**	**211**	Pg	**Pg**	**10 58 58.2**	**-2.4**
SMOL	**Smolenice**	**3.13**	**163**	*e*PN	**Pn**	**10 58 53.3**	**+1.1**
SMOL				*e*PG	**Pg**	**10 59 01.2**	**-0.5**
SMOL				*e*SG	**Sg**	**10 59 43.4**	**+1.1**
WET	**Wettzell**	**3.13**	**222**	*e*Pn	**Pn**	**10 58 52.3**	**+0.1**
WET	**Wettzell**	**3.13**	**222**	P	**Pn**	**10 58 51.4**	**-0.8**
LIKS	**Likavka**	**3.15**	**141**	*e*PN	**Pn**	**10 58 53.5**	**+1.1**
LIKS				*e*PG	**Pg**	**10 59 01.7**	**-0.3**
LIKS				*e*SG	**Sg**	**10 59 44.7**	**+1.9**
LIKS	**Likavka**	**3.15**	**141**	*e*Pn	**Pn**	**10 58 53.6**	**+1.2**
ZST	**Bratislava**	**3.39**	**168**	*e*PN	**Pn**	**10 58 56.2**	**+0.4**
ZST				*e*PG	**Pg**	**10 59 05.2**	**-1.5**
ZST				*e*SG	**Sg**	**10 59 48.4**	**-2.3**
NIE	**Niedzica**	**3.43**	**126**	*e*Pn	**Pn**	**10 58 56.3**	**0.0**
NIE				*e*Pg	**Pg**	**10 59 06.5**	**-0.9**
NIE				*e*Sg	**Sg**	**10 59 50.8**	**-1.1**
RGN	**Rugen**	**3.46**	**332**	Pn	**Pn**	**10 58 58.0**	**+1.3**
CLZ	**Clausthal**	**3.56**	**277**	*e*Pn	**Pn**	**10 58 58.6**	**+0.5**
GRA1	**Grafenberg Arr**	**3.59**	**241**	Pn	**Pn**	**10 58 58.9**	**+0.4**
GRF	**Grafenberg Arr**	**3.59**	**241**	*e*Pn	**Pn**	**10 58 58.9**	**+0.5**
GRFO	**Grafenberg**	**3.59**	**241**	P	**Pn**	**10 58 59.0**	**+0.5**
BSD	**Bornholm Skovb**	**3.67**	**350**	⇑*i*P	**Pn**	**10 58 59.0**	**-0.6**
BSD				*i*		10 59 04.7	
BSD				*i* S	**Sn**	**10 59 39.7**	**-3.8**
BSD				*i* S	**Sg**	**10 59 56.5**	**-2.9**
BSD	**Bornholm Skovb**	**3.67**	**350**	*i* P	**Pn**	**10 58 59.0**	**-0.6**
BSD				*i* S	**Sn**	**10 59 39.7**	**-3.8**
GTTG	**Gvttingen**	**3.81**	**273**	*e*Pn	**Pn**	**10 59 01.7**	**+0.1**
SOP	**Sopron**	**3.85**	**175**	P	**Pn**	**10 59 01.4**	**-0.7**
MOA	**Molln**	**3.85**	**198**	*i* Pn	**Pn**	**10 59 02.3**	**+0.2**
	SNR=148						
MOA				⇑*i*Sg	**Sg**	**11 00 06.4**	**+0.9**
	comp=Z,646nm,0.9s						
HROE	**Hohe Rhon--Fla**	**3.86**	**258**	⇓*i*Pn	**Pn**	**10 59 02.7**	**+0.5**
UBBA	**Unterbreizbach**	**3.88**	**262**	*e*Pn	**Pn**	**10 59 02.6**	**+0.1**
STHS	**Stebnicka Huta**	**3.92**	**120**	*e*PN	**Pn**	**10 59 03.0**	**0.0**
STHS				*e*PG	**Pg**	**10 59 16.6**	**-0.1**
STHS				*e*SG	**Sg**	**11 00 11.7**	**+4.1**
STHS	**Stebnicka Huta**	**3.92**	**120**	P	**Pn**	**10 59 02.9**	**-0.1**
SRO1	**Iza**	**4.02**	**159**	*e*PG	**Pg**	**10 59 18.3**	**-0.3**
SRO1				*e*SG	**Sg**	**11 00 11.2**	**+0.6**
SRO2	**Moca**	**4.05**	**157**	*e*SG	**Sg**	**11 00 14.7**	**+2.9**
KECS	**Kecovo**	**4.17**	**135**	*e*PN	**Pn**	**10 59 05.2**	**-1.2**
KECS				*e*PG	**Pg**	**10 59 21.1**	**-0.4**
KECS				*e*SG	**Sg**	**11 00 13.8**	**-1.7**
KECS	**Kecovo**	**4.17**	**135**	P	**Pn**	**10 59 05.6**	**-0.8**
BSEG	**Bad Segeberg**	**4.25**	**307**	*e*Pn	**Pn**	**10 59 06.1**	**-1.4**
PENC	**Penc**	**4.28**	**150**	⇓*e*P	**Pn**	**10 59 08.3**	**+0.4**
ARSA	**Arzberg**	**4.29**	**185**	⇑*i*Pn	**Pn**	**10 59 08.4**	**+0.4**
	SNR=33						
ARSA				⇑*i*Sg	**Sg**	**11 00 18.3**	**-1.1**
	comp=Z,1μm,1.4s						
RMOA	**Moar Alm**	**4.30**	**210**	⇓*i*Pn	**Pn**	**10 59 09.2**	**+1.0**
CRVS	**Cervenica-Dubn**	**4.34**	**125**	*e*PN	**Pn**	**10 59 08.5**	**-0.4**
CRVS				*e*PG	**Pg**	**10 59 24.8**	**-0.1**
CRVS				*e*SG	**Sg**	**11 00 21.0**	**-0.2**
CRVS	**Cervenica-Dubn**	**4.34**	**125**	P	**Pn**	**10 59 10.2**	**+1.3**
PSZ	**Piszkesteto**	**4.38**	**144**	⇑*i*Pn	**Pn**	**10 59 09.6**	**+0.3**
PSZ				*e*Sn	**Sn**	**10 59 59.5**	**-1.5**
PSZ	**Piszkesteto**	**4.38**	**144**	⇑*i*Pn	**Pn**	**10 59 09.6**	**+0.3**
PSZ				*e*Sn	**Sn**	**10 59 59.5**	**-1.5**
PKSG		**4.40**	**159**	⇓*e*P	**Pn**	**10 59 09.5**	**-0.1**
BUD	**Budapest**	**4.47**	**153**	P	**Pn**	**10 59 10.2**	**+0.5**
FUR	**Furstenfeldbru

LVV L'vov 5.34 105 *e*P **Pn 10 59 23.5 +0.9**
LVV eS **Sn 11 00 25.3 +0.5**
LVV MLR MLR
comp=E,1μm,1.7s
LVV MLR MLR
comp=N,1μm,1.5s
LVV MLR MLR
comp=Z,1μm,1.8s
LVV L'vov 5.34 105 *e*P **Pn 10 59 21.0 -1.6**
SQTA Sankt Quirin 5.34 218 *i* Pn **Pn 10 59 23.7 +1.0**
SNR=49
SQTA ⇑*i*Sg **Sg 11 00 54.9 +1.6**
comp=Z,197nm,0.9s
ZOU Zoufplan 5.37 203⇑*e*P **Pn 10 59 24.0 +1.1**
DOBS Dobrina 5.39 184 *e*Pn **Pn 10 59 24.3 +1.1**
DOBS eSn **Sb 11 00 41.6 -0.2**
PKS6 Bocsa 5.43 154⇓*e*P **Pn 10 59 24.0 +0.2**
UBR Ueberruh 5.46 228 P **Pn 10 59 23.9 -0.2**
LBG Lerchenberg 5.48 241 P **Pn 10 59 23.5 -1.0**
BUG Bochum--Univer 5.50 273 *e*Pn **Pn 10 59 25.0 +0.3**
BUG Bochum--Univer 5.50 273 P **Pn 10 59 24.2 -0.5**
KTD Kalmit 5.56 250 P **Pn 10 59 24.8 -0.7**
LJU Ljubljana 5.57 191 *e*Pn **Pn 10 59 26.3 +0.6**
PKSM Moragy 5.58 161⇑*i*P **Pn 10 59 25.8 0.0**
PKSM Moragy 5.58 161 P **Pn 10 59 26.0 +0.2**
PKSM Moragy 5.58 161 P **Pn 10 59 26.7 +0.9**
RHK1 Bakonya 5.59 166⇑*i*P **Pn 10 59 26.6 +0.6**
BAD Bernadia 5.61 200⇑*e*P **Pn 10 59 27.0 +0.8**
HLG Helgoland 5.63 301 *e*Pn **Pn 10 59 26.4 -0.1**
ABH Alteburg 5.66 256 P **Pn 10 59 27.4 +0.5**
ABH S **Sn 11 00 36.2 +3.7**
GUT Gutenstein 5.67 235 P **Pn 10 59 26.7 -0.4**
VOY Vojsko 5.68 195 *e*Pn **Pn 10 59 27.2 0.0**
VOY *e* 10 59 52.7
VOY *e* 11 01 05.6
CRES Cresnjev 5.71 184 P **Pn 10 59 28.8 +1.1**
WTSB Winterswijk 5.78 278 *e*P **Pn 10 59 28.9 +0.4**
comp=Z,82nm,1.3s
DAVA Damuels 5.85 226 *i* Pn **Pn 10 59 29.5 -0.1**
SNR=24
DAVA ⇑*i*Sg **Sg 11 01 12.1 +2.5**
comp=Z,392nm,1.2s
LANF Langenberg 5.88 248 P **Pn 10 59 28.8 -1.1**
LANF S **Sn 11 00 39.5 +1.5**
CEY Cerknica 5.89 191 P **Pn 10 59 31.6 +1.5**
BFO Black Forest 5.93 240 *e*Pn **Pn 10 59 29.3 -1.4**
BFO *e*Sg **Sg 11 01 10.8 -1.2**
BFO Black Forest 5.93 240 *e*Pn **Pn 10 59 30.7 +0.1**
BFO *e*Sg **Sg 11 01 13.8 +1.8**
FAU Forcella Aurin 5.94 209⇓*e*P **Pn 10 59 33.0 +2.2**
RUP Ruppelstein 6.01 256 P **Pn 10 59 32.2 +0.4**
BOJS Bojanci 6.04 185 *e*Pn **Pn 10 59 32.9 +0.6**
DAVOX Davos 6.24 225 Pn **Pn 10 59 35.4 +0.5**
comp=Z,4.6nm,0.3s,baz=54,slow=13,SNR=48
DAVOX Lg 11 01 20.8
comp=Z,4.3nm,0.3s,baz=151,slow=22,SNR=4.4
BRMO Bormio 6.28 219 P **Pn 10 59 37.1 +1.6**
comp=Z,53nm,1.2s
KIZ Kirchzarten 6.37 239 P **Pn 10 59 35.5 -1.2**
FELD Feldberg im Sc 6.38 238 P **Pn 10 59 34.4 -2.4**
FELD Sn **Sn 11 00 49.2 -1.1**
MUD Monsted U'grnd 6.40 323 *i* P **Pn 10 59 40.5 +3.4**
MUD eS **Sn 11 00 47.2 -3.7**
MEM Membach 6.41 266 P **Pn 10 59 37.6 +0.4**
HGN Heimansgroeve 6.42 267 *e*P **Pn 10 59 39.2 +1.7**
DRGR 6.43 135⇓*i*P **Pn 10 59 37.2 -0.3**
DRGR 6.43 135⇓P **Pn 10 59 37.4 -0.1**
DRGR 6.43 135 P **Pn 10 59 37.8 +0.3**
DRGR 6.43 135 P **Pn 10 59 37.8 +0.3**
CDF Champ du Feu 6.47 245 *e*Pn **Pn 10 59 36.8 -1.2**
CDF *e*Sg **Sg 11 01 25.4 -3.9**
comp=Z,960nm,1.2s
CDF Champ du Feu 6.47 245 *e*Pn **Pn 10 59 36.8 -1.2**
CDF *e*Sg **Sg 11 01 25.4 -3.9**
comp=Z,480nm,1.2s
BEBN Eben Emael 6.58 268 P **Pn 10 59 40.7 +1.2**
BEBN S **Sg 11 01 31.8 -1.1**
WLF Walferdange 6.58 257 P **Pn 10 59 39.7 +0.1**
WLF AP 10 59 41.0
WLF XP 10 59 42.2
WLF S **Sg 11 01 33.3 +0.3**
WLF Walferdange 6.58 257 *e*P **Pn 10 59 39.5 -0.1**
WLF pmax pmax
comp=Z,59nm,1.0s
WLF Walferdange 6.58 257 *e*Pn **Pn 10 59 39.5 -0.1**
comp=Z,59nm,1.0s
WLF *e*Sg **Sg 11 01 36.1 +3.2**
WLF Walferdange 6.58 257 *e*P **Pn 10 59 39.5 -0.1**
comp=Z,59nm,1.0s
WLF Walferdange 6.58 257 *e*Pn **Pn 10 59 39.5 -0.1**
comp=Z,59nm,1.0s
MABI Malga Bissina 6.58 216 P **Pn 10 59 41.6 +2.0**
comp=Z,32nm,1.0s
ECH Echery 6.64 244 P **Pn 10 59 38.3 -2.1**
BZS Buzias 6.96 146⇑*i*P **Pn 10 59 44.7 -0.1**
BZS Buzias 6.96 146 P **Pn 10 59 45.2 +0.4**
BZS Buzias 6.96 146 P **Pn 10 59 45.5 +0.7**
HINF Hinteralfeld 7.03 242 *e*Pn **Pn 10 59 45.0 -0.8**
HINF *e*Sg **Sg 11 01 44.3 -3.2**
comp=Z,672nm,1.1s
HINF Hinteralfeld 7.03 242 *e*Pn **Pn 10 59 45.0 -0.8**
HINF *e*Sg **Sg 11 01 44.3 -3.2**
comp=Z,336nm,1.1s
BURAR Bucovina Array 7.12 120⇑*i*P **Pn 10 59 46.9 -0.1**
BURAR Bucovina Array 7.12 120 ⇑P **Pn 10 59 46.9 -0.1**
IIGN Ignalina 7.18 54 *e*P **Pn 10 59 48.5 +0.7**
HAU Haudompre 7.21 245 *e*Pn **Pn 10 59 48.5 +0.3**
HAU *e*Sg **Sg 11 01 49.2 -3.9**
comp=Z,1μm,1.5s
ISAL Salakas 7.24 52 *e*P **Pn 10 59 48.7 +0.1**
ISAL *e*S **Sg 11 01 53.9 -0.1**
GIVF Givet 7.26 263 *e*Pn **Pn 10 59 49.6 +0.6**
GIVF *e*Sg **Sg 11 01 52.0 -2.9**
comp=Z,778nm,1.2s
THEF They Montfort 7.30 247 P **Pn 10 59 49.0 -0.5**
IZAR Zarasai 7.39 51 *e*P **Pn 10 59 51.4 +0.8**
IZAR *e*S **Sg 11 02 05.0 +6.2**
UCC Uccle 7.40 269 P **Pn 10 59 52.5 +1.7**
UCC E 11 01 49.0
RFYF Reffroy 7.40 251 *e*Pn **Pn 10 59 48.7 -2.2**
RFYF *e*Sg **Sg 11 01 56.7 -2.7**
comp=Z,1μm,1.4s
RFYF Reffroy 7.40 251 *e*Pn **Pn 10 59 48.7 -2.2**
RFYF *e*Sg **Sg 11 01 56.7 -2.7**
comp=Z,654nm,1.4s
DOU Dourbes 7.41 263 P **Pn 10 59 51.7 +0.7**
DOU AP 10 59 53.2
DOU Dourbes 7.41 263 P **Pn 10 59 51.6 +0.6**
IDID Didziasalis 7.42 55 *e*P **Pn 10 59 51.1 -0.1**
SNF Seneffe 7.50 267 P **Pn 10 59 53.0 +0.8**
BAIF Baives 7.66 264 *e*Pn **Pn 10 59 55.9 +1.5**
BAIF *e*Sg **Sg 11 02 04.3 -3.3**
comp=Z,306nm,1.0s
MNK Minsk 7.70 63 *e*P **Pn 10 59 51.0 -4.0**
MEZF Maizieres J'vi 7.71 251 *e*Pn **Pn 10 59 54.0 -1.1**
MEZF *e*Sg **Sg 11 02 06.0 -3.3**
comp=Z,738nm,1.3s
MEZF Maizieres J'vi 7.71 251 *e*Pn **Pn 10 59 54.0 -1.1**
MEZF *e*Sg **Sg 11 02 06.0 -3.3**
comp=Z,369nm,1.3s
SFTF Sexfontaines 7.86 249 *e*Pn **Pn 10 59 55.6 -1.6**
SFTF *e*Sg **Sg 11 02 10.3 -3.7**
comp=Z,1μm,1.3s
SFTF Sexfontaines 7.86 249 *e*Pn **Pn 10 59 55.6 -1.6**
SFTF *e*Sg **Sg 11 02 10.3 -3.7**
comp=Z,614nm,1.3s
DIVS Divcibare 7.88 159 *i* Pn **Pn 11 00 03.6 +6.2**
CABF La Chapelle 8.19 237 *e*Pn **Pn 11 00 00.0 -1.6**
CABF *e*Sg **Sg 11 02 20.1 -4.4**
comp=Z,2μm,1.4s
CABF La Chapelle 8.19 237 *e*Pn **Pn 11 00 00.0 -1.6**
CABF *e*Sg **Sg 11 02 20.1 -4.4**
comp=Z,758nm,1.4s
GRUS Gruza 8.25 156 *i* Pn **Pn 11 00 04.1 +1.6**
AKASG Malin Array Be 8.32 90 Pn **Pn 11 00 01.4 -2.2**
comp=Z,16nm,0.3s,baz=282,slow=12,SNR=32
AKASG Sn **Sn 11 01 32.2 -6.0**
comp=Z,7.8nm,0.3s,baz=274,slow=23,SNR=5.2
AKASG Lg 11 02 29.1
comp=Z,3.0nm,0.3s,baz=280,slow=27,SNR=4.6
AKASG Malin Array Be 8.32 90 P **Pn 11 00 01.4 -2.1**
AKASG 11 01 32.2
AKASG pmax pmax
comp=Z,16nm,0.3s
AKASG smax
comp=N,8.0nm,0.3s
AKASG MLR MLR
comp=N,3.0nm,0.3s
AKASG Malin Array Be 8.32 90 Pn **Pn 11 00 01.4 -2.2**
AKASG Sn **Sn 11 01 32.2 -6.0**
AKASG Lg 11 02 29.1
LPL La Plagne 8.62 230 *e*Pg **Pg 11 00 45.6 -1.2**
LPL *e*Sg **Sg 11 02 34.6 -3.9**
comp=N,404nm,1.3s
LPL La Plagne 8.62 230 *e*Pn **Pn 11 00 08.3 +0.6**
LPL *e*Pg **Pg 11 00 45.6 -1.2**
LPL *e*Sg **Sg 11 02 34.6 -3.9**
LPG La Plagne 8.63 229 *e*Pg **Pg 11 00 46.8 -0.1**
LPG *e*Sg **Sg 11 02 35.3 -3.4**
comp=N,543nm,1.4s
LPG La Plagne 8.63 229 *e*Pn **Pn 11 00 07.7 0.0**
LPG *e*Pg **Pg 11 00 46.8 -0.1**
LPG *e*Sg **Sg 11 02 35.3 -3.4**
HFS Hagfors 8.74 352 Pn **Pn 11 00 07.4 -1.8**
comp=N,1.4nm,0.3s,baz=173,slow=13,SNR=52
HFS Sn **Sn 11 01 44.4 -4.0**
comp=N,2.6nm,0.3s,baz=161,slow=24,SNR=5.3
HFS Lg 11 02 39.6
comp=N,1.2nm,0.3s,baz=171,slow=30,SNR=2.1
HFS Hagfors 8.74 352 P **Pn 11 00 07.4 -1.8**
HFS 11 01 44.4
HFS pmax pmax
comp=Z,1.0nm,0.3s
HFS smax
comp=N,3.0nm,0.3s
HFS MLR MLR
comp=N,1.0nm,0.3s
MLR Muntele Rosu 8.91 129 Pn **Pn 11 00 12.0 +0.5**
comp=N,0.6nm,0.3s,baz=153,slow=10,SNR=3.7
MLR Muntele Rosu 8.91 129 P **Pn 11 00 12.0 +0.5**
MLR pmax pmax
comp=Z,1.0nm,0.3s
KONO Kongsberg 8.93 338 *e*P **Pn 11 00 08.3 -3.5**
BNI Bardonecchia 9.00 228 *e*P **Pn 11 00 13.2 +0.4**
BNI pmax pmax
comp=Z,28nm,1.3s
BNI Bardonecchia 9.00 228 *e*Pn **Pn 11 00 13.2 +0.5**
comp=Z,28nm,1.3s
BNI Bardonecchia 9.00 228 *e*P **Pn 11 00 13.2 +0.4**
comp=Z,28nm,1.3s
LOR Lormes 9.02 247 *e*Pn **Pn 11 00 11.4 -1.7**
LOR *e*Sg **Sg 11 02 46.4 -4.9**
comp=Z,298nm,1.2s
LOR Lormes 9.02 247 *e*Pn **Pn 11 00 11.4 -1.7**
LOR *e*Sg **Sg 11 02 46.4 -4.9**
comp=Z,149nm,1.2s
MBDF Montbardon 9.21 226 *e*Pn **Pn 11 00 15.7 +0.1**
MBDF *e*Sg Sn 11 02 51.8 +52
comp=Z,244nm,1.3s
VSU Vasula 9.26 37 P **Pn 11 00 15.3 -1.1**
SSF Saint Saulge 9.34 246 *e*Pn **Pn 11 00 15.7 -1.7**
SSF *e*Sg Sn 11 02 55.5 +52
comp=Z,270nm,1.2s
SSF Saint Saulge 9.34 246 *e*Pn **Pn 11 00 15.7 -1.7**
SSF *e*Sg Sn 11 02 55.5 +52
comp=Z,135nm,1.2s
AQU L'Aquila 9.35 192 *i* P **Pn 11 00 17.4 -0.2**
AQU pmax pmax
comp=Z,33nm,1.3s
AQU L'Aquila 9.35 192 *i* Pn **Pn 11 00 17.4 -0.1**
comp=Z,33nm,1.3s
AQU L'Aquila 9.35 192 *i* P **Pn 11 00 17.4 -0.2**
comp=Z,33nm,1.3s
SMF Signal de Mont 9.38 243 *e*Pn **Pn 11 00 16.4 -1.7**
SMF *e*Sg Sn 11 02 58.3 +54
comp=Z,430nm,1.3s
SMF Signal de Mont 9.38 243 *e*Pn **Pn 11 00 16.4 -1.7**
SMF *e*Sg Sn 11 02 58.3 +54
comp=Z,215nm,1.3s
ORIF Oris-en-Rattie 9.47 230 *e*Pn **Pn 11 00 18.5 -0.8**
ORIF *e*Sg Sn 11 03 00.3 +54
comp=Z,319nm,1.2s
AVF Avril sur Loir 9.58 245 *e*Pn **Pn 11 00 18.7 -2.0**
AVF *e*Sg Sn 11 03 03.0 +54
comp=Z,374nm,1.1s
AVF Avril sur Loir 9.58 245 *e*Pn **Pn 11 00 18.7 -2.0**
AVF *e*Sg Sn 11 03 03.0 +54
comp=Z,187nm,1.1s
SBF Sospel 9.61 221 *e*Pn **Pn 11 00 20.6 -0.6**
SBF *e*Sg Sn 11 03 03.7 +54
comp=Z,277nm,1.4s
HYF Humbligny 9.73 249 *e*Pn **Pn 11 00 20.5 -2.3**
NAO01 NORSAR Array S 9.78 345 *e*Pn **Pn 11 00 20.0 -3.5**
comp=Z,2.6nm,0.4s
NAO01 NORSAR Array S 9.78 345 *e*Pn **Pn 11 00 20.0 -3.5**
comp=Z,2.6nm,0.4s
NB2 NORSAR Subarra 9.91 346 P **Pn 11 00 22.2 -3.1**
comp=Z,3.3nm,0.5s,baz=166,slow=14
NOA NORSAR Array B 9.91 346 Pn **Pn 11 00 22.5 -2.8**
comp=N,1.0nm,0.3s,baz=166,slow=12,SNR=11
NOA Sn **Sn 11 02 08.9 -8.4**
comp=Z,1.4nm,0.3s,baz=153,slow=22,SNR=4.4
NOA Lg 11 03 17.2
comp=Z,1.5nm,0.3s,baz=50,slow=25,SNR=4.4
NOA NORSAR Array B 9.91 346 P **Pn 11 00 22.5 -2.8**
NOA 11 02 08.9
NOA pmax pmax
comp=Z,1.0nm,0.3s
NOA smax
comp=N,1.0nm,0.3s
NOA MLR MLR
comp=N,2.0nm,0.3s
BGF Bois d'Agland 10.00 245 *e*Pn **Pn 11 00 24.2 -2.2**
BGF *e*Sg Sn 11 03 16.2 +57
comp=N,567nm,1.4s
BGF Bois d'Agland 10.00 245 *e*Pn **Pn 11 00 24.2 -2.2**
BGF *e*Sg Sn 11 03 16.2 +57
comp=N,284nm,1.4s
VIVF Saint-Julien-l 10.11 233 *e*Pn **Pn 11 00 26.0 -2.0**
VIVF *e*Sg Sn 11 03 18.7 +57
comp=N,373nm,1.4s
VIVF Saint-Julien-l 10.11 233 *e*Pn **Pn 11 00 26.0 -2.0**
VIVF *e*Sg Sn 11 03 18.7 +57
comp=N,187nm,1.4s
PGF Pioggiola 10.18 211 *e*Pn **Pn 11 00 27.8 -1.2**
FRF La Foret Royal 10.19 222 *e*Pn **Pn 11 00 28.7 -0.4**
FRF *e*Sg Sn 11 03 22.7 +59
comp=N,172nm,1.7s
SMRF Simiane la Rot 10.33 227 *e*Sg Sx 11 03 25.4
comp=N,344nm,1.6s
SMRF Simiane la Rot 10.33 227 *e*Sg Sx 11 03 25.4
comp=N,172nm,1.6s
LMR La Mourre 10.43 222 *e*Pn **Pn 11 00 31.9 -0.5**
LMR *e*Sg Sn 11 03 29.6 +60
comp=N,266nm,1.8s
TCF Toulx Ste Croi 10.51 246 *e*Pn **Pn 11 00 31.6 -1.9**
TCF *e*Sg Sn 11 03 32.9 +61
comp=N,218nm,1.3s
TCF Toulx Ste Croi 10.51 246 *e*Pn **Pn 11 00 31.6 -1.9**
TCF *e*Sg Sn 11 03 32.9 +61
comp=N,109nm,1.3s
LDF La Druitiere 10.81 261 *e*Pn **Pn 11 00 35.5 -2.1**
LDF *e*Sg Sn 11 03 43.3 +64
comp=N,171nm,1.2s
FLN La Foliniere 10.97 262 *e*Pn **Pn 11 00 37.6 -2.2**
FLN *e*Sg Sn 11 03 47.9 +65
comp=N,448nm,1.5s
FLN La Foliniere 10.97 262 *e*Pn **Pn 11 00 37.6 -2.2**
FLN *e*Sg Sn 11 03 47.9 +65
comp=N,224nm,1.5s
LASF Ste Croix 11.07 233 *e*Pn **Pn 11 00 40.5 -0.7**
LASF *e*Sg Sn 11 03 49.8 +64
comp=N,178nm,1.2s
FINES FINESS Array B 11.37 25 Pn **Pn 11 00 42.0 -3.2**
comp=N,5.1nm,0.3s,baz=206,slow=11,SNR=64
FINES Sn **Sn 11 02 41.2 -12**
comp=N,5.0nm,0.3s,baz=205,slow=22,SNR=5.0
FINES FINESS Array B 11.37 25 Pn **Pn 11 00 42.0 -3.2**
CAF Calviac 11.42 240 *e*Pn **Pn 11 00 43.9 -2.1**
CAF *e*Sg Sn 11 04 00.4 +66
comp=N,146nm,1.3s
CAF Calviac 11.42 240 *e*Pn **Pn 11 00 43.9 -2.1**
CAF *e*Sg Sn 11 04 00.4 +66
comp=N,73nm,1.3s
RJF Les Rejaudoux 11.49 243 *e*Sg Sx 11 04 03.8
comp=N,316nm,1.4s
RJF Les Rejaudoux 11.49 243 *e*Sg Sx 11 04 03.8
comp=N,158nm,1.4s
MFF Saint Martin d 11.71 252 *e*Pn **Pn 11 00 47.7 -2.2**
MFF *e*Sg Sn 11 04 10.8 +69
comp=N,183nm,1.3s
MFF Saint Martin d 11.71 252 *e*Pn **Pn 11 00 47.7 -2.2**
MFF *e*Sg Sn 11 04 10.8 +69
comp=N,92nm,1.3s
KAF Kangasniemi 11.99 24 *e*p **Pn 11 00 49.5 -4.2**
comp=N,30nm,1.1s
KAF Kangasniemi 11.99 24 *e*P **Pn 11 00 49.5 -4.2**
KAF pmax pmax
comp=Z,30nm,1.1s
EKA Eskdalemuir Ar 12.08 296 Pn **Pn 11 00 50.9 -4.1**
comp=Z,1.2nm,0.3s,baz=105,slow=14,SNR=28
EKA Sn **Sn 11 03 00.2 -10**
comp=Z,0.6nm,0.3s,baz=95,slow=20,SNR=3.6
EKA Eskdalemuir Ar 12.08 296 Sn **Sn 11 03 00.2 -10**
LFF La Frestale 12.14 243 *e*Sg Sx 11 04 23.2
comp=Z,354nm,1.3s
LFF La Frestale 12.14 243 *e*Sg Sx 11 04 23.2
comp=Z,177nm,1.3s
TIP Timpagrande 12.35 177 *e*P **Pn 11 00 59.0 +0.3**
TIP Timpagrande 12.35 177 *e*P **Pn 11 00 59.0 +0.3**
MTLF Montolieu 12.43 234 *e*Sg Sx 11 04 32.2
comp=Z,172nm,1.4s
MTLF Montolieu 12.43 234 *e*Sg Sx 11 04 32.2
comp=Z,86nm,1.4s
OBN Obninsk 12.77 66⇓*e*P **Pn 11 00 59.7 -4.6**
OBN *e*SS 11 03 31.1
OBN pmax pmax
comp=Z,33nm,1.1s
OBN MLR MLR
comp=Z,100nm,16.0s
OBN Obninsk 12.77 66 *e*Pn **Pn 11 00 59.8 -4.6**
comp=Z,21nm,0.5s
OBN *e*Sn **Sn 11 03 13.6 -14**
OBN Obninsk 12.77 66 *e*Pn **Pn 11 00 59.8 -4.5**
comp=Z,21nm,0.5s
OBN *e*Sn **Sn 11 03 13.6 -14**
NSS Namsos 13.22 352 *e*P **Pn 11 01 06.7 -3.9**
NSS AMb AMB 11 01 08.1
comp=Z,49nm,1.4s
NSS *e*S **Sn 11 03 29.9 -8.4**
MOS Moscow 13.45 63 *e*P **Pn 11 01 07.6 -6.1**
MOS *e*SS 11 03 47.1
MOS pmax pmax
comp=Z,83nm,1.2s
EPF Esparros 13.62 238 *e*Pn **Pn 11 01 13.3 -2.7**
EPF *e*Sg 11 05 10.7
comp=Z,309nm,1.8s
SIM Simferopol' 13.69 112 *e*P **Pn 11 01 21.0 +4.0**
SIM S **Sn 11 03 53.0 +3.2**
EMIR Miracle 13.82 232 P **Pn 11 01 28.2 +9.4**
comp=Z,19nm,1.2s
EBIE Bielsa 13.96 237 P **Pn 11 01 30.5 +10**
comp=Z,27nm,1.2s
JOF Joensuu 14.05 30 *e*p **Pn 11 01 17.2 -4.6**
comp=Z,12nm,0.5s
ETSF Etsaut 14.19 239 *e*Sg Sx 11 05 27.3
comp=Z,151nm,1.5s
EGRA Graus 14.22 235 P **Pn 11 01 33.5 +9.2**
comp=Z,13nm,0.9s
VOR Voronezh 14.36 80 *e*P **Pn 11 01 19.0 -7.1**
VOR *e* 11 04 15.0
VOR pmax pmax
comp=N,40nm,1.4s
VOR pmax pmax
comp=Z,100nm,1.4s
SJPF Ste Jean 14.40 241 *e*Sg Sx 11 05 33.8
comp=Z,131nm,1.3s
VRSR Storozhevoye 14.44 82 *e*P **Pn 11 01 21.0 -6.2**
VRSR pmax pmax
comp=Z,4.0nm,1.2s
VRSR pmax pmax
comp=N,3.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,1.0s
EALK Alkurruntz 14.49 242 P **Pn 11 01 33.2 +5.4**
comp=E,42nm,1.5s
ELIZ Elizondo 14.54 242 P **Pn 11 01 35.0 +6.5**
ELIZ pmax pmax
comp=Z,10.0nm,1.0s
ELIZ Elizondo 14.54 242 P **Pn 11 01 35.0 +6.5**
comp=Z,10nm,1.0s
MOR8 Moi Rana 14.72 357 *e*P **Pn 11 01 28.6 -2.5**
MOR8 AMb AMB 11 01 39.8
comp=Z,30nm,1.5s
MOR8 Moi Rana 14.72 357 *e*P **Pn 11 01 28.5 -2.5**
comp=Z,30nm,1.5s,SNR=53
STOK Stokkvaagen 14.94 355 *e*P **Pn 11 01 31.6 -2.4**
STOK AMb AMB 11 01 33.2
comp=Z,56nm,1.2s
STOK Stokkvaagen 14.94 355 *e*P **Pn 11 01 31.6 -2.4**
comp=Z,56nm,1.2s,SNR=53
ANN Anapa 15.73 107 *e*P **Pn 11 01 46.5 +2.0**
ANN *e*S **Sn 11 04 44.8 +5.3**
ANN pmax pmax
comp=Z,55nm,1.8s
ANN Anapa 15.73 107 *e*P **Pn 11 01 46.5 +2.0**
comp=Z,55nm,1.8s
EMOS Mosqueruela 15.98 232 P **Pn 11 01 54.0 +6.2**
comp=Z,59nm,1.5s
LOF Lofoten 16.71 357 *e*P **Pn 11 01 55.5 -1.6**
LOF AMb AMB 11 01 58.5
comp=Z,74nm,1.5s
LOF Lofoten 16.71 357 *e*P **Pn 11 01 54.3 -2.8**
LOF Lofoten 16.71 357 *e*P **Pn 11 01 55.5 -1.6**
comp=Z,74nm,1.5s,SNR=48
BRTR Keskin Array B 16.98 127 P **Pn 11 02 00.2 -0.3**
comp=Z,0.1nm,0.3s,baz=338,slow=11,SNR=3.9
BRTR Keskin Array B 16.98 127 *i* P **Pn 11 02 04.9 +4.4**
BRTR pmax pmax
comp=Z,1.0nm,0.4s
BRTR Keskin Array B 16.98 127 P **Pn 11 02 00.2 -0.3**
TMCR Tamitsa 17.11 34 *e*P **Pn 11 01 55.8 -6.4**
TMCR pmax pmax
comp=Z,60nm,0.3s
TMCR pmax pmax
comp=N,60nm,0.4s
PECR Pechory 17.12 63 *e*P **Pn 11 02 00.0 -2.3**
GUD Guadarrama 17.69 240 P **Pn 11 02 11.1 +1.8**
GUD pmax pmax
comp=Z,10.0nm,1.0s
GUD Guadarrama 17.69 240 P **Pn 11 02 11.1 +1.8**
comp=Z,9.7nm,1.0s
GUD Guadarrama 17.69 240 P **Pn 11 02 11.1 +1.8**
comp=Z,9.7nm,1.0s
APA Apatity 18.22 21⇓*i*P **Pn 11 02 11.0 -4.9**
APA pmax pmax
comp=Z,43nm,1.3s
TRO Tromso 18.23 3 *e*P **Pn 11 02 11.1 -4.9**
ESDC Sonseca Array 18.28 237 P **Pn 11 02 17.4 +0.8**
comp=Z,0.2nm,0.3s,baz=45,slow=10,SNR=12
ESDC Sonseca Array 18.28 237 P **Pn 11 02 19.2 +2.6**
comp=Z,1.9nm,0.8s
ESDC Sonseca Array 18.28 237 P **Pn 11 02 19.2 +2.6**
comp=Z,1.9nm,0.8s
ARCES ARCESS Array B 18.62 10 P **Pn 11 02 16.1 -4.7**
comp=Z,2.0nm,0.3s,baz=192,slow=13,SNR=41
ARCES LR LR 11 10 41.3
comp=Z,22nm,18.3s,baz=112,slow=41
ARCES ARCESS Array B 18.62 10 P **Pn 11 02 16.1 -4.7**
ARCES pmax pmax
comp=Z,2.0nm,0.3s
ARCES MLR MLR
comp=Z,22nm,18.3s
ARE0 ARCESS Array S 18.62 10 *e*P **Pn 11 02 16.5 -4.3**
LVZ Lovozero 18.77 22 *e*P **Pn 11 02 17.0 -5.6**
LVZ *e*S **Sn 11 05 39.1 -14**
LVZ pmax pmax
comp=Z,25nm,1.1s
LVZ pmax pmax
comp=N,13nm,0.9s
LVZ pmax pmax
comp=E,10.0nm,0.9s
LVZ MLR MLR
comp=Z,77nm,9.0s
LVZ MLR MLR
comp=N,58nm,10.0s
LVZ MLR MLR
comp=E,67nm,10.0s
KEV Kevo 19.01 12 *e*p **Pn 11 02 23.6 -1.9**
comp=E,14nm,0.6s
KEV Kevo 19.01 12 *e*P **Pn 11 02 23.6 -1.9**
KEV pmax pmax
comp=Z,14nm,0.6s
KIV Kislovodsk 19.36 103 *e*P **Pn 11 02 25.8 -3.9**
KIV pmax pmax

	comp=Z,11nm,1.2s								
ENIJ	**Nijar**	**19.49**	**229**		P	**Pn**		**11 02 30.8**	**-0.5**
ENIJ					pmax	pmax			
	comp=Z,1.0nm,0.4s								
ENIJ	**Nijar**	**19.49**	**229**		P	**Pn**		**11 02 30.8**	**-0.5**
	comp=Z,1.4nm,0.4s								
ENIJ	**Nijar**	**19.49**	**229**		P	**Pn**		**11 02 30.8**	**-0.5**
	comp=Z,1.4nm,0.4s								
ELUQ	**Luque**	**20.03**	**234**		P	**P**		**11 02 39.8**	**+3.8**
ELUQ					pmax	pmax			
	comp=Z,2.0nm,0.5s								
ELUQ	**Luque**	**20.03**	**234**		P	**P**		**11 02 39.8**	**+3.8**
	comp=Z,1.6nm,0.5s								
ELUQ	**Luque**	**20.03**	**234**		P	**P**		**11 02 39.8**	**+3.8**
	comp=Z,1.6nm,0.5s								
ERON	**Agron**	**20.22**	**232**		P	**P**		**11 02 42.2**	**+4.1**
	comp=Z,2.0nm,0.3s								
ELOJ	**Sierra Loja**	**20.29**	**233**		P	**P**		**11 02 41.0**	**+2.1**
ZEI	**Tsey**	**20.75**	**104**		*e*P	**P**		**11 02 46.7**	**+2.8**
EMIJ	**Mijas**	**21.05**	**233**		P	**P**		**11 02 49.6**	**+2.5**
EMIJ	**Mijas**	**21.05**	**233**		P	**P**		**11 02 49.6**	**+2.5**
GNI	**Garni**	**22.84**	**109**		P	**P**		**11 03 08.5**	**+2.3**
	comp=Z,2.4nm,0.4s,mb4.1,baz=315,slow=10.0,SNR=7.9								
GNI	**Garni**	**22.84**	**109**	*i*	P	**P**		**11 03 04.3**	**-1.9**
GNI					pmax	pmax			
	comp=Z,39nm,1.4s								
GNI	**Garni**	**22.84**	**109**	*i*	P	**P**		**11 03 04.3**	**-1.9**
	comp=Z,39nm,1.4s,mb4.7								
ORR	**Orenburg**	**23.86**	**74**		*e*P	**P**		**11 03 15.1**	**-1.6**
ORR					pmax	pmax			
	comp=Z,70nm,1.6s,mb4.9								
ORR	**Orenburg**	**23.86**	**74**		*e*P	**P**		**11 03 15.1**	**-1.6**
	comp=Z,70nm,1.6s,mb4.9								
ASF	**Jabal al Asfar**	**24.64**	**134**		P	**P**		**11 03 24.0**	**+0.2**
	comp=Z,3.4nm,1.0s,mb4.0,baz=329,slow=3.6,SNR=6.5								
ASF	**Jabal al Asfar**	**24.64**	**134**		P	**P**		**11 03 24.0**	**+0.3**
ASF					pmax	pmax			
	comp=Z,3.0nm,1.0s								
ARU	**Arti**	**25.16**	**62**	⇓	*i*P	**P**		**11 03 27.1**	**-1.4**
ARU					*e*			11 04 03.5	
ARU					*e*PPP			11 04 13.2	
ARU					*e*S	**S**		**11 07 53.8**	**-0.6**
ARU					*e*SS			11 08 46.5	
ARU					*e*SSS			11 09 07.1	
ARU					pmax	pmax			
	comp=Z,23nm,1.1s,mb4.8								
ARU	**Arti**	**25.16**	**62**	*i*	P	**P**		**11 03 27.1**	**-1.4**
	comp=Z,23nm,1.1s,mb4.8								
AKTK	**Aktyubinsk**	**26.18**	**76**		P	**P**		**11 03 37.2**	**-0.5**
AKTK	**Aktyubinsk**	**26.18**	**76**		P	**P**		**11 03 37.2**	**-0.5**
	comp=Z,4.0nm,0.6s,mb4.2								
AKTO	**Aktyubinsk**	**26.18**	**76**		P	**P**		**11 03 37.2**	**-0.5**
AKTO					pmax	pmax			
	comp=Z,4.1nm,0.6s,mb4.3,baz=288,slow=10,SNR=12								
AKTO	**Aktyubinsk**	**26.18**	**76**		P	**P**		**11 03 37.2**	**-0.5**
AKTO					pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.2								
SVE	**Sverdlovsk**	**26.25**	**61**	⇑	*e*P	**P**		**11 03 38.0**	**-0.3**
SVE					pmax	pmax			
	comp=Z,68nm,1.8s,mb5.0								
SVE	**Sverdlovsk**	**26.25**	**61**		*e*P	**P**		**11 03 38.0**	**-0.3**
	comp=Z,68nm,1.8s,mb5.0								
ZRNK	**Zerenda**	**31.85**	**66**		*e*P	**P**		**11 04 28.5**	**+0.3**
ZRNK					pmax	pmax			
	comp=Z,27nm,1.5s,mb5.0								
ZRNK	**Zerenda**	**31.85**	**66**		*e*P	**P**		**11 04 28.5**	**+0.3**
	comp=Z,27nm,1.5s,mb5.0								
ZRNK	**Zerenda**	**31.85**	**66**		*e*P	**P**		**11 04 28.5**	**+0.3**
	comp=Z,27nm,1.5s,mb5.0								
BRVK	**Borovoye**	**32.54**	**66**		*e*P	**P**		**11 04 34.9**	**+0.6**
FRU	**Bishkek**	**39.76**	**79**		*e*P	**P**		**11 05 38.0**	**+1.9**
FRU					pmax	pmax			
	comp=Z,34nm,1.8s,mb4.7								
AAK	**Ala-Archa**	**39.80**	**79**		*e*P	**P**		**11 05 36.7**	**+0.4**
AAK					*e*			11 07 41.7	
AAK					pmax	pmax			
	comp=Z,22nm,1.4s,mb4.6								
AAK	**Ala-Archa**	**39.80**	**79**		*e*P	**P**		**11 05 36.7**	**+0.3**
	comp=Z,22nm,1.4s,mb4.6								
AAK					*e*PcP	PcP		11 07 41.6	-0.9
AAK	**Ala-Archa**	**39.80**	**79**		*e*P	**P**		**11 05 36.7**	**+0.4**
	comp=Z,22nm,1.4s,mb4.6								
AAK	**Ala-Archa**	**39.80**	**79**		*e*PcP	PcP		11 07 41.7	-0.9
TORD	**Torodi Ar. Bea**	**40.00**	**202**		P	**P**		**11 05 38.2**	**+0.2**
	comp=Z,6.5nm,0.8s,mb4.3,baz=11,slow=7.6,SNR=28								
ZAL	**Zalesovo**	**40.21**	**59**		P	**P**		**11 05 41.1**	**+1.3**
	comp=Z,2.0nm,0.3s,mb4.3,baz=143,slow=9.2,SNR=8.4								
ZAL	**Zalesovo**	**40.21**	**59**		P	**P**		**11 05 41.1**	**+1.3**
ZAL					pmax	pmax			
	comp=Z,2.0nm,0.3s								
MKAR	**Makanchi Array**	**42.24**	**69**		P	**P**		**11 05 56.4**	**-0.1**
	comp=Z,0.9nm,0.6s,mb3.7,baz=311,slow=6.3,SNR=8.4								
MKAR					PP	PP		11 07 32.2	-1.8
	comp=Z,1.3nm,1.0s,baz=290,slow=7.6,SNR=3.6								
MKAR	**Makanchi Array**	**42.24**	**69**		P	**P**		**11 05 56.4**	**0.0**
MKAR								11 07 32.3	
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
MKAR					pmax	pmax			
	comp=Z,1.0nm,1.0s								
SCHQ	**Schefferville**	**47.04**	**308**		P	**P**		**11 06 33.9**	**-0.9**
	comp=Z,3.8nm,0.9s,mb4.5,baz=53,slow=5.1,SNR=4.2								
SCHQ	**Schefferville**	**47.04**	**308**		P	**P**		**11 06 33.9**	**-0.9**
WMQ	**Urumqi**	**47.06**	**70**	⇑	P	**P**		**11 06 36.4**	**+1.5**
WMQ					XP			11 06 42.4	
WMQ					PCP	PcP		11 08 09.0	+2.0
WMQ					PP	PP		11 08 26.8	+1.4
WMQ					*e*S	**S**		**11 13 26.6**	**-1.2**
WMQ					AMB	AMB			
	comp=Z,9.0nm,1.4s,mb4.7								
WMQ					AMB	AMB			
	comp=Z,63nm,2.7s,mb5.3								
TLY	**Talaya**	**51.14**	**53**		*e*P	**P**		**11 07 07.5**	**+1.3**
TLY					pmax	pmax			
	comp=Z,14nm,1.4s,mb4.7								
TLY	**Talaya**	**51.14**	**53**		*e*P	**P**		**11 07 07.5**	**+1.3**
	comp=Z,14nm,1.4s,mb4.7								
ZAK	**Zakamensk**	**51.74**	**55**		*e*P	**P**		**11 07 11.5**	**+0.8**
ZAK					pmax	pmax			
	comp=Z,17nm,1.7s,mb4.7								
ZAK	**Zakamensk**	**51.74**	**55**		*e*P	**P**		**11 07 11.5**	**+0.8**
	comp=Z,17nm,1.7s,mb4.7								
BOD	**Bodaibo**	**52.17**	**42**		*e*P	**P**		**11 07 12.2**	**-1.7**
BOD					pmax	pmax			
	comp=Z,5.0nm,1.5s,mb4.2								
BOD	**Bodaibo**	**52.17**	**42**		*e*P	**P**		**11 07 12.2**	**-1.7**
	comp=Z,5.0nm,1.5s,mb4.2								
SONM	**Songino Array**	**54.93**	**55**		P	**P**		**11 07 34.7**	**+0.5**
	comp=Z,3.0nm,0.9s,mb4.3,baz=293,slow=6.9,SNR=26								
SONM	**Songino Array**	**54.93**	**55**		P	**P**		**11 07 34.7**	**+0.5**
SONM					pmax	pmax			
	comp=Z,3.0nm,0.9s								
KOLN	**Koldanda**	**55.01**	**88**		*e*P	**P**		**11 07 33.8**	**-1.0**
ULN	**Ulaanbaatar**	**55.25**	**55**		*e*P	**P**		**11 07 37.3**	**+0.8**
ULN					pmax	pmax			
	comp=Z,9.0nm,1.4s,mb4.6								
ULN	**Ulaanbaatar**	**55.25**	**55**		*e*P	**P**		**11 07 37.3**	**+0.8**
	comp=Z,8.8nm,1.4s,mb4.6								
ULN	**Ulaanbaatar**	**55.25**	**55**		*e*P	**P**		**11 07 37.3**	**+0.8**
	comp=Z,8.8nm,1.4s,mb4.6								
GKN	**Gorkha**	**55.49**	**87**		*e*P	**P**		**11 07 38.3**	**+0.1**
CIT	**Chita**	**55.70**	**48**		*e*P	**P**		**11 07 39.5**	**-0.2**
CIT					*e*			11 08 32.0	
CIT					pmax	pmax			
	comp=Z,18nm,1.6s,mb4.8								
CIT	**Chita**	**55.70**	**48**		*e*P	**P**		**11 07 39.5**	**-0.2**
	comp=Z,18nm,1.6s,mb4.8								
KKN	**Kakani**	**56.04**	**87**		*e*P	**P**		**11 07 42.1**	**-0.1**
DMN	**Daman**	**56.06**	**87**		*e*P	**P**		**11 07 42.7**	**+0.4**
	comp=Z,47nm,1.4s,mb5.3								
PKI	**Pulchoki**	**56.28**	**87**		*e*P	**P**		**11 07 44.3**	**+0.4**
GUN	**Gumba**	**56.33**	**86**		*e*P	**P**		**11 07 44.7**	**+0.4**
FCC	**Fort Churchill**	**56.35**	**324**		*e*P	**P**		**11 07 44.5**	**+0.1**
FCC					pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.1								
FCC	**Fort Churchill**	**56.35**	**324**		*e*P	**P**		**11 07 44.5**	**+0.1**
	comp=Z,0.6nm,0.5s,mb3.9								
JIRN	**Jiri**	**56.70**	**86**		*e*P	**P**		**11 07 47.5**	**+0.6**
	comp=Z,36nm,1.1s,mb5.3								
GTA	**Gaotai**	**56.88**	**67**		*e*P	**P**		**11 07 49.3**	**+1.1**
GTA					AP			11 07 52.4	
GTA					XP			11 07 54.3	
GTA					AMB	AMB			
	comp=Z,4.0nm,1.7s,mb4.2								
BILL	**Bilibino**	**58.70**	**13**		P	**P**		**11 08 00.0**	**-1.0**
BILL					pmax	pmax			
	comp=Z,8.0nm,1.4s,mb4.6								
BILL	**Bilibino**	**58.70**	**13**		P	**P**		**11 08 00.0**	**-1.0**
	comp=Z,8.0nm,1.4s,mb4.6								
YKW3	**Yellowknife Ar**	**59.78**	**336**		*e*P	**P**		**11 08 08.5**	**+0.1**
YKW3	**Yellowknife Ar**	**59.78**	**336**		*e*P	**P**		**11 08 08.5**	**0.0**
YKA	**Yellowknife Ar**	**59.84**	**336**		P	**P**		**11 08 07.8**	**-1.0**
	comp=Z,2.9nm,0.8s,mb4.4,baz=28,slow=6.9,SNR=12								
YKA	**Yellowknife Ar**	**59.84**	**336**	*i*	P	**P**		**11 08 08.6**	**-0.2**
YKA					pmax	pmax			
	comp=Z,3.0nm,0.8s								
YKA	**Yellowknife Ar**	**59.84**	**336**	*i*	P	**P**		**11 08 08.6**	**-0.2**
	comp=Z,3.0nm,0.8s,mb4.4								
LZH	**Lanzhou**	**61.48**	**67**		*e*P	**P**		**11 08 21.5**	**+1.5**
LZH					AP			11 08 23.1	
LZH					*e*PP	PP		11 10 38.5	+3.3
LZH					*e*S	**S**		**11 16 40.6**	**-1.8**
LZH					AMB	AMB			
	comp=Z,26nm,1.5s,mb5.1								
LZH					AMB	AMB			
	comp=Z,75nm,7.4s								
LZH					LR	LR			
	comp=E,597nm,15.7s								
LZH					LR	LR			
	comp=Z,778nm,18.5s,MS4.9								
FFC	**Flin Flon**	**62.25**	**325**		*e*P	**P**		**11 08 25.6**	**+0.4**
FFC					pmax	pmax			
	comp=Z,28nm,1.8s,mb5.2								
FFC	**Flin Flon**	**62.25**	**325**		*e*P	**P**		**11 08 25.6**	**+0.3**
	comp=Z,28nm,1.8s,mb5.2								
FFC	**Flin Flon**	**62.25**	**325**		*e*P	**P**		**11 08 25.6**	**+0.4**
	comp=Z,28nm,1.8s,mb5.2								
HHC	**Hu-ho-hao-te**	**62.40**	**58**		*e*P	**P**		**11 08 28.8**	**+2.6**
HHC					PCP	PcP		11 09 08.5	+2.8
HHC					PP	PP		11 10 48.1	+4.7
HHC					SCP	ScP		11 13 10.3	+1.3
HHC					S	**S**		**11 16 54.6**	**+0.6**
HHC					SCS	ScS		11 18 18.4	-1.4
HHC					SS	SS		11 20 59.1	+1.6
HHC					AMB	AMB			
	comp=Z,14nm,1.2s,mb5.1								
HHC					AMB	AMB			
	comp=Z,83nm,5.0s								
HHC					LR	LR			
	comp=N,116nm,19.5s,MS4.3								
HHC					LR	LR			
	comp=E,168nm,18.0s,MS4.3								
HHC					LR	LR			
	comp=Z,138nm,16.3s,MS4.2								
DAWY	**Dawson**	**63.17**	**348**		*e*P	**P**		**11 08 31.0**	**-0.4**
DAWY					*e*PcP	PcP		11 09 05.3	-3.6
DAWY	**Dawson**	**63.17**	**348**		*e*P	**P**		**11 08 31.0**	**-0.4**
ILAR	**Eielson Array**	**63.30**	**352**		P	**P**		**11 08 32.1**	**0.0**
	comp=Z,1.1nm,1.1s,mb3.9,baz=16,slow=3.8,SNR=8.0								
ILAR	**Eielson Array**	**63.30**	**352**		P	**P**		**11 08 32.2**	**0.0**
ILAR					pmax	pmax			
	comp=Z,1.0nm,1.1s								
ULM	**Lac du Bonnet**	**63.34**	**318**		P	**P**		**11 08 32.1**	**-0.3**
	comp=Z,1.5nm,0.7s,mb4.3,baz=25,slow=8.8,SNR=2.9								
CD2	**Chengdu**	**65.12**	**71**		*e*P	**P**		**11 08 44.3**	**+0.1**
CD2					S	S		11 17 25.8	-2.1
CD2					SS	SS		11 21 39.3	-0.7
CD2					AMB	AMB			
	comp=Z,10.0nm,0.8s,mb5.1								
CD2					LR	LR			
	comp=E,50nm,14.4s								
CD2					LR	LR			
	comp=Z,30nm,10.8s,MS3.8								
KLR	**Kul'dur**	**65.67**	**40**		*e*P	**P**		**11 08 44.6**	**-3.1**
KLR					pmax	pmax			
	comp=Z,30nm,1.6s,mb5.3								
XAN	**Xi'an**	**65.85**	**65**		P	**P**		**11 08 48.9**	**0.0**
XAN					AMB	AMB			
	comp=Z,8.0nm,1.3s,mb4.8								
CN2	**Changchun**	**67.15**	**48**		*e*P	**P**		**11 08 58.3**	**+1.1**
CN2					AMB	AMB			
	comp=Z,10.0nm,1.0s,mb5.0								
LSZ	**Lusaka**	**67.35**	**167**		P	**P**		**11 08 59.4**	**+0.9**
	comp=Z,2.4nm,0.8s,mb4.5,baz=19,slow=13,SNR=3.5								
LSZ	**Lusaka**	**67.35**	**167**		P	**P**		**11 08 59.4**	**+0.9**
LSZ					pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.4								
MDJ	**Mudanjiang**	**68.38**	**45**		P	**P**		**11 09 04.8**	**-0.2**
MDJ					AMB	AMB			
	comp=Z,4.0nm,1.0s,mb4.6								
MDJ					AMB	AMB			
	comp=Z,95nm,4.3s								
KMI	**Kunming**	**68.75**	**76**		P	**P**		**11 09 08.6**	**+1.4**
KMI					S	S		11 18 11.8	+0.1
KMI					LR	LR			
	comp=N,107nm,7.4s								
KMI					LR	LR			
	comp=E,167nm,13.8s								
KMI					LR	LR			
	comp=Z,80nm,13.7s,MS4.1								
GYA	**Guiyang**	**70.11**	**72**		P	**P**		**11 09 16.3**	**+0.6**
GYA					AMB	AMB			
	comp=Z,10.0nm,0.6s,mb5.1								
LAO	**LASA Array**	**70.33**	**322**		*e*P	**P**		**11 09 17.6**	**+0.5**
	comp=Z,40nm,1.4s,mb5.3								
LAO					*e*PcP	PcP		11 09 39.7	+1.1
EGMT	**Eagleton**	**70.54**	**325**		*e*P	**P**		**11 09 19.3**	**+1.0**
	comp=Z,56nm,1.5s,mb5.5								
GCMT	**Greycliff**	**72.39**	**323**		*e*P	**P**		**11 09 30.4**	**+0.9**
HRY	**Holter Researc**	**72.40**	**325**		*e*P	**P**		**11 09 29.6**	**+0.1**
CHMT	**Chamberlain Mo**	**72.72**	**326**		*e*P	**P**		**11 09 31.7**	**+0.2**
NEW	**Newport**	**72.83**	**329**		*e*P	**P**		**11 09 32.0**	**-0.1**
NEW					pmax	pmax			
	comp=Z,20nm,1.5s								
NEW	**Newport**	**72.83**	**329**		*e*P	**P**		**11 09 32.0**	**-0.2**
	comp=Z,20nm,1.5s,mb5.0								
NJ2	**Nanjing**	**72.85**	**60**		*e*P	**P**		**11 09 33.8**	**+1.6**
NJ2					AP			11 09 37.1	
NJ2					XP			11 09 40.1	
NJ2					PP	PP		11 12 17.9	+3.7
NJ2					S	S		11 18 58.0	-1.4
NJ2					XS			11 19 08.0	
NJ2					AMB	AMB			
	comp=Z,20nm,0.8s,mb5.3								
NJ2					AMB	AMB			
	comp=Z,70nm,12.0s								
NJ2					LR	LR			
	comp=N,330nm,29.1s,MS4.7								
NJ2					LR	LR			
	comp=E,520nm,32.7s,MS4.7								
NJ2					LR	LR			
	comp=Z,300nm,30.0s,MS4.4								
MSO	**Missoula**	**73.03**	**327**		*e*P	**P**		**11 09 33.5**	**+0.2**
	comp=Z,14nm,1.4s,mb4.9								
BOZ	**Bozeman (W)**	**73.24**	**325**		*e*P	**P**		**11 09 35.5**	**+1.0**
BOZ					pmax	pmax			
	comp=Z,18nm,1.4s,mb5.0								
BOZ	**Bozeman (W)**	**73.24**	**325**		*e*P	**P**		**11 09 35.5**	**+1.0**
	comp=Z,18nm,1.4s,mb5.0								
MCMT	**McKenzie Canyo**	**74.38**	**325**		*e*P	**P**		**11 09 42.6**	**+1.4**
MOOW	**Moose Ponds**	**74.53**	**323**		*e*P	**P**		**11 09 43.7**	**+1.6**
	comp=Z,22nm,1.4s,mb5.0								
LOHW	**Long Hollow**	**74.60**	**323**		*e*P	**P**		**11 09 44.0**	**+1.5**
	comp=Z,23nm,1.4s,mb5.0								
TPAW	**Teton Pass**	**74.83**	**323**		*e*P	**P**		**11 09 45.4**	**+1.5**
	comp=Z,21nm,1.4s,mb5.0								
TPAW					*e*PcP	PcP		11 09 58.8	+0.9
SSE	**Sheshan**	**74.84**	**59**		P	**P**		**11 09 44.6**	**+0.7**
SSE					AMB	AMB			
	comp=Z,34nm,0.7s,mb5.5								
SSE					AMB	AMB			
	comp=Z,74nm,6.6s								
BW06	**Boulder Array**	**74.92**	**322**		*e*P	**P**		**11 09 44.9**	**+0.5**
	comp=Z,9.2nm,1.4s,mb4.6								
PDAR	**Pinedale Array**	**74.92**	**322**		P	**P**		**11 09 44.5**	**+0.2**
	comp=Z,1.1nm,0.5s,mb4.1,baz=58,slow=5.6,SNR=9.7								
ISCO	**Idaho Springs**	**75.82**	**317**		*e*P	**P**		**11 09 50.9**	**+1.4**
ISCO					pmax	pmax			
	comp=Z,12nm,1.5s,mb4.8								
ISCO	**Idaho Springs**	**75.82**	**317**		*e*P	**P**		**11 09 50.9**	**+1.4**
	comp=Z,12nm,1.5s,mb4.8								
BMO	**Blue Mountains**	**75.90**	**328**		*e*P	**P**		**11 09 50.0**	**0.0**
	comp=Z,38nm,1.4s,mb5.3								
HLID	**Hailey**	**76.04**	**325**		*e*P	**P**		**11 09 52.1**	**+1.4**
	comp=Z,14nm,1.4s,mb4.9								
WMOK	**Wichita Mounta**	**76.90**	**310**		*e*P	**P**		**11 09 56.7**	**+1.0**
WMOK					pmax	pmax			
	comp=Z,4.0nm,1.5s,mb4.3								
WMOK	**Wichita Mounta**	**76.90**	**310**		*e*P	**P**		**11 09 56.7**	**+1.0**
	comp=Z,4.5nm,1.5s,mb4.4								
BGU	**Big Grassy Mou**	**77.82**	**323**		*e*P	**P**		**11 10 09.7**	**+8.8**
MPU	**Maple Canyon**	**78.08**	**322**		*e*P	**P**		**11 10 03.8**	**+1.5**
	comp=Z,20nm,1.3s,mb5.1								
NLU	**North Lily Min**	**78.30**	**322**		*e*P	**P**		**11 10 05.5**	**+2.0**
DUG	**Dugway**	**78.38**	**322**		*e*P	**P**		**11 10 05.3**	**+1.4**
DUG					pmax	pmax			
	comp=Z,14nm,1.2s,mb5.0								
DUG	**Dugway**	**78.38**	**322**		*e*P	**P**		**11 10 05.3**	**+1.4**
	comp=Z,14nm,1.2s,mb5.0								
PV10	**Paradox Valley**	**78.45**	**319**		*e*P	**P**		**11 10 06.3**	**+2.0**
WVOR	**Wild Horse Val**	**78.49**	**328**		*e*P	**P**		**11 10 05.5**	**+0.9**
WVOR					pmax	pmax			
	comp=Z,16nm,1.6s,mb4.9								
WVOR	**Wild Horse Val**	**78.49**	**328**		*e*P	**P**		**11 10 05.5**	**+0.9**
	comp=Z,16nm,1.6s,mb4.9								
MJAR	**Matsushiro Arr**	**78.75**	**44**		P	**P**		**11 10 05.9**	**-0.1**
	comp=Z,2.3nm,1.0s,mb4.2,baz=324,slow=5.5,SNR=7.8								
MJAR	**Matsushiro Arr**	**78.75**	**44**		P	**P**		**11 10 05.9**	**-0.1**
MJAR					pmax	pmax			
	comp=Z,2.0nm,1.0s								
ELK	**Elko**	**78.80**	**324**		*e*P	**P**		**11 10 08.0**	**+1.8**
ELK					pmax	pmax			
	comp=Z,10.0nm,1.2s								
ELK	**Elko**	**78.80**	**324**		*e*P	**P**		**11 10 08.0**	**+1.8**
	comp=Z,10nm,1.2s,mb4.7								
MVCO	**Mesa Verde**	**79.22**	**318**		*e*P	**P**		**11 10 10.0**	**+1.5**
BMN	**Battle Mountai**	**79.78**	**326**		*e*P	**P**		**11 10 12.3**	**+0.7**
BMN					pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.4								
BMN	**Battle Mountai**	**79.78**	**326**		*e*P	**P**		**11 10 12.3**	**+0.7**
	comp=Z,5.4nm,0.9s,mb4.5								
ANMO	**Albuquerque**	**80.25**	**315**		*e*P	**P**		**11 10 15.8**	**+1.6**
ANMO					pmax	pmax			
	comp=Z,8.0nm,1.4s								
ANMO	**Albuquerque**	**80.25**	**315**		*e*P	**P**		**11 10 15.8**	**+1.6**
	comp=Z,7.9nm,1.4s,mb4.5								
BNM	**Barren Site**	**81.00**	**315**		*e*P	**P**		**11 10 20.1**	**+1.9**
SDV	**Santo Domingo**	**81.06**	**273**		*e*P	**P**		**11 10 19.4**	**+0.9**
	comp=Z,4.9nm,1.0s,mb4.5								
NVAR	**Mina Array Bea**	**81.95**	**325**		P	**P**		**11 10 24.3**	**+1.2**
	comp=Z,1.6nm,1.0s,mb4.1,baz=70,slow=4.3,SNR=11								
MNTX	**Cornudas Mount**	**82.51**	**313**		*e*P	**P**		**11 10 26.7**	**+0.6**
	comp=Z,17nm,1.7s,mb5.0								
NEN	**Nelson**	**83.12**	**322**		*e*P	**P**		**11 10 30.9**	**+1.6**
TUC	**Tucson**	**84.38**	**317**		*e*P	**P**		**11 10 36.7**	**+1.0**
TUC					pmax	pmax			
	comp=Z,14nm,1.4s,mb5.0								
TUC	**Tucson**	**84.38**	**317**		*e*P	**P**		**11 10 36.7**	**+0.9**
	comp=Z,14nm,1.4s,mb5.0								
OTAV	**Otavalo**	**92.64**	**274**		*e*P	**P**		**11 11 16.6**	**+1.4**
	comp=Z,5.9nm,1.3s,mb4.9								
ASAR	**Alice Springs**	**125.39**	**84**		PKP	PKPdf		11 17 03.6	-0.9
	comp=Z,0.5nm,1.0s,baz=332,slow=1.4,SNR=7.3								
ASAR	**Alice Springs**	**125.39**	**84**		PKIKP	PKPdf		11 17 03.6	-0.9
ASAR					pmax	pmax			
	comp=Z,1.0nm,1.0s								

IDC ***21*** *11:05:03.7±2.0, 0.09N×96.90E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.6/19, mbtmp3.7/6, ML3.0/1, Error ellipse: s-maj=62.2km s-min=21.8km az=65.0*
ISCJB ***21*** *11:05:07.7±1.4, 0.1N×0.1×97.1E±0.2, h33km, mb3.8/5, Error ellipse: s-maj=35.5km s-min=16.2km az=141.1*
ISC 21 11:05:10.4±1.4, 02N±01×972E±02, h35km, n7, σ1s09/7, mb3.8/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.13**	**34**	Pn		**Pn**		**11 05 56.9**	**-0.3**
	1.7nm,0.3s,baz=304,slow=11,SNR=6.8								
SHL	**Shillong**	**25.75**	**349**	*e*P		**P**		**11 10 39.5**	**+1.9**
WRA	**Warramunga Arr**	**41.52**	**121**	P		**P**		**11 12 55.1**	**+0.8**
	1.3nm,0.9s,mb3.5,baz=303,slow=9.1,SNR=7.2								
ASAR	**Alice Springs**	**42.80**	**126**	P		**P**		**11 13 05.5**	**+0.7**
	0.5nm,0.5s,mb3.5,baz=297,slow=8.2,SNR=12								
SONM	**Songino Array**	**48.13**	**8**

SKR				smax					
	comp=E,590nm,0.2s								
ALID	**Alaid**	**2.20**	**236**	*e*P		**Pn**	**11 13 12.7**	**+0.7**
MKZ	**Mys Kozlova**	**3.13**	**38**	P		**Pn**	**11 13 23.5**	**-0.8**
MKZ				S		**Sn**	**11 13 57.6**	**-3.2**
MKZ	**Mys Kozlova**	**3.13**	**38**	*i* P		**Pn**	**11 13 23.8**	**-0.5**
TUMR	**Tumrok**	**3.32**	**17**	*e*P		**Pn**	**11 13 28.6**	**+1.8**
KMNR	**Kamenistaya**	**3.79**	**16**	*e*P		**Pn**	**11 13 35.0**	**+1.9**
ESO	**Esso**	**3.81**	**2**	*i* P		**Pn**	**11 13 34.3**	**+0.9**
KPT	**Kopyto**	**3.98**	**15**	*e*P		**Pn**	**11 13 37.3**	**+1.5**
KOZ	**Kozyrevsk**	**4.03**	**12**	*e*P		**Pn**	**11 13 37.7**	**+1.3**
KOZR	**Kozyr**	**4.04**	**12**	PN		**Pn**	**11 13 37.7**	**+1.2**
ZLN	**Zelenaya**	**4.14**	**19**	*e*P		**Pn**	**11 13 40.0**	**+2.1**
LGNR	**Loginova**	**4.18**	**18**	*e*P		**Pn**	**11 13 40.6**	**+2.2**
CIRR	**Tsirk**	**4.22**	**18**	*e*P		**Pn**	**11 13 41.8**	**+2.8**
SRDR	**Sredinnyy**	**4.26**	**10**	*e*P		**Pn**	**11 13 40.6**	**+1.0**
KRSR	**Krestovskiy**	**4.28**	**16**	*i* P		**Pn**	**11 13 41.7**	**+1.9**
KLY	**Klyuchi**	**4.39**	**16**	*e*P		**Pn**	**11 13 43.2**	**+1.9**
BDR	**Baidarnaya**	**4.73**	**19**	*e*P		**Pn**	**11 13 47.3**	**+1.3**
SMKR	**Semkarok**	**4.80**	**20**	*i* P		**Pn**	**11 13 47.8**	**+0.9**
SRKR	**Sorokina**	**4.80**	**18**	*e*P		**Pn**	**11 13 48.5**	**+1.6**
KBTR	**Krutoberegovo**	**4.83**	**30**	P		**Pn**	**11 13 47.1**	**-0.2**
KBTR				S		**Sn**	**11 14 38.3**	**-3.6**
KBTR	**Krutoberegovo**	**4.83**	**30**	*e*P		**Pn**	**11 13 47.4**	**+0.1**
BKI	**Bering**	**5.43**	**53**	*e*S		**Sn**	**11 14 49.9**	**-6.8**
FX1	**Attu Island--F**	**9.02**	**79**	P		**Pn**	**11 14 44.6**	**+0.4**
	comp=E,12nm,0.3s,baz=334,slow=3.7,SNR=88								
FX1				S		**Sn**	**11 16 18.1**	**-5.9**
	comp=E,14nm,0.3s,baz=127,slow=19,SNR=18								
FX1	**Attu Island--F**	**9.02**	**79**	PN		**Pn**	**11 14 44.6**	**+0.3**
FX1				pmax	pmax				
	comp=Z,12nm,0.3s								
FX1	**Attu Island--F**	**9.02**	**79**	*e*Pn		**Pn**	**11 14 44.2**	**-0.1**
FX1				*e*Sn		**Sn**	**11 16 17.8**	**-6.2**
ASAJ	**Asahikawa**	**13.26**	**239**	P		**Pn**	**11 15 41.7**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=99,slow=15,SNR=5.0								
ASAJ	**Asahikawa**	**13.26**	**239**	PN		**Pn**	**11 15 41.7**	**+0.4**
ASAJ				pmax	pmax				
	comp=Z,1.0nm,0.3s								
MJAR	**Matsushiro Arr**	**21.16**	**230**	P		**P**	**11 17 15.6**	**+1.2**
	comp=Z,2.1nm,0.8s,mb3.5,baz=27,slow=12,SNR=8.6								
MJAR				pP			11 17 29.8		
	comp=Z,0.5nm,0.6s,baz=9.2,slow=13,SNR=1.5								
MJAR	**Matsushiro Arr**	**21.16**	**230**	P		**P**	**11 17 15.6**	**+1.3**
MJAR				pmax	pmax				
	comp=Z,2.0nm,0.8s								
MJAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
MJAR	**Matsushiro Arr**	**21.16**	**230**	P		**P**	**11 17 15.6**	**+1.2**
MJAR				pP			11 17 29.8		
BOD	**Bodaibo**	**25.75**	**300**	*e*P		**P**	**11 17 57.3**	**-1.3**
BOD				*e*	pP		11 18 18.8	-0.9	
BOD				pmax	pmax				
	comp=Z,3.0nm,1.4s,mb3.5								
ILAR	**Eielson Array**	**30.21**	**44**	P		**P**	**11 18 38.1**	**-0.3**
	comp=Z,1.1nm,0.7s,mb3.6,baz=264,slow=7.5,SNR=18								
ILAR	**Eielson Array**	**30.21**	**44**	P		**P**	**11 18 38.1**	**-0.3**
ILAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
INK	**Inuvik**	**35.25**	**37**	*e*P		**P**	**11 19 22.1**	**-0.2**
INK				pmax	pmax				
	comp=Z,2.0nm,0.4s								
INK	**Inuvik**	**35.25**	**37**	*e*P		**P**	**11 19 22.1**	**-0.3**
	comp=Z,1.7nm,0.4s,mb4.2								
YKW3	**Yellowknife Ar**	**44.52**	**41**	*e*P		**P**	**11 20 38.2**	**-0.8**
YKA	**Yellowknife Ar**	**44.56**	**41**	P		**P**	**11 20 38.7**	**-0.6**
	comp=Z,1.1nm,0.7s,mb3.7,baz=302,slow=7.5,SNR=5.7								
YKA	**Yellowknife Ar**	**44.56**	**41**	P		**P**	**11 20 38.7**	**-0.6**
YKA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
YKA	**Yellowknife Ar**	**44.56**	**41**	P		**P**	**11 20 38.7**	**-0.6**
RES	**Resolute Bay**	**44.59**	**21**	*e*P		**P**	**11 20 37.4**	**-2.2**
RES				pmax	pmax				
	comp=Z,6.0nm,1.1s,mb4.2								
RES	**Resolute Bay**	**44.59**	**21**	*e*P		**P**	**11 20 37.4**	**-2.2**
	comp=Z,5.8nm,1.1s,mb4.2								
MKAR	**Makanchi Array**	**47.66**	**296**	P		**P**	**11 21 01.1**	**-2.5**
	comp=Z,0.3nm,0.5s,mb3.4,baz=52,slow=6.2,SNR=6.3								
CHKZ	**Chkalovo**	**49.70**	**309**	*e*P		**P**	**11 21 15.8**	**-3.5**
CHKZ				pmax	pmax				
	comp=Z,1.0nm,0.4s,mb4.1								
CHKZ	**Chkalovo**	**49.70**	**309**	*e*P		**P**	**11 21 15.8**	**-3.4**
	comp=Z,0.9nm,0.4s,mb4.0								
ARCES	**ARCESS Array B**	**53.88**	**341**	P		**P**	**11 21 47.5**	**-2.9**
	comp=Z,2.0nm,0.8s,mb4.2,baz=45,slow=10,SNR=3.3								
ARCES	**ARCESS Array B**	**53.88**	**341**	P		**P**	**11 21 47.5**	**-2.9**
ARCES				pmax	pmax				
	comp=Z,2.0nm,0.8s								
FCC	**Fort Churchill**	**54.86**	**37**	*e*P		**P**	**11 21 57.2**	**-0.3**
FCC				pmax	pmax				
	comp=Z,3.0nm,0.5s,mb4.6								
FCC	**Fort Churchill**	**54.86**	**37**	*e*P		**P**	**11 21 57.2**	**-0.3**
	comp=Z,2.5nm,0.5s,mb4.5								
FINES	**FINESS Array B**	**60.60**	**336**	P		**P**	**11 22 35.6**	**-2.0**
	comp=Z,1.4nm,1.1s,mb3.9,baz=61,slow=8.7,SNR=4.0								
FINES	**FINESS Array B**	**60.60**	**336**	P		**P**	**11 22 35.6**	**-2.0**
FINES				pmax	pmax				
	comp=Z,1.0nm,1.1s								
NOA	**NORSAR Array B**	**64.18**	**343**	P		**P**	**11 22 58.2**	**-3.2**
	comp=Z,0.3nm,0.6s,mb3.3,baz=26,slow=6.7,SNR=2.3								
SCHQ	**Scheffervill e**	**66.97**	**27**	P		**P**	**11 23 18.3**	**-1.1**
	comp=Z,1.7nm,0.6s,mb4.1,baz=310,slow=7.9,SNR=4.0								
WRA	**Warramunga Arr**	**74.79**	**203**	P		**P**	**11 24 07.0**	**+0.2**
	comp=Z,0.5nm,0.6s,mb3.4,baz=20,slow=6.1,SNR=7.2								
WRA				pP	pP		11 24 27.9	-3.3	
	comp=Z,0.6nm,0.7s,baz=18,slow=6.2,SNR=2.9								
WRA	**Warramunga Arr**	**74.79**	**203**	P		**P**	**11 24 07.0**	**+0.2**
WRA				*PP	pP		11 24 27.9	-3.2	
WRA				pmax	pmax				
	comp=Z,1.0nm,0.6s								
WRA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
ASAR	**Alice Springs**	**78.47**	**203**	P		**P**	**11 24 29.2**	**+1.7**
	comp=Z,0.4nm,0.7s,mb3.2,baz=6.7,slow=4.6,SNR=6.2								
ASAR				pP	pP		11 24 50.1	-1.9	
	comp=Z,0.4nm,0.5s,baz=10,slow=5.2,SNR=3.3								

NNC 21 11:58:24.3±5.9, 5406N×8688E, h0km, mb3.5, mpv3.1, 5C-3D, Error ellipse: s-maj=57.3km s-min=40.1km az=30.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**6.06**	**240**	⇓Pn	Pn	11 59 55.5	+0.3
	2.9nm,1.8s						
KURK				⇑Sn	Sn	12 01 06.7	+1.4
	0.5nm,0.5s						
KURK				⇓Lg		12 01 40.0	
	5.7nm,2.0s						
MK02	**Makanchi Array**	**7.86**	**204**	⇓Pn	Pn	12 00 20.0	+0.1
	1.1nm,0.9s,baz=26,slow=14						
MK02				⇑Sn	Sn	12 01 46.8	-2.8
	1.4nm,0.8s,baz=31,slow=19						
MK02				⇑Lg		12 02 33.5	
	1.5nm,0.7s,baz=38,slow=33						
VOSK	**Vostochnaya**	**9.59**	**268**	⇑Pn	Pn	12 00 43.1	-0.5
	1.5nm,0.9s						
VOSK				⇑Sn	Sn	12 02 28.0	-4.1
	2.9nm,1.1s						

*ISCJB **21** 12:14:10.7±0.5, 4017N×003×2245E×004, h19km±5km, Error ellipse: s-maj=5.6km s-min=4.3km az=124.3*
*CSEM **21** 12:14:10.9±0.1, 4019N×2251E, h15km, ML2.6, Error ellipse: s-maj=2.0km s-min=1.7km az=39.0*
*SKO **21** 12:14:10.5, 4017N×2260E, h20km, M1.4, ML2.2*
*ATH **21** 12:14:10.8, 4014N×2243E, h28km±24km, MD3.1/3*
*THE **21** 12:14:11.2, 4021N×2255E, h7km, ML2.6*

ISC 21 12:14:10.8±0.4, 4020N±002×2253E±003, h15km±4km, n22, σ0§80/36, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIT	**Litokhoron**	**0.10**	**196**	*e*Pg	**Pg**	**12 14 13.8**	**-0.3**
LIT				*e*Sg	**Sg**	**12 14 15.8**	**-0.5**
THE	**Thessaloniki**	**0.55**	**38**	*e*Pg	**Pg**	**12 14 21.4**	**-0.1**
KZN	**Kozani**	**0.59**	**281**	*e*PN	**Pg**	**12 14 21.9**	**-0.4**
KZN				*e*SN	**Sg**	**12 14 30.5**	**+0.3**
PLG	**Polygyros**	**0.72**	**76**	*e*PN	**Pn**	**12 14 26.4**	**0.0**
GRG	**Griva**	**0.76**	**353**	*e*Pg	**Pg**	**12 14 25.6**	**0.0**
GRG				*e*Sg	**Sg**	**12 14 36.7**	**+1.1**
SOH	**Sokhos**	**0.89**	**45**	*e*Pg	**Pg**	**12 14 27.6**	**-0.4**
SOH				*e*Sg	**Sg**	**12 14 40.3**	**+0.8**
PAIG	**Paliouri**	**0.93**	**107**	*e*Pg	**Pg**	**12 14 28.6**	**-0.1**
PAIG				*e*Sg	**Sg**	**12 14 41.3**	**+0.4**
XOR	**Xorichti**	**0.98**	**148**	*e*Pg	**Pg**	**12 14 29.7**	**0.0**
KNT	**Kendrikon**	**1.00**	**16**	*e*Pg	**Pg**	**12 14 29.6**	**-0.6**
KNT				*e*Sg	**Sg**	**12 14 43.8**	**+0.6**
KNT	**Kendrikon**	**1.00**	**16**	*e*Pg	**Pg**	**12 14 29.5**	**-0.6**
KNT				*e*Sg	**Sg**	**12 14 43.8**	**+0.5**
NEO	**Neokhori**	**1.04**	**149**	*e*PN	**Pn**	**12 14 30.9**	**+0.1**
NEO				*e*SN	**Sn**	**12 14 45.2**	**+0.1**
FNA	**Florina**	**1.05**	**304**	*e*Pg	**Pg**	**12 14 30.8**	**-0.3**
FNA				*e*Sg	**Sg**	**12 14 46.5**	**+1.6**
VAY	**Valandovo**	**1.12**	**2**	*i* Pg	**Pg**	**12 14 31.1**	**-1.3**
VAY				*i* Sg	**Sg**	**12 14 46.6**	**-0.4**
	comp=E,32nm,0.5s						
VAY				*e*Lg		12 14 46.8	
	comp=E,32nm,0.5s						
VAY				*e*Lg		12 14 47.0	
	comp=N,58nm,0.9s						
VAY	**Valandovo**	**1.12**	**2**	*i* Pg	**Pg**	**12 14 31.0**	**-1.4**
VAY				*i* Sg	**Sg**	**12 14 46.6**	**-0.4**
	comp=N,32nm,0.5s						
OUR	**Ouranopolis**	**1.12**	**83**	*e*Pg	**Pg**	**12 14 32.1**	**-0.3**
OUR				*e*Sg	**Sg**	**12 14 48.4**	**+1.3**
OUR	**Ouranopolis**	**1.12**	**83**	*e*Pg	**Pg**	**12 14 32.1**	**-0.3**
OUR				*e*Sg	**Sg**	**12 14 48.3**	**+1.2**
AGG	**Agios Georgios**	**1.19**	**187**	*e*Pg	**Pg**	**12 14 33.6**	**0.0**
AGG				*e*Sg	**Sg**	**12 14 51.0**	**+1.9**
BIA	**Bitola**	**1.23**	**312**	*i* Pg	**Pg**	**12 14 33.7**	**-0.8**
BIA	**Bitola**	**1.23**	**312**	*i* Pg	**Pg**	**12 14 33.6**	**-0.8**
AOS	**Alonnisos**	**1.47**	**134**	*e*Pg	**Pg**	**12 14 36.6**	**-2.3**
STIP	**Stip**	**1.52**	**350**	*e*Pn	**Pn**	**12 14 37.1**	**-0.2**
STIP	**Stip**	**1.52**	**350**	*e*Pn	**Pn**	**12 14 37.0**	**-0.3**

*IDC **21** 12:18:08.0±3.0, 1681S×17494W, h0km, mb4.0/6, mb1 4.2/6, mb1mx4.0/14, mbtmp4.0/6, MS3.7/7, Ms1 3.7/7, ms1mx3.3/25, Error ellipse: s-maj=167.1km s-min=24.4km az=149.0*
*ISCJB **21** 12:18:12.1±2.2, 1655S×07×1752W×05, h33km, mb4.0/7, MS3.8/5, Error ellipse: s-maj=120.3km s-min=19.8km az=115.2*
*NEIC **21** 12:18:15.6±2.1, 1654S×175.14W, h50km, mb4.2/1, Error ellipse: s-maj=117.0km s-min=19.5km az=148.0*

ISC 21 12:18:15.0±2.2, 1613S±07×1754W±05, h35km, n20, σ0§96/8, mb4.0/7, MS3.8/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.10**	**58**	LR	LR	12 20 16.1	
	comp=Z,562nm,18.5s,baz=229,slow=30						
AFI	**Afiamalu**	**4.10**	**58**	*e*P	**Pn**	**12 19 01.2**	**-14**
DZM	**Mont Dzumac**	**18.19**	**248**	LR	LR	12 27 05.9	
	comp=Z,78nm,21.5s,baz=190,slow=29						
PPT	**Papeete**	**24.70**	**97**	*e*LR	LR	12 22 58.6	
	139nm,25.8s						
PPT	**Papeete**	**24.70**	**97**	*e*LQ		12 28 22.5	
	458nm,24.5s						
PPT				*e*LR	LR	12 29 27.4	
	148nm,24.5s						
HNR	**Honiara**	**24.98**	**282**	LR	LR	12 31 54.5	
	comp=Z,159nm,19.1s,MS3.5,baz=173,slow=32						
TBI	**Tubuai**	**25.38**	**111**	*e*LQ		12 28 32.2	
	355nm,29.0s						
CTA	**Charters Tower**	**36.65**	**258**	LR	LR	12 37 35.1	
	comp=Z,106nm,19.6s,MS3.6,baz=49,slow=32						
WRA	**Warramunga Arr**	**47.85**	**258**	P	**P**	**12 26 48.8**	**-0.5**
	1.5nm,0.9s,mb4.0,baz=91,slow=7.7,SNR=8.5						
ASAR	**Alice Springs**	**48.10**	**253**	P	**P**	**12 26 51.9**	**+0.6**
	0.6nm,0.8s,mb3.7,baz=89,slow=7.9,SNR=6.2						
LPIG	**La Paz**	**75.02**	**59**	LR	LR	12 53 32.8	
	comp=Z,65nm,20.1s,MS3.9,baz=256,slow=28						
YBH	**Yreka Blue Hor**	**75.32**	**38**	LR	LR	12 56 59.3	
	comp=Z,73nm,20.1s,MS4.0,baz=222,slow=31						
NVAR	**Mina Array Bea**	**76.13**	**43**	P	**P**	**12 30 00.5**	**+1.2**
	1.0nm,0.8s,mb3.8,baz=224,slow=7.6,SNR=5.6						
BBB	**Bella Bella**	**79.38**	**27**	P	**P**	**12 30 17.9**	**+0.6**
	12nm,1.0s,mb4.8,baz=233,slow=5.1,SNR=3.0						
COLA	**College**	**83.43**	**11**	*e*P	**P**	**12 30 37.8**	**-1.0**
	2.2nm,0.8s,mb4.2						
ILAR	**Eielson Array**	**83.53**	**12**	P	**P**	**12 30 40.0**	**+0.7**
	0.6nm,1.1s,mb3.6,baz=224,slow=5.0,SNR=5.2						
PDAR	**Pinedale Array**	**84.06**	**42**	P	**P**	**12 30 40.4**	**-1.6**
	0.9nm,0.8s,mb4.0,baz=250,slow=1.8,SNR=4.6						
SONM	**Songino Array**	**94.14**	**319**	LR	LR	13 12 08.0	
	comp=Z,44nm,18.6s,MS4.0,baz=239,slow=34						
BRTR	**Keskin Array B**	**145.50**	**319**	PKPbc	PKPbc	12 37 50.2	+0.8
GERES	**GERESS Array B**	**146.54**	**349**	PKPbc	PKPbc	12 37 54.0	+1.4
	0.6nm,0.8s,baz=72,slow=8.6,SNR=5.1						

CASC 21 12:38:00.2±3.6, 1306N×8900W, h53km±147km, MD3.8, ML3.3, 1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**0.57**	**354**	*e*P	Pn	12 38 22.1	+10
SNVI	**San Vicente**	**0.58**	**16**	*e*P	Pn	12 38 22.4	+10
SNVI				*e*S	Sn	12 38 32.7	+11
LCBS	**La Ceiba**	**0.60**	**2**	*i* P	Pn	12 38 22.6	+10
LCBS				*e*S	Sn	12 38 33.0	+11
SNET	**Serv Nac Est T**	**0.67**	**340**	*e*P	Pn	12 37 56.6	-17
SNET				*e*S	Sn	12 38 03.0	-20
LBRS	**Las Brisas**	**0.68**	**357**	*e*P	Pn	12 38 24.0	+10
LBRS				*e*S	Sn	12 38 33.9	+10
LFU	**La Fuente**	**0.70**	**351**	*e*P	Pn	12 38 24.1	+10
BOQS	**Boqueron**	**0.73**	**338**	*e*P	Pn	12 38 24.4	+10
BOQS				*e*S	Sn	12 38 36.2	+11
VSM	**San Miguel**	**0.80**	**62**	*e*P	Pn	12 38 26.1	+11
VSM				*e*S	Sn	12 38 39.5	+13
SBLS	**San Blas**	**0.99**	**322**	*e*P	Pn	12 38 28.0	+10
SNJE	**San Jose**	**1.00**	**324**	*e*P	Pn	12 38 28.0	+10
SNJE				*e*S	Sn	12 38 42.8	+12
RBDL	**Robledal**	**1.25**	**328**	*e*P	Pn	12 38 31.6	+10
MTO2	**Montecristo 2**	**1.38**	**345**	*e*P	Pn	12 38 33.5	+10
IXG	**Ixpaco**	**1.80**	**308**	*e*P	Pn	12 38 28.6	-0.2
IXG				*e*S	Sn	12 38 49.9	-0.5
CRIN	**San Cristobal**	**1.94**	**100**	*e*P	Pn	12 38 31.9	+1.3
LEON	**Leon**	**2.15**	**107**	*e*P	Pn	12 38 34.0	+0.4
TEL3	**Telica 3**	**2.16**	**103**	*e*P	Pn	12 38 34.2	+0.5
TEL3				*e*S	Sn	12 38 58.6	-0.6
TELN	**Telica**	**2.16**	**102**	*e*P	Pn	12 38 35.0	+1.2
FUG	**Fuego 3**	**2.26**	**308**	*e*P	Pn	12 38 37.3	+2.2
CNGN	**Cerro Negro**	**2.31**	**104**	*e*P	Pn	12 38 36.4	+0.6
MIRN	**Miramar**	**2.32**	**105**	*e*P	Pn	12 38 36.5	+0.6
MOMJ	**Momotombo**	**2.49**	**105**	*e*P	Pn	12 38 39.3	+1.1
COPN	**Copaltepe**	**2.51**	**110**	*e*P	Pn	12 38 39.7	+1.2
COPN				*e*S	Sn	12 39 06.8	-1.0
TP2	**Tecpan 2**	**2.61**	**311**	*e*P	Pn	12 38 41.8	+1.9
TP2				*e*S	Sn	12 39 13.4	+3.1
MGAN	**Managua**	**2.84**	**108**	*i*	Pn	12 39 19.3	+36
	comp=E,167nm,0.5s						
JAT	**Jato**	**2.85**	**296**	*e*P	Pn	12 38 44.6	+1.4
TICN	**Ticuantepe**	**2.89**	**110**	*e*P	Pn	12 38 44.5	+0.8

IDC 21 12:43:45.0±41.0, 503N×12790E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.3/18, mbtmp3.5/3, Error ellipse: s-maj=695.9km s-min=205.7km az=159.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.61**	**166**	P	P	12 49 15.2	-0.7
	0.3nm,0.4s,baz=345,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**29.11**	**169**	P	P	12 49 49.1	+1.8
	0.1nm,0.4s,baz=344,slow=9.4,SNR=4.9						
STKA	**Stephens Creek**	**38.95**	**161**	P	P	12 51 12.5	-0.1
	0.8nm,0.4s,baz=337,slow=7.6,SNR=5.5						

PRE 21 12:59:30.4±1.4, 2163S×3339E, h5km, ML3.8, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BFT	**Belfast (SA)**	**5.07**	**217**	*e*P	Pn	13 00 48.0	+1.0
BFT				*e*S	Sn	13 01 43.8	-2.2
BFT				AML	AML	13 02 21.5	
	comp=Z,50nm,0.5s						
POGA	**Pongola**	**5.94**	**195**	*e*P	Pn	13 00 59.9	+0.9
POGA				*e*S	Sn	13 02 04.2	-3.2
POGA				AML	AML	13 02 39.8	
	comp=Z,15nm,0.5s						
LBTB	**Lobatse**	**7.91**	**243**	*e*P	Pn	13 01 26.6	+0.5
LBTB				*e*S	Sn	13 02 53.3	-2.7
LBTB				AML	AML	13 03 25.7	
	comp=Z,9.0nm,0.5s						
SWZ	**Schweizer**	**9.19**	**231**	*e*P	Pn	13 01 44.8	+1.2
SWZ				*e*S	Sn	13 03 23.3	-4.0
SWZ				AML	AML	13 03 28.7	
	comp=Z,8.7nm,0.6s						

*ISCJB **21** 12:59:53.9±0.8, 4310N±006×064W±004, h11km±8km, Error ellipse: s-maj=10.5km s-min=4.6km az=33.6*
*MDD **21** 12:59:54.9±0.5, 4303N×066W, h0km, mbLg0.8/2, Error ellipse: s-maj=4.6km s-min=2.8km az=32.0, PRXIMO*
*STR **21** 12:59:54.7±0.2, 4309N×062W, h2km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **21** 12:59:55.0±0.0, 4306N×068W, h3km, Md1.8/3, Ml1.7/1, Error ellipse: s-maj=1.5km s-min=0.7km az=23.0*

ISC 21 12:59:54.7±0.8, 4307N±006×066W±004, h8km±8km, n10, σ0§40/15, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATE	**Arette**	**0.03**	**296**	Pg	**Pg**	**12 59 56.2**	**-0.1**
ATE				Sg	**Sg**	**12 59 57.1**	**-0.3**
ATE	**Arette**	**0.03**	**296**	Pg	**Pg**	**12 59 56.2**	**-0.1**
ATE				Lg		12 59 57.1	
ETSF	**Etsaut**	**0.19**	**156**	*e*Pg	**Pg**	**12 59 58.8**	**+0.2**
ETSF				*e*Sg	**Sg**	**13 00 01.4**	**+0.1**
	15nm,0.2s						
LARF	**Larrau**	**0.24**	**262**	Pg	**Pg**	**12 59 59.5**	**0.0**
LARF				Lg		13 00 03.0	
ORDF	**Ordiarp**	**0.24**	**305**	Pg	**Pg**	**12 59 59.7**	**+0.1**
ORDF				Sg	**Sg**	**13 00 03.6**	**+0.7**
SJPF	**Ste Jean**	**0.41**	**276**	*e*Pg	**Pg**	**13 00 02.7**	**-0.1**
SJPF				*e*Sg	**Sg**	**13 00 08.3**	**+0.1**
	5.1nm,0.2s						
EALK	**Alkurruntz**	**0.64**	**284**	Pg	**Pg**	**13 00 06.3**	**-0.6**
	0.2nm,0.2s,SNR=7.9						
EALK				Lg		13 00 14.4	
	2.2nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**0.71**	**123**	Pg	**Pg**	**13 00 08.0**	**-0.4**
	0.8nm,0.2s,SNR=7.9						
EBIE				Lg		13 00 16.3	
	0.4nm,0.1s,SNR=7.9						
EPF	**Esparros**	**0.74**	**93**	*e*Pg	**Pg**	**13 00 09.2**	**+0.3**
EPF				*e*Sg	**Sg**	**13 00 19.2**	**+0.7**
	2.0nm,0.2s						
MTLF	**Montolieu**	**2.12**	**82**	*e*Sg	**Sg**	**13 01 02.2**	**-0.7**
	1.0nm,0.4s						

*IDC **21** 13:07:15.0±3.1, 3828N×6893E, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.4/22, mbtmp3.6/4, ML3.3/2, Error ellipse: s-maj=80.2km s-min=23.5km az=151.0*
*ISCJB **21** 13:07:18.8±1.6, 386N±01×688E±02, h33km, mb3.5/2, Error ellipse: s-maj=19.7km s-min=17.2km az=90.4*
*NNC **21** 13:07:18.9±3.8, 3852N×6891E, h31km±25km, mb3.9, mpv3.5, Error ellipse: s-maj=27.4km s-min=22.4km az=58.0*

ISC 21 13:07:20.5±1.5, 386N±01×689E±01, h35km, n6, σ1§07/8, mb3.5/2, 3C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.71**	**14**	⇑Pn	**Pn**	**13 08 30.9**	**+1.9**
	5.6nm,0.6s,baz=199,slow=14,SNR=43						
KK31				⇓Pg	**Pg**	**13 08 46.3**	**+17**
	3.8nm,0.5s,baz=194,slow=18,SNR=12						
KK31				⇑Lg		13 09 49.0	
	11nm,0.5s,baz=192,slow=29,SNR=5.8						
AB31	**Akbulak array**	**12.51**	**332**	⇑Pn	**Pn**	**13 10 13.9**	**-2.0**
	0.6nm,0.5s,baz=166,slow=12,SNR=18						
AB31				⇓Sn	**Sn**	**13 12 34.2**	**+0.2**
	1.8nm,0.8s						
MKAR	**Makanchi Array**	**12.81**	**46**	Pn	**Pn**	**13 10 19.2**	**-0.9**
	0.1nm,0.3s,baz=237,slow=15,SNR=6.5						
ZAL	**Zalesovo**	**18.83**	**30**	P	**Pn**	**13 11 38.4**	**+0.4**
	0.4nm,0.3s,baz=264,slow=20,SNR=5.4						
FINES	**FINESS Array B**	**34.87**	**325**	P	**P**	**13 14 09.5**	**+1.1**
	0.3nm,0.4s,mb3.6,baz=111,slow=10,SNR=5.8						
TORD	**Torodi Ar. Bea**	**64.17**	**266**	P	**P**	**13 17 51.5**	**0.0**
	0.2nm,0.5s,mb3.4,baz=53,slow=5.2,SNR=4.9						

**IDC 21 13:15:16.3±3.6, 1898S×17835W, h456km±36km, mb2.8/3, mb1 3.2/4

0.3nm,0.4s,baz=185,slow=9.6,SNR=4.2
MKAR Makanchi Array 52.24 343 P P 13 33 47.9 -0.3
0.6nm,0.4s,baz=151,slow=9.2,SNR=7.7

IDC 21 13:27:08.6±6.3, 5643S×14960W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/12, mbtmp3.3/2, MS4.3/1, Ms1 4.2/1, ms1mx3.2/10, Error ellipse: s-maj=1001.0km s-min=113.6km az=173.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PLCA	**Paso Flores**	**51.63**	**108**	LR	LR		13 51 26.4	
	comp=Z,289nm,20.6s,baz=342,slow=28							
ASAR	**Alice Springs**	**63.21**	**267**	P	P		13 37 38.4	-0.2
	0.4nm,0.8s,baz=138,slow=6.2,SNR=8.0							
WRA	**Warramunga Arr**	**65.94**	**270**	P	P		13 37 56.6	+0.1
	0.3nm,1.0s,baz=144,slow=5.8,SNR=6.0							
MKAR	**Makanchi Array**	**147.11**	**275**	PKPbc	PKPbc		13 46 51.8	-1.7
	1.0nm,0.9s,baz=103,slow=2.6,SNR=5.8							

IDC 21 13:32:17.9±43.0, 5731S×14547E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/10, mbtmp3.7/3, MS3.5/1, Ms1 3.4/1, ms1mx2.7/13, Error ellipse: s-maj=737.8km s-min=215.0km az=153.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
STKA	**Stephens Creek**	**25.57**	**352**	P	P		13 37 48.5	0.0
	4.3nm,0.9s,baz=171,slow=11,SNR=6.0							
ASAR	**Alice Springs**	**34.64**	**341**	P	P		13 39 08.1	-0.8
	0.4nm,0.7s,baz=166,slow=10,SNR=11							
MAW	**Mawson**	**36.62**	**220**	LR	LR		13 53 25.3	
	comp=Z,79nm,20.2s,baz=235,slow=35							
WRA	**Warramunga Arr**	**38.21**	**343**	P	P		13 39 39.7	+0.3
	1.0nm,0.9s,baz=169,slow=7.6,SNR=7.7							

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*NIED **21** 13:50:00, 3340N×14090E, h83km, Mw4.0 Best double couple: M₀1.21000×10¹⁵ NP1:φs329.00000°, δ75.00000°, λ-159.00000°. NP2:φs234.00000°, δ70.00000°, λ-16.00000°.*
*MOS **21** 13:50:12.4±0.9, 3317N×14083E, h33km, mb4.4/14, Error ellipse: s-maj=19.9km s-min=10.2km az=108.4*
*ISCJB **21** 13:50:19.7±0.6, 3327N±004×14088E±007, h101km±3km, mb4.2/23, Error ellipse: s-maj=9.1km s-min=6.0km az=1.1*
*BJI **21** 13:50:19.2, 3358N×14135E, h110km, mB4.5, mb4.3*
*IDC **21** 13:50:20.5±1.1, 3318N×14091E, h88km±9km, mb3.8/12, mb1 3.9/13, mb1mx3.7/24, mbtmp4.2/13, MS3.2/1, Ms1 3.2/1, ms1mx2.1/22, Error ellipse: s-maj=19.6km s-min=9.4km az=74.0*
*NEIC **21** 13:50:21.3±1.3, 3324N×14079E, h95km±10km, mb4.3/5, Error ellipse: s-maj=16.3km s-min=11.7km az=76.0*
NEIC Recorded [1 JMA] in Tokyo Prefecture.
*JMA **21** 13:50:21.3±0.1, 3332N×14089E, h87km±2km, M4.3*
JMA Felt I J1.

ISC 21 13:50:20.8±0.6, 3328N±004×14090E±006, h93km±4km, n75, σ0892/91, mb4.2/23, 2D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JHJ2	**Mitsune**	**0.93**	**260**	P	**Pn**		**13 50 40.1**	**+0.3**
JHJ2				S	**Sn**		**13 50 53.9**	**-0.2**
JHJ	**Hachijo jima 2**	**0.95**	**261**	P	**Pn**		**13 50 40.2**	**+0.2**
	336nm,0.3s,baz=71,slow=22,SNR=295							
JHJ				S	**Sn**		**13 50 53.7**	**-0.9**
	3μm,0.3s,baz=60,slow=23,SNR=86							
BSO1	**Boso 1**	**1.37**	**3**	P	**Pn**		**13 50 45.3**	**+0.3**
JMY	**Miyakejima3**	**1.40**	**305**	P	**Pn**		**13 50 45.8**	**+0.4**
JMY				S	**Sn**		**13 51 04.0**	**0.0**
BSO2	**Boso 2**	**1.47**	**355**	S	**Sn**		**13 51 06.3**	**+0.7**
BSO3	**Boso 3**	**1.55**	**348**	P	**Pn**		**13 50 47.7**	**+0.4**
BSO3				S	**Sn**		**13 51 07.2**	**-0.2**
JKO	**Kozu shima**	**1.73**	**302**	P	**Pn**		**13 50 50.1**	**+0.6**
JKO				S	**Sn**		**13 51 11.4**	**0.0**
NJJJ	**Nii jima 2**	**1.75**	**310**	P	**Pn**		**13 50 50.4**	**+0.6**
NJJJ				S	**Sn**		**13 51 11.3**	**-0.6**
JIM2	**Oshima 3**	**1.89**	**320**	P	**Pn**		**13 50 51.7**	**+0.2**
JIM2				S	**Sn**		**13 51 13.7**	**-1.3**
JIZS	**Izushimoda**	**2.21**	**311**	P	**Pn**		**13 50 56.5**	**+0.7**
JIZS				S	**Sn**		**13 51 22.3**	**-0.3**
JOD2	**Odawara 2**	**2.48**	**323**	P	**Pn**		**13 50 59.7**	**+0.3**
JOD2				S	**Sn**		**13 51 27.7**	**-1.4**
TK04	**Tokai 4**	**2.75**	**294**	P	**Pn**		**13 51 04.5**	**+1.5**
SHZ3	**Shizuoka 3**	**2.86**	**309**	P	**Pn**		**13 51 06.1**	**+1.7**
JYN	**Shimob**	**2.95**	**319**	P	**Pn**		**13 51 06.9**	**+1.3**
JRY	**Ryogami san**	**3.19**	**329**	P	**Pn**		**13 51 09.5**	**+0.6**
JRY				S	**Sn**		**13 51 45.5**	**-0.5**
JAG	**Ashikaga**	**3.36**	**340**	P	**Pn**		**13 51 10.8**	**-0.3**
JAG				S	**Sn**		**13 51 49.4**	**-0.6**
MJAR	**Matsushiro Arr**	**3.94**	**327**	P	**Pn**		**13 51 19.6**	**+0.6**
	14nm,0.3s,baz=157,slow=14,SNR=95							
MJAR				S	**Sn**		**13 52 03.9**	**-0.1**
	29nm,0.3s,baz=28,slow=8.1,SNR=17							
MJAR	**Matsushiro Arr**	**3.94**	**327**	P	**Pn**		**13 51 19.6**	**+0.7**
MJAR				S	**Sn**		**13 52 03.9**	**-0.1**
MJAR				pmax	pmax			
	comp=Z,15nm,0.3s							
MJAR				smax				
	comp=N,29nm,0.3s							
MJAR	**Matsushiro Arr**	**3.94**	**327**	P	**Pn**		**13 51 19.6**	**+0.6**
MJAR				S	**Sn**		**13 52 03.9**	**-0.1**
MAJO	**Matsushiro**	**3.94**	**327**	*e*P	**Pn**		**13 51 19.0**	**0.0**
MAT	**Matsushiro**	**3.94**	**327**	P	**Pn**		**13 51 19.7**	**+0.7**
MAT				S	**Sn**		**13 52 04.5**	**+0.4**
MAT	**Matsushiro**	**3.94**	**327**	*e*P	**Pn**		**13 51 20.0**	**+1.0**
MAT				*e*S	**Sn**		**13 52 05.0**	**+0.9**
CBIJ	**Chichi jima**	**6.26**	**169**	P	**Pn**		**13 51 48.9**	**-1.7**
	comp=N,276nm,0.3s,baz=64,slow=5.8,SNR=85							
CBIJ				S	**Sn**		**13 52 53.9**	**-6.7**
	comp=N,82nm,0.3s,baz=266,slow=21,SNR=7.6							
ASAJ	**Asahikawa**	**10.90**	**6**	P	**Pn**		**13 52 51.0**	**-2.6**
	comp=N,3.6nm,0.3s,baz=208,slow=13,SNR=28							
ASAJ	**Asahikawa**	**10.90**	**6**	P	**Pn**		**13 52 51.1**	**-2.6**
ASAJ				pmax	pmax			
	comp=Z,4.0nm,0.3s							
YSS	**Yuzh-Sakhalins**	**13.73**	**5**	*e*P	**Pn**		**13 53 29.0**	**-2.4**
YSS	**Yuzh-Sakhalins**	**13.73**	**5**	P	**Pn**		**13 53 27.6**	**-3.8**
MDJ	**Mudanjiang**	**14.32**	**326**	P	**Pn**		**13 53 36.5**	**-2.5**
MDJ				AMB	AMB			
	comp=Z,4.0nm,0.8s							
MDJ				AMB	AMB			
	comp=Z,45nm,4.2s							
HIA	**Hailar**	**22.42**	**322**	*e*P	**P**		**13 55 09.9**	**-1.9**
HIA				pmax	pmax			
	comp=Z,8.0nm,0.6s							
HIA	**Hailar**	**22.42**	**322**	*e*P	**P**		**13 55 09.9**	**-1.8**
	comp=Z,8.1nm,0.6s,mb4.2							
HHC	**Hu-ho-hao-te**	**24.52**	**296**	*e*P	**P**		**13 55 34.5**	**+3.0**
HHC				PP			13 56 14.5	
HHC				S	**S**		**13 59 38.4**	**-6.9**
HHC				XS	sS		14 00 27.3	+6.1
HHC				SCS	ScS		14 06 24.8	-0.8
HHC				AMB	AMB			
	comp=Z,13nm,1.2s,mb4.2							
HHC				AMB	AMB			
	comp=Z,103nm,6.3s							
HHC				LR	LR			
	comp=N,114nm,14.3s							
HHC				LR	LR			
	comp=E,158nm,14.1s							
HHC				LR	LR			
	comp=Z,102nm,13.7s							
CIT	**Chita**	**27.23**	**322**	*e*P	**P**		**13 55 59.4**	**+3.5**
ULN	**Ulaanbaatar**	**29.28**	**310**	*e*P	**P**		**13 56 14.5**	**+0.3**
ULN				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.2							
ULN	**Ulaanbaatar**	**29.28**	**310**	*e*P	**P**		**13 56 14.5**	**+0.3**
	comp=Z,2.9nm,0.5s,mb4.2							
SONM	**Songino Array**	**29.70**	**310**	P	**P**		**13 56 19.7**	**+1.9**
	comp=Z,1.8nm,0.5s,mb4.0,baz=112,slow=8.9,SNR=16							
SONM				LR	LR		14 09 16.4	
	comp=Z,42nm,18.6s,baz=62,slow=38							
SONM	**Songino Array**	**29.70**	**310**	P	**P**		**13 56 19.7**	**+1.9**
SONM				pmax	pmax			
	comp=Z,2.0nm,0.5s							
SONM				MLR	MLR			
	comp=Z,42nm,18.6s							
BOD	**Bodaibo**	**30.55**	**332**	*e*P	**P**		**13 56 24.5**	**-0.9**
BOD				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.0							
GTA	**Gaotai**	**33.44**	**292**	*e*P	**P**		**13 56 50.4**	**-0.3**
GTA				AMB	AMB			
	comp=Z,6.0nm,1.0s,mb4.4							
WMQ	**Urumqi**	**42.27**	**300**	⇓P	**P**		**13 58 06.6**	**+1.7**
WMQ				PP	PP		13 59 47.8	+3.3
WMQ				AMB	AMB			
	comp=Z,6.0nm,1.1s,mb4.2							
WMQ				AMB	AMB			
	comp=Z,45nm,3.5s							
WMQ				LR	LR			
	comp=N,68nm,24.6s							
WMQ				LR	LR			
	comp=Z,27nm,20.7s							
ZAL	**Zalesovo**	**44.22**	**315**	P	**P**		**13 58 20.9**	**+0.2**
	comp=Z,1.4nm,0.3s,mb4.1,baz=8.4,slow=9.1,SNR=4.3							
ZAL	**Zalesovo**	**44.22**	**315**	P	**P**		**13 58 20.9**	**+0.3**
ZAL				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MKAR	**Makanchi Array**	**45.85**	**305**	P	**P**		**13 58 33.6**	**+0.1**
	comp=Z,3.3nm,0.5s,mb4.3,baz=85,slow=9.5,SNR=30							
MKAR	**Makanchi Array**	**45.85**	**305**	P	**P**		**13 58 33.6**	**+0.1**
MKAR				pmax	pmax			
	comp=Z,3.0nm,0.5s							
JIRN	**Jiri**	**47.05**	**278**	*e*P	**P**		**13 58 43.0**	**+0.1**
GUN	**Gumba**	**47.21**	**279**	*e*P	**P**		**13 58 44.0**	**-0.2**
	comp=Z,7.5nm,0.3s,mb4.8							
PKI	**Pulchoki**	**47.72**	**279**	*e*P	**P**		**13 58 47.8**	**-0.3**
	comp=Z,7.3nm,0.7s,mb4.6							
KKN	**Kakani**	**47.75**	**279**	*e*P	**P**		**13 58 47.9**	**-0.5**
	comp=Z,18nm,0.8s,mb4.9							
DMN	**Daman**	**47.96**	**279**	*e*P	**P**		**13 58 49.4**	**-0.6**
GKN	**Gorkha**	**48.21**	**280**	*e*P	**P**		**13 58 51.5**	**-0.4**
KOLN	**Koldanda**	**49.15**	**280**	*e*P	**P**		**13 58 58.7**	**-0.4**
KDAK	**Kodiak Island**	**50.21**	**40**	P	**P**		**13 59 07.9**	**+0.8**
	comp=Z,9.2nm,0.8s,mb4.8,baz=221,slow=5.6,SNR=4.4							
CHKZ	**Chkalovo**	**52.62**	**315**	*e*P	**P**		**13 59 24.0**	**-1.1**
CHKZ				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.5							
CHKZ	**Chkalovo**	**52.62**	**315**	*e*P	**P**		**13 59 24.0**	**-1.1**
	comp=Z,4.2nm,0.8s,mb4.5							
ILAR	**Eielson Array**	**52.91**	**31**	P	**P**		**13 59 27.6**	**+0.4**
	comp=Z,0.9nm,0.7s,mb3.9,baz=269,slow=5.8,SNR=11							
ILAR	**Eielson Array**	**52.91**	**31**	P	**P**		**13 59 27.7**	**+0.5**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
WB2	**Warramunga Arr**	**53.29**	**188**	⇓*i*P	**P**		**13 59 29.7**	**-0.3**
WRA	**Warramunga Arr**	**53.29**	**188**	P	**P**		**13 59 29.8**	**-0.3**
	comp=Z,4.6nm,0.3s,mb5.0,baz=4.9,slow=7.5,SNR=80							
WRA	**Warramunga Arr**	**53.29**	**188**	P	**P**		**13 59 29.8**	**-0.2**
WRA				pmax	pmax			
	comp=Z,5.0nm,0.3s							
ZRNK	**Zerenda**	**53.68**	**314**	*e*P	**P**		**13 59 32.7**	**-0.2**
ZRNK				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.4							
ZRNK	**Zerenda**	**53.68**	**314**	*e*P	**P**		**13 59 32.7**	**-0.2**
	comp=Z,2.4nm,0.5s,mb4.5							
ASAR	**Alice Springs**	**57.02**	**188**	P	**P**		**13 59 57.0**	**+0.1**
	comp=Z,0.7nm,0.3s,mb4.1,baz=2.9,slow=6.6,SNR=46							
ASAR	**Alice Springs**	**57.02**	**188**	P	**P**		**13 59 57.0**	**+0.2**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
INK	**Inuvik**	**57.93**	**26**	P	**P**		**14 00 04.1**	**+0.9**
	comp=Z,1.0nm,0.5s,mb4.1,baz=296,slow=5.3,SNR=11							
INK	**Inuvik**	**57.93**	**26**	P	**P**		**14 00 04.1**	**+0.9**
INK				pmax	pmax			
	comp=Z,1.0nm,0.5s							
INK	**Inuvik**	**57.93**	**26**	*e*P	**P**		**14 00 03.8**	**+0.6**
	comp=Z,0.7nm,0.5s,mb4.0							
AKTK	**Aktyubinsk**	**60.91**	**313**	P	**P**		**14 00 23.4**	**-0.3**
AKTO	**Aktyubinsk**	**60.91**	**313**	P	**P**		**14 00 23.4**	**-0.3**
	comp=Z,1.3nm,0.5s,mb4.2,baz=65,slow=12,SNR=6.2							
AKTO	**Aktyubinsk**	**60.91**	**313**	P	**P**		**14 00 23.4**	**-0.3**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.1							
FINES	**FINESS Array B**	**71.94**	**333**	P	**P**		**14 01 33.5**	**-0.6**
	comp=Z,0.3nm,0.3s,mb3.5,baz=33,slow=5.2,SNR=4.6							
HFS	**Hagfors**	**77.33**	**336**	P	**P**		**14 02 04.6**	**-0.6**
	comp=Z,0.9nm,0.5s,mb3.7,baz=62,slow=3.8,SNR=5.3							
HFS	**Hagfors**	**77.33**	**336**	P	**P**		**14 02 04.6**	**-0.6**
HFS				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BRTR	**Keskin Array B**	**81.03**	**312**	P	**P**		**14 02 26.9**	**+1.5**
	comp=Z,0.5nm,0.6s,mb3.5,baz=116,slow=4.3,SNR=4.2							
BRTR	**Keskin Array B**	**81.03**	**312**	P	**P**		**14 02 26.9**	**+1.5**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BDFB	**Brasilia**	**160.67**	**27**	PKP	PKPdf		14 10 12.6	+2.9
	comp=Z,1.8nm,0.3s,baz=180,slow=3.0,SNR=4.2							
BDFB	**Brasilia**	**160.67**	**27**	PKIKP	PKPdf		14 10 12.6	+2.9
BDFB				pmax	pmax			
	comp=Z,2.0nm,0.4s							

IDC 21 13:52:04.7±1.6, 5304S×13971E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.8/10, mbtmp3.7/4, MS3.6/2, Ms1 3.5/2, ms1mx3.0/13, Error ellipse: s-maj=175.3km s-min=23.9km az=82.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
STKA	**Stephens Creek**	**21.20**	**4**	*e*P	P		13 56 52.7	+0.9
	3.9nm,0.7s							
STKA	**Stephens Creek**	**21.20**	**4**	P	P		13 56 52.8	+1.0
	5.8nm,0.8s,baz=161,slow=12,SNR=7.2							
NWAO	**Narrogin (SRO)**	**25.77**	**312**	LR	LR		14 05 23.0	
	comp=Z,111nm,21.6s,baz=191,slow=31							
VNDA	**Vanda**	**25.88**	**169**	P	P		13 57 37.8	-0.4
	0.7nm,0.6s,baz=339,slow=10,SNR=5.6							
ASAR	**Alice Springs**	**29.66**	**349**	P	P		13 58 12.8	+0.8
	0.4nm,0.6s,baz=167,slow=9.7,SNR=15							
WRA	**Warramunga Arr**	**33.30**	**351**	P	P		13 58 41.9	-2.1
	0.6nm,0.6s,baz=170,slow=7.7,SNR=4.5							
MAW	**Mawson**	**37.91**	**217**	LR	LR		14 13 11.1	
	comp=Z,85nm,18.9s,baz=240,slow=33							

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*NEIC **21** 14:00:58.8, 3391S×7260W, h26km, ML2.6(GUC), After GUC.*

GUC 21 14:00:58.8±0.7, 3391S×7260W, h26km±4km, MD3.6, ML2.6, 3C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
LCCH	**Las Cruces**	**0.96**	**64**	⇓*i*P	Pn		14 01 16.0	-0.6
LCCH				*i* S	Sb		14 01 29.1	-0.2
LNV	**Longovilo**	**0.99**	**93**	*e*P	Pn		14 01 16.6	-0.4
LNV				*i* S	Sb		14 01 30.1	+0.1
TACH	**Talagante**	**1.41**	**80**	*i* P	Pn		14 01 23.3	+0.5
SFDO	**San Fernando**	**1.49**	**119**	⇓*i*P	Pn		14 01 24.9	+1.0
SFDO				*i* S	Sn		14 01 44.0	+1.4
CHCH	**Chadas Angostu**	**1.62**	**91**	⇑*i*P	Pn		14 01 26.2	+0.6
CHCH				*i* S	Sn		14 01 47.2	+1.5
CACH	**El Canelo**	**1.68**	**98**	⇑*i*P	Pn		14 01 27.6	+1.2
CACH				*i* S	Sn		14 01 50.4	+3.3
PCH	**Pirque**	**1.77**	**81**	⇑*i*P	Pn		14 01 29.0	+1.4
CICH	**Cipreses**	**1.86**	**103**	*e*P	Pn		14 01 29.9	+1.0
LMEL	**Las Melosas**	**2.00**	**89**	*i* P	Pn		14 01 32.5	+1.6
LMEL				*i* S	Sn		14 01 58.2	+3.2
LMEL				AML	AML		14 02 04.1	
	comp=N,75nm,0.4s							
LMEL	**Las Melosas**	**2.00**	**89**	*i* P	Pn		14 01 32.5	+1.6
LMEL				*i* S	Sn		14 01 58.2	+3.2

IDC 21 14:03:09.0±4.6, 1189S×11537E, h0km, mb3.1/2, mb1 3.2/3, mb1mx3.1/13, mbtmp3.1/3, ML2.9/1, Error ellipse: s-maj=260.8km s-min=27.7km az=44.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**19.91**	**116**	P	Pn		14 07 42.1	-1.5
	0.0nm,0.3s,baz=291,slow=13,SNR=2.5							
ASAR	**Alice Springs**	**21.15**	**126**	P	P		14 07 56.1	+0.5
	0.1nm,0.5s,baz=300,slow=9.7,SNR=6.6							
MKAR	**Makanchi Array**	**65.49**	**336**	P	P		14 13 54.1	+0.1
	0.4nm,0.4s,baz=151,slow=7.0,SNR=6.3							

IDC 21 14:16:51.7±1.0, 206N×9972E, h134km±52km, mb3.3/4, mb1 3.5/4, mb1mx3.2/19, mbtmp3.7/4, Error ellipse: s-maj=283.6km s-min=18.6km az=55.0, Northern Sumatera

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

PSI	**Prapat**	**1.08**	**313**	P		Pn	14 17 17.1	+1.4
	0.4nm,0.3s,baz=56,slow=17,SNR=3.9							
PSI				S		Sn	14 17 32.8	-1.1
	0.8nm,0.3s,baz=176,slow=21,SNR=5.8							
WRA	**Warramunga Arr**	**40.40**	**124**	P		P	14 24 16.7	+0.2
	0.3nm,0.6s,baz=304,slow=9.0,SNR=5.3							
ASAR	**Alice Springs**	**41.95**	**130**	P		P	14 24 29.1	-0.1
	0.3nm,0.7s,baz=296,slow=7.7,SNR=5.8							
MKAR	**Makanchi Array**	**47.08**	**344**	P		P	14 25 08.7	-1.2
	0.9nm,0.6s,baz=155,slow=8.6,SNR=11							
ZAL	**Zalesovo**	**53.15**	**349**	P		P	14 25 57.0	+1.3
	2.3nm,0.4s,baz=316,slow=5.3,SNR=6.3							

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*KNET **21** 14:17:30.6±1.1, 4193N×7284E, h3km±5km, ml1.8, Error ellipse: s-maj=6.2km s-min=5.5km az=159.0*
*NNC **21** 14:17:31.7±1.0, 4176N×7271E, h0km, mb2.7, mpv2.3, Error ellipse: s-maj=15.8km s-min=3.1km az=6.0*
*ISCJB **21** 14:17:32.2±1.3, 419N±0.1×7286E±006, h3km, Error ellipse: s-maj=14.6km s-min=6.0km az=7.8*

ISC 21 14:17:32.8±1.3, 4192N±009×7286E±006, h3km, n8, σ1947/14, 9C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
AML	**Almayashu**	**0.66**	**71**	⇑P	**Pg**		**14 17 43.9**	**-1.5**
	16nm,0.1s							
AML				⇑S	**Sg**		**14 17 54.2**	**+0.3**
	28nm,0.4s							
EKS2	**Erkin-Say**	**1.01**	**42**	⇓P	**Pg**		**14 17 49.7**	**-2.5**
	1.6nm,0.1s							
EKS2				⇑S	**Sg**		**14 18 04.5**	**-0.8**
	7.0nm,0.2s							
UCH	**Uchtor**	**1.27**	**75**	⇓P	**Pg**		**14 17 54.8**	**-2.4**
	2.9nm,0.1s,SNR=14							
KZA	**Kyzart**	**1.79**	**84**	⇑P	**Pn**		**14 18 04.4**	**-0.2**
	8.0nm,0.2s,SNR=19							
KZA				⇑S	**Sn**		**14 18 29.6**	**+1.8**
	9.5nm,0.2s							
USP	**Ospenovka**	**1.81**	**41**	⇓P	**Pn**		**14 18 05.3**	**+0.3**
	2.4nm,0.2s,SNR=9.4							
USP				⇓S	**Sn**		**14 18 31.0**	**+2.6**
	16nm,0.3s							
KK31	**Karatay Array**	**2.10**	**305**	⇑P	**Pn**		**14 18 08.2**	**-0.8**
	1.0nm,0.3s,baz=126,slow=17,SNR=54							
KK31				⇑S	**Sn**		**14 18 36.4**	**+0.7**
	3.7nm,0.4s,baz=124,slow=29,SNR=7.4							
TKM2	**Tokmak 2**	**2.26**	**63**	⇓P	**Pn**		**14 18 13.0**	**+1.9**
	5.3nm,0.2s,SNR=11							
TKM2	**Tokmak 2**	**2.26**	**63**	⇑P	**Pn**		**14 18 13.1**	**+2.0**
	0.7nm,0.6s							
TKM2				⇑S	**Sn**		**14 18 44.8**	**+5.3**
	0.5nm,0.6s							

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*NIED **21** 14:44:00, 4200N×14260E, h59km, Mw3.7 Best double couple: M₀4.17000×10¹⁴ NP1:φs24.00000°, δ66.00000°, λ87.00000°. NP2:φs213.00000°, δ25.00000°, λ97.00000°.*
*ISCJB **21** 14:44:56.8±0.5, 4200N±005×14260E±005, h70km±4km, mb3.5/8, Error ellipse: s-maj=8.5km s-min=4.7km az=127.6*
*JMA **21** 14:44:58.0±0.2, 4204N×14260E, h61km±2km, M3.6 Broadband fault plane solution: P waves. NP1: φs152.00000°, δ7.00000°, λ57.00000°. NP2:φs6.00000°, δ84.00000°, λ94.00000°. Principal axes: T Plg51.0000°, Azm280.0000°; N Plg4.0000°, Azm185.0000°; P Plg39.0000°, Azm92.0000°;*
JMA Felt I J1.
*MOS **21** 14:44:58.4±1.0, 4206N×14264E, h92km, mb3.8/5 Error ellipse: s-maj=24.4km s-min=12.2km az=83.4*
*IDC **21** 14:44:59.4±2.7, 4204N×14273E, h85km±17km, mb3.4/7, mb1 3.5/9, mb1mx3.4/22, mbtmp3.6/9, Error ellipse: s-maj=33.6km s-min=18.4km az=112.0*
*NEIC **21** 14:45:00.0±1.2, 4207N×14264E, h87km±11km, mb3.9/1, Error ellipse: s-maj=21.0km s-min=11.1km az=121.0*

ISC 21 14:44:57.4±0.6, 4198N±005×14260E±005, h65km±4km, n33, σ0875/46, mb3.5/8, 5C-7D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JNBK	**Urakawa-nobuka**	**0.33**	**21**	⇑P	**Pn**		**14 45 07.8**	**-0.5**
JNBK				*e*S	**Sn**		**14 45 15.4**	**-0.8**
JEM	**Erimo**	**0.42**	**85**	⇑P	**Pn**		**14 45 09.4**	**+0.3**
JEM				*e*S	**Sn**		**14 45 17.3**	**-0.3**
JBT2	**Biratori 2**	**0.82**	**348**	⇓P	**Pn**		**14 45 12.9**	**-0.5**
JBT2				*e*S	**Sn**		**14 45 24.3**	**-0.9**
JCH	**Churui**	**0.85**	**42**	⇑P	**Pn**		**14 45 13.6**	**-0.3**
JCH				*e*S	**Sn**		**14 45 25.5**	**-0.5**
JKB	**Kayabe**	**1.17**	**266**	⇓P	**Pn**		**14 45 18.1**	**+0.2**
JKB				*e*S	**Sn**		**14 45 33.1**	**0.0**
JFR	**Furan**	**1.19**	**360**	⇓P	**Pn**		**14 45 17.6**	**-0.5**
JEW	**Eniwo**	**1.21**	**316**	⇓P	**Pn**		**14 45 18.3**	**-0.1**
JEW				*e*S	**Sn**		**14 45 34.6**	**+0.5**
JNB	**Noboribetsu**	**1.26**	**294**	⇓P	**Pn**		**14 45 18.3**	**-0.7**
JNB				*e*S	**Sn**		**14 45 34.4**	**-0.8**
JOB	**Onbets**	**1.30**	**44**	⇑P	**Pn**		**14 45 20.5**	**+0.9**
JOB				*e*S	**Sn**		**14 45 37.3**	**+1.0**
JOT	**Ohata**	**1.30**	**243**	⇓P	**Pn**		**14 45 20.1**	**+0.5**
JOT				*e*S	**Sn**		**14 45 36.9**	**+0.7**
JAB	**Ashibetsu**	**1.55**	**350**	⇓P	**Pn**		**14 45 22.9**	**0.0**
JAR	**Ashorobuto**

az=118.7
*BJI **21** 14:47:16.5, 002S×9709E, h42km, mB4.9, mb4.8, Ms4.6, Ms2.4*
*MOS **21** 14:47:16.7±1.0, 022N×97.17E, h33km, mb5.0/21, Error ellipse: s-maj=11.9km s-min=6.6km az=101.9*
*NEIC **21** 14:47:17.8±0.3, 0.15N×97.18E, mb4.7/12, Error ellipse: s-maj=9.9km s-min=7.9km az=49.0*
*IDC **21** 14:47:17.6±0.5, 0.12N×9709E, h31km±3km, mb4.2/18, mb1 4.2/19, mb1mx4.2/21, mbtmp4.3/19, ML3.4/1, MS3.9/13, Ms1 3.9/13, ms1mx3.6/26, Error ellipse: s-maj=17.9km s-min=10.2km az=58.0*

ISC 21 14:47:18.5±0.4, 014N±005×9718E±005, h33km, h33km±.7km: pP-P, n122, σ1s21/119, mb4.7/58, MS4.1/23, 10C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.17**	**33**	Pn		**Pn**		**14 48 03.2**	**-2.7**
	4.0nm,0.3s,baz=198,slow=9.2,SNR=15								
PSI				Sn		**Sn**		**14 48 28.7**	**-14**
	7.2nm,0.3s,baz=160,slow=9.3,SNR=8.0								
TSI	**Tuntungan**	**3.61**	**22**	P		**Pn**		**14 48 11.2**	**-0.9**
	274nm,1.2s								
KULM	**Kulim**	**6.18**	**34**	*e*P		**Pn**		**14 48 46.3**	**-1.0**
KULM				*e*				14 48 55.8	
KKTK	**Khon Kaen**	**17.03**	**19**	P		**Pn**		**14 51 16.0**	**+2.0**
CHG	**Chiang Mai**	**18.64**	**5**	⇑P		**Pn**		**14 51 33.9**	**+0.1**
	28nm,0.9s								
CHTO	**Chiang Mai**	**18.64**	**5**	*e*P		**Pn**		**14 51 32.4**	**-1.4**
CHTO				pmax	pmax				
	comp=Z,28nm,1.0s								
CHTO	**Chiang Mai**	**18.64**	**5**	*e*P		**Pn**		**14 51 32.4**	**-1.4**
	comp=Z,28nm,1.0s								
CHTO				*e*				14 51 41.6	
NANT	**Nan**	**18.86**	**10**	⇑⇑P		**Pn**		**14 51 37.0**	**+0.5**
	comp=Z,250nm,0.5s								
KKM	**Kota Kinabalu**	**19.88**	**72**	*e*P		**Pn**		**14 51 47.4**	**-1.2**
HYB	**Hyderabad**	**25.12**	**314**	*i* P		**P**		**14 52 42.0**	**+1.7**
HYB				*e*S		**S**		**14 57 16.0**	**+13**
HYB	**Hyderabad**	**25.12**	**314**	*e*P		**P**		**14 52 42.0**	**+1.7**
KMI	**Kunming**	**25.41**	**12**	P		**P**		**14 52 45.1**	**+2.2**
KMI				AP	pP			14 52 54.4	+2.0
KMI				XP	sP			14 52 58.5	+2.0
KMI				PP				14 53 27.4	
KMI				S		**S**		**14 57 09.8**	**+2.4**
KMI				XS	sS			14 57 24.0	+0.8
KMI				SS				14 58 13.1	
KMI				AMB	AMB				
	comp=Z,15nm,1.3s,mb4.4								
KMI				AMB	AMB				
	comp=Z,162nm,5.2s								
KMI				LR	LR				
	comp=N,263nm,18.5s,MS4.2								
KMI				LR	LR				
	comp=E,597nm,17.4s,MS4.2								
KMI				LR	LR				
	comp=Z,470nm,14.7s,MS4.1								
SHL	**Shillong**	**25.79**	**349**	*i* P		**P**		**14 52 49.8**	**+3.5**
SHL				*e*S		**S**		**14 57 32.5**	**+19**
GYA	**Guiyang**	**27.72**	**19**	⇓*i*P		**P**		**14 53 04.1**	**+0.4**
GYA				AMB	AMB				
	comp=Z,10.0nm,1.3s,mb4.3								
JIRN	**Jiri**	**29.33**	**340**	*e*P		**P**		**14 53 19.1**	**+1.1**
	comp=Z,26nm,0.8s,mb5.0								
PKI	**Pulchoki**	**29.53**	**338**	*e*P		**P**		**14 53 20.4**	**+0.6**
GUN	**Gumba**	**29.67**	**339**	*e*P		**P**		**14 53 21.9**	**+0.9**
	comp=Z,35nm,0.7s,mb5.2								
KKN	**Kakani**	**29.77**	**338**	*e*P		**P**		**14 53 22.4**	**+0.5**
	comp=Z,25nm,0.8s,mb5.0								
LSA	**Lhasa**	**29.95**	**349**	P		**P**		**14 53 24.3**	**+0.7**
LSA				AMB	AMB				
	comp=Z,40nm,0.9s,mb5.2								
LSA	**Lhasa**	**29.95**	**349**	*e*P		**P**		**14 53 24.9**	**+1.3**
LSA				pmax	pmax				
	comp=Z,3.0nm,0.6s,mb4.2								
LSA	**Lhasa**	**29.95**	**349**	*e*P		**P**		**14 53 24.9**	**+1.3**
	comp=Z,3.4nm,0.6s,mb4.2								
GKN	**Gorkha**	**30.20**	**338**	*e*P		**P**		**14 53 26.2**	**+0.4**
KOLN	**Koldanda**	**30.41**	**336**	*e*P		**P**		**14 53 28.6**	**+1.0**
	comp=Z,29nm,0.7s,mb5.1								
FITZ	**Fitzroy Crossi**	**33.34**	**124**	*e*P		**P**		**14 53 55.1**	**+1.8**
	comp=Z,8.1nm,0.7s,mb4.8								
FITZ	**Fitzroy Crossi**	**33.34**	**124**	P		**P**		**14 53 53.2**	**0.0**
	comp=Z,2.8nm,0.8s,mb4.2,baz=298,slow=12,SNR=6.5								
XAN	**Xi'an**	**35.48**	**17**	P		**P**		**14 54 11.1**	**-0.7**
XAN				AP	pP			14 54 20.8	-0.7
XAN				S		**S**		**14 59 43.0**	**-1.8**
XAN				AMB	AMB				
	comp=Z,19nm,1.5s,mb4.8								
XAN				LR	LR				
	comp=N,317nm,13.5s,MS4.5								
XAN				LR	LR				
	comp=E,593nm,14.8s,MS4.5								
XAN				LR	LR				
	comp=Z,399nm,14.2s,MS4.3								
LZH	**Lanzhou**	**36.30**	**9**	*e*P		**P**		**14 54 19.5**	**+0.7**
LZH				AP	pP			14 54 29.1	+0.5
LZH				XP	sP			14 54 33.3	+0.7
LZH				AMB	AMB				
	comp=Z,31nm,1.3s,mb5.1								
LZH				AMB	AMB				
	comp=Z,118nm,4.9s								
LZH				LR	LR				
	comp=E,482nm,12.3s								
LZH				LR	LR				
	comp=Z,795nm,14.6s,MS4.6								
NJ2	**Nanjing**	**37.77**	**31**	*e*P		**P**		**14 54 30.1**	**-1.3**
NJ2				PP	PP			14 55 58.5	+0.6
NJ2				AMB	AMB				
	comp=Z,10.0nm,0.8s,mb4.6								
NJ2				AMB	AMB				
	comp=Z,110nm,5.4s								
NJ2				LR	LR				
	comp=N,620nm,29.7s,MS4.4								
NJ2				LR	LR				
	comp=E,640nm,25.7s,MS4.4								
NJ2				LR	LR				
	comp=Z,210nm,28.5s,MS3.8								
NWAO	**Narrogin (SRO)**	**37.93**	**152**	P		**P**		**14 54 32.5**	**-0.2**
	comp=Z,6.4nm,1.0s,mb4.3,baz=354,slow=18,SNR=2.3								
NWAO				LR	LR			15 08 08.9	
	comp=Z,177nm,19.2s,MS3.9,baz=204,slow=33								
NWAO	**Narrogin (SRO)**	**37.93**	**152**	P		**P**		**14 54 32.5**	**-0.2**
NWAO				LR	LR			15 08 08.8	
SSE	**Sheshan**	**38.29**	**34**	P		**P**		**14 54 35.8**	**+0.1**
SSE				AP	pP			14 54 44.8	-0.7
SSE				XP	sP			14 54 48.6	-0.9
SSE				S		**S**		**15 00 31.3**	**+3.7**
SSE				XS	sS			15 00 46.5	+2.8
SSE				AMB	AMB				
	comp=Z,24nm,0.7s,mb5.0								
SSE				AMB	AMB				
	comp=Z,59nm,6.3s								
SSE				LR	LR				
	comp=N,294nm,19.3s,MS4.2								
SSE				LR	LR				
	comp=E,164nm,19.3s,MS4.2								
SSE				LR	LR				
	comp=Z,175nm,19.9s,MS3.9								
GTA	**Gaotai**	**39.16**	**3**	*e*P		**P**		**14 54 43.1**	**+0.1**
GTA				AP	pP			14 54 53.1	+0.3
GTA				XP	sP			14 54 56.9	+0.1
GTA				AMB	AMB				
	comp=Z,6.0nm,1.9s,mb4.0								
GTA				AMB	AMB				
	comp=Z,80nm,4.2s								
GTA				LR	LR				
	comp=N,213nm,14.1s,MS4.3								
GTA				LR	LR				
	comp=E,217nm,14.5s,MS4.3								
GTA				LR	LR				
	comp=Z,231nm,12.9s,MS4.2								
JOW	**Kunigami**	**39.98**	**46**	P		**P**		**14 54 49.4**	**-0.5**
	comp=Z,4.2nm,0.6s,mb4.3,baz=336,slow=30,SNR=3.6								
JOW				LR	LR			15 10 07.0	
	comp=Z,141nm,21.4s,MS3.8,baz=176,slow=34								
WRA	**Warramunga Arr**	**41.50**	**121**	P		**P**		**14 55 02.3**	**-0.1**
	comp=Z,8.9nm,0.9s,mb4.4,baz=301,slow=8.9,SNR=34								
WRA	**Warramunga Arr**	**41.50**	**121**	*i* P		**P**		**14 55 03.7**	**+1.3**
WRA				pmax	pmax				
	comp=Z,9.0nm,0.9s								
WRAB	**Tennant Creek**	**41.50**	**121**	*e*P		**P**		**14 55 04.9**	**+2.5**
WB2	**Warramunga Arr**	**41.51**	**121**	*e*P		**P**		**14 55 02.7**	**+0.2**
BTO	**Baotou**	**41.94**	**15**	*e*P		**P**		**14 55 05.5**	**-0.5**
HHC	**Hu-ho-hao-te**	**42.57**	**16**	*e*P		**P**		**14 55 13.0**	**+1.8**
HHC				AP	pP			14 55 23.0	+2.0
HHC				XP	sP			14 55 26.8	+1.8
HHC				PP	PP			14 56 55.0	+4.8
HHC				PCP	PcP			14 57 04.4	+1.3
HHC				SCP	ScP			15 00 49.6	-1.8
HHC				PCS	PcS			15 00 55.4	+0.2
HHC				S		**S**		**15 01 34.9**	**+3.4**
HHC				XS	sS			15 01 50.3	+2.5
HHC				SS	SS			15 04 39.6	-2.5
HHC				SCS	ScS			15 05 09.8	-0.2
HHC				AMB	AMB				
	comp=Z,21nm,1.3s,mb4.7								
HHC				AMB	AMB				
	comp=Z,146nm,4.6s								
HHC				LR	LR				
	comp=N,309nm,15.2s,MS4.5								
HHC				LR	LR				
	comp=E,395nm,15.8s,MS4.5								
HHC				LR	LR				
	comp=Z,310nm,15.4s,MS4.3								
ASAR	**Alice Springs**	**42.78**	**126**	P		**P**		**14 55 12.9**	**+0.1**
	comp=Z,0.8nm,0.5s,mb3.7,baz=294,slow=7.6,SNR=18								
ASAR				pPcP				14 57 14.7	
	comp=Z,1.9nm,1.0s,baz=293,slow=4.7,SNR=5.2								
BJT	**Baijiatuau**	**43.30**	**21**	*e*P		**P**		**14 55 18.5**	**+1.4**
BJT				*e*PP	pP			14 55 27.4	+0.5
BJT				pmax	pmax				
	comp=Z,13nm,0.8s								
BJT	**Baijiatuau**	**43.30**	**21**	*e*P		**P**		**14 55 18.5**	**+1.5**
	comp=Z,13nm,0.8s,mb4.7								
BJT				*e*pP	pP			14 55 27.4	+0.4
BJI	**Beijing**	**43.33**	**21**	P		**P**		**14 55 18.5**	**+1.3**
BJI				AP	pP			14 55 27.4	+0.3
BJI				S		**S**		**15 01 50.3**	**+7.7**
BJI				AMB	AMB				
	comp=Z,24nm,1.2s,mb4.8								
BJI				LR	LR				
	comp=N,345nm,17.1s,MS4.3								
BJI				LR	LR				
	comp=E,117nm,17.7s,MS4.3								
BJI				LR	LR				
	comp=Z,129nm,16.4s,MS3.9								
WSAR	**Wadi Sarin**	**43.92**	**304**	P		**P**		**14 55 20.8**	**-1.3**
	comp=Z,5.5nm,1.1s,mb4.2,baz=148,slow=9.9,SNR=3.9								
WSAR	**Wadi Sarin**	**43.92**	**304**	P		**P**		**14 55 20.8**	**-1.3**
AAK	**Ala-Archa**	**46.96**	**337**	*d* iP		**P**		**14 55 45.6**	**-0.5**
AAK				pmax	pmax				
	comp=Z,19nm,1.8s,mb4.7								
FRU	**Bishkek**	**47.09**	**337**	*e*P		**P**		**14 55 48.0**	**+0.9**
FRU				pmax	pmax				
	comp=Z,50nm,2.0s,mb5.1								
SONM	**Songino Array**	**48.18**	**8**	P		**P**		**14 55 56.3**	**+0.8**
	comp=Z,3.8nm,0.6s,mb4.6,baz=192,slow=9.1,SNR=39								
SONM				pP		pP		14 56 06.1	+0.6
	comp=Z,11nm,0.9s,baz=191,slow=8.8,SNR=25								
SONM				LR	LR			15 19 11.2	
	comp=Z,180nm,19.2s,MS4.1,baz=185,slow=40								
SONM	**Songino Array**	**48.18**	**8**	P		**P**		**14 55 56.3**	**+0.8**
SONM				*PP	pP			14 56 06.1	+0.6
MKAR	**Makanchi Array**	**48.26**	**346**	P		**P**		**14 55 56.5**	**+0.3**
	comp=Z,8.1nm,0.5s,mb5.0,baz=156,slow=8.0,SNR=109								
MKAR				pP	pP			14 56 05.8	-0.4
	comp=Z,7.9nm,0.6s,baz=156,slow=7.9,SNR=15								
MKAR	**Makanchi Array**	**48.26**	**346**	P		**P**		**14 55 56.5**	**+0.3**
MKAR				pP	pP			14 56 05.8	-0.4
ULN	**Ulaanbaatar**	**48.30**	**9**	*e*P		**P**		**14 55 57.0**	**+0.5**
ULN				*e*PP	pP			14 56 06.5	0.0
ULN				pmax	pmax				
	comp=Z,18nm,1.3s,mb4.9								
ULN	**Ulaanbaatar**	**48.30**	**9**	*e*P		**P**		**14 55 57.0**	**+0.4**
	comp=Z,18nm,1.3s,mb4.9								
ULN				*e*pP	pP			14 56 06.5	0.0
GUMO	**Guam**	**49.07**	**72**	LR	LR			15 16 42.5	
	comp=Z,64nm,20.9s,MS3.6,baz=257,slow=36								
CN2	**Changchun**	**50.25**	**26**	*e*P		**P**		**14 56 11.1**	**-0.3**
CN2				AMB	AMB				
	comp=Z,20nm,0.6s,mb5.3								
ZAK	**Zakamensk**	**50.33**	**5**	*e*P		**P**		**14 56 11.9**	**-0.1**
ZAK				*e*				14 58 00.8	
ZAK				pmax	pmax				
	comp=Z,17nm,1.9s,mb4.8								
ZAK				pmax	pmax				
	comp=Z,8.0nm,2.0s,mb4.4								
CBIJ	**Chichi jima**	**50.84**	**54**	LR	LR			15 15 30.8	
	comp=Z,61nm,18.4s,MS3.6,baz=350,slow=33								
TLY	**Talaya**	**51.65**	**5**	*e*P		**P**		**14 56 22.1**	**+0.2**
TLY				pmax	pmax				
	comp=Z,9.0nm,0.8s,mb4.8								
TLY				MLR	MLR				
	comp=Z,97nm,15.0s,MS4.0								
JHJ	**Hachijo jima 2**	**51.75**	**46**	LR	LR			15 18 59.8	
	comp=Z,78nm,20.6s,MS3.7,baz=258,slow=37								
CTA	**Charters Tower**	**52.05**	**116**	LR	LR			15 17 54.1	
	comp=Z,154nm,21.4s,MS4.0,baz=295,slow=35								
IRK	**Irkutsk**	**52.26**	**6**	*e*P		**P**		**14 56 25.1**	**-1.4**
IRK				*e*	pP			14 56 35.0	-1.5
IRK				pmax	pmax				
	comp=Z,37nm,1.5s,mb5.1								
MAT	**Matsushiro**	**52.48**	**42**	P		**P**		**14 56 27.4**	**-0.7**
MAT	**Matsushiro**	**52.48**	**42**	*e*P		**P**		**14 56 27.0**	**-1.1**
MJAR	**Matsushiro Arr**	**52.48**	**42**	P		**P**		**14 56 28.1**	**0.0**
	comp=Z,2.0nm,0.8s,mb4.1,baz=232,slow=7.0,SNR=10								
MJAR				LR	LR			15 20 47.4	
	comp=Z,198nm,19.0s,MS4.2,baz=245,slow=38								
HIA	**Hailar**	**52.65**	**18**	*e*P		**P**		**14 56 29.8**	**+0.5**
HIA				*e*PP	pP			14 56 38.9	-0.5
HIA				pmax	pmax				
	comp=Z,6.0nm,0.7s								
HIA	**Hailar**	**52.65**	**18**	*e*P		**P**		**14 56 29.8**	**+0.5**
	comp=Z,5.8nm,0.7s,mb4.6								
HIA				*e*pP	pP			14 56 38.9	-0.4
STKA	**Stephens Creek**	**52.66**	**132**	*e*P		**P**		**14 56 28.0**	**-1.5**
	comp=Z,5.7nm,0.8s,mb4.5								
STKA	**Stephens Creek**	**52.66**	**132**	P		**P**		**14 56 28.7**	**-0.8**
	comp=Z,8.5nm,0.9s,mb4.7,baz=312,slow=7.3,SNR=9.1								
STKA				pP		pP		14 56 37.6	-1.9
	comp=Z,7.4nm,0.9s,baz=293,slow=6.6,SNR=6.0								
MDJ	**Mudanjiang**	**52.80**	**29**	P		**P**		**14 56 32.6**	**+2.2**
MDJ				AMB	AMB				
	comp=Z,3.0nm,1.0s,mb4.2								
MDJ				AMB	AMB				
	comp=Z,45nm,4.0s								
CIT	**Chita**	**53.50**	**13**	*e*P		**P**		**14 56 38.9**	**+3.3**
CIT				*e*	pP			14 56 46.7	+1.0
CIT				pmax	pmax				
	comp=Z,58nm,1.8s,mb5.2								
ZAL	**Zalesovo**	**54.59**	**351**	P		**P**		**14 56 44.6**	**+1.1**
	comp=Z,17nm,0.5s,mb5.3,baz=309,slow=5.7,SNR=70								
NVS	**Novosibirsk**	**55.71**	**350**	*i* P		**P**		**14 56 50.0**	**-1.7**
NVS				pmax	pmax				
	comp=N,33nm,1.5s								
NVS				pmax	pmax				
	comp=Z,30nm,1.5s,mb5.1								
NVS				pmax	pmax				
	comp=E,12nm,1.0s								
KRAR	**Krasnoyarsk**	**55.80**	**357**	*e*P		**P**		**14 56 53.3**	**+1.0**
KRAR				pmax	pmax				
	comp=Z,98nm,2.1s,mb5.5								
KLR	**Kul'dur**	**57.20**	**26**	*e*P		**P**		**14 56 59.2**	**-3.1**
KLR				*e*S		**S**		**15 05 03.0**	**+7.4**
KLR				MLR	MLR				
	comp=N,600nm,14.0s								
KLR				MLR	MLR				
	comp=Z,800nm,14.0s,MS5.0								
CHKZ	**Chkalovo**	**57.72**	**342**	*e*P		**P**		**14 57 04.7**	**-1.2**
CHKZ				pmax	pmax				
	comp=Z,28nm,1.4s,mb5.1								
CHKZ	**Chkalovo**	**57.72**	**342**	*e*P		**P**		**14 57 04.7**	**-1.2**
	comp=Z,28nm,1.4s,mb5.1								
HABR	**Khabarovsk**	**58.19**	**29**	P		**P**		**14 57 08.4**	**-0.8**
BOD	**Bodaibo**	**59.05**	**10**	*e*P		**P**		**14 57 14.8**	**-0.4**
BOD				pmax	pmax				
	comp=Z,10.0nm,1.8s,mb4.5								
ASAJ	**Asahikawa**	**59.52**	**37**	LR	LR			15 23 31.7	
	comp=Z,159nm,19.8s,MS4.2,baz=350,slow=36								
KMBO	**Kilima Mbogo**	**59.94**	**269**	pP	pP			14 57 31.7	+0.2
	comp=Z,2.1nm,0.8s,baz=245,slow=22,SNR=4.1								
KMBO				LR	LR			15 20 01.5	
	comp=Z,131nm,19.1s,MS4.1,baz=93,slow=33								
KMBO	**Kilima Mbogo**	**59.94**	**269**	P		**P**		**14 57 24.0**	**+2.7**
KMBO				*e*PP	pP			14 57 32.3	+0.8
KMBO				pmax	pmax				
	comp=Z,1.0nm,0.8s								
KMBO	**Kilima Mbogo**	**59.94**	**269**	P		**P**		**14 57 24.0**	**+2.7**
	comp=Z,1.3nm,0.8s,mb4.0								
KMBO				*e*pP	pP			14 57 32.3	+0.8
YSS	**Yuzh-Sakhalins**	**61.23**	**34**	P		**P**		**14 57 27.0**	**-3.1**
YSS				*i*				14 57 40.0	
HNR	**Honiara**	**63.18**	**101**	P		**P**		**14 57 45.8**	**+2.6**
	comp=Z,30nm,0.6s,mb5.6,baz=270,slow=2.0,SNR=3.3								
HNR	**Honiara**	**63.18**	**101**	P		**P**		**14 57 45.8**	**+2.6**
SVE	**Sverdlovsk**	**63.66**	**339**	*e*P		**P**		**14 57 46.0**	**-0.4**
SVE				pmax	pmax				
	comp=Z,44nm,2.0s,mb5.1								
ZEI	**Tsey**	**63.78**	**319**	*e*P		**P**		**14 57 47.4**	**+0.3**
ZEI				*e*PP	pP			14 57 59.2	+1.8
ZEI				pmax	pmax				
	comp=Z,4.0nm,0.5s,mb4.7								
ARU	**Arti**	**64.15**	**337**	⇑*i*P		**P**		**14 57 48.8**	**-0.8**
ARU				*e*				14 58 19.4	
ARU				*e*				15 00 09.3	
ARU				*e*PPP				15 01 38.9	
ARU				*e*S		**S**		**15 06 25.8**	**+1.5**
ARU				*e*SS		SS		15 10 34.1	+0.4
ARU				pmax	pmax				
	comp=Z,4.0nm,0.9s,mb4.5								
KIV	**Kislovodsk**	**65.10**	**320**	*e*P		**P**		**14 57 53.3**	**-2.5**
KIV				pmax	pmax				
	comp=Z,12nm,1.1s,mb4.8								
MALT	**Malatya**	**65.83**	**313**	*e*P		**P**		**14 58 00.6**	**+0.1**
MALT				pmax	pmax				
	comp=Z,4.0nm,0.7s,mb4.6								
MALT	**Malatya**	**65.83**	**313**	*e*P		**P**		**14 58 00.6**	**+0.2**
	comp=Z,3.5nm,0.7s,mb4.5								
YAK	**Yakutsk**	**66.44**	**16**	*e*P		**P**		**14 58 03.5**	**-0.9**
YAK				*e*PP	pP			14 58 13.0	-1.7
YAK				pmax	pmax				
	comp=Z,48nm,1.0s,mb5.5								
YAK	**Yakutsk**	**66.44**	**16**	*e*P		**P**		**14 58 03.5**	**-0.9**
	comp=Z,48nm,1.0s,mb5.5								
YAK				*e*pP	pP			14 58 12.9	-1.7
SOC	**Sochi**	**66.89**	**318**	*e*P		**P**		**14 58 03.4**	**-3.9**
SOC				*e*S		S		15 06 51.6	-6.3
BRTR	**Keskin Array B**	**69.81**	**313**	P		**P**		**14 58 24.4**	**-1.2**
	comp=Z,1.8nm,0.6s,mb4.2,baz=134,slow=6.5,SNR=11								
BRTR				pP	pP			14 58 34.5	-1.4
	comp=Z,2.2nm,0.8s,baz=132,slow=6.4,SNR=7.1								
MAW	**Mawson**	**71.68**	**193**	*e*P		pP		14 58 46.4	-0.9
	comp=Z,3.5nm,0.8s								
MAW	**Mawson**	**71.68**	**193**	P		**P**		**14 58 37.5**	**+0.5**
	comp=Z,1.0nm,0.6s,mb3.9,baz=51,slow=11,SNR=4.1								
MAW				pP	pP			14 58 46.9	-0.5
	comp=Z,4.4nm,0.9s,baz=45,slow=5.6,SNR=7.6								
MAW				LR	LR			15 22 57.3	
	comp=Z,110nm,21.1s,MS4.1,baz=238,slow=30								
MAW	**Mawson**	**71.68**	**193**	*e*P		**P**		**14 58 37.1**	**+0.2**
MAW				*e*pP	pP			14 58 46.4	-0.9
OBN	**Obninsk**	**73.51**	**329**	P		**P**		**14 58 46.0**	**-1.8**
OBN				*e*	pP			14 58 57.3	-0.9
OBN				pmax	pmax				
	comp=Z,34nm,1.8s,mb5.0								
AKASG	**Malin Array Be**	**76.08**	**323**	P		**P**		**14 59 01.1**	**-1.6**
	comp=Z,4.5nm,0.6s,mb4.6,baz=94,slow=4.9,SNR=28								
AKASG				pP	pP			14 59 11.3	-1.8
	comp=Z,5.0nm,0.6s,baz=94,slow=4.9,SNR=9.3								
VRI	**Vrincioaia**	**76.38**	**317**	⇑*i*P		**P**		**14 59 04.7**	**+0.3**
VRI	**Vrincioaia**	**76.38**	**317**	⇑P		**P**		**14 59 04.6**	**+0.2**
MLR	**Muntele Rosu**	**76.82**	**317**	⇑*i*P		**P**		**14 59 06.8**	**-0.1**
MLR	**Muntele Rosu**	**76.82**	**317**	⇑P		**P**		**14 59 06.8**	**0.0**
BURAR	**Bucovina Array**	**77.81**	**319**	⇑*i*P		**P**		**14 59 12.9**	**+0.5**
BURAR	**Bucovina Array**	**77.81**	**319**	⇑P		**P**		**14 59 13.1**	**+0.7**
JOF	**Joensuu**	**79.09**	**335**	*e*p		**P**		**14 59 18.0**	**-1.5**
	comp=Z,9.8nm,1.5s,mb4.5								
DRGR		**79.30**	**318**	⇑P		**P**		**14 59 20.6**	**0.0**
FINES	**FINESS Array B**	**80.93**	**333**	P		**P**		**14 59 28.6**	**-0.8**
	comp=Z,2.0nm,0.5s,mb4.3,baz=96,slow=6.5,SNR=23								
FINES				pP	pP			14 59 38.0	-1.9
	comp=Z,2.4nm,0.7s,baz=100,slow=7.9,SNR=5.1								
KAF	**Kangasniemi**	**81.02**	**333**	*e*p		**P**		**14 59 28.6**	**-1.3**
	comp=Z,7.6nm,0.7s,mb4.7								
KAF	**Kangasniemi**	**81.02**	**333**	*e*P		**P**		**14 59 28.6**	**-1.3**
KAF				pmax	pmax				
	comp=Z,8.0nm,0.7s,mb4.8								
OJC	**Ojcow**	**81.83**	**321**	*e*P		pP		14 59 43.7	-1.0
ARCES	**ARCESS Array B**	**83.52**	**340**	P		**P**		**14 59 40.9**	**-2.1**
	comp=Z,1.7nm,0.7s,mb4.3,baz=302,slow=7.0,SNR=4.5								
ARCES				pP	pP			14 59 52.0	-1.5
	comp=Z,3.5nm,0.9s,baz=90,slow=6.1,SNR=3.0								
ARCES				LR	LR			15 41 02.5	
	comp=Z,71nm,18.5s,MS4.1,baz=231,slow=39								
ARCES	**ARCESS Array B**	**83.52**	**340**	P		**P**		**14 59 40.9**	**-2.1**
ARCES				*PP	pP			14 59 52.1	-1.4
ARCES	**ARCESS Array B**	**83.52**	**340**	P		**P**		**14 59 40.9**	**-2.1**
ARCES				pP	pP			14 59 52.0	-1.5
ARCES				LR	LR			15 41 02.5	
VNDA	**Vanda**	**84.79**	**169**	pP	pP			14 59 57.9	-2.2
	comp=Z,1.9nm,1.0s,baz

mb1 3.2/3, mb1mx3.0/20, mbtmp3.5/3, Error ellipse: s-maj=106.1km s-min=24.1km az=83.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.72**	**84**	P	Pn	15 28 20.6	+1.6
	37nm,0.3s,baz=73,slow=0.6,SNR=44						
GUMO				S	Sn	15 28 42.7	0.0
	35nm,0.3s,baz=39,slow=22,SNR=33						
WRA	**Warramunga Arr**	**34.24**	**195**	P	P	15 34 20.6	0.0
	0.6nm,0.6s,baz=12,slow=8.8,SNR=13						
ASAR	**Alice Springs**	**37.92**	**194**	P	P	15 34 52.2	+0.3
	0.5nm,1.0s,baz=12,slow=9.0,SNR=6.2						
MKAR	**Makanchi Array**	**60.44**	**316**	P	P	15 37 43.1	+0.1
	0.3nm,0.6s,baz=85,slow=9.3,SNR=6.2						

CASC 21 15:37:30.5±4.7, 1278N×8841W, h44km±34km, MD3.8, ML3.4, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLLM	**Bellamira**	**0.69**	**14**	*e*P	Pn	15 37 52.8	+8.9
LCBS	**La Ceiba**	**1.03**	**328**	*e*P	Pn	15 37 57.6	+9.1
LFRS	**El Faro**	**1.05**	**323**	*e*P	Pn	15 37 58.1	+9.3
LFRS				*e*S	Sn	15 38 12.6	+10
SNET	**Serv Nac Est T**	**1.21**	**319**	*e*P	Pn	15 37 38.3	-13
SNET				*e*S	Sn	15 37 48.2	-18
BOQS	**Boqueron**	**1.27**	**319**	*e*P	Pn	15 38 01.3	+9.4
BOQS				*e*S	Sn	15 38 18.1	+10
CRIN	**San Cristobal**	**1.33**	**93**	*e*P	Pn	15 37 53.2	+0.6
CRIN				*e*S	Sn	15 38 11.0	+1.9
TEL3	**Telica 3**	**1.54**	**97**	*e*P	Pn	15 37 55.2	-0.3
TEL3				*e*S	Sn	15 38 14.5	+0.1
SBLS	**San Blas**	**1.58**	**312**	*e*P	Pn	15 38 05.7	+10
SBLS				*e*S	Sn	15 38 26.5	+11
SNJE	**San Jose**	**1.59**	**313**	*e*P	Pn	15 38 05.9	+10
MIRN	**Miramar**	**1.69**	**101**	*e*P	Pn	15 37 57.3	-0.3
MIRN				*e*S	Sn	15 38 17.8	-0.2
CNGN	**Cerro Negro**	**1.69**	**99**	*e*P	Pn	15 37 57.4	-0.2
CNGN				*e*S	Sn	15 38 18.0	-0.1
COPN	**Copaltepe**	**1.87**	**108**	*e*P	Pn	15 37 59.7	-0.4
COPN				*e*S	Sn	15 38 22.5	0.0
TISN	**Laguna Tiscapa**	**2.19**	**106**	*e*P	Pn	15 38 04.6	+0.3
TISN				*e*S	Sn	15 38 30.2	+0.1
MGAN	**Managua**	**2.21**	**106**	*e*P	Pn	15 38 05.0	+0.4
MGAN				*e*S	Sn	15 38 29.9	-0.7
	comp=N,308nm,0.1s						
TICN	**Ticuantepe**	**2.25**	**109**	*e*P	Pn	15 38 05.6	+0.3
TICN				*e*S	Sn	15 38 32.4	+0.6
IXG	**Ixpaco**	**2.42**	**305**	*e*P	Pn	15 38 06.3	-1.3
IXG				*e*S	Sn	15 38 39.0	+2.9
TP2	**Tecpan 2**	**3.23**	**309**	*e*S	Sn	15 38 59.3	+3.5
URSC	**Urasca**	**5.40**	**122**	*e*P	Pn	15 38 52.5	+3.0
BUS	**Buena Vista**	**5.58**	**125**	*e*P	Pn	15 38 52.5	+1.7
BUS				*e*S	Sn	15 39 39.7	-14

*IDC **21** 15:40:27.2±0.9, 2121N×14462E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.8/20, mbtmp3.7/8, ML3.4/1, MS3.6/6, Ms1 3.6/6, ms1mx3.2/21, Error ellipse: s-maj=37.1km s-min=20.4km az=93.0*
*ISCJB **21** 15:40:29.8±0.8, 2127N±009×1447E±02, h33km, mb3.7/8, MS3.7/4, Error ellipse: s-maj=31.1km s-min=13.5km az=179.8*
*NEIC **21** 15:40:30.0±0.8, 2127N×14462E, h20km, Error ellipse: s-maj=30.6km s-min=14.7km az=90.0*

ISC 21 15:40:32.0±0.7, 2129N±010×1447E±02, h35km, n17, σ1§27/12, mb3.7/8, MS3.7/4, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**15.98**	**293**	LR	LR	15 48 52.4	
	comp=Z,79nm,18.8s,baz=295,slow=32						
MJAR	**Matsushiro Arr**	**16.22**	**341**	Pn	**Pn**	**15 44 15.0**	**-2.2**
	0.1nm,0.3s,baz=156,slow=9.5,SNR=3.9						
MJAR				LR	LR	15 49 53.5	
	comp=Z,212nm,18.3s,baz=160,slow=35						
ASAJ	**Asahikawa**	**22.84**	**356**	LR	LR	15 53 32.2	
	comp=Z,87nm,19.3s,MS3.2,baz=347,slow=34						
SONM	**Songino Array**	**40.56**	**320**	P	**P**	**15 48 09.2**	**+1.3**
	0.6nm,0.6s,mb3.4,baz=124,slow=6.5,SNR=4.3						
WB2	**Warramunga Arr**	**42.21**	**195**	*e*P	**P**	**15 48 21.3**	**-0.2**
WRA	**Warramunga Arr**	**42.21**	**195**	P	**P**	**15 48 20.7**	**-0.8**
	2.0nm,0.8s,mb3.8,baz=16,slow=9.1,SNR=12						
ASAR	**Alice Springs**	**45.90**	**194**	P	**P**	**15 48 50.9**	**-0.2**
	0.6nm,0.7s,mb3.6,baz=15,slow=8.8,SNR=11						
ZAL	**Zalesovo**	**55.42**	**322**	LR	LR	16 14 49.0	
	comp=Z,38nm,19.8s,MS3.5,baz=197,slow=37						
MKAR	**Makanchi Array**	**56.02**	**313**	P	**P**	**15 50 07.3**	**+0.2**
	0.6nm,0.7s,mb3.8,baz=88,slow=8.6,SNR=3.7						
MKAR	**Makanchi Array**	**56.02**	**313**	P	**P**	**15 50 07.3**	**+0.2**
ILAR	**Eielson Array**	**61.76**	**27**	P	**P**	**15 50 46.5**	**-0.5**
	0.5nm,0.8s,mb3.7,baz=243,slow=6.5,SNR=5.5						
INK	**Inuvik**	**67.38**	**23**	*e*P	**P**	**15 51 22.4**	**-1.3**
PPT	**Papeete**	**75.08**	**116**	LR	LR	16 20 16.1	
	comp=Z,242nm,19.2s,MS4.5,baz=299,slow=32						
YKA	**Yellowknife Ar**	**76.16**	**28**	P	**P**	**15 52 20.9**	**+4.5**
	0.5nm,0.7s,mb3.5,baz=260,slow=7.5,SNR=3.1						
NVAR	**Mina Array Bea**	**82.29**	**52**	P	**P**	**15 52 53.0**	**+3.1**
	0.7nm,0.8s,mb3.6,baz=260,slow=4.3,SNR=3.2						
FINES	**FINESS Array B**	**84.16**	**335**	P	**P**	**15 53 01.0**	**+1.5**
	0.8nm,0.8s,mb3.9,baz=94,slow=5.7,SNR=4.3						
NOA	**NORSAR Array B**	**89.83**	**339**	LR	LR	16 37 42.5	
	comp=Z,18nm,18.6s,MS3.5,baz=240,slow=38						

IDC 21 15:40:50.0±1.1, 435N×12241E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=165.3km s-min=20.3km az=66.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.83**	**154**	P	P	15 46 32.1	0.0
	0.2nm,0.4s,baz=334,slow=9.8,SNR=8.2						
ASAR	**Alice Springs**	**30.01**	**159**	P	P	15 47 01.1	+0.7
	0.2nm,0.4s,baz=334,slow=7.6,SNR=12						
SONM	**Songino Array**	**45.46**	**345**	P	P	15 49 11.1	+0.3
	0.5nm,0.8s,baz=152,slow=9.1,SNR=2.7						
MKAR	**Makanchi Array**	**54.65**	**327**	P	P	15 50 20.5	-0.1
	0.8nm,0.4s,baz=122,slow=7.9,SNR=19						

MAN 21 15:49:49.8, 1380N×12051E, h91km, MS5.2, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.26**	**256**	*e*P	Pn	15 50 04.7	+1.6
BUSP	**Coron**	**1.81**	**190**	*e*P	Pn	15 50 20.3	+0.8
OTRP	**Odiongan**	**2.05**	**134**	*e*P	Pn	15 50 21.1	+1.4
ENPP	**El Nido**	**2.79**	**202**	*e*P	Pn	15 50 33.5	+1.1
CUYO	**Cuyo Island**	**2.97**	**170**	*e*P	Pn	15 50 35.3	+0.4

*ISCJB **21** 15:57:46.9±2.6, 495S±02×1531E±0.1, h80km±24km, mb3.5/7, Error ellipse: s-maj=30.1km s-min=18.1km az=160.6*
*IDC **21** 15:57:48.5±3.4, 496S×1530E, h75km±30km, mb3.2/5, mb1 3.5/7, mb1mx3.4/16, mbtmp3.7/7, Error ellipse: s-maj=29.3km s-min=27.8km az=109.0*
*NEIC **21** 15:57:49.1±1.6, 499S×1530E, h87km±15km, mb4.1/2, Error ellipse: s-maj=20.7km s-min=12.6km az=171.0*

ISC 21 15:57:49.4±2.1, 50S±02×1531E±01, h87km±20km, n14, σ0§35/13, mb3.5/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.33**	**233**	P	**Pn**	**15 59 33.6**	**0.0**
PMG	**Port Moresby**	**7.33**	**233**	*e*Pn	**Pn**	**15 59 34.6**	**+0.9**
HNR	**Honiara**	**8.10**	**123**	P	**Pn**	**15 59 44.4**	**+0.1**
HNR	**Honiara**	**8.10**	**123**	*e*Pn	**Pn**	**15 59 43.7**	**-0.5**
KAKA	**Kakadu**	**21.78**	**248**	*e*P	**P**	**16 02 33.3**	**-0.7**
	2.4nm,0.3s,mb4.0						
WB2	**Warramunga Arr**	**23.52**	**229**	*e*P	**P**	**16 02 51.5**	**0.0**
WRA	**Warramunga Arr**	**23.53**	**229**	P	**P**	**16 02 51.6**	**0.0**
	0.6nm,0.5s,mb3.2,baz=51,slow=10.0,SNR=11						
ASAR	**Alice Springs**	**26.20**	**223**	P	**P**	**16 03 15.9**	**+0.1**
	0.2nm,0.4s,mb2.9,baz=56,slow=8.9,SNR=11						
ASAR				PcP	PcP	16 06 42.6	+2.1
	0.2nm,0.5s,baz=65,slow=2.2,SNR=4.4						
FITZ	**Fitzroy Crossi**	**29.82**	**242**	*e*P	**P**	**16 03 48.0**	**-0.1**
	4.5nm,0.9s,mb4.1						
SONM	**Songino Array**	**66.64**	**328**	P	**P**	**16 08 30.7**	**0.0**
	0.2nm,0.4s,mb3.3,baz=140,slow=6.0,SNR=3.1						
VNDA	**Vanda**	**72.62**	**178**	P	**P**	**16 09 07.7**	**+0.3**
	0.8nm,0.7s,mb3.7,baz=18,slow=6.4,SNR=5.6						
VNDA	**Vanda**	**72.62**	**178**	P	**P**	**16 09 07.7**	**+0.3**
MKAR	**Makanchi Array**	**80.66**	**319**	P	**P**	**16 09 52.9**	**+0.2**
	0.4nm,0.5s,mb3.5,baz=106,slow=7.2,SNR=6.3						
TORD	**Torodi Ar. Bea**	**150.64**	**288**	PKPbc	PKPbc	16 17 32.1	+0.9
	0.6nm,0.4s,baz=84,slow=2.1,SNR=10						
TORD				PKPab	PKPab	16 17 39.7	+1.4
	0.4nm,0.3s,baz=61,slow=2.8,SNR=7.9						

KRSC 21 15:58:00.3±0.5, 4958N×15663E, h39km±99km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.15**	**344**	*e*P	Pn	15 58 17.7	-2.2
PAU	**Pauzhetka**	**1.89**	**3**	*e*P	Pn	15 58 31.2	+1.1
PAU				*e*S	Sn	15 58 53.6	+0.9
PAU				Smax			
	250nm,0.2s						
MIPR	**Malaya Ipel'ka**	**2.70**	**2**	*e*P	Pn	15 58 42.4	+1.2
RUS	**Russkaya**	**3.10**	**22**	*i* P	Pn	15 58 47.7	+1.1
RUS				*e*S	Sn	15 59 22.7	+0.4
GRL	**Gorelyy**	**3.11**	**16**	*e*P	Pn	15 58 48.9	+2.0
GRL				*e*S	Sn	15 59 24.1	+1.3
AVH	**Avacha**	**3.92**	**19**	*e*P	Pn	15 59 00.6	+2.7
KOK	**Koryaka**	**3.92**	**18**	*e*P	Pn	15 59 00.6	+2.6
GNL	**Ganaly**	**4.20**	**11**	*e*P	Pn	15 59 04.7	+2.9

IDC 21 16:50:25.1±1.5, 205N×12781E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/17, mbtmp3.9/5, Error ellipse: s-maj=96.6km s-min=22.3km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.14**	**186**	*e*P	P	16 55 01.3	+0.7
	2.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.14**	**186**	P	P	16 55 01.3	+0.7
	1.7nm,0.6s,baz=308,slow=18,SNR=6.9						
WRA	**Warramunga Arr**	**22.78**	**164**	P	P	16 55 30.4	+1.4
	2.1nm,0.4s,baz=341,slow=10,SNR=76						
WB2	**Warramunga Arr**	**22.78**	**164**	*e*P	P	16 55 30.6	+1.5
ASAR	**Alice Springs**	**26.24**	**167**	P	P	16 56 02.2	+0.5
	1.3nm,0.5s,baz=345,slow=7.2,SNR=64						
ASAR				PcP	PcP	16 59 27.3	-1.1
	0.5nm,1.1s,baz=4.4,slow=2.0,SNR=4.3						
STKA	**Stephens Creek**	**36.19**	**160**	*e*P	P	16 57 28.7	-0.6
	2.6nm,0.8s						
STKA	**Stephens Creek**	**36.19**	**160**	P	P	16 57 28.7	-0.6
	2.5nm,0.5s,baz=340,slow=7.7,SNR=20						
MKAR	**Makanchi Array**	**59.54**	**325**	P	P	17 00 31.0	+0.8
	0.3nm,0.5s,baz=115,slow=7.8,SNR=7.2						

*ISCJB **21** 17:32:35.0±0.7, 4896N±003×778E±005, h14km±5km, Error ellipse: s-maj=5.7km s-min=4.8km az=52.6*
*BGR **21** 17:32:36.5±0.5, 4894N×782E, h5km, ML2.0/2, Error ellipse: s-maj=10.0km s-min=5.6km az=63.0*
*STR **21** 17:32:36.6±0.3, 4895N×780E, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **21** 17:32:36.3±0.1, 4892N×789E, h6km, Md2.1/3, Ml2.2/8, Error ellipse: s-maj=3.4km s-min=1.8km az=117.0*

ISC 21 17:32:35.8±0.7, 4895N±003×782E±005, h14km±5km, n14, σ0§58/24, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANF	**Langenberg**	**0.03**	**337**	Pg	**Pg**	**17 32 38.2**	**0.0**
LANF				Sg	**Sg**	**17 32 39.0**	**-0.9**
CDF	**Champ du Feu**	**0.65**	**214**	*e*Pg	**Pg**	**17 32 48.4**	**-0.1**
CDF				*e*Sg	**Sg**	**17 32 57.1**	**0.0**
	9.4nm,0.2s						
BFO	**Black Forest**	**0.71**	**152**	*e*Pg	**Pg**	**17 32 50.1**	**+0.6**
	SNR=0.9						
BFO				*e*Sg	**Sg**	**17 32 58.6**	**-0.3**
	SNR=3.2						
ECH	**Echery**	**0.86**	**211**	Pg	**Pg**	**17 32 53.0**	**+0.6**
ECH				Sg	**Sg**	**17 33 04.5**	**+0.8**
WLF	**Walferdange**	**1.31**	**304**	*e*Sg	**Sg**	**17 33 18.1**	**+0.2**
	SNR=2.0						
HINF	**Hinteralfeld**	**1.31**	**210**	*e*Pn	**Pn**	**17 32 58.2**	**-1.4**
HINF				*e*Sg	**Sg**	**17 33 17.9**	**0.0**
	7.0nm,0.3s						
TNS	**Taunus Mts**	**1.33**	**17**	*e*Sg	**Sg**	**17 33 19.3**	**+0.5**
	SNR=2.4						
HAU	**Haudompre**	**1.36**	**227**	*e*Pn	**Pn**	**17 33 00.1**	**-0.3**
HAU	**Haudompre**	**1.36**	**227**	*e*Pg	**Pg**	**17 33 01.7**	**-0.3**
HAU				*e*Sg	**Sg**	**17 33 20.3**	**+0.5**
	6.0nm,0.3s						
THEF	**They Montfort**	**1.42**	**240**	Pg	**Pg**	**17 33 02.7**	**-0.4**
THEF				Sg	**Sg**	**17 33 22.3**	**+0.8**
MEZF	**Maizieres J'vi**	**1.89**	**257**	*e*Pg	**Pg**	**17 33 12.3**	**+0.3**
MEZF				*e*Sg	**Sg**	**17 33 36.6**	**0.0**
	1.0nm,0.2s						
SFTF	**Sexfontaines**	**2.00**	**249**	*e*Pg	**Pg**	**17 33 14.5**	**+0.5**
SFTF				*e*Sg	**Sg**	**17 33 40.1**	**+0.2**
	2.0nm,0.2s						
LOR	**Lormes**	**3.15**	**239**	*e*Sg	**Sg**	**17 34 16.0**	**-0.8**
	0.9nm,0.3s						
SSF	**Saint Saulge**	**3.46**	**238**	*e*Pn	**Pn**	**17 33 29.7**	**+0.4**
SSF				*e*Sg	**Sg**	**17 34 25.9**	**-1.0**
	1.5nm,0.3s						

*ISCJB **21** 17:35:50.6±1.6, 3282S±007×1774W±03, h33km, mb4.7/8, MS4.1/7, Error ellipse: s-maj=31.3km s-min=6.4km az=30.0*
*NEIC **21** 17:35:52.5±0.7, 3265S×17786W, h10km, mb4.8/4, Error ellipse: s-maj=18.6km s-min=7.9km az=110.0*
*IDC **21** 17:35:53.3±0.9, 3235S×17831W, h0km, mb4.6/6, mb1 4.6/8, mb1mx4.3/16, mbtmp4.6/8, ML4.4/2, MS4.1/8, Ms1 4.1/8, ms1mx3.8/19, Error ellipse: s-maj=22.1km s-min=19.1km az=145.0*
*MOS **21** 17:35:59.0±1.7, 3211S×17850W, h33km, mb4.8/2, Error ellipse: s-maj=22.7km s-min=19.5km az=114.6*

ISC 21 17:35:52.7±1.8, 3269S±007×1775W±03, h35km, n64, σ1§30/36, mb4.7/8, MS4.1/7, 1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.45**	**354**	Pn	**Pn**	**17 36 44.2**	**+0.3**
	77nm,0.3s,baz=66,slow=23,SNR=3.8						
RAO				Sn	**Sn**	**17 37 21.6**	**-1.9**
	192nm,0.3s,baz=93,slow=20,SNR=4.0						
RAO	**Raoul Island**	**3.45**	**354**	Pn	**Pn**	**17 36 44.2**	**+0.3**
RAO				Sn	**Sn**	**17 37 21.6**	**-1.9**
PUZ	**Puketiti**	**6.39**	**212**	*e*PN	**Pn**	**17 37 22.6**	**-1.8**
PUZ				*e*SN	**Sn**	**17 38 36.8**	**+0.7**
PUZ	**Puketiti**	**6.39**	**212**	*e*P	**Pn**	**17 37 25.0**	**+0.6**
MWZ	**Matawai**	**6.94**	**214**	*e*PN	**Pn**	**17 37 30.0**	**-1.8**
MWZ				*e*SN	**Sn**	**17 38 49.8**	**+0.2**
MWZ	**Matawai**	**6.94**	**214**	P	**Pn**	**17 37 32.4**	**+0.5**
URZ	**Urewera**	**7.09**	**217**	Pn	**Pn**	**17 37 36.2**	**+2.3**
	4.9nm,0.3s,baz=182,slow=0.0,SNR=30						
URZ				Sn	**Sn**	**17 38 52.1**	**-1.1**
	5.0nm,0.3s,baz=160,slow=22,SNR=3.1						
URZ	**Urewera**	**7.09**	**217**	*e*PN	**Pn**	**17 37 32.9**	**-1.0**
URZ				*e*SN	**Sn**	**17 38 51.5**	**-1.7**
URZ	**Urewera**	**7.09**	**217**	*e*P	**Pn**	**17 37 34.4**	**+0.5**
KNZ	**Kokohu**	**7.43**	**211**	*e*SN	**Sn**	**17 39 01.0**	**-0.7**
BKZ	**Black Stump Fm**	**8.10**	**215**	*e*PN	Px	17 37 47.0	
BKZ				*e*SN	Sx	17 39 14.6	
BKZ	**Black Stump Fm**	**8.10**	**215**	*e*P	Px	17 37 47.7	
BKZ				S	Sx	17 39 17.5	
TSZ	**Takapari Road**	**9.05**	**214**	*e*PN	Px	17 37 57.9	
TSZ				*e*SN	Sx	17 39 36.7	
BFZ	**Birch Farm**	**9.42**	**210**	*e*PN	Px	17 38 04.6	
BFZ				*e*SN	Sx	17 39 46.3	
MRZ	**Mangatainoka R**	**9.71**	**213**	*e*PN	Px	17 38 07.2	
MRZ				*e*SN	Sx	17 39 50.8	
MRZ	**Mangatainoka R**	**9.71**	**213**	*e*P	Px	17 38 07.2	
MRZ				S	Sx	17 39 51.6	
NNZ	**Nelson**	**11.21**	**218**	*e*SN	Sx	17 40 25.8	
THZ	**Tophouse**	**11.85**	**217**	*e*PN	Px	17 38 37.6	
THZ				*e*SN	Sx	17 40 40.5	
KHZ	**Kahutara**	**12.03**	**214**	*e*SN	Sx	17 40 43.6	
LTZ	**Lake Taylor**	**12.92**	**216**	*e*SN	Sx	17 41 03.0	
MQZ	**McQueen's Vall**	**13.44**	**212**	*e*SN	Sx	17 41 15.6	
RPZ	**Rata Peaks**	**14.21**	**216**	Pn	**Pn**	**17 39 08.7**	**-2.6**
	1.1nm,0.3s,baz=18,slow=20,SNR=7.1						
RPZ				Sn	**Sn**	**17 41 35.0**	**-13**
	2.1nm,0.3s,baz=7.4,slow=19,SNR=10						
RAR	**Rarotonga**	**19.46**	**58**	LR	LR	17 46 45.0	
	comp=Z,442nm,20.0s,baz=248,slow=33						
TBI	**Tubuai**	**26.37**	**76**	*e*LR	LR	17 48 13.4	
	247nm,21.2s,baz=236						
HNR	**Honiara**	**31.15**	**313**	P	**P**	**17 42 05.7**	**-2.4**
	18nm,0.7s,mb5.0,baz=93,slow=3.5,SNR=3.8						
HNR				LR	LR	17 52 19.5	
	comp=Z,92nm,18.4s,MS3.5,baz=179,slow=32						
HNR	**Honiara**	**31.15**	**313**	P	**P**	**17 42 05.7**	**-2.4**
HNR				LR	LR	17 52 19.5	
STKA	**Stephens Creek**	**34.45**	**260**	P	**P**	**17 42 38.5**	**+1.5**
	1.5nm,0.6s,mb4.1,baz=88,slow=10.0,SNR=5.9						
STKA				LR	LR	17 56 03.1	
	comp=Z,483nm,18.5s,MS4.3,baz=25,slow=36						
STKA	**Stephens Creek**	**34.45**	**260**	*e*P	**P**	**17 42 38.5**	**+1.5**
STKA				LR	LR	17 56 03.1	
CTA	**Charters Tower**	**34.65**	**282**	*e*P	**P**	**17 42 40.9**	**+2.2**
	15nm,1.7s,mb4.6						
CTA	**Charters Tower**	**34.65**	**282**	P	**P**	**17 42 39.8**	**+1.1**
	7.2nm,0.6s,mb4.8,baz=90,slow=9.1,SNR=13						
CTA				LR	LR	17 54 56.9	
	comp=Z,265nm,18.3s,MS4.0,baz=117,slow=34						
CTA	**Charters Tower**	**34.65**	**282**	*e*P	**P**	**17 42 40.9**	**+2.2**
CTA				pmax	pmax		
	comp=Z,15nm,1.7s						
CTAO	**Charters Tower**	**34.65**	**282**	*e*P	**P**	**17 42 40.2**	**+1.5**
CTAO				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
CTAO	**Charters Tower**	**34.65**	**282**	*e*P	**P**	**17 42 40.2**	**+1.5**
	comp=Z,6.8nm,0.6s,mb4.8						
RKT	**Rikitea**	**38.55**	**87**	*e*LR	LR	17 53 51.0	
	comp=Z,256nm,32.5s,baz=244						
PMG	**Port Moresby**	**40.01**	**297**	LR	LR	17 57 40.5	
	comp=Z,176nm,18.2s,MS4.0,baz=208,slow=33						
ASAR	**Alice Springs**	**43.47**	**269**	P	**P**	**17 43 53.5**	**+1.1**
	comp=Z,4.7nm,0.7s,mb4.3,baz=107,slow=7.5,SNR=48						
ASAR				S	**S**	**17 50 17.3**	**-1.2**
	comp=Z,0.3nm,0.8s,baz=116,slow=17,SNR=3.2						
WB2	**Warramunga Arr**	**44.65**	**274**	*e*P	**P**	**17 44 02.8**	**+1.0**
WRA	**Warramunga Arr**	**44.66**	**274**	P	**P**	**17 44 02.9**	**+0.9**
	comp=Z,8.0nm,0.4s,mb4.9,baz=113,slow=7.9,SNR=42						
FORT	**Forrest**	**45.92**	**257**	*e*P	**P**	**17 44 13.0**	**+1.1**
	comp=Z,22nm,0.6s,mb5.3						
FITZ	**Fitzroy Crossi**	**52.82**	**271**	LR	LR	18 07 48.9	
	comp=Z,432nm,18.2s,MS4.5,baz=284,slow=37						
CASY	**Casey**	**53.33**	**209**	*e*P	**P**	**17 45 14.4**	**+6.0**
KLBR	**Kellerberrin**	**54.05**	**252**	*e*P	**P**	**17 45 13.6**	**0.0**
	comp=Z,12nm,1.0s,mb4.8						
MAW	**Mawson**	**70.32**	**201**	*e*P	**P**	**17 47 11.4**	**+8.7**
	comp=Z,1.5nm,0.6s,mb4.1						
MAW	**Mawson**	**70.32**	**201**	P	**P**	**17 47 08.0**	**+5.3**
	comp=Z,1.4nm,0.7s,mb4.0,baz=87,slow=11,SNR=4.3						
VNA3	**Neumayer Olymp**	**76.00**	**176**	*e*	sP	17 47 54.2	+3.1
VNA3				*e*		17 47 55.8	
VNA3				*e*		17 47 56.3	
VNA3				*e*		17 47 58.5	
VNA2	**Neumayer--Watz**	**76.43**	**177**	*e*	sP	17 47 56.8	+3.2
	baz=176,slow=4.0						
VNA2				*e*		17 47 58.5	
VNA2				*e*		17 47 59.9	
VNA2				*e*		17 48 02.1	
VNA1	**Neumayer--Stat**	**76.66**	**176**	*e*	sP	17 47 58.0	+3.1
YBH	**Yreka Blue Hor**	**89.57**	**38**	LR	LR	18 20 55.0	
	comp=Z,111nm,18.5s,MS4.3,baz=358,slow=30						
CPUP	**Villa Florida**	**98.22**	**128**	LR	LR	18 25 28.7	
	comp=Z,82nm,18.1s,MS4.3,baz=156,slow=30						
MKAR	**Makanchi Array**	**119.56**	**309**	PKIKP	PKiKP	17 54 42.6	+3.9
	comp=Z,0.5nm,0.8s,baz=100,slow=3.2,SNR=3.4						
ARCES	**ARCESS Array B**	**140.92**	**347**	PKhKP		17 55 20.1	
	comp=Z,2.3nm,0.8s,baz=100,slow=3.1,SNR=3.3						
JOF	**Joensuu**	**144.70**	**338**	*e*p	PKPdf	17 55 28.7	+3.1
ZEI	**Tsey**	**146.06**	**299**	*e*PKIKP	PKPdf	17 55 34.6	+6.6
MOS	**Moscow**	**146.46**	**324**	*e*PKIKP	PKPdf	17 55 33.2	+4.6
MOS				*e*		17 55 45.9	
MOS				pmax	pmax		
	comp=Z,43nm,0.9s						
KAF	**Kangasniemi**	**146.85**	**340**	*e*p	PKPdf	17 55 34.9	+5.6
OBN	**Obninsk**	**147.28**	**323**	*i* PKP2	PKPab	17 55 37.0	+2.8
OBN				pmax	pmax		
	comp=Z,21nm,0.9s						
FINES	**FINESS Array B**	**147.44**	**339**	PKPbc	PKPbc	17 55 36.2	+3.4
	comp=Z,7.7nm,0.7s,baz=52,slow=3.4,SNR=47						
NB2	**NORSAR Subarra**	**151.08**	**351**	PKPa	PKPbc	17 55 46.2	+4.2
	comp=Z,2.1nm,0.7s,baz=16,slow=4.1						
NOA	**NORSAR Array B**	**151.08**	**351**	PKPbc	PKPbc	17 55 45.6	+3.7
	comp=Z,1.0nm,0.8s,baz=14,slow=3.7,SNR=5.7						
DBIC	**Dimbokro**	**153.21**	**164**	PKPbc	PKPbc	17 55 57.0

az=112.1
*NEIC **21** 17:57:21.2±0.9,1707S×17720W,h40km,mb4.7/4,Error ellipse: s-maj=41.6km s-min=13.0km az=146.0*
*HRVD **21** 17:57:21.2±0.3,1683S×17693W,h12km±1km,MW5.0/70, Centroid moment Tensor Solution. LP body waves: s22,c27;Mantle waves: s70,c100; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.55±.13; $M_{\theta\theta}$-2.39±.10; $M_{\phi\phi}$2.94±.13; $M_{r\theta}$-0.41±.32; $M_{r\phi}$1.72±.11; $M_{\theta\phi}$1.14±.36; Best double couple: M_o3.34200×1016 NP1:ϕ_s298.00000°,δ80.00000°,λ168.00000°. NP2: ϕ_s298.00000°,δ80.00000°,λ168.00000°. Principal axes: T 3.7840, Plg16.0000°, Azm253.0000°; N -0.8840, Plg74.0000°, Azm81.0000°; P -2.8990, Plg2.0000°, Azm344.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 21 17:57:20.8±1.2,170S±03×1772W±02,h35km,n30, σ0§65/11,mb4.4/10,MS4.1/11,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.05**	**61**	LR	LR	18 00 31.1	
	comp=Z,2μm,20.6s,baz=246,slow=32						
RAO	**Raoul Island**	**12.25**	**183**	LR	LR	18 03 31.5	
	comp=Z,391nm,21.0s,baz=356,slow=31						
RAR	**Rarotonga**	**17.00**	**107**	LR	LR	18 05 58.1	
	comp=Z,912nm,19.8s,baz=285,slow=31						
URZ	**Urewera**	**21.80**	**192**	LR	LR	18 08 13.0	
	comp=Z,304nm,18.9s,MS3.7,baz=11,slow=30						
HNR	**Honiara**	**23.46**	**286**	LR	LR	18 10 24.1	
	comp=Z,232nm,19.6s,MS3.6,baz=174,slow=34						
PPT	**Papeete**	**26.38**	**95**	*e*LQ		18 08 09.2	
	1μm,29.5s						
PPT				*e*LR	LR	18 09 18.8	
	1μm,27.0s,baz=254						
PPT	**Papeete**	**26.38**	**95**	LR	LR	18 09 49.2	
	comp=Z,756nm,19.8s,MS4.2,baz=277,slow=29						
TBI	**Tubuai**	**26.78**	**108**	*e*LQ		18 08 23.8	
	1μm,29.8s						
TBI				*e*LR	LR	18 09 37.6	
	903nm,28.2s,baz=268						
CTA	**Charters Tower**	**34.75**	**259**	P	**P**	**18 04 07.9**	**+0.3**
	4.5nm,0.8s,mb4.4,baz=76,slow=12,SNR=2.1						
TAOE	**Nuku Hiva Isla**	**36.95**	**82**	*e*LR	LR	18 14 08.3	
	2μm,28.4s						
RKT	**Rikitea**	**40.04**	**106**	*e*LR	LR	18 15 43.9	
	629nm,27.0s,baz=266						
STKA	**Stephens Creek**	**40.09**	**240**	*e*P	**P**	**18 04 51.9**	**-1.0**
	8.2nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**40.09**	**240**	P	**P**	**18 04 52.1**	**-0.8**
	4.9nm,0.8s,mb4.3,baz=68,slow=8.9,SNR=9.0						
STKA				LR	LR	18 19 35.6	
	comp=Z,332nm,18.1s,MS4.2,baz=284,slow=33						
WRA	**Warramunga Arr**	**45.94**	**258**	P	**P**	**18 05 40.2**	**+0.1**
	1.4nm,0.8s,mb4.0,baz=94,slow=7.3,SNR=6.7						
ASAR	**Alice Springs**	**46.16**	**253**	P	**P**	**18 05 42.4**	**+0.5**
	4.4nm,0.9s,mb4.4,baz=86,slow=8.1,SNR=35						
GUMO	**Guam**	**48.22**	**307**	LR	LR	18 21 08.7	
	comp=Z,125nm,21.7s,MS3.9,baz=250,slow=30						
VNDA	**Vanda**	**61.48**	**185**	LR	LR	18 27 22.5	
	comp=Z,112nm,21.4s,MS4.0,baz=8.8,slow=30						
MJAR	**Matsushiro Arr**	**67.85**	**322**	P	**P**	**18 08 16.2**	**+0.8**
	2.2nm,1.0s,mb4.2,baz=151,slow=6.3,SNR=5.1						
NVAR	**Mina Array Bea**	**77.95**	**43**	P	**P**	**18 09 15.8**	**+0.6**
	0.5nm,0.7s,mb3.5,baz=232,slow=6.7,SNR=2.8						
MNTX	**Cornudas Mount**	**84.09**	**55**	*e*P	**P**	**18 09 48.6**	**+0.7**
	9.1nm,1.5s,mb4.7						
COLA	**College**	**84.61**	**12**	*e*P	**P**	**18 09 49.4**	**-1.1**
	11nm,1.1s,mb4.9						
ILAR	**Eielson Array**	**84.72**	**13**	P	**P**	**18 09 50.5**	**-0.5**
	3.4nm,1.0s,mb4.4,baz=238,slow=4.8,SNR=11						
MAW	**Mawson**	**85.13**	**199**	LR	LR	18 45 09.2	
	comp=Z,165nm,18.2s,MS4.5,baz=242,slow=34						
BILL	**Bilibino**	**85.61**	**354**	*e*P	**P**	**18 09 55.2**	**-0.4**
	8.2nm,1.2s,mb4.8						
PDAR	**Pinedale Array**	**85.88**	**43**	LR	LR	18 41 09.6	
	comp=Z,148nm,19.1s,MS4.4,baz=149,slow=31						
YKA	**Yellowknife Ar**	**93.00**	**24**	LR	LR	18 47 19.2	
	comp=Z,126nm,18.3s,MS4.4,baz=250,slow=32						
SONM	**Songino Array**	**93.59**	**319**	LR	LR	18 52 38.1	
	comp=Z,60nm,18.1s,MS4.1,baz=99,slow=35						
ULM	**Lac du Bonnet**	**97.40**	**40**	LR	LR	18 46 33.7	
	comp=Z,106nm,20.4s,MS4.3,baz=237,slow=30						
BRTR	**Keskin Array B**	**144.91**	**317**	PKPbc	PKPdf	18 16 54.8	+0.7
	3.7nm,0.9s,baz=103,slow=2.7,SNR=13						
GERES	**GERESS Array B**	**146.98**	**347**	PKPbc	PKPbc	18 17 01.9	+2.3
	0.2nm,0.3s,baz=83,slow=3.1,SNR=2.3						

CASC 21 18:01:49.8±2.0,834N×8290W,h5km,MD3.8,2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.46**	**78**	⇓*i*P	Pg	18 01 58.7	+0.1
DVD				*e*S	Sg	18 02 06.0	+1.4
CNI	**Changuinola**	**1.14**	**20**	⇓*i*P	Pg	18 02 10.9	-0.7
BUS	**Buena Vista**	**1.47**	**325**	*e*P	Pn	18 02 15.6	-1.4
BUS				*e*S	Sn	18 02 40.0	+3.4
URSC	**Urasca**	**1.72**	**330**	*e*P	Pn	18 02 19.3	-1.0
URSC				*e*S	Sn	18 02 44.6	+1.9
LCR2	**La Lucha 2**	**1.77**	**322**	*e*P	Pn	18 02 19.9	-1.1
LCR2				*e*S	Sn	18 02 45.6	+1.8
PRS1	**Puriscal**	**2.14**	**320**	*e*P	Pn	18 02 25.5	-0.7
PRS1				*e*S	Sn	18 02 53.3	+0.2
AZU	**Azuero**	**2.66**	**102**	*e*S	Sn	18 03 08.1	+2.1

IDC 21 18:04:27.3±4.1,1649S×17740W,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.7/13,mbtmp3.8/4,Error ellipse: s-maj=194.9km s-min=33.0km az=139.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.16**	**240**	P	P	18 12 04.2	-1.0
	2.6nm,0.8s,baz=45,slow=6.5,SNR=3.7						
WRA	**Warramunga Arr**	**45.85**	**258**	P	P	18 12 51.0	-0.2
	0.7nm,1.0s,baz=354,slow=25,SNR=4.2						
ASAR	**Alice Springs**	**46.12**	**253**	P	P	18 12 54.7	+1.4
	1.4nm,0.8s,baz=90,slow=8.3,SNR=22						
ILAR	**Eielson Array**	**84.30**	**13**	P	P	18 17 00.2	-0.9
	0.8nm,0.9s,baz=225,slow=6.9,SNR=5.5						
BRTR	**Keskin Array B**	**144.45**	**317**	PKP	PKPdf	18 24 07.3	+1.7
	1.3nm,0.9s,baz=321,slow=2.0,SNR=8.5						

IDC 21 18:06:14.8±1.3,8523N×9875E,h0km,mb3.5/5,mb1 3.6/5, mb1mx3.4/21,mbtmp3.5/5,Error ellipse: s-maj=47.8km s-min=21.0km az=129.0,North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**25.04**	**44**	P	P	18 11 38.4	-2.1
	1.0nm,0.7s,baz=344,slow=7.4,SNR=3.6						
ILAR	**Eielson Array**	**27.68**	**57**	P	P	18 12 05.5	+1.1
	0.2nm,0.8s,baz=358,slow=6.3,SNR=2.8						
SONM	**Songino Array**	**37.60**	**172**	P	P	18 13 29.3	-1.8
	0.2nm,0.7s,baz=15,slow=6.1,SNR=3.3						
MKAR	**Makanchi Array**	**38.81**	**198**	P	P	18 13 42.1	+0.8
	1.4nm,1.0s,baz=345,slow=12,SNR=5.0						
BRTR	**Keskin Array B**	**48.59**	**249**	P	P	18 14 59.2	-0.7
	0.7nm,0.8s,baz=10,slow=7.5,SNR=4.9						

*ISCJB **21** 18:13:05.8±0.3,6637N×002×1350E±006,h10km,Error ellipse: s-maj=3.7km s-min=3.2km az=54.5*
*CSEM **21** 18:13:06.4±0.3,6643N×1273E,h2km,ML3.8/4,Error ellipse: s-maj=8.1km s-min=4.3km az=110.0*
*IDC **21** 18:13:07.3±1.5,6641N×1328E,h0km,mb1 2.9/4, mb1mx2.9/21,mbtmp2.9/4,ML2.9/4,Error ellipse: s-maj=18.7km s-min=7.4km az=117.0*
*HEL **21** 18:13:07.5±0.3,6643N×1303E,h8km±1km,ML2.7, MD2.5(BER),ML2.5(BER)*
*NAO **21** 18:13:08.3±1.2,6636N×1350E,ML2.9*
*BER **21** 18:13:08.8±3.7,6640N×1319E,h5km,MD2.4,ML2.6, ML2.9(NAO)*
*NEIC **21** 18:13:08.9,6640N×1320E,h5km,ML2.5(BER), ML2.9(NAO),After BER.*

ISC 21 18:13:07.4±0.3,6640N±002×1337E±006,h10km,n56, σ1§11/107,2C-3D,Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STOK1	**Konsvik**	**0.14**	**316**	⇓*i*P	Pg	18 13 10.4	-0.3
STOK1	**Konsvik**	**0.14**	**316**	*e*S	Sg	18 13 12.3	-0.6
STOK1				AML	AML	18 13 12.7	
	comp=N,3μm,0.3s						
STOK	**Stokkvaagen**	**0.16**	**245**	⇓*i*P	Pg	18 13 09.8	-1.1
STOK				*i* S	Sg	18 13 11.3	-1.9
STOK				AML	AML	18 13 11.6	
	comp=Z,7μm,0.1s						
STOK	**Stokkvaagen**	**0.16**	**245**	*e*Sg	Sg	18 13 11.3	-1.9
STOK				AML	AML	18 13 11.6	
	comp=Z,7μm,0.1s						
STOK	**Stokkvaagen**	**0.16**	**245**	*i* P	Pg	18 13 09.8	-1.1
STOK				*e*Sg	Sg	18 13 11.3	-1.9
STOK	**Stokkvaagen**	**0.16**	**245**	⇓*i*P	Pg	18 13 09.8	-1.1
	SNR=116						
STOK				*e*Sg	Sg	18 13 11.3	-1.9
	comp=Z,7μm,0.1s,SNR=116						
MOR8	**Moi Rana**	**0.49**	**117**	⇑*i*P	Pg	18 13 19.2	+2.3
MOR8				*i* S	Sg	18 13 28.3	+4.9
MOR8				AML	AML	18 13 29.6	
	comp=Z,260nm,0.4s						
MOR8	**Moi Rana**	**0.49**	**117**	⇑*i*P	Pg	18 13 19.2	+2.3
MOR8				*e*S	Sg	18 13 28.3	+4.9
MOR8				AML	AML	18 13 29.6	
	comp=Z,260nm,0.4s						
LOF	**Lofoten**	**1.74**	**2**	*e*P	Pn	18 13 37.7	+0.1
LOF				*e*S	Sn	18 14 00.2	+0.3
LOF				AML	AML	18 14 06.0	
	comp=Z,34nm,0.5s						
LOF	**Lofoten**	**1.74**	**2**	*e*P	Pn	18 13 37.7	+0.1
LOF				*e*S	Sn	18 14 00.2	+0.3
LOF	**Lofoten**	**1.74**	**2**	*e*P	Pn	18 13 37.7	0.0
	SNR=50						
LOF				*e*S	Sn	18 14 00.2	+0.3
	comp=Z,34nm,0.5s,SNR=50						
NSS	**Namsos**	**1.97**	**198**	*e*P	Pn	18 13 40.3	-0.5
NSS				*e*S	Sn	18 14 04.5	-0.9
NSS				AML	AML	18 14 12.3	
	comp=Z,78nm,0.4s						
NSS	**Namsos**	**1.97**	**198**	*e*P	Pn	18 13 40.3	-0.5
NSS				*e*S	Sn	18 14 04.5	-0.9
NSS	**Namsos**	**1.97**	**198**	*e*P	Pn	18 13 40.3	-0.5
	SNR=50						
NSS				*e*S	Sn	18 14 04.6	-0.9
	comp=Z,78nm,0.4s,SNR=50						
TRO	**Tromso**	**3.86**	**30**	*e*P	Pn	18 14 07.8	+1.0
TRO				*e*SG	Sg	18 15 08.1	-3.3
TRO				AML	AML	18 15 16.7	
	comp=Z,15nm,0.5s						
TRO	**Tromso**	**3.86**	**30**	*e*P	Pn	18 14 07.8	+1.0
TRO				*e*Sg	Sg	18 15 08.1	-3.3
TRO	**Tromso**	**3.86**	**30**	*e*P	Pn	18 14 07.8	+1.0
	SNR=49						
TRO				*e*Sg	Sg	18 15 08.1	-3.3
	SNR=91						
KTK1	**Kautokeino**	**4.58**	**51**	*e*P	Pn	18 14 19.4	+2.6
KTK1				*e*S	Sn	18 15 11.7	+1.7
KTK1				AML	AML	18 15 35.4	
	comp=Z,28nm,0.5s						
KTK1	**Kautokeino**	**4.58**	**51**	*e*P	Pn	18 14 19.4	+2.6
KTK1				*e*S	Sn	18 15 11.7	+1.7
DOMB	**Dombas**	**4.76**	**205**	*e*P	Pn	18 14 19.4	+0.2
DOMB				*e*S	Sn	18 15 15.1	+0.7
DOMB				AML	AML	18 15 37.5	
	comp=Z,21nm,0.4s						
DOMB	**Dombas**	**4.76**	**205**	*e*P	Pn	18 14 19.4	+0.2
DOMB				*e*S	Sn	18 15 15.1	+0.7
DOMB	**Dombas**	**4.76**	**205**	*e*P	Pn	18 14 19.4	+0.2
	SNR=49						
DOMB				*e*S	Sn	18 15 15.1	+0.7
OUL	**Oulu**	**5.33**	**99**	*e*P	Pn	18 14 27.1	+0.1
OUL				*e*SG	Sg	18 15 58.0	-0.6
OUL				MSG		18 16 05.7	
	comp=Z,6.5nm,0.3s						
OUL	**Oulu**	**5.33**	**99**	P	Pn	18 14 27.1	+0.1
OUL				Sg	Sg	18 15 58.0	-0.6
	comp=Z,6.5nm,0.3s						
NB2	**NORSAR Subarra**	**5.46**	**191**	*e*P	Pn	18 14 29.3	+0.4
NB2				*e*SG	Sg	18 15 56.3	-6.5
NB2	**NORSAR Subarra**	**5.46**	**191**	Pn	Pn	18 14 29.3	+0.4
	baz=9.0,slow=14						
NB2				Lg		18 15 56.3	
	baz=10.0,slow=37						
NOA	**NORSAR Array B**	**5.46**	**191**	Pn	Pn	18 14 29.2	+0.4
	comp=Z,0.6nm,0.3s,baz=2.4,slow=13,SNR=3.9						
NOA				Sn	Sn	18 15 32.7	+0.9
	comp=Z,1.4nm,0.3s,baz=30,slow=15,SNR=4.8						
NOA				Lg		18 15 56.0	
	comp=Z,4.5nm,0.3s,baz=37,slow=17,SNR=7.8						
NOA	**NORSAR Array B**	**5.46**	**191**	Pn	Pn	18 14 29.2	+0.4
NOA				Sn	Sn	18 15 32.7	+0.9
NOA				Lg		18 15 56.0	
ARA0	**ARCESS Array S**	**5.54**	**50**	Pn	Pn	18 14 30.4	+0.4
	baz=234,slow=14						
ARA0				Sn	Sn	18 15 33.1	-0.7
	baz=236,slow=22						
ARA0				Lg		18 15 59.0	
	baz=230,slow=37						
ARA0	**ARCESS Array S**	**5.54**	**50**	*e*P	Pn	18 14 30.4	+0.4
ARA0				*e*S	Sn	18 15 33.1	-0.7
ARA0				*e*SG	Sg	18 15 59.0	-6.4
ARA0	**ARCESS Array S**	**5.54**	**50**	Pn	Pn	18 14 30.4	+0.4
	SNR=50						
ARA0				Sn	Sn	18 15 33.1	-0.6
	SNR=50						
ARCES	**ARCESS Array B**	**5.54**	**50**	Pn	Pn	18 14 30.3	+0.3
	comp=Z,0.3nm,0.3s,baz=241,slow=12,SNR=9.3						
ARCES				Sn	Sn	18 15 33.0	-0.8
	comp=Z,1.3nm,0.3s,baz=235,slow=19,SNR=8.3						
ARCES				Lg		18 15 59.0	
	comp=Z,2.9nm,0.3s,baz=224,slow=30,SNR=17						
ARCES	**ARCESS Array B**	**5.54**	**50**	Pn	Pn	18 14 30.3	+0.3
ARCES				Sn	Sn	18 15 33.0	-0.8
ARCES				Lg		18 15 59.0	
ARCES	**ARCESS Array B**	**5.54**	**50**	Pn	Pn	18 14 30.3	+0.3
ARCES				Sn	Sn	18 15 33.0	-0.7
KEV	**Kevo**	**6.11**	**50**	*e*P	Pn	18 14 38.1	+0.4
KEV				*e*SG	Sg	18 16 19.4	-4.2
KEV	**Kevo**	**6.11**	**50**	P	Pn	18 14 38.1	+0.3
KEV				Sg	Sg	18 16 19.3	-4.3
HFS	**Hagfors**	**6.29**	**179**	Pn	Pn	18 14 41.8	+1.6
	baz=357,slow=14						
HFS				Sn	Sn	18 15 50.6	-1.5
	baz=13,slow=28						
HFS				Lg		18 16 20.0	
	baz=352,slow=37						
HFS	**Hagfors**	**6.29**	**179**	*e*P	Pn	18 14 41.8	+1.6
HFS				*e*S	Sn	18 15 50.6	-1.5
HFS				*e*SG	Sg	18 16 20.0	-9.3
HFS	**Hagfors**	**6.29**	**179**	Pn	Pn	18 14 40.5	+0.3
	comp=Z,0.3nm,0.3s,baz=359,slow=12,SNR=9.6						
HFS				Sn	Sn	18 15 53.8	+1.7
	comp=Z,0.9nm,0.3s,baz=11,slow=24,SNR=6.4						
HFS				Lg		18 16 21.2	
	comp=Z,3.7nm,0.3s,baz=357,slow=30,SNR=12						
HFS	**Hagfors**	**6.29**	**179**	Pn	Pn	18 14 41.8	+1.6
	SNR=50						
HFS				Sn	Sn	18 15 50.6	-1.6
	SNR=50						
KJN	**Kajaani**	**6.45**	**104**	*e*P	Pn	18 14 42.7	+0.2
KJN				*e*SG	Sg	18 16 33.7	-0.8
KJN				MSG		18 16 34.3	
	comp=Z,4.3nm,0.2s						
KJN	**Kajaani**	**6.45**	**104**	P	Pn	18 14 42.6	+0.1
KJN				Sg	Sg	18 16 33.7	-0.9
	comp=Z,4.3nm,0.2s						
KU4	**Liikasenvaara**	**6.51**	**83**	*e*P	Pn	18 14 43.0	-0.3
KU4				*e*SG	Sg	18 16 33.8	-2.7
KU4				MSG		18 16 37.3	
	comp=Z,8.0nm,0.5s						
KU4	**Liikasenvaara**	**6.51**	**83**	P	Pn	18 14 42.9	-0.4
KU4				Sg	Sg	18 16 33.7	-2.8
	comp=Z,8.0nm,0.5s						
KEF	**Keuruu**	**6.56**	**125**	*e*P	Pn	18 14 44.7	+0.8
KEF				*e*S	Sn	18 16 00.3	+1.6
KEF				*e*SG	Sg	18 16 35.0	-3.0
KEF				MSG		18 16 44.1	
	comp=Z,5.8nm,0.3s						
KEF	**Keuruu**	**6.56**	**125**	P	Pn	18 14 44.6	+0.7
KEF				S	Sn	18 16 00.3	+1.6
KEF				Sg	Sg	18 16 34.9	-3.0
	comp=Z,5.8nm,0.3s						
FIA0	**FINESS Array S**	**7.48**	**126**	*e*P	Pn	18 14 56.8	+0.3
FIA0				*e*SG	Sg	18 17 01.6	-5.8
FIA0	**FINESS Array S**	**7.48**	**126**	Pn	Pn	18 14 56.7	+0.2
	baz=318,slow=10						
FIA0				Sn	Sn	18 16 19.0	-2.4
	baz=325,slow=28						
FIA0				Lg		18 17 01.5	
	baz=321,slow=28						
FIA0	**FINESS Array S**	**7.48**	**126**	Pn	Pn	18 14 56.7	+0.2
	SNR=50						
FIA0				Sn	Sn	18 16 19.0	-2.4
	SNR=50						
FINES	**FINESS Array B**	**7.48**	**126**	Pn	Pn	18 14 56.9	+0.3
	comp=Z,0.5nm,0.3s,baz=313,slow=12,SNR=8.0						
FINES				Sn	Sn	18 16 20.1	-1.3
	comp=Z,0.9nm,0.3s,baz=326,slow=22,SNR=3.2						
FINES				Lg		18 17 01.8	
	comp=Z,4.5nm,0.3s,baz=321,slow=27,SNR=12						
FINES	**FINESS Array B**	**7.48**	**126**	Pn	Pn	18 14 56.8	+0.3
FINES				Sn	Sn	18 16 20.1	-1.3
MEF	**Metsahovi**	**7.93**	**136**	*e*P	Pn	18 15 03.7	+0.9
PVF	**Pernaja**	**8.10**	**131**	*e*P	Pn	18 15 05.4	+0.4
PVF				*e*S	Sn	18 16 36.6	0.0
PVF				*e*SG	Sn	18 17 23.2	+47
PVF				MSG		18 17 27.8	
	comp=Z,5.4nm,0.3s						
VJF	**Virojoki**	**8.64**	**126**	*e*SG	Sx	18 17 39.7	
SPA0	**Spitsbergen Ar**	**11.88**	**3**	Pn	Pn	18 15 56.5	-0.3
	baz=191,slow=14						
SPA0	**Spitsbergen Ar**	**11.88**	**3**	*e*P	Pn	18 15 56.5	-0.3

*CSEM **21** 18:34:51.5±0.8,3778N×2544W,h3km±1km,ML2.8,Error ellipse: s-maj=1.1km s-min=1.1km az=40.0,After PDA*
*PDA **21** 18:34:51.5±0.8,3778N×2544W,h3km±1km,MD2.5,ML2.8, Error ellipse: s-maj=1.1km s-min=1.1km az=40.0*

SVSA 21 18:34:51.5±0.8,3778N×2544W,h3km±1km,MD2.5,ML2.8, Error ellipse: s-maj=1.1km s-min=1.1km az=40.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MESC	**Monte Escuro**	**0.02**	**337**	*i* P	Pg	18 34 52.7	+0.6
MESC				*e*S	Sg	18 34 53.5	+1.0
MESC	**Monte Escuro**	**0.02**	**337**	*e*S	Sg	18 34 53.5	+1.0
VIF	**Vila Franca**	**0.03**	**184**	*e*P	Pg	18 34 53.0	+0.7
VIF				*e*S	Sg	18 34 53.9	+1.1
VIF							
	12μm,0.3s						
VIF	**Vila Franca**	**0.03**	**184**	*e*P	Pg	18 34 53.0	+0.7
VIF				*e*S	Sg	18 34 53.9	+1.1
PCNG	**Congro**	**0.03**	**107**	*i* P	Pg	18 34 52.9	+0.6
PCNG				*e*S	Sg	18 34 53.8	+0.9
PCNG	**Congro**	**0.03**	**107**	*e*S	Sg	18 34 53.8	+0.9
LFA	**Lagoa do Fogo**	**0.04**	**263**	*i* P	Pg	18 34 53.1	+0.7
PMAT	**Coroa da Mata**	**0.05**	**325**	*i* P	Pg	18 34 53.0	+0.5
PMAT				*e*S	Sg	18 34 54.2	+1.0
PMAT							
	11μm,0.2s						
PMAT	**Coroa da Mata**	**0.05**	**325**	*e*S	Sg	18 34 54.2	+1.0
PRCH	**Ribeira Ch**	**0.06**	**215**	*i* P	Pg	18 34 53.3	+0.6
PRCH				*e*S	Sg	18 34 54.6	+1.0
PRCH							
	3μm,0.2s						
PRCH	**Ribeira Ch**	**0.06**	**215**	*e*S	Sg	18 34 54.6	+1.0
PVER	**Pico Vermelho**	**0.06**	**288**	*i* P	Pg	18 34 53.3	+0.5
PVER				*e*S	Sg	18 34 54.7	+1.0
PVER							
	4μm,0.3s						
PVER	**Pico Vermelho**	**0.06**	**288**	*e*S	Sg	18 34 54.7	+1.0
FRA1	**Furnas**	**0.07**	**118**	*i* P	Pg	18 34 53.7	+0.7
CML	**Cha da Macela**	**0.09**	**266**	*i* P	Pg	18 34 53.9	+0.7
PFAD	**Fenais da Ajud**	**0.11**	**56**	*i* P	Pg	18 34 54.4	+0.8
MIRA	**Miradouro**	**0.13**	**86**	*i* P	Pg	18 34 54.7	+0.7
FAC	**Faja de Cima**	**0.17**	**269**	*e*P	Pg	18 34 55.8	+1.0
PDA	**Ponta Delgada**	**0.18**	**260**	*e*P	Pg	18 34 55.9	+0.9
PDA				*e*S	Sg	18 34 58.2	+0.8
PSET	**Sete Cidades**	**0.23**	**282**	*i* P	Pg	18 34 55.8	-0.1
PSET				*e*S	Sg	18 34 59.1	+0.2
PSET							
	780nm,0.3s						
PSET	**Sete Cidades**	**0.23**	**282**	*e*S	Sg	18 34 59.1	+0.2
PSAN	**Santo Antonio**	**0.24**	**288**	*e*P	Pg	18 34 57.0	+0.9
PFET	**Feteiras**	**0.28**	**278**	*e*P	Pg	18 34 57.7	+0.8
SET2	**Ginetes**	**0.30**	**283**	*e*P	Pg	18 34 58.0	+0.7
SET4	**Mosteiros**	**0.30**	**289**	*e*P	Pg	18 34 57.8	+0.5

IDC 21 18:56:59.9±26.0,2173S×17306W,h0km,mb4.4/4, mb1 4.5/4,mb1mx4.0/17,mbtmp4.4/4,Error ellipse: s-maj=492.0km s-min=144.1km az=76.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.97**	**265**	P	P	19 04 20.8	+1.4
	5.9nm,0.4s,baz=94,slow=11,SNR=17						
STKA	**Stephens Creek**	**41.46**	**246**	P	P	19 04 46.8	-1.6
	1.0nm,0.4s,baz=85,slow=13,SNR=11						
ASAR	**Alice Springs**	**48.74**	**257**	P	P	19 05 47.1	+0.9
	1.3nm,0.4s,baz=97,slow=7.3,SNR=74						
WB2	**Warramunga Arr**	**48.99**	**262**	*e*P	P	19 05 49.1	+0.9
WRA	**Warramunga Arr**	**49.00**	**262**	P	P	19 05 48.6	+0.4
	2.1nm,0.3s,baz=92,slow=8.4,SNR=121						

IDC 21 19:17:29.7±5.9,1750S×17252W,h304km±287km, mb3.5/3,mb1 3.6/4,mb1mx3.3/15,mbtmp4.1/4,ML1.3/1, Error ellipse: s-maj=519.7km s-min=102.8km az=78.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.65**	**11**	P	Pn	19 18 34.2	+1.9
	1.4nm,0.3s,baz=150,slow=8.1,SNR=5.3						
AFI				S	S	19 19 22.2	-0.1
	6.1nm,0.3s,baz=259,slow=20,SNR=6.6						
STKA	**Stephens Creek**	**43.76**	**242**	P	P	19 25 05.0	-0.7
	0.7nm,0.4s,baz=85,slow=12,SNR=3.0						
WB2	**Warramunga Arr**	**50.20**	**258**	*e*P	P

MJAR	**Matsushiro Arr**	**69.49**	**319**	LR	LR	19 59 20.9		
	comp=Z,130nm,21.9s,baz=95,slow=31							
PDAR	**Pinedale Array**	**81.00**	**41**	LR	LR	20 08 13.6		
	comp=Z,93nm,18.6s,baz=346,slow=33							
MAW	**Mawson**	**88.67**	**198**	LR	LR	20 11 28.1		
	comp=Z,84nm,18.6s,baz=234,slow=32							
BRTR	**Keskin Array B**	**146.65**	**323**	PKPbc	PKPbc	19 43 10.2	-0.8	
	0.5nm,0.9s,baz=29,slow=3.3,SNR=3.9							
TORD	**Torodi Ar. Bea**	**173.60**	**105**	PKP	PKPdf	19 43 39.9	+1.5	
	0.3nm,0.5s,baz=254,slow=5.8,SNR=4.5							

IDC 21 19:33:32.7±4.5, 1553S×17291W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.7/29, mbtmp4.0/3, Error ellipse: s-maj=207.4km s-min=24.6km az=137.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.95**	**34**	Pn	Pn	19 34 05.4	-1.6
	44nm,0.3s,baz=204,slow=1.5,SNR=24						
AFI				Sn	Sn	19 34 24.5	-7.6
	79nm,0.3s,baz=227,slow=22,SNR=25						
AFI				LR	LR	19 34 35.2	
	comp=Z,565nm,20.3s,baz=252,slow=32						
STKA	**Stephens Creek**	**44.38**	**240**	P	P	19 41 43.9	-1.0
	1.0nm,0.7s,baz=80,slow=11,SNR=4.6						
WRA	**Warramunga Arr**	**50.27**	**257**	P	P	19 42 30.8	0.0
	1.1nm,0.5s,baz=90,slow=6.8,SNR=41						
ASAR	**Alice Springs**	**50.52**	**252**	P	P	19 42 32.9	+0.3
	1.9nm,0.6s,baz=90,slow=8.1,SNR=47						
BRTR	**Keskin Array B**	**146.55**	**321**	PKPbc	PKPbc	19 53 18.1	+2.1
	2.4nm,1.0s,baz=64,slow=3.4,SNR=12						

*IDC **21** 19:39:50.0±1.6, 1504S×16704E, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.1/16, mbtmp4.1/8, ML4.6/1, Error ellipse: s-maj=47.8km s-min=22.9km az=130.0*

*ISCJB **21** 19:39:56.9±1.7, 148S±0.1×166.7E±0.1, h52km±18km, mb4.0/7, Error ellipse: s-maj=22.6km s-min=12.5km az=104.7*

*NEIC **21** 19:40:06.8±4.0, 1476S×166.16E, h89km±29km, mb4.3/2, Error ellipse: s-maj=35.0km s-min=15.3km az=115.0*

ISC 21 19:39:59.1±1.4, 148S±0.1×166.8E±0.1, h58km±15km, n30, σ1@07/17, mb4.0/7, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**3.18**	**154**	⇑*iP*	**Pn**	**19 40 45.3**	**-1.3**
BKM				S	**Sn**	**19 41 24.4**	**+1.0**
HNR	**Honiara**	**8.54**	**308**	Pn	**Pn**	**19 41 59.5**	**-0.6**
	6.6nm,0.3s,baz=242,slow=2.4,SNR=4.0						
HNR	**Honiara**	**8.54**	**308**	*e*P	**P**	**19 42 01.1**	**+1.0**
CTA	**Charters Tower**	**20.27**	**252**	P	**P**	**19 44 30.9**	**+1.2**
	7.0nm,0.8s,baz=80,slow=12,SNR=3.6						
CTA	**Charters Tower**	**20.27**	**252**	P	**P**	**19 44 30.9**	**+1.2**
CTAO	**Charters Tower**	**20.27**	**252**	*e*P	**P**	**19 44 30.9**	**+1.1**
	16nm,1.1s						
STKA	**Stephens Creek**	**28.59**	**229**	P	**P**	**19 45 48.4**	**-1.3**
	2.1nm,0.6s,mb4.1,baz=58,slow=8.9,SNR=15						
STKA	**Stephens Creek**	**28.59**	**229**	*e*P	**P**	**19 45 48.3**	**-1.3**
WB2	**Warramunga Arr**	**31.34**	**256**	*e*P	**P**	**19 46 13.6**	**-0.3**
WRA	**Warramunga Arr**	**31.35**	**256**	P	**P**	**19 46 13.4**	**-0.7**
	2.1nm,0.6s,mb4.2,baz=88,slow=9.8,SNR=42						
ASAR	**Alice Springs**	**32.20**	**249**	P	**P**	**19 46 21.3**	**-0.2**
	2.4nm,0.8s,mb4.1,baz=73,slow=9.5,SNR=24						
FITZ	**Fitzroy Crossi**	**39.53**	**259**	*e*P	**P**	**19 47 24.7**	**+0.5**
	2.5nm,0.6s,mb4.1						
MJAR	**Matsushiro Arr**	**57.75**	**333**	P	**P**	**19 49 43.6**	**-0.4**
	0.8nm,0.6s,mb3.9,baz=165,slow=11,SNR=4.7						
SBA	**Scott Base**	**63.07**	**180**	*e*P	**P**	**19 50 24.3**	**+4.0**
SONM	**Songino Array**	**82.27**	**324**	P	**P**	**19 52 17.2**	**+3.0**
	0.2nm,0.5s,mb3.3,baz=134,slow=6.2,SNR=2.6						
ILAR	**Eielson Array**	**86.74**	**18**	P	**P**	**19 52 36.3**	**-0.5**
	0.9nm,0.7s,mb4.1,baz=248,slow=3.8,SNR=9.4						
ARCES	**ARCESS Array B**	**120.20**	**345**	PKP	PKPdf	19 58 42.1	-1.3
	2.9nm,0.8s,baz=70,slow=3.1,SNR=7.3						
SSF	**Saint Saulge**	**144.94**	**340**	*e*PKP1	PKPdf	19 59 33.1	+3.5
	25nm,0.9s						
GRR	**Gorron**	**144.98**	**346**	*e*PKP1	PKPdf	19 59 32.4	+2.7
	16nm,0.8s						
LPL	**La Plagne**	**145.06**	**335**	*e*PKP1	PKPbc	19 59 34.1	+4.8
LPG	**La Plagne**	**145.06**	**335**	*e*PKP1	PKPbc	19 59 34.2	+4.9
	5.4nm,0.6s						
SMF	**Signal de Mont**	**145.19**	**339**	*e*PKP1	PKPbc	19 59 33.7	+4.0
AVF	**Avril sur Loir**	**145.23**	**340**	*e*PKP1	PKPbc	19 59 33.7	+3.8
SGMF	**Saint Gilles**	**145.50**	**347**	*e*PKP1	PKPbc	19 59 34.1	+3.4
BGF	**Bois d'Agland**	**145.60**	**340**	*e*PKP1	PKPbc	19 59 34.8	+3.8
ORIF	**Oris-en-Rattie**	**145.89**	**336**	*e*PKP1	PKPbc	19 59 36.4	+4.5
VIVF	**Saint-Julien-l**	**146.42**	**337**	*e*PKP1	PKPbc	19 59 37.6	+4.1
FRF	**La Foret Royal**	**146.68**	**333**	*e*PKP1	PKPbc	19 59 38.1	+3.8
SMRF	**Simiane la Rot**	**146.79**	**335**	*e*PKP1	PKPbc	19 59 39.0	+4.4
LMR	**La Mourre**	**146.92**	**333**	*e*PKP1	PKPbc	19 59 38.8	+3.8

*IDC **21** 20:28:59.1±1.1, 1691N×7372E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/19, mbtmp3.7/6, Error ellipse: s-maj=31.9km s-min=25.6km az=65.0*

*NEIC **21** 20:29:00.3±0.9, 1690N×7361E, h10km, mb3.7/5, Error ellipse: s-maj=20.8km s-min=14.6km az=54.0*

NEIC Felt at Alore, Chiplun, Koynanagar, Patan and Pophali.

*NDI **21** 20:29:01.1±3.2, 17.19N×7383E, h13km±7km, ML3.9, mb3.7(NEIC)*

*ISCJB **21** 20:29:02.1±0.6, 1723N±003×7404E±005, h33km±6km, mb3.6/10, Error ellipse: s-maj=8.0km s-min=5.8km az=19.5*

ISC 21 20:29:03.1±0.8, 1722N±003×7399E±005, h27km±5km, n32, σ1@41/51, mb3.6/10, 1C-1D, Southern India

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAD	**Karad**	**0.20**	**65**	*e*P	**Pb**	**20 29 08.3**	**-0.6**
KAD				⇑*iP*		20 29 08.7	
KAD				*e*S	**Sb**	**20 29 13.5**	**+0.7**
KAD				*e*S	**Sb**	**20 29 13.8**	**+0.9**
GOA	**Goa**	**1.73**	**185**	*e*P	**Pn**	**20 29 31.0**	**-0.4**
GOA				*e*S	**Sn**	**20 29 51.0**	**-1.6**
BOM	**Bombay**	**2.01**	**326**	*e*P	**Pn**	**20 29 34.7**	**-0.5**
BOM				*e*P		20 29 35.0	
BOM				*e*P		20 29 35.0	
BOM				*i* P		20 29 35.0	
BOM				*e*S	**Sn**	**20 29 58.4**	**-1.1**
BOM				*e*S	**Sn**	**20 29 58.4**	**-1.1**
BOM				*e*S	**Sn**	**20 29 58.4**	**-1.1**
BOM				*e*S	**Sn**	**20 29 58.4**	**-1.1**
BOM				*ex*	x	20 29 58.9	
BOM				AML	AML	20 30 00.9	
	comp=N,1μm,0.5s						
BOM				AML	AML	20 30 02.7	
	comp=E,1μm,0.3s						
LATR	**Latur**	**2.72**	**64**	*e*P	**Pn**	**20 29 47.2**	**+2.2**
LATR				*e*P		20 29 47.2	
LATR				*e*P		20 29 47.2	
LATR				*e*SB	**Sb**	**20 30 29.5**	**+5.7**
LATR				*ex*	x	20 30 29.5	
MNGI	**Mangalore**	**4.33**	**169**	*i* x	x	20 30 18.1	
MNGI				*e*S	**Sn**	**20 30 55.9**	**-0.9**
MNGI				AML	AML	20 30 56.3	
	comp=N,174nm,0.2s						
HYB	**Hyderabad**	**4.36**	**87**	*i* Pn	**Pn**	**20 30 09.0**	**+1.4**
HYB				*e*Pg	**Pn**	**20 30 21.5**	**+14**
HYB				*e*Sn	**Sn**	**20 30 59.0**	**+1.5**
HYB				*e*Sg	Sn	20 31 20.0	+23
BHPL	**Bhopal**	**6.80**	**28**	*e*P	**Pn**	**20 30 42.7**	**+1.7**
BHPL				*e*P		20 30 44.0	
BHPL				*e*S	**Sn**	**20 31 55.0**	**-2.5**
BHPL				*e*S	**Sn**	**20 31 59.2**	**+1.6**
BHPL				AML	AML	20 32 38.0	
	comp=N,158nm,0.5s						
BHPL				AML	AML	20 32 38.1	
	comp=E,120nm,0.3s						
JBP	**Jabalpur**	**8.16**	**43**	⇓*iP*	**Pn**	**20 30 59.9**	**+0.2**
JBP				*ex*	x	20 31 02.5	
	comp=Z,25nm,0.8s						
JBP				*i* S	**Sn**	**20 32 28.7**	**-2.3**
VIS	**Vishakhapatnam**	**8.92**	**85**	*e*P	**Pn**	**20 31 10.1**	**-0.1**
VIS				*e*P		20 31 11.5	
VIS				*e*S	**Sn**	**20 32 45.3**	**-4.5**
VIS				*e*S	**Sn**	**20 32 46.1**	**-3.7**
VIS				AML	AML	20 33 44.3	
	comp=E,85nm,0.6s						
VIS				AML	AML	20 33 45.2	
	comp=N,161nm,0.6s						
BLSP	**Bilaspur**	**9.09**	**56**	*e*P	**Pn**	**20 31 12.6**	**+0.2**
BLSP				*e*P		20 31 14.2	
BLSP				*e*S	**Sn**	**20 32 50.6**	**-3.2**
BLSP				*e*S	**Sn**	**20 32 51.5**	**-2.3**
BOK	**Bokaro**	**12.91**	**58**	*e*P	**Pn**	**20 32 05.3**	**+0.4**
BOK				*e*S	**Sn**	**20 34 20.7**	**-6.9**
BOK				*i* x	x	20 34 25.1	
DDI	**Dehra Dun**	**13.56**	**15**	*ex*	x	20 34 55.5	
KOLN	**Koldanda**	**13.74**	**39**	*e*P	**Pn**	**20 32 15.9**	**-0.2**
KOLN				*e*S	**Sn**	**20 34 39.4**	**-8.3**
GKN	**Gorkha**	**14.54**	**41**	*e*P	**Pn**	**20 32 26.3**	**-0.7**
GKN				*e*S	**Sn**	**20 34 57.0**	**-10**
DMN	**Daman**	**14.56**	**43**	*e*P	**Pn**	**20 32 27.0**	**-0.3**
PKI	**Pulchoki**	**14.74**	**44**	*e*P	**Pn**	**20 32 28.5**	**-1.2**
KKN	**Kakani**	**14.80**	**43**	*e*P	**Pn**	**20 32 28.6**	**-1.9**
GUN	**Gumba**	**15.27**	**44**	*e*P	**Pn**	**20 32 35.7**	**-1.1**
JIRN	**Jiri**	**15.32**	**45**	*e*P	**Pn**	**20 32 36.0**	**-1.4**
LSA	**Lhasa**	**20.02**	**49**	*e*P	**P**	**20 33 38.9**	**+5.2**
	comp=N,5.4nm,0.6s						
MKAR	**Makanchi Array**	**30.28**	**11**	P	**P**	**20 35 14.2**	**+2.3**
	comp=N,0.6nm,0.6s,mb3.5,baz=198,slow=11,SNR=5.8						
ZRNK	**Zerenda**	**35.87**	**355**	*e*P	**P**	**20 36 03.5**	**+2.9**
	comp=N,0.5nm,0.5s,mb3.7						
CHKZ	**Chkalovo**	**36.47**	**357**	*e*P	**P**	**20 36 07.2**	**+1.4**
	comp=N,0.8nm,0.5s,mb3.9						
MALT	**Malatya**	**37.51**	**311**	*e*P	**P**	**20 36 13.9**	**-0.7**
	comp=N,0.8nm,0.4s,mb3.8						
ZAL	**Zalesovo**	**37.59**	**10**	P	**P**	**20 36 19.2**	**+3.9**
	comp=N,0.8nm,0.5s,mb3.8,baz=237,slow=8.4,SNR=3.6						
ZAL	**Zalesovo**	**37.59**	**10**	P	**P**	**20 36 19.2**	**+3.9**
SONM	**Songino Array**	**40.44**	**34**	P	**P**	**20 36 42.6**	**+3.5**
	comp=N,0.8nm,0.8s,mb3.5,baz=226,slow=8.5,SNR=7.8						
ULN	**Ulaanbaatar**	**40.81**	**34**	*e*P	**P**	**20 36 46.7**	**+4.5**
	comp=N,0.8nm,0.7s,mb3.5						
YAK	**Yakutsk**	**59.10**	**27**	P	**P**	**20 39 03.5**	**+2.4**
TORD	**Torodi Ar. Bea**	**69.54**	**278**	P	**P**	**20 40 09.0**	**-0.4**
	comp=N,0.3nm,0.6s,mb3.4,baz=83,slow=6.1,SNR=2.6						
WRA	**Warramunga Arr**	**69.81**	**119**	P	**P**	**20 40 12.3**	**+1.2**
	comp=N,0.6nm,0.5s,mb3.8,baz=307,slow=5.8,SNR=9.0						
ASAR	**Alice Springs**	**71.22**	**123**	P	**P**	**20 40 21.1**	**+1.4**
	comp=N,0.5nm,0.6s,mb3.6,baz=298,slow=5.8,SNR=8.0						

IDC 21 20:29:13.5±30.0, 1615S×17448W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/15, mbtmp3.9/4, Error ellipse: s-maj=595.8km s-min=157.4km az=86.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**42.77**	**240**	P	P	20 37 12.6	-0.1
	1.6nm,1.0s,baz=69,slow=8.6,SNR=4.3						
WRA	**Warramunga Arr**	**48.67**	**257**	P	P	20 37 59.1	-0.2
	0.4nm,0.5s,baz=93,slow=6.8,SNR=19						
ASAR	**Alice Springs**	**48.90**	**253**	P	P	20 38 01.6	+0.6
	2.3nm,0.4s,baz=90,slow=8.2,SNR=60						
FITZ	**Fitzroy Crossi**	**57.04**	**259**	P	P	20 39 02.3	+1.1
	1.6nm,1.0s,baz=74,slow=20,SNR=3.1						

*IDC **21** 20:31:04.0±4.7, 1549S×17294W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/16, mbtmp3.7/3, Error ellipse: s-maj=217.6km s-min=24.9km az=138.0*

*ISCJB **21** 20:31:08.3±4.6, 153S±0.3×1728W±0.2, h61km±58km, mb3.9/5, Error ellipse: s-maj=52.1km s-min=36.0km az=45.6*

*NEIC **21** 20:31:08.2±0.7, 1537S×17289W, h35km, mb4.1/2, Error ellipse: s-maj=25.6km s-min=12.7km az=137.0*

ISC 21 20:31:08.8±4.9, 154S±0.3×1728W±0.2, h45km±60km, n11, σ0@71/11, mb3.9/5, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.72**	**34**	Pn	**Pn**	**20 31 36.8**	**+0.6**
	9.4nm,0.3s,baz=41,slow=8.8,SNR=15						
AFI				Sn	**Sn**	**20 31 56.4**	**-0.5**
	49nm,0.3s,baz=62,slow=23,SNR=20						
CTAO	**Charters Tower**	**39.26**	**257**	P	**P**	**20 38 32.6**	**-0.3**
PMG	**Port Moresby**	**39.55**	**274**	P	**P**	**20 38 35.6**	**+0.2**
STKA	**Stephens Creek**	**44.60**	**240**	P	**P**	**20 39 14.6**	**-1.9**
	0.7nm,0.6s,mb3.7,baz=45,slow=7.1,SNR=3.3						
STKA	**Stephens Creek**	**44.60**	**240**	P	**P**	**20 39 14.6**	**-1.9**
WRA	**Warramunga Arr**	**50.46**	**257**	P	**P**	**20 40 02.3**	**+0.3**
	0.5nm,0.5s,mb3.8,baz=90,slow=6.7,SNR=11						
ASAR	**Alice Springs**	**50.71**	**252**	P	**P**	**20 40 04.4**	**+0.5**
	0.8nm,0.7s,mb3.8,baz=90,slow=7.9,SNR=11						
SBA	**Scott Base**	**63.35**	**185**	*e*P	**P**	**20 41 33.2**	**-0.1**
	0.2nm,0.3s,mb3.7						
MBWA	**Marble Bar**	**63.97**	**254**	*e*P	**P**	**20 41 38.0**	**+0.6**
	4.0nm,0.8s,mb4.5						
CASY	**Casey**	**70.71**	**205**	P	**P**	**20 42 20.4**	**+0.4**
BRTR	**Keskin Array B**	**146.50**	**322**	PKPbc	PKPbc	20 50 49.1	+4.1
	0.9nm,0.9s,baz=50,slow=1.9,SNR=5.7						

*ISCJB **21** 21:55:01.9±0.3, 19.13S±004×3175E±005, h10km, mb4.5/31, MS4.1/9, Error ellipse: s-maj=7.5km s-min=4.4km az=63.1*

*NEIC **21** 21:55:03.7±0.2, 19.16S×3175E, h10km, mb4.5/15, Error ellipse: s-maj=7.0km s-min=4.9km az=123.0*

NEIC Felt [IV] at Mutare and [III] at Harare. Felt at Marondera.

*IDC **21** 21:55:03.2±1.2, 1891S×3175E, h0km, mb4.1/9, mb1 4.3/14, mb1mx4.1/26, mbtmp4.2/14, ML3.7/3, MS3.9/14, Ms1 3.9/14, ms1mx3.7/30, Error ellipse: s-maj=26.4km s-min=13.2km az=138.0*

*BJI **21** 21:55:04.0, 1846S×3166E, h10km, mB5.4, mb5.1, Ms4.7, Msz4.3*

*MOS **21** 21:55:05.4±0.7, 19.13S×3164E, h33km, mb4.6/9, Error ellipse: s-maj=17.0km s-min=8.6km az=94.8*

*PRE **21** 21:55:05.3±1.4, 1950S×32.19E, h5km, ML5.6*

ISC 21 21:55:03.8±0.3, 1918S±004×3174E±005, h10km, n105, σ0@99/113, mb4.5/31, MS4.1/9, 5C-2D, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATP	**Matopo**	**3.29**	**247**	Pn	**Pn**	**21 55 57.0**	**+1.7**
	27nm,0.3s,baz=74,slow=14,SNR=892						
MATP				Sn	**Sn**	**21 56 34.4**	**-0.1**
	277nm,0.3s,baz=0.1,slow=19,SNR=9.2						
MATP				Lg		21 56 49.4	
	1μm,0.3s,baz=336,slow=21,SNR=65						
MATP				LR	LR	21 57 03.1	
	comp=Z,301nm,20.7s,baz=104,slow=35						
LSZ	**Lusaka**	**5.16**	**318**	Pn	**Pn**	**21 56 21.3**	**+0.3**
	4.1nm,0.3s,baz=139,slow=14,SNR=80						
LSZ				Sn	**Sn**	**21 57 17.7**	**-2.9**
	50nm,0.3s,baz=45,slow=19,SNR=6.3						
LSZ				LR	LR	21 58 35.2	
	comp=Z,926nm,20.1s,baz=154,slow=43						
LSZ	**Lusaka**	**5.16**	**318**	*e*P	**Pn**	**21 56 20.5**	**-0.5**
LSZ				*e*		21 57 17.4	
LSZ				pmax	pmax		
	comp=Z,151nm,0.6s						
LSZ	**Lusaka**	**5.16**	**318**	*e*Pn	**Pn**	**21 56 20.5**	**-0.6**
	comp=Z,151nm,0.6s						
LSZ				*e*Sn	**Sn**	**21 57 17.4**	**-3.2**
BFT	**Belfast (SA)**	**6.66**	**193**	*e*P	**Pn**	**21 56 43.1**	**+1.4**
BFT				*e*S	**Sn**	**21 57 52.5**	**-5.1**
BFT				AML	AML	21 58 36.3	
	comp=Z,822nm,0.7s						
SLR	**Silverton**	**7.26**	**205**	*e*P	**Pn**	**21 56 52.5**	**+2.6**
SLR				*e*S	**Sn**	**21 58 10.2**	**-2.2**
SLR				AML	AML	21 58 58.1	
	comp=Z,954nm,0.4s						
KSR	**Koster**	**8.00**	**213**	*e*P	**Pn**	**21 57 03.0**	**+2.9**
LBTB	**Lobatse**	**8.13**	**223**	*e*P	**Pn**	**21 57 05.8**	**+4.0**
LBTB				*e*S	**Sn**	**21 58 34.5**	**+0.7**
LBTB				AML	AML	21 59 35.7	
	comp=Z,507nm,0.5s						
LBTB	**Lobatse**	**8.13**	**223**	Pn	**Pn**	**21 57 02.5**	**+0.6**
	comp=Z,8.0nm,0.3s,baz=50,slow=14,SNR=112						
LBTB				Sn	**Sn**	**21 58 31.8**	**-2.0**
	comp=Z,32nm,0.3s,baz=153,slow=11,SNR=6.1						
LBTB				Lg		21 59 17.1	
	comp=Z,37nm,0.3s,baz=319,slow=22,SNR=5.2						
LBTB				LR	LR	22 00 15.5	
	comp=Z,1μm,18.2s,baz=62,slow=38						
LBTB	**Lobatse**	**8.13**	**223**	*e*P	**Pn**	**21 57 02.0**	**+0.2**
LBTB				pmax	pmax		
	comp=Z,3.0nm,1.5s						
LBTB	**Lobatse**	**8.13**	**223**	*e*Pn	**Pn**	**21 57 02.0**	**+0.2**
	comp=Z,3.0nm,1.5s						
POGA	**Pongola**	**8.15**	**181**	*e*P	**Pn**	**21 57 01.5**	**-0.6**
POGA				*e*S	**Sn**	**21 58 24.5**	**-10**
POGA				AML	AML	21 58 50.3	
	comp=Z,109nm,0.8s						
SWZ	**Schweizer**	**9.90**	**215**	*e*P	**Pn**	**21 57 29.8**	**+3.6**
SWZ				*e*S	**Sn**	**21 59 15.2**	**-2.1**
SWZ				AML	AML	21 59 59.4	
	comp=Z,121nm,0.4s						
UPI	**Upington**	**13.24**	**224**	*e*P	**Pn**	**21 58 16.5**	**+4.6**
TSUM	**Tsumeb**	**13.37**	**268**	Pn	**Pn**	**21 58 13.1**	**-0.5**
	comp=Z,8.8nm,0.3s,baz=50,slow=9.9,SNR=59						
TSUM				Sn	**Sn**	**22 00 38.1**	**-4.2**
	comp=Z,3.5nm,0.3s,baz=248,slow=22,SNR=6.1						
TSUM				Lg		22 02 02.1	
	comp=Z,5.9nm,0.3s,baz=97,slow=14,SNR=4.3						
TSUM				LR	LR	22 03 40.3	
	comp=Z,576nm,19.6s,baz=330,slow=39						
TSUM	**Tsumeb**	**13.37**	**268**	Pn	**Pn**	**21 58 13.1**	**-0.5**
TSUM				Sn	**Sn**	**22 00 38.1**	**-4.2**
TSUM				Lg		22 02 02.1	
OPO	**Ambohidratompo**	**14.64**	**90**	Pn	**Pn**	**21 58 30.3**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=257,slow=13,SNR=10						
OPO				Sn	**Sn**	**22 00 59.2**	**-14**
	comp=Z,0.8nm,0.3s,baz=347,slow=13,SNR=3.0						
CVNA	**Calvinia**	**16.33**	**219**	*e*P	**Pn**	**21 58 58.8**	**+5.7**
CVNA				*e*S	**Sn**	**22 01 49.6**	**-4.7**
CVNA				AML	AML	22 02 40.9	
	comp=Z,42nm,0.6s						
SUR	**Sutherland**	**16.40**	**215**	*e*P	**Pn**	**21 58 58.9**	**+4.9**
SUR				*e*S	**Sn**	**22 01 51.3**	**-4.7**
SUR	**Sutherland**	**16.40**	**215**	Pn	**Pn**	**21 58 53.3**	**-0.7**
	comp=Z,1.8nm,0.3s,baz=64,slow=13,SNR=17						
SUR				Sn	**Sn**	**22 01 52.6**	**-3.4**
	comp=Z,2.8nm,0.3s,baz=135,slow=18,SNR=2.8						
SUR				Lg		22 03 31.4	
	comp=Z,5.2nm,0.3s,baz=115,slow=23,SNR=3.4						
SUR				LR	LR	22 05 18.6	
	comp=Z,786nm,18.2s,baz=263,slow=37						
KMBO	**Kilima Mbogo**	**18.74**	**17**	P	**Pn**	**21 59 21.3**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=202,slow=15,SNR=11						
KMBO				S	**Sn**	**22 02 48.0**	**-4.7**
	comp=Z,0.3nm,0.3s,baz=226,slow=20,SNR=2.4						
KMBO				Lg		22 04 42.8	
	comp=Z,0.4nm,0.3s,baz=65,slow=22,SNR=6.7						
KMBO				LR	LR	22 06 52.6	
	comp=Z,274nm,18.4s,baz=206,slow=38						
KMBO	**Kilima Mbogo**	**18.74**	**17**	*e*P	**Pn**	**21 59 22.1**	**-1.0**
KMBO				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KMBO	**Kilima Mbogo**	**18.74**	**17**	*e*Pn	**Pn**	**21 59 22.1**	**-1.0**
	comp=Z,5.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**43.68**	**315**	P	**P**	**22 03 09.0**	**+0.2**
	comp=Z,5.0nm,0.6s,mb4.5,baz=126,slow=7.4,SNR=115						
DBIC	**Dimbokro**	**44.27**	**302**	P	**P**	**22 03 13.8**	**+0.3**
	comp=Z,1.6nm,0.5s,mb4.0,baz=110,slow=9.7,SNR=8.3						
DBIC				LR	LR	22 21 00.3	
	comp=Z,71nm,20.1s,MS3.6,baz=111,slow=35						
DBIC	**Dimbokro**	**44.27**	**302**	P	**P**	**22 03 13.8**	**+0.3**
DBIC				LR	LR	22 21 00.3	
EIL	**Elat**	**48.67**	**4**	P	**P**	**22 03 48.5**	**+0.5**
SYO	**Syowa Base**	**50.05**	**176**	⇑*eX*		22 03 51.1	
IDI	**Anoyia**	**54.56**	**353**	LR	LR	22 31 40.8	
	comp=Z,63nm,19.5s,MS3.7,baz=104,slow=40						
ISP	**Isparta**	**56.73**	**359**	*e*P	**P**	**22 04 48.3**	**+0.6**
ISP				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ISP	**Isparta**	**56.73**	**359**	*e*P	**P**	**22 04 48.3**	**+0.6**
	comp=Z,2.6nm,0.6s,mb4.4						
MALT	**Malatya**	**57.53**	**6**	*e*P	**P**	**22 04 54.3**	**+0.9**
MALT				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
MALT	**Malatya**	**57.53**	**6**	*e*P	**P**	**22 04 54.3**	**+0.9**
	comp=Z,1.6nm,0.3s,mb4.1						
BR131	**Keskin Array S**	**58.63**	**2**	*e*P	**P**	**22 05 01.2**	**+0.1**
	comp=Z,1.1nm,0.5s,mb4.1						
BRTR	**Keskin Array B**	**58.63**	**2**	P	**P**	**22 05 01.7**	**+0.7**
	comp=Z,1.7nm,0.7s,mb4.2,baz=175,slow=10,SNR=15						
GNI	**Garni**	**60.26**	**11**	*e*P	**P**	**22 05 12.3**	**0.0**
GNI				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GNI	**Garni**	**60.26**	**11**	*e*P	**P**	**22 05 12.3**	**0.0**
	comp=Z,1.6nm,0.5s,mb4.3						
MDT	**Midelt**	**62.30**	**326**	LR	LR	22 33 36.7	
	comp=Z,295nm,18.1s,MS4.5,baz=267,slow=37						
CART	**Cartagena**	**64.33**	**332**	P	**P**	**22 05 39.8**	**+0.2**
MLR	**Muntele Rosu**	**64.58**	**355**	⇑*iP*	**P**	**22 05 41.2**	**0.0**
PLOR	**Plostina**	**64.89**	**356**	⇑*iP*	**P**	**22 05 44.0**	**+0.8**
VRI	**Vrincioaia**	**64.90**	**356**	⇓*iP*	**P**	**22 05 44.5**	**+1.2**
PGF	**Pioggiola**	**64.91**	**342**	*e*P	**P**	**22 05 43.1**	**-0.2**

comp=Z,12nm,0.8s,mb4.9
BDFB Brasilia 75.55 258 LR LR 22 35 01.9
comp=Z,72nm,19.9s,MS4.0,baz=115,slow=32
ZRNK Zerenda 78.75 22 *e*P **P** **22 07 05.7 -0.8**
ZRNK pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
ZRNK Zerenda 78.75 22 *e*P **P** **22 07 05.7 -0.8**
comp=Z,0.8nm,0.5s,mb3.9
VNDA Vanda 79.26 170 *e*P **P** **22 07 08.5 -0.8**
comp=Z,0.2nm,0.4s,mb3.4
SBA Scott Base 79.77 171 *e*P **P** **22 07 11.8 -0.3**
MKAR Makanchi Array 79.90 33 P **P** **22 07 12.4 -0.4**
comp=Z,2.4nm,0.8s,mb4.2,baz=221,slow=5.3,SNR=14
CHKZ Chkalovo 79.91 22 *e*P **P** **22 07 11.9 -0.9**
CHKZ pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
CHKZ Chkalovo 79.91 22 *e*P **P** **22 07 11.9 -1.0**
comp=Z,1.9nm,0.8s,mb4.1
FINES FINESS Array B 80.47 357 P **P** **22 07 15.2 -0.7**
comp=Z,0.2nm,0.7s,mb3.1,baz=143,slow=23,SNR=5.1
CPUP Villa Florida 80.92 245 LR LR 22 39 06.4
comp=Z,155nm,19.4s,MS4.4,baz=142,slow=33
CPUP Villa Florida 80.92 245 P **P** **22 07 18.8 +0.6**
WMQ Urumqi 80.93 37 *e*P **P** **22 07 17.6 -0.7**
WMQ AP pP 22 07 22.1 +0.5
WMQ XP sP 22 07 24.6 +1.8
WMQ AMB AMB
comp=Z,22nm,1.3s,mb4.9
TRQA Tornquist 81.25 233 P **P** **22 07 20.8 +0.7**
ZAL Zalesovo 85.85 28 LR LR 22 50 50.9
comp=Z,68nm,19.2s,MS4.1,baz=111,slow=39
ARCES ARCESS Array B 88.58 358 P **P** **22 07 55.9 -1.0**
comp=Z,2.2nm,0.7s,mb4.6,baz=214,slow=1.3,SNR=7.4
LVC Limon Verde 92.09 245 P **P** **22 08 13.8 +0.5**
LPAZ La Paz 93.70 251 *e*P **P** **22 08 21.9 +1.2**
HHC Hu-ho-hao-te 94.94 49 *e*P **P** **22 08 27.6 +1.3**
HHC AP pP 22 08 32.4 +2.7
HHC XP sP 22 08 34.6 +3.7
HHC PP PP 22 12 19.1 +3.8
HHC SKS 22 19 00.9
HHC S 22 19 39.3
HHC XS sS 22 19 47.0 +0.8
HHC AMB AMB
comp=Z,11nm,1.2s,mb5.2
HHC AMB AMB
comp=Z,81nm,4.8s
HHC LR LR
comp=N,142nm,22.4s,MS4.4
HHC LR LR
comp=E,93nm,24.5s,MS4.4
HHC LR LR
comp=Z,73nm,21.6s,MS4.1
NJ2 Nanjing 97.59 59 *e*P **P** **22 08 39.3 +0.9**
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb5.3

PRE 21 22:27:04.4±1.6, 1957S×3287E, h5km, ML4.7, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BFT	**Belfast (SA)**	**6.62**	**203**	*e*P		Pn		22 28 44.1	+1.7
BFT				*e*S		Sn		22 29 56.9	-1.4
BFT				AML		AML		22 30 41.7	
	comp=Z,137nm,0.5s								
SLR	**Silverton**	**7.46**	**214**	*e*S		Sn		22 30 15.1	-3.7
SLR				AML		AML		22 31 05.6	
	comp=Z,145nm,0.6s								
POGA	**Pongola**	**7.85**	**188**	*e*P		Pn		22 29 00.0	+0.8
POGA				*e*S		Sn		22 30 23.4	-5.1
POGA				AML		AML		22 31 25.6	
	comp=Z,63nm,0.6s								
LBTB	**Lobatse**	**8.64**	**230**	*e*P		Pn		22 29 10.8	+0.7
LBTB				*e*S		Sn		22 30 44.5	-3.4
LBTB				AML		AML		22 31 34.8	
	comp=Z,61nm,0.5s								
SWZ	**Schweizer**	**10.26**	**221**	*e*P		Pn		22 29 33.6	+1.3
SWZ				*e*S		Sn		22 31 22.5	-5.1
SWZ				AML		AML		22 31 44.9	
	comp=Z,16nm,0.4s								

*OMAN **21** 22:50:46.5,2786N×5438E, h19km, Error ellipse: s-maj=1299.0km s-min=263.8km az=336.0*
*IDC **21** 22:50:50.7±0.8, 2728N×5484E, h0km, mb3.8/17, mb1 4.0/20, mb1mx4.0/27, mbtmp3.9/20, ML3.9/1, MS3.2/3, Ms1 3.2/3, ms1mx2.7/29, Error ellipse: s-maj=17.6km s-min=15.9km az=27.0*
*ISCJB **21** 22:50:51.4±0.3, 2734N±003×5487E±003, h10km, mb4.0/26, MS3.7/2, Error ellipse: s-maj=5.0km s-min=3.2km az=68.7*
*CSEM **21** 22:50:53.3±0.1, 2722N×5490E, h35km, mb4.1/16, Error ellipse: s-maj=2.0km s-min=1.9km az=40.0*
*MOS **21** 22:50:53.9±1.5, 2721N×5512E, h33km, mb4.1/14, Error ellipse: s-maj=20.1km s-min=11.0km az=98.1*
*THR **21** 22:50:54.9±0.5, 2756N×5498E, h14km±4km, ML4.0*
*TEH **21** 22:50:55.5, 2729N×5493E, h18km, Mn3.8*
*BJI **21** 22:50:55.7, 2730N×5500E, h45km, mB5.1, mb4.4, Ms4.6, Ms2.4.1*
*NEIC **21** 22:50:57.8±1.3, 2727N×5496E, h56km±15km, mb4.0/7, Error ellipse: s-maj=12.0km s-min=8.8km az=207.0*

ISC 21 22:50:53.6±0.3, 2735N±003×5490E±003, h10km, n101, σ1℗18/112, mb4.0/26, MS3.7/2, 4C-2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.13**	**87**	*e*PG		**Pg**		**22 51 15.1**	**-0.2**
BNDS				*e*SG		**Sg**		**22 51 29.6**	**-0.5**
BNDS				AML		AML		22 51 37.8	
	comp=E,6μm,0.4s								
BNDS				AML		AML		22 51 37.9	
	comp=N,4μm,0.5s								
BNDS	**Bandar-Abbas** SNR=90	**1.13**	**87**	*e*Pg		**Pg**		**22 51 15.1**	**-0.2**
BNDS				*e*Sg		**Sg**		**22 51 29.5**	**-0.5**
	SNR=90								
BANOM	**Banah** SNR=30	**1.90**	**138**	⇑P		**Pn**		**22 51 28.0**	**+2.0**
GHIR	**Ghir-Karzin**	**1.93**	**299**	*e*PG		**Pg**		**22 51 29.5**	**-1.1**
GHIR				*e*SG		**Sg**		**22 51 55.1**	**-0.6**
GHIR				AML		AML		22 52 07.1	
	comp=E,1μm,0.6s								
GHIR				AML		AML		22 52 20.9	
	comp=N,1μm,0.7s								
IMOK	**Mook**	**2.56**	**312**	*e*Pn		**Pn**		**22 51 36.7**	**+1.6**
KRBR	**Kerman**	**3.09**	**32**	*e*PN		**Pn**		**22 51 42.5**	**+0.1**
KRBR				*e*SG		**Sg**		**22 52 24.9**	**-7.8**
KRBR				AML		AML		22 52 48.0	
	comp=E,348nm,0.7s								
IMEH	**Mehriz**	**4.03**	**356**	*e*Pn		**Pn**		**22 51 57.2**	**+1.9**
ARQ	**Araqi** SNR=5.3	**4.26**	**160**	⇓P		**Pn**		**22 51 59.8**	**+1.3**
IBAF	**Bafgh**	**4.26**	**8**	*e*Pn		**Pn**		**22 51 59.8**	**+1.3**
ISAD	**Sadrabad**	**4.67**	**347**	*e*Pn		**Pn**		**22 52 06.7**	**+2.6**
ISAD				*e*Sn		**Sn**		**22 52 57.4**	**-0.9**
BIDO	**Bidbid** SNR=6.2	**4.80**	**142**	⇑P		**Pn**		**22 52 07.3**	**+1.4**
SMDO	**Samad** SNR=26	**5.14**	**146**	⇓P		**Pn**		**22 52 11.8**	**+1.2**
WSAR	**Wadi Sarin**	**5.31**	**140**	Pn		**Pn**		**22 52 12.9**	**0.0**
	comp=E,3.9nm,0.3s,baz=308,slow=12,SNR=38								
WSAR				Sn		**Sn**		**22 53 14.9**	**+0.8**
	comp=E,1.5nm,0.3s,baz=174,slow=17,SNR=3.9								
WSAR				LR		LR		22 54 50.1	
	comp=E,123nm,20.4s,baz=223,slow=45								
ZHSF	**Zahedan**	**5.64**	**65**	*e*PN		**Pn**		**22 52 18.6**	**+1.2**
NASN	**Na'in**	**5.72**	**342**	*e*Pn		**Pn**		**22 52 19.9**	**+1.3**
IZEF	**Zefreh**	**5.96**	**339**	*e*Pn		**Pn**		**22 52 22.9**	**+1.1**
QRN	**Al-Qurain**	**6.33**	**284**	*e*P		**Pn**		**22 52 27.3**	**+0.5**
QRN				AML		AML		22 53 38.6	
	comp=Z,16nm,0.2s								
IPIR	**Pirpir**	**6.35**	**328**	*e*Pn		**Pn**		**22 52 27.1**	**-0.1**
IPIR				*e*Sn		**Sn**		**22 53 38.3**	**-1.4**
IKLH	**Kalahroud**	**6.60**	**335**	*e*Pn		**Pn**		**22 52 31.7**	**+1.0**
IKLH				*e*Sn		**Sn**		**22 53 41.9**	**-4.1**
KBD	**Kabd**	**6.61**	**288**	*e*P		**Pn**		**22 52 31.4**	**+0.7**
RDF	**Al-Radifah**	**6.68**	**285**	*e*P		**Pn**		**22 52 31.8**	**+0.1**
RDF				AML		AML		22 53 48.1	
	comp=Z,25nm,0.5s								
UMR	**Umm Al-Rimmam**	**6.69**	**291**	*e*P		**Pn**		**22 52 32.6**	**+0.7**
UMR				AML		AML		22 53 47.6	
	comp=Z,18nm,0.3s								
NAY	**Al-Naaiem**	**7.01**	**287**	*e*P		**Pn**		**22 52 36.5**	**+0.2**
MIB	**Mutribah**	**7.08**	**292**	*e*P		**Pn**		**22 52 37.9**	**+0.6**
MIB				AML		AML		22 53 54.0	
	comp=Z,21nm,0.5s								
ISFB	**Sefidab**	**7.34**	**342**	*e*Pn		**Pn**		**22 52 41.7**	**+0.8**
ISFB				*e*Sn		**Sn**		**22 54 00.5**	**-3.7**
IVRN	**Varamin**	**8.09**	**341**	*e*Pn		**Pn**		**22 52 50.7**	**-0.4**
IDMV	**Damavand**	**8.56**	**344**	*e*Pn		**Pn**		**22 52 58.7**	**+1.2**
IAFJ	**Afjeh**	**8.90**	**343**	*e*Pn		**Pn**		**22 53 03.5**	**+1.3**
IRAZ	**Razeghan**	**9.08**	**333**	*e*Pn		**Pn**		**22 53 05.2**	**+0.5**
WHFO	**Wadi Hawf** SNR=9.1	**9.45**	**187**	⇑P		**Pn**		**22 53 08.6**	**-1.1**
IGHG	**Ghaleghazi**	**9.98**	**316**	*e*Pn		**Pn**		**22 53 17.6**	**+0.6**
IGHG				*e*Sn		**Sn**		**22 55 03.4**	**-5.6**
ABTO	**Aybut** SNR=7.7	**10.06**	**189**	⇑P		**Pn**		**22 53 16.6**	**-1.5**
IDHR	**Dehrash**	**10.34**	**317**	*e*Pn		**Pn**		**22 53 21.9**	**0.0**
IDHR				*e*Sn		**Sn**		**22 55 11.7**	**-6.1**
BHD	**Baghdad**	**10.83**	**306**	*ex*		x		22 54 34.0	
GNI	**Garni**	**15.29**	**329**	Pn		**Pn**		**22 54 31.0**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=234,slow=2.5,SNR=7.7								
GNI				LR		LR		23 01 40.2	
	comp=Z,59nm,18.1s,baz=114,slow=42								
GNI	**Garni**	**15.29**	**329**	*e*Pn		**Pn**		**22 54 30.9**	**+1.5**
	comp=Z,11nm,0.8s								
GNI	**Garni**	**15.29**	**329**	*e*Pn		**Pn**		**22 54 30.9**	**+1.5**
	comp=Z,11nm,0.8s								
ASF	**Jabal al Asfar**	**16.35**	**291**	Pn		**Pn**		**22 54 46.5**	**+3.3**
	comp=Z,0.5nm,0.3s,baz=347,slow=3.9,SNR=3.9								
ASF				Sn		**Sn**		**22 57 34.8**	**-10**
	comp=Z,0.2nm,0.3s,baz=122,slow=17,SNR=2.7								
MALT	**Malatya**	**17.61**	**312**	*e*P		**Pn**		**22 54 59.8**	**+0.8**
MALT				pmax		pmax			
	comp=Z,5.0nm,0.8s								
MALT	**Malatya**	**17.61**	**312**	*e*Pn		**Pn**		**22 54 59.8**	**+0.7**
	comp=Z,5.5nm,0.8s								
MALT	**Malatya**	**17.61**	**312**	*e*P		**Pn**		**22 54 59.8**	**+0.8**
	comp=Z,5.0nm,0.8s								
EIL	**Elat**	**17.69**	**282**	Pn		**Pn**		**22 55 01.3**	**+1.3**
MMAI	**Mount Meron Ar** baz=107,slow=14,SNR=2.9	**17.77**	**293**	P		**Pn**		**22 55 00.1**	**-0.9**
ZEI	**Tsey**	**17.80**	**333**	*e*P		**Pn**		**22 55 06.1**	**+4.8**
KIV	**Kislovodsk**	**19.27**	**332**	*e*P		**Pn**		**22 55 21.7**	**+2.4**
KIV				pmax		pmax			
	comp=Z,12nm,1.0s								
CSS	**Prodhromos**	**19.93**	**298**	*e*P		**Pn**		**22 55 29.0**	**+1.8**
	comp=Z,5.1nm,0.5s								
BR131	**Keskin Array S**	**21.53**	**310**	*e*P		**P**		**22 55 42.5**	**-0.3**
	comp=Z,3.6nm,0.8s,mb3.9								
BR131	**Keskin Array S**	**21.53**	**310**	*e*P		**P**		**22 55 42.5**	**-0.4**
	comp=Z,3.6nm,0.8s,mb3.9								
BRTR	**Keskin Array B**	**21.53**	**310**	P		**P**		**22 55 42.2**	**-0.7**
	comp=Z,1.9nm,0.6s,mb3.7,baz=136,slow=15,SNR=11								
BRTR	**Keskin Array B**	**21.53**	**310**	P		**P**		**22 55 42.2**	**-0.7**
BRTR				pmax		pmax			
	comp=Z,2.0nm,0.6s								
AKTK	**Aktyubinsk**	**23.17**	**5**	P		**P**		**22 55 59.5**	**-0.8**
AKTK	**Aktyubinsk**	**23.17**	**5**	P		**P**		**22 55 59.5**	**-0.8**
AKTO	**Aktyubinsk**	**23.17**	**5**	P		**P**		**22 55 59.5**	**-0.8**
	comp=Z,2.0nm,0.4s,mb3.9,baz=168,slow=11,SNR=11								
AKTO	**Aktyubinsk**	**23.17**	**5**	P		**P**		**22 55 59.6**	**-0.7**
AKTO				pmax		pmax			
	comp=Z,2.0nm,0.4s,mb3.9								
ZRNK	**Zerenda**	**27.64**	**19**	*e*P		**P**		**22 56 39.8**	**-1.6**
ZRNK				pmax		pmax			
	comp=Z,5.0nm,1.0s,mb4.1								
ZRNK	**Zerenda**	**27.64**	**19**	*e*P		**P**		**22 56 39.8**	**-1.6**
	comp=Z,5.2nm,1.0s,mb4.1								
ZRNK	**Zerenda**	**27.64**	**19**	*e*P		**P**		**22 56 39.8**	**-1.6**
	comp=Z,5.2nm,1.0s,mb4.1								
CHKZ	**Chkalovo**	**28.75**	**20**	*e*P		**P**		**22 56 50.2**	**-1.0**
CHKZ				pmax		pmax			
	comp=Z,1.0nm,0.5s,mb3.8								
CHKZ	**Chkalovo**	**28.75**	**20**	*e*P		**P**		**22 56 50.2**	**-1.0**
	comp=Z,1.0nm,0.5s,mb3.8								
CHKZ	**Chkalovo**	**28.75**	**20**	*e*P		**P**		**22 56 50.2**	**-1.0**
	comp=Z,1.0nm,0.5s,mb3.8								
MKAR	**Makanchi Array**	**28.99**	**41**	P		**P**		**22 56 52.9**	**-0.5**
	comp=Z,0.5nm,0.4s,mb3.6,baz=225,slow=8.8,SNR=9.1								
MKAR	**Makanchi Array**	**28.99**	**41**	P		**P**		**22 56 52.9**	**-0.5**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.4s								
MKAR	**Makanchi Array**	**28.99**	**41**	P		**P**		**22 56 52.9**	**-0.5**
MLR	**Muntele Rosu**	**29.27**	**316**	P		**P**		**22 56 55.8**	**-0.1**
	comp=Z,0.4nm,0.3s,mb3.6,baz=122,slow=18,SNR=1.9								
AKASG	**Malin Array Be**	**30.40**	**327**	P		**P**		**22 57 05.0**	**-0.9**
	comp=Z,0.5nm,0.4s,mb3.6,baz=132,slow=8.4,SNR=7.0								
AKASG	**Malin Array Be**	**30.40**	**327**	P		**P**		**22 57 05.0**	**-0.9**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.4s								
OBN	**Obninsk**	**30.78**	**339**	P		**P**		**22 57 09.0**	**-0.2**
OBN				pmax		pmax			
	comp=Z,6.0nm,0.5s,mb4.7								
OBN	**Obninsk**	**30.78**	**339**	P		**P**		**22 57 09.0**	**-0.2**
	comp=Z,6.0nm,0.5s,mb4.7								
WMQ	**Urumqi**	**31.07**	**49**	*e*P		**P**		**22 57 12.3**	**+0.5**
WMQ				AP		pP		22 57 21.8	+7.0
WMQ				XP		sP		22 57 25.9	+10
WMQ				AMB		AMB			
	comp=Z,7.0nm,1.0s,mb4.5								
KMBO	**Kilima Mbogo**	**33.02**	**214**	P		**P**		**22 57 26.6**	**-2.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=36,slow=19,SNR=2.6								
KMBO	**Kilima Mbogo**	**33.02**	**214**	P		**P**		**22 57 26.6**	**-2.3**
KMBO				pmax		pmax			
	comp=Z,1.0nm,0.5s								
ZAL	**Zalesovo**	**34.46**	**31**	P		**P**		**22 57 40.7**	**-0.7**
	comp=Z,2.5nm,0.5s,mb4.4,baz=242,slow=9.1,SNR=16								
ZAL	**Zalesovo**	**34.46**	**31**	P		**P**		**22 57 40.7**	**-0.8**
ZAL				pmax		pmax			
	comp=Z,3.0nm,0.5s								
ZAL	**Zalesovo**	**34.46**	**31**	P		**P**		**22 57 40.7**	**-0.7**
GERES	**GERESS Array B**	**38.26**	**315**	P		**P**		**22 58 11.8**	**-2.1**
	comp=Z,0.2nm,0.5s,mb3.1,baz=116,slow=8.9,SNR=3.1								
KHC	**Kasperske Hory**	**38.43**	**316**	*e*P		**P**		**22 58 16.0**	**+0.7**
JOF	**Joensuu**	**38.79**	**343**	*e*p		**P**		**22 58 17.4**	**-1.0**
	comp=Z,4.9nm,0.9s,mb4.2								
FINES	**FINESS Array B**	**39.17**	**338**	P		**P**		**22 58 20.1**	**-1.4**
	comp=Z,1.7nm,0.5s,mb4.1,baz=136,slow=9.4,SNR=22								
FINES	**FINESS Array B**	**39.17**	**338**	P		**P**		**22 58 20.1**	**-1.4**
FINES				pmax		pmax			
	comp=Z,2.0nm,0.5s								
KAF	**Kangasniemi**	**39.60**	**339**	*e*p		**P**		**22 58 26.3**	**+1.2**
	comp=Z,1.2nm,0.5s,mb3.9								
KAF	**Kangasniemi**	**39.60**	**339**	*e*P		**P**		**22 58 26.3**	**+1.2**
KAF				pmax		pmax			
	comp=Z,1.0nm,0.5s,mb3.8								
HFS	**Hagfors**	**43.06**	**331**	LR		LR		23 16 32.0	
	comp=Z,58nm,18.4s,MS3.5,baz=54,slow=36								
NB2	**NORSAR Subarra**	**44.58**	**331**	P		**P**		**22 59 03.6**	**-2.2**
	comp=Z,1.6nm,0.6s,mb4.0,baz=118,slow=7.9								
NOA	**NORSAR Array B**	**44.58**	**331**	P		**P**		**22 59 04.0**	**-1.8**
	comp=Z,2.3nm,0.8s,mb4.0,baz=118,slow=7.9,SNR=6.5								
NOA	**NORSAR Array B**	**44.58**	**331**	P		**P**		**22 59 04.0**	**-1.8**
NOA				pmax		pmax			
	comp=Z,2.0nm,0.8s								
NOA	**NORSAR Array B**	**44.58**	**331**	P		**P**		**22 59 04.0**	**-1.8**
SONM	**Songino Array**	**44.70**	**49**	P		**P**		**22 59 06.8**	**+0.1**
	comp=Z,0.4nm,0.8s,mb3.3,baz=232,slow=6.2,SNR=4.2								
ARCES	**ARCESS Array B**	**45.54**	**346**	P		**P**		**22 59 12.1**	**-1.3**
	comp=Z,0.8nm,0.6s,mb3.8,baz=157,slow=9.8,SNR=4.3								
ARCES	**ARCESS Array B**	**45.54**	**346**	P		**P**		**22 59 12.1**	**-1.3**
ARCES				pmax		pmax			
	comp=Z,1.0nm,0.6s								
HHC	**Hu-ho-hao-te**	**48.04**	**58**	*e*P		**P**		**22 59 33.3**	**+0.3**
HHC				AP		pP		22 59 42.3	+6.2
HHC				XP		sP		22 59 46.9	+10
HHC				PCP		PcP		23 01 02.6	+1.8
HHC				PP		PP		23 01 24.5	-0.6
HHC				SCP		ScP		23 04 52.8	-2.5
HHC				PCS		PcS		23 04 56.3	-0.2
HHC				S		**S**		**23 06 26.6**	**-4.6**
HHC				XS		sS		23 06 43.4	+7.0
HHC				SCS		ScS		23 09 21.4	-5.0
HHC				SS		SS		23 09 49.4	-11
HHC				AMB		AMB			
	comp=Z,5.0nm,1.1s,mb4.5								
HHC				AMB		AMB			
	comp=Z,127nm,5.3s								
HHC				LR		LR			
	comp=N,113nm,16.4s,MS4.1								
HHC				LR		LR			
	comp=E,105nm,15.8s,MS4.1								
HHC				LR		LR			
	comp=Z,85nm,17.6s,MS3.8								
ESDC	**Sonseca Array**	**49.79**	**300**	P		**P**		**22 59 45.4**	**-1.0**
	comp=Z,0.2nm,0.3s,mb3.6,baz=74,slow=7.5,SNR=3.9								
BOD	**Bodaibo**	**50.91**	**36**	*e*P		**P**		**22 59 52.9**	**-2.0**
BOD				pmax		pmax			
	comp=Z,4.0nm,1.1s,mb4.3								
BOD	**Bodaibo**	**50.91**	**36**	*e*P		**P**		**22 59 52.9**	**-2.0**
	comp=Z,4.0nm,1.1s,mb4.3								
TORD	**Torodi Ar. Bea**	**51.52**	**265**	P		**P**		**22 59 58.1**	**-1.3**
	comp=Z,0.7nm,0.5s,mb3.9,baz=64,slow=7.5,SNR=34								
DBIC	**Dimbokro**	**60.15**	**262**	P		**P**		**23 01 00.5**	**-0.8**
	comp=Z,3.3nm,1.0s,mb4.3,baz=80,slow=11,SNR=3.1								
DBIC	**Dimbokro**	**60.15**	**262**	P		**P**		**23 01 00.5**	**-0.8**
DBIC				pmax		pmax			
	comp=Z,3.0nm,1.0s								
DBIC	**Dimbokro**	**60.15**	**262**	P		**P**		**23 01 00.5**	**-0.8**
MDJ	**Mudanjiang**	**60.82**	**52**	P		**P**		**23 01 04.3**	**-1.6**
MDJ				AMB		AMB			
	comp=Z,3.0nm,0.7s,mb4.5								
MDJ				AMB		AMB			
	comp=Z,55nm,4.1s								
FITZ	**Fitzroy Crossi**	**82.07**	**115**	P		**P**		**23 03 12.6**	**-1.6**
	comp=Z,1.7nm,0.8s,mb4.0,baz=158,slow=18,SNR=7.2								
ILAR	**Eielson Array**	**86.62**	**9**	P		**P**		**23 03 35.6**	**-1.6**
	comp=Z,0.6nm,0.9s,mb3.8,baz=328,slow=4.8,SNR=5.6								
ILAR	**Eielson Array**	**86.62**	**9**	P		**P**		**23 03 35.6**	**-1.6**
ILAR				pmax		pmax			
	comp=Z,1.0nm,0.9s								

*IDC **21** 23:40:37.3±1.3, 2811S×17660W, h0km, mb4.2/6, mb1 4.3/6, mb1mx4.0/20, mbtmp4.2/6, MS3.4/1, Ms1 3.4/1, ms1mx2.9/31, Error ellipse: s-maj=38.8km s-min=22.4km az=134.0*
*NEIC **21** 23:40:40.2±3.7, 2808S×17658W, h22km±25km, mb4.6/2, Error ellipse: s-maj=19.0km s-min=11.9km az=128.0*
*MOS **21** 23:40:40.8±1.5, 2803S×17660W, h33km, mb4.6/1, Error ellipse: s-maj=25.2km s-min=17.1km az=49.2*
*ISCJB **21** 23:40:41.5±1.7, 2805S±0.1×1766W±0.1, h50km±14km, mb4.3/8, Error ellipse: s-maj=24.7km s-min=13.6km az=66.6*

ISC 21 23:40:40.5±4.3, 2805S±01×1765W±01, h24km±32km, n23, σ1℗00/15, mb4.3/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.71**	**225**	Pn		**Pn**		**23 41 08.6**	**-0.2**
	189nm,0.3s,baz=280,slow=22,SNR=7.4								
RAO				LR		LR		23 41 30.9	
	comp=Z,515nm,19.5s,baz=42,slow=33								
RAO				Sn		**Sn**		**23 41 31.6**	**+1.7**
	695nm,0.3s,baz=286,slow=23,SNR=10								
AFI	**Afiamalu**	**14.74**	**18**	*e*P		**Pn**		**23 44 07.9**	**+0.5**
DZM	**Mont Dzumac**	**16.51**	**287**	LR		LR		23 49 29.9	
	comp=Z,130nm,20.9s,baz=209,slow=32								
CTA	**Charters Tower**	**34.77**	**275**	P		**P**		**23 47 30.8**	**+1.8**
	6.6nm,0.9s,mb4.6,baz=110,slow=12,SNR=3.9								
CTAO	**Charters Tower**	**34.77**	**275**	*e*P		**P**		**23 47 29.4**	**+0.4**
CTAO				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.5								
CTAO	**Charters Tower**	**34.77**	**275**	*e*P		**P**		**23 47 29.4**	**+0.4**
	comp=Z,5.3nm,0.8s,mb4.5								
STKA	**Stephens Creek**	**36.31**	**253**	P		**P**		**23 47 40.5**	**-1.7**
	comp=Z,1.4nm,0.7s,mb4.0,baz=95,slow=9.2,SNR=5.0								
ASAR	**Alice Springs**	**44.57**	**264**	P		**P**		**23 48 50.5**	**+0.1**
	comp=Z,1.2nm,0.7s,mb3.9,baz=96,slow=7.1,SNR=19								
WB2	**Warramunga Arr**	**45.34**	**269**	*e*P		**P**		**23 48 55.3**	**-1.3**
WRA	**Warramunga Ar**	**45.34**	**269**	P		**P**		**23 48 56.2**	**-0.5**
	comp=Z,0.9nm,0.4s,mb4.0,baz=112,slow=6.3,SNR=7.3								
SBA	**Scott Base**	**50.48**	**185**	P		**P**		**23 49 35.6**	**-0.9**
FITZ	**Fitzroy Crossi**	**53.69**	**267**	P		**P**		**23 50 00.4**	**+0.2**
	comp=Z,2.0nm,0.8s,mb4.1,baz=110,slow=17,SNR=5.3								
CASY	**Casey**	**57.82**	**207**	*e*P		**P**		**23 50 28.8**	**-1.1**
	comp=Z,5.4nm,0.9s,mb4.6								
MJAR	**Matsushiro Arr**	**77.05**	**324**	P		**P**		**23 52 32.4**	**+0.9**
	comp=Z,2.3nm,0.7s,mb4.2,baz=163,slow=6.3,SNR=6.8								
LVC	**Limon Verde**	**93.94**	**118**	*e*P		**P**		**23 53 57.5**	**+1.3**
	comp=Z,6.3nm,0.4s,mb5.4								
ZRNK	**Zerenda**	**126.42**	**317**	*e*PKIKP		PKPdf		23 59 41.4	+0.1
FINES	**FINESS Array B**	**143.33**	**342**	PKhKP				00 00 09.8	
	comp=Z,0.4nm,0.4s,baz=66,slow=4.6,SNR=7.0								
FINES	**FINESS Array B**	**143.33**	**342**	PKP		PKPdf		00 00 09.8	-3.0
NB2	**NORSAR Subarra**	**146.59**	**353**	PKPa		PKPbc		00 00 20.1	+0.2
	comp=Z,1.6nm,0.6s,baz=9.3,slow=2.9								
NOA	**NORSAR Array B**	**146.59**	**353**	PKPbc		PKPbc		00 00 20.4	+0.5
	comp=Z,2.0nm,0.7s,baz=12,slow=4.4,SNR=8.3								
AKASG	**Malin Array Be**	**150.12**	**326**	PKPbc		PKPbc		00 00 29.4	+0.2
	comp=Z,1.9nm,0.7s,baz=48,slow=2.8,SNR=8.0								
BRTR	**Keskin Array B**	**152.49**	**

	comp=Z,95nm,18.8s,MS4.2,baz=63,slow=31							
ILAR	**Eielson Array**	**87.69**	**11**	P	**P**	**23 59 51.0**	**+0.8**	
	0.5nm,0.7s,mb3.9,baz=216,slow=4.6,SNR=7.5							
YKA	**Yellowknife Ar**	**95.24**	**24**	LR	LR	00 38 37.2		
	comp=Z,55nm,20.8s,MS4.0,baz=230,slow=32							
ULM	**Lac du Bonnet**	**98.59**	**40**	LR	LR	00 42 35.5		
	comp=Z,102nm,18.0s,MS4.4,baz=305,slow=34							
LPAZ	**La Paz**	**99.02**	**111**	LR	LR	00 37 59.1		
	comp=Z,71nm,18.5s,MS4.2,baz=312,slow=31							
SCHQ	**Schefferville**	**116.72**	**38**	PKP	PKPdf	00 05 44.7	-0.9	
	3.0nm,0.9s,baz=254,slow=7.4,SNR=2.8							
SCHQ	**Schefferville**	**116.72**	**38**	PKP	PKPdf	00 05 44.7	-0.9	
AKASG	**Malin Array Be**	**144.57**	**334**	PKPbc	PKPdf	00 06 38.4	+0.5	
	4.1nm,0.6s,baz=41,slow=4.0,SNR=28							
STHS	**Stebnicka Huta**	**148.58**	**340**	*e*PKP	PKPab	00 06 53.7	+1.9	
STHS				*e*		00 06 55.3		
STHS				*e*		00 07 12.4		
KOLS	**Kolonicke sedl**	**148.65**	**338**	*e*PKP	PKPab	00 06 59.2	+7.0	
CLL	**Collm**	**148.75**	**351**	*e*PKPbc	PKPbc	00 06 51.0	+2.2	
	comp=Z,8.0nm,1.0s							
CLL				*i* x	x	00 07 07.4		
CLL	**Collm**	**148.75**	**351**	*e*PKP2	PKPab	00 06 51.0	-1.6	
CLL				pmax	pmax			
	comp=Z,8.0nm,1.0s							
UPC	**Upice**	**148.98**	**347**	*e*PKPbc	PKPbc	00 06 52.5	+3.2	
UPC				*ex*	x	00 07 00.0		
BRG	**Berggiesshubel**	**149.02**	**350**	*e*P	PKPbc	00 06 49.9	+0.5	
	comp=Z,5.9nm,1.4s							
DPC	**Dobruska-Polom**	**149.06**	**346**	*e*PKPbc	PKPbc	00 06 52.1	+2.6	
DPC				*ex*	x	00 07 00.6		
OKC	**Ostrava-Krasne**	**149.10**	**344**	*e*PKPdf	PKPdf	00 06 48.7	+3.2	
BR131	**Keskin Array S**	**149.24**	**315**	*e*PKP	PKPbc	00 06 52.0	+2.0	
BRTR	**Keskin Array B**	**149.24**	**315**	PKPbc	PKPbc	00 06 51.7	+1.7	
	comp=Z,1.8nm,0.8s,baz=134,slow=3.5,SNR=14							
KECS	**Kecovo**	**149.64**	**340**	*e*PKP	PKPbc	00 06 54.1	+3.1	
KECS				*e*		00 06 58.9		
KECS				*e*		00 07 13.4		
ASF	**Jabal al Asfar**	**149.67**	**299**	PKPbc	PKPbc	00 06 53.9	+2.8	
	comp=Z,1.1nm,0.4s,baz=142,slow=7.7,SNR=4.3							
PRU	**Pruhonice**	**149.77**	**348**	*e*PKPbc	PKPbc	00 06 53.2	+1.9	
NKC	**Novy Kostel**	**149.88**	**351**	*e*PKPbc	PKPbc	00 06 52.4	+0.8	
KHC	**Kasperske Hory**	**150.77**	**349**	*e*PKPbc	PKPbc	00 06 55.9	+2.2	
KHC				*ep*PKP	pPKPdf	00 07 06.7	+7.1	
GERES	**GERESS Array B**	**151.02**	**349**	PKPbc	PKPbc	00 06 56.4	+2.1	
	comp=Z,1.3nm,0.8s,baz=140,slow=4.4,SNR=12							

*ISCJB **21** 23:56:52.2±5.8, 440N±04°×873E±03, h25km±22km, mb4.3/1, Error ellipse: s-maj=67.6km s-min=29.0km az=125.6*
*BJI **21** 23:56:52.7, 4365N×8731E, h16km, mb4.4, ML4.0*
ISC 21 23:56:52.2±5.9, **441N**±03°×**874E**±03, **h21**km±28km, **n9, σ0§52/10, mb4.3/1, 1C, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**0.36**	**137**	*i* PG	**Pb**	**23 57 00.0**	**+0.1**
WMQ				SG	**Sb**	**23 57 05.0**	**-0.1**
WMQ				Smax			
	comp=N,7μm,0.5s						
WMQ				Smax			
	comp=E,14μm,0.5s						
GUN	**Gumba**	**16.18**	**185**	*e*P	**Pn**	**00 00 38.7**	**+0.5**
	comp=E,38nm,0.6s						
GKN	**Gorkha**	**16.20**	**189**	*e*P	**Pn**	**00 00 39.0**	**+0.6**
	comp=E,32nm,0.5s						
KKN	**Kakani**	**16.35**	**187**	*e*P	**Pn**	**00 00 40.6**	**+0.3**
JIRN	**Jiri**	**16.42**	**184**	*e*P	**Pn**	**00 00 41.5**	**+0.3**
	comp=E,25nm,0.8s						
DMN	**Daman**	**16.54**	**187**	*e*P	**Pn**	**00 00 42.3**	**-0.5**
PKI	**Pulchoki**	**16.55**	**186**	*e*P	**Pn**	**00 00 43.2**	**+0.2**
KOLN	**Koldanda**	**16.56**	**192**	*e*P	**Pn**	**00 00 41.7**	**-1.3**
	comp=E,3.9nm,0.2s						
GYA	**Guiyang**	**23.52**	**132**	P	**P**	**00 02 00.8**	**-0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						

*ISCJB **21** 23:58:30.7±0.8, 2027S±005°×690W±0.1, h136km±9km, mb4.2/2, Error ellipse: s-maj=21.8km s-min=8.4km az=4.6*
*NEIC **21** 23:58:30.9±0.9, 2023S×6900W, h112km±12km, mb3.9/3, Error ellipse: s-maj=15.8km s-min=9.9km az=85.0*
*IDC **21** 23:58:31.5±2.5, 2026S×6902W, h129km±24km, mb3.4/3, mb1 3.4/5, mb1mx3.3/15, mbtmp3.8/5, Error ellipse: s-maj=44.1km s-min=20.0km az=97.0*
ISC 21 23:58:32.2±0.8, **2027S**±005°×**690W**±01, **h127**km±10km, **n12, σ0§81/15, mb4.2/2, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.33**	**178**	*e*Pn	**Pn**	**23 59 08.8**	**-1.2**
LVC				*e*Sn	**Sn**	**23 59 40.0**	**+0.9**
LPAZ	**La Paz**	**4.05**	**12**	P	**Pn**	**23 59 31.7**	**-0.8**
	4.7nm,0.3s,baz=190,slow=8.9,SNR=133						
LPAZ				S	**Sn**	**00 00 20.4**	**+1.2**
	1.3nm,0.3s,baz=335,slow=16,SNR=4.9						
LPAZ	**La Paz**	**4.05**	**12**	*e*Pn	**Pn**	**23 59 31.4**	**-1.1**
LPAZ				*e*Sn	**Sn**	**00 00 20.2**	**+1.0**
ARE	**Arequipa**	**4.47**	**328**	*e*P	**Pn**	**23 59 33.0**	**-5.1**
CPUP	**Villa Florida**	**12.29**	**122**	P	**Pn**	**00 01 22.1**	**-0.7**
	0.2nm,0.3s,baz=301,slow=16,SNR=2.7						
CPUP	**Villa Florida**	**12.29**	**122**	*e*Pn	**Pn**	**00 01 21.9**	**-1.0**
TRQA	**Tornquist**	**18.74**	**163**	*e*P	**P**	**00 02 41.7**	**+0.7**
	2.9nm,0.9s						
PLCA	**Paso Flores**	**20.44**	**183**	P	**P**	**00 02 59.1**	**-0.2**
	3.9nm,1.0s,baz=7.5,slow=11,SNR=7.7						
PLCA	**Paso Flores**	**20.44**	**183**	*e*P	**P**	**00 03 00.2**	**+0.9**
	3.1nm,0.8s						
BDFB	**Brasilia**	**20.48**	**80**	P	**P**	**00 03 00.2**	**+0.4**
	1.1nm,0.3s,baz=258,slow=10,SNR=5.1						
PAYG	**Puerto Ayora**	**28.52**	**310**	*e*P	**P**	**00 04 15.3**	**-0.2**
	10nm,0.6s,mb4.6						
TORD	**Torodi Ar. Bea**	**77.02**	**71**	P	**P**	**00 10 10.8**	**-0.2**
	0.6nm,0.4s,mb3.7,baz=255,slow=5.4,SNR=40						

*ISCJB **22** 00:04:15.8±0.4, 3867N±002°×2056E±003, h5km, Error ellipse: s-maj=3.7km s-min=2.7km az=122.9*
*ATH **22** 00:04:15.9, 3868N×2057E, h5km±3km, MD3.6/7*
*CSEM **22** 00:04:16.1±0.1, 3868N×2058E, h5km, ML3.3, Error ellipse: s-maj=2.0km s-min=1.6km az=54.0*
*THE **22** 00:04:16.6, 3871N×2056E, h10km, ML3.3*
*NEIC **22** 00:04:16.0, 3867N×2058E, h5km, MD3.6(ATH), After ATH.*
ISC 22 00:04:16.1±0.6, **3868N**±002°×**2055E**±003, **h0**km±5km, **n49, σ1§05/67, 1D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.08**	**71**	*e*Pg	**Pg**	**00 04 17.6**	**0.0**
LKD				*e*Sg	**Sg**	**00 04 19.0**	**+0.3**
LKD	**Levkas**	**0.08**	**71**	*e*Pg	**Pg**	**00 04 17.6**	**-0.1**
LKD				*e*Sg	**Sg**	**00 04 19.0**	**+0.3**
VLS	**Valsamata**	**0.50**	**177**	*e*PG	**Pg**	**00 04 25.9**	**+0.1**
VLS				*e*SB	**Sg**	**00 04 34.1**	**+1.8**
VLS	**Valsamata**	**0.50**	**177**	*i* Pb	**Pg**	**00 04 25.9**	**+0.1**
VLS				*e*Sb	**Sg**	**00 04 34.1**	**+1.8**
IGT	**Igoumenitsa**	**0.87**	**349**	*e*Pg	**Pg**	**00 04 31.5**	**-1.2**
IGT				*e*Sg	**Sg**	**00 04 44.6**	**+0.7**
RLS	**Riolos of Patr**	**0.95**	**131**	*e*PG	**Pg**	**00 04 33.5**	**-0.8**
RLS				*e*SB	**Sb**	**00 04 48.0**	**-0.6**
RLS	**Riolos of Patr**	**0.95**	**131**	*e*Pg	**Pg**	**00 04 33.4**	**-0.9**
JAN	**Janina**	**1.00**	**13**	*e*PN	**Pn**	**00 04 35.4**	**-2.0**
JAN				*e*SB	**Sb**	**00 04 49.5**	**-0.5**
JAN	**Janina**	**1.00**	**13**	*e*Pn	**Pn**	**00 04 35.7**	**-1.7**
EVR	**Evrytania**	**1.01**	**76**	*e*PG	**Pg**	**00 04 34.6**	**-0.9**
EVR				*e*SB	**Sb**	**00 04 49.0**	**-1.3**
EVR	**Evrytania**	**1.01**	**76**	*e*Pg	**Pg**	**00 04 34.5**	**-1.0**
KEK	**Kerkira**	**1.19**	**331**	*e*PB	**Pb**	**00 04 38.6**	**-0.8**
KEK	**Kerkira**	**1.19**	**331**	*e*Pb	**Pb**	**00 04 38.9**	**-0.5**
SRN	**Sarande**	**1.27**	**341**	*i* Pn	**Pn**	**00 04 40.3**	**-0.8**
SRN				*i* Sn	**Sn**	**00 04 59.9**	**+1.1**
AGG	**Agios Georgios**	**1.43**	**76**	*e*Pg	**Pg**	**00 04 42.2**	**-1.3**
AGG				*e*Sg	**Sg**	**00 05 03.9**	**+1.8**
LSK	**Leskovik**	**1.47**	**1**	*i* Pn	**Pn**	**00 04 43.9**	**+0.1**
LSK				*i* Sn	**Sg**	**00 05 06.7**	**+3.4**
ITM	**Ithomi**	**1.85**	**144**	*e*PG	**Pb**	**00 04 50.4**	**-0.4**
ITM				*e*SN	**Sg**	**00 05 16.3**	**+0.7**
ITM	**Ithomi**	**1.85**	**144**	*e*Pg	**Pn**	**00 04 50.3**	**+1.3**
KZN	**Kozani**	**1.88**	**30**	*e*PN	**Pg**	**00 04 52.0**	**-0.1**
KZN	**Kozani**	**1.88**	**30**	*e*Pn	**Pg**	**00 04 53.3**	**+1.2**
KZN				*e*Sn	**Sg**	**00 05 17.5**	**+1.1**
LKR	**Lokris**	**1.92**	**90**	*e*PN	**Pg**	**00 04 51.7**	**-1.1**
LKR				*e*SN	**Sg**	**00 05 18.1**	**+0.4**
LKR	**Lokris**	**1.92**	**90**	*e*Pn	**Pg**	**00 04 52.1**	**-0.7**
LIT	**Litokhoron**	**2.07**	**46**	*e*Pn	**Pn**	**00 04 53.0**	**+1.0**
NEO	**Neokhori**	**2.17**	**72**	*e*PN	**Pn**	**00 04 54.6**	**+1.1**
NEO				*e*SN	**Sb**	**00 05 23.6**	**-0.2**
NEO	**Neokhori**	**2.17**	**72**	*e*Pn	**Pn**	**00 04 55.2**	**+1.7**
NEO				*e*Sn	**Sb**	**00 05 24.1**	**+0.3**
FNA	**Florina**	**2.19**	**17**	*e*Pn	**Pn**	**00 04 53.7**	**0.0**
BIA	**Bitola**	**2.41**	**14**	*e*Pn	**Pn**	**00 04 57.3**	**+0.6**
PTL	**Penteli**	**2.68**	**103**	*e*PN	**Pb**	**00 05 03.0**	**-1.9**
PTL	**Penteli**	**2.68**	**103**	*e*Pg	**Pb**	**00 05 04.4**	**-0.5**
GRG	**Griva**	**2.68**	**32**	*e*Pn	**Pn**	**00 05 00.5**	**0.0**
VLI	**Veliai**	**2.72**	**135**	*e*PG	**Pb**	**00 05 05.0**	**-0.7**
VLI	**Veliai**	**2.72**	**135**	*e*Pg	**Pg**	**00 05 06.6**	**-1.7**
PAIG	**Paliouri**	**2.73**	**62**	*e*Pn	**Pn**	**00 05 01.2**	**+0.2**
PAIG	**Paliouri**	**2.73**	**62**	*e*Pn	**Pn**	**00 05 01.2**	**+0.1**
PLG	**Polygyros**	**2.81**	**52**	*e*PB	**Pn**	**00 05 02.0**	**-0.2**
PLG	**Polygyros**	**2.81**	**52**	*e*Pb	**Pn**	**00 05 02.2**	**0.0**
QSH	**Qafa e Shtames**	**2.88**	**350**	*i* Pn	**Pn**	**00 05 03.6**	**+0.4**
QSH				*i* Sn	**Sb**	**00 05 41.6**	**-2.5**
TIP	**Timpagrande**	**3.00**	**281**	Pn	**Pn**	**00 05 00.4**	**-4.4**
SOH	**Sokhos**	**3.04**	**44**	*e*Pn	**Pn**	**00 05 05.9**	**+0.5**
VAY	**Valandovo**	**3.06**	**30**	*e*Pn	**Pn**	**00 05 07.8**	**+2.2**
KNT	**Kendrikon**	**3.06**	**35**	*e*Pn	**Pn**	**00 05 06.0**	**+0.2**
STIP	**Stip**	**3.26**	**22**	*e*Pn	**Pn**	**00 05 08.3**	**-0.1**
STIP	**Stip**	**3.26**	**22**	*e*Pn	**Pn**	**00 05 08.2**	**-0.2**
SRS	**Serrai**	**3.38**	**43**	*e*Pn	**Pn**	**00 05 10.3**	**+0.3**
CEL	**Celeste**	**3.68**	**265**	Pn	**Pn**	**00 05 13.9**	**-0.3**
CUC	**Castrocucco**	**3.90**	**291**	Pn	**Pn**	**00 05 18.6**	**+1.4**
CDT	**Castel del Mon**	**4.07**	**307**	*e*Pn	**Pn**	**00 05 18.7**	**-0.9**
MRLC	**Muro Lucano**	**4.42**	**300**	Pn	**Pn**	**00 05 25.5**	**+1.1**
STON	**Ston**	**4.71**	**334**	*i* Pn	**Pn**	**00 05 25.9**	**-2.4**
STON				*i* Sn	**Sn**	**00 06 18.6**	**-5.1**

*ISCJB **22** 00:07:37.7±0.3, 3242N±003°×1318W±004, h10km, mb4.3/1, Error ellipse: s-maj=6.0km s-min=2.7km az=76.9*
*CSEM **22** 00:07:38.1±0.1, 3251N×1321W, h12km, ML2.8, Error ellipse: s-maj=6.8km s-min=1.7km az=127.0*
*MDD **22** 00:07:43.5±1.7, 3253N×1322W, h23km±14km, mb4.5/24, Error ellipse: s-maj=11.7km s-min=4.4km az=128.0, PRXIMO*
*NEIC **22** 00:07:43.2, 3259N×1333W, h23km, mb4.0/2, After MDD.*
*IGIL **22** 00:07:44.3, 3260N×1330W, h26km, ML3.1*
*INMG **22** 00:07:47.6±2.5, 3241N×1300W, h10km, Mb4.0, ML2.8, Error ellipse: s-maj=18.9km s-min=3.5km az=120.0*
*CNRM **22** 00:07:51.0, 3282N×1274W, h30km, MD3.3*
ISC 22 00:07:40.3±0.3, **3241W**±003°×**1318W**±004, **h10**km, **n64, σ1§36/108, mb4.3/1, Madeira Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPS	**Porto Santo**	**2.73**	**284**	*e*Pn	**Pn**	**00 08 28.4**	**+4.2**
PMPS				*e*Sn	**Sn**	**00 08 55.8**	**-1.5**
PMPS							
	34nm,0.1s						
PMPS	**Porto Santo**	**2.73**	**284**	S	**Sn**	**00 08 55.8**	**-1.5**
	17nm,0.1s						
EFAM	**Famara**	**3.29**	**185**	P	**Pn**	**00 08 35.6**	**+3.7**
	11nm,0.1s,SNR=5.2						
EFAM				S	**Sn**	**00 09 12.1**	**+1.1**
	47nm,0.8s						
EFAM	**Famara**	**3.29**	**185**	P	**Pn**	**00 08 35.6**	**+3.8**
	11nm,0.1s,SNR=5.2						
EFAM				S	**Sn**	**00 09 12.1**	**+1.1**
	47nm,0.8s						
CFUE	**Fuerteventura**	**3.81**	**190**	P	**Pn**	**00 08 42.2**	**+3.2**
	6.6nm,0.1s,SNR=7.9						
CFUE				S	**Sn**	**00 09 24.2**	**+0.4**
	38nm,0.2s,SNR=7.9						
CIA	**Chichaoua**	**3.85**	**101**	*i* S	**Sn**	**00 09 23.5**	**-1.4**
CFTV	**Fuerteventura**	**4.06**	**191**	P	**Pn**	**00 08 44.8**	**+2.4**
	1.8nm,0.1s,SNR=6.7						
CFTV				S	**Sn**	**00 09 29.2**	**-0.8**
	6.0nm,0.6s						
OUK	**Oukaimeden**	**4.68**	**103**	*i* S	**Sn**	**00 09 43.0**	**-2.3**
EBAJ	**Bajamar**	**4.72**	**216**	P	**Pn**	**00 08 53.4**	**+1.8**
	4.6nm,0.1s,SNR=16						
EBAJ				S	**Sn**	**00 09 44.3**	**-2.1**
	263nm,1.8s						
EBAJ	**Bajamar**	**4.72**	**216**	P	**Pn**	**00 08 53.4**	**+1.8**
	4.6nm,0.1s,SNR=16						
EBAJ				S	**Sn**	**00 09 44.3**	**-2.1**
	263nm,1.8s						
EOSO	**Osorio**	**4.79**	**206**	P	**Pn**	**00 08 55.5**	**+3.1**
	5.4nm,0.2s,SNR=7.9						
EOSO				S	**Sn**	**00 09 46.3**	**-1.6**
	7.1nm,0.2s,SNR=7.9						
EOSO	**Osorio**	**4.79**	**206**	P	**Pn**	**00 08 55.5**	**+3.1**
	5.4nm,0.2s,SNR=7.9						
EOSO				S	**Sn**	**00 09 46.3**	**-1.6**
	7.1nm,0.2s,SNR=7.9						
CICO	**Icod de los Vi**	**5.07**	**218**	P	**Pn**	**00 08 57.0**	**+0.6**
	0.9nm,0.3s,SNR=7.9						
CICO				S	**Sn**	**00 09 53.4**	**-1.6**
	0.7nm,0.2s,SNR=7.9						
CRAJ	**Montana Rajada**	**5.08**	**216**	P	**Pn**	**00 08 57.8**	**+1.4**
	2.5nm,0.1s,SNR=7.9						
CRAJ				S	**Sn**	**00 09 54.2**	**-0.9**
	8.4nm,0.1s,SNR=7.9						
CRAJ	**Montana Rajada**	**5.08**	**216**	P	**Pn**	**00 08 57.8**	**+1.4**
	2.5nm,0.1s,SNR=7.9						
CRAJ				S	**Sn**	**00 09 54.2**	**-0.9**
	8.4nm,0.1s,SNR=7.9						
CCAN	**Las Canadas**	**5.12**	**216**	P	**Pn**	**00 08 59.3**	**+2.3**
	2.0nm,0.2s,SNR=7.2						
CCAN				S	**Sn**	**00 09 54.8**	**-1.3**
	14nm,0.8s						
CHIO	**Chio**	**5.21**	**218**	P	**Pn**	**00 08 59.6**	**+1.3**
	6.5nm,0.1s,SNR=8.4						
CHIO				S	**Sn**	**00 09 56.6**	**-1.8**
	23nm,0.8s						
EGOM	**La Gomera**	**5.48**	**220**	P	**Pn**	**00 09 02.7**	**+0.7**
	2.9nm,0.1s,SNR=7.4						
EGOM				S	**Sn**	**00 10 02.0**	**-3.2**
	19nm,0.6s						
EGOM	**La Gomera**	**5.48**	**220**	P	**Pn**	**00 09 02.7**	**+0.7**
	2.9nm,0.1s,SNR=7.4						
EGOM				S	**Sn**	**00 10 02.0**	**-3.2**
	19nm,0.6s						
KIB	**El Ksiba**	**6.04**	**87**	P	**Pn**	**00 09 12.0**	**+2.4**
KIB				S	**Sn**	**00 10 13.5**	**-5.3**
MORF	**Marmelete**	**6.14**	**36**	*e*P	**Pn**	**00 09 10.6**	**-0.4**
MORF				*e*S	**Sn**	**00 10 12.4**	**-8.9**
MORF				*e*S	**Sn**	**00 10 12.4**	**-8.9**
MORF				AML	AML	00 10 20.9	
	comp=N,23nm,0.2s						
MORF	**Marmelete**	**6.14**	**36**	*e*P	**Pn**	**00 09 10.6**	**-0.5**
MORF				*e*S	**Sn**	**00 10 12.4**	**-8.9**
PTEO	**Sao Teotonio**	**6.29**	**34**	*e*Pn	**Pn**	**00 09 12.8**	**-0.4**
PTEO				*e*Sn	**Sn**	**00 10 17.4**	**-7.7**
PTEO							
	comp=N,5.8nm,0.2s						
EGRO	**El Granado**	**6.93**	**41**	P	**Pn**	**00 09 21.9**	**+0.1**
	comp=N,10.0nm,0.2s,SNR=22						
EGRO				S	**Sn**	**00 10 33.3**	**-7.4**
	comp=N,11nm,0.8s						
EGRO	**El Granado**	**6.93**	**41**	P	**Pn**	**00 09 21.9**	**+0.1**
	comp=N,10.0nm,0.2s,SNR=22						
EGRO				S	**Sn**	**00 10 33.3**	**-7.4**
	comp=N,11nm,0.8s						
PBEJ	**Beja**	**7.09**	**36**	*e*Pn	**Pn**	**00 09 23.6**	**-0.5**
PBEJ				*e*Sn	**Sn**	**00 10 35.5**	**-9.2**
PBEJ							
	comp=N,4.0nm,0.3s						
PLOU	**Loures**	**7.24**	**26**	*e*Sn	**Sn**	**00 10 41.8**	**-6.7**
PLOU							
	comp=N,12nm,0.3s						
PLOU	**Loures**	**7.24**	**26**	S	**Sn**	**00 10 41.8**	**-6.7**
	comp=N,6.0nm,0.3s						
MOE	**Montemor**	**7.26**	**32**	*e*Pn	**Pn**	**00 09 25.9**	**-0.5**
MOE				*e*Sn	**Sn**	**00 10 41.3**	**-7.6**
ESPR	**Espera**	**7.50**	**52**	P	**Pn**	**00 09 29.6**	**0.0**
	comp=N,12nm,0.2s,SNR=34						
ESPR				S	**Sn**	**00 10 46.5**	**-8.2**
	comp=N,22nm,1.3s						
ESPR	**Espera**	**7.50**	**52**	P	**Pn**	**00 09 29.6**	**-0.1**
	comp=N,12nm,0.2s,SNR=34						
ESPR				S	**Sn**	**00 10 46.5**	**-8.2**
	comp=N,22nm,1.3s						
EJIF	**Jimena Fronter**	**7.54**	**56**	P	**Pn**	**00 09 31.7**	**+1.5**
	comp=N,0.9nm,0.2s,SNR=13						
EJIF				S	**Sn**	**00 10 49.8**	**-5.9**
	comp=N,13nm,1.3s,SNR=4.0						
EJIF	**Jimena Fronter**	**7.54**	**56**	P	**Pn**	**00 09 31.7**	**+1.5**
EJIF				S	**Sn**	**00 10 48.1**	**-7.6**
EMIN	**Mina Concepcio**	**7.55**	**43**	P	**Pn**	**00 09 30.3**	**-0.1**
	comp=N,4.6nm,0.1s,SNR=43						
EMIN				S	**Sn**	**00 10 47.2**	**-8.8**
	comp=N,35nm,1.4s						
EMIN	**Mina Concepcio**	**7.55**	**43**	P	**Pn**	**00 09 30.3**	**-0.1**
	comp=N,4.6nm,0.1s,SNR=43						
EMIN				S	**Sn**	**00 10 47.2**	**-8.8**
	comp=N,35nm,1.4s						
EBAD	**Badajoz**	**8.08**	**37**	P	**Pn**	**00 09 37.1**	**-0.6**
	comp=N,1.5nm,0.1s,SNR=4.6						
EBAD				S	**Sn**	**00 11 01.3**	**-7.8**
	comp=N,33nm,1.5s						
EBAD	**Badajoz**	**8.08**	**37**	P	**Pn**	**00 09 37.1**	**-0.6**
	comp=N,1.5nm,0.1s,SNR=4.6						
EBAD				S	**Sn**	**00 11 01.3**	**-7.8**
	comp=N,33nm,1.5s						
EMIJ	**Mijas**	**8.08**	**57**	P	**Pn**	**00 09 38.5**	**+0.7**
	comp=N,1.2nm,0.1s,SNR=7.5						
EMIJ				S	**Sn**	**00 11 02.7**	**-6.5**
	comp=N,10nm,0.9s						
PCBR	**Castelo Branco**	**8.73**	**30**	*e*Pn	**Pn**	**00 09 45.6**	**-1.0**
PCBR				*e*Sn	**Sn**	**00 11 15.3**	**-10**
PCBR	**Castelo Branco**	**8.73**	**30**	S	**Sn**	**00 11 15.3**	**-10**
ELUQ	**Luque**	**8.94**	**52**	P	**Pn**	**00 09 50.5**	**+1.1**
	comp=N,6.2nm,0.2s,SNR=7.9						
ERON	**Agron**	**8.98**	**57**	P	**Pn**	**00 09 51.8**	**+1.8**
	comp=N,1.3nm,0.2s,SNR=22						
ERON				S	**Sn**	**00 11 24.0**	**-7.2**
	comp=N,0.6nm,0.4s						
EADA	**Adamuz**	**9.08**	**48**	P	**Pn**	**00 09 51.4**	**0.0**
	comp=N,1.7nm,0.1s,SNR=39						
EADA				S	**Sn**	**00 11 24.5**	**-9.1**
	comp=N,2.8nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**9.08**	**48**	P	**Pn**	**00 09 51.4**	**0.0**
	comp=N,1.7nm,0.1s,SNR=39						
EADA				S	**Sn**	**00 11 24.5**	**-9.1**
	comp=N,2.8nm,0.1s,SNR=7.9						
MTE	**Manteigas**	**9.17**	**28**	*e*P	**Pn**	**00 09 52.4**	**-0.3**
PVIS	**Viseu**	**9.31**	**26**	*e*Sn	**Sn**	**00 11 30.1**	**-9.3**
PVIS							
	comp=N,1.1nm,0.2s						
PVIS	**Viseu**	**9.31**	**26**	S	**Sn**	**00 11 30.1**	**-9.3**
	comp=N,0.6nm,0.2s						
EQES	**Quesada**	**9.87**	**54**	P	**Pn**	**00 10 02.9**	**+0.7**
	comp=N,1.6nm,0.1s,SNR=24						
EQES				S	**Sn**	**00 11 45.1**	**-8.0**
	comp=N,0.7nm,0.2s,SNR=7.9						
EQES	**Quesada**	**9.87**	**54**	P	**Pn**	**00 10 02.9**	**+0.6**
	comp=N,1.6nm,0.1s,SNR=24						
EQES				S	**Sn**	**00 11 45.1**	**-8.0**
	comp=N,0.7nm,0.2s,SNR=7.9						
ESLA	**Sonseca Array**	**10.40**	**43**	*e*Pn	**Pn**	**00 10 10.1**	**+0.7**
ESDC	**Sonseca Array**	**10.40**	**43**	P	**Pn**	**00 10 09.6**	**+0.1**
	comp=N,0.9nm,0.2s,baz=239,slow=13,SNR=23						
ESDC				S	**Sn**	**00 11 57.9**	**-8.1**
	comp=N,0.3nm,0.3s,baz=236,slow=24,SNR=4.0						
ESDC	**Sonseca Array**	**10.40**	**43**	P	**Pn**	**00 10 09.6**	**+0.2**
	comp=N,0.9nm,0.2s,SNR=23						
ESDC				S	**Sn**	**00 11 57.9**	**-8.1**
	comp=N,0.3nm,0.3s,SNR=4.0						
EVIA	**Vianos**	**10.69**	**51**	P	**Pn**	**00 10 13.5**	**+0.1**
	comp=N,4.4nm,0.2s,SNR=5.2						
GUD	**Guadarrama**	**10.96**	**39**	P	**Pn**	**00 10 16.4**	**-0.7**
	comp=N,0.4nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**11.18**	**58**	P	**Pn**	**00 10 20.9**	**+0.8**
	comp=N,1.0nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**11.18**	**58**	P	**Pn**	**00 10 21.2**	**+1.1**
EMUR	**La Murta**	**11.18**	**58**	P	**Pn**	**00 10 20.9**	**+0.8**
	comp=N,1.0nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**11.33**	**53**	P	**Pn**	**00 10 21.7**	**-0.5**
	comp=N,4.0nm,0.2s,SNR=52						
ETOB				S	**Sn**	**00 12 16.4**	**-12**
	SNR=7.9						
ETOB	**Tobarra**	**11.33**	**53**	P	**Pn**	**00 10 21.

Ms1 3.0/1, ms1mx2.4/24, Error ellipse: s-maj=19.4km s-min=10.9km az=107.0

NEIC ***22*** *00:35:19.2±0.8, 6.43N×71.83W, h53km±8km, mb4.3/8, Error ellipse: s-maj=9.9km s-min=6.6km az=100.0*

ISC 22 00:35:19.8±0.8, 644N±005×7185W±006, h54km±8km, n35, σ0°99/35, mb4.1/18, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**2.71**	**26**	P	**Pn**	**00 36 00.7**	**-0.2**
	30nm,0.3s,baz=154,slow=3.8,SNR=115						
SDV				S	**Sn**	**00 36 34.1**	**+1.6**
	130nm,0.3s,baz=290,slow=5.9,SNR=18						
ROSC	**El Rosal**	**2.93**	**238**	P	**Pn**	**00 36 04.5**	**+0.6**
	6.2nm,0.3s,baz=94,slow=13,SNR=26						
PCRV	**Puerto La Cruz**	**8.04**	**62**	P	**Pn**	**00 37 14.2**	**+0.3**
	1.3nm,0.3s,baz=25,slow=23,SNR=11						
PCRV				S	**Sn**	**00 38 42.7**	**-0.8**
	0.9nm,0.3s,baz=319,slow=16,SNR=3.0						
OTAV	**Otavalo**	**9.02**	**227**	*e*Pn	**Pn**	**00 37 27.3**	**0.0**
	7.3nm,1.4s						
SJG	**San Juan**	**12.86**	**25**	P	**Pn**	**00 38 17.3**	**-2.5**
	2.2nm,0.3s,baz=203,slow=17,SNR=5.8						
SJG	**San Juan**	**12.86**	**25**	*e*Pn	**Pn**	**00 38 17.4**	**-2.4**
JTS	**JuntasAbangare**	**13.51**	**287**	LR	LR	00 43 23.7	
	comp=Z,59nm,18.7s,baz=57,slow=36						
SAML	**Samuel**	**17.56**	**150**	*e*Pn	**Pn**	**00 39 20.5**	**-0.1**
	4.6nm,0.6s						
LPAZ	**La Paz**	**22.88**	**171**	P	**P**	**00 40 20.4**	**+1.8**
	1.8nm,0.4s,mb3.8,baz=351,slow=10,SNR=13						
LPAZ	**La Paz**	**22.88**	**171**	*e*P	**P**	**00 40 20.6**	**+2.0**
	3.0nm,0.8s,mb3.8						
SIV	**San Ignacio**	**24.71**	**155**	P	**P**	**00 40 33.1**	**-2.7**
	0.4nm,0.4s,mb3.3,baz=0.0,slow=12,SNR=4.0						
BBSR	**BB Station**	**26.65**	**14**	*e*P	**P**	**00 40 53.4**	**+0.1**
LVC	**Limon Verde**	**29.02**	**174**	P	**P**	**00 41 13.6**	**-0.9**
	1.4nm,0.6s,mb3.9,baz=30,slow=5.2,SNR=3.1						
CPUP	**Villa Florida**	**35.49**	**157**	*e*P	**P**	**00 42 11.3**	**+0.1**
MNTX	**Cornudas Mount**	**40.15**	**313**	*e*P	**P**	**00 42 50.1**	**-0.3**
	3.8nm,0.6s,mb4.3						
EYMN	**Ely**	**44.62**	**341**	*e*P	**P**	**00 43 26.5**	**-0.3**
	4.6nm,0.6s,mb4.5						
SMCO	**Snowmass**	**45.42**	**321**	*e*P	**P**	**00 43 33.2**	**+0.1**
	4.0nm,0.7s,mb4.4						
PLCA	**Paso Flores**	**46.96**	**179**	P	**P**	**00 43 44.3**	**-0.8**
	1.4nm,0.7s,mb4.0,baz=337,slow=8.1,SNR=5.3						
PLCA	**Paso Flores**	**46.96**	**179**	*e*P	**P**	**00 43 44.9**	**-0.3**
	2.5nm,1.0s,mb4.1						
ULM	**Lac du Bonnet**	**48.07**	**339**	P	**P**	**00 43 52.6**	**-1.2**
	2.4nm,0.4s,mb4.6,baz=129,slow=7.7,SNR=8.0						
SCHQ	**Schefferville**	**48.42**	**4**	P	**P**	**00 43 56.9**	**+0.4**
	2.4nm,1.1s,mb4.2,baz=225,slow=10.0,SNR=3.6						
PDAR	**Pinedale Array**	**49.13**	**323**	P	**P**	**00 44 01.9**	**0.0**
	2.1nm,1.0s,mb4.1,baz=119,slow=9.2,SNR=8.1						
YKA	**Yellowknife Ar**	**64.05**	**339**	P	**P**	**00 45 47.6**	**-0.3**
	4.4nm,0.6s,mb4.7,baz=129,slow=6.7,SNR=30						
ESLA	**Sonseca Array**	**68.92**	**50**	P	**P**	**00 46 18.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**72.58**	**78**	P	**P**	**00 46 42.9**	**+1.7**
	0.4nm,0.9s,mb3.3,baz=279,slow=6.2,SNR=4.1						
ILAR	**Eielson Array**	**77.84**	**335**	P	**P**	**00 47 11.3**	**-0.1**
	0.7nm,0.8s,mb3.6,baz=112,slow=4.3,SNR=7.8						
NOA	**NORSAR Array B**	**81.04**	**29**	P	**P**	**00 47 30.0**	**+1.2**
	0.8nm,0.6s,mb3.8,baz=267,slow=5.3,SNR=2.5						
ARCES	**ARCESS Array B**	**86.58**	**20**	P	**P**	**00 47 56.4**	**-0.7**
	1.3nm,0.6s,mb4.3,baz=269,slow=3.6,SNR=6.9						
ARCES	**ARCESS Array B**	**86.58**	**20**	P	**P**	**00 47 56.4**	**-0.7**
VNA3	**Neumayer Olymp**	**87.45**	**163**	*e*	**P**	**00 48 02.5**	**+1.2**
VNA3				*e*		00 48 10.0	
VNA2	**Neumayer--Watz**	**87.96**	**163**	*e*	**P**	**00 48 04.9**	**+1.1**
	baz=306,slow=7.0						
FINES	**FINESS Array B**	**88.17**	**28**	P	**P**	**00 48 05.6**	**+0.8**
	0.2nm,0.5s,mb3.6,baz=305,slow=4.9,SNR=4.8						
SNAA	**Sanae**	**89.61**	**163**	*e*P	**P**	**00 48 09.6**	**-1.9**
	0.8nm,0.6s,mb4.2						
TSUM	**Tsumeb**	**91.56**	**109**	*e*P	**P**	**00 48 20.8**	**+0.2**
	3.9nm,0.9s,mb4.7						
ASAR	**Alice Springs**	**149.90**	**233**	PKPbc	PKPbc	00 55 03.4	-0.5
	1.1nm,0.7s,baz=124,slow=2.5,SNR=9.5						
ASAR				PKPab	PKPab	00 55 09.3	-0.2
	0.8nm,0.6s,baz=118,slow=3.7,SNR=7.6						

NEIC ***22*** *01:05:33.6, 1733N×100.94W, h10km, MD3.7(MEX), After MEX.*

MEX 22 01:05:33.6±0.8, 1733N×10094W, h10km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.58**	**299**	*i* P	Pg	01 05 43.6	-1.2
ZIIG				*i* S	Sg	01 05 52.1	-0.2
CAIG	**El Cayaco**	**0.70**	**113**	*i* P	Pg	01 05 45.2	-1.9
CAIG				*i* S	Sg	01 05 54.9	-1.3
ACX	**Acapulco**	**1.08**	**115**	*i* P	Pg	01 05 51.0	-3.3
ACX				*i* S	Sg	01 06 06.0	-2.3
MEIG	**Mezcala**	**1.39**	**64**	*i* P	Pn	01 05 55.9	-3.1
MEIG				*i* S	Sn	01 06 12.6	-4.9
PLIG	**Platanillo**	**1.73**	**52**	*i* P	Pn	01 06 01.2	-2.5
PLIG				*i* S	Sn	01 06 23.2	-2.7
UTMO	**Huajuapan**	**3.03**	**80**	*i* P	Pn	01 06 18.9	-2.8
UTMO				*i* S	Sn	01 06 52.7	-5.3

IDC ***22*** *01:19:28.2±0.7, 28.11S×176.50W, h0km, mb4.4/10, mb1 4.6/10, mb1mx4.6/12, mbtmp4.4/10, MS4.5/17, Ms1 4.5/17, ms1mx4.4/21, Error ellipse: s-maj=24.7km s-min=17.8km az=139.0*

ISCJB ***22*** *01:19:30.9±4.9, 2801S±008×17679W±009, h15km±30km, mb4.7/26, MS4.4/20, Error ellipse: s-maj=14.8km s-min=11.0km az=78.6*

BJI ***22*** *01:19:31.5, 27.78S×177.11W, h6km, mB5.2, mb5.0, Ms4.7, Msz4.4*

HRVD ***22*** *01:19:31.4±0.2, 28.16S×176.11W, h17km, MW5.2/76, Centroid moment Tensor Solution. LP body waves: s48,c67;Mantle waves: s76,c127; Half duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr4.96±.20; Mθθ-0.11±.14; Mφφ-4.85±.14; Mrθ-0.71±.39; Mrφ-1.17±.09; Mθφ6.05±.44; Best double couple: M☉7.90700×10^16 NP1:φ=207.00000°, δ22.00000°, λ117.00000°. NP2: φ=358.00000°, δ71.00000°, λ80.00000°. Principal axes: T 8.0060, Plg63.0000°, Azm252.0000°; N -0.1980, Plg10.0000°, Azm2.0000°; P -7.8070, Plg25.0000°, Azm96.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***22*** *01:19:31.4±0.4, 2791S×17681W, h10km, mb4.8/17 Error ellipse: s-maj=13.9km s-min=9.6km az=127.0*

MOS ***22*** *01:19:33.4±1.3, 2791S×17683W, h33km, mb4.9/13, Error ellipse: s-maj=13.9km s-min=11.6km az=62.0*

ISC 22 01:19:31.7±4.6, 2802S±007×17672W±009, h14km±28km, n102, σ1°35/69, mb4.7/26, MS4.4/20, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.62**	**220**	Pn	**Pn**	**01 19 59.6**	**-0.1**
	555nm,0.3s,baz=95,slow=17,SNR=20						
RAO				Sn	**Sn**	**01 20 24.0**	**+3.6**
	711nm,0.3s,baz=291,slow=23,SNR=12						
RAO				LR	LR	01 20 24.8	
	comp=Z,5μm,18.3s,baz=146,slow=34						
RAO	**Raoul Island**	**1.62**	**220**	*e*Pn	**Pn**	**01 19 59.8**	**+0.1**
RAO				*e*Sn	**Sn**	**01 20 24.5**	**+4.1**
URZ	**Urewera**	**11.44**	**205**	Pn	**Pn**	**01 22 05.0**	**-10**
	1.2nm,0.3s,baz=305,slow=19,SNR=3.4						
URZ				Sn	**Sn**	**01 24 05.7**	**-17**
	1.2nm,0.3s,baz=39,slow=12,SNR=2.6						
AFI	**Afiamalu**	**14.78**	**19**	Sn	**Sn**	**01 25 29.9**	**-14**
	2.2nm,0.3s,baz=212,slow=23,SNR=3.5						
AFI	**Afiamalu**	**14.78**	**19**	*e*P	**Pn**	**01 23 00.0**	**-0.2**
SNZO	**South Karori**	**15.00**	**206**	*e*Pn	**Pn**	**01 23 05.6**	**+2.3**
	13nm,0.5s						
DZM	**Mont Dzumac**	**16.36**	**287**	Pn	**Pn**	**01 23 29.3**	**+8.4**
	0.5nm,0.3s,baz=100,slow=15,SNR=5.7						
DZM				LR	LR	01 28 40.2	
	comp=Z,4μm,18.4s,baz=299,slow=33						
RAR	**Rarotonga**	**16.82**	**70**	Pn	**Pn**	**01 23 18.3**	**-8.5**
	1.1nm,0.3s,baz=36,slow=1.2,SNR=4.2						
RPZ	**Rata Peaks**	**18.50**	**209**	P	**Pn**	**01 23 41.1**	**-6.4**
	2.5nm,0.3s,baz=187,slow=3.3,SNR=8.6						
RPZ				S	Sn	01 26 49.8	-24
	0.8nm,0.3s,baz=254,slow=21,SNR=2.6						
RPZ				LR	LR	01 30 19.4	
	comp=Z,1μm,19.3s,baz=26,slow=35						
TBI	**Tubuai**	**24.98**	**85**	*e*LQ		01 29 32.9	
	2μm,27.0s						
TBI				*e*LR	LR	01 30 36.6	
	2μm,29.2s,baz=253						
PPT	**Papeete**	**27.04**	**73**	*e*LQ		01 30 23.5	
	2μm,23.2s						
PPT				*e*LR	LR	01 31 34.0	
	2μm,29.0s,baz=239						
PPT	**Papeete**	**27.04**	**73**	LR	LR	01 34 50.4	
	comp=Z,1μm,18.2s,MS4.5,baz=251,slow=34						
HNR	**Honiara**	**28.72**	**306**	LR	LR	01 35 29.7	
	comp=Z,742nm,18.3s,MS4.3,baz=176,slow=33						
HNR	**Honiara**	**28.72**	**306**	*e*P	**P**	**01 25 26.4**	**-2.0**
CTA	**Charters Tower**	**34.62**	**275**	*e*P	**P**	**01 26 22.1**	**+1.8**
	7.6nm,0.9s,mb4.6						
CTA	**Charters Tower**	**34.62**	**275**	P	**P**	**01 26 22.1**	**+1.7**
	9.3nm,0.8s,mb4.8,baz=93,slow=10,SNR=6.8						
CTA				LR	LR	01 36 25.4	
	comp=Z,293nm,21.6s,MS4.0,baz=103,slow=29						
CTA	**Charters Tower**	**34.62**	**275**	*e*P	**P**	**01 26 22.1**	**+1.8**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CTAO	**Charters Tower**	**34.62**	**275**	*e*P	**P**	**01 26 22.3**	**+2.0**
CTAO				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
CTAO	**Charters Tower**	**34.62**	**275**	*e*P	**P**	**01 26 22.3**	**+2.0**
	comp=Z,6.3nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**36.17**	**253**	*e*P	**P**	**01 26 31.6**	**-2.0**
	comp=Z,8.8nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**36.17**	**253**	P	**P**	**01 26 32.4**	**-1.2**
	comp=Z,12nm,0.8s,mb4.8,baz=83,slow=9.6,SNR=20						
STKA				LR	LR	01 40 26.1	
	comp=Z,1μm,18.4s,MS4.7,baz=72,slow=35						
RKT	**Rikitea**	**37.84**	**92**	*e*LR	LR	01 36 32.3	
	comp=Z,1μm,29.5s,baz=249						
PMG	**Port Moresby**	**38.69**	**291**	P	**P**	**01 26 55.3**	**+0.3**
TAOE	**Nuku Hiva Isla**	**39.36**	**68**	*e*LR	LR	01 37 16.3	
	comp=Z,2μm,28.1s						
ASAR	**Alice Springs**	**44.42**	**264**	P	**P**	**01 27 41.2**	**-0.8**
	comp=Z,7.5nm,1.0s,mb4.4,baz=117,slow=7.7,SNR=31						
ASAR	**Alice Springs**	**44.42**	**264**	P	**P**	**01 27 41.1**	**-0.8**
WB2	**Warramunga Arr**	**45.18**	**269**	*e*P	**P**	**01 27 48.5**	**+0.5**
WRAB	**Tennant Creek**	**45.19**	**269**	*i* P	**P**	**01 27 48.0**	**-0.1**
WRA	**Warramunga Arr**	**45.19**	**269**	P	**P**	**01 27 47.9**	**-0.2**
	comp=Z,9.5nm,0.9s,mb4.6,baz=106,slow=7.9,SNR=23						
FORT	**Forrest**	**47.78**	**253**	*e*P	**P**	**01 28 06.3**	**-2.1**
	comp=Z,24nm,0.7s,mb5.3						
VNDA	**Vanda**	**50.57**	**186**	P	**P**	**01 28 29.1**	**-0.6**
	comp=Z,0.9nm,0.9s,mb3.7,baz=45,slow=13,SNR=2.0						
VNDA				LR	LR	01 46 24.0	
	comp=Z,434nm,19.3s,MS4.5,baz=31,slow=32						
VNDA	**Vanda**	**50.57**	**186**	*e*P	**P**	**01 28 32.6**	**+2.9**
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
VNDA	**Vanda**	**50.57**	**186**	*e*P	**P**	**01 28 32.6**	**+2.9**
	comp=Z,3.4nm,0.9s,mb4.3						
VNDA				LR	LR	01 46 23.9	
FITZ	**Fitzroy Crossi**	**53.53**	**267**	*e*P	**P**	**01 28 52.0**	**+0.1**
	comp=Z,12nm,1.0s,mb4.8						
NWAO	**Narrogin (SRO)**	**56.31**	**247**	*e*P	**P**	**01 29 12.5**	**+0.6**
NWAO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NWAO	**Narrogin (SRO)**	**56.31**	**247**	*e*P	**P**	**01 29 12.5**	**+0.6**
	comp=Z,6.4nm,0.9s,mb4.7						
MBWA	**Marble Bar**	**57.64**	**262**	P	**P**	**01 29 22.4**	**+1.0**
CASY	**Casey**	**57.76**	**207**	*e*P	**P**	**01 29 19.8**	**-2.4**
QSPA	**South Pole Qui**	**62.08**	**180**	*e*P	**P**	**01 29 53.7**	**+1.8**
	comp=Z,15nm,1.1s,mb5.0						
CBIJ	**Chichi jima**	**67.53**	**321**	LR	LR	01 56 12.4	
	comp=Z,196nm,19.2s,MS4.3,baz=110,slow=32						
MAW	**Mawson**	**74.92**	**200**	P	**P**	**01 31 10.7**	**-1.4**
	comp=Z,4.4nm,0.9s,mb4.4,baz=107,slow=3.0,SNR=4.4						
MAW				LR	LR	02 04 30.6	
	comp=Z,793nm,18.1s,MS5.0,baz=323,slow=36						
JOW	**Kunigami**	**75.93**	**311**	LR	LR	02 04 35.1	
	comp=Z,201nm,18.4s,MS4.5,baz=4.0,slow=36						
MJAR	**Matsushiro Arr**	**76.95**	**324**	P	**P**	**01 31 24.2**	**+0.5**
	comp=Z,7.2nm,0.7s,mb4.7,baz=159,slow=5.4,SNR=16						
MJAR				LR	LR	02 01 08.8	
	comp=Z,237nm,20.5s,MS4.5,baz=180,slow=32						
MAJO	**Matsushiro**	**76.96**	**324**	*e*P	**P**	**01 31 24.3**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.3s,mb5.0						
MAJO	**Matsushiro**	**76.96**	**324**	*e*P	**P**	**01 31 24.3**	**+0.6**
	comp=Z,5.5nm,0.3s,mb5.0						
SNAA	**Sanae**	**80.49**	**178**	*e*P	**P**	**01 31 43.7**	**+0.5**
SNAA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
SNAA	**Sanae**	**80.49**	**178**	*e*P	**P**	**01 31 43.7**	**+0.5**
	comp=Z,7.7nm,1.1s,mb4.5						
FX1	**Attu Island--F**	**81.04**	**354**	LR	LR	02 00 50.6	
	comp=Z,14nm,19.4s,MS3.3,baz=174,slow=31						
YSS	**Yuzh-Sakhalins**	**83.12**	**333**	*i* P	**P**	**01 31 56.5**	**-0.5**
YSS				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.1						
YSS				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.5						
YSS	**Yuzh-Sakhalins**	**83.12**	**333**	*e*P	**P**	**01 31 57.3**	**+0.3**
PLCA	**Paso Flores**	**83.30**	**133**	P	**P**	**01 31 55.1**	**-2.9**
	comp=Z,3.6nm,0.9s,mb4.4,baz=222,slow=4.0,SNR=7.3						
PLCA				LR	LR	02 03 45.7	
	comp=Z,262nm,19.3s,MS4.6,baz=217,slow=32						
KS15	**Wonju Array Si**	**83.30**	**319**	*e*P	**P**	**01 31 57.3**	**-0.7**
ISA	**Isabella**	**83.82**	**44**	*e*P	**P**	**01 32 01.3**	**+0.6**
ISA				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.2						
ISA	**Isabella**	**83.82**	**44**	*e*P	**P**	**01 32 01.3**	**+0.7**
	comp=Z,9.2nm,0.5s,mb5.2						
CMB	**Columbia Colle**	**84.25**	**41**	*e*P	**P**	**01 32 02.5**	**-0.3**
CMB				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
CMB	**Columbia Colle**	**84.25**	**41**	*e*P	**P**	**01 32 02.5**	**-0.3**
	comp=Z,1.7nm,0.6s,mb4.3						
MDJ	**Mudanjiang**	**87.32**	**325**	P	**P**	**01 32 19.6**	**+1.5**
MDJ				AP	pP	01 32 22.9	+0.1
MDJ				XP	sP	01 32 24.1	-0.4
MDJ				PP	PP	01 35 42.8	+0.6
MDJ				S		01 43 00.9	
MDJ				XS	sS	01 43 05.4	-0.4
MDJ				SS	SS	01 48 44.3	+2.0
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,90nm,5.2s						
MDJ				LR	LR		
	comp=N,63nm,17.8s,MS4.3						
MDJ				LR	LR		
	comp=E,88nm,19.2s,MS4.3						
MDJ				LR	LR		
	comp=Z,134nm,19.2s,MS4.4						
MDJ	**Mudanjiang**	**87.32**	**325**	*e*P	**P**	**01 32 18.3**	**+0.2**
	comp=Z,4.1nm,0.4s,mb5.0						
KLR	**Kul'dur**	**89.56**	**329**	*e*P	**P**	**01 32 26.7**	**-2.0**
CFAA	**Coronel Fontan**	**89.73**	**126**	LR	LR	02 08 32.8	
	comp=Z,29nm,18.3s,MS3.7,baz=168,slow=33						
TRQA	**Tornquist**	**90.30**	**134**	*e*P	**P**	**01 32 33.8**	**+1.7**
SRU	**San Rafael**	**90.92**	**45**	*e*P	**P**	**01 32 37.2**	**+2.2**
SRU				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb5.0						
SRU	**San Rafael**	**90.92**	**45**	*e*P	**P**	**01 32 37.1**	**+2.2**
	comp=Z,10nm,1.4s,mb5.0						
ENH	**Enshi**	**91.20**	**304**	*e*P	**P**	**01 32 37.5**	**+1.2**
	comp=Z,0.2nm,0.4s,mb3.8						
ANMO	**Albuquerque**	**91.22**	**51**	*i* P	**P**	**01 32 34.0**	**-2.4**
ANMO	**Albuquerque**	**91.22**	**51**	*e*P	**P**	**01 32 33.7**	**-2.7**
PV01	**Paradox Valley**	**91.60**	**47**	*e*P	**P**	**01 32 38.4**	**+0.2**
BJT	**Baijiatuau**	**92.02**	**315**	*e*P	**P**	**01 32 40.5**	**+0.4**
BJI	**Beijing**	**92.03**	**315**	*e*P	**P**	**01 32 42.8**	**+2.6**
BJI				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.8						
BJI				LR	LR		
	comp=Z,80nm,21.1s,MS4.1						
SDCO	**Great Sand Dun**	**93.39**	**49**	*e*P	**P**	**01 32 48.7**	**+2.2**
PDAR	**Pinedale Array**	**93.64**	**43**	P	**P**	**01 32 46.6**	**-0.9**
	comp=Z,1.0nm,0.9s,mb4.2,baz=239,slow=0.9,SNR=3.8						
PDAR				LR	LR	02 12 51.7	
	comp=Z,372nm,18.2s,MS4.9,baz=250,slow=34						
KMI	**Kunming**	**93.76**	**296**	P	**P**	**01 32 48.3**	**+0.1**
KMI				AP	pP	01 32 52.3	-0.6
KMI				XP	sP	01 32 54.8	+0.2
KMI				PP	PP	01 36 38.1	+4.7
KMI				SKS		01 43 23.4	
KMI				S		01 43 57.0	
KMI				XS	sS	01 44 02.3	-2.7
KMI				SS	SS	01 50 17.4	+2.0
KMI				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb5.2						
KMI				AMB	AMB		
	comp=Z,52nm,3.9s						
KMI				LR	LR		
	comp=N,105nm,18.7s,MS4.4						
KMI				LR	LR		
	comp=E,86nm,17.9s,MS4.4						
KMI				LR	LR		
	comp=Z,120nm,16.4s,MS4.4						
ATAH	**Atahualpa**	**94.04**	**100**	LR	LR	02 07 45.7	
	comp=Z,302nm,18.0s,MS4.8,baz=199,slow=31						
LVC	**Limon Verde**	**94.08**	**118**	LR	LR	02 09 43.9	
	comp=Z,308nm,18.2s,MS4.8,baz=182,slow=32						
COLA	**College**	**95.28**	**12**	*e*P	**P**	**01 32 55.2**	**+0.1**
COLA				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb5.0						
COLA	**College**	**95.28**	**12**	*e*P	**P**	**01 32 55.2**	**+0.1**
	comp=Z,6.9nm,1.1s,mb5.0						
ILAR	**Eielson Array**	**95.37**	**12**	P	**P**	**01 32 52.6**	**-2.9**
	comp=Z,0.6nm,0.7s,mb4.1,baz=221,slow=5.1,SNR=5.5						
BILL	**Bilibino**	**96.61**	**354**	*e*P	**P**	**01 33 01.9**	**+0.8**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.6						
LPAZ	**La Paz**	**98.07**	**113**	LR	LR	02 12 21.7	
	comp=Z,70nm,18.7s,MS4.2,baz=286,slow=32						
KURK	**Kurchatov**	**120.20**	**315**	*i* PKIKP	PKPdf	01 38 20.0	-2.2
ZRNK	**Zerenda**	**126.30**	**317**	*e*PKIKP	PKPdf	01 38 32.7	-1.2
ARCES	**ARCESS Array B**	**136.50**	**349**	PKP	PKPdf	01 38 50.2	-3.0
	comp=Z,2.1nm,0.8s,baz=44,slow=3.7,SNR=4.0						
ARCES	**ARCESS Array B**	**136.50**	**349**	PKP	PKPdf	01 38 50.2	-3.0
JOF	**Joensuu**	**140.60**	**340**	*e*p	PKPdf	01 39 02.1	+1.4
KAF	**Kangasniemi**	**142.66**	**342**	*e*p	PKPdf	01 39 02.0	-2.4
FINES	**FINESS Array B**	**143.27**	**342**	PKhKP		01 39 00.7	
	comp=Z,1.3nm,0.7s,baz=57,slow=2.5,SNR=14						
OBN	**Obninsk**	**143.82**	**328**	*i* PKIKP	PKPdf	01 39 02.7	-3.7
OBN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ZEI	**Tsey**	**144.13**	**305**	*e*PKIKP	PKPdf	01 39 17.1	+10
BHD	**Baghdad**	**144.42**	**289**	*ex*	x	01 39 03.0	
KIV	**Kislovodsk**	**144.75**	**307**	*i* PKIKP	PKPdf	01 39 07.7	-0.3
KIV				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NB2	**NORSAR Subarra1**	**146.56**	**353**	PKPa		01 39 11.0	
	comp=Z,0.7nm,0.7s,baz=22,slow=3.1						
NOA	**NORSAR Array B**	**146.56**	**353**	PKPbc	PKPbc	01 39 11.4	-1.2
	comp=Z,7.4nm,0.9s,baz=14,slow=4.5,SNR=19						
SOC	**Sochi**	**146.92**	**308**	*e*PKP2	PKPab	01 39 11.6	-3.4
SOC				pmax	pmax		
	comp=Z,7.0nm,0.9s						
AKASG	**Malin Array Be**	**150.02**	**326**	PKPbc	PKPbc	01 39 19.9	-1.9
	comp=Z,5.1nm,0.7s,baz=44,slow=2.5,SNR=19						
ASF	**Jabal al Asfar**	**150.69**	**286**	PKPbc	PKPbc	01 39 23.6	+0.3
	comp=Z,2.8nm,0.9s,baz=113,slow=1.5,SNR=5.7						
MMAI	**Mount Meron Ar**	**151.95**	**288**	PKPbc	PKPbc	01 39 26.1	-0.2
	comp=Z,2.3nm,0.6s,baz=127,slow=3.8,SNR=6.8						
BRTR	**Keskin Array B**	**152.36**	**303**	PKPbc	PKPbc	01 39 25.4	-1.7
	comp=Z,1.5nm,0.9s,baz=134,slow=3.6,SNR=8.3						
MLR	**Muntele Rosu**	**154.97**	**320**	PKPab	PKPab	01 39 50.0	+1.8
	comp=Z,2.1nm,0.8s,baz=135,slow=7.9,SNR=4.3						
CLL	**Collm**	**155.61**	**345**	*i* (PKPab)	PKPab	01 39 54.9	+3.9
CLL				*ex*	x	01 40 18.0	
BRG	**Berggiesshubel**	**155.79**	**343**	*e*P	PKPab	01 39 52.2	+0.4
	comp=Z,2.6nm,0.9s						
BRG				*e*		01 40 19.2	
	comp=Z,5.0nm,1.1s						
BRG	**Berggiesshubel**	**155.79**	**343**	*e*PKP2	PKPab	01 39 52.2	+0.4
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRG				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KHC	**Kasperske Hory**	**157.48**	**342**	*e*PKPab	PKPab	01 40 00.0	+0.9

IDC ***22*** *01:20:43.1±1.7, 1541S×17662W, h0km, mb4.2/2, mb1 4.5/3, mb1mx4.0/14, mbtmp4.3/3, ML2.5/1, Error ellipse: s-maj=135.1km s-min=24.9km az=161.0*

ISCJB ***22*** *01:20:46.9±3.1, 153S±03×1766W±02, h46km±32km, mb4.4/5, Error ellipse: s-maj=48.5km s-min=21.2km az=131.0*

NEIC ***22*** *01:20:47.7±0.7, 15.11S×17655W, h35km, mb4.3/2, Error ellipse: s-maj=36.4km s-min=14.8km az=159.0*

**ISC 22 01:20:50.3±2.6, 152S±03×1764W±02, h65km±27km, n14, σ1°18/9, m

KUDL					*e*S		**Sn**	**01 29 29.3**	**-2.2**
KUDL					AML		AML	01 29 32.3	
	comp=E,38nm,0.7s								
KUDL					AML		AML	01 29 34.3	
	comp=N,24nm,0.4s								
SONA	**Sohna**	**7.26**	**151**		*e*S		**Sn**	**01 29 33.5**	**-1.1**
SONA					AML		AML	01 29 37.5	
	comp=E,122nm,0.5s								
SONA					AML		AML	01 29 38.0	
	comp=N,34nm,0.1s								
TKM2	**Tokmak 2**	**8.44**	**13**	⇑	P		**Pn**	**01 28 32.5**	**+3.0**
	comp=N,0.2nm,0.6s								
TKM2				⇓	S		**Sn**	**01 30 03.2**	**-0.4**
	comp=N,0.9nm,1.3s								
KK31	**Karatay Array**	**8.64**	**347**	⇓	P		**Pn**	**01 28 33.5**	**+1.3**
	comp=N,2.0nm,0.3s,baz=153,slow=11,SNR=77								
KK31				⇓	S		**Sn**	**01 30 07.8**	**-0.7**
	comp=N,2.2nm,0.3s,baz=168,slow=22,SNR=5.5								
KOLN	**Koldanda**	**11.31**	**125**		*e*P		**Pn**	**01 29 07.5**	**-1.3**
	comp=N,5.8nm,0.3s								
KOLN					*e*S		**Sn**	**01 31 09.6**	**-4.5**
GKN	**Gorkha**	**11.89**	**121**		*e*P		**Pn**	**01 29 15.3**	**-1.4**
	comp=N,17nm,0.3s								
DMN	**Daman**	**12.46**	**121**		*e*P		**Pn**	**01 29 22.8**	**-1.6**
	comp=N,8.2nm,0.3s								
KKN	**Kakani**	**12.47**	**120**		*e*P		**Pn**	**01 29 22.0**	**-2.6**
PKI	**Pulchoki**	**12.69**	**121**		*e*P		**Pn**	**01 29 26.4**	**-1.3**
	comp=N,8.2nm,0.2s								
GUN	**Gumba**	**12.83**	**118**		*e*P		**Pn**	**01 29 28.2**	**-1.4**
	comp=N,17nm,0.4s								
JIRN	**Jiri**	**13.20**	**119**		*e*P		**Pn**	**01 29 33.1**	**-1.5**
	comp=N,31nm,0.4s								
MKAR	**Makanchi Array**	**13.93**	**27**		Pn		**Pn**	**01 29 44.7**	**+0.1**
	comp=N,0.1nm,0.3s,baz=202,slow=15,SNR=2.9								
LSA	**Lhasa**	**16.05**	**103**		*e*P		**Pn**	**01 30 20.4**	**+7.7**
LSA					pmax		pmax		
	comp=Z,8.0nm,0.2s								
LSA	**Lhasa**	**16.05**	**103**		*e*P		**Pn**	**01 30 20.4**	**+7.7**
	comp=Z,7.5nm,0.2s								
AB31	**Akbulak array**	**17.50**	**330**		P		**Pn**	**01 30 31.5**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=150,slow=14,SNR=20								
VOSK	**Vostochnaya**	**18.09**	**356**	⇓	P		**Pn**	**01 30 38.4**	**+0.2**
	comp=Z,2.4nm,1.1s								
BVA0	**Borovoye Array**	**18.43**	**355**		P		**Pn**	**01 30 42.3**	**0.0**
	comp=Z,0.2nm,0.3s,baz=151,slow=7.7,SNR=17								
ZRNK	**Zerenda**	**18.49**	**352**	⇓	P		**Pn**	**01 30 42.8**	**-0.2**
	comp=Z,1.9nm,0.8s								
ZRNK	**Zerenda**	**18.49**	**352**		*e*P		**Pn**	**01 30 42.9**	**-0.1**
ZRNK					pmax		pmax		
	comp=Z,2.0nm,0.6s								
ZRNK	**Zerenda**	**18.49**	**352**		*e*Pn		**Pn**	**01 30 42.9**	**-0.1**
	comp=Z,2.3nm,0.6s								
CHKZ	**Chkalovo**	**19.06**	**355**		P		**Pn**	**01 30 48.1**	**-1.9**
CHKZ					pmax		pmax		
	comp=Z,1.0nm,0.3s								
CHKZ	**Chkalovo**	**19.06**	**355**		Pn		**Pn**	**01 30 48.1**	**-1.8**
	comp=Z,0.5nm,0.3s								
AKTK	**Aktyubinsk**	**19.21**	**330**		P		**Pn**	**01 30 51.2**	**-0.5**
AKTO	**Aktyubinsk**	**19.21**	**330**		P		**Pn**	**01 30 51.2**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=132,slow=13,SNR=14								
AKTO	**Aktyubinsk**	**19.21**	**330**		P		**Pn**	**01 30 51.2**	**-0.5**
AKTO					pmax		pmax		
	comp=Z,1.0nm,0.3s								
ZAL	**Zalesovo**	**20.92**	**20**		P		**P**	**01 31 09.6**	**+0.2**
	comp=Z,2.6nm,0.4s,baz=256,slow=5.9,SNR=7.0								
ZAL	**Zalesovo**	**20.92**	**20**		P		**P**	**01 31 09.6**	**+0.3**
ZAL					pmax		pmax		
	comp=Z,3.0nm,0.4s								
SONM	**Songino Array**	**28.02**	**52**		P		**P**	**01 32 18.5**	**+1.0**
	comp=Z,0.3nm,0.6s,mb3.1,baz=261,slow=7.2,SNR=2.9								
BRTR	**Keskin Array B**	**31.66**	**291**		P		**P**	**01 32 50.3**	**+0.6**
	comp=Z,0.6nm,0.9s,mb3.4,baz=94,slow=6.4,SNR=2.3								
BRTR	**Keskin Array B**	**31.66**	**291**		P		**P**	**01 32 50.3**	**+0.6**
BRTR					pmax		pmax		
	comp=Z,1.0nm,0.9s								
JOF	**Joensuu**	**38.29**	**331**		*e*p		**P**	**01 33 46.7**	**-0.1**
FINES	**FINESS Array B**	**39.94**	**327**		P		**P**	**01 34 00.7**	**+0.1**
	comp=Z,0.4nm,0.4s,mb3.5,baz=117,slow=11,SNR=10								
ARCES	**ARCESS Array B**	**43.47**	**338**		P		**P**	**01 34 29.7**	**+0.2**
	comp=Z,1.3nm,0.5s,mb3.9,baz=116,slow=8.3,SNR=27								
ARCES					LR		LR	01 55 51.3	
	comp=Z,33nm,19.6s,baz=123,slow=41								
ARCES	**ARCESS Array B**	**43.47**	**338**		P		**P**	**01 34 29.7**	**+0.2**
ARCES					pmax		pmax		
	comp=Z,1.0nm,0.5s								
ARCES					MLR		MLR		
	comp=Z,33nm,19.6s								
NOA	**NORSAR Array B**	**46.86**	**324**		P		**P**	**01 34 55.4**	**-1.0**
	comp=Z,0.5nm,0.6s,mb3.6,baz=106,slow=9.5,SNR=2.7								
NOA	**NORSAR Array B**	**46.86**	**324**		P		**P**	**01 34 55.4**	**-1.0**
NOA					pmax		pmax		
	comp=Z,1.0nm,0.6s								
TORD	**Torodi Ar. Bea**	**67.43**	**271**		P		**P**	**01 37 22.2**	**+0.4**
	comp=Z,0.5nm,0.5s,mb3.8,baz=49,slow=5.5,SNR=15								
WRA	**Warramunga Arr**	**79.57**	**123**		P		**P**	**01 38 34.1**	**+0.9**
	comp=Z,0.3nm,0.4s,mb3.6,baz=324,slow=4.6,SNR=3.6								
YKA	**Yellowknife Ar**	**82.95**	**4**		P		**P**	**01 38 51.4**	**+0.2**
	comp=Z,0.2nm,0.3s,mb3.6,baz=347,slow=5.4,SNR=3.0								

*ISCJB **22** 01:32:27.6±0.5, 9.42S±0.05×292E±0.1, h10km, mb4.2/11, MS3.0/1, Error ellipse: s-maj=17.3km s-min=6.4km az=14.9*

*IDC **22** 01:32:27.8±0.8, 9.45S×292.2E, h0km, mb4.2/10, mb1 4.3/14, mb1mx4.1/24, mbtmp4.3/14, ML4.2/3, MS3.5/5, Ms1 3.5/5, ms1mx3.3/24, Error ellipse: s-maj=28.6km s-min=12.5km az=100.0*

*NEIC **22** 01:32:29.7±0.4, 9.41S×291.2E, h10km, mb4.2/2, Error ellipse: s-maj=15.2km s-min=7.3km az=98.0*

ISC 22 01:32:29.2±0.5, 9.44S±004×293E±01, h10km, n25, σ1§14/32, mb4.2/11, MS3.0/1, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSZ	**Lusaka**	**5.91**	**191**	Pn	**Pn**	**01 33 58.3**	**+1.6**
	3.9nm,0.3s,baz=5.9,slow=13,SNR=73						
LSZ				Sn	**Sn**	**01 35 05.8**	**+1.3**
	30nm,0.3s,baz=133,slow=20,SNR=7.4						
LSZ				Lg		01 35 33.8	
	114nm,0.3s,baz=269,slow=22,SNR=6.6						
LSZ				LR	LR	01 36 34.7	
	comp=Z,427nm,18.5s,baz=24,slow=42						
MATP	**Matopo**	**10.95**	**184**	Pn	**Pn**	**01 35 06.1**	**+0.1**
	2.6nm,0.3s,baz=5.5,slow=12,SNR=67						
MATP				Sn	**Sn**	**01 37 05.5**	**-3.0**
	2.1nm,0.3s,baz=325,slow=16,SNR=4.2						
MATP				Lg		01 38 14.8	
	11nm,0.3s,baz=71,slow=18,SNR=9.5						
MATP				LR	LR	01 39 49.5	
	comp=Z,138nm,18.8s,baz=8.1,slow=40						
MATP	**Matopo**	**10.95**	**184**	Pn	**Pn**	**01 35 06.1**	**+0.1**
MATP				Sn	**Sn**	**01 37 05.5**	**-3.0**
MATP				Lg		01 38 14.8	
MATP				LR	LR	01 39 49.5	
KMBO	**Kilima Mbogo**	**11.42**	**44**	Pn	**Pn**	**01 35 10.0**	**-2.4**
	1.2nm,0.3s,baz=221,slow=19,SNR=16						
KMBO				Sn	**Sn**	**01 37 12.3**	**-7.8**
	1.1nm,0.3s,baz=248,slow=21,SNR=2.8						
KMBO				Lg		01 38 25.3	
	5.9nm,0.3s,baz=329,slow=17,SNR=6.8						
TSUM	**Tsumeb**	**14.94**	**228**	Pn	**Pn**	**01 35 59.6**	**-0.9**
	0.8nm,0.3s,baz=50,slow=15,SNR=20						
TSUM				Sn	**Sn**	**01 38 39.1**	**-6.9**
	1.1nm,0.3s,baz=212,slow=16,SNR=4.1						
TSUM				Lg		01 40 18.1	
	baz=66,slow=21,SNR=2.2						
TSUM				LR	LR	01 42 21.8	
	comp=Z,210nm,19.5s,baz=318,slow=40						
TSUM	**Tsumeb**	**14.94**	**228**	Pn	**Pn**	**01 35 59.6**	**-0.9**
TSUM				Sn	**Sn**	**01 38 39.1**	**-6.9**
TSUM				Lg		01 40 18.1	
TSUM				LR	LR	01 42 21.8	
LBTB	**Lobatse**	**15.89**	**192**	Pn	**Pn**	**01 36 12.2**	**-0.7**
	1.2nm,0.3s,baz=22,slow=14,SNR=17						
LBTB				Sn	**Sn**	**01 39 01.6**	**-7.5**
	1.2nm,0.3s,baz=312,slow=13,SNR=3.0						
LBTB				Lg		01 40 48.4	
	0.8nm,0.3s,baz=100,slow=20,SNR=3.5						
LBTB				LR	LR	01 42 25.1	
	comp=Z,280nm,18.1s,baz=210,slow=38						
LBTB	**Lobatse**	**15.89**	**192**	*e*Pn	**Pn**	**01 36 12.0**	**-0.9**
	5.8nm,0.5s						
LBTB				Sn	**Sn**	**01 39 01.6**	**-7.5**
LBTB				Lg		01 40 48.4	
LBTB				LR	LR	01 42 25.1	
OPO	**Ambohidratompo**	**19.55**	**120**	P	**Pn**	**01 37 01.6**	**+3.3**
	1.0nm,0.3s,baz=288,slow=11,SNR=11						
SUR	**Sutherland**	**24.15**	**198**	P	**P**	**01 37 45.9**	**+0.5**
	9.3nm,1.1s,mb4.1,baz=257,slow=13,SNR=2.5						
ATD	**Arta Tunnel**	**24.80**	**33**	LR	LR	01 47 05.5	
	comp=Z,49nm,19.1s,MS3.0,baz=132,slow=35						
TORD	**Torodi Ar. Bea**	**35.44**	**309**	P	**P**	**01 39 25.6**	**0.0**
	4.8nm,0.8s,mb4.5,baz=121,slow=8.4,SNR=27						
DBIC	**Dimbokro**	**37.62**	**294**	P	**P**	**01 39 43.1**	**-1.1**
	6.0nm,0.9s,mb4.3,baz=117,slow=8.6,SNR=5.2						
DBIC	**Dimbokro**	**37.62**	**294**	*e*P	**P**	**01 39 44.6**	**+0.5**
	5.0nm,0.7s,mb4.3						
EIL	**Elat**	**39.26**	**8**	*e*P	**P**	**01 39 59.0**	**+1.0**
	71nm,0.8s,mb5.5						
MALT	**Malatya**	**48.26**	**10**	*e*P	**P**	**01 41 10.5**	**+0.2**
BRTR	**Keskin Array B**	**49.08**	**4**	P	**P**	**01 41 17.4**	**+0.8**
	2.1nm,0.9s,mb4.2,baz=182,slow=8.1,SNR=3.5						
ESDC	**Sonseca Array**	**57.79**	**330**	P	**P**	**01 42 21.9**	**+1.3**
	0.4nm,0.6s,mb3.6,baz=135,slow=7.6,SNR=7.3						
AKASG	**Malin Array Be**	**59.89**	**360**	P	**P**	**01 42 34.8**	**-0.5**
	0.4nm,0.3s,mb3.9,baz=188,slow=6.8,SNR=6.9						
FINES	**FINESS Array B**	**70.70**	**358**	P	**P**	**01 43 45.2**	**-0.1**
	1.0nm,0.9s,mb3.8,baz=165,slow=5.8,SNR=5.7						
KAF	**Kangasniemi**	**71.37**	**359**	*e*p	**P**	**01 43 47.9**	**-1.4**
NOA	**NORSAR Array B**	**71.69**	**351**	P	**P**	**01 43 51.4**	**+0.1**
	1.4nm,0.8s,mb3.9,baz=165,slow=5.6,SNR=3.3						
JOF	**Joensuu**	**72.15**	**1**	*e*p	**P**	**01 43 43.7**	**-10**
MKAR	**Makanchi Array**	**73.15**	**35**	P	**P**	**01 44 00.5**	**+0.5**
	4.1nm,0.8s,mb4.4,baz=224,slow=3.3,SNR=16						
ARCES	**ARCESS Array B**	**78.83**	**359**	P	**P**	**01 44 31.7**	**-0.7**
	1.8nm,0.7s,mb4.1,baz=189,slow=5.2,SNR=4.4						

CASC 22 02:01:55.6±1.8, 834N×8299W, h5km, MD3.7, ML3.0, 1C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.36**	**331**	*e*P	Pg	02 02 02.5	-0.1
ACR				*e*S	Sg	02 02 08.1	+0.9
DVD	**David**	**0.54**	**79**	*e*S	Sg	02 02 14.9	+1.8
CTCR	**Cotoan**	**0.60**	**22**	*i*P	Pg	02 02 07.6	+0.4
CTCR				*e*S	Sg	02 02 18.6	+3.6
CNI	**Changuinola**	**1.17**	**24**	*e*P	Pg	02 02 16.9	-1.2
BUS	**Buena Vista**	**1.43**	**328**	*e*P	Pn	02 02 20.9	-1.2
URSC	**Urasca**	**1.68**	**332**	*e*P	Pn	02 02 25.3	-0.4
URSC				*e*S	Sn	02 02 48.4	+0.8
LCR2	**La Lucha 2**	**1.72**	**324**	*e*P	Pn	02 02 26.6	+0.5
LCR2				*e*S	Sn	02 02 50.0	+1.6
OCM	**Ochomogo**	**1.82**	**328**	*e*S	Sn	02 02 52.0	+1.0
OCM				AML	AML	02 03 01.2	
	comp=E,127nm,0.4s						
IRZ2	**Volcan Irazu 2**	**1.85**	**331**	*e*P	Pn	02 02 27.6	-0.4
PRS1	**Puriscal**	**2.09**	**322**	*e*P	Pn	02 02 32.3	+1.0
PRS1				*e*S	Sn	02 02 58.7	+1.0
EPA	**Esparza**	**2.28**	**316**	*e*S	Sn	02 03 03.7	+1.3
PTP	**Ponta Puerca**	**19.55**	**58**	⇑*i*P		02 01 59.6	

*ISCJB **22** 02:15:02.4±0.9, 1952S±0.06×685W±0.1, h133km±10km, mb4.2/6, Error ellipse: s-maj=18.2km s-min=9.4km az=17.8*

*IDC **22** 02:15:02.8±1.4, 1956S×6859W, h124km±12km, mb4.1/5, mb1 4.0/10, mb1mx3.8/19, mbtmp4.3/10, Error ellipse: s-maj=23.0km s-min=11.9km az=110.0*

*NEIC **22** 02:15:03.1±0.8, 1947S×6860W, h128km±8km, mb4.3/5, Error ellipse: s-maj=13.5km s-min=7.6km az=95.0*

ISC 22 02:15:03.3±0.9, 1951S±006×686W±01, h126km±10km, n23, σ0§99/21, mb4.2/6, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**3.10**	**185**	P	**Pn**	**02 15 51.1**	**0.0**
	14nm,0.3s,baz=358,slow=8.6,SNR=75						
LVC				S	**Sn**	**02 16 26.3**	**-1.7**
	30nm,0.3s,baz=338,slow=11,SNR=18						
LVC	**Limon Verde**	**3.10**	**185**	*e*Pn	**Pn**	**02 15 50.7**	**-0.3**
LVC				*e*Sn	**Sn**	**02 16 23.8**	**-4.2**
LPAZ	**La Paz**	**3.23**	**8**	P	**Pn**	**02 15 54.7**	**+1.9**
	12nm,0.3s,baz=186,slow=6.9,SNR=399						
LPAZ	**La Paz**	**3.23**	**8**	*e*Pn	**Pn**	**02 15 54.6**	**+1.8**
SIV	**San Ignacio**	**7.98**	**65**	P	**Pn**	**02 16 55.7**	**-0.8**
	13nm,0.3s,baz=261,slow=10,SNR=602						
SAML	**Samuel**	**11.73**	**27**	*e*Pn	**Pn**	**02 17 44.2**	**-2.5**
	5.3nm,0.5s						
CFAA	**Coronel Fontan**	**12.05**	**179**	P	**Pn**	**02 17 51.2**	**+0.4**
	0.1nm,0.3s,baz=0.0,slow=7.1,SNR=5.1						
CFAA	**Coronel Fontan**	**12.05**	**179**	P	**Pn**	**02 17 51.2**	**+0.4**
CPUP	**Villa Florida**	**12.40**	**125**	P	**Pn**	**02 17 55.8**	**+0.3**
	0.4nm,0.3s,baz=297,slow=11,SNR=3.6						
CPUP	**Villa Florida**	**12.40**	**125**	*e*Pn	**Pn**	**02 17 56.0**	**+0.5**
	4.0nm,0.4s						
TRQA	**Tornquist**	**19.36**	**164**	*e*P	**P**	**02 19 18.9**	**-0.1**
	8.3nm,0.9s						
BDFB	**Brasilia**	**20.00**	**82**	P	**P**	**02 19 26.9**	**+1.1**
	1.1nm,0.3s,baz=269,slow=10,SNR=17						
PLCA	**Paso Flores**	**21.22**	**184**	P	**P**	**02 19 40.1**	**+1.2**
	13nm,0.8s,mb4.3,baz=360,slow=11,SNR=30						
PLCA	**Paso Flores**	**21.22**	**184**	*e*P	**P**	**02 19 40.3**	**+1.3**
	18nm,0.9s,mb4.4						
OTAV	**Otavalo**	**21.87**	**333**	*e*P	**P**	**02 19 46.1**	**+0.2**
	2.0nm,0.3s,mb3.9						
SNAA	**Sanae**	**64.06**	**161**	P	**P**	**02 25 23.5**	**-0.1**
	0.7nm,0.7s,mb3.6,baz=276,slow=5.7,SNR=5.7						
DBIC	**Dimbokro**	**67.90**	**74**	P	**P**	**02 25 48.0**	**-0.1**
	6.9nm,0.6s,mb4.7,baz=232,slow=6.8,SNR=25						
TORD	**Torodi Ar. Bea**	**76.42**	**71**	P	**P**	**02 26 38.8**	**0.0**
	2.9nm,0.4s,mb4.4,baz=253,slow=5.5,SNR=109						
YKA	**Yellowknife Ar**	**89.41**	**340**	P	**P**	**02 27 44.6**	**-1.1**
	2.0nm,0.7s,mb4.3,baz=131,slow=4.6,SNR=11						
ASAR	**Alice Springs**	**131.80**	**208**	PKP	PKPdf	02 34 01.4	0.0
	0.5nm,0.6s,baz=142,slow=1.7,SNR=8.6						
WRA	**Warramunga Arr**	**134.81**	**211**	PKP	PKPdf	02 34 06.5	-0.6
	0.7nm,0.3s,baz=152,slow=1.8,SNR=5.0						
MJAR	**Matsushiro Arr**	**151.02**	**311**	PKPbc	PKPbc	02 34 41.6	+0.4
	2.6nm,0.8s,baz=217,slow=3.0,SNR=4.4						
SONM	**Songino Array**	**151.45**	**7**	PKPbc	PKPbc	02 34 42.4	+0.1
	1.2nm,0.4s,baz=317,slow=1.7,SNR=12						
SONM				pPKPbc	pPKPbc	02 35 16.1	+0.1
	1.0nm,0.9s,baz=340,slow=2.2,SNR=3.5						

*IDC **22** 02:53:30.9±1.2, 5231N×15952E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.8/21, mbtmp3.9/9, ML3.8/1, MS3.3/1, Ms1 3.3/1, ms1mx2.3/20, Error ellipse: s-maj=34.8km s-min=15.2km az=2.0*

*MOS **22** 02:53:32.2±1.9, 5195N×15983E, h33km, mb4.3/10, Error ellipse: s-maj=17.1km s-min=8.0km az=92.8*

*KRSC **22** 02:53:33.2±0.4, 5211N×15977E, h8km±4km, ML4.4*

*ISCJB **22** 02:53:35.3±0.8, 5208N±005×15986E±007, h57km±6km, mb4.1/14, Error ellipse: s-maj=10.3km s-min=4.9km az=105.0*

*NEIC **22** 02:53:35.2±0.7, 5222N×15979E, h35km, mb4.4/6, Error ellipse: s-maj=16.7km s-min=12.3km az=145.0*

ISC 22 02:53:36.8±0.7, 5211N±005×15978E±007, h56km±6km, n63, σ1§22/80, mb4.1/14, 1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.85**	**293**	*i*P	**Pn**	**02 53 50.5**	**-2.2**
RUS				*e*S	**Sn**	**02 54 02.7**	**-1.6**
SPN	**Mys Shipunski**	**1.00**	**8**	P	**Pn**	**02 53 53.7**	**-1.0**
SPN				S	**Sn**	**02 54 08.4**	**+0.4**
SPN	**Mys Shipunski**	**1.00**	**8**	*i*P	**Pn**	**02 53 53.8**	**-0.9**
SPN				*e*S	**Sn**	**02 54 08.5**	**+0.5**
NLC	**Nalytchevo**	**1.10**	**346**	P	**Pn**	**02 53 54.2**	**-1.8**
NLC				S	**Sn**	**02 54 09.3**	**-0.9**
NLC	**Nalytchevo**	**1.10**	**346**	*e*P	**Pn**	**02 53 54.3**	**-1.7**
NLC				*e*S	**Sn**	**02 54 10.7**	**+0.5**
GRL	**Gorelyy**	**1.14**	**294**	*i*P	**Pn**	**02 53 55.8**	**-0.8**
GRL				*e*S	**Sn**	**02 54 12.3**	**+1.1**
PET	**Petropavlovsk**	**1.15**	**324**	P	**Pn**	**02 53 55.4**	**-1.3**
PET				S	**Sn**	**02 54 11.3**	**-0.1**
PET	**Petropavlovsk**	**1.15**	**324**	⇓*i*P	**Pn**	**02 53 55.3**	**-1.3**
PET				*e*S	**Sn**	**02 54 10.2**	**-1.2**
PET	**Petropavlovsk**	**1.15**	**324**	*i*P	**Pn**	**02 53 55.3**	**-1.4**
PET				*e*S	**Sn**	**02 54 11.3**	**-0.1**
UGLR	**Uglovaya**	**1.25**	**332**	*i*P	**Pn**	**02 53 57.1**	**-0.9**
SDLR	**Sedlovina**	**1.29**	**335**	*i*P	**Pn**	**02 53 57.4**	**-1.2**
SDLR				*i*S	**Sn**	**02 54 15.3**	**+0.4**
SMAR	**Somma**	**1.30**	**333**	*e*P	**Pn**	**02 53 57.7**	**-1.0**
AVH	**Avacha**	**1.32**	**332**	*i*P	**Pn**	**02 53 58.2**	**-0.8**
AVH				*e*S	**Sn**	**02 54 16.3**	**+0.7**
KOK	**Koryaka**	**1.38**	**330**	*i*P	**Pn**	**02 53 58.9**	**-0.8**
MIPR	**Malaya Ipel'ka**	**1.87**	**276**	*i*P	**Pn**	**02 54 06.7**	**+0.3**
MIPR				*e*S	**Sn**	**02 54 31.0**	**+2.1**
GNL	**Ganaly**	**1.94**	**326**	*i*P	**Pn**	**02 54 07.5**	**+0.1**
KII	**Karymskiy**	**1.94**	**354**	*i*P	**Pn**	**02 54 06.9**	**-0.5**
PAU	**Pauzhetka**	**1.95**	**252**	*e*P	**Pn**	**02 54 07.2**	**-0.4**
PAU				*i*S	**Sn**	**02 54 32.0**	**+1.1**
PAU				Smax			
	440nm,0.3s						
SKR	**Severo-Kuril's**	**2.70**	**240**	*e*PN	**Pn**	**02 54 12.4**	**-5.4**
SKR				*e*S	**Sn**	**02 54 43.2**	**-6.1**
SKR				pmax	pmax		
	comp=Z,70nm,0.5s						
SKR				smax			
	comp=N,450nm,0.5s						
SKR				smax			
	comp=E,230nm,0.5s						
MKZ	**Mys Kozlova**	**2.72**	**25**	P	**Pn**	**02 54 16.6**	**-1.4**
MKZ				S	**Sn**	**02 54 47.3**	**-2.4**
MKZ	**Mys Kozlova**	**2.72**	**25**	*e*S	**Sn**	**02 54 50.2**	**+0.5**
ALID	**Alaid**	**2.92**	**247**	P	**Pn**	**02 54 20.8**	**0.0**
TUMR	**Tumrok**	**3.19**	**4**	*e*P	**Pn**	**02 54 25.5**	**+1.0**
KMNR	**Kamenistaya**	**3.67**	**4**	*e*P	**Pn**	**02 54 32.1**	**+1.1**
KPT	**Kopyto**	**3.88**	**4**	P	**Pn**	**02 54 34.3**	**+0.4**
ESO	**Esso**	**3.88**	**351**	P	**Pn**	**02 54 34.9**	**+1.0**
ZLN	**Zelenaya**	**3.96**	**8**	*e*P	**Pn**	**02 54 37.2**	**+2.1**
LGNR	**Loginova**	**4.02**	**7**	P	**Pn**	**02 54 38.1**	**+2.3**
CIRR	**Tsirk**	**4.06**	**8**	P	**Pn**	**02 54 39.3**	**+3.0**
KRSR	**Krestovskiy**	**4.14**	**6**	*e*P	**Pn**	**02 54 38.9**	**+1.4**
SRDR	**Sredinnyy**	**4.22**	**359**	P	**Pn**	**02 54 40.4**	**+1.8**
KBTR	**Krutoberegovo**	**4.48**	**22**	*i*P	**Pn**	**02 54 41.9**	**-0.2**
SMKR	**Semkarok**	**4.59**	**12**	*e*P	**Pn**	**02 54 45.6**	**+1.9**
SRKR	**Sorokina**	**4.63**	**10**	P	**Pn**	**02 54 44.4**	**+0.2**
FX1	**Attu Island--F**	**8.21**	**79**	Pn	**Pn**	**02 55 31.8**	**-1.3**
	comp=E,3.9nm,0.3s,baz=298,slow=22,SNR=16						
FX1				Sn	**Sn**	**02 56 58.9**	**-5.5**
	comp=E,4.0nm,0.3s,baz=86,slow=20,SNR=8.1						
FX1	**Attu Island--F**	**8.21**	**79**	*e*Pn	**Pn**	**02 55 31.7**	**-1.4**
FX1				*e*Sn	**Sn**	**02 56 59.5**	**-4.9**
BILL	**Bilibino**	**16.29**	**9**	*e*P	**Pn**	**02 57 24.1**	**+2.2**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BILL	**Bilibino**	**16.29**	**9**	*e*P	**Pn**	**02 57 24.1**	**+2.2**
	comp=Z,2.8nm,0.6s						
MJAR	**Matsushiro Arr**	**21.79**	**233**	P	**P**	**02 58 24.8**	**+0.7**
	comp=Z,4.0nm,0.9s,mb3.9,baz=27,slow=10,SNR=8.0						
MJAR				LR	LR	03 07 16.5	
	comp=Z,74nm,19.9s,baz=50,slow=38						
MJAR	**Matsushiro Arr**	**21.79**	**233**	P	**P**	**02 58 24.8**	**+0.8**
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MJAR				MLR	MLR		
	comp=Z,74nm,19.9s						
MAJO	**Matsushiro**	**21.79**	**233**	*e*P	**P**	**02 58 25.4**	**+1.4**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.1						
MAJO	**Matsushiro**	**21.79**	**233**	*e*P	**P**	**02 58 25.4**	**+1.4**
	comp=Z,4.9nm,0.6s,mb4.1						
TIXI	**Tiksi**	**23.91**	**336**	*e*P	**P**	**02 58 43.5**	**-1.9**
TIXI				*e*S	PcP	03 02 23.7	-3.0
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.1						
HIA	**Hailar**	**25.30**	**280**	*e*P	**P**	**02 58 58.3**	**+0.2**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HIA	**Hailar**	**25.30**	**280**	*e*P	**P**	**02 58 58.3**	**+0.2**
	comp=Z,8.7nm,0.6s,mb4.5						
INCN	**Inchon**	**27.41**	**251**	P

*ISCJB **22** 03:21:16.0±0.6, 6250N±004×14250W±008, h13km, Error ellipse: s-maj=5.8km s-min=5.5km az=33.0*
*PGC **22** 03:21:19.9, 6248N×14268W, h5km, ML3.2/3, 240km southwest of Dawson, Yt Eastern Alaska.*
*NEIC **22** 03:21:20.7, 6247N×14303W, h13km, ML2.8(AEIC), After AEIC.*

ISC 22 03:21:18.0±0.6, 6253N±003×14263W±008, h13km, n14, σ1§65/21, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MENT	**Mentasta**	**0.65**	**310**	P	**Pg**	**03 21 30.0**	**-0.6**
DAWY	**Dawson**	**2.13**	**42**	Pn	**Pn**	**03 21 55.7**	**+2.5**
DAWY				Pg	**Pg**	**03 21 59.2**	**+0.4**
DAWY				Sg	**Sg**	**03 22 26.6**	**+0.3**
DAWY				Trac		03 22 31.3	
	comp=Z,74nm,0.2s						
DAWY	**Dawson**	**2.13**	**42**	P	**Pn**	**03 21 56.1**	**+2.9**
EYAK	**Cordova Ski Ar**	**2.48**	**218**	P	**Pn**	**03 21 57.9**	**-0.2**
SML	**Sawmill**	**2.77**	**257**	P	**Pn**	**03 22 01.6**	**-0.5**
HYT	**Haines Junctio**	**2.98**	**123**	Pn	**Pn**	**03 22 07.1**	**+2.2**
HYT				Pg	**Pg**	**03 22 13.0**	**-2.1**
HYT				Sg	**Sg**	**03 22 55.4**	**+1.7**
HYT				Trac		03 23 00.7	
	comp=Z,20nm,0.3s						
GHO	**Glory Hole Cre**	**3.05**	**258**	P	**Pn**	**03 22 05.0**	**-0.9**
WHY	**Whitehorse**	**4.15**	**113**	Pn	**Pn**	**03 22 23.0**	**+2.0**
WHY				Pg	**Pg**	**03 22 35.9**	**-1.6**
WHY				Sg	**Sg**	**03 23 28.4**	**-2.8**
WHY				Trac		03 23 37.4	
	comp=Z,28nm,0.6s						
PLBC	**Pleasant Camp**	**4.33**	**133**	Pn	**Pn**	**03 22 26.5**	**+2.9**
PLBC				Pg	**Pg**	**03 22 39.4**	**-1.6**
BM3	**Burnt Mountain**	**4.98**	**351**	P	**Pn**	**03 22 34.8**	**+2.3**
INK	**Inuvik**	**6.93**	**29**	Pn	**Pn**	**03 23 00.6**	**+1.4**
INK				Sn	**Sn**	**03 24 17.0**	**-0.9**
INK				Sg	**Sg**	**03 24 58.0**	**-2.3**
INK				Trac		03 25 14.5	
	comp=Z,6.0nm,0.7s						
DLBC	**Dease Lake**	**7.45**	**118**	Trac		03 25 21.4	
	comp=Z,8.0nm,0.8s						
DLBC	**Dease Lake**	**7.45**	**118**	Sg	Sx	03 25 14.9	
FNBB	**Fort Nelson**	**10.27**	**102**	Pn	**Pn**	**03 23 42.7**	**-2.2**
FNBB				Sg	Sn	03 26 39.6	+60
FNBB				Trac		03 26 53.2	
	comp=Z,1.0nm,0.5s						

*ISCJB **22** 03:28:51.9±0.3, 3668N±002×447W±002, h88km±3km, Error ellipse: s-maj=3.7km s-min=2.5km az=158.8*
*CSEM **22** 03:28:52.0±0.1, 3660N×432W, h78km±1km, ML3.9/9, Error ellipse: s-maj=1.9km s-min=1.2km az=148.0*
*SFS **22** 03:28:52.0, 3652N×439W, h0km, ML3.6*
*NEIC **22** 03:28:52.8, 3653N×440W, h82km, MG3.6(MDD), After MDD.*
*MDD **22** 03:28:53.3±0.4, 3657N×440W, h78km±3km, mb3.7/21, Error ellipse: s-maj=4.0km s-min=2.6km az=158.0, PRIXMO*
*LDG **22** 03:28:54.5, 3662N×446W, h30km*
*IGIL **22** 03:28:54.8, 3670N×450W, h31km, ML3.5*
*CNRM **22** 03:28:55.4, 3642N×438W, h10km, MD3.4*
*INMG **22** 03:28:55.1±8.3, 3678N×443W, h31km, MD3.1, ML3.0, Error ellipse: s-maj=20.1km s-min=14.6km az=164.0*

ISC 22 03:28:53.2±0.3, 3670N±002×446W±002, h79km±4km, n125, σ1§36/217, 9C-8D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAL	**Malaga**	**0.05**	**48**	*e*P	**Pn**	**03 29 04.4**	**-0.1**
MAL				*e*S	**Sn**	**03 29 12.3**	**-0.5**
EMIJ	**Mijas**	**0.29**	**243**	⇓P	**Pn**	**03 29 04.8**	**-0.5**
	SNR=18						
EMIJ				S	**Sn**	**03 29 13.8**	**-0.4**
	531nm,0.2s,SNR=26						
EMIJ	**Mijas**	**0.29**	**243**	P	**Pn**	**03 29 04.8**	**-0.5**
	84nm,0.1s,SNR=18						
EMIJ				S	**Sn**	**03 29 13.8**	**-0.4**
	531nm,0.2s,SNR=26						
ELOJ	**Sierra Loja**	**0.51**	**28**	P	**Pn**	**03 29 07.9**	**+0.9**
	3.6nm,0.2s,SNR=7.9						
ELOJ				S	**Sn**	**03 29 19.6**	**+2.5**
	35nm,0.2s,SNR=7.9						
ERON	**Agron**	**0.61**	**58**	⇑P	**Pn**	**03 29 08.6**	**+0.7**
	9.8nm,0.1s,SNR=18						
ERON				S	**Sn**	**03 29 19.6**	**+0.8**
	12nm,0.2s,SNR=16						
REAL	**Reales**	**0.64**	**251**	⇓P	**Pn**	**03 29 08.4**	**+0.2**
REAL				S	**Sn**	**03 29 19.1**	**-0.2**
REAL	**Reales**	**0.64**	**251**	*i* P	**Pn**	**03 29 08.4**	**+0.2**
EGUA	**Guajares**	**0.73**	**79**	⇑P	**Pn**	**03 29 07.6**	**-1.5**
	4.0nm,0.2s,SNR=18						
EGUA				S	**Sn**	**03 29 19.9**	**-1.0**
	9.0nm,0.2s,SNR=7.9						
LIJA	**Lijar**	**0.79**	**286**	⇑P	**Pn**	**03 29 11.1**	**+1.3**
LIJA				S	**Sn**	**03 29 21.4**	**-0.6**
LIJA	**Lijar**	**0.79**	**286**	*i* P	**Pn**	**03 29 11.1**	**+1.3**
EJIF	**Jimena Fronter**	**0.85**	**254**	⇓P	**Pn**	**03 29 10.9**	**+0.4**
	4.1nm,0.1s,SNR=18						
EJIF				S	**Sn**	**03 29 22.3**	**-1.0**
	12nm,0.2s,SNR=6.3						
ELUQ	**Luque**	**0.88**	**10**	⇓P	**Pn**	**03 29 11.9**	**+1.2**
	31nm,0.2s,SNR=18						
ELUQ				S	**Sn**	**03 29 25.9**	**+2.1**
	170nm,0.1s,SNR=56						
EQUE	**Quentar**	**0.96**	**58**	P	**Pn**	**03 29 12.5**	**+0.8**
	5.0nm,0.1s,SNR=24						
EQUE				S	**Sn**	**03 29 26.1**	**+0.6**
	26nm,0.2s,SNR=9.1						
MOMI	**Momias**	**1.08**	**251**	⇓P	**Pn**	**03 29 13.9**	**+0.7**
MOMI	**Momias**	**1.08**	**251**	*i* P	**Pn**	**03 29 13.9**	**+0.7**
ESPR	**Espera**	**1.14**	**279**	⇓P	**Pn**	**03 29 14.7**	**+0.8**
	12nm,0.1s,SNR=18						
ESPR				S	**Sn**	**03 29 30.9**	**+1.5**
	108nm,0.2s,SNR=5.2						
ESPR	**Espera**	**1.14**	**279**	P	**Pn**	**03 29 14.7**	**+0.8**
	12nm,0.1s,SNR=18						
ESPR				S	**Sn**	**03 29 30.9**	**+1.6**
	108nm,0.2s,SNR=5.2						
MDAL	**Dalia**	**1.15**	**227**	*e*P	**Pn**	**03 29 14.0**	**0.0**
MDAL				*i* S	**Sn**	**03 29 29.0**	**-0.6**
GIBL	**Gibalbin**	**1.22**	**277**	P	**Pn**	**03 29 15.5**	**+0.6**
GIBL	**Gibalbin**	**1.22**	**277**	*e*P	**Pn**	**03 29 15.5**	**+0.6**
CNIL	**Conil**	**1.33**	**256**	P	**Pn**	**03 29 16.9**	**+0.6**
CNIL	**Conil**	**1.33**	**256**	*i* P	**Pn**	**03 29 16.9**	**+0.6**
SCRT	**Cerro San Cris**	**1.38**	**268**	*i* P	**Pn**	**03 29 17.5**	**+0.5**
SCRT	**Cerro San Cris**	**1.38**	**268**	*e*P	**Pn**	**03 29 17.5**	**+0.5**
SFS	**San Fernando**	**1.43**	**261**	*i* P	**Pn**	**03 29 18.8**	**+1.3**
EADA	**Adamuz**	**1.47**	**356**	⇑P	**Pn**	**03 29 19.4**	**+1.3**
	90nm,0.1s,SNR=18						
EADA				S	**Sn**	**03 29 38.3**	**+1.4**
	265nm,0.1s,SNR=5.3						
EADA	**Adamuz**	**1.47**	**356**	P	**Pn**	**03 29 19.4**	**+1.3**
	90nm,0.1s,SNR=18						
EADA				S	**Sn**	**03 29 38.3**	**+1.4**
	265nm,0.1s,SNR=5.3						
EQES	**Quesada**	**1.56**	**45**	⇑P	**Pn**	**03 29 19.9**	**+0.5**
	5.6nm,0.1s,SNR=18						
EQES				S	**Sn**	**03 29 39.4**	**+0.4**
	24nm,0.1s,SNR=6.8						
EQES	**Quesada**	**1.56**	**45**	P	**Pn**	**03 29 19.9**	**+0.6**
	5.6nm,0.1s,SNR=18						
EQES				S	**Sn**	**03 29 39.4**	**+0.4**
	24nm,0.1s,SNR=6.8						
TSY	**Tnine Yamani**	**1.80**	**223**	*e*P	**Pn**	**03 29 22.0**	**-0.4**
TSY				*e*S	**Sn**	**03 29 44.0**	**-0.6**
TOU	**Touzarine**	**1.82**	**162**	*e*P	**Pn**	**03 29 21.0**	**-1.7**
TOU				*i* S	**Sn**	**03 29 42.0**	**-3.1**
ENIJ	**Nijar**	**1.83**	**81**	P	**Pn**	**03 29 21.6**	**-1.1**
	4.1nm,0.2s,SNR=9.8						
ENIJ				S	**Sn**	**03 29 42.1**	**-3.1**
	7.9nm,0.2s,SNR=5.0						
EMEL	**Melilla**	**1.85**	**138**	P	**Pn**	**03 29 19.8**	**-3.2**
	66nm,0.1s,SNR=7.9						
EMLI	**Melilla**	**1.85**	**138**	P	**Pn**	**03 29 19.8**	**-3.3**
	66nm,0.1s,SNR=7.9						
EMLI				S	**Sn**	**03 29 38.8**	**-7.0**
	42nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**1.86**	**53**	P	**Pn**	**03 29 23.2**	**0.0**
	17nm,0.1s,SNR=7.9						
EHUE				S	**Sn**	**03 29 45.3**	**-0.7**
	24nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.07**	**302**	⇓P	**Pn**	**03 29 26.1**	**+0.1**
	7.3nm,0.1s,SNR=18						
EMIN				S	**Sn**	**03 29 50.5**	**-0.5**
	81nm,0.1s,SNR=25						
EMIN	**Mina Concepcio**	**2.07**	**302**	P	**Pn**	**03 29 26.1**	**+0.1**
	7.3nm,0.1s,SNR=18						
EMIN				S	**Sn**	**03 29 50.5**	**-0.4**
	81nm,0.1s,SNR=25						
ERIP	**Rio Piedras**	**2.34**	**288**	⇓P	**Pn**	**03 29 29.5**	**-0.1**
	18nm,0.0s,SNR=18						
ERIP				S	**Sn**	**03 29 56.1**	**-1.4**
	283nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**2.48**	**38**	P	**Pn**	**03 29 31.8**	**+0.2**
	3.5nm,0.2s,SNR=7.9						
EVIA				S	**Sn**	**03 30 00.8**	**-0.2**
	SNR=7.9						
EVIA	**Vianos**	**2.48**	**38**	P	**Pn**	**03 29 31.8**	**+0.2**
EVIA				S	**Sn**	**03 30 00.8**	**-0.2**
EGRO	**El Granado**	**2.56**	**290**	P	**Pn**	**03 29 32.5**	**-0.1**
	38nm,0.1s,SNR=209						
EGRO				S	**Sn**	**03 30 01.3**	**-1.5**
	94nm,0.1s,SNR=5.0						
EGRO	**El Granado**	**2.56**	**290**	P	**Pn**	**03 29 32.5**	**-0.1**
	38nm,0.1s,SNR=209						
EMUR	**La Murta**	**2.81**	**65**	P	**Pn**	**03 29 35.5**	**-0.5**
	1.3nm,0.2s,SNR=4.9						
EMUR				S	**Sn**	**03 30 07.0**	**-1.8**
	2.8nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**2.81**	**65**	P	**Pn**	**03 29 35.5**	**-0.4**
	1.3nm,0.2s,SNR=4.9						
EMUR				S	**Sn**	**03 30 07.0**	**-1.8**
	2.8nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**2.89**	**316**	⇑P	**Pn**	**03 29 37.7**	**+0.7**
	11nm,0.1s,SNR=18						
EBAD				S	**Sn**	**03 30 10.8**	**+0.1**
	91nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.89**	**316**	P	**Pn**	**03 29 37.7**	**+0.7**
	11nm,0.1s,SNR=18						
EBAD				S	**Sn**	**03 30 10.8**	**+0.1**
	91nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**3.00**	**7**	⇑P	**Pn**	**03 29 39.3**	**+0.8**
	14nm,0.1s,baz=185,slow=13,SNR=18						
ESDC				S	**Sn**	**03 30 13.0**	**-0.4**
	9.0nm,0.1s,baz=189,slow=23,SNR=7.9						
ESDC	**Sonseca Array**	**3.00**	**7**	P	**Pn**	**03 29 39.3**	**+0.8**
	14nm,0.1s,SNR=18						
ESDC				S	**Sn**	**03 30 13.0**	**-0.4**
	9.0nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**3.02**	**49**	⇑P	**Pn**	**03 29 38.6**	**-0.2**
	7.8nm,0.1s,SNR=18						
ETOB				S	**Sn**	**03 30 10.8**	**-3.0**
	12nm,0.1s,SNR=5.0						
ETOB	**Tobarra**	**3.02**	**49**	P	**Pn**	**03 29 38.6**	**-0.2**
	7.8nm,0.1s,SNR=18						
ETOB				S	**Sn**	**03 30 10.8**	**-3.1**
	12nm,0.1s,SNR=5.0						
PBEJ	**Beja**	**3.02**	**297**	*e*Pn	**Pn**	**03 29 39.1**	**+0.2**
PBEJ				*e*Sn	**Sn**	**03 30 12.6**	**-1.4**
PBEJ							
	60nm,0.1s						
PBEJ	**Beja**	**3.02**	**297**	*e*Pn	**Pn**	**03 29 39.1**	**+0.2**
PBEJ				*e*Sn	**Sn**	**03 30 12.6**	**-1.4**
	60nm,0.1s						
MIF	**Mishlifen**	**3.34**	**191**	*e*P	**Pn**	**03 29 41.5**	**-1.6**
MIF				*i* S	**Sn**	**03 30 15.5**	**-6.2**
EVO	**Evora**	**3.37**	**304**	*e*Pn	**Pn**	**03 29 45.0**	**+1.5**
EVO				*e*Sg	**Sn**	**03 30 22.7**	**+0.3**
	33nm,0.2s						
MORF	**Marmelete**	**3.41**	**282**	*e*P	**Pn**	**03 29 44.0**	**-0.1**
MORF				*e*S	**Sn**	**03 30 20.5**	**-3.0**
MORF				*e*S	**Sn**	**03 30 20.5**	**-3.0**
MORF				AML	AML	03 30 25.2	
	comp=E,135nm,0.2s						
MORF	**Marmelete**	**3.41**	**282**	*e*P	**Pn**	**03 29 44.0**	**-0.1**
MORF				*e*S	**Sn**	**03 30 20.5**	**-3.0**
PTEO	**Sao Teotonio**	**3.52**	**285**	*e*Pn	**Pn**	**03 29 45.9**	**+0.4**
PTEO				*e*Sn	**Sn**	**03 30 23.7**	**-2.3**
PTEO							
	comp=E,30nm,0.3s						
PTEO	**Sao Teotonio**	**3.52**	**285**	*e*Pn	**Pn**	**03 29 45.9**	**+0.4**
PTEO				*e*Sn	**Sn**	**03 30 23.7**	**-2.3**
	comp=E,30nm,0.3s						
MOE	**Montemor**	**3.59**	**302**	*e*Pn	**Pn**	**03 29 47.1**	**+0.6**
MOE				*e*Sn	**Sn**	**03 30 27.0**	**-0.8**
CZD	**Col de Zad**	**3.69**	**188**	*e*P	**Pn**	**03 29 46.0**	**-1.8**
CZD				*i* S	**Sn**	**03 30 24.0**	**-6.1**
EBEN	**Beniarda**	**3.91**	**58**	P	**Pn**	**03 29 50.9**	**0.0**
	comp=E,1.0nm,0.1s,SNR=11						
EBEN				S	**Sn**	**03 30 31.9**	**-3.6**
	comp=E,1.7nm,0.2s,SNR=5.0						
EBEN	**Beniarda**	**3.91**	**58**	P	**Pn**	**03 29 50.9**	**0.0**
	comp=E,1.0nm,0.1s,SNR=11						
EBEN				S	**Sn**	**03 30 31.9**	**-3.7**
	comp=E,1.7nm,0.2s,SNR=5.0						
PCBR	**Castelo Branco**	**3.94**	**324**	*e*Pn	**Pn**	**03 29 52.2**	**+0.9**
PCBR				*e*Sn	**Sn**	**03 30 35.2**	**-1.1**
PCBR							
	comp=E,11nm,0.1s						
PCBR	**Castelo Branco**	**3.94**	**324**	*e*Pn	**Pn**	**03 29 52.2**	**+0.9**
PCBR				*e*Sn	**Sn**	**03 30 35.2**	**-1.1**
	comp=E,11nm,0.1s						
GUD	**Guadarrama**	**3.95**	**3**	⇑P	**Pn**	**03 29 52.4**	**+1.0**
	comp=E,2.0nm,0.1s,SNR=18						
GUD				S	**Sn**	**03 30 35.3**	**-1.3**
	comp=E,1.8nm,0.1s,SNR=7.9						
PLML	**Palmela**	**3.99**	**299**	*e*Sn	**Sn**	**03 30 36.7**	**-0.8**
ECHE	**Chera**	**3.99**	**43**	P	**Pn**	**03 29 51.8**	**-0.2**
	comp=E,1.1nm,0.1s,SNR=11						
ECHE				S	**Sn**	**03 30 33.8**	**-3.7**
	comp=E,1.5nm,0.2s,SNR=5.0						
PTOM	**Tomar**	**4.27**	**314**	*e*Pn	**Pn**	**03 29 56.8**	**+1.0**
PTOM				*e*Sn	**Sn**	**03 30 42.6**	**-1.8**
PTOM							
	comp=E,23nm,0.4s						
PTOM	**Tomar**	**4.27**	**314**	*e*Pn	**Pn**	**03 29 56.8**	**+1.0**
PTOM				*e*Sn	**Sn**	**03 30 42.6**	**-1.8**
	comp=E,23nm,0.4s						
PLOU	**Loures**	**4.31**	**302**	*e*Pn	**Pn**	**03 29 57.5**	**+1.1**
PLOU				*e*Sn	**Sn**	**03 30 44.1**	**-1.3**
PLOU							
	comp=E,21nm,0.2s						
PLOU	**Loures**	**4.31**	**302**	*e*Pn	**Pn**	**03 29 57.5**	**+1.1**
PLOU				*e*Sn	**Sn**	**03 30 44.1**	**-1.3**
	comp=E,21nm,0.2s						
MTE	**Manteigas**	**4.42**	**328**	*e*Pn	**Pn**	**03 29 58.7**	**+0.9**
MTE				*e*Sn	**Sn**	**03 30 47.0**	**-1.0**
MTE							
	comp=E,20nm,0.3s						
MTE	**Manteigas**	**4.42**	**328**	*e*Pn	**Pn**	**03 29 58.7**	**+0.9**
MTE				*e*Sn	**Sn**	**03 30 47.0**	**-1.0**
	comp=E,20nm,0.3s						
EMOS	**Mosqueruela**	**4.81**	**39**	P	**Pn**	**03 30 04.0**	**+0.8**
	comp=E,1.1nm,0.2s,SNR=17						
EMOS				S	**Sn**	**03 30 54.2**	**-3.4**
	comp=E,2.9nm,0.2s,SNR=5.0						
EMOS	**Mosqueruela**	**4.81**	**39**	P	**Pn**	**03 30 04.0**	**+0.8**
	comp=E,1.1nm,0.2s,SNR=17						
EMOS				S	**Sn**	**03 30 54.2**	**-3.5**
	comp=E,2.9nm,0.2s,SNR=5.0						
PVIS	**Viseu**	**4.83**	**327**	*e*Pn	**Pn**	**03 30 05.2**	**+1.8**
PVIS				*e*Sn	**Sn**	**03 30 57.0**	**-1.1**
PVIS							
	comp=E,15nm,0.1s						
PVIS	**Viseu**	**4.83**	**327**	*e*Pn	**Pn**	**03 30 05.2**	**+1.8**
PVIS				*e*Sn	**Sn**	**03 30 57.0**	**-1.1**
	comp=E,15nm,0.1s						
PVRL	**Vila Real**	**5.23**	**332**	*e*Pn	**Pn**	**03 30 10.4**	**+1.5**
PVRL				*e*Sn	**Sn**	**03 31 06.6**	**-1.3**
PVRL							
	comp=E,49nm,0.4s						
PBRG	**Braganca**	**5.40**	**342**	*e*Pn	**Pn**	**03 30 12.7**	**+1.5**
PBRG				*e*Sn	**Sn**	**03 31 10.2**	**-1.8**
PBRG							
	comp=E,7.1nm,0.1s						
PTO	**Porto**	**5.49**	**325**	*e*Pn	**Pn**	**03 30 13.6**	**+1.2**
PTO				*e*Sn	**Sn**	**03 31 12.9**	**-1.3**
PTO							
	comp=E,42nm,0.1s						
ECAL	**Calabor**	**5.53**	**342**	P	**Pn**	**03 30 14.6**	**+1.7**
	comp=E,2.9nm,0.1s,SNR=9.2						
ECAL				S	**Sn**	**03 31 13.8**	**-1.4**
	comp=E,4.9nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**5.53**	**342**	P	**Pn**	**03 30 14.6**	**+1.6**
	comp=E,2.9nm,0.1s,SNR=9.2						
ERTA	**Horta de San J**	**5.66**	**40**	P	**Pn**	**03 30 15.7**	**+0.9**
	comp=E,0.7nm,0.1s,SNR=13						
ERTA				S	**Sn**	**03 31 15.3**	**-3.1**
	comp=E,1.1nm,0.1s,SNR=5.0						
ERTA	**Horta de San J**	**5.66**	**40**	P	**Pn**	**03 30 15.7**	**+0.9**
	comp=E,0.7nm,0.1s,SNR=13						
PCAB	**Cabril**	**5.72**	**332**	*e*Pn	**Pn**	**03 30 17.0**	**+1.4**
PCAB				*e*Sn	**Sn**	**03 31 17.7**	**-2.2**
PCAB							
	comp=E,14nm,0.1s						
ELOB	**Lobios**	**5.87**	**333**	P	**Pn**	**03 30 19.3**	**+1.6**
	comp=E,0.4nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**03 31 21.0**	**-2.6**
	comp=E,5.2nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.87**	**333**	P	**Pn**	**03 30 19.3**	**+1.6**
	comp=E,0.4nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**5.90**	**30**	P	**Pn**	**03 30 18.6**	**+0.7**
	comp=E,0.7nm,0.2s,SNR=7.9						
ESAC				S	**Sn**	**03 31 21.4**	**-2.7**
	comp=E,1.4nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**5.90**	**30**	P	**Pn**	**03 30 18.6**	**+0.6**
	comp=E,0.7nm,0.2s,SNR=7.9						
ERUA	**La Rua**	**6.06**	**341**	P	**Pn**	**03 30 21.5**	**+1.4**
	comp=E,2.1nm,0.2s,SNR=7.9						
ERUA				S	**Sn**	**03 31 27.6**	**-0.4**
	comp=E,4.9nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**6.34**	**41**	P	**Pn**	**03 30 24.2**	**+0.1**
	comp=E,0.8nm,0.1s,SNR=6.9						
EPOB				S	**Sn**	**03 31 31.0**	**-3.9**
	comp=E,2.3nm,0.4s,SNR=5.0						
EPOB	**Poblet**	**6.34**	**41**	P	**Pn**	**03 30 24.2**	**+0.2**
	comp=E,0.8nm,0.1s,SNR=6.9						
EARA	**Aranguren**	**6.46**	**19**	P	**Pn**	**03 30 26.9**	**+1.2**
	comp=E,1.1nm,0.1s,SNR=7.9						
EARA				S	**Sn**	**03 31 35.4**	**-2.6**
	comp=E,2.4nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**6.47**	**20**	P	**Pn**	**03 30 27.0**	**+1.3**
	comp=E,1.6nm,0.1s,SNR=7.9						
IUNC				S	**Sn**	**03 31 36.1**	**-2.0**
	comp=E,0.8nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**6.47**	**20**	P	**Pn**	**03 30 27.0**	**+1.2**
	comp=E,1.6nm,0.1s,SNR=7.9						
IPRE	**Itoiz**	**6.55**	**20**	P	**Pn**	**03 30 28.9**	**+2.0**
	comp=E,0.6nm,0.1s,SNR=7.9						
IPRE	**Itoiz**	**6.55**	**20**	P	**Pn**	**03 30 28.9**	**+2.0**
	comp=E,0.6nm,0.1s,SNR=7.9						
ELAN	**Lanestosa**	**6.58**	**7**	P	**Pn**	**03 30 29.5**	**+2.2**
	comp=E,1.1nm,0.1s,SNR=15						
ELAN				S	**Sn**	**03 31 38.1**	**-2.7**
	comp=E,3.8nm,0.4s,SNR=7.9						
ELAN	**Lanestosa**	**6.58**	**7**	P	**Pn**	**03 30 29.5**	**+2.3**
	comp=E,1.1nm,0.1s,SNR=15						
EGRA	**Graus**	**6.62**	**32**	P	**Pn**	**03 30 29.1**	**+1.3**
	comp=E,0.3nm,0.1s,SNR=7.9						
EGRA				S	**Sn**	**03 31 38.4**	**-3.4**
	comp=E,0.2nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**6.62**	**355**	P	**Pn**	**03 30 29.8**	**+1.9**
	comp=E,0.8nm,0.1s,SNR=13						
EARI				S	**Sn**	**03 31 39.3**	**-2.6**
	comp=E,1.6nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**6.62**	**355**	P	**Pn**	**03 30 29.8**	**+1.9**
	comp=E,0.8nm,0.1s,SNR=13						
IUSE	**Utxeti**	**6.63**	**19**	P	**Pn**	**03 30 29.8**	**+1.8**
	comp=E,1.1nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**6.63**	**19**	P	**Pn**	**03 30 29.8**	**+1.8**
	comp=E,1.1nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**6.84**	**18**	P	**Pn**	**03 30 32.9**	**+2.0**
	comp=E,3.3nm,0.2s,SNR=16						
SJPF	**Ste Jean**	**6.87**	**20**	*e*Pn	**Pn**	**03 30 32.2**	**+0.9**
SJPF				*e*Sg	**Sn**	**03 31 45.8**	**-2.2**
ETSF	**Etsaut**	**6.88**	**25**	*e*Pn	**Pn**	**03 30 32.5**	**+1.1**
ETSF				*e*Sg	**Sn**	**03 31 46.2**	**-2.0**
	comp=E,2.3nm,0.3s						
ETSF	**Etsaut**	**6.88**	**25**	*e*Pn	**Pn**	**03 30 32.5**	**+1.1**
ETSF				*e*Sg	**Sn**	**03 31 46.2**	**-2.0**
	comp=E,1.1nm,0.3s						
EALK	**Alkurruntz**	**6.90**	**18**	P	**Pn**	**03 30 33.5**	**+1.8**
	comp=E,5.9nm,0.2s,SNR=8.1						
EALK				S	**Sn**	**03 31 46.2**	**-2.4**
	comp=E,1.4nm,0.1s,SNR=5.0						
EPON	**Pontenova**	**6.94**	**344**	P	**Pn**	**03 30 34.0**	**+1.8**
	comp=E,2.9nm,0.3s,SNR=7.9						
EPON				S	**Sn**	**03 31 46.4**	**-3.2**
	comp=E,2.5nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**6.94**	**344**	P	**Pn**	**03 30 34.0**	**+1.8**
STS	**Santiago**	**6.94**	**334**	P	**Pn**	**03 30 34.6**	**+2.4**
	comp=E,1.0nm,0.1s,SNR=4.0						
STS				S	**Sn**	**03 31 46.9**	**-2.8**
	comp=E,1.8nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**6.95**	**29**	P	**Pn**	**03 30 34.3**	**+1.9**
	comp=E,0.5nm,0.1s,SNR=7.9						
EBIE				S	**Sn**	**03 31 46.6**	**-3.4**
	comp=E,0.7nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**6.95**	**29**	P	**Pn**	**03 30 34.3**	**+1.9**
	comp=E,0.5nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**6.97**	**40**	P	**Pn**	**03 30 33.8**	**+1.1**
	comp=E,1.3nm,0.1s,SNR=5.2						
EMIR				S	**Sn**	**03 31 46.2**	**-4.3**

comp=Z,851nm,20.6s,baz=15,slow=35
RAR Rarotonga 13.72 93 Pn **Pn 04 00 47.9 -12**
comp=Z,8.3nm,0.3s,baz=241,slow=7.2,SNR=10.0
RAR Rarotonga 13.72 93 P **Pn 04 00 47.9 -12**
RAR pmax pmax
comp=Z,8.0nm,0.3s
DZM Mont Dzumac 17.77 263 P **Pn 04 01 55.3 +3.0**
comp=Z,0.4nm,0.3s,baz=85,slow=20,SNR=5.6
URZ Urewera 18.56 201 P **Pn 04 02 02.1 +0.1**
comp=Z,1.8nm,0.3s,baz=354,slow=7.2,SNR=4.4
SNZO South Karori 22.12 202 *e*P **P 04 02 47.8 +7.7**
TBI Tubuai 23.26 100 *e*LQ 04 07 11.2
comp=Z,2µm,26.8s
TBI *e*LR LR 04 08 15.2
comp=Z,2µm,29.0s,baz=276
PPT Papeete 23.75 86 *e*LQ 04 07 16.2
comp=Z,2µm,26.5s
PPT *e*LR LR 04 08 25.1
comp=Z,2µm,27.0s,baz=253
PPT Papeete 23.75 86 LR LR 04 09 50.8
comp=Z,943nm,20.4s,MS4.2,baz=261,slow=31
RPZ Rata Peaks 25.55 205 P **P 04 03 14.2 +0.9**
comp=Z,17nm,0.8s,mb4.7,baz=7.6,slow=16,SNR=3.6
RPZ LR LR 04 12 57.7
comp=Z,2µm,18.8s,MS4.5,baz=21,slow=36
HNR Honiara 27.22 291 LR LR 04 12 41.0
comp=Z,626nm,19.7s,MS4.2,baz=178,slow=33
TAOE Nuku Hiva Isla 35.24 75 *e*LR LR 04 13 45.0
comp=Z,3µm,29.6s
RKT Rikitea 36.58 101 *e*S **S 04 10 15.8 -15**
comp=Z,163nm,27.5s
RKT *e*LQ 04 12 58.6
comp=Z,346nm,27.8s
RKT *e*LR LR 04 14 24.8
comp=Z,1µm,29.5s,baz=269
CTA Charters Tower 36.71 264 *e*P **P 04 04 52.4 +0.9**
comp=Z,7.2nm,1.4s,mb4.3
CTA Charters Tower 36.71 264 P **P 04 04 52.0 +0.5**
comp=Z,4.8nm,0.6s,mb4.5,baz=77,slow=11,SNR=8.0
CTA Charters Tower 36.71 264 *e*P **P 04 04 52.4 +0.9**
CTA pmax pmax
comp=Z,7.0nm,1.4s
CTAO Charters Tower 36.71 264 *e*P **P 04 04 52.2 +0.7**
CTAO pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
CTAO Charters Tower 36.71 264 *e*P **P 04 04 52.2 +0.8**
comp=Z,6.2nm,0.7s,mb4.5
PMG Port Moresby 38.69 282 P **P 04 05 06.7 -1.5**
comp=Z,15nm,0.9s,mb4.7,baz=108,slow=4.4,SNR=3.7
PMG Port Moresby 38.69 282 *e*P **P 04 05 06.6 -1.6**
PMG *e* 04 07 20.7
PMG pmax pmax
comp=Z,17nm,0.9s
PMG Port Moresby 38.69 282 *e*P **P 04 05 06.6 -1.7**
comp=Z,17nm,0.9s,mb4.8
PMG *e*PcP PcP 04 07 20.7 +1.1
STKA Stephens Creek 40.51 245 *e*P **P 04 05 21.4 -1.9**
comp=Z,6.5nm,1.2s,mb4.1
STKA Stephens Creek 40.51 245 P **P 04 05 20.6 -2.7**
comp=Z,6.1nm,1.0s,mb4.2,baz=92,slow=7.7,SNR=6.8
STKA LR LR 04 21 03.3
comp=Z,564nm,18.5s,MS4.5,baz=62,slow=34
ASAR Alice Springs 47.59 257 P **P 04 06 19.1 -0.9**
comp=Z,14nm,0.9s,mb5.0,baz=90,slow=8.2,SNR=65
ASAR Alice Springs 47.59 257 P **P 04 06 19.2 -0.9**
ASAR pmax pmax
comp=Z,14nm,0.9s
WB2 Warramunga Arr 47.77 262 *e*P **P 04 06 20.0 -1.5**
WRAB Tennant Creek 47.77 262 *e*P **P 04 06 18.8 -2.7**
WRA Warramunga Arr 47.78 262 P **P 04 06 20.1 -1.4**
comp=Z,7.5nm,0.9s,mb4.7,baz=96,slow=8.1,SNR=18
WRA PcP PcP 04 07 50.5 +0.4
comp=Z,6.4nm,1.1s,baz=94,slow=4.5,SNR=4.8
WRA Warramunga Arr 47.78 262 P **P 04 06 20.1 -1.4**
WRA 04 07 50.5
WRA pmax pmax
comp=Z,8.0nm,0.9s
WRA pmax pmax
comp=Z,6.0nm,1.2s
KAKA Kakadu 51.28 270 *e*P **P 04 06 47.5 -0.7**
comp=Z,7.6nm,0.6s,mb4.8
FORT Forrest 52.08 247 *e*P **P 04 06 54.7 +0.5**
comp=Z,17nm,0.7s,mb5.1
FITZ Fitzroy Crossi 56.21 262 *e*P **P 04 07 23.6 -0.7**
comp=Z,11nm,1.8s,mb4.6
SBA Scott Base 57.50 185 *e*P **P 04 07 35.3 +1.9**
VNDA Vanda 57.61 186 P **P 04 07 34.7 +0.5**
comp=Z,3.3nm,0.7s,mb4.5,baz=9.5,slow=6.9,SNR=17
VNDA LR LR 04 29 56.9
comp=Z,260nm,18.3s,MS4.4,baz=234,slow=34
MBWA Marble Bar 60.93 257 *e*P **P 04 07 56.5 -0.6**
comp=Z,7.2nm,0.8s,mb4.8
CASY Casey 64.82 206 *e*P **P 04 08 23.0 0.0**
comp=Z,30nm,1.3s,mb5.2
QSPA South Pole Qui 68.95 180 *e*P **P 04 08 49.8 +0.5**
comp=Z,15nm,1.1s,mb4.8
MJAR Matsushiro Arr 72.70 322 P **P 04 09 11.3 -0.8**
comp=Z,7.6nm,0.9s,mb4.7,baz=145,slow=5.3,SNR=15
MJAR LR LR 04 39 47.6
comp=Z,163nm,19.0s,MS4.3,baz=125,slow=35
MAJO Matsushiro 72.70 322 *e*P **P 04 09 11.8 -0.3**
MAJO pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MAJO Matsushiro 72.70 322 *e*P **P 04 09 11.8 -0.3**
comp=Z,9.7nm,0.8s,mb4.8
MAT Matsushiro 72.70 322 P **P 04 09 11.7 -0.4**
MAT S S 04 18 33.0 -1.9
MAT Matsushiro 72.70 322 *e*P **P 04 09 12.0 -0.1**
MAT *e*S S 04 18 34.0 -0.9
MAT pmax pmax
comp=Z,27nm,1.2s,mb5.0
MAT Matsushiro 72.70 322 *e*P **P 04 09 12.0 -0.1**
comp=Z,27nm,1.2s,mb5.0
MAT *e*S S 04 18 34.0 -0.9
JOW Kunigami 73.11 308 LR LR 04 35 56.6
comp=Z,236nm,21.7s,MS4.4,baz=255,slow=31
ASAJ Asahikawa 75.88 330 LR LR 04 41 46.4
comp=Z,314nm,18.1s,MS4.7,baz=152,slow=35
SAO San Andreas Ge 76.27 41 *e*P **P 04 09 33.4 +0.6**
SAO pmax pmax
comp=Z,15nm,1.0s,mb4.9
SAO San Andreas Ge 76.27 41 *e*P **P 04 09 33.4 +0.6**
comp=Z,15nm,1.0s,mb4.9
PET Petropavlovsk 77.43 344 *e*P **P 04 09 46.8 +7.4**
PET pmax pmax
comp=Z,100nm,16.3s
PET MLR MLR
comp=Z,200nm,18.0s,MS4.5
ISA Isabella 77.45 44 *e*P **P 04 09 39.4 -0.1**
CMB Columbia Colle 77.72 41 *e*P **P 04 09 41.4 +0.4**
CMB pmax pmax
comp=Z,13nm,1.0s,mb4.8
CMB Columbia Colle 77.72 41 *e*P **P 04 09 41.4 +0.4**
comp=Z,13nm,1.0s,mb4.8
WDC Whiskeytown Da 78.09 38 *e*P **P 04 09 43.0 -0.1**
WDC pmax pmax
comp=Z,21nm,1.4s,mb4.9
WDC Whiskeytown Da 78.09 38 *e*P **P 04 09 43.0 0.0**
comp=Z,21nm,1.4s,mb4.9
GSC Goldstone 78.33 45 *e*P **P 04 09 44.3 -0.1**
DAC Darwin (Calif) 78.39 44 *e*P **P 04 09 43.6 -1.1**
MTUM Tungsten Hills 78.43 42 *e*P **P 04 09 45.2 +0.3**
WAKR Walker 78.60 41 *e*P **P 04 09 46.2 +0.3**
YBH Yreka Blue Hor 78.76 37 P **P 04 09 45.6 -1.1**
comp=Z,9.6nm,1.2s,mb4.6,baz=188,slow=7.0,SNR=5.7
YBH Yreka Blue Hor 78.76 37 P **P 04 09 45.6 -1.1**
YBH pmax pmax
comp=Z,10.0nm,1.2s
MNV Mina 79.35 42 *e*P **P 04 09 49.2 -0.8**
PAHR Pah Rah Range 79.38 40 *e*P **P 04 09 50.8 +0.6**
comp=Z,17nm,1.1s,mb4.9
TPNV Topopah Spring 79.66 44 *e*P **P 04 09 51.7 0.0**
TPNV pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
TPNV Topopah Spring 79.66 44 *e*P **P 04 09 51.7 0.0**
comp=Z,8.6nm,0.9s,mb4.7
TPH Tonopah 79.71 42 *e*P **P 04 09 52.7 +0.8**
TPH pmax pmax
comp=Z,15nm,1.0s,mb4.9
TPH Tonopah 79.71 42 *e*P **P 04 09 52.7 +0.7**
comp=Z,15nm,1.0s,mb4.9
NEN Nelson 79.83 46 *e*P **P 04 09 52.9 +0.3**
SHPR Sheep Range 80.11 45 *e*P **P 04 09 54.2 +0.1**
MOD Modoc 80.23 38 *e*P **P 04 09 54.7 0.0**
SSE Sheshan 80.63 308 P **P 04 09 58.3 +1.4**
SSE AP pP 04 10 07.8 -0.2
SSE XP sP 04 10 11.5 -0.6
SSE PP PP 04 13 02.0 +1.2
SSE S S 04 20 04.6 +3.0
SSE XS sS 04 20 20.8 +0.8
SSE SS SS 04 25 18.5 +3.9
SSE AMB AMB
comp=Z,33nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,74nm,6.7s
SSE LR LR
comp=N,66nm,20.0s,MS4.2
SSE LR LR
comp=E,94nm,20.0s,MS4.2
SSE LR LR
comp=Z,142nm,20.0s,MS4.3
TUC Tucson 80.80 50 *e*P **P 04 09 58.1 +0.3**
WVOR Wild Horse Val 81.53 38 *e*P **P 04 10 01.0 -0.7**
WVOR pmax pmax
comp=Z,12nm,1.0s,mb4.8
WVOR Wild Horse Val 81.53 38 *e*P **P 04 10 01.0 -0.7**
comp=Z,12nm,1.0s,mb4.8
ARUT Antelope Range 81.97 44 *e*P **P 04 10 04.5 +0.5**
MAW Mawson 82.08 199 P **P 04 10 02.6 -1.9**
comp=Z,1.9nm,0.6s,mb4.2,baz=145,slow=3.6,SNR=4.8
MAW LR LR 04 45 45.8
comp=Z,215nm,20.1s,MS4.5,baz=250,slow=35
MAW Mawson 82.08 199 P **P 04 10 02.6 -2.0**
MAW pmax pmax
comp=Z,2.0nm,0.6s
MAW MLR MLR
comp=Z,215nm,20.1s
ELK Elko 82.53 41 *e*P **P 04 10 06.8 -0.1**
LON Longmire 82.57 33 *e*P **P 04 10 07.2 +0.1**
HABR Khabarovsk 82.64 329 *e*P **P 04 10 08.0 +0.5**
HABR S S 04 20 25.5 +3.2
RCM Mount Rainier- 82.67 33 P **P 04 10 08.3 +0.7**
FMW Mount Fremont 82.76 33 P **P 04 10 08.2 +0.1**
NJ2 Nanjing 82.83 308 *e*P **P 04 10 09.3 +0.8**
NJ2 AP pP 04 10 19.8 +0.1
NJ2 XP sP 04 10 23.5 -0.2
NJ2 PP PP 04 13 21.6 +2.7
NJ2 S S 04 20 26.0 +1.7
NJ2 XS sS 04 20 43.0 +0.2
NJ2 AMB AMB
comp=Z,20nm,1.2s,mb5.0
NJ2 AMB AMB
comp=Z,120nm,9.6s
NJ2 LR LR
comp=N,820nm,30.9s,MS5.0
NJ2 LR LR
comp=E,730nm,33.0s,MS5.0
NJ2 LR LR
comp=Z,390nm,35.7s,MS4.5
MDJ Mudanjiang 82.95 323 P **P 04 10 11.0 +1.9**
MDJ AP pP 04 10 20.5 +0.2
MDJ XP sP 04 10 23.8 -0.5
MDJ PP PP 04 13 21.4 +1.6
MDJ XS sS 04 20 44.5 +0.6
MDJ SS SS 04 25 53.3 +4.2
MDJ AMB AMB
comp=Z,13nm,1.1s,mb4.9
MDJ AMB AMB
comp=Z,120nm,5.8s
MDJ LR LR
comp=N,19nm,20.9s,MS4.1
MDJ LR LR
comp=E,80nm,20.9s,MS4.1
MDJ LR LR
comp=Z,133nm,20.9s,MS4.3
MDJ Mudanjiang 82.95 323 *e*P **P 04 10 07.4 -1.7**
comp=Z,8.3nm,0.8s,mb4.8
MDJ *e*PcP PcP 04 10 11.5 -2.2
RMW Rattlesnake Mo 83.05 33 P **P 04 10 09.7 +0.1**
MSU Marysvale 83.20 44 *e*P **P 04 10 11.4 +1.0**
JCW Jim Creek 83.47 32 P **P 04 10 11.7 -0.1**
TBM Table Mountain 83.47 34 P **P 04 10 12.2 +0.3**
HAWA Hanford 83.53 35 *e*P **P 04 10 12.6 +0.5**
DUG Dugway 83.73 43 *e*P **P 04 10 13.4 +0.3**
BMO Blue Mountains 83.78 37 *e*P **P 04 10 12.8 -0.6**
comp=Z,9.6nm,1.0s,mb4.9
EPH Ephrata 84.11 34 P **P 04 10 15.2 +0.1**
WTV Waterville 84.15 34 P **P 04 10 15.2 -0.1**
TMUT Trail Mountain 84.27 44 *e*P **P 04 10 16.8 +1.0**
MPU Maple Canyon 84.38 43 *e*P **P 04 10 17.4 +0.9**
MNTX Cornudas Mount 84.45 53 *e*P **P 04 10 16.6 -0.2**
LENM Lemitar 84.49 50 *e*P **P 04 10 17.8 +0.8**
SRU San Rafael 84.61 45 *e*P **P 04 10 17.7 +0.1**
LTX Lajitas 84.64 56 *e*P **P 04 10 18.3 +0.5**
HLID Hailey 84.68 39 *e*P **P 04 10 18.1 +0.1**
BNM Barren Site 84.73 50 *e*P **P 04 10 18.8 +0.6**
KLR Kul'dur 84.77 328 *e*P **P 04 10 14.3 -4.1**
LPM Los Pinos Moun 84.81 50 *e*P **P 04 10 19.1 +0.5**
CN2 Changchun 84.83 321 *e*P **P 04 10 19.6 +0.9**
CN2 *e*XP sP 04 10 34.3 +0.3
CN2 *e*PP PP 04 13 38.8 +3.6
CN2 *e*S 04 20 44.8
CN2 AMB AMB
comp=Z,20nm,1.4s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
DAU Daniels Canyon 84.84 43 *e*P **P 04 10 19.3 +0.5**
PMR Palmer 84.90 12 *e*P **P 04 10 18.1 -0.9**
PMR pmax pmax
comp=Z,19nm,1.2s,mb5.1
PMR Palmer 84.90 12 *e*P **P 04 10 18.1 -0.9**
comp=Z,19nm,1.2s,mb5.1
TTA Tatalina 85.03 8 *e*P **P 04 10 19.3 -0.4**
TCUT Toone Canyon 85.13 43 *e*P **P 04 10 20.6 +0.4**
ANMO Albuquerque 85.25 50 *e*P **P 04 10 20.2 -0.6**
ANMO Albuquerque 85.25 50 *e*P **P 04 10 20.6 -0.2**
comp=Z,11nm,1.0s,mb5.0
HWUT Hardware Ranch 85.30 42 *e*P **P 04 10 20.5 -0.6**
GDL2 Guadalupe Moun 85.45 53 *e*P **P 04 10 21.9 +0.1**
WHN Wuhan 85.48 305 *e*P **P 04 10 23.0 +1.0**
NEW Newport 85.98 34 *e*P **P 04 10 18.4 -6.1**
NEW pmax pmax
comp=Z,5.0nm,1.0s
NEW Newport 85.98 34 *e*P **P 04 10 18.4 -6.1**
comp=Z,6.1nm,1.0s,mb4.7
MCMT McKenzie Canyo 86.33 39 *e*P **P 04 10 26.1 0.0**
PLCA Paso Flores 86.44 132 P **P 04 10 25.9 -0.8**
comp=Z,2.6nm,1.1s,mb4.4,baz=263,slow=10,SNR=4.7
PLCA LR LR 04 42 27.6
comp=Z,145nm,19.0s,MS4.4,baz=69,slow=31
PLCA Paso Flores 86.44 132 *e*P **P 04 10 26.5 -0.2**
PLCA pmax pmax
comp=Z,12nm,1.5s
PLCA Paso Flores 86.44 132 *e*P **P 04 10 26.5 -0.2**
comp=Z,12nm,1.5s,mb4.9
REDW Red Top Meadow 86.71 41 *e*P **P 04 10 28.2 +0.2**
comp=Z,5.8nm,1.0s,mb4.8
TPAW Teton Pass 86.72 41 *e*P **P 04 10 28.5 +0.4**
comp=Z,8.5nm,1.1s,mb4.9
DLMT Dillon 86.78 39 *e*P **P 04 10 28.1 -0.3**
comp=Z,13nm,1.4s,mb5.0
IMW Indian Meadow 86.95 40 *e*P **P 04 10 29.8 +0.6**
comp=Z,6.9nm,1.0s,mb4.8
SMCO Snowmass 87.00 46 *e*P **P 04 10 29.8 +0.4**
comp=Z,4.4nm,0.9s,mb4.7
BW06 Boulder Array 87.19 42 *e*P **P 04 10 29.0 -1.3**
comp=Z,5.7nm,1.0s,mb4.8
PDAR Pinedale Array 87.19 42 P **P 04 10 28.8 -1.6**
comp=Z,4.4nm,0.9s,mb4.7,baz=222,slow=2.0,SNR=21
PDAR LR LR 04 47 20.1
comp=Z,235nm,18.0s,MS4.6,baz=246,slow=34
SNAA Sanae 87.28 177 *e*P **P 04 10 25.5 -5.3**
SNAA *e* 04 10 27.6
SNAA *e* 04 10 31.4
SNAA *e* pP 04 10 36.6 -5.4
SNAA *e* 04 10 40.6
SNAA *e* 04 10 47.3
SNAA *e* 04 10 57.5
SNAA Sanae 87.28 177 *e*P **P 04 10 26.2 -4.6**
SNAA pmax pmax
comp=Z,7.0nm,1.0s
SNAA Sanae 87.28 177 *e*P **P 04 10 26.2 -4.6**
comp=Z,7.2nm,1.0s,mb4.9
VNA3 Neumayer Olymp 87.28 175 ⇓ *i*P **P 04 10 30.0 -0.8**
VNA3 *e* 04 10 32.1
VNA3 *e* 04 10 35.3
VNA3 *e* pP 04 10 41.1 -0.9
VNA3 *e* 04 10 45.4
VNA3 *e* 04 10 53.2
VNA3 *e* 04 11 04.3
DLBC Dease Lake 87.37 22 *e*P **P 04 10 31.4 +0.2**
BOZ Bozeman (W) 87.50 39 *e*P **P 04 10 31.4 -0.5**
VNA2 Neumayer--Watz 87.76 176 ⇓ *i*P **P 04 10 32.7 -0.4**
baz=185,slow=3.6
VNA2 *e* 04 10 34.6
VNA2 *e* 04 10 37.7
VNA2 *e* pP 04 10 43.8 -0.6
VNA2 *e* 04 10 49.0
VNA2 *e* 04 10 57.0
VNA2 *e* 04 11 09.6
COLA College 88.14 11 *e*P **P 04 10 33.5 -1.4**
COLA pmax pmax
comp=Z,25nm,1.3s,mb5.3
COLA College 88.14 11 *e*P **P 04 10 33.5 -1.5**
comp=Z,25nm,1.3s,mb5.3
WALA Waterton Lakes 88.17 35 *e*P **P 04 10 35.0 -0.1**
ILAR Eielson Array 88.22 11 P **P 04 10 33.4 -1.9**
comp=Z,12nm,1.2s,mb5.0,baz=220,slow=4.6,SNR=27
ILAR Eielson Array 88.22 11 P **P 04 10 33.4 -1.9**
ILAR pmax pmax
comp=Z,13nm,1.2s
BJI Beijing 88.67 314 *e*P **P 04 10 39.0 +1.6**
BJI PP PP 04 14 05.6 -0.6
BJI SKS 04 21 04.0
BJI S 04 21 25.8
BJI XS sS 04 21 41.8 +1.6
BJI SS SS 04 27 18.8 +5.7
BJI AMB AMB
comp=Z,14nm,1.8s,mb5.0
BJI AMB AMB
comp=Z,96nm,3.1s
BJI LR LR
comp=N,215nm,16.4s,MS4.7
BJI LR LR
comp=E,172nm,18.0s,MS4.7
BJI LR LR
comp=Z,102nm,19.2s,MS4.3
DAWY Dawson 89.18 15 *e*P **P 04 10 39.4 -0.4**
GYA Guiyang 89.83 298 P **P 04 10 44.9 +2.1**
GYA AP pP 04 10 56.0 +1.9
GYA SKS 04 21 04.9
GYA S 04 21 26.5
GYA AMB AMB
comp=Z,10.0nm,1.6s,mb4.9
GYA AMB AMB
comp=Z,140nm,6.0s
GYA LR LR
comp=N,460nm,21.0s,MS5.0
GYA LR LR
comp=E,430nm,20.8s,MS5.0
GYA LR LR
comp=Z,480nm,21.2s,MS4.9
BILL Bilibino 90.02 353 *e*P **P 04 10 43.4 -0.3**
BILL *e* 04 14 14.4
BILL pmax pmax
comp=Z,3.0nm,0.9s,mb4.6
BILL Bilibino 90.02 353 *e*P **P 04 10 42.8 -0.9**
comp=Z,3.9nm,0.9s,mb4.7
EDM Edmonton 90.87 32 *e*P **P 04 10 46.2 -1.5**
XAN Xi'an 91.14 306 P **P 04 10 49.8 +0.8**
XAN AP pP 04 11 03.3 +3.1
XAN AMB AMB
comp=Z,26nm,1.3s,mb5.4
NANT Nan 92.00 289 P **P 04 10 55.0 +2.1**
HHC Hu-ho-hao-te 92.16 313 *e*P **P 04 10 54.6 +0.9**
HHC AP pP 04 11 05.4 +0.5
HHC XP sP 04 11 09.1 +0.1
HHC PP PP 04 14 38.0 +4.1
HHC SKS 04 21 23.5
HHC S 04 21 52.3
HHC XS sS 04 22 10.1 -2.3
HHC SS SS 04 28 06.1 +2.5
HHC AMB AMB
comp=Z,14nm,1.3s,mb5.1
HHC AMB AMB
comp=Z,170nm,5.1s
HHC LR LR
comp=N,139nm,24.1s,MS4.8
HHC LR LR
comp=E,415nm,22.5s,MS4.8
HHC LR LR
comp=Z,204nm,19.4s,MS4.6
KMI Kunming 92.57 296 P **P 04 10 57.0 +1.4**
KMI AP pP 04 11 05.8 -1.1
KMI XP sP 04 11 09.5 -1.4
KMI SKS 04 21 27.8
KMI S 04 22 00.9
KMI AMB AMB
comp=Z,19nm,1.4s,mb5.3
KMI AMB AMB
comp=Z,115nm,4.5s
KMI LR LR
comp=N,160nm,19.7s,MS4.7
KMI LR LR
comp=E,223nm,19.7s,MS4.7
KMI LR LR
comp=Z,277nm,19.7s,MS4.7
CHG Chiang Mai 93.56 289 P **P 04 11 01.9 +1.8**
CHTO Chiang Mai 93.56 289 *e*P **P 04 11 01.8 +1.7**
CHTO pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
CHTO Chiang Mai 93.56 289 *e*P **P 04 11 01.8 +1.7**
comp=Z,8.2nm,1.0s,mb5.1
CD2 Chengdu 93.91 302 *e*P **P 04 11 01.8 +0.1**
CD2 AP pP 04 11 12.4 -0.6
CD2 XP sP 04 11 16.3 -0.8
CD2 PP PP 04 14 51.0 +3.3
CD2 SKS 04 21 32.5
CD2 S 04 22 06.8
CD2 XS sS 04 22 24.6 -3.3
CD2 SS SS 04 28 31.0 +2.4
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
CD2 LR LR
comp=E,90nm,16.8s
CD2 LR LR
comp=Z,100nm,16.8s,MS4.3
INK Inuvik 94.04 14 *e*P **P 04 11 01.3 -1.0**
YKA Yellowknife Ar 95.72 24 P **P 04 11 08.3 -1.7**
comp=Z,3.9nm,1.0s,mb4.8,baz=232,slow=4.3,SNR=12
YKA LR LR 04 48 00.5
comp=Z,107nm,18.0s,MS4.4,baz=230,slow=32
YKA Yellowknife Ar 95.72 24 P **P 04 11 08.3 -1.7**
YKA pmax pmax
comp=Z,4.0nm,1.0s
LZH Lanzhou 95.77 306 *e*P **P 04 11 10.3 0.0**
LZH AP pP 04 11 21.3 -0.3
LZH XP sP 04 11 25.3 -0.3
LZH *e*PP PP 04 15 05.4 +3.2
LZH SKS 04 21 42.8
LZH *e*S 04 22 22.6
LZH XS sS 04 22 41.5 -2.7
LZH SS SS 04 28 58.8 +3.6
LZH AMB AMB
comp=Z,21nm,1.3s,mb5.4
LZH AMB AMB
comp=Z,63nm,9.2s
LZH LR LR
comp=E,279nm,18.5s
LZH LR LR
comp=Z,448nm,19.7s,MS5.0
ECSD EROS,Sioux Fal 96.00 45 *e*P **P 04 11 10.0 -1.3**
LPAZ La Paz 98.77 111 LR LR 04 48 50.6
comp=Z,172nm,18.2s,MS4.6,baz=62,slow=31
ULM Lac du Bonnet 98.98 40 LR LR 04 52 22.7
comp=Z,285nm,18.6s,MS4.8,baz=240,slow=33
TIXI Tiksi 100.21 344 *e*P Pdif 04 11 24.4 -5.8
TIXI pmax pmax
comp=Z,2.0nm,0.7s
WMQ Urumqi 109.83 310 PDIF Pdif 04 12 13.0 0.0
WMQ PP PP 04 16 51.1 +3.6
WMQ PP PP
comp=Z,101nm,5.0s
WMQ LR LR
comp=N,72nm,20.8s
WMQ LR LR
comp=E,114nm,26.0s
WMQ LR LR
comp=Z,118nm,24.3s,MS4.4
MKAR Makanchi Array 114.02 313 PKiKP PKiKP 04 16 21.8 -1.3
comp=Z,0.2nm,0.3s,baz=98,slow=2.9,SNR=4.4
MKAR Makanchi Array 114.02 313 *i* PKiKP PKiKP 04 16 21.8 -1.3
KURK Kurchatov 116.68 317 *i* PKiKP PKPdf 04 16 27.3 -0.9
AAK Ala-Archa 119.27 308 *i* PKiKP PKPdf 04 16 31.8 -1.4

CHKZ	**Chkalovo**	**121.46**	**321**	*e*PKIKP	PKPdf	04 16 35.9	-1.5
ZRNK	**Zerenda**	**122.51**	**320**	*e*PKIKP	PKPdf	04 16 38.3	-1.1
SVE	**Sverdlovsk**	**126.36**	**326**	*e*PKIKP	PKPdf	04 16 47.0	+0.2
SVE				*e*		04 18 44.8	
ARU	**Arti**	**127.57**	**326**	*i* PKIKP	PKPdf	04 16 48.2	-0.9
ARU				*e*		04 18 45.1	
ARU				*e*		04 23 51.1	
ARU				*e*SS	SS	04 35 54.3	-4.1
ARCES	**ARCESS Array B**	**130.09**	**351**	PKP	PKPdf	04 16 52.4	-1.5
	comp=Z,4.8nm,1.1s,baz=343,slow=2.8,SNR=3.0						
ARCES	**ARCESS Array B**	**130.09**	**351**	PKIKP	PKPdf	04 16 52.4	-1.5
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
FINES	**FINESS Array B**	**137.24**	**346**	PKP	PKPdf	04 17 04.2	-3.2
	comp=Z,0.8nm,0.8s,baz=32,slow=1.6,SNR=2.5						
FINES	**FINESS Array B**	**137.24**	**346**	PKIKP	PKPdf	04 17 04.2	-3.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
OBN	**Obninsk**	**138.83**	**333**	*e*PKIKP	PKPdf	04 17 09.0	-1.3
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ERZM	**Erzurum**	**144.20**	**310**	*i* P	PKPdf	04 17 18.6	-1.3
SUW	**Suwalki**	**144.51**	**342**	*e*PKP	PKPdf	04 17 18.5	-1.9
MUD	**Monsted U'grnd**	**144.61**	**357**	*i* P	PKPdf	04 17 18.7	-1.9
	comp=Z,97nm,1.3s						
BNGL	**BINGOL**	**144.69**	**308**	*i* P	PKPdf	04 17 20.9	+0.2
AKASG	**Malin Array Be**	**145.09**	**333**	PKPbc	PKPbc	04 17 19.9	-1.0
	comp=Z,5.1nm,0.6s,baz=37,slow=3.4,SNR=69						
AKASG	**Malin Array Be**	**145.09**	**333**	PKIKP	PKPdf	04 17 19.9	-1.5
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.6s						
COP	**Copenhagen**	**145.10**	**353**	*i* P	PKPbc	04 17 14.1	-6.8
	comp=Z,48nm,1.2s						
COP	**Copenhagen**	**145.10**	**353**	*e*	PKPbc	04 17 14.1	-6.8
BSD	**Bornholm Skovb**	**145.33**	**351**	↑*i* P	PKPbc	04 17 20.7	-1.0
	comp=Z,60nm,1.2s						
BSD				*i*		04 17 31.3	
MARD	**Mardin**	**145.49**	**306**	*i* P	PKPdf	04 17 20.1	-2.1
GRSN	**GIRESUNGRSN**	**145.97**	**313**	*i* P	PKPdf	04 17 22.1	-0.8
ELZG	**Elazig**	**146.43**	**309**	*i* P	PKPdf	04 17 25.6	+1.8
SIM	**Simferopol'**	**146.55**	**322**	*e i* PKP2	PKPab	04 17 25.8	-0.7
SIM				pmax	pmax		
	comp=Z,14nm,1.1s						
GKP	**Gorka Klasztor**	**146.67**	**347**	*e*PKP	PKPdf	04 17 25.6	+1.5
WAR	**Warsaw**	**146.69**	**343**	*e*PKP	PKPdf	04 17 39.0	+15
MALT	**Malatya**	**146.91**	**308**	↑*i* PKP2	PKPab	04 17 27.4	-0.5
BSEG	**Bad Segeberg**	**147.03**	**355**	*e*PKPbc	PKPbc	04 17 26.7	-0.1
LVV	**L'vov**	**147.82**	**337**	*e*PKP2	PKPab	04 17 28.5	-3.0
GZT	**Gaziantep**	**147.89**	**307**	*i* P	PKPdf	04 17 29.0	+2.9
BOYT	**Boyabat**	**147.99**	**316**	*i* P	PKPdf	04 17 29.2	+2.9
RUE	**Ruedersdorf**	**148.05**	**350**	*e*PKPbc	PKPbc	04 17 28.6	-1.0
KWP	**Kalwaria**	**148.44**	**338**	*e*PKP	PKPbc	04 17 31.1	+0.5
CTKT	**Corum**	**148.46**	**315**	*i* P	PKPdf	04 17 29.5	+2.5
IBBN	**Ibbenburen**	**148.82**	**357**	*e*PKPbc	PKPbc	04 17 31.7	+0.1
OJC	**Ojcow**	**148.84**	**342**	*e*PKP	PKPbc	04 17 31.3	-0.3
BALT	**Daday**	**148.90**	**317**	*i* P	PKPdf	04 17 29.1	+1.3
CLZ	**Clausthal**	**149.10**	**354**	*e*PKPbc	PKPbc	04 17 32.8	+0.5
STHS	**Stebnicka Huta**	**149.12**	**340**	*e*PKP	PKPbc	04 17 32.7	+0.4
KSP	**Ksiaz**	**149.15**	**347**	*e*PKP	PKPbc	04 17 32.9	+0.5
KSP	**Ksiaz**	**149.15**	**347**	*e*PKP	PKPbc	04 17 32.7	+0.3
KSP				*e*		04 17 44.8	
COBT	**Iskenderun**	**149.17**	**307**	*i* P	PKPbc	04 17 33.4	+0.9
KOLS	**Kolonicke sedl**	**149.19**	**338**	*e*PKP	PKPbc	04 17 36.1	+3.6
KOLS				*e*		04 18 12.9	
CDAG	**Cicekdag**	**149.22**	**313**	*i* P	PKPbc	04 17 32.0	-0.6
AVNT	**Avonos**	**149.28**	**311**	*i* P	PKPdf	04 17 28.6	+0.2
CLL	**Collm**	**149.31**	**351**	*e*PKPbc	PKPbc	04 17 32.6	-0.2
CLL	**Collm**	**149.31**	**351**	*e*PKPdf	PKPdf	04 17 29.0	+0.6
CLL				*i* PKPbc	PKPbc	04 17 32.5	-0.3
	comp=Z,34nm,1.3s						
CLL				*e*PKPab	PKPab	04 17 37.0	-0.5
	comp=Z,25nm,1.5s						
CLL				*e*pPKPbc	pPKPbc	04 17 44.0	-0.4
CLL	**Collm**	**149.31**	**351**	*i* PKP2	PKPbc	04 17 32.5	-0.3
CLL				pmax	pmax		
	comp=Z,34nm,1.3s						
CLL	**Collm**	**149.31**	**351**	*i* PKP	PKPbc	04 17 32.5	-0.3
CLL				*e*pPKP	pPKPbc	04 17 44.0	-0.4
ELDT	**Eldivan**	**149.42**	**315**	*i* P	PKPbc	04 17 34.0	+1.0
GTTG	**Gyttingen**	**149.44**	**355**	*e*PKPbc	PKPbc	04 17 33.1	0.0
GTTG				*e*PKPab	PKPab	04 17 37.7	-0.3
CRVS	**Cervenica-Dubn**	**149.49**	**339**	*e*PKP	PKPbc	04 17 35.0	+1.7
UPC	**Upice**	**149.53**	**347**	*e*PKPbc	PKPbc	04 17 32.4	-0.9
UPC				*e*PKPab	PKPab	04 17 41.9	+3.5
BRG	**Berggiesshubel**	**149.58**	**349**	*e*PKPbc	PKPbc	04 17 33.7	+0.2
BRG	**Berggiesshubel**	**149.58**	**349**	*e*PKP	PKPbc	04 17 33.3	-0.2
	comp=Z,20nm,1.4s						
BRG				*i*		04 17 39.9	
	comp=Z,7.6nm,1.1s						
BRG	**Berggiesshubel**	**149.58**	**349**	*e*PKP2	PKPbc	04 17 33.3	-0.2
BRG				pmax	pmax		
	comp=Z,20nm,1.4s						
BRG				pmax	pmax		
	comp=Z,8.0nm,1.1s						
DPC	**Dobruska-Polom**	**149.61**	**346**	*e*PKPbc	PKPbc	04 17 33.9	+0.4
DPC				*e*PKPab	PKPab	04 17 38.9	+0.2
OKC	**Ostrava-Krasne**	**149.64**	**344**	*e*PKPbc	PKPbc	04 17 34.2	+0.6
OKC				*e*PKPab	PKPab	04 17 39.6	+0.8
BR131	**Keskin Array S**	**149.67**	**314**	↑*i* P	PKPbc	04 17 33.8	+0.1
BRTR	**Keskin Array B**	**149.67**	**314**	PKPbc	PKPbc	04 17 33.8	+0.1
	comp=Z,5.6nm,1.1s,baz=116,slow=2.9,SNR=27						
BRTR				PKPab	PKPab	04 17 40.0	+1.0
	comp=Z,6.9nm,1.0s,baz=122,slow=3.5,SNR=12						
BUG	**Bochum--Univer**	**149.71**	**358**	*e*PKPbc	PKPbc	04 17 34.2	+0.4
MORC	**Moravsky Berou**	**149.85**	**344**	*e*PKP2	PKPbc	04 17 34.0	-0.1
MOX	**Moxa**	**150.15**	**352**	*e*PKPbc	PKPbc	04 17 34.7	-0.2
MOX				*e*PKPab	PKPab	04 17 39.6	-1.3
MOX	**Moxa**	**150.15**	**352**	*e*PKP	PKPbc	04 17 33.9	-1.0
UBBA	**Unterbreizbach**	**150.15**	**354**	*e*PKPbc	PKPbc	04 17 34.7	-0.2
ANTO	**Ankara**	**150.16**	**315**	↑*i* P	PKPbc	04 17 35.3	+0.4
KECS	**Kecovo**	**150.17**	**340**	*e*PKP	PKPbc	04 17 35.3	+0.4
KECS				*e*		04 17 43.4	
KECS				*e*		04 17 52.5	
WERD	**Werda**	**150.25**	**351**	*e*PKPbc	PKPbc	04 17 34.9	-0.2
WERD				*e*PKPab	PKPab	04 17 40.9	-0.4
SGKT	**Sivrigoynuk**	**150.27**	**317**	*i* P	PKPdf	04 17 32.5	+2.5
PRU	**Pruhonice**	**150.32**	**348**	*e*PKPbc	PKPbc	04 17 35.0	-0.3
PRU				*e*PKPab	PKPab	04 17 42.5	+0.9
UCC	**Uccle**	**150.37**	**1**	PKP	PKPdf	04 17 28.8	-0.3
UCC				PKPbc	PKPbc	04 17 35.9	+0.5
NKC	**Novy Kostel**	**150.44**	**351**	*e*PKPbc	PKPbc	04 17 35.4	-0.1
MEM	**Membach**	**150.57**	**359**	PKPbc	PKPbc	04 17 36.0	+0.2
MANZ	**Manzenberg**	**150.72**	**351**	*e*PKPbc	PKPbc	04 17 36.6	+0.4
TREC	**Trest**	**150.78**	**347**	*e*PKPbc	PKPbc	04 17 36.3	-0.1
PSZ	**Piszkesteto**	**150.86**	**340**	*e*P	PKPbc	04 17 35.2	-1.3
HENT	**Hendek**	**150.86**	**318**	*i* P	PKPdf	04 17 34.5	+3.6
TNS	**Taunus Mts**	**150.87**	**356**	*e*PKPbc	PKPbc	04 17 36.5	-0.1
ROTZ	**Rotzenmuhle**	**150.93**	**351**	*e*PKPbc	PKPbc	04 17 36.4	-0.3
ROTZ				*e*PKPab	PKPab	04 17 43.4	-0.7
SMOL	**Smolenice**	**151.04**	**344**	*e*PKP	PKPbc	04 17 38.4	+1.4
GIVF	**Givet**	**151.07**	**1**	*e*PKP1	PKPbc	04 17 35.0	-2.0
DOU	**Dourbes**	**151.07**	**1**	PKPbc	PKPbc	04 17 35.8	-1.3
DOU				PKPab	PKPab	04 17 43.1	-1.6
BAIF	**Baives**	**151.10**	**2**	*e*PKP1	PKPbc	04 17 35.3	-1.8
	comp=Z,119nm,1.7s						
GRF	**Grafenberg Arr**	**151.13**	**352**	*e*PKPbc	PKPbc	04 17 37.1	-0.1
GRF				*e*PKPab	PKPab	04 17 45.0	0.0
KHC	**Kasperske Hory**	**151.32**	**349**	*e*PKPbc	PKPbc	04 17 37.4	-0.2
KHC				*e*PKPab	PKPab	04 17 48.3	+2.5
WET	**Wettzell**	**151.43**	**350**	*e*PKPbc	PKPbc	04 17 38.4	+0.5
WLF	**Walferdange**	**151.51**	**359**	PKP	PKPdf	04 17 31.4	-0.5
GEC2	**GERESS Array S**	**151.57**	**349**	*e*PKPbc	PKPbc	04 17 37.9	-0.3
GERES	**GERESS Array B**	**151.57**	**349**	PKP	PKPdf	04 17 31.7	-0.2
	comp=Z,0.4nm,0.7s,baz=328,slow=4.7,SNR=3.9						
GERES				PKPbc	PKPbc	04 17 38.3	+0.1
	comp=Z,4.1nm,1.1s,baz=64,slow=3.1,SNR=18						
GERES				PKPab	PKPab	04 17 45.2	-1.6
	comp=Z,3.2nm,1.0s,baz=56,slow=2.4,SNR=7.3						
GERES	**GERESS Array B**	**151.57**	**349**	PKIKP	PKPdf	04 17 31.7	-0.3
GERES						04 17 38.3	
GERES						04 17 45.2	
GERES				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GERES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ERMK	**Ermenek**	**151.59**	**309**	*i* P	PKPbc	04 17 36.6	-1.7
ESKT	**Eskisehir**	**151.62**	**316**	*i* P	PKPbc	04 17 36.9	-1.4
ROSF	**Rostrenen**	**151.94**	**13**	*e*PKP1	PKPbc	04 17 36.3	-2.7
	comp=Z,352nm,1.6s						
FLN	**La Foliniere**	**152.00**	**8**	*e*PKP1	PKPbc	04 17 36.6	-2.6
FLN				*e*R			
	comp=Z,286nm,17.2s						
FLN	**La Foliniere**	**152.00**	**8**	*e*PKP	PKPdf	04 17 36.6	+4.0
FLN				LR	LR		
	comp=Z,290nm,17.3s,MS5.2						
EIL	**Elat**	**152.15**	**294**	*e*PKPdf	PKPdf	04 17 30.8	-2.0
EIL				*e*PKPbc	PKPbc	04 17 38.8	-0.7
SGMF	**Saint Gilles**	**152.16**	**12**	*e*PKP1	PKPbc	04 17 36.5	-3.0
	comp=Z,130nm,1.3s						
LDF	**La Druitiere**	**152.22**	**8**	*e*PKP1	PKPbc	04 17 36.8	-2.9
	comp=Z,246nm,1.9s						
ULDT	**Uludag**	**152.35**	**319**	*i* P	PKPbc	04 17 39.1	-0.8
FUR	**Furstenfeldbru**	**152.62**	**352**	*e*PKPbc	PKPbc	04 17 40.6	0.0
CDF	**Champ du Feu**	**152.73**	**357**	*e*PKP1	PKPbc	04 17 38.7	-2.1
	comp=Z,23nm,1.3s						
TKTP	**Tekketepe**	**152.75**	**314**	*i* P	PKPbc	04 17 38.9	-2.0
BFO	**Black Forest**	**152.76**	**356**	*e*PKPbc	PKPbc	04 17 41.4	+0.5
HAU	**Haudompre**	**153.17**	**359**	*e*PKP1	PKPbc	04 17 40.8	-1.0
	comp=Z,60nm,1.5s						
HAU				*e*R			
	comp=Z,174nm,17.8s						
HAU	**Haudompre**	**153.17**	**359**	*e*PKP	PKPbc	04 17 40.8	-1.0
HAU				LR	LR		
	comp=Z,170nm,17.8s,MS4.9						
LOR	**Lormes**	**153.88**	**3**	*e*PKP1	PKPbc	04 17 41.0	-2.3
LOR				*e*R			
	comp=Z,199nm,17.5s						
LOR	**Lormes**	**153.88**	**3**	*e*PKP	PKPbc	04 17 41.0	-2.3
LOR				LR	LR		
	comp=Z,200nm,17.5s,MS5.0						
SSF	**Saint Saulge**	**154.07**	**3**	*e*PKP1	PKPbc	04 17 41.8	-1.9
AVF	**Avril sur Loir**	**154.33**	**3**	*e*PKP1	PKPbc	04 17 42.0	-2.3
BGF	**Bois d'Agland**	**154.53**	**4**	*e*PKP1	PKPbc	04 17 42.6	-2.1
CABF	**La Chapelle**	**154.57**	**359**	*e*PKP1	PKPbc	04 17 43.6	-1.2
	comp=Z,113nm,1.7s						
RJF	**Les Rejaudoux**	**155.65**	**7**	*e*PKP1	PKPdf	04 17 45.3	+7.5
RJF				*e*R			
	comp=Z,221nm,22.0s						
RJF	**Les Rejaudoux**	**155.65**	**7**	*e*PKP	PKPdf	04 17 45.3	+7.5
RJF				LR	LR		
	comp=Z,220nm,22.0s,MS4.9						
ESDC	**Sonseca Array**	**159.80**	**22**	PKPab	PKPab	04 18 21.9	-0.1
	comp=Z,0.3nm,0.5s,baz=316,slow=4.1,SNR=4.1						
TORD	**Torodi Ar. Bea**	**171.27**	**155**	PKP	PKPdf	04 17 51.6	-0.8
	comp=Z,2.0nm,1.1s,baz=226,slow=1.0,SNR=6.2						
TORD				PKPab	PKPab	04 19 12.6	+0.1
	comp=Z,1.8nm,0.9s,baz=237,slow=4.2,SNR=6.9						

*IDC **22** 04:27:25.1±1.1, 2801S×17672W, h0km, mb4.1/6, mb1 4.3/6, mb1mx4.1/11, mbtmp4.1/6, MS3.5/2, Ms1 3.5/2, ms1mx3.1/17, Error ellipse: s-maj=36.0km s-min=21.4km az=132.0*

*ISCJB **22** 04:27:28.5±1.0, 2795S×01×1768W×02, h33km, mb4.2/8, MS3.3/1, Error ellipse: s-maj=23.0km s-min=12.7km az=60.4*

*NEIC **22** 04:27:29.7±0.8, 2806S×17670W, h35km, mb4.6/2, Error ellipse: s-maj=25.5km s-min=17.9km az=138.0*

ISC 22 04:27:25.1±6.6, 280S±01×1767W±02, h2km±41km, n22, σ1901/14, mb4.2/8, MS3.3/1, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.71**	**221**	Pn	**Pn**	**04 27 56.7**	**+0.9**
	139nm,0.3s,baz=99,slow=21,SNR=8.9						
RAO				Sn	**Sn**	**04 28 18.8**	**+0.7**
	217nm,0.3s,baz=255,slow=23,SNR=4.4						
RAO	**Raoul Island**	**1.71**	**221**	Pn	**Pn**	**04 27 56.7**	**+1.0**
RAO				Sn	**Sn**	**04 28 18.8**	**+0.7**
DZM	**Mont Dzumac**	**16.40**	**287**	LR	LR	04 36 01.1	
	comp=Z,267nm,20.2s,baz=9.3,slow=32						
TBI	**Tubuai**	**24.91**	**86**	*e*LR	LR	04 38 33.0	
	94nm,29.8s						
PPT	**Papeete**	**26.96**	**73**	*e*LR	LR	04 39 33.9	
	99nm,28.2s						
HNR	**Honiara**	**28.73**	**305**	LR	LR	04 42 33.2	
	comp=Z,75nm,19.9s,MS3.3,baz=356,slow=32						
CTAO	**Charters Tower**	**34.67**	**275**	*e*P	**P**	**04 34 16.6**	**+0.6**
	12nm,1.0s,mb4.8						
STKA	**Stephens Creek**	**36.24**	**253**	P	**P**	**04 34 27.8**	**-1.7**
	0.8nm,0.4s,mb4.0,baz=60,slow=12,SNR=4.3						
STKA	**Stephens Creek**	**36.24**	**253**	P	**P**	**04 34 27.8**	**-1.7**
RKT	**Rikitea**	**37.78**	**92**	*e*LR	LR	04 44 33.5	
	79nm,25.5s						
ASAR	**Alice Springs**	**44.48**	**264**	P	**P**	**04 35 37.8**	**0.0**
	1.0nm,0.7s,mb3.7,baz=93,slow=7.2,SNR=14						
WB2	**Warramunga Arr**	**45.24**	**269**	*e*P	**P**	**04 35 43.2**	**-0.6**
WRA	**Warramunga Arr**	**45.25**	**269**	P	**P**	**04 35 43.2**	**-0.7**
	1.1nm,0.3s,mb4.1,baz=106,slow=7.8,SNR=6.1						
CASY	**Casey**	**57.84**	**207**	*e*P	**P**	**04 37 16.1**	**-2.0**
	2.2nm,0.6s,mb4.4						
MJAR	**Matsushiro Arr**	**76.94**	**324**	P	**P**	**04 39 20.5**	**+1.5**
	1.0nm,0.3s,mb4.2,baz=154,slow=5.5,SNR=6.0						
PLCA	**Paso Flores**	**83.30**	**133**	P	**P**	**04 39 53.6**	**+0.3**
	1.6nm,0.9s,mb4.0,baz=270,slow=5.1,SNR=3.4						
ILAR	**Eielson Array**	**95.29**	**12**	P	**P**	**04 40 51.0**	**+0.5**
	0.7nm,1.0s,mb4.0,baz=214,slow=6.3,SNR=4.2						
FINES	**FINESS Array B**	**143.23**	**342**	PKhKP		04 46 56.7	
	0.4nm,0.4s,baz=44,slow=5.8,SNR=6.6						
FINES	**FINESS Array B**	**143.23**	**342**	PKP	PKPdf	04 46 56.7	-4.1
NB2	**NORSAR Subarra**	**146.50**	**353**	PKPa	PKPbc	04 47 07.6	-0.3
	comp=Z,1.2nm,0.6s,baz=7.7,slow=2.9						
NOA	**NORSAR Array B**	**146.50**	**353**	PKPbc	PKPbc	04 47 07.4	-0.5
	comp=Z,1.7nm,0.7s,baz=13,slow=4.5,SNR=5.5						
BRTR	**Keskin Array B**	**152.37**	**303**	PKPbc	PKPbc	04 47 21.6	-1.1
	comp=Z,0.5nm,0.7s,baz=90,slow=3.7,SNR=3.8						
BRTR				PKPab	PKPab	04 47 33.4	+0.7
	comp=Z,0.7nm,0.9s,baz=137,slow=4.4,SNR=4.6						

*NEIC **22** 04:36:49.4, 2284S×6844W, h100km, MG3.5(GUC), After GUC.*

GUC 22 04:36:49.4±0.3, 2284S×6844W, h100km, MD3.9, ML3.5, 2C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.49**	**298**	↓*e*P	Pn	04 37 05.8	+0.8
LVC				*i* S	Sn	04 37 18.4	+1.6
LVC				AML	AML	04 37 20.0	
	comp=N,3μm,0.4s						
LVC	**Limon Verde**	**0.49**	**298**	↓*e*P	Pn	04 37 05.8	+0.8
LVC				*i* S	Sn	04 37 18.4	+1.6
CEN1	**Los Morros**	**1.71**	**251**	↓*i* P	Pn	04 37 21.4	+3.2
CEN1				*i* S	Sn	04 37 45.6	+5.5
CEN1				AML	AML	04 37 47.8	
	comp=E,258nm,0.8s						
ANCH	**Antofagasta**	**1.99**	**245**	↑*i* P	Pn	04 37 22.5	+0.7
ANCH				*i* S	Sn	04 37 47.7	+1.1
ANCH				AML	AML	04 37 48.9	
	comp=N,774nm,0.1s						
ANCH	**Antofagasta**	**1.99**	**245**	↑*i* P	Pn	04 37 22.5	+0.7
ANCH				*i* S	Sn	04 37 47.7	+1.1
CPN1	**Cerro Paranal**	**2.53**	**225**	*e*P	Pn	04 37 30.7	+1.9
CPN1				*i* S	Sn	04 38 01.7	+2.6
CPN1				AML	AML	04 38 09.6	
	comp=E,281nm,0.6s						
CDCH	**Caldera**	**4.74**	**207**	*e*P	Pn	04 37 58.0	-0.5
CDCH				*i* S	Sn	04 38 50.4	-1.9
CDCH	**Caldera**	**4.74**	**207**	P	Pn	04 37 58.0	-0.5
CDCH				S	Sn	04 38 10.4	-42
LPAZ	**La Paz**	**6.53**	**3**	*e*Pn	Pn	04 38 20.3	-2.4
	comp=E,2.2nm,0.4s						

*MOS **22** 05:05:52.4±1.2, 577N×126.11E, h102km, mb5.0/45, Error ellipse: s-maj=11.4km s-min=5.7km az=110.9*

*BJI **22** 05:05:52.9, 534N×126.19E, h133km, mB4.8, mb4.9*

*IDC **22** 05:05:53.4±1.8, 580N×12622E, h100km±15km, mb4.6/22, mb1 4.7/23, mb1mx4.7/25, mbtmp4.9/23, MS3.9/10, Ms1 3.9/10, ms1mx3.6/21, Error ellipse: s-maj=16.7km s-min=9.3km az=76.0*

*ISCJB **22** 05:05:54.5±0.2, 570N±002×12624E±003, h123km, mb4.9/94, Error ellipse: s-maj=4.8km s-min=3.0km az=129.1*

*MAN **22** 05:05:56.2, 578N×12623E, h102km, mb5.0, ML5.6, MS3.6*

MAN F GENERAL SANTOS CITY - INTENSITY II.

*NEIC **22** 05:05:56.6±0.2, 573N×126.17E, h125km, mb5.1/36, Error ellipse: s-maj=6.4km s-min=3.8km az=71.0*

NEIC Felt [II PIVS] at General Santos.

*HRVD **22** 05:05:56.6±0.2, 578N×12643E, h112km±2km, MW5.0/72, Centroid moment Tensor Solution. LP body waves: s49,c62;Mantle waves: s72,c108; Half duration: 0*

Moment tensor: Scale 10^16Nm; Mrr3.12±.15; Mθθ-2.73±.16; Mφφ-0.39±.22; Mrθ-0.84±.11; Mrφ-1.60±.18; Mθφ-2.70±.12; Best double couple: M=4.36900×10^16 NP1:φs85.00000°, δ34.00000°, λ132.00000°. NP2: φs217.00000°, δ66.00000°, λ66.00000°. Principal axes: T 4.5850, Plg61.0000°, Azm90.0000°; N -0.4340, Plg22.0000°, Azm228.0000°; P -4.1530, Plg17.0000°, Azm325.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 22 05:05:56.4±0.2, 573N±002×12623E±003, h124km, h124km±2.0km; pP-P, n265, σ105/252, mb4.9/94, 19C-15D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.21**	**1**	*e*P	**Pn**	**05 06 19.6**	**-1.4**
DAV	**Davao City (W)**	**1.48**	**334**	↓*e*P	**Pn**	**05 06 23.5**	**-0.4**
DAV	**Davao City (W)**	**1.48**	**334**	*e*Pn	**Pn**	**05 06 23.1**	**-0.8**
KCP	**Kidapawan**	**1.71**	**318**	*i* P	**Pn**	**05 06 35.0**	**+8.5**
BUKP	**Musuan**	**2.43**	**332**	*e*P	**Pn**	**05 06 35.6**	**+0.2**
BIPH	**Bislig**	**2.45**	**3**	↓*i* P	**Pn**	**05 06 34.5**	**-1.2**
BIPH				*i* S	**Sn**	**05 07 04.3**	**-1.5**
CTBH	**Cotabato--PC H**	**2.47**	**307**	↓*i* P	**Pn**	**05 06 34.8**	**-1.1**
CTBH				*i* S	**Sn**	**05 07 04.9**	**-1.4**
CGP	**Cagayan de Oro**	**3.11**	**331**	↓*e*P	**Pn**	**05 06 43.9**	**-0.3**
CGP				*i* S	**Sn**	**05 07 25.1**	**+3.9**
BUTP	**Butuan**	**3.28**	**349**	*e*P	**Pn**	**05 06 47.6**	**+1.1**
PAGZ	**Pagadian**	**3.53**	**307**	*e*P	**Pn**	**05 06 49.4**	**-0.4**
DCPH	**Dipolog City**	**4.03**	**315**	↓*e*P	**Pn**	**05 06 57.2**	**+0.8**
SCPH	**Surigao**	**4.10**	**350**	*e*P	**Pn**	**05 06 56.5**	**-0.8**
SCPH				*e*S	**Sn**	**05 07 43.9**	**-0.6**
IPIL	**Ipil**	**4.17**	**300**	↑*i* P	**Pn**	**05 06 58.5**	**+0.2**
IPIL				*i* S	**Sn**	**05 07 41.3**	**-5.0**
IPIL	**Ipil**	**4.17**	**300**	*e*P	**Pn**	**05 06 58.8**	**+0.5**
ZMPH	**Zamboanga City**	**4.32**	**287**	↓*i* P	**Pn**	**05 06 59.5**	**-0.7**
ZMPH				*i* S	**Sn**	**05 07 47.2**	**-2.5**
MSLP	**Maasin**	**4.59**	**343**	*e*P	**Pn**	**05 07 04.2**	**+0.4**
MSLP	**Maasin**	**4.59**	**343**	*e*P	**Pn**	**05 07 03.6**	**-0.2**
TBP	**Tagbilaran**	**4.59**	**329**	*i* P	**Pn**	**05 07 03.6**	**-0.3**
TBP				*i* S	**Sn**	**05 07 55.5**	**-0.7**
SNPH	**Sibulan**	**4.66**	**321**	↓*e*P	**Pn**	**05 07 05.5**	**+0.7**
LLP	**Lapu-Lapu**	**5.08**	**334**	*e*P	**Pn**	**05 07 11.0**	**+0.5**
LLP				*e*S	**Sn**	**05 08 10.1**	**+2.0**
OCLP	**Ormoc**	**5.53**	**343**	*e*P	**Pn**	**05 07 17.1**	**+0.6**
OCLP	**Ormoc**	**5.53**	**343**	*e*P	**Pn**	**05 07 17.0**	**+0.5**
GUIM	**Jordan**	**6.06**	**324**	*e*P	**Pn**	**05 07 24.8**	**+1.2**
GUIM	**Jordan**	**6.06**	**324**	*e*P	**Pn**	**05 07 24.7**	**+1.1**
RCP	**Roxas**	**6.74**	**330**	*e*P	**Pn**	**05 07 33.8**	**+1.0**
CUYO	**Cuyo Island**	**7.25**	**315**	*e*P	**Pn**	**05 07 39.7**	**0.0**
CUYO	**Cuyo Island**	**7.25**	**315**	*e*P	**Pn**	**05 07 40.0**	**+0.4**
PVCP	**Virac**	**8.08**	**346**	*e*P	**Pn**	**05 07 51.8**	**+0.8**
PVCP	**Virac**	**8.08**	**346**	*e*P	**Pn**	**05 07 51.8**	**+0.8**
TSM	**Tawau**	**8.45**	**261**	P	**Pn**	**05 07 57.8**	**+1.9**
TSM	**Tawau**	**8.45**	**261**	P	**Pn**	**05 07 57.8**	**+1.9**
TSM	**Tawau**	**8.45**	**261**	P	**Pn**	**05 07 57.8**	**+1.9**
TSM	**Tawau**	**8.45**	**261**	P	**Pn**	**05 07 57.8

NJ2 S **S** **05 15 58.0 +1.8**
NJ2 XS sS 05 16 46.0 +2.9
NJ2 AMB AMB
comp=Z,40nm,1.1s,mb4.9
NJ2 AMB AMB
comp=Z,60nm,9.7s
NJ2 LR LR
comp=N,1μm,24.1s
NJ2 LR LR
comp=E,960nm,28.5s
NJ2 LR LR
comp=Z,740nm,28.0s
WHN Wuhan 27.10 337 ⇓P **P** **05 11 32.5 +5.0**
WHN LR LR
comp=Z,930nm,18.6s
PSI Prapat 27.38 265 P **P** **05 11 31.4 +1.4**
comp=Z,2.9nm,0.3s,mb4.2,baz=166,slow=15,SNR=2.9
PSI LR LR 05 22 18.9
comp=Z,190nm,21.2s,baz=169,slow=36
PSI Prapat 27.38 265 P **P** **05 11 31.4 +1.4**
PSI pmax pmax
comp=Z,3.0nm,0.4s,mb4.2
PSI MLR MLR
comp=Z,190nm,21.2s
NST Nakhon Sawan 27.45 293 P **P** **05 11 29.2 -1.4**
comp=Z,63nm,1.0s,mb5.1
MBWA Marble Bar 27.47 193 *e*P **P** **05 11 30.7 0.0**
comp=Z,48nm,1.1s,mb4.9
GYA Guiyang 27.82 320 P **P** **05 11 34.8 +0.9**
GYA AP pP 05 12 01.4 +0.8
GYA XP sP 05 12 16.6 +1.6
GYA PP PP 05 12 27.0 -12
GYA PCP PcP 05 14 48.3 +1.4
GYA S **S** **05 16 02.3 -5.4**
GYA SCS ScS 05 22 08.6 +0.1
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
GYA AMB AMB
comp=Z,80nm,5.6s
GYA LR LR
comp=N,430nm,14.8s
GYA LR LR
comp=E,470nm,15.0s
GYA LR LR
comp=Z,490nm,15.2s
NANT Nan 28.07 300 P **P** **05 11 37.0 +0.9**
ENH Enshi 29.07 329 *e*P **P** **05 11 44.8 -0.1**
comp=Z,0.3nm,0.5s
CHRT Chiangrai 29.30 301 ⇓P **P** **05 11 47.0 -0.1**
CHTO Chiang Mai 29.60 298 *e*P **P** **05 11 50.0 +0.3**
CHTO pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
CHTO Chiang Mai 29.60 298 *e*P **P** **05 11 50.0 +0.3**
comp=Z,4.9nm,0.7s,mb4.2
KMI Kunming 29.64 313 P **P** **05 11 52.0 +1.9**
KMI AP pP 05 12 18.4 +1.4
KMI XP sP 05 12 35.6 +4.3
KMI PP PP 05 12 51.0 -8.3
KMI S **S** **05 16 37.3 +0.9**
KMI XS sS 05 17 25.8 +2.3
KMI SS SS 05 18 26.6 -21
KMI AMB AMB
comp=Z,23nm,0.8s,mb4.9
KMI AMB AMB
comp=Z,78nm,4.6s
KMI LR LR
comp=N,186nm,19.3s
KMI LR LR
comp=E,246nm,19.9s
KMI LR LR
comp=Z,297nm,24.4s
JHJ Hachijo jima 2 30.04 23 LR LR 05 22 17.9
comp=Z,202nm,21.1s,baz=310,slow=33
ASAR Alice Springs 30.16 166 P **P** **05 11 54.6 +0.1**
comp=Z,23nm,0.5s,mb5.1,baz=344,slow=6.9,SNR=132
ASAR PcP PcP 05 14 53.9 +1.1
comp=Z,5.6nm,0.6s,baz=348,slow=2.4,SNR=6.7
ASAR ScP ScP 05 18 26.3 +2.7
comp=Z,4.1nm,1.0s,baz=344,slow=3.1,SNR=6.4
ASAR Alice Springs 30.16 166 P **P** **05 11 54.7 +0.1**
ASAR 05 14 53.9
ASAR 05 18 26.3
ASAR pmax pmax
comp=Z,23nm,0.5s
ASAR pmax pmax
comp=Z,6.0nm,0.6s
ASAR pmax pmax
comp=N,4.0nm,1.0s
KS15 Wonju Array Si 31.61 3 *e*P **P** **05 12 08.7 +1.3**
CTA Charters Tower 32.34 143 *e*P **P** **05 12 15.1 +1.4**
comp=N,18nm,1.2s,mb4.7
CTA *e* 05 12 23.8
CTA Charters Tower 32.34 143 P **P** **05 12 14.7 +1.0**
comp=N,15nm,0.6s,mb4.9,baz=320,slow=11,SNR=17
CTA Charters Tower 32.34 143 *e*P **P** **05 12 15.1 +1.4**
CTA pmax pmax
comp=Z,18nm,1.2s
CTAO Charters Tower 32.34 143 *e*P **P** **05 12 15.2 +1.5**
CTAO pmax pmax
comp=Z,84nm,1.3s,mb5.3
CTAO Charters Tower 32.34 143 *e*P **P** **05 12 15.2 +1.5**
comp=Z,84nm,1.3s,mb5.3
XAN Xi'an 32.42 333 P **P** **05 12 13.4 -1.1**
XAN AMB AMB
comp=Z,31nm,0.8s,mb5.1
XAN LR LR
comp=N,81nm,12.7s
XAN LR LR
comp=E,168nm,16.9s
XAN LR LR
comp=Z,177nm,15.5s
MAT Matsushiro 32.58 18 P **P** **05 12 15.8 0.0**
MAT Matsushiro 32.58 18 *e*P **P** **05 12 16.0 +0.2**
MJAR Matsushiro Arr 32.58 18 P **P** **05 12 14.4 -1.5**
comp=Z,3.9nm,0.6s,mb4.4,baz=197,slow=9.4,SNR=8.4
MJAR PcP PcP 05 15 00.6 +1.3
comp=Z,5.1nm,0.7s,baz=186,slow=2.7,SNR=8.3
MJAR ScP ScP 05 18 32.2 +0.5
comp=Z,4.4nm,0.9s,baz=215,slow=4.7,SNR=7.3
MJAR LR LR 05 24 53.6
comp=Z,130nm,19.7s,baz=190,slow=35
MJAR Matsushiro Arr 32.58 18 P **P** **05 12 14.4 -1.4**
MJAR 05 15 00.6
MJAR pmax pmax
comp=Z,4.0nm,0.6s
MJAR pmax pmax
comp=Z,5.0nm,0.7s
MJAR pmax pmax
comp=N,4.0nm,1.0s
MJAR MLR MLR
comp=Z,130nm,19.7s
MJAR Matsushiro Arr 32.58 18 P **P** **05 12 14.4 -1.5**
MJAR PcP PcP 05 15 00.6 +1.3
MJAR ScP ScP 05 18 32.2 +0.5
MJAR LR LR 05 24 53.6
CD2 Chengdu 32.76 323 ⇓ *i*P **P** **05 12 17.4 0.0**
CD2 AP pP 05 12 44.9 +0.4
CD2 XP sP 05 12 59.8 +1.0
CD2 PP PP 05 13 31.8 -2.0
CD2 S **S** **05 17 24.1 -0.9**
CD2 XS sS 05 18 12.3 0.0
CD2 SS SS 05 19 31.5 -20
CD2 AMB AMB
comp=Z,20nm,1.4s,mb4.8
CD2 AMB AMB
comp=Z,80nm,11.1s
CD2 LR LR
comp=N,170nm,22.8s
CD2 LR LR
comp=Z,160nm,19.2s
DL2 Dalian 33.29 353 P **P** **05 12 23.4 +1.3**
DL2 AMB AMB
comp=Z,40nm,0.7s,mb5.4
BJT Baijiatuau 35.32 347 *e*P **P** **05 12 40.2 +0.6**
BJT pmax pmax
comp=Z,73nm,1.1s
BJT Baijiatuau 35.32 347 *e*P **P** **05 12 40.2 +0.6**
comp=Z,73nm,1.1s,mb5.4
BJI Beijing 35.34 347 *e*P **P** **05 12 40.0 +0.3**
BJI S **S** **05 18 02.8 -2.0**
BJI AMB AMB
comp=Z,58nm,0.8s,mb5.5
BJI LR LR
comp=N,136nm,16.6s
BJI LR LR
comp=E,151nm,16.2s
BJI LR LR
comp=Z,171nm,33.0s
SNY Shenyang 36.03 357 ⇓P **P** **05 12 47.3 +1.7**
SNY AMB AMB
comp=Z,39nm,0.8s,mb5.4
FORT Forrest 36.34 177 *e*P **P** **05 12 48.3 +0.1**
comp=Z,24nm,0.6s,mb5.3
LZH Lanzhou 36.55 329 ⇓ *i*P **P** **05 12 51.0 +1.0**
LZH AP pP 05 13 19.5 +2.1
LZH XP sP 05 13 37.6 +6.0
LZH PP PP 05 14 20.8 +5.2
LZH PCP PcP 05 15 12.5 +1.7
LZH S **S** **05 18 24.1 +0.9**
LZH SCP ScP 05 18 46.5 +0.6
LZH PCS PcS 05 18 59.3 +0.5
LZH XS sS 05 19 12.6 +1.7
LZH SS SS 05 20 58.3 -8.9
LZH SCS ScS 05 22 51.5 -1.2
LZH AMB AMB
comp=Z,39nm,1.3s,mb5.2
LZH AMB AMB
comp=Z,194nm,5.4s
LZH LR LR
comp=E,638nm,13.3s
LZH LR LR
comp=Z,983nm,17.5s
HHC Hu-ho-hao-te 37.36 342 *e*P **P** **05 12 57.6 +0.7**
HHC AP pP 05 13 25.8 +1.4
HHC XP sP 05 13 40.3 +1.7
HHC PP PP 05 14 29.9 +5.4
HHC PCP PcP 05 15 13.6 +0.3
HHC S **S** **05 18 37.3 +1.8**
HHC SCP ScP 05 18 48.6 -0.3
HHC PCS PcS 05 19 01.8 -0.1
HHC XS sS 05 19 25.0 +1.6
HHC SS SS 05 21 16.3 -8.0
HHC SCS ScS 05 22 56.3 -1.0
HHC AMB AMB
comp=Z,18nm,1.3s,mb4.8
HHC AMB AMB
comp=Z,119nm,5.2s
HHC LR LR
comp=N,217nm,18.1s
HHC LR LR
comp=E,537nm,21.1s
HHC LR LR
comp=Z,167nm,18.0s
CN2 Changchun 37.93 359 *e*P **P** **05 13 02.4 +0.8**
CN2 *e*XP sP 05 13 45.0 +1.6
CN2 PCP PcP 05 15 15.3 +0.2
CN2 *e*S **S** **05 18 46.3 +2.2**
CN2 *e*SS SS 05 21 29.1 -6.7
CN2 SCS ScS 05 22 58.5 -2.0
CN2 AMB AMB
comp=Z,20nm,0.8s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,200nm,17.0s
KLBR Kellerberrin 37.98 192 *e*P **P** **05 13 01.7 -0.4**
comp=Z,39nm,1.0s,mb5.2
SHL Shillong 38.32 305 *e*P **P** **05 13 05.5 +0.6**
SHL *e*S **S** **05 18 48.0 -2.0**
MUN Mundaring 38.69 194 *e*P **P** **05 13 07.9 -0.1**
MDJ Mudanjiang 38.85 4 P **P** **05 13 10.6 +1.2**
MDJ AP pP 05 13 37.8 +0.8
MDJ XP sP 05 13 52.1 +0.9
MDJ PP PP 05 14 43.3 +2.5
MDJ SCP ScP 05 18 56.1 +1.5
MDJ S **S** **05 19 01.9 +3.9**
MDJ PCS PcS 05 19 08.9 +1.4
MDJ XS sS 05 19 48.8 +2.7
MDJ SCS ScS 05 23 07.5 +1.6
MDJ AMB AMB
comp=Z,27nm,1.1s,mb5.0
MDJ AMB AMB
comp=Z,72nm,4.5s
MDJ LR LR
comp=N,45nm,32.6s
MDJ LR LR
comp=E,189nm,29.4s
MDJ LR LR
comp=Z,114nm,22.9s
MDJ Mudanjiang 38.85 4 *e*P **P** **05 13 09.7 +0.3**
comp=Z,30nm,1.0s,mb5.1
NWAO Narrogin (SRO) 39.38 192 P **P** **05 13 13.7 0.0**
comp=Z,33nm,0.8s,mb5.2,baz=25,slow=8.5,SNR=19
NWAO Narrogin (SRO) 39.38 192 *e*P **P** **05 13 13.9 +0.2**
NWAO pmax pmax
comp=Z,135nm,1.5s
NWAO Narrogin (SRO) 39.38 192 *e*P **P** **05 13 13.9 +0.2**
comp=Z,135nm,1.5s,mb5.6
STKA Stephens Creek 40.16 160 ⇑ *i*P **P** **05 13 18.9 -1.3**
comp=Z,47nm,0.5s,mb5.6
STKA Stephens Creek 40.16 160 P **P** **05 13 18.9 -1.3**
comp=Z,55nm,0.5s,mb5.7,baz=338,slow=7.4,SNR=135
STKA PcP PcP 05 15 20.9 -1.1
comp=Z,15nm,0.5s,baz=346,slow=5.1,SNR=4.4
LSA Lhasa 40.77 310 *e*P **P** **05 13 27.4 +2.2**
LSA Lhasa 40.77 310 *e*P **P** **05 13 26.7 +1.5**
LSA pmax pmax
comp=Z,5.0nm,0.4s,mb4.7
LSA Lhasa 40.77 310 *e*P **P** **05 13 26.7 +1.5**
comp=Z,5.4nm,0.4s,mb4.7
GTA Gaotai 41.14 328 P **P** **05 13 28.6 +0.3**
GTA AP pP 05 13 57.4 +1.2
GTA XP sP 05 14 11.1 +0.8
GTA PP PP 05 15 06.0 +0.3
GTA S **S** **05 19 26.1 -6.0**
GTA SCS ScS 05 23 20.5 +1.0
GTA AMB AMB
comp=Z,13nm,1.0s,mb4.7
GTA AMB AMB
comp=Z,84nm,7.6s
GTA LR LR
comp=N,99nm,17.9s
GTA LR LR
comp=E,146nm,19.8s
GTA LR LR
comp=Z,261nm,23.9s
HABR Khabarovsk 43.25 9 *e*P **P** **05 13 47.3 +1.9**
HABR *e*S **S** **05 20 04.9 +1.8**
ARMA Armidale 43.40 147 *e*P **P** **05 13 47.8 +1.2**
YSS Yuzh-Sakhalins 43.47 16 ⇑ *e*P **P** **05 13 47.5 +0.3**
YSS pmax pmax
comp=Z,62nm,1.9s,mb5.0
YSS Yuzh-Sakhalins 43.47 16 *e*P **P** **05 13 49.3 +2.1**
comp=Z,12nm,0.4s,mb5.0
KLR Kul'dur 43.60 5 *e*P **P** **05 13 45.2 -3.0**
KLR pmax pmax
comp=E,20nm,1.2s
KLR pmax pmax
comp=Z,34nm,1.2s,mb5.0
HIA Hailar 43.74 354 *e*P **P** **05 13 48.7 -0.6**
HIA pmax pmax
comp=Z,19nm,1.0s
HIA Hailar 43.74 354 *e*P **P** **05 13 48.7 -0.6**
comp=Z,19nm,1.0s,mb4.8
JIRN Jiri 43.82 305 *e*P **P** **05 13 50.6 +0.7**
comp=Z,54nm,0.7s,mb5.4
GUN Gumba 44.17 305 *e*P **P** **05 13 53.2 +0.5**
comp=Z,97nm,0.9s,mb5.5
PKI Pulchoki 44.43 304 *e*P **P** **05 13 54.8 0.0**
comp=Z,26nm,0.8s,mb5.0
PKI Pulchoki 44.43 304 *e*P **P** **05 13 54.8 0.0**
PKI pmax pmax
comp=Z,26nm,0.8s,mb5.0
KKN Kakani 44.62 304 *e*P **P** **05 13 56.4 +0.1**
comp=Z,48nm,0.9s,mb5.2
KKN Kakani 44.62 304 *e*P **P** **05 13 56.4 +0.1**
KKN pmax pmax
comp=Z,48nm,0.9s,mb5.2
DMN Daman 44.69 304 *e*P **P** **05 13 56.9 0.0**
comp=Z,47nm,0.9s,mb5.2
ULN Ulaanbaatar 45.08 342 *e*P **P** **05 14 00.3 +0.4**
ULN *e* 05 15 39.8
ULN pmax pmax
comp=Z,12nm,1.0s,mb4.6
ULN Ulaanbaatar 45.08 342 *e*P **P** **05 14 00.3 +0.3**
comp=Z,12nm,1.0s,mb4.6
ULN *e*PcP PcP 05 15 39.8 +1.2
GKN Gorkha 45.22 304 *e*P **P** **05 14 01.1 0.0**
comp=Z,43nm,1.0s,mb5.1
SONM Songino Array 45.26 341 P **P** **05 13 59.9 -1.5**
comp=Z,5.0nm,0.8s,mb4.3,baz=150,slow=9.0,SNR=32
SONM PcP PcP 05 15 40.1 +0.9
comp=Z,5.7nm,0.9s,baz=148,slow=2.9,SNR=3.9
SONM ScP ScP 05 19 21.8 +1.6
comp=Z,1.9nm,1.0s,baz=143,slow=1.9,SNR=3.9
SONM LR LR 05 34 50.5
comp=Z,143nm,19.5s,baz=85,slow=38
SONM Songino Array 45.26 341 P **P** **05 13 59.9 -1.5**
SONM 05 15 40.1
SONM pmax pmax
comp=Z,5.0nm,0.8s
SONM pmax pmax
comp=Z,6.0nm,0.9s
SONM pmax pmax
comp=N,2.0nm,1.0s
SONM MLR MLR
comp=Z,143nm,19.5s
KOLN Koldanda 46.00 303 *e*P **P** **05 14 07.6 +0.4**
comp=Z,84nm,0.7s,mb5.6
CNB Canberra Magne 46.26 154 *e*P **P** **05 14 10.8 +1.5**
comp=Z,37nm,0.9s,mb5.1
TOO Toolangi 46.67 159 *e*P **P** **05 14 14.2 +1.8**
comp=Z,16nm,0.7s,mb4.8
TOO Toolangi 46.67 159 *e*P **P** **05 14 14.2 +1.8**
TOO pmax pmax
comp=Z,16nm,0.7s,mb4.9
CIT Chita 47.33 349 *e*P **P** **05 14 18.7 +1.2**
CIT *e* pP 05 14 46.2 +0.1
CIT pmax pmax
comp=Z,35nm,1.4s,mb4.9
HYB Hyderabad 48.00 288 *i*P **P** **05 14 23.5 +0.8**
HYB *e*PP pP 05 14 53.0 +1.6
HYB Hyderabad 48.00 288 *e*P pP 05 14 53.0 +1.6
ZAK Zakamensk 48.49 341 *e*P **P** **05 14 25.9 -0.6**
ZAK *e* 05 15 44.2
ZAK pmax pmax
comp=Z,7.0nm,2.0s,mb4.1
ZAK pmax pmax
comp=Z,7.0nm,2.1s,mb4.1
ZAK pmax pmax
comp=Z,10.0nm,1.8s,mb4.3
TLY Talaya 49.49 342 *e*P **P** **05 14 34.6 +0.5**
TLY *e*S **S** **05 21 37.2 +5.1**
TLY pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
TLY MLR MLR
comp=Z,83nm,20.0s
MOY Mondy 50.35 340 *e*P **P** **05 14 41.1 +0.5**
WMQ Urumqi 50.82 324 ⇑ *i*P **P** **05 14 44.8 +0.7**
WMQ AP pP 05 15 13.8 +0.7
WMQ XP sP 05 15 28.3 +1.4
WMQ PCP PcP 05 16 00.0 +0.8
WMQ PP PP 05 16 43.8 +2.4
WMQ S **S** **05 21 49.1 -1.4**
WMQ XS sS 05 22 40.3 -0.2
WMQ AMB AMB
comp=Z,14nm,1.2s,mb4.9
WMQ AMB AMB
comp=Z,37nm,3.9s
WMQ LR LR
comp=N,104nm,21.3s
WMQ LR LR
comp=E,141nm,26.7s
WMQ LR LR
comp=Z,152nm,22.6s
BOD Bodaibo 52.83 352 *e*P **P** **05 14 59.5 +0.5**
BOD pmax pmax
comp=Z,29nm,1.4s,mb5.1
MK31 Makanchi Array 55.65 325 P **P** **05 15 18.9 -0.5**
MK31 pmax pmax
comp=Z,14nm,0.8s,mb5.0
MKAR Makanchi Array 55.65 325 P **P** **05 15 19.1 -0.4**
comp=Z,9.7nm,0.6s,mb5.0,baz=121,slow=8.2,SNR=109
MKAR ScP ScP 05 20 05.5 +0.7
comp=Z,2.8nm,0.8s,baz=132,slow=5.2,SNR=8.5
MKAR Makanchi Array 55.65 325 P **P** **05 15 19.1 -0.3**
MKAR pmax pmax
comp=Z,10.0nm,0.6s
MKAR pmax pmax
comp=N,3.0nm,0.8s
YAK Yakutsk 56.24 2 *c i*P **P** **05 15 24.2 +0.5**
YAK pmax pmax
comp=Z,121nm,1.0s,mb5.9
YAK Yakutsk 56.24 2 *e*P **P** **05 15 24.9 +1.2**
KSH Kashi 56.29 314 *e*P **P** **05 15 24.1 +0.1**
KSH *e*AP pP 05 15 53.3 -0.2
KSH *e*XP sP 05 16 08.3 +1.1
KSH *e*PCP PcP 05 16 20.1 +0.1
KSH *e*PP PP 05 17 31.8 +1.2
KSH *e*SCP ScP 05 20 06.1 -1.6
KSH *e*PCS PcS 05 20 19.6 -1.1
KSH *e*S **S** **05 22 58.3 -6.1**
KSH *e*SCS ScS 05 24 56.4 -4.6
KSH *e*SS SS 05 26 48.3 -4.6
KSH AMB AMB
comp=Z,165nm,4.4s
KSH LR LR
comp=N,186nm,5.0s
KSH LR LR
comp=E,200nm,5.5s
KSH LR LR
comp=Z,173nm,5.3s
AAK Ala-Archa 58.56 317 ⇑ *i*P **P** **05 15 39.0 -0.9**
AAK pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
KURK Kurchatov 59.80 327 P **P** **05 15 47.1 -1.4**
comp=Z,198nm,0.8s,SNR=14
KURK Kurchatov 59.80 327 ⇑ *i*P **P** **05 15 47.8 -0.7**
NVS Novosibirsk 59.88 333 *i*P **P** **05 15 47.1 -1.9**
KK31 Karatay Array 61.45 316 *i*P **P** **05 15 58.9 -0.7**
KK31 pmax pmax
comp=Z,13nm,0.7s,mb5.1
KKAR Karatay Array 61.45 316 *i*P **P** **05 15 58.9 -0.7**
KKAR pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
RPZ Rata Peaks 63.67 145 P **P** **05 16 14.7 +0.3**
comp=Z,34nm,0.9s,mb5.2,baz=334,slow=3.6,SNR=11
URZ Urewera 64.33 137 P **P** **05 16 19.1 +0.3**
comp=Z,16nm,0.9s,mb4.9,baz=272,slow=9.8,SNR=3.6
VOSK Vostochnaya 64.94 327 P **P** **05 16 21.3 -1.3**
VOSK pmax pmax
comp=Z,12nm,1.0s,mb4.7
BVA0 Borovoye Array 65.39 327 *i*P **P** **05 16 24.7 -0.9**
BVA0 pmax pmax
comp=Z,2.0nm,1.0s,mb3.9
BRVK Borovoye 65.46 327 P **P** **05 16 25.9 -0.1**
comp=Z,123nm,0.6s,mb5.9,SNR=8.2
CHKZ Chkalovo 65.54 327 *e*P **P** **05 16 25.8 -0.8**
TIXI Tiksi 65.87 1 *e*P **P** **05 16 24.5 -4.1**
TIXI *e*S S 05 24 58.2 -7.5
TIXI *e* 05 25 42.7
TIXI pmax pmax
comp=Z,29nm,0.8s,mb5.2
TIXI smax
comp=N,49nm,8.3s
TIXI smax
comp=E,63nm,8.8s
TIXI Tiksi 65.87 1 *e*P **P** **05 16 28.2 -0.4**
ZRNK Zerenda 66.12 326 P **P** **05 16 29.4 -0.9**
ZRNK pmax pmax
comp=Z,12nm,0.9s,mb4.7
ZRNK Zerenda 66.12 326 *e*P **P** **05 16 29.4 -0.9**
BILL Bilibino 67.77 15 ⇑ *i*P **P** **05 16 40.7 0.0**
BILL *e* 05 17 01.7
BILL *e**PP pP 05 17 20.0 +8.9
BILL *e*SS SS 05 29 50.1 -2.1
BILL pmax pmax
comp=Z,21nm,2.0s,mb4.6
BILL MLR MLR
comp=Z,100nm,20.0s
BILL Bilibino 67.77 15 *e*P **P** **05 16 40.1 -0.6**
comp=Z,11nm,1.0s,mb4.7
AB31 Akbulak array 70.30 320 *i*P **P** **05 16 55.5 -0.8**
AB31 pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
AKTO Aktyubinsk 71.80 321 P **P** **05 17 04.7 -0.7**
AKTO pmax pmax
comp=Z,2.0nm,1.4s,mb3.8
SVE Sverdlovsk 72.01 328 *e*P **P** **05 17 05.0 -1.6**
SVE *e* pP 05 17 30.8 -6.6
CASY Casey 72.73 187 *e*P **P** **05 17 11.2 +0.3**
ARU Arti 73.00 327 ⇑ *i*P **P** **05 17 11.1 -1.4**
ARU *e* 05 17 24.3
ARU *e*PPP 05 21 40.4
ARU *e*S S 05 26 26.8 -2.5
ARU *e*SS SS 05 31 13.5 +1.1

ARU pmax pmax
comp=Z,11nm,0.7s,mb4.8
ORR Orenburg 74.06 322 ⇓*i*P **P 05 17 18.3 -0.4**
ORR pmax pmax
comp=Z,30nm,0.9s,mb5.0
RAR Rarotonga 77.27 113 LR LR 05 45 32.8
comp=Z,415nm,19.9s,baz=334,slow=31
TTA Tatalina 79.36 27 *e*P **P 05 17 49.6 +1.1**
TTA pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
TTA Tatalina 79.36 27 *e*P **P 05 17 49.6 +1.1**
comp=Z,8.1nm,0.7s,mb4.7
ZEI Tsey 80.51 312 *e*P **P 05 17 54.1 -0.6**
ZEI *e**PP pP 05 18 31.2 +5.2
ZEI pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
KIV Kislovodsk 81.41 313 *e*P **P 05 18 00.0 +0.6**
KIV pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
PMR Palmer 82.44 29 *e*P **P 05 18 05.0 +0.2**
COLA College 83.12 25⇑*i*P **P 05 18 08.3 0.0**
COLA College 83.12 25 *e*P **P 05 18 08.1 -0.3**
comp=Z,17nm,0.9s,mb4.9
KLMR Klimovskoe 83.43 331 *d i*P **P 05 18 09.5 -0.4**
KLMR pmax pmax
comp=Z,50nm,1.4s,mb5.2
KLMR pmax pmax
comp=E,10.0nm,1.5s
ILAR Eielson Array 83.53 26 P **P 05 18 09.6 -0.8**
comp=E,12nm,0.8s,mb4.8,baz=251,slow=4.4,SNR=87
ILAR Eielson Array 83.53 26 P **P 05 18 09.6 -0.8**
ILAR pmax pmax
comp=Z,12nm,0.8s
SOC Sochi 83.57 313 *e*P **P 05 18 08.0 -2.6**
SOC *e*PP pP 05 18 34.6 -7.6
SOC *e* 05 21 29.0
SOC *e*S S 05 28 20.1 -2.2
SOC pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
TMCR Tamitsa 84.10 334 *e*P **P 05 18 12.5 -0.8**
TMCR pmax pmax
comp=N,30nm,1.0s
TMCR pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
TMCR pmax pmax
comp=E,10.0nm,0.4s
OBN Obninsk 85.15 325 *de*P **P 05 18 17.6 -1.0**
OBN *e* 05 21 39.1
OBN *e*SS SS 05 34 12.3 -2.2
OBN pmax pmax
comp=Z,34nm,1.0s,mb5.2
OBN MLR MLR
comp=Z,100nm,15.0s
ANN Anapa 85.16 314 *e*P **P 05 18 26.2 +7.6**
ANN *i**PP pP 05 19 08.0 +18
ANN *e* 05 21 42.8
ANN *e*S 05 28 37.7
ANN pmax pmax
comp=Z,44nm,1.0s,mb5.3
MAW Mawson 85.44 200 P **P 05 18 19.4 -0.6**
comp=Z,3.8nm,0.9s,mb4.3,baz=282,slow=8.3,SNR=4.3
MAW Mawson 85.44 200 P **P 05 18 19.4 -0.7**
MAW pmax pmax
comp=Z,4.0nm,0.9s
VNDA Vanda 85.45 173 P **P 05 18 20.1 0.0**
comp=Z,8.1nm,0.5s,mb4.9,baz=314,slow=5.3,SNR=69
VNDA Vanda 85.45 173 P **P 05 18 20.1 0.0**
VNDA pmax pmax
comp=Z,8.0nm,0.5s
PPT Papeete 86.20 108 *e*LR LR 05 46 07.5
comp=Z,83nm,25.8s
SBA Scott Base 86.37 172 *e*P **P 05 18 25.7 +1.1**
DAWY Dawson 86.81 26 *e*P **P 05 18 27.8 +1.1**
TBI Tubuai 87.04 114 *e*LR LR 05 46 31.3
comp=Z,98nm,33.2s
JOF Joensuu 87.19 333 *ep* **P 05 18 26.8 -1.8**
comp=Z,3.8nm,0.5s,mb4.6
KEV Kevo 87.86 340 *ep* **P 05 18 30.8 -1.0**
BR131 Keskin Array S 88.37 310 *e*P **P 05 18 33.3 -0.9**
comp=Z,4.0nm,0.8s,mb4.5
BRTR Keskin Array B 88.37 310 P **P 05 18 32.9 -1.3**
comp=Z,2.3nm,0.8s,mb4.2,baz=104,slow=5.2,SNR=11
BRTR Keskin Array B 88.37 310 P **P 05 18 32.9 -1.3**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 88.42 340 P **P 05 18 33.6 -0.8**
comp=Z,2.1nm,0.4s,mb4.5,baz=87,slow=6.1,SNR=30
ARCES LR LR 06 03 20.2
comp=Z,80nm,20.1s,baz=226,slow=39
ARE0 ARCESS Array S 88.42 340 *e*P **P 05 18 34.2 -0.3**
INK Inuvik 88.50 21 *e*P **P 05 18 34.7 -0.1**
INK pmax pmax
comp=Z,51nm,1.5s
INK Inuvik 88.50 21 *e*P **P 05 18 34.7 -0.1**
comp=Z,51nm,1.5s,mb5.3
KAF Kangasniemi 89.61 332 *ep* **P 05 18 38.7 -1.3**
comp=Z,2.9nm,0.4s,mb4.8,baz=74,slow=4.3
KAF Kangasniemi 89.61 332 *e*P **P 05 18 38.7 -1.3**
KAF pmax pmax
comp=Z,3.0nm,0.4s,mb4.8
FINES FINESS Array B 89.85 332 P **P 05 18 40.1 -1.0**
comp=Z,3.9nm,0.8s,mb4.6,baz=92,slow=6.1,SNR=12
FINES LR LR 06 03 42.8
comp=Z,104nm,18.5s,baz=161,slow=39
AKASG Malin Array Be 90.04 321 P **P 05 18 40.4 -1.6**
comp=Z,0.4nm,0.2s,mb4.1,baz=75,slow=3.8,SNR=8.9
DAG Danmarks Havn 95.22 352⇑*i*P **P 05 19 04.7 -1.2**
comp=Z,3.7nm,0.8s,mb4.9
DAG Danmarks Havn 95.22 352⇑*i*P **P 05 19 04.7 -1.2**
DAG pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
QSPA South Pole Qui 95.62 180 *e*P **P 05 19 08.3 +0.6**
comp=Z,13nm,1.1s,mb5.3
NB2 NORSAR Subarra 96.79 334 P **P 05 19 08.8 -4.2**
comp=Z,2.5nm,0.7s,mb4.8,baz=67,slow=4.4
NOA NORSAR Array B 96.79 334 P **P 05 19 11.2 -1.9**
comp=Z,1.4nm,0.7s,mb4.5,baz=66,slow=4.5,SNR=4.2
NOA LR LR 06 05 43.6
comp=Z,70nm,18.8s,baz=205,slow=37
NOA NORSAR Array B 96.79 334 P **P 05 19 11.2 -1.8**
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA MLR MLR
comp=Z,70nm,18.8s
YKA Yellowknife Ar 97.90 24 P **P 05 19 18.2 +0.2**
comp=Z,5.9nm,1.0s,mb5.1,baz=301,slow=4.9,SNR=16
BRG Berggiesshubel 99.35 324 *e*P Pdif 05 19 24.0 -0.5
comp=Z,1.9nm,0.7s
BRG Berggiesshubel 99.35 324 *e*P Pdif 05 19 24.0 -0.5
BRG pmax pmax
comp=Z,2.0nm,0.7s,mb4.8
GERES GERESS Array B 100.22 322 P Pdif 05 19 27.1 -1.3
comp=Z,0.2nm,0.3s,baz=15,slow=4.3,SNR=2.9
ANMO Albuquerque 116.04 47 *e*PKIKP PKPdf 05 24 27.1 +2.5
ECSD EROS,Sioux Fal 117.43 34 *e*PKPdf PKPdf 05 24 27.4 +0.1
SCHQ Schefferville 118.69 9 PKP PKPdf 05 24 30.3 +0.6
comp=Z,1.6nm,0.3s,baz=21,slow=4.6,SNR=14
KSU1 Kansas State U 120.37 38 *e*PKPdf PKPdf 05 24 33.9 +0.9
TORD Torodi Ar. Bea 121.81 289 PKP PKPdf 05 24 36.9 +1.2
comp=Z,3.4nm,0.4s,baz=58,slow=1.7,SNR=149
CCM Cathedral Cave 124.24 36 *e*PKIKP PKPdf 05 24 41.2 +0.8
MIAR Mount Ida 125.11 40 *e*PKPdf PKPdf 05 24 44.2 +2.2
MIAR *e*PP PP 05 26 27.7 -5.0
BLO Bloomington 126.03 31 *e*PKIKP PKPdf 05 24 44.8 +1.0
WCI Wyandotte Cave 126.85 32 *e*PKIKP PKPdf 05 24 46.8 +1.4
ACSO Alum Creek Sta 126.95 28 *e*PKPdf PKPdf 05 24 46.4 +0.8
WVT Waverly 127.53 35 *e*PKIKP PKPdf 05 24 48.2 +1.5
OXF Oxford 127.73 37 *e*PKIKP PKPdf 05 24 48.8 +1.7
PLAL Pickwick Lake 128.20 36 *e*PKPdf PKPdf 05 24 49.0 +1.0
DBIC Dimbokro 129.65 283 PKP PKPdf 05 24 52.2 +1.5
comp=Z,6.1nm,0.8s,baz=27,slow=4.9,SNR=5.6
DBIC Dimbokro 129.65 283 PKIKP PKPdf 05 24 52.2 +1.5
DBIC pmax pmax
comp=Z,6.0nm,0.9s
LRAL Lakeview Retre 130.20 37 *e*PKPdf PKPdf 05 24 53.0 +1.3
PLCA Paso Flores 142.04 159 PKhKP 05 25 10.0
comp=Z,4.0nm,0.8s,baz=226,slow=5.8,SNR=11
PLCA PKP PKPdf 05 25 14.9 +1.3
comp=Z,4.0nm,0.8s,baz=224,slow=3.3,SNR=9.2
VCR Vista de Mar 144.57 64 *e*P PKPdf 05 25 20.6 +2.5
LMGC Las Mercedes 145.67 41 *e*P PKPbc 05 25 24.1 +3.5
HLGC Holguin 145.67 39 *e*P PKPdf 05 25 21.4 +1.4
PRS1 Puriscal 145.81 63 *e*P PKPbc 05 25 25.2 +4.2
LCR2 La Lucha 2 146.19 63⇑*e*P PKPbc 05 25 25.8 +3.6
URSC Urasca 146.34 63⇑*e*P PKPbc 05 25 26.4 +3.8
BUS Buena Vista 146.48 63⇑*e*P PKPbc 05 25 26.6 +3.6
TRQA Tornquist 146.96 168 *e*PKPbc PKPbc 05 25 25.5 +1.2
CMCH Combarbala 149.96 150⇓*e*P PKPbc 05 25 33.5 +1.4
CPD Cerro la Pandu 153.52 27 *e*PKPbc PKPbc 05 25 42.2 +2.0
CPD *e*PKPab PKPab 05 25 54.7 +1.7
MTP Monte Pirata 153.63 26 *e*PKPbc PKPbc 05 25 42.4 +2.0
MTP *e*PKPab PKPab 05 25 55.4 +1.9
OTAV Otavalo 154.66 77 *e*PKPbc PKPbc 05 25 47.2 +4.6
OTAV *e*PKPab PKPab 05 26 00.3 +2.4
ROSC El Rosal 156.94 63 PKP PKPdf 05 25 39.6 +2.6
comp=Z,5.6nm,0.7s,baz=90,slow=3.0,SNR=4.7
SDV Santo Domingo 157.79 49 *e*PKPdf PKPdf 05 25 40.0 +1.9
LPAZ La Paz 162.44 128 PKP PKPdf 05 25 46.4 +3.1
comp=Z,4.1nm,1.0s,baz=69,slow=2.8,SNR=12
LPAZ PKPab PKPab 05 26 34.8 +3.1
comp=Z,9.1nm,0.9s,baz=249,slow=3.9,SNR=13
LPAZ La Paz 162.44 128 PKIKP PKPdf 05 25 46.4 +3.1
LPAZ pmax pmax
comp=Z,4.0nm,1.0s
LPAZ pmax pmax
comp=Z,9.0nm,0.9s
SAML Samuel 170.13 109 *e*PKPdf PKPdf 05 25 51.1 +1.8

MOS ***22*** *05:31:05.0± 1.0, 1394N× 12062E, h33km, mb4.8/21, Error ellipse: s-maj=20.4km s-min=7.1km az=113.7*
MAN ***22*** *05:31:08.5, 1380N× 120.10E, h59km, mb3.7, ML4.8, MS2.6*
ISCJB ***22*** *05:31:08.6± 0.4, 1375N± 002× 12009E± 005, h58km± 4km, mb4.5/44, MS3.6/9, Error ellipse: s-maj=7.6km s-min=3.8km az=176.7*
BJI ***22*** *05:31:09.9, 1380N× 120.30E, h58km, mB4.9, mb4.6, Ms3.8, Msz3.7*
NEIC ***22*** *05:31:10.9± 0.3, 1383N× 120.26E, mb4.8/10, Error ellipse: s-maj=11.0km s-min=6.5km az=82.0*
NEIC Felt [II PIVS] at Paranaque and Sucat; [I PIVS] at Makati and Quezon City, Luzon.
IDC ***22*** *05:31:11.5± 1.3, 1381N× 120.42E, h76km± 12km, mb4.0/15, mb1 4.2/16, mb1mx4.2/19, mbtmp4.4/16, MS3.6/7, Ms1 3.6/7, ms1mx3.3/24, Error ellipse: s-maj=31.3km s-min=12.2km az=71.0*
ISC 22 05:31:10.2±0.4, **1377N**±002×**12015E**±005, **h58**km±4km, **h66**km±5.7km:**pP-P, n109,** σ1.1**9**/119, **mb4.5**/44, **MS3.6**/**9, 5C-5D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.10**	**110**	*e*P	**Pn**	**05 31 15.6**	**-3.4**
LUBP				*e*S	**Sn**	**05 31 20.2**	**-5.0**
TGY	**Tagaytay City**	**0.84**	**67**	P	**Pn**	**05 31 25.3**	**-0.7**
	5μm,0.3s,baz=257,slow=3.0,SNR=329						
TGY				S	**Sn**	**05 31 38.2**	**+0.6**
	7μm,0.3s,baz=339,slow=22,SNR=38						
TGY	**Tagaytay City**	**0.84**	**67**	⇑*i*P	**Pn**	**05 31 26.6**	**+0.6**
TGY				*i* S	**Sn**	**05 31 39.1**	**+1.5**
LQP	**Lukban**	**1.39**	**76**	⇓*e*P	**Pn**	**05 31 33.3**	**-0.1**
BOAC	**Boac**	**1.68**	**100**	*e*P	**Pn**	**05 31 36.2**	**-1.1**
BUSP	**Coron**	**1.76**	**178**	*e*P	**Pn**	**05 31 38.0**	**-0.3**
POLP	**Polilio Island**	**1.98**	**61**	*e*P	**Pn**	**05 31 40.9**	**-0.5**
SCZP	**Santa Cruz**	**2.01**	**354**	*e*P	**Pn**	**05 31 40.0**	**-1.8**
GQP	**Guinayangan**	**2.24**	**86**	⇓*e*P	**Pn**	**05 31 35.0**	**-10**
GQP				*i* S	**Sn**	**05 32 16.6**	**+5.3**
OTRP	**Odiongan**	**2.30**	**127**	*e*P	**Pn**	**05 31 46.0**	**+0.2**
BALP	**Baler**	**2.40**	**35**	*e*P	**Pn**	**05 31 47.0**	**-0.1**
BOLP	**Bolinao**	**2.61**	**355**	*e*P	**Pn**	**05 31 48.3**	**-1.6**
BCPH	**Baguio City Da**	**2.63**	**9**	⇑*i*P	**Pn**	**05 31 49.1**	**-1.1**
BCPH				*i* S	**Sn**	**05 32 20.7**	**-0.3**
ENPP	**El Nido**	**2.64**	**196**	*e*P	**Pn**	**05 31 50.3**	**-0.1**
KALP	**Kalibo**	**2.98**	**134**	*e*P	**Pn**	**05 31 57.8**	**+2.7**
CUYO	**Cuyo Island**	**3.02**	**164**	*e*P	**Pn**	**05 31 55.2**	**-0.4**
CUYO				*e*S	**Sn**	**05 32 28.6**	**-2.0**
RCP	**Roxas**	**3.35**	**131**	*e*P	**Pn**	**05 32 03.9**	**+3.8**
CAUP	**Cauayan**	**3.55**	**27**	*e*P	**Pn**	**05 32 03.9**	**+1.1**
ABRA	**Dolores**	**3.90**	**8**	*e*P	**Pn**	**05 32 07.8**	**+0.2**
PVCP	**Virac**	**3.90**	**92**	⇑*i*P	**Pn**	**05 32 08.6**	**+1.0**
PVCP				*i* S	**Sn**	**05 32 43.9**	**-8.2**
PVCP	**Virac**	**3.90**	**92**	*e*P	**Pn**	**05 32 08.7**	**+1.1**
GUIM	**Jordan**	**3.93**	**142**	*e*P	**Pn**	**05 32 08.4**	**+0.4**
PALP	**Palanan**	**3.94**	**34**	⇑*i*P	**Pn**	**05 32 08.6**	**+0.4**
PALP				*i* S	**Sn**	**05 32 56.6**	**+3.4**
PALP	**Palanan**	**3.94**	**34**	*e*P	**Pn**	**05 32 08.1**	**-0.2**
APYP	**Conner**	**4.20**	**14**	*e*P	**Pn**	**05 32 12.6**	**+0.8**
PPR	**Puerto Princes**	**4.20**	**199**	⇑*i*P	**Pn**	**05 32 10.2**	**-1.6**
PPR				*i* S	**Sn**	**05 32 56.5**	**-3.1**
CVP	**Callao Caves**	**4.23**	**22**	*e*P	**Pn**	**05 32 12.0**	**-0.1**
PIP	**Pasuquin**	**4.55**	**6**	⇓*i*P	**Pn**	**05 32 17.5**	**+1.0**
PIP				*e*S	**Sn**	**05 33 12.0**	**+3.8**
TBP	**Tagbilaran**	**5.45**	**138**	*e*P	**Pn**	**05 32 29.0**	**+0.2**
TBP				*i* S	**Sn**	**05 33 21.2**	**-8.9**
BATP	**Bataraza**	**5.45**	**205**	*e*P	**Pn**	**05 32 30.1**	**+1.3**
PAGZ	**Pagadian**	**6.69**	**151**	*e*P	**Pn**	**05 32 48.3**	**+2.5**
NACB	**Ninganchiao**	**10.44**	**7**	*e*Pn	**Pn**	**05 33 37.2**	**+0.1**
YHNB	**Yeheng**	**10.90**	**6**	*e*Pn	**Pn**	**05 33 44.4**	**+0.9**
QIZ	**Qiongzhong**	**11.18**	**299**	P	**Pn**	**05 33 46.9**	**-0.4**
QIZ				*e*S	**Sn**	**05 36 02.9**	**+12**
QIZ				LR	LR		
	comp=N,359nm,14.1s						
QIZ				LR	LR		
	comp=Z,295nm,13.9s						
QIZ	**Qiongzhong**	**11.18**	**299**	*e*Pn	**Pn**	**05 33 46.3**	**-0.9**
	comp=Z,18nm,0.7s						
QIZ				*e*Sn	**Sn**	**05 35 45.0**	**-5.7**
JOW	**Kunigami**	**15.06**	**29**	P	**Pn**	**05 34 38.7**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=252,slow=5.0,SNR=8.9						
JOW				LR	LR	05 40 07.0	
	comp=Z,190nm,18.2s,baz=239,slow=36						
KSM	**Kuching**	**15.62**	**219**	*e*Pn	**Pn**	**05 34 49.6**	**+3.0**
WHN	**Wuhan**	**17.53**	**343**	*e*P	**Pn**	**05 35 16.5**	**+6.0**
GYA	**Guiyang**	**17.86**	**317**	P	**Pn**	**05 35 16.3**	**+1.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s						
XAN	**Xi'an**	**22.61**	**335**	P	**P**	**05 36 05.9**	**0.0**
XAN				S	**S**	**05 40 06.6**	**-3.1**
XAN				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.2						
XAN				LR	LR		
	comp=N,169nm,17.6s						
XAN				LR	LR		
	comp=E,107nm,11.5s						
XAN				LR	LR		
	comp=Z,259nm,14.5s,MS3.8						
PSI	**Prapat**	**23.63**	**244**	LR	LR	05 45 14.5	
	comp=Z,144nm,18.4s,MS3.5,baz=174,slow=35						
GUMO	**Guam**	**24.02**	**87**	LR	LR	05 44 27.1	
	comp=Z,91nm,19.0s,MS3.3,baz=177,slow=34						
CBIJ	**Chichi jima**	**24.49**	**54**	LR	LR	05 45 18.3	
	comp=Z,169nm,19.4s,MS3.5,baz=122,slow=35						
KS15	**Wonju Array Si**	**24.57**	**15**	P	**P**	**05 36 23.8**	**-0.8**
JHJ	**Hachijo jima 2**	**26.29**	**40**	LR	LR	05 46 09.4	
	comp=Z,71nm,20.2s,MS3.2,baz=287,slow=34						
MJAR	**Matsushiro Arr**	**27.86**	**32**	P	**P**	**05 36 49.7**	**-4.6**
	comp=Z,1.0nm,0.3s,mb3.9,baz=241,slow=9.6,SNR=2.5						
FITZ	**Fitzroy Crossi**	**32.13**	**170**	*e*P	**P**	**05 37 32.8**	**+0.7**
	comp=Z,9.3nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**32.13**	**170**	P	**P**	**05 37 32.1**	**0.0**
	comp=Z,4.9nm,0.7s,mb4.4,baz=338,slow=7.1,SNR=13						
MBWA	**Marble Bar**	**34.71**	**181**	*e*P	**P**	**05 37 55.0**	**+0.4**
	comp=Z,9.0nm,0.4s,mb5.0						
MBWA				pP	pP	05 38 10.2	+1.2
MBWA				sP	sP	05 38 17.9	+2.1
ULN	**Ulaanbaatar**	**35.70**	**345**	*e*P	**P**	**05 38 03.7**	**+0.7**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.3s,mb4.9						
ULN	**Ulaanbaatar**	**35.70**	**345**	*e*P	**P**	**05 38 03.7**	**+0.6**
	comp=Z,4.8nm,0.3s,mb4.9						
SONM	**Songino Array**	**35.84**	**344**	P	**P**	**05 38 04.4**	**+0.1**
	comp=Z,6.0nm,0.7s,mb4.6,baz=163,slow=10,SNR=18						
SONM				LR	LR	05 52 31.2	
	comp=Z,138nm,20.2s,MS3.7,baz=254,slow=36						
WRAB	**Tennant Creek**	**36.29**	**157**	*d i*P	**P**	**05 38 07.6**	**-0.5**
WRA	**Warramunga Arr**	**36.29**	**157**	P	**P**	**05 38 07.4**	**-0.7**
	comp=Z,11nm,0.7s,mb4.9,baz=336,slow=9.7,SNR=42						
WRA				ScP	ScP	05 44 11.1	-2.3
	comp=Z,0.5nm,0.8s,baz=344,slow=3.4,SNR=4.8						
WB2	**Warramunga Arr**	**36.30**	**157**	*e*P	**P**	**05 38 07.9**	**-0.3**
KLR	**Kul'dur**	**36.63**	**13**	*e*P	**P**	**05 38 06.2**	**-4.8**
CIT	**Chita**	**38.52**	**353**	*e*P	**P**	**05 38 26.7**	**-0.3**
CIT				*e*	pP	05 38 39.9	-1.7
CIT				pmax	pmax		
	comp=Z,50nm,0.9s,mb5.2						
ZAK	**Zakamensk**	**39.02**	**343**	*e*P	**P**	**05 38 28.7**	**-2.4**
ZAK				pmax	pmax		

comp=Z,7.0nm,1.9s,mb4.1
ASAR Alice Springs 39.56 160 P **P 05 38 35.8 +0.1**
comp=Z,4.5nm,0.6s,mb4.4,baz=339,slow=7.2,SNR=54
TLY Talaya 40.08 344 *e*P **P 05 38 39.2 -0.8**
TLY *e* 05 40 43.4
TLY pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
TLY MLR MLR
comp=Z,75nm,18.0s,MS3.6
CTA Charters Tower 42.33 142 P **P 05 39 00.9 +2.5**
comp=Z,8.7nm,1.1s,mb4.3,baz=328,slow=13,SNR=3.3
BOD Bodaibo 44.21 355 *e*P **P 05 39 12.5 -1.1**
BOD pmax pmax
comp=Z,5.0nm,1.1s,mb4.2
FORT Forrest 44.94 170 *e*P **P 05 39 19.9 +0.5**
comp=Z,36nm,0.7s,mb5.3
MK31 Makanchi Array 45.66 324 P **P 05 39 26.2 +1.1**
MK31 pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
MKAR Makanchi Array 45.66 324 P **P 05 39 26.2 +1.1**
comp=Z,2.0nm,0.7s,mb4.2,baz=129,slow=8.8,SNR=12
MKAR PcP PcP 05 41 02.5 +0.1
comp=Z,4.6nm,0.7s,baz=107,slow=4.1,SNR=12
HNR Honiara 45.73 118 LR LR 05 55 41.8
comp=Z,94nm,19.0s,MS3.8,baz=359,slow=32
NWAO Narrogin (SRO) 46.52 183 *e*P **P 05 39 32.8 +1.0**
NWAO pmax pmax
comp=Z,5.0nm,0.5s
NWAO Narrogin (SRO) 46.52 183 *e*P **P 05 39 32.8 +1.0**
comp=Z,4.6nm,0.5s,mb4.7
AAK Ala-Archa 48.64 315 *i*P **P 05 39 51.3 +3.0**
AAK pmax pmax
comp=Z,4.0nm,1.6s,mb4.2
AAK MLR MLR
comp=Z,100nm,22.0s,MS3.8
STKA Stephens Creek 49.83 156 *e*P **P 05 39 54.6 -2.7**
comp=Z,1.9nm,0.6s,mb4.3
STKA Stephens Creek 49.83 156 P **P 05 39 54.4 -3.0**
comp=Z,1.6nm,0.6s,mb4.2,baz=350,slow=9.8,SNR=4.2
KURK Kurchatov 49.83 327 *i*P **P 05 39 58.3 +0.9**
NVS Novosibirsk 50.04 333 *i*P **P 05 39 57.8 -1.1**
KK31 Karatay Array 51.54 315 *i*P **P 05 40 11.7 +1.4**
KK31 pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
KKAR Karatay Array 51.54 315 *i*P **P 05 40 11.7 +1.4**
KKAR pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
VOSK Vostochnaya 54.96 326 P **P 05 40 35.9 +0.5**
VOSK pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
CHKZ Chkalovo 55.58 327 *e*P **P 05 40 39.2 -0.6**
CHKZ *e**PP pP 05 40 58.1 +2.9
CHKZ pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
CHKZ Chkalovo 55.58 327 *e*P **P 05 40 39.2 -0.6**
comp=Z,3.3nm,0.6s,mb4.5
CHKZ *e*pP pP 05 40 58.1 +2.9
CHKZ *e*sP sP 05 41 06.8 +5.1
ZRNK Zerenda 56.14 325 *e*P **P 05 40 44.5 +0.7**
ZRNK *e**PP pP 05 41 02.5 +3.3
ZRNK pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
ZRNK Zerenda 56.14 325 *e*P **P 05 40 44.5 +0.6**
comp=Z,8.0nm,0.7s,mb4.9
ZRNK *e*pP pP 05 41 02.5 +3.3
TIXI Tiksi 58.09 3 *e*P **P 05 40 52.1 -5.5**
TIXI *e*S **S 05 48 49.2 -5.2**
TIXI pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
TIXI smax
comp=N,56nm,17.9s
TIXI smax
comp=E,49nm,16.7s
AB31 Akbulak array 60.33 319 *i*P **P 05 41 13.8 +0.7**
AB31 pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
AKTO Aktyubinsk 61.82 320 *i*P **P 05 41 23.7 +0.6**
AKTO pmax pmax
comp=Z,2.0nm,1.5s,mb4.0
SVE Sverdlovsk 62.06 328 *e*P **P 05 41 20.2 -4.6**
SVE pmax pmax
comp=Z,20nm,1.1s,mb5.2
ARU Arti 63.03 327⇓*i*P **P 05 41 31.1 -0.1**
ARU *e* 05 43 45.9
ARU *e*S **S 05 50 00.5 +3.1**
ARU *e*SS SS 05 54 08.9 +5.1
ARU pmax pmax
comp=Z,11nm,0.9s,mb5.0
KIV Kislovodsk 71.58 312 *e*P **P 05 42 26.1 +0.8**
KIV pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
TMCR Tamitsa 74.28 333 *e*P **P 05 42 40.1 -1.1**
TMCR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
TMCR pmax pmax
comp=N,30nm,0.9s
JOF Joensuu 77.33 332 *ep* **P 05 42 58.1 -0.6**
comp=N,5.3nm,0.4s,mb4.8
KEV Kevo 78.28 339 *ep* **P 05 43 01.9 -2.0**
comp=N,7.1nm,0.6s,mb4.8
KEV Kevo 78.28 339 *e*P **P 05 43 01.9 -2.0**
KEV pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
BRTR Keskin Array B 78.69 308 P **P 05 43 07.3 +1.1**
comp=Z,0.5nm,0.7s,mb3.6,baz=114,slow=3.5,SNR=3.3
ARCES ARCESS Array B 78.83 339 P **P 05 43 06.3 -0.6**
comp=Z,5.4nm,0.6s,mb4.7,baz=77,slow=7.0,SNR=24
ARE0 ARCESS Array S 78.83 339 *e*P **P 05 43 05.8 -1.2**
ILAR Eielson Array 78.92 26 P **P 05 43 04.6 -2.9**
comp=Z,0.4nm,0.7s,mb3.5,baz=260,slow=5.3,SNR=4.7
KAF Kangasniemi 79.74 332 *ep* **P 05 43 09.3 -2.6**
comp=Z,8.5nm,0.8s,mb4.7,baz=76,slow=4.9
KAF Kangasniemi 79.74 332 *e*P **P 05 43 09.3 -2.6**
KAF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
FINES FINESS Array B 79.96 331 P **P 05 43 12.7 -0.5**
comp=Z,2.6nm,0.6s,mb4.3,baz=90,slow=7.6,SNR=13
AKASG Malin Array Be 80.06 320 P **P 05 43 13.2 -0.5**
comp=Z,0.2nm,0.2s,mb3.6,baz=70,slow=4.7,SNR=5.9
KMBO Kilima Mbogo 83.36 267 P **P 05 43 32.6 +1.6**
comp=Z,0.6nm,0.3s,mb4.0,baz=36,slow=22,SNR=3.8
OJC Ojcow 86.04 321 *e*P **P 05 43 45.8 +1.3**
NB2 NORSAR Subarra 86.95 333 P **P 05 43 47.6 -1.4**
comp=Z,1.9nm,0.7s,mb5.3,baz=67,slow=5.1
NOA NORSAR Array B 86.95 333 P **P 05 43 47.7 -1.3**
comp=Z,12nm,0.7s,mb5.2,baz=68,slow=4.7,SNR=41
NOA NORSAR Array B 86.95 333 P **P 05 43 47.7 -1.3**
BRG Berggiesshubel 89.36 323 *e*(P) **P 05 44 01.3 +0.9**
comp=Z,3.9nm,0.8s,mb4.8
BRG Berggiesshubel 89.36 323 *e*P **P 05 44 01.3 +0.9**
BRG pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
GERES GERESS Array B 90.24 321 P **P 05 44 04.7 +0.2**
comp=Z,0.4nm,0.2s,mb4.3,baz=340,slow=7.4,SNR=7.3
YKA Yellowknife Ar 92.92 22 P **P 05 44 15.4 -1.5**
comp=Z,1.1nm,0.7s,mb4.4,baz=307,slow=4.4,SNR=6.5
YKA Yellowknife Ar 92.92 22 P **P 05 44 15.4 -1.5**
PLCA Paso Flores 151.55 163 PKPbc PKPbc 05 50 57.6 -0.2
comp=Z,1.8nm,0.8s,baz=3.5,slow=4.4,SNR=5.0

ISCJB ***22*** *05:40:18.7± 1.8, 528S± 009× 1467E± 0.1, h131km± 17km, mb4.3/16, Error ellipse: s-maj=20.6km s-min=14.0km az=18.8*
NEIC ***22*** *05:40:20.9± 1.6, 531S× 146.63E, h135km± 14km, mb4.5/9, Error ellipse: s-maj=16.9km s-min=11.3km az=103.0*
IDC ***22*** *05:40:20.5± 1.8, 533S× 146.69E, h133km± 17km, mb4.0/9, mb1 4.2/11, mb1mx4.2/13, mbtmp4.5/11, MS3.7/2, Ms1 3.7/2, ms1mx2.8/20, Error ellipse: s-maj=27.2km s-min=11.1km az=99.0*
MOS ***22*** *05:40:20.0± 2.2, 506S× 146.49E, h133km, mb4.3/4, Error ellipse: s-maj=30.1km s-min=11.0km az=90.0*
ISC 22 05:40:20.4±1.4, **530S**±007×**1467E**±0.1, **h133**km±13km, **n30,** σ0.**985**/**31, mb4.3**/16, **1D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.10**	**174**	P	**Pn**	**05 41 22.4**	**+0.9**
	13nm,0.3s,baz=11,slow=4.5,SNR=32						
PMG				S	**Sn**	**05 42 08.4**	**-0.5**
	72nm,0.3s,baz=14,slow=23,SNR=25						
CTA	**Charters Tower**	**14.70**	**182**	*e*P	**Pn**	**05 43 49.7**	**+7.9**
	6.8nm,0.4s						
CTA	**Charters Tower**	**14.70**	**182**	P	**Pn**	**05 43 48.5**	**+6.7**
	1.7nm,0.3s,baz=

CTA	**Charters Tower**	**14.70**	**182**	*eP*		**Pn**	**05 43 49.7**	**+7.9**
CTA					pmax	pmax			
	comp=Z,7.0nm,0.4s								
CTAO	**Charters Tower**	**14.70**	**182**	*eP*		**Pn**	**05 43 48.8**	**+7.0**
CTAO					pmax	pmax			
	comp=Z,15nm,0.7s								
CTAO	**Charters Tower**	**14.70**	**182**	*eP*		**Pn**	**05 43 48.8**	**+7.0**
	comp=Z,15nm,0.7s								
KAKA	**Kakadu**	**15.92**	**241**	*eP*		**Pn**	**05 43 55.6**	**-1.3**
	comp=Z,9.9nm,0.6s								
WB2	**Warramunga Arr**	**18.90**	**219**	*eP*		**P**	**05 44 31.2**	**+0.7**
WRA	**Warramunga Arr**	**18.91**	**219**	P		**P**	**05 44 31.3**	**+0.6**
	comp=Z,4.3nm,0.3s,baz=38,slow=12,SNR=131								
WRA					S	**S**	**05 48 04.8**	**+6.4**
	comp=Z,0.1nm,0.3s,baz=36,slow=18,SNR=7.6								
ASAR	**Alice Springs**	**22.05**	**213**	P		**P**	**05 45 04.9**	**+0.6**
	comp=Z,9.2nm,0.7s,mb4.3,baz=45,slow=8.4,SNR=88								
ASAR					S	**S**	**05 48 58.8**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=29,slow=21,SNR=5.9								
FITZ	**Fitzroy Crossi**	**24.23**	**237**	*eP*		**P**	**05 45 23.4**	**-1.3**
	comp=Z,53nm,0.7s,mb5.2								
FITZ	**Fitzroy Crossi**	**24.23**	**237**	P		**P**	**05 45 24.2**	**-0.5**
	comp=Z,27nm,0.6s,mb5.0,baz=55,slow=8.5,SNR=85								
STKA	**Stephens Creek**	**26.87**	**190**	*eP*		**P**	**05 45 47.4**	**-1.2**
	comp=Z,1.2nm,0.4s,mb3.9								
STKA	**Stephens Creek**	**26.87**	**190**	P		**P**	**05 45 47.7**	**-0.9**
	comp=Z,2.0nm,0.6s,mb3.9,baz=12,slow=7.8,SNR=7.5								
MBWA	**Marble Bar**	**30.57**	**236**	P		**P**	**05 46 22.0**	**+0.6**
	comp=Z,19nm,1.3s,mb4.7								
CBIJ	**Chichi jima**	**32.51**	**352**	LR		LR	05 57 44.9		
	comp=Z,42nm,19.4s,baz=106,slow=32								
KLBR	**Kellerberrin**	**37.70**	**223**	*eP*		**P**	**05 47 22.4**	**-0.5**
	comp=Z,11nm,0.4s,mb4.8								
MJAR	**Matsushiro Arr**	**42.38**	**350**	P		**P**	**05 48 01.1**	**-0.4**
	comp=Z,0.8nm,0.3s,mb3.8,baz=170,slow=8.5,SNR=5.4								
ULN	**Ulaanbaatar**	**63.38**	**331**	*eP*		**P**	**05 50 36.5**	**+1.0**
ULN					pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.4								
ULN	**Ulaanbaatar**	**63.38**	**331**	*eP*		**P**	**05 50 36.5**	**+1.0**
	comp=Z,3.6nm,0.7s,mb4.3								
SONM	**Songino Array**	**63.67**	**331**	P		**P**	**05 50 38.5**	**+1.1**
	comp=Z,2.3nm,0.8s,mb4.1,baz=151,slow=6.4,SNR=12								
ZAK	**Zakamensk**	**66.91**	**331**	*iP*		**P**	**05 50 59.2**	**+0.9**
ZAK					pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.5								
BOD	**Bodaibo**	**68.24**	**342**	*eP*		**P**	**05 51 06.1**	**-0.5**
BOD					pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.2								
VNDA	**Vanda**	**72.62**	**177**	P		**P**	**05 51 34.1**	**+0.9**
	comp=Z,2.3nm,0.6s,mb4.1,baz=331,slow=6.0,SNR=20								
MKAR	**Makanchi Array**	**76.80**	**320**	P		**P**	**05 51 57.5**	**+0.2**
	comp=Z,1.2nm,0.6s,mb3.7,baz=109,slow=6.7,SNR=11								
TIXI	**Tiksi**	**77.69**	**354**	*eP*		**P**	**05 52 00.0**	**-2.3**
TIXI				*eS*		S	06 01 44.1	+0.7
TIXI					pmax	pmax			
	comp=Z,2.0nm,0.8s,mb3.8								
MAW	**Mawson**	**82.79**	**203**	P		**P**	**05 52 29.1**	**-0.5**
	comp=Z,4.2nm,0.7s,mb4.3,baz=86,slow=6.7,SNR=12								
MAW					LR	LR	06 24 21.9		
	comp=Z,128nm,21.8s,baz=246,slow=32								
QSPA	**South Pole Qui**	**84.66**	**180**	*eP*		**P**	**05 52 39.1**	**0.0**
	comp=Z,7.6nm,0.8s,mb4.5								
ILAR	**Eielson Array**	**84.94**	**23**	P		**P**	**05 52 40.2**	**-0.3**
	comp=Z,6.1nm,0.6s,mb4.5,baz=253,slow=5.0,SNR=105								
TORD	**Torodi Ar. Bea**	**144.67**	**285**	PKP		PKPdf	05 59 39.9	-1.2
	comp=Z,2.5nm,0.8s,baz=80,slow=3.6,SNR=18								

NEIC ***22*** *05:43:20.5±0.5, 1204N×8792W, mb4.5/27, Error ellipse: s-maj=14.7km s-min=5.3km az=46.0*

ISCJB ***22*** *05:43:21.8±1.0, 1199N±006×8787W±008, h73km±9km, mb4.4/34, Error ellipse: s-maj=15.5km s-min=5.9km az=116.1*

IDC ***22*** *05:43:21.5±3.2, 1220N×8776W, h47km±31km, mb4.0/10, mb1 4.1/13, mb1mx3.9/23, mbtmp4.2/13, ML3.1/3, MS3.8/7, Ms1 3.8/7, ms1mx3.5/21, Error ellipse: s-maj=41.8km s-min=16.4km az=54.0*

CASC ***22*** *05:43:22.0±2.6, 1190N×8783W, h20km±8km, MD4.4, ML3.8, mb4.5(NEIC)*

ISC 22 05:43:23.4±0.9, 1207N±006×8782W±008, h67km±8km, h39km±1.5km::pP-P, n79, σ0°91/72, mb4.4/34, 9C-8D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LEON	**Leon**	**0.97**	**69**	↑*eP*		**Pn**	**05 43 40.8**	**-0.6**
CRIN	**San Cristobal**	**0.98**	**50**	↑*eP*		**Pn**	**05 43 41.9**	**+0.4**
TEL3	**Telica 3**	**1.08**	**62**	↑*eP*		**Pn**	**05 43 42.2**	**-0.5**
TELN	**Telica**	**1.10**	**61**	↓*eP*		**Pn**	**05 43 42.9**	**-0.2**
MIRN	**Miramar**	**1.14**	**71**	↑*eP*		**Pn**	**05 43 43.3**	**-0.3**
CNGN	**Cerro Negro**	**1.18**	**68**	↓*eP*		**Pn**	**05 43 44.0**	**0.0**
CNCH	**Conchagua**	**1.20**	**359**	*eP*		Px	05 43 58.8	
COPN	**Copaltepe**	**1.21**	**85**	↓*eP*		**Pn**	**05 43 43.9**	**-0.5**
COPN				*eS*		**Sn**	**05 44 00.3**	**+0.1**
MOMJ	**Momotombo**	**1.30**	**75**	↓*eP*		**Pn**	**05 43 45.6**	**0.0**
VSM	**San Miguel**	**1.42**	**342**	*eP*		Px	05 44 01.2	
VSM				*eS*		Sx	05 44 23.4	
BLLM	**Bellamira**	**1.43**	**343**	*eP*		Px	05 44 00.9	
BLLM				*eS*		Sx	05 44 22.5	
TISN	**Laguna Tiscapa**	**1.52**	**87**	↓*eP*		**Pn**	**05 43 48.4**	**-0.1**
TISN				*eS*		**Sn**	**05 44 11.0**	**+3.5**
MGAN	**Managua**	**1.54**	**87**	↑*eP*		**Pn**	**05 43 48.7**	**-0.2**
MGAN				*eS*		**Sn**	**05 44 08.9**	**+0.9**
	comp=N,1μm,0.6s							
MGAN				*e*			05 44 23.1	
	comp=E,2μm,0.6s							
TICN	**Ticuantepe**	**1.55**	**91**	↑*eP*		**Pn**	**05 43 49.0**	**-0.1**
SNVI	**San Vicente**	**1.83**	**327**	*eP*		Px	05 44 05.7	
SNVI				*eS*		Sx	05 44 30.2	
LCBS	**La Ceiba**	**1.94**	**325**	*eP*		Px	05 44 06.8	
LCBS				*eS*		Sx	05 44 31.8	
LFRS	**El Faro**	**1.96**	**322**	*eP*		Px	05 44 06.8	
LFRS				*eS*		Sx	05 44 32.8	
LBRS	**Las Brisas**	**2.04**	**324**	*eP*		Px	05 44 08.7	
SSNN	**San Juan del S**	**2.08**	**112**	↑*eP*		Px	05 43 54.7	
SSNN				*eS*		Sx	05 44 21.1	
BOQS	**Boqueron**	**2.18**	**319**	*eP*		Px	05 44 10.5	
CONN	**Concepcion**	**2.21**	**103**	↓*eP*		Px	05 43 56.8	
CONN				*eS*		Sx	05 44 25.3	
MADN	**Villa Maderas**	**2.33**	**106**	↑*eP*		Px	05 43 59.0	
MADN				*eS*		Sx	05 44 27.7	
VCR	**Vista de Mar**	**2.89**	**132**	*eP*		**Pn**	**05 44 04.2**	**-2.9**
JTS	**JuntasAbangare**	**3.32**	**122**	P		**Pn**	**05 44 11.6**	**-1.4**
	comp=E,7.9nm,0.3s,baz=318,slow=21,SNR=32							
JTS					S	**Sn**	**05 44 49.9**	**-1.3**
	comp=E,28nm,0.3s,baz=317,slow=21,SNR=9.0							
JTS					LR	LR	05 45 46.9	
	comp=E,901nm,19.7s,baz=195,slow=43							
CGA2	**Cerro Gallo 2**	**3.87**	**121**	*eP*		**Pn**	**05 44 21.2**	**+0.7**
CGA2				*eS*		**Sn**	**05 45 02.4**	**-2.4**
PRS1	**Puriscal**	**4.02**	**121**	*eP*		**Pn**	**05 44 22.3**	**-0.2**
LCR2	**La Lucha 2**	**4.40**	**121**	↓*eP*		**Pn**	**05 44 28.1**	**+0.4**
LCR2				*eS*		**Sn**	**05 45 17.2**	**-0.5**
ICR	**Volcan Irazu**	**4.43**	**118**	*eP*		**Pn**	**05 44 30.6**	**+2.5**
URSC	**Urasca**	**4.55**	**119**	↓*eP*		**Pn**	**05 44 31.5**	**+1.8**
BUS	**Buena Vista**	**4.71**	**122**	↓*eP*		**Pn**	**05 44 32.5**	**+0.7**
OTAV	**Otavalo**	**14.99**	**141**	*eP*		**Pn**	**05 46 57.0**	**+5.6**
ROSC	**El Rosal**	**15.14**	**117**	P		**Pn**	**05 46 55.0**	**+1.7**
	comp=E,0.3nm,0.3s,baz=270,slow=20,SNR=2.6							
SDV	**Santo Domingo**	**17.19**	**99**	P		**Pn**	**05 47 19.7**	**+0.6**
	comp=E,0.2nm,0.3s,baz=257,slow=14,SNR=2.5							
SDV	**Santo Domingo**	**17.19**	**99**	*eP*		**Pn**	**05 47 19.7**	**+0.7**
NATX	**Nacogdoches**	**20.59**	**343**	*eP*		**P**	**05 47 57.7**	**+0.9**
	comp=E,25nm,0.7s							
LRAL	**Lakeview Retre**	**20.88**	**2**	*eP*		**P**	**05 48 01.6**	**+1.6**
	comp=E,17nm,0.9s							
ATAH	**Atahualpa**	**21.14**	**153**	LR		LR	05 54 55.5	
	comp=E,190nm,20.3s,baz=0.0,slow=32							
JCT	**Junction City**	**21.42**	**331**	*eP*		**P**	**05 48 05.1**	**-0.7**
	comp=E,28nm,0.9s,mb4.6							
OXF	**Oxford**	**22.39**	**357**	*eP*		**P**	**05 48 16.1**	**0.0**
	comp=E,50nm,1.3s,mb4.7							
LTX	**Lajitas**	**22.64**	**322**	*eP*		**P**	**05 48 19.3**	**+0.5**
	comp=E,9.1nm,0.7s,mb4.2							
PLAL	**Pickwick Lake**	**22.81**	**359**	*eP*		**P**	**05 48 20.1**	**-0.4**
	comp=E,2.4nm,0.8s,mb3.6							
PCRV	**Puerto La Cruz**	**22.82**	**92**	P		**P**	**05 48 21.6**	**+0.9**
	comp=E,8.0nm,0.8s,mb4.1,baz=195,slow=14,SNR=3.3							
JSC	**Jenkinsville**	**22.91**	**14**	*eP*		**P**	**05 48 22.6**	**+1.1**
UALR	**University of**	**22.98**	**350**	*eP*		**P**	**05 48 22.1**	**-0.2**
	comp=E,32nm,1.0s,mb4.6							
MIAR	**Mount Ida**	**22.98**	**348**	*eP*		**P**	**05 48 22.2**	**-0.2**
	comp=E,56nm,0.8s,mb4.9							
SWET	**Sewanee**	**23.11**	**4**	*eP*		**P**	**05 48 23.4**	**-0.2**
HBAR	**Harrisburg**	**23.52**	**354**	*eP*		**P**	**05 48 27.3**	**-0.1**
WVT	**Waverly**	**23.96**	**360**	*eP*		**P**	**05 48 31.6**	**+0.3**
	comp=E,2.1nm,0.3s,mb4.0							
TZTN	**Tazewell**	**24.67**	**8**	*eP*		**P**	**05 48 38.9**	**+1.0**
MNTX	**Cornudas Mount**	**25.37**	**323**	*eP*		**P**	**05 48 43.8**	**-0.4**
	comp=E,10nm,1.1s,mb4.2							
AMTX	**Amarillo**	**25.97**	**333**	*eP*		**P**	**05 48 50.0**	**+0.3**
	comp=E,58nm,1.3s,mb4.8							
AMTX					*ep*P	pP	05 48 59.8	-5.9
CCM	**Cathedral Cave**	**26.06**	**354**	*eP*		**P**	**05 48 49.9**	**-0.6**
	comp=E,14nm,0.8s,mb4.4							
WCI	**Wyandotte Cave**	**26.09**	**3**	*eP*		**P**	**05 48 50.3**	**-0.4**
	comp=E,9.0nm,0.6s,mb4.4							
WCI					*ep*P	pP	05 49 00.2	-6.6
KSU1	**Kansas State U**	**28.03**	**345**	*eP*		**P**	**05 49 07.7**	**-0.5**
ANMO	**Albuquerque**	**28.38**	**326**	P		**P**	**05 49 11.7**	**+0.5**
	comp=E,0.3nm,0.4s,mb3.1,baz=150,slow=9.5,SNR=4.0							
ISCO	**Idaho Springs**	**31.79**	**333**	*eP*		**P**	**05 49 42.5**	**+1.1**
	comp=E,2.8nm,0.9s,mb4.0							
SMCO	**Snowmass**	**31.91**	**331**	*eP*		**P**	**05 49 44.0**	**+1.6**
	comp=E,3.2nm,0.8s,mb4.1							
SAML	**Samuel**	**32.18**	**129**	*eP*		**P**	**05 49 45.2**	**+0.4**
	comp=E,23nm,0.8s,mb5.0							
SAML					*ep*P	pP	05 49 56.4	-4.7
ECSD	**EROS,Sioux Fal**	**32.45**	**348**	*eP*		**P**	**05 49 46.0**	**-1.2**
SADO	**Sadowa**	**33.43**	**11**	P		**P**	**05 49 55.5**	**-0.2**
	comp=E,7.9nm,0.7s,mb4.7,baz=218,slow=8.2,SNR=5.7							
PDAR	**Pinedale Array**	**35.94**	**332**	P		**P**	**05 50 17.3**	**-0.1**
	comp=E,1.2nm,0.8s,mb3.9,baz=127,slow=9.4,SNR=7.1							
PDAR					PcP	PcP	05 52 44.5	+1.5
	comp=E,0.6nm,0.6s,baz=150,slow=6.3,SNR=3.8							
HWUT	**Hardware Ranch**	**36.01**	**329**	*eP*		**P**	**05 50 18.4**	**+0.4**
	comp=E,5.4nm,0.7s,mb4.6							
TPAW	**Teton Pass**	**37.14**	**332**	*eP*		**P**	**05 50 28.8**	**+1.2**
	comp=E,26nm,1.3s,mb5.0							
MOOW	**Moose Ponds**	**37.25**	**332**	*eP*		**P**	**05 50 29.1**	**+0.6**
	comp=E,5.2nm,0.9s,mb4.5							
YMR	**Madison River**	**38.06**	**333**	*eP*		**P**	**05 50 36.2**	**+0.9**
	comp=E,5.4nm,0.8s,mb4.4							
ULM	**Lac du Bonnet**	**38.64**	**352**	P		**P**	**05 50 38.3**	**-2.0**
	comp=E,15nm,0.9s,mb4.8,baz=168,slow=9.0,SNR=31							
ULM					LR	LR	06 06 55.3	
	comp=E,84nm,21.5s,baz=141,slow=37							
BOZ	**Bozeman (W)**	**39.12**	**333**	*eP*		**P**	**05 50 43.9**	**-0.3**
	comp=E,13nm,1.4s,mb4.6							
DLMT	**Dillon**	**39.33**	**332**	*eP*		**P**	**05 50 45.7**	**-0.3**
	comp=E,6.2nm,0.9s,mb4.4							
EGMT	**Eagleton**	**40.26**	**337**	*eP*		**P**	**05 50 53.0**	**-0.7**
	comp=E,3.6nm,0.9s,mb4.2							
MSO	**Missoula**	**41.06**	**333**	*eP*		**P**	**05 51 00.4**	**+0.2**
	comp=E,13nm,1.4s,mb4.6							
SCHQ	**Schefferville**	**45.75**	**17**	P		**P**	**05 51 36.4**	**-1.6**
	comp=E,8.6nm,0.8s,mb4.5,baz=203,slow=6.7,SNR=10							
SCHQ					LR	LR	06 12 12.2	
	comp=E,217nm,19.1s,baz=70,slow=38							
FCC	**Fort Churchill**	**46.84**	**356**	*eP*		**P**	**05 51 45.6**	**-1.0**
	comp=E,6.9nm,1.0s,mb4.3							
BDFB	**Brasilia**	**48.06**	**124**	P		**P**	**05 51 56.2**	**+0.1**
	comp=E,4.4nm,0.9s,mb4.3,baz=296,slow=8.3,SNR=6.3							
BDFB					LR	LR	06 14 15.3	
	comp=E,131nm,18.1s,baz=306,slow=39							
CPUP	**Villa Florida**	**48.33**	**142**	P		**P**	**05 51 59.4**	**+1.3**
	comp=E,1.0nm,0.7s,mb3.8,baz=349,slow=6.5,SNR=3.1							
CPUP	**Villa Florida**	**48.33**	**142**	*eP*		**P**	**05 51 58.5**	**+0.4**
	comp=E,7.2nm,0.8s,mb4.5							
YKA	**Yellowknife Ar**	**53.88**	**345**	P		**P**	**05 52 38.6**	**-1.1**
	comp=E,2.8nm,0.9s,mb4.3,baz=139,slow=7.6,SNR=12							
YKA					LR	LR	06 18 51.2	
	comp=E,88nm,19.3s,baz=190,slow=40							
RES	**Resolute Bay**	**62.73**	**358**	*eP*		**P**	**05 53 40.1**	**-1.2**
	comp=E,2.5nm,0.7s,mb4.2							
ILAR	**Eielson Array**	**66.22**	**336**	P		**P**	**05 54 03.0**	**-1.2**
	comp=E,2.2nm,1.1s,mb3.9,baz=119,slow=3.6,SNR=8.7							
GERES	**GERESS Array B**	**88.46**	**40**	LR		LR	06 34 22.7	
	comp=E,80nm,19.5s,baz=276,slow=35							

IDC 22 05:52:29.2±9.8, 2024S×17854W, h598km±102km, mb3.1/5, mb1 3.3/5, mb1mx3.1/13, mbtmp4.0/5, Error ellipse: s-maj=100.2km s-min=39.8km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**34.80**	**283**	P		P	05 58 31.0	-0.4
	6.4nm,0.6s,baz=200,slow=9.4,SNR=3.6							
ASAR	**Alice Springs**	**44.09**	**257**	P		P	05 59 46.3	+0.6
	0.6nm,0.6s,baz=99,slow=7.8,SNR=6.6							
WRA	**Warramunga Arr**	**44.14**	**262**	P		P	05 59 46.5	+0.4
	0.4nm,0.5s,baz=96,slow=7.4,SNR=5.7							
ILAR	**Eielson Array**	**88.17**	**13**	P		P	06 04 17.6	0.0
	0.5nm,0.4s,baz=216,slow=5.1,SNR=18							
PDAR	**Pinedale Array**	**89.12**	**43**	P		P	06 04 21.9	0.0
	0.7nm,0.6s,baz=247,slow=1.9,SNR=3.9							
AKASG	**Malin Array Be**	**142.54**	**331**	PKP		PKPdf	06 10 52.4	-2.6
	1.9nm,0.5s,baz=44,slow=3.9,SNR=14							
BRTR	**Keskin Array B**	**146.29**	**312**	PKPbc		PKPbc	06 11 04.4	+0.6
	0.6nm,0.6s,baz=130,slow=3.9,SNR=4.5							

ISCJB ***22*** *06:03:45.1±1.5, 3420N±007×2637E±007, h15km±22km, Error ellipse: s-maj=11.9km s-min=9.0km az=74.1*

CSEM ***22*** *06:03:46.8±0.1, 3424N×2644E, h30km, MD3.6, Error ellipse: s-maj=4.1km s-min=2.5km az=36.0*

HLW ***22*** *06:03:48.4, 3428N×2640E, h33km, Mb3.3*

ATH ***22*** *06:03:51.6, 3454N×2621E, h23km±6km, MD3.6/5*

ISC 22 06:03:46.2±1.3, 3422N±006×2625E±007, h9km±13km, n21, σ0°80/25, 4C-5D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
XRY	**Khrisi**	**0.80**	**325**	*ePN*		**Pg**	**06 04 02.0**	**+0.4**
XRY				*eSN*		**Sg**	**06 04 11.0**	**-1.0**
NPS	**Neapolis**	**1.17**	**333**	*ePB*		**Pb**	**06 04 07.6**	**-0.8**
KARP	**Karpathos**	**1.52**	**29**	↓*iPN*		**Pg**	**06 04 15.9**	**+0.6**
VAM	**Vamos**	**2.06**	**306**	*ePN*		**Pg**	**06 04 25.2**	**-0.5**
SLUM		**2.86**	**198**	↑*eP*		**Pn**	**06 04 33.0**	**+1.1**
SLUM					S	**Sn**	**06 05 04.6**	**-1.8**
APE	**Apeiranthos**	**2.90**	**348**	*ePN*		**Pn**	**06 04 33.9**	**+1.5**
APE	**Apeiranthos**	**2.90**	**348**	*ePn*		**Pn**	**06 04 33.6**	**+1.2**
VLI	**Veliai**	**3.68**	**314**	*ePn*		**Pn**	**06 04 43.5**	**+0.4**
SWA1		**4.96**	**186**	↓*P*		**Pn**	**06 05 01.8**	**+1.0**
SWA2		**5.01**	**188**	↓*P*		**Pn**	**06 05 02.4**	**+1.0**
HNAT	**Natroun**	**5.89**	**140**	*P*		**Pn**	**06 05 13.0**	**-0.5**
AYT	**Al 'Ayyat**	**6.13**	**136**	*P*		**Pn**	**06 05 16.6**	**-0.2**
KOT	**Kottamia**	**6.38**	**131**	↓*P*		**Pn**	**06 05 19.9**	**-0.3**
KOT				*S*		**Sn**	**06 06 26.7**	**-6.5**
HSAF	**As Saff**	**6.43**	**134**	*P*		**Pn**	**06 05 20.5**	**-0.4**
HHAG	**Hagoal**	**6.53**	**129**	↑*P*		**Pn**	**06 05 22.0**	**-0.3**
HHAG				*S*		**Sn**	**06 06 30.3**	**-6.6**
GLL	**Jalalah**	**6.55**	**133**	↑*P*		**Pn**	**06 05 22.3**	**-0.3**
AMAG	**Maghara**	**6.88**	**119**	↓*P*		**Pn**	**06 05 26.4**	**-0.7**
HFRF	**Wahat Farafira**	**7.27**	**165**	↑*eP*		**Pn**	**06 05 33.0**	**+0.5**
TR2		**8.64**	**130**	*P*		**Pn**	**06 05 50.5**	**-0.7**
HKAT	**Jabal Katrina**	**8.72**	**129**	*P*		**Pn**	**06 05 52.1**	**-0.2**
HDK1	**Dakhla**	**9.07**	**162**	*P*		**Pn**	**06 05 58.5**	**+1.3**

GUC 22 06:08:54.5±0.3, 2410S×6738W, h220km, MD3.5, ML3.5, 2C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.04**	**316**	↑*iP*		Pn	06 09 36.9	+2.0
LVC				*iS*		S	06 10 09.1	+2.5
LVC					AML	AML	06 10 11.3	
	comp=E,104nm,0.6s							
CEN1	**Los Morros**	**2.68**	**285**	↑*iP*		Pn	06 09 46.0	+4.4
CEN1				*iS*		S	06 10 23.9	+5.2
CEN1					AML	AML	06 10 27.1	
	comp=E,78nm,0.9s							
ANCH	**Antofagasta**	**2.81**	**278**	*eP*		Pn	06 09 46.5	+3.5
ANCH				*iS*		S	06 10 24.6	+3.4
CPN1	**Cerro Paranal**	**2.81**	**259**	*eP*		Pn	06 09 45.5	+2.4
CPN1				*iS*		S	06 10 24.5	+3.3
CPN1					AML	AML	06 10 28.0	
	comp=E,107nm,0.3s							

IDC 22 06:12:38.8±2.2, 690N×7295W, h163km±21km, mb3.5/6, mb1 3.6/7, mb1mx3.3/20, mbtmp3.9/7, Error ellipse: s-maj=26.7km s-min=20.7km az=68.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ROSC	**El Rosal**	**2.45**	**214**	P		Pn	06 13 20.0	+0.2
	22nm,0.3s,baz=76,slow=22,SNR=59							
ROSC					S	Sn	06 13 47.0	-4.6
	23nm,0.3s,baz=105,slow=18,SNR=15							
LPAZ	**La Paz**	**23.52**	**168**	P		P	06 17 35.7	+1.7
	0.3nm,0.3s,baz=357,slow=17,SNR=4.5							
BDFB	**Brasilia**	**33.34**	**132**	P		P	06 19 02.4	+1.2
	1.9nm,0.5s,baz=309,slow=11,SNR=6.6							
SCHQ	**Schefferville**	**48.05**	**5**	P		P	06 21 02.7	+1.1
	2.6nm,0.7s,baz=182,slow=5.3,SNR=6.0							
YKA	**Yellowknife Ar**	**63.25**	**340**	P		P	06 22 49.1	-0.7
	0.4nm,0.7s,baz=134,slow=5.3,SNR=3.0							
DBIC	**Dimbokro**	**67.56**	**86**	P		P	06 23 17.3	-0.2
	3.5nm,0.9s,baz=216,slow=3.6,SNR=3.8							
TORD	**Torodi Ar. Bea**	**73.55**	**78**	P		P	06 23 54.1	+0.2
	0.2nm,0.4s,baz=282,slow=6.4,SNR=5.8							
ASAR	**Alice Springs**	**149.29**	**234**	PKPbc		PKPbc	06 32 08.6	+0.4
	1.0nm,0.8s,baz=116,slow=3.6,SNR=8.0							
WRA	**Warramunga Arr**	**150.52**	**241**	PKPbc		PKPbc	06 32 11.8	+0.6
	0.8nm,0.6s,baz=108,slow=2.4,SNR=10							

CASC 22 06:37:15.3±2.4, 876N×8249W, h5km, MD3.9, 10C-2D, Fault plane solution: NP1:φs78.35000°, δ43.96000°, λ-60.48000°, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DVD	**David**	**0.33**	**172**	↑*iP*		Pg	06 37 22.7	+1.0
DVD				*eS*		Sg	06 37 28.2	+2.2
CNI	**Changuinola**	**0.65**	**358**	↑*iP*		Pg	06 37 27.0	-0.7
CNI				*eS*		Sg	06 37 36.7	+0.5
ACR	**Cerro Adams**	**0.68**	**261**	↑*iP*		Pg	06 37 28.1	-0.2
BUS	**Buena Vista**	**1.48**	**302**	↓*eP*		Pn	06 37 42.3	-0.3
BUS				↑*iP*			06 37 42.1	
BUS				*eS*		Sn	06 38 02.9	+0.8
URSC	**Urasca**	**1.66**	**310**	*eP*		Pn	06 37 44.6	-0.4
URSC				↑*iP*			06 37 44.9	
URSC				*eS*		Sn	06 38 05.9	-0.7
LCR2	**La Lucha 2**	**1.78**	**303**	↑*eP*		Pn	06 37 46.5	-0.1
LCR2				↑*iP*			06 37 46.8	
LCR2				*eS*		Sn	06 38 10.9	+1.2
PRS1	**Puriscal**	**2.16**	**304**	*eP*		Pn	06 37 52.4	+0.4
PRS1				↑*iP*			06 37 52.7	
PRS1				*eS*		Sn	06 38 21.0	+1.8
CGA2	**Cerro Gallo 2**	**2.31**	**303**	*eP*		Pn	06 37 55.8	+1.8
CGA2				↑*eP*			06 37 55.9	
CGA2				*eS*		Sn	06 38 25.2	+2.5
AZU	**Azuero**	**2.40**	**114**	↓*eP*		Pn	06 37 54.2	-1.0
AZU				*eS*		Sn	06 38 24.8	-0.2
PTP	**Ponta Puerca**	**18.90**	**58**	↑*eP*			06 37 27.1	
PTP				*eS*			06 37 37.9	

FUNV 22 06:47:07.7, 1028N×7347W, h114km, MW3.5, 1C-1D, Northern Colombia

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VNA3	**Neumayer Olymp**	**53.76**	**192**	⇓*i*	P		07 44 51.6	-8.4
VNA3				*e*			07 44 57.2	
VNA3				*e*			07 45 07.6	
VNA2	**Neumayer--Watz**	**53.77**	**193**	⇓*i*	P		07 44 52.1	-8.0
	baz=165,slow=5.8							
VNA2				*e*			07 44 57.3	
VNA2				*e*			07 45 08.1	
VNA1	**Neumayer--Stat**	**54.13**	**192**	⇓*i*	P		07 44 55.2	-7.6
VNA1				*e*			07 45 00.9	
VNA1				*e*			07 45 11.5	
KMBO	**Kilima Mbogo**	**96.94**	**259**	LR	LR		08 24 37.6	
	comp=Z,57nm,18.2s,baz=90,slow=30							
FINES	**FINESS Array B**	**145.26**	**310**	PKPbc	PKPbc		07 55 14.1	-1.3
	0.6nm,0.7s,baz=15,slow=12,SNR=2.8							
ULM	**Lac du Bonnet**	**145.84**	**72**	PKPbc	PKPbc		07 55 13.9	-3.3
	1.6nm,0.8s,baz=287,slow=2.9,SNR=4.5							
GERES	**GERESS Array B**	**146.95**	**284**	PKPbc	PKPbc		07 55 18.1	-2.4
	0.8nm,0.8s,baz=197,slow=2.8,SNR=4.1							
ARCES	**ARCESS Array B**	**147.07**	**324**	PKPbc	PKPbc		07 55 17.1	-3.7
	3.4nm,0.9s,baz=9.0,slow=24,SNR=2.7							
DAVOX	**Davos**	**148.17**	**278**	PKPbc	PKPbc		07 55 21.0	-2.8
	1.1nm,0.4s,baz=162,slow=13,SNR=3.5							
ESDC	**Sonseca Array**	**152.24**	**255**	PKPbc	PKPbc		07 55 34.5	+0.8
	0.4nm,0.3s,baz=108,slow=0.5,SNR=4.7							

CASC 22 08:10:06.1±2.6, 861N×8324W, h6km±9km, MD4.2, ML3.7, 5C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.08**	**55**	⇑*iP*	Pg	08 10 09.0	+1.0
CTCR	**Cotoan**	**0.55**	**59**	⇓*iP*	Pg	08 10 17.0	+0.3
CTCR				*eS*	Sg	08 10 25.2	+1.3
DVD	**David**	**0.79**	**102**	⇑*iP*	Pg	08 10 20.2	-1.1
DVD				*eS*	Sg	08 10 33.6	+1.9
CNI	**Changuinola**	**1.07**	**41**	⇓*iP*	Pg	08 10 25.6	-1.0
CNI				*eS*	Sg	08 10 41.2	+0.6
BUS	**Buena Vista**	**1.07**	**331**	⇑*eP*	Pg	08 10 25.2	-1.5
BUS				*eS*	Sg	08 10 40.8	+0.2
URSC	**Urasca**	**1.33**	**336**	*eP*	Pn	08 10 29.1	-2.1
URSC				*eS*	Sb	08 10 48.0	-0.8
LCR2	**La Lucha 2**	**1.36**	**326**	*eP*	Pn	08 10 29.6	-1.9
LCR2				*eS*	Sb	08 10 49.4	-0.2
OCM	**Ochomogo**	**1.47**	**331**	⇑*iP*	Pn	08 10 31.7	-1.3
OCM				*eS*	Sn	08 10 51.6	-0.9
OCM				AML	AML	08 10 56.5	
	comp=N,707nm,0.6s						
IRZ2	**Volcan Irazu 2**	**1.50**	**334**	*eP*	Pn	08 10 31.9	-1.7
PRS1	**Puriscal**	**1.73**	**322**	*eP*	Pn	08 10 35.1	-1.6
PRS1				*eS*	Sn	08 10 58.3	-0.8
CGA2	**Cerro Gallo 2**	**1.85**	**319**	*eP*	Pn	08 10 38.1	-0.3
POA2	**Poas 2**	**1.85**	**327**	*iP*	Pn	08 10 38.7	+0.3
POA2				*eS*	Sn	08 11 06.0	+3.9
EPA	**Esparza**	**1.92**	**316**	*iP*	Pn	08 10 39.1	-0.2
VCR	**Vista de Mar**	**2.81**	**303**	*eP*	Pn	08 10 51.5	0.0
AZU	**Azuero**	**3.04**	**105**	*eP*	Pn	08 10 54.6	-0.1
PTP	**Ponta Puerca**	**19.61**	**59**	⇑*iP*		08 10 16.2	
PTP				*eS*		08 10 21.5	

IDC 22 08:28:34.0±1.4, 540S×14618E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.6/13, mbtmp3.6/6, ML2.9/2, Error ellipse: s-maj=43.7km s-min=23.8km az=106.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.10**	**166**	Pn	Pn	08 29 39.7	+1.8
	2.7nm,0.3s,baz=358,slow=5.8,SNR=6.7						
PMG				Sn	Sn	08 30 25.8	-0.9
	7.8nm,0.3s,baz=323,slow=22,SNR=6.4						
WRA	**Warramunga Arr**	**18.49**	**217**	P	Pn	08 32 51.1	-0.5
	0.1nm,0.3s,baz=42,slow=12,SNR=3.3						
ASAR	**Alice Springs**	**21.67**	**212**	P	P	08 33 26.3	+0.1
	0.4nm,0.9s,baz=37,slow=13,SNR=2.7						
FITZ	**Fitzroy Crossi**	**23.71**	**236**	P	P	08 33 48.5	+0.8
	1.0nm,0.5s,baz=50,slow=13,SNR=4.6						
STKA	**Stephens Creek**	**26.69**	**189**	P	P	08 34 14.7	-0.1
	1.5nm,0.9s,baz=358,slow=12,SNR=3.6						
ILAR	**Eielson Array**	**85.25**	**23**	P	P	08 41 12.4	-0.2
	0.5nm,0.6s,baz=259,slow=5.1,SNR=11						
TORD	**Torodi Ar. Bea**	**144.15**	**285**	PKP	PKPdf	08 48 11.5	-0.2
	0.4nm,0.5s,baz=76,slow=3.9,SNR=5.6						

*ISCJB **22** 08:31:13.7±0.3, 3406N×0003×7372E±005, h10km, mb4.0/14, MS3.3/1, Error ellipse: s-maj=6.7km s-min=3.2km az=124.2*
*MOS **22** 08:31:17.2±0.9, 3408N×7365E, h33km, mb4.3/10, Error ellipse: s-maj=18.5km s-min=7.2km az=95.2*
*NDI **22** 08:31:19.9±3.6, 3401N×7373E, h10km, ML3.8*
*IDC **22** 08:31:23.8±4.2, 3422N×7375E, h76km±38km, mb3.7/11, mb1 3.8/14, mb1mx3.7/22, mbtmp4.0/14, ML3.8/3, MS3.4/1, Ms1 3.4/1, ms1mx2.3/16, Error ellipse: s-maj=20.2km s-min=13.4km az=43.0*
*NNC **22** 08:31:23.1±2.5, 3430N×7321E, h50km±21km, mb3.5, mpv3.4, Error ellipse: s-maj=18.2km s-min=15.9km az=45.0*

ISC 22 08:31:15.7±0.3, 3407N±0003×7378E±005, h10km, n74, σ1§44/91, mb4.0/14, MS3.3/1, 15C-3D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRNI	**Srinagar**	**0.89**	**88**	*eP*	**Pg**	**08 31 31.0**	**-1.8**
SRNI				*eS*	**Sg**	**08 31 43.0**	**-1.4**
DLH	**Dalhousie**	**2.38**	**129**	*eP*	**Pn**	**08 31 59.0**	**+4.3**
DLH				*ex*	x	08 32 34.0	
PONG	**Pong**	**2.79**	**139**	*eP*	**Pn**	**08 32 04.0**	**+3.7**
PONG				*ex*	x	08 32 36.0	
BHK	**Bhakra**	**3.45**	**139**	*ex*	x	08 32 25.4	
BHK				*ex*	x	08 33 04.6	
SDNR	**Sundarnagar**	**3.71**	**133**	*eP*	**Pn**	**08 32 17.0**	**+4.0**
SDNR				*ex*	x	08 32 29.0	
SMLA	**Simla**	**4.09**	**135**	*eP*	**Pn**	**08 32 20.6**	**+2.3**
SMLA				⇑*iP*		08 32 22.4	
SMLA				*eS*	**Sn**	**08 33 09.8**	**+3.6**
KLP	**Kalpa**	**4.53**	**123**	*eP*	**Pn**	**08 32 28.0**	**+3.7**
KLP				*eS*	**Sn**	**08 33 20.3**	**+3.2**
KLP				AML	AML	08 33 46.5	
	comp=E,924nm,0.6s						
DDI	**Dehra Dun**	**5.20**	**135**	*eP*	**Pn**	**08 32 38.0**	**+4.5**
DDI				*ex*	x	08 33 38.0	
NDI	**New Delhi**	**6.12**	**150**	*eP*	**Pn**	**08 32 48.1**	**+2.0**
NDI				*eP*		08 32 49.0	
NDI				*eS*	**Sn**	**08 33 54.8**	**-1.3**
NDI				AML	AML	08 34 27.4	
	comp=E,114nm,0.2s						
NDI				AML	AML	08 34 31.5	
	comp=N,60nm,0.4s						
KHET	**Khetri**	**6.22**	**163**	*eP*	**Pn**	**08 32 51.1**	**+3.5**
KHET				*eS*	**Sn**	**08 33 57.7**	**-1.0**
KHET				AML	AML	08 33 58.5	
	comp=N,51nm,0.2s						
KHET				AML	AML	08 33 58.6	
	comp=E,71nm,0.3s						
KUDL	**Kundal**	**6.34**	**158**	*eP*	**Pn**	**08 32 51.8**	**+2.6**
KUDL				*eS*	**Sn**	**08 33 59.6**	**-2.1**
KUDL				*eS*	**Sn**	**08 34 01.0**	**-0.7**
KUDL				AML	AML	08 34 03.5	
	comp=N,54nm,0.3s						
KUDL				AML	AML	08 34 03.8	
	comp=E,108nm,0.3s						
SONA	**Sohna**	**6.45**	**153**	*eP*	**Pn**	**08 32 53.0**	**+2.3**
SONA				*eS*	**Sn**	**08 34 04.0**	**-0.3**
SONA				*eS*	**Sn**	**08 34 04.6**	**+0.3**
SONA				AML	AML	08 34 07.3	
	comp=E,265nm,0.5s						
SONA				AML	AML	08 34 07.5	
	comp=N,71nm,0.1s						
PTH	**Pithoragarh**	**7.09**	**128**	*eP*	**Pn**	**08 33 04.1**	**+4.6**
PTH				*eS*	**Sn**	**08 34 19.6**	**-0.5**
LGTI	**Lohaghat**	**7.18**	**128**	*eP*	**Pn**	**08 33 04.0**	**+3.4**
LGTI				*ex*	x	08 35 01.3	
AJM	**Ajmer**	**7.60**	**174**	*ex*	x	08 34 22.8	
AJM				*ix*	x	08 34 29.0	
AGRA	**Agra**	**7.70**	**151**	*eP*	**Pn**	**08 33 12.1**	**+4.3**
AGRA				*eS*	**Sn**	**08 34 31.9**	**-3.2**
AGRA				AML	AML	08 34 42.1	
	comp=N,120nm,0.3s						
FRU	**Bishkek**	**8.78**	**4**	*eP*	**Pn**	**08 33 27.0**	**+4.4**
TKM2	**Tokmak 2**	**8.95**	**9**	⇑*eP*	**Pn**	**08 33 27.1**	**+2.1**
TKM2				⇑S	**Sn**	**08 35 07.8**	**+1.9**
	comp=N,1.6nm,0.9s						
TKM2				⇑S	**Sn**	**08 35 07.8**	**+1.9**
	comp=N,6.1nm,0.8s						
TKM2	**Tokmak 2**	**8.95**	**9**	P	**Pn**	**08 33 27.0**	**+2.0**
TKM2				S	**Sn**	**08 35 07.7**	**+1.8**
TKM2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TKM2				smax			
	comp=Z,39nm,0.8s						
KK31	**Karatay Array**	**9.38**	**345**	⇑P	**Pn**	**08 33 31.7**	**+0.9**
	comp=Z,3.2nm,0.3s,baz=165,slow=12,SNR=84						
KK31				⇑S	**Sn**	**08 35 11.6**	**-4.7**
	comp=Z,6.9nm,0.6s,baz=162,slow=21,SNR=7.3						
KK31	**Karatay Array**	**9.38**	**345**	*iP*	**Pn**	**08 33 31.8**	**+1.0**
KK31				pmax	pmax		
	comp=Z,8.0nm,0.3s						
KKAR	**Karatay Array**	**9.38**	**345**	*eP*	**Pn**	**08 33 31.8**	**+1.0**
KKAR				*eS*	**Sn**	**08 35 11.5**	**-4.8**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KKAR				smax			
	comp=N,1.0nm,0.3s						
KOLN	**Koldanda**	**10.51**	**124**	*eP*	**Pn**	**08 33 36.9**	**-9.4**
	comp=N,18nm,0.3s						
GKN	**Gorkha**	**11.10**	**120**	*eP*	**Pn**	**08 33 48.9**	**-5.5**
	comp=N,44nm,0.3s						
GKN				*eS*	**Sn**	**08 35 51.9**	**-6.6**
BHPL	**Bhopal**	**11.25**	**163**	*eP*	**Pn**	**08 33 59.1**	**+2.6**
BHPL				*eS*	**Sn**	**08 35 56.2**	**-6.0**
BHJ	**Bhuj**	**11.37**	**200**	*ex*	x	08 36 14.3	
DMN	**Daman**	**11.66**	**120**	*eP*	**Pn**	**08 33 53.8**	**-8.3**
	comp=N,52nm,0.5s						
KKN	**Kakani**	**11.69**	**119**	*eP*	**Pn**	**08 33 56.1**	**-6.3**
	comp=N,42nm,0.5s						
PKI	**Pulchoki**	**11.90**	**120**	*eP*	**Pn**	**08 33 56.9**	**-8.5**
	comp=N,36nm,0.5s						
GUN	**Gumba**	**12.05**	**117**	*eP*	**Pn**	**08 34 03.5**	**-4.0**
	comp=N,20nm,0.3s						
JBP	**Jabalpur**	**12.15**	**152**	⇓*ix*	x	08 33 58.9	
JBP				*ex*	x	08 34 03.9	
	comp=Z,27nm,0.8s						
JBP				*i* S	**Sn**	**08 36 16.2**	**-8.0**
JIRN	**Jiri**	**12.42**	**118**	*eP*	**Pn**	**08 34 06.5**	**-6.0**
	comp=Z,96nm,0.5s						
JIRN				*eS*	**Sn**	**08 36 22.6**	**-8.4**
MK09	**Makanchi Array**	**14.23**	**24**	⇑P	**Pn**	**08 34 41.6**	**+4.4**
	comp=Z,1.7nm,0.6s						
MK31	**Makanchi Array**	**14.26**	**24**	P	**Pn**	**08 34 39.1**	**+1.6**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**14.26**	**24**	P	**Pn**	**08 34 39.0**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=215,slow=12,SNR=8.3						
POO	**Poona**	**15.47**	**180**	*ex*	x	08 35 08.0	
POO				*ex*	x	08 37 38.0	
KURK	**Kurchatov**	**17.01**	**11**	⇑*eP*	**Pn**	**08 35 13.2**	**-0.4**
WSAR	**Wadi Sarin**	**17.10**	**235**	P	**Pn**	**08 35 19.3**	**+4.5**
	comp=Z,0.2nm,0.3s,baz=60,slow=7.6,SNR=5.2						
AB31	**Akbulak array**	**18.32**	**330**	⇑P	**Pn**	**08 35 28.3**	**-1.5**
	comp=Z,2.4nm,0.6s,baz=148,slow=15,SNR=34						
AB31				S	**Sn**	**08 38 46.3**	**-8.0**
	comp=Z,1.5nm,0.7s,baz=147,slow=23,SNR=3.9						
AB31	**Akbulak array**	**18.32**	**330**	P	**Pn**	**08 35 29.5**	**-0.3**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.6s						
VOSK	**Vostochnaya**	**18.76**	**355**	⇓P	**Pn**	**08 35 34.9**	**-0.2**
	comp=Z,3.3nm,0.7s						
BVA0	**Borovoye Array**	**19.11**	**354**	⇑P	**Pn**	**08 35 38.5**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=228,slow=37,SNR=38						
BVA0	**Borovoye Array**	**19.11**	**354**	P	**Pn**	**08 35 38.8**	**-0.6**
ZRNK	**Zerenda**	**19.18**	**351**	⇑P	**Pn**	**08 35 39.6**	**-0.7**
	comp=Z,3.0nm,0.7s						
CHKZ	**Chkalovo**	**19.73**	**354**	⇑P	**Pn**	**08 35 44.8**	**-2.1**
	comp=Z,2.5nm,0.7s						
AKTO	**Aktyubinsk**	**20.02**	**330**	⇑P	**P**	**08 35 47.2**	**-1.4**
	comp=Z,0.2nm,0.6s						
AKTO	**Aktyubinsk**	**20.02**	**330**	P	**P**	**08 35 48.8**	**+0.2**
	comp=Z,1.3nm,0.3s,baz=131,slow=11,SNR=33						
AKTO				S	**S**	**08 39 28.9**	**-4.7**
	comp=Z,0.0nm,0.3s,baz=22,slow=19,SNR=2.5						
AKTO	**Aktyubinsk**	**20.02**	**330**	P	**P**	**08 35 48.8**	**+0.2**
AKTO				S	**S**	**08 39 28.9**	**-4.7**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARU	**Arti**	**24.68**	**340**	⇓*iP*	**P**	**08 36 36.2**	**-0.5**
ARU				*e*		08 37 06.6	
ARU				*eS*	**S**	**08 40 53.5**	**-4.9**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
SONM	**Songino Array**	**27.98**	**51**	P	**P**	**08 37 07.0**	**+0.6**
	comp=Z,1.5nm,0.7s,mb3.8,baz=253,slow=9.7,SNR=16						
SONM				LR	LR	08 49 22.1	
	comp=Z,67nm,18.5s,MS3.3,baz=69,slow=39						
SONM	**Songino Array**	**27.98**	**51**	P	**P**	**08 37 07.0**	**+0.6**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,67nm,18.5s						
ULN	**Ulaanbaatar**	**28.41**	**51**	⇑*eP*	**P**	**08 37 15.4**	**+5.1**
BRTR	**Keskin Array B**	**32.40**	**292**	P	**P**	**08 37 47.5**	**+2.0**
	comp=Z,0.7nm,0.8s,mb3.5,baz=68,slow=6.8,SNR=3.7						
BRTR	**Keskin Array B**	**32.40**	**292**	P	**P**	**08 37 47.5**	**+2.0**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
OBN	**Obninsk**	**33.26**	**321**	*eP*	**P**	**08 37 52.1**	**-1.0**
OBN				*e*		08 39 02.9	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
AKASG	**Malin Array Be**	**36.25**	**311**	P	**P**	**08 38 17.9**	**-1.0**
	comp=Z,0.6nm,0.4s,mb3.9,baz=87,slow=7.3,SNR=5.1						
AKASG	**Malin Array Be**	**36.25**	**311**	P	**P**	**08 38 17.9**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**40.76**	**327**	P	**P**	**08 38 55.7**	**-1.1**
	comp=Z,0.8nm,0.6s,mb3.5,baz=125,slow=12,SNR=2.9						
FINES	**FINESS Array B**	**40.76**	**327**	P	**P**	**08 38 55.7**	**-1.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**44.25**	**338**	P	**P**	**08 39 24.6**	**-0.6**
	comp=Z,1.9nm,0.6s,mb4.0,baz=116,slow=7.6,SNR=11						
ARCES	**ARCESS Array B**	**44.25**	**338**	P	**P**	**08 39 24.6**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TIXI	**Tiksi**	**47.21**	**21**	⇑*eP*	**P**	**08 39 47.6**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
NB2	**NORSAR Subarra**	**47.68**	**324**	P	**P**	**08 39 50.9**	**-1.4**
	comp=Z,3.8nm,0.7s,mb4.5,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**47.68**	**324**	P	**P**	**08 39 50.7**	**-1.6**
	comp=Z,3.1nm,0.6s,mb4.5,baz=96,slow=7.6,SNR=11						
NOA	**NORSAR Array B**	**47.68**	**324**	P	**P**	**08 39 50.7**	**-1.6**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**67.99**	**271**	P	**P**	**08 42 14.8**	**-0.2**
	comp=Z,1.9nm,0.4s,mb4.5,baz=47,slow=5.7,SNR=32						
ILAR	**Eielson Array**	**76.47**	**17**	P	**P**	**08 43 04.5**	**-1.2**
	comp=Z,0.2nm,0.4s,mb3.4,baz=297,slow=4.8,SNR=7.8						
WRA	**Warramunga Arr**	**78.77**	**123**	P	**P**	**08 43 19.1**	**+0.6**
	comp=Z,2.8nm,0.7s,mb4.3,baz=324,slow=5.5,SNR=21						
WRA	**Warramunga Arr**	**78.77**	**123**	P	**P**	**08 43 19.1**	**+0.6**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ASAR	**Alice Springs**	**80.99**	**126**	P	**P**	**08 43 30.8**	**+0.2**
	comp=Z,2.4nm,0.6s,mb4.3,baz=310,slow=5.1,SNR=54						
ASAR	**Alice Springs**	**80.99**	**126**	P	**P**	**08 43 30.8**	**+0.3**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA	**Yellowknife Ar**	**83.54**	**4**	P	**P**	**08 43 43.0**	**-0.8**
	comp=Z,0.3nm,0.5s,mb3.7,baz=345,slow=5.4,SNR=4.2						
YKA	**Yellowknife Ar**	**83.54**	**4**	P	**P**	**08 43 43.0**	**-0.9**
SNAA	**Sanae**	**117.91**	**200**	⇑*i*PKIKP	PKPdf	08 50 06.6	+4.1

*NEIC **22** 08:43:48.3, 1904N×6800W, h25km, MD3.5(RSPR), After RSPR.*

RSPR 22 08:43:48.3, 1904N×6800W, h25km±30km, MD3.5/16, MD3.5/16, 10C-8D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**1.02**	**124**	⇑*eP*	Pn	08 44 04.2	-2.8
AGPR				*eS*	Sb	08 44 17.3	-3.0
MPR	**Mayaguez**	**1.16**	**135**	⇓*eP*	Pn	08 44 06.4	-2.6
MPR				*eS*	Sn	08 44 21.1	-2.9
LSP	**Las Mesas**	**1.22**	**135**	⇑*eP*	Pn	08 44 07.3	-2.6
LRS	**Lares**	**1.33**	**124**	⇑*eP*	Pn	08 44 08.4	-2.8
CRPR	**Cabo Rojo, PR**	**1.33**	**140**	⇓*eP*	Pn	08 44 09.0	-2.4
CRPR				*eS*	Sn	08 44 26.2	-2.1
MGP	**Maguayo**	**1.35**	**140**	⇓*eP*	Pn	08 44 09.5	-2.0
MGP				*eS*	Sn	08 44 25.4	-3.2
AOPR	**Arecibo Observ**	**1.37**	**120**	⇑*eP*	Pn	08 44 09.3	-2.6
AOPR				*eS*	Sn	08 44 26.8	-2.4
OBIP	**Obispado Ponce**	**1.66**	**127**	⇓*eP*	Pn	08 44 13.7	-2.1
OBIP				*eS*	Sn	08 44 33.8	-2.4
CELP	**Cerrillos**	**1.66**	**125**	⇓*eP*	Pn	08 44 14.1	-1.7
CELP				*eS*	Sn	08 44 34.1	-2.2
ICM	**Isla Caja Muer**	**1.81**	**129**	⇓*eP*	Pn	08 44 16.9	-1.0
ICM				*eS*	Sn	08 44 38.2	-1.8
SJG	**San Juan**	**1.99**	**118**	⇑*eP*	Pn	08 44 19.0	-1.3
SJG				*eS*	Sn	08 44 41.9	-2.5
SJG	**San Juan**	**1.99**	**118**	⇓*eP*	Pn	08 44 19.0	-1.3
SJG				*eS*	Sn	08 44 41.6	-2.8
CBYP	**Canovanas**	**2.17**	**110**	⇑*eP*	Pn	08 44 21.5	-1.4
CPD	**Cerro la Pandu**	**2.22**	**116**	⇑*eP*	Pn	08 44 22.0	-1.5
CPD				*eS*	Sn	08 44 47.6	-2.4
HUMP	**Col San Antoni**	**2.23**	**113**	⇓*eP*	Pn	08 44 22.4	-1.3
HUMP				*eS*	Sn	08 44 47.5	-2.9
MTP	**Monte Pirata**	**2.50**	**112**	⇑*eP*	Pn	08 44 25.8	-1.7
MTP				*eS*	Sn	08 44 55.2	-2.0
STVI	**Saint Thomas**	**2.96**	**103**	⇑*eP*	Pn	08 44 32.5	-1.3
STVI				*eS*	Sn	08 45 06.2	-2.3
TBVI	**Tortola**	**3.28**	**101**	⇑*eP*	Pn	08 44 36.9	-1.2

*CSEM **22** 09:25:23.3±0.2, 3861N×3589E, h5km, MD3.0, Error ellipse: s-maj=8.6km s-min=3.8km az=89.0*
*ISK **22** 09:25:24.0, 3867N×3583E, h12km, MD3.0*
*ISCJB **22** 09:25:25.0±0.6, 3866N±003×3587E±008, h10km, Error ellipse: s-maj=9.2km s-min=4.0km az=157.5*

ISC 22 09:25:25.3±0.6, 3865N±003×3588E±009, h10km, n12, σ1§16/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNN	**Bunyan**	**0.20**	**353**	*i* PG	**Pg**	**09 25 28.5**	**-1.0**
BNN				*i* SG	**Sg**	**09 25 31.6**	**-0.8**
AVNT	**Avonos**	**0.81**	**279**	*eP*	**Pg**	**09 25 34.5**	**-6.4**
AVNT				*eS*	**Sg**	**09 25 44.8**	**-6.6**
YOZ	**Yozgat**	**1.08**	**337**	*eP*G	**Pg**	**09 25 44.1**	**-1.9**
YOZ				*eS*G	**Sg**	**09 25 59.0**	**-1.0**
KOZT	**Kozan**	**1.17**	**182**	*eP*N	**Pn**	**09 25 47.0**	**-0.7**
KOZT				*eS*N	**Sn**	**09 26 03.4**	**-0.3**
CDAG	**Cicekdag**	**1.52**	**310**	*eP*	**Pn**	**09 25 53.2**	**+0.7**
CDAG				*eS*	**Sn**	**09 26 12.6**	**+0.3**
KARA	**Karaisali**	**1.53**	**205**	*eP*N	**Pn**	**09 25 51.9**	**-0.8**
KARA				*eS*N	**Sn**	**09 26 12.5**	**-0.2**
SVSK	**Karacayir**	**1.53**	**34**	*eP*N	**Pn**	**09 25 52.7**	**0.0**
KAMT	**Kaman**	**1.83**	**294**	*eP*N	**Pn**	**09 25 55.9**	**-0.9**
GZT	**Gaziantep**	**1.86**	**134**	*eP*	**Pn**	**09 25 59.0**	**+1.8**
GZT				*eS*	**Sn**	**09 26 30.0**	**+9.3**
CTKT	**Corum**	**2.14**	**337**	*eP*	**Pn**	**09 26 02.9**	**+1.9**
CTKT				*eS*	**Sn**	**09 26 34.9**	**+7.2**
CTKT	**Corum**	**2.14**	**337**	*eP*	**Pn**	**09 26 02.9**	**+1.9**
CTKT				*eS*	**Sn**	**09 26 30.0**	**+2.4**
ELDT	**Eldivan**	**2.64**	**315**	*eP*	**Pn**	**09 26 08.6**	**+0.7**
ELDT				*eS*	**Sn**	**09 26 42.5**	**+2.6**

*ISCJB **22** 09:27:23.3±0.4, 3943N±003×2061E±003, h5km, Error ellipse: s-maj=4.1km s-min=3.3km az=34.7*
*CSEM **22** 09:27:23.4±0.1, 3949N×2062E, h2km, ML3.2, Error ellipse: s-maj=2.5km s-min=2.0km az=8.0*
*ATH **22** 09:27:23.6, 3949N×2063E, h5km±4km, MD3.6/7*
*THE **22** 09:27:24.1, 3939N×2036E, h20km, ML3.2*
*NEIC **22** 09:27:24.2, 3948N×2067E, h5km, MD3.6(ATH), After ATH.*

ISC 22 09:27:24.0±0.3, 3946N±003×2063E±003, h5km, n39, σ1§14/48, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.24**	**288**	*eP*g	**Pg**	**09 27 28.1**	**-0.7**
IGT				*eS*g	**Sg**	**09 27 32.1**	**+0.1**
JAN	**Janina**	**0.26**	**40**	*eP*G	**Pg**	**09 27 28.0**	**-1.1**
JAN				*eS*G	**Sg**	**09 27 32.5**	**-0.1**
JAN	**Janina**	**0.26**	**40**	*eP*g	**Pg**	**09 27 27.9**	**-1.2**
JAN				*eS*g	**Sg**	**09 27 32.8**	**+0.2**
SRN	**Sarande**	**0.65**	**311**	*i* Pg	**Pg**	**09 27 35.6**	**-0.8**
SRN				*i* Sg	**Sg**	**09 27 45.0**	**+0.2**
KEK	**Kerkira**	**0.69**	**292**	*eP*G	**Pg**	**09 27 36.5**	**-0.8**
KEK				*eS*B	**Sg**	**09 27 47.1**	**+0.8**
KEK	**Kerkira**	**0.69**	**292**	*eP*b	**Pg**	**09 27 36.4**	**-0.9**
KEK

ETSF	**Etsaut**	**0.20**	**178**	*e*Pg	Pg	09 35 39.2	-0.3
ETSF				*e*Sg	Sg	09 35 41.8	-0.4
	87nm,0.2s						
ETSF	**Etsaut**	**0.20**	**178**	Pg	Pg	09 35 39.2	-0.3
ETSF				Lg		09 35 41.8	
	44nm,0.2s						
FDAF	**Les Forges d'A**	**0.28**	**180**	Pg	Pg	09 35 40.7	-0.3
FDAF				Lg		09 35 44.9	
ORDF	**Ordiarp**	**0.29**	**293**	Pg	Pg	09 35 40.5	-0.6
ORDF				Lg		09 35 45.2	
LARF	**Larrau**	**0.31**	**258**	Sg	Pg	09 35 40.9	-0.6
LARF				Sg	Sg	09 35 46.2	+0.6
LARF	**Larrau**	**0.31**	**258**	Pg	Pg	09 35 40.9	-0.6
LARF				Lg		09 35 46.3	
LABF	**Labassere**	**0.47**	**96**	Pg	Pg	09 35 44.1	-0.5
LABF				Sg	Sg	09 35 50.9	+0.1
LABF	**Labassere**	**0.47**	**96**	Pg	Pg	09 35 43.8	-0.8
LABF				Lg		09 35 51.0	
SJPF	**Ste Jean**	**0.48**	**271**	*e*Pg	Pg	09 35 44.3	-0.4
SJPF	**Ste Jean**	**0.48**	**271**	*e*Pn	Pg	09 35 45.3	+0.6
SJPF				*e*Sg	Sg	09 35 51.4	+0.5
	16nm,0.2s						
SJPF	**Ste Jean**	**0.48**	**271**	Pg	Pg	09 35 44.3	-0.4
SJPF				Lg		09 35 51.4	
	8.0nm,0.2s						
VIEF	**Viey**	**0.49**	**116**	Pg	Pg	09 35 44.4	-0.4
VIEF				Sg	Sg	09 35 51.1	-0.1
VIEF	**Viey**	**0.49**	**116**	Pg	Pg	09 35 44.2	-0.7
VIEF				Lg		09 35 50.9	
IPRE	**Itoiz**	**0.65**	**243**	Pg	Pg	09 35 47.4	-0.5
	0.4nm,0.1s,SNR=7.9						
IPRE				Lg		09 35 56.5	
	1.2nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**0.67**	**128**	Pg	Pg	09 35 47.4	-0.9
	2.3nm,0.1s,SNR=7.9						
EBIE				Lg		09 35 56.4	
	9.9nm,0.1s,SNR=7.9						
EPF	**Esparros**	**0.67**	**96**	*e*Pg	Pg	09 35 48.4	+0.1
EPF	**Esparros**	**0.67**	**96**	*e*Pn	Pg	09 35 50.2	+1.9
EPF				*e*Sg	Sg	09 35 57.8	+0.7
	12nm,0.3s						
EPF	**Esparros**	**0.67**	**96**	Pg	Pg	09 35 48.4	+0.1
EPF				Lg		09 35 57.8	
	5.8nm,0.3s						
EALK	**Alkurruntz**	**0.69**	**280**	Pg	Pg	09 35 47.9	-0.9
	1.0nm,0.1s,SNR=7.9						
EALK				Lg		09 35 56.6	
	10nm,0.3s,SNR=7.9						
ELIZ	**Elizondo**	**0.70**	**275**	Pg	Pg	09 35 48.3	-0.7
	4.2nm,0.5s,SNR=7.9						
ELIZ				Pg	Pg	09 35 48.3	-0.7
	0.9nm,0.1s,SNR=7.9						
ELIZ				Lg		09 35 57.8	
	1.7nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**0.73**	**258**	Pg	Pg	09 35 48.3	-1.2
	0.4nm,0.1s,SNR=4.0						
IUSE				Lg		09 35 58.5	
	3.7nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**0.77**	**243**	Lg		09 36 01.1	
	2.0nm,0.3s,SNR=7.9						
EGRA	**Graus**	**1.12**	**144**	Pg	Pg	09 35 57.2	+0.3
	1.7nm,0.1s,SNR=7.9						
EGRA				Lg		09 36 10.7	
	2.2nm,0.3s,SNR=4.0						
ESAC	**San Caprasio**	**1.38**	**177**	Pg	Pg	09 36 02.3	+0.3
	4.2nm,0.2s,SNR=7.9						
ESAC				Lg		09 36 20.2	
	43nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**1.95**	**127**	Pg	Pg	09 36 12.0	-0.9
	0.5nm,0.1s,SNR=7.9						
EMIR				Lg		09 36 36.8	
	15nm,0.6s,SNR=7.9						
MTLF	**Montolieu**	**2.05**	**82**	*e*Pg	Pg	09 36 13.1	-1.7
MTLF				*e*Sg	Sg	09 36 40.4	-1.0
	2.8nm,0.3s						
LFF	**La Frestale**	**2.06**	**27**	*e*Sg	Sg	09 36 41.8	0.0
	2.9nm,0.2s						
EPOB	**Poblet**	**2.13**	**144**	Pg	Pg	09 36 14.2	-2.1
	1.1nm,0.2s,SNR=7.9						
EPOB				Lg		09 36 42.1	
	3.2nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**2.25**	**162**	Lg		09 36 46.2	
	5.3nm,0.4s,SNR=7.9						
CAF	**Calviac**	**2.63**	**45**	*e*Sg	Sg	09 36 57.1	-3.0
	2.1nm,0.2s						
RJF	**Les Rejaudoux**	**2.66**	**34**	*e*Sg	Sg	09 36 59.0	-2.0
	4.0nm,0.2s						
EMOS	**Mosqueruela**	**2.74**	**178**	Lg		09 37 00.5	
	SNR=4.0						

LDG ***22*** *09:48:22.0±0.8, 4374N×805E, h2km, Md2.2/2, Ml2.4/2, Error ellipse: s-maj=13.5km s-min=12.0km az=104.0*

STR 22 09:48:21.6±1.8, 4392N×794E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAOF	**Saorge**	**0.29**	**284**	Pg	Pg	09 48 28.4	+1.3
SAOF				Sg	Sg	09 48 32.9	+2.0
SBF	**Sospel**	**0.37**	**261**	*e*Pg	Pg	09 48 31.1	+2.4
SBF				*e*Sg	Sg	09 48 36.8	+3.2
	33nm,0.4s						
AUTN	**L'Aution**	**0.38**	**282**	Pg	Pg	09 48 28.3	-0.6
AUTN				Sg	Sg	09 48 33.5	-0.3
LUCF	**Luceram**	**0.43**	**267**	Pg	Pg	09 48 30.1	+0.2
LUCF				Sg	Sg	09 48 36.4	+0.9
FRF	**La Foret Royal**	**1.00**	**249**	*e*Pg	Pg	09 48 40.9	0.0
FRF				*e*Sg	Sg	09 48 54.5	+0.6
	6.6nm,0.3s						
LMR	**La Mourre**	**1.19**	**241**	*e*Pg	Pg	09 48 44.4	-0.1
LMR				*e*Sg	Sg	09 49 00.3	+0.4
	18nm,0.3s						

IDC 22 09:50:31.5±2.1, 2148N×14305E, h284km±24km, mb3.0/4, mb1 3.2/7, mb1mx3.0/21, mbtmp4.0/7, Error ellipse: s-maj=42.3km s-min=16.6km az=87.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.65**	**352**	P	Pn	09 51 57.0	+0.9
	6.1nm,0.3s,baz=288,slow=21,SNR=6.8						
CBIJ				S	S	09 53 03.4	-0.8
	7.9nm,0.3s,baz=102,slow=23,SNR=6.8						
JHJ	**Hachijo jima 2**	**11.96**	**347**	P	Pn	09 53 15.2	+1.5
	4.9nm,0.3s,baz=79,slow=20,SNR=9.6						
MJAR	**Matsushiro Arr**	**15.59**	**345**	P	Pn	09 53 55.3	-2.1
	0.7nm,0.3s,baz=169,slow=11,SNR=5.6						
SONM	**Songino Array**	**39.43**	**321**	P	P	09 57 34.3	-0.1
	0.3nm,0.4s,baz=135,slow=9.4,SNR=2.9						
WRA	**Warramunga Arr**	**42.03**	**192**	P	P	09 57 56.1	+0.5
	1.4nm,0.6s,baz=14,slow=8.4,SNR=25						
ASAR	**Alice Springs**	**45.74**	**192**	P	P	09 58 25.2	+0.4
	0.3nm,0.6s,baz=17,slow=12,SNR=7.8						
STKA	**Stephens Creek**	**53.07**	**182**	P	P	09 59 18.2	-1.7
	1.1nm,0.8s,baz=350,slow=11,SNR=3.1						
PLCA	**Paso Flores**	**145.70**	**132**	PKPbc	PKPbc	10 09 37.1	+0.1
	0.4nm,0.4s,baz=163,slow=0.9,SNR=5.5						
LPAZ	**La Paz**	**150.08**	**85**	PKPbc	PKPbc	10 09 49.6	+1.1
	0.5nm,0.6s,baz=245,slow=6.1,SNR=4.5						

JMA 22 09:52:50.9±0.5, 3381N×14426E, h62km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.85**	**288**	*e*S	Sn	09 54 08.7	+1.7
BSO3	**Boso 3**	**3.26**	**289**	*e*S	Sn	09 54 20.4	+3.3
JHJ2	**Mitsune**	**3.78**	**261**	P	Pn	09 53 47.5	+0.9
JHO	**Hitachi**	**4.12**	**314**	P	Pn	09 53 52.5	+1.3
JHO				S	Sn	09 54 39.1	+1.0
JHU	**Hanno**	**4.57**	**298**	*e*S	Sn	09 54 51.8	+2.5
JMK	**Ichinoseki**	**5.69**	**335**	P	Pn	09 54 16.1	+3.3
JMK				S	Sn	09 55 17.7	+1.0

IDC ***22*** *10:09:46.9±0.7, 1299N×9242E, h0km, mb4.2/14, mb1 4.3/14, mb1mx4.2/21, mbtmp4.2/14, MS3.3/4, Ms1 3.3/4, ms1mx2.9/30, Error ellipse: s-maj=35.5km s-min=13.8km az=51.0*

MOS ***22*** *10:09:47.7±1.0, 1265N×9236E, h33km, mb4.6/7, Error ellipse: s-maj=27.1km s-min=9.0km az=105.5*

BJI ***22*** *10:09:47.2, 1249N×9266E, h36km, mB4.5, mb4.6*

ISCJB ***22*** *10:09:49.6±0.5, 1298N±007×9255E±007, h31km, mb4.3/25, MS3.4/4, Error ellipse: s-maj=12.3km s-min=7.7km az=82.6*

NEIC ***22*** *10:09:50.4±0.6, 1278N×9224E, h30km, mb4.3/5, Error ellipse: s-maj=29.6km s-min=7.9km az=57.0*

ISC 22 10:09:52.3±0.5, 1303N±007×9255E±007, h33km, h33km±2.5km: pP-P, n62, σ1°07/63, mb4.3/25, MS3.4/4, 7C-2D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**1.38**	**172**	*e*P	Px	10 09 48.4	
PBA				*e*S	Sx	10 10 09.4	
PBA				AML	AML	10 10 10.9	
	comp=E,3μm,0.4s						
PBA				AML	AML	10 10 11.6	
	comp=N,2μm,0.3s						
VIS	**Vishakhapatnam**	**10.04**	**299**	*e*P	**Pn**	**10 12 09.7**	**-4.4**
VIS				*i* S	**Sn**	**10 13 51.9**	**-14**
VIS				*e*S	**Sn**	**10 13 52.2**	**-13**
VIS				AML	AML	10 13 55.4	
	comp=E,171nm,0.3s						
VIS				AML	AML	10 13 55.9	
	comp=N,203nm,0.3s						
PSI	**Prapat**	**11.96**	**148**	LR	LR	10 17 30.1	
	comp=N,100nm,19.5s,baz=171,slow=38						
BOK	**Bokaro**	**12.43**	**330**	*e*P	**Pn**	**10 12 45.9**	**-0.9**
BOK				*e*S	**Sn**	**10 14 53.2**	**-11**
BOK				AML	AML	10 15 11.3	
	comp=E,24nm,0.3s						
BOK				AML	AML	10 15 12.1	
	comp=N,23nm,0.6s						
SHL	**Shillong**	**12.49**	**357**	*ex*	x	10 12 41.1	
SHL				*e*S	**Sn**	**10 14 56.5**	**-9.0**
SHL				*e*S	**Sn**	**10 14 57.7**	**-7.8**
BLSP	**Bilaspur**	**13.43**	**314**	*e*P	**Pn**	**10 12 56.8**	**-3.7**
BLSP				*e*S	**Sn**	**10 13 10.6**	**-15**
JBP	**Jabalpur**	**15.62**	**312**	*i* P	**Pn**	**10 13 29.6**	**-0.2**
JBP				*ex*	x	10 16 10.0	
JIRN	**Jiri**	**15.72**	**339**	*e*P	**Pn**	**10 13 30.5**	**-0.7**
	comp=N,29nm,0.6s						
PKI	**Pulchoki**	**15.94**	**336**	*e*P	**Pn**	**10 13 33.9**	**0.0**
DMN	**Daman**	**16.09**	**335**	*e*P	**Pn**	**10 13 36.4**	**+0.5**
KKN	**Kakani**	**16.18**	**336**	*e*P	**Pn**	**10 13 36.6**	**-0.5**
GKN	**Gorkha**	**16.63**	**335**	*e*P	**Pn**	**10 13 43.6**	**+0.8**
LSA	**Lhasa**	**16.64**	**356**	*e*P	**Pn**	**10 13 46.3**	**+3.4**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
LSA	**Lhasa**	**16.64**	**356**	*e*P	**Pn**	**10 13 46.3**	**+3.4**
	comp=Z,6.7nm,0.6s						
KOLN	**Koldanda**	**16.88**	**332**	*e*P	**Pn**	**10 13 47.1**	**+1.2**
KOLN				*e*S	**Sn**	**10 16 33.9**	**-19**
BHPL	**Bhopal**	**17.58**	**307**	*ex*	x	10 16 51.8	
POO	**Poona**	**18.80**	**289**	*ex*	x	10 17 16.5	
LZH	**Lanzhou**	**25.11**	**22**	*e*P	**P**	**10 15 15.5**	**+1.6**
LZH				AP	pP	10 15 22.3	-1.1
LZH				XP	sP	10 15 25.8	-1.6
LZH				AMB	AMB		
	comp=Z,22nm,1.4s,mb4.5						
GTA	**Gaotai**	**27.05**	**12**	*e*P	**P**	**10 15 33.0**	**+1.5**
GTA				AP	pP	10 15 40.8	-0.2
GTA				XP	sP	10 15 43.4	-1.6
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.2						
NJ2	**Nanjing**	**30.66**	**48**	*e*P	**P**	**10 16 03.8**	**+0.2**
NJ2				AP	pP	10 16 13.0	-0.1
NJ2				XP	sP	10 16 15.6	-1.6
NJ2				PP	PP	10 17 04.3	-8.8
NJ2				S	**S**	**10 21 01.0**	**-2.9**
NJ2				XS	sS	10 21 16.0	-3.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,40nm,6.0s						
SSE	**Sheshan**	**31.91**	**51**	P	**P**	**10 16 13.4**	**-1.2**
SSE				AP	pP	10 16 21.9	-2.2
SSE				XP	sP	10 16 26.1	-2.1
SSE				S	**S**	**10 21 21.6**	**-1.8**
SSE				XS	sS	10 21 36.5	-2.7
SSE				AMB	AMB		
	comp=Z,23nm,0.6s,mb5.2						
SSE				AMB	AMB		
	comp=Z,47nm,5.3s						
AAK	**Ala-Archa**	**33.39**	**335**	*d i*P	**P**	**10 16 28.1**	**+0.6**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
AAK				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.6						
WSAR	**Wadi Sarin**	**33.72**	**292**	LR	LR	10 29 59.1	
	comp=Z,60nm,19.2s,MS3.3,baz=268,slow=36						
MKAR	**Makanchi Array**	**34.75**	**348**	P	**P**	**10 16 39.5**	**+0.2**
	comp=Z,5.8nm,0.8s,mb4.6,baz=163,slow=8.7,SNR=48						
MKAR	**Makanchi Array**	**34.75**	**348**	P	**P**	**10 16 39.5**	**+0.2**
JOW	**Kunigami**	**36.14**	**62**	LR	LR	10 32 38.2	
	comp=Z,51nm,19.3s,MS3.3,baz=192,slow=38						
SONM	**Songino Array**	**36.57**	**16**	P	**P**	**10 16 55.9**	**+0.9**
	comp=Z,1.9nm,0.6s,mb4.1,baz=199,slow=8.0,SNR=14						
ULN	**Ulaanbaatar**	**36.78**	**16**	*i* P	**P**	**10 16 58.3**	**+1.6**
KURK	**Kurchatov**	**39.26**	**346**	*i* P	**P**	**10 17 18.0**	**+0.3**
ZRNK	**Zerenda**	**44.03**	**340**	*e*P	**P**	**10 17 56.1**	**-0.6**
ZRNK				*e**PP	pP	10 18 07.0	+0.5
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
ZRNK	**Zerenda**	**44.03**	**340**	*e*P	**P**	**10 17 56.1**	**-0.6**
	comp=Z,2.1nm,0.8s,mb3.9						
ZRNK				*e*pP	pP	10 18 07.0	+0.5
CHKZ	**Chkalovo**	**44.12**	**341**	*e*P	**P**	**10 17 57.2**	**-0.2**
CHKZ				*e**PP	pP	10 18 06.4	-0.8
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
CHKZ	**Chkalovo**	**44.12**	**341**	*e*P	**P**	**10 17 57.2**	**-0.2**
	comp=Z,4.0nm,0.6s,mb4.3						
CHKZ				*e*pP	pP	10 18 06.4	-0.8
FITZ	**Fitzroy Crossi**	**44.97**	**133**	*e*P	**P**	**10 18 01.9**	**-2.3**
	comp=Z,5.9nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	**44.97**	**133**	P	**P**	**10 18 04.1**	**-0.1**
	comp=Z,1.7nm,0.5s,mb4.2,baz=308,slow=7.6,SNR=12						
AKTK	**Aktyubinsk**	**46.71**	**330**	P	**P**	**10 18 17.6**	**-0.4**
AKTO	**Aktyubinsk**	**46.71**	**330**	P	**P**	**10 18 17.6**	**-0.4**
	comp=Z,1.4nm,0.5s,mb4.2,baz=102,slow=7.7,SNR=6.8						
JHJ	**Hachijo jima 2**	**47.38**	**57**	LR	LR	10 39 34.0	
	comp=Z,32nm,21.2s,MS3.3,baz=132,slow=38						
BOD	**Bodaibo**	**47.57**	**15**	*e*P	**P**	**10 18 24.5**	**-0.1**
GNI	**Garni**	**49.79**	**312**	*i* P	**P**	**10 18 44.1**	**+2.4**
GNI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KIV	**Kislovodsk**	**52.51**	**316**	*i* P	**P**	**10 19 03.2**	**+1.1**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.8						
WRA	**Warramunga Arr**	**52.58**	**128**	P	**P**	**10 19 03.3**	**+0.7**
	comp=Z,1.4nm,0.7s,mb4.0,baz=302,slow=10,SNR=22						
WRA				PcP	PcP	10 20 13.6	+1.1
	comp=Z,0.3nm,0.6s,baz=318,slow=3.0,SNR=6.8						
WB2	**Warramunga Arr**	**52.59**	**128**	*e*P	**P**	**10 19 02.7**	**0.0**
SOC	**Sochi**	**54.43**	**315**	*e*P	**P**	**10 19 14.0**	**-2.2**
SOC				*e**PP	pP	10 19 26.7	+0.5
SOC				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
ASAR	**Alice Springs**	**54.45**	**132**	P	**P**	**10 19 17.0**	**+0.6**
	comp=Z,0.8nm,0.5s,mb3.9,baz=309,slow=6.6,SNR=18						
ASAR				PcP	PcP	10 20 21.2	+1.6
	comp=Z,0.4nm,0.6s,baz=317,slow=3.3,SNR=4.4						
BRTR	**Keskin Array B**	**57.95**	**309**	P	**P**	**10 19 40.7**	**-0.6**
	comp=Z,2.6nm,0.8s,mb4.3,baz=123,slow=7.8,SNR=16						
TIXI	**Tiksi**	**62.53**	**12**	*i* P	**P**	**10 20 12.2**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.8						
AKASG	**Malin Array Be**	**63.19**	**320**	P	**P**	**10 20 15.6**	**-1.4**
	comp=Z,1.5nm,0.6s,mb4.3,baz=87,slow=5.7,SNR=6.1						
VRI	**Vrincioaia**	**63.95**	**315**	*i* P	**P**	**10 20 23.5**	**+1.4**
PLOR	**Plostina**	**64.00**	**315**	*i* P	**P**	**10 20 23.5**	**+1.1**
MLR	**Muntele Rosu**	**64.44**	**314**	*i* P	**P**	**10 20 26.3**	**+1.0**
BURAR	**Bucovina Array**	**65.22**	**317**	*i* P	**P**	**10 20 30.8**	**+0.4**
JOF	**Joensuu**	**65.56**	**334**	*ep*	**P**	**10 20 31.4**	**-1.1**
FINES	**FINESS Array B**	**67.46**	**332**	P	**P**	**10 20 44.1**	**-0.6**
	comp=Z,3.3nm,0.7s,mb4.5,baz=103,slow=6.1,SNR=14						
KAF	**Kangasniemi**	**67.52**	**332**	*ep*	**P**	**10 20 42.3**	**-2.8**
ARCES	**ARCESS Array B**	**69.92**	**340**	P	**P**	**10 20 59.7**	**-0.3**
	comp=Z,2.4nm,0.7s,mb4.3,baz=86,slow=6.2,SNR=9.5						
BILL	**Bilibino**	**71.92**	**22**	*e*P	**P**	**10 21 12.0**	**-0.2**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
GERES	**GERESS Array B**	**72.98**	**317**	P	**P**	**10 21 18.7**	**+0.2**
	comp=Z,1.9nm,0.7s,mb4.2,baz=76,slow=7.0,SNR=8.9						
NB2	**NORSAR Subarra**	**74.51**	**330**	P	**P**	**10 21 26.3**	**-1.1**
	comp=Z,1.5nm,0.6s,mb4.1,baz=91,slow=5.9						
NOA	**NORSAR Array B**	**74.51**	**330**	P	**P**	**10 21 26.6**	**-0.8**
	comp=Z,2.7nm,0.8s,mb4.3,baz=91,slow=5.7,SNR=7.3						
TORD	**Torodi Ar. Bea**	**87.91**	**283**	P	**P**	**10 22 39.4**	**+0.8**
	comp=Z,1.5nm,0.8s,mb4.3,baz=77,slow=4.5,SNR=9.9						
ILAR	**Eielson Array**	**90.57**	**22**	P	**P**	**10 22 50.0**	**-1.0**
	comp=Z,0.6nm,0.7s,mb4.0,baz=297,slow=4.7,SNR=10						

IDC 22 10:14:15.1±3.7, 2838S×17688W, h78km±40km, mb3.7/4, mb1 3.9/4, mb1mx3.7/11, mbtmp4.0/4, MS3.6/3, Ms1 3.6/3, ms1mx3.0/22, Error ellipse: s-maj=109.1km s-min=37.3km az=148.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.27**	**226**	P	Pn	10 14 38.8	+1.5
	104nm,0.3s,baz=89,slow=22,SNR=6.0						
RAO				S	Sn	10 14 53.4	-0.5
	169nm,0.3s,baz=291,slow=23,SNR=5.2						
URZ	**Urewera**	**11.06**	**205**	S	Sn	10 18 47.6	-4.6
	1.2nm,0.3s,baz=116,slow=24,SNR=7.7						
DZM	**Mont Dzumac**	**16.34**	**289**	LR	LR	10 23 05.3	
	comp=Z,208nm,19.3s,baz=187,slow=32						
CTA	**Charters Tower**	**34.51**	**276**	LR	LR	10 33 56.4	
	comp=Z,122nm,19.1s,baz=63,slow=34						
STKA	**Stephens Creek**	**35.94**	**254**	P	P	10 21 08.3	+0.4
	1.6nm,0.5s,baz=118,slow=17,SNR=4.8						
ASAR	**Alice Springs**	**44.24**	**264**	P	P	10 22 17.6	+0.9
	0.7nm,0.8s,baz=93,slow=7.2,SNR=14						
WRA	**Warramunga Arr**	**45.05**	**270**	P	P	10 22 23.4	+0.3
	0.6nm,0.4s,baz=109,slow=6.2,SNR=17						
JOW	**Kunigami**	**76.05**	**311**	LR	LR	10 53 18.1	
	comp=Z,33nm,19.8s,baz=126,slow=31						
MJAR	**Matsushiro Arr**	**77.16**	**324**	P	P	10 25 59.6	-0.7
	1.2nm,0.6s,baz=162,slow=5.6,SNR=5.2						
FINES	**FINESS Array B**	**143.56**	**342**	PKP	PKPdf	10 33 37.3	-3.5
	0.3nm,0.4s,baz=64,slow=4.4,SNR=4.5						
NB2	**NORSAR Subarra**	**146.89**	**353**	PKPa	PKPbc	10 33 47.2	-1.3
	comp=Z,0.8nm,0.6s,baz=14,slow=3.0						
NOA	**NORSAR Array B**	**146.89**	**353**	PKPbc	PKPbc	10 33 47.2	-1.3
	comp=Z,0.8nm,0.5s,baz=13,slow=4.5,SNR=4.1						

CASC 22 10:37:58.1±2.4, 860N×8328W, h7km±8km, MD3.9, ML3.2, 4C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.13**	**63**	*i* P	Pg	10 38 01.2	+0.4
ACR				*e*S	Sg	10 38 04.3	+1.6
CTCR	**Cotoan**	**0.60**	**60**	*i* P	Pg	10 38 09.2	-0.4
CTCR				*e*S	Sg	10 38 19.0	+1.6
DVD	**David**	**0.84**	**101**	*e*P	Pg	10 38 14.5	+0.3
DVD				*e*S	Sg	10 38 25.9	+0.8
BUS	**Buena Vista**	**1.06**	**334**	*e*P	Pg	10 38 17.5	-1.0
BUS				*e*S	Sg	10 38 32.5	+0.2
CNI	**Changuinola**	**1.11**	**43**	*i* P	Pg	10 38 18.2	-1.2
CNI				*e*S	Sg	10 38 34.9	+0.9
URSC	**Urasca**	**1.33**	**338**	*e*P	Pn	10 38 21.3	-1.7
LCR2	**La Lucha 2**	**1.34**	**328**	*e*P	Pn	10 38 21.6	-1.7
LCR2				*e*S	Sb	10 38 41.1	+0.1
OCM	**Ochomogo**	**1.46**	**333**	*i* P	Pn	10 38 23.9	-0.8
OCM				*e*S	Sn	10 38 45.9	+1.8
OCM				AML	AML	10 38 46.5	
	comp=N,246nm,0.1s						
IRZ2	**Volcan Irazu 2**	**1.49**	**336**	*i* P	Pn	10 38 26.5	+1.1
IRZ2				*e*S	Sn	10 38 49.1	+4.0
PRS1	**Puriscal**	**1.71**	**324**	*e*P	Pn	10 38 26.8	-1.5
PRS1				*e*S	Sn	10 38 49.5	-0.9
CGA2	**Cerro Gallo 2**	**1.83**	**321**	*e*P	Pn	10 38 29.5	-0.5
CGA2				*e*S	Sn	10 38 54.4	+1.0
EPA	**Esparza**	**1.90**	**317**	*i* P	Pn	10 38 32.2	+1.3
EPA				*e*S	Sn	10 38 59.0	+4.0
PTP	**Ponta Puerca**	**19.66**	**59**	*e*P		10 38 08.5	

KRSC 22 10:41:45.7±0.3, 4924N×15644E, h36km±17km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ALID	**Alaid**	**1.73**	**341**	P	Pn	10 42 14.2	+1.0
PAU	**Pauzhetka**	**2.24**	**6**	P	Pn	10 42 21.6	+1.3
PAU				*e*S	Sn	10 42 48.0	+1.3
PAU				Smax			
	580nm,0.4s						
MIPR	**Malaya Ipel'ka**	**3.05**	**4**	P	Pn	10 42 33.0	+1.6
MIPR				*e*S	Sn	10 43 07.9	+1.3
RUS	**Russkaya**	**3.46**	**22**	*e*S	Sn	10 43 17.1	+0.4
GRL	**Gorelyy**	**3.47**	**17**	S	Sn	10 43 18.7	+1.6
PET	**Petropavlovsk**	**4.04**	**19**	P	Pn	10 42 47.1	+2.1
UGLR	**Uglovaya**	**4.25**	**20**	S	Sn	10 43 37.0	+0.8
AVH	**Avacha**	**4.28**	**19**	*e*P	Pn	10 42 51.5	+3.2
KOK	**Koryaka**	**4.29**	**18**	S	Sn	10 43 39.3	+2.2
SMAR	**Somma**	**4.29**	**19**	S

CTA	**Charters Tower**	**37.14**	**264**	*e*P		**P**	**10 51 23.7**	**-0.1**
CTA					pmax	pmax			
	comp=Z,6.0nm,0.7s								
CTAO	**Charters Tower**	**37.14**	**264**	*e*P		**P**	**10 51 23.9**	**+0.1**
STKA	**Stephens Creek**	**41.05**	**245**	⇑*i*P		**P**	**10 51 53.8**	**-2.6**
	comp=Z,2.9nm,0.6s,mb4.1								
STKA	**Stephens Creek**	**41.05**	**245**	P		**P**	**10 51 54.5**	**-2.0**
	comp=Z,4.4nm,0.8s,mb4.2,baz=102,slow=10,SNR=10								
ASAR	**Alice Springs**	**48.06**	**256**	P		**P**	**10 52 52.2**	**-0.3**
	comp=Z,3.0nm,0.8s,mb4.4,baz=88,slow=8.2,SNR=29								
ASAR				PcP		PcP	10 54 20.8	+0.9	
	comp=Z,2.3nm,0.9s,baz=126,slow=3.6,SNR=6.3								
WB2	**Warramunga Arr**	**48.21**	**261**	⇑*i*P		**P**	**10 52 53.1**	**-0.5**
WRA	**Warramunga Arr**	**48.22**	**261**	P		**P**	**10 52 52.6**	**-1.0**
	comp=Z,2.8nm,0.6s,mb4.5,baz=96,slow=7.8,SNR=32								
WRA				PcP		PcP	10 54 20.9	+0.5	
	comp=Z,3.4nm,1.0s,baz=93,slow=3.9,SNR=5.3								
KAKA	**Kakadu**	**51.66**	**270**	*e*P		**P**	**10 53 20.0**	**+0.2**
	comp=Z,28nm,1.2s,mb5.1								
FITZ	**Fitzroy Crossi**	**56.65**	**261**	*e*P		**P**	**10 53 56.2**	**+0.1**
	comp=Z,5.1nm,0.9s,mb4.5								
FITZ	**Fitzroy Crossi**	**56.65**	**261**	P		**P**	**10 53 56.6**	**+0.5**
	comp=Z,2.9nm,0.9s,mb4.3,baz=139,slow=11,SNR=11								
SBA	**Scott Base**	**57.98**	**185**	*e*P		**P**	**10 54 06.4**	**+0.9**
SBA					pmax	pmax			
	comp=Z,16nm,1.1s,mb5.0								
SBA	**Scott Base**	**57.98**	**185**	*e*P		**P**	**10 54 06.4**	**+0.9**
	comp=Z,16nm,1.1s,mb5.0								
VNDA	**Vanda**	**58.10**	**186**	P		**P**	**10 54 06.9**	**+0.5**
	comp=Z,3.9nm,0.9s,mb4.4,baz=13,slow=7.1,SNR=16								
VNDA	**Vanda**	**58.10**	**186**	*e*P		**P**	**10 54 07.2**	**+0.8**
VNDA				*e**SP		sP	10 54 14.0	-7.1	
VNDA					pmax	pmax			
	comp=Z,6.0nm,1.1s								
VNDA	**Vanda**	**58.10**	**186**	*e*P		**P**	**10 54 07.2**	**+0.8**
	comp=Z,5.6nm,1.1s,mb4.5								
VNDA				*e*pP		pP	10 54 12.3	-4.7	
VNDA				*e*sP		sP	10 54 14.0	-7.1	
KLBR	**Kellerberrin**	**61.32**	**245**	*e*P		**P**	**10 54 29.1**	**+0.6**
	comp=Z,51nm,1.7s,mb5.4								
MBWA	**Marble Bar**	**61.41**	**257**	*e*P		**P**	**10 54 28.6**	**-0.5**
	comp=Z,9.0nm,0.8s,mb5.0								
NWAO	**Narrogin (SRO)**	**61.58**	**243**	*e*P		**P**	**10 54 30.2**	**-0.1**
NWAO				*e**PP		pP	10 54 35.6	-5.4	
MUN	**Mundaring**	**62.57**	**244**	*e*P		**P**	**10 54 27.4**	**-10**
QSPA	**South Pole Qui**	**69.41**	**180**	*e*P		**P**	**10 55 20.8**	**-0.1**
	comp=Z,25nm,1.1s,mb5.0								
MJAR	**Matsushiro Arr**	**72.58**	**321**	P		**P**	**10 55 40.4**	**+0.3**
	comp=Z,1.6nm,0.6s,mb4.2,baz=151,slow=6.2,SNR=7.4								
CMB	**Columbia Colle**	**77.13**	**41**	*e*P		**P**	**10 56 06.8**	**+0.4**
CMB					pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.4								
CMB	**Columbia Colle**	**77.13**	**41**	*e*P		**P**	**10 56 06.8**	**+0.4**
	comp=Z,5.8nm,1.1s,mb4.4								
MTUM	**Tungsten Hills**	**77.84**	**42**	*e*P		**P**	**10 56 11.0**	**+0.6**
MNV	**Mina**	**78.75**	**42**	*e*P		**P**	**10 56 15.6**	**+0.2**
MNV					pmax	pmax			
	comp=Z,16nm,1.1s,mb4.9								
MNV	**Mina**	**78.75**	**42**	*e*P		**P**	**10 56 15.6**	**+0.2**
	comp=Z,16nm,1.1s,mb4.9								
TPNV	**Topopah Spring**	**79.07**	**44**	*e*P		**P**	**10 56 17.4**	**+0.3**
TPNV				*e**PP		pP	10 56 22.8	-5.3	
TPNV					pmax	pmax			
	comp=Z,9.0nm,1.1s,mb4.6								
TPNV	**Topopah Spring**	**79.07**	**44**	*e*P		**P**	**10 56 17.4**	**+0.3**
	comp=Z,9.1nm,1.1s,mb4.6								
TPNV				*e*pP		pP	10 56 22.8	-5.3	
NEN	**Nelson**	**79.24**	**45**	*e*P		**P**	**10 56 18.7**	**+0.6**
WVOR	**Wild Horse Val**	**80.94**	**38**	*e*P		**P**	**10 56 26.5**	**-0.7**
WVOR					pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.5								
WVOR	**Wild Horse Val**	**80.94**	**38**	*e*P		**P**	**10 56 26.5**	**-0.7**
	comp=Z,6.0nm,1.0s,mb4.5								
MSU	**Marysvale**	**82.61**	**44**	*e*P		**P**	**10 56 36.9**	**+0.9**
MSU				*e*		pP	10 56 45.3	-1.8	
MAW	**Mawson**	**82.63**	**199**	*e*P		**P**	**10 56 25.3**	**-11**
	comp=Z,6.3nm,0.8s,mb4.7								
MDJ	**Mudanjiang**	**82.81**	**323**	P		**P**	**10 56 38.4**	**+1.3**
MDJ				AP		pP	10 56 41.6	-6.5	
MDJ				PP		PP	10 59 48.1	+0.7	
MDJ				S		S	11 06 57.9	+5.1	
MDJ				AMB		AMB			
	comp=Z,9.0nm,1.1s,mb4.7								
MDJ				AMB		AMB			
	comp=Z,47nm,4.1s								
NJ2	**Nanjing**	**82.85**	**308**	*e*P		**P**	**10 56 38.1**	**+0.8**
NJ2				AP		pP	10 56 42.0	-6.3	
NJ2				XP		sP	10 56 45.5	-6.8	
NJ2				PP		PP	10 59 47.9	+0.1	
NJ2				S		S	11 06 53.0	-0.2	
NJ2				AMB		AMB			
	comp=Z,260nm,9.4s								
NJ2				LR		LR			
	comp=N,490nm,30.0s,MS4.8								
NJ2				LR		LR			
	comp=E,330nm,29.3s,MS4.8								
NJ2				LR		LR			
	comp=Z,80nm,23.4s								
SRU	**San Rafael**	**84.02**	**44**	*e*P		**P**	**10 56 43.7**	**+0.4**
SRU				*e*			10 56 50.9		
SRU					pmax	pmax			
	comp=Z,12nm,1.1s,mb4.9								
SRU	**San Rafael**	**84.02**	**44**	*e*P		**P**	**10 56 43.7**	**+0.4**
	comp=Z,12nm,1.1s,mb4.9								
SRU				*e*			10 56 50.9		
HLID	**Hailey**	**84.09**	**39**	*e*P		**P**	**10 56 44.1**	**+0.5**
	comp=Z,10nm,1.0s,mb4.9								
LPM	**Los Pinos Moun**	**84.23**	**50**	*e*P		**P**	**10 56 45.4**	**+1.0**
TCUT	**Toone Canyon**	**84.54**	**42**	*e*P		**P**	**10 56 46.6**	**+0.7**
PV10	**Paradox Valley**	**84.61**	**46**	*e*P		**P**	**10 56 46.3**	**0.0**
ANMO	**Albuquerque**	**84.66**	**50**	‖*e*P		**P**	**10 56 47.0**	**+0.4**
ANMO	**Albuquerque**	**84.66**	**50**	*e*P		**P**	**10 56 46.9**	**+0.4**
	comp=Z,7.1nm,1.1s,mb4.7								
CN2	**Changchun**	**84.71**	**321**	*e*P		**P**	**10 56 46.1**	**-0.7**
CN2				*e*XP		sP	10 56 53.5	-8.4	
CN2				*e*S			11 07 10.3		
PV01	**Paradox Valley**	**84.81**	**46**	*e*P		**P**	**10 56 47.2**	**-0.1**
MCMT	**McKenzie Canyo**	**85.73**	**39**	*e*P		**P**	**10 56 52.0**	**+0.1**
DLMT	**Dillon**	**86.19**	**38**	*e*P		**P**	**10 56 54.9**	**+0.7**
	comp=Z,9.0nm,1.4s,mb4.8								
DLMT				*e*pP		pP	10 57 00.5	-4.7	
PDAR	**Pinedale Array**	**86.59**	**42**	P		**P**	**10 56 55.6**	**-0.5**
	comp=Z,3.4nm,1.0s,mb4.5,baz=219,slow=3.8,SNR=12								
COLA	**College**	**87.62**	**11**	*e*P		**P**	**10 57 00.2**	**-0.9**
COLA					pmax	pmax			
	comp=Z,17nm,1.1s,mb5.2								
COLA	**College**	**87.62**	**11**	*e*P		**P**	**10 57 00.2**	**-0.9**
	comp=Z,17nm,1.1s,mb5.2								
VNA3	**Neumayer Olymp**	**87.70**	**175**	*e*P		**P**	**10 57 00.5**	**-1.0**
VNA3				*e*			10 57 02.5		
VNA3				*e*			10 57 05.5		
VNA3				*e*		pP	10 57 08.8	-3.8	
VNA3				*e*		pP	10 57 11.8	-0.8	
ILAR	**Eielson Array**	**87.70**	**11**	P		**P**	**10 57 00.7**	**-0.8**
	comp=Z,7.6nm,1.2s,mb4.8,baz=212,slow=5.2,SNR=17								
SNAA	**Sanae**	**87.71**	**177**	*e*P		**P**	**10 56 56.5**	**-5.1**
SNAA				*e*			10 56 58.5		
SNAA				*e*			10 57 02.8		
SNAA				*e*		pP	10 57 06.2	-6.5	
SNAA				*e*		pP	10 57 09.8	-2.9	
VNA2	**Neumayer--Watz**	**88.18**	**176**	*e*P		**P**	**10 57 03.2**	**-0.6**
	baz=183,slow=3.5								
VNA2				*e*			10 57 05.0		
VNA2				*e*			10 57 07.8		
VNA2				*e*		pP	10 57 11.6	-3.3	
VNA2				*e*		pP	10 57 15.5	+0.6	
VNA1	**Neumayer--Stat**	**88.39**	**175**	*e*P		**P**	**10 57 04.4**	**-0.4**
VNA1				*e*			10 57 06.3		
VNA1				*e*			10 57 09.4		
VNA1				*e*		pP	10 57 13.2	-2.7	
VNA1				*e*		pP	10 57 17.0	+1.1	
DAWY	**Dawson**	**88.65**	**14**	*e*P		**P**	**10 57 05.5**	**-0.5**
BILL	**Bilibino**	**89.62**	**353**	*e*P		**P**	**10 57 08.5**	**-2.1**
BILL					pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.7								
BILL	**Bilibino**	**89.62**	**353**	*e*P		**P**	**10 57 08.5**	**-2.1**
	comp=Z,2.1nm,0.5s,mb4.7								
RSSD	**Black Hills**	**90.75**	**43**	*e*P		**P**	**10 57 15.0**	**-0.8**
XAN	**Xi'an**	**91.18**	**306**	P		**P**	**10 57 18.4**	**+0.5**
XAN				AP		pP	10 57 27.1	-1.9	
XAN				AMB		AMB			
	comp=Z,4.0nm,0.9s,mb4.8								
HHC	**Hu-ho-hao-te**	**92.13**	**313**	*e*P		**P**	**10 57 22.0**	**-0.2**
HHC				AP		pP	10 57 26.8	-6.6	
HHC				XP		sP	10 57 29.0	-8.4	
HHC				PP		PP	11 01 04.8	+2.4	
HHC				SKS			11 07 53.5		
HHC				S			11 08 20.9		
HHC				AMB		AMB			
	comp=Z,10.0nm,1.1s,mb5.1								
HHC				AMB		AMB			
	comp=Z,93nm,4.5s								
KMI	**Kunming**	**92.72**	**296**	P		**P**	**10 57 25.6**	**+0.6**
KMI				AP		pP	10 57 32.6	-3.5	
KMI				XP		sP	10 57 36.9	-3.2	
KMI				AMB		AMB			
	comp=Z,7.0nm,0.7s,mb5.2								
YKA	**Yellowknife Ar**	**95.15**	**24**	P		**P**	**10 57 33.7**	**-2.4**
	comp=Z,1.3nm,0.9s,mb4.4,baz=227,slow=4.7,SNR=6.0								
YKA	**Yellowknife Ar**	**95.15**	**24**	P		**P**	**10 57 33.7**	**-2.4**
ECSD	**EROS,Sioux Fal**	**95.41**	**45**	*e*P		**P**	**10 57 37.0**	**-0.3**
WMQ	**Urumqi**	**109.82**	**310**	PDIF		Pdif	10 58 41.4	-0.3	
WMQ				PP		PP	11 03 18.9	+2.8	
WMQ				PP		PP			
	comp=Z,91nm,6.0s								
MKAR	**Makanchi Array**	**113.99**	**313**	PKiKP		PKiKP	11 02 51.4	-0.4	
	comp=Z,0.7nm,0.6s,baz=67,slow=3.2,SNR=6.0								
KURK	**Kurchatov**	**116.61**	**317**	‖*e*PKiKP		PKPdf	11 02 56.6	-0.2	
CHKZ	**Chkalovo**	**121.34**	**321**	*e*PKiKP		PKPdf	11 03 05.4	-0.5	
ARCES	**ARCESS Array B**	**129.69**	**351**	PKP		PKPdf	11 03 20.6	-1.3	
	comp=Z,2.8nm,1.0s,baz=251,slow=3.7,SNR=3.6								
FINES	**FINESS Array B**	**136.89**	**346**	PKP		PKPdf	11 03 36.2	+0.8	
	comp=Z,3.3nm,1.0s,baz=340,slow=8.7,SNR=4.3								
AKASG	**Malin Array Be**	**144.85**	**334**	PKP		PKPdf	11 03 48.5	-1.2	
	comp=Z,6.6nm,0.8s,baz=38,slow=4.1,SNR=27								
BSEG	**Bad Segeberg**	**146.62**	**355**	*e*PKPbc		PKPbc	11 03 53.9	-0.4	
MALT	**Malatya**	**146.92**	**309**	⇑PKP2		PKPab	11 03 57.7	+1.1	
MALT	**Malatya**	**146.92**	**309**	*e*PKPab		PKPab	11 03 57.3	+0.7	
IBBN	**Ibbenburen**	**148.38**	**358**	*e*PKPbc		PKPbc	11 03 59.8	+0.6	
OJC	**Ojcow**	**148.53**	**343**	*e*PKP		PKPbc	11 03 59.9	+0.4	
CLZ	**Clausthal**	**148.69**	**355**	*e*PKPbc		PKPbc	11 04 00.4	+0.5	
STHS	**Stebnicka Huta**	**148.82**	**341**	*e*PKP		PKPbc	11 04 01.3	+1.0	
KOLS	**Kolonicke sedl**	**148.90**	**339**	*e*PKP		PKPbc	11 04 00.9	+0.4	
BURAR	**Bucovina Array**	**148.91**	**334**	‖*i*P		PKPbc	11 04 02.3	+1.8	
CLL	**Collm**	**148.92**	**351**	*e*PKPbc		PKPbc	11 04 00.6	+0.1	
CLL	**Collm**	**148.92**	**351**	*e*PKPbc		PKPbc	11 04 01.0	+0.5	
	comp=Z,19nm,1.0s								
CLL				*e*PKPab		PKPab	11 04 05.0	+0.4	
	comp=Z,19nm,1.1s								
UPC	**Upice**	**149.17**	**347**	*e*PKPbc		PKPbc	11 04 01.9	+0.7	
BRG	**Berggiesshubel**	**149.20**	**350**	*e*PKPbc		PKPbc	11 04 01.6	+0.4	
BRG	**Berggiesshubel**	**149.20**	**350**	*e*P		PKPbc	11 04 02.0	+0.8	
	comp=Z,5.7nm,0.9s								
BRG	**Berggiesshubel**	**149.20**	**350**	*e*PKP2		PKPbc	11 04 02.0	+0.8	
BRG					pmax	pmax			
	comp=Z,6.0nm,0.9s								
DPC	**Dobruska-Polom**	**149.25**	**347**	*e*PKPbc		PKPbc	11 04 02.6	+1.2	
DPC				*e*PKPab		PKPab	11 04 07.0	+1.1	
MORC	**Moravsky Berou**	**149.51**	**345**	⇑PKP2		PKPbc	11 04 03.0	+1.0	
MORC	**Moravsky Berou**	**149.51**	**345**	*e*PKPbc		PKPbc	11 04 02.6	+0.6	
VRI	**Vrincioaia**	**149.62**	**331**	⇑*i*P		PKPbc	11 04 03.2	+0.9	
BR131	**Keskin Array S**	**149.62**	**315**	*e*PKPbc		PKPbc	11 04 03.3	+1.0	
BRTR	**Keskin Array B**	**149.62**	**315**	PKPbc		PKPbc	11 04 02.9	+0.6	
	comp=Z,5.4nm,0.9s,baz=134,slow=3.6,SNR=4.6								
PLOR	**Plostina**	**149.66**	**331**	⇑*i*P		PKPbc	11 04 03.7	+1.3	
MOX	**Moxa**	**149.75**	**353**	*e*PKPbc		PKPbc	11 04 03.0	+0.4	
MOX	**Moxa**	**149.75**	**353**	*e*PKP		PKPbc	11 04 03.1	+0.5	
	comp=Z,23nm,1.6s								
MOX	**Moxa**	**149.75**	**353**	*e*PKP2		PKPbc	11 04 03.1	+0.5	
MOX					pmax	pmax			
	comp=Z,23nm,1.6s								
WERD	**Werda**	**149.85**	**352**	*e*PKPbc		PKPbc	11 04 03.5	+0.7	
KECS	**Kecovo**	**149.88**	**341**	*e*PKP		PKPbc	11 04 03.9	+1.0	
HARR	**Harsova**	**149.90**	**328**	‖*i*P		PKPbc	11 04 04.5	+1.5	
PRU	**Pruhonice**	**149.95**	**349**	*e*PKPbc		PKPbc	11 04 02.9	-0.2	
NKC	**Novy Kostel**	**150.04**	**352**	*e*PKPbc		PKPbc	11 04 04.1	+0.8	
ANTO	**Ankara**	**150.10**	**316**	*e*PKPbc		PKPbc	11 04 04.8	+1.3	
MLR	**Muntele Rosu**	**150.26**	**331**	‖*i*P		PKPbc	11 04 05.1	+1.3	
MANZ	**Manzenberg**	**150.33**	**352**	*e*PKPbc		PKPbc	11 04 04.8	+0.8	
TREC	**Trest**	**150.43**	**347**	*e*PKPbc		PKPbc	11 04 04.9	+0.7	
TNS	**Taunus Mts**	**150.44**	**357**	*e*PKPbc		PKPbc	11 04 04.1	-0.2	
ROTZ	**Rotzenmuhle**	**150.53**	**352**	*e*PKPbc		PKPbc	11 04 04.5	0.0	
GIVF	**Givet**	**150.61**	**1**	*e*PKP1		PKPbc	11 04 04.8	+0.1	
	comp=Z,61nm,1.2s								
BAIF	**Baives**	**150.63**	**2**	*e*PKP1		PKPbc	11 04 04.9	+0.2	
	comp=Z,50nm,1.2s								
VOIR		**150.70**	**332**	‖*i*P		PKPbc	11 04 06.8	+1.9	
GRF	**Grafenberg Arr**	**150.73**	**353**	*e*PKPbc		PKPbc	11 04 05.7	+0.8	
KHC	**Kasperske Hory**	**150.94**	**350**	*e*PKPbc		PKPbc	11 04 06.2	+0.7	
GEC2	**GERESS Array S**	**151.20**	**349**	*e*PKPbc		PKPbc	11 04 06.1	+0.1	
GERES	**GERESS Array B**	**151.20**	**349**	PKPbc		PKPbc	11 04 06.4	+0.3	
	comp=Z,5.5nm,1.0s,baz=5.7,slow=1.3,SNR=14								
GERES				PKPab		PKPab	11 04 14.3	+0.4	
	comp=Z,1.9nm,0.9s,baz=327,slow=2.2,SNR=4.2								
GRR	**Gorron**	**151.80**	**10**	*e*PKP1		PKPbc	11 04 07.1	-0.3	
BZS	**Buzias**	**151.96**	**336**	‖*i*P		PKPbc	11 04 08.4	+0.6	
CDF	**Champ du Feu**	**152.29**	**358**	*e*PKP1		PKPbc	11 04 08.6	+0.1	
	comp=Z,28nm,1.2s								
EIL	**Elat**	**152.31**	**295**	*e*PKPbc		PKPbc	11 04 10.3	+1.8	
BFO	**Black Forest**	**152.33**	**357**	*e*PKPbc		PKPbc	11 04 09.0	+0.4	
LOR	**Lormes**	**153.41**	**3**	*e*PKP1		PKPbc	11 04 10.9	-0.1	
SSF	**Saint Saulge**	**153.59**	**4**	*e*PKP1		PKPbc	11 04 11.4	0.0	
	comp=Z,75nm,1.7s								
MFF	**Saint Martin d**	**153.65**	**9**	*e*PKP1		PKPbc	11 04 10.8	-0.7	
AVF	**Avril sur Loir**	**153.85**	**4**	*e*PKP1		PKPbc	11 04 11.2	-0.8	
	comp=Z,44nm,1.5s								
SMF	**Signal de Mont**	**154.03**	**3**	*e*PKP1		PKPbc	11 04 13.0	+0.7	
CABF	**La Chapelle**	**154.12**	**360**	*e*PKP1		PKPbc	11 04 13.0	+0.5	
	comp=Z,53nm,1.4s								
TORD	**Torodi Ar. Bea**	**171.50**	**151**	PKPab		PKPab	11 05 41.3	-1.0	
	comp=Z,1.3nm,1.0s,baz=214,slow=3.4,SNR=4.5								

NEIC ***22*** *10:50:39.5±0.8, 024N×97.35E, h30km, mb3.8/2, Error ellipse: s-maj=18.6km s-min=11.6km az=74.0*
ISCJB ***22*** *10:50:41.0±6.1, 04N±03×975E±04, h57km±47km, mb3.9/7, Error ellipse: s-maj=72.0km s-min=17.6km az=112.3*
IDC ***22*** *10:50:41.6±7.2, 024N×97.44E, h44km±61km, mb3.6/6, mb1 3.7/7, mb1mx3.6/18, mbtmp3.8/7, ML2.9/1, Error ellipse: s-maj=74.8km s-min=18.1km az=56.0*
ISC 22 10:50:41.9±6.5, 04N±03×975E±04, h45km±52km, n12, σ0§68/13, mb3.9/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PSI	**Prapat**	**2.83**	**31**	P		**Pn**	**10 51 24.8**	**+0.3**
	1.8nm,0.3s,baz=208,slow=13,SNR=7.4							
PSI				S		**Sn**	**10 51 44.9**	**-12**
	3.9nm,0.3s,baz=185,slow=12,SNR=9.6							
KULM	**Kulim**	**5.83**	**33**	*e*Pn		**Pn**	**10 52 06.0**	**+0.1**
CHTO	**Chiang Mai**	**18.40**	**4**	*e*P		**Pn**	**10 54 52.7**	**-0.9**
	4.0nm,1.0s							
WRA	**Warramunga Ar**	**41.35**	**121**	P		**P**	**10 58 22.7**	**-0.7**
	1.6nm,0.8s,mb3.7,baz=303,slow=8.9,SNR=12							
ASAR	**Alice Springs**	**42.66**	**127**	P		**P**	**10 58 34.2**	**+0.1**
	0.3nm,0.6s,mb3.2,baz=295,slow=7.9,SNR=4.8							
SONM	**Songino Array**	**47.92**	**8**	P		**P**	**10 59 16.9**	**+1.2**
	1.3nm,0.7s,mb4.0,baz=192,slow=9.3,SNR=11							
MKAR	**Makanchi Array**	**48.12**	**346**	P		**P**	**10 59 17.4**	**+0.1**
	2.0nm,0.6s,mb4.3,baz=158,slow=8.1,SNR=25							
MKAR	**Makanchi Array**	**48.12**	**346**	P		**P**	**10 59 17.4**	**+0.1**
STKA	**Stephens Creek**	**52.58**	**132**	P		**P**	**10 59 51.2**	**+0.2**
	2.5nm,0.8s,mb4.2,baz=312,slow=4.8,SNR=8.3							
STKA	**Stephens Creek**	**52.58**	**132**	P		**P**	**10 59 51.2**	**+0.2**
CHKZ	**Chkalovo**	**57.61**	**341**	*e*P		**P**	**11 00 26.1**	**-1.2**
	1.2nm,0.7s,mb4.0							
BRTR	**Keskin Array B**	**69.89**	**313**	P		**P**	**11 01 48.8**	**+0.7**
	0.5nm,0.7s,mb3.6,baz=117,slow=5.0,SNR=4.1							

NEIC ***22*** *10:50:52.2, 3040S×7160W, h37km, MG2.9(GUC), After GUC.*
GUC 22 10:50:52.2±0.9, 3040S×7160W, h37km±5km, MD4.0, ML2.9, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
OVCH	**Ovalle**	**0.40**	**121**	‖*i*P		Pn	10 51 01.6	0.0
OVCH				*i* S		Sn	10 51 08.1	+0.1
OVCH				AML		AML	10 51 08.4	
	comp=E,1μm,0.1s							
TLL	**Tololo Astrono**	**0.72**	**72**	*e*P		Pn	10 51 07.1	+1.1
TLL				*i* S		Sn	10 51 17.8	+2.0
TLL				AML		AML	10 51 23.0	
	comp=N,512nm,0.3s							
TLL	**Tololo Astrono**	**0.72**	**72**	*e*P		Pn	10 51 07.1	+1.1
TLL				*i* S		Sn	10 51 17.8	+2.0

CMCH	**Combarbala**	**0.93**	**147**	*e*P		Pn	10 51 09.2	+0.5	
CMCH				*i* S		Sn	10 51 22.1	+1.2	
CMCH				AML		AML	10 51 22.6		
	comp=E,2μm,0.4s								
CHNG	**Los Chungos**	**1.48**	**177**	*e*P		Pn	10 51 17.9	+1.6	
CHNG				*i* S		Sn	10 51 37.1	+2.6	
LCO	**Las Campanas**	**1.59**	**30**	*e*P		Pn	10 51 19.3	+1.5	
LCO				*i* S		Sn	10 51 40.7	+3.6	

IDC 22 10:56:32.8±1.7, 284N×12736E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/17, mbtmp3.7/5, Error ellipse: s-maj=100.9km s-min=22.7km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.87**	**185**	P		P	11 01 18.0	+1.7
	1.4nm,0.6s,baz=10.0,slow=15,SNR=9.9							
WRA	**Warramunga Arr**	**23.65**	**163**	P		P	11 01 46.2	+0.3
	0.9nm,0.3s,baz=339,slow=10,SNR=52							
ASAR	**Alice Springs**	**27.10**	**167**	P		P	11 02 18.2	+1.0
	0.3nm,0.3s,baz=345,slow=7.3,SNR=12							
STKA	**Stephens Creek**	**37.08**	**160**	*e*P		P	11 03 42.7	-1.9
	2.7nm,0.4s							
STKA	**Stephens Creek**	**37.08**	**160**	P		P	11 03 43.0	-1.6
	1.2nm,0.5s,baz=0.4,slow=7.2,SNR=8.0							
MKAR	**Makanchi Array**	**58.64**	**325**	P		P	11 06 32.0	+0.3
	0.2nm,0.4s,baz=116,slow=7.9,SNR=6.8							

ISCJB ***22*** *10:56:55.2±2.5, 2406S±008×1773W±0.1, h77km±24km, mb4.5/11, Error ellipse: s-maj=21.1km s-min=12.1km az=33.2*
IDC ***22*** *10:56:59.8±3.4, 2382S×177.12W, h115km±30km, mb4.1/7, mb1 4.3/9, mb1mx4.1/16, mbtmp4.6/9, Error ellipse: s-maj=31.1km s-min=17.0km az=136.0*
NEIC ***22*** *10:57:00.8±1.9, 2382S×177.19W, h123km±19km, mb4.7/8, Error ellipse: s-maj=20.5km s-min=12.7km az=124.0*
ISC 22 10:56:56.1±1.7, 2415S±008×1772W±01, h70km±17km, n31, σ1§18/28, mb4.5/11, 3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AFI	**Afiamalu**	**11.42**	**28**	P		**Pn**	**10 59 36.2**	**0.0**
	18nm,0.3s,baz=193,slow=2.3,SNR=28							
AFI				S		**Sn**	**11 01 34.6**	**-7.4**
	7.4nm,0.3s,baz=60,slow=21,SNR=5.1							
URZ	**Urewera**	**14.87**	**198**	P		**Pn**	**11 00 27.8**	**+5.4**
	0.6nm,0.3s,baz=155,slow=19,SNR=5.3							
URZ				S		**Sn**	**11 03 05.3**	**-0.6**
	3.7nm,0.3s,baz=268,slow=23,SNR=7.9							
URZ	**Urewera**	**14.87**	**198**	*e*PN		**P

Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.
NEIC Felt [VII] at Tilichiki.
SZGRF ***22*** *11:12:01.1, 6067N×164.94E, h33km, mb6.0, MS6.8, Eastern Siberia, Russia*
ISC 22 11:12:00.2±0.1, 6082N±001×16577E±003, h15km, h15km±1.1km:pP-P, n1369, σ1904/1330, mb6.0/370, MS6.8/203, 142C-98D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TILR	**Tilichiki**	**0.42**	**160**	*i* P	**Pg**	**11 12 03.7**	**-4.9**
TILR				*e*S	**Sg**	**11 12 09.7**	**-4.6**
TILR				Smax			
	9320μm,1.2s						
KAMR	**Kamenskoye**	**1.65**	**7**	*i* P	**Pn**	**11 12 27.7**	**-0.9**
KAMR				*e*S	**Sn**	**11 12 50.8**	**+1.3**
KAMR				Smax			
	940μm,1.4s						
OSSR	**Ossora**	**2.09**	**222**	*e*P	**Pn**	**11 12 32.8**	**-1.7**
EVNR	**Evensk**	**3.32**	**292**	*i* P	**Pn**	**11 12 52.0**	**+0.5**
SMKR	**Semkarok**	**4.81**	**210**	*e*P	**Pn**	**11 13 11.5**	**-0.5**
SRKR	**Sorokina**	**4.82**	**212**	*e*P	**Pn**	**11 13 12.2**	**+0.1**
KBG	**Krutoberegovo**	**4.86**	**201**	*i* P	**Pn**	**11 13 12.5**	**-0.1**
KBG				Smax			
	79μm,1.8s						
KBTR	**Krutoberegovo**	**4.88**	**200**	P	**Pn**	**11 13 11.8**	**-1.2**
KBTR				S	**Sn**	**11 14 09.6**	**+0.4**
KBTR	**Krutoberegovo**	**4.88**	**200**	*e*P	**Pn**	**11 13 12.1**	**-0.9**
BDR	**Baidarnaya**	**4.89**	**211**	*e*P	**Pn**	**11 13 12.6**	**-0.5**
KLY	**Klyuchi**	**5.26**	**213**	P	**Pn**	**11 13 17.5**	**-0.6**
KLY	**Klyuchi**	**5.26**	**213**	*e*P	**Pn**	**11 13 17.4**	**-0.7**
KRSR	**Krestovskiy**	**5.37**	**213**	*e*P	**Pn**	**11 13 19.7**	**+0.1**
CIRR	**Tsirk**	**5.41**	**211**	*e*P	**Pn**	**11 13 20.6**	**+0.4**
LGNR	**Loginova**	**5.45**	**212**	*e*P	**Pn**	**11 13 21.6**	**+0.8**
ZLN	**Zelenaya**	**5.48**	**211**	*e*P	**Pn**	**11 13 21.7**	**+0.5**
SRDR	**Sredinnyy**	**5.52**	**218**	*e*P	**Pn**	**11 13 21.3**	**-0.4**
BKI	**Bering**	**5.64**	**179**	*e*P	**Pn**	**11 13 23.3**	**-0.1**
BKI				*e*S	**Sn**	**11 14 24.9**	**-2.9**
BKI				Smax			
	4μm,1.6s						
KPT	**Kopyto**	**5.68**	**213**	*e*P	**Pn**	**11 13 25.0**	**+1.1**
KOZ	**Kozyrevsk**	**5.70**	**216**	*e*P	**Pn**	**11 13 24.8**	**+0.7**
KMNR	**Kamenistaya**	**5.86**	**212**	*e*P	**Pn**	**11 13 27.0**	**+0.6**
ESO	**Esso**	**6.16**	**220**	P	**Pn**	**11 13 31.7**	**+1.2**
ESO	**Esso**	**6.16**	**220**	*i* P	**Pn**	**11 13 31.4**	**+0.9**
ESO				*e*S	**Sn**	**11 14 39.2**	**-1.5**
ESO				Smax			
	36μm,1.6s						
TUMR	**Tumrok**	**6.31**	**211**	*i* P	**Pn**	**11 13 35.0**	**+2.4**
MKZ	**Mys Kozlova**	**6.65**	**201**	P	**Pn**	**11 13 37.0**	**-0.2**
MKZ				S	**Sn**	**11 14 50.0**	**-2.7**
MKZ	**Mys Kozlova**	**6.65**	**201**	*e*P	**Pn**	**11 13 38.2**	**+1.0**
BILL	**Bilibino**	**7.25**	**1**	⇓*i*PN	**Pn**	**11 13 44.6**	**-0.9**
BILL				pmax	pmax		
	comp=Z,384nm,0.8s						
BILL	**Bilibino**	**7.25**	**1**	⇓*i*Pn	**Pn**	**11 13 44.6**	**-0.9**
	comp=Z,384nm,0.8s						
BILL	**Bilibino**	**7.25**	**1**	*i* P	**Pn**	**11 13 45.8**	**+0.3**
KII	**Karymskiy**	**7.61**	**209**	*e*P	**Pn**	**11 13 51.5**	**+1.0**
GNL	**Ganaly**	**8.31**	**214**	*e*P	**Pn**	**11 14 01.6**	**+1.6**
SPN	**Mys Shipunski**	**8.36**	**205**	P	**Pn**	**11 13 59.4**	**-1.3**
SPN				S	**Sn**	**11 15 29.5**	**-5.2**
SPN	**Mys Shipunski**	**8.36**	**205**	*e*P	**Pn**	**11 14 01.1**	**+0.4**
SPN				*e*S	**Sn**	**11 15 33.7**	**-1.0**
NLC	**Nalytchevo**	**8.43**	**207**	*e*P	**Pn**	**11 14 02.8**	**+1.1**
SDLR	**Sedlovina**	**8.44**	**209**	*i* P	**Pn**	**11 14 03.5**	**+1.7**
SMAR	**Somma**	**8.47**	**210**	*e*P	**Pn**	**11 14 04.4**	**+2.1**
AVH	**Avacha**	**8.49**	**210**	*e*P	**Pn**	**11 14 03.8**	**+1.3**
KOK	**Koryaka**	**8.49**	**210**	*e*P	**Pn**	**11 14 04.7**	**+2.2**
UGLR	**Uglovaya**	**8.52**	**209**	*e*P	**Pn**	**11 14 04.8**	**+1.9**
PET	**Petropavlovsk**	**8.73**	**210**	⇓*i*PN	**Pn**	**11 14 07.7**	**+1.9**
PET				pmax	pmax		
	comp=Z,4μm,1.3s						
PET				pmax	pmax		
	comp=N,2μm,1.2s						
PET				pmax	pmax		
	comp=E,2μm,1.4s						
PET				pmax	pmax		
	comp=Z,110μm,23.0s						
PET				pmax	pmax		
	comp=E,85μm,25.8s						
PET				pmax	pmax		
	comp=N,155μm,22.4s						
PET				pmax	pmax		
	comp=Z,63μm,14.9s						
PET				MLR	MLR		
	comp=Z,1359μm,17.0s						
PET				MLR	MLR		
	comp=Z,1373μm,16.0s						
PET	**Petropavlovsk**	**8.73**	**210**	⇓*i*Pn	**Pn**	**11 14 07.7**	**+1.9**
	comp=Z,4μm,1.3s						
PET	**Petropavlovsk**	**8.73**	**210**	*e*P	**Pn**	**11 14 07.4**	**+1.6**
FX1	**Attu Island--F**	**8.93**	**150**	Pn	**Pn**	**11 14 05.3**	**-3.1**
	comp=Z,48nm,0.3s,baz=356,slow=12,SNR=118						
FX1				LR	LR	11 17 10.0	
	comp=Z,9μm,18.1s,baz=159,slow=35						
FX1	**Attu Island--F**	**8.93**	**150**	PN	**Pn**	**11 14 05.3**	**-3.2**
FX1				pmax	pmax		
	comp=Z,48nm,0.3s						
FX1				MLR	MLR		
	comp=Z,9μm,18.1s						
FX1	**Attu Island--F**	**8.93**	**150**	*e*Pn	**Pn**	**11 14 05.8**	**-2.7**
KRMR	**Karymshinskiy**	**9.04**	**211**	*e*P	**Pn**	**11 14 10.5**	**+0.5**
SMY	**Shemya**	**9.30**	**147**	*e*PN	**Pn**	**11 14 10.7**	**-3.0**
SMY				pmax	pmax		
	comp=Z,1μm,1.0s						
SMY	**Shemya**	**9.30**	**147**	*e*Pn	**Pn**	**11 14 10.7**	**-3.0**
	comp=Z,1μm,1.0s						
GRL	**Gorelyy**	**9.30**	**210**	*i* P	**Pn**	**11 14 15.6**	**+1.9**
RUS	**Russkaya**	**9.31**	**209**	P	**Pn**	**11 14 14.1**	**+0.4**
RUS	**Russkaya**	**9.31**	**209**	*e*P	**Pn**	**11 14 15.0**	**+1.3**
MIPR	**Malaya Ipel'ka**	**9.90**	**214**	*e*P	**Pn**	**11 14 22.6**	**+0.8**
SKR	**Severo-Kuril's**	**11.51**	**212**	⇓*i*PN	**Pn**	**11 14 40.0**	**-3.9**
SKR				pmax	pmax		
	comp=N,220nm,1.0s						
SKR				pmax	pmax		
	comp=E,250nm,1.0s						
SKR				pmax	pmax		
	comp=Z,990nm,1.0s						
SKR				pmax	pmax		
	comp=E,18μm,6.0s						
SKR				pmax	pmax		
	comp=N,34μm,14.0s						
SKR				pmax	pmax		
	comp=Z,44μm,14.0s						
AKUT	**Akutan**	**16.60**	**101**	*e*Pn	**Pn**	**11 15 51.9**	**-0.3**
YAK	**Yakutsk**	**17.17**	**290**	*e*P	**Pn**	**11 15 59.5**	**+0.1**
YAK				*e*S	**Sn**	**11 19 14.1**	**+4.0**
YAK				pmax	pmax		
	comp=Z,861nm,0.8s						
YAK				pmax	pmax		
	comp=N,110nm,1.2s						
YAK				pmax	pmax		
	comp=E,577nm,1.2s						
YAK				smax			
	comp=N,5μm,20.0s						
YAK				smax			
	comp=Z,8μm,11.9s						
YAK				smax			
	comp=E,6μm,16.7s						
YAK				MLR	MLR		
	comp=Z,88μm,15.0s						
YAK				MLR	MLR		
	comp=N,75μm,14.0s						
YAK				MLR	MLR		
	comp=E,166μm,20.0s						
YAK	**Yakutsk**	**17.17**	**290**	*e*P	**Pn**	**11 15 59.5**	**+0.1**
	comp=E,861nm,0.8s						
YAK				*e*S	**Sn**	**11 19 14.1**	**+4.0**
UGL	**Uglegorsk**	**17.87**	**240**	⇑*i*P	**Pn**	**11 16 09.5**	**+1.4**
UGL				pmax	pmax		
	comp=N,42μm,7.0s						
UGL				pmax	pmax		
	comp=E,45μm,7.0s						
UGL				pmax	pmax		
	comp=Z,64μm,7.0s						
UGL				pmax	pmax		
	comp=N,396nm,1.2s						
UGL				pmax	pmax		
	comp=E,396nm,1.2s						
UGL				pmax	pmax		
	comp=Z,1μm,1.2s						
TTA	**Tatalina**	**17.96**	**67**	P	**Pn**	**11 15 59.5**	**-10**
TTA				pmax	pmax		
	comp=Z,3μm,1.5s						
TTA	**Tatalina**	**17.96**	**67**	*e*P	**Pn**	**11 16 09.6**	**+0.4**
	comp=Z,2μm,1.2s						
TIXI	**Tiksi**	**18.02**	**322**	*e*P	**Pn**	**11 16 08.1**	**-1.9**
TIXI				*e*S	**Sn**	**11 19 26.0**	**-4.7**
TIXI				pmax	pmax		
	comp=Z,584nm,1.0s						
TIXI				pmax	pmax		
	comp=N,101nm,0.8s						
TIXI				pmax	pmax		
	comp=E,463nm,1.1s						
TIXI				pmax	pmax		
	comp=Z,13μm,3.5s						
TIXI				MLR	MLR		
	comp=E,277μm,13.0s						
TIXI				MLR	MLR		
	comp=Z,372μm,13.0s						
TIXI				MLR	MLR		
	comp=N,306μm,12.0s						
SDPT	**Sand Point**	**18.51**	**92**	*e*P	**Pn**	**11 16 15.9**	**-0.1**
	comp=N,4μm,1.2s						
SVW2	**Sparrevohn**	**18.58**	**72**	*e*P	**Pn**	**11 16 16.6**	**-0.3**
YSS	**Yuzh-Sakhalins**	**19.27**	**234**	*oe*P	**Pn**	**11 16 24.0**	**-1.1**
YSS				pmax	pmax		
	comp=Z,41μm,6.0s						
YSS				pmax	pmax		
	comp=E,20μm,5.0s						
YSS				pmax	pmax		
	comp=N,4μm,2.0s						
YSS				pmax	pmax		
	comp=E,6μm,2.0s						
YSS				pmax	pmax		
	comp=Z,5μm,2.0s						
YSS				MLR	MLR		
	comp=Z,310μm,13.0s						
YSS				MLR	MLR		
	comp=N,182μm,12.0s						
YSS				MLR	MLR		
	comp=E,188μm,12.0s						
YSS	**Yuzh-Sakhalins**	**19.27**	**234**	*e*Pcu		11 16 24.0	
	comp=E,5μm,2.0s						
YUK	**Yuzh-Kuril'sk**	**20.59**	**224**	⇓*i*P	**P**	**11 16 36.2**	**-2.3**
YUK				*e*		11 17 06.0	
YUK				pmax	pmax		
	comp=Z,1μm,1.1s						
YUK				pmax	pmax		
	comp=E,460nm,0.8s						
YUK				pmax	pmax		
	comp=Z,30μm,8.0s						
YUK				pmax	pmax		
	comp=N,15μm,4.0s						
YUK				pmax	pmax		
	comp=E,9μm,3.2s						
YUK				MLR	MLR		
	comp=Z,464μm,18.0s,MS6.9						
YUK				MLR	MLR		
	comp=N,181μm,17.0s,MS6.9						
YUK				MLR	MLR		
	comp=E,442μm,19.0s,MS6.9						
COLA	**College**	**21.15**	**59**	*e*P	**P**	**11 16 44.1**	**-0.5**
COLA				pmax	pmax		
	comp=Z,696nm,0.9s,mb6.0						
COLA				MLR	MLR		
	comp=Z,218μm,20.0s,MS6.5						
COLA	**College**	**21.15**	**59**	*e*P	**P**	**11 16 44.1**	**-0.5**
	comp=Z,696nm,0.9s,mb6.0						
COLA				LR	LR		
	comp=Z,218μm,20.0s,MS6.5						
KDAK	**Kodiak Island**	**21.21**	**80**	P	**P**	**11 16 44.7**	**-0.5**
	comp=Z,2μm,1.1s,mb6.4,SNR=15						
KDAK	**Kodiak Island**	**21.21**	**80**	P	**P**	**11 16 44.5**	**-0.7**
	comp=Z,162nm,1.0s,mb5.3,baz=327,slow=4.1,SNR=32						
KDAK				S	**S**	**11 20 43.5**	**+3.0**
	comp=Z,21nm,1.0s,baz=337,slow=18,SNR=2.6						
KDAK				LR	LR	11 25 46.1	
	comp=Z,163μm,19.0s,MS6.4,baz=144,slow=39						
CLNS	**Chul'man**	**21.27**	**277**	⇑*i*P	**P**	**11 16 45.1**	**-0.8**
CLNS				*e*		11 17 08.0	
CLNS				*e*S	**S**	**11 20 44.3**	**+2.6**
CLNS				*e*SS		11 21 29.3	
CLNS				pmax	pmax		
	comp=N,1μm,1.5s						
CLNS				pmax	pmax		
	comp=E,989nm,1.5s						
CLNS				pmax	pmax		
	comp=Z,1μm,1.5s,mb5.9						
CLNS				pmax	pmax		
	comp=Z,730nm,1.1s,mb5.9						
CLNS				pmax	pmax		
	comp=N,956nm,1.5s						
CLNS				pmax	pmax		
	comp=E,973nm,1.2s						
CLNS				smax			
	comp=N,39μm,14.1s						
CLNS				smax			
	comp=Z,13μm,14.1s						
CLNS				smax			
	comp=E,38μm,12.5s						
CLNS				MLR	MLR		
	comp=Z,192μm,11.0s,MS6.8						
CLNS				MLR	MLR		
	comp=N,328μm,13.0s,MS7.1						
CLNS				MLR	MLR		
	comp=E,337μm,12.0s,MS7.1						
PMR	**Palmer**	**21.41**	**68**	*e*P	**P**	**11 16 46.2**	**-1.1**
PMR				pmax	pmax		
	comp=Z,876nm,1.8s,mb5.8						
PMR	**Palmer**	**21.41**	**68**	*e*P	**P**	**11 16 46.2**	**-1.1**
	comp=Z,876nm,1.8s,mb5.8						
HABR	**Khabarovsk**	**21.41**	**249**	⇑*i*P	**P**	**11 16 47.7**	**+0.3**
HABR				*e*		11 16 49.6	
HABR				*e*S	**S**	**11 20 45.6**	**+1.2**
HABR				pmax	pmax		
	comp=Z,3μm,1.9s,mb6.3						
HABR				MLR	MLR		
	comp=Z,189μm,18.1s,MS6.5						
NRGR	**Nerungri**	**21.44**	**277**	*e*P	**P**	**11 16 48.0**	**+0.3**
NRGR				S	**S**	**11 20 50.7**	**+5.7**
ILAR	**Eielson Array**	**21.58**	**59**	P	**P**	**11 16 48.2**	**-0.9**
	comp=Z,16nm,0.9s,baz=275,slow=6.6,SNR=19						
ILAR	**Eielson Array**	**21.58**	**59**	P	**P**	**11 16 48.3**	**-0.9**
ILAR				pmax	pmax		
	comp=Z,16nm,0.9s						
ASAJ	**Asahikawa**	**21.70**	**230**	P	**P**	**11 16 49.5**	**-1.0**
	comp=Z,117nm,0.7s,mb5.4,baz=31,slow=9.0,SNR=25						
ASAJ				S	**S**	**11 20 52.9**	**+2.9**
	comp=Z,50nm,1.0s,baz=8.0,slow=15,SNR=2.4						
ASAJ				LR	LR	11 25 18.3	
	comp=Z,113μm,18.8s,MS6.3,baz=45,slow=37						
ASAJ	**Asahikawa**	**21.70**	**230**	P	**P**	**11 16 49.5**	**-0.9**
ASAJ				S	**S**	**11 20 52.9**	**+2.9**
ASAJ				pmax	pmax		
	comp=Z,117nm,0.7s						
ASAJ				smax			
	comp=N,51nm,1.0s						
ASAJ				MLR	MLR		
	comp=Z,113μm,18.8s						
KLR	**Kul'dur**	**22.41**	**254**	⇓*i*P	**P**	**11 16 53.8**	**-4.2**
KLR				*e*S	**S**	**11 20 59.5**	**-4.3**
KLR				pmax	pmax		
	comp=E,6μm,3.8s						
KLR				pmax	pmax		
	comp=Z,11μm,3.8s						
BOD	**Bodaibo**	**26.02**	**287**	*e*P	**P**	**11 17 31.3**	**-1.2**
BOD				pmax	pmax		
	comp=Z,700nm,1.5s,mb6.0						
INK	**Inuvik**	**26.05**	**48**	P	**P**	**11 17 31.6**	**-1.3**
	comp=Z,203nm,1.1s,mb5.6,baz=281,slow=7.8,SNR=108						
INK				PcP	PcP	11 21 01.1	+0.7
	comp=Z,125nm,1.0s,baz=296,slow=3.0,SNR=5.0						
INK				S	**S**	**11 22 10.1**	**+6.7**
	comp=Z,17nm,1.1s,baz=202,slow=33,SNR=1.6						
INK				LR	LR	11 28 60.0	
	comp=Z,212μm,20.4s,MS6.7,baz=279,slow=39						
INK				PKP2bc		11 52 52.6	
	comp=Z,3.0nm,1.0s,baz=67,slow=2.4,SNR=5.6						
INK	**Inuvik**	**26.05**	**48**	P	**P**	**11 17 31.6**	**-1.2**
INK						11 21 01.2	
INK				S	**S**	**11 22 10.1**	**+6.8**
INK				pmax	pmax		
	comp=Z,203nm,1.1s						
INK				smax			
	comp=N,17nm,1.1s						
INK				MLR	MLR		
	comp=Z,212μm,20.4s						
INK	**Inuvik**	**26.05**	**48**	*e*P	**P**	**11 17 31.6**	**-1.3**
	comp=Z,14μm,0.9s						
MDJ	**Mudanjiang**	**26.80**	**249**	P	**P**	**11 17 39.0**	**-0.5**
MDJ				AP	pP	11 17 41.5	-2.7
MDJ				S	**S**	**11 22 15.4**	**+0.4**
MDJ				XS	sS	11 22 20.4	-2.4
MDJ				SCP	ScP	11 24 42.4	+0.7
MDJ				PCS	PcS	11 24 43.6	+0.1
MDJ				SCS	ScS	11 28 33.1	+0.7
MDJ				AMB	AMB		
	comp=Z,51nm,1.1s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,4μm,7.2s						
MDJ				LR	LR		
	comp=N,322μm,19.1s,MS7.1						
MDJ				LR	LR		
	comp=E,382μm,19.1s,MS7.1						
MDJ				LR	LR		
	comp=Z,207μm,15.3s,MS6.8						
MDJ	**Mudanjiang**	**26.80**	**249**	*e*P	**P**	**11 17 37.6**	**-1.9**
	comp=Z,50nm,0.7s,mb5.2						
MDJ				LR	LR		
	comp=Z,172μm,19.0s,MS6.6						
HIA	**Hailar**	**28.18**	**267**	PFAKE		11 18 00.0	+8.1
HIA				LR	LR		
	comp=Z,186μm,19.0s,MS6.7						
CN2	**Changchun**	**29.34**	**253**	*e*P	**P**	**11 18 00.6**	**-1.6**
CN2				*e*XP	sP	11 18 07.6	-1.3
CN2				*e*S	**S**	**11 22 51.3**	**-3.7**
CN2				*e*SS	SS	11 24 21.8	-38
CN2				PCS	PcS	11 24 50.4	-1.0
CN2				AMB	AMB		
	comp=Z,90nm,1.0s,mb5.5						
CIT	**Chita**	**29.44**	**276**	*e*P	**P**	**11 18 02.8**	**-0.3**
CIT				pmax	pmax		
	comp=Z,1μm,3.6s						
SIT	**Sitka**	**29.73**	**71**	*e*P	**P**	**11 18 06.4**	**+0.7**
SIT				pmax	pmax		
	comp=Z,836nm,1.1s,mb6.4						
SIT				MLR	MLR		
	comp=Z,187μm,20.0s,MS6.7						
SIT	**Sitka**	**29.73**	**71**	*e*P	**P**	**11 18 06.4**	**+0.7**
	comp=Z,836nm,1.1s,mb6.4						
SIT				LR	LR		
	comp=Z,187μm,20.0s,MS6.7						
MAJO	**Matsushiro**	**29.93**	**228**	*e*P	**P**	**11 18 06.6**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,290nm,1.2s,mb5.9						
MAJO				MLR	MLR		
	comp=Z,114μm,20.0s,MS6.5						
MAJO	**Matsushiro**	**29.93**	**228**	*e*P	**P**	**11 18 06.5**	**-1.0**
	comp=Z,299nm,1.2s,mb5.9						
MAJO				LR	LR		
	comp=Z,118μm,20.0s,MS6.5						
MAT	**Matsushiro**	**29.93**	**228**	P	**P**	**11 18 06.4**	**-1.1**
MAT				S	**S**	**11 23 09.6**	**+5.2**
MAT	**Matsushiro**	**29.93**	**228**	*e*P	**P**	**11 18 06.0**	**-1.5**
MAT				*e*S	**S**	**11 23 10.0**	**+5.6**
MAT				pmax	pmax		
	comp=Z,316nm,1.9s,mb5.7						
MAT				MLR	MLR		
	comp=Z,20μm,19.0s,MS5.8						
MAT	**Matsushiro**	**29.93**	**228**	*e*P	**P**	**11 18 06.0**	**-1.5**
	comp=Z,316nm,1.9s,mb5.7						
MAT				*e*S	**S**	**11 23 10.0**	**+5.6**
MAT				LR	LR		
	comp=Z,20μm,19.0s,MS5.8						
MJAR	**Matsushiro Arr**	**29.93**	**228**	P	**P**	**11 18 06.1**	**-1.4**
	comp=Z,136nm,1.1s,mb5.6,baz=14,slow=6.8,SNR=27						
MJAR				PcP	PcP	11 21 11.4	+1.4
	comp=Z,28nm,1.1s,baz=12,slow=6.4,SNR=3.3						
MJAR				S	**S**	**11 23 13.6**	**+9.1**
	comp=Z,2.0nm,0.8s,baz=228,slow=34,SNR=2.2						
MJAR				LR	LR	11 31 24.8	
	comp=Z,110μm,19.1s,MS6.5,baz=45,slow=39						
DLBC	**Dease Lake**	**31.40**	**65**	*e*P	**P**	**11 18 20.6**	**+0.2**
CRAG	**Craig**	**31.63**	**72**	⇓*e*P	**P**	**11 18 23.6**	**+1.1**
	comp=Z,233nm,1.2s,mb5.9						
SNY	**Shenyang**	**31.74**	**253**	⇑P	**P**	**11 18 22.4**	**-1.0**
SNY				PP	PP	11 19 26.9	-8.2
SNY				S	**S**	**11 23 35.3**	**+2.7**
SNY				XS	sS	11 23 42.1	+1.7
SNY				AMB	AMB		
	comp=Z,382nm,2.5s,mb5.8						
SNY				AMB	AMB		
	comp=Z,7μm,5.1s						
SNY				LR	LR		
	comp=N,289μm,13.5s,MS7.3						
SNY				LR	LR		
	comp=E,401μm,14.5s,MS7.3						
SNY				LR	LR		
	comp=Z,256μm,16.1s,MS7.0						
JHJ	**Hachijo jima 2**	**32.47**	**223**	P	**P**	**11 18 30.6**	**+0.7**
	comp=Z,61nm,0.8s,mb5.5,baz=31,slow=12,SNR=2.5						
JHJ				LR	LR	11 30 57.9	
	comp=Z,56μm,21.7s,MS6.2,baz=30,slow=35						
KS15	**Wonju Array Si**	**33.33**	**243**	*e*P	**P**	**11 18 36.7**	**-0.6**
IRK	**Irkutsk**	**33.78**	**284**	⇓*i*P	**P**	**11 18 42.3**	**+1.0**
IRK				*e*		11 19 47.7	
IRK				pmax	pmax		
	comp=Z,1μm,2.7s,mb6.3						
INCN	**Inchon**	**33.85**	**244**	*e*P	**P**	**11 18 42.4**	**+0.5**
	comp=Z,45nm,0.7s,mb5.5						
INCN				LR	LR		
	comp=Z,130μm,19.0s,MS6.7						
TLY	**Talaya**	**34.44**	**283**	P	**P**	**11 18 47.4**	**+0.4**
	comp=Z,675nm,1.2s,mb6.5,SNR=68						
TLY	**Talaya**	**34.44**	**283**	*c i*P	**P**	**11 18 47.0**	**0.0**
TLY				*e*S	**S**	**11 24 10.4**	**-4.1**
TLY				*e*SS	SS	11 26 20.1	-24
TLY				pmax	pmax		
	comp=Z,428nm,1.9s,mb6.0						
TLY				MLR	MLR		
	comp=Z,294μm,14.0s,MS7.2						
TLY	**Talaya**	**34.44**	**283**	⇑*i*P	**P**	**11 18 47.0**	**0.0**
TLY				*e*S	**S**	**11 24 10.4**	**-4.1**
TLY				*e*SS	SS	11 26 20.1	-24
MIDW	**Midway**	**34.53**	**153**	PFAKE		11 19 00.0	+12
MIDW				LR	LR		
	comp=Z,29μm,21.0s,MS6.0						
ALE	**Alert**	**34.79**	**10**	P	**P**	**11 18 49.0**	**-1.1**
	comp=Z,2μm,0.9s,mb7.0						
DL2	**Dalian**	**34.96**	**252**	⇑*i*P	**P**	**11 18 50.9**	**-0.6**
DL2				PP	PP	11 20 13.1	+2.3
DL2				PCP	PcP	11 21 25.6	+1.8
DL2				S	**S**	**11 24 22.6**	**0.0**
DL2				SS	SS	11 26 41.4	-13
DL2				AMB	AMB		
	comp=Z,170nm,0.8s,mb6.0						
DL2				AMB	AMB		
	comp=Z,2μm,4.4s						
DL2				LR	LR		
	comp=N,161μm,17.0s,MS7.0						
DL2				LR	LR		
	comp=E,158μm,16.6s,MS7.0						
DL2				LR	LR		
	comp=Z,136μm,13.4s,MS6.9						
RES	**Resolute Bay**	**34.99**	**27**	*e*P	**P**	**11 18 50.2**	**-1.6**
RES				*e*		11 21 23.9	
RES				pmax	pmax		
	comp=Z,39nm,0.7s,mb5.5						
RES	**Resolute Bay**	**34.99**	**27**	*e*P	**P**	**11 18 50.2**	**-1.5**
	comp=Z,1μm,0.7s,mb7.0						
RES				*e*PcP	PcP	11 21 23.9	0.0
ULN	**Ulaanbaatar**	**35.34**	**276**	*e*P	**P**	**11 18 55.0**	**+0.3**
ULN				*e**PP	pP	11 18 59.7	+0.2
ULN				pmax	pmax		
	comp=Z,161nm,0.9s,mb6.0						
ULN				MLR	MLR		
	comp=Z,448μm,19.0s,MS7.2						
ULN	**Ulaanbaatar**	**35.34**	**276**	*e*P	**P**	**11 18 55.0**	**+0.2**
	comp=Z,161nm,0.9s,mb6.0						
ULN				*e*pP	pP	11 18 59.7	+0.2
ULN				LR	LR		
	comp=Z,448μm,19.0s,MS7.2						
ZAK	**Zakamensk**	**35.46**	**282**	⇓*i*P	**P**	**11 18 56.5**	**+0.7**
ZAK				*e*		11 20 22.1	
ZAK				pmax	pmax		
	comp=Z,248nm,1.6s,mb5.9						
ZAK				pmax	pmax		
	comp=Z,398nm,1.7s,mb6.1						
YKA	**Yellowknife Ar**	**35.60**	**52**	P	**P**	**11 18 55.4**	**-1.6**
	comp=Z,30nm,0.6s,mb5.4,baz=306

YKA LR LR 11 35 39.5
comp=Z,92µm,19.8s,MS6.5,baz=290,slow=40
YKA Yellowknife Ar 35.60 52 P **P** **11 18 55.4 -1.7**
YKA 11 21 26.2
YKA S **S** **11 24 34.6 +2.1**
YKA pmax pmax
comp=Z,30nm,0.6s
YKA smax
comp=N,8.0nm,1.0s
YKA MLR MLR
comp=Z,92µm,19.8s
YKA Yellowknife Ar 35.60 52 P **P** **11 18 55.4 -1.6**
YKA PcP PcP 11 21 26.2 +0.6
YKA S **S** **11 24 34.5 +2.0**
YKA LR LR 11 35 39.5
SONM Songino Array 35.68 276 P **P** **11 18 58.4 +0.7**
comp=Z,63nm,0.8s,mb5.6,baz=56,slow=8.7,SNR=160
SONM PcP PcP 11 21 25.8 -0.1
comp=Z,26nm,0.9s,baz=143,slow=4.1,SNR=4.5
SONM LR LR 11 34 19.1
comp=Z,288µm,20.8s,MS7.0,baz=48,slow=38
SONM Songino Array 35.68 276 P **P** **11 18 58.4 +0.7**
SONM 11 21 25.8
SONM pmax pmax
comp=Z,63nm,0.9s
SONM MLR MLR
comp=Z,288µm,20.8s
SONM Songino Array 35.68 276 P **P** **11 18 58.4 +0.7**
SONM PcP PcP 11 21 25.8 -0.1
SONM LR LR 11 34 19.1
MOY Mondy 35.70 285 *e*P **P** **11 18 58.1 +0.2**
MOY pmax pmax
comp=Z,2µm,2.6s,mb6.5
JNU Nakatsue 35.77 235 LR LR 11 32 39.2
comp=Z,140µm,21.0s,MS6.7,baz=32,slow=35
BJI Beijing 36.64 258 *e*P **P** **11 19 05.8 -0.1**
BJI PP PP 11 20 27.5 -1.9
BJI PCP PcP 11 21 26.0 -2.7
BJI S **S** **11 24 50.0 +1.6**
BJI SCS ScS 11 29 20.4 -1.1
BJI AMB AMB
comp=Z,489nm,0.8s,mb6.4
BJI AMB AMB
comp=Z,8µm,4.1s
BJI LR LR
comp=N,248µm,16.0s,MS7.3
BJI LR LR
comp=E,311µm,15.8s,MS7.3
BJI LR LR
comp=Z,51µm,22.5s
BJT Baijiatuau 36.66 258 *e*P **P** **11 19 05.7 -0.4**
BJT pmax pmax
comp=Z,323nm,0.7s
BJT MLR MLR
comp=Z,135µm,19.0s
BJT Baijiatuau 36.66 258 *e*P **P** **11 19 05.7 -0.4**
comp=Z,323nm,0.7s,mb6.3
BJT LR LR
comp=Z,135µm,19.0s,MS6.8
KRAR Krasnoyarsk 36.66 296 *i* P **P** **11 19 06.3 +0.2**
KRAR pmax pmax
comp=Z,369nm,0.7s,mb6.3
KRAR MLR MLR
comp=Z,215µm,17.0s,MS7.0
CBIJ Chichi jima 37.32 216 P **P** **11 19 12.3 +0.6**
comp=Z,207nm,0.9s,mb5.9,baz=39,slow=10,SNR=6.1
CBIJ LR LR 11 36 14.0
comp=Z,39µm,18.5s,MS6.2,baz=355,slow=39
HHC Hu-ho-hao-te 38.25 264⇑ *i*P **P** **11 19 19.8 +0.3**
HHC AP pP 11 19 24.3 0.0
HHC XP sP 11 19 26.8 +0.6
HHC PP PP 11 20 50.3 +3.3
HHC PCP PcP 11 21 34.3 +0.7
HHC S **S** **11 25 12.8 0.0**
HHC SCP ScP 11 25 20.8 0.0
HHC PCS PcS 11 25 22.0 -0.7
HHC SS SS 11 27 52.6 -8.4
HHC SCS ScS 11 29 28.8 -1.7
HHC AMB AMB
comp=Z,330nm,3.1s
HHC AMB AMB
comp=Z,7µm,4.2s
HHC LR LR
comp=N,271µm,16.6s,MS7.3
HHC LR LR
comp=E,330µm,16.3s,MS7.3
HHC LR LR
comp=Z,200µm,16.4s,MS7.0
BTO Baotou 39.19 265 *e*P **P** **11 19 27.3 -0.1**
BTO AMB AMB
comp=Z,556nm,0.9s,mb6.3
BTO LR LR
comp=N,452µm,13.2s,MS7.6
BTO LR LR
comp=E,327µm,13.2s,MS7.6
TIA Tai'an 39.24 254⇑ P **P** **11 19 27.0 -0.9**
TIA XP sP 11 19 39.0 +4.4
TIA PP PP 11 21 02.0 +4.1
TIA S **S** **11 25 30.0 +2.3**
TIA XS sS 11 25 40.5 +4.9
TIA AMB AMB
comp=Z,90nm,1.0s,mb5.5
TIA AMB AMB
comp=Z,5µm,7.0s
TIA LR LR
comp=N,126µm,17.0s,MS6.9
TIA LR LR
comp=E,52µm,15.6s,MS6.9
KBS Kingsbay 39.62 352⇓ *i*P **P** **11 19 30.8 -0.2**
KBS AMb AMB 11 19 53.8
comp=Z,216nm,1.6s,mb5.6
KBS *e*SS SS 11 28 31.8 +3.1
KBS Kingsbay 39.62 352 *e*P **P** **11 19 30.8 -0.3**
KBS pmax pmax
comp=Z,216nm,1.6s,mb5.6
KBS MLR MLR
comp=Z,98µm,21.0s,MS6.6
KBS Kingsbay 39.62 352 *e*P **P** **11 19 30.8 -0.3**
comp=Z,216nm,1.6s,mb5.6
KBS LR LR
comp=Z,98µm,21.0s,MS6.6
OBC Olympics--Boni 40.72 75 P **P** **11 19 42.0 +1.9**
VGZ Gonzales 40.81 74 P **P** **11 19 42.0 +1.0**
STW Striped Peak 40.83 75 P **P** **11 19 42.7 +1.6**
MCW Mount Constitu 40.85 74 P **P** **11 19 42.7 +1.4**
OCWA Octopus Mounta 40.88 76 *e*P **P** **11 19 43.0 +1.6**
comp=Z,242nm,1.0s,mb5.8
OCWA LR LR
comp=Z,81µm,20.0s,MS6.6
VDB Vedder Mountai 40.95 73 P **P** **11 19 42.8 +0.7**
HSP Hornsund 41.16 350 *e*P **P** **11 19 42.9 -0.9**
MBW Mount Baker 41.22 73 P **P** **11 19 45.8 +1.5**
WAKE Wake Island 41.50 179 *e*P **P** **11 19 44.6 -2.0**
comp=Z,343nm,1.1s,mb5.9
WAKE LR LR
comp=Z,31µm,21.0s,MS6.2
NVS Novosibirsk 41.59 300⇑ *i*P **P** **11 19 46.5 -0.8**
NVS *i* 11 21 22.2
NVS *i* S **S** **11 26 03.0 +0.1**
NVS *e*SS SS 11 29 03.2 -4.7
NVS pmax pmax
comp=N,372nm,1.4s
NVS pmax pmax
comp=E,411nm,1.3s
NVS pmax pmax
comp=Z,1µm,2.3s,mb6.1
NVS pmax pmax
comp=N,860nm,2.1s
NVS pmax pmax
comp=E,790nm,2.0s
NVS smax
comp=N,586nm,2.0s
NVS smax
comp=E,340nm,2.0s
JCW Jim Creek 41.62 74 P **P** **11 19 49.2 +1.6**
SSE Sheshan 41.64 245 P **P** **11 19 46.8 -0.9**
SSE XP sP 11 19 51.3 -3.2
SSE PP PP 11 21 22.8 -1.2
SSE PCP PcP 11 21 43.8 -0.7
SSE S **S** **11 26 03.8 +0.2**
SSE AMB AMB
comp=Z,179nm,1.0s,mb5.7
SSE AMB AMB
comp=Z,4µm,6.5s
SSE LR LR
comp=N,104µm,20.4s,MS6.9
SSE LR LR
comp=E,124µm,20.4s,MS6.9
SSE LR LR
comp=Z,125µm,17.3s,MS6.8
NJ2 Nanjing 41.88 248 *e*P **P** **11 19 51.0 +1.3**
NJ2 AP pP 11 19 55.6 +1.1
NJ2 XP sP 11 19 59.9 +3.5
NJ2 PP PP 11 21 30.4 +3.8
NJ2 S **S** **11 26 08.0 +0.9**
NJ2 XS sS 11 26 17.0 +2.0
NJ2 AMB AMB
comp=Z,80nm,1.0s,mb5.3
NJ2 AMB AMB
comp=Z,3µm,6.1s
NJ2 LR LR
comp=N,638µm,21.5s,MS7.9
NJ2 LR LR
comp=E,1408µm,17.4s,MS7.9
NJ2 LR LR
comp=Z,246µm,16.1s,MS7.2
HTW Haystack Looko 41.98 74 P **P** **11 19 52.0 +1.5**
EDM Edmonton 41.99 63 *e*P **P** **11 19 50.2 -0.4**
EDM *e**PP pP 11 19 53.7 -1.7
RMW Rattlesnake Mo 42.21 74 P **P** **11 19 53.8 +1.4**
JOW Kunigami 42.38 234 LR LR 11 38 21.9
comp=Z,107µm,21.8s,MS6.7,baz=40,slow=37
RVC Mount Rainier- 42.50 75 P **P** **11 19 55.0 +0.2**
DAG Danmarks Havn 42.63 2*b* *i*P **P** **11 19 54.8 -1.0**
comp=Z,218nm,1.2s,mb5.8
DAG pmax pmax
comp=Z,65µm,20.0s
DAG Danmarks Havn 42.63 2*b* *i*P **P** **11 19 54.8 -1.0**
DAG pmax pmax
comp=Z,220nm,1.2s,mb5.8
DAG MLR MLR
comp=Z,65µm,20.0s,MS6.5
DAG Danmarks Havn 42.63 2 *i* Pcr 11 19 54.8
comp=Z,219nm,1.2s
DAG LR LR
comp=Z,65µm,20.0s,MS6.5
LTY Liberty 42.89 74 P **P** **11 19 58.5 +0.6**
BJO Bjornoya 43.14 347 *e*P **P** **11 20 00.9 +1.0**
BJO AMb AMB 11 20 10.2
comp=Z,559nm,1.5s,mb6.1
BJO *e*S **S** **11 26 23.6 -2.1**
BJO *e*SS SS 11 29 39.4 +1.0
BJO AMS AMS 11 42 02.7
comp=Z,53µm,23.7s,MS6.4
BJO1 Bjornoya 43.16 348 *e*P **P** **11 20 00.9 +0.8**
comp=Z,559nm,1.5s,mb6.1
BJO1 LR LR
comp=Z,52694µm,23.7s
EBG Ellensburg 43.19 74 P **P** **11 20 01.8 +1.5**
EPH Ephrata 43.32 73 P **P** **11 20 00.8 -0.6**
MXC Moxie City 43.56 74 P **P** **11 20 04.5 +1.2**
COR Corvallis 43.59 78 P **P** **11 20 05.5 +1.9**
COR pmax pmax
comp=Z,610nm,1.2s,mb6.2
COR Corvallis 43.59 78 PFAKE 11 20 10.0 +6.4
COR LR LR
comp=Z,62µm,19.0s,MS6.5
SSOR Sweet Springs 43.80 77 P **P** **11 20 06.4 +1.2**
NEW Newport 43.81 70 LR LR 11 39 36.7
comp=Z,91µm,20.7s,MS6.7,baz=312,slow=38
NEW Newport 43.81 70 *e*P **P** **11 20 04.2 -1.1**
NEW pmax pmax
comp=Z,178nm,1.0s
NEW MLR MLR
comp=Z,132µm,19.0s
NEW Newport 43.81 70 *e*P **P** **11 20 04.2 -1.2**
comp=Z,173nm,1.0s,mb5.7
NEW LR LR
comp=Z,110µm,19.0s,MS6.8
HAWA Hanford 44.05 74 *e*P **P** **11 20 07.7 +0.4**
comp=Z,243nm,1.1s,mb5.8
HAWA LR LR
comp=Z,57µm,19.0s,MS6.5
WALA Waterton Lakes 44.70 67 *e*P **P** **11 20 12.0 -0.4**
comp=Z,678nm,1.2s,mb6.3
WALA *e*PcP PcP 11 21 54.6 -0.2
GTA Gaotai 45.10 273⇑ P **P** **11 20 14.9 -0.8**
GTA AMB AMB
comp=Z,124nm,1.3s,mb5.6
GTA AMB AMB
comp=Z,3µm,5.3s
GTA LR LR
comp=N,301µm,19.4s,MS7.4
GTA LR LR
comp=E,335µm,19.8s,MS7.4
GTA LR LR
comp=Z,275µm,17.9s,MS7.2
WHN Wuhan 45.22 252 *e*P **P** **11 20 16.5 -0.1**
WHN LR LR
comp=Z,366µm,15.0s,MS7.4
HUMO Hull Mountain 45.24 80 PFAKE 11 20 30.0 +13
HUMO LR LR
comp=Z,57µm,20.0s,MS6.5
FCC Fort Churchill 45.65 46 *e*P **P** **11 20 18.1 -1.9**
FCC *e* 11 22 07.5
FCC pmax pmax
comp=Z,275nm,0.8s,mb6.2
FCC Fort Churchill 45.65 46 *e*P **P** **11 20 18.1 -1.9**
comp=Z,275nm,0.8s,mb6.2
FCC *e*PP PP 11 22 07.5 +0.6
FFC Flin Flon 45.66 54 P **P** **11 20 19.4 -0.7**
comp=Z,866nm,1.3s,mb6.5,SNR=14
FFC Flin Flon 45.66 54 P **P** **11 20 18.5 -1.6**
LZH Lanzhou 45.74 266⇑ P **P** **11 20 20.5 -0.2**
LZH AP pP 11 20 24.4 -1.2
LZH XP sP 11 20 27.1 -0.4
LZH PP PP 11 22 07.6 -0.3
LZH S **S** **11 27 02.3 -1.1**
LZH SS SS 11 30 17.6 -10
LZH AMB AMB
comp=Z,2µm,1.4s,mb6.8
LZH AMB AMB
comp=Z,7µm,4.7s
LZH LR LR
comp=E,214µm,14.5s
LZH LR LR
comp=Z,233µm,17.3s,MS7.2
SUMG Summit 45.85 10⇓ *e*P **P** **11 20 21.5 0.0**
YBH Yreka Blue Hor 46.02 81 LR LR 11 37 52.0
comp=Z,85µm,21.0s,MS6.7,baz=329,slow=34
YBH Yreka Blue Hor 46.02 81 P **P** **11 20 23.3 +0.3**
YBH pmax pmax
comp=Z,180nm,1.0s
YBH Yreka Blue Hor 46.02 81 PFAKE 11 20 30.0 +7.0
YBH LR LR
comp=Z,85µm,22.0s,MS6.7
BMO Blue Mountains 46.24 74 PFAKE 11 20 30.0 +5.3
BMO LR LR
comp=Z,80µm,20.0s,MS6.7
MSO Missoula 46.33 69 PFAKE 11 20 40.0 +15
MSO LR LR
comp=Z,55µm,20.0s,MS6.5
LHEM Herd Peak 46.34 80 P **P** **11 20 25.7 +0.2**
KEV Kevo 46.45 342 *e*P **P** **11 20 25.2 -1.2**
KEV pmax pmax
comp=Z,90nm,0.9s,mb5.7
KEV MLR MLR
comp=Z,79µm,19.0s,MS6.7
KEV Kevo 46.45 342 *e*P **P** **11 20 25.2 -1.2**
comp=Z,90nm,0.9s,mb5.7
KEV LR LR
comp=Z,79µm,19.0s,MS6.7
KURK Kurchatov 46.50 299 P **P** **11 20 26.3 -0.4**
comp=Z,4µm,0.8s
KURK Kurchatov 46.50 299 P **P** **11 20 26.2 -0.5**
KURK pmax pmax
comp=Z,365nm,1.0s,mb6.3
LVZ Lovozero 46.77 337 P **P** **11 20 27.5 -1.3**
comp=Z,958nm,1.1s,mb6.6,SNR=19
LVZ Lovozero 46.77 337 *i* P **P** **11 20 27.6 -1.2**
LVZ *e*S **S** **11 27 17.3 -1.0**
LVZ pmax pmax
comp=Z,181nm,1.0s,mb6.0
LVZ pmax pmax
comp=N,73nm,1.1s
LVZ pmax pmax
comp=E,38nm,1.1s
LVZ pmax pmax
comp=N,790nm,4.4s
LVZ pmax pmax
comp=Z,2µm,4.4s
LVZ pmax pmax
comp=E,740nm,4.3s
LVZ smax
comp=Z,3µm,8.5s
LVZ smax
comp=N,7µm,9.2s
LVZ smax
comp=E,12µm,9.9s
LVZ MLR MLR
comp=Z,55µm,17.0s,MS6.6
LVZ MLR MLR
comp=N,25µm,15.0s,MS6.7
LVZ MLR MLR
comp=E,73µm,19.0s,MS6.7
KIP Kipapa 46.77 131 *e*P **P** **11 20 30.0 +1.2**
KIP MLR MLR
comp=Z,29µm,21.0s,MS6.2
TATO Taipei 46.81 240 *e*P **P** **11 20 29.1 -0.1**
comp=Z,454nm,0.9s,mb6.4
TATO LR LR
comp=Z,104µm,19.0s,MS6.8
HON Honolulu 46.87 131 P **P** **11 20 31.9 +2.3**
ARCES ARCESS Array B 46.88 342 P **P** **11 20 28.4 -1.3**
comp=Z,141nm,0.9s,mb5.9,baz=20,slow=7.8,SNR=72
ARCES PP PP 11 22 06.5 -13
comp=Z,121nm,1.0s,baz=25,slow=3.2,SNR=4.7
ARCES LR LR 11 43 29.7
comp=Z,62µm,18.6s,MS6.6,baz=206,slow=40
ARCES ARCESS Array B 46.88 342 P **P** **11 20 28.4 -1.3**
ARCES 11 22 06.5
ARCES pmax pmax
comp=Z,141nm,0.9s
ARCES MLR MLR
comp=Z,62µm,18.6s
ARE0 ARCESS Array S 46.88 342 *e*P **P** **11 20 29.2 -0.5**
WDC Whiskeytown Da 46.99 81 *e*P **P** **11 20 31.1 +0.6**
WDC pmax pmax
comp=Z,145nm,0.9s,mb5.9
WDC MLR MLR
comp=Z,36µm,21.0s,MS6.3
WDC Whiskeytown Da 46.99 81 *e*P **P** **11 20 31.1 +0.6**
comp=Z,146nm,0.9s,mb5.9
WDC LR LR
comp=Z,36µm,21.0s,MS6.3
MOD Modoc 47.05 79 PFAKE 11 20 40.0 +9.0
MOD LR LR
comp=Z,50µm,19.0s,MS6.5
YHNB Yeheng 47.13 240⇓ *e*P **P** **11 20 32.0 +0.3**
APA Apatity 47.29 337⇓ *i*P **P** **11 20 31.5 -1.4**
APA *i* 11 20 39.0
APA *i* 11 22 03.7
APA *e* 11 22 19.0
APA *i* S **S** **11 27 25.0 -0.7**
APA pmax pmax
comp=Z,100nm,1.0s,mb5.7
APA pmax pmax
comp=Z,2µm,5.0s
EGMT Eagleton 47.33 65 *e*P **P** **11 20 32.0 -1.2**
comp=Z,192nm,0.7s,mb6.1
EGMT LR LR
comp=Z,39µm,19.0s,MS6.4
WVOR Wild Horse Val 47.45 77 *e*P **P** **11 20 33.8 -0.3**
WVOR pmax pmax
comp=Z,135nm,0.9s,mb5.9
WVOR MLR MLR
comp=Z,72µm,19.0s,MS6.7
WVOR Wild Horse Val 47.45 77 *e*P **P** **11 20 33.8 -0.3**
comp=Z,125nm,0.9s,mb5.8
WVOR LR LR
comp=Z,57µm,19.0s,MS6.6
NACB Ninganchiao 47.47 240 *e*P **P** **11 20 33.2 -1.1**
WMQ Urumqi 47.57 286⇑ *i*P **P** **11 20 35.6 +0.6**
WMQ AMB AMB
comp=Z,278nm,1.2s,mb6.2
WMQ AMB AMB
comp=Z,6µm,4.8s
WMQ LR LR
comp=N,294µm,15.8s,MS7.4
WMQ LR LR
comp=E,260µm,19.2s,MS7.4
WMQ LR LR
comp=Z,194µm,19.9s,MS7.1
CHKZ Chkalovo 47.59 307⇑ *e*P **P** **11 20 34.0 -1.2**
CHKZ *e* 11 22 26.7
CHKZ pmax pmax
comp=Z,403nm,0.9s,mb6.5
CHKZ Chkalovo 47.59 307⇑ *e*P **P** **11 20 34.0 -1.2**
CHKZ *e* 11 22 26.7
KTK1 Kautokeino 47.70 343 *e*P **P** **11 20 36.2 +0.2**
KTK1 AMb AMB 11 20 39.0
comp=Z,713nm,1.0s,mb6.6
KTK1 Kautokeino 47.70 343 *e*P **P** **11 20 36.2 +0.2**
comp=Z,713nm,1.0s,mb6.7
TRO Tromso 47.71 345 *e*P **P** **11 20 35.4 -0.7**
TRO *e*S **S** **11 27 32.3 +0.7**
TRO *e*SS SS 11 31 03.5 +3.7
TRO AMS AMS 11 43 59.7
comp=Z,43µm,23.3s,MS6.3
MK31 Makanchi Array 47.81 293 P **P** **11 20 35.9 -1.0**
MK31 pmax pmax
comp=Z,75nm,0.8s,mb5.8
MKAR Makanchi Array 47.81 293 P **P** **11 20 36.2 -0.7**
comp=Z,58nm,0.6s,mb5.8,baz=50,slow=6.2,SNR=340
MKAR Makanchi Array 47.81 293 P **P** **11 20 36.2 -0.7**
MKAR pmax pmax
comp=Z,58nm,0.6s
HOPS Hopland 47.96 83 PFAKE 11 20 50.0 +12
HOPS LR LR
comp=Z,83µm,20.0s,MS6.7
QZH Quanzhou 48.09 243⇑ *i*P **P** **11 20 38.0 -1.1**
QZH PP PP 11 22 33.0 +1.7
QZH S **S** **11 27 38.3 +1.2**
QZH AMB AMB
comp=Z,130nm,1.0s,mb5.9
QZH AMB AMB
comp=Z,7µm,7.7s
QZH LR LR
comp=N,181µm,14.4s,MS7.4
QZH LR LR
comp=E,210µm,14.4s,MS7.4
QZH LR LR
comp=Z,245µm,20.1s
VOSK Vostochnaya 48.16 306 P **P** **11 20 38.9 -0.8**
VOSK pmax pmax
comp=Z,248nm,1.1s,mb6.2
BVA0 Borovoye Array 48.17 306 *i* P **P** **11 20 39.3 -0.4**
BVA0 pmax pmax
comp=Z,88nm,1.0s,mb5.7
BRVK Borovoye 48.19 306 P **P** **11 20 40.6 +0.8**
comp=Z,3µm,1.0s
BRVK Borovoye 48.19 306 P **P** **11 20 38.4 -1.4**
BOZ Bozeman (W) 48.27 69⇓ *e*P **P** **11 20 40.1 -0.4**
BOZ pmax pmax
comp=Z,167nm,1.0s,mb6.0
BOZ MLR MLR
comp=Z,94µm,20.0s,MS6.8
BOZ Bozeman (W) 48.27 69⇓ *e*P **P** **11 20 40.1 -0.4**
comp=Z,167nm,1.0s,mb6.0
BOZ LR LR
comp=Z,99µm,20.0s,MS6.8
MCMT McKenzie Canyo 48.34 70 *e*P **P** **11 20 40.3 -0.7**
MCMT *e*PcP PcP 11 22 07.4 -0.2
JMIC Jan Mayen 48.41 358 *e*P **P** **11 20 51.5 +10**
JMIC *e*S **S** **11 27 42.2 +0.6**
JMIC AMS AMS 11 38 58.3
comp=Z,28µm,18.2s,MS6.3
JMIC Jan Mayen 48.41 358 LR LR 11 38 42.5
comp=Z,36µm,20.4s,MS6.3,baz=196,slow=33
HLID Hailey 48.58 73 *e*P **P** **11 20 42.6 -0.3**
comp=Z,104nm,0.8s,mb5.9
HLID *e*PcP PcP 11 22 10.5 +2.0
HLID *e*ScP ScP 11 26 06.5 +3.8
HLID LR LR
comp=Z,97µm,22.0s,MS6.7
SGF Sodankyl 48.62 340 P **P** **11 20 42.1 -1.1**
ZRNK Zerenda 48.77 307 P **P** **11 20 43.9 -0.4**
ZRNK pmax pmax
comp=Z,524nm,1.2s,mb6.4
SVE Sverdlovsk 48.87 315*c* *i*P **P** **11 20 43.0 -2.1**
SVE *e* 11 22 40.0
SVE *e*S **S** **11 27 48.0 0.0**
SVE *e*SS SS 11 31 12.0 -6.6
SVE pmax pmax
comp=N,2µm,4.0s
SVE pmax pmax
comp=E,1µm,4.0s

SVE pmax pmax
comp=Z,3μm,4.0s
POHA Pohakuloa 49.22 129 *e*P **P** **11 20 48.5 +0.7**
comp=Z,326nm,0.8s,mb6.4
POHA *e*pP pP 11 20 54.7 +2.0
POHA LR LR
comp=Z,45μm,21.0s,MS6.4
TMCR Tamitsa 49.30 333⇓ *i*P **P** **11 20 48.7 +0.3**
TMCR pmax pmax
comp=N,450nm,1.0s
TMCR pmax pmax
comp=Z,320nm,1.0s,mb6.3
TMCR pmax pmax
comp=E,140nm,1.1s
GUMO Guam 49.56 207 LR LR 11 43 08.1
comp=E,42μm,18.6s,MS6.5,baz=167,slow=38
LKWY Lake 49.66 69 P **P** **11 20 52.6 +1.4**
LKWY pmax pmax
comp=Z,460nm,0.9s,mb6.5
LKWY Lake 49.66 69 PFAKE 11 21 00.0 +8.8
LKWY LR LR
comp=Z,199μm,21.0s,MS7.1
BMN Battle Mountai 49.67 77 *e*P **P** **11 20 51.6 +0.4**
BMN pmax pmax
comp=Z,143nm,1.2s,mb5.9
BMN MLR MLR
comp=Z,54μm,20.0s,MS6.5
BMN Battle Mountai 49.67 77 *e*P **P** **11 20 51.6 +0.4**
comp=Z,143nm,1.2s,mb5.9
BMN LR LR
comp=Z,54μm,20.0s,MS6.5
SFJD Kangerlussuaq 49.72 18 S **S** **11 27 57.5 -2.4**
comp=Z,8.8nm,1.1s,baz=80,slow=23,SNR=5.8
SFJD LR LR 11 44 18.0
comp=Z,81μm,19.9s,MS6.7,baz=319,slow=39
SFJD Kangerlussuaq 49.72 18⇓ *i*P **P** **11 20 50.1 -1.5**
comp=Z,172nm,0.6s,mb6.3
SFJD *i* S **S** **11 27 58.3 -1.7**
SFJD *i* 11 31 26.8
SFJD *i* 11 31 56.0
SFJD
comp=Z,71μm,19.0s
SFJD Kangerlussuaq 49.72 18⇓ *i*P **P** **11 20 50.1 -1.5**
SFJD *i* S **S** **11 27 58.3 -1.7**
SFJD *i* 11 31 26.8
SFJD pmax pmax
comp=Z,172nm,0.6s,mb6.3
SFJD MLR MLR
comp=Z,71μm,19.0s,MS6.7
LOF Lofoten 49.77 347⇓ *i*P **P** **11 20 53.4 +1.4**
LOF AMb AMB 11 20 55.6
comp=Z,326nm,1.3s,mb6.2
LOF Lofoten 49.77 347⇓ *i*P **P** **11 20 53.4 +1.4**
comp=Z,326nm,1.3s,mb6.2
ARU Arti 49.89 316 P **P** **11 20 52.6 -0.3**
comp=Z,2μm,1.1s,mb7.0,SNR=45
ARU Arti 49.89 316⇑ *i*P **P** **11 20 52.9 0.0**
ARU *e* 11 22 11.9
ARU *e* 11 22 46.4
ARU *e*PPP 11 23 38.8
ARU *e*S **S** **11 28 03.7 +1.4**
ARU *e* 11 30 41.8
ARU *e*SS SS 11 31 25.5 -10
ARU *e*SSS 11 32 52.6
ARU pmax pmax
comp=Z,458nm,1.3s,mb6.3
ARU MLR MLR
comp=E,133μm,17.0s,MS7.0
ARU MLR MLR
comp=Z,146μm,17.0s,MS7.0
ARU MLR MLR
comp=N,56μm,18.0s,MS7.0
ARU Arti 49.89 316⇑ *i*P **P** **11 20 52.9 0.0**
comp=N,458nm,1.3s,mb6.3
ARU *e* 11 22 11.9
ARU *e* 11 22 46.4
ARU *e*PPP 11 23 38.8
ARU *e*S **S** **11 28 03.7 +1.4**
ARU *e* 11 30 41.8
ARU *e*SS SS 11 31 25.5 -10
ARU *e*SSS 11 32 52.6
ARU LR LR
comp=Z,146μm,17.0s,MS7.0
LAO LASA Array 49.91 64 PFAKE 11 21 00.0 +7.0
LAO LR LR
comp=Z,125μm,20.0s,MS6.9
CD2 Chengdu 49.97 262⇑ *i*P **P** **11 20 52.0 -1.5**
CD2 XP sP 11 20 59.0 -1.3
CD2 PP PP 11 22 47.5 -0.9
CD2 S **S** **11 28 02.8 -0.7**
CD2 SS SS 11 31 29.5 -6.9
CD2 AMB AMB
comp=Z,90nm,1.3s,mb5.6
CD2 AMB AMB
comp=Z,2μm,5.8s
CD2 LR LR
comp=E,191μm,14.4s
CD2 LR LR
comp=Z,91μm,16.8s,MS6.8
CMB Columbia Colle 50.02 82 *e*P **P** **11 20 52.8 -1.1**
CMB pmax pmax
comp=Z,111nm,0.9s,mb5.9
CMB MLR MLR
comp=Z,71μm,19.0s,MS6.7
CMB Columbia Colle 50.02 82 *e*P **P** **11 20 52.8 -1.1**
comp=Z,111nm,0.9s,mb5.9
CMB LR LR
comp=Z,71μm,19.0s,MS6.7
ELK Elko 50.37 76⇓ *e*P **P** **11 20 57.2 +0.7**
ELK pmax pmax
comp=Z,99nm,0.8s
ELK MLR MLR
comp=Z,87μm,21.0s
ELK Elko 50.37 76⇓ *e*P **P** **11 20 57.2 +0.7**
comp=Z,100nm,0.8s,mb5.9
ELK LR LR
comp=Z,87μm,21.0s,MS6.8
SAO San Andreas Ge 50.51 84 P **P** **11 20 57.2 -0.4**
SAO pmax pmax
comp=Z,250nm,1.0s,mb6.1
SAO San Andreas Ge 50.51 84 PFAKE 11 21 10.0 +12
SAO LR LR
comp=Z,46μm,19.0s,MS6.5
AHID Auburn Hatcher 50.73 71 *e*P **P** **11 21 00.3 +1.0**
comp=Z,63nm,0.9s,mb5.5
AHID LR LR
comp=Z,72μm,21.0s,MS6.7
MNV Mina 50.78 80 P **P** **11 20 59.5 -0.2**
MNV pmax pmax
comp=Z,79nm,0.9s,mb5.6
MNV Mina 50.78 80 PFAKE 11 21 10.0 +10
MNV LR LR
comp=Z,69μm,21.0s,MS6.7
OUL Oulu 50.88 339 P **P** **11 20 58.4 -2.0**
HWUT Hardware Ranch 51.42 72 *e*P **P** **11 21 05.9 +1.4**
comp=Z,288nm,1.1s,mb6.1
HWUT LR LR
comp=Z,104μm,21.0s,MS6.8
BW06 Boulder Array 51.44 70 *e*P **P** **11 21 04.3 -0.3**
comp=Z,190nm,0.8s,mb6.1
BW06 LR LR
comp=Z,121μm,22.0s,MS6.9
PDAR Pinedale Array 51.44 70 P **P** **11 21 04.3 -0.3**
comp=Z,235nm,0.9s,mb6.1,baz=330,slow=3.4,SNR=135
PDAR LR LR 11 44 43.8
comp=Z,58μm,18.7s,MS6.6,baz=169,slow=38
PDAR PKP2bc 11 52 01.0
comp=Z,2.0nm,1.0s,baz=147,slow=1.8,SNR=4.0
PDAR Pinedale Array 51.44 70 P **P** **11 21 04.3 -0.3**
PDAR LR LR 11 44 43.8
PDAR ⇑ *e* 11 52 01.0
ULM Lac du Bonnet 51.49 54 P **P** **11 21 03.8 -1.2**
comp=Z,53nm,0.8s,mb5.5,baz=321,slow=7.7,SNR=57
ULM LR LR 11 43 08.9
comp=Z,58μm,19.9s,MS6.6,baz=321,slow=36
TPH Tonopah 51.52 79⇓ *e*P **P** **11 21 05.7 +0.5**
TPH pmax pmax
comp=Z,123nm,0.8s,mb5.9
TPH MLR MLR
comp=Z,53μm,22.0s,MS6.5
TPH Tonopah 51.52 79⇓ *e*P **P** **11 21 05.7 +0.5**
comp=Z,123nm,0.8s,mb5.9
TPH LR LR
comp=Z,53μm,22.0s,MS6.5
MOR8 Moi Rana 51.55 346⇑ *i*P **P** **11 21 03.7 -1.7**
MOR8 AMb AMB 11 21 05.7
comp=Z,122nm,1.3s,mb5.7
MOR8 Moi Rana 51.55 346⇑ *i*P **P** **11 21 03.7 -1.7**
comp=Z,122nm,1.3s,mb5.7
JOF Joensuu 51.83 335 *e*p **P** **11 21 05.7 -1.8**
comp=Z,132nm,1.0s,mb5.8
DUG Dugway 51.94 74 *e*P **P** **11 21 08.2 -0.2**
DUG pmax pmax
comp=Z,93nm,0.8s,mb5.8
DUG MLR MLR
comp=Z,8μm,19.0s,MS5.8
DUG Dugway 51.94 74 *e*P **P** **11 21 08.2 -0.2**
comp=Z,93nm,0.8s,mb5.8
DUG LR LR
comp=Z,8μm,19.0s,MS5.8
GZH Guangzhou 52.05 248 P **P** **11 21 03.8 -5.3**
GZH S **S** **11 28 21.8 -10**
GZH SS SS 11 32 03.8 -5.5
GZH LR LR
comp=N,275μm,17.4s,MS7.7
GZH LR LR
comp=E,559μm,18.0s,MS7.7
GZH LR LR
comp=Z,207μm,15.9s,MS7.3
GYA Guiyang 52.28 257⇑ *i*P **P** **11 21 10.5 -0.4**
GYA AP pP 11 21 14.8 -1.0
GYA XP sP 11 21 18.3 +0.6
GYA PP PP 11 23 08.1 -1.3
GYA SCP ScP 11 26 20.4 +1.9
GYA S **S** **11 28 30.8 -4.6**
GYA AMB AMB
comp=Z,1μm,1.9s,mb6.6
GYA AMB AMB
comp=Z,4μm,6.0s
GYA LR LR
comp=N,236μm,17.1s,MS7.4
GYA LR LR
comp=E,228μm,17.4s,MS7.4
GYA LR LR
comp=Z,125μm,17.4s,MS7.0
HKC Hong Kong 52.35 246⇑ *i*P **P** **11 21 12.0 +0.6**
HKC *i* S **S** **11 28 37.0 +0.6**
DAC Darwin (Calif) 52.77 81 *e*P **P** **11 21 14.1 -0.4**
DAC pmax pmax
comp=Z,150nm,1.1s,mb5.8
DAC Darwin (Calif) 52.77 81 PFAKE 11 21 20.0 +5.5
DAC LR LR
comp=Z,70μm,20.0s,MS6.7
ISA Isabella 52.83 82 *e*P **P** **11 21 15.3 +0.4**
ISA *e**PP pP 11 21 20.4 +0.5
ISA pmax pmax
comp=Z,61nm,0.7s,mb5.6
ISA MLR MLR
comp=Z,15μm,21.0s,MS6.0
ISA Isabella 52.83 82 *e*P **P** **11 21 15.2 +0.3**
comp=Z,0.1nm,0.7s
ISA *e*pP pP 11 21 20.4 +0.5
ISA LR LR
comp=Z,15μm,21.0s,MS6.0
RSSD Black Hills 52.87 65 *e*P **P** **11 21 16.5 +1.2**
RSSD *e* 11 22 25.4
RSSD pmax pmax
comp=Z,45nm,1.0s,mb5.3
RSSD MLR MLR
comp=Z,15μm,20.0s,MS6.0
RSSD Black Hills 52.87 65 *e*P **P** **11 21 16.5 +1.3**
comp=Z,41nm,1.0s,mb5.3
RSSD *e*PcP PcP 11 22 25.4 +1.1
RSSD LR LR
comp=Z,13μm,20.0s,MS6.0
TPNV Topopah Spring 52.88 79⇓ *e*P **P** **11 21 15.1 -0.2**
TPNV pmax pmax
comp=Z,54nm,0.7s,mb5.6
TPNV MLR MLR
comp=Z,94μm,22.0s,MS6.8
TPNV Topopah Spring 52.88 79⇓ *e*P **P** **11 21 15.1 -0.2**
comp=Z,52nm,0.7s,mb5.6
TPNV LR LR
comp=Z,75μm,22.0s,MS6.7
AAA Alma-Ata 52.94 294 *e*P **P** **11 21 15.0 -0.7**
AAA *e*S **S** **11 28 49.0 +4.6**
AAA pmax pmax
comp=Z,4μm,5.0s
AAA smax
comp=N,6μm,20.0s
AAA MLR MLR
comp=Z,2μm,17.0s
PIP Pasuquin 53.08 237⇑ *e*P **P** **11 21 17.7 +0.9**
CVP Callao Caves 53.15 236 *e*P **P** **11 21 18.0 +0.7**
comp=Z,15μm,1.0s
NSS Namsos 53.42 346 *e*P **P** **11 21 17.1 -2.2**
NSS *e*S **S** **11 28 51.2 +0.1**
NSS AMS AMS 11 48 01.7
comp=Z,89μm,19.7s,MS6.8
KAF Kangasniemi 53.54 338 *e*p **P** **11 21 18.4 -1.8**
comp=Z,191nm,1.1s,mb5.9,baz=22,slow=7.0
KAF Kangasniemi 53.54 338 *e*P **P** **11 21 18.4 -1.8**
KAF pmax pmax
comp=Z,191nm,1.1s,mb5.9
MVU Marysvale 53.57 75 PFAKE 11 21 30.0 +10
MVU LR LR
comp=Z,58μm,21.0s,MS6.6
TKM2 Tokmak 2 53.82 294 P **P** **11 21 22.3 +0.1**
TKM2 pmax pmax
comp=Z,238nm,1.2s,mb6.0
CAUP Cauayan 53.83 235 *e*P **P** **11 21 24.8 +2.5**
FINES FINESS Array B 54.20 337 P **P** **11 21 23.7 -1.3**
comp=Z,54nm,0.9s,mb5.5,baz=32,slow=7.6,SNR=91
FINES LR LR 11 48 01.7
comp=Z,69μm,18.4s,MS6.8,baz=213,slow=40
FINES PKP2bc 11 51 56.2
comp=Z,3.1nm,1.0s,baz=175,slow=9.6,SNR=3.7
FINES FINESS Array B 54.20 337 P **P** **11 21 23.7 -1.3**
FINES LR LR 11 48 01.7
FINES ⇑ *e* 11 51 56.2
FRU Bishkek 54.32 295 *i* P **P** **11 21 27.0 +1.1**
FRU *e* 11 23 26.0
FRU *i* S **S** **11 29 10.0 +6.8**
FRU *i* SS SS 11 32 46.0 +0.8
FRU pmax pmax
comp=Z,720nm,1.8s,mb6.3
FRU pmax pmax
comp=Z,5μm,4.0s
FRU smax
comp=N,9μm,8.0s
PECR Pechory 54.52 324*d i*P **P** **11 21 27.0 -0.3**
PECR *e*S **S** **11 29 11.0 +5.2**
PECR pmax pmax
comp=Z,3μm,4.8s
PECR pmax pmax
comp=N,2μm,4.6s
PECR smax
comp=N,7μm,12.0s
AAK Ala-Archa 54.54 295 P **P** **11 21 26.4 -1.0**
comp=N,2μm,0.8s,SNR=79
AAK Ala-Archa 54.54 295 *i* P **P** **11 21 26.5 -0.9**
AAK pmax pmax
comp=Z,310nm,1.3s,mb6.2
AAK MLR MLR
comp=Z,206μm,15.0s,MS7.3
BORG Borgarnes 54.63 4 LR LR 11 43 38.6
comp=E,61μm,21.0s,MS6.6,baz=353,slow=35
BORG Borgarnes 54.63 4 P **P** **11 21 28.2 +0.1**
BCPH Baguio City Da 54.84 236⇑ *e*P **P** **11 21 29.0 -0.7**
PUL Pulkovo 54.89 334 *e*P **P** **11 21 29.4 -0.6**
PUL S **S** **11 29 09.6 -1.2**
PUL pmax pmax
comp=Z,263nm,1.2s,mb6.1
PUL pmax pmax
comp=N,302nm,1.1s
PUL pmax pmax
comp=E,299nm,0.8s
PUL MLR MLR
comp=Z,103μm,15.0s,MS7.0
PUL MLR MLR
comp=N,75μm,16.0s,MS7.0
PUL MLR MLR
comp=E,55μm,14.0s,MS7.0
AKTO Aktyubinsk 54.93 312 LR LR 11 47 28.1
comp=E,134μm,18.0s,MS7.1,baz=335,slow=39
AKTO Aktyubinsk 54.93 312 P **P** **11 21 29.9 -0.4**
AKTO pmax pmax
comp=Z,77nm,1.3s,mb5.6
BALP Baler 55.02 235 *e*P **P** **11 21 29.8 -1.1**
EYMN Ely 55.06 53 PFAKE 11 21 40.0 +8.8
EYMN LR LR
comp=Z,1026μm,20.0s,MS7.9
ORR Orenburg 55.11 315 *i* P **P** **11 21 31.2 -0.4**
ORR *i* S **S** **11 29 11.1 -2.7**
ORR SS SS 11 32 57.7 0.0
BOLP Bolinao 55.12 237 *e*P **P** **11 21 30.9 -0.7**
PV10 Paradox Valley 55.16 73 *e*P **P** **11 21 31.9 0.0**
AB31 Akbulak array 55.18 310 *i* P **P** **11 21 31.5 -0.6**
AB31 pmax pmax
comp=Z,280nm,1.1s,mb6.2
KMI Kunming 55.29 259 P **P** **11 21 32.5 -0.4**
KMI AP pP 11 21 35.6 -2.2
KMI XP sP 11 21 38.1 -1.6
KMI PP PP 11 23 36.1 -0.3
KMI S **S** **11 29 14.5 -1.6**
KMI SS SS 11 33 01.9 +1.5
KMI AMB AMB
comp=Z,62nm,1.1s,mb5.5
KMI AMB AMB
comp=Z,4μm,4.4s
KMI LR LR
comp=N,152μm,17.0s,MS7.3
KMI LR LR
comp=E,193μm,17.0s,MS7.3
KMI LR LR
comp=Z,155μm,15.1s,MS7.2
PCPH Palayan 55.37 235⇓ *e*P **P** **11 21 32.7 -0.8**
PFO Pinyon Flat Ob 55.47 82 P **P** **11 21 33.7 -0.5**
comp=Z,1μm,1.4s,mb6.7,SNR=40
PFO Pinyon Flat Ob 55.47 82 P **P** **11 21 33.2 -1.0**
SMCO Snowmass 55.48 70 *e*P **P** **11 21 35.5 +1.2**
comp=Z,585nm,0.9s,mb6.6
PV01 Paradox Valley 55.58 72 *e*P **P** **11 21 34.7 -0.3**
ISCO Idaho Springs 55.60 69 *e*P **P** **11 21 35.3 +0.2**
ISCO pmax pmax
comp=Z,108nm,0.8s,mb5.9
ISCO Idaho Springs 55.60 69 *e*P **P** **11 21 35.3 +0.2**
comp=Z,100nm,0.8s,mb5.9
SCZP Santa Cruz 55.66 237 *e*P **P** **11 21 34.9 -0.7**
KK31 Karatay Array 55.90 298 *i* P **P** **11 21 37.2 -0.1**
KK31 pmax pmax
comp=Z,382nm,1.2s,mb6.3
KKAR Karatay Array 55.90 298 *i* P **P** **11 21 37.2 -0.1**
KKAR pmax pmax
comp=Z,458nm,1.2s,mb6.4
PVCP Virac 55.96 231⇓ *i*P **P** **11 21 37.5 -0.2**
PVCP *i* S PcP 11 22 33.8 -2.3
PVCP Virac 55.96 231 *e*P **P** **11 21 37.7 0.0**
DOMB Dombas 56.17 347⇓ *i*P **P** **11 21 39.2 0.0**
DOMB AMb AMB 11 21 41.0
comp=Z,264nm,1.1s,mb6.2
DOMB Dombas 56.17 347⇓ *i*P **P** **11 21 39.2 0.0**
comp=Z,264nm,1.1s,mb6.2
MVCO Mesa Verde 56.35 73 *e*P **P** **11 21 41.2 +0.7**
comp=Z,57nm,0.8s,mb5.7
KSH Kashi 56.37 292⇑ *i*P **P** **11 21 41.0 +0.3**
KSH *e*AP pP 11 21 46.3 +0.7
KSH *e*XP sP 11 21 48.8 +1.3
KSH *e*PCP PcP 11 22 39.3 +1.6
KSH *e*PP PP 11 23 47.1 +0.9
KSH *e*SCP ScP 11 26 36.1 -0.4
KSH *e*PCS PcS 11 26 38.1 -0.2
KSH S **S** **11 29 26.9 -3.7**
KSH *e*SCS ScS 11 31 26.3 -3.1
KSH *e*SS SS 11 33 13.0 -4.6
KSH AMB AMB
comp=Z,306nm,1.3s,mb6.2
KSH AMB AMB
comp=Z,3μm,2.8s,mb6.8
KSH LR LR
comp=N,243μm,16.4s,MS7.5
KSH LR LR
comp=E,189μm,15.1s,MS7.5
KSH LR LR
comp=Z,251μm,18.7s,MS7.3
TGY Tagaytay City 56.76 235 LR LR 11 48 58.7
comp=Z,146nm,18.2s,baz=6.7,slow=39
MOS Moscow 56.79 328α *i*P **P** **11 21 44.2 +0.6**
MOS *i* 11 23 48.9
MOS *e*PPP 11 25 08.9
MOS *i* S **S** **11 29 36.8 +0.7**
MOS *i* SS SS 11 33 30.3 +6.2
MOS pmax pmax
comp=Z,433nm,1.3s,mb6.3
MOS pmax pmax
comp=E,1μm,3.9s
MOS pmax pmax
comp=Z,3μm,3.9s
MOS pmax pmax
comp=N,2μm,3.7s
MOS smax
comp=E,6μm,4.4s
MOS smax
comp=N,2μm,4.1s
MOS MLR MLR
comp=Z,170μm,16.0s,MS7.2
MOS MLR MLR
comp=N,121μm,14.4s,MS7.2
MOS MLR MLR
comp=E,92μm,16.3s,MS7.2
VSU Vasula 56.83 336*c i*P **P** **11 21 43.3 -0.6**
NB2 NORSAR Subarra 56.90 346 P **P** **11 21 42.8 -1.6**
comp=Z,298nm,1.1s,mb6.2,baz=14,slow=7.4
NOA NORSAR Array B 56.90 346 P **P** **11 21 43.1 -1.2**
comp=Z,130nm,0.9s,mb5.9,baz=14,slow=7.3,SNR=106
NOA LR LR 11 50 47.7
comp=Z,67μm,18.7s,MS6.8,baz=20,slow=41
NOA PKP2bc 11 51 46.3
comp=Z,5.1nm,1.1s,baz=170,slow=2.3,SNR=4.2
NOA NORSAR Array B 56.90 346 P **P** **11 21 43.1 -1.2**
NOA LR LR 11 50 47.7
NOA ⇑ *e* 11 51 46.3
FOO Floro 57.01 349 *e*P **P** **11 21 44.0 -1.2**
FOO AMb AMB 11 21 47.2
comp=Z,111nm,1.3s,mb5.7
FOO Floro 57.01 349 *e*P **P** **11 21 44.0 -1.2**
comp=Z,111nm,1.3s,mb5.7
NAO01 NORSAR Array S 57.13 346 *e*P **P** **11 21 45.6 -0.4**
comp=Z,74nm,0.8s,mb5.8
NAO01 LR LR
comp=Z,78μm,19.0s,MS6.8
LSA Lhasa 57.13 273 P **P** **11 21 46.4 +0.4**
LSA S **S** **11 29 32.5 -8.1**
LSA AMB AMB
comp=Z,60nm,0.8s,mb5.7
LSA AMB AMB
comp=Z,2μm,7.0s
LSA LR LR
comp=N,100μm,18.5s,MS7.1
LSA LR LR
comp=E,100μm,18.5s,MS7.1
LSA LR LR
comp=Z,98μm,18.0s,MS7.0
LSA Lhasa 57.13 273 *e*P **P** **11 21 46.5 +0.5**
LSA pmax pmax
comp=Z,121nm,0.8s,mb6.0
LSA MLR MLR
comp=Z,77μm,19.0s,MS6.8
LSA Lhasa 57.13 273 *e*P **P** **11 21 46.5 +0.4**
comp=Z,121nm,0.8s,mb6.0
LSA LR LR
comp=Z,77μm,19.0s,MS6.8
QIZ Qiongzhong 57.17 249 P **P** **11 21 47.1 +0.8**
QIZ PP PP 11 23 50.3 -2.9
QIZ S **S** **11 29 40.8 -0.3**
QIZ XS sS 11 29 48.3 -1.0
QIZ SS SS 11 33 28.1 -1.9
QIZ AMB AMB
comp=Z,4μm,6.8s
QIZ LR LR
comp=N,136μm,16.4s,MS7.5
QIZ LR LR
comp=E,277μm,16.4s,MS7.5
QIZ LR LR
comp=Z,96μm,18.1s,MS6.9
QIZ Qiongzhong 57.17 249 *e*P **P** **11 21 48.0 +1.7**
comp=Z,225nm,1.5s,mb6.0
QIZ LR LR
comp=Z,102μm,19.0s,MS7.0
SDCO Great Sand Dun 57.31 70 *e*P **P** **11 21 49.7 +2.4**
comp=Z,264nm,1.1s,mb6.2
SDCO LR LR
comp=Z,106μm,20.0s,MS6.9
HYA Hoyanger 57.33 348 *e*P **P** **11 21 48.7 +1.3**
HYA AMb AMB 11 22 00.8
comp=Z,369nm,1.3s,mb6.3
HYA Hoyanger 57.33 348 *e*P **P** **11 21 48.7 +1.3**

comp=Z,369nm,1.3s,mb6.2
LUBP Lubang 57.37 235 *e*P **P 11 21 57.7 +10**
SCHQ Schefferville 57.40 33 P **P 11 21 45.9 -2.0**
comp=Z,108nm,0.9s,mb5.9,baz=347,slow=6.8,SNR=72
SCHQ LR LR 11 50 17.1
comp=Z,44μm,18.8s,MS6.6,baz=328,slow=40
SCHQ PKP2bc 11 51 44.5
comp=Z,21nm,1.1s,baz=107,slow=2.5,SNR=7.4
SCHQ Schefferville 57.40 33 *e*P **P 11 21 46.4 -1.5**
comp=Z,141nm,0.8s,mb6.0
SCHQ LR LR
comp=Z,68μm,19.0s,MS6.8
HFS Hagfors 57.45 344 LR LR 11 46 00.4
comp=Z,70μm,21.7s,MS6.7,baz=140,slow=36
SUE Sulen 57.57 349 *e*P **P 11 21 51.1 +2.0**
OBN Obninsk 57.62 328 P **P 11 21 48.9 -0.6**
comp=Z,1μm,1.0s,mb6.9,SNR=12
OBN Obninsk 57.62 328⇑*e*P **P 11 21 48.7 -0.8**
OBN *e* 11 23 54.7
OBN *e*S **S 11 29 47.3 +0.2**
OBN *e*SS SS 11 33 36.6 -0.6
OBN pmax pmax
comp=Z,453nm,1.6s,mb6.2
OBN MLR MLR
comp=Z,207μm,19.0s,MS7.3
OBN Obninsk 57.62 328⇑*e*P **P 11 21 48.7 -0.8**
comp=Z,453nm,1.6s,mb6.2
OBN *e* 11 23 54.7
OBN *e*S **S 11 29 47.3 +0.2**
OBN *e*SS SS 11 33 36.6 -0.6
OBN LR LR
comp=Z,207μm,19.0s,MS7.3
OTRP Odiongan 57.91 233 *e*P **P 11 21 51.7 +0.2**
OSL Oslo 58.03 346 *e*P **P 11 21 52.6 +0.3**
ASK Askoy 58.10 349 *e*P **P 11 21 53.0 +0.2**
ASK AMb AMB 11 21 55.2
comp=Z,246nm,1.3s,mb6.1
ASK Askoy 58.10 349 *e*P **P 11 21 53.0 +0.2**
comp=Z,246nm,1.3s,mb6.1
RUND Rundenannen 58.15 349 *e*P **P 11 21 52.7 -0.5**
RUND AMb AMB 11 21 55.5
comp=Z,480nm,1.2s,mb6.4
BER Bergen 58.18 349 *e*P **P 11 21 53.8 +0.4**
BER *e*P 11 21 53.9
BER AMb AMB 11 22 03.9
comp=Z,253nm,1.1s,mb6.2
BER AMb AMB 11 22 04.6
comp=Z,241nm,1.1s,mb6.2
BER *e*S **S 11 29 54.0 -0.4**
BER AMS AMS 11 54 21.2
comp=Z,48μm,16.3s,MS6.7
EGD Espegrend 58.30 349 *e*P **P 11 21 54.3 0.0**
EGD AMb AMB 11 21 56.8
comp=Z,369nm,1.3s,mb6.3
EGD Espegrend 58.30 349 *e*P **P 11 21 54.3 0.0**
comp=Z,369nm,1.3s,mb6.2
RCP Roxas 58.36 232⇑*e*P **P 11 21 56.8 +2.1**
KONO Kongsberg 58.45 346 *e*P **P 11 21 54.6 -0.7**
KONO *e*S **S 11 29 58.8 +1.0**
KONO Kongsberg 58.45 346 P **P 11 21 54.7 -0.6**
KONO pmax pmax
comp=Z,14nm,1.1s,mb4.9
KONO Kongsberg 58.45 346 *e*P **P 11 21 54.6 -0.7**
KONO LR LR
comp=Z,66μm,19.0s,MS6.8
ODD1 Odda 58.52 348 *e*P **P 11 21 54.8 -0.9**
ODD1 AMb AMB 11 22 04.7
comp=Z,233nm,1.3s,mb6.0
ODD1 Odda 58.52 348 *e*P **P 11 21 54.8 -0.9**
comp=Z,233nm,1.3s,mb6.0
MSLP Maasin 58.87 229 *e*P **P 11 22 08.3 +10**
LRW Lerwick 58.95 352 *e*P **P 11 21 58.7 -0.1**
BLS5 Blasjo 59.01 348 *e*P **P 11 22 00.2 +1.0**
BLS5 AMb AMB 11 22 02.0
comp=Z,88nm,1.2s,mb5.7
BLS5 Blasjo 59.01 348 *e*P **P 11 22 00.2 +1.0**
comp=Z,88nm,1.2s,mb5.7
CBKS Cedar Bluff 59.06 65 *e*P **P 11 21 58.4 -1.1**
CBKS pmax pmax
comp=Z,554nm,0.9s,mb6.6
CBKS MLR MLR
comp=Z,102μm,20.0s,MS7.0
CBKS Cedar Bluff 59.06 65 *e*P **P 11 21 58.4 -1.1**
comp=Z,554nm,0.9s,mb6.6
CBKS LR LR
comp=Z,102μm,20.0s,MS7.0
ANMO Albuquerque 59.15 73⇓*e*P **P 11 22 01.0 +0.8**
ANMO pmax pmax
comp=Z,85nm,1.0s
ANMO MLR MLR
comp=Z,58μm,21.0s
ANMO Albuquerque 59.15 73⇓*e*P **P 11 22 00.9 +0.8**
comp=Z,84nm,1.0s,mb5.7
ANMO LR LR
comp=Z,58μm,21.0s,MS6.7
TUC Tucson 59.26 78 P **P 11 22 01.1 +0.1**
TUC MLR MLR
comp=Z,36μm,19.0s,MS6.5
GUIM Jordan 59.27 232 *e*P **P 11 21 59.4 -1.6**
KMY Karmoy 59.34 349 *e*P **P 11 22 01.3 -0.2**
KMY AMb AMB 11 22 03.8
comp=Z,166nm,1.3s,mb5.9
KMY Karmoy 59.34 349 *e*P **P 11 22 01.3 -0.2**
comp=Z,166nm,1.3s,mb5.9
LENM Lemitar 59.55 74 *e*P **P 11 22 04.7 +1.7**
STAV Stavanger 59.57 348 *e*P **P 11 22 03.5 +0.4**
STAV AMb AMB 11 22 05.2
comp=Z,275nm,1.3s,mb6.1
STAV Stavanger 59.57 348 *e*P **P 11 22 03.5 +0.4**
comp=Z,275nm,1.3s,mb6.1
TBP Tagbilaran 59.65 230 *e*P **P 11 21 59.6 -4.0**
VRHR Novokhopersk 59.79 323 *e*P **P 11 22 03.9 -0.7**
VRHR *e**PP pP 11 22 04.7 -4.9
VRHR *e*S **S 11 30 11.0 -4.3**
VRHR pmax pmax
comp=N,210nm,0.9s
VRHR pmax pmax
comp=Z,250nm,0.9s,mb6.2
VRHR pmax pmax
comp=E,110nm,1.0s
VRHR smax
comp=N,1μm,6.6s
VRHR smax
comp=Z,380nm,2.4s
VRHR smax
comp=E,2μm,3.7s
VRHR MLR MLR
comp=Z,111μm,16.0s,MS7.1
VRHR MLR MLR
comp=N,102μm,17.0s,MS7.2
VRHR MLR MLR
comp=E,96μm,15.0s,MS7.2
VOR Voronezh 59.93 325 *e*P **P 11 22 04.0 -1.6**
VOR *e* pP 11 22 07.5 -3.0
VOR pmax pmax
comp=Z,460nm,1.4s,mb6.3
VOR pmax pmax
comp=N,430nm,1.3s
VOR pmax pmax
comp=E,400nm,1.3s
ENPP El Nido 59.99 235 *e*P **P 11 22 06.2 +0.2**
SNART Snartemo 60.00 347 *e*P **P 11 22 06.3 +0.3**
SNART AMb AMB 11 22 08.2
comp=Z,179nm,1.3s,mb5.9
SNART Snartemo 60.00 347 *e*P **P 11 22 06.3 +0.3**
comp=Z,179nm,1.3s,mb5.9
BIPH Bislig 60.13 226⇓*i*P **P 11 22 04.4 -2.5**
KSU1 Kansas State U 60.20 63 *e*P **P 11 22 05.9 -1.5**
comp=Z,74nm,0.9s,mb5.7
SHL Shillong 60.20 269 *e*P **P 11 22 06.8 -0.7**
SHL *i* x x 11 26 08.0
SHL *e*S **S 11 30 21.2 +0.6**
MNK Minsk 60.27 333 *e*P **P 11 22 06.0 -1.9**
MNK *e*PPP 11 25 48.0
MNK *e*S **S 11 30 15.0 -6.5**
MNK *e*PS 11 30 44.0
MNK *e*SS SS 11 34 18.0 -0.9
MNK pmax pmax
comp=N,990nm,1.0s
MNK pmax pmax
comp=E,220nm,1.0s
MNK pmax pmax
comp=Z,1μm,1.0s,mb6.9
MNK MLR MLR
comp=Z,156μm,14.0s,MS7.3
MNK MLR MLR
comp=E,133μm,15.0s
GTK Gangtok 60.33 273 *ex* x 11 22 30.0
VRSR Storozhevoye 60.40 324⇑*i*P **P 11 22 08.2 -0.5**
VRSR *e* 11 22 54.0
VRSR *e*S **S 11 30 23.5 +0.5**
VRSR pmax pmax
comp=N,130nm,1.0s
VRSR pmax pmax
comp=E,30nm,1.0s
VRSR pmax pmax
comp=Z,80nm,1.0s,mb5.7
VRSR smax
comp=N,180nm,3.9s
VRSR smax
comp=Z,880nm,9.6s
VRSR smax
comp=E,420nm,4.6s
VRSR MLR MLR
comp=N,3μm,17.0s
VRSR MLR MLR
comp=E,3μm,17.0s
VRSR MLR MLR
comp=Z,4μm,17.0s
CGP Cagayan de Oro 60.48 228⇓*e*P **P 11 22 10.4 +1.0**
comp=Z,3372μm,0.6s,mb10.2
OBR Brabster 60.59 353⇑*e*P **P 11 22 09.7 -0.3**
ORE Reay 60.69 354 *e*P **P 11 22 10.0 -0.7**
OTO Tongue 60.77 354⇑*e*P **P 11 22 11.2 -0.1**
BUKP Musuan 60.88 228 *e*P **P 11 22 11.4 -0.6**
CHRT Chiangrai 61.17 259⇑*i*P **P 11 22 13.5 -0.5**
comp=Z,624nm,1.0s,mb6.7
GUN Gumba 61.19 276 *e*P **P 11 22 13.4 -0.7**
comp=Z,1μm,0.9s,mb7.0
JIRN Jiri 61.24 276 *e*P **P 11 22 14.3 -0.2**
comp=Z,429nm,1.1s,mb6.5
MVH1 Achvaich 61.33 354⇑*e*P **P 11 22 14.9 -0.2**
AMTX Amarillo 61.42 69 PFAKE 11 22 30.0 +14
AMTX LR LR
comp=Z,81μm,19.0s,MS6.9
DAV Davao City (W) 61.44 227 PFAKE 11 22 30.0 +14
DAV LR LR
comp=Z,33μm,21.0s,MS6.5
PPR Puerto Princes 61.56 235⇑*e*P **P 11 22 16.8 +0.1**
KKN Kakani 61.58 277 *e*P **P 11 22 16.0 -0.8**
comp=Z,254nm,0.8s,mb6.4
KKN Kakani 61.58 277 *e*P **P 11 22 16.0 -0.8**
KKN pmax pmax
comp=Z,254nm,0.8s,mb6.4
MUD Monsted U'grnd 61.62 345⇑*i*P **P 11 22 17.5 +0.5**
comp=Z,154nm,1.0s,mb6.1
MUD *i* 11 26 16.6
MUD *i* S **S 11 30 42.1 +3.5**
MUD
comp=Z,45μm,19.0s
MUD Monsted U'grnd 61.62 345⇑*i*P **P 11 22 17.5 +0.5**
comp=Z,154nm,1.0s,mb6.1
MUD *i* 11 26 16.6
MUD *i* S **S 11 30 42.1 +3.5**
MCD Coleburn Disti 61.62 353 *e*P **P 11 22 16.7 -0.3**
NANT Nan 61.65 257⇑*i*P **P 11 22 16.5 -0.8**
comp=Z,2μm,0.4s
PKI Pulchoki 61.70 276 *e*P **P 11 22 16.9 -0.7**
comp=Z,360nm,1.0s,mb6.4
PKI Pulchoki 61.70 276 *e*P **P 11 22 16.9 -0.7**
PKI pmax pmax
comp=Z,360nm,1.0s,mb6.5
SUW Suwalki 61.71 336 *e*P **P 11 22 16.5 -1.1**
SUW *e*pP pP 11 22 18.2 -4.4
SUW *e*S **S 11 30 38.5 -1.3**
SUW *e*SS SS 11 34 45.8 +4.5
SUW L 11 49 22.9
comp=Z,118nm,22.5s
SUW Suwalki 61.71 336 *e*P **P 11 22 16.5 -1.1**
SUW *e*pP pP 11 22 18.2 -4.4
SUW *e*S **S 11 30 38.5 -1.3**
SUW *e*SS SS 11 34 45.8 +4.5
GKN Gorkha 61.71 277 *e*P **P 11 22 17.4 -0.3**
comp=Z,915nm,1.3s,mb6.7
DMN Daman 61.81 277 *e*P **P 11 22 18.1 -0.3**
comp=Z,286nm,1.0s,mb6.4
MME1 Meikle Cairn 61.87 353⇑*e*P **P 11 22 18.2 -0.5**
COP Copenhagen 61.94 343⇑*i*P **P 11 22 18.8 -0.4**
comp=Z,133nm,1.3s,mb5.9
COP *i* S **S 11 30 44.7 +2.0**
COP *i* 11 34 44.0
COP pmax pmax
comp=Z,30μm,21.0s
COP Copenhagen 61.94 343⇑*i*P **P 11 22 18.8 -0.4**
COP *i* S **S 11 30 44.7 +2.0**
COP *i* 11 34 44.0
COP pmax pmax
comp=Z,133nm,1.3s,mb5.9
COP MLR MLR
comp=Z,30μm,21.0s,MS6.4
DLH Dalhousie 62.09 287 *ex* x 11 22 28.0
BSD Bornholm Skovb 62.12 342⇑*i*P **P 11 22 19.8 -0.6**
comp=Z,265nm,1.3s,mb6.2
BSD *i* 11 24 37.0
BSD *i* S **S 11 30 44.7 -0.3**
BSD
comp=Z,43μm,19.0s
BSD Bornholm Skovb 62.12 342⇑*i*P **P 11 22 19.8 -0.6**
comp=Z,265nm,1.3s,mb6.2
BSD *i* 11 24 37.0
BSD *i* S **S 11 30 44.7 -0.3**
MNTX Cornudas Mount 62.34 74 PFAKE 11 22 30.0 +8.1
MNTX LR LR
comp=Z,10μm,21.0s,MS5.9
KOLN Koldanda 62.41 278 *e*P **P 11 22 21.5 -0.9**
comp=Z,455nm,1.1s,mb6.5
NIL Nilore 62.43 290 P **P 11 22 23.5 +1.0**
comp=Z,391nm,1.3s,mb6.4,SNR=12
CHG Chiang Mai 62.48 259⇑*i*P **P 11 22 22.1 -0.7**
comp=Z,116nm,1.6s,mb5.8
CHTO Chiang Mai 62.48 259⇑*e*P **P 11 22 21.7 -1.1**
CHTO pmax pmax
comp=Z,200nm,1.1s,mb6.2
CHTO MLR MLR
comp=Z,91μm,20.0s,MS6.9
CHTO Chiang Mai 62.48 259⇑*e*P **P 11 22 21.6 -1.2**
comp=Z,203nm,1.1s,mb6.2
CHTO LR LR
comp=Z,93μm,20.0s,MS7.0
SDNR Sundarnagar 62.48 286 *e*P **P 11 22 23.0 +0.1**
PTH Pithoragarh 62.56 282 *e*P **P 11 22 23.5 +0.1**
PTH *ex* x 11 25 04.6
PONG Pong 62.59 287 *e*P **P 11 22 25.5 +1.9**
SMLA Simla 62.70 285 *e*P **P 11 22 23.1 -1.2**
SMLA *i* P 11 22 23.2
comp=Z,49nm,0.3s
SMLA AMb AMB 11 22 26.9
comp=Z,304nm,2.0s,mb6.1
SMLA *i* S **S 11 30 51.7 -0.6**
BATP Bataraza 62.83 236 *e*P **P 11 22 25.2 0.0**
WMOK Wichita Mounta 62.86 67 *e*P **P 11 22 24.1 -1.3**
WMOK pmax pmax
comp=Z,399nm,0.9s,mb6.5
WMOK MLR MLR
comp=Z,23μm,20.0s,MS6.3
WMOK Wichita Mounta 62.86 67 *e*P **P 11 22 24.1 -1.3**
comp=Z,399nm,0.9s,mb6.5
WMOK LR LR
comp=Z,23μm,20.0s,MS6.3
RGN Rugen 62.91 342 *e*P **P 11 22 25.2 -0.5**
comp=Z,296nm,0.9s,mb6.4
DDI Dehra Dun 62.95 284 *ex* x 11 22 23.0
DDI *ex* x 11 23 13.6
EDI Edinburgh 63.27 353 *e*P **P 11 22 27.9 -0.1**
CCM Cathedral Cave 63.37 59 P **P 11 22 26.8 -2.0**
CCM pmax pmax
comp=Z,310nm,1.1s,mb6.3
CCM Cathedral Cave 63.37 59 PFAKE 11 22 40.0 +11
CCM LR LR
comp=Z,87μm,19.0s,MS7.0
PGBU Glenifferbraes 63.45 354 *e*P **P 11 22 28.7 -0.6**
AKASG Malin Array Be 63.48 331 P **P 11 22 28.2 -1.3**
comp=Z,192nm,1.0s,mb6.2,baz=23,slow=6.5,SNR=244
AKASG PKPPKP 11 51 21.9
comp=Z,1.0nm,0.6s,baz=201,slow=3.3,SNR=6.7
AKASG PKP2bc 11 51 30.8
comp=Z,0.3nm,0.3s,baz=222,slow=2.7,SNR=6.7
GKP Gorka Klasztor 63.52 339 *e*P **P 11 22 29.6 -0.1**
GKP *e*pP pP 11 22 30.6 -4.1
GKP *e*S **S 11 31 03.4 +0.9**
GKP *e*SS SS 11 35 17.4 +7.8
GKP L 11 52 56.2
comp=Z,126nm,19.8s
MSNY Massena 63.65 44 *e*P **P 11 22 29.2 -1.4**
FVM French Village 63.78 59⇓*e*P **P 11 22 29.3 -2.1**
FVM pmax pmax
comp=Z,259nm,0.8s,mb6.3
FVM French Village 63.78 59⇓*e*P **P 11 22 29.3 -2.1**
comp=Z,284nm,0.8s,mb6.3
WAR Warsaw 63.81 337 *e*P **P 11 22 31.4 -0.2**
WAR *e*pP pP 11 22 32.7 -4.0
WAR *e*S **S 11 31 07.1 +1.0**
WAR L 11 50 03.0
comp=Z,85nm,23.1s
EKA Eskdalemuir Ar 63.86 353 PKP2bc 11 51 28.9
comp=Z,6.2nm,1.0s,baz=167,slow=3.9,SNR=4.7
ESK Eskdalemuir 63.88 353 P **P 11 22 32.6 +0.5**
comp=Z,772nm,1.1s,mb6.7,SNR=6.7
ESK Eskdalemuir 63.88 353 *e*P **P 11 22 31.9 -0.2**
BSEG Bad Segeberg 63.93 344 *e*P **P 11 22 31.7 -0.8**
comp=Z,119nm,1.1s,mb5.8
BSEG *e*P 11 24 45.7
BSEG *e*S **S 11 31 10.8 +3.1**
BSEG Bad Segeberg 63.93 344 *e*P **P 11 22 31.7 -0.8**
BSEG pmax pmax
comp=Z,119nm,1.1s,mb5.8
GMK Mull of Kintyr 63.97 355⇑*e*P **P 11 22 31.9 -0.8**
HLG Helgoland 64.00 346 *e*S **S 11 31 11.1 +2.6**
BBH Bruntsheil 64.04 353⇑*e*P **P 11 22 33.4 +0.2**
BBH AMb AMB 11 22 35.4
comp=Z,151nm,1.3s,mb5.9
BWH Wardlaw 64.04 353⇑*e*P **P 11 22 33.2 0.0**
BHH Howats Hill 64.10 353⇑*e*P **P 11 22 33.7 +0.1**
GCL Cushendall 64.27 355⇑*e*P **P 11 22 34.6 0.0**
ERPA Erie 64.36 49 PFAKE 11 22 50.0 +15
ERPA LR LR
comp=Z,58μm,20.0s,MS6.8
GCD Castle Douglas 64.37 353⇑*e*P **P 11 22 35.1 -0.3**
BDL Dobcross Hall 64.37 353⇑*e*P **P 11 22 35.2 -0.1**
GAL1 Galloway 64.41 354 *e*P **P 11 22 34.7 -0.9**
CAL Calcutta 64.49 271 *e*P **P 11 22 34.5 -1.6**
CAL *e*P 11 22 35.3
CAL *ex* x 11 31 22.2
SIUC Southern Illin 64.51 58 *e*P **P 11 22 34.3 -1.9**
comp=Z,397nm,1.0s,mb6.4
CKE Keswick 64.60 353⇑*e*P **P 11 22 37.0 +0.1**
NST Nakhon Sawan 64.61 256 P **P 11 22 36.8 -0.1**
comp=Z,82nm,1.0s,mb5.7
BOK Bokaro 64.63 274 *e*P **P 11 22 36.3 -0.7**
XDE Dent Fell 64.70 353⇑*e*P **P 11 22 37.1 -0.4**
XDE AMb AMB 11 22 39.5
comp=Z,217nm,1.2s,mb6.0
ALLY Alegheny Colle 64.70 49 *e*P **P 11 22 36.8 -0.7**
ALLY *e*pP pP 11 22 41.4 -1.2
GOF Gofitskoye 64.72 319⇓*i*P **P 11 22 36.5 -1.1**
GOF *i* S **S 11 31 18.0 +0.6**
GOF pmax pmax
comp=Z,650nm,1.0s,mb6.6
GOF smax
comp=N,100nm,1.7s
NDI New Delhi 64.72 284 *e*P **P 11 22 36.0 -1.6**
comp=N,273nm,1.2s,mb6.2
NDI *e*P 11 22 36.8
NDI AMb AMB 11 22 43.4
comp=Z,191nm,1.1s,mb6.0
NDI *ex* x 11 31 13.0
NCB Newcomb 64.77 44 *e*P **P 11 22 36.9 -1.1**
comp=Z,78nm,0.8s,mb5.8
NCB LR LR
comp=Z,52μm,19.0s,MS6.7
RUE Ruedersdorf 64.84 342 *e*P **P 11 22 37.2 -1.2**
comp=Z,174nm,1.2s,mb6.0
RUE *e*S **S 11 31 19.7 +0.7**
RUE Ruedersdorf 64.84 342 *e*P **P 11 22 38.8 +0.4**
comp=Z,238nm,1.2s,mb6.1
RUE *e*pP pP 11 22 42.6 -0.9
RUE *e*sP sP 11 22 45.8 +0.5
ACSO Alum Creek Sta 64.86 52 PFAKE 11 22 50.0 +11
ACSO LR LR
comp=Z,94μm,19.0s,MS7.0
MIV Mineville/With 64.91 43 *e*P **P 11 22 38.0 -0.9**
USIN University of 64.94 57 *e*P **P 11 22 38.5 -0.6**
comp=Z,75nm,0.6s,mb5.9
MAK Makhachkala 65.07 315*c i*P **P 11 22 41.2 +1.3**
MAK *i* 11 22 41.3
MAK *i* 11 23 11.9
MAK *e* 11 25 00.0
MAK *i* PPP 11 26 41.2
MAK *i* S S 11 31 25.4 +3.7
MAK *i* 11 32 35.7
MAK pmax pmax
comp=Z,587nm,1.7s,mb6.3
MAK smax
comp=N,7μm,10.3s
MAK smax
comp=E,10μm,7.9s
MAK MLR MLR
comp=Z,213μm,18.0s,MS7.4
MAK MLR MLR
comp=N,229μm,19.0s,MS7.5
MAK MLR MLR
comp=E,150μm,15.0s,MS7.5
GMM Mts of Mourne 65.10 355⇑*e*P **P 11 22 38.9 -1.1**
LTX Lajitas 65.12 74 P **P 11 22 40.2 0.0**
LTX pmax pmax
comp=Z,260nm,1.2s,mb6.1
LTX Lajitas 65.12 74⇓*e*P **P 11 22 40.8 +0.6**
comp=Z,252nm,1.2s,mb6.1
LTX LR LR
comp=Z,78μm,22.0s,MS6.9
WCI Wyandotte Cave 65.27 56 *e*P **P 11 22 40.2 -1.0**
WCI pmax pmax
comp=Z,150nm,0.9s,mb6.0
WCI MLR MLR
comp=Z,57μm,20.0s,MS6.8
WCI Wyandotte Cave 65.27 56 *e*P **P 11 22 40.2 -1.0**
comp=Z,150nm,0.9s,mb6.0
WCI LR LR
comp=Z,57μm,20.0s,MS6.8
LBNH Lisbon 65.30 42 P **P 11 22 40.4 -1.0**
LBNH pmax pmax
comp=Z,200nm,0.9s,mb6.2
LBNH Lisbon 65.30 42 PFAKE 11 22 50.0 +8.6
LBNH LR LR
comp=Z,122μm,21.0s,MS7.1
ASH Ashkhabad 65.30 304⇑*i*P **P 11 22 43.0 +1.6**
ASH *i* S S 11 31 24.0 -0.6
MIAR Mount Ida 65.34 63⇓*e*P **P 11 22 40.5 -1.1**
MIAR pmax pmax
comp=Z,265nm,1.1s,mb6.2
MIAR MLR MLR
comp=Z,108μm,20.0s,MS7.0
MIAR Mount Ida 65.34 63⇓*e*P **P 11 22 40.5 -1.2**
comp=Z,265nm,1.1s,mb6.2
MIAR LR LR
comp=Z,108μm,20.0s,MS7.0
VAN Vannovskaya 65.40 304⇑*i*P **P 11 22 42.7 +0.6**
VAN S S 11 31 29.8 +4.0
ABKT Ailbek 65.41 304 P **P 11 22 42.8 +0.7**
comp=Z,1μm,1.1s,mb6.9,SNR=49
LVV L'vov 65.49 334 *e*P **P 11 22 41.7 -0.9**
LVV *e* 11 23 12.1
LVV *e* 11 25 04.7
LVV *e*PPP 11 26 37.3
LVV *e*S S 11 31 25.7 -1.1
LVV *e*PS 11 31 47.3
LVV *i* SS SS 11 35 41.9 +1.6
LVV *e*SSS 11 38 40.7
LHO Holmfirth 65.55 352⇑*e*P **P 11 22 42.7 -0.3**
LHO AMb AMB 11 22 45.5
comp=Z,132nm,1.9s,mb5.6
GLAT Glass 65.71 59 *e*P **P 11 22 44.1 +0.1**
BINY Binghamton 65.73 46 PFAKE 11 22 50.0 +5.8
BINY LR LR
comp=Z,58μm,19.0s,MS6.8
KIV Kislovodsk 65.81 318 P **P 11 22 45.0 +0.3**
comp=Z,1μm,1.0s,mb6.9,SNR=38
KIV Kislovodsk 65.81 318*c i*P **P 11 22 45.5 +0.8**
KIV *e* 11 23 15.9
KIV *e* 11 25 08.3
KIV *e*PPP 11 26 49.2
KIV *e*S S 11 31 35.6 +4.8
KIV *e*SS SS 11 35 43.2 -2.2
KIV pmax pmax
comp=Z,285nm,1.2s,mb6.2

KIV pmax pmax
comp=Z,2µm,4.0s
KIV MLR MLR
comp=Z,70µm,18.0s,MS6.9
IBBN Ibbenburen 65.85 345 *e*P **P** **11 22 44.2 -0.8**
comp=Z,273nm,1.1s,mb6.2
KWP Kalwaria 65.95 335 *e*P **P** **11 22 45.4 -0.2**
KWP *e*PcP PcP 11 23 15.8 -0.5
KWP *e*PP PP 11 25 08.7 -2.0
KWP *e*S S 11 31 33.2 +0.8
KWP *e*SS SS 11 35 51.2 +3.7
KWP L 11 51 29.2
comp=Z,102nm,25.0s
KWP Kalwaria 65.95 335 *e*P **P** **11 22 45.4 -0.2**
KWP *e*PcP PcP 11 23 15.8 -0.5
KWP *e*PP PP 11 25 08.7 -2.0
KWP *e*S S 11 31 33.2 +0.8
KWP *e*SS SS 11 35 51.2 +3.7
JCT Junction City 65.96 70 P **P** **11 22 44.4 -1.3**
JCT pmax pmax
comp=Z,330nm,1.0s,mb6.3
JCT Junction City 65.96 70 PFAKE 11 23 00.0 +14
JCT LR LR
comp=Z,56µm,21.0s,MS6.7
KKM Kota Kinabalu 65.97 236 P **P** **11 22 46.6 +0.9**
KKM Kota Kinabalu 65.97 236⇑ *e*P **P** **11 22 45.0 -0.7**
CLZ Clausthal 65.97 344 *e*P **P** **11 22 45.0 -0.7**
comp=Z,248nm,1.2s,mb6.1
CLZ *e*S S 11 31 35.2 +2.5
CLZ Clausthal 65.97 344 *e*P **P** **11 22 45.0 -0.7**
CLZ *e*S S 11 31 35.2 +2.5
CLZ pmax pmax
comp=Z,248nm,1.2s,mb6.1
OJC Ojcow 65.97 337 *e*P **P** **11 22 45.2 -0.5**
OJC *e*PcP PcP 11 23 16.1 -0.3
OJC *e*PP PP 11 25 12.4 +1.5
OJC *e*S S 11 31 31.8 -1.0
OJC *e*SS SS 11 35 49.1 +1.2
OJC L 11 51 27.6
comp=Z,416nm,22.7s
KSP Ksiaz 66.02 339 *e*P **P** **11 22 45.3 -0.7**
KSP *e*pP pP 11 22 47.3 -3.7
KSP *e*PcP PcP 11 23 17.3 +0.7
KSP *e*PP PP 11 25 09.8 -1.5
KSP *e*S S 11 31 34.5 +1.2
KSP *e*SS SS 11 35 54.4 +5.9
KSP L 11 51 51.0
comp=Z,120nm,23.3s
KSP Ksiaz 66.02 339 *e*P **P** **11 22 44.9 -1.1**
KSP *e**PP pP 11 22 50.3 -0.7
KSP *e* 11 23 17.1
KSP *e*S S 11 31 33.5 +0.2
KSP MLR MLR
comp=Z,159µm,20.5s,MS7.2
KSP Ksiaz 66.02 339 *e*P **P** **11 22 44.9 -1.1**
KSP *e*pP pP 11 22 50.3 -0.7
KSP *e*PcP PcP 11 23 17.1 +0.5
KSP *e*S S 11 31 33.5 +0.2
KSP *e*SS SS 11 35 37.0 -12
KSP LR LR
comp=Z,159µm,20.5s,MS7.2
DCN Croghan 66.05 355 *e*P **P** **11 22 44.4 -1.8**
DLF Lyons Farm 66.06 355 *e*P **P** **11 22 44.6 -1.7**
FFD Franklin Falls 66.08 42 *e*P **P** **11 22 47.0 +0.6**
comp=Z,235nm,0.7s,mb6.3
CLL Collm 66.10 342⇑ *i*P **P** **11 22 45.9 -0.7**
comp=Z,165nm,1.2s,mb5.9
CLL *e*Pmax 11 22 53.5
comp=Z,1µm,3.3s
CLL *e*PcP PcP 11 23 18.2 +1.3
CLL *e*PP PP 11 25 18.0 +5.9
CLL *e*PPP 11 26 50.0
CLL *e*S S 11 31 35.7 +1.4
CLL *e*SS SS 11 35 48.0 -1.9
CLL *e*SSS 11 39 08.1
CLL *e*PKPPKPdf 11 51 21.6
CLL *e*L 11 51 30.6
comp=Z,73µm,20.0s
CLL Collm 66.10 342⇑ *i*P **P** **11 22 46.0 -0.6**
comp=Z,162nm,1.2s,mb5.9
CLL *e*Pmax 11 22 54.0
CLL *e*PP PP 11 25 12.0 -0.1
CLL *e*PPP 11 26 54.0
CLL *e*S S 11 31 32.0 -2.3
comp=N,5µm,12.4s
CLL *e*S S 11 31 32.0 -2.3
comp=E,13µm,18.8s
CLL *e*SS SS 11 36 00.0 +10
CLL LmV 11 51 00.0
comp=Z,64µm,21.8s
CLL *e*PKPPKPbc 11 51 23.0
comp=Z,21nm,1.3s
CLL Collm 66.10 342⇑ *i*P **P** **11 22 46.0 -0.6**
CLL *e*S S 11 31 32.0 -2.3
CLL pmax pmax
comp=Z,162nm,1.2s,mb5.9
CLL MLR MLR
comp=Z,64µm,21.8s,MS6.8
CLL Collm 66.10 342⇑ *i*P **P** **11 22 46.0 -0.6**
comp=Z,162nm,1.2s,mb5.9
CLL *e*S S 11 31 32.0 -2.3
CLL *e*P'P' 11 51 23.0
CLL LR LR
comp=Z,64µm,21.8s,MS6.8
DSB Dublin 66.11 355 *e*P **P** **11 22 46.3 -0.3**
comp=Z,82nm,1.0s,mb5.7
DSB *e*pP pP 11 22 50.7 -0.9
SBD1 Bryn Du 66.28 353⇑ *e*P **P** **11 22 47.8 0.0**
SBD1 AMb AMB 11 22 49.8
comp=Z,305nm,1.3s,mb6.2
WTSB Winterswijk 66.31 346⇑ *e*P **P** **11 22 47.5 -0.4**
comp=Z,168nm,1.1s,mb6.0
GTTG Gvttingen 66.31 344 *e*P **P** **11 22 47.0 -0.9**
comp=Z,67nm,1.1s,mb5.6
LPIG La Paz 66.33 83 P **P** **11 22 48.9 +0.8**
comp=Z,382nm,1.1s,mb6.4,baz=323,slow=2.0,SNR=30
BRG Berggiesshubel 66.38 341 *e*P **P** **11 22 46.8 -1.5**
comp=Z,86nm,1.3s,mb5.6
BRG *e*S S 11 31 37.7 0.0
BRG Berggiesshubel 66.38 341 *i*P **P** **11 22 48.7 +0.3**
comp=Z,9.9nm,1.4s
BRG *i* PCP PcP 11 23 20.8 +2.8
comp=Z,67nm,1.1s
BRG PP PP 11 25 16.0 +1.5
BRG S S 11 31 34.0 -3.7
BRG S S 11 31 34.0 -3.7
BRG SS SS 11 35 55.0 +0.8
BRG *e*PKPPKP 11 51 19.9
comp=Z,11nm,1.4s
BRG
comp=N,42µm,13.7s
BRG
comp=E,64µm,18.8s
BRG
comp=Z,59µm,16.2s
UPC Upice 66.39 339 *e*P **P** **11 22 47.9 -0.5**
RAC Raciborz 66.41 338 *e*P **P** **11 22 48.4 -0.1**
RAC *e*S S 11 31 38.6 +0.6
RAC MLR MLR
comp=N,200µm,18.7s
RAC MLR MLR
comp=Z,146µm,18.6s,MS7.2
MET Memphis--Engin 66.42 60⇑ *e*P **P** **11 22 49.2 +0.6**
SSPA Standing Stone 66.42 48 *e*P **P** **11 22 46.5 -2.1**
comp=Z,115nm,0.6s,mb6.1
SSPA *e*pP pP 11 22 52.5 -1.1
SSPA LR LR
comp=Z,59µm,19.0s,MS6.8
WVT Waverly 66.44 58 P **P** **11 22 47.4 -1.3**
WVT pmax pmax
comp=Z,310nm,0.9s,mb6.3
WVT Waverly 66.44 58 PFAKE 11 23 00.0 +11
WVT LR LR
comp=Z,122µm,20.0s,MS7.1
STHS Stebnicka Huta 66.45 336 *e*P **P** **11 22 49.2 +0.4**
STHS *e* 11 23 21.6
STHS Stebnicka Huta 66.45 336 P **P** **11 22 49.6 +0.8**
ZEI Tsey 66.47 317 *e*P **P** **11 22 50.3 +1.4**
ZEI *i* *PP pP 11 22 51.5 -2.5
ZEI *e* 11 25 13.3
ZEI *e*S S 11 31 37.2 -1.6
ZEI pmax pmax
comp=Z,316nm,1.3s,mb6.2
ZEI smax
comp=E,1µm,4.7s
DPC Dobruska-Polom 66.48 339 *e*P **P** **11 22 48.4 -0.6**
DPC *e*S S 11 31 40.4 +1.4
DPC AMS AMS 11 58 10.0
comp=E,85µm,14.7s
DPC Dobruska-Polom 66.48 339 P **P** **11 22 48.7 -0.3**
MCWV Mont Chateau 66.55 50 PFAKE 11 23 00.0 +11
MCWV LR LR
comp=Z,77µm,20.0s,MS6.9
NIE Niedzica 66.64 336 *e*P **P** **11 22 50.1 +0.1**
HLM1 Long Mynd 66.64 352⇑ *e*P **P** **11 22 50.1 0.0**
HLM1 AMb AMB 11 22 52.1
comp=Z,277nm,1.3s,mb6.1
OKC Ostrava-Krasne 66.65 338 *e*P **P** **11 22 49.6 -0.5**
OKC *e*S S 11 31 34.2 -6.8
OKC AMS AMS 11 55 10.0
comp=Z,112µm,17.8s
OKC Ostrava-Krasne 66.65 338 P **P** **11 22 50.9 +0.8**
ANN Anapa 66.69 323*c* *i*P **P** **11 22 50.3 0.0**
ANN *i* *PP pP 11 22 55.2 -0.2
ANN *i* 11 23 19.3
ANN *i* 11 25 16.5
ANN *i* S S 11 31 43.7 +2.3
ANN *e* 11 32 48.6
ANN *e*SS SS 11 36 06.0 +7.0
ANN pmax pmax
comp=Z,299nm,1.7s,mb6.0
ANN MLR MLR
comp=Z,25µm,18.0s,MS6.5
KOLS Kolonicke sedl 66.70 335 *e*P **P** **11 22 51.5 +1.1**
KOLS *e*S S 11 31 42.4 +0.8
KOLS Kolonicke sedl 66.70 335 P **P** **11 22 52.5 +2.1**
SSP1 Stoney Pound 66.76 353⇑ *e*P **P** **11 22 50.6 -0.1**
BUG Bochum--Univer 66.77 346 *e*P **P** **11 22 49.7 -1.1**
comp=Z,178nm,1.2s,mb6.0
BUG *e*S S 11 31 45.3 +2.9
MORC Moravsky Berou 66.82 338 P **P** **11 22 50.6 -0.6**
MORC pmax pmax
comp=Z,150nm,1.0s,mb6.0
MORC Moravsky Berou 66.82 338 *e*P **P** **11 22 51.0 -0.2**
comp=Z,132nm,1.0s,mb5.9
TSM Tawau 66.89 234 P **P** **11 22 51.8 +0.2**
CRVS Cervenica-Dubn 66.90 335 *e*P **P** **11 22 52.7 +1.0**
CRVS *e* 11 23 04.7
CRVS *e* 11 23 28.9
CRVS *e*S S 11 31 44.8 +0.8
MOX Moxa 66.96 342 *e*P **P** **11 22 50.9 -1.1**
comp=Z,113nm,1.3s,mb5.7
MOX Moxa 66.96 342 *e*P **P** **11 22 51.4 -0.6**
MOX pmax pmax
comp=Z,158nm,1.3s,mb5.9
MOX MLR MLR
comp=Z,47µm,23.0s,MS6.6
MOX Moxa 66.96 342 *e*P **P** **11 22 51.4 -0.6**
comp=Z,158nm,1.3s,mb5.9
MOX *e*S S 11 31 42.0 -2.7
MOX LR LR
comp=Z,47µm,23.0s,MS6.6
HRV Harvard--Oak R 66.97 43 *e*P **P** **11 22 51.6 -0.5**
HRV pmax pmax
comp=Z,121nm,0.8s,mb6.0
HRV MLR MLR
comp=Z,67µm,22.0s,MS6.8
HRV Harvard--Oak R 66.97 43 *e*P **P** **11 22 51.6 -0.5**
comp=Z,121nm,0.8s,mb6.0
HRV LR LR
comp=Z,67µm,22.0s,MS6.8
UBBA Unterbreizbach 67.02 344 *e*P **P** **11 22 51.3 -1.1**
comp=Z,97nm,1.6s,mb5.6
UBBA *e*S S 11 31 46.4 +1.0
KIS Kishinev 67.02 330 *i*P **P** **11 22 51.0 -1.4**
KIS MLR MLR
comp=Z,225µm,16.0s,MS7.5
WERD Werda 67.05 342 *e*P **P** **11 22 51.6 -1.0**
comp=Z,131nm,1.2s,mb5.8
PRA Prague 67.08 340 P **P** **11 22 53.0 +0.2**
PRA AMS AMS 11 58 30.0
SOC Sochi 67.09 320*c* *i*P **P** **11 22 53.2 +0.3**
SOC *e**PP pP 11 22 59.2 +1.3
SOC *e* 11 23 18.9
SOC *e* 11 25 20.4
SOC *e*PPP 11 26 56.6
SOC *i* S S 11 31 49.4 +3.1
SOC *e* 11 32 51.7
SOC *e*SS SS 11 36 14.1 +8.8
SOC pmax pmax
comp=Z,250nm,1.2s,mb6.1
SOC pmax pmax
comp=Z,2µm,3.6s
SOC MLR MLR
comp=Z,134µm,18.0s,MS7.2
GOR Gori 67.10 316 P **P** **11 22 54.7 +1.8**
HAE Alders End 67.10 352⇑ *e*P **P** **11 22 53.0 0.0**
HAE AMb AMB 11 22 55.0
comp=Z,200nm,1.4s,mb6.0
TBLG Delisi 67.11 316 P **P** **11 22 54.7 +1.7**
TBLG Delisi 67.11 316 P **P** **11 22 54.6 +1.6**
PRU Pruhonice 67.14 340 *e*P **P** **11 22 52.8 -0.4**
PRU *e*S S 11 31 47.6 +0.7
PRU AMS AMS 11 58 20.0
comp=Z,117µm,15.0s
PRU Pruhonice 67.14 340 P **P** **11 22 53.2 0.0**
DGRG David-gareji 67.14 315 P **P** **11 22 54.4 +1.2**
IAS Iasi 67.15 330 P **P** **11 22 54.3 +1.1**
WES Weston 67.15 42 P **P** **11 22 52.7 -0.6**
WES pmax pmax
comp=Z,170nm,0.8s,mb6.1
WES Weston 67.15 42 *e*P **P** **11 22 53.4 +0.1**
comp=Z,127nm,0.7s,mb6.1
OXF Oxford 67.16 60 P **P** **11 22 51.9 -1.4**
OXF pmax pmax
comp=Z,680nm,1.0s,mb6.6
OXF Oxford 67.16 60 *e*P **P** **11 22 52.9 -0.5**
comp=Z,680nm,1.1s,mb6.6
OXF LR LR
comp=Z,81µm,19.0s,MS7.0
MCH1 Michaelchurch 67.17 352 *e*P **P** **11 22 52.2 -1.2**
MCH1 *e*P 11 22 53.1
MCH1 AMb AMB 11 22 54.6
comp=Z,106nm,1.4s,mb5.7
MCH1 Michaelchurch 67.17 352 P **P** **11 22 53.1 -0.3**
MCH1 AMb AMB 11 22 54.6
comp=Z,106nm,1.4s,mb5.7
NATX Nacogdoches 67.22 66 PFAKE 11 23 00.0 +6.3
NATX LR LR
comp=Z,85µm,19.0s,MS7.0
NKC Novy Kostel 67.23 342 *e*P **P** **11 22 53.7 -0.1**
NKC *e*S S 11 31 47.1 -0.9
NKC AMS AMS 11 59 00.0
comp=Z,101µm,14.5s
SKP1 Kophill 67.29 351⇑ *e*P **P** **11 22 53.6 -0.6**
BURAR Bucovina Array 67.30 332⇑ *i*P **P** **11 22 54.2 0.0**
BURAR Bucovina Array 67.30 332 ⇑P **P** **11 22 54.2 -0.1**
PLAL Pickwick Lake 67.32 59 *e*P **P** **11 22 52.4 -1.9**
comp=Z,218nm,1.0s,mb6.1
PLAL LR LR
comp=Z,60µm,20.0s,MS6.8
VRAC Vranov 67.44 339 ⇑P **P** **11 22 54.7 -0.4**
VRAC Vranov 67.44 339 P **P** **11 22 54.6 -0.5**
NNT Nongplab 67.48 255 P **P** **11 22 55.5 +0.2**
KECS Kecovo 67.49 336 *i*P **P** **11 22 55.2 -0.2**
KECS *e*pP pP 11 23 03.7 +3.2
KECS *e* 11 23 25.2
KECS *e*PP PP 11 25 26.1 +1.9
KECS Kecovo 67.49 336 P **P** **11 22 55.5 +0.1**
SIM Simferopol' 67.51 325*ce*P **P** **11 22 56.4 +0.8**
SIM *e*S S 11 31 55.0 +3.6
SIM *e*SS SS 11 36 16.0 +4.2
SIM pmax pmax
comp=Z,173nm,0.9s,mb6.1
SIM MLR MLR
comp=Z,130µm,17.0s,MS7.2
HGH Gray Hill 67.52 352⇑ *e*P **P** **11 22 55.6 +0.1**
HGH AMb AMB 11 22 57.7
comp=Z,386nm,1.3s,mb6.3
MANZ Manzenberg 67.52 342 *e*P **P** **11 22 54.6 -1.0**
comp=Z,72nm,1.2s,mb5.6
MANZ *e*S S 11 31 53.0 +1.5
MVL Millersville 67.53 47⇑ *e*P **P** **11 22 55.0 -0.7**
MVL *e*pP pP 11 22 59.9 -0.9
VAL Valentia 67.54 357 *e*P **P** **11 22 55.3 -0.5**
VAL *i* S S 11 32 04.1 +12
SWN1 Swindon 67.57 352 *e*P **P** **11 22 55.1 -0.8**
SWN1 ⇑*e*P 11 22 55.6
SWN1 Swindon 67.57 352 P **P** **11 22 55.6 -0.3**
BEBN Eben Emael 67.59 346 P **P** **11 22 56.0 0.0**
BEBN E 11 23 12.6
HGN Heimansgroeve 67.59 346⇑ *e*P **P** **11 22 56.0 0.0**
comp=Z,110nm,1.6s,mb5.6
HGN *e*PP PP 11 25 36.5 +11
HGN *e*PPP 11 27 17.5
HGN *e*S S 11 31 55.4 +3.1
HGN *e*SS SS 11 35 48.1 -25
HGN *e*SSS 11 39 15.6
TREC Trest 67.65 339 *e*P **P** **11 22 55.0 -1.4**
TREC *e*S S 11 31 54.1 +1.1
JAVC Velka Javorina 67.68 338 P **P** **11 22 57.6 +1.0**
KRUC Moravsky 67.71 339 P **P** **11 22 56.6 -0.2**
ROTZ Rotzenmuhle 67.72 342 *e*P **P** **11 22 56.1 -0.8**
comp=Z,104nm,1.3s,mb5.7
ROTZ *e*S S 11 31 55.3 +1.4
UCC Uccle 67.73 347 P **P** **11 22 55.5 -1.4**
UCC AP pP 11 23 01.6 -0.4
TNS Taunus Mts 67.81 344 *e*P **P** **11 22 56.5 -0.9**
comp=Z,88nm,1.2s,mb5.7
TNS *e*S S 11 31 57.4 +2.4
TNS Taunus Mts 67.81 344 *e*P **P** **11 22 56.5 -0.9**
TNS *e*S S 11 31 57.4 +2.4
TNS pmax pmax
comp=Z,88nm,1.2s,mb5.7
AKH Akhalkalaki 67.82 317 P **P** **11 22 58.6 +1.1**
TZTN Tazewell 67.82 54 *e*P **P** **11 22 57.2 -0.4**
comp=Z,236nm,1.0s,mb6.2
GRA3 Grafenberg Arr 67.86 342 *e*PKPPKPbc 11 51 17.5
BLSP Bilaspur 67.86 276 *e*P **P** **11 22 56.4 -1.3**
BLSP AMb AMB 11 23 02.2
comp=Z,174nm,1.4s,mb5.9
GRF Grafenberg Arr 67.94 342 *e*P **P** **11 22 57.6 -0.7**
comp=Z,182nm,1.4s,mb5.9
GRF *e*S S 11 31 58.7 +2.2
GRF *e*L 11 54 57.7
comp=Z,59µm,20.1s
GRF Grafenberg Arr 67.94 342 *e*P **P** **11 22 57.6 -0.7**
GRF *e*S S 11 31 58.7 +2.2
GRF pmax pmax
comp=Z,182nm,1.4s,mb5.9
GRF MLR MLR
comp=Z,59µm,20.1s,MS6.8
GRF Grafenberg Arr 67.94 342 *e*P **P** **11 22 57.6 -0.7**
GRF *e*S S 11 31 58.7 +2.2
GRF pmax pmax
comp=Z,182nm,1.4s,mb5.9
GRF MLR MLR
comp=Z,59µm,20.1s,MS6.8
SWK Warminster 67.97 352⇑ *e*P **P** **11 22 58.5 0.0**
FWV Forest Hill 67.99 52 *e*P **P** **11 22 57.8 -0.8**
SWET Sewanee 68.01 57 *e*P **P** **11 22 56.6 -2.1**
SNF Seneffe 68.03 347 P **P** **11 22 59.2 +0.4**
comp=Z,20nm,1.2s,mb5.0
SNF AP pP 11 23 03.2 -0.6
JBP Jabalpur 68.03 278⇑ *e*P **P** **11 22 57.3 -1.6**
JBP *ex* x 11 23 07.8
comp=Z,196nm,1.4s
JBP *e*S S 11 31 58.9 +1.3
SMOL Smolenice 68.05 338 *e*P **P** **11 23 00.0 +1.0**
SMOL *e*sP sP 11 23 07.5 +1.6
KHC Kasperske Hory 68.12 341 *e*P **P** **11 22 58.8 -0.6**
KHC pP pP 11 23 02.5 -2.0
KHC PCP PcP 11 23 26.0 +0.6
KHC *e*S S 11 31 57.4 -1.3
KHC AMS AMS 11 55 30.0
comp=Z,88µm,19.9s
KHC Kasperske Hory 68.12 341 *e*P **P** **11 22 58.8 -0.6**
KHC *e* pP 11 23 02.5 -2.0
KHC *e* 11 23 26.0
KHC *e*S S 11 31 57.4 -1.3
KHC MLR MLR
comp=Z,88µm,19.9s,MS7.0
KHC Kasperske Hory 68.12 341 P **P** **11 22 59.8 +0.4**
PSZ Piszkesteto 68.15 336⇑ *i*P **P** **11 23 00.6 +1.0**
PSZ Piszkesteto 68.15 336 *e*P **P** **11 22 59.8 +0.2**
PSZ pmax pmax
comp=Z,150nm,1.0s,mb6.0
MENF Mencas 68.19 349 *e*P **P** **11 23 00.3 +0.5**
WET Wettzell 68.22 341 *e*P **P** **11 22 59.3 -0.7**
comp=Z,125nm,1.2s,mb5.8
WET *e*S S 11 32 02.1 +2.2
WET Wettzell 68.22 341 *e*P **P** **11 22 59.3 -0.7**
WET *e*S S 11 32 02.1 +2.2
WET pmax pmax
comp=Z,125nm,1.2s,mb5.8
HKT Hockley 68.23 68 P **P** **11 23 00.2 +0.1**
HKT S S 11 32 02.8 +2.8
HKT Hockley 68.23 68 P **P** **11 22 59.7 -0.4**
HKT pmax pmax
comp=Z,230nm,1.4s,mb6.0
HKT Hockley 68.23 68⇓ *e*P **P** **11 23 00.3 +0.2**
comp=Z,230nm,1.4s,mb6.0
HKT LR LR
comp=Z,95µm,20.0s,MS7.0
HTL Hartland 68.26 353 *e*P **P** **11 22 59.4 -0.8**
ABH Alteburg 68.26 345⇓ *e*P **P** **11 23 00.7 +0.4**
GIVF Givet 68.37 347 *e*P **P** **11 22 58.7 -2.2**
comp=Z,153nm,1.0s,mb5.7
GIVF Givet 68.37 347 *e*P **P** **11 22 58.7 -2.2**
GIVF pmax pmax
comp=Z,76nm,1.0s,mb5.7
GIVF Givet 68.37 347 *e*P **P** **11 22 58.7 -2.2**
comp=Z,76nm,1.0s,mb5.7
TOD Tromm 68.37 344⇓ *e*P **P** **11 23 01.6 +0.7**
GEC2 GERESS Array S 68.38 341 *e*P **P** **11 23 00.0 -1.0**
comp=Z,94nm,1.3s,mb5.7
GEC2 *e*S S 11 32 02.8 +1.0
GEC2 GERESS Array S 68.38 341 *e*P **P** **11 23 00.0 -1.0**
GEC2 *e*S S 11 32 02.8 +1.0
GEC2 pmax pmax
comp=Z,94nm,1.3s,mb5.7
GERES GERESS Array B 68.38 341 P **P** **11 22 59.8 -1.2**
comp=Z,42nm,1.0s,mb5.4,baz=25,slow=4.4,SNR=86
GERES PKPPKP 11 51 15.0
comp=Z,0.3nm,0.3s,baz=242,slow=2.9,SNR=4.7
GERES LR LR 11 56 26.6
comp=Z,113µm,19.7s,MS7.1,baz=15,slow=39
DOU Dourbes 68.40 347 P **P** **11 22 59.8 -1.3**
comp=Z,30nm,0.9s,mb5.3
DOU AP pP 11 23 04.7 -1.4
DOU E 11 23 17.7
ZST Bratislava 68.42 338 *e*P **P** **11 23 02.6 +1.3**
ZST *e*pP pP 11 23 09.7 +3.4
ZST *e*S S 11 32 05.2 +3.0
ZST Bratislava 68.42 338 P **P** **11 23 03.1 +1.8**
BLA Blacksburg 68.47 52 *e*P **P** **11 23 00.2 -1.4**
BLA pmax pmax
comp=Z,19nm,0.9s,mb5.1
BLA Blacksburg 68.47 52 *e*P **P** **11 23 00.2 -1.4**
comp=Z,263nm,0.9s,mb6.3
BAIF Baives 68.48 347 *e*P **P** **11 22 59.7 -1.9**
comp=Z,293nm,1.2s,mb5.9
BAIF Baives 68.48 347 *e*P **P** **11 22 59.7 -1.9**
BAIF pmax pmax
comp=Z,146nm,1.2s,mb5.9
BAIF Baives 68.48 347 *e*P **P** **11 22 59.7 -1.9**
comp=Z,146nm,1.2s,mb5.9
RUP Ruppelstein 68.50 345⇓ *e*P **P** **11 23 02.2 +0.4**
SWS Schriesheim-Wi 68.50 344 P **P** **11 23 02.6 +0.8**
SIND Sindeldorf 68.51 344 P **P** **11 23 02.2 +0.4**
GNI Garni 68.52 315 LR LR 11 57 53.8
comp=Z,128µm,18.4s,MS7.2,baz=32,slow=40
GNI Garni 68.52 315 *e*P **P** **11 23 04.2 +2.3**
GNI pmax pmax
comp=Z,538nm,1.3s
GNI MLR MLR
comp=Z,125µm,19.0s
GNI Garni 68.52 315 *e*P **P** **11 23 04.2 +2.3**
comp=Z,538nm,1.3s,mb6.3
GNI LR LR
comp=Z,125µm,19.0s,MS7.2
ARTV Artvin 68.54 318 *i*P **P** **11 23 02.9 +0.8**
SRO Srobarova 68.56 337 *e*P **P** **11 23 04.1 +1.9**
SRO *e*pP pP 11 23 10.8 +3.6
VRI Vrincioaia 68.59 331⇓ *i*P **P** **11 23 03.5 +1.2**
VRI Vrincioaia 68.59 331 P **P** **11 23 03.1 +0.8**
SRO2 Moca 68.59 337 *e*P **P** **11 23 04.4 +2.0**
PLOR Plostina 68.62 331⇓ *i*P **P** **11 23 03.3 +0.8**
SRO1 Iza 68.62 337 *e*P **P** **11 23 04.7 +2.1**
SRO1 *e*sP sP 11 23 11.6 +2.1
DRGR 68.64 334⇓ *i*P **P** **11 23 03.1 +0.5**
DRGR 68.64 334 P **P** **11 23 02.4 -0.2**

WLF Walferdange 68.65 346 *e*P P **11 23 01.9 -0.8**
comp=Z,135nm,1.2s,mb5.8
WLF eS S 11 32 07.9 +3.0
WLF Walferdange 68.65 346 P P **11 23 02.2 -0.5**
comp=Z,50nm,1.1s,mb5.4
WLF AP pP 11 23 07.3 -0.4
WLF Walferdange 68.65 346 *e*P P **11 23 03.2 +0.5**
WLF pmax pmax
comp=Z,173nm,1.2s,mb5.9
WLF Walferdange 68.65 346 *e*P P **11 23 03.2 +0.6**
comp=Z,173nm,1.2s,mb5.9
KARS Kars 68.67 317 P P **11 23 04.8 +2.0**
BUD Budapest 68.74 336⇑*i*P P **11 23 04.2 +0.9**
KTD Kalmit 68.74 345 *e*P P **11 23 03.7 +0.4**
CBN Corbin 68.75 49 PFAKE 11 23 10.0 +6.7
CBN LR LR
comp=Z,84µm,19.0s,MS7.0
CFR Carcaliu 68.89 329⇓*i*P P **11 23 04.5 +0.3**
CFR Carcaliu 68.89 329⇓P P **11 23 04.5 +0.3**
PKSG 68.95 337 *e*P P **11 23 05.9 +1.3**
MAIG Mazatlaan 68.99 80 *i*P P **11 23 06.4 +1.6**
SOP Sopron 69.01 338⇓*i*P P **11 23 06.0 +1.0**
LANF Langenberg 69.11 345⇓*e*P P **11 23 06.1 +0.5**
STU Stuttgart 69.13 344 *e*P P **11 23 04.4 -1.3**
comp=Z,68nm,1.1s,mb5.5
STU *e*S S 11 32 12.2 +1.5
STU Stuttgart 69.13 344 *e*P P **11 23 05.3 -0.4**
STU *e**PP pP 11 23 10.3 -0.4
STU pmax pmax
comp=Z,92nm,0.1s,mb6.7
STU Stuttgart 69.13 344 *e*P P **11 23 05.3 -0.4**
comp=Z,92nm,0.1s,mb6.7
STU *e*pP pP 11 23 10.3 -0.4
MLR Muntele Rosu 69.13 331 LR LR 11 57 27.5
comp=Z,81µm,18.1s,MS7.0,baz=199,slow=40
MLR Muntele Rosu 69.13 331⇓*i*P P **11 23 07.1 +1.4**
MLR Muntele Rosu 69.13 331 P P **11 23 06.4 +0.7**
BHPL Bhopal 69.21 280 *e*P P **11 23 05.4 -0.8**
BHPL AMb AMB 11 23 10.9
comp=Z,230nm,1.6s,mb5.8
MOA Molln 69.25 340⇑*i*P P **11 23 06.3 -0.1**
comp=Z,334nm,1.9s,mb6.0,SNR=34
LBG Lerchenberg 69.29 344 P P **11 23 08.1 +1.4**
PKS8 Sarbogard 69.39 337 *e*P P **11 23 08.0 +0.7**
VOIR 69.39 332⇑*i*P P **11 23 08.3 +1.0**
VOIR 69.39 332⇑P P **11 23 08.3 +0.9**
HARR Harsova 69.40 329⇑*i*P P **11 23 08.1 +0.7**
HARR Harsova 69.40 329⇑P P **11 23 08.2 +0.8**
FUR Furstenfeldbru 69.42 342 *e*P P **11 23 06.5 -1.0**
FUR eS S 11 32 16.1 +2.0
BUCH Bad Urach 69.42 343 P P **11 23 08.2 +0.7**
LRAL Lakeview Retre 69.45 59 *e*P P **11 23 05.2 -2.5**
comp=Z,188nm,0.8s,mb6.1
LRAL LR LR
comp=Z,86µm,19.0s,MS7.0
TIRR Tirgusor 69.49 329 *e*P P **11 23 08.8 +0.8**
comp=Z,363nm,1.4s,mb6.1
MTUR Matau 69.59 331⇓*i*P P **11 23 13.5 +5.0**
MTUR Matau 69.59 331 P P **11 23 10.8 +2.3**
ARSA Arzberg 69.62 339⇓*i*P P **11 23 08.6 -0.1**
comp=Z,628nm,3.4s
BFO Black Forest 69.68 344 *e*P P **11 23 07.8 -1.3**
comp=Z,91nm,1.2s,mb5.6
BFO eS S 11 32 17.8 +0.6
BFO Black Forest 69.68 344 P P **11 23 08.0 -1.1**
comp=Z,323nm,1.2s,mb6.1,SNR=12
BFO Black Forest 69.68 344 *e*P P **11 23 07.8 -1.3**
BFO eS S 11 32 17.8 +0.6
BFO pmax pmax
comp=Z,91nm,1.2s,mb5.6
CDF Champ du Feu 69.74 345 *e*P P **11 23 07.4 -2.1**
comp=Z,212nm,1.1s,mb5.7
CDF Champ du Feu 69.74 345 *e*P P **11 23 07.4 -2.1**
CDF pmax pmax
comp=Z,106nm,1.1s,mb5.7
CDF Champ du Feu 69.74 345 *e*P P **11 23 07.4 -2.1**
comp=Z,106nm,1.1s,mb5.7
PKS9 Tamasi 69.75 337 *e*P P **11 23 09.3 -0.2**
GUT Gutenstein 69.83 344 P P **11 23 10.4 +0.4**
ERZM Erzurum 69.88 317 *i*P P **11 23 12.9 +2.6**
EZM Erzurum 69.88 317 P P **11 23 12.2 +1.9**
MEZF Maizieres J'vi 69.92 346 *e*P P **11 23 08.7 -1.9**
comp=Z,302nm,1.1s,mb5.8
MEZF Maizieres J'vi 69.92 346 *e*P P **11 23 08.7 -1.9**
comp=Z,302nm,1.1s,mb6.1
ECH Echery 69.95 345 *e*P P **11 23 11.1 +0.4**
LIBD Limburg 69.95 345⇓*e*P P **11 23 11.3 +0.5**
GRSN GIRESUNGRSN 69.95 320 *i*P P **11 23 11.8 +1.0**
BZS Buzias 69.99 334⇑*i*P P **11 23 10.4 -0.6**
BZS Buzias 69.99 334 P P **11 23 10.7 -0.4**
GUMT Gumushane 69.99 319 P P **11 23 12.0 +1.0**
PKSM Moragy 70.03 336⇑*i*P P **11 23 11.3 0.0**
UBR Ueberruh 70.07 343 P P **11 23 10.4 -1.1**
THEF They Montfort 70.08 346⇓*e*P P **11 23 12.0 +0.4**
KIZ Kirchzarten 70.10 344 P P **11 23 11.6 -0.1**
KBA Koelnbreinsper 70.16 340⇓*i*P P **11 23 12.8 +0.8**
comp=Z,570nm,2.2s,mb6.1,SNR=26
KBA Koelnbreinsper 70.16 340⇓*i*P P **11 23 12.8 +0.8**
KBA pmax pmax
comp=Z,570nm,2.2s,mb6.1
FELD Feldberg im Sc 70.17 344⇓*e*P P **11 23 12.4 +0.3**
HNR Honiara 70.18 186 P P **11 23 12.3 +0.1**
comp=Z,91nm,0.9s,mb5.7,baz=91,slow=10,SNR=3.0
HNR Honiara 70.18 186 P P **11 23 12.3 +0.1**
HNR LR LR
comp=Z,64µm,22.0s,MS6.8
WATA Walderalm 70.19 342⇑*i*P P **11 23 12.7 +0.5**
comp=Z,80nm,1.2s,mb5.5
WATA Walderalm 70.19 342⇑*i*P P **11 23 12.7 +0.5**
WATA pmax pmax
comp=Z,80nm,1.2s,mb5.5
BUC1 Bucharest 70.19 330 P P **11 23 13.1 +0.9**
FLN La Foliniere 70.21 350 *e*P P **11 23 09.8 -2.5**
comp=Z,393nm,1.1s,mb6.0,baz=6.5
FLN *e*R
comp=Z,58µm,20.5s
FLN La Foliniere 70.21 350 *e*P P **11 23 09.8 -2.5**
FLN pmax pmax
comp=Z,197nm,1.1s,mb6.0
FLN MLR MLR
comp=Z,58µm,20.5s,MS6.8
FLN La Foliniere 70.21 350 *e*P P **11 23 09.8 -2.5**
comp=Z,197nm,1.1s,mb6.0
FLN LR LR
comp=Z,58µm,20.5s,MS6.8
SLE Schleitheim 70.21 344⇓P P **11 23 12.4 0.0**
SISB Singen-Schiene 70.23 344 P P **11 23 13.1 +0.7**
WTTA Wattenberg 70.25 342⇑*i*P P **11 23 12.9 +0.3**
comp=Z,409nm,2.3s,mb6.0,SNR=10
WTTA Wattenberg 70.25 342⇑*i*P P **11 23 12.9 +0.3**
WTTA pmax pmax
comp=Z,409nm,2.3s,mb6.0
MOTA Moosalm 70.25 342⇓*i*P P **11 23 12.9 +0.3**
comp=Z,62nm,1.2s,mb5.4,SNR=13
MOTA Moosalm 70.25 342⇓*i*P P **11 23 12.9 +0.3**
MOTA pmax pmax
comp=Z,62nm,1.2s,mb5.4
HAU Haudompre 70.25 345 *e*P P **11 23 11.4 -1.2**
comp=Z,242nm,1.1s,mb5.8
HAU *e*R
comp=Z,65µm,20.8s
HAU Haudompre 70.25 345 *e*P P **11 23 11.4 -1.2**
HAU pmax pmax
comp=Z,121nm,1.1s,mb5.7
HAU MLR MLR
comp=Z,65µm,20.8s,MS6.9
HAU Haudompre 70.25 345 *e*P P **11 23 11.4 -1.2**
comp=Z,121nm,1.1s,mb5.7
HAU LR LR
comp=Z,65µm,20.8s,MS6.9
RHK1 Bakonya 70.26 337⇓*e*P P **11 23 12.9 +0.3**
KOGS Kog 70.26 338 P P **11 23 13.7 +1.0**
MOF Molkenrain 70.31 345⇓*e*P P **11 23 13.1 +0.1**
LDF La Druitiere 70.34 350 *e*P P **11 23 10.6 -2.6**
comp=Z,274nm,1.0s,mb5.8
LDF La Druitiere 70.34 350 *e*P P **11 23 10.6 -2.6**
LDF pmax pmax
comp=Z,137nm,1.0s,mb5.8
LDF La Druitiere 70.34 350 *e*P P **11 23 10.6 -2.6**
comp=Z,137nm,1.0s,mb5.8
SQTA Sankt Quirin 70.36 342⇓*i*P P **11 23 13.8 +0.6**
comp=Z,106nm,1.2s,mb5.6,SNR=13
SQTA Sankt Quirin 70.36 342⇓*i*P P **11 23 13.8 +0.6**
SQTA pmax pmax
comp=Z,106nm,1.2s,mb5.7

HINF Hinteralfeld 70.38 345 *e*P P **11 23 10.9 -2.5**
comp=Z,154nm,1.3s,mb5.5
HINF Hinteralfeld 70.38 345 *e*P P **11 23 10.9 -2.5**
HINF pmax pmax
comp=Z,77nm,1.3s,mb5.5
HINF Hinteralfeld 70.38 345 *e*P P **11 23 10.9 -2.5**
comp=Z,77nm,1.3s,mb5.5
TVAN Van 70.43 315 *i*P P **11 23 15.7 +2.0**
DAVA Damuels 70.49 343⇑*i*P P **11 23 13.7 -0.4**
comp=Z,511nm,3.2s
KVT Kavak 70.50 322 P P **11 23 15.5 +1.4**
SULZ Sulz-Cheisache 70.50 344⇑P P **11 23 14.0 -0.1**
WILA Wila 70.50 344⇑P P **11 23 14.3 +0.2**
OBKA Obir 70.50 339⇓*i*P P **11 23 14.0 -0.1**
comp=Z,485nm,2.2s,mb6.0,SNR=26
BYBT Boyabat 70.52 323 P P **11 23 15.9 +1.6**
BOYT Boyabat 70.53 323 *i*P P **11 23 15.4 +1.2**
ZUR Zurich 70.59 344⇑P P **11 23 14.7 0.0**
GRR Gorron 70.61 351 *e*P P **11 23 12.4 -2.4**
comp=Z,386nm,1.0s,mb6.0
GRR Gorron 70.61 351 *e*P P **11 23 12.4 -2.4**
GRR pmax pmax
comp=Z,193nm,1.0s,mb6.0
GRR Gorron 70.61 351 *e*P P **11 23 12.4 -2.4**
comp=Z,193nm,1.0s,mb6.0
BBS Basel-Blauen 70.64 345 *e*P P **11 23 14.9 -0.1**
DJES Djerdap 70.73 333⇑*i*P P **11 23 15.5 0.0**
BNGL BINGOL 70.81 317 *i*P P **11 23 17.2 +1.2**
ROSF Rostrenen 70.84 352 *e*P P **11 23 14.1 -2.1**
comp=Z,214nm,1.1s,mb5.7
ROSF Rostrenen 70.84 352 *e*P P **11 23 14.1 -2.1**
ROSF pmax pmax
comp=Z,107nm,1.1s,mb5.7
ROSF Rostrenen 70.84 352 *e*P P **11 23 14.1 -2.1**
comp=Z,107nm,1.1s,mb5.7
LOMF Lomont 70.84 345 *e*P P **11 23 13.9 -2.3**
BALT Daday 70.86 324 *i*P P **11 23 17.2 +0.8**
SGMF Saint Gilles 70.87 352 *e*P P **11 23 14.2 -2.2**
comp=Z,226nm,1.2s,mb5.7
SGMF Saint Gilles 70.87 352 *e*P P **11 23 14.2 -2.2**
SGMF pmax pmax
comp=Z,113nm,1.2s,mb5.7
SGMF Saint Gilles 70.87 352 *e*P P **11 23 14.2 -2.2**
comp=Z,113nm,1.2s,mb5.7
PRD Provadia 70.93 329 *i*P P **11 23 17.0 +0.3**
ROBS Robic 70.94 340 *e*P P **11 23 15.9 -0.9**
ROBS *e* 11 23 24.9
LJU Ljubljana 70.96 339 *e*P P **11 23 16.3 -0.6**
LJU *e*S S 11 32 31.2 -0.9
LJU *e* 11 32 58.3
LJU *e*SS SS 11 37 11.8 +6.8
MUO Muotathal 70.97 344⇑P P **11 23 17.4 +0.4**
VIS Vishakhapatnam 71.03 272 *e*P P **11 23 16.8 -0.6**
TOKT Tokat 71.04 321 P P **11 23 19.4 +2.0**
VOY Vojsko 71.08 340 *e*P P **11 23 16.9 -0.7**
VOY *e* 11 23 24.7
VOY *e* 11 23 36.2
VOY *e* 11 24 55.2
TOS Tosya 71.14 323 P P **11 23 20.4 +2.4**
SISC Sisak 71.18 338 *i*P P **11 23 18.6 +0.3**
ZAIG Zacatecas 71.19 77 *i*P P **11 23 20.2 +1.9**
SZH Strazhica 71.23 330 *i*P P **11 23 18.8 +0.2**
QUIF Quistinic 71.25 352 *e*P P **11 23 16.3 -2.4**
comp=Z,193nm,1.1s,mb5.6
QUIF Quistinic 71.25 352 *e*P P **11 23 16.3 -2.4**
QUIF pmax pmax
comp=Z,97nm,1.1s,mb5.7
QUIF Quistinic 71.25 352 *e*P P **11 23 16.3 -2.4**
comp=Z,97nm,1.1s,mb5.6
SVSK Karacayir 71.27 321 P P **11 23 19.8 +1.0**
CEY Cerknica 71.27 339 P P **11 23 19.1 +0.3**
LOR Lormes 71.27 347 *e*P P **11 23 16.6 -2.2**
comp=Z,513nm,1.0s,mb6.1,baz=14
LOR *e*R
comp=Z,56µm,20.2s
LOR Lormes 71.27 347 *e*P P **11 23 16.6 -2.2**
LOR pmax pmax
comp=Z,256nm,1.0s,mb6.1
LOR MLR MLR
comp=Z,56µm,20.3s,MS6.8
LOR Lormes 71.27 347 *e*P P **11 23 16.6 -2.2**
comp=Z,256nm,1.0s,mb6.1
LOR LR LR
comp=Z,56µm,20.3s,MS6.8
CTKT Corum 71.29 323 *i*P P **11 23 20.7 +1.7**
VDL Val di Lei 71.33 343⇑P P **11 23 20.0 +0.8**
SVIS Svilajnac 71.33 334⇑*i*P P **11 23 18.9 -0.3**
SAFT Safranbolu 71.34 324 P P **11 23 20.8 +1.6**
BOJS Bojanci 71.35 339 *e*P P **11 23 19.1 -0.2**
BOJS *e* 11 23 28.3
BTMT Batman 71.38 317 P P **11 23 21.7 +2.3**
HYF Humbligny 71.40 348 *e*P P **11 23 17.7 -1.9**
PVL Pavlikeni 71.42 331 *i*P P **11 23 20.6 +0.9**
CUKT Cukurca 71.51 315 P P **11 23 21.6 +1.4**
SSF Saint Saulge 71.51 347 *e*P P **11 23 18.0 -2.3**
comp=Z,301nm,1.2s,mb5.8
SSF Saint Saulge 71.51 347 *e*P P **11 23 18.0 -2.3**
SSF pmax pmax
comp=Z,150nm,1.2s,mb5.8
SSF Saint Saulge 71.51 347 *e*P P **11 23 18.0 -2.3**
comp=Z,150nm,1.2s,mb5.8
PMG Port Moresby 71.54 199 *e*P P **11 23 19.1 -1.3**
PMG pmax pmax
comp=Z,174nm,1.0s
PMG MLR MLR
comp=Z,26µm,22.0s
PMG Port Moresby 71.54 199 *e*P P **11 23 19.1 -1.3**
comp=Z,174nm,1.0s,mb5.9
PMG LR LR
comp=Z,26µm,22.0s,MS6.5
AKL Akola 71.56 279 *i* x x 11 22 46.6
AKL *i* x x 11 31 47.1
BOLS Boljevac 71.62 333⇑*i*P P **11 23 20.6 -0.3**
CANT Cankiri 71.65 324 P P **11 23 23.4 +2.3**
CABF La Chapelle 71.66 345 *e*P P **11 23 19.2 -2.0**
comp=Z,280nm,1.1s,mb5.8
CABF La Chapelle 71.66 345 *e*P P **11 23 19.2 -2.0**
CABF pmax pmax
comp=Z,140nm,1.1s,mb5.8
CABF La Chapelle 71.66 345 *e*P P **11 23 19.2 -2.0**
comp=Z,140nm,1.1s,mb5.8
LKBD Leukerbad 71.68 344⇑P P **11 23 21.1 -0.2**
BEST Besiri 71.73 317 *i*P P **11 23 22.1 +0.6**
DIVS Divcibare 71.79 335 *i*P P **11 23 21.7 -0.3**
DIVS Divcibare 71.79 335 *e*P P **11 23 21.2 -0.7**
SNG Songkhla 71.79 251 P P **11 23 22.0 0.0**
comp=Z,494nm,1.0s,mb6.4
AVF Avril sur Loir 71.80 347 *e*P P **11 23 19.8 -2.2**
comp=Z,494nm,1.1s,mb6.1
AVF Avril sur Loir 71.80 347 *e*P P **11 23 19.8 -2.2**
AVF pmax pmax
comp=Z,247nm,1.1s,mb6.0
AVF Avril sur Loir 71.80 347 *e*P P **11 23 19.8 -2.2**
comp=Z,247nm,1.1s,mb6.0
ELDT Eldivan 71.82 324 *i*P P **11 23 24.2 +2.1**
JMB Yambol 71.82 329 *i*P P **11 23 22.4 +0.3**
GRUS Gruza 71.83 334⇑*i*P P **11 23 21.4 -0.7**
OG01 Vacheresse 71.86 345 *e*P P **11 23 22.8 +0.4**
SMF Signal de Mont 71.89 347 *e*P P **11 23 20.1 -2.4**
comp=Z,213nm,1.1s,mb5.7
SMF Signal de Mont 71.89 347 *e*P P **11 23 20.1 -2.4**
SMF pmax pmax
comp=Z,107nm,1.1s,mb5.7
SMF Signal de Mont 71.89 347 *e*P P **11 23 20.1 -2.4**
comp=Z,106nm,1.1s,mb5.7
ELZG Elazig 71.93 319 *i*P P **11 23 24.9 +2.1**
MMK Mattmark 71.97 344⇑P P **11 23 23.6 +0.6**
DIX Grande Dixence 72.01 344⇑P P **11 23 24.0 +0.7**
SAL Salo 72.03 342 P P **11 23 23.2 -0.2**
YOZ Yozgat 72.04 322 P P **11 23 25.3 +1.8**
MCGN Macugnaga 72.06 344 P P **11 23 23.9 +0.4**
DIY Diyarbakir 72.07 317 P P **11 23 25.6 +2.0**
BGF Bois d'Agland 72.08 348 *e*P P **11 23 21.6 -2.1**
comp=Z,313nm,1.1s,mb5.8
BGF Bois d'Agland 72.08 348 *e*P P **11 23 21.6 -2.1**
BGF pmax pmax
comp=Z,157nm,1.1s,mb5.8
BGF Bois d'Agland 72.08 348 *e*P P **11 23 21.6 -2.1**
comp=Z,157nm,1.1s,mb5.8
EMV Vieux Emosson 72.09 345⇓P P **11 23 24.4 +0.6**
BBLS Bajina Basta - 72.13 335 *e*P P **11 23 24.9 +0.9**
SGKT Sivrigoynuk 72.13 325 *i*P P **11 23 24.6 +0.6**
NHSC New Hope 72.16 54 *e*P P **11 23 24.5 +0.3**
comp=Z,579nm,1.1s,mb6.4

NHSC LR LR
comp=Z,98µm,19.0s,MS7.1
HENT Hendek 72.22 326 *i*P P **11 23 25.3 +0.8**
MYA Malataya 72.27 319 *e*P P **11 23 26.2 +1.3**
MALT Malatya 72.28 319 P P **11 23 25.2 +0.3**
MALT Malatya 72.28 319⇑*e*P P **11 23 25.9 +1.0**
MALT *e* 11 26 07.3
MALT pmax pmax
comp=Z,208nm,1.3s,mb5.9
MALT Malatya 72.28 319⇑*e*P P **11 23 25.9 +1.0**
comp=Z,208nm,1.3s,mb5.9
MALT *e*PP PP 11 26 07.3 +1.7
MFF Saint Martin d 72.32 350 *e*P P **11 23 23.1 -2.0**
comp=Z,290nm,1.3s,mb5.8
MFF Saint Martin d 72.32 350 *e*P P **11 23 23.1 -2.0**
MFF pmax pmax
comp=Z,145nm,1.3s,mb5.8
MFF Saint Martin d 72.32 350 *e*P P **11 23 23.1 -2.0**
comp=Z,145nm,1.3s,mb5.8
PGB Panagyurishte 72.33 331 *i*P P **11 23 25.6 +0.4**
NVLJ Novalja 72.33 339 *i*P P **11 23 24.2 -1.0**
CDAG Cicekdag 72.34 323 *i*P P **11 23 25.4 +0.2**
EDRB Edirne 72.36 329 P P **11 23 25.5 +0.1**
TCF Toulx Ste Croi 72.41 348 *e*P P **11 23 23.6 -2.1**
comp=Z,247nm,1.0s,mb5.8
TCF Toulx Ste Croi 72.41 348 *e*P P **11 23 23.6 -2.1**
TCF pmax pmax
comp=Z,124nm,1.0s,mb5.8
TCF Toulx Ste Croi 72.41 348 *e*P P **11 23 23.6 -2.1**
comp=Z,124nm,1.0s,mb5.8
MARD Mardin 72.42 317 *i*P P **11 23 26.1 +0.4**
BR131 Keskin Array S 72.46 323 *e*P P **11 23 26.1 +0.2**
comp=Z,96nm,1.0s,mb5.7
BR131 *e*PcP PcP 11 23 48.1 +4.4
BR131 *e*PP PP 11 26 03.0 -4.1
BR131 LR LR
comp=Z,40µm,19.0s,MS6.7
BRTR Keskin Array B 72.46 323 P P **11 23 26.1 +0.1**
comp=Z,90nm,1.0s,mb5.7,baz=42,slow=2.6,SNR=238
BRTR PKPPKP 11 51 09.3
comp=Z,1.2nm,1.0s,baz=163,slow=4.7,SNR=5.2
MDU Mudurnu 72.47 325 P P **11 23 27.3 +1.3**
DIM Dimitrovgrad 72.47 330 *i*P P **11 23 26.8 +0.8**
ISK Istanbul-Kandi 72.50 327 *e*P P **11 23 26.2 0.0**
VTS Vitosha 72.51 332 *i*P P **11 23 25.9 -0.4**
KSM Kuching 72.55 240 *e*P P **11 23 26.5 +0.1**
KSM *e*pP pP 11 23 32.4 +0.9
KSM *e*PP PP 11 26 08.7 +0.9
MSL Mosul 72.55 315 *e*x x 11 23 28.5
MSL *e*x x 11 32 52.0
AGO Saint Agoulin 72.55 347 *e*P P **11 23 26.7 +0.2**
ANTO Ankara 72.57 324⇑*e*P P **11 23 27.5 +0.9**
ANTO pmax pmax
comp=Z,236nm,1.3s,mb6.0
ANTO MLR MLR
comp=Z,72µm,22.0s,MS6.9
ANTO Ankara 72.57 324⇑*e*P P **11 23 27.5 +0.9**
comp=Z,236nm,1.3s,mb6.0
ANTO LR LR
comp=Z,72µm,22.0s,MS6.9
PLDF La Plantade 72.58 347 *e*P P **11 23 26.7 0.0**
ELBA Catalca 72.59 328 *i*P P **11 23 26.9 +0.2**
BNN Bunyan 72.60 321 P P **11 23 28.6 +1.8**
PLD Plovdiv 72.62 331 *i*P P **11 23 27.0 +0.1**
PLE Pljevlja 72.65 335⇓*i*P P **11 23 28.4 +1.4**
LPL La Plagne 72.65 345 *e*P P **11 23 25.9 -1.2**
comp=Z,217nm,1.1s,mb5.7
LPL La Plagne 72.65 345 *e*P P **11 23 25.9 -1.2**
LPL pmax pmax
comp=Z,109nm,1.1s,mb5.7
LPL La Plagne 72.65 345 *e*P P **11 23 25.9 -1.2**
comp=Z,109nm,1.1s,mb5.7
LPG La Plagne 72.67 345 *e*P P **11 23 26.1 -1.1**
comp=Z,275nm,1.0s,mb5.8
LPG La Plagne 72.67 345 *e*P P **11 23 26.1 -1.1**
LPG pmax pmax
comp=Z,138nm,1.0s,mb5.8
LPG La Plagne 72.67 345 *e*P P **11 23 26.1 -1.1**
comp=Z,138nm,1.0s,mb5.8
KAMT Kaman 72.77 323 P P **11 23 29.3 +1.5**
RAVA Ravarino 72.77 341 P P **11 23 29.7 +1.9**
CJM Chamela 72.79 81⇑*i*P P **11 23 29.1 +1.2**
PYM Petit Puy Mans 72.86 347 *e*P P **11 23 29.2 +0.9**
UPM Unac-Piva 72.87 335⇓*i*P P **11 23 28.0 -0.4**
YLV Yalova 72.88 327 P P **11 23 28.1 -0.4**
KDZ Kurdzhali 72.88 330 *i*P P **11 23 29.1 +0.6**
GPA Golpazari 72.89 326 P P **11 23 29.8 +1.3**
BHJ Bhuj 72.89 287 *e*P P **11 23 28.0 -0.6**
ADVT Abdulvahap 72.91 326 P P **11 23 28.5 -0.1**
VERF Verneugheol 72.92 348 *e*P P **11 23 29.3 +0.6**
URFA Urfa 72.95 318 P P **11 23 29.8 +1.0**
AVNT Avonos 72.97 322 *i*P P **11 23 25.9 -3.0**
IVA Berane 72.98 334⇓*i*P P **11 23 30.1 +1.0**
BOB Bobbio (Coli) 73.02 343 P P **11 23 28.8 -0.5**
RZN Rozhen 73.02 331 *i*P P **11 23 29.7 +0.5**
COLF Collangettes 73.02 347 *e*P P **11 23 29.8 +0.5**
GDM Grand'Maison 73.04 345 *e*P P **11 23 30.5 +1.1**
GRN Grenoble 73.05 345 *e*P P **11 23 30.5 +1.1**
IZI Iznik 73.07 326 P P **11 23 30.6 +1.0**
ATAB Bozova 73.09 319 *i*P P **11 23 31.2 +1.5**
BNI Bardonecchia 73.12 345 *e*P P **11 23 30.5 +0.6**
BNI pmax pmax
comp=Z,142nm,1.1s,mb5.8
BNI Bardonecchia 73.12 345 *e*P P **11 23 30.5 +0.6**
comp=Z,142nm,1.1s,mb5.8
ERBM Eremo 73.21 342 P P **11 23 31.7 +1.3**
NKY Niksic 73.22 335⇓*i*P P **11 23 30.2 -0.3**
MFT Murefte 73.22 328 P P **11 23 31.4 +0.9**
BRY Bratogost 73.23 335 *e*P P **11 23 29.4 -1.2**
KKB Krupnik 73.23 332 *i*P P **11 23 30.9 +0.4**
GSCL Gusciola 73.25 342 P P **11 23 31.7 +1.1**
FRNF Fournols 73.27 348 *e*P P **11 23 29.9 -0.8**
ULDT Uludag 73.34 327 *i*P P **11 23 31.5 +0.4**
MMB Musomiste 73.34 331 *i*P P **11 23 31.8 +0.6**
RKY Sarkoy-Tekirda 73.34 328 P P **11 23 32.0 +0.8**
FNVD Fontana Vidola 73.35 341 P P **11 23 32.4 +1.2**
LBL Lubilhac 73.35 347 *e*P P **11 23 32.2 +1.0**
ORIF Oris-en-Rattie 73.35 345 *e*P P **11 23 29.8 -1.4**
comp=Z,104nm,0.9s,mb5.4
ORIF *e*R
comp=Z,43µm,19.8s
ORIF Oris-en-Rattie 73.35 345 *e*P P **11 23 29.8 -1.4**
ORIF pmax pmax
comp=Z,52nm,0.9s,mb5.5
ORIF Oris-en-Rattie 73.35 345 *e*P P **11 23 29.8 -1.4**
comp=Z,52nm,0.9s,mb5.5
RSM Repubblica di 73.36 340 P P **11 23 32.3 +1.0**
SEI Scarperia 73.42 341 P P **11 23 33.5 +1.9**
MBDF Montbardon 73.42 345 *e*P P **11 23 30.0 -1.7**
comp=Z,119nm,0.9s,mb5.5
MBDF Montbardon 73.42 345 *e*P P **11 23 30.0 -1.7**
MBDF pmax pmax
comp=Z,59nm,0.9s,mb5.5
MBDF Montbardon 73.42 345 *e*P P **11 23 30.0 -1.7**
comp=Z,60nm,0.9s,mb5.5
STON Ston 73.43 336 *i*P P **11 23 30.3 -1.4**
GZT Gaziantep 73.43 319 *i*P P **11 23 33.8 +2.0**
ALN Alexandroupoli 73.44 329 *e*P P **11 23 31.3 -0.4**
KULM Kulim 73.44 250⇑*e*P P **11 23 30.7 -1.1**
ESKT Eskisehir 73.45 325 *i*P P **11 23 32.1 +0.3**
RJF Les Rejaudoux 73.46 348 *e*P P **11 23 29.8 -2.1**
comp=Z,241nm,1.1s,mb5.7
RJF *e*R
comp=Z,69µm,19.8s
RJF Les Rejaudoux 73.46 348 *e*P P **11 23 29.8 -2.1**
RJF pmax pmax
comp=Z,121nm,1.1s,mb5.7
RJF MLR MLR
comp=Z,69µm,19.8s,MS6.9
RJF Les Rejaudoux 73.46 348 *e*P P **11 23 29.8 -2.1**
comp=Z,121nm,1.1s,mb5.7
RJF LR LR
comp=Z,69µm,19.8s,MS6.9
VLC Villacollemand 73.47 342 *e*P P **11 23 31.4 -0.5**
comp=Z,169nm,1.1s,mb5.9
VLC *e*pP pP 11 23 37.1 +0.1
VMG Vicchio 73.48 341 P P **11 23 32.9 +0.9**
ORLT Orhaneli 73.50 327 P P **11 23 33.6 +1.5**
SKO Skopje 73.50 333 *e*P P **11 23 33.2 +1.1**
SKO Skopje 73.50 333⇑*i*P P **11 23 32.9 +0.7**
BDI Bagni Di Lucca 73.53 342 P P **11 23 32.2 -0.1**
TTG Podgorica 73.54 335⇓*i*P P **11 23 31.4 -0.9**
AOI Ancona 73.54 339 P P **11 23 32.4 +0.1**

VIVF Saint-Julien-I 73.56 346 *e*P **P 11 23 30.7 -1.8**
comp=Z,159nm,1.0s,mb5.6
VIVF Saint-Julien-I 73.56 346 *e*P **P 11 23 30.7 -1.8**
VIVF pmax pmax
comp=Z,79nm,1.0s,mb5.6
VIVF Saint-Julien-I 73.56 346 *e*P **P 11 23 30.7 -1.8**
comp=Z,79nm,1.0s,mb5.6
DOI San Damiano 73.58 344 P **P 11 23 31.7 -0.9**
STIP Stip 73.60 332 *e*P **P 11 23 27.8 -4.9**
HYB Hyderabad 73.62 276⇑ *i*P **P 11 23 31.0 -1.8**
comp=Z,200nm,1.2s,mb5.9
HYB *e*sP sP 11 23 42.0 +2.2
HYB *e*PcP PcP 11 23 49.5 +0.8
HYB *e*PP PP 11 26 18.0 +1.1
HYB *e*S S 11 33 02.0 -0.6
HYB *e*ScS ScS 11 33 37.5 -4.0
HYB *e*SS SS 11 37 50.0 +4.3
HYB LR LR 11 57 54.0
comp=Z,113nm,18.0s
HYB Hyderabad 73.62 276⇓ *e*P **P 11 23 31.0 -1.8**
HYB *e*S S 11 33 04.0 +1.4
HYB pmax pmax
comp=Z,140nm,1.0s,mb5.8
HYB Hyderabad 73.62 276⇑ *e*P **P 11 23 31.0 -1.8**
comp=Z,140nm,1.0s,mb5.8
HYB *e*S S 11 33 04.0 +1.4
SURF Saint Ours 73.66 344 *e*P **P 11 23 34.4 +1.3**
HCY Herceg Novi 73.68 335⇓ *i*P **P 11 23 32.5 -0.7**
ARV Arcevia 73.70 340 P **P 11 23 32.9 -0.4**
GAZ Gaziantep 73.71 319 P **P 11 23 35.6 +2.3**
LATR Latur 73.73 279 *e*P **P 11 23 33.3 -0.2**
BUM Brajici-Budva 73.73 335⇓ *i*P **P 11 23 32.2 -1.3**
FIN Finale Ligure 73.74 343 P **P 11 23 33.0 -0.5**
OCF Saint Nazaire 73.76 346 *e*P **P 11 23 34.9 +1.3**
OG26 St.-Nazaire-De 73.76 346 *e*P **P 11 23 34.9 +1.3**
CAF Calviac 73.78 348 *e*P **P 11 23 32.2 -1.5**
comp=Z,279nm,1.1s,mb5.8
CAF Calviac 73.78 348 *e*P **P 11 23 32.2 -1.5**
CAF pmax pmax
comp=Z,139nm,1.1s,mb5.8
CAF Calviac 73.78 348 *e*P **P 11 23 32.2 -1.5**
comp=Z,139nm,1.1s,mb5.8
BADI Badiali 73.81 340 P **P 11 23 34.3 +0.4**
KOZT Kozan 73.87 321 P **P 11 23 34.9 +0.6**
OG25 Le Caire 73.87 345 *e*P **P 11 23 35.2 +0.9**
VAY Valandovo 73.87 332 *e*P **P 11 23 33.9 -0.4**
VAY Valandovo 73.87 332⇑ *i*P **P 11 23 34.2 0.0**
VAY Valandovo 73.87 332 P **P 11 23 34.6 +0.3**
PII Pisa 73.87 342 P **P 11 23 33.3 -1.0**
LFF La Frestale 73.89 349 *e*P **P 11 23 32.6 -1.8**
comp=Z,413nm,1.2s,mb5.9
LFF La Frestale 73.89 349 *e*P **P 11 23 32.6 -1.8**
LFF pmax pmax
comp=Z,206nm,1.2s,mb5.9
LFF La Frestale 73.89 349 *e*P **P 11 23 32.6 -1.8**
comp=Z,206nm,1.2s,mb5.9
KNT Kendrikon 73.94 332 *e*P **P 11 23 34.9 +0.2**
IPM Ipoh 73.98 250 P **P 11 23 35.1 +0.2**
DST Dursunbey 73.98 327 P **P 11 23 36.1 +1.2**
ULC Ulcinj 73.99 335⇓ *i*P **P 11 23 32.3 -2.7**
BTOK Tokmak 73.99 327 *i*P **P 11 23 36.0 +1.1**
MURB Monte Urbino 74.00 340 P **P 11 23 36.1 +1.1**
SAOF Saorge 74.05 344 *e*P **P 11 23 35.2 -0.1**
AUTN L'Aution 74.06 344 *e*P **P 11 23 35.5 +0.1**
IMI Imperia 74.08 344 P **P 11 23 35.4 -0.1**
ALT Altintas 74.09 326 P **P 11 23 36.8 +1.2**
BALB Balikesir 74.15 327 P **P 11 23 35.8 -0.1**
SOH Sokhos 74.16 331 *e*P **P 11 23 35.6 -0.4**
LUCF Luceram 74.17 344 *e*P **P 11 23 35.5 -0.5**
SBF Sospel 74.19 344 *e*P **P 11 23 34.0 -2.1**
comp=Z,452nm,1.2s,mb6.0
SBF Sospel 74.19 344 *e*P **P 11 23 34.0 -2.1**
SBF pmax pmax
comp=Z,226nm,1.2s,mb6.0
SBF Sospel 74.19 344 *e*P **P 11 23 34.0 -2.1**
comp=Z,226nm,1.2s,mb6.0
MVIF Mont Vial 74.19 344 *e*P **P 11 23 36.6 +0.4**
GRG Griva 74.25 332 *e*P **P 11 23 37.0 +0.4**
KARA Karaisali 74.31 321 P **P 11 23 37.0 +0.2**
REVF Revere 74.32 344 *e*P **P 11 23 35.2 -1.7**
NRCA Norcia 74.32 339 P **P 11 23 37.0 +0.1**
SMRF Simiane la Rot 74.32 345 *e*P **P 11 23 35.7 -1.2**
comp=Z,198nm,1.1s,mb5.7
SMRF Simiane la Rot 74.32 345 *e*P **P 11 23 35.7 -1.2**
comp=Z,198nm,1.1s,mb6.0
CEYT Ceyhan 74.32 320 P **P 11 23 37.7 +0.8**
GRFL Gerfalco 74.36 341 P **P 11 23 36.8 -0.4**
CALN Calern 74.37 344 *e*P **P 11 23 36.2 -1.0**
VILF Villemus 74.42 345⇓ *e*P **P 11 23 38.6 +1.1**
LASF Ste Croix 74.42 347 *e*P **P 11 23 36.3 -1.2**
comp=Z,110nm,1.0s,mb5.4
THE Thessaloniki 74.43 331 *e*P **P 11 23 37.2 -0.4**
TERO Teramo 74.44 339 P **P 11 23 38.1 +0.5**
BIA Bitola 74.44 333 *i*P **P 11 23 37.5 -0.1**
TIR Tirane 74.44 334 P **P 11 23 38.2 +0.6**
OUR Ouranopolis 74.47 331 *e*P **P 11 23 37.5 -0.3**
KONT Konya--Tatoy 74.48 323 *e*P **P 11 23 39.1 +1.2**
MOIG Morelia 74.50 78 *i*P **P 11 23 39.5 +1.6**
PRAF Pradon 74.54 346⇓ *e*P **P 11 23 39.5 +1.3**
LOS Limnos 74.58 330 *e*P **P 11 23 39.3 +0.8**
FRF La Foret Royal 74.59 344 *e*P **P 11 23 36.1 -2.4**
comp=Z,97nm,1.1s,mb5.3
FRF La Foret Royal 74.59 344 *e*P **P 11 23 36.1 -2.4**
FRF pmax pmax
comp=Z,49nm,1.1s,mb5.3
FRF La Foret Royal 74.59 344 *e*P **P 11 23 36.1 -2.4**
comp=Z,49nm,1.1s,mb5.3
TAVF Tavernes 74.61 345 *e*P **P 11 23 39.4 +0.8**
COBT Iskenderun 74.61 320 *i*P **P 11 23 39.8 +1.1**
FNA Florina 74.65 333 *e*P **P 11 23 38.8 -0.1**
TREF Trevaresse 74.69 345⇓ *e*P **P 11 23 40.5 +1.5**
AQU L'Aquila 74.73 339⇓ *e*P **P 11 23 39.9 +0.6**
AQU pmax pmax
comp=Z,234nm,1.1s,mb6.0
AQU L'Aquila 74.73 339⇑ *e*P **P 11 23 39.9 +0.5**
comp=Z,234nm,1.1s,mb6.0
PUYF Puyloubier 74.74 345⇓ *e*P **P 11 23 40.7 +1.4**
AYVA Ayvalik 74.77 328 *i*P **P 11 23 40.2 +0.6**
BHD Baghdad 74.81 312 *ex* x 11 23 39.0
BHD *ex* x 11 23 45.5
BHD *ex* x 11 24 16.0
BHD *ex* x 11 33 15.0
BHD *ex* x 11 34 14.0
LMR La Mourre 74.83 344 *e*P **P 11 23 37.8 -2.1**
comp=Z,114nm,1.1s,mb5.4
LMR La Mourre 74.83 344 *e*P **P 11 23 37.8 -2.1**
LMR pmax pmax
comp=Z,57nm,1.1s,mb5.4
LMR La Mourre 74.83 344 *e*P **P 11 23 37.8 -2.1**
comp=Z,57nm,1.1s,mb5.4
MERS Mersin 74.83 321 *e*P **P 11 23 39.6 -0.3**
KRTS Karatas 74.84 321 *e*P **P 11 23 41.0 +1.1**
AKS Akhisar 74.88 327 *e*P **P 11 23 40.4 +0.2**
FGMS Monte Sant'Ang 74.89 337 P **P 11 23 40.0 -0.2**
GELF Grande-Etoile 74.92 345⇓ *e*P **P 11 23 41.6 +1.2**
PAIG Paliouri 74.93 331 *e*P **P 11 23 39.9 -0.6**
KHL Karahalli 74.94 326 *e*P **P 11 23 41.6 +1.1**
POO Poona 74.95 281⇓ *i*P **P 11 23 39.0 -1.5**
comp=Z,120nm,1.0s,mb5.8
POO *i* x x 11 28 16.5
POO *i* S S 11 33 20.0 +2.5
POO *i* x x 11 41 28.0
INTR Introdacqua 74.98 339 P **P 11 23 39.9 -0.8**
TKTP Tekketepe 74.98 325 *i*P **P 11 23 40.8 +0.1**
RGNG Rignano Grg 75.00 337 P **P 11 23 41.1 +0.3**
HTY Hatay 75.02 320 *e*P **P 11 23 42.6 +1.7**
LIT Litokhoron 75.05 332 *e*P **P 11 23 40.0 -1.2**
ISP Isparta 75.11 325 *e*P **P 11 23 42.1 +0.7**
ISP Isparta 75.11 325⇑ *e*P **P 11 23 41.4 -0.1**
ISP *e* 11 26 28.6
ISP pmax pmax
comp=Z,232nm,1.3s,mb6.0
ISP Isparta 75.11 325⇑ *e*P **P 11 23 41.4 -0.1**
comp=Z,232nm,1.3s,mb6.0
ISP *e*PP PP 11 26 28.6 -1.0
KGM Kluang 75.11 246 P **P 11 23 41.9 +0.4**
BOM Bombay 75.13 282 *e*P **P 11 23 40.8 -0.8**
CIGN Sant'Elia a Pi 75.14 338 P **P 11 23 41.5 -0.2**
CII Carovilli 75.19 338 P **P 11 23 42.7 +0.8**
CERT Cerreto 75.20 339 P **P 11 23 42.2 +0.2**
MEST Erdemli 75.21 322 *i*P **P 11 23 42.7 +0.7**
RNI2 Rionero Sannit 75.23 338 P **P 11 23 43.0 +0.8**

PGF Pioggiola 75.25 342 *e*P **P 11 23 40.1 -2.2**
comp=Z,130nm,1.0s,mb5.5
PGF Pioggiola 75.25 342 *e*P **P 11 23 40.1 -2.2**
PGF pmax pmax
comp=Z,65nm,1.0s,mb5.5
PGF Pioggiola 75.25 342 *e*P **P 11 23 40.1 -2.2**
comp=Z,65nm,1.0s,mb5.5
TOLF Tolfa 75.25 340 P **P 11 23 42.2 -0.1**
MIDA Miranda 75.27 338 P **P 11 23 42.9 +0.5**
SDI San Donato 75.29 339 P **P 11 23 42.0 -0.5**
GUAR Guarcino 75.29 339 P **P 11 23 43.3 +0.8**
MTLF Montolieu 75.33 348 *e*P **P 11 23 41.3 -1.4**
comp=Z,263nm,1.2s,mb5.7
MTLF Montolieu 75.33 348 *e*P **P 11 23 41.3 -1.4**
MTLF pmax pmax
comp=Z,131nm,1.2s,mb5.7
MTLF Montolieu 75.33 348 *e*P **P 11 23 41.3 -1.4**
comp=Z,131nm,1.2s,mb5.7
RDP Rocca di Papa 75.43 339 P **P 11 23 42.4 -0.9**
BCK Bucak 75.44 325 *e*P **P 11 23 44.1 +0.7**
CORF Corte 75.47 342⇓ *e*P **P 11 23 44.0 +0.4**
IZM Izmir 75.48 327 *e*P **P 11 23 44.1 +0.5**
SGG Gregorio Mates 75.50 338 P **P 11 23 43.0 -0.7**
ERMK Ermenek 75.53 322 *i*P **P 11 23 42.2 -1.7**
FG4 Candela 75.53 337 P **P 11 23 44.1 +0.2**
PSB1 Pescosannita 75.58 338 P **P 11 23 44.5 +0.3**
XOR Xorichti 75.58 331 *e*P **P 11 23 43.2 -1.0**
DENT Denizli 75.60 326 *e*P **P 11 23 45.5 +1.2**
RFI Roccamonfina 75.65 338 P **P 11 23 45.2 +0.6**
IKL Isikli 75.67 322 *e*P **P 11 23 45.0 +0.3**
URLA Izmir 75.69 328 *i*P **P 11 23 43.7 -1.1**
UNM Universidad Na 75.75 76 *e*P **P 11 23 49.0 +3.8**
LCI Lecce 75.79 335 P **P 11 23 45.6 +0.2**
EALK Alkurruntz 75.80 350 P **P 11 23 45.2 -0.2**
CHOS Chios island 75.80 328 *e*P **P 11 23 44.0 -1.4**
EPF Esparros 75.82 349 *e*P **P 11 23 43.4 -2.2**
comp=Z,157nm,1.0s,mb5.6
EPF Esparros 75.82 349 *e*P **P 11 23 43.4 -2.2**
EPF pmax pmax
comp=Z,79nm,1.0s,mb5.6
EPF Esparros 75.82 349 *e*P **P 11 23 43.4 -2.2**
comp=Z,79nm,1.0s,mb5.6
MLS Moulis 75.82 348 *e*P **P 11 23 46.8 +1.2**
LABF Labassere 75.83 349 *e*P **P 11 23 45.5 -0.1**
ELIZ Elizondo 75.85 350 P **P 11 23 46.1 +0.4**
ELIZ pmax pmax
comp=Z,26nm,0.8s,mb5.2
ELIZ Elizondo 75.85 350 P **P 11 23 46.1 +0.3**
comp=Z,26nm,0.8s,mb5.2
CSSN Cassano Irpino 75.89 338 P **P 11 23 46.5 +0.6**
MRLC Muro Lucano 75.90 337 P **P 11 23 46.1 +0.1**
ELAN Lanestosa 75.93 352 P **P 11 23 46.9 +0.7**
comp=Z,278nm,1.3s,mb6.0
MELF Melles 75.94 349 *e*P **P 11 23 46.6 +0.4**
EARI Arriondas 75.97 353 P **P 11 23 46.0 -0.4**
comp=Z,184nm,1.3s,mb5.8
VIEF Viey 76.00 349 *e*P **P 11 23 47.8 +1.2**
AYDN Tasoluk 76.00 327 *i*P **P 11 23 47.0 +0.4**
SALF Salau 76.01 348 *e*P **P 11 23 47.3 +0.7**
PTRP Pietrapertosa 76.02 337 P **P 11 23 47.5 +0.8**
ETSF Etsaut 76.03 350 *e*P **P 11 23 45.5 -1.3**
comp=Z,440nm,1.2s,mb6.0
ETSF Etsaut 76.03 350 *e*P **P 11 23 45.5 -1.3**
ETSF pmax pmax
comp=Z,220nm,1.2s,mb6.0
ETSF Etsaut 76.03 350 *e*P **P 11 23 45.5 -1.3**
comp=Z,220nm,1.2s,mb6.0
RESF Ens 76.04 349 *e*P **P 11 23 48.5 +1.7**
EPON Pontenova 76.05 355 P **P 11 23 45.4 -1.4**
comp=Z,232nm,1.7s,mb5.8
DWPF Disney 76.06 57 *e*P **P 11 23 46.9 -0.1**
comp=Z,189nm,0.9s,mb6.0
DWPF LR LR
comp=Z,77µm,21.0s,MS7.0
FILF Fillols 76.06 347 *e*P **P 11 23 47.1 +0.1**
IGT Igoumenitsa 76.08 333 *e*P **P 11 23 47.9 +0.8**
AGG Agios Georgios 76.11 331 *e*P **P 11 23 45.6 -1.6**
SGO Sicignano 76.12 337 P **P 11 23 47.5 +0.2**
EJON La Jonquera 76.14 347 P **P 11 23 48.1 +0.7**
comp=Z,56nm,1.1s,mb5.4
ZIIG Zihuatanejo 76.14 79 *i*P **P 11 23 48.1 +0.7**
EBIE Bielsa 76.18 349 P **P 11 23 48.6 +1.0**
comp=Z,115nm,1.2s,mb5.7
SLCN Sala Consilina 76.23 337 P **P 11 23 48.2 +0.3**
VALF Valcebollere 76.28 348 *e*P **P 11 23 49.4 +1.2**
ELL Elmali 76.30 325 *e*P **P 11 23 49.0 +0.6**
MLSB Milas 76.38 327 *e*P **P 11 23 48.2 -0.5**
ORI Oriolo Calabro 76.38 336 P **P 11 23 49.8 +1.0**
YER Yerkesik 76.39 326 *e*P **P 11 23 49.5 +0.7**
PLIG Platanillo 76.41 77 *i*P **P 11 23 49.2 +0.3**
PSI Prapat 76.42 251 LR LR 11 58 07.6
comp=Z,117µm,19.5s,MS7.2,baz=8.6,slow=36
MGR Morigerati 76.49 337 P **P 11 23 48.9 -0.5**
STS Santiago 76.54 356 P **P 11 23 49.9 +0.2**
STS pmax pmax
comp=Z,101nm,1.2s,mb5.6
STS Santiago 76.54 356 P **P 11 23 49.9 +0.2**
comp=Z,101nm,1.2s,mb5.6
AFI Afiamalu 76.61 158 *e*P **P 11 23 49.1 -1.0**
AFI pmax pmax
comp=Z,99nm,1.0s,mb5.7
AFI MLR MLR
comp=Z,12µm,20.0s,MS6.2
AFI Afiamalu 76.61 158 *e*P **P 11 23 49.1 -1.0**
comp=Z,99nm,1.0s,mb5.7
AFI LR LR
comp=Z,12µm,20.0s,MS6.2
DALT Dalyan (Mudla) 76.64 326 *e*P **P 11 23 50.8 +0.6**
FETY Fethiye 76.64 325 *e*P **P 11 23 49.6 -0.6**
EGRA Graus 76.65 349 P **P 11 23 51.5 +1.2**
comp=Z,145nm,1.2s,mb5.8
PHNC Paralimni 76.70 321 P **P 11 23 51.4 +0.8**
BODT Bodrum 76.72 327 *e*P **P 11 23 50.0 -0.7**
LKD Levkas 76.80 333 *e*P **P 11 23 50.6 -0.5**
MIB Mutribah 76.81 308 *e*P **P 11 23 51.1 -0.1**
MIB AMb AMB 11 23 54.0
comp=Z,512nm,1.2s,mb6.3
EMIR Miracle 76.81 348 P **P 11 23 51.5 +0.4**
comp=Z,85nm,1.7s,mb5.4
UMR Umm Al-Rimmam 76.88 308 *e*P **P 11 23 51.3 -0.3**
UMR AMb AMB 11 23 54.3
comp=Z,362nm,1.1s,mb6.2
CSS Prodhromos 76.96 322 P **P 11 23 51.5 -0.5**
comp=Z,2.9nm,1.5s
DAT Datca 76.96 327 *e*P **P 11 23 51.3 -0.8**
ERUA La Rua 76.98 355 P **P 11 23 52.4 +0.3**
ERUA pmax pmax
comp=Z,76nm,1.1s,mb5.5
ERUA La Rua 76.98 355 P **P 11 23 52.4 +0.3**
comp=Z,76nm,1.1s,mb5.5
ALFC Alevga 77.00 322 P **P 11 23 52.2 -0.1**
TIP Timpagrande 77.18 336 *e*P **P 11 23 53.2 0.0**
APE Apeiranthos 77.18 328 *e*P **P 11 23 52.3 -1.0**
APE Apeiranthos 77.18 328*c i*P **P 11 23 52.1 -1.2**
APE Apeiranthos 77.18 328 P **P 11 23 53.0 -0.3**
ESAC San Caprasio 77.19 349 P **P 11 23 53.9 +0.5**
comp=Z,101nm,1.3s,mb5.6
CAIG El Cayaco 77.19 78 *i*P **P 11 23 55.4 +2.0**
AKMC Akamas 77.20 322 P **P 11 23 53.2 -0.2**
BHL Bhannes 77.21 319 *e*P **P 11 23 53.9 +0.5**
KBD Kabd 77.23 308 *e*P **P 11 23 53.3 -0.3**
KBD AMb AMB 11 23 56.5
comp=Z,977nm,1.3s,mb6.6
EZAM Zamans 77.28 356 P **P 11 23 55.0 +1.1**
EZAM pmax pmax
comp=Z,59nm,0.8s,mb5.6
EZAM Zamans 77.28 356 P **P 11 23 55.0 +1.1**
comp=Z,59nm,0.8s,mb5.6
PPCY Paphos 77.33 322 P **P 11 23 53.5 -0.6**
NAY Al-Naaiem 77.34 308 *e*P **P 11 23 53.9 -0.3**
NAY AMb AMB 11 23 56.9
comp=Z,330nm,1.2s,mb6.2
DGI Dorgali Grotta 77.34 342 P **P 11 23 54.3 +0.1**
ECAL Calabor 77.41 354 P **P 11 23 54.8 +0.2**
comp=Z,91nm,1.2s,mb5.6
EPOB Poblet 77.41 348 P **P 11 23 54.8 +0.2**
comp=Z,54nm,1.2s,mb5.3
RDF Al-Radifah 77.51 308 *e*P **P 11 23 55.1 0.0**
RDF AMb AMB 11 23 58.1
comp=Z,766nm,1.3s,mb6.5
ACX Acapulco 77.52 78 *i*P **P 11 23 56.0 +0.8**
QRN Al-Qurain 77.53 307 *e*P **P 11 23 55.1 -0.1**
QRN AMb AMB 11 23 58.2
comp=Z,463nm,1.1s,mb6.3

PBRG Braganca 77.55 354 *e*P **P 11 23 54.8 -0.5**
comp=Z,110nm,1.3s,mb5.6
GOA Goa 77.57 279 *i*P **P 11 23 55.5 +0.1**
GRI Girifalco 77.59 336 P **P 11 23 55.4 -0.2**
PCAB Cabril 77.70 355 *e*P **P 11 23 56.8 +0.6**
comp=Z,150nm,1.3s,mb5.8
ASHO Ashiyiah 77.78 299⇓ P **P 11 23 55.6 -1.0**
SNR=8.3
SANT Santorini 77.86 328 *e*P **P 11 23 55.2 -1.8**
comp=Z,134nm,1.2s,mb5.8
SANT *e*pP pP 11 24 01.4 -0.7
ERTA Horta de San J 77.88 349 P **P 11 23 57.6 +0.5**
comp=Z,158nm,1.4s,mb5.8
WSAR Wadi Sarin 77.93 296 LR LR 12 06 01.4
comp=Z,73µm,18.9s,MS7.0,baz=204,slow=42
KAKA Kakadu 77.94 213⇑ *i*P **P 11 23 56.1 -1.4**
comp=Z,149nm,0.9s,mb5.9
EBR Ebro Roquetas 78.00 349 *e*P **P 11 23 58.5 +0.7**
PVRL Vila Real 78.12 355 *e*P **P 11 23 58.6 +0.1**
comp=Z,223nm,1.0s,mb6.0
VSL Villasalto 78.18 342 *e*P **P 11 23 58.3 -0.6**
comp=Z,83nm,1.1s,mb5.6
CEL Celeste 78.24 336 P **P 11 23 58.0 -1.2**
SCLL Scilla 78.28 336 P **P 11 23 58.4 -1.0**
PTO Porto 78.29 356 *e*P **P 11 24 00.3 +0.8**
comp=Z,225nm,1.3s,mb5.9
EVV El Vigia 78.31 73 *e*P **P 11 24 01.0 +1.4**
USI Ustica 78.31 338 P **P 11 24 00.2 +0.6**
WBK Wadi Bani Khal 78.33 295⇓ P **P 11 23 59.9 +0.2**
SNR=12
SMDO Samad 78.34 296⇓ P **P 11 23 59.2 -0.5**
SNR=10
SOI Samo 78.39 336 P **P 11 23 58.6 -1.4**
ASF Jabal al Asfar 78.40 318 LR LR 12 04 17.9
comp=Z,40µm,18.9s,MS6.8,baz=69,slow=40
BBSR BB Station 78.43 42 *e*P **P 11 23 59.6 -0.6**
comp=Z,311nm,1.1s,mb6.2
BBSR *e*PcP PcP 11 24 09.8 +0.3
BBSR LR LR
comp=Z,45µm,20.0s,MS6.8
MTTG Motta San Giov 78.52 336 P **P 11 23 59.9 -0.9**
EMOS Mosqueruela 78.54 349 P **P 11 24 00.6 -0.2**
comp=Z,42nm,1.1s,mb5.3
GUD Guadarrama 78.55 352 P **P 11 24 01.4 +0.5**
GUD pmax pmax
comp=Z,145nm,1.5s,mb5.7
GUD Guadarrama 78.55 352 P **P 11 24 01.4 +0.5**
comp=Z,145nm,1.5s,mb5.7
OFRI 'Ofer 78.61 319 P **P 11 24 02.1 +0.9**
MMLI Mount Malkishu 78.64 319 P **P 11 24 02.5 +1.1**
PVIS Viseu 78.68 355 *e*P **P 11 24 01.1 -0.5**
comp=Z,156nm,1.1s,mb5.8
ARQ Araqi 78.76 298⇑ P **P 11 24 01.2 -0.8**
SNR=18
PNIG Pinotepa 78.78 77 *i*P **P 11 24 04.0 +1.8**
ETOS Mallorca 78.80 347 P **P 11 24 02.4 +0.2**
comp=Z,90nm,2.0s,mb5.3
OXX Oaxaca 78.86 75 *e*P **P 11 24 05.0 +2.4**
VHO Vista Hermosa 78.86 75 *i*P **P 11 24 05.0 +2.4**
CSLB Castelbuono 78.90 338 P **P 11 24 02.9 +0.1**
JMDO Jabal Madar 78.92 296⇑ P **P 11 24 02.1 -0.9**
SNR=29
SLTI Sal'it 78.94 319 P **P 11 24 04.0 +1.0**
MTE Manteigas 78.98 355 *e*P **P 11 24 03.2 -0.1**
comp=Z,172nm,1.2s,mb5.9
MTE *e*S S 11 34 02.6 +1.1
MTE *e*SS SS 11 38 59.3 -7.5
MTE *e*LQ 11 45 03.0
MTE *e*LR LR 11 50 38.0
comp=Z,37µm,19.8s
MTE Manteigas 78.98 355 *e*P **P 11 24 03.2 -0.1**
comp=Z,295nm,1.3s,mb6.1
BSY Bisya 78.99 297⇓ P **P 11 24 02.5 -0.8**
SNR=23
IDI Anoyia 79.03 328 LR LR 12 04 20.2
comp=Z,66µm,18.8s,MS7.0,baz=196,slow=40
ERC Erice 79.07 339 P **P 11 24 05.0 +1.2**
TUIG Tuzandepetl 79.11 73 *i*P **P 11 24 03.7 -0.3**
MNGI Mangalore 79.28 277 *e*P **P 11 24 03.7 -1.2**
AGST Augusta-Monte 79.34 336 P **P 11 24 04.6 -0.6**
ECHE Chera 79.35 350 P **P 11 24 06.2 +0.9**
ECHE pmax pmax
comp=Z,111nm,1.0s,mb5.8
ECHE Chera 79.35 350 P **P 11 24 06.2 +0.9**
comp=Z,111nm,1.0s,mb5.7
DRGI Dragot 79.42 319 P **P 11 24 06.6 +0.9**
SSY Sortino 79.47 337 P **P 11 24 05.4 -0.5**
ESDC Sonseca Array 79.50 352 P **P 11 24 05.8 -0.4**
comp=Z,95nm,1.0s,mb5.7,baz=5.2,slow=5.3,SNR=98
ESDC Sonseca Array 79.50 352 P **P 11 24 05.7 -0.4**
comp=Z,146nm,1.2s,mb5.8
ESLA Sonseca Array 79.50 352 *e*P **P 11 24 06.4 +0.3**
comp=Z,40nm,1.1s,mb5.3
ESLA LR LR
comp=Z,244µm,21.0s,MS7.5
HVZN Vizzini 79.51 337 P **P 11 24 05.7 -0.5**
PCBR Castelo Branco 79.54 355 *e*P **P 11 24 05.8 -0.5**
comp=Z,238nm,1.3s,mb6.0
HAVL Avola 79.64 336 P **P 11 24 07.6 +0.7**
GVD Gavdhos 79.66 329 *e*P **P 11 24 07.2 +0.2**
comp=Z,310nm,1.0s,mb6.2
EIBI Ibiza 79.69 348 P **P 11 24 07.8 +0.7**
comp=Z,84nm,1.3s,mb5.5
MZDA Masada 79.69 319 P **P 11 24 08.1 +0.9**
HMDC Modica 79.71 337 P **P 11 24 07.4 +0.1**
PTOM Tomar 79.80 355 *e*P **P 11 24 08.2 +0.5**
comp=Z,224nm,1.2s,mb6.0
SOR Soroa 80.09 61 *e*P **P 11 24 10.8 +1.5**
EBEN Beniarda 80.16 349 P **P 11 24 10.5 +0.8**
comp=Z,177nm,1.3s,mb5.8
HUIG Huatulco 80.28 75 *i*P **P 11 24 11.5 +1.2**
ADH Angra Heroismo 80.30 10 *e*P **P 11 24 25.0 +15**
ADH Angra Heroismo 80.30 10 *e*PP PP 11 27 27.5 +14
ADH *i*S S 11 34 30.0 +15
ADH *i* 11 35 27.5
ADH *i*SS SS 11 39 22.5 -4.1
ADH Angra Heroismo 80.30 10 *i*LR LR 11 50 15.0
ETOB Tobarra 80.34 350 P **P 11 24 11.1 +0.5**
comp=Z,85nm,1.1s,mb5.6
KZIT Kziot 80.38 319 P **P 11 24 11.5 +0.6**
EVIA Vianos 80.43 351 P **P 11 24 12.2 +1.1**
EVIA pmax pmax
comp=Z,126nm,1.2s,mb5.7
EVIA Vianos 80.43 351 P **P 11 24 12.2 +1.1**
comp=Z,126nm,1.2s,mb5.7
ZFRI Zfri 80.45 318 P **P 11 24 12.0 +0.8**
EBAD Badajoz 80.60 354 P **P 11 24 12.0 0.0**
comp=Z,143nm,1.2s,mb5.8
PRNI Paran 80.70 318 P **P 11 24 13.4 +0.8**
LIS Lisbon 80.72 356 *e*P **P 11 24 12.2 -0.5**
LIS *e*S S 11 34 19.4 -0.5
LIS *e*S S 11 34 20.3 +0.5
LIS AMS AMS 12 03 54.4
comp=E,46µm,9.1s
EVO Evora 80.87 355 *e*P **P 11 24 12.1 -1.4**
comp=E,423nm,1.3s,mb5.9
EVO *e*R
comp=E,39µm,17.0s
MOE Montemor 80.89 355 *e*P **P 11 24 14.0 +0.4**
EADA Adamuz 81.04 352 P **P 11 24 15.2 +0.8**
comp=E,135nm,1.2s,mb5.8
EMUR La Murta 81.11 350 P **P 11 24 14.8 +0.1**
comp=E,64nm,1.4s,mb5.4
MBH Mount Berech 81.24 318 P **P 11 24 16.1 +0.6**
EHUE Huescar 81.25 351 P **P 11 24 16.6 +1.1**
EHUE pmax pmax
comp=Z,111nm,1.2s,mb5.7
EHUE Huescar 81.25 351 P **P 11 24 16.6 +1.0**
comp=Z,111nm,1.2s,mb5.7
CMAH Djebel Manchou 81.29 343 P **P 11 24 18.0 +2.3**
PALK Pallekele 81.29 269 P **P 11 24 15.3 -0.4**
comp=E,638nm,0.9s,mb6.5,SNR=6.9
EQES Quesada 81.30 351 P **P 11 24 16.3 +0.6**
comp=E,88nm,1.2s,mb5.6
TAOE Nuku Hiva Isla 81.33 126 *e*S S 11 34 19.7 -6.4
comp=Z,41µm,30.4s
TAOE *e*LQ 11 46 16.5
comp=Z,78µm,27.9s
TAOE *e*LR LR 11 49 43.1
comp=Z,222µm,28.6s,baz=343
PDA Ponta Delgada 81.33 9 *i*S S 11 34 40.0 +14
PDA *i*SS SS 11 39 48.0 +6.0
PDA Ponta Delgada 81.33 9 *i*LR LR 11 51 08.0
CART Cartagena 81.34 349 *e*P **P 11 24 15.8 -0.2**
comp=E,65nm,0.9s,mb5.6

EIL	**Elat**	**81.34**	**318**	P		**P**		**11 24 16.6**	**+0.6**
PBEJ	**Beja**	**81.36**	**355**	*e*P		**P**		**11 24 16.1**	**0.0**
	comp=Z,138nm,1.3s,mb5.7								
CGMA	**Guelma**	**81.47**	**343**	P		**P**		**11 24 19.0**	**+2.3**
EMIN	**Mina Concepcio**	**81.56**	**354**	P		**P**		**11 24 17.1**	**-0.1**
	comp=Z,126nm,1.2s,mb5.7								
DFRA	**Djebel Bou Aff**	**81.59**	**344**	P		**P**		**11 24 19.5**	**+2.2**
CKFL	**Kef-Lekhel**	**81.61**	**343**	P		**P**		**11 24 18.0**	**+0.6**
ELUQ	**Luque**	**81.63**	**352**	P		**P**		**11 24 17.7**	**+0.2**
ELUQ				pmax		pmax			
	comp=Z,16nm,0.7s,mb5.1								
ELUQ	**Luque**	**81.63**	**352**	P		**P**		**11 24 17.7**	**+0.2**
	comp=Z,16nm,0.7s,mb5.0								
ABSA	**Djebel Ababsia**	**81.63**	**342**	P		**P**		**11 24 17.0**	**-0.5**
ABA	**Alger-Bouzarea**	**81.70**	**346**	P		**P**		**11 24 18.0**	**+0.1**
CCIG	**Comitan**	**81.70**	**72**	*i* P		**P**		**11 24 19.2**	**+1.3**
CASM	**Ain Smara**	**81.78**	**343**	P		**P**		**11 24 18.0**	**-0.3**
EGRO	**El Granado**	**81.84**	**355**	P		**P**		**11 24 19.2**	**+0.5**
	comp=Z,137nm,1.2s,mb5.8								
ECOG	**Cogollos-Vega**	**81.86**	**351**	P		**P**		**11 24 19.6**	**+0.9**
ECOG				pmax		pmax			
	comp=Z,73nm,1.0s,mb5.6								
ECOG	**Cogollos-Vega**	**81.86**	**351**	P		**P**		**11 24 19.6**	**+0.8**
	comp=Z,72nm,1.0s,mb5.6								
PTEO	**Sao Teotonio**	**81.88**	**356**	*e*P		**P**		**11 24 19.1**	**+0.3**
	comp=Z,128nm,1.4s,mb5.7								
CTEI	**Djebel Teioual**	**81.99**	**343**	P		**P**		**11 24 20.0**	**+0.6**
SET	**Setif**	**82.00**	**344**	P		**P**		**11 24 21.0**	**+1.6**
ELOJ	**Sierra Loja**	**82.03**	**352**	P		**P**		**11 24 20.2**	**+0.6**
ELOJ				pmax		pmax			
	comp=Z,73nm,1.0s,mb5.6								
ELOJ	**Sierra Loja**	**82.03**	**352**	P		**P**		**11 24 20.2**	**+0.5**
	comp=Z,72nm,1.0s,mb5.6								
ENIJ	**Nijar**	**82.06**	**350**	P		**P**		**11 24 19.1**	**-0.7**
ENIJ				pmax		pmax			
	comp=Z,127nm,1.6s,mb5.6								
ENIJ	**Nijar**	**82.06**	**350**	P		**P**		**11 24 19.1**	**-0.7**
	comp=Z,127nm,1.6s,mb5.6								
TRD	**Trivandrum**	**82.06**	**273**	*e*P		**P**		**11 24 19.3**	**-0.4**
TRD				AMb		AMB		11 24 21.7	
	comp=Z,163nm,0.9s,mb6.0								
MORF	**Marmelete**	**82.11**	**356**	*e*P		**P**		**11 24 20.1**	**+0.1**
MORF				*e*S		S		11 34 33.2	-1.1
MORF				*e*S		S		11 34 33.2	-1.1
MORF				AMP				11 49 53.0	
MORF				AMS		AMS		11 55 10.6	
	comp=E,34µm,27.2s								
ERON	**Agron**	**82.13**	**352**	P		**P**		**11 24 19.5**	**-0.7**
	comp=E,13nm,0.7s,mb5.0								
CTA	**Charters Tower**	**82.16**	**198**	*e*P		**P**		**11 24 18.9**	**-1.4**
CTA				*e*S		S		11 34 36.5	+1.8
CTA				pmax		pmax			
	comp=Z,85nm,1.0s								
CTA	**Charters Tower**	**82.16**	**198**	*e*P		**P**		**11 24 18.9**	**-1.4**
	comp=Z,85nm,1.0s,mb5.6								
CTA				*e*S		S		11 34 36.5	+1.8
CTAO	**Charters Tower**	**82.16**	**198**	P		**P**		**11 24 18.9**	**-1.4**
CTAO	**Charters Tower**	**82.16**	**198**	*e*P		**P**		**11 24 18.9**	**-1.4**
CTAO				pmax		pmax			
	comp=Z,209nm,1.2s,mb5.9								
CTAO				MLR		MLR			
	comp=Z,17µm,22.0s,MS6.4								
CTAO	**Charters Tower**	**82.16**	**198**	*e*P		**P**		**11 24 18.9**	**-1.4**
	comp=Z,209nm,1.2s,mb5.9								
CTAO				LR		LR			
	comp=Z,17µm,22.0s,MS6.4								
CKHR	**Kef el Ahmar**	**82.16**	**344**	P		**P**		**11 24 23.0**	**+2.7**
EGUA	**Guajares**	**82.30**	**351**	P		**P**		**11 24 21.1**	**+0.1**
	comp=Z,5.9nm,1.1s								
EMHD	**Djebel Mahouad**	**82.30**	**346**	P		**P**		**11 24 22.0**	**+0.9**
EBNR	**Beni Rached**	**82.38**	**347**	P		**P**		**11 24 23.8**	**+2.4**
ESPR	**Espera**	**82.42**	**353**	P		**P**		**11 24 22.0**	**+0.4**
	comp=Z,129nm,1.3s,mb5.7								
CMER	**Merouana**	**82.50**	**344**	P		**P**		**11 24 25.0**	**+2.9**
ECHA	**Ech Chlef**	**82.53**	**347**	P		**P**		**11 24 24.0**	**+1.7**
EMIJ	**Mijas**	**82.65**	**352**	P		**P**		**11 24 22.6**	**-0.2**
	comp=Z,77nm,1.5s,mb5.5								
OKGL	**Djebel Kef Gue**	**82.72**	**348**	P		**P**		**11 24 29.0**	**+5.8**
EANR	**'Ain N'Sour**	**82.76**	**348**	P		**P**		**11 24 24.6**	**+1.2**
EJIF	**Jimena Fronter**	**82.81**	**353**	P		**P**		**11 24 24.3**	**+0.6**
EJIF				pmax		pmax			
	comp=Z,88nm,1.2s,mb5.7								
EJIF	**Jimena Fronter**	**82.81**	**353**	P		**P**		**11 24 24.3**	**+0.6**
	comp=Z,88nm,1.2s,mb5.7								
ETRT	**Tiaret**	**83.29**	**347**	P		**P**		**11 24 27.4**	**+1.2**
ODJA	**Bouhanifia**	**83.50**	**348**	P		**P**		**11 24 32.0**	**+4.7**
CCCC	**Ccc**	**83.70**	**57**	*e*P		**P**		**11 24 27.0**	**-1.3**
PMOR	**Pomariorio Ree**	**84.10**	**135**	*e*P		**P**		**11 24 27.5**	**-2.9**
	comp=Z,200nm,1.3s,mb6.1								
MNCY	**Minicoy**	**84.19**	**276**	*i* P		**P**		**11 24 30.0**	**-0.8**
WRAB	**Tennant Creek**	**84.38**	**210**	P		**P**		**11 24 30.6**	**-1.2**
	comp=Z,977nm,1.1s,mb6.8,SNR=30								
WRAB	**Tennant Creek**	**84.38**	**210**	*c i*P		**P**		**11 24 30.3**	**-1.5**
WB2	**Warramunga Arr**	**84.39**	**210**	⇑*i*P		**P**		**11 24 30.2**	**-1.6**
WB2				*e*S				11 34 56.3	
WRA	**Warramunga Arr**	**84.39**	**210**	P		**P**		**11 24 30.2**	**-1.6**
	comp=Z,54nm,0.9s,mb5.7,baz=13,slow=5.4,SNR=124								
WRA				S				11 34 51.7	
	comp=Z,1.9nm,1.1s,baz=13,slow=5.6,SNR=3.9								
WRA				PKKPbc		PKKPbc		11 42 43.8	+0.4
	comp=Z,4.6nm,1.0s,baz=215,slow=2.3,SNR=10								
WRA				PKPPKP				11 50 49.4	
	comp=Z,4.1nm,1.0s,baz=191,slow=1.9,SNR=10.0								
WRA	**Warramunga Arr**	**84.39**	**210**	P		**P**		**11 24 30.2**	**-1.6**
WRA				S				11 34 51.7	
WRA				pmax		pmax			
	comp=Z,54nm,0.9s								
HLGC	**Holguin**	**84.68**	**56**	*e*P		**P**		**11 24 33.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**85.00**	**218**	*e*P		**P**		**11 24 33.2**	**-1.7**
	comp=Z,266nm,1.0s,mb6.3								
FITZ				*e*S				11 34 57.2	
LMGC	**Las Mercedes**	**85.03**	**57**	*e*P		**P**		**11 24 38.5**	**+3.4**
MOAC	**Moa**	**85.33**	**55**	*e*P		**P**		**11 24 36.8**	**+0.3**
ABTO	**Aybut**	**85.44**	**298**	⇑P		**P**		**11 24 35.6**	**-1.5**
	SNR=9.3								
RCC	**Rio Carpintero**	**85.63**	**56**	*e*P		**P**		**11 24 37.0**	**-1.0**
PPT	**Papeete**	**85.93**	**138**	*e*P		**P**		**11 24 36.9**	**-2.6**
	comp=Z,186nm,1.4s,mb6.1								
PPT	**Papeete**	**85.93**	**138**	*e*S				11 35 08.3	
	comp=Z,22µm,26.8s								
PPT				*e*SS		SS		11 40 45.9	-4.1
	comp=Z,5µm,28.0s								
PPT				*e*LQ				11 47 47.3	
	comp=Z,76µm,27.5s								
PPT				*e*LR		LR		11 51 19.9	
	comp=Z,84µm,35.2s,baz=341								
PPT	**Papeete**	**85.93**	**138**	P		**P**		**11 24 40.4**	**+0.9**
	comp=Z,34nm,0.8s,mb5.6,baz=38,slow=2.4,SNR=3.8								
PPT				LR		LR		11 58 50.5	
	comp=Z,15µm,19.2s,MS6.4,baz=334,slow=33								
PAE	**Paea**	**86.01**	**138**	*e*P		**P**		**11 24 37.0**	**-2.9**
	comp=Z,591nm,1.5s,mb6.6								
MASC	**Masc**	**86.06**	**55**	*e*P		**P**		**11 24 41.9**	**+1.7**
MDT	**Midelt**	**86.37**	**352**	P		**P**		**11 24 41.7**	**0.0**
	comp=Z,50nm,1.1s,mb5.7								
MDT				PKPPKP				11 50 46.8	
	comp=Z,8.1nm,0.8s,baz=234,slow=9.7,SNR=5.4								
MDT				LR		LR		12 00 46.1	
	comp=Z,20µm,21.3s,MS6.5,baz=9.6,slow=34								
ASAR	**Alice Springs**	**88.07**	**209**	P		**P**		**11 24 48.4**	**-1.5**
	comp=Z,20nm,0.9s,mb5.3,baz=14,slow=3.3,SNR=86								
ASAR				PKKPbc		PKKPbc		11 42 33.2	-1.4
	comp=Z,1.4nm,0.6s,baz=190,slow=2.0,SNR=8.7								
ASAR				PKPPKP				11 50 41.8	
	comp=Z,2.2nm,1.0s,baz=181,slow=3.3,SNR=6.2								
MBWA	**Marble Bar**	**89.73**	**222**	*e*P		**P**		**11 24 55.6**	**-2.2**
	comp=Z,60nm,0.8s,mb6.0								
MBWA				LR		LR			
	comp=Z,10µm,20.0s,MS6.2								
JTS	**JuntasAbangare**	**90.25**	**68**	*i* P		**P**		**11 24 59.4**	**-0.8**
RAO	**Raoul Island**	**90.73**	**166**	PFAKE				11 25 10.0	+7.6
RAO				LR		LR			
	comp=Z,19µm,21.0s,MS6.5								
SJG	**San Juan**	**91.03**	**48**	P		**P**		**11 25 04.4**	**+0.6**
	comp=Z,68nm,0.9s,mb6.0,baz=4.4,slow=4.2,SNR=24								
SJG	**San Juan**	**91.03**	**48**	*e*P		**P**		**11 25 04.5**	**+0.7**
SJG				pmax		pmax			
	comp=Z,158nm,1.1s								
SJG				MLR		MLR			
	comp=Z,30µm,20.0s								
SJG	**San Juan**	**91.03**	**48**	*e*P		**P**		**11 25 04.5**	**+0.7**
	comp=Z,158nm,1.1s,mb6.3								
SJG				LR		LR			
	comp=Z,30µm,20.0s,MS6.7								
CPD	**Cerro la Pandu**	**91.19**	**48**	P		**P**		**11 25 05.2**	**+0.7**

CPD	**Cerro la Pandu**	**91.19**	**48**	*e*P		**P**		**11 25 05.8**	**+1.3**
MTP	**Monte Pirata**	**91.27**	**48**	*e*P		**P**		**11 25 06.0**	**+1.2**
TBI	**Tubuai**	**91.36**	**140**	*e*LQ				11 49 53.6	
	comp=Z,43µm,36.5s								
TBI	**Tubuai**	**91.36**	**140**	*e*P		**P**		**11 25 02.7**	**-2.6**
	comp=Z,318nm,1.2s,mb6.5								
TBI	**Tubuai**	**91.36**	**140**	*e*S				11 35 57.9	
	comp=Z,9µm,29.2s								
TBI				*e*SS		SS		11 42 04.3	-4.8
	comp=Z,7µm,26.2s								
TBI				*e*LR		LR		11 53 55.9	
	comp=Z,36µm,38.0s,baz=341								
ARMA	**Armidale**	**91.65**	**192**	*e*P		**P**		**11 25 06.2**	**-0.4**
ARMA				*e*S				11 35 42.1	
STKA	**Stephens Creek**	**94.46**	**200**	*e*S				11 35 51.9	
STKA	**Stephens Creek**	**94.46**	**200**	P		**P**		**11 25 16.8**	**-2.9**
	comp=Z,38nm,1.1s,mb5.7,baz=12,slow=5.5,SNR=13								
STKA				PKKP		PKKPbc		11 42 20.2	+1.8
	comp=Z,1.3nm,0.4s,baz=237,slow=2.1,SNR=2.9								
STKA				LR		LR		12 04 14.4	
	comp=Z,14µm,21.3s,MS6.4,baz=353,slow=33								
STKA	**Stephens Creek**	**94.46**	**200**	*e*P		**P**		**11 25 15.9**	**-3.7**
	comp=Z,32nm,1.9s,mb5.4								
STKA				*e*S				11 35 51.9	
RKT	**Rikitea**	**96.30**	**127**	*e*LQ				11 52 11.1	
	comp=Z,25µm,29.5s								
RKT	**Rikitea**	**96.30**	**127**	*e*PS		PS		11 38 04.3	-4.2
	comp=Z,9µm,28.5s								
RKT	**Rikitea**	**96.30**	**127**	*e*SKSac		SKSac		11 35 57.1	-7.0
	comp=Z,2µm,29.5s								
RKT				*e*SS		SS		11 43 26.0	+6.4
	comp=Z,13µm,28.5s								
RKT				*e*LR		LR		11 56 28.2	
	comp=Z,55µm,30.2s,baz=329								
FORT	**Forrest**	**96.33**	**212**	*e*P		**P**		**11 25 25.6**	**-2.6**
	comp=Z,32nm,0.8s,mb5.8								
FORT				*e*S				11 38 09.0	
DESE	**Dese**	**96.70**	**307**	*e*P		**P**		**11 25 30.9**	**+1.1**
PAYG	**Puerto Ayora**	**97.37**	**78**	PFAKE				11 25 40.0	+7.2
PAYG				LR		LR			
	comp=Z,19µm,20.0s,MS6.6								
SDV	**Santo Domingo**	**97.71**	**56**	P		**P**		**11 25 35.6**	**+1.2**
	comp=Z,18nm,1.0s,mb5.5,baz=334,slow=2.3,SNR=13								
SDV				PP		PP		11 29 33.2	+1.0
	comp=Z,9.6nm,0.8s,baz=2.0,slow=7.4,SNR=4.3								
SDV	**Santo Domingo**	**97.71**	**56**	*e*P		**P**		**11 25 35.3**	**+0.9**
	comp=Z,27nm,1.0s,mb5.7								
SDV				LR		LR			
	comp=Z,34µm,20.0s,MS6.8								
PCRV	**Puerto La Cruz**	**98.88**	**50**	PP		PP		11 29 40.9	-0.3
	comp=Z,9.0nm,1.0s,baz=240,slow=6.8,SNR=2.1								
PCRV				LR		LR		12 10 01.1	
	comp=Z,18µm,21.9s,MS6.5,baz=164,slow=35								
ROSC	**El Rosal**	**99.79**	**61**	P		Pdif		11 25 44.6	+0.9
	comp=Z,7.9nm,0.4s,baz=279,slow=22,SNR=9.7								
ROSC				LR		LR		12 14 31.5	
	comp=Z,21µm,21.2s,MS6.6,baz=3.7,slow=38								
PTCN	**Pitcairn Islan**	**99.99**	**124**	PFAKE				11 25 50.0	+5.4
PTCN				LR		LR			
	comp=Z,27µm,22.0s,MS6.7								
NWAO	**Narrogin (SRO)**	**101.46**	**220**	PFAKE				11 26 00.0	+8.9
NWAO				LR		LR			
	comp=Z,15µm,21.0s,MS6.5								
SNZO	**South Karori**	**102.04**	**173**	PFAKE				11 26 00.0	+6.3
SNZO				LR		LR			
	comp=Z,19µm,22.0s,MS6.6								
OTAV	**Otavalo**	**102.09**	**67**	PFAKE				11 26 00.0	+6.1
OTAV				LR		LR			
	comp=Z,14µm,21.0s,MS6.5								
TORD	**Torodi Ar. Bea**	**105.19**	**344**	Pdiff		Pdif		11 26 07.3	-0.4
	comp=Z,3.9nm,1.1s,baz=2.3,slow=3.0,SNR=14								
TORD				PKiKP		PKiKP		11 30 21.7	-0.2
	comp=Z,12nm,1.0s,baz=8.1,slow=2.9,SNR=5.3								
ATAH	**Atahualpa**	**108.51**	**70**	PP		PP		11 30 54.9	+1.8
	comp=Z,9.8nm,1.0s,baz=74,slow=5.3,SNR=4.7								
ATAH				PKPPKP				11 50 04.3	
	comp=Z,8.2nm,0.6s,baz=99,slow=22,SNR=3.9								
KMBO	**Kilima Mbogo**	**108.79**	**304**	PP		PP		11 30 57.7	+2.6
	comp=Z,6.4nm,1.0s,baz=35,slow=10.0,SNR=5.3								
KMBO				PKKPbc		PKKPbc		11 41 37.9	+1.1
	comp=Z,1.2nm,0.8s,baz=213,slow=23,SNR=3.0								
KMBO	**Kilima Mbogo**	**108.79**	**304**	PFAKE				11 30 40.0	+11
KMBO				LR		LR			
	comp=Z,33µm,20.0s,MS6.9								
DBIC	**Dimbokro**	**112.31**	**350**	PKiKP		PKiKP		11 30 34.1	-1.2
	comp=Z,6.2nm,0.8s,baz=34,slow=4.3,SNR=5.0								
DBIC				PKKPbc		PKKPbc		11 41 25.6	+0.2
	comp=Z,7.4nm,0.9s,baz=224,slow=3.6,SNR=4.5								
DBIC	**Dimbokro**	**112.31**	**350**	*i* PKiKP		PKiKP		11 30 34.1	-1.2
DBIC				pmax		pmax			
	comp=Z,6.0nm,0.8s								
DBIC	**Dimbokro**	**112.31**	**350**	PKPdf		PKiKP		11 30 34.1	-1.2
DBIC				PKKPbc		PKKPbc		11 41 25.6	+0.2
DBIC				LR		LR			
	comp=Z,30µm,19.0s,MS6.9								
ARE	**Arequipa**	**119.98**	**69**	*e*P		PKPdf		11 30 51.0	+1.0
LPAZ	**La Paz**	**121.35**	**65**	PKP		PKPdf		11 30 52.2	-0.4
	comp=Z,5.5nm,0.8s,baz=14,slow=8.4,SNR=16								
LPAZ				PP		PP		11 32 26.2	+2.7
	comp=Z,22nm,1.1s,baz=28,slow=6.8,SNR=8.8								
LPAZ				PKKPbc		PKKPbc		11 40 54.7	+1.3
	comp=Z,2.0nm,1.0s,baz=56,slow=4.9,SNR=2.7								
LPAZ	**La Paz**	**121.35**	**65**	PKIKP		PKPdf		11 30 52.2	-0.4
LPAZ								11 32 26.3	
LPAZ				pmax		pmax			
	comp=Z,6.0nm,0.9s								
LPAZ				pmax		pmax			
	comp=Z,22nm,1.1s								
LPAZ	**La Paz**	**121.35**	**65**	*e*PKPdf		PKPdf		11 30 52.6	0.0
LPAZ				*e*PP		PP		11 32 25.2	+1.6
LPAZ				LR		LR			
	comp=Z,15µm,19.0s,MS6.7								
RCBR	**Riachuelo**	**122.75**	**26**	PFAKE				11 31 10.0	+15
RCBR				LR		LR			
	comp=Z,28µm,22.0s,MS6.9								
SIV	**San Ignacio**	**124.12**	**58**	PKP		PKPdf		11 30 56.4	-1.5
	comp=Z,4.8nm,0.8s,baz=63,slow=1.3,SNR=3.1								
SIV				PP		PP		11 32 43.7	+1.4
	comp=Z,18nm,0.9s,baz=338,slow=7.9,SNR=5.0								
SIV				PKKPbc		PKKPbc		11 40 45.9	+3.3
	comp=Z,3.3nm,1.0s,baz=158,slow=6.0,SNR=2.7								
LSZ	**Lusaka**	**125.27**	**307**	*e*PKIKP		PKPdf		11 31 00.4	+0.2
LSZ				MLR		MLR			
	comp=Z,57µm,19.0s,MS7.3								
LVC	**Limon Verde**	**126.51**	**70**	PKP		PKPdf		11 31 03.8	+1.3
	comp=Z,26nm,1.1s,baz=279,slow=2.7,SNR=15								
LVC				PP		PP		11 33 00.2	+1.9
	comp=Z,13nm,1.0s,baz=323,slow=7.0,SNR=3.3								
LVC	**Limon Verde**	**126.51**	**70**	*e*PKPdf		PKPdf		11 31 02.2	-0.3
LVC				LR		LR			
	comp=Z,14µm,21.0s,MS6.6								
DRV	**Dumont d'Urvil**	**128.59**	**193**	PP		PP		11 33 11.0	-1.0
DRV	**Dumont d'Urvil**	**128.59**	**193**	SP		SP		11 43 21.0	+3.1
DRV				SS		SS		11 50 29.0	+0.7
BDFB	**Brasilia**	**128.75**	**43**	PKP		PKPdf		11 31 06.3	-0.5
	comp=Z,56nm,1.0s,baz=3.9,slow=2.5,SNR=36								
BDFB	**Brasilia**	**128.75**	**43**	PKIKP		PKPdf		11 31 06.4	-0.4
BDFB				pmax		pmax			
	comp=Z,56nm,1.0s								
TSUM	**Tsumeb**	**132.73**	**317**	*e*PKPdf		PKPdf		11 31 15.1	+0.8
TSUM				LR		LR			
	comp=Z,41µm,22.0s,MS7.1								
CPUP	**Villa Florida**	**134.88**	**60**	PKhKP				11 31 06.6	
	comp=Z,4.6nm,0.9s,baz=323,slow=5.6,SNR=5.7								
CPUP				PKP		PKPdf		11 31 16.9	-1.5
	comp=Z,6.8nm,1.0s,baz=344,slow=2.2,SNR=4.5								
CPUP	**Villa Florida**	**134.88**	**60**	*e*PKPpre				11 31 06.0	
CPUP				PKP		PKPdf		11 31 16.9	-1.5
CPUP				*e*PKPdf		PKPdf		11 31 18.7	+0.3
CPUP				LR		LR			
	comp=Z,3µm,21.0s,MS6.0								
LBTB	**Lobatse**	**135.07**	**305**	*e*PKHKP				11 31 06.5	
LBTB				*e*				11 31 19.2	
LBTB				MLR		MLR			
	comp=Z,37µm,21.0s,MS7.1								
VNDA	**Vanda**	**138.12**	**181**	PKhKP				11 31 15.7	
	comp=Z,2.8nm,0.9s,baz=328,slow=1.9,SNR=12								
VNDA				PKP		PKPdf		11 31 22.1	-2.3
	comp=Z,9.6nm,0.9s,baz=331,slow=3.4,SNR=9.3								
VNDA	**Vanda**	**138.12**	**181**	*i* PKIKP		PKPdf		11 31 15.7	-8.7
VNDA								11 31 22.1	
VNDA				pmax		pmax			
	comp=Z,3.0nm,0.9s								
VNDA	**Vanda**	**138.12**	**181**	PKP		PKPdf		11 31 22.1	-2.3
VNDA				LR		LR			
	comp=Z,13µm,21.0s,MS6.6								

SBA	**Scott Base**	**138.43**	**180**	*e*PKHKP				11 31 15.0	
SBA				*e*				11 31 22.6	
SBA				MLR		MLR			
	comp=Z,8µm,20.0s,MS6.5								
PLCA	**Paso Flores**	**140.63**	**86**	PKhKP				11 31 19.4	
	comp=Z,4.8nm,0.9s,baz=329,slow=5.1,SNR=8.5								
PLCA				PKP		PKPdf		11 31 28.2	-0.8
	comp=Z,69nm,1.1s,baz=329,slow=4.6,SNR=18								
PLCA	**Paso Flores**	**140.63**	**86**	*i* PKHKP				11 31 19.4	
PLCA								11 31 28.2	
PLCA				pmax		pmax			
	comp=Z,5.0nm,0.9s								
PLCA				pmax		pmax			
	comp=Z,69nm,1.1s								
PLCA	**Paso Flores**	**140.63**	**86**	*e*PKPpre				11 31 21.9	
PLCA				PKP		PKPdf		11 31 28.2	-0.8
PLCA				*e*PKPdf		PKPdf		11 31 29.4	+0.4
PLCA				LR		LR			
	comp=Z,10µm,20.0s,MS6.6								
TRQA	**Tornquist**	**142.67**	**75**	*e*PKPdf		PKPdf		11 31 26.8	-5.8
TRQA				LR		LR			
	comp=Z,22µm,20.0s,MS6.9								
SUR	**Sutherland**	**143.52**	**305**	PKhKP				11 31 30.9	
	comp=Z,65nm,1.1s,baz=331,slow=0.6,SNR=7.7								
SUR				PKP		PKPdf		11 31 36.0	+1.8
	comp=Z,46nm,0.8s,baz=42,slow=3.4,SNR=15								
MAW	**Mawson**	**147.90**	**225**	*e*P		PKPdf		11 31 39.9	-1.7
	comp=Z,108nm,1.1s								
MAW	**Mawson**	**147.90**	**225**	PKPbc		PKPbc		11 31 40.7	-3.9
	comp=Z,151nm,1.1s,baz=53,slow=3.2,SNR=33								
MAW	**Mawson**	**147.90**	**225**	*e*P		PKPdf		11 31 39.9	-1.7
MAW				*e*S				11 42 04.9	
QSPA	**South Pole Qui**	**150.59**	**180**	*e*P		PKPdf		11 31 48.1	+2.2
USHA	**Ushuaia**	**151.26**	**103**	PKPbc		PKPbc		11 31 49.3	-3.6
	comp=Z,81nm,1.0s,baz=97,slow=0.4,SNR=23								
TRIS	**Tristan da Cun**	**156.19**	**356**	PFAKE				11 32 00.0	+6.0
TRIS				LR		LR			
	comp=Z,16µm,21.0s,MS6.8								
PMSA	**Palmer Station**	**157.38**	**122**	PFAKE				11 32 00.0	+4.5
PMSA				LR		LR			
	comp=Z,14µm,19.0s,MS6.8								
NVL	**N'lazarevskaya**	**165.54**	**216**	*de*PKP2		PKPab		11 32 59.9	-2.7
NVL				*i*				11 36 49.5	
NVL				*i* SS		SS		11 57 24.7	-1.3
NVL				pmax		pmax			
	comp=Z,3µm,7.8s								
SNAA	**Sanae**	**168.22**	**198**	PKP		PKPdf		11 32 04.5	-1.6
	comp=Z,1.8nm,1.1s,baz=143,slow=3.9,SNR=5.4								
SNAA				PKPab		PKPab		11 33 10.6	-3.8
	comp=Z,10nm,1.1s,baz=202,slow=1.8,SNR=3.8								
SNAA				PP		PP		11 37 01.2	-1.9
	comp=Z,7.1nm,1.1s,baz=134,slow=4.8,SNR=5.6								
SNAA	**Sanae**	**168.22**	**198**	*e*PKPdf		PKPdf		11 32 08.3	+2.3
SNAA	**Sanae**	**168.22**	**198**	*e*PKPdf		PKPdf		11 32 08.3	+2.3
SNAA				*e*				11 32 09.7	
SNAA				*e*				11 32 37.3	
SNAA				*e*				11 32 52.0	
SNAA				*e*				11 33 13.4	
SNAA				*e*				11 33 16.8	
S

mb3.8/7, Error ellipse: s-maj=13.3km s-min=6.2km az=43.2

KRSC ***22*** *11:27:33.1±1.4, 6074N×16595E, h15km±4km, ML4.0*

ISC 22 11:27:34.1±1.6, 6076N±005×1657E±02, h8km±11km, n25, σ1§03/28, mb3.8/7, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TILR	**Tilichiki**	**0.37**	**152**	*i* P		**Pg**	**11 27 40.3**	**-1.1**
TILR				*e*S		**Sg**	**11 27 46.2**	**-0.1**
TILR				Smax				
	9μm,0.2s							
KAMR	**Kamenskoye**	**1.72**	**8**	*e*P		**Pn**	**11 28 03.6**	**-0.7**
KAMR				*e*S		**Sn**	**11 28 24.7**	**-1.7**
KAMR				Smax				
	2μm,1.2s							
SMKR	**Semkarok**	**4.74**	**210**	*e*P		**Pn**	**11 28 46.7**	**+0.9**
SRKR	**Sorokina**	**4.75**	**212**	*e*P		**Pn**	**11 28 45.7**	**-0.3**
KBTR	**Krutoberegovo**	**4.81**	**200**	*e*P		**Pn**	**11 28 46.9**	**+0.1**
KBTR				*e*S		**Sn**	**11 29 41.5**	**-1.2**
BDR	**Baidarnaya**	**4.81**	**211**	*e*P		**Pn**	**11 28 46.6**	**-0.3**
KLY	**Klyuchi**	**5.19**	**213**	P		**Pn**	**11 28 52.6**	**+0.6**
ZLN	**Zelenaya**	**5.41**	**211**	*e*P		**Pn**	**11 28 56.1**	**+1.0**
BKI	**Bering**	**5.58**	**178**	P		**Pn**	**11 28 57.9**	**+0.6**
KMNR	**Kamenistaya**	**5.79**	**212**	P		**Pn**	**11 29 01.0**	**+0.8**
BILL	**Bilibino**	**7.31**	**2**	P		**Pn**	**11 29 23.4**	**+2.2**
FX1	**Attu Island--F**	**8.89**	**149**	Pn		**Pn**	**11 29 41.7**	**-1.1**
	4.9nm,0.3s,baz=314,slow=6.0,SNR=6.5							
FX1	**Attu Island--F**	**8.89**	**149**	PN		**Pn**	**11 29 41.7**	**-1.1**
FX1				pmax	pmax			
	comp=Z,5.0nm,0.3s							
ILAR	**Eielson Array**	**21.64**	**59**	P		**P**	**11 32 24.9**	**+0.1**
	comp=Z,1.6nm,0.8s,mb3.5,baz=278,slow=7.7,SNR=10							
ILAR	**Eielson Array**	**21.64**	**59**	P		**P**	**11 32 25.0**	**+0.2**
ILAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
INK	**Inuvik**	**26.12**	**47**	P		**P**	**11 33 10.7**	**+2.1**
	comp=Z,1.0nm,0.6s,mb3.5,baz=289,slow=10,SNR=5.4							
INK	**Inuvik**	**26.12**	**47**	P		**P**	**11 33 10.7**	**+2.2**
INK				pmax	pmax			
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**35.67**	**52**	P		**P**	**11 34 33.2**	**+0.5**
	comp=Z,0.3nm,0.4s,mb3.6,baz=305,slow=8.2,SNR=6.0							
MKAR	**Makanchi Array**	**47.80**	**293**	P		**P**	**11 36 10.2**	**-1.8**
	comp=Z,1.0nm,0.8s,mb3.9,baz=46,slow=10,SNR=6.6							
MKAR	**Makanchi Array**	**47.80**	**293**	P		**P**	**11 36 10.2**	**-1.8**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
PDAR	**Pinedale Array**	**51.50**	**70**	P		**P**	**11 36 40.7**	**+0.6**
	comp=Z,0.7nm,0.6s,mb3.8,baz=316,slow=3.8,SNR=3.4							
NOA	**NORSAR Array B**	**56.95**	**346**	P		**P**	**11 37 18.9**	**-1.0**
	comp=Z,1.2nm,0.8s,mb4.0,baz=14,slow=7.2,SNR=2.4							
NOA	**NORSAR Array B**	**56.95**	**346**	P		**P**	**11 37 18.9**	**-1.0**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
AKASG	**Malin Array Be**	**63.52**	**331**	P		**P**	**11 38 05.0**	**+0.1**
	comp=Z,0.7nm,0.5s,mb4.0,baz=25,slow=5.6,SNR=4.3							
AKASG	**Malin Array Be**	**63.52**	**331**	P		**P**	**11 38 05.0**	**+0.1**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							

ISCJB ***22*** *11:29:52.4±0.3, 6076N±003×166.18E±009, h10km, mb4.4/19, Error ellipse: s-maj=6.4km s-min=3.4km az=33.8*

IDC ***22*** *11:29:52.0±0.7, 6074N×16577E, h0km, mb4.2/14, mb1 4.4/15, mb1mx4.3/24, mbtmp4.2/15, ML4.5/1, Error ellipse: s-maj=17.3km s-min=11.4km az=61.0*

KRSC ***22*** *11:29:52.3±0.6, 6073N×16621E, h5km±4km, ML4.8*

NEIC ***22*** *11:29:53.7±0.5, 6072N×16595E, h10km, mb4.8/5, Error ellipse: s-maj=12.9km s-min=8.4km az=191.0*

MOS ***22*** *11:29:56.7±1.2, 6068N×16608E, h52km, mb4.4/11, Error ellipse: s-maj=22.1km s-min=8.9km az=82.5*

ISC 22 11:29:54.0±1.2, 6079N±003×16618E±009, h9km±7km, n72, σ1§15/78, mb4.4/19, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TILR	**Tilichiki**	**0.36**	**190**	*i* P		**Pg**	**11 29 59.5**	**-1.6**
TILR				*i* S		**Sg**	**11 30 04.5**	**-1.4**
TILR				Smax				
	406μm,0.4s							
KAMR	**Kamenskoye**	**1.68**	**0**	*e*P		**Pn**	**11 30 23.3**	**-0.1**
KAMR				*e*S		**Sn**	**11 30 45.5**	**+0.5**
KAMR				Smax				
	9μm,1.0s							
EVNR	**Evensk**	**3.52**	**292**	*e*P		**Pn**	**11 30 49.3**	**+0.5**
EVNR				*e*S		**Sn**	**11 31 31.4**	**+0.9**
SMKR	**Semkarok**	**4.88**	**212**	*e*P		**Pn**	**11 31 07.3**	**-0.2**
KBG	**Krutoberegovo**	**4.90**	**203**	*e*P		**Pn**	**11 31 07.7**	**0.0**
KBG				*e*S		**Sn**	**11 32 03.6**	**-0.9**
SRKR	**Sorokina**	**4.90**	**214**	*e*P		**Pn**	**11 31 08.6**	**+0.9**
KBTR	**Krutoberegovo**	**4.92**	**202**	P		**Pn**	**11 31 07.0**	**-1.0**
KBTR				S		**Sn**	**11 32 03.5**	**-1.5**
KBTR	**Krutoberegovo**	**4.92**	**202**	*e*P		**Pn**	**11 31 07.7**	**-0.3**
KBTR				*e*S		**Sn**	**11 32 03.1**	**-1.9**
BDR	**Baidarnaya**	**4.96**	**214**	*e*P		**Pn**	**11 31 08.6**	**0.0**
KLY	**Klyuchi**	**5.34**	**215**	P		**Pn**	**11 31 13.5**	**-0.3**
KLY	**Klyuchi**	**5.34**	**215**	P		**Pn**	**11 31 12.6**	**-1.2**
CIRR	**Tsirk**	**5.48**	**214**	*e*P		**Pn**	**11 31 16.5**	**+0.7**
LGNR	**Loginova**	**5.53**	**214**	P		**Pn**	**11 31 17.5**	**+1.1**
ZLN	**Zelenaya**	**5.55**	**213**	P		**Pn**	**11 31 17.1**	**+0.3**
BKI	**Bering**	**5.60**	**181**	*e*P		**Pn**	**11 31 16.6**	**-0.8**
SRDR	**Sredinnyy**	**5.62**	**220**	P		**Pn**	**11 31 18.3**	**+0.7**
KMNR	**Kamenistaya**	**5.94**	**214**	P		**Pn**	**11 31 21.6**	**-0.4**
ESO	**Esso**	**6.26**	**222**	P		**Pn**	**11 31 29.3**	**+2.8**
ESO	**Esso**	**6.26**	**222**	P		**Pn**	**11 31 29.8**	**+3.3**
ESO				Smax				
	280nm,1.7s							
TUMR	**Tumrok**	**6.38**	**213**	*e*P		**Pn**	**11 31 28.9**	**+0.8**
MKZ	**Mys Kozlova**	**6.69**	**203**	P		**Pn**	**11 31 32.8**	**+0.5**
MKZ	**Mys Kozlova**	**6.69**	**203**	P		**Pn**	**11 31 33.9**	**+1.6**
KII	**Karymskiy**	**7.68**	**211**	P		**Pn**	**11 31 47.0**	**+1.1**
GNL	**Ganaly**	**8.39**	**216**	*e*P		**Pn**	**11 31 56.5**	**+0.8**
SPN	**Mys Shipunski**	**8.41**	**206**	*e*S		**Sn**	**11 33 27.4**	**-3.5**
SDLR	**Sedlovina**	**8.51**	**211**	*e*P		**Pn**	**11 31 59.3**	**+2.0**
SMAR	**Somma**	**8.54**	**211**	P		**Pn**	**11 31 58.9**	**+1.1**
AVH	**Avacha**	**8.56**	**212**	P		**Pn**	**11 31 59.9**	**+1.9**
FX1	**Attu Island--F**	**8.79**	**151**	Pn		**Pn**	**11 32 00.8**	**-0.4**
	19nm,0.3s,baz=336,slow=9.3,SNR=18							
FX1				Sn		**Sn**	**11 33 34.5**	**-5.9**
	2.2nm,0.3s,baz=206,slow=21,SNR=3.0							
FX1	**Attu Island--F**	**8.79**	**151**	*e*Pn		**Pn**	**11 32 00.7**	**-0.5**
PET	**Petropavlovsk**	**8.80**	**211**	P		**Pn**	**11 32 03.2**	**+1.9**
YAK	**Yakutsk**	**17.37**	**290**	*e*P		**Pn**	**11 33 57.5**	**+1.0**
YAK				pmax	pmax			
	comp=Z,30nm,0.9s							
YAK				pmax	pmax			
	comp=N,16nm,1.3s							
YAK				pmax	pmax			
	comp=E,37nm,1.4s							
YAK				pmax	pmax			
	comp=N,39nm,1.4s							
YAK				pmax	pmax			
	comp=E,25nm,1.6s							
YAK	**Yakutsk**	**17.37**	**290**	*e*P		**Pn**	**11 33 56.7**	**+0.2**
ILAR	**Eielson Array**	**21.43**	**59**	P		**P**	**11 34 43.5**	**+1.3**
	comp=E,10nm,0.9s,mb4.2,baz=272,slow=8.9,SNR=25							
ILAR	**Eielson Array**	**21.43**	**59**	P		**P**	**11 34 43.5**	**+1.3**
ILAR				pmax	pmax			
	comp=Z,10.0nm,0.9s							
INK	**Inuvik**	**25.93**	**48**	P		**P**	**11 35 27.2**	**+0.7**
	comp=Z,4.2nm,0.8s,mb4.0,baz=293,slow=16,SNR=8.9							
INK	**Inuvik**	**25.93**	**48**	*e*P		**P**	**11 35 26.6**	**+0.1**
INK				pmax	pmax			
	comp=Z,9.0nm,1.0s							
INK	**Inuvik**	**25.93**	**48**	*e*P		**P**	**11 35 26.6**	**+0.2**
	comp=Z,9.0nm,1.0s,mb4.2							
DLBC	**Dease Lake**	**31.23**	**66**	P		**P**	**11 36 15.3**	**+1.6**
	comp=Z,3.2nm,0.8s,mb4.2,baz=106,slow=12,SNR=6.1							
DLBC	**Dease Lake**	**31.23**	**66**	P		**P**	**11 36 15.3**	**+1.6**
YKA	**Yellowknife Ar**	**35.47**	**52**	P		**P**	**11 36 50.6**	**-0.1**
	comp=Z,1.8nm,0.7s,mb4.1,baz=306,slow=8.2,SNR=6.6							
YKA				PcP		PcP	11 39 19.0	-1.1
	comp=Z,1.5nm,0.7s,baz=308,slow=3.5,SNR=6.9							
YKA	**Yellowknife Ar**	**35.47**	**52**	P		**P**	**11 36 50.6**	**-0.1**
YKA							11 39 19.0	
YKA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
YKA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
FCC	**Fort Churchill**	**45.53**	**46**	*e*P		**P**	**11 38 13.7**	**-0.2**
FCC				pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.6							
FCC	**Fort Churchill**	**45.53**	**46**	*e*P		**P**	**11 38 13.7**	**-0.2**
	comp=Z,7.9nm,1.0s,mb4.6							
YBH	**Yreka Blue Hor**	**45.83**	**81**	P		**P**	**11 38 17.7**	**+1.5**
	comp=Z,2.3nm,0.8s,mb4.2,baz=16,slow=1.0,SNR=4.8							
YBH	**Yreka Blue Hor**	**45.83**	**81**	P		**P**	**11 38 17.7**	**+1.5**
YBH				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ARCES	**ARCESS Array B**	**46.98**	**342**	PcP		PcP	11 39 54.6	-2.9
	comp=Z,4.8nm,1.0s,baz=14,slow=2.5,SNR=5.6							
CHKZ	**Chkalovo**	**47.77**	**307**	*e*P		**P**	**11 38 31.3**	**-0.1**
CHKZ				pmax	pmax			
	comp=Z,17nm,0.9s,mb5.1							
CHKZ	**Chkalovo**	**47.77**	**307**	*e*P		**P**	**11 38 31.3**	**-0.1**
	comp=Z,17nm,0.9s,mb5.1							
MKAR	**Makanchi Array**	**48.01**	**293**	P		**P**	**11 38 31.6**	**-1.6**
	comp=Z,1.9nm,0.6s,mb4.3,baz=36,slow=5.2,SNR=8.0							
MKAR	**Makanchi Array**	**48.01**	**293**	P		**P**	**11 38 31.6**	**-1.6**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ZRNK	**Zerenda**	**48.95**	**307**	*e*P		**P**	**11 38 39.1**	**-1.4**
ZRNK				pmax	pmax			
	comp=Z,135nm,1.9s,mb5.7							
ZRNK	**Zerenda**	**48.95**	**307**	*e*P		**P**	**11 38 39.0**	**-1.5**
	comp=Z,135nm,1.9s,mb5.7							
PDAR	**Pinedale Array**	**51.27**	**70**	P		**P**	**11 38 59.1**	**+1.1**
	comp=Z,3.7nm,0.9s,mb4.3,baz=337,slow=3.4,SNR=9.9							
ULM	**Lac du Bonnet**	**51.35**	**55**	P		**P**	**11 38 58.3**	**-0.3**
	comp=Z,1.5nm,0.7s,mb4.0,baz=274,slow=3.7,SNR=2.9							
AKTK	**Aktyubinsk**	**55.10**	**312**	P		**P**	**11 39 24.9**	**-1.4**
AKTO	**Aktyubinsk**	**55.10**	**312**	P		**P**	**11 39 24.9**	**-1.4**
	comp=Z,1.2nm,0.6s,mb4.1,baz=107,slow=6.2,SNR=4.2							
AKTO	**Aktyubinsk**	**55.10**	**312**	P		**P**	**11 39 24.9**	**-1.4**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb4.0							
NB2	**NORSAR Subarra**	**56.98**	**346**	P		**P**	**11 39 38.0**	**-1.8**
	comp=Z,1.9nm,0.7s,mb4.2,baz=14,slow=7.4							
NOA	**NORSAR Array B**	**56.98**	**346**	P		**P**	**11 39 38.4**	**-1.3**
	comp=Z,2.1nm,0.8s,mb4.2,baz=14,slow=7.3,SNR=3.9							
NOA	**NORSAR Array B**	**56.98**	**346**	P		**P**	**11 39 38.4**	**-1.4**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
NOA	**NORSAR Array B**	**56.98**	**346**	P		**P**	**11 39 38.4**	**-1.4**
SCHQ	**Schefferville**	**57.32**	**33**	P		**P**	**11 39 40.8**	**-1.3**
	comp=Z,2.5nm,0.7s,mb4.3,baz=42,slow=11,SNR=4.9							
WMOK	**Wichita Mounta**	**62.69**	**67**	*e*P		**P**	**11 40 19.1**	**+0.1**
WMOK				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.7							
WMOK	**Wichita Mounta**	**62.69**	**67**	*e*P		**P**	**11 40 19.1**	**+0.1**
	comp=Z,5.6nm,0.9s,mb4.7							
AKASG	**Malin Array Be**	**63.61**	**331**	P		**P**	**11 40 22.6**	**-2.5**
	comp=Z,0.5nm,0.4s,mb3.9,baz=22,slow=6.4,SNR=4.1							
AKASG	**Malin Array Be**	**63.61**	**331**	P		**P**	**11 40 22.7**	**-2.4**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
KIV	**Kislovodsk**	**65.97**	**319**	*e*P		**P**	**11 40 39.7**	**-0.8**
KIV				pmax	pmax			
	comp=Z,11nm,1.1s,mb4.8							
BRTR	**Keskin Array B**	**72.61**	**323**	P		**P**	**11 41 21.4**	**-0.3**
	comp=Z,1.0nm,0.8s,mb3.8,baz=56,slow=3.1,SNR=6.0							
BRTR	**Keskin Array B**	**72.61**	**323**	P		**P**	**11 41 21.4**	**-0.3**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
WRA	**Warramunga Arr**	**84.46**	**210**	P		**P**	**11 42 24.3**	**-2.7**
	comp=Z,3.1nm,0.9s,mb4.4,baz=14,slow=5.2,SNR=9.8							
WRA	**Warramunga Arr**	**84.46**	**210**	P		**P**	**11 42 24.3**	**-2.7**
WRA				pmax	pmax			
	comp=Z,3.0nm,0.9s							

JMA 22 11:32:20.2, 3421N×13531E, h7km±1km, M3.6, 4C-3D Broadband fault plane solution: P waves. NP1: ϕ_s107.00000°, δ51.00000°, λ-4.00000°. **NP2:** ϕ_s200.00000°, δ87.00000°, λ-141.00000°. **Principal axes:** T Plg24.0000°, Azm327.0000°; N Plg51.0000°, Azm204.0000°; P Plg29.0000°, Azm71.0000°; **Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JWY	**Kouya**	**0.23**	**88**	S		Sg	11 32 28.2	+0.2
JWM	**Minabe**	**0.36**	**174**	⇑P		Pg	11 32 27.6	+0.4
JWM				S		Sg	11 32 32.5	+0.5
JAJ2	**Tsuna**	**0.41**	**301**	⇑P		Pg	11 32 28.4	+0.3
JAJ2				S		Sg	11 32 34.3	+0.8
JHE	**Heguri**	**0.54**	**35**	⇓P		Pg	11 32 30.6	0.0
JHE				S		Sg	11 32 37.9	+0.2
JWZ	**Kozaga**	**0.76**	**153**	⇑P		Pg	11 32 34.8	0.0
JWZ				S		Sg	11 32 45.2	+0.6
JKN2	**Miekihoku**	**0.80**	**88**	⇓P		Pg	11 32 35.2	-0.4
JAI	**Aioi**	**0.83**	**240**	⇓P		Pg	11 32 35.8	-0.3
JAI				S		Sg	11 32 47.4	+0.6
JKS	**Kasai**	**0.86**	**334**	⇑P		Pg	11 32 36.6	-0.1
JKS				S		Sg	11 32 48.0	+0.1
MAT	**Matsushiro**	**3.32**	**45**	P		Pn	11 33 13.6	+1.1
MAT				*e*S		Sn	11 33 53.6	+1.4

LDG ***22*** *11:32:33.2±0.2, 4314N×114W, h20km±1km, Md2.0/1, Ml2.0/1 Error ellipse: s-maj=4.5km s-min=1.5km az=35.0*

STR ***22*** *11:32:35.0±0.2, 4320N×107W, h2km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 22 11:32:34.3±0.4, 4314N×114W, h15km±4km, mbLg1.4/11, Error ellipse: s-maj=2.7km s-min=1.6km az=3.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OSSF	**Osses**	**0.15**	**321**	Pg		Pg	11 32 37.8	-0.3
OSSF				Sg		Sg	11 32 40.7	0.0
OSSF	**Osses**	**0.15**	**321**	Pg		Pg	11 32 37.9	-0.2
OSSF				Lg			11 32 40.7	
LARF	**Larrau**	**0.15**	**133**	Pg		Pg	11 32 38.0	-0.2
LARF				Sg		Sg	11 32 41.3	+0.5
LARF	**Larrau**	**0.15**	**133**	Pg		Pg	11 32 38.0	-0.2
LARF				Lg			11 32 41.2	
ORDF	**Ordiarp**	**0.16**	**64**	Pg		Pg	11 32 38.3	-0.1
ORDF				Lg			11 32 41.1	
EALK	**Alkurruntz**	**0.28**	**286**	Pg		Pg	11 32 39.9	-0.4
	5.5nm,0.1s,SNR=7.9							
EALK				Lg			11 32 44.2	
	38nm,0.2s,SNR=7.9							
ELIZ	**Elizondo**	**0.29**	**275**	Pg		Pg	11 32 39.9	-0.5
	2.6nm,0.1s,SNR=7.9							
ELIZ				Lg			11 32 44.4	
	5.4nm,0.1s,SNR=7.9							
ATE	**Arette**	**0.33**	**100**	Pg		Pg	11 32 40.4	-0.6
ATE				Sg		Sg	11 32 45.3	-0.3
ATE	**Arette**	**0.33**	**100**	Pg		Pg	11 32 40.5	-0.5
ATE				Lg			11 32 45.7	
IUSE	**Utxeti**	**0.36**	**237**	Pg		Pg	11 32 41.1	-0.6
	1.8nm,0.1s,SNR=7.9							
IUSE				Lg			11 32 46.4	
	6.2nm,0.1s,SNR=7.9							
IPRE	**Itoiz**	**0.37**	**206**	Pg		Pg	11 32 41.4	-0.5
	0.5nm,0.1s,SNR=7.9							
IPRE				Lg			11 32 47.1	
	6.2nm,0.2s,SNR=7.9							
IUNC	**Unciti**	**0.47**	**215**	Pg		Pg	11 32 43.1	-0.6
	0.3nm,0.1s,SNR=7.9							
IUNC				Lg			11 32 49.6	
	1.8nm,0.1s,SNR=7.9							
ETSF	**Etsaut**	**0.49**	**120**	*e*Pg		Pg	11 32 43.0	-1.0
ETSF				*e*Sg		Sg	11 32 49.7	-0.9
	19nm,0.2s							
ETSF	**Etsaut**	**0.49**	**120**	Pg		Pg	11 32 43.0	-1.0
ETSF				Lg			11 32 49.7	
	9.6nm,0.2s							
EARA	**Aranguren**	**0.49**	**222**	Pg		Pg	11 32 43.6	-0.4
	3.1nm,0.1s,SNR=7.9							
EARA				Lg			11 32 50.5	
	4.7nm,0.1s,SNR=7.9							
EBIE	**Bielsa**	**1.04**	**115**	Pg		Pg	11 32 52.8	-1.6
	0.3nm,0.1s,SNR=7.9							
EBIE				Lg			11 33 06.8	
	1.1nm,0.1s,SNR=7.9							
EPF	**Esparros**	**1.09**	**95**	*e*Pg		Pg	11 32 53.9	-1.4
EPF				*e*Sg		Sg	11 33 08.3	-1.2
	2.9nm,0.2s							
EPF	**Esparros**	**1.09**	**95**	Pg		Pg	11 32 53.9	-1.4
EPF				Lg			11 33 08.3	
	1.4nm,0.2s							
EGRA	**Graus**	**1.43**	**131**	Lg			11 33 20.6	
	1.4nm,0.2s,SNR=7.9							
ESAC	**San Caprasio**	**1.50**	**161**	Lg			11 33 21.6	
	16nm,0.3s,SNR=7.9							
ELAN	**Lanestosa**	**1.68**	**274**	Pn		Pn	11 33 03.8	+0.7
	SNR=7.9							
MTLF	**Montolieu**	**2.46**	**84**	*e*Sn		Sn	11 33 38.4	-5.2

IDC 22 11:35:53.6±5.0, 6099N×16539E, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.6/20, mbtmp3.6/3, Error ellipse: s-maj=206.2km s-min=31.2km az=176.0, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ILAR	**Eielson Array**	**21.66**	**59**	P		P	11 40 45.1	-0.5
	1.9nm,0.8s,baz=279,slow=11,SNR=12							
MKAR	**Makanchi Array**	**47.57**	**292**	P		P	11 44 30.4	-0.5
	0.6nm,0.6s,baz=51,slow=8.2,SNR=3.8							
PDAR	**Pinedale Array**	**51.56**	**69**	P		P	11 45 01.4	-0.1
	0.3nm,0.4s,baz=272,slow=4.3,SNR=3.9							

BJI ***22*** *11:43:48.2, 6068N×16592E, h18km, mB4.6, mb4.5*

IDC ***22*** *11:43:50.9±0.5, 6094N×16542E, h0km, mb4.2/20, mb1 4.4/21, mb1mx4.4/26, mbtmp4.3/21, ML3.6/1, Error ellipse: s-maj=13.9km s-min=12.7km az=46.0*

MOS ***22*** *11:43:50.7±1.1, 6088N×16560E, h12km, mb4.5/21, Error ellipse: s-maj=21.1km s-min=8.7km az=92.4*

KRSC ***22*** *11:43:51.4±0.7, 6081N×16637E, h10km±6km, ML4.5*

ISCJB ***22*** *11:43:51.3±0.3, 6094N±003×16577E±008, h10km, mb4.4/32, Error ellipse: s-maj=6.2km s-min=3.7km az=41.3*

NEIC ***22*** *11:43:52.2±0.4, 6084N×16551E, h10km, mb4.6/8, Error ellipse: s-maj=10.9km s-min=6.8km az=174.0*

ISC 22 11:43:52.8±0.3, 6096N±003×16577E±009, h10km, n89, σ1§39/93, mb4.4/32, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TILR	**Tilichiki**	**0.55**	**165**	*i* P		**Pg**	**11 44 00.4**	**-3.0**
TILR				*e*S		**Sg**	**11 44 07.3**	**-3.3**
TILR				Smax				
	43μm,0.4s							
KAMR	**Kamenskoye**	**1.52**	**8**	*e*P		**Pn**	**11 44 20.6**	**+0.7**
KAMR				*e*S		**Sn**	**11 44 42.1**	**+2.4**
KAMR				Smax				
	8μm,0.9s							
OSSR	**Ossora**	**2.19**	**220**	*e*P		**Pn**	**11 44 27.9**	**-1.3**
EVNR	**Evensk**	**3.27**	**290**	P		**Pn**	**11 44 48.1**	**+4.1**
SMKR	**Semkarok**	**4.93**	**209**	*e*P		**Pn**	**11 45 06.8**	**0.0**
SRKR	**Sorokina**	**4.94**	**211**	*e*P		**Pn**	**11 45 07.5**	**+0.5**
KBG	**Krutoberegovo**	**4.98**	**200**	P		**Pn**	**11 45 08.3**	**+0.7**
BDR	**Baidarnaya**	**5.00**	**210**	*e*P		**Pn**	**11 45 08.0**	**+0.1**
KBTR	**Krutoberegovo**	**5.01**	**199**	P		**Pn**	**11 45 07.0**	**-1.0**
KBTR				S		**Sn**	**11 46 04.5**	**-1.4**
KBTR	**Krutoberegovo**	**5.01**	**199**	*i* P		**Pn**	**11 45 07.7**	**-0.3**
KBTR				*e*S		**Sn**	**11 46 02.9**	**-3.0**
KRSR	**Krestovskiy**	**5.48**	**212**	*e*P		**Pn**	**11 45 15.8**	**+1.4**
CIRR	**Tsirk**	**5.52**	**211**	*e*P		**Pn**	**11 45 15.5**	**+0.5**
LGNR	**Loginova**	**5.57**	**211**	*e*P		**Pn**	**11 45 17.4**	**+1.8**
ZLN	**Zelenaya**	**5.60**	**210**	*e*P		**Pn**	**11 45 16.8**	**+0.7**
SRDR	**Sredinnyy**	**5.63**	**217**	*e*P		**Pn**	**11 45 20.0**	**+3.6**
KPT	**Kopyto**	**5.79**	**213**	P		**Pn**	**11 45 20.7**	**+2.0**
KOZ	**Kozyrevsk**	**5.80**	**215**	P		**Pn**	**11 45 21.3**	**+2.4**
KMNR	**Kamenistaya**	**5.97**	**212**	*e*P		**Pn**	**11 45 23.2**	**+2.0**
ESO	**Esso**	**6.26**	**219**	P		**Pn**	**11 45 28.4**	**+3.2**
ESO				Smax				
	110nm,1.3s							
BILL	**Bilibino**	**7.11**	**2**	*e*PN		**Pn**	**11 45 39.4**	**+2.6**
BILL				pmax	pmax			
	comp=Z,5.0nm,0.7s							
BILL	**Bilibino**	**7.11**	**2**	*e*Pn		**Pn**	**11 45 39.9**	**+3.0**
BILL	**Bilibino**	**7.11**	**2**	*e*P		**Pn**	**11 45 40.7**	**+3.9**
BILL				Smax				
	comp=Z,250nm,1.0s							
GNL	**Ganaly**	**8.42**	**214**	*e*P		**Pn**	**11 45 57.3**	**+2.5**
SDLR	**Sedlovina**	**8.56**	**209**	*e*P		**Pn**	**11 45 59.4**	**+2.7**
AVH	**Avacha**	**8.61**	**209**	*e*P		**Pn**	**11 46 01.1**	**+3.8**
FX1	**Attu Island--F**	**9.04**	**150**	Pn		**Pn**	**11 46 02.5**	**-0.8**
	comp=Z,2.3nm,0.3s,baz=119,slow=12,SNR=7.9	

MKAR pmax pmax
comp=Z,3.0nm,0.5s
HLID Hailey 48.54 73 *eP* **P 11 52 36.1 +0.2**
comp=Z,2.8nm,0.7s,mb4.4
ZRNK Zerenda 48.69 307 *eP* **P 11 52 36.4 -0.7**
ZRNK pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
ZRNK Zerenda 48.69 307 *eP* **P 11 52 36.4 -0.7**
comp=Z,4.6nm,0.5s,mb4.8
GCMT Greycliff 49.01 67 *eP* **P 11 52 40.4 +0.8**
BW06 Boulder Array 51.40 70 *eP* **P 11 52 58.1 +0.4**
comp=Z,4.8nm,0.7s,mb4.5
PDAR Pinedale Array 51.40 70 P **P 11 52 58.4 +0.7**
comp=Z,5.3nm,0.7s,mb4.6,baz=326,slow=3.1,SNR=14
ULM Lac du Bonnet 51.41 54 P **P 11 52 58.2 +0.4**
comp=Z,2.4nm,0.5s,mb4.3,baz=291,slow=5.6,SNR=4.5
JOF Joensuu 51.71 335 *ep* **P 11 52 54.4 -5.6**
KAF Kangasniemi 53.41 338 *ep* **P 11 53 11.2 -1.5**
FINES FINESS Array B 54.08 337 P **P 11 53 15.9 -1.6**
comp=Z,1.6nm,0.6s,mb4.1,baz=25,slow=10,SNR=7.3
FINES FINESS Array B 54.08 337 P **P 11 53 16.0 -1.5**
FINES pmax pmax
comp=Z,2.0nm,0.6s
KMI Kunming 55.31 259 P **P 11 53 21.5 -5.0**
KMI AMB AMB
comp=Z,5.0nm,0.9s,mb4.5
NB2 NORSAR Subarra 56.77 346 P **P 11 53 35.6 -1.3**
comp=Z,2.8nm,0.5s,mb4.5,baz=15,slow=7.4
NOA NORSAR Array B 56.77 346 P **P 11 53 36.0 -0.9**
comp=Z,3.7nm,0.5s,mb4.7,baz=14,slow=7.3,SNR=7.9
NOA NORSAR Array B 56.77 346 P **P 11 53 36.0 -0.9**
NOA pmax pmax
comp=Z,4.0nm,0.5s
NOA NORSAR Array B 56.77 346 P **P 11 53 36.0 -0.9**
HFS Hagfors 57.32 344 P **P 11 53 39.2 -1.6**
comp=Z,1.9nm,0.7s,mb4.3,baz=60,slow=3.6,SNR=5.1
HFS Hagfors 57.32 344 P **P 11 53 39.2 -1.6**
HFS pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 63.36 331 P **P 11 54 20.7 -1.4**
comp=Z,3.4nm,0.7s,mb4.6,baz=25,slow=6.2,SNR=7.9
AKASG Malin Array Be 63.36 331 P **P 11 54 20.7 -1.4**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
EKA Eskdalemuir Ar 63.72 353 P **P 11 54 23.4 -1.1**
comp=Z,1.9nm,0.8s,mb4.2,baz=11,slow=6.0,SNR=6.0
EKA Eskdalemuir Ar 63.72 353 P **P 11 54 23.4 -1.1**
EKA pmax pmax
comp=Z,2.0nm,0.8s
GERES GERESS Array B 68.25 341 P **P 11 54 53.1 -0.5**
comp=Z,1.3nm,0.8s,mb4.0,baz=344,slow=4.3,SNR=5.2
GERES GERESS Array B 68.25 341 P **P 11 54 53.1 -0.6**
GERES pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 72.35 323 P **P 11 55 17.4 -1.4**
comp=Z,2.1nm,1.0s,mb4.0,baz=32,slow=4.8,SNR=6.4
BRTR Keskin Array B 72.35 323 P **P 11 55 17.4 -1.4**
BRTR pmax pmax
comp=Z,2.0nm,1.0s
WRA Warramunga Arr 84.51 210 P **P 11 56 23.9 -2.0**
comp=Z,6.4nm,0.6s,mb4.5,baz=12,slow=5.5,SNR=50
WRA Warramunga Arr 84.51 210 P **P 11 56 23.9 -2.0**
WRA pmax pmax
comp=Z,2.0nm,0.6s
ASAR Alice Springs 88.19 209 P **P 11 56 42.2 -1.8**
comp=Z,0.4nm,0.5s,mb3.9,baz=12,slow=4.6,SNR=12

*IDC **22** 11:46:08.4±10.0, 5974N×16570E, h0km, mb3.9/3, mb1 4.3/3, mb1mx3.7/19, mbtmp3.9/3, Error ellipse: s-maj=179.0km s-min=124.3km az=89.0*
*ISCJB **22** 11:46:12.4±1.1, 6077N±005×1658E±03, h10km, mb3.9/3, Error ellipse: s-maj=21.7km s-min=6.2km az=167.5*
*KRSC **22** 11:46:12.8±0.0, 6071N×166.15E, h19km±13km, ML3.9*
ISC 22 11:46:13.4±1.0, 6078N±004×1659E±04, h10km, n6, σ0§93/8, mb3.9/3, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.36**	**165**	*i* P		**Pg**	**11 46 19.7**	**-0.8**
TILR				*e*S		**Sg**	**11 46 24.7**	**-0.5**
TILR				Smax				
	38μm,0.3s							
KAMR	**Kamenskoye**	**1.69**	**5**	*e*P		**Pn**	**11 46 42.4**	**-0.6**
KAMR				*e*S		**Sn**	**11 47 04.0**	**-0.8**
KAMR				Smax				
	2μm,1.1s							
KBTR	**Krutoberegovo**	**4.85**	**201**	*e*P		**Pn**	**11 47 27.2**	**+0.8**
ILAR	**Eielson Array**	**21.57**	**59**	P		**P**	**11 51 06.5**	**+3.4**
	3.7nm,0.7s,mb3.9,baz=275,slow=8.8,SNR=9.3							
YKA	**Yellowknife Ar**	**35.60**	**52**	P		**P**	**11 53 11.3**	**+0.2**
	0.5nm,0.4s,mb3.8,baz=304,slow=8.1,SNR=5.2							
PDAR	**Pinedale Array**	**51.42**	**70**	P		**P**	**11 55 19.6**	**+1.0**
	1.9nm,0.7s,mb4.1,baz=327,slow=4.3,SNR=6.2							

*MOS **22** 11:47:19.7±1.0, 6071N×16560E, h10km, mb4.3/13, Error ellipse: s-maj=30.9km s-min=15.1km az=100.1*
*ISCJB **22** 11:47:20.7±0.4, 6077N±004×1657E±01, h10km, mb4.2/14, Error ellipse: s-maj=9.1km s-min=5.0km az=156.8*
*IDC **22** 11:47:20.8±0.7, 6078N×16551E, h0km, mb4.2/13, mb1 4.3/14, mb1mx4.2/24, mbtmp4.2/14, ML3.7/1, Error ellipse: s-maj=18.4km s-min=14.2km az=43.0*
*KRSC **22** 11:47:21.6±0.0, 6070N×166.15E, h15km±8km, ML4.1*
ISC 22 11:47:22.1±0.4, 6077N±004×1658E±01, h10km, n36, σ1§10/38, mb4.2/14, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.37**	**159**	*i* P		**Pg**	**11 47 28.3**	**-1.0**
TILR				*e*S		**Sg**	**11 47 33.2**	**-1.1**
TILR				Smax				
	39μm,1.2s							
KAMR	**Kamenskoye**	**1.70**	**7**	*e*P		**Pn**	**11 47 51.9**	**+0.1**
KAMR				*e*S		**Sn**	**11 48 14.0**	**+0.4**
KAMR				Smax				
	2μm,0.9s							
SMKR	**Semkarok**	**4.77**	**210**	P		**Pn**	**11 48 36.2**	**+2.2**
KBTR	**Krutoberegovo**	**4.84**	**200**	*e*P		**Pn**	**11 48 36.0**	**+1.1**
BKI	**Bering**	**5.59**	**179**	P		**Pn**	**11 48 46.9**	**+1.7**
BILL	**Bilibino**	**7.30**	**1**	*e*PN		**Pn**	**11 49 05.0**	**-3.7**
BILL				pmax	pmax			
	comp=Z,34nm,1.1s							
FX1	**Attu Island--F**	**8.88**	**150**	Pn		**Pn**	**11 49 29.9**	**-0.5**
	comp=Z,2.6nm,0.3s,baz=274,slow=20,SNR=7.0							
FX1	**Attu Island--F**	**8.88**	**150**	PN		**Pn**	**11 49 29.9**	**-0.5**
FX1				pmax	pmax			
	comp=Z,3.0nm,0.3s							
YAK	**Yakutsk**	**17.19**	**290**	*e*P		**Pn**	**11 51 24.2**	**+1.9**
YAK				pmax	pmax			
	comp=Z,29nm,0.9s							
YAK				pmax	pmax			
	comp=N,5.0nm,1.2s							
YAK				pmax	pmax			
	comp=E,9.0nm,1.0s							
ILAR	**Eielson Array**	**21.60**	**59**	P		**P**	**11 52 13.2**	**+1.1**
	comp=E,6.5nm,0.8s,mb4.1,baz=272,slow=8.5,SNR=13							
ILAR	**Eielson Array**	**21.60**	**59**	P		**P**	**11 52 13.2**	**+1.1**
ILAR				pmax	pmax			
	comp=Z,7.0nm,0.8s							
BOD	**Bodaibo**	**26.04**	**287**	*e*P		**P**	**11 52 55.1**	**-0.3**
BOD				pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.3							
INK	**Inuvik**	**26.09**	**48**	P		**P**	**11 52 57.2**	**+1.4**
	comp=Z,3.2nm,0.7s,mb4.0,baz=310,slow=10,SNR=6.3							
INK	**Inuvik**	**26.09**	**48**	P		**P**	**11 52 57.3**	**+1.5**
INK				pmax	pmax			
	comp=Z,3.0nm,0.7s							
YKA	**Yellowknife Ar**	**35.63**	**52**	P		**P**	**11 54 20.1**	**+0.1**
	comp=Z,1.2nm,0.5s,mb4.1,baz=305,slow=8.1,SNR=9.7							
YKA	**Yellowknife Ar**	**35.63**	**52**	P		**P**	**11 54 20.1**	**+0.1**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
SONM	**Songino Array**	**35.69**	**276**	P		**P**	**11 54 19.5**	**-1.0**
	comp=Z,2.6nm,0.9s,mb4.2,baz=48,slow=8.9,SNR=6.9							
SONM	**Songino Array**	**35.69**	**276**	P		**P**	**11 54 19.5**	**-1.0**
SONM				pmax	pmax			
	comp=Z,3.0nm,0.9s							
MKAR	**Makanchi Array**	**47.84**	**293**	P		**P**	**11 55 59.0**	**-0.9**
	comp=Z,2.3nm,0.6s,mb4.4,baz=47,slow=7.7,SNR=13							
MKAR	**Makanchi Array**	**47.84**	**293**	P		**P**	**11 55 59.0**	**-0.9**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
PDAR	**Pinedale Array**	**51.46**	**70**	P		**P**	**11 56 28.6**	**+1.2**
	comp=Z,3.1nm,0.9s,mb4.2,baz=318,slow=3.5,SNR=9.4							
FINES	**FINESS Array B**	**54.25**	**337**	P		**P**	**11 56 46.7**	**-1.4**
	comp=Z,1.4nm,0.8s,mb4.0,baz=50,slow=10,SNR=3.8							
FINES	**FINESS Array B**	**54.25**	**337**	P		**P**	**11 56 46.7**	**-1.4**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.8s							
AKTO	**Aktyubinsk**	**54.97**	**312**	P		**P**	**11 56 53.4**	**+0.1**
	comp=Z,1.2nm,0.5s,mb4.2,baz=36,slow=10,SNR=4.3							
AKTO	**Aktyubinsk**	**54.97**	**312**	P		**P**	**11 56 53.4**	**+0.1**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.1							
NB2	**NORSAR Subarra**	**56.95**	**346**	P		**P**	**11 57 06.4**	**-1.1**
	comp=Z,1.5nm,0.6s,mb4.2,baz=15,slow=7.4							
NOA	**NORSAR Array B**	**56.95**	**346**	P		**P**	**11 57 06.8**	**-0.8**
	comp=Z,1.8nm,0.6s,mb4.3,baz=14,slow=7.3,SNR=4.6							
NOA	**NORSAR Array B**	**56.95**	**346**	P		**P**	**11 57 06.8**	**-0.7**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
HFS	**Hagfors**	**57.50**	**344**	P		**P**	**11 57 10.0**	**-1.4**
	comp=Z,4.5nm,1.0s,mb4.5,baz=45,slow=8.6,SNR=4.1							
HFS	**Hagfors**	**57.50**	**344**	P		**P**	**11 57 10.0**	**-1.4**
HFS				pmax	pmax			
	comp=Z,5.0nm,1.0s							
AKASG	**Malin Array Be**	**63.52**	**331**	P		**P**	**11 57 51.8**	**-0.7**
	comp=Z,0.9nm,0.4s,mb4.2,baz=25,slow=6.2,SNR=5.4							
AKASG	**Malin Array Be**	**63.52**	**331**	P		**P**	**11 57 51.8**	**-0.8**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
BRTR	**Keskin Array B**	**72.50**	**323**	P		**P**	**11 58 48.8**	**-0.2**
	comp=Z,1.6nm,0.9s,mb3.9,baz=57,slow=3.4,SNR=5.7							
BRTR	**Keskin Array B**	**72.50**	**323**	P		**P**	**11 58 48.8**	**-0.2**
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
WRA	**Warramunga Arr**	**84.35**	**210**	P		**P**	**11 59 53.7**	**-0.7**
	comp=Z,1.1nm,0.7s,mb4.1,baz=14,slow=5.2,SNR=9.9							
WRA	**Warramunga Arr**	**84.35**	**210**	P		**P**	**11 59 53.7**	**-0.7**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.7s							

*MOS **22** 11:48:23.0±1.3, 6075N×16538E, h10km, mb4.2/7, Error ellipse: s-maj=42.9km s-min=20.5km az=92.9*
*ISCJB **22** 11:48:24.3±1.7, 6078N±005×1656E±02, h13km±11km, mb4.0/9, Error ellipse: s-maj=17.4km s-min=7.3km az=27.3*
*IDC **22** 11:48:24.4±0.8, 6084N×16544E, h0km, mb4.0/9, mb1 4.3/10, mb1mx4.0/23, mbtmp4.0/10, ML3.2/1, Error ellipse: s-maj=20.4km s-min=16.1km az=62.0*
*KRSC **22** 11:48:25.1±0.2, 6076N×16620E, h20km±40km, ML4.2*
ISC 22 11:48:23.9±2.3, 6082N±005×1655E±02, h0km±14km, n21, σ0§81/24, mb4.1/9, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.47**	**147**	*i* P		**Pg**	**11 48 32.7**	**-0.2**
TILR				*e*S		**Sg**	**11 48 38.4**	**-0.6**
TILR				Smax				
	73μm,0.4s							
KAMR	**Kamenskoye**	**1.67**	**11**	*e*P		**Pn**	**11 48 54.2**	**-0.1**
KAMR				*e*S		**Sn**	**11 49 15.3**	**-1.1**
KAMR				Smax				
	3μm,1.2s							
KBTR	**Krutoberegovo**	**4.84**	**198**	*e*P		**Pn**	**11 49 39.5**	**+1.5**
KBTR				*e*S		**Sn**	**11 50 34.0**	**-0.7**
FX1	**Attu Island--F**	**8.98**	**149**	Pn		**Pn**	**11 50 34.8**	**0.0**
	1.0nm,0.3s,baz=104,slow=11,SNR=3.0							
FX1	**Attu Island--F**	**8.98**	**149**	PN		**Pn**	**11 50 34.8**	**0.0**
FX1				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ILAR	**Eielson Array**	**21.68**	**59**	P		**P**	**11 53 17.7**	**+1.6**
	comp=Z,5.8nm,0.6s,mb4.2,baz=275,slow=9.0,SNR=16							
ILAR	**Eielson Array**	**21.68**	**59**	P		**P**	**11 53 17.7**	**+1.6**
ILAR				pmax	pmax			
	comp=Z,6.0nm,0.6s							
INK	**Inuvik**	**26.14**	**48**	P		**P**	**11 53 60.0**	**+0.4**
	comp=Z,1.3nm,0.5s,mb3.9,baz=292,slow=12,SNR=4.3							
INK	**Inuvik**	**26.14**	**48**	P		**P**	**11 54 00.0**	**+0.4**
INK				pmax	pmax			
	comp=Z,1.0nm,0.5s							
DLBC	**Dease Lake**	**31.50**	**65**	P		**P**	**11 54 48.3**	**+0.9**
	comp=Z,2.3nm,0.8s,mb4.2,baz=301,slow=12,SNR=5.2							
YKA	**Yellowknife Ar**	**35.70**	**52**	P		**P**	**11 55 22.6**	**-1.2**
	comp=Z,0.8nm,0.5s,mb3.8,baz=305,slow=8.3,SNR=5.3							
YKA	**Yellowknife Ar**	**35.70**	**52**	P		**P**	**11 55 22.6**	**-1.3**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**47.70**	**293**	P		**P**	**11 57 01.8**	**-0.4**
	comp=Z,2.3nm,0.6s,mb4.5,baz=46,slow=7.6,SNR=13							
MKAR	**Makanchi Array**	**47.70**	**293**	P		**P**	**11 57 01.8**	**-0.4**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
PDAR	**Pinedale Array**	**51.55**	**69**	P		**P**	**11 57 31.5**	**0.0**
	comp=Z,1.4nm,0.5s,mb4.1,baz=309,slow=4.1,SNR=6.0							
FINES	**FINESS Array B**	**54.16**	**337**	P		**P**	**11 57 51.6**	**+0.8**
	comp=Z,0.7nm,0.5s,mb3.9,baz=358,slow=6.5,SNR=4.2							
FINES	**FINESS Array B**	**54.16**	**337**	P		**P**	**11 57 51.6**	**+0.8**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
NOA	**NORSAR Array B**	**56.87**	**345**	P		**P**	**11 58 09.9**	**-0.4**
	comp=Z,0.9nm,0.4s,mb4.1,baz=14,slow=7.3,SNR=3.0							
NOA	**NORSAR Array B**	**56.87**	**345**	P		**P**	**11 58 09.9**	**-0.4**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.4s							
WRA	**Warramunga Arr**	**84.33**	**209**	P		**P**	**12 00 57.2**	**-0.5**
	comp=Z,0.5nm,0.6s,mb3.9,baz=11,slow=5.5,SNR=7.4							
WRA	**Warramunga Arr**	**84.33**	**209**	P		**P**	**12 00 57.2**	**-0.5**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.6s							

*BJI **22** 11:50:29.6, 6089N×16573E, h16km, mB4.9, mb4.9, Ms5.0, Msz4.8*
*IDC **22** 11:50:29.9±0.5, 6083N×16561E, h0km, mb4.5/25, mb1 4.7/26, mb1mx4.7/29, mbtmp4.6/26, ML4.0/1, Error ellipse: s-maj=12.2km s-min=11.3km az=162.0*
*ISCJB **22** 11:50:30.0±0.2, 6087N±002×16564E±005, h10km, mb4.7/69, MS4.8/4, Error ellipse: s-maj=3.8km s-min=2.6km az=71.5*
*KRSC **22** 11:50:30.4±0.8, 6076N×16601E, h9km±3km, ML5.2*
*MOS **22** 11:50:30.2±0.9, 6086N×16561E, h13km, mb4.8/39, Error ellipse: s-maj=11.7km s-min=5.5km az=85.7*
*NEIC **22** 11:50:31.5±0.2, 6089N×16551E, h10km, mb4.9/23, Error ellipse: s-maj=5.2km s-min=3.5km az=178.0*
ISC 22 11:50:31.7±0.2, 6092N±002×16562E±005, h10km, (h18km±2.6km:pP-P), n213, σ1§05/230, mb4.7/69, MS4.8/4, 5C-5D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.54**	**156**	*i* P		**Pg**	**11 50 37.8**	**-4.3**
TILR				*e*S		**Sg**	**11 50 43.3**	**-5.8**
TILR				Smax				
	831μm,1.4s							
KAMR	**Kamenskoye**	**1.57**	**10**	*i* P		**Pn**	**11 51 01.1**	**+1.5**
KAMR				*i* S		**Sn**	**11 51 23.1**	**+3.2**
KAMR				Smax				
	50μm,1.2s							
OSSR	**Ossora**	**2.11**	**219**	*e*P		**Pn**	**11 51 05.2**	**-1.8**
EVNR	**Evensk**	**3.21**	**291**	*i* P		**Pn**	**11 51 25.0**	**+2.8**
EVNR				*e*S		**Sn**	**11 52 05.1**	**+4.6**
SMKR	**Semkarok**	**4.86**	**208**	*i* P		**Pn**	**11 51 44.7**	**-0.1**
SRKR	**Sorokina**	**4.86**	**210**	*e*P		**Pn**	**11 51 45.0**	**+0.2**
KBG	**Krutoberegovo**	**4.92**	**199**	*e*P		**Pn**	**11 51 44.2**	**-1.4**
KBG				Smax				
	1μm,1.2s							
BDR	**Baidarnaya**	**4.93**	**210**	*e*P		**Pn**	**11 51 45.1**	**-0.7**
KBTR	**Krutoberegovo**	**4.95**	**198**	P		**Pn**	**11 51 44.2**	**-1.8**
KBTR				S		**Sn**	**11 52 41.4**	**-1.9**
KBTR	**Krutoberegovo**	**4.95**	**198**	*e*P		**Pn**	**11 51 45.1**	**-0.9**
KBTR				*e*S		**Sn**	**11 52 40.9**	**-2.4**
KLY	**Klyuchi**	**5.30**	**211**	P		**Pn**	**11 51 50.0**	**-0.8**
KLY	**Klyuchi**	**5.30**	**211**	*e*P		**Pn**	**11 51 49.4**	**-1.4**
KRSR	**Krestovskiy**	**5.41**	**211**	P		**Pn**	**11 51 51.7**	**-0.6**
CIRR	**Tsirk**	**5.45**	**210**	P		**Pn**	**11 51 53.0**	**+0.1**
LGNR	**Loginova**	**5.49**	**210**	*e*P		**Pn**	**11 51 54.0**	**+0.5**
ZLN	**Zelenaya**	**5.53**	**209**	*e*P		**Pn**	**11 51 54.1**	**+0.1**
SRDR	**Sredinnyy**	**5.55**	**216**	P		**Pn**	**11 51 55.4**	**+1.1**
KPT	**Kopyto**	**5.72**	**212**	P		**Pn**	**11 51 57.3**	**+0.7**
KOZ	**Kozyrevsk**	**5.73**	**214**	P		**Pn**	**11 51 58.5**	**+1.8**
BKI	**Bering**	**5.74**	**178**	*e*P		**Pn**	**11 51 56.5**	**-0.3**
KMNR	**Kamenistaya**	**5.90**	**211**	*e*P		**Pn**	**11 51 59.0**	**-0.1**
ESO	**Esso**	**6.18**	**219**	P		**Pn**	**11 52 03.6**	**+0.6**
TUMR	**Tumrok**	**6.35**	**210**	P		**Pn**	**11 52 07.0**	**+1.7**
MKZ	**Mys Kozlova**	**6.71**	**200**	P		**Pn**	**11 52 09.2**	**-1.0**
MKZ	**Mys Kozlova**	**6.71**	**200**	P		**Pn**	**11 52 10.7**	**+0.5**
BILL	**Bilibino**	**7.16**	**2**	*e*PN		**Pn**	**11 52 16.4**	**+0.1**
BILL				pmax	pmax			
	comp=Z,93nm,1.1s							
BILL	**Bilibino**	**7.16**	**2**	*e*Pn		**Pn**	**11 52 16.7**	**+0.4**
BILL	**Bilibino**	**7.16**	**2**	*e*P		**Pn**	**11 52 19.4**	**+3.1**
KII	**Karymskiy**	**7.66**	**208**	P		**Pn**	**11 52 23.3**	**+0.1**
GNL	**Ganaly**	**8.34**	**213**	*e*P		**Pn**	**11 52 33.3**	**+0.7**
SPN	**Mys Shipunski**	**8.41**	**204**	P		**Pn**	**11 52 32.9**	**-0.7**
SPN	**Mys Shipunski**	**8.41**	**204**	P		**Pn**	**11 52 35.2**	**+1.6**
SPN				*e*S		**Sn**	**11 54 05.8**	**-2.8**
SDLR	**Sedlovina**	**8.49**	**208**	*e*P		**Pn**	**11 52 36.3**	**+1.7**
SMAR	**Somma**	**8.52**	**209**	*e*P		**Pn**	**11 52 37.3**	**+2.2**
AVH	**Avacha**	**8.53**	**209**	*e*P		**Pn**	**11 52 38.1**	**+2.8**
KOK	**Koryaka**	**8.53**	**209**	*e*P		**Pn**	**11 52 37.7**	**+2.5**
UGLR	**Uglovaya**	**8.56**	**209**	*e*P		**Pn**	**11 52 37.7**	**+2.0**
PET	**Petropavlovsk**	**8.78**	**209**	P		**Pn**	**11 52 39.2**	**+0.6**
PET	**Petropavlovsk**	**8.78**	**209**	*i* PN		**Pn**	**11 52 39.9**	**+1.3**
PET	**Petropavlovsk**	**8.78**	**209**	*e*Pn		**Pn**	**11 52 38.1**	**-0.4**
	comp=Z,327nm,1.5s							
PET	**Petropavlovsk**	**8.78**	**209**	P		**Pn**	**11 52 40.2**	**+1.6**
FX1	**Attu Island--F**	**9.05**	**150**	Pn		**Pn**	**11 52 39.3**	**-2.9**
	comp=Z,5.9nm,0.3s,baz=0.0,slow=11,SNR=17							
FX1				Sn		**Sn**	**11 54 13.4**	**-11**
	baz=86,slow=14,SNR=1.7							
FX1	**Attu Island--F**	**9.05**	**150**	PN		**Pn**	**11 52 39.3**	**-3.0**
FX1				pmax	pmax			
	comp=Z,6.0nm,0.3s							
FX1	**Attu Island--F**	**9.05**	**150**	*e*Pn		**Pn**	**11 52 42.4**	**+0.1**
KRMR	**Karymshinskiy**	**9.08**	**210**	P		**Pn**	**11 52 44.8**	**+2.1**
GRL	**Gorelyy**	**9.35**	**210**	P		**Pn**	**11 52 48.1**	**+1.7**
SKR	**Severo-Kuril's**	**11.55**	**212**	*e*PN		**Pn**	**11 53 12.0**	**-4.6**
SKR				pmax	pmax			
	comp=E,40nm,0.8s							
SKR				pmax	pmax			
	comp=Z,110nm,0.8s							
YAK	**Yakutsk**	**17.07**	**289**	*e*P		**Pn**	**11 54 33.0**	**+2.7**
YAK				*e*Sn		**Sn**	**11 57 36.3**	**-3.7**
TIXI	**Tiksi**	**17.90**	**322**	*e*P		**Pn**	**11 54 42.3**	**+1.6**
TIXI				pmax	pmax			
	comp=Z,9.0nm,0.6s							
YSS	**Yuzh-Sakhalins**	**19.26**	**234**	P		**Pn**	**11 55 03.6**	**+6.4**
COLA	**College**	**21.17**	**59**	*e*P		**P**	**11 55 18.2**	**+1.2**
COLA	**College**	**21.17**	**59**	*e*P		**P**	**11 55 17.6**	**+0.6**
	comp=Z,84nm,1.1s,mb5.0							
KDAK	**Kodiak Island**	**21.27**	**80**	P		**P**	**11 55 17.1**	**-1.0**
	comp=Z,9.0nm,0.6s,mb4.3,baz=308,slow=2.6,SNR=7.5							
HABR	**Khabarovsk**	**21.37**	**248**	*e*P		**P**	**11 55 19.9**	**+0.7**
HABR				pmax	pmax			
	comp=Z,134nm,2.1s,mb4.9							
PMR	**Palmer**	**21.45**	**68**	*e*P		**P**	**11 55 21.1**	**+1.1**
PMR				pmax	pmax			
	comp=Z,63nm,2.0s,mb4.6							
PMR	**Palmer**	**21.45**	**68**	*e*P		**P**	**11 55 21.1**	**+1.1**
	comp=Z,63nm,2.0s,mb4.6							
ILAR	**Eielson Array**	**21.60**	**59**	P		**P**	**11 55 21.9**	**+0.2**
	comp=Z,38nm,0.9s,mb4.8,baz=276,slow=10,SNR=52							
ILAR	**Eielson Array**	**21.60**	**59**	P		**P**	**11 55 21.9**	**+0.3**
ILAR				pmax	pmax			
	comp=Z,38nm,0.9s							
ASAJ	**Asahikawa**	**21.70**	**230**	P		**P**	**11 55 21.6**	**-1.1**
	comp=Z,22nm,1.2s,mb4.5,baz=307,slow=3.9,SNR=3.3							
ASAJ	**Asahikawa**	**21.70**	**230**	P		**P**	**11 55 21.6**	**-1.1**
ASAJ				pmax	pmax			
	comp=Z,22nm,1.2s							
KLR	**Kul'dur**	**22.36**	**254**	*e*P		**P**	**11 55 26.6**	**-3.2**
MENT	**Mentasta**	**23.43**	**63**	*e*P		**P**	**11 55 40.2**	**-0.9**
INK	**Inuvik**	**26.05**	**48**	P		**P**	**11 56 05.0**	**-0.1**
	comp=Z,57nm,0.9s,mb5.1,baz=289,slow=12,SNR=34							
INK	**Inuvik**	**26.05**	**48**	*e*P		**P**	**11 56 04.8**	**-0.3**
INK				pmax	pmax			
	comp=Z,60nm,0.9s							
INK	**Inuvik**	**26.05**	**48**	*e*P		**P**	**11 56 04.8**	**-0.2**
	comp=Z,60nm,0.9s,mb5.1							
MDJ	**Mudanjiang**	**26.76**	**249**	P		**P**	**11 56 11.5**	**0.0**
MDJ				AMB	AMB			
	comp=Z,8.0nm,1.1s,mb4.2							
HIA	**Hailar**	**28.11**	**266**	*e*P		**P**	**11 56 23.5**	**-0.1**
CN2	**Changchun**	**29.29**	**253**	*e*P		**P**	**11 56 34.1**	**0.0**
CN2				*e*XP		sP	**11 56 41.1**	**+2.6**
CN2				*e*S		**S**	**12 01 24.8**	**-2.4**
CN2				AMB	AMB			
	comp=Z,20nm,0.6s,mb5.0							
CN2				AMB	AMB			
	comp=Z,200nm,3.0s							
MAT	**Matsushiro**	**29.94**	**228**	P		**P**	**11 56 42.8**	**+2.9**
MAT	**Matsushiro**	**29.94**	**228**	P		**P**	**11 56 43.0**	**+3.1**
MJAR	**Matsushiro Arr**	**29.94**	**228**	P		**P**	**11 56 39.8**	**-0.1**
	comp=Z,4.2nm,1.0s,mb4.1,baz=9.5,slow=8.4,SNR=6.8							
MJAR	**Matsushiro Arr**	**29.94**	**228**	P		**P**	**11 56 39.8**	**-0.1**
MJAR				pmax	pmax			
	comp=Z,4.0nm,1.0s							
DLBC	**Dease Lake**	**31.43**	**65**	P		**P**	**11 56 53.5**	**+0.5**
	comp=Z,6.0nm,0.8s,m

comp=E,1µm,17.4s,MS4.9
NJ2 LR LR
comp=Z,200nm,16.1s,MS4.1
EDM Edmonton 42.02 63 *e*P **P 11 58 23.4 +0.3**
DAG Danmarks Havn 42.53 1 ⇓*i*P **P 11 58 27.4 0.0**
comp=Z,3.0nm,0.8s,mb4.1
DAG Danmarks Havn 42.53 1 ⇓*i*P **P 11 58 27.4 0.0**
DAG pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
NEW Newport 43.85 70 *e*P **P 11 58 38.4 +0.4**
NEW pmax pmax
comp=Z,8.0nm,1.1s
NEW Newport 43.85 70 *e*P **P 11 58 38.4 +0.4**
comp=Z,8.1nm,1.1s,mb4.4
GTA Gaotai 45.02 273 *e*P **P 11 58 47.8 +0.4**
GTA AP pP 11 58 51.1 +0.6
GTA XP sP 11 58 53.9 +2.2
GTA AMB AMB
comp=Z,15nm,1.0s,mb4.8
FCC Fort Churchill 45.64 46 *e*P **P 11 58 51.5 -0.8**
FCC pmax pmax
comp=Z,48nm,0.8s,mb5.5
FCC Fort Churchill 45.64 46 *e*P **P 11 58 51.5 -0.8**
comp=Z,48nm,0.8s,mb5.5
LZH Lanzhou 45.67 266 *e*P **P 11 58 52.3 -0.2**
LZH AP pP 11 58 55.4 -0.2
LZH *e*PP PP 12 00 39.6 +0.2
LZH *e*S **S 12 05 33.5 -1.8**
LZH XS sS 12 05 49.8 +9.3
LZH AMB AMB
comp=Z,24nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,113nm,5.4s
LZH LR LR
comp=N,714nm,14.3s
LZH LR LR
comp=Z,835nm,17.6s,MS4.7
YBH Yreka Blue Hor 46.09 81 P **P 11 58 54.9 -0.9**
comp=Z,6.1nm,0.7s,mb4.7,baz=324,slow=5.4,SNR=8.5
YBH Yreka Blue Hor 46.09 81 P **P 11 58 54.9 -0.9**
YBH pmax pmax
comp=Z,6.0nm,0.7s
KURK Kurchatov 46.39 299*c i*P **P 11 58 58.3 +0.1**
CHMT Chamberlain Mo 46.62 69 *e*P **P 11 59 00.5 +0.5**
ARCES ARCESS Array B 46.77 342 P **P 11 58 59.8 -1.4**
comp=Z,7.4nm,0.9s,mb4.6,baz=32,slow=7.1,SNR=6.5
ARCES PcP PcP 12 00 33.6 -0.8
comp=Z,5.5nm,1.0s,baz=30,slow=5.6,SNR=4.0
ARCES ARCESS Array B 46.77 342 P **P 11 58 59.8 -1.4**
ARCES 12 00 33.6
ARCES pmax pmax
comp=Z,7.0nm,0.9s
ARE0 ARCESS Array S 46.77 342 *e*P **P 11 59 00.1 -1.1**
HRY Holter Researc 47.41 68 *e*P **P 11 59 06.5 +0.3**
WMQ Urumqi 47.47 286 ⇓P **P 11 59 07.5 +0.9**
WMQ AP pP 11 59 16.0 +6.2
WMQ XP sP 11 59 19.8 +8.8
WMQ PCP PcP 12 00 38.3 +1.4
WMQ PP PP 12 00 58.3 +0.4
WMQ SCP ScP 12 04 29.3 -1.7
WMQ S **S 12 05 59.3 -1.8**
WMQ XS sS 12 06 11.8 +5.5
WMQ AMB AMB
comp=Z,7.0nm,1.0s,mb4.5
CHKZ Chkalovo 47.47 306 *e*P **P 11 59 06.7 +0.1**
CHKZ pmax pmax
comp=Z,11nm,0.7s,mb4.9
CHKZ Chkalovo 47.47 306 *e*P **P 11 59 06.7 +0.1**
comp=Z,11nm,0.7s,mb4.9
WVOR Wild Horse Val 47.50 77 *e*P **P 11 59 07.5 +0.6**
MK31 Makanchi Array 47.70 293 P **P 11 59 07.6 -0.8**
MK31 pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
MKAR Makanchi Array 47.70 293 P **P 11 59 08.0 -0.5**
comp=Z,4.4nm,0.6s,mb4.6,baz=48,slow=7.3,SNR=24
MKAR PP PP 12 00 56.5 -3.5
comp=Z,1.5nm,0.7s,baz=57,slow=10.0,SNR=3.9
MKAR Makanchi Array 47.70 293 P **P 11 59 08.0 -0.4**
MKAR 12 00 56.5
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 47.70 293 P **P 11 59 08.0 -0.5**
MKAR PP PP 12 00 56.5 -3.5
BVA0 Borovoye Array 48.05 306 *i*P **P 11 59 11.7 +0.6**
BVA0 pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
MCMT McKenzie Canyo 48.38 70 *e*P **P 11 59 13.9 +0.2**
MCMT *e*PcP PcP 12 00 39.4 -0.7
HLID Hailey 48.62 73 *e*P **P 11 59 15.7 +0.2**
comp=Z,4.7nm,0.6s,mb4.7
NSHM Saint Helena R 48.62 83 *e*P **P 11 59 14.9 -0.7**
NSHM *e*PcP PcP 12 00 40.9 -0.1
ZRNK Zerenda 48.65 307 *e*P **P 11 59 16.1 +0.3**
ZRNK pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
ZRNK Zerenda 48.65 307 *e*P **P 11 59 16.1 +0.3**
comp=Z,9.4nm,0.6s,mb5.0
GCMT Greycliff 49.09 67 *e*P **P 11 59 19.8 +0.7**
TMCR Tamitsa 49.17 333 *e*P **P 11 59 19.8 0.0**
TMCR pmax pmax
comp=Z,20nm,1.0s,mb5.1
TMCR pmax pmax
comp=N,30nm,1.1s
TMCR pmax pmax
comp=E,20nm,0.7s
YMR Madison River 49.36 69 *e*P **P 11 59 22.4 +1.1**
comp=E,11nm,1.0s,mb4.8
YMR *e*PcP PcP 12 00 44.2 +0.5
SFJD Kangerlussuaq 49.65 18 P **P 11 59 22.7 -0.7**
comp=E,9.7nm,0.5s,mb5.0,baz=315,slow=8.5,SNR=7.8
SFJD Kangerlussuaq 49.65 18 *i*P **P 11 59 22.7 -0.7**
comp=E,27nm,1.2s,mb5.2
SFJD Kangerlussuaq 49.65 18 P **P 11 59 22.7 -0.7**
SFJD pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
ARU Arti 49.77 316 ⇓*i*P **P 11 59 24.7 +0.4**
ARU *e* 12 01 18.8
ARU *e*S **S 12 06 35.0 +1.5**
ARU *e*SS SS 12 10 07.6 +1.7
ARU pmax pmax
comp=Z,12nm,0.9s,mb4.9
CD2 Chengdu 49.91 262 P **P 11 59 24.9 -0.5**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
ELK Elko 50.42 76 *e*P **P 11 59 30.0 +0.8**
ELK *e* 12 00 48.2
ELK pmax pmax
comp=E,6.0nm,0.9s
ELK Elko 50.42 76 *e*P **P 11 59 30.0 +0.8**
comp=Z,6.3nm,0.9s,mb4.7
ELK *e*PcP PcP 12 00 48.2 +0.7
MNV Mina 50.84 80 *e*P **P 11 59 32.9 +0.4**
MNV pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
MNV Mina 50.84 80 *e*P **P 11 59 32.9 +0.4**
comp=Z,8.9nm,1.2s,mb4.6
HWUT Hardware Ranch 51.47 72 *e*P **P 11 59 37.5 +0.4**
BW06 Boulder Array 51.48 70 *e*P **P 11 59 37.6 +0.3**
comp=Z,10nm,0.8s,mb4.8
PDAR Pinedale Array 51.48 70 P **P 11 59 37.5 +0.3**
comp=Z,10.0nm,0.6s,mb4.8,baz=325,slow=2.7,SNR=24
ULM Lac du Bonnet 51.50 54 P **P 11 59 37.3 0.0**
comp=Z,7.5nm,0.8s,mb4.7,baz=327,slow=7.6,SNR=12
MTUM Tungsten Hills 51.50 81 *e*P **P 11 59 38.1 +0.7**
JOF Joensuu 51.71 335 *e*p **P 11 59 49.0 +10**
GYA Guiyang 52.23 256 P **P 11 59 42.8 0.0**
GYA AP pP 11 59 46.9 +0.9
GYA XP sP 11 59 49.8 +2.6
GYA PCP PcP 12 00 55.3 +1.0
GYA PP PP 12 01 41.5 +0.3
GYA SCP ScP 12 04 49.8 -1.6
GYA S **S 12 07 04.3 -3.3**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
GYA AMB AMB
comp=Z,90nm,3.2s
GYA LR LR
comp=N,480nm,17.6s,MS4.8
GYA LR LR
comp=E,570nm,17.2s,MS4.8
GYA LR LR
comp=Z,560nm,17.8s,MS4.7
KAF Kangasniemi 53.42 338 *e*p **P 11 59 50.5 -1.2**

MSU Marysvale 53.63 75 *e*P **P 11 59 52.9 -0.3**
MSU *e* 12 01 00.2
FINES FINESS Array B 54.09 337 P **P 11 59 56.0 -0.5**
comp=Z,3.5nm,0.8s,mb4.3,baz=33,slow=7.1,SNR=10.0
FINES FINESS Array B 54.09 337 P **P 11 59 56.0 -0.5**
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 54.09 337 P **P 11 59 56.0 -0.5**
AAK Ala-Archa 54.43 295⇑*e*P **P 11 59 58.8 -0.2**
AAK pmax pmax
comp=Z,17nm,1.9s,mb4.7
NEN Nelson 54.66 79 *e*P **P 12 00 01.9 +1.2**
NEN *e*PcP PcP 12 01 04.1 +0.6
AKTK Aktyubinsk 54.81 312 P **P 12 00 02.2 +0.5**
AKTO Aktyubinsk 54.81 312 P **P 12 00 02.2 +0.5**
comp=Z,3.2nm,0.7s,mb4.5,baz=22,slow=8.5,SNR=6.0
AKTO Aktyubinsk 54.81 312 P **P 12 00 02.2 +0.4**
AKTO pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
AB31 Akbulak array 55.06 310 *i*P **P 12 00 04.1 +0.5**
AB31 pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
PV10 Paradox Valley 55.21 73 *e*P **P 12 00 05.5 +0.8**
PV10 *e*PcP PcP 12 01 05.6 0.0
KMI Kunming 55.23 259 P **P 12 00 03.9 -0.9**
KMI AP pP 12 00 09.5 +1.5
KMI XP sP 12 00 11.6 +2.4
KMI PP PP 12 02 11.6 +3.4
KMI S **S 12 07 47.8 -0.5**
KMI SS SS 12 11 27.3 -5.1
KMI AMB AMB
comp=Z,8.0nm,0.8s,mb4.8
PV01 Paradox Valley 55.62 72 *e*P **P 12 00 08.7 +1.0**
KSH Kashi 56.27 292 *e*P **P 12 00 12.3 0.0**
KSH *e*AP pP 12 00 19.1 +3.6
KSH *e*XP sP 12 00 22.1 +5.4
KSH *e*PCP PcP 12 01 10.5 +0.8
KSH *e*PP PP 12 02 16.0 -1.5
KSH *e*SCP ScP 12 05 06.4 -2.6
KSH *e*PCS PcS 12 05 09.1 -1.1
KSH *e*S **S 12 07 55.6 -6.5**
KSH *e*XS sS 12 08 09.1 +1.7
KSH *e*SCS ScS 12 09 55.1 -6.5
KSH *e*SS SS 12 11 43.4 -5.3
ECSD EROS,Sioux Fal 56.41 60 *e*P **P 12 00 12.6 -0.8**
NB2 NORSAR Subarra 56.79 345 P **P 12 00 15.6 -0.3**
comp=Z,2.9nm,0.5s,mb4.6,baz=15,slow=7.4
NOA NORSAR Array B 56.79 345 P **P 12 00 15.6 -0.4**
comp=Z,3.7nm,0.5s,mb4.7,baz=14,slow=7.3,SNR=11
NOA NORSAR Array B 56.79 345 P **P 12 00 15.6 -0.3**
NOA pmax pmax
comp=Z,4.0nm,0.5s
SCHQ Schefferville 57.36 33 P **P 12 00 19.0 -1.0**
comp=Z,19nm,0.8s,mb5.2,baz=351,slow=7.2,SNR=23
SCHQ Schefferville 57.36 33 P **P 12 00 19.0 -1.0**
OBN Obninsk 57.50 328 *e*P **P 12 00 21.0 0.0**
OBN *e* 12 01 13.9
OBN *e* 12 02 25.4
OBN pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
ANMO Albuquerque 59.20 73⇑*e*P **P 12 00 33.7 +0.9**
GUN Gumba 61.10 276 *e*P **P 12 00 45.4 -0.5**
comp=Z,28nm,0.7s,mb5.5
JIRN Jiri 61.16 275 *e*P **P 12 00 45.8 -0.5**
KKN Kakani 61.49 276 *e*P **P 12 00 47.8 -0.7**
PKI Pulchoki 61.61 276 *e*P **P 12 00 48.3 -1.1**
GKN Gorkha 61.62 277 *e*P **P 12 00 48.7 -0.8**
CPRX Cap Rock 61.99 72 *e*P **P 12 00 51.6 -0.3**
KOLN Koldanda 62.32 278 *e*P **P 12 00 53.4 -0.7**
WMOK Wichita Mounta 62.89 67 *e*P **P 12 00 57.3 -0.7**
WMOK pmax pmax
comp=Z,13nm,1.0s,mb5.0
WMOK Wichita Mounta 62.89 67 *e*P **P 12 00 57.3 -0.6**
comp=Z,13nm,1.0s,mb5.0
AKASG Malin Array Be 63.36 331 P **P 12 01 00.7 -0.4**
comp=Z,3.8nm,0.7s,mb4.6,baz=23,slow=6.3,SNR=10
AKASG Malin Array Be 63.36 331 P **P 12 01 00.7 -0.3**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
CCM Cathedral Cave 63.39 59 *e*P **P 12 01 00.7 -0.5**
CCM pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
CCM Cathedral Cave 63.39 59 *e*P **P 12 01 00.7 -0.5**
comp=Z,6.6nm,0.8s,mb4.8
GOF Gofitskoye 64.59 319 *e*P **P 12 01 09.0 -0.2**
LTX Lajitas 65.17 74 *e*P **P 12 01 13.1 +0.2**
LTX pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
LTX Lajitas 65.17 74 *e*P **P 12 01 13.1 +0.2**
comp=Z,6.4nm,1.0s,mb4.6
MIAR Mount Ida 65.36 63 *e*P **P 12 01 14.9 +0.7**
MIAR pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
MIAR Mount Ida 65.36 63 *e*P **P 12 01 14.8 +0.7**
comp=Z,4.7nm,0.8s,mb4.6
KIV Kislovodsk 65.69 318 *e*P **P 12 01 17.9 +1.6**
KIV pmax pmax
comp=Z,11nm,1.0s,mb4.8
KWP Kalwaria 65.83 335 *e*P **P 12 01 18.3 +1.1**
CLL Collm 65.99 342 *e*P **P 12 01 19.0 +0.8**
JCT Junction City 66.00 70 *e*P **P 12 01 17.9 -0.4**
JCT pmax pmax
comp=Z,12nm,1.0s,mb4.9
JCT Junction City 66.00 70 *e*P **P 12 01 17.9 -0.4**
comp=Z,12nm,1.0s,mb4.9
ZEI Tsey 66.35 317 *e*P **P 12 01 21.0 +0.5**
ZEI *e**PP pP 12 01 24.3 +0.5
ZEI pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
FWV Forest Hill 68.00 52 *e*P **P 12 01 30.3 -0.7**
GERES GERESS Array B 68.27 340 P **P 12 01 32.3 -0.4**
comp=Z,1.2nm,0.7s,mb4.0,baz=45,slow=4.0,SNR=7.2
GERES GERESS Array B 68.27 340 P **P 12 01 32.3 -0.4**
GERES pmax pmax
comp=Z,1.0nm,0.7s
ELN Prospectdale 68.33 52 *e*P **P 12 01 31.7 -1.4**
BAIF Baives 68.37 347 *e*P **P 12 01 32.6 -0.7**
CDF Champ du Feu 69.63 345 *e*P **P 12 01 40.0 -1.1**
HAU Haudompre 70.14 345 *e*P **P 12 01 44.1 -0.2**
LDF La Druitiere 70.24 350 *e*P **P 12 01 43.4 -1.5**
GRR Gorron 70.50 350 *e*P **P 12 01 45.2 -1.3**
LOR Lormes 71.16 347 *e*P **P 12 01 49.3 -1.2**
comp=Z,60nm,1.5s,mb5.0
LOR Lormes 71.16 347 *e*P **P 12 01 49.3 -1.2**
LOR pmax pmax
comp=Z,30nm,1.5s,mb5.0
LOR Lormes 71.16 347 *e*P **P 12 01 49.3 -1.2**
comp=Z,30nm,1.5s,mb5.0
AVF Avril sur Loir 71.69 347 *e*P **P 12 01 52.5 -1.2**
comp=Z,19nm,0.9s,mb4.7
AVF Avril sur Loir 71.69 347 *e*P **P 12 01 52.5 -1.2**
AVF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
AVF Avril sur Loir 71.69 347 *e*P **P 12 01 52.5 -1.2**
comp=Z,9.4nm,0.9s,mb4.7
SMF Signal de Mont 71.78 347 *e*P **P 12 01 51.9 -2.3**
BGF Bois d'Agland 71.97 348 *e*P **P 12 01 53.6 -1.8**
TCF Toulx Ste Croi 72.30 348 *e*P **P 12 01 56.5 -0.9**
BRTR Keskin Array B 72.34 323 P **P 12 01 58.6 +1.0**
comp=Z,1.5nm,0.6s,mb4.1,baz=37,slow=3.5,SNR=9.2
BRTR Keskin Array B 72.34 323 P **P 12 01 58.7 +1.1**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
MBDF Montbardon 73.31 344 *e*P **P 12 02 02.5 -0.9**
ESDC Sonseca Array 79.40 352 P **P 12 02 37.3 -0.6**
comp=Z,0.5nm,0.4s,mb3.8,baz=11,slow=6.1,SNR=5.5
WRAB Tennant Creek 84.42 209 *i*P **P 12 03 07.3 +2.9**
WRA Warramunga Arr 84.43 209 P **P 12 03 02.7 -1.7**
comp=Z,2.5nm,0.8s,mb4.4,baz=14,slow=5.3,SNR=17
FITZ Fitzroy Crossi 85.03 218 *e*P **P 12 03 05.9 -1.5**
comp=Z,7.8nm,1.0s,mb4.8
FITZ Fitzroy Crossi 85.03 218 P **P 12 03 06.2 -1.3**
comp=Z,4.2nm,1.0s,mb4.5,baz=159,slow=3.6,SNR=5.6
ASAR Alice Springs 88.12 209 P **P 12 03 21.1 -1.5**
comp=Z,0.7nm,0.8s,mb4.0,baz=12,slow=4.7,SNR=12
ASAR Alice Springs 88.12 209 P **P 12 03 21.1 -1.5**
ASAR pmax pmax
comp=Z,1.0nm,0.8s

NEIC ***22*** *12:04:08.5, 3330S×7195W, h29km, ML4.2(GUC), After GUC.*
NEIC Felt [II] at Valparaiso and Vina del Mar.

GUC 22 12:04:08.5±0.7, 3330S×7195W, h29km±4km, MD4.4, ML4.2, 7C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCCH	**Las Cruces**	**0.37**	**119**⇑	*i*P	**Pb**	12 04 16.7	-0.1
LCCH				*i* S	Sb	12 04 23.1	+0.6
IHA	**Instituto Hidr**	**0.38**	**44**⇓	*i*P	Pb	12 04 17.0	+0.1
IHA				*i* S	Sb	12 04 22.7	0.0
LNV	**Longovilo**	**0.80**	**146**⇓	*i*P	Pn	12 04 23.1	-0.7
ROCH	**El Roble**	**0.85**	**68**⇑	*i*P	Pn	12 04 24.2	-0.3
PACH	**Papudo**	**0.88**	**30**⇓	*i*P	Pn	12 04 24.9	0.0
PACH				*i* S	Sb	12 04 36.2	-0.2
TACH	**Talagante**	**0.92**	**113**⇑	*i*P	Pn	12 04 25.1	-0.3
SAN	**Santiago**	**1.09**	**98**	*e*P	Pn	12 04 27.9	0.0
SAN				*i* S	Sn	12 04 42.9	+0.9
DSCH	**Colegio Aleman**	**1.16**	**95**	*e*P	Pn	12 04 28.6	-0.2
DSCH				*i* S	Sn	12 04 43.7	0.0
CLCH	**Cerro Calan**	**1.19**	**95**⇓	*i*P	Pn	12 04 29.6	+0.4
CLCH				*i* S	Sn	12 04 45.3	+1.0
CLCH				AML	AML	12 04 50.5	
	comp=E,6µm,0.3s						
PCH	**Pirque**	**1.25**	**105**⇑	*i*P	Pn	12 04 30.3	+0.4
CHCH	**Chadas Angostu**	**1.26**	**121**	*i*P	Pn	12 04 30.4	+0.3
JACH	**Jahuel**	**1.30**	**62**⇑	*i*P	Pn	12 04 31.3	+0.6
JACH				*i* S	Sn	12 04 48.9	+1.9
CACH	**El Canelo**	**1.39**	**126**⇓	*i*P	Pn	12 04 33.3	+1.3
CHNG	**Los Chungos**	**1.46**	**15**⇑	*i*P	Pn	12 04 33.0	0.0
SFDO	**San Fernando**	**1.53**	**150**⇓	*i*P	Pn	12 04 34.8	+1.0
YECH	**El Yeso**	**1.60**	**104**⇓	*i*P	Pn	12 04 36.5	+1.6
YECH				*i* S	Sn	12 04 57.2	+2.6
CICH	**Cipreses**	**1.63**	**129**⇑	*i*P	Pn	12 04 36.5	+1.2
CICH				*i* S	Sn	12 04 57.6	+2.3
TALC	**Talca**	**2.11**	**173**	*e*P	Pn	12 04 43.3	+1.4
TALC				*i* S	Sn	12 05 07.4	+0.3
TALC				AML	AML	12 05 18.3	
	comp=E,3µm,0.4s						
TALC	**Talca**	**2.11**	**173**	*e*P	Pn	12 04 43.3	+1.4
TALC				S	Sn	12 05 07.4	+0.3
TLL	**Tololo Astrono**	**3.27**	**18**	*e*P	Pn	12 04 59.8	+2.0
TLL				AML	AML	12 05 56.1	
	comp=N,987nm,0.7s						
CCHI	**Chillan**	**3.30**	**182**	*e*P	Pn	12 04 55.1	-3.1
CCHI				AML	AML	12 06 00.8	
	comp=N,310nm,0.5s						
LCO	**Las Campanas**	**4.41**	**14**	*e*P	Pn	12 05 13.5	+0.1

CSEM ***22*** *12:04:34.2, 5863N×173.18E, h33km, mb5.9*
BJI ***22*** *12:04:48.7, 6102N×165.97E, h13km, mB5.2, mb5.1, Ms5.4, Msz5.1*
KRSC ***22*** *12:04:49.6±0.3, 6077N×16620E, h5km±4km, ML5.1*
MOS ***22*** *12:04:50.6±1.0, 6085N×16596E, h14km, mb4.9/51, Error ellipse: s-maj=11.3km s-min=5.9km az=90.7*
IDC ***22*** *12:04:50.3±0.4, 6085N×16588E, h0km, mb4.5/30, mb1 4.6/31, mb1mx4.6/34, mbtmp4.5/31, ML4.2/1, MS5.4/2, Ms1 5.4/2, ms1mx4.2/39, Error ellipse: s-maj=11.3km s-min=10.7km az=38.0*
NEIC ***22*** *12:04:51.6±0.2, 6080N×16588E, h10km, mb4.9/31, Error ellipse: s-maj=6.3km s-min=4.7km az=172.0*
ISCJB ***22*** *12:04:51.4±0.8, 6081N±003×16593E±005, h19km±6km, mb4.8/90, MS5.2/7, Error ellipse: s-maj=5.4km s-min=3.6km az=97.9*

ISC 22 12:04:51.4±0.9, 6086N±002×16595E±005, h8km±5km, h14km±.9km: pP-P, n235, σ1§14/245, mb4.8/90, MS5.2/7, 5C-7D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TILR	**Tilichiki**	**0.43**	**173**	*i*P	**Pg**	**12 04 57.4**	**-2.4**
TILR				*e*S	**Sg**	**12 05 03.2**	**-2.3**
TILR				Smax			
	442µm,1.0s						
KAMR	**Kamenskoye**	**1.61**	**4**	*i*P	**Pn**	**12 05 20.2**	**+0.1**
KAMR				*e*S	**Sn**	**12 05 42.6**	**+1.6**
KAMR				Smax			
	23µm,1.2s						
OSSR	**Ossora**	**2.17**	**223**	*e*P	**Pn**	**12 05 29.3**	**+1.5**
OSSR				Smax			
	15µm,1.0s						
EVNR	**Evensk**	**3.39**	**291**	*e*P	**Pn**	**12 05 45.6**	**+1.1**
SMKR	**Semkarok**	**4.88**	**211**	*e*P	**Pn**	**12 06 04.9**	**-0.2**
SRKR	**Sorokina**	**4.90**	**213**	*e*P	**Pn**	**12 06 05.3**	**0.0**
KBG	**Krutoberegovo**	**4.92**	**202**	P	**Pn**	**12 06 06.2**	**+0.6**
KBTR	**Krutoberegovo**	**4.94**	**201**	P	**Pn**	**12 06 04.7**	**-1.2**
KBTR				S	**Sn**	**12 07 03.5**	**+0.2**
KBTR	**Krutoberegovo**	**4.94**	**201**	*e*P	**Pn**	**12 06 05.5**	**-0.4**
KBTR				*e*S	**Sn**	**12 07 00.8**	**-2.5**
BDR	**Baidarnaya**	**4.96**	**212**	*e*P	**Pn**	**12 06 06.0**	**-0.2**
KLY	**Klyuchi**	**5.33**	**214**	P	**Pn**	**12 06 11.0**	**-0.3**
KLY	**Klyuchi**	**5.33**	**214**	*e*P	**Pn**	**12 06 10.1**	**-1.2**
KRSR	**Krestovskiy**	**5.44**	**214**	*e*P	**Pn**	**12 06 13.0**	**+0.2**
CIRR	**Tsirk**	**5.48**	**212**	P	**Pn**	**12 06 13.5**	**+0.2**
LGNR	**Loginova**	**5.53**	**212**	*e*P	**Pn**	**12 06 14.6**	**+0.7**
ZLN	**Zelenaya**	**5.55**	**211**	*e*P	**Pn**	**12 06 15.2**	**+0.8**
SRDR	**Sredinnyy**	**5.60**	**218**	P	**Pn**	**12 06 15.2**	**+0.3**
BKI	**Bering**	**5.67**	**180**	P	**Pn**	**12 06 17.2**	**+1.3**
KPT	**Kopyto**	**5.75**	**214**	P	**Pn**	**12 06 21.1**	**+4.0**
KOZ	**Kozyrevsk**	**5.77**	**216**	P	**Pn**	**12 06 17.6**	**+0.3**
KMNR	**Kamenistaya**	**5.94**	**213**	*e*P	**Pn**	**12 06 21.1**	**+1.5**
ESO	**Esso**	**6.24**	**221**	P	**Pn**	**12 06 25.4**	**+1.6**
ESO	**Esso**	**6.24**	**221**	P	**Pn**	**12 06 24.1**	**+0.3**
ESO				Smax			
	500nm,1.2s						
TUMR	**Tumrok**	**6.38**	**211**	P	**Pn**	**12 06 25.7**	**0.0**
BILL	**Bilibino**	**7.21**	**1**	*e*PN	**Pn**	**12 06 37.7**	**+0.6**
BILL				pmax	pmax		
	comp=Z,18nm,0.7s						
BILL	**Bilibino**	**7.21**	**1**	*e*Pn	**Pn**	**12 06 36.6**	**-0.5**
	comp=Z,145nm,0.9s						
BILL				*e*Pg	**Pg**	**12 07 07.6**	**-1.9**
KII	**Karymskiy**	**7.68**	**210**	*e*P	**Pn**	**12 06 44.9**	**+1.3**
GNL	**Ganaly**	**8.38**	**215**	*e*P	**Pn**	**12 06 54.9**	**+1.7**
SPN	**Mys Shipunski**	**8.42**	**205**	P	**Pn**	**12 06 54.6**	**+0.9**
SPN				*e*S	**Sn**	**12 08 26.2**	**-2.8**
SDLR	**Sedlovina**	**8.51**	**210**	*e*P	**Pn**	**12 06 57.3**	**+2.3**
SMAR	**Somma**	**8.55**	**210**	*e*P	**Pn**	**12 06 58.0**	**+2.6**
AVH	**Avacha**	**8.56**	**210**	P	**Pn**	**12 06 56.1**	**+0.5**
UGLR	**Uglovaya**	**8.59**	**210**	*e*P	**Pn**	**12 06 58.9**	**+2.9**
PET	**Petropavlovsk**	**8.80**	**210**	P	**Pn**	**12 07 03.6**	**+4.7**
PET	**Petropavlovsk**	**8.80**	**210**	*e*PN	**Pn**	**12 07 03.5**	**+4.6**
PET				pmax	pmax		
	comp=Z,59nm,1.5s						
PET	**Petropavlovsk**	**8.80**	**210**	Pn	**Pn**	**12 06 56.6**	**-2.3**
FX1	**Attu Island--F**	**8.91**	**151**	Pn	**Pn**	**12 06 58.5**	**-1.9**
	comp=Z,8.3nm,0.3s,baz=320,slow=6.4,SNR=27						
FX1				Sn	**Sn**	**12 08 30.8**	**-10**
	baz=216,slow=19,SNR=1.7						
FX1	**Attu Island--F**	**8.91**	**151**	PN	**Pn**	**12 06 58.5**	**-2.0**
FX1				pmax	pmax		
	comp=Z,8.0nm,0.3s						
FX1	**Attu Island--F**	**8.91**	**151**	*e*Pn	**Pn**	**12 06 58.4**	**-2.1**
SMY	**Shemya**	**9.29**	**148**	*e*PN	**Pn**	**12 07 02.8**	**-2.8**
YAK	**Yakutsk**	**17.24**	**290**	*e*P	**Pn**	**12 08 54.5**	**+2.0**
YAK				pmax	pmax		
	comp=N,35nm,0.9s						
YAK				pmax	pmax		
	comp=Z,300nm,0.9s						
YAK				pmax	pmax		
	comp=E,181nm,1.7s						
YAK	**Yakutsk**	**17.24**	**290**	*e*P	**Pn**	**12 08 52.6**	**+0.1**
	comp=E,311nm,0.8s						
TIXI	**Tiksi**	**18.05**	**322**	*e*P	**Pn**	**12 09 02.1**	**-0.4**
TIXI				*e*S	**Sn**	**12 12 18.3**	**-5.6**
TIXI				pmax	pmax		
	comp=Z,18nm,0.9s						
YSS	**Yuzh-Sakhalins**	**19.36**	**234**	*i*P	**Pn**	**12 09 21.4**	**+3.0**
COLA	**College**	**21.06**	**59**	*i*P	**P**	**12 09 37.5**	**+1.6**
COLA	**College**	**21.06**	**59**	*e*P	**P**	**12 09 36.6**	**+0.7**
	comp=Z,18nm,0.8s,mb4.4						
KDAK	**Kodiak Island**	**21.12**	**80**	P	**P**	**12 09 36.9**	**+0.3**
	comp=Z,5.4nm,0.6s,mb4.0,baz=263,slow=11,SNR=6.3						
PMR	**Palmer**	**21.32**	**68**	*e*P	**P**	**12 09 41.2**	**+2.5**
PMR				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.3						
PMR	**Palmer**	**21.32**	**68**	*e*P	**P**	**12 09 41.2**	**+2.5**
	comp=Z,16nm,1.1s,mb4.2						
ILAR	**Eielson Array**	**21.49**	**59**	P	**P**	**12 09 40.7**	**+0.2**
	comp=Z,13nm,0.8s,mb4.3,baz=276,slow=10,SNR=56						
ILAR	**Eielson Array**	**21.49**	**59**	P	**P**	**12 09 40.7**	**+0.2**
ILAR				pmax	pmax		

comp=Z,13nm,0.8s
HABR Khabarovsk 21.50 249 *e*P **P** **12 09 41.7 +1.1**
HABR *e*S **S** **12 13 41.0 +1.8**
HABR pmax pmax
comp=Z,93nm,1.6s,mb5.0
ASAJ Asahikawa 21.78 230 P **P** **12 09 41.9 -1.8**
comp=Z,5.3nm,0.8s,mb4.0,baz=58,slow=16,SNR=1.9
ASAJ Asahikawa 21.78 230 P **P** **12 09 41.9 -1.8**
ASAJ pmax pmax
comp=Z,5.0nm,0.8s
KLR Kul'dur 22.50 254 *e*P **P** **12 09 47.0 -4.3**
EYAK Cordova Ski Ar 23.22 69 *e*P **P** **12 10 00.3 +1.4**
DAWY Dawson 24.81 59 *e*P **P** **12 10 12.4 -1.5**
INK Inuvik 25.97 48 P **P** **12 10 24.6 +0.2**
comp=Z,7.2nm,0.6s,mb4.4,baz=296,slow=10,SNR=19
INK PcP PcP 12 13 52.5 -0.3
comp=Z,2.4nm,0.5s,baz=311,slow=2.4,SNR=5.9
INK Inuvik 25.97 48 P **P** **12 10 24.6 +0.2**
INK 12 13 52.5
INK pmax pmax
comp=Z,7.0nm,0.6s
INK Inuvik 25.97 48 *e*P **P** **12 10 24.2 -0.2**
comp=Z,17nm,0.8s,mb4.6
BOD Bodaibo 26.09 287 *e*P **P** **12 10 25.1 -0.4**
BOD pmax pmax
comp=Z,77nm,0.9s,mb5.2
MDJ Mudanjiang 26.89 249 P **P** **12 10 31.6 -1.1**
MDJ AP pP 12 10 34.3 -0.8
MDJ AMB AMB
comp=Z,5.0nm,1.1s,mb4.0
MDJ LR LR
comp=N,7μm,28.5s
MDJ LR LR
comp=E,12μm,21.9s
MDJ LR LR
comp=Z,6μm,19.8s
VLA Vladivostok 27.02 244 *i* P **P** **12 10 35.7 +1.8**
HIA Hailar 28.26 267⇓ *e*P **P** **12 10 45.1 +0.1**
HIA Hailar 28.26 267 *e*P **P** **12 10 44.5 -0.6**
comp=Z,9.8nm,0.9s,mb4.4
CN2 Changchun 29.43 253 *e*P **P** **12 10 55.3 -0.1**
CN2 *e*XP sP 12 11 02.3 +3.6
CN2 *e*S **S** **12 15 45.9 -3.7**
CN2 AMB AMB
comp=Z,20nm,0.7s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
MAT Matsushiro 30.02 229 P **P** **12 11 00.4 -0.3**
MAT Matsushiro 30.02 229 *e*P **P** **12 11 00.0 -0.7**
MJAR Matsushiro Arr 30.02 229 P **P** **12 11 00.5 -0.2**
comp=Z,3.0nm,0.9s,mb4.0,baz=20,slow=8.7,SNR=5.6
MJAR Matsushiro Arr 30.02 229 P **P** **12 11 00.5 -0.2**
MJAR pmax pmax
comp=Z,3.0nm,0.9s
DLBC Dease Lake 31.31 66 P **P** **12 11 13.5 +1.5**
comp=Z,4.3nm,0.7s,mb4.4,baz=309,slow=10,SNR=13
TLY Talaya 34.51 283 *i* P **P** **12 11 41.1 +1.1**
TLY pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
RES Resolute Bay 34.92 27 *e*P **P** **12 11 43.8 +0.3**
RES pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
RES Resolute Bay 34.92 27 *e*P **P** **12 11 43.8 +0.3**
comp=Z,5.4nm,0.8s,mb4.5
ULN Ulaanbaatar 35.42 276 *i* P **P** **12 11 49.1 +1.3**
ULN Ulaanbaatar 35.42 276 *e*P **P** **12 11 48.6 +0.8**
comp=Z,14nm,1.0s,mb4.8
YKA Yellowknife Ar 35.52 52 P **P** **12 11 47.8 -0.8**
comp=Z,4.6nm,0.7s,mb4.5,baz=303,slow=8.2,SNR=15
YKA PcP PcP 12 14 16.7 -1.2
comp=Z,2.7nm,0.8s,baz=320,slow=3.4,SNR=7.7
YKA Yellowknife Ar 35.52 52 P **P** **12 11 47.8 -0.9**
YKA 12 14 16.7
YKA pmax pmax
comp=Z,5.0nm,0.7s
YKA Yellowknife Ar 35.52 52 P **P** **12 11 47.9 -0.8**
YKA PcP PcP 12 14 16.7 -1.2
SONM Songino Array 35.76 276 P **P** **12 11 51.4 +0.6**
comp=Z,13nm,1.1s,mb4.8,baz=54,slow=7.5,SNR=22
SONM PcP PcP 12 14 19.3 +0.7
comp=Z,4.2nm,0.9s,baz=87,slow=1.5,SNR=4.5
SONM Songino Array 35.76 276 P **P** **12 11 51.4 +0.6**
SONM 12 14 19.3
SONM pmax pmax
comp=Z,13nm,1.1s
MOY Mondy 35.78 285 *e*P **P** **12 11 52.4 +1.5**
JNU Nakatsue 35.86 235 LR LR 12 28 15.2
comp=Z,4μm,18.1s,MS5.2,baz=305,slow=39
BJI Beijing 36.73 259 *e*P **P** **12 11 59.3 +0.2**
BJI AMB AMB
comp=Z,54nm,1.0s,mb5.3
BJT Baijiatuau 36.75 259 P **P** **12 11 59.4 +0.1**
BJT pmax pmax
comp=Z,34nm,0.9s
BJT Baijiatuau 36.75 259 P **P** **12 11 59.4 +0.1**
comp=Z,34nm,0.9s,mb5.2
HHC Hu-ho-hao-te 38.33 264 *e*P **P** **12 12 11.9 -0.8**
HHC AP pP 12 12 16.4 +1.3
HHC XP sP 12 12 18.9 +2.9
HHC PP PP 12 13 42.8 +2.5
HHC PCP PcP 12 14 26.6 +0.2
HHC S **S** **12 18 05.3 -2.0**
HHC SCP ScP 12 18 11.9 -2.7
HHC PCS PcS 12 18 13.9 -1.6
HHC SS SS 12 20 42.4 -13
HHC AMB AMB
comp=Z,23nm,1.0s,mb4.9
HHC LR LR
comp=N,5μm,17.2s,MS5.5
HHC LR LR
comp=E,3μm,16.9s,MS5.5
HHC LR LR
comp=Z,2μm,16.2s,MS5.1
NVS Novosibirsk 41.65 300 *i* P **P** **12 12 39.4 -0.8**
NVS pmax pmax
comp=Z,50nm,1.2s,mb5.0
NVS pmax pmax
comp=N,310nm,1.4s
NVS pmax pmax
comp=E,38nm,1.4s
SSE Sheshan 41.73 245 P **P** **12 12 39.1 -1.8**
SSE AMB AMB
comp=Z,24nm,0.7s,mb4.9
EDM Edmonton 41.90 63 *e*P **P** **12 12 41.3 -1.0**
NJ2 Nanjing 41.97 248 *e*P **P** **12 12 42.0 -0.8**
NJ2 AP pP 12 12 45.9 +0.7
NJ2 XP sP 12 12 50.1 +3.9
NJ2 PP PP 12 14 22.8 +3.0
NJ2 S **S** **12 18 57.0 -4.6**
NJ2 XS sS 12 19 08.0 +2.4
NJ2 AMB AMB
comp=Z,310nm,0.9s,mb5.9
DAG Danmarks Havn 42.59 2⇓ *i*P **P** **12 12 48.2 +0.3**
comp=Z,3.0nm,0.8s,mb4.1
DAG Danmarks Havn 42.59 2⇓ *i*P **P** **12 12 48.2 +0.3**
DAG pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
NEW Newport 43.72 70 P **P** **12 12 58.0 +0.9**
comp=Z,4.4nm,0.9s,mb4.2,baz=288,slow=7.6,SNR=3.2
NEW Newport 43.72 70 P **P** **12 12 58.0 +1.0**
NEW pmax pmax
comp=Z,4.0nm,0.9s
FCC Fort Churchill 45.57 46 *e*P **P** **12 13 10.6 -1.2**
FCC pmax pmax
comp=Z,21nm,0.9s,mb5.1
FCC Fort Churchill 45.57 46 *e*P **P** **12 13 10.6 -1.1**
comp=Z,20nm,0.9s,mb5.1
SUMG Summit 45.80 10 *e*P **P** **12 13 14.3 +0.7**
comp=Z,26nm,0.9s,mb5.2
LZH Lanzhou 45.82 267 *e*P **P** **12 13 12.9 -0.9**
LZH AP pP 12 13 15.8 -0.4
LZH XP sP 12 13 17.5 +0.3
LZH *e*PP PP 12 15 00.3 -0.8
LZH *e*S **S** **12 19 55.4 -2.5**
LZH XS sS 12 20 02.1 +0.2
LZH *e*SS SS 12 23 10.8 -12
LZH AMB AMB
comp=Z,27nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,182nm,5.6s
LZH LR LR
comp=N,785nm,14.5s
LZH LR LR
comp=Z,887nm,17.8s,MS4.8
CHMT Chamberlain Mo 46.49 69 *e*P **P** **12 13 21.5 +2.4**
KURK Kurchatov 46.56 299 *d* P **P** **12 13 19.3 -0.3**
ARCES ARCESS Array B 46.88 342 P **P** **12 13 20.5 -1.6**
comp=Z,6.4nm,0.9s,mb4.5,baz=24,slow=6.9,SNR=6.5
ARCES PcP PcP 12 14 53.9 -1.0
comp=Z,4.2nm,0.7s,baz=37,slow=5.3,SNR=9.0
ARCES ARCESS Array B 46.88 342 P **P** **12 13 20.5 -1.6**
ARCES 12 14 53.9
ARCES pmax pmax
comp=Z,6.0nm,0.9s
HRY Holter Researc 47.29 68 P **P** **12 13 26.8 +1.5**
WVOR Wild Horse Val 47.35 77 *e*P **P** **12 13 25.2 -0.6**
WVOR pmax pmax
comp=Z,13nm,1.1s,mb4.8
WVOR Wild Horse Val 47.35 77 *e*P **P** **12 13 25.2 -0.6**
comp=Z,13nm,1.1s,mb4.8
CHKZ Chkalovo 47.64 307 *e*P **P** **12 13 26.4 -1.6**
CHKZ pmax pmax
comp=Z,42nm,1.1s,mb5.4
CHKZ Chkalovo 47.64 307 *e*P **P** **12 13 26.4 -1.6**
comp=Z,42nm,1.1s,mb5.4
WMQ Urumqi 47.64 286⇓ P **P** **12 13 28.8 +0.8**
WMQ AP pP 12 13 33.3 +2.9
WMQ XP sP 12 13 35.8 +4.4
WMQ PCP PcP 12 14 59.6 +2.0
WMQ PP PP 12 15 19.5 0.0
WMQ SCP ScP 12 18 52.6 +0.5
WMQ S **S** **12 20 21.5 -2.3**
WMQ XS sS 12 20 29.0 +1.2
WMQ AMB AMB
comp=Z,35nm,0.9s,mb5.4
ENH Enshi 47.83 257 *e*P **P** **12 13 28.8 -0.7**
MK31 Makanchi Array 47.88 293 P **P** **12 13 29.3 -0.5**
MK31 pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
MKAR Makanchi Array 47.88 293 P **P** **12 13 28.7 -1.1**
comp=Z,9.2nm,0.7s,mb4.9,baz=49,slow=7.4,SNR=106
MKAR Makanchi Array 47.88 293 P **P** **12 13 28.7 -1.1**
MKAR pmax pmax
comp=Z,9.0nm,0.7s
VOSK Vostochnaya 48.21 306 P **P** **12 13 31.8 -0.7**
VOSK pmax pmax
comp=Z,24nm,1.1s,mb5.1
BVA0 Borovoye Array 48.22 306 *i* P **P** **12 13 32.2 -0.3**
BVA0 pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
MCMT McKenzie Canyo 48.25 71 *e*P **P** **12 13 34.7 +2.0**
HLID Hailey 48.49 73 *e*P **P** **12 13 34.8 +0.2**
comp=Z,4.0nm,0.9s,mb4.5
ZRNK Zerenda 48.82 307 *e*P **P** **12 13 36.5 -0.6**
ZRNK *e* 12 15 01.3
ZRNK pmax pmax
comp=Z,39nm,1.0s,mb5.4
ZRNK Zerenda 48.82 307 *e*P **P** **12 13 36.5 -0.6**
comp=Z,39nm,1.0s,mb5.4
ZRNK *e*PcP PcP 12 15 01.3 -0.5
QLMT Earthquake Lak 48.90 69 *e*P **P** **12 13 39.6 +1.9**
GCMT Greycliff 48.97 67 *e*P **P** **12 13 39.2 +1.0**
SFJD Kangerlussuaq 49.66 18 P **P** **12 13 42.7 -0.8**
comp=Z,10nm,0.8s,mb4.9,baz=309,slow=10,SNR=5.6
SFJD Kangerlussuaq 49.66 18 P **P** **12 13 42.7 -0.9**
SFJD pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ARU Arti 49.92 316⇑ *i*P **P** **12 13 46.0 +0.4**
ARU *e* 12 15 05.5
ARU *e* 12 15 38.9
ARU *e*S **S** **12 20 56.1 +0.1**
ARU *e*SS SS 12 24 28.2 -0.5
ARU pmax pmax
comp=Z,20nm,1.1s,mb5.1
CD2 Chengdu 50.06 263 *e*P **P** **12 13 44.6 -2.0**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
ELK Elko 50.27 76 *e*P **P** **12 13 49.6 +1.4**
ELK pmax pmax
comp=Z,5.0nm,1.0s
ELK Elko 50.27 76 *e*P **P** **12 13 49.6 +1.4**
comp=Z,5.1nm,1.0s,mb4.5
MNV Mina 50.70 80 *e*P **P** **12 13 52.1 +0.7**
MNV pmax pmax
comp=Z,14nm,1.6s,mb4.6
MNV Mina 50.70 80 *e*P **P** **12 13 52.1 +0.7**
comp=Z,14nm,1.6s,mb4.7
BW06 Boulder Array 51.35 70 *e*P **P** **12 13 56.5 +0.2**
comp=Z,11nm,1.1s,mb4.7
PDAR Pinedale Array 51.35 70 P **P** **12 13 56.1 -0.2**
comp=Z,7.4nm,0.9s,mb4.6,baz=340,slow=3.9,SNR=9.2
ULM Lac du Bonnet 51.40 54 P **P** **12 13 56.9 +0.2**
comp=Z,3.2nm,0.7s,mb4.3,baz=324,slow=6.6,SNR=6.5
ULM PcP PcP 12 15 10.3 -1.0
comp=Z,2.4nm,0.6s,baz=328,slow=3.9,SNR=4.1
ULM Lac du Bonnet 51.40 54 P **P** **12 13 56.9 +0.2**
ULM PcP PcP 12 15 10.3 -1.0
DUG Dugway 51.85 74 *e*P **P** **12 13 59.9 -0.2**
DUG pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
DUG Dugway 51.85 74 *e*P **P** **12 13 59.9 -0.2**
comp=Z,7.1nm,1.1s,mb4.5
GYA Guiyang 52.37 257 P **P** **12 14 04.5 +0.6**
GYA PCP PcP 12 15 15.3 +0.4
GYA PP PP 12 16 02.8 +0.2
GYA SCP ScP 12 19 10.5 -1.8
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,110nm,4.2s
GYA LR LR
comp=N,490nm,17.2s,MS4.8
GYA LR LR
comp=E,510nm,17.6s,MS4.8
GYA LR LR
comp=Z,580nm,17.0s,MS4.7
CCUT Cedar City 53.69 77 P **P** **12 14 12.2 -1.5**
FINES FINESS Array B 54.20 338 P **P** **12 14 15.9 -1.6**
comp=Z,3.6nm,0.9s,mb4.3,baz=43,slow=8.6,SNR=8.6
FINES PcP PcP 12 15 21.3 -0.5
comp=Z,2.6nm,1.0s,baz=334,slow=11,SNR=4.1
FINES FINESS Array B 54.20 338 P **P** **12 14 15.9 -1.5**
FINES 12 15 21.3
FINES pmax pmax
comp=Z,4.0nm,0.9s
NEN Nelson 54.51 79 *e*P **P** **12 14 20.1 +0.5**
AAK Ala-Archa 54.60 295 P **P** **12 14 20.2 -0.1**
comp=Z,174nm,1.1s,mb6.0,SNR=13
AAK Ala-Archa 54.60 295⇓ *e*P **P** **12 14 20.1 -0.2**
AAK pmax pmax
comp=Z,28nm,0.9s,mb5.3
AAK Ala-Archa 54.60 295⇓ *e*P **P** **12 14 20.1 -0.2**
AAK pmax pmax
comp=Z,28nm,0.9s,mb5.3
AKTK Aktyubinsk 54.97 312 P **P** **12 14 22.1 -0.8**
AKTO Aktyubinsk 54.97 312 P **P** **12 14 22.1 -0.8**
comp=Z,6.6nm,0.9s,mb4.7,baz=36,slow=6.9,SNR=16
AKTO Aktyubinsk 54.97 312 P **P** **12 14 22.2 -0.8**
AKTO pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
PV10 Paradox Valley 55.07 73 *e*P **P** **12 14 25.1 +1.4**
ORR Orenburg 55.15 315⇑ *i*P **P** **12 14 24.6 +0.3**
ORR pmax pmax
comp=Z,50nm,1.8s,mb5.2
AB31 Akbulak array 55.23 310 P **P** **12 14 24.6 -0.3**
AB31 pmax pmax
comp=Z,80nm,1.8s,mb5.5
KMI Kunming 55.38 260 P **P** **12 14 26.3 +0.4**
KMI AP pP 12 14 30.1 +1.7
KMI XP sP 12 14 31.9 +2.6
KMI AMB AMB
comp=Z,21nm,0.8s,mb5.2
KMI AMB AMB
comp=Z,522nm,4.0s
KMI LR LR
comp=N,2μm,22.4s,MS5.2
KMI LR LR
comp=E,1μm,17.4s,MS5.2
KMI LR LR
comp=Z,2μm,18.7s,MS5.2
PV01 Paradox Valley 55.48 73 *e*P **P** **12 14 28.0 +1.3**
ISCO Idaho Springs 55.51 69 *e*P **P** **12 14 26.9 0.0**
ISCO pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
ISCO Idaho Springs 55.51 69 *e*P **P** **12 14 26.9 -0.1**
comp=Z,5.9nm,1.1s,mb4.5
KK31 Karatay Array 55.96 298 *i* P **P** **12 14 30.4 +0.3**
KK31 pmax pmax
comp=Z,35nm,0.9s,mb5.4
KKAR Karatay Array 55.96 298 P **P** **12 14 30.4 +0.3**
KKAR pmax pmax
comp=Z,33nm,1.0s,mb5.3
ECSD EROS,Sioux Fal 56.30 60 *e*P **P** **12 14 32.7 +0.1**
KSH Kashi 56.44 292 *e*P **P** **12 14 30.0 -3.6**
KSH *e*AP pP 12 14 34.5 -1.5
KSH *e*XP sP 12 14 37.5 +0.5
KSH *e*PCP PcP 12 15 28.0 -2.5
KSH *e*PP PP 12 16 36.0 -3.1
KSH *e*SCP ScP 12 19 25.3 -4.8
KSH *e*PCS PcS 12 19 27.3 -3.8
KSH *e*S **S** **12 22 13.8 -11**
KSH *e*SCS ScS 12 24 15.1 -8.1
VSU Vasula 56.84 336 *i* P **P** **12 14 36.7 +0.3**
NB2 NORSAR Subarra 56.88 346 P **P** **12 14 35.4 -1.3**
comp=Z,2.7nm,0.6s,mb4.5,baz=15,slow=7.4
NOA NORSAR Array B 56.88 346 P **P** **12 14 35.5 -1.3**
comp=Z,7.8nm,0.9s,mb4.7,baz=14,slow=7.3,SNR=8.5
NOA NORSAR Array B 56.88 346 P **P** **12 14 35.5 -1.2**
NOA pmax pmax
comp=Z,8.0nm,0.9s
SCHQ Schefferville 57.32 33 P **P** **12 14 38.5 -1.3**
comp=Z,11nm,0.9s,mb4.9,baz=344,slow=6.1,SNR=10
HFS Hagfors 57.44 344 P **P** **12 14 38.7 -1.9**
comp=Z,2.3nm,0.6s,mb4.4,baz=4.3,slow=5.9,SNR=5.0
HFS Hagfors 57.44 344 P **P** **12 14 38.7 -2.0**
HFS pmax pmax
comp=Z,2.0nm,0.6s
OBN Obninsk 57.63 328 *i* P **P** **12 14 42.6 +0.6**
OBN *e* 12 16 47.2
OBN *e*S **S** **12 22 35.5 -5.0**
OBN pmax pmax
comp=Z,3.0nm,0.3s,mb4.8
OBN MLR MLR
comp=Z,4μm,17.0s,MS5.6
ANMO Albuquerque 59.06 73⇓ *e*P **P** **12 14 58.1 +6.1**
VRSR Storozhevoye 60.41 325 *e*P **P** **12 15 01.9 +0.6**
VRSR pmax pmax
comp=N,9.0nm,1.0s
VRSR pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
VRSR pmax pmax
comp=E,3.0nm,0.9s
WMOK Wichita Mounta 62.77 67 *e*P **P** **12 15 15.8 -1.4**
WMOK pmax pmax
comp=Z,12nm,1.2s,mb4.9
WMOK Wichita Mounta 62.77 67 *e*P **P** **12 15 15.8 -1.4**
comp=Z,12nm,1.2s,mb4.9
CCM Cathedral Cave 63.28 60 P **P** **12 15 18.6 -2.0**
CCM pmax pmax
comp=Z,46nm,2.0s,mb5.3
CCM Cathedral Cave 63.28 60 P **P** **12 15 18.6 -2.0**
comp=Z,46nm,2.0s,mb5.3
AKASG Malin Array Be 63.49 331 P **P** **12 15 20.4 -1.6**
comp=Z,5.4nm,0.8s,mb4.8,baz=22,slow=6.4,SNR=24
AKASG Malin Array Be 63.49 331 P **P** **12 15 20.4 -1.6**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
EKA Eskdalemuir Ar 63.83 353 P **P** **12 15 22.3 -2.0**
comp=Z,5.0nm,0.9s,mb4.5,baz=25,slow=6.8,SNR=4.6
EKA Eskdalemuir Ar 63.83 353 P **P** **12 15 22.3 -2.0**
EKA pmax pmax
comp=Z,5.0nm,0.9s
ALLY Alegheny Colle 64.62 49 *e*P **P** **12 15 29.0 -0.4**
KIV Kislovodsk 65.84 319⇑ *e*P **P** **12 15 38.8 +1.5**
KIV pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
KWP Kalwaria 65.95 335 *e*P **P** **12 15 39.0 +0.9**
KWP pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
KWP Kalwaria 65.95 335 *e*P **P** **12 15 39.0 +0.9**
comp=Z,10nm,0.6s,mb5.0
CLL Collm 66.10 342 *e*P **P** **12 15 39.0 0.0**
STHS Stebnicka Huta 66.45 336 *e*P **P** **12 15 42.1 +0.8**
STHS *e* 12 16 03.1
STHS *e* 12 16 41.9
ZEI Tsey 66.50 317 *e*P **P** **12 15 42.3 +0.7**
ZEI pmax pmax
comp=Z,14nm,1.0s,mb5.0
KOLS Kolonicke sedl 66.70 335 *e*P **P** **12 15 45.1 +2.2**
KOLS *e*PP PP 12 18 00.3 -9.4
ANN Anapa 66.71 323 *e*P **P** **12 15 46.2 +3.3**
ANN *e*S S 12 24 40.5 +5.5
ANN pmax pmax
comp=Z,14nm,1.1s,mb4.9
SOC Sochi 67.12 320 *e*P **P** **12 15 45.4 -0.1**
SOC pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
PLAL Pickwick Lake 67.23 59 *e*P **P** **12 15 44.9 -1.3**
comp=Z,8.9nm,1.1s,mb4.7
KECS Kecove 67.50 336 *e*P **P** **12 15 48.4 +0.5**
FWV Forest Hill 67.91 52 *e*P **P** **12 15 49.1 -1.3**
KHC Kasperske Hory 68.12 341 *i* P **P** **12 15 52.6 +0.8**
ELN Prospectdale 68.24 52 *e*P **P** **12 15 51.6 -1.0**
GIVF Givet 68.35 347 *e*P **P** **12 15 52.3 -1.0**
GERES GERESS Array B 68.38 341 P **P** **12 15 52.7 -0.7**
comp=Z,1.1nm,0.6s,mb4.1,baz=29,slow=3.0,SNR=7.2
GERES GERESS Array B 68.38 341 P **P** **12 15 52.7 -0.8**
GERES pmax pmax
comp=Z,1.0nm,0.6s
BAIF Baives 68.46 347 *e*P **P** **12 15 53.4 -0.6**
comp=Z,54nm,1.4s,mb5.1
BAIF Baives 68.46 347 *e*P **P** **12 15 53.4 -0.6**
BAIF pmax pmax
comp=Z,27nm,1.4s,mb5.1
BAIF Baives 68.46 347 *e*P **P** **12 15 53.4 -0.6**
comp=Z,27nm,1.4s,mb5.1
GNI Garni 68.55 315 P **P** **12 15 56.4 +1.9**
comp=Z,4.0nm,0.4s,mb4.7,baz=216,slow=6.6,SNR=6.9
GNI Garni 68.55 315⇑ *e*P **P** **12 15 57.0 +2.5**
GNI pmax pmax
comp=Z,15nm,0.8s
MLR Muntele Rosu 69.14 331 P **P** **12 15 59.8 +1.5**
comp=Z,4.3nm,0.6s,mb4.6,baz=58,slow=4.6,SNR=8.1
MLR Muntele Rosu 69.14 331 P **P** **12 15 59.8 +1.6**
MLR pmax pmax
comp=Z,4.0nm,0.6s
CDF Champ du Feu 69.73 345 *e*P **P** **12 16 01.0 -0.8**
FLN La Foliniere 70.19 350 *e*P **P** **12 16 03.5 -1.2**
comp=Z,110nm,1.4s,mb5.3
FLN La Foliniere 70.19 350 *e*P **P** **12 16 03.5 -1.2**
FLN pmax pmax
comp=Z,55nm,1.4s,mb5.3
FLN La Foliniere 70.19 350 *e*P **P** **12 16 03.5 -1.2**
comp=Z,55nm,1.4s,mb5.3
LOR Lormes 71.25 347 *e*P **P** **12 16 10.2 -1.0**
comp=Z,77nm,1.5s,mb5.1
LOR Lormes 71.25 347 *e*P **P** **12 16 10.2 -1.0**
LOR pmax pmax
comp=Z,39nm,1.5s,mb5.1
LOR Lormes 71.25 347 *e*P **P** **12 16 10.2 -1.0**
comp=Z,39nm,1.5s,mb5.1
SSF Saint Saulge 71.50 347 *e*P **P** **12 16 11.9 -0.7**
PMG Port Moresby 71.60 200 *e*P **P** **12 16 13.4 +0.1**
PMG pmax pmax
comp=Z,26nm,1.0s
PMG Port Moresby 71.60 200 *e*P **P** **12 16 13.4 +0.2**
comp=Z,26nm,1.0s,mb5.1
MALT Malatya 72.31 319 *e*P **P** **12 16 18.2 +0.7**
MALT pmax pmax
comp=Z,15nm,1.3s,mb4.8
MALT Malatya 72.31 319 *e*P **P** **12 16 18.2 +0.7**
comp=Z,15nm,1.3s,mb4.8
BRTR Keskin Array B 72.48 323 P **P** **12 16 19.4 +0.8**
comp=Z,4.0nm,0.9s,mb4.3,baz=46,slow=3.6,SNR=23
BRTR Keskin Array B 72.48 323 P **P** **12 16 19.4 +0.9**
BRTR pmax pmax
comp=Z,4.0nm,1.0s
LPG La Plagne 72.66 345 *e*P **P** **12 16 19.9 +0.3**
comp=Z,19nm,1.1s,mb4.7
LPG La Plagne 72.66 345 *e*P **P** **12 16 19.9 +0.3**
LPG pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
LPG La Plagne 72.66 345 *e*P **P** **12 16 19.9 +0.3**
comp=Z,9.4nm,1.1s,mb4.6
PGF Pioggiola 75.25 343 *e*P **P** **12 16 33.9 -0.8**
comp=Z,64nm,1.5s,mb5.0
PGF Pioggiola 75.25 343 *e*P **P** **12 16 33.9 -0.8**
PGF pmax pmax
comp=Z,32nm,1.5s,mb5.0
PGF Pioggiola 75.25 343 *e*P **P** **12 16 33.9 -0.8**
comp=Z,32nm,1.5s,mb5.0
WSAR Wadi Sarin 77.99 296 P **P** **12 16 49.7 -0.6**
comp=Z,3.5nm,0.8s,mb4.4,baz=0.0,slow=7.1,SNR=4.0
WSAR Wadi Sarin 77.99 296 P **P** **12 16 49.7 -0.6**
ESDC Sonseca Array 79.48 352 P **P** **12 16 59.2 +0.7**

comp=Z,1.8nm,0.6s,mb4.2,baz=6.4,slow=6.1,SNR=8.7
EVO Evora 80.84 355 *e*P **P 12 17 06.0 +0.2**
comp=Z,84nm,1.5s,mb5.2
WRA Warramunga Arr 84.46 210 P **P 12 17 24.1 -0.6**
comp=Z,6.2nm,0.7s,mb4.8,baz=12,slow=5.3,SNR=10
WRA Warramunga Arr 84.46 210 P **P 12 17 24.1 -0.6**
WRA pmax pmax
comp=Z,6.0nm,0.7s
FITZ Fitzroy Crossi 85.08 218 P **P 12 17 27.1 -0.7**
comp=Z,8.2nm,0.9s,mb4.8,baz=34,slow=4.6,SNR=5.7
ASAR Alice Springs 88.15 209 P **P 12 17 42.4 -0.4**
comp=Z,1.8nm,0.6s,mb4.5,baz=9.7,slow=5.0,SNR=5.3
ASAR Alice Springs 88.15 209 P **P 12 17 42.4 -0.4**
ASAR pmax pmax
comp=Z,2.0nm,0.6s
ATD Arta Tunnel 95.09 304 LR LR 13 05 32.5
comp=Z,3µm,20.0s,MS5.7,baz=298,slow=38
SIV San Ignacio 124.03 58 PKP PKPdf 12 23 49.5 -0.8
comp=Z,2.6nm,0.9s,baz=288,slow=20
BDFB Brasilia 128.67 44 PKP PKPdf 12 23 59.4 +0.2
comp=Z,1.8nm,0.4s,baz=120,slow=4.1,SNR=4.6
BDFB Brasilia 128.67 44 PKIKP PKPdf 12 23 59.4 +0.2
BDFB pmax pmax
comp=Z,2.0nm,0.4s
MAW Mawson 147.98 225 PKPbc PKPbc 12 24 35.5 -1.9
comp=Z,9.0nm,1.0s,baz=75,slow=3.3,SNR=12
QSPA South Pole Qui 150.63 180 *e*P PKPdf 12 24 41.1 +2.6

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*ISCJB **22** 12:05:39.9±0.3, 420N±003×12263E±004, h604km±3km, mb4.9/71, Error ellipse: s-maj=6.9km s-min=4.6km az=129.2*
*BJI **22** 12:05:39.8, 441N×12276E, h575km, mb4.8*
*MOS **22** 12:05:39.2±0.9, 425N×12264E, h595km, mb4.7/15, Error ellipse: s-maj=14.2km s-min=7.8km az=117.8*
*IDC **22** 12:05:41.0±0.7, 4.18N×12264E, h600km±7km, mb4.1/33, mb1 4.1/34, mb1mx4.1/35, mbtmp5.0/34, Error ellipse: s-maj=9.2km s-min=5.2km az=73.0*
*NEIC **22** 12:05:40.9±0.4, 422N×12261E, h598km±5km, mb5.1/24, Error ellipse: s-maj=7.3km s-min=4.4km az=58.0*

ISC 22 12:05:41.0±0.3, 421N±003×12265E±004, h597km±3km, n166, σ0s95/164, mb4.9/70, 15C-8D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IPIL	**Ipil**	**3.55**	**359**	⇓ *i*	P	**P**	**12 07 03.7**	**+0.6**
IPIL	**Ipil**	**3.55**	**359**	*e*	P	**P**	**12 07 03.5**	**+0.4**
PAGZ	**Pagadian**	**3.69**	**11**	*e*	P	**P**	**12 07 04.6**	**+0.6**
DAV	**Davao City (W)**	**4.07**	**46**	*e*	P	**P**	**12 07 06.3**	**-0.3**
DAV				*e*	S	**S**	**12 08 20.3**	**+3.8**
BUKP	**Musuan**	**4.36**	**33**	*e*	P	**P**	**12 07 08.9**	**+0.2**
DCPH	**Dipolog City**	**4.40**	**9**	⇓ *e*	P	**P**	**12 07 09.4**	**+0.4**
MATI	**Mati**	**4.50**	**53**	*e*	P	**P**	**12 07 10.5**	**+0.7**
SNPH	**Sibulan**	**5.13**	**7**	⇑ *e*	P	**P**	**12 07 13.5**	**-1.1**
TARAI	**Tarakan**	**5.14**	**260**	P	P	**P**	**12 07 13.3**	**-1.4**
	5µm,0.9s							
TBP	**Tagbilaran**	**5.58**	**12**	*e*	P	**P**	**12 07 17.8**	**-0.5**
PCI	**Palu**	**5.81**	**209**	P	P	**P**	**12 07 18.6**	**-1.6**
	503nm,1.2s							
LLP	**Lapu-Lapu**	**6.20**	**12**	*e*	P	**P**	**12 07 22.7**	**-0.9**
SCPH	**Surigao**	**6.21**	**27**	*e*	P	**P**	**12 07 22.9**	**-0.8**
MSLP	**Maasin**	**6.28**	**20**	*e*	P	**P**	**12 07 25.4**	**+1.1**
GUIM	**Jordan**	**6.37**	**359**	*e*	P	**P**	**12 07 24.7**	**-0.5**
BATP	**Bataraza**	**6.63**	**314**	*e*	P	**P**	**12 07 27.8**	**+0.4**
KKM	**Kota Kinabalu**	**6.66**	**286**	⇑ *i*	P	**P**	**12 07 27.2**	**-0.5**
PPR	**Puerto Princes**	**6.76**	**325**	*e*	P	**P**	**12 07 29.0**	**+0.5**
CUYO	**Cuyo Island**	**6.79**	**346**	*e*	P	**P**	**12 07 29.1**	**+0.3**
BUSP	**Coron**	**8.11**	**343**	*e*	P	**P**	**12 07 41.1**	**0.0**
OTRP	**Odiongan**	**8.12**	**356**	*e*	P	**P**	**12 07 41.3**	**0.0**
BOAC	**Boac**	**9.22**	**355**	*e*	P	**P**	**12 07 51.3**	**-0.6**
PVCP	**Virac**	**9.44**	**9**	⇑ *i*	P	**P**	**12 07 53.1**	**-1.0**
PVCP	**Virac**	**9.44**	**9**	*e*	P	**P**	**12 07 53.1**	**-0.9**
LUBP	**Lubang**	**9.75**	**346**	*e*	P	**P**	**12 07 56.5**	**-0.6**
TGY	**Tagaytay City**	**9.97**	**350**	P	P	**P**	**12 07 59.2**	**-0.1**
	40nm,0.3s,baz=68,slow=7.9,SNR=6.6							
BALP	**Baler**	**11.50**	**355**	*e*	P	**P**	**12 08 12.8**	**-1.8**
KSM	**Kuching**	**12.62**	**258**	⇑ *e*	P	**P**	**12 08 25.5**	**-0.4**
PALP	**Palanan**	**12.77**	**359**	⇑ *e*	P	**P**	**12 08 21.8**	**-5.5**
TLE	**Tual**	**14.05**	**134**	P	P	**P**	**12 08 41.5**	**+1.3**
	555nm,1.1s							
BJII	**Banjamegara**	**17.27**	**228**	P	P	**P**	**12 09 10.7**	**+0.7**
	279nm,1.1s							
JAY	**Jayapura**	**19.24**	**110**	P	P	**P**	**12 09 31.0**	**+3.1**
	78nm,0.8s							
QIZ	**Qiongzhong**	**19.32**	**321**	P	P	**P**	**12 09 27.1**	**-1.5**
KAKA	**Kakadu**	**19.43**	**150**	⇑ *i*	P	**P**	**12 09 29.3**	**-0.3**
	127nm,0.6s							
KSI	**Kapahiang**	**21.51**	**249**	P	P	**P**	**12 09 48.4**	**+0.1**
	143nm,0.8s,mb5.7							
KULM	**Kulim**	**21.95**	**274**	*e*	P	**P**	**12 09 52.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**22.37**	**173**	⇑ *i*	P	**P**	**12 09 55.7**	**-0.3**
	40nm,0.6s,mb5.1							
FITZ				*e*	S	**S**	**12 13 18.6**	**-2.4**
FITZ	**Fitzroy Crossi**	**22.37**	**173**	P	P	**P**	**12 09 55.7**	**-0.2**
	23nm,0.8s,mb4.9,baz=0.5,slow=8.2,SNR=82							
FITZ				S	S	**S**	**12 13 18.1**	**-2.9**
	3.5nm,0.8s,baz=90,slow=20,SNR=3.5							
FITZ				ScP	ScP	ScP	12 16 09.8	+0.9
	6.2nm,0.7s,baz=301,slow=3.0,SNR=8.2							
JOW	**Kunigami**	**23.13**	**13**	P	P	**P**	**12 10 03.5**	**+0.8**
	7.3nm,0.5s,mb4.5,baz=268,slow=28,SNR=8.6							
PSI	**Prapat**	**23.72**	**267**	P	P	**P**	**12 10 07.3**	**-0.7**
	32nm,0.9s,mb4.9,baz=97,slow=3.0,SNR=16							
PSI				PcP	PcP	PcP	12 13 29.9	-0.2
	2.9nm,0.5s,baz=178,slow=8.6,SNR=3.5							
PSI				ScP	ScP	ScP	12 16 12.8	+0.2
	5.2nm,1.0s,baz=300,slow=21,SNR=3.5							
PSI	**Prapat**	**23.72**	**267**	P	P	**P**	**12 10 07.3**	**-0.6**
PSI							12 13 30.0	
GUMO	**Guam**	**23.83**	**66**	P	P	**P**	**12 10 09.2**	**+0.3**
	22nm,0.3s,mb5.2,baz=216,slow=21,SNR=6.9							
NST	**Nakhon Sawan**	**24.89**	**299**	P	P	**P**	**12 10 18.6**	**+0.3**
MBWA	**Marble Bar**	**25.38**	**186**	*e*	P	**P**	**12 10 21.8**	**-0.7**
	34nm,0.6s,mb5.2							
WRAB	**Tennant Creek**	**26.61**	**155**	P	P	**P**	**12 10 33.0**	**-0.4**
	746nm,0.3s							
WRA	**Warramunga Arr**	**26.61**	**155**	P	P	**P**	**12 10 33.1**	**-0.4**
	62nm,0.4s,mb5.6,baz=336,slow=9.6,SNR=647							
WRA				PcP	PcP	PcP	12 13 36.6	-0.3
	1.9nm,0.5s,baz=307,slow=5.7,SNR=5.0							
WRA				S	S	**S**	**12 14 23.9**	**-3.7**
	10nm,0.8s,baz=335,slow=15,SNR=13							
WRA				ScP	ScP	ScP	12 16 20.9	-0.1
	6.3nm,0.5s,baz=338,slow=3.1,SNR=17							
WRA	**Warramunga Arr**	**26.61**	**155**	P	P	**P**	**12 10 33.1**	**-0.3**
WRA							12 13 36.6	
WRA				S	S	**S**	**12 14 23.9**	**-3.7**
WB2	**Warramunga Arr**	**26.62**	**155**	⇑ *i*	P	**P**	**12 10 33.1**	**-0.4**
WB2				*e*	S	**S**	**12 14 23.6**	**-4.1**
WB2				*e*	SCS	ScS	12 20 10.3	-2.5
CHG	**Chiang Mai**	**27.33**	**304**	⇓ P		**P**	**12 10 40.4**	**+0.8**
	37nm,0.9s,mb5.0							
WHN	**Wuhan**	**27.34**	**344**	*e*	P	**P**	**12 10 41.5**	**+1.8**
PMG	**Port Moresby**	**27.93**	**119**	P	P	**P**	**12 10 45.0**	**+0.2**
	64nm,0.8s,mb5.3,baz=323,slow=5.7,SNR=18							
PMG				ScP	ScP	ScP	12 16 24.7	-0.3
	14nm,0.8s,baz=335,slow=8.2,SNR=3.7							
PMG	**Port Moresby**	**27.93**	**119**	*e*	P	**P**	**12 10 44.8**	**-0.1**
PMG				ScP	ScP	ScP	12 16 24.7	-0.3
CBIJ	**Chichi jima**	**29.43**	**37**	P	P	**S**	**12 10 57.6**	**-0.2**
	195nm,0.8s,mb5.8,baz=96,slow=9.0,SNR=34							
CBIJ				S	S	**S**	**12 15 08.0**	**-3.1**
	154nm,0.7s,baz=110,slow=23,SNR=16							
ASAR	**Alice Springs**	**29.80**	**159**	P	P	**P**	**12 11 01.4**	**+0.3**
	28nm,0.5s,mb5.2,baz=337,slow=7.0,SNR=672							
ASAR				PcP	PcP	PcP	12 13 45.5	+0.6
	2.9nm,0.6s,baz=338,slow=3.1,SNR=6.0							
ASAR				S	S	**S**	**12 15 15.2**	**-1.8**
	19nm,0.8s,baz=339,slow=14,SNR=29							
ASAR				ScP	ScP	ScP	12 16 31.1	+0.1
	11nm,0.6s,baz=342,slow=3.0,SNR=21							
ASAR	**Alice Springs**	**29.80**	**159**	P	P	**P**	**12 11 01.4**	**+0.3**
ASAR							12 13 45.6	
ASAR				S	S	**S**	**12 15 15.2**	**-1.8**
XAN	**Xi'an**	**32.31**	**338**	P	P	**P**	**12 11 22.4**	**0.0**
XAN				AMB	AMB			
	comp=Z,35nm,1.0s,mb4.9							
CTA	**Charters Tower**	**33.48**	**137**	⇑ *i*	P	**P**	**12 11 33.7**	**+1.4**
	comp=Z,17nm,0.8s,mb4.7							
CTA	**Charters Tower**	**33.48**	**137**	P	P	**P**	**12 11 33.9**	**+1.6**
	comp=Z,22nm,0.8s,mb4.8,baz=326,slow=9.6,SNR=15							
CTA				ScP	ScP	ScP	12 16 44.2	+0.6
	baz=336,slow=2.5							
CTA	**Charters Tower**	**33.48**	**137**	⇑ *i*	P	**P**	**12 11 33.7**	**+1.4**
CTA				pmax	pmax			
	comp=Z,17nm,0.8s							
FORT	**Forrest**	**35.18**	**172**	⇑ *i*	P	**P**	**12 11 46.8**	**+0.4**
	comp=Z,151nm,0.5s,mb5.9							
FORT				*i*	S	**S**	**12 16 37.5**	**-0.8**
MJAR	**Matsushiro Arr**	**35.21**	**22**	P	P	**P**	**12 11 45.8**	**-0.9**
	comp=Z,7.8nm,0.8s,mb4.4,baz=192,slow=8.7,SNR=14							
MJAR				ScP	ScP		12 16 50.3	+0.3
	comp=Z,3.1nm,0.8s,baz=196,slow=4.5,SNR=5.5							
MJAR	**Matsushiro Arr**	**35.21**	**22**	P	P		**12 11 45.8**	**-0.9**
MJAR				ScP	ScP		12 16 50.3	+0.3
KLBR	**Kellerberrin**	**35.91**	**187**	⇑ *i*	P	**P**	**12 11 52.2**	**-0.2**
	comp=Z,46nm,0.5s,mb5.3							
SHL	**Shillong**	**36.35**	**309**	*i*	P	**P**	**12 11 57.5**	**+1.4**
SHL				AMb	AMB	AMB	12 12 02.5	
	comp=Z,830nm,0.4s							
SHL				*e*	S	**S**	**12 16 56.0**	**+0.1**
MUN	**Mundaring**	**36.51**	**189**	*e*	P	**P**	**12 11 57.2**	**-0.1**
NWAO	**Narrogin (SRO)**	**37.29**	**188**	P	P	**P**	**12 12 04.0**	**+0.3**
	comp=Z,63nm,0.7s,mb5.3,baz=16,slow=7.5,SNR=59							
HNR	**Honiara**	**39.57**	**110**	P	P	**P**	**12 12 22.2**	**+0.2**
	comp=Z,76nm,0.5s,mb5.5,baz=271,slow=8.5,SNR=4.0							
STKA	**Stephens Creek**	**40.17**	**155**	⇑ *i*	P	**P**	**12 12 25.7**	**-1.1**
	comp=Z,23nm,0.6s,mb4.9							
STKA				*e*	S	**S**	**12 17 49.8**	**-1.9**
STKA	**Stephens Creek**	**40.17**	**155**	P	P	**P**	**12 12 25.7**	**-1.1**
	comp=Z,27nm,0.6s,mb5.0,baz=328,slow=7.8,SNR=74							
STKA				PcP	PcP		12 14 14.4	-1.5
	comp=Z,7.4nm,0.8s,baz=323,slow=12,SNR=4.4							
STKA				ScP	ScP		12 17 07.0	-1.9
	comp=Z,6.6nm,0.8s,baz=334,slow=6.8,SNR=6.6							
STKA				S	S	**S**	**12 17 48.8**	**-2.9**
	comp=Z,5.0nm,0.9s,baz=237,slow=23,SNR=11							
BOK	**Bokaro**	**40.43**	**302**	*e*	P	**P**	**12 12 30.1**	**+1.1**
GTA	**Gaotai**	**40.69**	**333**	P	P	**P**	**12 12 32.5**	**+1.5**
GTA				PCP	PcP		12 14 18.6	+1.0
GTA				AMB	AMB			
	comp=Z,42nm,1.0s,mb4.9							
MDJ	**Mudanjiang**	**40.70**	**8**	P	P	**P**	**12 12 31.5**	**+0.4**
MDJ				AMB	AMB			
	comp=Z,20nm,0.7s,mb4.8							
VIS	**Vishakhapatnam**	**40.76**	**292**	*e*	P	**P**	**12 12 32.9**	**+1.4**
JIRN	**Jiri**	**41.82**	**308**	*e*	P	**P**	**12 12 41.2**	**+1.3**
	comp=Z,59nm,0.4s,mb5.4							
GUN	**Gumba**	**42.18**	**308**	*e*	P	**P**	**12 12 43.9**	**+1.2**
	comp=Z,128nm,0.4s,mb5.8							
PKI	**Pulchoki**	**42.40**	**307**	*e*	P	**P**	**12 12 45.0**	**+0.6**
	comp=Z,23nm,0.3s,mb5.2							
PKI	**Pulchoki**	**42.40**	**307**	*e*	P	**P**	**12 12 45.0**	**+0.6**
PKI				pmax	pmax			
	comp=Z,23nm,0.3s,mb5.2							
KKN	**Kakani**	**42.60**	**307**	*e*	P	**P**	**12 12 46.7**	**+0.7**
	comp=Z,34nm,0.3s,mb5.3							
KKN	**Kakani**	**42.60**	**307**	*e*	P	**P**	**12 12 46.7**	**+0.7**
KKN				pmax	pmax			
	comp=Z,34nm,0.3s,mb5.3							
DMN	**Daman**	**42.66**	**307**	*e*	P	**P**	**12 12 47.3**	**+0.9**
	comp=Z,181nm,1.0s,mb5.6							
BLSP	**Bilaspur**	**43.08**	**298**	*e*	P	**P**	**12 12 50.4**	**+0.6**
GKN	**Gorkha**	**43.20**	**307**	*e*	P	**P**	**12 12 51.4**	**+0.8**
	comp=Z,152nm,0.9s,mb5.5							
ASAJ	**Asahikawa**	**43.46**	**21**	P	P	**P**	**12 12 53.4**	**+0.7**
	comp=Z,16nm,0.7s,mb4.7,baz=247,slow=13,SNR=16							
KOLN	**Koldanda**	**43.93**	**306**	*e*	P	**P**	**12 12 57.4**	**+1.1**
	comp=Z,297nm,0.8s,mb5.9							
ARMA	**Armidale**	**44.20**	**143**	⇑ *i*	P	**P**	**12 13 01.0**	**+2.7**
HIA	**Hailar**	**44.96**	**357**	*e*	P	**P**	**12 13 04.4**	**+0.3**
HIA				pmax	pmax			
	comp=Z,9.0nm,0.7s							
HIA	**Hailar**	**44.96**	**357**	*e*	P	**P**	**12 13 04.4**	**+0.3**
	comp=Z,9.3nm,0.7s,mb4.4							
HYB	**Hyderabad**	**45.12**	**290**	⇓ *i*	P	**P**	**12 13 06.0**	**+0.6**
	comp=Z,20nm,1.0s,mb4.6							
HYB				*e*	PcP	PcP	12 14 33.0	+0.2
HYB	**Hyderabad**	**45.12**	**290**	⇓ *i*	P	**P**	**12 13 06.0**	**+0.6**
HYB				pmax	pmax			
	comp=Z,20nm,1.0s,mb4.6							
ULN	**Ulaanbaatar**	**45.51**	**345**	*e*	P	**P**	**12 13 09.0**	**+0.7**
ULN				pmax	pmax			
	comp=Z,13nm,0.8s,mb4.5							
ULN	**Ulaanbaatar**	**45.51**	**345**	*e*	P	**P**	**12 13 09.0**	**+0.7**
	comp=Z,13nm,0.8s,mb4.5							
TRD	**Trivandrum**	**45.58**	**278**	*e*	P	**P**	**12 13 10.0**	**+1.1**
TRD				AMb	AMB		12 13 10.6	
	comp=Z,102nm,0.8s,mb5.4							
SONM	**Songino Array**	**45.65**	**345**	P	P	**P**	**12 13 09.8**	**+0.4**
	comp=Z,17nm,0.8s,mb4.6,baz=158,slow=8.5,SNR=30							
SONM				PcP	PcP		12 14 34.5	-0.1
	comp=Z,3.3nm,0.7s,baz=165,slow=3.1,SNR=4.2							
SONM				ScP	ScP		12 17 31.3	0.0
	comp=Z,2.0nm,0.7s,baz=153,slow=4.7,SNR=5.6							
SONM	**Songino Array**	**45.65**	**345**	P	P		**12 13 09.8**	**+0.4**
SONM							12 14 34.5	
CNB	**Canberra Magne**	**46.64**	**150**	*e*	P	**P**	**12 13 18.3**	**+1.4**
	comp=Z,7.1nm,0.3s,mb4.7							
BHPL	**Bhopal**	**47.56**	**298**	*e*	P	**P**	**12 13 24.1**	**+0.3**
BHPL				AMb	AMB		12 13 25.9	
	comp=Z,187nm,1.1s,mb5.5							
NDI	**New Delhi**	**49.47**	**305**	*e*	P	**P**	**12 13 37.0**	**-0.9**
NDI				*e*			12 13 37.2	
TLY	**Talaya**	**49.89**	**345**	*e*	P	**P**	**12 13 41.7**	**+0.8**
TLY				pmax	pmax			
	comp=Z,13nm,0.8s,mb4.4							
DZM	**Mont Dzumac**	**50.17**	**123**	P	P	**P**	**12 13 44.7**	**+1.8**
	comp=Z,6.0nm,0.5s,mb4.2,baz=298,slow=20,SNR=12							
SMLA	**Simla**	**50.41**	**308**	*e*	P	**P**	**12 13 44.1**	**-0.7**
SMLA				AMb	AMB		12 13 45.8	
	comp=Z,184nm,1.1s,mb5.4							
AJM	**Ajmer**	**50.92**	**301**	*ex*		x	12 13 24.8	
AJM				AMb	AMB		12 13 37.2	
	comp=Z,40nm,0.3s,mb5.3							
BOD	**Bodaibo**	**53.89**	**354**	*e*	P	**P**	**12 14 09.1**	**-0.4**
BOD				pmax	pmax			
	comp=Z,23nm,0.8s,mb4.6							
MKAR	**Makanchi Array**	**54.89**	**327**	P	P	**P**	**12 14 17.1**	**+0.6**
	comp=Z,26nm,0.3s,mb5.0,baz=125,slow=7.8,SNR=355							
MKAR				PcP	PcP		12 15 08.9	-0.3
	comp=Z,14nm,0.7s,baz=127,slow=4.6,SNR=13							
MKAR				ScP	ScP		12 18 10.4	-0.6
	comp=Z,2.2nm,0.7s,baz=122,slow=5.1,SNR=4.2							
MKAR	**Makanchi Array**	**54.89**	**327**	P	P		**12 14 17.1**	**+0.6**
MKAR							12 15 08.9	
YAK	**Yakutsk**	**57.93**	**4**	*e*	P	**P**	**12 14 37.1**	**-0.2**
YAK				pmax	pmax			
	comp=Z,35nm,0.7s,mb4.6							
YAK	**Yakutsk**	**57.93**	**4**	*e*	P	**P**	**12 14 37.1**	**-0.2**
	comp=Z,35nm,0.7s,mb4.6							
KURK	**Kurchatov**	**59.19**	**329**	P	P	**P**	**12 14 45.6**	**-0.2**
	comp=Z,722nm,0.4s,SNR=51							
WSAR	**Wadi Sarin**	**64.50**	**294**	P	P	**P**	**12 15 19.7**	**-0.5**
	comp=Z,6.1nm,0.9s,mb3.9,baz=48,slow=11,SNR=6.0							
RPZ	**Rata Peaks**	**64.55**	**143**	P	P	**P**	**12 15 21.5**	**+1.1**
	comp=Z,8.0nm,0.6s,mb4.3,baz=78,slow=16,SNR=6.5							
BRVK	**Borovoye**	**64.80**	**328**	P	P	**P**	**12 15 22.4**	**+0.4**
	comp=Z,197nm,1.0s,mb5.5,SNR=8.2							
CHKZ	**Chkalovo**	**64.93**	**329**	*e*	P	**P**	**12 15 21.9**	**-1.0**
CHKZ				pmax	pmax			
	comp=Z,20nm,1.2s,mb4.4							
CHKZ	**Chkalovo**	**64.93**	**329**	*e*	P	**P**	**12 15 21.9**	**-1.0**
	comp=Z,20nm,1.2s,mb4.4							
ZRNK	**Zerenda**	**65.43**	**328**	⇓ *e*	P	**P**	**12 15 25.7**	**-0.3**
ZRNK				pmax	pmax			
	comp=Z,37nm,0.8s,mb4.9							
ZRNK	**Zerenda**	**65.43**	**328**	⇓ *e*	P	**P**	**12 15 25.7**	**-0.2**
	comp=Z,37nm,0.8s,mb4.9							
URZ	**Urewera**	**65.71**	**135**	P	P	**P**	**12 15 29.2**	**+1.4**
	comp=Z,14nm,0.8s,mb4.4,baz=158,slow=3.4,SNR=5.4							
TIXI	**Tiksi**	**67.46**	**2**	*e*	P	**P**	**12 15 34.9**	**-3.6**
TIXI				*e*			12 15 55.0	
TIXI				*e*			12 18 13.0	
TIXI				pmax	pmax			
	comp=Z,21nm,0.9s,mb4.6							
TIXI				pmax	pmax			
	comp=Z,2µm,6.3s							
AKTK	**Aktyubinsk**	**70.77**	**322**	P	P	**P**	**12 15 58.4**	**+0.1**
AKTO	**Aktyubinsk**	**70.77**	**322**	P	P	**P**	**12 15 58.4**	**+0.1**
	comp=Z,14nm,0.3s,mb4.9,baz=105,slow=6.3,SNR=26							
ARU	**Arti**	**72.37**	**328**	⇑ *i*	P	**P**	**12 16 06.3**	**-1.2**
ARU				pmax	pmax			
	comp=Z,26nm,0.9s,mb4.8							
ORR	**Orenburg**	**73.08**	**323**	*e*	P	**P**	**12 16 11.7**	**+0.1**
ORR				pmax	pmax			
	comp=Z,40nm,0.6s,mb5.1							
QRN	**Al-Qurain**	**74.60**	**299**	*e*	P	**P**	**12 16 19.4**	**-0.7**
QRN				AMb	AMB		12 16 20.9	
	comp=Z,75nm,0.5s,mb5.5							
UMR	**Umm Al-Rimmam**	**74.83**	**299**	*e*	P	**P**	**12 16 21.8**	**+0.3**
UMR				AMb	AMB		12 16 23.5	
	comp=Z,20nm,0.3s,mb5.1							
RDF	**Al-Radifah**	**74.93**	**299**	*e*	P	**P**	**12 16 22.2**	**+0.2**
MIB	**Mutribah**	**75.17**	**300**	*e*	P	**P**	**12 16 23.0**	**-0.4**
MIB				AMb	AMB		12 16 24.5	
	comp=Z,94nm,0.7s,mb5.4							
NAY	**Al-Naaiem**	**75.22**	**299**	*e*	P	**P**	**12 16 23.0**	**-0.6**
NAY				AMb	AMB		12 16 23.9	
	comp=Z,35nm,0.6s,mb5.1							
MAW	**Mawson**	**82.82**	**199**	*e*	P	**P**	**12 17 03.6**	**-0.1**
	comp=Z,5.7nm,1.1s,mb4.0							
MAW	**Mawson**	**82.82**	**199**	P	P	**P**	**12 17 04.2**	**+0.5**
	comp=Z,5.9nm,0.8s,mb4.2,baz=43,slow=4.8,SNR=21							
MAW	**Mawson**	**82.82**	**199**	*e*	P	**P**	**12 17 03.6**	**-0.1**
MAW				pmax	pmax			
	comp=Z,6.0nm,1.1s							
MALT	**Malatya**	**82.87**	**308**	*e*	P	**P**	**12 17 04.9**	**+0.9**
MALT				pmax	pmax			
	comp=Z,28nm,1.5s,mb4.6							
MALT	**Malatya**	**82.87**	**308**	*e*	P	**P**	**12 17 04.8**	**+0.9**
	comp=Z,28nm,1.5s,mb4.6							
ANN	**Anapa**	**83.66**	**314**	*e*	P	**P**	**12 17 07.0**	**-0.9**
ANN				pmax	pmax			
	comp=Z,64nm,0.8s,mb5.2							
MOS	**Moscow**	**83.73**	**325**	*e*	P	**P**	**12 17 04.2**	**-4.1**
VNDA	**Vanda**	**84.44**	**172**	P	P	**P**	**12 17 11.4**	**-0.3**
	comp=Z,3.7nm,0.6s,mb4.1,baz=313,slow=5.8,SNR=31							
VNDA	**Vanda**	**84.44**	**172**	*e*	P	**P**	**12 17 10.9**	**-0.8**
VNDA				pmax	pmax			
	comp=Z,5.0nm,1.0s							
VNDA	**Vanda**	**84.44**	**172**	*e*	P	**P**	**12 17 10.9**	**-0.8**
	comp=Z,5.0nm,1.0s,mb4.0							
KMBO	**Kilima Mbogo**	**85.49**	**269**	P	P	**P**	**12 17 13.4**	**+0.5**
	comp=Z,14nm,1.0s,mb4.5,baz=50,slow=6.8,SNR=24							
EIL	**Elat**	**85.94**	**299**	*e*	P	**P**	**12 17 19.6**	**+0.7**
	comp=Z,474nm,1.4s,mb5.9							
ILAR	**Eielson Array**	**86.42**	**25**	P	P	**P**	**12 17 19.8**	**-1.4**
	comp=Z,1.1nm,0.6s,baz=248,slow=5.1,SNR=12							
BRTR	**Keskin Array B**	**86.57**	**309**	P	P	**P**	**12 17 21.6**	**-0.3**
	comp=Z,2.3nm,0.8s,mb3.9,baz=131,slow=4.9,SNR=6.7							
JOF	**Joensuu**	**86.89**	**333**	*ep*	P	**P**	**12 17 21.9**	**-1.5**
ARCES	**ARCESS Array B**	**88.58**	**340**	P	P	**P**	**12 17 29.6**	**-1.7**
	comp=Z,8.4nm,1.0s,mb4.5,baz=84,slow=4.5,SNR=20							
AKASG	**Malin Array Be**	**88.94**	**321**	P	P	**P**	**12 17 31.1**	**-1.9**
	comp=Z,2.8nm,0.6s,mb4.3,baz=73,slow=4.6,SNR=14							
KAF	**Kangasniemi**	**89.28**	**332**	*ep*	P	**P**	**12 17 32.5**	**-2.0**
FINES	**FINESS Array B**	**89.47**	**331**	P	P	**P**	**12 17 33.8**	**-1.7**
	comp=Z,6.1nm,0.7s,mb4.5,baz=90,slow=6.1,SNR=22							
MLR	**Muntele Rosu**	**91.72**	**316**	P	P	**P**	**12 17 45.6**	**-0.2**
	comp=Z,4.1nm,0.7s,mb4.6,baz=186,slow=4.3,SNR=4.1							
UZH	**Uzhgorod**	**93.69**	**319**	*d* *i* P		**P**	**12 17 55.0**	**+0.2**
CRVS	**Cervenica-Dubn**	**94.18**	**320**	*e*	P	**P**	**12 17 57.9**	**+0.9**
STHS	**Stebnicka Huta**	**94.22**	**320**	*e*	P	**P**	**12 17 57.8**	**+0.6**
KECS	**Kecovo**	**94.89**	**319**	*e*	P	**P**

comp=Z,0.7nm,0.6s,mb3.9,baz=11,slow=5.6,SNR=6.8
WRA Warramunga Arr 84.39 210 P **P** **12 23 15.5 -1.3**
WRA pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 88.07 209 P **P** **12 23 33.4 -1.5**
comp=Z,0.3nm,0.6s,mb3.7,baz=9.9,slow=4.3,SNR=4.9

*IDC **22** 12:14:43.4±0.9, 6086N×16547E, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.7/22, mbtmp3.8/8, ML3.1/1, Error ellipse: s-maj=22.7km s-min=17.4km az=70.0*
*MOS **22** 12:14:43.6±1.7, 6084N×16568E, h14km, mb3.8/5, Error ellipse: s-maj=42.9km s-min=14.3km az=88.5*
*KRSC **22** 12:14:43.4±0.9, 6085N×16609E, h9km±4km, ML4.0*
*ISCJB **22** 12:14:44.9±1.2, 6084N±004×1659E±02, h20km±10km, mb3.6/7, Error ellipse: s-maj=15.2km s-min=6.4km az=33.7*
*NEIC **22** 12:14:44.9±0.7, 6080N×16551E, h10km, mb3.7/1, Error ellipse: s-maj=17.8km s-min=13.3km az=132.0*
ISC 22 12:14:45.0±1.5, 6087N±005×1658E±02, h10km±10km, n27, σ1§03/31, mb3.6/7, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.46**	**166**	*i* P		**Pg**	**12 14 52.8**	**-1.2**
TILR				*i* S		**Sg**	**12 15 00.0**	**0.0**
TILR				Smax				
	9μm,0.4s							
KAMR	**Kamenskoye**	**1.60**	**6**	*e*P		**Pn**	**12 15 13.0**	**-0.4**
KAMR				*e*S		**Sn**	**12 15 33.6**	**-0.5**
KAMR				Smax				
	1μm,0.9s							
OSSR	**Ossora**	**2.14**	**222**	*e*P		**Pn**	**12 15 21.3**	**+0.4**
OSSR				Smax				
	1μm,0.6s							
SMKR	**Semkarok**	**4.87**	**210**	P		**Pn**	**12 15 58.8**	**+0.5**
KBTR	**Krutoberegovo**	**4.94**	**200**	P		**Pn**	**12 15 59.3**	**0.0**
KBTR				S		**Sn**	**12 16 56.9**	**+0.4**
KBTR	**Krutoberegovo**	**4.94**	**200**	*e*P		**Pn**	**12 16 00.1**	**+0.8**
KBTR				*e*S		**Sn**	**12 16 55.7**	**-0.8**
ZLN	**Zelenaya**	**5.54**	**211**	*e*P		**Pn**	**12 16 08.4**	**+0.8**
BILL	**Bilibino**	**7.20**	**1**	*e*PN		**Pn**	**12 16 31.1**	**+0.7**
BILL	**Bilibino**	**7.20**	**1**	*e*Pn		**Pn**	**12 16 31.1**	**+0.8**
BILL	**Bilibino**	**7.20**	**1**	P		**Pn**	**12 16 32.5**	**+2.1**
BILL				Smax				
	40nm,1.2s							
GNL	**Ganaly**	**8.36**	**214**	P		**Pn**	**12 16 48.7**	**+2.3**
FX1	**Attu Island--F**	**8.95**	**150**	Pn		**Pn**	**12 16 53.7**	**-0.7**
	0.7nm,0.3s,baz=281,slow=16,SNR=3.3							
FX1	**Attu Island--F**	**8.95**	**150**	PN		**Pn**	**12 16 53.7**	**-0.7**
FX1				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ILAR	**Eielson Array**	**21.53**	**59**	P		**P**	**12 19 36.0**	**+1.6**
	comp=Z,0.9nm,0.8s,mb3.2,baz=272,slow=8.6,SNR=4.1							
ILAR	**Eielson Array**	**21.53**	**59**	P		**P**	**12 19 36.0**	**+1.7**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
INK	**Inuvik**	**26.00**	**48**	P		**P**	**12 20 19.2**	**+1.1**
	comp=Z,1.1nm,0.8s,mb3.4,baz=296,slow=5.2,SNR=3.5							
INK	**Inuvik**	**26.00**	**48**	*e*P		**P**	**12 20 19.5**	**+1.4**
INK				pmax	pmax			
	comp=Z,1.0nm,0.6s							
INK	**Inuvik**	**26.00**	**48**	*e*P		**P**	**12 20 19.5**	**+1.4**
	comp=Z,0.9nm,0.6s,mb3.5							
MKAR	**Makanchi Array**	**47.82**	**293**	P		**P**	**12 23 21.2**	**-1.6**
	comp=Z,0.6nm,0.6s,mb3.8,baz=60,slow=7.3,SNR=5.8							
MKAR	**Makanchi Array**	**47.82**	**293**	P		**P**	**12 23 21.2**	**-1.6**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**47.82**	**293**	P		**P**	**12 23 21.2**	**-1.6**
PDAR	**Pinedale Array**	**51.40**	**70**	P		**P**	**12 23 49.9**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=331,slow=5.8,SNR=4.6							
NOA	**NORSAR Array B**	**56.86**	**346**	P		**P**	**12 24 28.9**	**-1.0**
	comp=Z,0.8nm,0.6s,mb3.9,baz=15,slow=7.4,SNR=2.6							
NOA	**NORSAR Array B**	**56.86**	**346**	P		**P**	**12 24 28.9**	**-1.0**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
WRA	**Warramunga Arr**	**84.45**	**210**	P		**P**	**12 27 16.8**	**-1.2**
	comp=Z,0.5nm,0.6s,mb3.8,baz=13,slow=5.5,SNR=9.9							
WRA	**Warramunga Arr**	**84.45**	**210**	P		**P**	**12 27 16.8**	**-1.1**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
ASAR	**Alice Springs**	**88.13**	**209**	P		**P**	**12 27 35.1**	**-1.0**
	comp=Z,0.1nm,0.5s,mb3.3,baz=13,slow=5.6,SNR=5.5							

*ISCJB **22** 12:21:40.6±0.5, 134N±02×8951W±0.10, h83km±8km, mb3.6/3, Error ellipse: s-maj=29.1km s-min=4.8km az=62.4*
*NEIC **22** 12:21:41.8±4.8, 1320N×8967W, h87km±40km, mb4.0/1, MD3.7(SNET), Error ellipse: s-maj=96.2km s-min=22.2km az=59.0*
NEIC Felt [II] at San Salvador.
*CASC **22** 12:21:41.6±2.9, 1329N×8957W, h34km±10km, MD4.0, ML4.1, mb4.0(NEIC)*
*IDC **22** 12:21:43.5±8.8, 1326N×8943W, h103km±88km, mb3.2/2, mb1 3.5/3, mb1mx3.2/19, mbtmp3.6/3, ML3.7/1, Error ellipse: s-maj=128.5km s-min=50.1km az=56.0*
ISC 22 12:21:41.9±0.5, 135N±02×895W±01, h75km±9km, n35, σ0§94/33, mb3.6/3, 3C-6D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BOQS	**Boqueron**	**0.29**	**41**	⇑*i*P		Px	12 22 12.7	
SNET	**Serv Nac Est T**	**0.30**	**54**	*e*P		Px	12 21 35.6	
SNET				*e*S		Sx	12 21 41.1	
SBLS	**San Blas**	**0.35**	**337**	⇓*e*P		Px	12 22 12.9	
SNJE	**San Jose**	**0.38**	**341**	⇓*e*P		Px	12 22 13.3	
LFRS	**El Faro**	**0.42**	**75**	⇓*i*P		Px	12 22 13.2	
LBRS	**Las Brisas**	**0.48**	**62**	⇓*i*P		Px	12 22 14.7	
LCBS	**La Ceiba**	**0.51**	**74**	⇓*i*P		Px	12 22 14.3	
LCBS				*e*S		Sx	12 22 24.8	
SNVI	**San Vicente**	**0.63**	**81**	⇓*e*P		Px	12 22 15.7	
SNVI				*e*S		Sx	12 22 27.2	
IXG	**Ixpaco**	**1.15**	**305**	*e*P		**Pn**	**12 22 01.6**	**-0.9**
IXG				*e*S		**Sn**	**12 22 16.7**	**-1.2**
VSM	**San Miguel**	**1.18**	**94**	*e*P		Px	12 22 22.3	
FUG	**Fuego 3**	**1.62**	**305**	*e*P		**Pn**	**12 22 09.2**	**+0.7**
CNCH	**Conchagua**	**1.62**	**98**	*e*P		Px	12 22 27.7	
TP2	**Tecpan 2**	**1.96**	**310**	*e*P		**Pn**	**12 22 15.0**	**+1.9**
TP2				*e*S		**Sn**	**12 22 41.2**	**+4.4**
JAT	**Jato**	**2.24**	**291**	*e*P		**Pn**	**12 22 16.5**	**-0.4**
CRIN	**San Cristobal**	**2.50**	**109**	*e*P		**Pn**	**12 22 20.4**	**+0.1**
TEL3	**Telica 3**	**2.73**	**110**	⇑*e*P		**Pn**	**12 22 23.4**	**-0.1**
TEL3				*e*S		**Sn**	**12 22 56.1**	**+0.6**
TELN	**Telica**	**2.73**	**109**	⇑*e*P		**Pn**	**12 22 23.3**	**-0.2**
LEON	**Leon**	**2.75**	**113**	*e*P		**Pn**	**12 22 22.9**	**-0.8**
LEON				*e*S		**Sn**	**12 22 55.7**	**-0.1**
CNGN	**Cerro Negro**	**2.89**	**110**	*e*P		**Pn**	**12 22 24.4**	**-1.2**
MIRN	**Miramar**	**2.90**	**111**	*e*P		**Pn**	**12 22 25.5**	**-0.3**
COPN	**Copaltepe**	**3.11**	**115**	*e*P		**Pn**	**12 22 28.9**	**+0.2**
MGAN	**Managua**	**3.43**	**113**	*e*		**Sn**	**12 23 12.1**	**-0.4**
	comp=E,280nm,0.3s							
MGAN				*e*			12 23 25.5	
	comp=N,294nm,0.4s							
VCR	**Vista de Mar**	**5.05**	**131**	*e*P		**Pn**	**12 23 05.3**	**+10**
VCR				*e*S		**Sn**	**12 24 10.3**	**+18**
JTS	**JuntasAbangare**	**5.47**	**125**	P		**Pn**	**12 23 00.6**	**-0.2**
	comp=N,2.4nm,0.3s,baz=306,slow=20,SNR=8.1							
JTS				S		**Sn**	**12 24 00.2**	**-2.0**
	baz=319,slow=20,SNR=2.0							
JTS	**JuntasAbangare**	**5.47**	**125**	P		**Pn**	**12 23 00.6**	**-0.2**
JTS				S		**Sn**	**12 24 00.2**	**-2.0**
CGA2	**Cerro Gallo 2**	**6.01**	**125**	*e*P		**Pn**	**12 23 10.2**	**+1.9**
PRS1	**Puriscal**	**6.16**	**124**	*e*P		**Pn**	**12 23 11.6**	**+1.4**
LCR2	**La Lucha 2**	**6.54**	**124**	*e*P		**Pn**	**12 23 15.7**	**+0.2**
LCR2				*e*S		**Sn**	**12 24 32.8**	**+4.2**
URSC	**Urasca**	**6.67**	**123**	*e*P		**Pn**	**12 23 17.7**	**+0.5**
BUS	**Buena Vista**	**6.85**	**124**	*e*P		**Pn**	**12 23 21.1**	**+1.5**
BUS				*e*S		**Sn**	**12 24 36.0**	**0.0**
SAML	**Samuel**	**34.34**	**129**	*e*P		**P**	**12 28 20.0**	**-1.4**
	comp=N,1.1nm,0.5s,mb3.9							
YKA	**Yellowknife Ar**	**52.08**	**346**	P		**P**	**12 30 44.5**	**+0.3**
	comp=N,0.4nm,0.3s,mb3.9,baz=151,slow=7.3,SNR=11							
YKA	**Yellowknife Ar**	**52.08**	**346**	P		**P**	**12 30 44.5**	**+0.3**
ILAR	**Eielson Array**	**64.26**	**336**	P		**P**	**12 32 08.8**	**-0.3**
	comp=N,0.1nm,0.3s,mb3.1,baz=128,slow=5.6,SNR=4.5							
WRA	**Warramunga Arr**	**137.64**	**255**	PKP		PKPdf	12 40 56.2	-1.1
	comp=N,0.3nm,0.8s,baz=88,slow=1.9,SNR=3.8							

*BJI **22** 12:30:10.9, 6103N×16567E, h16km, mB5.3, mb4.9, Ms5.3, Msz5.1*
*MOS **22** 12:30:11.0±1.0, 6092N×16555E, h10km, mb4.9/38, Error ellipse: s-maj=11.6km s-min=6.2km az=84.6*
*KRSC **22** 12:30:11.4±0.7, 6077N×16601E, h14km±4km, ML4.9*
*IDC **22** 12:30:11.0±0.5, 6085N×16553E, h0km, mb4.5/23, mb1 4.6/24, mb1mx4.6/27, mbtmp4.5/24, ML4.1/1, Error ellipse: s-maj=12.0km s-min=9.7km az=60.0*
*ISCJB **22** 12:30:11.8±0.2, 6084N±002×16560E±005, h14km, mb4.8/76, MS5.1/7, Error ellipse: s-maj=4.0km s-min=2.7km az=80.5*
*NEIC **22** 12:30:16.3±2.0, 6089N×16554E, h33km±15km, mb5.0/22, Error ellipse: s-maj=6.8km s-min=4.3km az=166.0*
ISC 22 12:30:13.4±0.2, 6089N±002×16556E±005, h14km, (h26km±1.9km: pP-P), n195, σ1§04/196, mb4.8/76, MS5.1/7, 8C-3D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.52**	**152**	*e*P		**Pg**	**12 30 18.9**	**-4.8**
TILR				*i* S		**Sg**	**12 30 24.9**	**-5.8**
TILR				Smax				
	215μm,1.3s							
KAMR	**Kamenskoye**	**1.60**	**11**	*e*P		**Pn**	**12 30 41.5**	**+0.2**
KAMR				*i* S		**Sn**	**12 31 03.1**	**+1.4**
KAMR				Smax				
	22μm,0.7s							
OSSR	**Ossora**	**2.07**	**218**	*e*P		**Pn**	**12 30 46.2**	**-1.5**
OSSR				*e*S		**Sn**	**12 31 11.3**	**-2.0**
OSSR				Smax				
	11μm,0.9s							
EVNR	**Evensk**	**3.20**	**292**	*i* P		**Pn**	**12 31 05.1**	**+1.9**
SMKR	**Semkarok**	**4.82**	**208**	*e*P		**Pn**	**12 31 25.5**	**0.0**
SRKR	**Sorokina**	**4.82**	**210**	*e*P		**Pn**	**12 31 24.9**	**-0.7**
KBG	**Krutoberegovo**	**4.88**	**199**	*e*P		**Pn**	**12 31 26.3**	**-0.1**
BDR	**Baidarnaya**	**4.89**	**209**	*e*P		**Pn**	**12 31 26.2**	**-0.3**
KBTR	**Krutoberegovo**	**4.91**	**198**	P		**Pn**	**12 31 25.4**	**-1.4**
KBTR				S		**Sn**	**12 32 19.8**	**-3.6**
KBTR	**Krutoberegovo**	**4.91**	**198**	*e*P		**Pn**	**12 31 26.2**	**-0.6**
KBTR				*e*S		**Sn**	**12 32 20.7**	**-2.7**
KLY	**Klyuchi**	**5.26**	**211**	P		**Pn**	**12 31 31.2**	**-0.3**
KLY	**Klyuchi**	**5.26**	**211**	*e*P		**Pn**	**12 31 30.8**	**-0.7**
KRSR	**Krestovskiy**	**5.37**	**211**	*e*P		**Pn**	**12 31 33.6**	**+0.6**
CIRR	**Tsirk**	**5.41**	**210**	*e*P		**Pn**	**12 31 34.1**	**+0.4**
LGNR	**Loginova**	**5.46**	**210**	*e*P		**Pn**	**12 31 34.0**	**-0.3**
ZLN	**Zelenaya**	**5.49**	**209**	*e*P		**Pn**	**12 31 35.2**	**+0.5**
SRDR	**Sredinnyy**	**5.51**	**216**	*e*P		**Pn**	**12 31 35.3**	**+0.3**
KPT	**Kopyto**	**5.68**	**212**	*e*P		**Pn**	**12 31 39.0**	**+1.7**
KOZ	**Kozyrevsk**	**5.69**	**214**	P		**Pn**	**12 31 39.7**	**+2.2**
BKI	**Bering**	**5.71**	**178**	P		**Pn**	**12 31 37.5**	**-0.2**
KMNR	**Kamenistaya**	**5.86**	**211**	*e*P		**Pn**	**12 31 40.8**	**+1.0**
ESO	**Esso**	**6.14**	**219**	P		**Pn**	**12 31 45.8**	**+2.1**
ESO	**Esso**	**6.14**	**219**	*e*P		**Pn**	**12 31 45.6**	**+1.9**
ESO				Smax				
	440nm,1.2s							
TUMR	**Tumrok**	**6.31**	**209**	*e*P		**Pn**	**12 31 47.7**	**+1.7**
MKZ	**Mys Kozlova**	**6.67**	**200**	P		**Pn**	**12 31 52.1**	**+1.1**
BILL	**Bilibino**	**7.18**	**2**	*e*PN		**Pn**	**12 31 59.5**	**+1.5**
BILL				pmax	pmax			
	comp=Z,11nm,0.9s							
BILL	**Bilibino**	**7.18**	**2**	*e*Pn		**Pn**	**12 31 58.8**	**+0.8**
	comp=Z,35nm,0.6s							
BILL	**Bilibino**	**7.18**	**2**	*e*P		**Pn**	**12 32 00.2**	**+2.2**
GNL	**Ganaly**	**8.30**	**213**	*e*P		**Pn**	**12 32 15.1**	**+1.7**
SDLR	**Sedlovina**	**8.45**	**208**	*e*P		**Pn**	**12 32 16.0**	**+0.6**
SMAR	**Somma**	**8.48**	**209**	*e*P		**Pn**	**12 32 15.0**	**-0.8**
AVH	**Avacha**	**8.49**	**209**	*e*P		**Pn**	**12 32 19.5**	**+3.5**
PET	**Petropavlovsk**	**8.74**	**209**	P		**Pn**	**12 32 18.7**	**-0.6**
PET	**Petropavlovsk**	**8.74**	**209**	*e*Pn		**Pn**	**12 32 20.4**	**+1.1**
FX1	**Attu Island--F**	**9.04**	**149**	Pn		**Pn**	**12 32 20.6**	**-2.8**
	comp=Z,6.9nm,0.3s,baz=324,slow=14,SNR=22							
FX1				Sn		**Sn**	**12 33 59.5**	**-5.5**
	baz=101,slow=19,SNR=2.3							
FX1	**Attu Island--F**	**9.04**	**149**	PN		**Pn**	**12 32 20.6**	**-2.8**
FX1				pmax	pmax			
	comp=Z,7.0nm,0.3s							
FX1	**Attu Island--F**	**9.04**	**149**	*e*Pn		**Pn**	**12 32 21.9**	**-1.5**
YAK	**Yakutsk**	**17.05**	**290**	*e*P		**Pn**	**12 34 14.1**	**+2.8**
YAK				pmax	pmax			
	comp=N,7.0nm,1.0s							
YAK				pmax	pmax			
	comp=Z,82nm,1.0s							
YAK				pmax	pmax			
	comp=E,39nm,1.2s							
YAK	**Yakutsk**	**17.05**	**290**	*e*P		**Pn**	**12 34 13.5**	**+2.2**
	comp=E,134nm,0.8s							
TIXI	**Tiksi**	**17.90**	**322**	⇑*e*P		**Pn**	**12 34 22.9**	**+1.0**
TIXI				pmax	pmax			
	comp=Z,16nm,1.0s							
TTA	**Tatalina**	**18.03**	**67**	*e*P		**Pn**	**12 34 25.1**	**+1.6**
TTA				pmax	pmax			
	comp=Z,36nm,1.3s							
TTA	**Tatalina**	**18.03**	**67**	*e*P		**Pn**	**12 34 25.1**	**+1.6**
	comp=Z,36nm,1.3s							
YSS	**Yuzh-Sakhalins**	**19.22**	**234**	P		**Pn**	**12 34 39.0**	**+1.0**
YSS	**Yuzh-Sakhalins**	**19.22**	**234**	*e*P		**Pn**	**12 34 37.2**	**-0.7**
	comp=Z,66nm,1.4s							
COLA	**College**	**21.21**	**59**	⇑*i*P		**P**	**12 34 57.9**	**-0.8**
COLA	**College**	**21.21**	**59**	*e*P		**P**	**12 34 57.7**	**-1.0**
	comp=Z,33nm,0.9s,mb4.7							
KDAK	**Kodiak Island**	**21.30**	**80**	P		**P**	**12 34 59.5**	**-0.1**
	comp=Z,11nm,0.7s,mb4.3,baz=272,slow=9.8,SNR=7.1							
HABR	**Khabarovsk**	**21.34**	**248**	*e*P		**P**	**12 35 01.8**	**+1.8**
HABR				*e*S		**S**	**12 39 00.0**	**+3.5**
HABR				pmax	pmax			
	comp=Z,61nm,1.0s,mb4.9							
ILAR	**Eielson Array**	**21.64**	**59**	P		**P**	**12 35 03.1**	**-0.1**
	comp=Z,48nm,0.8s,mb5.0,baz=274,slow=9.5,SNR=119							
ILAR	**Eielson Array**	**21.64**	**59**	P		**P**	**12 35 03.1**	**-0.1**
ILAR				pmax	pmax			
	comp=Z,48nm,0.8s							
ASAJ	**Asahikawa**	**21.66**	**230**	P		**P**	**12 35 04.0**	**+0.6**
	comp=Z,10nm,1.0s,mb4.2,baz=24,slow=10.0,SNR=3.2							
ASAJ	**Asahikawa**	**21.66**	**230**	P		**P**	**12 35 04.1**	**+0.7**
ASAJ				pmax	pmax			
	comp=Z,10.0nm,1.0s							
KLR	**Kul'dur**	**22.32**	**254**	*e*P		**P**	**12 35 07.8**	**-2.7**
KLR				pmax	pmax			
	comp=E,20nm,1.0s							
KLR				pmax	pmax			
	comp=Z,32nm,1.0s,mb4.7							
EYAK	**Cordova Ski Ar**	**23.39**	**69**	*e*P		**P**	**12 35 21.1**	**-0.8**
BOD	**Bodaibo**	**25.90**	**286**	*e*P		**P**	**12 35 44.2**	**-0.6**
BOD				pmax	pmax			
	comp=Z,32nm,0.8s,mb4.9							
INK	**Inuvik**	**26.09**	**48**	P		**P**	**12 35 46.5**	**-0.1**
	comp=Z,6.3nm,0.6s,mb4.3,baz=281,slow=14,SNR=28							
INK				PcP	PcP		12 39 14.2	+0.2
	comp=Z,1.2nm,0.4s,baz=273,slow=3.3,SNR=6.7							
INK	**Inuvik**	**26.09**	**48**	P		**P**	**12 35 46.5**	**-0.1**
INK							12 39 14.2	
INK				pmax	pmax			
	comp=Z,6.0nm,0.6s							
INK	**Inuvik**	**26.09**	**48**	*e*P		**P**	**12 35 46.5**	**-0.1**
MDJ	**Mudanjiang**	**26.72**	**249**	P		**P**	**12 35 53.1**	**+0.8**
MDJ				AP	pP		12 35 59.3	+2.8
MDJ				XP	sP		12 36 01.5	+3.2
MDJ				AMB	AMB			
	comp=Z,7.0nm,1.0s,mb4.2							
MDJ				AMB	AMB			
	comp=Z,5μm,13.0s							
MDJ				LR	LR			
	comp=N,7μm,34.4s							
MDJ				LR	LR			
	comp=E,10μm,26.7s							
MDJ				LR	LR			
	comp=Z,9μm,26.7s							
HIA	**Hailar**	**28.07**	**266**	*e*P		**P**	**12 36 04.2**	**-0.2**
HIA				pmax	pmax			
	comp=Z,5.0nm,0.5s							
HIA	**Hailar**	**28.07**	**266**	*e*P		**P**	**12 36 04.2**	**-0.2**
	comp=Z,4.9nm,0.5s,mb4.4							
SKAG	**Skagway**	**28.58**	**66**	*e*P		**P**	**12 36 09.8**	**+0.8**
CN2	**Changchun**	**29.26**	**253**	*e*P		**P**	**12 36 15.6**	**+0.6**
CN2				*e*XP		sP	12 36 22.5	+1.5
CN2				*e*S		**S**	**12 41 05.3**	**-2.0**
CN2				AMB	AMB			
	comp=Z,20nm,0.6s,mb5.0							
CN2				AMB	AMB			
	comp=Z,200nm,4.0s							
MAT	**Matsushiro**	**29.90**	**228**	P		**P**	**12 36 23.1**	**+2.4**
MAT	**Matsushiro**	**29.90**	**228**	*e*P		**P**	**12 36 23.0**	**+2.3**
MJAR	**Matsushiro Arr**	**29.90**	**228**	P		**P**	**12 36 19.9**	**-0.8**
	comp=Z,1.9nm,0.8s,mb3.9,baz=9.8,slow=8.7,SNR=6.6							
MJAR	**Matsushiro Arr**	**29.90**	**228**	P		**P**	**12 36 19.9**	**-0.8**
MJAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
DLBC	**Dease Lake**	**31.47**	**65**	*e*P		**P**	**12 36 35.2**	**+0.7**
TLY	**Talaya**	**34.32**	**283**	⇑*i*P		**P**	**12 36 59.7**	**+0.3**
TLY				pmax	pmax			
	comp=Z,5.0nm,1.2s,mb4.3							
ALE	**Alert**	**34.75**	**10**	P		**P**	**12 37 03.6**	**+0.5**
	comp=Z,43nm,0.7s,mb5.5,SNR=6.3							
ULN	**Ulaanbaatar**	**35.22**	**275**	*c i*P		**P**	**12 37 07.9**	**+0.7**
ULN	**Ulaanbaatar**	**35.22**	**275**	*e*P		**P**	**12 37 07.8**	**+0.5**
	comp=Z,9.7nm,1.1s,mb4.7							
ZAK	**Zakamensk**	**35.34**	**282**	*e*P		**P**	**12 37 00.9**	**-7.3**
ZAK				pmax	pmax			
	comp=Z,8.0nm,2.0s,mb4.3							
SONM	**Songino Array**	**35.56**	**276**	P		**P**	**12 37 10.9**	**+0.7**
	comp=Z,7.4nm,1.0s,mb4.5,baz=54,slow=7.8,SNR=22							
SONM	**Songino Array**	**35.56**	**276**	P		**P**	**12 37 10.9**	**+0.7**
SONM				pmax	pmax			
	comp=Z,7.0nm,1.0s							
MOY	**Mondy**	**35.58**	**285**	*e*P		**P**	**12 37 11.9**	**+1.6**
YKA	**Yellowknife Ar**	**35.65**	**52**	P		**P**	**12 37 09.8**	**-1.1**
	comp=Z,7.7nm,0.8s,mb4.7,baz=303,slow=8.6,SNR=25							
YKA				PcP	PcP		12 39 39.3	0.0
	comp=Z,1.0nm,0.6s,baz=315,slow=3.5,SNR=4.2							
YKA	**Yellowknife Ar**	**35.65**	**52**	P		**P**	**12 37 09.8**	**-1.1**
YKA							12 39 39.3	
YKA				pmax	pmax			
	comp=Z,8.0nm,0.8s							
BJI	**Beijing**	**36.55**	**258**	*e*P		**P**	**12 37 18.6**	**0.0**
BJI				AMB	AMB			
	comp=E,46nm,0.9s,mb5.3							
BJT	**Baijiatuan**	**36.57**	**258**	*e*P		**P**	**12 37 17.4**	**-1.4**
BJT				pmax	pmax			
	comp=Z,63nm,1.1s							
BJT	**Baijiatuan**	**36.57**	**258**	*e*P		**P**	**12 37 17.4**	**-1.4**
	comp=Z,63nm,1.1s,mb5.4							
HHC	**Hu-ho-hao-te**	**38.15**	**263**	*e*P		**P**	**12 37 33.0**	**+0.8**
HHC				AP	pP		12 37 39.0	+2.5
HHC				XP	sP		12 37 42.1	+3.9
HHC				PP	PP		12 39 06.5	+7.1
HHC				PcP	PcP		12 39 48.9	+2.1
HHC				S	**S**		**12 43 24.4**	**-0.5**
HHC				SCP	ScP		12 43 34.3	+0.2
HHC				SS	SS		12 46 03.1	-9.5
HHC				SCS	ScS		12 47 41.5	-2.1
HHC				AMB	AMB			
	comp=Z,17nm,1.3s,mb4.6							
HHC				AMB	AMB			
	comp=Z,5μm,13.9s							
HHC				LR	LR			
	comp=N,1μm,18.2s,MS5.1							
HHC				LR	LR			
	comp=E,2μm,18.6s,MS5.1							
HHC				LR	LR			
	comp=Z,3μm,17.4s,MS5.2							
NVS	**Novosibirsk**	**41.47**	**300**	*i* P		**P**	**12 37 58.6**	**-1.2**
NVS				pmax	pmax			
	comp=Z,22nm,1.0s,mb4.7							
NVS				pmax	pmax			
	comp=N,17nm,1.2s							
NVS				pmax	pmax			
	comp=E,20nm,1.2s							
SSE	**Sheshan**	**41.57**	**245**	P		**P**	**12 38 00.6**	**0.0**
SSE				AMB	AMB			
	comp=Z,23nm,0.7s,mb4.9							
NJ2	**Nanjing**	**41.80**	**248**	*e*P		**P**	**12 38 03.0**	**+0.5**
NJ2				AP	pP		12 38 12.1	+5.2
NJ2				XP	sP		12 38 16.3	+7.7
NJ2				PP	PP		12 39 45.5	+6.3
NJ2				S	**S**		**12 44 17.0**	**-2.6**
NJ2				XS	sS		12 44 35.0	+8.2
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.9s,mb4.5							
NJ2				AMB	AMB			
	comp=Z,2μm,8.4s							
NJ2				LR	LR			
	comp=N,7μm,15.6s,MS5.7							
NJ2				LR	LR			
	comp=E,6μm,16.7s,MS5.7							
NJ2				LR	LR			
	comp=Z,3μm,16.0s,MS5.2							
EDM	**Edmonton**	**42.06**	**62**	*e*P		**P**	**12 38 04.3**	**-0.3**
NEW	**Newport**	**43.89**	**70**	P		**P**	**12 38 19.6**	**+0.2**
	comp=Z,8.0nm,0.9s,mb4.4,baz=335,slow=10,SNR=7.1							
NEW	**Newport**	**43.89**	**70**	P		**P**	**12 38 19.7**	**+0.3**
NEW				pmax	pmax			
	comp=Z,8.0nm,0.9s							
WALA	**Waterton Lakes**	**44.77**	**67**	*e*P		**P**	**12 38 26.1**	**-0.4**
	comp=Z,36nm,1.1s,mb5.1							
GTA	**Gaotai**	**44.99**	**273**	P		**P**	**12 38 28

VOSK pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
BVA0 Borovoye Array 48.04 306 *i* P **P 12 38 52.3 +0.1**
BVA0 pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
BRVK Borovoye 48.06 306 P **P 12 38 52.8 +0.5**
comp=Z,127nm,0.8s,SNR=11
MCMT McKenzie Canyo 48.42 70 *eP* **P 12 38 54.9 -0.2**
ZRNK Zerenda 48.64 307 P **P 12 38 57.0 +0.2**
ZRNK pmax pmax
comp=Z,23nm,1.1s,mb5.1
ZRNK Zerenda 48.64 307 *eP* **P 12 38 56.4 -0.4**
comp=Z,23nm,1.1s,mb5.1
NSHM Saint Helena R 48.66 83 P **P 12 38 57.3 +0.3**
HLID Hailey 48.66 72 *eP* **P 12 38 56.8 -0.1**
comp=Z,5.3nm,0.8s,mb4.6
QLMT Earthquake Lak 49.06 69 *eP* **P 12 39 00.6 +0.6**
GCMT Greycliff 49.13 67 *eP* **P 12 39 01.3 +0.8**
SFJD Kangerlussuaq 49.69 18 P **P 12 39 03.6 -1.2**
comp=Z,3.8nm,0.5s,mb4.7,baz=255,slow=5.8,SNR=3.6
SFJD Kangerlussuaq 49.69 18 P **P 12 39 03.6 -1.2**
SFJD pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
ARU Arti 49.77 316⇑ *iP* **P 12 39 05.2 -0.2**
ARU *e* 12 40 57.9
ARU *eS* **S 12 46 15.0 +0.8**
ARU pmax pmax
comp=Z,15nm,1.4s,mb4.8
CD2 Chengdu 49.87 262 *eP* **P 12 39 05.5 -0.7**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
FLWY Flagg Ranch 49.98 69 *eP* **P 12 39 08.4 +1.4**
comp=Z,42nm,0.9s,mb5.5
BW06 Boulder Array 51.52 70 *eP* **P 12 39 18.4 -0.3**
comp=Z,21nm,0.9s,mb5.1
PDAR Pinedale Array 51.52 70 P **P 12 39 18.7 0.0**
comp=Z,16nm,0.8s,mb5.0,baz=329,slow=3.6,SNR=65
ULM Lac du Bonnet 51.54 54 P **P 12 39 18.8 0.0**
comp=Z,7.9nm,0.8s,mb4.7,baz=317,slow=7.1,SNR=16
JOF Joensuu 51.73 335 *ep* **P 12 39 18.1 -2.1**
GYA Guiyang 52.19 256 P **P 12 39 23.6 -0.1**
GYA AP pP 12 39 30.8 +2.7
GYA XP sP 12 39 34.0 +4.2
GYA PCP PcP 12 40 35.9 +0.7
GYA PP PP 12 41 22.4 +0.4
GYA S **S 12 46 44.1 -3.7**
GYA XS sS 12 46 56.8 +1.7
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,120nm,4.0s
GYA LR LR
comp=N,580nm,17.8s,MS4.8
GYA LR LR
comp=E,560nm,17.4s,MS4.8
GYA LR LR
comp=Z,640nm,17.1s,MS4.7
KAF Kangasniemi 53.44 338 *ep* **P 12 39 30.9 -2.0**
MSU Marysvale 53.66 75 *eP* **P 12 39 35.2 +0.7**
FINES FINESS Array B 54.10 337 P **P 12 39 36.3 -1.4**
comp=Z,3.8nm,0.8s,mb4.4,baz=23,slow=10,SNR=11
FINES FINESS Array B 54.10 337 P **P 12 39 36.3 -1.4**
FINES pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 54.41 295 P **P 12 39 39.2 -0.8**
comp=Z,91nm,0.9s,mb5.7,SNR=10
AAK Ala-Archa 54.41 295⇑ *iP* **P 12 39 39.5 -0.5**
AAK pmax pmax
comp=Z,12nm,0.7s,mb4.9
NEN Nelson 54.69 79 *eP* **P 12 39 42.6 +0.6**
AKTO Aktyubinsk 54.80 312 P **P 12 39 42.6 -0.2**
AKTO pmax pmax
comp=Z,3.0nm,1.3s,mb4.2
ORR Orenburg 54.99 315⇓ *iP* **P 12 39 44.5 +0.3**
ORR pmax pmax
comp=Z,20nm,1.5s,mb4.9
AB31 Akbulak array 55.06 310 *i* P **P 12 39 44.6 -0.1**
AB31 pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
KMI Kunming 55.19 259 P **P 12 39 45.0 -0.7**
KMI AP pP 12 39 52.6 +2.5
KMI XP sP 12 39 55.3 +3.5
KMI AMB AMB
comp=Z,8.0nm,0.9s,mb4.8
KMI AMB AMB
comp=Z,522nm,4.0s
KMI LR LR
comp=N,2μm,22.4s,MS5.2
KMI LR LR
comp=E,1μm,17.4s,MS5.2
KMI LR LR
comp=Z,2μm,18.7s,MS5.2
PV10 Paradox Valley 55.24 72 *eP* **P 12 39 47.1 +1.1**
PV01 Paradox Valley 55.66 72 *eP* **P 12 39 48.9 -0.1**
ISCO Idaho Springs 55.68 69 *eP* **P 12 39 50.1 +0.9**
ISCO pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
ISCO Idaho Springs 55.68 69 *eP* **P 12 39 50.1 +1.0**
comp=Z,9.8nm,1.0s,mb4.8
KK31 Karatay Array 55.78 298 *i* P **P 12 39 49.7 -0.1**
KK31 pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
KKAR Karatay Array 55.78 298 *i* P **P 12 39 49.7 -0.1**
KKAR pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
ECSD EROS,Sioux Fal 56.45 60 *eP* **P 12 39 54.4 -0.3**
NB2 NORSAR Subarra 56.80 345 P **P 12 39 56.1 -1.1**
comp=Z,6.2nm,0.8s,mb4.7,baz=15,slow=7.4
NOA NORSAR Array B 56.80 345 P **P 12 39 56.5 -0.7**
comp=Z,5.3nm,0.8s,mb4.7,baz=14,slow=7.3,SNR=8.7
NOA NORSAR Array B 56.80 345 P **P 12 39 56.5 -0.7**
NOA pmax pmax
comp=Z,5.0nm,0.8s
SCHQ Schefferville 57.40 33 P **P 12 40 00.7 -0.7**
comp=Z,4.4nm,0.7s,mb4.6,baz=324,slow=9.2,SNR=6.0
OBN Obninsk 57.51 328 *eP* **P 12 40 00.0 -2.2**
OBN pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
OBN MLR MLR
comp=Z,2μm,20.0s,MS5.2
CBKS Cedar Bluff 59.13 65 *eP* **P 12 40 13.4 -0.1**
CBKS pmax pmax
comp=Z,43nm,1.0s,mb5.4
CBKS Cedar Bluff 59.13 65 *eP* **P 12 40 13.4 -0.1**
comp=Z,43nm,1.0s,mb5.4
ANMO Albuquerque 59.23 73*c* *iP* **P 12 40 15.5 +1.3**
LAZ Ladron 59.36 74 *eP* **P 12 40 16.3 +1.1**
LPM Los Pinos Moun 59.68 73 *eP* **P 12 40 19.1 +1.8**
BNM Barren Site 59.81 73 *eP* **P 12 40 20.0 +1.8**
AMTX Amarillo 61.50 69 *eP* **P 12 40 29.0 -0.7**
comp=Z,20nm,0.8s,mb5.3
AKASG Malin Array Be 63.37 331 P **P 12 40 41.2 -0.9**
comp=Z,7.1nm,0.9s,mb4.8,baz=23,slow=6.0,SNR=14
AKASG Malin Array Be 63.37 331 P **P 12 40 41.3 -0.9**
AKASG pmax pmax
comp=Z,7.0nm,0.9s
FVM French Village 63.83 59 *eP* **P 12 40 44.6 -0.7**
FVM pmax pmax
comp=Z,30nm,0.8s,mb5.4
FVM French Village 63.83 59 *eP* **P 12 40 44.6 -0.7**
comp=Z,30nm,0.8s,mb5.4
GOF Gofitskoye 64.59 319 *eP* **P 12 40 49.0 -1.3**
MIAR Mount Ida 65.40 63 *eP* **P 12 40 54.0 -1.5**
MIAR pmax pmax
comp=Z,16nm,0.9s,mb5.0
MIAR Mount Ida 65.40 63 *eP* **P 12 40 54.0 -1.5**
comp=Z,16nm,0.9s,mb5.1
KIV Kislovodsk 65.69 318*d* *iP* **P 12 40 58.7 +1.3**
KIV pmax pmax
comp=Z,20nm,2.5s,mb4.7
UALR University of 65.74 62 *eP* **P 12 40 57.2 -0.5**
comp=Z,10nm,0.6s,mb5.0
ZEI Tsey 66.35 317 *eP* **P 12 41 01.7 +0.1**
ZEI pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
ANN Anapa 66.57 322 *eP* **P 12 41 05.8 +2.8**
ANN *eS* S 12 50 00.7 +7.1
ANN pmax pmax
comp=Z,19nm,1.0s,mb5.1
PLAL Pickwick Lake 67.38 59 *eP* **P 12 41 06.0 -2.2**
comp=Z,201nm,0.3s
FWV Forest Hill 68.04 52 *eP* **P 12 41 11.6 -0.8**
GERES GERESS Array B 68.28 340 P **P 12 41 13.3 -0.5**
comp=Z,1.5nm,0.7s,mb4.1,baz=34,slow=5.0,SNR=6.6
GERES GERESS Array B 68.28 340 P **P 12 41 13.3 -0.6**
GERES pmax pmax
comp=Z,2.0nm,0.7s
BAIF Baives 68.39 347 *eP* Px 12 41 00.2
LOR Lormes 71.18 347 *eP* Px 12 41 17.0
comp=Z,2.4nm,0.4s
SSF Saint Saulge 71.42 347 *eP* Px 12 41 18.2
CABF La Chapelle 71.57 345 *eP* Px 12 41 19.4
AVF Avril sur Loir 71.71 347 *eP* Px 12 41 19.8
comp=Z,60nm,1.4s
SMF Signal de Mont 71.80 347 *eP* Px 12 41 20.2
comp=Z,56nm,1.2s
TCF Toulx Ste Croi 72.33 348 *eP* Px 12 41 23.9
BR131 Keskin Array S 72.34 323 *eP* **P 12 41 39.2 +0.5**
comp=Z,3.7nm,0.8s,mb4.4
BRTR Keskin Array B 72.34 323 P **P 12 41 39.1 +0.4**
comp=Z,2.1nm,0.7s,mb4.2,baz=42,slow=4.0,SNR=12
BRTR Keskin Array B 72.34 323 P **P 12 41 39.1 +0.4**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
LPL La Plagne 72.56 345 *eP* Px 12 41 26.4
comp=Z,8.5nm,0.6s
LPG La Plagne 72.58 345 *eP* Px 12 41 26.3
LASF Ste Croix 74.33 346 *eP* Px 12 41 35.9
EPF Esparros 75.73 349 *eP* Px 12 41 43.2
ETSF Etsaut 75.95 350 *eP* Px 12 41 44.3
comp=Z,5.4nm,0.3s
ESDC Sonseca Array 79.42 352 P **P 12 42 18.5 -0.6**
comp=Z,2.5nm,0.8s,mb4.2,baz=2.9,slow=5.2,SNR=5.9
WB2 Warramunga Arr 84.39 209 *eP* **P 12 42 45.4 +0.1**
WRA Warramunga Arr 84.40 209 P **P 12 42 43.9 -1.5**
comp=Z,1.8nm,0.5s,mb4.4,baz=11,slow=5.6,SNR=28
WRA Warramunga Arr 84.40 209 P **P 12 42 43.9 -1.4**
WRA pmax pmax
comp=Z,2.0nm,0.5s
ASAR Alice Springs 88.08 209 P **P 12 43 02.1 -1.4**
comp=Z,0.6nm,0.6s,mb4.0,baz=12,slow=4.9,SNR=14
ASAR Alice Springs 88.08 209 P **P 12 43 02.1 -1.4**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
QSPA South Pole Qui 150.66 180 *eP* PKPdf 12 50 03.3 +3.8

NEIC ***22*** *12:32:10.2,34.08S×71.99W,h40km,MD3.5(GUC), After GUC.*
GUC 22 12:32:10.2±0.5,3408S×7199W,h40km±2km,MD3.5, 1C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.49**	**75**	*i* P		Pn	12 32 20.9	0.0
LNV				*i* S		Sn	12 32 28.9	+0.6
LCCH	**Las Cruces**	**0.70**	**30**⇑	*iP*		Pn	12 32 23.7	+0.1
LCCH				*i* S		Sn	12 32 33.8	+0.6
SFDO	**San Fernando**	**0.96**	**124**	*eP*		Pn	12 32 27.8	+0.6
CHCH	**Chadas Angostu**	**1.12**	**83**	*eP*		Pn	12 32 30.4	+1.0
CHCH				*i* S		Sn	12 32 45.6	+2.1
CACH	**El Canelo**	**1.15**	**92**	*eP*		Pn	12 32 31.5	+1.7
CACH				*i* S		Sn	12 32 47.2	+2.9
PCH	**Pirque**	**1.31**	**70**⇓	*iP*		Pn	12 32 33.0	+1.0
PCH				*i* S		Sn	12 32 51.2	+3.0
CICH	**Cipreses**	**1.32**	**101**	*eP*		Pn	12 32 33.5	+1.4
CICH				*i* S		Sn	12 32 50.9	+2.4

ISCJB ***22*** *12:36:53.1±0.9,69N±0.1×73.1W±0.1,h176km±10km, mb3.5/1,Error ellipse: s-maj=30.6km s-min=9.3km az=81.1*
IDC ***22*** *12:36:54.2±0.8,686N×7305W,h161km±13km,mb3.2/1, mb1 3.7/3,mb1mx3.1/21,mbtmp4.0/3,MS4.3/1,Ms1 4.3/1, ms1mx4.0/14,Error ellipse: s-maj=61.2km s-min=7.6km az=131.0*
NEIC ***22*** *12:36:54.3±1.0,683N×73.15W,h165km±10km,Error ellipse: s-maj=24.9km s-min=13.5km az=127.0*
ISC 22 12:36:54.3±0.9,69N±01×731W±01,h167km±11km,n8, σ0°91/9,mb3.5/1,1C,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**2.36**	**211**	P		Pn	12 37 35.4	+0.8
	44nm,0.3s,baz=87,slow=18,SNR=81						
ROSC				S		Sn	12 38 06.1	+0.3
	220nm,0.3s,baz=74,slow=16,SNR=21						
ROSC				LR	LR	12 38 41.6	
	comp=Z,6μm,19.0s,baz=26,slow=46						
SDV	**Santo Domingo**	**3.15**	**51**	P		Pn	12 37 45.0	+0.8
	73nm,0.3s,baz=230,slow=5.2,SNR=371						
SDV				S		Sn	12 38 22.4	-0.4
	16nm,0.3s,baz=75,slow=23,SNR=16						
SDV	**Santo Domingo**	**3.15**	**51**⇑	*e*P	n	Pn	12 37 44.8	+0.6
SDV				*e*S	n	Sn	12 38 21.7	-1.1
OTAV	**Otavalo**	**8.49**	**219**	*eP*		Pn	12 38 52.1	-2.0
SAML	**Samuel**	**18.58**	**148**	*eP*		P	12 40 58.8	+0.2
YKA	**Yellowknife Ar**	**63.21**	**340**	P		P	12 47 05.2	+0.4
	0.4nm,0.5s,mb3.5,baz=129,slow=6.7,SNR=4.3						
ASAR	**Alice Springs**	**149.17**	**234**	PKPbc	PKPbc	12 56 24.0	+1.0
	0.5nm,0.7s,baz=114,slow=3.7,SNR=9.7						
WRA	**Warramunga Arr**	**150.39**	**241**	PKPbc	PKPbc	12 56 27.3	+1.4
	0.4nm,0.5s,baz=110,slow=2.5,SNR=19						

IDC 22 12:39:49.3±14.0,530S×6873E,h0km,mb3.5/3,mb1 3.8/3, mb1mx3.5/18,mbtmp3.5/3,Error ellipse: s-maj=461.5km s-min=36.0km az=65.0,Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**53.24**	**12**	P		P	12 49 09.5	-0.1
	0.3nm,0.6s,baz=199,slow=8.3,SNR=3.5						
ASAR	**Alice Springs**	**65.16**	**114**	P		P	12 50 32.9	+0.7
	0.4nm,0.6s,baz=284,slow=5.8,SNR=8.7						
WRA	**Warramunga Arr**	**65.29**	**109**	P		P	12 50 33.7	+0.7
	0.7nm,0.7s,baz=281,slow=6.5,SNR=9.4						

IDC ***22*** *12:51:29.1±1.1,129N×9697E,h0km,mb4.2/9,mb1 4.3/10, mb1mx4.0/21,mbtmp4.2/10,ML3.0/1,MS3.9/1,Ms1 3.9/1, ms1mx2.9/34,Error ellipse: s-maj=29.9km s-min=17.1km az=59.0*
BJI ***22*** *12:51:29.2,085N×97.18E,h36km,mB5.3,mb4.7*
MOS ***22*** *12:51:32.0±1.4,131N×9698E,h33km,mb4.6/2,Error ellipse: s-maj=24.9km s-min=15.6km az=79.6*
ISCJB ***22*** *12:51:34.3±2.7,133N±009×97.1E±0.1,h49km±22km, mb4.4/19,Error ellipse: s-maj=22.4km s-min=11.3km az=115.8*
NEIC ***22*** *12:51:34.1±0.4,130N×9708E,h30km,mb4.8/5,Error ellipse: s-maj=11.2km s-min=6.5km az=54.0*
ISC 22 12:51:37.0±2.6,138N±010×972E±01,h52km±21km,n29, σ0°86/30,mb4.4/19,1D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.25**	**51**	Pn		Pn	12 52 10.9	-0.9
	3.2nm,0.3s,baz=231,slow=2.5,SNR=31						
PSI				Sn		Sn	12 52 39.2	+1.0
	7.8nm,0.3s,baz=205,slow=19,SNR=5.1						
PSI				LR	LR	12 53 12.8	
	comp=Z,3μm,19.6s,baz=316,slow=43						
PSI	**Prapat**	**2.25**	**51**	P		Pn	12 52 10.9	-0.8
PSI							12 52 39.2	
KULM	**Kulim**	**5.21**	**42**	*eP*		Pn	12 52 51.4	-0.9
KMI	**Kunming**	**24.21**	**12**	P		P	12 56 50.0	+1.3
KMI				AP			12 57 00.9	
KMI				XP		sP	12 57 05.6	-2.4
KMI				AMB	AMB		
	comp=Z,24nm,1.3s,mb4.5						
SHL	**Shillong**	**24.59**	**348**	*eP*		P	12 56 57.0	+4.9
GYA	**Guiyang**	**26.55**	**19**⇓	*iP*		P	12 57 10.3	+0.4
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.3						
JIRN	**Jiri**	**28.17**	**339**	*eP*		P	12 57 25.3	+0.9
	comp=Z,20nm,0.9s,mb4.8						
GUN	**Gumba**	**28.51**	**339**	*eP*		P	12 57 28.2	+0.7
	comp=Z,20nm,0.7s,mb5.0						
KKN	**Kakani**	**28.63**	**338**	*eP*		P	12 57 29.1	+0.6
GKN	**Gorkha**	**29.07**	**337**	*eP*		P	12 57 32.9	+0.5
	comp=Z,5.8nm,0.3s,mb4.7						
KOLN	**Koldanda**	**29.29**	**335**	*eP*		P	12 57 34.9	+0.6
	comp=Z,18nm,0.8s,mb4.8						
MBWA	**Marble Bar**	**31.44**	**137**	*eP*		P	12 57 53.6	+0.3
FITZ	**Fitzroy Crossi**	**34.05**	**126**	P		P	12 58 16.0	-0.2
	comp=Z,1.9nm,0.9s,mb4.0,baz=271,slow=11,SNR=4.3						
XAN	**Xi'an**	**34.30**	**17**	P		P	12 58 17.3	-1.0
XAN				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.7						
JOW	**Kunigami**	**39.14**	**47**	P		P	12 58 59.9	+0.4
	comp=Z,12nm,0.7s,mb4.7,baz=248,slow=5.4,SNR=5.8						
WRA	**Warramunga Arr**	**42.15**	**122**	P		P	12 59 24.8	+0.5
	comp=Z,2.3nm,0.8s,mb3.9,baz=301,slow=9.1,SNR=23						
BJI	**Beijing**	**42.19**	**22**	*eP*		P	12 59 25.3	+0.7
BJI				AMB	AMB		
	comp=Z,14nm,0.7s,mb4.7						
ASAR	**Alice Springs**	**43.52**	**127**	P		P	12 59 36.2	+0.8
	comp=Z,1.7nm,0.9s,mb3.8,baz=306,slow=8.1,SNR=16						
SONM	**Songino Array**	**46.96**	**8**	P		P	13 00 02.8	+0.1
	comp=Z,4.8nm,0.8s,mb4.5,baz=194,slow=7.9,SNR=10						
MKAR	**Makanchi Array**	**47.06**	**346**	P		P	13 00 03.6	+0.2
	comp=Z,2.4nm,0.5s,mb4.3,baz=160,slow=8.1,SNR=33						
MKAR	**Makanchi Array**	**47.06**	**346**	P		P	13 00 03.6	+0.2
ULN	**Ulaanbaatar**	**47.09**	**9**	*eP*		P	13 00 03.9	+0.2
ULN				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
ULN	**Ulaanbaatar**	**47.09**	**9**	*eP*		P	13 00 03.9	+0.2
	comp=Z,3.8nm,0.9s,mb4.3						
ZAK	**Zakamensk**	**49.10**	**5**	*eP*		P	13 00 17.4	-1.8
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.8s,mb4.3						
STKA	**Stephens Creek**	**53.49**	**132**	P		P	13 00 51.8	-0.3
	comp=Z,1.8nm,0.6s,mb4.2,baz=323,slow=10,SNR=5.8						
KLR	**Kul'dur**	**56.11**	**27**	*eP*		P	13 01 08.7	-2.3
BOD	**Bodaibo**	**57.84**	**11**	*eP*		P	13 01 22.7	-0.5
FINES	**FINESS Array B**	**79.83**	**332**	P		P	13 03 38.5	-1.4
	comp=Z,0.7nm,0.8s,mb3.6,baz=90,slow=5.7,SNR=4.2						
ARCES	**ARCESS Array B**	**82.36**	**340**	P		P	13 03 52.6	-0.7
	comp=Z,3.5nm,0.9s,mb4.3,baz=90,slow=4.9,SNR=7.1						

BJI ***22*** *13:03:05.3,6080N×166.36E,h16km,mB5.5,mb5.1,Ms5.8, Msz5.4*
ISCJB ***22*** *13:03:07.4±0.1,6083N±002×16592E±003,h10km, mb5.2/219,MS5.4/17,Error ellipse: s-maj=2.7km s-min=2.0km az=95.9*
MOS ***22*** *13:03:07.6±0.8,6082N×16594E,h13km,mb5.4/116, MS5.2/7,Error ellipse: s-maj=8.2km s-min=3.7km az=87.5*
IDC ***22*** *13:03:07.4±0.3,6075N×16587E,h0km,mb5.0/32, mb1 5.2/33,mb1mx5.2/35,mbtmp5.1/33,ML5.0/1,MS5.3/6, Ms1 5.3/6,ms1mx4.7/30,Error ellipse: s-maj=10.0km s-min=8.3km az=69.0*
KRSC ***22*** *13:03:08.4±0.4,6073N×166.12E,h12km±4km,ML5.6*
NEIC ***22*** *13:03:08.9±0.1,6080N×16586E,h10km,mb5.3/147,Error ellipse: s-maj=3.6km s-min=2.2km az=178.0*
SZGRF ***22*** *13:03:13.4,6071N×16622E,h33km,mb5.2,Eastern Siberia, Russia*
ISC 22 13:03:09.0±0.1,6088N±002×16592E±003,h10km, (h21km±2.7km:pP-P),n590,σ0°90/580,mb5.2/219, MS5.4/17,35C-13D,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TILR	**Tilichiki**	**0.46**	**171**	*i* P		Pg	13 03 15.0	-2.9
TILR				*e*S		Sg	13 03 20.3	-3.7
KAMR	**Kamenskoye**	**1.59**	**5**	*i* P		Pn	13 03 38.4	+1.2
KAMR				*e*S		Sn	13 04 00.1	+2.4
KAMR				Smax			
	62μm,0.8s						
OSSR	**Ossora**	**2.17**	**222**	*eP*		Pn	13 03 43.6	-1.7
EVNR	**Evensk**	**3.37**	**291**	*eP*		Pn	13 03 54.3	+1.7
SMKR	**Semkarok**	**4.89**	**210**	*i* P		Pn	13 04 22.4	-0.2
SRKR	**Sorokina**	**4.91**	**212**	*eP*		Pn	13 04 22.2	-0.6
KBG	**Krutoberegovo**	**4.93**	**201**	*i* P		Pn	13 04 23.1	-0.1
KBG				Smax			
	4μm,1.7s						
KBTR	**Krutoberegovo**	**4.96**	**200**	P		Pn	13 04 22.0	-1.5
KBTR				S		Sn	13 05 17.8	-3.1
KBTR	**Krutoberegovo**	**4.96**	**200**	*i* P		Pn	13 04 22.8	-0.7
KBTR				*e*S		Sn	13 05 17.0	-3.9
BDR	**Baidarnaya**	**4.97**	**212**	*eP*		Pn	13 04 23.5	-0.2
KLY	**Klyuchi**	**5.34**	**213**	P		Pn	13 04 27.5	-1.3
KLY	**Klyuchi**	**5.34**	**213**	*eP*		Pn	13 04 27.7	-1.1
KRSR	**Krestovskiy**	**5.45**	**213**	*eP*		Pn	13 04 31.0	+0.7
CIRR	**Tsirk**	**5.49**	**212**	*eP*		Pn	13 04 31.2	+0.3
LGNR	**Loginova**	**5.54**	**210**	*eP*		Pn	13 04 32.6	+1.1
ZLN	**Zelenaya**	**5.57**	**211**	*eP*		Pn	13 04 32.1	+0.2
SRDR	**Sredinnyy**	**5.61**	**218**	*eP*		Pn	13 04 32.3	-0.1
BKI	**Bering**	**5.69**	**180**	*eP*		Pn	13 04 34.0	+0.4
BKI				Smax			
	410nm,1.3s						
KPT	**Kopyto**	**5.76**	**214**	*eP*		Pn	13 04 36.0	+1.4
KOZR	**Kozyr**	**5.77**	**216**	PN		Pn	13 04 36.7	+2.0
KOZ	**Kozyrevsk**	**5.78**	**216**	P		Pn	13 04 36.7	+1.9
KOZ	**Kozyrevsk**	**5.78**	**216**	*eP*		Pn	13 04 36.1	+1.3
KMNR	**Kamenistaya**	**5.95**	**213**	*eP*		Pn	13 04 37.6	+0.5
ESO	**Esso**	**6.25**	**221**	P		Pn	13 04 43.0	+1.7
ESO				S		Sn	13 05 54.7	+2.0
ESO	**Esso**	**6.25**	**221**	*eP*		Pn	13 04 41.2	-0.1
ESO				Smax			
	2μm,1.6s						
TUMR	**Tumrok**	**6.39**	**211**	*eP*		Pn	13 04 45.2	+2.0
MKZ	**Mys Kozlova**	**6.73**	**201**	P		Pn	13 04 47.4	-0.4
MKZ	**Mys Kozlova**	**6.73**	**201**	*eP*		Pn	13 04 48.6	+0.8
BILL	**Bilibino**	**7.19**	**1**	*de*PN		Pn	13 04 55.1	+0.9
BILL				pmax	pmax		
	comp=Z,39nm,0.8s						
BILL	**Bilibino**	**7.19**	**1**	*e*Pn		Pn	13 04 55.2	+1.0
	comp=Z,229nm,0.6s						
BILL	**Bilibino**	**7.19**	**1**	*eP*		Pn	13 04 56.6	+2.4
GNL	**Ganaly**	**8.39**	**214**	*eP*		Pn	13 05 10.8	+0.1
SPN	**Mys Shipunski**	**8.44**	**205**	P		Pn	13 05 10.8	-0.5
SPN	**Mys Shipunski**	**8.44**	**205**	*eP*		Pn	13 05 11.6	+0.3
SPN				*e*S		Sn	13 06 41.5	-5.0
NLC	**Nalytchevo**	**8.52**	**208**	*eP*		Pn	13 05 12.6	+0.2
SDLR	**Sedlovina**	**8.53**	**210**	*eP*		Pn	13 05 13.9	+1.4
SMAR	**Somma**	**8.56**	**210**	*eP*		Pn	13 05 14.5	+1.5
AVH	**Avacha**	**8.57**	**210**	*eP*		Pn	13 05 15.5	+2.4
KOK	**Koryaka**	**8.57**	**211**	*eP*		Pn	13 05 15.5	+2.3
UGLR	**Uglovaya**	**8.60**	**210**	*eP*		Pn	13 05 13.8	+0.2
PET	**Petropavlovsk**	**8.81**	**210**	P		Pn	13 05 17.9	+1.4
PET	**Petropavlovsk**	**8.81**	**210**⇑	*i*PN		Pn	13 05 17.8	+1.3
PET				pmax	pmax		
	comp=Z,218nm,1.0s						
PET				MLR	MLR		
	comp=Z,17μm,22.0s						
PET	**Petropavlovsk**	**8.81**	**210**	*eP*		Pn	13 05 16.9	+0.4
	comp=Z,387nm,1.4s						
PET	**Petropavlovsk**	**8.81**	**210**	*eP*		Pn	13 05 18.0	+1.5
FX1	**Attu Island--F**	**8.94**	**151**	Pn		Pn	13 05 15.6	-2.5
	comp=Z,52nm,0.3s,baz=358,slow=10,SNR=77						
FX1				Sn		Sn	13 06 50.1	-8.8
	comp=Z,5.1nm,0.3s,baz=68,slow=20,SNR=2.1						
FX1	**Attu Island--F**	**8.94**	**151**	PN		Pn	13 05 15.6	-2.6
FX1				pmax	pmax		
	comp=Z,53nm,0.3s						
FX1	**Attu Island--F**	**8.94**	**151**	*eP*		Pn	13 05 15.9	-2.2
KRMR	**Karymshinskiy**	**9.12**	**211**	*eP*		Pn	13 05 21.7	+1.0
SMY	**Shemya**	**9.31**	**148**	*e*PN		Pn	13 05 20.2	-3.1
SMY				pmax	pmax		
	comp=Z,368nm,0.9s						
SMY	**Shemya**	**9.31**	**148**	*eP*		Pn	13 05 20.2	-3.1
	comp=Z,368nm,0.9s						
GRL	**Gorelyy**	**9.39**	**211**	*eP*		Pn	13 05 24.1	-0.2
RUS	**Russkaya**	**9.39**	**209**	P		Pn	13 05 25.6	+1.2
RUS	**Russkaya**	**9.39**	**209**	*eP*		Pn	13 05 26.6	+2.2
MIPR	**Malaya Ipel'ka**	**9.98**	**214**	*eP*		Pn	13 05 33.6	+1.1
YAK	**Yakutsk**	**17.22**	**290**	*eP*		Pn	13 07 12.1	+2.5
YAK				pmax	pmax		
	comp=E,59nm,0.9s						
YAK				pmax	pmax		
	comp=Z,349nm,0.9s						
YAK				pmax	pmax		
	comp=N,20nm,1.0s						
YAK				MLR	MLR		
	comp=Z,10μm,23.0s						
YAK				MLR	MLR		
	comp=N,2μm,15.0s						
YAK				MLR	MLR		
	comp=E,2μm,13.0s						
YAK	**Yakutsk**	**17.22**	**290**	*eP*		Pn	13 07 10.3	+0.8
	comp=E,585nm,0.8

comp=Z,158nm,1.0s
UGL pmax pmax
comp=Z,6µm,11.0s
TIXI Tiksi 18.02 322 eP Pn 13 07 19.8 +0.3
TIXI eS Sn **13 10 39.4 -1.1**
TIXI pmax pmax
comp=Z,30nm,0.8s
TIXI MLR MLR
comp=Z,12µm,13.0s
SDPT Sand Point 18.45 92 eP Pn 13 07 25.3 +0.6
SVW2 Sparrevohn 18.50 72 eP Pn 13 07 25.4 0.0
YSS Yuzh-Sakhalins 19.36 234⇑ eP Pn 13 07 37.0 +1.2
YSS pmax pmax
comp=Z,27nm,0.9s
YSS Yuzh-Sakhalins 19.36 234 eP Pn 13 07 34.3 -1.5
comp=Z,59nm,0.9s
COLA College 21.06 59 eP P 13 07 54.1 +0.9
COLA pmax pmax
comp=Z,91nm,0.9s,mb5.1
COLA College 21.06 59 eP P 13 07 54.1 +0.8
comp=Z,91nm,0.9s,mb5.1
KDAK Kodiak Island 21.13 80 P P 13 07 54.0 0.0
comp=Z,247nm,0.7s,mb5.7,SNR=8.0
KDAK Kodiak Island 21.13 80 P P 13 07 53.9 -0.1
comp=Z,18nm,0.6s,mb4.6,baz=338,slow=2.2,SNR=15
PMR Palmer 21.32 68 eP P 13 07 58.5 +2.5
PMR pmax pmax
comp=Z,6.0nm,0.7s
PMR Palmer 21.32 68 eP P 13 07 55.4 -0.6
comp=Z,15nm,1.1s,mb4.2
CLNS Chul'man 21.34 277 eP P 13 07 56.4 +0.2
CLNS e 13 08 15.7
CLNS eS S **13 11 56.6 +3.6**
CLNS eSS 13 12 40.9
CLNS pmax pmax
comp=Z,67nm,1.0s,mb4.9
CLNS pmax pmax
comp=N,23nm,0.9s
CLNS pmax pmax
comp=E,65nm,0.9s
CLNS pmax pmax
comp=Z,54nm,0.8s,mb4.9
CLNS pmax pmax
comp=N,60nm,0.9s
CLNS pmax pmax
comp=E,86nm,0.9s
CLNS smax
comp=N,1µm,10.0s
CLNS smax
comp=Z,4µm,12.7s
CLNS smax
comp=E,3µm,13.3s
CLNS MLR MLR
comp=N,6µm,11.0s,MS5.5
CLNS MLR MLR
comp=Z,13µm,11.0s,MS5.6
CLNS MLR MLR
comp=E,10µm,12.0s,MS5.5
ILAR Eielson Array 21.49 59 P P 13 07 58.4 +0.6
comp=E,47nm,0.7s,mb4.9,baz=272,slow=8.8,SNR=206
ILAR Eielson Array 21.49 59 P P 13 07 58.4 +0.6
ILAR pmax pmax
comp=Z,47nm,0.7s
HABR Khabarovsk 21.50 249⇓ iP P 13 07 57.9 0.0
HABR S S **13 11 57.5 +1.3**
HABR pmax pmax
comp=Z,207nm,1.0s,mb5.4
NRGR Nerungri 21.50 277 eP P 13 08 01.1 +3.1
NRGR S S **13 12 02.9 +6.6**
ASAJ Asahikawa 21.79 230 P P 13 08 00.8 -0.2
comp=Z,18nm,0.8s,mb4.5,baz=71,slow=12,SNR=7.9
ASAJ Asahikawa 21.79 230 P P 13 08 00.8 -0.2
ASAJ pmax pmax
comp=Z,18nm,0.8s
KLR Kul'dur 22.49 254 eP P 13 08 04.7 -3.8
EYAK Cordova Ski Ar 23.23 69 eP P 13 08 15.6 -0.8
MENT Mentasta 23.31 63 eP P 13 08 16.8 -0.4
INK Inuvik 25.96 48 P P 13 08 41.9 +0.2
comp=Z,22nm,0.8s,mb4.7,baz=311,slow=8.0,SNR=28
INK PcP PcP 13 12 09.2 -0.9
comp=Z,26nm,0.9s,baz=245,slow=6.4,SNR=6.6
INK LR LR 13 20 29.7
comp=Z,5µm,19.0s,MS5.1,baz=300,slow=40
INK Inuvik 25.96 48 P P 13 08 41.9 +0.2
INK 13 12 09.2
INK pmax pmax
comp=Z,23nm,0.8s
INK MLR MLR
comp=Z,5µm,19.0s
INK Inuvik 25.96 48 eP P 13 08 41.5 -0.2
comp=Z,152nm,1.2s,mb5.4
BOD Bodaibo 26.07 287 eP P 13 08 42.2 -0.4
BOD pmax pmax
comp=Z,122nm,0.8s,mb5.5
MDJ Mudanjiang 26.88 249 P P 13 08 50.1 +0.1
MDJ AP pP 13 08 56.3 +3.3
MDJ XP sP 13 08 58.8 +4.5
MDJ AMB AMB
comp=Z,16nm,0.9s,mb4.5
MDJ AMB AMB
comp=Z,1µm,9.6s
MDJ LR LR
comp=N,9µm,18.9s,MS5.4
MDJ LR LR
comp=E,6µm,21.3s,MS5.4
MDJ LR LR
comp=Z,6µm,21.3s,MS5.1
HIA Hailar 28.25 267 eP P 13 09 01.4 -0.8
HIA pmax pmax
comp=Z,20nm,0.8s
HIA Hailar 28.25 267 eP P 13 09 01.4 -0.8
comp=Z,20nm,0.8s,mb4.8
SKAG Skagway 28.42 67 eP P 13 09 04.8 +1.1
comp=Z,74nm,1.1s,mb5.2
CN2 Changchun 29.42 253 eP P 13 09 10.9 -1.8
CN2 eAP pP 13 09 18.6 +2.9
CN2 eXP sP 13 09 21.5 +4.5
CN2 eS S **13 14 00.6 -6.0**
CN2 AMB AMB
comp=Z,20nm,0.7s,mb5.0
CIT Chita 29.51 276 eP P 13 09 13.8 +0.4
CIT pmax pmax
comp=Z,73nm,2.2s,mb5.0
SIT Sitka 29.64 71 eP P 13 09 15.8 +1.2
SIT pmax pmax
comp=Z,63nm,0.9s,mb5.3
SIT Sitka 29.64 71 eP P 13 09 15.8 +1.2
comp=Z,63nm,0.9s,mb5.3
MAJO Matsushiro 30.02 228 eP P 13 09 16.5 -1.5
MAJO pmax pmax
comp=Z,21nm,0.9s,mb4.9
MAJO Matsushiro 30.02 228 eP P 13 09 16.5 -1.5
comp=Z,20nm,0.9s,mb4.9
MAT Matsushiro 30.02 228 P P 13 09 17.0 -1.0
MAT Matsushiro 30.02 228 eP P 13 09 17.0 -1.0
MAT pmax pmax
comp=Z,36nm,1.5s,mb4.9
MAT Matsushiro 30.02 228 eP P 13 09 17.0 -1.0
comp=Z,36nm,1.5s,mb4.9
MJAR Matsushiro Arr 30.03 228 P P 13 09 17.2 -0.8
comp=Z,19nm,1.1s,mb4.8,baz=16,slow=7.9,SNR=14
MJAR PcP PcP 13 12 19.3 -0.7
comp=Z,5.9nm,0.9s,baz=358,slow=1.1,SNR=8.8
MJAR Matsushiro Arr 30.03 228 P P 13 09 17.2 -0.8
MJAR 13 12 19.3
MJAR pmax pmax
comp=Z,19nm,1.1s
DLBC Dease Lake 31.31 66 P P 13 09 31.2 +1.9
comp=Z,24nm,0.8s,mb5.1,baz=286,slow=10
DLBC PcP PcP 13 12 22.0 -1.4
comp=Z,6.6nm,0.8s,baz=329,slow=5.9,SNR=3.9
DLBC LR LR 13 24 10.0
comp=Z,5µm,19.5s,MS5.2,baz=298,slow=40
DLBC Dease Lake 31.31 66 eP P 13 09 30.9 +1.5
SNY Shenyang 31.82 253 ⇑P P 13 09 33.6 -0.2
SNY AMB AMB
comp=Z,27nm,1.2s,mb5.0
IRK Irkutsk 33.83 284 eP P 13 09 51.4 0.0
IRK pmax pmax
comp=Z,84nm,3.0s
TLY Talaya 34.49 283 P P 13 09 58.0 +0.9
comp=Z,88nm,0.9s,mb5.7,SNR=5.6
TLY Talaya 34.49 283⇑ eP P 13 09 57.8 +0.7
TLY pmax pmax
comp=Z,11nm,1.4s,mb4.6
ALE Alert 34.73 10 P P 13 09 59.5 +0.3
comp=Z,533nm,0.8s,SNR=54
RES Resolute Bay 34.91 27 eP P 13 10 00.7 0.0
RES pmax pmax
comp=Z,17nm,0.9s,mb5.0
RES Resolute Bay 34.91 27 eP P 13 10 00.7 0.0
comp=Z,17nm,0.9s,mb5.0
DL2 Dalian 35.04 252 P P 13 10 01.8 -0.1
DL2 AMB AMB
comp=Z,30nm,0.9s,mb5.2
ULN Ulaanbaatar 35.40 276⇑ eP P 13 10 05.4 +0.4
ULN Ulaanbaatar 35.40 276 eP P 13 10 05.2 +0.2
comp=Z,28nm,0.9s,mb5.2
YKW3 Yellowknife Ar 35.47 52 eP P 13 10 05.2 -0.4
YKA Yellowknife Ar 35.51 52 P P 13 10 05.9 0.0
comp=Z,43nm,0.9s,mb5.4,baz=304,slow=8.4,SNR=32
YKA PcP PcP 13 12 34.5 -0.6
comp=Z,14nm,0.8s,baz=310,slow=3.6,SNR=16
YKA Yellowknife Ar 35.51 52 P P 13 10 05.9 -0.1
YKA 13 12 34.5
YKA pmax pmax
comp=Z,43nm,0.9s
YKA Yellowknife Ar 35.51 52 P P 13 10 06.0 0.0
YKA PcP PcP 13 12 34.5 -0.6
ZAK Zakamensk 35.52 282⇑ iP P 13 10 06.5 +0.5
ZAK pmax pmax
comp=Z,14nm,1.2s,mb4.8
SONM Songino Array 35.74 276 P P 13 10 08.6 +0.7
comp=Z,19nm,0.9s,mb5.0,baz=56,slow=8.8,SNR=23
SONM PcP PcP 13 12 35.7 -0.1
comp=Z,14nm,0.9s,baz=53,slow=1.9,SNR=10
SONM LR LR 13 26 09.8
comp=Z,5µm,20.0s,MS5.3,baz=62,slow=39
SONM Songino Array 35.74 276 P P 13 10 08.6 +0.7
SONM 13 12 35.7
SONM pmax pmax
comp=Z,19nm,0.9s
SONM MLR MLR
comp=Z,5µm,20.0s
MOY Mondy 35.76 285 eP P 13 10 09.0 +0.9
MOY pmax pmax
comp=Z,134nm,2.9s,mb5.4
JNU Nakatsue 35.86 235 LR LR 13 22 36.8
comp=Z,7µm,21.4s,MS5.4,baz=33,slow=33
KRAR Krasnoyarsk 36.70 296⇓ eP P 13 10 16.7 +0.6
KRAR pmax pmax
comp=Z,77nm,0.9s,mb5.5
BJI Beijing 36.72 258 eP P 13 10 16.4 +0.1
BJI S S **13 16 04.6 +4.8**
BJI AMB AMB
comp=Z,76nm,0.9s,mb5.5
BJI LR LR
comp=N,8µm,17.7s,MS5.7
BJI LR LR
comp=E,6µm,13.8s,MS5.7
BJI LR LR
comp=Z,7µm,24.4s
BJT Baijiatuau 36.74 258 eP P 13 10 15.0 -1.5
BJT pmax pmax
comp=Z,79nm,0.8s
BJT Baijiatuau 36.74 258 eP P 13 10 15.0 -1.5
comp=Z,79nm,0.8s,mb5.6
HHC Hu-ho-hao-te 38.32 264 ⇑P P 13 10 30.0 +0.1
HHC AP pP 13 10 37.3 +4.3
HHC XP sP 13 10 40.8 +6.6
HHC PP PP 13 12 00.3 +2.8
HHC PCP PcP 13 12 44.6 +1.0
HHC AMB AMB
comp=Z,25nm,1.1s,mb4.9
HHC LR LR
comp=N,6µm,16.7s,MS5.8
HHC LR LR
comp=E,10µm,15.1s,MS5.8
HHC LR LR
comp=Z,8µm,16.3s,MS5.6
BTO Baotou 39.26 265 eP P 13 10 37.4 -0.3
PGC Sidney 40.50 74 eP P 13 10 48.7 +0.6
comp=Z,61nm,1.0s,mb5.3
CMW Cultus Mountai 41.29 74 P P 13 10 55.6 +1.1
JCW Jim Creek 41.54 74 P P 13 10 57.4 +0.8
NVS Novosibirsk 41.63 300 i P P 13 10 55.9 -1.4
NVS e 13 12 32.6
NVS pmax pmax
comp=E,27nm,1.0s
NVS pmax pmax
comp=Z,58nm,1.0s,mb5.2
NVS pmax pmax
comp=N,230nm,0.8s
SSE Sheshan 41.73 245 P P 13 10 56.8 -1.3
SSE AMB AMB
comp=Z,25nm,0.9s,mb4.8
SSE AMB AMB
comp=Z,1µm,12.0s
EDM Edmonton 41.90 63 eP P 13 10 59.7 +0.1
NJ2 Nanjing 41.97 248 eP P 13 10 59.1 -1.0
NJ2 AP pP 13 11 08.3 +5.1
NJ2 XP sP 13 11 10.1 +5.7
NJ2 PP PP 13 12 39.3 +2.2
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
NJ2 AMB AMB
comp=Z,390nm,11.8s
NJ2 LR LR
comp=Z,4µm,21.0s,MS5.2
JOW Kunigami 42.47 234 LR LR 13 29 40.7
comp=Z,4µm,20.6s,MS5.3,baz=41,slow=38
DAG Danmarks Havn 42.57 2⇑ iP P 13 11 05.3 +0.3
comp=Z,11nm,0.9s,mb4.6
DAG Danmarks Havn 42.57 2⇑ iP P 13 11 05.3 +0.3
DAG pmax pmax
comp=Z,11nm,0.9s,mb4.6
RCM Mount Rainier- 42.61 75 P P 13 11 07.5 +2.2
ETW Entiat 42.71 73 P P 13 11 06.9 +0.7
STD Studebaker Rid 42.81 76 P P 13 11 08.1 +1.2
WTV Waterville 42.82 73 P P 13 11 07.8 +0.8
MTMW Mount Mitchell 42.97 76 P P 13 11 09.7 +1.5
COR Corvallis 43.51 79 eP P 13 11 12.9 +0.3
COR pmax pmax
comp=Z,174nm,1.6s,mb5.5
COR Corvallis 43.51 79 eP P 13 11 12.9 +0.3
comp=Z,174nm,1.6s,mb5.5
OD2 Odessa Site #2 43.62 72 P P 13 11 14.2 +0.6
NEW Newport 43.73 70 eP P 13 11 14.2 -0.1
NEW pmax pmax
comp=Z,28nm,1.0s
NEW Newport 43.73 70 eP P 13 11 14.2 -0.2
comp=Z,28nm,1.0s,mb5.0
GBB Gable Butte 43.77 74 P P 13 11 15.4 +0.7
HAWA Hanford 43.97 74 P P 13 11 16.2 -0.1
comp=Z,1.3nm,0.9s
WALA Waterton Lakes 44.61 67 eP P 13 11 21.9 +0.4
comp=Z,66nm,1.0s,mb5.4
HUMO Hull Mountain 45.16 80 eP P 13 11 26.6 +0.7
comp=Z,7.6nm,0.8s,mb4.6
GTA Gaotai 45.17 273 P P 13 11 26.0 +0.1
GTA AP pP 13 11 29.6 +0.6
GTA XP sP 13 11 32.9 +2.6
GTA AMB AMB
comp=Z,27nm,1.1s,mb5.0
WHN Wuhan 45.30 252 ⇓P P 13 11 26.5 -0.5
FCC Fort Churchill 45.56 46 eP P 13 11 27.9 -1.1
FCC pmax pmax
comp=Z,95nm,0.9s,mb5.7
FCC Fort Churchill 45.56 46 eP P 13 11 27.9 -1.1
comp=Z,95nm,0.9s,mb5.7
FFC Flin Flon 45.57 54 P P 13 11 29.0 -0.1
comp=Z,130nm,1.1s,mb5.8,SNR=8.9
BUOR Burton Butte 45.75 80 P P 13 11 31.8 +1.2
SUMG Summit 45.78 10 eP P 13 11 31.4 +0.6
comp=Z,93nm,0.9s,mb5.7
LZH Lanzhou 45.81 266 ⇑P P 13 11 31.1 +0.1
LZH AP pP 13 11 34.3 +0.2
LZH XP sP 13 11 35.8 +0.4
LZH PP PP 13 13 18.3 0.0
LZH AMB AMB
comp=Z,73nm,1.3s,mb5.5
LZH AMB AMB
comp=Z,332nm,6.7s
LZH LR LR
comp=E,3µm,14.2s
LZH LR LR
comp=Z,3µm,17.5s,MS5.3
YBH Yreka Blue Hor 45.95 81 P P 13 11 32.8 +0.7
comp=Z,9.6nm,0.7s,mb4.9,baz=346,slow=3.3,SNR=5.4
YBH Yreka Blue Hor 45.95 81 P P 13 11 32.8 +0.8
YBH pmax pmax
comp=Z,10.0nm,0.7s
YBH Yreka Blue Hor 45.95 81 eP P 13 11 32.8 +0.8
comp=Z,14nm,0.8s,mb5.0
BMO Blue Mountains 46.16 74 eP P 13 11 34.1 +0.4
comp=Z,21nm,0.9s,mb5.1
MSO Missoula 46.24 69 eP P 13 11 34.2 -0.2
comp=Z,25nm,1.3s,mb5.0
CHMT Chamberlain Mo 46.49 69 eP P 13 11 36.3 -0.1
KURK Kurchatov 46.53 299 P P 13 11 36.4 -0.3
comp=Z,989nm,0.8s,SNR=73
KURK Kurchatov 46.53 299 c iP P 13 11 36.6 -0.1
ARCES ARCESS Array B 46.85 342 P P 13 11 39.1 -0.1
comp=Z,17nm,0.9s,mb5.0,baz=24,slow=6.6,SNR=12
ARCES PcP PcP 13 13 12.2 +0.2
comp=Z,25nm,0.9s,baz=352,slow=3.7,SNR=11
ARCES ARCESS Array B 46.85 342 P P 13 11 39.1 -0.1
ARCES 13 13 12.3
ARCES pmax pmax
comp=Z,17nm,0.9s
TATO Taipei 46.90 240 eP P 13 11 40.5 +0.9
comp=Z,43nm,0.9s,mb5.4
WDC Whiskeytown Da 46.91 82 eP P 13 11 38.9 -0.7
WDC pmax pmax
comp=Z,18nm,0.9s,mb5.0
WDC Whiskeytown Da 46.91 82 eP P 13 11 38.9 -0.8
comp=Z,18nm,0.9s,mb5.0
MOD Modoc 46.97 79 eP P 13 11 39.6 -0.5
comp=Z,27nm,0.8s,mb5.2
KIPM Iron Peak 47.05 83 eP P 13 11 41.5 +0.8
EGMT Eagleton 47.24 65 eP P 13 11 42.0 -0.2
comp=Z,38nm,0.8s,mb5.4
HRY Holter Researc 47.29 68 eP P 13 11 43.1 +0.5
WVOR Wild Horse Val 47.36 77 eP P 13 11 42.9 -0.3
WVOR pmax pmax
comp=Z,21nm,1.0s,mb5.0
WVOR Wild Horse Val 47.36 77 eP P 13 11 42.9 -0.3
comp=Z,21nm,1.0s,mb5.0
CHKZ Chkalovo 47.61 307 eP P 13 11 44.4 -0.7
CHKZ pmax pmax
comp=Z,68nm,1.0s,mb5.6
CHKZ Chkalovo 47.61 307 eP P 13 11 44.4 -0.7
comp=Z,68nm,1.0s,mb5.6
WMQ Urumqi 47.62 286 ⇓P P 13 11 45.6 +0.5
WMQ AP pP 13 11 55.1 +6.8
WMQ XP sP 13 11 58.6 +9.1
WMQ PCP PcP 13 13 16.3 +1.5
WMQ PP PP 13 13 36.3 -0.3
WMQ AMB AMB
comp=Z,61nm,0.8s,mb5.7
WMQ AMB AMB
comp=Z,266nm,2.9s,mb5.8
WMQ LR LR
comp=N,7µm,21.1s,MS5.7
WMQ LR LR
comp=E,4µm,21.1s,MS5.7
WMQ LR LR
comp=Z,6µm,22.8s,MS5.5
MKAR Makanchi Array 47.85 293 P P 13 11 46.0 -1.0
comp=Z,15nm,0.7s,mb5.1,baz=38,slow=6.3,SNR=80
MKAR PP PP 13 13 37.5 -1.3
comp=Z,7.0nm,0.8s,baz=50,slow=9.6,SNR=3.6
MKAR Makanchi Array 47.85 293 P P 13 11 46.0 -1.0
MKAR 13 13 37.5
MKAR pmax pmax
comp=Z,15nm,0.7s
MKAR pmax pmax
comp=Z,7.0nm,0.8s
DLMT Dillon 47.96 70 eP P 13 11 47.8 0.0
comp=Z,43nm,1.1s,mb5.4
BOZ Bozeman (W) 48.19 69 eP P 13 11 49.9 +0.3
BOZ pmax pmax
comp=Z,41nm,1.4s,mb5.3
BOZ Bozeman (W) 48.19 69 eP P 13 11 49.9 +0.3
comp=Z,41nm,1.4s,mb5.3
BRVK Borovoye 48.21 306 P P 13 11 49.3 -0.4
comp=Z,472nm,0.8s,SNR=32
MCMT McKenzie Canyo 48.25 70 eP P 13 11 50.1 +0.1
OHCM Honcut 48.39 82 eP P 13 11 50.0 -1.1
NSHM Saint Helena R 48.48 83 eP P 13 11 52.1 +0.3
ZRNK Zerenda 48.79 307 eP P 13 11 53.9 -0.3
ZRNK pmax pmax
comp=Z,46nm,0.9s,mb5.5
ZRNK Zerenda 48.79 307 eP P 13 11 53.9 -0.3
comp=Z,46nm,0.9s,mb5.5
SVE Sverdlovsk 48.88 315⇑ eP P 13 11 56.0 +1.1
SVE e 13 13 48.0
SVE pmax pmax
comp=Z,200nm,2.0s,mb5.8
QLMT Earthquake Lak 48.90 69 P P 13 11 55.4 +0.3
GCMT Greycliff 48.97 67 eP P 13 11 56.4 +0.8
PAHR Pah Rah Range 49.11 80 eP P 13 11 56.3 -0.4
comp=Z,18nm,1.0s,mb5.1
TMCR Tamitsa 49.28 333 eP P 13 11 57.5 -0.4
TMCR pmax pmax
comp=Z,50nm,1.0s,mb5.5
TMCR pmax pmax
comp=N,50nm,0.9s
TMCR pmax pmax
comp=E,30nm,0.9s
YFT Old Faithful 49.47 69 eP P 13 12 01.4 +2.1
LKWY Lake 49.58 69 eP P 13 12 01.8 +1.6
LKWY pmax pmax
comp=Z,60nm,0.9s,mb5.6
LKWY Lake 49.58 69 eP P 13 12 01.8 +1.5
comp=Z,60nm,0.9s,mb5.6
BMN Battle Mountai 49.58 78 eP P 13 12 00.5 +0.2
BMN pmax pmax
comp=Z,18nm,1.1s,mb5.0
BMN Battle Mountai 49.58 78 eP P 13 12 00.5 +0.2
comp=Z,18nm,1.1s,mb5.0
SFJD Kangerlussuaq 49.64 18⇑ iP P 13 12 00.6 -0.1
comp=Z,66nm,0.9s,mb5.7
SFJD Kangerlussuaq 49.64 18⇑ iP P 13 12 00.6 -0.1
SFJD pmax pmax
comp=Z,66nm,0.9s,mb5.7
FLWY Flagg Ranch 49.81 70 eP P 13 12 02.5 +0.5
comp=Z,79nm,0.9s,mb5.8
LAO LASA Array 49.82 64 eP P 13 12 01.8 -0.3
comp=Z,45nm,0.9s,mb5.5
IMW Indian Meadow 49.84 70 eP P 13 12 02.8 +0.5
comp=Z,19nm,0.8s,mb5.2
ARU Arti 49.90 316 P P 13 12 02.4 -0.3
comp=Z,199nm,1.3s,mb6.0,SNR=10
ARU Arti 49.90 316⇑ iP P 13 12 02.6 -0.1
ARU e 13 13 22.4
ARU e 13 13 54.3
ARU eS S **13 19 13.9 +1.2**
ARU eSS SS 13 22 46.6 +1.2
ARU pmax pmax
comp=Z,38nm,1.2s,mb5.3
DCID1 Drake Creek 49.97 70 eP P 13 12 04.2 +1.0
CD2 Chengdu 50.05 263 eP P 13 12 02.6 -1.2
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
MOOW Moose Ponds 50.05 70 eP P 13 12 04.5 +0.7
comp=Z,19nm,1.1s,mb5.0
TPAW Teton Pass 50.15 70 eP P 13 12 05.5 +0.8
comp=Z,20nm,0.8s,mb5.2
LOHW Long Hollow 50.22 70 eP P 13 12 05.8 +0.7
comp=Z,18nm,0.8s,mb5.2
ELK Elko 50.28 76 eP P 13 12 05.6 0.0
ELK pmax pmax
comp=Z,13nm,1.0s
ELK Elko 50.28 76 eP P 13 12 05.6 0.0
comp=Z,13nm,1.0s,mb4.9
REDW Red Top Meadow 50.30 70 eP P 13 12 06.4 +0.7
comp=Z,20nm,0.9s,mb5.1
SAO San Andreas Ge 50.43 84 eP P 13 12 06.9 +0.2
SAO pmax pmax
comp=Z,18nm,0.8s,mb5.2
SAO San Andreas Ge 50.43 84 eP P 13 12 06.9 +0.2
comp=Z,18nm,0.8s,mb5.2
HVU Hansel Valley 50.64 73 eP P 13 12 07.9 -0.4
HVU pmax pmax
comp=Z,20nm,1.0s,mb5.0
HVU Hansel Valley 50.64 73 eP P 13 12 07.9 -0.3
comp=Z,20nm,1.0s,mb5.0
MNV Mina 50.70 80 eP P 13 12 08.9 +0.1
MNV pmax pmax
comp=Z,12nm,1.0s,mb4.8
MNV Mina 50.70 80 eP P 13 12 08.9 +0.2
comp=Z,12nm,1.0s,mb4.8
HWUT Hardware Ranch 51.34 72 eP P 13 12 14.9 +1.3
comp=Z,30nm,1.1s,mb5.1
PDAR Pinedale Array 51.36 70 P P 13 12 14.3 +0.6
comp=Z,21nm,0.9s,mb5.1,baz=322,slow=3.0,SNR=80

PDAR PcP PcP 13 13 28.2 -0.2
comp=Z,9.1nm,0.9s,baz=329,slow=1.1,SNR=2.0
PDAR LR LR 13 32 44.5
comp=Z,2μm,20.9s,MS5.2,baz=333,slow=35
MTUM Tungsten Hills 51.36 81 *eP* **P 13 12 14.5 +0.8**
ULM Lac du Bonnet 51.40 54 P **P 13 12 14.2 +0.2**
comp=Z,12nm,0.8s,mb4.9,baz=318,slow=8.0,SNR=18
ULM PcP PcP 13 13 27.8 -0.8
comp=Z,23nm,0.9s,baz=343,slow=4.7,SNR=7.3
TPH Tonopah 51.44 79 *eP* **P 13 12 14.4 +0.1**
TPH pmax pmax
comp=Z,18nm,0.8s,mb5.0
TPH Tonopah 51.44 79 *eP* **P 13 12 14.3 +0.1**
comp=Z,18nm,0.8s,mb5.1
JOF Joensuu 51.81 336 *ep* **P 13 12 16.5 -0.6**
comp=Z,28nm,0.9s,mb5.2
PTRM Twissleman Ran 51.92 84 P **P 13 12 18.8 +1.0**
GYA Guiyang 52.36 257⇑*iP* **P 13 12 21.0 -0.2**
GYA AP pP 13 12 28.9 +4.6
GYA XP sP 13 12 31.8 +6.2
GYA PCP PcP 13 13 32.6 +0.5
GYA PP PP 13 14 18.4 -1.4
GYA SCP ScP 13 17 26.4 -2.9
GYA S **S** **13 19 42.8 -4.0**
GYA XS sS 13 19 55.3 +3.3
GYA AMB AMB
comp=Z,40nm,1.3s,mb5.2
GYA AMB AMB
comp=Z,240nm,4.2s
GYA LR LR
comp=N,1μm,17.0s,MS5.2
GYA LR LR
comp=E,2μm,17.2s,MS5.2
GYA LR LR
comp=Z,2μm,17.8s,MS5.2
NLU North Lily Min 52.40 74 *eP* **P 13 12 21.4 -0.1**
TPNV Topopah Spring 52.80 79 *eP* **P 13 12 24.2 -0.2**
TPNV pmax pmax
comp=Z,21nm,1.1s,mb5.0
TPNV Topopah Spring 52.80 79 *eP* **P 13 12 24.2 -0.2**
comp=Z,21nm,1.1s,mb5.0
RWWY Rawlins 53.28 69 *eP* **P 13 12 27.4 -0.5**
comp=Z,23nm,0.8s,mb5.2
TMUT Trail Mountain 53.33 74 *eP* **P 13 12 29.0 +0.7**
ARUT Antelope Range 53.47 77 *eP* **P 13 12 30.2 +0.8**
MSU Marysvale 53.49 75 *eP* **P 13 12 30.7 +1.2**
KAF Kangasniemi 53.52 338 *ep* **P 13 12 29.1 -0.6**
comp=Z,34nm,0.9s,mb5.3,baz=21,slow=7.0
KAF Kangasniemi 53.52 338 *eP* **P 13 12 29.1 -0.6**
KAF pmax pmax
comp=Z,34nm,0.9s,mb5.3
SRU San Rafael 53.80 73 *eP* **P 13 12 32.6 +0.9**
SRU pmax pmax
comp=Z,33nm,0.8s,mb5.3
SRU San Rafael 53.80 73 *eP* **P 13 12 32.6 +0.9**
comp=Z,33nm,0.8s,mb5.3
FINES FINESS Array B 54.18 338 P **P 13 12 33.8 -0.8**
comp=Z,18nm,1.0s,mb5.0,baz=32,slow=7.6,SNR=30
FINES PcP PcP 13 13 38.9 -0.1
comp=Z,11nm,0.9s,baz=28,slow=4.5,SNR=5.5
FINES FINESS Array B 54.18 338 P **P 13 12 33.8 -0.7**
FINES 13 13 38.9
FINES pmax pmax
comp=Z,18nm,1.0s
FRU Bishkek 54.36 295 *eP* **P 13 12 36.0 +0.1**
FRU *e* 13 14 37.0
FRU pmax pmax
comp=Z,140nm,2.0s,mb5.5
PHWY Pilot Hill 54.38 68 *eP* **P 13 12 35.5 -0.5**
NEN Nelson 54.52 79 *eP* **P 13 12 37.7 +0.7**
AAK Ala-Archa 54.58 295 P **P 13 12 37.4 0.0**
comp=Z,329nm,0.9s,SNR=34
AAK Ala-Archa 54.58 295⇑*eP* **P 13 12 37.0 -0.4**
AAK pmax pmax
comp=Z,61nm,1.1s,mb5.5
AKTK Aktyubinsk 54.94 312 P **P 13 12 39.6 -0.5**
AKTK PcP PcP 13 13 42.9 +0.9
AKTO Aktyubinsk 54.94 312 P **P 13 12 39.6 -0.5**
comp=Z,25nm,1.1s,mb5.2,baz=34,slow=7.0,SNR=38
AKTO PcP PcP 13 13 42.9 +0.9
comp=Z,4.2nm,0.6s,baz=107,slow=1.7,SNR=4.5
AKTO Aktyubinsk 54.94 312 P **P 13 12 39.7 -0.4**
AKTO 13 13 42.9
AKTO pmax pmax
comp=Z,25nm,1.1s,mb5.2
EYMN Ely 54.97 53 *eP* **P 13 12 39.8 -0.5**
comp=Z,42nm,1.1s,mb5.4
PV10 Paradox Valley 55.08 73 *eP* **P 13 12 41.7 +0.7**
ORR Orenburg 55.12 315⇓*iP* **P 13 12 41.6 +0.2**
ORR pmax pmax
comp=Z,40nm,0.9s,mb5.5
ORR MLR MLR
comp=Z,3μm,17.0s,MS5.5
KMI Kunming 55.37 259 P **P 13 12 42.9 -0.2**
KMI AP pP 13 12 47.3 +1.0
KMI PCP PcP 13 13 44.8 +1.2
KMI PP PP 13 14 49.4 +2.6
KMI AMB AMB
comp=Z,18nm,1.2s,mb5.0
KMI AMB AMB
comp=Z,522nm,4.0s
KMI LR LR
comp=N,2μm,22.4s,MS5.2
KMI LR LR
comp=E,1μm,17.4s,MS5.2
KMI LR LR
comp=Z,2μm,18.7s,MS5.2
SMCO Snowmass 55.39 71 *eP* **P 13 12 43.9 +0.6**
comp=Z,16nm,0.9s,mb5.0
PV01 Paradox Valley 55.49 73 *eP* **P 13 12 43.9 -0.2**
ISCO Idaho Springs 55.52 69 *eP* **P 13 12 45.4 +1.2**
ISCO pmax pmax
comp=Z,12nm,0.9s,mb4.9
ISCO Idaho Springs 55.52 69 *eP* **P 13 12 45.4 +1.2**
comp=Z,12nm,0.9s,mb4.9
ECSD EROS,Sioux Fal 56.31 60 *eP* **P 13 12 49.5 -0.4**
KSH Kashi 56.42 292 *eP* **P 13 12 50.3 -0.4**
KSH *eA*P pP 13 12 57.1 +3.2
KSH *eX*P sP 13 13 00.6 +5.5
KSH *eP*CP PcP 13 13 48.1 +0.4
KSH *eP*P PP 13 14 56.1 -0.1
KSH AMB AMB
comp=Z,363nm,4.7s
KSH LR LR
comp=N,2μm,8.6s
KSH LR LR
comp=E,2μm,7.8s
KSH LR LR
comp=Z,4μm,10.5s,MS5.7
VSU Vasula 56.81 336 *i* P **P 13 12 53.1 -0.4**
TGY Tagaytay City 56.85 235 P **P 13 12 52.7 -1.0**
comp=Z,219nm,0.4s,baz=104,slow=10,SNR=4.4
TGY Tagaytay City 56.85 235 P **P 13 12 52.7 -1.0**
TGY pmax pmax
comp=Z,219nm,0.4s
NB2 NORSAR Subarra 56.86 346 P **P 13 12 53.3 -0.5**
comp=Z,31nm,0.8s,mb5.4,baz=14,slow=7.4
NOA NORSAR Array B 56.86 346 P **P 13 12 53.4 -0.4**
comp=Z,21nm,0.7s,mb5.3,baz=14,slow=7.2,SNR=25
NOA PcP PcP 13 13 50.0 +0.7
comp=Z,12nm,0.9s,baz=17,slow=2.8,SNR=7.6
NOA NORSAR Array B 56.86 346 P **P 13 12 53.4 -0.4**
NOA 13 13 50.1
NOA pmax pmax
comp=Z,21nm,0.7s
NAO01 NORSAR Array S 57.09 346 *eP* **P 13 12 55.5 +0.1**
comp=Z,18nm,0.9s,mb5.1
LSA Lhasa 57.20 273 *eP* **P 13 12 56.0 -0.2**
LSA pmax pmax
comp=Z,25nm,0.9s,mb5.2
LSA Lhasa 57.20 273 *eP* **P 13 12 56.0 -0.2**
comp=Z,25nm,0.9s,mb5.2
QIZ Qiongzhong 57.25 249 P **P 13 12 57.3 +0.7**
QIZ AMB AMB
comp=Z,12nm,1.4s,mb4.7
SCHQ Schefferville 57.31 33 P **P 13 12 56.7 -0.3**
comp=Z,41nm,0.8s,mb5.5,baz=353,slow=6.8,SNR=35
HFS Hagfors 57.42 344 P **P 13 12 56.9 -0.9**
comp=Z,7.2nm,0.5s,mb4.9,baz=26,slow=3.8,SNR=18
HFS PcP PcP 13 13 52.2 +0.6
comp=Z,8.0nm,0.8s,baz=93,slow=2.9,SNR=3.1
HFS Hagfors 57.42 344 P **P 13 12 56.9 -0.9**
HFS 13 13 52.2
HFS pmax pmax
comp=Z,7.0nm,0.5s

OBN Obninsk 57.61 328⇓*eP* **P 13 12 59.2 +0.1**
OBN *e* 13 13 52.5
OBN *e* 13 15 05.0
OBN pmax pmax
comp=Z,27nm,0.9s,mb5.3
KONO Kongsberg 58.41 346 *eP* **P 13 13 05.0 +0.3**
KONO pmax pmax
comp=Z,52nm,1.0s,mb5.5
KONO Kongsberg 58.41 346 *eP* **P 13 13 05.0 +0.3**
comp=Z,52nm,1.0s,mb5.5
CBKS Cedar Bluff 58.97 65 *eP* **P 13 13 08.5 -0.1**
CBKS pmax pmax
comp=Z,50nm,0.8s,mb5.6
CBKS Cedar Bluff 58.97 65 *eP* **P 13 13 08.4 -0.2**
comp=Z,50nm,0.8s,mb5.6
ANMO Albuquerque 59.06 73 *eP* **P 13 13 09.8 +0.5**
ANMO pmax pmax
comp=Z,13nm,1.0s
ANMO Albuquerque 59.06 73 *eP* **P 13 13 09.8 +0.5**
comp=Z,13nm,1.0s,mb4.9
LAZ Ladro 59.20 74 *eP* **P 13 13 11.1 +0.9**
LENM Lemitar 59.47 74 *eP* **P 13 13 13.4 +1.3**
LPM Los Pinos Moun 59.51 74 *eP* **P 13 13 13.3 +1.0**
BNM Barren Site 59.64 74 *eP* **P 13 13 14.0 +0.7**
VOR Voronezh 59.93 325 *eP* **P 13 13 14.5 -0.7**
VOR pmax pmax
comp=Z,90nm,1.8s,mb5.5
KSU1 Kansas State U 60.11 63 *eP* **P 13 13 15.9 -0.6**
GUN Gumba 61.25 276 *eP* **P 13 13 23.5 -0.8**
comp=Z,177nm,0.9s,mb6.2
CHRT Chiangrai 61.25 259⇑*P* **P 13 13 24.0 -0.3**
comp=Z,140nm,1.0s,mb6.0
JIRN Jiri 61.31 276 *eP* **P 13 13 23.9 -0.8**
comp=Z,88nm,1.3s,mb5.7
AMTX Amarillo 61.33 69 *eP* **P 13 13 24.5 -0.4**
comp=Z,22nm,0.7s,mb5.4
KKN Kakani 61.64 277 *eP* **P 13 13 26.2 -0.7**
comp=Z,34nm,0.9s,mb5.5
KKN Kakani 61.64 277 *eP* **P 13 13 26.2 -0.7**
KKN pmax pmax
comp=Z,34nm,0.9s,mb5.5
SUW Suwalki 61.69 336 *eP* **P 13 13 26.2 -1.0**
NANT Nan 61.73 258⇑*P* **P 13 13 27.5 0.0**
comp=Z,688nm,0.4s
PKI Pulchoki 61.76 276 *eP* **P 13 13 27.3 -0.4**
GKN Gorkha 61.78 277 *eP* **P 13 13 26.9 -0.9**
comp=Z,82nm,1.1s,mb5.8
CPRX Cap Rock 61.86 72 *eP* **P 13 13 29.0 +0.6**
DMN Daman 61.88 277 *eP* **P 13 13 27.7 -0.8**
comp=Z,70nm,1.4s,mb5.6
MNTX Cornudas Mount 62.26 74 *eP* **P 13 13 31.1 +0.1**
comp=Z,48nm,1.5s,mb5.4
GDL2 Guadalupe Moun 62.32 73 P **P 13 13 31.7 +0.2**
KOLN Koldanda 62.47 278 *eP* **P 13 13 31.6 -0.9**
comp=Z,36nm,0.9s,mb5.5
CHG Chiang Mai 62.56 259⇑*P* **P 13 13 32.5 -0.6**
comp=Z,31nm,0.9s,mb5.4
CHTO Chiang Mai 62.56 259 *eP* **P 13 13 32.3 -0.8**
CHTO pmax pmax
comp=Z,22nm,1.0s,mb5.2
CHTO Chiang Mai 62.56 259 *eP* **P 13 13 32.3 -0.8**
comp=Z,22nm,1.0s,mb5.2
WMOK Wichita Mounta 62.77 67 *eP* **P 13 13 33.3 -1.2**
WMOK pmax pmax
comp=Z,59nm,0.9s,mb5.7
WMOK Wichita Mounta 62.77 67 *eP* **P 13 13 33.3 -1.2**
comp=Z,59nm,0.9s,mb5.7
KKTK Khon Kaen 62.85 254⇑*P* **P 13 13 35.2 +0.2**
comp=Z,1μm,0.7s
SLM Saint Louis 63.21 58 P **P 13 13 37.5 +0.1**
CCM Cathedral Cave 63.28 60 *eP* **P 13 13 36.4 -1.5**
CCM pmax pmax
comp=Z,33nm,0.8s,mb5.5
CCM Cathedral Cave 63.28 60 *eP* **P 13 13 36.4 -1.5**
comp=Z,33nm,0.8s,mb5.5
AKASG Malin Array Be 63.46 331 P **P 13 13 38.4 -0.7**
comp=Z,24nm,0.9s,mb5.3,baz=23,slow=6.4,SNR=56
AKASG PKP2bc 13 42 38.1
comp=Z,0.4nm,0.4s,baz=220,slow=2.9,SNR=5.3
AKASG Malin Array Be 63.46 331 P **P 13 13 38.4 -0.7**
AKASG ⇑*e* 13 42 38.1
FVM French Village 63.69 59 *eP* **P 13 13 39.5 -1.1**
FVM pmax pmax
comp=Z,59nm,0.8s,mb5.7
FVM French Village 63.69 59 *eP* **P 13 13 39.5 -1.1**
comp=Z,58nm,0.8s,mb5.7
LONY Lake Ozonia 63.99 44 *eP* **P 13 13 40.8 -1.8**
FRNY Flat Rock 64.13 43 *eP* **P 13 13 41.8 -1.7**
ERPA Erie 64.27 49 *eP* **P 13 13 43.0 -1.4**
comp=Z,105nm,0.9s,mb5.9
ALLY Alegheny Colle 64.61 49 *eP* **P 13 13 45.6 -1.1**
NCB Newcomb 64.68 44 *eP* **P 13 13 46.3 -0.8**
comp=Z,31nm,0.9s,mb5.3
GOF Gofitskoye 64.72 319⇓*iP* **P 13 13 47.5 +0.2**
GOF pmax pmax
comp=Z,100nm,1.0s,mb5.8
ACSO Alum Creek Sta 64.77 52 *eP* **P 13 13 46.1 -1.5**
comp=Z,32nm,0.9s,mb5.3
MIV Mineville/With 64.82 43 P **P 13 13 48.7 +0.7**
USIN University of 64.85 57 *eP* **P 13 13 46.8 -1.4**
comp=Z,25nm,0.6s,mb5.4
MDV Middlebury 65.01 43 *eP* **P 13 13 48.3 -0.9**
LTX Lajitas 65.04 74 *eP* **P 13 13 49.4 0.0**
LTX pmax pmax
comp=Z,55nm,1.5s,mb5.4
LTX Lajitas 65.04 74 *eP* **P 13 13 49.4 0.0**
comp=Z,55nm,1.5s,mb5.4
PARMO Parma 65.09 59 *eP* **P 13 13 49.6 -0.2**
WCI Wyandotte Cave 65.18 56 *eP* **P 13 13 49.5 -0.8**
WCI pmax pmax
comp=Z,19nm,0.8s,mb5.2
WCI Wyandotte Cave 65.18 56 *eP* **P 13 13 49.5 -0.8**
comp=Z,19nm,0.8s,mb5.2
LBNH Lisbon 65.21 42 *eP* **P 13 13 50.4 -0.1**
LBNH pmax pmax
comp=Z,99nm,0.9s,mb5.8
LBNH Lisbon 65.21 42 *eP* **P 13 13 50.4 -0.2**
comp=Z,100nm,0.9s,mb5.8
MIAR Mount Ida 65.25 63 *eP* **P 13 13 50.0 -0.8**
MIAR pmax pmax
comp=Z,33nm,0.9s,mb5.4
MIAR Mount Ida 65.25 63 *eP* **P 13 13 50.0 -0.7**
comp=Z,33nm,0.9s,mb5.4
ABKT Ailbek 65.44 304 P **P 13 13 52.8 +0.8**
comp=Z,226nm,0.8s,mb6.2,SNR=15
HNH Hanver 65.57 43 *eP* **P 13 13 52.9 +0.1**
comp=Z,7.2nm,0.9s,mb4.7
UALR University of 65.59 62 *eP* **P 13 13 52.7 -0.3**
comp=Z,28nm,1.0s,mb5.2
GLAT Glass 65.62 59 *eP* **P 13 13 53.3 +0.1**
BINY Binghamton 65.64 46 *eP* **P 13 13 51.5 -1.8**
comp=Z,71nm,0.9s,mb5.7
KIV Kislovodsk 65.82 319 P **P 13 13 56.0 +1.5**
comp=Z,233nm,1.1s,mb6.1,SNR=9.8
KIV Kislovodsk 65.82 319 *eP* **P 13 13 55.6 +1.1**
KIV pmax pmax
comp=Z,44nm,1.1s,mb5.4
JCT Junction City 65.88 71 *eP* **P 13 13 54.6 -0.3**
JCT pmax pmax
comp=Z,67nm,1.3s,mb5.5
JCT Junction City 65.88 71 *eP* **P 13 13 54.6 -0.2**
comp=Z,67nm,1.3s,mb5.5
KWP Kalwaria 65.93 335 *eP* **P 13 13 55.8 +0.6**
KWP pmax pmax
comp=Z,80nm,1.0s,mb5.7
KWP Kalwaria 65.93 335 *eP* **P 13 13 55.8 +0.6**
comp=Z,80nm,1.0s,mb5.7
OJC Ojcow 65.95 337 *eP* **P 13 13 55.3 0.0**
KSP Ksiaz 65.99 339 *eP* **P 13 13 55.3 -0.3**
CLL Collm 66.07 342 *i* P **P 13 13 55.9 -0.2**
comp=Z,21nm,1.2s,mb5.0
CLL *eP*P PP 13 16 25.0 +3.5
CLL Collm 66.07 342 *i* P **P 13 13 55.9 -0.2**
CLL pmax pmax
comp=Z,21nm,1.2s,mb5.0
SSPA Standing Stone 66.33 48 *eP* **P 13 13 56.3 -1.5**
comp=Z,42nm,0.8s,mb5.5
BRG Berggiesshubel 66.35 341 *eP* **P 13 13 57.4 -0.4**
comp=Z,4.7nm,0.8s,mb4.6
BRG *e* 13 14 35.5
comp=Z,5.3nm,1.0s
WVT Waverly 66.35 58 *eP* **P 13 13 57.1 -0.8**
WVT pmax pmax
comp=Z,64nm,0.8s,mb5.7
WVT Waverly 66.35 58 *eP* **P 13 13 57.1 -0.8**
comp=Z,64nm,0.8s,mb5.7

UPC Upice 66.36 340 *eP* **P 13 13 58.0 +0.1**
UPC *eP*CP PcP 13 14 24.3 -3.4
STHS Stebnicka Huta 66.43 336 *eP* **P 13 13 59.5 +1.1**
DPC Dobruska-Polom 66.46 339 *eP* **P 13 13 58.3 -0.3**
DPC *ex* x 13 14 17.8
MCWV Mont Chateau 66.46 50 *eP* **P 13 13 57.9 -0.7**
comp=Z,46nm,0.9s,mb5.5
ZEI Tsey 66.48 317 *eP* **P 13 13 59.0 +0.3**
ZEI *e**PP pP 13 14 02.1 +0.2
ZEI pmax pmax
comp=Z,40nm,1.2s,mb5.3
OKC Ostrava-Kunca 66.62 338 *eP* **P 13 14 00.1 +0.5**
KOLS Kolonicke sedl 66.68 335 *eP* **P 13 14 02.0 +2.0**
ANN Anapa 66.69 323 *eP* **P 13 13 59.4 -0.6**
ANN *eS* S 13 22 52.4 +0.7
ANN pmax pmax
comp=Z,37nm,1.5s,mb5.2
MORC Moravsky Berou 66.79 338 P **P 13 14 01.3 +0.6**
MORC pmax pmax
comp=Z,11nm,0.8s,mb4.9
MORC Moravsky Berou 66.79 338 *eP* **P 13 14 01.2 +0.5**
comp=Z,11nm,0.8s,mb4.9
CRVS Cervenica-Dubn 66.88 335 *eP* **P 13 14 03.1 +1.9**
HRV Harvard--Oak R 66.88 43 P **P 13 14 00.8 -0.5**
HRV pmax pmax
comp=Z,54nm,0.8s,mb5.6
HRV Harvard--Oak R 66.88 43 *eP* **P 13 14 00.8 -0.5**
comp=Z,54nm,0.8s,mb5.6
MOX Moxa 66.92 343 *eP* **P 13 14 01.9 +0.3**
comp=Z,30nm,1.6s,mb5.1
MOX Moxa 66.92 343 *eP* **P 13 14 01.9 +0.3**
MOX pmax pmax
comp=Z,30nm,1.6s,mb5.1
WES Weston 67.06 43 *eP* **P 13 14 01.6 -0.8**
WES pmax pmax
comp=Z,112nm,0.9s,mb5.9
WES Weston 67.06 43 *eP* **P 13 14 01.6 -0.8**
comp=Z,112nm,0.9s,mb5.9
OXF Oxford 67.07 60 *eP* **P 13 14 02.2 -0.3**
OXF pmax pmax
comp=Z,68nm,0.8s,mb5.7
OXF Oxford 67.07 60 *eP* **P 13 14 02.2 -0.3**
comp=Z,68nm,0.8s,mb5.7
SOC Sochi 67.09 320*c iP* **P 13 14 02.8 +0.2**
SOC *e* pP 13 14 05.0 -0.9
SOC pmax pmax
comp=Z,23nm,1.0s,mb5.2
PRU Pruhonice 67.11 340 *eP* **P 13 14 02.3 -0.4**
PRU *ex* x 13 14 21.3
NATX Nacogdoches 67.13 66 *eP* **P 13 14 03.2 +0.3**
comp=Z,71nm,1.1s,mb5.6
NKC Novy Kostel 67.20 342 *eP* **P 13 14 03.0 -0.3**
NKC *ex* x 13 14 21.8
PLAL Pickwick Lake 67.23 59 *eP* **P 13 14 02.2 -1.3**
comp=Z,31nm,0.9s,mb5.3
VRAC Vranov 67.41 339 P **P 13 14 05.5 +0.8**
comp=Z,6.9nm,0.6s,mb4.8,baz=15,slow=4.0,SNR=11
VRAC Vranov 67.41 339 P **P 13 14 05.5 +0.8**
VRAC pmax pmax
comp=Z,7.0nm,0.6s
VRAC Vranov 67.41 339 P **P 13 14 05.9 +1.2**
PAL Palisades 67.42 45 *eP* **P 13 14 03.2 -1.5**
PAL pmax pmax
comp=Z,68nm,0.8s,mb5.7
PAL Palisades 67.42 45 *eP* **P 13 14 03.1 -1.5**
comp=Z,68nm,0.8s,mb5.7
MVL Millersville 67.44 47 *eP* **P 13 14 02.9 -1.9**
KECS Kecovo 67.47 336 *eP* **P 13 14 05.7 +0.7**
KECS *e* 13 14 21.6
SIM Simferopol' 67.51 325 *eP* **P 13 14 06.6 +1.3**
SIM pmax pmax
comp=Z,19nm,0.8s,mb5.2
NNT Nongplab 67.56 255 P **P 13 14 06.8 +1.2**
TREC Trest 67.62 340 *eP* **P 13 14 06.2 +0.2**
TZTN Tazewell 67.73 55 *eP* **P 13 14 06.0 -0.7**
FWV Forest Hill 67.90 52 *eP* **P 13 14 06.8 -0.9**
GRF Grafenberg Arr 67.91 343 *eP* **P 13 14 08.3 +0.5**
comp=Z,16nm,0.9s,mb5.0
GRF Grafenberg Arr 67.91 343 *eP* **P 13 14 08.3 +0.5**
GRF pmax pmax
comp=Z,16nm,0.9s,mb5.0
GRF Grafenberg Arr 67.91 343 *eP* **P 13 14 08.3 +0.5**
GRF pmax pmax
comp=Z,16nm,0.9s,mb5.0
SWET Sewanee 67.92 57 *eP* **P 13 14 06.2 -1.7**
KHC Kasperske Hory 68.09 341 *eP* **P 13 14 08.8 -0.2**
KHC PCP PcP 13 14 33.0 -2.0
KHC Kasperske Hory 68.09 341⇓*eP* **P 13 14 09.3 +0.3**
PSZ Piszkesteto 68.13 336 P **P 13 14 10.4 +1.2**
PSZ pmax pmax
comp=Z,16nm,1.0s,mb5.0
PSZ Piszkesteto 68.13 336 *eP* **P 13 14 09.7 +0.5**
comp=Z,16nm,0.9s,mb5.1
HKT Hockley 68.14 68 *eP* **P 13 14 09.2 0.0**
HKT pmax pmax
comp=Z,60nm,1.8s,mb5.3
HKT Hockley 68.14 68 *eP* **P 13 14 09.2 -0.1**
comp=Z,60nm,1.8s,mb5.3
ELN Prospectdale 68.23 52 *eP* **P 13 14 08.2 -1.7**
GIVF Givet 68.33 347 *eP* **P 13 14 10.0 -0.4**
GERES GERESS Array B 68.35 341 P **P 13 14 10.3 -0.3**
comp=Z,4.0nm,0.7s,mb4.6,baz=25,slow=4.4,SNR=20
BLA Blacksburg 68.38 52 *eP* **P 13 14 09.6 -1.1**
BLA pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BLA Blacksburg 68.38 52 *eP* **P 13 14 09.6 -1.1**
comp=Z,8.0nm,0.9s,mb4.8
ZST Bratislava 68.39 338 *eP* **P 13 14 11.9 +1.1**
BAIF Baives 68.44 347 *eP* **P 13 14 10.7 -0.4**
comp=Z,73nm,1.3s,mb5.3
BAIF Baives 68.44 347 *eP* **P 13 14 10.7 -0.4**
BAIF pmax pmax
comp=Z,37nm,1.3s,mb5.2
BAIF Baives 68.44 347 *eP* **P 13 14 10.7 -0.4**
comp=Z,37nm,1.3s,mb5.2
GNI Garni 68.53 315 P **P 13 14 13.9 +2.2**
comp=Z,51nm,1.1s,mb5.4,baz=333,slow=4.8,SNR=14
GNI Garni 68.53 315*c iP* **P 13 14 13.6 +1.9**
GNI pmax pmax
comp=Z,65nm,1.5s
GNI Garni 68.53 315 *eP* **P 13 14 13.4 +1.8**
comp=Z,46nm,1.0s,mb5.4
VRI Vrincioaia 68.58 331 P **P 13 14 13.2 +1.2**
DRGR 68.62 334 P **P 13 14 13.3 +1.1**
CBN Corbin 68.66 49 P **P 13 14 11.2 -1.3**
comp=Z,68nm,0.7s,mb5.7
MLR Muntele Rosu 69.12 331 P **P 13 14 16.6 +1.3**
MOA Molln 69.22 340⇓*iP* **P 13 14 16.7 +0.7**
comp=Z,18nm,1.3s,mb4.8
LRAL Lakeview Retre 69.36 59 *eP* **P 13 14 15.2 -1.6**
comp=Z,28nm,0.7s,mb5.3
VOIR 69.38 332⇑*iP* **P 13 14 18.7 +1.7**
VOIR 69.38 332⇑*P* **P 13 14 18.7 +1.7**
CDF Champ du Feu 69.70 345 *eP* **P 13 14 19.0 0.0**
comp=Z,21nm,0.9s,mb4.7
CDF Champ du Feu 69.70 345 *eP* **P 13 14 19.0 0.0**
CDF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CDF Champ du Feu 69.70 345 *eP* **P 13 14 19.0 0.0**
comp=Z,10nm,0.9s,mb4.8
BZS Buzias 69.97 334⇑*iP* **P 13 14 20.6 0.0**
BZS Buzias 69.97 334 P **P 13 14 21.5 +0.9**
KBA Koelnbreinsper 70.13 340 *iP* **P 13 14 23.1 +1.5**
comp=Z,39nm,1.3s,mb5.2,SNR=13
KBA Koelnbreinsper 70.13 340 *iP* **P 13 14 23.1 +1.5**
KBA pmax pmax
comp=Z,39nm,1.3s,mb5.2
FLN La Foliniere 70.16 350 *eP* **P 13 14 20.7 -1.1**
comp=Z,46nm,0.9s,mb5.1
FLN La Foliniere 70.16 350 *eP* **P 13 14 20.7 -1.1**
FLN pmax pmax
comp=Z,23nm,0.9s,mb5.1
FLN La Foliniere 70.16 350 *eP* **P 13 14 20.7 -1.1**
comp=Z,23nm,0.9s,mb5.1
WTTA Wattenberg 70.22 342⇑*iP* **P 13 14 23.7 +1.5**
comp=Z,15nm,1.0s,mb4.9
WTTA Wattenberg 70.22 342⇑*iP* **P 13 14 23.7 +1.6**
WTTA pmax pmax
comp=Z,15nm,1.0s,mb4.9
HAU Haudompre 70.22 346 *eP* **P 13 14 21.9 -0.2**
PERS Pernice 70.25 339 *eP* **P 13 14 28.0 +5.6**
LDF La Druitiere 70.30 350 *eP* **P 13 14 22.2 -0.4**
comp=Z,35nm,0.8s,mb5.0
LDF La Druitiere 70.30 350 *eP* **P 13 14 22.2 -0.4**
LDF pmax pmax

comp=Z,18nm,0.8s,mb5.0
LDF La Druitiere 70.30 350 *e*P P 13 14 22.2 -0.4
comp=Z,18nm,0.8s,mb5.0
HINF Hinteralfeld 70.34 345 *e*P P 13 14 22.1 -0.8
OBKA Obir 70.48 339 *i* P P 13 14 24.5 +0.8
comp=Z,45nm,0.8s,mb5.4,SNR=11
GRR Gorron 70.56 351 *e*P P 13 14 23.4 -0.8
comp=Z,38nm,0.8s,mb5.1
GRR Gorron 70.56 351 *e*P P 13 14 23.4 -0.8
GRR pmax pmax
comp=Z,19nm,0.8s,mb5.1
GRR Gorron 70.56 351 *e*P P 13 14 23.4 -0.8
comp=Z,19nm,0.8s,mb5.1
JSC Jenkinsville 70.61 54 *e*P P 13 14 23.1 -1.5
ROSF Rostrenen 70.79 352 *e*P P 13 14 25.5 -0.1
comp=Z,374nm,1.7s,mb5.8
ROSF Rostrenen 70.79 352 *e*P P 13 14 25.5 -0.1
ROSF pmax pmax
comp=Z,187nm,1.7s,mb5.7
ROSF Rostrenen 70.79 352 *e*P P 13 14 25.5 -0.1
comp=Z,187nm,1.7s,mb5.7
SGMF Saint Gilles 70.82 352 *e*P P 13 14 25.5 -0.3
ROBS Robic 70.91 340 *e*P P 13 14 26.2 -0.2
DAVOX Davos 70.95 343 P P 13 14 26.8 +0.2
comp=Z,4.3nm,0.7s,mb4.5,baz=267,slow=1.7,SNR=4.6
QUIF Quistinic 71.20 352 *e*P P 13 14 27.3 -0.8
comp=Z,418nm,1.7s,mb5.8
QUIF Quistinic 71.20 352 *e*P P 13 14 27.3 -0.8
QUIF pmax pmax
comp=Z,209nm,1.7s,mb5.8
QUIF Quistinic 71.20 352 *e*P P 13 14 27.3 -0.8
comp=Z,209nm,1.7s,mb5.8
LOR Lormes 71.23 347 *e*P P 13 14 27.5 -0.8
comp=Z,78nm,1.0s,mb5.3
LOR Lormes 71.23 347 *e*P P 13 14 27.5 -0.8
LOR pmax pmax
comp=Z,39nm,1.0s,mb5.3
LOR Lormes 71.23 347 *e*P P 13 14 27.5 -0.8
comp=Z,39nm,1.0s,mb5.3
BOJS Bojanci 71.33 339 *e*P P 13 14 29.5 +0.7
SSF Saint Saulge 71.47 347 *e*P P 13 14 29.1 -0.7
comp=Z,30nm,0.9s,mb4.9
SSF Saint Saulge 71.47 347 *e*P P 13 14 29.1 -0.7
SSF pmax pmax
comp=Z,15nm,0.9s,mb4.9
SSF Saint Saulge 71.47 347 *e*P P 13 14 29.1 -0.7
comp=Z,15nm,0.9s,mb4.9
PMG Port Moresby 71.61 200 P P 13 14 29.2 -1.4
comp=Z,33nm,1.0s,mb5.2,baz=318,slow=4.9,SNR=5.0
PMG Port Moresby 71.61 200 P P 13 14 29.2 -1.4
PMG pmax pmax
comp=Z,33nm,1.0s
PMG Port Moresby 71.61 200 *e*P P 13 14 29.8 -0.8
comp=Z,23nm,0.9s,mb5.1
CABF La Chapelle 71.62 345 *e*P P 13 14 29.9 -0.8
comp=Z,43nm,1.1s,mb5.0
CABF La Chapelle 71.62 345 *e*P P 13 14 29.9 -0.8
CABF pmax pmax
comp=Z,21nm,1.1s,mb5.0
CABF La Chapelle 71.62 345 *e*P P 13 14 29.9 -0.8
comp=Z,21nm,1.1s,mb5.0
COW Cow Castle Cre 71.63 54 *e*P P 13 14 30.0 -0.6
AVF Avril sur Loir 71.76 347 *e*P P 13 14 31.0 -0.5
comp=Z,54nm,1.0s,mb5.2
AVF Avril sur Loir 71.76 347 *e*P P 13 14 31.0 -0.5
AVF pmax pmax
comp=Z,27nm,1.0s,mb5.1
AVF Avril sur Loir 71.76 347 *e*P P 13 14 31.0 -0.5
comp=Z,27nm,1.0s,mb5.1
SMF Signal de Mont 71.85 347 *e*P P 13 14 31.1 -0.9
comp=Z,22nm,0.9s,mb4.8
SMF Signal de Mont 71.85 347 *e*P P 13 14 31.1 -0.9
SMF pmax pmax
comp=Z,11nm,0.9s,mb4.8
SMF Signal de Mont 71.85 347 *e*P P 13 14 31.1 -0.9
comp=Z,11nm,0.9s,mb4.8
BGF Bois d'Agland 72.04 348 *e*P P 13 14 32.5 -0.7
comp=Z,29nm,0.8s,mb5.0
BGF Bois d'Agland 72.04 348 *e*P P 13 14 32.5 -0.7
BGF pmax pmax
comp=Z,15nm,0.8s,mb5.0
BGF Bois d'Agland 72.04 348 *e*P P 13 14 32.5 -0.7
comp=Z,15nm,0.8s,mb5.0
NHSC New Hope 72.07 54 *e*P P 13 14 32.9 -0.4
comp=Z,91nm,0.9s,mb5.7
MFF Saint Martin d 72.28 350 *e*P P 13 14 34.1 -0.5
MALT Malatya 72.28 319 *e*P P 13 14 35.2 +0.6
MALT pmax pmax
comp=Z,26nm,1.2s,mb5.0
MALT Malatya 72.28 319 *e*P P 13 14 35.2 +0.6
comp=Z,26nm,1.2s,mb5.0
TCF Toulx Ste Croi 72.37 348 *e*P P 13 14 34.7 -0.5
comp=Z,30nm,0.9s,mb4.9
TCF Toulx Ste Croi 72.37 348 *e*P P 13 14 34.7 -0.5
TCF pmax pmax
comp=Z,15nm,0.9s,mb4.9
TCF Toulx Ste Croi 72.37 348 *e*P P 13 14 34.7 -0.5
comp=Z,15nm,0.9s,mb4.9
BR131 Keskin Array S 72.46 323 *e*P P 13 14 36.7 +1.0
comp=Z,18nm,1.0s,mb5.0
BRTR Keskin Array B 72.46 323 P P 13 14 36.1 +0.5
comp=Z,12nm,0.9s,mb4.8,baz=44,slow=3.8,SNR=46
BRTR Keskin Array B 72.46 323 P P 13 14 36.1 +0.4
BRTR pmax pmax
comp=Z,12nm,0.9s
ANTO Ankara 72.57 324 ⇓P P 13 14 36.8 +0.5
ANTO Ankara 72.57 324 *e*P P 13 14 37.7 +1.4
comp=Z,37nm,1.3s,mb5.2
LPL La Plagne 72.62 345 *e*P P 13 14 36.5 -0.1
comp=Z,18nm,0.7s,mb4.8
LPL La Plagne 72.62 345 *e*P P 13 14 36.5 -0.1
LPL pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
LPL La Plagne 72.62 345 *e*P P 13 14 36.5 -0.1
comp=Z,8.8nm,0.7s,mb4.8
LPG La Plagne 72.64 345 *e*P P 13 14 36.6 -0.1
comp=Z,48nm,1.1s,mb5.0
LPG La Plagne 72.64 345 *e*P P 13 14 36.6 -0.1
LPG pmax pmax
comp=Z,24nm,1.1s,mb5.0
LPG La Plagne 72.64 345 *e*P P 13 14 36.6 -0.1
comp=Z,24nm,1.1s,mb5.0
BNI Bardonecchia 73.08 345 *e*P P 13 14 40.2 +0.8
BNI pmax pmax
comp=Z,18nm,1.1s,mb4.9
BNI Bardonecchia 73.08 345 *e*P P 13 14 40.2 +0.9
comp=Z,18nm,1.1s,mb4.9
ORIF Oris-en-Rattie 73.31 345 *e*P P 13 14 40.3 -0.5
MBDF Montbardon 73.39 345 *e*P P 13 14 40.8 -0.4
comp=Z,9.0nm,0.6s,mb4.5
MBDF Montbardon 73.39 345 *e*P P 13 14 40.8 -0.4
MBDF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
MBDF Montbardon 73.39 345 *e*P P 13 14 40.8 -0.4
comp=Z,4.5nm,0.6s,mb4.6
RJF Les Rejaudoux 73.42 349 *e*P P 13 14 40.6 -0.7
comp=Z,45nm,1.1s,mb5.0
RJF Les Rejaudoux 73.42 349 *e*P P 13 14 40.6 -0.7
RJF pmax pmax
comp=Z,23nm,1.1s,mb5.0
RJF Les Rejaudoux 73.42 349 *e*P P 13 14 40.6 -0.7
comp=Z,22nm,1.1s,mb5.0
ALN Alexandroupoli 73.42 329 *e*P P 13 14 42.6 +1.2
VIVF Saint-Julien-l 73.52 346 *e*P P 13 14 41.3 -0.7
HYB Hyderabad 73.68 276 *i* P P 13 14 42.0 -0.9
HYB Hyderabad 73.68 276 *e*P P 13 14 43.0 +0.1
CAF Calviac 73.74 348 *e*P P 13 14 42.6 -0.6
comp=Z,47nm,1.1s,mb5.0
CAF Calviac 73.74 348 *e*P P 13 14 42.6 -0.6
CAF pmax pmax
comp=Z,23nm,1.1s,mb5.0
CAF Calviac 73.74 348 *e*P P 13 14 42.6 -0.6
comp=Z,23nm,1.1s,mb5.0
LFF La Frestale 73.85 349 *e*P P 13 14 43.5 -0.4
comp=Z,46nm,0.9s,mb5.1
LFF La Frestale 73.85 349 *e*P P 13 14 43.5 -0.4
LFF pmax pmax
comp=Z,23nm,0.9s,mb5.1
LFF La Frestale 73.85 349 *e*P P 13 14 43.5 -0.4
comp=Z,23nm,0.9s,mb5.1
VAY Valandovo 73.85 332 *e*P P 13 14 44.1 +0.2
KNT Kendrikon 73.93 332 *e*P P 13 14 45.3 +0.9
SOH Sokhos 74.15 331 *e*P P 13 14 46.9 +1.3
SBF Sospel 74.15 344 *e*P P 13 14 45.0 -0.7
GRG Griva 74.24 332 *e*P P 13 14 46.6 +0.5
SMRF Simiane la Rot 74.28 345 *e*P P 13 14 45.7 -0.7
LASF Ste Croix 74.39 347 *e*P P 13 14 46.6 -0.4
LMR La Mourre 74.79 345 *e*P P 13 14 49.0 -0.4
PGF Pioggiola 75.22 343 *e*P P 13 14 51.3 -0.6
comp=Z,53nm,1.4s,mb5.0
PGF Pioggiola 75.22 343 *e*P P 13 14 51.3 -0.6
PGF pmax pmax
comp=Z,27nm,1.4s,mb5.0
PGF Pioggiola 75.22 343 *e*P P 13 14 51.3 -0.6
comp=Z,27nm,1.4s,mb5.0
MTLF Montolieu 75.29 348 *e*P P 13 14 51.8 -0.5
comp=Z,43nm,1.2s,mb5.0
MTLF Montolieu 75.29 348 *e*P P 13 14 51.8 -0.5
MTLF pmax pmax
comp=Z,22nm,1.2s,mb5.0
MTLF Montolieu 75.29 348 *e*P P 13 14 51.8 -0.5
comp=Z,22nm,1.2s,mb5.0
XOR Xorichti 75.57 331 *e*P P 13 14 53.9 +0.1
EPF Esparros 75.78 349 *e*P P 13 14 54.5 -0.6
comp=Z,63nm,1.2s,mb5.1
EPF Esparros 75.78 349 *e*P P 13 14 54.5 -0.6
EPF pmax pmax
comp=Z,31nm,1.2s,mb5.1
EPF Esparros 75.78 349 *e*P P 13 14 54.5 -0.6
comp=Z,31nm,1.2s,mb5.1
DWPF Disney 75.97 57 *e*P P 13 14 55.9 -0.3
comp=Z,58nm,1.0s,mb5.5
LKD Levkas 76.78 333 *e*P P 13 15 00.5 -0.3
MIB Mutribah 76.83 308 *e*P P 13 15 00.8 -0.2
MIB AMb AMB 13 15 04.1
comp=Z,109nm,0.8s,mb5.8
TIP Timpagrande 77.15 336 *e*P P 13 15 03.1 +0.3
KBD Kabd 77.25 308 *e*P P 13 15 03.0 -0.4
NAY Al-Naaiem 77.36 308 *e*P P 13 15 03.9 -0.2
NAY AMb AMB 13 15 06.1
comp=Z,46nm,1.0s,mb5.4
RDF Al-Radifah 77.53 308 *e*P P 13 15 05.1 +0.2
RDF AMb AMB 13 15 08.3
comp=Z,116nm,0.7s,mb5.9
QRN Al-Qurain 77.55 307 *e*P P 13 15 05.1 0.0
QRN AMb AMB 13 15 08.1
comp=Z,96nm,1.0s,mb5.7
WSAR Wadi Sarin 77.97 296 P P 13 15 06.8 -0.6
comp=Z,9.8nm,0.9s,mb4.7,baz=152,slow=3.6,SNR=7.5
KAKA Kakadu 78.03 213 *e*P P 13 15 06.4 -1.3
comp=Z,49nm,1.1s,mb5.3
BBSR BB Station 78.34 42 *e*P P 13 15 08.8 -0.7
comp=Z,73nm,0.9s,mb5.6
ARQ Araqi 78.80 298 ⇑P P 13 15 06.4 -5.6
SNR=6.8
ESDC Sonseca Array 79.46 352 P P 13 15 16.1 +0.5
comp=Z,10.0nm,0.8s,mb4.8,baz=3.6,slow=5.8,SNR=24
EVO Evora 80.82 355 *e*P P 13 15 22.3 -0.6
comp=Z,18nm,0.7s,mb4.8
EIL Elat 81.35 318 *e*P P 13 15 26.6 +0.8
comp=Z,376nm,1.4s,mb6.1
CTA Charters Tower 82.23 199 ⇑ *i*P P 13 15 29.1 -1.3
comp=Z,22nm,1.0s,mb5.0
CTA Charters Tower 82.23 199 P P 13 15 29.4 -1.1
comp=Z,31nm,1.0s,mb5.2,baz=359,slow=4.6,SNR=14
CTA Charters Tower 82.23 199 ⇑*i*P P 13 15 29.1 -1.3
CTA pmax pmax
comp=Z,22nm,1.0s
CTAO Charters Tower 82.23 199 P P 13 15 29.3 -1.1
CTAO pmax pmax
comp=Z,33nm,1.0s,mb5.2
CTAO Charters Tower 82.23 199 *e*P P 13 15 28.9 -1.5
comp=Z,33nm,1.0s,mb5.2
DZM Mont Dzumac 82.65 180 P P 13 15 32.7 +0.1
comp=Z,22nm,1.1s,mb5.1,baz=51,slow=4.2,SNR=5.1
WRAB Tennant Creek 84.46 210 P P 13 15 40.6 -1.3
comp=Z,215nm,0.8s,mb6.3,SNR=13
WRAB Tennant Creek 84.46 210c *i*P P 13 15 40.5 -1.4
WB2 Warramunga Arr 84.47 210 ⇑*i*P P 13 15 40.5 -1.5
WRA Warramunga Arr 84.47 210 P P 13 15 40.6 -1.4
comp=Z,24nm,0.8s,mb5.4,baz=15,slow=5.5,SNR=108
WRA PKKPbc PKKPbc 13 33 52.5 -0.5
comp=Z,1.4nm,1.0s,baz=225,slow=1.6,SNR=5.4
WRA PKPPKP 13 42 00.0
comp=Z,1.3nm,0.9s,baz=205,slow=2.1,SNR=4.6
WHFO Wadi Hawf 84.77 298 ⇓P P 13 15 42.1 -1.4
SNR=15
FITZ Fitzroy Crossi 85.09 218 *e*P P 13 15 43.8 -1.3
comp=Z,54nm,0.9s,mb5.7
FITZ Fitzroy Crossi 85.09 218 P P 13 15 43.6 -1.5
comp=Z,34nm,0.9s,mb5.5,baz=14,slow=7.1,SNR=27
ABTO Aybut 85.48 298 ⇓P P 13 15 47.7 +0.6
SNR=9.6
ASAR Alice Springs 88.16 209 P P 13 15 58.7 -1.4
comp=Z,5.3nm,0.8s,mb4.8,baz=12,slow=4.4,SNR=64
ASAR Alice Springs 88.16 209 P P 13 15 58.7 -1.4
ASAR pmax pmax
comp=Z,5.0nm,0.8s
MBWA Marble Bar 89.82 222 *e*P P 13 16 06.2 -1.7
comp=Z,19nm,0.8s,mb5.5
CPD Cerro la Pandu 91.10 48 P P 13 16 14.7 +0.8
CPD Cerro la Pandu 91.10 48 *e*P P 13 16 14.1 +0.3
MTP Monte Pirata 91.18 48 *e*P P 13 16 14.6 +0.4
STKA Stephens Creek 94.54 201 P P 13 16 26.9 -2.9
comp=Z,5.7nm,0.8s,mb5.0,baz=357,slow=5.9,SNR=11
STKA Stephens Creek 94.54 201 *e*P P 13 16 26.4 -3.3
comp=Z,7.3nm,1.5s,mb4.9
STKA *i* 13 30 46.1
TORD Torodi Ar. Bea 105.15 344 Pdiff Pdif 13 17 16.6 -0.7
comp=Z,0.6nm,0.6s,baz=337,slow=6.8,SNR=4.3
TORD PP PP 13 21 39.4 +1.3
comp=Z,2.0nm,0.9s,baz=357,slow=8.0,SNR=6.6
TORD PKKPab PKKPab 13 33 15.8 +0.2
comp=Z,4.2nm,1.0s,baz=200,slow=3.2,SNR=5.3
LPAZ La Paz 121.26 65 PKP PKPdf 13 22 02.0 -0.3
comp=Z,2.2nm,0.8s,baz=43,slow=6.0,SNR=10
LPAZ PP PP 13 23 33.7 +1.0
comp=Z,1.8nm,0.8s,baz=330,slow=7.6,SNR=4.7
LPAZ La Paz 121.26 65 PKIKP PKPdf 13 22 02.0 -0.3
LPAZ 13 23 33.7
LPAZ pmax pmax
comp=Z,2.0nm,0.8s
LPAZ pmax pmax
comp=Z,2.0nm,0.9s
SIV San Ignacio 124.03 58 PKP PKPdf 13 22 06.9 -0.7
comp=Z,10nm,0.9s,baz=325,slow=0.8,SNR=23
SIV PP PP 13 23 50.4 -1.1
comp=Z,1.6nm,0.9s,baz=336,slow=9.8,SNR=3.8
LVC Limon Verde 126.43 70 PKP PKPdf 13 22 12.0 -0.2
comp=Z,5.2nm,0.8s,baz=251,slow=0.6,SNR=8.6
LVC Limon Verde 126.43 70 PKPdf PKPdf 13 22 11.5 -0.6
BDFB Brasilia 128.66 44 PKP PKPdf 13 22 15.8 -0.6
comp=Z,14nm,0.9s,baz=354,slow=2.4,SNR=12
BDFB Brasilia 128.66 44 PKIKP PKPdf 13 22 15.8 -0.6
BDFB pmax pmax
comp=Z,14nm,0.9s
CFAA Coronel Fontan 134.37 75 PKP PKPdf 13 22 26.4 -0.8
comp=Z,0.5nm,0.7s,baz=274,slow=2.0,SNR=6.0
CPUP Villa Florida 134.79 60 PKP PKPdf 13 22 26.9 -1.1
comp=Z,2.9nm,0.6s,baz=248,slow=3.4,SNR=9.1
CPUP Villa Florida 134.79 60 PKIKP PKPdf 13 22 27.0 -1.0
CPUP pmax pmax
comp=Z,3.0nm,0.6s
VNDA Vanda 138.17 181 PKhKP 13 22 22.5
comp=Z,1.6nm,0.8s,baz=298,slow=2.4,SNR=7.1
VNDA PKP PKPdf 13 22 31.8 -2.5
comp=Z,2.0nm,0.7s,baz=326,slow=4.9,SNR=7.1
VNDA Vanda 138.17 181 *i* PKHKP 13 22 22.5
VNDA 13 22 31.8
VNDA pmax pmax
comp=Z,2.0nm,0.8s
VNDA pmax pmax
comp=Z,2.0nm,0.7s
PLCA Paso Flores 140.56 86 PKhKP 13 22 30.0
comp=Z,2.8nm,0.9s,baz=218,slow=3.0,SNR=3.0
PLCA PKP PKPdf 13 22 39.2 +0.6
comp=Z,8.0nm,1.0s,baz=210,slow=1.4,SNR=9.4
PLCA Paso Flores 140.56 86 *i* PKHKP 13 22 30.0
PLCA pmax pmax
comp=Z,3.0nm,0.9s
PLCA Paso Flores 140.56 86 PKP 13 22 30.0
PLCA PKP PKPdf 13 22 39.2 +0.5
SUR Sutherland 143.55 305 PKP PKPdf 13 22 43.4 -0.6
comp=Z,14nm,0.9s,baz=155,slow=1.1,SNR=5.8
MAW Mawson 147.99 225 *e*P PKPdf 13 22 52.0 +0.5
comp=Z,21nm,0.9s
MAW Mawson 147.99 225 PKPbc PKPbc 13 22 52.9 -1.7
comp=Z,30nm,1.0s,baz=340,slow=3.1,SNR=22
QSPA South Pole Qui 150.65 180 ⇑*i*P PKPdf 13 22 58.5 +2.7
USHA Ushuaia 151.20 103 PKPbc PKPbc 13 23 00.6 -2.0
comp=Z,18nm,0.9s,baz=284,slow=4.2,SNR=9.6
SNAA Sanae 168.29 198 PKPab PKPab 13 24 21.0 -3.5
comp=Z,2.9nm,1.0s,baz=113,slow=2.5,SNR=13
SNAA Sanae 168.29 198 *e* PKPab 13 24 21.2 -3.2

BJI **22** *13:07:59.1,54.14N×158.92E,h206km,mB6.3,mb6.3*
BGS **22** *13:07:59.8±1.1,5401N×159.39E,h190km,mb6.1*
MOS **22** *13:08:00.6±0.9,5426N×158.45E,h189km,mb6.3/128, MS5.3/15,Error ellipse: s-maj=6.2km s-min=3.2km az=98.1*
MOS Felt (III) at Petropavlovsk-Kamchatskiy.
ISCJB **22** *13:08:00.7±0.1,5430N±002×15842E±002,h188km, mb6.2/419,Error ellipse: s-maj=2.3km s-min=1.7km az=121.2*
NIC **22** *13:08:00.1±0.8,5435N×15846E,h186km,Earthquake Kamchatka Peninsula , Russia 17 km E Sharomy.*
CRAAG **22** *13:08:00.1,5435N×15846E,Mb6.1*
KRSC **22** *13:08:00.5±0.9,5413N×15881E,h213km±2km,ML6.0*
HRVD **22** *13:08:01.7±0.1,5419N×15887E,h198km,MW6.2/112, Centroid moment Tensor Solution. LP body waves: s103,c192;Mantle waves: s112,c385; Half duration: 3s0 Moment tensor: Scale 10¹⁸Nm; Mrr-1.24±.02; Mθθ 1.05±.02; Mϕϕ 0.19±.02; Mrθ-1.25±.02; Mϕθ 0.50±.02; Mϕr-1.68±.02; Best double couple: M○2.43900×10¹⁸ NP1:ϕs262.00000°,δ19.00000°,λ-51.00000°. NP2: ϕs42.00000°,δ75.00000°,λ-102.00000°. Principal axes: T 2.3480, Plg29.0000°, Azm142.0000°; N 0.1870, Plg12.0000°, Azm45.0000°; P -2.5300, Plg58.0000°, Azm295.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC **22** *13:08:03.0±0.1,5427N×15845E,h197km,mb6.2/230, ME6.1,MW6.2 Error ellipse: s-maj=2.6km s-min=1.8km az=3.0,Moment Tensor Solution. s11 Moment tensor: Scale 10¹⁸Nm; Mrr-1.69; Mθθ 0.91; Mϕϕ 0.79; Mrθ-0.92; Mϕθ 2.21; Mϕr-1.32; Best double couple: M○2.90000×10¹⁸ NP1:ϕs31.00000°,δ64.00000°,λ-109.00000°. NP2: ϕs249.00000°,δ32.00000°,λ-57.00000°. Principal axes: T 3.5400, Plg17.0000°, Azm135.0000°; N -1.2700, Plg17.0000°, Azm39.0000°; P -2.2700, Plg66.0000°, Azm267.0000°; Broadband fault plane solution: P waves. NP1:ϕs259.00000°,δ18.00000°,λ-57.00000°. NP2: ϕs45.00000°,δ75.00000°,λ-100.00000°. Principal axes: T Plg29.0000°, Azm143.0000°; N Plg0.0000°, Azm0.0000°; P Plg59.0000°, Azm301.0000°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Power and water services interrupted at Tilichiki. Felt [III] at Petropavlovsk-Kamchatskiy.
IDC **22** *13:08:02.5±0.3,5432N×15848E,h193km±2km, mb5.7/37, mb1 5.7/39,mb1mx5.7/39,mbtmp6.2/39 Error ellipse: s-maj=7.5km s-min=4.7km az=127.0*
SZGRF **22** *13:08:06.0,5454N×15805E,h210km,mb6.9,Kamchatka Peninsula, Russia*

ISC 22 13:08:02.2±0.1,5433N±002×15841E±002,h190km, h190km±.8km:pP-P,n1543,○0?82/1536,mb6.2/419, 49C-666D,Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KII	**Karymskiy**	**0.68**	**116**	P	**Pn**	**13 08 28.7**	**-0.2**
KII	**Karymskiy**	**0.68**	**116**	*i* P	**Pn**	**13 08 28.4**	**-0.5**
GNL	**Ganaly**	**0.70**	**204**	*i* P	**Pn**	**13 08 29.8**	**+0.8**
KOK	**Koryaka**	**1.05**	**173**	*i* P	**Pn**	**13 08 31.0**	**-0.2**
AVH	**Avacha**	**1.09**	**170**	*i* P	**Pn**	**13 08 31.1**	**-0.4**
SDLR	**Sedlovina**	**1.09**	**165**	*i* P	**Pn**	**13 08 30.9**	**-0.6**
SMAR	**Somma**	**1.10**	**168**	*i* P	**Pn**	**13 08 31.3**	**-0.3**
UGLR	**Uglovaya**	**1.15**	**168**	*i* P	**Pn**	**13 08 31.6**	**-0.4**
NLC	**Nalytchevo**	**1.29**	**154**	*i* P	**Pn**	**13 08 31.4**	**-1.7**
PET	**Petropavlovsk**	**1.32**	**174**	P	**Pn**	**13 08 32.6**	**-0.8**
PET	**Petropavlovsk**	**1.32**	**174**	⇓*i*PN	**Pn**	**13 08 32.4**	**-1.0**
PET				*i* S	**Sn**	**13 08 56.3**	**-1.2**
PET				pmax	pmax		
	comp=Z,478μm,1.2s						
PET				pmax	pmax		
	comp=E,41μm,0.8s						
PET				pmax	pmax		
	comp=Z,293μm,0.9s						
PET				pmax	pmax		
	comp=N,138μm,0.8s						
PET				pmax	pmax		
	comp=Z,106μm,12.7s						
PET				smax			
	comp=N,725μm,4.8s						
PET				smax			
	comp=E,444μm,1.8s						
PET				smax			
	comp=N,170μm,1.3s						
PET				smax			
	comp=E,152μm,1.2s						
PET	**Petropavlovsk**	**1.32**	**174**	⇓*e*P	**Pn**	**13 08 32.5**	**-0.9**
PET	**Petropavlovsk**	**1.32**	**174**	*i* P	**Pn**	**13 08 32.5**	**-0.9**
TUMR	**Tumrok**	**1.38**	**46**	*i* P	**Pn**	**13 08 34.7**	**+0.8**
KRMR	**Karymshinskiy**	**1.52**	**187**	*i* P	**Pn**	**13 08 34.8**	**-0.3**
KRMR				*i* S	**Sn**	**13 08 59.6**	**-1.0**
SPN	**Mys Shipunski**	**1.56**	**142**	P	**Pn**	**13 08 32.3**	**-3.2**
SPN	**Mys Shipunski**	**1.56**	**142**	*i* P	**Pn**	**13 08 33.4**	**-2.1**
ESO	**Esso**	**1.60**	**6**	*i* P	**Pn**	**13 08 37.9**	**+2.0**
ESO				*i* S	**Sn**	**13 09 05.9**	**+3.8**
ESO				Smax			
	comp=E,67μm,1.3s						
KMNR	**Kamenistaya**	**1.77**	**36**	*i* P	**Pn**	**13 08 38.8**	**+1.2**
GRL	**Gorelyy**	**1.80**	**187**	*i* P	**Pn**	**13 08 37.8**	**0.0**
RUS	**Russkaya**	**1.90**	**178**	P	**Pn**	**13 08 36.9**	**-2.0**
RUS	**Russkaya**	**1.90**	**178**	*i* P	**Pn**	**13 08 37.1**	**-1.8**
KOZ	**Kozyrevsk**	**1.92**	**25**	*i* P	**Pn**	**13 08 40.4**	**+1.3**
KPT	**Kopyto**	**1.94**	**32**	*i* P	**Pn**	**13 08 40.2**	**+0.9**
MKZ	**Mys Kozlova**	**1.95**	**82**	P	**Pn**	**13 08 36.8**	**-2.6**
MKZ	**Mys Kozlova**	**1.95**	**82**	*i* P	**Pn**	**13 08 37.5**	**-1.9**
SRDR	**Sredinnyy**	**2.12**	**20**	*i* P	**Pn**	**13 08 42.5**	**+1.3**
ZLN	**Zelenaya**	**2.17**	**38**	*i* P	**Pn**	**13 08 42.9**	**+1.1**
LGNR	**Loginova**	**2.19**	**36**	*i* P	**Pn**	**13 08 43.6**	**+1.7**
CIRR	**Tsirk**	**2.23**	**36**	*i* P	**Pn**	**13 08 43.8**	**+1.4**
KRSR	**Krestovskiy**	**2.25**	**32**	*i* P	**Pn**	**13 08 43.5**	**+0.8**
MIPR	**Malaya Ipel'ka**	**2.29**	**206**	*i* P	**Pn**	**13 08 43.4**	**+0.4**
KLY	**Klyuchi**	**2.36**	**32**	P	**Pn**	**13 08 45.6**	**+1.8**
KLY	**Klyuchi**	**2.36**	**32**	*i* P	**Pn**	**13 08 45.7**	**+1.9**
BDR	**Baidarnaya**	**2.75**	**34**	*i* P	**Pn**	**13 08 50.0**	**+1.7**
SRKR	**Sorokina**	**2.81**	**33**	*i* P	**Pn**	**13 08 50.1**	**+1.2**
SMKR	**Semkarok**	**2.85**	**36**	*i* P	**Pn**	**13 08 50.0**	**+0.6**
PAU	**Pauzhetka**	**3.03**	**199**	*i* P	**Pn**	**13 08 52.3**	**+0.7**
PAU				Smax			
	comp=E,26μm,1.4s						
KBG	**Krutoberegovo**	**3.12**	**50**	*i* P	**Pn**	**13 08 51.8**	**-0.9**
KBG				*i* S	**Sn**	**13 09 29.8**	**-2.3**
KBG				Smax			
	comp=E,220μm,0.6s						
KBTR	**Krutoberegovo**	**3.14**	**51**	P	**Pn**	**13 08 51.5**	**-1.5**
KBTR	**Krutoberegovo**	**3.14**	**51**	*i* P	**Pn**	**13 08 51.7**	**-1.3**
SKR	**Severo-Kuril's**	**3.92**	**202**α	*i* PN	**Pn**	**13 08 57.9**	**-4.6**
SKR				pmax	pmax		
	comp=Z,3μm,0.7s						
SKR				pmax	pmax		
	comp=N,3μm,1.0s						
SKR				pmax	pmax		
	comp=E,1μm,1.0s						
SKR				pmax	pmax		
	comp=N,22μm,2.0s						
SKR				pmax	pmax		
	comp=E,18μm,2.0s						
SKR				pmax	pmax		
	comp=Z,32μm,2.0s						
BKI	**Bering**	**4.46**	**76**	*i* P	**Pn**	**13 09 05.7**	**-3.7**
BKI				*i* S	**Sn**	**13 09 52.4**	**-10**
BKI				Smax			
	comp=Z,119μm,0.5s						
OSSR	**Ossora**	**5.55**	**25**	P	**Pn**	**13 09 23.2**	**-0.2**
FX1	**Attu Island--F**	**8.89**	**93**	P	**Pn**	**13 10 05.9**	**-1.1**
	comp=Z,324nm,0.3s,baz=285,slow=6.1,SNR=283						
FX1				S	**Sn**	**13 11 40.5**	**-6.0**
FX1	**Attu Island--F**	**8.89**	**93**	⇑*e*Pn	**Pn**	**13 10 05.5**	**-1.6**
FX1				*e*Sn	**Sn**	**13 11 40.0**	**-6.5**
KAMR	**Kamenskoye**	**9.11**	**23**	*i* P	**Pn**	**13 10 12.4**	**+2.5**
OKH	**Okha**	**9.17**	**271**	*i* PN	**Pn**	**13 10 11.6**	**+1.0**
SMY	**Shemya**	**9.48**	**93**	⇑*e*P	**Pn**	**13 10 12.5**	**-2.2**
SMY				*e*Sn	**Sn**	**13 11 49.6**	**-11**
KUR	**Kuril'sk**	**11.36**	**221**κ	*i* PN	**Pn**	**13 10 36.0**	**-3.1**
KUR				*e*S	**Sn**	**13 12 41.0**	**-4.5**
KUR				pmax	pmax		
	comp=N,5μm,1.6s						

KUR pmax pmax
comp=E,8μm,1.6s
KUR pmax pmax
comp=Z,8μm,1.6s
KUR pmax pmax
comp=N,640nm,1.2s
KUR pmax pmax
comp=E,790nm,1.2s
KUR pmax pmax
comp=Z,3μm,1.2s
KUR smax
comp=N,2μm,0.8s
KUR smax
comp=E,590nm,0.8s
KUR MLR MLR
comp=N,40μm,12.0s
KUR MLR MLR
comp=E,21μm,12.0s
KUR MLR MLR
comp=Z,34μm,12.0s
UGL Uglegorsk 11.42 249⇓ *i*PN **Pn 13 10 45.0 +5.2**
UGL pmax pmax
comp=N,578nm,0.8s
UGL pmax pmax
comp=E,482nm,0.8s
UGL pmax pmax
comp=Z,3μm,0.8s
UGL pmax pmax
comp=E,18μm,4.0s
UGL pmax pmax
comp=Z,23μm,4.0s
UGL pmax pmax
comp=N,9μm,5.0s
UGL MLR MLR
comp=N,23μm,12.0s
UGL MLR MLR
comp=E,13μm,12.0s
UGL MLR MLR
comp=Z,15μm,12.0s
YSS Yuzh-Sakhalins 12.36 240κ *i*PN **Pn 13 10 55.5 +3.6**
YSS *i* S **Sn 13 13 11.0 +1.6**
YSS pmax pmax
comp=N,970nm,1.1s
YSS pmax pmax
comp=Z,3μm,1.1s
YSS smax
comp=N,29μm,11.0s
YSS smax
comp=E,26μm,10.0s
YSS MLR MLR
comp=N,9μm,12.0s
YSS MLR MLR
comp=Z,13μm,12.0s
YSS Yuzh-Sakhalins 12.36 240⇓ *e*P **Pn 13 10 54.6 +2.8**
YSS *e*Sn **Sn 13 13 10.3 +0.9**
YUK Yuzh-Kuril'sk 13.15 224 PN **Pn 13 11 00.5 -1.3**
YUK *i* S **Sn 13 13 21.2 -7.1**
YUK pmax pmax
comp=N,4μm,0.5s
YUK pmax pmax
comp=E,3μm,0.5s
YUK pmax pmax
comp=Z,6μm,0.5s
YUK pmax pmax
comp=Z,8μm,1.0s
YUK pmax pmax
comp=N,6μm,1.3s
YUK pmax pmax
comp=E,6μm,0.7s
YUK smax
comp=N,8μm,1.2s
YUK smax
comp=E,8μm,1.6s
YUK smax
comp=N,8μm,1.0s
YUK smax
comp=E,3μm,0.5s
BILL Bilibino 14.24 12*d**e*P **Pn 13 11 16.7 +1.3**
BILL *e*S **Sn 13 13 54.1 -0.3**
BILL pmax pmax
comp=Z,1μm,1.3s
BILL MLR MLR
comp=Z,4μm,13.0s
ASAJ Asahikawa 14.50 232 P **Pn 13 11 19.7 +1.1**
comp=Z,36nm,0.3s,baz=43,slow=7.3,SNR=79
ASAJ ScP ScP 13 19 35.3 +0.6
comp=Z,1.5nm,0.3s,baz=278,slow=6.2,SNR=13
HABR Khabarovsk 15.68 258⇓ *i*P **Pn 13 11 36.5 +3.5**
HABR pmax pmax
comp=Z,6μm,1.0s
ERM Erimo 15.94 226 Pn **Pn 13 11 35.1 -1.0**
comp=Z,14μm,0.5s,SNR=44
YAK Yakutsk 16.88 309 *e*P **Pn 13 11 48.4 +1.0**
YAK *e*S **S 13 14 56.5 +4.0**
YAK pmax pmax
comp=Z,3μm,1.1s
YAK pmax pmax
comp=N,1μm,1.5s
YAK pmax pmax
comp=E,3μm,1.6s
YAK smax
comp=N,1μm,2.1s
YAK smax
comp=Z,298nm,1.2s
YAK smax
comp=E,975nm,1.5s
YAK Yakutsk 16.88 309⇓ *i*P **Pn 13 11 47.5 +0.2**
KLR Kul'dur 17.22 264⇑ *i*P **Pn 13 11 49.4 -2.0**
CLNS Chul'man 19.00 291 *e*P **P 13 12 11.8 +2.4**
CLNS *e*S **S 13 15 37.4 +2.5**
CLNS pmax pmax
comp=Z,4μm,1.4s
CLNS pmax pmax
comp=N,1μm,0.8s
CLNS pmax pmax
comp=E,3μm,1.3s
CLNS smax
comp=N,442nm,1.0s
CLNS smax
comp=E,467nm,1.0s
CLNS smax
comp=Z,259nm,1.0s
CLNS MLR MLR
comp=N,2μm,13.0s
CLNS MLR MLR
comp=E,5μm,13.0s
CLNS MLR MLR
comp=Z,6μm,13.0s
NRGR Nerungri 19.12 291 *e*P **P 13 12 13.3 +2.6**
VLA Vladivostok 20.65 248*c i*P **P 13 12 25.0 -2.1**
AKUT Akutan 20.80 76⇑ *e*P **P 13 12 27.2 -1.4**
comp=Z,1μm,0.6s
AKUT *e*pP 13 13 00.8
AKUT *e*sP sP 13 13 24.7 -0.1
AKUT *e*S **S 13 16 11.2 +1.3**
MDJ Mudanjiang 20.96 254 P **P 13 12 29.6 -0.8**
MDJ S **S 13 16 11.3 -1.8**
MDJ PCP PcP 13 16 29.0 -0.7
MDJ SCP ScP 13 19 48.5 +0.1
MDJ PCS PcS 13 20 07.5 -0.3
MDJ AMB AMB
comp=Z,1μm,0.9s
MDJ AMB AMB
comp=Z,8μm,7.3s
MDJ LR LR
comp=N,2μm,17.9s
MDJ LR LR
comp=E,4μm,15.7s
MDJ LR LR
comp=Z,5μm,15.7s
MDJ Mudanjiang 20.96 254 P **P 13 12 29.9 -0.5**
MDJ pP 13 13 09.5
MDJ ScP ScP 13 19 48.3 0.0
MDJ ScS ScS 13 23 32.5 +0.4
MDJ Mudanjiang 20.96 254⇓ *e*P **P 13 12 29.7 -0.7**
comp=Z,1μm,0.9s
MDJ *e*pP 13 13 06.3
MDJ *e*sP sP 13 13 30.0 +3.4
TIXI Tiksi 21.54 335 *e*P **P 13 12 33.7 -2.7**
TIXI *e**PP 13 13 08.3
TIXI *e*S **S 13 16 18.6 -3.8**
TIXI *e* 13 16 26.7
TIXI *e**SS sS 13 17 18.6 -0.8
TIXI pmax pmax
comp=Z,795nm,1.4s,mb6.0
TIXI pmax pmax
comp=N,739nm,2.3s
TIXI pmax pmax
comp=E,666nm,1.6s
TIXI pmax pmax
comp=Z,14μm,2.6s,mb6.9
TIXI smax
comp=N,7μm,9.6s
TIXI smax
comp=E,11μm,15.2s
TIXI MLR MLR
comp=Z,7μm,17.0s
MAJO Matsushiro 22.61 226 P **P 13 12 46.5 -0.1**
MAJO S **S 13 16 38.8 -1.1**
MAJO ScP ScP 13 19 51.7 -0.8
MAJO ScS ScS 13 23 35.9 -2.3
MAJO Matsushiro 22.61 226⇓ *e*P **P 13 12 46.6 -0.1**
MAJO pmax pmax
comp=Z,3μm,0.8s,mb6.8
MAJO Matsushiro 22.61 226⇓ *e*P **P 13 12 46.6 -0.1**
MAT Matsushiro 22.61 226 P **P 13 12 46.4 -0.3**
MAT S **S 13 16 39.8 -0.1**
MAT Matsushiro 22.61 226 *e*P **P 13 12 46.0 -0.7**
MAT *e*S **S 13 16 40.0 +0.1**
MAT pmax pmax
comp=Z,4μm,1.8s,mb6.6
MAT Matsushiro 22.61 226 *e*P **P 13 12 46.0 -0.7**
comp=Z,4μm,1.8s,mb6.6
MAT *e*S **S 13 16 40.0 +0.1**
MJAR Matsushiro Arr 22.61 226 P **P 13 12 46.9 +0.2**
comp=Z,1μm,0.8s,mb6.3,baz=12,slow=9.8,SNR=362
MJAR PcP PcP 13 16 32.9 -0.1
comp=Z,51nm,0.9s,baz=51,slow=1.1,SNR=4.2
MJAR ScP ScP 13 19 52.4 -0.1
comp=Z,28nm,0.9s,baz=359,slow=1.1,SNR=12
MJAR P3KPbc 13 46 18.0
comp=Z,2.5nm,0.9s,baz=205,slow=4.1,SNR=5.9
MJAR Matsushiro Arr 22.61 226 P **P 13 12 46.9 +0.2**
MJAR 13 16 32.9
MJAR Matsushiro Arr 22.61 226 P **P 13 12 46.9 +0.2**
MJAR PcP PcP 13 16 32.9 -0.1
MJAR ScP ScP 13 19 52.4 -0.1
SDPT Sand Point 23.46 71 *e*P **P 13 12 52.1 -2.3**
comp=Z,476nm,0.8s,mb6.0
HIA Hailar 24.22 274*d i*P **P 13 13 01.1 -0.3**
HIA Hailar 24.22 274⇓ *e*P **P 13 13 00.6 -0.7**
BOD Bodaibo 24.69 296⇑ *i*P **P 13 13 06.0 +0.4**
BOD pmax pmax
comp=Z,2μm,1.5s,mb6.3
JHJ Hachijo jima 2 24.97 219 P **P 13 13 08.0 -0.2**
comp=Z,1μm,0.8s,mb6.5,baz=149,slow=5.6,SNR=42
SVW2 Sparrevohn 25.03 56 *e*P **P 13 13 08.2 -0.5**
SNY Shenyang 26.13 256 ⇓P **P 13 13 18.4 -0.2**
SNY AP pP 13 14 01.0 +4.0
SNY XP sP 13 14 19.8 +0.7
SNY S **S 13 17 33.5 -2.4**
SNY XS sS 13 18 44.3 -0.4
SNY AMB AMB
comp=Z,1μm,1.4s,mb6.3
SNY LR LR
comp=N,6μm,9.3s
SNY LR LR
comp=E,11μm,12.6s
SNY LR LR
comp=Z,10μm,13.8s
CIT Chita 26.65 284 *e*P **P 13 13 23.6 +0.4**
CIT *e* pP 13 14 06.1 +4.4
CIT pmax pmax
comp=Z,1μm,2.4s,mb6.1
KS15 Wonju Array Si 26.85 244 *e*P **P 13 13 25.4 +0.4**
KS15 *e*PcP PcP 13 16 43.0 +0.6
KS15 *e*ScP ScP 13 20 05.3 +0.9
KDAK Kodiak Island 27.09 63 P **P 13 13 25.6 -1.6**
comp=Z,1μm,0.8s,mb6.5,SNR=38
KDAK Kodiak Island 27.09 63 P **P 13 13 25.8 -1.4**
comp=Z,90nm,0.6s,mb5.6,baz=305,slow=4.5,SNR=70
KDAK S **S 13 17 48.0 -3.1**
comp=Z,94nm,0.9s,baz=230,slow=17,SNR=6.0
KDAK ScP ScP 13 20 03.9 -1.3
comp=Z,52nm,0.8s,baz=203,slow=4.5,SNR=6.1
INCN Inchon 27.48 245⇓ *e*P **P 13 13 30.4 -0.2**
comp=Z,465nm,0.9s,mb6.1
INCN *e*ScP ScP 13 20 06.3 0.0
PMR Palmer 28.05 54 *e*P **P 13 13 33.7 -2.0**
PMR pmax pmax
comp=Z,53nm,0.5s,mb5.5
PMR Palmer 28.05 54 *e*P **P 13 13 33.7 -2.0**
comp=Z,53nm,0.5s,mb5.5
COLA College 28.25 47⇓ *e*P **P 13 13 37.0 -0.5**
COLA *e**PP pP 13 14 15.4 -0.9
COLA pmax pmax
comp=Z,43nm,1.3s
COLA College 28.25 47⇓ *e*P **P 13 13 37.0 -0.5**
comp=Z,42nm,1.3s
COLA *e*pP pP 13 14 15.4 -0.9
ILAR Eielson Array 28.67 47 P **P 13 13 40.3 -0.9**
comp=Z,209nm,0.7s,mb6.0,baz=261,slow=4.5,SNR=1024
ILAR S **S 13 18 13.4 -2.4**
comp=Z,21nm,1.0s,baz=257,slow=13,SNR=9.5
ILAR ScP ScP 13 20 07.1 -3.0
comp=Z,13nm,1.0s,baz=278,slow=3.2,SNR=5.0
ILAR P3KPbc 13 45 51.8
comp=Z,8.5nm,1.0s,baz=101,slow=3.4,SNR=42
ILAR Eielson Array 28.67 47 P **P 13 13 40.3 -0.9**
ILAR S **S 13 18 13.5 -2.3**
ILAR 13 20 07.1
ILAR pmax pmax
comp=Z,209nm,0.7s
ILAR smax
comp=N,21nm,1.0s
ILAR Eielson Array 28.67 47 P **P 13 13 40.3 -0.9**
ILAR S **S 13 18 13.4 -2.4**
ILAR ScP ScP 13 20 07.1 -3.0
ILAR *e* 13 45 51.8
JNU Nakatsue 28.76 234 P **P 13 13 43.7 +1.7**
comp=N,669nm,0.9s,mb6.4,baz=56,slow=9.5,SNR=63
DL2 Dalian 29.20 253 *i* PR **P 13 13 45.1 -0.7**
DL2 AP pP 13 14 29.3 +4.6
DL2 XP sP 13 14 57.1 +10
DL2 PCP PcP 13 16 48.9 +0.7
DL2 S **S 13 18 20.1 -4.0**
DL2 XS sS 13 19 36.5 +3.3
DL2 PCS PcS 13 20 28.6 -2.6
DL2 SCS ScS 13 24 04.1 -2.2
DL2 AMB AMB
comp=Z,930nm,5.1s
CBIJ Chichi jima 29.71 210 P **P 13 13 50.9 +0.5**
comp=Z,804nm,1.0s,mb6.4,baz=17,slow=6.2,SNR=17
CBIJ PcP PcP 13 16 48.8 -0.7
comp=Z,234nm,0.8s,baz=258,slow=6.7,SNR=5.8
CBIJ ScP ScP 13 20 11.6 -1.8
comp=Z,366nm,1.1s,baz=348,slow=2.0,SNR=11
EYAK Cordova Ski Ar 29.87 55⇓ *e*P **P 13 13 50.9 -0.9**
EYAK *e*S **S 13 18 32.4 -2.2**
EYAK *e*ScP ScP 13 20 12.6 -1.3
MIDW Midway 31.50 136 *e*P **P 13 14 04.4 -1.7**
comp=Z,901nm,1.6s,mb6.2
BJT Baijiatuau 31.56 261⇓ *e*P **P 13 14 05.9 -0.7**
BJT *e* 13 16 54.1
BJT pmax pmax
comp=Z,635nm,0.9s
BJT Baijiatuau 31.56 261⇓ *e*P **P 13 14 05.8 -0.7**
comp=Z,634nm,0.9s,mb6.3
BJT *e*PcP PcP 13 16 54.1 -0.3
BJT *e*ScP ScP 13 20 20.6 +1.1
IRK Irkutsk 31.77 289 *e*P **P 13 14 08.5 0.0**
IRK *e* 13 15 25.1
IRK pmax pmax
comp=Z,1μm,2.3s,mb6.2
DAWY Dawson 31.99 47⇓ *e*P **P 13 14 09.6 -0.8**
DAWY *e*pP pP 13 14 48.2 -1.4
ULN Ulaanbaatar 32.27 280 P **P 13 14 13.4 +0.5**
ULN PcP PcP 13 16 57.0 +0.6
ULN ScP ScP 13 20 23.1 +1.2
ULN Ulaanbaatar 32.27 280⇓ *e*P **P 13 14 13.3 +0.5**
ULN *e* 13 16 56.6
ULN Ulaanbaatar 32.27 280⇓ *e*P **P 13 14 13.3 +0.4**
ULN *e*PcP PcP 13 16 56.6 +0.2
ULN *e*ScP ScP 13 20 22.8 +0.9
TLY Talaya 32.37 288 P **P 13 14 14.2 +0.5**
comp=Z,2μm,1.6s,mb6.5,SNR=91
TLY Talaya 32.37 288*d i*P **P 13 14 14.6 +0.9**
TLY pmax pmax
comp=Z,392nm,1.3s,mb6.0
SONM Songino Array 32.67 280 P **P 13 14 17.0 +0.7**
comp=Z,326nm,0.8s,mb6.1,baz=56,slow=8.0,SNR=154
SONM PcP PcP 13 16 57.5 +0.1
comp=Z,128nm,0.7s,baz=92,slow=1.8,SNR=14
SONM ScP ScP 13 20 23.3 +0.1
comp=Z,42nm,0.7s,baz=72,slow=2.8,SNR=10
ZAK Zakamensk 33.17 286⇑ *i*P **P 13 14 21.5 +0.8**
ZAK *e* 13 15 45.1
ZAK *e* 13 16 59.5
ZAK pmax pmax
comp=Z,724nm,2.1s,mb6.0
ZAK pmax pmax
comp=Z,459nm,1.7s,mb5.9
INK Inuvik 33.51 39 P **P 13 14 23.2 -0.4**
comp=Z,618nm,0.6s,mb6.5,baz=287,slow=7.8,SNR=1425
INK S **S 13 19 29.8 -1.4**
comp=Z,148nm,0.9s,baz=66,slow=30,SNR=13
INK ScS ScS 13 24 24.2 -3.6
comp=Z,5.7nm,0.9s,baz=214,slow=32,SNR=8.5
INK P3KPbc 13 45 28.4
comp=Z,5.0nm,1.0s,baz=115,slow=2.2,SNR=7.0
INK Inuvik 33.51 39 P **P 13 14 23.2 -0.4**
INK S **S 13 19 29.8 -1.4**
INK 13 24 24.2
INK pmax pmax
comp=Z,618nm,0.6s
INK smax
comp=N,148nm,0.9s
INK Inuvik 33.51 39⇓ *i*P **P 13 14 23.6 0.0**
TIA Tai'an 33.63 254⇓ P **P 13 14 23.9 -0.7**
TIA AMB AMB
comp=Z,487nm,0.8s,mb6.3
HHC Hu-ho-hao-te 33.70 266⇓ *i*P **P 13 14 25.3 +0.1**
HHC AP pP 13 15 05.4 +0.8
HHC XP sP 13 15 29.8 +3.4
HHC PP PP 13 15 44.8 -0.7
HHC PCP PcP 13 17 03.1 +2.8
HHC S **S 13 19 33.1 -1.0**
HHC SCP ScP 13 20 27.6 +0.7
HHC PCS PcS 13 20 46.8 +0.3
HHC SS SS 13 21 52.3 -11
HHC SCS ScS 13 24 28.3 -0.5
HHC AMB AMB
comp=Z,948nm,1.0s,mb6.5
HHC AMB AMB
comp=Z,6μm,8.7s
HHC LR LR
comp=N,7μm,15.4s
HHC LR LR
comp=E,10μm,14.6s
HHC LR LR
comp=Z,8μm,15.6s
MOY Mondy 33.84 290 *e*P **P 13 14 27.4 +1.0**
MOY pmax pmax
comp=Z,2μm,2.5s,mb6.3
BTO Baotou 34.76 267 *e*P **P 13 14 35.1 +0.8**
BTO AMB AMB
comp=Z,2μm,1.0s,mb6.6
SKAG Skagway 35.18 54⇓ *e*P **P 13 14 38.5 +0.5**
SKAG *e*pP pP 13 15 17.3 -0.3
SSE Sheshan 35.25 244 P **P 13 14 38.5 0.0**
SSE AP pP 13 15 18.3 +0.1
SSE PP PP 13 16 02.9 +0.3
SSE PCP PcP 13 17 04.0 -0.9
SSE S **S 13 19 59.1 +1.2**
SSE PCS PcS 13 20 51.4 -0.7
SSE XS sS 13 21 10.3 +2.3
SSE AMB AMB
comp=Z,372nm,0.9s,mb6.0
SSE AMB AMB
comp=Z,2μm,8.0s
SSE LR LR
comp=N,6μm,21.2s
SSE LR LR
comp=E,6μm,21.2s
SSE LR LR
comp=Z,4μm,16.8s
JOW Kunigami 35.27 231 PcP PcP 13 17 05.5 +0.7
comp=Z,308nm,0.9s,baz=323,slow=2.0,SNR=8.1
JOW S **S 13 19 56.0 -2.2**
comp=Z,40nm,1.0s,baz=246,slow=26,SNR=12
JOW ScP ScP 13 20 33.0 +0.5
comp=Z,101nm,0.9s,baz=86,slow=0.6,SNR=9.9
JOW ScS ScS 13 24 36.0 -1.1
comp=Z,8.3nm,0.9s,baz=112,slow=30,SNR=9.0
WAKE Wake Island 35.55 167 *e*P **P 13 14 40.6 -0.5**
comp=Z,320nm,0.8s,mb6.0
NJ2 Nanjing 35.76 248 *e*P **P 13 14 42.9 +0.1**
NJ2 AP pP 13 15 21.3 -1.3
NJ2 XP sP 13 15 46.3 +2.0
NJ2 S **S 13 20 05.0 -0.6**
NJ2 XS sS 13 21 16.0 +0.2
NJ2 AMB AMB
comp=Z,600nm,0.8s,mb6.3
NJ2 AMB AMB
comp=Z,2μm,10.0s
NJ2 LR LR
comp=N,19μm,14.4s
NJ2 LR LR
comp=E,22μm,16.0s
NJ2 LR LR
comp=Z,4μm,21.0s
SIT Sitka 36.13 58⇓ *i*P **P 13 14 46.9 +0.9**
SIT *e**PP pP 13 15 24.9 -0.9
SIT pmax pmax
comp=Z,381nm,1.1s,mb5.9
SIT Sitka 36.13 58⇓ *i*P **P 13 14 46.9 +0.9**
comp=Z,381nm,1.1s,mb5.9
SIT *e*pP pP 13 15 24.9 -0.9
KRAR Krasnoyarsk 36.21 300⇓ *e*P **P 13 14 46.6 -0.1**
KRAR pmax pmax
comp=Z,1μm,0.9s,mb6.6
CRAG Craig 37.93 60 *e*P **P 13 15 01.3 +0.1**
comp=Z,86nm,0.8s,mb5.4
DLBC Dease Lake 38.11 54 P **P 13 15 03.6 +1.0**
comp=Z,116nm,0.8s,mb5.6,baz=293,slow=9.3,SNR=72
DLBC pP pP 13 15 43.8 +1.0
comp=Z,48nm,0.9s,baz=290,slow=5.3,SNR=2.7
DLBC S **S 13 20 42.0 +0.8**
comp=Z,6.5nm,0.8s,baz=21,slow=20,SNR=4.7
DLBC ScS ScS 13 24 54.2 +1.1
comp=Z,1.2nm,0.8s,baz=25,slow=27,SNR=7.8
DLBC Dease Lake 38.11 54⇓ *i*P **P 13 15 04.1 +1.4**
DLBC *e*pP pP 13 15 42.0 -0.8
WHN Wuhan 39.38 251⇑ P **P 13 15 13.3 +0.1**
WHN LR LR
comp=Z,10μm,15.4s
XAN Xi'an 39.87 260 P **P 13 15 16.4 -0.8**
XAN AMB AMB
comp=Z,317nm,1.5s,mb5.7
XAN LR LR
comp=N,5μm,15.0s
XAN LR LR
comp=E,4μm,13.3s
XAN LR LR
comp=Z,7μm,15.0s
TATO Taipei 40.07 238 *e*P **P 13 15 19.9 +1.0**
comp=Z,558nm,0.8s,mb6.2
YHNB Yeheng 40.38 238 *e*P **P 13 15 20.9 -0.5**
YHNB *e*ScP ScP 13 20 51.6 -0.2
NACB Ninganchiao 40.69 237 *e*P **P 13 15 23.6 -0.4**
LZH Lanzhou 41.38 267⇓ *i*P **P 13 15 30.3 +0.7**
LZH AP pP 13 16 11.3 +1.0
LZH XP sP 13 16 32.8 +1.0
LZH PP PP 13 17 11.6 +2.4
LZH PCP PcP 13 17 25.3 +1.3
LZH SCP ScP 13 20 55.4 -0.4
LZH PCS PcS 13 21 15.6 +0.1
LZH S **S 13 21 30.5 +0.6**
LZH XS sS 13 22 45.3 +3.9
LZH SS SS 13 24 35.9 -5.8
LZH SCS ScS 13 25 10.8 -1.7
LZH AMB AMB
comp=Z,3μm,1.2s,mb6.8
LZH AMB AMB
comp=Z,8μm,5.7s
GTA Gaotai 41.50 274 ⇓P **P 13 15 31.8 +1.2**
GTA AP pP 13 16 13.3 +2.0
GTA XP sP 13 16 34.5 +1.7
GTA PP PP 13 17 13.5 +3.0
GTA PCP PcP 13 17 25.9 +1.5
GTA PCS PcS 13 21 16.3 +0.3
GTA S **S 13 21 31.8 +0.1**
GTA SS SS 13 24 38.4 -5.7
GTA SCS ScS 13 25 11.8 -1.5

GTA AMB AMB
comp=Z,2µm,1.0s,mb6.6
GTA AMB AMB
comp=Z,4µm,9.1s
GTA LR LR
comp=N,5µm,17.5s
GTA LR LR
comp=E,5µm,16.0s
GTA LR LR
comp=Z,7µm,16.7s
QZH Quanzhou 41.56 241 *i* PR **P** **13 15 30.0 -1.0**
QZH XP sP 13 16 34.0 +0.8
QZH SCP ScP 13 20 56.6 +0.1
QZH S **S** **13 21 30.0 -2.5**
QZH AMB AMB
comp=Z,740nm,0.7s,mb6.4
QZH AMB AMB
comp=Z,4µm,4.0s
QZH LR LR
comp=N,3µm,10.3s
QZH LR LR
comp=E,4µm,11.5s
QZH LR LR
comp=Z,7µm,14.6s
NVS Novosibirsk 41.60 303⇓ *i*P **P** **13 15 30.5 -0.9**
NVS *i* *PP pP 13 16 15.3 +3.2
NVS *i* 13 17 10.5
NVS *i* S **S** **13 21 30.5 -2.5**
NVS *e*SS sS 13 22 40.8 -3.8
NVS *e*SSS 13 25 29.4
NVS pmax pmax
comp=Z,5µm,1.5s,mb6.9
NVS pmax pmax
comp=N,3µm,1.7s
NVS pmax pmax
comp=Z,1µm,2.2s,mb6.2
NVS pmax pmax
comp=E,1µm,2.0s
NVS smax
comp=N,517nm,1.9s
NVS smax
comp=E,285nm,1.9s
ALE Alert 41.82 7 P **P** **13 15 32.3 -0.8**
comp=E,2µm,0.9s,mb6.6
GUMO Guam 42.02 200 P **P** **13 15 32.4 -2.4**
comp=E,88nm,0.7s,mb5.5,baz=165,slow=6.5,SNR=9.1
GUMO Guam 42.02 200 P **P** **13 15 32.4 -2.4**
GUMO pmax pmax
comp=Z,88nm,0.7s,mb5.5
RES Resolute Bay 42.55 22⇓ *i*P **P** **13 15 38.6 -0.4**
comp=Z,3.3nm,0.5s
YKW3 Yellowknife Ar 42.89 43⇓ *i*P **P** **13 15 41.4 -0.2**
YKW3 *e*pP pP 13 16 21.7 -1.0
YKA Yellowknife Ar 42.93 43 P **P** **13 15 41.4 -0.7**
comp=Z,252nm,0.7s,mb5.9,baz=298,slow=7.1,SNR=424
YKA pP pP 13 16 23.4 +0.4
comp=Z,23nm,0.7s,baz=302,slow=8.1,SNR=2.1
YKA ScP ScP 13 20 59.5 -2.6
comp=Z,5.8nm,0.6s,baz=297,slow=3.8,SNR=4.5
YKA S **S** **13 21 50.6 -1.9**
comp=Z,3.6nm,0.9s,baz=281,slow=17,SNR=3.1
YKA Yellowknife Ar 42.93 43 P **P** **13 15 41.4 -0.7**
YKA *PP pP 13 16 23.4 +0.3
YKA S **S** **13 21 50.7 -1.8**
YKA pmax pmax
comp=Z,252nm,0.7s
YKA smax
comp=N,4.0nm,0.9s
YKA Yellowknife Ar 42.93 43 P **P** **13 15 41.4 -0.7**
YKA pP pP 13 16 23.4 +0.4
YKA ScP ScP 13 20 59.5 -2.6
YKA S **S** **13 21 50.6 -1.9**
CD2 Chengdu 45.13 262 P **P** **13 15 59.6 0.0**
CD2 AP pP 13 16 41.1 +0.2
CD2 XP sP 13 17 01.8 -0.4
CD2 PCP PcP 13 17 37.8 +1.1
CD2 PP PP 13 17 46.8 -2.2
CD2 SCP ScP 13 21 07.4 -3.7
CD2 PCS PcS 13 21 28.1 -2.7
CD2 S **S** **13 22 20.1 -4.3**
CD2 SCS ScS 13 25 33.8 -2.3
CD2 SS SS 13 25 42.3 -7.7
CD2 AMB AMB
comp=Z,590nm,1.2s,mb6.1
CD2 AMB AMB
comp=Z,1µm,5.1s
CD2 LR LR
comp=N,3µm,15.6s
CD2 LR LR
comp=Z,2µm,16.8s
KBS Kingsbay 45.50 351⇓ *i*P **P** **13 16 02.2 -0.3**
KBS AMb AMB 13 16 06.0
comp=Z,216nm,1.6s,mb5.5
KBS *e*pP pP 13 16 45.1 +1.2
KBS *e*S **S** **13 22 30.6 +0.9**
KBS Kingsbay 45.50 351 P **P** **13 16 02.4 -0.2**
KBS PcP PcP 13 17 36.9 -1.0
KBS S **S** **13 22 29.4 -0.3**
KBS Kingsbay 45.50 351⇓ *i*P **P** **13 16 02.3 -0.2**
KBS pmax pmax
comp=Z,216nm,1.6s,mb5.5
KBS Kingsbay 45.50 351⇓ *i*P **P** **13 16 02.2 -0.3**
comp=Z,216nm,1.6s,mb5.5
WMQ Urumqi 45.63 287⇓ *i*P **P** **13 16 05.1 +1.6**
WMQ AP pP 13 16 46.3 +1.3
WMQ XP sP 13 17 07.6 +1.4
WMQ PCP PcP 13 17 40.6 +2.2
WMQ PP PP 13 17 54.9 +0.8
WMQ SCP ScP 13 21 13.6 +0.5
WMQ PCS PcS 13 21 33.6 +0.7
WMQ S **S** **13 22 32.1 +0.5**
WMQ SCS ScS 13 25 38.3 -1.0
WMQ SS SS 13 25 53.4 -4.8
WMQ AMB AMB
comp=Z,2µm,1.4s,mb6.5
WMQ LR LR
comp=N,7µm,21.1s
WMQ LR LR
comp=E,4µm,21.1s
WMQ LR LR
comp=Z,6µm,22.8s
HOPEN Hopen 46.10 346 *e*P **P** **13 16 07.0 -0.2**
HOPEN AMb AMB 13 16 09.1
comp=N,326nm,1.5s
CVP Callao Caves 46.12 232⇓ *i*P **P** **13 16 07.0 -0.3**
comp=N,116µm,0.5s
PIP Pasuquin 46.14 234⇓ *e*P **P** **13 16 06.7 -0.8**
KURK Kurchatov 46.24 300 P **P** **13 16 08.5 +0.2**
comp=N,7µm,1.3s,mb7.1
KURK Kurchatov 46.24 300 P **P** **13 16 08.0 -0.3**
KURK pmax pmax
comp=Z,2µm,1.4s,mb6.5
APYP Conner 46.24 233 *e*P **P** **13 16 07.3 -1.0**
KIP Kipapa 46.39 118⇑ *i*P **P** **13 16 09.1 -0.4**
KIP pmax pmax
comp=Z,495nm,0.9s,mb6.1
KIP Kipapa 46.39 118⇑ *i*P **P** **13 16 09.1 -0.4**
comp=Z,499nm,0.9s,mb6.1
PALP Palanan 46.40 231⇓ *e*P **P** **13 16 09.5 0.0**
PALP Palanan 46.40 231 *e*P **P** **13 16 09.7 +0.2**
PGC Sidney 46.64 63⇓ *e*P **P** **13 16 11.1 -0.3**
comp=Z,235nm,0.6s,mb6.0
PGC *e*pP pP 13 16 51.6 -1.4
ABRA Dolores 46.68 233 *e*P **P** **13 16 12.3 +0.6**
OBC Olympics--Boni 46.69 64 P **P** **13 16 12.5 +0.7**
MK31 Makanchi Array 46.73 294 P **P** **13 16 11.6 -0.5**
MK31 pmax pmax
comp=Z,674nm,0.9s,mb6.3
MKAR Makanchi Array 46.73 294 P **P** **13 16 11.6 -0.5**
comp=Z,317nm,0.7s,mb6.0,baz=48,slow=5.0,SNR=383
MKAR PcP PcP 13 17 41.6 -0.7
comp=Z,24nm,0.5s,baz=63,slow=5.2,SNR=6.7
MKAR P3KP 13 46 58.0
comp=Z,1.4nm,0.9s,baz=230,slow=2.8,SNR=7.4
CAUP Cauayan 46.78 232 *e*P **P** **13 16 14.8 +2.4**
OCWA Octopus Mounta 46.82 65 *e*P **P** **13 16 13.3 +0.5**
comp=Z,149nm,1.0s,mb5.6
OCWA *e*pP pP 13 16 55.0 +0.6
OOW Octopus West 46.82 65 P **P** **13 16 13.5 +0.7**
VDB Vedder Mountai 47.11 62 P **P** **13 16 14.6 -0.4**
MBW Mount Baker 47.37 62 P **P** **13 16 17.2 +0.2**
CMW Cultus Mountai 47.48 63 P **P** **13 16 18.3 +0.4**
JCW Jim Creek 47.72 63 P **P** **13 16 19.9 +0.2**
RPW Rockport 47.78 62 P **P** **13 16 20.1 -0.1**
BCPH Baguio City Da 47.84 233⇓ *e*P **P** **13 16 20.3 -0.4**

BALP Baler 47.94 231 *e*P **P** **13 16 21.5 +0.1**
BOLP Bolinao 48.15 233 *e*P **P** **13 16 23.4 +0.4**
PCPH Palayan 48.32 231⇑ *e*P **P** **13 16 25.4 +1.1**
CHKZ Chkalovo 48.33 307⇓ *i*P **P** **13 16 23.5 -0.9**
CHKZ *e**PP pP 13 17 07.7 +1.5
CHKZ *e*SP sP 13 17 28.1 +0.7
CHKZ *e* 13 17 45.0
CHKZ *e* 13 18 18.4
CHKZ pmax pmax
comp=Z,24nm,0.3s,mb5.3
CHKZ Chkalovo 48.33 307⇓ *i*P **P** **13 16 23.5 -0.8**
comp=Z,24nm,0.3s,mb5.3
CHKZ *e*pP pP 13 17 07.7 +1.5
CHKZ *e*sP sP 13 17 28.1 +0.7
CHKZ *e*PcP PcP 13 17 45.0 -3.0
CHKZ *e*PP PP 13 18 18.4 -0.3
WRW Wenatchee Ridg 48.48 63 P **P** **13 16 25.6 +0.1**
BJO Bjornoya 48.59 346 *e*P **P** **13 16 26.4 0.0**
BJO AMb AMB 13 16 28.9
comp=Z,743nm,1.1s,mb6.2
BJO *e*pP pP 13 17 07.7 -0.6
BJO1 Bjornoya 48.62 347 *e*P **P** **13 16 26.4 -0.2**
comp=Z,743nm,1.1s,mb6.2
NLW Nelson Butte 48.62 62 P **P** **13 16 26.9 +0.2**
POLP Polilio Island 48.67 230 *e*P **P** **13 16 29.0 +2.0**
SCZP Santa Cruz 48.68 233 *e*P **P** **13 16 27.4 +0.3**
PVCP Virac 48.70 227⇓ *e*P **P** **13 16 28.2 +1.0**
PVCP Virac 48.70 227 *e*P **P** **13 16 28.6 +1.4**
VOSK Vostochnaya 48.75 306 P **P** **13 16 27.0 -0.6**
VOSK pmax pmax
comp=Z,1µm,1.5s,mb6.2
EDM Edmonton 48.82 53⇓ *i*P **P** **13 16 28.1 0.0**
EDM *e**PP pP 13 17 09.2 -0.8
BVA0 Borovoye Array 48.84 307 *i* P **P** **13 16 28.0 -0.3**
BVA0 pmax pmax
comp=Z,174nm,1.4s,mb5.5
BRVK Borovoye 48.87 307 P **P** **13 16 28.3 -0.2**
comp=Z,3µm,1.0s,mb6.9,SNR=95
MTMW Mount Mitchell 48.95 65 P **P** **13 16 29.5 +0.4**
DAG Danmarks Havn 49.15 359⇑ *i*P **P** **13 16 29.8 -0.9**
comp=Z,615nm,1.3s,mb6.1
DAG Danmarks Havn 49.15 359⇑ *i*P **P** **13 16 29.8 -0.9**
DAG pmax pmax
comp=Z,620nm,1.3s,mb6.1
GQP Guinayangan 49.17 229⇓ *i*P **P** **13 16 31.7 +0.9**
NAC Naches 49.23 64 P **P** **13 16 31.5 +0.2**
EBG Ellensburg 49.25 63 P **P** **13 16 31.6 +0.2**
COR Corvallis 49.31 67 *e*P **P** **13 16 32.4 +0.6**
COR pmax pmax
comp=Z,174nm,0.8s,mb5.7
COR Corvallis 49.31 67 *e*P **P** **13 16 32.4 +0.6**
comp=Z,174nm,0.8s,mb5.7
LQP Lukban 49.39 230 *e*P **P** **13 16 28.3 -4.1**
ZRNK Zerenda 49.54 307⇓ *i*P **P** **13 16 33.0 -0.6**
ZRNK *e**PP pP 13 17 16.9 +1.3
ZRNK *e* 13 17 51.4
ZRNK pmax pmax
comp=Z,3µm,1.7s,mb6.6
ZRNK Zerenda 49.54 307⇓ *i*P **P** **13 16 33.0 -0.6**
comp=Z,3µm,1.7s,mb6.6
ZRNK *e*pP pP 13 17 16.9 +1.3
ZRNK *e*PcP PcP 13 17 51.4 -1.0
AUQP San Andres 49.58 228 *e*P **P** **13 16 36.3 +2.4**
TGY Tagaytay City 49.67 231 P **P** **13 16 35.9 +1.3**
comp=Z,1µm,0.7s,baz=322,slow=3.1,SNR=97
TGY Tagaytay City 49.67 231⇑ *e*P **P** **13 16 36.2 +1.6**
BOAC Boac 49.83 229 *e*P **P** **13 16 36.5 +0.8**
KEBM Edson Butte 49.87 70 *e*P **P** **13 16 37.0 +0.9**
GBL Gable Mountain 50.03 63 P **P** **13 16 37.0 -0.3**
KMI Kunming 50.09 257 P **P** **13 16 37.6 -0.1**
KMI AP pP 13 17 21.3 +1.4
KMI XP sP 13 17 42.6 +1.7
KMI PCP PcP 13 17 55.6 +1.2
KMI PP PP 13 18 36.6 +1.9
KMI SCP ScP 13 21 32.3 +0.3
KMI PCS PcS 13 21 52.6 +0.9
KMI S **S** **13 23 31.9 -2.3**
KMI XS sS 13 24 51.3 +3.4
KMI SCS ScS 13 26 06.8 -2.2
KMI SS SS 13 27 05.1 -4.7
KMI AMB AMB
comp=Z,4µm,4.0s
KMI LR LR
comp=N,3µm,17.0s
KMI LR LR
comp=E,3µm,16.1s
KMI LR LR
comp=Z,3µm,19.2s
HAWA Hanford 50.13 63⇓ *i*P **P** **13 16 37.6 -0.4**
comp=Z,138nm,0.8s,mb5.6
HAWA *e*pP pP 13 17 18.7 -1.5
NEW Newport 50.15 60⇓ *e*P **P** **13 16 37.8 -0.4**
NEW pmax pmax
comp=Z,109nm,0.9s
NEW Newport 50.15 60⇓ *e*P **P** **13 16 37.8 -0.3**
comp=Z,106nm,0.9s,mb5.5
LUBP Lubang 50.31 231 *e*P **P** **13 16 37.5 -1.9**
KBO Bosley Butte 50.37 70 *e*P **P** **13 16 40.9 +1.0**
KBO *e*pP pP 13 17 22.9 +0.9
SVE Sverdlovsk 50.69 315K *i*P **P** **13 16 42.7 +0.5**
SVE *e* 13 19 44.0
SVE pmax pmax
comp=N,2µm,4.0s
SVE pmax pmax
comp=E,3µm,4.0s
SVE pmax pmax
comp=Z,6µm,4.0s
SVE MLR MLR
comp=N,2µm,17.0s
SVE MLR MLR
comp=E,2µm,17.0s
SVE MLR MLR
comp=Z,4µm,17.0s
OTRP Odiongan 50.72 228 *e*P **P** **13 16 43.7 +1.3**
HUMO Hull Mountain 50.81 69 *e*P **P** **13 16 43.1 +0.1**
comp=Z,127nm,0.9s,mb5.5
QIZ Qiongzhong 51.00 246 P **P** **13 16 45.5 +1.0**
QIZ XP sP 13 17 50.3 +2.4
QIZ S **S** **13 23 47.8 +1.0**
QIZ XS sS 13 25 00.6 -0.1
QIZ SS SS 13 27 24.0 -0.2
QIZ AMB AMB
comp=Z,288nm,1.1s,mb5.8
QIZ AMB AMB
comp=Z,4µm,9.2s
QIZ Qiongzhong 51.00 246 *e*P **P** **13 16 45.4 +0.8**
comp=Z,259nm,0.9s,mb5.9
QIZ *e*PcP PcP 13 17 58.3 +0.5
QIZ *e*ScP ScP 13 21 37.1 +1.2
RCP Roxas 51.12 227 *e*P **P** **13 16 47.3 +1.9**
LVZ Lovozero 51.16 336 P **P** **13 16 44.5 -1.3**
comp=Z,1µm,1.4s,mb6.3,SNR=19
LVZ Lovozero 51.16 336 *i* P **P** **13 16 44.4 -1.4**
LVZ *PP pP 13 17 27.0 -1.1
LVZ 13 17 53.7
KALP Kalibo 51.19 228 *e*P **P** **13 16 48.3 +2.3**
WALA Waterton Lakes 51.23 57⇓ *i*P **P** **13 16 46.1 -0.1**
comp=Z,0.4nm,0.8s
WALA *e*pP pP 13 17 27.9 -0.7
KEV Kevo 51.32 340 *e*P **P** **13 16 45.5 -1.4**
comp=Z,60nm,0.7s,mb5.3
KEV Kevo 51.32 340 P **P** **13 16 45.3 -1.6**
KEV pmax pmax
comp=Z,63nm,0.8s,mb5.3
BUOR Burton Butte 51.42 69 P **P** **13 16 48.4 +0.7**
MSLP Maasin 51.52 224 *e*P **P** **13 16 48.9 +0.5**
YBH Yreka Blue Hor 51.53 70 P **P** **13 16 49.5 +1.0**
comp=Z,111nm,0.7s,mb5.6,baz=348,slow=3.9,SNR=122
YBH pP pP 13 17 30.4 -0.5
comp=Z,46nm,0.8s,baz=14,slow=3.0,SNR=2.1
YBH ScP ScP 13 21 37.8 -0.4
comp=Z,6.3nm,0.7s,baz=49,slow=4.2,SNR=3.7
YBH Yreka Blue Hor 51.53 70⇓ *e*P **P** **13 16 49.4 +0.9**
comp=Z,84nm,0.7s,mb5.5
YBH *e*pP pP 13 17 28.0 -2.9
KHMM Horse Mountain 51.55 71 *e*P **P** **13 16 49.8 +1.1**
BSMT Bassoo Peak 51.60 59 P **P** **13 16 49.6 +0.6**
APA Apatity 51.72 336⇑ *i*P **P** **13 16 48.0 -1.9**
APA *i* *PP pP 13 17 34.0 +1.7
APA *i* *SP sP 13 17 54.0 +0.7
APA *e*S **S** **13 24 03.0 +6.4**
APA *i* *SS sS 13 25 15.0 +4.3
APA pmax pmax
comp=Z,5µm,4.0s

APA MLR MLR
comp=Z,4µm,14.0s
LLP Lapu-Lapu 51.72 225 *e*P **P** **13 16 50.2 +0.3**
ARCES ARCESS Array B 51.79 341 P **P** **13 16 49.1 -1.3**
comp=Z,75nm,0.8s,mb5.4,baz=45,slow=7.3,SNR=70
ARCES PcP PcP 13 17 57.7 -3.1
comp=Z,98nm,0.8s,baz=42,slow=3.8,SNR=12
ARCES ARCESS Array B 51.79 341 P **P** **13 16 49.1 -1.3**
ARCES 13 17 57.7
ARCES pmax pmax
comp=Z,75nm,0.8s
ARCES ARCESS Array B 51.79 341 P **P** **13 16 49.1 -1.3**
ARCES PcP PcP 13 17 57.7 -3.1
ARE0 ARCESS Array S 51.79 341⇓ *i*P **P** **13 16 49.0 -1.4**
ARE0 *e*PcP PcP 13 18 00.9 +0.1
ARU Arti 51.81 316 P **P** **13 16 50.6 +0.1**
comp=Z,5µm,0.6s
ARU Arti 51.81 316⇓ *i*P **P** **13 16 50.3 -0.2**
ARU *i* pP 13 17 35.2 +2.2
ARU *e*SP 13 17 56.1
ARU *e* 13 17 59.6
ARU *i* 13 18 46.8
ARU *e*S **S** **13 23 57.8 0.0**
ARU *e*SS sS 13 25 15.5 +3.5
ARU *e* 13 26 20.9
ARU *e*SS SS 13 27 38.5 +1.5
ARU pmax pmax
comp=Z,1µm,1.5s,mb6.2
BUSP Coron 51.85 230 *e*P **P** **13 16 51.2 +0.4**
AAA Alma-Ata 51.90 293 *i* P **P** **13 16 51.2 0.0**
GUIM Jordan 52.02 227 *e*P **P** **13 16 53.1 +0.9**
BUTP Butuan 52.27 223 *e*P **P** **13 16 52.5 -1.4**
BMO Blue Mountains 52.32 63⇑ *i*P **P** **13 16 54.3 0.0**
comp=Z,107nm,0.6s,mb5.7
BMO *e*pP pP 13 17 36.2 -0.6
TBP Tagbilaran 52.33 225 *e*P **P** **13 16 53.0 -1.4**
WDC Whiskeytown Da 52.41 71⇓ *e*P **P** **13 16 55.2 +0.2**
WDC *e**PP pP 13 17 36.4 -1.1
WDC pmax pmax
comp=Z,122nm,0.9s,mb5.5
WDC Whiskeytown Da 52.41 71⇓ *e*P **P** **13 16 55.2 +0.3**
comp=Z,123nm,0.9s,mb5.5
WDC *e*pP pP 13 17 36.4 -1.1
WDC *e*ScP ScP 13 21 40.9 -1.2
KIPM Iron Peak 52.42 72 *e*P **P** **13 16 56.2 +1.1**
CUYO Cuyo Island 52.51 229 *e*P **P** **13 16 57.1 +1.5**
KTK1 Kautokeino 52.67 341⇓ *i*P **P** **13 16 56.7 -0.1**
KTK1 AMb AMB 13 17 00.2
comp=Z,882nm,1.3s,mb6.3
KTK1 Kautokeino 52.67 341⇓ *i*P **P** **13 16 56.7 -0.1**
comp=Z,882nm,1.3s,mb6.3
BIPH Bislig 52.70 221⇓ *i*P **P** **13 16 56.6 -0.4**
MSO Missoula 52.71 60⇓ *i*P **P** **13 16 57.0 -0.2**
comp=Z,107nm,0.9s,mb5.6
MSO *e*pP pP 13 17 36.9 -2.9
MSO *e*PcP PcP 13 18 04.0 -0.2
MOD Modoc 52.73 68⇓ *i*P **P** **13 16 57.9 +0.6**
SUMG Summit 52.84 6⇓ *e*P **P** **13 16 58.0 -0.1**
comp=Z,476nm,4.1s
TKM2 Tokmak 2 52.86 294 P **P** **13 16 58.4 +0.1**
TKM2 pmax pmax
comp=Z,868nm,1.3s,mb6.3
FFC Flin Flon 52.88 46 P **P** **13 16 58.4 0.0**
comp=Z,2µm,1.0s,mb6.9
TRO Tromso 52.89 343 *e*P **P** **13 16 56.5 -2.0**
TRO AMb AMB 13 17 00.1
comp=Z,462nm,1.8s,mb5.9
TRO *e*pP pP 13 17 41.9 +0.9
TRO Tromso 52.89 343 *e*P **P** **13 16 56.5 -2.0**
TRO pmax pmax
comp=Z,462nm,1.8s,mb5.9
TRO Tromso 52.89 343 *e*P **P** **13 16 56.5 -2.0**
comp=Z,462nm,1.8s,mb5.9
ENPP El Nido 52.90 231 *e*P **P** **13 17 00.6 +2.0**
SNPH Sibulan 52.90 225 *e*P **P** **13 16 59.5 +0.9**
CHMT Chamberlain Mo 53.00 59 *e*P **P** **13 16 59.1 -0.2**
FCC Fort Churchill 53.13 38⇓ *i*P **P** **13 16 59.7 -0.5**
comp=Z,0.1nm,0.5s
HOPS Hopland 53.21 72 *e*P **P** **13 17 01.1 +0.3**
comp=Z,178nm,1.0s,mb5.8
HOPS *e*pP pP 13 17 42.4 -1.1
TMCR Tamitsa 53.22 332⇓ *i*P **P** **13 17 00.6 -0.3**
TMCR pmax pmax
comp=Z,1µm,1.4s,mb6.4
TMCR pmax pmax
comp=N,2µm,1.5s
TMCR pmax pmax
comp=E,340nm,1.5s
WVOR Wild Horse Val 53.27 66⇓ *e*P **P** **13 17 01.7 +0.5**
WVOR *e**PP pP 13 17 42.3 -1.6
WVOR pmax pmax
comp=Z,143nm,1.0s,mb5.7
WVOR Wild Horse Val 53.27 66⇓ *e*P **P** **13 17 01.6 +0.4**
comp=Z,132nm,1.0s,mb5.6
WVOR *e*pP pP 13 17 42.3 -1.6
LSA Lhasa 53.38 271 P **P** **13 17 03.5 +1.4**
LSA PcP PcP 13 18 08.5 +1.8
LSA ScP ScP 13 21 48.8 +2.5
LSA S **S** **13 24 19.8 +0.7**
LSA sS sS 13 25 40.5 +6.9
LSA ScS ScS 13 26 30.4 -1.6
LSA SS SS 13 27 59.0 -2.7
LSA Lhasa 53.38 271⇓ *e*P **P** **13 17 03.2 +1.1**
LSA pmax pmax
comp=Z,1µm,0.8s,mb6.7
LSA Lhasa 53.38 271⇓ *e*P **P** **13 17 03.2 +1.2**
comp=Z,1µm,0.8s,mb6.7
FRU Bishkek 53.44 294⇓ *i*P **P** **13 17 02.8 +0.3**
FRU *i* pP 13 17 50.0 +4.8
FRU *e* 13 18 08.0
FRU pmax pmax
comp=Z,3µm,1.8s,mb6.7
BUKP Musuan 53.48 223 *e*P **P** **13 17 04.0 +1.2**
DCPH Dipolog City 53.54 225⇓ *e*P **P** **13 17 03.2 0.0**
AAK Ala-Archa 53.65 294 P **P** **13 17 03.5 -0.5**
comp=Z,4µm,1.1s,mb7.1
AAK Ala-Archa 53.65 294 *d* *i*P **P** **13 17 03.3 -0.7**
AAK pmax pmax
comp=Z,2µm,2.0s,mb6.5
NSHM Saint Helena R 53.80 73 *e*P **P** **13 17 05.5 +0.4**
HRY Holter Researc 53.85 58 *e*P **P** **13 17 05.8 +0.3**
OHCM Honcut 53.86 71 *e*P **P** **13 17 05.2 -0.3**
MATI Mati 53.87 221 *e*P **P** **13 17 05.6 0.0**
MCCM Marconi Confer 53.91 73 *e*P **P** **13 17 05.9 0.0**
comp=Z,188nm,0.8s,mb5.9
EGMT Eagleton 53.97 56⇓ *i*P **P** **13 17 05.9 -0.4**
comp=Z,132nm,1.0s,mb5.6
EGMT *e*pP pP 13 17 48.0 -1.1
DAV Davao City (W) 54.02 222⇓ *e*P **P** **13 17 07.4 +0.7**
comp=Z,2µm,1.4s,mb6.7
PAGZ Pagadian 54.19 225 *e*P **P** **13 17 08.3 +0.4**
DLMT Dillon 54.40 60⇓ *e*P **P** **13 17 09.2 -0.2**
comp=Z,290nm,1.2s,mb5.9
DLMT *e*pP pP 13 17 51.9 -0.4
SAC San Andreas 54.57 73 P **P** **13 17 11.0 +0.3**
SAC San Andreas 54.57 73 *e*P **P** **13 17 10.7 +0.1**
IPIL Ipil 54.58 225⇓ *e*P **P** **13 17 10.8 +0.1**
IPIL Ipil 54.58 225 *e*P **P** **13 17 10.9 +0.1**
MCMT McKenzie Canyo 54.64 61 *e*P **P** **13 17 11.1 -0.1**
BOZ Bozeman (W) 54.69 59⇓ *i*P **P** **13 17 11.9 +0.4**
BOZ *e**PP pP 13 17 51.8 -2.6
BOZ pmax pmax
comp=Z,465nm,1.0s,mb6.2
BOZ Bozeman (W) 54.69 59⇓ *i*P **P** **13 17 11.9 +0.4**
comp=Z,465nm,1.0s,mb6.2
BOZ *e*pP pP 13 17 51.8 -2.6
HLID Hailey 54.72 63⇓ *e*P **P** **13 17 11.9 +0.1**
comp=Z,81nm,0.8s,mb5.5
HLID *e*pP pP 13 17 53.0 -1.6
HLID *e*ScP ScP 13 21 51.9 -0.2
PAHR Pah Rah Range 54.76 69⇓ *e*P **P** **13 17 12.5 +0.5**
comp=Z,32nm,0.4s,mb5.4
PAHR *e*pP pP 13 17 54.0 -0.9
KSH Kashi 55.02 291 *i* PR 13 17 14.3
KSH *e*PCP PcP 13 18 14.1 +1.0
KSH *e*PP PP 13 19 20.0 +1.0
KSH *e*SCP ScP 13 21 54.4 +1.0
KSH *e*PCS PcS 13 22 12.1 -1.1
KSH *e*S **S** **13 24 37.3 -3.8**
KSH *e*SCS ScS 13 26 41.1 -2.5
KSH *e*SS SS 13 28 25.1 -2.5
KSH AMB AMB
comp=Z,1µm,1.2s,mb6.5

KSH LR LR
comp=N,10µm,17.7s
KSH LR LR
comp=E,9µm,13.4s
KSH LR LR
comp=Z,3µm,9.4s
LOF Lofoten 55.11 345⇓ *iP* **P 13 17 15.0 +0.5**
LOF AMb AMB 13 17 18.5
comp=Z,1µm,1.4s,mb6.4
LOF Lofoten 55.11 345⇓ *iP* **P 13 17 15.0 +0.5**
comp=Z,1µm,1.4s,mb6.4
QLMT Earthquake Lake 55.36 60 *eP* **P 13 17 16.9 +0.6**
CMB Columbia Colle 55.38 71⇓ *eP* **P 13 17 16.4 -0.1**
CMB pmax pmax
comp=Z,761nm,1.7s,mb6.2
CMB Columbia Colle 55.38 71⇓ *eP* **P 13 17 16.4 -0.1**
comp=Z,761nm,1.7s,mb6.2
KK31 Karatay Array 55.42 297 *i* P **P 13 17 16.0 -0.7**
KK31 pmax pmax
comp=Z,507nm,0.9s,mb6.2
KKAR Karatay Array 55.42 297 *i* P **P 13 17 16.0 -0.7**
KKAR pmax pmax
comp=Z,457nm,0.9s,mb6.2
BMN Battle Mountai 55.42 67⇓ *eP* **P 13 17 17.6 +0.8**
BMN *e**PP pP 13 17 58.3 -1.5
BMN pmax pmax
comp=Z,244nm,0.8s,mb6.0
BMN Battle Mountai 55.42 67⇓ *eP* **P 13 17 17.6 +0.8**
comp=Z,244nm,0.8s,mb6.0
BMN *ep*P pP 13 17 58.3 -1.5
GCMT Greycliff 55.57 58 *i* P **P 13 17 18.6 +0.7**
GCMT *ep*P pP 13 18 01.7 +0.9
SAO San Andreas Ge 55.70 73 *eP* **P 13 17 18.6 -0.1**
SAO *e**PP pP 13 18 01.5 -0.2
SAO pmax pmax
comp=Z,95nm,0.9s,mb5.6
SAO San Andreas Ge 55.70 73 *eP* **P 13 17 18.6 -0.1**
comp=Z,96nm,0.9s,mb5.6
SAO *ep*P pP 13 18 01.5 -0.3
YMR Madison River 55.71 60⇓ *eP* **P 13 17 19.6 +0.8**
BATP Bataraza 55.77 231 *eP* **P 13 17 21.6 +2.4**
CHRT Chiangrai 55.89 256 ⇓ P **P 13 17 20.5 +0.4**
comp=Z,3µm,0.9s,mb7.0
YFT Old Faithful 55.93 60 *eP* **P 13 17 22.0 +1.7**
JOF Joensuu 56.02 334 *ep* **P 13 17 19.5 -1.5**
comp=Z,351nm,0.8s,mb6.2
SHL Shillong 56.04 267 *eP* **P 13 17 21.5 +0.3**
LKWY Lake 56.07 59⇓ *eP* **P 13 17 23.2 +1.8**
LKWY *e**PP pP 13 18 04.8 +0.3
NANT Nan 56.22 254 ⇓ P **P 13 17 23.0 +0.6**
comp=Z,2µm,0.4s,mb7.2
AB31 Akbulak array 56.23 309 P **P 13 17 22.0 -0.5**
AB31 pmax pmax
comp=Z,514nm,1.0s,mb6.3
AKTK Aktyubinsk 56.25 311 P **P 13 17 22.1 -0.5**
AKTK pP pP 13 18 07.4 +1.6
AKTK ⇑*e* 13 47 30.8
AKTO Aktyubinsk 56.25 311 P **P 13 17 22.1 -0.5**
comp=Z,353nm,0.9s,mb6.2,baz=62,slow=8.2,SNR=207
AKTO pP pP 13 18 07.4 +1.6
comp=Z,73nm,0.9s,baz=49,slow=11,SNR=0.9
AKTO PKP2bc 13 47 30.8
comp=Z,3.9nm,1.1s,baz=198,slow=4.5,SNR=4.5
FLWY Flagg Ranch 56.26 60⇓ *eP* **P 13 17 24.0 +1.3**
comp=Z,963nm,1.6s,mb6.4
FLWY *ep*P pP 13 18 07.1 +1.2
ELK Elko 56.27 66⇓ *iP* **P 13 17 23.7 +0.9**
ELK *e**PP pP 13 18 04.2 -1.7
ELK pmax pmax
comp=Z,30nm,1.1s
ELK Elko 56.27 66⇓ *iP* **P 13 17 23.7 +1.0**
comp=Z,30nm,1.1s
ELK *ep*P pP 13 18 04.2 -1.6
IMW Indian Meadow 56.27 60⇓ *iP* **P 13 17 23.8 +1.0**
IMW *ep*P pP 13 18 05.1 -0.8
MNV Mina 56.33 70⇓ *eP* **P 13 17 23.8 +0.6**
MNV pmax pmax
comp=Z,54nm,0.6s,mb5.5
MNV Mina 56.33 70⇓ *eP* **P 13 17 23.8 +0.5**
comp=Z,54nm,0.6s,mb5.5
DCID1 Drake Creek 56.36 61 *eP* **P 13 17 24.4 +1.0**
MOOW Moose Ponds 56.48 60 *eP* **P 13 17 25.1 +0.9**
comp=Z,18µm,1.5s
TPAW Teton Pass 56.55 61⇓ *iP* **P 13 17 26.0 +1.2**
comp=Z,296nm,1.2s,mb6.0
TPAW *ep*P pP 13 18 06.3 -1.6
LAO LASA Array 56.62 55⇓ *eP* **P 13 17 25.6 +0.4**
comp=Z,448nm,1.1s,mb6.2
LAO *ep*P pP 13 18 08.1 -0.3
GTK Gangtok 56.62 271 *ex* x 13 17 48.0
LOHW Long Hollow 56.65 60⇓ *iP* **P 13 17 26.4 +1.0**
comp=Z,844nm,2.3s,mb6.2
LOHW *ep*P pP 13 18 07.2 -1.4
REDW Red Top Meadow 56.70 61⇓ *eP* **P 13 17 26.8 +1.0**
comp=Z,290nm,1.2s,mb6.0
REDW *ep*P pP 13 18 06.9 -2.1
UBT Ubonrachathani 56.71 248 ⇑P **P 13 17 31.0 +5.1**
MOR8 Moi Rana 56.76 343⇓ *iP* **P 13 17 23.8 -2.4**
MOR8 AMb AMB 13 17 27.3
comp=Z,497nm,1.5s,mb6.1
MOR8 *ep*P pP 13 18 10.5 +1.1
MOR8 Moi Rana 56.76 343⇓ *iP* **P 13 17 23.8 -2.4**
comp=Z,497nm,1.5s,mb6.1
ORR Orenburg 56.81 314⇓ *iP* **P 13 17 25.6 -1.0**
ORR pmax pmax
comp=Z,950nm,1.1s,mb6.5
HVU Hansel Valley 56.83 63⇓ *eP* **P 13 17 27.3 +0.6**
HVU *e**PP pP 13 18 08.6 -1.3
HVU pmax pmax
comp=Z,182nm,0.8s,mb6.0
HVU Hansel Valley 56.83 63⇓ *eP* **P 13 17 27.3 +0.6**
comp=Z,182nm,0.8s,mb6.0
HVU *ep*P pP 13 18 08.6 -1.3
STOK Stokkvaagen 56.84 344⇓ *iP* **P 13 17 25.0 -1.8**
STOK AMb AMB 13 17 29.1
comp=Z,705nm,1.5s,mb6.3
STOK Stokkvaagen 56.84 344⇓ *iP* **P 13 17 25.0 -1.8**
comp=Z,705nm,1.5s,mb6.3
MTUM Tungsten Hills 56.88 71 *eP* **P 13 17 27.9 +0.8**
AHID Auburn Hatcher 57.00 61⇓ *eP* **P 13 17 28.5 +0.6**
comp=Z,148nm,0.8s,mb5.9
AHID *ep*P pP 13 18 09.6 -1.5
KKTK Khon Kaen 57.02 251 P **P 13 17 28.0 -0.1**
comp=Z,4µm,0.9s
SFJD Kangerlussuaq 57.04 13 P **P 13 17 26.7 -1.5**
SFJD S **S 13 25 03.6 -4.1**
SFJD ScS ScS 13 26 54.9 -3.3
SFJD Kangerlussuaq 57.04 13⇓ *iP* **P 13 17 26.8 -1.4**
comp=Z,164nm,0.6s,mb6.0
SFJD *i* 13 25 03.9
SFJD *i* 13 26 24.2
SFJD
comp=Z,2µm,18.0s
SFJD Kangerlussuaq 57.04 13⇓ *iP* **P 13 17 26.8 -1.4**
SFJD *i* 13 25 03.9
SFJD pmax pmax
comp=Z,164nm,0.6s,mb6.0
SFJD MLR MLR
comp=Z,2µm,18.0s
TPH Tonopah 57.10 69 *eP* **P 13 17 29.3 +0.7**
TPH *e**PP pP 13 18 10.4 -1.5
TPH pmax pmax
comp=Z,225nm,0.8s,mb6.0
TPH Tonopah 57.10 69 *eP* **P 13 17 29.3 +0.7**
comp=Z,225nm,0.8s,mb6.0
TPH *ep*P pP 13 18 10.4 -1.5
PTRM Twissleman Ran 57.19 73 *eP* **P 13 17 29.9 +0.7**
CHTO Chiang Mai 57.20 256⇓ *iP* **P 13 17 29.7 +0.3**
SLGI Shiliguri 57.22 271 *ex* x 13 17 29.2
SPUT South Promonto 57.34 63⇓ *eP* **P 13 17 31.1 +0.8**
PECR Pechory 57.41 323 *ceP* **P 13 17 30.4 -0.4**
PECR *i* pP 13 18 15.6 +1.5
PECR pmax pmax
comp=Z,6µm,10.4s
PECR pmax pmax
comp=N,3µm,8.0s
HWUT Hardware Ranch 57.59 63⇓ *iP* **P 13 17 32.9 +0.9**
comp=N,208nm,0.8s,mb6.0
HWUT *ep*P pP 13 18 12.7 -2.6
BW06 Boulder Array 57.78 60⇓ *iP* **P 13 17 34.0 +0.6**
comp=N,282nm,0.9s,mb6.1
BW06 *ep*P pP 13 18 15.4 -1.3
PDAR Pinedale Array 57.78 60 P **P 13 17 34.0 +0.6**
comp=N,162nm,0.6s,mb6.0,baz=320,slow=2.7,SNR=484
PDAR pP pP 13 18 17.2 +0.5
comp=N,80nm,0.8s,baz=302,slow=3.3,SNR=2.6
PDAR PKPPKP 13 47 16.3
comp=N,16nm,1.1s,baz=149,slow=3.1,SNR=20
PDAR PKP2bc 13 47 29.4
comp=N,22nm,1.1s,baz=144,slow=3.3,SNR=11
PDAR Pinedale Array 57.78 60 P **P 13 17 34.0 +0.6**
PDAR pP pP 13 18 17.2 +0.5
PDAR P'P' 13 47 16.3
PDAR ⇑*e* 13 47 29.4
GUN Gumba 57.79 274 *eP* **P 13 17 33.5 0.0**
comp=N,882nm,0.7s,mb6.7
JIRN Jiri 57.80 273 *eP* **P 13 17 33.7 +0.2**
comp=N,2µm,1.1s,mb6.9
KAF Kangasniemi 57.95 336 *ep* **P 13 17 31.9 -2.6**
comp=N,238nm,0.7s,mb6.1,baz=31,slow=6.5
KAF Kangasniemi 57.95 336 *eP* **P 13 17 31.9 -2.6**
KAF pmax pmax
comp=Z,238nm,0.7s,mb6.1
DUG Dugway 57.95 65⇓ *iP* **P 13 17 35.4 +0.8**
DUG *e**PP pP 13 18 16.0 -1.9
DUG pmax pmax
comp=Z,192nm,0.9s,mb5.9
DUG Dugway 57.95 65⇓ *iP* **P 13 17 35.4 +0.8**
comp=Z,192nm,0.9s,mb5.9
DUG *ep*P pP 13 18 16.0 -1.9
NOQ North Oquirrh 57.98 64⇓ *eP* **P 13 17 35.4 +0.6**
comp=Z,315nm,0.8s,mb6.2
TCUT Toone Canyon 58.02 63⇓ *eP* **P 13 17 35.8 +0.8**
TCUT *ep*P pP 13 18 18.0 -0.5
CTU Camp Tracy 58.15 64 *eP* **P 13 17 36.5 +0.6**
comp=Z,31nm,0.4s,mb5.5
DAC Darwin (Calif) 58.20 71 *eP* **P 13 17 36.5 +0.2**
DAC *e**PP pP 13 18 19.7 0.0
DAC pmax pmax
comp=Z,518nm,1.7s,mb6.1
DAC Darwin (Calif) 58.20 71 *eP* **P 13 17 36.5 +0.2**
comp=Z,518nm,1.7s,mb6.1
DAC *ep*P pP 13 18 19.6 0.0
KKN Kakani 58.23 274 *eP* **P 13 17 36.6 +0.1**
comp=Z,2µm,0.9s,mb7.0
KKN Kakani 58.23 274 *eP* **P 13 17 36.6 +0.1**
KKN pmax pmax
comp=Z,2µm,0.9s,mb7.0
PKI Pulchoki 58.32 274 *eP* **P 13 17 37.2 +0.1**
comp=Z,3µm,1.2s,mb7.1
PKI Pulchoki 58.32 274 *eP* **P 13 17 37.2 +0.1**
PKI pmax pmax
comp=Z,3µm,1.2s,mb7.1
TPNV Topopah Spring 58.45 70⇓ *eP* **P 13 17 38.6 +0.6**
TPNV *e**PP pP 13 18 19.9 -1.5
TPNV pmax pmax
comp=Z,1µm,1.7s,mb6.5
TPNV Topopah Spring 58.45 70⇓ *eP* **P 13 17 38.6 +0.6**
comp=Z,1µm,1.7s,mb6.5
TPNV *ep*P pP 13 18 19.9 -1.6
GKN Gorkha 58.45 275 *eP* **P 13 17 37.9 -0.1**
comp=Z,3µm,1.1s,mb7.0
DMN Daman 58.47 274 *eP* **P 13 17 38.4 +0.2**
comp=Z,4µm,1.2s,mb7.1
NLU North Lily Min 58.51 64⇓ *iP* **P 13 17 39.1 +0.7**
NLU *ep*P pP 13 18 20.0 -1.9
FINES FINESS Array B 58.58 335 P **P 13 17 38.4 -0.5**
comp=Z,129nm,0.6s,mb5.9,baz=32,slow=6.7,SNR=180
FINES pP pP 13 18 23.1 +0.7
comp=Z,81nm,0.8s,baz=46,slow=8.2,SNR=2.9
FINES PKPPKP 13 47 09.3
comp=Z,2.2nm,0.8s,baz=180,slow=1.4,SNR=4.1
FINES PKP2bc 13 47 25.4
comp=Z,4.7nm,1.0s,baz=200,slow=2.0,SNR=5.2
FINES FINESS Array B 58.58 335 P **P 13 17 38.4 -0.5**
FINES *PP pP 13 18 23.1 +0.7
FINES pmax pmax
comp=Z,129nm,0.6s
FINES FINESS Array B 58.58 335 P **P 13 17 38.4 -0.5**
FINES pP pP 13 18 23.1 +0.7
FINES P'P' 13 47 09.3
FINES ⇑*e* 13 47 25.4
DAU Daniels Canyon 58.61 63 *eP* **P 13 17 40.3 +1.2**
DAU *e**PP pP 13 18 22.0 -0.6
NSS Namsos 58.68 344 *eP* **P 13 17 37.0 -2.6**
NSS AMb AMB 13 17 41.1
comp=Z,514nm,1.7s,mb6.1
NSS Namsos 58.68 344 *eP* **P 13 17 37.0 -2.6**
comp=Z,514nm,1.7s,mb6.1
ULM Lac du Bonnet 58.69 46 P **P 13 17 39.2 -0.5**
comp=Z,109nm,0.4s,mb6.0,baz=316,slow=8.7
ULM pP pP 13 18 23.1 0.0
comp=Z,151nm,1.1s,baz=308,slow=8.7,SNR=3.8
MPU Maple Canyon 58.70 64⇓ *eP* **P 13 17 40.6 +0.8**
comp=Z,207nm,0.8s,mb6.0
MPU *ep*P pP 13 18 22.0 -1.2
KKM Kota Kinabalu 58.92 231 P **P 13 17 42.8 +1.6**
KKM Kota Kinabalu 58.92 231⇓ *eP* **P 13 17 42.5 +1.3**
KKM *e*ScP ScP 13 22 10.3 -0.3
KOLN Koldanda 59.23 276 *eP* **P 13 17 43.2 -0.2**
comp=Z,2µm,1.2s,mb6.8
ARUT Antelope Range 59.37 67 *eP* **P 13 17 44.4 +0.1**
ARUT Antelope Range 59.37 67 *eP* **P 13 17 44.8 +0.5**
MSU Marysvale 59.51 66 *eP* **P 13 17 46.3 +1.0**
RSSD Black Hills 59.54 56⇓ *iP* **P 13 17 46.0 +0.5**
RSSD *e**PP pP 13 18 28.7 -0.4
RSSD *e*S **S 13 25 40.8 +0.7**
RSSD pmax pmax
comp=Z,68nm,0.7s,mb5.6
RSSD Black Hills 59.54 56⇓ *iP* **P 13 17 46.0 +0.4**
comp=Z,62nm,0.7s,mb5.5
RSSD *ep*P pP 13 18 28.7 -0.5
RSSD *e*S **S 13 25 40.8 +0.6**
CCUT Cedar City 59.58 67⇓ *iP* **P 13 17 46.7 +0.9**
CCUT *ep*P pP 13 18 28.4 -0.9
TSM Tawau 59.73 229 P **P 13 17 47.7 +1.0**
RWWY Rawlins 59.76 60⇓ *iP* **P 13 17 47.1 +0.1**
comp=Z,282nm,1.2s,mb6.0
PTH Pithoragarh 59.86 280 *eP* **P 13 17 47.9 +0.2**
PTH *ex* x 13 18 33.3
LGTI Lohaghat 59.92 279 *iP* **P 13 17 50.0 +1.9**
LGTI *ex* x 13 18 34.0
SRU San Rafael 59.95 64⇓ *eP* **P 13 17 48.9 +0.6**
SRU *e**PP pP 13 18 30.5 -1.4
SRU pmax pmax
comp=Z,2µm,0.8s,mb7.0
SRU San Rafael 59.95 64⇓ *eP* **P 13 17 48.9 +0.6**
comp=Z,2µm,0.8s,mb7.0
SRU *ep*P pP 13 18 30.5 -1.5
DLH Dalhousie 60.07 285 *eP* **P 13 17 50.0 +0.9**
MOS Moscow 60.07 326x *iP* **P 13 17 49.5 +0.4**
MOS *i* *PP pP 13 18 32.5 -0.3
MOS *i* 13 18 58.2
MOS *eS* ScS 13 27 14.7 -6.0
MOS pmax pmax
comp=N,3µm,2.4s
MOS pmax pmax
comp=Z,5µm,2.4s,mb6.9
MOS pmax pmax
comp=Z,2µm,1.6s,mb6.6
MOS pmax pmax
comp=N,766nm,1.3s
NEN Nelson 60.17 70 *eP* **P 13 17 50.0 +0.2**
NEN *ep*P pP 13 18 33.7 +0.2
SDNR Sundarnagar 60.27 283 *eP* **P 13 17 49.5 -1.0**
SDNR *ex* x 13 25 48.0
CAL Calcutta 60.44 268 *eP* **P 13 17 51.8 +0.1**
CAL *ex* x 13 18 34.8
CAL ⇑*ix* x 13 27 15.2
SMLA Simla 60.44 283 *iP* **P 13 17 49.2 -2.4**
SMLA *eP* 13 17 50.2
SMLA AMb AMB 13 17 51.6
comp=Z,3µm,1.3s,mb6.9
PONG Pong 60.52 285 *eP* **P 13 17 51.0 -1.1**
DDI Dehra Dun 60.53 282 *eP* **P 13 17 52.0 -0.2**
DDI *ex* x 13 18 24.5
BHK Bhakra 60.65 284 *ex* x 13 17 58.0
NIL Nilore 60.77 288 P **P 13 17 54.9 +1.0**
comp=Z,3µm,1.3s,mb6.9,SNR=74
PFO Pinyon Flat Ob 60.79 72 P **P 13 17 54.0 0.0**
comp=Z,599nm,0.7s,mb6.5,SNR=20
BOK Bokaro 60.91 271 *i* P **P 13 17 54.1 -0.7**
BOK *eP* 13 17 54.2
BOK AMb AMB 13 17 57.2
comp=Z,861nm,1.2s,mb6.4
BOK *ix* x 13 18 23.6
BOK *ix* x 13 18 28.1
BOK *ex* x 13 25 54.9
BOK *ix* x 13 27 14.5
OBN Obninsk 60.93 326 P **P 13 17 54.4 -0.5**
comp=Z,4µm,1.4s,mb7.0,SNR=34
OBN Obninsk 60.93 326 *diP* **P 13 17 54.2 -0.7**
OBN *e* pP 13 18 34.7 -4.0
OBN *e**PP pP 13 18 39.9 +1.2
OBN *e**SP sP 13 19 02.5 +3.1
OBN *e* 13 20 09.0
OBN *eS* **S 13 25 56.7 -1.1**
OBN *eSS* SS 13 30 04.3 +3.9
OBN pmax pmax
comp=Z,1µm,1.4s,mb6.6
OBN MLR MLR
comp=Z,3µm,22.0s
PHWY Pilot Hill 60.93 59 *eP* **P 13 17 55.0 0.0**
VSU Vasula 61.00 333 *diP* **P 13 17 55.1 -0.3**
MOL Molde 61.22 345 *eP* **P 13 17 56.5 -0.4**
BORG Borgarnes 61.25 360 P **P 13 17 57.1 0.0**
comp=Z,2µm,1.2s,mb6.8,SNR=10
PV10 Paradox Valley 61.27 64 *eP* **P 13 17 58.1 +0.9**
DOMB Dombas 61.48 344⇓ *iP* **P 13 17 57.9 -0.7**
DOMB AMb AMB 13 18 01.1
comp=Z,763nm,1.3s,mb6.4
DOMB *ep*P pP 13 18 38.1 -4.4
DOMB Dombas 61.48 344⇓ *iP* **P 13 17 57.9 -0.7**
comp=Z,763nm,1.3s,mb6.4
PV01 Paradox Valley 61.70 63 *eP* **P 13 18 00.1 +0.1**
SMCO Snowmass 61.75 62⇓ *iP* **P 13 18 01.1 +0.7**
comp=Z,54nm,2.6s
SMCO *ep*P pP 13 18 43.5 -0.8
NNT Nongplab 61.79 251 P **P 13 18 02.3 +1.6**
ISCO Idaho Springs 61.98 60⇓ *iP* **P 13 18 03.0 +1.1**
ISCO *e**PP pP 13 18 45.1 -0.8
ISCO pmax pmax
comp=Z,321nm,1.2s,mb6.0
ISCO Idaho Springs 61.98 60⇓ *iP* **P 13 18 03.0 +1.1**
comp=Z,298nm,1.2s,mb6.0
ISCO *ep*P pP 13 18 45.1 -0.8
NB2 NORSAR Subarra 62.07 343 P **P 13 18 01.6 -0.9**
comp=Z,944nm,1.4s,mb6.4,baz=23,slow=6.9
NOA NORSAR Array B 62.07 343 P **P 13 18 01.8 -0.7**
comp=Z,118nm,0.7s,mb5.8,baz=22,slow=6.6,SNR=97
NOA PcP PcP 13 18 40.2 -0.8
comp=Z,75nm,0.9s,baz=21,slow=2.7,SNR=15
NOA pP pP 13 18 48.0 +1.5
comp=Z,22nm,0.7s,baz=21,slow=6.7,SNR=1.9
NOA PKP2bc 13 47 10.2
comp=Z,7.9nm,0.9s,baz=205,slow=4.8,SNR=9.4
NOA NORSAR Array B 62.07 343 P **P 13 18 01.8 -0.7**
NOA PcP PcP 13 18 40.2 -0.8
NOA pP pP 13 18 48.0 +1.5
NOA ⇑*e* 13 47 10.2
NDI New Delhi 62.24 281 *ex* x 13 13 45.0
NDI *eP* 13 18 02.0
NDI *ex* x 13 18 41.0
NDI *ex* x 13 26 08.5
NAO01 NORSAR Array S 62.31 343⇓ *eP* **P 13 18 03.0 -1.1**
comp=Z,0.2nm,0.6s
MVCO Mesa Verde 62.43 64⇓ *iP* **P 13 18 05.3 +0.4**
comp=Z,125nm,0.8s,mb5.8
MVCO *ep*P pP 13 18 47.3 -1.7
HFA0 Hagfors New Ar 62.45 341 P **P 13 18 03.7 -1.4**
HFS Hagfors 62.46 341 P **P 13 18 04.2 -0.9**
comp=Z,51nm,0.5s,mb5.7,baz=46,slow=4.5,SNR=145
HFS PcP PcP 13 18 41.7 -1.0
comp=Z,75nm,1.0s,baz=38,slow=2.6,SNR=6.6
HFS Hagfors 62.46 341 P **P 13 18 04.2 -0.9**
HFS 13 18 41.7
HFS pmax pmax
comp=Z,51nm,0.5s
FOO Floro 62.51 346⇓ *iP* **P 13 18 04.8 -0.7**
FOO AMb AMB 13 18 08.2
comp=Z,629nm,1.5s,mb6.2
FOO Floro 62.51 346⇓ *iP* **P 13 18 04.8 -0.7**
comp=Z,629nm,1.5s,mb6.2
HYA Hoyanger 62.76 345⇑ *iP* **P 13 18 07.5 +0.4**
HYA AMb AMB 13 18 10.2
comp=Z,884nm,1.5s,mb6.4
HYA Hoyanger 62.76 345⇑ *iP* **P 13 18 07.5 +0.4**
comp=Z,884nm,1.5s,mb6.4
VOR Voronezh 62.81 322⇓ *iP* **P 13 18 05.5 -2.0**
VOR *e* 13 20 26.0
VOR S **S 13 26 17.0 -4.4**
VOR pmax pmax
comp=Z,2µm,2.0s,mb6.5
VOR pmax pmax
comp=N,960nm,1.6s
VOR pmax pmax
comp=E,540nm,1.8s
VOR smax
comp=N,180nm,2.0s
VOR smax
comp=Z,80nm,2.0s
SUE Sulen 63.07 346⇓ *iP* **P 13 18 08.6 -0.6**
SUE AMb AMB 13 18 12.0
comp=Z,874nm,1.3s,mb6.4
SUE Sulen 63.07 346⇓ *iP* **P 13 18 08.6 -0.6**
comp=Z,874nm,1.3s,mb6.4
ECSD EROS,Sioux Fal 63.34 52⇓ *iP* **P 13 18 10.5 -0.5**
comp=Z,4.1nm,0.3s
ECSD *ep*P pP 13 18 53.8 -1.3
IZAR Zarasai 63.50 332 *eP* **P 13 18 11.4 -0.5**
IZAR AMb AMB 13 18 14.2
comp=Z,4µm,1.5s,mb7.0
IZAR *ep*P PcP 13 18 45.6 -1.3
HNR Honiara 63.53 178 P **P 13 18 11.3 -0.9**
comp=Z,121nm,0.8s,mb5.8,baz=190,slow=0.8,SNR=6.2
HNR pP pP 13 18 55.8 -0.5
comp=Z,116nm,0.8s,baz=76,slow=3.8,SNR=1.4
HNR Honiara 63.53 178 P **P 13 18 11.3 -0.9**
HNR *PP pP 13 18 55.8 -0.6
HNR pmax pmax
comp=Z,121nm,0.8s,mb5.8
ASK Askoy 63.56 346⇓ *iP* **P 13 18 12.1 -0.3**
SDCO Great Sand Dun 63.59 62 *eP* **P 13 18 13.1 +0.5**
RUND Rundenannen 63.60 345⇓ *iP* **P 13 18 12.4 -0.2**
RUND AMb AMB 13 18 15.6
comp=Z,2µm,1.2s,mb6.8
BER Bergen 63.63 345⇑ *iP* **P 13 18 12.4 -0.5**
BER *eP* 13 18 12.7
BER AMb AMB 13 18 15.1
comp=Z,1µm,1.6s,mb6.4
BER AMb AMB 13 18 15.9
comp=Z,884nm,1.2s,mb6.5
BER Bergen 63.63 345 *eP* **P 13 18 12.7 -0.2**
BER pmax pmax
comp=Z,1µm,1.6s,mb6.4
BER Bergen 63.63 345 *eP* **P 13 18 12.7 -0.2**
comp=Z,1µm,1.6s,mb6.4
KONO Kongsberg 63.65 343⇓ *iP* **P 13 18 12.3 -0.7**
KONO *ep*P PcP 13 18 46.5 -1.1
KONO Kongsberg 63.65 343 *diP* **P 13 18 12.6 -0.4**
ISAL Salakas 63.69 332 *eP* **P 13 18 12.8 -0.5**
ISAL AMb AMB 13 18 15.5
comp=Z,5µm,1.7s,mb7.0
ISAL *ep*P PcP 13 18 46.3 -1.3
IDID Didziasalis 63.74 332 *eP* **P 13 18 13.1 -0.5**
IDID AMb AMB 13 18 15.7
comp=Z,5µm,1.1s,mb7.3
IDID *ep*P PcP 13 18 46.4 -1.5
EGD Espegrend 63.76 345⇓ *iP* **P 13 18 13.3 -0.4**
EGD AMb AMB 13 18 17.0
comp=Z,2µm,1.7s,mb6.5
EGD Espegrend 63.76 345⇓ *iP* **P 13 18 13.3 -0.4**
comp=Z,2µm,1.7s,mb6.5
IIGN Ignalina 63.85 332 *eP* **P 13 18 14.0 -0.3**
ODD1 Odda 63.89 345⇓ *iP* **P 13 18 13.2 -1.4**
ODD1 AMb AMB 13 18 16.6
comp=Z,862nm,1.4s,mb6.4
ODD1 Odda 63.89 345⇓ *iP* **P 13 18 13.2 -1.4**
comp=Z,862nm,1.4s,mb6.4
MNK Minsk 64.14 331⇓ *iP* **P 13 18 15.0 -1.2**
MNK pmax pmax
comp=E,3µm,1.5s
PMG Port Moresby 64.20 192 P **P 13 18 15.7 -0.8**
comp=E,168nm,0.8s,mb5.9,baz=6.3,slow=6.4,SNR=44
PMG pP pP 13 19 00.8 0.0
comp=E,56nm,0.8s,baz=359,slow=7.6,SNR=2.2
PMG Port Moresby 64.20 192 P **P 13 18 15.7 -0.9**
PMG *PP pP 13 19 00.8 0.0
PMG pmax pmax
comp=Z,169nm,0.8s
PMG Port Moresby 64.20 192 *eP* **P 13 18 15.5 -1.1**
BLS5 Blasjo 64.38 345⇓ *iP* **P 13 18 18.4 +0.6**
BLS5 AMb AMB 13 18 21.6
comp=Z,258nm,1.2s,mb5.9

BLS5 **Blasjo** 64.38 345⇓*i*P P 13 18 18.4 +0.6
comp=Z,258nm,1.2s,mb5.9
BLSP **Bilaspur** 64.38 273 *ex* x 13 18 11.2
BLSP ⇓*i*P 13 18 16.2
BLSP AMb AMB 13 18 19.0
comp=Z,560nm,1.3s,mb6.2
WAL1 **Walls** 64.65 349⇓*e*P P 13 18 18.6 -0.9
LRW **Lerwick** 64.72 349⇓*e*P P 13 18 19.3 -0.7
KMY **Karmoy** 64.77 345⇓*i*P P 13 18 19.9 -0.4
KMY AMb AMB 13 18 23.3
comp=Z,788nm,1.3s,mb6.4
KMY **Karmoy** 64.77 345⇓*i*P P 13 18 19.9 -0.4
comp=Z,788nm,1.3s,mb6.4
JBP **Jabalpur** 64.84 275⇓*e*P P 13 18 20.1 -0.7
JBP *ex* x 13 26 42.3
TUC **Tucson** 64.90 69 *e*P P 13 18 21.5 +0.4
TUC *e**PP pP 13 19 02.6 -2.8
TUC pmax pmax
comp=Z,447nm,1.9s,mb6.0
TUC **Tucson** 64.90 69 *e*P P 13 18 21.4 +0.4
comp=Z,447nm,1.9s,mb6.0
TUC *e*pP pP 13 19 02.6 -2.8
STAV **Stavanger** 64.97 345⇓*i*P P 13 18 21.3 -0.2
STAV AMb AMB 13 18 24.5
comp=Z,854nm,1.4s,mb6.4
STAV **Stavanger** 64.97 345⇓*i*P P 13 18 21.3 -0.2
comp=Z,854nm,1.4s,mb6.4
SCHQ **Schefferville** 65.00 27 P P 13 18 20.8 -1.0
comp=Z,245nm,0.7s,mb6.1,baz=344,slow=6.5,SNR=246
SCHQ PKP2bc 13 47 05.8
comp=Z,53nm,1.2s,baz=141,slow=2.3,SNR=12
SCHQ **Schefferville** 65.00 27 P P 13 18 20.8 -0.9
SCHQ ⇑*e* 13 47 05.8
ANMO **Albuquerque** 65.21 64⇓*e*P P 13 18 23.5 +0.4
ANMO *e**PP pP 13 19 07.8 +0.3
ANMO pmax pmax
comp=Z,68nm,0.8s
ANMO **Albuquerque** 65.21 64⇓*e*P P 13 18 23.5 +0.4
comp=Z,68nm,0.8s,mb5.5
ANMO *e*pP pP 13 19 07.8 +0.3
SNART **Snartemo** 65.30 344⇓*i*P P 13 18 23.4 -0.3
SNART AMb AMB 13 18 26.7
comp=Z,568nm,1.3s,mb6.2
SNART **Snartemo** 65.30 344⇓*i*P P 13 18 23.4 -0.3
comp=Z,568nm,1.3s,mb6.2
AJM **Ajmer** 65.39 281⇓*i*P P 13 18 22.9 -1.3
AJM AMb AMB 13 18 25.7
comp=Z,591nm,1.5s,mb6.2
VAN **Vannovskaya** 65.57 301⇓*i*P P 13 18 25.2 -0.2
VAN *i* S S 13 26 50.7 -4.6
ABKT **Ailbek** 65.58 301 P P 13 18 25.1 -0.4
comp=Z,3μm,0.9s,mb7.0
LPM **Los Pinos Moun** 65.61 65 *e*P P 13 18 26.3 +0.7
LPM *e*pP pP 13 19 10.6 +0.5
CBKS **Cedar Bluff** 65.67 57⇓*i*P P 13 18 25.1 -0.9
CBKS *e**PP pP 13 19 07.4 -3.1
CBKS pmax pmax
comp=Z,324nm,1.2s,mb6.0
CBKS **Cedar Bluff** 65.67 57⇓*i*P P 13 18 25.1 -1.0
comp=Z,324nm,1.2s,mb6.0
CBKS *e*pP pP 13 19 07.4 -3.0
BNM **Barren Site** 65.74 65⇓*i*P P 13 18 27.3 +0.9
BNM *e*pP pP 13 19 09.4 -1.5
SNG **Songkhla** 65.78 247 P P 13 18 26.0 -0.7
comp=Z,598nm,1.0s,mb6.4
SUW **Suwalki** 65.86 333 *i* Pd 13 18 26.6
comp=Z,3.0nm,1.6s
SUW *e*PcP PcP 13 18 55.7 -1.0
BHPL **Bhopal** 66.27 277⇓*ix* x 13 18 28.7
PBA **Port Blair** 66.48 257 *ex* x 13 18 05.7
MAK **Makhachkala** 66.61 312*c* *i*P P 13 18 30.9 -1.1
MAK *i* 13 18 59.2
MAK *e* pP 13 19 18.1 +1.5
MAK *e* 13 20 57.1
MAK *i* PPP 13 22 44.9
MAK *e* 13 27 45.6
MAK *i* 13 28 07.5
MAK pmax pmax
comp=Z,937nm,1.2s,mb6.5
MUD **Monsted U'grnd** 66.75 342⇓*i*P P 13 18 33.2 +0.3
comp=Z,672nm,1.4s,mb6.3
MUD *i* 13 18 59.5
MUD *e* 13 19 39.5
MUD *i* 13 24 03.7
MUD *i* 13 28 36.8
MUD *e* 13 32 41.0
MUD **Monsted U'grnd** 66.75 342⇓*i*P P 13 18 33.2 +0.3
MUD *i* 13 18 59.5
MUD *e* 13 19 39.5
MUD pmax pmax
comp=Z,672nm,1.4s,mb6.3
MLA1 **Latheron** 66.75 350⇓*e*P P 13 18 32.3 -0.6
GOF **Gofitskoye** 66.81 316⇓*i*P P 13 18 33.5 +0.2
GOF *i* S 13 27 11.0 +0.9
GOF pmax pmax
comp=Z,2μm,0.8s,mb6.9
GOF smax
comp=E,250nm,1.3s
COP **Copenhagen** 66.85 340⇓*i*P P 13 18 33.8 +0.2
comp=E,723nm,1.3s,mb6.3
COP *e* pP 13 19 23.1 +5.0
COP *i* 13 21 02.5
COP *i* sS 13 28 34.9 +6.6
COP *i* 13 36 02.5
COP **Copenhagen** 66.85 340⇓*i*P P 13 18 33.8 +0.2
COP *e* pP 13 19 23.1 +5.0
COP *i* 13 21 02.5
COP pmax pmax
comp=Z,723nm,1.3s,mb6.3
BSD **Bornholm Skovb** 66.86 338⇓*i*P P 13 18 33.2 -0.4
comp=Z,1μm,1.5s,mb6.6
BSD *e* 13 18 59.1
BSD *i* S S 13 27 09.5 -1.4
BSD *i* 13 28 09.4
BSD *i* 13 28 37.2
BSD
comp=Z,2μm,21.0s
BSD **Bornholm Skovb** 66.86 338⇓*i*P P 13 18 33.2 -0.4
BSD *e* 13 18 59.1
BSD *i* S S 13 27 09.5 -1.4
BSD *i* 13 28 09.4
BSD pmax pmax
comp=Z,1μm,1.5s,mb6.6
BSD **Bornholm Skovb** 66.86 338⇓*i*P P 13 18 33.2 -0.4
comp=Z,1μm,1.5s,mb6.6
BSD *e* 13 18 59.1
BSD *i* S S 13 27 09.5 -1.4
BSD *i* 13 28 09.4
BSD *i* 13 28 37.2
KSU1 **Kansas State U** 66.96 55⇓*e*P P 13 18 32.6 -1.6
comp=Z,13nm,0.6s
KSU1 *e*pP pP 13 19 17.2 -1.7
AKASG **Malin Array Be** 67.03 328 P P 13 18 33.8 -0.9
comp=Z,181nm,0.7s,mb6.0,baz=30,slow=6.0,SNR=289
AKASG pP pP 13 19 20.2 +1.0
comp=Z,96nm,0.9s,baz=28,slow=6.1,SNR=3.4
AKASG PKP2bc 13 46 58.5
comp=Z,1.8nm,0.8s,baz=217,slow=3.6,SNR=5.5
AKASG **Malin Array Be** 67.03 328 P P 13 18 33.8 -0.9
AKASG pP pP 13 19 20.2 +1.0
AKASG ⇑*e* 13 46 58.5
VIS **Vishakhapatnam** 67.11 269 *e*P P 13 18 35.6 +0.4
VIS AMb AMB 13 18 37.4
comp=Z,519nm,0.9s,mb6.3
VIS *ex* x 13 27 11.3
MVH1 **Achvaich** 67.21 350⇓*e*P P 13 18 35.2 -0.7
KULM **Kulim** 67.34 246⇓*e*P P 13 18 37.2 +0.6
MCD **Coleburn Disti** 67.45 349⇓*e*P P 13 18 36.8 -0.5
MME1 **Meikle Cairn** 67.69 349⇓*e*P P 13 18 37.8 -1.0
RGN **Rugen** 67.73 339⇓*e*P P 13 18 39.6 +0.5
comp=Z,3μm,1.3s,mb6.8
KAC **Achnashellach** 67.74 351⇓*e*P P 13 18 38.5 -0.6
AMTX **Amarillo** 67.75 61⇓*e*P P 13 18 38.8 -0.4
comp=Z,678nm,1.4s,mb6.2
AMTX *e*pP pP 13 19 23.7 -0.2
IPM **Ipoh** 67.82 245 P P 13 18 40.0 +0.4
KIV **Kislovodsk** 67.85 315 P P 13 18 40.7 +0.9
comp=Z,3μm,1.3s,mb6.8,SNR=97
KIV **Kislovodsk** 67.85 315*d* *i*P P 13 18 40.0 +0.2
KIV *e* 13 19 04.9
KIV *e**PP pP 13 19 27.9 +3.4
KIV *e**SP sP 13 19 49.1 +4.1
KIV *e* 13 21 12.8
KIV *e*PPP 13 22 53.2
KIV *e*S S 13 27 23.0 +0.4
KIV pmax pmax
comp=Z,421nm,0.7s,mb6.3
KIV pmax pmax
comp=Z,4μm,2.5s,mb6.8
KIV MLR MLR
comp=Z,2μm,17.0s
WAR **Warsaw** 68.03 333 *i* Pd 13 18 41.4
comp=Z,3.6nm,1.2s
WAR *e*PcP PcP 13 19 06.4 +0.7
GKP **Gorka Klasztor** 68.04 336 *i* Pd 13 18 41.2
comp=Z,3.3nm,1.8s
GKP *e*PcP PcP 13 19 05.0 -0.8
GKP *e*pP pP 13 19 27.8 +2.1
GKP *e*sP sP 13 19 49.5 +3.3
GKP *e*PP PP 13 21 07.4 -6.1
GKP *e*S S 13 27 26.9 +2.0
GKP *e*sS sS 13 28 51.6 +8.9
GKP *e*SS SS 13 31 47.6 -3.3
GKP **Gorka Klasztor** 68.04 336⇓*i*P P 13 18 41.2 +0.2
GKP *e* 13 19 05.0
GKP *e**PP pP 13 19 27.8 +2.1
GKP *e**SP sP 13 19 49.5 +3.3
GKP *e*S S 13 27 26.9 +2.0
GKP *e*SS SS 13 31 47.6 -3.3
KSB **Sheil Bridge** 68.04 351⇓*e*P P 13 18 40.5 -0.5
CPRX **Cap Rock** 68.06 64 *e*P P 13 18 41.2 +0.1
MNTX **Cornudas Mount** 68.29 66⇓*e*P P 13 18 42.6 +0.1
comp=Z,9.2nm,2.4s
MNTX *e*pP pP 13 19 27.6 +0.3
ZEI **Tsey** 68.32 314 *e*P P 13 18 43.3 +0.6
ZEI *e**PP pP 13 19 30.3 +2.8
ZEI pmax pmax
comp=Z,726nm,1.3s,mb6.2
KAR1 **Arisaig** 68.37 351⇓*e*P P 13 18 42.6 -0.4
AKL **Akola** 68.48 276 *i* x x 13 18 09.4
AKL *i* x x 13 30 06.1
KGM **Kluang** 68.70 242 P P 13 18 45.9 +0.8
DGRG **David-gareji** 68.76 312 P P 13 18 45.7 +0.2
SAMG **Sameba** 68.80 313 P P 13 18 44.7 -1.0
TBLG **Delisi** 68.81 313 P P 13 18 46.1 +0.3
TBLG **Delisi** 68.81 313 P P 13 18 46.0 +0.2
MTA **Mtatsminda** 68.82 313 P P 13 18 46.1 +0.3
GOR **Gori** 68.87 313 P P 13 18 46.7 +0.6
BSEG **Bad Segeberg** 68.92 340 *e*P P 13 18 46.8 +0.3
EAB **Aberfoyle** 68.94 350⇓*e*P P 13 18 46.1 -0.4
EAB AMb AMB 13 18 48.7
comp=Z,1μm,1.4s,mb6.4
ESY **Stoneypath** 69.02 349⇓*e*P P 13 18 46.5 -0.6
ESY AMb AMB 13 18 49.0
comp=Z,1μm,1.3s,mb6.4
EDI **Edinburgh** 69.08 349⇓*e*P P 13 18 46.4 -1.0
EDI AMb AMB 13 18 49.4
comp=Z,631nm,1.5s,mb6.1
EAU **Auchinoon** 69.18 349⇓*e*P P 13 18 47.7 -0.4
EAU AMb AMB 13 18 50.4
comp=Z,2μm,1.3s,mb6.6
EBL **Broad Law** 69.21 349⇓*e*P P 13 18 47.6 -0.6
EBL AMb AMB 13 18 50.4
comp=Z,790nm,1.5s,mb6.2
ANN **Anapa** 69.23 319*d* *i*P P 13 18 47.5 -0.9
ANN *i* 13 19 09.4
ANN *i* *PP pP 13 19 35.2 +1.9
ANN *i* 13 21 24.6
ANN *e*PPP 13 23 06.5
ANN *e*S S 13 27 38.6 -0.3
ANN *e* 13 28 27.9
ANN *e*SS SS 13 32 10.4 +1.1
ANN pmax pmax
comp=Z,754nm,1.6s,mb6.2
PGBU **Glenifferbraes** 69.33 350⇓*e*P P 13 18 48.6 -0.4
WMOK **Wichita Mounta** 69.34 59⇓*e*P P 13 18 48.6 -0.4
WMOK *e**PP pP 13 19 33.5 -0.4
WMOK pmax pmax
comp=Z,204nm,0.9s,mb5.9
WMOK **Wichita Mounta** 69.34 59⇓*e*P P 13 18 48.6 -0.5
comp=Z,204nm,0.9s,mb5.8
WMOK *e*pP pP 13 19 33.5 -0.5
SOC **Sochi** 69.36 317*d* *i*P P 13 18 48.9 -0.3
SOC *e* 13 19 10.1
SOC *e**PP pP 13 19 35.4 +1.3
SOC *e**SP sP 13 19 54.8 +0.3
SOC *e* 13 21 25.4
SOC *e*PPP 13 23 06.5
SOC *e*S S 13 27 39.1 -1.3
SOC *e* 13 28 27.3
SOC pmax pmax
comp=Z,3μm,1.7s,mb6.7
SOC pmax pmax
comp=Z,1μm,1.4s,mb6.4
LVV **L'vov** 69.38 330 *e*P P 13 18 48.5 -0.8
LVV *e* 13 19 09.7
LVV *e**PP pP 13 19 36.5 +2.3
LVV *e* 13 21 24.9
LVV *e*PPP 13 23 08.7
LVV *i*S S 13 27 33.1 -7.5
LVV *e*SS SS 13 32 21.1 +10
LVV MLR MLR
comp=N,1μm,15.0s
LVV MLR MLR
comp=Z,900nm,15.0s
LVV MLR MLR
comp=E,300nm,16.0s
RUE **Ruedersdorf** 69.56 338 *e*P P 13 18 50.5 +0.1
comp=Z,3μm,1.6s,mb6.8
RUE **Ruedersdorf** 69.56 338⇓*i*P P 13 18 50.7 +0.3
comp=Z,2μm,1.4s,mb6.7
AKH **Akhalkalaki** 69.61 313 P P 13 18 51.5 +0.9
EKA **Eskdalemuir Ar** 69.65 349 PKP2bc 13 46 51.9
comp=Z,10.0nm,1.0s,baz=193,slow=3.4,SNR=8.4
ESK **Eskdalemuir** 69.67 349 P P 13 18 50.3 -0.8
comp=Z,2μm,1.2s,mb6.7,SNR=48
ESK **Eskdalemuir** 69.67 349⇓*e*P P 13 18 50.5 -0.6
ESK AMb AMB 13 18 53.3
comp=Z,698nm,1.2s,mb6.2
BBH **Bruntsheil** 69.82 349⇓*e*P P 13 18 51.7 -0.3
BWH **Wardlaw** 69.86 349⇓*e*P P 13 18 51.9 -0.3
BHH **Howats Hill** 69.90 349⇓*e*P P 13 18 52.0 -0.4
GMK **Mull of Kintyr** 69.90 350⇓*e*P P 13 18 51.8 -0.6
KWP **Kalwaria** 69.93 331 *i* Pd P 13 18 53.2 +0.6
comp=Z,6.0nm,1.7s
KWP *e*PP PP 13 21 21.8 -8.0
GNI **Garni** 70.10 312 P P 13 18 54.1 +0.4
GNI **Garni** 70.10 312*d* *i*P P 13 18 54.8 +1.1
GNI pmax pmax
comp=Z,1μm,1.2s
GNI **Garni** 70.10 312⇓*e*P P 13 18 54.6 +0.9
comp=Z,22nm,2.1s
BDL **Dobcross Hall** 70.15 349⇓*e*P P 13 18 53.7 -0.3
HYB **Hyderabad** 70.15 272⇓*i*P P 13 18 53.0 -1.0
comp=Z,530nm,1.0s,mb6.2
HYB *e*PcP PcP 13 19 15.0 +0.3
HYB *e*pP pP 13 19 41.0 +2.0
HYB *e*sP sP 13 20 01.5 +2.2
HYB *e* 13 20 09.0
HYB *e* 13 21 13.0
HYB *e*PP PP 13 21 32.0 +0.3
HYB *e*S S 13 27 46.0 -3.6
HYB **Hyderabad** 70.15 272⇓*e*P P 13 18 43.0 -11
HYB *e*S S 13 27 48.0 -1.6
OJC **Ojcow** 70.19 333 *i* Pd P 13 18 54.2 0.0
OJC *e*S S 13 27 46.1 -4.0
OJC L 13 52 51.7
comp=Z,17nm,21.2s
GCD **Castle Douglas** 70.20 349⇓*e*P P 13 18 53.5 -0.7
GCL **Cushendall** 70.22 351⇓*e*P P 13 18 53.9 -0.5
BBO1 **Bothel** 70.25 349⇓*e*P P 13 18 54.2 -0.4
GAL1 **Galloway** 70.28 350⇓*e*P P 13 18 54.1 -0.7
SLM **Saint Louis** 70.31 51 *e*P P 13 18 53.8 -1.1
CCM **Cathedral Cave** 70.32 52⇓*e*P P 13 18 53.6 -1.4
CCM *e**PP pP 13 19 39.7 -0.3
CCM pmax pmax
comp=Z,496nm,1.4s,mb6.0
CCM **Cathedral Cave** 70.32 52⇓*e*P P 13 18 53.6 -1.4
comp=Z,496nm,1.4s,mb6.0
CCM *e*pP pP 13 19 39.6 -0.3
KAKA **Kakadu** 70.33 207⇓*i*P P 13 18 54.7 -0.4
comp=Z,409nm,0.7s,mb6.3
KAKA *i* pP pP 13 19 39.6 -0.5
PSI **Prapat** 70.35 246 P P 13 18 55.4 +0.2
comp=Z,464nm,0.8s,mb6.2,baz=1.9,slow=5.2,SNR=166
PSI **Prapat** 70.35 246 P P 13 18 55.4 +0.2
PSI pmax pmax
comp=Z,464nm,0.8s,mb6.3
SIM **Simferopol'** 70.35 321*d* *i*P P 13 18 54.7 -0.5
SIM *e* 13 19 16.0
SIM *PP pP 13 19 43.0 +2.8
SIM *e**SP sP 13 20 03.0 +2.5
SIM pmax pmax
comp=Z,270nm,1.2s,mb5.8
SIM MLR MLR
comp=Z,5μm,19.0s
CKE **Keswick** 70.38 349⇓*e*P P 13 18 55.2 -0.2
CKE AMb AMB 13 18 57.6
comp=Z,2μm,1.2s,mb6.6
KIS **Kishinev** 70.40 326*d* *i*P P 13 18 54.0 -1.5
KIS *i* *PP pP 13 19 40.0 -0.5
KIS *i* 13 20 00.0
KIS *i* 13 21 30.0
KIS *i*S SKSac 13 28 36.0 -2.9
KIS *i* 13 28 48.0
KIS pmax pmax
comp=Z,6μm,8.0s
KARS **Kars** 70.44 313 P P 13 18 57.2 +1.5
ARTV **Artvin** 70.45 314 *i* P P 13 18 56.3 +0.4
XDE **Dent Fell** 70.50 349⇓*e*P P 13 18 55.7 -0.4
XDE AMb AMB 13 18 58.2
comp=Z,1μm,1.4s,mb6.4
KSP **Ksiaz** 70.50 336 *i* Pd P 13 18 56.4 +0.3
comp=Z,3.2nm,1.8s
KSP *e*PcP PcP 13 19 15.1 -1.1
KSP *e*S S 13 27 54.4 +0.7
KSP *e*sS sS 13 29 22.1 +10
KSP **Ksiaz** 70.50 336⇓*i*P P 13 18 56.2 +0.1
KSP *e* 13 19 14.5
KSP *e*S S 13 27 51.5 -2.2
KSP *e* 13 28 38.0
KSP **Ksiaz** 70.50 336⇓*i*P P 13 18 56.2 +0.1
KSP *e*PcP PcP 13 19 14.5 -1.7
KSP *e*S S 13 27 51.5 -2.2
KSP *e*SKS 13 28 38.0
KSP *e*SS sS 13 29 17.0 +4.9
LATR **Latur** 70.53 275 *e*P P 13 18 55.5 -0.8
STHS **Stebnicka Huta** 70.53 332 *i* P P 13 18 56.9 +0.6
CDU1 **Dunnerdale** 70.64 349⇓*e*P P 13 18 56.3 -0.6
IAS **Iasi** 70.64 327⇑*i*P P 13 18 56.5 -0.4
IAS **Iasi** 70.64 327 P P 13 18 56.8 -0.1
KOLS **Kolonicke sedl** 70.68 331 *e*P P 13 18 58.2 +1.0
KOLS *e* 13 19 10.7
KOLS *e* 13 19 18.9
BHJ **Bhuj** 70.74 283 *e*P P 13 18 56.4 -1.2
BHJ AMb AMB 13 19 01.6
comp=Z,632nm,1.8s,mb6.0
BHJ *i* x x 13 24 27.7
BHJ *ex* x 13 27 53.4
NIE **Niedzica** 70.78 332 *e*Pd P 13 18 58.3 +0.5
GIM **North Isle of** 70.82 349⇓*e*P P 13 18 57.4 -0.7
CLL **Collm** 70.83 338⇓*i*P P 13 18 58.0 -0.1
comp=Z,2μm,1.5s,mb6.7
CLL *e*pP pP 13 19 45.4 +2.2
CLL *e*sP sP 13 20 06.8 +3.3
CLL *e*PP PP 13 21 37.7 +0.1
CLL *e*PPPP 13 24 23.1
CLL *e*S S 13 27 56.5 -1.0
CLL *e*SKSac SKSac 13 28 50.7 +8.6
CLL *e*SS SS 13 32 34.1 +0.3
CLL *e*LR LR 13 42 02.1
CLL *e*L 13 56 24.4
comp=Z,3μm,18.0s
CLL **Collm** 70.83 338⇓*i*P P 13 18 58.0 -0.1
comp=Z,2μm,1.5s,mb6.7
CLL *e*pP pP 13 19 45.0 +1.8
CLL *e*sP sP 13 20 06.0 +2.5
CLL *e*PP PP 13 21 38.0 +0.4
CLL *e*S S 13 27 58.0 +0.5
CLL *e*SKSac SKSac 13 28 51.0 +8.9
CLL *e*SS SS 13 32 36.0 +2.2
CLL LmV 13 56 00.0
comp=Z,3μm,18.2s
CLL **Collm** 70.83 338⇓*i*P P 13 18 58.0 -0.1
CLL *e**PP pP 13 19 45.0 +1.8
CLL *e*S S 13 27 58.0 +0.5
CLL *e* 13 28 51.0
CLL pmax pmax
comp=Z,2μm,1.5s,mb6.7
CLL **Collm** 70.83 338⇓*i*P P 13 18 58.0 -0.1
comp=Z,2μm,1.5s,mb6.7
CLL *e*pP pP 13 19 45.0 +1.8
CLL *e*S S 13 27 58.0 +0.5
CLL *e*SKS 13 28 51.0
UPC **Upice** 70.88 336⇓*i*P P 13 18 58.6 +0.2
CLZ **Clausthal** 70.89 340 *e*P P 13 18 58.9 +0.5
CRVS **Cervenica-Dubn** 70.94 332 *e*P P 13 18 59.1 +0.4
CRVS *e* 13 19 14.8
CRVS **Cervenica-Dubn** 70.94 332 P P 13 18 59.6 +0.9
DPC **Dobruska-Polom** 70.95 335⇓*i*P P 13 18 59.4 +0.6
DPC *e*pP pP 13 19 47.6 +3.7
DPC *e*S S 13 28 00.3 +1.4
DPC *ex* x 13 29 00.7
IBBN **Ibbenburen** 70.96 341 *e*P P 13 18 58.9 +0.1
comp=Z,3μm,1.7s,mb6.7
OKC **Ostrava-Krasne** 70.97 334⇓*i*P P 13 18 59.2 +0.3
OKC *e*pP pP 13 19 46.7 +2.7
OKC *ex* x 13 28 52.7
WIM **Isle of Man** 70.99 350⇓*e*P P 13 18 58.5 -0.5
WIM AMb AMB 13 19 01.0
comp=Z,992nm,1.3s,mb6.4
BURAR **Bucovina Array** 71.00 329⇓*i*P P 13 18 59.0 -0.1
BURAR **Bucovina Array** 71.00 329 ⇓P P 13 18 59.0 -0.1
GMM **Mts of Mourne** 71.03 350⇓*e*P P 13 18 58.5 -0.8
BRG **Berggiesshubel** 71.03 337 *e*P P 13 18 59.0 -0.3
comp=Z,1μm,1.5s,mb6.3
BRG **Berggiesshubel** 71.03 337⇓*i*P P 13 18 59.4 +0.1
comp=Z,610nm,1.6s,mb6.1
BRG *e* 13 50 03.8
comp=Z,4.1nm,0.9s
BRG
comp=N,703nm,14.9s
BRG
comp=E,1μm,23.1s
BRG
comp=Z,1μm,16.6s
LTX **Lajitas** 71.06 66⇓*e*P P 13 18 59.6 +0.1
LTX *e**PP pP 13 19 42.4 -2.2
LTX pmax pmax
comp=Z,133nm,0.6s,mb5.8
LTX **Lajitas** 71.06 66⇓*e*P P 13 18 59.6 +0.1
comp=Z,133nm,0.6s,mb5.8
LTX *e*pP pP 13 19 42.4 -2.2
MSNY **Massena** 71.17 37 *e*P P 13 18 58.8 -1.4
MORC **Moravsky Berou** 71.18 334 ⇓P P 13 19 00.5 +0.3
MORC **Moravsky Berou** 71.18 334 P P 13 19 00.6 +0.4
GTTG **Gvttingen** 71.25 340 *e*P P 13 19 00.8 +0.2
comp=Z,1μm,1.6s,mb6.4
LHO **Holmfirth** 71.25 348⇓*e*P P 13 18 59.9 -0.8
LHO AMb AMB 13 19 02.6
comp=Z,660nm,1.2s,mb6.2
WTSB **Winterswijk** 71.46 342⇓*e*P P 13 19 02.1 +0.2
comp=Z,1μm,2.1s,mb6.2
KBI1 **Birley Grange** 71.50 347⇓*e*P P 13 19 01.6 -0.5
KBI1 AMb AMB 13 19 04.2
comp=Z,2μm,1.3s,mb6.6
SIUC **Southern Illin** 71.52 51 *e*P P 13 19 01.5 -0.7
KECS **Kecovo** 71.59 332 *i* P P 13 19 02.7 +0.1
KECS *e* 13 19 14.0
LONY **Lake Ozonia** 71.60 37⇓*e*P P 13 19 01.3 -1.4
comp=Z,197nm,0.8s,mb5.9
PRA **Prague** 71.67 336 ⇓P P 13 19 04.0 +0.9
WME **Myndd Eilian** 71.69 349⇓*e*P P 13 19 02.4 -0.9
PRU **Pruhonice** 71.72 336⇓*i*P P 13 19 03.7 +0.3
PRU *e*pP pP 13 19 50.4 +1.8
PRU *e*S S 13 28 04.9 -2.8
PRU *ex* x 13 29 08.5
WCB1 **Church Bay** 71.73 349⇓*e*P P 13 19 02.6 -0.9
WCB1 AMb AMB 13 19 05.2
comp=Z,474nm,1.3s,mb6.1
ERPA **Erie** 71.74 42⇓*i*P P 13 19 02.7 -0.9
comp=Z,480nm,0.7s,mb6.3
ERPA *e*pP pP 13 19 45.3 -3.5
ERZM **Erzurum** 71.76 314 *i* P P 13 19 05.2 +1.5
EZM **Erzurum** 71.76 314 P P 13 19 05.1 +1.4
MOX **Moxa** 71.76 338 *e*P P 13 19 03.7 0.0
comp=Z,1μm,1.6s,mb6.5
MOX **Moxa** 71.76 338⇓*i*P P 13 19 03.8 +0.1
comp=Z,2μm,1.8s,mb6.4

MOX **Moxa** 71.76 338 ⇓ *i* P **P** 13 19 03.8 +0.1
MOX pmax pmax
comp=Z,2µm,1.8s,mb6.4
FRNY **Flat Rock** 71.76 36 ⇓ *i* P **P** 13 19 02.1 -1.5
FRNY epP pP 13 19 46.7 -2.1
KWE **Weaver Farm** 71.77 348 ⇓ *eP* **P** 13 19 03.1 -0.6
KWE AMb AMB 13 19 06.0
comp=Z,781nm,1.5s,mb6.2
WPM1 **Penmaenmawr** 71.78 349 ⇓ *eP* **P** 13 19 02.9 -0.9
WERD **Werda** 71.79 338 *eP* **P** 13 19 04.0 +0.1
comp=Z,1µm,1.5s,mb6.5
WLF1 **Llynfaes** 71.80 349 ⇓ *eP* **P** 13 19 03.0 -1.0
WLF1 AMb AMB 13 19 05.7
comp=Z,445nm,1.4s,mb6.0
VRAC **Vranov** 71.85 335 ⇓ *i* P **P** 13 19 04.8 +0.6
VRAC **Vranov** 71.85 335 *i* P **P** 13 19 04.9 +0.7
BUG **Bochum--Univer** 71.88 341 *eP* **P** 13 19 04.2 -0.1
comp=Z,2µm,1.7s,mb6.6
YLL **Llanberis** 71.92 349 ⇓ *eP* **P** 13 19 03.6 -1.0
UBBA **Unterbreizbach** 71.93 340 *eP* **P** 13 19 04.7 0.0
comp=Z,2µm,1.6s,mb6.5
NKC **Novy Kostel** 71.97 338 ⇓ *i* P **P** 13 19 05.3 +0.4
NKC epP pP 13 19 54.1 +4.0
NKC *eS* S 13 28 11.6 +1.1
NKC *ex* x 13 29 07.6
DLF **Lyons Farm** 72.02 351 ⇓ *i* P **P** 13 19 04.8 -0.4
POO **Poona** 72.02 277 ⇓ *ix* x 13 14 49.0
comp=Z,20nm,0.0s
POO ⇓ *ix* x 13 19 03.0
comp=Z,860nm,1.0s
TVAN **Van** 72.02 312 *i* P **P** 13 19 06.4 +1.2
DCN **Croghan** 72.04 351 ⇓ *i* P **P** 13 19 05.0 -0.3
DSB **Dublin** 72.05 350 ⇓ *eP* **P** 13 19 04.9 -0.5
comp=Z,280nm,1.0s,mb6.0
SBD1 **Bryn Du** 72.05 348 ⇓ *eP* **P** 13 19 04.8 -0.6
MIAR **Mount Ida** 72.06 56 ⇓ *i* P **P** 13 19 04.9 -0.5
MIAR *e*PP pP 13 19 49.5 -1.2
MIAR pmax pmax
comp=Z,204nm,0.9s,mb5.9
MIAR **Mount Ida** 72.06 56 ⇓ *i* P **P** 13 19 04.9 -0.5
comp=Z,204nm,0.9s,mb5.8
MIAR epP pP 13 19 49.5 -1.2
GUMT **Gumushane** 72.08 315 P **P** 13 19 05.9 +0.3
VRI **Vrincioaia** 72.08 327 ⇓ *i* P **P** 13 19 05.5 -0.1
VRI **Vrincioaia** 72.08 327 P **P** 13 19 05.8 +0.2
PLOR **Plostina** 72.12 327 ⇑ *i* P **P** 13 19 05.7 -0.1
ACSO **Alum Creek Sta** 72.13 45 ⇓ *i* P **P** 13 19 05.1 -0.8
comp=Z,736nm,1.0s,mb6.4
ACSO epP pP 13 19 49.9 -1.2
TREC **Trest** 72.14 336 ⇓ *i* P **P** 13 19 06.3 +0.4
GRSN **GIRESUNGRSN** 72.18 317 *i* P **P** 13 19 05.8 -0.4
JCT **Junction City** 72.19 63 ⇓ *i* P **P** 13 19 05.6 -0.6
JCT *e*PP pP 13 19 48.6 -2.9
JCT pmax pmax
comp=Z,357nm,1.3s,mb5.9
JCT **Junction City** 72.19 63 ⇓ *i* P **P** 13 19 05.6 -0.7
comp=Z,357nm,1.3s,mb5.9
JCT epP pP 13 19 48.6 -2.8
CFR **Carcaliu** 72.23 325 ⇑ *i* P **P** 13 19 06.0 -0.5
CFR **Carcaliu** 72.23 325 ⇑ *i* P **P** 13 19 06.0 -0.4
PSZ **Piszkesteto** 72.27 332 ⇓ *eP* **P** 13 19 07.3 +0.6
PSZ **Piszkesteto** 72.27 332 *eP* **P** 13 19 07.0 +0.3
PSZ pmax pmax
comp=Z,1µm,1.5s,mb6.4
MANZ **Manzenberg** 72.27 338 *eP* **P** 13 19 06.9 +0.2
comp=Z,919nm,1.6s,mb6.3
NCB **Newcomb** 72.29 37 ⇓ *eP* **P** 13 19 05.6 -1.2
comp=Z,186nm,0.8s,mb5.9
BOM **Bombay** 72.34 278 *eP* **P** 13 19 06.9 -0.2
SMOL **Smolenice** 72.37 334 *eP* **P** 13 19 08.4 +1.1
HLM1 **Long Mynd** 72.39 348 ⇓ *eP* **P** 13 19 06.9 -0.5
HLM1 AMb AMB 13 19 09.7
comp=Z,994nm,1.3s,mb6.4
WCI **Wyandotte Cave** 72.40 48 P **P** 13 19 06.8 -0.7
WCI pP pP 13 19 52.1 -0.6
WCI S S 13 28 11.5 -3.9
WCI **Wyandotte Cave** 72.40 48 ⇓ *i* P **P** 13 19 06.7 -0.7
WCI *e*PP pP 13 19 51.0 -1.7
WCI pmax pmax
comp=Z,378nm,0.8s,mb6.2
WCI **Wyandotte Cave** 72.40 48 ⇓ *i* P **P** 13 19 06.7 -0.8
comp=Z,378nm,0.8s,mb6.2
WCI epP pP 13 19 51.0 -1.7
MIV **Mineville/With** 72.44 37 *eP* **P** 13 19 06.3 -1.4
ROTZ **Rotzenmuhle** 72.46 338 *eP* **P** 13 19 08.3 +0.5
comp=Z,1µm,1.5s,mb6.4
UALR **University of** 72.46 55 *eP* **P** 13 19 06.4 -1.5
comp=Z,849nm,1.9s,mb6.2
UALR epP pP 13 19 52.7 -0.4
DRGR 72.49 330 ⇑ *i* P **P** 13 19 08.0 0.0
DRGR 72.49 330 P **P** 13 19 08.2 +0.2
SSP1 **Stoney Pound** 72.51 348 ⇓ *eP* **P** 13 19 07.7 -0.4
AFI **Afiamalu** 72.55 150 *eP* **P** 13 19 07.5 -0.8
AFI pmax pmax
comp=Z,76nm,0.9s,mb5.4
AFI **Afiamalu** 72.55 150 *eP* **P** 13 19 07.5 -0.8
comp=Z,76nm,0.9s,mb5.4
MDRS **Chennai** 72.59 268 *eP* **P** 13 19 09.2 +0.5
BNGL **BINGOL** 72.64 313 *i* P **P** 13 19 10.1 +1.2
MLR **Muntele Rosu** 72.67 327 ⇓ *i* P **P** 13 19 09.0 0.0
MLR **Muntele Rosu** 72.67 327 P **P** 13 19 09.4 +0.4
GLAT **Glass** 72.67 52 *eP* **P** 13 19 08.6 -0.5
HARR **Harsova** 72.73 325 ⇓ *i* P **P** 13 19 09.2 -0.2
HARR **Harsova** 72.73 325 ⇓ P **P** 13 19 09.2 -0.2
GRF **Grafenberg Arr** 72.74 338 *eP* **P** 13 19 10.0 +0.5
comp=Z,3µm,1.6s,mb6.7
GRF epP pP 13 19 59.5 +4.7
GRF **Grafenberg Arr** 72.74 338 *eP* **P** 13 19 10.0 +0.5
GRF *e*PP pP 13 19 59.5 +4.7
GRF pmax pmax
comp=Z,3µm,1.6s,mb6.7
GRF **Grafenberg Arr** 72.74 338 *eP* **P** 13 19 10.0 +0.5
GRF *e*PP pP 13 19 59.5 +4.7
GRF pmax pmax
comp=Z,3µm,1.6s,mb6.7
KHC **Kasperske Hory** 72.74 337 ⇓ *i* P **P** 13 19 10.1 +0.6
KHC *eS* S 13 28 17.7 -1.6
KHC *ex* x 13 29 17.8
ZST **Bratislava** 72.75 334 *i* P **P** 13 19 10.5 +1.0
ZST *e* 13 19 18.2
ZST **Bratislava** 72.75 334 P **P** 13 19 10.9 +1.4
HGN **Heimansgroeve** 72.77 342 ⇓ *eP* **P** 13 19 09.7 +0.1
comp=Z,1µm,1.6s,mb6.4
HGN *e*PP PP 13 21 57.7 +3.6
HGN *eS* sS 13 29 40.0 +1.5
BEBN **Eben Emael** 72.78 342 P **P** 13 19 09.4 -0.3
BEBN E 13 19 24.9
SRO **Srobarova** 72.79 333 *eP* **P** 13 19 11.2 +1.4
SSW **Stow on the Wo** 72.80 347 ⇓ *eP* **P** 13 19 09.7 -0.1
ISR **Istrita** 72.81 327 ⇑ *i* P **P** 13 19 10.6 +0.8
ISR **Istrita** 72.81 327 ⇑ P **P** 13 19 10.7 +0.8
TNS **Taunus Mts** 72.81 340 *eP* **P** 13 19 10.0 +0.1
comp=Z,2µm,1.7s,mb6.5
SRO2 **Moca** 72.81 333 *eP* **P** 13 19 10.7 +0.8
HAE **Alders End** 72.82 348 ⇓ *eP* **P** 13 19 09.5 -0.5
HAE AMb AMB 13 19 12.2
comp=Z,892nm,1.2s,mb6.4
LBNH **Lisbon** 72.85 35 ⇓ *eP* **P** 13 19 09.8 -0.3
LBNH *e*PP pP 13 19 52.8 -2.6
LBNH pmax pmax
comp=Z,583nm,1.0s,mb6.3
LBNH **Lisbon** 72.85 35 ⇓ *eP* **P** 13 19 09.8 -0.3
comp=Z,584nm,1.0s,mb6.3
LBNH epP pP 13 19 52.8 -2.6
SRO1 **Iza** 72.86 333 *eP* **P** 13 19 11.7 +1.5
HTR **Trewern Hill** 72.86 348 ⇓ *eP* **P** 13 19 09.6 -0.6
WET **Wettzell** 72.89 337 *eP* **P** 13 19 10.8 +0.4
comp=Z,2µm,1.6s,mb6.5
BUD **Budapest** 72.90 332 ⇓ *eP* **P** 13 19 11.2 +0.8
BUD **Budapest** 72.90 332 ⇓ *eP* **P** 13 19 11.3 +0.9
SKP1 **Kophill** 72.90 347 ⇓ *eP* **P** 13 19 09.7 -0.7
MEM **Membach** 72.90 342 P **P** 13 19 10.4 0.0
MCH1 **Michaelchurch** 72.91 348 ⇓ *eP* **P** 13 19 09.9 -0.6
KVT **Kavak** 72.93 318 P **P** 13 19 11.1 +0.5
HALT **Halls** 72.94 52 *eP* **P** 13 19 10.5 -0.1
GEC2 **GERESS Array S** 72.98 336 *eP* **P** 13 19 10.9 0.0
comp=Z,1µm,1.6s,mb6.3
GEC2 pmax pmax
comp=Z,1µm,1.6s,mb6.3
GERES **GERESS Array B** 72.98 336 P **P** 13 19 11.1 +0.2
comp=Z,103nm,0.9s,mb5.5,baz=35,slow=4.9,SNR=140
GERES PKPPKP 13 46 31.1
comp=Z,0.5nm,0.5s,baz=343,slow=1.4,SNR=3.7
VOIR 73.00 328 ⇑ *i* P **P** 13 19 11.4 +0.4
VOIR 73.00 328 ⇑ P **P** 13 19 11.4 +0.4
CUKT **Cukurca** 73.00 311 P **P** 13 19 11.4 +0.4
UCC **Uccle** 73.01 343 ⇓ P **P** 13 19 10.9 -0.2
BOYT **Boyabat** 73.08 319 *i* P **P** 13 19 12.3 +0.8
BYBT **Boyabat** 73.09 319 P **P** 13 19 12.8 +1.3
BTMT **Batman** 73.14 313 P **P** 13 19 12.5 +0.7
PKSG 73.16 333 ⇓ *i* P **P** 13 19 12.7 +0.8
MTUR **Matau** 73.18 328 ⇑ *i* P **P** 13 19 14.6 +2.5
MTUR **Matau** 73.18 328 P **P** 13 19 12.8 +0.7
BINY **Binghamton** 73.20 39 *eP* **P** 13 19 10.3 -1.9
comp=Z,741nm,1.5s,mb6.2
HNH **Hanover** 73.20 36 ⇓ *i* P **P** 13 19 12.0 -0.2
comp=Z,22nm,0.7s
PKSN **Nyarlorinc** 73.21 332 ⇓ *i* P **P** 13 19 13.2 +1.0
SWN1 **Swindon** 73.24 347 ⇓ *eP* **P** 13 19 12.3 0.0
HGH **Gray Hill** 73.24 348 ⇓ *eP* **P** 13 19 11.9 -0.5
HGH AMb AMB 13 19 14.6
comp=Z,1µm,1.4s,mb6.4
PKS7 **Kunszentmiklos** 73.26 332 ⇓ *i* P **P** 13 19 13.4 +0.9
HSA **Swansea** 73.29 349 ⇓ *eP* **P** 13 19 12.2 -0.5
SNF **Seneffe** 73.30 343 P **P** 13 19 12.6 -0.2
comp=Z,120nm,1.0s,mb5.6
SNF E 13 19 29.1
SNF E 13 19 46.5
SNF AP pP 13 19 58.7 +0.6
ABH **Alteburg** 73.31 341 *eP* **P** 13 19 13.0 +0.2
TOD **Tromm** 73.33 340 ⇓ *eP* **P** 13 19 13.2 +0.3
SOP **Sopron** 73.36 334 ⇓ *eP* **P** 13 19 14.2 +1.1
TOKT **Tokat** 73.38 317 P **P** 13 19 13.7 +0.5
SIND **Sindeldorf** 73.41 339 P **P** 13 19 13.6 +0.2
WVT **Waverly** 73.45 51 ⇓ *i* P **P** 13 19 13.3 -0.3
WVT *e*PP pP 13 19 59.4 +0.4
SWS **Schriesheim-Wi** 73.47 340 P **P** 13 19 13.9 +0.2
BEST **Besiri** 73.48 313 *i* P **P** 13 19 14.7 +0.9
SVSK **Karacayir** 73.55 317 P **P** 13 19 15.1 +0.9
PKS8 **Sarbogard** 73.55 332 ⇓ *i* P **P** 13 19 14.5 +0.3
BALT **Daday** 73.56 320 *i* P **P** 13 19 14.9 +0.6
RUP **Ruppelstein** 73.58 341 ⇓ *eP* **P** 13 19 15.0 +0.6
GIVF **Givet** 73.60 343 ⇓ *i* P **P** 13 19 14.5 0.0
comp=Z,2µm,1.4s,mb6.3
GIVF **Givet** 73.60 343 ⇓ *i* P **P** 13 19 14.5 0.0
GIVF pmax pmax
comp=Z,851nm,1.4s,mb6.3
GIVF **Givet** 73.60 343 ⇓ *i* P **P** 13 19 14.5 0.0
comp=Z,850nm,1.4s,mb6.3
MENF **Mencas** 73.60 344 ⇓ *eP* **P** 13 19 14.6 +0.1
DOU **Dourbes** 73.65 343 ⇓ P **P** 13 19 14.8 0.0
comp=Z,176nm,1.1s,mb5.7
DOU AP pP 13 19 58.0 -2.2
DOU E pP 13 20 02.4 +2.2
BUC1 **Bucharest** 73.66 326 P **P** 13 19 14.6 -0.2
VAL **Valentia** 73.68 353 *eP* **P** 13 19 13.7 -1.2
SVST **Sivas** 73.69 317 *i* P **P** 13 19 15.8 +0.7
KTD **Kalmit** 73.74 340 ⇓ *eP* **P** 13 19 15.8 +0.5
TOS **Tosya** 73.75 319 P **P** 13 19 16.4 +1.0
BAIF **Baives** 73.75 343 ⇓ *i* P **P** 13 19 15.6 +0.2
comp=Z,973nm,1.1s,mb6.2
BAIF **Baives** 73.75 343 ⇓ *i* P **P** 13 19 15.6 +0.2
BAIF pmax pmax
comp=Z,486nm,1.1s,mb6.2
BAIF **Baives** 73.75 343 ⇓ *i* P **P** 13 19 15.6 +0.2
comp=Z,486nm,1.1s,mb6.2
MOA **Molln** 73.78 336 *i* P **P** 13 19 15.9 +0.4
comp=Z,2µm,1.9s,mb6.4,SNR=41
NATX **Nacogdoches** 73.78 58 ⇓ *eP* **P** 13 19 15.5 -0.1
comp=Z,1µm,0.7s,mb6.7
NATX *ep*P pP 13 20 00.8 -0.1
WLF **Walferdange** 73.78 342 *eP* **P** 13 19 16.1 +0.5
comp=Z,1µm,1.8s,mb6.4
WLF **Walferdange** 73.78 342 P **P** 13 19 15.9 +0.4
comp=Z,107nm,1.7s,mb5.3
WLF **Walferdange** 73.78 342 ⇓ *eP* **P** 13 19 15.7 +0.1
WLF pmax pmax
comp=Z,2µm,2.0s,mb6.5
WLF **Walferdange** 73.78 342 ⇓ *eP* **P** 13 19 15.7 +0.1
comp=Z,2µm,2.0s,mb6.5
CTKT **Corum** 73.81 319 *i* P **P** 13 19 16.6 +0.9
SSPA **Standing Stone** 73.83 41 ⇓ *i* P **P** 13 19 14.9 -0.9
comp=Z,1µm,1.4s,mb6.4
SSPA *ep*P pP 13 19 59.7 -1.6
BZS **Buzias** 73.88 330 ⇑ *i* P **P** 13 19 15.7 -0.4
BZS **Buzias** 73.88 330 P **P** 13 19 16.0 -0.1
MCWV **Mont Chateau** 73.90 43 ⇓ *i* P **P** 13 19 15.6 -0.6
comp=Z,408nm,0.8s,mb6.2
MCWV *ep*P pP 13 20 00.0 -1.6
HEX **Exmoor** 73.92 348 ⇓ *eP* **P** 13 19 15.7 -0.6
DIY **Diyarbakir** 73.92 313 P **P** 13 19 17.1 +0.8
PKS9 **Tamasi** 73.93 333 ⇓ *i* P **P** 13 19 16.5 +0.1
ELZG **Elazig** 73.94 315 *i* P **P** 13 19 17.7 +1.2
HDH **Heidenheim-Cha** 74.01 339 P **P** 13 19 17.1 +0.2
MSL **Mosul** 74.02 311 *i* x x 13 19 18.5
MSL *ex* x 13 28 31.0
ARSA **Arzberg** 74.03 335 *i* P **P** 13 19 17.8 +0.8
comp=Z,2µm,1.9s,mb6.6,SNR=44
STU **Stuttgart** 74.04 339 *eP* **P** 13 19 16.9 -0.2
comp=Z,1µm,1.6s,mb6.4
STU **Stuttgart** 74.04 339 ⇓ *i* P **P** 13 19 17.1 0.0
STU pmax pmax
comp=Z,921nm,1.4s,mb6.3
STU **Stuttgart** 74.04 339 ⇓ *i* P **P** 13 19 17.1 +0.1
comp=Z,921nm,1.4s,mb6.3
OXF **Oxford** 74.06 53 ⇓ *i* P **P** 13 19 16.5 -0.7
OXF *e*PP pP 13 20 01.1 -1.5
OXF pmax pmax
comp=Z,668nm,1.0s,mb6.3
OXF **Oxford** 74.06 53 ⇓ *i* P **P** 13 19 16.5 -0.7
comp=Z,668nm,1.0s,mb6.3
OXF *ep*P pP 13 20 01.1 -1.6
SAFT **Safranbolu** 74.08 320 P **P** 13 19 17.8 +0.6
LANF **Langenberg** 74.12 340 ⇓ *eP* **P** 13 19 18.0 +0.5
FUR **Furstenfeldbru** 74.17 338 *eP* **P** 13 19 18.0 +0.2
comp=Z,2µm,1.6s,mb6.5
PKSM **Moragy** 74.17 332 ⇓ P **P** 13 19 17.3 -0.5
PKSM **Moragy** 74.17 332 ⇓ *eP* **P** 13 19 17.4 -0.4
MARD **Mardin** 74.18 313 *i* P **P** 13 19 18.7 +0.9
LBG **Lerchenberg** 74.23 340 P **P** 13 19 18.4 +0.3
PRD **Provadia** 74.23 325 *i* P **P** 13 19 18.5 +0.4
CANT **Cankiri** 74.27 319 P **P** 13 19 19.4 +0.9
PLAL **Pickwick Lake** 74.29 51 ⇓ *i* P **P** 13 19 17.6 -0.9
comp=Z,586nm,1.4s,mb6.1
PLAL *ep*P pP 13 20 00.4 -3.6
BUCH **Bad Urach** 74.32 339 P **P** 13 19 19.3 +0.7
MYA **Malataya** 74.32 315 P **P** 13 19 19.6 +0.9
MALT **Malatya** 74.33 315 P **P** 13 19 19.0 +0.3
MALT **Malatya** 74.33 315 ⇓ *eP* **P** 13 19 19.1 +0.4
MALT *e*PP pP 13 20 04.4 +0.2
MALT pmax pmax
comp=Z,59nm,0.6s,mb5.5
MALT **Malatya** 74.33 315 ⇓ *eP* **P** 13 19 19.1 +0.4
comp=Z,59nm,0.6s,mb5.5
MALT *ep*P pP 13 20 04.4 +0.2
GOA **Goa** 74.43 275 *i* P **P** 13 19 19.0 -0.3
RHK1 **Bakonya** 74.44 333 ⇑ *i* P **P** 13 19 19.3 0.0
ELDT **Eldivan** 74.45 320 *i* P **P** 13 19 20.3 +0.9
YOZ **Yozgat** 74.45 318 P **P** 13 19 19.5 +0.1
HRV **Harvard--Oak R** 74.51 36 P **P** 13 19 19.5 -0.2
HRV pP pP 13 20 05.1 -0.2
HRV **Harvard--Oak R** 74.51 36 *eP* **P** 13 19 18.5 -1.3
HRV *e*PP pP 13 20 04.4 -0.9
HRV pmax pmax
comp=Z,373nm,0.9s,mb6.0
HRV **Harvard--Oak R** 74.51 36 *eP* **P** 13 19 18.5 -1.3
comp=Z,373nm,0.9s,mb6.0
HRV *ep*P pP 13 20 04.4 -0.9
STR **Strasbourg** 74.51 340 ⇓ *eP* **P** 13 19 20.4 +0.6
RHK3 **Tenkes** 74.58 332 ⇓ *i* P **P** 13 19 19.8 -0.4
KOGS **Kog** 74.59 334 *i* P **P** 13 19 20.4 +0.1
BFO **Black Forest** 74.64 340 *eP* **P** 13 19 20.3 -0.2
comp=Z,1µm,1.6s,mb6.3
BFO **Black Forest** 74.64 340 P **P** 13 19 20.7 +0.2
comp=Z,2µm,1.1s,mb6.6,SNR=72
SZH **Strazhica** 74.66 326 *i* P **P** 13 19 20.0 -0.6
HKT **Hockley** 74.66 60 ⇓ *eP* **P** 13 19 20.2 -0.4
HKT *e*PP pP 13 20 03.9 -2.2
HKT pmax pmax
comp=Z,842nm,1.9s,mb6.0
HKT **Hockley** 74.66 60 ⇓ *eP* **P** 13 19 20.2 -0.4
comp=Z,842nm,1.9s,mb6.0
HKT *ep*P pP 13 20 03.9 -2.2
WES **Weston** 74.70 36 ⇓ *eP* **P** 13 19 20.5 -0.3
comp=Z,610nm,0.9s,mb6.2
WES *ep*P pP 13 20 05.5 -0.9
WES *e*PP PP 13 22 09.2 -1.2
PERS **Pernice** 74.70 335 *eP* **P** 13 19 21.5 +0.6
PERS **Pernice** 74.70 335 *i* P **P** 13 19 21.5 +0.6
KBA **Koelnbreinsper** 74.72 336 ⇓ *i* P **P** 13 19 22.5 +1.5
comp=Z,4µm,1.6s,mb6.8,SNR=457
KBA **Koelnbreinsper** 74.72 336 ⇓ *i* P **P** 13 19 22.5 +1.5
KBA pmax pmax
comp=Z,4µm,1.6s,mb6.8
KBA **Koelnbreinsper** 74.72 336 ⇓ *i* P **P** 13 19 22.4 +1.5
comp=Z,4µm,1.6s,mb6.8
GUT **Gutenstein** 74.73 339 P **P** 13 19 21.3 +0.3
CSA1 **St Austell** 74.75 349 ⇓ *eP* **P** 13 19 20.4 -0.8
CDF **Champ du Feu** 74.77 341 ⇓ *i* P **P** 13 19 21.6 +0.3
comp=Z,4µm,1.6s,mb6.5
CDF **Champ du Feu** 74.77 341 ⇓ *i* P **P** 13 19 21.6 +0.3
CDF pmax pmax
comp=Z,2µm,1.6s,mb6.5
CDF **Champ du Feu** 74.77 341 ⇓ *i* P **P** 13 19 21.6 +0.3
comp=Z,2µm,1.6s,mb6.5
CDAG **Cicekdag** 74.83 318 *i* P **P** 13 19 21.8 +0.2
CTA **Charters Tower** 74.85 192 *eP* **P** 13 19 20.9 -0.8
comp=Z,213nm,0.8s,mb5.8
CTA *i* pP pP 13 20 07.3 0.0
CTA *eS* S 13 28 40.7 -2.2
CTA **Charters Tower** 74.85 192 P **P** 13 19 21.2 -0.5
comp=Z,250nm,0.8s,mb5.9,baz=4.2,slow=7.0,SNR=122
CTA pP pP 13 20 06.5 -0.8
comp=Z,194nm,1.2s,baz=3.3,slow=6.9,SNR=4.9
CTA **Charters Tower** 74.85 192 P **P** 13 19 21.2 -0.5
CTA *PP pP 13 20 06.5 -0.8
CTA pmax pmax
comp=Z,250nm,0.8s
CTAO **Charters Tower** 74.85 192 P **P** 13 19 21.1 -0.6
CTAO pP pP 13 20 06.4 -0.8
CTAO S S 13 28 41.1 -1.7
CTAO **Charters Tower** 74.85 192 *eP* **P** 13 19 20.9 -0.8
CTAO *e*PP pP 13 20 06.8 -0.5
CTAO pmax pmax
comp=Z,173nm,1.9s,mb5.4
CTAO **Charters Tower** 74.85 192 *eP* **P** 13 19 20.9 -0.8
comp=Z,173nm,1.9s,mb5.4
CTAO epP pP 13 20 06.8 -0.5
UBR **Ueberruh** 74.89 338 P **P** 13 19 22.3 +0.4
WATA **Walderalm** 74.89 337 *i* P **P** 13 19 22.7 +0.7
comp=Z,1µm,1.6s,mb6.5,SNR=18
WATA **Walderalm** 74.89 337 *i* P **P** 13 19 22.7 +0.8
WATA pmax pmax
comp=Z,2µm,1.6s,mb6.5
SGKT **Sivrigoynuk** 74.89 321 *i* P **P** 13 19 22.8 +0.9
PVL **Pavlikeni** 74.89 326 *i* P **P** 13 19 22.4 +0.4
URFA **Urfa** 74.90 314 P **P** 13 19 23.2 +1.2
BNN **Bunyan** 74.92 317 P **P** 13 19 22.6 +0.5
BEO **Belgrade** 74.94 330 ⇑ *i* P **P** 13 19 21.6 -0.6
BEO **Belgrade** 74.94 330 P **P** 13 19 22.0 -0.2
WTTA **Wattenberg** 74.94 337 *i* P **P** 13 19 23.3 +1.0
comp=Z,4µm,1.9s,mb6.8,SNR=76
WTTA **Wattenberg** 74.94 337 *i* P **P** 13 19 23.3 +1.0
WTTA pmax pmax
comp=Z,4µm,1.9s,mb6.8
LIBD **Limburg** 74.96 340 ⇓ *eP* **P** 13 19 22.8 +0.5
OBKA **Obir** 74.96 335 *i* P **P** 13 19 23.0 +0.7
comp=Z,4µm,1.8s,mb6.7,SNR=128
OBKA **Obir** 74.96 335 *i* P **P** 13 19 23.0 +0.7
comp=Z,4µm,1.8s,mb6.7
CRQ2 **Rosemanowes 2** 74.97 349 ⇓ *eP* **P** 13 19 21.7 -0.7
CRQ2 AMb AMB 13 19 24.6
comp=Z,1µm,1.5s,mb6.2
ECH **Echery** 74.98 341 ⇓ *eP* **P** 13 19 22.8 +0.3
DRBT **Darb Altahta** 74.98 313 ⇓ P **P** 13 19 28.2 +5.7
DRBT **Darb Altahta** 74.98 313 ⇓ P **P** 13 19 28.2 +5.7
MOTA **Moosalm** 74.99 338 *i* P **P** 13 19 23.1 +0.6
comp=Z,1µm,1.5s,mb6.3,SNR=49
MOTA **Moosalm** 74.99 338 *i* P **P** 13 19 23.1 +0.6
MOTA pmax pmax
comp=Z,1µm,1.5s,mb6.3
TZTN **Tazewell** 75.00 47 ⇓ *i* P **P** 13 19 22.0 -0.6
TZTN *ep*P pP 13 20 06.9 -1.2
CPZ **Penzance** 75.02 349 ⇓ *eP* **P** 13 19 22.1 -0.5
CPZ AMb AMB 13 19 24.8
comp=Z,860nm,1.3s,mb6.2
BR131 **Keskin Array S** 75.03 319 ⇓ *eP* **P** 13 19 22.5 -0.2
comp=Z,447nm,1.2s,mb6.0
BRTR **Keskin Array B** 75.03 319 P **P** 13 19 22.8 +0.1
comp=Z,349nm,1.2s,mb5.9,baz=59,slow=2.9,SNR=209
BRTR PKPPKP 13 46 28.9
comp=Z,1.2nm,0.9s,baz=204,slow=2.7,SNR=3.6
CGW **Gweek** 75.04 349 ⇓ *eP* **P** 13 19 21.9 -0.9
CMA1 **Manaccan** 75.04 349 ⇓ *eP* **P** 13 19 21.6 -1.2
CGH1 **Goonhilly** 75.08 349 ⇓ *eP* **P** 13 19 22.7 -0.3
KIZ **Kirchzarten** 75.08 340 P **P** 13 19 23.0 0.0
SQTA **Sankt Quirin** 75.08 338 *i* P **P** 13 19 23.9 +0.9
comp=Z,2µm,1.6s,mb6.5,SNR=26
SQTA **Sankt Quirin** 75.08 338 *i* P **P** 13 19 23.9 +0.9
SQTA pmax pmax
comp=Z,2µm,1.6s,mb6.5
ATAB **Bozova** 75.10 315 *i* P **P** 13 19 24.2 +1.1
HENT **Hendek** 75.10 321 *i* P **P** 13 19 22.8 -0.3
SISB **Singen-Schiene** 75.12 339 P **P** 13 19 24.0 +0.7
FELD **Feldberg im Sc** 75.14 340 ⇓ *eP* **P** 13 19 23.6 +0.2
SLE **Schleitheim** 75.14 340 ⇓ *i* P **P** 13 19 23.3 -0.1
comp=Z,791nm,1.6s,mb6.1
JMB **Yambol** 75.16 325 *i* P **P** 13 19 22.9 -0.6
STEIN **Stein am Rhein** 75.16 339 ⇓ *i* P **P** 13 19 23.3 -0.2
comp=Z,2µm,1.6s,mb6.6
STEIN **Stein am Rhein** 75.16 339 ⇓ *i* P **P** 13 19 23.8 +0.3
THEF **They Montfort** 75.19 341 ⇓ *eP* **P** 13 19 24.1 +0.4
TRULL **Truellikon** 75.22 339 ⇓ *i* P **P** 13 19 23.8 0.0
comp=Z,2µm,1.8s,mb6.4
TRULL **Truellikon** 75.22 339 ⇓ *i* P **P** 13 19 24.0 +0.2
LOD **Lodumlu** 75.22 320 P **P** 13 19 24.0 +0.2
ANTO **Ankara** 75.23 320 P **P** 13 19 24.0 +0.1
ANTO **Ankara** 75.23 320 ⇓ *i* P **P** 13 19 24.2 +0.3
ANTO pmax pmax
comp=Z,953nm,1.4s,mb6.2
ANTO **Ankara** 75.23 320 ⇓ *i* P **P** 13 19 24.2 +0.3
comp=Z,953nm,1.4s,mb6.2
WEIN **Weingarten** 75.27 339 ⇓ *i* P **P** 13 19 24.2 +0.1
comp=Z,2µm,1.5s,mb6.5
WEIN **Weingarten** 75.27 339 ⇓ *i* P **P** 13 19 24.4 +0.3
SEST **Monte Rota** 75.30 337 P **P** 13 19 24.8 +0.5
MDU **Mudurnu** 75.30 321 P **P** 13 19 24.4 +0.2
DAVA **Damuels** 75.31 338 *i* P **P** 13 19 24.9 +0.5
comp=Z,2µm,1.9s,mb6.4,SNR=50
KAMT **Kaman** 75.31 319 P **P** 13 19 24.1 -0.2
FLACH **Flaach** 75.31 339 ⇓ *i* P **P** 13 19 24.5 +0.1
MOF **Molkenrain** 75.33 340 ⇓ *eP* **P** 13 19 24.7 +0.2
HAU **Haudompre** 75.34 341 ⇓ *i* P **P** 13 19 25.7 +1.2
comp=Z,1µm,1.1s,mb6.1
HAU *eR*
comp=Z,3µm,23.0s
HAU **Haudompre** 75.34 341 ⇓ *i* P **P** 13 19 25.7 +1.2
HAU pmax pmax
comp=Z,552nm,1.1s,mb6.1
HAU MLR MLR
comp=Z,3µm,23.0s
HAU **Haudompre** 75.34 341 ⇓ *i* P **P** 13 19 25.7 +1.2
comp=Z,552nm,1.1s,mb6.1
HAU LR LR
comp=Z,3µm,23.0s
PTCC **Patocco-Chiusa** 75.35 336 P **P** 13 19 24.4 -0.2
CRES **Cresnjev** 75.37 334 P **P** 13 19 24.6 -0.1
AVNT **Avonos** 75.37 318 *i* P **P** 13 19 21.0 -3.7
LIENZ **Alp Oberkamor** 75.38 339 ⇓ *i* P **P** 13 19 25.1 +0.3
KLYT **Kilyos** 75.39 323 P **P** 13 19 24.2 -0.6
WILA **Wila** 75.39 339 ⇓ *i* P **P** 13 19 24.6 -0.2
comp=Z,2µm,1.8s,mb6.5
WILA **Wila** 75.39 339 ⇓ *i* P **P** 13 19 25.2 +0.4
BOLS **Boljevac** 75.40 329 ⇑ *i* P **P** 13 19 23.4 -1.5
LJU **Ljubljana** 75.40 335 *eP* **P** 13 19 24.8 -0.1
LJU *e* pP 13 20 11.2 +0.7
LJU *eS* S 13 29 53.2
HINF **Hinteralfeld** 75.42 341 ⇓ *i* P **P** 13 19 24.9 -0.1
comp=Z,2µm,1.6s,mb6.2
HINF **Hinteralfeld** 75.42 341 ⇓ *i* P **P** 13 19 24.9 -0.1
HINF pmax pmax
comp=Z,1µm,1.6s,mb6.2
HINF **Hinteralfeld** 75.42 341 ⇓ *i* P **P** 13 19 24.9 -0.1
comp=Z,1µm,1.6s,mb6.2
SULZ **Sulz-Cheisache** 75.45 340 ⇓ *i* P **P** 13 19 24.9 -0.2
comp=Z,2µm,1.6s,mb6.4
SULZ **Sulz-Cheisache** 75.45 340 ⇓ *i* P **P** 13 19 25.2 +0.1
BRES **Bressanone** 75.45 337 P **P** 13 19 26.1 +0.9
SISC **Sisak** 75.47 333 *i* P **P** 13 19 25.6 +0.4

GZT Gaziantep 75.50 315 *i* P P 13 19 26.0 +0.6
GMNA Gemona 75.50 336 P P 13 19 25.2 -0.2
ZUR Zurich 75.50 339⇓*i*P P 13 19 25.1 -0.4
comp=Z,2µm,1.7s,mb6.5
ZUR Zurich 75.50 339⇓*i*P P 13 19 25.9 +0.4
HRT Hereke 75.55 322 P P 13 19 25.5 -0.2
ISK Istanbul-Kandi 75.55 323 P P 13 19 25.0 -0.7
VOY Vojsko 75.57 335 *e* P 13 19 25.3 -0.5
VOY *e* pP 13 20 05.8 -5.7
BBS Basel-Blauen 75.63 340 *e*P P 13 19 26.4 +0.2
PLONS Plons 75.64 339⇓*i*P P 13 19 25.2 -1.0
comp=Z,2µm,1.6s,mb6.4
PLONS Plons 75.64 339⇓*i*P P 13 19 26.7 +0.5
EDRB Edirne 75.65 325 P P 13 19 26.0 -0.3
CTT Catalca 75.70 323 P P 13 19 26.1 -0.5
ELBA Catalca 75.70 323 *i*P P 13 19 26.4 -0.1
GRUS Gruza 75.72 330 *i*P P 13 19 26.3 -0.3
BALST Balsthal 75.72 340⇓*i*P P 13 19 25.2 -1.5
comp=Z,4µm,1.7s,mb6.7
BALST Balsthal 75.72 340⇓*i*P P 13 19 27.0 +0.3
BOJS Bojanci 75.72 334 *i*P P 13 19 26.9 +0.2
BOJS *e*S 13 29 56.7
DIVS Divcibare 75.73 330 *i*P P 13 19 26.7 0.0
DIVS Divcibare 75.73 330 *e*P P 13 19 26.6 -0.2
FLN La Foliniere 75.75 346⇓*i*P P 13 19 26.5 -0.3
comp=Z,2µm,1.3s,mb6.2
FLN *e*R
comp=Z,3µm,20.5s
FLN La Foliniere 75.75 346⇓*i*P P 13 19 26.5 -0.3
FLN pmax pmax
comp=Z,791nm,1.3s,mb6.2
FLN MLR MLR
comp=Z,3µm,20.5s
FLN La Foliniere 75.75 346⇓*i*P P 13 19 26.5 -0.3
comp=Z,791nm,1.3s,mb6.2
FLN LR LR
comp=Z,3µm,20.5s
BLA Blacksburg 75.75 45⇓*e*P P 13 19 26.1 -0.8
BLA *e**PP pP 13 20 11.0 -1.5
BLA pmax pmax
comp=Z,64nm,1.5s
BLA Blacksburg 75.75 45⇓*e*P P 13 19 26.1 -0.8
comp=Z,875nm,1.5s,mb6.2
BLA *e*pP pP 13 20 11.0 -1.5
BOURR Bourrignon 75.75 340⇓*i*P P 13 19 25.9 -1.0
comp=Z,2µm,1.9s,mb6.4
BOURR Bourrignon 75.75 340⇓*i*P P 13 19 27.2 +0.3
APPI Appiano 75.78 337 P P 13 19 27.0 0.0
DAVOX Davos 75.79 338 P P 13 19 28.1 +1.0
comp=Z,156nm,0.6s,mb5.8,baz=355,slow=2.6,SNR=170
DAVOX Davos 75.79 338⇓*i*P P 13 19 26.7 -0.4
comp=Z,2µm,1.8s,mb6.3
DAVOX Davos 75.79 338⇓*i*P P 13 19 28.1 +1.0
GAZ Gaziantep 75.80 315 P P 13 19 27.8 +0.7
FUORN Ofenpass 75.86 338⇓*i*P P 13 19 27.2 -0.3
FUORN Ofenpass 75.86 338⇓*i*P P 13 19 28.2 +0.7
LDF La Druitiere 75.86 345⇓*i*P P 13 19 27.0 -0.5
comp=Z,1µm,1.2s,mb6.0
LDF La Druitiere 75.86 345⇓*i*P P 13 19 27.0 -0.5
LDF pmax pmax
comp=Z,541nm,1.2s,mb6.0
LDF La Druitiere 75.86 345⇓*i*P P 13 19 27.0 -0.5
comp=Z,540nm,1.2s,mb6.0
ADVT Abdulvahap 75.86 322 P P 13 19 26.9 -0.6
PGB Panagyurishte 75.87 327 *i*P P 13 19 27.2 -0.3
MNGI Mangalore 75.87 272 *e*P P 13 19 27.2 -0.3
MNGI AMb AMB 13 19 29.4
comp=Z,774nm,1.2s,mb6.2
DIM Dimitrovgrad 75.88 326 *i*P P 13 19 27.6 0.0
LOMF Lomont 75.88 341⇓*e*P P 13 19 28.0 +0.4
MUO Muotathal 75.88 339⇓*i*P P 13 19 27.2 -0.4
comp=Z,2µm,1.6s,mb6.5
MUO Muotathal 75.88 339⇓*i*P P 13 19 28.3 +0.7
YLV Yalova 75.88 322 P P 13 19 26.6 -0.9
TRI Trieste 75.90 335 P P 13 19 27.2 -0.5
LLS Linth-Limmern 75.91 339⇓*i*P P 13 19 28.1 +0.3
comp=Z,1µm,1.7s,mb6.2
LLS Linth-Limmern 75.91 339⇓*i*P P 13 19 28.4 +0.6
BHD Baghdad 75.95 308 *i* x x 13 19 25.0
BHD *i* x x 13 19 33.0
BHD *e*x x 13 20 53.0
BHD *e*x x 13 28 50.0
BHD *e*x x 13 30 17.0
BRMO Bormio 75.97 338 P P 13 19 29.2 +1.1
BNALP Bannalp 76.01 339⇓*i*P P 13 19 28.2 -0.1
comp=Z,971nm,1.6s,mb6.2
BNALP Bannalp 76.01 339⇓*i*P P 13 19 28.9 +0.6
CTI Castel Tesino 76.09 337 P P 13 19 28.6 -0.2
PLD Plovdiv 76.10 326 *i*P P 13 19 28.5 -0.3
KOZT Kozan 76.10 316 P P 13 19 29.2 +0.4
BERNI Berninapass 76.11 338⇓*i*P P 13 19 28.3 -0.6
comp=Z,1µm,1.6s,mb6.3
BERNI Berninapass 76.11 338⇓*i*P P 13 19 30.0 +1.1
CBN Corbin 76.13 42⇓*e*P P 13 19 28.5 -0.5
comp=Z,525nm,1.0s,mb6.1
VTS Vitosha 76.14 328 *i*P P 13 19 28.5 -0.5
VDL Val di Lei 76.16 338⇓*i*P P 13 19 28.4 -0.8
comp=Z,2µm,1.9s,mb6.3
VDL Val di Lei 76.16 338⇓*i*P P 13 19 30.3 +1.1
GRR Gorron 76.17 346⇓*i*P P 13 19 29.2 0.0
comp=Z,2µm,1.1s,mb6.2
GRR Gorron 76.17 346⇓*i*P P 13 19 29.2 0.0
GRR pmax pmax
comp=Z,756nm,1.1s,mb6.2
GRR Gorron 76.17 346⇓*i*P P 13 19 29.2 0.0
comp=Z,756nm,1.1s,mb6.2
HASLI Hasliberg 76.18 339⇓*i*P P 13 19 28.9 -0.4
comp=Z,1µm,1.8s,mb6.3
HASLI Hasliberg 76.18 339⇓*i*P P 13 19 29.7 +0.4
ESKT Eskisehir 76.26 321 *i*P P 13 19 29.7 -0.1
KDZ Kurdzhali 76.27 326 *i*P P 13 19 30.3 +0.5
ULDT Uludag 76.33 322 *i*P P 13 19 30.2 +0.1
BRANT Les Verrieres 76.34 341⇓*i*P P 13 19 29.7 -0.5
comp=Z,2µm,1.8s,mb6.5
BRANT Les Verrieres 76.34 341⇓*i*P P 13 19 30.9 +0.7
FUSIO Fusio 76.36 339⇓*i*P P 13 19 30.0 -0.3
comp=Z,2µm,1.7s,mb6.5
FUSIO Fusio 76.36 339⇓*i*P P 13 19 31.2 +0.9
WIMIS Wimmis 76.37 340⇓*i*P P 13 19 30.3 -0.1
comp=Z,733nm,1.6s,mb6.1
WIMIS Wimmis 76.37 340⇓*i*P P 13 19 30.6 +0.2
BSTP Nigde 76.38 318 *i*P P 13 19 31.1 +0.7
DZM Mont Dzumac 76.40 172 P P 13 19 31.5 +1.0
comp=Z,205nm,0.9s,mb5.7,baz=36,slow=7.2,SNR=76
DZM pP pP 13 20 16.0 -0.2
comp=Z,167nm,1.2s,baz=27,slow=6.1,SNR=3.6
TORNY Torny 76.40 340⇓*i*P P 13 19 30.6 +0.1
comp=Z,3µm,1.8s,mb6.6
TORNY Torny 76.40 340⇓*i*P P 13 19 31.2 +0.7
LRAL Lakeview Retre 76.41 52⇓*i*P P 13 19 29.3 -1.3
comp=Z,100nm,0.5s,mb5.7
LRAL *e*pP pP 13 20 14.4 -1.8
MFT Murefte 76.42 324 P P 13 19 30.1 -0.5
KIZT Kizilcal 76.44 320 P P 13 19 30.5 -0.2
RZN Rozhen 76.47 326 *i*P P 13 19 31.2 +0.3
MRMT Marmara Adasi 76.47 324 P P 13 19 30.3 -0.6
DRWC Darouich 76.50 315 ⇓P P 13 19 31.6 +0.5
DRWC Darouich 76.50 315 ⇓P P 13 19 31.6 +0.5
KCT Karacabey 76.50 323 P P 13 19 32.0 +0.9
LOR Lormes 76.51 342⇓*i*P P 13 19 31.2 +0.1
comp=Z,2µm,1.2s,mb6.3
LOR *e*R
comp=Z,3µm,21.8s
LOR Lormes 76.51 342⇓*i*P P 13 19 31.2 +0.1
LOR pmax pmax
comp=Z,973nm,1.2s,mb6.3
LOR MLR MLR
comp=Z,3µm,21.8s
LOR Lormes 76.51 342⇓*i*P P 13 19 31.2 +0.1
comp=Z,974nm,1.2s,mb6.3
LOR LR LR
comp=Z,3µm,21.8s
ORLT Orhaneli 76.51 322 P P 13 19 31.3 +0.2
SGMF Saint Gilles 76.53 347⇓*i*P P 13 19 31.2 -0.1
comp=Z,712nm,0.9s,mb6.0
SGMF Saint Gilles 76.53 347⇓*i*P P 13 19 31.2 -0.1
comp=Z,356nm,0.9s,mb6.0
RKY Sarkoy-Tekirda 76.54 324 P P 13 19 31.3 0.0
CEYT Ceyhan 76.54 316 P P 13 19 31.8 +0.5
ROSF Rostrenen 76.54 348⇓*i*P P 13 19 31.3 0.0
comp=Z,3µm,1.4s,mb6.4
ROSF Rostrenen 76.54 348⇓*i*P P 13 19 31.3 0.0
ROSF pmax pmax
comp=Z,1µm,1.4s,mb6.4
comp=Z,1µm,1.4s,mb6.4
JHLN Al Jahlan 76.57 314 ⇓P P 13 19 31.8 +0.4
JHLN Al Jahlan 76.57 314 ⇓P P 13 19 32.0 +0.5
EDC Edincik 76.60 323 P P 13 19 31.5 -0.1
KARA Karaisali 76.60 317 P P 13 19 31.7 0.0
PLE Pljevlja 76.61 331⇓*i*P P 13 19 32.4 +0.7
LKBD Leukerbad 76.64 340⇓*i*P P 13 19 30.9 -0.9
comp=Z,1µm,2.0s,mb6.2
LKBD Leukerbad 76.64 340⇓*i*P P 13 19 32.3 +0.5
NVLJ Novalja 76.70 334 *i*P P 13 19 31.5 -0.7
HYF Humbligny 76.72 343⇓*i*P P 13 19 32.8 +0.5
SENIN Lac Senin 76.73 340⇓*i*P P 13 19 31.2 -1.1
comp=Z,1µm,2.3s,mb6.1
SENIN Lac Senin 76.73 340⇓*i*P P 13 19 33.0 +0.7
CABF La Chapelle 76.73 341⇓*i*P P 13 19 32.9 +0.5
comp=Z,1µm,1.0s,mb6.1
CABF La Chapelle 76.73 341⇓*i*P P 13 19 32.9 +0.5
CABF pmax pmax
comp=Z,500nm,1.0s,mb6.1
CABF La Chapelle 76.73 341⇓*i*P P 13 19 32.9 +0.5
comp=Z,500nm,1.0s,mb6.1
ALN Alexandroupoli 76.74 325 *e*P P 13 19 31.9 -0.5
COBT Iskenderun 76.75 316 *i*P P 13 19 33.2 +0.7
SAL Salo 76.76 337 P P 13 19 32.7 +0.2
SSF Saint Saulge 76.77 343⇓*i*P P 13 19 32.7 +0.1
comp=Z,2µm,1.6s,mb6.3
SSF Saint Saulge 76.77 343⇓*i*P P 13 19 32.7 +0.1
SSF pmax pmax
comp=Z,1µm,1.6s,mb6.3
SSF Saint Saulge 76.77 343⇓*i*P P 13 19 32.7 +0.1
comp=Z,1µm,1.6s,mb6.3
MUGIO Muggio 76.79 339⇓*i*P P 13 19 32.3 -0.4
comp=Z,2µm,1.8s,mb6.5
MUGIO Muggio 76.79 339⇓*i*P P 13 19 32.8 +0.1
WRAB Tennant Creek 76.80 203 P P 13 19 32.0 -0.7
comp=Z,3µm,0.9s,mb6.8
WRAB Tennant Creek 76.80 203*d i*P P 13 19 32.2 -0.5
WB2 Warramunga Arr 76.80 203 *e*P P 13 19 32.0 -0.8
WB2 *e*pP pP 13 20 20.2 +1.7
WB2 *e*S S 13 29 00.5 -3.8
WRA Warramunga Arr 76.81 203 P P 13 19 32.4 -0.4
comp=Z,234nm,0.8s,mb5.9,baz=18,slow=5.9,SNR=380
WRA pP pP 13 20 18.3 -0.2
comp=Z,72nm,0.9s,baz=16,slow=5.9,SNR=3.1
WRA S S 13 29 02.3 -2.0
comp=Z,48nm,1.2s,baz=16,slow=11,SNR=27
WRA PKKPbc PKKPbc 13 38 41.2 +0.8
comp=Z,1.2nm,0.8s,baz=207,slow=2.1,SNR=7.7
WRA PKPPKP 13 46 38.7
comp=Z,0.8nm,0.8s,baz=198,slow=2.5,SNR=4.6
AIGLE Aigle 76.82 340⇓*i*P P 13 19 32.3 -0.6
comp=Z,1µm,1.6s,mb6.2
AIGLE Aigle 76.82 340⇓*i*P P 13 19 33.1 +0.2
KKB Krupnik 76.83 327 *i*P P 13 19 33.2 +0.3
UPM Unac-Piva 76.87 331⇓*i*P P 13 19 32.7 -0.5
ZAIG Zacatecas 76.87 69 *i*P P 13 19 33.4 +0.2
GRYON Gryon 76.87 340⇓*i*P P 13 19 32.5 -0.7
comp=Z,1µm,1.7s,mb6.2
GRYON Gryon 76.87 340⇓*i*P P 13 19 33.6 +0.4
MMB Musomiste 76.88 327 *i*P P 13 19 33.2 0.0
OG01 Vacheresse 76.88 340⇓*e*P P 13 19 33.8 +0.6
IVA Berane 76.89 330⇓*i*P P 13 19 32.9 -0.4
MMK Mattmark 76.89 339⇓*i*P P 13 19 32.8 -0.5
comp=Z,2µm,1.8s,mb6.4
MMK Mattmark 76.89 339⇓*i*P P 13 19 34.5 +1.2
WSAR Wadi Sarin 76.91 291 P P 13 19 33.5 +0.1
comp=Z,302nm,0.8s,mb6.0,baz=46,slow=3.5,SNR=141
ALT Altintas 76.94 321 P P 13 19 33.4 -0.1
QUIF Quistinic 76.94 347⇓*i*P P 13 19 33.5 -0.1
comp=Z,853nm,1.0s,mb6.0
QUIF Quistinic 76.94 347⇓*i*P P 13 19 33.5 -0.1
QUIF pmax pmax
comp=Z,427nm,1.0s,mb6.0
QUIF Quistinic 76.94 347⇓*i*P P 13 19 33.5 -0.1
comp=Z,426nm,1.0s,mb6.0
PALK Pallekele 76.96 264 P P 13 19 33.4 -0.3
comp=Z,2µm,1.2s,mb6.7,SNR=14
MCGN Macugnaga 76.97 339 P P 13 19 34.7 +1.0
DIX Grande Dixence 76.97 340⇓*i*P P 13 19 33.5 -0.2
comp=Z,2µm,1.9s,mb6.4
DIX Grande Dixence 76.97 340⇓*i*P P 13 19 34.9 +1.2
DST Dursunbey 76.99 322 P P 13 19 33.5 -0.3
SALAN Lac Salanfe 77.00 340⇓*i*P P 13 19 33.1 -0.8
comp=Z,1µm,2.3s,mb6.2
SALAN Lac Salanfe 77.00 340⇓*i*P P 13 19 34.5 +0.6
AVF Avril sur Loir 77.06 343⇓*i*P P 13 19 34.4 +0.2
comp=Z,2µm,1.3s,mb6.3
AVF Avril sur Loir 77.06 343⇓*i*P P 13 19 34.4 +0.2
AVF pmax pmax
comp=Z,1µm,1.3s,mb6.3
AVF Avril sur Loir 77.06 343⇓*i*P P 13 19 34.4 +0.2
comp=Z,1µm,1.3s,mb6.3
BTOK Tokmak 77.06 323 *i*P P 13 19 34.1 -0.1
KRTS Karatas 77.07 316 P P 13 19 34.9 +0.6
KONT Konya--Tatoy 77.07 319 P P 13 19 34.0 -0.2
BTCH Batrach 77.08 315 ⇓P P 13 19 34.2 -0.1
BTCH Batrach 77.08 315 ⇓P P 13 19 34.3 -0.1
EMV Vieux Emosson 77.09 340⇓*i*P P 13 19 33.6 -0.8
comp=Z,1µm,1.6s,mb6.3
EMV Vieux Emosson 77.09 340⇓*i*P P 13 19 35.2 +0.8
SMF Signal de Mont 77.11 342⇓*i*P P 13 19 34.7 +0.2
comp=Z,3µm,1.6s,mb6.4
SMF Signal de Mont 77.11 342⇓*i*P P 13 19 34.7 +0.2
SMF pmax pmax
comp=Z,2µm,1.6s,mb6.4
SMF Signal de Mont 77.11 342⇓*i*P P 13 19 34.7 +0.2
comp=Z,2µm,1.6s,mb6.4
PVY Plav 77.12 330⇓*i*P P 13 19 33.4 -1.1
HTY Hatay 77.14 315 P P 13 19 35.2 +0.5
MERS Mersin 77.16 317 P P 13 19 34.4 -0.4
NKY Niksic 77.20 331⇓*i*P P 13 19 33.9 -1.1
BALB Balikesir 77.23 323 P P 13 19 34.6 -0.5
SKO Skopje 77.25 329 *e*P P 13 19 35.8 +0.6
SKO Skopje 77.25 329 *e*P P 13 19 36.0 +0.8
SKO Skopje 77.25 329 P P 13 19 36.1 +0.9
BRY Bratogost 77.25 331⇓*i*P P 13 19 34.6 -0.7
ORO Oropa 77.29 339 P P 13 19 35.5 0.0
BGF Bois d'Agland 77.37 343⇓*i*P P 13 19 36.2 +0.3
comp=Z,352nm,0.8s,mb5.8
BGF Bois d'Agland 77.37 343⇓*i*P P 13 19 36.2 +0.3
BGF pmax pmax
comp=Z,176nm,0.8s,mb5.7
BGF Bois d'Agland 77.37 343⇓*i*P P 13 19 36.2 +0.3
comp=Z,176nm,0.8s,mb5.7
FITZ Fitzroy Crossi 77.41 212⇓*i*P P 13 19 35.9 -0.2
comp=Z,518nm,1.5s,mb5.9
FITZ *i* pP pP 13 20 23.4 +1.4
FITZ *i* S S 13 29 09.8 -1.0
FITZ Fitzroy Crossi 77.41 212 P P 13 19 36.1 0.0
comp=Z,113nm,0.9s,mb5.5,baz=18,slow=6.7,SNR=103
FITZ pP pP 13 20 22.6 +0.6
comp=Z,103nm,1.1s,baz=10,slow=8.5,SNR=4.4
FITZ S S 13 29 09.7 -1.0
comp=Z,21nm,1.4s,baz=226,slow=19,SNR=20
FITZ PKPPKP 13 46 45.6
comp=Z,2.6nm,0.9s,baz=169,slow=8.0,SNR=3.5
MIB Mutribah 77.42 304 *e*P P 13 19 35.5 -0.8
MIB AMb AMB 13 19 37.8
comp=Z,2µm,1.4s,mb6.5
ARNB Al Arnab 77.44 315 ⇓P P 13 19 36.3 0.0
ARNB Al Arnab 77.44 315 ⇓P P 13 19 36.5 +0.2
UMR Umm Al-Rimmam 77.45 303 *e*P P 13 19 35.5 -0.9
TTG Podgorica 77.48 330⇓*i*P P 13 19 35.2 -1.3
VAY Valandovo 77.49 327 *e*P P 13 19 36.4 -0.2
VAY Valandovo 77.49 327⇓*e*P P 13 19 36.3 -0.3
VAY Valandovo 77.49 327 P P 13 19 35.9 -0.7
STON Ston 77.51 322⇓*i*P P 13 19 35.5 -1.3
KNT Kendrikon 77.53 327 *e*P P 13 19 35.9 -1.0
WRDH Warideh 77.56 315 ⇓P P 13 19 37.0 0.0
WRDH Warideh 77.56 315 ⇓P P 13 19 37.0 +0.1
SLNF Slenfeh 77.56 315 ⇓P P 13 19 37.3 +0.3
SLNF Slenfeh 77.56 315 ⇓P P 13 19 37.3 +0.3
EZN Ezine 77.60 324 P P 13 19 36.8 -0.5
KFRA Kufra 77.65 314 ⇓P P 13 19 37.5 +0.1
KFRA Kufra 77.65 314 ⇓P P 13 19 37.7 +0.2
LPL La Plagne 77.65 340⇓*i*P P 13 19 39.0 +1.5
comp=Z,879nm,0.8s,mb6.2
LPL La Plagne 77.65 340⇓*i*P P 13 19 39.0 +1.5
LPL pmax pmax
comp=Z,440nm,0.8s,mb6.1
LPL La Plagne 77.65 340⇓*i*P P 13 19 39.0 +1.5
comp=Z,440nm,0.8s,mb6.1
LPG La Plagne 77.67 340⇓*i*P P 13 19 39.3 +1.7
comp=Z,1µm,0.8s,mb6.3
LPG La Plagne 77.67 340⇓*i*P P 13 19 39.3 +1.7
LPG pmax pmax
comp=Z,694nm,0.8s,mb6.3
LPG La Plagne 77.67 340⇓*i*P P 13 19 39.3 +1.7
comp=Z,694nm,0.8s,mb6.3
HCY Herceg Novi 77.68 331⇓*i*P P 13 19 36.6 -1.1
SOH Sokhos 77.69 327 *e*P P 13 19 36.3 -1.4
BUM Brajici-Budva 77.70 330⇓*i*P P 13 19 36.7 -1.1
TCF Toulx Ste Croi 77.74 343⇓*i*P P 13 19 38.3 +0.3
comp=Z,622nm,1.1s,mb5.8
TCF Toulx Ste Croi 77.74 343⇓*i*P P 13 19 38.3 +0.3
TCF pmax pmax
comp=Z,311nm,1.1s,mb5.8
TCF Toulx Ste Croi 77.74 343⇓*i*P P 13 19 38.3 +0.3
comp=Z,311nm,1.1s,mb5.8
TKTP Tekketepe 77.76 321 *i*P P 13 19 37.9 -0.2
KBD Kabd 77.77 303 *e*P P 13 19 37.5 -0.7
KBD AMb AMB 13 19 39.9
comp=Z,4µm,1.1s,mb7.0
PESA Pesaro 77.79 335 P P 13 19 38.9 +0.6
BOB Bobbio (Coli) 77.80 338 P P 13 19 39.3 +1.0
KHL Karahalli 77.80 321 P P 13 19 37.9 -0.4
PLDF La Plantade 77.80 342 *e*P P 13 19 39.2 +0.9
MFF Saint Martin d 77.81 345⇓*i*P P 13 19 38.8 +0.4
comp=Z,850nm,1.1s,mb6.0
MFF Saint Martin d 77.81 345⇓*i*P P 13 19 38.8 +0.4
MFF pmax pmax
comp=Z,425nm,1.1s,mb6.0
MFF Saint Martin d 77.81 345⇓*i*P P 13 19 38.8 +0.4
comp=Z,425nm,1.1s,mb6.0
AGO Saint Agoulin 77.81 343 *e*P P 13 19 39.2 +0.8
LCHF La Chataignera 77.83 345⇓*e*P P 13 19 39.0 +0.5
ISP Isparta 77.86 320 P P 13 19 37.8 -0.8
ISP Isparta 77.86 320*d i*P P 13 19 38.0 -0.6
ISP Isparta 77.86 320⇓*i*P P 13 19 37.9 -0.7
comp=Z,2µm,1.8s,mb6.4
GRG Griva 77.87 327 *e*P P 13 19 37.4 -1.3
ULC Ulcinj 77.91 330⇓*i*P P 13 19 38.2 -0.7
ERBM Eremo 77.91 337 P P 13 19 40.4 +1.5
LOS Limnos 77.92 325 *e*P P 13 19 38.6 -0.4
AKS Akhisar 77.93 323 P P 13 19 38.3 -0.7
NAY Al-Naaiem 77.93 304 *e*P P 13 19 38.1 -0.9
NAY AMb AMB 13 19 40.6
comp=Z,1µm,1.2s,mb6.4
OUR Ouranopolis 77.93 326 *e*P P 13 19 38.4 -0.6
AYVA Ayvalik 77.94 324 *i*P P 13 19 38.2 -0.8
GSCL Gusciola 77.94 337 P P 13 19 40.1 +1.0
AOI Ancona 77.97 335 P P 13 19 39.6 +0.4
THE Thessaloniki 77.99 327 *e*P P 13 19 37.4 -1.9
ERMK Ermenek 77.99 318 *i*P P 13 19 37.3 -2.1
MANT Manisa 78.00 322 *i*P P 13 19 39.2 -0.2
QRN Al-Qurain 78.01 303 *e*P P 13 19 38.8 -0.6
QRN AMb AMB 13 19 41.2
comp=Z,2µm,0.9s,mb6.6
BIDA Albida 78.02 315 ⇓P P 13 19 39.7 +0.2
BIDA Albida 78.02 315 ⇓P P 13 19 39.6 +0.1
IKL Isikli 78.04 317 P P 13 19 38.8 -0.8
LRYF La Roche-sur-Y 78.04 346⇓*e*P P 13 19 39.7 +0.1
SEI Scarperia 78.04 336 P P 13 19 41.1 +1.5
RDF Al-Radifah 78.04 303 *e*P P 13 19 39.1 -0.6
RDF AMb AMB 13 19 41.6
comp=Z,4µm,1.2s,mb6.9
SFI Santa Sofia 78.06 336 P P 13 19 40.7 +0.9
GDM Grand'Maison 78.07 340⇓*e*P P 13 19 41.3 +1.5
VMG Vicchio 78.08 336 P P 13 19 41.0 +1.1
BNI Bardonecchia 78.11 340⇓*i*P P 13 19 41.2 +1.2
BNI pmax pmax
comp=Z,916nm,1.3s,mb6.2
BNI Bardonecchia 78.11 340⇓*i*P P 13 19 41.1 +1.1
comp=Z,916nm,1.3s,mb6.2
GRN Grenoble 78.11 341⇓*e*P P 13 19 41.4 +1.4
CJM Chamela 78.11 73 *i*P P 13 19 40.1 0.0
QSH Qafa e Shtames 78.12 329 *i*p P 13 19 40.4 +0.3
PYM Petit Puy Mans 78.12 343 *e*P P 13 19 41.0 +0.9
RABH Abou Rabah 78.15 314 ⇓P P 13 19 40.7 +0.4
RABH Abou Rabah 78.15 314 ⇓P P 13 19 40.9 +0.6
BIA Bitola 78.15 328⇓*e*P P 13 19 39.3 -0.9
TRD Trivandrum 78.16 268⇓*i*P P 13 19 40.0 -0.3
VLC Villacollemand 78.16 337⇓*i*P P 13 19 40.5 +0.2
comp=Z,2µm,1.5s,mb6.6
BCK Bucak 78.17 320 P P 13 19 40.0 -0.4
ARV Arcevia 78.18 335 P P 13 19 41.2 +0.8
VERF Verneugheol 78.22 343⇓*e*P P 13 19 40.9 +0.3
COLF Collangettes 78.23 342⇓*e*P P 13 19 41.6 +0.9
OG22 Abries 78.27 340⇓*e*P P 13 19 41.9 +1.0
ROOS tl_alroos 78.34 314 ⇓P P 13 19 41.3 0.0
ROOS tl_alroos 78.34 314 ⇓P P 13 19 41.4 +0.1
BADI Badiali 78.34 326 P P 13 19 42.1 +0.8
FNA Florina 78.35 328 *e*P P 13 19 39.6 -1.7
ORIF Oris-en-Rattie 78.39 340⇓*i*P P 13 19 42.7 +1.1
comp=Z,2µm,1.2s,mb6.3
ORIF *e*R
comp=Z,2µm,18.8s
ORIF Oris-en-Rattie 78.39 340⇓*i*P P 13 19 42.7 +1.1
ORIF pmax pmax
comp=Z,942nm,1.2s,mb6.3
ORIF Oris-en-Rattie 78.39 340⇓*i*P P 13 19 42.7 +1.1
comp=Z,942nm,1.2s,mb6.3
PAIG Paliouri 78.39 326 *e*P P 13 19 40.5 -1.1
MBDF Montbardon 78.40 340⇓*i*P P 13 19 42.5 +0.9
HAWK Haweek 78.41 314 ⇓P P 13 19 41.8 +0.2
HAWK Haweek 78.41 314 ⇓P P 13 19 41.8 +0.2
SFJM Santa Fe 78.44 71 *e*P P 13 19 42.0 +0.2
DENT Denizli 78.48 321 P P 13 19 41.9 -0.2
DOI San Damiano 78.52 339 P P 13 19 41.2 -1.1
KDAG Bornova 78.54 323 *i*P P 13 19 41.7 -0.7
PII Pisa 78.55 337 P P 13 19 41.9 -0.5
IZM Izmir 78.55 323 P P 13 19 41.6 -0.9
FRNF Fournols 78.55 343⇓*e*P P 13 19 43.4 +0.9
LBL Lubilhac 78.58 342 *e*P P 13 19 43.5 +0.9
MATF Mathat 78.58 345 *e*P P 13 19 43.5 +0.9
FIN Finale Ligure 78.60 339 P P 13 19 42.2 -0.5
CSNT Castellina Chi 78.61 336 P P 13 19 42.5 -0.2
LIT Litokhoron 78.62 327 *e*P P 13 19 40.6 -2.3
SURF Saint Ours 78.63 340⇓*e*P P 13 19 44.0 +1.1
OLEF Ile d'Oleron 78.63 346⇓*e*P P 13 19 43.4 +0.5
ANTB Antalya 78.64 320 P P 13 19 40.9 -2.0
FKH Fakeheh 78.66 314 *e*P P 13 19 43.2 +0.2
ASS Assisi 78.66 335 P P 13 19 41.8 -1.2
VIVF Saint-Julien-l 78.69 341⇓*i*P P 13 19 44.0 +0.8
comp=Z,3µm,1.4s,mb6.4
VIVF Saint-Julien-l 78.69 341⇓*i*P P 13 19 44.0 +0.8
VIVF pmax pmax
comp=Z,1µm,1.4s,mb6.4
VIVF Saint-Julien-l 78.69 341⇓*i*P P 13 19 44.0 +0.8
comp=Z,1µm,1.4s,mb6.4
NRCA Norcia 78.76 335 P P 13 19 44.1 +0.5
MARH Ras Al Marh 78.80 314 ⇓P P 13 19 44.7 +0.9
MARH Ras Al Marh 78.80 314 ⇓P P 13 19 44.7 +0.9
RJF Les Rejaudoux 78.81 344⇓*i*P P 13 19 44.5 +0.7
RJF *e*R
comp=Z,3µm,19.5s
RJF Les Rejaudoux 78.81 344⇓*i*P P 13 19 44.5 +0.7
RJF LR LR
comp=Z,3µm,19.5s
URLA Izmir 78.82 323 *i*P P 13 19 43.2 -0.7
OCF Saint Nazaire 78.83 341⇓*e*P P 13 19 45.2 +1.2
OG26 St.-Nazaire-De 78.83 341⇓*e*P P 13 19 45.2 +1.2
OG25 Le Caire 78.88 340⇓*e*P P 13 19 45.3 +1.0
SAOF Saorge 78.95 339⇓*e*P P 13 19 44.7 +0.1
IMI Imperia 78.95 339 P P 13 19 44.8 +0.2
AUTN L'Aution 78.97 339⇓*e*P P 13 19 45.2 +0.5
PHNC Paralimni 78.97 316 P P 13 19 44.0 -0.7
CHOS Chios island 78.98 324 *e*P P 13 19 43.0 -1.8
AYDN Tasoluk 78.99 322 *i*P P 13 19 45.0 +0.2
GRFL Gerfalco 78.99 336 P P 13 19 44.8 0.0
AOS Alonnisos 79.01 326 *e*P P 13 19 44.0 -1.0
ELL Elmali 79.05 320 P P 13 19 44.6 -0.5
XOR Xorichti 79.06 326 *e*P P 13 19 43.9 -1.3
FGMS Monte Sant'Ang 79.08 332 P P 13 19 45.0 -0.3
LUCF Luceram 79.08 339⇓*e*P P 13 19 45.9 +0.6
CAF Calviac 79.09 343⇓*i*P P 13 19 46.5 +1.2
comp=Z,1µm,1.1s,mb6.1
CAF Calviac 79.09 343⇓*i*P P 13 19 46.5 +1.2
comp=Z,521nm,1.0s,mb6.1
SBF Sospel 79.09 339⇓*i*P P 13 19 45.6 +0.2
comp=Z,4µm,1.4s,mb6.6
SBF Sospel 79.09 339⇓*i*P P 13 19 45.6 +0.2
comp=Z,2µm,1.4s,mb6.6
MVIF Mont Vial 79.12 339⇓*e*P P 13 19 46.0 +0.5
AQU L'Aquila 79.14 334⇓*i*P P 13 19 46.2 +0.5

AQU pmax pmax
comp=Z,1μm,1.3s,mb6.4
AQU L'Aquila 79.14 334⇓*i*P **P 13 19 46.2 +0.5**
comp=Z,1μm,1.3s,mb6.4
MAMC Mammari 79.15 317 P **P 13 19 45.4 -0.3**
FG2 Serracapriola 79.20 333 P **P 13 19 46.0 0.0**
RGNG Rignano Grg 79.21 333 P **P 13 19 45.0 -1.0**
MON Monaco 79.22 339 P **P 13 19 46.0 -0.1**
REVF Revere 79.22 339⇓*e*P **P 13 19 46.5 +0.4**
BHL Bhannes 79.26 315 *e*P **P 13 19 45.9 -0.4**
STOF St-Etienne Org 79.27 340⇓*e*P **P 13 19 47.5 +1.1**
CSS Prodhromos 79.29 317 ⇓P **P 13 19 46.1 -0.3**
comp=Z,6.7nm,1.4s
CSS Prodhromos 79.29 317⇓*e*P **P 13 19 46.1 -0.3**
LFF La Frestale 79.29 344⇓*i*P **P 13 19 47.3 +0.8**
comp=Z,2μm,1.2s,mb6.2
LFF La Frestale 79.29 344⇓*i*P **P 13 19 47.3 +0.8**
comp=Z,775nm,1.2s,mb6.2
MNS Montasola 79.29 335 P **P 13 19 46.4 -0.1**
YER Yerkesik 79.31 322 P **P 13 19 46.5 -0.1**
QASN Qassioun 79.31 314 ⇓P **P 13 19 47.0 +0.4**
QASN Qassioun 79.31 314 ⇓P **P 13 19 47.0 +0.4**
MLSB Milas 79.35 322 P **P 13 19 46.7 -0.1**
SMRF Simiane la Rot 79.36 340⇓*i*P **P 13 19 48.1 +1.3**
comp=Z,2μm,1.4s,mb6.3
SMRF Simiane la Rot 79.36 340⇓*i*P **P 13 19 48.1 +1.3**
comp=Z,2μm,1.4s,mb6.6
NHSC New Hope 79.37 47⇓*e*P **P 13 19 46.5 -0.4**
comp=Z,922nm,1.4s,mb6.2
NHSC *e*pP pP 13 20 31.4 -1.5
ZALF Zalf 79.39 313 ⇓P **P 13 19 47.3 +0.3**
ZALF Zalf 79.39 313 ⇓P **P 13 19 47.3 +0.3**
TOTH TOTAH 79.40 314 ⇓P **P 13 19 47.2 +0.2**
TOTH TOTAH 79.40 314 ⇓P **P 13 19 47.1 +0.1**
ALFC Alevga 79.41 317 ⇓P **P 13 19 45.8 -1.3**
comp=Z,7.5nm,0.7s
ALFC Alevga 79.41 317⇓*e*P **P 13 19 45.8 -1.3**
VILF Villemus 79.45 340⇓*e*P **P 13 19 48.6 +1.3**
PTQR Pietraquaria 79.45 334 P **P 13 19 48.3 +1.0**
FETY Fethiye 79.46 321 P **P 13 19 46.9 -0.5**
CII Carovilli 79.50 333 P **P 13 19 48.2 +0.6**
DALT Dalyan (Mudla) 79.50 321 P **P 13 19 46.5 -1.1**
VVLD Villa Vallelon 79.54 334 P **P 13 19 47.8 0.0**
FRF La Foret Royal 79.55 340 ⇓P **P 13 19 48.0 +0.2**
BRBR Barbar 79.56 314 ⇓P **P 13 19 48.1 +0.2**
BRBR Barbar 79.56 314 ⇓P **P 13 19 48.1 +0.2**
LASF Ste Croix 79.59 342 ⇓P **P 13 19 49.3 +1.2**
comp=Z,1μm,1.1s,mb6.1
PRAF Pradon 79.61 341⇓*e*P **P 13 19 49.9 +1.7**
TAVF Tavernes 79.61 340⇓*e*P **P 13 19 49.3 +1.1**
AKMC Akamas 79.63 318 ⇓P **P 13 19 47.0 -1.3**
AKMC Akamas 79.63 318⇓*e*P **P 13 19 47.0 -1.3**
SDI San Donato 79.64 334 P **P 13 19 48.4 0.0**
AGG Agios Georgios 79.65 327 *e*P **P 13 19 46.3 -2.1**
FG5 Orsara di Pugl 79.66 333 P **P 13 19 49.0 +0.6**
GUAR Guarcino 79.69 334 P **P 13 19 48.6 0.0**
BODT Bodrum 79.72 322 P **P 13 19 47.9 -0.9**
FG4 Candela 79.73 332 P **P 13 19 49.2 +0.4**
TREF Trevaresse 79.74 340⇓*e*P **P 13 19 50.6 +1.7**
LCI Lecce 79.74 330 P **P 13 19 48.8 -0.1**
PPCY Paphos 79.75 318 P **P 13 19 47.9 -1.0**
LMR La Mourre 79.79 340⇓*i*P **P 13 19 49.7 +0.5**
comp=Z,3μm,1.3s,mb6.5
LMR La Mourre 79.79 340⇓*i*P **P 13 19 49.7 +0.5**
comp=Z,2μm,1.3s,mb6.5
SGG Gregorio Mates 79.80 333 P **P 13 19 49.1 -0.1**
IGT Igoumenitsa 79.81 328 *e*P **P 13 19 47.6 -1.7**
SALA Sala 79.83 313 ⇓P **P 13 19 49.8 +0.4**
SALA Sala 79.83 313 ⇓P **P 13 19 49.9 +0.5**
RDP Rocca di Papa 79.88 335 P **P 13 19 49.7 +0.1**
MA9 Marino 79.88 335 P **P 13 19 49.7 +0.1**
DAT Datca 79.92 322 P **P 13 19 48.3 -1.6**
LAV9 Lanuvio 79.95 335 P **P 13 19 50.2 +0.2**
GELF Grande-Etoile 79.96 340⇓*e*P **P 13 19 51.4 +1.3**
BERF Bertagne 79.98 340⇓*e*P **P 13 19 51.2 +1.1**
RFI Roccamonfina 79.98 334 P **P 13 19 50.4 +0.2**
PGF Pioggiola 80.01 338⇓*i*P **P 13 19 50.5 +0.2**
comp=Z,985nm,1.1s,mb6.1
PGF Pioggiola 80.01 338⇓*i*P **P 13 19 50.5 +0.2**
PGF pmax pmax
comp=Z,492nm,1.1s,mb6.0
PGF Pioggiola 80.01 338⇓*i*P **P 13 19 50.5 +0.2**
comp=Z,492nm,1.1s,mb6.0
MOIG Morelia 80.11 70 *i*P **P 13 19 51.7 +0.9**
CSSN Cassano Irpino 80.12 333 P **P 13 19 50.6 -0.3**
PTRP Pietrapertosa 80.15 332 P **P 13 19 51.9 +0.8**
TCHB Talchebab 80.19 314 ⇓P **P 13 19 51.5 +0.3**
TCHB Talchebab 80.19 314 ⇓P **P 13 19 51.5 +0.3**
CORF Corte 80.21 337⇓*e*P **P 13 19 51.6 +0.2**
SGO Sicignano 80.32 332 P **P 13 19 51.9 -0.1**
APE Apeiranthos 80.35 324 P **P 13 19 49.1 -3.1**
APE Apeiranthos 80.35 324 *e*P **P 13 19 49.8 -2.3**
APE Apeiranthos 80.35 324*d*P **P 13 19 49.7 -2.4**
APE Apeiranthos 80.35 324 P **P 13 19 50.2 -1.9**
SLCN Sala Consilina 80.39 332 P **P 13 19 52.5 +0.1**
ORI Oriolo Calabro 80.47 331 P **P 13 19 53.6 +0.8**
LKD Levkas 80.47 328 *e*P **P 13 19 50.9 -1.9**
ASAR Alice Springs 80.50 203 P **P 13 19 53.0 +0.1**
comp=Z,325nm,0.9s,mb6.0,baz=13,slow=5.4,SNR=506
ASAR pP pP 13 20 39.5 +0.5
comp=Z,103nm,0.9s,baz=12,slow=4.8,SNR=3.7
ASAR S S 13 29 44.4 +0.9
comp=Z,26nm,1.2s,baz=21,slow=11,SNR=12
ASAR PKKPbc PKKPbc 13 38 32.1 -0.2
comp=Z,2.4nm,0.6s,baz=201,slow=1.9,SNR=15
ASAR PKPPKP 13 46 29.6
comp=Z,1.5nm,1.2s,baz=136,slow=2.6,SNR=4.2
MTLF Montolieu 80.60 343⇓*i*P **P 13 19 54.7 +1.2**
comp=Z,1μm,1.2s,mb6.2
MTLF Montolieu 80.60 343⇓*i*P **P 13 19 54.7 +1.2**
MTLF pmax pmax
comp=Z,690nm,1.2s,mb6.2
MTLF Montolieu 80.60 343⇓*i*P **P 13 19 54.7 +1.2**
comp=Z,690nm,1.2s,mb6.2
VENT Ventotene 80.60 334 P **P 13 19 53.5 0.0**
MMLI Mount Malkishu 80.62 314 ⇓P **P 13 19 54.0 +0.4**
OFRI 'Ofer 80.64 314 ⇓P **P 13 19 53.7 0.0**
MGR Morigerati 80.65 332 P **P 13 19 53.6 -0.1**
MNCY Minicoy 80.65 271 *i*P **P 13 19 52.0 -1.7**
MNCY *i*x x 13 21 22.0
SLTI Sal'it 80.95 314 ⇓P **P 13 19 55.5 +0.2**
MLS Moulis 81.16 343⇓*e*P **P 13 19 57.6 +1.1**
TIP Timpagrande 81.20 331 ⇓*i*P **P 13 19 56.9 +0.2**
EPF Esparros 81.22 344 ⇓*i*P **P 13 19 57.1 +0.4**
CARF Carcanieres 81.22 343⇓*e*P **P 13 19 57.9 +1.1**
LABF Labassere 81.24 344⇓*e*P **P 13 19 57.1 +0.2**
OSSF Osses 81.25 345⇓*e*P **P 13 19 56.9 0.0**
FILF Fillols 81.29 342⇓*e*P **P 13 19 58.4 +1.3**
REYF Montagne du Re 81.30 344⇓*e*P **P 13 19 57.4 +0.3**
MELF Melles 81.30 344⇓*e*P **P 13 19 57.6 +0.4**
EALK Alkurruntz 81.32 345 P **P 13 19 57.5 +0.3**
comp=Z,3μm,2.3s,mb6.4
ATE Arette 81.33 345⇓*e*P **P 13 19 57.4 +0.1**
SALF Salau 81.34 343⇓*e*P **P 13 19 57.9 +0.5**
EJON La Jonquera 81.34 342 P **P 13 19 58.1 +0.7**
comp=Z,4μm,2.0s,mb6.7
DRGI Dragot 81.36 314 ⇓P **P 13 19 57.6 +0.1**
ELIZ Elizondo 81.38 345 P **P 13 19 57.8 +0.2**
ELIZ pmax pmax
comp=Z,2μm,2.1s,mb6.4
ELIZ Elizondo 81.38 345 P **P 13 19 57.8 +0.2**
comp=Z,2μm,2.1s,mb6.4
VIEF Viey 81.41 344⇓*e*P **P 13 19 59.4 +1.6**
LARF Larrau 81.42 345⇓*e*P **P 13 19 58.8 +1.0**
RESF Ens 81.43 344⇓*e*P **P 13 19 59.3 +1.4**
ETSF Etsaut 81.49 345 ⇓*i*P **P 13 19 59.5 +1.3**
VALF Valcebollere 81.54 343⇓*e*P **P 13 20 00.0 +1.5**
ELAN Lanestosa 81.58 347 P **P 13 19 58.4 -0.2**
comp=Z,5μm,2.6s,mb6.7
EBIE Bielsa 81.58 344 P **P 13 19 59.7 +1.0**
comp=Z,4μm,2.0s,mb6.7
MZDA Masada 81.62 314 ⇓P **P 13 19 58.9 0.0**
GRI Girifalco 81.63 331 P **P 13 19 58.9 0.0**
EARI Arriondas 81.74 348 P **P 13 19 58.8 -0.7**
comp=Z,2μm,1.5s,mb6.6
EPON Pontenova 81.94 349 P **P 13 20 00.1 -0.5**
comp=Z,2μm,2.1s,mb6.5
DGI Dorgali Grotta 81.99 336 P **P 13 20 01.0 +0.2**
EGRA Graus 82.03 344 P **P 13 20 02.2 +1.2**
comp=Z,4μm,1.6s,mb6.7
LAST Lasithi 82.08 323 *e*P **P 13 19 59.5 -1.7**
PLIG Platanillo 82.08 70 *i*P **P 13 20 01.1 -0.1**
EMIR Miracle 82.10 343 P **P 13 20 01.6 +0.3**
comp=Z,5μm,1.9s,mb6.8
MBWA Marble Bar 82.19 216⇓*i*P **P 13 20 00.8 -1.1**
comp=Z,352nm,1.3s,mb5.8
ZFRI Zfri 82.35 313 ⇓P **P 13 20 02.8 +0.1**
KZIT Kziot 82.38 314 ⇓P **P 13 20 02.7 -0.1**
SOI Samo 82.43 331 P **P 13 20 02.4 -0.7**
EMAZ Mazaricos 82.50 351 P **P 13 20 02.9 -0.5**
comp=Z,4μm,2.5s,mb6.6
STS Santiago 82.52 350 P **P 13 20 03.5 0.0**
STS pmax pmax
comp=Z,596nm,1.2s,mb6.2
STS Santiago 82.52 350 P **P 13 20 03.5 0.0**
comp=Z,596nm,1.2s,mb6.2
MTTG Motta San Giov 82.60 331 P **P 13 20 03.0 -0.9**
PRNI Paran 82.60 313 ⇓P **P 13 20 04.1 +0.1**
ESAC San Caprasio 82.62 344 P **P 13 20 04.7 +0.6**
comp=Z,11μm,1.9s,mb7.2
USI Ustica 82.63 333 P **P 13 20 04.1 0.0**
PMOR Pomariorio Ree 82.72 128 *e*P **P 13 20 05.9 +1.3**
EPOB Poblet 82.73 343 P **P 13 20 04.4 -0.2**
comp=Z,5μm,2.0s,mb6.9
CAIG El Cayaco 82.75 71 *i*P **P 13 20 05.2 +0.5**
VSL Villasalto 82.83 336⇓*i*P **P 13 20 05.1 0.0**
comp=Z,1μm,1.4s,mb6.4
ERUA La Rua 82.86 349 P **P 13 20 05.6 +0.3**
ERUA pmax pmax
comp=Z,568nm,1.2s,mb6.2
ERUA La Rua 82.86 349 P **P 13 20 05.6 +0.3**
comp=Z,568nm,1.2s,mb6.2
HRFI Mount Harif 82.86 313 ⇓P **P 13 20 05.2 -0.1**
MNO Monte Soro 82.94 332 P **P 13 20 05.2 -0.5**
ACX Acapulco 83.09 71 *e*P **P 13 20 07.0 +0.5**
DWPF Disney 83.11 50 P **P 13 20 07.1 +0.5**
DWPF pP pP 13 20 53.3 +0.3
DWPF SKSac SKSac 13 30 09.0 -1.3
DWPF Disney 83.11 50⇓*i*P **P 13 20 06.9 +0.4**
comp=Z,196nm,0.8s,mb5.9
DWPF *e*pP pP 13 20 52.0 -1.0
MBH Mount Berech 83.13 313 ⇓P **P 13 20 06.7 +0.1**
EIL Elat 83.22 313 ⇓P **P 13 20 07.1 0.0**
ERTA Horta de San J 83.24 343 P **P 13 20 06.7 -0.5**
comp=Z,4μm,2.0s,mb6.8
ECAL Calabor 83.26 349 P **P 13 20 07.0 -0.3**
comp=Z,5μm,2.0s,mb6.9
EZAM Zamans 83.26 350 P **P 13 20 07.6 +0.3**
EZAM pmax pmax
comp=Z,441nm,1.1s,mb6.1
EZAM Zamans 83.26 350 P **P 13 20 07.6 +0.2**
comp=Z,441nm,1.1s,mb6.1
EBR Ebro Roquetas 83.34 343 *i*P **P 13 20 08.5 +0.7**
PBRG Braganca 83.40 349 *i*P **P 13 20 08.5 +0.5**
comp=Z,2μm,1.7s,mb6.5
ERC Erice 83.41 333 P **P 13 20 08.5 +0.4**
AGST Augusta-Monte 83.43 331 P **P 13 20 07.1 -1.1**
ELOB Lobios 83.48 350 P **P 13 20 08.3 -0.1**
comp=Z,4μm,2.0s,mb6.8
MCT Mte Cammarata 83.52 333 P **P 13 20 08.9 +0.3**
LVI Isola Levanzo 83.53 334 P **P 13 20 09.1 +0.4**
PCAB Cabril 83.63 350 *i*P **P 13 20 09.7 +0.5**
comp=Z,2μm,1.7s,mb6.5
CLTB Caltabellotta 83.68 333 P **P 13 20 08.9 -0.6**
EMOS Mosqueruela 83.95 344 P **P 13 20 11.0 +0.2**
comp=Z,4μm,2.1s,mb6.8
ETOS Mallorca 83.95 341 P **P 13 20 10.5 -0.4**
comp=Z,3μm,2.2s,mb6.7
PVRL Vila Real 84.03 350 *i*P **P 13 20 11.9 +0.7**
comp=Z,3μm,1.3s,mb6.9
COCO West Island 84.12 240 P **P 13 20 12.1 +0.4**
comp=Z,2μm,1.2s,mb6.8,SNR=6.9
PPT Papeete 84.22 131 *e*P **P 13 20 13.5 +1.3**
comp=Z,124nm,1.4s,mb5.5
PPT *e*pP pP 13 20 58.4 -0.4
comp=Z,129nm,1.4s
PPT Papeete 84.22 131 P **P 13 20 13.3 +1.1**
comp=Z,330nm,1.4s,mb5.9,baz=2.6,slow=5.3,SNR=4.0
PPT Papeete 84.22 131 P **P 13 20 13.3 +1.1**
PPT pmax pmax
comp=Z,330nm,1.4s
GUD Guadarrama 84.22 347 P **P 13 20 12.2 0.0**
GUD pmax pmax
comp=Z,251nm,1.0s,mb5.9
GUD Guadarrama 84.22 347 P **P 13 20 12.2 -0.1**
comp=Z,251nm,1.0s,mb5.9
PTO Porto 84.25 350 *e*P **P 13 20 12.6 +0.2**
comp=Z,2μm,1.3s,mb6.7
PAE Paea 84.30 131 *e*P **P 13 20 13.9 +1.3**
comp=Z,185nm,1.1s,mb5.7
PAE *e*pP pP 13 20 59.2 0.0
comp=Z,520nm,1.4s
PNIG Pinotepa 84.46 70 *i*P **P 13 20 14.2 +0.8**
PVIS Viseu 84.60 350 *i*P **P 13 20 14.5 +0.4**
comp=Z,2μm,1.4s,mb6.6
ARMA Armidale 84.60 186⇑*i*P **P 13 20 15.1 +1.0**
ARMA *i*pP pP 13 21 01.9 +1.2
ARMA eS 13 30 25.4
OXX Oaxaca 84.67 68 *e*P **P 13 20 14.0 +1.6**
VHO Vista Hermosa 84.67 68 *i*P **P 13 20 15.8 +1.4**
PTS Pantelleria 84.72 334 P **P 13 20 15.0 +0.3**
ECHE Chera 84.78 344 P **P 13 20 15.3 +0.3**
ECHE pmax pmax
comp=Z,2μm,2.2s,mb6.4
ECHE Chera 84.78 344 P **P 13 20 15.2 +0.2**
comp=Z,2μm,2.2s,mb6.4
MTE Manteigas 84.87 349 *i*P **P 13 20 15.8 +0.3**
comp=Z,2μm,1.6s,mb6.5
MTE Manteigas 84.87 349 *e*S 13 30 26.2
EIBI Ibiza 84.94 342 P **P 13 20 15.8 -0.1**
comp=Z,3μm,3.5s
TUIG Tuzandepetl 85.13 66 *i*P **P 13 20 18.0 +1.2**
ESDC Sonseca Array 85.15 346 P **P 13 20 17.0 +0.1**
comp=Z,236nm,0.7s,mb6.0,baz=2.6,slow=5.4,SNR=185
ESDC pP pP 13 21 05.2 +1.7
comp=Z,42nm,0.8s,baz=6.4,slow=4.5,SNR=1.0
ESDC PKKPbc PKKPbc 13 38 21.2 -0.5
comp=Z,1.3nm,0.7s,baz=216,slow=1.7,SNR=6.6
ESDC Sonseca Array 85.15 346 P **P 13 20 16.0 -0.8**
comp=Z,728nm,1.4s,mb6.2
ESLA Sonsa Array 85.15 346⇓*i*P **P 13 20 16.9 +0.1**
comp=Z,157nm,1.0s,mb5.7
PCBR Castelo Branco 85.42 349 *e*P **P 13 20 18.1 -0.1**
comp=Z,1μm,1.5s,mb6.3
EBEN Beniarda 85.53 343 P **P 13 20 18.7 0.0**
comp=Z,5μm,3.9s
PTOM Tomar 85.74 350 *i*P **P 13 20 19.5 -0.3**
comp=Z,797nm,1.2s,mb6.3
ETOB Tobarra 85.80 344 P **P 13 20 20.0 0.0**
comp=Z,3μm,3.7s
EVIA Vianos 85.95 345 P **P 13 20 20.9 +0.1**
EVIA pmax pmax
comp=Z,688nm,0.5s,mb6.6
EVIA Vianos 85.95 345 P **P 13 20 20.9 +0.1**
comp=Z,688nm,0.5s,mb6.6
BBSR BB Station 85.98 35⇓*e*P **P 13 20 20.3 -0.7**
comp=Z,392nm,1.5s,mb5.9
BBSR *e*pP pP 13 21 07.2 -0.5
CMAH Djebel Manchou 86.02 337 P **P 13 20 20.5 -0.6**
HUIG Huatulco 86.08 68 *i*P **P 13 20 21.7 +0.3**
CGMA Guima 86.19 337 P **P 13 20 21.0 -1.0**
ABSA Djebel Ababsia 86.34 337 P **P 13 20 22.5 -0.2**
CKFL Kef-Lekhel 86.40 337 P **P 13 20 22.0 -1.0**
EBAD Badajoz 86.44 349 P **P 13 20 22.1 -1.0**
comp=Z,2μm,2.4s,mb6.3
DFRA Djebel Bou Aff 86.44 338 P **P 13 20 23.0 -0.2**
EMUR La Murta 86.54 344 P **P 13 20 22.7 -1.0**
comp=Z,753nm,1.6s,mb6.3
PLOU Loures 86.54 350 *i*P **P 13 20 23.5 -0.2**
comp=Z,340nm,0.9s,mb6.2
CASM Ain Smara 86.58 338 P **P 13 20 22.5 -1.4**
EADA Adamuz 86.71 347 P **P 13 20 23.5 -1.0**
comp=Z,1μm,1.7s,mb6.4
CART Cartagena 86.75 344⇓*i*P **P 13 20 23.4 -1.3**
comp=Z,498nm,1.4s,mb6.2
CART *e*pP pP 13 21 09.8 -1.6
EVO Evora 86.77 349 *e*P **P 13 20 23.7 -1.1**
comp=Z,607nm,1.1s,mb6.0
EVO *e*R
comp=Z,2μm,22.0s
EHUE Huescar 86.78 345 P **P 13 20 24.6 -0.2**
ABA Alger-Bouzarea 86.78 340 P **P 13 20 29.0 +4.1**
CTEI Djebel Teioual 86.79 338 P **P 13 20 24.5 -0.4**
MOE Montemor 86.82 350 *e*P **P 13 20 25.0 0.0**
PLML Palmela 86.84 350 *e*P **P 13 20 25.5 +0.4**
EQES Quesada 86.86 345 P **P 13 20 24.5 -0.7**
comp=Z,2μm,3.4s
SET Setif 86.88 338 P **P 13 20 26.0 +0.7**
SOR Soroa 86.92 54 *e*P **P 13 20 25.4 -0.1**
CKHR Kef el Ahmar 87.03 338 P **P 13 20 26.0 0.0**
STKA Stephens Creek 87.08 194⇓*i*P **P 13 20 23.6 -2.7**
comp=Z,79nm,1.0s,mb5.5
STKA *i*pP pP 13 21 11.7 -1.4
STKA Stephens Creek 87.08 194 P **P 13 20 23.6 -2.6**
comp=Z,70nm,0.9s,mb5.5,baz=348,slow=6.2,SNR=90
STKA pP pP 13 21 11.6 -1.5
comp=Z,166nm,1.1s,baz=353,slow=6.2,SNR=10
PBEJ Beja 87.25 349 *i*P **P 13 20 26.7 -0.4**
comp=Z,347nm,1.3s,mb6.0
ELUQ Luque 87.27 346 P **P 13 20 26.9 -0.3**
ELUQ pmax pmax
comp=Z,233nm,1.3s,mb5.8
ELUQ Luque 87.27 346 P **P 13 20 26.9 -0.3**
comp=Z,233nm,1.3s,mb5.8
CMER Merouana 87.33 338 P **P 13 20 27.0 -0.5**
EMIN Mina Concepcio 87.37 348 P **P 13 20 26.5 -1.2**
comp=Z,783nm,1.6s,mb6.3
EMHD Djebel Mahouad 87.38 340 P **P 13 20 27.4 -0.3**
ECOG Cogollos-Vega 87.45 346 P **P 13 20 27.6 -0.4**
ECOG pmax pmax
comp=Z,254nm,1.2s,mb5.9
ECOG Cogollos-Vega 87.45 346 P **P 13 20 27.6 -0.4**
comp=Z,254nm,1.2s,mb5.9
ENIJ Nijar 87.54 345 P **P 13 20 27.1 -1.4**
ENIJ pmax pmax
comp=Z,306nm,1.0s,mb6.1
ENIJ Nijar 87.54 345 P **P 13 20 27.1 -1.4**
comp=Z,306nm,1.0s,mb6.1
EBNR Beni Rached 87.57 341 P **P 13 20 28.2 -0.4**
ELOJ Sierra Loja 87.66 346 P **P 13 20 28.8 -0.2**
ELOJ pmax pmax
comp=Z,382nm,1.2s,mb6.1
ELOJ Sierra Loja 87.66 346 P **P 13 20 28.8 -0.3**
comp=Z,382nm,1.2s,mb6.1
EGRO El Granado 87.70 349 P **P 13 20 28.2 -1.0**
comp=Z,817nm,1.7s,mb6.3
ECHA Ech Chlef 87.73 342 P **P 13 20 29.0 -0.4**
ERON Agron 87.73 346 P **P 13 20 28.7 -0.7**
comp=Z,112nm,1.0s,mb5.7
CCIG Comitan 87.79 65 *i*P **P 13 20 30.1 +0.4**
PTEO Sao Teotonio 87.82 350 *e*P **P 13 20 28.8 -1.0**
comp=Z,258nm,1.9s,mb5.7
EGUA Guajares 87.88 346 P **P 13 20 29.6 -0.5**
EGUA pmax pmax
comp=Z,48nm,1.4s
EGUA Guajares 87.88 346 P **P 13 20 29.6 -0.5**
comp=Z,48nm,1.4s
OKGL Djebel Kef Gue 87.97 342 P **P 13 20 31.0 +0.5**
EANR 'Ain N'Sour 87.98 342 P **P 13 20 30.0 -0.5**
EANR P 13 20 32.2
RIV Riverview 88.02 186 *e*P **P 13 20 31.9 +1.1**
RIV *i*pP pP 13 21 18.6 +0.9
ESPR Espera 88.16 347 P **P 13 20 30.5 -0.9**
comp=Z,448nm,1.4s,mb6.1
EMIJ Mijas 88.32 347 P **P 13 20 30.5 -1.7**
comp=Z,581nm,1.9s,mb6.1
OJBR Djebel Berber 88.47 342 P **P 13 20 32.0 -0.9**
OJGS Djebel Guires 88.47 342 P **P 13 20 32.0 -0.9**
USTO Oran 88.48 343 P **P 13 20 43.0 +10**
EJIF Jimena Fronter 88.52 347 P **P 13 20 33.2 +0.1**
EJIF pmax pmax
comp=Z,263nm,1.1s,mb6.1
EJIF Jimena Fronter 88.52 347 P **P 13 20 33.2 +0.1**
comp=Z,263nm,1.1s,mb6.1
FORT Forrest 88.72 206 *e*P **P 13 20 32.4 -1.7**
comp=Z,323nm,0.9s,mb6.2
FORT *e*pP pP 13 21 22.2 +1.1
FORT *e*S 13 30 38.3
ODJA Bouhanifia 88.81 343 P **P 13 20 33.0 -1.4**
OTSS Djebel Tessala 88.96 343 P **P 13 20 36.0 +0.8**
ODZI Dziouia 89.03 343 P **P 13 20 35.0 -0.5**
OLHC Oulhaca 89.10 344 P **P 13 20 35.0 -0.8**
MUKL Al Mukalla 89.25 294⇓*e*P **P 13 20 36.2 -0.3**
TBI Tubuai 89.37 133 *e*P **P 13 20 38.0 +0.9**
comp=Z,180nm,1.1s,mb5.9
TBI *e*pP pP 13 21 23.9 -0.2
comp=Z,413nm,1.2s
CNB Canberra Magne 89.62 187⇑*i*P **P 13 20 38.8 +0.5**
comp=Z,68nm,1.1s,mb5.5
CNB *i*pP pP 13 21 25.3 0.0
CCCC Cccc 90.73 51 *e*P **P 13 20 40.3 -3.1**
HAJJ Hajjah 91.08 299 *e*P **P 13 20 45.0 0.0**
BDHA Al Bayda' **91.50 297**⇓*e*P **P 13 20 47.1 +0.1**
BDHA AMb AMb 13 20 47.8
comp=Z,390nm,0.8s,mb6.5
DHBB Dhamar BB 91.62 298 *e*P **P 13 20 47.2 -0.3**
LBOS 91.76 297⇓*e*P **P 13 20 48.2 0.0**
HLGC Holguin 91.77 50 *e*P **P 13 20 47.7 -0.5**
TOO Toolangi 92.21 190 *e*P **P 13 20 50.6 +0.4**
comp=Z,33nm,1.0s,mb5.3
TOO *e*pP pP 13 21 38.5 +1.1
TOO Toolangi 92.21 190 *e*P **P 13 20 50.6 +0.4**
TOO *e**PP pP 13 21 38.5 +1.1
TOO pmax pmax
comp=Z,33nm,1.0s,mb5.3
MOAC Moa 92.46 49 *e*P **P 13 20 47.3 -4.1**
KLBR Kellerberrin 92.49 214⇑*i*P **P 13 20 50.3 -1.2**
comp=Z,137nm,1.1s,mb5.9
KLBR *e*pP pP 13 21 39.6 +0.9
KLBR *e*S 13 31 00.7
TRBA At Turbah 92.89 297 *e*P **P 13 20 53.3 0.0**
MUN Mundaring 93.35 215 *e*P **P 13 20 54.2 -1.3**
MUN *e*pP pP 13 21 43.3 +0.6
NWAO Narrogin (SRO) 93.89 214 P **P 13 20 55.9 -2.1**
comp=Z,66nm,1.0s,mb5.7,baz=38,slow=3.7,SNR=14
NWAO pP pP 13 21 44.5 -0.7
comp=Z,27nm,0.9s,baz=18,slow=8.6,SNR=3.1
NWAO Narrogin (SRO) 93.89 214 P **P 13 20 55.9 -2.1**
NWAO *PP pP 13 21 44.5 -0.6
NWAO pmax pmax
comp=Z,66nm,1.0s
NWAO Narrogin (SRO) 93.89 214⇓*e*P **P 13 20 55.9 -2.0**
comp=Z,178nm,1.4s,mb6.0
EFAM Famara 96.60 353 P **P 13 21 09.2 -1.1**
CFTV Fuerteventura 97.34 353 P **P 13 21 12.3 -1.4**
CCAN Las Canadas 97.68 356 P **P 13 21 15.6 +0.4**
EGOM La Gomera 97.77 356 P **P 13 21 14.8 -0.8**
CHIE El Hierro 98.22 357 P **P 13 21 18.1 +0.5**
CPD Cerro la Pandu 98.58 42 P **P 13 21 19.0 -0.2**
CPD Cerro la Pandu 98.58 42⇓*i*P **P 13 21 18.7 -0.5**
CPD *e*pP pP 13 22 06.2 -0.3
KMBO Kilima Mbogo 108.59 295 Pdiff Pdif 13 22 02.9 -0.9
comp=Z,14nm,1.3s,baz=19,slow=5.8,SNR=14
KMBO PKKPbc PKKPbc 13 37 19.9 +2.1
comp=Z,2.5nm,0.7s,baz=212,slow=1.8,SNR=7.3
TORD Torodi Ar. Bea 109.93 336 Pdiff Pdif 13 22 07.5 -2.2
comp=Z,2.6nm,0.8s,baz=12,slow=2.9,SNR=8.8
TORD PP PP 13 26 41.5 -4.8
comp=Z,48nm,1.1s,baz=7.9,slow=7.2,SNR=18
TORD PKKPbc PKKPbc 13 37 10.8 -2.6
comp=Z,8.4nm,0.9s,baz=182,slow=2.3,SNR=21
TORD PKKPab PKKPab 13 37 25.1 -0.4
comp=Z,6.9nm,1.0s,baz=206,slow=3.1,SNR=7.8
ATAH Atahualpa 114.61 66 PKP PKiKP 13 26 20.1 +0.5
comp=Z,7.7nm,1.0s,baz=323,slow=7.1,SNR=3.0
ATAH PKKPab PKKPab 13 37 06.6 +1.8
comp=Z,23nm,0.8s,baz=157,slow=4.4,SNR=14
OPO Ambohidratompo117.24 276 PKP PKPdf 13 26 25.0 +0.3
comp=Z,12nm,1.1s,baz=40,slow=2.7,SNR=13
OPO PP PP 13 27 37.4 -0.6
comp=Z,14nm,1.0s,baz=53,slow=6.2,SNR=4.8
DBIC Dimbokro 117.62 341 PKP PKPdf 13 26 25.1 -0.4
comp=Z,12nm,0.6s,baz=13,slow=1.9,SNR=28
DBIC PP PP 13 27 37.3 -3.3
comp=Z,14nm,0.9s,baz=3.8,slow=8.9,SNR=4.2
DBIC PKKPbc PKKPbc 13 36 46.3 -1.2
comp=Z,7.3nm,0.9s,baz=180,slow=3.7,SNR=5.8
DBIC Dimbokro 117.62 341 PKIKP PKPdf 13 26 25.1 -0.3
DBIC 13 27 37.3
DBIC pmax pmax
comp=Z,12nm,0.6s
DBIC pmax pmax
comp=Z,14nm,0.9s
DBIC Dimbokro 117.62 341 *e*PKPdf PKPdf 13 26 24.9 -0.6
SAML Samuel 123.92 52 *e*PKPdf PKPdf 13 26 36.5 -1.0
SAML *ep*PKPdf pPKPdf 13 27 26.3 -0.7
LSZ Lusaka 125.26 296⇓*e*PKIKP PKPdf 13 26 40.2 +0.1
ARE Arequipa 126.17 65 *e*PKIKP PKPdf 13 26 42.0 +0.2
LPAZ La Paz 127.79 62 PKP PKPdf 13 26 45.2 +0.3
comp=Z,20nm,0.7s,baz=360,slow=4.0,SNR=28
LPAZ pPKP pPKPdf 13 27 35.7 +1.4
comp=Z,9.3nm,0.8s,baz=34,slow=9.6,SNR=2.2
LPAZ PP PP 13 28 52.1 +3.0

comp=Z,12nm,1.1s,baz=338,slow=6.6,SNR=4.2
LPAZ SKKPbc 13 39 37.3
comp=Z,3.3nm,1.0s,baz=128,slow=4.8,SNR=3.5
LPAZ La Paz 127.79 62 PKIKP PKPdf 13 26 45.2 +0.3
LPAZ 13 27 35.7
LPAZ 13 28 52.1
LPAZ pmax pmax
comp=Z,20nm,0.7s
LPAZ pmax pmax
comp=Z,13nm,1.1s
LPAZ La Paz 127.79 62 *e*PKPdf PKPdf 13 26 45.0 +0.1
MIR Mirnyy 130.18 208*c i*PKIKP PKPdf 13 26 49.5 0.0
MIR *i* 13 27 41.0
MIR pmax pmax
comp=Z,1μm,1.2s
SIV San Ignacio 131.04 54 SKKPbc 13 39 23.8
comp=Z,8.6nm,1.2s,baz=150,slow=4.1,SNR=4.0
VNDA Vanda 131.60 179 PKPdf PKPdf 13 26 50.9 -1.3
VNDA SKPbc SKPbc 13 29 56.5 -3.3
VNDA Vanda 131.60 179 PKP PKPdf 13 26 51.0 -1.2
comp=Z,4.1nm,0.6s,baz=311,slow=4.4,SNR=10
VNDA pPKP pPKPdf 13 27 40.3 -1.3
comp=Z,14nm,0.9s,baz=317,slow=5.3,SNR=5.3
VNDA SKPbc SKPbc 13 29 56.5 -3.3
comp=Z,211nm,1.0s,baz=331,slow=4.5,SNR=60
LVC Limon Verde 132.59 67 *e*PKPdf PKPdf 13 26 54.7 +0.7
LVC *e*SKPbc SKPbc 13 30 02.9 -0.3
LBTB Lobatse 134.59 291 *e*PKHKP 13 26 43.8
LBTB *e* 13 26 57.4
LBTB *e* 13 29 30.8
LBTB Lobatse 134.59 291 *e*PKPpre 13 26 43.8
LBTB *e*PKPdf PKPdf 13 26 57.4 -0.4
LBTB *e*PP PP 13 29 30.8 -2.0
LBTB *e*SKPbc SKPbc 13 30 10.4 +0.5
BDFB Brasilia 136.26 38 PKhKP 13 26 50.5
comp=Z,9.6nm,0.8s,baz=264,slow=2.5,SNR=8.9
BDFB PKP PKPdf 13 26 59.7 -1.2
comp=Z,18nm,0.8s,baz=311,slow=2.3,SNR=9.6
BDFB pPKP pPKPdf 13 27 51.6 +1.3
comp=Z,19nm,0.9s,baz=274,slow=2.5,SNR=3.6
BDFB PP PP 13 29 41.5 -1.9
comp=Z,14nm,0.8s,baz=337,slow=8.2,SNR=4.3
BDFB SKPbc SKPbc 13 30 13.5 -1.5
comp=Z,22nm,1.0s,baz=280,slow=5.4,SNR=3.5
BDFB Brasilia 136.26 38 *i* PKHKP 13 26 50.5
BDFB 13 26 59.7
BDFB 13 27 51.6
BDFB 13 29 41.5
BDFB pmax pmax
comp=Z,10.0nm,0.8s
BDFB pmax pmax
comp=Z,18nm,0.8s
BDFB pmax pmax
comp=Z,15nm,0.8s
BDFB pmax pmax
comp=N,22nm,1.0s
CFAA Coronel Fontan 139.97 75 PKhKP 13 26 59.7
comp=N,2.7nm,0.6s,baz=278,slow=3.0,SNR=32
CFAA PKP PKPdf 13 27 05.7 -2.1
comp=N,2.8nm,0.7s,baz=338,slow=2.0,SNR=8.0
CFAA Coronel Fontan 139.97 75 PKP PKPdf 13 26 59.7 -8.0
CFAA PKP PKPdf 13 27 05.7 -2.1
MAW Mawson 140.38 217 *e*P PKPdf 13 26 59.9 -8.6
comp=N,20nm,0.8s
MAW *e* 13 30 24.6
MAW Mawson 140.38 217 PKhKP 13 27 00.9
comp=N,43nm,0.9s,baz=101,slow=4.6,SNR=10
MAW PKP PKPdf 13 27 05.6 -2.9
comp=N,39nm,0.8s,baz=66,slow=4.0,SNR=23
MAW SKPbc SKPbc 13 30 24.8 -1.9
comp=N,86nm,1.1s,baz=66,slow=4.5,SNR=12
MAW Mawson 140.38 217 *i* PKHKP 13 27 00.9
MAW 13 27 05.6
MAW pmax pmax
comp=Z,43nm,0.9s
MAW pmax pmax
comp=Z,39nm,0.8s
MAW pmax pmax
comp=N,86nm,1.1s
MAW Mawson 140.38 217 *e*P PKPdf 13 26 59.9 -8.6
MAW PKP PKPdf 13 27 05.6 -2.9
MAW *e* 13 30 24.6
MAW SKPbc SKPbc 13 30 24.8 -1.9
CPUP Villa Florida 141.65 58 PKhKP 13 27 03.9
comp=N,6.9nm,0.5s,baz=330,slow=3.0,SNR=16
CPUP PKP PKPdf 13 27 09.6 -1.1
comp=N,15nm,0.7s,baz=326,slow=3.9,SNR=12
CPUP SKKPbc 13 38 44.6
comp=N,5.8nm,0.9s,baz=139,slow=9.5,SNR=4.2
CPUP Villa Florida 141.65 58 *i* PKHKP 13 27 03.9
CPUP 13 27 09.6
CPUP pmax pmax
comp=Z,7.0nm,0.5s
CPUP pmax pmax
comp=Z,15nm,0.7s
CPUP Villa Florida 141.65 58 *e*PKPpre 13 27 02.2
CPUP PKP PKPdf 13 27 09.6 -1.1
CPUP SKKPbc 13 38 44.6
SUR Sutherland 142.94 289 PKP PKPdf 13 27 10.9 -2.1
comp=Z,109nm,0.9s,baz=25,slow=3.5,SNR=46
QSPA South Pole Qui 144.08 180⇓ *i*P PKPdf 13 27 10.8 -4.2
PLCA Paso Flores 144.99 88 PKPbc PKPdf 13 27 15.5 -1.1
PLCA pPKPdf pPKPdf 13 28 04.7 -1.3
PLCA PP PP 13 30 37.4 +0.8
PLCA Paso Flores 144.99 88 PKP PKPdf 13 27 15.9 -0.7
comp=Z,322nm,1.0s,baz=304,slow=3.7,SNR=157
PLCA pPKP pPKPdf 13 28 04.7 -1.4
comp=Z,127nm,1.0s,baz=309,slow=5.1,SNR=4.5
PLCA PP PP 13 30 37.5 +0.9
comp=Z,50nm,1.2s,baz=294,slow=5.4,SNR=3.3
PLCA Paso Flores 144.99 88 PKIKP PKPdf 13 27 15.9 -0.7
PLCA 13 28 04.7
PLCA 13 30 37.5
PLCA pmax pmax
comp=Z,323nm,1.0s
PLCA pmax pmax
comp=Z,50nm,1.2s
PLCA Paso Flores 144.99 88⇓ *e*PKP PKPdf 13 27 15.2 -1.4
PLCA *e*pPKPdf pPKPdf 13 28 04.4 -1.7
PLCA *e*SKPbc SKPbc 13 30 37.3 -0.7
COYC Coyhaique 147.00 96 *e*P PKPdf 13 27 19.8 -0.2
TRQA Tornquist 148.18 76 *e*PKPdf PKPdf 13 27 21.1 -0.9
TRQA *e*PKPbc PKPbc 13 27 24.5 -0.9
USHA Ushuaia 153.24 110 PKPbc PKPbc 13 27 35.8 -1.6
comp=Z,22nm,0.7s,baz=219,slow=1.1,SNR=14
USHA pPKPbc pPKPbc 13 28 24.6 -2.0
comp=Z,59nm,1.0s,baz=246,slow=1.9,SNR=5.4
NVL N'lazarevskaya 157.93 209*d i*PKIKP PKPdf 13 27 33.1 -2.9
NVL *i* *PP 13 28 08.2
NVL pmax pmax
comp=Z,116nm,1.8s
MAIT Maitri 157.96 209 *e*PKPdf PKPdf 13 27 33.2 -2.8
SNAA Sanae 160.80 198 PKP PKPdf 13 27 36.3 -3.0
comp=Z,7.3nm,1.2s,baz=190,slow=1.6,SNR=21
SNAA PKPab PKPab 13 28 20.5 -2.1
comp=Z,54nm,1.1s,baz=164,slow=3.8,SNR=32
SNAA pPKPab pPKPab 13 29 08.6 -1.4
comp=Z,54nm,1.2s,baz=134,slow=2.6,SNR=6.1
SNAA Sanae 160.80 198⇓ *i*PKPdf PKPdf 13 27 32.1 -7.2
SNAA *e* 13 28 16.4
SNAA *e* 13 29 04.2
VNA2 Neumayer--Watz 162.21 195⇓ *i*PKPdf PKPdf 13 27 38.2 -2.6
VNA2 *e* 13 27 41.3
VNA2 *e* 13 27 42.8
VNA2 *e* 13 27 48.8
VNA2 *e* 13 28 26.8
VNA2 *e* 13 28 27.8
VNA2 *e* 13 28 29.2
VNA2 *e* 13 29 14.6
VNA2 *e* 13 29 18.6
VNA2 *e* 13 29 34.4
VNA2 *e* 13 29 44.6
VNA2 *e* 13 32 11.3
VNA2 *e* 13 32 13.7
VNA2 *e* 13 32 22.2
VNA3 Neumayer Olymp 162.24 193⇓ *i*PKPdf PKPdf 13 27 37.5 -3.3
VNA3 *e* 13 27 41.2
VNA3 *e* 13 27 43.8
VNA3 *e* 13 27 54.1
VNA3 *e* 13 28 26.5
VNA3 *e* 13 28 36.7
VNA3 *e* 13 29 14.2
VNA3 *e* 13 29 18.2
VNA3 *e* 13 32 10.1
VNA3 *e* 13 32 12.4
VNA3 *e* 13 32 19.0
VNA3 *e* 13 32 26.1
VNA1 Neumayer--Stat 162.58 195⇓ *i*PKPdf PKPdf 13 27 38.4 -2.7
VNA1 *e* 13 28 28.6
VNA1 *e* 13 28 29.6
VNA1 *e* 13 28 32.7
VNA1 *e* 13 28 36.1
VNA1 *e* 13 29 16.7
VNA1 *e* 13 32 16.0
VNA1 *e* 13 32 34.2

*CSEM **22** 13:25:06.7±0.1, 44.24N×1072E, h30km, ML2.9/3, Error ellipse: s-maj=2.7km s-min=2.0km az=28.0*
*LDG **22** 13:25:06.9, 44.03N×1126E, h30km*
*GEN **22** 13:25:07.8, 44.24N×1079E, h20km, ML2.0*
*ISCJB **22** 13:25:08.5±0.3, 44.21N±002×1071E±003, h23km±3km, Error ellipse: s-maj=4.3km s-min=3.4km az=43.2*
*ROM **22** 13:25:08.5±0.1, 44.21N×1074E, h11km, Md2.6/10, Ml2.3/2, Error ellipse: s-maj=2.1km s-min=1.5km az=28.0*
ISC 22 13:25:08.6±0.3, 4420N±002×1074E±003, h16km±2km, n40, σ0§97/58, 4C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GSCL	**Gusciola**	**0.19**	**324**	P	*i*Pg	**Pg**	**Pg**	**13 25 13.0**	**-0.1**
ZCCA	**Zocca**	**0.23**	**48**⇑	P	*i*Pg	**Pg**	**Pg**	**13 25 13.6**	**-0.1**
ZCCA				Sg		**Sg**	**Sg**	**13 25 18.8**	**+1.6**
	223nm,0.5s								
VLC	**Villacollemand**	**0.26**	**261**⇑	P	*i*Pg	**Pg**	**Pg**	**13 25 14.4**	**+0.1**
VLC				Sg		**Sg**	**Sg**	**13 25 19.0**	**+0.9**
	910nm,0.3s								
ERBM	**Eremo**	**0.32**	**313**	Pg		**Pg**	**Pg**	**13 25 15.4**	**0.0**
ERBM				Sg		**Sg**	**Sg**	**13 25 19.8**	**-0.1**
	220nm,0.4s								
MAIM		**0.34**	**212**	P		**Pg**	**Pg**	**13 25 15.5**	**-0.2**
MAIM				S		**Sg**	**Sg**	**13 25 21.0**	**+0.6**
VALM		**0.39**	**293**	P		**Pg**	**Pg**	**13 25 16.0**	**-0.5**
VALM				S		**Sg**	**Sg**	**13 25 21.6**	**-0.2**
VINC	**Vinca**	**0.43**	**262**	P		**Pg**	**Pg**	**13 25 17.0**	**-0.3**
VINC				S		**Sg**	**Sg**	**13 25 23.2**	**+0.1**
SEI	**Scarperia**	**0.47**	**108**	Pg		**Pg**	**Pg**	**13 25 17.4**	**-0.6**
	427nm,0.3s								
PII	**Pisa**	**0.50**	**198**⇑	*i*Pg		**Pg**		**13 25 18.5**	**-0.1**
	191nm,0.4s								
GRAM		**0.56**	**301**	P		**Pg**	**Pg**	**13 25 19.1**	**-0.7**
GRAM				S		**Sg**	**Sg**	**13 25 27.1**	**-0.2**
VMG	**Vicchio**	**0.63**	**112**	Pg		**Pg**	**Pg**	**13 25 20.4**	**-0.5**
VMG				Sg		**Sg**	**Sg**	**13 25 30.3**	**+1.1**
	247nm,0.7s								
CODM		**0.67**	**287**	P		**Pg**	**Pg**	**13 25 21.3**	**-0.4**
CSNT	**Castellina Chi**	**0.83**	**151**	Pg		**Pg**	**Pg**	**13 25 24.4**	**-0.4**
CSNT				Sg		**Sg**	**Sg**	**13 25 36.0**	**+0.3**
	113nm,0.4s								
SFI	**Santa Sofia**	**0.85**	**110**	Pg		**Pg**	**Pg**	**13 25 24.6**	**-0.6**
	47nm,0.2s								
SC2M	**Scurtabr**	**0.89**	**284**	P		**Pb**	**Pb**	**13 25 25.0**	**-0.7**
SC2M				S		**Sb**	**Sb**	**13 25 35.9**	**-1.5**
GRFL	**Gerfalco**	**1.07**	**171**	Pg		**Pg**	**Pg**	**13 25 29.0**	**-0.3**
	28nm,0.4s								
TEOL	**Teolo**	**1.33**	**29**⇑	*i*Pg		**Pg**	**Pg**	**13 25 32.9**	**-1.5**
TEOL				*i* Sg		**Sg**	**Sg**	**13 25 50.3**	**-1.4**
PGF	**Pioggiola**	**2.08**	**218**	*e*PKP2		**Pn**	**Pn**	**13 25 42.3**	**-0.6**
PGF				*e*Sn		**Sn**	**Sn**	**13 26 06.9**	**-1.6**
SBF	**Sospel**	**2.41**	**263**	*e*P		**Pn**	**Pn**	**13 25 50.6**	**+3.2**
SBF				*e*Sg		**Sn**	**Sn**	**13 26 15.8**	**-0.7**
	23nm,0.4s								
MBDF	**Montbardon**	**2.89**	**282**	*e*Pg		**Pn**	**Pn**	**13 25 55.4**	**+1.4**
FRF	**La Foret Royal**	**3.03**	**259**	*e*Pg		**Pn**	**Pn**	**13 25 55.9**	**0.0**
FRF	**La Foret Royal**	**3.03**	**259**	*e*Sg		**Sn**	**Sn**	**13 26 30.8**	**-1.1**
	15nm,0.3s								
FRF	**La Foret Royal**	**3.03**	**259**	*e*PKP2		**Pn**	**Pn**	**13 25 59.3**	**+3.4**
LPG	**La Plagne**	**3.12**	**296**	*e*Pg		**Pn**	**Pn**	**13 25 57.8**	**+0.6**
LPG				*e*Sg		**Sn**	**Sn**	**13 26 39.1**	**+5.0**
	8.6nm,0.5s								
LPL	**La Plagne**	**3.14**	**296**	*e*Pg		**Pn**	**Pn**	**13 25 58.1**	**+0.7**
LPL	**La Plagne**	**3.14**	**296**	*e*Sg		**Sn**	**Sn**	**13 26 39.1**	**+4.5**
	7.5nm,0.4s								
LPL	**La Plagne**	**3.14**	**296**	*e*PKP2		**Pn**	**Pn**	**13 26 01.4**	**+4.0**
LMR	**La Mourre**	**3.19**	**256**	*e*Pg		**Pn**	**Pn**	**13 25 57.5**	**-0.6**
LMR	**La Mourre**	**3.19**	**256**	*e*Sg		**Sn**	**Sn**	**13 26 34.5**	**-1.2**
	15nm,0.3s								
LMR	**La Mourre**	**3.19**	**256**	*e*PKP2		**Pn**	**Pn**	**13 26 01.1**	**+3.0**
ORIF	**Oris-en-Rattie**	**3.55**	**283**	*e*Pg		**Pn**	**Pn**	**13 26 04.2**	**+1.1**
ORIF	**Oris-en-Rattie**	**3.55**	**283**	*e*PKP2		**Pn**	**Pn**	**13 26 07.3**	**+4.2**
SMRF	**Simiane la Rot**	**3.73**	**268**	*e*PKP2		**Pn**	**Pn**	**13 26 09.4**	**+3.9**
CABF	**La Chapelle**	**4.07**	**308**	*e*Pg		**Pn**	**Pn**	**13 26 11.5**	**+1.3**
VIVF	**Saint-Julien-l**	**4.39**	**281**	*e*Pg		**Pn**	**Pn**	**13 26 16.5**	**+1.9**
VIVF				*e*Sg		**Sn**	**Sn**	**13 27 06.6**	**+1.2**
	1.6nm,0.3s								
HINF	**Hinteralfeld**	**4.52**	**325**	*e*Pg		**Pn**	**Pn**	**13 26 16.5**	**+0.1**
HINF				*e*Sg		**Sn**	**Sn**	**13 27 07.4**	**-1.2**
	11nm,0.4s								
CDF	**Champ du Feu**	**4.85**	**332**	*e*Pg		**Pn**	**Pn**	**13 26 20.8**	**-0.1**
CDF	**Champ du Feu**	**4.85**	**332**	*e*PKP2		**Pn**	**Pn**	**13 26 24.3**	**+3.4**
HAU	**Haudompre**	**4.88**	**323**	*e*Pg		**Pn**	**Pn**	**13 26 21.8**	**+0.4**
HAU				*e*Sg		**Sn**	**Sn**	**13 27 17.0**	**-0.5**
	24nm,0.5s								
LOR	**Lormes**	**5.71**	**305**	*e*Pg		**Pn**	**Pn**	**13 26 32.9**	**+0.1**
LOR				*e*Sg		**Sn**	**Sn**	**13 27 39.9**	**+1.9**
	5.5nm,0.4s								

GUC 22 13:53:23.3±0.3, 3428S×7041W, h106km±2km, MD3.5, ML2.4, 2C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.04**	**194**⇑	*i*P		Pn	Pn	13 53 38.3	+0.4
CICH				*i* S		Sn	Sn	13 53 49.8	+1.1
CACH	**El Canelo**	**0.23**	**316**⇑	*i*P		Pn	Pn	13 53 38.7	+0.5
CACH				*i* S		Sn	Sn	13 53 50.3	+0.9
CHCH	**Chadas Angostu**	**0.40**	**330**⇓	*i*P		Pn	Pn	13 53 39.4	+0.3
CHCH				*i* S		Sn	Sn	13 53 51.2	+0.4
LMEL	**Las Melosas**	**0.47**	**22**	*e*P		Pn	Pn	13 53 40.0	+0.6
LMEL				*i* S		Sn	Sn	13 53 52.7	+1.2
LMEL				AML		AML	AML	13 53 53.3	
	comp=N,194nm,0.3s								
LNV	**Longovilo**	**0.89**	**291**	*i* P		Pn	Pn	13 53 43.1	+0.1
LNV				*i* S		Sn	Sn	13 53 58.4	+0.6

*ISCJB **22** 14:04:42.1±1.0, 1859S×008×168.1E±0.2, h33km, mb4.3/6, Error ellipse: s-maj=26.6km s-min=9.4km az=34.0*
*IDC **22** 14:04:42.9±1.9, 1864S×16761E, h0km, mb4.4/6, mb1 4.5/7, mb1mx4.3/14, mbtmp4.3/7, ML3.8/1, MS3.6/1, Ms1 3.6/1, ms1mx3.1/25, Error ellipse: s-maj=46.0km s-min=26.7km az=120.0*
ISC 22 14:04:43.0±1.1, 1858S±008×1683E±02, h35km, n12, σ0§63/13, mb4.3/6, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**0.91**	**359**⇓	*i*P		**Pn**	**Pn**	**14 04 58.5**	**-0.7**
DZM	**Mont Dzumac**	**3.86**	**206**	Pn		**Pn**	**Pn**	**14 05 39.5**	**-0.4**
	8.1nm,0.3s,baz=35,slow=10,SNR=224								
DZM				Sn		**Sn**	**Sn**	**14 06 23.6**	**-0.4**
	10nm,0.3s,baz=304,slow=23,SNR=11								
DZM				LR		LR	LR	14 06 56.4	
	comp=Z,863nm,19.6s,baz=342,slow=37								
STKA	**Stephens Creek**	**27.42**	**236**	*e*P		**P**	**P**	**14 10 25.0**	**-0.3**
	4.3nm,0.8s,mb4.0								
STKA	**Stephens Creek**	**27.42**	**236**	P		**P**	**P**	**14 10 25.3**	**0.0**
	4.3nm,0.6s,mb4.2,baz=62,slow=7.6,SNR=13								
WRA	**Warramunga Arr**	**32.02**	**262**	P		**P**	**P**	**14 11 05.3**	**-0.7**
	0.7nm,0.4s,mb3.8,baz=89,slow=8.3,SNR=24								
ASAR	**Alice Springs**	**32.39**	**255**	P		**P**	**P**	**14 11 09.8**	**+0.6**
	6.5nm,0.7s,mb4.6,baz=82,slow=9.0,SNR=63								
FITZ	**Fitzroy Crossi**	**40.39**	**264**	*e*P		**P**	**P**	**14 12 18.5**	**+1.0**
	20nm,0.9s,mb4.8								
FITZ	**Fitzroy Crossi**	**40.39**	**264**	P		**P**	**P**	**14 12 18.5**	**+1.0**
	11nm,0.8s,mb4.6,baz=102,slow=8.9,SNR=22								
NWAO	**Narrogin (SRO)**	**47.69**	**242**	P		**P**	**P**	**14 13 16.3**	**+0.2**
	7.9nm,0.9s,mb4.8,baz=100,slow=6.1,SNR=4.8								
ILAR	**Eielson Array**	**89.89**	**18**	P		**P**	**P**	**14 17 44.5**	**+6.3**
	0.4nm,0.6s,mb4.0,baz=238,slow=5.2,SNR=8.3								
VNA3	**Neumayer Olymp**	**90.40**	**181**	*e*		**P**	**P**	**14 17 40.3**	**-0.4**
VNA3				*e*				14 17 47.3	
VNA2	**Neumayer--Watz**	**90.67**	**181**	*e*		**P**	**P**	**14 17 43.0**	**+1.0**
	baz=187,slow=4.8								
VNA2				*e*		pP		14 17 50.7	-2.4

*JMA **22** 14:05:46.4±0.1, 3098N×14173E, h20km, M4.0*
*ISCJB **22** 14:05:47.5±0.6, 3099N±006×1418E±02, h33km, mb3.9/6, Error ellipse: s-maj=22.1km s-min=4.9km az=144.5*
*IDC **22** 14:05:51.2±3.0, 3079N×14136E, h38km±27km, mb3.7/5, mb1 3.8/8, mb1mx3.6/20, mbtmp3.9/8, ML3.6/3, MS3.7/1, Ms1 3.7/1, ms1mx2.7/31, Error ellipse: s-maj=67.5km s-min=16.2km az=68.0*
ISC 22 14:05:49.6±0.7, 3095N±006×1418E±02, h35km, n20, σ1§06/28, mb3.9/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.73**	**323**	P		**Pn**	**Pn**	**14 06 29.3**	**-1.5**
JHJ	**Hachijo jima 2**	**2.75**	**322**	Pn		**Pn**	**Pn**	**14 06 30.9**	**-0.2**
	4.8nm,0.3s,baz=255,slow=23,SNR=10								
JHJ				Sn		**Sn**	**Sn**	**14 07 03.2**	**+0.1**
	25nm,0.3s,baz=96,slow=22,SNR=7.0								
BSO1	**Boso 1**	**3.76**	**350**	P		**Pn**	**Pn**	**14 06 44.4**	**-0.6**
CBIJ	**Chichi jima**	**3.85**	**175**	Pn		**Pn**	**Pn**	**14 06 46.1**	**-0.2**
	17nm,0.3s,baz=294,slow=19,SNR=32								
CBIJ				Sn		**Sn**	**Sn**	**14 07 27.4**	**-2.9**
	9.4nm,0.3s,baz=307,slow=20,SNR=2.7								
CBIJ				LR		LR	LR	14 07 44.6	
	comp=Z,1μm,22.0s,baz=171,slow=30								
CBIJ	**Chichi jima**	**3.85**	**175**	P		**Pn**	**Pn**	**14 06 47.0**	**+0.7**
BSO3	**Boso 3**	**3.99**	**345**	P		**Pn**	**Pn**	**14 06 48.2**	**0.0**
JOD2	**Odawara 2**	**4.86**	**333**	P		**Pn**	**Pn**	**14 07 01.4**	**+1.2**
JHU	**Hanno**	**5.32**	**338**	P		**Pn**	**Pn**	**14 07 07.3**	**+0.8**
JHU				*e*S		**Sn**	**Sn**	**14 08 05.2**	**-1.3**
JYT	**Yasato**	**5.43**	**346**	P		**Pn**	**Pn**	**14 07 08.2**	**+0.2**
JYT				*e*S		**Sn**	**Sn**	**14 08 09.2**	**0.0**
JRY	**Ryogami san**	**5.60**	**335**	P		**Pn**	**Pn**	**14 07 11.1**	**+0.8**
JRY				S		**Sn**	**Sn**	**14 08 13.9**	**+0.5**
JHO	**Hitachi**	**5.74**	**350**	P		**Pn**	**Pn**	**14 07 10.9**	**-1.3**
JHO				S		**Sn**	**Sn**	**14 08 11.2**	**-5.6**
JAG	**Ashikaga**	**5.80**	**341**	P		**Pn**	**Pn**	**14 07 12.5**	**-0.5**
JAG				S		**Sn**	**Sn**	**14 08 15.4**	**-2.9**
MJAR	**Matsushiro Arr**	**6.32**	**333**	Pn		**Pn**	**Pn**	**14 07 22.1**	**+1.8**
	1.3nm,0.3s,baz=157,slow=12,SNR=8.9								
MAT	**Matsushiro**	**6.32**	**333**	P		**Pn**		**14 07 20.3**	**0.0**
MAT				S		**Sn**		**14 08 32.1**	**+0.9**
MKAR	**Makanchi Array**	**47.82**	**307**	P		**P**		**14 14 24.5**	**+0.9**
	0.3nm,0.7s,mb3.4,baz=90,slow=6.3,SNR=3.6								
WRA	**Warramunga Arr**	**51.10**	**189**	P		**P**		**14 14 48.2**	**-0.4**
	0.6nm,0.3s,mb4.0,baz=6.2,slow=7.7,SNR=28								
ASAR	**Alice Springs**	**54.82**	**189**	P		**P**		**14 15 16.0**	**-0.1**
	0.5nm,0.4s,mb3.9,baz=6.4,slow=5.7,SNR=12								
DZM	**Mont Dzumac**	**57.78**	**153**	P		**P**		**14 15 39.4**	**+2.2**
	6.5nm,0.9s,mb4.6,baz=201,slow=21,SNR=3.5								
FINES	**FINESS Array B**	**74.35**	**333**	P		**P**		**14 17 29.1**	**+5.6**
	0.4nm,0.5s,mb3.6,baz=48,slow=5.7,SNR=4.2								
AKASG	**Malin Array Be**	**79.32**	**323**	P		**P**		**14 17 51.0**	**-0.6**
	0.3nm,0.4s,mb3.6,baz=49,slow=5.8,SNR=5.1								

*ISCJB **22** 14:12:08.4±0.4, 326N±005×122.11E±006, h632km±6km, mb4.5/45, Error ellipse: s-maj=10.0km s-min=6.2km az=111.4*
*MOS **22** 14:12:08.1±0.9, 333N×122.15E, h627km, mb4.5/13, Error ellipse: s-maj=24.3km s-min=9.3km az=116.6*
*BJI **22** 14:12:08.1, 336N×12241E, h630km, mB5.1, mb4.5*
*IDC **22** 14:12:09.2±1.2, 328N×12222E, h623km±14km, mb3.8/18, mb1 3.7/18, mb1mx3.7/24, mbtmp4.7/18, Error ellipse: s-maj=14.5km s-min=7.5km az=71.0*
*NEIC **22** 14:12:09.3±0.5, 326N×12204E, h623km±6km, mb4.5/14, Error ellipse: s-maj=11.0km s-min=5.9km az=63.0*
ISC 22 14:12:09.4±0.4, 327N±005×12212E±006, h624km±6km, n97, σ1§04/88, mb4.5/45, 2C-5D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TSM	**Tawau**	**4.36**	**284**	P		**P**	**P**	**14 13 38.2**	**-0.7**
TARAI	**Tarakan**	**4.54**	**271**	P		**P**	**P**	**14 13 37.3**	**-3.0**
	569nm,0.8s								
PCI	**Palu**	**4.73**	**209**	P		**P**	**P**	**14 13 40.2**	**-1.5**
	92nm,1.1s								
DAV	**Davao City (W)**	**5.12**	**42**	*e*P		**P**	**P**	**14 13 46.0**	**+1.4**
	772nm,0.7s								
KKM	**Kota Kinabalu**	**6.50**	**295**	P		**P**	**P**	**14 13 55.7**	**-0.3**
KKM	**Kota Kinabalu**	**6.50**	**295**	*e*P		**P**	**P**	**14 13 54.8**	**-1.2**
SWI	**Sorong**	**10.02**	**114**	P		**P**	**P**	**14 14 28.8**	**+0.1**
	75nm,0.8s								
KSM	**Kuching**	**11.93**	**262**	*e*P		**P**	**P**	**14 14 46.4**	**-1.2**
TLE	**Tual**	**13.81**	**130**	P		**P**	**P**	**14 15 07.4**	**+1.8**
	131nm,0.8s								
BAKI	**Biak**	**14.67**	**107**	P		**P**	**P**	**14 15 14.5**	**+1.0**
	401nm,1.0s								
BJII	**Banjamegara**	**16.25**	**230**	P		**P**	**P**	**14 15 29.4**	**+1.4**
	134nm,0.8s								
KAKA	**Kakadu**	**18.90**	**147**	*e*P		**P**	**P**	**14 15 52.1**	**0.0**
	11nm,0.6s								
JAY	**Jayapura**	**19.45**	**107**	P		**P**	**P**	**14 15 56.7**	**-0.3**
	83nm,0.7s								
KSI	**Kapahiang**	**20.69**	**251**	P		**P**	**P**	**14 16 10.0**	**+1.8**
	34nm,1.1s								
KULM	**Kulim**	**21.50**	**276**	*e*P		**P**	**P**	**14 16 15.4**	**0.0**
FITZ	**Fitzroy Crossi**	**21.51**	**171**	*e*P		**P**	**P**	**14 16 15.2**	**-0.4**
	10.0nm,0.6s,mb4.6								
FITZ	**Fitzroy Crossi**	**21.51**	**171**	P		**P**	**P**	**14 16 15.5**	**0.0**
	6.0nm,0.7s,mb4.4,baz=2.0,slow=7.3,SNR=30								
FITZ				ScP		ScP		14 22 32.0	+1.7
	1.8nm,0.9s,baz=221,slow=2.5,SNR=7.7								
MBWA	**Marble Bar**	**24.39**	**185**	*e*P		**P**	**P**	**14 16 40.7**	**-0.3**
WRA	**Warramunga Arr**	**26.00**	**153**	P		**P**	**P**	**14 16 55.1**	**-0.1**
	13nm,0.4s,mb4.9,baz=335,slow=9.5,SNR=122								
WRA				PcP		PcP		14 20 02.0	+0.8
	2.7nm,0.5s,baz=323,slow=2.4,SNR=12								
WRA				S		**S**		**14 20 40.5**	**-3.4**
	2.7nm,0.6s,baz=334,slow=15,SNR=6.1								
WRA				ScP		ScP		14 22 43.8	+1.0
	2.9nm,0.6s,baz=339,slow=3.2,SNR=13								
WRA				PKiKP		PKiKP		14 27 38.8	-0.6
	0.5nm,0.7s,baz=316,slow=1.3,SNR=7.0								
WRA	**Warramunga Arr**	**26.00**	**153**	P		**P**	**P**	**14 16 55.1**	**-0.1**
WRA								14 20 02.0	
WRA				S		**S**		**14 20 40.5**	**-3.4**
WRA	**Warramunga Arr**	**26.00**	**153**	P		**P**	**P**	**14 16 55.1**	**-0.1**
WRA				PcP		PcP		14 20 02.0	+0.8
WRA				S		**S**		**14 20 40.5**	**

comp=Z,5.5nm,0.5s,mb4.3
STKA Stephens Creek 39.55 154 P **P** **14 18 48.1 -0.6**
comp=Z,8.3nm,0.5s,mb4.5,baz=323,slow=7.7,SNR=34
STKA PcP PcP 14 20 37.4 -2.4
comp=Z,2.6nm,0.5s,baz=332,slow=3.5,SNR=4.0
GTA Gaotai 41.29 334 P **P** **14 19 04.0 +1.5**
GTA PCP PcP 14 20 47.3 +1.8
GTA AMB AMB
comp=Z,18nm,0.8s,mb4.7
JIRN Jiri 41.99 309 *eP* **P** **14 19 09.2 +1.2**
comp=Z,28nm,0.7s,mb4.9
GUN Gumba 42.35 309 *eP* **P** **14 19 11.9 +1.1**
comp=Z,49nm,0.7s,mb5.1
PKI Pulchoki 42.56 308 *eP* **P** **14 19 13.0 +0.6**
comp=Z,6.8nm,0.3s,mb4.7
KKN Kakani 42.76 309 *eP* **P** **14 19 14.6 +0.6**
comp=Z,18nm,0.6s,mb4.8
DMN Daman 42.81 308 *eP* **P** **14 19 15.1 +0.7**
comp=Z,40nm,1.1s,mb4.9
GKN Gorkha 43.37 308 *eP* **P** **14 19 19.2 +0.6**
comp=Z,22nm,0.7s,mb4.8
KOLN Koldanda 44.08 308 *eP* **P** **14 19 25.1 +1.0**
comp=Z,54nm,0.7s,mb5.2
ULN Ulaanbaatar 46.29 346 *eP* **P** **14 19 41.8 +0.9**
ULN pmax pmax
comp=Z,10.0nm,0.8s,mb4.4
ULN Ulaanbaatar 46.29 346 *eP* **P** **14 19 41.8 +0.9**
comp=Z,10.0nm,0.8s,mb4.4
CIT Chita 49.11 353 *eP* **P** **14 20 03.0 +1.2**
CIT *e* 14 21 14.3
CIT *e* pP 14 21 51.0 -2.6
MOY Mondy 51.37 343 *eP* **P** **14 20 19.5 +1.3**
BOD Bodaibo 54.78 355 *eP* **P** **14 20 42.3 +0.1**
BOD pmax pmax
comp=Z,8.0nm,0.8s,mb4.1
MKAR Makanchi Array 55.40 328 P **P** **14 20 46.9 +0.4**
comp=Z,13nm,0.4s,mb4.6,baz=121,slow=8.6,SNR=131
MKAR PcP PcP 14 21 37.1 -0.1
comp=Z,5.4nm,0.7s,baz=142,slow=3.4,SNR=12
YAK Yakutsk 58.90 4 *eP* **P** **14 21 10.1 -0.2**
YAK pmax pmax
comp=Z,24nm,0.8s,mb4.4
YAK Yakutsk 58.90 4 *eP* **P** **14 21 10.1 -0.2**
comp=Z,24nm,0.8s,mb4.4
KURK Kurchatov 59.73 330 *d iP* **P** **14 21 15.9 +0.1**
NVS Novosibirsk 60.28 335 *i* P **P** **14 21 17.7 -1.7**
NVS pmax pmax
comp=Z,10.0nm,0.7s,mb4.2
NVS pmax pmax
comp=N,5.0nm,0.7s
NVS pmax pmax
comp=E,9.0nm,0.7s
URZ Urewera 65.42 135 P **P** **14 21 52.9 +0.7**
comp=E,39nm,1.3s,mb4.7,baz=327,slow=19,SNR=5.6
CHKZ Chkalovo 65.47 329 *eP* **P** **14 21 51.9 -0.6**
CHKZ pmax pmax
comp=Z,17nm,1.2s,mb4.3
CHKZ Chkalovo 65.47 329 *eP* **P** **14 21 51.9 -0.6**
comp=Z,17nm,1.2s,mb4.3
ZRNK Zerenda 65.94 328 *eP* **P** **14 21 55.1 -0.4**
ZRNK pmax pmax
comp=Z,16nm,0.6s,mb4.6
ZRNK Zerenda 65.94 328 *eP* **P** **14 21 55.0 -0.4**
comp=Z,16nm,0.6s,mb4.6
TIXI Tiksi 68.42 2 *eP* **P** **14 22 07.4 -3.2**
TIXI *e**SP PcP 14 22 27.0 -3.5
TIXI pmax pmax
comp=Z,9.0nm,0.7s,mb4.3
AKTK Aktyubinsk 71.19 323 P **P** **14 22 27.1 +0.1**
AKTO Aktyubinsk 71.19 323 P **P** **14 22 27.1 +0.1**
comp=Z,12nm,0.7s,mb4.6,baz=108,slow=7.8,SNR=47
SVE Sverdlovsk 71.98 329 *eP* **P** **14 22 31.0 -0.5**
SVE pmax pmax
comp=Z,28nm,1.2s,mb4.7
SVE MLR MLR
comp=N,300nm,18.0s
SVE MLR MLR
comp=E,200nm,18.0s
SVE MLR MLR
comp=Z,400nm,18.0s
ARU Arti 72.90 329 ⇓ *iP* **P** **14 22 35.8 -1.0**
ARU *e* 14 25 27.6
ARU pmax pmax
comp=Z,11nm,0.9s,mb4.4
MAW Mawson 81.76 199 P **P** **14 23 24.0 -0.5**
comp=Z,1.7nm,0.5s,mb3.8,baz=268,slow=22,SNR=16
VNDA Vanda 83.58 172 P **P** **14 23 33.7 +0.1**
comp=Z,3.0nm,0.6s,mb4.0,baz=318,slow=6.7,SNR=22
VNDA Vanda 83.58 172 *eP* **P** **14 23 33.1 -0.5**
VNDA pmax pmax
comp=Z,4.0nm,1.0s
VNDA Vanda 83.58 172 *eP* **P** **14 23 33.1 -0.5**
comp=Z,3.5nm,1.0s,mb3.8
ANN Anapa 83.94 315 *c iP* **P** **14 23 34.9 -0.5**
ANN pmax pmax
comp=Z,34nm,0.9s,mb4.9
SBA Scott Base 84.54 171 *eP* **P** **14 23 39.0 +0.7**
SBA pmax pmax
comp=Z,1.0nm,0.5s,mb3.7
SBA Scott Base 84.54 171 *eP* **P** **14 23 39.0 +0.8**
comp=Z,1.3nm,0.5s,mb3.8
OBN Obninsk 84.79 325 ⇑ *eP* **P** **14 23 39.2 -0.3**
OBN pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
OBN MLR MLR
comp=Z,900nm,19.0s
KMBO Kilima Mbogo 84.94 269 P **P** **14 23 41.0 +0.8**
comp=Z,3.7nm,0.8s,mb4.1,baz=55,slow=4.8,SNR=11
BRTR Keskin Array B 86.76 309 P **P** **14 23 48.5 -0.4**
comp=Z,1.1nm,0.8s,mb3.7,baz=133,slow=5.5,SNR=6.9
JOF Joensuu 87.48 333 *ep* **P** **14 23 50.5 -1.7**
comp=Z,8.6nm,0.4s,mb4.8
ARCES ARCESS Array B 89.28 340 P **P** **14 23 59.1 -1.4**
comp=Z,1.9nm,0.6s,mb4.1,baz=79,slow=6.3,SNR=11
AKASG Malin Array Be 89.33 321 P **P** **14 23 59.5 -1.4**
comp=Z,0.6nm,0.4s,mb3.8,baz=81,slow=4.2,SNR=7.4
KAF Kangasniemi 89.86 332 *ep* **P** **14 24 01.3 -2.0**
comp=Z,4.3nm,0.5s,mb4.5,baz=80,slow=4.9
KAF Kangasniemi 89.86 332 *eP* **P** **14 24 01.3 -2.0**
KAF pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
FINES FINESS Array B 90.05 331 P **P** **14 24 02.5 -1.6**
comp=Z,2.2nm,0.7s,mb4.1,baz=90,slow=5.9,SNR=12
LSZ Lusaka 94.64 255 P **P** **14 24 25.1 0.0**
comp=Z,1.4nm,0.5s,mb4.4,baz=40,slow=3.6,SNR=5.6
TORD Torodi Ar. Bea 118.67 287 PKP PKPdf 14 29 48.5 +0.6
comp=Z,1.3nm,0.3s,baz=85,slow=1.6,SNR=45
SCHQ Schefferville 121.63 6 PKP PKPdf 14 29 53.5 0.0
comp=Z,2.4nm,0.5s,baz=264,slow=8.4,SNR=6.5
DBIC Dimbokro 126.15 281 PKP PKPdf 14 30 03.5 +1.3
comp=Z,7.8nm,1.1s,baz=196,slow=6.5,SNR=3.8
USHA Ushuaia 127.88 172 PKP PKPdf 14 30 06.9 +1.4
comp=Z,6.3nm,0.8s,baz=180,slow=3.0,SNR=3.0
PLAL Pickwick Lake 132.56 34 *e*PKPdf PKPdf 14 30 14.6 +0.3
MVL Millersville 133.73 20 *e*PKPdf PKPdf 14 30 15.7 -0.9
PLCA Paso Flores 140.99 165 PKhKP 14 30 26.2
comp=Z,1.9nm,1.1s,baz=215,slow=3.7,SNR=3.7
PLCA PKP PKPdf 14 30 31.9 +2.0
comp=Z,1.7nm,0.9s,baz=334,slow=3.7,SNR=3.7
PLCA Paso Flores 140.99 165 PKP PKPdf 14 30 26.2 -3.7
PLCA PKP PKPdf 14 30 31.9 +2.0
TRQA Tornquist 145.17 174 *e*PKP PKPdf 14 30 39.0 +1.8
CFAA Coronel Fontan 150.17 162 PKP PKPdf 14 30 46.0 +0.7
comp=Z,1.6nm,0.5s,baz=218,slow=4.5,SNR=3.7
CFAA PKPbc PKPbc 14 30 52.5 +1.3
comp=Z,1.6nm,0.5s,baz=204,slow=3.0,SNR=30
CFAA Coronel Fontan 150.17 162 PKP PKPdf 14 30 46.0 +0.7
CFAA PKPbc PKPbc 14 30 52.5 +1.3
CPUP Villa Florida 157.06 181 PKP PKPdf 14 30 55.5 +0.6
comp=Z,0.3nm,0.4s,baz=146,slow=3.6,SNR=3.4
CPUP PKPab PKPab 14 31 31.0 +1.3
comp=Z,0.3nm,0.3s,baz=198,slow=3.2,SNR=2.4
LPAZ La Paz 163.60 143 PKP PKPdf 14 31 05.2 +3.2
comp=Z,1.0nm,0.7s,baz=141,slow=0.8,SNR=4.7
LPAZ La Paz 163.60 143 PKP PKPdf 14 31 05.2 +3.2
SAML Samuel 172.28 137 *e*PKPdf PKPdf 14 31 09.2 +1.3

*ISCJB **22** 14:20:19.1±0.5, 6986N×005×1433W±0.1, h1km, mb4.4/10, MS4.4/2, Error ellipse: s-maj=6.8km s-min=5.2km az=153.3*
*NEIC **22** 14:20:19.5, 6997N×14361W, h1km, mb4.1/2, ML3.8(PGC), ML4.3(AEIC), After AEIC.*
*BJI **22** 14:20:19.5, 7000N×14360W, h9km, mB4.6, mb4.6, Ms4.7, Msz4.4*

*PGC **22** 14:20:23.2, 6990N×143.35W, h1km, ML3.8/1, 193km southeast of Prudhoe Bay, Ak Northern coast of Alaska, near the Beaufort Sea.*
*IDC **22** 14:20:24.0±1.4, 6980N×143.05W, h0km, mb3.9/4, mb1 4.2/7, mb1mx3.9/20, mbtmp4.1/7, ML4.4/3, Error ellipse: s-maj=25.0km s-min=17.9km az=126.0*

ISC 22 14:20:20.5±0.5, 6994N±004×1433W±01, h1km, n43, σ1§34/58, mb4.4/10, MS4.4/2, 3D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**2.58**	**191**	P		**Pn**		**14 21 02.7**	**-0.7**
BM3				S		**Sn**		**14 21 17.8**	**+2.4**
COLD	**Coldfoot**	**3.71**	**226**	P		**Pn**		**14 21 17.5**	**-1.4**
COLD				S		**Sn**		**14 22 03.5**	**+0.2**
INK	**Inuvik**	**3.88**	**110**	Pn		**Pn**		**14 21 22.2**	**+0.9**
	11nm,0.3s,baz=306,slow=17,SNR=183								
INK				Sn		**Sn**		**14 22 06.4**	**-1.1**
	26nm,0.3s,baz=74,slow=21,SNR=10.0								
INK				Lg				14 22 30.2	
	11nm,0.3s,baz=3.6,slow=19,SNR=5.4								
INK	**Inuvik**	**3.88**	**110**	⇓Pn		**Pn**		**14 21 22.3**	**+1.1**
INK				Sn		**Sn**		**14 22 07.0**	**-0.5**
INK				Trac				14 22 09.9	
	comp=Z,67nm,0.3s								
INK	**Inuvik**	**3.88**	**110**	*e*Pn		**Pn**		**14 21 22.0**	**+0.7**
INK				*e*Sn		**Sn**		**14 22 06.2**	**-1.3**
ILAR	**Eielson Array**	**5.37**	**196**	Pn		**Pn**		**14 21 41.0**	**-0.8**
	3.4nm,0.3s,baz=7.3,slow=14,SNR=58								
ILAR				Pg		**Pg**		**14 21 55.6**	**-7.8**
	5.1nm,0.3s,baz=16,slow=17,SNR=13								
ILAR				Lg				14 23 07.3	
	10nm,0.3s,baz=11,slow=32,SNR=5.9								
COLA	**College**	**5.38**	**201**	P		**Pn**		**14 21 41.7**	**-0.1**
IM3	**Indian Mountai**	**5.58**	**230**	P		**Pn**		**14 21 43.6**	**-1.0**
DAWY	**Dawson**	**6.10**	**163**	Pn		**Pn**		**14 21 52.0**	**+0.3**
DAWY				Sn		**Sn**		**14 22 57.8**	**-4.5**
DAWY				Trac				14 23 00.3	
	comp=Z,115nm,0.8s								
DAWY	**Dawson**	**6.10**	**163**	P		**Pn**		**14 21 52.0**	**+0.2**
KTH	**Kantishna Hill**	**7.08**	**209**	P		**Pn**		**14 22 04.1**	**-1.1**
TTA	**Tatalina**	**8.66**	**222**	*e*Pn		**Pn**		**14 22 26.7**	**-0.2**
	6.3nm,0.6s								
PMR	**Palmer**	**8.71**	**199**	*e*Pn		**Pn**		**14 22 27.2**	**-0.4**
	15nm,0.8s								
BMRM	**Bremner River**	**9.03**	**184**	P		**Pn**		**14 22 30.5**	**-1.5**
HYT	**Haines Junctio**	**9.47**	**162**	Pn		**Pn**		**14 22 39.0**	**+1.0**
HYT				Trac				14 25 38.5	
	comp=Z,94nm,1.4s								
EYAK	**Cordova Ski Ar**	**9.49**	**187**	*e*Pn		**Pn**		**14 22 38.3**	**+0.1**
WHY	**Whitehorse**	**9.96**	**155**	Pn		**Pn**		**14 22 45.7**	**+1.0**
WHY				Sn		**Sn**		**14 24 30.6**	**-6.4**
WHY				Trac				14 24 34.4	
	comp=Z,8.0nm,0.4s								
PLBC	**Pleasant Camp**	**10.93**	**161**	Pn		**Pn**		**14 22 59.2**	**+1.1**
SKAG	**Skagway**	**11.05**	**158**	*e*Pn		**Pn**		**14 23 01.1**	**+1.4**
DLBC	**Dease Lake**	**12.88**	**147**	Pn		**Pn**		**14 23 25.3**	**+0.7**
	0.6nm,0.3s,baz=342,slow=12,SNR=9.2								
DLBC				Lg				14 27 06.7	
	0.2nm,0.3s,baz=106,slow=19,SNR=6.2								
DLBC	**Dease Lake**	**12.88**	**147**	Pn		**Pn**		**14 23 26.6**	**+2.0**
DLBC				Trac				14 27 28.0	
	comp=Z,9.0nm,1.0s								
DLBC	**Dease Lake**	**12.88**	**147**	*e*Pn		**Pn**		**14 23 26.4**	**+1.8**
YKW3	**Yellowknife Ar**	**13.60**	**109**	⇓Pn		**Pn**		**14 23 31.8**	**-2.7**
YKW3				Pn		**Pn**		**14 23 31.9**	**-2.6**
YKW3				Sn		**Sn**		**14 25 53.4**	**-13**
YKW3				Sn		**Sn**		**14 25 54.6**	**-12**
YKW3				Trac				14 25 57.4	
	comp=Z,13nm,0.5s								
YKW3				Trac				14 25 57.4	
	comp=Z,14nm,0.5s								
YKA	**Yellowknife Ar**	**13.65**	**109**	Pn		**Pn**		**14 23 32.5**	**-2.7**
	baz=309,slow=13,SNR=64								
YKA				Sn		**Sn**		**14 25 55.8**	**-12**
	baz=315,slow=23,SNR=11								
YKA	**Yellowknife Ar**	**13.65**	**109**	Pn		**Pn**		**14 23 32.5**	**-2.7**
YKA				Sn		**Sn**		**14 25 55.9**	**-12**
FNBB	**Fort Nelson**	**14.04**	**132**	Pn		**Pn**		**14 23 38.5**	**-2.0**
FNBB				Sn		**Sn**		**14 26 09.4**	**-7.5**
FNBB				Trac				14 26 49.9	
	comp=Z,5.0nm,0.7s								
RES	**Resolute Bay**	**15.06**	**50**	Pn		**Pn**		**14 23 53.0**	**-1.3**
RES				Sn		**Sn**		**14 26 32.0**	**-10**
RES				Trac				14 26 37.4	
	comp=Z,9.0nm,0.7s								
BMBC	**Bull Mountain**	**16.79**	**135**	Pn		**Pn**		**14 24 19.8**	**+2.9**
FSB	**Fort Saint Jam**	**17.73**	**141**	Pn		**Pn**		**14 24 28.1**	**-0.5**
BILL	**Bilibino**	**17.75**	**288**	*e*P		**Pn**		**14 24 29.4**	**+0.6**
	13nm,1.3s								
EDM	**Edmonton**	**21.62**	**125**	*e*P		**P**		**14 25 12.5**	**+0.5**
FCC	**Fort Churchill**	**23.30**	**94**	*e*P		**P**		**14 25 29.9**	**0.0**
	4.8nm,0.6s,mb4.2								
ULM	**Lac du Bonnet**	**29.62**	**107**	P		**P**		**14 26 30.7**	**+3.5**
	1.0nm,0.4s,mb4.0,baz=27,slow=1.8,SNR=3.3								
ULM	**Lac du Bonnet**	**29.62**	**107**	P		**P**		**14 26 30.7**	**+3.5**
PDAR	**Pinedale Array**	**32.20**	**130**	P		**P**		**14 26 51.6**	**+1.6**
	0.9nm,0.6s,mb3.9,baz=352,slow=6.0,SNR=5.4								
SCHQ	**Schefferville**	**35.70**	**75**	P		**P**		**14 27 21.9**	**+1.6**
	2.5nm,0.8s,mb4.1,baz=319,slow=11,SNR=3.6								
MDJ	**Mudanjiang**	**47.96**	**286**	P		**P**		**14 29 00.8**	**+0.1**
MDJ				AP				14 29 03.8	
MDJ				XP	sP			14 29 05.1	+4.0
MDJ				PP	PP			14 30 51.9	-0.7
MDJ				SCP	ScP			14 34 24.5	0.0
MDJ				PCS	PcS			14 34 25.8	+1.2
MDJ				XS	sS			14 36 02.0	+2.2
MDJ				SCS	ScS			14 38 54.6	-0.7
MDJ				AMB	AMB				
	comp=Z,6.0nm,1.2s,mb4.6								
MDJ				LR	LR				
	comp=N,299nm,24.2s,MS4.5								
MDJ				LR	LR				
	comp=E,434nm,19.4s,MS4.5								
MDJ				LR	LR				
	comp=Z,577nm,19.4s,MS4.6								
FINES	**FINESS Array B**	**48.69**	**7**	P		**P**		**14 29 08.5**	**+2.3**
	comp=Z,1.0nm,0.9s,mb3.9,baz=357,slow=8.4,SNR=2.8								
HHC	**Hu-ho-hao-te**	**57.09**	**299**	*e*P		**P**		**14 30 06.1**	**-2.2**
HHC				AP				14 30 10.8	
HHC				XP	sP			14 30 14.3	+5.5
HHC				PCP	PcP			14 31 02.0	-1.2
HHC				PP	PP			14 32 13.3	-1.7
HHC				SCP	ScP			14 34 59.6	-4.4
HHC				PCS	PcS			14 35 02.4	-1.7
HHC				S	**S**			**14 37 57.3**	**-6.8**
HHC				AMB	AMB				
	comp=Z,9.0nm,1.1s,mb4.7								
HHC				AMB	AMB				
	comp=Z,836nm,13.5s								
HHC				LR	LR				
	comp=N,192nm,22.7s,MS4.3								
HHC				LR	LR				
	comp=E,146nm,21.0s,MS4.3								
HHC				LR	LR				
	comp=Z,177nm,21.1s,MS4.1								
WMQ	**Urumqi**	**60.62**	**320**	⇓P		**P**		**14 30 32.5**	**-0.4**
WMQ				AP				14 30 44.5	
WMQ				PP	PP			14 32 48.5	+2.1
WMQ				AMB	AMB				
	comp=Z,5.0nm,0.4s,mb5.0								
WMQ				AMB	AMB				
	comp=Z,10.0nm,4.0s								
NJ2	**Nanjing**	**62.88**	**289**	*e*P		**P**		**14 30 52.3**	**+4.2**
NJ2				AMB	AMB				
	comp=Z,10.0nm,0.6s,mb5.1								
KMI	**Kunming**	**74.36**	**301**	P		**P**		**14 32 02.0**	**+2.2**
KMI				AP				14 32 06.9	
KMI				XP	sP			14 32 08.5	+8.2
KMI				AMB	AMB				
	comp=Z,7.0nm,0.5s,mb5.0								
VNDA	**Vanda**	**150.79**	**201**	PKPbc	PKPbc			14 40 17.8	+3.2
	comp=Z,0.9nm,0.9s,baz=106,slow=2.0,SNR=3.9								

*IDC **22** 14:26:47.5±2.0, 4.12S×151.27E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.7/13, mbtmp3.6/4, MS4.2/1, Ms1 4.2/1, ms1mx3.1/21, Error ellipse: s-maj=115.3km s-min=28.6km az=128.0*
*NEIC **22** 14:26:49.1±1.1, 4.28S×151.49E, h10km, mb3.9/1, Error ellipse: s-maj=44.6km s-min=19.3km az=134.0*
*ISCJB **22** 14:26:51.0±1.3, 4.3S±03×1515E±03, h33km, mb3.5/5, Error ellipse: s-maj=51.1km s-min=22.6km az=88.3*

ISC 22 14:26:52.7±1.3, 43S±03×1515E±03, h35km, n8, σ0§71/7, mb3.5/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**18.96**	**340**	LR		LR		14 36 47.2	
	comp=Z,700nm,19.3s,baz=224,slow=32								
WB2	**Warramunga Arr**	**22.84**	**226**	*e*P		**P**		**14 31 52.5**	**-0.2**
WRA	**Warramunga Arr**	**22.84**	**226**	P		**P**		**14 31 52.4**	**-0.4**
	1.1nm,0.6s,mb3.5,baz=49,slow=9.8,SNR=20								
KNA	**Kununurra**	**25.09**	**241**	*e*P		**P**		**14 32 15.6**	**+1.6**
ASAR	**Alice Springs**	**25.68**	**220**	P		**P**		**14 32 18.8**	**-0.6**
	0.6nm,0.8s,mb3.2,baz=52,slow=8.5,SNR=8.2								
FITZ	**Fitzroy Crossi**	**28.79**	**240**	P		**P**		**14 32 46.7**	**-0.6**
	1.2nm,0.7s,mb3.8,baz=49,slow=7.9,SNR=7.4								
VNDA	**Vanda**	**73.37**	**178**	*e*P		**P**		**14 38 21.5**	**+0.5**
	0.4nm,0.4s,mb3.7								
ILAR	**Eielson Array**	**82.19**	**22**	P		**P**		**14 39 09.8**	**-0.3**
	0.2nm,0.5s,mb3.3,baz=248,slow=6.4,SNR=4.1								

IDC 22 14:30:16.0±1.5, 007N×12591E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.8/16, mbtmp3.8/5, ML3.7/1, Error ellipse: s-maj=107.5km s-min=21.1km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.06**	**181**	P		P	Pn	14 34 27.9	-0.4
	0.2nm,0.3s,baz=357,slow=14,SNR=7.0								
WRA	**Warramunga Arr**	**21.53**	**158**	P		P		14 35 07.4	+0.7
	1.9nm,0.7s,baz=336,slow=10,SNR=32								
ASAR	**Alice Springs**	**24.84**	**162**	P		P		14 35 41.5	+1.6
	1.1nm,0.4s,baz=343,slow=7.8,SNR=65								
STKA	**Stephens Creek**	**35.07**	**156**	P		P		14 37 09.4	-1.3
	1.6nm,0.5s,baz=329,slow=9.8,SNR=6.7								
MKAR	**Makanchi Array**	**60.12**	**327**	P		P		14 40 25.3	+0.2
	0.9nm,0.4s,baz=122,slow=8.0,SNR=17								

*IDC **22** 14:57:36.1±1.1, 0.11S×9696E, h0km, mb3.8/6, mb1 3.8/7, mb1mx3.7/18, mbtmp3.7/7, ML3.0/1, Error ellipse: s-maj=46.8km s-min=19.7km az=46.0*
*NEIC **22** 14:57:40.9±0.8, 0.03N×97.12E, h30km, Error ellipse: s-maj=16.9km s-min=14.9km az=71.0*

ISC 22 14:57:42.0±0.9, 01N±01×972E±01, h35km, n11, σ0§70/11, mb3.8/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.21**	**33**	P		Pn	**Pn**	**14 58 29.2**	**-0.7**
	1.6nm,0.3s,baz=193,slow=8.7,SNR=5.3								
KULM	**Kulim**	**6.22**	**34**	*e*P		**Pn**		**14 59 11.5**	**+0.2**
WRA	**Warramunga Arr**	**41.50**	**121**	P		**P**		**15 05 26.3**	**+0.6**
	0.8nm,0.5s,mb3.6,baz=301,slow=9.0,SNR=13								
ASAR	**Alice Springs**	**42.78**	**126**	P		**P**		**15 05 35.7**	**-0.4**
	0.5nm,0.6s,mb3.4,baz=296,slow=7.7,SNR=15								
MKAR	**Makanchi Array**	**48.29**	**346**	P		**P**		**15 06 21.3**	**+1.6**
	1.1nm,0.5s,mb4.1,baz=158,slow=8.5,SNR=16								
MKAR	**Makanchi Array**	**48.29**	**346**	P		**P**		**15 06 21.3**	**+1.6**
BRTR	**Keskin Array B**	**69.82**	**313**	P		**P**		**15 08 48.3**	**-0.6**
	0.5nm,0.5s,mb3.7,baz=129,slow=8.1,SNR=4.6								
AKASG	**Malin Array Be**	**76.10**	**323**	P		**P**		**15 09 25.7**	**-0.4**
	1.2nm,0.6s,mb4.0,baz=94,slow=5.0,SNR=5.4								
AKASG	**Malin Array Be**	**76.10**	**323**	P		**P**		**15 09 25.7**	**-0.4**
FINES	**FINESS Array B**	**80.95**	**333**	P		**P**		**15 09 52.7**	**-0.1**
	0.6nm,0.6s,mb3.7,baz=134,slow=8.0,SNR=3.3								
FINES	**FINESS Array B**	**80.95**	**333**	P		**P**		**15 09 52.7**	**-0.1**

*NIED **22** 15:16:00, 2990N×131.30E, h23km, Mw5.3 Best double couple: M0 8.84000×10^16 NP1:φs 31.00000°, δ53.00000°, λ94.00000°. NP2:φs 205.00000°, δ37.00000°, λ85.00000°.*
*IDC **22** 15:16:14.7±0.4, 3004N×13099E, h0km, mb4.7/28, mb1 4.7/34, mb1mx4.7/37, mbtmp4.7/34, ML4.3/6, MS4.8/25, Ms1 4.8/25, ms1mx4.5/43, Error ellipse: s-maj=12.9km s-min=11.4km az=91.0*
*BJI **22** 15:16:16.2, 2983N×13132E, h39km, mB5.1, mb4.7, Ms5.2, Msz5.1*
*JMA **22** 15:16:17.1±0.2, 2992N×13129E, h32km±3km, M5.0 JMA Felt I J1.*
*ISCJB **22** 15:16:18.2±0.3, 2998N±002×13107E±003, h36km±3km, mb5.0/106, MS5.0/41, Error ellipse: s-maj=4.2km s-min=2.6km az=71.2*
*MOS **22** 15:16:18.5±0.9, 3016N×13096E, h33km, mb5.0/51, MS4.9/14, Error ellipse: s-maj=8.1km s-min=5.7km az=100.7*
*NEIC **22** 15:16:20.5±0.5, 3001N×13101E, h39km±4km, mb5.0/38, MW5.2(NIED), Error ellipse: s-maj=5.0km s-min=3.9km az=134.0*
NEIC Recorded [1 JMA] in Kagoshima Prefecture.
*HRVD **22** 15:16:20.5±0.3, 3000N×13136E, h29km±1km, MW5.3/66, Centroid moment Tensor Solution. LP body waves: s36,c47; Mantle waves: s66,c111; Half duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr 0.98±.06; Mθθ -0.20±.04; Mφφ -0.77±.04; Mrθ 0.37±.06; Mrφ -0.35±.02; Mθφ 0.68±.06; Best double couple: M0 1.23400×10^17 NP1:φs 204.00000°, δ26.00000°, λ87.00000°. NP2: φs 27.00000°, δ65.00000°, λ92.00000°. Principal axes: T 1.2520, Plg70.0000°, Azm300.0000°; N -0.0360, Plg1.0000°, Azm206.0000°; P -1.2150, Plg20.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **22** 15:16:21.0, 30.19N×131.18E, h33km, mb4.8, Kyushu, Japan*

ISC 22 15:16:20.2±0.3, 3000N±002×13108E±003, h38km±2km, h38km±1.4km: pP-P, n287, σ1§03/296, mb5.0/106, MS5.0/41, 17C-5D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.66**	**353**	P		**Pn**		**15 16 31.7**	**-1.3**
JTN				*e*S		**Sn**		**15 16 42.8**	**+0.7**
JKC	**Kuchinoerabu**	**0.89**	**301**	P		**Pn**		**15 16 36.7**	**+0.5**
JKC				*e*S		**Sn**		**15 16 50.6**	**+2.7**
JNN	**Nakanoshima**	**1.06**	**262**	P		**Pn**		**15 16 39.0**	**+0.5**
JTSR	**Tashiro 2**	**1.17**	**353**	P		**Pn**		**15 16 39.5**	**-0.6**
JTSR				*e*S		**Sn**		**15 16 56.2**	**+1.4**
JNAR	**Kushima--Naru**	**1.53**	**6**	P		**Pn**		**15 16 44.3**	**-0.7**
JNAR				*e*S		**Sn**		**15 17 04.3**	**+0.7**
JSU	**Suzuyama**	**1.59**	**340**	P		**Pn**		**15 16 45.5**	**-0.4**
JTZ	**Takazaki**	**1.89**	**0**	P		**Pn**		**15 16 49.5**	**-0.5**
JZK	**Kikaishima**	**1.94**	**210**	P		**Pn**		**15 16 51.3**	**+0.6**
JSJ	**Shimokoshiki**	**2.04**	**325**	P		**Pn**		**15 16 51.4**	**-0.6**
JAM	**Amami Oshima**	**2.04**	**219**	P		**Pn**		**15 16 52.2**	**+0.1**
JZO	**Okuchi**	**2.17**	**349**	P		**Pn**		**15 16 53.5**	**-0.3**
JTSN	**Tsuno**	**2.27**	**9**	P		**Pn**		**15 16 54.1**	**-1.0**
JIU2	**Izumi 2**	**2.54**	**355**	P		**Pn**		**15 16 58.7**	**-0.3**
JHD	**Hondo**	**2.58**	**342**	P		**Pn**		**15 16 59.5**	**0.0**
JKIT	**Kitakata**	**2.63**	**7**

JHJ LR LR 15 21 04.0
comp=Z,4μm,19.3s,baz=92,slow=36
JGN Niukaw 8.11 39 P Pn 15 18 14.9 -0.6
INCN Inchon 8.33 335 P Pn 15 18 18.9 +0.5
110nm,1.3s
JOD2 Odawara 2 8.55 50 P Pn 15 18 21.1 -0.4
SSE Sheshan 8.60 280 P Pn 15 18 21.8 -0.3
SSE S Sn 15 19 57.4 -0.4
SSE LR LR
comp=N,6μm,12.4s
SSE LR LR
comp=E,9μm,12.4s
SSE LR LR
comp=Z,13μm,13.1s
MAJO Matsushiro 8.84 41 *e*P **Pn 15 18 25.0 -0.4**
MAJO pmax pmax
comp=Z,42nm,0.6s
MAJO Matsushiro 8.84 41 *e*P **Pn 15 18 25.0 -0.4**
comp=Z,42nm,0.6s
MAT Matsushiro 8.84 41 P **Pn 15 18 25.3 -0.1**
MAT S **Sn 15 20 01.3 -2.4**
MAT Matsushiro 8.84 41 *e*P **Pn 15 18 25.0 -0.4**
MAT *e*S **Sn 15 20 01.0 -2.7**
MAT pmax pmax
comp=Z,27nm,1.0s
MAT Matsushiro 8.84 41 *e*P **Pn 15 18 25.0 -0.4**
comp=Z,27nm,1.0s
MAT *e*S **Sn 15 20 01.0 -2.7**
MJAR Matsushiro Arr 8.84 41 Pn **Pn 15 18 25.6 +0.2**
comp=Z,3.4nm,0.3s,baz=239,slow=13,SNR=37
MJAR Matsushiro Arr 8.84 41 P **Pn 15 18 25.7 +0.3**
MJAR pmax pmax
comp=Z,3.0nm,0.3s
JAG Ashikaga 9.50 45 P **Pn 15 18 35.2 +0.8**
YHNB Yeheng 10.13 241 *e*P **Pn 15 18 42.6 -0.5**
CBIJ Chichi jima 10.19 104 Pn **Pn 15 18 41.3 -2.6**
comp=Z,25nm,0.3s,baz=305,slow=22,SNR=32
CBIJ Sn **Sn 15 20 31.1 -5.7**
comp=Z,10nm,0.3s,baz=316,slow=23,SNR=4.7
CBIJ LR LR 15 22 02.4
comp=Z,3μm,21.0s,baz=322,slow=34
NJ2 Nanjing 10.69 284 *e*P **Pn 15 18 52.5 +1.8**
NJ2 PP 15 19 02.6
NJ2 XP 15 19 06.6
NJ2 S **Sn 15 20 53.0 +4.0**
NJ2 AMB AMB
comp=Z,30nm,1.0s
NJ2 AMB AMB
comp=Z,300nm,7.5s
NJ2 LR LR
comp=N,11μm,20.2s
NJ2 LR LR
comp=E,20μm,14.0s
NJ2 LR LR
comp=Z,9μm,14.6s
DL2 Dalian 11.81 321 P **Pn 15 19 07.8 +1.7**
DL2 *e*S **Sn 15 21 17.8 +1.2**
DL2 AMB AMB
comp=Z,20nm,0.9s
DL2 AMB AMB
comp=Z,250nm,5.2s
DL2 LR LR
comp=N,4μm,13.8s
DL2 LR LR
comp=E,4μm,12.6s
DL2 LR LR
comp=Z,6μm,14.2s
QZH Quanzhou 12.18 249 P **Pn 15 19 12.3 +1.2**
QZH S **Sn 15 21 26.0 +0.5**
QZH AMB AMB
comp=Z,990nm,8.0s
QZH LR LR
comp=N,8μm,14.3s
QZH LR LR
comp=E,6μm,12.8s
TIA Tai'an 13.23 302 *e*P **Pn 15 19 27.5 +2.0**
TIA LR LR
comp=N,5μm,12.0s
TIA LR LR
comp=E,8μm,12.0s
SNY Shenyang 13.27 335 ⇓P **Pn 15 19 29.3 +3.4**
SNY S **Sn 15 22 04.6 +13**
SNY LR LR
comp=N,7μm,14.7s
SNY LR LR
comp=E,8μm,12.6s
SNY LR LR
comp=Z,12μm,13.5s
WHN Wuhan 14.47 276 *e*P **Pn 15 19 44.1 +1.7**
WHN LR LR
comp=Z,15μm,12.6s
CN2 Changchun 14.48 343 *e*P **Pn 15 19 43.8 +1.2**
CN2 *e*AP pP 15 19 52.3 -5.9
CN2 *e*XP sP 15 19 58.9 -4.1
CN2 *e*S **Sn 15 22 27.8 +6.0**
CN2 *e*SS 15 22 44.6
CN2 AMB AMB
comp=Z,70nm,0.8s
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,13μm,16.0s
CN2 LR LR
comp=E,4μm,16.0s
CN2 LR LR
comp=Z,15μm,16.0s
MDJ Mudanjiang 14.63 356 P **Pn 15 19 45.1 +0.5**
MDJ S **Sn 15 22 27.1 +1.6**
MDJ PCP PcP 15 24 56.1 +0.1
MDJ SCP ScP 15 28 26.4 -0.4
MDJ PCS PcS 15 28 31.0 0.0
MDJ SCS ScS 15 32 03.8 -0.6
MDJ AMB AMB
comp=Z,8.0nm,0.9s
MDJ AMB AMB
comp=Z,523nm,8.2s
MDJ LR LR
comp=N,3μm,17.9s
MDJ LR LR
comp=E,1μm,15.2s
MDJ LR LR
comp=Z,3μm,17.9s
MDJ Mudanjiang 14.63 356 P **Pn 15 19 46.8 +2.2**
comp=Z,11nm,0.8s
BJT Baijiatuau 15.76 313 *e*P **Pn 15 20 01.0 +1.6**
BJT pmax pmax
comp=Z,94nm,1.1s
BJT Baijiatuau 15.76 313 *e*P **Pn 15 20 01.0 +1.6**
comp=Z,94nm,1.1s
BJI Beijing 15.77 313 *e*P **Pn 15 20 03.3 +3.8**
BJI AP pP 15 20 14.3 +1.8
BJI AMB AMB
comp=Z,24nm,0.7s
BJI AMB AMB
comp=Z,842nm,6.4s
BJI LR LR
comp=N,8μm,17.2s
BJI LR LR
comp=E,10μm,14.1s
BJI LR LR
comp=Z,8μm,16.1s
ASAJ Asahikawa 16.80 30 Pn **Pn 15 20 11.0 -1.5**
comp=Z,0.5nm,0.3s,baz=170,slow=6.1,SNR=5.5
ASAJ LR LR 15 26 55.3
comp=Z,4μm,20.8s,baz=8.3,slow=38
ASAJ Asahikawa 16.80 30 P **Pn 15 20 11.0 -1.5**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ MLR MLR
comp=Z,4μm,20.8s
YUK Yuzh-Kuril'sk 18.27 36 *e*P **Pn 15 20 29.0 -1.8**
YUK pmax pmax
comp=Z,2μm,2.0s
YUK MLR MLR
comp=Z,6μm,17.0s
YUK MLR MLR
comp=N,4μm,15.0s
YUK MLR MLR
comp=E,3μm,20.0s
HABR Khabarovsk 18.70 8⇑*i*P **Pn 15 20 34.0 -1.9**
HABR S **S 15 24 02.7 -3.4**
HABR pmax pmax
comp=Z,85nm,1.5s
HABR MLR MLR
comp=Z,3μm,15.9s
HHC Hu-ho-hao-te 19.19 310 ⇑P **Pn 15 20 41.1 -0.8**
HHC AP pP 15 20 51.4 +1.1
HHC XP sP 15 20 57.9 +2.8
HHC PP 15 20 59.4
HHC S **S 15 24 10.4 -5.8**
HHC XS sS 15 24 24.4 -7.1
HHC SS 15 24 36.3
HHC PCP PcP 15 25 02.3 -0.8
HHC SCP ScP 15 28 31.1 -4.8
HHC PCS PcS 15 28 41.8 +1.6
HHC AMB AMB
comp=Z,12nm,1.2s
HHC AMB AMB
comp=Z,1μm,8.4s
HHC LR LR
comp=N,7μm,15.2s
HHC LR LR
comp=E,6μm,13.5s
HHC LR LR
comp=Z,10μm,15.1s
YSS Yuzh-Sakhalins 19.20 25 *e*P **Pn 15 20 41.9 0.0**
YSS S **S 15 24 10.0 -6.2**
YSS pmax pmax
comp=N,30nm,0.9s
YSS pmax pmax
comp=E,30nm,0.9s
YSS pmax pmax
comp=Z,30nm,0.9s
YSS MLR MLR
comp=Z,3μm,17.0s
YSS MLR MLR
comp=N,3μm,15.0s
YSS MLR MLR
comp=E,3μm,15.0s
YSS Yuzh-Sakhalins 19.20 25 *e*P **Pn 15 20 40.4 -1.5**
comp=E,26nm,0.8s
XAN Xi'an 19.21 288 P **Pn 15 20 40.1 -1.9**
XAN AP pP 15 20 50.1 -0.4
XAN S **S 15 24 23.8 +7.4**
XAN AMB AMB
comp=Z,10.0nm,1.1s
XAN LR LR
comp=N,4μm,15.4s
XAN LR LR
comp=E,3μm,12.7s
XAN LR LR
comp=Z,5μm,12.7s
KLR Kul'dur 19.21 1 *e*P **Pn 15 20 36.3 -5.8**
KLR *e*S **S 15 24 10.5 -6.0**
KLR pmax pmax
comp=Z,140nm,2.4s
KLR MLR MLR
comp=N,3μm,13.0s
KLR MLR MLR
comp=E,2μm,13.0s
KLR MLR MLR
comp=Z,3μm,13.0s
BTO Baotou 20.13 307 *e*P **P 15 20 48.5 -2.4**
BTO LR LR
comp=N,5μm,14.7s,MS5.2
BTO LR LR
comp=E,5μm,14.5s,MS5.2
GUMO Guam 20.72 139 P **P 15 20 57.2 -0.1**
comp=E,85nm,1.0s,baz=32,slow=13,SNR=4.1
GUMO LR LR 15 27 27.9
comp=E,1μm,18.5s,MS4.4,baz=142,slow=32
GUMO Guam 20.72 139 P **P 15 20 57.2 -0.1**
GUMO pmax pmax
comp=Z,85nm,1.0s
GUMO MLR MLR
comp=Z,1μm,18.5s,MS4.4
HIA Hailar 21.08 339 *e*P **P 15 21 00.4 -0.8**
HIA pmax pmax
comp=Z,32nm,1.0s
HIA Hailar 21.08 339 *e*P **P 15 21 00.4 -0.9**
comp=Z,32nm,1.0s,mb4.6
GYA Guiyang 21.79 267⇑*i*P **P 15 21 09.5 +0.7**
GYA AP 15 21 20.6
GYA XP sP 15 21 26.4 +3.1
GYA PP 15 21 35.8
GYA S **S 15 25 06.8 -0.7**
GYA XS sS 15 25 21.1 -2.1
GYA SS 15 25 42.0
GYA AMB AMB
comp=Z,40nm,0.6s,mb5.0
GYA AMB AMB
comp=Z,1μm,3.8s
GYA LR LR
comp=N,5μm,17.1s,MS5.0
GYA LR LR
comp=E,3μm,16.8s,MS5.0
GYA LR LR
comp=Z,3μm,16.4s,MS4.8
QIZ Qiongzhong 22.16 245 P **P 15 21 14.0 +1.3**
QIZ S **S 15 25 08.0 -6.7**
QIZ XS sS 15 25 25.5 -4.9
QIZ AMB AMB
comp=Z,21nm,0.9s,mb4.6
QIZ LR LR
comp=N,3μm,21.6s
QIZ LR LR
comp=Z,5μm,22.0s,MS4.9
CD2 Chengdu 23.55 279 *e*P **P 15 21 27.3 +0.1**
CD2 AP 15 21 38.9
CD2 XP sP 15 21 44.3 +2.2
CD2 PP 15 22 00.9
CD2 S **S 15 25 35.1 -3.3**
CD2 XS sS 15 25 54.3 -1.5
CD2 SS 15 26 25.5
CD2 AMB AMB
comp=Z,30nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,310nm,12.0s
CD2 LR LR
comp=N,3μm,12.0s
CD2 LR LR
comp=Z,4μm,12.0s,MS5.0
LZH Lanzhou 23.58 292 *e*P **P 15 21 26.8 -0.7**
LZH AP 15 21 37.3
LZH XP sP 15 21 42.6 +0.2
LZH PP 15 22 00.5
LZH *e*S **S 15 25 33.6 -5.3**
LZH XS sS 15 25 50.8 -5.4
LZH AMB AMB
comp=Z,38nm,1.2s,mb4.7
LZH AMB AMB
comp=Z,237nm,4.9s
LZH LR LR
comp=N,2μm,10.5s
LZH LR LR
comp=Z,3μm,14.8s,MS4.9
CIT Chita 25.54 334 *e*P **P 15 21 43.4 -1.9**
CIT *e* pP 15 21 55.2 -0.6
CIT *e* 15 22 35.8
CIT pmax pmax
comp=Z,45nm,2.7s,mb4.5
KMI Kunming 25.55 266 P **P 15 21 45.5 +0.1**
KMI AP pP 15 21 55.8 -0.2
KMI XP sP 15 22 01.1 +0.5
KMI PP 15 22 27.9
KMI S **S 15 26 10.3 -0.3**
KMI XS sS 15 26 27.4 -0.7
KMI SS 15 27 09.8
KMI AMB AMB
comp=Z,26nm,0.8s,mb4.8
KMI AMB AMB
comp=Z,175nm,6.4s
KMI LR LR
comp=N,4μm,17.4s,MS5.2
KMI LR LR
comp=E,3μm,12.8s,MS5.2
KMI LR LR
comp=Z,5μm,12.8s,MS5.2
ULN Ulaanbaatar 25.67 321*c i*P **P 15 21 45.5 -1.0**
ULN Ulaanbaatar 25.67 321 *e*P **P 15 21 45.2 -1.2**
comp=Z,8.1nm,0.4s,mb4.6
SONM Songino Array 26.01 320 P **P 15 21 49.8 +0.2**
comp=Z,6.6nm,0.5s,mb4.5,baz=110,slow=8.5,SNR=6.9
SONM LR LR 15 33 20.6
comp=Z,5μm,18.9s,MS5.0,baz=122,slow=40
SONM Songino Array 26.01 320 P **P 15 21 49.8 +0.2**
SONM pmax pmax
comp=Z,7.0nm,0.5s
SONM MLR MLR
comp=Z,5μm,18.9s
GTA Gaotai 27.25 299 *e*P **P 15 22 00.9 +0.2**
GTA AP pP 15 22 11.5 +0.2
GTA XP sP 15 22 16.9 +1.0
GTA PP 15 22 49.8
GTA PCP PcP 15 25 21.8 +1.9
GTA S **S 15 26 36.3 -1.0**
GTA XS sS 15 26 55.8 +0.9
GTA SS 15 27 55.4
GTA AMB AMB
comp=Z,4.0nm,0.7s,mb4.1
GTA AMB AMB
comp=Z,183nm,5.7s
GTA LR LR
comp=N,3μm,15.2s,MS5.2
GTA LR LR
comp=E,4μm,14.4s,MS5.2
GTA LR LR
comp=Z,5μm,14.8s,MS5.2
ZAK Zakamensk 29.14 322 *e*P **P 15 22 16.8 -0.8**
ZAK *e* 15 25 26.6
ZAK pmax pmax
comp=Z,22nm,1.7s,mb4.6
ZAK pmax pmax
comp=Z,9.0nm,1.8s,mb4.2
TLY Talaya 29.70 325 *e*P **P 15 22 21.3 -1.2**
TLY *e* 15 23 21.8
TLY *e*SS SS 15 29 08.9 -14
TLY pmax pmax
comp=Z,9.0nm,1.3s,mb4.3
TLY MLR MLR
comp=Z,3μm,14.0s,MS5.0
CHG Chiang Mai 31.21 256 ⇓P **P 15 22 36.2 +0.3**
comp=Z,23nm,0.6s,mb5.2
CHTO Chiang Mai 31.21 256⇑*e*P **P 15 22 35.5 -0.4**
CHTO pmax pmax
comp=Z,15nm,0.6s,mb5.0
CHTO Chiang Mai 31.21 256⇑*e*P **P 15 22 35.5 -0.4**
comp=Z,15nm,0.6s,mb5.0
NST Nakhon Sawan 31.76 250 P **P 15 22 41.6 +0.8**
YAK Yakutsk 32.05 359 *i* P **P 15 22 42.5 -0.8**
YAK pmax pmax
comp=Z,11nm,0.6s,mb4.9
YAK MLR MLR
comp=Z,1μm,17.0s,MS4.7
LSA Lhasa 34.51 280 *e*P **P 15 23 05.8 +1.1**
LSA Lhasa 34.51 280 *e*P **P 15 23 05.3 +0.6**
LSA pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
LSA Lhasa 34.51 280 *e*P **P 15 23 05.3 +0.6**
comp=Z,5.0nm,0.6s,mb4.6
KSM Kuching 34.56 219 *e*P **P 15 23 06.0 +0.8**
SHL Shillong 34.84 272 *i* P **P 15 23 08.4 +0.8**
SHL *e*P pP 15 23 17.3 -1.0
WMQ Urumqi 36.91 304⇓*i*P **P 15 23 25.6 +0.3**
WMQ AP pP 15 23 37.6 +1.6
WMQ XP sP 15 23 42.6 +2.1
WMQ PP PP 15 24 51.9 +2.2
WMQ PCP PcP 15 25 47.4 +1.2
WMQ S **S 15 29 06.0 -1.5**
WMQ XS sS 15 29 26.4 +1.1
WMQ SCP ScP 15 29 29.3 -0.7
WMQ PCS PcS 15 29 34.1 -0.2
WMQ SS SS 15 31 35.6 -14
WMQ SCS ScS 15 33 34.8 -2.5
WMQ AMB AMB
comp=Z,11nm,1.1s,mb4.6
WMQ AMB AMB
comp=Z,339nm,3.8s
WMQ LR LR
comp=N,955nm,20.0s,MS4.9
WMQ LR LR
comp=E,2μm,17.0s,MS4.9
WMQ LR LR
comp=Z,2μm,17.0s,MS5.0
KULM Kulim 37.78 235 *e*P **P 15 23 33.9 +1.2**
FX1 Attu Island--F 38.20 41 P **P 15 23 36.0 -0.1**
comp=Z,9.7nm,0.6s,mb4.7,baz=212,slow=13,SNR=3.1
FX1 Attu Island--F 38.20 41 P **P 15 23 36.0 -0.2**
FX1 pmax pmax
comp=Z,10.0nm,0.6s
JIRN Jiri 39.21 278 *e*P **P 15 23 44.9 +0.3**
comp=Z,45nm,0.6s,mb5.3
GUN Gumba 39.41 278 *e*P **P 15 23 46.7 +0.3**
comp=Z,262nm,0.8s,mb6.0
PKI Pulchoki 39.90 278 *e*P **P 15 23 50.4 0.0**
comp=Z,96nm,1.0s,mb5.5
PKI Pulchoki 39.90 278 *e*P **P 15 23 50.4 0.0**
PKI pmax pmax
comp=Z,96nm,1.0s,mb5.5
KKN Kakani 39.96 279 *e*P **P 15 23 50.5 -0.4**
comp=Z,86nm,0.8s,mb5.5
KKN Kakani 39.96 279 *e*P **P 15 23 50.5 -0.4**
KKN pmax pmax
comp=Z,86nm,0.8s,mb5.5
DMN Daman 40.15 278 *e*P **P 15 23 52.3 -0.2**
comp=Z,120nm,1.3s,mb5.5
GKN Gorkha 40.45 279 *e*P **P 15 23 54.5 -0.5**
comp=Z,26nm,0.5s,mb5.2
BOK Bokaro 40.57 272 *e*P **P 15 23 55.2 -0.8**
BOK AMb AMB 15 23 57.1
comp=Z,50nm,0.6s,mb5.3
PSI Prapat 40.74 235 P **P 15 23 58.5 +1.1**
comp=Z,8.5nm,0.8s,mb4.4,baz=25,slow=4.8,SNR=7.2
PSI LR LR 15 42 10.1
comp=Z,571nm,20.5s,MS4.4,baz=41,slow=38
PSI Prapat 40.74 235 P **P 15 23 58.5 +1.1**
PSI pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
PSI MLR MLR
comp=Z,571nm,20.5s,MS4.4
MKAR Makanchi Array 41.05 308 P **P 15 23 59.5 -0.4**
comp=Z,9.1nm,0.7s,mb4.5,baz=94,slow=10,SNR=88
MKAR PcP PcP 15 25 59.6 +0.4
comp=Z,6.4nm,0.9s,baz=91,slow=4.9,SNR=6.5
MKAR Makanchi Array 41.05 308 P **P 15 23 59.5 -0.4**
MKAR 15 25 59.6
MKAR pmax pmax
comp=Z,9.0nm,0.7s
MKAR pmax pmax
comp=Z,6.0nm,0.9s
KOLN Koldanda 41.40 279 *e*P **P 15 24 02.1 -0.7**
comp=Z,50nm,0.8s,mb5.2
NVS Novosibirsk 42.05 320⇑*i*P **P 15 24 05.6 -2.5**
NVS pmax pmax
comp=Z,32nm,1.8s,mb4.7
NVS pmax pmax
comp=N,30nm,0.0s
KURK Kurchatov 43.94 313 P **P 15 24 22.5 -0.9**
comp=N,92nm,0.9s,mb5.5,SNR=14
KURK Kurchatov 43.94 313*c i*P **P 15 24 21.9 -1.5**
JOSI Joshimath 44.17 284 *e*P **P 15 24 23.7 -1.5**
JOSI AMb AMB 15 24 25.6
comp=Z,299nm,0.9s,mb6.0
BLSP Bilaspur 44.39 272 *e*P **P 15 24 26.9 -0.2**
BLSP AMb AMB 15 24 27.6
comp=Z,23nm,0.8s,mb5.0
KLP Kalpa 45.05 286 *e*P **P 15 24 32.1 -0.2**
KLP AMb AMB 15 24 32.7
comp=Z,10nm,0.9s,mb4.7
VIS Vishakhapatnam 45.05 265 *e*P **P 15 24 31.9 -0.4**
VIS AMb AMB 15 24 33.4
comp=Z,24nm,0.9s,mb5.0
ULHL Ulahol 45.24 301 P **P 15 24 34.5 +0.8**
SNR=7.5
KSH Kashi 45.64 297 *e*P **P 15 24 37.1 +0.2**
KSH *e*AP pP 15 24 49.5 +1.6
KSH *e*XP sP 15 24 54.3 +1.9
KSH *e*PCP PcP 15 26 16.0 +1.3
KSH *e*PP PP 15 26 23.3 -0.9
KSH *e*SCP ScP 15 30 03.1 -1.5
KSH *e*PCS PcS 15 30 08.0 -0.8
KSH *e*S **S 15 31 13.8 -3.2**
KSH *e*XS sS 15 31 35.3 +0.2
KSH *e*SCS ScS 15 34 27.3 -2.7
KSH AMB AMB
comp=Z,127nm,3.3s
KSH LR LR
comp=N,1μm,13.8s,MS5.3
KSH LR LR
comp=E,2μm,13.3s,MS5.3
KSH LR LR
comp=Z,2μm,16.2s,MS5.1
TKM2 Tokmak 2 45.68 302 P **P 15 24 38.4 +1.2**
SNR=45
KZA Kyzart 45.98 301 P **P 15 24 41.5 +1.9**
SNR=25

SMLA Simla 46.05 286 *e*P **P** **15 24 37.8 -2.4**
SMLA AMb AMB 15 24 40.0
comp=Z,13nm,2.6s,mb4.4
KBK Karagaybulak 46.17 302 P **P** **15 24 42.1 +1.0**
SNR=19
CHMS Chumysh 46.30 302 P **P** **15 24 42.6 +0.5**
SNR=13
AGRA Agra 46.38 280 *e*P **P** **15 24 41.5 -1.3**
AGRA AMb AMB 15 24 43.2
comp=Z,36nm,0.7s,mb5.4
FRU Bishkek 46.40 302 *e*P **P** **15 24 42.0 -1.0**
FRU *e* pP 15 24 54.0 +0.1
USP Ospenovka 46.47 303 P **P** **15 24 43.8 +0.3**
SNR=23
AAK Ala-Archa 46.51 302 P **P** **15 24 44.4 +0.6**
SNR=13
AAK Ala-Archa 46.51 302 P **P** **15 24 43.7 -0.1**
comp=Z,98nm,0.6s,mb5.9,SNR=9.3
AAK Ala-Archa 46.51 302*c i*P **P** **15 24 42.7 -1.1**
AAK pmax pmax
comp=Z,24nm,1.3s,mb5.0
AAK MLR MLR
comp=Z,4μm,18.0s,MS5.4
UCH Uchtor 46.52 301 P **P** **15 24 45.4 +1.6**
SNR=87
NDI New Delhi 46.60 282 *e*P **P** **15 24 43.0 -1.5**
NDI *e*P 15 24 43.6
NDI AMb AMB 15 24 44.7
comp=Z,40nm,0.7s,mb5.4
AYAN Aya Nagar 46.73 282 *ex* x 15 24 36.5
SONA Sohna 46.83 282 *e*P **P** **15 24 45.3 -1.0**
SONA AMb AMB 15 24 46.5
comp=Z,25nm,0.8s,mb5.2
EKS2 Erkin-Say 47.03 302 P **P** **15 24 48.2 +0.3**
SNR=15
AML Almayashu 47.13 301 P **P** **15 24 50.1 +1.5**
SNR=20
KUDL Kundal 47.37 282 *e*P **P** **15 24 49.4 -1.1**
KUDL AMb AMB 15 24 50.6
comp=Z,38nm,0.9s,mb5.3
KHET Khetri 47.97 282 *e*P **P** **15 24 54.6 -0.5**
KHET AMb AMB 15 24 55.8
comp=Z,48nm,0.8s,mb5.6
BHPL Bhopal 48.08 275 *e*P **P** **15 24 55.0 -1.0**
BHPL AMb AMB 15 24 55.8
comp=Z,18nm,0.8s,mb5.2
FITZ Fitzroy Crossi 48.11 187⇑ *i*P **P** **15 24 56.8 +0.6**
comp=Z,9.2nm,0.6s,mb5.0
FITZ *e*S **S** **15 31 54.0 +1.7**
CHKZ Chkalovo 49.13 317 *e*P **P** **15 25 02.9 -1.2**
CHKZ pmax pmax
comp=Z,11nm,0.8s,mb4.9
CHKZ Chkalovo 49.13 317 *e*P **P** **15 25 02.9 -1.2**
comp=Z,11nm,0.8s,mb4.9
BRVK Borovoye 49.30 316 P **P** **15 25 05.3 -0.1**
comp=Z,330nm,0.8s,SNR=38
HYB Hyderabad 49.32 268 *i* P **P** **15 25 05.5 0.0**
HYB *e* pP 15 25 14.5 -2.0
HYB Hyderabad 49.32 268 *e*P **P** **15 25 05.5 0.0**
AKL Akola 49.35 272 *ex* x 15 24 32.8
AKL AMb AMB 15 24 33.5
comp=Z,60nm,0.9s,mb5.6
WRAB Tennant Creek 49.75 176 *i* P **P** **15 25 10.3 +1.5**
WRA Warramunga Arr 49.75 176 P **P** **15 25 09.6 +0.8**
comp=Z,4.6nm,1.0s,mb4.5,baz=351,slow=8.2,SNR=13
WRA Warramunga Arr 49.75 176 P **P** **15 25 09.6 +0.8**
WRA pmax pmax
comp=Z,5.0nm,1.0s
WB2 Warramunga Arr 49.76 176 *e*P **P** **15 25 10.1 +1.3**
ZRNK Zerenda 50.06 316 *e*P **P** **15 25 10.1 -1.1**
ZRNK pmax pmax
comp=Z,31nm,0.8s,mb5.4
ZRNK Zerenda 50.06 316 *e*P **P** **15 25 10.1 -1.1**
comp=Z,31nm,0.8s,mb5.4
ASAR Alice Springs 53.43 177 P **P** **15 25 38.0 +1.8**
comp=Z,1.8nm,0.6s,mb4.2,baz=10,slow=14,SNR=33
ASAR Alice Springs 53.43 177 P **P** **15 25 38.1 +1.8**
ASAR pmax pmax
comp=Z,2.0nm,0.6s
BOM Bombay 53.69 272 *ex* x 15 22 54.1
BOM AMb AMB 15 22 56.0
comp=Z,256nm,1.7s,mb5.9
ARU Arti 56.05 320 P **P** **15 25 54.1 -1.2**
comp=Z,223nm,0.4s,SNR=7.5
ARU Arti 56.05 320⇓ *i*P **P** **15 25 54.8 -0.5**
ARU *e* 15 27 54.9
ARU *e*PPP 15 29 10.1
ARU *e*S **S** **15 33 40.8 -0.4**
ARU *e*SS SS 15 37 26.0 -1.6
ARU pmax pmax
comp=Z,18nm,0.7s,mb5.2
ARU MLR MLR
comp=N,500nm,17.0s,MS5.5
ARU MLR MLR
comp=Z,4μm,17.0s,MS5.6
ARU MLR MLR
comp=E,3μm,16.5s,MS5.5
ORR Orenburg 58.88 315 *i* P **P** **15 26 14.5 -0.7**
ORR pmax pmax
comp=Z,50nm,1.0s,mb5.5
ORR MLR MLR
comp=Z,1μm,18.0s,MS5.1
ABKT Ailbek 59.63 299 P **P** **15 26 21.8 +1.4**
comp=Z,157nm,0.7s,SNR=13
ILAR Eielson Array 59.93 29 P **P** **15 26 21.9 -0.6**
comp=Z,2.4nm,0.8s,mb4.3,baz=288,slow=6.4,SNR=11
ILAR Eielson Array 59.93 29 P **P** **15 26 21.9 -0.6**
ILAR pmax pmax
comp=Z,2.0nm,0.8s
STKA Stephens Creek 62.34 170 *e*P **P** **15 26 37.6 -1.2**
comp=Z,2.9nm,0.6s,mb4.6
STKA Stephens Creek 62.34 170 P **P** **15 26 38.0 -0.8**
comp=Z,2.3nm,0.6s,mb4.5,baz=348,slow=8.0,SNR=7.8
STKA LR LR 15 54 24.1
comp=Z,483nm,20.8s,MS4.7,baz=0.4,slow=37
DAWY Dawson 63.26 29 *e*P **P** **15 26 44.4 -0.5**
WSAR Wadi Sarin 64.16 283 P **P** **15 26 50.4 -0.5**
comp=Z,3.2nm,0.6s,mb4.5,baz=108,slow=9.6,SNR=4.3
INK Inuvik 64.44 24 P **P** **15 26 52.5 -0.1**
comp=Z,9.9nm,0.8s,mb4.9,baz=292,slow=5.9,SNR=18
INK LR LR 15 59 21.4
comp=Z,470nm,19.5s,MS4.7,baz=171,slow=40
INK Inuvik 64.44 24 *e*P **P** **15 26 52.1 -0.6**
TMCR Tamitsa 64.72 331 *e*P **P** **15 26 53.5 -1.0**
TMCR pmax pmax
comp=Z,40nm,0.9s,mb5.5
TMCR pmax pmax
comp=N,70nm,1.0s
TMCR pmax pmax
comp=E,10.0nm,0.7s
APA Apatity 65.48 335⇓ *i*P **P** **15 26 58.0 -1.4**
APA *i* pP 15 27 08.0 -2.8
APA pmax pmax
comp=Z,23nm,0.7s,mb5.3
APA MLR MLR
comp=Z,2μm,16.0s,MS5.4
SKAG Skagway 66.42 34 *e*P **P** **15 27 06.5 +1.0**
KEV Kevo 66.86 338 *ep* **P** **15 27 07.2 -1.1**
comp=Z,12nm,0.8s,mb5.0
KEV Kevo 66.86 338 *e*P **P** **15 27 07.2 -1.1**
KEV pmax pmax
comp=Z,12nm,0.8s,mb5.0
ARCES ARCESS Array B 67.43 338 P **P** **15 27 11.1 -0.8**
comp=Z,12nm,0.9s,mb4.9,baz=46,slow=7.0,SNR=10
ARCES LR LR 16 02 19.5
comp=Z,2μm,18.6s,MS5.4,baz=57,slow=41
ARCES ARCESS Array B 67.43 338 P **P** **15 27 11.1 -0.8**
ARCES LR LR 16 02 19.5
ALE Alert 67.52 2 P **P** **15 27 12.6 +0.1**
comp=Z,63nm,0.8s,mb5.7,SNR=8.7
MOS Moscow 67.62 322 *e*P **P** **15 27 11.9 -1.2**
MOS *e* pP 15 27 21.4 -3.1
MOS MLR MLR
comp=N,2μm,16.6s,MS5.5
MOS MLR MLR
comp=E,2μm,16.6s,MS5.5
MOS MLR MLR
comp=Z,3μm,16.6s,MS5.6
JOF Joensuu 67.98 331 *ep* **P** **15 27 13.4 -1.9**
comp=Z,26nm,0.8s,mb5.3
GOF Gofitskoye 68.16 310 *e*P **P** **15 27 07.5 -9.0**
VOR Voronezh 68.17 318 *e*P **P** **15 27 15.0 -1.5**
VOR *e* 15 27 22.0
VOR pmax pmax
comp=Z,40nm,1.4s,mb5.3
VRSR Storozhevoye 68.36 317 *e*P **P** **15 27 17.4 -0.3**
VRSR pmax pmax
comp=N,2.0nm,0.8s
VRSR pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
VRSR pmax pmax
comp=E,5.0nm,0.9s
ZEI Tsey 68.41 308 *e*P **P** **15 27 18.1 +0.1**
ZEI *e**PP pP 15 27 28.3 -1.2
ZEI pmax pmax
comp=Z,20nm,0.9s,mb5.2
OBN Obninsk 68.41 322 *i* P **P** **15 27 17.4 -0.6**
OBN *e* pP 15 27 28.4 -1.1
OBN *e* 15 27 42.5
OBN *e*S S 15 36 17.2 +0.4
OBN pmax pmax
comp=Z,19nm,0.9s,mb5.1
OBN MLR MLR
comp=Z,2μm,15.0s,MS5.6
GNI Garni 68.78 305 P **P** **15 27 21.0 +0.6**
comp=Z,4.6nm,0.4s,mb4.7,baz=38,slow=4.2,SNR=4.2
GNI Garni 68.78 305 *i* P **P** **15 27 22.3 +2.0**
GNI MLR MLR
comp=Z,600nm,17.0s
GNI Garni 68.78 305 *e*P **P** **15 27 21.8 +1.4**
comp=Z,21nm,1.0s,mb5.0
KIV Kislovodsk 68.80 309 P **P** **15 27 21.6 +1.1**
comp=Z,217nm,1.2s,mb6.0,SNR=5.7
KIV Kislovodsk 68.80 309*c i*P **P** **15 27 20.4 -0.1**
KIV pmax pmax
comp=Z,58nm,1.4s,mb5.3
DLBC Dease Lake 69.36 34 LR LR 15 57 42.3
comp=Z,355nm,21.8s,MS4.6,baz=303,slow=36
AFI Afiamalu 70.24 120 P **P** **15 27 30.4 +1.1**
comp=Z,15nm,0.9s,mb4.9,baz=147,slow=17,SNR=2.6
AFI Afiamalu 70.24 120 P **P** **15 27 30.4 +1.1**
AFI pmax pmax
comp=Z,15nm,0.9s,mb4.9
KAF Kangasniemi 70.42 331 *ep* **P** **15 27 28.3 -2.2**
comp=Z,16nm,0.8s,mb5.0,baz=61,slow=5.8
KAF Kangasniemi 70.42 331 *e*P **P** **15 27 28.3 -2.2**
KAF pmax pmax
comp=Z,16nm,0.8s,mb5.0
KBD Kabd 70.81 293 *e*P **P** **15 27 33.9 +1.1**
FINES FINESS Array B 70.83 331 P **P** **15 27 32.5 -0.4**
comp=Z,4.9nm,0.4s,mb4.8,baz=70,slow=6.4,SNR=62
FINES LR LR 16 03 19.3
comp=Z,2μm,18.0s,MS5.3,baz=226,slow=40
FINES FINESS Array B 70.83 331 P **P** **15 27 32.5 -0.4**
FINES pmax pmax
comp=Z,5.0nm,0.4s
FINES MLR MLR
comp=Z,2μm,18.0s
MIB Mutribah 70.84 294 *e*P **P** **15 27 33.6 +0.6**
MIB AMb AMB 15 27 35.1
comp=Z,45nm,0.9s,mb5.4
SOC Sochi 70.92 310*c i*P **P** **15 27 32.2 -1.3**
SOC *e**PP pP 15 27 42.1 -2.9
SOC *e* 15 27 55.3
SOC *e* 15 30 17.7
SOC *e*S S 15 36 45.1 -1.3
SOC *e**SS sS 15 37 07.0 +1.6
SOC *e* 15 37 30.9
SOC *e*SS SS 15 41 18.8 -0.7
SOC *e*SSS 15 44 24.8
SOC pmax pmax
comp=Z,38nm,1.3s,mb5.2
SOC MLR MLR
comp=Z,835nm,19.0s,MS5.0
RDF Al-Radifah 71.03 293 *e*P **P** **15 27 34.7 +0.6**
RDF AMb AMB 15 27 35.4
comp=Z,55nm,0.6s,mb5.6
NAY Al-Naaiem 71.14 293 *e*P **P** **15 27 35.4 +0.5**
NAY AMb AMB 15 27 36.1
comp=Z,27nm,0.7s,mb5.3
DAG Danmarks Havn 71.84 353⇑ *i*P **P** **15 27 38.2 -0.9**
comp=Z,5.0nm,0.9s,mb4.4
DAG Danmarks Havn 71.84 353⇑ *i*P **P** **15 27 38.2 -0.9**
DAG pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
ANN Anapa 71.93 312 *e*P **P** **15 27 38.4 -1.2**
ANN *i* *PP pP 15 27 49.4 -1.8
ANN *e* 15 30 18.5
ANN *e*S S 15 36 57.0 -1.0
ANN pmax pmax
comp=Z,51nm,1.2s,mb5.3
SIM Simferopol' **74.00 313**⇑ *e*P **P** **15 27 52.7 +0.8**
SIM pmax pmax
comp=Z,13nm,0.6s,mb5.0
MALT Malatya 74.00 305 *e*P **P** **15 27 53.4 +1.5**
MALT pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
MALT Malatya 74.00 305 *e*P **P** **15 27 53.4 +1.5**
comp=Z,4.4nm,0.7s,mb4.5
YKA Yellowknife Ar 74.05 26 P **P** **15 27 52.2 +0.1**
comp=Z,4.8nm,0.8s,mb4.5,baz=304,slow=5.6,SNR=17
YKA LR LR 16 07 26.8
comp=Z,240nm,18.4s,MS4.5,baz=310,slow=42
YKA Yellowknife Ar 74.05 26 P **P** **15 27 52.2 +0.1**
YKA LR LR 16 07 26.8
AKASG Malin Array Be 74.30 320 P **P** **15 27 52.5 -1.1**
comp=Z,2.9nm,0.5s,mb4.5,baz=55,slow=6.2,SNR=11
AKASG Malin Array Be 74.30 320 P **P** **15 27 52.5 -1.1**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
JMIC Jan Mayen 75.31 347 LR LR 16 04 39.3
comp=Z,455nm,19.3s,MS4.8,baz=82,slow=39
HFS Hagfors 76.64 333 LR LR 16 07 27.8
comp=Z,1μm,18.8s,MS5.3,baz=223,slow=40
BR131 Keskin Array S 76.70 308 *e*P **P** **15 28 07.3 -0.1**
BRTR Keskin Array B 76.70 308 P **P** **15 28 07.8 +0.4**
comp=Z,9.1nm,0.9s,mb4.7,baz=100,slow=4.9,SNR=26
BRTR Keskin Array B 76.70 308 P **P** **15 28 07.8 +0.4**
BRTR pmax pmax
comp=Z,9.0nm,0.9s
NB2 NORSAR Subarra 77.03 334 P **P** **15 28 08.7 -0.5**
comp=Z,7.0nm,0.7s,mb4.7,baz=48,slow=5.6
NOA NORSAR Array B 77.03 334 P **P** **15 28 09.2 -0.1**
comp=Z,5.2nm,0.6s,mb4.6,baz=50,slow=5.6,SNR=21
NOA LR LR 16 08 27.7
comp=Z,989nm,19.2s,MS5.1,baz=35,slow=41
NAO01 NORSAR Array S 77.28 334 *e*P **P** **15 28 10.9 +0.3**
comp=Z,1.6nm,0.4s,mb4.3
SUMG Summit 77.44 357 *e*P **P** **15 28 11.6 +0.1**
comp=Z,22nm,0.7s,mb5.2
ASF Jabal al Asfar 77.88 300 P **P** **15 28 15.0 +1.1**
comp=Z,4.1nm,0.8s,mb4.4,baz=54,slow=4.9,SNR=6.9
ASF LR LR 16 11 28.2
comp=Z,413nm,19.1s,MS4.8,baz=77,slow=43
OJC Ojcow 79.69 323 *e*P **P** **15 28 23.9 0.0**
EDM Edmonton 80.07 33 *e*P **P** **15 28 26.5 +0.5**
OKC Ostrava-Krasne 80.78 323 AMS AMS 16 09 00.0
comp=Z,1μm,16.3s
NEW Newport 81.09 39 P **P** **15 28 32.2 +0.7**
comp=Z,4.5nm,0.9s,mb4.4,baz=244,slow=4.5,SNR=4.1
NEW Newport 81.09 39 P **P** **15 28 32.2 +0.8**
NEW pmax pmax
comp=Z,5.0nm,0.9s
NEW Newport 81.09 39 P **P** **15 28 32.2 +0.7**
DPC Dobruska-Polom 81.41 324 AMS AMS 16 09 20.0
comp=Z,2μm,14.8s
YBH Yreka Blue Hor 81.45 47 P **P** **15 28 34.8 +1.4**
comp=Z,3.6nm,0.9s,mb4.3,baz=153,slow=2.3,SNR=2.9
YBH LR LR 15 58 20.8
comp=Z,159nm,21.5s,MS4.3,baz=20,slow=31
YBH Yreka Blue Hor 81.45 47 P **P** **15 28 34.8 +1.4**
YBH LR LR 15 58 20.8
CLL Collm 82.47 326 *e*P **P** **15 28 38.0 -0.7**
comp=Z,8.0nm,1.0s,mb4.6
CLL LmV 15 08 00.0
comp=Z,1μm,20.8s
CLL *ep*P pP 15 28 49.0 -1.4
CLL *e*S S 15 38 48.0 -4.5
comp=E,300nm,22.4s
CLL *e*SS SS 15 44 30.0 +16
CLL Collm 82.47 326 *e*P **P** **15 28 38.0 -0.7**
CLL *e**PP pP 15 28 49.0 -1.4
CLL pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CLL MLR MLR
comp=Z,1μm,20.8s,MS5.2
CLL Collm 82.47 326 *e*P **P** **15 28 38.0 -0.7**
comp=Z,8.0nm,1.0s,mb4.6
CLL *ep*P pP 15 28 49.0 -1.4
CLL LR LR
comp=Z,1μm,20.8s,MS5.2
TREC Trest 82.49 323 AMS AMS 16 10 00.0
comp=Z,2μm,15.9s
PRU Pruhonice 82.54 324 *ep*P pP 15 28 51.5 +0.7
PRU AMS AMS 16 08 40.0
comp=Z,2μm,13.9s
SFJD Kangerlussuaq 83.30 1 P **P** **15 28 42.5 -0.5**
comp=Z,21nm,0.9s,mb5.2,baz=328,slow=4.6,SNR=13
SFJD Kangerlussuaq 83.30 1⇑ *i*P **P** **15 28 42.4 -0.6**
comp=Z,18nm,0.8s,mb5.2
SFJD *i* pP 15 28 53.7 -1.0
SFJD Kangerlussuaq 83.30 1⇑ *i*P **P** **15 28 42.4 -0.6**
SFJD *i* pP 15 28 53.7 -1.0
SFJD pmax pmax
comp=Z,18nm,0.8s,mb5.2
NKC Novy Kostel 83.43 325 AMS AMS 16 10 20.0
comp=Z,3μm,16.7s
KHC Kasperske Hory 83.57 324 *e*P **P** **15 28 44.2 -0.2**
KHC AMS AMS 16 09 30.0
comp=Z,2μm,15.0s
WVOR Wild Horse Val 83.58 44 *e*P **P** **15 28 45.2 +0.8**
WVOR pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
WVOR Wild Horse Val 83.58 44 *e*P **P** **15 28 45.2 +0.8**
comp=Z,2.5nm,0.6s,mb4.5
GERES GERESS Array B 83.69 324 P **P** **15 28 44.8 -0.2**
comp=Z,1.4nm,0.7s,mb4.2,baz=57,slow=4.9,SNR=5.7
GERES LR LR 16 10 12.1
comp=Z,1μm,18.1s,MS5.4,baz=45,slow=39
GERES GERESS Array B 83.69 324 P **P** **15 28 44.8 -0.2**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES MLR MLR
comp=Z,1μm,18.1s
FFC Flin Flon 84.10 28 P **P** **15 28 47.2 +0.1**
comp=Z,55nm,0.8s,mb5.7,SNR=5.2
GRF Grafenberg Arr 84.38 326 *e*P **P** **15 28 48.5 0.0**
comp=Z,5.0nm,0.9s,mb4.6
GRF Grafenberg Arr 84.38 326 *e*P **P** **15 28 48.5 0.0**
GRF pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
GRF Grafenberg Arr 84.38 326 *e*P **P** **15 28 48.5 0.0**
GRF pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
HRY Holter Researc 84.89 38 *e*P **P** **15 28 51.5 +0.5**
IDI Anoyia 84.94 308 LR LR 16 15 21.9
comp=Z,404nm,18.4s,MS4.8,baz=62,slow=42
EGMT Eagleton 85.13 36 *e*P **P** **15 28 52.4 +0.1**
comp=Z,12nm,1.1s,mb4.9
DLMT Dillon 85.32 39 *e*P **P** **15 28 54.3 +1.0**
comp=Z,15nm,1.1s,mb5.0
HLID Hailey 85.41 42 *e*P **P** **15 28 55.2 +1.6**
comp=Z,6.7nm,1.1s,mb4.7
BOZ Bozeman (W) 85.67 39 *e*P **P** **15 28 56.2 +1.2**
BOZ pmax pmax
comp=Z,7.0nm,1.2s,mb4.8
BOZ Bozeman (W) 85.67 39 *e*P **P** **15 28 56.2 +1.2**
comp=Z,6.9nm,1.2s,mb4.8
GCMT Greycliff 86.63 38 *e*P **P** **15 29 00.8 +1.1**
ELK Elko 86.63 44 *e*P **P** **15 29 01.3 +1.6**
ELK pmax pmax
comp=Z,16nm,1.5s
ELK Elko 86.63 44 *e*P **P** **15 29 01.2 +1.5**
comp=Z,16nm,1.5s,mb5.0
DAVOX Davos 86.98 324 LR LR 16 13 48.9
comp=Z,1μm,19.7s,MS5.3,baz=82,slow=40
TPH Tonopah 87.00 47 P **P** **15 29 03.1 +1.6**
TPH pmax pmax
comp=Z,12nm,1.0s,mb5.1
TPH Tonopah 87.00 47 P **P** **15 29 03.1 +1.6**
comp=Z,12nm,1.0s,mb5.1
LKWY Lake 87.03 39 *e*P **P** **15 29 02.9 +1.2**
LKWY pmax pmax
comp=Z,16nm,1.0s,mb5.2
LKWY Lake 87.03 39 *e*P **P** **15 29 02.9 +1.3**
comp=Z,16nm,1.0s,mb5.2
MOOW Moose Ponds 87.36 40 *e*P **P** **15 29 05.1 +1.8**
comp=Z,5.0nm,1.3s,mb4.6
HWUT Hardware Ranch 88.27 42 *e*P **P** **15 29 08.3 +0.7**
comp=Z,10nm,1.1s,mb5.0
PDAR Pinedale Array 88.66 40 P **P** **15 29 10.7 +1.2**
comp=Z,3.4nm,0.8s,mb4.7,baz=326,slow=1.2,SNR=14
PPT Papeete 89.79 110 *e*LR LR 15 57 34.6
comp=Z,211nm,21.0s
PPT Papeete 89.79 110 LR LR 16 04 23.4
comp=Z,258nm,19.6s,MS4.7,baz=324,slow=32
ULM Lac du Bonnet 89.92 28 P **P** **15 29 15.8 +0.4**
comp=Z,6.6nm,1.0s,mb4.9,baz=295,slow=4.7,SNR=5.7
ULM LR LR 16 15 35.3
comp=Z,231nm,19.0s,MS4.6,baz=353,slow=40
VAE Valguarnera 90.47 315 LR LR 16 15 46.5
comp=Z,924nm,19.2s,MS5.2,baz=28,slow=40
SRU San Rafael 90.48 43 *e*P **P** **15 29 19.2 +1.2**
SRU pmax pmax
comp=Z,11nm,1.2s,mb5.1
SRU San Rafael 90.48 43 *e*P **P** **15 29 19.2 +1.3**
comp=Z,11nm,1.2s,mb5.1
TBI Tubuai 92.88 115 *e*LR LR 15 59 00.5
comp=Z,296nm,30.0s
TAOE Nuku Hiva Isla 93.31 98 *e*LR LR 15 59 12.8
comp=Z,955nm,24.3s
EYMN Ely 93.51 27 *e*P **P** **15 29 32.4 +0.4**
comp=Z,8.9nm,1.1s,mb5.1
KMBO Kilima Mbogo 93.88 271 P **P** **15 29 34.9 +1.2**
comp=Z,1.3nm,0.7s,mb4.4,baz=30,slow=23,SNR=4.1
KMBO LR LR 16 16 58.0
comp=Z,323nm,19.0s,MS4.8,baz=91,slow=39
SCHQ Schefferville 94.12 10 LR LR 16 18 11.7
comp=Z,518nm,18.4s,MS5.0,baz=187,slow=40
TORD Torodi Ar. Bea 115.07 304 PKiKP PKiKP 15 34 57.4 +0.1
comp=Z,0.4nm,0.8s,baz=292,slow=0.8,SNR=2.7
TORD PP PP 15 35 52.5 -4.5
comp=Z,1.2nm,0.8s,baz=37,slow=6.5,SNR=5.5
DBIC Dimbokro 124.18 303 PKP PKPdf 15 35 15.1 +0.3
comp=Z,2.5nm,0.8s,baz=12,slow=14,SNR=2.5
DBIC Dimbokro 124.18 303 PKIKP PKPdf 15 35 15.1 +0.4
DBIC pmax pmax
comp=Z,3.0nm,0.8s
SNAA Sanae 131.48 198 *e*PKPdf PKPdf 15 35 28.6 0.0
SNAA *e* 15 35 39.8
SNAA *e* 15 35 42.4
SNAA *e* 15 35 46.4
VNA2 Neumayer--Watz 133.11 197 *e*PKPdf PKPdf 15 35 31.8 +0.1
baz=48,slow=2.9
VNA2 *e* 15 35 38.1
VNA2 *e* 15 35 42.8
VNA2 *e* 15 35 44.9
VNA2 *e* 15 35 48.0
VNA2 *e* 15 35 53.9
VNA2 *e* 15 36 01.8
VNA3 Neumayer Olymp 133.48 196 *e*PKPdf PKPdf 15 35 30.6 -1.8
VNA3 *e* 15 35 41.6
VNA3 *e* 15 35 43.4
VNA3 *e* 15 35 48.3
VNA3 *e* 15 35 54.9
VNA3 *e* 15 36 02.1
BDFB Brasilia 165.68 356 PKPab PKPab 15 37 20.3 +0.4
comp=Z,2.1nm,0.4s,baz=236,slow=3.1,SNR=4.9
BDFB Brasilia 165.68 356 PKP2 PKPab 15 37 20.3 +0.4
BDFB pmax pmax
comp=Z,2.0nm,0.4s

IDC ***22*** *15:16:27.5±0.8, 6082N×16556E, h0km, mb4.1/9, mb1 4.4/10, mb1mx4.1/22, mbtmp4.2/10, ML3.5/1, Error ellipse: s-maj=21.1km s-min=14.5km az=63.0*
KRSC ***22*** *15:16:27.5±1.1, 6079N×166.16E, h7km±4km, ML4.5*
MOS ***22*** *15:16:28.0±1.7, 6089N×16586E, h16km, mb4.6/13, Error ellipse: s-maj=21.4km s-min=8.9km az=89.8*
ISCJB ***22*** *15:16:29.0±1.2, 6085N±003×1659E±01, h18km±10km, mb4.3/14, Error ellipse: s-maj=9.4km s-min=5.0km az=45.0*
NEIC ***22*** *15:16:33.5±1.2, 6093N×16567E, h37km±13km, mb4.5/5, Error ellipse: s-maj=12.0km s-min=9.4km az=148.0*

ISC 22 15:16:29.8±1.5, 6088N±003×1659E±01, h12km±10km, n65, σ1§29/71, mb4.3/14, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TILR	**Tilichiki**	**0.45**	**169**	*i* P	**Pg**	**15 16 35.3**	**-3.4**
TILR				*e*S	**Sg**	**15 16 41.3**	**-3.5**
TILR				Smax			
	133μm,1.1s						
KAMR	**Kamenskoye**	**1.59**	**5**	*i* P	**Pn**	**15 16 57.6**	**-0.2**
KAMR				*e*S	**Sn**	**15 17 18.7**	**+0.4**
KAMR				Smax			
	14μm,1.2s						

OSSR	**Ossora**	**2.16**	**222**	*e*P	**Pn**	**15 17 04.1**	**-1.4**
OSSR				*e*S	**Sn**	**15 17 30.4**	**-1.8**
OSSR				Smax			
	10μm,1.1s						
EVNR	**Evensk**	**3.35**	**291**	*i* P	**Pn**	**15 17 22.8**	**+0.9**
SMKR	**Semkarok**	**4.88**	**210**	*e*P	**Pn**	**15 17 42.9**	**0.0**
SRKR	**Sorokina**	**4.89**	**212**	*e*P	**Pn**	**15 17 44.2**	**+1.1**
KBG	**Krutoberegovo**	**4.92**	**201**	P	**Pn**	**15 17 43.4**	**-0.1**
KBTR	**Krutoberegovo**	**4.95**	**200**	P	**Pn**	**15 17 43.1**	**-0.8**
KBTR				S	**Sn**	**15 18 39.3**	**-1.7**
KBTR	**Krutoberegovo**	**4.95**	**200**	*e*P	**Pn**	**15 17 43.5**	**-0.4**
KBTR				*e*S	**Sn**	**15 18 40.0**	**-1.0**
BDR	**Baidarnaya**	**4.96**	**211**	*e*P	**Pn**	**15 17 44.5**	**+0.5**
KLY	**Klyuchi**	**5.33**	**213**	P	**Pn**	**15 17 48.9**	**-0.2**
KRSR	**Krestovskiy**	**5.44**	**213**	P	**Pn**	**15 17 50.6**	**0.0**
CIRR	**Tsirk**	**5.48**	**212**	P	**Pn**	**15 17 52.2**	**+1.0**
LGNR	**Loginova**	**5.52**	**212**	*e*P	**Pn**	**15 17 52.7**	**+0.9**
ZLN	**Zelenaya**	**5.55**	**211**	*e*P	**Pn**	**15 17 53.5**	**+1.3**
SRDR	**Sredinnyy**	**5.59**	**218**	*e*P	**Pn**	**15 17 53.4**	**+0.7**
BKI	**Bering**	**5.69**	**179**	P	**Pn**	**15 17 54.7**	**+0.7**
KPT	**Kopyto**	**5.75**	**214**	P	**Pn**	**15 17 59.0**	**+4.1**
KOZ	**Kozyrevsk**	**5.77**	**216**	P	**Pn**	**15 17 57.3**	**+2.2**
KMNR	**Kamenistaya**	**5.93**	**213**	P	**Pn**	**15 17 57.5**	**+0.1**
ESO	**Esso**	**6.23**	**220**	P	**Pn**	**15 18 06.0**	**+4.5**
ESO	**Esso**	**6.23**	**220**	P	**Pn**	**15 18 05.1**	**+3.6**
ESO				Smax			
	200nm,1.5s						
TUMR	**Tumrok**	**6.38**	**211**	*e*P	**Pn**	**15 18 05.7**	**+2.2**
BILL	**Bilibino**	**7.20**	**1**	*e*PN	**Pn**	**15 18 16.4**	**+1.7**
BILL				*e*		15 19 39.4	
BILL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BILL				smax			
	comp=N,28nm,0.6s						
BILL	**Bilibino**	**7.20**	**1**	*e*Pn	**Pn**	**15 18 14.9**	**+0.1**
	comp=N,38nm,0.8s						
BILL	**Bilibino**	**7.20**	**1**	*e*P	**Pn**	**15 18 16.3**	**+1.6**
GNL	**Ganaly**	**8.38**	**214**	*e*P	**Pn**	**15 18 33.2**	**+2.2**
PET	**Petropavlovsk**	**8.80**	**210**	P	**Pn**	**15 18 38.2**	**+1.4**
PET	**Petropavlovsk**	**8.80**	**210**	Pn	**Pn**	**15 18 37.9**	**+1.1**
PET	**Petropavlovsk**	**8.80**	**210**	*e*P	**Pn**	**15 18 38.6**	**+1.8**
FX1	**Attu Island--F**	**8.94**	**150**	Pn	**Pn**	**15 18 36.7**	**-2.0**
	comp=N,1.9nm,0.3s,baz=190,slow=8.1,SNR=12						
FX1				Sn	**Sn**	**15 20 09.8**	**-10**
	baz=233,slow=20,SNR=2.4						
FX1	**Attu Island--F**	**8.94**	**150**	PN	**Pn**	**15 18 36.7**	**-2.0**
FX1				pmax	pmax		
	comp=Z,2.0nm,0.3s						
YAK	**Yakutsk**	**17.20**	**290**	*e*P	**Pn**	**15 20 31.3**	**+1.4**
YAK				pmax	pmax		
	comp=Z,21nm,0.7s						
YAK				pmax	pmax		
	comp=N,2.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,13nm,1.5s						
YAK				MLR	MLR		
	comp=Z,251nm,24.0s						
YAK				MLR	MLR		
	comp=N,59nm,16.0s						
YAK				MLR	MLR		
	comp=E,143nm,16.0s						
YAK	**Yakutsk**	**17.20**	**290**	*e*P	**Pn**	**15 20 30.2**	**+0.3**
	comp=E,47nm,0.7s						
TIXI	**Tiksi**	**18.02**	**322**	*e*P	**Pn**	**15 20 39.0**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ILAR	**Eielson Array**	**21.51**	**59**	P	**P**	**15 21 19.0**	**+0.6**
	comp=Z,8.2nm,0.6s,mb4.3,baz=276,slow=8.4,SNR=50						
ILAR	**Eielson Array**	**21.51**	**59**	P	**P**	**15 21 19.0**	**+0.6**
ILAR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
INK	**Inuvik**	**25.98**	**48**	P	**P**	**15 22 03.3**	**+1.0**
	comp=Z,1.8nm,0.5s,mb3.9,baz=290,slow=10.0,SNR=11						
INK	**Inuvik**	**25.98**	**48**	*e*P	**P**	**15 22 03.9**	**+1.7**
INK				pmax	pmax		
	comp=Z,14nm,1.2s						
INK	**Inuvik**	**25.98**	**48**	*e*P	**P**	**15 22 03.9**	**+1.7**
	comp=Z,14nm,1.2s,mb4.4						
BOD	**Bodaibo**	**26.05**	**287**	*e*P	**P**	**15 22 01.9**	**-1.0**
BOD				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.3						
YKA	**Yellowknife Ar**	**35.53**	**52**	P	**P**	**15 23 25.6**	**-0.9**
	comp=Z,1.2nm,0.5s,mb4.0,baz=306,slow=7.9,SNR=7.0						
YKA	**Yellowknife Ar**	**35.53**	**52**	P	**P**	**15 23 25.6**	**-0.9**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FCC	**Fort Churchill**	**45.58**	**46**	*e*P	**P**	**15 24 48.1**	**-1.4**
FCC				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
FCC	**Fort Churchill**	**45.58**	**46**	*e*P	**P**	**15 24 48.1**	**-1.5**
	comp=Z,6.6nm,0.9s,mb4.6						
SUMG	**Summit**	**45.79**	**10**	*e*P	**P**	**15 24 51.3**	**+0.1**
	comp=Z,10.0nm,1.1s,mb4.7						
ARCES	**ARCESS Array B**	**46.85**	**342**	P	**P**	**15 24 58.3**	**-1.2**
	comp=Z,3.5nm,0.9s,mb4.3,baz=26,slow=7.0,SNR=5.3						
ARCES				PcP	PcP	15 26 31.0	-1.4
	comp=Z,3.2nm,0.9s,baz=42,slow=5.5,SNR=5.0						
ARCES	**ARCESS Array B**	**46.85**	**342**	P	**P**	**15 24 58.3**	**-1.3**
ARCES						15 26 31.0	
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MKAR	**Makanchi Array**	**47.84**	**293**	P	**P**	**15 25 06.0**	**-1.3**
	comp=Z,2.8nm,0.6s,mb4.5,baz=37,slow=7.3,SNR=7.5						
MKAR	**Makanchi Array**	**47.84**	**293**	P	**P**	**15 25 06.0**	**-1.3**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SVE	**Sverdlovsk**	**48.87**	**315**	*e*P	**P**	**15 25 13.0**	**-2.2**
SVE				*e*		15 32 16.0	
GCMT	**Greycliff**	**48.99**	**67**	*e*P	**P**	**15 25 17.2**	**+1.1**
PDAR	**Pinedale Array**	**51.38**	**70**	P	**P**	**15 25 36.1**	**+1.9**
	comp=Z,2.1nm,0.7s,mb4.2,baz=318,slow=4.3,SNR=11						
SRU	**San Rafael**	**53.81**	**73**	*e*P	**P**	**15 25 54.1**	**+1.8**
SRU				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
SRU	**San Rafael**	**53.81**	**73**	*e*P	**P**	**15 25 54.1**	**+1.8**
	comp=Z,2.7nm,0.6s,mb4.3						
FINES	**FINESS Array B**	**54.18**	**338**	P	**P**	**15 25 53.2**	**-1.7**
	comp=Z,0.8nm,0.6s,mb3.8,baz=23,slow=10,SNR=7.4						
FINES	**FINESS Array B**	**54.18**	**338**	P	**P**	**15 25 53.2**	**-1.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKTK	**Aktyubinsk**	**54.94**	**312**	P	**P**	**15 25 59.9**	**-0.5**
AKTO	**Aktyubinsk**	**54.94**	**312**	P	**P**	**15 25 59.9**	**-0.5**
	comp=Z,8.5nm,0.8s,mb4.8,baz=72,slow=6.0,SNR=18						
AKTO	**Aktyubinsk**	**54.94**	**312**	P	**P**	**15 25 59.9**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
NB2	**NORSAR Subarra**	**56.86**	**346**	P	**P**	**15 26 12.7**	**-1.5**
	comp=Z,1.3nm,0.5s,mb4.2,baz=18,slow=6.9						
NOA	**NORSAR Array B**	**56.86**	**346**	P	**P**	**15 26 13.2**	**-1.0**
	comp=Z,1.6nm,0.4s,mb4.4,baz=14,slow=7.3,SNR=4.6						
NOA	**NORSAR Array B**	**56.86**	**346**	P	**P**	**15 26 13.2**	**-1.0**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
WRA	**Warramunga Arr**	**84.46**	**210**	P	**P**	**15 29 01.0**	**-1.3**
	comp=Z,1.3nm,0.7s,mb4.2,baz=13,slow=5.5,SNR=6.5						
WRA	**Warramunga Arr**	**84.46**	**210**	P	**P**	**15 29 01.0**	**-1.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						

KRSC 22 15:18:51.2±0.4, 6064N×16649E, h2km±6km, ML4.5, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TILR	**Tilichiki**	**0.30**	**226**	*e*P	Pg	15 18 58.6	+1.6
TILR				*e*S	Sg	15 19 04.2	+3.3
TILR				Smax			
	18μm,0.3s						
KAMR	**Kamenskoye**	**1.83**	**356**	*e*P	Pn	15 19 24.9	+1.3
KAMR				*e*S	Sn	15 19 49.3	+2.0
KAMR				Smax			
	4μm,0.8s						
KBTR	**Krutoberegovo**	**4.84**	**205**	*e*P	Pn	15 20 06.9	+1.8

*MOS **22** 15:49:16.4±1.3, 6093N×16557E, h10km, mb4.3/13, Error ellipse: s-maj=21.5km s-min=9.6km az=89.0*
*KRSC **22** 15:49:16.2±0.8, 6079N×16654E, h11km±4km, ML4.0*
*IDC **22** 15:49:16.2±0.7, 6092N×16534E, h0km, mb3.9/12, mb1 4.2/13, mb1mx4.1/23, mbtmp4.0/13, ML3.1/1, Error ellipse: s-maj=19.2km s-min=14.3km az=62.0*
*ISCJB **22** 15:49:17.1±0.3, 6088N±003×16573E±009, h11km, mb4.2/20, Error ellipse: s-maj=6.7km s-min=3.9km az=20.2*
*NEIC **22** 15:49:17.8±0.6, 6087N×16528E, h10km, mb4.2/3, Error ellipse: s-maj=12.5km s-min=11.6km az=67.0*
*BJI **22** 15:49:18.8, 6140N×16495E, h12km, mB4.9, mb4.5*
ISC 22 15:49:18.5±0.3, 6090N±003×16579E±010, h11km, n64, σ1§35/71, mb4.2/20, 1C-2D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TILR	**Tilichiki**	**0.49**	**164**	*i* P	**Pg**	**15 49 25.7**	**-2.4**
TILR				*i* S	**Sg**	**15 49 33.0**	**-1.5**
TILR				Smax			
	19μm,1.1s						
KAMR	**Kamenskoye**	**1.58**	**7**	*i* P	**Pn**	**15 49 46.3**	**-0.1**
KAMR				*e*S	**Sn**	**15 50 07.6**	**+0.8**
KAMR				Smax			
	4μm,1.2s						
OSSR	**Ossora**	**2.15**	**221**	*e*P	**Pn**	**15 49 53.4**	**-0.8**
OSSR				Smax			
	2μm,0.9s						
EVNR	**Evensk**	**3.30**	**291**	P	**Pn**	**15 50 14.5**	**+4.4**
SMKR	**Semkarok**	**4.88**	**209**	*i* P	**Pn**	**15 50 32.4**	**+0.6**
SRKR	**Sorokina**	**4.89**	**211**	*e*P	**Pn**	**15 50 32.8**	**+0.9**
BDR	**Baidarnaya**	**4.95**	**211**	*e*P	**Pn**	**15 50 33.2**	**+0.3**
KBTR	**Krutoberegovo**	**4.95**	**200**	P	**Pn**	**15 50 32.4**	**-0.4**
KBTR				S	**Sn**	**15 51 31.1**	**+1.0**
KBTR	**Krutoberegovo**	**4.95**	**200**	*e*P	**Pn**	**15 50 33.2**	**+0.4**
KBTR				*e*S	**Sn**	**15 51 28.8**	**-1.3**
KLY	**Klyuchi**	**5.32**	**213**	P	**Pn**	**15 50 37.4**	**-0.5**
KLY	**Klyuchi**	**5.32**	**213**	P	**Pn**	**15 50 37.3**	**-0.6**
CIRR	**Tsirk**	**5.47**	**211**	*e*P	**Pn**	**15 50 40.3**	**+0.3**
ZLN	**Zelenaya**	**5.55**	**210**	*e*P	**Pn**	**15 50 42.1**	**+1.1**
SRDR	**Sredinnyy**	**5.58**	**217**	P	**Pn**	**15 50 44.1**	**+2.6**
KMNR	**Kamenistaya**	**5.93**	**212**	*e*P	**Pn**	**15 50 48.1**	**+1.9**
ESO	**Esso**	**6.22**	**220**	P	**Pn**	**15 50 51.7**	**+1.4**
ESO				Smax			
	70nm,1.2s						
BILL	**Bilibino**	**7.17**	**1**	*e*PN	**Pn**	**15 51 05.0**	**+1.7**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BILL	**Bilibino**	**7.17**	**1**	*e*Pn	**Pn**	**15 51 04.7**	**+1.3**
	comp=Z,7.1nm,0.5s						
BILL	**Bilibino**	**7.17**	**1**	*i* P	**Pn**	**15 51 06.0**	**+2.7**
BILL				Smax			
	comp=Z,90nm,1.2s						
GNL	**Ganaly**	**8.37**	**214**	P	**Pn**	**15 51 22.2**	**+2.4**
FX1	**Attu Island--F**	**8.99**	**150**	Pn	**Pn**	**15 51 27.2**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=90,slow=1.0,SNR=4.2						
FX1	**Attu Island--F**	**8.99**	**150**	Pn	**Pn**	**15 51 28.9**	**+0.7**
YAK	**Yakutsk**	**17.15**	**290**	*e*P	**Pn**	**15 53 20.2**	**+2.1**
YAK				pmax	pmax		
	comp=Z,13nm,1.2s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.4s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.6s						
YAK	**Yakutsk**	**17.15**	**290**	*e*P	**Pn**	**15 53 19.1**	**+1.0**
	comp=E,13nm,0.8s						
COLA	**College**	**21.11**	**59**	*e*P	**P**	**15 54 06.1**	**+3.0**
COLA				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.1						
COLA	**College**	**21.11**	**59**	*e*P	**P**	**15 54 06.1**	**+3.0**
	comp=Z,8.8nm,0.9s,mb4.1						
HABR	**Khabarovsk**	**21.44**	**248**	*e*P	**P**	**15 54 07.2**	**+0.5**
HABR				*e*S	**S**	**15 58 04.5**	**+0.1**
HABR				pmax	pmax		
	comp=Z,34nm,2.0s,mb4.3						
ILAR	**Eielson Array**	**21.54**	**59**	P	**P**	**15 54 07.9**	**+0.2**
	comp=Z,5.3nm,0.7s,mb4.1,baz=269,slow=8.5,SNR=25						
ILAR	**Eielson Array**	**21.54**	**59**	P	**P**	**15 54 07.9**	**+0.2**
ILAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ILAR	**Eielson Array**	**21.54**	**59**	P	**P**	**15 54 07.9**	**+0.2**
DAWY	**Dawson**	**24.86**	**59**	*e*P	**P**	**15 54 42.3**	**+1.3**
INK	**Inuvik**	**26.00**	**48**	P	**P**	**15 54 53.3**	**+1.9**
	comp=Z,1.5nm,0.5s,mb3.8,baz=274,slow=8.3,SNR=8.0						
INK	**Inuvik**	**26.00**	**48**	*e*P	**P**	**15 54 52.9**	**+1.5**
INK				pmax	pmax		
	comp=Z,14nm,1.4s						
INK	**Inuvik**	**26.00**	**48**	*e*P	**P**	**15 54 52.9**	**+1.6**
	comp=Z,14nm,1.4s,mb4.3						
BOD	**Bodaibo**	**26.00**	**286**	*e*P	**P**	**15 54 50.1**	**-1.3**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.2						
CN2	**Changchun**	**29.37**	**253**	*e*P	**P**	**15 55 22.0**	**+0.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
ULN	**Ulaanbaatar**	**35.33**	**276**	*i* P	**P**	**15 56 14.5**	**+0.7**
YKA	**Yellowknife Ar**	**35.55**	**52**	P	**P**	**15 56 15.5**	**-0.2**
	comp=Z,1.3nm,0.7s,mb4.0,baz=305,slow=8.1,SNR=5.2						
YKA	**Yellowknife Ar**	**35.55**	**52**	P	**P**	**15 56 15.5**	**-0.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**35.55**	**52**	P	**P**	**15 56 15.5**	**-0.2**
BJI	**Beijing**	**36.66**	**258**	*e*P	**P**	**15 56 24.5**	**-0.6**
BJI				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.7						
NVS	**Novosibirsk**	**41.56**	**300**	*e*P	**P**	**15 57 02.7**	**-3.4**
NVS				pmax	pmax		
	comp=Z,60nm,1.3s,mb5.1						
NVS				pmax	pmax		
	comp=N,5.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,3.0nm,1.0s						
NJ2	**Nanjing**	**41.91**	**248**	*e*P	**P**	**15 57 10.5**	**+1.5**
NJ2				AP	pP	15 57 20.6	+8.2
NJ2				XP	sP	15 57 24.6	+11
NJ2				PP	PP	15 58 50.6	+4.7
NJ2				S	**S**	**16 03 25.0**	**-2.1**
NJ2				XS	sS	16 03 41.0	+8.3
NJ2				AMB	AMB		
	comp=Z,200nm,6.5s						
KURK	**Kurchatov**	**46.47**	**299**	*c* P	**P**	**15 57 44.8**	**-0.7**
MKAR	**Makanchi Array**	**47.79**	**293**	P	**P**	**15 57 54.5**	**-1.3**
	comp=Z,1.6nm,0.6s,mb4.2,baz=40,slow=6.5,SNR=25						
MKAR	**Makanchi Array**	**47.79**	**293**	P	**P**	**15 57 54.5**	**-1.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**47.79**	**293**	P	**P**	**15 57 54.5**	**-1.3**
ARU	**Arti**	**49.84**	**316**	*i* P	**P**	**15 58 11.4**	**-0.2**
ARU				*e*		16 00 08.2	
ARU				*e*PPP		16 01 02.6	
ARU				*e*S	**S**	**16 05 18.4**	**-2.8**
ARU				*e*SS	SS	16 08 55.0	+1.3
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
PDAR	**Pinedale Array**	**51.41**	**70**	P	**P**	**15 58 24.5**	**+1.1**
	comp=Z,1.3nm,0.8s,mb3.9,baz=336,slow=3.3,SNR=7.7						
FINES	**FINESS Array B**	**54.14**	**337**	P	**P**	**15 58 41.1**	**-2.5**
	comp=Z,1.2nm,0.9s,mb3.8,baz=27,slow=9.4,SNR=3.7						
FINES	**FINESS Array B**	**54.14**	**337**	P	**P**	**15 58 41.1**	**-2.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AAK	**Ala-Archa**	**54.51**	**295**	*d* P	**P**	**15 58 45.5**	**-0.8**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
NB2	**NORSAR Subarra**	**56.83**	**346**	P	**P**	**15 59 01.7**	**-1.2**
	comp=Z,0.2nm,0.6s,mb3.3,baz=17,slow=7.4						
NOA	**NORSAR Array B**	**56.83**	**346**	P	**P**	**15 59 01.9**	**-1.0**
	comp=Z,1.4nm,0.5s,mb4.2,baz=14,slow=7.3,SNR=4.1						
NOA	**NORSAR Array B**	**56.83**	**346**	P	**P**	**15 59 02.0**	**-0.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**63.42**	**331**	P	**P**	**15 59 46.4**	**-1.7**
	comp=Z,0.3nm,0.3s,mb3.8,baz=20,slow=6.7,SNR=5.1						
AKASG	**Malin Array Be**	**63.42**	**331**	P	**P**	**15 59 46.4**	**-1.7**
GERES	**GERESS Array B**	**68.31**	**341**	P	**P**	**16 00 16.9**	**-2.8**
	comp=Z,0.4nm,0.6s,mb3.6,baz=69,slow=4.4,SNR=4.5						
MLR	**Muntele Rosu**	**69.07**	**331**	P	**P**	**16 00 21.4**	**-3.0**
	comp=Z,0.7nm,0.3s,mb4.0,baz=198,slow=13,SNR=2.9						
MLR	**Muntele Rosu**	**69.07**	**331**	P	**P**	**16 00 21.4**	**-3.0**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WRA	**Warramunga Arr**	**84.46**	**210**	P	**P**	**16 01 50.2**	**-1.1**
	comp=Z,0.8nm,0.5s,mb4.1,baz=11,slow=5.6,SNR=21						
WRA	**Warramunga Arr**	**84.46**	**210**	P	**P**	**16 01 50.2**	**-1.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**88.14**	**209**	P	**P**	**16 02 08.1**	**-1.3**
	comp=Z,0.6nm,0.9s,mb3.8,baz=10,slow=5.1,SNR=14						
ASAR	**Alice Springs**	**88.14**	**209**	P	**P**	**16 02 08.1**	**-1.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						

*BJI **22** 15:58:31.8, 4615×154.13E, h39km, mB4.9, mb4.9, Ms4.6, Msz4.3*
*MOS **22** 15:58:32.2±1.2, 5045×15357E, h33km, mb4.7/6, Error ellipse: s-maj=16.4km s-min=11.7km az=65.6*
*ISCJB **22** 15:58:34.6±2.1, 5125±007×15339E±007, h51km±19km, mb4.5/27, MS3.4/2, Error ellipse: s-maj=12.2km s-min=11.5km az=120.1*
*NEIC **22** 15:58:35.4±1.5, 5115×15350E, h48km±14km, mb4.5/14, Error ellipse: s-maj=10.8km s-min=10.2km az=50.0*
*IDC **22** 15:58:37.0±1.9, 5235×15344E, h58km±16km, mb4.1/14, mb1 4.2/17, mb1mx4.1/21, mbtmp4.4/17, MS3.4/5, Ms1 3.4/5, ms1mx3.1/32, Error ellipse: s-maj=17.5km s-min=13.0km az=111.0*
ISC 22 15:58:37.7±1.7, 5195±007×15343E±007, h63km±15km, n54, σ0§87/56, mb4.4/26, 1C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.50**	**236**	P	**Pn**	**16 00 24.4**	**+0.1**
	0.5nm,0.3s,baz=61,slow=13,SNR=3.4						
PMG				S	**Sn**	**16 01 47.6**	**-0.4**
	4.2nm,0.3s,baz=22,slow=19,SNR=2.7						
PMG				LR	LR	16 03 15.7	
	comp=Z,249nm,22.0s,baz=284,slow=37						
PMG	**Port Moresby**	**7.50**	**236**	*e*P	**Pn**	**16 00 24.7**	**+0.3**
PMG				S	**Sn**	**16 01 47.6**	**-0.3**
PMG	**Port Moresby**	**7.50**	**236**	*e*Pn	**Pn**	**16 00 24.7**	**+0.3**
PMG				*e*Sn	**Sn**	**16 01 46.3**	**-1.6**
PMG				S	**Sn**	**16 01 47.6**	**-0.4**
PMG				LR	LR	16 03 15.7	
HNR	**Honiara**	**7.72**	**124**	P	**Pn**	**16 00 27.5**	**+0.2**
	14nm,0.3s,baz=273,slow=2.6,SNR=9.1						
HNR				LR	LR	16 02 56.6	
	comp=Z,171nm,21.8s,baz=356,slow=34						
HNR	**Honiara**	**7.72**	**124**	Pn	**Pn**	**16 00 23.5**	**-3.8**
HNR				LR	LR	16 02 56.6	
CTA	**Charters Tower**	**16.38**	**205**	P	**Pn**	**16 02 23.4**	**0.0**
	0.2nm,0.3s,baz=5.8,slow=11,SNR=3.7						
CTA				LR	LR	16 07 28.5	
	comp=Z,218nm,20.4s,baz=39,slow=32						
CTA	**Charters Tower**	**16.38**	**205**	P	**Pn**	**16 02 23.4**	**0.0**
CTA				LR	LR	16 07 28.5	
CTAO	**Charters Tower**	**16.38**	**205**	P	**Pn**	**16 02 25.4**	**+2.0**
CTAO				pmax	pmax		
	comp=Z,14nm,1.1s						
CTAO	**Charters Tower**	**16.38**	**205**	P	**Pn**	**16 02 25.4**	**+2.0**
	comp=Z,14nm,1.1s						
GUMO	**Guam**	**20.50**	**336**	LR	LR	16 10 15.4	
	comp=Z,94nm,18.5s,baz=79,slow=34						
DZM	**Mont Dzumac**	**20.98**	**144**	P	**P**	**16 03 15.6**	**0.0**
	comp=Z,28nm,0.5s,baz=227,slow=18,SNR=84						
DZM				LR	LR	16 09 38.1	
	comp=Z,208nm,18.4s,baz=189,slow=32						
DZM	**Mont Dzumac**	**20.98**	**144**	P	**P**	**16 03 15.6**	**0.0**
DZM				LR	LR	16 09 38.1	
KAKA	**Kakadu**	**22.03**	**249**	*e*P	**P**	**16 03 26.3**	**-0.5**
	comp=Z,11nm,0.4s,mb4.6						
WB2	**Warramunga Arr**	**23.66**	**230**	*e*P	**P**	**16 03 43.6**	**+0.3**
WRA	**Warramunga Arr**	**23.67**	**230**	P	**P**	**16 03 44.3**	**+1.0**
	comp=Z,3.2nm,0.6s,mb3.9,baz=55,slow=9.7,SNR=56						
WRA				ScP	ScP	16 11 00.8	+1.9
	comp=Z,0.8nm,0.8s,baz=55,slow=3.0,SNR=6.2						
ARMA	**Armidale**	**25.16**	**184**	*e*P	**P**	**16 03 58.8**	**+1.9**
ASAR	**Alice Springs**	**26.30**	**224**	P	**P**	**16 04 07.5**	**+0.3**
	comp=Z,0.9nm,0.4s,mb3.6,baz=57,slow=9.0,SNR=64						
ASAR				ScP	ScP	16 11 07.9	+1.6
	comp=Z,0.2nm,0.5s,baz=53,slow=3.0,SNR=5.2						
STKA	**Stephens Creek**	**28.78**	**201**	*i* P	**P**	**16 04 26.8**	**-2.6**
	comp=Z,2.7nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**28.78**	**201**	P	**P**	**16 04 27.3**	**-2.1**
	comp=Z,2.3nm,0.7s,mb4.0,baz=33,slow=16,SNR=11						
FITZ	**Fitzroy Crossi**	**30.03**	**242**	*e*P	**P**	**16 04 40.4**	**-0.1**
	comp=Z,7.5nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**30.03**	**242**	P	**P**	**16 04 40.7**	**+0.1**
	comp=Z,1.5nm,0.7s,mb3.8,baz=75,slow=9.2,SNR=7.4						
RPZ	**Rata Peaks**	**41.40**	**161**	P	**P**	**16 06 15.9**	**-1.8**
	comp=Z,9.5nm,0.8s,mb4.5,baz=56,slow=13,SNR=6.5						
MJAR	**Matsushiro Arr**	**43.89**	**342**	P	**P**	**16 06 37.4**	**-0.4**
	comp=Z,1.5nm,0.7s,mb3.9,baz=170,slow=2.5,SNR=5.8						
MJAR	**Matsushiro Arr**	**43.89**	**342**	P	**P**	**16 06 37.4**	**-0.4**
ASAJ	**Asahikawa**	**50.04**	**350**	P	**P**	**16 07 27.5**	**+1.7**
	comp=Z,36nm,1.3s,mb5.2,baz=206,slow=7.2,SNR=4.8						
ENH	**Enshi**	**54.88**	**313**	*e*P	**P**	**16 08 00.6**	**-1.0**
	comp=Z,0.4nm,0.5s,mb3.7	

Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.18**	**343**	P	**Pn**	**16 09 47.7**	**-0.4**
BSO3				S	**Sn**	**16 09 54.0**	**+0.4**
BSO2	**Boso 2**	**0.19**	**52**	S	**Sn**	**16 09 54.5**	**+0.7**
BSO1	**Boso 1**	**0.34**	**86**	P	**Pn**	**16 09 48.5**	**-1.0**
BSO1				S	**Sn**	**16 09 55.2**	**-0.7**
BSO4	**Boso 4**	**0.41**	**332**	P	**Pn**	**16 09 50.2**	**-0.1**
BSO4				S	**Sn**	**16 09 58.2**	**+0.9**
KTR	**Katsuura**	**0.56**	**338**	P	**Pn**	**16 09 51.5**	**-0.6**
KTR				S	**Sn**	**16 09 59.9**	**-0.6**
TATJ	**Tateyama 2**	**0.69**	**306**	P	**Pn**	**16 09 54.1**	**+0.3**
TATJ				S	**Sn**	**16 10 04.8**	**+1.3**
JIM2	**Oshima 3**	**0.94**	**275**	P	**Pn**	**16 09 57.2**	**0.0**
JKO	**Kozu shima**	**1.27**	**250**	P	**Pn**	**16 10 02.6**	**+1.0**
KTJJ	**Kamata 2**	**1.27**	**284**	P	**Pn**	**16 10 01.3**	**-0.4**
KTJJ				S	**Sn**	**16 10 16.2**	**-1.5**
JOD2	**Odawara 2**	**1.37**	**298**	P	**Pn**	**16 10 02.5**	**-0.6**
JOD2				S	**Sn**	**16 10 18.5**	**-1.5**
JIZS	**Izushimoda**	**1.40**	**274**	P	**Pn**	**16 10 03.5**	**+0.1**
JIZS				S	**Sn**	**16 10 19.8**	**-0.9**
JHJ	**Hachijo jima 2** 28nm,0.3s,baz=69,slow=22,SNR=34	**1.65**	**204**	Pn	**Pn**	**16 10 07.5**	**+0.7**
JHJ				Sn	**Sn**	**16 10 27.1**	**+0.4**
MJAR	**Matsushiro Arr** 2.0nm,0.3s,baz=144,slow=12,SNR=13	**2.71**	**315**	Pn	**Pn**	**16 10 20.7**	**-0.7**
MJAR				Sn	**Sn**	**16 10 53.6**	**+0.7**
MAT	**Matsushiro** 2.7nm,0.3s,baz=246,slow=26,SNR=7.0	**2.71**	**315**	P	**Pn**	**16 10 22.1**	**+0.7**
MAT				S	**Sn**	**16 10 54.1**	**+1.1**
CBIJ	**Chichi jima** 3.6nm,0.3s,baz=97,slow=23,SNR=6.1	**7.64**	**169**	Pn	**Pn**	**16 11 28.9**	**-0.1**
WRA	**Warramunga Arr** 0.4nm,0.5s,mb3.7,baz=4.4,slow=7.6,SNR=14	**54.59**	**187**	P	**P**	**16 19 03.4**	**-0.6**
ASAR	**Alice Springs** 0.1nm,0.4s,mb3.2,baz=18,slow=10,SNR=5.9	**58.32**	**187**	P	**P**	**16 19 31.8**	**+1.2**

NIED ***22*** *16:21:00,3470N×14060E,h53km,Mw4.1 Best double couple: M0 1.83000×10^15 NP1:φ=357.00000°,δ80.00000°, λ86.00000°. NP2:φ=197.00000°,δ10.00000°,λ110.00000°.*
IDC ***22*** *16:21:12.3±1.2,3473N×14086E,h0km,mb3.8/4, mb1 4.1/6,mb1mx3.8/20,mbtmp3.9/6,ML3.8/2,Error ellipse: s-maj=31.9km s-min=18.0km az=77.0*
MOS ***22*** *16:21:14.2±1.1,3468N×14091E,h33km,mb4.1/4,Error ellipse: s-maj=31.1km s-min=15.2km az=125.1*
ISCJB ***22*** *16:21:16.9±0.4,3465N±004×14062E±005,h57km±3km, mb4.3/9,Error ellipse: s-maj=7.5km s-min=5.5km az=89.3*
NEIC ***22*** *16:21:16.9±0.8,3463N×14077E,h35km,mb4.6/2, MW4.1(NIED),Error ellipse: s-maj=25.5km s-min=10.0km az=64.0*
JMA ***22*** *16:21:17.3±0.1,3468N×14065E,h54km±1km,M4.1*
JMA Felt I J1.

ISC 22 16:21:18.1±0.4,3465N±004×14060E±005,h48km±3km, n37,σ0 83/51,mb4.3/9,1C-7D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.17**	**334**	⇓P	**Pn**	**16 21 25.7**	**-0.3**
BSO3				S	**Sn**	**16 21 32.0**	**+0.4**
BSO1	**Boso 1**	**0.31**	**89**	⇑P	**Pn**	**16 21 26.5**	**-0.7**
BSO1				S	**Sn**	**16 21 33.5**	**-0.1**
BSO4	**Boso 4**	**0.40**	**328**	⇓P	**Pn**	**16 21 28.2**	**+0.1**
BSO4				S	**Sn**	**16 21 36.1**	**+0.9**
KTR	**Katsuura**	**0.55**	**335**	⇓P	**Pn**	**16 21 29.5**	**-0.3**
KTR				S	**Sn**	**16 21 37.8**	**-0.4**
TATJ	**Tateyama 2**	**0.70**	**303**	P	**Pn**	**16 21 32.1**	**+0.4**
TATJ				S	**Sn**	**16 21 42.7**	**+1.1**
JIM2	**Oshima 3**	**0.96**	**274**	⇓P	**Pn**	**16 21 35.2**	**-0.1**
JIM2				S	**Sn**	**16 21 47.6**	**-0.3**
JMY	**Miyakejima3**	**1.07**	**238**	P	**Pn**	**16 21 37.3**	**+0.6**
KTJJ	**Kamata 2**	**1.29**	**283**	⇓P	**Pn**	**16 21 39.4**	**-0.4**
KTJJ				S	**Sn**	**16 21 54.3**	**-1.6**
JKO	**Kozu shima**	**1.29**	**249**	P	**Pn**	**16 21 40.4**	**+0.6**
JOD2	**Odawara 2**	**1.38**	**297**	⇓P	**Pn**	**16 21 40.5**	**-0.5**
JOD2				S	**Sn**	**16 21 56.7**	**-1.4**
JIZS	**Izushimoda**	**1.42**	**273**	⇓P	**Pn**	**16 21 41.5**	**0.0**
JIZS				S	**Sn**	**16 21 57.9**	**-1.1**
JHJ	**Hachijo jima 2** 88nm,0.3s,baz=260,slow=20,SNR=50	**1.67**	**204**	Pn	**Pn**	**16 21 45.7**	**+0.8**
JHJ				Sn	**Sn**	**16 22 05.0**	**-0.2**
MJAR	**Matsushiro Arr** 274nm,0.3s,baz=267,slow=20,SNR=13	**2.71**	**315**	Pn	**Pn**	**16 21 59.2**	**0.0**
MJAR				Sn	**Sn**	**16 22 32.0**	**+1.3**
MJAR	**Matsushiro Arr** 11nm,0.3s,baz=243,slow=5.6,SNR=74	**2.71**	**315**	P	**Pn**	**16 21 59.2**	**0.0**
MJAR				Sn	**Sn**	**16 22 32.0**	**+1.3**
MJAR	**Matsushiro Arr** 28nm,0.3s,baz=142,slow=24,SNR=11	**2.71**	**315**	P	**Pn**	**16 21 59.2**	**0.0**
MJAR						16 22 32.1	
MJAR	comp=Z,11nm,0.3s			pmax	pmax		
MJAR	comp=N,28nm,0.3s			smax			
MJAR	**Matsushiro Arr**	**2.71**	**315**	Pn	**Pn**	**16 21 59.2**	**0.0**
MJAR				Sn	**Sn**	**16 22 32.0**	**+1.3**
MAJO	**Matsushiro**	**2.71**	**315**	*e*P	**Pn**	**16 21 59.5**	**+0.3**
MAT	**Matsushiro**	**2.71**	**315**	P	**Pn**	**16 21 59.5**	**+0.3**
MAT				S	**Sn**	**16 22 31.4**	**+0.6**
MAT	**Matsushiro**	**2.71**	**315**	*e*P	**Pn**	**16 22 00.0**	**+0.8**
MAT				*e*S	**Sn**	**16 22 31.0**	**+0.2**
CBIJ	**Chichi jima** comp=N,5.2nm,0.3s,baz=285,slow=20,SNR=12	**7.65**	**169**	Pn	**Pn**	**16 23 06.6**	**-0.4**
BILL	**Bilibino**	**36.50**	**16**	*e*P	**P**	**16 28 16.1**	**-2.6**
BILL	comp=Z,7.0nm,0.9s,mb4.6			pmax	pmax		
MKAR	**Makanchi Array** comp=Z,0.9nm,0.7s,mb3.7,baz=91,slow=8.9,SNR=9.8	**44.86**	**304**	P	**P**	**16 29 29.0**	**+1.4**
MKAR	**Makanchi Array** comp=Z,1.0nm,0.7s	**44.86**	**304**	P	**P**	**16 29 29.0**	**+1.3**
MKAR				pmax	pmax		
JIRN	**Jiri** comp=Z,8.6nm,0.7s,mb4.8		**46.61 277**	*e*P	**P**	**16 29 42.1**	**+0.6**
GUN	**Gumba**		**46.77 277**	*e*P	**P**	**16 29 43.3**	**+0.6**
KKN	**Kakani** comp=Z,10nm,0.9s,mb4.8		**47.30 278**	*e*P	**P**	**16 29 47.0**	**+0.1**
DMN	**Daman**		**47.52 277**	*e*P	**P**	**16 29 48.8**	**+0.3**
KAKA	**Kakadu** comp=Z,9.3nm,0.8s,mb4.9		**47.73 191**	*e*P	**P**	**16 29 50.8**	**+0.6**
GKN	**Gorkha**		**47.75 278**	*e*P	**P**	**16 29 50.1**	**-0.2**
KOLN	**Koldanda**		**48.69 278**	*e*P	**P**	**16 29 56.5**	**-1.0**
ILAR	**Eielson Array** comp=Z,0.6nm,0.8s,mb3.6,baz=259,slow=6.3,SNR=5.4	**51.87**	**31**	P	**P**	**16 30 20.7**	**-0.8**
ILAR				pmax	pmax		
FITZ	**Fitzroy Crossi** comp=Z,4.2nm,1.1s,mb4.3		**54.35 198**	*e*P	**P**	**16 30 38.3**	**-1.6**
WB2	**Warramunga Arr**		**54.61 187**	*e*P	**P**	**16 30 41.5**	**-0.3**
WRA	**Warramunga Arr** comp=Z,2.2nm,0.6s,mb4.3,baz=4.5,slow=7.6,SNR=42		**54.62 187**	P	**P**	**16 30 42.6**	**+0.8**
WRA	**Warramunga Arr**		**54.62 187**	P	**P**	**16 30 42.6**	**+0.8**
WRA	comp=Z,2.0nm,0.6s			pmax	pmax		
ASAR	**Alice Springs** comp=Z,0.9nm,0.7s,mb3.9,baz=13,slow=9.8,SNR=22	**58.34**	**187**	P	**P**	**16 31 10.1**	**+1.7**
ASAR	**Alice Springs**	**58.34**	**187**	P	**P**	**16 31 10.1**	**+1.8**
ASAR	comp=Z,1.0nm,0.7s			pmax	pmax		

MOS ***22*** *16:22:27.9±1.0,6083N×16687E,h10km,mb3.8/4,Error ellipse: s-maj=58.1km s-min=24.3km az=90.8*
IDC ***22*** *16:22:28.7±1.1,6090N×16673E,h0km,mb3.7/5, mb1 4.0/6,mb1mx3.7/22,mbtmp3.9/6,ML3.1/1,Error ellipse: s-maj=30.0km s-min=18.1km az=84.0*
ISCJB ***22*** *16:22:29.3±0.7,6104N±005×1669E±02,h10km,mb3.8/4, Error ellipse: s-maj=12.7km s-min=5.7km az=31.2*
KRSC ***22*** *16:22:30.4±0.1,6107N×16662E,h12km±7km,ML3.8*

ISC 22 16:22:30.2±0.7,6105N±005×1669E±02,h10km,n17, σ1 **11/19,mb3.8/4,Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.75**	**214**	*i* P	**Pg**	**16 22 44.7**	**0.0**
TILR				*e*S	**Sg**	**16 22 55.1**	**+0.7**
TILR	4μm,0.3s			Smax			
KAMR	**Kamenskoye**	**1.44**	**347**	*e*P	**Pn**	**16 22 56.0**	**-0.4**
KAMR				*e*S	**Sn**	**16 23 14.7**	**-0.7**
KAMR	1μm,0.6s			Smax			
EVNR	**Evensk**		**3.76 287**	*e*P	**Pn**	**16 23 28.1**	**-0.1**
KBTR	**Krutoberegovo**		**5.30 205**	*e*P	**Pn**	**16 23 50.4**	**+0.9**
BILL	**Bilibino**		**7.02 358**	*e*P	**Pn**	**16 24 16.0**	**+2.9**
FX1	**Attu Island--F** 0.7nm,0.3s,baz=84,slow=19,SNR=4.7		**8.88 155**	Pn	**Pn**	**16 24 35.6**	**-2.9**
FX1	**Attu Island--F**		**8.88 155**	PN	**Pn**	**16 24 35.6**	**-2.9**
FX1	comp=Z,1.0nm,0.3s			pmax	pmax		
ILAR	**Eielson Array** comp=Z,1.3nm,0.7s,baz=272,slow=9.7,SNR=8.9	**20.99**	**60**	P	**P**	**16 27 14.3**	**+0.7**
ILAR	**Eielson Array**	**20.99**	**60**	P	**P**	**16 27 14.4**	**+0.7**
ILAR	comp=Z,1.0nm,0.7s			pmax	pmax		
INK	**Inuvik** comp=Z,1.2nm,0.8s,mb3.5,baz=323,slow=5.1,SNR=2.2	**25.50**	**48**	P	**P**	**16 27 59.7**	**+1.0**
INK	**Inuvik**	**25.50**	**48**	P	**P**	**16 27 59.7**	**+1.0**
INK	comp=Z,1.0nm,0.8s			pmax	pmax		
ARCES	**ARCESS Array B** comp=Z,3.6nm,1.0s,mb4.3,baz=22,slow=9.7,SNR=3.6	**46.83**	**342**	P	**P**	**16 31 00.5**	**+0.3**
ARCES	**ARCESS Array B**	**46.83**	**342**	P	**P**	**16 31 00.5**	**+0.3**
ARCES	comp=Z,4.0nm,1.0s			pmax	pmax		
WRA	**Warramunga Arr** comp=Z,0.7nm,0.9s,mb3.8,baz=19,slow=5.5,SNR=5.2	**84.86**	**211**	P	**P**	**16 35 04.5**	**-0.7**
WRA	**Warramunga Arr**	**84.86**	**211**	P	**P**	**16 35 04.5**	**-0.7**
WRA	comp=Z,1.0nm,0.9s			pmax	pmax		
ASAR	**Alice Springs** comp=Z,0.5nm,1.1s,mb3.8,baz=7.9,slow=4.1,SNR=4.2	**88.54**	**210**	P	**P**	**16 35 21.1**	**-2.0**
ASAR	**Alice Springs**	**88.54**	**210**	P	**P**	**16 35 21.2**	**-1.9**
ASAR	comp=Z,1.0nm,1.1s			pmax	pmax		

ISCJB ***22*** *16:34:09.2±1.0,5908N±004×13638W±007,h4km±7km, Error ellipse: s-maj=7.2km s-min=5.0km az=73.6*
PGC ***22*** *16:34:11.5,5908N×13629W,h5km,ML3.1/4,60km southwest of Haines, Ak Glacier Bay, Alaska.*
NEIC ***22*** *16:34:11.0,5908N×13629W,h5km,ML3.0(AEIC), ML3.1(PGC),After PGC.*
NEIC Felt at Mile 37 on the Haines Highway.

ISC 22 16:34:10.0±0.9,5907N±003×13639W±007,h4km±6km,n17, σ0 **93/31,Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLBC	**Pleasant Camp**	**0.39**	**2**	⇑P	**Pg**	**16 34 18.4**	**+0.9**
PLBC				S	**Sg**	**16 34 23.3**	**+0.8**
SKAG	**Skagway**	**0.67**	**54**	P	**Pg**	**16 34 23.1**	**+0.3**
SKAG				S	**Sg**	**16 34 32.1**	**+0.6**
BESE	**Bessie Mountai**	**0.94**	**121**	P	**Pg**	**16 34 28.1**	**+0.2**
BESE				S	**Sg**	**16 34 40.5**	**+0.4**
PNL	**Peninsula**		**1.66 293**	P	**Pn**	**16 34 39.3**	**-0.5**
PNL				S	**Sn**	**16 35 00.9**	**-0.6**
YKU2	**Yakutat**		**1.74 286**	P	**Pn**	**16 34 40.8**	**-0.3**
WHY	**Whitehorse**	**1.77**	**25**	Pn	**Pn**	**16 34 41.9**	**+0.5**
WHY				Pg	**Pg**	**16 34 43.5**	**-0.4**
WHY				Sg	**Sg**	**16 35 05.7**	**-1.1**
WHY	comp=Z,72nm,0.1s			Trac		16 35 07.5	
WHY	**Whitehorse**	**1.77**	**25**	P	**Pn**	**16 34 40.6**	**-0.7**
WHY				S	**Sn**	**16 35 04.2**	**-0.2**
HYT	**Haines Junctio**		**1.85 343**	Pn	**Pn**	**16 34 43.2**	**+0.7**
HYT				Pg	**Pg**	**16 34 45.2**	**-0.3**
HYT				Sg	**Sg**	**16 35 08.6**	**-0.8**
HYT	comp=Z,55nm,0.3s			Trac		16 35 17.3	
SIT	**Sitka**		**2.09 164**	P	**Pn**	**16 34 45.9**	**+0.1**
DLBC	**Dease Lake**	**3.37**	**98**	Pn	**Pn**	**16 35 03.5**	**+0.1**
DLBC				Pg	**Pg**	**16 35 11.9**	**-2.7**
DLBC				Sg	**Sg**	**16 35 54.2**	**-4.1**
DLBC	comp=Z,122nm,0.3s			Trac		16 35 56.8	
DLBC	**Dease Lake**	**3.37**	**98**	P	**Pn**	**16 35 03.5**	**0.0**
CRAG	**Craig**		**4.02 152**	*e*Pn	**Pn**	**16 35 12.2**	**-0.1**
DAWY	**Dawson**		**5.22 345**	Pn	**Pn**	**16 35 29.8**	**+1.0**
DAWY				Pg	**Pg**	**16 35 43.8**	**-6.2**
DAWY				Sg	**Sg**	**16 36 53.7**	**-3.8**
DAWY	comp=Z,5.0nm,0.2s			Trac		16 36 59.6	
DAWY	**Dawson**		**5.22 345**	*e*Pn	**Pn**	**16 35 29.6**	**+0.8**
FNBB	**Fort Nelson**	**6.92**	**86**	Pn	**Pn**	**16 35 53.2**	**+1.1**
FNBB				Sn	**Sn**	**16 37 08.5**	**-2.9**
FNBB	comp=Z,2.0nm,0.4s			Trac		16 37 50.0	
INK	**Inuvik**	**9.36**	**7**	Pn	**Pn**	**16 36 27.3**	**+1.6**
YKW3	**Yellowknife Ar**	**11.17**	**62**	Pn	**Pn**	**16 36 50.9**	**+0.5**

CSEM ***22*** *16:43:37.8±0.1,3596N×3345E,h20km,Mw2.9,Error ellipse: s-maj=3.9km s-min=2.1km az=112.0*
ISCJB ***22*** *16:43:38.9±0.5,3594N±003×3349E±006,h18km±10km, Error ellipse: s-maj=8.7km s-min=5.0km az=30.0*
ISK ***22*** *16:43:38.3,3591N×3361E,h17km,MD3.5*
NIC ***22*** *16:43:40.6±0.3,3595N×3340E,h25km,ML3.2,MW2.9*
NEIC ***22*** *16:43:40.6,3595N×3340E,h25km,ML3.2(NIC),After NIC.*

ISC 22 16:43:38.7±0.7,3593N±003×3346E±005,h16km±6km,n13, σ0 **90/19,Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKL	**Isikli**	**0.36**	**31**	*i* PG	**Pg**	**16 43 45.9**	**-0.2**
IKL				*i* SG	**Sg**	**16 43 50.7**	**-0.3**
MAMC	**Mammari**		**0.78 194**	P	**Pg**	**16 43 54.9**	**+0.9**
ERMK	**Ermenek**		**0.83 328**	*i* P	**Pb**	**16 43 54.3**	**-0.4**
ERMK				*i* S	**Sb**	**16 44 06.5**	**+0.8**
LEF	**Lefka**		**0.93 210**	*e*PG	**Pg**	**16 43 57.9**	**+1.1**
CSS	**Prodhromos** 4.1nm,0.1s		**0.97 186**	P	**Pb**	**16 43 56.9**	**-0.3**
CSS				S	**Sb**	**16 44 10.1**	**+0.3**
PHNC	**Paralimni**		**1.04 153**	P	**Pb**	**16 43 58.0**	**-0.3**
ALFC	**Alevga** 8.8nm,0.1s		**1.04 222**	P	**Pb**	**16 43 57.8**	**-0.5**
ALFC				S	**Sb**	**16 44 10.5**	**-1.2**
MERS	**Mersin**	**1.27**	**42**	PN	**Pn**	**16 44 00.6**	**-1.1**
MERS				SN	**Sn**	**16 44 18.5**	**+0.1**
KRTS	**Karatas**	**1.68**	**67**	*e*PN	**Pn**	**16 44 06.0**	**-1.3**
KARA	**Karaisali**	**1.85**	**44**	*e*PN	**Pn**	**16 44 08.8**	**-0.9**
KONT	**Konya--Tatoy**		**2.19 337**	*e*PN	**Pn**	**16 44 15.9**	**+1.5**
COBT	**Iskenderun**	**2.34**	**75**	*i* P	**Pn**	**16 44 17.0**	**+0.6**
COBT				*i* S	**Sn**	**16 44 46.9**	**+2.1**
KOZT	**Kozan**	**2.45**	**50**	*e*PN	**Pn**	**16 44 17.5**	**-0.5**

IDC ***22*** *16:46:45.1±1.0,2924N×5127E,h0km,mb3.8/12, mb1 3.9/14,mb1mx3.8/23,mbtmp3.8/14,ML3.1/2,Error ellipse: s-maj=25.7km s-min=17.2km az=19.0*
ISCJB ***22*** *16:46:46.4±0.4,2933N±005×5148E±003,h10km, mb3.7/13,Error ellipse: s-maj=6.6km s-min=3.4km az=8.3*
MOS ***22*** *16:46:47.2±1.0,2917N×5120E,h28km,mb4.1/5,Error ellipse: s-maj=24.8km s-min=14.8km az=108.8*
NEIC ***22*** *16:46:49.7,2923N×5136E,h46km,After THR.*
KISR ***22*** *16:46:49.3±0.8,2926N×5136E,h33km,ML3.1*
THR ***22*** *16:46:49.5±0.4,2924N×5134E,h40km±10km,ML3.4*
CSEM ***22*** *16:46:50.1±0.1,2932N×5146E,h40km,mb4.1/3,Error ellipse: s-maj=2.1km s-min=1.3km az=2.0*

ISC 22 16:46:48.2±0.4,2932N±005×5146E±003,h10km,n51, σ1 **8/19/67,mb3.7/13,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**		**1.69 127**	*e*PG	**Pg**	**16 47 20.9**	**+0.3**
GHIR				*e*SG	**Sg**	**16 47 43.5**	**+0.9**
GHIR	comp=E,502nm,0.6s			AML	AML	16 47 53.3	
GHIR	comp=N,304nm,0.5s			AML	AML	16 48 00.4	
GHIR	**Ghir-Karzin**		**1.69 127**	*e*Pg	**Pg**	**16 47 20.0**	**-0.7**
GHIR				*e*Sg	**Sg**	**16 47 43.0**	**+0.4**
GHIR	**Ghir-Karzin** SNR=98		**1.69 127**	*e*Pg	**Pg**	**16 47 20.9**	**+0.2**
GHIR				*e*Sg	**Sg**	**16 47 43.0**	**+0.4**
QRN	**Al-Qurain**		**3.15 260**	*e*P	**Pn**	**16 47 38.2**	**+0.3**
QRN				AML	AML	16 48 15.2	
QRN	comp=Z,65nm,0.3s			*e*S	**Sn**	**16 48 15.7**	**+0.1**
UMR	**Umm Al-Rimmam**		**3.27 275**	*e*P	**Pn**	**16 47 40.4**	**+0.8**
UMR	comp=Z,34nm,0.4s			AML	AML	16 48 17.1	
UMR				*e*S	**Sn**	**16 48 19.2**	**+0.7**
UMR	**Umm Al-Rimmam**		**3.27 275**	*e*P	**Pn**	**16 47 40.3**	**+0.8**
UMR				*e*S	**Sn**	**16 48 19.2**	**+0.7**
KBD	**Kabd**		**3.29 268**	*e*P	**Pn**	**16 47 41.2**	**+1.3**
KBD				*e*S	**Sn**	**16 48 19.3**	**+0.2**
KBD	comp=Z,98nm,0.3s			AML	AML	16 48 19.9	
RDF	**Al-Radifah**		**3.44 264**	*e*P	**Pn**	**16 47 42.6**	**+0.7**
RDF				*e*S	**Sn**	**16 48 22.4**	**-0.3**
RDF	comp=Z,56nm,0.4s			AML	AML	16 48 23.9	
RDF	**Al-Radifah**		**3.44 264**	*e*P	**Pn**	**16 47 42.6**	**+0.7**
RDF				*e*S	**Sn**	**16 48 22.4**	**-0.3**
MIB	**Mutribah**		**3.62 279**	*e*P	**Pn**	**16 47 45.3**	**+1.0**
MIB				*e*S	**Sn**	**16 48 27.2**	**+0.1**
NASN	**Na'in**	**3.66**	**18**	*e*Pn	**Pn**	**16 47 47.2**	**+2.4**
NASN	**Na'in**	**3.66**	**18**	*e*Pn	**Pn**	**16 47 46.0**	**+1.2**
NAY	**Al-Naaiem**		**3.68 270**	*e*P	**Pn**	**16 47 46.4**	**+1.1**
NAY				*e*S	**Sn**	**16 48 28.9**	**+0.2**
NAY	comp=Z,17nm,0.3s			AML	AML	16 48 32.7	
NAY	**Al-Naaiem**		**3.68 270**	*e*P	**Pn**	**16 47 46.3**	**+1.1**
NAY				*e*S	**Sn**	**16 48 28.9**	**+0.2**
KRBR	**Kerman**	**4.66**	**81**	*e*Pn	**Pn**	**16 48 01.1**	**+2.5**
KRBR				Sn	**Sn**	**16 48 53.3**	**+0.6**
KRBR	comp=N,23nm,0.6s			AML	AML	16 49 35.7	
KRBR	comp=E,27nm,0.7s			AML	AML	16 49 36.9	
KRBR	**Kerman**	**4.66**	**81**	*e*Pn	**Pn**	**16 48 00.0**	**+1.4**
KRBR	**Kerman** SNR=54	**4.66**	**81**	*e*Pn	**Pn**	**16 48 01.1**	**+2.5**
KRBR	SNR=54			Sn	**Sn**	**16 48 53.3**	**+0.5**
ASAO	**Ashtian**	**5.35**	**347**	*e*Pn	**Pn**	**16 48 09.0**	**+0.9**
DAMV	**Damavand**	**6.31**	**4**	*e*PN	**Pn**	**16 48 23.1**	**+1.9**
DAMV	comp=N,11nm,0.5s			AML	AML	16 49 36.4	
DAMV	**Damavand**	**6.31**	**4**	*e*Pn	**Pn**	**16 48 23.0**	**+1.8**
SNGE	**Sanandaj**		**6.73 330**	*e*Pn	**Pn**	**16 48 28.1**	**+1.1**
SNGE	**Sanandaj**		**6.73 330**	*e*Pn	**Pn**	**16 48 27.0**	**0.0**
SNGE	**Sanandaj** SNR=54		**6.73 330**	*e*Pn	**Pn**	**16 48 28.0**	**+1.0**
WSAR	**Wadi Sarin** comp=N,0.4nm,0.3s,baz=316,slow=13,SNR=6.4	**8.84**	**132**	Pn	**Pn**	**16 48 55.2**	**-0.8**
WSAR				Sn	**Sn**	**16 50 28.3**	**-7.3**
WSAR	**Wadi Sarin** comp=N,0.6nm,0.3s,baz=319,slow=20,SNR=4.1	**8.84**	**132**	Pn	**Pn**	**16 48 55.2**	**-0.8**
WSAR				Sn	**Sn**	**16 50 28.3**	**-7.3**
MMAI	**Mount Meron Ar** comp=N,0.7nm,0.3s,baz=240,slow=43,SNR=3.8	**14.23**	**289**	Pn	**Pn**	**16 50 02.5**	**-7.2**
BRTR	**Keskin Array B** comp=N,0.0nm,0.3s,baz=126,slow=14,SNR=2.6	**17.95**	**310**	P	**Pn**	**16 50 56.4**	**-1.4**
AKTK	**Aktyubinsk**	**21.66**	**11**	P	**P**	**16 51 39.0**	**+0.2**
AKTK	**Aktyubinsk** comp=N,1.0nm,0.5s,mb3.5	**21.66**	**11**	P	**P**	**16 51 39.0**	**+0.1**
AKTO	**Aktyubinsk** comp=N,1.0nm,0.5s,mb3.5,baz=171,slow=9.0,SNR=3.7	**21.66**	**11**	P	**P**	**16 51 39.0**	**+0.1**
AKTO	**Aktyubinsk**	**21.66**	**11**	P	**P**	**16 51 39.0**	**+0.1**
AKTO	comp=Z,1.0nm,0.5s,mb3.5			pmax	pmax		
IDI	**Anoyia** comp=Z,7.1nm,1.0s,mb4.0,baz=346,slow=8.3,SNR=1.9	**23.20**	**292**	P	**P**	**16 51 51.1**	**-4.1**
IDI	**Anoyia**	**23.20**	**292**	P	**P**	**16 51 51.0**	**-4.2**
AKASG	**Malin Array Be** comp=Z,0.5nm,0.3s,mb3.5,baz=114,slow=7.2,SNR=4.9	**27.12**	**328**	P	**P**	**16 52 28.9**	**-2.4**
AKASG	**Malin Array Be**	**27.12**	**328**	P	**P**	**16 52 29.0**	**-2.3**
AKASG	comp=Z,1.0nm,0.3s			pmax	pmax		
MKAR	**Makanchi Array** comp=Z,0.3nm,0.6s,mb3.2,baz=227,slow=6.5,SNR=4.3	**29.63**	**45**	P	**P**	**16 52 54.0**	**+0.2**
GERES	**GERESS Array B** comp=Z,0.2nm,0.3s,mb3.5,baz=125,slow=23,SNR=4.1	**34.73**	**315**	P	**P**	**16 53 36.3**	**-2.1**
FINES	**FINESS Array B** comp=Z,0.8nm,0.6s,mb3.9,baz=145,slow=10,SNR=5.1	**36.26**	**340**	P	**P**	**16 53 49.5**	**-2.0**
FINES	**FINESS Array B**	**36.26**	**340**	P	**P**	**16 53 49.5**	**-2.0**
FINES	comp=Z,1.0nm,0.6s			pmax	pmax		
NOA	**NORSAR Array B** comp=Z,0.5nm,0.6s,mb3.3,baz=98,slow=11,SNR=2.5	**41.41**	**332**	P	**P**	**16 54 32.5**	**-2.2**
NOA	**NORSAR Array B**	**41.41**	**332**	P	**P**	**16 54 32.5**	**-2.2**
NOA	comp=Z,1.0nm,0.6s			pmax	pmax		
ARCES	**ARCESS Array B** comp=Z,7.7nm,1.0s,mb3.9,baz=168,slow=7.4,SNR=5.1	**42.92**	**347**	P	**P**	**16 54 46.8**	**-0.3**
ARCES	**ARCESS Array B**	**42.92**	**347**	P	**P**	**16 54 46.8**	**-0.3**
ARCES	comp=Z,3.0nm,1.0s			pmax	pmax		
SONM	**Songino Array** comp=Z,3.2nm,0.6s,mb4.4,baz=254,slow=8.4,SNR=3.5	**45.73**	**50**	P	**P**	**16 55 08.5**	**-1.0**
SONM	**Songino Array**	**45.73**	**50**	P	**P**	**16 55 08.5**	**-1.0**
SONM	comp=Z,3.0nm,0.6s			pmax	pmax		
TORD	**Torodi Ar. Bea** comp=Z,1.3nm,0.6s,mb4.2,baz=53,slow=8.3,SNR=14	**48.73**	**262**	P	**P**	**16 55 31.4**	**-1.5**
TGY	**Tagaytay City** comp=Z,327nm,0.4s,baz=159,slow=3.1,SNR=4.0	**65.48**	**87**	P	**P**	**16 57 32.9**	**+1.4**
TGY	**Tagaytay City**	**65.48**	**87**	P	**P**	**16 57 32.9**	**+1.4**
TGY	comp=Z,327nm,0.4s			pmax	pmax		
ILAR	**Eielson Array** comp=Z,0.4nm,0.6s,mb3.8,baz=332,slow=4.4,SNR=4.9	**85.13**	**8**	P	**P**	**16 59 23.1**	**-1.4**
ILAR	**Eielson Array**	**85.13**	**8**	P	**P**	**16 59 23.0**	**-1.5**
ASAR	**Alice Springs** comp=Z,0.3nm,0.9s,mb3.7,baz=309,slow=4.8,SNR=6.1	**95.12**	**114**	P	**P**	**17 00 09.3**	**-2.3**

NEIC ***

CMCH	**Combarbala**	**1.36 290**	*e*P	Pn	17 03 42.7	+0.6
CMCH			*i* S	Sn	17 04 02.8	+0.9
CMCH			AML	AML	17 04 04.8	
	comp=N,2µm,0.4s					
CMCH	**Combarbala**	**1.36 290**	*e*P	Pn	17 03 42.7	+0.6
CMCH			*i* S	Sn	17 04 02.8	+0.9
JACH	**Jahuel**	**1.38 221**	*e*P	Pn	17 03 42.8	+0.6
JACH			*i* S	Sn	17 04 02.9	+0.6
CHNG	**Los Chungos**	**1.71 262**	*e*P	Pn	17 03 46.3	+0.3
CHNG			*i* S	Sn	17 04 07.9	-1.2
PEL	**Peldehue**	**1.79 213**	*e*P	Pn	17 03 45.9	-1.1
PEL			*i* S	Sn	17 04 10.6	-0.3
PEL			AML	AML	17 04 12.9	
	comp=E,132nm,0.3s					
PEL	**Peldehue**	**1.79 213**	*e*P	Pn	17 03 45.9	-1.1
PEL			*i* S	Sn	17 04 10.6	-0.3
FCH	**Farellones**	**1.80 201** ⇓	*i*P	Pn	17 03 48.5	+1.3
FCH			*i* S	Sn	17 04 12.9	+1.9
FCH			AML	AML	17 04 14.2	
	comp=N,95nm,0.3s					
TLL	**Tololo Astrono**	**1.85 323**	*e*P	Pn	17 03 49.2	+1.5
TLL			*i* S	Sn	17 04 13.4	+1.4
TLL			AML	AML	17 04 20.6	
	comp=N,204nm,0.4s					
TLL	**Tololo Astrono**	**1.85 323**	*e*P	Pn	17 03 49.2	+1.5
TLL			*i* S	Sn	17 04 13.4	+1.4
PACH	**Papudo**	**1.86 241**	*e*P	Pn	17 03 47.7	-0.1
RCDM	**Rinconada Maip**	**2.14 210**	*e*P	Pn	17 03 51.6	+0.4
RCDM			*i* S	Sn	17 04 18.8	+0.4
RCDM			AML	AML	17 04 22.7	
	comp=E,167nm,0.1s					
RCDM	**Rinconada Maip**	**2.14 210**	*e*P	Pn	17 03 51.6	+0.4
RCDM			*i* S	Sn	17 04 18.8	+0.4
PCH	**Pirque**	**2.14 203**	*i* P	Pn	17 03 52.3	+1.0
TACH	**Talagante**	**2.33 211**	*i* P	Pn	17 03 53.8	0.0
CHCH	**Chadas Angostu**	**2.47 203**	*i* P	Pn	17 03 56.2	+0.7
LCCH	**Las Cruces**	**2.52 223** ⇑	*i*P	Pn	17 03 56.3	+0.2
LCO	**Las Campanas**	**2.82 338**	*e*P	Pn	17 04 01.0	+1.0
LCO			*i* S	Sn	17 04 35.3	+1.4

*ISCJB **22** 17:04:15.9±0.6, 3938N±004×2302E±005, h12km±7km, Error ellipse: s-maj=6.6km s-min=5.5km az=87.5*
*CSEM **22** 17:04:16.2±0.1, 3939N×2306E, h15km, ML2.3, Error ellipse: s-maj=2.9km s-min=2.5km az=91.0*
*THE **22** 17:04:16.5, 3938N×2301E, h13km, ML2.3*
*ATH **22** 17:04:16.4, 3938N×2304E, h9km, MD2.9/3*

ISC 22 17:04:16.1±0.6, 3937N±004×2304E±005, h16km±7km, n12, σ0°54/18, 2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XOR	**Xorichti**	**0.12**	**91**	*e*Pg	**Pg**	**17 04 19.5**	**-0.2**
NEO	**Neokhori**	**0.16**	**112** ⇓	*i*PG	**Pg**	**17 04 20.0**	**-0.2**
NEO				*e*SG	**Sg**	**17 04 22.5**	**-0.5**
AGG	**Agios Georgios**	**0.65**	**238**	*e*Pg	**Pg**	**17 04 28.5**	**-0.3**
AGG				*e*Sg	**Sg**	**17 04 38.3**	**+0.9**
AOS	**Alonnisos**	**0.69**	**106**	*e*Pg	**Pg**	**17 04 30.0**	**+0.5**
LKR	**Lokris**	**0.72**	**182** ⇓	*i*PB	**Pg**	**17 04 30.2**	**+0.1**
PAIG	**Paliouri**	**0.75**	**41**	*e*Pg	**Pg**	**17 04 30.8**	**0.0**
PAIG				*e*Sg	**Sg**	**17 04 42.0**	**+1.4**
PAIG	**Paliouri**	**0.75**	**41**	*e*Pg	**Pg**	**17 04 30.8**	**+0.1**
PAIG				*e*Sg	**Sg**	**17 04 42.0**	**+1.4**
LIT	**Litokhoron**	**0.84**	**330**	*e*Pg	**Pg**	**17 04 31.9**	**-0.6**
LIT				*e*Sg	**Sg**	**17 04 43.9**	**+0.2**
PLG	**Polygyros**	**1.05**	**17**	*e*PG	**Pg**	**17 04 35.8**	**-0.7**
PLG				*e*SB	**Sb**	**17 04 49.5**	**0.0**
OUR	**Ouranopolis**	**1.21**	**37**	*e*Pg	**Pn**	**17 04 38.3**	**-0.1**
GRG	**Griva**	**1.66**	**343**	*e*Pb	**Pn**	**17 04 44.2**	**-0.3**
GRG	**Griva**	**1.66**	**343**	*e*Pb	**Pn**	**17 04 44.2**	**-0.4**

*ISCJB **22** 17:26:28.4±0.9, 492S±03×1163W±03, h10km, mb4.0/8, MS4.2/12, Error ellipse: s-maj=44.2km s-min=17.8km az=124.0*
*NEIC **22** 17:26:29.8±0.9, 4921S×11626W, h10km, mb4.4/3, Error ellipse: s-maj=44.5km s-min=17.9km az=152.0*
*IDC **22** 17:26:29.3±1.1, 5109S×11501W, h0km, mb3.9/6, mb1 4.1/6, mb1mx4.0/13, mbtmp3.9/6, MS4.2/12, Ms1 4.2/12, ms1mx4.1/17, Error ellipse: s-maj=161.9km s-min=20.6km az=160.0*
*BJI **22** 17:26:30.8, 4920S×11630W, h10km*

ISC 22 17:26:31.1±1.1, 510S±10×1152W±06, h10km, n23, σ0°86/9, mb4.0/8, MS4.2/12, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USHA	**Ushuaia**	**28.07**	**116**	LR	LR	17 40 38.9	
	comp=Z,448nm,21.4s,MS4.0,baz=252,slow=30						
PLCA	**Paso Flores**	**32.29**	**89**	LR	LR	17 42 44.6	
	comp=Z,318nm,18.6s,MS4.0,baz=234,slow=30						
QSPA	**South Pole Qui**	**39.24**	**180**	*e*P	**P**	**17 34 13.3**	**+14**
	8.2nm,1.1s,mb4.4						
VNDA	**Vanda**	**39.38**	**200**	LR	LR	17 47 20.2	
	comp=Z,293nm,19.4s,MS4.1,baz=350,slow=32						
CFAA	**Coronel Fontan**	**39.45**	**79**	P	**P**	**17 33 58.8**	**-2.6**
	0.4nm,0.8s,mb3.2,baz=248,slow=13,SNR=3.0						
PPT	**Papeete**	**43.08**	**308**	LR	LR	17 47 56.0	
	comp=Z,488nm,19.1s,MS4.4,baz=134,slow=30						
LVC	**Limon Verde**	**45.58**	**69**	*e*P	**P**	**17 34 51.5**	**+0.3**
	2.5nm,0.6s,mb4.3						
CPUP	**Villa Florida**	**49.95**	**83**	P	**P**	**17 35 25.4**	**+0.3**
	0.5nm,0.4s,mb3.9,baz=220,slow=13,SNR=2.8						
CPUP				LR	LR	17 53 12.1	
	comp=Z,275nm,20.1s,MS4.3,baz=216,slow=32						
LPAZ	**La Paz**	**50.98**	**65**	P	**P**	**17 35 32.8**	**-0.2**
	3.5nm,1.2s,mb4.2,baz=199,slow=7.0,SNR=7.4						
LPAZ				LR	LR	17 51 56.6	
	comp=Z,159nm,19.7s,MS4.0,baz=37,slow=30						
LPAZ	**La Paz**	**50.98**	**65**	*e*P	**P**	**17 35 32.4**	**-0.5**
	7.7nm,1.4s,mb4.4						
LPAZ				LR	LR	17 51 56.6	
MAW	**Mawson**	**61.76**	**179**	LR	LR	18 02 12.3	
	comp=Z,163nm,20.7s,MS4.2,baz=19,slow=35						
BDFB	**Brasilia**	**63.66**	**82**	LR	LR	18 01 49.0	
	comp=Z,210nm,19.8s,MS4.3,baz=245,slow=33						
ROSC	**El Rosal**	**65.71**	**46**	LR	LR	18 00 02.8	
	comp=Z,109nm,21.1s,MS4.0,baz=42,slow=31						
STKA	**Stephens Creek**	**73.49**	**240**	P	**P**	**17 38 03.2**	**-0.6**
	2.3nm,0.9s,mb4.1,baz=159,slow=8.6,SNR=2.9						
CTA	**Charters Tower**	**79.85**	**251**	LR	LR	18 09 48.0	
	comp=Z,219nm,18.4s,MS4.5,baz=36,slow=32						
ASAR	**Alice Springs**	**84.12**	**239**	P	**P**	**17 39 02.4**	**+0.1**
	1.3nm,0.8s,mb4.1,baz=162,slow=4.1,SNR=13						
WRA	**Warramunga Arr**	**86.86**	**242**	P	**P**	**17 39 16.5**	**+0.5**
	0.4nm,0.4s,mb4.0,baz=137,slow=3.9,SNR=3.9						
FITZ	**Fitzroy Crossi**	**93.08**	**236**	LR	LR	18 16 02.6	
	comp=Z,154nm,18.5s,MS4.5,baz=92,slow=32						
PDAR	**Pinedale Array**	**93.47**	**4**	LR	LR	18 14 04.9	
	comp=Z,72nm,20.3s,MS4.1,baz=355,slow=30						
GERES	**GERESS Array B**	**147.56**	**73**	PKPbc	PKPbc	17 46 14.4	-1.1
	0.5nm,0.5s,baz=242,slow=2.9,SNR=8.0						
CLL	**Collm**	**148.06**	**69**	*e*PKPbc	PKPbc	17 46 16.0	-0.9
LZH	**Lanzhou**	**148.44**	**257**	*e*PKP	PKPdf	17 46 15.3	+1.0
MKAR	**Makanchi Array**	**167.75**	**257**	PKPab	PKPab	17 47 43.4	-0.8
	0.5nm,0.9s,baz=116,slow=5.6,SNR=3.6						

WEL 22 17:34:39.5±0.3, 3717S×17690E, h244km±3km, ML3.6/16, 1C, Error ellipse: s-maj=5.8km s-min=5.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.10**	**171**	*e*PN	Pn	17 35 13.6	-0.8
URZ				SN	S	17 35 41.8	0.0
MXZ	**Matakaoa Point**	**1.19**	**110**	PN	Pn	17 35 15.1	+0.2
MXZ				SN	S	17 35 42.6	-0.3
MWZ	**Matawai**	**1.26**	**157**	PN	Pn	17 35 15.6	+0.1
MWZ				SN	S	17 35 43.3	-0.5
PUZ	**Puketiti**	**1.40**	**130** ⇑	PN	Pn	17 35 16.7	+0.3
PUZ				SN	S	17 35 44.7	-0.9
KNZ	**Kokohu**	**1.94**	**162**	PN	Pn	17 35 21.2	+0.3
KNZ				SN	S	17 35 52.8	-0.8
BKZ	**Black Stump Fm**	**2.02**	**189**	*e*PN	Pn	17 35 21.3	-0.3
FWVZ	**Far West T-bar**	**2.34**	**207**	*e*PN	Pn	17 35 25.0	+0.3
WNVZ	**Wahianoa**	**2.38**	**205**	PN	Pn	17 35 25.4	+0.3
PXZ	**Pawanui**	**2.86**	**181**	*e*PN	Pn	17 35 29.8	-0.2
PXZ				*e*SN	S	17 36 08.7	-1.2
TSZ	**Takapari Road**	**2.98**	**194**	PN	Pn	17 35 30.3	-1.0
BFZ	**Birch Farm**	**3.54**	**188**	*e*PN	Pn	17 35 36.7	-0.9
MRZ	**Mangatainoka R**	**3.63**	**196**	PN	Pn	17 35 37.3	-1.4
MRZ				SN	S	17 36 22.9	-2.7
TIWZ	**Tintock**	**3.69**	**192**	PN	Pn	17 35 38.2	-1.1
KIW	**Kapiti Island**	**4.00**	**202**	*e*PN	Pn	17 35 41.3	-1.6
CAW	**Cannon Point**	**4.18**	**199**	PN	Pn	17 35 43.4	-1.8
MRW	**Makara Radio**	**4.40**	**202**	*e*PN	Pn	17 35 45.7	-2.0
MSWZ	**Moikau Station**	**4.43**	**196**	PN	Pn	17 35 46.0	-2.1
SNZO	**South Karori**	**4.47**	**202**	PN	Pn	17 35 46.4	-2.2
TCW	**Tory Channel**	**4.52**	**206**	PN	Pn	17 35 47.4	-1.9
TUWZ	**Tuamarina**	**4.83**	**207**	PN	Pn	17 35 51.0	-2.0
NNZ	**Nelson**	**4.88**	**213**	PN	Pn	17 35 51.4	-2.2
THZ	**Tophouse**	**5.53**	**213**	*e*PN	Pn	17 35 59.2	-2.4
KHZ	**Kahutara**	**5.84**	**205**	PN	Pn	17 36 03.5	-2.0
LTZ	**Lake Taylor**	**6.64**	**211**	PN	Pn	17 36 12.7	-2.8
LTZ				SN	S	17 37 25.0	-7.3
MQZ	**McQueen's Vall**	**7.29**	**205**	*e*PN	Pn	17 36 20.4	-3.3
MQZ				*e*SN	S	17 37 39.8	-7.5
ODZ	**Otahua Downs**	**9.17**	**209**	*e*PN	Pn	17 36 45.5	-2.1

*BJI **22** 17:50:10.4, 368S×13057E, h14km, mB4.8, mb4.8*
*ISCJB **22** 17:50:19.4±1.8, 293S±004×13012E±005, h26km±13km, mb4.7/37, MS3.6/4, Error ellipse: s-maj=9.1km s-min=6.2km az=165.8*
*NEIC **22** 17:50:19.9±4.8, 292S×13011E, h15km±30km, mb4.7/13, Error ellipse: s-maj=15.4km s-min=7.5km az=56.0*
*MOS **22** 17:50:20.8±1.1, 290S×13000E, h33km, mb4.9/13, Error ellipse: s-maj=18.8km s-min=7.9km az=116.8*
*IDC **22** 17:50:21.8±4.8, 290S×13008E, h26km±32km, mb4.2/12, mb1 4.4/14, mb1mx4.3/18, mbtmp4.4/14, ML4.3/2, MS3.6/5, Ms1 3.6/5, ms1mx3.2/22, Error ellipse: s-maj=28.1km s-min=10.9km az=74.0*

ISC 22 17:50:21.9±1.7, 294S±003×13017E±005, h29km±12km, h30km±4.0km: pP-P, n98, σ1°02/98, mb4.7/37, MS3.6/4, 4C-4D, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**2.11**	**249**	P	**Pn**	**17 50 55.4**	**+0.2**
	2µm,0.8s						
SWI	**Sorong**	**2.33**	**28**	P	**Pn**	**17 50 57.7**	**-0.5**
	503nm,0.4s						
TLE	**Tual**	**3.70**	**136**	P	**Pn**	**17 51 21.6**	**+4.5**
	257nm,1.1s						
BAKI	**Biak**	**6.18**	**74**	P	**Pn**	**17 51 53.2**	**+2.1**
	462nm,1.0s						
KAKA	**Kakadu**	**9.96**	**167**	*e*P	**Pn**	**17 52 42.2**	**-0.8**
	18nm,0.6s						
KAKA				*e*S	**Sn**	**17 54 32.0**	**-1.9**
PCI	**Palu**	**10.53**	**281**	P	**Pn**	**17 52 50.3**	**-0.5**
	75nm,1.0s						
FITZ	**Fitzroy Crossi**	**15.71**	**196**	*e*P	**Pn**	**17 53 59.9**	**-1.1**
	19nm,0.7s						
FITZ				*e*S	**Sn**	**17 56 52.4**	**-1.8**
FITZ	**Fitzroy Crossi**	**15.71**	**196**	P	**Pn**	**17 54 00.7**	**-0.3**
	0.4nm,0.3s,baz=29,slow=12,SNR=22						
FITZ				Sn	**Sn**	**17 56 55.5**	**+1.3**
	0.2nm,0.3s,baz=91,slow=22,SNR=3.1						
FITZ				LR	LR	18 00 37.4	
	comp=Z,146nm,19.9s,baz=189,slow=39						
KKM	**Kota Kinabalu**	**16.55**	**303**	*e*P	**Pn**	**17 54 13.7**	**+1.8**
WRAB	**Tennant Creek**	**17.37**	**167**	*i* P	**Pn**	**17 54 22.1**	**0.0**
WRA	**Warramunga Arr**	**17.38**	**167**	P	**Pn**	**17 54 22.1**	**-0.1**
	2.0nm,0.3s,baz=346,slow=12,SNR=21						
WRA				S	**Sn**	**17 57 39.2**	**+4.5**
	0.5nm,0.3s,baz=338,slow=20,SNR=6.3						
WRA	**Warramunga Arr**	**17.38**	**167**	P	**Pn**	**17 54 22.1**	**-0.1**
WRA				S	**Sn**	**17 57 39.2**	**+4.5**
WB2	**Warramunga Arr**	**17.38**	**167**	*e*P	**Pn**	**17 54 20.9**	**-1.3**
WB2				*e*S	**Sn**	**17 57 28.7**	**-6.1**
KSM	**Kuching**	**20.34**	**282**	*e*P	**P**	**17 54 55.1**	**-0.6**
MBWA	**Marble Bar**	**20.77**	**208**	*e*P	**P**	**17 55 02.5**	**+2.1**
	43nm,1.2s						
BJII	**Banjamegara**	**20.84**	**257**	P	**P**	**17 55 03.8**	**+2.6**
	55nm,1.1s						
ASAR	**Alice Springs**	**20.92**	**170**	P	**P**	**17 55 03.0**	**+0.9**
	14nm,0.5s,baz=347,slow=9.8,SNR=256						
ASAR				S	**S**	**17 58 55.0**	**+1.4**
	16nm,1.1s,baz=348,slow=20,SNR=15						
ASAR				PcP	PcP	17 59 16.3	+7.1
	1.6nm,0.6s,baz=321,slow=1.2,SNR=4.9						
CTA	**Charters Tower**	**23.17**	**139**	*e*P	**P**	**17 55 28.2**	**+2.2**
	18nm,0.9s,mb4.5						
CTA	**Charters Tower**	**23.17**	**139**	P	**P**	**17 55 28.4**	**+2.4**
	10nm,0.9s,mb4.2,baz=320,slow=13,SNR=5.6						
CTA	**Charters Tower**	**23.17**	**139**	*e*P	**P**	**17 55 28.2**	**+2.2**
CTA				pmax	pmax		
	comp=Z,18nm,0.9s						
CTAO	**Charters Tower**	**23.17**	**139**	*e*P	**P**	**17 55 28.0**	**+2.0**
CTAO				pmax	pmax		
	comp=Z,21nm,0.8s,mb4.6						
CTAO	**Charters Tower**	**23.17**	**139**	*e*P	**P**	**17 55 28.0**	**+1.9**
	comp=Z,21nm,0.8s,mb4.6						
KSI	**Kapahiang**	**27.54**	**268**	P	**P**	**17 56 12.5**	**+6.4**
	comp=Z,411nm,1.4s,mb4.9						
JOW	**Kunigami**	**29.65**	**357**	LR	LR	18 07 21.7	
	comp=Z,122nm,19.0s,MS3.5,baz=77,slow=34						
PPI	**Padang Panjang**	**29.86**	**274**	P	**P**	**17 56 26.8**	**+0.1**
	comp=Z,36nm,0.8s,mb5.2						
KULM	**Kulim**	**30.60**	**285**	*e*P	**P**	**17 56 31.2**	**-2.1**
STKA	**Stephens Creek**	**30.73**	**161**	*e*P	**P**	**17 56 33.5**	**-0.8**
	comp=Z,6.3nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**30.73**	**161**	P	**P**	**17 56 34.0**	**-0.4**
	comp=Z,2.8nm,0.3s,mb4.5,baz=340,slow=6.2,SNR=18						
PSI	**Prapat**	**31.75**	**280**	P	**P**	**17 56 42.6**	**-0.8**
	comp=Z,10nm,0.8s,mb4.7,baz=97,slow=5.5,SNR=7.7						
CBIJ	**Chichi jima**	**32.03**	**20**	LR	LR	18 08 55.1	
	comp=Z,107nm,19.8s,MS3.5,baz=135,slow=35						
SSE	**Sheshan**	**34.91**	**346**	P	**P**	**17 57 10.8**	**-0.1**
SSE				AP	pP	17 57 19.5	+0.1
SSE				XP	sP	17 57 23.5	+0.6
SSE				S	**S**	**18 02 42.5**	**+2.0**
SSE				XS	sS	18 02 57.5	+3.0
SSE				AMB	AMB		
	comp=Z,23nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,68nm,6.0s						
NANT	**Nan**	**36.16**	**308**	⇓P	**P**	**17 57 23.0**	**+1.3**
	comp=Z,112nm,0.5s						
NJ2	**Nanjing**	**36.42**	**344**	*e*P	**P**	**17 57 23.5**	**-0.4**
NJ2				AP	pP	17 57 33.6	+1.2
NJ2				XP	sP	17 57 37.6	+1.7
NJ2				PP	PP	17 58 47.6	+0.6
NJ2				S	**S**	**18 03 01.0**	**-2.6**
NJ2				XS	sS	18 03 17.0	-0.6
NJ2				AMB	AMB		
	comp=Z,200nm,6.5s						
JHJ	**Hachijo jima 2**	**37.00**	**13**	LR	LR	18 11 24.6	
	comp=Z,127nm,20.7s,MS3.7,baz=105,slow=34						
CHG	**Chiang Mai**	**37.57**	**306**	⇑P	**P**	**17 57 33.9**	**+0.3**
	comp=Z,20nm,1.2s,mb4.7						
CHTO	**Chiang Mai**	**37.57**	**306**	*e*P	**P**	**17 57 33.7**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,27nm,1.3s,mb4.8						
CHTO	**Chiang Mai**	**37.57**	**306**	*e*P	**P**	**17 57 33.7**	**+0.1**
	comp=Z,27nm,1.3s,mb4.8						
KMI	**Kunming**	**38.56**	**318**	P	**P**	**17 57 42.5**	**+0.6**
KMI				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.5						
MJAR	**Matsushiro Arr**	**39.99**	**10**	P	**P**	**17 57 52.4**	**-1.5**
	comp=Z,2.5nm,0.6s,mb4.1,baz=184,slow=7.9,SNR=9.0						
MJAR				LR	LR	18 11 39.5	
	comp=Z,115nm,18.6s,MS3.8,baz=140,slow=32						
LZH	**Lanzhou**	**45.96**	**330**	⇓P	**P**	**17 58 42.8**	**+0.6**
LZH				AMB	AMB		
	comp=Z,35nm,1.3s,mb5.1						
LZH				AMB	AMB		
	comp=Z,74nm,5.7s						
HHC	**Hu-ho-hao-te**	**46.78**	**341**	*e*P	**P**	**17 58 47.0**	**-1.7**
HHC				AP	pP	17 58 55.9	-1.4
HHC				XP	sP	17 59 02.3	+1.5
HHC				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.8						
HHC				AMB	AMB		
	comp=Z,84nm,5.5s						
LSA	**Lhasa**	**49.46**	**314**	*e*P	**P**	**17 59 10.3**	**+0.9**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
LSA	**Lhasa**	**49.46**	**314**	*e*P	**P**	**17 59 10.3**	**+0.9**
	comp=Z,5.7nm,0.8s,mb4.7						
GTA	**Gaotai**	**50.55**	**330**	*e*P	**P**	**17 59 17.5**	**-0.2**
GTA				AP	pP	17 59 21.8	-4.6
GTA				XP	sP	17 59 24.8	-5.0
GTA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
KLR	**Kul'dur**	**51.98**	**1**	*e*P	**P**	**17 59 25.0**	**-3.3**
JIRN	**Jiri**	**52.13**	**309**	*e*P	**P**	**17 59 29.6**	**+0.1**
GUN	**Gumba**	**52.49**	**309**	*e*P	**P**	**17 59 32.1**	**-0.1**
PKI	**Pulchoki**	**52.70**	**308**	*e*P	**P**	**17 59 33.2**	**-0.5**
KKN	**Kakani**	**52.90**	**308**	*e*P	**P**	**17 59 34.9**	**-0.3**
	comp=Z,23nm,1.0s,mb5.0						
DMN	**Daman**	**52.95**	**308**	*e*P	**P**	**17 59 35.6**	**0.0**
GKN	**Gorkha**	**53.51**	**308**	*e*P	**P**	**17 59 39.1**	**-0.5**
	comp=Z,22nm,1.1s,mb5.0						
KOLN	**Koldanda**	**54.22**	**308**	*e*P	**P**	**17 59 44.4**	**-0.4**
	comp=Z,55nm,1.2s,mb5.4						
ULN	**Ulaanbaatar**	**54.49**	**341**	*c* *i*P	**P**	**17 59 47.2**	**+0.4**
ULN	**Ulaanbaatar**	**54.49**	**341**	*e*P	**P**	**17 59 47.1**	**+0.2**
	comp=Z,9.3nm,0.9s,mb4.7						
SONM	**Songino Array**	**54.68**	**341**	P	**P**	**17 59 47.5**	**-0.7**
	comp=Z,5.0nm,0.7s,mb4.6,baz=120,slow=5.8,SNR=4.0						
HYB	**Hyderabad**	**54.77**	**294**	*i* P	**P**	**17 59 48.0**	**-0.9**
HYB	**Hyderabad**	**54.77**	**294**	*e*P	**P**	**17 59 48.0**	**-0.9**
ZAK	**Zakamensk**	**57.92**	**340**	*e*P	**P**	**18 00 10.9**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.5						
MOY	**Mondy**	**59.79**	**339**	*e*P	**P**	**18 00 24.8**	**+0.5**
MOY				pmax	pmax		
	comp=Z,22nm,1.8s,mb4.9						
WMQ	**Urumqi**	**60.13**	**326**	*e*P	**P**	**18 00 26.8**	**+0.2**
BOD	**Bodaibo**	**61.95**	**350**	*e*P	**P**	**18 00 38.4**	**-0.6**
YAK	**Yakutsk**	**64.79**	**360**	*c* *i*P	**P**	**18 00 57.6**	**-0.2**
YAK				pmax	pmax		
	comp=Z,35nm,1.1s,mb5.3						
YAK	**Yakutsk**	**64.79**	**360**	*e*P	**P**	**18 00 57.5**	**-0.3**
	comp=Z,21nm,0.8s,mb5.2						
MKAR	**Makanchi Array**	**64.97**	**326**	P	**P**	**18 00 58.6**	**-0.3**
	comp=Z,5.0nm,0.8s,mb4.6,baz=123,slow=8.0,SNR=58						
KZA	**Kyzart**	**66.84**	**318**	P	**P**	**18 01 12.1**	**+1.1**
	SNR=6.4						
UCH	**Uchtor**	**67.40**	**318**	P	**P**	**18 01 15.7**	**+1.1**
	SNR=8.2						
AAK	**Ala-Archa**	**67.59**	**319** ⇓	*e*P	**P**	**18 01 14.9**	**-0.9**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.4						
USP	**Ospenovka**	**67.88**	**319**	P	**P**	**18 01 17.6**	**+0.1**
	SNR=7.0						
AML	**Almayashu**	**67.90**	**318**	P	**P**	**18 01 18.6**	**+0.9**
	SNR=7.8						
EKS2	**Erkin-Say**	**68.08**	**319**	P	**P**	**18 01 19.7**	**+0.9**
	SNR=7.3						
KURK	**Kurchatov**	**69.18**	**328**	*d* *i*P	**P**	**18 01 24.7**	**-1.0**
NVS	**Novosibirsk**	**69.34**	**333**	*i* P	**P**	**18 01 24.2**	**-2.4**
NVS				*e*		18 01 43.8	
NVS				pmax	pmax		
	comp=N,11nm,1.3s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.3s						
NVS				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.8						
CHKZ	**Chkalovo**	**74.92**	**328**	*e*P	**P**	**18 01 59.3**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
CHKZ	**Chkalovo**	**74.92**	**328**	*e*P	**P**	**18 01 59.3**	**-0.7**
	comp=Z,3.4nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**75.47**	**327**	*e*P	**P**	**18 02 02.6**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,27nm,1.6s,mb4.9						
ZRNK	**Zerenda**	**75.47**	**327**	*e*P	**P**	**18 02 02.6**	**-0.6**
	comp=Z,27nm,1.6s,mb4.9						
VNDA	**Vanda**	**76.43**	**173**	P	**P**	**18 02 09.2**	**+0.6**
	comp=Z,1.4nm,0.8s,mb4.0,baz=338,slow=4.2,SNR=5.8						
VNDA	**Vanda**	**76.43**	**173**	*e*P	**P**	**18 02 08.9**	**+0.2**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VNDA	**Vanda**	**76.43**	**173**	*e*P	**P**	**18 02 08.9**	**+0.2**
	comp=Z,2.3nm,0.8s,mb4.2						
SBA	**Scott Base**	**77.31**	**173**	*e*P	**P**	**18 02 12.7**	**-0.9**
MAW	**Mawson**	**78.77**	**201**	P	**P**	**18 02 22.6**	**+0.9**
	comp=Z,1.8nm,0.7s,mb4.1,baz=34,slow=11,SNR=5.1						
SVE	**Sverdlovsk**	**81.41**	**329**	*e*P	**P**	**18 02 36.8**	**+0.8**
SVE				pmax	pmax		
	comp=Z,40nm,2.0s,mb5.0						
ARU	**Arti**	**82.38**	**328** ⇑	*i*P	**P**	**18 02 40.4**	**-0.7**
ARU				*e*		18 05 50.0	
ARU				*e*S	S	18 12 56.2	+1.0
ARU				*e*SS	SS	18 18 16.2	+0.1
ARU				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
RDF	**Al-Radifah**	**84.96**	**299**	*e*P	**P**	**18 02 54.4**	**+0.1**
RDF				AMb	AMB	18 02 54.9	
	comp

IDC 22 18:03:58.2±1.3, 044S×12165E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/15, mbtmp3.7/4, Error ellipse: s-maj=420.5km s-min=22.6km az=60.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.03**	**148**	P	P	18 09 05.2	+0.4
	2.0nm,0.7s,baz=323,slow=11,SNR=8.9						
ASAR	**Alice Springs**	**25.98**	**154**	P	P	18 09 34.0	+1.5
	1.2nm,0.7s,baz=320,slow=8.0,SNR=14						
ASAR				PcP	PcP	18 13 01.9	+0.9
	0.1nm,0.6s,baz=334,slow=1.8,SNR=4.9						
STKA	**Stephens Creek**	**36.52**	**151**	P	P	18 11 03.5	-1.8
	1.5nm,0.7s,baz=318,slow=11,SNR=3.9						
MKAR	**Makanchi Array**	**58.28**	**329**	P	P	18 13 54.6	0.0
	0.6nm,0.6s,baz=131,slow=8.0,SNR=9.7						

IDC 22 18:14:37.6±2.2, 507N×9377E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.6/20, mbtmp3.8/5, ML3.7/1, MS4.0/1, Ms1 4.0/1, ms1mx2.6/27, Error ellipse: s-maj=101.6km s-min=20.7km az=49.0
ISCJB 22 18:14:38.2±6.4, 49N±02×936E±02, h18km±45km, mb3.9/5, MS4.0/1, Error ellipse: s-maj=52.2km s-min=9.9km az=81.2
NEIC 22 18:14:42.6±1.6, 522N×9394E, h30km, mb4.0/1, Error ellipse: s-maj=71.3km s-min=9.2km az=49.0
DMN 22 18:19:01.5±9.5, 2468N×8601E, h10km, Error ellipse: s-maj=269.6km s-min=26.7km az=164.0
ISC 22 18:14:38.6±6.7, 50N±03×936E±02, h7km±44km, n13, σ0°69/14, mb3.9/5, MS4.0/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.72**	**112**	Pn	Pn	18 16 03.8	0.0
	2.0nm,0.3s,baz=287,slow=17,SNR=5.6						
PSI				Sn	Sn	18 17 09.8	+0.1
	0.2nm,0.3s,baz=89,slow=14,SNR=2.6						
PSI	**Prapat**	**5.72**	**112**	Pn	Pn	18 16 03.8	0.0
PSI				Sn	Sn	18 17 09.8	+0.1
JIRN	**Jiri**	**23.64**	**343**	*eP*	P	18 19 50.3	-0.2
GUN	**Gumba**	**23.96**	**343**	*eP*	P	18 19 53.8	+0.3
KKN	**Kakani**	**24.03**	**342**	*eP*	P	18 19 53.1	-1.0
GKN	**Gorkha**	**24.44**	**341**	*eP*	P	18 19 58.0	+0.2
KOLN	**Koldanda**	**24.59**	**338**	*eP*	P	18 20 01.2	+2.0
JOW	**Kunigami**	**39.55**	**53**	LR	LR	18 38 44.3	
	comp=Z,212nm,18.6s,MS4.0,baz=130,slow=37						
MKAR	**Makanchi Array**	**42.79**	**349**	P	P	18 22 36.3	-0.6
	1.5nm,0.5s,mb4.0,baz=168,slow=7.0,SNR=30						
WRA	**Warramunga Arr**	**47.07**	**123**	P	P	18 23 11.4	+0.5
	0.8nm,0.7s,mb3.8,baz=304,slow=9.1,SNR=4.9						
ASAR	**Alice Springs**	**48.51**	**128**	P	P	18 23 21.6	-0.5
	0.3nm,0.5s,mb3.6,baz=300,slow=8.1,SNR=24						
ZRNK	**Zerenda**	**51.92**	**341**	*eP*	P	18 23 47.5	-0.4
	0.9nm,0.5s,mb4.0						
ARCES	**ARCESS Array B**	**77.80**	**340**	P	P	18 26 36.6	+0.1
	2.0nm,0.9s,mb4.0,baz=93,slow=7.2,SNR=3.7						

NIED 22 18:33:00, 30.00N×131.30E, h23km, Mw4.1 Best double couple: M0 1.58000×10^15 NP1:φs22.00000°, δ65.00000°, λ86.00000°. NP2:φs212.00000°, δ26.00000°, λ99.00000°.
MOS 22 18:33:56.9±1.4, 301.3N×131.00E, h38km, mb4.3/5, Error ellipse: s-maj=30.3km s-min=19.9km az=72.3
ISCJB 22 18:33:56.9±0.8, 2998N±004×13120E±008, h45km±8km, mb3.9/6, Error ellipse: s-maj=12.6km s-min=5.5km az=44.7
JMA 22 18:33:56.1±0.2, 2997N×13127E, h33km±3km, M3.8
IDC 22 18:33:58.7±6.0, 301.1N×130.89E, h33km±49km, mb3.6/5, mb1 3.6/7, mb1mx3.5/21, mbtmp3.7/7, ML3.1/2, Error ellipse: s-maj=38.7km s-min=22.7km az=102.0
NEIC 22 18:33:59.2±1.4, 3008N×13086E, h36km±17km, mb4.4/1, Error ellipse: s-maj=26.5km s-min=13.2km az=119.0
ISC 22 18:33:57.7±1.2, 3001N±004×13113E±008, h29km±9km, n26, σ0°93/31, mb3.9/6, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.66**	**349**	P	Pb	18 34 09.9	-0.8
JTN				S	Sb	18 34 19.9	+0.4
JKC	**Kuchinoerabu**	**0.93**	**299**	P	Pn	18 34 15.2	+0.4
JKC				S	Sn	18 34 28.6	+1.5
JNN	**Nakanoshima**	**1.10**	**262**	P	Pn	18 34 17.4	+0.2
JTSR	**Tashiro 2**	**1.17**	**351**	P	Pn	18 34 17.6	-0.5
JTSR				*eS*	Sn	18 34 33.8	+0.8
JNAR	**Kushima--Naru**	**1.52**	**5**	P	Pn	18 34 22.5	-0.4
JSU	**Suzuyama**	**1.60**	**339**	P	Pn	18 34 23.7	-0.4
JTZ	**Takazaki**	**1.89**	**359**	P	Pn	18 34 27.8	-0.2
JSJ	**Shimokoshiki**	**2.06**	**324**	P	Pn	18 34 29.7	-0.7
JAM	**Amami Oshima**	**2.08**	**220**	P	Pn	18 34 30.8	+0.2
JZO	**Okuchi**	**2.17**	**348**	P	Pn	18 34 31.9	0.0
JTK	**Tokunoshima**	**2.93**	**221**	P	Pn	18 34 42.5	+0.2
JTK				S	Sn	18 35 17.4	+1.0
JOW	**Kunigami**	**4.04**	**219**	Pn	Pn	18 34 57.2	-0.4
	1.8nm,0.3s,baz=86,slow=8.5,SNR=11						
JOW				Sn	Sn	18 35 43.0	-1.0
	8.6nm,0.3s,baz=158,slow=26,SNR=8.4						
MAJO	**Matsushiro**	**8.80**	**40**	P	Pn	18 36 03.2	+0.2
MJAR	**Matsushiro Arr**	**8.80**	**40**	Pn	Pn	18 36 05.4	+2.5
	0.3nm,0.3s,baz=241,slow=14,SNR=3.7						
MKAR	**Makanchi Array**	**41.08**	**308**	P	P	18 41 37.7	-1.0
	0.7nm,0.6s,mb3.4,baz=84,slow=11,SNR=10						
MKAR	**Makanchi Array**	**41.08**	**308**	P	P	18 41 37.7	-1.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**41.08**	**308**	P	P	18 41 37.7	-1.0
ZRNK	**Zerenda**	**50.09**	**316**	*eP*	P	18 42 48.8	-1.2
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**50.09**	**316**	*eP*	P	18 42 48.8	-1.2
	comp=Z,2.3nm,0.6s,mb4.4						
ASAR	**Alice Springs**	**53.43**	**177**	P	P	18 43 16.3	+1.4
	comp=Z,0.2nm,0.6s,mb3.2,baz=10,slow=12,SNR=4.3						
ARCES	**ARCESS Array B**	**67.44**	**338**	P	P	18 44 50.2	-0.5
	comp=Z,3.3nm,0.9s,mb4.4,baz=82,slow=6.5,SNR=3.5						
ARCES	**ARCESS Array B**	**67.44**	**338**	P	P	18 44 50.2	-0.4
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**70.84**	**331**	P	P	18 45 08.9	-2.8
	comp=Z,0.8nm,0.4s,mb4.0,baz=70,slow=6.3,SNR=12						
FINES	**FINESS Array B**	**70.84**	**331**	P	P	18 45 08.9	-2.8
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRTR	**Keskin Array B**	**76.73**	**308**	P	P	18 45 46.8	+0.6
	comp=Z,0.7nm,0.6s,mb3.7,baz=101,slow=3.9,SNR=5.1						
BRTR	**Keskin Array B**	**76.73**	**308**	P	P	18 45 46.8	+0.6
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

KRSC 22 18:48:53.2±0.7, 6085N×16647E, h15km±5km, ML3.9, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.47**	**206**	*i* P	Pg	18 49 03.2	+0.7
TILR				*eS*	Sg	18 49 10.7	+1.9
TILR				Smax			
	6μm,0.4s						
KAMR	**Kamenskoye**	**1.62**	**356**	*i* P	Pn	18 49 22.2	+1.0
KAMR				*eS*	Sn	18 49 42.8	+1.1
KAMR				Smax			
	900nm,0.9s						
OSSR	**Ossora**	**2.35**	**228**	*eP*	Pn	18 49 30.9	-0.3
EVNR	**Evensk**	**3.63**	**290**	*eP*	Pn	18 49 51.2	+2.4
SMKR	**Semkarok**	**5.01**	**214**	*eP*	Pn	18 50 09.5	+1.7
SRKR	**Sorokina**	**5.03**	**216**	*eP*	Pn	18 50 10.0	+1.9
KBTR	**Krutoberegovo**	**5.03**	**204**	*eP*	Pn	18 50 10.2	+2.1
KBTR				*eS*	Sn	18 51 06.9	+0.9
BDR	**Baidarnaya**	**5.09**	**215**	P	Pn	18 50 10.6	+1.6
LGNR	**Loginova**	**5.66**	**215**	P	Pn	18 50 19.5	+2.8
ZLN	**Zelenaya**	**5.69**	**214**	P	Pn	18 50 19.8	+2.7
SRDR	**Sredinnyy**	**5.75**	**221**	P	Pn	18 50 20.7	+2.7
KMNR	**Kamenistaya**	**6.07**	**215**	P	Pn	18 50 24.2	+1.8
BILL	**Bilibino**	**7.22**	**359**	P	Pn	18 50 39.5	+1.3
BILL				Smax			
	40nm,0.9s						

ISCJB 22 18:55:15.9±1.0, 188S±01×173.1W±02, h33km, mb4.5/11, MS3.9/3, Error ellipse: s-maj=26.0km s-min=11.2km az=51.2
IDC 22 18:55:16.4±1.3, 1912S×17358W, h0km, mb4.3/7, mb1 4.5/7, mb1mx4.3/15, mbtmp4.3/7, MS3.9/4, Ms1 3.9/4, ms1mx3.2/31, Error ellipse: s-maj=48.6km s-min=22.7km az=132.0
NEIC 22 18:55:19.3±3.3, 1989S×17287W, h50km±38km, mb4.9/5, Error ellipse: s-maj=53.2km s-min=15.7km az=161.0
ISC 22 18:55:18.0±1.0, 1879S±009×1731W±02, h35km, n27, σ1°13/19, mb4.5/11, MS3.9/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.01**	**15**	Pn	Pn	18 56 32.7	+2.1
	11nm,0.3s,baz=89,slow=1.5,SNR=12						
AFI				Sn	Sn	18 57 25.9	-1.4
	39nm,0.3s,baz=18,slow=23,SNR=8.4						
RAR	**Rarotonga**	**12.73**	**103**	Pn	Pn	18 58 12.0	-4.5
	8.3nm,0.3s,baz=285,slow=1.8,SNR=7.5						
RAR				LR	LR	19 01 28.8	
	comp=Z,305nm,20.1s,baz=341,slow=28						
DZM	**Mont Dzumac**	**19.47**	**257**	P	Pn	18 59 44.2	+1.0
	0.8nm,0.3s,baz=86,slow=19,SNR=9.4						
URZ	**Urewera**	**21.21**	**202**	P	P	18 59 59.9	-0.6
	10nm,0.6s,mb4.3,baz=16,slow=5.0,SNR=7.0						
PPT	**Papeete**	**22.35**	**91**	LR	LR	19 07 20.1	
	comp=Z,474nm,18.2s,MS4.0,baz=316,slow=32						
RPZ	**Rata Peaks**	**28.21**	**205**	P	P	19 01 11.6	+4.3
	17nm,0.6s,mb4.9,baz=319,slow=1.7,SNR=19						
CTA	**Charters Tower**	**38.31**	**261**	*eP*	P	19 02 34.9	-0.3
	9.5nm,0.4s,mb4.9						
CTAO	**Charters Tower**	**38.31**	**261**	*eP*	P	19 02 34.9	-0.3
	16nm,0.6s,mb4.9						
STKA	**Stephens Creek**	**42.71**	**243**	*eP*	P	19 03 08.8	-2.7
	1.9nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**42.71**	**243**	P	P	19 03 09.0	-2.5
	2.1nm,0.6s,mb4.0,baz=86,slow=8.6,SNR=8.6						
STKA				LR	LR	19 18 28.7	
	comp=Z,116nm,19.1s,MS3.8,baz=23,slow=33						
ASAR	**Alice Springs**	**49.44**	**255**	P	P	19 04 04.3	-0.2
	8.6nm,0.7s,mb4.9,baz=92,slow=8.3,SNR=90						
WB2	**Warramunga Arr**	**49.45**	**260**	*eP*	P	19 04 04.2	-0.4
WRA	**Warramunga Arr**	**49.46**	**260**	P	P	19 04 04.5	-0.2
	3.7nm,0.5s,mb4.6,baz=97,slow=8.6,SNR=44						
KAKA	**Kakadu**	**52.63**	**268**	*eP*	P	19 04 29.1	+0.6
	17nm,0.6s,mb5.2						
FITZ	**Fitzroy Crossi**	**57.88**	**260**	*eP*	P	19 05 06.4	+0.1
	3.4nm,0.6s,mb4.5						
SBA	**Scott Base**	**59.92**	**185**	P	P	19 05 21.4	+1.0
MJAR	**Matsushiro Arr**	**71.73**	**320**	P	P	19 06 41.2	+4.8
	2.3nm,0.7s,mb4.2,baz=152,slow=5.9,SNR=6.8						
PDAR	**Pinedale Array**	**84.57**	**41**	P	P	19 07 54.4	+6.8
	0.3nm,0.4s,mb3.8,baz=180,slow=3.0,SNR=3.7						
ILAR	**Eielson Array**	**85.69**	**11**	P	P	19 07 57.6	+4.4
	1.3nm,0.8s,mb4.2,baz=230,slow=5.5,SNR=9.5						
LPAZ	**La Paz**	**98.36**	**110**	LR	LR	19 44 57.8	
	comp=Z,43nm,20.4s,MS3.9,baz=252,slow=30						
ZRNK	**Zerenda**	**121.56**	**321**	*e*PKPdf	PKPdf	19 14 10.9	+3.1
MALT	**Malatya**	**146.42**	**312**	*e*PKPbc	PKPbc	19 15 01.1	+5.8
CLL	**Collm**	**147.20**	**353**	*e*PKPbc	PKPbc	19 15 02.0	+4.6
CLL				*es*PKPbc		19 15 18.0	
CLL				*e*(sPKPab)		19 15 28.0	
BR131	**Keskin Array S**	**148.92**	**318**	*e*PKPbc	PKPbc	19 15 06.5	+4.5
BRTR	**Keskin Array B**	**148.92**	**318**	PKPbc	PKPbc	19 15 07.0	+4.9
	1.7nm,0.7s,baz=124,slow=3.0,SNR=11						
KHC	**Kasperske Hory**	**149.26**	**351**	*e*PKPab	PKPab	19 15 09.0	+1.6
GERES	**GERESS Array B**	**149.52**	**351**	PKPbc	PKPbc	19 15 08.2	+4.7
	0.3nm,0.4s,baz=307,slow=16,SNR=4.8						

ISCJB 22 18:58:33.8±0.8, 494S±02×116.1W±02, h10km, mb4.0/8, MS4.0/10, Error ellipse: s-maj=32.9km s-min=17.4km az=118.7
IDC 22 18:58:33.8±0.8, 4945S×116.10W, h0km, mb3.9/7, mb1 4.1/7, mb1mx4.0/14, mbtmp3.9/7, MS4.0/10, Ms1 4.0/10, ms1mx3.9/19, Error ellipse: s-maj=63.5km s-min=21.2km az=163.0
NEIC 22 18:58:35.0±0.6, 4935S×11624W, h10km, mb4.5/2, Error ellipse: s-maj=29.9km s-min=15.2km az=152.0
BJI 22 18:58:37.0, 4940S×11620W, h10km
ISC 22 18:58:35.1±0.8, 494S±02×1162W±02, h10km, n32, σ0°80/10, mb4.0/8, MS4.0/10, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USHA	**Ushuaia**	**29.39**	**119**	LR	LR	19 13 17.0	
	comp=Z,226nm,18.3s,MS3.8,baz=233,slow=30						
RKT	**Rikitea**	**30.07**	**324**	*e*LQ		19 11 30.8	
	353nm,27.8s						
RKT				*e*LR	LR	19 12 40.8	
	551nm,26.2s						
PLCA	**Paso Flores**	**32.96**	**92**	LR	LR	19 14 59.7	
	comp=Z,191nm,18.2s,MS3.8,baz=232,slow=30						
TBI	**Tubuai**	**36.80**	**303**	*e*LR	LR	19 05 16.6	
	191nm,30.0s						
TBI	**Tubuai**	**36.80**	**303**	*e*LR	LR	19 15 51.0	
	230nm,25.8s						
CFAA	**Coronel Fontan**	**39.82**	**82**	P	P	19 06 09.4	+1.0
	0.3nm,0.6s,mb3.2,baz=77,slow=5.4,SNR=3.6						
VNDA	**Vanda**	**40.68**	**199**	LR	LR	19 19 27.7	
	comp=Z,164nm,21.3s,MS3.9,baz=2.3,slow=31						
QSPA	**South Pole Qui**	**40.85**	**180**	*eP*	P	19 06 16.9	-0.1
	7.3nm,1.1s,mb4.2						
PPT	**Papeete**	**41.59**	**308**	*e*LR	LR	19 18 04.7	
	347nm,23.5s						
PPT	**Papeete**	**41.59**	**308**	LR	LR	19 19 40.9	
	comp=Z,330nm,18.3s,MS4.2,baz=123,slow=30						
LVC	**Limon Verde**	**45.65**	**72**	P	P	19 06 55.7	0.0
	2.5nm,0.7s,mb4.2,baz=237,slow=7.1,SNR=5.9						
LVC	**Limon Verde**	**45.65**	**72**	*eP*	P	19 06 56.0	+0.2
	7.5nm,1.0s,mb4.6						
CPUP	**Villa Florida**	**50.43**	**85**	P	P	19 07 31.0	-1.7
	0.3nm,0.3s,mb3.8,baz=207,slow=2.3,SNR=3.3						
CPUP				LR	LR	19 25 26.7	
	comp=Z,139nm,19.6s,MS4.0,baz=214,slow=32						
LPAZ	**La Paz**	**50.92**	**67**	P	P	19 07 37.0	+0.6
	1.5nm,0.8s,mb4.0,baz=196,slow=6.5,SNR=7.1						
LPAZ				LR	LR	19 24 01.2	
	comp=Z,113nm,19.9s,MS3.9,baz=266,slow=30						
LPAZ	**La Paz**	**50.92**	**67**	*eP*	P	19 07 37.2	+0.8
LPAZ				LR	LR	19 24 01.2	
MAW	**Mawson**	**63.37**	**180**	LR	LR	19 33 21.5	
	comp=Z,142nm,21.1s,MS4.1,baz=62,slow=33						
BDFB	**Brasilia**	**64.11**	**84**	LR	LR	19 33 54.4	
	comp=Z,144nm,19.0s,MS4.2,baz=282,slow=33						
STKA	**Stephens Creek**	**73.74**	**240**	LR	LR	19 37 29.7	
	comp=Z,115nm,18.8s,MS4.2,baz=49,slow=32						
CTA	**Charters Tower**	**79.77**	**251**	LR	LR	19 43 12.6	
	comp=Z,92nm,18.8s,MS4.2,baz=111,slow=34						
ASAR	**Alice Springs**	**84.38**	**240**	P	P	19 11 07.3	-0.2
	1.6nm,0.8s,mb4.2,baz=146,slow=4.1,SNR=12						
WRA	**Warramunga Arr**	**87.04**	**243**	P	P	19 11 21.4	+0.6
	0.4nm,0.4s,mb4.0,baz=140,slow=4.4,SNR=10						
PDAR	**Pinedale Array**	**91.92**	**5**	P	P	19 11 43.2	-0.5
	0.4nm,0.7s,mb3.9,baz=153,slow=6.1,SNR=3.4						
TIP	**Timpagrande**	**145.33**	**89**	*e*PKPdf	PKPdf	19 18 12.8	-0.3
HYB	**Hyderabad**	**145.97**	**206**	*i* PKP	PKPdf	19 18 14.0	-0.2
HYB				*e*		19 18 20.0	
HYB	**Hyderabad**	**145.97**	**206**	*eP*	PKPdf	19 18 14.0	-0.2
GERES	**GERESS Array B**	**147.69**	**71**	PKPbc	PKPbc	19 18 20.5	+0.7
	2.8nm,0.9s,baz=205,slow=2.8,SNR=12						
CLL	**Collm**	**148.04**	**67**	*e*PKPbc	PKPbc	19 18 21.0	+0.2
CLL				*es*PKPbc		19 18 26.0	
LZH	**Lanzhou**	**148.11**	**261**	*e*PKP	PKPdf	19 18 24.3	+6.5
BRG	**Berggiesshubel**	**148.48**	**68**	*eP*	PKPdf	19 18 21.8	+3.4
	9.1nm,1.6s						
LSA	**Lhasa**	**151.43**	**237**	*e*PKPbc	PKPbc	19 18 27.6	-1.5
BRTR	**Keskin Array B**	**156.59**	**103**	PKP	PKPdf	19 18 30.8	+0.4
	0.2nm,0.6s,baz=136,slow=5.0,SNR=2.1						
BRTR				PKPab	PKPab	19 18 57.8	-1.5
	0.6nm,0.8s,baz=212,slow=5.2,SNR=3.4						
MKAR	**Makanchi Array**	**167.37**	**265**	PKPab	PKPab	19 19 47.5	+1.1
	0.6nm,1.0s,baz=103,slow=5.5,SNR=3.7						

IDC 22 19:04:35.6±3.4, 2257S×17969W, h608km±39km, mb3.1/3, mb1 3.3/4, mb1mx3.1/13, mbtmp4.2/4, Error ellipse: s-maj=55.4km s-min=21.6km az=164.0
NEIC 22 19:04:24.4±0.9, 2191S×17929W, h500km, mb4.0/1, Error ellipse: s-maj=28.0km s-min=21.3km az=111.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.59**	**190**	P	P	19 07 51.2	+0.1
	0.7nm,0.3s,baz=156,slow=18,SNR=3.8						
STKA	**Stephens Creek**	**36.10**	**246**	P	P	19 10 42.7	-0.7
	1.4nm,0.5s,baz=81,slow=11,SNR=7.6						
ASAR	**Alice Springs**	**43.04**	**258**	P	P	19 11 40.2	+1.0
	3.4nm,0.7s,baz=103,slow=7.8,SNR=37						
ASAR				PcP	PcP	19 13 18.4	+0.2
	0.7nm,0.5s,baz=104,slow=3.9,SNR=6.2						
ASAR				S	S	19 17 19.9	-8.3
	0.6nm,1.0s,baz=101,slow=14,SNR=3.8						
WRA	**Warramunga Arr**	**43.23**	**264**	P	P	19 11 41.5	+0.7
	1.2nm,0.3s,baz=96,slow=8.1,SNR=22						
MBWA	**Marble Bar**	**56.38**	**259**	*eP*	P	19 13 17.7	+0.1
	4.5nm,0.6s						
AKASG	**Malin Array Be**	**143.63**	**329**	PKP	PKPdf	19 23 00.5	-1.4
	1.8nm,0.4s,baz=43,slow=4.0,SNR=14						
AKASG	**Malin Array Be**	**143.63**	**329**	PKP	PKPdf	19 23 00.5	-1.4
ASF	**Jabal al Asfar**	**146.33**	**295**	PKPbc	PKPbc	19 23 10.1	+1.4
	1.0nm,0.4s,baz=252,slow=6.4,SNR=2.9						
BRTR	**Keskin Array B**	**146.85**	**310**	PKPbc	PKPbc	19 23 10.4	+0.3
	1.0nm,0.6s,baz=142,slow=5.1,SNR=8.2						
MMAI	**Mount Meron Ar**	**147.43**	**297**	PKPbc	PKPbc	19 23 12.9	+1.3
	1.5nm,0.3s,baz=72,slow=8.0,SNR=11						
CLL	**Collm**	**149.13**	**345**	*i* PKPbc	PKPbc	19 23 16.6	+0.7
	comp=Z,6.0nm,0.5s						
BRG	**Berggiesshubel**	**149.29**	**344**	*i* P	PKPdf	19 23 17.4	+6.1
	comp=Z,3.5nm,0.6s						
KHC	**Kasperske Hory**	**150.97**	**342**	*e*PKPbc	PKPbc	19 23 21.0	+0.8
KHC				PKPab	PKPab	19 23 32.0	+2.1
GERES	**GERESS Array B**	**151.19**	**342**	PKPbc	PKPbc	19 23 21.4	+0.7
	comp=Z,0.5nm,0.4s,baz=29,slow=2.2,SNR=4.6						

NEIC 22 19:06:13.7±2.3, 2991S×17675W, h38km±14km, mb4.4/1, Error ellipse: s-maj=29.4km s-min=15.0km az=83.0
ISCJB 22 19:06:14.3±3.9, 3002S±008×1770W±03, h42km±19km, mb4.0/3, Error ellipse: s-maj=50.7km s-min=12.2km az=171.9
IDC 22 19:06:14.0±6.6, 2988S×17681W, h35km±43km, mb3.8/3, mb1 4.0/4, mb1mx3.8/13, mbtmp4.0/4, ML3.2/1, Error ellipse: s-maj=42.9km s-min=28.2km az=87.0
ISC 22 19:06:14.9±3.8, 2991S±009×1769W±03, h35km±20km, n9, σ0°22/9, mb4.0/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.10**	**306**	Pn	Pn	19 06 34.2	+0.4
	119nm,0.3s,baz=83,slow=21,SNR=4.3						
RAO				Sn	Sn	19 06 47.6	-0.2
	131nm,0.3s,baz=287,slow=19,SNR=5.5						
URZ	**Urewera**	**9.70**	**209**	Pn	Pn	19 08 31.5	-0.4
	0.2nm,0.3s,baz=103,slow=14,SNR=2.3						
URZ				Sn	Sn	19 10 19.7	+0.2
	0.8nm,0.3s,baz=33,slow=23,SNR=6.7						
STKA	**Stephens Creek**	**35.52**	**256**	*eP*	P	19 13 08.2	-0.1
	2.7nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**35.52**	**256**	P	P	19 13 08.5	+0.2
	3.0nm,0.9s,mb4.2,baz=79,slow=10,SNR=7.5						
ASAR	**Alice Springs**	**44.09**	**266**	P	P	19 14 19.4	-0.1
	0.5nm,0.5s,mb3.5,baz=104,slow=6.4,SNR=7.9						
WB2	**Warramunga Arr**	**45.02**	**271**	*eP*	P	19 14 27.0	0.0
WRA	**Warramunga Arr**	**45.03**	**271**	P	P	19 14 27.2	+0.1
	1.9nm,0.5s,mb4.2,baz=110,slow=7.7,SNR=12						
FINES	**FINESS Array B**	**145.00**	**341**	PKPbc	PKPbc	19 25 45.5	-2.2
	1.2nm,0.5s,baz=62,slow=3.3,SNR=13						
AKASG	**Malin Array Be**	**151.47**	**324**	PKPbc	PKPbc	19 26 03.6	-1.5
	1.5nm,0.6s,baz=46,slow=2.6,SNR=6.8						

ORF 22 19:16:15.3, 034N×98.27E, h30km, mb5.5
SZGRF 22 19:16:18.0, 174N×98.70E, h33km, mb5.0, Northern Sumatera, Indonesia
BJI 22 19:16:24.7, 103N×99.56E, h180km, mB4.7, mb4.7
MOS 22 19:16:27.9±1.0, 179N×99.60E, h157km, mb4.9/31, Error ellipse: s-maj=10.0km s-min=4.7km az=120.1
ISCJB 22 19:16:29.6±0.2, 169N±003×9952E±003, h174km, mb4.8/97, Error ellipse: s-maj=4.8km s-min=3.4km az=94.9
IDC 22 19:16:30.9±0.4, 185N×99.74E, h171km±2km, mb4.4/27, mb1 4.4/27, mb1mx4.4/28, mbtmp4.8/27, Error ellipse: s-maj=12.2km s-min=6.3km az=50.0
HRVD 22 19:16:31.9±0.4, 181N×9961E, h176km±3km, MW5.0/59, Centroid moment Tensor Solution. LP body waves: s11,c15;Mantle waves: s59,c89; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr~0.93±.17; Mθθ~2.67±.16; Mϕϕ3.59±.18; Mrθ 1.09±.12; Mϕθ~1.19±.16; Mϕr~2.45±.15; Best double couple: M0 4.08200×10^16 NP1:φs218.00000°, δ54.00000°, λ-1.00000°. NP2: φs309.00000°, δ89.00000°, λ-144.00000°. Principal axes: T 4.9710, Plg24.0000°, Azm78.0000°; N -1.7830, Plg54.0000°, Azm310.0000°; P -3.1940, Plg26.0000°, Azm180.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 22 19:16:31.9±0.7, 174N×9958E, h181km±6km, mb4.9/27 Error ellipse: s-maj=8.0km s-min=4.1km az=224.0
ISC 22 19:16:31.6±0.2, 171N±003×9956E±003, h176km, h176km±9km: pP-P, n267, σ0°99/280, mb4.8/97, 10C-23D, Northern Sumatera

| Code | Station Name | Δ° | AZ° |

KMI LR LR
comp=N,232nm,10.8s
KMI LR LR
comp=E,210nm,8.9s
KMI LR LR
comp=Z,240nm,12.0s
TGY Tagaytay City 24.46 59 P **P** **19 21 34.4 +0.2**
comp=Z,69nm,0.3s,baz=320,slow=8.9,SNR=9.4
HYB Hyderabad 25.88 308 *i* P **P** **19 21 48.0 +1.0**
HYB *e*pP pP 19 22 22.0 -0.9
HYB *e*PP 19 22 40.0
HYB *es*P sP 19 22 46.0 +2.7
HYB Hyderabad 25.88 308 *e*P **P** **19 21 48.0 +1.0**
HYB *e* pP 19 22 22.0 -0.9
JIRN Jiri 28.80 335 *e*P **P** **19 22 14.3 +1.2**
LSA Lhasa 28.96 345 *e*P **P** **19 22 16.0 +1.5**
PKI Pulchoki 29.06 333 *e*P **P** **19 22 16.1 +0.7**
AAI Ambon 29.12 101 P **P** **19 22 16.0 +0.1**
comp=Z,121nm,1.6s,mb5.4
GUN Gumba 29.15 335 *e*P **P** **19 22 17.4 +1.2**
comp=Z,134nm,0.3s
DMN Daman 29.23 333 *e*P **P** **19 22 17.6 +0.7**
comp=Z,21nm,0.3s,mb5.4
CD2 Chengdu 29.31 7 P **P** **19 22 18.3 +0.7**
CD2 AP pP 19 22 55.8 +1.8
CD2 XP sP 19 23 16.8 +2.6
CD2 PP PP 19 23 21.8 -5.5
CD2 S **S** **19 26 57.3 -0.4**
CD2 XS sS 19 28 03.8 +1.7
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
CD2 LR LR
comp=E,160nm,12.0s
CD2 LR LR
comp=Z,220nm,10.8s
KKN Kakani 29.31 333 *e*P **P** **19 22 18.3 +0.7**
KKN *e* 19 32 36.4
KKN pmax pmax
comp=Z,84nm,0.6s,mb5.7
KKN Kakani 29.31 333 *e*P **P** **19 22 18.3 +0.7**
comp=Z,84nm,0.6s,mb5.6
KKN *e*P 19 32 36.4
GKN Gorkha 29.78 333 *e*P **P** **19 22 22.3 +0.6**
comp=Z,66nm,0.3s
KOLN Koldanda 30.08 331 *e*P **P** **19 22 25.2 +0.9**
comp=Z,56nm,0.5s,mb5.5
MBWA Marble Bar 30.11 140 *e*P **P** **19 22 23.7 -0.9**
POO Poona 30.24 305 ⇓*i*P **P** **19 22 25.0 -0.8**
comp=Z,30nm,1.0s,mb5.0
SWI Sorong 31.80 94 P **P** **19 22 39.4 -0.1**
comp=Z,127nm,1.0s,mb5.6
FITZ Fitzroy Crossi 32.36 129 *e*P **P** **19 22 42.7 -1.6**
comp=Z,49nm,0.7s,mb5.3
FITZ *i* SCP ScP 19 28 53.7 -1.1
FITZ Fitzroy Crossi 32.36 129 P **P** **19 22 43.0 -1.3**
comp=Z,29nm,0.7s,mb5.1,baz=312,slow=6.4,SNR=18
FITZ PcP PcP 19 25 27.8 0.0
comp=Z,1.7nm,0.4s,baz=292,slow=6.0,SNR=2.6
FITZ S **S** **19 27 37.7 -7.5**
comp=Z,3.0nm,0.9s,baz=153,slow=19,SNR=3.7
FITZ ScP ScP 19 28 53.2 -1.5
comp=Z,7.8nm,0.9s,baz=213,slow=2.9,SNR=9.3
TLE Tual 33.94 103 P **P** **19 22 57.7 -0.3**
comp=Z,136nm,1.2s,mb5.6
NDI New Delhi 34.26 324 *ex* x 19 23 55.0
LZH Lanzhou 34.43 6 ⇓P **P** **19 23 02.9 +0.6**
LZH AP pP 19 23 40.1 +0.9
LZH XP sP 19 24 02.3 +3.0
LZH PP PP 19 24 25.8 +1.8
LZH PCP PcP 19 25 33.8 +0.2
LZH S **S** **19 28 15.9 -1.3**
LZH SCP ScP 19 29 01.3 -0.8
LZH PCS PcS 19 29 19.3 -0.9
LZH XS sS 19 29 24.5 +2.1
LZH SCS ScS 19 33 03.3 -1.9
LZH AMB AMB
comp=Z,27nm,1.3s,mb4.8
LZH AMB AMB
comp=Z,165nm,5.2s
NJ2 Nanjing 35.24 29 *e*P **P** **19 23 09.5 +0.3**
NJ2 AP pP 19 23 45.0 -1.2
NJ2 XP sP 19 24 05.8 -0.5
NJ2 PP PP 19 24 34.8 +2.0
NJ2 S **S** **19 28 32.0 +2.5**
NJ2 XS sS 19 29 38.0 +3.2
NJ2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.4
NJ2 AMB AMB
comp=Z,500nm,11.0s
NJ2 LR LR
comp=N,250nm,25.2s
NJ2 LR LR
comp=E,340nm,16.1s
NJ2 LR LR
comp=Z,100nm,20.5s
KAKA Kakadu 35.65 115 *e*P **P** **19 23 11.8 -0.9**
comp=Z,41nm,0.9s,mb5.1
SSE Sheshan 35.68 33 P **P** **19 23 13.6 +0.7**
SSE AP pP 19 23 51.5 +1.5
SSE XP sP 19 24 12.1 +2.0
SSE S **S** **19 28 37.0 +0.8**
SSE XS sS 19 29 44.6 +3.0
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,51nm,5.1s
SSE LR LR
comp=N,59nm,20.0s
SSE LR LR
comp=E,86nm,20.0s
SSE LR LR
comp=Z,96nm,17.0s
MUN Mundaring 37.04 156 *e*P **P** **19 23 24.7 +0.2**
KLBR Kellerberrin 37.36 154 ⇑*i*P **P** **19 23 27.6 +0.5**
comp=Z,18nm,0.8s,mb4.8
GTA Gaotai 37.52 0 P **P** **19 23 28.8 +0.3**
GTA AP pP 19 24 06.4 +0.5
GTA XP sP 19 24 26.0 +0.1
GTA PP PP 19 25 03.3 +5.5
GTA PCP PcP 19 25 42.5 -0.3
GTA S **S** **19 29 04.3 +0.1**
GTA SCP ScP 19 29 12.5 -0.9
GTA SCS ScS 19 33 19.3 -3.0
GTA AMB AMB
comp=Z,4.0nm,1.1s,mb4.0
GTA AMB AMB
comp=Z,97nm,5.7s
GTA LR LR
comp=N,88nm,13.3s
GTA LR LR
comp=E,98nm,12.9s
GTA LR LR
comp=Z,116nm,12.9s
NWAO Narrogin (SRO) 38.29 156 P **P** **19 23 35.5 +0.6**
comp=Z,12nm,0.6s,mb4.7,baz=316,slow=7.3,SNR=20
NWAO ScP ScP 19 29 14.8 -1.6
comp=Z,30nm,1.3s,baz=76,slow=3.4,SNR=3.6
NWAO Narrogin (SRO) 38.29 156 P **P** **19 23 35.5 +0.6**
NWAO ScP ScP 19 29 14.8 -1.6
WRA Warramunga Arr 40.34 124 P **P** **19 23 51.6 -0.3**
comp=Z,146nm,0.4s,baz=302,slow=9.1,SNR=325
WRA PcP PcP 19 25 52.1 +0.4
comp=Z,7.1nm,0.8s,baz=315,slow=2.4,SNR=4.7
WRA ScP ScP 19 29 22.8 -1.4
comp=Z,6.4nm,0.8s,baz=314,slow=3.3,SNR=15
WRA S **S** **19 29 40.5 -5.8**
comp=Z,9.9nm,0.9s,baz=296,slow=16,SNR=16
WRA ScS ScS 19 33 35.7 -3.0
comp=Z,1.2nm,0.8s,baz=303,slow=10,SNR=5.1
WRA Warramunga Arr 40.34 124 P **P** **19 23 51.6 -0.3**
WRA 19 25 52.1
WRA S **S** **19 29 40.5 -5.9**
WRA 19 33 35.7
WRAB Tennant Creek 40.34 124 *c i*P **P** **19 23 51.8 -0.1**
WB2 Warramunga Arr 40.35 124 *e*P **P** **19 23 51.6 -0.4**
WB2 *i* SCP ScP 19 29 21.8 -2.5
WB2 *e*S **S** **19 29 40.3 -6.2**
WB2 *e*SCS ScS 19 33 35.5 -3.3
HHC Hu-ho-hao-te 40.45 14 *e*P **P** **19 23 56.1 +3.3**
HHC AP pP 19 24 34.3 +3.7
HHC XP sP 19 24 54.1 +3.6
HHC PP PP 19 25 35.1 +5.5
HHC S **S** **19 29 52.1 +4.1**
HHC XS sS 19 30 58.5 +4.2

HHC SS SS 19 32 53.3 -1.3
HHC AMB AMB
comp=Z,14nm,1.1s,mb4.5
HHC AMB AMB
comp=Z,59nm,6.2s
HHC LR LR
comp=N,201nm,13.8s
HHC LR LR
comp=E,128nm,14.3s
HHC LR LR
comp=Z,117nm,14.9s
BJI Beijing 41.03 20 *e*P **P** **19 23 58.5 +0.9**
BJI AP pP 19 24 36.9 +1.4
BJI PP PP 19 25 35.8 -0.1
BJI S **S** **19 29 57.0 +0.4**
BJI AMB AMB
comp=Z,24nm,0.9s,mb4.8
BJI AMB AMB
comp=Z,95nm,3.4s
JAY Jayapura 41.35 96 P **P** **19 23 59.3 -0.9**
comp=Z,34nm,1.0s,mb4.9
ASAR Alice Springs 41.86 129 P **P** **19 24 03.8 -0.5**
comp=Z,18nm,0.7s,mb4.8,baz=300,slow=7.4,SNR=110
ASAR PcP PcP 19 25 57.2 +0.6
comp=Z,6.9nm,0.8s,baz=309,slow=3.2,SNR=10.0
ASAR ScP ScP 19 29 29.2 -1.0
comp=Z,6.9nm,0.7s,baz=306,slow=4.2,SNR=21
ASAR S **S** **19 30 02.2 -6.6**
comp=Z,3.7nm,0.8s,baz=296,slow=14,SNR=12
ASAR ScS ScS 19 33 45.9 -2.1
comp=Z,2.5nm,0.9s,baz=304,slow=6.5,SNR=13
ASAR Alice Springs 41.86 129 P **P** **19 24 03.8 -0.5**
ASAR 19 25 57.3
ASAR S **S** **19 30 02.2 -6.6**
ASAR 19 33 45.9
ASAR Alice Springs 41.86 129 P **P** **19 24 03.8 -0.5**
ASAR PcP PcP 19 25 57.2 +0.6
ASAR ScP ScP 19 29 29.2 -1.0
ASAR S **S** **19 30 02.2 -6.6**
ASAR ScS ScS 19 33 45.9 -2.1
FORT Forrest 42.19 142 ⇑*i*P **P** **19 24 06.9 -0.1**
comp=Z,28nm,0.6s,mb5.1
WMQ Urumqi 43.23 347 ⇑*i*P **P** **19 24 16.8 +1.4**
WMQ AP pP 19 24 56.6 +2.9
WMQ XP sP 19 25 17.1 +3.7
WMQ PP PP 19 26 01.8 +2.3
WMQ PCP PcP 19 26 03.8 +2.5
WMQ SCP ScP 19 29 36.3 +0.5
WMQ PCS PcS 19 29 54.8 +0.7
WMQ S **S** **19 30 29.6 +0.7**
WMQ XS sS 19 31 37.3 +1.4
WMQ SS SS 19 33 41.3 -7.7
WMQ SCS ScS 19 33 55.6 -0.9
WMQ AMB AMB
comp=Z,29nm,0.8s,mb5.0
WMQ LR LR
comp=N,955nm,20.0s
WMQ LR LR
comp=E,2μm,17.0s
WMQ LR LR
comp=Z,2μm,17.0s
KSH Kashi 43.33 333 *e*P **P** **19 24 16.0 -0.1**
KSH *e*AP pP 19 24 54.1 -0.3
KSH *e*XP sP 19 25 14.0 -0.2
KSH *e*PP PP 19 26 00.1 -0.4
KSH *e*PCP PcP 19 26 03.1 +1.5
KSH *e*SCP ScP 19 29 36.1 -0.1
KSH *e*PCS PcS 19 29 54.1 -0.4
KSH *e*S **S** **19 30 26.5 -3.8**
KSH *e*SCS ScS 19 33 55.3 -1.8
KSH AMB AMB
comp=Z,140nm,4.8s
KSH LR LR
comp=N,117nm,4.9s
KSH LR LR
comp=E,172nm,4.1s
KSH LR LR
comp=Z,168nm,5.0s
KS15 Wonju Array Si 44.09 33 *e*P **P** **19 24 21.5 -0.7**
WSAR Wadi Sarin 45.06 302 P **P** **19 24 31.3 +1.4**
comp=Z,6.3nm,0.6s,mb4.4,baz=136,slow=6.6,SNR=7.6
WSAR PcP PcP 19 26 08.9 +1.3
comp=Z,3.3nm,0.7s,baz=121,slow=4.7,SNR=4.1
TKM2 Tokmak 2 46.28 336 P **P** **19 24 40.4 +1.0**
TKM2 pmax pmax
comp=Z,42nm,0.9s,mb5.1
SONM Songino Array 46.32 6 P **P** **19 24 40.1 +0.3**
comp=Z,5.7nm,0.5s,mb4.5,baz=188,slow=9.4,SNR=7.8
SONM PcP PcP 19 26 12.1 +0.2
comp=Z,7.2nm,0.8s,baz=177,slow=4.6,SNR=5.6
SONM ScP ScP 19 29 47.5 -1.0
comp=Z,15nm,0.9s,baz=188,slow=3.8,SNR=18
SONM Songino Array 46.32 6 P **P** **19 24 40.1 +0.3**
SONM 19 26 12.1
ULN Ulaanbaatar 46.43 7 *i* P **P** **19 24 40.8 +0.2**
ULN Ulaanbaatar 46.43 7 *e*P **P** **19 24 40.6 0.0**
comp=Z,6.5nm,0.8s,mb4.3
AAK Ala-Archa 46.51 334 *d i*P **P** **19 24 41.5 +0.3**
AAK pmax pmax
comp=Z,16nm,0.7s,mb4.8
FRU Bishkek 46.62 335 *e*P **P** **19 24 43.0 +0.9**
FRU *e* 19 31 18.0
FRU pmax pmax
comp=Z,60nm,1.4s,mb5.0
MK31 Makanchi Array 47.36 344 P **P** **19 24 48.2 +0.4**
MK31 pmax pmax
comp=Z,6.0nm,0.3s,mb4.7
MKAR Makanchi Array 47.36 344 P **P** **19 24 48.3 +0.5**
comp=Z,25nm,0.3s,mb5.3,baz=161,slow=7.9,SNR=354
MKAR ScP ScP 19 29 52.0 -0.9
comp=Z,1.1nm,0.7s,baz=152,slow=6.5,SNR=3.6
MKAR S **S** **19 31 26.8 -1.3**
comp=Z,2.2nm,0.9s,baz=170,slow=14,SNR=7.2
CN2 Changchun 47.81 25 *e*P **P** **19 24 50.5 -0.8**
CN2 *e*AP pP 19 25 32.5 +2.2
CN2 *e*S **S** **19 31 32.8 -1.7**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb4.9
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,17.0s
CN2 LR LR
comp=E,200nm,17.0s
CN2 LR LR
comp=Z,200nm,16.0s
ZAK Zakamensk 48.59 3 *e*P **P** **19 24 56.8 -0.5**
ZAK *e* 19 26 19.7
ZAK pmax pmax
comp=Z,10.0nm,1.8s,mb4.1
ZAK pmax pmax
comp=Z,9.0nm,1.9s,mb4.1
ZAK pmax pmax
comp=Z,8.0nm,1.9s,mb4.0
KKAR Karatay Array 48.68 332 *e*P **P** **19 24 57.9 0.0**
KKAR pmax pmax
comp=Z,2.0nm,0.3s,mb4.2
PMG Port Moresby 48.69 104 *c i*P **P** **19 24 58.4 +0.4**
MAT Matsushiro 49.74 41 P **P** **19 25 04.8 -1.2**
MAT Matsushiro 49.74 41 *e*P **P** **19 25 05.0 -1.0**
MJAR Matsushiro Arr 49.74 41 P **P** **19 25 03.9 -2.1**
comp=Z,4.6nm,0.8s,mb4.2,baz=228,slow=6.2,SNR=10.0
MJAR PcP PcP 19 26 23.0 -1.3
comp=Z,3.8nm,0.9s,baz=224,slow=3.8,SNR=7.4
MJAR ScP ScP 19 30 01.0 -2.0
comp=Z,1.8nm,0.6s,baz=228,slow=6.2,SNR=5.5
MJAR Matsushiro Arr 49.74 41 P **P** **19 25 03.9 -2.1**
MJAR 19 26 23.0
MOY Mondy 49.79 1 *e*P **P** **19 25 07.3 +0.9**
TLY Talaya 49.91 3 *e*P **P** **19 25 08.3 +1.1**
TLY *e* 19 27 06.2
TLY *e*SSS 19 35 36.8
TLY pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
TLY MLR MLR
comp=Z,50nm,12.0s
MDJ Mudanjiang 50.30 28 P **P** **19 25 09.8 -0.4**
MDJ AP pP 19 25 49.9 +0.4
MDJ XP sP 19 26 10.3 +1.3
MDJ PP PP 19 27 07.0 -0.3
MDJ SCP ScP 19 30 04.3 -1.1
MDJ PCS PcS 19 30 23.3 -0.4
MDJ S **S** **19 32 10.6 +1.4**
MDJ XS sS 19 33 17.8 0.0
MDJ SCS ScS 19 34 41.1 -1.8

MDJ SS SS 19 35 45.9 +1.0
MDJ AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
MDJ AMB AMB
comp=Z,40nm,3.9s
MDJ LR LR
comp=N,76nm,17.4s
MDJ LR LR
comp=E,20nm,16.0s
MDJ LR LR
comp=Z,95nm,16.0s
CTA Charters Tower 50.64 118 *e*P **P** **19 25 13.4 +0.7**
comp=Z,18nm,0.8s,mb4.8
CTA *i* SCP ScP 19 30 06.3 -0.6
CTA *e*S **S** **19 32 12.7 -1.2**
CTA Charters Tower 50.64 118 ScP ScP 19 30 06.1 -0.8
comp=Z,16nm,1.0s,baz=312,slow=6.6,SNR=8.0
CTA S **S** **19 32 11.3 -2.6**
comp=Z,4.5nm,0.9s,baz=58,slow=22,SNR=5.9
CTA Charters Tower 50.64 118 *e*P **P** **19 25 13.4 +0.7**
CTA *e*S **S** **19 32 12.7 -1.2**
CTA pmax pmax
comp=Z,18nm,0.8s
CTAO Charters Tower 50.64 118 *e*P **P** **19 25 13.3 +0.6**
CTAO pmax pmax
comp=Z,23nm,0.8s,mb4.9
CTAO Charters Tower 50.64 118 *e*P **P** **19 25 13.3 +0.6**
comp=Z,23nm,0.8s,mb4.9
CIT Chita 51.49 11 *e*P **P** **19 25 19.9 +0.9**
CIT *e* 19 26 31.4
CIT pmax pmax
comp=Z,33nm,1.6s,mb4.7
KURK Kurchatov 51.95 343 P **P** **19 25 22.6 +0.2**
KURK pmax pmax
comp=Z,7.0nm,0.7s,mb4.4
STKA Stephens Creek 51.98 134 *e*P **P** **19 25 20.3 -2.4**
comp=Z,14nm,0.8s,mb4.7
STKA *i* SCP ScP 19 30 09.3 -3.4
STKA Stephens Creek 51.98 134 P **P** **19 25 20.4 -2.2**
comp=Z,19nm,0.8s,mb4.8,baz=308,slow=7.7,SNR=37
STKA PcP PcP 19 26 31.1 -1.5
comp=Z,3.4nm,0.6s,baz=320,slow=4.4,SNR=3.2
STKA ScP ScP 19 30 09.7 -3.0
comp=Z,2.6nm,0.7s,baz=338,slow=6.4,SNR=4.5
STKA S **S** **19 32 25.8 -6.4**
comp=Z,4.2nm,1.1s,baz=94,slow=12,SNR=4.4
KRAR Krasnoyarsk 54.40 355 ⇓*e*P **P** **19 25 40.9 +0.6**
KRAR pmax pmax
comp=Z,28nm,0.9s,mb5.0
NVS Novosibirsk 54.61 348 ⇑*i*P **P** **19 25 40.1 -1.8**
NVS *i* 19 26 37.0
NVS *e*S **S** **19 33 00.3 -7.4**
NVS *i* 19 35 06.6
NVS pmax pmax
comp=N,6.0nm,1.1s
NVS pmax pmax
comp=Z,8.0nm,1.1s,mb4.4
NVS smax
comp=N,540nm,1.7s
NVS smax
comp=E,19nm,1.5s
KLR Kul'dur 54.77 25 *e*P **P** **19 25 39.6 -3.4**
KLR *e* pP 19 26 18.3 -4.7
KLR pmax pmax
comp=E,28nm,1.0s
KLR pmax pmax
comp=Z,60nm,1.0s,mb5.3
HABR Khabarovsk 55.69 28 *e*P **P** **19 25 48.1 -1.5**
HABR S **S** **19 33 20.5 -1.5**
QRN Al-Qurain 56.02 304 *e*P **P** **19 25 52.0 +0.1**
VOSK Vostochnaya 56.12 339 P **P** **19 25 51.9 -0.7**
VOSK pmax pmax
comp=Z,3.0nm,0.4s,mb4.5
KBD Kabd 56.34 304 *e*P **P** **19 25 54.5 +0.3**
KBD AMb AMB 19 25 55.2
comp=Z,156nm,0.9s,mb5.8
RDF Al-Radifah 56.38 304 *e*P **P** **19 25 54.8 +0.3**
RDF AMb AMB 19 25 55.5
comp=Z,81nm,0.7s,mb5.7
BVA0 Borovoye Array 56.57 339 *i* P **P** **19 25 55.3 -0.5**
BVA0 pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
NAY Al-Naaiem 56.74 304 *e*P **P** **19 25 57.1 +0.1**
NAY AMb AMB 19 25 57.8
comp=Z,44nm,0.7s,mb5.4
MIB Mutribah 56.84 305 *e*P **P** **19 25 58.2 +0.5**
MIB AMb AMB 19 25 59.6
comp=Z,142nm,0.7s
ASAJ Asahikawa 56.85 36 P **P** **19 25 57.0 -0.8**
comp=Z,7.8nm,0.7s,mb4.6,baz=157,slow=11,SNR=5.4
ZRNK Zerenda 57.01 338 *e*P **P** **19 25 58.0 -0.9**
ZRNK pmax pmax
comp=Z,6.0nm,0.4s,mb4.8
ZRNK Zerenda 57.01 338 *e*P **P** **19 25 58.0 -0.9**
comp=Z,5.7nm,0.4s,mb4.8
CHKZ Chkalovo 57.02 340 *e*P **P** **19 25 58.5 -0.5**
CHKZ pmax pmax
comp=Z,16nm,0.8s,mb4.9
CHKZ Chkalovo 57.02 340 *e*P **P** **19 25 58.5 -0.5**
comp=Z,16nm,0.8s,mb4.9
ATD Arta Tunnel 57.07 283 P **P** **19 26 00.9 +1.6**
comp=Z,9.8nm,0.6s,mb4.8,baz=251,slow=22,SNR=5.9
AB31 Akbulak array 58.20 331 *e*P **P** **19 26 06.7 -0.5**
AB31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
CLNS Chul'man 58.58 16 *e*P **P** **19 26 09.9 +0.1**
CLNS pmax pmax
comp=N,19nm,0.9s
CLNS pmax pmax
comp=E,17nm,0.9s
CLNS pmax pmax
comp=Z,44nm,0.9s,mb5.3
YSS Yuzh-Sakhalins 58.62 33 *e*P **P** **19 26 09.7 -0.4**
YSS *e**PP pP 19 26 52.0 +1.4
YSS pmax pmax
comp=Z,36nm,0.9s,mb5.2
YSS Yuzh-Sakhalins 58.62 33 *e*P **P** **19 26 09.7 -0.4**
comp=Z,36nm,0.9s,mb5.2
YSS *e*pP pP 19 26 52.0 +1.4
ARMA Armidale 58.95 127 *e*P **P** **19 26 14.6 +2.2**
AKTK Aktyubinsk 59.91 331 P **P** **19 26 18.1 -0.9**
AKTK pP pP 19 26 58.6 -1.1
AKTK ScP ScP 19 30 47.0 -0.6
AKTK S **S** **19 34 07.1 -10**
AKTO Aktyubinsk 59.91 331 P **P** **19 26 18.1 -0.9**
comp=Z,2.8nm,0.3s,mb4.6,baz=124,slow=6.2,SNR=30
AKTO pP pP 19 26 58.6 -1.1
comp=Z,15nm,0.9s,baz=130,slow=7.2,SNR=9.8
AKTO ScP ScP 19 30 47.0 -0.6
comp=Z,5.8nm,0.9s,baz=114,slow=5.1,SNR=7.1
AKTO S **S** **19 34 07.1 -10**
comp=Z,0.9nm,0.9s,baz=258,slow=20,SNR=2.3
AKTO Aktyubinsk 59.91 331 P **P** **19 26 18.1 -0.9**
AKTO *PP pP 19 26 58.6 -1.1
AKTO S **S** **19 34 07.1 -10**
HNR Honiara 61.16 102 P **P** **19 26 26.9 -0.5**
comp=Z,125nm,0.9s,mb5.8,baz=251,slow=3.5,SNR=8.0
HNR Honiara 61.16 102 *e*P **P** **19 26 27.3 -0.1**
HNR pmax pmax
comp=Z,90nm,0.9s,mb5.6
HNR Honiara 61.16 102 *e*P **P** **19 26 27.3 -0.1**
comp=Z,90nm,0.9s,mb5.6
KMBO Kilima Mbogo 62.36 268 P **P** **19 26 36.7 +1.3**
comp=Z,9.9nm,0.8s,mb4.7,baz=60,slow=9.5,SNR=35
KMBO Kilima Mbogo 62.36 268 P **P** **19 26 36.7 +1.3**
GNI Garni 62.58 315 P **P** **19 26 37.1 +0.2**
comp=Z,12nm,0.8s,mb4.8,baz=125,slow=2.8,SNR=12
GNI Garni 62.58 315 *d i*P **P** **19 26 37.3 +0.4**
GNI Garni 62.58 315 *e*P **P** **19 26 37.1 +0.2**
comp=Z,26nm,0.9s,mb5.1
ARU Arti 63.65 336 ⇓*i*P **P** **19 26 43.0 -0.9**
ARU *e* pP 19 27 23.2 -1.9
ARU *e* 19 29 03.5
ARU *e*S **S** **19 35 01.2 -2.7**
ARU *e*SS SS 19 39 09.1 -5.6
ARU pmax pmax
comp=Z,11nm,0.9s,mb4.7
ZEI Tsey 64.19 318 *e*P **P** **19 26 48.6 +1.1**
ZEI pmax pmax
comp=Z,27nm,0.7s,mb5.2
YAK Yakutsk 64.29 15 *e*P **P** **19 26 47.4 -0.7**
YAK *e* 19 35 13.1
YAK *e*S sS 19 36 19.1 -4.4
YAK pmax pmax
comp=Z,44nm,1.2s,mb5.2

YAK					pmax	pmax			
	comp=N,19nm,1.3s								
YAK					pmax	pmax			
	comp=E,12nm,1.4s								
YAK					pmax	pmax			
	comp=N,8.0nm,1.3s								
YAK					pmax	pmax			
	comp=E,6.0nm,1.2s								
YAK					smax				
	comp=N,7.0nm,1.3s								
YAK					smax				
	comp=E,8.0nm,1.5s								
YAK	**Yakutsk**	**64.29**	**15**	*e*P	**P**		**19 26 46.6**	**-1.5**	
	comp=E,78nm,1.0s,mb5.5								
ERZM	**Erzurum**	**64.90**	**314**	*i* P	**P**		**19 26 48.6**	**-3.4**	
KIV	**Kislovodsk**	**65.47**	**318**	*e*P	**P**		**19 26 55.8**	**0.0**	
KIV				*e*			19 27 26.4		
KIV				*e**PP	pP		19 27 36.7	-0.5	
KIV				*e*S	S		19 35 25.1	-1.2	
KIV				pmax	pmax				
	comp=Z,33nm,1.2s,mb5.0								
ASF	**Jabal al Asfar**	**66.10**	**305**	P	**P**		**19 27 01.4**	**+1.6**	
	comp=Z,16nm,1.0s,mb4.8,baz=351,slow=4.8,SNR=18								
MALT	**Malatya**	**66.55**	**311**	*e*P	**P**		**19 27 03.1**	**+0.5**	
MALT				pmax	pmax				
	comp=Z,22nm,1.1s,mb4.9								
MALT	**Malatya**	**66.55**	**311**	*e*P	**P**		**19 27 03.1**	**+0.5**	
	comp=Z,22nm,1.1s,mb4.9								
GZT	**Gaziantep**	**66.92**	**310**	*i* P	**P**		**19 27 05.8**	**+0.8**	
EIL	**Elat**	**67.19**	**301**	*e*P	**P**		**19 27 07.4**	**+0.8**	
	comp=Z,768nm,1.3s								
SOC	**Sochi**	**67.33**	**317**	*d* iP	**P**		**19 27 06.8**	**-0.8**	
SOC				*i* *PP	pP		19 27 47.7	-1.5	
SOC				*e*			19 29 37.9		
SOC				*e*PPP			19 31 19.9		
SOC				*e*S	S		19 35 45.9	-2.8	
SOC				*e*			19 36 38.1		
SOC				*e*SSS			19 43 19.9		
SOC				pmax	pmax				
	comp=Z,42nm,0.6s,mb5.5								
GRSN	**GIRESUNGRSN**	**67.47**	**314**	*i* P	**P**		**19 27 07.5**	**-0.9**	
MMAI	**Mount Meron Ar**	**67.53**	**305**	P	**P**		**19 27 10.2**	**+1.5**	
	comp=Z,23nm,0.8s,mb4.9,baz=94,slow=7.6,SNR=35								
MMAI				pP	pP		19 27 49.8	-0.6	
	comp=Z,3.3nm,0.8s,baz=101,slow=8.1,SNR=2.4								
COBT	**Iskenderun**	**67.70**	**309**	*i* P	**P**		**19 27 10.9**	**+1.0**	
VRHR	**Novokhopersk**	**69.04**	**325**	*e*P	**P**		**19 27 17.2**	**-1.0**	
VRHR				pmax	pmax				
	comp=Z,20nm,0.6s,mb5.0								
VRHR				pmax	pmax				
	comp=N,9.0nm,0.5s								
VRHR				pmax	pmax				
	comp=E,30nm,0.9s								
ANN	**Anapa**	**69.29**	**318**	*e*P	**P**		**19 27 17.0**	**-2.7**	
ANN				*e*			19 27 39.9		
ANN				*i* *PP	pP		19 27 59.8	-1.8	
ANN				*e*			19 29 54.9		
ANN				*e*S	S		19 36 10.1	-1.7	
ANN				pmax	pmax				
	comp=Z,12nm,1.4s,mb4.4								
DZM	**Mont Dzumac**	**69.34**	**114**	P	**P**		**19 27 20.8**	**+0.8**	
	baz=252,slow=6.4								
CSS	**Prodhromos**	**69.64**	**307**	*e*P	**P**		**19 27 21.7**	**-0.1**	
	comp=Z,49nm,1.3s,mb5.1								
CTKT	**Corum**	**69.90**	**313**	*i* P	**P**		**19 27 23.2**	**-0.3**	
BOYT	**Boyabat**	**70.04**	**314**	*i* P	**P**		**19 27 24.4**	**+0.2**	
ERMK	**Ermenek**	**70.34**	**308**	*i* P	**P**		**19 27 25.1**	**-1.0**	
VRSR	**Storozhevoye**	**70.49**	**325**	*e*P	**P**		**19 27 26.0**	**-1.0**	
VRSR				pmax	pmax				
	comp=Z,5.0nm,0.9s,mb4.2								
VRSR				pmax	pmax				
	comp=N,1.0nm,0.8s								
VRSR				pmax	pmax				
	comp=E,5.0nm,0.9s								
BR131	**Keskin Array S**	**70.52**	**312**	*e*P	**P**		**19 27 26.5**	**-0.7**	
	comp=E,16nm,0.8s,mb4.8								
BR131				*e*pP	pP		19 28 07.7	-1.4	
BRTR	**Keskin Array B**	**70.52**	**312**	P	**P**		**19 27 26.6**	**-0.6**	
	comp=E,14nm,0.8s,mb4.8,baz=127,slow=7.0,SNR=90								
BRTR				pP	pP		19 28 07.7	-1.5	
	comp=E,9.1nm,0.8s,baz=131,slow=7.4,SNR=8.1								
VOR	**Voronezh**	**70.69**	**325**	*e*P	**P**		**19 27 26.0**	**-2.2**	
VOR				*e*	pP		19 28 07.0	-3.2	
VOR				pmax	pmax				
	comp=Z,40nm,1.5s,mb4.9								
BALT	**Daday**	**71.17**	**313**	*i* P	**P**		**19 27 31.4**	**+0.3**	
ANTO	**Ankara**	**71.19**	**312**	*e*P	**P**		**19 27 31.2**	**0.0**	
ANTO				*e**PP	pP		19 28 12.8	-0.5	
ANTO				pmax	pmax				
	comp=Z,8.0nm,0.8s,mb4.5								
ANTO	**Ankara**	**71.19**	**312**	*e*P	**P**		**19 27 31.2**	**0.0**	
	comp=Z,8.3nm,0.8s,mb4.5								
ANTO				*e*pP	pP		19 28 12.8	-0.5	
SIM	**Simferopol'**	**71.58**	**317**	*de*P	**P**		**19 27 33.5**	**-0.1**	
SIM				*PP	pP		19 28 16.0	+0.3	
SIM				pmax	pmax				
	comp=Z,25nm,0.8s,mb5.0								
SGKT	**Sivrigoynuk**	**71.90**	**312**	*i* P	**P**		**19 27 35.3**	**-0.2**	
ESKT	**Eskisehir**	**72.57**	**311**	*i* P	**P**		**19 27 39.0**	**-0.4**	
TKTP	**Tekketepe**	**72.66**	**309**	*i* P	**P**		**19 27 39.5**	**-0.5**	
HENT	**Hendek**	**72.82**	**312**	*i* P	**P**		**19 27 40.3**	**-0.6**	
MOS	**Moscow**	**73.11**	**329**	*e*P	**P**		**19 27 40.2**	**-2.5**	
MOS				*i*			19 28 39.9		
MOS				pmax	pmax				
	comp=Z,46nm,0.8s,mb5.3								
OBN	**Obninsk**	**73.43**	**328**	⇓*e*P	**P**		**19 27 43.8**	**-0.7**	
OBN				*e**PP	pP		19 28 26.1	-0.7	
OBN				*e*			19 28 44.1		
OBN				*e*S	S		19 36 55.5	-3.8	
OBN				pmax	pmax				
	comp=Z,28nm,1.1s,mb4.9								
MAW	**Mawson**	**73.75**	**194**	*e*P	**P**		**19 27 46.9**	**+0.5**	
	comp=Z,8.3nm,0.5s,mb4.7								
MAW	**Mawson**	**73.75**	**194**	P	**P**		**19 27 47.6**	**+1.2**	
	comp=Z,11nm,0.6s,mb4.8,baz=30,slow=5.7,SNR=49								
MAW	**Mawson**	**73.75**	**194**	*e*P	**P**		**19 27 46.9**	**+0.5**	
MAW				pmax	pmax				
	comp=Z,8.0nm,0.5s								
KLMR	**Klimovskoe**	**74.32**	**334**	*e*P	**P**		**19 27 48.3**	**-1.4**	
KLMR				pmax	pmax				
	comp=Z,20nm,1.8s,mb4.5								
KLMR				pmax	pmax				
	comp=E,20nm,2.0s								
KDAG	**Bornova**	**75.09**	**309**	*i* P	**P**		**19 27 54.2**	**+0.1**	
PRD	**Provadia**	**75.86**	**314**	*i* P	**P**		**19 27 58.2**	**-0.3**	
AKASG	**Malin Array Be**	**76.30**	**322**	P	**P**		**19 27 59.9**	**-1.1**	
	comp=E,3.7nm,0.5s,mb4.3,baz=88,slow=4.7,SNR=29								
AKASG				pP	pP		19 28 41.4	-2.2	
	comp=E,6.0nm,0.9s,baz=90,slow=4.6,SNR=4.0								
AKASG				S	S		19 37 24.2	-6.8	
	comp=E,0.3nm,0.4s,baz=105,slow=11,SNR=3.2								
ALN	**Alexandroupoli**	**76.44**	**312**	*e*P	**P**		**19 28 01.5**	**-0.3**	
VRI	**Vrincioaia**	**76.85**	**317**	⇑iP	**P**		**19 28 05.0**	**+0.9**	
PLOR	**Plostina**	**76.90**	**317**	⇑iP	**P**		**19 28 05.1**	**+0.7**	
SZH	**Strazhica**	**76.93**	**314**	*i* P	**P**		**19 28 05.2**	**+0.7**	
DIM	**Dimitrovgrad**	**77.01**	**313**	*i* P	**P**		**19 28 04.9**	**-0.1**	
KDZ	**Kurdzhali**	**77.03**	**312**	*i* P	**P**		**19 28 04.8**	**-0.3**	
MLR	**Muntele Rosu**	**77.32**	**316**	⇓iP	**P**		**19 28 07.1**	**+0.4**	
MLR	**Muntele Rosu**	**77.32**	**316**	⇓P	**P**		**19 28 07.1**	**+0.4**	
RZN	**Rozhen**	**77.56**	**312**	*i* P	**P**		**19 28 10.0**	**+2.0**	
RPZ	**Rata Peaks**	**77.90**	**135**	P	**P**		**19 28 09.9**	**0.0**	
	comp=E,9.7nm,0.6s,mb4.6,baz=263,slow=3.7,SNR=11								
RPZ	**Rata Peaks**	**77.90**	**135**	P	**P**		**19 28 09.9**	**0.0**	
VOIR		**77.93**	**316**	⇓iP	**P**		**19 28 09.0**	**-1.1**	
VOIR		**77.93**	**316**	⇓P	**P**		**19 28 09.0**	**-1.1**	
PAIG	**Paliouri**	**78.08**	**310**	*e*P	**P**		**19 28 10.3**	**-0.5**	
PGB	**Panagyurishte**	**78.09**	**313**	*i* P	**P**		**19 28 10.6**	**-0.3**	
BURAR	**Bucovina Array**	**78.20**	**318**	⇓iP	**P**		**19 28 12.6**	**+1.0**	
BURAR	**Bucovina Array**	**78.20**	**318**	⇓P	**P**		**19 28 12.6**	**+1.1**	
MMB	**Musomiste**	**78.28**	**312**	*i* P	**P**		**19 28 10.9**	**-1.1**	
JOF	**Joensuu**	**78.70**	**334**	*e*p	**P**		**19 28 13.5**	**-0.8**	
	comp=E,2.6nm,0.3s,mb4.3								
KKB	**Krupnik**	**78.79**	**312**	*i* P	**P**		**19 28 14.8**	**0.0**	
VTS	**Vitosha**	**78.80**	**313**	*i* P	**P**		**19 28 14.5**	**-0.3**	
KNT	**Kendrikon**	**78.83**	**312**	*e*P	**P**		**19 28 14.0**	**-1.0**	
AGG	**Agios Georgios**	**79.00**	**309**	*e*P	**P**		**19 28 14.2**	**-1.7**	
LIT	**Litokhoron**	**79.01**	**310**	*e*P	**P**		**19 28 14.9**	**-1.1**	
GRG	**Griva**	**79.18**	**311**	*e*P	**P**		**19 28 15.6**	**-1.3**	
DRGR		**79.75**	**317**	⇓iP	**P**		**19 28 20.9**	**+0.9**	
DRGR		**79.75**	**317**	⇓P	**P**		**19 28 20.9**	**+0.9**	
BILL	**Bilibino**	**79.86**	**21**	⇓*e*P	**P**		**19 28 18.3**	**-2.2**	
BILL				pmax	pmax				
	comp=Z,8.0nm,1.5s,mb4.1								
FNA	**Florina**	**79.93**	**311**	*e*P	**P**		**19 28 19.9**	**-1.1**	
SKO	**Skopje**	**80.02**	**312**	*e*P	**P**		**19 28 19.4**	**-2.1**	
KWP	**Kalwaria**	**80.19**	**320**	*e*P	**P**		**19 28 22.5**	**+0.2**	
LKD	**Levkas**	**80.27**	**309**	*e*P	**P**		**19 28 22.7**	**-0.1**	
BZS	**Buzias**	**80.34**	**316**	⇓iP	**P**		**19 28 23.3**	**+0.2**	
BZS	**Buzias**	**80.34**	**316**	⇓P	**P**		**19 28 23.3**	**+0.1**	
KOLS	**Kolonicke sedl**	**80.36**	**319**	*e*P	**P**		**19 28 24.1**	**+0.9**	
SUW	**Suwalki**	**80.62**	**324**	*e*P	**P**		**19 28 24.6**	**0.0**	
FINES	**FINESS Array B**	**80.64**	**332**	P	**P**		**19 28 24.3**	**-0.4**	
	comp=Z,2.9nm,0.3s,mb4.3,baz=107,slow=5.7,SNR=40								
FINES				pP	pP		19 29 06.5	-1.3	
	comp=Z,1.5nm,0.6s,baz=117,slow=11,SNR=2.6								
KAF	**Kangasniemi**	**80.70**	**333**	*e*p	**P**		**19 28 24.4**	**-0.6**	
	comp=Z,9.6nm,0.6s,mb4.6,baz=99,slow=4.9								
KAF	**Kangasniemi**	**80.70**	**333**	*e*P	**P**		**19 28 24.4**	**-0.6**	
KAF				pmax	pmax				
	comp=Z,10.0nm,0.6s,mb4.6								
STHS	**Stebnicka Huta**	**81.10**	**320**	*i* P	**P**		**19 28 27.9**	**+0.7**	
STHS				*e*pP	pP		19 29 11.1	+0.9	
KECS	**Kecovo**	**81.47**	**319**	*e*P	**P**		**19 28 29.3**	**+0.2**	
KECS				*e*pP	pP		19 29 13.1	+0.9	
OJC	**Ojcow**	**82.13**	**320**	*e*P	**P**		**19 28 33.0**	**+0.4**	
ARCES	**ARCESS Array B**	**82.85**	**340**	P	**P**		**19 28 36.0**	**-0.3**	
	comp=Z,2.2nm,0.4s,mb4.2,baz=104,slow=6.2,SNR=35								
OKC	**Ostrava-Krasne**	**83.15**	**320**	*e*P	**P**		**19 28 38.5**	**+0.7**	
TIP	**Timpagrande**	**83.33**	**309**	*e*P	**P**		**19 28 39.4**	**+0.6**	
MORC	**Moravsky Berou**	**83.53**	**320**	⇓P	**P**		**19 28 40.4**	**+0.6**	
ZST	**Bratislava**	**83.69**	**318**	*e*P	**P**		**19 28 41.1**	**+0.5**	
DPC	**Dobruska-Polom**	**84.36**	**320**	*e*P	**P**		**19 28 45.1**	**+1.1**	
UPC	**Upice**	**84.57**	**320**	*e*P	**P**		**19 28 45.9**	**+0.9**	
BOJS	**Bojanci**	**84.78**	**315**	*e*P	**P**		**19 28 46.4**	**+0.3**	
LJU	**Ljubljana**	**85.32**	**316**	*e*P	**P**		**19 28 49.5**	**+0.8**	
PRU	**Pruhonice**	**85.48**	**320**	*e*P	**P**		**19 28 50.1**	**+0.5**	
PRU				MLR	MLR				
	comp=Z,3μm,24.4s								
VNDA	**Vanda**	**85.86**	**169**	P	**P**		**19 28 51.4**	**0.0**	
	comp=Z,1.9nm,0.8s,mb3.9,baz=314,slow=5.8,SNR=13								
VNDA	**Vanda**	**85.86**	**169**	*e*P	**P**		**19 28 51.4**	**0.0**	
VNDA				pmax	pmax				
	comp=Z,16nm,1.7s								
VNDA	**Vanda**	**85.86**	**169**	*e*P	**P**		**19 28 51.4**	**-0.1**	
	comp=Z,16nm,1.7s,mb4.5								
BRG	**Berggiesshubel**	**85.90**	**321**	*e*P	**P**		**19 28 52.2**	**+0.6**	
	comp=Z,4.2nm,0.8s,mb4.2								
BRG				*e*	pP		19 29 35.2	0.0	
	comp=Z,8.2nm,1.6s								
BRG	**Berggiesshubel**	**85.90**	**321**	*e*P	**P**		**19 28 52.2**	**+0.6**	
BRG				*e*	pP		19 29 35.2	0.0	
BRG				pmax	pmax				
	comp=Z,4.0nm,0.9s,mb4.2								
BRG				pmax	pmax				
	comp=Z,8.0nm,1.6s,mb4.2								
GERES	**GERESS Array B**	**85.98**	**319**	P	**P**		**19 28 52.4**	**+0.4**	
	comp=Z,3.9nm,0.8s,mb4.2,baz=105,slow=4.7,SNR=25								
GERES				pP	pP		19 29 35.2	-0.3	
	comp=Z,1.4nm,0.8s,baz=93,slow=6.7,SNR=3.1								
ROBS	**Robic**	**86.03**	**316**	*e*P	**P**		**19 28 52.0**	**-0.2**	
KHC	**Kasperske Hory**	**86.08**	**319**	*e*P	**P**		**19 28 53.0**	**+0.5**	
KHC				*e*			19 38 57.5		
KHC				MLR	MLR				
	comp=Z,2μm,24.7s								
CLL	**Collm**	**86.51**	**321**	*i* P	**P**		**19 28 54.9**	**+0.3**	
	comp=Z,13nm,1.3s,mb4.6								
CLL				*e*pP	pP		19 29 38.0	-0.2	
CLL	**Collm**	**86.51**	**321**	*i* P	**P**		**19 28 54.9**	**+0.3**	
CLL				pmax	pmax				
	comp=Z,13nm,1.3s,mb4.6								
NKC	**Novy Kostel**	**86.84**	**320**	*e*P	**P**		**19 28 57.6**	**+1.4**	
NKC				*e*			19 38 59.7		
NKC				MLR	MLR				
	comp=Z,2μm,20.9s								
SBA	**Scott Base**	**86.96**	**169**	*e*P	**P**		**19 28 57.0**	**+0.2**	
GRF	**Grafenberg Arr**	**87.62**	**319**	*e*P	**P**		**19 29 00.6**	**+0.7**	
	comp=Z,13nm,1.1s,mb4.7								
GRF	**Grafenberg Arr**	**87.62**	**319**	*e*P	**P**		**19 29 00.6**	**+0.7**	
GRF				pmax	pmax				
	comp=Z,13nm,1.1s,mb4.7								
GRF				MLR	MLR				
	comp=Z,2μm,20.6s								
GRF	**Grafenberg Arr**	**87.62**	**319**	*e*P	**P**		**19 29 00.6**	**+0.7**	
GRF				pmax	pmax				
	comp=Z,13nm,1.1s,mb4.7								
NB2	**NORSAR Subarra**	**87.71**	**331**	P	**P**		**19 28 59.7**	**-0.6**	
	comp=Z,0.2nm,0.7s,baz=93,slow=5.6								
NOA	**NORSAR Array B**	**87.71**	**331**	P	**P**		**19 28 58.3**	**-2.0**	
	comp=Z,2.2nm,0.8s,mb4.0,baz=93,slow=4.8,SNR=5.8								
NOA				pP	pP		19 29 42.6	-1.5	
	comp=Z,3.4nm,0.8s,baz=92,slow=4.8,SNR=6.6								
DAVOX	**Davos**	**88.54**	**317**	P	**P**		**19 29 04.9**	**+0.7**	
	comp=Z,14nm,0.6s,mb5.1,baz=124,slow=3.9,SNR=16								
QSPA	**South Pole Qui**	**91.65**	**180**	*e*P	**P**		**19 29 19.3**	**+0.6**	
	comp=Z,3.9nm,0.6s,mb4.6								
TORD	**Torodi Ar. Bea**	**97.27**	**283**	P	**P**		**19 29 44.7**	**+0.3**	
	comp=Z,0.4nm,0.7s,mb3.9,baz=95,slow=4.5,SNR=4.1								
TORD				PKiKP	PKiKP		19 34 19.8	+1.0	
	comp=Z,0.7nm,1.0s,baz=82,slow=1.0,SNR=4.3								
ILAR	**Eielson Array**	**98.30**	**23**	P	**P**		**19 29 46.2**	**-2.8**	
	comp=Z,0.6nm,0.9s,mb4.0,baz=282,slow=4.6,SNR=4.6								
ILAR				PP	PP		19 33 41.5	-10	
	comp=Z,1.1nm,1.0s,baz=304,slow=8.3,SNR=6.6								
ILAR				PKKPbc	PKKPbc		19 46 18.9	-0.5	
	comp=Z,0.9nm,0.7s,baz=159,slow=1.8,SNR=8.7								
INK	**Inuvik**	**101.29**	**18**	P	Pdif		19 30 01.5	-0.9	
	comp=Z,1.7nm,1.0s,baz=298,slow=4.3,SNR=3.5								
INK	**Inuvik**	**101.29**	**18**	*e*P	Pdif		19 30 01.9	-0.5	
YKA	**Yellowknife Ar**	**110.96**	**16**	PP	PP		19 35 20.1	-4.5	
	comp=Z,1.6nm,0.9s,baz=328,slow=6.7,SNR=8.0								
YKA				SKP			19 37 59.0		
	comp=Z,0.6nm,0.8s,baz=337,slow=2.0,SNR=3.9								
SCHQ	**Schefferville**	**122.54**	**351**	PKP	PKPdf		19 35 06.0	0.0	
	comp=Z,1.2nm,0.5s,baz=45,slow=2.9,SNR=5.9								
DLMT	**Dillon**	**125.14**	**27**	*e*P	PKPdf		19 35 12.1	+1.0	
ULM	**Lac du Bonnet**	**126.57**	**12**	PKP	PKPdf		19 35 13.1	-0.6	
	comp=Z,3.8nm,0.5s,baz=333,slow=3.4,SNR=8.5								
ULM				SKP			19 38 31.1		
	comp=Z,2.3nm,0.6s,baz=346,slow=3.2,SNR=4.8								
MNV	**Mina**	**127.06**	**37**	*e*PKIKP	PKPdf		19 35 16.3	+1.6	
ELK	**Elko**	**127.18**	**33**	*e*PKIKP	PKPdf		19 35 15.4	+0.5	
PDAR	**Pinedale Array**	**128.54**	**27**	PKP	PKPdf		19 35 18.2	+0.7	
	comp=Z,1.4nm,0.7s,baz=288,slow=0.9,SNR=9.2								
PDAR				SKPbc			19 38 18.9		
	comp=Z,1.7nm,1.0s,baz=294,slow=1.5,SNR=6.2								
PLCA	**Paso Flores**	**140.14**	**192**	PKhKP			19 35 33.3		
	comp=Z,1.3nm,0.7s,baz=174,slow=3.6,SNR=3.6								
PLCA				PKP	PKPdf		19 35 38.4	-0.8	
	comp=Z,0.9nm,0.5s,baz=160,slow=4.7,SNR=3.9								
PLCA				SKP			19 38 58.2		
	comp=Z,2.6nm,0.8s,baz=218,slow=3.0,SNR=6.9								
PLCA	**Paso Flores**	**140.14**	**192**	PKP	PKPdf		19 35 38.4	-0.8	
PLCA				SKP			19 38 58.2		
CPCT	**Cooper Cave**	**142.84**	**6**	*e*PKPpre			19 35 40.9		
LRAL	**Lakeview Retre**	**144.89**	**10**	*e*P	PKPdf		19 35 46.4	-1.2	
BDFB	**Brasilia**	**145.16**	**245**	PKPbc	PKPbc		19 35 49.8	+1.8	
	comp=Z,9.2nm,0.4s,baz=159,slow=1.6,SNR=16								
BDFB				pPKPbc			19 36 33.7		
	comp=Z,3.9nm,0.6s,baz=161,slow=7.3,SNR=2.3								
BDFB				SKPbc	SKPbc		19 39 11.4	+0.4	
	comp=Z,4.8nm,0.7s,baz=162,slow=3.2,SNR=4.2								
CPUP	**Villa Florida**	**146.94**	**220**	PKP	PKPdf		19 35 52.1	+1.0	
	comp=Z,9.1nm,0.7s,baz=91,slow=1.8,SNR=34								
CPUP				PKPbc	PKPbc		19 35 54.1	+0.9	
	comp=Z,9.1nm,0.7s,baz=97,slow=1.7,SNR=33								
CPUP				pPKPbc	pPKPbc		19 36 38.5	-0.3	
	comp=Z,12nm,0.9s,baz=80,slow=4.1,SNR=3.9								
CPUP	**Villa Florida**	**146.94**	**220**	*e*PKPdf	PKPdf		19 35 51.9	+0.8	
CPUP				*e*PKPbc	PKPbc		19 35 54.3	+1.0	
TLL	**Tololo Astrono**	**150.26**	**197**	⇑iP	PKPdf		19 36 03.1	+6.7	
LPAZ	**La Paz**	**161.11**	**219**	PKP	PKPdf		19 36 14.5	+3.7	
	comp=Z,0.5nm,0.6s,baz=3.5,slow=4.3,SNR=4.1								
LPAZ				PKPab	PKPab		19 36 57.8	+2.8	
	comp=Z,2.2nm,0.6s,baz=128,slow=5.7,SNR=10.0								

TIR ***22*** *19:27:50.5, 4226N×1948E, h23km, Ml2.9*
CSEM ***22*** *19:27:51.1±0.1, 4226N×1946E, h22km, ML2.8, Error ellipse: s-maj=1.4km s-min=1.2km az=58.0*
NEIC ***22*** *19:27:51.2, 4226N×1946E, h22km, ML2.8(PDG), After PDG.*
PDG ***22*** *19:27:51.2±0.1, 4226N×1946E, h22km±1km*
ISCJB ***22*** *19:27:52.2±0.3, 4225N±002×1943E±003, h22km±3km, Error ellipse: s-maj=3.8km s-min=3.0km az=97.9*

ISC 22 19:27:52.2±0.3, 4226N±002×1947E±002, h15km±2km, n37, σ1§10/62, 2C-6D, Northwestern Balkan Peninsula

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

ISCJB ***22*** *19:29:10.0±0.9, 62S±0.1×15455E±005, h100km, mb3.4/6, Error ellipse: s-maj=16.9km s-min=7.5km az=9.5*
NEIC ***22*** *19:29:11.2±1.6, 6.17Sx15455E, h98km±15km, Error ellipse: s-maj=21.0km s-min=12.9km az=180.0*
IDC ***22*** *19:29:11.0±2.8, 6.16Sx15455E, h96km±25km, mb3.4/6, mb1 3.6/9, mb1mx3.6/15, mbtmp3.9/9, MS3.3/1, Ms1 3.3/1, ms1mx2.5/14, Error ellipse: s-maj=27.4km s-min=15.0km az=178.0*

ISC 22 19:29:11.4±0.9, 61S±0.1×15456E±005, h100km, n12, σ0§70/14, mb3.4/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.27**	**122**	P	**Pn**	**19 30 40.9**	**-0.4**
	5.8nm,0.3s,baz=263,slow=5.2,SNR=4.4						
HNR				S	**Sn**	**19 31 51.6**	**+0.2**
	2.1nm,0.3s,baz=260,slow=2.4,SNR=2.2						
HNR	**Honiara**	**6.27**	**122**	P	**Pn**	**19 30 40.9**	**-0.4**
HNR				S	**Sn**	**19 31 51.6**	**+0.2**
PMG	**Port Moresby**	**8.02**	**246**	P	**Pn**	**19 31 04.8**	**-0.3**
	1.2nm,0.3s,baz=51,slow=17,SNR=7.3						
PMG				S	**Sn**	**19 32 34.2**	**+0.1**
	0.8nm,0.3s,baz=74,slow=7.0,SNR=3.6						
DZM	**Mont Dzumac**	**19.57**	**145**	P	**P**	**19 33 31.9**	**+0.6**
	0.7nm,0.3s,baz=353,slow=21,SNR=8.0						
WRA	**Warramunga Arr**	**23.96**	**233**	P	**P**	**19 34 17.3**	**+1.0**
	0.7nm,0.7s,mb3.1,baz=58,slow=9.6,SNR=4.9						
ASAR	**Alice Springs**	**26.43**	**227**	P	**P**	**19 34 39.0**	**+0.2**
	1.0nm,0.7s,mb3.4,baz=57,slow=9.2,SNR=14						
ASAR				PcP	PcP	19 38 01.8	+0.2
	0.3nm,0.6s,baz=51,slow=2.5,SNR=4.9						
STKA	**Stephens Creek**	**28.34**	**204**	P	**P**	**19 34 53.7**	**-2.0**
	1.4nm,0.8s,mb3.6,baz=357,slow=12,SNR=3.5						
STKA	**Stephens Creek**	**28.34**	**204**	P	**P**	**19 34 53.7**	**-2.0**
JHJ	**Hachijo jima 2**	**41.48**	**341**	LR	LR	19 52 57.8	
	comp=Z,37nm,19.9s,baz=4.3,slow=34						
MKAR	**Makanchi Array**	**82.47**	**319**	P	**P**	**19 41 23.0**	**+0.3**
	0.2nm,0.6s,mb3.1,baz=95,slow=6.1,SNR=4.2						
ILAR	**Eielson Array**	**82.74**	**22**	P	**P**	**19 41 23.8**	**-0.4**
	0.2nm,0.8s,mb3.0,baz=253,slow=5.5,SNR=4.3						
MAW	**Mawson**	**85.02**	**203**	P	**P**	**19 41 36.0**	**+0.2**
	2.0nm,0.8s,mb4.1,baz=103,slow=7.0,SNR=6.6						

IDC 22 19:47:41.0±2.9, 159N×9963E, h163km±15km, mb3.6/4, mb1 3.8/4, mb1mx3.3/19, mbtmp4.1/4, Error ellipse: s-maj=219.6km s-min=17.2km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**1.39**	**330**	P	**Pn**	19 48 10.9	+0.5
	25nm,0.3s,baz=355,slow=15,SNR=59						
PSI				S	Sn

TORD	**Torodi Ar. Bea**	**148.94**	**286**	PKPbc	PKPbc	20 10 23.7	+1.2		
	0.8nm,0.7s,baz=84,slow=2.1,SNR=10								

CASC 22 19:50:59.9±2.7, 1427N×9133W, h0km±7km, MD3.5, 1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.30**	**280**	*e*P	Pg	19 51 07.8	+2.1
JAT				*e*S	Sg	19 51 13.0	+3.3
TP2	**Tecpan 2**	**0.59**	**30**	*e*P	Pg	19 51 13.3	+2.0
TP2				*e*S	Sg	19 51 25.9	+6.9
PCG	**Pacaya**	**0.71**	**80**	*e*P	Pg	19 51 15.3	+1.8
PCG				*e*S	Sg	19 51 28.0	+5.2
IXG	**Ixpaco**	**0.85**	**96**	*e*P	Pg	19 51 15.6	-0.6
IXG				*e*S	Sg	19 51 31.1	+3.7
RBDL	**Robledal**	**1.60**	**95**	*e*P	Pn	19 51 29.1	-0.3
SBLS	**San Blas**	**1.71**	**104**	*e*P	Pn	19 51 30.9	-0.1
SNJE	**San Jose**	**1.72**	**103**	*e*P	Pn	19 51 30.9	-0.2
BOQS	**Boqueron**	**2.06**	**105**	*e*P	Pn	19 51 35.8	0.0
LFRS	**El Faro**	**2.29**	**106**	*e*P	Pn	19 51 38.5	-0.4

ISCJB ***22*** *20:23:47.1±0.4, 5153N×002×708E±004, h0km, Error ellipse: s-maj=3.6km s-min=3.0km az=106.5*
NEIC ***22*** *20:23:47.6±5.2, 5169N×701E, h10km, ML2.9(LDG), Error ellipse: s-maj=59.0km s-min=10.9km az=216.0*
BNS ***22*** *20:23:48.5±0.5, 5166N×699E, h1km, ML2.1*
BUG ***22*** *20:23:48.5, 5162N×700E, h1km, ML1.5*
BGR ***22*** *20:23:49.9±0.5, 5157N×708E, h1km, ML2.4/4, Error ellipse: s-maj=6.7km s-min=4.4km az=114.0*
CSEM ***22*** *20:23:49.8±0.2, 5158N×698E, h1km, ML3.0/4, Error ellipse: s-maj=5.0km s-min=3.4km az=65.0*
LDG ***22*** *20:23:50.2±0.3, 5158N×695E, h1km, Ml2.9/7, Error ellipse: s-maj=5.6km s-min=3.8km az=29.0, Suspected Mining induced.*

ISC 22 20:23:48.2±0.4, 5157N±002×703E±003, h0km, n45, σ1§22/76, 1C-1D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BZER	**Hlnxe**	**0.11**	**296**	Pg	**Pg**	**20 23 50.8**	**+0.5**
BZER				Sg	**Sg**	**20 23 52.9**	**+1.2**
BUG	**Bochum--Univer**	**0.20**	**131**	ǁ*i*Pg	**Pg**	**20 23 54.3**	**+2.2**
BUG				*e*Sg	**Sg**	**20 23 58.0**	**+3.3**
LAUG	**Laupendahl**	**0.23**	**193**	*e*Pg	**Pg**	**20 23 54.4**	**+1.9**
WTSB	**Winterswijk**	**0.42**	**340**	*e*Pg	**Pg**	**20 23 55.6**	**-0.6**
HOBG	**Hohbusch**	**0.62**	**162**	*e*Pg	**Pg**	**20 24 02.0**	**+1.9**
IBBN	**Ibbenburen**	**0.86**	**31**	*e*Pg	**Pg**	**20 24 06.1**	**+1.3**
	SNR=2.9						
IBBN				*e*Sg	**Sg**	**20 24 17.4**	**+1.5**
STB	**Steinbach**	**0.99**	**187**	*e*Pg	**Pg**	**20 24 08.8**	**+1.6**
STB				*e*Sg	**Sg**	**20 24 23.6**	**+3.7**
	49nm,0.3s						
KLL	**Kalltalsperre**	**1.03**	**206**	*e*Pg	**Pg**	**20 24 09.1**	**+1.1**
HGN	**Heimansgroeve**	**1.06**	**221**	*e*Pn	**Pn**	**20 24 09.6**	**-0.8**
HGN				*e*Pg	**Pg**	**20 24 10.2**	**+1.6**
HGN				*e*Sg	**Sg**	**20 24 25.9**	**+3.5**
BEBN	**Eben Emael**	**1.15**	**228**	⇑P	**Pg**	**20 24 11.0**	**+0.7**
BEBN				S	**Sg**	**20 24 27.1**	**+1.9**
MEM	**Membach**	**1.16**	**214**	P	**Pg**	**20 24 11.2**	**+0.7**
MEM				S	**Sg**	**20 24 27.6**	**+2.2**
BGG	**Burgeitz**	**1.38**	**172**	*e*Pg	**Pg**	**20 24 15.1**	**+0.3**
TNS	**Taunus Mts**	**1.62**	**146**	*e*Pn	**Pn**	**20 24 18.7**	**+0.6**
	SNR=1.5						
TNS				*e*Pg	**Pg**	**20 24 19.7**	**+0.4**
	SNR=3.1						
TNS				*e*Sg	**Sg**	**20 24 40.6**	**+0.2**
UCC	**Uccle**	**1.85**	**246**	P	**Pn**	**20 24 23.1**	**+2.0**
UCC				S	**Sn**	**20 24 44.2**	**-1.0**
WLF	**Walferdange**	**1.99**	**197**	*e*Pg	**Pg**	**20 24 27.0**	**+0.7**
	SNR=2.6						
WLF				*e*Sg	**Sg**	**20 24 52.5**	**+0.3**
GIVF	**Givet**	**2.03**	**224**	*e*Pn	**Pn**	**20 24 23.8**	**+0.2**
GIVF				*e*Sg	**Sg**	**20 24 52.7**	**-0.7**
	19nm,0.3s						
GIVF	**Givet**	**2.03**	**224**	*e*Pn	**Pn**	**20 24 23.8**	**+0.2**
GIVF				*e*Sg	**Sg**	**20 24 52.7**	**-0.7**
	9.6nm,0.3s						
SNF	**Seneffe**	**2.03**	**239**	P	**Pn**	**20 24 23.5**	**-0.2**
SNF				S	**Sn**	**20 24 53.8**	**+4.0**
	comp=Z,9.4nm,0.0s						
CLZ	**Clausthal**	**2.10**	**81**	*e*Pg	**Pg**	**20 24 27.5**	**-1.0**
	SNR=2.5						
CLZ				*e*Sg	**Sg**	**20 24 54.9**	**-0.7**
DOU	**Dourbes**	**2.14**	**227**	P	**Pn**	**20 24 25.0**	**-0.1**
DOU				S	**Sn**	**20 24 56.8**	**+4.5**
	comp=Z,7.7nm,0.0s						
DOU	**Dourbes**	**2.14**	**227**	P	**Pn**	**20 24 25.0**	**-0.1**
DOU				S	**Sn**	**20 24 56.8**	**+4.5**
BAIF	**Baives**	**2.34**	**231**	*e*Pg	**Pg**	**20 24 33.3**	**+0.2**
BAIF				*e*Sg	**Sg**	**20 25 02.2**	**-1.3**
	comp=Z,9.3nm,0.3s						
BAIF	**Baives**	**2.34**	**231**	*e*Pn	**Pn**	**20 24 28.4**	**+0.5**
BAIF				*e*Pg	**Pg**	**20 24 33.3**	**+0.2**
BAIF				*e*Sg	**Sg**	**20 25 02.2**	**-1.3**
BAIF	**Baives**	**2.34**	**231**	*e*Pg	**Pg**	**20 24 33.3**	**+0.2**
BAIF				*e*Sg	**Sg**	**20 25 02.2**	**-1.3**
	comp=Z,4.7nm,0.3s						
MOX	**Moxa**	**3.04**	**106**	*e*Sg	**Sg**	**20 25 24.4**	**-1.4**
CDF	**Champ du Feu**	**3.17**	**177**	*e*Pn	**Pn**	**20 24 39.4**	**+0.1**
CDF				*e*Sg	**Sg**	**20 25 29.0**	**-1.0**
	comp=Z,7.9nm,0.5s						
WERD	**Werda**	**3.52**	**107**	*e*Sg	**Sg**	**20 25 40.0**	**-1.3**
SFTF	**Sexfontaines**	**3.61**	**202**	*e*Pn	**Pn**	**20 24 45.7**	**+0.4**
LOR	**Lormes**	**4.78**	**207**	*e*Pn	**Pn**	**20 25 00.8**	**-0.6**
LOR				*e*Sn	**Sn**	**20 25 52.5**	**-5.0**
LOR				*e*Sg	**Sg**	**20 26 17.0**	**-4.7**
	comp=Z,4.9nm,0.4s						
LOR	**Lormes**	**4.78**	**207**	*e*Pn	**Pn**	**20 25 00.8**	**-0.6**
LOR				*e*Sn	**Sn**	**20 25 52.5**	**-5.0**
CABF	**La Chapelle**	**5.00**	**187**	*e*Pn	**Pn**	**20 25 04.4**	**-0.1**
SSF	**Saint Saulge**	**5.07**	**208**	*e*Pn	**Pn**	**20 25 04.5**	**-0.9**
SSF				*e*Sg	**Sg**	**20 26 29.0**	**-2.0**
	comp=Z,4.8nm,0.7s						
SSF	**Saint Saulge**	**5.07**	**208**	*e*Pn	**Pn**	**20 25 04.5**	**-0.9**
SSF				*e*Sg	**Sg**	**20 26 29.0**	**-2.0**
	comp=Z,2.4nm,0.7s						
SMF	**Signal de Mont**	**5.36**	**204**	*e*Pn	**Pn**	**20 25 08.6**	**-0.8**
AVF	**Avril sur Loir**	**5.36**	**208**	*e*Pn	**Pn**	**20 25 08.2**	**-1.2**
LDF	**La Druitiere**	**5.48**	**240**	*e*Pn	**Pn**	**20 25 10.4**	**-0.7**
FLN	**La Foliniere**	**5.58**	**243**	*e*Pn	**Pn**	**20 25 11.6**	**-0.9**
BGF	**Bois d'Agland**	**5.72**	**210**	*e*Pn	**Pn**	**20 25 13.5**	**-0.9**
GRR	**Gorron**	**6.00**	**241**	*e*Pn	**Pn**	**20 25 17.5**	**-0.7**
GRR				*e*Sn	**Sn**	**20 26 23.1**	**-4.5**
	comp=Z,7.0nm,0.3s						
GRR	**Gorron**	**6.00**	**241**	*e*Pn	**Pn**	**20 25 17.5**	**-0.7**
GRR				*e*Sn	**Sn**	**20 26 23.1**	**-4.5**
	comp=Z,3.5nm,0.3s						
TCF	**Toulx Ste Croi**	**6.17**	**213**	*e*Pn	**Pn**	**20 25 19.2**	**-1.3**
TCF				*e*Pg	**Pg**	**20 25 43.7**	**-2.7**
MFF	**Saint Martin d**	**6.85**	**226**	*e*Pn	**Pn**	**20 25 28.4**	**-1.5**
SGMF	**Saint Gilles**	**7.02**	**246**	*e*Pn	**Pn**	**20 25 30.4**	**-1.8**
CAF	**Calviac**	**7.43**	**208**	*e*Pn	**Pn**	**20 25 37.8**	**0.0**
QUIF	**Quistinic**	**7.55**	**245**	*e*Pn	**Pn**	**20 25 37.0**	**-2.5**

NEIC ***22*** *20:28:29.6, 2811S×6971W, h108km, MG3.5(GUC), After GUC.*

GUC 22 20:28:29.6±0.7, 2811S×6971W, h108km±10km, ML3.5, 9C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**0.94**	**322**	⇑*i*P	Pn	20 28 50.5	+0.4
CPCH				*i* S	Sn	20 29 05.8	+0.4
CPCH				AML	AML	20 29 07.7	
	comp=E,9μm,0.1s						
CPCH	**Copiapo**	**0.94**	**322**	⇑*i*P	Pn	20 28 50.5	+0.4
CPCH				*i* S	Sn	20 29 05.8	+0.4
LCO	**Las Campanas**	**1.25**	**224**	⇑*i*P	Pn	20 28 54.2	+0.8
LCO				*i* S	Sn	20 29 13.2	+1.8
CDCH	**Caldera**	**1.44**	**316**	⇑*i*P	Pn	20 28 55.8	+0.3
CDCH				*i* S	Sn	20 29 15.5	+0.4
CRCH	**Chaqaral**	**1.94**	**335**	⇑*i*P	Pn	20 29 02.3	+0.6
CRCH				*i* S	Sn	20 29 26.2	+0.1
	comp=E,194nm,0.3s						
CRCH	**Chaqaral**	**1.94**	**335**	⇑*i*P	Pn	20 29 02.3	+0.6
CRCH				*i* S	Sn	20 29 26.2	+0.1
TLL	**Tololo Astrono**	**2.26**	**205**	⇑*i*P	Pn	20 29 06.6	+0.8
TLL				*i* S	Sn	20 29 35.4	+1.8
TLL				AML	AML	20 29 42.6	
	comp=E,120nm,0.6s						
TLL	**Tololo Astrono**	**2.26**	**205**	⇑*i*P	Pn	20 29 06.6	+0.8
TLL				*i* S	Sn	20 29 35.4	+1.8
CEN1	**Los Morros**	**4.72**	**354**	⇑*i*P	Pn	20 29 34.9	-3.7
CEN1				*i* S	Sn	20 30 26.0	-6.2
LVC	**Limon Verde**	**5.52**	**8**	*e*P	Pn	20 29 48.2	-1.2

MEX 22 20:31:33.1±0.3, 1653N×9847W, h14km±6km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.36**	**113**	*i* P	Pg	20 31 39.8	-0.6
PNIG				*i* S	Sg	20 31 45.0	-0.4
ACX	**Acapulco**	**1.42**	**284**	*e*P	Pn	20 31 55.0	-3.5
ACX				*i* S	Sn	20 32 12.0	-5.0
UTMO	**Huajuapan**	**1.44**	**26**	*i* P	Pn	20 31 55.1	-3.6
UTMO				*i* S	Sn	20 32 13.0	-4.5

NEIC ***22*** *20:39:09.3±0.6, 2838S×7149W, h10km, ML4.5(GUC), Error ellipse: s-maj=10.8km s-min=5.1km az=102.0*
NEIC Felt [IV] at Alto del Carmen and Huasco; [III] at Freirina and Vallenar.
ISCJB ***22*** *20:39:10.2±1.6, 2840S±003×714W±0.1, h24km±11km, mb3.9/1, Error ellipse: s-maj=15.7km s-min=4.7km az=19.6*
IDC ***22*** *20:39:12.5±8.1, 2865S×7098W, h40km±60km, mb3.8/1, mb1 3.9/3, mb1mx3.5/14, mbtmp3.8/3, ML4.2/1, MS2.7/1, Ms1 2.7/1, ms1mx2.5/16, Error ellipse: s-maj=79.3km s-min=57.5km az=34.0*

ISC 22 20:39:11.7±1.6, 2840S±003×713W±01, h24km±11km, n22, σ0§85/28, mb3.9/1, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.49**	**111**	ǁ*i*P	**Pb**	**20 39 23.0**	**+1.2**
VACH				*i* S	**Sb**	**20 39 28.9**	**+0.2**
LCO	**Las Campanas**	**0.80**	**140**	⇑*i*P	**Pb**	**20 39 26.2**	**-0.7**
LCO				*i* S	**Sb**	**20 39 36.1**	**-1.2**
CPCH	**Copiapo**	**1.32**	**39**	ǁ*i*P	**Pn**	**20 39 35.9**	**+1.2**
CPCH				*i* S	**Sn**	**20 39 51.8**	**+0.3**
CDCH	**Caldera**	**1.38**	**17**	*e*P	**Pn**	**20 39 35.5**	**0.0**
CDCH				*i* S	**Sn**	**20 39 52.8**	**-0.2**
LSCH	**La Serena**	**1.50**	**179**	*e*P	**Pn**	**20 39 37.7**	**+0.6**
LSCH				*i* S	**Sn**	**20 39 56.5**	**+0.5**
TLL	**Tololo Astrono**	**1.81**	**167**	*e*P	**Pn**	**20 39 42.1**	**+0.7**
TLL				*i* S	**Sn**	**20 40 04.3**	**+0.8**
OVCH	**Ovalle**	**2.20**	**178**	*e*P	**Pn**	**20 39 46.8**	**0.0**
OVCH				*i* S	**Sn**	**20 40 13.6**	**+0.4**
CMCH	**Combarbala**	**2.78**	**175**	*e*P	**Pn**	**20 39 54.6**	**-0.1**
CMCH				*i* S	**Sn**	**20 40 27.1**	**-0.3**
PACH	**Papudo**	**4.13**	**182**	P	**Pn**	**20 40 12.4**	**-0.8**
JACH	**Jahuel**	**4.31**	**172**	*e*P	**Pn**	**20 40 15.8**	**0.0**
PCH	**Pirque**	**5.25**	**173**	P	**Pn**	**20 40 28.1**	**-0.6**
TACH	**Talagante**	**5.25**	**177**	*e*P	**Pn**	**20 40 28.5**	**-0.1**
LVC	**Limon Verde**	**6.15**	**21**	*e*P	**Pn**	**20 40 40.3**	**-0.7**
	13nm,0.4s						
SFDO	**San Fernando**	**6.20**	**178**	P	**Pn**	**20 40 41.2**	**-0.5**
TRQA	**Tornquist**	**12.38**	**143**	*e*P	**Pn**	**20 42 07.6**	**+1.2**
LPAZ	**La Paz**	**12.40**	**14**	P	**Pn**	**20 42 09.4**	**+2.7**
	0.1nm,0.3s,baz=195,slow=8.6,SNR=6.1						
LPAZ	**La Paz**	**12.40**	**14**	*e*P	**Pn**	**20 42 12.1**	**+5.4**
CPUP	**Villa Florida**	**12.57**	**84**	P	**Pn**	**20 42 05.5**	**-3.5**
	0.3nm,0.3s,baz=240,slow=12,SNR=2.7						
CPUP				LR	LR	20 47 36.1	
	comp=Z,39nm,21.2s,baz=168,slow=41						
CPUP	**Villa Florida**	**12.57**	**84**	*e*P	**Pn**	**20 42 07.0**	**-2.0**
	16nm,0.6s						
TORD	**Torodi Ar. Bea**	**81.70**	**70**	P	**P**	**20 51 26.2**	**-1.9**
	1.2nm,0.8s,mb3.9,baz=257,slow=6.1,SNR=8.6						
ASAR	**Alice Springs**	**122.83**	**208**	PKP	PKPdf	20 58 04.3	-1.3
	0.2nm,0.6s,baz=144,slow=1.8,SNR=4.5						
MKAR	**Makanchi Array**	**152.35**	**41**	PKPbc	PKPbc	20 59 03.9	-1.7
	0.9nm,0.6s,baz=302,slow=1.8,SNR=16						
MKAR				pPKPbc	pPKPbc	20 59 17.5	+3.8
	0.6nm,0.6s,baz=324,slow=1.0,SNR=6.1						

CASC 22 20:40:37.3±2.3, 1197N×8784W, h28km±172km, MD4.0, 7C-3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEON	**Leon**	**1.03**	**64**	⇑*e*P	Pn	20 40 55.4	-0.5
LEON				*e*S	Sn	20 41 10.7	+1.4
CRIN	**San Cristobal**	**1.06**	**46**	⇑*e*P	Pn	20 40 56.2	-0.1
CRIN				*e*S	Sn	20 41 12.0	+1.9
TEL3	**Telica 3**	**1.14**	**58**	⇑*e*P	Pn	20 40 56.8	-0.6
TELN	**Telica**	**1.17**	**57**	⇑*e*P	Pn	20 40 57.1	-0.7
MIRN	**Miramar**	**1.20**	**67**	⇑*e*P	Pn	20 40 58.0	-0.2
CNGN	**Cerro Negro**	**1.23**	**64**	ǁ*e*P	Pn	20 40 58.7	0.0
COPN	**Copaltepe**	**1.24**	**80**	ǁ*e*P	Pn	20 40 58.8	0.0
CNCH	**Conchagua**	**1.30**	**0**	*e*P	Pn	20 41 00.6	+1.0
MOMJ	**Momotombo**	**1.34**	**71**	ǁ*e*P	Pn	20 40 59.9	-0.3
VSM	**San Miguel**	**1.51**	**344**	*e*P	Pn	20 41 02.3	-0.3
BLLM	**Bellamira**	**1.52**	**345**	*e*P	Pn	20 41 02.2	-0.4
BLLM				*e*S	Sn	20 41 23.1	+1.6
TICN	**Ticuantepe**	**1.57**	**87**	ǁ*e*P	Pn	20 41 03.7	+0.4
LCBS	**La Ceiba**	**2.01**	**327**	*e*P	Pn	20 41 07.1	-2.3
LFRS	**El Faro**	**2.03**	**324**	*e*P	Pn	20 41 07.7	-2.0
LFRS				*e*S	Sn	20 41 31.2	-3.0
RBDL	**Robledal**	**2.79**	**320**	*e*P	Pn	20 41 19.9	-0.2
PRS1	**Puriscal**	**3.98**	**119**	*e*P	Pn	20 41 37.7	+1.2
LCR2	**La Lucha 2**	**4.37**	**120**	*e*P	Pn	20 41 43.8	+2.0
URSC	**Urasca**	**4.51**	**118**	*e*P	Pn	20 41 45.7	+1.9
BUS	**Buena Vista**	**4.67**	**120**	ǁ*e*P	Pn	20 41 47.0	+1.1
BUS				*e*S	Sn	20 42 40.1	+0.9

NEIC ***22*** *20:53:57.4±4.0, 4.72S×126.81E, h3km±24km, mb5.8/29, MS5.9/121, MW6.1, Error ellipse: s-maj=9.3km s-min=6.4km az=68.0, Moment Tensor Solution. s15 Moment tensor: Scale 10^{18}Nm; M_{rr}=0.12; $M_{\theta\theta}$=-1.93; $M_{\phi\phi}$=1.81; $M_{r\theta}$=0.16; $M_{\theta\phi}$=0.09; $M_{r\phi}$=-0.44; Best double couple: M_{o}=1.90000×10^{18} NP1:ϕ_s=136.00000°, δ84.00000°, λ167.00000°. NP2:ϕ_s=227.00000°, δ77.00000°, λ=6.00000°. Principal axes: T 1.9200, Plg14.0000°, Azm291.0000°; N 0.0300, Plg76.0000°, Azm291.0000°; P -1.9400, Plg5.0000°, Azm182.0000°;*
ISCJB ***22*** *20:53:57.7±0.2, 4.78S±002×126.97E±003, h16km, mb5.5/122, MS5.8/169 Error ellipse: s-maj=4.1km s-min=3.2km az=136.9*
BJI ***22*** *20:53:57.4, 4.70S×126.80E, h12km, mB5.7, mb5.3, Ms5.8, Msz5.6*
HRVD ***22*** *20:53:57.4±0.1, 4.75S×126.93E, h15km, MW6.1/116, Centroid moment Tensor Solution. LP body waves: s108,c244;Mantle waves: s116,c398; Half duration: 2s8 Moment tensor: Scale 10^{18}Nm; M_{rr}0.10±.01; $M_{\theta\theta}$-1.83±.01; $M_{\phi\phi}$1.73±.01; $M_{r\theta}$0.32±.04; $M_{\theta\phi}$-0.25±.01; $M_{r\phi}$-0.14±.03; Best double couple: M_{o}1.82900×10^{18} NP1:ϕ_s221.00000°, δ80.00000°, λ=-2.00000°. NP2: ϕ_s311.00000°, δ88.00000°, λ=-170.00000°. Principal axes: T 1.7640, Plg6.0000°, Azm86.0000°; N 0.1270, Plg79.0000°, Azm323.0000°; P -1.8950, Plg9.0000°, Azm176.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
IDC ***22*** *20:53:59.1±1.4, 4.65S×126.88E, h16km±7km, mb5.1/28, mb1 5.0/29, mb1mx5.0/30, mbtmp5.2/29, ML5.4/1, MS5.7/17, Ms1 5.7/17, ms1mx5.4/28 Error ellipse: s-maj=8.8km s-min=6.8km az=67.0*
MOS ***22*** *20:54:00.4±1.3, 4.64S×126.82E, h33km, mb5.7/46, MS5.6/35, Error ellipse: s-maj=10.4km s-min=5.6km az=111.9*

ISC 22 20:53:59.7±0.2, 480S±002×12698E±003, h16km, h16km±1.7km: pP-P, n500, σ1§41/384, mb5.5/122, MS5.8/169, 21C-26D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**1.64**	**48**	P	**Pn**	**20 54 25.3**	**-2.5**
	10μm,1.7s						
TLE	**Tual**	**5.79**	**98**	P	**Pn**	**20 55 27.0**	**+2.2**
	4μm,1.8s						
SWI	**Sorong**	**5.79**	**48**	P	**Pn**	**20 55 23.8**	**-1.1**
	9μm,1.3s						
PCI	**Palu**	**8.12**	**298**	P	**Pn**	**20 55 57.5**	**+0.7**
	710nm,1.0s						
WSI	**Waingapu**	**8.20**	**234**	P	**Pn**	**20 56 00.7**	**+2.8**
	2μm,1.1s						
KAKA	**Kakadu**	**9.53**	**146**	*e*P	**Pn**	**20 56 15.6**	**-0.5**
	399nm,0.6s						
BAKI	**Biak**	**9.79**	**69**	P	**Pn**	**20 56 19.3**	**-0.4**
	1μm,1.1s						
BUKP	**Musuan**	**12.74**	**351**	*e*P	**Pn**	**20 57 01.1**	**+1.0**
TSM	**Tawau**	**12.82**	**315**	P	**Pn**	**20 57 01.6**	**+0.4**
PAGZ	**Pagadian**	**13.07**	**344**	*e*P	**Pn**	**20 57 06.6**	**+2.0**
KMMI	**Kalianget**	**13.13**	**260**	P	**Pn**	**20 57 08.0**	**+2.5**
	177nm,2.1s						
IPIL	**Ipil**	**13.26**	**341**	⇑*i*P	**Pn**	**20 57 08.6**	**+1.5**
IPIL	**Ipil**	**13.26**	**341**	*e*P	**Pn**	**20 57 08.9**	**+1.7**
FITZ	**Fitzroy Crossi**	**13.28**	**186**	*e*P	**Pn**	**20 57 03.5**	**-4.0**
	652nm,1.5s						
FITZ	**Fitzroy Crossi**	**13.28**	**186**	Pn	**Pn**	**20 57 03.8**	**-3.6**
	9.1nm,0.3s,baz=20,slow=13,SNR=100						
FITZ				Sn	**Sn**	**20 59 20.5**	**-14**
	baz=116,slow=19,SNR=1.5						
FITZ				LR	LR	21 03 00.8	
	comp=Z,47μm,18.5s,baz=5.5,slow=40						
CGP	**Cagayan de Oro**	**13.37**	**350**	ǁ*i*P	**Pn**	**20 57 08.0**	**-0.7**
	1662μm,1.0s						
DCPH	**Dipolog City**	**13.78**	**345**	ǁ*e*P	**Pn**	**20 57 19.7**	**+5.4**
MMPI	**Merauke**	**13.80**	**106**	P	**Pn**	**20 57 15.9**	**+1.4**
	2μm,1.5s						
JAY	**Jayapura**	**13.88**	**81**	P	**Pn**	**20 57 15.8**	**+0.1**
	87nm,1.1s						
SNPH	**Sibulan**	**14.54**	**345**	*e*P	**Pn**	**20 57 27.0**	**+2.4**
SCPH	**Surigao**	**14.56**	**354**	*e*P	**Pn**	**20 57 25.9**	**+0.9**
TBP	**Tagbilaran**	**14.73**	**348**	*e*P	**Pn**	**20 57 24.2**	**-3.0**
MSLP	**Maasin**	**14.99**	**352**	*e*P	**Pn**	**20 57 30.6**	**-0.2**
KKM	**Kota Kinabalu**	**15.22**	**315**	P	**Pn**	**20 57 38.1**	**+4.3**
LLP	**Lapu-Lapu**	**15.32**	**349**	*e*P	**Pn**	**20 57 35.2**	**+0.1**
OCLP	**Ormoc**	**15.93**	**351**	*e*P	**Pn**	**20 57 46.5**	**+3.5**
GUIM	**Jordan**	**15.94**	**344**	*e*P	**Pn**	**20 57 44.1**	**+1.0**
BATP	**Bataraza**	**16.32**	**326**	*e*P	**Pn**	**20 57 51.3**	**+3.2**
CUYO	**Cuyo Island**	**16.64**	**339**	*e*P	**Pn**	**20 57 56.8**	**+4.7**
PPR	**Puerto Princes**	**16.65**	**330**	*e*P	**Pn**	**20 57 53.4**	**+1.1**
WRAB	**Tennant Creek**	**16.66**	**155**	*d*P	**Pn**	**20 57 49.1**	**-3.3**
WRA	**Warramunga Arr**	**16.67**	**155**	Pn	**Pn**	**20 57 48.2**	**-4.2**
	16nm,0.3s,baz=327,slow=14,SNR=174						
WRA				Sn	**Sn**	**21 00 45.4**	**-12**
	baz=329,slow=25,SNR=2.7						
WRA	**Warramunga Arr**	**16.67**	**155**	P	**Pn**	**20 57 48.2**	**-4.2**
WRA				pmax	pmax		
	comp=Z,16nm,0.3s						
WB2	**Warramunga Arr**	**16.67**	**155**	*e*P	**Pn**	**20 57 48.9**	**-3.6**
WB2				*e*S	**Sn**	**21 00 48.0**	**-9.3**
RCP	**Roxas**	**16.79**	**345**	⇑*e*P	**Pn**	**20 57 58.0**	**+4.0**
BJII	**Banjamegara**	**17.36**	**261**	P	**Pn**	**20 58 02.7**	**+1.6**
	comp=Z,970nm,2.0s						
ENPP	**El Nido**	**17.59**	**335**	*e*P	**Pn**	**20 58 04.6**	**+0.5**
MBWA	**Marble Bar**	**17.72**	**203**	*e*Pn	**Pn**	**20 58 06.2**	**+0.6**
	comp=Z,368nm,1.1s						
BUSP	**Coron**	**18.01**	**338**	*e*P	**Pn**	**20 58 11.5**	**+2.4**
PVCP	**Virac**	**18.49**	**351**	⇑*e*P	**Pn**	**20 58 16.8**	**+1.6**
PVCP	**Virac**	**18.49**	**351**	*e*P	**Pn**	**20 58 18.4**	**+3.3**
AUQP	**San Andres**	**18.51**	**347**	*e*P	**Pn**	**20 58 20.6**	**+5.3**
BOAC	**Boac**	**18.85**	**344**	*e*P	**Pn**	**20 58 24.3**	**+4.9**
LUBP	**Lubang**	**19.59**	**340**	*e*P	**Pn**	**20 58 28.5**	**+0.1**
TGY	**Tagaytay City**	**19.72**	**342**	P	**Pn**	**20 58 27.2**	**-2.7**
	comp=Z,11nm,0.3s,baz=128,slow=10,SNR=2.8						
TGY				S	**Sn**	**21 02 09.2**	**-1.7**
	baz=134,slow=17,SNR=1.9						
TGY	**Tagaytay City**	**19.72**	**342**	ǁ*e*P	**Pn**	**20 58 31.1**	**+1.3**
TGY	**Tagaytay City**	**19.72**	**342**	P	**Pn**	**20 58 27.2**	**-2.6**
TGY				S	**Sn**	**21 02 09.2**	**-1.7**
TGY				pmax	pmax		
	comp=Z,11nm,0.3s						
ASAR	**Alice Springs**	**19.91**	**161**	P	**Pn**	**20 58 31.8**	**-0.3**
	comp=Z,981nm,1.0s,baz=339,slow=9.6,SNR=1159						
ASAR				S	**Sn**	**21 02 14.0**	**-1.5**
	comp=Z,20nm,0.9s,baz=330,slow=22,SNR=2.9						
ASAR	**Alice Springs**	**19.91**	**161**	P	**Pn**	**20 58 31.8**	**-0.3**
ASAR				S	**Sn**	**21 02 14.0**	**-1.5**
ASAR				pmax	pmax		
	comp=Z,981nm,1.0s						
ASAR

QIZ	**Qiongzhong**	**29.08**	**325**	P	**P**	**21 00 01.1**	**+1.8**
QIZ				XP	sP	21 00 07.3	+0.9
QIZ				S	**S**	**21 04 47.8**	**-2.4**
QIZ				LR	LR		
	comp=N,6μm,16.2s,MS5.4						
QIZ				LR	LR		
	comp=E,5μm,16.8s,MS5.4						
QIZ				LR	LR		
	comp=Z,8μm,16.0s,MS5.4						
QIZ	**Qiongzhong**	**29.08**	**325**	PFAKE		21 00 10.0	+11
QIZ				LR	LR		
	comp=Z,9μm,20.0s,MS5.4						
NWAO	**Narrogin (SRO)**	**29.42**	**197**	P	**P**	**21 00 01.5**	**-0.8**
	comp=Z,55nm,1.1s,mb5.2,baz=26,slow=12,SNR=12						
NWAO				S	**S**	**21 04 56.5**	**+1.0**
	comp=Z,27nm,1.0s,baz=169,slow=16,SNR=1.9						
NWAO				LR	LR	21 14 18.3	
	comp=Z,29μm,18.3s,MS5.9,baz=16,slow=41						
NWAO	**Narrogin (SRO)**	**29.42**	**197**	P	**P**	**21 00 01.5**	**-0.8**
NWAO				S	**S**	**21 04 56.6**	**+1.0**
NWAO				pmax	pmax		
	comp=Z,55nm,1.1s						
NWAO				smax			
	comp=N,27nm,1.0s						
NWAO				MLR	MLR		
	comp=Z,29μm,18.3s						
NWAO	**Narrogin (SRO)**	**29.42**	**197**	*e*P	**P**	**21 00 03.6**	**+1.3**
	comp=Z,124nm,1.1s,mb5.5						
NWAO				LR	LR		
	comp=Z,21μm,19.0s,MS5.8						
UBT	**Ubonrachathani**	**29.50**	**313**	⇑P	**P**	**21 00 09.0**	**+6.0**
HKC	**Hong Kong**	**29.71**	**336**	P	**P**	**21 00 00.0**	**-4.9**
HKC				S	**S**	**21 04 52.0**	**-8.1**
TATO	**Taipei**	**30.08**	**350**	*e*P	**P**	**21 00 07.3**	**-0.8**
TATO				*e*		21 00 52.5	
TATO				LR	LR		
	comp=Z,8μm,21.0s,MS5.4						
STKA	**Stephens Creek**	**30.22**	**155**	*e*P	**P**	**21 00 08.2**	**-1.1**
	comp=Z,129nm,1.0s,mb5.6						
STKA				*e*S	**S**	**21 05 04.8**	**-3.3**
STKA	**Stephens Creek**	**30.22**	**155**	P	**P**	**21 00 08.9**	**-0.5**
	comp=Z,62nm,0.9s,mb5.3,baz=323,slow=8.8,SNR=85						
STKA				S	**S**	**21 05 09.1**	**+1.0**
	comp=Z,18nm,1.1s,baz=140,slow=18,SNR=1.5						
STKA				LR	LR	21 11 44.9	
	comp=Z,19μm,21.2s,MS5.7,baz=327,slow=35						
QZH	**Quanzhou**	**30.67**	**345**	*i* PR	**P**	**21 00 15.0**	**+1.6**
QZH				S	**S**	**21 05 15.0**	**-0.2**
QZH				AMB	AMB		
	comp=Z,300nm,1.3s,mb6.0						
QZH				AMB	AMB		
	comp=Z,3μm,7.1s						
QZH				LR	LR		
	comp=N,6μm,12.7s,MS5.5						
QZH				LR	LR		
	comp=E,4μm,12.7s,MS5.5						
QZH				LR	LR		
	comp=Z,41μm,25.0s						
GZH	**Guangzhou**	**30.75**	**335**	P	**P**	**21 00 17.6**	**+3.5**
GZH				LR	LR		
	comp=N,10μm,22.7s,MS5.5						
GZH				LR	LR		
	comp=E,7μm,22.7s,MS5.5						
GZH				LR	LR		
	comp=Z,23μm,20.5s,MS5.8						
JOW	**Kunigami**	**31.47**	**2**	P	**P**	**21 00 17.0**	**-3.4**
	comp=Z,11nm,0.8s,mb4.8,baz=239,slow=29,SNR=2.2						
JOW				S	**S**	**21 05 24.9**	**-2.8**
	comp=Z,4.5nm,0.8s,baz=88,slow=22,SNR=1.8						
JOW				LR	LR	21 14 43.1	
	comp=Z,9μm,18.1s,MS5.5,baz=184,slow=40						
KKTK	**Khon Kaen**	**31.81**	**312**	P	**P**	**21 00 25.4**	**+2.0**
HNR	**Honiara**	**33.02**	**100**	P	**P**	**21 00 34.9**	**+0.9**
	comp=Z,251nm,1.0s,mb6.1,baz=262,slow=5.8,SNR=6.3						
HNR				S	**S**	**21 05 55.1**	**+3.3**
	comp=Z,26nm,0.3s,baz=232,slow=5.4,SNR=2.2						
HNR	**Honiara**	**33.02**	**100**	P	**P**	**21 00 34.9**	**+0.9**
HNR				S	**S**	**21 05 55.1**	**+3.3**
HNR				pmax	pmax		
	comp=Z,251nm,1.0s,mb6.1						
HNR				smax			
	comp=N,26nm,0.3s						
NST	**Nakhon Sawan**	**33.47**	**308**	P	**P**	**21 00 39.6**	**+1.7**
	comp=N,54nm,1.0s,mb5.4						
ARMA	**Armidale**	**34.48**	**140**	*e*P	**P**	**21 00 49.3**	**+2.6**
ARMA				*e*S	**S**	**21 06 15.1**	**+0.6**
NANT	**Nan**	**34.94**	**313**	⇓P	**P**	**21 00 54.0**	**+3.4**
	comp=N,588nm,0.4s						
CBIJ	**Chichi jima**	**34.95**	**24**	P	**P**	**21 00 49.2**	**-1.5**
	comp=N,200nm,1.1s,mb6.0,baz=247,slow=19,SNR=2.1						
CBIJ				S	**S**	**21 06 21.6**	**-0.1**
	comp=N,64nm,0.8s,baz=234,slow=20,SNR=3.1						
CBIJ				LR	LR	21 13 41.2	
	comp=N,6μm,19.4s,MS5.3,baz=204,slow=34						
SSE	**Sheshan**	**36.12**	**352**	P	**P**	**21 01 01.8**	**+1.0**
SSE				AP	pP	21 01 04.8	-1.1
SSE				XP	sP	21 01 06.3	-1.7
SSE				S	**S**	**21 06 42.0**	**+2.3**
SSE				XS	sS	21 06 47.3	-0.8
SSE				AMB	AMB		
	comp=Z,36nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,1μm,11.3s						
SSE				LR	LR		
	comp=N,4μm,26.5s,MS5.3						
SSE				LR	LR		
	comp=E,5μm,26.5s,MS5.3						
SSE				LR	LR		
	comp=Z,8μm,20.0s						
CHG	**Chiang Mai**	**36.24**	**311**	⇓P	**P**	**21 01 03.8**	**+1.9**
	comp=Z,90nm,0.9s,mb5.7						
CHTO	**Chiang Mai**	**36.24**	**311**	PFAKE		21 01 10.0	+8.1
CHTO				LR	LR		
	comp=Z,10μm,20.0s,MS5.6						
CHRT	**Chiangrai**	**36.28**	**313**	⇓P	**P**	**21 01 03.5**	**+1.3**
	comp=Z,282nm,0.8s,mb6.2						
CNB	**Canberra Magne**	**36.73**	**149**	*e*P	**P**	**21 01 08.9**	**+2.9**
	comp=Z,244nm,1.2s,mb5.9						
TOO	**Toolangi**	**36.74**	**155**	*e*P	**P**	**21 01 08.9**	**+2.8**
	comp=Z,106nm,1.0s,mb5.6						
TOO				*e*S	**S**	**21 06 54.8**	**+5.7**
TOO	**Toolangi**	**36.74**	**155**	*e*P	**P**	**21 01 08.9**	**+2.8**
TOO				*e*S	**S**	**21 06 54.8**	**+5.7**
TOO				pmax	pmax		
	comp=Z,106nm,1.0s,mb5.6						
GYA	**Guiyang**	**36.78**	**329**	⇓*i*P	**P**	**21 01 06.9**	**+0.4**
GYA				PP	PP	21 02 32.0	+1.7
GYA				PCP	PcP	21 03 29.5	+1.0
GYA				S	**S**	**21 06 51.3**	**+1.5**
GYA				SCP	ScP	21 07 16.3	+1.8
GYA				SS	SS	21 09 18.3	-12
GYA				SCS	ScS	21 11 21.9	+0.5
GYA				AMB	AMB		
	comp=Z,120nm,1.0s,mb5.7						
GYA				AMB	AMB		
	comp=Z,1μm,12.3s						
GYA				LR	LR		
	comp=N,5μm,17.8s,MS5.5						
GYA				LR	LR		
	comp=E,6μm,22.0s,MS5.5						
GYA				LR	LR		
	comp=Z,8μm,17.9s,MS5.5						
WHN	**Wuhan**	**37.17**	**342**	⇓P	**P**	**21 01 12.0**	**+2.3**
WHN				S	**S**	**21 06 57.3**	**+1.7**
WHN				LR	LR		
	comp=Z,9μm,22.3s,MS5.5						
NJ2	**Nanjing**	**37.46**	**349**	*e*P	**P**	**21 01 13.3**	**+1.1**
NJ2				AP	pP	21 01 16.9	-0.4
NJ2				XP	sP	21 01 20.9	+1.6
NJ2				PP	PP	21 02 41.3	+3.6
NJ2				S	**S**	**21 07 01.0**	**+1.0**
NJ2				XS	sS	21 07 09.0	+0.6
NJ2				AMB	AMB		
	comp=Z,90nm,1.1s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,230nm,9.4s						
NJ2				LR	LR		
	comp=N,35μm,34.8s,MS6.0						
NJ2				LR	LR		
	comp=E,17μm,29.9s,MS6.0						
NJ2				LR	LR		
	comp=Z,14μm,31.0s,MS5.5						
JNU	**Nakatsue**	**37.90**	**5**	P	**P**	**21 01 14.9**	**-1.0**
	comp=Z,45nm,0.6s,mb5.3,baz=237,slow=0.6,SNR=2.3						
JNU				S	**S**	**21 06 54.5**	**-12**
	comp=Z,47nm,0.5s,baz=4.8,slow=0.8,SNR=2.1						
KMI	**Kunming**	**37.95**	**323**	P	**P**	**21 01 18.8**	**+2.5**
KMI				PCP	PcP	21 03 32.6	+0.6
KMI				S	**S**	**21 07 10.9**	**+3.4**
KMI				SCP	ScP	21 07 13.6	-5.3
KMI				AMB	AMB		
	comp=Z,48nm,1.4s,mb5.0						
KMI				AMB	AMB		
	comp=Z,425nm,6.1s						
ENH	**Enshi**	**38.69**	**335**	PFAKE		21 01 30.0	+7.4
ENH				LR	LR		
	comp=Z,9.0nm,19.0s						
JHJ	**Hachijo jima 2**	**39.62**	**17**	S	**S**	**21 07 24.4**	**-8.3**
	comp=Z,132nm,1.1s,baz=111,slow=22,SNR=2.1						
JHJ				LR	LR	21 16 39.3	
	comp=Z,9μm,18.4s,MS5.6,baz=158,slow=34						
TIA	**Tai'an**	**41.83**	**348**	*e*P	**P**	**21 01 47.6**	**-1.0**
TIA				LR	LR		
	comp=N,4μm,15.0s,MS5.6						
TIA				LR	LR		
	comp=E,5μm,15.0s,MS5.6						
DZM	**Mont Dzumac**	**41.86**	**118**	P	**P**	**21 01 51.2**	**+2.3**
	comp=E,26nm,1.1s,mb4.8,baz=317,slow=7.8,SNR=5.8						
DZM				S	**S**	**21 08 09.8**	**+3.6**
	comp=E,4.7nm,1.1s,baz=340,slow=22,SNR=2.2						
CD2	**Chengdu**	**41.88**	**329**	⇑*i*P	**P**	**21 01 50.3**	**+1.3**
CD2				AP	pP	21 01 55.6	+1.5
CD2				XP	sP	21 01 58.0	+1.9
CD2				PP	PP	21 03 28.3	+2.4
CD2				S	**S**	**21 08 04.8**	**-1.5**
CD2				XS	sS	21 08 14.6	-0.1
CD2				AMB	AMB		
	comp=Z,90nm,1.0s,mb5.3						
CD2				AMB	AMB		
	comp=Z,780nm,11.2s						
CD2				LR	LR		
	comp=E,7μm,15.4s						
CD2				LR	LR		
	comp=Z,5μm,21.6s						
KS15	**Wonju Array Si**	**42.04**	**1**	*e*P	**P**	**21 01 49.2**	**-1.0**
INCN	**Inchon**	**42.07**	**360**	PFAKE		21 02 00.0	+9.4
INCN				LR	LR		
	comp=Z,8μm,21.0s,MS5.6						
XAN	**Xi'an**	**42.23**	**337**	P	**P**	**21 01 50.5**	**-1.4**
XAN				AP	pP	21 02 00.3	+3.3
XAN				S	**S**	**21 08 02.0**	**-10**
XAN				AMB	AMB		
	comp=Z,62nm,1.0s,mb5.2						
XAN				LR	LR		
	comp=N,3μm,16.9s,MS5.5						
XAN				LR	LR		
	comp=E,5μm,18.7s,MS5.5						
XAN				LR	LR		
	comp=Z,5μm,14.2s,MS5.5						
MJAR	**Matsushiro Arr**	**42.45**	**13**	P	**P**	**21 01 52.3**	**-1.4**
	comp=Z,30nm,1.0s,mb4.9,baz=186,slow=9.5,SNR=42						
MJAR				S	**S**	**21 08 10.2**	**-4.6**
	comp=Z,0.5nm,0.3s,baz=185,slow=34,SNR=2.8						
MJAR				LR	LR	21 16 28.3	
	comp=Z,8μm,20.7s,MS5.6,baz=190,slow=32						
MJAR	**Matsushiro Arr**	**42.45**	**13**	P	**P**	**21 01 52.3**	**-1.4**
MJAR				S	**S**	**21 08 10.2**	**-4.6**
MJAR				pmax	pmax		
	comp=Z,30nm,1.0s						
MJAR				smax			
	comp=N,1.0nm,0.4s						
MJAR				MLR	MLR		
	comp=Z,8μm,20.7s						
MAJO	**Matsushiro**	**42.45**	**13**	*e*P	**P**	**21 01 53.1**	**-0.6**
MAJO				MLR	MLR		
	comp=Z,9μm,21.0s,MS5.6						
MAT	**Matsushiro**	**42.45**	**13**	P	**P**	**21 01 53.0**	**-0.7**
MAT				S	**S**	**21 08 13.7**	**-1.1**
MAT	**Matsushiro**	**42.45**	**13**	*e*P	**P**	**21 01 53.0**	**-0.7**
MAT				*e*S	**S**	**21 08 14.0**	**-0.8**
MAT				pmax	pmax		
	comp=Z,61nm,1.2s,mb5.1						
MAT				MLR	MLR		
	comp=Z,14μm,18.0s,MS5.9						
MAT	**Matsushiro**	**42.45**	**13**	*e*P	**P**	**21 01 53.0**	**-0.7**
	comp=Z,61nm,1.2s,mb5.1						
MAT				*e*S	**S**	**21 08 14.0**	**-0.8**
MAT				LR	LR		
	comp=Z,14μm,18.0s,MS5.9						
DL2	**Dalian**	**43.77**	**354**	P	**P**	**21 02 05.1**	**+0.8**
DL2				PCS	PcS	21 07 44.5	+0.7
DL2				S	**S**	**21 08 34.8**	**+0.7**
DL2				SCS	ScS	21 11 59.6	-3.4
DL2				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.1						
DL2				AMB	AMB		
	comp=Z,610nm,7.6s						
DL2				LR	LR		
	comp=N,2μm,16.8s,MS5.4						
DL2				LR	LR		
	comp=E,3μm,15.1s,MS5.4						
DL2				LR	LR		
	comp=Z,3μm,19.3s,MS5.2						
SHL	**Shillong**	**45.52**	**313**	*e*P	**P**	**21 02 19.0**	**+0.7**
SHL				*i* PP	PP	21 04 02.0	-2.8
SHL				*i* S	**S**	**21 09 00.4**	**+0.9**
SHL				*i* x	x	21 15 16.0	
BJT	**Baijiatuau**	**45.70**	**348**	PFAKE		21 02 30.0	+10
BJT				LR	LR		
	comp=Z,8μm,21.0s,MS5.6						
BJI	**Beijing**	**45.72**	**348**	*e*P	**P**	**21 02 20.1**	**+0.2**
BJI				PP	PP	21 04 06.6	-0.4
BJI				S	**S**	**21 08 59.0**	**-3.4**
BJI				AMB	AMB		
	comp=Z,61nm,1.3s,mb5.4						
BJI				LR	LR		
	comp=N,5μm,27.4s						
BJI				LR	LR		
	comp=E,3μm,18.7s						
BJI				LR	LR		
	comp=Z,14μm,39.6s						
WAKE	**Wake Island**	**45.80**	**57**	PFAKE		21 02 30.0	+10
WAKE				LR	LR		
	comp=Z,7μm,22.0s,MS5.6						
LZH	**Lanzhou**	**46.09**	**334**	⇑P	**P**	**21 02 24.1**	**+1.3**
LZH				AP	pP	21 02 27.3	-0.7
LZH				S	**S**	**21 09 08.3**	**+0.5**
LZH				XS	sS	21 09 15.3	-1.0
LZH				SS	SS	21 12 24.6	-8.2
LZH				AMB	AMB		
	comp=Z,169nm,1.2s,mb5.8						
LZH				AMB	AMB		
	comp=Z,332nm,8.6s						
LZH				LR	LR		
	comp=E,16μm,15.6s						
LZH				LR	LR		
	comp=Z,17μm,18.3s,MS6.0						
SNY	**Shenyang**	**46.51**	**356**	⇑P	**P**	**21 02 26.1**	**0.0**
SNY				SS	SS	21 12 29.3	-10
SNY				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.1						
SNY				LR	LR		
	comp=N,9μm,19.2s,MS5.8						
SNY				LR	LR		
	comp=E,6μm,16.5s,MS5.8						
SNY				LR	LR		
	comp=Z,9μm,24.6s						
CAL	**Calcutta**	**46.54**	**307**	*e*P	**P**	**21 02 34.1**	**+7.8**
CAL				*e*S	**S**	**21 09 20.1**	**+5.9**
HHC	**Hu-ho-hao-te**	**47.58**	**344**	⇓*i*P	**P**	**21 02 35.4**	**+0.9**
HHC				AP	pP	21 02 40.3	+0.7
HHC				XP	sP	21 02 43.1	+1.4
HHC				PCP	PcP	21 04 05.9	+1.7
HHC				PP	PP	21 04 26.3	+0.4
HHC				SCP	ScP	21 07 57.4	-0.2
HHC				PCS	PcS	21 07 59.8	+0.2
HHC				S	**S**	**21 09 28.8**	**-0.2**
HHC				XS	sS	21 09 35.8	-1.7
HHC				SCS	ScS	21 12 26.0	-1.5
HHC				SS	SS	21 12 51.5	-5.5
HHC				AMB	AMB		
	comp=Z,30nm,1.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,2μm,13.4s						
HHC				LR	LR		
	comp=N,6μm,18.2s,MS5.6						
HHC				LR	LR		
	comp=E,3μm,18.6s,MS5.6						
HHC				LR	LR		
	comp=Z,6μm,19.6s,MS5.6						
BTO	**Baotou**	**47.79**	**343**	*e*P	**P**	**21 02 35.6**	**-0.5**
VLA	**Vladivostok**	**47.91**	**5**	*i* P	**P**	**21 02 38.8**	**+1.8**
VLA				MLR	MLR		
	comp=Z,7μm,23.0s,MS5.6						
VLA	**Vladivostok**	**47.91**	**5**	*i* P	**P**	**21 02 38.9**	**+1.9**
CN2	**Changchun**	**48.40**	**359**	*e*P	**P**	**21 02 40.8**	**0.0**
CN2				*e*XP	sP	21 02 47.8	-0.2
CN2				*e*PP	PP	21 04 33.3	-0.1
CN2				*e*S	**S**	**21 09 39.8**	**-0.8**
CN2				*e*SS	SS	21 13 06.3	-4.0
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,6μm,21.0s,MS5.6						
CN2				LR	LR		
	comp=E,4μm,21.0s,MS5.6						
CN2				LR	LR		
	comp=Z,8μm,21.0s,MS5.7						
VIS	**Vishakhapatnam**	**48.54**	**299**	*i* P	**P**	**21 02 39.2**	**-2.7**
VIS				*e*P		21 02 41.2	
VIS				AMb	AMB	21 03 12.6	
	comp=Z,172nm,1.7s,mb5.8						
VIS				*e*S	**S**	**21 09 43.2**	**+0.6**
VIS				*i* S	**S**	**21 09 44.2**	**+1.6**
VIS				*i* S	**S**	**21 09 44.2**	**+1.6**
LSA	**Lhasa**	**48.55**	**317**	PFAKE		21 02 50.0	+8.0
LSA				LR	LR		
	comp=Z,5μm,21.0s,MS5.5						
BOK	**Bokaro**	**49.11**	**307**	*e*P	**P**	**21 02 44.4**	**-1.9**
BOK				*i* x	x	21 02 45.7	
BOK				*ex*	x	21 09 44.6	
MDJ	**Mudanjiang**	**49.25**	**2**	P	**P**	**21 02 48.8**	**+1.5**
MDJ				PCP	PcP	21 04 11.3	+1.1
MDJ				PP	PP	21 04 42.3	+1.1
MDJ				SCP	ScP	21 08 07.4	+2.7
MDJ				S	**S**	**21 09 54.1**	**+1.5**
MDJ				AMB	AMB		
	comp=Z,83nm,1.1s,mb5.7						
MDJ				AMB	AMB		
	comp=Z,566nm,3.5s						
MDJ				LR	LR		
	comp=N,11μm,22.7s,MS5.8						
MDJ				LR	LR		
	comp=E,1μm,24.8s,MS5.8						
MDJ				LR	LR		
	comp=Z,13μm,24.8s,MS5.8						
MDJ	**Mudanjiang**	**49.25**	**2**	PFAKE		21 03 00.0	+13
MDJ				LR	LR		
	comp=Z,9μm,22.0s,MS5.7						
GTA	**Gaotai**	**50.63**	**333**	*e*P	**P**	**21 02 57.3**	**-0.6**
GTA				AP	pP	21 03 01.3	-1.8
GTA				XP	sP	21 03 04.3	-0.8
GTA				PP	PP	21 04 55.1	+1.3
GTA				S	**S**	**21 10 10.8**	**-1.1**
GTA				XS	sS	21 10 18.8	-1.7
GTA				SS	SS	21 13 42.5	-3.7
GTA				AMB	AMB		
	comp=Z,42nm,1.1s,mb5.3						
GTA				AMB	AMB		
	comp=Z,1μm,8.0s						
GTA				LR	LR		
	comp=N,6μm,19.8s,MS5.7						
GTA				LR	LR		
	comp=E,4μm,19.8s,MS5.7						
GTA				LR	LR		
	comp=Z,8μm,23.6s,MS5.7						
ASAJ	**Asahikawa**	**50.69**	**15**	P	**P**	**21 02 58.0**	**-0.2**
	comp=Z,33nm,0.7s,mb5.4,baz=234,slow=15,SNR=17						
ASAJ				LR	LR	21 24 08.4	
	comp=Z,7μm,21.4s,MS5.7,baz=208,slow=36						
ASAJ	**Asahikawa**	**50.69**	**15**	P	**P**	**21 02 58.0**	**-0.2**
ASAJ				pmax	pmax		
	comp=Z,33nm,0.7s						
ASAJ				MLR	MLR		
	comp=Z,7μm,21.4s						
JIRN	**Jiri**	**50.89**	**312**	*e*P	**P**	**21 03 00.8**	**+1.0**
	comp=Z,315nm,1.1s,mb6.2						
GUN	**Gumba**	**51.26**	**312**	*e*P	**P**	**21 03 03.2**	**+0.7**
	comp=Z,486nm,1.0s,mb6.4						
BLSP	**Bilaspur**	**51.40**	**303**	*e*P	**P**	**21 03 02.6**	**-1.0**
BLSP				*e*P		21 03 02.6	
BLSP				AMb	AMB	21 03 16.1	
	comp=Z,118nm,1.1s,mb5.7						
BLSP				*e*S	**S**	**21 10 21.8**	**-0.6**
PKI	**Pulchoki**	**51.43**	**311**	*e*P	**P**	**21 03 04.2**	**+0.4**
	comp=Z,196nm,1.2s,mb5.9						
PKI	**Pulchoki**	**51.43**	**311**	*e*P	**P**	**21 03 04.2**	**+0.4**
PKI				pmax	pmax		
	comp=Z,196nm,1.2s,mb5.9						
TRD	**Trivandrum**	**51.60**	**285**	*e*P	**P**	**21 03 04.7**	**-0.5**
TRD				AMb	AMB	21 03 17.6	
	comp=Z,91nm,1.2s,mb5.6						
KKN	**Kakani**	**51.64**	**311**	*e*P	**P**	**21 03 05.7**	**+0.3**
	comp=Z,236nm,1.1s,mb6.0						
KKN	**Kakani**	**51.64**	**311**	*e*P	**P**	**21 03 05.7**	**+0.3**
KKN				pmax	pmax		
	comp=Z,236nm,1.1s,mb6.0						
DMN	**Daman**	**51.67**	**311**	*e*P	**P**	**21 03 06.6**	**+0.9**
	comp=Z,279nm,1.0s,mb6.1						
GKN	**Gorkha**	**52.23**	**311**	*e*P	**P**	**21 03 09.8**	**0.0**
	comp=Z,316nm,1.1s,mb6.2						
HYB	**Hyderabad**	**52.66**	**296**	⇓*i*P	**P**	**21 03 13.0**	**0.0**
	comp=Z,143nm,1.2s,mb5.8						
HYB				*e*		21 04 16.0	
HYB				*e*PP	PP	21 05 16.0	+3.9
HYB				*e*S	**S**	**21 10 38.0**	**-1.8**
HYB				*e*SS	SS	21 14 18.0	-0.2
HYB				LR	LR	21 24 22.0	
	comp=Z,10nm,24.0s						
HYB	**Hyderabad**	**52.66**	**296**	⇓*e*P	**P**	**21 03 13.0**	**0.0**
HYB				*e*S	**S**	**21 10 36.0**	**-3.8**
HYB				pmax	pmax		
	comp=Z,143nm,1.2s,mb5.8						
HYB	**Hyderabad**	**52.66**	**296**	⇓*e*P	**P**	**21 03 13.0**	**0.0**
	comp=Z,143nm,1.2s,mb5.8						
HYB				*e*S	**S**	**21 10 36.0**	**-3.8**
KOLN	**Koldanda**	**52.90**	**310**	*e*P	**P**	**21 03 13.7**	**-1.0**
	comp=Z,240nm,0.9s,mb6.1						
YSS	**Yuzh-Sakhalins**	**53.39**	**13**	*c*eP	**P**	**21 03 18.2**	**-0.2**
YSS				*e*		21 03 36.0	
YSS				*e*		21 04 22.0	
YSS				*e*S	**S**	**21 10 48.0**	**-1.8**
YSS				*e*PS		21 10 56.0	
YSS				*e*SSS		21 16 21.0	
YSS				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.2						
YSS				pmax	pmax		
	comp=Z,2μm,12.0s						
YSS				pmax	pmax		
	comp=N,1μm,11.0s						
YSS				MLR	MLR		
	comp=N,3μm,19.0s,MS5.4						
YSS				MLR	MLR		
	comp=Z,3μm,19.0s,MS5.4						
YSS				MLR	MLR		
	comp=E,2μm,17.0s,MS5.4						
YSS	**Yuzh-Sakhalins**	**53.39**	**13**	*e*P	**P**	**21 03 18.9**	**+0.6**
YSS				LR	LR		
	comp=Z,5μm,21.0s,MS5.6						
HABR	**Khabarovsk**	**53.52**	**7**	⇓*i*P	**P**	**21 03 20.7**	**+1.4**
HABR				*e*S	**S**	**21 10 56.3**	**+4.7**
HABR				pmax	pmax		
	comp=Z,82nm,1.2s,mb5.5						
HABR				MLR	MLR		
	comp=Z,2μm,19.4s,MS5.2						
JBP	**Jabalpur**	**53.63**	**303**	⇓*i*P	**P**	**21 03 20.8**	**+0.7**
JBP				*i* S	**S**	**21 10 52.0**	**-1.0**
KLR	**Kul'dur**	**53.97**	**4**	*e*P	**P**	**21 03 19.7**	**-2.9**
KLR				*e*		21 04 20.5	
KLR				*e*S	**S**	**21 10 55.5**	**-2.1**
KLR				*e*		21 13 00.0	
KLR				pmax	pmax		
	comp=Z,70nm,1.8s,mb5.3						
KLR				smax			
	comp=N,2μm,11.0s						
KLR				smax			
	comp=E,1μm,11.0s						
KLR				MLR	MLR		
	comp=E,2μm,15.0s						
KLR				MLR	MLR		
	comp=Z,4μm,15.0s,MS5.5						
HIA	**Hailar**	**54.22**	**354**	PFAKE		21 03 40.0	+16
HIA				LR	LR		
	comp=Z,9μm,21.0s,MS5.8						

MNGI	**Mangalore**	**54.72**	**289**	*e*P		**P**	**21 03 26.4**	**-1.7**
ULN	**Ulaanbaatar**	**55.30**	**344**	*e*P		**P**	**21 03 31.3**	**-0.9**
ULN				*e*			21 03 46.1	
ULN				MLR		MLR		
	comp=Z,5μm,21.0s,MS5.6							
SONM	**Songino Array**	**55.45**	**343**	P		**P**	**21 03 32.8**	**-0.6**
	comp=Z,26nm,1.1s,mb5.2,baz=162,slow=9.2,SNR=16							
SONM				S		**S**	**21 11 22.5**	**+4.9**
	comp=Z,4.1nm,0.8s,baz=276,slow=40,SNR=3.4							
SONM				LR		LR	21 27 49.5	
	comp=Z,4μm,21.9s,MS5.5,baz=159,slow=37							
SONM	**Songino Array**	**55.45**	**343**	P		**P**	**21 03 32.8**	**-0.6**
SONM				S		**S**	**21 11 22.5**	**+4.9**
SONM				pmax		pmax		
	comp=Z,26nm,1.1s							
SONM				smax				
	comp=N,4.0nm,0.8s							
SONM				MLR		MLR		
	comp=Z,4μm,21.9s							
BHPL	**Bhopal**	**55.81**	**302**	*e*P		**P**	**21 03 36.3**	**+0.4**
BHPL				AMb		AMB	21 04 00.6	
	comp=Z,173nm,1.4s,mb5.9							
SNZO	**South Karori**	**55.96**	**138**	PFAKE			21 03 50.0	+13
SNZO				LR		LR		
	comp=Z,18μm,20.0s,MS6.2							
LGTI	**Lohaghat**	**56.29**	**310**	*ex*		x	21 03 51.0	
GOA	**Goa**	**56.35**	**292**	*e*P		**P**	**21 03 37.0**	**-2.8**
POO	**Poona**	**57.25**	**296**	*e*P		**P**	**21 03 44.0**	**-2.2**
POO				*ex*		x	21 07 16.0	
POO				*ex*		x	21 07 16.0	
POO				*ex*		x	21 08 36.0	
POO				*ex*		x	21 08 36.0	
POO				*e*S		**S**	**21 11 42.0**	**+0.6**
POO				*ex*		x	21 11 56.0	
RAO	**Raoul Island**	**57.41**	**122**	PFAKE			21 04 00.0	+13
RAO				LR		LR		
	comp=Z,8μm,22.0s,MS5.8							
NDI	**New Delhi**	**58.27**	**308**	*e*P		**P**	**21 03 51.0**	**-2.4**
NDI				AMb		AMB	21 04 03.5	
	comp=Z,104nm,1.8s,mb5.5							
NDI				*e*S		**S**	**21 11 52.5**	**-2.3**
ZAK	**Zakamensk**	**58.65**	**342**	*e*P		**P**	**21 03 55.5**	**-0.5**
ZAK				pmax		pmax		
	comp=Z,92nm,1.9s,mb5.5							
AJM	**Ajmer**	**59.41**	**304**	*i* P		**P**	**21 03 58.0**	**-3.3**
AJM				*e*P			21 03 58.1	
AJM				AMb		AMB	21 04 12.9	
	comp=Z,76nm,1.2s,mb5.6							
SMLA	**Simla**	**59.43**	**310**	*e*P		**P**	**21 03 58.0**	**-3.4**
SMLA				*i* P			21 04 00.3	
SMLA				AMb		AMB	21 04 13.4	
	comp=Z,236nm,1.2s,mb6.1							
TLY	**Talaya**	**59.70**	**343**	*e*P		**P**	**21 04 01.9**	**-1.3**
TLY				*e*			21 06 08.5	
TLY				*e*S		**S**	**21 12 08.0**	**-5.3**
TLY				*e*PS			21 12 29.8	
TLY				pmax		pmax		
	comp=Z,43nm,1.5s,mb5.3							
TLY				MLR		MLR		
	comp=Z,4μm,19.0s,MS5.6							
TLY	**Talaya**	**59.70**	**343**	*i* Pr		**P**	**21 04 04.0**	**+0.8**
SDNR	**Sundarnagar**	**59.75**	**311**	*e*P		**P**	**21 04 04.6**	**+1.0**
WMQ	**Urumqi**	**59.94**	**328**	⇑ *i*P		**P**	**21 04 05.6**	**+0.7**
WMQ				AP		pP	21 04 10.1	-0.1
WMQ				XP		sP	21 04 12.6	+0.4
WMQ				PCP		PcP	21 04 52.1	+1.0
WMQ				PP		PP	21 06 18.6	+1.4
WMQ				SCP		ScP	21 08 51.0	-0.4
WMQ				S		**S**	**21 12 14.1**	**-2.3**
WMQ				XS		sS	21 12 21.5	-3.6
WMQ				SCS		ScS	21 13 51.8	-2.9
WMQ				SS		SS	21 16 11.1	-1.7
WMQ				AMB		AMB		
	comp=Z,47nm,1.2s,mb5.4							
WMQ				AMB		AMB		
	comp=Z,806nm,4.5s							
WMQ				LR		LR		
	comp=N,8μm,20.9s,MS5.9							
WMQ				LR		LR		
	comp=E,5μm,20.9s,MS5.9							
WMQ				LR		LR		
	comp=Z,4μm,22.6s,MS5.5							
IRK	**Irkutsk**	**60.02**	**344**	*e*P		**P**	**21 04 04.9**	**-0.6**
IRK				pmax		pmax		
	comp=Z,149nm,2.7s,mb5.5							
MOY	**Mondy**	**60.47**	**342**	*e*P		**P**	**21 04 09.6**	**+1.0**
MOY				pmax		pmax		
	comp=Z,74nm,1.8s,mb5.4							
SKR	**Severo-Kuril's**	**60.69**	**21**	*e*P		**P**	**21 04 16.0**	**+5.9**
SKR				*e*			21 04 58.0	
SKR				*e*S		**S**	**21 12 22.0**	**-4.0**
SKR				pmax		pmax		
	comp=N,1μm,10.0s							
SKR				pmax		pmax		
	comp=E,800nm,10.0s							
SKR				pmax		pmax		
	comp=Z,3μm,10.0s							
SKR				smax				
	comp=N,3μm,16.0s							
SKR				smax				
	comp=E,3μm,16.0s							
SKR				MLR		MLR		
	comp=Z,3μm,10.0s,MS5.7							
SKR				MLR		MLR		
	comp=N,3μm,12.0s,MS5.8							
SKR				MLR		MLR		
	comp=E,3μm,12.0s,MS5.8							
AFI	**Afiamalu**	**60.96**	**103**	PFAKE			21 04 30.0	+18
AFI				LR		LR		
	comp=Z,4μm,19.0s,MS5.6							
CLNS	**Chul'man**	**61.45**	**359**	*e*P		**P**	**21 04 16.0**	**+0.7**
CLNS				*e*			21 04 59.3	
CLNS				*e*			21 06 27.0	
CLNS				*e*S		**S**	**21 12 35.8**	**0.0**
CLNS				*e*SS		SS	21 16 29.0	-7.6
CLNS				pmax		pmax		
	comp=Z,16nm,0.9s,mb5.2							
CLNS				pmax		pmax		
	comp=N,29nm,1.2s							
CLNS				pmax		pmax		
	comp=E,13nm,0.9s							
CLNS				pmax		pmax		
	comp=Z,22nm,0.8s,mb5.3							
CLNS				pmax		pmax		
	comp=N,26nm,1.1s							
CLNS				pmax		pmax		
	comp=E,19nm,0.9s							
CLNS				smax				
	comp=N,404nm,11.6s							
CLNS				smax				
	comp=Z,1μm,12.0s							
CLNS				smax				
	comp=E,2μm,13.0s							
CLNS				MLR		MLR		
	comp=Z,1μm,15.0s,MS5.1							
CLNS				MLR		MLR		
	comp=N,200nm,14.0s,MS5.1							
CLNS				MLR		MLR		
	comp=E,1μm,14.0s,MS5.1							
DRV	**Dumont d'Urvil**	**62.41**	**174**	P		**P**	**21 04 19.0**	**-2.7**
DRV				S		**S**	**21 12 47.0**	**-0.9**
DRV				L			21 20 00.0	
DRV				R			21 24 00.0	
MIDW	**Midway**	**62.80**	**55**	PFAKE			21 04 40.0	+16
MIDW				LR		LR		
	comp=Z,7μm,21.0s,MS5.8							
BOD	**Bodaibo**	**63.29**	**352**	*e*P		**P**	**21 04 26.2**	**-1.4**
BOD				pmax		pmax		
	comp=Z,93nm,1.5s,mb5.7							
PET	**Petropavlovsk**	**63.51**	**21**	⇓ *i*P		**P**	**21 04 30.7**	**+1.7**
PET				*e*			21 05 05.5	
PET				*e*			21 06 43.8	
PET				*i* S		**S**	**21 12 59.5**	**-2.1**
PET				pmax		pmax		
	comp=Z,95nm,1.1s,mb5.7							
PET				pmax		pmax		
	comp=Z,2μm,11.4s							
PET				pmax		pmax		
	comp=Z,2μm,14.2s							
PET				pmax		pmax		
	comp=Z,1μm,6.7s							
PET				pmax		pmax		
	comp=Z,2μm,6.3s							
PET				pmax		pmax		
	comp=Z,1μm,13.6s							
PET				smax				
	comp=N,2μm,15.2s							
PET				smax				
	comp=E,3μm,17.1s							
PET				smax				
	comp=E,3μm,14.6s							
PET				MLR		MLR		
	comp=Z,3μm,20.0s,MS5.5							
PET				MLR		MLR		
	comp=Z,2μm,17.0s							
PET	**Petropavlovsk**	**63.51**	**21**	*e*P		**P**	**21 04 30.4**	**+1.4**
PET				LR		LR		
	comp=Z,3μm,20.0s,MS5.4							
KSH	**Kashi**	**64.39**	**318**	*e*P		**P**	**21 04 35.3**	**+0.6**
KSH				*e*AP		pP	21 04 39.1	-1.0
KSH				*e*XP		sP	21 04 42.1	0.0
KSH				*e*PCP		PcP	21 05 09.0	-0.1
KSH				*e*PP		PP	21 06 58.0	+1.7
KSH				*e*SCP			21 09 10.0	
KSH				*e*PCS			21 09 12.3	
KSH				*e*S		**S**	**21 13 09.3**	**-3.2**
KSH				*e*XS		sS	21 13 18.0	-3.3
KSH				*e*SCS		ScS	21 14 24.3	-4.0
KSH				*e*SS		SS	21 17 21.5	-0.9
KSH				AMB		AMB		
	comp=Z,177nm,3.6s							
KSH				LR		LR		
	comp=N,4μm,18.8s,MS5.7							
KSH				LR		LR		
	comp=E,2μm,15.4s,MS5.7							
KSH				LR		LR		
	comp=Z,6μm,24.8s							
MK31	**Makanchi Array**	**64.77**	**328**	P		**P**	**21 04 35.3**	**-1.9**
MK31				pmax		pmax		
	comp=Z,61nm,0.9s,mb5.6							
MKAR	**Makanchi Array**	**64.77**	**328**	P		**P**	**21 04 34.8**	**-2.5**
	comp=Z,14nm,0.7s,mb5.1,baz=125,slow=7.7,SNR=71							
MKAR				S		**S**	**21 13 21.6**	**+4.4**
	comp=Z,0.5nm,0.8s,baz=285,slow=16,SNR=2.2							
MKAR	**Makanchi Array**	**64.77**	**328**	P		**P**	**21 04 34.8**	**-2.4**
MKAR				S		**S**	**21 13 21.6**	**+4.4**
MKAR				pmax		pmax		
	comp=Z,14nm,0.7s							
MKAR				smax				
	comp=N,1.0nm,0.9s							
AAA	**Alma-Ata**	**65.75**	**322**	*e*P		**P**	**21 04 42.0**	**-1.6**
AAA				*e*S		S	21 13 30.0	+0.8
AAA				pmax		pmax		
	comp=Z,2μm,10.0s							
AAA				smax				
	comp=E,4μm,11.0s							
MIR	**Mirnyy**	**65.98**	**194**	*d i*P		**P**	**21 04 48.0**	**+2.9**
MIR				*e*			21 05 11.0	
MIR				*e*			21 14 38.0	
MIR				pmax		pmax		
	comp=Z,1μm,2.2s,mb6.5							
MIR				MLR		MLR		
	comp=N,4μm,18.0s,MS5.8							
MIR				MLR		MLR		
	comp=E,4μm,18.0s,MS5.8							
MIR				MLR		MLR		
	comp=Z,12μm,18.0s,MS6.1							
TKM2	**Tokmak 2**	**66.39**	**321**	P		**P**	**21 04 47.9**	**+0.1**
TKM2				pmax		pmax		
	comp=Z,115nm,1.6s,mb5.7							
TKM2	**Tokmak 2**	**66.39**	**321**	*i* P		**P**	**21 04 47.9**	**+0.1**
YAK	**Yakutsk**	**66.67**	**1**	*e*P		**P**	**21 04 48.4**	**-1.2**
YAK				*e**PP		pP	21 04 59.5	+4.6
YAK				*i* S		S	21 13 38.3	-2.2
YAK				*e*			21 14 46.4	
YAK				pmax		pmax		
	comp=N,47nm,1.3s							
YAK				pmax		pmax		
	comp=Z,94nm,1.3s,mb5.7							
YAK				pmax		pmax		
	comp=E,14nm,1.4s							
YAK				smax				
	comp=E,19nm,1.4s							
YAK				smax				
	comp=Z,4.0nm,0.7s							
YAK				smax				
	comp=N,14nm,1.3s							
YAK				MLR		MLR		
	comp=Z,2μm,17.0s,MS5.5							
YAK				MLR		MLR		
	comp=N,2μm,18.0s							
YAK				MLR		MLR		
	comp=E,1μm,25.0s							
YAK	**Yakutsk**	**66.67**	**1**	*e*P		**P**	**21 04 48.3**	**-1.2**
YAK				LR		LR		
	comp=Z,7μm,21.0s,MS5.9							
KRAR	**Krasnoyarsk**	**66.76**	**340**	*i* P		**P**	**21 04 49.4**	**-0.7**
KRAR				pmax		pmax		
	comp=Z,46nm,1.9s,mb5.2							
KRAR				MLR		MLR		
	comp=Z,4μm,26.0s,MS5.5							
AAK	**Ala-Archa**	**66.94**	**320**	P		**P**	**21 04 50.4**	**-0.8**
	comp=Z,224nm,1.1s,mb6.1,SNR=7.7							
AAK	**Ala-Archa**	**66.94**	**320**	⇑ *i*P		**P**	**21 04 50.3**	**-0.9**
FRU	**Bishkek**	**66.97**	**321**	*e*P		**P**	**21 04 51.0**	**-0.4**
FRU				*i*			21 05 01.0	
FRU				pmax		pmax		
	comp=Z,120nm,2.0s,mb5.6							
KURK	**Kurchatov**	**69.10**	**329**	P		**P**	**21 05 02.0**	**-2.8**
	comp=Z,401nm,0.8s,mb6.4,SNR=16							
KURK	**Kurchatov**	**69.10**	**329**	⇑ *i*P		**P**	**21 05 02.7**	**-2.1**
FX1	**Attu Island--F**	**69.39**	**28**	*e*P		**P**	**21 05 06.6**	**0.0**
NVS	**Novosibirsk**	**69.60**	**335**	*i* P		**P**	**21 05 05.8**	**-2.1**
NVS				*i* S		S	21 14 05.8	-10
NVS				*e*			21 14 59.2	
NVS				pmax		pmax		
	comp=N,860nm,1.6s							
NVS				pmax		pmax		
	comp=E,74nm,1.6s							
NVS				pmax		pmax		
	comp=Z,94nm,1.6s,mb5.5							
NVS				pmax		pmax		
	comp=Z,72nm,2.6s,mb5.1							
NVS				pmax		pmax		
	comp=N,60nm,2.7s							
NVS				pmax		pmax		
	comp=E,83nm,2.7s							
NVS				smax				
	comp=N,37nm,2.0s							
NVS				smax				
	comp=E,38nm,1.4s							
KK31	**Karatay Array**	**69.72**	**319**	*i* P		**P**	**21 05 07.4**	**-1.3**
KKAR	**Karatay Array**	**69.72**	**319**	*i* P		**P**	**21 05 07.4**	**-1.3**
KKAR				pmax		pmax		
	comp=Z,89nm,1.3s,mb5.5							
SMY	**Shemya**	**69.73**	**28**	PFAKE			21 05 20.0	+11
SMY				LR		LR		
	comp=Z,6μm,20.0s,MS5.9							
WSAR	**Wadi Sarin**	**72.21**	**296**	P		**P**	**21 05 21.6**	**-2.2**
	comp=Z,9.2nm,1.1s,mb4.6,baz=123,slow=5.1,SNR=2.4							
WSAR				S		S	21 14 40.8	-4.9
	comp=Z,5.2nm,1.0s,baz=88,slow=15,SNR=1.8							
WSAR				LR		LR	21 39 46.6	
	comp=Z,3μm,18.4s,MS5.6,baz=342,slow=38							
RAR	**Rarotonga**	**72.67**	**111**	PFAKE			21 05 40.0	+14
RAR				LR		LR		
	comp=Z,2.0nm,21.0s							
VOSK	**Vostochnaya**	**74.16**	**328**	P		**P**	**21 05 32.4**	**-2.9**
VOSK				pmax		pmax		
	comp=Z,39nm,1.0s,mb5.3							
BVA0	**Borovoye Array**	**74.62**	**328**	*i* P		**P**	**21 05 35.7**	**-2.3**
BVA0				pmax		pmax		
	comp=Z,15nm,1.2s,mb4.8							
BRVK	**Borovoye**	**74.70**	**328**	P		**P**	**21 05 38.6**	**+0.2**
	comp=Z,245nm,1.0s,mb6.1,SNR=12							
BRVK	**Borovoye**	**74.70**	**328**	*i* Pr		**P**	**21 05 36.4**	**-2.0**
CHKZ	**Chkalovo**	**74.84**	**329**	*e*P		**P**	**21 05 36.9**	**-2.3**
CHKZ				pmax		pmax		
	comp=Z,73nm,1.1s,mb5.5							
CHKZ	**Chkalovo**	**74.84**	**329**	*e*P		**P**	**21 05 36.9**	**-2.3**
	comp=Z,73nm,1.1s,mb5.5							
VNDA	**Vanda**	**74.99**	**173**	P		**P**	**21 05 39.6**	**-0.4**
	comp=Z,4.3nm,0.8s,mb4.4,baz=320,slow=6.2,SNR=19							
VNDA				S		S	21 15 20.2	+3.1
	comp=Z,0.6nm,0.7s,baz=284,slow=18,SNR=3.0							
VNDA				LR		LR	21 37 11.6	
	comp=Z,13μm,20.6s,MS6.2,baz=342,slow=34							
VNDA	**Vanda**	**74.99**	**173**	P		**P**	**21 05 39.7**	**-0.4**
VNDA				S		S	21 15 20.2	+3.1
VNDA				pmax		pmax		
	comp=Z,4.0nm,0.8s							
VNDA				smax				
	comp=N,1.0nm,0.7s							
VNDA				MLR		MLR		
	comp=Z,13μm,20.7s							
ZRNK	**Zerenda**	**75.31**	**328**	*e*P		**P**	**21 05 39.6**	**-2.4**
ZRNK				pmax		pmax		
	comp=Z,88nm,1.1s,mb5.6							
ZRNK	**Zerenda**	**75.31**	**328**	*e*P		**P**	**21 05 39.6**	**-2.4**
	comp=Z,88nm,1.1s,mb5.6							
MAW	**Mawson**	**75.90**	**201**	*e*P		**P**	**21 05 46.9**	**+1.6**
	comp=Z,34nm,1.1s,mb5.2							
MAW				*e*S		S	21 15 27.4	+0.1
MAW	**Mawson**	**75.90**	**201**	P		**P**	**21 05 46.0**	**+0.6**
	comp=Z,8.1nm,1.1s,mb4.6,baz=70,slow=8.7,SNR=6.1							
MAW				S		S	21 15 30.8	+3.5
	comp=Z,1.7nm,1.0s,baz=210,slow=20,SNR=1.6							
MAW				LR		LR	21 39 29.9	
	comp=Z,5μm,18.3s,MS5.8,baz=58,slow=36							
MAW	**Mawson**	**75.90**	**201**	*e*P		**P**	**21 05 46.9**	**+1.6**
MAW				*e*S		S	21 15 27.4	+0.1
MAW				pmax		pmax		
	comp=Z,34nm,1.1s							
SBA	**Scott Base**	**75.91**	**172**	*e*P		**P**	**21 05 47.5**	**+2.1**
SBA				pmax		pmax		
	comp=Z,276nm,1.9s,mb5.9							
SBA				MLR		MLR		
	comp=Z,10μm,20.0s,MS6.1							
SBA	**Scott Base**	**75.91**	**172**	*e*P		**P**	**21 05 47.5**	**+2.1**
	comp=Z,276nm,1.9s,mb5.9							
SBA				LR		LR		
	comp=Z,10μm,20.0s,MS6.1							
TIXI	**Tiksi**	**76.31**	**1**	*e*P		**P**	**21 05 44.5**	**-3.2**
TIXI				*e*			21 08 41.4	
TIXI				*e*S		S	21 15 24.5	-7.3
TIXI				*e*			21 16 01.1	
TIXI				*e*SS		SS	21 20 31.0	+5.2
TIXI				pmax		pmax		
	comp=Z,51nm,0.9s,mb5.5							
TIXI				pmax		pmax		
	comp=Z,683nm,12.5s							
TIXI				pmax		pmax		
	comp=N,358nm,15.4s							
TIXI				pmax		pmax		
	comp=E,67nm,13.2s							
TIXI				smax				
	comp=N,1μm,13.4s							
TIXI				smax				
	comp=E,303nm,14.4s							
TIXI				MLR		MLR		
	comp=Z,4μm,19.0s,MS5.8							
TIXI	**Tiksi**	**76.31**	**1**	PFAKE			21 06 00.0	+12
TIXI				LR		LR		
	comp=Z,5μm,20.0s,MS5.8							
ABKT	**Ailbek**	**76.51**	**311**	P		**P**	**21 05 49.1**	**+0.3**
	comp=Z,289nm,1.1s,mb6.1,SNR=7.6							
VAN	**Vannovskaya**	**76.52**	**311**	P		**P**	**21 05 49.4**	**+0.5**
BILL	**Bilibino**	**77.70**	**14**	⇓ *e*P		**P**	**21 05 56.0**	**+0.5**
BILL				*e*			21 06 10.8	
BILL				*e*S		S	21 15 43.5	-3.4
BILL				*e*SS		SS	21 20 50.2	+3.5
BILL				pmax		pmax		
	comp=Z,20nm,1.7s,mb4.8							
KIP	**Kipapa**	**77.88**	**67**	PFAKE			21 06 10.0	+14
KIP				LR		LR		
	comp=Z,3μm,19.0s,MS5.6							
OPO	**Ambohidratompo**	**78.82**	**252**	P		**P**	**21 06 02.0**	**+0.3**
	comp=Z,9.1nm,0.8s,mb4.7,baz=76,slow=2.3,SNR=10							
AB31	**Akbulak array**	**78.94**	**322**	*i* P		**P**	**21 06 00.0**	**-2.3**
AB31				pmax		pmax		
	comp=Z,37nm,1.0s,mb5.3							
POHA	**Pohakuloa**	**79.90**	**69**	PFAKE			21 06 20.0	+12
POHA				LR		LR		
	comp=Z,5μm,22.0s,MS5.8							
AKTK	**Aktyubinsk**	**80.51**	**323**	P		**P**	**21 06 08.4**	**-2.4**
AKTK				S		S	21 16 15.2	-1.7
AKTO	**Aktyubinsk**	**80.51**	**323**	P		**P**	**21 06 08.4**	**-2.4**
	comp=Z,8.8nm,0.8s,mb4.7,baz=105,slow=5.9,SNR=25							
AKTO				S		S	21 16 15.2	-1.7
	comp=Z,0.4nm,0.5s,baz=216,slow=21,SNR=2.4							
AKTO	**Aktyubinsk**	**80.51**	**323**	P		**P**	**21 06 08.5**	**-2.4**
AKTO				S		S	21 16 15.2	-1.6
AKTO				pmax		pmax		
	comp=Z,9.0nm,0.8s,mb4.8							
SVE	**Sverdlovsk**	**81.35**	**329**	*e*P		**P**	**21 06 14.0**	**-1.4**
SVE				*e*			21 06 21.8	
SVE				*e*PPP			21 11 20.0	
SVE				*e*PS			21 17 19.0	
SVE				pmax		pmax		
	comp=Z,80nm,2.0s,mb5.3							
GAMB	**Gambell**	**82.07**	**23**	*e*P		**P**	**21 06 21.1**	**+2.0**
TBI	**Tubuai**	**82.21**	**113**	*e*LQ			21 28 51.5	
	comp=Z,4μm,37.8s							
TBI	**Tubuai**	**82.21**	**113**	*e*P		**P**	**21 06 21.1**	**+1.2**
	comp=Z,225nm,1.2s,mb6.0							
TBI	**Tubuai**	**82.21**	**113**	*e*LR		LR	21 32 13.3	
	comp=Z,6μm,30.8s							
ARU	**Arti**	**82.27**	**329**	P		**P**	**21 06 19.6**	**-0.6**
	comp=Z,356nm,1.1s,mb6.2,SNR=9.6							
ARU	**Arti**	**82.27**	**329**	⇓ *i*P		**P**	**21 06 19.2**	**-1.0**
ARU				*e*			21 09 28.7	
ARU				*e*PPP			21 11 18.5	
ARU				*e*S		S	21 16 37.9	+2.8
ARU				*e*SS		SS	21 21 58.3	+3.1
ARU				pmax		pmax		
	comp=Z,116nm,1.5s,mb5.6							
ARU	**Arti**	**82.27**	**329**	⇑ *i*P		**P**	**21 06 19.0**	**-1.2**
PPT	**Papeete**	**82.33**	**107**	*e*S		S	21 16 32.5	-3.1
	comp=Z,6μm,34.0s							
PPT				*e*S		S	21 16 33.5	-2.1
	comp=Z,3μm,23.2s							
PPT				*e*LQ			21 28 45.1	
	comp=Z,12μm,36.5s							
PPT				*e*LR		LR	21 32 15.3	
	comp=Z,13μm,37.2s							
ORR	**Orenburg**	**82.84**	**323**	*d i*P		**P**	**21 06 23.3**	**+0.1**
ORR				*i*			21 06 32.4	
ORR				S		S	21 16 33.9	-7.0
ORR				pmax		pmax		
	comp=Z,90nm,1.4s,mb5.6							
ORR				MLR		MLR		
	comp=Z,4μm,25.0s,MS5.7							
UMR	**Umm Al-Rimmam**	**83.05**	**300**	*e*P		**P**	**21 06 23.5**	**-0.8**
UMR				AMb		AMB	21 06 41.2	
	comp=Z,44nm,0.6s,mb5.7							
RDF	**Al-Radifah**	**83.10**	**300**	*e*P		**P**	**21 06 24.5**	**0.0**
RDF				AMb		AMB	21 06 41.0	
	comp=Z,64nm,1.1s,mb5.6							
NAY	**Al-Naaiem**	**83.41**	**300**	*e*P		**P**	**21 06 25.5**	**-0.6**
NAY				AMb		AMB	21 06 42.9	
	comp=Z,34nm,0.7s,mb5.5							
MIB	**Mutribah**	**83.42**	**301**	*e*P		**P**	**21 06 26.0**	**-0.2**
MIB				AMb		AMB	21 06 42.1	
	comp=Z,79nm,1.1s,mb5.7							
SDPT	**Sand Point**	**84.12**	**33**	*e*P		**P**	**21 06 30.2**	**+0.5**
	comp=Z,292nm,1.0s,mb6.4							
SYO	**Syowa Base**	**84.61**	**201**	⇑ *e*P		**P**	**21 06 34.6**	**+2.4**
SYO	**Syowa Base**	**84.61**	**201**	⇓ *e*PcP		PcP	21 06 37.0	+1.3
QSPA	**South Pole Qui**	**85.16**	**180**	*e*P		**P**	**21 06 34.7**	**-0.3**
	comp=Z,46nm,1.2s,mb5.5							
QSPA				LR		LR		
	comp=Z,1.0nm,20.0s							
MAK	**Makhachkala**	**85.58**	**314**	*e*P		**P**	**21 06 37.6**	**+0.5**
MAK				*e*PPP			21 11 52.7	
MAK				*i* S			21 17 01.3	
MAK				pmax		pmax		
	comp=Z,97nm,1.5s,mb5.8							
BHD	**Baghdad**	**86.44**	**304**	*ex*		x	21 06 40.0	
BHD	**Baghdad**	**86.44**	**304**	*ex*		x	21 17 13.0	
BHD				*ex*		x	21 17 36.0	
BHD				*ex*		x	21 18 14.0	
DGRG	**David-gareji**	**86.88**	**312**	P		**P**	**21 06 44.3**	**+0.8**
GNI	**Garni**	**87.15**	**310**	P		**P**	**21 06 43.4**	**-1.4**
	comp=Z,3.4nm,0.7s,mb4.7,baz=20,slow=11,SNR=8.1							
GNI	**Garni**	**87.15**	**310**	*e*P		**P**	**21 06 45.0**	**+0.2**
GNI				*e*			21 07 27.4	
GNI				L

AKH Akhalkalaki 88.27 312 P P 21 06 50.5 +0.3
TTA Tatalina 88.36 26 eP P 21 06 50.3 -0.3
KDAK Kodiak Island 88.94 32 P P 21 06 53.0 -0.3
comp=Z,44nm,1.1s,mb5.7,baz=322,slow=1.4,SNR=9.2
KDAK S 21 17 22.7
comp=Z,5.6nm,0.9s,baz=148,slow=16,SNR=1.9
KDAK Kodiak Island 88.94 32 P P 21 06 53.0 -0.3
KDAK S 21 17 22.7
GOF Gofitskoye 89.09 315 eP P 21 07 03.5 +9.4
GOF pmax pmax
comp=Z,40nm,1.3s,mb5.6
KIV Kislovodsk 89.20 314 P P 21 07 03.0 +8.5
comp=Z,122nm,1.5s,mb6.0,SNR=6.2
KIV Kislovodsk 89.20 314 eP P 21 06 54.6 +0.1
KIV e 21 10 30.7
KIV ePPP 21 12 29.7
KIV pmax pmax
comp=Z,17nm,1.2s,mb5.2
KIV pmax pmax
comp=Z,273nm,4.0s
KIV Kislovodsk 89.20 314 iP P 21 06 54.5 0.0
ARTV Artvin 89.41 311 iP P 21 06 55.7 +0.1
KMBO Kilima Mbogo 89.64 269 P P 21 06 55.4 -1.2
comp=Z,1.0nm,0.9s,baz=62,slow=22,SNR=5.3
KMBO S 21 17 29.4
comp=Z,0.3nm,0.3s,baz=108,slow=22,SNR=1.9
KMBO LR LR 21 43 28.6
comp=Z,9μm,20.1s,MS6.2,baz=90,slow=33
KMBO Kilima Mbogo 89.64 269 eP P 21 06 58.1 +1.5
KMBO LR LR
comp=Z,7μm,20.0s,MS6.1
BNGL BINGOL 89.75 309 iP P 21 06 57.8 +0.7
MARD Mardin 89.86 307 iP P 21 07 03.0 +5.3
PECR Pechory 90.02 326 eP P 21 06 58.0 -0.4
PECR e 21 17 18.0
PECR eS 21 17 44.0
PECR ePS PS 21 18 54.0 -4.6
PECR smax
comp=N,2μm,11.0s
PECR smax
comp=E,2μm,11.0s
PMR Palmer 91.28 28 eP P 21 07 04.6 +0.3
PMR pmax pmax
comp=Z,33nm,1.0s,mb5.6
PMR MLR MLR
comp=Z,4μm,22.0s,MS5.8
PMR Palmer 91.28 28 eP P 21 07 04.6 +0.3
comp=Z,33nm,1.0s,mb5.6
PMR LR LR
comp=Z,4μm,22.0s,MS5.8
SOC Sochi 91.29 313 eP P 21 06 57.1 -7.2
SOC e*PP pP 21 07 03.5 -6.3
SOC eS 21 17 28.9
SOC e 21 17 59.0
SOC eSS SS 21 24 04.5 -2.8
SOC pmax pmax
comp=Z,12nm,0.7s,mb5.3
SOC MLR MLR
comp=Z,2μm,22.0s,MS5.5
MALT Malatya 91.81 308 eP P 21 07 06.5 -0.2
MALT e 21 10 52.5
TAOE Nuku Hiva Isla 92.10 99 ePP PP 21 10 47.8 -0.1
comp=Z,201μm,35.5s
TAOE Nuku Hiva Isla 92.10 99 ePS PS 21 19 20.9 -0.7
comp=Z,5μm,25.0s
TAOE Nuku Hiva Isla 92.10 99 eSKSac SKSac 21 17 36.4 -4.1
comp=Z,43μm,31.5s
TAOE eSS SS 21 24 11.2 -7.7
comp=Z,3μm,25.8s
TAOE eLR LR 21 36 45.6
comp=Z,19μm,33.2s
COLA College 92.26 25 dP 21 07 09.5 +0.7
COLA College 92.26 25 iPr 21 07 09.6
COLA LR LR
comp=Z,2μm,21.0s,MS5.6
VRSR Storozhevoye 92.32 321⇑ eP P 21 07 08.3 -0.8
VRSR e 21 07 17.9
VRSR pmax pmax
comp=Z,2.0nm,0.9s,mb4.5
VRSR pmax pmax
comp=N,2.0nm,1.0s
VRSR pmax pmax
comp=E,2.0nm,1.4s
VOR Voronezh 92.36 322 P P 21 07 07.0 -2.2
VOR e 21 07 17.0
VOR pmax pmax
comp=Z,50nm,1.4s,mb5.7
GZT Gaziantep 92.42 307 iP P 21 07 09.9 +0.4
ILAR Eielson Array 92.66 25 P P 21 07 07.7 -2.9
comp=Z,10nm,1.2s,mb5.1,baz=268,slow=3.9,SNR=27
ILAR PP PP 21 10 43.2 -9.1
comp=Z,1.5nm,0.9s,baz=272,slow=8.0,SNR=4.3
ILAR PKKP PKKPbc 21 24 20.1 -2.3
comp=Z,0.3nm,0.8s,baz=48,slow=1.3,SNR=3.1
ILAR Eielson Array 92.66 25 P P 21 07 07.7 -2.9
ILAR 21 24 20.1
ILAR pmax pmax
comp=Z,10.0nm,1.2s
ILAR pmax pmax
comp=Z,2.0nm,0.9s
KLMR Klimovskoe 92.92 331 c iP P 21 07 18.1 +6.3
KLMR pmax pmax
comp=Z,50nm,1.5s,mb5.7
KLMR pmax pmax
comp=Z,250nm,9.8s
ANN Anapa 93.03 315 eP P 21 07 11.2 -1.1
ANN i*PP pP 21 07 18.1 +0.2
ANN e 21 17 45.3
ANN e 21 18 05.4
ANN eSS SS 21 24 39.7 +7.5
ANN pmax pmax
comp=Z,12nm,1.4s,mb5.1
ANN MLR MLR
comp=Z,377nm,22.0s,MS4.8
MOS Moscow 93.57 325 eP P 21 07 17.6 +2.8
MOS e 21 11 00.1
MOS e 21 17 49.7
MOS eS 21 18 18.2
MOS ePS PS 21 19 36.6 -1.3
MOS eSS SS 21 24 34.7 -5.3
MOS MLR MLR
comp=Z,800nm,19.0s,MS5.2
TMCR Tamitsa 93.83 334 eP P 21 07 24.3 +8.3
TMCR pmax pmax
comp=Z,30nm,1.4s,mb5.5
TMCR pmax pmax
comp=N,70nm,1.3s
TMCR pmax pmax
comp=E,20nm,1.0s
OBN Obninsk 94.14 325 iP P 21 07 18.6 +1.1
OBN e 21 07 26.6
OBN e 21 17 52.7
OBN eSS SS 21 24 58.3 +10
OBN pmax pmax
comp=Z,10.0nm,0.6s,mb5.4
OBN MLR MLR
comp=Z,3μm,22.0s,MS5.7
BOYT Boyabat 94.70 311 iP P 21 07 23.3 +3.2
LVZ Lovozero 95.30 338 P P 21 07 26.5 +3.7
LVZ S 21 17 50.9
SIM Simferopol' 95.39 315 P P 21 07 30.0 +6.8
SIM eSS SS 21 25 06.0 +0.1
SIM pmax pmax
comp=Z,14nm,0.7s,mb5.5
RKT Rikitea 95.51 114 eSKSac SKSac 21 17 55.3 -3.8
comp=Z,1μm,27.0s
RKT ePS PS 21 19 56.5 -2.7
comp=Z,2μm,27.5s
RKT eSS SS 21 25 11.3 +3.7
comp=Z,2μm,29.0s
BR131 Keskin Array S 95.61 309 eP P 21 07 25.3 +1.1
BR131 LR LR
comp=Z,1μm,20.0s,MS5.4
BRTR Keskin Array B 95.61 309 P P 21 07 22.6 -1.6
comp=Z,1.7nm,0.9s,mb4.5,baz=126,slow=6.4,SNR=6.6
BRTR PP PP 21 11 10.3 -5.0
comp=Z,1.3nm,0.9s,baz=108,slow=4.7,SNR=3.0
BRTR Keskin Array B 95.61 309 P P 21 07 22.6 -1.6
BRTR 21 11 10.3
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR pmax pmax
comp=Z,1.0nm,1.0s
APA Apatity 95.78 337 eP P 21 07 33.0 +8.1
APA e 21 18 27.0
APA iPS PS 21 19 52.0 -10
APA ePPS 21 20 38.0
APA eSS SS 21 25 08.0 -3.4
APA MLR MLR
comp=Z,5μm,20.0s,MS6.0
DAWY Dawson 95.88 26 eP P 21 07 25.0 -0.4
MATP Matopo 96.26 249 S 21 18 01.3
comp=Z,0.8nm,0.8s,baz=84,slow=18,SNR=1.7
ANTO Ankara 96.26 309 PFAKE 21 07 40.0 +13
ANTO LR LR
comp=Z,2μm,19.0s,MS5.6
JOF Joensuu 96.83 333 ep P 21 07 26.5 -3.2
SNAA Sanae 97.06 194 LR LR 21 54 13.8
comp=Z,2μm,19.1s,MS5.7,baz=111,slow=37
SNAA Sanae 97.06 194 ePdiff P 21 07 37.9 +7.1
SNAA e 21 07 46.8
SNAA e 21 07 50.4
SNAA Sanae 97.06 194 iP P 21 07 31.0 +0.2
SNAA Sanae 97.06 194 eP P 21 07 26.9 -3.8
comp=Z,32nm,1.4s,mb5.6
LSZ Lusaka 97.19 254 eP P 21 07 29.7 -1.7
LSZ pmax pmax
comp=Z,26nm,1.3s,mb5.5
LSZ MLR MLR
comp=Z,4μm,20.0s,MS5.9
LSZ Lusaka 97.19 254 eP P 21 07 29.7 -1.7
comp=Z,26nm,1.3s,mb5.5
LSZ LR LR
comp=Z,4μm,20.0s,MS5.9
PUL Pulkovo 97.48 330 P P 21 07 31.3 -1.4
PUL S 21 18 45.4
KEV Kevo 97.94 340 PFAKE 21 07 50.0 +15
KEV LR LR
comp=Z,5μm,22.0s,MS5.9
INK Inuvik 97.95 22 P P 21 07 32.0 -2.8
comp=Z,16nm,1.2s,mb5.4,baz=278,slow=7.7,SNR=16
INK S 21 18 07.9
comp=Z,0.7nm,0.6s,baz=123,slow=3.1,SNR=2.3
INK PKKP PKKPbc 21 24 18.9 +11
comp=Z,2.4nm,0.7s,baz=63,slow=5.6,SNR=7.1
INK Inuvik 97.95 22 P P 21 07 32.0 -2.8
INK S 21 18 07.9
INK pmax pmax
comp=Z,16nm,1.2s
INK smax
comp=N,1.0nm,0.6s
INK pmax pmax
comp=Z,2.0nm,0.7s
INK Inuvik 97.95 22 eP P 21 07 34.2 -0.6
SKAG Skagway 98.03 31 eP P 21 07 37.0 +1.9
comp=Z,12nm,0.9s,mb5.4
SIT Sitka 98.20 33 PFAKE 21 07 50.0 +14
SIT LR LR
comp=Z,4μm,21.0s,MS5.8
LBTB Lobatse 98.25 244 PFAKE 21 07 50.0 +14
LBTB LR LR
comp=Z,3μm,22.0s,MS5.7
ARCES ARCESS Array B 98.49 340 P P 21 07 34.2 -3.0
comp=Z,4.0nm,0.9s,mb4.9,baz=76,slow=6.4,SNR=6.7
ARCES PKKPbc PKKPbc 21 24 07.9 +1.1
comp=Z,1.9nm,0.8s,baz=227,slow=3.4,SNR=3.9
ARCES LR LR 21 57 42.6
comp=Z,3μm,20.5s,MS5.8,baz=86,slow=39
ARCES ARCESS Array B 98.49 340 P P 21 07 34.2 -3.0
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES MLR MLR
comp=Z,3μm,20.5s
ARCES ARCESS Array B 98.49 340 P P 21 07 34.2 -3.0
ARCES PKKPbc PKKPbc 21 24 07.9 +1.1
ARCES LR LR 21 57 42.6
AKASG Malin Array Be 98.61 320 P P 21 07 36.1 -1.6
comp=Z,1.0nm,0.6s,mb4.5,baz=77,slow=3.9,SNR=10
AKASG PP PP 21 11 34.8 -3.7
comp=Z,0.3nm,0.5s,baz=80,slow=5.1,SNR=2.9
AKASG S 21 18 18.4
comp=Z,0.1nm,0.4s,baz=329,slow=3.3,SNR=3.0
MNK Minsk 99.20 324 eP P 21 07 48.0 +7.6
KAF Kangasniemi 99.22 332 ep P 21 07 38.7 -1.8
BJO Bjornoya 99.32 345 AMS AMS 21 57 49.3
comp=Z,2μm,19.2s,MS5.7
KBS Kingsbay 99.39 350 e pP 21 07 52.3 +5.5
KBS ePP PP 21 11 50.2 +5.8
KBS eSKSa SKSac 21 18 25.1 +6.0
KBS AMS AMS 21 52 49.5
comp=Z,2μm,21.6s,MS5.6
KBS Kingsbay 99.39 350 PFAKE 21 07 50.0 +8.8
KBS LR LR
comp=Z,3μm,21.0s,MS5.8
FINES FINESS Array B 99.41 331 P P 21 07 39.9 -1.4
comp=Z,0.5nm,0.7s,baz=188,slow=25,SNR=2.7
FINES FINESS Array B 99.41 331 P P 21 07 39.9 -1.4
FINES pmax pmax
comp=Z,1.0nm,0.7s
FINES FINESS Array B 99.41 331 P P 21 07 39.9 -1.4
TIRR Tirgusor 99.46 314 ‖ iP P 21 07 47.0 +5.5
VRI Vrincioaia 100.57 316 ⇑ iP Pdif 21 07 45.2 -1.3
VRI Vrincioaia 100.57 316 ⇑ P Pdif 21 07 45.2 -1.2
TRO Tromso 100.72 340 ePP PP 21 11 53.1 -1.4
TRO eSKSa 21 18 27.5
TRO eSS SS 21 26 32.6 +12
TRO AMS AMS 22 02 33.6
comp=Z,3μm,21.3s,MS5.7
MLR Muntele Rosu 101.15 315 ‖ iP Pdif 21 07 57.7 +8.7
BURAR Bucovina Array 101.46 317 ⇑ iP Pdif 21 07 56.7 +6.3
LVV L'vov 102.01 320 eP Pdif 21 08 05.1 +12
DRGR 103.25 317 ‖ iP Pdif 21 08 05.6 +7.2
OJC Ojcow 104.65 321 ePdiff Pdif 21 08 17.5 +13
OJC ePP PP 21 12 47.1 +23
OJC eSKSac SKSac 21 18 53.6 +10
OJC L 21 58 36.7
comp=Z,15nm,22.7s
NSS Namsos 104.90 336 eSS SS 21 27 18.2 -0.4
NSS AMS AMS 21 59 44.2
comp=Z,3μm,17.5s,MS5.8
OKC Ostrava-Krasne 105.77 320 ePP PP 21 12 52.6 +20
OKC eSDIF Sdif 21 20 09.3 +3.3
OKC eSP SP 21 21 51.7 +5.0
OKC ex x 21 27 43.4
OKC ex x 21 37 56.6
OKC AMS AMS 21 59 00.0
comp=Z,2μm,21.5s
OCWA Octopus Mounta 106.17 42 PFAKE 21 12 40.0 +17
OCWA LR LR
comp=Z,3μm,20.0s,MS5.8
BSD Bornholm Skovb 106.45 326 iP PP 21 12 44.1 +6.8
BSD e 21 17 20.6
BSD i 21 21 56.8
BSD i 21 27 44.1
BSD i 21 37 40.7
BSD
comp=Z,3μm,21.0s
NB2 NORSAR Subarra 106.47 333 P Pdif 21 08 26.3 +14
comp=Z,1.6nm,0.8s,baz=70,slow=4.6
TSUM Tsumeb 106.59 248 PFAKE 21 12 40.0 +16
TSUM LR LR
comp=Z,3μm,19.0s,MS5.8
NAO01 NORSAR Array S 106.69 333 PFAKE 21 12 40.0 +16
NAO01 LR LR
comp=Z,4μm,21.0s,MS6.0
DPC Dobruska-Polom 106.80 321 ePP PP 21 13 01.2 +21
DPC eSDIF Sdif 21 20 18.5 +3.8
DPC eSP SP 21 22 04.9 +7.4
DPC eSS SS 21 27 54.7 +10
DPC ex x 21 38 12.3
DPC AMS AMS 21 59 50.0
comp=Z,3μm,22.6s
UPC Upice 106.96 321 ePP PP 21 12 45.9 +4.9
YKA Yellowknife Ar 107.09 25 Pdiff Pdif 21 08 17.6 +2.2
comp=Z,0.8nm,0.8s,baz=299,slow=4.9,SNR=6.2
YKA PKiKP PKiKP 21 12 24.4 -0.3
comp=Z,0.5nm,0.8s,baz=309,slow=1.4,SNR=3.4
YKA Yellowknife Ar 107.09 25 Pdif Pdif 21 08 17.6 +2.2
YKA PKPdf PKiKP 21 12 24.4 -0.3
COR Corvallis 107.36 45 PFAKE 21 12 40.0 +15
COR LR LR
comp=Z,5μm,20.0s,MS6.0
TREC Trest 107.57 320 ePP PP 21 13 07.0 +21
TREC ex x 21 38 34.8
TREC AMS AMS 22 03 40.0
comp=Z,2μm,24.3s
COP Copenhagen 107.64 327 iP PP 21 12 49.1 +3.1
COP i S 21 19 10.9
COP i 21 22 03.3
COP i 21 49 29.9
COP
comp=Z,750nm,21.0s
KONO Kongsberg 107.72 332 ePP PP 21 12 43.7 -2.9
KONO eSKSa 21 18 56.2
KONO Kongsberg 107.72 332 PFAKE 21 12 40.0 +14
KONO LR LR
comp=Z,3μm,20.0s,MS5.8
HUMO Hull Mountain 107.97 47 PFAKE 21 12 40.0 +14
HUMO LR LR
comp=Z,4μm,21.0s,MS6.0
PRU Pruhonice 108.00 321 ePP PP 21 12 55.8 +7.1
PRU ex x 21 20 14.0
PRU ex x 21 22 24.0
PRU ex x 21 28 17.5
PRU ex x 21 38 40.8
PRU AMS AMS 21 57 40.0
comp=Z,3μm,24.4s
BRG Berggiesshubel 108.15 322 ePDIF Pdif 21 08 28.8 +8.6
comp=Z,7.0nm,1.8s
BRG PP PP 21 12 54.0 +4.3
BRG SKS 21 19 06.0
BRG SDIF Sdif 21 20 30.0 +4.1
BRG i 21 22 59.0
BRG e 21 24 03.4
comp=Z,14nm,1.7s
BRG SS SS 21 28 19.0 +16
BRG
comp=N,2μm,23.7s
BRG
comp=E,2μm,25.2s
BRG
comp=Z,1μm,23.3s
BRG Berggiesshubel 108.15 322 eP Pdif 21 08 28.8 +8.6
BRG 21 12 54.0
BRG SS SS 21 28 19.0 +16
BRG pmax pmax
comp=Z,7.0nm,1.8s
BRG MLR MLR
comp=N,2μm,23.7s,MS5.7
BRG MLR MLR
comp=E,2μm,25.2s,MS5.7
BRG MLR MLR
comp=Z,1μm,23.3s,MS5.3
YBH Yreka Blue Hor 108.30 48 PFAKE 21 12 40.0 +13
YBH LR LR
comp=Z,5μm,22.0s,MS6.0
HOPS Hopland 108.49 51 PFAKE 21 12 40.0 +13
HOPS LR LR
comp=Z,4μm,21.0s,MS6.0
CLL Collm 108.60 323 ePdiff Pdif 21 08 23.4 +1.2
comp=Z,62nm,2.6s
CLL ePP PP 21 12 57.9 +4.9
CLL eSKSac SKSac 21 19 06.8 +5.4
CLL eSdiff Sdif 21 20 26.3 -3.3
CLL eSP SP 21 22 17.6 +1.8
CLL ePPS 21 23 20.4
CLL eSS SS 21 28 25.9 +17
CLL eLR LR 21 46 55.1
CLL eL 22 05 23.5
comp=Z,3μm,22.0s
CLL Collm 108.60 323 ePdif Pdif 21 08 23.0 +0.8
comp=Z,61nm,2.6s
CLL ePP PP 21 13 00.0 +7.0
CLL eSKSac SKSac 21 19 02.0 +0.6
CLL eSdif Sdif 21 20 25.0 -4.6
CLL eSP SP 21 22 17.0 +1.2
CLL ePPS 21 23 18.0
CLL eSS SS 21 28 24.0 +15
CLL LmV 22 05 00.0
comp=Z,3μm,21.5s
CLL Collm 108.60 323 eP Pdif 21 08 23.0 +0.8
CLL e 21 19 02.0
CLL ePPS 21 23 18.0
CLL pmax pmax
comp=Z,61nm,2.6s
CLL MLR MLR
comp=Z,3μm,21.5s,MS5.8
CLL Collm 108.60 323 ePdif Pdif 21 08 23.0 +0.8
comp=Z,61nm,2.6s
CLL eSKS SKSac 21 19 02.0 +0.6
CLL eSdif Sdif 21 20 25.0 -4.6
CLL ePPS 21 23 18.0
CLL LR LR
comp=Z,3μm,21.5s,MS5.8
WDC Whiskeytown Da 108.63 49 PFAKE 21 12 40.0 +12
WDC LR LR
comp=Z,5μm,21.0s,MS6.0
GERES GERESS Array B 108.82 320 PKiKP PKiKP 21 12 28.9 +0.9
comp=Z,0.6nm,0.6s,baz=66,slow=3.3,SNR=2.9
KHC Kasperske Hory 108.83 320 ex x 21 12 00.0
KHC ex x 21 12 04.5
KHC ePP PP 21 13 11.6 +17
KHC eSKKS SKKSac 21 19 59.4 +1.7
KHC eSP SP 21 22 35.7 +18
KHC eSS SS 21 28 27.4 +16
KHC ex x 21 38 57.5
KHC AMS AMS 22 00 10.0
comp=Z,2μm,24.7s
MUD Monsted U'grnd 109.10 329 iP PP 21 13 10.6 +14
MUD e 21 15 36.1
MUD i 21 29 04.7
MUD
comp=Z,2μm,20.0s
NKC Novy Kostel 109.24 322 ePP PP 21 12 51.2 -6.5
NKC eSDIF Sdif 21 20 35.3 +0.3
NKC ePKKP PKKPbc 21 23 31.4 -3.3
NKC ex x 21 28 35.3
NKC ex x 21 38 59.7
NKC AMS AMS 21 58 40.0
comp=Z,2μm,20.9s
BER Bergen 109.38 333 ePP PP 21 12 58.2 -0.5
BER AMS AMS 22 01 18.3
comp=Z,2μm,22.1s,MS5.7
HAWA Hanford 109.57 42 PFAKE 21 12 40.0 +11
HAWA LR LR
comp=Z,215nm,20.0s,MS4.7
MOX Moxa 109.63 322 e(P) PKiKP 21 12 21.4 -8.1
MOX
comp=Z,2μm,20.0s
MOD Modoc 110.04 47 PFAKE 21 12 40.0 +10
MOD LR LR
comp=Z,3μm,20.0s,MS5.9
SAO San Andreas Ge 110.11 53 PFAKE 21 12 40.0 +10
SAO LR LR
comp=Z,3μm,19.0s,MS5.9
PMSA Palmer Station 110.12 175 PFAKE 21 12 40.0 +10
PMSA LR LR
comp=Z,8μm,22.0s,MS6.2
GRF Grafenberg Arr 110.15 321 ePP PP 21 13 01.1 -3.2
GRF eL 22 01 21.3
comp=Z,2μm,20.6s
WTTA Wattenberg 110.58 319 ⇑ iP PKiKP 21 12 37.8 +6.5
comp=Z,12nm,1.1s
NEW Newport 110.65 40 PFAKE 21 12 40.0 +8.5
NEW LR LR
comp=Z,4μm,20.0s,MS6.0
CMB Columbia Colle 110.72 51 PFAKE 21 12 40.0 +8.4
CMB LR LR
comp=Z,4μm,20.0s,MS6.0
WVOR Wild Horse Val 111.13 46 PFAKE 21 12 40.0 +7.6
WVOR LR LR
comp=Z,3μm,22.0s,MS5.9
BMO Blue Mountains 111.47 44 PFAKE 21 12 50.0 +17
BMO LR LR
comp=Z,3μm,20.0s,MS5.9
DAVA Damuels 111.72 319 ⇑ iP PKiKP 21 12 43.2 +10
comp=Z,12nm,1.1s
SNCC San Nicolas Is 112.23 56 PFAKE 21 12 50.0 +16
SNCC LR LR
comp=Z,6μm,21.0s,MS6.2
MNV Mina 112.37 50 ePP PP 21 13 30.7 +10
MNV LR LR
comp=Z,3μm,20.0s,MS5.9
WALA Waterton Lakes 112.43 38 ePP PP 21 13 22.9 +2.2
BMN Battle Mountai 112.63 48 PFAKE 21 12 50.0 +15
BMN LR LR
comp=Z,675nm,19.0s,MS5.3
ISA Isabella 112.67 53 PFAKE 21 12 50.0 +15
ISA LR LR
comp=Z,759nm,20.0s,MS5.3
MSO Missoula 113.14 41 PFAKE 21 12 50.0 +14

MSO LR LR
comp=Z,2μm,22.0s,MS5.6
TPH Tonopah 113.16 51 PFAKE 21 12 50.0 +14
TPH LR LR
comp=Z,4μm,20.0s,MS6.0
DAC Darwin (Calif) 113.25 53 PFAKE 21 12 50.0 +14
DAC LR LR
comp=Z,3μm,20.0s,MS5.9
PGF Pioggiola 113.67 315 *e*PKIKP PKiKP 21 12 34.7 -2.5
HLID Hailey 113.83 44 PFAKE 21 12 50.0 +13
HLID LR LR
comp=Z,4μm,22.0s,MS6.0
ELK Elko 114.02 47 PFAKE 21 12 50.0 +12
ELK LR LR
comp=Z,4μm,20.0s,MS6.1
TPNV Topopah Spring 114.17 52 PFAKE 21 12 50.0 +12
TPNV LR LR
comp=Z,4μm,21.0s,MS6.0
BOZ Bozeman (W) 115.05 41 *e*PKIKP PKiKP 21 12 46.6 +6.8
BOZ Bozeman (W) 115.05 41 PFAKE 21 12 50.0 +10
BOZ LR LR
comp=Z,2μm,21.0s,MS5.6
EGMT Eagleton 115.38 38 PFAKE 21 12 50.0 +10
EGMT LR LR
comp=Z,3μm,22.0s,MS5.8
SMRF Simiane la Rot 115.62 317 *e*PKIKP PKPdf 21 12 37.9 -3.0
comp=Z,106nm,1.7s
SMF Signal de Mont 115.83 320 *e*PKIKP PKPdf 21 12 38.8 -2.5
YMR Madison River 115.83 42 PFAKE 21 12 50.0 +8.7
YMR LR LR
comp=Z,4μm,21.0s,MS6.0
DUG Dugway 115.95 47 PFAKE 21 12 50.0 +8.4
DUG LR LR
comp=Z,3μm,20.0s,MS6.0
LKWY Lake 116.24 42 PFAKE 21 12 50.0 +7.9
LKWY LR LR
comp=Z,5μm,22.0s,MS6.1
AHID Auburn Hatcher 116.38 44 PFAKE 21 12 50.0 +7.6
AHID LR LR
comp=Z,3μm,22.0s,MS5.9
HWUT Hardware Ranch 116.42 46 PFAKE 21 13 00.0 +18
HWUT LR LR
comp=Z,5μm,21.0s,MS6.1
MPU Maple Canyon 116.86 47 PFAKE 21 13 00.0 +17
MPU LR LR
comp=Z,3μm,19.0s,MS6.0
MVU Marysvale 116.87 49 PFAKE 21 13 00.0 +17
MVU LR LR
comp=Z,3μm,21.0s,MS5.9
TCF Toulx Ste Croi 117.00 320 *e*PKIKP PKPdf 21 12 40.9 -2.7
BW06 Boulder Array 117.44 44 PFAKE 21 13 00.0 +16
BW06 LR LR
comp=Z,3μm,21.0s,MS5.9
PDAR Pinedale Array 117.45 44 PKP PKPdf 21 12 44.9 +0.5
comp=Z,0.7nm,0.7s,baz=222,slow=2.0,SNR=3.9
PDAR PKKPab PKKPab 21 23 13.2 +2.5
comp=Z,1.3nm,0.7s,baz=134,slow=6.4,SNR=6.3
FCC Fort Churchill 117.55 23 *e*PKIKP PKPdf 21 12 42.6 -2.1
RJF Les Rejaudoux 117.84 319 *e*PKIKP PKPdf 21 12 42.9 -2.3
LAO LASA Array 118.11 39 PFAKE 21 13 00.0 +14
LAO LR LR
comp=Z,3μm,22.0s,MS5.9
TUC Tucson 119.63 55 PFAKE 21 13 00.0 +11
TUC LR LR
comp=Z,4μm,22.0s,MS6.0
ETSF Etsaut 120.17 318 *e*PKIKP PKPdf 21 12 47.6 -2.1
comp=Z,99nm,1.8s
RSSD Black Hills 120.61 41 PFAKE 21 13 00.0 +9.5
RSSD LR LR
comp=Z,416nm,22.0s,MS5.0
ISCO Idaho Springs 121.29 46 PFAKE 21 13 00.0 +8.2
ISCO LR LR
comp=Z,5μm,22.0s,MS6.1
ULM Lac du Bonnet 122.19 31 PKP PKPdf 21 12 53.1 -0.4
comp=Z,1.7nm,0.7s,baz=339,slow=6.9,SNR=2.3
ANMO Albuquerque 122.35 51 PFAKE 21 13 10.0 +16
ANMO LR LR
comp=Z,4μm,22.0s,MS6.0
TRIS Tristan da Cun 123.67 219 PFAKE 21 13 10.0 +14
TRIS LR LR
comp=Z,3μm,22.0s,MS5.9
ESLA Sonseca Array 123.84 315 PFAKE 21 13 10.0 +13
ESLA LR LR
comp=Z,9μm,20.0s,MS6.4
MNTX Cornudas Mount 124.21 55 *e*PKPdf PKPdf 21 12 59.9 +2.4
MNTX LR LR
comp=Z,5μm,22.0s,MS6.1
TORD Torodi Ar. Bea 125.42 283 PKP PKPdf 21 13 00.5 +0.8
comp=Z,1.3nm,0.7s,baz=78,slow=1.2,SNR=10
CBKS Cedar Bluff 125.85 45 PFAKE 21 13 10.0 +9.4
CBKS LR LR
comp=Z,4μm,21.0s,MS6.0
EYMN Ely 125.88 31 *e*PKPdf PKPdf 21 13 01.8 +1.1
EYMN LR LR
comp=Z,3μm,21.0s,MS5.9
AMTX Amarillo 126.05 50 PFAKE 21 13 10.0 +9.0
AMTX LR LR
comp=Z,4μm,21.0s,MS6.0
LTX Lajitas 126.32 57 PFAKE 21 13 10.0 +8.5
LTX LR LR
comp=Z,4μm,22.0s,MS6.0
WMOK Wichita Mounta 128.30 49 *e*PKIKP PKPdf 21 13 06.9 +1.6
SCHQ Schefferville 128.88 10 PKP PKPdf 21 13 05.9 -0.5
comp=Z,2.4nm,0.6s,baz=255,slow=2.0,SNR=7.0
SCHQ Schefferville 128.88 10 PKP PKPdf 21 13 05.9 -0.5
SCHQ LR LR
comp=Z,3μm,20.0s,MS5.9
JCT Junction City 129.13 54 *e*PKIKP PKPdf 21 13 09.7 +2.9
JCT MLR MLR
comp=Z,4μm,20.0s,MS6.0
PLCA Paso Flores 131.92 162 PKP PKPdf 21 13 14.5 +2.4
comp=Z,2.5nm,0.7s,baz=202,slow=2.1,SNR=7.2
PLCA Paso Flores 131.92 162 *e*PKPdf PKPdf 21 13 12.9 +0.8
PLCA LR LR
comp=Z,3μm,20.0s,MS6.0
CCM Cathedral Cave 132.00 41 *e*PKIKP PKPdf 21 13 15.1 +2.8
CCM MLR MLR
comp=Z,2μm,22.0s,MS5.8
DBIC Dimbokro 132.06 275 PKP PKPdf 21 13 14.4 +2.1
comp=Z,3.0nm,0.8s,baz=235,slow=12,SNR=3.1
DBIC Dimbokro 132.06 275 PKP PKPdf 21 13 14.4 +2.1
DBIC LR LR
comp=Z,3μm,20.0s,MS6.1
MIAR Mount Ida 132.22 46 *e*PKIKP PKPdf 21 13 16.1 +3.4
MIAR MLR MLR
comp=Z,3μm,20.0s,MS6.0
HKT Hockley 132.51 53 PFAKE 21 13 30.0 +17
HKT LR LR
comp=Z,3μm,19.0s,MS6.0
NATX Nacogdoches 132.69 50 PFAKE 21 13 30.0 +16
NATX LR LR
comp=Z,4μm,21.0s,MS6.1
WCI Wyandotte Cave 135.03 38 PFAKE 21 13 30.0 +12
WCI LR LR
comp=Z,2μm,21.0s,MS5.8
OXF Oxford 135.18 44 PFAKE 21 13 30.0 +12
OXF LR LR
comp=Z,4μm,22.0s,MS6.1
WVT Waverly 135.33 41 PFAKE 21 13 30.0 +11
WVT LR LR
comp=Z,3μm,20.0s,MS6.0
ACSO Alum Creek Sta 135.60 33 PFAKE 21 13 30.0 +11
ACSO LR LR
comp=Z,2μm,22.0s,MS5.7
ERPA Erie 135.76 29 PFAKE 21 13 30.0 +11
ERPA LR LR
comp=Z,2μm,21.0s,MS5.8
PLAL Pickwick Lake 135.83 43 PFAKE 21 13 30.0 +11
PLAL LR LR
comp=Z,4μm,20.0s,MS6.1
TRQA Tornquist 136.55 170 PFAKE 21 13 30.0 +9.2
TRQA LR LR
comp=Z,6μm,22.0s,MS6.3
NCB Newcomb 136.75 22 PFAKE 21 13 30.0 +8.8
NCB LR LR
comp=Z,2μm,21.0s,MS5.9
SWET Sewanee 137.12 41 *e*PP PP 21 16 06.8 +0.9
LBNH Lisbon 137.35 20 PFAKE 21 13 30.0 +7.7
LBNH LR LR
comp=Z,3μm,22.0s,MS6.0
BINY Binghamton 137.51 25 PFAKE 21 13 30.0 +7.4
BINY LR LR
comp=Z,3μm,20.0s,MS6.0
LRAL Lakeview Retre 137.67 44 PFAKE 21 13 40.0 +17
LRAL LR LR
comp=Z,4μm,21.0s,MS6.2
MCWV Mont Chateau 137.68 31 PFAKE 21 13 40.0 +17
MCWV LR LR
comp=Z,4μm,21.0s,MS6.1
SSPA Standing Stone 137.91 29 PFAKE 21 13 40.0 +17
SSPA LR LR
comp=Z,2μm,21.0s,MS5.9
HRV Harvard--Oak R 139.00 21 PFAKE 21 13 40.0 +15
HRV LR LR
comp=Z,2μm,21.0s,MS5.8
BLA Blacksburg 139.15 34 PFAKE 21 13 40.0 +14
BLA LR LR
comp=Z,283nm,22.0s,MS5.0
WES Weston 139.19 21 PFAKE 21 13 40.0 +14
WES LR LR
comp=Z,1μm,22.0s,MS5.7
GOGA Godfrey 139.84 41 PFAKE 21 13 40.0 +13
GOGA LR LR
comp=Z,6.0nm,22.0s
CBN Corbin 140.04 30 PFAKE 21 13 40.0 +13
CBN LR LR
comp=Z,6μm,21.0s,MS6.3
PAYG Puerto Ayora 142.38 97 PFAKE 21 13 40.0 +8.6
PAYG LR LR
comp=Z,3μm,20.0s,MS6.0
DWPF Disney 144.41 46 *e*PKPdf PKPdf 21 13 34.9 -0.1
DWPF LR LR
comp=Z,3μm,22.0s,MS6.0
SOR Soroa 145.95 55 *e*P PKPdf 21 13 40.0 +2.4
CEN1 Los Morros 147.34 150 *e*P PKPdf 21 13 42.8 +2.8
LVC Limon Verde 148.63 151 *e*P PKPdf 21 13 48.2 +6.1
LVC Limon Verde 148.63 151 *e*PKPbc PKPbc 21 13 48.4 +2.6
LVC LR LR
comp=Z,3μm,22.0s,MS6.0
CPUP Villa Florida 148.77 173 PKP PKPdf 21 13 43.0 +0.7
comp=Z,18nm,0.9s,baz=163,slow=2.1,SNR=16
CPUP PKPbc PKPbc 21 13 48.5 +2.3
comp=Z,18nm,0.9s,baz=169,slow=2.0,SNR=16
CPUP Villa Florida 148.77 173 PKIKP PKPdf 21 13 43.0 +0.7
CPUP 21 13 48.5
CPUP pmax pmax
comp=Z,18nm,1.0s
CPUP pmax pmax
comp=Z,18nm,1.0s
CPUP Villa Florida 148.77 173 *e*PKPdf PKPdf 21 13 45.3 +3.0
CPUP LR LR
comp=Z,658nm,19.0s,MS5.5
BBSR BB Station 150.48 20 PFAKE 21 14 00.0 +15
BBSR LR LR
comp=Z,2μm,20.0s,MS6.0
CCCC Cccc 150.98 54 *e*P PKPbc 21 13 52.3 +0.7
CAM4 Nova Friburgo 151.13 200 ⇓*i*P PKPbc 21 13 51.8 -0.1
CAM4 *i* 21 13 54.3
CAM4 *i* 21 14 03.8
CAM4 *i* 21 14 10.5
CAM4 *i* 21 14 25.0
LMGC Las Mercedes 152.16 55 *e*P PKiKP 21 13 57.7 +3.1
HLGC Holguin 152.50 52 *e*P PKPab 21 14 09.4 +4.0
RCC Rio Carpintero 153.26 54 *e*P PKPbc 21 13 56.9 +0.2
MOAC Moa 153.48 52 *e*P PKPdf 21 13 53.3 +3.7
OTAV Otavalo 154.20 99 PFAKE 21 14 00.0 +9.4
OTAV LR LR
comp=Z,2μm,21.0s,MS6.0
LPAZ La Paz 154.26 145 PKP PKPdf 21 13 53.5 +2.8
comp=Z,2.1nm,1.0s,baz=177,slow=0.7,SNR=6.5
LPAZ PKPbc PKPbc 21 14 02.1 +3.2
comp=Z,7.5nm,0.8s,baz=302,slow=1.1,SNR=20
LPAZ La Paz 154.26 145 PKIKP PKPdf 21 13 53.5 +2.8
LPAZ 21 14 02.1
LPAZ pmax pmax
comp=Z,2.0nm,1.0s
LPAZ pmax pmax
comp=Z,8.0nm,0.8s
LPAZ La Paz 154.26 145 *e*PKPdf PKPdf 21 13 54.3 +3.6
LPAZ LR LR
comp=Z,2μm,21.0s,MS5.9
BDFB Brasilia 159.09 194 PKP PKPdf 21 13 59.4 +2.5
comp=Z,0.9nm,0.4s,baz=205,slow=14,SNR=2.0
BDFB Brasilia 159.09 194 PKIKP PKPdf 21 13 59.4 +2.5
BDFB pmax pmax
comp=Z,1.0nm,0.4s
SJG San Juan 161.57 43 *e*PKIKP PKPdf 21 14 00.9 +1.3
SJG MLR MLR
comp=Z,2μm,21.0s
HUMP Col San Antoni 161.75 42 *e*PKPdf PKPdf 21 14 01.9 +2.0
SDV Santo Domingo 162.05 76 *e*PKPdf PKPdf 21 14 02.0 +1.9
SDV *ep*PKPdf pPKPdf 21 14 11.7 +5.9
SDV LR LR
comp=Z,2μm,22.0s
SAML Samuel 162.99 143 PFAKE 21 14 10.0 +8.9
SAML LR LR
comp=Z,3μm,20.0s

IDC 22 21:02:59.4±2.5, 425N×12370E, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.8/17, mbtmp4.0/3, Error ellipse: s-maj=346.6km s-min=25.8km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.22**	**157**	P	P	21 08 36.6	+0.7
	2.2nm,0.4s,baz=337,slow=9.6,SNR=9.9						
ASAR	**Alice Springs**	**29.48**	**161**	P	P	21 09 05.0	-0.1
	2.1nm,0.7s,baz=339,slow=6.9,SNR=2.5						
MKAR	**Makanchi Array**	**55.43**	**327**	P	P	21 12 35.7	+0.1
	0.3nm,0.4s,baz=127,slow=8.0,SNR=6.4						

IDC 22 21:03:26.5±0.9, 472S×12674E, h0km, mb4.4/5, mb1 4.6/6, mb1mx4.2/17, mbtmp4.4/6, ML3.8/1, MS5.1/1, Ms1 5.1/1, ms1mx3.6/30, Error ellipse: s-maj=57.8km s-min=22.2km az=78.0
NEIC 22 21:03:27.2±0.5, 486S×127.10E, h10km, mb4.4/2, Error ellipse: s-maj=29.5km s-min=10.2km az=76.0
BJI 22 21:03:29.1, 444S×12726E, h13km, mb4.7
ISCJB 22 21:03:30.4±3.9, 505S±0.1×1270E±0.2, h52km±41km, mb4.4/7, MS5.1/1, Error ellipse: s-maj=36.3km s-min=21.4km az=146.5

ISC 22 21:03:32.1±2.4, 49S±01×1270E±02, h47km±27km, n18, σ0°80/15, mb4.4/7, MS5.1/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.19**	**186**	Pn	**Pn**	**21 06 36.6**	**-0.1**
	0.4nm,0.3s,baz=324,slow=22,SNR=3.0						
WRA	**Warramunga Arr**	**16.57**	**155**	Pn	**Pn**	**21 07 19.7**	**-1.3**
	0.3nm,0.3s,baz=323,slow=14,SNR=5.0						
ASAR	**Alice Springs**	**19.81**	**161**	P	**Pn**	**21 08 03.1**	**+2.7**
	33nm,1.0s,baz=340,slow=11,SNR=24						
TGY	**Tagaytay City**	**19.82**	**342**	P	**Pn**	**21 08 00.2**	**-0.3**
	32nm,0.3s,baz=276,slow=24,SNR=5.1						
CBIJ	**Chichi jima**	**35.03**	**24**	LR	LR	21 23 09.2	
	comp=Z,3μm,18.2s,MS5.1,baz=61,slow=34						
CHTO	**Chiang Mai**	**36.32**	**311**	*e*P	**P**	**21 10 32.2**	**+1.0**
	5.3nm,1.1s,mb4.4						
XAN	**Xi'an**	**42.33**	**338**	P	**P**	**21 11 21.5**	**+0.2**
MJAR	**Matsushiro Arr**	**42.54**	**13**	P	**P**	**21 11 22.8**	**-0.2**
	4.2nm,0.9s,mb4.2,baz=186,slow=10.0,SNR=7.7						
MDJ	**Mudanjiang**	**49.35**	**2**	P	**P**	**21 12 17.4**	**+0.8**
MDJ				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.9						
ULN	**Ulaanbaatar**	**55.39**	**344**	*e*P	**P**	**21 13 02.0**	**+0.6**
MKAR	**Makanchi Array**	**64.86**	**328**	P	**P**	**21 14 06.3**	**0.0**
	comp=Z,2.4nm,0.7s,mb4.3,baz=134,slow=7.4,SNR=11						
CHKZ	**Chkalovo**	**74.93**	**329**	*e*P	**P**	**21 15 07.2**	**-0.8**
ZRNK	**Zerenda**	**75.41**	**328**	*e*P	**P**	**21 15 10.2**	**-0.6**
	comp=Z,4.2nm,1.0s,mb4.3						
AKTK	**Aktyubinsk**	**80.60**	**323**	P	**P**	**21 15 39.1**	**-0.5**
AKTO	**Aktyubinsk**	**80.60**	**323**	P	**P**	**21 15 39.1**	**-0.5**
	comp=Z,0.4nm,0.3s,mb3.8,baz=135,slow=2.9,SNR=3.8						
INK	**Inuvik**	**98.04**	**22**	P	**P**	**21 17 03.6**	**+0.2**
	comp=Z,2.7nm,1.1s,mb4.7,baz=301,slow=4.3,SNR=2.7						
LVC	**Limon Verde**	**148.54**	**151**	PKP	PKPdf	21 23 12.3	+2.3
	comp=Z,0.8nm,0.4s,baz=344,slow=7.9,SNR=2.4						
LVC				PKPbc	PKPbc	21 23 17.7	+4.0
	comp=Z,4.0nm,0.9s,baz=198,slow=3.2,SNR=4.8						
CPUP	**Villa Florida**	**148.67**	**173**	PKPbc	PKPbc	21 23 14.4	+0.5
	comp=Z,2.2nm,0.8s,baz=198,slow=5.2,SNR=4.5						

IDC 22 21:18:53.0±1.8, 463S×12665E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.7/15, mbtmp3.7/4, ML3.0/1, Error ellipse: s-maj=130.7km s-min=26.1km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.42**	**184**	Pn	Pn	21 22 03.8	-1.0
	0.1nm,0.3s,baz=207,slow=12,SNR=2.7						
WRA	**Warramunga Arr**	**16.96**	**154**	Pn	Pn	21 22 48.6	-3.1
	0.1nm,0.3s,baz=323,slow=14,SNR=5.3						
ASAR	**Alice Springs**	**20.18**	**160**	P	P	21 23 31.4	+2.3
	4.3nm,0.8s,baz=343,slow=12,SNR=55						
STKA	**Stephens Creek**	**30.51**	**154**	P	P	21 25 06.8	-1.0
	1.2nm,0.7s,baz=320,slow=8.5,SNR=4.1						
MKAR	**Makanchi Array**	**64.44**	**328**	P	P	21 29 31.4	+0.2
	0.4nm,0.7s,baz=120,slow=7.4,SNR=4.9						

IDC 22 21:27:02.7±2.7, 1085N×12669E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/19, mbtmp3.7/4, Error ellipse: s-maj=163.8km s-min=24.2km az=68.0
MAN 22 21:27:08.9, 1059N×12602E, h5km, mb3.9, ML5.0, MS1.7
ISCJB 22 21:27:09.8±1.0, 1060N±005×126.17E±008, h61km±12km, mb3.7/4, Error ellipse: s-maj=13.0km s-min=8.5km az=5.4

ISC 22 21:27:11.0±1.1, 1061N±005×12617E±009, h50km±14km, n19, σ0°93/24, mb3.7/4, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**1.06**	**219**	*e*P	**Pn**	**21 27 27.5**	**-1.9**
SCPH				*e*S	**Sn**	**21 27 39.8**	**-3.3**
BESP	**Borongan**	**1.22**	**324**	*e*P	**Pn**	**21 27 30.9**	**-0.7**
MSLP	**Maasin**	**1.37**	**250**	*e*P	**Pn**	**21 27 32.1**	**-1.6**
OCLP	**Ormoc**	**1.59**	**286**	*e*P	**Pn**	**21 27 37.1**	**+0.4**
BUTP	**Butuan**	**1.72**	**198**	*e*P	**Pn**	**21 27 38.6**	**+0.2**
LLP	**Lapu-Lapu**	**2.19**	**263**	*e*P	**Pn**	**21 27 44.7**	**-0.1**
LLP				*e*S	**Sn**	**21 28 10.3**	**-0.3**
TBP	**Tagbilaran**	**2.45**	**248**	*e*P	**Pn**	**21 27 48.1**	**-0.2**
TBP				*e*S	**Sn**	**21 28 17.2**	**+0.1**
CGP	**Cagayan de Oro**	**2.59**	**214**	⇑*e*P	**Pn**	**21 27 49.8**	**-0.5**
CGP				*e*S	**Sn**	**21 28 21.6**	**+1.1**
BUKP	**Musuan**	**2.92**	**202**	*e*P	**Pn**	**21 27 58.0**	**+3.1**
SNPH	**Sibulan**	**3.15**	**247**	*e*P	**Pn**	**21 27 59.0**	**+1.0**
DCPH	**Dipolog City**	**3.43**	**234**	⇓*e*P	**Pn**	**21 28 02.0**	**+0.1**
DCPH				*i*S	**Sn**	**21 28 40.9**	**-0.3**
RCP	**Roxas**	**3.49**	**286**	⇑*e*P	**Pn**	**21 28 03.9**	**+1.2**
GUIM	**Jordan**	**3.52**	**271**	*e*P	**Pn**	**21 28 02.8**	**-0.3**
PVCP	**Virac**	**3.56**	**327**	*e*P	**Pn**	**21 28 04.4**	**+0.7**
PAGZ	**Pagadian**	**3.88**	**225**	*e*P	**Pn**	**21 28 09.4**	**+1.3**
FITZ	**Fitzroy Crossi**	**28.53**	**181**	P	**P**	**21 33 02.0**	**+0.2**
	0.8nm,0.5s,mb3.7,baz=3.8,slow=15,SNR=5.8						
WRA	**Warramunga Arr**	**31.41**	**165**	P	**P**	**21 33 27.0**	**-0.2**
	0.3nm,0.6s,mb3.3,baz=349,slow=9.2,SNR=3.6						
ASAR	**Alice Springs**	**34.89**	**168**	P	**P**	**21 33 57.1**	**-0.5**
	0.3nm,0.3s,mb3.7,baz=344,slow=7.2,SNR=8.1						
MKAR	**Makanchi Array**	**51.70**	**323**	P	**P**	**21 36 12.5**	**-0.4**
	1.5nm,0.7s,mb4.0,baz=122,slow=7.4,SNR=10						

CSEM 22 21:31:31.3±0.1, 3997N×3945E, h5km, MD3.5, Error ellipse: s-maj=3.5km s-min=2.5km az=89.0
ISK 22 21:31:31.7, 3997N×3955E, h10km, MD3.5
ISCJB 22 21:31:32.3±1.0, 3995N±003×3948E±004, h6km±8km, Error ellipse: s-maj=5.8km s-min=5.2km az=26.6

ISC 22 21:31:31.9±1.1, 3994N±004×3944E±004, h2km±9km, n16, σ1°24/25, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMT	**Gumushane**	**0.52**	**3**	*i* PG	**Pg**	**21 31 41.5**	**-0.5**
GUMT				*i* SG	**Sg**	**21 31 48.8**	**+0.1**
GRSN	**GIRESUNGRSN**	**1.33**	**318**	*i* P	**Pn**	**21 31 56.8**	**-0.8**
GRSN				*i* S	**Sg**	**21 32 14.8**	**0.0**
EZM	**Erzurum**	**1.48**	**91**	PN	**Pn**	**21 31 57.9**	**-1.6**
EZM				SN	**Sn**	**21 32 17.9**	**-1.5**
ERZM	**Erzurum**	**1.48**	**91**	*i* P	**Pn**	**21 31 57.9**	**-1.7**
ERZM				*i* S	**Sg**	**21 32 22.7**	**+3.2**
ELZG	**Elazig**	**1.48**	**194**	*i* P	**Pn**	**21 31 59.0**	**-0.6**
ELZG				*i* S	**Sn**	**21 32 19.1**	**-0.4**
ELZG	**Elazig**	**1.48**	**194**	*i* P	**Pn**	**21 31 59.0**	**-0.6**
ELZG				*i* S	**Sn**	**21 32 19.1**	**-0.4**
BNGL	**BINGOL**	**1.65**	**126**	*i* P	**Pn**	**21 32 01.8**	**-0.1**
BNGL				*i* S	**Sg**	**21 32 30.4**	**+5.6**
MYA	**Malataya**	**1.79**	**207**	PN	**Pn**	**21 32 04.6**	**+0.7**
MALT	**Malatya**	**1.80**	**206**	*e*PN	**Pn**	**21 32 04.1**	**+0.1**
SVSK	**Karacayir**	**1.88**	**270**	PN	**Pn**	**21 32 06.4**	**+1.3**
ARTV	**Artvin**	**2.27**	**56**	*i* P	**Pn**	**21 32 11.2**	**+0.8**
ARTV				*i* S	**Sn**	**21 32 40.1**	**+1.2**
BTMT	**Batman**	**2.36**	**137**	PN	**Pn**	**21 32 10.9**	**-0.8**
KVT	**Kavak**	**2.83**	**295**	*e*PN	**Pn**	**21 32 20.0**	**+1.8**
CTKT	**Corum**	**3.62**	**282**	*e*P	**Pn**	**21 32 33.0**	**+3.9**
KOZT	**Kozan**	**3.74**	**230**	*e*PN	**Pn**	**21 32 33.3**	**+2.6**
BOYT	**Boyabat**	**3.76**	**295**	*i* P	**Pg**	**21 32 42.2**	**-1.7**
BOYT				*i* S	**Sg**	**21 33 32.2**	**-0.4**

ISCJB 22 21:34:54.6±0.4, 5058S±005×16259E±008, h10km, mb4.5/14, MS4.5/1, Error ellipse: s-maj=8.6km s-min=5.5km az=96.1
IDC 22 21:34:54.9±0.6, 5063S×16246E, h0km, mb4.5/12, mb1 4.6/14, mb1mx4.6/17, mbtmp4.5/14, ML3.9/2, MS4.3/2, Ms1 4.3/2, ms1mx3.8/19, Error ellipse: s-maj=22.2km s-min=14.4km az=64.0
NEIC 22 21:34:56.5±0.3, 5059S×16248E, h10km, mb4.6/7, Error ellipse: s-maj=7.5km s-min=4.8km az=140.0
MOS 22 21:34:59.8±1.8, 5089S×16188E, h44km, mb4.8/1, Error ellipse: s-maj=29.8km s-min=13.2km az=100.2

ISC 22 21:34:56.3±0.4, 5062S±005×16253E±008, h10km, (h10km±3.1km: pP-P), n81, σ0°86/59, mb4.5/14, MS4.5/1, 9C-6D, Auckland Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCQ	**Macquarie Isla**	**4.45**	**208**	*e*P	**Pn**	**21 35 59.3**	**-4.6**
APZ	**The Paps**	**5.23**	**46**	PN	**Pn**	**21 36 13.9**	**-0.7**
APZ				*e*SN	**Sn**	**21 37 10.6**	**-4.4**
WHZ	**Wether Hill Ro**	**5.95**	**39**	PN	**Pn**	**21 36 24.3**	**-0.2**
WHZ				SN	**Sn**	**21 37 28.6**	**-4.1**
SYZ	**Scrubby Hill**	**5.99**	**50**	PN	**Pn**	**21 36 24.7**	**-0.3**
SYZ				SN	**Sn**	**21 37 27.4**	**-6.3**
DCZ	**Deep Cove**	**6.01**	**33**	PN	**Pn**	**21 36 24.7**	**-0.5**
DCZ	**Deep Cove**	**6.01**	**33**	P	**Pn**	**21 36 24.7**	**-0.5**
MLZ	**Mavora Lakes**	**6.49**	**38**	PN	**Pn**	**21 36 32.0**	**+0.2**
MLZ				*e*SN	**Sn**	**21 37 39.8**	**-6.2**
MLZ	**Mavora Lakes**	**6.49**	**38**	P	**Pn**	**21 36 32.2**	**+0.3**
TUZ	**Tuapeka**	**6.65**	**48**	PN	**Pn**	**21 36 33.9**	**-0.1**
TUZ	**Tuapeka**	**6.65**	**48**	*e*P	**Pn**	**21 36 34.1**	**+0.1**
EAZ	**Earnscleugh**	**7.05**	**43**	PN	**Pn**	**21 36 39.4**	**-0.2**
EAZ	**Earnscleugh**	**7.05**	**43**	*e*P	**Pn**	**21 36 39.8**	**+0.2**
HHSZ	**Highcliff Hill**	**7.17**	**52**	PN	**Pn**	**21 36 41.8**	**+0.7**
WKZ	**Wanaka**	**7.26**	**40**	PN	**Pn**	**21 36 43.5**	**+1.1**
WKZ	**Wanaka**	**7.26**	**40**	P	**Pn**	**21 36 44.0**	**+1.6**
JCZ	**Jackson Bay**	**7.79**	**35**	PN	**Pn**	**21 36 50.6**	**+0.8**
JCZ	**Jackson Bay**	**7.79**	**35**	*e*P	**Pn**	**21 36 51.1**	**+1.4**
ODZ	**Otahua Downs**	**7.80**	**47**	PN	**Pn**	**21 36 48.9**	**-0.9**
ODZ	**Otahua Downs**	**7.80**	**47**	*e*P	**Pn**	**21 36 49.1**	**-0.8**
LBZ	**Lake Benmore**	**8.10**	**43**	PN	**Pn**	**21 36 52.2**	**-1.8**
LBZ	**Lake Benmore**	**8.10**	**43**	*e*P	**Pn**	**21 36 52.7**	**-1.3**
RPZ	**Rata Peaks**	**9.02**	**43**	Pn	**Pn**	**21 37 06.7**	**+0.2**
	1.0nm,0.3s,baz=199,slow=5.4,SNR=4.1						
RPZ				Sn	**Sn**	**21 38 43.5**	**-4.6**
	7.7nm,0.3s,baz=25,slow=19,SNR=6.9						
RPZ				LR	LR	21 39 55.9	
	comp=Z,847nm,21.3s,baz=232,slow=33						
MQZ	**McQueen's Vall**	**9.76**	**49**	*e*PN	**Pn**	**21 37 17.4**	**+0.7**
MQZ	**McQueen's Vall**	**9.76**	**49**	*e*P	**Pn**	**21 37 17.5**	**+0.8**
URZ	**Urewera**	**16.12**	**46**	Pn	**Pn**	**21 38 42.6**	**-0.4**
	0.5nm,0.3s,baz=32,slow=20,SNR=3.2						
TOO	**Toolangi**	**17.83**	**310**	*e*P	**Pn**	**21 39 05.2**	**+0.7**
	9.7nm,0.4s						
TOO	**Toolangi**	**17.83**	**310**	*e*P	**Pn**	**21 39 05.2**	**+0.7**
TOO				pmax	pmax		
	comp=Z,10.0nm,0.4s						
CNB	**Canberra Magne**	**18.04**	**323**	*e*P	**Pn**	**21 39 09.6**	**+2.6**
	comp=Z,41nm,1.1s						
STKA	**Stephens Creek**	**24.32**	**312**	⇓*i*P	**P**	**21 40 13.3**	**-0.7**
	comp=Z,16nm,1.8s,mb4.1						
STKA	**Stephens Creek**	**24.32**	**312**	P	**P**	**21 40 13.5**	**-0.5**
	comp=Z,16nm,1.1s,mb4.4,baz=138,slow=10,SNR=19						
STKA				LR	LR	21 49 30.3	
	comp=Z,1μm,18.6s,MS4.5,baz=114,slow=36						
VNDA	**Vanda**	**27.00**	**180**	P	**P**	**21 40 38.5**	**+0.2**
	comp=Z,11nm,1.1s,mb4.3,baz=344,slow=9.5,SNR=19						
CTA	**Charters Tower**	**33.08**	**331**	*e*P	**P**	**21 41 32.4**	**+0.3**
	comp=Z,9.9nm,1.1s,mb4.7						

CTA	**Charters Tower**	**33.08**	**331**	P	**P**		**21 41 32.9**	**+0.8**
	comp=Z,8.8nm,1.1s,mb4.6,baz=135,slow=10,SNR=3.1							
CTA	**Charters Tower**	**33.08**	**331**	*e*P	**P**		**21 41 32.4**	**+0.3**
CTA				pmax	pmax			
	comp=Z,10.0nm,1.1s							
ASAR	**Alice Springs**	**34.88**	**310**	P	**P**		**21 41 48.2**	**+0.5**
	comp=Z,14nm,0.8s,mb4.9,baz=145,slow=8.1,SNR=138							
ASAR				PcP	PcP		21 44 20.1	-0.5
	comp=Z,2.3nm,0.9s,baz=155,slow=3.0,SNR=6.2							
NWAO	**Narrogin (SRO)**	**37.45**	**281**	P	**P**		**21 42 08.8**	**-1.0**
	comp=Z,18nm,1.1s,mb4.8,baz=153,slow=9.0,SNR=5.6							
WB2	**Warramunga Arr**	**37.85**	**314**	⇓*i*P	**P**		**21 42 11.4**	**-1.8**
WRA	**Warramunga Arr**	**37.86**	**314**	P	**P**		**21 42 12.8**	**-0.4**
	comp=Z,28nm,1.0s,mb5.0,baz=144,slow=7.6,SNR=50							
WRA				PcP	PcP		21 44 29.1	-0.4
	comp=Z,2.0nm,0.6s,baz=152,slow=2.8,SNR=10							
WRAB	**Tennant Creek**	**37.86**	**314**	*i* P	**P**		**21 42 12.5**	**-0.8**
QSPA	**South Pole Qui**	**39.50**	**180**	*e*P	**P**		**21 42 28.0**	**+1.0**
	comp=Z,38nm,1.3s,mb5.0							
FITZ	**Fitzroy Crossi**	**43.73**	**304**	*e*P	**P**		**21 43 01.7**	**0.0**
	comp=Z,9.3nm,0.8s,mb4.6							
FITZ	**Fitzroy Crossi**	**43.73**	**304**	P	**P**		**21 43 01.7**	**0.0**
	comp=Z,5.3nm,0.8s,mb4.3,baz=156,slow=9.6,SNR=11							
KAKA	**Kakadu**	**45.06**	**316**	*e*P	**P**		**21 43 12.2**	**-0.1**
	comp=Z,19nm,0.8s,mb5.0							
MAW	**Mawson**	**47.85**	**211**	P	**P**		**21 43 33.8**	**-0.4**
	comp=Z,1.8nm,0.7s,mb4.2,baz=117,slow=11,SNR=3.9							
MAW				PcP	PcP		21 45 01.3	-1.6
	comp=Z,2.0nm,0.9s,baz=142,slow=6.1,SNR=6.9							
SNAA	**Sanae**	**57.57**	**185**	P	**P**		**21 44 45.6**	**-0.5**
	comp=Z,4.5nm,1.1s,mb4.4,baz=164,slow=8.2,SNR=13							
SNAA	**Sanae**	**57.57**	**185**	⇑*i*	**P**		**21 44 41.2**	**-4.9**
SNAA	**Sanae**	**57.57**	**185**	*i* P	**P**		**21 44 41.2**	**-4.9**
VNA3	**Neumayer Olymp**	**58.32**	**183**	⇑*i*	**P**		**21 44 50.7**	**-0.7**
VNA3				*e*	pP		21 44 55.0	+0.4
VNA2	**Neumayer--Watz**	**58.55**	**184**	⇑*i*	**P**		**21 44 52.5**	**-0.5**
	baz=162,slow=6.3							
VNA2				*e*	pP		21 44 53.5	-2.7
VNA2				*e*	pP		21 44 56.2	0.0
VNA1	**Neumayer--Stat**	**58.86**	**184**	⇑*i*	**P**		**21 44 55.3**	**+0.2**
VNA1				*e*	pP		21 44 57.6	-0.8
PLCA	**Paso Flores**	**77.86**	**142**	P	**P**		**21 46 55.2**	**+1.1**
	comp=Z,2.6nm,1.0s,mb4.1,baz=221,slow=8.2,SNR=4.2							
PLCA	**Paso Flores**	**77.86**	**142**	P	**P**		**21 46 55.2**	**+1.1**
CFAA	**Coronel Fontan**	**86.66**	**139**	P	**P**		**21 47 40.1**	**0.0**
	comp=Z,0.2nm,0.3s,mb3.8,baz=214,slow=5.2,SNR=6.2							
MJAR	**Matsushiro Arr**	**89.40**	**341**	P	**P**		**21 47 54.6**	**+1.4**
	comp=Z,2.0nm,0.7s,mb4.6,baz=166,slow=7.0,SNR=6.1							
MKAR	**Makanchi Array**	**119.07**	**309**	PKP	PKPdf		21 53 43.1	-2.2
	comp=Z,0.4nm,0.8s,baz=151,slow=1.8,SNR=4.1							
ILAR	**Eielson Array**	**121.54**	**23**	PKP	PKPdf		21 53 48.6	-1.4
	comp=Z,1.0nm,0.9s,baz=269,slow=4.1,SNR=6.8							
TIXI	**Tiksi**	**124.28**	**348**	*i* PKIKP	PKPdf		21 53 53.9	-1.4
TORD	**Torodi Ar. Bea**	**139.50**	**209**	PKhKP			21 54 14.2	
	comp=Z,1.2nm,0.6s,baz=165,slow=2.5,SNR=13							
TORD				PKP	PKPdf		21 54 23.6	-0.4
	comp=Z,1.9nm,0.8s,baz=159,slow=2.1,SNR=9.0							
BRTR	**Keskin Array B**	**143.05**	**273**	PKhKP			21 54 24.2	
	comp=Z,0.6nm,0.8s,baz=144,slow=5.4,SNR=3.8							
BRTR				PKP	PKPdf		21 54 32.0	+1.7
	comp=Z,1.3nm,0.8s,baz=146,slow=3.9,SNR=9.4							
OBN	**Obninsk**	**147.76**	**299**	*e*PKP2	PKPab		21 54 41.4	-2.3
OBN				*e*SS	SS		22 17 50.9	+38
OBN				pmax	pmax			
	comp=Z,25nm,1.0s							
TIRR	**Tirgusor**	**148.83**	**277**	⇓*i*P	PKPdf		21 54 43.1	+2.9
TIRR	**Tirgusor**	**148.83**	**277**	⇓P	PKPdf		21 54 43.1	+2.9
CVD	**Cernavoda**	**149.00**	**276**	⇑P	PKPbc		21 54 48.8	+4.3
FRB	**Frobisher Bay**	**150.28**	**44**	PKPbc	PKPbc		21 54 46.2	-1.5
	comp=Z,17nm,1.0s,baz=203,slow=1.5,SNR=4.4							
FRB	**Frobisher Bay**	**150.28**	**44**	PKPbc	PKPbc		21 54 46.2	-1.5
SCHQ	**Schefferville**	**150.31**	**62**	PKPbc	PKPbc		21 54 46.7	-1.0
	comp=Z,9.2nm,1.0s,baz=264,slow=1.6,SNR=5.4							
SCHQ	**Schefferville**	**150.31**	**62**	PKPbc	PKPbc		21 54 46.7	-1.0
VRI	**Vrincioaia**	**150.53**	**278**	⇑*i*P	PKPbc		21 54 49.8	+1.5
VRI	**Vrincioaia**	**150.53**	**278**	⇑P	PKPbc		21 54 49.8	+1.6
AKASG	**Malin Array Be**	**150.78**	**289**	PKPbc	PKPbc		21 54 47.5	-1.3
	comp=Z,8.3nm,0.7s,baz=92,slow=2.5,SNR=20							
MLR	**Muntele Rosu**	**150.86**	**277**	⇓*i*P	PKPdf		21 54 48.1	+4.7
MLR	**Muntele Rosu**	**150.86**	**277**	⇓P	PKPdf		21 54 48.1	+4.7
JOF	**Joensuu**	**151.34**	**314**	*e*p	PKPdf		21 54 49.1	+4.9
BURAR	**Bucovina Array**	**152.18**	**281**	⇑*i*P	PKPbc		21 54 56.3	+4.2
BURAR	**Bucovina Array**	**152.18**	**281**	⇑P	PKPbc		21 54 56.3	+4.2
ARCES	**ARCESS Array B**	**152.32**	**329**	PKPbc	PKPbc		21 54 51.0	-1.4
	comp=Z,1.8nm,0.9s,baz=68,slow=27,SNR=8.9							
KAF	**Kangasniemi**	**153.72**	**313**	*e*p	PKPdf		21 54 50.5	+2.8
FINES	**FINESS Array B**	**153.88**	**311**	PKPbc	PKPbc		21 54 54.3	-1.5
	comp=Z,3.6nm,0.9s,baz=91,slow=3.8,SNR=11							
GERES	**GERESS Array B**	**159.85**	**277**	PKPab	PKPab		21 55 34.2	-0.5
	comp=Z,0.9nm,0.8s,baz=114,slow=3.2,SNR=7.1							
NB2	**NORSAR Subarra**	**160.98**	**314**	P	PKPab		21 55 42.2	+2.6
	comp=Z,2.7nm,0.9s,baz=72,slow=4.6							
NOA	**NORSAR Array B**	**160.98**	**314**	PKPab	PKPab		21 55 42.5	+3.0
	comp=Z,0.7nm,0.7s,baz=76,slow=4.3,SNR=4.1							

*LDG **22** 21:49:04.6±0.1, 4300N×0.14E, h10km, Md1.7/2, Ml1.6/1, Error ellipse: s-maj=1.5km s-min=0.9km az=170.0*
*STR **22** 21:49:05.3±0.1, 4298N×0.15E, h2km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 22 21:49:05.5±0.2, 4298N×015E, h0km, mbLg1.2/4, Error ellipse: s-maj=2.1km s-min=2.0km az=56.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.09**	**320**	Pg	Pg	21 49 07.1	-0.1
LABF				Sg	Sg	21 49 08.9	+0.6
LABF	**Labassere**	**0.09**	**320**	Pg	Pg	21 49 07.1	-0.1
LABF				Lg		21 49 08.9	
VIEF	**Viey**	**0.13**	**224**	Pg	Pg	21 49 08.0	0.0
VIEF				Sg	Sg	21 49 10.5	+0.7
VIEF	**Viey**	**0.13**	**224**	Pg	Pg	21 49 08.0	0.0
VIEF				Lg		21 49 10.5	
EPF	**Esparros**	**0.15**	**70**	*e*Pg	Pg	21 49 08.0	-0.3
EPF				*e*Sg	Sg	21 49 10.4	+0.2
	22nm,0.3s						
EPF	**Esparros**	**0.15**	**70**	Pg	Pg	21 49 08.0	-0.3
EPF				Lg		21 49 10.4	
	11nm,0.3s						
RESF	**Ens**	**0.22**	**141**	Pg	Pg	21 49 09.6	-0.1
RESF				Sg	Sg	21 49 13.3	+0.7
RESF	**Ens**	**0.22**	**141**	Pg	Pg	21 49 09.7	0.0
RESF				Lg		21 49 13.4	
EBIE	**Bielsa**	**0.29**	**181**	Pg	Pg	21 49 10.8	-0.3
	1.6nm,0.1s,SNR=39						
EBIE				Lg		21 49 15.3	
	10nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.53**	**261**	*e*Pg	Pg	21 49 14.7	-0.9
ETSF				*e*Sg	Sg	21 49 21.8	-0.6
	4.6nm,0.3s						
ETSF	**Etsaut**	**0.53**	**261**	Pg	Pg	21 49 14.7	-0.9
ETSF				Lg		21 49 21.8	
	2.3nm,0.3s						
IPRE	**Itoiz**	**1.12**	**262**	Lg		21 49 41.5	
	0.4nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.34**	**200**	Pg	Pg	21 49 29.7	-1.5
	3.6nm,0.2s,SNR=7.9						
ESAC				Lg		21 49 49.9	
	4.4nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**1.56**	**76**	*e*Pg	Pg	21 49 33.9	-1.4
MTLF				*e*Sg	Sg	21 49 53.6	-1.9
	0.7nm,0.2s						
MTLF	**Montolieu**	**1.56**	**76**	Pg	Pg	21 49 33.9	-1.4
MTLF				Lg		21 49 53.6	
	0.3nm,0.2s						

KRSC 22 21:59:43.5±0.5, 6074N×16618E, h13km±5km, ML3.8, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.32**	**191**	*i* P	Pg	21 59 50.8	+0.8
TILR				*i* S	Sg	21 59 56.2	+1.9
TILR				Smax			
	18μm,1.2s						
KAMR	**Kamenskoye**	**1.72**	**0**	*i* P	Pn	22 00 13.3	+0.2
KAMR				*e*S	Sn	22 00 35.4	+0.4
KAMR				Smax			
	1μm,1.0s						
OSSR	**Ossora**	**2.17**	**228**	*e*P	Pn	22 00 20.7	+1.4
OSSR				*e*S	Sn	22 00 47.3	+1.4
EVNR	**Evensk**	**3.54**	**293**	*e*P	Pn	22 00 39.4	+1.3
KBTR	**Krutoberegovo**	**4.88**	**203**	*e*P	Pn	22 00 59.1	+2.6
BILL	**Bilibino**	**7.33**	**0**	*e*P	Pn	22 01 33.1	+2.9

IDC 22 22:13:11.5±6.4, 187N×9892E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/18, mbtmp3.7/3, Error ellipse: s-maj=344.3km s-min=26.3km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.95**	**124**	P	P	22 20 56.4	+0.7
	0.7nm,0.6s,baz=303,slow=9.0,SNR=3.6						
ASAR	**Alice Springs**	**42.45**	**129**	P	P	22 21 08.0	0.0
	0.6nm,0.7s,baz=302,slow=8.1,SNR=5.1						
MKAR	**Makanchi Array**	**47.04**	**344**	P	P	22 21 44.7	0.0
	1.4nm,0.5s,baz=161,slow=8.7,SNR=28						

IDC 22 22:13:26.6±2.0, 805S×12820E, h0km, mb4.5/1, mb1 3.8/4, mb1mx3.5/13, mbtmp3.7/4, ML3.1/3, Error ellipse: s-maj=94.4km s-min=28.3km az=78.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.30**	**194**	Pn	Pn	22 15 56.7	+1.1
	0.1nm,0.3s,baz=48,slow=12,SNR=2.6						
WRA	**Warramunga Arr**	**13.23**	**154**	Pn	Pn	22 16 35.6	-0.2
	0.1nm,0.3s,baz=323,slow=14,SNR=3.3						
ASAR	**Alice Springs**	**16.46**	**161**	Pn	Pn	22 17 18.4	-0.5
	0.2nm,0.3s,baz=342,slow=12,SNR=18						
SONM	**Songino Array**	**58.89**	**343**	P	P	22 23 27.4	+0.1
	3.0nm,0.5s,baz=139,slow=7.7,SNR=3.7						

*IDC **22** 22:40:39.6±0.7, 6028N×16545E, h0km, mb4.2/14, mb1 4.4/15, mb1mx4.3/22, mbtmp4.2/15, ML3.1/1, Error ellipse: s-maj=21.3km s-min=13.5km az=41.0*
*KRSC **22** 22:40:42.3±0.6, 6074N×16639E, h6km±4km, ML4.4*
*ISCJB **22** 22:40:42.1±0.2, 6096N±003×16563E±007, h6km, mb4.5/50, MS3.9/3, Error ellipse: s-maj=5.4km s-min=3.5km az=68.9*
*MOS **22** 22:40:42.7±0.9, 6089N×16561E, h12km, mb4.6/27, Error ellipse: s-maj=15.1km s-min=7.8km az=93.6*
*BJI **22** 22:40:45.0, 6098N×165.17E, h16km, mB4.9, mb4.5, Ms4.3, Msz4.1*
*NEIC **22** 22:40:47.7±0.3, 6085N×16568E, mb4.5/21, Error ellipse: s-maj=8.0km s-min=4.6km az=0.0*

ISC 22 22:40:43.7±0.2, 6094N±003×16565E±007, h6km, (h36km±8km: pP-P), n134, σ1°14/141, mb4.5/50, MS3.9/3, 4C-1D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.55**	**159**	*i* P	**Pg**	**22 40 50.2**	**-4.1**
TILR				*i* S	**Sg**	**22 40 56.2**	**-5.3**
TILR				Smax			
	48μm,1.0s						
KAMR	**Kamenskoye**	**1.54**	**10**	*e*P	**Pn**	**22 41 13.1**	**+1.4**
KAMR				*e*S	**Sn**	**22 41 35.1**	**+3.0**
KAMR				Smax			
	5μm,1.2s						
OSSR	**Ossora**	**2.14**	**219**	P	**Pn**	**22 41 18.3**	**-1.6**
OSSR				Smax			
	9μm,0.9s						
EVNR	**Evensk**	**3.22**	**291**	P	**Pn**	**22 41 41.9**	**+7.1**
SMKR	**Semkarok**	**4.88**	**208**	*e*P	**Pn**	**22 41 57.7**	**0.0**
SRKR	**Sorokina**	**4.89**	**210**	*e*P	**Pn**	**22 41 59.0**	**+1.2**
BDR	**Baidarnaya**	**4.96**	**210**	*e*P	**Pn**	**22 41 58.7**	**0.0**
KBTR	**Krutoberegovo**	**4.97**	**199**	P	**Pn**	**22 41 57.6**	**-1.3**
KBTR				S	**Sn**	**22 42 54.8**	**-1.9**
KBTR	**Krutoberegovo**	**4.97**	**199**	*e*P	**Pn**	**22 41 58.2**	**-0.7**
KBTR				*e*S	**Sn**	**22 42 53.2**	**-3.5**
KRSR	**Krestovskiy**	**5.43**	**212**	P	**Pn**	**22 42 07.0**	**+1.8**
CIRR	**Tsirk**	**5.48**	**210**	*e*P	**Pn**	**22 42 06.9**	**+1.1**
LGNR	**Loginova**	**5.52**	**210**	P	**Pn**	**22 42 07.4**	**+1.0**
ZLN	**Zelenaya**	**5.55**	**209**	*e*P	**Pn**	**22 42 07.5**	**+0.6**
SRDR	**Sredinnyy**	**5.58**	**216**	*e*P	**Pn**	**22 42 09.8**	**+2.6**
KPT	**Kopyto**	**5.75**	**212**	P	**Pn**	**22 42 12.5**	**+3.0**
KMNR	**Kamenistaya**	**5.93**	**211**	*e*P	**Pn**	**22 42 13.7**	**+1.7**
TUMR	**Tumrok**	**6.38**	**210**	P	**Pn**	**22 42 19.5**	**+1.3**
MKZ	**Mys Kozlova**	**6.74**	**200**	P	**Pn**	**22 42 25.1**	**+2.0**
BILL	**Bilibino**	**7.13**	**2**	*e*PN	**Pn**	**22 42 31.6**	**+3.1**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BILL	**Bilibino**	**7.13**	**2**	*e*Pn	**Pn**	**22 42 31.1**	**+2.5**
	comp=Z,29nm,1.0s						
BILL				*e*Sn	**Sn**	**22 43 50.7**	**+0.8**
BILL	**Bilibino**	**7.13**	**2**	*e*P	**Pn**	**22 42 32.5**	**+4.0**
GNL	**Ganaly**	**8.37**	**213**	*e*P	**Pn**	**22 42 47.9**	**+2.3**
FX1	**Attu Island--F**	**9.06**	**150**	Pn	**Pn**	**22 42 41.8**	**-13**
	comp=Z,0.8nm,0.3s,baz=124,slow=16,SNR=2.2						
FX1	**Attu Island--F**	**9.06**	**150**	*e*PN	**Pn**	**22 42 54.7**	**-0.3**
APC	**Apacha**	**9.27**	**214**	*e*P	**Pn**	**22 43 00.9**	**+3.0**
YAK	**Yakutsk**	**17.07**	**289**	*e*P	**Pn**	**22 44 46.4**	**+3.4**
YAK				pmax	pmax		
	comp=Z,28nm,0.9s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.0s						
YAK	**Yakutsk**	**17.07**	**289**	*e*Pn	**Pn**	**22 44 44.7**	**+1.8**
	comp=E,51nm,0.6s						
TIXI	**Tiksi**	**17.89**	**322**	*i* P	**Pn**	**22 44 57.2**	**+4.1**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.4s						
TTA	**Tatalina**	**17.97**	**67**	*e*P	**Pn**	**22 44 54.1**	**0.0**
TTA				pmax	pmax		
	comp=Z,22nm,1.4s						
TTA	**Tatalina**	**17.97**	**67**	*e*P	**Pn**	**22 44 54.1**	**0.0**
	comp=Z,22nm,1.4s						
COLA	**College**	**21.14**	**59**	*e*P	**P**	**22 45 29.9**	**+0.5**
COLA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.0						
COLA	**College**	**21.14**	**59**	*e*P	**P**	**22 45 29.9**	**+0.5**
	comp=Z,7.3nm,0.8s,mb4.1						
ILAR	**Eielson Array**	**21.57**	**59**	P	**P**	**22 45 35.2**	**+1.3**
	comp=Z,14nm,0.9s,mb4.4,baz=275,slow=8.7,SNR=61						
ILAR	**Eielson Array**	**21.57**	**59**	P	**P**	**22 45 35.2**	**+1.3**
ILAR				pmax	pmax		
	comp=Z,14nm,0.9s						
KLR	**Kul'dur**	**22.38**	**254**	*e*P	**P**	**22 45 38.2**	**-4.4**
EYAK	**Cordova Ski Ar**	**23.33**	**69**	*e*P	**P**	**22 45 50.1**	**-2.5**
DAWY	**Dawson**	**24.89**	**59**	*e*P	**P**	**22 46 06.3**	**-0.9**
BOD	**Bodaibo**	**25.93**	**286**	*e*P	**P**	**22 46 15.5**	**-1.1**
BOD				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.6						
INK	**Inuvik**	**26.02**	**48**	P	**P**	**22 46 18.5**	**+1.0**
	comp=Z,7.4nm,0.9s,mb4.2,baz=281,slow=11,SNR=12						
INK	**Inuvik**	**26.02**	**48**	*e*P	**P**	**22 46 17.4**	**-0.1**
INK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
INK	**Inuvik**	**26.02**	**48**	*e*P	**P**	**22 46 17.4**	**-0.1**
	comp=Z,6.0nm,0.9s,mb4.1						
MDJ	**Mudanjiang**	**26.78**	**249**	P	**P**	**22 46 25.1**	**+0.8**
MDJ				AP	pP	22 46 33.8	+7.6
MDJ				XP	sP	22 46 37.8	+11
MDJ				S	**S**	**22 50 59.1**	**-1.6**
MDJ				SCP	ScP	22 53 24.8	-3.1
MDJ				PCS	PcS	22 53 28.8	+0.2
MDJ				SCS	ScS	22 57 15.9	-2.7
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,47nm,5.6s						
MDJ				LR	LR		
	comp=N,254nm,37.5s,MS3.6						
MDJ				LR	LR		
	comp=E,147nm,37.5s,MS3.6						
ULN	**Ulaanbaatar**	**35.26**	**275**	*i* P	**P**	**22 47 39.8**	**+0.7**
ULN	**Ulaanbaatar**	**35.26**	**275**	*e*P	**P**	**22 47 39.0**	**-0.1**
	comp=E,2.6nm,0.8s,mb4.2						
YKA	**Yellowknife Ar**	**35.58**	**52**	P	**P**	**22 47 41.5**	**-0.3**
	comp=E,1.9nm,0.7s,mb4.2,baz=304,slow=8.4,SNR=17						
YKA				PcP	PcP	22 50 09.9	-0.8
	comp=E,0.6nm,0.7s,baz=309,slow=3.4,SNR=6.6						
YKA	**Yellowknife Ar**	**35.58**	**52**	P	**P**	**22 47 41.5**	**-0.3**
YKA						22 50 09.9	
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	**Yellowknife Ar**	**35.58**	**52**	P	**P**	**22 47 41.5**	**-0.3**
YKA				PcP	PcP	22 50 09.9	-0.8
MOY	**Mondy**	**35.62**	**285**	*e*P	**P**	**22 47 43.3**	**+1.2**
BJI	**Beijing**	**36.60**	**258**	*e*P	**P**	**22 47 49.4**	**-1.2**
BJI				AMB	AMB		
	comp=Z,17nm,0.9s,mb4.9						
BJT	**Baijiatuau**	**36.62**	**258**	*e*P	**P**	**22 47 50.1**	**-0.7**
BJT				pmax	pmax		
	comp=Z,15nm,0.8s						
BJT	**Baijiatuau**	**36.62**	**258**	*e*P	**P**	**22 47 50.1**	**-0.7**
	comp=Z,15nm,0.8s,mb4.9						
BJT				*e*pP	pP	22 48 00.8	+8.2
HHC	**Hu-ho-hao-te**	**38.20**	**263**	*e*P	**P**	**22 48 03.6**	**-0.5**
HHC				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.3						
HHC				AMB	AMB		
	comp=Z,93nm,5.4s						
KBS	**Kingsbay**	**39.50**	**352**	⇑*e*P	**P**	**22 48 18.4**	**+3.4**
NVS	**Novosibirsk**	**41.48**	**300**	*i* P	**P**	**22 48 29.9**	**-1.5**
NVS				pmax	pmax		
	comp=N,5.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.7						
NVS				pmax	pmax		
	comp=E,8.0nm,1.1s						
NJ2	**Nanjing**	**41.87**	**248**	*e*P	**P**	**22 48 33.9**	**-0.7**
NJ2				AP	pP	22 48 43.0	+6.6
NJ2				XP	sP	22 48 46.6	+9.4
NJ2				PP	PP	22 50 13.1	+1.8
NJ2				S	**S**	**22 54 44.0**	**-8.9**
NJ2				XS	sS	22 55 03.0	+7.1
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,190nm,7.3s						
NJ2				LR	LR		
	comp=N,290nm,24.0s,MS4.2						
NJ2				LR	LR		
	comp=E,250nm,21.8s,MS4.2						
EDM	**Edmonton**	**41.99**	**63**	*e*P	**P**	**22 48 36.0**	**+0.4**
WALA	**Waterton Lakes**	**44.71**	**67**	*e*P	**P**	**22 48 57.9**	**+0.4**
	comp=E,5.6nm,0.9s,mb4.4						
GTA	**Gaotai**	**45.04**	**273**	*e*P	**P**	**22 48 59.8**	**-0.3**
GTA				AP	pP	22 49 11.1	+9.1
GTA				XP	sP	22 49 14.5	+12
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
FCC	**Fort Churchill**	**45.61**	**46**	*e*P	**P**	**22 49 03.5**	**-1.2**
FCC				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
FCC	**Fort Churchill**	**45.61**	**46**	*e*P	**P**	**22 49 03.5**	**-1.2**
	comp=Z,6.0nm,0.9s,mb4.5						
SUMG	**Summit**	**45.74**	**10**	*e*P	**P**	**22 49 05.9**	**+0.2**
	comp=Z,7.3nm,1.1s,mb4.5						
SUMG				*e*pP	pP	22 49 16.8	+9.2
KURK	**Kurchatov**	**46.39**	**299**	*e*P	**P**	**22 49 10.4**	**-0.5**
ARCES	**ARCESS Array B**	**46.75**	**342**	P	**P**	**22 49 12.7**	**-1.0**
	comp=Z,2.3nm,0.7s,mb4.2,baz=32,slow=7.0,SNR=5.6						
ARCES				PcP	PcP	22 50 46.0	-1.0
	comp=Z,4.3nm,0.9s,baz=4.2,slow=5.0,SNR=3.9						
ARCES	**ARCESS Array B**	**46.75**	**342**	P	**P**	**22 49 12.7**	**-1.0**
ARCES						22 50 46.0	
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CHKZ	**Chkalovo**	**47.47**	**306**	*e*P	**P**	**22 49 19.0**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
CHKZ	**Chkalovo**	**47.47**	**306**	*e*P	**P**	**22 49 19.0**	**-0.3**
	comp=Z,12nm,1.0s,mb4.8						
WMQ	**Urumqi**	**47.48**	**286**	⇑P	**P**	**22 49 19.8**	**+0.5**
WMQ				AP	pP	22 49 29.8	+8.6
WMQ				XP	sP	22 49 33.8	+12
WMQ				PCP	PcP	22 50 49.6	0.0
WMQ				PP	PP	22 51 10.8	+0.2
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,13nm,3.4s						
WMQ				LR	LR		
	comp=N,230nm,22.0s,MS4.2						
WMQ				LR	LR		
	comp=E,194nm,20.6s,MS4.2						
WMQ				LR	LR		
	comp=Z,116nm,19.5s,MS3.9						
NACB	**Ninganchiao**	**47.48**	**240**	*e*P	**P**	**22 49 17.9**	**-1.4**
MKAR	**Makanchi Array**	**47.71**	**293**	P	**P**	**22 49 20.2**	**-1.0**
	comp=Z,5.1nm,0.6s,mb4.7,baz=46,slow=7.3,SNR=48						
MKAR	**Makanchi Array**	**47.71**	**293**	P	**P**	**22 49 20.2**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MKAR	**Makanchi Array**	**47.71**	**293**	P	**P**	**22 49 20.2**	**-1.0**
BOZ	**Bozeman (W)**	**48.29**	**69**	*e*P	**P**	**22 49 25.8**	**+0.2**
BOZ				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
BOZ	**Bozeman (W)**

OBN pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
GUN Gumba 61.11 276 *eP* **P 22 50 57.4 -1.3**
comp=Z,33nm,0.9s,mb5.5
JIRN Jiri 61.17 275 *eP* **P 22 50 57.4 -1.7**
KKN Kakani 61.50 276 *eP* **P 22 51 00.8 -0.5**
comp=Z,8.2nm,0.6s,mb5.0
PKI Pulchoki 61.62 276 *eP* **P 22 51 00.7 -1.4**
GKN Gorkha 61.64 277 *eP* **P 22 51 01.4 -0.8**
comp=Z,11nm,1.0s,mb4.9
DMN Daman 61.74 276 *eP* **P 22 51 01.8 -1.1**
KOLN Koldanda 62.33 278 *eP* **P 22 51 05.7 -1.2**
comp=Z,5.8nm,0.7s,mb4.8
AKASG Malin Array Be 63.35 331 P **P 22 51 12.9 -0.7**
comp=Z,1.9nm,0.6s,mb4.4,baz=25,slow=6.5,SNR=8.2
AKASG Malin Array Be 63.35 331 P **P 22 51 13.0 -0.6**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
GOF Gofitskoye 64.59 319 *eP* **P 22 51 21.5 -0.3**
GOF pmax pmax
comp=Z,20nm,1.0s,mb5.1
MIAR Mount Ida 65.34 63 *eP* **P 22 51 26.1 -0.6**
MIAR pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
MIAR Mount Ida 65.34 63 *eP* **P 22 51 26.1 -0.6**
comp=Z,2.8nm,0.7s,mb4.4
KIV Kislovodsk 65.68 318 *i* P **P 22 51 30.7 +1.8**
KIV pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
KWP Kalwaria 65.81 335 *eP* **P 22 51 29.9 +0.1**
KWP pmax pmax
comp=Z,16nm,1.1s,mb5.0
KWP Kalwaria 65.81 335 *eP* **P 22 51 29.9 +0.1**
comp=Z,16nm,1.1s,mb5.0
KWP *ep*P pP 22 51 40.1 +8.4
WVT Waverly 66.43 58 *eP* **P 22 51 32.7 -1.0**
WVT pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
WVT Waverly 66.43 58 *eP* **P 22 51 32.6 -1.1**
comp=Z,7.3nm,0.8s,mb4.8
WVT *ep*P pP 22 51 43.3 +7.7
ANN Anapa 66.56 322 *eP* **P 22 51 30.5 -4.0**
ANN *e* 22 51 59.3
ANN *e*S S 23 00 17.7 -8.2
ANN pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
SOC Sochi 66.96 320 *eP* **P 22 51 37.0 -0.1**
SOC pmax pmax
comp=Z,81nm,1.4s,mb5.6
SDMD Soldier's Deli 67.84 48 P **P 22 51 42.0 -0.7**
GERES GERESS Array B 68.25 340 P **P 22 51 44.9 -0.4**
comp=Z,0.7nm,0.7s,mb3.8,baz=34,slow=5.5,SNR=5.6
GERES GERESS Array B 68.25 340 P **P 22 51 44.9 -0.4**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GNI Garni 68.39 315 *i* P **P 22 51 48.1 +2.0**
GNI pmax pmax
comp=Z,4.0nm,0.9s
BR131 Keskin Array S 72.33 323 *eP* **P 22 52 10.8 +0.6**
comp=Z,1.1nm,0.7s,mb3.9
BR131 *ep*P pP 22 52 21.1 +8.9
BRTR Keskin Array B 72.33 323 P **P 22 52 10.8 +0.6**
comp=Z,1.9nm,0.9s,mb4.0,baz=48,slow=3.8,SNR=12
BRTR Keskin Array B 72.33 323 P **P 22 52 10.8 +0.6**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
ESDC Sonseca Array 79.38 352 P **P 22 52 50.5 0.0**
comp=Z,0.1nm,0.4s,baz=355,slow=7.8,SNR=4.5
QSPA South Pole Qui 150.71 180 *eP* PKPdf 23 00 33.2 +1.9

TIR ***22*** *23:02:50.4, 4228N×1948E, h22km*
ISCJB ***22*** *23:02:51.1±0.6, 4220N±004×1950E±004, h27km±4km, Error ellipse: s-maj=6.2km s-min=4.7km az=144.2*
NEIC ***22*** *23:02:51.1, 4227N×1947E, h23km, ML2.6(PDG), After PDG.*
PDG ***22*** *23:02:51.1±0.1, 4227N×1947E, h23km*
ISC 22 23:02:51.6±0.6, 4222N±003×1950E±004, h21km±5km, n15, σ1§02/29, 2C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SDA	**Shkodra**	**0.17**	**180**	*i* Pg		**Pb**		**23 02 56.5**	**+0.1**
SDA				*i* Sg		**Sb**		**23 03 00.5**	**+0.8**
TTG	**Podgorica**	**0.28**	**320**	⇓*i* Pg		**Pb**		**23 02 56.8**	**-1.2**
TTG				*e*Sg		**Sb**		**23 03 01.4**	**-0.9**
ULC	**Ulcinj**	**0.32**	**216**	⇑*i* Pg		**Pb**		**23 02 58.2**	**-0.3**
ULC				*e*Sg		**Sb**		**23 03 04.8**	**+1.4**
BCI	**Bajram Curri**	**0.45**	**70**	*i* Pg		**Pb**		**23 03 00.1**	**-0.7**
BCI				*i* Sg		**Sb**		**23 03 08.0**	**+1.0**
BUM	**Brajici-Budva**	**0.45**	**281**	⇓*i* Pg		**Pb**		**23 02 59.9**	**-1.0**
BUM				*e*Sg		**Sb**		**23 03 07.5**	**+0.2**
PVY	**Plav**	**0.52**	**43**	⇓*i* Pg		**Pb**		**23 03 00.9**	**-1.0**
PVY				*e*Sg		**Sb**		**23 03 09.6**	**+0.6**
NKY	**Niksic**	**0.70**	**328**	⇓*i* Pg		**Pb**		**23 03 03.5**	**-1.7**
NKY				*e*Sg		**Sb**		**23 03 13.9**	**-0.4**
IVA	**Berane**	**0.72**	**24**	⇓*i* Pg		**Pb**		**23 03 04.4**	**-0.9**
IVA				*e*Sg		**Sb**		**23 03 15.8**	**+1.0**
HCY	**Herceg Novi**	**0.78**	**288**	*e*Pg		**Pb**		**23 03 05.1**	**-1.3**
HCY				*e*Sg		**Sb**		**23 03 17.1**	**+0.6**
BRY	**Bratogost**	**0.98**	**314**	*e*Pg		**Pb**		**23 03 08.9**	**-1.0**
BRY				*e*Sg		**Sb**		**23 03 23.6**	**+1.1**
UPM	**Unac-Piva**	**1.08**	**336**	*e*Pg		**Pn**		**23 03 10.3**	**-1.1**
UPM				*e*Sg		**Sb**		**23 03 26.6**	**+1.5**
PLE	**Pljevlja**	**1.11**	**356**	⇑*i* Pg		**Pn**		**23 03 11.1**	**-0.8**
PLE				*e*Sg		**Sb**		**23 03 27.9**	**+1.7**
STON	**Ston**	**1.48**	**297**	*i* Pn		**Pn**		**23 03 16.9**	**0.0**
STON				*i* Sn		**Sn**		**23 03 38.6**	**+2.9**
BZS	**Buzias**	**3.73**	**24**	⇓*i*P		**Pn**		**23 03 47.9**	**+0.1**
NVLJ	**Novalja**	**4.11**	**306**	*i* Pn		**Pn**		**23 03 53.8**	**+0.7**
NVLJ				*i* Sn		**Sn**		**23 04 40.7**	**+0.2**

MAN 22 23:07:44.5, 1127N×12566E, h18km, mb3.6, ML4.8, MS2.9, 1C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.40**	**327**	*e*P		Pg		23 07 52.8	+0.2
OCLP	**Ormoc**	**1.05**	**258**	*e*P		Pb		23 08 03.6	-0.6
MSLP	**Maasin**	**1.37**	**215**	*e*P		Pn		23 08 10.1	+1.3
SCPH	**Surigao**	**1.49**	**186**	*e*P		Pn		23 08 10.4	+0.1
SCPH				*e*S		Sn		23 08 29.2	0.0
LLP	**Lapu-Lapu**	**1.91**	**241**	*e*P		Pn		23 08 16.1	0.0
LLP				*e*S		Sn		23 08 40.5	+0.7
TBP	**Tagbilaran**	**2.36**	**229**	*e*P		Pn		23 08 23.6	+1.4
TBP				*e*S		Sn		23 08 35.9	-15
PVCP	**Virac**	**2.74**	**328**	⇓*i*P		Pn		23 08 29.1	+1.6
PVCP				*i* S		Sn		23 09 08.4	+8.2
PVCP	**Virac**	**2.74**	**328**	*e*P		Pn		23 08 28.4	+0.9
RCP	**Roxas**	**2.87**	**276**	⇑*e*P		Pn		23 08 29.6	+0.3
GUIM	**Jordan**	**3.08**	**258**	*e*P		Pn		23 08 33.1	+0.9

IDC 22 23:19:50.9±8.6, 3212S×17822W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.9/12, mbtmp4.0/2, Error ellipse: s-maj=401.2km s-min=53.9km az=160.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.86**	**269**	P		P	P	23 27 51.0	+0.2
	1.1nm,0.6s,baz=111,slow=7.5,SNR=7.3								
WRA	**Warramunga Arr**	**44.01**	**274**	P		P		23 28 00.2	+0.2
	0.8nm,0.3s,baz=115,slow=7.5,SNR=3.6								
KAF	**Kangasniemi**	**146.09**	**340**	*ep*			PKPdf	23 39 28.9	-3.0
FINES	**FINESS Array B**	**146.68**	**339**	PKPbc			PKPbc	23 39 33.0	-1.5
	0.7nm,0.3s,baz=51,slow=4.2,SNR=19								

ISCJB ***22*** *23:31:27.9±19.2, 209S±02×1782W±0.1, h583km±31km, mb4.0/7, Error ellipse: s-maj=35.8km s-min=18.9km az=156.0*
IDC ***22*** *23:31:28.9±10.0, 2084S×17807W, h581km±93km, mb3.4/5, mb1 3.5/6, mb1mx3.3/15, mbtmp4.4/6, Error ellipse: s-maj=99.8km s-min=67.6km az=124.0*
NEIC ***22*** *23:31:29.5±1.1, 2077S×17807W, h595km±15km, mb4.0/4, Error ellipse: s-maj=23.0km s-min=11.7km az=161.0*
ISC 22 23:31:29.1±1.7, 209S±02×1780W±01, h585km±27km, n16, σ0§60/14, mb4.0/7, Fiji Islands region

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

AFI Afiamalu 9.16 42 Pn **P 23 33 39.0 -0.2**
DZM Mont Dzumac 14.49 263 P **P 23 34 34.6 +1.6**
0.7nm,0.3s,baz=105,slow=18,SNR=7.4
CTA Charters Tower 33.42 265 P **P 23 37 20.6 +0.1**
3.2nm,0.3s,mb4.4,baz=96,slow=10,SNR=9.5
CTAO Charters Tower 33.42 265 *eP* **P 23 37 20.4 -0.1**
3.2nm,0.5s,mb4.2
PMG Port Moresby 35.40 284 *eP* **P 23 37 36.2 -0.8**
4.9nm,0.4s,mb4.5
STKA Stephens Creek 37.59 245 *eP* **P 23 37 54.5 -0.4**
1.9nm,0.8s,mb3.7
STKA Stephens Creek 37.59 245 P **P 23 37 54.5 -0.4**
1.6nm,0.4s,mb4.0,baz=59,slow=9.5,SNR=8.6
ASAR Alice Springs 44.40 257 P **P 23 38 49.0 +0.3**
5.1nm,0.5s,mb4.3,baz=97,slow=7.8,SNR=39
ASAR PcP PcP 23 40 21.1 +1.7
0.6nm,0.5s,baz=108,slow=4.0,SNR=5.0
WB2 Warramunga Arr 44.50 262 *eP* **P 23 38 48.9 -0.6**
WRA Warramunga Arr 44.51 262 P **P 23 38 49.2 -0.5**
2.0nm,0.3s,mb4.1,baz=98,slow=7.9,SNR=8.4
FITZ Fitzroy Crossi 52.94 263 P **P 23 39 52.2 +0.4**
1.9nm,0.6s,mb3.6,baz=91,slow=2.5,SNR=15
VNDA Vanda 57.52 185 P **P 23 40 23.4 -0.2**
SNAA Sanae 87.62 178 *eP* **P 23 43 15.9 0.0**
0.4nm,0.6s,mb3.3
PHWY Pilot Hill 91.27 46 P **P 23 43 33.4 +0.5**
AKASG Malin Array Be 143.34 331 PKP PKPdf 23 49 55.1 -2.4
1.8nm,0.4s,baz=44,slow=4.1,SNR=12
BRTR Keskin Array B 147.08 312 PKPbc PKPbc 23 50 07.5 +0.4
0.5nm,0.5s,baz=126,slow=2.9,SNR=4.7

ISCJB ***22*** *23:32:06.2±1.1, 107N±02×926E±03, h33km, mb4.4/10, Error ellipse: s-maj=43.1km s-min=8.4km az=115.9*
BJI ***22*** *23:32:06.0, 1049N×9244E, h40km, mb4.4*
NEIC ***22*** *23:32:08.0±1.2, 1079N×9281E, h30km, mb4.1/5, Error ellipse: s-maj=54.4km s-min=9.5km az=63.0*
IDC ***22*** *23:32:11.1±1.2, 1206N×9506E, h0km, mb4.3/7, mb1 4.5/7, mb1mx4.1/20, mbtmp4.3/7, Error ellipse: s-maj=78.0km s-min=18.4km az=55.0*
ISC 22 23:32:07.1±0.9, 104N±01×922E±02, h35km, n25, σ1§12/26, mb4.4/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**11.21**	**311**	*i* P		**Pn**		**23 34 42.7**	**-2.1**
VIS				*i* S		**Sn**		**23 36 35.8**	**-13**
HYB	**Hyderabad**	**14.92**	**299**	*i* P		**Pn**		**23 35 46.0**	**+11**
HYB				*e*				23 39 19.5	
HYB				*e*S		**Sn**		**23 38 34.0**	**+15**
JIRN	**Jiri**	**18.03**	**343**	*e*P		**Pn**		**23 36 13.0**	**-1.8**
PKI	**Pulchoki**	**18.19**	**340**	*e*P		**Pn**		**23 36 18.1**	**+1.4**
DMN	**Daman**	**18.32**	**340**	*e*P		**Pn**		**23 36 20.8**	**+2.4**
GUN	**Gumba**	**18.35**	**342**	*e*P		**Pn**		**23 36 18.0**	**-0.8**
GKN	**Gorkha**	**18.85**	**339**	*e*P		**Pn**		**23 36 25.8**	**+1.1**
KOLN	**Koldanda**	**19.03**	**336**	*e*P		**Pn**		**23 36 30.6**	**+3.7**
LSA	**Lhasa**	**19.18**	**357**	P		**Pn**		**23 36 28.6**	**-0.2**
LSA				AMB		AMB			
	comp=Z,10.0nm,1.0s								
LSA	**Lhasa**	**19.18**	**357**	*e*Pn		**Pn**		**23 36 28.6**	**-0.2**
	comp=Z,5.9nm,0.6s								
MKAR	**Makanchi Array**	**37.19**	**349**	P		**P**		**23 39 14.9**	**+0.1**
	comp=Z,1.7nm,0.7s,mb4.0,baz=171,slow=8.6,SNR=17								
ULN	**Ulaanbaatar**	**39.35**	**16**	*e*P		**P**		**23 39 29.2**	**-3.8**
	comp=Z,3.0nm,1.0s,mb4.0								
FITZ	**Fitzroy Crossi**	**43.55**	**130**	P		**P**		**23 40 07.7**	**+0.3**
	comp=Z,3.9nm,0.5s,mb4.4,baz=309,slow=3.2,SNR=14								
CN2	**Changchun**	**43.98**	**35**	*e*P		**P**		**23 40 10.0**	**-0.8**
CN2				AMB		AMB			
	comp=Z,10.0nm,0.6s,mb4.7								
ZRNK	**Zerenda**	**46.32**	**341**	*e*P		**P**		**23 40 29.6**	**+0.1**
	comp=Z,0.8nm,0.4s,mb4.0								
CHKZ	**Chkalovo**	**46.45**	**342**	*e*P		**P**		**23 40 30.9**	**+0.5**
	comp=Z,1.8nm,0.6s,mb4.2								
WRA	**Warramunga Arr**	**51.33**	**126**	P		**P**		**23 41 08.4**	**+0.5**
	comp=Z,6.5nm,0.4s,mb4.9,baz=306,slow=8.3,SNR=21								
WB2	**Warramunga Arr**	**51.34**	**126**	*e*P		**P**		**23 41 08.4**	**+0.4**
ASAR	**Alice Springs**	**53.05**	**130**	P		**P**		**23 41 21.4**	**+0.7**
	comp=Z,8.6nm,0.7s,mb4.8,baz=304,slow=7.1,SNR=48								
BRTR	**Keskin Array B**	**59.29**	**310**	P		sP		23 42 23.4	+3.4
	comp=Z,0.2nm,0.5s,baz=95,slow=5.6,SNR=3.8								
CTAO	**Charters Tower**	**61.26**	**120**	P		**P**		**23 42 17.6**	**-1.1**
STKA	**Stephens Creek**	**63.28**	**134**	P		**P**		**23 42 37.4**	**+5.2**
	comp=Z,4.1nm,0.7s,mb4.7,baz=301,slow=12,SNR=7.7								
STKA	**Stephens Creek**	**63.28**	**134**	*e*P		**P**		**23 42 31.8**	**-0.4**
	comp=Z,2.7nm,0.8s,mb4.4								
STKA	**Stephens Creek**	**63.28**	**134**	P		**P**		**23 42 37.4**	**+5.2**
ILAR	**Eielson Array**	**93.10**	**22**	P		**P**		**23 45 16.5**	**-0.8**
	comp=Z,0.6nm,0.7s,mb4.1,baz=288,slow=4.0,SNR=6.4								

KRSC ***22*** *23:35:47.6±1.1, 6071N×16651E, h11km±3km, ML3.9*
ISCJB ***22*** *23:35:48.7±0.4, 6079N±003×1657E±0.1, h11km, mb3.8/8, Error ellipse: s-maj=8.1km s-min=4.4km az=15.2*
IDC ***22*** *23:35:48.6±1.4, 6078N×16534E, h0km, mb3.6/5, mb1 4.0/6, mb1mx3.7/21, mbtmp3.7/6, ML3.1/1, Error ellipse: s-maj=28.1km s-min=19.5km az=76.0*
MOS ***22*** *23:35:49.1±1.4, 6074N×16540E, h20km, mb3.9/6, Error ellipse: s-maj=28.7km s-min=13.5km az=93.0*
NEIC ***22*** *23:35:50.1±1.2, 6077N×16531E, h10km, mb3.9/5, Error ellipse: s-maj=28.7km s-min=11.8km az=171.0*
ISC 22 23:35:50.1±0.4, 6081N±003×1658E±01, h11km, n34, σ1§26/39, mb3.8/8, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.41**	**161**	*i* P		**Pg**		**23 35 55.8**	**-2.3**
TILR				*i* S		**Sg**		**23 36 02.0**	**-1.5**
TILR				Smax					
	20μm,0.4s								
KAMR	**Kamenskoye**	**1.66**	**7**	*i* P		**Pn**		**23 36 18.5**	**-0.7**
KAMR				*i* S		**Sn**		**23 36 40.5**	**0.0**
KAMR				Smax					
	1μm,0.8s								
OSSR	**Ossora**	**2.08**	**222**	*e*P		**Pn**		**23 36 23.4**	**-1.5**
OSSR				Smax					
	1μm,0.5s								
EVNR	**Evensk**	**3.33**	**292**	P		**Pn**		**23 36 47.7**	**+5.6**
SMKR	**Semkarok**	**4.80**	**210**	*e*P		**Pn**		**23 37 02.8**	**+0.5**
SRKR	**Sorokina**	**4.81**	**212**	*e*P		**Pn**		**23 37 02.9**	**+0.4**
KBTR	**Krutoberegovo**	**4.87**	**200**	P		**Pn**		**23 37 02.5**	**-0.8**
KBTR				S		**Sn**		**23 38 00.1**	**+0.4**
KBTR	**Krutoberegovo**	**4.87**	**200**	*e*P		**Pn**		**23 37 03.1**	**-0.2**
KBTR				*e*S		**Sn**		**23 37 59.9**	**+0.2**
CIRR	**Tsirk**	**5.40**	**211**	P		**Pn**		**23 37 12.1**	**+1.6**
ZLN	**Zelenaya**	**5.47**	**211**	*e*P		**Pn**		**23 37 12.1**	**+0.5**
SRDR	**Sredinnyy**	**5.51**	**218**	*e*P		**Pn**		**23 37 13.6**	**+1.5**
KMNR	**Kamenistaya**	**5.85**	**212**	*e*P		**Pn**		**23 37 16.9**	**+0.1**
BILL	**Bilibino**	**7.26**	**1**	*e*PN		**Pn**		**23 37 36.9**	**+0.8**
BILL				pmax		pmax			
	comp=Z,4.0nm,0.6s								
BILL	**Bilibino**	**7.26**	**1**	*e*Pn		**Pn**		**23 37 36.9**	**+0.8**
	comp=Z,3.6nm,0.6s								
BILL				*e*Sn		**Sn**		**23 38 57.3**	**-1.2**
BILL	**Bilibino**	**7.26**	**1**	*e*P		**Pn**		**23 37 38.0**	**+1.9**
BILL				Smax					
	comp=Z,50nm,1.2s								
GNL	**Ganaly**	**8.30**	**214**	*e*P		**Pn**		**23 37 52.4**	**+2.0**
FX1	**Attu Island--F**	**8.91**	**150**	Pn		**Pn**		**23 37 58.5**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=262,slow=21,SNR=3.9								
FX1	**Attu Island--F**	**8.91**	**150**	PN		**Pn**		**23 37 58.5**	**-0.3**
FX1				pmax		pmax			
	comp=Z,1.0nm,0.3s								
YAK	**Yakutsk**	**17.18**	**290**	*e*P		**Pn**		**23 39 45.5**	**-4.5**
YAK				pmax		pmax			
	comp=Z,13nm,0.4s								
YAK	**Yakutsk**	**17.18**	**290**	*e*Pn		**Pn**		**23 39 45.5**	**-4.5**
	comp=Z,13nm,0.4s								
ILAR	**Eielson Array**	**21.58**	**59**	P		**P**		**23 40 42.4**	**+2.6**
	comp=Z,1.8nm,0.6s,mb3.7,baz=274,slow=8.9,SNR=28								
ILAR	**Eielson Array**	**21.58**	**59**	P		**P**		**23 40 42.4**	**+2.7**
ILAR				pmax		pmax			
	comp=Z,2.0nm,0.6s								
INK	**Inuvik**	**26.06**	**48**	P		**P**		**23 41 26.3**	**+2.9**
	comp=Z,1.3nm,0.8s,mb3.5,baz=289,slow=14,SNR=3.7								
INK	**Inuvik**	**26.06**	**48**	*e*P		**P**		**23 41 25.8**	**+2.3**
INK				pmax		pmax			
	comp=Z,1.0nm,0.7s								
INK	**Inuvik**	**26.06**	**48**	*e*P		**P**		**23 41 25.8**	**+2.4**
	comp=Z,1.2nm,0.7s,mb3.5								
ULN	**Ulaanbaatar**	**35.34**	**276**	*e*P		**P**		**23 42 44.5**	**-0.9**
	comp=Z,0.5nm,0.4s,mb3.8								
YKA	**Yellowknife Ar**	**35.61**	**52**	P		**P**		**23 42 47.4**	**-0.3**
	comp=Z,0.3nm,0.4s,mb3.5,baz=308,slow=8.1,SNR=5.6								
CHKZ	**Chkalovo**	**47.60**	**307**	*e*P		**P**		**23 44 24.3**	**-1.6**
CHKZ				pmax		pmax			
	comp=Z,1.0nm,0.4s,mb4.2								
CHKZ	**Chkalovo**	**47.60**	**307**	*e*P		**P**		**23 44 24.3**	**-1.6**
	comp=Z,0.6nm,0.4s,mb4.0								
MKAR	**Makanchi Array**	**47.82**	**293**	P		**P**		**23 44 25.8**	**-1.8**
	comp=Z,0.5nm,0.6s,mb3.7,baz=46,slow=7.9,SNR=4.8								
MKAR	**Makanchi Array**	**47.82**	**293**	P		**P**		**23 44 25.8**	**-1.8**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
ZRNK	**Zerenda**	**48.78**	**307**	*e*P		**P**		**23 44 34.6**	**-0.4**
ZRNK				pmax		pmax			
	comp=Z,1.0nm,0.4s,mb4.2								
ZRNK	**Zerenda**	**48.78**	**307**	*e*P		**P**		**23 44 34.6**	**-0.5**
	comp=Z,0.6nm,0.4s,mb4.0								
PDAR	**Pinedale Array**	**51.44**	**70**	P		**P**		**23 44 56.5**	**+1.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=336,slow=3.3,SNR=5.2								

IDC 22 23:45:04.8±1.5, 4993N×2899W, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/23, mbtmp3.6/5, MS3.1/1, Ms1 3.2/1, ms1mx2.5/33, Error ellipse: s-maj=39.2km s-min=28.4km az=33.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**20.42**	**111**	P		P	P	23 49 43.6	+0.1
	0.1nm,0.4s,baz=283,slow=7.1,SNR=3.2								
NOA	**NORSAR Array B**	**24.92**	**48**	LR		LR		23 58 10.9	
	comp=Z,40nm,19.2s,baz=35,slow=32								
FINES	**FINESS Array B**	**32.10**	**48**	P		P		23 51 33.2	-0.5
	1.7nm,0.7s,baz=257,slow=7.6,SNR=6.8								
TORD	**Torodi Ar. Bea**	**44.45**	**135**	P		P		23 53 17.4	-0.2
	0.8nm,0.8s,baz=342,slow=7.9,SNR=6.4								
PDAR	**Pinedale Array**	**53.54**	**295**	P		P		23 54 27.2	0.0
	0.8nm,0.9s,baz=46,slow=6.4,SNR=3.9								
MKAR	**Makanchi Array**	**66.84**	**44**	P		P		23 55 58.2	-0.2
	0.8nm,0.7s,baz=324,slow=6.0,SNR=10								

IDC ***22*** *23:50:41.4±7.5, 5374N×16009W, h0km, mb3.9/4, mb1 3.7/7, mb1mx3.5/23, mbtmp3.7/7, ML3.4/3, Error ellipse: s-maj=181.9km s-min=33.1km az=151.0*
ISCJB ***22*** *23:50:52.5±3.8, 547N±03×160.1W±02, h53km±20km, mb3.9/4, Error ellipse: s-maj=49.0km s-min=14.1km az=165.5*
NEIC ***22*** *23:50:55.0, 5471N×16039W, h15km, ML3.5(AEIC), After AEIC.*
ISC 22 23:50:52.2±3.7, 546N±02×1602W±02, h41km±23km, n10, σ0§53/12, mb3.9/4, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.73**	**348**	P		**Pn**		**23 51 06.2**	**+0.1**
SDPT				S		**Sn**		**23 51 16.3**	**+0.2**
KDAK	**Kodiak Island**	**5.30**	**50**	Pn		**Pn**		**23 52 09.3**	**+0.6**
	0.8nm,0.3s,baz=266,slow=14,SNR=7.1								
KDAK				Sn		**Sn**		**23 53 08.5**	**-0.1**
	1.3nm,0.3s,baz=171,slow=19,SNR=2.8								
KDAK	**Kodiak Island**	**5.30**	**50**	P		**Pn**		**23 52 09.4**	**+0.6**
ILAR	**Eielson Array**	**12.15**	**28**	Pn		**Pn**		**23 53 41.4**	**-1.4**
	0.0nm,0.3s,baz=217,slow=10,SNR=2.9								
INK	**Inuvik**	**18.48**	**32**	P		**Pn**		**23 55 05.7**	**+0.6**
	0.2nm,0.3s,baz=237,slow=11,SNR=6.9								
INK	**Inuvik**	**18.48**	**32**	P		**Pn**		**23 55 05.7**	**+0.6**
FINES	**FINESS Array B**	**64.16**	**357**	P		**P**		**00 01 22.7**	**+0.2**
	0.5nm,0.7s,mb3.6,baz=336,slow=6.2,SNR=4.0								
HFS	**Hagfors**	**65.48**	**3**	P		**P**		**00 01 31.2**	**+0.1**
	3.9nm,1.1s,mb4.3,baz=28,slow=6.7,SNR=4.1								
MKAR	**Makanchi Array**	**66.00**	**318**	P		**P**		**00 01 34.3**	**-0.1**
	0.4nm,0.4s,mb3.8,baz=49,slow=6.0,SNR=12								
AKASG	**Malin Array Be**	**74.74**	**354**	P		**P**		**00 02 27.5**	**-0.3**
	0.8nm,0.4s,mb4.0,baz=12,slow=6.0,SNR=4.2								

IDC ***22*** *23:53:57.1±0.7, 008N×9678E, h0km, mb4.2/11, mb1 4.3/12, mb1mx4.1/21, mbtmp4.2/12, ML3.4/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/24, Error ellipse: s-maj=33.5km s-min=15.2km az=49.0*
ISCJB ***22*** *23:54:00.5±0.4, 014N±007×9692E±007, h33km, mb4.3/14, Error ellipse: s-maj=11.5km s-min=6.8km az=90.1*
NEIC ***22*** *23:54:01.6±0.3, 016N×9683E, h30km, mb4.4/5, Error ellipse: s-maj=8.4km s-min=6.8km az=55.0*
ISC 22 23:54:03.0±0.4, 014N±007×9692E±007, h35km, n41, σ1§13/38, mb4.3/14, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.32**	**37**	Pn		**Pn**		**23 54 50.6**	**-1.7**
	3.5nm,0.3s,baz=290,slow=7.5,SNR=15								
PSI				LR		LR		23 56 22.3	
	comp=Z,418nm,20.8s,baz=211,slow=43								
PPI	**Padang Panjang**	**3.52**	**100**	P		**Pn**		**23 54 54.7**	**-0.5**
	60nm,0.8s								
KULM	**Kulim**	**6.33**	**36**	*e*Pn		**Pn**		**23 55 32.8**	**-1.0**
KSI	**Kapahiang**	**6.80**	**124**	P		**Pn**		**23 55 39.2**	**-1.0**
	161nm,1.0s								
CHTO	**Chiang Mai**	**18.67**	**6**	*e*P		**Pn**		**23 58 17.0**	**-1.4**
	8.3nm,1.1s								
KKM	**Kota Kinabalu**	**20.13**	**73**	*e*P		**P**		**23 58 35.3**	**+1.4**
QIZ	**Qiongzhong**	**22.66**	**33**	*e*P		**P**		**23 59 00.2**	**-0.8**
JIRN	**Jiri**	**29.24**	**340**	*e*P		**P**		**00 00 02.9**	**+1.4**
PKI	**Pulchoki**	**29.43**	**339**	*e*P		**P**		**00 00 05.5

*BJI **22** 23:57:00.4, 5341N×164 71W, h41km, mB5.0, mb5.0, Ms4.8, Msz4.4*
*MOS **22** 23:57:01.3±0.9, 5409N×164 08W, h34km, mb5.1/27, Error ellipse: s-maj=14.5km s-min=6.1km az=85.0*
*ISCJB **22** 23:57:02.0±0.4, 5403N±006×16391W±005, h40km, mb4.8/67, MS3.8/13, Error ellipse: s-maj=9.7km s-min=3.5km az=146.9*
*NEIC **22** 23:57:03.8±0.3, 5405N×164 06W, mb4.9/36, ML4.2(AEIC), Error ellipse: s-maj=8.9km s-min=3.9km az=158.0*

ISC 22 23:57:03.3±0.3, 5396N±006×16395W±005, h42km, h42km±3.4km: pP-P, n179, σ1s 01/177, mb4.8/67, MS3.8/13, 5C-6D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
FALS	**False Pass**	**0.95**	**19**	P		**Pn**	**23 57 20.8**	**+0.6**
FALS				S		**Sn**	**23 57 34.6**	**+2.0**
AKA	**Akutan**	**1.09**	**280**	P		**Pn**	**23 57 22.3**	**+0.3**
AKA				S		**Sn**	**23 57 37.5**	**+1.7**
AKUT	**Akutan**	**1.09**	**280**	P		**Pn**	**23 57 22.2**	**+0.2**
AKUT				S		**Sn**	**23 57 36.8**	**+1.0**
UNV	**Unalaska Valle**	**1.51**	**267**	P		**Pn**	**23 57 27.0**	**-0.8**
UNV				S		**Sn**	**23 57 46.6**	**+0.3**
SDPT	**Sand Point**	**2.45**	**54**	P		**Pn**	**23 57 41.1**	**+0.3**
NIKO	**Nikolski**	**3.09**	**253**	P		**Pn**	**23 57 49.0**	**-0.5**
CHGN	**Chignik**	**3.95**	**51**	*e*P		**Pn**	**23 58 03.1**	**+1.7**
KDAK	**Kodiak Island**	**7.45**	**54**	Pn		**Pn**	**23 58 48.0**	**-1.4**
	5.0nm,0.3s,baz=204,slow=6.6,SNR=18							
KDAK				Sn		**Sn**	**00 00 08.1**	**-4.5**
	baz=32,slow=13,SNR=2.2							
TTA	**Tatalina**	**9.90**	**22**	*e*P		**Pn**	**23 59 25.3**	**+2.3**
SLKM	**Skilak Lake**	**9.91**	**43**	*e*Pn		**Pn**	**23 59 23.8**	**+0.7**
SLKM				*e*Sn		**Sn**	**00 01 13.1**	**+0.1**
PMR	**Palmer**	**10.98**	**40**	P		**Pn**	**23 59 38.3**	**+0.5**
EYAK	**Cordova Ski Ar**	**11.84**	**49**	*e*Pn		**Pn**	**23 59 48.6**	**-0.9**
EYAK				*e*			23 59 57.0	
COLA	**College**	**13.62**	**30**	P		**Pn**	**00 00 12.9**	**-0.8**
COLA				pmax	pmax			
	comp=Z,9.0nm,0.8s							
COLA	**College**	**13.62**	**30**	Pn		**Pn**	**00 00 12.9**	**-0.8**
	comp=Z,9.1nm,0.8s							
FX1	**Attu Island--F**	**13.68**	**275**	Pn		**Pn**	**00 00 16.0**	**+1.4**
	comp=Z,1.2nm,0.3s,baz=86,slow=22,SNR=7.3							
ILAR	**Eielson Array**	**13.84**	**32**	Pn		**Pn**	**00 00 13.8**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=229,slow=12,SNR=7.8							
DLBC	**Dease Lake**	**19.26**	**63**	Pn		**Pn**	**00 01 27.4**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=283,slow=6.4,SNR=8.2							
DLBC				LR		LR	00 09 11.4	
	comp=Z,149nm,19.2s,baz=257,slow=38							
BILL	**Bilibino**	**19.88**	**327**	*i* P		**Pn**	**00 01 34.8**	**+2.0**
BILL				pmax	pmax			
	comp=Z,19nm,0.9s							
BILL				MLR		MLR		
	comp=Z,600nm,25.0s							
BILL	**Bilibino**	**19.88**	**327**	*e*P		**Pn**	**00 01 34.3**	**+1.5**
	comp=Z,19nm,1.0s							
BILL				*e*			00 01 44.4	
INK	**Inuvik**	**20.23**	**33**	P		**P**	**00 01 32.4**	**-2.3**
	comp=Z,2.5nm,0.5s,baz=236,slow=13,SNR=19							
INK	**Inuvik**	**20.23**	**33**	*e*P		**P**	**00 01 32.7**	**-2.0**
INK				pmax	pmax			
	comp=Z,19nm,1.0s							
INK	**Inuvik**	**20.23**	**33**	*e*P		**P**	**00 01 32.7**	**-2.0**
	comp=Z,19nm,1.0s							
BBB	**Bella Bella**	**21.47**	**80**	LR		LR	00 08 10.1	
	comp=Z,179nm,21.3s,MS3.4,baz=145,slow=31							
PET	**Petropavlovsk**	**22.11**	**283**	*e*P		**P**	**00 01 53.8**	**-1.1**
YKA	**Yellowknife Ar**	**26.72**	**52**	P		**P**	**00 02 39.4**	**+0.8**
	comp=Z,0.7nm,0.5s,mb3.5,baz=270,slow=9.6,SNR=18							
YKA				LR		LR	00 14 11.4	
	comp=Z,124nm,20.3s,MS3.5,baz=260,slow=39							
YKA	**Yellowknife Ar**	**26.72**	**52**	P		**P**	**00 02 39.4**	**+0.8**
YKA				LR		LR	00 14 11.4	
NEW	**Newport**	**29.50**	**82**	LR		LR	00 13 26.0	
	comp=Z,120nm,19.8s,MS3.5,baz=317,slow=33							
YBH	**Yreka Blue Hor**	**29.82**	**97**	LR		LR	00 12 04.6	
	comp=Z,311nm,21.3s,MS3.9,baz=347,slow=30							
WVOR	**Wild Horse Val**	**31.79**	**92**	*e*P		**P**	**00 03 25.5**	**+1.9**
WVOR				*e**PP		pP	00 03 37.2	+2.1
WVOR				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.3							
WVOR	**Wild Horse Val**	**31.79**	**92**	*e*P		**P**	**00 03 25.5**	**+1.9**
	comp=Z,5.5nm,0.9s,mb4.4							
WVOR				*e*pP		pP	00 03 37.2	+2.1
TIXI	**Tiksi**	**33.10**	**328**⇓	*e*P		**P**	**00 03 34.3**	**-0.8**
TIXI				pmax	pmax			
	comp=Z,8.0nm,1.3s,mb4.5							
MCMT	**McKenzie Canyo**	**33.82**	**84**	P		**P**	**00 03 42.0**	**+0.7**
YAK	**Yakutsk**	**34.60**	**310**	*e*P		**P**	**00 03 47.0**	**-1.1**
YAK				pmax	pmax			
	comp=Z,13nm,0.4s,mb5.2							
YAK	**Yakutsk**	**34.60**	**310**	*e*P		**P**	**00 03 47.0**	**-1.2**
	comp=Z,13nm,0.4s,mb5.2							
ELK	**Elko**	**34.84**	**92**	*e*P		**P**	**00 03 51.6**	**+1.4**
ELK				*e**PP		pP	00 04 03.3	+1.6
ELK				pmax	pmax			
	comp=Z,4.0nm,0.8s							
ELK	**Elko**	**34.84**	**92**	*e*P		**P**	**00 03 51.5**	**+1.4**
	comp=Z,3.9nm,0.8s,mb4.4							
ELK				*e*pP		pP	00 04 03.3	+1.6
TPNV	**Topopah Spring**	**36.73**	**98**	*e*P		**P**	**00 04 08.0**	**+1.6**
TPNV				*e**PP		pP	00 04 20.6	+2.6
TPNV				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.5							
TPNV	**Topopah Spring**	**36.73**	**98**	*e*P		**P**	**00 04 08.0**	**+1.6**
	comp=Z,5.5nm,0.8s,mb4.4							
TPNV				*e*pP		pP	00 04 20.6	+2.6
FCC	**Fort Churchill**	**37.39**	**54**	*e*P		**P**	**00 04 12.8**	**+0.8**
FCC				*e**PP		pP	00 04 23.6	0.0
FCC				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.4							
FCC	**Fort Churchill**	**37.39**	**54**	*e*P		**P**	**00 04 12.8**	**+0.8**
	comp=Z,5.1nm,0.8s,mb4.4							
FCC				*e*pP		pP	00 04 23.6	0.0
ULM	**Lac du Bonnet**	**40.52**	**66**	P		**P**	**00 04 37.8**	**-0.3**
	comp=Z,1.6nm,0.8s,mb3.7,baz=279,slow=6.8,SNR=3.3							
ULM				LR		LR	00 22 46.7	
	comp=Z,103nm,19.1s,MS3.7,baz=352,slow=38							
MDJ	**Mudanjiang**	**42.84**	**286**	P		**P**	**00 04 50.8**	**-6.3**
MDJ				AP		pP	00 05 04.1	-4.8
MDJ				XP		sP	00 05 10.1	-3.8
MDJ				AMB		AMB		
	comp=Z,4.0nm,0.7s,mb4.3							
MDJ				AMB		AMB		
	comp=Z,52nm,4.3s							
MJAR	**Matsushiro Arr**	**42.98**	**270**	P		**P**	**00 04 56.6**	**-1.7**
	comp=Z,2.3nm,0.5s,mb4.2,baz=42,slow=7.5,SNR=5.8							
MJAR				LR		LR	00 19 41.2	
	comp=Z,145nm,21.2s,MS3.9,baz=45,slow=32							
BOD	**Bodaibo**	**43.51**	**310**	*e*P		**P**	**00 05 01.1**	**-1.5**
BOD				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.2							
CN2	**Changchun**	**45.69**	**287**	*e*P		**P**	**00 05 19.0**	**-0.9**
CN2				*e*S		**S**	**00 11 59.0**	**-1.0**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.8							
CN2				AMB		AMB		
	comp=Z,200nm,3.0s							
CN2				LR		LR		
	comp=Z,200nm,21.0s,MS4.0							
FRB	**Frobisher Bay**	**45.75**	**38**	P		**P**	**00 05 20.7**	**+0.3**
	comp=Z,20nm,0.8s,mb5.1,baz=312,slow=9.2,SNR=13							
MNTX	**Cornudas Mount**	**46.80**	**94**	*e*P		**P**	**00 05 35.0**	**+6.3**
	comp=Z,1.8nm,0.8s,mb4.0							
DAG	**Danmarks Havn**	**47.69**	**10**⇑	*i* P		**P**	**00 05 35.0**	**-0.6**
	comp=Z,4.5nm,0.8s,mb4.5							
DAG	**Danmarks Havn**	**47.69**	**10**⇑	*i* P		**P**	**00 05 35.0**	**-0.6**
DAG				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.6							
SFJD	**Kangerlussuaq**	**49.48**	**28**	P		**P**	**00 05 49.8**	**+0.5**
	comp=Z,9.0nm,0.3s,mb4.8,baz=294,slow=10.0,SNR=5.1							
SFJD	**Kangerlussuaq**	**49.48**	**28**	P		**P**	**00 05 49.8**	**+0.5**
SCHQ	**Schefferville**	**52.01**	**47**	P		**P**	**00 06 08.1**	**-0.3**
	comp=Z,4.4nm,0.9s,mb4.4,baz=336,slow=4.9,SNR=4.2							
SCHQ				LR		LR	00 28 06.4	
	comp=Z,61nm,20.4s,MS3.6,baz=269,slow=36							
ULN	**Ulaanbaatar**	**52.89**	**302**⇓	*e*P		**P**	**00 06 14.9**	**0.0**
ULN	**Ulaanbaatar**	**52.89**	**302**	*e*P		**P**	**00 06 15.3**	**+0.4**
	comp=Z,5.2nm,0.9s,mb4.5							
ARCES	**ARCESS Array B**	**56.63**	**356**	P		**P**	**00 06 39.6**	**-2.3**
	comp=Z,6.0nm,0.9s,mb4.6,baz=19,slow=7.6,SNR=7.4							
ARCES				LR		LR	00 32 47.5	
	comp=Z,70nm,18.6s,MS3.8,baz=238,slow=38							
SSE	**Sheshan**	**56.84**	**278**	P		**P**	**00 06 36.4**	**-7.1**
SSE				AMB		AMB		
	comp=Z,26nm,0.7s,mb5.4							
SSE				AMB		AMB		
	comp=Z,223nm,12.0s							
NJ2	**Nanjing**	**57.50**	**281**	*e*P		**P**	**00 06 46.3**	**-1.8**
NJ2				AP		pP	00 06 57.1	-3.2
NJ2				XP		sP	00 07 02.5	-2.7
NJ2				PP		PP	00 08 55.6	-0.4
NJ2				S		**S**	**00 14 42.0**	**-0.6**
NJ2				AMB		AMB		
	comp=Z,20nm,0.9s,mb5.2							
NJ2				AMB		AMB		
	comp=Z,30nm,6.8s							
NJ2				LR		LR		
	comp=N,200nm,17.4s							
NJ2				LR		LR		
	comp=E,240nm,25.5s							
NJ2				LR		LR		
	comp=Z,180nm,16.6s,MS4.3							
JOF	**Joensuu**	**62.85**	**352**	*e*p		**P**	**00 07 23.8**	**-1.0**
LZH	**Lanzhou**	**62.96**	**295**	*e*P		**P**	**00 07 24.5**	**-1.0**
LZH				AP		pP	00 07 32.6	-5.2
LZH				XP		sP	00 07 36.5	-6.1
LZH				AMB		AMB		
	comp=Z,18nm,1.0s,mb5.2							
KURK	**Kurchatov**	**63.28**	**321***c*	*i*P		**P**	**00 07 27.1**	**-0.5**
CHKZ	**Chkalovo**	**63.61**	**327**	*e*P		**P**	**00 07 29.4**	**-0.3**
CHKZ				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.6							
CHKZ	**Chkalovo**	**63.61**	**327**	*e*P		**P**	**00 07 29.4**	**-0.3**
	comp=Z,6.1nm,0.9s,mb4.6							
KAF	**Kangasniemi**	**63.99**	**355**	*e*p		**P**	**00 07 30.8**	**-1.5**
	comp=Z,3.3nm,0.5s,mb4.6							
KAF	**Kangasniemi**	**63.99**	**355**	*e*P		**P**	**00 07 30.8**	**-1.5**
KAF				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.6							
ARU	**Arti**	**64.61**	**335**⇓	*i*P		**P**	**00 07 36.0**	**-0.3**
ARU				*e*			00 08 07.7	
ARU				*e*			00 10 00.1	
ARU				*e*PPP			00 11 27.8	
ARU				*e*S		**S**	**00 16 17.2**	**+4.2**
ARU				*e*SS		SS	00 20 28.0	+3.9
ARU				pmax	pmax			
	comp=Z,16nm,0.8s,mb5.1							
FINES	**FINESS Array B**	**64.67**	**355**	P		**P**	**00 07 35.8**	**-0.9**
	comp=Z,4.8nm,0.9s,mb4.5,baz=52,slow=7.5,SNR=12							
FINES				LR		LR	00 35 06.7	
	comp=Z,46nm,18.9s,MS3.7,baz=20,slow=35							
ZRNK	**Zerenda**	**64.73**	**328**	*e*P		**P**	**00 07 36.7**	**-0.4**
ZRNK				pmax	pmax			
	comp=Z,17nm,0.9s,mb5.1							
ZRNK	**Zerenda**	**64.73**	**328**	*e*P		**P**	**00 07 36.7**	**-0.5**
	comp=Z,17nm,0.9s,mb5.1							
MKAR	**Makanchi Array**	**65.01**	**316**	P		**P**	**00 07 38.1**	**-0.8**
	comp=Z,2.2nm,0.8s,mb4.2,baz=50,slow=5.9,SNR=14							
NB2	**NORSAR Subarra**	**65.29**	**3**	P		**P**	**00 07 39.8**	**-0.9**
	comp=Z,6.7nm,0.9s,mb4.7,baz=358,slow=6.5							
NOA	**NORSAR Array B**	**65.29**	**3**	P		**P**	**00 07 40.3**	**-0.5**
	comp=Z,5.1nm,0.9s,mb4.6,baz=357,slow=6.5,SNR=14							
NOA				LR		LR	00 32 29.7	
	comp=Z,37nm,20.6s,MS3.6,baz=250,slow=33							
TAOE	**Nuku Hiva Isla**	**65.73**	**154**	*e*LR		LR	00 27 02.1	
	comp=Z,409nm,26.1s							
HFS	**Hagfors**	**66.25**	**1**	P		**P**	**00 07 45.9**	**-1.0**
	comp=Z,7.1nm,0.7s,mb4.8,baz=17,slow=3.4,SNR=18							
CD2	**Chengdu**	**66.92**	**291**	P		**P**	**00 07 51.6**	**+0.4**
CD2				AMB		AMB		
	comp=Z,20nm,0.5s,mb5.4							
ORR	**Orenburg**	**69.93**	**335**⇓	*i*P		**P**	**00 08 10.1**	**+0.1**
ORR				pmax	pmax			
	comp=Z,30nm,1.4s,mb5.0							
OBN	**Obninsk**	**69.99**	**348**	*e*P		**P**	**00 08 08.8**	**-1.6**
OBN				*e*			00 08 27.8	
OBN				pmax	pmax			
	comp=Z,10.0nm,1.0s,mb4.7							
AKTK	**Aktyubinsk**	**70.17**	**333**	P		**P**	**00 08 11.9**	**+0.4**
AKTO	**Aktyubinsk**	**70.17**	**333**	P		**P**	**00 08 11.9**	**+0.4**
	comp=Z,25nm,0.8s,mb5.2,baz=35,slow=6.0,SNR=75							
TKM2	**Tokmak 2**	**70.89**	**318**	P		**P**	**00 08 16.4**	**+0.6**
	SNR=5.6							
USP	**Ospenovka**	**71.03**	**319**	P		**P**	**00 08 17.3**	**+0.5**
	SNR=14							
CHMS	**Chumysh**	**71.16**	**319**	P		**P**	**00 08 17.6**	**+0.1**
	SNR=6.3							
ULHL	**Ulahol**	**71.20**	**317**	P		**P**	**00 08 18.6**	**+0.9**
	SNR=11							
FRU	**Bishkek**	**71.35**	**319**	*e*P		**P**	**00 08 19.0**	**+0.3**
KBK	**Karagaybulak**	**71.37**	**318**	P		**P**	**00 08 19.6**	**+0.8**
	SNR=9.9							
AAK	**Ala-Archa**	**71.57**	**318**	P		**P**	**00 08 20.7**	**+0.7**
	SNR=9.9							
AAK	**Ala-Archa**	**71.57**	**318***c*	*i*P		**P**	**00 08 19.7**	**-0.3**
AAK				pmax	pmax			
	comp=Z,10.0nm,0.6s,mb4.9							
KZA	**Kyzart**	**71.74**	**318**	P		**P**	**00 08 22.1**	**+1.1**
	SNR=5.5							
EKS2	**Erkin-Say**	**71.83**	**319**	P		**P**	**00 08 22.4**	**+0.8**
	SNR=21							
UCH	**Uchtor**	**71.91**	**318**	P		**P**	**00 08 23.4**	**+1.4**
	SNR=7.7							
KMI	**Kunming**	**71.96**	**288**	P		**P**	**00 08 18.0**	**-4.3**
KMI				AMB		AMB		
	comp=Z,7.0nm,1.1s,mb4.5							
PPT	**Papeete**	**72.30**	**166**	*e*LR		LR	00 30 06.4	
	comp=Z,161nm,22.0s							
PPT	**Papeete**	**72.30**	**166**	LR		LR	00 35 31.1	
	comp=Z,294nm,18.7s,MS4.6,baz=337,slow=32							
AML	**Almayashu**	**72.31**	**319**	P		**P**	**00 08 25.8**	**+1.4**
	SNR=21							
LSA	**Lhasa**	**74.61**	**299**	*e*P		**P**	**00 08 39.4**	**+1.5**
LSA				pmax	pmax			
	comp=Z,17nm,0.8s,mb5.0							
LSA	**Lhasa**	**74.61**	**299**	*e*P		**P**	**00 08 39.4**	**+1.5**
	comp=Z,17nm,0.8s,mb5.0							
AKASG	**Malin Array Be**	**75.13**	**351**	P		**P**	**00 08 39.8**	**-1.1**
	comp=Z,4.2nm,0.6s,mb4.5,baz=8.0,slow=5.7,SNR=21							
PMG	**Port Moresby**	**75.38**	**230**	P		**P**	**00 08 42.4**	**0.0**
BAIF	**Baives**	**75.88**	**8**	*e*P		**P**	**00 08 44.0**	**-1.2**
FLN	**La Foliniere**	**76.71**	**11**	*e*P		**P**	**00 08 48.9**	**-1.0**
	comp=Z,52nm,1.1s,mb5.1							
FLN	**La Foliniere**	**76.71**	**11**	*e*P		**P**	**00 08 48.9**	**-1.0**
FLN				pmax	pmax			
	comp=Z,26nm,1.1s,mb5.1							
FLN	**La Foliniere**	**76.71**	**11**	*e*P		**P**	**00 08 48.9**	**-1.0**
	comp=Z,26nm,1.1s,mb5.1							
ROSF	**Rostrenen**	**76.78**	**13**	*e*P		**P**	**00 08 49.8**	**-0.5**
	comp=Z,219nm,1.6s,mb5.5							
ROSF	**Rostrenen**	**76.78**	**13**	*e*P		**P**	**00 08 49.8**	**-0.5**
ROSF				pmax	pmax			
	comp=Z,110nm,1.6s,mb5.5							
ROSF	**Rostrenen**	**76.78**	**13**	*e*P		**P**	**00 08 49.8**	**-0.5**
	comp=Z,110nm,1.6s,mb5.5							
LDF	**La Druitiere**	**76.91**	**11**	*e*P		**P**	**00 08 50.2**	**-0.9**
	comp=Z,40nm,1.2s,mb4.9							
LDF	**La Druitiere**	**76.91**	**11**	*e*P		**P**	**00 08 50.2**	**-0.9**
LDF				pmax	pmax			
	comp=Z,20nm,1.2s,mb4.9							
LDF	**La Druitiere**	**76.91**	**11**	*e*P		**P**	**00 08 50.2**	**-0.9**
	comp=Z,20nm,1.2s,mb4.9							
KHC	**Kasperske Hory**	**77.27**	**2**⇑	*e*P		**P**	**00 08 53.3**	**+0.2**
TBI	**Tubuai**	**78.00**	**166**	*e*LR		LR	00 32 44.9	
	comp=Z,138nm,29.0s							
LOR	**Lormes**	**78.62**	**8**	*e*P		**P**	**00 08 59.6**	**-1.0**
	comp=Z,24nm,1.1s,mb4.7							
LOR	**Lormes**	**78.62**	**8**	*e*P		**P**	**00 08 59.6**	**-1.0**
LOR				pmax	pmax			
	comp=Z,12nm,1.1s,mb4.7							
LOR	**Lormes**	**78.62**	**8**	*e*P		**P**	**00 08 59.6**	**-1.0**
	comp=Z,12nm,1.1s,mb4.7							
GUN	**Gumba**	**78.74**	**302**	*e*P		**P**	**00 09 01.8**	**+0.6**
	comp=Z,42nm,0.8s,mb5.4							
JIRN	**Jiri**	**78.79**	**302**	*e*P		**P**	**00 09 02.4**	**+0.9**
	comp=Z,51nm,0.7s,mb5.6							
SSF	**Saint Saulge**	**78.80**	**9**	*e*P		**P**	**00 09 00.4**	**-1.2**
	comp=Z,24nm,1.1s,mb4.7							
SSF	**Saint Saulge**	**78.80**	**9**	*e*P		**P**	**00 09 00.4**	**-1.2**
SSF				pmax	pmax			
	comp=Z,12nm,1.1s,mb4.7							
SSF	**Saint Saulge**	**78.80**	**9**	*e*P		**P**	**00 09 00.4**	**-1.2**
	comp=Z,12nm,1.1s,mb4.7							
MFF	**Saint Martin d**	**78.88**	**11**	*e*P		**P**	**00 09 01.4**	**-0.6**
	comp=Z,102nm,1.6s,mb5.2							
MFF	**Saint Martin d**	**78.88**	**11**	*e*P		**P**	**00 09 01.4**	**-0.6**
MFF				pmax	pmax			
	comp=Z,51nm,1.5s,mb5.2							
MFF	**Saint Martin d**	**78.88**	**11**	*e*P		**P**	**00 09 01.4**	**-0.6**
	comp=Z,51nm,1.5s,mb5.2							
AVF	**Avril sur Loir**	**79.05**	**9**	*e*P		**P**	**00 09 01.8**	**-1.2**
KKN	**Kakani**	**79.14**	**302**	*e*P		**P**	**00 09 03.6**	**+0.2**
	comp=Z,30nm,1.0s,mb5.2							
KKN	**Kakani**	**79.14**	**302**	*e*P		**P**	**00 09 03.6**	**+0.2**
KKN				pmax	pmax			
	comp=Z,30nm,1.0s,mb5.2							
SMF	**Signal de Mont**	**79.24**	**9**	*e*P		**P**	**00 09 02.9**	**-1.1**
	comp=Z,29nm,1.1s,mb4.8							
SMF	**Signal de Mont**	**79.24**	**9**	*e*P		**P**	**00 09 02.9**	**-1.1**
SMF				pmax	pmax			
	comp=Z,14nm,1.1s,mb4.8							
SMF	**Signal de Mont**	**79.24**	**9**	*e*P		**P**	**00 09 02.9**	**-1.1**
	comp=Z,14nm,1.1s,mb4.8							
PKI	**Pulchoki**	**79.25**	**302**	*e*P		**P**	**00 09 04.2**	**+0.1**
	comp=Z,48nm,1.1s,mb5.4							
PKI	**Pulchoki**	**79.25**	**302**	*e*P		**P**	**00 09 04.2**	**+0.1**
PKI				pmax	pmax			
	comp=Z,48nm,1.1s,mb5.3							
GKN	**Gorkha**	**79.28**	**303**	*e*P		**P**	**00 09 04.5**	**+0.3**
	comp=Z,56nm,1.0s,mb5.5							
DMN	**Daman**	**79.37**	**303**	*e*P		**P**	**00 09 05.1**	**+0.4**
	comp=Z,24nm,0.7s,mb5.2							
TCF	**Toulx Ste Croi**	**79.44**	**10**	*e*P		**P**	**00 09 04.2**	**-0.9**
	comp=Z,31nm,1.3s,mb4.8							
TCF	**Toulx Ste Croi**	**79.44**	**10**	*e*P		**P**	**00 09 04.2**	**-0.9**
TCF				pmax	pmax			
	comp=Z,16nm,1.3s,mb4.8							
TCF	**Toulx Ste Croi**	**79.44**	**10**	*e*P		**P**	**00 09 04.2**	**-0.9**
	comp=Z,16nm,1.3s,mb4.8							
KIV	**Kislovodsk**	**79.84**	**341***d*	*i*P		**P**	**00 09 08.3**	**+1.1**
KIV				pmax	pmax			
	comp=Z,19nm,1.4s,mb4.8							
KOLN	**Koldanda**	**79.99**	**304**	*e*P		**P**	**00 09 08.3**	**+0.3**
	comp=Z,35nm,0.9s,mb5.3							
RJF	**Les Rejaudoux**	**80.34**	**10**	*e*P		**P**	**00 09 09.4**	**-0.6**
LPL	**La Plagne**	**80.59**	**7**	*e*P		**P**	**00 09 10.5**	**-0.8**
LPG	**La Plagne**	**80.61**	**7**	*e*P		**P**	**00 09 10.9**	**-0.5**
	comp=Z,17nm,1.2s,mb4.5							
LPG	**La Plagne**	**80.61**	**7**	*e*P		**P**	**00 09 10.9**	**-0.5**
LPG				pmax	pmax			
	comp=Z,8.0nm,1.2s,mb4.5							
LPG	**La Plagne**	**80.61**	**7**	*e*P		**P**	**00 09 10.9**	**-0.5**
	comp=Z,8.4nm,1.2s,mb4.5							
LFF	**La Frestale**	**80.62**	**11**	*e*P		**P**	**00 09 10.7**	**-0.7**
RKT	**Rikitea**	**80.73**	**153**	*e*LR		LR	00 33 58.8	
	comp=Z,158nm,31.2s							
ZEI	**Tsey**	**80.73**	**340**	*e*P		**P**	**00 09 13.3**	**+1.2**
ZEI				pmax	pmax			
	comp=Z,11nm,0.9s,mb4.8							
CAF	**Calviac**	**80.77**	**10**	*e*P		**P**	**00 09 11.6**	**-0.7**
VIVF	**Saint-Julien-l**	**81.09**	**8**	*e*P		**P**	**00 09 13.2**	**-0.7**
MBDF	**Montbardon**	**81.37**	**7**	*e*P		**P**	**00 09 14.9**	**-0.6**
LASF	**Ste Croix**	**81.79**	**9**	*e*P		**P**	**00 09 16.6**	**-1.1**
SMRF	**Simiane la Rot**	**82.03**	**8**	*e*P		**P**	**00 09 17.9**	**-1.0**
	comp=Z,40nm,1.3s,mb4.9							
SMRF	**Simiane la Rot**	**82.03**	**8**	*e*P		**P**	**00 09 17.9**	**-1.0**
	comp=Z,40nm,1.3s,mb5.2							
SBF	**Sospel**	**82.28**	**6**	*e*P		**P**	**00 09 19.1**	**-1.1**
	comp=Z,30nm,1.0s,mb4.9							
SBF	**Sospel**	**82.28**	**6**	*e*P		**P**	**00 09 19.1**	**-1.1**
SBF				pmax	pmax			
	comp=Z,15nm,1.0s,mb4.9							
SBF	**Sospel**	**82.28**	**6**	*e*P		**P**	**00 09 19.1**	**-1.1**
	comp=Z,15nm,1.0s,mb4.9							
FRF	**La Foret Royal**	**82.53**	**7**	*e*P		**P**	**00 09 20.6**	**-0.9**
GNI	**Garni**	**83.07**	**338**	P		**P**	**00 09 26.2**	**+1.8**
	comp=Z,6.7nm,0.8s,mb4.8,baz=46,slow=3.5,SNR=8.0							
GNI	**Garni**	**83.07**	**338**⇓	*e*P		**P**	**00 09 26.5**	**+2.2**
GNI				pmax	pmax			
	comp=Z,12nm,0.9s							
GRSN	**GIRESUNGRSN**	**83.58**	**343**	*i* P		**P**	**00 09 27.5**	**+0.5**
BOYT	**Boyabat**	**83.62**	**346**	*i* P		**P**

	1.3nm,0.5s								
PLCA	**Paso Flores**	**17.07**	**190**	P		**Pn**	**00 06 06.1**	**-1.1**
	0.1nm,0.3s,baz=27,slow=9.3,SNR=3.3								
PLCA	**Paso Flores**	**17.07**	**190**	*eP*		**Pn**	**00 06 05.1**	**-2.1**
	1.7nm,0.9s								
BDFB	**Brasilia**	**19.39**	**68**	P		**P**	**00 06 31.3**	**+0.3**
	0.3nm,0.3s,baz=245,slow=12,SNR=5.4								
OTAV	**Otavalo**	**26.60**	**333**	*eP*		**P**	**00 07 39.8**	**-0.3**
	1.0nm,0.5s,mb3.7								
PAYG	**Puerto Ayora**	**32.52**	**312**	P		**P**	**00 08 32.2**	**-0.1**
SDV	**Santo Domingo**	**32.84**	**353**	*eP*		**P**	**00 08 35.4**	**+0.4**
RCBR	**Riachuelo**	**34.63**	**64**	P		**P**	**00 08 51.6**	**+1.0**
TORD	**Torodi Ar. Bea**	**76.27**	**69**	P		**P**	**00 13 46.6**	**-0.4**
	0.5nm,0.7s,mb3.3,baz=255,slow=6.0,SNR=13								

*IDC **23** 00:07:48.8±1.6,249N×12587E,h0km,mb4.1/5,mb1 4.3/5, mb1mx4.0/17,mbtmp4.1/5,Error ellipse: s-maj=107.0km s-min=21.7km az=67.0*
*NEIC **23** 00:07:54.6±0.8,229N×12583E,h35km,mb4.2/3,Error ellipse: s-maj=25.9km s-min=13.5km az=83.0*
*ISCJB **23** 00:08:06.5±6.2,23N±02×1258E±02,h180km±60km, mb4.2/5,Error ellipse: s-maj=35.6km s-min=29.0km az=105.0*

ISC 23 00:08:06.7±6.1,22N±02×1258E±02,h159km±60km,n13, σ0§86/13,mb4.2/5,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**16.25**	**156**	*eP*	**Pn**	**00 11 46.5**	**+0.6**
	10nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.21**	**180**	*eP*	**P**	**00 12 27.5**	**-1.6**
	4.8nm,0.4s						
FITZ	**Fitzroy Crossi**	**20.21**	**180**	P	**P**	**00 12 27.7**	**-1.4**
	3.9nm,0.6s,baz=7.7,slow=10.0,SNR=31						
WRA	**Warramunga Arr**	**23.58**	**160**	P	**P**	**00 13 04.4**	**+1.6**
	3.8nm,0.5s,mb4.2,baz=338,slow=9.9,SNR=11						
WB2	**Warramunga Arr**	**22.59**	**160**	*eP*	**P**	**00 13 02.7**	**-0.1**
MBWA	**Marble Bar**	**24.00**	**194**	P	**P**	**00 13 06.1**	**-0.4**
ASAR	**Alice Springs**	**26.93**	**163**	P	**P**	**00 13 34.0**	**+1.0**
	2.4nm,0.5s,mb4.1,baz=338,slow=6.7,SNR=35						
CTAO	**Charters Tower**	**29.92**	**139**	P	**P**	**00 13 59.2**	**-0.3**
HNR	**Honiara**	**35.95**	**109**	*eP*	**P**	**00 14 50.8**	**-1.0**
	12nm,0.3s,mb5.0						
STKA	**Stephens Creek**	**37.09**	**157**	*eP*	**P**	**00 15 01.2**	**-0.3**
	3.2nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**37.09**	**157**	P	**P**	**00 15 01.5**	**0.0**
	4.3nm,0.5s,mb4.4,baz=337,slow=9.0,SNR=13						
MKAR	**Makanchi Array**	**58.25**	**326**	P	**P**	**00 17 44.7**	**+0.3**
	0.3nm,0.3s,mb3.6,baz=121,slow=7.5,SNR=6.7						
MKAR	**Makanchi Array**	**58.25**	**326**	P	**P**	**00 17 44.7**	**+0.3**

*KRSC **23** 00:10:53.6±0.5,5228N×15356E,h570km±10km,ML4.6*
*MOS **23** 00:10:57.9±1.4,5298N×15306E,h494km,mb4.6/1,Error ellipse: s-maj=30.2km s-min=17.9km az=55.1*
*ISCJB **23** 00:10:60.0±0.7,525N±01×1541E±03,h516km±11km, mb3.2/5,Error ellipse: s-maj=33.7km s-min=13.2km az=65.7*
*IDC **23** 00:11:04.1±10.0,5280N×15311E,h569km±194km, mb2.7/5,mb1 3.0/6,mb1mx2.7/20,mbtmp3.7/6,Error ellipse: s-maj=76.0km s-min=19.4km az=151.0*

ISC 23 00:11:01.1±0.8,524N±01×1544E±03,h517km±10km,n44, σ0§75/53,mb3.2/5,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**1.47**	**95**	*eP*	**P**	**00 12 05.0**	**-0.5**
APC	**Apacha**	**1.77**	**72**	*eP*	**P**	**00 12 05.9**	**-0.8**
PAU	**Pauzhetka**	**1.79**	**121**	P	**P**	**00 12 07.0**	**+0.3**
GRL	**Gorelyy**	**2.27**	**85**	*eP*	**P**	**00 12 10.1**	**+1.1**
GNL	**Ganaly**	**2.51**	**58**	*i* P	**P**	**00 12 09.7**	**-0.7**
RUS	**Russkaya**	**2.54**	**88**	P	**P**	**00 12 11.0**	**+0.5**
RUS				*eS*	**S**	**00 13 05.7**	**-1.4**
RUS	**Russkaya**	**2.54**	**88**	*i* P	**P**	**00 12 11.0**	**+0.5**
RUS				*i* S	**S**	**00 13 07.6**	**+0.5**
PET	**Petropavlovsk**	**2.68**	**75**	*eP*	**P**	**00 12 12.3**	**+1.0**
KOK	**Koryaka**	**2.73**	**70**	*i* P	**P**	**00 12 13.0**	**+1.3**
AVH	**Avacha**	**2.78**	**71**	*i* P	**P**	**00 12 12.6**	**+0.6**
AVH				*eS*	**S**	**00 13 10.3**	**+0.5**
UGLR	**Uglovaya**	**2.82**	**72**	*eP*	**P**	**00 12 12.7**	**+0.5**
SMAR	**Somma**	**2.82**	**71**	*eP*	**P**	**00 12 12.6**	**+0.4**
SDLR	**Sedlovina**	**2.87**	**71**	*i* P	**P**	**00 12 12.9**	**+0.4**
NLC	**Nalytchevo**	**3.12**	**74**	*eS*	**S**	**00 13 13.3**	**-0.4**
KII	**Karymskiy**	**3.46**	**60**	*i* P	**P**	**00 12 17.3**	**+0.8**
KII				*eS*	**S**	**00 13 17.9**	**-0.1**
SPN	**Mys Shipunski**	**3.50**	**77**	P	**P**	**00 12 16.2**	**-0.6**
SPN				S	**S**	**00 13 15.9**	**-2.7**
SPN	**Mys Shipunski**	**3.50**	**77**	*i* P	**P**	**00 12 16.5**	**-0.3**
SPN				*eS*	**S**	**00 13 17.6**	**-1.0**
ESO	**Esso**	**4.34**	**34**	*i* P	**P**	**00 12 22.0**	**-1.3**
TUMR	**Tumrok**	**4.47**	**48**	*eP*	**P**	**00 12 25.0**	**+0.6**
KMNR	**Kamenistaya**	**4.81**	**44**	*i* P	**P**	**00 12 27.5**	**+0.2**
KOZ	**Kozyrevsk**	**4.87**	**39**	P	**P**	**00 12 28.0**	**+0.2**
KOZ	**Kozyrevsk**	**4.87**	**39**	*i* P	**P**	**00 12 28.1**	**+0.3**
KOZR	**Kozyr**	**4.89**	**39**	PN	**P**	**00 12 28.0**	**+0.1**
MKZ	**Mys Kozlova**	**4.89**	**61**	P	**P**	**00 12 28.6**	**+0.6**
MKZ				S	**S**	**00 13 35.3**	**-3.7**
MKZ	**Mys Kozlova**	**4.89**	**61**	*eP*	**P**	**00 12 28.6**	**+0.6**
MKZ				*eS*	**S**	**00 13 37.5**	**-1.5**
KPT	**Kopyto**	**4.95**	**42**	*i* P	**P**	**00 12 28.1**	**-0.4**
SRDR	**Sredinnyy**	**5.00**	**37**	*i* P	**P**	**00 12 28.3**	**-0.7**
LGNR	**Loginova**	**5.22**	**43**	*eP*	**P**	**00 12 31.2**	**+0.3**
ZLN	**Zelenaya**	**5.22**	**44**	*eP*	**P**	**00 12 31.5**	**+0.6**
KRSR	**Krestovskiy**	**5.26**	**41**	*i* P	**P**	**00 12 30.7**	**-0.5**
CIRR	**Tsirk**	**5.26**	**43**	*eP*	**P**	**00 12 31.3**	**0.0**
BDR	**Baidarnaya**	**5.76**	**41**	*eP*	**P**	**00 12 36.5**	**+0.7**
SRKR	**Sorokina**	**5.80**	**40**	*eP*	**P**	**00 12 36.2**	**0.0**
SMKR	**Semkarok**	**5.87**	**42**	*i* P	**P**	**00 12 36.9**	**0.0**
KBTR	**Krutoberegovo**	**6.23**	**49**	P	**P**	**00 12 38.7**	**-1.6**
KBTR				S	**S**	**00 13 51.4**	**-10**
KBTR	**Krutoberegovo**	**6.23**	**49**	*eP*	**P**	**00 12 38.5**	**-1.8**
MJAR	**Matsushiro Arr**	**19.54**	**222**	P	**P**	**00 14 53.2**	**-1.3**
	0.9nm,0.3s,baz=16,slow=10,SNR=9.9						
MJAR	**Matsushiro Arr**	**19.54**	**222**	P	**P**	**00 14 53.2**	**-1.3**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**19.54**	**222**	P	**P**	**00 14 53.2**	**-1.4**
INK	**Imuvik**	**36.51**	**36**	P	**P**	**00 17 22.4**	**+0.2**
	comp=Z,0.4nm,0.3s,mb3.4,baz=306,slow=8.7,SNR=5.4						
MKAR	**Makanchi Array**	**45.26**	**293**	P	**P**	**00 18 24.7**	**-7.2**
	comp=Z,0.3nm,0.5s,mb3.1,baz=63,slow=8.1,SNR=4.1						
YKA	**Yellowknife Ar**	**45.97**	**40**	P	**P**	**00 18 37.8**	**+0.5**
	comp=Z,0.3nm,0.5s,mb3.1,baz=306,slow=7.1,SNR=6.1						
FINES	**FINESS Array B**	**59.28**	**334**	P	**P**	**00 20 06.1**	**-6.4**
	comp=Z,0.6nm,0.4s,mb3.2,baz=33,slow=7.4,SNR=13						
NOA	**NORSAR Array B**	**63.13**	**341**	P	**P**	**00 20 32.8**	**-5.1**
	comp=Z,0.8nm,0.8s,mb3.2,baz=38,slow=8.0,SNR=3.4						

*ISCJB **23** 00:55:45.6±0.6,4663N±003×1027E±004,h11km±5km, Error ellipse: s-maj=5.6km s-min=4.1km az=174.9*
*ROM **23** 00:55:45.9±0.6,4659N×1020E,h7km±5km,Md2.2/3, Ml2.0/5,Error ellipse: s-maj=9.4km s-min=1.9km az=147.0*
*ZUR **23** 00:55:46.2,4662N×1022E,h4km±1km,ML2.1/4*
*VIE **23** 00:55:46.2±0.4,4665N×1024E,h8km,mb1.3/1,ML2.2/3, Error ellipse: s-maj=3.0km s-min=1.1km az=176.0 22 km NNW of Bormio*

ISC 23 00:55:46.4±0.6,4663N±003×1025E±003,h8km±7km,n16, σ0§54/23,7C-2D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUORN	**Ofenpass**	**0.01**	**125**	*i* Pg	**Pg**	**00 55 47.8**	**0.0**
	3µm,0.1s						
FUORN				*i* Sg	**Sg**	**00 55 48.5**	**-0.3**
	3µm,0.1s						
BRMO	**Bormio**	**0.17**	**151**	Pg	**Pg**	**00 55 49.9**	**-0.1**
BRMO				Sg	**Sg**	**00 55 52.8**	**+0.4**
	138nm,0.1s						
BERNI	**Berninapass**	**0.27**	**217**	*i* Sg	**Pg**	**00 55 51.5**	**-0.1**
	567nm,0.1s						
BERNI	**Berninapass**	**0.27**	**217**	*i* Pg	**Pg**	**00 55 52.0**	**+0.4**
DAVOX	**Davos**	**0.30**	**301**	*eS*	**Sg**	**00 55 56.1**	**-0.2**
	723nm,0.3s						
DAVOX	**Davos**	**0.30**	**301**	*i* Pg	**Sg**	**00 55 56.8**	**+0.5**
	723nm,0.3s						
VDL	**Val di Lei**	**0.56**	**256**	*eP*	**Pg**	**00 56 00.0**	**+2.9**
	147nm,0.2s						
TUE	**Stuetta**	**0.64**	**256**	Pg	**Pg**	**00 55 58.1**	**-0.7**
TUE				Sg	**Sg**	**00 56 06.9**	**-0.3**
	29nm,0.3s						
APPI	**Appiano**	**0.69**	**102**	Pg	**Pg**	**00 55 59.8**	**+0.1**
	104nm,0.1s						
DAVA	**Damuels**	**0.71**	**339**	*i* Pg	**Pg**	**00 55 59.9**	**-0.1**
DAVA				*i* Sg	**Sg**	**00 56 09.6**	**+0.3**
	17nm,0.3s						
PLONS	**Plons**	**0.73**	**306**	*eS*	**Pg**	**00 56 00.0**	**-0.5**
PLONS	**Plons**	**0.73**	**306**	*eP*	**Sg**	**00 56 09.7**	**-0.3**
SQTA	**Sankt Quirin**	**0.89**	**47**	*i* Pg	**Pg**	**00 56 03.2**	**-0.2**
SQTA				*i* Sg	**Sg**	**00 56 15.3**	**+0.3**
	11nm,0.3s						
MOTA	**Moosalm**	**0.93**	**39**	*i* Pg	**Pg**	**00 56 03.9**	**-0.3**
MOTA				*i* Sg	**Sg**	**00 56 16.6**	**+0.4**
	3.2nm,0.2s						
CTI	**Castel Tesino**	**1.13**	**120**	Pg	**Pg**	**00 56 07.8**	**-0.2**
	25nm,0.2s						
SEST	**Monte Rosa**	**1.36**	**84**	Pg	**Pg**	**00 56 12.1**	**-0.3**
SEST				Sg	**Sg**	**00 56 29.9**	**-0.2**
	122nm,1.7s						

IDC 23 01:52:50.1±1.8,369N×12217E,h0km,mb3.6/3,mb1 3.8/3, mb1mx3.6/17,mbtmp3.6/3,Error ellipse: s-maj=218.4km s-min=26.9km az=62.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.35**	**153**	P	P	01 58 28.4	+0.6
	0.6nm,0.4s,baz=332,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**29.49**	**158**	P	P	01 58 56.1	+0.2
	0.7nm,0.7s,baz=340,slow=11,SNR=9.0						
MKAR	**Makanchi Array**	**55.07**	**327**	P	P	02 02 23.7	0.0
	1.0nm,0.8s,baz=120,slow=8.5,SNR=5.6						

MAN 23 01:53:22.9,1101N×12610E,h1km,mb2.7,ML4.2,MS1.3, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.11**	**278**	*eP*	Pg	01 53 44.2	0.0
PLP				*eS*	Sg	01 54 01.9	+3.2
SCPH	**Surigao**	**1.36**	**206**	*i* P	Pg	01 53 48.3	-0.6
SCPH				*eS*	Sg	01 54 07.9	+1.4

*NEIC **23** 01:55:39.1,16.11N×9572W,h47km,MD4.0(MEX),After MEX.*

MEX 23 01:55:38.9±0.7,1609N×9573W,h54km±14km,MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.48**	**229**	*i* P	Pn	01 55 48.5	-1.6
HUIG				*i* S	Sn	01 55 56.8	-1.4
OXX	**Oaxaca**	**1.37**	**316**	*eP*	Pn	01 56 00.0	-1.7
OXX				*i* S	Sn	01 56 17.5	-1.3
VHO	**Vista Hermosa**	**1.37**	**316**	*i* P	Pn	01 56 00.6	-1.1
VHO				*i* S	Sn	01 56 17.1	-1.7
VHO	**Vista Hermosa**	**1.37**	**316**	*i* P	Pn	01 56 00.4	-1.3
VHO				*i* S	Sn	01 56 16.7	-2.1
PNIG	**Pinotepa**	**2.32**	**278**	*eP*	Pn	01 56 13.2	-1.4
PNIG				*i* S	Sn	01 56 38.8	-3.2
PNIG	**Pinotepa**	**2.32**	**278**	*eP*	Pn	01 56 13.2	-1.4
PNIG				*i* S	Sn	01 56 40.6	-1.3
EVV	**El Vigia**	**2.39**	**9**	*i* S	Sn	01 56 40.0	-3.6
UTMO	**Huajuapan**	**2.63**	**311**	*i* P	Pn	01 56 19.8	+0.9
UTMO				*i* S	Sn	01 56 50.1	+0.4
CCIG	**Comitan**	**3.46**	**86**	*i* P	Pn	01 56 30.5	+0.3
CCIG				*i* S	Sn	01 57 09.6	-0.4
ACX	**Acapulco**	**4.09**	**282**	*eP*	Pn	01 56 41.0	+2.1
MEIG	**Mezcala**	**4.15**	**297**	*i* S	Sn	01 57 26.0	-0.8
CAIG	**El Cayaco**	**4.45**	**283**	*eP*	Pn	01 56 43.8	0.0
CAIG				*i* S	Sn	01 57 33.6	-0.8
CAIG	**El Cayaco**	**4.45**	**283**	*eP*	Pn	01 56 43.2	-0.7
CAIG				*i* S	Sn	01 57 31.4	-3.0

MAN 23 02:05:10.7,1720N×12282E,h24km,mb2.4,ML4.0,MS3.4, Luzon

*ISCJB **23** 02:17:05.3±3.1,2080S±006×7168W±0.10,h13km±20km, mb3.9/4,MS3.7/2,Error ellipse: s-maj=16.1km s-min=8.9km az=142.9*
*NEIC **23** 02:17:10.6±0.7,2082S×7163W,h35km,mb3.7/1,Error ellipse: s-maj=16.9km s-min=9.9km az=92.0*
*IDC **23** 02:17:10.5±5.5,2081S×7168W,h33km±42km,mb3.8/4, mb1 3.9/8,mb1mx3.8/15,mbtmp3.9/8,ML4.1/3,MS3.4/3, Ms1 3.3/3,ms1mx2.9/20,Error ellipse: s-maj=34.5km s-min=21.8km az=83.0*

ISC 23 02:17:07.3±3.6,2077S±006×717W±01,h13km±23km,n19, σ1§01/19,mb3.9/4,MS3.7/2,2D,Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**3.16**	**126**	Pn	**Pn**	**02 17 57.2**	**+0.5**
	7.9nm,0.3s,baz=298,slow=10,SNR=15						
LVC				Sn	**Sn**	**02 18 32.9**	**-1.3**
	20nm,0.3s,baz=182,slow=24,SNR=14						
LVC	**Limon Verde**	**3.16**	**126**	*e*Pn	**Pn**	**02 17 56.9**	**+0.2**
LVC				*e*Sn	**Sn**	**02 18 33.8**	**-0.5**
ARE	**Arequipa**	**4.29**	**2**	*i* P	**Pn**	**02 18 11.9**	**-0.3**
LPAZ	**La Paz**	**5.59**	**38**	Pn	**Pn**	**02 18 34.5**	**+4.4**
	1.0nm,0.3s,baz=223,slow=5.3,SNR=27						
LPAZ	**La Paz**	**5.59**	**38**	*e*Pn	**Pn**	**02 18 34.2**	**+4.1**
	2.9nm,0.4s						
SIV	**San Ignacio**	**11.14**	**66**	Pn	**Pn**	**02 19 46.4**	**+0.2**
	0.6nm,0.3s,baz=252,slow=13,SNR=17						
CFAA	**Coronel Fontan**	**11.22**	**165**	Pn	**Pn**	**02 19 48.5**	**+1.2**
	baz=315,slow=7.1						
CFAA				Sn	**Sn**	**02 21 53.8**	**+1.2**
	0.1nm,0.3s,baz=72,slow=20,SNR=25						
SAML	**Samuel**	**14.33**	**36**	P	**Pn**	**02 20 30.3**	**+0.5**
	0.5nm,0.6s						
TRQA	**Tornquist**	**19.16**	**156**	*eP*	**Pn**	**02 21 29.4**	**-1.9**
PLCA	**Paso Flores**	**19.92**	**177**	P	**Pn**	**02 21 39.2**	**-1.1**
	0.0nm,0.3s,baz=319,slow=9.4,SNR=3.7						
PLCA				LR	LR	02 29 21.3	
	comp=Z,31nm,19.2s,baz=183,slow=37						
PLCA	**Paso Flores**	**19.92**	**177**	*eP*	**Pn**	**02 21 39.4**	**-0.9**
	4.6nm,1.2s						
PLCA				LR	LR	02 29 21.3	
BDFB	**Brasilia**	**23.04**	**81**	LR	LR	02 32 42.2	
	comp=Z,48nm,19.9s,MS3.0,baz=110,slow=40						
PDAR	**Pinedale Array**	**72.22**	**332**	P	**P**	**02 28 33.2**	**+1.2**
	0.4nm,0.6s,mb3.5,baz=122,slow=6.8,SNR=2.2						
ULM	**Lac du Bonnet**	**73.88**	**344**	P	**P**	**02 28 40.4**	**-1.4**
	0.4nm,0.4s,mb3.8,baz=180,slow=4.7,SNR=4.4						
ULM	**Lac du Bonnet**	**73.88**	**344**	P	**P**	**02 28 40.4**	**-1.4**
TORD	**Torodi Ar. Bea**	**79.57**	**72**	P	**P**	**02 29 14.8**	**+0.9**
	2.3nm,0.7s,mb4.2,baz=252,slow=5.1,SNR=37						
YKA	**Yellowknife Ar**	**89.66**	**342**	P	**P**	**02 30 04.7**	**-0.2**
	0.7nm,0.7s,mb4.1,baz=138,slow=4.6,SNR=6.8						
AFI	**Afiamalu**	**94.31**	**253**	LR	LR	03 01 45.7	
	comp=Z,126nm,18.1s,MS4.4,baz=43,slow=28						
MKAR	**Makanchi Array**	**146.50**	**33**	PKPbc	PKPbc	02 36 48.9	+0.7
	2.1nm,0.6s,baz=324,slow=3.5,SNR=18						

*ISCJB **23** 02:40:29.5±0.3,2703S±002×7121W±004,h30km, mb4.5/24,MS4.0/8,Error ellipse: s-maj=5.2km s-min=2.9km az=172.7*
*BJI **23** 02:40:30.1,2708S×7086W,h29km,mB5.0,Ms5.0,Msz4.6*
*IDC **23** 02:40:31.1±7.0,2697S×7112W,h23km±44km,mb4.2/8, mb1 4.3/11,mb1mx4.2/15,mbtmp4.3/11,ML4.5/3,MS3.9/10, Ms1 3.9/10,ms1mx3.8/15,Error ellipse: s-maj=28.6km s-min=16.0km az=89.0*
*NEIC **23** 02:40:31.4±0.3,2703S×7109W,mb4.7/15,ML5.0(GUC), Error ellipse: s-maj=10.9km s-min=4.5km az=84.0*
*HRVD **23** 02:40:31.4±0.6,2704S×7172W,h29km±2km,MW4.9/31, Centroid moment Tensor Solution. LP body waves: s11,c12;Mantle waves: s31,c39; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.79±.19; $M_{\theta\theta}$0.04±.10; $M_{\phi\phi}$-1.82±.14; $M_{r\theta}$-0.01±.13; $M_{\theta\phi}$-0.17±.07; $M_{\phi r}$-1.76±.22; Best double couple: M_o2.52700×10^{16} NP1:ϕ_s9.00000°, δ23.00000°,λ96.00000°. NP2:ϕ_s182.00000°,δ67.00000°, λ87.00000°. Principal axes: T 2.5070, Plg68.0000°, Azm87.0000°; N 0.0450, Plg2.0000°, Azm183.0000°; P -2.5460, Plg22.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*GUC **23** 02:40:31.3±1.3,2725S×7111W,h8km±5km,ML5.0*
*MOS **23** 02:40:32.0±1.8,2684S×7114W,h33km,mb4.9/14,Error ellipse: s-maj=17.9km s-min=10.2km az=92.0*

ISC 23 02:40:31.8±0.3,2706S±002×7118W±004,h31km, h31km±.5km:pP-P,n126,σ1§30/111,mb4.5/24,MS4.0/8, 1C-10D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.32**	**93**	*i* P	**Pb**	**02 40 37.8**	**-1.8**
CDCH				*i* S	**Sb**	**02 40 42.0**	**-2.9**
CPCH	**Copiapo**	**0.80**	**112**	*i* P	**Pn**	**02 40 45.2**	**-1.7**
CPCH				*i* S	**Sn**	**02 40 58.2**	**+0.5**
CPCH				AML	AML	02 41 00.5	
	comp=E,76µm,0.1s						
CPCH	**Copiapo**	**0.80**	**112**	*i* P	**Pn**	**02 40 45.2**	**-1.7**
CPCH				S	**Sn**	**02 40 58.2**	**+0.5**
VACH	**Vallenar**	**1.56**	**166**	*eP*	**Pn**	**02 40 58.7**	**+1.3**
VACH				*i* S	**Sn**	**02 41 17.5**	**+1.0**
LCO	**Las Campanas**	**1.99**	**168**	*eP*	**Pn**	**02 41 03.5**	**+0.2**
LCO				*i* S	**Sn**	**02 41 27.0**	**-0.1**
CPN1	**Cerro Paranal**	**2.52**	**16**	*i* P	**Pn**	**02 41 08.0**	**-2.5**
CPN1				AML	AML	02 41 53.2	
	comp=E,13µm,0.5s						
LSCH	**La Serena**	**2.84**	**181**	*eP*	**Pn**	**02 41 13.7**	**-1.3**
LSCH				*i* S	**Sn**	**02 41 46.9**	**-1.2**
LSCH				AML	AML	02 42 09.1	
	comp=E,3µm,0.4s						
LSCH	**La Serena**	**2.84**	**181**	*eP*	**Pn**	**02 41 13.7**	**-1.3**
LSCH				*i* S	**Sn**	**02 41 46.9**	**-1.2**
TLL	**Tololo Astrono**	**3.12**	**174**	*eP*	**Pn**	**02 41 19.8**	**+1.1**
TLL				*i* S	**Sn**	**02 41 56.7**	**+1.9**
TLL				AML	AML	02 42 23.0	
	comp=N,6µm,0.8s						
TLL	**Tololo Astrono**	**3.12**	**174**	*eP*	**Pn**	**02 41 19.8**	**+1.1**
TLL				*i* S	**Sn**	**02 41 56.7**	**+1.9**
ANCH	**Antofagasta**	**3.43**	**12**	*eP*	**Pn**	**02 41 19.6**	**-3.5**
OVCH	**Ovalle**	**3.54**	**180**	*eP*	**Pn**	**02 41 23.0**	**-1.5**
OVCH				*i* S	**Sn**	**02 42 03.4**	**-1.9**
OVCH				AML	AML	02 42 32.1	
	comp=N,4µm,0.6s						
OVCH	**Ovalle**	**3.54**	**180**	*eP*	**Pn**	**02 41 23.0**	**-1.5**
OVCH				*i* S	**Sn**	**02 42 03.4**	**-1.9**
CEN1	**Los Morros**	**3.76**	**14**	*i* P	**Pn**	**02 41 21.0**	**-6.5**
CEN1				*i* S	**Sn**	**02 42 14.9**	**+4.2**
CEN1				AML	AML	02 42 27.8	
	comp=E,2µm,0.5s						
CHNG	**Los Chungos**	**4.82**	**183**	*eP*	**Pn**	**02 41 40.8**	**-1.3**
LVC	**Limon Verde**	**4.88**	**25**	Pn	**Pn**	**02 41 42.2**	**-0.7**
	comp=E,17nm,0.3s,baz=206,slow=9.9,SNR=84						
LVC				Sn	**Sn**	**02 42 33.4**	**-5.0**
	comp=E,54nm,0.3s,baz=299,slow=13,SNR=4.1						
LVC				Lg		02 42 53.3	
	comp=E,46nm,0.3s,baz=124,slow=21,SNR=7.5						
LVC	**Limon Verde**	**4.88**	**25**	*e*Pn	**Pn**	**02 41 41.7**	**-1.2**
LVC				*e*Sn	**Sn**	**02 42 55.3**	**+17**
CFAA	**Coronel Fontan**	**5.21**	**151**	Pn	**Pn**	**02 41 50.1**	**+2.6**
	comp=E,2.4nm,0.3s,baz=332,slow=12,SNR=175						
CFAA				Sn	**Sn**	**02 42 45.7**	**-0.8**
	comp=E,1.8nm,0.3s,baz=308,slow=16,SNR=5.2						
CFAA				Lg		02 43 02.9	
	comp=E,5.9nm,0.3s,baz=255,slow=22,SNR=5.6						
CFAA				LR	LR	02 43 51.7	
	comp=E,195nm,19.2s,baz=318,slow=38						
CFAA	**Coronel Fontan**	**5.21**	**151**	Pn	**Pn**	**02 41 50.1**	**+2.6**
CFAA				Sn	**Sn**	**02 42 45.7**	**-0.8**
CFAA				Lg		02 43 02.9	
CFAA				LR	LR	02 43 51.7	
JACH	**Jahuel**	**5.63**	**175**	*eP*	**Pn**	**02 41 53.5**	**+0.2**
FCH	**Farellones**	**6.30**	**173**	*eP*	**Pn**	**02 42 03.3**	**+0.9**
CLCH	**Cerro Calan**	**6.34**	**175**	*eP*	**Pn**	**02 42 03.2**	**+0.1**
LCCH	**Las Cruces**	**6.41**	**183**	*eP*	**Pn**	**02 42 01.0**	**-2.9**
PCH	**Pirque**	**6.57**	**175**	*eP*	**Pn**	**02 42 05.8**	**-0.4**
TACH	**Talagante**	**6.58**	**178**	*eP*	**Pn**	**02 42 05.7**	**-0.6**
CHCH	**Chadas Angostu**	**6.87**	**176**	*eP*	**Pn**	**02 42 08.9**	**-1.4**
CACH	**El Canelo**	**7.06**	**176**	*eP*	**Pn**	**02 42 13.4**	**+0.5**
CICH	**Cipreses**	**7.27**	**175**	*eP*	**Pn**	**02 42 09.8**	**-6.0**
SFDO	**San Fernando**	**7.54**	**179**	*eP*	**Pn**	**02 42 18.3**	**-1.1**
ARE	**Arequipa**	**10.55**	**358**	*eP*	**Pn**	**02 42 56.0**	**-4.7**
ARE				*eS*	**Sn**	**02 44 48.0**	**-10**
LPAZ	**La Paz**	**11.08**	**15**	Pn	**Pn**	**02 43 06.7**	**-1.4**
	comp=E,1.5nm,0.3s,baz=203,slow=6.8,SNR=62						
LPAZ				Sn	**Sn**	**02 45 11.1**	**+0.2**
	baz=13,slow=18,SNR=2.8						
LPAZ				Lg		02 46 19.9	
	baz=135,slow=19,SNR=1.6						
LPAZ	**La Paz**	**11.08**	**15**	P	**Pn**	**02 43 06.7**	**-1.4**
LPAZ						02 45 11.1	
LPAZ				pmax	pmax		

VNA1				*e*			02 50 11.5	
VNA1				*e*		P	02 50 16.3	+0.8
VNA1				*e*			02 50 19.2	
VNA1				*e*			02 50 26.6	
VNA1				*e*			02 50 35.5	
VNA1				*e*			02 50 41.5	
VNA1				*e*			02 50 54.7	
VNA2	**Neumayer--Watz**	**56.17**	**159**⇓	*i* P		**P**	**02 50 09.7**	**+1.2**
	baz=288,slow=7.8							
VNA2				*e*			02 50 14.3	
VNA2				*e*		pP	02 50 18.8	+0.8
VNA2				*e*		pP	02 50 20.7	+2.7
VNA2				*e*			02 50 28.4	
VNA2				*e*			02 50 36.2	
VNA2				*e*			02 50 42.3	
VNA2				*e*			02 50 53.8	
VNA2				*e*			02 51 00.3	
SNAA	**Sanae**	**57.77**	**160**	P		**P**	**02 50 20.6**	**+0.8**
	comp=Z,3.4nm,0.9s,mb4.4,baz=298,slow=5.4,SNR=18							
SNAA	**Sanae**	**57.77**	**160**⇓	*i* P		**P**	**02 50 16.3**	**-3.5**
SNAA				*e*			02 50 19.3	
SNAA				*e*		pP	02 50 25.8	-3.6
SNAA				*e*			02 50 28.6	
SNAA				*e*			02 50 31.5	
SNAA				*e*			02 50 43.1	
SNAA	**Sanae**	**57.77**	**160**⇓	*e*P		**P**	**02 50 16.1**	**-3.7**
SNAA	**Sanae**	**57.77**	**160**	*e*P		**P**	**02 50 15.8**	**-4.0**
	comp=Z,9.6nm,0.9s,mb4.8							
QSPA	**South Pole Qui**	**63.16**	**180**	*e*P		**P**	**02 50 57.9**	**+1.3**
	comp=Z,10nm,0.8s,mb5.0							
LPIG	**La Paz**	**63.35**	**320**	LR		LR	03 12 20.4	
	comp=Z,84nm,18.1s,MS4.0,baz=201,slow=30							
JCT	**Junction City**	**63.42**	**332**	*e*P		**P**	**02 50 59.8**	**+1.5**
JCT				*e**PP		pP	02 51 08.3	+0.3
JCT				*SP		sP	02 51 11.8	+0.1
JCT				pmax		pmax		
	comp=Z,8.0nm,0.6s,mb5.0							
JCT	**Junction City**	**63.42**	**332**	*e*P		**P**	**02 50 59.8**	**+1.5**
	comp=Z,8.1nm,0.6s,mb5.0							
JCT				*e*pP		pP	02 51 08.3	+0.2
JCT				sP		sP	02 51 11.8	+0.1
CPCT	**Cooper Cave**	**63.43**	**348**	*e*P		**P**	**02 50 57.8**	**-0.6**
CPCT				*e*pP		pP	02 51 06.4	-1.7
SWET	**Sewanee**	**63.48**	**347**	*e*P		**P**	**02 50 58.0**	**-0.8**
SWET				*e*pP		pP	02 51 07.5	-1.0
PLAL	**Pickwick Lake**	**63.74**	**345**	*e*P		**P**	**02 50 58.9**	**-1.5**
	comp=Z,2.7nm,0.8s,mb4.3							
PLAL				*e*pP		pP	02 51 08.7	-1.4
WVT	**Waverly**	**64.78**	**345**	*e*P		**P**	**02 51 05.8**	**-1.4**
WVT				*e**PP		pP	02 51 15.8	-1.2
WVT				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.7							
WVT	**Waverly**	**64.78**	**345**	*e*P		**P**	**02 51 05.8**	**-1.4**
	comp=Z,7.3nm,0.8s,mb4.8							
WVT				*e*pP		pP	02 51 15.8	-1.1
MIAR	**Mount Ida**	**64.83**	**340**	*e*P		**P**	**02 51 07.8**	**+0.2**
MIAR				*e**PP		pP	02 51 17.1	-0.2
MIAR				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.3							
MIAR	**Mount Ida**	**64.83**	**340**	*e*P		**P**	**02 51 07.8**	**+0.2**
	comp=Z,3.0nm,0.9s,mb4.3							
MIAR				*e*pP		pP	02 51 17.1	-0.2
MNTX	**Cornudas Mount**	**66.91**	**329**	*e*P		**P**	**02 51 21.4**	**+0.4**
	comp=Z,3.6nm,0.8s,mb4.5							
MNTX				*e*pP		pP	02 51 30.6	-0.2
FVM	**French Village**	**67.17**	**344**	*e*P		**P**	**02 51 22.6**	**0.0**
FVM				*e**PP		pP	02 51 31.8	-0.6
FVM				*e**SP		sP	02 51 35.5	-0.5
FVM				pmax		pmax		
	comp=Z,14nm,0.9s,mb5.0							
FVM	**French Village**	**67.17**	**344**	*e*P		**P**	**02 51 22.6**	**0.0**
	comp=Z,14nm,0.9s,mb5.0							
FVM				*e*pP		pP	02 51 31.8	-0.6
FVM				*e*sP		sP	02 51 35.5	-0.6
TAOE	**Nuku Hiva Isla**	**67.32**	**271**	*e*LR		LR	03 11 44.3	
	comp=Z,536nm,24.1s							
CCM	**Cathedral Cave**	**67.44**	**343**	*e*P		**P**	**02 51 23.8**	**-0.6**
CCM				*e**PP		pP	02 51 33.2	-0.9
CCM				pmax		pmax		
	comp=Z,13nm,0.8s,mb5.0							
CCM	**Cathedral Cave**	**67.44**	**343**	*e*P		**P**	**02 51 23.8**	**-0.6**
	comp=Z,13nm,0.8s,mb5.0							
CCM				*e*pP		pP	02 51 33.2	-0.9
TBI	**Tubuai**	**69.83**	**253**	*e*LR		LR	03 13 00.3	
	comp=Z,110nm,28.5s							
ANMO	**Albuquerque**	**70.12**	**330**	*i* P		**P**	**02 51 45.3**	**+4.3**
VNDA	**Vanda**	**71.04**	**191**	P		**P**	**02 51 46.2**	**-0.4**
	comp=Z,1.0nm,0.9s,mb3.8,baz=123,slow=4.6,SNR=5.3							
VNDA				LR		LR	03 22 20.0	
	comp=Z,64nm,20.1s,MS3.9,baz=237,slow=35							
VNDA	**Vanda**	**71.04**	**191**	P		**P**	**02 51 46.2**	**-0.4**
VNDA				LR		LR	03 22 20.0	
PPT	**Papeete**	**72.13**	**259**	*e*LR		LR	03 14 02.3	
	comp=Z,115nm,27.0s							
DBIC	**Dimbokro**	**72.33**	**73**	P		**P**	**02 51 55.2**	**+0.8**
	comp=Z,7.0nm,0.8s,mb4.6,baz=185,slow=6.6,SNR=8.7							
DBIC				LR		LR	03 22 15.0	
	comp=Z,187nm,18.4s,MS4.4,baz=214,slow=35							
DBIC	**Dimbokro**	**72.33**	**73**	P		**P**	**02 51 55.2**	**+0.8**
DBIC				LR		LR	03 22 15.0	
SMCO	**Snowmass**	**73.88**	**332**	*e*P		**P**	**02 52 05.4**	**+1.8**
	comp=Z,7.3nm,0.9s,mb4.6							
SMCO				*e*pP		pP	02 52 14.4	+1.0
CCUT	**Cedar City**	**75.48**	**327**	*e*P		**P**	**02 52 18.4**	**+5.5**
MSU	**Marysvale**	**75.67**	**328**	*e*P		**P**	**02 52 17.7**	**+3.8**
HWUT	**Hardware Ranch**	**77.87**	**330**	*e*P		**P**	**02 52 28.4**	**+2.1**
	comp=Z,7.1nm,0.8s,mb4.7							
PDAR	**Pinedale Array**	**77.95**	**332**	P		**P**	**02 52 28.2**	**+1.5**
	comp=Z,0.5nm,0.8s,mb3.5,baz=108,slow=4.8,SNR=3.3							
REDW	**Red Top Meadow**	**78.98**	**332**	*e*P		**P**	**02 52 34.4**	**+1.9**
	comp=Z,7.0nm,0.9s,mb4.6							
REDW				*e*pP		pP	02 52 43.0	+0.6
LOHW	**Long Hollow**	**79.08**	**332**	*e*P		**P**	**02 52 32.9**	**-0.1**
	comp=Z,1.4nm,0.5s,mb4.2							
TPAW	**Teton Pass**	**79.13**	**332**	*e*P		**P**	**02 52 35.1**	**+1.8**
	comp=Z,7.2nm,0.9s,mb4.6							
TPAW				*e*pP		pP	02 52 43.9	+0.7
MAW	**Mawson**	**79.61**	**164**	P		**P**	**02 52 36.5**	**+0.6**
	comp=Z,7.8nm,0.8s,mb4.7,baz=233,slow=8.6,SNR=11							
MAW				LR		LR	03 29 03.8	
	comp=Z,132nm,18.1s,MS4.3,baz=68,slow=37							
MAW	**Mawson**	**79.61**	**164**	P		**P**	**02 52 36.5**	**+0.6**
MAW				pmax		pmax		
	comp=Z,8.0nm,0.8s							
MAW				MLR		MLR		
	comp=Z,132nm,18.1s							
ULM	**Lac du Bonnet**	**80.02**	**344**	P		**P**	**02 52 38.1**	**0.0**
	comp=Z,2.5nm,0.9s,mb4.1,baz=136,slow=4.8,SNR=4.4							
GCMT	**Greycliff**	**80.49**	**334**	*e*P		**P**	**02 52 40.9**	**+0.3**
GCMT				*e*pP		pP	02 52 50.6	0.0
TORD	**Torodi Ar. Bea**	**81.17**	**70**	P		**P**	**02 52 45.1**	**+0.8**
	comp=Z,36nm,0.8s,mb5.4,baz=263,slow=4.7,SNR=345							
EDM	**Edmonton**	**87.94**	**336**	*e*P		**P**	**02 53 17.1**	**-1.4**
EDM				*e**PP		pP	02 53 27.2	-1.3
YKA	**Yellowknife Ar**	**95.74**	**341**	P		**P**	**02 53 53.2**	**-1.4**
	comp=Z,1.0nm,1.0s,mb4.2,baz=138,slow=4.5,SNR=4.7							
YKA	**Yellowknife Ar**	**95.74**	**341**	P		**P**	**02 53 53.2**	**-1.4**
YKA				pmax		pmax		
	comp=Z,1.0nm,1.0s							
YKA	**Yellowknife Ar**	**95.74**	**341**	P		**P**	**02 53 53.2**	**-1.4**
AKASG	**Malin Array Be**	**116.85**	**45**	PKP		PKPdf	02 59 12.0	-1.1
	comp=Z,0.7nm,0.5s,baz=263,slow=3.0,SNR=7.3							
AKASG	**Malin Array Be**	**116.85**	**45**	PKIKP		PKPdf	02 59 12.0	-1.1
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.5s							
BRTR	**Keskin Array B**	**117.64**	**57**	PKP		PKPdf	02 59 15.2	+0.6
	comp=Z,0.4nm,0.7s,baz=205,slow=2.6,SNR=3.9							
OBN	**Obninsk**	**121.77**	**40**	*i* PKIKP		PKPdf	02 59 21.6	-0.9
OBN				pmax		pmax		
	comp=Z,15nm,2.0s							
ASAR	**Alice Springs**	**124.05**	**208**	PKP		PKPdf	02 59 27.6	+0.6
	comp=Z,0.7nm,0.7s,baz=156,slow=0.8,SNR=7.2							
ASAR	**Alice Springs**	**124.05**	**208**	PKIKP		PKPdf	02 59 27.6	+0.7
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
KIV	**Kislovodsk**	**125.00**	**54**	*i* PKIKP		PKPdf	02 59 29.2	+0.5
KIV				pmax		pmax		
	comp=Z,4.0nm,0.7s							
WRA	**Warramunga Arr**	**127.14**	**211**	PKP		PKPdf	02 59 33.8	+1.0
	comp=Z,0.8nm,0.6s,baz=172,slow=1.6,SNR=7.3							
WRA	**Warramunga Arr**	**127.14**	**211**	PKIKP		PKPdf	02 59 33.8	+1.0
WRA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
TIXI	**Tiksi**	**133.99**	**351**	*i* PKIKP		PKPdf	02 59 47.4	+1.6
ZRNK	**Zerenda**	**140.78**	**38**	*e*PKIKP		PKPdf	02 59 57.8	-0.5
CHKZ	**Chkalovo**	**141.31**	**36**	*i* PKIKP		PKPdf	03 00 00.7	+1.4
CHKZ	**Chkalovo**	**141.31**	**36**	*e*PKPdf		PKPdf	02 59 55.3	-4.0
NVS	**Novosibirsk**	**146.55**	**27**	*i* PKIKP		PKPdf	03 00 08.3	-0.1
NVS				pmax		pmax		
	comp=Z,14nm,0.9s							
NVS				pmax		pmax		
	comp=N,6.0nm,1.0s							
NVS				pmax		pmax		
	comp=E,8.0nm,1.0s							
POO	**Poona**	**146.75**	**97**	*ex*		x	03 00 11.0	
KURK	**Kurchatov**	**147.06**	**36**	*i* PKP2		PKPab	03 00 10.8	-2.2
AAK	**Ala-Archa**	**148.09**	**52**⇓	*i* PKIKP		PKPdf	03 00 12.5	+1.5
FRU	**Bishkek**	**148.11**	**52**	*e*PKIKP		PKPdf	03 00 13.0	+2.0
FRU				pmax		pmax		
	comp=Z,40nm,1.8s							
BOD	**Bodaibo**	**149.04**	**355**	*e*PKP2		PKPab	03 00 15.8	-5.1
BOD				pmax		pmax		
	comp=Z,5.0nm,0.9s							
MKAR	**Makanchi Array**	**151.28**	**40**	PKP		PKPdf	03 00 16.9	+0.8
	comp=Z,0.7nm,0.8s,baz=280,slow=2.2,SNR=6.0							
MKAR				PKPbc		PKPbc	03 00 22.7	+0.7
	comp=Z,22nm,0.8s,baz=291,slow=2.1,SNR=111							
MKAR	**Makanchi Array**	**151.28**	**40**	PKIKP		PKPdf	03 00 16.9	+0.8
MKAR							03 00 22.7	
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
MKAR				pmax		pmax		
	comp=Z,22nm,0.8s							
MDJ	**Mudanjiang**	**155.81**	**322**	PKP		PKPdf	03 00 23.8	+1.3
WMQ	**Urumqi**	**156.11**	**40**	PKP		PKPdf	03 00 22.8	-0.1
WMQ				APKP			03 00 32.8	
WMQ				XPKP			03 00 37.3	
WMQ				PKP2		PKPab	03 00 51.9	+1.4
WMQ				PP		PP	03 04 30.4	+2.5
WMQ				PP		PP		
	comp=Z,109nm,5.5s							
WMQ				LR		LR		
	comp=N,86nm,18.0s,MS4.7							
WMQ				LR		LR		
	comp=E,74nm,19.5s,MS4.7							
WMQ				LR		LR		
	comp=Z,27nm,18.0s,MS4.1							
CN2	**Changchun**	**158.56**	**325**	*e*PKP		PKPdf	03 00 25.6	-0.4
SNY	**Shenyang**	**160.93**	**324**	*e*PKP		PKPdf	03 00 26.4	-2.3
HHC	**Hu-ho-hao-te**	**166.06**	**351**	*e*PKP		PKPdf	03 00 32.9	-0.6
HHC				APKP			03 00 43.8	
HHC				XPKP			03 00 47.8	
HHC				PKP2		PKPab	03 01 34.8	+0.8
HHC				PKS			03 04 05.8	
HHC				PP		PP	03 05 22.1	+0.9
HHC				SKS		SKSdf	03 07 31.1	-4.2
HHC				SKKS		SKKSac	03 12 05.8	-0.8
HHC				PP		PP		
	comp=Z,55nm,9.0s							
HHC				LR		LR		
	comp=N,163nm,23.0s							
HHC				LR		LR		
	comp=E,383nm,22.1s							
HHC				LR		LR		
	comp=Z,109nm,23.1s							
SSE	**Sheshan**	**168.46**	**293**	PKP		PKPdf	03 00 35.3	0.0
NJ2	**Nanjing**	**169.94**	**302**	*e*PKP		PKPdf	03 00 36.4	+0.2
NJ2				APKP			03 00 46.1	
NJ2				XPKP			03 00 49.5	
NJ2				PKP2		PKPab	03 01 54.4	+3.3
NJ2				PKS			03 04 07.0	
NJ2				PP		PP	03 05 44.0	+2.9
NJ2				PP		PP		
	comp=Z,60nm,7.1s							
NJ2				LR		LR		
	comp=N,220nm,35.7s							
NJ2				LR		LR		
	comp=E,200nm,31.8s							
NJ2				LR		LR		
	comp=Z,130nm,33.1s							
LZH	**Lanzhou**	**170.05**	**24**	*e*PKP		PKPdf	03 00 35.5	-0.8
LZH				APKP			03 00 45.6	
LZH				XPKP			03 00 49.3	
LZH				PKP2		PKPab	03 01 52.3	+0.7
LZH				LR		LR		
	comp=N,189nm,18.4s							
LZH				LR		LR		
	comp=Z,307nm,20.5s							
KMI	**Kunming**	**174.21**	**108**	PKP		PKPdf	03 00 39.3	+1.2

NEIC ***23*** *02:58:30.1, 27.25S×71.34W, h12km, ML3.6(GUC), After GUC.*

GUC 23 02:58:30.1±0.6, 27.25S×71.34W, h12km±5km, ML3.6, 3C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
CDCH	**Caldera**	**0.49**	**69**⇓	*i* P	Pg	02 58 39.8		+0.1
CDCH				*i* S	Sg	02 58 47.6		+1.3
CPCH	**Copiapo**	**0.89**	**97**⇓	*i* P	Pg	02 58 46.1		-1.1
CPCH				*i* S	Sg	02 58 58.8		0.0
CRCH	**Chaqaral**	**1.11**	**36**⇑	*i* P	Pb	02 58 50.2		-1.0
CRCH				*i* S	Sb	02 59 04.5		-1.1
CRCH				AML	AML	02 59 08.7		
	comp=N,990nm,0.3s							
CRCH	**Chaqaral**	**1.11**	**36**⇑	*i* P	Pb	02 58 50.2		-1.0
CRCH				*i* S	Sb	02 59 04.5		-1.1
LCO	**Las Campanas**	**1.84**	**162**⇑	*i* P	Pn	02 59 02.2		+0.7
LCO				*i* S	Sn	02 59 26.5		+1.7
TLL	**Tololo Astrono**	**2.94**	**171**	*i* P	Pn	02 59 18.0		+1.3
TLL				*i* S	Sn	02 59 54.9		+3.0
TLL				AML	AML	03 00 12.2		
	comp=N,466nm,0.5s							
TLL	**Tololo Astrono**	**2.94**	**171**	*i* P	Pn	02 59 18.0		+1.3
TLL				*i* S	Sn	02 59 54.9		+3.0
LVC	**Limon Verde**	**5.12**	**26**	*e*Pn	Pn	02 59 45.9		-0.7
	comp=N,9.5nm,0.4s							
LVC				*e*Sn	Sn	03 00 45.1		-0.5

CASC 23 03:04:29.1±2.5, 1385N×9120W, h13km±26km, MD3.6, 1C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
JAT	**Jato**	**0.63**	**317**⇑	*e*P	Pg	03 04 41.8		+0.5
IXG	**Ixpaco**	**0.79**	**66**	*e*P	Pg	03 04 43.9		-0.4
IXG				*e*S	Sg	03 04 56.2		+1.5
TP2	**Tecpan 2**	**0.94**	**10**⇓	*e*P	Pb	03 04 46.2		-1.0
TP2				*e*S	Sg	03 05 00.1		+0.6
RBDL	**Robledal**	**1.49**	**80**	*e*P	Pn	03 05 01.1		+5.5
RBDL				*e*S	Sn	03 05 21.8		+7.0
SNJE	**San Jose**	**1.54**	**89**	*e*P	Pn	03 05 01.7		+5.4
LFRS	**El Faro**	**2.09**	**96**	*e*P	Pn	03 05 09.3		+5.6
LFRS				*e*S	Sn	03 05 36.2		+6.6
LCBS	**La Ceiba**	**2.16**	**95**	*e*P	Pn	03 05 10.8		+6.0
LCBS				*e*S	Sn	03 05 38.5		+7.0

CSEM ***23*** *03:31:14.7±0.1, 3491N×3645E, h8km, Mc1.2, Error ellipse: s-maj=4.3km s-min=1.6km az=100.0*
ISCJB ***23*** *03:31:15.2±0.5, 3487N±002×3644E±007, h7km±8km, Error ellipse: s-maj=9.7km s-min=3.6km az=26.0*
NSSC ***23*** *03:31:15.1, 3486N×3642E, h10km*
GRAL ***23*** *03:31:15.5±0.8, 3488N×3657E, h14km±25km, MD2.9*

ISC 23 03:31:15.5±0.6, 3487N±002×3646E±007, h14km±7km, n16, σ0°62/26, 7D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
BIDA	**Albida**	**0.18**	**321**	⇓P	**Pg**	**03 31 18.7**		**-0.9**
BIDA	**Albida**	**0.18**	**321**	⇓*i*P	**Pg**	**03 31 18.7**		**-1.0**
HAWK	**Haweek**	**0.35**	**187**	⇓P	**Pg**	**03 31 22.2**		**-0.5**
HAWK				⇓S	**Sg**	**03 31 27.3**		**-0.2**
HAWK	**Haweek**	**0.35**	**187**	⇓*i*P	**Pg**	**03 31 22.2**		**-0.5**
KFRA	**Kufra**	**0.44**	**39**	⇑P	**Pg**	**03 31 23.9**		**-0.3**
KFRA				⇑S	**Sg**	**03 31 31.3**		**+1.1**
KFRA	**Kufra**	**0.44**	**39**	⇑*i*P	**Pg**	**03 31 23.9**		**-0.3**
WRDH	**Warideh**	**0.64**	**357**	⇑P	**Pg**	**03 31 27.7**		**-0.1**
WRDH				⇑S	**Sg**	**03 31 36.7**		**+0.4**
WRDH	**Warideh**	**0.64**	**357**	⇑*i*P	**Pg**	**03 31 27.7**		**-0.2**
FKH	**Fakeheh**	**0.64**	**184**	*i* Pg	**Pg**	**03 31 27.4**		**-0.5**
FKH				*i* Sg	**Sg**	**03 31 36.5**		**+0.1**
HWQ	**Hawqa**	**0.73**	**216**	*i* Pg	**Pg**	**03 31 29.8**		**+0.1**
HWQ				*i* Sg	**Sg**	**03 31 40.5**		**+1.2**
SLNF	**Slenfeh**	**0.75**	**345**	⇑P	**Pg**	**03 31 29.9**		**-0.1**
SLNF				⇑S	**Sg**	**03 31 39.9**		**+0.1**
SLNF	**Slenfeh**	**0.75**	**345**	⇑*i*P	**Pg**	**03 31 29.9**		**-0.1**
ARNB	**Al Arnab**	**1.06**	**338**	⇓P	**Pb**	**03 31 34.8**		**-0.9**
ARNB				⇓S	**Sb**	**03 31 49.8**		**+0.3**
BTCH	**Batrach**	**1.16**	**360**	⇑P	**Pn**	**03 31 37.1**		**-0.3**
BTCH				⇑S	**Sb**	**03 31 52.8**		**+0.5**
BTCH	**Batrach**	**1.16**	**360**	⇑*i*P	**Pn**	**03 31 37.1**		**-0.3**
BTCH				⇑*i*S	**Sb**	**03 31 52.8**		**+0.5**
BHL	**Bhannes**	**1.17**	**215**	*i* Pg	**Pg**	**03 31 37.3**		**-0.9**
BHL				*e*Sg	**Sg**	**03 31 54.5**		**+1.0**

NIED ***23*** *03:37:00, 2670N×12630E, h5km, Mw4.0 Best double couple: M0 1.01000×10^15 NP1:φ=234.00000°, δ70.00000°, λ-130.00000°. NP2:φ=122.00000°, δ44.00000°, λ-29.00000°.*

JMA 23 03:37:10.3±0.3, 2668N×12635E, h11km±4km, M3.9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
JKE	**Kume jima 2**	**0.53**	**132**	P	Pg	03 37 20.5		-0.1
JKE				S	Sg	03 37 27.5		0.0
JAGN	**Aguni-jima**	**0.80**	**96**	P	Pg	03 37 25.4		-0.4
JAGN				S	Sg	03 37 36.8		+0.5
NAH1	**Naha**	**1.29**	**111**	P	Pn	03 37 33.8		-0.5
NAH1				S	Sb	03 37 50.8		-0.4
JJT2	**Tamagusuku 2**	**1.36**	**113**	P	Pn	03 37 34.9		-0.4
JJT2				S	Sb	03 37 53.9		+0.6
JIH	**Iheya**	**1.49**	**76**	P	Pn	03 37 37.9		+0.9
JIH				eS	Sn	03 37 57.6		+1.2
JOW	**Kunigami**	**1.73**	**85**	P	Pn	03 37 39.9		-0.4
JTK	**Tokunoshima**	**2.56**	**64**	P	Pn	03 37 53.1		+1.3

THR ***23*** *03:53:44.6±0.4, 3273N×4900E, h14km±3km, ML3.4*
KISR ***23*** *03:53:44.4±0.5, 3267N×4912E, h33km, ML3.2*
ISCJB ***23*** *03:53:45.0±0.6, 3270N±005×4912E±01, h14km, Error ellipse: s-maj=14.3km s-min=4.8km az=37.9*
CSEM ***23*** *03:53:45.1±0.1, 3271N×4900E, h20km, ML3.4, Error ellipse: s-maj=3.9km s-min=1.4km az=109.0*

ISC 23 03:53:46.4±0.6, 3270N±005×490E±01, h14km, n15, σ0°69/21, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
SHGR	**Shooshtar-Gavs**	**0.61**	**195**	*e*PG	**Pg**	**03 53 56.9**		**-1.5**
SHGR				AML	AML	03 54 14.6		
	comp=N,2μm,0.4s							
SHGR				AML	AML	03 54 15.4		
	comp=E,3μm,0.3s							
ASAO	**Ashtian**	**2.03**	**25**	*e*PG	**Pg**	**03 54 21.1**		**-4.3**
ASAO				*e*SG	**Sg**	**03 54 47.9**		**-3.8**
ASAO				AML	AML	03 54 56.4		
	comp=E,277nm,0.4s							
ASAO				AML	AML	03 54 57.6		
	comp=N,218nm,0.7s							
ASAO	**Ashtian**	**2.03**	**25**	*e*Pg	**Pg**	**03 54 21.1**		**-4.3**
	SNR=90							
ASAO				*e*Sg	**Sg**	**03 54 47.9**		**-3.8**
	SNR=90							
SNGE	**Sanandaj**	**2.75**	**331**	*e*Pn	**Pn**	**03 54 30.1**		**+0.2**
SNGE				AML	AML	03 55 17.3		
	comp=N,178nm,0.6s							
SNGE				AML	AML	03 55 19.1		
	comp=E,148nm,0.8s							
NASN	**Na'in**	**3.22**	**87**	*e*PN	**Pn**	**03 54 37.0**		**+0.6**
THKV	**Tehran--Karaj**	**3.56**	**25**	*e*PN	**Pn**	**03 54 41.3**		**0.0**
CHTH	**Charan**	**3.65**	**28**	*e*PN	**Pn**	**03 54 42.7**		**+0.3**
NAY	**Al-Naaiem**	**3.76**	**204**	*e*P	**Pn**	**03 54 43.7**		**-0.1**
NAY				AML	AML	03 55 28.1		
	comp=Z,15nm,0.4s							
NAY				*e*S	**Sn**	**03 55 28.6**		**+0.8**
NAY	**Al-Naaiem**	**3.76**	**204**	*e*P	**Pn**	**03 54 43.7**		**-0.1**
NAY				*e*S	**Sn**	**03 55 28.6**		**+0.8**
DAMV	**Damavand**	**3.83**	**39**	*e*PN	**Pn**	**03 54 44.9**		**+0.1**
BHD	**Baghdad**	**3.92**	**280**	*ex*	x	03 54 58.0		
RDF	**Al-Radifah**	**3.96**	**199**	*e*P	**Pn**	**03 54 46.6**		**-0.1**
RDF				*e*S	**Sn**	**03 55 33.0**		**0.0**
RDF				AML	AML	03 55 35.6		
	comp=Z,58nm,0.5s							
RDF	**Al-Radifah**	**3.96**	**199**	*e*P	**Pn**	**03 54 46.7**		**0.0**
RDF				*e*S	**Sn**	**03 55 33.0**		**0.0**
QRN	**Al-Qurain**	**4.05**	**193**	*e*P	**Pn**	**03 54 47.8**		**-0.2**
QRN				*e*S	**Sn**	**03 55 35.3**		**+0.2**
QRN				AML	AML	03 55 37.0		
	comp=Z,44nm,0.3s							
GRMI	**Germi**	**6.16**	**352**	*e*PN	**Pn**	**03 55 17.2**		**+0.3**

IDC 23 03:57:23.5±1.3, 2636N×4460W, h0km, mb3.7/7, mb1 4.0/7, mb1mx3.7/21, mbtmp3.7/7, MS3.5/14, Ms1 3.5/14, ms1mx3.4/22, Error ellipse: s-maj=38.9km s-min=28.4km az=137.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
SJG	**San Juan**	**21.55**	**252**	LR	LR	04 08 56.7		
	comp=Z,62nm,19.9s,baz=280,slow=32							
PCRV	**Puerto La Cruz**	**24

DMN	**Daman**	**29.58**	**338**	*e*P	**P**		04 12 34.3	+3.8
KKN	**Kakani**	**29.68**	**338**	*e*P	**P**		04 12 33.9	+2.6
KOLN	**Koldanda**	**30.32**	**335**	*e*P	**P**		04 12 35.1	-1.9
	14nm,0.7s,mb4.8							
WRA	**Warramunga Arr**	**41.49**	**121**	P	**P**		04 14 12.8	+0.4
	3.6nm,0.8s,mb4.1,baz=299,slow=9.1,SNR=13							
WB2	**Warramunga Arr**	**41.50**	**121**	*e*P	**P**		04 14 13.3	+0.8
ASAR	**Alice Springs**	**42.79**	**126**	P	**P**		04 14 23.4	+0.4
	1.0nm,0.5s,mb3.8,baz=298,slow=8.2,SNR=10							
MKAR	**Makanchi Array**	**48.16**	**346**	P	**P**		04 15 05.3	-0.1
	0.8nm,0.7s,mb3.9,baz=157,slow=7.9,SNR=3.7							
MKAR	**Makanchi Array**	**48.16**	**346**	P	**P**		04 15 05.3	-0.1
STKA	**Stephens Creek**	**52.69**	**132**	P	**P**		04 15 38.5	-1.1
	2.2nm,0.9s,mb4.1,baz=312,slow=14,SNR=4.2							
CHKZ	**Chkalovo**	**57.62**	**342**	*e*P	**P**		04 16 13.7	-1.5
	3.3nm,0.9s,mb4.4							
CHKZ				*e*pP	pP		04 16 25.3	-4.7
CHKZ				*e*sP	sP		04 16 27.9	-8.2
FINES	**FINESS Array B**	**80.85**	**333**	P	**P**		04 18 37.8	-1.0
	0.6nm,0.6s,mb3.7,baz=96,slow=8.9,SNR=2.7							
ARCES	**ARCESS Array B**	**83.43**	**340**	P	**P**		04 18 51.4	-0.9
	5.0nm,1.1s,mb4.5,baz=101,slow=5.1,SNR=5.5							
ARCES	**ARCESS Array B**	**83.43**	**340**	P	**P**		04 18 51.4	-0.9

ISCJB ***23*** *04:16:40.1±0.4, 6090N±003×1656E±0.1, h10km, mb3.8/8, Error ellipse: s-maj=7.9km s-min=3.9km az=12.1*
IDC ***23*** *04:16:41.0±1.1, 6107N×16525E, h0km, mb3.7/7, mb1 4.1/8, mb1mx3.8/22, mbtmp3.9/8, ML3.1/1, Error ellipse: s-maj=25.5km s-min=18.5km az=56.0*
MOS ***23*** *04:16:40.2±1.8, 6096N×16536E, h12km, mb4.1/5, Error ellipse: s-maj=35.7km s-min=13.6km az=89.7*
KRSC ***23*** *04:16:40.9±0.4, 6084N×16593E, h20km±5km, ML4.1*
NEIC ***23*** *04:16:42.5±1.6, 6095N×16524E, h10km, Error ellipse: s-maj=30.9km s-min=20.8km az=2.0*

ISC 23 04:16:41.7±0.4, 6090N±003×1656E±01, h10km, n30, σ1§15/34, mb3.8/8, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TILR	**Tilichiki**	**0.51**	**156**	*i* P		**Pg**	**04 16 50.0**	**-1.7**
TILR				*i* S		**Sg**	**04 16 56.8**	**-1.6**
KAMR	**Kamenskoye**	**1.59**	**10**	*i* P		**Pn**	**04 17 09.3**	**-0.6**
KAMR				*i* S		**Sn**	**04 17 29.8**	**-0.6**
KAMR				Smax				
	1µm,1.3s							
OSSR	**Ossora**	**2.10**	**219**	*e*P		**Pn**	**04 17 17.0**	**+0.1**
EVNR	**Evensk**	**3.23**	**291**	*e*P		**Pn**	**04 17 33.6**	**+1.1**
SMKR	**Semkarok**	**4.84**	**208**	*e*P		**Pn**	**04 17 55.0**	**+0.4**
SRKR	**Sorokina**	**4.85**	**211**	*e*P		**Pn**	**04 17 55.1**	**+0.4**
KBG	**Krutoberegovo**	**4.90**	**200**	*e*P		**Pn**	**04 17 55.4**	**-0.1**
BDR	**Baidarnaya**	**4.92**	**210**	*e*P		**Pn**	**04 17 56.0**	**+0.3**
KBTR	**Krutoberegovo**	**4.93**	**199**	P		**Pn**	**04 17 56.1**	**+0.3**
KBTR				S		**Sn**	**04 18 53.4**	**+0.5**
KBTR	**Krutoberegovo**	**4.93**	**199**	*i* P		**Pn**	**04 17 55.1**	**-0.7**
ZLN	**Zelenaya**	**5.51**	**210**	*e*P		**Pn**	**04 18 04.9**	**+1.1**
KOZ	**Kozyrevsk**	**5.72**	**214**	*e*P		**Pn**	**04 18 07.1**	**+0.4**
KMNR	**Kamenistaya**	**5.89**	**211**	*e*P		**Pn**	**04 18 08.6**	**-0.4**
BILL	**Bilibino**	**7.18**	**2**	*e*PN		**Pn**	**04 18 26.3**	**-0.4**
BILL				pmax	pmax			
	comp=Z,6.0nm,0.4s							
BILL	**Bilibino**	**7.18**	**2**	*e*Pn		**Pn**	**04 18 26.3**	**-0.4**
	comp=Z,5.5nm,0.4s							
BILL				*e*Sn		**Sn**	**04 19 48.9**	**+0.7**
BILL	**Bilibino**	**7.18**	**2**	*i* P		**Pn**	**04 18 27.5**	**+0.8**
FX1	**Attu Island--F**	**9.02**	**150**	Pn		**Pn**	**04 18 54.4**	**+2.4**
	comp=Z,0.7nm,0.3s,baz=300,slow=8.1,SNR=4.7							
FX1	**Attu Island--F**	**9.02**	**150**	PN		**Pn**	**04 18 54.4**	**+2.4**
FX1				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ILAR	**Eielson Array**	**21.59**	**59**	P		**P**	**04 21 34.2**	**+2.6**
	comp=Z,3.1nm,0.6s,mb3.9,baz=275,slow=8.8,SNR=53							
ILAR	**Eielson Array**	**21.59**	**59**	P		**P**	**04 21 34.2**	**+2.6**
ILAR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
BOD	**Bodaibo**	**25.93**	**286**	*e*P		**P**	**04 22 12.4**	**-1.7**
BOD				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb3.9							
INK	**Inuvik**	**26.05**	**48**	P		**P**	**04 22 17.1**	**+2.0**
	comp=Z,0.8nm,0.5s,mb3.5,baz=312,slow=5.4,SNR=8.3							
INK	**Inuvik**	**26.05**	**48**	P		**P**	**04 22 17.2**	**+2.0**
INK				pmax	pmax			
	comp=Z,1.0nm,0.5s							
YKA	**Yellowknife Ar**	**35.61**	**52**	P		**P**	**04 23 38.2**	**-1.2**
	comp=Z,0.3nm,0.5s,mb3.5,baz=305,slow=8.4,SNR=3.6							
MKAR	**Makanchi Array**	**47.72**	**293**	P		**P**	**04 25 17.7**	**-0.9**
	comp=Z,0.9nm,0.6s,mb4.0,baz=42,slow=7.3,SNR=7.1							
MKAR	**Makanchi Array**	**47.72**	**293**	P		**P**	**04 25 17.7**	**-0.9**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
PDAR	**Pinedale Array**	**51.48**	**70**	P		**P**	**04 25 48.0**	**+0.7**
	comp=Z,0.7nm,0.5s,mb3.8,baz=317,slow=4.5,SNR=6.0							
NOA	**NORSAR Array B**	**56.81**	**345**	P		**P**	**04 26 24.2**	**-1.9**
	comp=Z,1.0nm,0.5s,mb4.1,baz=14,slow=7.3,SNR=3.4							
NOA	**NORSAR Array B**	**56.81**	**345**	P		**P**	**04 26 24.3**	**-1.9**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
GERES	**GERESS Array B**	**68.29**	**340**	P		**P**	**04 27 41.8**	**-1.1**
	comp=Z,0.3nm,0.5s,mb3.6,baz=35,slow=6.0,SNR=3.7							

INET ***23*** *05:24:54.3, 1128N×8755W, h1km, MD3.7*
UCR ***23*** *05:25:01.7, 763N×8693W, h15km, MD4.6*

CASC 23 05:24:58.2±2.1, 1147N×8750W, h20km±16km, MD4.0, 6C-6D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LEON	**Leon**	**1.11**	**32**	*e*P		Pn	05 25 18.6	0.0
COPN	**Copaltepe**	**1.13**	**52**	*e*P		Pn	05 25 18.7	-0.2
COPN				*e*S		Sb	05 25 33.6	+0.3
MIRN	**Miramar**	**1.23**	**39**	*e*P		Pn	05 25 20.0	-0.2
TEL3	**Telica 3**	**1.27**	**30**	*e*P		Pn	05 25 20.5	-0.2
CNGN	**Cerro Negro**	**1.29**	**38**	*e*P		Pn	05 25 20.7	-0.3
CRIN	**San Cristobal**	**1.30**	**20**	*e*P		Pn	05 25 21.5	+0.3
TELN	**Telica**	**1.30**	**30**	*e*P		Pn	05 25 21.7	+0.5
MOMJ	**Momotombo**	**1.32**	**45**	*e*P		Pn	05 25 21.2	-0.3
TICN	**Ticuantepe**	**1.36**	**66**	*e*P		Pn	05 25 22.1	+0.1
MGAN	**Managua**	**1.40**	**61**	*e*P		Pn	05 25 21.4	-1.1
MGAN				*e*S		Sn	05 25 42.8	+2.4
APON	**Apoyo**	**1.47**	**72**	*e*P		Pn	05 25 23.1	-0.4
CONN	**Concepcion**	**1.84**	**87**	*e*P		Pn	05 25 26.6	-2.1
PRS1	**Puriscal**	**3.47**	**115**	*e*P		Pn	05 25 52.9	+1.9
PRS1				*e*S		Sn	05 26 32.3	+0.8
LAJ	**Bijagual**	**3.69**	**115**	*e*P		Pn	05 25 50.5	-3.5
LAJ				*e*S		Sn	05 26 30.8	-6.1
LCR2	**La Lucha 2**	**3.84**	**116**	*e*P		Pn	05 25 57.5	+1.3
LCR2				*e*S		Sn	05 26 41.9	+1.1
URSC	**Urasca**	**4.00**	**114**	*e*P		Pn	05 26 00.6	+2.2
URSC				*e*S		Sn	05 26 47.5	+2.7
BUS	**Buena Vista**	**4.14**	**117**	*e*P		Pn	05 26 02.1	+1.7
BUS				*e*S		Sn	05 26 51.2	+3.0

ISCJB ***23*** *05:53:37.4±0.7, 6090N±007×1663E±0.2, h10km, mb3.8/8, Error ellipse: s-maj=11.5km s-min=9.5km az=125.0*
MOS ***23*** *05:53:37.4±1.3, 6089N×16628E, h10km, mb3.9/4, Error ellipse: s-maj=34.5km s-min=16.3km az=96.4*
IDC ***23*** *05:53:43.7±0.9, 6108N×16775E, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.9/22, mbtmp3.9/9, ML3.5/1, Error ellipse: s-maj=22.8km s-min=15.5km az=76.0*
NEIC ***23*** *05:53:43.9±1.4, 6095N×16755E, h10km, Error ellipse: s-maj=28.1km s-min=17.5km az=192.0*

ISC 23 05:53:44.0±5.7, 6105N±008×1677E±02, h7km±37km, n22, σ0§81/23, mb3.8/7, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BILL	**Bilibino**	**7.05**	**356**	*e*PN		**Pn**	**05 55 27.9**	**+0.3**
BILL				pmax	pmax			
	comp=Z,41nm,1.0s							
BILL	**Bilibino**	**7.05**	**356**	*e*Pn		**Pn**	**05 55 27.9**	**+0.3**
	comp=Z,41nm,1.0s							
BILL				*e*Sn		**Sn**	**05 56 47.6**	**-0.4**
FX1	**Attu Island--F**	**8.72**	**157**	Pn		**Pn**	**05 55 49.7**	**-0.9**
	comp=Z,1.9nm,0.3s,baz=113,slow=19,SNR=12							
FX1	**Attu Island--F**	**8.72**	**157**	PN		**Pn**	**05 55 49.7**	**-0.9**
FX1				pmax	pmax			
	comp=Z,2.0nm,0.3s							
YAK	**Yakutsk**	**17.96**	**290**	*e*P		**Pn**	**05 57 42.1**	**-12**
YAK				pmax	pmax			
	comp=Z,9.0nm,0.6s							
TIXI	**Tiksi**	**18.42**	**321**	*e*P		**Pn**	**05 57 49.2**	**-11**
TIXI				pmax	pmax			
	comp=Z,1.0nm,1.3s							
COLA	**College**	**20.24**	**60**	*e*P		**P**	**05 58 20.6**	**+0.7**
ILAR	**Eielson Array**	**20.67**	**60**	P		**P**	**05 58 25.4**	**+0.9**
	comp=Z,3.7nm,0.8s,baz=275,slow=8.9,SNR=20							
ILAR	**Eielson Array**	**20.67**	**60**	P		**P**	**05 58 25.4**	**+0.9**
ILAR				pmax	pmax			
	comp=Z,4.0nm,0.8s							
INK	**Inuvik**	**25.22**	**48**	P		**P**	**05 59 10.4**	**-0.1**
	comp=Z,2.0nm,0.8s,mb3.7,baz=302,slow=11,SNR=7.3							
INK	**Inuvik**	**25.22**	**48**	P		**P**	**05 59 10.4**	**-0.1**
INK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ULN	**Ulaanbaatar**	**36.23**	**277**	*e*P		**P**	**06 00 35.4**	**-12**
KURK	**Kurchatov**	**47.19**	**300**	*e*P		**P**	**06 02 07.5**	**-10**
MKAR	**Makanchi Array**	**48.57**	**294**	P		**P**	**06 02 27.2**	**-0.9**
	comp=Z,0.5nm,0.7s,mb3.7,baz=46,slow=8.7,SNR=4.4							
MKAR	**Makanchi Array**	**48.57**	**294**	P		**P**	**06 02 27.2**	**-0.9**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	**48.57**	**294**	P		**P**	**06 02 27.2**	**-0.9**
PDAR	**Pinedale Array**	**50.50**	**71**	P		**P**	**06 02 42.0**	**-0.8**
	comp=Z,1.1nm,0.8s,mb4.0,baz=307,slow=3.2,SNR=6.4							
ULM	**Lac du Bonnet**	**50.60**	**56**	P		**P**	**06 02 42.6**	**-1.0**
	comp=Z,1.6nm,0.6s,mb4.1,baz=320,slow=8.1,SNR=3.3							
NOA	**NORSAR Array B**	**56.90**	**347**	P		**P**	**06 03 29.8**	**+0.1**
	comp=Z,0.6nm,0.8s,mb3.7,baz=17,slow=7.3,SNR=3.5							
NOA	**NORSAR Array B**	**56.90**	**347**	P		**P**	**06 03 29.8**	**+0.1**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
AKASG	**Malin Array Be**	**63.72**	**332**	P		**P**	**06 04 16.7**	**+0.3**
	comp=Z,0.2nm,0.2s,mb3.7,baz=22,slow=6.5,SNR=5.1							
WRA	**Warramunga Arr**	**85.05**	**211**	P		**P**	**06 06 22.3**	**+1.8**
	comp=Z,0.2nm,0.3s,mb3.7,baz=12,slow=5.4,SNR=5.2							

IDC 23 06:35:50.7±5.2, 508S×13214E, h0km, mb4.1/1, mb1 4.0/3, mb1mx3.8/12, mbtmp3.9/3, ML3.8/2, Error ellipse: s-maj=353.2km s-min=29.7km az=74.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KAKA	**Kakadu**	**7.59**	**178**	*e*P		Pn	06 37 45.5	+2.9
	13nm,0.6s							
KAKA				*e*S		Sn	06 39 08.3	-1.0
FITZ	**Fitzroy Crossi**	**14.42**	**206**	*e*P		Pn	06 39 16.2	+0.2
	2.4nm,0.4s							
FITZ				*e*S		Sn	06 41 39.3	-17
WRA	**Warramunga Arr**	**14.93**	**172**	Pn		Pn	06 39 21.5	-1.5
	0.4nm,0.3s,baz=351,slow=14,SNR=13							
WRA				Sn		Sn	06 41 58.1	-11
	0.2nm,0.3s,baz=358,slow=23,SNR=5.0							
WB2	**Warramunga Arr**	**14.93**	**172**	*e*P		Pn	06 39 22.5	-0.5
WB2				*e*S		Sn	06 42 01.6	-7.5
ASAR	**Alice Springs**	**18.56**	**175**	P		Pn	06 40 09.9	+0.8
	0.3nm,0.3s,baz=360,slow=8.4,SNR=24							
ASAR				S		Sn	06 43 27.5	-10
	0.1nm,0.3s,baz=352,slow=23,SNR=6.0							
MKAR	**Makanchi Array**	**67.83**	**325**	P		P	06 46 50.8	+0.2
	1.2nm,0.5s,baz=121,slow=8.1,SNR=20							

IDC 23 06:48:06.7±3.5, 499S×10353E, h21km±6km, mb3.5/3, mb1 3.6/3, mb1mx3.4/14, mbtmp3.6/3, Error ellipse: s-maj=180.8km s-min=19.5km az=51.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**33.46**	**119**	P		P	06 54 44.1	0.0
	0.5nm,0.9s,baz=290,slow=11,SNR=2.7							
WRA				pP		pP	06 54 51.2	+0.6
	1.6nm,0.8s,baz=291,slow=10,SNR=9.0							
ASAR	**Alice Springs**	**34.66**	**125**	P		P	06 54 55.0	+0.5
	0.4nm,0.8s,baz=304,slow=10.0,SNR=4.0							
ASAR				pP		pP	06 55 01.5	+0.4
	0.8nm,0.5s,baz=298,slow=7.5,SNR=10							
STKA	**Stephens Creek**	**44.55**	**132**	pP		pP	06 56 20.7	-2.8
	1.9nm,0.8s,baz=307,slow=10,SNR=3.3							
MKAR	**Makanchi Array**	**54.88**	**342**	P		P	06 57 35.7	+0.2
	1.5nm,0.9s,baz=145,slow=7.8,SNR=11							
MKAR				pP		pP	06 57 42.1	-0.2
	0.8nm,0.6s,baz=154,slow=7.9,SNR=5.9							

CASC ***23*** *06:49:04.3±4.0, 8.16N×8262W, h0km±8km, MD4.5, ML3.8, mb4.6(NEIC)*
MOS ***23*** *06:49:04.9±0.8, 8.29N×8246W, h33km, mb5.0/18, Error ellipse: s-maj=24.5km s-min=7.2km az=117.4*
ISCJB ***23*** *06:49:04.7±0.3, 8.11N±003×8262W±003, h30km, mb4.4/45, MS3.9/14, Error ellipse: s-maj=5.4km s-min=3.1km az=60.1*
NEIC ***23*** *06:49:06.5±0.3, 8.17N×8271W, mb4.6/31, MD4.5(CASC), ML4.5(HDC), Error ellipse: s-maj=8.2km s-min=4.0km az=39.0*
NEIC Felt at San Jose, Costa Rica.
BJI ***23*** *06:49:06.0, 8.20N×8270W, h30km, mB5.0, Ms4.9, Msz4.5*
IDC ***23*** *06:49:09.3±1.5, 8.20N×8271W, h61km±14km, mb4.1/13, mb1 4.3/18, mb1mx4.2/24, mbtmp4.5/18, MS3.7/12, Ms1 3.7/12, ms1mx3.6/21, Error ellipse: s-maj=19.6km s-min=8.7km az=43.0*

ISC 23 06:49:07.2±0.3, 817N±003×8265W±003, h31km, h31km±8km: pP-P, n174, σ1§29/174, mb4.4/45, MS3.9/14, 24C-8D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DVD	**David**	**0.33**	**37**	*i* P		**Pb**	**06 49 13.6**	**-1.5**
DVD	**David**	**0.33**	**37**	*i* P		**Pb**	**06 49 13.6**	**-1.5**
BRU2	**Volcan**	**0.62**	**356**	*i* P		**Pb**	**06 49 18.3**	**-1.4**
BRU2				*e*S		**Sb**	**06 49 28.0**	**-0.1**
ACR	**Cerro Adams**	**0.70**	**313**	*e*P		**Pn**	**06 49 17.6**	**-3.4**
ACR				*i* P			06 49 17.7	
CTCR	**Cotoan**	**0.73**	**351**	*i* P		**Pn**	**06 49 19.4**	**-1.9**
CNI	**Changuinola**	**1.24**	**6**	*i* P		**Pn**	**06 49 27.9**	**-0.5**
BUS	**Buena Vista**	**1.76**	**321**	*i* P		**Pn**	**06 49 34.8**	**-0.7**
BUS				*i* P			06 49 34.9	
BUS	**Buena Vista**	**1.76**	**321**	*i* P		**Pn**	**06 49 34.9**	**-0.6**
QCR	**Quepos**	**1.95**	**310**	*e*P		**Pn**	**06 49 36.6**	**-1.5**
URSC	**Urasca**	**1.99**	**326**	*i* P		**Pn**	**06 49 38.2**	**-0.5**
URSC				*e*P			06 49 38.8	
URSC	**Urasca**	**1.99**	**326**	*i* P		**Pn**	**06 49 38.6**	**-0.2**
LCR2	**La Lucha 2**	**2.06**	**319**	*e*P		**Pn**	**06 49 38.9**	**-0.7**
LCR2	**La Lucha 2**	**2.06**	**319**	*i* P		**Pn**	**06 49 39.0**	**-0.6**
ICR	**Volcan Irazu**	**2.14**	**327**	*e*P		**Pn**	**06 49 41.1**	**+0.4**
ICR				*i* P			06 49 41.2	
ICR	**Volcan Irazu**	**2.14**	**327**	*e*P		**Pn**	**06 49 41.2**	**+0.4**
LAJ	**Bijagual**	**2.22**	**319**	*e*P		**Pn**	**06 49 43.2**	**+1.3**
LAJ	**Bijagual**	**2.22**	**319**	*e*P		**Pn**	**06 49 43.5**	**+1.6**
SJS	**Escuela Geolog**	**2.24**	**322**	*e*P		**Pn**	**06 49 42.2**	**+0.1**
SJS				*e*S		**Sn**	**06 50 14.2**	**+5.6**
SJS	**Escuela Geolog**	**2.24**	**322**	*e*P		**Pn**	**06 49 43.2**	**+1.1**
SJS				*e*S		**Sn**	**06 50 11.2**	**+2.5**
AZU	**Azuero**	**2.38**	**99**	*i* P		**Pn**	**06 49 44.6**	**+0.5**
AZU	**Azuero**	**2.38**	**99**	*i* P		**Pn**	**06 49 44.6**	**+0.5**
PRS1	**Puriscal**	**2.44**	**318**	*e*P		**Pn**	**06 49 43.7**	**-1.2**
PRS1	**Puriscal**	**2.44**	**318**	*i* P		**Pn**	**06 49 43.7**	**-1.2**
VPS2	**Volcan Poas 2**	**2.54**	**322**	*e*P		**Pn**	**06 49 48.8**	**+2.4**
VPS2	**Volcan Poas 2**	**2.54**	**322**	*e*P		**Pn**	**06 49 48.0**	**+1.7**
CGA2	**Cerro Gallo 2**	**2.56**	**316**	*e*P		**Pn**	**06 49 46.7**	**+0.1**
CGA2	**Cerro Gallo 2**	**2.56**	**316**	*i* P		**Pn**	**06 49 47.4**	**+0.8**
PINA	**Piqa, Costa Ab**	**2.77**	**67**	*i* P		**Pn**	**06 49 49.6**	**+0.2**
ZANG	**Zanguenga, Cho**	**2.86**	**74**	*i* P		**Pn**	**06 49 52.6**	**+2.0**
JCR	**Jicaral**	**2.95**	**305**	*e*P		**Pn**	**06 49 48.2**	**-3.7**
FORC	**Fortuna**	**3.03**	**319**	*i* P		**Pn**	**06 49 54.7**	**+1.6**
FORC				*i* S		**Sn**	**06 50 35.6**	**+7.3**
JTS	**JuntasAbangare**	**3.10**	**313**	P		**Pn**	**06 49 53.4**	**-0.5**
	251nm,0.3s,baz=109,slow=20,SNR=170							
JTS				S		**Sn**	**06 50 31.4**	**+1.5**
	109nm,0.3s,baz=146,slow=21,SNR=3.9							
JTS				LR		LR	06 51 11.2	
	comp=Z,1µm,20.1s,baz=137,slow=40							
JTS	**JuntasAbangare**	**3.10**	**313**	P		**Pn**	**06 49 53.4**	**-0.5**
JTS				S		**Sn**	**06 50 31.4**	**+1.5**
ACLA	**Agua Clara, Si**	**3.14**	**68**	*e*P		**Pn**	**06 49 55.0**	**+0.5**
UPA	**Univ. de Panam**	**3.18**	**75**	*e*P		**Pn**	**06 49 57.2**	**+2.1**
UPA				*e*S		**Sn**	**06 50 32.4**	**+0.5**
UPA	**Univ. de Panam**	**3.18**	**75**	*e*P		**Pn**	**06 49 57.4**	**+2.3**
UPA				*e*S		**Sn**	**06 50 46.7**	**+15**
VCR	**Vista de Mar**	**3.53**	**304**	*e*P		**Pn**	**06 49 58.6**	**-1.1**
VCR	**Vista de Mar**	**3.53**	**304**	*e*P		**Pn**	**06 49 58.6**	**-1.2**
LIM1	**Limonal**	**3.59**	**315**	*i* P		**Pn**	**06 50 03.1**	**+2.4**
MADN	**Villa Maderas**	**4.29**	**319**	*e*P		**Pn**	**06 50 12.3**	**+1.9**
SSNN	**San Juan del S**	**4.42**	**315**	*e*P		**Pn**	**06 50 14.6**	**+2.4**
CONN	**Concepcion**	**4.47**	**319**	*e*P		**Pn**	**06 50 14.8**	**+2.0**
APON	**Apoyo**	**5.02**	**318**	*e*P		**Pn**	**06 50 23.0**	**+2.7**
TICN	**Ticuantepe**	**5.21**	**318**	*e*P		**Pn**	**06 50 26.9**	**+3.9**
MGAN	**Managua**	**5.30**	**318**	*e*S		**Sn**	**06 51 29.9**	**+5.6**
MGAN				*i*			06 51 36.2	
	comp=N,168nm,0.5s							
TISN	**Laguna Tiscapa**	**5.32**	**318**	*e*P		**Pn**	**06 50 27.3**	**+2.9**
COPN	**Copaltepe**	**5.56**	**316**	*e*P		**Pn**	**06 50 28.5**	**+0.7**
MOMJ	**Momotombo**	**5.69**	**318**	*e*P		**Pn**	**06 50 32.1**	**+2.5**
MIRN	**Miramar**	**5.83**	**317**	*e*P		**Pn**	**06 50 33.2**	**+1.8**
CNGN	**Cerro Negro**	**5.86**	**318**	*e*P		**Pn**	**06 50 34.8**	**+2.9**
LEON	**Leon**	**5.93**	**316**	*e*P		**Pn**	**06 50 34.5**	**+1.6**
TEL3	**Telica 3**	**6.01**	**317**	*e*P		**Pn**	**06 50 36.9**	**+2.9**
LCBS	**La Ceiba**	**8.26**	**312**	*e*P		**Pn**	**06 51 15.1**	**+10**
LFRS	**El Faro**	**8.30**	**311**	*e*P		**Pn**	**06 51 16.0**	**+11**
LFRS				*e*S		**Sn**	**06 52 51.1**	**+13**
BOQS	**Boqueron**	**8.54**	**311**	*e*P		**Pn**	**06 51 20.2**	**+12**
SNJE	**San Jose**	**8.87**	**310**	*e*P		**Pn**	**06 51 24.2**	**+11**
ROSC	**El Rosal**	**8.90**	**111**	P		**Pn**	**06 51 17.0**	**+3.4**
	comp=N,3.0nm,0.3s,baz=301,slow=23,SNR=8.5							
ROSC				S		**Sn**	**06 53 01.6**	**+8.9**
	comp=N,2.0nm,0.3s,baz=80,slow=19,SNR=3.0							
OTAV	**Otavalo**	**8.92**	**152**	*e*Pn		**Pn**	**06 51 14.9**	**+0.9**
	comp=N,58nm,1.1s							
OTAV				*e*Sn		**Sn**	**06 52 58.8**	**+5.4**
IXG	**Ixpaco**	**9.71**	**309**	*e*P		**Pn**	**06 51 28.2**	**+3.6**
IXG				*e*S		**Sn**	**06 53 16.8**	**+4.3**
TP2	**Tecpan 2**	**10.51**	**309**	*e*P		**Pn**	**06 51 40.6**	**+5.0**
TP2				*e*S		**Sn**	**06 53 41.1**	**+8.8**
MBJ	**Montego Bay**	**11.18**	**24**	*e*P		**Pn**	**06 51 45.6**	**+0.7**
STH	**Stony Hill**	**11.37**	**29**	*e*P		**Pn**	**06 51 47.9**	**+0.5**
GWJ	**Greenwich**	**11.40**	**30**	*e*P		**Pn**	**06 51 48.5**	**+0.6**
BBJ	**Bamboo Saint A**	**11.42**	**27**	*e*P		**Pn**	**06 51 48.9**	**+0.8**
SDV	**Santo Domingo**	**11.90**	**86**	P		**Pn**	**06 51 56.1**	**+1.3**
	comp=N,1.2nm,0.3s,baz=317,slow=8.3,SNR=21							
SDV				S		**Sn**	**06 54 08.2**	**+1.7**
	comp=N,0.9nm,0.3s,baz=322,slow=19,SNR=2.6							
SDV	**Santo Domingo**	**11.90**	**86**	*e*Pn		**Pn**	**06 51 56.0**	**+1.2**
	comp=N,18nm,0.6s							
SDV				*e*Sn		**Sn**	**06 54 07.1**	**+0.7**
RCC	**Rio Carpintero**	**13.54**	**29**	*e*P		**Pn**	**06 52 20.7**	**+3.6**
CCCC	**Cccc**	**13.78**	**19**	*e*P		**Pn**	**06 52 23.5**	**+3.1**
HLGC	**Holguin**	**14.15**	**26**	*e*P		**Pn**	**06 52 24.7**	**-0.8**
SOR	**Soroa**	**14.54**	**359**	*e*P		**Pn**	**06 52 30.7**	**0.0**
ATAH	**Atahualpa**	**15.66**	**164**	P		**Pn**	**06 52 48.7**	**+3.2**
	comp=N,0.3nm,0.3s,baz=222,slow=3.3,SNR=4.0							
ATAH				LR		LR	06 58 17.6	
	comp=N,705nm,20.7s,baz=130,slow=35							
PCRV	**Puerto La Cruz**	**17.89**	**82**	P		**Pn**	**06 53 14.7**	**+1.1**
	comp=N,4.4nm,0.3s,baz=265,slow=6.1,SNR=20							
SJG	**San Juan**	**18.84**	**57**	P		**Pn**	**06 53 25.6**	**+0.4**
	comp=N,8.9nm,0.3s,baz=241,slow=7.2,SNR=26							
SJG				LR		LR	06 59 39.3	
	comp=N,167nm,21.9s,baz=276,slow=33							
SJG	**San Juan**	**18.84**	**57**	*e*P		**Pn**	**06 53 25.7**	**+0.5**
SJG				pmax	pmax			
	comp=Z,50nm,0.6s							
SJG	**San Juan**	**18.84**	**57**	*e*P		**Pn**	**06 53 25.7**	**+0.5**
	comp=Z,50nm,0.6s							
CPD	**Cerro

comp=Z,2.3nm,0.6s,mb4.1
ISCO ep P pP 06 56 26.2 -2.0
ISCO es P sP 06 56 30.3 -1.7
SMCO Snowmass 37.81 329 eP **P 06 56 20.5 -0.2**
comp=Z,5.1nm,1.0s,mb4.2
NEN Nelson 40.16 318 eP **P 06 56 41.0 +0.6**
NEN epP pP 06 56 50.4 +0.8
MSU Marysvale 40.24 323 eP **P 06 56 41.6 +0.6**
MSU e 06 58 45.3
EYMN Ely 40.34 351 eP **P 06 56 38.9 -3.0**
comp=Z,4.9nm,0.8s,mb4.3
EYMN epP pP 06 56 48.5 -2.6
ARUT Antelope Range 40.54 321 eP **P 06 56 44.1 +0.6**
BDFB Brasilia 41.67 125 P **P 06 56 51.8 -1.0**
comp=Z,1.5nm,0.6s,mb3.8,baz=265,slow=20,SNR=4.9
BDFB LR LR 07 14 50.2
comp=Z,161nm,19.3s,MS3.9,baz=137,slow=37
PDAR Pinedale Array 41.79 330 P **P 06 56 52.8 -1.0**
comp=Z,1.6nm,0.6s,mb3.8,baz=134,slow=11,SNR=11
PDAR PcP PcP 06 58 49.4 -0.1
comp=Z,1.1nm,0.9s,baz=252,slow=0.5,SNR=4.1
PDAR LR LR 07 16 29.8
comp=Z,76nm,21.0s,MS3.5,baz=324,slow=39
PDAR Pinedale Array 41.79 330 P **P 06 56 52.8 -1.0**
PDAR PcP PcP 06 58 49.4 -0.1
CFAA Coronel Fontan 41.89 161 P **P 06 56 53.8 -0.8**
comp=Z,0.3nm,0.9s,mb2.9,baz=321,slow=6.4,SNR=7.9
HWUT Hardware Ranch 41.99 327 eP **P 06 56 54.9 -0.5**
comp=Z,13nm,0.9s,mb4.6
HWUT epP pP 06 57 02.7 -2.0
HWUT esP sP 06 57 06.8 -1.7
CPUP Villa Florida 42.20 145 P **P 06 56 55.4 -1.8**
comp=Z,2.0nm,0.9s,mb3.8,baz=341,slow=4.4,SNR=3.3
CPUP LR LR 07 17 29.7
comp=Z,107nm,18.2s,MS3.8,baz=92,slow=40
REDW Red Top Meadow 42.87 330 eP **P 06 57 02.0 -0.6**
comp=Z,14nm,1.0s,mb4.6
REDW epP pP 06 57 10.1 -1.8
REDW esP sP 06 57 13.6 -2.1
REDW ePcP PcP 06 58 55.7 +2.6
LOHW Long Hollow 42.93 330 eP **P 06 57 02.4 -0.6**
comp=Z,4.4nm,0.8s,mb4.2
TPAW Teton Pass 43.01 330 eP **P 06 57 03.3 -0.4**
comp=Z,5.6nm,0.6s,mb4.5
TPAW epP pP 06 57 12.9 -0.2
TPAW esP sP 06 57 16.3 -0.5
TPAW ePcP PcP 06 58 54.1 +0.5
TPH Tonopah 43.11 319 eP **P 06 57 04.6 +0.1**
TPH pmax pmax
comp=Z,14nm,1.0s,mb4.7
TPH Tonopah 43.11 319 eP **P 06 57 04.6 +0.1**
comp=Z,14nm,1.0s,mb4.6
FLWY Flagg Ranch 43.32 330 eP **P 06 57 05.3 -0.9**
comp=Z,5.8nm,0.7s,mb4.4
FLWY epP pP 06 57 13.8 -1.7
ULM Lac du Bonnet 43.37 348 P **P 06 57 03.6 -3.0**
comp=Z,21nm,0.7s,mb5.0,baz=159,slow=7.7,SNR=44
ULM LR LR 07 16 35.0
comp=Z,66nm,19.9s,MS3.5,baz=334,slow=38
NVAR Mina Array Bea 44.01 319 P **P 06 57 12.3 +0.5**
comp=Z,3.0nm,0.8s,mb4.1,baz=134,slow=6.4,SNR=4.2
GCMT Greycliff 44.11 333 eP **P 06 57 12.2 -0.4**
BMN Battle Mountai 44.48 322 eP **P 06 57 14.5 -1.0**
BMN e*PP pP 06 57 24.2 -0.7
BMN pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
BMN Battle Mountai 44.48 322 eP **P 06 57 14.5 -1.0**
comp=Z,9.3nm,0.7s,mb4.6
BMN epP pP 06 57 24.2 -0.7
HLID Hailey 44.86 327 eP **P 06 57 18.0 -0.5**
comp=Z,3.3nm,0.8s,mb4.2
BOZ Bozeman (W) 44.92 331 eP **P 06 57 18.2 -0.8**
BOZ pmax pmax
comp=Z,7.0nm,1.1s,mb4.4
BOZ Bozeman (W) 44.92 331 eP **P 06 57 18.2 -0.8**
comp=Z,7.0nm,1.1s,mb4.4
MCMT McKenzie Canyo 44.92 330 eP **P 06 57 19.6 +0.6**
MCMT epP pP 06 57 27.8 -0.6
WVOR Wild Horse Val 46.53 323 eP **P 06 57 31.4 -0.3**
WVOR e*PP pP 06 57 40.2 -1.0
WVOR e*SP sP 06 57 43.7 -1.2
WVOR pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
WVOR Wild Horse Val 46.53 323 eP **P 06 57 31.4 -0.4**
comp=Z,9.0nm,0.7s,mb4.8
WVOR epP pP 06 57 40.2 -1.0
WVOR esP sP 06 57 43.6 -1.3
OHCM Honcut 46.59 318 eP **P 06 57 32.5 +0.3**
OHCM epP pP 06 57 40.6 -1.0
SCHQ Schefferville 48.22 12 LR LR 07 18 36.0
comp=Z,65nm,20.7s,MS3.6,baz=196,slow=37
PLCA Paso Flores 49.92 168 LR LR 07 16 05.8
comp=Z,44nm,18.6s,MS3.5,baz=127,slow=32
PLCA Paso Flores 49.92 168 eP **P 06 57 57.1 -0.8**
PLCA pmax pmax
comp=Z,3.0nm,0.6s
PLCA Paso Flores 49.92 168 eP **P 06 57 57.1 -0.8**
comp=Z,3.2nm,0.6s,mb4.5
FCC Fort Churchill 51.23 352 eP **P 06 58 05.9 -1.9**
FCC e 06 59 20.5
FCC pmax pmax
comp=Z,16nm,1.1s,mb4.9
FCC Fort Churchill 51.23 352 eP **P 06 58 05.9 -1.9**
comp=Z,16nm,1.1s,mb4.9
FCC ePcP PcP 06 59 20.5 -2.2
YKA Yellowknife Ar 59.00 343 P **P 06 59 01.6 -2.2**
comp=Z,5.6nm,0.6s,mb4.8,baz=137,slow=7.1,SNR=38
YKA LR LR 07 28 14.6
comp=Z,75nm,19.2s,MS3.8,baz=110,slow=40
YKA Yellowknife Ar 59.00 343 P **P 06 59 01.6 -2.2**
YKW3 Yellowknife Ar 59.05 343 eP **P 06 59 02.3 -1.9**
DAWY Dawson 68.56 337 eP **P 07 00 05.6 -1.2**
INK Inuvik 68.69 342 eP **P 07 00 06.3 -1.4**
INK pmax pmax
comp=Z,21nm,1.2s
INK Inuvik 68.69 342 eP **P 07 00 06.3 -1.3**
comp=Z,21nm,1.2s,mb5.0
ILAR Eielson Array 71.82 336 P **P 07 00 25.6 -1.1**
comp=Z,9.2nm,0.6s,mb4.9,baz=110,slow=4.5,SNR=132
ILAR PP PP 07 03 07.0 +0.6
comp=Z,0.4nm,0.8s,baz=113,slow=6.7,SNR=4.4
COLA College 72.24 336 eP **P 07 00 28.2 -1.1**
COLA pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
COLA College 72.24 336 eP **P 07 00 28.2 -1.2**
comp=Z,6.1nm,0.8s,mb4.6
TTA Tatalina 75.21 333 eP **P 07 00 47.7 +1.0**
TTA pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
TTA Tatalina 75.21 333 eP **P 07 00 47.6 +0.9**
comp=Z,7.5nm,1.0s,mb4.6
ESDC Sonseca Array 76.13 51 P **P 07 00 52.0 0.0**
comp=Z,1.3nm,0.6s,mb4.0,baz=275,slow=4.5,SNR=5.8
DBIC Dimbokro 77.04 85 P **P 07 00 57.5 +0.3**
comp=Z,8.4nm,1.0s,mb4.6,baz=210,slow=3.1,SNR=4.6
TORD Torodi Ar. Bea 82.70 78 P **P 07 01 27.9 +0.1**
comp=Z,2.2nm,0.7s,mb4.3,baz=282,slow=3.8,SNR=12
GERES GERESS Array B 88.07 41 P **P 07 01 52.6 -1.9**
comp=Z,0.3nm,0.2s,mb4.1,baz=260,slow=4.9,SNR=3.5
BILL Bilibino 90.18 339*d iP* **P 07 02 03.5 -0.9**
BILL pmax pmax
comp=Z,11nm,1.6s,mb4.9
FINES FINESS Array B 91.65 27 LR LR 07 39 27.5
comp=Z,35nm,18.5s,MS3.8,baz=352,slow=33
VNA3 Neumayer Olymp 92.29 162 eP **P 07 02 19.1 +4.9**
VNA3 e 07 02 19.8
VNA2 Neumayer--Watz 92.90 161 eP **P 07 02 22.0 +5.0**
baz=298,slow=4.1
VNA2 e 07 02 22.8
VNA2 e pP 07 02 31.3 +4.2
VNA2 e 07 02 34.3
TIXI Tiksi 97.67 350 eP **P 07 02 33.6 -5.2**
TIXI pmax pmax
comp=Z,2.0nm,0.9s,mb4.7
TIXI MLR MLR
comp=Z,217nm,22.0s,MS4.6
MDJ Mudanjiang 119.94 334 PKP PKPdf 07 07 53.8 -0.7
MDJ LR LR
comp=N,15nm,27.8s,MS3.8
MDJ LR LR
comp=E,27nm,23.8s,MS3.8
MDJ LR LR
comp=Z,25nm,23.8s,MS3.8
CN2 Changchun 122.34 336 ePKP PKPdf 07 07 58.6 -0.5
CN2 XPKP 07 08 07.4
MKAR Makanchi Array 123.66 12 PKP PKPdf 07 07 59.4 -2.3
comp=Z,0.2nm,0.5s,baz=303,slow=2.0,SNR=4.2
WMQ Urumqi 127.52 9 PKP PKPdf 07 08 07.3 -1.7
WMQ XPKP 07 08 21.3
WMQ PP PP 07 10 11.9 +2.2
WMQ PP PP
comp=Z,143nm,5.5s
WMQ LR LR
comp=N,42nm,29.5s
WMQ LR LR
comp=Z,36nm,26.4s,MS3.9
BJI Beijing 128.97 341 PKP PKPdf 07 08 11.0 -0.8
HHC Hu-ho-hao-te 129.49 346 ePKP PKPdf 07 08 12.1 -0.7
HHC XPKP 07 08 26.8
HHC PP PP 07 10 24.8 +2.2
HHC PKS 07 11 47.3
HHC SKS SKSdf 07 15 18.9 -3.2
HHC SKKS SKKSac 07 17 12.8 -4.6
HHC SS SS 07 27 44.8 +2.2
HHC PP PP
comp=Z,48nm,6.2s
HHC LR LR
comp=N,81nm,23.3s,MS4.7
HHC LR LR
comp=E,150nm,24.3s,MS4.7
HHC LR LR
comp=Z,74nm,23.6s,MS4.3
SSE Sheshan 134.77 331 PKP PKPdf 07 08 22.3 -0.4
NJ2 Nanjing 135.04 334 ePKP PKPdf 07 08 23.3 +0.1
NJ2 XPKP 07 08 37.3
NJ2 PP PP 07 11 02.0 +3.8
NJ2 PKS 07 11 58.0
NJ2 PP PP
comp=Z,30nm,6.8s
NJ2 LR LR
comp=N,850nm,36.1s
NJ2 LR LR
comp=E,1μm,27.2s
NJ2 LR LR
comp=Z,380nm,34.1s,MS4.9
ASAR Alice Springs 141.77 242 PKP PKPdf 07 08 32.7 -2.9
comp=Z,1.2nm,0.6s,baz=110,slow=3.5,SNR=8.1
WB2 Warramunga Arr 142.34 248 eP PKPdf 07 08 29.0 -7.6
WRA Warramunga Arr 142.35 248 PKP PKPdf 07 08 34.2 -2.4
comp=Z,2.1nm,0.7s,baz=95,slow=2.8,SNR=11
FITZ Fitzroy Crossi 150.78 247 eP PKPdf 07 08 55.6 +4.8
comp=Z,6.9nm,0.8s

WEL 23 07:01:11.4±0.3, 4034S×17339E, h192km±2km, ML3.6/10, 5C, Error ellipse: s-maj=2.1km s-min=1.9km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUWZ	**D'Urville Isla**	**0.62**	**139**	PN	Pn	07 01 38.3	+0.3
DUWZ				SN	Sn	07 01 58.7	+0.1
QRZ	**Quartz Range**	**0.82**	**233**	↑PN	Pn	07 01 38.8	-0.3
QRZ				SN	Sn	07 01 59.4	-1.1
NNZ	**Nelson**	**0.88**	**181**	PN	Pn	07 01 39.4	-0.1
NNZ				SN	Sn	07 02 01.2	0.0
TCW	**Tory Channel**	**1.10**	**143**	PN	Pn	07 01 41.4	+0.4
TCW				SN	Sn	07 02 03.2	-0.7
TUWZ	**Tuamarina**	**1.17**	**159**	PN	Pn	07 01 41.6	+0.1
TUWZ				SN	Sn	07 02 04.0	-0.8
KIW	**Kapiti Island**	**1.27**	**115**	PN	Pn	07 01 42.4	+0.1
KIW				SN	Sn	07 02 04.8	-1.4
MRW	**Makara Radio**	**1.33**	**132**	↑PN	Pn	07 01 43.0	+0.1
MRW				SN	Sn	07 02 06.1	-1.1
WAZ	**Wanganui**	**1.35**	**65**	PN	Pn	07 01 43.3	+0.3
WAZ				SN	Sn	07 02 07.7	+0.2
SNZO	**South Karori**	**1.39**	**135**	↑PN	Pn	07 01 43.3	0.0
SNZO				SN	Sn	07 02 06.8	-1.3
BSWZ	**Blackbirch Sta**	**1.43**	**165**	PN	Pn	07 01 43.6	0.0
BSWZ				SN	Sn	07 02 08.3	-0.3
THZ	**Tophouse**	**1.47**	**194**	↑PN	Pn	07 01 43.8	-0.3
THZ				SN	Sn	07 02 07.7	-1.7
CAW	**Cannon Point**	**1.49**	**122**	PN	Pn	07 01 44.3	+0.1
CAW				SN	Sn	07 02 08.3	-1.4
BHW	**Baring Head**	**1.55**	**134**	PN	Pn	07 01 44.4	-0.3
VRZ	**Vera Road**	**1.60**	**42**	PN	Pn	07 01 44.4	-0.8
VRZ				SN	Sn	07 02 10.2	-1.3
MRZ	**Mangatainoka R**	**1.70**	**102**	↑PN	Pn	07 01 46.0	-0.1
MRZ				SN	Sn	07 02 11.3	-1.9
MSWZ	**Moikau Station**	**1.77**	**128**	SN	Sn	07 02 12.9	-1.6
DSZ	**Denniston Nort**	**1.85**	**220**	PN	Pn	07 01 46.8	-0.9
DSZ				SN	Sn	07 02 12.9	-3.1
TIWZ	**Tintock**	**1.95**	**104**	PN	Pn	07 01 48.7	0.0
TIWZ				SN	Sn	07 02 16.1	-1.6
WNVZ	**Wahianoa**	**1.97**	**60**	PN	Pn	07 01 48.4	-0.6
FWVZ	**Far West T-bar**	**1.98**	**58**	PN	Pn	07 01 48.3	-0.8
FWVZ				SN	Sn	07 02 18.1	-0.2
TSZ	**Takapari Road**	**1.99**	**83**	PN	Pn	07 01 48.8	-0.3
TSZ				SN	Sn	07 02 16.7	-1.7
KHZ	**Kahutara**	**2.08**	**177**	PN	Pn	07 01 49.0	-1.1
KHZ				SN	Sn	07 02 17.7	-2.5
BFZ	**Birch Farm**	**2.20**	**100**	PN	Pn	07 01 51.2	-0.2
BFZ				SN	Sn	07 02 20.3	-2.3
LTZ	**Lake Taylor**	**2.59**	**199**	PN	Pn	07 01 54.5	-1.2
LTZ				*e*SN	Sn	07 02 25.9	-4.3

IDC ***23*** *07:24:20.9±0.5, 3094S×1345W, h0km, mb4.3/19, mb1 4.4/19, mb1mx4.3/24, mbtmp4.3/19, MS4.2/13, Ms1 4.2/13, ms1mx4.2/14, Error ellipse: s-maj=16.6km s-min=12.9km az=160.0*

MOS ***23*** *07:24:21.4±0.7, 3095S×1338W, h10km, mb5.1/24, Error ellipse: s-maj=17.4km s-min=8.6km az=76.4*

ISCJB ***23*** *07:24:21.4±0.3, 3097S±005×1343W±008, h10km, mb4.6/43, MS4.3/18, Error ellipse: s-maj=9.9km s-min=7.2km az=51.0*

BJI ***23*** *07:24:22.4, 3100S×1340W, h10km, mB5.2, Ms5.1, Msz4.7*

NEIC ***23*** *07:24:22.9±0.2, 3096S×1339W, h10km, mb4.8/29, Error ellipse: s-maj=8.3km s-min=6.3km az=135.0*

HRVD ***23*** *07:24:22.9±0.3, 3120S×1330W, h14km±1km, MW5.0/70, Centroid moment Tensor Solution. LP body waves: s22,c27;Mantle waves: s70,c90; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.94±.19; Mθθ 0.14±.13; Mϕϕ 2.80±.14; Mrθ -1.56±.36; Mθϕ -0.70±.07; Mϕr-0.11±.25; Best double couple: M=3.29900×10^16 NP1:ϕs 7.00000°, δ47.00000°, λ-57.00000°. NP2: ϕs 144.00000°, δ52.00000°, λ-120.00000°. Principal axes: T 2.9850, Plg3.0000°, Azm255.0000°; N 0.6250, Plg23.0000°, Azm163.0000°; P -3.6140, Plg67.0000°, Azm352.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SZGRF ***23*** *07:24:27.7, 3039S×1282W, h22km, mb5.1, Southern Mid-Atlantic Ridge*

ISC 23 07:24:22.9±0.3, 3096S±005×1341W±008, h10km, (h18km±2.3km: pP-P), n140, s0s65/115, mb4.6/43, MS4.3/18, 3D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**29.09**	**102**	LR	LR	07 39 23.7	
comp=Z,757nm,19.9s,MS4.3,baz=279,slow=31							
TSUM	**Tsumeb**	**30.31**	**75**	P	**P**	**07 30 34.9**	**+0.5**
TSUM	3.8nm,0.7s,mb4.2,baz=238,slow=14,SNR=4.5			LR	LR	07 40 31.1	
comp=Z,1μm,19.8s,MS4.6,baz=149,slow=32							
TSUM	**Tsumeb**	**30.31**	**75**	*eP*	**P**	**07 30 35.1**	**+0.7**
6.3nm,0.8s,mb4.4							
LBTB	**Lobatse**	**34.82**	**90**	P	**P**	**07 31 14.3**	**+0.4**
8.5nm,0.9s,mb4.7,baz=242,slow=7.4,SNR=6.8							
LBTB	**Lobatse**	**34.82**	**90**	*eP*	**P**	**07 31 14.4**	**+0.5**
LBTB				pmax	pmax		
comp=Z,27nm,1.4s,mb5.0							
LBTB	**Lobatse**	**34.82**	**90**	*eP*	**P**	**07 31 14.4**	**+0.5**
comp=Z,27nm,1.4s,mb5.0							
BDFB	**Brasilia**	**35.08**	**288**	P	**P**	**07 31 15.6**	**-0.5**
comp=Z,9.9nm,0.8s,mb4.8,baz=106,slow=4.8,SNR=14							
BDFB				LR	LR	07 42 58.7	
comp=Z,503nm,20.6s,MS4.2,baz=122,slow=32							
DBIC	**Dimbokro**	**38.30**	**14**	P	**P**	**07 31 43.5**	**0.0**
comp=Z,10nm,1.0s,mb4.5,baz=144,slow=11,SNR=5.1							
DBIC				LR	LR	07 43 17.5	
comp=Z,111nm,20.7s,MS3.7,baz=80,slow=30							
DBIC	**Dimbokro**	**38.30**	**14**	*eP*	**P**	**07 31 43.7**	**+0.1**
DBIC				pmax	pmax		
comp=Z,14nm,1.1s							

DBIC Dimbokro 38.30 14 *eP* **P 07 31 43.7 +0.1**
comp=Z,14nm,1.1s,mb4.6
CPUP Villa Florida 38.64 266 P **P 07 31 46.5 +0.2**
comp=Z,3.1nm,0.9s,mb4.0,baz=117,slow=10.0,SNR=3.4
CPUP LR LR 07 45 18.1
comp=Z,510nm,19.4s,MS4.3,baz=122,slow=33
CPUP Villa Florida 38.64 266 *eP* **P 07 31 48.0 +1.6**
CPUP pmax pmax
comp=Z,11nm,0.8s
CPUP Villa Florida 38.64 266 *eP* **P 07 31 48.0 +1.6**
comp=Z,11nm,0.8s,mb4.7
EFI East Falkland 38.64 224 *eP* **P 07 31 50.5 +4.1**
MATP Matopo 38.99 85 P **P 07 31 49.9 +0.5**
comp=Z,17nm,0.8s,mb4.8,baz=238,slow=8.5,SNR=31
VNA1 Neumayer--Stat 39.84 177 *↓iP* **P 07 31 56.6 +0.2**
VNA1 *e* 07 32 01.7
VNA1 *e* 07 32 03.4
VNA1 *e* 07 32 09.5
VNA1 *e* 07 32 13.6
VNA1 *e* 07 32 19.6
VNA2 Neumayer--Watz 40.15 177 *↓iP* **P 07 31 59.0 0.0**
baz=347,slow=11
VNA2 *e* pP 07 32 03.5 +1.4
VNA2 *e* 07 32 06.1
VNA2 *e* 07 32 10.3
VNA2 *e* 07 32 16.1
VNA2 *e* 07 32 21.5
TRQA Tornquist 40.27 246 *eP* **P 07 31 60.0 -0.1**
VNA3 Neumayer Olymp 40.38 178 *↓iP* **P 07 32 00.2 -0.8**
VNA3 *e* 07 32 05.3
VNA3 *e* 07 32 07.5
VNA3 *e* 07 32 12.3
VNA3 *e* 07 32 16.8
VNA3 *e* 07 32 22.6
LSZ Lusaka 41.06 77 P **P 07 32 07.1 +0.6**
comp=Z,7.0nm,0.9s,mb4.3,baz=229,slow=7.5,SNR=9.6
LSZ Lusaka 41.06 77 *eP* **P 07 32 08.3 +1.8**
LSZ pmax pmax
comp=Z,17nm,1.2s,mb4.5
LSZ Lusaka 41.06 77 *eP* **P 07 32 08.3 +1.8**
comp=Z,17nm,1.2s,mb4.5
SNAA Sanae 41.16 175 P **P 07 32 07.2 -0.2**
comp=Z,0.6nm,0.9s,mb3.2,baz=20,slow=14,SNR=2.8
SNAA PcP PcP 07 34 06.2 -0.4
comp=Z,0.9nm,1.0s,baz=18,slow=3.2,SNR=4.1
SNAA Sanae 41.16 175 *eP* **P 07 32 07.1 -0.3**
SNAA *e* pP 07 32 11.7 +1.2
SNAA *e* 07 32 13.6
SNAA *e* 07 32 19.0
SNAA *e* 07 32 23.3
SNAA *e* 07 32 29.6
SNAA Sanae 41.16 175 *eP* **P 07 32 06.5 -0.9**
SNAA pmax pmax
comp=Z,34nm,1.8s
SNAA Sanae 41.16 175 *eP* **P 07 32 06.5 -0.9**
comp=Z,34nm,1.8s,mb4.7
SIV San Ignacio 45.85 278 P **P 07 32 46.0 +0.8**
comp=Z,9.9nm,0.5s,mb4.0,baz=283,slow=16,SNR=7.8
TORD Torodi Ar. Bea 46.20 21 P **P 07 32 47.9 -0.1**
comp=Z,8.9nm,1.0s,mb4.6,baz=197,slow=6.7,SNR=22
CFAA Coronel Fontan 46.44 254 P **P 07 32 48.8 -1.0**
comp=Z,0.6nm,0.7s,mb3.6,baz=92,slow=8.6,SNR=9.0
PLCA Paso Flores 46.61 241 P **P 07 32 50.7 -0.5**
comp=Z,2.5nm,0.9s,mb4.1,baz=79,slow=5.2,SNR=2.5
PLCA Paso Flores 46.61 241 *eP* **P 07 32 53.9 +2.7**
PLCA pmax pmax
comp=Z,4.0nm,0.7s
PLCA Paso Flores 46.61 241 *eP* **P 07 32 53.9 +2.7**
comp=Z,4.4nm,0.7s,mb4.5
LVC Limon Verde 49.81 265 P **P 07 33 19.2 +3.3**
comp=Z,4.3nm,0.9s,mb4.5
LPAZ La Paz 51.75 273 P **P 07 33 30.5 0.0**
comp=Z,5.6nm,0.9s,mb4.5,baz=212,slow=7.7,SNR=3.8
LPAZ LR LR 07 56 04.3
comp=Z,289nm,18.2s,MS4.3,baz=268,slow=37
LPAZ La Paz 51.75 273 *eP* **P 07 33 30.8 +0.3**
KMBO Kilima Mbogo 56.33 68 LR LR 07 56 57.1
comp=Z,435nm,18.8s,MS4.6,baz=274,slow=35
MAW Mawson 56.57 154 P **P 07 34 05.4 -0.3**
comp=Z,3.5nm,0.9s,mb4.4,baz=290,slow=15,SNR=3.3
MAW LR LR 07 52 16.8
comp=Z,155nm,18.4s,MS4.1,baz=248,slow=30
QSPA South Pole Qui 59.27 180 *eP* **P 07 34 24.7 +0.1**
comp=Z,6.6nm,0.8s,mb4.7
SDV Santo Domingo 67.61 296 *eP* **P 07 35 19.6 -0.2**
comp=Z,10nm,1.0s,mb4.8
ROSC El Rosal 68.10 290 LR LR 08 04 23.9
comp=Z,250nm,21.7s,MS4.4,baz=286,slow=35
OTAV Otavalo 68.88 284 *eP* **P 07 35 34.5 +6.7**
comp=Z,3.2nm,0.9s,mb4.2
EVO Evora 69.32 5 *eP* **P 07 35 30.9 +0.4**
comp=Z,22nm,0.7s,mb4.9
EVO *eR*
comp=Z,165nm,21.2s
ESDC Sonseca Array 70.82 8 P **P 07 35 39.3 -0.4**
comp=Z,0.7nm,0.4s,mb4.0,baz=179,slow=7.0,SNR=7.0
ESLA Sonseca Array 70.82 8 *eP* **P 07 35 39.3 -0.4**
comp=Z,7.5nm,1.3s,mb4.5
SBA Scott Base 71.44 180 *eP* **P 07 35 43.8 +0.4**
SBA pmax pmax
comp=Z,78nm,2.2s,mb5.2
SBA Scott Base 71.44 180 *eP* **P 07 35 43.8 +0.4**
comp=Z,78nm,2.2s,mb5.2
VNDA Vanda 71.73 179 P **P 07 35 44.3 -0.9**
comp=Z,1.2nm,1.0s,mb3.8,baz=199,slow=3.5,SNR=3.0
VNDA LR LR 08 02 39.6
comp=Z,149nm,20.7s,MS4.2,baz=181,slow=32
ETSF Etsaut 74.44 10 *eP* **P 07 36 01.3 +0.1**
comp=Z,14nm,0.8s,mb4.6
ETSF Etsaut 74.44 10 *eP* **P 07 36 01.3 +0.1**
ETSF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
ETSF Etsaut 74.44 10 *eP* **P 07 36 01.3 +0.1**
comp=Z,6.8nm,0.8s,mb4.6
EPF Esparros 74.71 10 *eP* **P 07 36 03.1 +0.3**
TIP Timpagrande 75.22 24 *eP* **P 07 36 05.3 -0.4**
MTLF Montolieu 75.32 12 *eP* **P 07 36 06.3 0.0**
PGF Pioggiola 76.00 17 *eP* **P 07 36 10.0 -0.2**
comp=Z,16nm,0.8s,mb4.7
PGF Pioggiola 76.00 17 *eP* **P 07 36 10.0 -0.2**
PGF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
PGF Pioggiola 76.00 17 *eP* **P 07 36 10.0 -0.2**
comp=Z,7.9nm,0.8s,mb4.7
LMR La Mourre 76.16 15 *eP* **P 07 36 10.8 -0.3**
SMRF Simiane la Rot 76.57 14 *eP* **P 07 36 13.6 +0.1**
comp=Z,14nm,1.0s,mb4.5
SMRF Simiane la Rot 76.57 14 *eP* **P 07 36 13.6 +0.1**
comp=Z,14nm,1.0s,mb4.8
CAF Calviac 76.83 11 *eP* **P 07 36 14.9 0.0**
SBF Sospel 76.87 15 *eP* **P 07 36 14.9 -0.2**
VIVF Saint-Julien-l 77.23 13 *eP* **P 07 36 17.1 -0.1**
comp=Z,33nm,1.1s,mb4.9
VIVF Saint-Julien-l 77.23 13 *eP* **P 07 36 17.1 -0.1**
VIVF pmax pmax
comp=Z,16nm,1.1s,mb4.9
VIVF Saint-Julien-l 77.23 13 *eP* **P 07 36 17.1 -0.1**
comp=Z,16nm,1.1s,mb4.9
ORIF Oris-en-Rattie 77.54 14 *eP* **P 07 36 19.1 +0.2**
comp=Z,15nm,0.9s,mb4.6
ORIF *eR*
comp=Z,102nm,20.2s
ORIF Oris-en-Rattie 77.54 14 *eP* **P 07 36 19.1 +0.2**
ORIF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
ORIF Oris-en-Rattie 77.54 14 *eP* **P 07 36 19.1 +0.2**
comp=Z,7.4nm,0.9s,mb4.6
MBDF Montbardon 77.54 15 *eP* **P 07 36 19.0 +0.1**
comp=Z,13nm,0.8s,mb4.6
MBDF Montbardon 77.54 15 *eP* **P 07 36 19.0 +0.1**
MBDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MBDF Montbardon 77.54 15 *eP* **P 07 36 19.0 +0.1**
comp=Z,6.4nm,0.8s,mb4.6
LPG La Plagne 78.27 14 *eP* **P 07 36 23.3 +0.3**
comp=Z,24nm,0.9s,mb4.8
LPG La Plagne 78.27 14 *eP* **P 07 36 23.3 +0.3**
LPG pmax pmax
comp=Z,12nm,0.9s,mb4.8
LPG La Plagne 78.27 14 *eP* **P 07 36 23.3 +0.3**
comp=Z,12nm,0.9s,mb4.8
LPL La Plagne 78.29 14 *eP* **P 07 36 22.9 -0.2**
comp=Z,29nm,0.9s,mb4.9
LPL La Plagne 78.29 14 *eP* **P 07 36 22.9 -0.2**
LPL pmax pmax
comp=Z,14nm,0.9s,mb4.9

LPL	**La Plagne**	**78.29**	**14**	*e*P	**P**	**07 36 22.9**	**-0.2**
	comp=Z,14nm,0.9s,mb4.9							
SMF	**Signal de Mont**	**78.81**	**12**	*e*P	**P**	**07 36 26.2**	**+0.3**
	comp=Z,9.1nm,0.7s,mb4.5							
SMF	**Signal de Mont**	**78.81**	**12**	*e*P	**P**	**07 36 26.2**	**+0.3**
SMF				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5							
SMF	**Signal de Mont**	**78.81**	**12**	*e*P	**P**	**07 36 26.2**	**+0.3**
	comp=Z,4.6nm,0.7s,mb4.5							
AVF	**Avril sur Loir**	**78.86**	**12**	*e*P	**P**	**07 36 26.0**	**-0.2**
	comp=Z,24nm,0.9s,mb4.8							
AVF	**Avril sur Loir**	**78.86**	**12**	*e*P	**P**	**07 36 26.0**	**-0.2**
AVF				pmax	pmax			
	comp=Z,12nm,0.9s,mb4.8							
AVF	**Avril sur Loir**	**78.86**	**12**	*e*P	**P**	**07 36 26.0**	**-0.2**
	comp=Z,12nm,0.9s,mb4.8							
SSF	**Saint Saulge**	**79.15**	**12**	*e*P	**P**	**07 36 27.6**	**-0.2**
	comp=Z,9.9nm,0.7s,mb4.5							
SSF	**Saint Saulge**	**79.15**	**12**	*e*P	**P**	**07 36 27.6**	**-0.2**
SSF				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5							
SSF	**Saint Saulge**	**79.15**	**12**	*e*P	**P**	**07 36 27.6**	**-0.2**
	comp=Z,4.9nm,0.7s,mb4.5							
CABF	**La Chapelle**	**79.20**	**14**	*e*P	**P**	**07 36 27.4**	**-0.7**
	comp=Z,14nm,0.8s,mb4.6							
CABF	**La Chapelle**	**79.20**	**14**	*e*P	**P**	**07 36 27.4**	**-0.7**
CABF				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.6							
CABF	**La Chapelle**	**79.20**	**14**	*e*P	**P**	**07 36 27.4**	**-0.7**
	comp=Z,6.8nm,0.8s,mb4.6							
LOR	**Lormes**	**79.41**	**12**	*e*P	**P**	**07 36 28.8**	**-0.4**
	comp=Z,13nm,0.8s,mb4.6							
LOR				*e*R				
	comp=Z,106nm,18.8s							
LOR	**Lormes**	**79.41**	**12**	*e*P	**P**	**07 36 28.8**	**-0.4**
LOR				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.6							
LOR	**Lormes**	**79.41**	**12**	*e*P	**P**	**07 36 28.8**	**-0.4**
	comp=Z,6.4nm,0.8s,mb4.6							
ROSF	**Rostrenen**	**79.46**	**7**	*e*P	**P**	**07 36 29.7**	**+0.2**
HAU	**Haudompre**	**80.58**	**13**	*e*P	**P**	**07 36 35.4**	**-0.2**
HAU				*e*R				
	comp=Z,54nm,17.2s							
GCIS	**Gornji Cirnik**	**80.88**	**20**	*e*P	**P**	**07 36 37.7**	**+0.6**
GROS	**Grobnik**	**81.38**	**20**	*e*P	**P**	**07 36 40.3**	**+0.5**
BAIF	**Baives**	**82.17**	**11**	*e*P	**P**	**07 36 43.8**	**-0.2**
BR131	**Keskin Array S**	**82.79**	**35**	*e*P	**P**	**07 36 48.0**	**+0.8**
	comp=Z,1.6nm,0.6s,mb4.2							
BRTR	**Keskin Array B**	**82.79**	**35**	P	**P**	**07 36 46.8**	**-0.4**
	comp=Z,5.3nm,0.9s,mb4.5,baz=185,slow=5.7,SNR=26							
GERES	**GERESS Array B**	**83.06**	**18**	P	**P**	**07 36 47.9**	**-0.7**
	comp=Z,1.3nm,0.7s,mb4.1,baz=193,slow=5.5,SNR=8.1							
GERES				LR	LR	08 13 01.3		
	comp=Z,64nm,19.1s,MS4.0,baz=114,slow=35							
GRF	**Grafenberg Arr**	**83.23**	**16**	*e*P	**P**	**07 36 49.5**	**0.0**
	comp=Z,14nm,1.1s,mb4.9							
GRF				*e*pP	pP	07 36 55.9	+3.0	
GRF	**Grafenberg Arr**	**83.23**	**16**	*e*P	**P**	**07 36 49.5**	**0.0**
GRF				*e**PP	pP	07 36 55.9	+3.0	
GRF				pmax	pmax			
	comp=Z,14nm,1.1s,mb4.9							
GRF	**Grafenberg Arr**	**83.23**	**16**	*e*P	**P**	**07 36 49.5**	**0.0**
GRF				*e**PP	pP	07 36 55.9	+3.0	
GRF				pmax	pmax			
	comp=Z,14nm,1.1s,mb4.9							
KHC	**Kasperske Hory**	**83.29**	**17**	*e*P	**P**	**07 36 49.5**	**-0.3**
PSZ	**Piszkesteto**	**84.02**	**22**	*e*P	**P**	**07 36 53.5**	**-0.1**
PSZ				pmax	pmax			
	comp=Z,21nm,0.9s,mb5.3							
PSZ	**Piszkesteto**	**84.02**	**22**	*e*P	**P**	**07 36 53.5**	**-0.1**
	comp=Z,20nm,0.9s,mb5.3							
NKC	**Novy Kostel**	**84.03**	**16**	*e*P	**P**	**07 36 53.0**	**-0.6**
PRU	**Pruhonice**	**84.33**	**18**	*e*P	**P**	**07 36 55.2**	**+0.1**
KECS	**Kecovo**	**84.71**	**22**	*i* P	**P**	**07 36 57.2**	**+0.1**
KECS				*e*		07 37 03.9		
DPC	**Dobruska-Polom**	**85.14**	**19**	*e*P	**P**	**07 36 59.2**	**0.0**
CLL	**Collm**	**85.16**	**16**	*e*P	**P**	**07 37 02.0**	**+2.7**
CLL	**Collm**	**85.16**	**16**	*e*P	**P**	**07 36 53.0**	**-6.3**
CLL				pmax	pmax			
	comp=Z,16nm,1.5s,mb4.9							
UPC	**Upice**	**85.19**	**18**	*e*P	**P**	**07 36 59.8**	**+0.3**
CRVS	**Cervenica-Dubn**	**85.39**	**22**	*e*P	**P**	**07 37 01.6**	**+1.1**
CRVS				*e*		07 37 12.7		
STHS	**Stebnicka Huta**	**85.77**	**22**	*e*P	**P**	**07 37 02.6**	**+0.2**
AKASG	**Malin Array Be**	**89.61**	**26**	P	**P**	**07 37 18.7**	**-2.1**
	comp=Z,1.9nm,0.6s,mb4.6,baz=220,slow=4.9,SNR=9.6							
KIV	**Kislovodsk**	**90.46**	**37**	*e*P	**P**	**07 37 24.0**	**-0.8**
KIV				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.9							
KONO	**Kongsberg**	**92.26**	**11**	*e*P	**P**	**07 37 32.6**	**-0.5**
NOA	**NORSAR Array B**	**93.85**	**12**	LR	LR	08 18 53.8		
	comp=Z,43nm,18.2s,MS4.0,baz=335,slow=35							
VSU	**Vasula**	**95.18**	**20**	*e*P	**P**	**07 37 46.7**	**+0.1**
FINES	**FINESS Array B**	**97.49**	**18**	LR	LR	08 19 29.6		
	comp=Z,54nm,21.3s,MS4.0,baz=211,slow=34							
RKT	**Rikitea**	**102.36**	**233**	*e*LR	LR	08 11 33.6		
	comp=Z,124nm,37.2s							
TBI	**Tubuai**	**111.51**	**223**	*e*LR	LR	08 15 46.7		
	comp=Z,95nm,30.2s							
PPT	**Papeete**	**115.95**	**227**	*e*LR	LR	08 17 50.3		
	comp=Z,124nm,24.8s							
ASAR	**Alice Springs**	**117.29**	**146**	PKP	PKPdf	07 43 08.5	0.0	
	comp=Z,1.6nm,0.7s,baz=189,slow=1.6,SNR=15							
WMQ	**Urumqi**	**118.23**	**54**	*e*PKP	PKPdf	07 43 09.3	-1.0	
WMQ				XPKP		07 43 16.3		
WMQ				PP	PP			
	comp=Z,38nm,4.1s							
WMQ				LR	LR			
	comp=N,83nm,26.0s,MS4.4							
WMQ				LR	LR			
	comp=E,90nm,24.4s,MS4.4							
WMQ				LR	LR			
	comp=Z,86nm,22.8s,MS4.3							
WRA	**Warramunga Arr**	**120.65**	**144**	PKP	PKPdf	07 43 13.6	-1.4	
	comp=Z,1.7nm,0.9s,baz=236,slow=1.9,SNR=6.4							
YKA	**Yellowknife Ar**	**122.06**	**327**	PKP	PKPdf	07 43 15.6	-2.0	
	comp=Z,0.5nm,0.8s,baz=108,slow=2.1,SNR=3.7							
KMI	**Kunming**	**124.01**	**79**	PKP	PKPdf	07 43 20.0	-1.4	
KMI				XPKP		07 43 25.9		
KMI				LR	LR			
	comp=Z,60nm,36.3s,MS4.0							
LZH	**Lanzhou**	**128.23**	**66**	*e*PKP	PKPdf	07 43 29.8	+0.3	
LZH				XPKP		07 43 34.5		
LZH				LR	LR			
	comp=E,197nm,18.3s							
LZH				LR	LR			
	comp=Z,298nm,20.4s,MS5.0							
INK	**Inuvik**	**129.46**	**335**	*e*PKIKP	PKPdf	07 43 30.0	-1.8	
HHC	**Hu-ho-hao-te**	**135.00**	**62**	*e*PKP	PKPdf	07 43 42.8	+0.5	
HHC				PP	PP	07 46 21.0	+4.1	
HHC				PKS		07 47 16.9		
HHC				SKS	SKSdf	07 50 52.6	-0.8	
HHC				SKKS	SKKSac	07 53 13.6	+1.1	
HHC				SS	SS	08 04 15.8	+5.2	
HHC				PP	PP			
	comp=Z,77nm,7.4s							
HHC				LR	LR			
	comp=N,120nm,22.9s,MS4.8							
HHC				LR	LR			
	comp=E,206nm,24.1s,MS4.8							
HHC				LR	LR			
	comp=Z,103nm,20.5s,MS4.5							
ILAR	**Eielson Array**	**135.72**	**334**	PKP	PKPdf	07 43 42.6	-1.0	
	comp=Z,1.5nm,0.7s,baz=358,slow=1.4,SNR=14							
NJ2	**Nanjing**	**139.55**	**76**	*e*PKP	PKPdf	07 43 47.3	-3.4	
NJ2				XPKP		07 44 00.3		
NJ2				PP	PP	07 46 47.0	+1.7	
NJ2				PKS		07 47 22.0		
NJ2				PP	PP			
	comp=Z,30nm,7.4s							
NJ2				LR	LR			
	comp=Z,100nm,34.6s,MS4.3							
SSE	**Sheshan**	**141.30**	**78**	*e*PKP	PKPdf	07 43 53.3	-0.6	
BILL	**Bilibino**	**142.89**	**0**	*e*PKIKP	PKPdf	07 43 56.7	0.0	
BILL	**Bilibino**	**142.89**	**0**	*e*PKPdf	PKPdf	07 43 56.7	0.0	
CN2	**Changchun**	**145.23**	**57**	*e*PKP	PKPdf	07 43 59.9	-0.9	
MDJ	**Mudanjiang**	**148.03**	**54**	PKP	PKPdf	07 44 05.0	-0.5	
MDJ	**Mudanjiang**	**148.03**	**54**	*e*PKPbc	PKPbc	07 44 07.6	-1.0	
KLR	**Kul'dur**	**148.08**	**45**	*e*PKIKP	PKPdf	07 44 03.8	-1.8	

*ISCJB **23** 07:29:05.4±1.3, 3.1S±02×1297E±03, h10km, mb4.0/3, Error ellipse: s-maj=43.5km s-min=18.1km az=140.0*
*IDC **23** 07:29:05.9±1.3, 3.12S×129.71E, h0km, mb4.0/4, mb1 4.1/6, mb1mx3.9/17, mbtmp4.0/6, ML3.7/2, Error ellipse: s-maj=58.3km s-min=16.7km az=72.0*

ISC 23 07:29:06.5±4.8, 30S±.01×1299E±03, h4km±31km, n10, σ0§99/10, mb4.0/3, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**15.58**	**195**	*e*P	**Pn**	**07 32 50.0**	**+3.0**
	4.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.58**	**195**	Pn	**Pn**	**07 32 46.2**	**-0.8**
	0.1nm,0.3s,baz=24,slow=18,SNR=3.8						
WRA	**Warramunga Arr**	**17.39**	**166**	P	**Pn**	**07 33 09.1**	**-1.0**
	0.5nm,0.3s,baz=346,slow=13,SNR=14						
WB2	**Warramunga Ar**	**17.40**	**166**	*e*P	**Pn**	**07 33 09.7**	**-0.4**
ASAR	**Alice Springs**	**20.91**	**170**	P	**P**	**07 33 50.6**	**+0.7**
	6.2nm,0.6s,baz=349,slow=10,SNR=107						
ASAR				S	**S**	**07 37 43.6**	**0.0**
	1.8nm,1.1s,baz=351,slow=19,SNR=6.5						
ASPA	**Alice Springs**	**20.91**	**170**	*e*P	**P**	**07 33 51.3**	**+1.3**
CTA	**Charters Tower**	**23.31**	**138**	P	**P**	**07 34 16.3**	**+0.7**
	2.0nm,0.6s,mb3.7,baz=306,slow=14,SNR=3.0						
STKA	**Stephens Creek**	**30.77**	**160**	P	**P**	**07 35 21.4**	**-1.6**
	1.6nm,0.4s,mb4.2,baz=348,slow=8.8,SNR=11						
MKAR	**Makanchi Array**	**64.86**	**326**	P	**P**	**07 39 46.7**	**0.0**
	0.9nm,0.7s,mb3.9,baz=125,slow=8.2,SNR=6.9						
CPUP	**Villa Florida**	**150.02**	**167**	PKPbc	PKPbc	07 48 59.1	+0.8
	1.3nm,0.6s,baz=165,slow=12,SNR=5.7						

MEX 23 07:47:53.4±0.8, 1663N×9520W, h108km±22km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.22**	**226**	*i* P	**Pn**	**07 48 15.1**	**-1.7**
HUIG				*i* S	Sn	07 48 33.4	-1.2
VHO	**Vista Hermosa**	**1.53**	**287**	*i* P	**Pn**	**07 48 19.6**	**-0.9**
VHO				*i* S	Sn	07 48 39.5	-1.5
UTMO	**Huajuapan**	**2.76**	**296**	*i* P	**Pn**	**07 48 35.4**	**-0.7**
UTMO				*i* S	Sn	07 49 06.2	-2.7
CCIG	**Comitan**	**2.96**	**96**	*i* P	**Pn**	**07 48 38.1**	**-0.7**
CCIG				*i* S	Sn	07 49 11.3	-2.5

*ISCJB **23** 07:48:06.6±0.5, 3820N±003×2672E±004, h10km, Error ellipse: s-maj=4.2km s-min=3.9km az=174.9*
*CSEM **23** 07:48:06.7±0.1, 3817N×2682E, h5km, MD2.6, Error ellipse: s-maj=2.8km s-min=1.8km az=98.0*
*ATH **23** 07:48:06.7, 3818N×2674E, h10km, MD3.0/3*
*ISK **23** 07:48:06.1, 3820N×2675E, h17km, MD2.6*

ISC 23 07:48:06.6±0.6, 3819N±003×2670E±004, h9km±5km, n16, σ0§67/28, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.19**	**335**	*i* P	**Pg**	**07 48 10.0**	**-0.5**
URLA				*i* S	**Sg**	**07 48 13.2**	**0.0**
IZM	**Izmir**	**0.49**	**65**	PG	**Pg**	**07 48 15.8**	**-0.3**
IZM				SG	**Sg**	**07 48 22.2**	**-0.4**
SMG	**Samos**	**0.49**	**167**	*e*PB	**Pg**	**07 48 16.0**	**-0.1**
KDAG	**Bornova**	**0.50**	**64**	*i* P	**Pg**	**07 48 16.1**	**-0.1**
KDAG				*i* S	**Sg**	**07 48 23.3**	**+0.5**
AYDN	**Tasoluk**	**1.07**	**119**	*i* P	**Pg**	**07 48 27.2**	**+0.1**
AYDN				*i* S	**Sg**	**07 48 41.5**	**+0.4**
AYDN	**Tasoluk**	**1.07**	**119**	*i* P	**Pg**	**07 48 27.2**	**0.0**
AYDN				*i* S	**Sg**	**07 48 41.5**	**+0.4**
PRK	**Paraskevi**	**1.11**	**343**	*e*PB	**Pb**	**07 48 28.0**	**+0.1**
AKS	**Akhisar**	**1.11**	**51**	PG	**Pg**	**07 48 27.0**	**-1.0**
AKS				SG	**Sg**	**07 48 42.4**	**0.0**
AYVA	**Ayvalik**	**1.12**	**360**	*i* P	**Pb**	**07 48 29.0**	**+0.9**
AYVA				*i* S	**Sb**	**07 48 47.2**	**+4.5**
AYVA	**Ayvalik**	**1.12**	**360**	*i* P	**Pb**	**07 48 29.0**	**+0.9**
AYVA				*i* S	**Sb**	**07 48 47.2**	**+4.5**
BODT	**Bodrum**	**1.23**	**156**	PN	**Pn**	**07 48 29.9**	**+0.1**
BODT				SN	**Sn**	**07 48 45.3**	**-1.2**
BDRM	**Kayabasi**	**1.27**	**152**	*i* P	**Pn**	**07 48 30.5**	**0.0**
BDRM				*i* S	**Sb**	**07 48 47.9**	**+0.9**
APE	**Apeiranthos**	**1.45**	**220**	*e*PN	**Pn**	**07 48 31.8**	**-1.2**
APE	**Apeiranthos**	**1.45**	**220**	*e*Pb	**Pb**	**07 48 34.5**	**+0.8**
MANT	**Manisa**	**1.49**	**78**	*i* P	**Pn**	**07 48 34.8**	**+1.3**
MANT				*i* S	**Sn**	**07 48 52.6**	**-0.6**
DNZL	**Cakiroluk**	**1.92**	**104**	*i* P	**Pg**	**07 48 44.3**	**+0.9**
DNZL				*i* S	**Sg**	**07 49 07.7**	**-0.6**

IDC 23 07:55:24.1±1.7, 435S×14498E, h0km, mb3.7/3, mb1 4.0/6, mb1mx3.8/14, mbtmp3.8/6, ML3.7/3, Error ellipse: s-maj=42.2km s-min=26.6km az=115.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.47**	**157**	Pn	Pn	07 56 46.6	-0.2
	4.2nm,0.3s,baz=338,slow=19,SNR=10						
PMG				Sn	Sn	07 57 39.2	-11
	4.8nm,0.3s,baz=134,slow=19,SNR=9.4						
CTA	**Charters Tower**	**15.69**	**176**	Pn	Pn	07 59 07.8	+1.4
	0.2nm,0.3s,baz=3.2,slow=17,SNR=4.0						
WRA	**Warramunga Ar**	**18.65**	**213**	P	Pn	07 59 43.3	-0.2
	0.6nm,0.3s,baz=33,slow=11,SNR=35						
ASAR	**Alice Springs**	**21.98**	**208**	P	P	08 00 18.6	-1.0
	0.9nm,0.8s,baz=38,slow=10,SNR=15						
FITZ	**Fitzroy Crossi**	**23.34**	**233**	*e*P	P	08 00 35.7	+1.7
	11nm,0.6s						
FITZ	**Fitzroy Crossi**	**23.34**	**233**	P	P	08 00 34.9	+0.9
	6.0nm,0.6s,baz=58,slow=8.9,SNR=37						
ILAR	**Eielson Array**	**84.77**	**24**	P	P	08 08 00.2	0.0
	0.3nm,0.8s,baz=253,slow=5.8,SNR=4.5						

IDC 23 08:12:39.0±2.9, 1947S×17285W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.9/15, mbtmp3.9/4, Error ellipse: s-maj=186.6km s-min=32.3km az=149.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**42.59**	**244**	P	P	08 20 36.1	-0.5
	1.4nm,0.8s,baz=100,slow=6.1,SNR=3.6						
ASAR	**Alice Springs**	**49.47**	**255**	P	P	08 21 31.9	+1.1
	2.2nm,0.7s,baz=86,slow=8.6,SNR=21						
WRA	**Warramunga Arr**	**49.55**	**260**	P	P	08 21 31.4	-0.1
	0.6nm,0.7s,baz=97,slow=6.5,SNR=18						
PDAR	**Pinedale Array**	**84.94**	**41**	P	P	08 25 16.0	0.0
	0.3nm,0.5s,baz=208,slow=3.1,SNR=3.5						
BRTR	**Keskin Array B**	**149.57**	**317**	PKPbc	PKPbc	08 32 31.1	+0.9
	0.8nm,0.8s,baz=113,slow=3.3,SNR=3.8						

*ISCJB **23** 08:33:09.6±0.6, 4241N±002×4505E±005, h2km±4km, Error ellipse: s-maj=6.0km s-min=2.8km az=166.0*
*CSEM **23** 08:33:10.0±0.2, 4234N×4490E, h14km, mb4.4, Error ellipse: s-maj=4.5km s-min=1.9km az=75.0, After OBN*
*MOS **23** 08:33:10.3±0.6, 4234N×4490E, h14km, mb4.4/1, Error ellipse: s-maj=15.0km s-min=5.1km az=107.8*

ISC 23 08:33:10.4±0.5, 4240N±002×4504E±005, h3km±4km, n32, σ1§03/55, 4D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNJR	**Sundja**	**0.69**	**346**	*i* Pg	**Pg**	**08 33 23.8**	**+0.2**
SNJR				*i* Sg	**Sg**	**08 33 34.4**	**+1.8**
LACR	**Lac**	**0.70**	**308**	*i* Pg	**Pg**	**08 33 23.3**	**-0.4**
LACR				*i* Sg	**Sg**	**08 33 33.6**	**+0.9**
VLKR	**Vladikavkaz**	**0.70**	**338**	*i* Pg	**Pg**	**08 33 23.9**	**+0.1**
VLKR				*i* Sg	**Sg**	**08 33 34.4**	**+1.5**
TBLG	**Delisi**	**0.70**	**199**	P	**Pg**	**08 33 23.4**	**-0.4**
TBLG				S	**Sg**	**08 33 34.3**	**+1.3**
TBLG	**Delisi**	**0.70**	**199**	Pg	**Pg**	**08 33 23.4**	**-0.4**
TBLG				*e*Sg	**Sg**	**08 33 34.2**	**+1.2**
MTA	**Mtatsminda**	**0.73**	**195**	P	**Pg**	**08 33 23.7**	**-0.6**
MTA				S	**Sg**	**08 33 35.4**	**+1.6**
MTA	**Mtatsminda**	**0.73**	**195**	*e*Pg	**Pg**	**08 33 23.7**	**-0.6**
GOR	**Gori**	**0.80**	**240**	P	**Pg**	**08 33 25.7**	**-0.1**
GOR				S	**Sg**	**08 33 38.9**	**+2.6**
ZEI	**Tsey**	**0.92**	**294**	*i* Pg	**Pg**	**08 33 27.2**	**-0.8**
ZEI				*i* Sg	**Sg**	**08 33 40.2**	**+0.2**
ARNR	**Ardon**	**0.97**	**325**	*i* Pg	**Pg**	**08 33 28.2**	**-0.8**
ARNR				*i* Sg	**Sg**	**08 33 42.0**	**+0.5**
DGRG	**David-gareji**	**0.98**	**165**	S	**Sg**	**08 33 42.8**	**+1.0**
DGRG	**David-gareji**	**0.98**	**165**	*e*Pg	**Pg**	**08 33 28.6**	**-0.5**
KORR	**Kora**	**0.99**	**314**	*e*Pg	**Pg**	**08 33 28.5**	**-0.9**
KORR				*i* Sg	**Sg**	**08 33 42.5**	**+0.2**
BTKR	**Batakoyurt**	**1.04**	**340**	*i* Pg	**Pg**	**08 33 29.6**	**-0.7**
BTKR				*i* Sg	**Sg**	**08 33 44.5**	**+0.7**
KMSR	**Komsomolskaya**	**1.12**	**331**	*e*Pg	**Pg**	**08 33 30.8**	**-1.0**
KMSR				*i* Sg	**Sg**	**08 33 46.5**	**+0.2**
KZR	**Kazreti**	**1.12**	**205**	P	**Pg**	**08 33 23.7**	**-8.1**
KZR				S	**Sg**	**08 33 44.5**	**-1.7**
DIGR	**Digorskoe uzhe**	**1.19**	**295**	*i* Pg	**Pg**	**08 33 31.6**	**-1.5**
DIGR				*i* Sg	**Sg**	**08 33 47.8**	**-0.7**
TRKR	**Terskaya**	**1.34**	**350**	*i* Pg	**Pg**	**08 33 35.0**	**-1.1**
TRKR				*i* Sg	**Sg**	**08 33 53.9**	**+0.3**
AMRG		**1.41**	**275**	P	**Pn**	**08 33 36.5**	**-0.5**
AMRG				S	**Sb**	**08 33 57.9**	**+2.1**
PRTR	**Priterechnaya**	**1.46**	**338**	*i* Pg	**Pg**	**08 33 36.8**	**-1.6**
PRTR				*i* Sg	**Sg**	**08 33 57.0**	**-0.4**
AKH	**Akhalkalaki**	**1.52**	**230**	P	**Pn**	**08 33 37.5**	**-0.9**
AKH				S	**Sn**	**08 33 58.8**	**+0.2**
KUBR	**Kubataba**	**1.84**	**320**	*i* Pn	**Pn**	**08 33 42.9**	**+0.1**
MAK	**Makhachkala**	**1.90**	**72**	*e*Pn	**Pn**	**08 33 46.2**	**+2.5**
PYA	**Pyatigorsk**	**2.18**	**319**	*i* PN	**Pn**	**08 33 46.9**	**-0.7**
SHAR	**Shatzhatmas**	**2.20**	**309**	*d* PN	**Pn**	**08 33 47.9**	**+0.2**
GNI	**Garni**	**2.26**	**186**	*d* PN	**Pn**	**08 33 48.2**	**-0.4**
GNI				*e*S	**Sn**	**08 34 16.2**	**-0.7**
GNI				pmax	pmax		
	comp=Z,177nm,0.9s						
GNI	**Garni**	**2.26**	**186**	*i* Pn	**Pn**	**08 33 48.2**	**-0.4**
	comp=Z,177nm,0.9s						
GNI				*e*Sn	**Sn**	**08 34 16.2**	**-0.7**
BEYR	**Belyy Ugol+**	**2.29**	**316**	*e*Pn	**Pn**	**08 33 49.4**	**+0.4**
KIV	**Kislovodsk**	**2.32**	**313**	*de*PN	**Pn**	**08 33 49.2**	**-0.2**
KIV				*e*S	**Sn**	**08 34 17.3**	**-1.2**
KIV				pmax	pmax		
	comp=Z,25nm,0.8s						
KIV	**Kislovodsk**	**2.32**	**313**	*e*Pn	**Pn**	**08 33 49.2**	**-0.2**
	comp=Z,25nm,0.8s						
KIV				*e*Sn	**Sn**	**08 34 17.3**	**-1.2**
GOF	**Gofitskoye**	**3.03**	**332**	*e*Pn	**Pg**	**08 34 12.5**	**+4.0**
GOF				*e*Sg	**Sg**	**08 34 57.4**	**+10**
OBN	**Obninsk**	**13.88**	**339**	*i* P	**Pn**	**08 36 31.0**	**+3.0**

*ATH **23** 08:35:03.7, 3951N×1981E, h10km±1km, MD3.4/6*
*NEIC **23** 08:35:03.5, 3950N×1980E, h11km, MD3.4(ATH), After ATH.*
*ISCJB **23** 08:35:04.3±0.7, 3953N±004×1978E±007, h10km, Error ellipse: s-maj=7.4km s-min=5.2km az=159.3*
*CSEM **23** 08:35:04.1±0.1, 3951N×1972E, h2km, MD3.4, Error ellipse: s-maj=2.8km s-min=2.6km az=63.0*
*THE **23** 08:35:06.8, 3950N×2006E, h10km, ML3.3*

ISC 23 08:35:04.9±0.7, 3952N±004×1979E±006, h10km, n21, σ1§12/26, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEK	**Kerkira**	**0.19**	**1**	*e*PG	**Pg**	**08 35 07.8**	**-1.1**
KEK				*e*SG	**Sg**	**08 35 11.7**	**0.0**
IGT	**Igoumenitsa**	**0.42**	**88**	*e*Pg	**Pg**	**08 35 10.4**	**-2.7**
JAN	**Janina**	**0.83**	**80**	*e*PG	**Pg**	**08 35 18.9**	**-1.9**
JAN				*e*SB	**Sg**	**08 35 30.4**	**-1.2**
LKD	**Levkas**	**1.05**	**140**	*e*Pg	**Pg**	**08 35 23.6**	**-1.5**
VLS	**Valsamata**	**1.48**	**155**	*e*PB	**Pn**	**08 35 31.6**	**+0.1**
VLS				*e*SB	**Sn**	**08 35 52.2**	**+1.3**
EVR	**Evrytania**	**1.68**	**110**	*e*PB	**Pn**	**08 35 35.2**	**+0.9**
EVR				*e*SB	**Sn**	**08 35 57.3**	**+1.5**
KZN	**Kozani**	**1.71**	**62**	*e*PN	**Pn**	**08 35 36.0**	**+1.3**
KZN				*e*SN	**Sn**	**08 35 59.5**	**+2.8**
FNA	**Florina**	**1.75**	**43**	*e*Pb	**Pn**	**08 35 36.1**	**+0.9**
RLS	**Riolos of Patr**	**1.96**	**138**	*e*PN	**Pn**	**08 35 38.4**	**+0.3**
AGG	**Agios Georgios**	**2.03**	**103**	*e*Pb	**Pn**	**08 35 39.6**	**+0.5**
LIT	**Litokhoron**	**2.16**	**74**	*e*Pb	**Pn**	**08 35 41.3**	**+0.5**
TIP	**Timpagrande**	**2.38**	**263**	*e*Pn	**Pn**	**08 35 43.6**	**-0.3**
TIP	**Timpagrande**	**2.38**	**263**	*e*Pn	**Pn**	**08 35 43.6**	**-0.3**
GRG	**Griva**	**2.46**	**53**	*e*Pn	**Pn**	**08 35 45.4**	**+0.4**
ITM	**Ithomi**	**2.88**	**144**	*e*Pg	**Pg**	**08 35 58.6**	**-1.4**
KNT	**Kendrikon**	**2.88**	**54**	*e*Pn	**Pn**	**08 35 51.3**	**+0.4**
PLG	**Polygyros**	**2.93**	**72**	*e*PN	**Pn**	**08 35 51.1**	**-0.4**
PLG	**Polygyros**	**2.93**	**72**	*e*Pn	**Pn**	**08 35 50.

mb1 4.3/6,mb1mx3.9/17,mbtmp4.4/6,ML4.2/2,Error ellipse: s-maj=40.9km s-min=26.2km az=52.0

ISC 23 09:28:03.6±5.7, 495S×009×1266E±02, h20km±42km, n18, σ1°02/20, mb4.1/3, 2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**9.66**	**143**	*eP*	**Pn**	**09 30 19.7**	**-1.7**
	12nm,0.4s						
FITZ	**Fitzroy Crossi**	**13.10**	**184**	*eP*	**Pn**	**09 31 09.1**	**+0.6**
	4.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**13.10**	**184**	P	**Pn**	**09 31 08.9**	**+0.4**
	0.5nm,0.3s,baz=10,slow=12,SNR=12						
FITZ				S	**Sn**	**09 33 33.4**	**-0.2**
	0.2nm,0.3s,baz=221,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**16.72**	**154**	P	**Pn**	**09 31 53.0**	**-3.6**
	0.3nm,0.3s,baz=323,slow=14,SNR=20						
WRA				S	**Sn**	**09 34 54.1**	**-7.6**
	0.1nm,0.3s,baz=326,slow=24,SNR=3.3						
WB2	**Warramunga Arr**	**16.73**	**154**	*eP*	**Pn**	**09 31 53.0**	**-3.7**
AS31	**Alice Springs**	**19.91**	**160**	⇓*iP*	**Pn**	**09 32 36.4**	**+0.8**
ASAR	**Alice Springs**	**19.91**	**160**	P	**Pn**	**09 32 36.4**	**+0.8**
	2.2nm,0.3s,baz=342,slow=11,SNR=328						
ASAR				PcP	PcP	09 36 50.5	+0.1
	0.1nm,0.3s,baz=358,slow=1.3,SNR=4.8						
ASPA	**Alice Springs**	**19.91**	**160**	⇓*iP*	**Pn**	**09 32 36.4**	**+0.8**
PMG	**Port Moresby**	**20.92**	**103**	P	**P**	**09 32 45.9**	**+1.1**
	23nm,0.9s,baz=266,slow=12,SNR=6.1						
PMG	**Port Moresby**	**20.92**	**103**	*eP*	**P**	**09 32 45.4**	**+0.6**
	14nm,0.7s						
CTA	**Charters Tower**	**24.38**	**130**	*eP*	**P**	**09 33 20.6**	**+0.3**
	7.9nm,0.9s,mb4.1						
CTA	**Charters Tower**	**24.38**	**130**	P	**P**	**09 33 21.1**	**+0.8**
	9.7nm,0.9s,mb4.2,baz=317,slow=10.0,SNR=6.4						
CTAO	**Charters Tower**	**24.38**	**130**	*eP*	**P**	**09 33 19.8**	**-0.4**
	8.8nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**30.27**	**154**	*eP*	**P**	**09 34 12.1**	**-1.1**
	3.1nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**30.27**	**154**	P	**P**	**09 34 12.5**	**-0.7**
	4.2nm,0.6s,mb4.3,baz=326,slow=8.8,SNR=11						
STKA	**Stephens Creek**	**30.27**	**154**	*eP*	**P**	**09 34 12.0**	**-1.2**
MKAR	**Makanchi Array**	**64.66**	**328**	P	**P**	**09 38 39.5**	**-0.4**
	0.7nm,0.5s,mb3.9,baz=130,slow=7.9,SNR=8.2						
MKAR	**Makanchi Array**	**64.66**	**328**	P	**P**	**09 38 39.5**	**-0.4**

MEX 23 09:32:50.2±1.4, 1528N×9640W, h10km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.56**	**29**	*i* P	Pg	09 32 58.9	-2.2
HUIG				*i* S	Sg	09 33 08.0	-0.5
VHO	**Vista Hermosa**	**1.81**	**350**	*i* P	Pn	09 33 19.2	-2.3
VHO				*i* S	Sn	09 33 41.1	-3.4
UTMO	**Huajuapan**	**2.88**	**332**	*eP*	Pn	09 33 33.0	-3.0
UTMO				*i* S	Sn	09 34 06.8	-3.9
CCIG	**Comitan**	**4.22**	**76**	*i* P	Pn	09 33 53.8	-0.8
CCIG				*i* S	Sn	09 34 42.2	-1.7

ISCJB 23 09:37:13.4±2.4,274S×010×1296E±02,h1km±14km, mb4.1/6,Error ellipse: s-maj=39.9km s-min=9.8km az=141.3

NEIC 23 09:37:19.8±0.8,280S×12958E,h30km,mb4.0/3,Error ellipse: s-maj=29.9km s-min=10.1km az=70.0

IDC 23 09:37:21.1±4.5,289S×12954E,h37km,37km,mb3.9/5, mb1 4.1/7,mb1mx3.8/18,mbtmp4.1/7,ML4.0/2,MS2.8/1, Ms1 2.8/1,ms1mx2.1/20,Error ellipse: s-maj=56.7km s-min=12.3km az=71.0

ISC 23 09:37:20.9±1.8, 280S±010×1296E±02, h39km±16km, n17, σ0°95/21, mb4.0/6, 2D, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**10.24**	**164**	*eP*	**Pn**	**09 39 45.4**	**+0.1**
	10nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.70**	**194**	*eP*	**Pn**	**09 40 59.3**	**+0.1**
	5.9nm,0.9s						
FITZ	**Fitzroy Crossi**	**15.70**	**194**	Pn	**Pn**	**09 40 59.5**	**+0.3**
	0.6nm,0.3s,baz=351,slow=16,SNR=7.4						
FITZ				LR	LR	09 47 46.9	
	comp=Z,33nm,19.8s,baz=311,slow=40						
WRA	**Warramunga Arr**	**17.66**	**165**	P	**Pn**	**09 41 22.6**	**-1.2**
	0.6nm,0.3s,baz=345,slow=11,SNR=23						
WRA				S	**S**	**09 44 37.6**	**-8.1**
	0.2nm,0.3s,baz=348,slow=24,SNR=4.4						
WB2	**Warramunga Arr**	**17.66**	**165**	*eP*	**Pn**	**09 41 22.6**	**-1.2**
MBWA	**Marble Bar**	**20.63**	**207**	*eP*	**P**	**09 41 56.1**	**-0.9**
	5.7nm,0.8s						
AS31	**Alice Springs**	**21.16**	**169**	⇓*iP*	**P**	**09 42 03.9**	**+1.3**
AS31				*eS*	**S**	**09 45 55.5**	**-0.3**
ASAR	**Alice Springs**	**21.16**	**169**	P	**P**	**09 42 03.7**	**+1.1**
	5.5nm,0.4s,mb4.2,baz=347,slow=11,SNR=43						
ASAR				S	**S**	**09 45 55.4**	**-0.4**
	1.6nm,0.8s,baz=348,slow=21,SNR=8.5						
ASAR				PcP	PcP	09 46 10.2	+2.9
	0.5nm,0.5s,baz=10,slow=1.4,SNR=4.7						
ASPA	**Alice Springs**	**21.16**	**169**	⇓*iP*	**P**	**09 42 03.9**	**+1.3**
ASPA				*eS*	**S**	**09 45 55.5**	**-0.3**
STKA	**Stephens Creek**	**31.05**	**160**	P	**P**	**09 43 35.2**	**+0.2**
	1.0nm,0.5s,mb4.0,baz=6.4,slow=8.0,SNR=4.1						
STKA	**Stephens Creek**	**31.05**	**160**	*eP*	**P**	**09 43 34.8**	**-0.2**
MKAR	**Makanchi Array**	**64.53**	**326**	P	**P**	**09 47 54.9**	**+1.1**
	0.4nm,0.4s,mb3.8,baz=123,slow=8.6,SNR=6.7						
MKAR	**Makanchi Array**	**64.53**	**326**	P	**P**	**09 47 54.9**	**+1.1**
ZRNK	**Zerenda**	**75.05**	**327**	*eP*	**P**	**09 48 58.9**	**+0.4**
	1.3nm,0.7s,mb4.0						
AKTK	**Aktyubinsk**	**80.54**	**322**	P	**P**	**09 49 27.7**	**-1.3**
AKTO	**Aktyubinsk**	**80.54**	**322**	P	**P**	**09 49 27.7**	**-1.3**
	0.4nm,0.3s,mb3.8,baz=90,slow=8.1,SNR=2.0						
OPO	**Ambohidratompo**	**81.94**	**252**	P	**P**	**09 49 37.6**	**+1.1**
	3.4nm,1.0s,mb4.2,baz=90,slow=4.3,SNR=6.9						

ISCJB 23 09:55:13.7±1.0,3696N±007×2676E±006,h20km±11km, Error ellipse: s-maj=11.3km s-min=8.0km az=9.7

ATH 23 09:55:13.7,3699N×2676E,h10km,MD2.8/3

CSEM 23 09:55:14.2±0.2,3698N×2684E,h18km±2km,MD2.8,Error ellipse: s-maj=4.8km s-min=3.1km az=17.0

ISK 23 09:55:14.2,3696N×2684E,h21km,MD2.8

ISC 23 09:55:13.4±1.0, 3697N±007×2675E±006, h16km±6km, n8, σ0°59/13, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BODT	**Bodrum**	**0.46**	**78**	PG	**Pg**	**09 55 22.7**	**0.0**
BODT				SG	**Sg**	**09 55 29.1**	**+0.2**
NISR	**Nisiros**	**0.47**	**139**	*e*PB	**Pg**	**09 55 23.0**	**+0.2**
BDRM	**Kayabasi**	**0.57**	**80**	*i* P	**Pg**	**09 55 24.0**	**-0.6**
BDRM				*i* S	**Sg**	**09 55 32.3**	**+0.1**
DAT	**Datca**	**0.71**	**109**	PG	**Pg**	**09 55 27.2**	**-0.1**
DAT				SG	**Sg**	**09 55 36.7**	**+0.1**
SMG	**Samos**	**0.74**	**6**	*e*PB	**Pg**	**09 55 27.4**	**-0.5**
APE	**Apeiranthos**	**0.98**	**276**	*e*PB	**Pb**	**09 55 32.5**	**+0.5**
AYDN	**Tasoluk**	**1.14**	**52**	*i* P	**Pn**	**09 55 33.7**	**-1.0**
AYDN				*i* S	**Sb**	**09 55 50.6**	**+1.3**
YER	**Yerkesik**	**1.24**	**82**	*e*PN	**Pn**	**09 55 36.7**	**+0.6**
YER				*e*SN	**Sn**	**09 55 51.8**	**-0.8**

KRSC 23 09:56:11.8±0.5,6078N×166.14E,h14km±4km,ML4.0

ISCJB 23 09:56:13.0±1.3,6077N±005×1659E±02,h16km±13km, mb3.5/3,MS3.0/1,Error ellipse: s-maj=13.2km s-min=7.4km az=33.9

MOS 23 09:56:13.5±1.9,6066N×16586E,h24km,mb3.9/1,Error ellipse: s-maj=77.8km s-min=28.7km az=91.8

IDC 23 09:56:15.0±9.6,6074N×16632E,h0km,mb3.4/3, mb1 4.0/4,mb1mx3.6/22,mbtmp3.7/4,ML3.1/1,MS3.1/1, Ms1 3.1/1,ms1mx2.3/17,Error ellipse: s-maj=187.9km s-min=21.9km az=94.0

ISC 23 09:56:13.2±1.6, 6081N±005×1659E±02, h6km±12km, n20, σ0°97/21, mb3.5/3, MS3.0/1, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TILR	**Tilichiki**	**0.38**	**169**	*i* P	**Pg**	**09 56 19.9**	**-0.7**
TILR				*i* S	**Sg**	**09 56 26.1**	**+0.5**
KAMR	**Kamenskoye**	**1.66**	**5**	*i* P	**Pn**	**09 56 41.9**	**-1.0**
KAMR				*i* S	**Sn**	**09 57 03.6**	**-1.0**
KAMR				Smax			
	1µm,1.0s						
OSSR	**Ossora**	**2.12**	**224**	*eP*	**Pn**	**09 56 47.6**	**-1.5**
EVNR	**Evensk**	**3.39**	**292**	*i* P	**Pn**	**09 57 07.6**	**+1.0**
SMKR	**Semkarok**	**4.83**	**211**	*eP*	**Pn**	**09 57 26.1**	**-0.3**
SRKR	**Sorokina**	**4.84**	**213**	*eP*	**Pn**	**09 57 26.9**	**+0.3**
KBG	**Krutoberegovo**	**4.86**	**202**	*eP*	**Pn**	**09 57 26.2**	**-0.7**
KBTR	**Krutoberegovo**	**4.89**	**201**	*eP*	**Pn**	**09 57 26.8**	**-0.4**
BDR	**Baidarnaya**	**4.91**	**212**	*eP*	**Pn**	**09 57 27.6**	**+0.1**
ZLN	**Zelenaya**	**5.50**	**211**	*eP*	**Pn**	**09 57 36.3**	**+0.7**
KMNR	**Kamenistaya**	**5.88**	**213**	*eP*	**Pn**	**09 57 42.0**	**+1.1**
BILL	**Bilibino**	**7.27**	**1**	*e*PN	**Pn**	**09 58 01.8**	**+1.9**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BILL				pmax	pmax		
	comp=N,24nm,0.8s						
BILL	**Bilibino**	**7.27**	**1**	*eP*	**Pn**	**09 57 59.9**	**0.0**
FX1	**Attu Island--F**	**8.88**	**150**	Pn	**Pn**	**09 58 21.0**	**-1.0**
	comp=N,0.8nm,0.3s,baz=331,slow=13,SNR=7.6						
FX1	**Attu Island--F**	**8.88**	**150**	PN	**Pn**	**09 58 21.0**	**-1.0**
FX1				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ILAR	**Eielson Array**	**21.53**	**59**	P	**P**	**10 01 05.6**	**+2.5**
	comp=Z,1.8nm,0.6s,mb3.7,baz=275,slow=8.7,SNR=31						
ILAR	**Eielson Array**	**21.53**	**59**	P	**P**	**10 01 05.6**	**+2.5**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MJAR	**Matsushiro Arr**	**29.97**	**229**	LR	LR	10 17 53.2	
	comp=Z,32nm,18.9s,MS3.0,baz=135,slow=43						
YKA	**Yellowknife Ar**	**35.57**	**52**	P	**P**	**10 03 10.5**	**-0.7**
	comp=Z,0.2nm,0.5s,mb3.3,baz=304,slow=8.0,SNR=2.8						
PDAR	**Pinedale Array**	**51.39**	**70**	P	**P**	**10 05 19.8**	**+1.0**
	comp=Z,0.4nm,0.6s,mb3.5,baz=312,slow=8.1,SNR=3.1						

IDC 23 10:00:07.1±2.4,403S×12831E,h0km,mb4.1/3,mb1 4.2/4, mb1mx3.9/15,mbtmp4.0/4,ML3.6/1,Error ellipse: s-maj=337.0km s-min=23.2km az=65.0

ISCJB 23 10:00:11.0±1.4,495S±02×1267E±03,h33km,mb4.0/2, Error ellipse: s-maj=51.6km s-min=17.9km az=134.4

ISC 23 10:00:13.4±1.4, 495S±02×1268E±03, h35km, n8, σ1°28/7, mb4.0/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.17**	**185**	*eP*	**Pn**	**10 03 17.4**	**-0.5**
	4.0nm,0.6s						
WRA	**Warramunga Arr**	**16.67**	**154**	Pn	**Pn**	**10 04 02.8**	**-1.5**
	0.2nm,0.3s,baz=323,slow=14,SNR=16						
WB2	**Warramunga Arr**	**16.68**	**154**	*eP*	**Pn**	**10 04 02.8**	**-1.6**
WB2				*e*		10 04 15.3	
ASAR	**Alice Springs**	**19.89**	**160**	P	**Pn**	**10 04 44.9**	**+1.4**
	6.9nm,0.7s,baz=341,slow=11,SNR=65						
ASPA	**Alice Springs**	**19.89**	**160**	*eP*	**Pn**	**10 04 45.8**	**+2.3**
STKA	**Stephens Creek**	**30.23**	**154**	P	**P**	**10 06 21.2**	**+0.5**
	1.8nm,0.5s,mb4.0,baz=344,slow=11,SNR=7.7						
MKAR	**Makanchi Array**	**64.73**	**328**	P	**P**	**10 10 47.9**	**-0.2**
	0.9nm,0.5s,mb4.1,baz=130,slow=8.0,SNR=11						
CPUP	**Villa Florida**	**148.71**	**173**	PKPbc	PKPbc	10 19 58.4	+1.4
	0.5nm,0.4s,baz=155,slow=4.4,SNR=4.1						

IDC 23 10:03:34.4±2.1, 650S×12935E, h0km, mb3.8/1, mb1 3.7/3, mb1mx3.6/12, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=115.9km s-min=31.3km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.22**	**161**	Pn	Pn	10 06 57.4	+0.5
	0.6nm,0.3s,baz=339,slow=13,SNR=16						
WRA				Sn	Sn	10 09 23.3	-12
	0.9nm,0.3s,baz=333,slow=22,SNR=8.6						
ASAR	**Alice Springs**	**17.62**	**166**	P	Pn	10 07 41.5	+0.1
	0.1nm,0.3s,baz=343,slow=10.0,SNR=3.7						
ASAR				S	Sn	10 10 50.3	-7.9
	0.3nm,0.3s,baz=319,slow=18,SNR=6.2						
MKAR	**Makanchi Array**	**67.45**	**327**	P	P	10 14 32.1	+0.2
	0.3nm,0.3s,baz=118,slow=8.1,SNR=7.0						

MOS 23 10:28:22.7±0.6, 6091N×16571E, h11km, mb3.6/1, Error ellipse: s-maj=49.1km s-min=21.7km az=103.5, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BILL	**Bilibino**	**7.17**	**2**	*e*PN	Pn	10 30 09.8	+2.4
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BILL				pmax	pmax		
	comp=N,32nm,1.0s						
YAK	**Yakutsk**	**17.11**	**290**	*eP*	Pn	10 32 23.8	+2.0
YAK				pmax	pmax		
	comp=Z,6.0nm,0.5s						
TIXI	**Tiksi**	**17.94**	**322**	*eP*	Pn	10 32 33.6	+1.5
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.7s						
COLA	**College**	**21.14**	**59**	*eP*	P	10 33 09.9	+2.3
KURK	**Kurchatov**	**46.43**	**299**	*eP*	P	10 36 50.9	+1.5
ARU	**Arti**	**49.81**	**316**	*eP*	P	10 37 16.5	+1.0
ARU				*e*		10 39 07.0	
ARU				*eS*	S	10 44 26.2	+1.3
ARU				*eSS*	SS	10 47 56.9	-0.5

ISCJB 23 10:29:38.2±0.4,1527N±005×6125W±007,h156km±2km, mb3.8/9,Error ellipse: s-maj=13.1km s-min=5.8km az=116.0

IDC 23 10:29:38.8±0.5,1532N×6130W,h144km±3km,mb3.6/8, mb1 3.8/9,mb1mx3.5/22,mbtmp4.1/9,MS3.2/1,Ms1 3.1/1, ms1mx2.4/17,Error ellipse: s-maj=15.0km s-min=7.5km az=73.0

TRN 23 10:29:38.6,1532N×6118W,h148km,MD3.7,M3.6(FDF)

NEIC 23 10:29:39.7,1530N×6128W,h144km,MD3.2(FDF), MD3.7(TRN),After TRN.

ISC 23 10:29:39.5±0.4, 1530N±005×6128W±007, h150km±2km, n39, σ0°82/53, mb3.8/9, 3C-4D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DBCT	**Belle View Cho**	**0.07**	**250**	*eP*	**Pn**	**10 30 00.7**	**+1.1**
DBCT				*eS*	**Sn**	**10 30 15.1**	**+0.2**
MDN	**Morne-Daniel**	**0.11**	**282**	*eP*	**Pn**	**10 30 00.5**	**+0.8**
MDN				*eS*	**Sn**	**10 30 15.9**	**+0.9**
DSHT	**Scott's Head**	**0.12**	**229**	*eP*	**Pn**	**10 30 00.4**	**+0.7**
DSHT				*eS*	**Sn**	**10 30 14.1**	**-0.9**
DWS	**Wesley**	**0.27**	**353**	*eP*	**Pn**	**10 29 59.6**	**-0.4**
DWS				*eS*	**Sn**	**10 30 15.3**	**-0.3**
BBL	**Barber's Block**	**0.30**	**321**	⇓*eP*	**Pn**	**10 29 59.9**	**-0.2**
FDF	**Fort de France**	**0.57**	**168**	⇓*eP*	**Pn**	**10 30 01.0**	**-0.3**
FDF				*eS*	**Sn**	**10 30 18.1**	**+0.3**
MGG	**Marie-Galante**	**0.62**	**356**	*eP*	**Pn**	**10 30 01.2**	**-0.3**
MGG				*eS*	**Sn**	**10 30 18.7**	**+0.4**
MGG	**Marie-Galante**	**0.62**	**356**	*eP*	**Pn**	**10 30 01.2**	**-0.3**
MGG				S	**Sn**	**10 30 08.7**	**-10**
CRM	**Caravelle**	**0.64**	**147**	*eP*	**Pn**	**10 30 00.9**	**-0.7**
CRM				*eS*	**Sn**	**10 30 17.5**	**-1.0**
TBG	**Guadaloupe-3**	**0.66**	**327**	*eP*	**Pn**	**10 30 01.4**	**-0.3**
PHG	**Guadaloupe-2**	**0.80**	**334**	*eP*	**Pn**	**10 30 02.8**	**+0.1**
BIM	**Bigot**	**0.80**	**166**	*eP*	**Pn**	**10 30 02.4**	**-0.3**
BIM				*eS*	**Sn**	**10 30 20.8**	**+0.4**
DOG	**Dongo Capester**	**0.80**	**336**	*eP*	**Pn**	**10 30 02.6**	**-0.1**
MVM	**Montagne Vaucl**	**0.82**	**153**	*eP*	**Pn**	**10 30 02.3**	**-0.5**
SCG	**Saint Claude**	**0.83**	**332**	*eP*	**Pn**	**10 30 03.0**	**+0.1**
BCG	**Bois Riant Cap**	**0.85**	**337**	*eP*	**Pn**	**10 30 03.1**	**0.0**
SFG	**Saint Francois**	**0.95**	**5**	*eP*	**Pn**	**10 30 04.0**	**+0.1**
LZG	**Guadaloupe-1**	**0.97**	**330**	⇑*eP*	**Pn**	**10 30 03.9**	**-0.1**
DEG	**La Desirade**	**1.03**	**12**	⇑*iP*	**Pn**	**10 30 04.0**	**-0.5**
SEG	**Port Louis**	**1.12**	**349**	⇑*eP*	**Pn**	**10 30 05.2**	**-0.2**
BPA	**Boggy Peak**	**1.83**	**342**	⇓*iP*	**Pn**	**10 30 13.8**	**+1.2**
BPA				*eS*	**Sn**	**10 30 38.1**	**0.0**
CPB	**Codrington**	**2.39**	**347**	⇓*iP*	**Pn**	**10 30 20.0**	**+0.8**
CPB				*eS*	**Sn**	**10 30 48.6**	**-1.3**
SKI	**Saint Kitts**	**2.46**	**325**	*eP*	**Pn**	**10 30 21.4**	**+1.2**
SKI				*eS*	**Sn**	**10 30 51.3**	**-0.2**
SKDB	**Saint Kitts 2**	**2.56**	**325**	*eP*	**Pn**	**10 30 21.9**	**+0.6**
SKDB				*eS*	**Sn**	**10 30 57.3**	**+3.8**
SABT	**Saba**	**2.98**	**321**	*eP*	**Pn**	**10 30 27.1**	**+0.5**
SABT				*eS*	**Sn**	**10 31 07.0**	**+3.9**
MTP	**Monte Pirata**	**4.96**	**305**	*e*Pn	**Pn**	**10 30 51.3**	**-1.0**
CPD	**Cerro la Pandu**	**5.22**	**302**	*e*Pn	**Pn**	**10 30 54.6**	**-1.1**
SJG	**San Juan**	**5.45**	**302**	P	**Pn**	**10 30 57.6**	**-1.1**
	8.4nm,0.3s,baz=77,slow=13,SNR=13						
SJG				S	**Sn**	**10 32 02.8**	**+2.1**
	4.6nm,0.3s,baz=304,slow=21,SNR=6.7						
SIV	**San Ignacio**	**31.09**	**180**	P	**P**	**10 35 44.2**	**+0.8**
	2.1nm,0.8s,mb3.9,baz=18,slow=10,SNR=12						
BDFB	**Brasilia**	**33.41**	**156**	LR	LR	10 49 13.3	
	comp=Z,33nm,18.5s,baz=303,slow=35						
PDAR	**Pinedale Array**	**49.44**	**314**	P	**P**	**10 38 13.7**	**-0.4**
	0.3nm,0.4s,mb3.2,baz=122,slow=12,SNR=3.1						
PDAR	**Pinedale Array**	**49.44**	**314**	P	**P**	**10 38 13.7**	**-0.4**
DBIC	**Dimbokro**	**55.91**	**92**	P	**P**	**10 39 02.8**	**+1.1**
	4.1nm,0.9s,mb4.3,baz=293,slow=15,SNR=4.5						
YKA	**Yellowknife Ar**	**60.02**	**335**	P	**P**	**10 39 29.0**	**-1.2**
	0.5nm,0.4s,mb3.7,baz=105,slow=7.4,SNR=7.2						
TORD	**Torodi Ar. Bea**	**60.89**	**83**	P	**P**	**10 39 37.6**	**+1.4**
	2.6nm,0.7s,mb4.2,baz=287,slow=6.8,SNR=30						
GERES	**GERESS Array B**	**68.78**	**43**	P	**P**	**10 40 27.7**	**+0.5**
	0.3nm,0.3s,mb3.5,baz=3.4,slow=6.7,SNR=3.9						
INK	**Inuvik**	**69.34**	**338**	P	**P**	**10 40 29.6**	**-1.1**
	1.5nm,0.8s,mb3.8,baz=125,slow=2.5,SNR=10						
ILAR	**Eielson Array**	**74.42**	**334**	P		**10 40 59.4**	**-1.6**
	0.3nm,0.5s,mb3.3,baz=74,slow=5.6,SNR=8.4						
ARCES	**ARCESS Array B**	**74.67**	**21**	P	**P**	**10 41 02.8**	**+0.4**
	1.7nm,0.7s,mb3.8,baz=256,slow=4.9,SNR=4.1						

NEIC 23 10:50:39.0,3199S×7146W,h35km,ML3.6(GUC),After GUC.

GUC 23 10:50:39.0±0.8, 3199S×7146W, h35km±2km, MD4.5, ML3.6,4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.11**	**340**	⇓*iP*	Pn	10 50 45.1	0.0
CHNG				*i* S	Sn	10 50 49.5	+0.1
PACH	**Papudo**	**0.55**	**178**	*i* P	Pn	10 50 50.0	-0.3
CMCH	**Combarbala**	**0.90**	**26**	⇑*iP*	Pn	10 50 55.4	+0.3
CMCH				*i* S	Sn	10 51 08.0	+1.1
CMCH				AML	AML	10 51 12.2	
	comp=N,8µm,0.4s						
CMCH	**Combarbala**	**0.90**	**26**	⇑*iP*	Pn	10 50 55.4	+0.3
CMCH				*i* S	Sn	10 51 08.0	+1.1
JACH	**Jahuel**	**1.01**	**134**	*eP*	Pn	10 50 57.5	+0.9
JACH				*i* S	Sn	10 51 11.3	+1.8
IHA	**Instituto Hidr**	**1.05**	**189**	⇓*iP*	Pn	10 50 57.2	0.0
IHA				*i* S	Sn	10 51 12.2	+1.7
PEL	**Peldehue**	**1.32**	**151**	⇑*iP*	Pn	10 51 02.2	+1.3
PEL				*i* S	Sn	10 51 19.6	+2.3
PEL				AML	AML	10 51 21.5	
	comp=E,2µm,0.3s						
PEL	**Peldehue**	**1.32**	**151**	⇑*iP*	Pn	10 51 02.2	+1.3
PEL				*i* S	Sn	10 51 19.6	+2.3
OVCH	**Ovalle**	**1.39**	**9**	*eP*	Pn	10 51 03.5	+1.6
OVCH				*i* S	Sn	10 51 21.6	+2.5
OVCH				AML	AML	10 51 24.1	
	comp=N,2µm,0.3s						
OVCH	**Ovalle**	**1.39**	**9**	*eP*	Pn	10 51 03.5	+1.6
OVCH				*i* S	Sn	10 51 21.6	+2.5
LCCH	**Las Cruces**	**1.49**	**184**	*eP*	Pn	10 51 03.6	+0.4
CLCH	**Cerro Calan**	**1.60**	**151**	*eP*	Pn	10 51 06.5	+1.7
CLCH				*i* S	Sn	10 51 27.4	+3.1
CLCH				AML	AML	10 51 29.8	
	comp=N,1µm,0.4s						
TACH	**Talagante**	**1.72**	**165**	*eP*	Pn	10 51 07.7	+1.4
TACH				*i* S	Sn	10 51 29.6	+2.5
ANTU	**Antumapu**	**1.72**	**157**	*i* P	Pn	10 51 08.6	+2.2
ANTU				*i* S	Sn	10 51 30.4	+3.2
ANTU				AML	AML	10 51 36.7	
	comp=N,364nm,0.6s						
ANTU	**Antumapu**	**1.72**	**157**	*i* P	Pn	10 51 08.6	+2.2
ANTU				*i* S	Sn	10 51 30.4	+3.2
PCH	**Pirque**	**1.81**	**154**	*i* P	Pn	10 51 09.4	+1.7
TLL	**Tololo Astrono**	**1.90**	**17**	*eP*	Pn	10 51 10.6	+1.7
TLL				*i* S	Sn	10 51 35.4	+3.8
TLL				AML	AML	10 51 39.0	
	comp=N,1µm,0.3s						
TLL	**Tololo Astrono**	**1.90**	**17**	*eP*	Pn	10 51 10.6	+1.7
TLL				*i* S	Sn	10 51 35.4	+3.8
LNV	**Longovilo**	**1.96**	**179**	*i* P	Pn	10 51 09.7	0.0
CHCH	**Chadas Angostu**	**2.05**	**161**	*eP*	Pn	10 51 12.7	+1.7
LSCH	**La Serena**	**2.08**	**5**	*eP*	Pn	10 51 12.2	+0.9
LSCH				*i* S	Sn	10 51 36.9	+0.8
LSCH				AML	AML	10 51 45.4	
	comp=E,469nm,0.3s						
LSCH	**La Serena**	**2.08**	**5**	*eP*	Pn	10 51 12.2	+0.9
LSCH				*i* S	Sn	10 51 36.9	+0.8
CACH	**El Canelo**	**2.24**	**162**	*i* P	Pn	10 51 15.8	+2.3
CICH	**Cipreses**	**2.48**	**160**	⇓*iP*	Pn	10 51 18.7	+1.8
SFDO	**San Fernando**	**2.65**	**172**

	0.5nm,0.5s,mb3.6,baz=84,slow=7.7,SNR=14							
ASAR	**Alice Springs**	**32.33**	**252**	P		**P**	**11 46 00.2**	**+0.4**
	10nm,0.5s,mb4.9,baz=79,slow=8.7,SNR=227							
ASPA	**Alice Springs**	**32.34**	**252**	*e*P		**P**	**11 45 59.8**	**-0.1**
ASPA				*e*			11 46 10.2	
GUMO	**Guam**	**37.73**	**322**	LR		LR	11 59 48.5	
	comp=Z,98nm,19.1s,MS3.6,baz=129,slow=32							
FITZ	**Fitzroy Crossi**	**40.05**	**262**	LR		LR	12 03 49.0	
	comp=Z,75nm,18.2s,MS3.6,baz=86,slow=37							
NWAO	**Narrogin (SRO)**	**48.01**	**241**	LR		LR	12 09 36.4	
	comp=Z,87nm,18.5s,MS3.8,baz=287,slow=38							
VNDA	**Vanda**	**60.74**	**181**	P		**P**	**11 49 42.4**	**+0.1**
	1.4nm,0.8s,mb4.1,baz=6.0,slow=6.7,SNR=4.4							
MAW	**Mawson**	**80.05**	**202**	LR		LR	12 24 02.6	
	comp=Z,74nm,18.4s,MS4.1,baz=120,slow=33							
YBH	**Yreka Blue Hor**	**86.66**	**45**	LR		LR	12 22 39.9	
	comp=Z,64nm,19.7s,MS4.0,baz=351,slow=30							
LPIG	**La Paz**	**89.75**	**65**	LR		LR	12 23 43.3	
	comp=Z,71nm,18.8s,MS4.1,baz=184,slow=30							

KRSC 23 11:44:29.8±0.4, 5712N×16300E, h0km±3km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KBG	**Krutoberegovo**	**0.88**	**191**	*i* P		Pg	11 44 48.5	+1.8
KBG				*i* S		Sg	11 45 02.4	+4.2
KBG				Smax				
	1μm,0.8s							
KBTR	**Krutoberegovo**	**0.92**	**186**	*i* P		Pg	11 44 49.3	+1.9
KBTR				*i* S		Sg	11 45 03.8	+4.4
SMKR	**Semkarok**	**1.00**	**238**	*e*P		Pg	11 44 51.2	+2.2
SMKR				*e*S		Sg	11 45 06.3	+4.4
SRKR	**Sorokina**	**1.11**	**246**	*e*P		Pg	11 44 52.4	+1.3
SRKR				*e*S		Sg	11 45 09.0	+3.6
BDR	**Baidarnaya**	**1.13**	**241**	*i* P		Pg	11 44 53.2	+1.7
KLY	**Klyuchi**	**1.53**	**239**	*i* P		Pn	11 44 57.7	-0.6
KLY				*i* S		Sb	11 45 17.8	-1.1
CIRR	**Tsirk**	**1.60**	**232**	*e*P		Pn	11 45 00.6	+1.3
CIRR				*e*S		Sn	11 45 23.1	+2.4
KRSR	**Krestovskiy**	**1.62**	**237**	*i* P		Pn	11 45 00.6	+1.0
KRSR				*e*S		Sn	11 45 22.9	+1.7
ZLN	**Zelenaya**	**1.64**	**229**	*i* P		Pn	11 45 01.5	+1.6
LGNR	**Loginova**	**1.65**	**232**	*e*P		Pn	11 45 02.0	+2.0
KPT	**Kopyto**	**1.93**	**234**	*e*P		Pn	11 45 06.1	+2.3
SRDR	**Sredinnyy**	**1.98**	**247**	*e*P		Pn	11 45 05.9	+1.3
SRDR				*e*S		Sn	11 45 32.0	+1.9
KOZ	**Kozyrevsk**	**2.03**	**240**	*e*P		Pn	11 45 07.3	+2.0
KOZ				*e*S		Sn	11 45 34.6	+3.3
KMNR	**Kamenistaya**	**2.06**	**229**	*e*P		Pn	11 45 07.8	+2.2
OSSR	**Ossora**	**2.14**	**1**	P		Pn	11 45 09.0	+2.3
OSSR				Smax				
	150nm,1.0s							
TUMR	**Tumrok**	**2.44**	**222**	*e*P		Pn	11 45 11.7	+0.9
BKI	**Bering**	**2.54**	**138**	*i* P		Pn	11 45 11.9	-0.4
BKI				*e*S		Sn	11 45 42.9	-1.0
ESO	**Esso**	**2.67**	**245**	*e*P		Pn	11 45 16.8	+2.8
ESO				Smax				
	40nm,0.7s							
MKZ	**Mys Kozlova**	**2.67**	**196**	*e*P		Pn	11 45 16.8	+2.8
GNL	**Ganaly**	**4.48**	**222**	*e*P		Pn	11 45 41.7	+2.7
SDLR	**Sedlovina**	**4.51**	**213**	*e*P		Pn	11 45 42.6	+3.2
AVH	**Avacha**	**4.57**	**214**	*e*P		Pn	11 45 43.2	+3.0
KOK	**Koryaka**	**4.58**	**215**	*e*P		Pn	11 45 41.9	+1.6
KAMR	**Kamenskoye**	**5.59**	**15**	*i* P		Pn	11 45 56.4	+2.2

IDC 23 11:51:52.8±4.9, 759S×11544E, h84km±50km, mb3.4/3, mb1 3.6/4, mb1mx3.3/15, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=194.8km s-min=86.1km az=37.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**14.42**	**137**	*e*P		Pn	11 55 16.0	+3.3
	11nm,1.9s							
FITZ				*e*S		Sn	11 57 30.2	-21
FITZ	**Fitzroy Crossi**	**14.42**	**137**	P		Pn	11 55 14.1	+1.4
	0.2nm,0.3s,baz=300,slow=7.8,SNR=32							
FITZ				S		Sn	11 57 29.5	-22
	1.0nm,0.3s,baz=183,slow=17,SNR=11							
WRA	**Warramunga Arr**	**22.06**	**126**	P		P	11 56 39.9	-0.7
	0.7nm,0.3s,baz=302,slow=12,SNR=17							
WRA				S		S	12 00 29.1	-10
	0.5nm,0.6s,baz=315,slow=18,SNR=5.4							
WB2	**Warramunga Arr**	**22.07**	**126**	*e*P		P	11 56 39.9	-0.8
ASAR	**Alice Springs**	**23.86**	**134**	P		P	11 56 59.8	+1.4
	1.0nm,0.3s,baz=308,slow=9.6,SNR=30							
ASAR				S		S	12 01 09.9	+1.6
	0.2nm,0.8s,baz=298,slow=22,SNR=2.7							
STKA	**Stephens Creek**	**34.31**	**138**	P		P	11 58 30.6	-0.6
	0.5nm,0.4s,baz=326,slow=7.3,SNR=2.9							

MOS ***23*** *11:55:19.3±0.7, 5160N×1625E, h14km, mb3.9/1, Error ellipse: s-maj=14.1km s-min=6.2km az=78.6*
ISCJB ***23*** *11:55:20.6±0.5, 5133N±003×1613E±003, h0km, Error ellipse: s-maj=4.1km s-min=2.2km az=28.4*
IPEC ***23*** *11:55:20.4±0.3, 5148N×1629E, h0km, ML2.7/3, Error ellipse: s-maj=3.8km s-min=1.9km az=87.0*
NEIC ***23*** *11:55:20.1±0.6, 5158N×1621E, h5km, ML2.7(CSEM), ML2.8(CLL), Error ellipse: s-maj=11.5km s-min=7.6km az=119.0*
WAR ***23*** *11:55:21.8, 5145N×1617E, ML2.9, Mining Induced*
IDC ***23*** *11:55:22.0±1.0, 5143N×1608E, h0km, mb1 3.5/5, mb1mx3.3/19, mbtmp3.4/5, ML3.2/5, Error ellipse: s-maj=16.5km s-min=8.8km az=118.0*
BGR ***23*** *11:55:21.7±0.6, 5136N×1618E, h1km, ML3.1, Error ellipse: s-maj=6.7km s-min=5.6km az=167.0*
CSEM ***23*** *11:55:21.9±0.2, 5142N×1621E, h1km, ML3.4/8, Error ellipse: s-maj=2.5km s-min=1.8km az=25.0*
VIE ***23*** *11:55:22.9±0.5, 5126N×1621E, h0km, mb2.5/5, ML3.0/5, Error ellipse: s-maj=3.2km s-min=2.9km az=151.0 59 km WNW of Breslau Suspected Mining induced.*
PRU ***23*** *11:55:22.7, 5137N×1615E, h0km*

ISC 23 11:55:20.6±0.4, 5144N±002×1616E±003, h0km, n56, σ1§10/99, 4C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.60**	**172**	*i* Pgd		**Pg**	**11 55 33.0**	**+0.9**
KSP				i			11 55 34.3	
KSP				e			11 55 39.8	
KSP				*e*Sg		**Sg**	**11 55 40.8**	**+0.9**
KSP	**Ksiaz**	**0.60**	**172**	*e*Pg		**Pg**	**11 55 32.8**	**+0.7**
KSP				*e*Sg		**Sg**	**11 55 40.1**	**+0.2**
UPC	**Upice**	**0.93**	**186**	*e*PG		**Pg**	**11 55 39.1**	**+0.6**
DPC	**Dobruska-Polom**	**1.09**	**175**	*e*PG		**Pg**	**11 55 41.8**	**+0.3**
DPC				*e*SG		**Sg**	**11 55 56.2**	**+0.5**
	79nm,0.3s							
DPC	**Dobruska-Polom**	**1.09**	**175**	*e*P		**Pg**	**11 55 41.8**	**+0.3**
DPC				*e*			11 55 56.2	
DPC				smax				
	comp=N,79nm,0.3s							
DPC	**Dobruska-Polom**	**1.09**	**175**	*e*Pg		**Pg**	**11 55 41.7**	**+0.2**
DPC				*e*Sg		**Sg**	**11 55 55.9**	**+0.2**
BRG	**Berggiesshubel**	**1.50**	**249**	*e*Pg		**Pg**	**11 55 49.0**	**-0.5**
BRG				*e*Sg		**Sg**	**11 56 09.9**	**+0.9**
BRG	**Berggiesshubel**	**1.50**	**249**	PN		**Pn**	**11 55 47.8**	**-1.1**
BRG				PG		**Pg**	**11 55 49.6**	**+0.2**
BRG				SG		**Sg**	**11 56 09.8**	**+0.9**
	comp=N,44nm,0.4s							
BRG	**Berggiesshubel**	**1.50**	**249**	P		**Pn**	**11 55 47.8**	**-1.0**
BRG							11 56 09.9	
BRG				smax				
	comp=N,45nm,0.4s							
PRU	**Pruhonice**	**1.78**	**216**	*e*PN		**Pn**	**11 55 53.1**	**+0.5**
PRU				*e*PG		**Pg**	**11 55 54.2**	**-0.5**
PRU				*e*SG		**Sg**	**11 56 18.1**	**+0.4**
	comp=N,78nm,0.5s							
PRU	**Pruhonice**	**1.78**	**216**	*e*P		**Pn**	**11 55 53.1**	**+0.5**
PRU				*e*			11 56 18.1	
PRU				smax				
	comp=N,78nm,0.5s							
FBE	**Freiberg**	**1.84**	**255**	*e*Sg		**Sg**	**11 56 19.8**	**0.0**
MORC	**Moravsky Berou**	**1.88**	**152**	*e*Pn		**Pn**	**11 55 53.6**	**-0.4**
MORC				*e*Sg		**Sg**	**11 56 19.4**	**-1.6**
	comp=N,32nm,0.4s							
CLL	**Collm**	**1.98**	**268**	*e*Pn		**Pn**	**11 55 56.1**	**+0.7**
CLL				*e*Pg		**Pg**	**11 55 58.0**	**-0.6**
CLL				*e*Sg		**Sg**	**11 56 25.9**	**+1.5**
CLL	**Collm**	**1.98**	**268**	*e*Pn		**Pn**	**11 55 54.0**	**-1.4**
	comp=Z,8.0nm,0.5s							
CLL				*e*Pg		**Pg**	**11 55 58.0**	**-0.6**
CLL				*e*Sg		**Sg**	**11 56 26.0**	**+1.7**
	comp=Z,35nm,0.4s							
CLL	**Collm**	**1.98**	**268**	*e*P		**Pn**	**11 55 54.0**	**-1.4**
CLL				*e*			11 56 26.0	
CLL				pmax		pmax		
	comp=Z,8.0nm,0.5s							
CLL	**Collm**	**1.98**	**268**	Pg		**Pg**	**11 55 58.0**	**-0.6**
CLL				Sg		**Sg**	**11 56 25.9**	**+1.6**
OKC	**Ostrava-Krasne**	**2.04**	**141**	*e*PN		**Pn**	**11 55 56.7**	**+0.5**
OKC				*e*PG		**Pg**	**11 55 59.2**	**-0.5**
OKC				*e*SG		**Sg**	**11 56 24.9**	**-1.3**
	comp=Z,57nm,0.7s							
OKC	**Ostrava-Krasne**	**2.04**	**141**	*e*P		**Pn**	**11 55 56.7**	**+0.5**
OKC				*e*			11 56 24.9	
OKC				smax				
	comp=N,57nm,0.7s							
VRAC	**Vranov**	**2.15**	**172**	Pn		**Pn**	**11 55 59.0**	**+1.3**
	comp=N,6.0nm,0.3s,baz=341,slow=14,SNR=12							
VRAC				Lg			11 56 29.0	
	comp=N,8.4nm,0.3s,baz=79,slow=19,SNR=12							
VRAC	**Vranov**	**2.15**	**172**	P		**Pn**	**11 55 59.0**	**+1.3**
VRAC				pmax		pmax		
	comp=Z,6.0nm,0.3s							
VRAC				MLR		MLR		
	comp=N,8.0nm,0.3s							
VRAC	**Vranov**	**2.15**	**172**	*e*Pn		**Pn**	**11 55 58.1**	**+0.4**
VRAC				*e*Sg		**Sg**	**11 56 28.7**	**-0.9**
	comp=N,40nm,0.6s							
KRUC	**Moravsky**	**2.38**	**176**	*e*Pn		**Pn**	**11 56 01.4**	**+0.5**
KRUC				*e*Sg		**Sg**	**11 56 36.3**	**-0.8**
	comp=N,45nm,0.9s							
TANN	**Tannenbergstha**	**2.55**	**248**	*e*Pn		**Pn**	**11 56 03.6**	**+0.4**
OJC	**Ojcow**	**2.61**	**116**	*e*Pg		**Pg**	**11 56 11.4**	**+0.8**
OJC				*e*Sg		**Sg**	**11 56 45.6**	**+1.2**
WERD	**Werda**	**2.63**	**249**	*e*Pn		**Pn**	**11 56 04.6**	**+0.3**
WERD				*e*Sg		**Sg**	**11 56 43.3**	**-1.9**
NKC	**Novy Kostel**	**2.64**	**244**	*e*PN		**Pn**	**11 56 04.7**	**+0.2**
NKC				*e*PG		**Pg**	**11 56 11.1**	**-0.2**
NKC				*e*SG		**Sg**	**11 56 47.6**	**+2.0**
	comp=N,64nm,0.3s							
NKC	**Novy Kostel**	**2.64**	**244**	*e*P		**Pn**	**11 56 04.7**	**+0.2**
NKC				*e*			11 56 47.6	
NKC				smax				
	comp=N,64nm,0.3s							
WERN	**Wernitzgruen**	**2.66**	**246**	*e*Pn		**Pn**	**11 56 05.5**	**+0.8**
WERN				*e*Sg		**Sg**	**11 56 44.9**	**-1.1**
WERN	**Wernitzgruen**	**2.66**	**246**	Pn		**Pn**	**11 56 05.5**	**+0.8**
WERN				Sg		**Sg**	**11 56 44.9**	**-1.2**
KHC	**Kasperske Hory**	**2.84**	**217**	*e*PN		**Pn**	**11 56 07.7**	**+0.5**
KHC				*e*PG		**Pg**	**11 56 13.6**	**-1.5**
KHC				*e*SN		**Sn**	**11 56 40.4**	**-1.7**
KHC				*e*SG		**Sg**	**11 56 50.9**	**-1.0**
	comp=N,47nm,1.2s							
MANZ	**Manzenberg**	**2.96**	**242**	*e*Pn		**Pn**	**11 56 09.7**	**+0.9**
MOX	**Moxa**	**2.98**	**256**	*e*Pn		**Pn**	**11 56 09.3**	**+0.2**
MOX				*e*Pg		**Pg**	**11 56 18.2**	**+0.5**
MOX				*e*Sg		**Sg**	**11 56 56.7**	**+0.4**
MOX	**Moxa**	**2.98**	**256**	*e*PN		**Pn**	**11 56 10.3**	**+1.2**
MOX				*e*PG		**Pg**	**11 56 18.2**	**+0.5**
MOX				*e*SG		**Sg**	**11 56 57.6**	**+1.4**
MOX	**Moxa**	**2.98**	**256**	*e*P		**Pn**	**11 56 10.3**	**+1.2**
ROTZ	**Rotzenmuhle**	**3.02**	**238**	*e*Pn		**Pn**	**11 56 10.4**	**+0.7**
GEC2	**GERESS Array S**	**3.04**	**212**	*e*Pn		**Pn**	**11 56 10.8**	**+0.9**
GEC2				*e*Sg		**Sg**	**11 56 56.0**	**-2.2**
GEC2	**GERESS Array S**	**3.04**	**212**	*e*P		**Pn**	**11 56 10.8**	**+0.9**
GEC2				*e*			11 56 56.0	
GEC2	**GERESS Array S**	**3.04**	**212**	Pn		**Pn**	**11 56 10.8**	**+0.9**
GEC2				Sg		**Sg**	**11 56 56.0**	**-2.2**
GERES	**GERESS Array B**	**3.04**	**212**	Pn		**Pn**	**11 56 11.1**	**+1.2**
	comp=N,1.1nm,0.3s,baz=30,slow=13,SNR=16							
GERES				Pg		**Pg**	**11 56 16.9**	**-2.0**
	comp=N,5.9nm,0.3s,baz=33,slow=16,SNR=33							
GERES				Lg			11 56 55.8	
	comp=N,4.3nm,0.3s,baz=41,slow=27,SNR=5.8							
GERES	**GERESS Array B**	**3.04**	**212**	Pg		**Pg**	**11 56 16.9**	**-1.9**
SMOL	**Smolenice**	**3.04**	**164**	*e*SG		**Sg**	**11 56 56.0**	**-2.2**
WET	**Wettzell**	**3.11**	**224**	*e*Pn		**Pn**	**11 56 11.6**	**+0.7**
WET				*e*Sg		**Sg**	**11 56 59.5**	**-1.1**
ZST	**Bratislava**	**3.30**	**169**	*e*SG		**Sg**	**11 57 06.7**	**+0.1**
NIE	**Niedzica**	**3.34**	**126**	*e*P		**Pg**	**11 56 25.6**	**+1.0**
NIE				*e*S		**Sg**	**11 57 08.6**	**+0.8**
GRF	**Grafenberg Arr**	**3.60**	**243**	*e*Sg		**Sg**	**11 57 16.0**	**-0.3**
BSD	**Bornholm Skovb**	**3.76**	**349**	*i* P		**Pn**	**11 56 18.1**	**-1.8**
BSD				*i*			11 56 24.5	
BSD				*i* S		**Sn**	**11 57 01.5**	**-3.3**
MOA	**Molln**	**3.79**	**200**	⇑*i* Pn		**Pn**	**11 56 20.9**	**+0.6**
MOA				⇓*i* Sg		**Sg**	**11 57 23.9**	**+1.3**
	comp=N,22nm,0.5s							
MOA	**Molln**	**3.79**	**200**	⇑*i* Pn		**Pn**	**11 56 20.9**	**+0.6**
MOA				*i* Sg		**Sg**	**11 57 23.9**	**+1.3**
STHS	**Stebnicka Huta**	**3.83**	**120**	*e*PN		**Pn**	**11 56 21.6**	**+0.8**
STHS				*e*PG		**Pg**	**11 56 35.5**	**+1.5**
STHS				*e*SG		**Sg**	**11 57 23.3**	**-0.3**
KBA	**Koelnbreinsper**	**4.73**	**204**	⇑*i* Pn		**Pn**	**11 56 34.4**	**+1.2**
KBA				⇓*i* Sg		**Sg**	**11 57 54.3**	**+1.6**
	comp=N,13nm,0.5s							
AKASG	**Malin Array Be**	**8.27**	**90**	Pn		**Pn**	**11 57 19.9**	**-1.9**
	comp=N,0.9nm,0.3s,baz=280,slow=12,SNR=3.5							
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.3s							
FINES	**FINESS Array B**	**11.42**	**25**	Pn		**Pn**	**11 58 02.1**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=204,slow=11,SNR=7.0							
ARCES	**ARCESS Array B**	**18.69**	**10**	Pn		**Pn**	**11 59 35.5**	**-5.2**
	comp=Z,0.3nm,0.3s,baz=197,slow=11,SNR=7.3							
ARCES	**ARCESS Array B**	**18.69**	**10**	Pn		**Pn**	**11 59 35.5**	**-5.2**

IDC ***23*** *12:01:20.3±0.8, 0.10N×9657E, h0km, mb4.2/13, mb1 4.3/14, mb1mx4.2/21, mbtmp4.2/14, ML3.4/1, MS3.5/5, Ms1 3.5/5, ms1mx2.9/23, Error ellipse: s-maj=36.5km s-min=14.1km az=46.0*
MOS ***23*** *12:01:22.1±1.0, 022N×9670E, h23km, mb4.8/8, Error ellipse: s-maj=16.1km s-min=11.2km az=97.3*
ISCJB ***23*** *12:01:24.0±0.4, 0.19N±006×9680E±006, h33km, mb4.4/27, MS3.6/6, Error ellipse: s-maj=9.4km s-min=7.7km az=140.6*
BJI ***23*** *12:01:24.0, 0.10N×9670E, h30km, mB4.9, mb4.7, Ms4.3, Msz4.3*
NEIC ***23*** *12:01:25.1±0.4, 0.11N×9672E, h30km, mb4.7/12, Error ellipse: s-maj=14.3km s-min=7.5km az=54.0*

ISC 23 12:01:26.4±0.4, 018N±006×9678E±007, h35km, n54, σ1§22/49, mb4.4/27, MS3.6/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**3.37**	**40**	Pn		**Pn**	**12 02 14.1**	**-2.5**
	3.5nm,0.3s,baz=203,slow=9.4,SNR=13							
PSI				Sn		**Sn**	**12 02 54.1**	**-1.2**
	2.4nm,0.3s,baz=192,slow=10,SNR=6.6							
PSI				LR		LR	12 03 46.3	
	comp=Z,702nm,20.6s,baz=229,slow=42							
PSI	**Prapat**	**3.37**	**40**	P		**Pn**	**12 02 14.1**	**-2.5**
PSI							12 02 54.1	
QIZ	**Qiongzhong**	**22.70**	**34**	*e*P		**P**	**12 06 25.4**	**+0.5**
	17nm,1.2s,mb4.4							
KMI	**Kunming**	**25.45**	**13**	P		**P**	**12 06 52.8**	**+1.8**
KMI				XP		sP	12 07 05.3	+0.1
KMI				AMB		AMB		
	comp=Z,9.0nm,1.0s,mb4.2							
KMI				AMB		AMB		
	comp=Z,63nm,4.2s							
KMI				LR		LR		
	comp=N,116nm,14.0s,MS3.8							
KMI				LR		LR		
	comp=E,170nm,12.6s,MS3.8							
KMI				LR		LR		
	comp=Z,152nm,13.1s,MS3.7							
JIRN	**Jiri**	**29.15**	**340**	*e*P		**P**	**12 07 25.9**	**+1.8**
	comp=Z,13nm,0.9s,mb4.7							
DMN	**Daman**	**29.48**	**339**	*e*P		**P**	**12 07 29.5**	**+2.4**
GUN	**Gumba**	**29.48**	**340**	*e*P		**P**	**12 07 28.7**	**+1.6**
LSA	**Lhasa**	**29.84**	**350**	P		**P**	**12 07 31.2**	**+1.0**
GKN	**Gorkha**	**30.01**	**338**	*e*P		**P**	**12 07 32.7**	**+0.9**
KOLN	**Koldanda**	**30.20**	**336**	*e*P		**P**	**12 07 34.8**	**+1.3**
	comp=Z,17nm,0.8s,mb4.8							
MBWA	**Marble Bar**	**30.87**	**135**	*e*P		**P**	**12 07 39.0**	**-0.3**
	comp=Z,14nm,1.3s,mb4.6							

FITZ	**Fitzroy Crossi**	**33.70**	**124**	P		**P**	**12 08 04.7**	**+0.6**
	comp=Z,3.0nm,0.7s,mb4.3,baz=103,slow=3.0,SNR=7.0							
JOW	**Kunigami**	**40.24**	**46**	LR		LR	12 23 29.2	
	comp=Z,52nm,21.5s,MS3.4,baz=319,slow=33							
WRA	**Warramunga Arr**	**41.87**	**121**	P		**P**	**12 09 13.5**	**+0.4**
	comp=Z,2.5nm,0.7s,mb4.0,baz=300,slow=9.1,SNR=20							
WB2	**Warramunga Arr**	**41.88**	**121**	*e*P		**P**	**12 09 13.9**	**+0.7**
ASAR	**Alice Springs**	**43.13**	**126**	P		**P**	**12 09 24.2**	**+0.9**
	comp=Z,2.0nm,0.7s,mb4.0,baz=301,slow=8.0,SNR=22							
ASAR				PcP		PcP	12 11 13.3	+0.6
	comp=Z,0.8nm,0.7s,baz=300,slow=3.8,SNR=4.1							
BJT	**Baijiatuan**	**43.41**	**22**	*e*P		**P**	**12 09 26.1**	**+0.5**
BJT				pmax		pmax		
	comp=Z,17nm,0.8s							
BJT	**Baijiatuan**	**43.41**	**22**	*e*P		**P**	**12 09 26.1**	**+0.4**
	comp=Z,16nm,0.8s,mb4.8							
BJI	**Beijing**	**43.43**	**22**	P		**P**	**12 09 27.4**	**+1.6**
MKAR	**Makanchi Array**	**48.12**	**347**	P		**P**	**12 10 03.3**	**+0.5**
	comp=Z,2.9nm,0.6s,mb4.5,baz=159,slow=7.9,SNR=41							
SONM	**Songino Array**	**48.19**	**9**	P		**P**	**12 10 03.8**	**+0.4**
	comp=Z,2.5nm,0.8s,mb4.3,baz=192,slow=12,SNR=3.9							
ULN	**Ulaanbaatar**	**48.33**	**9**	P		**P**	**12 10 03.1**	**-1.3**
ULN				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.3							
ULN	**Ulaanbaatar**	**48.33**	**9**	P		**P**	**12 10 03.1**	**-1.2**
	comp=Z,1.9nm,0.6s,mb4.3							
PMG	**Port Moresby**	**51.05**	**102**	P		**P**	**12 10 26.4**	**+1.3**
	comp=Z,14nm,0.8s,mb4.9,baz=286,slow=9.0,SNR=5.3							
PMG	**Port Moresby**	**51.05**	**102**	*e*P		**P**	**12 10 26.2**	**+1.1**
PMG				pmax		pmax		
	comp=Z,20nm,1.0s							
PMG	**Port Moresby**	**51.05**	**102**	*e*P		**P**	**12 10 26.2**	**+1.1**
	comp=Z,20nm,1.0s,mb5.0							
MJAR	**Matsushiro Arr**	**52.72**	**42**	LR		LR	12 33 31.4	
	comp=Z,57nm,21.1s,MS3.6,baz=355,slow=36							
MDJ	**Mudanjiang**	**52.95**	**29**	P		**P**	**12 10 40.8**	**+1.5**
MDJ				AP		pP	12 10 49.8	0.0
MDJ				XP		sP	12 10 53.6	-0.3
MDJ				AMB		AMB		
	comp=Z,5.0nm,0.9s,mb4.4							
MDJ				AMB		AMB		
	comp=Z,55nm,3.3s							
MDJ				LR		LR		
	comp=N,8.0nm,20.2s,MS3.4							
MDJ				LR		LR		
	comp=E,29nm,17.6s,MS3.4							
MDJ				LR		LR		
	comp=Z,26nm,20.2s,MS3.3							
STKA	**Stephens Creek**	**53.00**	**131**	P		**P**	**12 10 38.9**	**-0.7**
	comp=Z,3.2nm,0.8s,mb4.3,baz=313,slow=8.6,SNR=6.9							
STKA	**Stephens Creek**	**53.00**	**131**	*e*P		**P**	**12 10 38.5**	**-1.1**
KLR	**Kul'dur**	**57.35**	**27**	*e*P		**P**	**12 11 08.7**	**-2.3**
ZRNK	**Zerenda**	**57.46**	**340**	P		**P**	**12 11 10.4**	**-1.4**
ZRNK				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.2							
ZRNK	**Zerenda**	**57.46**	**340**	P		**P**	**12 11 10.4**	**-1.4**
	comp=Z,2.2nm,0.8s,mb4.2							
BOD	**Bodaibo**	**59.08**	**11**	*e*P		**P**	**12 11 22.9**	**-0.2**
KMBO	**Kilima Mbogo**	**59.54**	**269**	LR		LR	12 31 47.2	
	comp=Z,36nm,18.7s,MS3.5,baz=79,slow=31							
AKTK	**Aktyubinsk**	**59.93**	**332**	P		**P**	**12 11 26.9**	**-2.0**
AKTO	**Aktyubinsk**	**59.93**	**332**	P		**P**	**12 11 26.9**	**-2.0**
	comp=Z,1.2nm,0.7s,mb4.1,baz=309,slow=21,SNR=4.0							
HNR	**Honiara**	**63.59**	**101**	LR		LR	12 39 59.5	
	comp=Z,55nm,18.1s,MS3.8,baz=178,slow=36							
HNR	**Honiara**	**63.59**	**101**	*e*P		**P**	**12 11 53.7**	**+0.1**
HNR				pmax		pmax		
	comp=Z,38nm,0.8s,mb5.5							
HNR	**Honiara**	**63.59**	**101**	*e*P		**P**	**12 11 53.7**	**+0.1**
	comp=Z,38nm,0.8s,mb5.5							
MALT	**Malatya**	**65.50**	**313**	P		**P**	**12 12 05.1**	**-0.9**
MALT				pmax		pmax		
	comp=Z,6.0nm,1.4s,mb4.4							
MALT	**Malatya**	**65.50**	**313**	P		**P**	**12 12 05.1**	**-1.0**
	comp=Z,6.0nm,1.4s,mb4.4							
YAK	**Yakutsk**	**66.51**	**16**	*e*P		**P**	**12 12 12.2**	**-0.3**
YAK				pmax		pmax		
	comp=Z,12nm,0.9s,mb4.9							
YAK	**Yakutsk**	**66.51**	**16**	P		**P**	**12 12 12.0**	**-0.5**
	comp=Z,31nm,0.9s,mb5.3							
BRTR	**Keskin Array B**	**69.

SAFT	**Safranbolu**	**1.83**	**350**	PN		**Pn**	**12 03 41.2**	**-0.4**
BALT	**Daday**	**2.10**	**5**	*i* P		**Pn**	**12 03 46.7**	**+1.3**
BALT				*i* S		**Sg**	**12 04 16.1**	**-0.8**
BNN	**Bunyan**	**2.19**	**105**	PN		**Pn**	**12 03 46.3**	**-0.3**
HENT	**Hendek**	**2.20**	**310**	*i* P		**Pn**	**12 03 47.9**	**+1.3**
GPA	**Golpazari**	**2.33**	**292**	PN		**Pn**	**12 03 48.6**	**+0.1**
ALT	**Altintas**	**2.38**	**262**	PN		**Pn**	**12 03 49.2**	**+0.1**
BYBT	**Boyabat**	**2.38**	**31**	PN		**Pn**	**12 03 49.8**	**+0.6**
BOYT	**Boyabat**	**2.40**	**34**	*i* P		**Pn**	**12 03 49.5**	**+0.1**
BOYT				*i* S		**Sn**	**12 04 21.7**	**+2.3**
ISP	**Isparta**	**2.60**	**233**	*e*PN		**Pn**	**12 03 52.0**	**-0.1**
ISP	**Isparta**	**2.60**	**233**	*e*Pn		**Pn**	**12 03 51.6**	**-0.6**
ISP	**Isparta**	**2.60**	**233**	*e*P		**Pn**	**12 03 51.6**	**-0.5**
ISP	**Isparta**	**2.60**	**233**	*e*Pn		**Pn**	**12 03 52.0**	**-0.1**
TKTP	**Tekketepe**	**2.60**	**238**	*i* P		**Pn**	**12 03 51.6**	**-0.6**
KARA	**Karaisali**	**2.65**	**145**	*e*PN		**Pn**	**12 03 53.2**	**+0.3**
KVT	**Kavak**	**2.77**	**53**	*e*PN		**Pn**	**12 03 54.9**	**+0.4**
TOKT	**Tokat**	**2.77**	**70**	*e*PN		**Pn**	**12 03 55.5**	**+0.9**
ADVT	**Abdulvahap**	**2.79**	**292**	*e*PN		**Pn**	**12 03 54.3**	**-0.5**
MERS	**Mersin**	**2.79**	**156**	*e*PN		**Pn**	**12 03 55.4**	**+0.6**
ERMK	**Ermenek**	**2.80**	**184**	*i* P		**Pn**	**12 03 52.6**	**-2.3**
ERMK				*i* S		**Sg**	**12 04 41.2**	**+2.0**
GDZ	**Gediz**	**2.85**	**264**	*i* P		**Pn**	**12 03 56.6**	**+0.9**
GDZ				*i* S		**Sg**	**12 04 41.0**	**+0.1**
KOZT	**Kozan**	**2.88**	**132**	*e*PN		**Pn**	**12 03 56.6**	**+0.5**
MEST	**Erdemli**	**2.96**	**164**	*i* P		**Pn**	**12 03 56.6**	**-0.5**
MEST				*i* S		**Sn**	**12 04 32.4**	**-0.7**
SVST	**Sivas**	**2.97**	**82**	*i* P		**Pn**	**12 03 57.9**	**+0.6**
SVST				*i* S		**Sn**	**12 04 39.5**	**+6.0**
SVSK	**Karacayir**	**3.02**	**80**	*e*PN		**Pn**	**12 03 58.7**	**+0.7**
YLV	**Yalova**	**3.10**	**293**	*e*PN		**Pn**	**12 03 58.9**	**-0.1**
CEYT	**Ceyhan**	**3.18**	**139**	*e*PN		**Pn**	**12 04 01.2**	**+1.0**
IKL	**Isikli**	**3.22**	**172**	*e*PN		**Pn**	**12 04 01.2**	**+0.4**
DST	**Dursunbey**	**3.48**	**274**	*e*PN		**Pn**	**12 04 04.1**	**-0.3**
DNZL	**Cakiroluk**	**3.65**	**243**	*i* P		**Pn**	**12 04 06.1**	**-0.5**
MANT	**Manisa**	**3.69**	**257**	*i* P		**Pn**	**12 04 06.7**	**-0.5**
COBT	**Iskenderun**	**3.82**	**139**	*i* P		**Pn**	**12 04 08.8**	**-0.1**
GAZ	**Gaziantep**	**3.93**	**124**	*e*PN		**Pn**	**12 04 12.1**	**+1.6**
BTOK	**Tokmak**	**3.95**	**276**	*i* P		**Pg**	**12 04 22.2**	**-2.7**
BTOK				*i* S		**Sg**	**12 05 20.2**	**+4.0**
BALB	**Balikesir**	**4.06**	**275**	*e*PN		**Pn**	**12 04 12.1**	**-0.2**
AKS	**Akhisar**	**4.17**	**264**	*e*PN		**Pn**	**12 04 14.4**	**+0.6**
GRSN	**GIRESUNGRSN**	**4.21**	**68**	*i* P		**Pn**	**12 04 14.4**	**+0.1**
FETY	**Fethiye**	**4.25**	**230**	*e*PN		**Pn**	**12 04 15.5**	**+0.7**
MYA	**Malataya**	**4.28**	**103**	*e*PN		**Pn**	**12 04 16.6**	**+1.3**
MALT	**Malatya**	**4.29**	**104**	*e*PN		**Pn**	**12 04 16.6**	**+1.2**
MALT	**Malatya**	**4.29**	**104**	*e*Pn		**Pn**	**12 04 14.4**	**-0.9**
MALT	**Malatya**	**4.29**	**104**	*e*P		**Pn**	**12 04 14.5**	**-0.9**
MALT	**Malatya**	**4.29**	**104**	*e*Pn		**Pn**	**12 04 16.6**	**+1.2**
DALT	**Dalyan (Mudla)**	**4.43**	**234**	*e*PN		**Pn**	**12 04 17.8**	**+0.4**
YER	**Yerkesik**	**4.45**	**240**	*e*PN		**Pn**	**12 04 18.4**	**+0.7**
AYDN	**Tasoluk**	**4.48**	**248**	*i* P		**Pn**	**12 04 18.2**	**+0.2**
ELZG	**Elazig**	**4.66**	**100**	*i* P		**Pn**	**12 04 21.2**	**+0.7**
KDAG	**Bornova**	**4.69**	**259**	*i* P		**Pg**	**12 04 36.6**	**-2.5**
KDAG				*i* S		**Sg**	**12 05 50.9**	**+11**
GUMT	**Gumushane**	**4.99**	**76**	*e*PN		**Pn**	**12 04 26.9**	**+1.9**
YAL	**Yalta**	**5.10**	**8**	*e*P		**Pn**	**12 04 31.0**	**+4.4**
YAL				*e*S		**Sn**	**12 05 24.1**	**-1.9**
YAL				pmax	pmax			
	comp=Z,10.0nm,0.5s							
YAL				smax				
	comp=N,10.0nm,0.5s							
YAL				smax				
	comp=E,10.0nm,0.5s							
SEV	**Sevastopol'**	**5.12**	**4**	*e*P		**Pn**	**12 04 30.8**	**+4.0**
SEV				*e*S		**Sn**	**12 05 23.2**	**-3.2**
SEV				pmax	pmax			
	comp=Z,10.0nm,0.4s							
SEV				smax				
	comp=N,10.0nm,0.5s							
SEV				smax				
	comp=E,10.0nm,0.5s							
SUDU	**Sudak**	**5.62**	**14**	*e*P		**Pn**	**12 04 32.5**	**-1.2**
SUDU				pmax	pmax			
	comp=Z,30nm,0.5s							
SUDU	**Sudak**	**5.62**	**14**	*e*P		**Pn**	**12 04 32.5**	**-1.2**
	comp=Z,30nm,0.5s							
TIRR	**Tirgusor**	**6.12**	**327**	⇓*i*P		**Pn**	**12 04 48.3**	**+7.7**
TIRR	**Tirgusor**	**6.12**	**327**	*e*Pn		**Pn**	**12 04 41.0**	**+0.4**
TIRR	**Tirgusor**	**6.12**	**327**	*e*P		**Pn**	**12 04 41.1**	**+0.5**
MMAI	**Mount Meron Ar**	**6.67**	**163**	Pn		**Pn**	**12 04 47.1**	**-1.0**
	comp=Z,2.9nm,0.3s,baz=2.1,slow=9.2,SNR=5.6							
IDI	**Anoyia**	**7.76**	**240**	Pn		**Pn**	**12 05 03.8**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=60,slow=16,SNR=3.7							
IDI				LR		LR	12 08 38.6	
	comp=Z,92nm,18.7s,baz=345,slow=43							
GNI	**Garni**	**8.97**	**82**	LR		LR	12 09 14.5	
	comp=Z,150nm,20.6s,baz=69,slow=41							
AKTK	**Aktyubinsk**	**20.67**	**50**	P		**P**	**12 07 56.1**	**+5.9**
AKTO	**Aktyubinsk**	**20.67**	**50**	P		**P**	**12 07 56.1**	**+5.9**
	comp=Z,2.4nm,0.7s,baz=254,slow=9.4,SNR=10							
AKTO	**Aktyubinsk**	**20.67**	**50**	P		**P**	**12 07 56.1**	**+5.9**
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.7s							
FINES	**FINESS Array B**	**22.46**	**351**	P		**P**	**12 08 10.4**	**+0.9**
	comp=Z,1.8nm,0.8s,mb3.6,baz=152,slow=12,SNR=5.3							
FINES	**FINESS Array B**	**22.46**	**351**	P		**P**	**12 08 10.4**	**+1.0**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
NOA	**NORSAR Array B**	**25.53**	**335**	LR		LR	12 21 06.5	
	comp=Z,13nm,21.6s,MS2.4,baz=130,slow=42							
TORD	**Torodi Ar. Bea**	**38.13**	**235**	P		**P**	**12 10 27.5**	**-2.1**
	comp=Z,1.3nm,0.9s,mb3.7,baz=34,slow=7.8,SNR=6.1							

MOS 23 12:33:11.3±3.0, 6046N×16686E, h15km, mb3.8/1, Error ellipse: s-maj=56.3km s-min=25.5km az=98.0, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BILL	**Bilibino**	**7.61**	**358**	*e*PN	Pn	12 35 04.9	+3.2
BILL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BILL				pmax	pmax		
	comp=N,56nm,1.7s						
TIXI	**Tiksi**	**18.64**	**322**	*e*P	Pn	12 37 31.3	+2.6
TIXI				pmax	pmax		
	comp=Z,7.0nm,2.5s						
YSS	**Yuzh-Sakhalins**	**19.50**	**237**	*e*P	Pn	12 37 41.2	+2.1
YSS				pmax	pmax		
	comp=Z,44nm,2.5s						
ULN	**Ulaanbaatar**	**35.91**	**277**	*e*P	P	12 40 15.3	+4.4
KURK	**Kurchatov**	**47.15**	**300**	*e*P	P	12 41 44.5	+1.6

JMA 23 12:38:05.4±0.2, 2528N×12340E, h172km±4km, M3.8, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.89**	**204**	P	Pn	12 38 31.6	+0.1
YOJ				S	Sn	12 38 52.2	+0.7
IRIF	**Iriomote-Funau**	**0.99**	**162**	P	Pn	12 38 31.9	-0.3
IRIF				S	Sn	12 38 53.7	+0.9
JIJ	**Ishigaki jima**	**1.14**	**143**	P	Pn	12 38 33.2	-0.2
JIJ				S	Sn	12 38 54.2	-0.7
JKRS	**Kuro-shima**	**1.18**	**152**	P	Pn	12 38 34.0	+0.3
JKRS				S	Sn	12 38 55.7	+0.2
HATJ	**Hateruma jima**	**1.27**	**163**	P	Pn	12 38 34.8	+0.3
HATJ				*e*S	Sn	12 38 57.2	+0.2
JTJ	**Tarama**	**1.34**	**118**	P	Pn	12 38 35.3	+0.1
JTJ				S	Sn	12 38 58.4	+0.3
JMJ	**Miyako jima 2**	**1.78**	**105**	P	Pn	12 38 39.8	+0.3
JMJ				S	Sn	12 39 05.8	0.0
JOGS	**Gusukube**	**1.89**	**105**	P	Pn	12 38 41.2	+0.5
JKE	**Kume jima 2**	**3.23**	**70**	P	Pn	12 38 54.9	-1.5
JAGN	**Aguni-jima**	**3.70**	**69**	P	Pn	12 39 00.5	-1.8
JAGN				*e*S	Sn	12 39 42.0	-4.7
JOW	**Kunigami**	**4.65**	**70**	P	Pn	12 39 11.8	-2.8
JOW				*e*S	Sn	12 40 02.4	-6.3
JTK	**Tokunoshima**	**5.56**	**62**	P	Pn	12 39 22.8	-3.7
JMZ	**Minamidaito 2**	**7.08**	**84**	P	Pn	12 39 43.0	-3.5

*IDC **23** 12:38:17.3±0.9, 364N×127.17E, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.0/18, mbtmp4.0/8, Error ellipse: s-maj=68.9km s-min=17.0km az=75.0*
*ISCJB **23** 12:38:20.6±0.6, 358N±0.10×1269E±0.3, h33km, mb4.0/12, Error ellipse: s-maj=37.8km s-min=9.5km az=148.7*
*NEIC **23** 12:38:34.3±0.4, 344N×126.84E, h150km, mb4.0/5, Error ellipse: s-maj=25.7km s-min=6.9km az=73.0*

ISC 23 12:38:22.8±0.6, 363N±009×1271E±02, h35km, n18, σ1$03/18, mb4.0/12, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.64**	**184**	*e*P	**P**	**12 43 10.6**	**+0.6**
	4.5nm,0.9s,mb3.9						
FITZ	**Fitzroy Crossi**	**21.64**	**184**	P	**P**	**12 43 08.9**	**-1.1**
	1.4nm,0.5s,mb3.7,baz=60,slow=16,SNR=12						
QIZ	**Qiongzhong**	**22.80**	**313**	*e*P	**P**	**12 43 23.9**	**+1.5**
	25nm,1.6s,mb4.4						
WRA	**Warramunga Arr**	**24.47**	**163**	P	**P**	**12 43 38.8**	**+0.5**
	8.8nm,0.7s,mb4.3,baz=344,slow=11,SNR=75						
WB2	**Warramunga Arr**	**24.47**	**163**	*e*P	**P**	**12 43 39.0**	**+0.6**
MBWA	**Marble Bar**	**25.68**	**196**	*e*P	**P**	**12 43 48.1**	**-1.3**
	0.9nm,0.5s,mb3.6						
AS31	**Alice Springs**	**27.92**	**167**	*e*P	**P**	**12 44 10.3**	**+0.8**
ASAR	**Alice Springs**	**27.92**	**167**	P	**P**	**12 44 10.1**	**+0.6**
	0.6nm,0.4s,mb3.6,baz=340,slow=7.0,SNR=32						
ASAR				PcP	PcP	12 47 25.4	+0.9
	0.5nm,0.6s,baz=342,slow=2.5,SNR=4.4						
ASPA	**Alice Springs**	**27.92**	**167**	*e*P	**P**	**12 44 10.3**	**+0.8**
STKA	**Stephens Creek**	**37.89**	**160**	P	**P**	**12 45 35.2**	**-1.2**
	3.2nm,0.7s,mb4.2,baz=349,slow=10,SNR=5.3						
STKA	**Stephens Creek**	**37.89**	**160**	P	**P**	**12 45 35.2**	**-1.2**
STKA				*e*P		12 45 35.5	
ULN	**Ulaanbaatar**	**47.34**	**342**	*e*P	**P**	**12 46 54.0**	**+0.9**
	4.6nm,1.1s,mb4.3						
SONM	**Songino Array**	**47.52**	**341**	P	**P**	**12 46 55.2**	**+0.7**
	1.1nm,0.6s,mb4.1,baz=168,slow=8.3,SNR=3.5						
MKAR	**Makanchi Array**	**57.87**	**325**	P	**P**	**12 48 11.1**	**+0.1**
	0.8nm,0.4s,mb4.1,baz=122,slow=7.9,SNR=7.6						
ZRNK	**Zerenda**	**68.36**	**326**	*e*P	**P**	**12 49 19.5**	**-1.0**
	1.3nm,0.6s,mb4.1						
ILAR	**Eielson Array**	**85.02**	**25**	P	**P**	**12 50 54.4**	**-0.3**
	0.3nm,0.7s,mb3.5,baz=254,slow=5.9,SNR=4.7						
ARCES	**ARCESS Array B**	**90.69**	**340**	P	**P**	**12 51 20.2**	**-1.6**
	3.0nm,0.9s,mb4.6,baz=83,slow=10,SNR=3.8						
KWP	**Kalwaria**	**96.55**	**321**	*e*P	**P**	**12 51 45.5**	**-3.3**
	51nm,0.5s						

*ISCJB **23** 12:43:04.9±1.2, 6083N±004×1660E±0.1, h11km±9km, mb3.9/14, Error ellipse: s-maj=8.9km s-min=6.6km az=59.8*
*IDC **23** 12:43:04.2±0.8, 6086N×16550E, h0km, mb3.8/9, mb1 4.1/10, mb1mx3.9/22, mbtmp3.8/10, ML3.4/1, MS3.1/1, Ms1 3.1/1, ms1mx2.2/29, Error ellipse: s-maj=19.7km s-min=16.2km az=69.0*
*MOS **23** 12:43:04.3±1.6, 6086N×16582E, h14km, mb4.1/10, Error ellipse: s-maj=20.9km s-min=11.1km az=95.2*
*KRSC **23** 12:43:04.6±0.8, 6078N×166.13E, h10km±4km, ML4.0*
*NEIC **23** 12:43:05.3±0.5, 6084N×16556E, h10km, mb4.2/4, Error ellipse: s-maj=13.3km s-min=8.9km az=162.0*

ISC 23 12:43:05.0±1.6, 6087N±004×1659E±01, h2km±11km, n51, σ1$23/52, mb3.9/14, 5C, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.45**	**172**	*i* P	**Pg**	**12 43 12.2**	**-1.4**
TILR				*e*S	**Sg**	**12 43 18.5**	**-0.9**
TILR				Smax			
	19μm,0.9s						
KAMR	**Kamenskoye**	**1.60**	**5**	*i* P	**Pn**	**12 43 34.5**	**+0.3**
KAMR				*i* S	**Sn**	**12 43 56.1**	**+0.7**
KAMR				Smax			
	2μm,1.1s						
OSSR	**Ossora**	**2.17**	**223**	*e*P	**Pn**	**12 43 40.8**	**-1.3**
EVNR	**Evensk**	**3.37**	**291**	*i* P	**Pn**	**12 43 59.2**	**+0.5**
SMKR	**Semkarok**	**4.89**	**210**	*e*P	**Pn**	**12 44 20.6**	**+1.1**
SRKR	**Sorokina**	**4.90**	**212**	*e*P	**Pn**	**12 44 20.1**	**+0.4**
KBTR	**Krutoberegovo**	**4.95**	**201**	*e*P	**Pn**	**12 44 19.9**	**-0.5**
BDR	**Baidarnaya**	**4.97**	**212**	*e*P	**Pn**	**12 44 21.7**	**+1.1**
CIRR	**Tsirk**	**5.49**	**212**	*e*P	**Pn**	**12 44 29.8**	**+2.1**
LGNR	**Loginova**	**5.53**	**212**	*e*P	**Pn**	**12 44 29.5**	**+1.2**
ZLN	**Zelenaya**	**5.56**	**211**	*e*P	**Pn**	**12 44 30.7**	**+2.0**
BKI	**Bering**	**5.69**	**180**	P	**Pn**	**12 44 32.0**	**+1.6**
BILL	**Bilibino**	**7.20**	**1**	*e*PN	**Pn**	**12 44 50.3**	**-0.9**
BILL				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BILL	**Bilibino**	**7.20**	**1**	*e*Pn	**Pn**	**12 44 50.3**	**-1.0**
	comp=Z,8.3nm,0.6s						
BILL				*e*S	**Sn**	**12 45 55.7**	**-18**
BILL	**Bilibino**	**7.20**	**1**	*i* P	**Pn**	**12 44 54.1**	**+2.9**
FX1	**Attu Island--F**	**8.93**	**151**	Pn	**Pn**	**12 45 14.8**	**-0.2**
	comp=Z,1.5nm,0.3s,baz=297,slow=4.5,SNR=5.7						
FX1	**Attu Island--F**	**8.93**	**151**	PN	**Pn**	**12 45 14.8**	**-0.2**
FX1				pmax	pmax		
	comp=Z,2.0nm,0.3s						
YAK	**Yakutsk**	**17.22**	**290**	⇑*e*P	**Pn**	**12 47 07.5**	**+0.8**
YAK				pmax	pmax		
	comp=Z,17nm,0.8s						
TIXI	**Tiksi**	**18.03**	**322**	⇑*e*P	**Pn**	**12 47 17.9**	**+1.2**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.8s						
YSS	**Yuzh-Sakhalins**	**19.36**	**234**	*e*P	**Pn**	**12 47 33.5**	**+0.7**
YSS				pmax	pmax		
	comp=Z,37nm,2.5s						
COLA	**College**	**21.07**	**59**	*e*P	**P**	**12 47 51.3**	**+0.9**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.7						
COLA	**College**	**21.07**	**59**	*e*P	**P**	**12 47 51.3**	**+0.9**
	comp=Z,3.3nm,0.8s,mb3.7						
ILAR	**Eielson Array**	**21.49**	**59**	P	**P**	**12 47 56.1**	**+1.2**
	comp=Z,5.9nm,0.8s,mb4.0,baz=273,slow=8.6,SNR=55						
ILAR	**Eielson Array**	**21.49**	**59**	P	**P**	**12 47 56.1**	**+1.2**
ILAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ASAJ	**Asahikawa**	**21.78**	**230**	LR	LR	12 56 16.5	
	comp=Z,50nm,20.1s,baz=116,slow=37						
DAWY	**Dawson**	**24.82**	**59**	*e*P	**P**	**12 48 28.6**	**+0.2**
INK	**Inuvik**	**25.97**	**48**	P	**P**	**12 48 39.3**	**+0.4**
	comp=Z,1.0nm,0.5s,mb3.6,baz=287,slow=12,SNR=15						
INK	**Inuvik**	**25.97**	**48**	*e*P	**P**	**12 48 39.2**	**+0.3**
INK				*e*pP	pP	12 48 47.0	+7.5
BOD	**Bodaibo**	**26.08**	**287**	*e*P	**P**	**12 48 37.8**	**-2.1**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
DLBC	**Dease Lake**	**31.31**	**66**	*e*P	**P**	**12 49 26.1**	**-0.5**
ULN	**Ulaanbaatar**	**35.41**	**276**	⇑*e*P	**P**	**12 50 01.8**	**-0.4**
YKA	**Yellowknife Ar**	**35.52**	**52**	P	**P**	**12 50 03.3**	**+0.1**
	comp=Z,0.5nm,0.5s,mb3.7,baz=305,slow=8.1,SNR=7.6						
YKA	**Yellowknife Ar**	**35.52**	**52**	P	**P**	**12 50 03.3**	**+0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FCC	**Fort Churchill**	**45.56**	**46**	*e*P	**P**	**12 51 25.1**	**-1.1**
FCC				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
FCC	**Fort Churchill**	**45.56**	**46**	*e*P	**P**	**12 51 25.1**	**-1.1**
	comp=Z,2.3nm,0.8s,mb4.2						
KURK	**Kurchatov**	**46.54**	**299**	⇑*e*P	**P**	**12 51 32.6**	**-1.4**
CHKZ	**Chkalovo**	**47.62**	**307**	*e*P	**P**	**12 51 38.3**	**-4.1**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.4						
CHKZ	**Chkalovo**	**47.62**	**307**	*e*P	**P**	**12 51 38.3**	**-4.1**
	comp=Z,4.8nm,1.3s,mb4.4						
MKAR	**Makanchi Array**	**47.86**	**293**	P	**P**	**12 51 42.0**	**-2.2**
	comp=Z,0.9nm,0.6s,mb4.0,baz=47,slow=7.5,SNR=9.9						
MKAR	**Makanchi Array**	**47.86**	**293**	P	**P**	**12 51 42.0**	**-2.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZRNK	**Zerenda**	**48.80**	**307**	*e*P	**P**	**12 51 49.9**	**-1.6**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
ZRNK	**Zerenda**	**48.80**	**307**	*e*P	**P**	**12 51 49.9**	**-1.6**
	comp=Z,2.4nm,1.0s,mb4.2						
PDAR	**Pinedale Array**	**51.36**	**70**	P	**P**	**12 52 11.5**	**+0.6**
	comp=Z,1.1nm,0.7s,mb3.9,baz=318,slow=2.0,SNR=6.7						
NOA	**NORSAR Array B**	**56.87**	**346**	P	**P**	**12 52 49.8**	**-1.3**
	comp=Z,0.9nm,0.6s,mb4.0,baz=13,slow=7.3,SNR=2.4						
NOA	**NORSAR Array B**	**56.87**	**346**	P	**P**	**12 52 49.8**	**-1.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KHC	**Kasperske Hory**	**68.10**	**341**	⇑*e*P	**P**	**12 54 09.2**	**+2.9**
BRTR	**Keskin Array B**	**72.47**	**323**	P	**P**	**12 54 32.8**	**-0.2**
	comp=Z,0.2nm,0.3s,mb3.5,baz=90,slow=2.5,SNR=3.7						
WRA	**Warramunga Arr**	**84.47**	**210**	P	**P**	**12 55 37.5**	**-1.7**
	comp=Z,0.5nm,0.8s,mb3.7,baz=11,slow=5.6,SNR=7.7						
WRA	**Warramunga Arr**	**84.47**	**210**	P	**P**	**12 55 37.5**	**-1.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**88.15**	**209**	P	**P**	**12 55 54.6**	**-2.7**
	comp=Z,0.2nm,0.8s,mb3.4,baz=2.8,slow=5.9,SNR=4.1						
QSPA	**South Pole Qui**	**150.64**	**180**	*e*PKPbc	PKPbc	13 02 55.4	-3.1

*NEIC **23** 12:49:19.8, 34.11S×70.05W, h2km, ML2.9(GUC), After GUC.*

GUC 23 12:49:19.8±0.6, 3411S×7005W, h2km±3km, MD4.1, ML2.9, 1C-7D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.37**	**235**	⇓*i*P	Pg	12 49 27.2	+0.2
CICH				*i* S	Sg	12 49 32.7	+0.9
YECH	**El Yeso**	**0.44**	**356**	*e*P	Pg	12 49 28.7	+0.4
YECH				*i* S	Sg	12 49 35.5	+1.5
CACH	**El Canelo**	**0.46**	**269**	⇑*i*P	Pg	12 49 28.7	+0.1
CACH				*i* S	Sg	12 49 35.1	+0.7
CHCH	**Chadas Angostu**	**0.53**	**289**	⇓*i*P	Pg	12 49 30.3	+0.3
CHCH				*i* S	Sg	12 49 37.7	+0.9
PCH	**Pirque**	**0.62**	**321**	⇓*i*P	Pg	12 49 31.9	+0.3
PCH				*i* S	Sg	12 49 41.2	+1.5
ANTU	**Antumapu**	**0.72**	**318**	*e*P	Pg	12 49 33.5	-0.2
ANTU				*i* S	Sg	12 49 44.0	+1.0
ANTU				AML	AML	12 49 45.0	
	comp=N,978nm,0.4s						
ANTU	**Antumapu**	**0.72**	**318**	*e*P	Pg	12 49 33.5	-0.2
ANTU				*i* S	Sg	12 49 44.0	+1.0
CLCH	**Cerro Calan**	**0.82**	**330**	*e*P	Pg	12 49 35.4	0.0
CLCH				*i* S	Sg	12 49 47.2	+1.2
CLCH				AML	AML	12 49 52.7	
	comp=N,781nm,0.5s						
TACH	**Talagante**	**0.86**	**301**	⇓*i*P	Pg	12 49 36.1	-0.2
TACH				*i* S	Sg	12 49 48.2	+0.6
SFDO	**San Fernando**	**0.94**	**237**	⇓*i*P	Pg	12 49 37.4	-0.5
SFDO				*i* S	Sg	12 49 50.5	+0.4
PEL	**Peldehue**	**1.10**	**331**	⇓*i*P	Pg	12 49 40.3	-0.5
PEL				*i* S	Sg	12 49 55.8	+0.7
PEL				AML	AML	12 49 57.4	
	comp=E,696nm,0.2s						
PEL	**Peldehue**	**1.10**	**331**	⇓*i*P	Pg	12 49 40.3	-0.5
PEL				*i* S	Sg	12 49 55.8	+0.7
LNV	**Longovilo**	**1.14**	**277**	*i* P	Pg	12 49 40.5	-1.1
LNV				*i* S	Sg	12 49 56.0	-0.5
LCCH	**Las Cruces**	**1.41**	**296**	*e*P	Pn	12 49 45.2	-1.3
LCCH				*i* S	Sg	12 50 04.5	-0.7
JACH	**Jahuel**	**1.49**	**342**	*i* P	Pn	12 49 47.8	+0.2
JACH				*i* S	Sb	12 50 08.6	+1.0
CHNG	**Los Chungos**	**2.53**	**331**	*i* P	Pn	12 50 04.0	+2.1
CHNG				*i* S	Sn	12 50 35.9	+2.6
TLL	**Tololo Astrono**	**3.98**	**351**	*e*P	Pn	12 50 27.8	+6.0

*ISCJB **23** 12:57:38.8±0.2, 47376N±0010×1150E±001, h9km, Error ellipse: s-maj=1.6km s-min=1.2km az=93.0*
*VIE **23** 12:57:39.3±0.2, 4735N×1146E, h9km±2km, mb2.9/5, ML3.2/9, Error ellipse: s-maj=3.8km s-min=1.2km az=176.0 5 km N of Sankt Romedikapelle felt 4-5 EMS98 in Karwendelgebirge / TYROL*
*ZUR **23** 12:57:40.2, 4720N×1148E, h10km, ML3.2/6*
*PRU **23** 12:57:40.6, 4734N×1152E, h0km*
*NEIC **23** 12:57:40.7±0.3, 4733N×1153E, h10km, ML2.9(FUR), ML3.2(STR), ML3.4(LDG), Error ellipse: s-maj=4.8km s-min=3.4km az=23.0*
*CSEM **23** 12:57:40.8±0.1, 4730N×1155E, h12km, ML3.7/3, Error ellipse: s-maj=2.2km s-min=1.4km az=67.0*
*MOS **23** 12:57:40.4±1.0, 4733N×1150E, h18km, mb4.0/1, Error ellipse: s-maj=5.9km s-min=5.4km az=146.4*
*BGR **23** 12:57:41.3±0.3, 4732N×1147E, h5km, ML3.1/10, Error ellipse: s-maj=5.6km s-min=3.3km az=32.0*
*LEDBW **23** 12:57:41.6±5.2, 4738N×1157E, h10km, ML3.4, Error ellipse: s-maj=98.0km s-min=72.0km az=12.0*
*LDG **23** 12:57:42.4±0.2, 4731N×1150E, h10km, Ml3.4/11, Error ellipse: s-maj=6.3km s-min=2.9km az=21.0*
*STR **23** 12:57:46.7±0.2, 4746N×1110E, h10km±1km, Ml3.2, Error ellipse:

BERNI	**Berninapass**	**1.37**	**227**	*e*P		**Pg**	**12 58 05.1**	**-1.3**
PLRO	**Paularo**	**1.40**	**125**⇑	*i*Pg		**Pg**	**12 58 06.6**	**-0.4**
MLNI	**Malnisio**	**1.44**	**147**⇑	*i*Pg		**Pg**	**12 58 07.8**	**+0.1**
MABI	**Malga Bissina**	**1.46**	**207**	Pg		**Pg**	**12 58 06.9**	**-1.2**
CGRP	**Cima Grappa**	**1.49**	**171**⇑	*e*Pg		**Pg**	**12 58 07.7**	**-1.0**
CGRP				*e*Sg		**Sg**	**12 58 28.5**	**+0.4**
CAE	**Caneva**	**1.50**	**154**⇓	*i*Pg		**Pg**	**12 58 09.1**	**+0.2**
BOO	**Bordano**	**1.52**	**132**⇓	*i*Pg		**Pg**	**12 58 09.4**	**+0.1**
MPRI	**Monte Prat**	**1.52**	**136**⇓	*i*Pg		**Pg**	**12 58 08.8**	**-0.5**
MTLO	**Montello**	**1.60**	**164**⇑	*i*Pg		**Pg**	**12 58 11.0**	**+0.2**
MTLO				*i* Sg		**Sg**	**12 58 32.1**	**+0.5**
BUA	**Buia**	**1.61**	**135**	*e*Pg		**Pg**	**12 58 11.3**	**+0.5**
VDL	**Val di Lei**	**1.63**	**238**	*e*P*		**Pb**	**12 58 02.1**	**-8.8**
	210nm,0.7s							
VDL	**Val di Lei**	**1.63**	**238**	*e*P		**Pn**	**12 58 09.5**	**-0.4**
BAD	**Bernadia**	**1.65**	**132**⇑	*e*Pg		**Pg**	**12 58 11.4**	**-0.4**
BAD				*e*Sg		**Sg**	**12 58 33.0**	**-0.2**
LSR	**Lussari**	**1.66**	**121**⇓	*i*Pg		**Pg**	**12 58 11.8**	**-0.1**
LSR				*i* Sg		**Sg**	**12 58 34.7**	**+1.2**
TUE	**Stuetta**	**1.71**	**240**	Pg		**Pg**	**12 58 12.3**	**-0.5**
SISB	**Singen-Schiene**	**1.73**	**282**	Pg		**Pg**	**12 58 12.9**	**-0.4**
SISB				Sg		**Sg**	**12 58 36.9**	**+1.1**
GUT	**Gutenstein**	**1.75**	**295**	P		**Pn**	**12 58 12.4**	**+0.8**
GUT				Sg		**Sg**	**12 58 36.4**	**+0.2**
GUT	**Gutenstein**	**1.75**	**295**	P		**Pn**	**12 58 12.4**	**+0.8**
GUT				Sg		**Sg**	**12 58 36.3**	**+0.1**
COLI	**Coloredo**	**1.79**	**132**⇑	*i*Pg		**Pg**	**12 58 14.6**	**+0.2**
COLI				*i* Sg		**Sg**	**12 58 38.1**	**+0.4**
BUCH	**Bad Urach**	**1.80**	**308**	P		**Pn**	**12 58 13.3**	**+1.0**
BUCH				Sg		**Sg**	**12 58 38.3**	**+0.4**
DRE	**Drenchia**	**1.90**	**128**⇓	*e*Pg		**Pg**	**12 58 15.8**	**-0.7**
MOA	**Molln**	**1.95**	**74**⇓	*i*Sg		**Sg**	**12 58 44.4**	**+1.6**
	comp=N,46nm,0.2s							
MOA	**Molln**	**1.95**	**74**⇓	*e*Pg		**Pg**	**12 58 16.8**	**-0.7**
	30nm,0.4s,SNR=23							
MOA				⇓*i*Sg		**Sg**	**12 58 44.4**	**+1.6**
	46nm,0.2s							
MOA	**Molln**	**1.95**	**74**	*e*Pg		**Pg**	**12 58 16.7**	**-0.8**
	SNR=24							
MOA				*e*Sg		**Sg**	**12 58 44.3**	**+1.5**
MUO	**Muotathal**	**1.97**	**260**	*e*Pn		**Pn**	**12 58 05.1**	**-10**
	977nm,0.5s							
MUO	**Muotathal**	**1.97**	**260**	*e*P		**Pn**	**12 58 15.5**	**+0.8**
TEOL	**Teolo**	**2.00**	**176**⇓	*e*Pn		**Pn**	**12 58 17.0**	**+1.9**
TEOL				*e*Sn		**Sn**	**12 58 43.3**	**+2.5**
WET	**Wettzell**	**2.02**	**27**	*e*Pn		**Pn**	**12 58 15.5**	**+0.2**
	SNR=4.8							
WET				*e*Sn		**Sn**	**12 58 40.6**	**-0.8**
WET	**Wettzell**	**2.02**	**27**	*e*P		**Pn**	**12 58 15.3**	**-0.1**
SLE	**Schleitheim**	**2.06**	**283**	*e*Pn		**Pn**	**12 58 05.9**	**-10**
	571nm,0.4s							
SLE	**Schleitheim**	**2.06**	**283**	*e*P		**Pn**	**12 58 16.5**	**+0.6**
STU	**Stuttgart**	**2.08**	**314**	*e*Pg		**Pg**	**12 58 24.2**	**+4.2**
	SNR=3.2							
STU				*e*Sg		**Sg**	**12 58 47.3**	**+0.3**
GEC2	**GERESS Array S**	**2.11**	**44**	*e*Pn		**Pn**	**12 58 16.6**	**0.0**
	SNR=5.6							
GEC2				*e*Sg		**Sg**	**12 58 48.3**	**+0.4**
GEC2	**GERESS Array S**	**2.11**	**44**	*e*P		**Pn**	**12 58 16.4**	**-0.2**
GEC2				*e*			12 58 44.7	
GEC2	**GERESS Array S**	**2.11**	**44**	Pn		**Pn**	**12 58 16.6**	**0.0**
	SNR=5.6							
GEC2				*e*S		**Sn**	**12 58 44.7**	**+1.2**
GEC2				Sg		**Sg**	**12 58 48.3**	**+0.4**
VOY	**Vojsko**	**2.13**	**128**	*e*Pn		**Pn**	**12 58 18.8**	**+1.9**
VOY				*e*Sn		**Sn**	**12 58 48.7**	**+4.7**
LBG	**Lerchenberg**	**2.22**	**307**	S		**Sn**	**12 58 43.9**	**-2.5**
KHC	**Kasperske Hory**	**2.27**	**38**	*e*PN		**Pn**	**12 58 18.9**	**+0.2**
KHC				*e*PG		**Pg**	**12 58 22.2**	**-1.3**
KHC				*e*SN		**Sn**	**12 58 45.5**	**-1.9**
KHC				*e*SG		**Sg**	**12 58 53.1**	**+0.2**
	105nm,0.6s							
OBKA	**Obir**	**2.27**	**111**⇑	*e*Pg		**Pg**	**12 58 22.0**	**-1.6**
	24nm,0.3s,SNR=11							
OBKA				⇑*e*Sg		**Sg**	**12 58 54.0**	**+1.0**
	33nm,0.3s							
OBKA	**Obir**	**2.27**	**111**	*e*Pg		**Pg**	**12 58 22.0**	**-1.6**
	SNR=15							
OBKA				*e*Sg		**Sg**	**12 58 54.0**	**+1.0**
OBKA	**Obir**	**2.27**	**111**	⇑Pg		**Pg**	**12 58 22.0**	**-1.6**
OBKA				*i* Sg		**Sg**	**12 58 54.0**	**+1.0**
BFO	**Black Forest**	**2.33**	**296**	*e*Pn		**Pn**	**12 58 19.9**	**+0.3**
	SNR=6.2							
BFO				*e*Pg		**Pg**	**12 58 26.4**	**+1.6**
	SNR=14							
BFO				*e*Sg		**Sg**	**12 58 55.1**	**+0.2**
BFO	**Black Forest**	**2.33**	**296**	P		**Pn**	**12 58 19.6**	**0.0**
BFO	**Black Forest**	**2.33**	**296**	*e*P		**Pn**	**12 58 20.0**	**+0.3**
GRA1	**Grafenberg Arr**	**2.34**	**356**	Pg		**Pg**	**12 58 27.2**	**+2.2**
	SNR=5.7							
GRA1				Sg		**Sg**	**12 58 56.6**	**+1.2**
GRF	**Grafenberg Arr**	**2.34**	**356**	*e*Pg		**Pg**	**12 58 27.2**	**+2.2**
	SNR=5.7							
GRF				*e*Sg		**Sg**	**12 58 56.6**	**+1.3**
GRF	**Grafenberg Arr**	**2.34**	**356**	*e*Pg		**Pg**	**12 58 25.8**	**+0.8**
GRF				*e*Sg		**Sg**	**12 58 56.4**	**+1.0**
SIND	**Sindeldorf**	**2.35**	**329**	P		**Pn**	**12 58 19.6**	**-0.3**
SIND				Sg		**Sg**	**12 58 56.3**	**+0.6**
FELD	**Feldberg im Sc**	**2.40**	**284**	Pg		**Pg**	**12 58 28.1**	**+2.0**
FELD	**Feldberg im Sc**	**2.40**	**284**	Pn		**Pn**	**12 58 21.2**	**+0.5**
FELD				Sg		**Sg**	**12 58 56.8**	**-0.5**
FELD	**Feldberg im Sc**	**2.40**	**284**	Pg		**Pg**	**12 58 28.1**	**+1.9**
FELD				Sg		**Sg**	**12 58 56.8**	**-0.5**
KIZ	**Kirchzarten**	**2.48**	**285**	Sg		**Sg**	**12 58 58.8**	**-0.9**
BBS	**Basel-Blauen**	**2.69**	**274**	Pg		**Pg**	**12 58 25.9**	**-5.9**
BBS	**Basel-Blauen**	**2.69**	**274**	Pn		**Pn**	**12 58 24.6**	**0.0**
BBS				Sg		**Sg**	**12 59 06.0**	**-0.7**
ARSA	**Arzberg**	**2.76**	**91**	Pn		**Pn**	**12 58 30.3**	**+4.8**
	2.8nm,0.3s							
ARSA				Sg		**Sg**	**12 59 07.2**	**-1.5**
	13nm,0.3s							
ARSA	**Arzberg**	**2.76**	**91**	*e*Pg		**Pg**	**12 58 30.7**	**-2.2**
	SNR=3.5							
ARSA				*e*Sg		**Sg**	**12 59 09.4**	**+0.7**
SWS	**Schriesheim-Wi**	**2.82**	**320**	Pg		**Pn**	**12 58 26.9**	**+0.6**
SWS				S		**Sn**	**12 58 57.6**	**+1.4**
TOD	**Tromm**	**2.87**	**323**	Pn		**Pn**	**12 58 27.3**	**+0.3**
LANF	**Langenberg**	**2.94**	**305**	Pn		**Pn**	**12 58 28.2**	**+0.1**
LANF				Sg		**Sg**	**12 59 13.9**	**-0.8**
NKC	**Novy Kostel**	**2.95**	**12**	*e*PN		**Pn**	**12 58 28.4**	**+0.2**
NKC				*e*PG		**Pg**	**12 58 35.6**	**-1.0**
NKC				*e*SG		**Sg**	**12 59 15.7**	**+0.8**
	84nm,0.4s							
WLS	**Welschbruch**	**2.97**	**292**	Pn		**Pn**	**12 58 29.0**	**+0.6**
MOF	**Molkenrain**	**2.98**	**281**	Pn		**Pn**	**12 58 28.9**	**+0.3**
CDF	**Champ du Feu**	**3.02**	**292**	*e*Pg		**Pg**	**12 58 39.6**	**+1.7**
CDF				*e*Sg		**Sg**	**12 59 14.5**	**-2.5**
	52nm,0.5s							
CDF	**Champ du Feu**	**3.02**	**292**	*e*Pn		**Pn**	**12 58 29.6**	**+0.5**
CDF				*e*Pg		**Pg**	**12 58 39.6**	**+1.7**
CDF				*e*Sg		**Sg**	**12 59 14.5**	**-2.5**
ECH	**Echery**	**3.03**	**288**	Pn		**Pn**	**12 58 29.9**	**+0.6**
TANN	**Tannenbergstha**	**3.13**	**12**	*e*Pn		**Pn**	**12 58 29.9**	**-0.8**
	SNR=5.9							
TANN				*e*Pg		**Pg**	**12 58 41.2**	**+1.1**
	SNR=14							
TANN				*e*Sn		**Sn**	**12 59 08.1**	**-0.6**
TANN				*e*Sg		**Sg**	**12 59 20.6**	**0.0**
WERD	**Werda**	**3.14**	**10**	*e*Pg		**Pg**	**12 58 40.3**	**0.0**
	SNR=1.8							
WERD				*e*Sg		**Sg**	**12 59 22.3**	**+1.2**
HINF	**Hinteralfeld**	**3.16**	**280**	*e*Pn		**Pn**	**12 58 31.2**	**+0.1**
HINF				*e*Sn		**Sn**	**12 59 06.2**	**-3.3**
HINF				*e*Sg		**Sg**	**12 59 22.2**	**+0.5**
	26nm,0.3s							
HINF	**Hinteralfeld**	**3.16**	**280**	*e*P		**Pn**	**12 58 31.2**	**+0.1**
HINF				*e*			12 59 06.2	
HINF	**Hinteralfeld**	**3.16**	**280**	*e*Pn		**Pn**	**12 58 31.2**	**+0.1**
HINF				*e*Sn		**Sn**	**12 59 06.2**	**-3.3**
HINF				*e*Sg		**Sg**	**12 59 22.2**	**+0.5**
	13nm,0.3s							
MOX	**Moxa**	**3.29**	**2**	*e*Pn		**Pn**	**12 58 32.0**	**-0.9**
	SNR=3.4							
MOX				*e*Pg		**Pg**	**12 58 43.8**	**+0.6**
	SNR=6.4							
MOX				*e*Sn		**Sn**	**12 59 11.2**	**-1.6**
MOX				*e*Sg		**Sg**	**12 59 26.5**	**+0.7**
MOX	**Moxa**	**3.29**	**2**	*e*PN		**Pn**	**12 58 31.9**	**-1.0**
MOX				*e*PG		**Pg**	**12 58 44.4**	**+1.2**
MOX				*e*SN		**Sn**	**12 59 11.0**	**-1.7**
MOX				*e*SG		**Sg**	**12 59 27.0**	**+1.1**
MOX	**Moxa**	**3.29**	**2**	*e*P		**Pn**	**12 58 31.9**	**-1.0**
MOX				*e*			12 59 11.0	
MOX	**Moxa**	**3.29**	**2**	*e*Pn		**Pn**	**12 58 31.9**	**-1.0**
MOX				*e*Pg		**Pg**	**12 58 44.4**	**+1.2**
MOX				*e*Sn		**Sn**	**12 59 11.0**	**-1.7**
MOX				*e*Sg		**Sg**	**12 59 27.0**	**+1.1**
PRU	**Pruhonice**	**3.33**	**37**	*e*PG		**Pg**	**12 58 41.3**	**-2.6**
PRU				*e*SG		**Sg**	**12 59 25.9**	**-1.1**
	32nm,0.7s							
TNS	**Taunus Mts**	**3.50**	**326**	*e*Pn		**Pn**	**12 58 36.0**	**+0.3**
	SNR=9.5							
TNS				*e*Sn		**Sn**	**12 59 14.0**	**-3.7**
TNS				*e*Sg		**Sg**	**12 59 33.3**	**+0.8**
HAU	**Haudompre**	**3.52**	**283**	*e*Pn		**Pn**	**12 58 37.5**	**+1.5**
HAU				*e*Sg		**Sg**	**12 59 32.7**	**-0.6**
	30nm,0.3s							
HAU	**Haudompre**	**3.52**	**283**	*e*Pn		**Pn**	**12 58 37.5**	**+1.5**
HAU				*e*Sg		**Sg**	**12 59 32.7**	**-0.6**
	15nm,0.3s							
LPG	**La Plagne**	**3.76**	**242**	*e*Pn		**Pn**	**12 58 41.6**	**+2.3**
LPL	**La Plagne**	**3.76**	**242**	*e*P		**Pn**	**12 58 41.6**	**+2.3**
CABF	**La Chapelle**	**3.76**	**261**	*e*Pn		**Pn**	**12 58 39.6**	**+0.3**
CABF				*e*Sg		**Sg**	**12 59 39.9**	**-1.0**
	19nm,0.5s							
CABF	**La Chapelle**	**3.76**	**261**	*e*Pn		**Pn**	**12 58 39.6**	**+0.3**
CABF				*e*Sg		**Sg**	**12 59 39.9**	**-1.0**
	9.4nm,0.5s							
BRG	**Berggiesshubel**	**3.88**	**24**	*e*Pg		**Pg**	**12 58 54.8**	**+0.5**
	SNR=1.7							
BRG				*e*Sg		**Sg**	**12 59 45.2**	**+0.6**
BRG	**Berggiesshubel**	**3.88**	**24**	PN		**Pn**	**12 58 36.1**	**-4.8**
BRG				*i*			12 58 43.3	
BRG	**Berggiesshubel**	**3.88**	**24**	PG		**Pg**	**12 58 54.0**	**-0.3**
BRG				SN		**Sn**	**12 59 26.3**	**-0.8**
BRG				SG		**Sg**	**12 59 44.4**	**-0.2**
	21nm,0.6s							
BRG	**Berggiesshubel**	**3.88**	**24**	P		**Pn**	**12 58 36.1**	**-4.8**
BRG							12 59 26.3	
BRG				smax				
	comp=N,21nm,0.6s							
BRG	**Berggiesshubel**	**3.88**	**24**	Pn		**Pn**	**12 58 36.1**	**-4.8**
BRG				Pg		**Pg**	**12 58 54.0**	**-0.3**
BRG				Sn		**Sn**	**12 59 26.3**	**-0.8**
BRG				Sg		**Sg**	**12 59 44.4**	**-0.2**
BRG	**Berggiesshubel**	**3.88**	**24**	Pg		**Pg**	**12 58 54.0**	**-0.4**
BRG				S		**Sn**	**12 59 26.3**	**-0.8**
	comp=N,21nm,0.6s							
ZST	**Bratislava**	**3.89**	**75**	*e*SN		**Sg**	**12 59 43.9**	**-1.1**
VRAC	**Vranov**	**3.93**	**58**	*e*Sg		**Sg**	**12 59 45.2**	**-1.3**
CLL	**Collm**	**4.08**	**14**	*e*Pg		**Pg**	**12 58 58.0**	**-0.3**
CLL				*e*Sn		**Sn**	**12 59 30.0**	**-2.1**
CLL				*e*Sg		**Sg**	**12 59 52.0**	**+0.8**
	comp=Z,51nm,0.8s							
MBDF	**Montbardon**	**4.20**	**233**	*e*Pn		**Pn**	**12 58 46.2**	**+0.9**
WLF	**Walferdange**	**4.22**	**305**	*e*Sg		**Sg**	**12 59 55.2**	**-0.6**
DPC	**Dobruska-Polom**	**4.38**	**45**	*e*PG		**Pg**	**12 59 00.3**	**-3.8**
DPC				*e*SG		**Sg**	**12 59 59.8**	**-1.1**
	comp=Z,30nm,0.5s							
AUTN	**L'Aution**	**4.40**	**222**	Pn		**Pn**	**12 58 50.6**	**+2.5**
SFTF	**Sexfontaines**	**4.42**	**283**	*e*Sg		**Sg**	**13 00 03.0**	**+0.9**
	comp=Z,14nm,0.4s							
SFTF	**Sexfontaines**	**4.42**	**283**	*e*Sg		**Sg**	**13 00 03.0**	**+0.9**
	comp=Z,6.8nm,0.4s							
LUCF	**Luceram**	**4.51**	**221**	Pn		**Pn**	**12 58 51.7**	**+2.0**
ORIF	**Oris-en-Rattie**	**4.59**	**240**	*e*Pn		**Pn**	**12 58 52.3**	**+1.6**
MORC	**Moravsky Berou**	**4.70**	**57**	*e*Pn		**Pn**	**12 58 51.7**	**-0.5**
OKC	**Ostrava-Krasne**	**5.08**	**58**	*e*SG		**Sg**	**13 00 22.1**	**-1.0**
	comp=Z,34nm,1.1s							
PGF	**Pioggiola**	**5.12**	**201**	*e*Pn		**Pn**	**12 58 58.5**	**+0.5**
LOR	**Lormes**	**5.18**	**272**	*e*Pn		**Pn**	**12 58 58.7**	**-0.1**
LOR				*e*Sn		**Sn**	**12 59 55.1**	**-4.2**
LOR				*e*Sg		**Sg**	**13 00 23.9**	**-2.6**
	comp=Z,7.1nm,0.3s							
LOR	**Lormes**	**5.18**	**272**	*e*P		**Pn**	**12 58 58.7**	**-0.1**
LOR				*e*			12 59 55.1	
LOR	**Lormes**	**5.18**	**272**	*e*Pn		**Pn**	**12 58 58.7**	**-0.1**
LOR				*e*Sn		**Sn**	**12 59 55.1**	**-4.2**
LOR				*e*Sg		**Sg**	**13 00 23.9**	**-2.6**
	comp=Z,3.5nm,0.3s							
SMF	**Signal de Mont**	**5.27**	**265**	*e*Pn		**Pn**	**12 59 00.0**	**-0.1**
SMF				*e*Sg		**Sg**	**13 00 26.0**	**-3.4**
	comp=Z,16nm,0.7s							
LMR	**La Mourre**	**5.33**	**223**	*e*Pn		**Pn**	**12 59 00.6**	**-0.3**
VIVF	**Saint-Julien-l**	**5.35**	**245**	*e*Pn		**Pn**	**12 59 00.9**	**-0.2**
VIVF				*e*Sn		**Sn**	**13 00 00.3**	**-3.1**
SSF	**Saint Saulge**	**5.44**	**270**	*e*Pn		**Pn**	**12 59 02.5**	**+0.1**
SSF				*e*Sn		**Sn**	**13 00 01.1**	**-4.5**
SSF				*e*Sg		**Sg**	**13 00 32.4**	**-2.4**
	comp=Z,6.7nm,0.5s							
SSF	**Saint Saulge**	**5.44**	**270**	*e*Pn		**Pn**	**12 59 02.5**	**+0.1**
SSF				*e*Sn		**Sn**	**13 00 01.1**	**-4.5**
AVF	**Avril sur Loir**	**5.58**	**267**	*e*Pn		**Pn**	**12 59 04.1**	**-0.2**
BGF	**Bois d'Agland**	**5.96**	**265**	*e*Pn		**Pn**	**12 59 09.3**	**-0.2**
HYF	**Humbligny**	**6.01**	**272**	*e*Pn		**Pn**	**12 59 10.8**	**+0.6**
LASF	**Ste Croix**	**6.26**	**241**	*e*Pn		**Pn**	**12 59 13.5**	**-0.2**
LASF				*e*Sn		**Sn**	**13 00 22.5**	**-3.4**
	comp=Z,21nm,0.7s							
LASF	**Ste Croix**	**6.26**	**241**	*e*Pn		**Pn**	**12 59 13.5**	**-0.2**
LASF				*e*Sn		**Sn**	**13 00 22.5**	**-3.4**
	comp=Z,11nm,0.7s							
TCF	**Toulx Ste Croi**	**6.45**	**264**	*e*Pn		**Pn**	**12 59 16.1**	**-0.1**
CAF	**Calviac**	**6.97**	**253**	*e*Pn		**Pn**	**12 59 23.2**	**-0.3**
MTLF	**Montolieu**	**7.66**	**242**	*e*Pn		**Pn**	**12 59 32.4**	**-0.4**
MFF	**Saint Martin d**	**7.99**	**269**	*e*Pn		**Pn**	**12 59 37.2**	**-0.1**
KONO	**Kongsberg**	**12.37**	**356**	*e*P		**Pn**	**13 00 44.8**	**+7.5**
VSU	**Vasula**	**14.39**	**34**	*e*P		**Pn**	**13 01 10.9**	**+5.8**
OBN	**Obninsk**	**17.46**	**54**	*e*P		**Pn**	**13 01 49.0**	**+4.1**
BRVK	**Borovoye**	**37.14**	**59**	*e*P		**P**	**13 04 56.3**	**+3.9**

CSEM ***23*** *13:13:20.8, 2656N×5377E, h14km, ML3.5, After THR*

THR 23 13:13:20.8±0.3, 2656N×5377E, h14km±4km, ML3.5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.85**	**338**	*e*PG	Pg	13 13 54.7	-1.7
GHIR				AML	AML	13 14 19.1	
	comp=N,367nm,0.3s						
GHIR				AML	AML	13 14 19.3	
	comp=E,398nm,0.8s						
BNDS	**Bandar-Abbas**	**2.30**	**68**	*e*PG	Pg	13 14 02.6	-2.3
BNDS				*e*Sg	Sg	13 14 33.1	-1.6
BNDS				AML	AML	13 14 38.1	
	comp=N,192nm,0.4s						
BNDS				AML	AML	13 14 45.7	
	comp=E,182nm,0.3s						
BNDS	**Bandar-Abbas**	**2.30**	**68**	*e*Pg	Pg	13 14 02.6	-2.3
	SNR=90						
BNDS				*e*Sg	Sg	13 14 33.1	-1.6
	comp=E,182nm,0.3s,SNR=90						
KRBR	**Kerman**	**4.31**	**37**	*e*Pn	Pn	13 14 28.3	+2.4
KRBR				AML	AML	13 15 02.8	
	comp=N,74nm,0.3s						
KRBR				AML	AML	13 15 02.9	
	comp=E,55nm,0.2s						

IDC ***23*** *13:32:02.1±1.0, 007N×9661E, h0km, mb4.1/10, mb1 4.2/11, mb1mx4.1/18, mbtmp4.1/11, ML3.3/1, Error ellipse: s-maj=36.4km s-min=16.8km az=52.0*

MOS ***23*** *13:32:05.8±1.0, 022N×9677E, h33km, mb5.1/4, Error ellipse: s-maj=17.9km s-min=11.8km az=95.6*

ISCJB ***23*** *13:32:06.5±2.8, 0.16N×009×969E±0.1, h41km±22km, mb4.3/16, Error ellipse: s-maj=21.5km s-min=11.4km az=105.5*

NEIC ***23*** *13:32:06.5±0.5, 0.10N×9682E, mb4.8/5, Error ellipse: s-maj=11.5km s-min=8.0km az=55.0*

ISC 23 13:32:08.7±2.7, 017N±010×969E±01, h40km±22km, n36, σ1§17/36, mb4.3/16, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.33**	**38**	Pn	**Pn**	**13 32 56.9**	**-1.3**
	2.7nm,0.3s,baz=169,slow=15,SNR=6.8						
PSI				Sn	**Sn**	**13 33 37.0**	**+0.5**
	3.7nm,0.3s,baz=285,slow=20,SNR=5.0						
PSI	**Prapat**	**3.33**	**38**	Pn	**Pn**	**13 32 56.9**	**-1.3**
PSI				Sn	**Sn**	**13 33 37.0**	**+0.5**
KULM	**Kulim**	**6.34**	**37**	*e*Pn	**Pn**	**13 33 38.9**	**-0.7**
KKM	**Kota Kinabalu**	**20.18**	**73**	*e*P	**P**	**13 36 39.1**	**-0.7**
QIZ	**Qiongzhong**	**22.66**	**33**	*e*P	**P**	**13 37 07.7**	**+1.3**
	11nm,1.2s,mb4.2						
SHL	**Shillong**	**25.70**	**350**	*e*P	**P**	**13 37 38.0**	**+3.0**
JIRN	**Jiri**	**29.19**	**340**	*e*P	**P**	**13 38 07.9**	**+1.6**
GUN	**Gumba**	**29.52**	**340**	*e*P	**P**	**13 38 11.3**	**+2.1**
KKN	**Kakani**	**29.62**	**339**	*e*P	**P**	**13 38 10.9**	**+0.8**
GKN	**Gorkha**	**30.05**	**338**	*e*P	**P**	**13 38 15.0**	**+1.1**
KOLN	**Koldanda**	**30.25**	**336**	*e*P	**P**	**13 38 16.6**	**+1.0**
	14nm,0.9s,mb4.7						
NWAO	**Narrogin (SRO)**	**38.11**	**152**	*e*P	**P**	**13 39 23.9**	**+0.2**
NWAO				pmax	pmax		
	comp=Z,65nm,1.5s						
NWAO	**Narrogin (SRO)**	**38.11**	**152**	*e*P	**P**	**13 39 23.9**	**+0.2**
	comp=Z,65nm,1.5s,mb5.1						
WRA	**Warramunga Arr**	**41.79**	**121**	P	**P**	**13 39 55.2**	**+0.9**
	comp=Z,1.8nm,0.7s,mb3.8,baz=301,slow=9.1,SNR=20						
ASAR	**Alice Springs**	**43.06**	**126**	P	**P**	**13 40 06.0**	**+1.5**
	comp=Z,1.5nm,0.7s,mb3.8,baz=300,slow=7.9,SNR=23						
MKAR	**Makanchi Array**	**48.15**	**347**	P	**P**	**13 40 45.4**	**+0.6**
	comp=Z,3.6nm,0.7s,mb4.5,baz=159,slow=8.1,SNR=30						
SONM	**Songino Array**	**48.19**	**9**	P	**P**	**13 40 46.2**	**+1.1**
	comp=Z,2.2nm,0.7s,mb4.3,baz=188,slow=10,SNR=8.8						
MJAR	**Matsushiro Ar**	**52.68**	**42**	P	**P**	**13 41 19.5**	**+0.5**
	comp=Z,1.3nm,0.8s,mb3.9,baz=224,slow=6.5,SNR=4.6						
STKA	**Stephens Creek**	**52.93**	**131**	P	**P**	**13 41 20.1**	**-0.7**
	comp=Z,2.3nm,0.7s,mb4.2,baz=287,slow=6.3,SNR=5.4						
STKA	**Stephens Creek**	**52.93**	**131**	P	**P**	**13 41 20.1**	**-0.7**
STKA				*e*pP	pP	13 41 27.4	-4.9
STKA				*e*sP	sP	13 41 30.2	-6.8
NVS	**Novosibirsk**	**55.63**	**350**	*e*P	**P**	**13 41 39.2**	**-1.3**
KLR	**Kul'dur**	**57.32**	**26**	*e*P	**P**	**13 41 50.8**	**-1.7**
CHKZ	**Chkalovo**	**57.59**	**342**	*e*P	**P**	**13 41 54.1**	**-0.3**
CHKZ				*e**PP	pP	13 42 02.5	-3.5
CHKZ				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
CHKZ	**Chkalovo**	**57.59**	**342**	*e*P	**P**	**13 41 54.1**	**-0.3**
	comp=Z,4.0nm,1.1s,mb4.4						
CHKZ				*e*pP	pP	13 42 02.5	-3.5
BOD	**Bodaibo**	**59.08**	**11**	*e*P	**P**	**13 42 04.3**	**-0.5**
AKTK	**Aktyubinsk**	**59.98**	**332**	P	**P**	**13 42 09.4**	**-1.6**
AKTO	**Aktyubinsk**	**59.98**	**332**	P	**P**	**13 42 09.4**	**-1.6**
	comp=Z,0.5nm,0.4s,mb3.9,baz=131,slow=11,SNR=3.5						
HNR	**Honiara**	**63.51**	**101**	*e*P	**P**	**13 42 35.3**	**+0.5**
HNR				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.2						
HNR	**Honiara**	**63.51**	**101**	*e*P	**P**	**13 42 35.3**	**+0.5**
	comp=Z,22nm,0.8s,mb5.2						
TIXI	**Tiksi**	**74.25**	**10**⇓	*i*P	**P**	**13 43 39.5**	**-2.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
AKASG	**Malin Array Be**	**75.86**	**323**	P	**P**	**13 43 49.8**	**-1.1**
	comp=Z,2.8nm,0.6s,mb4.4,baz=92,slow=5.2,SNR=8.0						
FINES	**FINESS Array B**	**80.75**	**333**	P	**P**	**13 44 16.8**	**-1.0**
	comp=Z,0.8nm,0.5s,mb3.9,baz=116,slow=7.0,SNR=5.6						
ARCES	**ARCESS Array B**	**83.38**	**340**	P	**P**	**13 44 31.2**	**-0.5**
	comp=Z,3.5nm,0.

0.2nm,0.3s,baz=139,slow=20,SNR=3.7

WRA	**Warramunga Arr**	**40.82**	**122**	P	P	15 13 57.9	+0.5
	1.2nm,0.9s,baz=300,slow=9.1,SNR=9.3						
ASAR	**Alice Springs**	**42.20**	**127**	P	P	15 14 09.1	+0.4
	0.5nm,0.6s,baz=301,slow=7.5,SNR=7.9						
SONM	**Songino Array**	**47.45**	**7**	P	P	15 14 49.2	-1.3
	0.6nm,0.6s,baz=197,slow=8.9,SNR=3.8						
MKAR	**Makanchi Array**	**47.98**	**345**	P	P	15 14 55.6	+1.0
	0.6nm,0.5s,baz=158,slow=7.6,SNR=4.6						

*ISCJB **23** 15:10:03.6±0.4, 6226N×004×15088W±008, h101km±7km, mb4.2/5, Error ellipse: s-maj=6.7km s-min=5.9km az=105.1*

*IDC **23** 15:10:05.5±6.2, 6247N×151 21W, h75km±52km, mb3.5/2, mb1 3.5/3, mb1mx3.3/15, mbtmp3.7/3, ML3.7/2, Error ellipse: s-maj=48.0km s-min=18.6km az=48.0*

*NEIC **23** 15:10:06.2, 6226N×150 95W, h73km, MG3.9(AEIC), After AEIC.*

*BJI **23** 15:10:08.2, 6230N×150 90W, h73km, mB4.6, mb4.6, Ms4.3, Msz4.3*

ISC 23 15:10:05.0±0.4, 6227N±004×15093W±008, h88km±7km, n38, σ0§89/42, mb4.2/5, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GHO	**Glory Hole Cre**	**1.07**	**117**	P	**Pn**	**15 10 25.4**	**+0.1**
GHO				S	**Sn**	**15 10 41.3**	**+0.8**
PMR	**Palmer**	**1.09**	**128**	P	**Pn**	**15 10 24.8**	**-0.7**
PMR				S	**Sn**	**15 10 40.5**	**-0.4**
FIB	**Fire Island**	**1.16**	**162**	P	**Pn**	**15 10 27.2**	**+0.8**
FIB				S	**Sn**	**15 10 44.2**	**+1.7**
KTH	**Kantishna Hill**	**1.29**	**0**	P	**Pn**	**15 10 28.4**	**+0.5**
SML	**Sawmill**	**1.31**	**110**	P	**Pn**	**15 10 27.9**	**-0.2**
RC01	**Rabbit Creek A**	**1.31**	**154**	P	**Pn**	**15 10 27.4**	**-0.8**
SLKM	**Skilak Lake**	**1.80**	**169**	P	**Pn**	**15 10 34.7**	**+0.3**
SEW	**Seward**	**2.29**	**161**	P	**Pn**	**15 10 41.1**	**+0.3**
TT01	**Tatalina**	**2.44**	**287**	P	**Pn**	**15 10 42.6**	**-0.3**
TTA	**Tatalina**	**2.44**	**288**	P	**Pn**	**15 10 42.8**	**-0.2**
SVW2	**Sparrevohn**	**2.51**	**244**	P	**Pn**	**15 10 43.6**	**-0.2**
PAX	**Paxson**	**2.62**	**72**	P	**Pn**	**15 10 46.2**	**+0.9**
COLA	**College**	**2.96**	**26**	P	**Pn**	**15 10 50.2**	**+0.4**
EYAK	**Cordova Ski Ar**	**3.03**	**122**	P	**Pn**	**15 10 49.8**	**-1.0**
ILAR	**Eielson Array**	**3.10**	**34**	P	**Pn**	**15 10 52.1**	**+0.4**
	22nm,0.3s,baz=221,slow=13,SNR=1051						
ILAR				S	**Sn**	**15 11 25.9**	**-1.9**
	63nm,0.3s,baz=223,slow=20,SNR=32						
BMRM	**Bremner River**	**3.29**	**111**	P	**Pn**	**15 10 53.4**	**-1.0**
MENT	**Mentasta**	**3.40**	**75**	P	**Pn**	**15 10 56.0**	**+0.2**
DOT	**Dot Lake**	**3.43**	**63**	P	**Pn**	**15 10 56.7**	**+0.6**
MID	**Middleton Isla**	**3.63**	**140**	P	**Pn**	**15 10 59.4**	**+0.5**
GCSA	**Galena City Sc**	**3.65**	**316**	P	**Pn**	**15 10 59.8**	**+0.7**
IM3	**Indian Mountai**	**3.93**	**343**	P	**Pn**	**15 11 03.3**	**+0.3**
KDAK	**Kodiak Island**	**4.58**	**191**	P	**Pn**	**15 11 10.8**	**-1.0**
COLD	**Coldfoot**	**4.99**	**3**	P	**Pn**	**15 11 17.7**	**+0.3**
DAWY	**Dawson**	**5.53**	**66**	P	**Pn**	**15 11 25.1**	**+0.4**
BM3	**Burnt Mountain**	**5.83**	**25**	P	**Pn**	**15 11 29.1**	**+0.3**
PNL	**Peninsula**	**6.19**	**110**	P	**Pn**	**15 11 32.8**	**-0.9**
WHY	**Whitehorse**	**7.85**	**95**	P	**Pn**	**15 11 55.9**	**-0.4**
SKAG	**Skagway**	**8.11**	**103**	P	**Pn**	**15 11 59.2**	**-0.7**
TNA	**Tin City**	**8.18**	**301**	P	**Pn**	**15 11 59.9**	**-0.9**
SIT	**Sitka**	**9.45**	**117**	P	**Pn**	**15 12 16.5**	**-1.7**
YKA	**Yellowknife Ar**	**16.71**	**73**	P	**Pn**	**15 13 56.6**	**+3.1**
	baz=287,slow=12,SNR=5.8						
NVAR	**Mina Array Bea**	**31.07**	**125**	P	**P**	**15 16 18.2**	**+3.6**
	baz=316,slow=9.0						
MDJ	**Mudanjiang**	**47.19**	**287**	P	**P**	**15 18 35.8**	**+7.1**
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,30nm,4.4s						
CN2	**Changchun**	**49.67**	**289**	*eP*	**P**	**15 18 56.8**	**+9.1**
NJ2	**Nanjing**	**62.27**	**286**	*eP*	**P**	**15 20 29.3**	**+12**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
MKAR	**Makanchi Array**	**63.27**	**322**	P	**P**	**15 20 24.2**	**-0.1**
	comp=Z,0.5nm,0.6s,mb3.6,baz=27,slow=6.4,SNR=8.0						
LZH	**Lanzhou**	**65.24**	**301**	*eP*	**P**	**15 20 46.5**	**+9.4**
LZH				*e*PP	PP	15 23 11.6	+10
LZH				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.8						
LZH				AMB	AMB		
	comp=Z,55nm,7.3s						
LZH				LR	LR		
	comp=N,157nm,15.3s						
LZH				LR	LR		
	comp=Z,254nm,18.6s						
AKASG	**Malin Array Be**	**67.38**	**360**	P	**P**	**15 20 50.6**	**-0.2**
	comp=Z,0.7nm,0.4s,mb3.8,baz=2.0,slow=6.4,SNR=5.0						

*IDC **23** 15:16:13.4±2.1, 1797S×167 31E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.8/12, mbtmp3.7/5, ML3.5/1, MS3.7/3, Ms1 3.7/3, ms1mx2.9/24, Error ellipse: s-maj=48.7km s-min=29.5km az=113.0*

*ISCJB **23** 15:16:15.8±3.3, 1800S±009×1673E±02, h27km±28km, mb3.7/4, MS4.2/2, Error ellipse: s-maj=28.0km s-min=12.2km az=44.7*

ISC 23 15:16:18.4±2.5, 180S±02×1674E±02, h36km±35km, n9, σ0§38/8, mb3.7/4, MS3.7/3, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**0.89**	**68**	*iP*	**Pn**	**15 16 34.0**	**-0.4**
BKM				S	**Sn**	**15 16 46.2**	**+0.2**
DZM	**Mont Dzumac**	**4.14**	**192**	Pn	**Pn**	**15 17 19.6**	**+0.5**
	2.8nm,0.3s,baz=329,slow=23,SNR=34						
DZM				Sn	**Sn**	**15 18 06.1**	**-0.2**
	4.2nm,0.3s,baz=316,slow=23,SNR=11						
CTA	**Charters Tower**	**20.08**	**261**	LR	LR	15 27 19.9	
	comp=Z,38nm,18.4s,MS2.8,baz=228,slow=33						
STKA	**Stephens Creek**	**27.07**	**234**	P	**P**	**15 21 57.4**	**-0.2**
	2.7nm,0.7s,mb3.9,baz=76,slow=6.8,SNR=10.0						
WRA	**Warramunga Arr**	**31.28**	**261**	P	**P**	**15 22 34.8**	**-0.1**
	0.2nm,0.4s,mb3.3,baz=89,slow=7.9,SNR=8.7						
ASAR	**Alice Springs**	**31.74**	**254**	P	**P**	**15 22 39.2**	**+0.2**
	0.3nm,0.3s,mb3.6,baz=91,slow=7.7,SNR=5.7						
ILAR	**Eielson Array**	**89.59**	**18**	P	**P**	**15 29 12.3**	**+0.1**
	0.4nm,0.7s,mb3.9,baz=228,slow=5.5,SNR=4.1						
USHA	**Ushuaia**	**93.37**	**151**	LR	LR	16 04 12.0	
	comp=Z,126nm,19.3s,MS4.4,baz=38,slow=31						
PDAR	**Pinedale Array**	**97.07**	**47**	LR	LR	16 11 08.7	
	comp=Z,37nm,18.1s,MS3.9,baz=247,slow=34						

IDC 23 15:39:14.7±63.0, 1682S×17664W, h0km, mb4.3/3, mb1 4.4/3, mb1mx3.9/13, mbtmp4.3/3, Error ellipse: s-maj=1181.0km s-min=161.5km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.63**	**240**	*eP*	P	15 46 56.3	0.0
	2.2nm,1.4s						
STKA	**Stephens Creek**	**40.63**	**240**	P	P	15 46 56.4	+0.1
	1.2nm,0.4s,baz=90,slow=11,SNR=7.4						
WB2	**Warramunga Arr**	**46.49**	**258**	*eP*	P	15 47 43.7	+0.2
WRA	**Warramunga Arr**	**46.50**	**258**	P	P	15 47 43.8	+0.2
	0.7nm,0.3s,baz=93,slow=8.1,SNR=44						
ASAR	**Alice Springs**	**46.72**	**253**	P	P	15 47 45.9	+0.6
	6.8nm,0.6s,baz=87,slow=8.4,SNR=106						
ASPA	**Alice Springs**	**46.72**	**253**	*eP*	P	15 47 46.0	+0.7

*MOS **23** 15:40:46.0±1.4, 5155N×179 86E, h33km, mb4.4/7, Error ellipse: s-maj=21.3km s-min=18.7km az=142.2*

*ISCJB **23** 15:40:49.9±0.5, 5164N±009×17969E±005, h71km±5km, mb4.1/16, Error ellipse: s-maj=15.5km s-min=5.6km az=1.3*

*NEIC **23** 15:40:51.3±0.6, 5161N×179 64E, h75km±6km, mb4.2/7, Error ellipse: s-maj=15.4km s-min=6.6km az=174.0*

*BJI **23** 15:40:51.3, 5160N×179 60E, h70km, mB4.8, mb4.7, Ms4.5, Msz4.3*

*IDC **23** 15:40:52.1±3.2, 5170N×179 61E, h82km±28km, mb3.6/7, mb1 3.9/9, mb1mx3.6/22, mbtmp4.0/9, Error ellipse: s-maj=33.1km s-min=13.1km az=169.0*

ISC 23 15:40:51.1±0.5, 5158N±009×17969E±006, h70km±5km, n39, σ1§11/44, mb4.1/16, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**0.32**	**230**	P	**Pn**	**15 41 01.6**	**-0.7**
AMKA				S	**Sn**	**15 41 09.5**	**-1.1**
SMY	**Shemya**	**3.63**	**291**	P	**Pn**	**15 41 45.8**	**+1.0**
SMY				S	**Sn**	**15 42 27.5**	**+1.1**
ATKA	**Atka Island**	**3.84**	**78**	P	**Pn**	**15 41 48.8**	**+1.1**
ATKA				S	**Sn**	**15 42 32.2**	**+0.6**
FX1	**Attu Island--F**	**4.21**	**291**	P	**Pn**	**15 41 52.4**	**-0.4**
	11nm,0.3s,baz=80,slow=22,SNR=23						
FX1				S	**Sn**	**15 42 40.6**	**-0.1**
	11nm,0.3s,baz=287,slow=19,SNR=3.2						
FX1	**Attu Island--F**	**4.21**	**291**	P	**Pn**	**15 41 52.4**	**-0.4**
FX1				S	**Sn**	**15 42 40.6**	**-0.2**
FX1				pmax	pmax		
	comp=Z,11nm,0.3s						
FX1				smax			
	comp=N,11nm,0.3s						
FX1	**Attu Island--F**	**4.21**	**291**	P	**Pn**	**15 41 53.0**	**+0.2**
SPIA	**Saint Paul Isl**	**8.12**	**42**	P	**Pn**	**15 42 47.6**	**+1.5**
UNV	**Unalaska Valle**	**8.69**	**69**	P	**Pn**	**15 42 55.1**	**+1.2**
KDAK	**Kodiak Island**	**17.11**	**58**	P	**Pn**	**15 44 44.0**	**-1.5**
	comp=N,1.1nm,0.3s,baz=241,slow=3.3,SNR=8.5						
SLKM	**Skilak Lake**	**18.88**	**50**	*eP*	**Pn**	**15 45 04.8**	**-2.1**
ILAR	**Eielson Array**	**21.68**	**40**	P	**P**	**15 45 33.5**	**-2.5**
	comp=N,0.6nm,0.7s,mb3.1,baz=244,slow=8.6,SNR=8.0						
ILAR	**Eielson Array**	**21.68**	**40**	P	**P**	**15 45 33.5**	**-2.5**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DAWY	**Dawson**	**24.61**	**44**	*eP*	**P**	**15 46 04.3**	**-0.4**
INK	**Inuvik**	**27.84**	**35**	P	**P**	**15 46 33.6**	**-0.2**
	comp=Z,1.6nm,0.5s,mb3.8,baz=237,slow=8.2,SNR=12						
INK	**Inuvik**	**27.84**	**35**	*eP*	**P**	**15 46 33.4**	**-0.4**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**27.84**	**35**	*eP*	**P**	**15 46 33.4**	**-0.4**
	comp=Z,1.9nm,0.6s,mb3.8						
MDJ	**Mudanjiang**	**33.61**	**278**	P	**P**	**15 47 25.6**	**+1.0**
MDJ				AP	pP	15 47 38.6	-2.9
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,57nm,4.0s						
YKA	**Yellowknife Ar**	**35.78**	**46**	P	**P**	**15 47 42.2**	**-1.1**
	comp=Z,2.1nm,0.7s,mb4.2,baz=282,slow=8.4,SNR=18						
YKA	**Yellowknife Ar**	**35.78**	**46**	P	**P**	**15 47 42.2**	**-1.1**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CN2	**Changchun**	**36.58**	**280**	*eP*	**P**	**15 47 53.9**	**+3.7**
HLID	**Hailey**	**43.79**	**74**	*eP*	**P**	**15 48 49.8**	**0.0**
	comp=Z,2.3nm,0.8s,mb4.0						
NVAR	**Mina Array Bea**	**44.46**	**82**	P	**P**	**15 48 56.6**	**+1.4**
	baz=291,slow=7.3						
ELK	**Elko**	**44.94**	**77**	*eP*	**P**	**15 48 59.8**	**+0.9**
ELK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ELK	**Elko**	**44.94**	**77**	*eP*	**P**	**15 48 59.8**	**+0.9**
	comp=Z,3.0nm,0.9s,mb4.0						
ULN	**Ulaanbaatar**	**45.32**	**295**	*eP*	**P**	**15 49 01.6**	**-0.4**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
ULN	**Ulaanbaatar**	**45.32**	**295**	*eP*	**P**	**15 49 01.6**	**-0.4**
	comp=Z,1.4nm,0.4s,mb4.0						
SONM	**Songino Array**	**45.71**	**296**	P	**P**	**15 49 04.4**	**-0.6**
	comp=Z,1.5nm,0.7s,mb3.9,baz=60,slow=8.8,SNR=6.2						
TPNV	**Topopah Spring**	**46.66**	**82**	*eP*	**P**	**15 49 13.0**	**+0.5**
TPNV				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
TPNV	**Topopah Spring**	**46.66**	**82**	*eP*	**P**	**15 49 13.0**	**+0.5**
	comp=Z,8.3nm,0.8s,mb4.5						
DUG	**Dugway**	**46.74**	**76**	*eP*	**P**	**15 49 13.9**	**+0.7**
DUG				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
DUG	**Dugway**	**46.74**	**76**	*eP*	**P**	**15 49 13.9**	**+0.7**
	comp=Z,6.2nm,0.8s,mb4.4						
BW06	**Boulder Array**	**47.15**	**72**	*eP*	**P**	**15 49 15.6**	**-0.7**
	comp=Z,1.8nm,0.5s,mb4.1						
PDAR	**Pinedale Array**	**47.15**	**72**	P	**P**	**15 49 15.8**	**-0.5**
	comp=Z,2.3nm,0.6s,mb4.1,baz=328,slow=3.5,SNR=14						
NJ2	**Nanjing**	**47.86**	**270**	*eP*	**P**	**15 49 26.8**	**+5.0**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
PV01	**Paradox Valley**	**50.60**	**76**	*eP*	**P**	**15 49 43.1**	**+0.4**
LZH	**Lanzhou**	**54.42**	**285**	*eP*	**P**	**15 50 13.6**	**+2.7**
LZH				AP	pP	15 50 27.5	-1.4
LZH				*e*PP	PP	15 52 17.3	+3.7
LZH				AMB	AMB		
	comp=Z,20nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,61nm,6.7s						
LZH				LR	LR		
	comp=E,196nm,14.9s						
LZH				LR	LR		
	comp=Z,287nm,17.8s						
MKAR	**Makanchi Array**	**59.16**	**307**	P	**P**	**15 50 42.7**	**-1.8**
	comp=Z,0.4nm,0.3s,mb3.9,baz=51,slow=7.0,SNR=16						
WRA	**Warramunga Arr**	**81.51**	**223**	P	**P**		
	comp=Z,0.6nm,0.5s,mb3.7,baz=31,slow=5.9,SNR=12						
WRA	**Warramunga Arr**	**81.51**	**223**	P	**P**	**15 53 00.3**	**-0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						

IDC 23 15:57:41.1±7.8, 1794S×175 04W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.8/13, mbtmp3.8/3, MS2.8/1, Ms1 2.8/1, ms1mx2.2/26, Error ellipse: s-maj=338.6km s-min=37.1km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**17.88**	**254**	LR	LR	16 06 49.9	
	comp=Z,29nm,19.6s,baz=7.9,slow=31						
WRA	**Warramunga Arr**	**47.78**	**259**	P	P	16 06 20.7	+0.6
	0.6nm,0.4s,baz=96,slow=7.2,SNR=16						
ASAR	**Alice Springs**	**47.87**	**254**	P	P	16 06 20.9	+0.1
	0.8nm,0.5s,baz=94,slow=8.4,SNR=14						
ILAR	**Eielson Array**	**85.23**	**12**	P	P	16 10 19.1	-0.4
	0.6nm,0.7s,baz=214,slow=6.4,SNR=6.0						

*NIED **23** 16:06:00, 43.10N×146 80E, h47km, Mw3.5 Best double couple: Mo1.93000×10¹⁴ NP1:φ=204.00000°, δ=54.00000°, λ=63.00000°. NP2:φ=65.00000°, δ=44.00000°, λ=122.00000°.*

*IDC **23** 16:06:02.2±8.7, 4259N×147.11E, h48km±57km, mb3.4/4, mb1 3.6/5, mb1mx3.3/19, mbtmp3.7/5, Error ellipse: s-maj=101.1km s-min=27.1km az=170.0*

*ISCJB **23** 16:06:04.9±1.2, 4314N±007×14685E±009, h60km±10km, mb3.6/4, Error ellipse: s-maj=14.4km s-min=8.1km az=98.5*

*MOS **23** 16:06:04.6±1.9, 4323N×146 99E, h53km, mb4.1/3, Error ellipse: s-maj=39.7km s-min=22.4km az=44.1*

*JMA **23** 16:06:05.2±0.1, 4314N×146 84E, h58km±2km, M3.6*

ISC 23 16:06:05.6±1.3, 4316N±007×1469E±01, h52km±12km, n23, σ0§69/35, mb3.6/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.85**	**285**	P	**Pn**	**16 06 21.1**	**-0.3**
NEM2				*e*S	**Sn**	**16 06 32.7**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**1.14**	**320**	*e*PN	**Pn**	**16 06 24.5**	**-0.8**
YUK				*i* S	**Sn**	**16 06 40.0**	**+0.1**
YUK				pmax	pmax		
	comp=N,320nm,0.4s						
YUK				pmax	pmax		
	comp=E,210nm,0.4s						
YUK				pmax	pmax		
	comp=Z,1μm,0.4s						
YUK				smax			
	comp=N,2μm,0.4s						
YUK				smax			
	comp=E,800nm,0.3s						
YUK				smax			
	comp=N,2μm,0.8s						
YUK				smax			
	comp=E,2μm,1.0s						
JRA	**Rausu**	**1.49**	**302**	P	**Pn**	**16 06 30.1**	**+0.1**
JRA				*e*S	**Sn**	**16 06 47.9**	**-0.5**
JAK	**Akkeshi**	**1.60**	**265**	P	**Pn**	**16 06 31.3**	**-0.2**
JAK				*e*S	**Sn**	**16 06 50.5**	**-0.6**
JNK	**Nakash**	**1.63**	**286**	P	**Pn**	**16 06 31.4**	**-0.5**
JNK				*e*S	**Sn**	**16 06 51.0**	**-0.7**
JOB	**Onbets**	**2.24**	**265**	P	**Pn**	**16 06 40.2**	**-0.1**
JOB				*e*S	**Sn**	**16 07 06.2**	**-0.5**
JAR	**Ashorobuto**	**2.27**	**275**	P	**Pn**	**16 06 40.8**	**+0.1**
JAR				*e*S	**Sn**	**16 07 07.0**	**-0.5**
JTKR	**Abashiri--Toko**	**2.30**	**292**	P	**Pn**	**16 06 41.8**	**+0.7**
JTKR				*e*S	**Sn**	**16 07 09.2**	**+1.0**
JCH	**Churui**	**2.64**	**259**	P	**Pn**	**16 06 45.5**	**-0.2**
JCH				*e*S	**Sn**	**16 07 15.9**	**-0.5**
JMP	**Maruseppu**	**2.69**	**290**	P	**Pn**	**16 06 47.3**	**+0.9**
JEM	**Erimo**	**2.97**	**249**	*e*S	**Sn**	**16 07 25.6**	**+1.0**
JKK2	**Kamakawa 2**	**3.08**	**285**	P	**Pn**	**16 06 53.1**	**+1.3**
JFR	**Furan**	**3.13**	**272**	*e*S	**Sn**	**16 07 28.6**	**0.0**
JNBK	**Urakawa-nobuka**	**3.16**	**255**	P	**Pn**	**16 06 52.9**	**+0.1**
JNBK				*e*S	**Sn**	**16 07 28.7**	**-0.6**
ASAJ	**Asahikawa**	**3.25**	**289**	P	**Pn**	**16 06 56.0**	**+1.9**
	comp=E,5.8nm,0.3s,baz=115,slow=13,SNR=29						
ASAJ				S	**Sn**	**16 07 37.7**	**+6.2**
	comp=E,2.7nm,0.3s,baz=309,slow=29,SNR=6.5						
ASAJ	**Asahikawa**	**3.25**	**289**	PN	**Pn**	**16 06 56.0**	**+1.9**
ASAJ				S	**Sn**	**16 07 37.7**	**+6.2**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				smax			
	comp=N,3.0nm,0.3s						
SONM	**Songino Array**	**28.52**	**294**	P	**P**	**16 11 56.3**	**+0.2**
	comp=N,1.3nm,0.8s,mb3.7,baz=89,slow=8.6,SNR=4.9						
SONM	**Songino Array**	**28.52**	**294**	P	**P**	**16 11 56.3**	**+0.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**42.09**	**36**	P	**P**	**16 13 50.9**	**-1.5**
	comp=Z,0.2nm,0.5s,mb3.0,baz=267,slow=4.8,SNR=4.1						
MKAR	**Makanchi Array**	**44.68**	**298**	P	**P**	**16 14 13.5**	**+0.2**
	comp=Z,0.9nm,0.7s,mb3.7,baz=80,slow=9.1,SNR=9.4						
MKAR	**Makanchi Array**	**44.68**	**298**	P	**P**	**16 14 13.5**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**47.02**	**30**	P	**P**	**16 14 31.9**	**+0.2**
	comp=Z,1.4nm,0.7s,mb4.0,baz=305,slow=3.3,SNR=8.3						
INK	**Inuvik**	**47.02**	**30**	P	**P**	**16 14 31.9**	**+0.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*ISCJB **23** 16:13:37.7±1.1, 605N±0.1×1652E±03, h10km, mb3.4/4, Error ellipse: s-maj=22.5km s-min=14.8km az=139.1*

*MOS **23** 16:13:37.9±0.6, 6053N×165 09E, h14km, mb3.7/2, Error ellipse: s-maj=57.8km s-min=23.7km az=92.9*

*IDC **23** 16:13:38.7±1.4, 6072N×165.19E, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.6/20, mbtmp3.7/5, ML3.0/1, Error ellipse: s-maj=29.5km s-min=23.9km az=61.0*

ISC 23 16:13:39.7±1.1, 606N±01×1652E±03, h10km, n9, σ0§85/9, mb3.4/4, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BILL	**Bilibino**	**7.51**	**3**	*e*PN	**Pn**	**16 15 30.4**	**+1.1**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BILL				pmax	pmax		
	comp=Z,20nm,1.1s						
FX1	**Attu Island--F**	**8.86**	**147**	Pn	**Pn**	**16 15 48.5**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=282,slow=9.4,SNR=2.8						
FX1	**Attu Island--F**	**8.86**	**147**	PN	**Pn**	**16 15 48.5**	**+0.8**
FX1				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ILAR	**Eielson Array**	**21.95**	**58**	P	**P**	**16 18 32.5**	**-0.8**
	comp=Z,1.5nm,0.6s,mb3.6,baz=274,slow=8.9,SNR=20						
ILAR	**Eielson Array**	**21.95**	**58**	P	**P**	**16 18 32.6**	**-0.8**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**26.43**	**47**	P	**P**	**16 19 17.1**	**+0.5**
	comp=Z,0.8nm,0.9s,mb3.3,baz=276,slow=10,SNR=3.3						
INK	**Inuvik**	**26.43**	**47**	P	**P**	**16 19 17.1**	**+0.5**
INK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**47.65**	**293**	P	**P**	**16 22 15.5**	**-0.6**
	comp=Z,0.1nm,0.5s,mb3.1,baz=41,slow=6.7,SNR=4.9						
PDAR	**Pinedale Array**	**51.79**	**69**	P	**P**	**16 22 46.5**	**-1.0**
	comp=Z,0.7nm,0.6s,mb3.8,baz=352,slow=3.0,SNR=5.2						

*SZGRF **23** 16:15:52.4, 2121S×178 26W, h33km, Fiji Islands region*

*ISCJB **23** 16:16:48.0±1.0, 2136S±006×178 85W±007, h525km±13km, mb4.3/34, Error ellipse: s-maj=10.8km s-min=7.7km az=88.6*

*IDC **23** 16:16:48.8±1.7, 2147S×178 61W, h535km±19km, mb3.8/11, mb1 3.8/14, mb1mx3.7/20, mbtmp4.6/14, Error ellipse: s-maj=20.9km s-min=12.8km az=127.0*

*BJI **23** 16:16:48.5, 2140S×178 48W, h545km, mB4.7, mb4.6*

*NEIC **23** 16:16:49.5±0.9, 2134S×178 75W, h535km±11km, mb4.4/18, Error ellipse: s-maj=12.6km s-min=7.3km az=144.0*

*MOS **23** 16:16:53.0±3.4, 2097S×178 94W, h536km, mb4.5/9, Error ellipse: s-maj=15.3km s-min=12.7km az=136.7*

ISC 23 16:16:49.3±0.9, 2142S±005×178 76W±006, h530km±11km, h526km±5.7km: pP-P, n173, σ1§07/97, mb4.3/34, 6C-23D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**7.84**	**175**	S	**S**	**16 20 19.3**	**-0.1**
	45nm,0.3s,baz=96,slow=21,SNR=1.9						
AFI	**Afiamalu**	**10.00**	**43**	P	**P**	**16 19 05.8**	**-1.1**
	7.7nm,0.3s,baz=339,slow=1.5,SNR=8.8						
AFI				S	**S**	**16 20 49.4**	**-11**
	0.8nm,0.3s,baz=25,slow=22,SNR=2.0						
AFI	**Afiamalu**	**10.00**	**43**	*eP*	**P**	**16 19 05.5**	**-1.3**
AFI				*e*S	**S**	**16 20 53.2**	**-6.7**
DZM	**Mont Dzumac**	**13.77**	**265**	P	**P**	**16 19 48.0**	**+1.9**
	0.2nm,0.3s,baz=120,slow=14,SNR=3.1						
PUZ	**Puketiti**	**16.80**	**188**	PN	**P**	**16 20 17.8**	**+0.7**
URZ	**Urewera**	**17.16**	**191**	P	**P**	**16 20 19.6**	**-0.8**
	7.1nm,0.3s,baz=1.4,slow=2.2,SNR=27						
URZ				S	**S**	**16 23 05.2**	**-7.

MBWA	**Marble Bar**	**56.97**	**258**	*e*P		**P**		**16 25 44.1**	**-0.1**
CBIJ	**Chichi jima**	**61.28**	**320**	P		**P**		**16 26 12.8**	**-0.2**
	comp=Z,24nm,0.8s,mb4.6,baz=272,slow=21,SNR=4.0								
QSPA	**South Pole Qui**	**68.66**	**180**	*e*P		**P**		**16 27 00.6**	**+1.1**
	comp=Z,9.4nm,0.8s,mb4.4								
MJAR	**Matsushiro Arr**	**70.53**	**324**	P		**P**		**16 27 10.2**	**-0.5**
	comp=Z,2.4nm,0.6s,mb3.9,baz=158,slow=5.7,SNR=6.4								
FX1	**Attu Island--F**	**74.31**	**355**	P		**P**		**16 27 31.6**	**-1.0**
	comp=Z,17nm,0.7s,mb4.6,baz=354,slow=6.0,SNR=2.6								
SSE	**Sheshan**	**77.74**	**310**	P		**P**		**16 27 52.3**	**+0.8**
SSE				AMB		AMB			
	comp=Z,42nm,0.7s,mb4.9								
NJ2	**Nanjing**	**79.92**	**310**	*e*P		**P**		**16 28 02.3**	**-0.8**
NJ2				AP		pP		16 29 57.6	+1.0
NJ2				XP		sP		16 30 53.3	+2.4
NJ2				PP		PP		16 31 14.5	+0.3
NJ2				S		S		16 37 20.0	-3.2
NJ2				XS		sS		16 40 45.0	-0.5
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.9s,mb4.2								
NJ2				AMB		AMB			
	comp=Z,50nm,4.9s								
MDJ	**Mudanjiang**	**80.86**	**325**	P		**P**		**16 28 08.4**	**+0.4**
MDJ				AP		pP		16 30 00.5	-1.3
MDJ				PP		PP		16 31 21.6	-0.3
MDJ				S		S		16 37 33.8	+1.1
MDJ				XS		sS		16 40 54.6	-1.1
MDJ				SS		SS		16 43 03.1	+1.5
MDJ				AMB		AMB			
	comp=Z,9.0nm,0.9s,mb4.2								
MDJ				AMB		AMB			
	comp=Z,31nm,3.1s								
HABR	**Khabarovsk**	**80.89**	**331**	*e*P		**P**		**16 28 08.3**	**+0.2**
HABR				*e*S		S		16 37 33.6	+0.6
MTUM	**Tungsten Hills**	**81.39**	**44**	*e*P		**P**		**16 28 11.6**	**+0.9**
HUMO	**Hull Mountain**	**81.85**	**38**	*e*P		**P**		**16 28 13.7**	**+0.7**
	comp=Z,12nm,1.0s,mb4.3								
KDAK	**Kodiak Island**	**81.87**	**14**	P		**P**		**16 28 11.9**	**-1.2**
	comp=Z,3.6nm,0.5s,mb4.1,baz=215,slow=4.0,SNR=6.9								
MNV	**Mina**	**82.27**	**44**	*e*P		**P**		**16 28 15.2**	**0.0**
MNV				pmax		pmax			
	comp=Z,14nm,1.1s,mb4.3								
MNV	**Mina**	**82.27**	**44**	*e*P		**P**		**16 28 15.2**	**+0.1**
	comp=Z,14nm,1.1s,mb4.3								
CN2	**Changchun**	**82.59**	**323**	*e*P		**P**		**16 28 19.3**	**+2.5**
TPNV	**Topopah Spring**	**82.69**	**46**	*e*P		**P**		**16 28 17.5**	**+0.2**
TPNV				pmax		pmax			
	comp=Z,10.0nm,0.9s,mb4.3								
TPNV	**Topopah Spring**	**82.69**	**46**	*e*P		**P**		**16 28 17.5**	**+0.2**
	comp=Z,9.7nm,0.9s,mb4.3								
TUC	**Tucson**	**84.10**	**52**	*e*P		**P**		**16 28 24.7**	**+0.4**
TUC				pmax		pmax			
	comp=Z,2.0nm,0.5s,mb3.9								
TUC	**Tucson**	**84.10**	**52**	*e*P		**P**		**16 28 24.6**	**+0.3**
	comp=Z,1.7nm,0.5s,mb3.8								
MSU	**Marysvale**	**86.25**	**46**	*e*P		**P**		**16 28 35.4**	**+0.7**
SNAA	**Sanae**	**87.12**	**179**	*e*P		**P**		**16 28 38.9**	**+0.1**
SNAA				*e*				16 28 40.1	
SNAA	**Sanae**	**87.12**	**179**	*e*P		**P**		**16 28 39.1**	**+0.3**
VNA3	**Neumayer Olymp**	**87.28**	**176**	*e*P		**P**		**16 28 35.6**	**-4.0**
VNA3				*e*				16 28 37.7	
VNA3				*e*				16 28 38.9	
VNA3				*e*				16 28 40.6	
VNA3				*e*				16 29 02.0	
HLID	**Hailey**	**87.48**	**41**	*e*P		**P**		**16 28 40.8**	**+0.3**
	comp=Z,7.5nm,1.0s,mb4.3								
SRU	**San Rafael**	**87.66**	**46**	*e*P		**P**		**16 28 40.8**	**-0.6**
SRU				pmax		pmax			
	comp=Z,4.0nm,0.6s,mb4.3								
SRU	**San Rafael**	**87.66**	**46**	*e*P		**P**		**16 28 40.8**	**-0.6**
	comp=Z,3.9nm,0.6s,mb4.3								
VNA2	**Neumayer--Watz**	**87.71**	**177**	*e*P		**P**		**16 28 42.4**	**+0.8**
VNA2				*e*				16 28 43.4	
VNA2				*e*				16 28 44.3	
VNA2				*e*				16 28 46.1	
VNA2				*e*				16 29 06.3	
MNTX	**Cornudas Mount**	**87.86**	**55**	*e*P		**P**		**16 28 42.7**	**+0.4**
	comp=Z,17nm,1.4s,mb4.6								
LTX	**Lajitas**	**88.14**	**58**	*e*P		**P**		**16 28 44.6**	**+1.0**
LTX				pmax		pmax			
	comp=Z,14nm,1.1s,mb4.6								
LTX	**Lajitas**	**88.14**	**58**	*e*P		**P**		**16 28 44.6**	**+1.0**
	comp=Z,14nm,1.1s,mb4.6								
ANMO	**Albuquerque**	**88.53**	**52**	*e*P		**P**		**16 28 45.7**	**+0.3**
ANMO				pmax		pmax			
	comp=Z,5.0nm,0.9s								
ANMO	**Albuquerque**	**88.53**	**52**	*e*P		**P**		**16 28 45.7**	**+0.3**
	comp=Z,5.2nm,0.9s,mb4.4								
KMI	**Kunming**	**89.14**	**297**	P		**P**		**16 28 50.1**	**+1.9**
KMI				AMB		AMB			
	comp=Z,6.0nm,0.8s,mb4.5								
COLA	**College**	**89.25**	**13**	*e*P		**P**		**16 28 45.8**	**-3.0**
COLA	**College**	**89.25**	**13**	*e*P		**P**		**16 28 45.7**	**-3.1**
	comp=Z,13nm,0.8s,mb4.8								
HHC	**Hu-ho-hao-te**	**89.49**	**315**	*e*P		**P**		**16 28 48.8**	**-1.1**
HHC				AP		pP		16 30 48.6	+2.0
HHC				XP		sP		16 31 41.3	+1.3
HHC				PP		PP		16 32 31.3	+0.6
HHC				SKS				16 38 27.1	
HHC				S				16 38 51.1	
HHC				XS		sS		16 42 21.9	-1.9
HHC				SS		SS		16 45 07.5	+0.7
HHC				AMB		AMB			
	comp=Z,14nm,1.2s,mb4.7								
HHC				AMB		AMB			
	comp=Z,67nm,5.0s								
TPAW	**Teton Pass**	**89.59**	**42**	*e*P		**P**		**16 28 50.5**	**+0.2**
	comp=Z,10nm,1.0s,mb4.6								
IMW	**Indian Meadow**	**89.80**	**42**	*e*P		**P**		**16 28 51.8**	**+0.5**
	comp=Z,16nm,1.1s,mb4.8								
BW06	**Boulder Array**	**90.11**	**44**	*e*P		**P**		**16 28 52.6**	**-0.1**
	comp=Z,1.3nm,0.5s,mb4.0								
PDAR	**Pinedale Array**	**90.11**	**44**	P		**P**		**16 28 52.6**	**-0.1**
	comp=Z,6.0nm,0.7s,mb4.5,baz=210,slow=2.9,SNR=37								
DAWY	**Dawson**	**90.53**	**16**	*e*P		**P**		**16 28 53.4**	**-1.2**
EFI	**East Falkland**	**90.69**	**148**	*e*P		**P**		**16 28 57.1**	**+1.7**
GCMT	**Greyclif**	**91.53**	**41**	*e*P		**P**		**16 29 00.2**	**+0.9**
YAK	**Yakutsk**	**92.70**	**338**	*e*P		**P**		**16 29 02.7**	**-1.9**
YAK				pmax		pmax			
	comp=Z,7.0nm,0.7s,mb4.8								
LZH	**Lanzhou**	**92.76**	**308**	⇓P		**P**		**16 29 06.3**	**+1.3**
LZH				AP		pP		16 31 03.3	+1.3
LZH				XP		sP		16 31 55.3	0.0
LZH				PP		PP		16 33 00.5	+4.4
LZH				AMB		AMB			
	comp=Z,23nm,1.3s,mb5.0								
LZH				AMB		AMB			
	comp=Z,65nm,8.7s								
INK	**Inuvik**	**95.34**	**15**	P		**P**		**16 29 14.5**	**-2.1**
	comp=Z,1.3nm,0.6s,mb4.3,baz=208,slow=2.4,SNR=9.8								
INK	**Inuvik**	**95.34**	**15**	*e*P		**P**		**16 29 14.2**	**-2.5**
INK				pmax		pmax			
	comp=Z,3.0nm,0.9s								
INK	**Inuvik**	**95.34**	**15**	*e*P		**P**		**16 29 14.2**	**-2.5**
INK				pmax		pmax			
	comp=Z,3.0nm,0.9s								
INK	**Inuvik**	**95.34**	**15**	*e*P		**P**		**16 29 14.2**	**-2.4**
	comp=Z,3.4nm,0.9s,mb4.5								
ULN	**Ulaanbaatar**	**95.59**	**319**	*e*P		**P**		**16 29 17.2**	**-0.6**
YKA	**Yellowknife Ar**	**97.64**	**25**	P		**P**		**16 29 24.3**	**-2.6**
	comp=Z,0.7nm,0.8s,mb4.1,baz=236,slow=4.7,SNR=7.7								
YKA	**Yellowknife Ar**	**97.64**	**25**	P		**P**		**16 29 24.3**	**-2.6**
MKAR	**Makanchi Array**	**111.31**	**313**	PKiKP		PKiKP		16 34 20.8	-2.1
	comp=Z,0.4nm,0.4s,baz=188,slow=0.8,SNR=14								
MKAR				PKKPbc		PKKPbc		16 45 18.6	-1.1
	comp=Z,0.4nm,0.8s,baz=274,slow=3.8,SNR=3.8								
ARU	**Arti**	**125.55**	**325**	*i* PKiKP		PKPdf		16 34 47.6	-2.7
AKTK	**Aktyubinsk**	**127.27**	**318**	PKP		PKPdf		16 34 52.0	-1.6
AKTO	**Aktyubinsk**	**127.27**	**318**	PKP		PKPdf		16 34 52.0	-1.6
	comp=Z,1.4nm,0.6s,baz=72,slow=2.0,SNR=5.2								
ARCES	**ARCESS Array B**	**129.69**	**349**	PKP		PKPdf		16 34 56.0	-2.2
	comp=Z,4.2nm,0.6s,baz=24,slow=1.1,SNR=28								
ARCES	**ARCESS Array B**	**129.69**	**349**	PKP		PKPdf		16 34 56.0	-2.2
FINES	**FINESS Array B**	**136.44**	**343**	PKhKP				16 34 55.8	
	comp=Z,1.7nm,0.9s,baz=48,slow=2.1,SNR=3.7								
FINES				PKP		PKPdf		16 35 08.2	-2.7
	comp=Z,1.4nm,0.4s,baz=73,slow=4.7,SNR=11								
KIV	**Kislovodsk**	**139.07**	**313**	*i* PKiKP		PKPdf		16 35 17.9	+2.3
NB2	**NORSAR Subarra**	**139.80**	**352**	PKPa				16 35 05.9	
	comp=Z,0.9nm,0.4s,baz=8.5,slow=4.0								
NOA	**NORSAR Array B**	**139.80**	**352**	PKhKP				16 35 08.0	
	comp=Z,1.0nm,0.5s,baz=15,slow=1.8,SNR=6.3								
NOA	**NORSAR Array B**	**139.80**	**352**	PKP		PKPdf		16 35 08.0	-9.0
SUW	**Suwalki**	**143.43**	**338**	*e*PKP		PKPdf		16 35 20.5	-2.9
AKASG	**Malin Array Be**	**143.46**	**330**	PKP		PKPdf		16 35 20.0	-3.5
	comp=Z,17nm,0.4s,baz=44,slow=4.1,SNR=145								
MALT	**Malatya**	**143.91**	**306**	*e*PKHKP				16 35 23.8	
LVV	**L'vov**	**146.41**	**333**	*e*PKHKP				16 35 29.5	
BSEG	**Bad Segeberg**	**146.81**	**350**	*e*PKPbc		PKPbc		16 35 30.7	-1.2
ANTO	**Ankara**	**147.45**	**312**	*e*PKIKP		PKPbc		16 35 33.0	-0.6
BURAR	**Bucovina Array**	**147.50**	**329**	⇓*i*P		PKPbc		16 35 33.3	-0.4
BURAR	**Bucovina Array**	**147.50**	**329**	⇓P		PKPbc		16 35 33.3	-0.4
CFR	**Carcaliu**	**147.61**	**323**	⇓*i*P		PKPbc		16 35 33.5	-0.5
CFR	**Carcaliu**	**147.61**	**323**	⇓P		PKPbc		16 35 33.5	-0.6
OJC	**Ojcow**	**147.74**	**337**	*e*PKP		PKPbc		16 35 33.7	-0.7
KOLS	**Kolonicke sedl**	**147.83**	**334**	*e*PKP		PKPbc		16 35 34.5	-0.1
STHS	**Stebnicka Huta**	**147.86**	**335**	*e*PKP		PKPbc		16 35 34.4	-0.3
TIRR	**Tirgusor**	**147.89**	**322**	⇓*i*P		PKPbc		16 35 34.4	-0.4
TIRR	**Tirgusor**	**147.89**	**322**	*e*PKPbc		PKPbc		16 35 33.8	-1.0
VRI	**Vrincioaia**	**147.93**	**326**	⇓*i*P		PKPbc		16 35 34.5	-0.4
VRI	**Vrincioaia**	**147.93**	**326**	⇓P		PKPbc		16 35 34.5	-0.3
PLOR	**Plostina**	**147.98**	**326**	⇓*i*P		PKPbc		16 35 34.3	-0.7
HARR	**Harsova**	**148.02**	**323**	⇓*i*P		PKPbc		16 35 35.1	0.0
HARR	**Harsova**	**148.02**	**323**	⇓P		PKPbc		16 35 35.1	+0.1
CRVS	**Cervenica-Dubn**	**148.18**	**334**	*e*PKP		PKPdf		16 35 33.0	+1.6
CRVS				*e*				16 35 35.0	
NIE	**Niedzica**	**148.21**	**336**	*e*PKP		PKPbc		16 35 35.6	0.0
EIL	**Elat**	**148.58**	**292**	*e*PKPbc		PKPbc		16 35 36.4	-0.1
MLR	**Muntele Rosu**	**148.59**	**326**	⇓*i*P		PKPbc		16 35 35.4	-1.1
MLR	**Muntele Rosu**	**148.59**	**326**	⇓P		PKPbc		16 35 35.4	-1.1
UPC	**Upice**	**148.72**	**342**	⇑*e*PKPB		PKPbc		16 35 36.3	-0.5
UPC				*e*PKPAB		PKPab		16 35 42.8	+0.1
DPC	**Dobruska-Polom**	**148.77**	**341**	⇑*e*PKPB		PKPbc		16 35 36.6	-0.4
DPC				*e*PKPAB		PKPab		16 35 42.8	-0.1
CLL	**Collm**	**148.78**	**346**	*e*PKPbc		PKPbc		16 35 36.0	-1.0
CLL	**Collm**	**148.78**	**346**	*e*PKPdf		PKPdf		16 35 32.0	-0.4
CLL				⇓*i*PKPbc		PKPbc		16 35 36.0	-1.0
	comp=Z,19nm,0.7s								
CLL				*i* PKPab		PKPab		16 35 41.8	-1.1
	comp=Z,12nm,0.8s								
CLL	**Collm**	**148.78**	**346**	*e*PKP		PKPdf		16 35 32.0	-0.4
CLL				⇓*i*PKP		PKPdf		16 35 40.0	+3.6
CLL				*e*pPKP		pPKPdf		16 37 35.0	-2.2
MORC	**Moravsky Berou**	**148.89**	**339**	*e*PKHKP				16 35 35.9	
MORC				*e*				16 35 42.8	
KECS	**Kecovo**	**148.91**	**335**	*e*PKP		PKPbc		16 35 36.9	-0.4
BRG	**Berggiesshubel**	**148.96**	**344**	*e*PKPbc		PKPbc		16 35 36.4	-1.0
BRG	**Berggiesshubel**	**148.96**	**344**	*i* PKP		PKPbc		16 35 36.4	-1.0
	comp=Z,5.5nm,0.6s								
BRG				*e*				16 35 42.7	
	comp=Z,4.6nm,1.0s								
BRG									
	comp=N,141nm,17.6s								
BRG									
	comp=E,145nm,16.8s								
BRG									
	comp=Z,246nm,15.4s								
BRG	**Berggiesshubel**	**148.96**	**344**	*i* PKP		PKPbc		16 35 36.4	-1.0
BRG				*e*				16 35 42.7	
BRG				LR		LR			
	comp=Z,250nm,15.4s								
VOIR		**149.09**	**326**	⇓*i*P		PKPbc		16 35 37.4	-0.3
VOIR		**149.09**	**326**	⇓P		PKPbc		16 35 37.4	-0.3
DRGR		**149.27**	**331**	⇓*i*P		PKPbc		16 35 37.8	-0.4
DRGR		**149.27**	**331**	⇓P		PKPbc		16 35 37.8	-0.3
PRU	**Pruhonice**	**149.61**	**343**	⇑*e*PKPB		PKPbc		16 35 38.2	-0.8
PRU				*e*PKPAB		PKPab		16 35 46.1	-0.2
MOX	**Moxa**	**149.71**	**347**	*e*PKP		PKPbc		16 35 38.1	-1.1
	comp=Z,13nm,1.1s								
MOX									
	comp=Z,400nm,17.0s								
TANN	**Tannenbergstha**	**149.74**	**346**	*e*PKPbc		PKPbc		16 35 38.5	-0.8
NKC	**Novy Kostel**	**149.91**	**346**	⇑*e*PKPB				16 35 39.0	
NKC				*e*PKPAB		PKPab		16 35 46.6	-1.0
TREC	**Trest**	**149.96**	**341**	⇑*e*PKPB		PKPbc		16 35 38.9	-0.9
TREC				*e*PKPAB		PKPab		16 35 46.8	-1.0
ZST	**Bratislava**	**150.40**	**338**	*e*PKP		PKPbc		16 35 41.0	+0.2
ROTZ	**Rotzenmuhle**	**150.40**	**346**	*e*PKPbc		PKPbc		16 35 40.1	-0.7
MEM	**Membach**	**150.62**	**354**	PKPbc		PKPbc		16 35 40.0	-1.4
KHC	**Kasperske Hory**	**150.65**	**343**	*e*PKPDF		PKPdf		16 35 38.5	+3.2
KHC				⇑*e*PKPB		PKPbc		16 35 40.8	-0.6
KHC				*e*PKPAB		PKPab		16 35 50.7	0.0
BZS	**Buzias**	**150.65**	**330**	⇓*i*P		PKPbc		16 35 40.3	-1.1
BZS	**Buzias**	**150.65**	**330**	⇓P		PKPbc		16 35 40.3	-1.1
GRF	**Grafenberg Arr**	**150.69**	**347**	*e*PKPbc		PKPbc		16 35 40.8	-0.7
TNS	**Taunus Mts**	**150.69**	**351**	*e*PKPbc		PKPbc		16 35 40.8	-0.7
SNF	**Seneffe**	**150.87**	**356**	PKPbc		PKPbc		16 35 40.9	-1.0
GEC2	**GERESS Array S**	**150.88**	**343**	*e*PKPbc		PKPbc		16 35 41.3	-0.6
GERES	**GERESS Array B**	**150.88**	**343**	PKPbc		PKPbc		16 35 41.0	-0.9
	comp=Z,5.9nm,0.7s,baz=17,slow=1.4,SNR=30								
GERES				PKPab		PKPab		16 35 51.0	-0.7
	comp=Z,0.9nm,0.7s,baz=60,slow=5.8,SNR=4.6								
GIVF	**Givet**	**151.23**	**355**	*e*PKP1		PKPbc		16 35 41.5	-1.2
	comp=Z,25nm,0.7s								
DOU				PKPbc		PKPbc		16 35 41.8	-1.0
DOU	**Dourbes**	**151.26**	**356**	PKP		PKPdf		16 35 32.2	-4.0
BAIF	**Baives**	**151.32**	**356**	*e*PKP1		PKPbc		16 35 41.7	-1.2
	comp=Z,16nm,0.8s								
PKSM	**Morgy**	**151.48**	**334**	⇓PKIKP		PKPbc		16 35 42.4	-0.9
WLF	**Walferdange**	**151.54**	**353**	*e*PKPbc		PKPbc		16 35 43.5	+0.1
WLF	**Walferdange**	**151.54**	**353**	PKPbc		PKPbc		16 35 43.3	-0.1
WLF				PKPab		PKPab		16 35 53.6	-0.8
STU	**Stuttgart**	**151.97**	**349**	*e*PKPbc		PKPbc		16 35 44.1	-0.3
VTS	**Vitosha**	**152.00**	**324**	⇓PKIKP		PKPbc		16 35 42.5	-1.9
BFO	**Black Forest**	**152.55**	**350**	*e*PKPbc		PKPbc		16 35 44.5	-1.1
CDF	**Champ du Feu**	**152.63**	**351**	*e*PKP1		PKPbc		16 35 44.9	-0.9
	comp=Z,9.5nm,0.8s								
FLN	**La Foliniere**	**152.68**	**2**	*e*PKP1		PKPbc		16 35 44.4	-1.5
	comp=Z,9.2nm,0.4s								
LDF	**La Druitiere**	**152.86**	**2**	*e*PKP1		PKPbc		16 35 44.6	-1.7
	comp=Z,7.6nm,0.5s								
GRR	**Gorron**	**153.04**	**3**	*e*PKP1		PKPbc		16 35 45.0	-1.7
	comp=Z,10nm,0.5s								
SGMF	**Saint Gilles**	**153.05**	**6**	*e*PKP1		PKPbc		16 35 45.2	-1.5
	comp=Z,11nm,0.6s								
BOJS	**Bojanci**	**153.36**	**338**	*i* PKPbc		PKPbc		16 35 46.6	-0.8
LOR	**Lormes**	**154.12**	**356**	*e*PKP1		PKPbc		16 35 49.0	0.0
	comp=Z,5.0nm,0.5s								
SSF	**Saint Saulge**	**154.35**	**356**	*e*PKP1		PKPbc		16 35 48.4	-1.1
	comp=Z,9.7nm,0.8s								
AVF	**Avril sur Loir**	**154.63**	**357**	*e*PKP1		PKPbc		16 35 49.3	-0.8
ESDC	**Sonseca Array**	**161.26**	**13**	PKPab		PKPab		16 36 36.2	-0.3
	comp=Z,0.2nm,0.3s,baz=350,slow=5.9,SNR=4.3								
TORD	**Torodi Ar. Bea**	**171.77**	**183**	PKP		PKPdf		16 35 55.9	-1.1
	comp=Z,1.4nm,0.9s,baz=90,slow=0.4,SNR=5.7								

*IDC **23** 16:23:46.9±0.8,6081N×16539E,h0km,mb3.9/11, mb1 4.1/12,mb1mx4.0/22,mbtmp3.9/12,ML3.8/1, MS3.2/5, Ms1 3.2/5,ms1mx2.9/22,Error ellipse: s-maj=20.4km s-min=13.7km az=47.0*

*MOS **23** 16:23:46.5±1.0,6071N×16579E,h18km,mb4.3/11,Error ellipse: s-maj=28.8km s-min=10.7km az=108.7*

*KRSC **23** 16:23:46.9±0.4,6067N×16647E,h18km±3km,ML3.8*

*ISCJB **23** 16:23:48.1±1.0,6074N±004×1657E±0.1,h22km±9km, mb4.0/16,MS3.1/5,Error ellipse: s-maj=10.6km s-min=5.6km az=41.4*

*NEIC **23** 16:23:51.1±3.4,6074N×16558E,h31km±27km,mb4.2/4, Error ellipse: s-maj=12.8km s-min=9.7km az=186.0*

ISC 23 16:23:47.7±1.4,6079N±004×1657E±01,h7km±10km,n60, σ1°18/61,**mb4.0**/16,**MS3.1**/5,**3C-1D,Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.40**	**154**	*i* P		**Pg**		**16 23 54.2**	**-1.3**
TILR				*e*S		**Sg**		**16 23 59.9**	**-0.8**
TILR				Smax					
	26μm,1.5s								
KAMR	**Kamenskoye**	**1.69**	**8**	*i* P		**Pn**		**16 24 17.9**	**+0.2**
KAMR				*e*S		**Sn**		**16 24 40.4**	**+0.8**
KAMR				Smax					
	3μm,0.7s								
OSSR	**Ossora**	**2.03**	**222**	*e*P		**Pn**		**16 24 21.1**	**-1.3**
EVNR	**Evensk**	**3.30**	**293**	P		**Pn**		**16 24 46.0**	**+6.2**
SMKR	**Semkarok**	**4.76**	**209**	*e*P		**Pn**		**16 25 00.6**	**+0.7**
SRKR	**Sorokina**	**4.77**	**212**	*e*P		**Pn**		**16 25 01.3**	**+1.3**
KBG	**Krutoberegovo**	**4.81**	**200**	P		**Pn**		**16 25 00.1**	**-0.5**
KBTR	**Krutoberegovo**	**4.83**	**199**	*e*P		**Pn**		**16 25 00.9**	**0.0**
KBTR				*e*S		**Sn**		**16 25 54.8**	**-2.4**
BDR	**Baidarnaya**	**4.84**	**211**	*e*P		**Pn**		**16 25 01.5**	**+0.6**
CIRR	**Tsirk**	**5.36**	**211**	*e*P		**Pn**		**16 25 09.4**	**+1.3**
LGNR	**Loginova**	**5.40**	**211**	P		**Pn**		**16 25 09.7**	**+1.0**
ZLN	**Zelenaya**	**5.43**	**210**	*i* P		**Pn**		**16 25 10.9**	**+1.8**
SRDR	**Sredinnyy**	**5.47**	**218**	*e*P		**Pn**		**16 25 11.3**	**+1.7**
BKI	**Bering**	**5.60**	**178**	P		**Pn**		**16 25 12.3**	**+0.8**
KMNR	**Kamenistaya**	**5.81**	**212**	*e*P		**Pn**		**16 25 16.6**	**+2.3**
BILL	**Bilibino**	**7.29**	**2**	*d i*PN		**Pn**		**16 25 36.1**	**+1.5**
BILL				pmax		pmax			
	comp=Z,3.0nm,0.6s								
BILL				pmax		pmax			
	comp=N,90nm,1.0s								
BILL	**Bilibino**	**7.29**	**2**	*e*Pn		**Pn**		**16 25 34.9**	**+0.3**
	comp=N,7.1nm,0.5s								
BILL	**Bilibino**	**7.29**	**2**	*e*P		**Pn**		**16 25 36.4**	**+1.8**
FX1	**Attu Island--F**	**8.91**	**149**	Pn		**Pn**		**16 25 56.6**	**-0.3**
	comp=N,3.4nm,0.3s,baz=342,slow=10,SNR=12								
FX1	**Attu Island--F**	**8.91**	**149**	PN		**Pn**		**16 25 56.6**	**-0.3**
FX1				pmax		pmax			
	comp=Z,3.0nm,0.3s								
FX1	**Attu Island--F**	**8.91**	**149**	*e*P		**Pn**		**16 25 56.6**	**-0.3**
YAK	**Yakutsk**	**17.15**	**290**	*e*P		**Pn**		**16 27 49.1**	**+1.3**
YAK				pmax		pmax			
	comp=Z,8.0nm,1.0s								
YAK				pmax		pmax			
	comp=E,7.0nm,1.6s								
YAK	**Yakutsk**	**17.15**	**290**	*e*P		**Pn**		**16 27 49.5**	**+1.7**
	comp=E,12nm,0.8s								
TIXI	**Tiksi**	**18.03**	**322**	⇑*e*P		**Pn**		**16 28 00.0**	**+1.2**
TIXI				pmax		pmax			
	comp=Z,3.0nm,0.8s								
ILAR	**Eielson Array**	**21.63**	**59**	P		**P**		**16 28 39.6**	**+1.1**
	comp=Z,2.4nm,0.8s,mb3.7,baz=277,slow=11,SNR=27								
ASAJ	**Asahikawa**	**21.64**	**230**	LR		LR		16 39 13.2	
	comp=Z,40nm,18.4s,MS2.9,baz=154,slow=43								
BOD	**Bodaibo**	**25.99**	**287**	*e*P		**P**		**16 29 19.4**	**-1.7**
BOD				pmax		pmax			
	comp=Z,6.0nm,1.1s,mb4.0								
INK	**Inuvik**	**26.11**	**48**	P		**P**		**16 29 23.7**	**+1.5**
	comp=Z,2.6nm,0.9s,mb3.8,baz=287,slow=10.0,SNR=8.7								
INK				LR		LR		16 41 19.8	
	comp=Z,81nm,20.1s,MS3.3,baz=272,slow=40								
INK	**Inuvik**	**26.11**	**48**	P		**P**		**16 29 23.7**	**+1.5**
INK				LR		LR		16 41 19.8	
MJAR	**Matsushiro Arr**	**29.88**	**228**	LR		LR		16 43 04.2	
	comp=Z,51nm,18.7s,MS3.2,baz=20,slow=39								
ULN	**Ulaanbaatar**	**35.30**	**276**	*e*P		**P**		**16 30 43.7**	**+0.3**
ULN	**Ulaanbaatar**	**35.30**	**276**	*e*P	

CTA	**Charters Tower**	**32.83**	**284**	P	**P**	**16 35 16.1**	**+0.9**	
	2.6nm,0.6s,mb4.3,baz=113,slow=13,SNR=4.3							
ASAR	**Alice Springs**	**41.59**	**270**	P	**P**	**16 36 29.4**	**0.0**	
	1.4nm,0.8s,mb3.6,baz=106,slow=7.2,SNR=18							
WRA	**Warramunga Arr**	**42.79**	**276**	P	**P**	**16 36 38.8**	**-0.5**	
	1.4nm,0.4s,mb4.1,baz=113,slow=7.9,SNR=50							
SNAA	**Sanae**	**75.87**	**179**	*e*	**P**	**16 40 28.1**	**+0.3**	
VNA3	**Neumayer Olymp**	**76.08**	**177**	*e*	**P**	**16 40 28.6**	**-0.4**	
VNA3				*e*		16 40 32.7		
VNA3				*e*		16 40 35.0		
VNA2	**Neumayer--Watz**	**76.50**	**177**	*e*	**P**	**16 40 31.6**	**+0.2**	
VNA2				*e*		16 40 34.5		
VNA2				*e*		16 40 37.2		
FINES	**FINESS Array B**	**146.78**	**338**	PKPbc	PKPbc	16 48 12.5	-11	
	2.3nm,0.8s,baz=47,slow=3.7,SNR=7.5							

MAN 23 16:48:36.3, 1137N×12544E, h31km, mb1.6, ML3.5, MS3.3, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**0.50**	**246**	*e*P	Pb	16 48 47.6	+0.8
PLP				*e*S	Sb	16 48 56.0	+2.1

*GRAL **23** 16:59:35.9±4.0, 3656N×3623E, h0km±999km, MD3.8*
*ISK **23** 16:59:35.9, 3624N×3571E, h28km, MD3.3*
*CSEM **23** 16:59:36.5±0.1, 3635N×3585E, h15km, MD3.3, Error ellipse: s-maj=3.7km s-min=2.5km az=30.0*
*NSSC **23** 16:59:36.4, 3633N×3576E, h4km±1km*
*ISCJB **23** 16:59:37.5±0.4, 3638N±002×3580E±003, h21km±5km, Error ellipse: s-maj=4.8km s-min=3.6km az=127.4*

ISC 23 16:59:37.3±0.5, 3637N±002×3578E±003, h14km±4km, n28, σ0:99/44, 12D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTY	**Hatay**	**0.38**	**131**	*i* PG	**Pg**	**16 59 44.1**	**-0.9**
HTY				*i* SG	**Sg**	**16 59 51.8**	**+1.7**
KRTS	**Karatas**	**0.39**	**302**	*i* PG	**Pg**	**16 59 45.6**	**+0.5**
KRTS				*i* SG	**Sg**	**16 59 53.3**	**+3.0**
COBT	**Iskenderun**	**0.41**	**68**	*i* P	**Pg**	**16 59 45.3**	**-0.2**
COBT				*i* S	**Sg**	**16 59 50.3**	**-0.7**
ARNB	**Al Arnab**	**0.53**	**163**	↓P	**Pg**	**16 59 46.5**	**-1.2**
ARNB				↓S	**Sg**	**16 59 54.8**	**-0.1**
CEYT	**Ceyhan**	**0.64**	**358**	PG	**Pg**	**16 59 50.4**	**+0.6**
BTCH	**Batrach**	**0.64**	**121**	↓P	**Pg**	**16 59 49.3**	**-0.5**
BTCH				↑S	**Sg**	**16 59 58.9**	**+0.6**
BTCH	**Batrach**	**0.64**	**121**	↓*i*P	**Pg**	**16 59 49.3**	**-0.5**
BTCH				↑*i*S	**Sg**	**16 59 58.9**	**+0.6**
DRWC	**Darouich**	**0.76**	**70**	↑P	**Pg**	**16 59 51.4**	**-0.5**
DRWC				↓S	**Sg**	**17 00 03.4**	**+1.5**
DRWC	**Darouich**	**0.76**	**70**	↑*i*P	**Pg**	**16 59 51.4**	**-0.6**
SLNF	**Slenfeh**	**0.85**	**155**	↓P	**Pg**	**16 59 52.2**	**-1.6**
SLNF				↓S	**Sg**	**17 00 04.8**	**-0.2**
SLNF	**Slenfeh**	**0.85**	**155**	↓*i*P	**Pg**	**16 59 52.2**	**-1.6**
WRDH	**Warideh**	**1.00**	**149**	↓P	**Pb**	**16 59 55.0**	**-1.4**
WRDH				↓S	**Sb**	**17 00 09.6**	**+0.2**
WRDH	**Warideh**	**1.00**	**149**	↓*i*P	**Pb**	**16 59 55.0**	**-1.3**
KARA	**Karaisali**	**1.06**	**327**	PN	**Pn**	**16 59 56.3**	**-1.4**
KOZT	**Kozan**	**1.11**	**2**	PN	**Pn**	**16 59 58.5**	**+0.2**
MERS	**Mersin**	**1.13**	**296**	PN	**Pn**	**16 59 56.9**	**-1.7**
GAZ	**Gaziantep**	**1.40**	**55**	PN	**Pn**	**17 00 01.6**	**-0.7**
KFRA	**Kufra**	**1.42**	**144**	↑P	**Pn**	**17 00 02.5**	**-0.1**
KFRA				↑S	**Sn**	**17 00 22.4**	**+1.3**
BIDA	**Albida**	**1.42**	**162**	↓P	**Pn**	**17 00 01.7**	**-0.9**
BIDA				↑S	**Sn**	**17 00 21.2**	**+0.1**
IKL	**Isikli**	**1.70**	**266**	PN	**Pn**	**17 00 03.6**	**-2.9**
GZT	**Gaziantep**	**1.73**	**55**	*i* P	**Pg**	**17 00 11.1**	**+0.6**
GZT				*i* S	**Sg**	**17 00 33.0**	**-0.1**
HWQ	**Hawqa**	**2.09**	**176**	*e*P	**Pn**	**17 00 12.4**	**+0.6**
HWQ				*e*S	**Sn**	**17 00 38.6**	**+0.9**
FKH	**Fakeheh**	**2.19**	**166**	*e*P	**Pn**	**17 00 14.1**	**+0.9**
FKH				*e*S	**Sb**	**17 00 43.4**	**-0.2**
ERMK	**Ermenek**	**2.33**	**278**	*i* P	**Pn**	**17 00 15.9**	**+0.8**
ERMK				*i* S	**Sb**	**17 00 48.5**	**+0.9**
BHL	**Bhannes**	**2.46**	**183**	*e*P	**Pb**	**17 00 20.1**	**-1.2**
BHL				*e*S	**Sb**	**17 00 53.0**	**+1.5**
URFA	**Urfa**	**2.66**	**65**	*e*PN	**Pn**	**17 00 19.4**	**-0.3**
MALT	**Malatya**	**2.86**	**47**	*e*PN	**Pn**	**17 00 23.3**	**+0.8**
MYA	**Malataya**	**2.87**	**46**	*e*PN	**Pn**	**17 00 22.7**	**+0.1**

*NIED **23** 17:03:00, 3000N×13130E, h26km, Mw4.8 Best double couple: M0 1.91000×10^16 NP1:φs 19.00000°, δ63.00000°, λ70.00000°. NP2:φs 238.00000°, δ33.00000°, λ123.00000°.*
*BJI **23** 17:03:05.3, 2983N×13138E, h48km, mB4.6, mb4.4, Ms4.5, Msz4.4*
*JMA **23** 17:03:06.2±0.2, 2998N×13128E, h33km±2km, M4.6*
*MOS **23** 17:03:06.2±0.9, 3008N×13104E, h33km, mb4.7/32, MS4.5/12, Error ellipse: s-maj=9.8km s-min=6.2km az=109.2*
*ISCJB **23** 17:03:07.5±0.5, 3005N±003×131.16E±0.04, h47km±3km, mb4.6/62, MS4.3/23, Error ellipse: s-maj=6.6km s-min=4.4km az=62.3*
*IDC **23** 17:03:07.9±4.7, 3006N×13097E, h30km±34km, mb4.2/20, mb1 4.2/25, mb1mx4.2/30, mbtmp4.3/25, ML3.9/5, MS4.0/15, Ms1 4.0/15, ms1mx3.6/30, Error ellipse: s-maj=17.1km s-min=12.1km az=104.0*
*HRVD **23** 17:03:09.1±0.5, 2994N×13123E, h32km±1km, MW4.8/42, Centroid moment Tensor Solution. LP body waves: s25,c31;Mantle waves: s42,c61; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.73±.13; Mθθ -0.76±.09; Mφφ -0.97±.10; Mrθ 0.89±.10; Mrφ -0.77±.05; Mθφ 0.56±.09; Best double couple: M0 1.98800×10^16 NP1:φs 213.00000°, δ30.00000°, λ76.00000°. NP2: φs 49.00000°, δ61.00000°, λ98.00000°. Principal axes: T 2.0500, Plg73.0000°, Azm339.0000°; N -0.1240, Plg7.0000°, Azm226.0000°; P -1.9270, Plg16.0000°, Azm134.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **23** 17:03:09.1±0.6, 3008N×13103E, h39km±6km, mb4.5/13, MW4.8(NIED) Error ellipse: s-maj=7.7km s-min=5.2km az=119.0*

ISC 23 17:03:09.0±0.5, 3007N±003×13111E±004, h41km±3km, n153, σ1:00/153, mb4.6/62, MS4.3/23, 3C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTN	**Tanegashima 3**	**0.60**	**349**	P	**Pn**	**17 03 19.9**	**-1.2**
JTN				S	**Sn**	**17 03 30.0**	**+0.3**
JKC	**Kuchinoerabu**	**0.89**	**297**	P	**Pn**	**17 03 25.2**	**+0.2**
JKC				S	**Sn**	**17 03 39.2**	**+2.5**
JNN	**Nakanoshima**	**1.10**	**259**	P	**Pn**	**17 03 27.6**	**-0.3**
JTSR	**Tashiro 2**	**1.11**	**351**	P	**Pn**	**17 03 27.6**	**-0.5**
JNAR	**Kushima--Naru**	**1.46**	**5**	P	**Pn**	**17 03 32.5**	**-0.4**
JSU	**Suzuyama**	**1.54**	**339**	P	**Pn**	**17 03 33.8**	**-0.2**
JTZ	**Takazaki**	**1.83**	**359**	P	**Pn**	**17 03 37.8**	**-0.1**
JSJ	**Shimokoshiki**	**2.01**	**324**	P	**Pn**	**17 03 39.8**	**-0.6**
JZK	**Kikaishima**	**2.01**	**210**	P	**Pn**	**17 03 40.0**	**-0.4**
JAM	**Amami Oshima**	**2.11**	**219**	P	**Pn**	**17 03 41.0**	**-0.8**
JAM				S	**Sn**	**17 04 06.9**	**+0.1**
JZO	**Okuchi**	**2.11**	**348**	P	**Pn**	**17 03 41.7**	**-0.1**
JTSN	**Tsuno**	**2.20**	**9**	P	**Pn**	**17 03 42.1**	**-0.9**
JNU	**Nakatsue**	**3.05**	**356**	Pn	**Pn**	**17 03 55.5**	**+0.8**
	41nm,0.3s,baz=259,slow=0.3,SNR=85						
JNU				Sn	**Sn**	**17 04 30.9**	**+0.9**
	29nm,0.3s,baz=240,slow=18,SNR=3.7						
JOW	**Kunigami**	**4.08**	**218**	Pn	**Pn**	**17 04 07.6**	**-1.2**
	22nm,0.3s,baz=88,slow=18,SNR=96						
JOW				Sn	**Sn**	**17 04 53.2**	**-2.1**
	45nm,0.3s,baz=47,slow=29,SNR=4.6						
KS15	**Wonju Array Si**	**7.83**	**341**	*e*Pn	**Pn**	**17 05 02.1**	**+1.8**
JHJ	**Hachijo jima 2**	**8.00**	**65**	Pn	**Pn**	**17 05 01.9**	**-0.7**
	6.1nm,0.3s,baz=226,slow=22,SNR=2.7						
JHJ				LR	LR	17 07 42.5	
	comp=Z,532nm,21.2s,baz=275,slow=34						
SSE	**Sheshan**	**8.62**	**279**	P	**Pn**	**17 05 13.6**	**+2.5**
SSE				S	**Sn**	**17 07 01.1**	**+14**
SSE				AMB	AMB		
	comp=Z,50nm,0.7s						
SSE				AMB	AMB		
	comp=Z,97nm,4.4s						
SSE				LR	LR		
	comp=N,816nm,13.0s						
SSE				LR	LR		
	comp=E,2μm,13.0s						
SSE				LR	LR		
	comp=Z,2μm,12.5s						
MAJO	**Matsushiro**	**8.77**	**41**	*e*P	**Pn**	**17 05 12.8**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,16nm,0.4s						
MAJO	**Matsushiro**	**8.77**	**41**	*e*P	**Pn**	**17 05 12.8**	**-0.5**
	comp=Z,16nm,0.4s						
MAT	**Matsushiro**	**8.77**	**41**	P	**Pn**	**17 05 12.7**	**-0.5**
MAT	**Matsushiro**	**8.77**	**41**	*e*P	**Pn**	**17 05 13.0**	**-0.2**
MJAR	**Matsushiro Arr**	**8.77**	**41**	Pn	**Pn**	**17 05 13.3**	**+0.1**
	comp=Z,1.7nm,0.3s,baz=234,slow=14,SNR=12						
MJAR	**Matsushiro Arr**	**8.77**	**41**	P	**Pn**	**17 05 13.3**	**+0.1**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CBIJ	**Chichi jima**	**10.17**	**104**	Pn	**Pn**	**17 05 29.1**	**-3.3**
	comp=Z,6.7nm,0.3s,baz=287,slow=22,SNR=16						
CBIJ				Sn	**Sn**	**17 07 16.9**	**-8.2**
	comp=Z,2.4nm,0.3s,baz=321,slow=14,SNR=3.9						
CBIJ				LR	LR	17 08 50.8	
	comp=Z,466nm,20.9s,baz=242,slow=33						
YHNB	**Yeheng**	**10.19**	**240**	*e*P	**Pn**	**17 05 33.5**	**+0.9**
TIA	**Tai'an**	**13.22**	**301**	*e*P	**Pn**	**17 06 16.0**	**+1.9**
WHN	**Wuhan**	**14.49**	**276**	P	**Pn**	**17 06 33.5**	**+2.1**
WHN				S	**Sn**	**17 09 17.0**	**+6.3**
WHN				LR	LR		
	comp=Z,3μm,13.3s						
ASAJ	**Asahikawa**	**16.73**	**30**	Pn	**Pn**	**17 07 01.9**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=264,slow=21,SNR=3.3						
ASAJ				LR	LR	17 13 42.5	
	comp=Z,742nm,20.6s,baz=241,slow=38						
GZH	**Guangzhou**	**17.34**	**251**	P	**Pn**	**17 07 07.9**	**+0.1**
GZH				S	**S**	**17 10 12.8**	**-14**
GZH				LR	LR		
	comp=N,985nm,14.5s						
GZH				LR	LR		
	comp=E,764nm,15.2s						
GZH				LR	LR		
	comp=Z,2μm,12.3s						
HABR	**Khabarovsk**	**18.63**	**8**	*e*P	**Pn**	**17 07 28.4**	**+4.8**
HABR				pmax	pmax		
	comp=Z,32nm,1.6s						
YSS	**Yuzh-Sakhalins**	**19.13**	**25**	*e*P	**Pn**	**17 07 36.7**	**+7.0**
KLR	**Kul'dur**	**19.15**	**1**	*e*P	**Pn**	**17 07 25.8**	**-4.1**
KLR				MLR	MLR		
	comp=E,600nm,13.0s						
KLR				MLR	MLR		
	comp=Z,800nm,13.0s						
XAN	**Xi'an**	**19.22**	**288**	P	**Pn**	**17 07 29.3**	**-1.4**
XAN				AP	pP	17 07 39.0	-0.6
XAN				AMB	AMB		
	comp=Z,7.0nm,1.3s						
XAN				LR	LR		
	comp=N,820nm,14.3s						
XAN				LR	LR		
	comp=E,622nm,15.2s						
XAN				LR	LR		
	comp=Z,962nm,13.4s						
BTO	**Baotou**	**20.12**	**307**	*e*P	**P**	**17 07 41.8**	**+2.5**
BTO				S	**S**	**17 11 29.0**	**+6.0**
BTO				LR	LR		
	comp=N,1μm,16.7s,MS4.5						
BTO				LR	LR		
	comp=E,1μm,13.7s,MS4.5						
GUMO	**Guam**	**20.75**	**139**	LR	LR	17 14 16.0	
	comp=E,186nm,18.1s,MS3.5,baz=352,slow=32						
HIA	**Hailar**	**21.04**	**339**	*e*P	**P**	**17 07 49.5**	**+0.3**
HIA	**Hailar**	**21.04**	**339**	P	**P**	**17 07 48.2**	**-1.0**
	comp=E,12nm,0.9s,mb4.2						
CD2	**Chengdu**	**23.57**	**279**	P	**P**	**17 08 15.8**	**0.0**
CD2				XP	sP	17 08 30.1	-1.6
CD2				PP		17 08 49.6	
CD2				S	**S**	**17 12 25.5**	**-1.4**
CD2				XS	sS	17 12 41.4	-4.0
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.7						
CD2				AMB	AMB		
	comp=Z,80nm,2.9s,mb4.6						
CD2				LR	LR		
	comp=N,500nm,14.4s						
CD2				LR	LR		
	comp=Z,730nm,12.0s,MS4.4						
LZH	**Lanzhou**	**23.58**	**292**	*e*P	**P**	**17 08 13.6**	**-2.4**
LZH				AP		17 08 24.5	
LZH				XP	sP	17 08 30.6	-1.2
LZH				PP		17 08 47.9	
LZH				*e*S	**S**	**17 12 23.1**	**-4.1**
LZH				XS	sS	17 12 42.3	-3.3
LZH				SS		17 13 14.8	
LZH				AMB	AMB		
	comp=Z,25nm,1.1s,mb4.6						
LZH				AMB	AMB		
	comp=Z,121nm,4.6s						
LZH				LR	LR		
	comp=N,2μm,12.5s						
LZH				LR	LR		
	comp=Z,2μm,15.8s,MS4.7						
KMI	**Kunming**	**25.59**	**266**	P	**P**	**17 08 34.3**	**+0.1**
KMI				AP	pP	17 08 40.6	-4.8
KMI				XS	sS	17 13 19.4	+1.4
KMI				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.3						
KMI				AMB	AMB		
	comp=Z,112nm,4.0s						
KMI				LR	LR		
	comp=N,591nm,15.6s,MS4.4						
KMI				LR	LR		
	comp=E,611nm,13.2s,MS4.4						
KMI				LR	LR		
	comp=Z,824nm,13.2s,MS4.4						
ULN	**Ulaanbaatar**	**25.64**	**321**	*e*P	**P**	**17 08 33.6**	**-1.1**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.4						
ULN	**Ulaanbaatar**	**25.64**	**321**	*e*P	**P**	**17 08 33.6**	**-1.0**
	comp=Z,5.1nm,0.4s,mb4.4						
SONM	**Songino Array**	**25.98**	**320**	P	**P**	**17 08 37.0**	**-0.8**
	comp=Z,3.2nm,0.4s,mb4.2,baz=139,slow=11,SNR=26						
SONM	**Songino Array**	**25.98**	**320**	P	**P**	**17 08 37.0**	**-0.8**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ZAK	**Zakamensk**	**29.11**	**322**	*e*P	**P**	**17 09 05.2**	**-0.6**
ZAK				*e*		17 10 04.9	
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.8s,mb4.1						
TLY	**Talaya**	**29.66**	**325**	*e*P	**P**	**17 09 10.1**	**-0.6**
TLY				*e*		17 10 17.0	
TLY				pmax	pmax		
	comp=Z,9.0nm,1.9s,mb4.2						
TLY				MLR	MLR		
	comp=Z,505nm,14.0s,MS4.3						
IRK	**Irkutsk**	**29.69**	**326**	*e*P	**P**	**17 09 10.9**	**0.0**
IRK				pmax	pmax		
	comp=Z,25nm,1.5s,mb4.7						
BOD	**Bodaibo**	**30.18**	**342**	*e*P	**P**	**17 09 13.6**	**-1.6**
CHTO	**Chiang Mai**	**31.25**	**256**	*e*P	**P**	**17 09 24.7**	**0.0**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
CHTO	**Chiang Mai**	**31.25**	**256**	*e*P	**P**	**17 09 24.7**	**-0.1**
	comp=Z,5.3nm,0.6s,mb4.5						
YAK	**Yakutsk**	**31.99**	**359**	*e*P	**P**	**17 09 31.2**	**0.0**
YAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
YAK	**Yakutsk**	**31.99**	**359**	*e*P	**P**	**17 09 30.0**	**-1.2**
	comp=Z,10nm,0.4s,mb5.0						
LSA	**Lhasa**	**34.53**	**280**	P	**P**	**17 09 53.9**	**+0.5**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
LSA	**Lhasa**	**34.53**	**280**	P	**P**	**17 09 53.9**	**+0.6**
	comp=Z,2.4nm,0.4s,mb4.5						
SHL	**Shillong**	**34.87**	**272**	*e*P	**P**	**17 09 57.6**	**+1.3**
WMQ	**Urumqi**	**36.90**	**304**	*e*P	**P**	**17 10 12.5**	**-1.1**
JIRN	**Jiri**	**39.23**	**278**	*e*P	**P**	**17 10 34.4**	**+1.1**
GUN	**Gumba**	**39.43**	**278**	*e*P	**P**	**17 10 35.9**	**+0.9**
	comp=Z,66nm,0.4s,mb5.7						
PKI	**Pulchoki**	**39.92**	**278**	*e*P	**P**	**17 10 39.4**	**+0.3**
	comp=Z,16nm,0.4s,mb5.1						
KKN	**Kakani**	**39.98**	**278**	*e*P	**P**	**17 10 39.5**	**0.0**
	comp=Z,27nm,0.6s,mb5.2						
DMN	**Daman**	**40.17**	**278**	*e*P	**P**	**17 10 41.6**	**+0.5**
GKN	**Gorkha**	**40.47**	**279**	*e*P	**P**	**17 10 43.4**	**-0.2**
	comp=Z,18nm,0.4s,mb5.2						
PSI	**Prapat**	**40.80**	**235**	P	**P**	**17 10 46.0**	**-0.3**
	comp=Z,3.0nm,0.3s,mb4.3,baz=265,slow=2.8,SNR=3.8						
PSI				LR	LR	17 28 58.2	
	comp=Z,105nm,20.1s,MS3.7,baz=305,slow=38						
PSI	**Prapat**	**40.80**	**235**	P	**P**	**17 10 46.0**	**-0.3**
PSI				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.3						
PSI				MLR	MLR		
	comp=Z,105nm,20.1s,MS3.7						
MK31	**Makanchi Array**	**41.03**	**308**	P	**P**	**17 10 48.3**	**+0.1**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.7						
MKAR	**Makanchi Array**	**41.03**	**308**	P	**P**	**17 10 48.1**	**-0.1**
	comp=Z,2.3nm,0.4s,mb4.1,baz=88,slow=11,SNR=36						
MKAR				PcP	PcP	17 12 48.0	+0.5
	comp=Z,1.3nm,0.7s,baz=72,slow=3.8,SNR=5.3						
MKAR	**Makanchi Array**	**41.03**	**308**	P	**P**	**17 10 48.1**	**-0.1**
MKAR						17 12 48.1	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KOLN	**Koldanda**	**41.42**	**279**	*e*P	**P**	**17 10 50.8**	**-0.6**
	comp=Z,19nm,0.7s,mb4.8						
TIXI	**Tiksi**	**41.65**	**359**	↑*e*P	**P**	**17 10 52.6**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
NVS	**Novosibirsk**	**42.02**	**320**	*e*P	**P**	**17 10 54.3**	**-2.0**
NVS				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.4						
NVS				pmax	pmax		
	comp=E,14nm,1.5s						
PMG	**Port Moresby**	**42.17**	**156**	LR	LR	17 27 54.1	
	comp=E,100nm,18.7s,MS3.7,baz=146,slow=35						
BILL	**Bilibino**	**43.24**	**18**	*e*P	**P**	**17 11 06.7**	**+0.5**
BILL				*e*		17 12 55.0	
BILL				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.3						
BILL				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.0						
BILL	**Bilibino**	**43.24**	**18**	*e*P	**P**	**17 11 06.0**	**-0.3**
	comp=Z,7.6nm,1.0s,mb4.4						
KURK	**Kurchatov**	**43.92**	**313**	↑*e*P	**P**	**17 11 11.3**	**-0.4**
FRU	**Bishkek**	**46.40**	**302**	*e*P	**P**	**17 11 31.0**	**-0.3**
FRU				pmax	pmax		
	comp=Z,30nm,1.5s,mb5.0						
FRU				MLR	MLR		
	comp=E,600nm,16.0s						
FRU				MLR	MLR		
	comp=Z,600nm,16.0s,MS4.6						
FITZ	**Fitzroy Crossi**	**48.18**	**187**	P	**P**	**17 11 45.9**	**+0.7**
	comp=Z,1.3nm,0.8s,mb4.0,baz=69,slow=18,SNR=3.5						
CHKZ	**Chkalovo**	**49.11**	**317**	*e*P	**P**	**17 11 51.1**	**-1.2**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
CHKZ	**Chkalovo**	**49.11**	**317**	*e*P	**P**	**17 11 51.0**	**-1.3**
	comp=Z,3.5nm,0.4s,mb4.7						
BVA0	**Borovoye Array**	**49.21**	**316**	*i* P	**P**	**17 11 52.7**	**-0.4**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
KKAR	**Karatay Array**	**49.38**	**303**	*e*P	**P**	**17 11 54.7**	**+0.3**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
WRA	**Warramunga Arr**	**49.81**	**176**	P	**P**	**17 11 57.5**	**-0.2**
	comp=Z,2.7nm,0.9s,mb4.3,baz=352,slow=8.3,SNR=12						
WRA	**Warramunga Arr**	**49.81**	**176**	P	**P**	**17 11 57.5**	**-0.2**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WB2	**Warramunga Arr**	**49.82**	**176**	*e*P	**P**	**17 11 58.2**	**+0.5**
ZRNK	**Zerenda**	**50.04**	**316**	*e*P	**P**	**17 11 59.1**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.2						
ZRNK	**Zerenda**	**50.04**	**316**	*e*P	**P**	**17 11 59.1**	**-0.3**
	comp=Z,14nm,0.6s,mb5.2						
AS31	**Alice Springs**	**53.49**	**177**	*e*P	**P**	**17 12 27.3**	**+2.1**
ASAR	**Alice Springs**	**53.49**	**177**	P	**P**	**17 12 25.6**	**+0.4**
	comp=Z,1.5nm,0.8s,mb4.0,baz=11,slow=13,SNR=25						
ASAR	**Alice Springs**	**53.49**	**177**	P	**P**	**17 12 25.6**	**+0.4**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASPA	**Alice Springs**	**53.49**	**177**	*e*P	**P**	**17 12 27.3**	**+2.1**
SVE	**Sverdlovsk**	**54.85**	**321**	*e*P	**P**	**17 12 35.0**	**-0.1**
SVE				pmax	pmax		
	comp=Z,40nm,2.4s,mb5.0						
SVE				MLR	MLR		
	comp=N,200nm,14.0s,MS4.8						
SVE				MLR	MLR		
	comp=E,500nm,14.0s,MS4.8						
SVE				MLR	MLR		
	comp=Z,700nm,14.0s,MS4.9						
AB31	**Akbulak array**	**55.95**	**312**	P	**P**	**17 12 42.7**	**-0.3**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
ARU	**Arti**	**56.02**	**320**	↑*i*P	**P**	**17 12 42.9**	**-0.6**
ARU				*e*		17 13 40.6	
ARU				*e*		17 14 46.8	
ARU				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.9						
ARU				MLR	MLR		
	comp=Z,800nm,16.5s,MS4.9						
ARU				MLR	MLR		
	comp=N,300nm,20.0s,MS4.8						
ARU				MLR	MLR		
	comp=E,700nm,17.0s,MS4.8						
AKTK	**Aktyubinsk**	**57.02**	**313**	P	**P**	**17 12 50.4**	**-0.2**
AKTO	**Aktyubinsk**	**57.02**	**313**	P	**P**	**17 12 50.4**	**-0.2**
	comp=E,1.5nm,0.5s,mb4.3,baz=88,slow=13,SNR=5.3						
AKTO	**Aktyubinsk**	**57.02**	**313**	P	**P**	**17 12 50.4**	**-0.2**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
KDAK	**Kodiak Island**	**57.94**	**38**	P	**P**	**17 12 57.2**	**+0.2**
	comp=Z,5.5nm,0.4s,mb4.9,baz=275,slow=4.7,SNR=9.9						
ORR	**Orenburg**	**58.86**	**315**	*i* P	**P**	**17 13 03.1**	**-0.4**
ORR				MLR	MLR		
	comp=Z,270nm,18.0s,MS4.4						
ILAR	**Eielson Array**	**59.86**	**29**	P	**P**	**17 13 10.5**	**+0.1**
	comp=Z,0.5nm,0.6s,mb3.7,baz=256,slow=5.3,SNR=5.5						
ILAR	**Eielson Array**	**59.86**	**29**	P	**P**	**17 13 10.5**	**+0.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
STKA	**Stephens Creek**	**62.40**	**170**	LR	LR	17 39 22.9	
	comp=Z,96nm,20.7s,MS4.0,baz=23,slow=35						
**INK

comp=Z,3.7nm,0.4s,mb4.7,baz=71,slow=6.3,SNR=56
FINES LR LR 17 50 07.1
comp=Z,240nm,18.1s,MS4.5,baz=175,slow=40
FINES FINESS Array B 70.79 331 P **P 17 14 20.0 -1.1**
FINES pmax pmax
comp=Z,4.0nm,0.4s
FINES MLR MLR
comp=Z,240nm,18.1s
FINES FINESS Array B 70.79 331 P **P 17 14 20.0 -1.1**
FINES LR LR 17 50 07.1
MIB Mutribah 70.84 294 *eP* **P 17 14 21.8 +0.4**
MIB AMb AMB 17 14 23.8
comp=Z,19nm,1.0s,mb5.0
SOC Sochi 70.91 310 *eP* **P 17 14 20.9 -1.0**
SOC pmax pmax
comp=Z,15nm,1.0s,mb4.9
RDF Al-Radifah 71.03 293 *eP* **P 17 14 22.6 -0.1**
RDF AMb AMB 17 14 24.7
comp=Z,18nm,0.5s,mb5.3
NAY Al-Naaiem 71.14 293 *eP* **P 17 14 23.7 +0.4**
NAY AMb AMB 17 14 25.4
comp=Z,15nm,0.8s,mb5.0
ANN Anapa 71.92 312 *eP* **P 17 14 27.7 -0.2**
ANN *e* pP 17 14 39.4 -0.8
ANN pmax pmax
comp=Z,27nm,1.2s,mb5.0
BBB Bella Bella 72.96 39 LR LR 17 46 56.3
comp=Z,77nm,18.2s,MS4.0,baz=230,slow=36
YKA Yellowknife Ar 73.98 26 P **P 17 14 40.8 +0.6**
comp=Z,1.3nm,0.8s,mb3.9,baz=305,slow=6.0,SNR=14
YKA LR LR 17 53 54.0
comp=Z,57nm,18.1s,MS3.9,baz=260,slow=41
YKA Yellowknife Ar 73.98 26 P **P 17 14 40.8 +0.6**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA MLR MLR
comp=Z,57nm,18.1s
YKA Yellowknife Ar 73.98 26 P **P 17 14 40.8 +0.6**
YKA LR LR 17 53 54.0
MALT Malatya 73.99 305 P **P 17 14 40.3 +0.1**
MALT pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
MALT Malatya 73.99 305 P **P 17 14 40.3 +0.1**
comp=Z,2.0nm,0.6s,mb4.2
AKASG Malin Array Be 74.27 320 P **P 17 14 40.6 -1.3**
comp=Z,1.3nm,0.4s,mb4.2,baz=52,slow=5.9,SNR=12
AKASG Malin Array Be 74.27 320 P **P 17 14 40.6 -1.2**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
BRTR Keskin Array B 76.68 308 P **P 17 14 56.6 +0.9**
comp=Z,3.1nm,0.7s,mb4.4,baz=95,slow=6.1,SNR=22
BRTR Keskin Array B 76.68 308 P **P 17 14 56.6 +0.9**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
NB2 NORSAR Subarra 76.99 334 P **P 17 14 56.4 -1.0**
comp=Z,2.8nm,0.5s,mb4.5,baz=51,slow=5.9
NOA NORSAR Array B 76.99 334 P **P 17 14 56.0 -1.4**
comp=Z,2.5nm,0.5s,mb4.4,baz=50,slow=5.6,SNR=14
NOA NORSAR Array B 76.99 334 P **P 17 14 56.1 -1.3**
NOA pmax pmax
comp=Z,3.0nm,0.5s
SUMG Summit 77.38 357 *eP* **P 17 15 00.6 +1.0**
comp=Z,15nm,0.1s,mb5.9
OKC Ostrava-Krasne 80.74 323 AMS AMS 17 55 40.0
comp=Z,300nm,14.9s
DPC Dobruska-Polom 81.38 324 AMS AMS 17 54 40.0
comp=Z,400nm,16.1s
TREC Trest 82.45 323 AMS AMS 17 56 50.0
comp=Z,400nm,13.6s
PRU Pruhonice 82.51 324 AMS AMS 17 55 30.0
comp=Z,400nm,14.9s
SFJD Kangerlussuaq 83.23 1 P **P 17 15 31.4 +0.3**
comp=Z,5.9nm,0.7s,mb4.8,baz=302,slow=2.9,SNR=4.0
SFJD Kangerlussuaq 83.23 1 P **P 17 15 31.4 +0.3**
SFJD pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
NKC Novy Kostel 83.39 325 AMS AMS 17 57 00.0
comp=Z,400nm,14.6s
KHC Kasperske Hory 83.53 324 AMS AMS 17 56 30.0
comp=Z,500nm,17.3s
GERES GERESS Array B 83.65 324 P **P 17 15 34.1 +0.9**
comp=Z,0.4nm,0.5s,mb3.8,baz=54,slow=6.8,SNR=3.9
GERES LR LR 17 56 59.5
comp=Z,240nm,18.3s,MS4.6,baz=51,slow=39
DLMT Dillon 85.25 39 *eP* **P 17 15 42.6 +1.3**
comp=Z,11nm,1.1s,mb4.9
HLID Hailey 85.34 42 *eP* **P 17 15 43.6 +1.8**
comp=Z,4.9nm,1.0s,mb4.6
BOZ Bozeman (W) 85.60 39 *eP* **P 17 15 44.7 +1.7**
BOZ pmax pmax
comp=Z,3.0nm,1.2s,mb4.4
BOZ Bozeman (W) 85.60 39 *eP* **P 17 15 44.7 +1.6**
comp=Z,3.1nm,1.2s,mb4.4
BW06 Boulder Array 88.59 40 *eP* **P 17 15 58.5 +1.0**
PDAR Pinedale Array 88.59 40 P **P 17 15 58.6 +1.1**
comp=Z,1.8nm,1.0s,mb4.3,baz=336,slow=3.3,SNR=6.2
ULM Lac du Bonnet 89.86 28 P **P 17 16 05.9 +2.4**
comp=Z,1.1nm,0.4s,mb4.5,baz=338,slow=8.6,SNR=2.6
SCHQ Schefferville 94.05 10 LR LR 17 59 07.5
comp=Z,79nm,20.0s,MS4.2,baz=291,slow=36

*NEIC **23** 17:06:51.8±1.9, 3632N×7103E, h94km±18km, mb3.2/1, Error ellipse: s-maj=26.9km s-min=7.9km az=56.0*
*MOS **23** 17:06:51.1±0.9, 3627N×7087E, h104km, mb4.1/3, Error ellipse: s-maj=29.4km s-min=15.1km az=105.1*
*ISCJB **23** 17:06:52.4±0.8, 3644N±004×7106E±009, h117km±9km, mb3.5/6, Error ellipse: s-maj=12.2km s-min=6.1km az=138.2*
*IDC **23** 17:06:53.0±6.9, 3636N×7092E, h109km±60km, mb3.3/6, mb1 3.5/8, mb1mx3.3/22, mbtmp3.7/8, Error ellipse: s-maj=36.9km s-min=25.1km az=34.0*
*NNC **23** 17:06:56.8±3.8, 3674N×7084E, h114km±55km, mb3.0, mpv3.4, Error ellipse: s-maj=30.4km s-min=23.3km az=10.0*
ISC 23 17:06:53.5±0.7, 3644N±004×7105E±009, h116km±9km, n34, σ0s96/35, mb3.5/6, 6C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.70**	**165**	P		**Pn**	**17 07 36.7**	**+1.0**
CHCP	**Chirah Chowk**	**3.31**	**146**	⇓P		**Pn**	**17 07 44.5**	**+0.7**
THW	**Thamme Wali**	**3.68**	**171**	⇑P		**Pn**	**17 07 48.6**	**-0.1**
DLH	**Dalhousie**	**5.62**	**132**	*eP*		**Sn**	**17 09 18.0**	**0.0**
KK31	**Karatay Array**	**6.67**	**357**	⇑P		**Pn**	**17 08 28.3**	**-0.7**
	3.2nm,0.3s,baz=186,slow=15,SNR=93							
KK31				⇑S		**Sn**	**17 09 39.8**	**-3.7**
	4.0nm,0.3s,baz=190,slow=23,SNR=8.5							
SDNR	**Sundarnagar**	**6.96**	**133**	*eP*		**Pn**	**17 08 34.6**	**+1.8**
SDNR				*ex*		x	17 09 47.6	
TKM2	**Tokmak 2**	**7.36**	**27**	⇑P		**Pn**	**17 08 39.1**	**+0.8**
	0.4nm,0.6s							
TKM2				⇑S		**Sn**	**17 09 60.0**	**-0.3**
	2.9nm,0.8s							
MK09	**Makanchi Array**	**13.30**	**36**	⇓P		**Pn**	**17 09 58.7**	**+1.0**
	0.6nm,0.6s							
MKAR	**Makanchi Array**	**13.32**	**36**	P		**Pn**	**17 09 59.0**	**+1.1**
	0.1nm,0.3s,baz=218,slow=13,SNR=4.8							
KOLN	**Koldanda**	**13.69**	**126**	*eP*		**Pn**	**17 10 01.0**	**-1.8**
GKN	**Gorkha**	**14.24**	**122**	*eP*		**Pn**	**17 10 08.6**	**-1.1**
DMN	**Daman**	**14.81**	**122**	*eP*		**Pn**	**17 10 15.4**	**-1.6**
KKN	**Kakani**	**14.81**	**122**	*eP*		**Pn**	**17 10 16.4**	**-0.6**
GUN	**Gumba**	**15.15**	**120**	*eP*		**Pn**	**17 10 21.3**	**0.0**
AB31	**Akbulak array**	**15.16**	**331**	⇑P		**Pn**	**17 10 20.0**	**-1.4**
	0.8nm,0.3s							
JIRN	**Jiri**	**15.52**	**120**	*eP*		**Pn**	**17 10 24.8**	**-1.1**
AKTK	**Aktyubinsk**	**16.86**	**330**	P		**Pn**	**17 10 41.9**	**-0.4**
AKTO	**Aktyubinsk**	**16.86**	**330**	⇓P		**Pn**	**17 10 42.2**	**-0.2**
AKTO	**Aktyubinsk**	**16.86**	**330**	P		**Pn**	**17 10 41.9**	**-0.4**
	0.5nm,0.3s,baz=140,slow=14,SNR=11							
AKTO	**Aktyubinsk**	**16.86**	**330**	P		**Pn**	**17 10 41.9**	**-0.5**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.3s							
CHKZ	**Chkalovo**	**17.24**	**359**	*eP*		**Pn**	**17 10 47.8**	**+0.7**
CHKZ				pmax	pmax			
	comp=Z,1.0nm,0.4s							
CHKZ	**Chkalovo**	**17.24**	**359**	*eP*		**Pn**	**17 10 47.8**	**+0.7**
	comp=Z,0.7nm,0.4s							
MDRS	**Chennai**	**24.69**	**158**	*ex*		x	17 12 42.0	
FINES	**FINESS Array B**	**37.56**	**326**	P		**P**	**17 13 57.4**	**+1.0**
	comp=Z,1.6nm,0.8s,mb3.9,baz=107,slow=8.6,SNR=4.0							
FINES	**FINESS Array B**	**37.56**	**326**	P		**P**	**17 13 57.4**	**+1.0**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.9s							
TORD	**Torodi Ar. Bea**	**65.76**	**269**	P		**P**	**17 17 25.5**	**-0.4**
	comp=Z,0.3nm,0.4s,mb3.4,baz=54,slow=6.1,SNR=4.1							
RES	**Resolute Bay**	**68.77**	**356**	*eP*		**P**	**17 17 39.0**	**-5.9**
INK	**Inuvik**	**73.96**	**9**	P		**P**	**17 18 16.5**	**+0.4**
	comp=Z,0.4nm,0.5s,mb3.4,baz=296,slow=5.4,SNR=3.1							
INK	**Inuvik**	**73.96**	**9**	P		**P**	**17 18 16.5**	**+0.4**
YKA	**Yellowknife Ar**	**81.31**	**3**	P		**P**	**17 18 56.7**	**-0.2**
	comp=Z,0.3nm,0.5s,mb3.3,baz=352,slow=5.2,SNR=5.4							
YKA	**Yellowknife Ar**	**81.31**	**3**	P		**P**	**17 18 56.7**	**-0.2**
WRA	**Warramunga Arr**	**81.92**	**122**	P		**P**	**17 19 01.1**	**+0.9**
	comp=Z,0.4nm,0.7s,mb3.4,baz=324,slow=4.9,SNR=6.5							
ASAR	**Alice Springs**	**84.19**	**125**	P		**P**	**17 19 12.9**	**+1.1**
	comp=Z,0.5nm,0.7s,mb3.5,baz=311,slow=5.0,SNR=7.4							
ASAR	**Alice Springs**	**84.19**	**125**	P		**P**	**17 19 12.9**	**+1.1**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							

*KRSC **23** 17:09:53.8±0.4, 5172N×153.16E, h456km±8km, ML4.6*
*ISCJB **23** 17:09:57.0±0.3, 5210N±006×15322E±009, h430km±4km, mb4.0/29, Error ellipse: s-maj=11.9km s-min=6.3km az=97.5*
*MOS **23** 17:09:57.3±0.8, 5228N×153.18E, h428km, mb3.7/14, Error ellipse: s-maj=12.9km s-min=8.8km az=75.4*
*NEIC **23** 17:09:58.3±0.5, 5223N×153.14E, h424km±6km, mb4.2/2, Error ellipse: s-maj=8.8km s-min=5.8km az=150.0*
*IDC **23** 17:10:00.0±2.3, 5223N×153.10E, h443km±28km, mb3.3/17, mb1 3.5/20, mb1mx3.4/25, mbtmp4.2/20, Error ellipse: s-maj=14.0km s-min=10.3km az=131.0*
ISC 23 17:09:58.0±0.3, 5217N±006×15321E±009, h425km±5km, n108, σ1s16/122, mb4.0/29, 1C, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**1.96**	**131**	*i* P		**P**	**17 10 54.4**	**-1.6**
MIPR	**Malaya Ipel'ka**	**2.19**	**86**	*eP*		**P**	**17 10 56.2**	**-1.1**
PAU	**Pauzhetka**	**2.35**	**106**	*i* P		**P**	**17 10 57.8**	**-0.6**
SKR	**Severo-Kuril's**	**2.36**	**128**	⇑*i* PN		**P**	**17 10 53.5**	**-4.9**
SKR				*eS*		**S**	**17 11 43.5**	**-3.9**
SKR				pmax	pmax			
	comp=E,50nm,0.5s							
SKR				pmax	pmax			
	comp=Z,170nm,0.5s							
SKR				smax				
	comp=E,70nm,0.2s							
SKR				smax				
	comp=N,90nm,0.5s							
APC	**Apacha**	**2.53**	**71**	*i* P		**P**	**17 10 58.8**	**-0.8**
APC				Smax				
	comp=N,70nm,1.4s							
GRL	**Gorelyy**	**3.01**	**81**	*i* P		**P**	**17 11 03.4**	**+0.3**
GRL				*eS*		**S**	**17 11 54.6**	**-1.4**
KRMR	**Karymshinskiy**	**3.08**	**76**	*i* P		**P**	**17 11 03.2**	**-0.5**
GNL	**Ganaly**	**3.25**	**60**	*i* P		**P**	**17 11 05.1**	**+0.1**
RUS	**Russkaya**	**3.27**	**83**	P		**P**	**17 11 04.1**	**-1.1**
RUS				S		**S**	**17 11 55.0**	**-4.8**
RUS	**Russkaya**	**3.27**	**83**	*i* P		**P**	**17 11 04.3**	**-0.9**
RUS				*i* S		**S**	**17 11 55.9**	**-3.9**
PET	**Petropavlovsk**	**3.43**	**73**	P		**P**	**17 11 06.6**	**0.0**
PET				S		**S**	**17 11 59.8**	**-2.4**
PET	**Petropavlovsk**	**3.43**	**73**	*eP*		**P**	**17 11 06.2**	**-0.4**
PET				*eS*		**S**	**17 12 00.3**	**-2.0**
PET	**Petropavlovsk**	**3.43**	**73**	*i* P		**P**	**17 11 06.5**	**-0.1**
KOK	**Koryaka**	**3.49**	**69**	*i* P		**P**	**17 11 07.4**	**+0.4**
AVH	**Avacha**	**3.54**	**70**	*i* P		**P**	**17 11 07.7**	**+0.2**
SMAR	**Somma**	**3.57**	**70**	*eP*		**P**	**17 11 08.2**	**+0.4**
UGLR	**Uglovaya**	**3.57**	**71**	*i* P		**P**	**17 11 08.5**	**+0.7**
UGLR				*eS*		**S**	**17 12 02.4**	**-2.0**
SDLR	**Sedlovina**	**3.62**	**70**	*i* P		**P**	**17 11 08.6**	**+0.4**
SDLR				*eS*		**S**	**17 12 03.4**	**-1.9**
NLC	**Nalytchevo**	**3.87**	**73**	P		**P**	**17 11 09.7**	**-0.7**
NLC				S		**S**	**17 12 04.4**	**-4.8**
NLC	**Nalytchevo**	**3.87**	**73**	*eS*		**S**	**17 12 05.5**	**-3.7**
SPN	**Mys Shipunski**	**4.25**	**75**	P		**P**	**17 11 12.1**	**-1.8**
SPN				S		**S**	**17 12 16.0**	**-7.7**
SPN	**Mys Shipunski**	**4.25**	**75**	*i* P		**P**	**17 11 12.6**	**-1.3**
SPN				*i* S		**S**	**17 12 10.0**	**-5.7**
ESO	**Esso**	**4.96**	**39**	*i* P		**P**	**17 11 22.1**	**+1.4**
TUMR	**Tumrok**	**5.17**	**50**	*eP*		**P**	**17 11 24.4**	**+1.6**
KMNR	**Kamenistaya**	**5.49**	**46**	*i* P		**P**	**17 11 27.6**	**+1.5**
KOZ	**Kozyrevsk**	**5.52**	**43**	P		**P**	**17 11 27.9**	**+1.4**
KOZ	**Kozyrevsk**	**5.52**	**43**	*i* P		**P**	**17 11 27.7**	**+1.2**
KOZR	**Kozyr**	**5.54**	**43**	PN		**P**	**17 11 27.9**	**+1.3**
KPT	**Kopyto**	**5.61**	**45**	*i* P		**P**	**17 11 28.6**	**+1.2**
SRDR	**Sredinnyy**	**5.64**	**40**	*i* P		**P**	**17 11 29.3**	**+1.6**
LGNR	**Loginova**	**5.89**	**45**	*eP*		**P**	**17 11 32.2**	**+1.9**
ZLN	**Zelenaya**	**5.90**	**46**	*i* P		**P**	**17 11 32.1**	**+1.7**
ZLN				*eS*		**S**	**17 12 44.0**	**-1.7**
KRSR	**Krestovskiy**	**5.92**	**44**	*i* P		**P**	**17 11 31.8**	**+1.2**
CIRR	**Tsirk**	**5.94**	**45**	*i* P		**P**	**17 11 32.6**	**+1.9**
KLY	**Klyuchi**	**6.02**	**44**	P		**P**	**17 11 33.7**	**+2.1**
KLY				S		**S**	**17 12 48.4**	**+0.3**
KLY	**Klyuchi**	**6.02**	**44**	*i* P		**P**	**17 11 33.6**	**+2.0**
BDR	**Baidarnaya**	**6.42**	**44**	*i* P		**P**	**17 11 38.2**	**+2.3**
SRKR	**Sorokina**	**6.46**	**43**	*i* P		**P**	**17 11 38.2**	**+1.9**
SMKR	**Semkarok**	**6.54**	**44**	*i* P		**P**	**17 11 39.0**	**+1.8**
KBG	**Krutoberegovo**	**6.91**	**50**	*i* P		**P**	**17 11 41.1**	**-0.1**
KBTR	**Krutoberegovo**	**6.94**	**51**	P		**P**	**17 11 40.8**	**-0.7**
KBTR				S		**S**	**17 12 59.9**	**-6.2**
KBTR	**Krutoberegovo**	**6.94**	**51**	*i* P		**P**	**17 11 41.1**	**-0.4**
UGL	**Uglegorsk**	**7.73**	**251**	*e*PN		**P**	**17 11 52.0**	**+1.8**
UGL				pmax	pmax			
	comp=Z,69nm,0.7s							
UGL				MLR	MLR			
	comp=Z,1μm,20.0s							
UGL				MLR	MLR			
	comp=N,900nm,19.0s							
UGL				MLR	MLR			
	comp=E,1μm,19.0s							
BKI	**Bering**	**8.16**	**63**	*eP*		**P**	**17 11 52.7**	**-2.2**
YSS	**Yuzh-Sakhalins**	**8.56**	**237**	*e*PN		**P**	**17 12 00.1**	**+0.8**
ASAJ	**Asahikawa**	**10.72**	**225**	P		**P**	**17 12 25.8**	**+2.6**
	comp=E,0.8nm,0.3s,baz=95,slow=13,SNR=9.4							
ASAJ	**Asahikawa**	**10.72**	**225**	PN		**P**	**17 12 25.8**	**+2.7**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
FX1	**Attu Island--F**	**12.18**	**79**	P		**P**	**17 12 40.0**	**+1.0**
	comp=Z,6.9nm,0.3s,baz=289,slow=1.8,SNR=28							
FX1	**Attu Island--F**	**12.18**	**79**	*eP*		**P**	**17 12 39.7**	**+0.6**
KLR	**Kul'dur**	**13.90**	**266**	*eP*		**P**	**17 12 55.8**	**-2.0**
YAK	**Yakutsk**	**16.05**	**317**	*eP*		**P**	**17 13 20.4**	**-0.5**
BILL	**Bilibino**	**17.13**	**17**	*eP*		**P**	**17 13 32.0**	**-0.3**
BILL	**Bilibino**	**17.13**	**17**	*eP*		**P**	**17 13 32.0**	**-0.3**
MJAR	**Matsushiro Arr**	**18.89**	**220**	P		**P**	**17 13 51.3**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=24,slow=8.7,SNR=4.9							
HIA	**Hailar**	**21.28**	**275**	*eP*		**P**	**17 14 12.4**	**0.0**
HIA				pmax	pmax			
	comp=Z,8.0nm,0.7s							
HIA	**Hailar**	**21.28**	**275**	*eP*		**P**	**17 14 12.4**	**-0.1**
	comp=Z,8.4nm,0.7s,mb4.3							
TIXI	**Tiksi**	**22.33**	**340**	*eP*		**P**	**17 14 20.7**	**-1.3**
TIXI				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.2							
BOD	**Bodaibo**	**22.93**	**300**	*eP*		**P**	**17 14 26.4**	**-1.1**
KDAK	**Kodiak Island**	**30.88**	**58**	P		**P**	**17 15 37.1**	**-0.6**
	comp=Z,3.6nm,0.4s,mb4.1,baz=223,slow=6.9,SNR=7.4							
ILAR	**Eielson Array**	**32.42**	**44**	P		**P**	**17 15 51.2**	**+0.4**
	comp=Z,1.0nm,0.8s,mb3.2,baz=273,slow=8.9,SNR=11							
ILAR	**Eielson Array**	**32.42**	**44**	P		**P**	**17 15 51.3**	**+0.4**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
INK	**Inuvik**	**37.13**	**36**	P		**P**	**17 16 31.2**	**+0.6**
	comp=Z,1.4nm,0.3s,mb3.8,baz=292,slow=6.5,SNR=16							
INK	**Inuvik**	**37.13**	**36**	*eP*		**P**	**17 16 30.8**	**+0.2**
NVS	**Novosibirsk**	**40.12**	**303**	*eP*		**P**	**17 16 53.7**	**-1.3**
MKAR	**Makanchi Array**	**44.70**	**293**	P		**P**	**17 17 31.2**	**-0.1**
	comp=Z,0.8nm,0.5s,mb3.3,baz=61,slow=7.1,SNR=15							
MKAR	**Makanchi Array**	**44.70**	**293**	P		**P**	**17 17 31.2**	**-0.1**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
YKA	**Yellowknife Ar**	**46.62**	**40**	P		**P**	**17 17 46.4**	**+0.4**
	comp=Z,0.9nm,0.5s,mb3.4,baz=302,slow=7.1,SNR=9.7							
YKA	**Yellowknife Ar**	**46.62**	**40**	P		**P**	**17 17 46.4**	**+0.3**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
YKA	**Yellowknife Ar**	**46.62**	**40**	P		**P**	**17 17 46.4**	**+0.3**
CHKZ	**Chkalovo**	**47.12**	**306**	*eP*		**P**	**17 17 49.0**	**-0.9**
CHKZ				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.0							
CHKZ	**Chkalovo**	**47.12**	**306**	*eP*		**P**	**17 17 49.0**	**-0.9**
	comp=Z,8.1nm,0.9s,mb4.0							
ARU	**Arti**	**51.14**	**315**	*eP*		**P**	**17 18 18.6**	**-1.3**
ARCES	**ARCESS Array B**	**52.77**	**340**	P		**P**	**17 18 30.8**	**-1.0**
	comp=Z,2.8nm,0.5s,mb3.7,baz=40,slow=7.9,SNR=14							
ARCES	**ARCESS Array B**	**52.77**	**340**	P		**P**	**17 18 30.8**	**-0.9**
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.5s							
JIRN	**Jiri**	**54.75**	**271**	*eP*		**P**	**17 18 46.9**	**+1.0**
	comp=Z,12nm,0.7s,mb4.2							
GUN	**Gumba**	**54.76**	**271**	*eP*		**P**	**17 18 46.6**	**+0.6**
	comp=Z,8.5nm,0.4s,mb4.3							
KKN	**Kakani**	**55.22**	**272**	*eP*		**P**	**17 18 50.0**	**+0.8**
	comp=Z,20nm,0.6s,mb4.5							
AKTK	**Aktyubinsk**	**55.24**	**309**	P		**P**	**17 18 48.8**	**-0.6**
AKTO	**Aktyubinsk**	**55.24**	**309**	P		**P**	**17 18 48.8**	**-0.6**
	comp=Z,1.8nm,0.8s,mb3.3,baz=30,slow=12,SNR=4.5							
AKTO	**Aktyubinsk**	**55.24**	**309**	P		**P**	**17 18 48.8**	**-0.5**
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb3.4							
PKI	**Pulchoki**	**55.30**	**271**	*eP*		**P**	**17 18 50.5**	**+0.8**
DMN	**Daman**	**55.46**	**272**	*eP*		**P**	**17 18 51.6**	**+0.8**
	comp=Z,31nm,0.9s,mb4.6							
GKN	**Gorkha**	**55.46**	**272**	*eP*		**P**	**17 18 51.6**	**+0.7**
	comp=Z,30nm,0.8s,mb4.5							
KOLN	**Koldanda**	**56.27**	**273**	*eP*		**P**	**17 18 56.9**	**+0.4**
	comp=Z,17nm,0.7s,mb4.5							
FINES	**FINESS Array B**	**59.18**	**334**	P		**P**	**17 19 15.7**	**-0.8**
	comp=Z,1.8nm,0.6s,mb3.6,baz=39,slow=7.3,SNR=11							
FINES	**FINESS Array B**	**59.18**	**334**	P		**P**	**17 19 15.7**	**-0.8**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.6s							
SFJD	**Kangerlussuaq**	**59.80**	**11**	P		**P**	**17 19 19.5**	**-1.1**
	comp=Z,1.9nm,0.4s,mb3.9,baz=352,slow=7.1,SNR=3.1							
SFJD	**Kangerlussuaq**	**59.80**	**11**	P		**P**	**17 19 19.5**	**-1.1**
SFJD				pmax	pmax			
	comp=Z,2.0nm,0.4s,mb3.9							
SFJD	**Kangerlussuaq**	**59.80**	**11**	P		**P**	**17 19 19.5**	**-1.1**
PDAR	**Pinedale Array**	**61.58**	**56**	P		**P**	**17 19 33.8**	**+1.3**
	comp=Z,1.5nm,0.7s,mb3.6,baz=346,slow=1.9,SNR=9.5							
NB2	**NORSAR Subarra**	**63.12**	**340**	P		**P**	**17 19 41.6**	**-0.9**
	comp=Z,3.0nm,0.6s,mb4.0,baz=24,slow=6.5							
NOA	**NORSAR Array B**	**63.12**	**340**	P		**P**	**17 19 41.9**	**-0.7**
	comp=Z,2.9nm,0.6s,mb4.0,baz=25,slow=6.5,SNR=11							
NOA	**NORSAR Array B**	**63.12**	**340**	P		**P**	**17 19 41.9**	**-0.6**
NOA				pmax	pmax			
	comp=Z,3.0nm,0.6s							
AKASG	**Malin Array Be**	**67.10**	**325**	P		**P**	**17 20 06.4**	**-1.4**
	comp=Z,0.7nm,0.3s,mb3.7,baz=33,slow=6.3,SNR=8.6							
AKASG	**Malin Array Be**	**67.10**	**325**	P		**P**	**17 20 06.4**	**-1.3**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
SCHQ	**Schefferville**	**68.30**	**24**	P		**P**	**17 20 13.7**	**-1.5**
	comp=Z,0.8nm,0.4s,mb3.8,baz=47,slow=11,SNR=3.6							
STHS	**Stebnicka Huta**	**70.87**	**329**	*eP*		**P**	**17 20 29.3**	**-1.3**
GERES	**GERESS Array B**	**73.61**	**333**	P		**P**	**17 20 46.5**	**-0.1**
	comp=Z,1.3nm,0.6s,mb3.8,baz=32,slow=5.3,SNR=10							
GERES	**GERESS Array B**	**73.61**	**333**	P		**P**	**17 20 46.5**	**-0.1**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
WRA	**Warramunga Arr**	**73.67**	**198**	P		**P**	**17 20 47.0**	**+0.1**
	comp=Z,0.7nm,0.5s,mb3.6,baz=13,slow=6.0,SNR=13							
WRA	**Warramunga Arr**	**73.67**	**198**	P		**P**	**17 20 47.0**	**0.0**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BRTR	**Keskin Array B**	**74.50**	**316**	P		**P**	**17 20 51.8**	**+0.1**
	comp=Z,0.9nm,0.6s,mb3.6,baz=44,slow=5.0,SNR=7.3							
BRTR	**Keskin Array B**	**74.50**	**316**	P		**P**	**17 20 51.8**	**+0.1**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
MIB	**Mutribah**	**75.92**	**300**	*eP*		**P**	**17 20 59.4**	**-0.2**
MIB				AMb	AMB		17 21 00.5	
	comp=Z,22nm,0.6s,mb5.0							
NAY	**Al-Naaiem**	**76.41**	**300**	*eP*		**P**	**17 21 01.7**	**-0.7**
NAY				AMb	AMB		17 21 03.3	
	comp=Z,7.0nm,0.7s,mb4.4							
RDF	**Al-Radifah**	**76.50**	**300**	*eP*		**P**	**17 21 01.6**	**-1.3**
RDF				AMb	AMB		17 21 04.3	
	comp=Z,23nm,0.9s,mb4.8							
ASAR	**Alice Springs**	**77.38**	**198**	P		**P**	**17 21 08.4**	**+0.7**
	comp=Z,0.8nm,0.7s,mb3.5,baz=13,slow=5.1,SNR=14							
ASAR	**Alice Springs**	**77.38**	**198**	P		**P**	**17 21 08.4**	**+0.7**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							

MAN 23 17:28:35.8, 1124N×12462E, h7km, mb2.8, ML4.2, MS1.9, Leyte

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.36**	**101**	*eP*		Pg	17 28 43.6	+0.7
LLP	**Lapu-Lapu**	**1.11**	**215**	*eP*		Pg	17 28 57.1	0.0
LLP				*i* S		Sg	17 29 13.4	+1.8

WEL 23 17:30:54.5±0.4, 3681S×17703E, h5km, ML3.7/10, Error ellipse: s-maj=4.8km s-min=3.9km az=0.0, Off east coast of North Island

| Code | Station

EBAD	**Badajoz**	**4.40**	**327**	P	Pn	17 34 01.0	+0.4
	0.5nm,0.2s,SNR=7.9						
EBAD				S	Sn	17 34 48.7	-2.8
	1.0nm,0.2s,SNR=7.9						

WEL 23 18:03:25.1±0.5, 3675S×17708E, h12km, ML3.5/8, Error ellipse: s-maj=6.7km s-min=4.1km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZ	**Kuaotunu**	**1.09**	**270**	P*	Pb	18 03 44.5	-1.4
KUZ				S*	Sb	18 03 59.8	-0.2
TGRZ	**Tauranga**	**1.18**	**213**	*e*P*	Pb	18 03 46.3	-1.1
MXZ	**Matakaoa Point**	**1.27**	**130**	P*	Pb	18 03 46.1	-3.0
MXZ				S*	Sb	18 04 01.3	-4.2
MXZ				S*	Sb	18 04 02.1	-3.4
URZ	**Urewera**	**1.51**	**179**	*e*P*	Pb	18 03 50.1	-3.0
PUZ	**Puketiti**	**1.62**	**145**	PN	Pn	18 03 53.3	-0.2
WCZ	**Waipu Caves**	**2.35**	**289**	*e*PN	Pn	18 04 03.3	-0.2
BKZ	**Black Stump Fm**	**2.46**	**191**	*e*P*	Pb	18 04 04.3	-5.0
HIZ	**Hauiti**	**2.49**	**224**	*e*PN	Pn	18 04 05.1	-0.4

*NEIC **23** 18:19:11.1, 27.18S×71.31W, h43km, MG3.8(GUC), After GUC.*

GUC 23 18:19:11.1±0.9, 2718S×7131W, h43km±10km, MD3.9, ML3.8, 3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.44**	**76**	⇓*i*P	Pn	18 19 20.9	-0.4
CDCH				*i* S	Sn	18 19 29.2	+0.8
CPCH	**Copiapo**	**0.87**	**102**	⇓*i*P	Pn	18 19 25.1	-1.8
CPCH				*i* S	Sn	18 19 37.8	-0.6
CPCH				AML	AML	18 19 39.7	
	comp=E,7μm,0.1s						
CPCH	**Copiapo**	**0.87**	**102**	⇓*i*P	Pn	18 19 25.1	-1.8
CPCH				*i* S	Sn	18 19 37.8	-0.6
CRCH	**Chaqaral**	**1.04**	**37**	*e*P	Pn	18 19 30.1	+1.0
CRCH				*i* S	Sn	18 19 44.0	+1.6
LCO	**Las Campanas**	**1.90**	**164**	*e*P	Pn	18 19 41.5	+0.5
LCO				*i* S	Sn	18 20 04.2	+0.5
TLL	**Tololo Astrono**	**3.01**	**172**	*e*P	Pn	18 19 58.0	+1.8
TLL				*i* S	Sn	18 20 33.0	+2.0
TLL				AML	AML	18 20 52.2	
	comp=N,253nm,0.7s						
TLL	**Tololo Astrono**	**3.01**	**172**	*e*P	Pn	18 19 58.0	+1.8
TLL				*i* S	Sn	18 20 33.0	+2.0

*ISCJB **23** 19:19:18.7±0.8, 6025S×02.4×266W×06, h10km, mb3.9/3, Error ellipse: s-maj=45.4km s-min=11.4km az=119.0*
*IDC **23** 19:19:18.2±1.9, 6033S×2666W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.8/14, mbtmp4.0/3, Error ellipse: s-maj=75.0km s-min=37.3km az=16.0*

ISC 23 19:19:20.7±0.8, 6015±02×265W±05, h10km, n9, σ0§30/7, mb3.9/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.93**	**152**	*e*P	**Pn**	**19 22 25.0**	**+0.5**
VNA1				*e*		19 22 25.4	
VNA1				*e*		19 22 25.7	
VNA1				*e*		19 22 26.2	
VNA1				*e*		19 22 26.7	
VNA1				*e*		19 22 27.8	
VNA3	**Neumayer Olymp**	**13.06**	**155**	*e*P	**Pn**	**19 22 25.9**	**-0.4**
VNA3				*e*		19 22 26.7	
VNA3				*e*		19 22 27.8	
VNA3				*e*		19 22 28.4	
VNA3				*e*		19 22 30.6	
VNA3				*e*		19 22 33.1	
VNA3				*e*		19 22 37.3	
VNA3				*e*		19 24 41.0	
VNA3				*e*		19 24 43.8	
VNA3				*e*		19 24 45.6	
VNA2	**Neumayer--Watz**	**13.33**	**152**	*e*P	**Pn**	**19 22 29.8**	**-0.1**
	baz=322,slow=18						
VNA2				*e*		19 22 30.7	
VNA2				*e*		19 22 31.1	
VNA2				*e*		19 22 31.8	
VNA2				*e*		19 22 32.6	
VNA2				*e*		19 22 34.4	
VNA2				*e*		19 22 36.5	
VNA2				*e*		19 24 49.0	
VNA2				*e*		19 24 53.5	
SNAA	**Sanae**	**14.93**	**150**	*e*P	**Pn**	**19 22 46.9**	**-4.8**
SNAA				*e*		19 22 47.3	
SNAA				*e*		19 22 48.8	
SNAA				*e*		19 22 50.3	
SNAA				*e*		19 22 53.9	
CPUP	**Villa Florida**	**39.84**	**314**	P	**P**	**19 26 54.1**	**-0.2**
	0.6nm,0.3s,mb3.7,baz=139,slow=10,SNR=4.2						
LPAZ	**La Paz**	**53.07**	**307**	P	**P**	**19 28 38.3**	**+0.2**
	0.6nm,0.5s,mb3.8,baz=127,slow=5.1,SNR=5.7						
TORD	**Torodi Ar. Bea**	**76.47**	**28**	P	**P**	**19 31 10.6**	**0.0**
	1.4nm,0.6s,mb4.1,baz=196,slow=6.1,SNR=12						
SONM	**Songino Array**	**150.39**	**93**	PKPbc	PKPbc	19 39 10.8	-1.5
	0.4nm,0.5s,baz=201,slow=3.4,SNR=5.1						
ILAR	**Eielson Array**	**152.95**	**306**	PKPbc	PKPbc	19 39 14.8	-3.3
	0.1nm,0.5s,baz=209,slow=0.5,SNR=4.1						

IDC 23 19:22:38.6±2.8, 921S×11191E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.5/14, mbtmp3.5/5, ML3.1/1, Error ellipse: s-maj=136.0km s-min=21.5km az=50.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.99**	**125**	Pn	Pn	19 26 24.4	-0.5
	0.1nm,0.3s,baz=16,slow=19,SNR=2.9						
FITZ				Sn	Sn	19 29 10.0	-13
	0.1nm,0.3s,baz=264,slow=16,SNR=2.8						
WRA	**Warramunga Arr**	**24.16**	**119**	P	P	19 27 55.7	-0.7
	0.6nm,0.7s,baz=291,slow=12,SNR=4.2						
ASAR	**Alice Springs**	**25.47**	**127**	P	P	19 28 09.9	+1.5
	0.6nm,0.7s,baz=302,slow=9.0,SNR=9.8						
SONM	**Songino Array**	**57.00**	**356**	P	P	19 32 26.7	+0.6
	0.1nm,0.4s,baz=162,slow=7.0,SNR=4.3						
MKAR	**Makanchi Array**	**61.69**	**337**	P	P	19 32 58.1	-0.4
	0.6nm,0.4s,baz=152,slow=7.6,SNR=17						

IDC 23 19:25:14.3±1.2, 356N×12675E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.7/17, mbtmp3.6/6, Error ellipse: s-maj=98.1km s-min=18.8km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.55**	**183**	P	P	19 30 06.5	+1.3
	2.6nm,1.1s,baz=21,slow=17,SNR=2.5						
WRA	**Warramunga Arr**	**24.52**	**163**	P	P	19 30 35.5	+0.2
	2.7nm,0.7s,baz=340,slow=11,SNR=21						
WB2	**Warramunga Arr**	**24.52**	**163**	*e*P	P	19 30 35.2	-0.2
ASAR	**Alice Springs**	**27.95**	**166**	P	P	19 31 07.6	+1.3
	0.3nm,0.4s,baz=338,slow=9.7,SNR=9.7						
STKA	**Stephens Creek**	**37.96**	**159**	P	P	19 32 32.5	-1.2
	1.4nm,0.6s,baz=337,slow=9.5,SNR=4.8						
SONM	**Songino Array**	**47.46**	**341**	P	P	19 33 51.0	+0.2
	0.1nm,0.6s,baz=165,slow=6.0,SNR=2.5						
MKAR	**Makanchi Array**	**57.71**	**325**	P	P	19 35 06.5	-0.2
	0.3nm,0.6s,baz=120,slow=7.0,SNR=4.2						

*IDC **23** 19:31:29.7±8.3, 5.16S×145.50E, h102km±53km, mb3.9/3, mb1 4.0/5, mb1mx3.6/13, mbtmp4.3/5, Error ellipse: s-maj=92.3km s-min=43.6km az=39.0*
*ISCJB **23** 19:31:30.7±5.2, 5.35S±04×145.4E±0.2, h105km±29km, mb4.0/3, Error ellipse: s-maj=68.4km s-min=23.6km az=62.6*

ISC 23 19:31:31.2±4.8, 52S±03×145.4E±02, h100km±28km, n11, σ0§63/12, mb4.0/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.48**	**157**	P	**Pn**	**19 32 37.1**	**+0.3**
	16nm,0.3s,baz=340,slow=5.4,SNR=70						
PMG				S	**Sn**	**19 33 27.5**	**-0.3**
	19nm,0.3s,baz=141,slow=22,SNR=14						
CTA	**Charters Tower**	**14.78**	**177**	P	**Pn**	**19 35 02.3**	**+7.4**
	0.7nm,0.3s,baz=356,slow=15,SNR=6.6						
KAKA	**Kakadu**	**14.80**	**239**	*e*P	**Pn**	**19 34 55.0**	**-0.3**
	17nm,0.7s						
WB2	**Warramunga Arr**	**18.15**	**215**	*e*P	**Pn**	**19 35 35.8**	**-0.7**
WRA	**Warramunga Arr**	**18.15**	**215**	P	**Pn**	**19 35 37.1**	**+0.4**
	0.7nm,0.3s,baz=30,slow=10,SNR=47						
ASAR	**Alice Springs**	**21.41**	**210**	P	**P**	**19 36 11.4**	**+0.6**
	2.6nm,0.8s,mb3.6,baz=40,slow=8.0,SNR=35						
ASPA	**Alice Springs**	**21.41**	**210**	*e*P	**P**	**19 36 11.9**	**+1.0**
FITZ	**Fitzroy Crossi**	**23.16**	**235**	*e*P	**P**	**19 36 29.2**	**+0.3**
	17nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**23.16**	**235**	P	**P**	**19 36 27.4**	**-1.5**
	8.3nm,0.6s,mb4.2,baz=58,slow=8.5,SNR=37						
STKA	**Stephens Creek**	**26.73**	**187**	*e*P	**P**	**19 37 00.8**	**-0.4**
	1.4nm,0.3s,mb4.0						
STKA	**Stephens Creek**	**26.73**	**187**	P	**P**	**19 37 00.7**	**-0.5**
	1.7nm,0.3s,mb4.0,baz=1.1,slow=11,SNR=13						

*ISCJB **23** 19:37:03.7±0.8, 3985N±009×490E±0.1, h33km, Error ellipse: s-maj=18.5km s-min=6.3km az=104.0*
*CSEM **23** 19:37:04.8±0.1, 3975N×4885E, h45km, ML3.5, Error ellipse: s-maj=4.7km s-min=2.3km az=59.0*
*TEH **23** 19:37:07.2, 3967N×4875E, h32km, Mn3.5*
*MOS **23** 19:37:07.9±2.4, 3990N×4850E, h33km, mb3.8/1, Error ellipse: s-maj=37.9km s-min=12.3km az=129.8*

ISC 23 19:37:05.7±0.8, 3984N±008×490E±01, h35km, n14, σ1§44/16, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITBZ	**Tabriz**	**2.74**	**235**	*e*Pn	**Pn**	**19 37 49.5**	**+2.3**
IAZR	**Azarshahr**	**3.20**	**229**	*e*Pn	**Pn**	**19 37 54.1**	**+0.6**
GNI	**Garni**	**3.29**	**277**	*e*Pn	**Pn**	**19 37 53.5**	**-1.2**
MAK	**Makhachkala**	**3.31**	**341**	*e*Pn	**Pn**	**19 37 56.8**	**+1.7**
IAFJ	**Afjeh**	**4.52**	**151**	*e*Pn	**Pn**	**19 38 11.8**	**+0.2**
IAFJ				*e*Sn	**Sn**	**19 39 00.4**	**-2.5**
ZEI	**Tsey**	**4.83**	**309**	*e*PN	**Pn**	**19 38 13.7**	**-2.2**
ZEI				*e*		19 38 32.2	
ZEI				*e*		19 39 10.4	
ZEI				*e*		19 39 37.1	
ZEI				pmax	pmax		
	comp=Z,10.0nm,0.1s						
ZEI				pmax	pmax		
	comp=Z,13nm,0.1s						
ZEI	**Tsey**	**4.83**	**309**	*e*Pn	**Pn**	**19 38 13.7**	**-2.2**
ZEI				*e*Sn	**Sn**	**19 39 10.4**	**-0.2**
IDMV	**Damavand**	**4.89**	**150**	*e*Pn	**Pn**	**19 38 17.2**	**+0.5**
IVRN	**Varamin**	**5.30**	**155**	*e*Pn	**Pn**	**19 38 22.8**	**+0.4**
SHAR	**Shatzhatmas**	**6.13**	**312**	*e*P	**Pn**	**19 38 35.5**	**+1.7**
KIV	**Kislovodsk**	**6.25**	**313**	*e*P	**Pn**	**19 38 34.1**	**-1.4**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KIV				MLR	MLR		
	comp=Z,18nm,6.0s						
NAGR	**Nagutskaya**	**6.53**	**317**	*e*P	**Pn**	**19 38 42.6**	**+3.3**
SOC	**Sochi**	**7.89**	**301**	*e*P	**Pn**	**19 38 53.4**	**-4.5**
SOC				pmax	pmax		
	comp=Z,145nm,4.4s						
ANN	**Anapa**	**9.89**	**304**	*e*P	**Pn**	**19 39 24.3**	**-1.1**

IDC 23 19:45:36.1±12.0, 3549S×7976E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/13, mbtmp3.6/3, MS4.0/7, Ms1 4.0/7, ms1mx3.5/18, Error ellipse: s-maj=393.7km s-min=47.8km az=35.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**30.98**	**96**	LR	LR	20 02 00.7	
	comp=Z,334nm,18.9s,baz=213,slow=32						
MAW	**Mawson**	**33.59**	**192**	LR	LR	20 02 13.6	
	comp=Z,183nm,20.1s,baz=58,slow=30						
ASAR	**Alice Springs**	**48.01**	**91**	P	P	19 54 16.9	0.0
	0.8nm,0.9s,baz=232,slow=8.3,SNR=5.0						
WRA	**Warramunga Arr**	**50.14**	**87**	P	P	19 54 33.7	+0.5
	1.1nm,0.9s,baz=239,slow=7.8,SNR=5.7						
STKA	**Stephens Creek**	**50.84**	**105**	LR	LR	20 11 53.6	
	comp=Z,166nm,19.7s,baz=205,slow=31						
KMBO	**Kilima Mbogo**	**52.21**	**301**	LR	LR	20 11 32.1	
	comp=Z,96nm,20.3s,baz=94,slow=30						
VNDA	**Vanda**	**53.95**	**165**	LR	LR	20 15 13.5	
	comp=Z,97nm,18.2s,baz=278,slow=33						
PMG	**Port Moresby**	**66.21**	**85**	LR	LR	20 23 25.5	
	comp=Z,154nm,18.9s,baz=38,slow=34						
MKAR	**Makanchi Array**	**81.94**	**2**	P	P	19 57 57.2	-0.4
	0.4nm,0.8s,baz=187,slow=6.6,SNR=3.9						
DBIC	**Dimbokro**	**89.46**	**279**	LR	LR	20 33 05.5	
	comp=Z,76nm,20.8s,baz=139,slow=32						

IDC 23 19:49:50.3±19.0, 2454S×6869E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, Error ellipse: s-maj=606.8km s-min=36.4km az=53.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**59.01**	**104**	P	P	19 59 52.2	+0.5
	0.6nm,0.7s,baz=254,slow=6.2,SNR=9.9						
WRA	**Warramunga Arr**	**60.44**	**100**	P	P	20 00 02.2	+0.6
	0.6nm,0.7s,baz=252,slow=7.3,SNR=4.0						
MKAR	**Makanchi Array**	**72.05**	**10**	P	P	20 01 16.4	+0.2
	0.9nm,0.8s,baz=187,slow=4.8,SNR=7.6						
SONM	**Songino Array**	**79.61**	**25**	P	P	20 01 58.8	-0.5
	0.2nm,0.6s,baz=208,slow=6.1,SNR=4.4						

*STR **23** 20:27:48.8±0.3, 43.10N×061W, h10km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **23** 20:27:50.1±0.1, 43.06N×066W, h2km, Md1.7/2, Error ellipse: s-maj=4.4km s-min=2.2km az=15.0*

MDD 23 20:27:50.2±0.4, 4301N×063W, h0km, mbLg0.7/2, Error ellipse: s-maj=4.8km s-min=2.1km az=10.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.09**	**324**	Pg	Pg	20 27 51.8	-0.2
ATE				Sg	Sg	20 27 53.3	+0.1
ATE	**Arette**	**0.09**	**324**	Pg	Pg	20 27 51.8	-0.1
ATE				Lg		20 27 53.3	
ETSF	**Etsaut**	**0.12**	**157**	*e*Pg	Pg	20 27 53.8	+1.3
ETSF				*e*Sg	Sg	20 27 56.1	+2.0
	45nm,0.2s						
REYF	**Montagne du Re**	**0.18**	**71**	Pg	Pg	20 27 53.4	-0.2
REYF				Sg	Sg	20 27 56.2	+0.2
REYF	**Montagne du Re**	**0.18**	**71**	Pg	Pg	20 27 53.4	-0.2
REYF				Lg		20 27 56.3	
LARF	**Larrau**	**0.27**	**276**	Pg	Pg	20 27 55.1	-0.2
LARF				Sg	Sg	20 27 59.7	+0.9
LARF	**Larrau**	**0.27**	**276**	Pg	Pg	20 27 55.2	-0.1
LARF				Lg		20 27 59.8	
SJPF	**Ste Jean**	**0.45**	**283**	*e*Pg	Pg	20 27 58.1	-0.7
SJPF				*e*Sg	Sg	20 28 04.3	-0.4
	8.2nm,0.5s						
EBIE	**Bielsa**	**0.65**	**120**	Pg	Pg	20 28 02.2	-0.4
	0.4nm,0.1s,SNR=7.9						
EBIE				Lg		20 28 11.1	
	0.4nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.68**	**288**	Pg	Pg	20 28 01.6	-1.6
	0.2nm,0.1s,SNR=7.9						
EALK				Lg		20 28 11.6	
	0.4nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.68**	**283**	Pg	Pg	20 28 01.4	-1.8
	0.9nm,0.2s,SNR=7.9						
EPF	**Esparros**	**0.71**	**88**	*e*Pg	Pg	20 28 03.8	+0.1
EPF				*e*Sg	Sg	20 28 13.8	+0.9
	2.0nm,0.3s						

*IDC **23** 20:32:06.3±0.8, 0.13N×9687E, h0km, mb3.9/10, mb1 4.1/11, mb1mx4.0/18, mbtmp3.9/11, ML3.0/1, Error ellipse: s-maj=34.7km s-min=17.0km az=54.0*
*ISCJB **23** 20:32:09.8±0.6, 0.18N±009×97.1E±0.1, h33km, mb4.1/14, Error ellipse: s-maj=17.2km s-min=10.5km az=120.0*
*NEIC **23** 20:32:10.6±0.6, 0.17N×9698E, h30km, mb4.3/1, Error ellipse: s-maj=16.2km s-min=11.7km az=80.0*

ISC 23 20:32:12.3±0.7, 021N±009×971E±01, h35km, n21, σ1§15/18, mb4.1/14, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.14**	**35**	Pn	**Pn**	**20 32 58.4**	**-0.8**
	1.8nm,0.3s,baz=264,slow=8.7,SNR=6.1						
KULM	**Kulim**	**6.15**	**35**	*e*Pn	**Pn**	**20 33 39.5**	**-1.2**
JIRN	**Jiri**	**29.24**	**340**	*e*P	**P**	**20 38 12.2**	**+1.4**
	11nm,0.9s,mb4.6						
DMN	**Daman**	**29.58**	**338**	*e*P	**P**	**20 38 14.8**	**+0.9**
KKN	**Kakani**	**29.68**	**338**	*e*P	**P**	**20 38 15.5**	**+0.7**
GKN	**Gorkha**	**30.12**	**338**	*e*P	**P**	**20 38 19.5**	**+0.9**
	14nm,1.1s,mb4.6						
KOLN	**Koldanda**	**30.32**	**336**	*e*P	**P**	**20 38 21.1**	**+0.7**
	10nm,0.7s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.42**	**124**	P	**P**	**20 38 48.2**	**+0.5**
	1.5nm,0.9s,mb3.9,baz=107,slow=18,SNR=3.1						
WRA	**Warramunga Arr**	**41.58**	**121**	P	**P**	**20 39 57.9**	**+1.2**
	1.4nm,0.6s,mb3.8,baz=302,slow=9.0,SNR=14						
ASAR	**Alice Springs**	**42.87**	**126**	P	**P**	**20 40 08.3**	**+1.2**
	0.2nm,0.4s,mb3.2,baz=295,slow=8.1,SNR=3.2						
SONM	**Songino Array**	**48.11**	**8**	P	**P**	**20 40 49.3**	**+0.7**
	0.4nm,0.3s,mb3.9,baz=190,slow=9.2,SNR=8.0						
MKAR	**Makanchi Array**	**48.18**	**346**	P	**P**	**20 40 49.5**	**+0.4**
	1.7nm,0.7s,mb4.2,baz=157,slow=7.8,SNR=21						
STKA	**Stephens Creek**	**52.76**	**132**	P	**P**	**20 41 23.1**	**-0.7**
	1.4nm,0.8s,mb4.0,baz=329,slow=13,SNR=3.1						
CASY	**Casey**	**67.03**	**174**	P	**P**	**20 42 58.6**	**-3.1**
	2.0nm,0.7s,mb4.3						
AKASG	**Malin Array Be**	**75.99**	**323**	P	**P**	**20 43 53.8**	**-2.0**
	0.3nm,0.3s,mb3.6,baz=93,slow=4.8,SNR=6.0						
FINES	**FINESS Array B**	**80.84**	**333**	P	**P**	**20 44 20.9**	**-1.6**
	1.0nm,0.8s,mb3.8,baz=37,slow=10,SNR=4.0						
ARCES	**ARCESS Array B**	**83.44**	**340**	P	**P**	**20 44 35.9**	**-0.2**
	5.5nm,0.9s,mb4.6,baz=103,slow=3.9,SNR=7.6						
GERES	**GERESS Array B**	**85.50**	**319**	P	**P**	**20 44 45.0**	**-1.5**
	0.8nm,0.9s,mb3.9,baz=116,slow=6.7,SNR=5.8						
CPUP	**Villa Florida**	**144.22**	**221**	PKP	PKPdf	20 51 43.0	-1.4
	0.7nm,0.4s,baz=104,slow=3.0,SNR=5.8						
CFAA	**Coronel Fontan**	**145.84**	**203**	PKPbc	PKPbc	20 51 48.4	+0.6
	0.2nm,0.3s,baz=183,slow=4.9,SNR=20						
CFAA	**Coronel Fontan**	**145.84**	**203**	PKPbc	PKPbc	20 51 48.4	+0.6

*BJI **23** 20:43:39.4, 2099N×14483E, h25km, mB4.9, mb4.6, Ms4.5, Msz4.2*
*IDC **23** 20:43:41.3±0.5, 2139N×14425E, h0km, mb4.5/17, mb1 4.6/19, mb1mx4.6/24, mbtmp4.5/19, ML4.2/2, MS4.1/14, Ms1 4.2/14, ms1mx3.8/27, Error ellipse: s-maj=21.8km s-min=11.6km az=90.0*
*ISCJB **23** 20:43:44.2±0.2, 2131N±004×14425E±004, h26km, mb4.8/86, MS4.2/37, Error ellipse: s-maj=5.4km s-min=5.0km az=79.4*
*NEIC **23** 20:43:45.5±0.2, 2136N×144.12E, mb5.1/38, Error ellipse: s-maj=8.8km s-min=5.1km az=106.0*
*HRVD **23** 20:43:45.5±0.3, 2129N×144.16E, h14km±1km, MW4.9/65, Centroid moment Tensor Solution. LP body waves: s23,c31; Mantle waves: s65,c101; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.48±.09; Mθθ=2.12±.08; Mϕϕ=2.60±.09; Mrθ=0.48±.20; Mrϕ=-0.92±.07; Mθϕ=0.01±.17; Best double couple: M=2.59300×10^16 NP1:ϕ=214.00000°, δ=79.00000°, λ=-9.00000°. NP2: ϕ=305.00000°, δ=81.00000°, λ=-169.00000°. Principal axes: T 2.7750, Plg1.0000°, Azm79.0000°; N -0.3680, Plg76.0000°, Azm344.0000°; P -2.4100, Plg14.0000°, Azm170.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **23** 20:43:45.1±1.2, 2134N×144.15E, h33km, mb5.2/31, MS4.2/8 Error ellipse: s-maj=10.7km s-min=6.2km az=101.9*

ISC 23 20:43:46.3±0.2, 2134N±003×14430E±004, h27km, h27km±.4km:pP-P, n185, σ1§23/185, mb4.8/86, MS4.2/37, 5C-4D, Mariana islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**6.04**	**342**	Pn	**Pn**	**20 45 13.1**	**-0.9**
	19nm,0.3s,baz=145,slow=19,SNR=36						
CBIJ				Sn	**Sn**	**20 46 21.1**	**-1.1**
	46nm,0.3s,baz=107,slow=22,SNR=8.0						
CBIJ				T		20 51 25.1	
	9.9nm,0.3s,baz=294,slow=20,SNR=6.4						
GUMO	**Guam**	**7.73**	**176**	Pn	**Pn**	**20 45 37.6**	**+0.5**
	2.0nm,0.3s,baz=293,slow=2.3,SNR=4.0						
GUMO				LR	LR	20 48 07.1	
	comp=Z,2μm,18.5s,baz=26,slow=34						
GUMO				T		20 53 37.8	
	30nm,0.3s,baz=9.0,slow=19,SNR=7.2						
GUMO	**Guam**	**7.73**	**176**	Pn	**Pn**	**20 45 37.6**	**+0.5**
GUMO				LR	LR	20 48 07.1	
JOW	**Kunigami**	**15.62**	**294**	Pn	**Pn**	**20 47 30.6**	**+6.1**
	0.7nm,0.3s,baz=132,slow=12,SNR=8.9						
NACB	**Ninganchiao**	**21.12**	**282**	*e*P	**P**	**20 48 31.2**	**+2.3**
YHNB	**Yeheng**	**21.36**	**283**	*e*P	**P**	**20 48 32.1**	**+0.7**
ASAJ	**Asahikawa**	**22.76**	**357**	LR	LR	20 56 11.3	
	comp=Z,676nm,21.5s,MS4.0,baz=177,slow=33						
SSE	**Sheshan**	**22.86**	**300**	P	**P**	**20 48 48.3**	**+0.9**
SSE				AP		20 48 56.3	
SSE				XP	sP	20 49 00.0	+1.6
SSE				S	**S**	**20 52 55.3**	**-0.1**
SSE				XS	sS	20 53 09.3	+1.0
SSE				AMB	AMB		
	comp=Z,23nm,0.8s,mb4.7						
SSE				AMB	AMB		
	comp=Z,104nm,5.9s						
SSE				LR	LR		
	comp=N,264nm,11.5s,MS4.0						
SSE				LR	LR		
	comp=E,185nm,11.8s,MS4.0						
SSE				LR	LR		
	comp=Z,403nm,13.2s,MS4.0						
QZH	**Quanzhou**	**23.90**	**284**	P	**P**	**20 48 59.3**	**+1.6**
QZH				S	**S**	**20 53 13.8**	**+1.5**
QZH				AMB	AMB		
	comp=Z,660nm,6.7s						
QZH				LR	LR		
	comp=N,610nm,10.4s,MS4.4						
QZH				LR	LR		
	comp=E,510nm,14.0s,MS4.4						
QZH				LR	LR		
	comp=Z,1μm,19.2s						
VLA	**Vladivostok**	**24.06**	**337**	*e*P	**P**	**20 48 58.5**	**-0.8**
VLA				pmax	pmax		
	comp=Z,43nm,1.3s,mb4.7						
NJ2	**Nanjing**	**25.05**	**300**	*e*P	**P**	**20 49 09.4**	**+1.1**
NJ2				AP	pP	20 49 17.1	+0.9
NJ2				XP	sP	20 49 19.3	-0.2
NJ2				PP		20 49 48.0	
NJ2				S	**S**	**20 53 31.0**	**+0.1**
NJ2				XS	sS	20 53 47.0	+3.0
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,120nm,4.7s						
NJ2				LR	LR		
	comp=N,700nm,15.8s,MS4.4						

comp=Z,6.0nm,1.1s,mb4.0
MDJ AMB AMB
comp=Z,138nm,7.5s
MDJ LR LR
comp=N,194nm,14.3s,MS4.1
MDJ LR LR
comp=E,399nm,17.5s,MS4.1
MDJ LR LR
comp=Z,514nm,28.6s
MDJ Mudanjiang 26.20 336 P **P** **20 49 21.1 +2.4**
comp=Z,21nm,1.4s,mb4.5
SNY Shenyang 26.87 324 ⇑P **P** **20 49 27.3 +2.6**
SNY AP pP 20 49 36.8 +4.2
SNY XP sP 20 49 41.8 +5.8
SNY S **S** **20 54 09.8 +10**
SNY XS sS 20 54 14.0 +1.2
SNY AMB AMB
comp=Z,9.0nm,1.8s,mb4.0
SNY AMB AMB
comp=Z,147nm,9.2s
SNY LR LR
comp=N,251nm,12.8s
SNY LR LR
comp=Z,381nm,12.7s,MS4.2
CN2 Changchun 27.33 329 *e*P **P** **20 49 31.5 +2.6**
CN2 *e*XP sP 20 49 42.3 +2.1
CN2 *e*S **S** **20 54 08.5 +1.6**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.3
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,500nm,15.0s,MS4.4
CN2 LR LR
comp=E,500nm,15.0s,MS4.4
CN2 LR LR
comp=Z,500nm,17.0s,MS4.2
TIA Tai'an 27.93 308 *e*P **P** **20 49 34.3 +0.1**
KLR Kul'dur 29.57 343 *e*P **P** **20 49 44.3 -4.5**
KLR *e* pP 20 49 50.5 -6.3
KLR MLR MLR
comp=N,900nm,12.0s,MS4.7
KLR MLR MLR
comp=E,500nm,12.0s,MS4.7
BJI Beijing 30.34 314 P **P** **20 49 56.8 +1.2**
BJI AMB AMB
comp=Z,4.0nm,0.9s,mb4.2
BJI LR LR
comp=N,344nm,13.1s,MS4.3
BJI LR LR
comp=E,404nm,14.2s,MS4.3
BJI LR LR
comp=Z,332nm,24.9s
PMG Port Moresby 30.68 174 P **P** **20 49 57.7 -1.0**
comp=Z,11nm,0.8s,mb4.8,baz=19,slow=18,SNR=4.9
PMG LR LR 21 01 44.8
comp=Z,174nm,18.8s,MS3.7,baz=1.1,slow=35
PMG Port Moresby 30.68 174 *e*P **P** **20 49 57.1 -1.6**
PMG Port Moresby 30.68 174 *e*P **P** **20 49 57.9 -0.7**
comp=Z,14nm,0.7s,mb4.9
QIZ Qiongzhong 32.39 272 P **P** **20 50 11.8 -1.8**
QIZ PP PP 20 51 19.6 -7.4
QIZ S **S** **20 55 28.1 +1.9**
QIZ AMB AMB
comp=Z,11nm,1.9s,mb4.4
QIZ LR LR
comp=N,187nm,18.9s,MS4.0
QIZ LR LR
comp=E,282nm,20.9s,MS4.0
QIZ LR LR
comp=Z,466nm,28.8s
XAN Xi'an 33.62 300 P **P** **20 50 24.9 +0.5**
XAN AMB AMB
comp=Z,4.0nm,1.3s,mb4.2
HHC Hu-ho-hao-te 33.84 313 *e*P **P** **20 50 27.3 +1.0**
HHC AP pP 20 50 34.6 +0.3
HHC XP sP 20 50 38.0 +0.3
HHC PP PP 20 51 40.9 -2.2
HHC PCP PcP 20 53 07.1 +2.3
HHC S **S** **20 55 48.9 +0.2**
HHC SCP ScP 20 56 44.8 -2.9
HHC PCS PcS 20 56 51.5 +0.7
HHC SCS ScS 21 00 49.3 0.0
HHC AMB AMB
comp=Z,11nm,1.3s,mb4.6
HHC AMB AMB
comp=Z,80nm,4.6s
HHC LR LR
comp=N,371nm,12.4s,MS4.5
HHC LR LR
comp=E,430nm,14.7s,MS4.5
HHC LR LR
comp=Z,350nm,15.9s,MS4.2
CD2 Chengdu 37.45 293 *e*P **P** **20 51 01.5 +4.2**
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
LZH Lanzhou 38.12 302 *e*P **P** **20 51 02.5 -0.4**
LZH AP pP 20 51 10.3 -0.7
LZH XP sP 20 51 13.5 -0.8
LZH PP PP 20 52 33.3 +3.0
LZH *e*S **S** **20 56 53.5 -0.7**
LZH AMB AMB
comp=Z,33nm,1.2s,mb4.9
LZH AMB AMB
comp=Z,149nm,5.3s
LZH LR LR
comp=E,957nm,13.5s
LZH LR LR
comp=Z,2μm,17.4s,MS4.9
KMI Kunming 38.27 284 P **P** **20 51 04.8 +0.6**
KMI AP pP 20 51 13.0 +0.7
KMI XP sP 20 51 15.6 0.0
KMI PP PP 20 52 34.8 +2.9
KMI S **S** **20 56 58.1 +1.6**
KMI XS sS 20 57 10.6 +0.7
KMI SS SS 20 59 41.6 -3.1
KMI AMB AMB
comp=Z,5.0nm,0.7s,mb4.3
KMI AMB AMB
comp=Z,15nm,3.5s
KMI LR LR
comp=N,295nm,16.1s,MS4.2
KMI LR LR
comp=E,164nm,19.8s,MS4.2
KMI LR LR
comp=Z,268nm,19.8s,MS4.1
CIT Chita 38.78 330 *e*P **P** **20 51 15.0 +6.5**
KKTK Khon Kaen 39.49 270 P **P** **20 51 16.0 +1.6**
ULN Ulaanbaatar 39.90 321 *e*P **P** **20 51 15.2 -2.6**
ULN pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
ULN Ulaanbaatar 39.90 321 *e*P **P** **20 51 15.2 -2.7**
comp=Z,5.4nm,0.9s,mb4.3
SONM Songino Array 40.27 320 P **P** **20 51 19.9 -1.0**
comp=Z,2.2nm,0.7s,mb4.0,baz=133,slow=5.5,SNR=17
CTA Charters Tower 41.22 177 *e*P **P** **20 51 28.7 -0.1**
comp=Z,10.0nm,0.9s,mb4.5
CTA epP pP 20 51 34.9 -2.0
CTA Charters Tower 41.22 177 P **P** **20 51 28.4 -0.4**
comp=Z,16nm,1.0s,mb4.6,baz=13,slow=7.3,SNR=7.5
CTA LR LR 21 06 29.4
comp=Z,155nm,19.5s,MS3.9,baz=357,slow=33
CTA Charters Tower 41.22 177 *e*P **P** **20 51 28.7 -0.1**
CTA *e*PP pP 20 51 34.9 -2.0
CTA pmax pmax
comp=Z,10.0nm,0.9s
CTAO Charters Tower 41.22 177 *e*P **P** **20 51 28.4 -0.4**
CTAO pmax pmax
comp=Z,39nm,1.3s,mb4.9
CTAO Charters Tower 41.22 177 *e*P **P** **20 51 28.4 -0.4**
comp=Z,39nm,1.3s,mb4.9
YAK Yakutsk 41.90 350 *e*P **P** **20 51 32.5 -1.8**
YAK pmax pmax
comp=Z,35nm,0.9s,mb5.0
YAK Yakutsk 41.90 350 *e*P **P** **20 51 32.5 -1.8**
comp=Z,35nm,0.9s,mb5.0
GTA Gaotai 41.92 306 *e*P **P** **20 51 34.8 +0.3**
GTA AP pP 20 51 41.8 -0.9
GTA XP sP 20 51 45.0 -1.0
GTA PP PP 20 53 15.1 +3.4
GTA S **S** **20 57 51.1 -0.1**
GTA AMB AMB
comp=Z,8.0nm,1.1s,mb4.3
GTA AMB AMB
comp=Z,117nm,5.7s
GTA LR LR
comp=N,422nm,17.1s,MS4.4
GTA LR LR
comp=E,191nm,16.0s,MS4.4
GTA LR LR
comp=Z,307nm,14.8s,MS4.3
NST Nakhon Sawan 42.16 270 P **P** **20 51 39.0 +2.6**
WRAB Tennant Creek 42.16 194 P **P** **20 51 36.0 -0.5**
comp=Z,232nm,0.7s,mb5.9,SNR=13
WRAB Tennant Creek 42.16 194 *d* /P **P** **20 51 35.7 -0.8**
WB2 Warramunga Arr 42.17 194 ⇓/P **P** **20 51 36.2 -0.3**
WB2 epP pP 20 51 43.1 -1.6
WRA Warramunga Arr 42.17 194 P **P** **20 51 36.2 -0.4**
comp=Z,21nm,0.9s,mb4.8,baz=15,slow=8.8,SNR=60
BOD Bodaibo 42.57 336 *e*P **P** **20 51 41.0 +1.2**
FITZ Fitzroy Crossi 43.25 206 *e*P **P** **20 51 44.5 -0.8**
comp=Z,14nm,0.9s,mb4.7
FITZ Fitzroy Crossi 43.25 206 P **P** **20 51 44.9 -0.5**
comp=Z,6.9nm,0.8s,mb4.4,baz=41,slow=12,SNR=12
ZAK Zakamensk 43.26 322 *e*P **P** **20 51 45.1 -0.3**
ZAK pmax pmax
comp=Z,25nm,1.8s,mb4.6
IRK Irkutsk 43.59 325 *e*P **P** **20 51 47.9 -0.2**
IRK pmax pmax
comp=Z,30nm,1.6s,mb4.8
TLY Talaya 43.66 324 *e*P **P** **20 51 52.4 +3.8**
TLY pmax pmax
comp=Z,7.0nm,1.3s,mb4.2
TLY MLR MLR
comp=Z,172nm,14.0s,MS4.1
KULM Kulim 45.18 256 *e*P **P** **20 52 02.3 +1.5**
AS31 Alice Springs 45.87 193 *e*P **P** **20 52 05.7 -0.5**
AS31 epP pP 20 52 12.1 -2.3
ASAR Alice Springs 45.87 193 P **P** **20 52 05.8 -0.4**
comp=Z,7.7nm,0.8s,mb4.7,baz=17,slow=9.1,SNR=70
ASPA Alice Springs 45.87 193 *e*P **P** **20 52 05.7 -0.5**
ASPA epP pP 20 52 12.1 -2.3
PSI Prapat 47.81 254 P **P** **20 52 22.3 +0.9**
comp=Z,7.7nm,0.8s,mb4.8,baz=38,slow=7.5,SNR=8.5
PSI LR LR 21 09 54.3
comp=Z,107nm,21.5s,MS3.8,baz=350,slow=33
LSA Lhasa 48.33 291 P **P** **20 52 28.1 +2.7**
LSA AP pP 20 52 37.0 +3.3
LSA AMB AMB
comp=Z,40nm,0.8s,mb5.5
LSA LR LR
comp=N,130nm,18.0s
LSA LR LR
comp=E,170nm,27.0s
LSA LR LR
comp=Z,300nm,20.0s,MS4.3
MBWA Marble Bar 48.58 211 *e*P **P** **20 52 26.5 -0.9**
comp=Z,12nm,1.0s,mb4.9
BILL Bilibino 48.67 11 *e*P **P** **20 52 26.5 -1.5**
BILL pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
BILL MLR MLR
comp=Z,100nm,15.0s,MS3.9
BILL Bilibino 48.67 11 *e*P **P** **20 52 27.6 -0.4**
comp=Z,24nm,1.2s,mb5.1
TIXI Tiksi 51.11 354 *e*P **P** **20 52 43.8 -2.8**
TIXI *e*S **S** **20 59 57.7 -4.9**
TIXI pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
WMQ Urumqi 51.61 310 ⇓P **P** **20 52 49.9 -0.4**
WMQ AP pP 20 52 57.8 -0.8
WMQ XP sP 20 53 00.9 -1.0
WMQ PCP PcP 20 54 03.8 -0.1
WMQ PP PP 20 54 48.1 +0.3
WMQ SCP ScP 20 57 56.5 -2.1
WMQ S **S** **21 00 07.9 -1.6**
WMQ SCS ScS 21 02 35.3 -3.4
WMQ AMB AMB
comp=Z,16nm,1.1s,mb4.9
WMQ AMB AMB
comp=Z,128nm,4.4s
WMQ LR LR
comp=N,150nm,22.8s,MS4.1
WMQ LR LR
comp=E,129nm,21.4s,MS4.1
WMQ LR LR
comp=Z,195nm,19.8s,MS4.1
JIRN Jiri 52.85 289 *e*P **P** **20 52 59.6 +0.1**
comp=Z,42nm,1.0s,mb5.3
STKA Stephens Creek 52.98 183 ⇓/P **P** **20 52 58.0 -2.5**
comp=Z,11nm,0.9s,mb4.8
STKA Stephens Creek 52.98 183 P **P** **20 52 58.4 -2.1**
comp=Z,17nm,1.0s,mb4.9,baz=4.6,slow=8.0,SNR=12
GUN Gumba 53.09 289 *e*P **P** **20 53 01.3 0.0**
comp=Z,22nm,0.8s,mb5.1
PKI Pulchoki 53.55 289 *e*P **P** **20 53 04.4 -0.3**
KKN Kakani 53.63 289 *e*P **P** **20 53 04.9 -0.4**
DMN Daman 53.81 289 *e*P **P** **20 53 05.8 -0.8**
FORT Forrest 54.12 197 *e*P **P** **20 53 07.4 -1.4**
comp=Z,20nm,0.6s,mb5.2
GKN Gorkha 54.17 290 *e*P **P** **20 53 09.2 0.0**
comp=Z,52nm,1.1s,mb5.4
KOLN Koldanda 55.11 290 *e*P **P** **20 53 16.0 0.0**
comp=Z,25nm,1.0s,mb5.2
MK31 Makanchi Array 55.70 313 P **P** **20 53 18.8 -1.5**
MK31 pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
MKAR Makanchi Array 55.70 313 P **P** **20 53 18.9 -1.3**
comp=Z,1.8nm,0.6s,mb4.3,baz=94,slow=8.6,SNR=17
MKAR PcP PcP 20 54 20.3 +0.9
comp=Z,3.2nm,0.7s,baz=81,slow=5.8,SNR=5.7
MKAR Makanchi Array 55.70 313 P **P** **20 53 18.9 -1.3**
MKAR PcP PcP 20 54 20.3 +0.8
NVS Novosibirsk 56.22 322 *e*P **P** **20 53 23.3 -0.7**
NVS pmax pmax
comp=Z,17nm,1.6s,mb4.8
NVS pmax pmax
comp=E,21nm,1.7s
SVW2 Sparrevohn 57.19 30 *e*P **P** **20 53 31.5 +0.6**
SVW2 epP pP 20 53 39.2 -0.1
TTA Tatalina 57.52 28 *e*P **P** **20 53 33.7 +0.5**
TTA *e*PP pP 20 53 41.3 -0.3
TTA pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
TTA Tatalina 57.52 28 *e*P **P** **20 53 33.7 +0.5**
comp=Z,3.0nm,0.9s,mb4.3
TTA epP pP 20 53 41.3 -0.3
KDAK Kodiak Island 57.90 34 P **P** **20 53 35.0 -0.9**
comp=Z,5.1nm,0.6s,mb4.8,baz=220,slow=7.9,SNR=4.6
KURK Kurchatov 58.44 317 ⇑*e*P **P** **20 53 37.9 -1.8**
SLKM Skilak Lake 59.61 31 *e*P **P** **20 53 46.2 -1.6**
SLKM *e*PP pP 20 53 55.7 -0.5
PMR Palmer 60.33 30 *e*P **P** **20 53 52.0 -0.7**
PMR *e*PP pP 20 54 00.1 -1.0
PMR pmax pmax
comp=Z,36nm,1.1s,mb5.3
PMR Palmer 60.33 30 *e*P **P** **20 53 52.0 -0.7**
comp=Z,36nm,1.1s,mb5.3
PMR epP pP 20 54 00.1 -1.1
FRU Bishkek 61.11 308 *e*P **P** **20 53 59.0 +1.0**
COLA College 61.49 27 *e*P **P** **20 53 59.1 -1.5**
EYAK Cordova Ski Ar 61.80 32 *e*P **P** **20 54 00.0 -2.7**
EYAK epP pP 20 54 08.1 -3.0
ILAR Eielson Array 61.88 27 P **P** **20 54 01.9 -1.3**
comp=Z,4.3nm,1.0s,mb4.5,baz=262,slow=5.5,SNR=30
CHKZ Chkalovo 63.47 320 *e*P **P** **20 54 12.2 -1.6**
CHKZ pmax pmax
comp=Z,15nm,1.2s,mb5.0
CHKZ Chkalovo 63.47 320 *e*P **P** **20 54 12.2 -1.7**
comp=Z,15nm,1.2s,mb5.0
BVA0 Borovoye Array 63.62 320 *i* P **P** **20 54 13.3 -1.5**
BVA0 pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
KKAR Karatay Array 64.09 309 *i* P **P** **20 54 16.1 -1.8**
KKAR pmax pmax
comp=Z,15nm,1.1s,mb4.9
ZRNK Zerenda 64.45 320 *e*P **P** **20 54 16.6 -3.7**
ZRNK pmax pmax
comp=Z,16nm,1.1s,mb5.0
ZRNK Zerenda 64.45 320 *e*P **P** **20 54 16.6 -3.7**
comp=Z,16nm,1.1s,mb5.0
DAWY Dawson 65.04 28 *e*P **P** **20 54 24.2 +0.1**
DAWY epP pP 20 54 32.0 -0.6
INK Inuvik 67.48 24 *e*P **P** **20 54 38.6 -1.1**
INK *e*PP pP 20 54 47.2 -1.1
INK pmax pmax
comp=Z,34nm,1.0s
INK Inuvik 67.48 24 *e*P **P** **20 54 38.6 -1.1**
comp=Z,34nm,1.0s,mb5.3
INK epP pP 20 54 47.2 -1.1
SVE Sverdlovsk 68.97 324 *e*P **P** **20 54 51.0 +1.9**
SVE *e* 20 55 01.2
DLBC Dease Lake 69.83 34 *e*P **P** **20 54 54.1 -0.3**
DLBC *e*pP pP 20 55 03.5 +0.5
ARU Arti 70.16 324 ⇑*i*P **P** **20 54 55.2 -1.2**
ARU *e* 20 55 16.1
ARU *e* 20 57 28.9
ARU *e*PPP 20 59 10.1
ARU *e*S S 21 04 06.2 +0.1
ARU *e*SS SS 21 08 31.0 -5.1
ARU pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
ARU MLR MLR
comp=Z,100nm,17.0s,MS4.1
ARU MLR MLR
comp=N,100nm,18.0s,MS4.2
ARU MLR MLR
comp=E,100nm,22.0s,MS4.2
AB31 Akbulak array 70.53 316 P **P** **20 54 56.7 -2.0**
AB31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
AKTK Aktyubinsk 71.53 318 P **P** **20 55 02.6 -2.1**
AKTK LR LR 21 28 43.9
AKTO Aktyubinsk 71.53 318 P **P** **20 55 02.6 -2.1**
comp=Z,2.3nm,0.6s,mb4.3,baz=70,slow=4.7,SNR=6.2
AKTO LR LR 21 28 43.9
comp=Z,160nm,18.6s,MS4.3,baz=0.0,slow=38
ORR Orenburg 73.29 319 P **P** **20 55 13.6 -1.7**
ORR MLR MLR
comp=Z,90nm,14.0s,MS4.2
PPT Papeete 75.44 116 *e*LR LR 21 18 24.0
comp=Z,1μm,29.2s,baz=292
PPT Papeete 75.44 116 LR LR 21 21 00.6
comp=Z,498nm,20.2s,MS4.8,baz=192,slow=30
YKW3 Yellowknife Ar 76.25 28 *e*P **P** **20 55 30.3 -2.1**
YKW3 epP pP 20 55 39.7 -1.3
YKA Yellowknife Ar 76.28 28 P **P** **20 55 31.9 -0.7**
comp=Z,2.4nm,0.8s,mb4.2,baz=291,slow=5.6,SNR=22
YKA LR LR 21 25 02.2
comp=Z,128nm,20.8s,MS4.2,baz=265,slow=32
TBI Tubuai 78.31 121 *e*LR LR 21 19 43.1
comp=Z,204nm,32.0s
ARCES ARCESS Array B 79.59 342 P **P** **20 55 50.7 -0.2**
comp=Z,6.0nm,1.0s,mb4.5,baz=73,slow=9.4,SNR=4.6
ARCES LR LR 21 34 58.8
comp=Z,188nm,21.1s,MS4.4,baz=298,slow=39
ARCES ARCESS Array B 79.59 342 P **P** **20 55 50.7 -0.2**
ARCES LR LR 21 34 58.8
NEW Newport 79.85 42 *e*P **P** **20 55 53.2 +0.9**
NEW *e*PP pP 20 56 00.7 -0.3
NEW pmax pmax
comp=Z,18nm,1.0s
NEW Newport 79.85 42 *e*P **P** **20 55 53.2 +0.9**
comp=Z,18nm,1.0s,mb5.0
NEW epP pP 20 56 00.7 -0.3
EDM Edmonton 80.26 37 *e*P **P** **20 55 53.7 -0.9**
EDM *e*PP pP 20 56 02.5 -0.8
WVOR Wild Horse Val 80.89 48 *e*P **P** **20 55 58.7 +0.8**
WVOR *e*PP pP 20 56 06.0 -0.6
WVOR pmax pmax
comp=Z,21nm,1.1s,mb5.0
WVOR Wild Horse Val 80.89 48 *e*P **P** **20 55 58.7 +0.8**
comp=Z,21nm,1.1s,mb5.0
WVOR epP pP 20 56 06.0 -0.6
BMO Blue Mountains 80.94 45 *e*P **P** **20 55 58.6 +0.4**
BMO *e*PP pP 20 56 07.0 +0.1
BMO pmax pmax
comp=Z,21nm,1.0s,mb5.0
BMO Blue Mountains 80.94 45 *e*P **P** **20 55 58.6 +0.4**
comp=Z,21nm,1.0s,mb5.0
BMO epP pP 20 56 07.0 +0.1
JOF Joensuu 81.08 335 *e*p **P** **20 55 58.6 -0.4**
CMB Columbia Colle 81.15 53 *e*P **P** **20 55 58.8 -0.5**
CMB *e*PP pP 20 56 06.9 -1.2
CMB pmax pmax
comp=Z,21nm,1.0s,mb5.0
CMB Columbia Colle 81.15 53 *e*P **P** **20 55 58.8 -0.5**
comp=Z,21nm,1.0s,mb5.0
CMB epP pP 20 56 06.9 -1.1
OBN Obninsk 82.36 326 *e*P **P** **20 56 04.6 -1.1**
OBN *e*S S 21 06 19.2 -0.7
OBN pmax pmax
comp=Z,17nm,1.0s,mb4.9
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.6
VRSR Storozhevoye 82.62 322 *e*P **P** **20 56 05.5 -1.6**
VRSR pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
VRSR pmax pmax
comp=N,3.0nm,0.9s
VRSR pmax pmax
comp=E,3.0nm,0.9s
MNV Mina 82.66 52 *e*P **P** **20 56 08.1 +0.8**
MNV *e*PP pP 20 56 16.5 +0.5
MNV pmax pmax
comp=Z,18nm,1.1s,mb5.0
MNV Mina 82.66 52 *e*P **P** **20 56 08.1 +0.8**
comp=Z,18nm,1.1s,mb5.0
MNV epP pP 20 56 16.5 +0.5
MTUM Tungsten Hills 82.74 53 *e*P **P** **20 56 08.5 +0.8**
MTUM epP pP 20 56 16.9 +0.5
GOF Gofitskoye 82.75 316 *e*P **P** **20 56 11.0 +3.2**
ZEI Tsey 83.06 313 *e*P **P** **20 56 07.9 -1.4**
ZEI *e*PP pP 20 56 17.6 -0.5
ZEI pmax pmax
comp=Z,24nm,1.1s,mb5.1
KIV Kislovodsk 83.41 315 *e*P **P** **20 56 10.7 -0.5**
KIV *e*S S 21 06 29.4 -1.3
KIV *e*SS SS 21 11 58.4 +2.1
KIV pmax pmax
comp=Z,23nm,0.9s,mb5.2
KIV MLR MLR
comp=Z,128nm,17.0s,MS4.4
GNI Garni 83.47 310 LR LR 21 32 06.7
comp=Z,42nm,20.8s,MS3.8,baz=339,slow=35
GNI Garni 83.47 310 ⇑*e*P **P** **20 56 11.7 +0.2**
GNI pmax pmax
comp=Z,36nm,1.6s
GNI Garni 83.47 310 *e*P **P** **20 56 11.9 +0.5**
comp=Z,43nm,1.4s,mb5.3
KAF Kangasniemi 83.48 335 *e*p **P** **20 56 09.8 -1.7**
DLMT Dillon 83.82 44 *e*P **P** **20 56 13.4 +0.1**
comp=Z,8.8nm,1.1s,mb4.8
DLMT epP pP 20 56 20.8 -1.2
ELK Elko 83.88 49 *e*P **P** **20 56 14.1 +0.5**
ELK *e*PP pP 20 56 22.5 +0.2
ELK pmax pmax
comp=Z,13nm,1.0s
ELK Elko 83.88 49 *e*P **P** **20 56 14.1 +0.5**
comp=Z,13nm,1.0s,mb5.0
ELK epP pP 20 56 22.5 +0.2
FINES FINESS Array B 83.95 335 P **P** **20 56 10.8 -3.1**
comp=Z,2.1nm,0.6s,mb4.4,baz=73,slow=6.6,SNR=14
FINES LR LR 21 37 28.2
comp=Z,88nm,19.0s,MS4.2,baz=179,slow=38
FINES FINESS Array B 83.95 335 P **P** **20 56 10.8 -3.1**
FINES LR LR 21 37 28.2
TPNV Topopah Spring 84.61 53 *e*P **P** **20 56 17.9 +0.6**
TPNV *e*PP pP 20 56 25.5 -0.5
TPNV pmax pmax
comp=Z,16nm,1.2s,mb5.0
TPNV Topopah Spring 84.61 53 *e*P **P** **20 56 17.9 +0.7**
comp=Z,16nm,1.2s,mb5.0
TPNV epP pP 20 56 25.5 -0.6
QLMT Earthquake Lak 84.80 44 *e*P **P** **20 56 19.5 +1.3**
QLMT epP pP 20 56 27.8 +0.8
YMR Madison River 85.16 44 *e*P **P** **20 56 22.0 +1.9**
comp=Z,37nm,1.1s,mb5.4
YMR epP pP 20 56 29.6 +0.8
HVU Hansel Valley 85.17 47 *e*P **P** **20 56 20.9 +0.8**
HVU *e*PP pP 20 56 29.4 +0.6
HVU pmax pmax
comp=Z,23nm,1.2s,mb5.2
HVU Hansel Valley 85.17 47 *e*P **P** **20 56 20.9 +0.8**
comp=Z,23nm,1.2s,mb5.2
HVU epP pP 20 56 29.4 +0.5
YFT Old Faithful 85.34 44 *e*P **P** **20 56 23.6 +2.6**
YFT epP pP 20 56 31.8 +2.1
SOC Sochi 85.53 315 *e*P **P** **20 56 23.3 +1.4**
SOC *e* 21 06 45.6
SOC MLR MLR
comp=Z,147nm,17.0s,MS4.4
FLWY Flagg Ranch 85.59 44 *e*P **P** **20 56 23.9 +1.7**
comp=Z,23nm,0.9s,mb5.4

FLWY				*e*pP	pP	20 56 31.5	+0.6
SPUT	**South Promonto**	**85.59**	**47**	*e*P	**P**	**20 56 23.2**	**+1.1**
SPUT				*e*pP	pP	20 56 31.1	+0.2
DUG	**Dugway**	**85.79**	**48**	*e*P	**P**	**20 56 23.9**	**+0.7**
DUG				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.3						
DUG	**Dugway**	**85.79**	**48**	*e*P	**P**	**20 56 23.9**	**+0.7**
	comp=Z,17nm,0.8s,mb5.3						
HWUT	**Hardware Ranch**	**86.06**	**47**	*e*P	**P**	**20 56 25.3**	**+0.8**
	comp=Z,16nm,0.9s,mb5.2						
HWUT				*e*pP	pP	20 56 33.4	+0.1
NOQ	**North Oquirrh**	**86.09**	**48**	*e*P	**P**	**20 56 26.0**	**+1.4**
	comp=Z,54nm,1.5s,mb5.6						
NEN	**Nelson**	**86.16**	**53**	*e*P	**P**	**20 56 26.0**	**+1.0**
NEN				*e*pP	pP	20 56 33.9	+0.1
SUMG	**Summit**	**86.30**	**1**	*e*P	**P**	**20 56 25.4**	**-0.3**
	comp=Z,7.0nm,0.8s,mb4.9						
SUMG				*e*pP	pP	20 56 34.8	+0.3
ARUT	**Antelope Range**	**86.33**	**51**	*e*P	**P**	**20 56 26.6**	**+0.7**
ARUT				*e**PP	pP	20 56 35.4	+0.8
ANN	**Anapa**	**86.47**	**317**	*e*P	**P**	**20 56 28.2**	**+1.7**
ANN				*e*	pP	20 56 36.2	+0.9
ANN				pmax	pmax		
	comp=Z,19nm,1.7s,mb5.0						
CCUT	**Cedar City**	**86.49**	**51**	*e*P	**P**	**20 56 28.0**	**+1.4**
CCUT				*e*pP	pP	20 56 35.9	+0.5
DAU	**Daniels Canyon**	**86.78**	**48**	*e*P	**P**	**20 56 29.0**	**+0.9**
DAU				*e**PP	pP	20 56 37.0	+0.2
PDAR	**Pinedale Array**	**86.91**	**45**	P	**P**	**20 56 29.2**	**+0.5**
	comp=Z,1.0nm,0.7s,mb4.2,baz=293,slow=5.4,SNR=4.1						
MSU	**Marysvale**	**86.94**	**50**	*e*P	**P**	**20 56 30.0**	**+1.2**
MSU				*e**PP	pP	20 56 38.2	+0.6
SRU	**San Rafael**	**87.85**	**49**	*e*P	**P**	**20 56 33.6**	**+0.4**
SRU				*e**PP	pP	20 56 41.8	-0.2
SRU				pmax	pmax		
	comp=Z,13nm,1.0s,mb5.1						
SRU	**San Rafael**	**87.85**	**49**	*e*P	**P**	**20 56 33.6**	**+0.4**
	comp=Z,13nm,1.0s,mb5.1						
SRU				*e*pP	pP	20 56 41.8	-0.2
AKASG	**Malin Array Be**	**88.40**	**325**	P	**P**	**20 56 33.0**	**-2.8**
	comp=Z,1.9nm,0.7s,mb4.4,baz=50,slow=5.2,SNR=10.0						
MALT	**Malatya**	**88.69**	**311**	*e*P	**P**	**20 56 38.3**	**+1.1**
MALT				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.8						
MALT	**Malatya**	**88.69**	**311**	*e*P	**P**	**20 56 38.3**	**+1.1**
	comp=Z,6.7nm,1.4s,mb4.8						
PV10	**Paradox Valley**	**89.22**	**49**	*e*P	**P**	**20 56 40.4**	**+0.7**
PV10				*e*pP	pP	20 56 48.7	+0.2
NOA	**NORSAR Array B**	**89.65**	**339**	LR	LR	21 41 07.7	
	comp=Z,109nm,19.3s,MS4.3,baz=25,slow=38						
PV01	**Paradox Valley**	**89.66**	**49**	*e*P	**P**	**20 56 42.0**	**+0.3**
PV01				*e*pP	pP	20 56 50.8	+0.2
RKT	**Rikitea**	**90.17**	**115**	*e*LR	LR	21 25 13.9	
	comp=Z,399nm,34.8s,baz=293						
SMCO	**Snowmass**	**90.29**	**47**	*e*P	**P**	**20 56 46.0**	**+1.4**
	comp=Z,15nm,1.0s,mb5.3						
SMCO				*e*pP	pP	20 56 54.2	+0.8
ISCO	**Idaho Springs**	**90.92**	**46**	*e*P	**P**	**20 56 48.3**	**+0.7**
ISCO				*e**PP	pP	20 56 56.6	+0.2
ISCO				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.2						
ISCO	**Idaho Springs**	**90.92**	**46**	*e*P	**P**	**20 56 48.3**	**+0.7**
	comp=Z,12nm,1.0s,mb5.2						
ISCO				*e*pP	pP	20 56 56.5	+0.2
FRB	**Frobisher Bay**	**91.39**	**14**	LR	LR	21 41 02.8	
	comp=Z,115nm,20.0s,MS4.3,baz=338,slow=38						
ANMO	**Albuquerque**	**92.64**	**51**	*e*P	**P**	**20 56 56.5**	**+0.9**
ANMO				*e**PP	pP	20 57 04.7	+0.3
ANMO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ANMO	**Albuquerque**	**92.64**	**51**	*e*P	**P**	**20 56 56.5**	**+0.9**
	comp=Z,7.8nm,1.0s,mb5.1						
ANMO				*e*pP	pP	20 57 04.7	+0.3
GERES	**GERESS Array B**	**97.42**	**330**	LR	LR	21 42 24.4	
	comp=Z,147nm,18.9s,MS4.5,baz=72,slow=36						
TORD	**Torodi Ar. Bea**	**129.77**	**310**	PKP	PKPdf	21 02 54.3	+1.2
	comp=Z,0.3nm,0.7s,baz=61,slow=2.0,SNR=4.1						
PLCA	**Paso Flores**	**144.74**	**131**	PKP	PKPdf	21 03 19.9	-0.6
	comp=Z,14nm,1.1s,baz=243,slow=2.7,SNR=13						
PLCA	**Paso Flores**	**144.74**	**131**	*e*PKPdf	PKPdf	21 03 19.2	-1.3
PLCA				*e*pPKPdf	pPKPdf	21 03 25.3	-4.3
LPAZ	**La Paz**	**148.93**	**86**	PKP	PKPdf	21 03 28.6	+1.0
	comp=Z,3.0nm,0.8s,baz=313,slow=2.2,SNR=13						
LPAZ				PKPbc	PKPbc	21 03 32.6	+1.1
	comp=Z,3.0nm,0.8s,baz=318,slow=1.9,SNR=13						
LPAZ	**La Paz**	**148.93**	**86**	*e*PKPdf	PKPdf	21 03 28.7	+1.2
SAML	**Samuel**	**150.81**	**69**	*e*PKPdf	PKPdf	21 03 29.2	-1.3
SAML				*e*PKPbc	PKPbc	21 03 36.0	-0.2

NIED ***23*** *20:46:00, 33.30N×137.20E, h11km, Mw4.1 Best double couple: M0 1.54000×10^15 NP1:φ=272.00000°, δ=53.00000°, λ=105.00000°. NP2:φ=67.00000°, δ=40.00000°, λ=71.00000°.*

NEIC ***23*** *20:46:02.0±4.2, 33.15N×137.22E, h21km±31km, mb4.3/2, Error ellipse: s-maj=34.4km s-min=14.1km az=88.3*

JMA ***23*** *20:46:02.4±0.1, 33.25N×137.15E, h41km±2km, M4.3*

MOS ***23*** *20:46:02.3±0.4, 33.17N×137.33E, h33km, mb4.2/4, Error ellipse: s-maj=34.4km s-min=14.1km az=88.3*

ISCJB ***23*** *20:46:02.4±0.5, 33.26N±0.04×137.16E±0.02, h41km±7km, mb3.9/6, MS4.2/1, Error ellipse: s-maj=6.0km s-min=3.2km az=171.8*

IDC ***23*** *20:46:03.3±6.4, 33.22N×137.22E, h28km±47km, mb3.7/5, mb1 4.0/9, mb1mx3.8/21, mbtmp4.0/9, ML4.0/4, MS3.3/3, Ms1 3.3/3, ms1mx2.8/28, Error ellipse: s-maj=21.7km s-min=18.9km az=71.0*

ISC 23 20:46:03.3±0.8, 3327N±003×13716E±002, h33km±6km, n41, σ0§91/64, mb3.9/6, MS4.2/1, 11D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	**0.60**	**36**	P	**Pb**	**20 46 14.8**	**-0.7**
TK01				S	**Sb**	**20 46 23.7**	**-0.2**
TK02	**Tokai 2**	**0.83**	**36**	↓P	**Pn**	**20 46 18.1**	**-0.6**
TK02				S	**Sn**	**20 46 29.9**	**+0.1**
TK03	**Tokai 3**	**1.11**	**37**	↓P	**Pn**	**20 46 22.1**	**-0.4**
TK03				S	**Sn**	**20 46 36.2**	**-0.5**
JIE	**Ise**	**1.18**	**341**	↓P	**Pn**	**20 46 23.6**	**+0.2**
JIE				S	**Sn**	**20 46 38.5**	**+0.2**
JKN2	**Miekihoku**	**1.22**	**323**	↓P	**Pn**	**20 46 23.7**	**-0.2**
JKN2				S	**Sn**	**20 46 37.9**	**-1.3**
JWZ	**Kozaga**	**1.24**	**282**	↓P	**Pn**	**20 46 23.5**	**-0.8**
JWZ				S	**Sn**	**20 46 38.1**	**-1.7**
TK04	**Tokai 4**	**1.26**	**28**	↓P	**Pn**	**20 46 24.4**	**-0.1**
TK04				S	**Sn**	**20 46 40.3**	**0.0**
TSUJ	**Tsu 2**	**1.56**	**337**	↓P	**Pn**	**20 46 28.8**	**+0.1**
TSUJ				S	**Sn**	**20 46 47.9**	**+0.1**
JWY	**Kouya**	**1.61**	**306**	P	**Pn**	**20 46 29.8**	**+0.4**
JWY				S	**Sn**	**20 46 48.6**	**-0.5**
JWM	**Minabe**	**1.62**	**291**	↓P	**Pn**	**20 46 29.2**	**-0.3**
JWM				S	**Sn**	**20 46 48.0**	**-1.1**
JHE	**Heguri**	**1.84**	**319**	↓P	**Pn**	**20 46 32.9**	**+0.3**
JHE				S	**Sn**	**20 46 54.6**	**-0.2**
SHZ3	**Shizuoka 3**	**1.99**	**26**	P	**Pn**	**20 46 34.3**	**-0.3**
SHZ3				S	**Sn**	**20 46 57.4**	**-0.9**
JIZS	**Izushimoda**	**2.02**	**44**	P	**Pn**	**20 46 36.6**	**+1.5**
JIZS				S	**Sn**	**20 46 59.3**	**0.0**
JMY	**Miyakejima3**	**2.11**	**67**	P	**Pn**	**20 46 36.8**	**+0.5**
JMY				*e*S	**Sn**	**20 47 01.8**	**+0.4**
JHJ	**Hachijo jima 2**	**2.20**	**93**	Pn	**Pn**	**20 46 38.0**	**+0.4**
	50nm,0.3s,baz=96,slow=23,SNR=16						
JHJ				Sn	**Sn**	**20 47 02.6**	**-1.0**
	105nm,0.3s,baz=43,slow=19,SNR=14						
JHJ				LR	LR	20 47 20.0	
	comp=Z,273nm,19.6s,baz=107,slow=35						
JAJ2	**Tsuna**	**2.21**	**302**	↓P	**Pn**	**20 46 38.5**	**+0.8**
JAJ2				S	**Sn**	**20 47 03.8**	**-0.1**
JHJ2	**Mitsune**	**2.23**	**93**	P	**Pn**	**20 46 37.7**	**-0.2**
JHJ2				*e*S	**Sn**	**20 47 02.7**	**-1.6**
JAI	**Aioi**	**2.32**	**284**	↓P	**Pn**	**20 46 39.3**	**+0.1**
JAI				S	**Sn**	**20 47 05.3**	**-1.3**
JIM2	**Oshima 3**	**2.37**	**52**	P	**Pn**	**20 46 40.5**	**+0.7**
JIM2				S	**Sn**	**20 47 06.8**	**-1.0**
MJAR	**Matsushiro Arr**	**3.37**	**14**	Pn	**Pn**	**20 46 54.7**	**+1.1**
	20nm,0.3s,baz=192,slow=14,SNR=213						
MJAR				Sn	**Sn**	**20 47 33.1**	**+0.6**
	45nm,0.3s,baz=269,slow=6.0,SNR=19						
MJAR				LR	LR	20 48 26.7	
	comp=Z,250nm,18.2s,baz=205,slow=42						
MJAR	**Matsushiro Arr**	**3.37**	**14**	P	**Pn**	**20 46 54.7**	**+1.1**
MJAR						20 47 33.1	
MJAR				pmax	pmax		
	comp=Z,20nm,0.3s						
MJAR				smax			
	comp=N,45nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,250nm,18.3s						
MAJO	**Matsushiro**	**3.37**	**14**	*e*Pn	**Pn**	**20 46 54.9**	**+1.3**
MAJO				*e*Sn	**Sn**	**20 47 33.0**	**+0.5**
MAT	**Matsushiro**	**3.37**	**14**	P	**Pn**	**20 46 54.8**	**+1.2**
MAT				S	**Sn**	**20 47 32.8**	**+0.3**
MAT	**Matsushiro**	**3.37**	**14**	*e*P	**Pn**	**20 46 55.0**	**+1.4**
MAT				*e*S	**Sn**	**20 47 33.0**	**+0.5**
JNU	**Nakatsue**	**5.27**	**270**	Pn	**Pn**	**20 47 19.9**	**+0.2**
	comp=Z,10nm,0.3s,baz=212,slow=0.8,SNR=4.5						
JNU				Sn	**Sn**	**20 48 20.9**	**+1.6**
	comp=Z,24nm,0.3s,baz=171,slow=0.4,SNR=4.2						
ASAJ	**Asahikawa**	**11.62**	**20**	Pn	**Pn**	**20 48 46.9**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=208,slow=15,SNR=4.2						
YSS	**Yuzh-Sakhalins**	**14.31**	**16**	*e*P	**Pn**	**20 49 21.2**	**-2.3**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,700nm,14.0s						
YSS				MLR	MLR		
	comp=N,800nm,16.0s						
BJT	**Baijiatuau**	**18.12**	**298**	P	**Pn**	**20 50 15.2**	**+2.9**
BJT				pmax	pmax		
	comp=Z,28nm,1.4s						
BJT	**Baijiatuau**	**18.12**	**298**	P	**Pn**	**20 50 15.2**	**+2.8**
	comp=Z,28nm,1.4s						
KULM	**Kulim**	**43.91**	**239**	P	**P**	**20 54 05.4**	**-1.4**
WRA	**Warramunga Arr**	**52.98**	**183**	P	**P**	**20 55 17.1**	**+0.4**
	comp=Z,1.2nm,0.7s,mb3.9,baz=4.7,slow=7.8,SNR=6.0						
WRA	**Warramunga Arr**	**52.98**	**183**	P	**P**	**20 55 17.1**	**+0.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**56.71**	**184**	P	**P**	**20 55 44.8**	**+1.2**
	comp=Z,0.6nm,0.7s,mb3.7,baz=9.9,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**56.71**	**184**	P	**P**	**20 55 44.8**	**+1.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
STKA	**Stephens Creek**	**64.94**	**176**	P	**P**	**20 56 38.0**	**-1.5**
	comp=Z,1.5nm,0.8s,mb4.0,baz=297,slow=6.8,SNR=3.2						
AKASG	**Malin Array Be**	**75.09**	**321**	P	**P**	**20 57 42.6**	**+0.7**
	comp=Z,0.4nm,0.3s,mb3.8,baz=52,slow=5.8,SNR=4.0						
MALT	**Malatya**	**76.29**	**307**	P	**P**	**20 57 50.2**	**+1.5**
MALT				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
MALT	**Malatya**	**76.29**	**307**	P	**P**	**20 57 50.1**	**+1.4**
	comp=Z,3.0nm,1.0s,mb4.2						
GERES	**GERESS Array B**	**83.98**	**326**	P	**P**	**20 58 31.9**	**+1.6**
	comp=Z,0.8nm,0.7s,mb4.0,baz=34,slow=5.0,SNR=8.2						
GERES	**GERESS Array B**	**83.98**	**326**	P	**P**	**20 58 31.9**	**+1.7**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KMBO	**Kilima Mbogo**	**98.91**	**275**	LR	LR	21 43 07.6	
	comp=Z,64nm,18.5s,MS4.2,baz=94,slow=35						

NEIC ***23*** *20:49:06.9, 44.08S×168.77E, h0km, ML4.0(WEL), After WEL.*

WEL 23 20:49:07.7±0.2, 4408S×16879E, h12km, ML2.8/10, 1D, Error ellipse: s-maj=1.8km s-min=1.3km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCZ	**Jackson Bay**	**0.02**	**271**	↓PG	Pg	20 49 09.7	-0.1
JCZ				SG	Sg	20 49 10.7	-0.5
JCZ				SG	Sg	20 49 10.8	-0.5
JCZ	**Jackson Bay**	**0.02**	**271**	P	Pg	20 49 09.7	-0.1
WKZ	**Wanaka**	**0.77**	**168**	P*	Pb	20 49 21.9	-1.0
WKZ				S*	Sb	20 49 31.6	-1.8
WKZ	**Wanaka**	**0.77**	**168**	P	Pg	20 49 22.0	-0.6
WKZ				S	Sg	20 49 31.8	-0.9
FOZ	**Fox Glacier**	**0.83**	**52**	P*	Pb	20 49 24.6	+0.6
FOZ				S*	Sb	20 49 38.6	+3.6
FOZ	**Fox Glacier**	**0.83**	**52**	*e*P	Pg	20 49 24.6	+1.0
MSZ	**Milford Sound**	**0.86**	**226**	P*	Pb	20 49 23.5	-1.0
MSZ				S*	Sb	20 49 34.7	-1.3
MSZ	**Milford Sound**	**0.86**	**226**	P	Pg	20 49 23.6	-0.7
MSZ				S	Sg	20 49 34.5	-1.0
LBZ	**Lake Benmore**	**1.05**	**108**	*S**	Sb	20 49 40.7	-0.8
LBZ	**Lake Benmore**	**1.05**	**108**	*e*P	Pb	20 49 27.6	-0.1
EAZ	**Earnscleugh**	**1.22**	**162**	P*	Pb	20 49 29.9	-0.6
EAZ				S*	Sb	20 49 45.3	-0.9
EAZ	**Earnscleugh**	**1.22**	**162**	*e*P	Pn	20 49 30.1	-0.3
MLZ	**Mavora Lakes**	**1.35**	**199**	PN	Pn	20 49 32.5	+0.3
MLZ	**Mavora Lakes**	**1.35**	**199**	*e*P	Pn	20 49 32.6	+0.4
ODZ	**Otahua Downs**	**1.64**	**127**	PN	Pn	20 49 37.1	+0.8
ODZ	**Otahua Downs**	**1.64**	**127**	*e*P	Pn	20 49 37.4	+1.1
WVZ	**Waitaha Valley**	**1.73**	**55**	PN	Pn	20 49 40.1	+2.5
WVZ	**Waitaha Valley**	**1.73**	**55**	*e*P	Pn	20 49 39.6	+2.1
WHZ	**Wether Hill Ro**	**1.92**	**198**	PN	Pn	20 49 41.7	+1.7
WHZ	**Wether Hill Ro**	**1.92**	**198**	*e*P	Pn	20 49 41.7	+1.6
TUZ	**Tuapeka**	**1.97**	**163**	PN	Pn	20 49 43.5	+2.7
TUZ	**Tuapeka**	**1.97**	**163**	*e*P	Pn	20 49 43.6	+2.7

ISCJB ***23*** *21:07:05.8±0.4, 5147N±002×16.16E±002, h0km, Error ellipse: s-maj=3.5km s-min=2.0km az=27.0*

IPEC ***23*** *21:07:07.5±0.3, 5150N×1622E, h0km, ML2.6/4, Error ellipse: s-maj=4.0km s-min=1.9km az=85.0*

BGR ***23*** *21:07:08.7±0.9, 5146N×1617E, h1km, ML3.1, Error ellipse: s-maj=14.5km s-min=5.6km az=1.0*

IDC ***23*** *21:07:09.4±0.9, 5141N×1613E, h0km, mb1 3.4/6, mb1mx3.2/19, mbtmp3.3/6, ML2.7/6, Error ellipse: s-maj=14.0km s-min=8.1km az=105.0*

WAR ***23*** *21:07:09.4, 5145N×1617E, ML2.8, Mining Induced*

VIE ***23*** *21:07:09.6±0.7, 5130N×1610E, h0km, mb2.2/4, ML2.9/4, Error ellipse: s-maj=4.2km s-min=3.9km az=171.0 67 km WNW of Breslau Suspected Mining induced.*

CSEM ***23*** *21:07:10.5±0.2, 5140N×1612E, h2km, ML3.3/9, Error ellipse: s-maj=3.9km s-min=1.8km az=8.0*

PRU ***23*** *21:07:10.4, 51.39N×1609E, h0km*

ISC 23 21:07:07.8±0.4, 5148N±002×1614E±002, h0km, n44, σ1§02/82, 2D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.64**	**171**	*i* Pgd	**Pg**	**21 07 20.5**	**+0.4**
KSP				*e*Sg	**Sg**	**21 07 28.7**	**+0.2**
KSP				*e*L		21 07 32.7	
KSP	**Ksiaz**	**0.64**	**171**	*e*Pg	**Pg**	**21 07 20.2**	**+0.1**
KSP				*e*Sg	**Sg**	**21 07 28.1**	**-0.4**
UPC	**Upice**	**0.98**	**185**	*e*PG	**Pg**	**21 07 26.6**	**+0.1**
DPC	**Dobruska-Polom**	**1.14**	**174**	*e*PG	**Pg**	**21 07 29.3**	**-0.2**
DPC				*e*SG	**Sg**	**21 07 44.0**	**-0.3**
	65nm,0.7s						
DPC	**Dobruska-Polom**	**1.14**	**174**	*e*Pg	**Pg**	**21 07 29.3**	**-0.2**
DPC				*e*Sg	**Sg**	**21 07 43.6**	**-0.7**
BRG	**Berggiesshubel**	**1.51**	**247**	*e*Pg	**Pg**	**21 07 37.1**	**+0.4**
BRG				*e*Sg	**Sg**	**21 07 57.3**	**+1.0**
BRG	**Berggiesshubel**	**1.51**	**247**	PN	Pn	**21 07 35.7**	**-0.4**
BRG				PG	**Pg**	**21 07 37.3**	**+0.6**
BRG				SG	**Sg**	**21 07 57.4**	**+1.1**
	52nm,0.6s						
PRU	**Pruhonice**	**1.81**	**215**	*e*PN	Pn	**21 07 40.5**	**+0.4**
PRU				*e*PG	**Pg**	**21 07 41.8**	**-0.6**
PRU				*e*SG	**Sg**	**21 08 05.3**	**-0.5**
	58nm,0.3s						
FBE	**Freiberg**	**1.84**	**253**	*e*Sg	**Sg**	**21 08 07.2**	**+0.3**
MORC	**Moravsky Berou**	**1.92**	**152**	*e*Pn	**Pn**	**21 07 41.1**	**-0.6**
MORC				*e*Sg	**Sg**	**21 08 07.6**	**-2.0**
	34nm,0.6s						
CLL	**Collm**	**1.97**	**266**	*e*Pg	**Pg**	**21 07 45.0**	**-0.6**
CLL				*e*Sg	**Sg**	**21 08 11.3**	**+0.2**
CLL	**Collm**	**1.97**	**266**	*e*Pg	**Pg**	**21 07 45.0**	**-0.6**
CLL				*ex*	x	21 07 46.0	
CLL				*e*Sg	**Sg**	**21 08 13.0**	**+1.8**
	comp=Z,23nm,0.6s						
CLL				LmV		21 43 00.0	
	comp=Z,200nm,18.5s						
CLL	**Collm**	**1.97**	**266**	Pg	**Pg**	**21 07 45.0**	**-0.6**
CLL				Sg	**Sg**	**21 08 11.3**	**+0.1**
OKC	**Ostrava-Krasne**	**2.08**	**141**	*e*PN	Pn	**21 07 45.3**	**+1.4**
OKC				*e*PG	**Pg**	**21 07 47.9**	**+0.3**
OKC				*e*SG	**Sg**	**21 08 15.0**	**+0.4**
	comp=Z,31nm,0.6s						
VRAC	**Vranov**	**2.19**	**172**	Pn	**Pn**	**21 07 45.6**	**+0.1**
	comp=Z,3.0nm,0.3s,baz=340,slow=16,SNR=7.3						
VRAC				Pg	**Pg**	**21 07 49.2**	**-0.6**
	comp=Z,3.0nm,0.3s,baz=340,slow=17,SNR=9.2						
VRAC				Lg		21 08 17.0	
	comp=Z,4.2nm,0.3s,baz=65,slow=22,SNR=5.6						
VRAC	**Vranov**	**2.19**	**172**	*e*Pn	**Pn**	**21 07 45.7**	**+0.3**
VRAC				*e*Sg	**Sg**	**21 08 16.9**	**-1.3**
	comp=Z,24nm,0.5s						
KRUC	**Moravsky**	**2.42**	**176**	*e*Pn	**Pn**	**21 07 48.8**	**+0.2**
KRUC				*e*Sg	**Sg**	**21 08 23.8**	**-1.9**
	comp=Z,21nm,0.7s						
TANN	**Tannenbergstha**	**2.56**	**247**	*e*Pn	**Pn**	**21 07 51.1**	**+0.6**
TANN				*e*Sg	**Sg**	**21 08 29.5**	**-0.5**
OJC	**Ojcow**	**2.64**	**117**	*e*Pg	**Pg**	**21 07 58.8**	**+0.5**
OJC				*e*Sg	**Sg**	**21 08 32.5**	**0.0**
NKC	**Novy Kostel**	**2.65**	**243**	*e*PN	**Pn**	**21 07 52.4**	**+0.6**
NKC				*e*PG	**Pg**	**21 07 58.7**	**+0.1**
NKC				*e*SG	**Sg**	**21 08 33.4**	**+0.4**
	comp=Z,57nm,0.4s						
WERN	**Wernitzgruen**	**2.67**	**245**	*e*Pn	**Pn**	**21 07 52.7**	**+0.8**
NEUB	**Neuenburg**	**2.75**	**266**	*e*Sg	**Sg**	**21 08 37.1**	**+1.0**
JAVC	**Velka Javorina**	**2.80**	**159**	*e*Pn	**Pn**	**21 07 55.8**	**+2.0**
JAVC				*e*Sg	**Sg**	**21 08 38.0**	**+0.2**
	comp=Z,29nm,0.8s						
KHC	**Kasperske Hory**	**2.87**	**216**	*e*PN	**Pn**	**21 07 55.4**	**+0.7**
KHC				*e*PG	**Pg**	**21 08 01.2**	**-1.5**
KHC				*e*SN	**Sn**	**21 08 29.2**	**-0.7**
KHC				*e*SG	**Sg**	**21 08 38.5**	**-1.4**
	comp=Z,12nm,0.4s						
MOX	**Moxa**	**2.98**	**255**	*e*Pg	**Pg**	**21 08 05.1**	**+0.3**
MOX				*e*Sg	**Sg**	**21 08 44.2**	**+0.9**
MOX	**Moxa**	**2.98**	**255**	*e*PG	**Pg**	**21 08 05.1**	**+0.3**
MOX				*e*SG	**Sg**	**21 08 45.2**	**+1.8**
ROTZ	**Rotzenmuhle**	**3.04**	**237**	*e*Pn	Pn	**21 07 57.7**	**+0.7**
GEC2	**GERESS Array S**	**3.07**	**212**	*e*Pn	Pn	**21 07 58.4**	**+1.0**
GERES	**GERESS Array B**	**3.07**	**212**	Pn	Pn	**21 07 58.6**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=32,slow=13,SNR=14						
GERES				Pg	**Pg**	**21 08 04.5**	**-2.1**
	comp=Z,2.3nm,0.3s,baz=33,slow=17,SNR=35						
GERES				Lg		21 08 44.0	
	comp=Z,6.2nm,0.3s,baz=28,slow=29,SNR=12						
SMOL	**Smolenice**	**3.08**	**164**	*e*SG	**Sg**	**21 08 49.9**	**+3.1**
WET	**Wettzell**	**3.14**	**223**	*e*Pn	Pn	**21 07 58.9**	**+0.4**
NIE	**Niedzica**	**3.37**	**126**	*e*P	**Pg**	**21 08 11.7**	**-0.7**
NIE				*e*S	**Sg**	**21 08 55.8**	**-0.3**
GRF	**Grafenberg Arr**	**3.61**	**242**	*e*Sg	**Sg**	**21 09 03.7**	**-0.1**
BSD	**Bornholm Skovb**	**3.71**	**349**	*i* P	Pn	**21 08 05.7**	**-0.7**
BSD				*i* S	Sn	**21 08 46.7**	**-4.1**
MOA	**Molln**	**3.83**	**199**	↓*i* Pn	Pn	**21 08 07.2**	**-0.8**
MOA				↓*i* Sg	**Sg**	**21 09 10.5**	**-0.4**
	comp=Z,16nm,0.5s						
STHS	**Stebnicka Huta**	**3.86**	**120**	*e*PN	Pn	**21 08 09.4**	**+1.1**
STHS				*e*PG	**Pg**	**21 08 21.7**	**0.0**
STHS				*e*SG	**Sg**	**21 09 17.2**	**+5.4**
KECS	**Kecovo**	**4.11**	**135**	*e*PG	**Pg**	**21 08 26.9**	**+0.5**
KECS				*e*SG	**Sg**	**21 09 21.5**	**+1.9**
CRVS	**Cervenica-Dubn**	**4.28**	**125**	*e*PG	**Pg**	**21 08 29.3**	**-0.5**
CRVS				*e*SG	**Sg**	**21 09 28.4**	**+3.1**
KOLS	**Kolonicke sedl**	**4.69**	**121**	*e*PN	Pn	**21 08 19.5**	**-0.3**
KOLS				*e*PG	**Pg**	**21 08 40.2**	**+2.6**
KOLS				*e*SG	**Sg**	**21 09 39.2**	**+0.8**
KOLS	**Kolonicke sedl**	**4.69**	**121**	*e*Pn	Pn	**21 08 19.6**	**-0.2**
AKASG	**Malin Array Be**	**8.28**	**90**	Pn	Pn	**21 09 07.0**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=278,slow=12,SNR=3.0						
HFS	**Hagfors**	**8.78**	**352**	Pn	Pn	**21 09 15.3**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=156,slow=14,SNR=2.7						
FINES	**FINESS Array B**	**11.38**	**25**	Pn	Pn	**21 09 49.9**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=195,slow=36,SNR=3.3						
ARCES	**ARCESS Array B**	**18.65**	**10**	Pn	Pn	**21 11 24.6**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=188,slow=12,SNR=3.4						

**IDC 23 21:09:19.7±2.5, 416S×13523E, h0km, mb3.3/1, mb1 3.6/4, mb1mx3.5/12, mbtmp3.5/4, ML3.1/2, Error

IGQ 23 22:05:20.4,222S×7958W,h23km±3km,Mb4.2,Ms4.0, 10C-9D,Error ellipse: s-maj=6.3km s-min=1.7km az=67.6,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**1.19**	**52**	⇑*P*	Pn	22 05 44.2	+2.6
IGUA				*S*	Sn	22 05 59.0	+2.0
ARRY	**Arrayan**	**1.33**	**58**	⇑*P*	Pn	22 05 45.4	+1.9
CUSU	**Cusua**	**1.34**	**55**	⇑*P*	Pn	22 05 46.2	+2.5
CUSU				*S*	Sn	22 06 05.0	+4.2
PATA	**Patacocha**	**1.35**	**58**	⇑*P*	Pn	22 05 46.1	+2.3
JUIV	**Juive**	**1.37**	**55**	⇓*P*	Pn	22 05 46.1	+2.0
JUIV				*S*	Sn	22 06 04.7	+3.2
RETU	**Refugio**	**1.37**	**56**	⇑*P*	Pn	22 05 46.6	+2.6
RETU				*S*	Sn	22 06 05.4	+3.9
ULBA	**Ulba**	**1.40**	**57**	⇓*P*	Pn	22 05 46.8	+2.3
ULBA				*S*	Sn	22 06 05.4	+3.2
RUN5	**Runtun**	**1.41**	**55**	⇑*P*	Pn	22 05 46.9	+2.3
RUN5				*S*	Sn	22 06 05.9	+3.6
SALI	**Salinas**	**1.41**	**271**	*P*	Pn	22 05 47.9	+3.2
QIL1	**Quilotoa**	**1.51**	**25**	⇓*P*	Pn	22 05 47.6	+1.5
PISA	**Pisayambo**	**1.66**	**46**	⇑*P*	Pn	22 05 50.5	+2.4
PISA				*S*	Sn	22 06 12.2	+3.5
CAMI	**Rancho Maria**	**1.87**	**35**	⇓*P*	Pn	22 05 53.6	+2.6
NAS1	**Nasa**	**1.92**	**35**	⇓*P*	Pn	22 05 54.4	+2.7
TAMB	**Tambo**	**1.94**	**39**	⇑*P*	Pn	22 05 54.6	+2.6
VC1	**Cotopaxi 1**	**1.96**	**37**	⇓*P*	Pn	22 05 54.6	+2.4
VC1				*S*	Sn	22 06 20.3	+4.2
MAG1	**Magdalena**	**2.14**	**355**	⇑*P*	Pn	22 05 56.1	+1.4
TERV	**Terraza Guagua**	**2.25**	**26**	⇓*P*	Pn	22 05 58.9	+2.6
TERV				*S*	Sn	22 06 27.2	+3.9
GGP	**Refugio Guagua**	**2.26**	**26**	⇓*P*	Pn	22 05 58.9	+2.5
ANTI	**Antisana**	**2.26**	**39**	*P*	Pn	22 05 58.2	+1.9
PINO	**Pino**	**2.27**	**25**	⇓*P*	Pn	22 05 59.1	+2.6
PINO				*S*	Sn	22 06 28.5	+4.8
ANGU	**Angureal**	**2.75**	**35**	⇑*P*	Pn	22 06 05.7	+2.6
CAYA	**Cayambe**	**2.78**	**35**	*P*	Pn	22 06 05.1	+1.6
COTA	**Cotacachi**	**2.83**	**26**	*P*	Pn	22 06 07.0	+2.8
COTA				*S*	Sn	22 06 44.7	+7.2
CONE	**Cono NE Rev Vo**	**2.88**	**42**	*P*	Pn	22 06 06.7	+1.8

MOS ***23*** *22:10:25.8±0.9,3656N×7103E,h207km,mb4.0/14,Error ellipse: s-maj=13.0km s-min=7.2km az=95.8*
ISCJB ***23*** *22:10:26.9±0.4,3659N±003×7105E±005,h217km±5km, mb3.9/19,Error ellipse: s-maj=7.1km s-min=3.7km az=143.1*
IDC ***23*** *22:10:28.5±1.0,3641N×7092E,h224km±8km,mb3.6/11, mb1 3.8/12,mb1mx3.5/20,mbtmp4.2/12,Error ellipse: s-maj=20.4km s-min=12.0km az=39.0*
BJI ***23*** *22:10:28.2,3682N×7106E,h211km,mb4.6*
NEIC ***23*** *22:10:29.0±0.3,3658N×7110E,mb4.4/9,Error ellipse: s-maj=8.1km s-min=6.5km az=222.0*
NNC ***23*** *22:10:32.5±3.2,3704N×7099E,h217km±17km,mb3.6, mpv4.9,Error ellipse: s-maj=36.4km s-min=16.7km az=13.0*

ISC 23 22:10:27.7±0.4,3660N±003×7104E±005,h211km±5km, h223km±3.8km:pP-P,n103,σ0:96/134,mb3.9/19,6C-12D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.86**	**165**	⇓*P*	Pn	**22 11 17.5**	**+1.2**
CHCP	**Chirah Chowk**	**3.45**	**147**	⇓*P*	Pn	**22 11 24.5**	**+1.3**
CHCP				*S*	S	**22 11 59.0**	**-7.9**
THW	**Thamme Wali**	**3.84**	**171**	*P*	Pn	**22 11 28.7**	**+0.8**
KSH	**Kashi**	**4.87**	**52**	⇓*iP*	Pn	**22 11 42.0**	**+1.3**
KSH				*S*	S	**22 12 38.1**	**-0.2**
KSH				Smax			
	comp=N,986nm,0.4s						
KSH				Smax			
	comp=E,659nm,0.4s						
DLH	**Dalhousie**	**5.74**	**133**	*eP*	Pn	**22 11 52.0**	**+0.3**
DLH				*ex*	x	22 12 59.0	
PONG	**Pong**	**6.16**	**137**	*eP*	Pn	**22 12 00.0**	**+2.8**
PONG				*eS*	S	**22 13 06.0**	**-2.2**
KK31	**Karatay Array**	**6.51**	**357**	⇓*P*	Pn	**22 12 01.3**	**-0.4**
	comp=E,39nm,0.4s,baz=172,slow=12,SNR=1852						
KK31				⇑*S*	S	**22 13 10.1**	**-6.2**
	comp=E,97nm,0.6s,baz=187,slow=22,SNR=16						
KKAR	**Karatay Array**	**6.51**	**357**	*ePN*	Pn	**22 12 01.3**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,23nm,0.3s						
FRU	**Bishkek**	**6.81**	**23**	⇓*iPN*	Pn	**22 12 20.5**	**+15**
FRU				*eS*	S	**22 13 22.9**	**-0.5**
FRU				pmax	pmax		
	comp=Z,170nm,0.8s						
FRU				smax			
	comp=E,140nm,1.9s						
SDNR	**Sundarnagar**	**7.08**	**134**	*eP*	Pn	**22 12 08.6**	**-0.4**
SDNR				*eS*	S	**22 13 24.2**	**-5.4**
TKM2	**Tokmak 2**	**7.23**	**28**	⇓*P*	Pn	**22 12 11.1**	**+0.2**
	comp=E,19nm,0.6s						
TKM2	**Tokmak 2**	**7.23**	**28**	PN	Pn	**22 12 11.1**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,119nm,0.6s						
SMLA	**Simla**	**7.46**	**135**	*eP*	Pn	**22 12 12.8**	**-1.2**
SMLA				⇓*iP*		22 12 12.8	
SMLA				*iS*	S	**22 13 32.2**	**-6.5**
	comp=Z,1μm,0.4s						
SMLA				*eS*	S	**22 13 32.4**	**-6.3**
SMLA				AML	AML	22 13 36.3	
	comp=N,392nm,0.6s						
SMLA				AML	AML	22 13 38.0	
	comp=E,383nm,0.4s						
KLP	**Kalpa**	**7.83**	**128**	*eP*	Pn	**22 12 18.2**	**-0.5**
KLP				*eS*	S	**22 13 40.7**	**-6.6**
KLP				AML	AML	22 13 46.6	
	comp=E,514nm,0.6s						
KLP				AML	AML	22 13 47.6	
	comp=N,573nm,0.6s						
KNDC	**Almaty**	**8.03**	**33**	⇑*P*	Pn	**22 12 22.0**	**+0.7**
	comp=N,150nm,0.6s						
JOSI	**Joshimath**	**9.31**	**128**	*eP*	Pn	**22 12 37.2**	**-0.8**
JOSI				*eS*	S	**22 14 14.6**	**-7.9**
JOSI				AML	AML	22 14 17.6	
	comp=N,526nm,1.0s						
JOSI				AML	AML	22 14 20.9	
	comp=Z,315nm,0.6s						
NDI	**New Delhi**	**9.45**	**145**	*eP*	Pn	**22 12 39.3**	**-0.4**
NDI				*eS*	S	**22 14 17.0**	**-8.7**
NDI				*eS*	S	**22 14 19.0**	**-6.8**
NDI				AML	AML	22 14 22.9	
	comp=N,55nm,0.6s						
NDI				AML	AML	22 14 23.3	
	comp=E,41nm,0.3s						
KUDL	**Kundal**	**9.60**	**150**	*eP*	Pn	**22 12 41.0**	**-0.7**
KUDL				*eS*	S	**22 14 21.0**	**-8.3**
SONA	**Sohna**	**9.76**	**147**	*eP*	Pn	**22 12 42.8**	**-0.9**
SONA				*eS*	S	**22 14 23.8**	**-9.4**
SONA				AML	AML	22 14 31.2	
	comp=N,37nm,0.6s						
SONA				AML	AML	22 14 32.4	
	comp=E,52nm,0.6s						
AJM	**Ajmer**	**10.54**	**162**	*eP*	Pn	**22 12 53.0**	**-0.8**
AJM				*iP*		22 12 53.0	
AJM				*eS*	S	**22 14 43.0**	**-8.6**
AGRA	**Agra**	**11.02**	**146**	*eP*	Pn	**22 12 59.5**	**-0.4**
AGRA				*eS*	S	**22 14 54.1**	**-9.0**
AGRA				AML	AML	22 15 11.7	
	comp=E,79nm,0.2s						
AGRA				AML	AML	22 15 12.2	
	comp=N,82nm,0.2s						
MK31	**Makanchi Array**	**13.20**	**36**	*P*	Pn	**22 13 26.3**	**-0.9**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR	**Makanchi Array**	**13.20**	**36**	*P*	Pn	**22 13 26.3**	**-0.9**
	comp=Z,1.8nm,0.3s,baz=217,slow=15,SNR=86						
MKAR				*S*	S	**22 15 58.3**	**+4.1**
	baz=214,slow=28,SNR=2.9						
MKAR	**Makanchi Array**	**13.20**	**36**	*P*	Pn	**22 13 26.3**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MK05	**Makanchi Array**	**13.20**	**36**	⇑*P*	Pn	**22 13 26.3**	**-0.9**
	comp=Z,5.0nm,0.5s						
KOLN	**Koldanda**	**13.80**	**126**	*eP*	Pn	**22 13 34.2**	**-0.5**
	comp=Z,29nm,0.3s						
KOLN				*eS*	S	**22 15 58.4**	**-10**
GKN	**Gorkha**	**14.33**	**123**	*eP*	Pn	**22 13 41.1**	**-0.1**
	comp=Z,116nm,0.6s						
GKN				*eS*	S	**22 16 10.7**	**-10**
BHPL	**Bhopal**	**14.41**	**156**	*eP*	Pn	**22 13 46.8**	**+4.6**
BHPL				*ex*	x	22 16 17.4	
WMQ	**Urumqi**	**14.62**	**55**	*eP*	Pn	**22 13 45.0**	**+0.2**
WMQ				*S*	S	**22 16 28.8**	**+1.8**
DMN	**Daman**	**14.90**	**123**	*eP*	Pn	**22 13 48.5**	**+0.3**
	comp=Z,92nm,0.5s						
KKN	**Kakani**	**14.90**	**122**	*eP*	Pn	**22 13 48.2**	**0.0**
	comp=Z,104nm,0.5s						
AB31	**Akbulak array**	**15.01**	**331**	⇓*P*	Pn	**22 13 48.5**	**-1.1**
	comp=Z,4.4nm,0.5s						
AB31				⇓*S*	S	**22 16 27.4**	**-8.6**
	comp=Z,5.9nm,0.6s,baz=152,slow=22,SNR=9.4						
AB31	**Akbulak array**	**15.01**	**331**	*P*	Pn	**22 13 48.4**	**-1.2**
AB31				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KURK	**Kurchatov**	**15.13**	**19**	⇑*P*	Pn	**22 13 48.7**	**-2.3**
	comp=Z,7.0nm,0.9s						
PKI	**Pulchoki**	**15.13**	**122**	*eP*	Pn	**22 13 51.1**	**+0.1**
	comp=Z,48nm,0.3s						
GUN	**Gumba**	**15.24**	**120**	*eP*	Pn	**22 13 52.4**	**+0.1**
	comp=Z,74nm,0.4s						
JIRN	**Jiri**	**15.61**	**120**	*eP*	Pn	**22 13 57.4**	**+0.6**
	comp=Z,117nm,0.5s						
VOSK	**Vostochnaya**	**16.12**	**360**	⇓*P*	P	**22 14 01.8**	**-0.4**
	comp=Z,17nm,0.6s						
ZRNK	**Zerenda**	**16.41**	**356**	⇓*P*	P	**22 14 05.8**	**+0.4**
	comp=Z,22nm,1.2s						
ZRNK	**Zerenda**	**16.41**	**356**	*eP*	P	**22 14 05.6**	**+0.2**
ZRNK				*eS*	S	**22 17 01.1**	**-5.3**
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ZRNK	**Zerenda**	**16.41**	**356**	*eP*	P	**22 14 05.6**	**+0.2**
	comp=Z,7.6nm,0.6s						
ZRNK				*eS*	S	**22 17 01.1**	**-5.3**
BVA0	**Borovoye Array**	**16.43**	**359**	*P*	P	**22 14 06.2**	**+0.6**
	comp=Z,2.8nm,0.8s,baz=231,slow=40,SNR=103						
BVA0				⇑*S*	S	**22 17 02.0**	**-4.7**
	comp=Z,0.9nm,0.8s,baz=236,slow=37,SNR=4.1						
AKTK	**Aktyubinsk**	**16.71**	**330**	*P*	P	**22 14 09.8**	**+1.1**
AKTK				*S*	S	**22 17 11.0**	**-1.3**
AKTO	**Aktyubinsk**	**16.71**	**330**	⇓*S*	S	**22 17 09.6**	**-2.7**
	comp=Z,0.6nm,1.6s						
AKTO	**Aktyubinsk**	**16.71**	**330**	*P*	P	**22 14 09.8**	**+1.1**
	comp=Z,2.5nm,0.3s,baz=136,slow=10,SNR=47						
AKTO				*S*	S	**22 17 11.0**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=338,slow=19,SNR=4.9						
AKTO	**Aktyubinsk**	**16.71**	**330**	*P*	P	**22 14 09.8**	**+1.1**
AKTO				*S*	S	**22 17 11.0**	**-1.3**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.3s						
CHKZ	**Chkalovo**	**17.08**	**359**	⇑*P*	P	**22 14 13.1**	**+0.4**
	comp=Z,6.7nm,0.5s						
CHKZ	**Chkalovo**	**17.08**	**359**	*P*	P	**22 14 13.0**	**+0.3**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.5s						
CHKZ	**Chkalovo**	**17.08**	**359**	*eP*	P	**22 14 13.0**	**+0.3**
	comp=Z,14nm,0.5s						
CHKZ				*eS*	S	**22 17 20.2**	**+0.5**
WSAR	**Wadi Sarin**	**17.09**	**222**	*P*	P	**22 14 14.2**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=29,slow=13,SNR=6.0						
BLSP	**Bilaspur**	**17.34**	**143**	*eP*	P	**22 14 14.2**	**-1.4**
BLSP				*eS*	S	**22 17 24.3**	**-0.6**
BOK	**Bokaro**	**18.07**	**131**	*eP*	P	**22 14 25.7**	**+2.2**
BOK				*eS*	S	**22 17 44.5**	**+5.1**
LSA	**Lhasa**	**18.18**	**106**	*P*	P	**22 14 28.3**	**+3.6**
LSA				AMB	AMB		
	comp=Z,30nm,0.8s						
LSA	**Lhasa**	**18.18**	**106**	*eP*	P	**22 14 28.3**	**+3.6**
LSA				pmax	pmax		
	comp=Z,20nm,0.8s						
LSA	**Lhasa**	**18.18**	**106**	*eP*	P	**22 14 28.3**	**+3.7**
	comp=Z,20nm,0.8s						
LSA				*e*		22 15 04.3	
ORR	**Orenburg**	**18.96**	**327**	*iP*	P	**22 14 33.8**	**+0.6**
ORR				*i*		22 17 54.7	
ORR				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NVS	**Novosibirsk**	**20.08**	**21**	*eP*	P	**22 14 44.4**	**-0.7**
NVS				*iS*	S	**22 18 15.4**	**-3.5**
NVS				pmax	pmax		
	comp=Z,8.0nm,0.8s						
NVS				pmax	pmax		
	comp=N,4.0nm,0.7s						
NVS				smax			
	comp=N,23nm,1.3s						
NVS				smax			
	comp=E,17nm,1.5s						
GNI	**Garni**	**20.89**	**288**	*eP*	P	**22 15 00.2**	**+6.5**
SHL	**Shillong**	**20.92**	**116**	*ex*	x	22 14 57.8	
ARU	**Arti**	**21.55**	**341**	*eP*	P	**22 15 00.3**	**-0.4**
ARU				*eS*	S	**22 18 58.5**	**+14**
GTA	**Gaotai**	**22.81**	**74**	*eP*	P	**22 15 14.4**	**+2.1**
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.0						
MALT	**Malatya**	**25.87**	**284**	*P*	P	**22 15 40.7**	**+0.7**
SONM	**Songino Array**	**28.26**	**55**	*P*	P	**22 16 02.8**	**+1.5**
	comp=Z,3.6nm,0.9s,mb4.0,baz=264,slow=9.0,SNR=24						
SONM				*pP*	pP	22 16 48.3	+4.6
	comp=Z,0.1nm,0.3s,baz=251,slow=14,SNR=2.0						
SONM	**Songino Array**	**28.26**	**55**	*P*	P	**22 16 02.8**	**+1.6**
SONM				*PP	pP	22 16 48.3	+4.6
SONM				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ULN	**Ulaanbaatar**	**28.70**	**56**	*eP*	P	**22 16 06.5**	**+1.4**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.9						
ULN	**Ulaanbaatar**	**28.70**	**56**	*eP*	P	**22 16 06.5**	**+1.4**
	comp=Z,1.8nm,0.7s,mb3.8						
TIRR	**Tirgusor**	**33.03**	**297**	*eP*	P	**22 16 44.5**	**+1.4**
KWP	**Kalwaria**	**36.98**	**306**	*eP*	P	**22 17 16.3**	**-0.5**
FINES	**FINESS Array B**	**37.42**	**326**	*P*	P	**22 17 21.0**	**+0.4**
	comp=Z,0.6nm,0.4s,mb3.5,baz=117,slow=8.5,SNR=12						
FINES	**FINESS Array B**	**37.42**	**326**	*P*	P	**22 17 21.0**	**+0.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KEV	**Kevo**	**40.72**	**338**	*P*	P	**22 17 48.4**	**+0.6**
KEV				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.4						
KEV	**Kevo**	**40.72**	**338**	*P*	P	**22 17 48.4**	**+0.6**
	comp=Z,13nm,0.9s,mb4.3						
ARCES	**ARCESS Array B**	**41.07**	**338**	*P*	P	**22 17 50.7**	**0.0**
	comp=Z,3.0nm,0.8s,mb3.8,baz=118,slow=8.2,SNR=16						
ARCES	**ARCESS Array B**	**41.07**	**338**	*P*	P	**22 17 50.7**	**0.0**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES	**ARCESS Array B**	**41.07**	**338**	*P*	P	**22 17 50.7**	**0.0**
PSI	**Prapat**	**42.33**	**136**	*P*	P	**22 18 01.4**	**+0.5**
	comp=Z,1.3nm,0.3s,mb3.9,baz=324,slow=19,SNR=7.0						
PSI	**Prapat**	**42.33**	**136**	*P*	P	**22 18 01.4**	**+0.5**
PSI				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.7						
HFS	**Hagfors**	**43.01**	**322**	*P*	P	**22 18 06.8**	**+0.5**
	comp=Z,1.9nm,0.5s,mb3.8,baz=99,slow=9.2,SNR=8.4						
HFS				*pP*	pP	22 18 54.1	+2.9
	comp=Z,1.5nm,0.5s,baz=99,slow=8.9,SNR=2.1						
HFS	**Hagfors**	**43.01**	**322**	*P*	P	**22 18 06.8**	**+0.5**
HFS				*PP	pP	22 18 54.1	+2.9
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YAK	**Yakutsk**	**43.87**	**36**	*eP*	P	**22 18 12.6**	**-0.6**
YAK				pmax	pmax		
	comp=Z,13nm,0.3s,mb4.7						
YAK	**Yakutsk**	**43.87**	**36**	*eP*	P	**22 18 12.6**	**-0.6**
	comp=Z,13nm,0.3s,mb4.8						
NB2	**NORSAR Subarra**	**44.32**	**323**	*P*	P	**22 18 17.0**	**+0.2**
	comp=Z,0.7nm,0.5s,mb3.2,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**44.32**	**323**	*P*	P	**22 18 16.4**	**-0.4**
	comp=Z,1.3nm,0.6s,mb3.5,baz=96,slow=7.8,SNR=5.0						
NOA				*pP*	pP	22 19 03.8	+1.8
	comp=Z,1.8nm,0.8s,baz=96,slow=8.0,SNR=3.5						
NOA	**NORSAR Array B**	**44.32**	**323**	*P*	P	**22 18 16.4**	**-0.4**
NOA				*PP	pP	22 19 03.8	+1.9
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	**NORSAR Array B**	**44.32**	**323**	*P*	P	**22 18 16.4**	**-0.4**
NOA				*pP*	pP	22 19 03.8	+1.9
YHNB	**Yeheng**	**44.47**	**91**	*P*	P	**22 18 18.4**	**+0.5**
TIXI	**Tiksi**	**45.67**	**22**	*eP*	P	**22 18 25.0**	**-2.4**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.7						
MAJO	**Matsushiro**	**52.89**	**69**	*P*	P	**22 19 22.0**	**0.0**
TORD	**Torodi Ar. Bea**	**65.75**	**269**	*P*	P	**22 20 48.9**	**-1.1**
	comp=Z,0.8nm,0.9s,mb3.4,baz=46,slow=5.3,SNR=8.9						
MBWA	**Marble Bar**	**73.57**	**133**	*eP*	P	**22 21 38.0**	**+0.4**
	comp=Z,6.6nm,0.6s,mb4.4						
INK	**Inuvik**	**73.81**	**9**	*eP*	P	**22 21 39.3**	**+0.3**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**73.81**	**9**	*eP*	P	**22 21 39.3**	**+0.2**
	comp=Z,2.2nm,0.6s,mb4.0						
ILAR	**Eielson Array**	**74.68**	**16**	*P*	P	**22 21 43.5**	**-0.6**
	comp=Z,0.9nm,0.8s,mb3.5,baz=315,slow=5.6,SNR=12						
ILAR	**Eielson Array**	**74.68**	**16**	*P*	P	**22 21 43.5**	**-0.6**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**74.93**	**127**	*eP*	P	**22 21 45.8**	**+0.3**
	comp=Z,4.5nm,1.2s,mb4.0						
YKA	**Yellowknife Ar**	**81.15**	**3**	*P*	P	**22 22 19.9**	**+0.3**
	comp=Z,0.9nm,0.5s,mb3.7,baz=351,slow=5.4,SNR=20						
YKA				*pP*	pP	22 23 12.3	+1.9
	comp=Z,0.7nm,0.7s,baz=345,slow=5.7,SNR=3.3						
YKA	**Yellowknife Ar**	**81.15**	**3**	*P*	P	**22 22 19.9**	**+0.2**
YKA				*PP	pP	22 23 12.3	+1.8
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**81.15**	**3**	*P*	P	**22 22 19.9**	**+0.3**
YKA				*pP*	pP	22 23 12.3	+1.9
WRA	**Warramunga Arr**	**82.02**	**122**	*P*	P	**22 22 23.4**	**-0.8**
	comp=Z,3.2nm,0.7s,mb4.0,baz=323,slow=4.9,SNR=27						
WRA	**Warramunga Arr**	**82.02**	**122**	*P*	P	**22 22 23.4**	**-0.8**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WB2	**Warramunga Arr**	**82.02**	**122**	*eP*	P	**22 22 23.5**	**-0.7**
ASAR	**Alice Springs**	**84.28**	**125**	*P*	P	**22 22 35.2**	**-0.5**
	comp=Z,3.6nm,0.7s,mb4.2,baz=307,slow=5.1,SNR=32						
ASAR	**Alice Springs**	**84.28**	**125**	*P*	P	**22 22 35.3**	**-0.5**
ASAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						

IDC 23 22:20:47.3±2.2,2094N×14404E,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.6/15,mbtmp3.7/3,Error ellipse: s-maj=280.6km s-min=27.5km az=110.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.72**	**194**	*P*	P	22 28 38.1	+0.2
	1.2nm,0.7s,baz=16,slow=8.8,SNR=8.8						
ASAR	**Alice Springs**	**45.42**	**193**	*P*	P	22 29 07.9	+0.2
	0.5nm,0.7s,baz=18,slow=8.5,SNR=6.2						
ILAR	**Eielson Array**	**62.35**	**27**	*P*	P	22 31 11.4	-0.2
	0.5nm,0.7s,baz=262,slow=5.8,SNR=5.5						

NEIC ***23*** *22:52:08.5,3095S×7165W,h14km,ML2.7(GUC),After GUC.*

GUC 23 22:52:08.5±0.6,3095S×7165W,h14km±5km,MD3.6, ML2.7,4C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.52**	**49**	⇓*iP*	Pg	22 52 18.9	+0.2
OVCH				*iS*	Sg	22 52 26.6	+1.1
OVCH				AML	AML	22 52 27.1	
	comp=E,1μm,0.2s						
OVCH	**Ovalle**	**0.52**	**49**	⇓*iP*	Pg	22 52 18.9	+0.2
OVCH				*iS*	Sg	22 52 26.6	+1.1
CMCH	**Combarbala**	**0.60**	**112**	⇑*iP*	Pg	22 52 20.1	-0.2
CMCH				*iS*	Sg	22 52 29.0	+0.7
CMCH				AML	AML	22 52 29.6	
	comp=N,2μm,0.3s						
CMCH	**Combarbala**	**0.60**	**112**	⇑*iP*	Pg	22 52 20.1	-0.2
CMCH				*iS*	Sg	22 52 29.0	+0.7
CHNG	**Los Chungos**	**0.94**	**172**	⇑*iP*	Pb	22 52 25.5	-1.2
CHNG				*iS*	Sb	22 52 37.9	-1.1
CHNG				AML	AML	22 52 40.3	
	comp=E,233nm,0.3s						
TLL	**Tololo Astrono**	**1.07**	**44**	*eP*	Pb	22 52 27.7	-1.1
TLL				*iS*	Sb	22 52 42.6	0.0
TLL				AML	AML	22 52 46.1	
	comp=N,333nm,0.5s						
TLL	**Tololo Astrono**	**1.07**	**44**	*eP*	Pb	22 52 27.7	-1.1
TLL				*iS*	Sb	22 52 42.6	0.0
JACH	**Jahuel**	**1.95**	**153**	⇑*iP*	Pn	22 52 41.7	+0.5
JACH				*iS*	Sn	22 53 07.3	+1.7

MOS ***23*** *23:16:58.2±1.4,6086N×16570E,h11km,mb4.1/9,Error ellipse: s-maj=24.0km s-min=12.7km az=99.2*
ISCJB ***23*** *23:16:59.9±0.9,6078N±004×16569E±01,h24km±8km, mb3.9/13,Error ellipse: s-maj=10.7km s-min=5.3km az=37.3*
IDC ***23*** *23:16:59.5±2.2,6101N×16551E,h0km,mb3.8/10, mb1 4.0/10,mb1mx3.9/19,mbtmp3.8/10,MS3.2/1, Ms1 3.2/1,ms1mx2.4/20,Error ellipse: s-maj=61.2km s-min=18.6km az=175.0*
KRSC ***23*** *23:16:59.6±0.7,6074N×16612E,h20km±4km,ML3.8*
NEIC ***23*** *23:17:01.0±0.9,6099N×16550E,h10km,mb4.0/4,Error ellipse: s-maj=22.7km s-min=10.5km az=168.0*

ISC 23 23:17:00.2±1.2,6080N±004×1659E±01,h12km±8km,n47, σ1§13/51,mb3.9/13,1C,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.38**	**166**	*iP*	Pg	**23 17 06.8**	**-1.0**
TILR				*iS*	Sg	**23 17 12.5**	**-0.5**
KAMR	**Kamenskoye**	**1.67**	**5**	*iP*	Pn	**23 17 29.5**	**+0.3**
KAMR				*iS*	Sn	**23 17 51.0**	**+0.4**
KAMR				Smax			
	4μm,0.9s						
OSSR	**Ossora**	**2.10**	**223**	*eP*	Pn	**23 17 34.3**	**-0.9**
EVNR	**Evensk**	**3.37**	**

ULN	**Ulaanbaatar**	**35.38**	**276**	*eP*	**P**	**23 23 54.7**	**-1.0**
	comp=Z,0.8nm,0.7s,mb3.8							
YKA	**Yellowknife Ar**	**35.58**	**52**	P	**P**	**23 23 56.5**	**-0.9**
	comp=Z,0.5nm,0.5s,mb3.7,baz=306,slow=8.1,SNR=11							
YKA	**Yellowknife Ar**	**35.58**	**52**	P	**P**	**23 23 56.5**	**-0.9**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
YKA	**Yellowknife Ar**	**35.58**	**52**	P	**P**	**23 23 56.5**	**-0.9**
SONM	**Songino Aney**	**35.73**	**276**	P	**P**	**23 23 58.3**	**-0.4**
	comp=Z,0.3nm,0.5s,mb3.5,baz=44,slow=8.8,SNR=3.7							
KURK	**Kurchatov**	**46.55**	**299**c	*iP*	**P**	**23 25 27.0**	**-0.7**
CHKZ	**Chkalovo**	**47.64**	**307**	*eP*	**P**	**23 25 34.5**	**-1.7**
CHKZ				pmax	pmax			
	comp=Z,1.0nm,0.8s,mb3.9							
CHKZ	**Chkalovo**	**47.64**	**307**	*eP*	**P**	**23 25 34.5**	**-1.7**
	comp=Z,1.4nm,0.8s,mb4.0							
MKAR	**Makanchi Array**	**47.86**	**293**	P	**P**	**23 25 36.6**	**-1.3**
	comp=Z,0.7nm,0.5s,mb3.9,baz=44,slow=7.7,SNR=12							
MKAR	**Makanchi Array**	**47.86**	**293**	P	**P**	**23 25 36.6**	**-1.3**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ZRNK	**Zerenda**	**48.82**	**307**	*eP*	**P**	**23 25 44.7**	**-0.6**
ZRNK				pmax	pmax			
	comp=Z,4.0nm,1.1s,mb4.4							
ZRNK	**Zerenda**	**48.82**	**307**	*eP*	**P**	**23 25 44.7**	**-0.6**
	comp=Z,3.8nm,1.1s,mb4.3							
PDAR	**Pinedale Array**	**51.41**	**70**	P	**P**	**23 26 06.2**	**+1.3**
	comp=Z,1.0nm,0.6s,mb3.9,baz=294,slow=1.5,SNR=6.3							
FINES	**FINESS Array B**	**54.24**	**338**	P	**P**	**23 26 23.4**	**-2.4**
	comp=Z,2.2nm,1.0s,mb4.0,baz=18,slow=6.6,SNR=3.7							
FINES	**FINESS Array B**	**54.24**	**338**	P	**P**	**23 26 23.5**	**-2.4**
FINES				pmax	pmax			
	comp=Z,2.0nm,1.0s							
NOA	**NORSAR Array B**	**56.93**	**346**	P	**P**	**23 26 43.8**	**-1.4**
	comp=Z,1.2nm,0.6s,mb4.1,baz=14,slow=7.3,SNR=2.7							
NOA	**NORSAR Array B**	**56.93**	**346**	P	**P**	**23 26 43.8**	**-1.4**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**63.52**	**331**	P	**P**	**23 27 29.3**	**-1.0**
	comp=Z,0.4nm,0.5s,mb3.7,baz=21,slow=6.1,SNR=5.2							
GERES	**GERESS Array B**	**68.42**	**341**	P	**P**	**23 28 01.5**	**-0.3**
	comp=Z,0.4nm,0.6s,mb3.6,baz=26,slow=7.1,SNR=4.6							

IDC ***23*** *23:54:34.9±1.0, 546S×131 20E, h0km, mb4.1/3, mb1 4.2/6, mb1mx4.0/12, mbtmp4.1/6, ML4.2/3, MS3.1/1, Ms1 3.1/1, ms1mx2.1/17, Error ellipse: s-maj=62.5km s-min=20.3km az=79.0*

ISCJB ***23*** *23:54:39.4±2.2, 559S±007×131.1E±0.1, h58km±22km, mb3.9/5, MS2.9/1, Error ellipse: s-maj=21.4km s-min=9.8km az=131.5*

NEIC ***23*** *23:54:39.5±0.5, 546S×131.19E, h35km, mb3.8/2, Error ellipse: s-maj=16.8km s-min=7.9km az=69.0*

ISC 23 23:54:45.7±1.6, 584S±007×1309E±01, h107km±17km, n22, σ1§57/26, mb3.7/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**7.00**	**168**	*eP*	**Pn**	**23 56 26.7**	**+1.1**
	34nm,0.5s						
KAKA				*eS*	**Sn**	**23 57 44.6**	**+1.0**
FITZ	**Fitzroy Crossi**	**13.23**	**202**	*eP*	**Pn**	**23 57 50.8**	**+1.5**
	3.1nm,0.2s						
FITZ				*eS*	**Sn**	**00 00 12.5**	**-2.4**
FITZ	**Fitzroy Crossi**	**13.23**	**202**	Pn	**Pn**	**23 57 49.3**	**0.0**
	0.6nm,0.3s,baz=31,slow=13,SNR=28						
FITZ				Sn	**Sn**	**00 00 12.9**	**-2.0**
	0.9nm,0.3s,baz=127,slow=20,SNR=5.6						
WRA	**Warramunga Arr**	**14.41**	**167**	Pn	**Pn**	**23 58 03.7**	**-0.9**
	1.4nm,0.3s,baz=344,slow=13,SNR=17						
WRA				Sn	**Sn**	**00 00 40.2**	**-3.3**
	2.0nm,0.3s,baz=345,slow=22,SNR=9.3						
WB2	**Warramunga Arr**	**14.42**	**167**	*eP*	**Pn**	**23 58 04.4**	**-0.3**
WB2				*eS*	**Sn**	**00 00 38.9**	**-4.7**
ASAR	**Alice Springs**	**17.96**	**171**	P	**Pn**	**23 58 50.4**	**+1.9**
	1.1nm,0.3s,baz=343,slow=9.0,SNR=12						
ASAR				S	**S**	**00 02 06.8**	**-1.4**
	0.6nm,0.3s,baz=349,slow=25,SNR=9.1						
ASAR	**Alice Springs**	**17.96**	**171**	P	**Pn**	**23 58 50.4**	**+1.9**
ASAR				S	**S**	**00 02 06.8**	**-1.4**
KKM	**Kota Kinabalu**	**18.82**	**309**	*eP*	**Pn**	**23 58 56.4**	**-2.3**
CTA	**Charters Tower**	**20.57**	**135**	LR	LR	00 07 19.2	
	comp=Z,51nm,18.1s,baz=52,slow=37						
CTAO	**Charters Tower**	**20.57**	**135**	*eP*	**P**	**23 59 15.6**	**-0.3**
STKA	**Stephens Creek**	**27.77**	**160**	*eP*	**P**	**00 00 27.4**	**+3.0**
STKA	**Stephens Creek**	**27.77**	**160**	P	**P**	**00 00 27.4**	**+3.0**
	1.3nm,0.4s,mb3.8,baz=333,slow=9.3,SNR=7.4						
HNR	**Honiara**	**29.00**	**99**	*eP*	**P**	**00 00 34.5**	**-0.9**
	19nm,0.3s						
KULM	**Kulim**	**32.16**	**290**	*eP*	**P**	**00 01 05.7**	**+2.5**
ENH	**Enshi**	**41.36**	**331**	*eP*	**P**	**00 02 20.1**	**-0.9**
MJAR	**Matsushiro Arr**	**42.71**	**9**	P	**P**	**00 02 29.7**	**-2.4**
	1.6nm,0.6s,mb4.0,baz=182,slow=8.3,SNR=5.2						
MJAR	**Matsushiro Arr**	**42.71**	**9**	P	**P**	**00 02 29.7**	**-2.4**
MKAR	**Makanchi Array**	**67.76**	**326**	P	**P**	**00 05 33.6**	**+1.8**
	0.7nm,0.5s,mb3.8,baz=119,slow=7.6,SNR=11						
CHKZ	**Chkalovo**	**77.75**	**328**	*eP*	**P**	**00 06 30.9**	**0.0**
	0.4nm,0.3s,mb3.6						
ZRNK	**Zerenda**	**78.28**	**327**	*eP*	**P**	**00 06 34.9**	**+1.1**
	0.4nm,0.4s,mb3.5						
CPUP	**Villa Florida**	**147.04**	**166**	PKPbc	PKPbc	00 14 21.2	+5.2
	0.7nm,0.5s,baz=180,slow=8.0,SNR=3.5						
LPAZ	**La Paz**	**151.05**	**140**	PKPbc	PKPbc	00 14 32.1	+6.0
	0.7nm,0.7s,baz=142,slow=5.7,SNR=4.6						

MEX 24 00:01:48.2±0.4, 1562N×9727W, h24km±30km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**1.13**	**313**	*i* P	Pn	00 02 05.6	-2.9
PNIG				*i* S	Sn	00 02 19.5	-3.6
HUIG	**Huatulco**	**1.13**	**82**	*i* P	Pn	00 02 04.9	-3.6
HUIG				*i* S	Sn	00 02 19.9	-3.3
VHO	**Vista Hermosa**	**1.54**	**20**	*i* P	Pn	00 02 11.4	-2.7
VHO				*i* S	Sn	00 02 29.9	-3.3
UTMO	**Huajuapan**	**2.26**	**347**	*i* P	Pn	00 02 22.9	-1.1
UTMO				*i* S	Sn	00 02 47.9	-3.1

IDC ***24*** *00:32:29.5±0.7, 2757S×11305W, h0km, mb4.6/16, mb1 4.8/16, mb1mx4.7/22, mbtmp4.6/16, MS5.1/22, Ms1 5.1/22, ms1mx5.1/24, Error ellipse: s-maj=21.7km s-min=16.4km az=67.0*

ISCJB ***24*** *00:32:30.6±0.3, 2756S±005×112.76W±008, h10km, mb4.9/43, MS5.2/33, Error ellipse: s-maj=11.0km s-min=6.8km az=141.8*

NEIC ***24*** *00:32:32.5±0.3, 2757S×11279W, h10km, mb5.2/30, MW5.6, Error ellipse: s-maj=11.2km s-min=6.6km az=68.0, Moment Tensor Solution. s11 Moment tensor: Scale 10^17 Nm; Mrr=0.19; Mθθ=2.38; Mϕϕ=2.57; Mrθ=0.42; Mθϕ=0.65; Mϕr=0.64; Best double couple: M=2.70000×10^17 NP1:ϑs37.00000°, δ89.00000°, λ-17.00000°. NP2: ϕs128.00000°, δ73.00000°, λ-179.00000°. Principal axes: T 2.7700, Plg11.0000°, Azm84.0000°; N -0.2000, Plg73.0000°, Azm215.0000°; P -2.5700, Plg12.0000°, Azm351.0000°;*

HRVD ***24*** *00:32:32.5±0.1, 2768S×11300W, h16km, MW5.6/104, Centroid moment Tensor Solution. LP body waves: s85,c133;Mantle waves: s104,c237; Half duration: 1s5 Moment tensor: Scale 10^17 Nm; Mrr=0.16±.04; Mθθ=2.56±.04; Mϕϕ=2.72±.04; Mrθ=1.42±.14; Mθϕ=0.08±.03; Mϕr=0.51±. 12; Best double couple: M=3.02500×10^17 NP1:ϑs41.00000°, δ64.00000°, λ-10.00000°. NP2: ϕs136.00000°, δ81.00000°, λ-154.00000°. Principal axes: T 2.8270, Plg11.0000°, Azm266.0000°; N 0.3960, Plg62.0000°, Azm154.0000°; P -3.2230, Plg25.0000°, Azm2.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

MOS ***24*** *00:32:33.9±1.2, 2757S×11289W, h33km, mb5.1/23 Error ellipse: s-maj=16.0km s-min=8.2km az=87.0*

BJI ***24*** *00:32:33.5, 2760S×11280W, h10km, mB5.3, Ms5.6, Msz5.3*

ISC 24 00:32:32.2±0.3, 2763S±005×11288W±009, h10km, (h11km±.3km:pP-P), n232, σ0§94/136, mb4.9/43, MS5.2/33, 11C-9D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKT	**Rikitea**	**20.46**	**278**	*eP*	**P**	**00 37 13.9**	**+4.0**
	119nm,1.5s						
RKT				*e*LR	LR	00 41 52.1	
	13μm,27.5s,baz=117						
TAOE	**Nuku Hiva Isla**	**31.80**	**301**	*e*LQ		00 45 37.9	
	16μm,29.3s						
TAOE				*e*LR	LR	00 47 11.5	
	31μm,24.2s,baz=139						
TBI	**Tubuai**	**33.22**	**269**	*e*LR	LR	00 47 42.4	
	10μm,27.5s,baz=111						
PPT	**Papeete**	**35.21**	**279**	*e*LR	LR	00 48 38.5	
	13μm,26.5s,baz=109						
PPT	**Papeete**	**35.21**	**279**	LR	LR	00 49 30.3	
	comp=Z,5μm,20.9s,MS5.2,baz=100,slow=29						
TLL	**Tololo Astrono**	**36.77**	**104**	*eP*	**P**	**00 39 36.3**	**-3.6**
TLL	**Tololo Astrono**	**36.77**	**104**	*eP*	**P**	**00 39 41.1**	**+1.2**
PLCA	**Paso Flores**	**37.03**	**122**	P	**P**	**00 39 43.5**	**+1.4**
	11nm,1.1s,mb4.6,baz=280,slow=9.1,SNR=5.8						
PLCA				LR	LR	00 50 58.9	
	comp=Z,3μm,18.9s,MS5.1,baz=274,slow=30						
PLCA	**Paso Flores**	**37.03**	**122**	P	**P**	**00 39 43.5**	**+1.4**
PLCA				LR	LR	00 50 58.9	
ATAH	**Atahualpa**	**38.57**	**64**	LR	LR	00 52 14.3	
	comp=Z,2μm,19.6s,MS5.0,baz=101,slow=31						
CFAA	**Coronel Fontan**	**38.81**	**107**	LR	LR	00 52 00.6	
	comp=Z,713nm,20.0s,MS4.5,baz=334,slow=30						
ARE	**Arequipa**	**39.77**	**83**	*eP*	**P**	**00 40 05.0**	**-0.1**
LVC	**Limon Verde**	**39.96**	**93**	P	**P**	**00 40 08.1**	**+1.4**
	14nm,0.9s,mb4.7,baz=255,slow=8.0,SNR=21						
LVC				LR	LR	00 52 48.3	
	comp=Z,2μm,19.4s,MS4.9,baz=247,slow=30						
LVC	**Limon Verde**	**39.96**	**93**	*eP*	**P**	**00 40 08.6**	**+1.9**
	33nm,1.1s,mb5.0						
USHA	**Ushuaia**	**42.03**	**143**	LR	LR	00 53 53.8	
	comp=Z,3μm,18.6s,MS5.2,baz=265,slow=30						
LPAZ	**La Paz**	**42.80**	**84**	P	**P**	**00 40 31.3**	**+1.3**
	23nm,0.9s,mb4.9,baz=270,slow=5.6,SNR=79						
LPAZ				LR	LR	00 54 20.3	
	comp=Z,6μm,20.7s,MS5.5,baz=293,slow=30						
LPAZ	**La Paz**	**42.80**	**84**	*eP*	**P**	**00 40 31.5**	**+1.5**
LPAZ				pmax	pmax		
	comp=Z,37nm,1.1s						
LPAZ	**La Paz**	**42.80**	**84**	*eP*	**P**	**00 40 31.5**	**+1.5**
	comp=Z,37nm,1.1s,mb5.0						
RAR	**Rarotonga**	**42.98**	**268**	LR	LR	00 53 26.1	
	comp=Z,4μm,20.3s,MS5.2,baz=97,slow=29						
TRQA	**Tornquist**	**43.54**	**117**	*eP*	**P**	**00 40 36.8**	**+0.8**
JTS	**JuntasAbangare**	**46.40**	**40**	P	**P**	**00 41 00.7**	**+1.9**
	comp=Z,161nm,1.3s,mb5.8,SNR=7.3						
JTS	**JuntasAbangare**	**46.40**	**40**	P	**P**	**00 40 59.4**	**+0.6**
	comp=Z,24nm,1.1s,mb5.0,baz=308,slow=2.7,SNR=8.1						
JTS	**JuntasAbangare**	**46.40**	**40**	P	**P**	**00 40 59.4**	**+0.6**
JTS				pmax	pmax		
	comp=Z,24nm,1.1s						
CPUP	**Villa Florida**	**49.16**	**102**	P	**P**	**00 41 19.8**	**-0.4**
	comp=Z,9.6nm,0.9s,mb4.8,baz=240,slow=7.4,SNR=16						
CPUP				LR	LR	00 58 58.3	
	comp=Z,3μm,18.6s,MS5.3,baz=243,slow=32						
CPUP	**Villa Florida**	**49.16**	**102**	*eP*	**P**	**00 41 19.8**	**-0.4**
ROSC	**El Rosal**	**49.26**	**55**	P	**P**	**00 41 21.5**	**+0.5**
	comp=Z,4.1nm,0.4s,mb4.8,baz=96,slow=18,SNR=14						
ROSC				LR	LR	00 59 00.6	
	comp=Z,877nm,18.2s,MS4.8,baz=23,slow=32						
SAML	**Samuel**	**50.33**	**78**	*eP*	**P**	**00 41 27.6**	**-1.5**
	comp=Z,31nm,0.9s,mb5.3						
LPIG	**La Paz**	**51.49**	**3**	LR	LR	00 58 23.1	
	comp=Z,3μm,21.2s,MS5.3,baz=190,slow=30						
SDV	**Santo Domingo**	**54.67**	**55**	P	**P**	**00 42 00.3**	**-1.0**
	comp=Z,14nm,1.0s,mb4.9,baz=252,slow=6.1,SNR=11						
SDV	**Santo Domingo**	**54.67**	**55**	*eP*	**P**	**00 42 00.8**	**-0.5**
	comp=Z,27nm,1.3s,mb5.1						
AFI	**Afiamalu**	**56.27**	**271**	LR	LR	00 59 40.6	
	comp=Z,2μm,20.8s,MS5.2,baz=101,slow=29						
RAO	**Raoul Island**	**56.53**	**252**	LR	LR	00 59 37.8	
	comp=Z,1μm,18.4s,MS5.0,baz=136,slow=29						
LTX	**Lajitas**	**57.32**	**10**	*eP*	**P**	**00 42 21.5**	**+1.2**
URZ	**Urewera**	**58.45**	**240**	LR	LR	01 01 56.9	
	comp=Z,4μm,20.1s,MS5.5,baz=35,slow=30						
JCT	**Junction City**	**59.12**	**13**	*eP*	**P**	**00 42 32.5**	**-0.3**
MNTX	**Cornudas Mount**	**59.43**	**7**	*eP*	**P**	**00 42 34.0**	**-1.0**
	comp=Z,13nm,1.2s,mb4.8						
HKT	**Hockley**	**59.53**	**17**	*eP*	**P**	**00 42 35.8**	**+0.1**
HKT				pmax	pmax		
	comp=Z,44nm,1.6s,mb5.2						
HKT	**Hockley**	**59.53**	**17**	*eP*	**P**	**00 42 35.8**	**+0.1**
	comp=Z,44nm,1.6s,mb5.2						
TUC	**Tucson**	**59.64**	**2**	*eP*	**P**	**00 42 36.5**	**0.0**
TUC				pmax	pmax		
	comp=Z,27nm,1.5s,mb5.1						
TUC	**Tucson**	**59.64**	**2**	*eP*	**P**	**00 42 36.5**	**0.0**
	comp=Z,27nm,1.5s,mb5.1						
GDL2	**Guadalupe Moun**	**60.05**	**8**	*eP*	**P**	**00 42 39.8**	**+0.6**
BAR	**Barrett**	**60.09**	**356**	*eP*	**P**	**00 42 40.6**	**+1.1**
GLA	**Glamis**	**60.38**	**358**	*eP*	**P**	**00 42 42.4**	**+0.9**
BDFB	**Brasilia**	**60.88**	**93**	P	**P**	**00 42 45.3**	**+0.4**
	comp=Z,8.3nm,1.0s,mb4.8,baz=265,slow=6.6,SNR=6.7						
BDFB				LR	LR	01 06 45.2	
	comp=Z,2μm,18.5s,MS5.3,baz=259,slow=34						
CPRX	**Cap Rock**	**60.93**	**9**	*eP*	**P**	**00 42 44.6**	**-0.7**
SBA	**Scott Base**	**61.16**	**194**	*eP*	**P**	**00 42 47.8**	**+0.9**
LENM	**Lemitar**	**61.71**	**6**	*eP*	**P**	**00 42 50.4**	**-0.2**
BNM	**Barren Site**	**61.73**	**6**	*eP*	**P**	**00 42 50.6**	**0.0**
RPZ	**Rata Peaks**	**61.80**	**233**	LR	LR	01 05 33.3	
	comp=Z,2μm,18.4s,MS5.2,baz=94,slow=32						
LAZ	**Ladron**	**61.93**	**5**	*eP*	**P**	**00 42 52.0**	**0.0**
VNDA	**Vanda**	**62.21**	**194**	P	**P**	**00 42 53.5**	**-0.5**
	comp=Z,2.8nm,1.0s,mb4.3,baz=96,slow=7.2,SNR=8.0						
VNDA				LR	LR	01 05 08.1	
	comp=Z,1μm,18.4s,MS5.2,baz=88,slow=32						
VNDA	**Vanda**	**62.21**	**194**	P	**P**	**00 42 53.5**	**-0.5**
VNDA				LR	LR	01 05 08.1	
ANMO	**Albuquerque**	**62.53**	**6**	P	**P**	**00 42 55.0**	**-1.1**
	comp=Z,3.0nm,1.0s,mb4.4,baz=192,slow=6.4,SNR=8.1						
ANMO	**Albuquerque**	**62.53**	**6**	*eP*	**P**	**00 42 56.2**	**+0.1**
ANMO	**Albuquerque**	**62.53**	**6**	*eP*	**P**	**00 42 56.0**	**-0.1**
QSPA	**South Pole Qui**	**62.54**	**180**	*eP*	**P**	**00 42 57.8**	**+1.6**
	comp=Z,44nm,1.2s,mb5.5						
GSC	**Goldstone**	**62.70**	**356**	*eP*	**P**	**00 42 57.5**	**+0.3**
NEN	**Nelson**	**62.97**	**358**	*eP*	**P**	**00 42 59.2**	**+0.3**
AMTX	**Amarillo**	**63.07**	**10**	*eP*	**P**	**00 42 60.0**	**+0.3**
DWPF	**Disney**	**63.10**	**31**	*eP*	**P**	**00 42 59.8**	**-0.1**
DAC	**Darwin (Calif)**	**63.72**	**356**	*eP*	**P**	**00 43 05.1**	**+1.1**
DAC				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.9						
DAC	**Darwin (Calif)**	**63.72**	**356**	*eP*	**P**	**00 43 05.1**	**+1.1**
	comp=Z,16nm,1.2s,mb4.9						
SHPR	**Sheep Range**	**63.83**	**358**	*eP*	**P**	**00 43 05.3**	**+0.6**
TPNV	**Topopah Spring**	**64.31**	**357**	*eP*	**P**	**00 43 08.5**	**+0.6**
MVCO	**Mesa Verde**	**64.63**	**4**	*eP*	**P**	**00 43 10.4**	**+0.5**
CCUT	**Cedar City**	**64.84**	**360**	*eP*	**P**	**00 43 12.1**	**+0.8**
MTUM	**Tungsten Hills**	**64.86**	**355**	*eP*	**P**	**00 43 12.0**	**+0.5**
ARUT	**Antelope Range**	**65.07**	**360**	P	**P**	**00 43 12.2**	**-0.6**
LRAL	**Lakeview Retre**	**65.15**	**24**	*eP*	**P**	**00 43 12.5**	**-0.8**
	comp=Z,40nm,1.6s,mb5.2						
TPH	**Tonopah**	**65.49**	**356**	*eP*	**P**	**00 43 17.1**	**+1.6**
TPH				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.2						
TPH	**Tonopah**	**65.49**	**356**	*eP*	**P**	**00 43 17.1**	**+1.6**
	comp=Z,25nm,1.1s,mb5.2						
PV01	**Paradox Valley**	**65.54**	**4**	*eP*	**P**	**00 43 16.0**	**+0.2**
CMB	**Columbia Colle**	**65.70**	**353**	*eP*	**P**	**00 43 17.9**	**+1.0**
CMB				pmax	pmax		
	comp=Z,26nm,1.4s,mb5.1						
CMB	**Columbia Colle**	**65.70**	**353**	*eP*	**P**	**00 43 17.9**	**+1.0**
	comp=Z,26nm,1.4s,mb5.1						
PV10	**Paradox Valley**	**65.76**	**3**	*eP*	**P**	**00 43 17.1**	**-0.2**
MSU	**Marysvale**	**65.80**	**1**	*eP*	**P**	**00 43 18.5**	**+1.0**
MNV	**Mina**	**65.90**	**355**	*eP*	**P**	**00 43 18.5**	**+0.3**
WAKR	**Walker**	**66.07**	**354**	*eP*	**P**	**00 43 20.6**	**+1.3**
SRU	**San Rafael**	**66.43**	**2**	*eP*	**P**	**00 43 21.4**	**-0.2**
PLAL	**Pickwick Lake**	**66.54**	**22**	*eP*	**P**	**00 43 20.1**	**-2.2**
TMUT	**Trail Mountain**	**66.60**	**1**	*eP*	**P**	**00 43 22.5**	**-0.1**
SMCO	**Snowmass**	**66.69**	**5**	*eP*	**P**	**00 43 23.5**	**+0.2**
PAHR	**Pah Rah Range**	**67.26**	**355**	*eP*	**P**	**00 43 29.0**	**+2.1**
MPU	**Maple Canyon**	**67.31**	**1**	*eP*	**P**	**00 43 26.3**	**-0.9**
ISCO	**Idaho Springs**	**67.42**	**6**	*eP*	**P**	**00 43 28.8**	**+0.9**
DUG	**Dugway**	**67.48**	**0**	*eP*	**P**	**00 43 27.8**	**-0.4**
DUG				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.1						
DUG	**Dugway**	**67.48**	**0**	*eP*	**P**	**00 43 27.8**	**-0.5**
	comp=Z,22nm,1.2s,mb5.1						
SWET	**Sewanee**	**67.49**	**24**	*eP*	**P**	**00 43 27.8**	**-0.6**
WVT	**Waverly**	**67.67**	**22**	*eP*	**P**	**00 43 27.7**	**-1.8**
WVT				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
WVT	**Waverly**	**67.67**	**22**	*eP*	**P**	**00 43 27.7**	**-1.8**
	comp=Z,4.0nm,0.8s,mb4.5						
DAU	**Daniels Canyon**	**67.71**	**1**	*eP*	**P**	**00 43 30.5**	**+0.8**
BMN	**Battle Mountai**	**67.83**	**356**	*eP*	**P**	**00 43 31.7**	**+1.2**
NHSC	**New Hope**	**67.92**	**29**	*eP*	**P**	**00 43 32.2**	**+1.1**
KSU1	**Kansas State U**	**68.10**	**14**	*eP*	**P**	**00 43 31.7**	**-0.5**
BGU	**Big Grassy Mou**	**68.21**	**360**	*eP*	**P**	**00 43 38.7**	**+5.9**
VNA3	**Neumayer Olymp**	**68.23**	**160**	*i*P	**P**	**00 43 31.9**	**-1.1**
VNA3				*e*	pP	00 43 35.1	-1.1
VNA3				*e*		00 43 40.4	
VNA3				*e*		00 43 44.0	
VNA3				*e*		00 43 52.4	
VNA3				*e*		00 43 58.8	
TCUT	**Toone Canyon**	**68.41**	**1**	*eP*	**P**	**00 43 35.5**	**+1.4**
CCM	**Cathedral Cave**	**68.41**	**18**	*eP*	**P**	**00 43 32.8**	**-1.3**
WDC	**Whiskeytown Da**	**68.45**	**352**	*eP*	**P**	**00 43 34.6**	**+0.2**
WDC				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.1						
WDC	**Whiskeytown Da**	**68.45**	**352**	*eP*	**P**	**00 43 34.6**	**+0.2**
	comp=Z,24nm,1.2s,mb5.1						
JSC	**Jenkinsville**	**68.47**	**28**	*eP*	**P**	**00 43 35.3**	**+0.8**
SPUT	**South Promonto**	**68.59**	**0**	*eP*	**P**	**00 43 35.7**	**+0.5**
VNA1	**Neumayer--Stat**	**68.88**	**160**	*i*P	**P**	**00 43 36.4**	**-0.7**
VNA1				*e*	pP	00 43 39.5	-0.8
VNA1				*e*		00 43 44.8	
VNA1				*e*		00 43 48.7	
VNA1				*e*		00 43 53.9	
VNA1				*e*		00 44 00.2	
VNA1				*e*		00 44 05.4	
HWUT	**Hardware Ranch**	**68.90**	**1**	*eP*	**P**	**00 43 37.0**	**-0.2**
VNA2	**Neumayer--Watz**	**69.04**	**160**	*i*P	**P**	**00 43 37.2**	**-0.8**
VNA2				*e*	pP	00 43 40.5	-0.8
VNA2				*e*		00 43 45.7	
VNA2				*e*		00 43 49.4	
VNA2				*e*		00 43 58.1	
VNA2				*e*		00 44 03.4	
MOD	**Modoc**	**69.52**	**354**	*eP*	**P**	**00 43 42.2**	**+1.2**
	comp=Z,31nm,1.1s,mb5.2						
TZTN	**Tazewell**	**69.55**	**25**	*eP*	**P**	**00 43 40.8**	**-0.4**
YBH	**Yreka Blue Hor**	**69.61**	**352**	P	**P**	**00 43 40.4**	**-1.2**
	comp=Z,2.1nm,0.7s,mb4.2,baz=256,slow=8.3,SNR=2.6						
YBH	**Yreka Blue Hor**	**69.61**	**352**	P	**P**	**00 43 40.4**	**-1.2**
YBH				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WVOR	**Wild Horse Val**	**69.92**	**355**	*eP*	**P**	**00 43 43.2**	**-0.3**
WVOR				pmax	pmax		
	comp=Z,39nm,1.1s,mb5.2						
WVOR	**Wild Horse Val**	**69.92**	**355**	*eP*	**P**	**00 43 43.2**	**-0.3**
	comp=Z,39nm,1.1s,mb5.2						
SNAA	**Sanae**	**70.04**	**162**	P	**P**	**00 43 42.6**	**-1.6**
	comp=Z,3.2nm,0.9s,mb4.2,baz=267,slow=4.3,SNR=23						
SNAA	**Sanae**	**70.04**	**162**	*i*P	**P**	**00 43 37.2**	**-7.0**
SNAA				*e*	pP	00 43 40.0	-7.5
SNAA				*e*		00 43 46.9	
SNAA				*e*		00 43 51.2	
SNAA				*e*		00 44 00.8	
SNAA				*e*		00 44 04.4	
SNAA	**Sanae**	**70.04**	**162**	*eP*	**P**	**00 43 38.1**	**-6.1**
SNAA				pmax	pmax		
	comp=Z,22nm,1.0s						
SNAA	**Sanae**	**70.04**	**162**	*eP*	**P**	**00 43 38.1**	**-6.1**
	comp=Z,22nm,1.0s,mb5.0						
BW06	**Boulder Array**	**70.11**	**3**	*eP*	**P**	**00 43 44.3**	**-0.3**
	comp=Z,23nm,1.3s,mb5.0						
PDAR	**Pinedale Array**	**70.11**	**3**	P	**P**	**00 43 43.0**	**-1.6**
	comp=Z,14nm,1.2s,mb4.8,baz=174,slow=5.5,SNR=32						
PDAR				LR	LR	01 09 25.3	
	comp=Z,1μm,20.4s,MS5.1,baz=186,slow=32						
TPAW	**Teton Pass**	**70.79**	**1**	*eP*	**P**	**00 43 47.7**	**-1.1**
HLID	**

comp=Z,1.0nm,0.8s
CN2 Changchun 130.96 305 *e*PKP PKPdf 00 51 47.1 +3.1
SNY Shenyang 132.29 303 PKPR 00 51 45.5
SSE Sheshan 133.14 288 *e*PKP PKPdf 00 51 50.4 +2.3
SSE PP PP 00 54 20.9 +6.5
SSE SS SS 01 12 01.8 +4.3
SSE PP PP
comp=Z,17nm,3.5s
SSE LR LR
comp=N,71nm,20.8s,MS5.1
SSE LR LR
comp=E,385nm,20.8s,MS5.1
SSE LR LR
comp=Z,540nm,20.5s,MS5.2
CLL Collm 133.28 44 *e*PKPdf PKPdf 00 51 50.0 +1.6
CLL Lm 01 49 00.0
comp=N,200nm,21.6s
CLL Lm 01 49 00.0
comp=E,300nm,20.5s
CLL Lm 01 49 00.0
comp=Z,400nm,21.0s
CLL Collm 133.28 44 *i* PKIKP pPKPdf 00 51 54.5 +2.7
CLL pmax pmax
comp=Z,110nm,3.0s
BRG Berggiesshubel 133.93 45 *e*P pPKPdf 00 51 59.7 +6.7
comp=Z,14nm,1.8s
BRG Berggiesshubel 133.93 45 *e*PKIKP pPKPdf 00 51 59.7 +6.7
BRG *e* 01 12 09.0
BRG pmax pmax
comp=Z,14nm,1.8s
BRG MLR MLR
comp=Z,239nm,24.1s,MS4.8
BRG Berggiesshubel 133.93 45 *e*P pPKPdf 00 51 59.7 +6.7
BRG *e* 01 12 09.0
BRG LR LR
comp=Z,240nm,24.1s,MS4.8
KHC Kasperske Hory 133.96 47 *e*PKPDF PKPdf 00 51 54.0 +4.4
GERES GERESS Array B 134.07 48 PKP PKPdf 00 51 46.8 -3.0
comp=Z,0.2nm,0.4s,baz=173,slow=37,SNR=2.5
FINES FINESS Array B 136.56 27 PKP PKPdf 00 51 50.9 -3.6
comp=Z,0.7nm,0.8s,baz=55,slow=33,SNR=2.8
FINES FINESS Array B 136.56 27 PKIKP PKPdf 00 51 50.9 -3.6
FINES pmax pmax
comp=Z,1.0nm,0.8s
PKSM Moragy 137.76 51 ⇑PKIKP PKPdf 00 51 54.0 -2.7
BJI Beijing 137.90 300 PKP PKPdf 00 51 59.1 +2.1
BJI SS SS 01 12 54.8 +0.2
BJI LR LR
comp=N,227nm,20.1s,MS5.3
BJI LR LR
comp=E,562nm,21.5s,MS5.3
BJI LR LR
comp=Z,698nm,20.1s,MS5.4
KMBO Kilima Mbogo 139.48 130 PKP PKPdf 00 51 58.6 -1.3
comp=Z,2.0nm,0.9s,baz=231,slow=2.8,SNR=5.3
KMBO Kilima Mbogo 139.48 130 PKIKP PKPdf 00 51 58.6 -1.3
KMBO pmax pmax
comp=Z,2.0nm,0.9s
HHC Hu-ho-hao-te 141.36 302 *e*PKP PKPdf 00 52 03.0 -0.3
HHC PP PP 00 55 09.3 +3.6
HHC PKS 00 55 37.9
HHC SKS SKSdf 00 59 11.8 -1.6
HHC SKKS SKKSac 01 01 58.9 -0.5
HHC PP PP
comp=Z,65nm,5.7s
HHC LR LR
comp=N,172nm,21.4s,MS5.4
HHC LR LR
comp=E,783nm,22.5s,MS5.4
HHC LR LR
comp=Z,1μm,22.6s,MS5.5
BURAR Bucovina Array 141.85 47⇓ *i*P PKPdf 00 52 09.5 +5.4
MLR Muntele Rosu 142.90 50 PKP PKPdf 00 52 02.3 -3.7
comp=Z,6.3nm,1.2s,baz=289,slow=1.1,SNR=4.5
MLR Muntele Rosu 142.90 50⇓ *i*P PKPdf 00 52 02.2 -3.8
MLR Muntele Rosu 142.90 50⇓P PKPdf 00 52 02.2 -3.8
ULN Ulaanbaatar 143.05 314 *e*PKIKP PKPdf 00 52 02.7 -3.6
AKASG Malin Array Be 143.25 41 PKP PKPdf 00 52 02.9 -3.7
comp=Z,1.7nm,0.7s,baz=289,slow=3.5,SNR=4.2
AKASG Malin Array Be 143.25 41 PKIKP PKPdf 00 52 02.9 -3.7
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 143.25 41 PKP PKPdf 00 52 02.9 -3.7
SONM Songino Array 143.48 314 PKP PKPdf 00 52 02.9 -4.1
comp=Z,2.9nm,0.8s,baz=127,slow=1.4,SNR=12
SONM Songino Array 143.48 314 PKIKP PKPdf 00 52 02.9 -4.1
SONM pmax pmax
comp=Z,3.0nm,0.8s
TLY Talaya 143.60 321 *i* PKIKP PKPdf 00 52 04.7 -2.5
TLY *e*SS SS 01 14 01.5 +0.3
TLY pmax pmax
comp=N,7.0nm,0.7s
TLY MLR MLR
comp=Z,452nm,18.0s,MS5.3
XAN Xi'an 143.73 291 PKP PKPdf 00 52 04.6 -2.9
KIS Kishinev 144.38 47 *e*PKIKP PKPdf 00 52 05.0 -3.6
KIS *e* 00 52 15.0
ZAK Zakamensk 144.39 320 *e*PKIKP PKPdf 00 52 05.5 -3.1
ZAK pmax pmax
comp=Z,17nm,2.0s
HARR Harsova 144.47 51⇑ *i*P PKPdf 00 52 05.3 -3.5
HARR Harsova 144.47 51 ⇑P PKPdf 00 52 05.3 -3.4
CFR Carcaliu 144.48 50⇑ *i*P PKPdf 00 52 11.4 +2.6
CFR Carcaliu 144.48 50 ⇑P PKPdf 00 52 11.4 +2.6
OBN Obninsk 144.74 30⇑ *i* PKIKP PKPdf 00 52 07.8 -1.4
OBN pmax pmax
comp=Z,76nm,1.8s
OBN MLR MLR
comp=Z,500nm,18.0s,MS5.3
MOS Moscow 144.80 29 *e*PKIKP PKPdf 00 52 07.9 -1.4
MOS pmax pmax
comp=Z,85nm,1.3s
TIRR Tirgusor 144.86 51⇑ *i*P PKPdf 00 52 09.1 -0.3
TIRR Tirgusor 144.86 51 ⇑P PKPdf 00 52 09.2 -0.3
GYA Guiyang 144.86 277⇑ *i* PKP PKPdf 00 52 08.8 -0.6
GYA PKS 00 55 43.0
GYA PP PP
comp=Z,180nm,9.2s
GYA LR LR
comp=N,430nm,20.9s,MS5.3
GYA LR LR
comp=E,380nm,21.4s,MS5.3
GYA LR LR
comp=Z,410nm,21.6s,MS5.2
ELBA Catalca 145.62 57 *i* P PKPdf 00 52 09.4 -1.4
AYDN Tasoluk 145.69 63 *i* P PKPdf 00 52 10.3 -0.5
ISP Isparta 147.74 62 *e*PKP2 PKPab 00 52 14.9 -4.6
ESKT Eskisehir 147.74 59 *i* P PKPdf 00 52 14.2 -0.1
LZH Lanzhou 147.84 295 *e*PKP PKPdf 00 52 18.3 +3.8
LZH APKP 00 52 22.0
LZH PKP2 PKPab 00 52 25.5 +5.6
LZH *e*PP PP 00 55 53.0 +8.6
LZH SKKS SKKSac 01 02 36.5 +0.2
LZH PP PP
comp=Z,350nm,8.2s
LZH LR LR
comp=N,1μm,20.0s
LZH LR LR
comp=Z,1μm,21.0s,MS5.7
KMI Kunming 148.06 274 PKP PKPdf 00 52 17.1 +2.3
KMI APKP 00 52 20.4
KMI XPKP 00 52 21.6
KMI PKP2 PKPab 00 52 25.6 +4.9
KMI PKS 00 55 50.8
KMI PP PP 00 55 52.3 +6.6
KMI SKS SKSdf 00 59 22.8 -0.6
KMI SKKS SKKSac 01 02 39.9 +2.4
KMI SS SS 01 14 57.1 +5.2
KMI PP PP
comp=Z,130nm,5.9s
KMI LR LR
comp=N,188nm,21.5s,MS5.1
KMI LR LR
comp=E,220nm,19.2s,MS5.1
KMI LR LR
comp=Z,170nm,20.3s,MS4.8
VOR Voronezh 148.08 33 PKIKP PKPdf 00 52 15.0 +0.1
VOR pmax pmax
comp=Z,80nm,2.0s
VRSR Storozhevoye 148.39 34 *e*PKP2 PKPab 00 52 18.4 -3.7
VRSR pmax pmax
comp=Z,8.0nm,1.0s
VRSR pmax pmax
comp=N,4.0nm,1.4s
VRSR pmax pmax
comp=E,3.0nm,0.8s
SGKT Sivrigoynuk 148.43 57 *i* P PKPdf 00 52 16.1 +0.6
SIM Simferopol' 148.56 48 *i* PKP2 PKPab 00 52 19.2 -3.5
BALT Daday 149.17 54 *i* P PKPdf 00 52 17.1 +0.4
ELDT Eldivan 149.47 56 *i* P PKPdf 00 52 14.2 -2.9
CHG Chiang Mai 149.54 260⇓P PKPab 00 52 31.2 +4.5
comp=E,20nm,1.0s
CHTO Chiang Mai 149.54 260 *e*PKP2 PKPbc 00 52 21.3 -0.5
BOYT Boyabat 150.29 54 *i* P PKPdf 00 52 19.9 +1.5
CSS Prodhromos 150.31 67 *e*PKPdf PKPdf 00 52 19.7 +1.2
CDAG Cicekdag 150.38 58 *i* P PKPdf 00 52 08.4 -10
NVS Novosibirsk 150.38 341 *e*PKIKP PKPdf 00 52 18.3 -0.3
NVS pmax pmax
comp=E,8.0nm,1.2s
NVS pmax pmax
comp=Z,23nm,1.2s
CTKT Corum 150.44 56 *i* P PKPdf 00 52 19.0 +0.3
ARU Arti 150.57 10 *e*PKIKP PKPdf 00 52 21.7 +2.8
ANN Anapa 150.77 46 *i* PKIKP PKPdf 00 52 22.9 +3.7
ANN pmax pmax
comp=Z,48nm,1.5s
AVNT Avonos 150.94 59 *i* P PKPdf 00 52 16.1 -3.3
COBT Iskenderun 152.48 63 *i* P PKPdf 00 52 19.9 -1.8
SOC Sochi 152.78 47 *i* PKIKP PKPdf 00 52 24.8 +2.6
SOC *e* 00 56 09.6
SOC *e*SS SS 01 15 39.4 -5.0
SOC pmax pmax
comp=Z,12nm,0.9s
ASF Jabal al Asfar 153.46 73 PKP PKPdf 00 52 23.5 +0.3
comp=Z,0.7nm,0.3s,baz=77,slow=0.6,SNR=5.2
ASF Jabal al Asfar 153.46 73 PKIKP PKPdf 00 52 23.5 +0.3
ASF pmax pmax
comp=Z,1.0nm,0.4s
MALT Malatya 153.77 59⇑PKIKP PKPdf 00 52 29.2 +5.6
CHKZ Chkalovo 153.85 355 *e*PKIKP PKPdf 00 52 25.1 +1.4
KIV Kislovodsk 154.48 44 *i* PKIKP PKPdf 00 52 22.2 -2.4
KIV pmax pmax
comp=Z,5.0nm,1.1s
ZRNK Zerenda 154.67 357 *e*PKIKP PKPdf 00 52 24.7 -0.2
WMQ Urumqi 156.86 320 PKP PKPdf 00 52 27.6 -0.2
WMQ APKP 00 52 36.6
WMQ PKP2 PKPab 00 52 59.1 +1.5
WMQ PP PP 00 56 39.1 +3.3
WMQ PP PP
comp=Z,109nm,5.5s
WMQ LR LR
comp=N,284nm,20.8s,MS5.2
WMQ LR LR
comp=E,275nm,20.8s,MS5.2
WMQ LR LR
comp=Z,429nm,20.9s,MS5.3
MKAR Makanchi Array 157.45 332 PKP PKPdf 00 52 28.5 0.0
comp=Z,1.7nm,0.9s,baz=54,slow=2.1,SNR=7.4
MKAR Makanchi Array 157.45 332 PKIKP PKPdf 00 52 28.5 -0.1
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 157.45 332 PKP PKPdf 00 52 28.5 0.0

*ISCJB **24** 00:33:39.5±2.3, 3589N±009×697E±02, h124km±32km, Error ellipse: s-maj=24.0km s-min=8.2km az=117.4*
*NNC **24** 00:33:44.1±4.7, 3667N×6930E, h0km, mb3.8, mpv3.2, Error ellipse: s-maj=38.6km s-min=27.3km az=175.0*
ISC 24 00:33:42.1±2.3, 360N±01×697E±02, h179km±25km, n16, σ0s90/20, 6C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu** SNR=25	**6.87**	**26**	P	**Pn**	**00 35 19.9**	**-0.6**
KK31	**Karatay Array** 1.5nm,0.5s,baz=196,slow=12,SNR=32	**7.12**	**5**	⇑P	**Pn**	**00 35 22.7**	**-1.0**
KK31	11nm,0.8s,baz=196,slow=30,SNR=11			⇑S	**Sn**	**00 36 36.6**	**-7.4**
UCH	**Uchtor** SNR=27	**7.27**	**30**	P	**Pn**	**00 35 25.4**	**-0.2**
KZA	**Kyzart** SNR=10	**7.46**	**34**	P	**Pn**	**00 35 28.7**	**+0.5**
KBK	**Karagaybulak** SNR=5.5	**7.80**	**30**	P	**Pn**	**00 35 33.7**	**+1.0**
CHMS	**Chumysh** SNR=6.3	**8.02**	**28**	P	**Pn**	**00 35 35.0**	**-0.5**
USP	**Ospenovka** SNR=6.4	**8.15**	**26**	P	**Pn**	**00 35 33.9**	**-3.4**
TKM2	**Tokmak 2** SNR=7.6	**8.29**	**32**	P	**Pn**	**00 35 40.6**	**+1.5**
TKM2	**Tokmak 2** 0.5nm,0.8s	**8.29**	**32**	⇑P	**Pn**	**00 35 38.3**	**-0.8**
TKM2	0.5nm,0.7s			⇑S	**Sn**	**00 37 12.3**	**+0.4**
KOLN	**Koldanda**	**14.40**	**121**	*e*P	**Pn**	**00 36 56.9**	**-0.8**
GKN	**Gorkha**	**14.99**	**118**	*e*P	**Pn**	**00 37 04.5**	**-0.5**
AB31	**Akbulak array** 2.1nm,0.3s,baz=155,slow=12,SNR=143	**15.03**	**335**	⇑P	**Pn**	**00 37 07.4**	**+1.9**
AB31	0.6nm,0.4s,baz=154,slow=23,SNR=3.1			⇓S	**S**	**00 39 45.7**	**-7.0**
PKI	**Pulchoki**	**15.80**	**118**	*e*P	**Pn**	**00 37 14.8**	**0.0**
GUN	**Gumba**	**15.94**	**116**	*e*P	**Pn**	**00 37 16.9**	**+0.3**
JIRN	**Jiri**	**16.31**	**116**	*e*P	**Pn**	**00 37 21.9**	**+0.9**
AKTO	**Aktyubinsk**	**16.70**	**333**	⇓P	**Pn**	**00 37 31.0**	**+5.2**
AKTO				⇑S	**S**	**00 40 29.7**	**-0.6**

*MOS **24** 00:36:31.2±1.0, 681S×12979E, h33km, mb4.9/17, Error ellipse: s-maj=17.9km s-min=8.4km az=107.6*
*IDC **24** 00:36:36.9±3.5, 6.96S×129.83E, h72km±31km, mb4.5/7, mb1 4.7/9, mb1mx4.4/13, mbtmp4.9/9, Error ellipse: s-maj=28.8km s-min=15.2km az=73.0*
*NEIC **24** 00:36:39.6±1.3, 700S×12982E, h102km±12km, mb4.6/12, Error ellipse: s-maj=11.7km s-min=8.1km az=63.0*
*BJI **24** 00:36:39.6, 700S×12980E, h101km, mB4.8, mb4.8*
*ISCJB **24** 00:36:41.7±0.7, 7.19S±003×12988E±005, h143km±7km, mb4.5/26, Error ellipse: s-maj=9.2km s-min=4.6km az=143.4*
ISC 24 00:36:42.0±0.8, 710S±004×12998E±006, h126km±8km, n113, σ1s24/103, mb4.6/26, 3C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon** 320nm,0.8s	**3.83**	**332**	P	**Pn**	**00 37 41.4**	**+2.0**
KAKA	**Kakadu** 2μm,0.8s	**6.08**	**157**	*e*P	**Pn**	**00 38 11.2**	**+1.7**
KAKA				*e*S	**Sn**	**00 39 16.8**	**-1.0**
SWI	**Sorong** 143nm,0.5s	**6.33**	**12**	P	**Pn**	**00 38 14.3**	**+1.4**
JAY	**Jayapura** 86nm,0.6s	**11.61**	**67**	P	**Pn**	**00 39 28.3**	**+4.5**
FITZ	**Fitzroy Crossi** 79nm,0.5s	**11.73**	**201**	*e*P	**Pn**	**00 39 22.7**	**-2.6**
FITZ				*e*S	**Sn**	**00 41 21.0**	**-13**
FITZ	**Fitzroy Crossi** 7.5nm,0.3s,baz=38,slow=13,SNR=111	**11.73**	**201**	P	**Pn**	**00 39 22.6**	**-2.7**
FITZ	22nm,0.3s,baz=85,slow=9.7,SNR=11			S	**Sn**	**00 41 23.1**	**-11**
WRA	**Warramunga Arr** 17nm,0.3s,baz=343,slow=13,SNR=70	**13.45**	**162**	P	**Pn**	**00 39 46.3**	**-1.4**
WRA	22nm,0.3s,baz=331,slow=22,SNR=10			S	**Sn**	**00 42 08.0**	**-8.1**
WB2	**Warramunga Arr**	**13.45**	**162**	*e*P	**Pn**	**00 39 46.2**	**-1.6**
WB2				*e*S	**Sn**	**00 42 06.9**	**-9.2**
BUKP	**Musuan**	**15.67**	**342**	*e*P	**Pn**	**00 40 16.6**	**+0.9**
KMMI	**Kalianget** 59nm,1.2s	**15.89**	**269**	P	**Pn**	**00 40 19.1**	**+0.6**
PAGZ	**Pagadian**	**16.24**	**336**	*e*P	**Pn**	**00 40 22.8**	**0.0**
AS31	**Alice Springs**	**16.90**	**168**	*e*P	**Pn**	**00 40 31.9**	**+1.1**
AS31				*e*S	**S**	**00 43 30.4**	**-8.7**
ASAR	**Alice Springs** 7.2nm,0.3s,baz=330,slow=9.0,SNR=137	**16.90**	**168**	P	**Pn**	**00 40 31.7**	**+0.9**
ASAR	3.4nm,0.3s,baz=342,slow=23,SNR=7.8			S	**S**	**00 43 30.1**	**-9.0**
ASAR	**Alice Springs**	**16.90**	**168**	P	**Pn**	**00 40 31.7**	**+0.9**
ASAR				S	**S**	**00 43 30.1**	**-9.0**
ASAR	comp=Z,7.0nm,0.3s			pmax	pmax		
ASAR	comp=N,3.0nm,0.3s			smax			
ASPA	**Alice Springs**	**16.90**	**168**	*e*P	**Pn**	**00 40 31.9**	**+1.1**
ASPA				*e*S	**S**	**00 43 30.4**	**-8.7**
MBWA	**Marble Bar** comp=N,15nm,0.5s	**17.14**	**214**	*e*Pn	**Pn**	**00 40 33.9**	**+0.2**
MBWA				*e*		00 40 47.3	
MBWA				*e*Sn	**Sn**	**00 43 29.9**	**-15**

PMG Port Moresby 17.15 99 P **Pn** **00 40 39.7 +5.8**
comp=N,3.1nm,0.3s,baz=264,slow=5.2,SNR=17
PMG S **S** **00 43 38.9 -6.0**
comp=N,0.9nm,0.3s,baz=255,slow=20,SNR=2.0
PMG Port Moresby 17.15 99 P **Pn** **00 40 39.7 +5.8**
PMG S **S** **00 43 38.9 -6.0**
PMG pmax pmax
comp=Z,3.0nm,0.3s
PMG smax
comp=N,1.0nm,0.3s
PMG Port Moresby 17.15 99 *e*Pn **Pn** **00 40 40.0 +6.1**
comp=N,50nm,0.8s
PMG *e* 00 40 53.1
PMG *e*Sn **Sn** **00 43 43.5 -1.7**
CTAO Charters Tower 20.39 131 *e*P **P** **00 41 10.8 +2.0**
CTAO pmax pmax
comp=Z,5.0nm,0.6s
CTAO Charters Tower 20.39 131 *e*P **P** **00 41 10.8 +2.1**
comp=Z,5.2nm,0.6s
PVCP Virac 21.36 344 *e*P **P** **00 41 21.6 +2.4**
KSM Kuching 21.40 293 P **P** **00 41 16.6 -2.9**
LUBP Lubang 22.84 335 *e*P **P** **00 41 33.3 -1.1**
FORT Forrest 23.63 184 *e*P **P** **00 41 44.0 +2.5**
comp=Z,22nm,0.5s,mb4.8
FORT *e*S **S** **00 46 02.8 +16**
BALP Baler 24.17 340 *e*P **P** **00 41 45.1 -1.3**
KLBR Kellerberrin 26.91 204 *e*P **P** **00 42 11.8 +0.6**
comp=Z,6.1nm,0.3s,mb4.6
KLBR *e*S S 00 47 16.3 +38
STKA Stephens Creek 26.93 158 *e*P **P** **00 42 15.7 +4.4**
comp=Z,3.0nm,0.5s,mb4.1
STKA *e*S S 00 47 18.5 +40
STKA Stephens Creek 26.93 158 P **P** **00 42 12.1 +0.8**
comp=Z,2.1nm,0.3s,mb4.1,baz=341,slow=8.1,SNR=11
STKA Stephens Creek 26.93 158 *e*P **P** **00 42 12.4 +1.1**
STKA *e*P 00 42 15.7
STKA *e*S S 00 47 18.5 +40
MUN Mundaring 27.89 206 *e*P **P** **00 42 24.0 +4.1**
MUN *e*S S 00 47 39.0 +45
NWAO Narrogin (SRO) 28.30 203 P **P** **00 42 24.7 +1.1**
comp=Z,4.4nm,0.4s,mb4.3,baz=47,slow=15,SNR=8.5
NWAO Narrogin (SRO) 28.30 203 *e*P **P** **00 42 23.7 +0.2**
NWAO pmax pmax
comp=Z,4.0nm,0.5s
NWAO Narrogin (SRO) 28.30 203 *e*P **P** **00 42 23.7 +0.2**
comp=Z,4.2nm,0.5s,mb4.2
KULM Kulim 31.75 292 *e*P **P** **00 42 54.2 +0.2**
PSI Prapat 32.52 287 P **P** **00 42 59.0 -1.7**
comp=Z,10nm,0.8s,mb4.7,baz=107,slow=3.5,SNR=14
PSI Prapat 32.52 287 P **P** **00 42 59.0 -1.7**
PSI pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
CHTO Chiang Mai 39.99 311 *e*P **P** **00 44 03.1 -1.1**
CHTO pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
CHTO Chiang Mai 39.99 311 *e*P **P** **00 44 03.1 -1.1**
comp=Z,3.4nm,0.6s,mb4.3
WHN Wuhan 40.32 339 P **P** **00 44 07.5 +0.6**
NJ2 Nanjing 40.35 345 *e*P **P** **00 44 08.4 +1.2**
NJ2 AP pP 00 44 33.4 -2.1
NJ2 XP sP 00 44 47.1 -2.7
NJ2 PP PP 00 45 47.0 +4.4
NJ2 S **S** **00 50 07.0 +1.4**
NJ2 XS sS 00 50 50.0 -4.8
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
NJ2 AMB AMB
comp=Z,20nm,6.1s
NJ2 LR LR
comp=N,530nm,24.0s
NJ2 LR LR
comp=E,670nm,28.0s
NJ2 LR LR
comp=Z,140nm,24.4s
MAJO Matsushiro 44.09 10 *e*P **P** **00 44 36.7 -0.8**
MAJO pmax pmax
comp=Z,11nm,0.9s,mb4.6
MAJO Matsushiro 44.09 10 *e*P **P** **00 44 36.7 -0.8**
comp=Z,11nm,0.9s,mb4.6
MAT Matsushiro 44.09 10 P **P** **00 44 37.2 -0.3**
MAT Matsushiro 44.09 10 *e*P **P** **00 44 37.0 -0.5**
MAT pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
MAT Matsushiro 44.09 10 *e*P **P** **00 44 37.0 -0.5**
comp=Z,6.0nm,0.8s,mb4.4
MJAR Matsushiro Arr 44.09 10 P **P** **00 44 37.2 -0.3**
comp=Z,8.0nm,0.8s,mb4.5,baz=187,slow=9.5,SNR=17
MJAR Matsushiro Arr 44.09 10 P **P** **00 44 37.2 -0.3**
MJAR pmax pmax
comp=Z,8.0nm,0.8s
GTA Gaotai 54.05 331 *e*P **P** **00 45 53.0 -0.3**
GTA AMB AMB
comp=Z,7.0nm,0.6s,mb4.9
JIRN Jiri 54.64 311 *e*P **P** **00 45 57.1 -0.5**
GUN Gumba 55.00 311 *e*P **P** **00 45 59.4 -0.8**
KKN Kakani 55.39 311 *e*P **P** **00 46 02.5 -0.5**
comp=Z,10nm,0.7s,mb5.0
DMN Daman 55.42 310 *e*P **P** **00 46 03.1 -0.1**
GKN Gorkha 55.98 311 *e*P **P** **00 46 06.3 -0.9**
comp=Z,13nm,0.4s,mb5.3
KLR Kul'dur 56.11 1 *e*P **P** **00 46 06.0 -2.1**
KOLN Koldanda 56.65 310 *e*P **P** **00 46 10.8 -1.1**
ULN Ulaanbaatar 58.35 342 *e*P **P** **00 46 24.4 +0.5**
ULN pmax pmax
comp=Z,13nm,0.6s,mb5.1
ULN Ulaanbaatar 58.35 342 *e*P **P** **00 46 24.4 +0.5**
comp=Z,13nm,0.6s,mb5.1
SONM Songino Array 58.53 342 P **P** **00 46 25.4 +0.3**
comp=Z,4.9nm,0.6s,mb4.7,baz=155,slow=6.3,SNR=35
SONM Songino Array 58.53 342 P **P** **00 46 25.4 +0.3**
SONM pmax pmax
comp=Z,5.0nm,0.6s
ZAK Zakamensk 61.75 341 *e*P **P** **00 46 43.8 -3.2**
MOY Mondy 63.60 340 *e*P **P** **00 46 50.6 -8.7**
BOD Bodaibo 65.99 351 *e*P **P** **00 47 13.9 -0.9**
BOD pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
MKAR Makanchi Array 68.30 327 P **P** **00 47 29.5 +0.1**
comp=Z,18nm,0.4s,mb5.2,baz=118,slow=8.2,SNR=210
MKAR Makanchi Array 68.30 327 P **P** **00 47 29.5 +0.1**
MKAR pmax pmax
comp=Z,18nm,0.4s
TKM2 Tokmak 2 70.05 321 P **P** **00 47 41.1 +1.0**
SNR=13
KBK Karagaybulak 70.33 320 P **P** **00 47 42.9 +1.1**
SNR=9.2
UCH Uchtor 70.39 319 P **P** **00 47 43.8 +1.6**
SNR=10
AAK Ala-Archa 70.60 320 P **P** **00 47 44.7 +1.1**
SNR=5.5
AML Almayashu 70.87 319 P **P** **00 47 46.7 +1.6**
SNR=15
USP Ospenovka 70.92 320 P **P** **00 47 46.1 +0.7**
SNR=14
EKS2 Erkin-Say 71.08 320 P **P** **00 47 47.8 +1.4**
SNR=12
KURK Kurchatov 72.59 329⇑ *e*P **P** **00 47 55.0 -0.4**
NVS Novosibirsk 72.95 334 *e*P **P** **00 47 51.3 -6.3**
NVS pmax pmax
comp=Z,24nm,1.5s,mb4.8
NVS pmax pmax
comp=N,9.0nm,1.2s
NVS pmax pmax
comp=E,10.0nm,1.2s
KK31 Karatay Array 73.40 319 *i* P **P** **00 48 00.0 -0.2**
KK31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
CHKZ Chkalovo 78.34 328 *e*P **P** **00 48 27.3 -0.9**
CHKZ pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
CHKZ Chkalovo 78.34 328 *e*P **P** **00 48 27.3 -0.9**
comp=Z,9.6nm,0.9s,mb4.5
TIXI Tiksi 78.59 360 *e*P **P** **00 48 28.5 -1.1**
TIXI pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
ZRNK Zerenda 78.84 327 *e*P **P** **00 48 30.1 -0.9**
ZRNK pmax pmax
comp=Z,13nm,0.8s,mb4.8
ZRNK Zerenda 78.84 327 *e*P **P** **00 48 30.1 -0.9**
comp=Z,13nm,0.8s,mb4.8
BILL Bilibino 79.21 13 *e*P **P** **00 48 34.9 +1.9**
BILL pmax pmax
comp=Z,1.0nm,0.9s,mb3.6
SVE Sverdlovsk 84.84 329 *i* P **P** **00 49 00.0 -2.4**
SVE *e* 00 52 23.0

ARU	**Arti**	**85.78**	**328**	⇑*iP*		**P**		**00 49 05.9**	**-1.2**
ARU				*e*				00 52 28.2	
ARU				pmax		pmax			
	comp=Z,9.0nm,0.8s,mb4.8								
ORR	**Orenburg**	**86.46**	**323**	⇑*iP*		**P**		**00 49 10.7**	**+0.3**
ORR				*i*				00 52 27.5	
ORR				pmax		pmax			
	comp=Z,10.0nm,0.7s,mb4.8								
GNI	**Garni**	**90.90**	**310**	P		**P**		**00 49 32.7**	**+1.3**
ILAR	**Eielson Array**	**93.44**	**25**	P		**P**		**00 49 42.2**	**-0.9**
	comp=Z,2.8nm,0.7s,mb4.7,baz=268,slow=4.5,SNR=27								
ILAR	**Eielson Array**	**93.44**	**25**	P		**P**		**00 49 42.2**	**-0.9**
ILAR				pmax		pmax			
	comp=Z,3.0nm,0.7s								
DAWY	**Dawson**	**96.61**	**26**	*eP*		**P**		**00 49 58.6**	**+1.0**
FINES	**FINESS Array B**	**102.84**	**331**	PKiKP		PKiKP		00 54 45.0	-0.1
	comp=Z,1.9nm,0.9s,baz=48,slow=2.8,SNR=6.3								
YKA	**Yellowknife Ar**	**107.85**	**26**	PKiKP		PKiKP		00 54 54.7	+0.3
	comp=Z,0.6nm,0.6s,baz=296,slow=1.7,SNR=11								
YKA	**Yellowknife Ar**	**107.85**	**26**	PKPdf		PKiKP		00 54 54.7	+0.3
GERES	**GERESS Array B**	**112.49**	**320**	PKiKP		PKiKP		00 55 03.5	+0.4
	comp=Z,0.8nm,0.5s,baz=70,slow=1.4,SNR=8.7								
GERES	**GERESS Array B**	**112.49**	**320**	*i* PKiKP		PKiKP		00 55 03.5	+0.3
GERES				pmax		pmax			
	comp=Z,1.0nm,0.5s								
HINF	**Hinteralfeld**	**117.15**	**321**	*e*PKiKP		PKPdf		00 55 12.0	-0.1
HAU	**Haudompre**	**117.39**	**321**	*e*PKiKP		PKPdf		00 55 12.7	+0.1
HAU				*e*R					
	comp=Z,459nm,21.5s								
HAU	**Haudompre**	**117.39**	**321**	*e*PKPdf		PKPdf		00 55 12.7	+0.1
HAU				LR		LR			
	comp=Z,460nm,21.5s								
PGF	**Pioggiola**	**117.40**	**314**	*e*PKiKP		PKPdf		00 55 12.8	+0.2
	comp=Z,79nm,1.4s								
LPG	**La Plagne**	**118.02**	**318**	*e*PKiKP		PKPdf		00 55 14.4	+0.6
LPL	**La Plagne**	**118.03**	**318**	*e*PKiKP		PKPdf		00 55 14.0	+0.2
	comp=Z,2.3nm,0.4s								
CABF	**La Chapelle**	**118.07**	**320**	*e*PKiKP		PKPdf		00 55 14.2	+0.3
	comp=Z,5.6nm,0.5s								
SMF	**Signal de Mont**	**119.49**	**320**	*e*PKiKP		PKPdf		00 55 16.8	+0.2
SSF	**Saint Saulge**	**119.54**	**321**	*e*PKiKP		PKPdf		00 55 16.8	+0.1
	comp=Z,9.5nm,0.8s								
AVF	**Avril sur Loir**	**119.74**	**321**	*e*PKiKP		PKPdf		00 55 16.4	-0.7
BGF	**Bois d'Agland**	**120.15**	**320**	*e*PKiKP		PKPdf		00 55 18.0	+0.1
	comp=Z,16nm,0.8s								
MFF	**Saint Martin d**	**122.00**	**322**	*e*PKiKP		PKPdf		00 55 21.8	+0.4
TORD	**Torodi Ar. Bea**	**128.81**	**281**	PKP		PKPdf		00 55 35.2	+0.7
	comp=Z,1.3nm,0.6s,baz=60,slow=1.6,SNR=12								
EVO	**Evora**	**130.89**	**316**	*e*PKiKP		PKPdf		00 55 37.4	-1.0
	comp=Z,15nm,1.0s								
EVO				*e*R					
	comp=Z,660nm,18.0s								
CFAA	**Coronel Fontan**	**137.76**	**157**	PKP		PKPdf		00 55 53.8	+2.6
	comp=Z,0.3nm,0.7s,baz=240,slow=6.7,SNR=5.5								
LVC	**Limon Verde**	**145.16**	**148**	PKPbc		PKPbc		00 56 08.5	+4.2
	comp=Z,3.4nm,0.6s,baz=287,slow=4.2,SNR=7.5								
CPUP	**Villa Florida**	**146.02**	**168**	PKPbc		PKPbc		00 56 09.6	+2.6
	comp=Z,2.0nm,0.6s,baz=190,slow=1.5,SNR=8.0								
CPUP	**Villa Florida**	**146.02**	**168**	PKP2		PKPab		00 56 09.6	+1.9
CPUP				pmax		pmax			
	comp=Z,2.0nm,0.6s								
LPAZ	**La Paz**	**150.65**	**142**	PKP		PKPdf		00 56 17.9	+4.4
	comp=Z,0.8nm,0.7s,baz=155,slow=4.1,SNR=4.7								
LPAZ				PKPbc		PKPbc		00 56 23.2	+4.1
	comp=Z,2.1nm,0.5s,baz=200,slow=2.8,SNR=17								
LPAZ	**La Paz**	**150.65**	**142**	PKIKP		PKPdf		00 56 17.9	+4.4
LPAZ								00 56 23.2	
LPAZ				pmax		pmax			
	comp=Z,1.0nm,0.7s								
LPAZ				pmax		pmax			
	comp=Z,2.0nm,0.5s								

*CSEM **24** 00:40:27.5±0.1, 3827N×2263E, h2km, ML3.2, Error ellipse: s-maj=2.8km s-min=2.1km az=47.0*
*NEIC **24** 00:40:27.5, 3830N×2260E, h24km, MD3.1(ATH), After ATH.*
*ATH **24** 00:40:27.5, 3828N×2262E, h23km±2km, MD3.1/10, ML3.1*
*ISCJB **24** 00:40:28.1±0.8, 3829N±004×2262E±004, h18km±9km, Error ellipse: s-maj=6.2km s-min=5.6km az=77.1*
*THE **24** 00:40:28.9, 3835N×2268E, h8km, ML3.1*
ISC 24 00:40:27.8±0.8, 3829N±003×2261E±004, h13km±5km, n26, σ0°66/31, Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LKR	**Lokris**	**0.47**	**40**	*e*PB		**Pg**	**00 40 36.6**	**-0.5**
LKR				*e*SB		**Sg**	**00 40 44.1**	**+0.8**
MGER	**Gerania Oros**	**0.60**	**121**	*e*PN		**Pg**	**00 40 39.0**	**-0.5**
AGG	**Agios Georgios**	**0.76**	**343**	*e*Pg		**Pg**	**00 40 42.5**	**-0.1**
AGG				*e*Sg		**Sg**	**00 40 52.8**	**+0.3**
EVR	**Evrytania**	**0.88**	**315**	*e*PN		**Pn**	**00 40 44.8**	**-1.2**
EVR				*e*SN		**Sn**	**00 40 57.9**	**-0.8**
EVR	**Evrytania**	**0.88**	**315**	*e*Pn		**Pn**	**00 40 44.6**	**-1.4**
ATH	**Athens Observa**	**0.93**	**110**	*e*PN		**Pn**	**00 40 46.5**	**-0.1**
ATH	**Athens Observa**	**0.93**	**110**	*e*Pn		**Pn**	**00 40 46.4**	**-0.2**
ATH				*e*Sn		**Sn**	**00 40 59.8**	**0.0**
RLS	**Riolos of Patr**	**0.93**	**256**	*e*PN		**Pn**	**00 40 45.7**	**-1.0**
KVR	**Kavouri**	**1.03**	**117**	*e*PN		**Pn**	**00 40 47.5**	**-0.5**
NEO	**Neokhori**	**1.12**	**25**	*e*PN		**Pn**	**00 40 48.8**	**-0.4**
NEO				*e*SN		**Sn**	**00 41 05.0**	**+0.5**
NEO	**Neokhori**	**1.12**	**25**	*e*Pn		**Pn**	**00 40 49.3**	**+0.1**
XOR	**Xorichti**	**1.16**	**23**	*e*Pg		**Pg**	**00 40 49.8**	**-0.4**
ITM	**Ithomi**	**1.24**	**206**	*e*PN		**Pn**	**00 40 50.6**	**-0.3**
ITM	**Ithomi**	**1.24**	**206**	*e*Pn		**Pn**	**00 40 50.5**	**-0.4**
AOS	**Alonnisos**	**1.32**	**48**	*e*Pg		**Pn**	**00 40 51.4**	**-0.7**
LKD	**Levkas**	**1.59**	**286**	*e*Pb		**Pb**	**00 40 57.6**	**+0.4**
VLI	**Veliai**	**1.59**	**171**	*e*PN		**Pn**	**00 40 56.0**	**+0.2**
VLI	**Veliai**	**1.59**	**171**	*e*Pn		**Pn**	**00 40 56.3**	**+0.5**
VLS	**Valsamata**	**1.60**	**266**	*e*PN		**Pn**	**00 40 56.8**	**+1.0**
LIT	**Litokhoron**	**1.81**	**357**	*e*Pb		**Pn**	**00 40 58.8**	**+0.1**
PAIG	**Paliouri**	**1.83**	**27**	*e*Pb		**Pn**	**00 40 58.6**	**-0.4**
IGT	**Igoumenitsa**	**2.17**	**306**	*e*Pn		**Pn**	**00 41 04.2**	**+0.6**
OUR	**Ouranopolis**	**2.30**	**27**	*e*Pn		**Pn**	**00 41 05.2**	**-0.2**
FNA	**Florina**	**2.66**	**339**	*e*Pn		**Pn**	**00 41 11.0**	**+0.5**
KNT	**Kendrikon**	**2.87**	**4**	*e*Pn		**Pn**	**00 41 14.5**	**+1.1**
KARN	**Karanos**	**3.07**	**160**	*e*Pn		**Pn**	**00 41 17.6**	**+1.6**

*IDC **24** 00:50:01.3±0.8, 3161S×11188W, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.1/19, mbtmp4.1/9, MS4.4/9, Ms1 4.3/9, ms1mx4.2/15, Error ellipse: s-maj=25.0km s-min=22.0km az=70.0*
*ISCJB **24** 00:50:01.3±0.5, 3165S±007×1118W±0.1, h10km, mb4.5/27, MS4.4/9, Error ellipse: s-maj=14.8km s-min=9.0km az=127.1*
*NEIC **24** 00:50:03.2±0.4, 3162S×11176W, h10km, mb4.8/21, Error ellipse: s-maj=13.5km s-min=8.6km az=54.0*
*HRVD **24** 00:50:03.2±0.4, 3178S×11157W, h12km, MW5.0/72, Centroid moment Tensor Solution. LP body waves: s13,c14;Mantle waves: s72,c102; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.64±.12; $M_{\theta\theta}$-2.40±.11; $M_{\phi\phi}$1.76±.12; $M_{r\theta}$-1.43±.32; $M_{\theta\phi}$2.07±.10; $M_{\phi r}$-0.83±.37; Best double couple: M_o3.40800×10^{16} NP1:ϕ_s155.00000°,δ60.00000°,λ170.00000°. NP2: ϕ_s250.00000°,δ81.00000°,λ31.00000°. Principal axes: T 3.3010, Plg28.0000°, Azm117.0000°; N 0.2100, Plg58.0000°, Azm264.0000°; P -3.5160, Plg15.0000°, Azm19.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **24** 00:50:05.4±1.0, 3159S×11167W, h33km, mb5.2/9 Error ellipse: s-maj=25.0km s-min=12.6km az=88.3*
*BJI **24** 00:50:05.2, 3160S×11180W, h10km, Ms4.8, Msz4.4*
ISC 24 00:50:03.1±0.5, 3167S±007×1119W±01, h10km, (h11km±3.2km:pP-P), n89, σ0°84/64, mb4.5/27, MS4.4/9, 1D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RKT	**Rikitea**	**22.19**	**287**	*e*LR		LR	01 00 12.6	
	2µm,26.2s,baz=120							
TBI	**Tubuai**	**34.24**	**275**	*e*LR		LR	01 05 39.1	
	750nm,27.0s							
PLCA	**Paso Flores**	**34.27**	**117**	P		**P**	**00 56 49.7**	**+0.4**
	4.5nm,1.0s,mb4.4,baz=304,slow=6.7,SNR=4.1							
PLCA				LR		LR	01 07 53.5	
	comp=Z,222nm,18.9s,MS3.9,baz=87,slow=31							
PLCA	**Paso Flores**	**34.27**	**117**	*e*P		**P**	**00 56 50.0**	**+0.7**
PLCA				pmax		pmax		
	comp=Z,9.0nm,1.2s							

PLCA	**Paso Flores**	**34.27**	**117**	*e*P		**P**		**00 56 50.0**	**+0.7**
	comp=Z,9.1nm,1.2s,mb4.6								
PLCA				LR		LR		01 07 53.5	
TAOE	**Nuku Hiva Isla**	**34.73**	**305**	*e*LR		LR		01 06 11.1	
	comp=Z,3µm,25.6s								
PPT	**Papeete**	**36.86**	**283**	*e*LR		LR		01 06 56.6	
	comp=Z,977nm,22.8s,baz=111								
PPT	**Papeete**	**36.86**	**283**	LR		LR		01 07 41.4	
	comp=Z,1µm,19.1s,MS4.6,baz=144,slow=29								
CFAA	**Coronel Fontan**	**36.95**	**102**	P		**P**		**00 57 10.8**	**-1.5**
	comp=Z,1.1nm,1.1s,mb3.6,baz=264,slow=7.0,SNR=8.1								
LVC	**Limon Verde**	**39.06**	**88**	P		**P**		**00 57 31.0**	**+0.9**
	comp=Z,3.0nm,0.9s,mb4.0,baz=248,slow=10,SNR=6.3								
LVC	**Limon Verde**	**39.06**	**88**	*e*P		**P**		**00 57 30.8**	**+0.6**
	comp=Z,19nm,1.5s,mb4.6								
ATAH	**Atahualpa**	**39.70**	**59**	P		**P**		**00 57 35.8**	**+0.3**
	comp=Z,4.1nm,0.8s,mb4.2,baz=228,slow=3.8,SNR=4.1								
TRQA	**Tornquist**	**41.02**	**113**	*e*P		**P**		**00 57 46.9**	**+0.5**
	comp=Z,23nm,1.4s,mb4.6								
LPAZ	**La Paz**	**42.49**	**79**	LR		LR		01 11 00.9	
	comp=Z,246nm,19.7s,MS4.1,baz=322,slow=30								
LPAZ	**La Paz**	**42.49**	**79**	*e*P		**P**		**00 57 59.5**	**+1.1**
LPAZ				pmax		pmax			
	comp=Z,4.0nm,1.2s								
LPAZ	**La Paz**	**42.49**	**79**	*e*P		**P**		**00 57 59.5**	**+1.1**
	comp=Z,4.5nm,1.2s,mb4.0								
CPUP	**Villa Florida**	**47.58**	**98**	LR		LR		01 15 18.3	
	comp=Z,509nm,18.2s,MS4.5,baz=54,slow=32								
CPUP	**Villa Florida**	**47.58**	**98**	P		**P**		**00 58 37.8**	**-1.1**
SAML	**Samuel**	**50.43**	**74**	*e*P		**P**		**00 59 00.7**	**-0.1**
	comp=Z,2.8nm,0.9s,mb4.3								
ROSC	**El Rosal**	**50.96**	**51**	P		**P**		**00 59 06.7**	**+2.0**
	comp=Z,3.7nm,0.5s,mb4.6,baz=80,slow=16,SNR=10								
SDV	**Santo Domingo**	**56.39**	**51**	*e*P		**P**		**00 59 44.0**	**-0.5**
SBA	**Scott Base**	**57.48**	**194**	*e*P		**P**		**00 59 52.4**	**+0.1**
VNDA	**Vanda**	**58.54**	**195**	*e*P		**P**		**01 00 01.0**	**+1.3**
	comp=Z,1.7nm,1.1s,mb4.0,baz=35,slow=3.6,SNR=4.5								
VNDA				LR		LR		01 20 30.7	
	comp=Z,570nm,18.6s,MS4.7,baz=73,slow=31								
VNDA	**Vanda**	**58.54**	**195**	*e*P		**P**		**01 00 00.9**	**+1.2**
VNDA				pmax		pmax			
	comp=Z,3.0nm,1.2s								
VNDA	**Vanda**	**58.54**	**195**	*e*P		**P**		**01 00 00.8**	**+1.1**
	comp=Z,2.9nm,1.2s,mb4.2								
VNDA				LR		LR		01 20 30.7	
BDFB	**Brasilia**	**59.86**	**90**	LR		LR		01 24 21.6	
	comp=Z,82nm,21.6s,MS3.8,baz=350,slow=34								
LTX	**Lajitas**	**61.16**	**8**	*e*P		**P**		**01 00 17.8**	**0.0**
LTX				pmax		pmax			
	comp=Z,1.0nm,0.5s,mb4.2								
LTX	**Lajitas**	**61.16**	**8**	*e*P		**P**		**01 00 17.8**	**0.0**
	comp=Z,1.3nm,0.5s,mb4.3								
HKT	**Hockley**	**63.14**	**16**	*e*P		**P**		**01 00 31.5**	**+0.4**
HKT				pmax		pmax			
	comp=Z,25nm,1.6s,mb5.1								
HKT	**Hockley**	**63.14**	**16**	*e*P		**P**		**01 00 31.5**	**+0.5**
	comp=Z,25nm,1.6s,mb5.1								
MNTX	**Cornudas Mount**	**63.32**	**6**	*e*P		**P**		**01 00 31.4**	**-0.9**
	comp=Z,5.5nm,0.9s,mb4.7								
TUC	**Tucson**	**63.64**	**1**	*e*P		**P**		**01 00 34.6**	**+0.2**
TUC				pmax		pmax			
	comp=Z,16nm,1.4s,mb4.9								
TUC	**Tucson**	**63.64**	**1**	*e*P		**P**		**01 00 34.6**	**+0.3**
	comp=Z,16nm,1.4s,mb4.8								
GDL2	**Guadalupe Moun**	**63.92**	**7**	*e*P		**P**		**01 00 36.2**	**0.0**
VNA3	**Neumayer Olymp**	**64.14**	**159**	*e*		**P**		**01 00 37.5**	**-0.1**
VNA3				*e*		pP		01 00 39.4	-1.5
VNA3				*e*		pP		01 00 42.1	+1.2
VNA3				*e*				01 00 45.7	
VNA3				*e*				01 00 47.2	
VNA3				*e*				01 00 51.0	
VNA3				*e*				01 00 55.0	
VNA1	**Neumayer--Stat**	**64.80**	**159**	*e*		**P**		**01 00 38.3**	**-3.6**
VNA1				*e*		pP		01 00 42.7	-2.5
VNA1				*e*				01 00 44.3	
VNA1				*e*				01 00 51.8	
VNA1				*e*				01 00 55.6	
VNA2	**Neumayer--Watz**	**64.95**	**159**	*e*		**P**		**01 00 42.5**	**-0.4**
VNA2				*e*		pP		01 00 44.0	-2.2
VNA2				*e*		pP		01 00 46.4	+0.2
VNA2				*e*				01 00 49.3	
VNA2				*e*				01 00 51.1	
VNA2				*e*				01 00 55.9	
VNA2				*e*				01 00 59.6	
LAZ	**Ladron**	**65.87**	**4**	*e*P		**P**		**01 00 46.7**	**-2.2**
SNAA	**Sanae**	**65.94**	**161**	P		**P**		**01 00 48.6**	**-0.7**
	comp=Z,2.1nm,1.0s,mb4.1,baz=248,slow=5.2,SNR=8.3								
SNAA	**Sanae**	**65.94**	**161**	*e*		**P**		**01 00 43.5**	**-5.8**
SNAA				*e*		pP		01 00 44.9	-7.7
SNAA				*e*		pP		01 00 47.6	-5.0
SNAA				*e*				01 00 49.9	
SNAA				*e*				01 00 56.7	
SNAA	**Sanae**	**65.94**	**161**	*e*P		**P**		**01 00 43.7**	**-5.6**
SJG	**San Juan**	**66.11**	**48**	*e*P		**P**		**01 00 49.6**	**-0.9**
NEN	**Nelson**	**67.02**	**357**	*e*P		**P**		**01 00 56.4**	**+0.1**
DAC	**Darwin (Calif)**	**67.81**	**355**	*e*P		**P**		**01 00 59.8**	**-1.4**
DAC				pmax		pmax			
	comp=Z,8.0nm,0.9s,mb4.8								
DAC	**Darwin (Calif)**	**67.81**	**355**	*e*P		**P**		**01 00 59.8**	**-1.5**
	comp=Z,8.0nm,0.9s,mb4.8								
DRV	**Dumont d'Urvil**	**68.07**	**204**	L				01 02 00.0	
TPNV	**Topopah Spring**	**68.39**	**356**	*e*P		**P**		**01 01 06.2**	**+1.3**
TPNV				pmax		pmax			
	comp=Z,31nm,1.6s,mb5.1								
TPNV	**Topopah Spring**	**68.39**	**356**	*e*P		**P**		**01 01 06.2**	**+1.4**
	comp=Z,31nm,1.6s,mb5.1								
CCUT	**Cedar City**	**68.88**	**359**	*e*P		**P**		**01 01 08.9**	**+0.9**
ARUT	**Antelope Range**	**69.11**	**359**	*e*P		**P**		**01 01 09.4**	**0.0**
PV01	**Paradox Valley**	**69.51**	**3**	*e*P		**P**		**01 01 12.0**	**+0.1**
MSU	**Marysvale**	**69.82**	**360**	*e*P		**P**		**01 01 14.0**	**+0.2**
MNV	**Mina**	**69.99**	**355**	*e*P		**P**		**01 01 15.5**	**+0.7**
MNV				pmax		pmax			
	comp=Z,43nm,1.5s,mb5.2								
MNV	**Mina**	**69.99**	**355**	*e*P		**P**		**01 01 15.5**	**+0.7**
	comp=Z,43nm,1.5s,mb5.2								
SRU	**San Rafael**	**70.43**	**1**	*e*P		**P**		**01 01 17.2**	**-0.3**
SRU				pmax		pmax			
	comp=Z,6.0nm,0.8s,mb4.6								
SRU	**San Rafael**	**70.43**	**1**	*e*P		**P**		**01 01 17.2**	**-0.3**
	comp=Z,6.3nm,0.8s,mb4.6								
DAU	**Daniels Canyon**	**71.72**	**0**	*e*P		**P**		**01 01 26.0**	**+0.6**
DAU				*e*				01 01 39.6	
BMN	**Battle Mountai**	**71.91**	**356**	*e*P		**P**		**01 01 27.5**	**+1.0**
BMN				pmax		pmax			
	comp=Z,13nm,0.9s,mb4.9								
BMN	**Battle Mountai**	**71.91**	**356**	*e*P		**P**		**01 01 27.5**	**+1.0**
	comp=Z,13nm,0.9s,mb4.9								
BGU	**Big Grassy Mou**	**72.24**	**359**	*e*P		**P**		**01 01 28.3**	**-0.2**
MOD	**Modoc**	**73.62**	**353**	*e*P		**P**		**01 01 37.3**	**+0.7**
	comp=Z,5.4nm,0.8s,mb4.5								
WVOR	**Wild Horse Val**	**74.00**	**355**	*e*P		**P**		**01 01 39.4**	**+0.5**
WVOR				pmax		pmax			
	comp=Z,35nm,1.6s,mb5.0								
WVOR	**Wild Horse Val**	**74.00**	**355**	*e*P		**P**		**01 01 39.4**	**+0.6**
	comp=Z,35nm,1.6s,mb5.0								
PDAR	**Pinedale Array**	**74.10**	**2**	P		**P**		**01 01 38.5**	**-1.0**
	comp=Z,3.0nm,1.1s,mb4.1,baz=184,slow=4.5,SNR=15								
PDAR				LR		LR		01 27 59.1	
	comp=Z,194nm,19.9s,MS4.4,baz=165,slow=31								
TPAW	**Teton Pass**	**74.80**	**1**	*e*P		**P**		**01 01 43.6**	**0.0**
	comp=Z,5.8nm,0.8s,mb4.6								
HLID	**Hailey**	**74.91**	**358**	*e*P		**P**		**01 01 44.3**	**+0.2**
	comp=Z,9.8nm,1.0s,mb4.7								
QLMT	**Earthquake Lak**	**76.14**	**0**	*e*P		**P**		**01 01 50.5**	**-0.7**
BMO	**Blue Mountains**	**76.32**	**356**	*e*P		**P**		**01 01 52.5**	**+0.3**
	comp=Z,3.3nm,0.8s,mb4.3								
CHMT	**Chamberlain Mo**	**78.23**	**359**	*e*P		**P**		**01 02 02.4**	**-0.6**
NEW	**Newport**	**79.71**	**356**	*e*P		**P**		**01 02 11.0**	**-0.1**
NEW				pmax		pmax			
	comp=Z,31nm,1.5s								
NEW	**Newport**	**79.71**	**356**	*e*P		**P**		**01 02 11.0**	**-0.1**
	comp=Z,31nm,1.5s,mb5.0								
YKA	**Yellowknife Ar**	**93.86**	**359**	P		**P**		**01 03 19.1**	**-1.6**
	comp=Z,0.4nm,0.8s,mb3.9,baz=163,slow=4.0,SNR=5.2								
YKA				LR		LR		01 40 54.8	
	comp=Z,243nm,18.6s,MS4.7,baz=90,slow=33								
YKA	**Yellowknife Ar**	**93.86**	**359**	P		**P**		**01 03 19.1**	**-1.6**
YKA				LR		LR		01 40 54.8	
SCHQ	**Schefferville**	**94.44**	**24**	LR		LR		01 41 24.1	
	comp=Z,213nm,18.8s,MS4.6,baz=15,slow=33								
GERES	**GERESS Array B**	**136.04**	**51**	PKP		PKPdf		01 09 23.3	-1.1
	comp=Z,0.3nm,0.7s,baz=254,slow=5.0,SNR=4.1								
HHC	**Hu-ho-hao-te**	**144.12**	**297**	*e*PKP		PKPdf		01 09 37.5	-1.6
HHC						APKP		01 09 45.3	
BTO	**Baotou**	**145.30**	**297**	*e*PKP		PKPdf		01 09 41.6	+0.5

AKASG	**Malin Array Be**	**145.60**	**45**	PKPbc		PKPbc		01 09 39.0	-2.8
	comp=Z,0.3nm,0.3s,baz=286,slow=3.5,SNR=18								
XAN	**Xi'an**	**145.82**	**285**	PKP		PKPdf		01 09 42.8	+0.8
XAN				APKP				01 09 51.3	
ULN	**Ulaanbaatar**	**146.41**	**310**	*e*PKP2		PKPab		01 09 43.8	-1.4
SONM	**Songino Array**	**146.85**	**310**	PKPbc		PKPbc		01 09 43.9	-1.7
	comp=Z,2.0nm,0.9s,baz=105,slow=1.5,SNR=10								
TLY	**Talaya**	**147.25**	**318**	*e*PKP2		PKPab		01 09 45.9	-2.5
TLY				pmax		pmax			
	comp=Z,10.0nm,0.9s								
OBN	**Obninsk**	**147.67**	**34**	⇓*i*PKP2		PKPab		01 09 46.6	-3.5
OBN				pmax		pmax			
	comp=Z,28nm,1.3s								
ZAK	**Zakamensk**	**147.97**	**316**	*e*PKP2		PKPab		01 09 48.6	-2.7
ZAK				pmax		pmax			
	comp=Z,14nm,1.8s								
LZH	**Lanzhou**	**150.14**	**288**	*e*PKP		PKPbc		01 09 56.6	+2.5
CSS	**Prodhromos**	**150.81**	**74**	*e*PKP		PKPdf		01 09 54.8	+4.7
GTA	**Gaotai**	**153.20**	**296**	*e*PKP		PKPbc		01 10 01.3	+0.1
NVS	**Novosibirsk**	**154.48**	**340**	*e*PKP2		PKPab		01 10 16.8	-1.5
NVS				pmax		pmax			
	comp=Z,32nm,1.9s								
MKAR	**Makanchi Array**	**161.39**	**328**	PKPab		PKPab		01 10 48.0	-0.1
	comp=Z,0.9nm,1.0s,baz=42,slow=5.7,SNR=5.8								

*NEIC **24** 01:17:31.0, 1657N×9832W, h8km, MD3.6(MEX), After MEX.*
MEX 24 01:17:31.1±0.7, 1657N×9831W, h8km±12km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.25**	**135**	*i* P		Pg	01 17 35.5	-0.6
PNIG				*i* S		Sg	01 17 39.4	0.0
UTMO	**Huajuapan**	**1.34**	**21**	*i* P		Pn	01 17 54.2	-1.9
UTMO				*i* S		Sb	01 18 09.2	-4.7
ACX	**Acapulco**	**1.57**	**281**	*i* P		Pn	01 17 57.0	-2.3
VHO	**Vista Hermosa**	**1.59**	**71**	*i* P		Pn	01 17 56.6	-3.0
VHO				*i* S		Sn	01 18 16.0	-4.3
OXX	**Oaxaca**	**1.60**	**71**	*i* P		Pn	01 17 56.5	-3.2
OXX				*i* S		Sn	01 18 15.0	-5.6
MEIG	**Mezcala**	**1.84**	**317**	*e*P		Pn	01 17 59.8	-3.2
MEIG				*i* S		Sn	01 18 22.9	-3.5
CAIG	**El Cayaco**	**1.93**	**285**	*i* P		Pn	01 18 02.2	-2.1
CAIG				*i* S		Sn	01 18 22.9	-5.9
CAIG	**El Cayaco**	**1.93**	**285**	*i* P		Pn	01 18 04.1	-0.2
CAIG				*i* S		Sn	01 18 22.9	-5.9
PLIG	**Platanillo**	**2.14**	**328**	*e*P		Pn	01 18 05.5	-1.6
PLIG				*i* S		Sn	01 18 28.6	-5.2

MEX 24 01:54:41.4±0.6, 1611N×9626W, h136km±8km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HUIG	**Huatulco**	**0.37**	**158**	*i* P		Pn	01 54 58.7	-1.8
HUIG				*i* S		Sn	01 55 13

SDI	**San Donato**	**1.54**	**254**	Pg		**Pg**	**02 04 23.3**	**-2.0**
	53nm,0.2s							
STON	**Ston**	**1.59**	**62**	*i* Pn		**Pn**	**02 04 27.4**	**+3.5**
STON				*i* Sn		**Sn**	**02 04 50.4**	**+5.9**
RFI	**Roccamonfina**	**1.59**	**239**	Pg		**Pg**	**02 04 26.1**	**-0.2**
	4.0nm,0.4s							
SGO	**Sicignano**	**1.62**	**193**	Pg		**Pg**	**02 04 24.1**	**-2.7**
	18nm,0.2s							
VVLD	**Villa Vallelon**	**1.64**	**261**	Pg		**Pg**	**02 04 24.6**	**-2.6**
VVLD				Sg		**Sg**	**02 04 47.5**	**-1.0**
	196nm,0.4s							
FAGN	**Fagnano**	**1.65**	**275**	Pg		**Pg**	**02 04 25.2**	**-2.1**
	280nm,0.4s							
NOCI	**Noci**	**1.65**	**144**	Pg		**Pg**	**02 04 25.1**	**-2.3**
	202nm,0.2s							
CDRU	**Civita di Ruta**	**1.69**	**193**	Pg		**Pn**	**02 04 24.8**	**-0.5**
	51nm,0.5s							
TERO	**Teramo**	**1.69**	**287**	Pg		**Pn**	**02 04 25.9**	**+0.6**
	104nm,0.3s							
SLCN	**Sala Consilina**	**1.75**	**184**	Pg		**Pn**	**02 04 25.9**	**-0.2**
	111nm,0.4s							
AQU	**L'Aquila**	**1.79**	**278**	Pg		**Pn**	**02 04 28.5**	**+1.9**
	62nm,0.4s							
PE1	**Pezze di Greco**	**1.81**	**137**	*e*Pg		**Pn**	**02 04 27.6**	**+0.7**
CAMP	**Campotosto**	**1.81**	**283**	Pg		**Pn**	**02 04 28.6**	**+1.6**
	62nm,0.6s							
CMPR	**Campora**	**1.86**	**192**	Pg		**Pn**	**02 04 27.1**	**-0.5**
	36nm,0.3s							
SCHR	**S. Chirico Rap**	**1.95**	**174**	Pg		**Pn**	**02 04 29.6**	**+0.7**
	33nm,0.2s							
FIAM	**Fiamignano**	**1.99**	**275**	Pg		**Pn**	**02 04 31.1**	**+1.6**
	52nm,0.4s							
MGR	**Morigerati**	**2.01**	**185**	Pg		**Pn**	**02 04 30.3**	**+0.6**
	36nm,0.4s							
NRCA	**Norcia**	**2.10**	**290**	Pg		**Pn**	**02 04 31.5**	**+0.6**
	37nm,0.6s							
CERT	**Cerreto**	**2.10**	**266**	Pg		**Pn**	**02 04 31.8**	**+0.8**
MNS	**Montasola**	**2.33**	**277**	Pg		**Pn**	**02 04 35.0**	**+1.0**
	22nm,0.5s							
ARVD	**Arcevia**	**2.50**	**304**	Pg		**Pn**	**02 04 36.4**	**0.0**
	172µm,21.0s							
NVLJ	**Novalja**	**2.52**	**345**	*i* Pn		**Pn**	**02 04 37.4**	**+0.8**
NVLJ				*i* Sn		**Sn**	**02 05 07.4**	**+0.1**
VOY	**Vojsko**	**4.12**	**341**	*e*Pn		**Pn**	**02 05 06.9**	**+8.1**
VOY				*e*Sn		**Sn**	**02 05 46.1**	**-0.9**
OBKA	**Obir**	**4.46**	**349**	⇑*i* Pn		**Pn**	**02 05 03.7**	**+0.4**
OBKA				⇑*i* Sn		**Sn**	**02 05 55.9**	**+0.6**

IDC 24 02:10:00.5±2.5, 000N×9736E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.5/17, mbtmp3.6/4, ML2.9/1, Error ellipse: s-maj=68.3km s-min=28.5km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.19**	**29**	Pn	Pn	02 10 51.7	-0.1
	1.4nm,0.3s,baz=163,slow=11,SNR=7.0						
WRA	**Warramunga Arr**	**41.27**	**121**	P	P	02 17 47.7	+0.3
	0.5nm,0.5s,baz=302,slow=8.9,SNR=8.9						
SONM	**Songino Array**	**48.29**	**8**	P	P	02 18 42.9	-0.4
	0.5nm,0.7s,baz=190,slow=9.3,SNR=4.2						
MKAR	**Makanchi Array**	**48.44**	**346**	P	P	02 18 44.7	+0.2
	1.0nm,0.7s,baz=153,slow=7.8,SNR=9.9						

GUC 24 02:17:12.6±0.6, 2308S×6886W, h114km±97km, MD4.0, ML3.8, 2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**1.27**	**256**	⇓*i* P	Pn	02 17 39.2	+2.1
CEN1				*i* S	Sn	02 18 00.2	+4.6
CEN1				AML	AML	02 18 04.6	
	comp=N,717nm,0.3s						
ANCH	**Antofagasta**	**1.55**	**247**	⇓*i* P	Pn	02 17 40.8	+0.6
ANCH				*i* S	Sn	02 18 02.0	+0.8
ANCH				AML	AML	02 18 08.8	
	comp=N,2µm,0.4s						
CPN1	**Cerro Paranal**	**2.09**	**222**	*e*P	Pn	02 17 48.4	+1.5
CPN1				*i* S	Sn	02 18 15.8	+2.6
CPN1				AML	AML	02 18 22.5	
	comp=N,939nm,0.6s						
CRCH	**Chaqaral**	**3.62**	**206**	*e*P	Pn	02 18 08.5	+1.5
CDCH	**Caldera**	**4.36**	**204**	*e*P	Pn	02 18 20.4	+3.6
CDCH				*i* S	Sn	02 19 10.3	+3.7

*ISCJB **24** 02:26:45.8±5.2, 205S±0.1×1689E±02, h27km±36km, mb4.0/4, Error ellipse: s-maj=31.0km s-min=12.3km az=78.6*
*IDC **24** 02:26:46.7±7.3, 2187S×16946E, h50km±49km, mb3.8/4, mb1 4.0/5, mb1mx3.8/13, mbtmp4.0/5, ML3.3/1, MS3.0/1, Ms1 3.0/1, ms1mx2.7/27, Error ellipse: s-maj=121.4km s-min=36.4km az=155.0*
*NEIC **24** 02:26:46.5±1.8, 2022S×16852E, h10km, mb4.4/1, Error ellipse: s-maj=59.9km s-min=19.4km az=133.0*
*LDG **24** 02:26:53.2±0.6, 2000S×16783E, h30km, Error ellipse: s-maj=147.1km s-min=3.4km az=117.0*
ISC 24 02:26:44.4±6.3, 206S±01×1690E±01, h10km±39km, n24, σ0§86/11, mb4.0/4, 1C, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.78**	**237**	P	**Pn**	**02 27 29.5**	**+0.6**
	4.8nm,0.3s,baz=65,slow=18,SNR=81						
DZM				S	**Sn**	**02 28 02.3**	**-0.2**
	88nm,0.3s,baz=338,slow=22,SNR=9.7						
DZM				LR	LR	02 28 28.8	
	comp=Z,281nm,18.6s,baz=15,slow=36						
BKM	**Butte a Klehm**	**2.95**	**347**	⇑*i* P	**Pn**	**02 27 30.4**	**-0.8**
WRA	**Warramunga Arr**	**32.44**	**265**	P	**P**	**02 33 14.3**	**-0.4**
	1.1nm,0.9s,mb3.7,baz=104,slow=7.9,SNR=6.9						
ASAR	**Alice Springs**	**32.57**	**258**	P	**P**	**02 33 16.4**	**+0.7**
	3.4nm,0.8s,mb4.3,baz=82,slow=8.9,SNR=23						
FITZ	**Fitzroy Crossi**	**40.86**	**266**	*e*P	**P**	**02 34 24.8**	**-1.5**
	7.8nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**40.86**	**266**	P	**P**	**02 34 27.7**	**+1.4**
	2.8nm,0.8s,mb3.9,baz=153,slow=12,SNR=7.3						
VNA3	**Neumayer Olymp**	**88.44**	**180**	*e*	**P**	**02 39 36.6**	**-0.2**
VNA3				*e*		02 39 43.7	
VNA2	**Neumayer--Watz**	**88.73**	**181**	*e*	**P**	**02 39 38.1**	**-0.1**
	baz=184,slow=4.8						
VNA2				*e*		02 39 45.2	
VNA1	**Neumayer--Stat**	**89.02**	**181**	*e*	**P**	**02 39 38.4**	**-1.1**
VNA1				*e*		02 39 45.7	
ILAR	**Eielson Array**	**91.56**	**17**	P	**P**	**02 39 52.9**	**+1.5**
	0.3nm,0.5s,mb3.9,baz=233,slow=5.0,SNR=5.9						
ARCES	**ARCESS Array B**	**126.26**	**345**	PKP	PKPdf	02 45 45.5	-1.7
	3.3nm,1.0s,baz=64,slow=2.8,SNR=5.5						
KHC	**Kasperske Hory**	**145.36**	**331**	*e*P	PKPbc	02 46 22.0	-0.3
GERES	**GERESS Array B**	**145.51**	**331**	PKPbc	PKPbc	02 46 22.4	-0.4
	1.2nm,0.8s,baz=25,slow=4.4,SNR=9.3						
BAIF	**Baives**	**148.16**	**341**	*e*PKIKP	PKPbc	02 46 30.7	+0.3
	22nm,1.0s						
CDF	**Champ du Feu**	**148.54**	**336**	*e*PKIKP	PKPbc	02 46 30.7	-0.7
	8.6nm,0.9s						
CABF	**La Chapelle**	**150.48**	**336**	*e*PKIKP	PKPbc	02 46 34.9	-1.3
	18nm,1.0s						
FLN	**La Foliniere**	**150.60**	**346**	*e*PKIKP	PKPbc	02 46 35.3	-1.2
	53nm,1.3s						
LOR	**Lormes**	**150.73**	**339**	*e*PKIKP	PKPbc	02 46 35.3	-1.5
LPL	**La Plagne**	**151.12**	**334**	*e*PKIKP	PKPbc	02 46 36.6	-1.1
LPG	**La Plagne**	**151.12**	**334**	*e*PKIKP	PKPbc	02 46 36.9	-0.8
SMF	**Signal de Mont**	**151.27**	**338**	*e*PKIKP	PKPbc	02 46 36.3	-1.8
BGF	**Bois d'Agland**	**151.68**	**340**	*e*PKIKP	PKPbc	02 46 36.7	-2.3
ORIF	**Oris-en-Rattie**	**151.95**	**334**	*e*PKIKP	PKPbc	02 46 37.6	-2.0
	5.5nm,0.6s						
LFF	**La Frestale**	**153.79**	**341**	*e*PKIKP	PKPbc	02 46 39.9	-3.8

*CSEM **24** 02:49:47.1, 3584N×1751W, h10km, mb4.1/6*
*NEIC **24** 02:49:47.1, 3584N×1751W, h0km, MG4.1(MDD), After MDD.*
MDD 24 02:49:46.1±2.3, 3579N×1740W, h0km, mb4.1/7, Error ellipse: s-maj=30.1km s-min=11.7km az=114.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPS	**Porto Santo**	**2.86**	**162**	*e*Pn	Pn	02 50 31.6	-1.4
PMPS				*e*Sn	Sn	02 51 02.1	-6.0
PTEO	**Sao Teotonio**	**7.19**	**73**	*e*Pn	Pn	02 51 31.2	-1.2
PTEO				*e*Sn	Sn	02 52 48.5	-6.2
CFUE	**Fuerteventura**	**7.70**	**157**	P	Pn	02 51 38.1	-1.3
	0.9nm,0.4s,SNR=4.0						
CFUE				S	Sn	02 53 00.1	-7.2
	SNR=7.9						
MOE	**Montemor**	**7.72**	**67**	*e*Sn	Sn	02 53 00.9	-7.0
PBEJ	**Beja**	**7.95**	**71**	*e*Sn	Sn	02 53 05.7	-7.9
PTOM	**Tomar**	**8.08**	**59**	*e*Sn	Sn	02 53 08.5	-8.3
EGRO	**El Granado**	**8.15**	**75**	S	Sn	02 53 10.4	-8.1
	SNR=7.9						
EGRO	**El Granado**	**8.15**	**75**	P	Pn	02 51 47.4	+1.7
EGRO				S	Sn	02 53 12.8	-5.7
EGRO	**El Granado**	**8.15**	**75**	P	Pn	02 51 47.4	+1.7
EGRO				S	Sn	02 53 12.8	-5.8
EBAD	**Badajoz**	**8.79**	**67**	P	Pn	02 51 53.1	-1.3
	2.3nm,0.5s,SNR=4.0						
EBAD				S	Sn	02 53 26.9	-7.3
	12nm,1.6s,SNR=7.9						
EBAD	**Badajoz**	**8.79**	**67**	P	Pn	02 51 57.0	+2.6
EBAD				S	Sn	02 53 21.9	-12
EBAD	**Badajoz**	**8.79**	**67**	P	Pn	02 51 57.0	+2.6
	2.3nm,0.5s,SNR=4.0						
EBAD				S	Sn	02 53 26.9	-7.3
	12nm,1.6s,SNR=7.9						
EMIN	**Mina Concepcio**	**8.83**	**74**	P	Pn	02 51 54.6	-0.4
	1.8nm,0.5s,SNR=7.9						
EMIN				S	Sn	02 53 28.9	-6.2
	6.1nm,1.0s,SNR=7.9						
EMIN	**Mina Concepcio**	**8.83**	**74**	P	Pn	02 51 54.6	-0.3
	1.8nm,0.5s,SNR=7.9						
EMIN				S	Sn	02 53 28.9	-6.2
	6.1nm,1.0s,SNR=7.9						
PVRL	**Vila Real**	**9.35**	**51**	*e*Pn	Pn	02 52 00.4	-1.7
ESPR	**Espera**	**9.37**	**80**	P	Pn	02 52 01.6	-0.9
	1.7nm,0.3s,SNR=7.9						
ESPR				S	Sn	02 53 40.6	-8.0
	5.2nm,1.1s,SNR=7.9						
ESPR	**Espera**	**9.37**	**80**	P	Pn	02 52 03.1	+0.6
ESPR				S	Sn	02 53 28.6	-20
ESPR	**Espera**	**9.37**	**80**	P	Pn	02 52 01.6	-0.8
	1.7nm,0.3s,SNR=7.9						
ESPR				S	Sn	02 53 40.6	-8.0
	5.2nm,1.1s,SNR=7.9						
PCAB	**Cabril**	**9.41**	**48**	*e*Pn	Pn	02 52 03.2	+0.3
PCAB				*e*Sn	Sn	02 53 40.1	-9.2
ELOB	**Lobios**	**9.48**	**47**	P	Pn	02 52 01.2	-2.6
	2.6nm,0.6s,SNR=7.9						
ELOB				S	Sn	02 53 42.6	-8.5
	4.5nm,0.9s,SNR=7.9						
ELOB	**Lobios**	**9.48**	**47**	P	Pn	02 52 01.2	-2.6
ELOB				S	Sn	02 53 33.5	-18
ELOB	**Lobios**	**9.48**	**47**	P	Pn	02 52 01.2	-2.7
	2.6nm,0.6s,SNR=7.9						
ELOB				S	Sn	02 53 39.7	-11
	4.5nm,0.9s,SNR=7.9						
EMAZ	**Mazaricos**	**9.67**	**40**	P	Pn	02 52 05.1	-1.4
	1.8nm,0.4s,SNR=7.9						
EMAZ				S	Sn	02 53 42.5	-13
	3.2nm,0.9s,SNR=7.9						
EMAZ	**Mazaricos**	**9.67**	**40**	P	Pn	02 52 05.2	-1.4
EMAZ				S	Sn	02 53 40.4	-15
EMIJ	**Mijas**	**10.23**	**82**	P	Pn	02 52 13.5	-0.8
EMIJ				S	Sn	02 53 58.8	-11
EMIJ	**Mijas**	**10.23**	**82**	P	Pn	02 52 13.5	-0.7
PBRG	**Braganca**	**10.26**	**51**	*e*Pn	Pn	02 52 13.8	-0.7
ECAL	**Calabor**	**10.33**	**50**	P	Pn	02 52 14.5	-1.0
	2.2nm,0.5s,SNR=7.9						
ECAL				S	Sn	02 54 02.9	-9.1
	8.0nm,0.8s,SNR=7.9						
ECAL	**Calabor**	**10.33**	**50**	P	Pn	02 52 14.5	-1.0
	2.2nm,0.5s						
ECAL				S	Sn	02 54 04.5	-7.5
EPON	**Pontenova**	**10.91**	**43**	P	Pn	02 52 28.0	+4.5
	1.2nm,0.2s						
EPON				S	Sn	02 54 16.1	-10
EPON	**Pontenova**	**10.91**	**43**	P	Pn	02 52 28.0	+4.5
	1.2nm,0.2s						
ESDC	**Sonseca Array**	**11.32**	**66**	P	Pn	02 52 32.1	+3.0
ESDC	**Sonseca Array**	**11.32**	**66**	P	Pn	02 52 32.1	+3.0

*MOS **24** 02:51:40.5±1.0, 5608N×16313E, h21km, mb4.3/1, Error ellipse: s-maj=25.7km s-min=16.4km az=70.8*
KRSC 24 02:51:40.3±0.7, 5608N×16316E, h16km±2km, ML4.1, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.23**	**304**	*i* P	Pg	02 51 46.6	+1.1
KBTR				*e*S	Sg	02 51 50.8	+1.8
KBG	**Krutoberegovo**	**0.31**	**305**	*i* P	Pg	02 51 47.6	+0.8
KBG				*i* S	Sg	02 51 53.0	+1.8
KBG				Smax			
	15µm,0.4s						
SMKR	**Semkarok**	**1.07**	**299**	*i* P	Pb	02 52 00.0	-0.4
SMKR				*e*S	Sb	02 52 15.0	+0.9
BDR	**Baidarnaya**	**1.19**	**295**	*i* P	Pn	02 52 02.3	0.0
BDR				*e*S	Sb	02 52 18.9	+1.2
SRKR	**Sorokina**	**1.25**	**298**	*i* P	Pn	02 52 03.1	0.0
SRKR				*e*S	Sb	02 52 20.0	+0.7
ZLN	**Zelenaya**	**1.32**	**268**	*i* P	Pn	02 52 04.9	+0.8
ZLN				*e*S	Sn	02 52 22.4	+1.0
CIRR	**Tsirk**	**1.35**	**272**	*i* P	Pn	02 52 05.2	+0.7
CIRR				*i* S	Sn	02 52 23.3	+1.2
LGNR	**Loginova**	**1.39**	**271**	*i* P	Pn	02 52 05.5	+0.6
LGNR				*e*S	Sn	02 52 24.3	+1.4
KLY	**Klyuchi**	**1.42**	**280**	*e*P	Pn	02 52 04.2	-1.2
KLY				*e*S	Sn	02 52 22.0	-1.8
KRSR	**Krestovskiy**	**1.46**	**276**	*i* P	Pn	02 52 06.3	+0.3
KRSR				*i* S	Sn	02 52 25.3	+0.6
KPT	**Kopyto**	**1.65**	**267**	*e*P	Pn	02 52 09.3	+0.7
KPT				*e*S	Sn	02 52 31.7	+2.2
KMNR	**Kamenistaya**	**1.68**	**260**	*i* P	Pn	02 52 10.4	+1.4
KMNR				*e*S	Sn	02 52 32.9	+2.8
BKI	**Bering**	**1.82**	**118**	*e*P	Pn	02 52 11.0	+0.1
BKI				*i* S	Sn	02 52 32.5	-1.1
BKI				Smax			
	140nm,0.4s						
KOZR	**Kozyr**	**1.83**	**271**	PN	Pn	02 52 13.1	+2.0
KOZR				S	Sn	02 52 37.7	+3.8
KOZ	**Kozyrevsk**	**1.84**	**271**	P	Pn	02 52 13.1	+1.9
KOZ				S	Sn	02 52 37.7	+3.5
KOZ	**Kozyrevsk**	**1.84**	**271**	*i* P	Pn	02 52 12.9	+1.6
KOZ				*e*S	Sn	02 52 36.0	+1.8
TUMR	**Tumrok**	**1.89**	**246**	*e*P	Pn	02 52 13.2	+1.4
TUMR				*e*S	Sn	02 52 36.4	+1.2
SRDR	**Sredinnyy**	**1.94**	**278**	*i* P	Pn	02 52 13.8	+1.2
SRDR				*e*S	Sn	02 52 37.4	+0.8
ESO	**Esso**	**2.51**	**268**	P	Pn	02 52 21.5	+1.1
ESO				Smax			
	100nm,0.6s						
SPN	**Mys Shipunski**	**3.50**	**213**	P	Pn	02 52 34.1	0.0
SPN				S	Sn	02 53 12.9	-2.2
SPN	**Mys Shipunski**	**3.50**	**213**	*e*P	Pn	02 52 35.1	+1.0
SPN				*e*S	Sn	02 53 15.6	+0.5
NLC	**Nalytchevo**	**3.66**	**219**	P	Pn	02 52 37.1	+0.8
NLC				S	Sn	02 53 19.2	+0.1
NLC	**Nalytchevo**	**3.66**	**219**	*i* P	Pn	02 52 37.0	+0.7
NLC				*e*S	Sn	02 53 19.2	+0.1
SDLR	**Sedlovina**	**3.75**	**223**	*i* P	Pn	02 52 38.5	+1.1
SMAR	**Somma**	**3.79**	**224**	*i* P	Pn	02 52 39.9	+1.9
AVH	**Avacha**	**3.81**	**224**	*e*P	Pn	02 52 40.7	+2.4
UGLR	**Uglovaya**	**3.82**	**223**	*e*P	Pn	02 52 39.8	+1.3
KOK	**Koryaka**	**3.83**	**225**	*e*P	Pn	02 52 39.8	+1.2
GNL	**Ganaly**	**3.85**	**234**	*e*P	Pn	02 52 40.3	+1.5
PET	**Petropavlovsk**	**4.03**	**222**	*e*PN	Pn	02 52 43.1	+1.7
PET				*e*S	Sn	02 53 28.8	+0.6
PET				smax			
	comp=E,54nm,0.6s						
PET				smax			
	comp=N,31nm,0.5s						
RUS	**Russkaya**	**4.56**	**219**	P	Pn	02 52 49.0	+0.4
RUS				S	Sn	02 53 40.1	-1.1
RUS	**Russkaya**	**4.56**	**219**	*e*P	Pn	02 52 49.3	+0.7
GRL	**Gorelyy**	**4.62**	**222**	*e*P	Pn	02 52 52.1	+2.6
KAMR	**Kamenskoye**	**6.58**	**12**	*e*P	Pn	02 53 18.6	+2.2

*IDC **24** 02:53:25.1±1.8, 089N×9678E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.8/17, mbtmp4.0/6, ML3.0/1, Error ellipse: s-maj=53.7km s-min=20.4km az=64.0*
*ISCJB **24** 02:53:28.0±1.0, 10N±01×968E±01, h33km, mb4.0/7, Error ellipse: s-maj=21.7km s-min=13.3km az=139.3*

*NEIC **24** 02:53:29.5±0.8, 095N×9683E, h30km, mb4.0/1, Error ellipse: s-maj=18.2km s-min=11.4km az=75.0*
ISC 24 02:53:30.6±1.0, 10N±01×969E±01, h35km, n11, σ0§59/11, mb4.0/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.71**	**49**	Pn	**Pn**	**02 54 11.4**	**-0.3**
	2.5nm,0.3s,baz=298,slow=12,SNR=9.7						
KULM	**Kulim**	**5.68**	**41**	*e*Pn	**Pn**	**02 54 52.5**	**0.0**
SHL	**Shillong**	**24.89**	**349**	*e*P	**P**	**02 58 50.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**34.08**	**125**	P	**P**	**03 00 11.4**	**-0.2**
	2.1nm,0.7s,mb4.2,baz=272,slow=5.2,SNR=4.2						
WRA	**Warramunga Arr**	**42.21**	**122**	P	**P**	**03 01 20.9**	**+0.8**
	4.8nm,0.7s,mb4.2,baz=301,slow=9.0,SNR=19						
ASAR	**Alice Springs**	**43.54**	**127**	P	**P**	**03 01 31.4**	**+0.5**
	0.9nm,0.6s,mb3.7,baz=294,slow=8.3,SNR=7.5						
MKAR	**Makanchi Array**	**47.35**	**346**	P	**P**	**03 02 01.6**	**+0.6**
	1.5nm,0.6s,mb4.1,baz=154,slow=7.7,SNR=16						
SONM	**Songino Array**	**47.37**	**9**	P	**P**	**03 02 01.7**	**+0.5**
	0.8nm,0.7s,mb3.7,baz=190,slow=7.4,SNR=5.2						
STKA	**Stephens Creek**	**53.47**	**132**	P	**P**	**03 02 46.2**	**-1.0**
	2.9nm,1.0s,mb4.2,baz=308,slow=8.9,SNR=3.2						
STKA	**Stephens Creek**	**53.47**	**132**	P	**P**	**03 02 46.2**	**-1.0**
CHKZ	**Chkalovo**	**56.81**	**342**	*e*P	**P**	**03 03 10.5**	**-0.8**
	1.0nm,0.6s,mb4.0						

*TIF **24** 03:17:19.8, 4108N×4411E, h11km±1km*
*ISCJB **24** 03:17:21.2±0.3, 4106N±002×4412E±003, h10km, Error ellipse: s-maj=3.2km s-min=2.3km az=36.4*
*CSEM **24** 03:17:21.6±0.1, 4093N×4403E, h5km, ML3.5, Error ellipse: s-maj=2.2km s-min=1.2km az=88.0*
*MOS **24** 03:17:21.4±0.6, 4102N×4414E, h18km, mb4.7/1, Error ellipse: s-maj=21.3km s-min=5.7km az=93.3*
*NSSP **24** 03:17:22.1, 41.10N×4420E, h15km, ML3.5*
ISC 24 03:17:21.7±0.3, 4107N±002×4413E±003, h10km, n43, σ1§16/69, 1C-4D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMZ	**Kamo**	**0.28**	**209**	⇓P	**Pg**	**03 17 26.3**	**-1.1**
KZR	**Kazreti**	**0.38**	**34**	P	**Pg**	**03 17 27.9**	**-1.3**
KZR				S	**Sg**	**03 17 33.1**	**-1.1**
HNAZ	**Hnaberd**	**0.44**	**179**	⇓P	**Pg**	**03 17 29.1**	**-1.2**
HARI	**Harich**	**0.47**	**192**	⇓P	**Pg**	**03 17 29.2**	**-1.7**
LERZ	**Lernakert**	**0.52**	**195**	⇓P	**Pg**	**03 17 30.2**	**-1.7**
AKH	**Akhalkalaki**	**0.59**	**305**	P	**Pg**	**03 17 31.9**	**-1.3**
AKH				S	**Sg**	**03 17 39.4**	**-1.5**
MTA	**Mtatsminda**	**0.80**	**38**	P	**Pg**	**03 17 36.1**	**-1.0**
MTA				S	**Sg**	**03 17 46.9**	**-0.6**
TBLG	**Delisi**	**0.80**	**34**	P	**Pg**	**03 17 36.3**	**-0.9**
TBLG				S	**Sg**	**03 17 47.2**	**-0.5**
TBLG	**Delisi**	**0.80**	**34**	PG	**Pg**	**03 17 36.3**	**-0.9**
TBLG				*e*S	**Sg**	**03 17 47.1**	**-0.6**
SAMG	**Sameba**	**0.81**	**39**	P	**Pg**	**03 17 35.4**	**-2.0**
SAMG				S	**Sg**	**03 17 46.3**	**-1.7**
BKR	**Bakuriani**	**0.81**	**325**	P	**Pg**	**03 17 36.3**	**-1.1**
BKR				S	**Sg**	**03 17 46.6**	**-1.5**
KARS	**Kars**	**0.91**	**240**	*i* P	**Pg**	**03 17 38.2**	**-1.1**
GOR	**Gori**	**0.92**	**359**	P	**Pg**	**03 17 38.4**	**-1.0**
GOR				S	**Sg**	**03 17 50.2**	**-1.1**
DGRG	**David-gareji**	**1.01**	**67**	P	**Pg**	**03 17 41.3**	**+0.1**
DGRG				S	**Sg**	**03 17 54.5**	**+0.2**
GNI	**Garni**	**1.03**	**153**	P	**Pg**	**03 17 41.5**	**-0.1**
GNI	**Garni**	**1.03**	**153**	*c i* PG	**Pg**	**03 17 41.5**	**0.0**
GNI				*i* S	**Sg**	**03 17 56.8**	**+1.9**
GNI				pmax	pmax		
	comp=Z,269nm,0.3s						
GNI				smax			
	comp=Z,361nm,0.2s						
GNI	**Garni**	**1.03**	**153**	*i* Pg	**Pg**	**03 17 41.5**	**0.0**
	comp=Z,269nm,0.3s						
GNI				*i* Sg	**Sg**	**03 17 56.8**	**+1.9**
AMRG		**1.62**	**333**	P	**Pn**	**03 17 50.6**	**+0.3**
AMRG				S	**Sn**	**03 18 11.5**	**+0.1**
ARTV	**Artvin**	**1.67**	**275**	*i* P	**Pn**	**03 17 51.1**	**+0.1**
ARTV				*i* S	**Sn**	**03 18 12.6**	**+0.2**
ZEI	**Tsey**	**1.71**	**354**	*i* Pn	**Pn**	**03 17 52.5**	**+1.0**
ZEI				*i* Sg	**Sg**	**03 18 16.0**	**-0.6**
LACR	**Lac**	**1.76**	**4**	*i* Pn	**Pn**	**03 17 52.9**	**+0.7**
LACR				*i* Sg	**Sg**	**03 18 16.7**	**-1.6**
DIGR	**Digorskoe uzhe**	**1.87**	**348**	*i* Pn	**Pn**	**03 17 54.7**	**+0.9**
KORR	**Kora**	**2.02**	**359**	*i* Pn	**Pn**	**03 17 56.5**	**+0.7**
VLKR	**Vladikavkaz**	**2.02**	**11**	*i* Pn	**Pn**	**03 17 56.4**	**+0.6**
SNJR	**Sundja**	**2.06**	**14**	*i* Pn	**Pn**	**03 17 56.9**	**+0.5**
ARNR	**Ardon**	**2.12**	**3**	*i* Pn	**Pn**	**03 17 57.9**	**+0.7**
ARNR				*i* Sn	**Sn**	**03 18 25.3**	**+1.7**
KMSR	**Komsomolskaya**	**2.30**	**3**	*i* Pn	**Pn**	**03 18 00.4**	**+0.7**
KMSR				*i* Sn	**Sn**	**03 18 29.6**	**+1.5**
BTKR	**Batakoyurt**	**2.32**	**7**	*i* Pn	**Pn**	**03 18 00.6

KBS	**Kingsbay**	**2.42**	**105**	*e*Pn	**Pn**	**03 28 28.4**	**-0.4**
KBS				*e*Sn	**Sn**	**03 28 56.2**	**-2.4**
KBS	**Kingsbay**	**2.42**	**105**	*e*Pn	**Pn**	**03 28 28.4**	**-0.4**
KBS				*e*Sn	**Sn**	**03 28 56.2**	**-2.3**
SPA0	**Spitsbergen Ar**	**3.57**	**109**	Pn	**Pn**	**03 28 45.7**	**+1.1**
	baz=319,slow=6.9						
SPA0				Sn	**Sn**	**03 29 26.3**	**-0.5**
SPA0	**Spitsbergen Ar**	**3.57**	**109**	Pn	**Pn**	**03 28 45.7**	**+1.1**
	SNR=55						
SPA0				Sn	**Sn**	**03 29 26.3**	**-0.5**
	SNR=55						
DAG	**Danmarks Havn**	**4.80**	**240**	⇓*i*P	**Pn**	**03 29 01.6**	**+0.1**
	comp=Z,12nm,0.3s						
DAG				*i* pP		03 29 55.3	
SUMG	**Summit**	**11.34**	**251**	*e*Pn	**Pn**	**03 30 28.5**	**-2.7**
	comp=Z,26nm,0.4s						
SUMG				*e*Sn	**Sn**	**03 32 27.4**	**-11**
SUMG	**Summit**	**11.34**	**251**	*e*Pn	**Pn**	**03 30 28.5**	**-2.7**
SUMG				*e*Sn	**Sn**	**03 32 27.4**	**-11**
ARA0	**ARCESS Array S**	**12.15**	**133**	Pn	**Pn**	**03 30 44.1**	**+1.8**
	baz=343,slow=12						
ARA0				Sn	**Sn**	**03 32 56.0**	**-1.9**
	baz=360,slow=22						
ARA0	**ARCESS Array S**	**12.15**	**133**	Pn	**Pn**	**03 30 44.1**	**+1.8**
	SNR=55						
ARA0				Sn	**Sn**	**03 32 56.0**	**-1.9**
	SNR=7.7						
ARA0				Sn	**Sn**	**03 32 56.0**	**-1.9**
	SNR=55						
ARCES	**ARCESS Array B**	**12.15**	**133**	Pn	**Pn**	**03 30 45.6**	**+3.3**
	comp=Z,0.2nm,0.3s,baz=343,slow=12,SNR=7.8						
FIA0	**FINESS Array S**	**20.00**	**141**	P	**Pn**	**03 32 26.6**	**+3.0**
	baz=11,slow=16						
FIA0	**FINESS Array S**	**20.00**	**141**	P	**Pn**	**03 32 26.5**	**+3.0**
	SNR=51						
FINES	**FINESS Array B**	**20.00**	**141**	P	**Pn**	**03 32 26.0**	**+2.4**
	comp=Z,0.7nm,0.5s,baz=13,slow=13,SNR=4.7						
FINES	**FINESS Array B**	**20.00**	**141**	P	**Pn**	**03 32 25.9**	**+2.4**
YKA	**Yellowknife Ar**	**33.14**	**309**	LR	LR	03 47 57.3	
	comp=Z,22nm,19.2s,MS2.9,baz=260,slow=37						
ILAR	**Eielson Array**	**34.39**	**335**	P	**P**	**03 34 35.2**	**-1.2**
	comp=Z,0.6nm,0.9s,mb3.5,baz=15,slow=7.5,SNR=4.8						
MKAR	**Makanchi Array**	**43.04**	**86**	P	**P**	**03 35 50.8**	**+1.8**
	comp=Z,0.9nm,0.7s,mb3.6,baz=343,slow=7.3,SNR=10						
JHJ	**Hachijo jima 2**	**65.14**	**36**	LR	LR	04 06 17.7	
	comp=Z,189nm,18.4s,MS4.3,baz=76,slow=35						
TORD	**Torodi Ar. Bea**	**66.67**	**178**	P	**P**	**03 38 41.4**	**+1.3**
	comp=Z,0.4nm,0.9s,mb3.5,baz=344,slow=5.0,SNR=4.3						

MOS ***24*** *03:48:33.8±1.3, 5.16S×14571E, h33km, mb4.7/7, Error ellipse: s-maj=14.3km s-min=9.1km az=99.7*

ISCJB ***24*** *03:48:34.5±1.8, 531S±006×14567E±006, h42km±17km, mb4.5/26, MS4.0/5, Error ellipse: s-maj=10.9km s-min=10.3km az=27.4*

IDC ***24*** *03:48:35.6±3.9, 532S×14563E, h33km±29km, mb4.3/13, mb1 4.5/17, mb1mx4.5/18, mbtmp4.6/17, ML4.3/3, MS3.8/7, Ms1 3.8/7, ms1mx3.5/21, Error ellipse: s-maj=17.4km s-min=11.6km az=96.0*

NEIC ***24*** *03:48:37.0±1.6, 527S×14565E, h49km±14km, mb4.7/10, Error ellipse: s-maj=10.8km s-min=9.5km az=169.0*

BJI ***24*** *03:48:36.9, 530S×14560E, h48km, mB5.1, mb4.8*

ISC 24 03:48:36.8±1.4,530S±006×14569E±006,h47km±13km, n68,σ0°94/57,mb4.5/26,MS4.0/5,3D,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.33**	**160**	Pn	**Pn**	**03 49 40.7**	**+0.6**
	46nm,0.3s,baz=328,slow=6.8,SNR=73						
PMG				Sn	**Sn**	**03 50 27.9**	**-1.3**
	189nm,0.3s,baz=5.7,slow=8.5,SNR=9.6						
CTA	**Charters Tower**	**14.71**	**178**	*e*P	**Pn**	**03 52 05.4**	**+3.6**
	10nm,0.4s						
CTA	**Charters Tower**	**14.71**	**178**	Pn	**Pn**	**03 52 02.7**	**+0.8**
	1.0nm,0.3s,baz=337,slow=15,SNR=8.7						
CTA	**Charters Tower**	**14.71**	**178**	*e*P	**Pn**	**03 52 05.4**	**+3.6**
CTA				pmax	pmax		
	comp=Z,10.0nm,0.4s						
CTAO	**Charters Tower**	**14.71**	**178**	*e*P	**Pn**	**03 52 04.0**	**+2.2**
CTAO				pmax	pmax		
	comp=Z,29nm,0.9s						
CTAO	**Charters Tower**	**14.71**	**178**	*e*Pn	**Pn**	**03 52 04.0**	**+2.2**
	comp=Z,29nm,0.9s						
HNR	**Honiara**	**14.72**	**107**	Pn	**Pn**	**03 52 03.1**	**+1.1**
	baz=265,slow=1.9,SNR=11						
HNR				LR	LR	03 57 27.1	
	comp=Z,49nm,18.6s,baz=90,slow=36						
HNR	**Honiara**	**14.72**	**107**	*e*Pn	**Pn**	**03 52 02.6**	**+0.5**
KAKA	**Kakadu**	**15.01**	**240**	*e*P	**Pn**	**03 52 04.4**	**-1.4**
	comp=Z,62nm,0.6s						
WB2	**Warramunga Arr**	**18.26**	**216**	*e*P	**Pn**	**03 52 46.7**	**+0.1**
WRA	**Warramunga Ar**	**18.27**	**216**	P	**Pn**	**03 52 46.7**	**0.0**
	comp=Z,2.1nm,0.3s,baz=38,slow=12,SNR=189						
WRA				PcP	PcP	03 57 19.4	+2.4
	comp=Z,0.5nm,0.3s,baz=14,slow=1.7,SNR=7.8						
GUMO	**Guam**	**18.79**	**358**	LR	LR	03 59 16.6	
	comp=Z,177nm,19.9s,baz=178,slow=34						
AS31	**Alice Springs**	**21.50**	**211**	*e*P	**P**	**03 53 22.3**	**+0.7**
ASAR	**Alice Springs**	**21.50**	**211**	P	**P**	**03 53 21.8**	**+0.2**
	comp=Z,9.8nm,0.9s,mb4.2,baz=42,slow=9.2,SNR=65						
ASAR				S	**S**	**03 57 17.8**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=35,slow=23,SNR=5.1						
ASPA	**Alice Springs**	**21.50**	**211**	*e*P	**P**	**03 53 22.3**	**+0.7**
FITZ	**Fitzroy Crossi**	**23.36**	**235**	*e*P	**P**	**03 53 40.4**	**-0.7**
	comp=Z,27nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**23.36**	**235**	P	**P**	**03 53 40.4**	**-0.7**
	comp=Z,8.6nm,0.7s,mb4.3,baz=63,slow=7.8,SNR=19						
FITZ				LR	LR	04 03 52.1	
	comp=Z,440nm,20.6s,MS3.9,baz=59,slow=39						
DZM	**Mont Dzumac**	**26.10**	**132**	P	**P**	**03 54 07.2**	**+1.1**
	comp=Z,12nm,0.5s,mb4.7,baz=137,slow=19,SNR=19						
STKA	**Stephens Creek**	**26.71**	**188**	*e*P	**P**	**03 54 10.9**	**-0.7**
	comp=Z,8.4nm,0.4s,mb4.6						
STKA	**Stephens Creek**	**26.71**	**188**	P	**P**	**03 54 10.7**	**-1.0**
	comp=Z,8.7nm,0.6s,mb4.5,baz=348,slow=9.4,SNR=14						
STKA				LR	LR	04 06 07.0	
	comp=Z,407nm,18.4s,MS4.0,baz=122,slow=39						
STKA	**Stephens Creek**	**26.71**	**188**	*e*P	**P**	**03 54 10.4**	**-1.2**
STKA				*e*ScP	ScP	04 01 12.7	+2.5
MBWA	**Marble Bar**	**29.70**	**236**	*e*P	**P**	**03 54 37.7**	**-0.5**
	comp=Z,7.2nm,0.9s,mb4.4						
NWAO	**Narrogin (SRO)**	**38.19**	**220**	LR	LR	04 12 34.9	
	comp=Z,304nm,21.4s,MS4.1,baz=36,slow=38						
MJAR	**Matsushiro Arr**	**42.21**	**351**	P	**P**	**03 56 23.9**	**-1.1**
	comp=Z,2.5nm,0.7s,mb4.0,baz=177,slow=6.3,SNR=7.6						
AFI	**Afiamalu**	**42.74**	**105**	LR	LR	04 11 17.7	
	comp=Z,160nm,18.5s,MS4.0,baz=179,slow=32						
AFI	**Afiamalu**	**42.74**	**105**	P	**P**	**03 56 29.1**	**-0.3**
	comp=Z,14nm,0.3s,mb5.1,baz=34,slow=11,SNR=12						
AFI				S	PP	03 58 01.2	-7.9
	comp=Z,34nm,0.3s,baz=43,slow=23,SNR=10						
AFI	**Afiamalu**	**42.74**	**105**	*e*P	**P**	**03 56 28.5**	**-0.9**
AFI				pmax	pmax		
	comp=Z,63nm,0.6s,mb5.5						
AFI	**Afiamalu**	**42.74**	**105**	*e*P	**P**	**03 56 28.5**	**-0.9**
AFI				*e*S	PP	03 58 01.0	-8.1
AFI				pmax	pmax		
	comp=Z,63nm,0.6s,mb5.5						
AFI	**Afiamalu**	**42.74**	**105**	*e*P	**P**	**03 56 28.5**	**-0.9**
	comp=Z,63nm,0.6s,mb5.5						
AFI				*e*S	PP	03 58 01.0	-8.1
URZ	**Urewera**	**43.49**	**143**	P	**P**	**03 56 35.6**	**+0.2**
	comp=Z,8.6nm,0.5s,mb4.8,baz=261,slow=2.2,SNR=6.1						
RPZ	**Rata Peaks**	**44.30**	**154**	P	**P**	**03 56 41.2**	**-0.8**
	comp=Z,9.1nm,0.6s,mb4.7,baz=271,slow=4.0,SNR=7.5						
KULM	**Kulim**	**46.19**	**282**	*e*P	**P**	**03 56 56.9**	**0.0**
PSI	**Prapat**	**47.40**	**279**	P	**P**	**03 57 07.5**	**+1.1**
	comp=Z,4.4nm,0.6s,mb4.5,baz=194,slow=10,SNR=6.3						
XAN	**Xi'an**	**52.32**	**321**	P	**P**	**03 57 45.0**	**+1.3**
XAN				AP	pP	03 58 01.3	+4.6
XAN				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
KLR	**Kul'dur**	**55.65**	**349**	*e*P	**P**	**03 58 06.7**	**-1.3**
SONM	**Songino Array**	**63.17**	**331**	P	**P**	**03 58 59.3**	**-0.5**
	comp=Z,0.5nm,0.6s,mb3.8,baz=152,slow=6.7,SNR=4.5						
CASY	**Casey**	**65.59**	**195**	*e*P	**P**	**03 59 15.3**	**-0.4**
	comp=Z,5.7nm,0.8s,mb4.7						
ZAK	**Zakamensk**	**66.41**	**332**	*e*P	**P**	**03 59 22.2**	**+1.2**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.6						
BOD	**Bodaibo**	**67.92**	**342**	*e*P	**P**	**03 59 31.0**	**+0.5**
BOD				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
VNDA	**Vanda**	**72.68**	**176**	P	**P**	**04 00 00.0**	**+0.4**
	comp=Z,3.8nm,0.9s,mb4.3,baz=322,slow=6.8,SNR=15						
VNDA				LR	LR	04 29 47.4	
	comp=Z,98nm,18.1s,MS4.1,baz=348,slow=34						
VNDA	**Vanda**	**72.68**	**176**	*e*P	**P**	**04 00 00.3**	**+0.7**
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VNDA	**Vanda**	**72.68**	**176**	*e*P	**P**	**04 00 00.3**	**+0.7**
	comp=Z,3.4nm,0.8s,mb4.3						
NDI	**New Delhi**	**73.90**	**302**	*ex*	x	04 01 15.0	
MKAR	**Makanchi Array**	**76.13**	**321**	P	**P**	**04 00 20.8**	**+1.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=101,slow=6.4,SNR=5.2						
TIXI	**Tiksi**	**77.59**	**355**	*e*P	**P**	**04 00 25.8**	**-2.1**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
MAW	**Mawson**	**82.39**	**203**	P	**P**	**04 00 53.2**	**-0.6**
	comp=Z,2.6nm,0.6s,mb4.3,baz=54,slow=7.6,SNR=4.4						
QSPA	**South Pole Qui**	**84.66**	**180**	*e*P	**P**	**04 01 05.7**	**+0.2**
	comp=Z,8.1nm,0.6s,mb5.0						
COLA	**College**	**85.02**	**23**	*e*P	**P**	**04 01 06.1**	**-1.2**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.7						
COLA	**College**	**85.02**	**23**	*e*P	**P**	**04 01 06.1**	**-1.2**
	comp=Z,4.5nm,0.7s,mb4.7						
ILAR	**Eielson Array**	**85.36**	**23**	P	**P**	**04 01 08.4**	**-0.5**
	comp=Z,5.3nm,0.7s,mb4.8,baz=256,slow=4.2,SNR=54						
CHKZ	**Chkalovo**	**85.48**	**325**	*e*P	**P**	**04 01 10.7**	**+1.2**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.5						
CHKZ	**Chkalovo**	**85.48**	**325**	*e*P	**P**	**04 01 10.7**	**+1.1**
	comp=Z,3.9nm,1.0s,mb4.5						
ZRNK	**Zerenda**	**86.23**	**324**	*e*P	**P**	**04 01 12.5**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.4						
ZRNK	**Zerenda**	**86.23**	**324**	*e*P	**P**	**04 01 12.5**	**-0.8**
	comp=Z,1.0nm,0.4s,mb4.4						
DAWY	**Dawson**	**88.19**	**25**	*e*P	**P**	**04 01 24.1**	**+1.4**
INK	**Inuvik**	**91.49**	**22**	*e*P	**P**	**04 01 37.2**	**-0.9**
INK				pmax	pmax		
	comp=Z,10.0nm,1.6s						
INK	**Inuvik**	**91.49**	**22**	*e*P	**P**	**04 01 37.2**	**-1.0**
	comp=Z,10nm,1.6s,mb4.9						
YKA	**Yellowknife Ar**	**99.16**	**28**	P	**P**	**04 02 14.2**	**+1.1**
	comp=Z,0.6nm,0.8s,mb4.2,baz=274,slow=4.8,SNR=5.7						
YKA	**Yellowknife Ar**	**99.16**	**28**	P	**P**	**04 02 14.2**	**+1.1**
VNA2	**Neumayer--Watz**	**101.84**	**189**	⇓*i*P	PKiKP	04 06 40.6	-7.3
	baz=192,slow=3.8						
VNA2				*e*		04 06 41.6	
VNA2				*e*		04 06 44.6	
VNA2				*e*		04 06 48.2	
VNA2				*e*		04 08 11.8	
VNA2				*e*		04 08 16.4	
VNA2				*e*		04 08 23.0	
VNA2				*e*		04 08 51.9	
VNA3	**Neumayer Olymp**	**101.89**	**188**	⇓*i*P	PKiKP	04 06 38.2	-10
VNA3				*e*		04 06 39.2	
VNA3				*e*		04 06 42.1	
VNA3				*e*		04 06 45.8	
VNA3				*e*		04 08 09.4	
VNA3				*e*		04 08 13.8	
VNA3				*e*		04 08 20.5	
VNA3				*e*		04 08 51.1	
VNA1	**Neumayer--Stat**	**102.22**	**189**	⇓*i*P	PKiKP	04 06 41.9	-6.7
VNA1				*e*		04 06 42.9	
VNA1				*e*		04 06 45.7	
VNA1				*e*		04 08 14.6	
VNA1				*e*		04 08 19.3	
VNA1				*e*		04 08 25.5	
VNA1				*e*		04 08 54.0	
ARCES	**ARCESS Array B**	**105.19**	**342**	PKKPbc	PKKPbc	04 18 20.8	+0.6
	comp=Z,3.8nm,0.9s,baz=248,slow=2.8,SNR=9.2						
PLCA	**Paso Flores**	**123.41**	**147**	PKP	PKPdf	04 07 30.8	+2.1
	comp=Z,2.2nm,0.7s,baz=66,slow=3.1,SNR=6.1						
TORD	**Torodi Ar. Bea**	**143.65**	**285**	PKP	PKPdf	04 08 05.7	-0.8
	comp=Z,1.7nm,0.6s,baz=71,slow=2.4,SNR=31						
SDV	**Santo Domingo**	**143.79**	**82**	*e*PKPdf	PKPdf	04 08 06.5	-0.1
DBIC	**Dimbokro**	**150.68**	**274**	PKPbc	PKPbc	04 08 26.4	+2.7
	comp=Z,5.9nm,0.6s,baz=114,slow=3.2,SNR=14						
BDFB	**Brasilia**	**155.16**	**147**	PKPbc	PKPdf	04 08 35.3	+11
	comp=Z,4.1nm,0.6s,baz=197,slow=4.2,SNR=7.5						

CSEM ***24*** *03:53:54.7, 20.39S×177.81W, h33km, mb5.8*

SZGRF ***24*** *03:53:55.0, 18.36S×176.08W, h33km, mb5.5, Fiji Islands region*

ISCJB ***24*** *03:54:32.1±0.2, 2044S±006×177.73W±0.04, h404km, mb4.6/79, Error ellipse: s-maj=8.9km s-min=4.5km az=131.6*

BJI ***24*** *03:54:33.2, 2040S×177.70W, h404km, mB5.0, mb4.8*

NEIC ***24*** *03:54:33.3±0.2, 2040S×177.70W, mb4.7/55, Error ellipse: s-maj=8.7km s-min=4.3km az=150.0*

IDC ***24*** *03:54:36.3±1.8, 2044S×177.70W, h438km±18km, mb4.3/17, mb1 4.4/18, mb1mx4.4/21, mbtmp5.1/18, Error ellipse: s-maj=12.9km s-min=10.0km az=157.0*

MOS ***24*** *03:54:41.3±1.5, 1837S×177.60W, h413km, mb4.8/29, Error ellipse: s-maj=13.8km s-min=10.5km az=75.4*

ISC 24 03:54:33.6±0.2,2042S±005×17766W±004,h406km, h406km±3.3km:pP-P,n300,σ0°96/166,mb4.6/79,16C-31D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.80**	**181**	S	**S**	**03 58 09.3**	**-10**
	332nm,0.3s,baz=265,slow=22,SNR=17						
DZM	**Mont Dzumac**	**14.91**	**261**	P	**P**	**03 57 46.5**	**+1.7**
	5.4nm,0.3s,baz=80,slow=14,SNR=28						
DZM				S	**S**	**04 00 25.5**	**+2.4**
	baz=216,slow=12,SNR=4.1						
RAR	**Rarotonga**	**16.75**	**96**	P	**P**	**03 58 02.8**	**-1.8**
	5.1nm,0.3s,baz=244,slow=9.5,SNR=5.3						
URZ	**Urewera**	**18.35**	**193**	P	**P**	**03 58 19.0**	**-2.4**
	10.0nm,0.3s,baz=236,slow=1.1,SNR=19						
URZ				S	**S**	**04 01 30.7**	**+0.8**
	6.7nm,0.3s,baz=76,slow=20,SNR=9.7						
HNR	**Honiara**	**24.20**	**294**	P	**P**	**03 59 17.2**	**+1.5**
	95nm,0.5s,mb5.5,baz=126,slow=1.8,SNR=4.0						
RPZ	**Rata Peaks**	**25.07**	**200**	P	**P**	**03 59 24.7**	**+1.3**
	21nm,0.6s,mb4.7,baz=328,slow=1.6,SNR=13						
ARMA	**Armidale**	**29.39**	**244**	*e*P	**P**	**04 00 02.2**	**+0.7**
CNB	**Canberra Magne**	**32.53**	**236**	*e*P	**P**	**04 00 29.6**	**+0.8**
	33nm,1.2s,mb4.5						
CTA	**Charters Tower**	**33.81**	**264**	⇓*i*P	**P**	**04 00 40.0**	**+0.3**
	49nm,0.8s,mb4.9						
CTA	**Charters Tower**	**33.81**	**264**	P	**P**	**04 00 40.1**	**+0.4**
	51nm,0.6s,mb5.1,baz=93,slow=11,SNR=62						
CTA	**Charters Tower**	**33.81**	**264**	⇓*i*P	**P**	**04 00 40.0**	**+0.3**
CTA				pmax	pmax		
	comp=Z,49nm,0.8s						
CTAO	**Charters Tower**	**33.81**	**264**	⇓*i*P	**P**	**04 00 39.9**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,90nm,0.8s,mb5.2						
CTAO	**Charters Tower**	**33.81**	**264**	⇓*i*P	**P**	**04 00 39.9**	**+0.2**
	comp=Z,90nm,0.8s,mb5.2						
PMG	**Port Moresby**	**35.63**	**283**	P	**P**	**04 00 55.9**	**+0.8**
	comp=Z,121nm,0.9s,mb5.2,baz=96,slow=5.7,SNR=39						
PMG	**Port Moresby**	**35.63**	**283**	⇓*i*P	**P**	**04 00 55.4**	**+0.4**
PMG				pmax	pmax		
	comp=Z,142nm,0.9s						
PMG	**Port Moresby**	**35.63**	**283**	⇓*i*P	**P**	**04 00 55.4**	**+0.3**
	comp=Z,142nm,0.9s,mb5.3						
TOO	**Toolangi**	**36.20**	**234**	*e*P	**P**	**04 00 59.3**	**-0.5**
	comp=Z,21nm,0.7s,mb4.6						
TOO	**Toolangi**	**36.20**	**234**	*e*P	**P**	**04 00 59.3**	**-0.5**
TOO				pmax	pmax		
	comp=Z,21nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**38.11**	**244**	*e*P	**P**	**04 01 12.9**	**-2.7**
	comp=Z,9.6nm,0.5s,mb4.4						
STKA	**Stephens Creek**	**38.11**	**244**	P	**P**	**04 01 13.8**	**-1.9**
	comp=Z,9.8nm,0.5s,mb4.4,baz=95,slow=10,SNR=16						
STKA				PcP	PcP	04 03 19.3	-1.5
	comp=Z,3.9nm,0.5s,baz=106,slow=3.0,SNR=4.8						
RKT	**Rikitea**	**39.64**	**102**	*e*S	**S**	**04 06 59.6**	**-1.0**
	comp=Z,172nm,27.2s						
AS31	**Alice Springs**	**44.84**	**257**	⇓*i*P	**P**	**04 02 09.0**	**-0.5**
AS31				*e*S	**S**	**04 08 14.6**	**-1.3**
ASAR	**Alice Springs**	**44.85**	**257**	P	**P**	**04 02 09.1**	**-0.4**
	comp=Z,101nm,0.8s,mb5.2,baz=87,slow=8.4,SNR=238						
ASAR				PcP	PcP	04 03 42.8	-0.4
	comp=Z,8.3nm,0.6s,baz=99,slow=4.2,SNR=10						
ASAR				S	**S**	**04 08 15.3**	**-0.6**
	comp=Z,14nm,1.1s,baz=94,slow=16,SNR=28						
ASPA	**Alice Springs**	**44.85**	**257**	⇓*i*P	**P**	**04 02 09.0**	**-0.5**
ASPA				*e*S	**S**	**04 08 14.6**	**-1.4**
WB2	**Warramunga Arr**	**44.91**	**262**	⇓*i*P	**P**	**04 02 09.1**	**-1.0**
WB2				*e*S	**S**	**04 08 14.8**	**-2.1**
WRA	**Warramunga Arr**	**44.93**	**262**	P	**P**	**04 02 09.2**	**-0.9**
	comp=Z,19nm,0.4s,mb4.8,baz=96,slow=7.5,SNR=506						
WRA				PcP	PcP	04 03 43.4	0.0
	comp=Z,7.8nm,1.1s,baz=91,slow=4.7,SNR=6.9						
WRA				S	**S**	**04 08 15.8**	**-1.3**
	comp=Z,8.2nm,0.9s,baz=96,slow=15,SNR=9.6						
KAKA	**Kakadu**	**48.29**	**271**	⇓*i*P	**P**	**04 02 35.4**	**-0.4**
	comp=Z,70nm,1.0s,mb5.0						
FORT	**Forrest**	**49.62**	**247**	*e*P	**P**	**04 02 45.2**	**-0.6**
	comp=Z,28nm,0.7s,mb4.7						
GUMO	**Guam**	**49.99**	**309**	P	**P**	**04 02 49.7**	**+1.1**
	comp=Z,185nm,0.7s,mb5.5,baz=162,slow=8.5,SNR=16						
FITZ	**Fitzroy Crossi**	**53.35**	**262**	⇓*i*P	**P**	**04 03 12.9**	**-0.2**
	comp=Z,48nm,1.1s,mb4.6						
FITZ				*e*S	**S**	**04 10 15.0**	**+2.0**
FITZ	**Fitzroy Crossi**	**53.35**	**262**	P	**P**	**04 03 13.1**	**0.0**
	comp=Z,14nm,0.5s,mb4.5,baz=94,slow=7.9,SNR=29						
FITZ				S	**S**	**04 10 14.6**	**+1.5**
	comp=Z,1.9nm,0.9s,baz=292,slow=22,SNR=3.8						
VNDA	**Vanda**	**58.02**	**185**	P	**P**	**04 03 46.0**	**+0.3**
	comp=Z,2.0nm,0.5s,mb3.7,baz=3.4,slow=7.6,SNR=11						
VNDA	**Vanda**	**58.02**	**185**	*e*P	**P**	**04 03 45.7**	**-0.1**
	comp=Z,1.9nm,0.7s,mb3.5						
MBWA	**Marble Bar**	**58.18**	**257**	⇓*i*P	**P**	**04 03 46.0**	**-0.9**
	comp=Z,45nm,0.8s,mb4.8						
KLBR	**Kellerberrin**	**58.38**	**245**	*e*P	**P**	**04 03 47.3**	**-0.9**
	comp=Z,71nm,1.1s,mb4.9						
NWAO	**Narrogin (SRO)**	**58.69**	**243**	P	**P**	**04 03 51.0**	**+0.7**
	comp=Z,15nm,0.9s,mb4.3,baz=91,slow=7.6,SNR=3.4						
QSPA	**South Pole Qui**	**69.65**	**180**	*e*P	**P**	**04 05 00.5**	**-0.1**
	comp=Z,13nm,0.7s,mb4.6						
KKM	**Kota Kinabalu**	**70.04**	**285**	*e*P	**P**	**04 05 03.5**	**+0.5**
MJAR	**Matsushiro Arr**	**70.33**	**323**	P	**P**	**04 05 04.9**	**+0.2**
	comp=Z,9.2nm,0.6s,mb4.5,baz=156,slow=6.0,SNR=27						
MAJO	**Matsushiro**	**70.33**	**323**	*e*P	**P**	**04 05 05.1**	**+0.4**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.3						
MAJO	**Matsushiro**	**70.33**	**323**	*e*P	**P**	**04 05 05.1**	**+0.4**
	comp=Z,6.0nm,0.6s,mb4.3						
MAT	**Matsushiro**	**70.33**	**323**	P	**P**	**04 05 04.2**	**-0.5**
MAT	**Matsushiro**	**70.33**	**323**	P	**P**	**04 05 04.0**	**-0.7**
MAT				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.4						
MAT	**Matsushiro**	**70.33**	**323**	P	**P**	**04 05 04.0**	**-0.7**
	comp=Z,8.0nm,0.6s,mb4.4						
FX1	**Attu Island--F**	**73.42**	**354**	*e*P	**P**	**04 05 21.6**	**-1.2**
KSM	**Kuching**	**73.71**	**278**	*e*P	**P**	**04 05 25.4**	**+0.9**
YHNB	**Yeheng**	**74.32**	**304**	*e*P	**P**	**04 05 27.8**	**-0.2**
YSS	**Yuzh-Sakhalins**	**75.96**	**333**	*e*P	**P**	**04 05 37.9**	**+0.7**
YSS				pmax	pmax		
	comp=Z,50nm,1.1s,mb5.1						
YSS	**Yuzh-Sakhalins**	**75.96**	**333**	*e*P	**P**	**04 05 37.9**	**+0.6**
	comp=Z,50nm,1.1s,mb5.0						
SSE	**Sheshan**	**77.88**	**310**	*e*P	**P**	**04 05 46.5**	**-1.3**
SSE				AMB	AMB		
	comp=Z,22nm,0.6s,mb5.0						
SSE				AMB	AMB		
	comp=Z,60nm,6.8s						
CMB	**Columbia Colle**	**79.19**	**43**	*e*P	**P**	**04 05 54.8**	**0.0**
CMB				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.6						
CMB	**Columbia Colle**	**79.19**	**43**	*e*P	**P**	**04 05 54.8**	**0.0**
	comp=Z,15nm,0.9s,mb4.6						
OHCM	**Honcut**	**79.28**	**41**	*e*P	**P**	**04 05 55.3**	**-0.1**
MTUM	**Tungsten Hills**	**79.96**	**44**	*e*P	**P**	**04 05 59.8**	**+0.8**
YBH	**Yreka Blue Hor**	**80.03**	**38**	*e*P	**P**	**04 05 59.6**	**+0.3**
YBH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
YBH	**Yreka Blue Hor**	**80.03**	**38**	*e*P

comp=Z,6.0nm,0.8s,mb4.4
BMO Blue Mountains 85.05 38 *e*P P **04 06 24.6 -0.3**
comp=Z,6.1nm,0.8s,mb4.4
DUG Dugway 85.27 44 *e*P P **04 06 25.8 -0.2**
TMUT Trail Mountain 85.87 45 *e*P P **04 06 30.0 +1.1**
BJT Baijiatuau 86.05 315 *e*P P **04 06 29.9 +0.2**
BJI Beijing 86.05 315 P P **04 06 30.1 +0.3**
BJI AMB AMB
comp=Z,20nm,1.7s,mb4.6
HLID Hailey 86.06 41 *e*P P **04 06 30.5 +0.7**
comp=Z,4.6nm,0.6s,mb4.4
HLID *e*pP pP 04 08 04.6 +2.2
SRU San Rafael 86.24 46 *e*P P **04 06 30.7 0.0**
SRU *e**PP pP 04 08 05.3 +2.0
SRU pmax pmax
comp=Z,13nm,0.8s,mb4.7
SRU San Rafael 86.24 46 *e*P P **04 06 30.7 0.0**
comp=Z,13nm,0.8s,mb4.7
SRU *e*pP pP 04 08 05.3 +2.0
DAU Daniels Canyon 86.40 45 *e*P P **04 06 32.5 +1.0**
MNTX Cornudas Mount 86.44 54 *e*P P **04 06 32.1 +0.5**
comp=Z,13nm,0.9s,mb4.7
MNTX *e*pP pP 04 08 04.1 -0.3
BNM Barren Site 86.61 52 *e*P P **04 06 33.0 +0.6**
BNM *e*pP pP 04 08 04.5 -0.8
TCUT Toone Canyon 86.66 44 *e*P P **04 06 32.8 +0.1**
TCUT *e*pP pP 04 08 07.8 +2.3
LTX Lajitas 86.74 57 *e*P P **04 06 34.1 +1.0**
LTX pmax pmax
comp=Z,74nm,1.8s,mb5.1
LTX Lajitas 86.74 57 *e*P P **04 06 34.1 +1.1**
comp=Z,74nm,1.8s,mb5.1
HWUT Hardware Ranch 86.81 43 *e*P P **04 06 32.9 -0.5**
comp=Z,3.7nm,0.7s,mb4.2
SYO Syowa Base 86.88 193⇑*e*P P **04 06 32.0 -1.7**
GYA Guiyang 86.88 300 P P **04 06 34.6 +0.9**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
PV10 Paradox Valley 86.89 47 *e*P P **04 06 33.6 -0.1**
PV01 Paradox Valley 87.09 48 *e*P P **04 06 34.5 -0.2**
ANMO Albuquerque 87.10 51 *e*P P **04 06 35.2 +0.4**
ANMO *e**PP pP 04 08 06.6 -1.1
ANMO pmax pmax
comp=Z,8.0nm,0.8s
ANMO Albuquerque 87.10 51 *e*P P **04 06 35.2 +0.5**
comp=Z,7.7nm,0.8s,mb4.5
ANMO *e*pP pP 04 08 06.6 -1.1
NEW Newport 87.12 36 *e*P P **04 06 34.0 -0.8**
COLA College 88.06 12 *d iP* P **04 06 37.3 -1.9**
COLA College 88.06 12 *e*P P **04 06 37.2 -2.1**
comp=Z,21nm,0.7s,mb5.0
SNAA Sanae 88.09 178⇓*i*P P **04 06 32.2 -7.2**
SNAA *e* 04 06 33.7
SNAA *e* 04 06 35.8
SNAA *e* 04 06 39.2
SNAA *e* pP 04 08 04.0 -8.5
SNAA *e* pP 04 08 08.9 -3.6
SNAA *e* 04 08 50.7
SNAA Sanae 88.09 178 *e*P P **04 06 32.2 -7.2**
comp=Z,2.0nm,0.6s,mb4.0
DLMT Dillon 88.12 40 *e*P P **04 06 39.8 +0.3**
comp=Z,34nm,1.1s,mb5.0
ILAR Eielson Array 88.16 13 P P **04 06 37.7 -2.0**
comp=Z,3.8nm,0.5s,mb4.3,baz=221,slow=6.1,SNR=82
TPAW Teton Pass 88.16 42 *e*P P **04 06 40.2 +0.4**
comp=Z,5.7nm,0.6s,mb4.5
CPRX Cap Rock 88.18 54 *e*P P **04 06 40.5 +0.6**
XAN Xi'an 88.33 307 P P **04 06 41.3 +0.8**
XAN AMB AMB
comp=Z,3.0nm,1.4s,mb3.8
IMW Indian Meadow 88.38 42 *e*P P **04 06 41.5 +0.8**
comp=Z,9.0nm,0.7s,mb4.6
MOOW Moose Ponds 88.42 42 *e*P P **04 06 41.4 +0.5**
comp=Z,2.6nm,0.8s,mb4.0
LOHW Long Hollow 88.44 42 *e*P P **04 06 41.3 +0.3**
comp=Z,8.1nm,0.6s,mb4.6
CHMT Chamberlain Mo 88.55 38 *e*P P **04 06 41.0 -0.6**
FLWY Flagg Ranch 88.62 42 *e*P P **04 06 42.5 +0.7**
comp=Z,12nm,0.7s,mb4.7
BW06 Boulder Array 88.68 43 *e*P P **04 06 41.7 -0.5**
comp=Z,5.9nm,0.6s,mb4.5
PDAR Pinedale Array 88.68 43 P P **04 06 42.0 -0.2**
comp=Z,6.5nm,0.6s,mb4.5,baz=214,slow=3.4,SNR=51
SMCO Snowmass 88.69 47 *e*P P **04 06 42.8 +0.6**
comp=Z,24nm,1.3s,mb4.8
HIA Hailar 88.81 324 *e*P P **04 06 41.9 -0.9**
BOZ Bozeman (W) 88.85 40 *e*P P **04 06 43.1 +0.2**
BOZ pmax pmax
comp=Z,14nm,0.8s,mb4.7
BOZ Bozeman (W) 88.85 40 *e*P P **04 06 43.1 +0.2**
comp=Z,14nm,0.8s,mb4.8
BILL Bilibino 88.98 354 *e*P P **04 06 42.7 -0.9**
BILL pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
BILL Bilibino 88.98 354 *e*P P **04 06 42.7 -0.9**
comp=Z,5.2nm,0.6s,mb4.4
PLCA Paso Flores 89.10 133 *e*P P **04 06 46.0 +1.9**
PLCA pmax pmax
comp=Z,11nm,1.2s
PLCA Paso Flores 89.10 133 *e*P P **04 06 46.0 +1.8**
comp=Z,11nm,1.2s,mb4.5
HRY Holter Researc 89.28 39 *e*P P **04 06 44.4 -0.5**
DAWY Dawson 89.29 16 *e*P P **04 06 44.1 -0.9**
HHC Hu-ho-hao-te 89.52 314 *e*P P **04 06 46.0 -0.1**
HHC AP pP 04 08 21.5 +2.0
HHC XP sP 04 09 02.9 +1.5
HHC PP PP 04 10 26.8 +2.6
HHC SKS 04 16 35.5
HHC S 04 16 59.3
HHC XS sS 04 19 47.4 -0.2
HHC SS SS 04 23 11.9 +3.8
HHC AMB AMB
comp=Z,28nm,1.1s,mb5.0
HHC AMB AMB
comp=Z,119nm,4.5s
KMI Kunming 89.59 297 P P **04 06 48.9 +2.5**
KMI AP pP 04 08 19.4 -0.4
KMI XP sP 04 09 02.8 +1.1
KMI AMB AMB
comp=Z,19nm,1.6s,mb4.7
KMI AMB AMB
comp=Z,117nm,3.1s
GCMT Greycliff 90.11 40 *e*P P **04 06 49.4 +0.7**
JCT Junction City 90.27 58 *e*P P **04 06 49.3 -0.3**
JCT pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
JCT Junction City 90.27 58 *e*P P **04 06 49.3 -0.3**
comp=Z,4.7nm,0.6s,mb4.5
CHTO Chiang Mai 90.51 290 *e*P P **04 06 52.1 +1.4**
CHTO pmax pmax
comp=Z,21nm,1.1s,mb4.9
CHTO Chiang Mai 90.51 290 *e*P P **04 06 52.1 +1.4**
comp=Z,21nm,1.1s,mb4.9
AMTX Amarillo 90.61 53 *e*P P **04 06 51.1 0.0**
comp=Z,8.2nm,0.8s,mb4.6
EDM Edmonton 91.87 33 *e*P P **04 06 55.6 -1.3**
LZH Lanzhou 92.97 307 *e*P P **04 07 04.0 +2.0**
LZH AP pP 04 08 37.0 +1.4
LZH XP sP 04 09 21.3 +3.9
LZH AMB AMB
comp=Z,22nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,79nm,4.1s
CIT Chita 93.61 325 *e*P P **04 07 03.2 -1.7**
INK Inuvik 94.11 15 *e*P P **04 07 05.2 -2.0**
INK pmax pmax
comp=Z,7.0nm,1.0s
INK Inuvik 94.11 15 *e*P P **04 07 05.2 -2.0**
comp=Z,6.7nm,1.0s,mb4.6
ULN Ulaanbaatar 95.50 319 *e*P P **04 07 12.9 -0.7**
ULN pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
ULN Ulaanbaatar 95.50 319 *e*P P **04 07 12.9 -0.6**
comp=Z,2.4nm,0.7s,mb4.4
SONM Songino Array 95.90 319 P P **04 07 14.2 -1.2**
comp=Z,0.4nm,0.7s,mb3.7,baz=139,slow=3.2,SNR=5.0
YKA Yellowknife Ar 96.30 25 P P **04 07 15.7 -1.4**
comp=Z,0.4nm,0.5s,mb3.8,baz=239,slow=4.5,SNR=11
YKA Yellowknife Ar 96.30 25 P P **04 07 15.7 -1.4**
ECSD EROS,Sioux Fal 97.65 46 *e*P P **04 07 22.2 -1.0**
CPUP Villa Florida 105.79 126 Pdiff Pdiff 04 07 57.6 -1.8
comp=Z,0.7nm,0.4s,baz=201,slow=3.4,SNR=7.6
WMQ Urumqi 107.11 311 PDIF Pdiff 04 08 04.8 -0.5
WMQ PP PP 04 12 40.3 +3.1
WMQ PP PP
comp=Z,90nm,4.8s
MKAR Makanchi Array 111.37 313 PKiKP PKiKP 04 12 18.8 -1.4
comp=Z,1.4nm,0.6s,baz=124,slow=0.2,SNR=18
KURK Kurchatov 114.15 317⇑*i*PKIKP PKiKP 04 12 23.3 -2.2
CHKZ Chkalovo 119.03 321 *e*PKIKP PKPdf 04 12 32.7 -2.2
ZRNK Zerenda 120.06 320 *e*PKIKP PKPdf 04 12 34.8 -2.1
SUMG Summit 123.00 14 *e*PKPdf PKPdf 04 12 41.7 -0.8
KEV Kevo 128.45 349 *e*pkp PKPdf 04 12 57.2 +4.3
ARCES ARCESS Array B 128.90 350 PKP PKPdf 04 12 51.5 -2.2
comp=Z,2.9nm,0.7s,baz=354,slow=1.2,SNR=12
JOF Joensuu 133.15 342 *e*pkp PKPdf 04 12 57.6 -4.2
KAF Kangasniemi 135.16 344 *e*pkp PKPdf 04 12 59.2 -6.4
FINES FINESS Array B 135.78 344 PKhKP 04 12 54.3
comp=Z,1.1nm,0.7s,baz=179,slow=0.23,SNR=4.3
GNI Garni 138.90 308⇑*i*PKIKP PKPdf 04 13 13.4 +0.9
NB2 NORSAR Subarra 138.94 353 PKPa 04 13 02.5
comp=Z,0.6nm,0.6s,baz=10,slow=3.2
NOA NORSAR Array B 138.94 353 PKhKP 04 13 03.3
comp=Z,0.6nm,0.5s,baz=26,slow=2.1,SNR=3.9
BNGL BINGOL 141.91 308 *i* P PKPdf 04 13 14.8 -3.1
MARD Mardin 142.66 305 *i* P PKPdf 04 13 14.8 -4.4
SUW Suwalki 142.87 340 *e*PKP PKPdf 04 13 16.8 -2.8
AKASG Malin Array Be 143.09 331 PKhKP 04 13 15.9
comp=Z,10nm,0.5s,baz=42,slow=4.4,SNR=62
AKASG SKPbc SKPbc 04 16 17.8 -1.3
comp=Z,0.3nm,0.3s,baz=34,slow=2.9,SNR=4.5
GRSN GIRESUNGRSN 143.30 312 *i* P PKPdf 04 13 14.2 -6.2
ELZG Elazig 143.66 308 *i* P PKPdf 04 13 19.9 -1.0
MALT Malatya 144.13 308 *e*PKHKP PKPdf 04 13 21.2 -0.6
SIM Simferopol' 144.13 320 *d i*PKHKP PKPdf 04 13 21.0 -0.8
SIM pmax pmax
comp=Z,72nm,0.9s
ATAB Bozova 144.50 306 *i* P PKPdf 04 13 22.6 +0.2
SVST Sivas 144.68 311 *i* P PKPdf 04 13 23.3 +0.6
GZT Gaziantep 145.09 307 *i* P PKPdf 04 13 24.0 +0.6
GKP Gorka Klasztor 145.25 344 *e*PKP PKPdf 04 13 24.8 +1.1
BOYT Boyabat 145.39 315 *i* P PKPdf 04 13 24.7 +0.8
CTKT Corum 145.83 313 *i* P PKPdf 04 13 26.1 +1.4
KIS Kishinev 145.84 327 *e*PKHKP PKPdf 04 13 24.0 -0.7
BSEG Bad Segeberg 145.98 352 *e*PKPbc PKPbc 04 13 26.0 -0.5
BALT Daday 146.34 316 *i* P PKPdf 04 13 26.9 +1.3
COBT Iskenderun 146.35 306 *i* P PKPdf 04 13 27.6 +2.0
CDAG Cicekdag 146.55 312 *i* P PKPdf 04 13 27.1 +1.2
AVNT Avonos 146.56 310 *i* P PKPdf 04 13 22.6 -3.4
KWP Kalwaria 146.64 336 *e*PKP PKPdf 04 13 28.0 +1.9
ELDT Eldivan 146.81 314 *i* P PKPdf 04 13 26.1 -0.2
BURAR Bucovina Array 147.14 331⇓*i*P PKPbc 04 13 30.4 +0.6
BURAR Bucovina Array 147.14 331⇓P PKPbc 04 13 30.4 +0.7
OJC Ojcow 147.20 339 *e*PKP PKPdf 04 13 27.9 +0.9
STHS Stebnicka Huta 147.36 337 *e*PKP PKPbc 04 13 31.3 +1.0
KOLS Kolonicke sedl 147.37 335 *e*PKP PKPbc 04 13 31.1 +0.7
KOLS *e* 04 13 34.1
CFR Carcaliu 147.40 325⇓*i*P PKPbc 04 13 31.7 +1.3
ANTO Ankara 147.53 313⇓PKHKP PKPbc 04 13 30.9 +0.1
ANTO Ankara 147.53 313 *e*PKPbc PKPbc 04 13 30.8 +0.1
VRI Vrincioaia 147.67 327⇓*i*P PKPbc 04 13 31.8 +0.7
VRI Vrincioaia 147.67 327⇓P PKPbc 04 13 31.8 +0.6
SGKT Sivrigoynuk 147.69 315 *i* P PKPdf 04 13 27.2 -0.6
NIE Niedzica 147.70 338 *e*PKP PKPbc 04 13 31.2 0.0
KSP Ksiaz 147.70 343 *e*PKP PKPbc 04 13 31.6 +0.4
KSP Ksiaz 147.70 343 *e*PKP PKPbc 04 13 31.0 -0.2
CRVS Cervenica-Dubn 147.71 336 *e*PKP PKPbc 04 13 31.8 +0.6
TIRR Tirgusor 147.71 324⇑*i*P PKPbc 04 13 31.6 +0.3
HARR Harsova 147.82 325⇓*i*P PKPbc 04 13 32.3 +0.8
HARR Harsova 147.82 325⇓P PKPbc 04 13 32.3 +0.8
IBBN Ibbenburen 147.89 354 *e*PKPbc PKPbc 04 13 31.4 -0.3
MEST Erdemli 147.92 307 *i* P PKPbc 04 13 31.1 -0.7
CLZ Clausthal 148.01 351 *e*PKPbc PKPbc 04 13 31.5 -0.5
CLL Collm 148.05 347 *e*PKPbc PKPbc 04 13 31.4 -0.7
CLL Collm 148.05 347 *i*PKPdf PKPdf 04 13 29.2 +0.8
CLL ⇓*i*PKPbc PKPbc 04 13 31.2 -0.9
comp=Z,16nm,0.7s
CLL *i* PKiKP PKiKP 04 13 33.2 -0.4
comp=Z,28nm,0.8s
CLL *e*PKPab PKPab 04 13 36.0 -0.3
CLL *i* x x 04 13 38.7
CLL *e*pPKPbc pPKPbc 04 15 12.0 +2.0
CLL Collm 148.05 347⇓*i*PKHKP 04 13 29.2
CLL *i* 04 13 31.2
CLL *e* 04 15 12.0
CLL pmax pmax
comp=Z,28nm,0.8s
CLL Collm 148.05 347 *i* PKP PKPdf 04 13 29.2 +0.8
CLL ⇓*i*PKP PKPdf 04 13 31.2 +2.8
CLL *e*pPKP pPKPdf 04 15 12.0 +4.4
OKC Ostrava-Krasne 148.06 341⇑*e*PKPB PKPbc 04 13 30.7 -1.5
UPC Upice 148.08 343⇑*e*PKPB PKPbc 04 13 31.9 -0.3
UPC *e*PKPAB PKPab 04 13 36.5 +0.1
DPC Dobruska-Polom 148.14 343⇑*e*PKPB PKPbc 04 13 31.9 -0.5
DPC *e*PKPAB PKPab 04 13 36.9 +0.3
MMLI Mount Malkishu 148.17 299 P PKPbc 04 13 32.6 +0.2
BRG Berggiesshubel 148.26 346 *e*PKPbc PKPbc 04 13 32.7 +0.1
BRG Berggiesshubel 148.26 346 *i* PKP PKPbc 04 13 32.5 -0.2
comp=Z,8.6nm,0.9s
BRG *e* 04 15 20.0
comp=Z,2.5nm,0.9s
BRG Berggiesshubel 148.26 346 *i* PKIKP PKPbc 04 13 32.5 -0.1
BRG pmax pmax
comp=Z,9.0nm,0.9s
BRG pmax pmax
comp=Z,3.0nm,0.9s
MORC Moravsky Berou 148.30 341⇓PKHKP 04 13 29.9
MORC Moravsky Berou 148.30 341 *e*PKPbc PKPbc 04 13 32.3 -0.4
HENT Hendek 148.32 316 *i* P PKPbc 04 13 31.8 -1.0
MLR Muntele Rosu 148.32 328 PKPbc PKPbc 04 13 32.1 -0.7
comp=Z,6.7nm,0.4s,baz=5.5,slow=5.6,SNR=24
MLR Muntele Rosu 148.32 328⇓*i*P PKPbf 04 13 32.1 +3.3
MLR Muntele Rosu 148.32 328 P PKPbc 04 13 33.0 +0.2
DRGI Dragot 148.39 297 P PKPbc 04 13 32.7 -0.3
KECS Kecovo 148.42 337 *e*PKP PKPbc 04 13 33.6 +0.5
KECS *e* 04 13 38.3
MZDA Masada 148.48 297 P PKPbc 04 13 33.0 -0.2
OFRI 'Ofer 148.49 299 P PKPbc 04 13 32.7 -0.5
SLTI Sal'it 148.53 299 P PKPbc 04 13 33.2 -0.1
ZFRI Zfri 148.78 295 P PKPbc 04 13 33.9 -0.1
VOIR 148.81 328⇓*i*P PKPbc 04 13 35.3 +1.3
VOIR 148.81 328⇓P PKPbc 04 13 35.3 +1.2
ERMK Ermenek 148.82 308 *i* P PKPdf 04 13 31.0 +1.4
DRGR 148.88 332⇑*i*P PKPbc 04 13 34.6 +0.4
PRU Pruhonice 148.94 345⇑*e*PKPB PKPbc 04 13 33.7 -0.6
PRU *e*PKPAB PKPab 04 13 40.2 +0.3
PRU *e*pPKP pPKPdf 04 15 09.7 +0.7
MOX Moxa 148.96 349 *e*PKPbc PKPbc 04 13 34.0 -0.4
MOX Moxa 148.96 349 *e*PKP PKPbc 04 13 33.8 -0.6
PRNI Paran 148.97 295 PKIKP PKPbc 04 13 34.3 -0.1
VRAC Vranov 149.00 342⇑PKIKP PKPbc 04 13 35.3 +0.8
VRAC Vranov 149.00 342 P PKPbc 04 13 34.9 +0.4
TANN Tannenbergstha 149.01 347 *e*PKPbc PKPbc 04 13 34.3 -0.2
ESKT Eskisehir 149.01 314 *i* P PKPbc 04 13 32.7 -1.9
UBBA Unterbreizbach 149.06 351 *e*PKPbc PKPbc 04 13 33.6 -1.1
PSZ Piszkesteto 149.11 337 *e*PKIKP PKPbc 04 13 34.8 0.0
CSS Prodhromos 149.12 305 *e*PKPbc PKPbc 04 13 34.6 -0.1
EIL Elat 149.14 294 P PKPbc 04 13 34.7 -0.1
NKC Novy Kostel 149.18 347⇑*e*PKPB PKPbc 04 13 34.6 -0.3
NKC *e*pPKP pPKPdf 04 15 15.2 +5.8
TREC Trest 149.33 343⇑*e*PKPB PKPbc 04 13 34.6 -0.7
TREC *e*PKPAB PKPab 04 13 42.2 +0.7
KZIT Kziot 149.37 296 P PKPbc 04 13 35.2 -0.2
ROTZ Rotzenmuhle 149.68 347 *e*PKPbc PKPbc 04 13 36.0 -0.1
ELBA Catalca 149.71 319 *i* P PKPdf 04 13 34.9 +3.8
MEM Membach 149.73 355 PKPbc PKPbc 04 13 35.5 -0.7
TNS Taunus Mts 149.86 352 *e*PKPbc PKPbc 04 13 36.3 -0.3
SNF Seneffe 149.93 358 PKPbc PKPbc 04 13 36.5 -0.3
GRF Grafenberg Arr 149.94 348 *e*PKPbc PKPbc 04 13 36.9 +0.1
GRF *e*L 05 13 34.9
comp=Z,758nm,18.0s
BCLA Clavier 149.97 356 PKPab PKPab 04 13 43.0 -1.2
KHC Kasperske Hory 149.97 345⇑*e*PKPB PKPbc 04 13 36.1 -0.7
KHC *e*PKPAB PKPab 04 13 42.3 -1.9
KHC *e*pPKP pPKPdf 04 15 11.2 +0.5
KHC Kasperske Hory 149.97 345 *e*PKHKP 04 13 36.1
KHC *e* 04 13 42.3
TKTP Tekketepe 150.09 312 *i* P PKPdf 04 13 34.4 +2.7
GEC2 GERESS Array S 150.20 345 *e*PKPbc PKPbc 04 13 38.2 +0.8
GERES GERESS Array B 150.20 345 PKP PKPdf 04 13 30.8 -1.0
comp=Z,0.4nm,0.7s,baz=18,slow=1.7,SNR=3.9
GERES PKPbc PKPbc 04 13 36.9 -0.4
comp=Z,4.9nm,0.6s,baz=29,slow=2.2,SNR=34
BZS Buzias 150.27 332⇑*i*P PKPbc 04 13 37.0 -0.5
BZS Buzias 150.27 332 P PKPbc 04 13 37.6 0.0
GIVF Givet 150.31 357 *e*PKP1 PKPbc 04 13 37.3 -0.3
comp=Z,46nm,0.8s
DOU Dourbes 150.33 357 PKPbc PKPbc 04 13 36.8 -0.9
BAIF Baives 150.38 358 *e*PKP1 PKPbc 04 13 37.6 -0.2
comp=Z,37nm,0.9s
WLF Walferdange 150.66 355 *e*PKPbc PKPbc 04 13 38.6 +0.2
WLF Walferdange 150.66 355 PKPbc PKPbc 04 13 38.4 0.0
WLF PKPab PKPab 04 13 47.1 +0.1
WLF Walferdange 150.66 355 *e*PKPbc PKPbc 04 13 37.9 -0.5
WLF *e*PKPab PKPab 04 13 46.9 -0.1
BTOK Tokmak 150.74 317 *i* P PKPbc 04 13 37.7 -0.9
PKSM Moragy 151.00 336⇑PKHKP PKPbc 04 13 38.5 -0.7
PKSM Moragy 151.00 336 P PKPbc 04 13 38.6 -0.6
DNZL Cakiroluk 151.14 312 *i* P PKPbc 04 13 39.7 +0.1
FUR Furstenfeldbru 151.39 347 *e*PKPbc PKPbc 04 13 41.5 +1.4
FLN La Foliniere 151.63 4 *e*PKP1 PKPbc 04 13 39.3 -1.4
comp=Z,26nm,0.7s
VTS Vitosha 151.77 326⇑PKIKP PKPbc 04 13 42.0 +1.0
CDF Champ du Feu 151.79 353 *e*PKP1 PKPbc 04 13 40.7 -0.3
comp=Z,8.2nm,0.7s
LDF La Druitiere 151.82 3 *e*PKP1 PKPbc 04 13 40.0 -1.1
comp=Z,8.6nm,0.6s
SGMF Saint Gilles 151.95 7 *e*PKP1 PKPbc 04 13 40.3 -1.1
comp=Z,27nm,0.8s
GRR Gorron 151.97 5 *e*PKP1 PKPbc 04 13 40.2 -1.2
comp=Z,23nm,0.7s
GRUS Gruza 152.02 331 *i* P PKPbc 04 13 42.8 +1.3
DIVS Divcibare 152.18 332 *i* P PKPbc 04 13 42.9 +1.0
HINF Hinteralfeld 152.42 353 *e*PKP1 PKPbc 04 13 42.2 -0.2
comp=Z,7.4nm,0.6s
LOR Lormes 153.19 358 *e*PKP1 PKPbc 04 13 43.5 -0.6
comp=Z,12nm,0.9s
SSF Saint Saulge 153.40 358 *e*PKP1 PKPbc 04 13 45.0 +0.4
comp=Z,16nm,0.9s
BNI Bardonecchia 155.17 353 *e*PKP2 PKPab 04 14 06.0 -0.2
PBRG Braganca 157.33 18 *e*PKPab PKPab 04 14 14.9 -0.6
PVRL Vila Real 157.52 20 *e*PKPab PKPab 04 14 16.0 -0.3
MTE Manteigas 158.36 21 *e*PKPab PKPab 04 14 19.2 -0.8
PTOM Tomar 158.75 23 *e*PKPab PKPab 04 14 21.1 -0.6
DBIC Dimbokro 164.66 152 PKP PKPdf 04 13 49.1 -0.4
comp=Z,1.4nm,0.7s,baz=180,slow=23,SNR=3.9
DBIC PKPab PKPab 04 14 46.3 -1.3
comp=Z,3.4nm,0.7s,baz=174,slow=4.8,SNR=7.0
TORD Torodi Ar. Bea 172.75 175 PKP PKPdf 04 13 53.9 -0.8
comp=Z,2.0nm,0.8s,baz=349,slow=0.6,SNR=12
TORD PKPab PKPab 04 15 22.8 -0.7
comp=Z,0.6nm,0.6s,baz=204,slow=3.3,SNR=7.3

IDC 24 04:15:59.3±6.3, 1029S×16120E, h74km±42km, mb3.7/4, mb1 3.9/4, mb1mx3.7/14, mbtmp4.0/4, MS2.9/1, Ms1 2.9/1, ms1mx2.6/17, Error ellipse: s-maj=56.9km s-min=33.3km az=107.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.50**	**304**	P		Pn	04 16 24.3	-0.1
	48nm,0.3s,baz=126,slow=0.9,SNR=5.9							
HNR				S		Sn	04 16 43.3	0.0
	189nm,0.3s,baz=100,slow=5.1,SNR=10							
DZM	**Mont Dzumac**	**12.75**	**157**	LR		LR	04 22 16.8	
	comp=Z,60nm,20.1s,baz=322,slow=30							
WRA	**Warramunga Arr**	**27.62**	**247**	P		P	04 21 40.6	+0.9
	1.6nm,0.5s,baz=76,slow=9.1,SNR=24							
ASAR	**Alice Springs**	**29.23**	**239**	P		P	04 21 53.7	-0.4
	0.5nm,0.5s,baz=61,slow=10.0,SNR=6.3							
FITZ	**Fitzroy Crossi**	**35.29**	**253**	P		P	04 22 47.6	+0.5
	3.0nm,0.7s,baz=111,slow=4.6,SNR=10							
SONM	**Songino Array**	**75.46**	**325**	P		P	04 27 35.5	+0.2
	0.5nm,0.6s,baz=145,slow=5.3,SNR=3.1							

CSEM ***24*** *04:17:16.7±1.1, 3850N×2856W, h13km±4km, ML1.4, Error ellipse: s-maj=5.9km s-min=2.1km az=31.0, After PDA*
PDA ***24*** *04:17:16.7±1.1, 3850N×2856W, h13km±4km, MD3.0, ML1.4, Error ellipse: s-maj=5.9km s-min=2.1km az=31.0*
SVSA 24 04:17:16.7±1.1, 3850N×2856W, h13km±4km, MD3.0, ML1.4, Error ellipse: s-maj=5.9km s-min=2.1km az=31.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HOR	**Horta**	**0.06**	**296**	*e*P		Pg	04 17 18.7	-0.5
HOR				*e*S		Sg	04 17 20.7	-0.4
PCND	**Candelaria**	**0.08**	**112**	*e*P		Pg	04 17 19.4	0.0
PCND				*i* S		Sg	04 17 21.1	-0.3
PCND								
	112nm,0.2s							
PICO	**Pico**	**0.10**	**89**	*e*P		Pg	04 17 19.0	-0.7
PICO				*e*S		Sg	04 17 21.3	-0.5
CALA	**Caldeira**	**0.14**	**306**	*e*P		Pg	04 17 20.2	0.0
CALA				*e*S		Sg	04 17 22.5	-0.1
PBOI	**Pico dos Bois**	**0.16**	**114**	*e*S		Sg	04 17 22.9	-0.1
PBOI								
	30nm,0.2s							
PTEI	**Pico do Teixo**	**0.16**	**91**	*e*S		Sg	04 17 23.1	0.0
PTEI								
	26nm,0.3s							
PCED	**Cedros**	**0.17**	**319**	*i* P		Pg	04 17 20.2	-0.5
PCED				*e*S		Sg	04 17 23.0	-0.4
PCED								
	57nm,0.3s							
PCED	**Cedros**	**0.17**	**319**	*e*S		Sg	04 17 23.0	-0.4
PTCA	**Ponta do Capel**	**0.21**	**295**	*e*x			04 17 26.2	
ROSA	**Rosais**	**0.33**	**48**	*e*S		Sg	04 17 27.1	-0.8
PID	**Ribeirinha**	**0.35**	**99**	*e*S		Sg	04 17 27.8	-0.7
PMAN	**Manadas**	**0.39**	**70**	*e*P		Pg	04 17 23.3	-1.2
PMAN				*e*S		Sg	04 17 28.5	-1.3
PMAN								
	15nm,0.3s							

ISCJB ***24*** *04:19:05.3±0.3, 3243N×11520W±0.03, h4km, mb4.1/2, Error ellipse: s-maj=4.5km s-min=2.5km az=104.9*
NEIC ***24*** *04:19:08.2, 3243N×11527W, h6km, mb4.1/2, MD4.3(ECX), ML3.9(PAS), After ECX.*
ECX ***24*** *04:19:08.2±0.5, 3243N×11528W, h6km, ML4.3*
ISC 24 04:19:06.8±0.5, 3240N±0.03×11528W±0.03, h4km±4km, n41, σ1§01/64, mb4.1/2, 8C.D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
EMSC	**East Mesa**	**0.41**	**36**	*e*P		**Pg**	**04 19 15.4**	**+0.7**
SGL	**Mount Signal**	**0.45**	**303**⇑*i*P			**Pg**	**04 19 15.8**	**+0.3**
PLT	**Pilot Knob**	**0.57**	**55**⇑*i*P			**Pg**	**04 19 18.4**	**+0.8**
COK	**Cook Ranch**	**0.58**	**320**⇑*i*P			**Pg**	**04 19 18.3**	**+0.3**
YUH	**Yuha Desert**	**0.60**	**294**⇑*i*P			**Pg**	**04 19 18.2**	**0.0**
RMX	**La Rumorosa**	**0.71**	**286**	*e*P		**Pg**	**04 19 20.5**	**+0.2**
RMX				⇑*e*			04 19 33.0	
	comp=E,13μm,0.8s							
RDX	**Rancho Dowling**	**0.74**	**231**⇑*i*P			**Pg**	**04 19 21.2**	**+0.2**
RDX						**Sg**	**04 19 31.9**	**+1.3**
RDX				⇓*e*			04 19 33.7	
	comp=N,8μm,0.4s							
RDX	**Rancho Dowling**	**0.74**	**231**	*i* P		**Pg**	**04 19 21.2**	**+0.2**
RDX				*e*S		**Sg**	**04 19 31.9**	**+1.3**
GLA	**Glamis**	**0.75**	**30**⇓*i*P			**Pg**	**04 19 20.3**	**-0.9**
GLA				*e*Sg		**Sg**	**04 19 31.1**	**+0.2**
CBX	**Cerro Bola**	**1.18**	**266**⇑*e*P			**Pg**	**04 19 28.9**	**-0.4**
CBX				*e*S		**Sg**	**04 19 44.9**	**+0.2**
ENX	**Ensenada**	**1.29**	**247**⇑*e*P			**Pg**	**04 19 30.4**	**-1.1**
ENX				*e*S		**Sg**	**04 19 48.0**	**-0.1**
ECX	**Ensenada**	**1.29**	**246**	*e*P		**Pg**	**04 19 31.5**	**0.0**
ECX				*e*S		**Sg**	**04 19 50.0**	**+1.8**
ECNX	**Esteban Cantu**	**1.35**	**237**	*e*P		**Pn**	**04 19 31.5**	**-0.9**
ECNX				*e*S		**Sg**	**04 19 50.0**	**0.0**
SPX	**San Pedro Mart**	**1.36**	**187**	*e*P		**Pn**	**04 19 31.3**	**-1.3**
SPX				*e*S		**Sg**	**04 19 50.9**	**+0.3**
PBX	**Punta Banda**	**1.40**	**242**	*e*P		**Pn**	**04 19 32.0**	**-1.0**
PBX				*e*S		**Sb**	**04 19 51.4**	**-0.2**
GSC	**Goldstone**	**3.16**	**337**	Pn		**Pn**	**04 19 57.4**	**+0.1**
GSC				*e*Pg		**Pg**	**04 20 07.6**	**+0.3**
NEN	**Nelson**	**3.26**	**6**	*e*Pn		**Pn**	**04 19 58.4**	**-0.2**
NEN				*e*Pg		**Pg**	**04 20 09.2**	**-0.0**
TUC	**Tucson**	**3.80**	**90**	*e*Pn		**Pn**	**04 20 02.8**	**-3.3**
TUC				*e*Pg

TPNV	**Topopah Spring**	**4.60**	**350**	*e*Pn		**Pn**	**04 20 16.8**	**-0.3**
CCUT	**Cedar City**	**5.37**	**16**	*e*Pn		**Pn**	**04 20 28.0**	**+0.3**
CCUT					*e*Pg	**Pg**	**04 20 50.9**	**+1.2**
ARUT	**Antelope Range**	**5.58**	**15**	*e*Pn		**Pn**	**04 20 30.2**	**-0.3**
ARUT					*e*Pg	**Pg**	**04 20 52.4**	**-1.2**
MTUM	**Tungsten Hills**	**5.63**	**332**	*e*Pg		**Pg**	**04 20 54.3**	**-0.3**
TPH	**Tonopah**	**5.88**	**345**	*e*Pg		**Pg**	**04 20 58.0**	**-1.4**
MSU	**Marysvale**	**6.60**	**22**	*e*Pn		**Pn**	**04 20 47.0**	**+2.5**
MSU					*e*Pg	**Pg**	**04 21 08.7**	**-4.5**
LAZ	**Ladron**	**7.09**	**71**	*e*Pn		**Pn**	**04 20 51.7**	**+0.4**
LAZ					*e*Pg	**Pg**	**04 21 17.3**	**-5.3**
LENM	**Lemitar**	**7.17**	**74**	*e*Pn		**Pn**	**04 20 52.4**	**0.0**
BNM	**Barren Site**	**7.45**	**74**	*e*Pn		**Pn**	**04 20 55.7**	**-0.5**
LPM	**Los Pinos Moun**	**7.48**	**73**	*e*Pn		**Pn**	**04 20 56.6**	**0.0**
SRU	**San Rafael**	**7.72**	**29**	*e*Pn		**Pn**	**04 20 60.0**	**0.0**
SRU					*e*Pg	**Pg**	**04 21 29.8**	**-4.9**
ANMO	**Albuquerque**	**7.77**	**69**	*e*Pn		**Pn**	**04 21 00.2**	**-0.4**
PV10	**Paradox Valley**	**7.84**	**39**	*e*Pn		**Pn**	**04 21 02.6**	**+1.1**
PV10					*e*Pg	**Pg**	**04 21 31.5**	**-5.3**
PV01	**Paradox Valley**	**7.92**	**42**	*e*Pn		**Pn**	**04 21 04.7**	**+2.0**
PV01					*e*Pg	**Pg**	**04 21 33.3**	**-5.2**
DUG	**Dugway**	**8.03**	**14**	*e*Pn		**Pn**	**04 21 03.8**	**-0.4**
DUG					*e*Pg	**Pg**	**04 21 38.8**	**-1.6**
MNTX	**Cornudas Mount**	**8.43**	**92**	*e*Pn		**Pn**	**04 21 08.2**	**-1.5**
SMCO	**Snowmass**	**9.54**	**43**	*e*Pn		**Pn**	**04 21 27.1**	**+2.1**
HWUT	**Hardware Ranch**	**9.65**	**17**	*e*Pn		**Pn**	**04 21 28.0**	**+1.6**
HLID	**Hailey**	**11.16**	**3**	*e*Pn		**Pn**	**04 21 45.2**	**-1.9**
	comp=N,3.5nm,1.2s							
PLAL	**Pickwick Lake**	**22.75**	**76**	*e*P		**P**	**04 24 09.8**	**-0.2**
	comp=N,9.2nm,1.3s,mb4.0							
INK	**Inuvik**	**37.46**	**349**	*e*P		**P**	**04 26 22.5**	**+1.2**
	comp=N,3.4nm,1.1s,mb4.1							

BJI ***24*** *04:20:26.5,3236N×115.42W,h11km,mB5.7,mb5.3,Ms5.4, Msz5.2*

ECX ***24*** *04:20:26.0±0.8,3241N×115.26W,h12km±3km,MD5.1, ML5.2*

ISCJB ***24*** *04:20:26.2±0.4,3237N±002×115.20W±0.002,h4km±2km, mb5.0/119,MS5.0/43,Error ellipse: s-maj=3.1km s-min=2.4km az=144.7*

MOS ***24*** *04:20:27.2±1.0,3237N×115.10W,h10km,mb5.3/63, MS5.0/18,Error ellipse: s-maj=6.8km s-min=4.1km az=72.7*

IDC ***24*** *04:20:27.0±0.5,3243N×115.19W,h0km,mb4.8/26, mb1 4.9/29,mb1mx4.9/31,mbtmp4.8/29,ML4.1/3,MS5.0/18, Ms1 5.0/18,ms1mx4.8/21,Error ellipse: s-maj=17.1km s-min=10.6km az=62.0*

HRVD ***24*** *04:20:28.5±0.1,3243N×115.28W,h12km,MW5.3/99, Centroid moment Tensor Solution. LP body waves: s57,c89;Mantle waves: s99,c194; Half duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr-1.05±.02; Mθθ0.27±.02; Mφφ0.78±.01; Mrθ0.00±.05; Mrφ0.50±.01; Mθφ0.04±.05; Best double couple: M0 1.07100×10^17 NP1:φ32.00000°,δ44.00000°,λ-89.00000°. NP2: φ210.00000°,δ46.00000°,λ-91.00000°. Principal axes: T 1.0920, Plg1.0000°, Azm301.0000°; N -0.0380, Plg1.0000°, Azm211.0000°; P -1.0510, Plg89.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***24*** *04:20:28.5,3245N×115.27W,h5km,mb5.1/81,MS5.0/11, ML5.2(ECX),MW5.1(SLM),MW5.4(PAS),After ECX.*

NEIC Felt [IV] at Mexicali. Felt at Ensenada. Also felt at San Luis Rio Colorado, Sonora. Felt [IV] at Calexico, Imperial, Ocotillo and Winterhaven; [III] at Boulevard, Brawley, El Centro, Heber, Holtville and San Diego; [II] at Blythe, Chula Vista, El Cajon, La Jolla, La Mesa and Lakeside, California. Also felt at Alpine, Bonita, Bonsall, Calipatria, Carlsbad, Coronado, Imperial Beach, Irvine, Jacumba, Lake Elsinore, Murrieta, Potrero, San Marcos, Santee and Thermal, California. Felt [III] at Somerton, Wellton and Yuma, Arizona. Also felt at Cibola and Roll, Arizona.

ISC 24 04:20:27.8±0.3,3236N±002×1157W±002,h6km±2km, n436,σ1§23/436,mb5.0/119,MS5.0/43,23C-12D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DELX	**Delta**	**0.07**	**91⇑**	*e*P	**Pg**	**04 20 29.7**	**+0.3**
DELX				*e*S	**Sg**	**04 20 33.7**	**+3.2**
CHIX	**Chihuahua**	**0.13**	**9⇑**	*e*P	**Pg**	**04 20 29.6**	**-0.9**
CHIX				*e*S	**Sg**	**04 20 33.6**	**+1.2**
RII	**Riito**	**0.32**	**126⇑**	*e*P	**Pg**	**04 20 34.7**	**+0.6**
RII				*e*S	**Sg**	**04 20 41.0**	**+2.8**
EMSC	**East Mesa**	**0.45**	**31**	*e*P	**Pg**	**04 20 35.8**	**-0.7**
SGL	**Mount Signal**	**0.48**	**307⇓**	*i*P	**Pg**	**04 20 36.0**	**-1.1**
SGL	**Mount Signal**	**0.48**	**307**	*e*P	**Pg**	**04 20 36.0**	**-1.1**
YUH	**Yuha Desert**	**0.63**	**298**	*e*P	**Pg**	**04 20 38.6**	**-1.2**
COK	**Cook Ranch**	**0.63**	**322**	*i*P	**Pg**	**04 20 38.4**	**-1.4**
RDX	**Rancho Dowling**	**0.72**	**234**	*e*P	**Pg**	**04 20 41.6**	**+0.1**
RDX				*e*S	**Sg**	**04 20 53.3**	**+2.5**
RDX				⇓*e*		04 20 58.8	
	comp=E,121μm,0.8s						
RDX	**Rancho Dowling**	**0.72**	**234**	*e*P	**Pg**	**04 20 41.9**	**+0.4**
RDX				*e*S	**Sg**	**04 20 52.2**	**+1.3**
RMX	**La Rumorosa**	**0.73**	**290**	*e*P	**Pg**	**04 20 41.0**	**-0.8**
RMX				*e*S	**Sg**	**04 20 52.3**	**+1.1**
RMX				⇑*e*		04 21 07.7	
	comp=N,63μm,0.7s						
RMX	**La Rumorosa**	**0.73**	**290**	*e*P	**Pg**	**04 20 41.0**	**-0.8**
RMX				*e*S	**Sg**	**04 20 50.5**	**-0.8**
GLA	**Glamis**	**0.79**	**28**	*e*P	**Pg**	**04 20 40.7**	**-2.2**
GLA				*e*S	**Sg**	**04 20 51.9**	**-1.2**
CBX	**Cerro Bola**	**1.18**	**268**	*e*P	**Pg**	**04 20 49.2**	**-1.2**
CBX				*e*S	**Sg**	**04 21 04.8**	**-1.0**
ENX	**Ensenada**	**1.28**	**249**	*e*P	**Pn**	**04 20 49.2**	**-2.9**
ENX				*e*S	**Sg**	**04 21 08.8**	**-0.1**
ENX	**Ensenada**	**1.28**	**249**	*e*P	**Pn**	**04 20 50.9**	**-1.2**
ENX				*e*S	**Sg**	**04 21 08.8**	**-0.1**
ECX	**Ensenada**	**1.28**	**248**	*e*P	**Pn**	**04 20 51.9**	**-0.3**
ECX				*e*S	**Sg**	**04 21 10.4**	**+1.5**
SPX	**San Pedro Mart**	**1.32**	**187**	*e*P	**Pn**	**04 20 51.1**	**-1.6**
SPX				*e*S	**Sb**	**04 21 12.3**	**+2.3**
ECNX	**Esteban Cantu**	**1.33**	**239**	*e*P	**Pn**	**04 20 51.7**	**-1.2**
ECNX				*e*S	**Sb**	**04 21 10.4**	**+0.1**
PBX	**Punta Banda**	**1.38**	**244**	*e*P	**Pn**	**04 20 50.9**	**-2.7**
PBX				*e*S	**Sb**	**04 21 12.7**	**+0.9**
PFO	**Pinyon Flat Ob**	**1.60**	**322**	Pn	**Pn**	**04 20 53.0**	**-3.6**
	comp=N,31μm,0.4s,SNR=7.8						
GSC	**Goldstone**	**3.21**	**337**	*e*P	**Pg**	**04 21 28.1**	**-1.1**
NEN	**Nelson**	**3.30**	**6**	*e*Pn	**Pn**	**04 21 20.0**	**0.0**
NEN				*e*Pg	**Pg**	**04 21 29.7**	**-1.3**
TUC	**Tucson**	**3.79**	**90**	*e*Pn	**Pn**	**04 21 27.0**	**+0.2**
TUC				*e*Pg	**Pg**	**04 21 40.9**	**+0.4**
TUC				*e*Sg	**Sg**	**04 22 28.1**	**-1.5**
ISA	**Isabella**	**4.24**	**322**	*e*P	**Pg**	**04 21 48.8**	**-0.2**
PTRM	**Twissleman Ran**	**5.26**	**310**	*e*Pn	**Pn**	**04 21 46.3**	**-0.6**
CCUT	**Cedar City**	**5.41**	**16**	*e*Pn	**Pn**	**04 21 49.1**	**+0.1**
CCUT				*e*Pg	**Pg**	**04 22 07.3**	**-4.1**
ARUT	**Antelope Range**	**5.62**	**15**	*e*P	**Pn**	**04 21 52.4**	**+0.5**
MSU	**Marysvale**	**6.64**	**21**	*e*Pn	**Pn**	**04 22 06.5**	**+0.7**
MSU				*e*Pg	**Pg**	**04 22 32.1**	**-2.8**
SAO	**San Andreas Ge**	**6.73**	**312**	*e*P	**Pn**	**04 22 05.4**	**-1.7**
SAO				pmax	pmax		
	comp=Z,251nm,1.0s						
SAO	**San Andreas Ge**	**6.73**	**312**	*e*Pn	**Pn**	**04 22 05.4**	**-1.7**
	comp=Z,251nm,1.0s						
SAO				*e*Pg	**Pg**	**04 22 35.3**	**-1.4**
LAZ	**Ladron**	**7.10**	**71**	*e*Pn	**Pn**	**04 22 11.6**	**-0.5**
LENM	**Lemitar**	**7.18**	**73**	*e*Pn	**Pn**	**04 22 12.0**	**-1.2**
LENM				*e*Pg	**Pg**	**04 22 41.8**	**-3.4**
BNM	**Barren Site**	**7.45**	**74**	*e*Pn	**Pn**	**04 22 16.1**	**-0.9**
BNM				*e*Sg	**Sg**	**04 24 27.9**	**+0.9**
LPM	**Los Pinos Moun**	**7.48**	**73**	*e*Pn	**Pn**	**04 22 16.3**	**-1.1**
LPM				*e*Sg	**Sg**	**04 24 25.9**	**-2.1**
TMUT	**Trail Mountain**	**7.67**	**24**	*e*Pn	**Pn**	**04 22 22.3**	**+2.4**
TMUT				*e*Pg	**Pg**	**04 22 52.1**	**-2.5**
TMUT				*e*Sg	**Sg**	**04 24 34.9**	**+0.9**
SRU	**San Rafael**	**7.76**	**28**	*e*P	**Pn**	**04 22 22.1**	**+0.8**
SRU				pmax	pmax		
	comp=Z,3μm,0.9s						
SRU	**San Rafael**	**7.76**	**28**	*e*Pn	**Pn**	**04 22 22.1**	**+0.8**
	comp=Z,3μm,0.9s						
SRU				*e*Pg	**Pg**	**04 22 51.7**	**-4.7**
SRU				*e*Sg	**Sg**	**04 24 38.5**	**+1.5**
ANMO	**Albuquerque**	**7.78**	**68**	Pn	**Pn**	**04 22 21.7**	**+0.2**
	comp=Z,1.3nm,0.3s,baz=259,slow=11,SNR=14						
ANMO				LR	LR	04 25 38.0	
	comp=Z,12μm,18.5s,baz=73,slow=40						
ANMO	**Albuquerque**	**7.78**	**68**	*i*P	**Pn**	**04 22 21.4**	**-0.2**
ANMO	**Albuquerque**	**7.78**	**68**	*e*Pn	**Pn**	**04 22 21.6**	**0.0**
	comp=Z,11nm,0.9s						
PAHR	**Pah Rah Range**	**8.06**	**337**	*e*Pn	**Pn**	**04 22 26.6**	**+1.3**
	comp=Z,280nm,1.2s						
PAHR				*e*Pg	**Pg**	**04 23 01.6**	**-0.4**
DUG	**Dugway**	**8.07**	**14**	*e*Pg	**Pg**	**04 23 01.0**	**-1.3**
MPU	**Maple Canyon**	**8.19**	**20**	*e*Pn	**Pn**	**04 22 30.1**	**+3.1**
	comp=Z,207nm,0.9s						
BMN	**Battle Mountai**	**8.21**	**349**	*e*P	**Pn**	**04 22 29.4**	**+2.0**
BMN				pmax	pmax		
	comp=Z,247nm,0.9s						
BMN	**Battle Mountai**	**8.21**	**349**	*e*Pn	**Pn**	**04 22 29.4**	**+2.0**
	comp=Z,247nm,0.9s						
ELK	**Elko**	**8.37**	**0**	*e*Pn	**Pn**	**04 22 29.7**	**+0.1**
ELK				*e*Pg	Pn	04 23 07.3	+38
ELK				*e*Sg	Sn	04 24 53.5	+49
MNTX	**Cornudas Mount**	**8.42**	**92**	*e*Pn	**Pn**	**04 22 28.3**	**-1.9**
MNTX				*e*Sg	Sn	04 24 59.9	+54
NSHM	**Saint Helena R**	**8.58**	**318**	*e*Pn	**Pn**	**04 22 32.3**	**-0.2**
OHCM	**Honcut**	**8.60**	**326**	*e*Pn	**Pn**	**04 22 27.2**	**-5.5**
NOQ	**North Oquirrh**	**8.66**	**16**	*e*Pn	**Pn**	**04 22 41.2**	**+7.7**
	comp=Z,255nm,1.0s						
DAU	**Daniels Canyon**	**8.66**	**21**	*e*P	**Pn**	**04 22 36.6**	**+3.0**
BGU	**Big Grassy Mou**	**8.74**	**11**	*e*Pn	**Pn**	**04 22 44.4**	**+10**
CTU	**Camp Tracy**	**8.79**	**18**	*e*Pn	**Pn**	**04 22 36.2**	**+0.9**
	comp=Z,162nm,0.9s						
SPUT	**South Promonto**	**9.21**	**13**	*e*Pn	**Pn**	**04 22 44.3**	**+3.1**
GDL2	**Guadalupe Moun**	**9.23**	**88**	*e*Pn	**Pn**	**04 22 41.1**	**-0.3**
TCUT	**Toone Canyon**	**9.28**	**18**	*e*Pn	**Pn**	**04 22 42.4**	**+0.3**
LPIG	**La Paz**	**9.31**	**151**	Pn	**Pn**	**04 22 45.6**	**+3.1**
	comp=Z,1.3nm,0.3s,baz=286,slow=1.6,SNR=23						
LPIG				LR	LR	04 26 08.5	
	comp=Z,13μm,18.9s,baz=328,slow=37						
LPIG	**La Paz**	**9.31**	**151**	*i*P	**Pn**	**04 22 46.2**	**+3.7**
LPIG				*i*S	**Sn**	**04 24 30.7**	**+3.1**
SMCO	**Snowmass**	**9.57**	**42**	*e*Pn	**Pn**	**04 22 48.0**	**+1.9**
HVU	**Hansel Valley**	**9.61**	**11**	*e*P	**Pn**	**04 22 48.0**	**+1.4**
HVU				pmax	pmax		
	comp=Z,96nm,0.9s						
HVU	**Hansel Valley**	**9.61**	**11**	*e*Pn	**Pn**	**04 22 48.0**	**+1.3**
	comp=Z,96nm,0.9s						
CPRX	**Cap Rock**	**9.63**	**83**	*e*Pn	**Pn**	**04 22 47.0**	**+0.1**
CLNB	**Carlsbad**	**9.64**	**88**	*e*Pn	**Pn**	**04 22 47.2**	**+0.2**
HWUT	**Hardware Ranch**	**9.70**	**17**	*e*Pn	**Pn**	**04 22 47.8**	**0.0**
	comp=Z,59nm,0.8s						
MOD	**Modoc**	**10.34**	**339**	*e*Pn	**Pn**	**04 23 00.6**	**+4.0**
	comp=Z,48nm,1.1s						
WVOR	**Wild Horse Val**	**10.41**	**346**	*e*P	**Pn**	**04 22 59.7**	**+2.2**
WVOR				pmax	pmax		
	comp=Z,87nm,1.0s						
WVOR	**Wild Horse Val**	**10.41**	**346**	*e*Pn	**Pn**	**04 22 59.7**	**+2.2**
	comp=Z,87nm,1.0s						
LTX	**Lajitas**	**10.41**	**104**	*e*P	**Pn**	**04 22 57.5**	**-0.1**
LTX				pmax	pmax		
	comp=Z,32nm,0.7s						
LTX	**Lajitas**	**10.41**	**104**	*e*Pn	**Pn**	**04 22 57.5**	**-0.1**
	comp=Z,32nm,0.7s						
ISCO	**Idaho Springs**	**10.77**	**44**	*e*P	**Pn**	**04 23 04.6**	**+2.1**
ISCO				pmax	pmax		
	comp=Z,86nm,1.0s						
ISCO	**Idaho Springs**	**10.77**	**44**	*e*Pn	**Pn**	**04 23 04.5**	**+2.0**
	comp=Z,86nm,1.0s						
AHID	**Auburn Hatcher**	**10.90**	**16**	*e*Pn	**Pn**	**04 23 07.7**	**+3.4**
	comp=Z,100nm,0.9s						
YBH	**Yreka Blue Hor**	**11.08**	**330**	Pn	**Pn**	**04 23 11.5**	**+4.7**
	comp=Z,0.1nm,0.3s,baz=152,slow=8.0,SNR=5.8						
YBH				LR	LR	04 27 49.0	
	comp=Z,6μm,19.6s,baz=154,slow=40						
HLID	**Hailey**	**11.21**	**3**	*e*Pn	**Pn**	**04 23 05.3**	**-3.1**
	comp=Z,7.5nm,1.5s						
BW06	**Boulder Array**	**11.33**	**22**	*e*Pn	**Pn**	**04 23 13.8**	**+3.6**
	comp=Z,40nm,0.8s						
PDAR	**Pinedale Array**	**11.33**	**22**	Pn	**Pn**	**04 23 12.0**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=198,slow=9.0,SNR=3.8						
PDAR				Lg		04 26 21.1	
	baz=191,slow=23,SNR=2.0						
REDW	**Red Top Meadow**	**11.53**	**16**	*e*Pn	**Pn**	**04 23 15.6**	**+2.8**
	comp=Z,152nm,1.4s						
AMTX	**Amarillo**	**11.60**	**74**	*e*Pn	**Pn**	**04 23 13.7**	**-0.2**
	comp=Z,74nm,0.8s						
TPAW	**Teton Pass**	**11.62**	**16**	*e*Pn	**Pn**	**04 23 15.7**	**+1.6**
	comp=Z,12nm,1.3s						
DCID1	**Drake Creek**	**11.67**	**15**	*e*Pn	**Pn**	**04 23 18.6**	**+3.8**
LOHW	**Long Hollow**	**11.82**	**17**	*e*Pn	**Pn**	**04 23 19.6**	**+2.7**
	comp=Z,45nm,0.9s						
HUMO	**Hull Mountain**	**11.91**	**331**	*e*Pn	**Pn**	**04 23 19.9**	**+1.8**
	comp=Z,36nm,1.3s						
MOOW	**Moose Ponds**	**11.92**	**16**	*e*Pn	**Pn**	**04 23 20.0**	**+1.8**
	comp=Z,49nm,1.0s						
IMW	**Indian Meadow**	**12.01**	**15**	*e*Pn	**Pn**	**04 23 21.9**	**+2.5**
	comp=Z,108nm,1.2s						
MAIG	**Mazatlaan**	**12.02**	**137**	*i*P	**Pn**	**04 23 22.6**	**+3.0**
FLWY	**Flagg Ranch**	**12.24**	**16**	*e*Pn	**Pn**	**04 23 24.5**	**+1.9**
	comp=Z,98nm,1.0s						
YFT	**Old Faithful**	**12.56**	**15**	*e*Pn	**Pn**	**04 23 31.8**	**+4.7**
BMO	**Blue Mountains**	**12.58**	**353**	*e*Pn	**Pn**	**04 23 31.0**	**+3.7**
	comp=Z,27nm,1.0s						
MCMT	**McKenzie Canyo**	**12.59**	**8**	*e*Pn	**Pn**	**04 23 31.6**	**+4.1**
HBO	**Huckleberry Mo**	**12.74**	**336**	P	**Pn**	**04 23 35.2**	**+5.8**
YMR	**Madison River**	**12.74**	**14**	*e*Pn	**Pn**	**04 23 31.8**	**+2.3**
	comp=Z,9.5nm,0.6s						
LKWY	**Lake**	**12.77**	**16**	*e*P	**Pn**	**04 23 33.8**	**+4.0**
LKWY				pmax	pmax		
	comp=Z,46nm,1.1s						
LKWY	**Lake**	**12.77**	**16**	*e*Pn	**Pn**	**04 23 33.8**	**+4.0**
	comp=Z,46nm,1.1s						
QLMT	**Earthquake Lak**	**12.81**	**12**	*e*Pn	**Pn**	**04 23 32.2**	**+1.8**
IRO	**Indian Ridge**	**12.86**	**337**	P	**Pn**	**04 23 36.6**	**+5.6**
VTHM	**Trough**	**13.45**	**344**	P	**Pn**	**04 23 44.1**	**+5.0**
BOZ	**Bozeman (W)**	**13.57**	**11**	*e*P	**Pn**	**04 23 42.6**	**+1.9**
BOZ				pmax	pmax		
	comp=Z,21nm,1.2s						
BOZ	**Bozeman (W)**	**13.57**	**11**	*e*Pn	**Pn**	**04 23 42.5**	**+1.8**
	comp=Z,21nm,1.2s						
SSOR	**Sweet Springs**	**13.68**	**338**	P	**Pn**	**04 23 47.8**	**+5.5**
TDH	**Tom, Dick, Har**	**13.87**	**340**	P	**Pn**	**04 23 50.2**	**+5.3**
WMOK	**Wichita Mounta**	**13.96**	**76**	*e*P	**Pn**	**04 23 45.1**	**-0.9**
WMOK				pmax	pmax		
	comp=Z,32nm,0.8s						
WMOK	**Wichita Mounta**	**13.96**	**76**	*e*Pn	**Pn**	**04 23 45.1**	**-0.9**
	comp=Z,32nm,0.8s						
GCMT	**Greycliff**	**14.10**	**16**	*e*Pn	**Pn**	**04 23 50.3**	**+2.3**
CBKS	**Cedar Bluff**	**14.18**	**59**	*e*P	**Pn**	**04 23 52.8**	**+3.8**
CBKS				pmax	pmax		
	comp=Z,56nm,0.9s						
CBKS	**Cedar Bluff**	**14.18**	**59**	*e*Pn	**Pn**	**04 23 52.8**	**+3.8**
	comp=Z,56nm,0.9s						
HAWA	**Hanford**	**14.30**	**448**	*e*Pn	**Pn**	**04 23 55.3**	**+3.3**
	comp=Z,5.3nm,1.1s						
MSO	**Missoula**	**14.49**	**4**	*e*Pn	**Pn**	**04 23 55.9**	**+2.6**
	comp=Z,39nm,1.3s						
HRY	**Holter Researc**	**14.58**	**9**	*e*Pn	**Pn**	**04 23 57.6**	**+3.1**
CHMT	**Chamberlain Mo**	**14.62**	**5**	*e*Pn	**Pn**	**04 23 56.8**	**+1.7**
RSSD	**Black Hills**	**14.67**	**34**	*e*P	**Pn**	**04 24 00.8**	**+5.0**
RSSD				pmax	pmax		
	comp=Z,3.0nm,0.7s						
RSSD	**Black Hills**	**14.67**	**34**	*e*Pn	**Pn**	**04 24 00.8**	**+4.9**
	comp=Z,2.7nm,0.7s						
ZAIG	**Zacatecas**	**14.75**	**127**	*i*P	**Pn**	**04 23 59.5**	**+2.6**
ZAIG				*i*S	**Sn**	**04 26 45.4**	**+4.7**
OD2	**Odessa Site #2**	**15.24**	**351**	P	**Pn**	**04 24 06.4**	**+2.9**
LAO	**LASA Array**	**15.91**	**23**	*e*Pn	**Pn**	**04 24 06.1**	**-6.0**
	comp=Z,96nm,1.0s						
NEW	**Newport**	**15.95**	**355**	Pn	**Pn**	**04 24 13.8**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=177,slow=12,SNR=32						
NEW				LR	LR	04 30 26.6	
	comp=Z,4μm,19.4s,baz=180,slow=38						
NEW	**Newport**	**15.95**	**355**	*e*P	**Pn**	**04 24 13.3**	**+0.5**
NEW				pmax	pmax		
	comp=Z,71nm,1.0s						
NEW	**Newport**	**15.95**	**355**	*e*Pn	**Pn**	**04 24 13.2**	**+0.5**
	comp=Z,71nm,1.0s						
SFJM	**Santa Fe**	**16.10**	**134**	*i*P	**Pn**	**04 24 18.0**	**+3.4**
EGMT	**Eagleton**	**16.20**	**13**	*e*Pn	**Pn**	**04 24 15.4**	**-0.6**
	comp=Z,64nm,1.1s						
KSU1	**Kansas State U**	**16.56**	**61**	*e*Pn	**Pn**	**04 24 21.0**	**+0.4**
WALA	**Waterton Lakes**	**16.72**	**3**	*e*Pn	**Pn**	**04 24 23.7**	**+1.1**
	comp=Z,43nm,1.0s						
HKT	**Hockley**	**16.81**	**93**	*e*P	**Pn**	**04 24 23.0**	**-0.7**
HKT				pmax	pmax		
	comp=Z,359nm,1.8s						
HKT	**Hockley**	**16.81**	**93**	*e*Pn	**Pn**	**04 24 23.0**	**-0.7**
	comp=Z,359nm,1.8s						
PGC	**Sidney**	**17.41**	**342**	*e*Pn	**Pn**	**04 24 32.6**	**+1.4**
	comp=Z,178nm,1.2s						
NATX	**Nacogdoches**	**17.48**	**86**	*e*Pn	**Pn**	**04 24 32.4**	**+0.3**
	comp=Z,127nm,1.0s						
MOIG	**Morelia**	**17.85**	**132⇑**	*i*P	**Pn**	**04 24 40.4**	**+3.7**
MIAR	**Mount Ida**	**18.23**	**77**	*e*P	**Pn**	**04 24 40.8**	**-0.6**
MIAR				pmax	pmax		
	comp=Z,2μm,1.3s						
MIAR	**Mount Ida**	**18.23**	**77**	*e*Pn	**Pn**	**04 24 40.8**	**-0.6**
	comp=Z,2μm,1.3s						
ECSD	**EROS,Sioux Fal**	**18.52**	**47**	*e*P	**Pn**	**04 24 44.3**	**-0.7**
UALR	**University of**	**19.25**	**77**	*e*P	**Pn**	**04 24 52.9**	**-0.9**
	comp=Z,44nm,1.0s						
UNM	**Universidad Na**	**19.41**	**128**	*e*P	**Pn**	**04 25 00.0**	**+4.3**
PPM	**Popocatepetl**	**19.96**	**128**	*i*P	**Pn**	**04 25 04.1**	**+1.8**
CCM	**Cathedral Cave**	**20.41**	**67**	*e*P	**P**	**04 25 04.7**	**-0.8**
CCM				pmax	pmax		
	comp=Z,51nm,1.1s						
CCM	**Cathedral Cave**	**20.41**	**67**	*e*P	**P**	**04 25 04.7**	**-0.7**
	comp=Z,51nm,1.1s						
HBAR	**Harrisburg**	**20.65**	**74**	P	**P**	**04 25 09.6**	**+1.6**
EDM	**Edmonton**	**20.90**	**3**	*e*P	**P**	**04 25 10.2**	**-0.6**
FVM	**French Village**	**21.04**	**68**	*e*P	**P**	**04 25 10.6**	**-1.7**
FVM				pmax	pmax		
	comp=Z,46nm,1.0s,mb4.8						
FVM	**French Village**	**21.04**	**68**	*e*P	**P**	**04 25 10.6**	**-1.7**
	comp=Z,46nm,1.0s,mb4.8						
SLM	**Saint Louis**	**21.29**	**66**	*e*P	**P**	**04 25 14.6**	**-0.4**
SLM				pmax	pmax		
	comp=Z,90nm,0.9s,mb5.1						
SLM	**Saint Louis**	**21.29**	**66**	*e*P	**P**	**04 25 14.6**	**-0.3**
	comp=Z,90nm,0.9s,mb5.1						
PARMO	**Parma**	**21.44**	**71**	*e*P	**P**	**04 25 13.8**	**-2.7**
OXF	**Oxford**	**21.67**	**77**	*e*P	**P**	**04 25 19.2**	**+0.1**
OXF				pmax	pmax		
	comp=Z,101nm,1.1s,mb5.2						
OXF	**Oxford**	**21.67**	**77**	*e*P	**P**	**04 25 19.2**	**+0.1**
	comp=Z,101nm,1.1s,mb5.2						
HALT	**Halls**	**21.73**	**73**	*e*P	**P**	**04 25 19.8**	**0.0**
GLAT	**Glass**	**21.79**	**73**	*e*P	**P**	**04 25 20.3**	**0.0**
BBB	**Bella Bella**	**21.91**	**338**	LR	LR	04 34 14.9	
	comp=Z,4μm,21.4s,MS4.8,baz=163,slow=38						
UTMT	**Univers of**	**22.13**	**72**	*e*P	**P**	**04 25 24.9**	**+0.9**
	comp=Z,106nm,1.0s,mb5.2						
VHO	**Vista Hermosa**	**22.64**	**128**	*i*P	**P**	**04 25 30.6**	**+1.2**
PLAL	**Pickwick Lake**	**22.76**	**76**	*e*P	**P**	**04 25 30.3**	**-0.4**
	comp=Z,45nm,1.0s,mb4.8						
WVT	**Waverly**	**22.96**	**73**	*e*P	**P**	**04 25 32.9**	**+0.1**
WVT				pmax	pmax		
	comp=Z,51nm,1.0s,mb4.9						
WVT	**Waverly**	**22.96**	**73**	*e*P	**P**	**04 25 32.9**	**+0.1**
	comp=Z,51nm,1.0s,mb4.9						
USIN	**University of**	**23.20**	**68**	*e*P	**P**	**04 25 35.8**	**+0.4**
	comp=Z,49nm,0.9s,mb4.9						
EYMN	**Ely**	**23.79**	**42**	*e*P	**P**	**04 25 39.7**	**-1.6**
	comp=Z,22nm,0.9s,mb4.6						
BLO	**Bloomington**	**24.23**	**66**	*e*P	**P**	**04 25 44.4**	**-0.9**
BLO				pmax	pmax		
	comp=Z,40nm,0.9s,mb4.8						
BLO	**Bloomington**	**24.23**	**66**

COLA pmax pmax
comp=Z,29nm,1.2s,mb4.9
COLA MLR MLR
comp=Z,2µm,20.0s,MS5.0
COLA College 38.18 338 *e*P **P 04 27 49.5 +1.5**
comp=Z,29nm,1.2s,mb4.9
COLA *e*PcP PcP 04 30 03.0 +0.4
COLA LR LR
comp=Z,2µm,20.0s,MS5.0
MAUI Maui 38.22 263 *e*P **P 04 27 53.5 +5.2**
SVW2 Sparrevohn 38.83 330 *e*P **P 04 27 53.4 -0.1**
TTA Tatalina 39.92 332 *e*P **P 04 28 03.3 +0.7**
TTA pmax pmax
comp=Z,100nm,1.7s,mb5.3
TTA Tatalina 39.92 332 *e*P **P 04 28 03.3 +0.7**
comp=Z,100nm,1.7s,mb5.3
SCHQ Schefferville 40.60 42 P **P 04 28 07.0 -1.2**
comp=Z,9.9nm,1.1s,mb4.4,baz=300,slow=5.8,SNR=6.6
SCHQ Schefferville 40.60 42 *e*P **P 04 28 07.1 -1.1**
comp=Z,12nm,1.0s,mb4.5
RES Resolute Bay 43.59 8 *e*P **P 04 28 31.7 -0.9**
RES *e* 04 30 19.7
RES pmax pmax
comp=Z,11nm,1.0s,mb4.5
RES Resolute Bay 43.59 8 *e*P **P 04 28 31.7 -0.9**
comp=Z,11nm,1.0s,mb4.5
RES *e*PcP PcP 04 30 19.7 -0.5
SJG San Juan 46.26 96 P **P 04 28 54.2 +0.3**
comp=Z,29nm,0.9s,mb5.2,baz=312,slow=6.2,SNR=8.0
SJG San Juan 46.26 96 *e*P **P 04 28 53.8 -0.1**
SJG pmax pmax
comp=Z,36nm,1.0s
SJG San Juan 46.26 96 *e*P **P 04 28 53.8 -0.1**
comp=Z,36nm,1.0s,mb5.3
MTP Monte Pirata 46.77 95 *e*P **P 04 28 57.6 -0.2**
ROSC El Rosal 47.01 117 P **P 04 29 01.9 +2.2**
comp=Z,7.5nm,0.7s,mb4.7,baz=89,slow=23,SNR=9.0
SDV Santo Domingo 47.40 109 P **P 04 29 03.3 +0.5**
comp=Z,13nm,1.0s,mb4.8,baz=36,slow=2.3,SNR=12
SDV Santo Domingo 47.40 109 *e*P **P 04 29 03.0 +0.2**
comp=Z,13nm,0.9s,mb4.9
SFJD Kangerlussuaq 50.79 27 P **P 04 29 29.2 +0.4**
comp=Z,15nm,0.9s,mb4.9,baz=243,slow=7.2,SNR=6.5
SFJD Kangerlussuaq 50.79 27 *i* P **P 04 29 29.3 +0.5**
comp=Z,16nm,0.9s,mb4.9
SFJD
comp=Z,870nm,15.0s
SFJD Kangerlussuaq 50.79 27 *i* P **P 04 29 29.3 +0.5**
SFJD pmax pmax
comp=Z,16nm,0.9s,mb5.0
SFJD MLR MLR
comp=Z,870nm,15.0s,MS4.9
ATAH Atahualpa 52.58 131 P **P 04 29 45.4 +3.2**
comp=Z,36nm,0.9s,mb5.3,baz=311,slow=4.8,SNR=17
ALE Alert 53.49 7 P **P 04 29 48.0 -0.9**
comp=Z,72nm,1.1s,mb5.5,SNR=5.6
SUMG Summit 55.53 21 *e*P **P 04 30 03.6 -0.1**
comp=Z,52nm,1.0s,mb5.5
BILL Bilibino 56.14 334*c i*P **P 04 30 09.5 +1.4**
BILL pmax pmax
comp=Z,38nm,1.1s,mb5.3
BILL MLR MLR
comp=Z,3µm,18.0s,MS5.4
BILL Bilibino 56.14 334 *e*P **P 04 30 08.3 +0.2**
comp=Z,57nm,1.4s,mb5.4
RKT Rikitea 58.29 201 *e*LR LR 04 47 28.0
comp=Z,286nm,29.8s
PPT Papeete 59.53 219 *e*LR LR 04 47 42.1
comp=Z,636nm,29.2s
DAG Danmarks Havn 60.27 15⇓*i*P **P 04 30 36.0 -1.0**
comp=Z,12nm,0.9s,mb4.9
DAG Danmarks Havn 60.27 15⇓*i*P **P 04 30 36.0 -1.0**
DAG pmax pmax
comp=Z,12nm,0.9s,mb4.9
PET Petropavlovsk 62.65 317 *e*P **P 04 30 51.0 -2.1**
PET MLR MLR
comp=Z,700nm,14.0s,MS5.0
TBI Tubuai 64.31 215 *e*LR LR 04 50 11.1
comp=Z,333nm,26.8s,baz=34
LPAZ La Paz 66.14 130 P **P 04 31 16.6 +0.6**
comp=Z,2.8nm,0.9s,mb4.3,baz=342,slow=8.2,SNR=13
LPAZ LR LR 04 58 56.9
comp=Z,560nm,19.6s,MS4.8,baz=321,slow=35
LPAZ La Paz 66.14 130 *e*P **P 04 31 15.9 0.0**
LPAZ pmax pmax
comp=Z,5.0nm,1.0s
LPAZ MLR MLR
comp=Z,646nm,19.0s
LPAZ La Paz 66.14 130 *e*P **P 04 31 15.9 0.0**
comp=Z,5.2nm,1.0s,mb4.5
LPAZ LR LR
comp=Z,646nm,19.0s,MS4.8
TIXI Tiksi 67.16 342⇓*i*P **P 04 31 19.7 -2.7**
TIXI *e* 04 33 46.0
TIXI *e*S S 04 40 11.6 -5.6
TIXI pmax pmax
comp=Z,22nm,1.1s,mb5.1
TIXI smax
comp=N,83nm,14.7s
TIXI smax
comp=E,47nm,13.3s
TIXI MLR MLR
comp=Z,942nm,17.0s,MS5.1
TIXI Tiksi 67.16 342⇑*i*P **P 04 31 22.4 0.0**
LVC Limon Verde 70.36 135 *e*P **P 04 31 43.8 +1.4**
comp=Z,28nm,1.0s,mb5.1
LVC LR LR
comp=Z,845nm,22.0s,MS5.0
YAK Yakutsk 72.50 333 *e*P **P 04 31 55.5 +0.2**
YAK pmax pmax
comp=Z,27nm,1.0s,mb5.1
YAK pmax pmax
comp=N,5.0nm,1.5s
YAK pmax pmax
comp=E,11nm,1.1s
YAK MLR MLR
comp=Z,1µm,19.0s,MS5.2
YAK MLR MLR
comp=N,538nm,20.0s,MS5.1
YAK MLR MLR
comp=E,711nm,18.0s,MS5.1
YAK Yakutsk 72.50 333 *e*P **P 04 31 56.1 +0.8**
comp=E,49nm,0.9s,mb5.4
ARCES ARCESS Array B 74.46 13 P **P 04 32 06.0 -0.8**
comp=E,18nm,1.0s,mb5.0,baz=328,slow=4.3,SNR=12
ARCES LR LR 05 07 24.2
comp=E,699nm,19.4s,MS5.0,baz=335,slow=38
ARE0 ARCESS Array S 74.46 13 *e*P **P 04 32 06.0 -0.8**
YSS Yuzh-Sakhalins 74.47 316 *e*P **P 04 32 08.0 +1.1**
YSS MLR MLR
comp=N,500nm,16.0s
YSS MLR MLR
comp=Z,500nm,16.0s,MS4.9
NB2 NORSAR Subarra 77.27 24 P **P 04 32 23.0 +0.1**
comp=Z,23nm,1.2s,mb5.0,baz=315,slow=5.9
NOA NORSAR Array B 77.27 24 P **P 04 32 22.0 -0.9**
comp=Z,8.8nm,1.0s,mb4.6,baz=318,slow=5.8,SNR=7.6
NOA NORSAR Array B 77.27 24 P **P 04 32 22.0 -0.9**
NAO01 NORSAR Array S 77.30 24 *e*P **P 04 32 22.8 -0.3**
comp=Z,14nm,1.0s,mb4.8
APA Apatity 77.62 12⇑*i*P **P 04 32 16.9 -8.0**
APA *i* 04 32 28.4
APA pmax pmax
comp=Z,13nm,1.0s,mb4.8
APA MLR MLR
comp=Z,1µm,15.0s,MS5.3
CLNS Chul'man 77.67 331 *e*P **P 04 32 24.9 -0.3**
CLNS pmax pmax
comp=Z,26nm,1.1s,mb5.1
CLNS pmax pmax
comp=N,15nm,0.9s
CLNS pmax pmax
comp=E,15nm,1.0s
KLR Kul'dur 79.31 322 *e*P **P 04 32 30.2 -4.0**
KLR *e*S S 04 42 46.5 +11
ROSF Rostrenen 79.33 39 *e*P **P 04 32 33.2 -1.1**
QUIF Quistinic 79.64 39 *e*P **P 04 32 34.9 -1.1**
comp=E,45nm,1.0s,mb5.0
QUIF Quistinic 79.64 39 *e*P **P 04 32 34.9 -1.1**
QUIF pmax pmax
comp=Z,22nm,1.0s,mb5.0
QUIF Quistinic 79.64 39 *e*P **P 04 32 34.9 -1.1**
comp=Z,22nm,1.0s,mb5.0
SGMF Saint Gilles 79.76 39 *e*P **P 04 32 35.7 -0.9**
comp=Z,59nm,1.2s,mb5.1
SGMF Saint Gilles 79.76 39 *e*P **P 04 32 35.7 -0.9**
SGMF pmax pmax
comp=Z,29nm,1.2s,mb5.1
SGMF Saint Gilles 79.76 39 *e*P **P 04 32 35.7 -0.9**
comp=Z,29nm,1.2s,mb5.1
BDFB Brasilia 80.06 116 P **P 04 32 39.1 +0.8**
comp=Z,6.2nm,1.0s,mb4.5,baz=54,slow=2.8,SNR=4.3
BDFB LR LR 05 09 22.6
comp=Z,533nm,20.7s,MS4.9,baz=310,slow=37
CPUP Villa Florida 80.31 130 P **P 04 32 39.9 +0.2**
comp=Z,13nm,1.0s,mb4.8,baz=308,slow=6.2,SNR=14
CPUP LR LR 05 09 09.1
comp=Z,451nm,22.0s,MS4.8,baz=310,slow=36
CPUP Villa Florida 80.31 130 *e*P **P 04 32 39.1 -0.6**
CPUP pmax pmax
comp=Z,51nm,1.1s
CPUP Villa Florida 80.31 130 *e*P **P 04 32 39.1 -0.5**
comp=Z,51nm,1.1s,mb5.4
PCAB Cabril 80.49 46 *e*P **P 04 32 40.8 +0.2**
comp=Z,28nm,2.2s,mb4.8
FLN La Foliniere 80.53 38 *e*P **P 04 32 39.8 -1.0**
comp=Z,22nm,0.8s,mb4.8
FLN *e*R
comp=Z,776nm,18.0s
FLN La Foliniere 80.53 38 *e*P **P 04 32 39.8 -1.0**
FLN pmax pmax
comp=Z,11nm,0.8s,mb4.8
FLN MLR MLR
comp=Z,780nm,18.0s,MS5.1
FLN La Foliniere 80.53 38 *e*P **P 04 32 39.8 -1.0**
comp=Z,11nm,0.8s,mb4.8
FLN LR LR
comp=Z,780nm,18.0s,MS5.1
GRR Gorron 80.57 38 *e*P **P 04 32 40.0 -1.0**
comp=Z,34nm,1.1s,mb4.9
GRR Gorron 80.57 38 *e*P **P 04 32 40.0 -1.0**
GRR pmax pmax
comp=Z,17nm,1.1s,mb4.9
GRR Gorron 80.57 38 *e*P **P 04 32 40.0 -1.0**
comp=Z,17nm,1.1s,mb4.9
LDF La Druitiere 80.82 38 *e*P **P 04 32 41.1 -1.3**
comp=Z,37nm,1.1s,mb4.9
LDF La Druitiere 80.82 38 *e*P **P 04 32 41.1 -1.3**
LDF pmax pmax
comp=Z,18nm,1.1s,mb4.9
LDF La Druitiere 80.82 38 *e*P **P 04 32 41.1 -1.3**
comp=Z,18nm,1.1s,mb4.9
PVRL Vila Real 80.93 47 *e*P **P 04 32 44.9 +1.9**
comp=Z,16nm,1.0s,mb4.9
BOD Bodaibo 81.12 336⇓*i*P **P 04 32 42.5 -1.5**
BOD pmax pmax
comp=Z,17nm,1.2s,mb4.8
PBRG Braganca 81.22 46 *e*P **P 04 32 45.8 +1.3**
comp=Z,16nm,1.4s,mb4.8
FINES FINESS Array B 81.40 18 P **P 04 32 44.4 -1.1**
comp=Z,11nm,0.9s,mb4.8,baz=347,slow=4.3,SNR=14
FINES LR LR 05 13 23.1
comp=Z,619nm,18.5s,MS5.0,baz=182,slow=39
TMCR Tamitsa 81.52 11 *e*P **P 04 32 47.5 +1.4**
TMCR pmax pmax
comp=N,40nm,1.0s
TMCR pmax pmax
comp=Z,20nm,1.0s,mb5.0
TMCR pmax pmax
comp=E,30nm,1.1s
MTE Manteigas 81.54 47 *e*P **P 04 32 45.6 -0.6**
comp=E,15nm,0.9s,mb4.9
MTE Manteigas 81.54 47 *e*SS SS 04 47 44.6 -31
MTE Manteigas 81.54 47 *e*LQ 04 59 04.9
MTE *e*LR LR 05 01 58.1
comp=E,512nm,19.0s
SNF Seneffe 81.76 34 AP pP 04 32 49.7 +0.4
BAIF Baives 82.02 35 *e*P **P 04 32 47.4 -1.3**
MFF Saint Martin d 82.07 39 *e*P **P 04 32 47.3 -1.7**
comp=E,36nm,1.1s,mb4.9
MFF Saint Martin d 82.07 39 *e*P **P 04 32 47.3 -1.7**
MFF pmax pmax
comp=Z,18nm,1.1s,mb4.9
MFF Saint Martin d 82.07 39 *e*P **P 04 32 47.3 -1.7**
comp=Z,18nm,1.1s,mb4.9
DOU Dourbes 82.18 34⇑P **P 04 32 49.8 +0.3**
comp=Z,3.5nm,1.0s,mb4.2
DOU AP pP 04 32 51.7 +0.1
GIVF Givet 82.29 34 *e*P **P 04 32 49.2 -0.9**
BCLA Clavier 82.30 34 AP pP 04 32 51.2 -1.0
EVO Evora 82.33 49 *e*P **P 04 32 48.9 -1.4**
comp=Z,52nm,1.1s,mb5.1
EVO *e*R
comp=Z,1µm,21.0s
PTEO Sao Teotonio 82.44 50 *e*P **P 04 32 53.0 +2.1**
comp=Z,32nm,1.1s,mb5.2
MEM Membach 82.50 33 AP pP 04 32 52.3 -0.9
PBEJ Beja 82.71 49 *e*P **P 04 32 53.3 +0.9**
comp=Z,37nm,1.6s,mb5.2
MJAR Matsushiro Arr 83.00 309 P **P 04 32 53.3 -0.6**
comp=Z,7.1nm,0.9s,mb4.7,baz=50,slow=4.0,SNR=14
MJAR LR LR 05 03 09.2
comp=Z,615nm,21.6s,MS4.9,baz=95,slow=31
MAJO Matsushiro 83.00 309 *e*P **P 04 32 53.3 -0.5**
MAJO pmax pmax
comp=Z,54nm,1.4s,mb5.4
MAJO Matsushiro 83.00 309 *e*P **P 04 32 53.2 -0.6**
comp=Z,54nm,1.4s,mb5.4
MAT Matsushiro 83.00 309 P **P 04 32 54.0 +0.2**
MAT S S 04 43 22.0 +8.5
MAT Matsushiro 83.00 309 *e*P **P 04 32 53.0 -0.8**
MAT pmax pmax
comp=Z,15nm,1.0s,mb5.0
MAT MLR MLR
comp=Z,710nm,20.0s,MS5.0
MAT Matsushiro 83.00 309 *e*P **P 04 32 53.0 -0.8**
comp=Z,15nm,1.0s,mb5.0
MAT *e*S S 04 43 23.0 +10
MAT LR LR
comp=Z,710nm,20.0s,MS5.0
WLF Walferdange 83.22 34 *e*P **P 04 32 54.6 -0.4**
WLF pmax pmax
comp=Z,19nm,1.0s,mb5.1
WLF Walferdange 83.22 34 *e*P **P 04 32 54.6 -0.4**
comp=Z,19nm,1.0s,mb5.1
MDJ Mudanjiang 83.34 319 P **P 04 32 53.8 -1.8**
MDJ PP PP 04 36 04.5 -2.7
MDJ S S 04 43 15.4 -1.5
MDJ AMB AMB
comp=Z,6.0nm,1.3s,mb4.5
MDJ AMB AMB
comp=Z,94nm,5.1s
MDJ LR LR
comp=N,491nm,14.0s,MS5.1
MDJ LR LR
comp=E,129nm,10.9s,MS5.1
MDJ LR LR
comp=Z,758nm,14.0s,MS5.2
TCF Toulx Ste Croi 83.52 38 *e*P **P 04 32 55.0 -1.5**
comp=Z,16nm,1.1s,mb4.7
TCF Toulx Ste Croi 83.52 38 *e*P **P 04 32 55.0 -1.5**
TCF pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
TCF Toulx Ste Croi 83.52 38 *e*P **P 04 32 55.0 -1.5**
comp=Z,7.8nm,1.1s,mb4.8
RUP Ruppelstein 83.61 34 *e*P **P 04 32 58.0 +1.0**
PLCA Paso Flores 83.64 147 LR LR 05 02 27.3
comp=Z,1µm,20.5s,MS5.2,baz=334,slow=30
PLCA Paso Flores 83.64 147 *e*P **P 04 32 58.1 +1.0**
PLCA pmax pmax
comp=Z,19nm,1.0s
PLCA Paso Flores 83.64 147 *e*P **P 04 32 58.1 +1.0**
comp=Z,19nm,1.0s,mb5.2
BGF Bois d'Agland 83.67 38 *e*P **P 04 32 56.1 -1.2**
SJPF Ste Jean 83.67 42 *e*P **P 04 32 56.0 -1.3**
comp=Z,83nm,1.7s,mb5.3
SJPF Ste Jean 83.67 42 *e*P **P 04 32 56.0 -1.3**
SJPF pmax pmax
comp=Z,41nm,1.7s,mb5.3
SJPF Ste Jean 83.67 42 *e*P **P 04 32 56.0 -1.3**
comp=Z,41nm,1.7s,mb5.3
SSF Saint Saulge 83.67 37 *e*P **P 04 32 55.9 -1.4**
comp=Z,16nm,0.9s,mb4.8
SSF Saint Saulge 83.67 37 *e*P **P 04 32 55.9 -1.4**
SSF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
SSF Saint Saulge 83.67 37 *e*P **P 04 32 55.9 -1.4**
comp=Z,7.8nm,0.9s,mb4.8
LOR Lormes 83.72 37 *e*P **P 04 32 56.4 -1.1**
comp=Z,32nm,1.1s,mb5.1
LOR *e*R
comp=Z,771nm,18.8s
LOR Lormes 83.72 37 *e*P **P 04 32 56.4 -1.1**
LOR pmax pmax
comp=Z,16nm,1.1s,mb5.1
LOR MLR MLR
comp=Z,770nm,18.8s,MS5.1
LOR Lormes 83.72 37 *e*P **P 04 32 56.4 -1.1**
comp=Z,16nm,1.1s,mb5.1
LOR LR LR
comp=Z,770nm,18.8s,MS5.1
ABH Alteburg 83.72 33 *e*P **P 04 32 58.7 +1.2**
AVF Avril sur Loir 83.78 37 *e*P **P 04 32 56.1 -1.7**
comp=Z,20nm,1.1s,mb4.8
AVF Avril sur Loir 83.78 37 *e*P **P 04 32 56.1 -1.7**
AVF pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
AVF Avril sur Loir 83.78 37 *e*P **P 04 32 56.1 -1.7**
comp=Z,9.8nm,1.1s,mb4.8
RJF Les Rejaudoux 83.79 39 *e*P **P 04 32 56.7 -1.2**
RJF *e*R
comp=Z,771nm,18.5s
RJF Les Rejaudoux 83.79 39 *e*P **P 04 32 56.7 -1.2**
RJF LR LR
comp=Z,770nm,18.5s,MS5.1
PUL Pulkovo 83.91 17*de*P **P 04 32 51.8 -6.7**
PUL MLR MLR
comp=Z,744nm,14.0s,MS5.2
PUL MLR MLR
comp=Z,1µm,17.0s
THEF They Montfort 84.12 35 *e*P **P 04 33 00.5 +0.9**
SMF Signal de Mont 84.12 37 *e*P **P 04 32 57.7 -1.9**
comp=Z,33nm,1.1s,mb5.1
SMF Signal de Mont 84.12 37 *e*P **P 04 32 57.7 -1.9**
SMF pmax pmax
comp=Z,17nm,1.1s,mb5.1
SMF Signal de Mont 84.12 37 *e*P **P 04 32 57.7 -1.9**
comp=Z,17nm,1.1s,mb5.1
ESDC Sonseca Array 84.18 46 P **P 04 33 00.0 +0.1**
comp=Z,3.2nm,0.9s,mb4.5,baz=314,slow=5.5,SNR=8.1
ETSF Etsaut 84.19 42 *e*P **P 04 32 58.8 -1.1**
comp=Z,79nm,1.4s,mb5.3
ETSF Etsaut 84.19 42 *e*P **P 04 32 58.8 -1.1**
ETSF pmax pmax
comp=Z,40nm,1.4s,mb5.4
ETSF Etsaut 84.19 42 *e*P **P 04 32 58.8 -1.1**
comp=Z,40nm,1.4s,mb5.3
CAF Calviac 84.33 39 *e*P **P 04 32 58.9 -1.8**
comp=Z,45nm,1.2s,mb5.2
CAF Calviac 84.33 39 *e*P **P 04 32 58.9 -1.8**
CAF pmax pmax
comp=Z,22nm,1.2s,mb5.2
CAF Calviac 84.33 39 *e*P **P 04 32 58.9 -1.8**
comp=Z,22nm,1.2s,mb5.2
HAU Haudompre 84.45 35 *e*P **P 04 33 00.1 -1.2**
comp=Z,61nm,1.2s,mb5.3
HAU *e*R
comp=Z,738nm,18.0s
HAU Haudompre 84.45 35 *e*P **P 04 33 00.1 -1.2**
HAU pmax pmax
comp=Z,30nm,1.3s,mb5.3
HAU MLR MLR
comp=Z,740nm,18.0s,MS5.1
HAU Haudompre 84.45 35 *e*P **P 04 33 00.1 -1.2**
comp=Z,30nm,1.3s,mb5.3
HAU LR LR
comp=Z,740nm,18.0s,MS5.1
PLDF La Plantade 84.46 38 *e*P **P 04 33 01.8 +0.5**
LANF Langenberg 84.47 34 *e*P **P 04 33 02.2 +0.8**
TOD Tromm 84.49 33 *e*P **P 04 33 02.0 +0.5**
EPF Esparros 84.61 42 *e*P **P 04 33 00.2 -1.9**
comp=Z,30nm,1.1s,mb5.0
EPF Esparros 84.61 42 *e*P **P 04 33 00.2 -1.9**
EPF pmax pmax
comp=Z,15nm,1.1s,mb5.0
EPF Esparros 84.61 42 *e*P **P 04 33 00.2 -1.9**
comp=Z,15nm,1.1s,mb5.0
CDF Champ du Feu 84.62 34 *e*P **P 04 33 00.8 -1.3**
comp=Z,48nm,1.4s,mb5.2
CDF Champ du Feu 84.62 34 *e*P **P 04 33 00.8 -1.3**
CDF pmax pmax
comp=Z,24nm,1.4s,mb5.1
CDF Champ du Feu 84.62 34 *e*P **P 04 33 00.8 -1.3**
comp=Z,24nm,1.4s,mb5.1
WLS Welschbruch 84.65 34 *e*P **P 04 33 03.4 +1.1**
ECH Echery 84.70 35 *e*P **P 04 33 03.4 +0.9**
LBL Lubilhac 84.76 39 *e*P **P 04 33 03.4 +0.6**
HINF Hinteralfeld 84.83 35 *e*P **P 04 33 01.9 -1.3**
KLMR Klimovskoe 84.86 12*d i*P **P 04 33 03.1 -0.2**
KLMR pmax pmax
comp=Z,60nm,1.2s,mb5.6
MOF Molkenrain 84.94 35 *e*P **P 04 33 04.3 +0.6**
CLL Collm 85.09 30⇑*i*P **P 04 33 04.8 +0.3**
comp=Z,145nm,2.6s,mb5.7
CLL *e*PP PP 04 36 23.0 +1.5
CLL LmV 05 13 00.0
comp=Z,400nm,18.6s
CLL Collm 85.09 30⇑*i*P **P 04 33 04.8 +0.3**
comp=Z,145nm,2.6s,mb5.7
CLL *e*S 04 43 43.0
LOMF Lomont 85.14 35 *e*P **P 04 33 03.4 -1.3**
CABF La Chapelle 85.28 36 *e*P **P 04 33 04.4 -1.1**
comp=Z,62nm,1.4s,mb5.2
CABF La Chapelle 85.28 36 *e*P **P 04 33 04.4 -1.1**
CABF pmax pmax
comp=Z,31nm,1.4s,mb5.2
CABF La Chapelle 85.28 36 *e*P **P 04 33 04.4 -1.1**
comp=Z,31nm,1.4s,mb5.2
FELD Feldberg im Sc 85.34 34 *e*P **P 04 33 04.3 -1.4**
BBS Basel-Blauen 85.39 35 *e*P **P 04 33 06.2 +0.2**
MTLF Montolieu 85.45 40 *e*P **P 04 33 05.1 -1.2**
comp=Z,26nm,1.3s,mb4.9
MTLF Montolieu 85.45 40 *e*P **P 04 33 05.1 -1.2**
MTLF pmax pmax
comp=Z,13nm,1.3s,mb4.9
MTLF Montolieu 85.45 40 *e*P **P 04 33 05.1 -1.2**
comp=Z,13nm,1.3s,mb4.9
CIT Chita 85.73 332 *e*P **P 04 33 08.3 +0.6**
CIT pmax pmax
comp=Z,108nm,2.1s,mb5.7
VIVF Saint-Julien-l 85.76 38 *e*P **P 04 33 06.5 -1.3**
comp=Z,34nm,1.3s,mb5.1
VIVF Saint-Julien-l 85.76 38 *e*P **P 04 33 06.5 -1.3**
VIVF pmax pmax
comp=Z,17nm,1.3s,mb5.1
VIVF Saint-Julien-l 85.76 38 *e*P **P 04 33 06.5 -1.3**
comp=Z,17nm,1.3s,mb5.1
BRG Berggiesshubel 85.81 29 *e*P **P 04 33 08.7 +0.6**
comp=Z,89nm,2.8s,mb5.5
BRG
comp=Z,431nm,16.8s
BRG
comp=N,231nm,15.1s
BRG
comp=E,212nm,15.1s
BRG Berggiesshubel 85.81 29 *e*P **P 04 33 08.7 +0.6**
BRG pmax pmax
comp=Z,89nm,2.8s,mb5.5
BRG MLR MLR
comp=Z,431nm,16.8s,MS4.9
BRG MLR MLR
comp=N,231nm,15.1s,MS4.8
BRG MLR MLR
comp=E,212nm,15.1s,MS4.8
TRQA Tornquist 85.84 141 *e*P **P 04 33 08.9 +0.7**
comp=E,8.7nm,0.9s,mb5.0
LASF Ste Croix 85.85 39 *e*P **P 04 33 06.9 -1.4**
CN2 Changchun 86.12 321 *e*P **P 04 33 09.8 +0.2**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.2
LPL La Plagne 86.36 37 *e*P **P 04 33 09.8 -1.0**
comp=Z,15nm,0.9s,mb4.9
LPL La Plagne 86.36 37 *e*P **P 04 33 09.8 -1.0**
LPL pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
LPL La Plagne 86.36 37 *e*P **P 04 33 09.8 -1.0**
comp=Z,7.5nm,0.9s,mb4.9
LPG La Plagne 86.39 37 *e*P **P 04 33 09.9 -1.0**
BNI Bardonecchia 86.66 37 *e*P **P 04 33 11.5 -0.8**
BNI pmax pmax
comp=Z,14nm,1.2s,mb5.1
BNI Bardonecchia 86.66 37 *e*P **P 04 33 11.5 -0.8**
comp=Z,14nm,1.2s,mb5.1
KHC Kasperske Hory 86.97 31⇑*i*P **P 04 33 13.8 0.0**
GERES GERESS Array B 87.24 31 P **P 04 33 14.1 -1.0**
comp=Z,4.0nm,1.1s,mb4.6,baz=0.0,slow=5.7,SNR=12
GERES LR LR 05 17 16.4
comp=Z,547nm,18.1s,MS5.0,baz=302,slow=39
FRF La Foret Royal 87.68 38 *e*P **P 04 33 15.9 -1.3**
comp=Z,28nm,0.9s,mb5.2

FRF	**La Foret Royal**	**87.68**	**38**	*e*P		**P**	**04 33 15.9**	**-1.3**
FRF				pmax		pmax			
	comp=Z,14nm,0.9s,mb5.2								
FRF	**La Foret Royal**	**87.68**	**38**	*e*P		**P**	**04 33 15.9**	**-1.3**
	comp=Z,14nm,0.9s,mb5.2								
LMR	**La Mourre**	**87.77**	**38**	*e*P		**P**	**04 33 16.3**	**-1.3**
	comp=Z,24nm,1.0s,mb5.1								
LMR	**La Mourre**	**87.77**	**38**	*e*P		**P**	**04 33 16.3**	**-1.3**
LMR				pmax		pmax			
	comp=Z,12nm,1.0s,mb5.1								
LMR	**La Mourre**	**87.77**	**38**	*e*P		**P**	**04 33 16.3**	**-1.3**
	comp=Z,12nm,1.0s,mb5.1								
SBF	**Sospel**	**87.88**	**38**	*e*P		**P**	**04 33 16.5**	**-1.7**
SNY	**Shenyang**	**88.48**	**320**	⇓P		**P**	**04 33 21.3**	**+0.3**
SNY				AMB		AMB			
	comp=Z,19nm,2.8s,mb4.8								
SNY				AMB		AMB			
	comp=Z,216nm,4.9s								
OBN	**Obninsk**	**89.59**	**16**⇑	*e*P		**P**	**04 33 26.9**	**+0.7**
OBN				pmax		pmax			
	comp=Z,40nm,1.7s,mb5.5								
TLY	**Talaya**	**89.61**	**337**	P		**P**	**04 33 28.2**	**+1.8**
	comp=Z,114nm,1.2s,mb6.1,SNR=6.9								
TLY	**Talaya**	**89.61**	**337**	*e*P		**P**	**04 33 28.5**	**+2.1**
TLY				*e*S			04 44 18.9		
TLY				*e*SS		SS	04 50 21.5	+7.7	
TLY				pmax		pmax			
	comp=Z,31nm,1.2s,mb5.5								
TLY				MLR		MLR			
	comp=Z,1μm,18.0s,MS5.3								
TLY	**Talaya**	**89.61**	**337**	*i* Pr		**P**	**04 33 27.2**	**+0.8**
KWP	**Kalwaria**	**90.24**	**26**	*e*P		**P**	**04 33 30.0**	**+0.7**
KWP				pmax		pmax			
	comp=Z,15nm,1.0s,mb5.3								
KWP	**Kalwaria**	**90.24**	**26**	*e*P		**P**	**04 33 30.0**	**+0.8**
	comp=Z,15nm,1.0s,mb5.3								
MOY	**Mondy**	**90.48**	**338**	*e*P		**P**	**04 33 32.0**	**+1.6**
MOY				pmax		pmax			
	comp=Z,74nm,2.5s,mb5.6								
PSZ	**Piszkesteto**	**90.55**	**28**	*e*P		**P**	**04 33 31.9**	**+1.2**
PSZ				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.8								
PSZ	**Piszkesteto**	**90.55**	**28**	*e*P		**P**	**04 33 31.9**	**+1.2**
	comp=Z,4.0nm,0.8s,mb4.8								
ZAK	**Zakamensk**	**90.84**	**336**⇑	*e*P		**P**	**04 33 33.7**	**+1.6**
ZAK				pmax		pmax			
	comp=Z,34nm,1.9s,mb5.3								
SVE	**Sverdlovsk**	**91.10**	**2**	*e*P		**P**	**04 33 33.1**	**-0.2**
SVE				pmax		pmax			
	comp=Z,70nm,2.7s,mb5.5								
ARU	**Arti**	**91.41**	**3**⇓	*i*P		**P**	**04 33 35.2**	**+0.5**
ARU				*e*			04 37 12.6		
ARU				*e*S			04 44 07.2		
ARU				*e*SS		SS	04 50 39.6	-0.2	
ARU				pmax		pmax			
	comp=Z,30nm,1.5s,mb5.4								
ARU				MLR		MLR			
	comp=Z,600nm,22.0s,MS5.0								
ARU				MLR		MLR			
	comp=N,500nm,21.0s,MS5.0								
ARU				MLR		MLR			
	comp=E,100nm,16.0s,MS5.0								
ARU	**Arti**	**91.41**	**3**⇑	*i*P		**P**	**04 33 35.1**	**+0.4**
AKASG	**Malin Array Be**	**91.55**	**22**	P		**P**	**04 33 34.6**	**-0.8**
	comp=E,12nm,0.9s,mb5.2,baz=321,slow=4.0,SNR=21								
ULN	**Ulaanbaatar**	**91.58**	**333**⇑	*e*P		**P**	**04 33 37.4**	**+1.9**
ULN	**Ulaanbaatar**	**91.58**	**333**	*e*P		**P**	**04 33 34.0**	**-1.5**
	comp=E,56nm,2.0s,mb5.5								
SONM	**Songino Array**	**91.86**	**333**	P		**P**	**04 33 37.7**	**+0.9**
	comp=E,2.4nm,0.9s,mb4.5,baz=23,slow=3.9,SNR=15								
BJI	**Beijing**	**93.65**	**323**	P		**P**	**04 33 43.6**	**-1.5**
BJI				AMB		AMB			
	comp=Z,20nm,1.7s,mb5.3								
BJI				LR		LR			
	comp=N,244nm,24.2s								
BJI				LR		LR			
	comp=E,275nm,30.2s								
BJI				LR		LR			
	comp=Z,924nm,27.6s,MS5.1								
CHKZ	**Chkalovo**	**94.17**	**356**	*e*P		**P**	**04 33 47.1**	**-0.4**
CHKZ				pmax		pmax			
	comp=Z,9.0nm,1.0s,mb5.2								
CHKZ	**Chkalovo**	**94.17**	**356**	*e*P		**P**	**04 33 47.1**	**-0.3**
	comp=Z,9.1nm,1.0s,mb5.2								
URZ	**Urewera**	**94.29**	**227**	P		**P**	**04 33 49.9**	**+1.9**
	comp=Z,34nm,1.1s,mb5.7,baz=299,slow=3.4,SNR=4.7								
KIS	**Kishinev**	**94.64**	**24**	*e*P		**P**	**04 33 48.0**	**-1.6**
BRVK	**Borovoye**	**94.81**	**357**⇑	*e*P		**P**	**04 33 51.3**	**+0.9**
ZRNK	**Zerenda**	**94.97**	**357**	*e*P		**P**	**04 33 50.9**	**-0.2**
ZRNK				pmax		pmax			
	comp=Z,12nm,1.2s,mb5.2								
ZRNK	**Zerenda**	**94.97**	**357**	*e*P		**P**	**04 33 50.9**	**-0.2**
	comp=Z,12nm,1.2s,mb5.2								
HHC	**Hu-ho-hao-te**	**95.29**	**326**	*e*P		**P**	**04 33 53.8**	**+1.2**
HHC				PP		PP	04 37 45.3	+2.6	
HHC				SKS			04 44 29.6		
HHC				S			04 45 06.8		
HHC				SS		SS	04 51 36.5	+1.1	
HHC				AMB		AMB			
	comp=Z,13nm,1.2s,mb5.2								
HHC				AMB		AMB			
	comp=Z,122nm,6.2s								
HHC				LR		LR			
	comp=N,678nm,17.7s,MS5.2								
HHC				LR		LR			
	comp=E,356nm,20.4s,MS5.2								
HHC				LR		LR			
	comp=Z,713nm,20.2s,MS5.1								
TIP	**Timpagrande**	**96.04**	**35**	*e*P		**P**	**04 33 56.3**	**+0.2**
KURK	**Kurchatov**	**96.39**	**351**⇑	*e*P		**P**	**04 33 57.6**	**0.0**
SSE	**Sheshan**	**97.33**	**314**	*e*P		**P**	**04 34 01.3**	**-0.5**
SSE				S			04 45 25.3		
SSE				AMB		AMB			
	comp=Z,26nm,0.7s,mb5.8								
SSE				AMB		AMB			
	comp=Z,54nm,4.8s								
SSE				LR		LR			
	comp=N,78nm,25.0s,MS4.6								
SSE				LR		LR			
	comp=E,226nm,25.0s,MS4.6								
SSE				LR		LR			
	comp=Z,332nm,23.4s,MS4.8								
NJ2	**Nanjing**	**98.05**	**316**	*e*P		**P**	**04 34 04.9**	**-0.2**
NJ2				AP		pP	04 34 08.4	+1.3	
NJ2				XP		sP	04 34 11.8	+4.0	
NJ2				PP		PP	04 38 07.3	+3.4	
NJ2				S			04 45 28.0		
NJ2				XS		sS	04 45 39.0	+3.2	
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.9s,mb5.3								
NJ2				AMB		AMB			
	comp=Z,130nm,4.6s								
NJ2				LR		LR			
	comp=N,630nm,29.5s,MS5.1								
NJ2				LR		LR			
	comp=E,710nm,27.1s,MS5.1								
NJ2				LR		LR			
	comp=Z,70nm,20.1s								
MKAR	**Makanchi Array**	**99.64**	**348**	P		Pdif	04 34 11.8	-0.4	
	comp=Z,2.2nm,1.0s,baz=1.8,slow=3.8,SNR=11								
MKAR	**Makanchi Array**	**99.64**	**348**	P		Pdif	04 34 11.8	-0.4	
WMQ	**Urumqi**	**101.34**	**343**	⇑P		Pdif	04 34 21.8	+2.0	
WMQ				PP		PP	04 38 33.8	+4.8	
WMQ				AMB		AMB			
	comp=Z,7.0nm,0.5s								
WMQ				AMB		AMB			
	comp=Z,92nm,5.2s								
WMQ				LR		LR			
	comp=N,619nm,24.0s,MS5.2								
WMQ				LR		LR			
	comp=E,485nm,22.6s,MS5.2								
WMQ				LR		LR			
	comp=Z,730nm,22.0s,MS5.2								
KIV	**Kislovodsk**	**101.43**	**16***c*	*i*P		Pdif	04 34 20.5	+0.3	
KIV				pmax		pmax			
	comp=Z,5.0nm,0.9s								
KIV	**Kislovodsk**	**101.43**	**16**⇑	*i*P		Pdif	04 34 20.6	+0.4	
LZH	**Lanzhou**	**102.69**	**328**	*e*P		Pdif	04 34 23.1	-2.6	
LZH				PP		PP	04 38 38.0	-1.1	
LZH				SKS			04 45 00.3		
LZH				*e*S		Sdif	04 46 03.0	-8.4	
LZH				SS		SS	04 53 13.0	-6.0	
LZH				AMB		AMB			
	comp=Z,10.0nm,1.0s								
LZH				AMB		AMB			
	comp=Z,77nm,5.8s								
LZH				LR		LR			
	comp=E,605nm,15.6s								
LZH				LR		LR			
	comp=Z,795nm,18.3s,MS5.3								
KMI	**Kunming**	**112.31**	**323**	PKP		PKiKP	04 39 01.0	-3.5	
KMI				SS		SS	04 55 26.3	-3.1	
KMI				LR		LR			
	comp=N,379nm,18.2s,MS5.2								
KMI				LR		LR			
	comp=E,229nm,13.6s,MS5.2								
KMI				LR		LR			
	comp=Z,571nm,17.4s,MS5.2								
WRA	**Warramunga Arr**	**117.26**	**263**	PKP		PKPdf	04 39 13.6	-0.4	
	comp=Z,1.8nm,0.7s,baz=63,slow=2.3,SNR=7.4								
ASAR	**Alice Springs**	**119.24**	**259**	PKP		PKPdf	04 39 17.3	-0.5	
	comp=Z,1.8nm,0.9s,baz=100,slow=2.1,SNR=10								
VNDA	**Vanda**	**119.80**	**194**	PKP		PKPdf	04 39 17.5	-1.4	
	comp=Z,1.6nm,0.8s,baz=136,slow=3.1,SNR=6.4								
QSPA	**South Pole Qui**	**122.19**	**180**	*e*P		PKPdf	04 39 23.0	-0.5	
VNA3	**Neumayer Olymp**	**125.28**	**158**	*e*PKPdf		PKPdf	04 39 28.5	-0.9	
VNA3				*e*			04 39 30.8		
VNA3				*e*			04 39 34.3		
VNA3				*e*			04 39 37.2		
VNA3				*e*			04 39 46.6		
VNA3				*e*			04 40 06.5		
VNA1	**Neumayer--Stat**	**125.78**	**157**	*e*PKPdf		PKPdf	04 39 30.4	0.0	
VNA1				*e*			04 39 32.1		
VNA1				*e*			04 39 36.2		
VNA1				*e*			04 39 38.9		
VNA1				*e*			04 39 48.5		
VNA1				*e*			04 40 07.9		
VNA2	**Neumayer--Watz**	**126.04**	**157**	*e*PKPdf		PKPdf	04 39 29.8	-1.1	
	baz=284,slow=2.5								
VNA2				*e*			04 39 32.2		
VNA2				*e*			04 39 35.8		
VNA2				*e*			04 39 38.6		
VNA2				*e*			04 39 47.8		
VNA2				*e*			04 40 07.8		
SNAA	**Sanae**	**127.40**	**158**	*e*PKPdf		PKPdf	04 39 28.5	-5.0	
SNAA				*e*			04 39 30.3		
SNAA				*e*			04 39 35.1		
SNAA				*e*			04 39 37.3		
SNAA				*e*			04 39 46.9		
TSUM	**Tsumeb**	**135.90**	**85**	*e*PKPdf		PKPdf	04 39 49.9	+0.4	
SYO	**Syowa Base**	**140.62**	**166**⇑	*e*PP		PP	04 42 57.2	-0.2	
LSZ	**Lusaka**	**142.72**	**72**	*e*PKIKP		PKPdf	04 39 59.0	-2.9	
MAW	**Mawson**	**144.70**	**179**	*e*P		PKPdf	04 40 03.6	-1.8	
	comp=Z,38nm,1.0s								
MAW	**Mawson**	**144.70**	**179**	PKP		PKPdf	04 40 03.1	-2.3	
	comp=Z,53nm,1.0s,baz=234,slow=4.1,SNR=25								
LBTB	**Lobatse**	**145.04**	**88**	*e*PKIKP		PKPdf	04 40 05.0	-1.0	

NEIC ***24*** *04:25:14.5, 3242N×11520W, h6km, MD3.9(ECX), After ECX.*

ECX 24 04:25:14.5±0.3, 3242N×11521W, h6km, MD3.4, ML3.6, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLA	**Glamis**	**0.71**	**27**	*e*Pg	Pg	04 25 27.1	-1.1
GLA				*e*Sg	Sg	04 25 37.5	+0.2
RMX	**La Rumorosa**	**0.76**	**284**	*e*P	Pg	04 25 27.8	-1.2
RMX				*e*S	Sg	04 25 38.1	-0.8
RMX				*e*		04 25 39.8	
	comp=E,2μm,0.6s						
RMX	**La Rumorosa**	**0.76**	**284**	*e*P	Pg	04 25 27.8	-1.2
RMX				*e*S	Sg	04 25 38.1	-0.8
RDX	**Rancho Dowling**	**0.79**	**233**	*e*P	Pg	04 25 28.3	-1.4
RDX				*e*S	Sg	04 25 39.1	-0.9
CBX	**Cerro Bola**	**1.24**	**266**	*e*P	Pg	04 25 36.2	-2.0
CBX				*e*S	Sg	04 25 52.5	-1.7
ENX	**Ensenada**	**1.35**	**247**	*e*P	Pn	04 25 37.9	-1.9
ENX				*e*S	Sb	04 25 55.6	-2.0
ECX	**Ensenada**	**1.35**	**246**	*e*P	Pn	04 25 38.7	-1.1
ECX				*e*S	Sb	04 25 57.7	+0.1
SPX	**San Pedro Mart**	**1.39**	**189**	*e*P	Pn	04 25 38.5	-1.9
SPX				*e*S	Sb	04 25 57.2	-1.6
ECNX	**Esteban Cantu**	**1.40**	**238**	*e*P	Pn	04 25 38.7	-1.9
ECNX				*e*S	Sb	04 25 57.7	-1.5
PBX	**Punta Banda**	**1.45**	**243**	*e*P	Pn	04 25 39.7	-1.6
PBX				*e*S	Sn	04 25 59.1	-1.5
GSC	**Goldstone**	**3.17**	**336**	*e*Pg	Pg	04 26 15.4	+0.2
KSU1	**Kansas State U**	**16.49**	**61**	*e*Pn	Pn	04 29 07.2	+0.8

ISCJB ***24*** *04:25:24.3±1.2, 3820N±005×2047E±009, h2km, Error ellipse: s-maj=11.5km s-min=5.4km az=117.7*
THE ***24*** *04:25:24.7, 3824N×2041E, h10km*
ATH ***24*** *04:25:25.4, 3817N×2053E, h16km±2km, MD3.3/5*
NEIC ***24*** *04:25:25.4, 3817N×2053E, h16km, MD3.3(ATH), After ATH.*
CSEM ***24*** *04:25:26.3±0.2, 3826N×2068E, h2km, MD3.3, Error ellipse: s-maj=5.1km s-min=3.8km az=96.0*

ISC 24 04:25:26.4±0.8, 3827N±003×2067E±008, h0km±10km, n10, σ0°93/14, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.12**	**215**	*e*PB	**Pg**	**04 25 28.1**	**-0.5**
VLS				*e*SB	**Sg**	**04 25 31.0**	**+0.9**
LKD	**Levkas**	**0.44**	**358**	*e*Pg	**Pg**	**04 25 34.0**	**-0.7**
LKD				*e*Sg	**Sg**	**04 25 41.7**	**+1.3**
RLS	**Riolos of Patr**	**0.66**	**109**	*e*PB	**Pg**	**04 25 39.0**	**0.0**
EVR	**Evrytania**	**1.10**	**54**	*e*PN	**Pn**	**04 25 49.0**	**0.0**
IGT	**Igoumenitsa**	**1.29**	**348**	*e*Pg	**Pg**	**04 25 48.9**	**-2.2**
IGT				*e*Sg	**Sg**	**04 26 08.4**	**+0.7**
JAN	**Janina**	**1.39**	**6**	*e*PN	**Pn**	**04 25 53.9**	**+0.9**
ITM	**Ithomi**	**1.47**	**137**	*e*PN	**Pn**	**04 25 54.1**	**0.0**
AGG	**Agios Georgios**	**1.50**	**59**	*e*Pb	**Pb**	**04 25 55.2**	**+0.2**
AGG				*e*Sb	**Sb**	**04 26 18.4**	**+3.8**
KEK	**Kerkira**	**1.59**	**335**	*e*PN	**Pn**	**04 25 55.6**	**-0.2**
FNA	**Florina**	**2.57**	**12**	*e*Pn	**Pn**	**04 26 08.1**	**-1.1**

NEIC ***24*** *04:33:12.5, 3243N×11523W, h4km, MD2.8(ECX), ML3.5(PAS), After ECX.*

ECX 24 04:33:12.5±0.2, 3243N×11524W, h4km, ML2.9, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLA	**Glamis**	**0.71**	**29**	*e*Pg	Pg	04 33 24.8	-1.4
GLA				*e*Sg	Sg	04 33 35.1	-0.3
RMX	**La Rumorosa**	**0.73**	**284**	*e*P	Pg	04 33 25.5	-1.0
RMX				*e*		04 33 40.1	
	comp=E,466nm,0.3s						
RDX	**Rancho Dowling**	**0.78**	**231**	*e*P	Pg	04 33 26.2	-1.2
RDX				*e*S	Sg	04 33 36.7	-0.8
RDX				*e*		04 33 38.2	
	comp=E,335nm,0.4s						
RDX	**Rancho Dowling**	**0.78**	**231**	*e*P	Pg	04 33 26.2	-1.2
RDX				*e*S	Sg	04 33 36.7	-0.8
CBX	**Cerro Bola**	**1.21**	**265**	*e*P	Pg	04 33 33.6	-2.1
ENX	**Ensenada**	**1.32**	**246**	*e*P	Pn	04 33 35.4	-2.4
ENX				*e*S	Sg	04 33 53.3	-1.8
ECX	**Ensenada**	**1.33**	**246**	*e*P	Pn	04 33 36.5	-1.3
ECNX	**Esteban Cantu**	**1.39**	**237**	*e*P	Pn	04 33 36.5	-2.1

NEIC ***24*** *04:50:00.4, 3237N×11525W, h5km, MD3.6(ECX), ML3.4(PAS), After ECX.*

ECX 24 04:50:00.4±0.5, 3237N×11525W, h5km, MD3.5, ML3.6, 2C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMSC	**East Mesa**	**0.44**	**31**	*i* P	Pg	04 50 08.4	-0.4
SGL	**Mount Signal**	**0.49**	**306**⇑	*i*P	Pg	04 50 08.6	-1.2
COK	**Cook Ranch**	**0.63**	**320**	*e*P	Pg	04 50 11.1	-1.3
RDX	**Rancho Dowling**	**0.73**	**234**⇑	*e*P	Pg	04 50 13.2	-1.2
RDX				*e*S	Sg	04 50 23.5	-0.4
RDX				*e*		04 50 25.5	
	comp=N,3μm,0.4s						
RDX	**Rancho Dowling**	**0.73**	**234**	*e*P	Pg	04 50 13.2	-1.2
RDX				*e*S	Sg	04 50 23.5	-0.4
RMX	**La Rumorosa**	**0.74**	**289**⇓	*e*P	Pg	04 50 13.2	-1.4
RMX				*e*S	Sg	04 50 23.4	-0.7
RMX			⇓	*e*		04 50 27.4	
	comp=E,2μm,0.7s						
RMX	**La Rumorosa**	**0.74**	**289**	*e*P	Pg	04 50 13.2	-1.4
RMX				*e*S	Sg	04 50 23.4	-0.7
GLA	**Glamis**	**0.77**	**28**	*e*Pg	Pg	04 50 13.1	-2.2
GLA				*e*Sg	Sg	04 50 23.6	-1.7
CBX	**Cerro Bola**	**1.20**	**268**⇓	*e*P	Pg	04 50 21.0	-2.3
CBX				*e*S	Sg	04 50 37.3	-1.5
ENX	**Ensenada**	**1.29**	**249**⇓	*e*P	Pn	04 50 22.7	-2.4
ENX				*e*S	Sg	04 50 40.1	-1.7
ECX	**Ensenada**	**1.29**	**248**	*e*P	Pn	04 50 23.6	-1.5
ECX				*e*S	Sg	04 50 41.9	-0.1
SPX	**San Pedro Mart**	**1.33**	**188**	*e*P	Pn	04 50 22.9	-2.6
SPX				*e*S	Sg	04 50 41.6	-1.5
ECNX	**Esteban Cantu**	**1.34**	**239**⇓	*e*P	Pn	04 50 23.6	-2.2
ECNX				*e*S	Sb	04 50 41.9	-1.7
PBX	**Punta Banda**	**1.40**	**244**⇓	*e*P	Pn	04 50 24.4	-2.2
PBX				*e*S	Sb	04 50 43.4	-1.7
NEN	**Nelson**	**3.29**	**6**	*e*Pn	Pn	04 50 51.2	-1.4
NEN				*e*Pg	Pg	04 51 02.6	-0.9
TUC	**Tucson**	**3.78**	**90**	*e*Pn	Pn	04 50 58.1	-1.3
TUC				*e*Pg	Pg	04 51 11.1	-1.8
DAC	**Darwin (Calif)**	**4.36**	**334**	*e*Pg	Pg	04 51 23.6	-0.2
TPNV	**Topopah Spring**	**4.65**	**350**	*e*Pg	Pg	04 51 28.1	-1.3
CCUT	**Cedar City**	**5.40**	**16**	*e*Pn	Pn	04 51 21.5	0.0
CCUT				*e*Pg	Pg	04 51 41.2	-2.6
ARUT	**Antelope Range**	**5.61**	**15**	*e*Pg	Pg	04 51 45.3	-2.6
MSU	**Marysvale**	**6.63**	**21**	*e*Pg	Pg	04 52 03.3	-4.0
LAZ	**Ladron**	**7.08**	**71**	*e*Pg	Pg	04 52 08.3	-7.8
MVCO	**Mesa Verde**	**7.36**	**47**	*e*Pn	Pn	04 51 49.0	+0.5
BNM	**Barren Site**	**7.44**	**74**	*e*Pn	Pn	04 51 48.2	-1.4
SRU	**San Rafael**	**7.75**	**28**	*e*Pg	Pg	04 52 23.6	-5.2
	comp=E,56nm,0.7s						
PV10	**Paradox Valley**	**7.86**	**39**	*e*Pn	Pn	04 51 52.4	-2.9
PV10				*e*Pg	Pg	04 52 24.2	-6.6
PV10				*e*Sg	Sg	04 54 11.2	-1.4

CASC 24 04:58:58.9±2.7, 1164N×8646W, h154km±13km, MD3.9, 8C-5D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TICN	**Ticuantepe**	**0.45**	**30**⇑	*e*P	Pn	04 59 20.9	+0.4
APON	**Apoyo**	**0.47**	**55**⇑	*e*P	Pn	04 59 20.9	+0.3
TISN	**Laguna Tiscapa**	**0.53**	**21**⇓	*e*P	Pn	04 59 21.0	+0.1
MGAN	**Managua**	**0.54**	**23**⇑	*e*P	Pn	04 59 20.9	0.0
MGAN				*e*S	Sn	04 59 39.4	+1.6
COPN	**Copaltepe**	**0.55**	**347**⇓	*e*P	Pn	04 59 21.1	+0.2
MOMJ	**Momotombo**	**0.77**	**354**⇑	*e*P	Pn	04 59 21.8	-0.5
MIRN	**Miramar**	**0.83**	**343**⇓	*e*P	Pn	04 59 22.7	0.0
LEON	**Leon**	**0.88**	**331**⇑	*e*P	Pn	04 59 23.0	-0.1
CNGN	**Cerro Negro**	**0.88**	**345**⇑	*e*P	Pn	04 59 22.8	-0.3
CNGN				*e*S	Sn	04 59 45.3	+3.7
TEL3	**Telica 3**	**1.00**	**338**⇑	*e*P	Pn	04 59 24.0	0.0
TEL3				*e*S	Sn	04 59 43.9	+0.7
TELN	**Telica**	**1.02**	**339**	*e*P	Pn	04 59 24.0	-0.2
LIM1	**Limonal**	**1.51**	**128**	*i* P	Pn	04 59 30.1	+1.2
LIM1				*i* S	Sn	04 59 53.0	+1.1
VCR	**Vista de Mar**	**1.71**	**151**⇓	*e*P	Pn	04 59 33.0	+2.0
VCR				*e*S	Sn	04 59 56.6	+0.9
CGA2	**Cerro Gallo 2**	**2.54**	**129**⇑	*e*P	Pn	04 59 41.8	+1.1
CGA2				*e*S	Sn	05 00 13.4	+0.5
PRS1	**Puriscal**	**2.68**	**128**⇓	*e*P	Pn	04 59 44.2	+1.8
PRS1				*e*S	Sn	05 00 17.4	+1.4
LCR2	**La Lucha 2**	**3.07**	**128**	*e*P	Pn	04 59 48.7	+1.5
LCR2				*e*S	Sn	05 00 25.6	+0.9
LCBS	**La Ceiba**	**3.17**	**309**	*e*P	Pn	05 00 04.9	+16
LCBS				*e*S	Sn	05 00 44.1	+17
URSC	**Urasca**	**3.19**	**124**	*e*P	Pn	04 59 51.5	+2.7
URSC				*e*S	Sn	05 00 30.4	+3.0
LFRS	**El Faro**	**3.21**	**308**	*e*P	Pn	05 00 06.1	+17
LFRS				*e*S	Sn	05 00 44.5	+17
BUS	**Buena Vista**	**3.37**	**128**	*e*P	Pn	04 59 52.9	+1.8
BUS				*e*S	Sn	05 00 34.3	+2.7
BOQS	**Boqueron**	**3.45**	**307**	*e*P	Pn	05 00 10.0	+18

IDC ***24*** *05:26:41.8±4.4, 2356S×17997W, h497km±28km, mb3.7/4, mb1 3.9/5, mb1mx3.5/13, mbtmp4.6/5, Error ellipse: s-maj=58.0km s-min=29.7km az=50.0*
ISCJB ***24*** *05:26:44.6±5.4, 238S±04×1796E±07, h500km, mb4.5/10, Error ellipse: s-maj=101.3km s-min=17.9km az=119.2*
NEIC ***24*** *05:26:46.1±3.6, 2380S×17998E, h551km±37km, mb4.5/4, Error ellipse: s-maj=42.8km s-min=19.0km az=221.0*

ISC 24 05:26:45.3±5.6, 238S±04×1797E±08, h500km, n19, σ0°64/17, mb4.5/10, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.55**	**188**	P	**P**	**05 29 51.3**	**+0.5**
	2.4nm,0.3s,baz=201,slow=18,SNR=13						
RPZ	**Rata Peaks**	**21.07**	**198**	P	**P**	**05 30 53.2**	**-0.3**
	5.4nm,0.5s,mb4.3,baz=45,slow=1.7,SNR=6.5						
CTA	**Charters Tower**	**31.16**	**270**⇓	*i*P	**P**	**05 32 24.2**	**+1.6**
	20nm,0.4s,mb4.9						
CTAO	**Charters Tower**	**31.16**	**270**	*e*P	**P**	**05 32 24.0**	**+1.4**
	26nm,0.5s,mb4.9						
PMG	**Port Moresby**	**34.17**	**289**	*e*P	**P**	**05 32 48.2**	**0.0**
	12nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**34.46**	**248**	*e*P	**P**	**05 32 49.5**	**-1.1**
	4.0nm,0.9s,mb3.9						
STKA	**Stephens Creek**	**34.46**	**248**	P	**P**	**05 32 49.9**	**-0.8**
	2.9nm,0.4s,mb4.0,baz=82,slow=7.6,SNR=7.5

ESPR	**Espera**	**4.16**	**87**	P		Pn	05 31 15.0	-1.5
	2.1nm,0.2s,SNR=4.0							
ESPR				S		Sn	05 32 01.3	-4.6
	2.1nm,0.2s,SNR=4.0							
ELOB	**Lobios**	**5.63**	**23**	S		Sn	05 32 37.0	-4.9
	0.3nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**5.63**	**23**	S		Sn	05 32 37.0	-5.0
	0.3nm,0.1s,SNR=7.9							
ECAL	**Calabor**	**6.18**	**31**	S		Sn	05 32 51.2	-4.5
	0.0nm,0.0s,SNR=4.0							
ECAL	**Calabor**	**6.18**	**31**	S		Sn	05 32 51.2	-4.4
	SNR=4.0							
EMAZ	**Mazaricos**	**6.41**	**14**	S		Sn	05 32 54.2	-7.1
	0.5nm,0.1s,SNR=4.0							
EMAZ	**Mazaricos**	**6.41**	**14**	S		Sn	05 32 54.2	-7.1
	0.5nm,0.1s,SNR=4.0							

*ISCJB **24** 05:41:51.8±0.5, 004N±007×97.13E±007, h33km, mb4.4/35, MS3.4/1, Error ellipse: s-maj=13.1km s-min=6.7km az=95.5*

*MOS **24** 05:41:51.9±1.2, 007N×97.10E, h33km, mb4.6/17, Error ellipse: s-maj=15.6km s-min=8.0km az=100.7*

*BJI **24** 05:41:51.1, 024S×9704E, h38km, mB4.9, mb4.7*

*IDC **24** 05:41:53.2±0.9, 0.15S×9692E, h32km±4km, mb4.0/10, mb1 4.1/10, mb1mx4.0/17, mbtmp4.2/10, MS3.5/2, Ms1 3.5/2, ms1mx3.1/21, Error ellipse: s-maj=40.0km s-min=14.1km az=54.0*

*NEIC **24** 05:41:54.2±0.6, 003N×97.13E, mb4.6/16, Error ellipse: s-maj=14.7km s-min=9.3km az=51.0*

ISC 24 05:41:54.4±0.5, 007N±007×9717E±007, h35km, h35km±1.6km:pP-P, n67, σ1s05/66, mb4.4/35, MS3.4/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.23**	**33**	Pn	**Pn**	**05 42 41.6**	**-1.0**
	3.8nm,0.3s,baz=195,slow=8.8,SNR=38						
PSI				LR	LR	05 44 25.7	
	comp=Z,882nm,20.4s,baz=205,slow=44						
PPI	**Padang Panjang**	**3.27**	**99**	P	**Pn**	**05 42 43.7**	**+0.6**
	89nm,0.8s						
BSI	**Banda Aceh**	**5.71**	**341**	P	**Pn**	**05 43 15.7**	**-0.9**
	144nm,0.9s						
KULM	**Kulim**	**6.24**	**34**	*e*Pn	**Pn**	**05 43 23.8**	**-0.1**
KSI	**Kapahiang**	**6.56**	**124**	P	**Pn**	**05 43 27.0**	**-1.3**
	186nm,1.0s						
CHTO	**Chiang Mai**	**18.71**	**5**	*e*P	**Pn**	**05 46 10.9**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CHTO	**Chiang Mai**	**18.71**	**5**	*e*P	**Pn**	**05 46 10.8**	**+0.5**
	comp=Z,9.6nm,0.8s						
KKM	**Kota Kinabalu**	**19.91**	**72**	*e*P	**Pn**	**05 46 24.4**	**-0.3**
KKM				*e*pP	pP	05 46 34.4	+2.2
SHL	**Shillong**	**25.86**	**349**	*e*P	**P**	**05 47 24.0**	**+1.4**
JIRN	**Jiri**	**29.39**	**340**	*e*P	**P**	**05 48 03.8**	**+10**
PKI	**Pulchoki**	**29.59**	**339**	*e*P	**P**	**05 48 05.1**	**+9.2**
GUN	**Gumba**	**29.73**	**340**	*e*P	**P**	**05 48 03.1**	**+5.9**
	comp=Z,49nm,0.8s,mb5.3						
DMN	**Daman**	**29.73**	**338**	*e*P	**P**	**05 48 06.6**	**+9.4**
	comp=Z,34nm,1.0s,mb5.0						
LSA	**Lhasa**	**30.02**	**349**	*e*P	**P**	**05 47 58.7**	**-1.1**
LSA				*e*PP	pP	05 48 10.0	+0.1
LSA				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.8						
LSA	**Lhasa**	**30.02**	**349**	*e*P	**P**	**05 47 58.7**	**-1.1**
	comp=Z,18nm,1.0s,mb4.8						
LSA				*e*pP	pP	05 48 10.0	+0.2
GKN	**Gorkha**	**30.26**	**338**	*e*P	**P**	**05 48 04.6**	**+2.6**
KOLN	**Koldanda**	**30.47**	**336**	*e*P	**P**	**05 48 08.4**	**+4.7**
	comp=Z,30nm,0.8s,mb5.1						
FITZ	**Fitzroy Crossi**	**33.31**	**124**	P	**P**	**05 48 29.1**	**+0.4**
	comp=Z,2.8nm,1.0s,mb4.2,baz=258,slow=16,SNR=4.3						
XAN	**Xi'an**	**35.55**	**17**	P	**P**	**05 48 48.8**	**+0.7**
XAN				AP	pP	05 49 01.3	+3.1
XAN				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8						
GTA	**Gaotai**	**39.23**	**3**	*e*P	**P**	**05 49 21.0**	**+1.8**
GTA				AP	pP	05 49 26.5	-3.0
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.1						
JOW	**Kunigami**	**40.04**	**46**	LR	LR	06 03 40.7	
	comp=Z,63nm,21.3s,MS3.4,baz=91,slow=32						
WRA	**Warramunga Arr**	**41.47**	**121**	P	**P**	**05 49 38.4**	**+0.5**
	comp=Z,3.2nm,0.9s,mb4.0,baz=298,slow=9.3,SNR=12						
WRAB	**Tennant Creek**	**41.48**	**121**	*e*P	**P**	**05 49 38.5**	**+0.6**
WRAB				*e*PP	pP	05 49 49.0	+0.8
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
WRAB	**Tennant Creek**	**41.48**	**121**	*e*P	**P**	**05 49 38.5**	**+0.6**
	comp=Z,4.9nm,0.7s,mb4.2						
WRAB				*e*pP	pP	05 49 49.0	+0.8
ASAR	**Alice Springs**	**42.75**	**126**	P	**P**	**05 49 48.8**	**+0.5**
	comp=Z,0.8nm,0.7s,mb3.6,baz=304,slow=8.2,SNR=7.3						
AAK	**Ala-Archa**	**47.02**	**337**	*e*P	**P**	**05 50 20.7**	**-1.5**
AAK				*e*PP	pP	05 50 32.4	-0.2
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
AAK	**Ala-Archa**	**47.02**	**337**	*e*P	**P**	**05 50 20.7**	**-1.5**
	comp=Z,2.3nm,0.7s,mb4.2						
AAK				*e*pP	pP	05 50 32.4	-0.3
SONM	**Songino Array**	**48.25**	**8**	P	**P**	**05 50 33.3**	**+1.6**
	comp=Z,4.2nm,0.8s,mb4.5,baz=190,slow=9.3,SNR=27						
SONM				pP	pP	05 50 42.9	+0.8
	comp=Z,7.1nm,0.9s,baz=195,slow=8.4,SNR=21						
MK31	**Makanchi Array**	**48.33**	**346**	P	**P**	**05 50 33.2**	**+0.9**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
MKAR	**Makanchi Array**	**48.33**	**346**	P	**P**	**05 50 33.3**	**+1.0**
	comp=Z,3.4nm,0.8s,mb4.5,baz=155,slow=8.1,SNR=27						
MKAR				pP	pP	05 50 42.8	0.0
	comp=Z,6.9nm,0.6s,baz=161,slow=8.4,SNR=22						
ULN	**Ulaanbaatar**	**48.38**	**9**	*e*P	**P**	**05 50 34.3**	**+1.6**
ULN				*e*PP	pP	05 50 43.9	+0.7
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
ULN	**Ulaanbaatar**	**48.38**	**9**	*e*P	**P**	**05 50 34.3**	**+1.6**
	comp=Z,3.0nm,0.9s,mb4.3						
ULN				*e*pP	pP	05 50 43.9	+0.7
KKAR	**Karatay Array**	**49.05**	**334**	P	**P**	**05 50 39.4**	**+1.5**
KKAR				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
CTAO	**Charters Tower**	**52.03**	**116**	*e*P	**P**	**05 51 00.9**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,26nm,1.5s,mb4.9						
CTAO	**Charters Tower**	**52.03**	**116**	*e*P	**P**	**05 51 00.9**	**+0.4**
	comp=Z,26nm,1.5s,mb4.9						
MJAR	**Matsushiro Arr**	**52.55**	**42**	P	**P**	**05 51 04.8**	**+0.6**
	comp=Z,2.5nm,0.9s,mb4.1,baz=219,slow=7.0,SNR=6.2						
STKA	**Stephens Creek**	**52.63**	**131**	*e*P	**P**	**05 51 03.7**	**-1.1**
	comp=Z,5.7nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**52.63**	**131**	P	**P**	**05 51 04.0**	**-0.8**
	comp=Z,8.0nm,0.9s,mb4.6,baz=303,slow=7.7,SNR=9.7						
STKA				pP	pP	05 51 14.9	-0.5
	comp=Z,4.6nm,1.0s,baz=351,slow=2.5,SNR=3.2						
STKA	**Stephens Creek**	**52.63**	**131**	*e*P	**P**	**05 51 04.1**	**-0.7**
STKA				*e*pP	pP	05 51 14.7	-0.6
KURK	**Kurchatov**	**52.87**	**345**	*e*P	**P**	**05 51 06.5**	**-0.1**
KURK				*e*PP	pP	05 51 16.9	-0.3
KURK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
KURK	**Kurchatov**	**52.87**	**345**	*e*P	**P**	**05 51 06.5**	**-0.1**
	comp=Z,12nm,1.0s,mb4.8						
KURK				*e*pP	pP	05 51 16.9	-0.3
CIT	**Chita**	**53.57**	**13**	*e*P	**P**	**05 51 10.3**	**-1.5**
NVS	**Novosibirsk**	**55.78**	**350**	*e*P	**P**	**05 51 27.1**	**-0.7**
VOSK	**Vostochnaya**	**56.86**	**341**	P	**P**	**05 51 35.1**	**-0.4**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
KLR	**Kul'dur**	**57.27**	**26**	*e*P	**P**	**05 51 36.3**	**-2.1**
BVA0	**Borovoye Array**	**57.30**	**341**	P	**P**	**05 51 38.2**	**-0.4**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
BRVK	**Borovoye**	**57.36**	**341**	*e*P	**P**	**05 51 38.6**	**-0.5**
BRVK				*e*PP	pP	05 51 48.3	-1.4
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.5						
BRVK	**Borovoye**	**57.36**	**341**	*e*P	**P**	**05 51 38.6**	**-0.4**
	comp=Z,5.6nm,1.3s,mb4.4						
BRVK				*e*pP	pP	05 51 48.3	-1.4
ZRNK	**Zerenda**	**57.70**	**340**	*e*P	**P**	**05 51 40.5**	**-0.9**
ZRNK				*e*PP	pP	05 51 50.8	-1.2
ZRNK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
ZRNK	**Zerenda**	**57.70**	**340**	*e*P	**P**	**05 51 40.5**	**-0.9**
	comp=Z,2.9nm,1.0s,mb4.3						
ZRNK				*e*pP	pP	05 51 50.8	-1.3
CHKZ	**Chkalovo**	**57.78**	**342**	*e*P	**P**	**05 51 41.3**	**-0.7**
CHKZ				*e**PP	pP	05 51 51.5	-1.1
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
CHKZ	**Chkalovo**	**57.78**	**342**	*e*P	**P**	**05 51 41.3**	**-0.7**
	comp=Z,6.2nm,0.9s,mb4.6						
CHKZ				*e*pP	pP	05 51 51.5	-1.2
AB31	**Akbulak array**	**58.49**	**332**	*i* P	**P**	**05 51 46.3**	**-0.7**
AB31				*i*	pP	05 51 56.6	-1.0
AB31				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
BOD	**Bodaibo**	**59.12**	**10**	*e*P	**P**	**05 51 51.4**	**+0.1**
BOD				*e*	pP	05 51 59.9	-2.1
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
KIV	**Kislovodsk**	**65.14**	**320**	*e*P	**P**	**05 52 30.5**	**-1.2**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
MALT	**Malatya**	**65.86**	**313**	*e*P	**P**	**05 52 37.5**	**+1.1**
MALT				*e**PP	pP	05 52 46.9	-0.3
MALT				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
MALT	**Malatya**	**65.86**	**313**	*e*P	**P**	**05 52 37.5**	**+1.1**
	comp=Z,3.2nm,0.8s,mb4.4						
MALT				*e*pP	pP	05 52 46.9	-0.2
TIXI	**Tiksi**	**74.30**	**10**	*e*P	**P**	**05 53 26.5**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
AKASG	**Malin Array Be**	**76.13**	**323**	P	**P**	**05 53 37.5**	**-1.2**
	comp=Z,0.6nm,0.4s,mb3.9,baz=93,slow=5.0,SNR=7.4						
AKASG				pP	pP	05 53 47.7	-1.9
	comp=Z,4.1nm,0.7s,baz=95,slow=4.8,SNR=8.7						
AKASG	**Malin Array Be**	**76.13**	**323**	P	**P**	**05 53 37.5**	**-1.2**
AKASG				pP	pP	05 53 47.7	-1.9
FINES	**FINESS Array B**	**80.98**	**333**	P	**P**	**05 54 04.7**	**-0.7**
	comp=Z,2.9nm,0.9s,mb4.2,baz=90,slow=4.2,SNR=3.6						
FINES				pP	pP	05 54 14.9	-1.4
	comp=Z,2.5nm,0.7s,baz=72,slow=6.2,SNR=3.2						
KAF	**Kangasniemi**	**81.07**	**333**	*e*P	**P**	**05 54 13.1**	**+7.3**
	comp=Z,0.8nm,0.4s,mb4.0						
KAF	**Kangasniemi**	**81.07**	**333**	*e*P	**P**	**05 54 13.1**	**+7.3**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
KEV	**Kevo**	**83.15**	**341**	*e*P	**P**	**05 54 18.2**	**+1.5**
	comp=Z,0.5nm,0.4s,mb3.9						
KEV	**Kevo**	**83.15**	**341**	*e*P	**P**	**05 54 18.2**	**+1.5**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
ARCES	**ARCESS Array B**	**83.58**	**340**	P	**P**	**05 54 19.4**	**+0.4**
	comp=Z,4.4nm,1.1s,mb4.5,baz=60,slow=7.2,SNR=3.7						
ARCES				pP	pP	05 54 29.2	-0.8
	comp=Z,5.3nm,1.0s,baz=101,slow=5.1,SNR=2.9						
ARCES	**ARCESS Array B**	**83.58**	**340**	P	**P**	**05 54 19.4**	**+0.4**
ARCES				pP	pP	05 54 29.2	-0.8

*ISCJB **24** 06:20:45.7±4.3, 47S±03×1517E±04, h52km±34km, mb3.9/5, Error ellipse: s-maj=80.9km s-min=25.7km az=77.9*

*IDC **24** 06:20:46.2±6.1, 5.13S×152.18E, h59km±50km, mb3.7/4, mb1 3.9/5, mb1mx3.6/15, mbtmp4.0/5, ML3.0/1, MS2.6/1, Ms1 2.6/1, ms1mx2.3/23, Error ellipse: s-maj=104.2km s-min=32.6km az=131.0*

*NEIC **24** 06:20:47.7±3.5, 487S×15188E, h66km±27km, mb4.2/3, Error ellipse: s-maj=66.7km s-min=24.6km az=129.0*

ISC 24 06:20:47.0±3.8, 48S±03×1519E±04, h55km±30km, n12, σ0s98/12, mb3.9/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.54**	**225**	P	**Pn**	**06 22 21.0**	**+0.5**
	2.1nm,0.3s,baz=19,slow=8.6,SNR=5.5						
PMG				S	**Sn**	**06 23 33.3**	**-0.4**
	6.6nm,0.3s,baz=164,slow=23,SNR=7.5						
PMG				LR	LR	06 24 50.7	
	comp=Z,52nm,21.9s,baz=77,slow=37						
KAKA	**Kakadu**	**20.73**	**246**	*e*P	**P**	**06 25 23.8**	**+0.9**
	11nm,0.5s						
WRAB	**Tennant Creek**	**22.74**	**227**	*e*P	**P**	**06 25 43.7**	**-0.7**
	4.1nm,0.5s,mb4.1						
WRAB				*e*pP		06 25 57.0	
WB2	**Warramunga Arr**	**22.75**	**227**	*e*P	**P**	**06 25 43.4**	**-1.0**
WRA	**Warramunga Arr**	**22.75**	**227**	P	**P**	**06 25 43.6**	**-0.9**
	3.5nm,0.4s,mb4.1,baz=53,slow=10.0,SNR=36						
AS31	**Alice Springs**	**25.53**	**221**	*e*P	**P**	**06 26 12.2**	**+1.8**
ASAR	**Alice Springs**	**25.53**	**221**	P	**P**	**06 26 09.4**	**-1.0**
	2.2nm,0.4s,mb4.0,baz=57,slow=8.8,SNR=27						
ASPA	**Alice Springs**	**25.54**	**221**	*e*P	**P**	**06 26 12.2**	**+1.7**
FITZ	**Fitzroy Crossi**	**28.84**	**241**	*e*P	**P**	**06 26 40.0**	**-0.1**
	6.9nm,1.6s,mb4.1						
FITZ	**Fitzroy Crossi**	**28.84**	**241**	P	**P**	**06 26 40.0**	**-0.2**
	0.8nm,0.4s,mb3.8,baz=50,slow=14,SNR=7.2						
ILAR	**Eielson Array**	**82.50**	**22**	P	**P**	**06 33 03.2**	**-0.5**
	0.3nm,0.7s,mb3.4,baz=239,slow=5.7,SNR=4.2						
TORD	**Torodi Ar. Bea**	**149.40**	**288**	PKPbc	PKPbc	06 40 30.6	+0.7
	0.6nm,0.6s,baz=115,slow=2.5,SNR=10						

*IDC **24** 06:23:23.1±1.7, 3193S×11199W, h0km, mb4.2/9, mb1 4.4/9, mb1mx4.2/18, mbtmp4.2/9, MS4.4/14, Ms1 4.4/14, ms1mx4.2/22, Error ellipse: s-maj=50.4km s-min=22.1km az=32.0*

*ISCJB **24** 06:23:23.8±0.6, 3178S±008×1119W±0.1, h10km, mb4.5/19, MS4.5/18, Error ellipse: s-maj=18.4km s-min=11.1km az=138.2*

*BJI **24** 06:23:25.4, 3180S×11180W, h10km, mB5.1, Ms5.0, Msz4.6*

*NEIC **24** 06:23:25.4±0.5, 3183S×11184W, h10km, mb4.8/11, Error ellipse: s-maj=14.4km s-min=8.6km az=46.0*

*HRVD **24** 06:23:25.4±0.3, 3178S×11147W, h12km, MW5.0/72, Centroid moment Tensor Solution. LP body waves: s37,c45;Mantle waves: s72,c107; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 3.27±.17; Mθθ -3.14±.12; Mϕϕ -0.13±.13; Mrθ -0.76±.25; Mϕθ 0.78±.09; Mϕr 0.02±.37; Best double couple: M0 3.38500×10^16 NP1: ϕs 106.00000°, δ 39.00000°, λ 94.00000°. NP2: ϕs 281.00000°, δ 51.00000°, λ 87.00000°. Principal axes: T 3.3590, Plg 83.0000°, Azm 170.0000°; N 0.0510, Plg 3.0000°, Azm 283.0000°; P -3.4110, Plg 6.0000°, Azm 13.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **24** 06:23:28.9±0.9, 3154S×11155W, h33km, mb5.0/7 Error ellipse: s-maj=28.5km s-min=18.2km az=84.5*

ISC 24 06:23:25.6±0.6, 3180S±008×1119W±01, h10km, (h10km±3.3km:pP-P), n66, σ0s67/37, mb4.5/19, MS4.5/18, 2C, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**34.27**	**117**	P	**P**	**06 30 11.4**	**-0.4**
	5.0nm,1.3s,mb4.3,baz=341,slow=10,SNR=3.3						
PLCA				LR	LR	06 40 25.7	
	comp=Z,232nm,18.3s,MS4.0,baz=79,slow=30						
PPT	**Papeete**	**36.83**	**284**	LR	LR	06 40 13.3	
	comp=Z,254nm,20.8s,MS4.0,baz=10,slow=27						
CFAA	**Coronel Fontan**	**36.99**	**102**	P	**P**	**06 30 33.7**	**-1.4**
	0.9nm,1.2s,mb3.5,baz=256,slow=8.7,SNR=7.2						
CFAA	**Coronel Fontan**	**36.99**	**102**	P	**P**	**06 30 33.7**	**-1.4**
LVC	**Limon Verde**	**39.13**	**87**	P	**P**	**06 30 53.5**	**+0.3**
	2.6nm,1.0s,mb3.9,baz=244,slow=6.4,SNR=6.3						
LVC	**Limon Verde**	**39.13**	**87**	*e*P	**P**	**06 30 53.8**	**+0.6**
	19nm,1.5s,mb4.6						
ARE	**Arequipa**	**39.69**	**77**	*e*P	**P**	**06 30 57.0**	**-0.8**
ATAH	**Atahualpa**	**39.82**	**59**	P	**P**	**06 30 59.9**	**+0.9**
	3.8nm,0.9s,mb4.1,baz=346,slow=8.9,SNR=5.2						
LPAZ	**La Paz**	**42.58**	**79**	P	**P**	**06 31 21.8**	**+0.2**
	2.2nm,1.0s,mb3.9,baz=265,slow=4.7,SNR=9.7						
LPAZ				LR	LR	06 44 49.7	
	comp=Z,98nm,18.6s,MS3.7,baz=106,slow=30						
CPUP	**Villa Florida**	**47.63**	**98**	LR	LR	06 48 40.8	
	comp=Z,125nm,18.1s,MS3.9,baz=172,slow=32						
ROSC	**El Rosal**	**51.09**	**51**	P	**P**	**06 32 29.6**	**+1.4**
	5.6nm,1.0s,mb4.5,baz=257,slow=9.6,SNR=12						
ROSC				LR	LR	06 50 19.8	
	comp=Z,306nm,19.0s,MS4.3,baz=202,slow=32						
RAO	**Raoul Island**	**56.10**	**254**	LR	LR	06 49 54.5	
	comp=Z,2μm,19.4s,MS5.2,baz=156,slow=28						
URZ	**Urewera**	**57.18**	**242**	LR	LR	06 52 16.9	
	comp=Z,523nm,20.7s,MS4.6,baz=135,slow=30						
QSPA	**South Pole Qui**	**58.39**	**180**	*e*P	**P**	**06 33 20.9**	**-0.2**
	110nm,2.3s,mb5.5						
VNDA	**Vanda**	**58.40**	**195**	LR	LR	06 53 43.3	
	comp=Z,685nm,18.4s,MS4.8,baz=80,slow=31						
BDFB	**Brasilia**	**59.92**	**90**	LR	LR	06 56 24.2	
	comp=Z,87nm,18.9s,MS3.9,baz=277,slow=33						
RPZ	**Rata Peaks**	**60.01**	**235**	LR	LR	06 53 03.3	
	comp=Z,333nm,19.5s,MS4.5,baz=278,slow=30						
LTX	**Lajitas**	**61.30**	**8**	*e*P	**P**	**06 33 41.6**	**+0.4**
LTX				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.5						
LTX	**Lajitas**	**61.30**	**8**	*e*P	**P**	**06 33 41.6**	**+0.4**
	comp=Z,3.9nm,1.0s,mb4.5						
JCT	**Junction City**	**63.00**	**12**	*e*P	**P**	**06 33 52.6**	**+0.1**
JCT				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.0						
JCT	**Junction City**	**63.00**	**12**	*e*P	**P**	**06 33 52.6**	**0.0**
	comp=Z,11nm,0.9s,mb5.0						
HKT	**Hockley**	**63.28**	**16**	*e*P	**P**	**06 33 54.3**	**-0.1**
HKT				pmax	pmax		
	comp=Z,22nm,1.6s,mb5.0						
HKT	**Hockley**	**63.28**	**16**	*e*P	**P**	**06 33 54.3**	**-0.2**
	comp=Z,22nm,1.6s,mb5.0						
VNA3	**Neumayer Olymp**	**64.04**	**159**	*e*P	**P**	**06 33 59.4**	**-0.1**
VNA3				*e*	pP	06 34 00.6	-2.1
VNA3				*e*	pP	06 34 02.7	0.0
VNA3				*e*		06 34 04.4	
VNA3				*e*		06 34 08.5	
VNA3				*e*		06 34 13.3	
VNA3				*e*		06 34 18.0	
VNA3				*e*		06 34 36.4	
VNA3				*e*		06 34 55.1	
VNA1	**Neumayer--Stat**	**64.70**	**159**	*e*P	**P**	**06 34 04.9**	**+1.1**
VNA1				*e*	pP	06 34 06.3	-0.7
VNA1				*e*	pP	06 34 08.0	+1.0
VNA1				*e*		06 34 09.9	
VNA1				*e*		06 34 14.3	
VNA1				*e*		06 34 18.4	
VNA1				*e*		06 34 23.5	
VNA1				*e*		06 34 27.1	
VNA1				*e*		06 34 59.3	
VNA2	**Neumayer--Watz**	**64.85**	**159**	*e*P	**P**	**06 34 05.0**	**+0.3**
	baz=254,slow=5.7						
VNA2				*e*	pP	06 34 06.2	-1.8
VNA2				*e*	pP	06 34 08.2	+0.2
VNA2				*e*	pP	06 34 09.7	+1.7
VNA2				*e*		06 34 14.0	
VNA2				*e*		06 34 18.3	
VNA2				*e*		06 34 23.1	
VNA2				*e*		06 34 27.1	
VNA2				*e*		06 34 37.1	
VNA2				*e*		06 34 55.3	
SNAA	**Sanae**	**65.84**	**161**	*e*P	**P**	**06 34 05.9**	**-5.2**
SNAA				*e*	pP	06 34 10.3	-4.1
SNAA				*e*		06 34 12.6	
SNAA				*e*		06 34 14.9	
SNAA				*e*		06 34 19.3	
SNAA				*e*		06 34 23.6	
SNAA				*e*		06 34 28.5	
SNAA				*e*		06 34 56.8	
ANMO	**Albuquerque**	**66.59**	**5**	*e*P	**P**	**06 34 16.6**	**+0.6**
ANMO				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ANMO	**Albuquerque**	**66.59**	**5**	*e*P	**P**	**06 34 16.6**	**+0.6**
	comp=Z,1.4nm,1.0s,mb4.0						
MIAR	**Mount Ida**	**68.22**	**16**	*e*P	**P**	**06 34 26.0**	**-0.3**
MIAR				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
MIAR	**Mount Ida**	**68.22**	**16**	*e*P	**P**	**06 34 26.0**	**-0.2**
	comp=Z,5.2nm,1.0s,mb4.5						
CMB	**Columbia Colle**	**69.92**	**353**	*e*P	**P**	**06 34 37.4**	**+0.6**
CMB				pmax	pmax		
	comp=Z,40nm,2.3s,mb4.9						
CMB	**Columbia Colle**	**69.92**	**353**	*e*P	**P**	**06 34 37.4**	**+0.6**
	comp=Z,40nm,2.3s,mb4.9						
MNV	**Mina**	**70.11**	**355**	*e*P	**P**	**06 34 38.2**	**+0.2**
MNV				*e*		06 34 57.7	
MNV				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.9						
MNV	**Mina**	**70.11**	**355**	*e*P	**P**	**06 34 38.2**	**+0.2**
	comp=Z,19nm,1.2s,mb4.9						
MNV				*e*PcP	PcP	06 34 57.7	-2.3
NVAR	**Mina Array Bea**	**70.12**	**355**	P	**P**	**06 34 38.2**	**+0.1**
	comp=Z,8.5nm,1.1s,mb4.6,baz=167,slow=7.6,SNR=33						
NVAR	**Mina Array Bea**	**70.12**	**355**	P	**P**	**06 34 38.2**	**+0.1**
PDAR	**Pinedale Array**	**74.23**	**2**	P	**P**	**06 35 01.9**	**-0.8**
	comp=Z,5.0nm,1.2s,mb4.3,baz=176,slow=4.5,SNR=14						
PDAR				LR	LR	07 01 47.1	
	comp=Z,225nm,21.2s,MS4.4,baz=137,slow=31						
HLID	**Hailey**	**75.03**	**358**	*e*P	**P**	**06 35 07.5**	**+0.2**
	comp=Z,11nm,1.1s,mb4.7						
ECSD	**EROS,Sioux Fal**	**76.46**	**11**	*e*P	**P**	**06 35 14.4**	**-1.1**
SYO	**Syowa Base**	**77.32**	**170**	*e*PcP	PcP	06 35 31.0	+0.1
NEW	**Newport**	**79.83**	**356**	*e*P	**P**	**06 35 33.7**	**-0.5**
NEW				pmax	pmax		
	comp=Z,11nm,1.4s						
NEW	**Newport**	**79.83**	**356**	*e*P	**P**	**06 35 33.7**	**-0.5**
	comp=

comp=N,81nm,23.2s,MS4.6
KMI LR LR
comp=E,89nm,24.4s,MS4.6
KMI LR LR
comp=Z,76nm,19.5s,MS4.5
LZH Lanzhou 150.12 288 *e*PKP PKPdf 06 43 08.0 -3.5
LZH APKP 06 43 11.0
LZH XPKP 06 43 13.3
KURK Kurchatov 159.54 341 *e*PKP2 PKPab 06 44 02.7 +0.2
WMQ Urumqi 160.45 313 PKP PKPdf 06 43 23.4 -2.0
WMQ APKP 06 43 28.4
WMQ XPKP 06 43 31.4
WMQ PKP2 PKPab 06 44 07.1 +0.6
WMQ PP PP 06 47 50.4 +1.7
WMQ PP PP
comp=Z,113nm,5.3s
WMQ LR LR
comp=N,56nm,22.0s
WMQ LR LR
comp=E,43nm,23.6s
WMQ LR LR
comp=Z,76nm,20.5s

*ISCJB **24** 06:25:42.7±0.4,5155N×002×707E±003,h0km, Error ellipse: s-maj=3.2km s-min=2.8km az=59.2*
*CSEM **24** 06:25:44.4±0.1,5165N×691E,h1km,ML2.8/3, Error ellipse: s-maj=4.8km s-min=2.0km az=95.0*
*BNS **24** 06:25:44.9±0.8,5163N×692E,h1km,ML2.0, GESPUERT IN DORSTEN ULFKOTTE, MARL POLSUM*
*BUG **24** 06:25:44.3,5162N×701E,h1km,ML1.5*
*NEIC **24** 06:25:45.3,5159N×692E,h1km,ML2.8(LDG), After LDG.*
*LDG **24** 06:25:45.3±0.5,5159N×692E,h1km,Ml2.8/3, Error ellipse: s-maj=9.2km s-min=6.1km az=8.0, Suspected Mining induced.*
*BGR **24** 06:25:45.6±0.6,5158N×705E,h1km,ML2.3/4, Error ellipse: s-maj=6.7km s-min=4.4km az=109.0*

ISC 24 06:25:44.0±0.4,5159N±002×700E±003,h0km,n38,
σ1§27/65,3D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZER	**Hlnxe**	**0.09**	**288**	Pg	**Pg**	**06 25 46.5**	**+0.9**
BZER				Sg	**Sg**	**06 25 48.5**	**+1.8**
BUG	**Bochum--Univer**	**0.23**	**132**	⇓*i*Pg	**Pg**	**06 25 50.0**	**+1.6**
BUG				*e*Sg	**Sg**	**06 25 53.7**	**+2.4**
LAUG	**Laupendahl**	**0.25**	**188**	*e*Pg	**Pg**	**06 25 50.2**	**+1.5**
WTSB	**Winterswijk** 20nm,0.7s	**0.39**	**342**	*e*Pg	**Pg**	**06 25 51.5**	**0.0**
WTSB	10nm,0.6s			*i* Sg	**Sg**	**06 25 56.6**	**0.0**
WTSB	**Winterswijk** 20nm,0.7s	**0.39**	**342**	*e*Pg	**Pg**	**06 25 51.5**	**0.0**
WTSB	10nm,0.6s			*i* Sg	**Sg**	**06 25 56.6**	**0.0**
HOBG	**Hohbusch**	**0.65**	**161**	*e*Pg	**Pg**	**06 25 57.8**	**+1.4**
HOBG				*e*Sg	**Sg**	**06 26 07.9**	**+3.1**
IBBN	**Ibbenburen** SNR=2.6	**0.85**	**33**	*e*Pg	**Pg**	**06 26 01.8**	**+1.4**
IBBN				*e*Sg	**Sg**	**06 26 13.0**	**+1.5**
STB	**Steinbach**	**1.01**	**186**	*e*Pg	**Pg**	**06 26 04.5**	**+1.3**
STB				*e*Sg	**Sg**	**06 26 19.4**	**+3.0**
KLL	**Kalltalsperre** 45nm,0.5s	**1.04**	**205**	*e*Pg	**Pg**	**06 26 04.9**	**+0.9**
KLL				*e*Sg	**Sg**	**06 26 18.9**	**+1.4**
HGN	**Heimansgroeve** 15nm,0.3s	**1.07**	**219**	*e*Pn	**Pn**	**06 26 05.1**	**-1.0**
HGN	18nm,0.2s			⇓*i*Pg	**Pg**	**06 26 05.9**	**+1.4**
HGN				*e*Sg	**Sg**	**06 26 20.7**	**+2.4**
HGN	**Heimansgroeve** 15nm,0.3s	**1.07**	**219**	*e*Pn	**Pn**	**06 26 05.1**	**-1.1**
HGN	**Heimansgroeve** 18nm,0.2s	**1.07**	**219**	⇓*i*Pg	**Pg**	**06 26 05.9**	**+1.4**
HGN				*e*Sg	**Sg**	**06 26 20.7**	**+2.4**
BEBN	**Eben Emael**	**1.15**	**227**	P	**Pg**	**06 26 06.4**	**+0.3**
BEBN				S	**Sg**	**06 26 23.9**	**+2.9**
BGG	**Burgeitz** comp=E,34nm,0.0s	**1.41**	**171**	*e*Pg	**Pg**	**06 26 11.0**	**+0.1**
BGG				*e*Sg	**Sg**	**06 26 29.1**	**-0.1**
BCLA	**Clavier**	**1.59**	**223**	P	**Pn**	**06 26 13.3**	**0.0**
BCLA	comp=E,15nm,0.0s			S	**Sn**	**06 26 37.1**	**+2.4**
TNS	**Taunus Mts** SNR=1.3	**1.65**	**146**	*e*Pn	**Pn**	**06 26 14.5**	**+0.3**
TNS				*e*Sg	**Sg**	**06 26 36.7**	**-0.4**
WLF	**Walferdange**	**2.01**	**196**	*e*Sg	**Sg**	**06 26 48.4**	**0.0**
GIVF	**Givet**	**2.03**	**224**	*e*Pg	**Pg**	**06 26 21.9**	**-1.1**
GIVF	comp=E,27nm,0.4s			*e*Sg	**Sg**	**06 26 48.1**	**-1.2**
GIVF	**Givet**	**2.03**	**224**	*e*Pn	**Pn**	**06 26 17.8**	**-1.7**
GIVF				*e*Pg	**Pg**	**06 26 21.9**	**-1.1**
GIVF				*e*Sg	**Sg**	**06 26 48.1**	**-1.2**
GIVF	**Givet**	**2.03**	**224**	*e*Pg	**Pg**	**06 26 21.9**	**-1.1**
GIVF	comp=E,14nm,0.4s			*e*Sg	**Sg**	**06 26 48.1**	**-1.2**
CLZ	**Clausthal** SNR=2.3	**2.11**	**82**	*e*Pg	**Pg**	**06 26 24.4**	**-0.1**
CLZ				*e*Sg	**Sg**	**06 26 50.7**	**-1.2**
BAIF	**Baives**	**2.34**	**230**	*e*Pg	**Pg**	**06 26 28.1**	**-0.8**
BAIF	comp=E,9.5nm,0.4s			*e*Sg	**Sg**	**06 26 57.8**	**-1.5**
BAIF	**Baives**	**2.34**	**230**	*e*Pn	**Pn**	**06 26 22.5**	**-1.2**
BAIF				*e*Pg	**Pg**	**06 26 28.1**	**-0.8**
BAIF				*e*Sg	**Sg**	**06 26 57.8**	**-1.5**
BAIF	**Baives** comp=E,4.8nm,0.4s	**2.34**	**230**	*e*Pg	**Pg**	**06 26 28.1**	**-0.8**
BAIF				*e*Sg	**Sg**	**06 26 57.8**	**-1.5**
MOX	**Moxa**	**3.06**	**106**	*e*Sg	**Sg**	**06 27 21.4**	**-0.9**
RFYF	**Reffroy**	**3.13**	**199**	*e*Pn	**Pn**	**06 26 33.3**	**-1.2**
CDF	**Champ du Feu**	**3.19**	**177**	*e*Pn	**Pn**	**06 26 34.4**	**-1.0**
CDF	comp=E,9.2nm,0.6s			*e*Sg	**Sg**	**06 27 25.5**	**-1.0**
CDF	**Champ du Feu** comp=E,4.6nm,0.6s	**3.19**	**177**	*e*Pn	**Pn**	**06 26 34.4**	**-1.0**
CDF				*e*Sg	**Sg**	**06 27 25.5**	**-1.0**
BFO	**Black Forest** SNR=2.0	**3.38**	**165**	*e*Pn	**Pn**	**06 26 38.1**	**+0.2**
WERD	**Werda**	**3.54**	**107**	*e*Sg	**Sg**	**06 27 37.0**	**-0.8**
LOR	**Lormes** baz=36	**4.79**	**207**	*e*Pn	**Pn**	**06 26 56.3**	**-1.1**
CABF	**La Chapelle**	**5.02**	**187**	*e*Pn	**Pn**	**06 27 00.2**	**-0.4**
SSF	**Saint Saulge**	**5.08**	**208**	*e*Pn	**Pn**	**06 26 59.9**	**-1.4**
AVF	**Avril sur Loir**	**5.37**	**208**	*e*Pn	**Pn**	**06 27 04.0**	**-1.3**
SMF	**Signal de Mont**	**5.37**	**204**	*e*Pn	**Pn**	**06 27 04.2**	**-1.1**
BGF	**Bois d'Agland**	**5.73**	**210**	*e*Pn	**Pn**	**06 27 09.2**	**-1.1**
GRR	**Gorron**	**6.00**	**241**	*e*Pn	**Pn**	**06 27 12.4**	**-1.5**
GRR				*e*Sn	**Sn**	**06 28 17.3**	**-6.0**
TCF	**Toulx Ste Croi**	**6.18**	**213**	*e*Pn	**Pn**	**06 27 14.8**	**-1.6**

*NEIC **24** 06:33:22.0,3834S×17722E,h42km,ML4.3(WEL), After WEL.*
NEIC Felt at Opotiki and Whakatane.

WEL 24 06:33:21.9±0.1,3835S×17723E,h44km±2km,ML4.2/16,
Error ellipse: s-maj=1.3km s-min=0.8km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.13**	**313**	PN	Pn	06 33 28.7	-0.4
URZ				SN	Sn	06 33 33.8	-0.3
URZ	**Urewera**	**0.13**	**313**	P	Pn	06 33 28.7	-0.4
MWZ	**Matawai**	**0.23**	**86**	PN	Pn	06 33 29.7	-0.1
MWZ				SN	Sn	06 33 35.4	+0.1
MWZ	**Matawai**	**0.23**	**86**	P	Pn	06 33 29.7	-0.1
MWZ				S	Sn	06 33 35.4	+0.1
EDRZ	**Edgecumbe**	**0.46**	**302**	PN	Pn	06 33 32.2	-0.1
EDRZ	**Edgecumbe**	**0.46**	**302**	P	Pn	06 33 32.2	-0.1
MARZ	**Manawahe**	**0.57**	**309**	PN	Pn	06 33 33.3	-0.4
MKRZ	**Makatiti**	**0.64**	**289**	PN	Pn	06 33 35.2	+0.6
LIRZ	**Lichensteins R**	**0.75**	**297**	PN	Pn	06 33 35.8	-0.3
LIRZ	**Lichensteins R**	**0.75**	**297**	P	Pn	06 33 35.8	-0.3
KNZ	**Kokohu**	**0.75**	**153**	PN	Pn	06 33 36.2	+0.1
KNZ	**Kokohu**	**0.75**	**153**	P	Pn	06 33 36.2	+0.1
UTU	**Utuhina**	**0.84**	**282**	PN	Pn	06 33 37.1	-0.2
PUZ	**Puketiti**	**0.85**	**71**	PN	Pn	06 33 37.9	+0.4
TGRZ	**Tauranga**	**0.99**	**309**	PN	Pn	06 33 38.3	-1.0
BKZ	**Black Stump Fm**	**1.00**	**215**	PN	Pn	06 33 39.2	-0.3
BKZ	**Black Stump Fm**	**1.00**	**215**	P	Pn	06 33 39.2	-0.3
HATZ	**Hinemaiaia**	**1.04**	**238**	PN	Pn	06 33 39.7	-0.4
HATZ				SN	Sn	06 33 52.5	-1.0
WHTZ	**Whakaora**	**1.05**	**252**	PN	Pn	06 33 40.5	+0.3
MXZ	**Matakaoa Point**	**1.16**	**48**	PN	Pn	06 33 41.9	+0.3
WATZ	**Wairara**	**1.23**	**253**	PN	Pn	06 33 42.3	-0.4
RITZ	**Rihia Road**	**1.25**	**239**	PN	Pn	06 33 42.5	-0.4
RATZ	**Rangitukua**	**1.26**	**245**	PN	Pn	06 33 43.1	+0.1
KATZ	**Kakaramea**	**1.36**	**242**	PN	Pn	06 33 44.4	0.0
KRVZ	**Karewarewa**	**1.45**	**239**	PN	Pn	06 33 45.5	-0.1
OTVZ	**Oturere**	**1.47**	**236**	PN	Pn	06 33 45.8	-0.2
WTVZ	**West Tongariro**	**1.50**	**239**	PN	Pn	06 33 45.8	-0.4
TOZ	**Tahuroa Road**	**1.50**	**294**	PN	Pn	06 33 45.7	-0.6
TUVZ	**Tukino**	**1.54**	**233**	PN	Pn	06 33 46.6	-0.2
MOVZ	**Moawhango**	**1.56**	**227**	PN	Pn	06 33 46.6	-0.6
MOVZ				SN	Sn	06 34 05.3	-0.9
WPVZ	**Whakapapa**	**1.57**	**237**	PN	Pn	06 33 47.3	0.0
PXZ	**Pawanui**	**1.70**	**190**	PN	Pn	06 33 47.9	-1.3
HIZ	**Hauiti**	**1.87**	**264**	PN	Pn	06 33 51.8	+0.3
HIZ	**Hauiti**	**1.87**	**264**	P	Pn	06 33 51.8	+0.3
TSZ	**Takapari Road**	**1.97**	**210**	PN	Pn	06 33 51.8	-1.0
KUZ	**Kuaotunu**	**2.00**	**323**	PN	Pn	06 33 51.6	-1.6
MKAZ	**Moumakai**	**2.05**	**306**	PN	Pn	06 33 53.4	-0.5
MKAZ	**Moumakai**	**2.05**	**306**	P	Pn	06 33 53.4	-0.5
VRZ	**Vera Road**	**2.08**	**247**	PN	Pn	06 33 55.0	+0.7
WAZ	**Wanganui**	**2.24**	**231**	PN	Pn	06 33 57.1	+0.6
MTAZ	**Motutapu**	**2.42**	**309**	PN	Pn	06 33 58.9	0.0
MTAZ	**Motutapu**	**2.42**	**309**	P	Pn	06 33 58.9	0.0
BFZ	**Birch Farm**	**2.45**	**198**	PN	Pn	06 33 57.2	-2.2
WTAZ	**Waiatarua**	**2.54**	**303**	PN	Pn	06 34 00.9	+0.3
WTAZ	**Waiatarua**	**2.54**	**303**	P	Pn	06 34 00.9	+0.3
TIWZ	**Tintock**	**2.64**	**203**	PN	Pn	06 34 00.1	-1.9
MRZ	**Mangatainoka R**	**2.64**	**208**	PN	Pn	06 33 59.9	-2.1
PKE	**Puketi**	**2.67**	**251**	PN	Pn	06 34 04.1	+1.7
WCZ	**Waipu Caves**	**3.33**	**315**	PN	Pn	06 34 11.5	0.0
WCZ	**Waipu Caves**	**3.33**	**315**	*e*P	Pn	06 34 11.5	0.0
NNZ	**Nelson**	**4.12**	**225**	P	Pn	06 34 24.7	+2.3
QRZ	**Quartz Range**	**4.39**	**234**	*e*P	Pn	06 34 25.2	-0.9
THZ	**Tophouse**	**4.76**	**223**	*e*P	Pn	06 34 28.7	-2.4
KHZ	**Kahutara**	**4.95**	**214**	*e*P	Pn	06 34 33.9	+0.3
DSZ	**Denniston Nort**	**5.37**	**229**	*e*P	Pn	06 34 40.8	+1.3
LTZ	**Lake Taylor**	**5.82**	**219**	*e*P	Pn	06 34 43.1	-2.5
WVZ	**Waitaha Valley**	**6.83**	**224**	*e*P	Pn	06 34 58.3	-1.2
ODZ	**Otahua Downs**	**8.31**	**214**	*e*P	Pn	06 35 16.8	-2.9

*BJI **24** 06:48:37.5,2951S×17769W,h161km,mB5.2,mb5.2*
*HRVD **24** 06:48:40.7±0.4,2905S×17830W,h209km±2km,MW5.2/50, Centroid moment Tensor Solution. LP body waves: s34,c41;Mantle waves: s50,c68; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr4.18±.25; Mθθ0.79±.31; Mφφ-4.97±.27; Mrθ2.81±.29; Mrφ-1.18±.33; Mθφ4.36±.23; Best double couple: M0 7.03400×10^16^ NP1:ϕ171.00000°, δ25.00000°,λ55.00000° NP2:ϕ28.00000°,δ70.00000°, λ105.00000°. Principal axes: T 6.7620, Plg62.0000°, Azm321.0000°; N 0.5470, Plg14.0000°, Azm203.0000°; P -7.3060, Plg23.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **24** 06:48:43.0±1.5,2916S×17856W,h179km,mb5.1/11 Error ellipse: s-maj=13.9km s-min=12.2km az=77.2*
*ISCJB **24** 06:48:44.7±0.3,2972S±003×17849W±006,h203km, mb4.7/40, Error ellipse: s-maj=8.2km s-min=3.5km az=36.0*
*NEIC **24** 06:48:46.2±0.2,2928S×17853W,mb4.8/25, Error ellipse: s-maj=10.3km s-min=7.1km az=155.0*
*IDC **24** 06:48:46.4±0.2,2921S×17847W,h200km±2km, mb4.4/14, mb1 4.5/15,mb1mx4.4/18,mbtmp4.9/15,MS3.9/2, Ms1 3.9/2,ms1mx3.1/20, Error ellipse: s-maj=13.5km s-min=11.4km az=164.0*

ISC 24 06:48:45.8±0.3,2977S±003×17839W±007,h204km,
h204km±2.9km;pP-P,n212,σ1§24/130,mb4.7/40,16C-11D,
Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.66**	**39**	P	**Pn**	**06 49 14.5**	**+0.5**
RAO	14μm,0.3s,baz=278,slow=3.2,SNR=411			S	**Sn**	**06 49 35.2**	**-0.7**
RAO	**Raoul Island**	**0.66**	**39**	*e*P	**Pn**	**06 49 14.2**	**+0.2**
RAO	2μm,0.3s,baz=104,slow=23,SNR=18			*e*S	**Sn**	**06 49 35.0**	**-0.9**
RAO	**Raoul Island**	**0.66**	**39**	⇑*i*P	**Pn**	**06 49 14.4**	**+0.4**
RAO				*e*S	**Sn**	**06 49 35.0**	**-0.9**
PUZ	**Puketiti**	**8.74**	**198**	PN	**Pn**	**06 50 48.3**	**-0.2**
MWZ	**Matawai**	**9.19**	**201**	PN	**Pn**	**06 50 54.0**	**-0.4**
MWZ				SN	**Sn**	**06 52 41.6**	**+4.2**
URZ	**Urewera** 0.7nm,0.3s,baz=136,slow=6.7,SNR=20	**9.26**	**203**	P	**Pn**	**06 50 54.5**	**-0.8**
URZ	18nm,0.3s,baz=39,slow=23,SNR=13			S	**Sn**	**06 52 41.0**	**+2.0**
URZ	**Urewera**	**9.26**	**203**	PN	**Pn**	**06 50 55.1**	**-0.2**
KNZ	**Kokohu**	**9.79**	**198**	PN	**Pn**	**06 51 03.1**	**+0.9**
BKZ	**Black Stump Fm**	**10.28**	**203**	PN	**Pn**	**06 51 12.2**	**+3.7**
BKZ				SN	**Sn**	**06 53 06.5**	**+3.1**
PXZ	**Pawanui**	**10.95**	**200**	PN	**Pn**	**06 51 15.7**	**-1.5**
PXZ				SN	**Sn**	**06 53 18.3**	**-1.2**
TSZ	**Takapari Road**	**11.26**	**203**	PN	**Pn**	**06 51 18.9**	**-2.2**
TSZ				SN	**Sn**	**06 53 27.1**	**+0.3**
WAZ	**Wanganui**	**11.35**	**207**	PN	**Pn**	**06 51 24.6**	**+2.4**
WAZ				SN	**Sn**	**06 53 31.3**	**+2.4**
BFZ	**Birch Farm**	**11.73**	**200**	PN	**Pn**	**06 51 25.0**	**-2.2**
MRZ	**Mangatainoka R**	**11.93**	**203**	PN	**Pn**	**06 51 26.3**	**-3.3**
TIWZ	**Tintock**	**11.94**	**201**	PN	**Pn**	**06 51 28.4**	**-1.2**
TIWZ				SN	**Sn**	**06 53 39.1**	**-3.7**
KIW	**Kapiti Island**	**12.34**	**204**	PN	**Pn**	**06 51 32.7**	**-2.1**
PAWZ	**Paruwai Farm**	**12.63**	**202**	SN	**Sn**	**06 53 55.2**	**-4.1**
SNZO	**South Karori**	**12.81**	**204**	*e*P	**Pn**	**06 51 41.1**	**+0.5**
TCW	**Tory Channel**	**12.88**	**206**	PN	**Pn**	**06 51 41.1**	**-0.5**
TUWZ	**Tuamarina**	**13.20**	**206**	PN	**Pn**	**06 51 45.7**	**+0.3**
NNZ	**Nelson**	**13.24**	**208**	PN	**Pn**	**06 51 44.9**	**-1.1**
NNZ				SN	**Sn**	**06 54 08.0**	**-5.8**
QRZ	**Quartz Range**	**13.28**	**211**	PN	**Pn**	**06 51 46.5**	**-0.1**
THZ	**Tophouse**	**13.89**	**208**	PN	**Pn**	**06 51 52.4**	**-1.7**
THZ				SN	**Sn**	**06 54 25.1**	**-4.2**
KHZ	**Kahutara**	**14.20**	**205**	PN	**Pn**	**06 51 56.9**	**-1.1**
DSZ	**Denniston Nort**	**14.35**	**211**	PN	**Pn**	**06 51 59.2**	**-0.6**
LTZ	**Lake Taylor**	**15.00**	**207**	PN	**Pn**	**06 52 05.8**	**-1.9**
DZM	**Mont Dzumac** 0.7nm,0.3s,baz=110,slow=15,SNR=3.1	**15.64**	**296**	P	**Pn**	**06 52 16.4**	**+0.9**
RPZ	**Rata Peaks** 0.6nm,0.3s,baz=20,slow=5.9,SNR=5.0	**16.27**	**208**	P	**P**	**06 52 22.9**	**+0.6**
RPZ	2.6nm,0.3s,baz=29,slow=23,SNR=12			S	**S**	**06 55 16.2**	**-6.1**
AFI	**Afiamalu** 9.4nm,0.3s,baz=187,slow=20,SNR=11	**16.93**	**23**	P	**P**	**06 52 22.5**	**-7.0**
AFI	16nm,0.3s,baz=79,slow=20,SNR=7.0			S	S	06 55 10.5	-25
AFI	**Afiamalu**	**16.93**	**23**	*e*P	**P**	**06 52 23.7**	**-5.8**
AFI	comp=Z,49nm,0.5s			pmax	pmax		
AFI	**Afiamalu** comp=Z,49nm,0.5s	**16.93**	**23**	*e*P	**P**	**06 52 23.7**	**-5.8**
JCZ	**Jackson Bay**	**17.56**	**212**	PN	**Pn**	**06 52 38.9**	**+0.5**
RAR	**Rarotonga** comp=Z,3.0nm,0.3s,baz=229,slow=7.7,SNR=6.8	**18.82**	**67**	P	**P**	**06 52 51.2**	**+1.0**
HNR	**Honiara** comp=Z,161nm,18.4s,baz=179,slow=31	**28.63**	**311**	LR	LR	07 03 29.9	
CTA	**Charters Tower** comp=Z,6.2nm,0.3s,mb4.6	**33.37**	**279**	*e*P	**P**	**06 55 06.1**	**+1.4**
CTA	**Charters Tower** comp=Z,7.6nm,0.3s,mb4.7,baz=104,slow=11,SNR=21	**33.37**	**279**	P	**P**	**06 55 05.8**	**+1.2**
CTAO	**Charters Tower**	**33.37**	**279**	*e*P	**P**	**06 55 05.4**	**+0.7**
CTAO	comp=Z,7.0nm,0.4s,mb4.5			pmax	pmax		
CTAO	**Charters Tower** comp=Z,7.2nm,0.4s,mb4.6	**33.37**	**279**	*e*P	**P**	**06 55 05.4**	**+0.8**
STKA	**Stephens Creek** comp=Z,5.4nm,0.4s,mb4.4	**34.30**	**256**	*e*P	**P**	**06 55 13.3**	**+0.6**
STKA	**Stephens Creek** comp=Z,7.5nm,0.4s,mb4.5,baz=94,slow=9.2,SNR=14	**34.30**	**256**	P	**P**	**06 55 13.7**	**+1.0**
PMG	**Port Moresby** comp=Z,11nm,0.8s,mb4.5,baz=203,slow=6.5,SNR=3.7	**38.03**	**295**	P	**P**	**06 55 44.3**	**+0.1**
PMG				PcP	PcP	06 57 56.5	+1.3
AS31	**Alice Springs**	**42.81**	**266**	*e*P	**P**	**06 56 24.1**	**+0.7**
ASAR	**Alice Springs** comp=Z,15nm,0.6s,mb4.6,baz=100,slow=6.1,SNR=130	**42.81**	**266**	P	**P**	**06 56 23.9**	**+0.6**
ASAR	comp=Z,1.2nm,0.4s,baz=120,slow=4.4,SNR=4.4			PcP	PcP	06 58 12.8	+2.1
ASAR	comp=Z,0.9nm,0.7s,baz=114,slow=4.3,SNR=4.3			ScP	ScP	07 01 43.8	+1.7
ASAR	**Alice Springs**	**42.81**	**266**	P	**P**	**06 56 24.0**	**+0.6**
ASAR						06 58 12.8	
ASPA	**Alice Springs**	**42.81**	**266**	*e*P	**P**	**06 56 24.1**	**+0.7**
WB2	**Warramunga Arr**	**43.73**	**272**	⇑*i*P	**P**	**06 56 31.0**	**+0.2**
WRAB	**Tennant Creek**	**43.73**	**272**	*e*P	**P**	**06 56 30.9**	**+0.1**
WRAB	comp=Z,17nm,0.6s,mb4.5			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,11nm,0.6s,mb4.4	**43.73**	**272**	*e*P	**P**	**06 56 30.9**	**+0.1**
WRA	**Warramunga Arr** comp=Z,9.9nm,0.4s,mb4.5,baz=110,slow=8.0,SNR=199	**43.74**	**272**	P	**P**	**06 56 30.8**	**0.0**
WRA				PcP	PcP	06 58 15.1	+1.3
WRA	comp=Z,8.2nm,0.9s,baz=124,slow=3.2,SNR=7.9			ScP	ScP	07 01 47.7	+1.8
WRA	comp=Z,1.8nm,0.9s,baz=111,slow=4.2,SNR=4.5			S	**S**	**07 02 41.9**	**-3.5**
WRA	**Warramunga Arr** comp=Z,0.9nm,0.8s,baz=109,slow=14,SNR=4.2	**43.74**	**272**	P	**P**	**06 56 30.8**	**0.0**
WRA						06 58 15.1	
WRA				S	**S**	**07 02 41.9**	**-3.5**
FORT	**Forrest** comp=Z,22nm,0.8s,mb4.5	**45.88**	**255**	*e*P	**P**	**06 56 48.0**	**+0.2**
KAKA	**Kakadu** comp=Z,9.5nm,0.6s,mb4.3	**48.49**	**280**	*e*P	**P**	**06 57 07.2**	**-0.7**
SBA	**Scott Base**	**48.64**	**184**	*e*P	**P**	**06 57 16.6**	**+7.6**
SBA	comp=Z,64nm,1.2s,mb4.8			pmax	pmax		
SBA	**Scott Base** comp=Z,15nm,0.6s,mb4.5	**48.64**	**184**	*e*P	**P**	**06 57 16.6**	**+7.6**
VNDA	**Vanda** comp=Z,2.1nm,0.6s,mb3.7,baz=7.3,slow=7.9,SNR=25	**48.69**	**186**	P	**P**	**06 57 15.5**	**+6.1**
VNDA	comp=Z,1.7nm,0.7s,baz=86,slow=1.3,SNR=2.5			PcP	PcP	06 58 33.9	+2.6
VNDA	comp=Z,1.2nm,0.8s,baz=1.0,slow=4.1,SNR=5.2			ScP	ScP	07 02 09.2	+2.6
VNDA	**Vanda**	**48.69**	**186**	P	**P**	**06 57 15.5**	**+6.1**
VNDA						06 58 33.9	
FITZ	**Fitzroy Crossi** comp=Z,8.3nm,0.6s,mb4.3	**52.02**	**270**	*e*P	**P**	**06 57 35.0**	**+0.7**
FITZ	**Fitzroy Crossi** comp=Z,8.8nm,0.9s,mb4.2,baz=135,slow=10,SNR=29	**52.02**	**270**	P	**P**	**06 57 35.4**	**+1.1**
CASY	**Casey** comp=Z,31nm,0.6s,mb5.0	**55.54**	**208**	*e*P	**P**	**06 58 02.2**	**+2.4**
MBWA	**Marble Bar** comp=Z,20nm,0.6s,mb4.8	**55.96**	**263**	*e*P	**P**	**06 58 03.3**	**+0.5**
QSPA	**South Pole Qui** comp=Z,12nm,0.9s,mb4.5	**60.34**	**180**	*e*P	**P**	**06 58 38.7**	**+5.6**
MIR	**Mirnyy**	**62.53**	**207**	*e*P	**P**	**06 58 51.0**	**+3.2**
MIR	comp=Z,210nm,1.1s,mb5.7			pmax	pmax		
MAW	**Mawson** comp=Z,12nm,0.6s,mb4.7,baz=132,slow=6.6,SNR=15	**72.78**	**201**	P	**P**	**06 59 55.2**	**+3.4**
MAW	**Mawson**	**72.78**	**201**	*e*P	**P**	**06 59 54.9**	**+3.1**
MAW				*e*		07 00 11.1	
MAW	comp=Z,59nm,1.3s			pmax	pmax		
MAW	**Mawson** comp=Z,59nm,1.3s,mb5.0	**72.78**	**201**	*e*P	**P**	**06 59 54.9**	**+3.1**
MAW				*e*PcP	PcP	07 00 11.1	+3.2
MJAR	**Matsushiro Arr** comp=Z,34nm,0.9s,mb5.0,baz=161,slow=5.2,SNR=58	**77.53**	**325**	P	**P**	**07 00 16.9**	**-2.0**
MAJO	**Matsushiro** comp=Z,57nm,0.9s,mb5.2	**77.53**	**325**	*e*P	**P**	**07 00 17.5**	**-1.4**
MAJO				pmax	pmax		
MAJO	**Matsushiro** comp=Z,59nm,0.9s,mb5.2	**77.53**	**325**	*e*P	**P**	**07 00 17.5**	**-1.4**
MAT	**Matsushiro**	**77.53**	**325**	P	**P**	**07 00 17.2**	**-1.7**
MAT	**Matsushiro**	**77.53**	**325**	*e*P	**P**	**07 00 17.0**	**-1.9**
MAT	comp=Z,43nm,1.0s,mb5.0			pmax	pmax		
MAT	**Matsushiro** comp=Z,43nm,1.0s,mb5.0	**77.53**	**325**	*e*P	**P**	**07 00 17.0**	**-1.9**
SYO	**Syowa Base**	**77.65**	**193**	⇓*e*P	**P**	**07 00 22.0**	**+2.4**
SYO	**Syowa Base**	**77.65**	**193**	⇓*e*PcP	PcP	07 00 33.2	+4.3
SNAA	**Sanae** comp=Z,4.2nm,1.1s,mb4.0,baz=175,slow=6.4,SNR=7.3	**78.80**	**179**	P	**P**	**07 00 28.8**	**+2.9**
SNAA	**Sanae**	**78.80**	**179**	⇑*i*P	**P**	**07 00 24.3**	**-1.5**
SNAA				*e*		07 00 27.8	
SNAA				*e*		07 00 30.8	
SNAA				*e*		07 00 34.7	
SNAA				*e*	*e*P	07 01 13.0	-1.9
SNAA				*e*	*e*P	07 01 14.7	-0.2
SNAA				*e*		07 01 20.0	
SNAA				*e*		07 01 25.8	
VNA3	**Neumayer Olymp**	**78.96**	**176**	⇑*i*P	**P**	**07 00 29.9**	**+3.2**
VNA3				*e*		07 00 34.0	
VNA3				*e*		07 00 37.0	
VNA3				*e*		07 00 40.2	
VNA3				*e*		07 00 42.5	
VNA3				*e*	*e*P	07 01 18.5	+2.7
VNA3				*e*	*e*P	07 01 19.9	+4.1
VNA3				*e*		07 01 23.9	
VNA3				*e*		07 01 29.1	
VNA3				*e*		07 03 39.2	
VNA2	**Neumayer--Watz**	**79.39**	**177**	⇑*i*P	**P**	**07 00 32.9**	**+3.8**
VNA2				*e*		07 00 36.7	
VNA2				*e*		07 00 39.6	
VNA2				*e*		07 00 42.8	
VNA2				*e*		07 00 45.0	
VNA2				*e*	*e*P	07 01 21.0	+2.8
VNA2				*e*	*e*P	07 01 22.0	+3.8
VNA2

MDJ LR LR
comp=N,28nm,33.1s
MDJ LR LR
comp=E,59nm,27.6s
MDJ LR LR
comp=Z,63nm,24.9s
MDJ Mudanjiang 87.91 326 *e*P **P 07 01 12.2 0.0**
comp=Z,21nm,1.2s,mb4.8
NVAR Mina Array Bea 88.01 43 P **P 07 01 12.9 +0.2**
comp=Z,5.2nm,0.7s,mb4.5,baz=230,slow=11,SNR=43
NVAR pP pP 07 02 02.6 -0.2
comp=Z,3.6nm,0.8s,baz=231,slow=11,SNR=8.2
NEN Nelson 88.35 47 *e*P **P 07 01 14.7 +0.4**
SNY Shenyang 89.09 321 ⇑P **P 07 01 16.8 -1.0**
SNY AMB AMB
comp=Z,20nm,1.8s,mb4.7
SNY AMB AMB
comp=Z,112nm,4.3s
CN2 Changchun 89.43 323 *e*P **P 07 01 18.6 -0.8**
CN2 AMB AMB
comp=Z,50nm,1.0s,mb5.3
KLR Kul'dur 90.32 330 *e*P **P 07 01 19.7 -3.8**
ARUT Antelope Range 90.56 46 *e*P **P 07 01 25.5 +0.9**
GYA Guiyang 90.94 300 ⇑*i*P **P 07 01 26.8 +0.4**
GYA PP PP 07 05 07.9 +2.5
GYA SKS 07 11 37.1
GYA S 07 12 02.8
GYA AMB AMB
comp=Z,20nm,1.1s,mb5.0
GYA AMB AMB
comp=Z,110nm,4.8s
GYA LR LR
comp=N,340nm,20.8s
GYA LR LR
comp=E,380nm,21.4s
GYA LR LR
comp=Z,310nm,21.7s
BJT Baijiatuan 92.23 316 *e*P **P 07 01 31.0 -1.4**
BJT pmax pmax
comp=Z,6.0nm,0.5s
BJT Baijiatuan 92.23 316 *e*P **P 07 01 31.0 -1.3**
comp=Z,6.2nm,0.5s,mb4.8
BJI Beijing 92.24 316 P **P 07 01 31.3 -1.1**
BJI AMB AMB
comp=Z,20nm,0.9s,mb5.0
BJI Beijing 92.24 316 P **P 07 01 31.3 -1.1**
comp=Z,20nm,0.9s,mb5.0
LAZ Ladron 92.68 52 *e*P **P 07 01 35.8 +1.4**
CHTO Chiang Mai 93.05 290 *e*P **P 07 01 37.5 +1.4**
CHTO pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
CHTO Chiang Mai 93.05 290 *e*P **P 07 01 37.5 +1.3**
comp=Z,5.5nm,0.8s,mb4.6
KMI Kunming 93.23 297 P **P 07 01 38.6 +1.6**
KMI LR LR
comp=Z,38nm,27.6s
HVU Hansel Valley 93.41 43 *e*P **P 07 01 38.1 +0.3**
HVU pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
HVU Hansel Valley 93.41 43 *e*P **P 07 01 38.1 +0.3**
comp=Z,9.3nm,1.3s,mb4.7
ANMO Albuquerque 93.45 51 *e*P **P 07 01 39.2 +1.2**
ANMO *e* pP 07 02 28.7 +0.4
ANMO pmax pmax
comp=Z,2.0nm,1.0s
ANMO Albuquerque 93.45 51 *e*P **P 07 01 38.9 +0.9**
comp=Z,2.3nm,1.0s,mb4.2
ANMO *e*pP pP 07 02 28.4 +0.1
HHC Hu-ho-hao-te 95.55 314 *e*P **P 07 01 48.1 +0.5**
HHC PP PP 07 05 43.5 +2.2
HHC SKS 07 12 06.1
HHC S 07 12 43.3
HHC SS SS 07 19 19.0 -0.5
HHC AMB AMB
comp=Z,14nm,1.2s,mb5.1
HHC AMB AMB
comp=Z,50nm,4.9s
HHC LR LR
comp=N,149nm,23.6s
HHC LR LR
comp=E,122nm,19.9s
HHC LR LR
comp=Z,80nm,20.7s
PDAR Pinedale Array 95.91 44 P **P 07 01 49.0 -0.3**
comp=Z,1.1nm,0.8s,mb4.1,baz=204,slow=3.3,SNR=6.0
COLA College 97.29 13*c i*P **P 07 01 54.0 -1.5**
COLA College 97.29 13 *e*P **P 07 01 53.9 -1.6**
ILAR Eielson Array 97.39 13 P **P 07 01 53.8 -2.1**
comp=Z,2.4nm,1.0s,mb4.4,baz=229,slow=5.4,SNR=12
LZH Lanzhou 98.07 307 *e*P **P 07 01 57.4 -1.6**
LZH XP sP 07 02 52.8 -18
LZH PP PP 07 06 01.0 +0.3
LZH *e*S 07 13 00.0
LZH AMB AMB
comp=Z,10.0nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,60nm,5.7s
LZH Lanzhou 98.07 307 *e*P **P 07 01 57.4 -1.6**
comp=Z,10.0nm,1.0s,mb5.1
LZH pP pP 07 02 34.4 -15
LZH sP sP 07 02 52.8 -18
LZH PP PP 07 06 01.0 +0.3
LZH SKS 07 12 08.0
LZH *e*S 07 13 00.0
LZH sS 07 13 08.0
LZH SS SS 07 19 54.0 -1.0
YKA Yellowknife Ar 105.02 26 PKiKP PKiKP 07 06 41.3 -2.2
comp=Z,20nm,0.5s,baz=254,slow=1.6,SNR=5.4
YKA PKKPbc PKKPbc 07 18 12.4 +1.6
comp=Z,0.3nm,0.6s,baz=41,slow=3.0,SNR=9.1
WMQ Urumqi 112.57 309 PKP PKiKP 07 06 57.3 -0.4
WMQ PP PP 07 07 48.5 +1.1
WMQ XPKP 07 07 56.4
WMQ PP PP
comp=Z,57nm,4.2s
WMQ LR LR
comp=N,107nm,23.5s
WMQ LR LR
comp=E,78nm,24.6s
WMQ LR LR
comp=Z,76nm,21.3s
POO Poona 114.06 278 *e*x x 07 02 52.0
MKAR Makanchi Array 117.11 310 PKP PKPdf 07 07 04.8 -1.5
comp=Z,0.7nm,0.4s,baz=230,slow=2.2,SNR=14
MKAR Makanchi Array 117.11 310 PKPdf PKPdf 07 07 04.9 -1.5
KURK Kurchatov 120.37 314*c i*PKIKP PKPdf 07 07 10.9 -1.7
MATP Matopo 123.78 211 PKP PKPdf 07 07 20.7 +1.5
comp=Z,5.2nm,0.8s,baz=209,slow=2.6,SNR=9.4
MATP Matopo 123.78 211 PKP PKPdf 07 07 20.7 +1.5
CHKZ Chkalovo 125.62 317 *e*PKIKP PKPdf 07 07 21.2 -1.5
BRVK Borovoye 125.78 316 *e*PKIKP PKPdf 07 07 22.4 -0.6
ZRNK Zerenda 126.55 316 *e*PKIKP PKPdf 07 07 23.5 -1.0
ARU Arti 132.39 321 *i* PKIKP PKPdf 07 07 34.1 -1.5
ARU *e* 07 09 57.4
ARU *e*SS SS 07 27 14.9 -8.3
AKTK Aktyubinsk 133.43 313 PKP PKPdf 07 07 37.1 -0.4
AKTO Aktyubinsk 133.43 313 PKP PKPdf 07 07 37.1 -0.4
comp=Z,2.7nm,0.7s,baz=78,slow=8.2,SNR=10
KEV Kevo 137.43 347 *e*pkp PKPdf 07 07 41.3 -3.7
ARCES ARCESS Array B 137.90 348 PKhKP 07 07 38.0
comp=Z,1.8nm,0.7s,baz=78,slow=1.6,SNR=6.3
ARCES PKP PKPdf 07 07 44.6 -1.2
comp=Z,4.9nm,0.6s,baz=90,slow=0.1,SNR=11
ARCES ARCESS Array B 137.90 348 PKIKP PKPdf 07 07 44.7 -1.2
ARCES ARCESS Array B 137.90 348 PKP PKPdf 07 07 38.0 -7.9
ARCES PKP PKPdf 07 07 44.6 -1.2
JOF Joensuu 141.71 339 *e*pkp PKPdf 07 07 46.7 -6.1
KAF Kangasniemi 143.84 341 *e*pkp PKPdf 07 07 49.4 -7.1
ZEI Tsey 143.89 303 *e*PKIKP PKPdf 07 07 54.4 -2.2
FINES FINESS Array B 144.44 340 PKP PKPdf 07 07 54.5 -3.1
comp=Z,26nm,0.8s,baz=65,slow=3.9,SNR=98
FINES FINESS Array B 144.44 340 PKP PKPdf 07 07 54.5 -3.1
OBN Obninsk 144.46 326 ⇑*i*PKIKP PKPdf 07 07 54.5 -3.1
OBN pmax pmax
comp=Z,24nm,0.7s
OBN pmax pmax
comp=Z,25nm,1.4s
KIV Kislovodsk 144.59 305*c i*PKIKP PKPdf 07 07 56.8 -1.0
VRSR Storozhevoye 144.83 318 *e*PKIKP PKPdf 07 07 56.9 -1.3
VRSR pmax pmax
comp=Z,4.0nm,0.9s
VRSR pmax pmax
comp=N,2.0nm,0.8s
VRSR pmax pmax
comp=E,4.0nm,1.0s

SOC Sochi 146.77 305 ⇓*i*PKP2 PKPab 07 08 04.3 -1.0
SOC *e* 07 11 35.5
SOC pmax pmax
comp=Z,20nm,0.6s
SOC Sochi 146.77 305 ⇓*i*PKPab PKPab 07 08 04.3 -1.0
SOC *e* 07 11 35.5
NB2 NORSAR Subarra1 148.08 351 PKPa PKPbc 07 08 05.5 -1.7
comp=Z,32nm,0.9s,baz=13,slow=2.9
NB2 NORSAR Subarra1 148.08 351 PKPa PKPbc 07 08 05.5 -1.7
baz=13,slow=2.9
NOA NORSAR Array B 148.08 351 PKPbc PKPbc 07 08 05.1 -2.0
comp=Z,18nm,0.8s,baz=15,slow=4.5,SNR=30
ANN Anapa 148.08 308 *i* PKP2 PKPbc 07 08 06.3 -0.9
ANN pmax pmax
comp=Z,60nm,1.0s
NAO01 NORSAR Array S 148.31 351 *e*PKPbc PKPbc 07 08 06.7 -1.1
HFS Hagfors 148.56 348 PKP PKPdf 07 08 03.2 -1.3
comp=Z,23nm,0.8s,baz=133,slow=14,SNR=17
HFS PKPbc PKPbc 07 08 06.4 -2.0
comp=Z,24nm,0.8s,baz=48,slow=2.2,SNR=23
ASF Jabal al Asfar 149.73 284 PKPbc PKPbc 07 08 12.9 +1.6
comp=Z,6.6nm,0.5s,baz=27,slow=2.1,SNR=11
AKASG Malin Array Be 150.59 323 PKP PKPdf 07 08 06.8 -1.0
comp=Z,17nm,0.8s,baz=48,slow=2.3,SNR=7.1
AKASG PKPbc PKPbc 07 08 12.3 -1.0
comp=Z,12nm,0.5s,baz=47,slow=3.1,SNR=52
MMAI Mount Meron Ar 151.04 285 PKP PKPdf 07 08 08.4 0.0
comp=Z,0.8nm,0.3s,baz=156,slow=22,SNR=4.2
MMAI PKPbc PKPbc 07 08 16.1 +1.6
comp=Z,16nm,0.5s,baz=72,slow=5.4,SNR=31
SUW Suwalki 151.16 333 *e*PKP PKPbc 07 08 14.0 -0.7
ANTO Ankara 152.61 300 *e*PKIKP PKPbc 07 08 18.3 +0.4
LVV L'vov 153.76 326 *e*PKP2 PKPab 07 08 32.8 -1.4
EKA Eskdalemuir Ar 154.22 6 PKPbc PKPbc 07 08 20.1 -1.3
comp=Z,3.8nm,1.1s,baz=324,slow=2.2,SNR=3.6
EKA PKPab PKPab 07 08 34.0 -2.1
comp=Z,6.3nm,0.8s,baz=343,slow=2.6,SNR=7.6
TIRR Tirgusor 154.23 312 ⇑*i*P PKPab 07 08 34.7 -1.5
HARR Harsova 154.44 313 ⇑*i*P PKPab 07 08 36.6 -0.5
KWP Kalwaria 154.52 327 *e*PKP PKPab 07 08 36.8 -0.6
BURAR Bucovina Array 154.53 321 ⇑*i*P PKPab 07 08 36.5 -1.0
VRI Vrincioaia 154.62 316 ⇑*i*P PKPab 07 08 38.7 +0.9
BSEG Bad Segeberg 155.03 348 *e*PKP2 PKPab 07 08 37.5 -2.1
KOLS Kolonicke sedl 155.21 326 *e*PKP PKPab 07 08 41.7 +1.3
MLR Muntele Rosu 155.28 316 ⇑*i*P PKPab 07 08 40.2 -0.5
STHS Stebnicka Huta 155.35 328 *e*PKP PKPab 07 08 40.5 -0.5
CRVS Cervenica-Dubn 155.62 327 *e*PKP PKPab 07 08 41.6 -0.5
DBIC Dimbokro 156.23 164 PKP PKPdf 07 08 17.2 +1.5
comp=Z,5.6nm,1.0s,baz=223,slow=13,SNR=3.7
KSP Ksiaz 156.24 336 *e*PKP PKPab 07 08 43.9 -0.9
OKC Ostrava-Krasne 156.37 333 *e*PKPAB PKPab 07 08 44.3 -1.1
KECS Kecovo 156.37 328 *e*PKP PKPab 07 08 44.5 -0.9
DRGR 156.38 322 ⇑*i*P PKPab 07 08 45.1 -0.3
UPC Upice 156.62 336 *e*PKPAB PKPab 07 08 45.3 -1.1
DPC Dobruska-Polom 156.64 336 *e*PKPAB PKPab 07 08 45.2 -1.3
CLL Collm 156.86 342 *e*(PKPdf) PKPdf 07 08 19.0 +2.4
CLL *e*PKPdif 07 08 26.0
CLL ⇓*i*PKPab PKPab 07 08 45.7 -1.8
comp=Z,18nm,0.7s
CLL *i* x x 07 08 51.2
CLL Collm 156.86 342 ⇓*i*PKP2 PKPab 07 08 45.7 -1.8
CLL pmax pmax
comp=Z,18nm,0.7s
BRG Berggiesshubel 156.98 340 *e*PKP PKPdf 07 08 18.0 +1.2
comp=Z,9.6nm,1.7s
BRG *i* 07 08 46.6
comp=Z,7.4nm,0.8s
BRG Berggiesshubel 156.98 340 *e*PKIKP PKPdf 07 08 18.0 +1.3
BRG pmax pmax
comp=Z,10.0nm,1.7s
BRG pmax pmax
comp=Z,7.0nm,0.8s
CLZ Clausthal 157.01 346 *e*PKP2 PKPab 07 08 46.6 -1.5
PRU Pruhonice 157.56 338 *e*PKPAB PKPab 07 08 48.9 -1.6
TREC Trest 157.82 335 *e*PKPAB PKPab 07 08 49.7 -1.9
MOX Moxa 157.83 343 *e*PKP PKPab 07 08 49.6 -2.1
NKC Novy Kostel 157.98 341 *e*PKPAB PKPab 07 08 50.4 -1.9
KHC Kasperske Hory 158.62 338 *e*PKPAB PKPab 07 08 53.6 -1.5
GRF Grafenberg Arr 158.81 343 *e*PKP2 PKPab 07 08 54.1 -1.8
GERES GERESS Array B 158.82 337 PKP PKPdf 07 08 18.6 -0.4
comp=Z,0.2nm,0.2s,baz=168,slow=1.2,SNR=4.2
GERES PKPab PKPab 07 08 54.7 -1.3
comp=Z,2.2nm,0.7s,baz=44,slow=4.2,SNR=12
WET Wettzell 158.83 339 *e*PKP2 PKPab 07 08 54.9 -1.1
TNS Taunus Mts 158.93 348 *e*PKP2 PKPab 07 08 54.4 -2.0
BCLA Clavier 159.19 353 PKPbc PKPab 07 08 55.5 -2.0
BFO Black Forest 160.76 346 *e*PKP2 PKPab 07 09 02.2 -2.2
ROSF Rostrenen 161.08 10 *e*PKP2 PKPab 07 09 04.7 -1.1
SGMF Saint Gilles 161.26 9 *e*PKP2 PKPab 07 09 04.8 -1.8
HAU Haudompre 161.43 350 *e*PKP2 PKPab 07 09 06.1 -1.2
comp=Z,16nm,0.8s
LOR Lormes 162.44 355 *e*PKP2 PKPab 07 09 10.2 -1.6
SSF Saint Saulge 162.67 356 *e*PKP2 PKPab 07 09 11.4 -1.4
comp=Z,22nm,0.8s
CABF La Chapelle 162.82 349 *e*PKP2 PKPab 07 09 12.1 -1.4
comp=Z,8.0nm,0.7s
AVF Avril sur Loir 162.95 356 *e*PKP2 PKPab 07 09 12.1 -1.9
comp=Z,37nm,1.2s
SMF Signal de Mont 163.06 355 *e*PKP2 PKPab 07 09 12.7 -1.8
comp=Z,24nm,0.8s
TORD Torodi Ar. Bea 163.46 180 PKP PKPdf 07 08 25.8 +1.9
comp=Z,3.4nm,1.0s,baz=282,slow=1.2,SNR=13
TORD PKPab PKPab 07 09 19.3 +3.0
comp=Z,5.6nm,0.6s,baz=176,slow=3.4,SNR=27
TORD pPKPab pPKPab 07 10 10.2 +3.3
comp=Z,6.4nm,1.0s,baz=178,slow=3.2,SNR=8.5
TCF Toulx Ste Croi 163.50 359 *e*PKP2 PKPab 07 09 14.7 -1.7
LPL La Plagne 163.77 347 *e*PKP2 PKPab 07 09 16.5 -1.1
LPG La Plagne 163.78 347 *e*PKP2 PKPab 07 09 16.7 -1.0
comp=Z,12nm,0.8s
ORIF Oris-en-Rattie 164.50 349 *e*PKP2 PKPab 07 09 19.4 -1.5
comp=Z,9.9nm,0.6s
MBDF Montbardon 164.52 346 *e*PKP2 PKPab 07 09 19.5 -1.4
comp=Z,5.9nm,0.6s
VIVF Saint-Julien-l 164.75 352 *e*PKP2 PKPab 07 09 20.0 -1.9
LFF La Frestale 164.84 2 *e*PKP2 PKPab 07 09 20.4 -1.9
CAF Calviac 164.87 359 *e*PKP2 PKPab 07 09 20.6 -1.9
SBF Sospel 165.19 343 *e*PKP2 PKPab 07 09 22.4 -1.5
comp=Z,49nm,0.9s
SMRF Simiane la Rot 165.47 349 *e*PKP2 PKPab 07 09 23.3 -1.8
LMR La Mourre 165.90 345 *e*PKP2 PKPab 07 09 25.1 -1.9
EVO Evora 168.18 40 *e*PKP2 PKPab 07 09 35.1 -2.0

IDC ***24*** *06:53:08.7±1.2, 3866N×7144E, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.7/21, mbtmp3.8/7, ML3.2/2, Error ellipse: s-maj=23.6km s-min=19.7km az=26.0*
MOS ***24*** *06:53:11.7±1.0, 3877N×7104E, h33km, mb4.2/3, Error ellipse: s-maj=36.3km s-min=15.5km az=103.4*
ISCJB ***24*** *06:53:14.7±1.9, 389N±0.1×71.1E±0.1, h52km±17km, mb3.8/5, Error ellipse: s-maj=19.1km s-min=11.7km az=48.6*
NNC ***24*** *06:53:15.9±1.3, 3919N×7088E, h15km±10km, mb3.4, mpv3.1, Error ellipse: s-maj=12.7km s-min=6.6km az=11.0*
ISC 24 06:53:14.8±1.9, 388N±01×7101E±010, h42km±17km, n26, σ0§95/31, mb3.8/5, 6C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AML	**Almayashu**	**3.90**	**31**	P		**Pn**	**06 54 11.9**	**-0.4**
	SNR=39							
KK31	**Karatay Array**	**4.31**	**355**	⇑Pn		**Pn**	**06 54 18.3**	**+0.4**
	6.0nm,0.3s,baz=172,slow=12,SNR=231							
KK31				⇑Sn		**Sn**	**06 55 07.6**	**+0.8**
	16nm,0.4s,baz=184,slow=21,SNR=5.5							
KK31				⇓Lg			06 55 20.5	
	40nm,0.5s,baz=179,slow=32,SNR=6.8							
KKAR	**Karatay Array**	**4.31**	**355**	PN		**Pn**	**06 54 18.2**	**+0.3**
KKAR							06 55 07.6	
KKAR							06 55 20.5	
KKAR				pmax	pmax			
	comp=Z,6.0nm,0.3s							
KKAR				smax				
	comp=N,9.0nm,0.4s							
KKAR				smax				
	comp=Z,28nm,0.5s							
UCH	**Uchtor**	**4.34**	**37**	P		**Pn**	**06 54 18.2**	**0.0**
	SNR=18							
EKS2	**Erkin-Say**	**4.39**	**28**	P		**Pn**	**06 54 19.9**	**+0.9**
	SNR=14							
KZA	**Kyzart**	**4.60**	**43**	P		**Pn**	**06 54 22.7**	**+0.9**
	SNR=15							

AAK Ala-Archa 4.65 34 P **Pn 06 54 22.6 0.0**
SNR=28
KBK Karagaybulak 4.88 37 P **Pn 06 54 26.4 +0.9**
SNR=17
CHMS Chumysh 5.06 33 P **Pn 06 54 27.8 -0.3**
SNR=16
USP Ospenovka 5.18 30 P **Pn 06 54 29.9 +0.1**
SNR=13
TKM2 Tokmak 2 5.39 39 P **Pn 06 54 32.9 +0.3**
SNR=15
TKM2 Tokmak 2 5.39 39 ⇑Pn **Pn 06 54 32.6 0.0**
TKM2 comp=Z,0.4nm,0.5s ⇑Sn **Sn 06 55 33.0 -0.3**
comp=Z,1.6nm,0.6s
MKAR Makanchi Array 11.50 42 Pn **Pn 06 55 54.2 -2.2**
comp=Z,0.1nm,0.3s,baz=228,slow=13,SNR=6.6
AB31 Akbulak array 13.12 326 Pn **Pn 06 56 17.4 -1.1**
comp=Z,2.4nm,0.5s,baz=138,slow=12,SNR=46
AB31 ⇓Sn **Sn 06 58 37.8 -5.2**
comp=Z,5.6nm,0.6s,baz=141,slow=24,SNR=21
AB31 Akbulak array 13.12 326 P **Pn 06 56 17.3 -1.2**
AB31 pmax pmax
comp=Z,1.0nm,0.5s
AKTO Aktyubinsk 14.83 326 ⇑Pn **Pn 06 56 40.3 -1.4**
comp=Z,0.1nm,0.9s
AKTO ⇑Sn **Sn 06 59 19.6 -5.1**
comp=Z,0.1nm,0.7s
AKTO Aktyubinsk 14.83 326 Pn **Pn 06 56 42.8 +1.1**
comp=Z,0.3nm,0.3s,baz=137,slow=14,SNR=9.9
AKTO Sn **Sn 06 59 22.6 -2.1**
comp=Z,0.2nm,0.3s,baz=72,slow=22,SNR=9.0
AKTO Aktyubinsk 14.83 326 P **Pn 06 56 40.3 -1.4**
AKTO 06 59 19.6
AKTO pmax pmax
comp=Z,1.0nm,1.0s
AKTO smax
comp=N,1.0nm,0.7s
FINES FINESS Array B 35.60 324 P **P 07 00 09.1 +0.8**
comp=N,1.4nm,0.8s,mb3.9,baz=101,slow=13,SNR=2.5
FINES FINESS Array B 35.60 324 P **P 07 00 09.1 +0.8**
FINES pmax pmax
comp=Z,1.0nm,0.8s
HFS Hagfors 41.28 320 P **P 07 00 56.7 +0.7**
comp=Z,1.9nm,0.4s,mb4.1,baz=97,slow=11,SNR=7.7
HFS Hagfors 41.28 320 P **P 07 00 56.7 +0.7**
HFS pmax pmax
comp=Z,2.0nm,0.4s
TORD Torodi Ar. Bea 65.80 268 P **P 07 03 58.6 +3.0**
comp=Z,0.8nm,0.6s,mb3.9,baz=47,slow=5.3,SNR=12
YKA Yellowknife Ar 78.95 3 P **P 07 05 13.3 -0.7**
comp=Z,0.2nm,0.6s,mb3.2,baz=350,slow=5.4,SNR=5.1
WRA Warramunga Arr 83.20 122 P **P 07 05 35.6 -1.0**
comp=Z,0.7nm,0.9s,mb3.7,baz=324,slow=5.0,SNR=5.4
WRA Warramunga Arr 83.20 122 P **P 07 05 35.6 -1.0**
WRA pmax pmax
comp=Z,1.0nm,0.9s

IDC 24 06:59:04.7±1.5, 3194S×5750E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/18, mbtmp3.9/3, Error ellipse: s-maj=51.5km s-min=38.3km az=157.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SNAA	**Sanae**	**50.77**	**201**	P		P	07 08 06.1	-0.4
	0.4nm,0.8s,baz=57,slow=2.8,SNR=5.1							
ASAR	**Alice Springs**	**66.83**	**104**	P		P	07 09 58.5	+0.3
	1.1nm,0.7s,baz=235,slow=6.1,SNR=9.5							
WRA	**Warramunga Arr**	**68.86**	**101**	P		P	07 10 11.7	+0.7
	1.2nm,0.7s,baz=241,slow=5.5,SNR=18							
YKA	**Yellowknife Ar**	**149.01**	**353**	PKPbc		PKPbc	07 18 53.3	-1.4
	1.0nm,0.6s,baz=2.7,slow=2.5,SNR=20							

NEIC ***24*** *06:59:34.7, 2786S×7062W, h58km, MG3.6(GUC), After GUC.*
GUC 24 06:59:34.7±0.7, 2786S×7062W, h58km±7km, MD3.5, ML3.6, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CPCH	**Copiapo**	**0.55**	**25**	*e*P		Pn	06 59 47.2	+0.3
CPCH				*i* S		Sn	06 59 56.9	+1.0
CPCH				AML		AML	07 00 00.4	
	comp=E,11μm,0.1s							
CPCH	**Copiapo**	**0.55**	**25**	*e*P		Pn	06 59 47.2	+0.3
CPCH				*i* S		Sn	06 59 56.9	+1.0
VACH	**Vallenar**	**0.73**	**190**	*e*P		Pn	06 59 50.0	+0.8
VACH				*i* S		Sn	07 00 00.4	+0.7
CDCH	**Caldera**	**0.80**	**346**	*e*P		Pn	06 59 50.4	+0.3
CDCH				*i* S		Sn	07 00 02.2	+0.9
CRCH	**Chaqaral**	**1.50**	**360**	*e*P		Pn	06 59 59.5	+0.1
CRCH				*i* S		Sn	07 00 17.2	-0.7
LSCH	**La Serena**	**2.12**	**195**	*e*P		Pn	07 00 08.2	+0.5
LSCH				*i* S		Sn	07 00 33.6	+0.7
TLL	**Tololo Astrono**	**2.31**	**184**	*e*P		Pn	07 00 11.8	+1.4
TLL				*i* S		Sn	07 00 39.4	+1.8
TLL				AML		AML	07 00 49.1	
	comp=E,167nm,0.5s							
TLL	**Tololo Astrono**	**2.31**	**184**	*e*P		Pn	07 00 11.8	+1.4
TLL				*i* S		Sn	07 00 39.4	+1.8

NEIC ***24*** *07:27:36.5±8.3, 634S×12740E, h422km±31km, mb4.6/3, Error ellipse: s-maj=118.6km s-min=21.4km az=174.0*
ISCJB ***24*** *07:27:39.0±2.6, 68S±03×1275E±02, h416km±28km, mb4.1/1, Error ellipse: s-maj=47.2km s-min=26.8km az=43.1*
IDC ***24*** *07:27:42.1±3.8, 686S×12739E, h444km±57km, mb3.7/1, mb1 3.6/4, mb1mx3.1/12, mbtmp4.4/4, Error ellipse: s-maj=79.2km s-min=51.4km az=91.0*
ISC 24 07:27:42.4±2.2, 69S±02×1275E±02, h423km±33km, n10, σ0§65/12, mb4.1/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAKA	**Kakadu**	**7.53**	**140**	*e*P		**P**	**07 29 31.9**	**-0.4**
	48nm,0.5s							
FITZ	**Fitzroy Crossi**	**11.26**	**189**	P		**P**	**07 30 13.4**	**+0.1**
	0.2nm,0.3s,baz=22,slow=11,SNR=6.0							
WRAB	**Tennant Creek**	**14.54**	**153**	*e*P		**P**	**07 30 49.4**	**+0.3**
	14nm,0.6s							
WRA	**Warramunga Arr**	**14.54**	**154**	P		**P**	**07 30 49.4**	**+0.2**
	2.6nm,0.3s,baz=332,slow=11,SNR=232							
WRA				S		**S**	**07 33 22.6**	**-1.0**
	0.4nm,0.3s,baz=329,slow=20,SNR=11							
WB2	**Warramunga Arr**	**14.55**	**153**	*e*P		**P**	**07 30 48.8**	**-0.4**
MBWA	**Marble Bar**	**16.02**	**207**	*e*P		**P**	**07 31 04.4**	**-0.7**
	3.9nm,0.5s							
AS31	**Alice Springs**	**17.75**	**160**	*e*P		**P**	**07 31 24.0**	**+0.7**
ASAR	**Alice Springs**	**17.75**	**160**	P		**P**	**07 31 24.1**	**+0.8**
	1.7nm,0.3s,baz=346,slow=12,SNR=86							
ASAR				S		**S**	**07 34 26.5**	**+0.6**
	0.4nm,0.3s,baz=332,slow=21,SNR=9.8							
ASPA	**Alice Springs**	**17.75**	**160**	*e*P		**P**	**07 31 24.0**	**+0.7**
STKA	**Stephens Creek**	**28.10**	**154**	P		**P**	**07 32 56.8**	**-1.0**
	4.9nm,0.5s,mb4.1,baz=320,slow=8.8,SNR=12							

ISCJB ***24*** *07:58:23.2±0.6, 2125S±005×6850W±008, h129km±7km, mb4.5/8, Error ellipse: s-maj=11.7km s-min=7.8km az=11.5*
IDC ***24*** *07:58:24.6±1.0, 2117S×6836W, h121km±11km, mb4.2/4, mb1 4.1/8, mb1mx3.8/16, mbtmp4.5/8, Error ellipse: s-maj=25.3km s-min=14.2km az=121.0*
NEIC ***24*** *07:58:25.1, 2177S×6811W, h130km, mb4.4/9, After GUC.*
GUC ***24*** *07:58:25.1±0.6, 2177S×6811W, h130km, MD4.5, ML4.6*
ISC 24 07:58:24.0±0.6, 2124S±005×6848W±007, h116km±7km, n45, σ1§23/51, mb4.7/8, 6D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LVC	**Limon Verde**	**1.42**	**196**	P		**Pn**	**07 58 52.9**	**+2.7**
	211nm,0.3s,baz=13,slow=9.4,SNR=1419							
LVC				S		**Sn**	**07 59 14.0**	**+3.9**
	240nm,0.3s,baz=110,slow=21,SNR=98							
LVC	**Limon Verde**	**1.42**	**196**	*e*Pn		**Pn**	**07 58 52.5**	**+2.2**
LVC				*e*Sn		**Sn**	**07 59 13.9**	**+3.7**
CEN1	**Los Morros**	**2.67**	**216**	⇓*i*P		**Pn**	**07 59 09.5**	**+3.7**
CEN1				*i* S		**Sn**	**07 59 42.9**	**+5.0**
CEN1				AML		AML	07 59 45.6	
	comp=E,1μm,0.2s							
ANCH	**Antofagasta**	**3.02**	**216**	⇓*i*P		**Pn**	**07 59 11.0**	**+0.7**
ANCH				*i* S		**Sn**	**07 59 46.0**	**-0.1**

ANCH				AML	AML	07 59 49.1	
	comp=E,1µm,0.6s						
ANCH	**Antofagasta**	**3.02**	**216**	*i*P	**Pn**	**07 59 11.0**	**+0.7**
ANCH				*i* S	**Sn**	**07 59 46.0**	**-0.1**
CPN1	**Cerro Paranal**	**3.81**	**207**	*e*P	**Pn**	**07 59 21.0**	**+0.2**
CPN1				*i* S	**Sn**	**08 00 03.2**	**-1.6**
CPN1				AML	AML	08 00 11.8	
	comp=E,747nm,0.5s						
LPAZ	**La Paz**	**4.94**	**4**	P	**Pn**	**07 59 36.8**	**+0.8**
	comp=E,7.2nm,0.3s,baz=170,slow=7.7,SNR=246						
LPAZ	**La Paz**	**4.94**	**4**	*e*Pn	**Pn**	**07 59 37.9**	**+1.9**
	comp=E,37nm,0.6s						
CRCH	**Chaqaral**	**5.45**	**201**	*i*P	**Pn**	**07 59 41.5**	**-1.3**
CRCH				*i* S	**Sn**	**08 00 40.3**	**-4.0**
CDCH	**Caldera**	**6.19**	**200**	*i*P	**Pn**	**07 59 50.0**	**-2.8**
SIV	**San Ignacio**	**8.75**	**55**	P	**Pn**	**08 00 25.6**	**-1.9**
	comp=E,15nm,0.3s,baz=250,slow=12,SNR=336						
SIV				S	**Sn**	**08 01 58.9**	**-5.4**
	baz=294,slow=20,SNR=5.2						
CFAA	**Coronel Fontan**	**10.32**	**179**	P	**Pn**	**08 00 46.6**	**-2.2**
	comp=E,0.5nm,0.3s,baz=0.6,slow=13,SNR=31						
CFAA				S	**Sn**	**08 02 35.1**	**-7.3**
	comp=E,0.3nm,0.3s,baz=255,slow=22,SNR=8.1						
CPUP	**Villa Florida**	**11.39**	**119**	P	**Pn**	**08 01 03.3**	**+0.3**
	comp=E,0.6nm,0.3s,baz=292,slow=12,SNR=11						
CPUP	**Villa Florida**	**11.39**	**119**	*e*Pn	**Pn**	**08 01 03.1**	**+0.1**
	comp=E,13nm,0.5s						
NNA	**Nana**	**12.20**	**318**	*e*Pn	**Pn**	**08 01 15.0**	**+1.2**
	comp=E,1.7nm,0.3s						
TRQA	**Tornquist**	**17.67**	**163**	*e*P	**Pn**	**08 02 22.3**	**-0.3**
	comp=E,2.0nm,0.4s						
PLCA	**Paso Flores**	**19.51**	**185**	P	**P**	**08 02 43.4**	**+1.5**
	comp=E,0.2nm,0.3s,baz=11,slow=11,SNR=8.1						
PLCA	**Paso Flores**	**19.51**	**185**	*e*P	**P**	**08 02 43.0**	**+1.1**
	comp=E,1.2nm,0.6s						
BDFB	**Brasilia**	**20.19**	**77**	P	**P**	**08 02 49.0**	**-0.3**
	comp=E,9.0nm,0.4s,baz=264,slow=6.9,SNR=20						
SDV	**Santo Domingo**	**30.02**	**356**	*e*P	**P**	**08 04 22.3**	**+0.7**
SJG	**San Juan**	**39.18**		*e*P	**P**	**08 05 31.5**	**-8.9**
SWET	**Sewanee**	**58.54**	**343**	*e*P	**P**	**08 08 07.2**	**-0.9**
WVT	**Waverly**	**59.93**	**342**	*e*P	**P**	**08 08 15.8**	**-1.9**
VNA3	**Neumayer Olymp**	**60.19**	**161**	*e*	**P**	**08 08 20.3**	**+0.8**
VNA3				*e*		08 08 23.8	
VNA3				*e*		08 08 28.0	
VNA3				*e*		08 08 33.0	
VNA3				*e*		08 08 38.6	
VNA1	**Neumayer--Stat**	**60.39**	**161**	*e*	**P**	**08 08 22.5**	**+1.6**
VNA1				*e*		08 08 26.3	
VNA1				*e*		08 08 30.2	
VNA1				*e*		08 08 35.7	
VNA1				*e*		08 08 40.3	
VNA1				*e*		08 09 05.4	
MIAR	**Mount Ida**	**60.40**	**336**	*e*P	**P**	**08 08 20.3**	**-0.6**
	comp=E,1.1nm,0.5s,mb4.1						
VNA2	**Neumayer--Watz**	**60.76**	**161**	*e*	**P**	**08 08 24.3**	**+0.9**
	baz=295,slow=8.0						
VNA2				*e*		08 08 27.5	
VNA2				*e*		08 08 31.8	
VNA2				*e*		08 08 37.9	
VNA2				*e*		08 08 43.0	
VNA2				*e*		08 09 06.4	
SDMD	**Soldier's Deli**	**60.84**	**353**	*e*P	**P**	**08 08 23.4**	**-0.5**
SIUC	**Southern Illin**	**61.81**	**341**	*e*P	**P**	**08 08 27.1**	**-3.3**
	comp=E,27nm,0.5s,mb5.5						
SNAA	**Sanae**	**62.39**	**161**	*e*	**P**	**08 08 30.3**	**-4.0**
SNAA				*e*		08 08 33.7	
SNAA				*e*		08 08 43.5	
SNAA				*e*		08 09 10.8	
SNAA	**Sanae**	**62.39**	**161**	*e*P	**P**	**08 08 28.4**	**-5.9**
	comp=E,2.1nm,0.6s,mb4.3						
WMOK	**Wichita Mounta**	**62.68**	**332**	*e*P	**P**	**08 08 37.2**	**+1.0**
DBIC	**Dimbokro**	**68.27**	**73**	P	**P**	**08 09 12.0**	**-0.2**
	comp=E,8.5nm,0.7s,mb4.7,baz=221,slow=7.1,SNR=12						
DBIC	**Dimbokro**	**68.27**	**73**	*e*P	**P**	**08 09 12.5**	**+0.3**
	comp=E,29nm,1.3s,mb5.0						
QSPA	**South Pole Qui**	**68.95**	**180**	*e*P	**P**	**08 09 17.0**	**+0.6**
	comp=E,1.0nm,0.3s,mb4.1						
SYO	**Syowa Base**	**76.60**	**159**	*e*P	**P**	**08 10 06.4**	**+4.8**
TORD	**Torodi Ar. Bea**	**76.89**	**70**	P	**P**	**08 10 03.0**	**-0.2**
	comp=E,6.0nm,0.6s,mb4.5,baz=253,slow=5.6,SNR=92						
TSUM	**Tsumeb**	**79.72**	**107**	*e*P	**P**	**08 10 19.6**	**+0.7**
LBTB	**Lobatse**	**84.76**	**115**	*e*P	**P**	**08 10 45.7**	**+0.7**
YKA	**Yellowknife Ar**	**91.08**	**340**	P	**P**	**08 11 14.0**	**-1.3**
	comp=E,1.0nm,0.6s,mb4.1,baz=133,slow=4.4,SNR=8.4						
YKA				pP	pP	08 11 47.6	+2.2
	comp=E,2.2nm,0.9s,baz=134,slow=4.7,SNR=9.9						
BORG	**Borgarnes**	**93.05**	**18**	*e*P	**P**	**08 11 19.0**	**-5.4**
	comp=E,592nm,2.5s						
ESK	**Eskdalemuir**	**94.16**	**31**	*e*P	**P**	**08 11 29.5**	**0.0**
	comp=E,58nm,1.4s,mb5.7						
ASAR	**Alice Springs**	**130.33**	**207**	PKP	PKPdf	08 17 21.1	+0.6
	comp=E,0.6nm,0.8s,baz=191,slow=2.6,SNR=4.9						
WRA	**Warramunga Arr**	**133.38**	**210**	PKP	PKPdf	08 17 27.1	+0.9
	comp=E,0.5nm,0.6s,baz=160,slow=1.9,SNR=10.0						
MKAR	**Makanchi Array**	**145.19**	**36**	PKPbc	PKPbc	08 17 47.8	+0.2
	comp=E,4.9nm,0.8s,baz=320,slow=3.1,SNR=37						

IDC ***24*** *09:09:09.7±1.0, 524S×131.45E, h0km, mb4.3/5, mb1 4.7/9, mb1mx4.5/15, mbtmp4.6/9, ML4.9/4, Error ellipse: s-maj=48.0km s-min=17.3km az=66.0*

MOS ***24*** *09:09:12.5±1.4, 527S×131.50E, h33km, mb4.4/7, Error ellipse: s-maj=28.2km s-min=11.2km az=117.4*

NEIC ***24*** *09:09:12.8±0.5, 527S×131.59E, h20km, mb4.9/9, Error ellipse: s-maj=14.0km s-min=6.8km az=63.0*

ISCJB ***24*** *09:09:16.8±0.8, 541S±004×13162E±007, h81km±9km, mb4.6/10, Error ellipse: s-maj=12.7km s-min=6.0km az=147.0*

ISC 24 09:09:17.2±0.8, 547S±005×13161E±007, h62km±11km, n42, σ1°36/52, mb4.7/10, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLE	**Tual**	**1.14**	**99**	P	**Pn**	**09 09 39.4**	**+2.3**
	12µm,0.7s						
AAI	**Ambon**	**3.83**	**297**	P	**Pn**	**09 10 14.1**	**+0.4**
	1µm,0.8s						
BAKI	**Biak**	**6.18**	**47**	P	**Pn**	**09 10 44.6**	**-1.2**
	351nm,0.8s						
KAKA	**Kakadu**	**7.25**	**174**	*e*P	**Pn**	**09 11 04.0**	**+3.6**
	338nm,0.6s						
FITZ	**Fitzroy Crossi**	**13.85**	**204**	*e*P	**Pn**	**09 12 30.4**	**0.0**
	74nm,0.4s						
FITZ				*e*S	**Sn**	**09 14 55.8**	**-6.7**
FITZ	**Fitzroy Crossi**	**13.85**	**204**	Pn	**Pn**	**09 12 30.1**	**-0.3**
	15nm,0.3s,baz=33,slow=12,SNR=237						
FITZ				Sn	**Sn**	**09 14 56.5**	**-6.0**
	2.8nm,0.3s,baz=109,slow=23,SNR=7.4						
WRAB	**Tennant Creek**	**14.62**	**170**	*e*P	**Pn**	**09 12 40.3**	**-0.3**
WRAB						09 15 18.2	
WRAB				pmax	pmax		
	comp=Z,80nm,0.7s						
WRAB	**Tennant Creek**	**14.62**	**170**	*e*Pn	**Pn**	**09 12 40.3**	**-0.3**
	comp=Z,80nm,0.7s						
WRAB				Sn	**Sn**	**09 15 18.2**	**-3.2**
WRA	**Warramunga Arr**	**14.63**	**170**	Pn	**Pn**	**09 12 39.9**	**-0.8**
	comp=Z,6.4nm,0.3s,baz=343,slow=13,SNR=131						
WRA				Sn	**Sn**	**09 15 17.2**	**-4.3**
	comp=Z,9.7nm,0.3s,baz=354,slow=24,SNR=11						
WRA	**Warramunga Arr**	**14.63**	**170**	P	**Pn**	**09 12 39.9**	**-0.8**
WRA						09 15 17.2	
WRA				pmax	pmax		
	comp=Z,6.0nm,0.3s						
WRA				smax			
	comp=N,10.0nm,0.3s						
WB2	**Warramunga Arr**	**14.63**	**170**	*e*P	**Pn**	**09 12 39.4**	**-1.3**
WB2				*e*S	**Sn**	**09 15 13.0**	**-8.6**
PMG	**Port Moresby**	**15.91**	**105**	Pn	**Pn**	**09 12 56.6**	**-0.5**
	comp=N,2.2nm,0.3s,baz=297,slow=6.8,SNR=7.3						
PMG	**Port Moresby**	**15.91**	**105**	P	**Pn**	**09 12 56.6**	**-0.5**
PMG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KMMI	**Kalianget**	**17.61**	**264**	P	**Pn**	**09 13 22.3**	**+4.1**
	comp=Z,174nm,0.9s						
AS31	**Alice Springs**	**18.23**	**173**	*e*P	**Pn**	**09 13 27.6**	**+1.8**
AS31				*e*S	**S**	**09 16 44.2**	**-5.4**
ASAR	**Alice Springs**	**18.23**	**173**	P	**Pn**	**09 13 28.1**	**+2.3**
	comp=Z,4.9nm,0.3s,baz=346,slow=7.8,SNR=118						
ASAR				S	**S**	**09 16 41.5**	**-8.1**
	comp=Z,2.1nm,0.3s,baz=5.7,slow=25,SNR=5.9						
ASAR	**Alice Springs**	**18.23**	**173**	P	**Pn**	**09 13 28.1**	**+2.3**
ASAR				S	**S**	**09 16 41.5**	**-8.1**
ASAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAR				smax			
	comp=N,2.0nm,0.3s						
ASPA	**Alice Springs**	**18.23**	**173**	*e*P	**Pn**	**09 13 27.6**	**+1.8**
ASPA				*e*S	**S**	**09 16 44.2**	**-5.4**
KKM	**Kota Kinabalu**	**19.16**	**306**	Pn	**Pn**	**09 13 35.7**	**-1.2**
MBWA	**Marble Bar**	**19.39**	**215**	*e*P	**Pn**	**09 13 41.0**	**+1.3**
	comp=N,28nm,0.8s						
MBWA				*e*Sn	**Sn**	**09 17 01.7**	**-15**
CTA	**Charters Tower**	**20.35**	**137**	*e*P	**P**	**09 13 52.3**	**+3.9**
	comp=N,8.2nm,0.9s						
CTA	**Charters Tower**	**20.35**	**137**	P	**P**	**09 13 52.7**	**+4.3**
	comp=N,10nm,0.9s,baz=313,slow=14,SNR=6.0						
CTA	**Charters Tower**	**20.35**	**137**	*e*P	**P**	**09 13 52.3**	**+3.9**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CTAO	**Charters Tower**	**20.35**	**137**	*e*P	**P**	**09 13 50.9**	**+2.5**
CTAO				pmax	pmax		
	comp=Z,12nm,0.9s						
CTAO	**Charters Tower**	**20.35**	**137**	*e*P	**P**	**09 13 50.9**	**+2.5**
	comp=Z,12nm,0.9s						
FORT	**Forrest**	**25.40**	**187**	*e*P	**P**	**09 14 40.2**	**+1.4**
	comp=Z,25nm,0.5s,mb5.0						
STKA	**Stephens Creek**	**27.89**	**162**	*i*P	**P**	**09 15 02.8**	**+1.6**
	comp=Z,4.6nm,0.5s,mb4.4						
STKA	**Stephens Creek**	**27.89**	**162**	P	**P**	**09 15 02.9**	**+1.7**
	comp=Z,5.4nm,0.5s,mb4.5,baz=336,slow=11,SNR=30						
KLBR	**Kellerberrin**	**29.05**	**205**	*e*P	**P**	**09 15 15.2**	**+3.7**
	comp=Z,122nm,1.9s,mb5.3						
JIRN	**Jiri**	**54.82**	**309**	*e*P	**P**	**09 18 41.3**	**+0.4**
	comp=Z,15nm,0.9s,mb5.0						
GUN	**Gumba**	**55.19**	**309**	*e*P	**P**	**09 18 43.8**	**+0.3**
	comp=Z,17nm,0.7s,mb5.2						
KKN	**Kakani**	**55.59**	**309**	*e*P	**P**	**09 18 46.4**	**0.0**
DMN	**Daman**	**55.64**	**309**	*e*P	**P**	**09 18 46.5**	**-0.2**
GKN	**Gorkha**	**56.19**	**309**	*e*P	**P**	**09 18 50.2**	**-0.5**
KOLN	**Koldanda**	**56.89**	**308**	*e*P	**P**	**09 18 56.2**	**+0.6**
	comp=Z,22nm,0.7s,mb5.3						
SONM	**Songino Array**	**57.53**	**340**	P	**P**	**09 18 59.3**	**-0.8**
	comp=Z,1.2nm,0.8s,mb4.0,baz=154,slow=5.8,SNR=5.8						
SONM	**Songino Array**	**57.53**	**340**	P	**P**	**09 18 59.3**	**-0.9**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MK31	**Makanchi Array**	**67.85**	**326**	P	**P**	**09 20 08.8**	**0.0**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
MKAR	**Makanchi Array**	**67.85**	**326**	P	**P**	**09 20 08.3**	**-0.5**
	comp=Z,3.3nm,0.6s,mb4.6,baz=120,slow=8.2,SNR=28						
MKAR	**Makanchi Array**	**67.85**	**326**	P	**P**	**09 20 08.3**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZAL	**Zalesovo**	**70.94**	**333**	P	**P**	**09 20 26.8**	**-1.1**
	comp=Z,1.1nm,0.6s,mb4.0,baz=46,slow=5.5,SNR=4.2						
ZAL	**Zalesovo**	**70.94**	**333**	P	**P**	**09 20 26.8**	**-1.1**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.6s						

IDC ***24*** *09:10:20.8±0.5, 2028S×168.96E, h0km, mb4.7/16, mb1 4.8/18, mb1mx4.7/21, mbtmp4.7/18, ML4.4/2, MS4.9/12, Ms1 4.9/12, ms1mx4.6/20, Error ellipse: s-maj=18.7km s-min=14.7km az=112.0*

ISCJB ***24*** *09:10:25.2±0.3, 2040S±004×16892E±006, h39km, mb5.0/54, MS4.8/28, Error ellipse: s-maj=8.2km s-min=5.8km az=39.9*

MOS ***24*** *09:10:25.9±2.0, 2029S×168.85E, h33km, mb5.3/21, MS4.9/9, Error ellipse: s-maj=13.3km s-min=9.3km az=115.2*

BJI ***24*** *09:10:25.2, 2001S×169.25E, h35km, mB5.4, mb5.0, Ms5.0, Msz4.7*

SZGRF ***24*** *09:10:26.0, 20.13S×170.12E, h33km, Vanuatu Islands*

NEIC ***24*** *09:10:27.0±0.3, 2038S×168.93E, mb5.1/22, Error ellipse: s-maj=11.2km s-min=9.2km az=117.0*

ORF ***24*** *09:10:27.2, 1994S×170.15E, h30km, mb5.9*

BGS ***24*** *09:10:27.3±3.4, 2040S×169.10E, h33km, mb5.1(NEIC)*

HRVD ***24*** *09:10:27.0±0.1, 2040S×168.73E, h28km, MW5.5/93, Centroid moment Tensor Solution. LP body waves: s93,c170;Mantle waves: s91,c162; Half duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr 1.58±.03; Mθθ-0.05±.02; Mϕϕ-1.53±.02; Mrθ 0.40±.04; Mϕθ 0.72±.02; Mϕr-1.06±.04; Best double couple: M=2.04300×10^17 NP1:ϕs337.00000°, δ28.00000°, λ88.00000°. NP2: ϕs159.00000°, δ62.00000°, λ91.00000°. Principal axes: T 1.9230, Plg73.0000°, Azm71.0000°; N 0.2380, Plg1.0000°, Azm338.0000°; P -2.1630, Plg17.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 24 09:10:26.9±0.3, 2042S±004×16900E±006, h41km, h41km±2.1km; pP-P, n253, σ0°99/109, mb5.0/54, MS4.8/28, 27C-6D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.90**	**235**	Pn	**Pn**	**09 11 07.2**	**-3.3**
	46nm,0.3s,baz=60,slow=16,SNR=61						
DZM				Sn	**Sn**	**09 11 41.4**	**-2.7**
	333nm,0.3s,baz=119,slow=22,SNR=8.6						
DZM				LR	LR	09 11 47.3	
	comp=Z,11µm,19.9s,baz=322,slow=29						
HNR	**Honiara**	**13.98**	**320**	*e*P	**Pn**	**09 13 43.3**	**+0.9**
HNR				pmax	pmax		
	comp=Z,77nm,0.9s						
HNR	**Honiara**	**13.98**	**320**	*e*Pn	**Pn**	**09 13 43.2**	**+0.8**
	comp=Z,77nm,0.9s						
RAO	**Raoul Island**	**14.77**	**129**	LR	LR	09 18 21.3	
	comp=Z,4µm,21.7s,baz=185,slow=32						
URZ	**Urewera**	**19.12**	**160**	P	**Pn**	**09 14 48.9**	**+1.4**
	comp=Z,1.1nm,0.3s,baz=8.5,slow=6.9,SNR=5.0						
CTA	**Charters Tower**	**21.34**	**267**	*e*P	**P**	**09 15 12.2**	**+1.7**
	comp=Z,17nm,0.9s,mb4.4						
CTA	**Charters Tower**	**21.34**	**267**	P	**P**	**09 15 12.8**	**+2.3**
	comp=Z,18nm,0.7s,mb4.5,baz=100,slow=12,SNR=9.2						
CTA				LR	LR	09 21 01.6	
	comp=Z,686nm,18.9s,MS4.1,baz=88,slow=30						
CTA	**Charters Tower**	**21.34**	**267**	*e*P	**P**	**09 15 12.2**	**+1.7**
CTA				pmax	pmax		
	comp=Z,17nm,0.9s						
CNB	**Canberra Magne**	**22.78**	**225**	*e*P	**P**	**09 15 25.7**	**-0.1**
	comp=Z,160nm,1.6s,mb5.2						
RPZ	**Rata Peaks**	**23.30**	**176**	P	**P**	**09 15 32.9**	**+1.6**
	comp=Z,5.6nm,0.6s,mb4.1,baz=30,slow=10,SNR=4.1						
RPZ				LR	LR	09 23 36.5	
	comp=Z,3µm,20.7s,MS4.7,baz=346,slow=34						
PMG	**Port Moresby**	**23.74**	**294**	P	**P**	**09 15 35.6**	**+0.3**
	comp=Z,31nm,1.0s,mb4.7,baz=108,slow=6.6,SNR=7.8						
PMG	**Port Moresby**	**23.74**	**294**	*e*P	**P**	**09 15 35.9**	**+0.5**
PMG				*e**PP		09 15 46.1	
PMG				pmax	pmax		
	comp=Z,139nm,1.3s						
PMG	**Port Moresby**	**23.74**	**294**	*e*P	**P**	**09 15 35.9**	**+0.6**
	comp=Z,139nm,1.3s,mb5.2						
PMG				*e*pP		09 15 46.1	
TOO	**Toolangi**	**26.62**	**225**	*e*P	**P**	**09 16 03.4**	**+1.8**
	comp=Z,20nm,1.6s,mb4.4						
TOO	**Toolangi**	**26.62**	**225**	*e*P	**P**	**09 16 03.4**	**+1.8**
TOO				pmax	pmax		
	comp=Z,20nm,1.6s,mb4.4						
STKA	**Stephens Creek**	**27.04**	**239**	*e*P	**P**	**09 16 04.1**	**-1.2**
	comp=Z,13nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**27.04**	**239**	P	**P**	**09 16 03.7**	**-1.6**
	comp=Z,14nm,0.6s,mb4.7,baz=73,slow=4.7,SNR=7.2						
STKA				LR	LR	09 26 39.6	
	comp=Z,3µm,18.6s,MS4.9,baz=68,slow=36						
WRA	**Warramunga Arr**	**32.50**	**265**	ScP	ScP	09 23 24.1	+3.7
	comp=Z,1.7nm,1.1s,baz=91,slow=5.2,SNR=5.0						
ASAR	**Alice Springs**	**32.64**	**258**	P	**P**	**09 16 55.1**	**+0.2**
	comp=Z,16nm,0.7s,mb5.1,baz=82,slow=9.5,SNR=22						
TBI	**Tubuai**	**38.56**	**102**	*e*S	**S**	**09 23 48.0**	**+9.1**
	comp=Z,666nm,30.0s						
TBI				*e*LQ		09 26 41.3	
	comp=Z,4µm,30.5s						
TBI				*e*LR	LR	09 28 27.4	
	comp=Z,1µm,24.2s						
PPT	**Papeete**	**39.20**	**93**	*e*S	**S**	**09 23 56.5**	**+8.1**
	comp=Z,872nm,25.0s						
PPT				*e*LQ		09 26 58.6	
	comp=Z,4µm,30.2s						
PPT				*e*LR	LR	09 28 34.3	
	comp=Z,2µm,23.2s						
FITZ	**Fitzroy Crossi**	**40.91**	**266**	*e*P	**P**	**09 18 05.3**	**+0.1**
	comp=Z,34nm,0.7s,mb5.1						
FITZ	**Fitzroy Crossi**	**40.91**	**266**	P	**P**	**09 18 05.2**	**0.0**
	comp=Z,12nm,0.6s,mb4.7,baz=127,slow=11,SNR=3.0						
MBWA	**Marble Bar**	**45.92**	**260**	*e*P	**P**	**09 18 45.9**	**+0.3**
	comp=Z,30nm,0.9s,mb5.2						
KLBR	**Kellerberrin**	**47.01**	**245**	*e*P	**P**	**09 18 53.3**	**-0.8**
	comp=Z,62nm,1.3s,mb5.4						
NWAO	**Narrogin (SRO)**	**47.48**	**244**	P	**P**	**09 18 57.5**	**-0.4**
	comp=Z,10nm,0.8s,mb4.8,baz=94,slow=7.6,SNR=5.1						
NWAO				LR	LR	09 39 12.7	
	comp=Z,4µm,19.7s,MS5.4,baz=88,slow=36						
DRV	**Dumont d'Urvil**	**49.84**	**195**	S	**S**	**09 26 23.0**	**+0.2**
DRV				L		09 31 00.0	
DRV				R		09 34 00.0	

IDC 24 08:18:20.8±2.8, 143S×12559E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/15, mbtmp3.4/3, Error ellipse: s-maj=415.7km s-min=26.1km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.29**	**156**	P	P	08 22 57.2	-0.9
	0.8nm,0.9s,baz=330,slow=12,SNR=5.7						
ASAR	**Alice Springs**	**23.53**	**161**	P	P	08 23 33.6	+1.0
	0.6nm,0.9s,baz=337,slow=9.6,SNR=6.3						
MKAR	**Makanchi Array**	**61.19**	**327**	P	P	08 28 37.4	+0.1
	0.3nm,0.3s,baz=120,slow=7.2,SNR=6.5						

GUC 24 08:58:57.4±0.9, 2525S×7046W, h48km±4km, MD3.7, ML2.0, 1C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPN1	**Cerro Paranal**	**0.62**	**41**	*i*P	Pn	08 59 11.3	+1.2
CPN1				*i* S	Sn	08 59 21.0	+1.8
CPN1				AML	AML	08 59 21.6	
	comp=N,225nm,0.2s						
CRCH	**Chaqaral**	**1.10**	**188**	*i*P	Pn	08 59 17.0	+0.6
CRCH				*i* S	Sn	08 59 31.4	+0.9
ANCH	**Antofagasta**	**1.56**	**2**	*e*P	Pn	08 59 23.9	+1.1
ANCH				*i* S	Sn	08 59 43.3	+1.5
CDCH	**Caldera**	**1.84**	**190**	*e*P	Pn	08 59 25.8	-0.8
CEN1	**Los Morros**	**1.87**	**7**	*e*P	Pn	08 59 24.9	-2.0
CEN1				*i* S	Sn	08 59 45.5	-3.7
CEN1				AML	AML	08 59 52.0	
	comp=E,15nm,0.2s						

MOS ***24*** *09:07:02.2±1.2, 5487N×164.15E, h31km, mb4.2/1, Error ellipse: s-maj=25.5km s-min=19.3km az=77.2*

KRSC 24 09:07:03.2±0.9, 5488N×16419E, h40km±6km, ML3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.08**	**72**	*i*P	Pn	09 07 21.9	+0.1
BKI				*i* S	Sn	09 07 35.0	-0.5
BKI				Smax			
	440nm,0.2s						
KBTR	**Krutoberegovo**	**1.54**	**330**	*i*P	Pn	09 07 27.5	-0.7
KBTR				*i* S	Sn	09 07 46.1	-0.9
KBG	**Krutoberegovo**	**1.62**	**329**	*e*P	Pn	09 07 28.7	-0.5
KBG				Smax			
	790nm,0.6s						
ZLN	**Zelenaya**	**2.24**	**302**	*i*P	Pn	09 07 39.6	+1.8
ZLN				*i* S	Sn	09 08 06.2	+2.0
SMKR	**Semkarok**	**2.30**	**319**	*i*P	Pn	09 07 39.8	+1.2
SMKR				*e*S	Sn	09 08 06.5	+0.9
CIRR	**Tsirk**	**2.32**	**304**	*i*P	Pn	09 07 40.5	+1.7
LGNR	**Loginova**	**2.33**	**303**	*i*P	Pn	09 07 41.0	+2.0
TUMR	**Tumrok**	**2.36**	**282**	*i*P	Pn	09 07 41.2	+1.8
BDR	**Baidarnaya**	**2.39**	**316**	*i*P	Pn	09 07 41.4	+1.6
KMNR	**Kamenistaya**	**2.42**	**293**	*i*P	Pn	09 07 42.1	+1.8
KRSR	**Krestovskiy**	**2.46**	**305**	*i*P	Pn	09 07 41.9	+1.2
KRSR				*e*S	Sn	09 08 10.3	+0.8
SRKR	**Sorokina**	**2.46**	**317**	*e*P	Pn	09 07 42.2	+1.3
SRKR				*e*S	Sn	09 08 10.6	+0.9
KLY	**Klyuchi**	**2.47**	**307**	P	Pn	09 07 40.8	-0.1
KLY				S	Sn	09 08 09.4	-0.4
KLY	**Klyuchi**	**2.47**	**307**	*i*P	Pn	09 07 40.8	-0.1
KLY				*e*S	Sn	09 08 08.3	-1.5
KPT	**Kopyto**	**2.51**	**297**	*i*P	Pn	09 07 43.7	+2.2
KOZR	**Kozyr**	**2.72**	**298**	PN	Pn	09 07 47.0	+2.7
KOZ	**Kozyrevsk**	**2.73**	**297**	P	Pn	09 07 47.0	+2.6
KOZ	**Kozyrevsk**	**2.73**	**297**	*i*P	Pn	09 07 47.1	+2.7
SRDR	**Sredinnyy**	**2.92**	**301**	*e*P	Pn	09 07 49.1	+2.0
SPN	**Mys Shipunski**	**3.04**	**236**	P	Pn	09 07 49.3	+0.5
SPN				S	Sn	09 08 23.2	-0.7
SPN	**Mys Shipunski**	**3.04**	**236**	*e*P	Pn	09 07 49.5	+0.7
SPN				*e*S	Sn	09 08 23.7	-0.2
ESO	**Esso**	**3.30**	**291**	*i*P	Pn	09 07 53.8	+1.5
NLC	**Nalytchevo**	**3.33**	**241**	*i*P	Pn	09 07 52.7	-0.1
NLC				S	Sn	09 08 30.2	-0.9
SDLR	**Sedlovina**	**3.51**	**245**	*e*P	Pn	09 07 57.1	+1.8
**

TAOE Nuku Hiva Isla 50.34 85 *e*S **S** **09 26 35.6 +5.8**
comp=Z,2µm,25.8s
TAOE *e*LR LR 09 33 26.6
comp=Z,4µm,27.1s
RKT Rikitea 51.84 104 *e*LR LR 09 34 35.3
comp=Z,632nm,24.5s
CBIJ Chichi jima 53.90 330 P **P** **09 19 46.1 -0.1**
comp=Z,37nm,0.9s,mb5.3,baz=71,slow=21,SNR=4.9
VNDA Vanda 57.25 182 P **P** **09 20 11.7 +1.5**
comp=Z,1.5nm,0.7s,mb4.2,baz=352,slow=7.1,SNR=15
SBA Scott Base 57.49 181 *e*P **P** **09 20 12.7 +0.8**
SBA pmax pmax
comp=Z,27nm,1.2s,mb5.2
SBA Scott Base 57.49 181 *e*P **P** **09 20 12.7 +0.8**
comp=Z,26nm,1.2s,mb5.1
CASY Casey 58.96 204 *e*P **P** **09 20 21.4 -0.8**
comp=Z,18nm,1.1s,mb5.0
MJAR Matsushiro Arr 63.69 333 P **P** **09 20 53.3 -0.8**
comp=Z,7.9nm,0.8s,mb4.8,baz=168,slow=7.4,SNR=20
MAJO Matsushiro 63.69 333 *e*P **P** **09 20 54.0 -0.1**
MAJO pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
MAJO Matsushiro 63.69 333 *e*P **P** **09 20 54.0 -0.1**
comp=Z,8.4nm,0.7s,mb4.9
MAT Matsushiro 63.69 333 P **P** **09 20 53.2 -0.9**
MAT S **S** **09 29 16.0 -10**
MAT Matsushiro 63.69 333 *e*P **P** **09 20 53.0 -1.1**
MAT pmax pmax
comp=Z,11nm,0.8s,mb4.9
MAT Matsushiro 63.69 333 *e*P **P** **09 20 53.0 -1.1**
comp=Z,11nm,0.8s,mb5.0
YHNB Yeheng 64.46 312 *e*P **P** **09 20 59.5 +0.4**
MIR Mirnyy 65.88 205 *d i*P **P** **09 21 09.0 +0.6**
MIR *i* 09 21 25.5
MIR pmax pmax
comp=Z,184nm,1.2s,mb6.0
QZH Quanzhou 66.60 310⇑ *i*P **P** **09 21 13.5 +0.5**
QZH PCP PcP 09 21 42.0 -0.1
QZH S S 09 29 59.5 -1.7
QZH AMB AMB
comp=Z,570nm,9.0s
QZH LR LR
comp=Z,660nm,26.5s,MS4.7
SSE Sheshan 68.77 317 ⇑P **P** **09 21 26.8 +0.1**
SSE AP pP 09 21 37.9 -0.9
SSE XP sP 09 21 42.8 -0.6
SSE PCP PcP 09 21 49.8 -1.4
SSE PP PP 09 23 57.0 -1.8
SSE S S 09 30 28.3 +1.0
SSE XS sS 09 30 49.1 +1.8
SSE SCS ScS 09 31 23.8 +0.1
SSE AMB AMB
comp=Z,28nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,164nm,9.6s
SSE LR LR
comp=N,53nm,20.5s,MS4.4
SSE LR LR
comp=E,249nm,20.5s,MS4.4
SSE LR LR
comp=Z,272nm,18.8s,MS4.5
QSPA South Pole Qui 69.64 180 *e*P **P** **09 21 32.0 -0.1**
comp=Z,20nm,1.1s,mb5.0
NJ2 Nanjing 70.90 316 *e*P **P** **09 21 42.3 +2.5**
NJ2 AP pP 09 21 51.3 -0.6
NJ2 XP sP 09 21 55.1 -1.4
NJ2 PP PP 09 24 22.5 +5.3
NJ2 S S 09 30 54.0 +1.8
NJ2 XS sS 09 31 10.0 -2.3
NJ2 AMB AMB
comp=Z,100nm,0.8s,mb5.8
NJ2 AMB AMB
comp=Z,180nm,10.6s
NJ2 LR LR
comp=N,890nm,23.3s,MS5.0
NJ2 LR LR
comp=E,670nm,24.9s,MS5.0
NJ2 LR LR
comp=Z,360nm,18.2s
YSS Yuzh-Sakhalins 71.12 341 *e*P **P** **09 21 42.0 +0.9**
PSI Prapat 72.40 280 P **P** **09 21 48.4 -0.4**
comp=Z,4.0nm,0.7s,mb4.4,baz=251,slow=18,SNR=5.3
PSI LR LR 09 55 37.7
comp=Z,825nm,19.8s,MS5.0,baz=160,slow=38
PET Petropavlovsk 73.68 354 *c i*P **P** **09 21 57.3 +0.9**
PET *e**PP pP 09 22 10.5 +2.0
PET *e*S S 09 31 28.9 +4.8
PET *e**SS sS 09 31 52.9 +8.6
PET *e*SS SS 09 36 12.1 +4.2
PET pmax pmax
comp=Z,400nm,14.0s
PET pmax pmax
comp=Z,100nm,13.2s
PET smax
comp=N,200nm,13.9s
DL2 Dalian 73.82 323 P **P** **09 21 57.8 +0.6**
DL2 S S 09 31 28.3 +2.7
DL2 AMB AMB
comp=Z,30nm,0.8s,mb5.3
DL2 AMB AMB
comp=Z,180nm,3.2s
DL2 LR LR
comp=N,230nm,17.3s,MS4.7
DL2 LR LR
comp=E,220nm,15.7s,MS4.7
DL2 LR LR
comp=Z,380nm,13.3s,MS4.9
MDJ Mudanjiang 74.05 332 P **P** **09 21 59.8 +1.3**
MDJ AP pP 09 22 09.3 -1.4
MDJ XP sP 09 22 12.9 -2.4
MDJ PP PP 09 24 45.3 +1.2
MDJ S S 09 31 33.4 +5.2
MDJ XS sS 09 31 47.8 -0.6
MDJ AMB AMB
comp=Z,21nm,0.8s,mb5.1
MDJ AMB AMB
comp=Z,215nm,6.7s
MDJ LR LR
comp=N,207nm,27.0s,MS4.5
MDJ LR LR
comp=E,263nm,23.6s,MS4.5
MDJ LR LR
comp=Z,244nm,23.6s,MS4.4
SNY Shenyang 74.83 327 ⇑P **P** **09 22 03.1 0.0**
SNY PP PP 09 24 48.5 -2.3
SNY S S 09 31 38.0 +1.0
SNY SS SS 09 36 19.8 -5.7
SNY AMB AMB
comp=Z,13nm,1.6s,mb4.6
SNY AMB AMB
comp=Z,239nm,8.1s
SNY LR LR
comp=N,264nm,18.9s
SNY LR LR
comp=Z,299nm,20.4s,MS4.6
HABR Khabarovsk 74.99 337 *e*P **P** **09 22 04.9 +0.9**
HABR *e*S S 09 31 43.5 +4.7
CN2 Changchun 75.34 329 *e*P **P** **09 22 07.0 +1.0**
CN2 *e*S S 09 31 45.4 +2.7
CN2 AMB AMB
comp=Z,40nm,0.8s,mb5.4
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,18.0s,MS4.8
CN2 LR LR
comp=E,300nm,18.0s,MS4.8
CN2 LR LR
comp=Z,400nm,18.0s,MS4.8
KLR Kul'dur 76.85 336 *e*P **P** **09 22 12.0 -2.6**
KLR *e* 09 22 31.4
KLR *e*S S 09 32 06.5 +7.3
KLR pmax pmax
comp=E,45nm,2.0s
KLR pmax pmax
comp=Z,120nm,2.0s,mb5.5
MAW Mawson 77.26 202 *e*P **P** **09 22 17.6 +0.7**
comp=Z,4.3nm,0.6s,mb4.6
MAW Mawson 77.26 202 P **P** **09 22 17.1 +0.2**
comp=Z,4.7nm,0.7s,mb4.6,baz=102,slow=13,SNR=6.9
MAW LR LR 09 53 34.2
comp=Z,893nm,18.6s,MS5.1,baz=325,slow=34
MAW Mawson 77.26 202 *e*P **P** **09 22 17.6 +0.7**
MAW pmax pmax
comp=Z,4.0nm,0.6s

BJI Beijing 77.71 321 P **P** **09 22 19.8 +0.4**
BJI S S 09 32 11.8 +3.2
BJI AMB AMB
comp=Z,13nm,1.5s,mb4.6
BJI AMB AMB
comp=Z,371nm,7.4s
BJI LR LR
comp=N,318nm,19.6s,MS4.8
BJI LR LR
comp=E,316nm,19.6s,MS4.8
BJI LR LR
comp=Z,412nm,21.2s,MS4.7
KMI Kunming 78.70 302 P **P** **09 22 25.6 +0.7**
KMI AP pP 09 22 35.4 -1.8
KMI XP sP 09 22 39.1 -2.7
KMI PP PP 09 25 26.9 +3.6
KMI S S 09 32 21.6 +2.3
KMI XS sS 09 32 37.8 -1.8
KMI SS SS 09 37 30.9 +7.0
KMI AMB AMB
comp=Z,15nm,0.8s,mb5.0
KMI AMB AMB
comp=Z,274nm,9.7s
KMI LR LR
comp=N,223nm,19.0s,MS4.7
KMI LR LR
comp=E,226nm,19.3s,MS4.7
KMI LR LR
comp=Z,346nm,21.1s,MS4.7
XAN Xi'an 78.74 313 P **P** **09 22 25.9 +0.8**
XAN AP pP 09 22 37.0 -0.4
XAN AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CHTO Chiang Mai 78.94 295 *e*P **P** **09 22 27.8 +1.6**
CHTO pmax pmax
comp=Z,11nm,0.9s,mb4.8
CHTO Chiang Mai 78.94 295 *e*P **P** **09 22 27.8 +1.6**
comp=Z,11nm,0.9s,mb4.8
HHC Hu-ho-hao-te 80.97 320 ⇑P **P** **09 22 37.8 +0.6**
HHC AP pP 09 22 51.4 +2.0
HHC XP sP 09 22 56.1 +2.0
HHC PP PP 09 25 47.3 +5.2
HHC S S 09 32 45.5 +2.4
HHC SKS 09 32 50.3
HHC AMB AMB
comp=Z,19nm,1.7s,mb4.8
HHC AMB AMB
comp=Z,271nm,9.0s
HHC LR LR
comp=N,251nm,20.0s,MS4.8
HHC LR LR
comp=E,374nm,20.2s,MS4.8
HHC LR LR
comp=Z,365nm,20.3s,MS4.7
BTO Baotou 81.77 319 *e*P **P** **09 22 40.9 -0.5**
LZH Lanzhou 83.35 312 ⇑P **P** **09 22 51.6 +2.0**
LZH AP pP 09 23 04.5 +2.5
LZH XP sP 09 23 10.9 +4.3
LZH PP PP 09 26 07.0 +5.3
LZH *e*S S 09 33 11.0 +3.4
LZH XS sS 09 33 29.0 +0.9
LZH AMB AMB
comp=Z,53nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,150nm,4.3s
LZH LR LR
comp=E,480nm,17.9s
LZH LR LR
comp=Z,748nm,18.8s,MS5.1
SYO Syowa Base 83.75 196⇑ *e*P **P** **09 22 51.0 -0.7**
SYO Syowa Base 83.75 196⇓ *e*PcP PcP 09 22 55.0 -0.7
SYO Syowa Base 83.75 196⇓ *e*sP sP 09 23 05.8 -2.8
KDAK Kodiak Island 84.21 20 P **P** **09 22 52.7 -1.4**
comp=Z,5.6nm,0.7s,mb4.8,baz=172,slow=7.0,SNR=6.3
KDAK Kodiak Island 84.21 20 *e*P **P** **09 22 53.4 -0.7**
comp=Z,12nm,0.8s,mb5.1
CLNS Chul'man 85.39 337 *e*P **P** **09 22 59.2 -0.8**
CLNS pmax pmax
comp=N,30nm,1.0s
CLNS pmax pmax
comp=Z,46nm,1.0s,mb5.6
CLNS pmax pmax
comp=E,20nm,0.9s
CIT Chita 86.79 329 *e*P **P** **09 23 06.6 -0.3**
CIT pmax pmax
comp=Z,52nm,2.9s,mb5.2
NVL N'lazarevskaya 87.67 187 *e*P **P** **09 23 07.8 -3.3**
NVL *i* S 10 33 45.0
NVL pmax pmax
comp=Z,503nm,14.8s
NVL MLR MLR
comp=Z,845nm,21.0s,MS5.1
ULN Ulaanbaatar 87.67 324 *e*P **P** **09 23 11.9 +0.8**
ULN *e**PP pP 09 23 22.6 -1.0
ULN pmax pmax
comp=Z,76nm,1.8s,mb5.6
ULN Ulaanbaatar 87.67 324 *e*P **P** **09 23 11.9 +0.7**
comp=Z,76nm,1.8s,mb5.6
ULN *e*pP pP 09 23 22.6 -0.9
SHL Shillong 87.70 298 *e*P **P** **09 23 12.5 +1.2**
GTA Gaotai 87.77 314 *e*P **P** **09 23 12.5 +0.9**
GTA AP pP 09 23 24.0 0.0
GTA XP sP 09 23 29.1 +0.5
GTA PP PP 09 26 43.4 +5.8
GTA SKS 09 33 35.3
GTA S 09 33 52.8
GTA AMB AMB
comp=Z,10.0nm,1.0s,mb5.0
GTA AMB AMB
comp=Z,257nm,8.4s
GTA LR LR
comp=N,195nm,17.9s,MS4.6
GTA LR LR
comp=E,164nm,20.9s,MS4.6
GTA LR LR
comp=Z,199nm,21.3s,MS4.5
YAK Yakutsk 87.92 343 *e*P **P** **09 23 11.1 -1.2**
YAK pmax pmax
comp=Z,17nm,0.8s,mb5.3
YAK pmax pmax
comp=N,9.0nm,1.5s
YAK pmax pmax
comp=E,6.0nm,1.7s
YAK MLR MLR
comp=Z,333nm,19.0s,MS4.8
YAK MLR MLR
comp=N,256nm,18.0s,MS4.8
YAK MLR MLR
comp=E,244nm,19.0s,MS4.8
OHCM Honcut 87.96 47 *e*P **P** **09 23 12.0 -0.5**
OHCM *e*pP pP 09 23 24.2 -0.7
SNAA Sanae 87.98 183 *e*P **P** **09 23 12.0 -0.6**
SNAA pmax pmax
comp=Z,53nm,1.5s
SNAA Sanae 87.98 183 *e*P **P** **09 23 12.0 -0.6**
comp=Z,53nm,1.5s,mb5.5
SNAA *e* 09 23 16.9
SNAA *e* pP 09 23 19.7 -5.3
SNAA *e* pP 09 23 22.1 -2.9
SNAA *e* pP 09 23 24.7 -0.3
SNAA *e* 09 23 31.5
SNAA *e* 09 23 44.4
SNAA *e* 09 24 08.7
SNAA Sanae 87.98 183 *e* P **P** **09 23 10.7 -1.9**
SONM Songino Array 88.02 323 P **P** **09 23 12.7 -0.1**
comp=Z,3.5nm,0.8s,mb4.6,baz=147,slow=5.4,SNR=19
BILL Bilibino 88.22 359 *c i*P **P** **09 23 11.4 -2.3**
BILL pmax pmax
comp=Z,8.0nm,1.4s,mb4.8
BILL MLR MLR
comp=Z,300nm,20.0s,MS4.7
BILL Bilibino 88.22 359 *e*P **P** **09 23 12.7 -1.0**
comp=Z,19nm,1.4s,mb5.1
YBH Yreka Blue Hor 88.30 44 P **P** **09 23 13.8 -0.4**
comp=Z,3.5nm,0.7s,mb4.7,baz=156,slow=3.7,SNR=8.3
YBH LR LR 09 55 04.0
comp=Z,712nm,18.9s,MS5.1,baz=226,slow=30
VNA3 *e* 09 23 17.9
VNA3 *e* 09 23 22.8
VNA3 *e* pP 09 23 24.5 -3.4
VNA3 *e* pP 09 23 27.0 -0.9
VNA3 *e* pP 09 23 29.1 +1.2
VNA3 *e* 09 23 30.7
VNA3 *e* 09 23 39.6
VNA3 *e* 09 23 47.9
VNA3 *e* 09 24 06.2
VNA3 *e* 09 24 17.8
VNA3 Neumayer Olymp 88.58 180 *e* **P** **09 23 14.8 -0.7**
VNA2 *e* 09 23 19.0
VNA2 *e* 09 23 23.8
VNA2 *e* pP 09 23 26.2 -3.0
VNA2 *e* pP 09 23 28.7 -0.5
VNA2 *e* pP 09 23 30.8 +1.6
VNA2 *e* 09 23 32.4
VNA2 *e* 09 23 40.7
VNA2 *e* 09 23 43.1
VNA2 *e* 09 23 48.8
VNA2 *e* 09 24 07.4
VNA2 *e* 09 24 19.5
VNA2 Neumayer--Watz 88.87 181 *e* **P** **09 23 16.6 -0.2**
MTUM Tungsten Hills 89.08 49 *e*P **P** **09 23 18.6 +0.7**
MTUM *e*pP pP 09 23 30.0 -0.3
VNA1 *e* 09 23 20.6
VNA1 *e* 09 23 25.0
VNA1 *e* pP 09 23 27.5 -3.1
VNA1 *e* pP 09 23 30.4 -0.2
VNA1 *e* pP 09 23 32.2 +1.6
VNA1 *e* 09 23 34.0
VNA1 *e* 09 23 41.9
VNA1 *e* 09 23 45.6
VNA1 *e* 09 23 48.4
VNA1 Neumayer--Stat 89.16 181 *e* **P** **09 23 18.1 -0.1**
NVAR Mina Array Bea 89.74 49 P **P** **09 23 21.1 +0.2**
comp=Z,2.0nm,0.8s,mb4.5,baz=213,slow=5.6,SNR=14
LPIG La Paz 90.12 64 LR LR 09 54 51.0
comp=Z,872nm,19.9s,MS5.2,baz=245,slow=30
BOD pmax pmax
comp=Z,12nm,1.8s,mb4.9
BOD Bodaibo 90.29 334 *e* **P** **09 23 21.5 -1.9**
BBB Bella Bella 90.58 33 LR LR 09 57 52.4
comp=Z,615nm,18.9s,MS5.1,baz=254,slow=32
NEN Nelson 91.06 52 *e*P **P** **09 23 26.7 -0.3**
NEN *e*pP pP 09 23 39.3 -0.1
ZAK Zakamensk 91.12 324 *e*P **P** **09 23 27.1 -0.2**
ZAK pmax pmax
comp=Z,25nm,1.8s,mb5.2
COLA College 91.23 17 *i*P **P** **09 23 26.6 -1.2**
WVOR Wild Horse Val 91.30 45 *e*P **P** **09 23 28.3 +0.1**
WVOR pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
WVOR Wild Horse Val 91.30 45 *e*P **P** **09 23 28.3 +0.1**
comp=Z,7.2nm,0.9s,mb5.0
ILAR Eielson Array 91.42 17 P **P** **09 23 28.1 -0.6**
comp=Z,1.8nm,0.6s,mb4.5,baz=241,slow=5.0,SNR=12
TLY Talaya 91.60 326 *e*P **P** **09 23 28.8 -0.7**
TLY *e*S 09 34 05.3
TLY *e*PS PS 09 35 47.8 +7.1
TLY *e*SS SS 09 40 46.2 +13
TLY pmax pmax
comp=Z,13nm,1.6s,mb5.0
TLY MLR MLR
comp=Z,256nm,20.0s,MS4.7
TLY Talaya 91.60 326 *e*P **P** **09 23 29.0 -0.5**
comp=Z,15nm,1.4s,mb5.1
SKAG Skagway 91.61 25 *e*P **P** **09 23 29.1 -0.5**
SKAG *e*pP pP 09 23 44.2 +2.2
MOY Mondy 93.01 325 *e*P **P** **09 23 33.1 -3.0**
DAWY Dawson 93.17 20 *e*P **P** **09 23 36.1 -0.7**
JIRN Jiri 93.21 298 *e*P **P** **09 23 35.7 -1.3**
GUN Gumba 93.56 298 *e*P **P** **09 23 38.0 -0.6**
PKI Pulchoki 93.83 298 *e*P **P** **09 23 39.4 -0.4**
KKN Kakani 94.01 298 *e*P **P** **09 23 40.9 +0.2**
DMN Daman 94.09 298 *e*P **P** **09 23 41.3 +0.3**
comp=Z,34nm,1.0s,mb5.8
GKN Gorkha 94.62 298 *e*P **P** **09 23 43.4 -0.1**
comp=Z,7.5nm,0.4s,mb5.5
NEW Newport 94.82 40 LR LR 10 02 36.8
comp=Z,545nm,18.6s,MS5.0,baz=250,slow=33
KOLN Koldanda 95.40 297 *e*P **P** **09 23 47.3 +0.3**
WMQ Urumqi 97.85 314 ⇑P **P** **09 23 57.8 -0.3**
WMQ AP pP 09 24 11.3 +0.7
WMQ XP sP 09 24 16.0 +0.8
WMQ PP PP 09 28 00.4 +3.7
WMQ SKS 09 34 30.6
WMQ *e*S 09 35 18.1
WMQ XS sS 09 35 41.3 -0.9
WMQ AMB AMB
comp=Z,10.0nm,0.4s,mb5.7
WMQ AMB AMB
comp=Z,116nm,4.6s
WMQ LR LR
comp=N,177nm,19.5s,MS4.7
WMQ LR LR
comp=E,188nm,18.8s,MS4.7
WMQ LR LR
comp=Z,235nm,19.5s,MS4.7
YKA Yellowknife Ar 101.81 27 P Pdif 09 24 14.3 -1.4
comp=Z,0.2nm,0.7s,baz=256,slow=4.5,SNR=4.8
MKAR Makanchi Array 102.42 315 P Pdif 09 24 18.2 -0.3
comp=Z,0.5nm,0.6s,baz=93,slow=6.5,SNR=3.5
MIV Mineville/With 123.52 50 *e*PKPdf PKPdf 09 29 18.1 -1.7
SCHQ Schefferville 125.99 36 PKP PKPdf 09 29 23.0 -1.6
comp=Z,2.4nm,0.9s,baz=16,slow=13,SNR=5.1
ARCES ARCESS Array B 126.14 345 PKP PKPdf 09 29 23.4 -1.5
comp=Z,3.6nm,0.6s,baz=67,slow=2.2,SNR=10
SJG San Juan 128.09 83 *e*PKIKP PKPdf 09 29 27.8 -0.7
BDFB Brasilia 128.95 132 PKP PKPdf 09 29 30.0 -0.2
comp=Z,2.2nm,0.6s,baz=166,slow=2.1,SNR=3.9
OBN Obninsk 130.35 326 *e*PKIKP PKPdf 09 29 26.2 -6.6
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN MLR MLR
comp=Z,400nm,21.0s,MS5.1
FINES FINESS Array B 131.58 337 PKP PKPdf 09 29 34.7 -0.5
comp=Z,2.9nm,0.9s,baz=48,slow=2.8,SNR=6.8
FINES SKPbc SKPbc 09 32 59.7 +2.4
comp=Z,3.2nm,0.8s,baz=88,slow=4.6,SNR=4.2
FINES FINESS Array B 131.58 337 PKP PKPdf 09 29 34.7 -0.5
FINES SKPbc SKPbc 09 32 59.7 +2.4
AKASG Malin Array Be 136.31 324 PKP PKPdf 09 29 43.7 -0.3
comp=Z,0.9nm,0.6s,baz=63,slow=1.1,SNR=5.3
NOA NORSAR Array B 136.51 344 PKP PKPdf 09 29 43.6 -0.8
comp=Z,1.1nm,0.7s,baz=32,slow=1.9,SNR=3.7
DPC Dobruska-Polom 143.14 331 *e*PKP PKPdf 09 29 53.4 -3.1
DPC AMS AMS 10 33 20.0
comp=Z,700nm,20.9s
UPC Upice 143.17 331 *e*PKP PKPdf 09 29 53.7 -2.8
BRG Berggiesshubel 143.82 333 *e*PKPbc PKPdf 09 29 54.5 -3.1
BRG Berggiesshubel 143.82 333⇓ *i*PKP PKPdf 09 29 55.2 -2.5
comp=Z,19nm,1.3s
BRG *e* 09 30 10.8
comp=Z,23nm,1.9s
BRG Berggiesshubel 143.82 333 *i* PKIKP PKPdf 09 29 55.2 -2.4
BRG *e* 09 30 10.8
BRG pmax pmax
comp=Z,19nm,1.3s
BRG pmax pmax
comp=Z,23nm,1.9s
CLL Collm 143.88 334 *e*PKPbc PKPdf 09 29 54.7 -3.1
CLL Collm 143.88 334⇓ *i*PKPdf PKPdf 09 29 55.6 -2.2
comp=Z,46nm,1.7s
CLL *e*PP PP 09 33 17.0 +5.7
CLL LmV 10 42 00.0
comp=Z,400nm,19.1s
PRU Pruhonice 144.21 332 *e*PKP PKPdf 09 29 56.5 -1.8
PRU AMS AMS 10 32 50.0
comp=Z,400nm,24.3s
CLZ Clausthal 144.48 337 *e*PKPbc PKPdf 09 29 56.9 -1.9
PKSM Moragy 144.65 324⇑ *e*PKIKP PKPdf 09 29 57.9 -1.2
ESK Eskdalemuir 144.66 352 *e*P PKPdf 09 29 56.6 -2.5
GRUS Gruza 144.73 319 *i*P PKPdf 09 29 58.1 -1.1
VAY Valandovo 144.76 314 *e*PKP PKPdf 09 29 57.6 -1.6
TANN Tannenbergstha 144.78 334 *e*PKPbc PKPdf 09 29 58.1 -1.2
SOP Sopron 144.84 327⇑ *e*PKP/F PKPdf 09 29 59.1 -0.3
BWH Wardlaw 144.85 353 *e*P PKPdf 09 29 57.5 -1.9
NKC Novy Kostel 144.93 334 *ex* PKPdf 09 29 59.3 -0.3
MOX Moxa 144.95 335 *e*PKPbc PKPdf 09 29 58.5 -1.1
MOX Moxa 144.95 335 *e* PKPdf 09 29 59.1 -0.5
comp=Z,107nm,1.7s
MOX Moxa 144.95 335 *e* PKPdf 09 29 59.1 -0.5
MOX pmax pmax
comp=Z,107nm,1.7s
IBBN Ibbenburen 144.99 340 *e*PKPbc PKPdf 09 29 59.1 -0.6
DIVS Divcibare 145.06 320 *i*P PKPbc 09 30 00.1 +0.8
BDL Dobcross Hall 145.13 352 *e*P PKPbc 09 29 58.8 -0.7
SKO Skopje 145.22 315 *e*PKP PKPdf 09 30 01.2 +1.1
BBO1 Bothel 145.23 352 *e*P PKPbc 09 29 58.6 -1.2
KHC Kasperske Hory 145.26 331 *ex* PKPdf 09 30 00.3 +0.2
KHC AMS AMS 10 32 50.0

comp=Z,500nm,24.9s
CKE Keswick 145.36 352 *e*PKPbc PKPbc 09 29 59.4 -0.9
ROTZ Rotzenmuhle 145.38 333 *e*PKPbc PKPbc 09 30 00.4 +0.1
GEC2 GERESS Array S 145.41 331 *e*PKPbc PKPbc 09 30 00.3 -0.1
GERES GERESS Array B 145.41 331 PKPbc PKPbc 09 30 00.2 -0.2
comp=Z,4.7nm,0.6s,baz=49,slow=4.3,SNR=19
UBBA Unterbreizbach 145.44 336 *e*PKPbc PKPbc 09 30 00.0 -0.5
XDE Dent Fell 145.49 352 *e*P PKPdf 09 29 59.9 -0.6
XDE AMb AMB 09 30 01.1
comp=Z,197nm,1.4s
WET Wettzell 145.56 332 *e*PKPbc PKPbc 09 30 00.9 0.0
ARSA Arzberg 145.65 327⇑*i*P PKPdf 09 30 01.2 +0.4
comp=Z,285nm,2.7s,SNR=8.9
GIM North Isle of 145.82 353⇑*e*P PKPdf 09 30 00.9 -0.2
GRF Grafenberg Arr 145.85 334 *e*PKPbc PKPbc 09 30 01.9 +0.1
MOA Mollin 145.86 329⇓*i*P PKPdf 09 30 01.7 +0.5
comp=Z,222nm,2.4s,SNR=8.6
BUG Bochum--Univer 145.89 340 *e*PKPbc PKPbc 09 30 01.1 -0.8
WIM Isle of Man 145.98 353⇑*e*P PKPdf 09 30 01.5 +0.1
WIM AMb AMB 09 30 02.7
comp=Z,199nm,0.8s
LHO Holmfirth 146.19 350⇑*e*P PKPdf 09 30 02.2 +0.5
TNS Taunus Mts 146.50 337 *e*PKPbc PKPbc 09 30 03.7 0.0
WCB1 Church Bay 146.72 353⇑*e*P PKPdf 09 30 03.2 +0.6
WPM1 Penmaenmawr 146.76 352⇑*e*P PKPdf 09 30 04.2 +1.4
WPM1 AMb AMB 09 30 05.2
comp=Z,140nm,1.8s
WLF1 Llynfaes 146.79 353 *e*P PKPdf 09 30 03.9 +1.1
WLF1 AMb AMB 09 30 05.0
comp=Z,89nm,0.8s
KBA Koelnbreinsper 146.84 329⇑*i*P PKPdf 09 30 03.7 +0.9
comp=Z,235nm,4.2s
YRC Rhoscolyn 146.85 353⇑*e*P PKPdf 09 30 03.9 +1.1
YRC AMb AMB 09 30 04.7
comp=Z,97nm,0.7s
TOD Tromm 146.88 336 PKP2 PKPab 09 30 04.8 -1.4
YLL Llanberis 146.91 352⇑*e*P PKPdf 09 30 04.3 +1.3
BOJS Bojanci 146.94 325 *e*PKPdf PKPdf 09 30 02.5 -0.5
BOJS *e* 09 30 07.0
LJU Ljubljana 146.97 327 *e*PKPdf PKPdf 09 30 01.8 -1.2
LJU *e* 09 30 05.0
DLF Lyons Farm 147.00 355 *e*P PKPdf 09 30 02.6 -0.5
FUR Furstenfeldbru 147.00 332 *e*PKPbc PKPbc 09 30 05.2 0.0
DCN Croghan 147.01 356 *e*P PKPdf 09 30 03.0 -0.1
SBD1 Bryn Du 147.02 351 *e*P PKPdf 09 30 04.7 +1.5
SBD1 AMb AMB 09 30 06.0
comp=Z,107nm,1.5s
YRE Yr Eifl 147.10 353⇑*e*P PKPdf 09 30 04.5 +1.3
YRE AMb AMB 09 30 05.8
comp=Z,65nm,1.6s
ABH Alteburg 147.11 338 PKP PKPdf 09 30 06.2 +2.9
STON Ston 147.13 319 *i* P PKPdf 09 30 00.6 -2.7
VOY Vojsko 147.30 327 *e*PKPdf PKPdf 09 30 05.6 +2.0
VOY *e* 09 30 15.0
VOY *e* 09 30 28.4
HLM1 Long Mynd 147.34 351⇑*e*P PKPbc 09 30 05.1 -1.0
HLM1 AMb AMB 09 30 06.9
comp=Z,67nm,1.6s
UCC Uccle 147.35 342 PKPab PKPbc 09 30 06.2 +0.1
STU Stuttgart 147.40 335 *e*PKPbc PKPbc 09 30 06.3 0.0
BCLA Clavier 147.40 341 PKPab PKPbc 09 30 06.4 +0.1
BCLA E 09 30 08.3
RUP Ruppelstein 147.43 338 PKP2 PKPbc 09 30 06.7 +0.3
SSP1 Stoney Pound 147.48 351⇑*e*P PKPbc 09 30 06.0 -0.5
WTTA Wattenberg 147.51 331⇑*i*P PKPbc 09 30 06.1 -0.5
comp=Z,430nm,4.4s
SNF Seneffe 147.63 342 PKPab PKPbc 09 30 07.0 +0.1
SNF E 09 30 09.1
MOTA Moosalm 147.70 331⇑*i*P PKPbc 09 30 07.0 0.0
comp=Z,8.5nm,0.9s
SQTA Sankt Quirin 147.74 331⇑*i*P PKPbc 09 30 07.4 +0.2
comp=Z,8.1nm,0.8s
LANF Langenberg 147.76 337 PKP PKPbc 09 30 07.4 +0.1
WLF Walferdange 147.78 339 *e*PKPbc PKPbc 09 30 07.5 +0.2
WLF Walferdange 147.78 339 PKPab PKPbc 09 30 08.2 +0.9
WLF APKP 09 30 14.7
WLF Walferdange 147.78 339 *e*PKPbc PKPbc 09 30 08.1 +0.8
GIVF Givet 147.82 341 *e*PKP1 PKPbc 09 30 06.4 -1.0
MCH1 Michaelchurch 147.87 351 *e*P PKPbc 09 30 07.0 -0.5
BRES Bressanone 147.89 330 P PKPbc 09 30 07.2 -0.4
DOU Dourbes 147.90 341 PKPab PKPbc 09 30 07.8 +0.2
DOU APKP 09 30 14.4
BAIF Baives 148.05 341 *e*PKP1 PKPbc 09 30 06.1 -1.9
BFO Black Forest 148.09 335 *e*PKPbc PKPbc 09 30 07.8 -0.3
BFO Black Forest 148.09 335 *e*PKPbc PKPbc 09 30 08.1 0.0
BFO *e*PKPab PKPab 09 30 11.9 +0.9
SWN1 Swindon 148.14 349 *e*P PKPbc 09 30 07.5 -0.8
HGH Gray Hill 148.19 350⇑*e*P PKPbc 09 30 07.1 -1.2
HGH AMb AMB 09 30 10.5
comp=Z,121nm,1.7s
DAVA Damuels 148.28 333⇑*i*P PKPbc 09 30 08.7 +0.1
comp=Z,137nm,2.5s
CTI Castel Tesino 148.40 329 PKP2 PKPbc 09 30 08.9 0.0
WLS Welschbruch 148.40 336 PKP PKPbc 09 30 08.8 -0.1
CDF Champ du Feu 148.43 336 *e*PKP1 PKPbc 09 30 07.4 -1.6
comp=Z,8.9nm,0.5s
FELD Feldberg im Sc 148.59 335 PKP PKPbc 09 30 09.5 +0.1
ECH Echery 148.64 336 PKP PKPbc 09 30 09.0 -0.6
BRMO Bormio 148.68 331 P PKPbc 09 30 09.7 0.0
MOF Molkenrain 148.95 336 PKP PKPbc 09 30 09.5 -0.8
THEF They Montfort 149.06 338 PKP PKPbc 09 30 10.7 +0.1
HAU Haudompre 149.11 337 *e*PKP1 PKPbc 09 30 09.3 -1.5
comp=Z,27nm,0.8s
TUE Stuetta 149.14 332 P PKPbc 09 30 10.9 +0.1
MEZF Maizieres J'vi 149.15 339 *e*PKP1 PKPbc 09 30 10.1 -0.7
LOMF Lomont 149.48 336 PKP PKPbc 09 30 10.9 -0.8
TIP Timpagrande 149.69 314 P PKPdf 09 30 09.5 +2.0
TIP *e*PKPbc PKPbc 09 30 12.9 +0.7
NRCA Norcia 149.84 323 P PKPbc 09 30 12.0 -0.6
MCGN Macugnaga 150.13 333 P PKPbc 09 30 13.7 +0.4
CABF La Chapelle 150.38 336 *e*PKP1 PKPbc 09 30 12.5 -1.3
comp=Z,33nm,0.9s
FLN La Foliniere 150.48 346 *e*PKP1 PKPbc 09 30 12.6 -1.5
comp=Z,27nm,0.8s
LDF La Druitiere 150.56 345 *e*PKP1 PKPbc 09 30 12.9 -1.4
comp=Z,14nm,0.7s
LOR Lormes 150.62 339 *e*PKP1 PKPbc 09 30 13.4 -1.0
comp=Z,15nm,0.6s
SOI Samo 150.72 313 P PKPbc 09 30 14.7 0.0
SSF Saint Saulge 150.91 339 *e*PKP1 PKPbc 09 30 14.2 -0.9
comp=Z,46nm,1.1s
GRR Gorron 150.92 346 *e*PKP1 PKPbc 09 30 13.8 -1.3
LPL La Plagne 151.01 334 *e*PKP1 PKPbc 09 30 14.3 -1.1
comp=Z,14nm,0.7s
LPG La Plagne 151.02 334 *e*PKP1 PKPbc 09 30 14.8 -0.6
comp=Z,19nm,0.7s
AVF Avril sur Loir 151.20 339 *e*PKP1 PKPbc 09 30 14.5 -1.3
comp=Z,10nm,0.8s
SGMF Saint Gilles 151.41 348 *e*PKP1 PKPbc 09 30 15.0 -1.3
comp=Z,37nm,0.8s
BNI Bardonecchia 151.41 333 *e*PKPbc PKPbc 09 30 16.8 +0.5
ROSF Rostrenen 151.46 349 *e*PKP1 PKPbc 09 30 15.1 -1.3
MBDF Montbardon 151.63 333 *e*PKP1 PKPbc 09 30 16.0 -0.8
comp=Z,19nm,0.8s
SURF Saint Ours 151.81 332 PKP PKPbc 09 30 17.1 -0.1
PLDF La Plantade 151.82 338 PKP PKPbc 09 30 16.9 -0.3
QUIF Quistinic 151.84 349 *e*PKP1 PKPbc 09 30 16.1 -1.2
ORIF Oris-en-Rattie 151.85 334 *e*PKP1 PKPbc 09 30 16.5 -0.8
comp=Z,24nm,0.7s
TCF Toulx Ste Croi 152.02 340 *e*PKP1 PKPbc 09 30 16.5 -1.2
SBF Sospel 152.02 331 *e*PKP1 PKPbc 09 30 16.6 -1.1
PGF Pioggiola 152.25 327 *e*PKP1 PKPbc 09 30 17.0 -1.2
comp=Z,34nm,0.7s
VIVF Saint-Julien-l 152.38 336 *e*PKP1 PKPbc 09 30 17.8 -0.7
comp=Z,13nm,0.8s
MFF Saint Martin d 152.41 344 *e*PKP1 PKPbc 09 30 17.5 -1.0
comp=Z,16nm,0.7s
LMR La Mourre 152.85 331 *e*PKP1 PKPbc 09 30 18.7 -0.8
comp=Z,33nm,0.9s
RJF Les Rejaudoux 153.11 340 *e*PKP1 PKPbc 09 30 20.2 +0.1
LASF Ste Croix 153.36 336 *e*PKP1 PKPbc 09 30 20.3 -0.3
comp=Z,14nm,0.9s
LFF La Frestale 153.68 341 *e*PKP1 PKPbc 09 30 21.0 -0.3
comp=Z,17nm,0.6s
ESDC Sonseca Array 159.88 344 PKPab PKPab 09 31 00.8 0.0
comp=Z,1.6nm,0.6s,baz=18,slow=5.5,SNR=6.9
TORD Torodi Ar. Bea 165.86 241 PKP PKPdf 09 30 26.9 -0.3
comp=Z,1.6nm,1.2s,baz=254,slow=4.2,SNR=4.3
TORD PKPab PKPab 09 31 26.9 -0.2
comp=Z,2.1nm,1.0s,baz=105,slow=2.9,SNR=4.5

*IDC **24** 09:33:36.9±1.2,5227N×17201W,h0km,mb4.1/6,*

mb1 4.3/9,mb1mx4.0/25,mbtmp4.1/9,ML4.1/3,MS4.2/1,
Ms1 4.2/1,ms1mx2.7/37, Error ellipse: s-maj=39.2km
s-min=13.7km az=168.0
*BJI **24** 09:33:38.3,5200N×17220W,h3km,mB5.0,mb4.6,Ms4.7,*
Msz4.4
*MOS **24** 09:33:39.1±1.9,52.10N×172.17W,h33km,mb4.3/3, Error*
ellipse: s-maj=30.7km s-min=15.0km az=65.0
*NEIC **24** 09:33:41.4,5199N×17225W,h3km,mb4.6/1,*
ML4.3(AEIC), After AEIC.
*ISCJB **24** 09:33:42.6±0.8,522N±0.1×17232W±008,h65km±7km,*
mb4.2/9, Error ellipse: s-maj=20.4km s-min=6.3km
az=152.7

ISC 24 09:33:43.9±0.7,522N±01×17240W±006,h70km±7km,n37,
σ1§41/43,mb4.2/9,1D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**1.10**	**269**	P	**Pn**	**09 34 02.7**	**-1.0**
ATKA				S	**Sn**	**09 34 19.2**	**+0.8**
NIKO	**Nikolski**	**2.29**	**70**	P	**Pn**	**09 34 17.8**	**-1.6**
NIKO				S	**Sn**	**09 34 48.4**	**+1.9**
OKCE	**Okmok Cone E**	**2.83**	**63**	P	**Pn**	**09 34 26.6**	**-0.2**
OKCD	**Okmok Cone D**	**2.86**	**64**	P	**Pn**	**09 34 27.3**	**+0.1**
OKCD				S	**Sn**	**09 35 03.4**	**+2.8**
UNV	**Unalaska Valle**	**3.91**	**63**	P	**Pn**	**09 34 41.1**	**-0.4**
UNV				S	**Sn**	**09 35 31.6**	**+5.5**
AKLV	**Akutan Long Va**	**4.33**	**61**	P	**Pn**	**09 34 46.4**	**-0.8**
AKUT	**Akutan**	**4.42**	**62**	*e*P	**Pn**	**09 34 49.9**	**+1.5**
SPIA	**Saint Paul Isl**	**5.11**	**13**	P	**Pn**	**09 34 58.4**	**+0.5**
AMKA	**Amchitka**	**5.22**	**264**	P	**Pn**	**09 34 59.1**	**-0.3**
SDPT	**Sand Point**	**7.72**	**61**	P	**Pn**	**09 35 31.8**	**-1.8**
FX1	**Attu Island--F**	**8.82**	**280**	Pn	**Pn**	**09 35 49.1**	**+0.5**
	2.3nm,0.3s,baz=243,slow=24,SNR=8.1						
FX1				Sn	**Sn**	**09 37 24.5**	**-1.9**
	0.6nm,0.3s,baz=79,slow=22,SNR=1.7						
FX1	**Attu Island--F**	**8.82**	**280**	P	**Pn**	**09 35 49.1**	**+0.5**
FX1						09 37 24.5	
FX1				pmax	pmax		
	comp=Z,2.0nm,0.3s						
FX1				smax			
	comp=N,1.0nm,0.3s						
KDAK	**Kodiak Island**	**12.63**	**56**	Pn	**Pn**	**09 36 36.8**	**-3.8**
	comp=N,2.2nm,0.3s,baz=288,slow=5.8,SNR=18						
KDAK				Sn	**Sn**	**09 38 50.3**	**-9.2**
	baz=330,slow=20,SNR=1.9						
SVW2	**Sparrevohn**	**12.78**	**39**	*e*P	**Pn**	**09 36 44.7**	**+2.1**
TTA	**Tatalina**	**13.81**	**33**	*e*P	**Pn**	**09 36 58.7**	**+2.4**
TTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TTA	**Tatalina**	**13.81**	**33**	*e*Pn	**Pn**	**09 36 58.7**	**+2.4**
	comp=Z,4.2nm,1.0s						
SLKM	**Skilak Lake**	**14.76**	**47**	*e*P	**Pn**	**09 37 08.3**	**-0.4**
ILAR	**Eielson Array**	**18.14**	**36**	P	**Pn**	**09 37 48.8**	**-2.2**
	comp=Z,0.7nm,0.3s,baz=232,slow=10,SNR=59						
ILAR	**Eielson Array**	**18.14**	**36**	P	**Pn**	**09 37 48.8**	**-2.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BILL	**Bilibino**	**18.90**	**335**⇓	*e*P	**Pn**	**09 38 00.5**	**+0.4**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
INK	**Inuvik**	**24.50**	**34**	P	**P**	**09 38 55.0**	**-1.6**
	comp=Z,6.2nm,0.4s,mb4.3,baz=254,slow=8.7,SNR=67						
INK	**Inuvik**	**24.50**	**34**	*e*P	**P**	**09 38 54.5**	**-2.0**
INK				pmax	pmax		
	comp=Z,7.0nm,0.5s						
INK	**Inuvik**	**24.50**	**34**	*e*P	**P**	**09 38 54.5**	**-2.0**
	comp=Z,6.9nm,0.5s,mb4.2						
DLBC	**Dease Lake**	**24.55**	**59**	P	**P**	**09 38 57.5**	**+0.4**
	comp=Z,4.6nm,0.5s,mb4.2,baz=270,slow=7.2,SNR=19						
DLBC	**Dease Lake**	**24.55**	**59**	*e*P	**P**	**09 38 57.2**	**+0.2**
YKA	**Yellowknife Ar**	**31.73**	**48**	P	**P**	**09 39 59.8**	**-1.2**
	comp=Z,0.6nm,0.4s,mb3.7,baz=276,slow=7.3,SNR=19						
YKA	**Yellowknife Ar**	**31.73**	**48**	P	**P**	**09 39 59.8**	**-1.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NEW	**Newport**	**34.84**	**74**	P	**P**	**09 40 27.1**	**-1.1**
	comp=Z,1.9nm,0.6s,mb4.1,baz=312,slow=14,SNR=3.0						
NEW	**Newport**	**34.84**	**74**	P	**P**	**09 40 27.1**	**-1.1**
NEW				pmax	pmax		
	comp=Z,2.0nm,0.6s						
EDM	**Edmonton**	**34.89**	**64**	*e*P	**P**	**09 40 28.0**	**-0.6**
MDJ	**Mudanjiang**	**38.31**	**282**	P	**P**	**09 41 02.9**	**+5.2**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,122nm,4.6s						
CN2	**Changchun**	**41.25**	**284**	*e*P	**P**	**09 41 24.9**	**+2.9**
PDAR	**Pinedale Array**	**42.25**	**77**	P	**P**	**09 41 30.8**	**+0.5**
	comp=Z,1.1nm,0.7s,mb3.7,baz=316,slow=4.2,SNR=7.1						
NJ2	**Nanjing**	**52.72**	**276**	*e*P	**P**	**09 42 58.8**	**+7.4**
NJ2				AP	pP	09 43 01.9	-7.3
NJ2				XP	sP	09 43 04.9	-12
NJ2				PP	PP	09 45 00.0	+8.8
NJ2				S	**S**	**09 50 25.0**	**+11**
NJ2				XS	sS	09 50 34.0	-10
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,180nm,10.0s						
NJ2				LR	LR		
	comp=N,700nm,27.4s						
NJ2				LR	LR		
	comp=E,810nm,20.8s						
NJ2				LR	LR		
	comp=Z,380nm,22.7s						
ZAL	**Zalesovo**	**56.27**	**316**	LR	LR	10 10 47.1	
	comp=Z,246nm,21.9s,baz=270,slow=40						
KMI	**Kunming**	**67.49**	**282**	P	**P**	**09 44 39.1**	**+6.7**
KMI				AP	pP	09 44 42.6	-8.3
KMI				XP	sP	09 44 44.9	-14
KMI				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**88.90**	**228**	P	**P**	**09 46 33.2**	**+2.6**
	comp=Z,0.4nm,0.7s,mb3.6,baz=31,slow=4.8,SNR=7.7						

IDC 24 09:39:42.2±2.3,121N×9704E,h0km,mb3.6/3,mb1 3.6/4,
mb1mx3.5/19,mbtmp3.5/4,ML2.8/1,Error ellipse:
s-maj=54.5km s-min=30.8km az=55.0,Northern
Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.46**	**50**	Pn	Pn	09 40 23.5	-0.2
	2.1nm,0.3s,baz=288,slow=1.7,SNR=9.5						
WRA	**Warramunga Arr**	**42.18**	**122**	P	P	09 47 36.9	+0.3
	0.3nm,0.6s,baz=302,slow=9.1,SNR=5.1						
SONM	**Songino Array**	**47.15**	**9**	P	P	09 48 15.8	-0.5
	0.6nm,0.5s,baz=188,slow=7.9,SNR=5.6						
MKAR	**Makanchi Array**	**47.20**	**346**	P	P	09 48 17.0	+0.4
	0.7nm,0.5s,baz=156,slow=7.1,SNR=9.8						

*IDC **24** 09:45:27.2±0.6,2043S×16900E,h0km,mb4.6/16,*
mb1 4.7/17,mb1mx4.7/19,mbtmp4.6/17,ML4.1/1,MS4.8/12,
Ms1 4.8/12,ms1mx4.6/27, Error ellipse: s-maj=23.3km
s-min=14.8km az=141.0
*BJI **24** 09:45:30.6,2015S×16945E,h30km,mB5.4,mb5.0,Ms5.4,*
Msz5.1
*MOS **24** 09:45:31.6±1.3,2041S×16898E,h33km,mb5.3/32,*
MS5.3/10, Error ellipse: s-maj=10.5km s-min=9.8km
az=43.9
*ISCJB **24** 09:45:32.1±0.3,2048S±005×16893E±005,h39km,*
mb5.1/67,MS5.0/24, Error ellipse: s-maj=8.2km
s-min=5.3km az=90.1
*SZGRF **24** 09:45:32.5,1978S×17093E,h33km,mb5.7, Vanuatu*
Islands
*BGS **24** 09:45:34.0±3.6,2042S×16899E,h33km,mb5.2(NEIC)*
*HRVD **24** 09:45:34.3±0.2,2045S×16873E,h29km,MW5.5/89,*
Centroid moment Tensor Solution. LP body waves:
s88,c154;Mantle waves: s89,c154; Half duration: 1§4
Moment tensor: Scale 10¹⁷Nm; Mrr2.07±.04;
Mθθ-0.13±.03; Mϕϕ-1.94±.04; Mrθ0.59±.07; Mrϕ0.97±.03;
Mθϕ-1.29±.06; Best double couple: Mo2.63000×10¹⁷
NP1:ϕs337.00000°,δ29.00000°,λ91.00000°. NP2:
ϕs156.00000°,δ61.00000°,λ89.00000°. Principal axes: T
2.4840, Plg74.0000°, Azm64.0000°; N 0.2910, Plg1.0000°,
Azm156.0000°; P -2.7760, Plg16.0000°, Azm246.0000°;
nsta1 refers to body waves, cutoff=40s. nsta2 refers to
surface waves, cutoff=50s.
*NEIC **24** 09:45:34.3±0.3,2042S×16895E,mb5.2/38 Error ellipse:*
s-maj=12.9km s-min=7.9km az=149.0
*LDG **24** 09:45:34.5±0.1,1969S×16757E,h10km,Mb5.2/4,Ms5.1/2,*
Error ellipse: s-maj=19.0km s-min=4.2km az=107.0

ISC 24 09:45:33.9±0.3,2045S±005×16904E±005,h41km,
h41km±1.1km:pP-P,n285,σ1§06/145,mb5.1/67,MS5.0/24,
26C-11D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**2.87**	**345**⇑	*i*P	**Pn**	**09 46 15.4**	**-1.7**
DZM	**Mont Dzumac**	**2.91**	**236**	Pn	**Pn**	**09 46 13.4**	**-4.3**
	28nm,0.3s,baz=57,slow=18,SNR=282						
DZM				Sn	**Sn**	**09 46 46.6**	**-4.9**
	153nm,0.3s,baz=347,slow=22,SNR=8.8						
DZM				LR	LR	09 46 54.5	
	comp=Z,15μm,20.5s,baz=332,slow=30						
HNR	**Honiara**	**14.03**	**320**	LR	LR	09 53 08.0	
	comp=Z,2μm,20.5s,baz=176,slow=33						
HNR	**Honiara**	**14.03**	**320**	*e*P	**Pn**	**09 48 52.0**	**+1.9**
HNR				pmax	pmax		
	comp=Z,92nm,0.9s						
HNR	**Honiara**	**14.03**	**320**	*e*Pn	**Pn**	**09 48 52.0**	**+1.9**
	comp=Z,92nm,0.9s						
RAO	**Raoul Island**	**14.72**	**129**	LR	LR	09 53 28.0	
	comp=Z,5μm,21.4s,baz=306,slow=33						
ARMA	**Armidale**	**18.58**	**234**	*e*P	**Pn**	**09 49 48.8**	**+0.9**
ARMA				*e*S	**S**	**09 53 26.1**	**+9.1**
URZ	**Urewera**	**19.08**	**160**	LR	LR	09 56 07.1	
	comp=Z,7μm,19.8s,baz=168,slow=34						
AFI	**Afiamalu**	**19.43**	**73**	LR	LR	09 55 56.2	
	comp=Z,6μm,19.0s,baz=248,slow=32						
CTA	**Charters Tower**	**21.38**	**267**⇓	*i*P	**P**	**09 50 18.6**	**+0.7**
	comp=Z,58nm,1.0s,mb4.9						
CTA				*e*S	**S**	**09 54 18.5**	**+5.7**
CTA	**Charters Tower**	**21.38**	**267**	P	**P**	**09 50 18.7**	**+0.8**
	comp=Z,61nm,1.0s,mb4.9,baz=90,slow=13,SNR=20						
CTA				LR	LR	09 56 19.9	
	comp=Z,1μm,21.4s,MS4.3,baz=89,slow=31						
CTA	**Charters Tower**	**21.38**	**267**⇓	*i*P	**P**	**09 50 18.6**	**+0.7**
CTA				*e*S	**S**	**09 54 18.5**	**+5.7**
CTA				pmax	pmax		
	comp=Z,58nm,1.0s						
CTAO	**Charters Tower**	**21.38**	**267**	*e*P	**P**	**09 50 18.8**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,95nm,1.0s,mb5.1						
CTAO	**Charters Tower**	**21.38**	**267**	*e*P	**P**	**09 50 18.8**	**+0.9**
	comp=Z,94nm,1.0s,mb5.1						
CNB	**Canberra Magne**	**22.78**	**225**	*e*P	**P**	**09 50 33.7**	**+0.9**
	comp=Z,151nm,1.0s,mb5.4						
PMG	**Port Moresby**	**23.79**	**294**	P	**P**	**09 50 42.9**	**+0.2**
	comp=Z,30nm,0.9s,mb4.7,baz=282,slow=7.7,SNR=4.9						
PMG				LR	LR	09 58 21.2	
	comp=Z,2μm,20.6s,MS4.7,baz=335,slow=33						
PMG	**Port Moresby**	**23.79**	**294**	*e*P	**P**	**09 50 42.8**	**+0.1**
PMG				pmax	pmax		
	comp=Z,110nm,1.1s						
PMG	**Port Moresby**	**23.79**	**294**	*e*P	**P**	**09 50 42.8**	**0.0**
	comp=Z,110nm,1.1s,mb5.2						
TOO	**Toolangi**	**26.63**	**225**	*e*P	**P**	**09 51 10.8**	**+2.3**
	comp=Z,27nm,1.0s,mb4.7						
TOO				*e*S	**S**	**09 55 50.3**	**+10**
TOO	**Toolangi**	**26.63**	**225**	*e*P	**P**	**09 51 10.8**	**+2.3**
TOO				pmax	pmax		
	comp=Z,27nm,1.0s,mb4.7						
STKA	**Stephens Creek**	**27.06**	**240**	*e*P	**P**	**09 51 09.7**	**-2.7**
	comp=Z,16nm,0.8s,mb4.6						
STKA				*e*S	**S**	**09 55 43.2**	**-4.3**
STKA	**Stephens Creek**	**27.06**	**240**	P	**P**	**09 51 10.6**	**-1.8**
	comp=Z,7.5nm,0.8s,mb4.3,baz=54,slow=6.0,SNR=18						
STKA				PcP	PcP	09 54 32.3	-0.5
	comp=Z,7.0nm,0.9s,baz=72,slow=3.2,SNR=2.9						
STKA				LR	LR	10 01 46.1	
	comp=Z,4μm,18.2s,MS5.0,baz=67,slow=36						
RAR	**Rarotonga**	**29.13**	**97**	LR	LR	10 00 09.6	
	comp=Z,2μm,21.7s,MS4.7,baz=285,slow=30						
WB2	**Warramunga Arr**	**32.53**	**265**⇓	*i*P	**P**	**09 51 59.0**	**-1.8**
WRAB	**Tennant Creek**	**32.53**	**265**	P	**P**	**09 51 59.9**	**-0.9**
	comp=Z,116nm,1.3s,mb5.7,SNR=5.7						
WRAB	**Tennant Creek**	**32.53**	**265**	*e*P	**P**	**09 51 59.6**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,34nm,1.0s,mb5.2						
WRAB	**Tennant Creek**	**32.53**	**265**	*e*P	**P**	**09 51 59.6**	**-1.3**
	comp=Z,34nm,1.0s,mb5.2						
WRA	**Warramunga Arr**	**32.54**	**265**	P	**P**	**09 51 58.9**	**-2.0**
	comp=Z,7.0nm,0.8s,mb4.6,baz=95,slow=8.3,SNR=24						
WRA				ScP	ScP	09 58 32.6	+5.2
	comp=Z,1.9nm,1.1s,baz=93,slow=3.3,SNR=3.7						
AS31	**Alice Springs**	**32.67**	**258**⇓	*i*P	**P**	**09 52 01.3**	**-0.8**
ASAR	**Alice Springs**	**32.68**	**258**	P	**P**	**09 52 01.2**	**-0.9**
	comp=Z,12nm,0.6s,mb5.0,baz=86,slow=8.9,SNR=66						
ASAR				ScP	ScP	09 58 32.3	+4.5
	comp=Z,1.4nm,0.9s,baz=76,slow=3.9,SNR=4.7						
ASPA	**Alice Springs**	**32.68**	**258**⇓	*i*P	**P**	**09 52 01.3**	**-0.8**
FORT	**Forrest**	**38.18**	**246**	*e*P	**P**	**09 52 52.1**	**+2.7**
	comp=Z,18nm,0.7s,mb4.9						
TBI	**Tubuai**	**38.52**	**102**	*e*S	**S**	**09 58 53.7**	**+8.6**
	comp=Z,849nm,30.0s						
TBI				*e*LQ		10 01 48.4	
	comp=Z,5μm,30.8s						
TBI				*e*LR	LR	10 03 34.8	
	comp=Z,1μm,24.2s,baz=262						
PPT	**Papeete**	**39.16**	**93**	*e*S	**S**	**09 59 04.2**	**+10**
	comp=Z,1μm,25.8s						
PPT				*e*LQ		10 02 17.9	
	comp=Z,6μm,29.2s						
PPT				*e*LR	LR	10 03 55.7	
	comp=Z,3μm,23.5s,baz=254						
PPT	**Papeete**	**39.16**	**93**	LR	LR	10 05 10.6	
	comp=Z,2μm,19.5s,MS4.9,baz=355,slow=30						
FITZ	**Fitzroy Crossi**	**40.95**	**266**⇓	*i*P	**P**	**09 53 12.4**	**-0.1**
	comp=Z,56nm,0.9s,mb5.2						
FITZ				*e*S	S	09 58 58.7	-23
FITZ	**Fitzroy Crossi**	**40.95**	**266**	P	**P**	**09 53 12.1**	**-0.4**
	comp=Z,11nm,0.6s,mb4.7,baz=128,slow=8.9,SNR=40						
MBWA	**Marble Bar**	**45.95**	**260**	*e*P	**P**	**09 53 52.9**	**+0.2**
	comp=Z,111nm,1.3s,mb5.6						
KLBR	**Kellerberrin**	**47.04**	**245**	*e*P	**P**	**09 54 00.1**	**-1.1**
	comp=Z,54nm,1.0s,mb5.4						
NWAO	**Narrogin (SRO)**	**47.51**	**244**	P	**P**	**09 54 05.3**	**+0.4**
NWAO				pmax	pmax		
	comp=Z,48nm,1.1s						
NWAO	**Narrogin (SRO)**	**47.51**	**244**	P	**P**	**09 54 05.3**	**+0.4**
	comp=Z,48nm,1.1s,mb5.4						
MUN	**Mundaring**	**48.36**

YHNB **Yeheng** 64.51 312 *e*P P 09 56 05.8 -0.7
MIR **Mirnyy** 65.87 205 *e*P P 09 56 14.5 -0.7
MIR pmax pmax
comp=Z,210nm,2.0s,mb5.8
SSE **Sheshan** 68.82 317 *e*P P 09 56 35.0 +1.1
SSE PCP PcP 09 56 59.3 +1.0
SSE PP PP 09 59 07.3 +1.1
SSE S S 10 05 30.3 -4.4
SSE SCS ScS 10 06 26.3 -4.6
SSE AMB AMB
comp=Z,38nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,143nm,5.6s
SSE LR LR
comp=N,2μm,20.0s,MS5.4
SSE LR LR
comp=E,1μm,20.0s,MS5.4
SSE LR LR
comp=Z,3μm,28.6s
QSPA **South Pole Qui** 69.61 180 *e*P P 09 56 38.9 +0.1
comp=Z,24nm,1.0s,mb5.1
INCN **Inchon** 70.10 325 *e*P P 09 56 42.0 +0.2
NJ2 **Nanjing** 70.95 316 *e*P P 09 56 48.8 +1.8
NJ2 AP pP 09 57 01.9 +2.7
NJ2 XP sP 09 57 06.9 +3.0
NJ2 PP PP 09 59 28.0 +3.5
NJ2 S S 10 05 59.0 -0.7
NJ2 XS sS 10 06 19.0 -1.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
NJ2 AMB AMB
comp=Z,180nm,10.0s
NJ2 LR LR
comp=N,700nm,27.4s
NJ2 LR LR
comp=E,810nm,20.8s
NJ2 LR LR
comp=Z,380nm,22.7s,MS4.6
YSS **Yuzh-Sakhalins** 71.16 341 *e*P P 09 56 49.0 +0.7
YSS *e* pP 09 57 01.5 +1.0
YSS S S 10 06 02.0 -0.1
YSS SSS 10 13 50.0
YSS MLR MLR
comp=Z,2μm,22.0s,MS5.3
YSS MLR MLR
comp=N,1μm,20.0s
YSS **Yuzh-Sakhalins** 71.16 341 *e*P P 09 56 48.0 -0.3
comp=N,45nm,1.0s,mb5.4
KULM **Kulim** 71.82 283 *e*P P 09 56 52.5 +0.3
PET **Petropavlovsk** 73.71 353 *e*P P 09 57 01.1 -2.4
PET *e*S S 10 06 29.6 -1.7
PET *e**SS sS 10 07 05.9 +14
PET pmax pmax
comp=Z,200nm,11.4s
PET MLR MLR
comp=Z,500nm,22.0s,MS4.8
DL2 **Dalian** 73.86 323 P P 09 57 07.6 +3.2
DL2 S S 10 06 34.0 +1.0
DL2 AMB AMB
comp=Z,40nm,0.9s,mb5.3
DL2 AMB AMB
comp=Z,360nm,7.1s
DL2 LR LR
comp=N,280nm,18.4s,MS4.7
DL2 LR LR
comp=E,240nm,16.3s,MS4.7
DL2 LR LR
comp=Z,370nm,14.7s,MS4.8
MDJ **Mudanjiang** 74.09 332 P P 09 57 06.3 +0.6
MDJ AP pP 09 57 18.3 +0.3
MDJ XP sP 09 57 23.1 +0.4
MDJ PP PP 09 59 51.8 +0.4
MDJ S S 10 06 38.9 +3.3
MDJ XS sS 10 06 57.0 +1.0
MDJ SCS ScS 10 07 12.6 -0.1
MDJ SS SS 10 11 23.5 +2.4
MDJ AMB AMB
comp=Z,28nm,0.9s,mb5.2
MDJ AMB AMB
comp=Z,352nm,6.9s
MDJ LR LR
comp=N,3μm,20.2s,MS5.5
MDJ LR LR
comp=E,1μm,20.2s,MS5.5
MDJ LR LR
comp=Z,3μm,20.2s,MS5.6
SNY **Shenyang** 74.88 327 ⇓P P 09 57 12.4 +2.1
SNY S S 10 06 49.3 +4.9
SNY SS SS 10 11 29.8 -3.2
SNY AMB AMB
comp=Z,13nm,0.8s,mb4.9
SNY AMB AMB
comp=Z,413nm,12.0s
HABR **Khabarovsk** 75.04 337 *e*P P 09 57 11.3 +0.1
HABR *e*S S 10 06 43.5 -2.6
CN2 **Changchun** 75.39 329 *e*P P 09 57 13.4 +0.2
CN2 *e*S S 10 06 45.9 -4.2
CN2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
CN2 AMB AMB
comp=Z,200nm,8.0s
KLR **Kul'dur** 76.89 336 *e*P P 09 57 17.8 -3.9
MAW **Mawson** 77.25 202 *e*P P 09 57 24.3 +0.5
comp=Z,4.1nm,0.2s,mb5.0
MAW **Mawson** 77.25 202 P P 09 57 23.9 +0.2
comp=Z,4.7nm,0.7s,mb4.5,baz=95,slow=4.5,SNR=6.9
NANT **Nan** 77.49 296 P P 09 57 26.0 +0.9
KMI **Kunming** 78.75 302 P P 09 57 35.8 +3.7
KMI PP PP 10 00 36.4 +5.8
KMI S S 10 07 24.9 -1.8
KMI SKS 10 07 38.1
KMI SS SS 10 12 33.0 +1.4
KMI AMB AMB
comp=Z,17nm,1.2s,mb4.8
KMI AMB AMB
comp=Z,415nm,7.3s
KMI LR LR
comp=N,1μm,24.6s,MS5.3
KMI LR LR
comp=E,967nm,23.4s,MS5.3
KMI LR LR
comp=Z,2μm,24.6s,MS5.3
XAN **Xi'an** 78.79 313 P P 09 57 32.3 0.0
CHG **Chiang Mai** 78.99 295 PG P 09 57 34.9 +1.5
CHTO **Chiang Mai** 78.99 295 *e*P P 09 57 33.4 0.0
CHTO pmax pmax
comp=Z,16nm,1.0s,mb4.9
CHTO **Chiang Mai** 78.99 295 *e*P P 09 57 33.4 0.0
comp=Z,16nm,1.0s,mb4.9
HHC **Hu-ho-hao-te** 81.02 320 *e*P P 09 57 45.8 +1.5
HHC PP PP 10 00 55.6 +6.2
HHC S S 10 07 48.8 -1.7
HHC SKS 10 07 54.3
HHC SS SS 10 13 07.3 +1.9
HHC AMB AMB
comp=Z,18nm,1.2s,mb4.9
HHC AMB AMB
comp=Z,226nm,6.1s
HHC LR LR
comp=N,2μm,21.4s,MS5.3
HHC LR LR
comp=E,564nm,22.0s,MS5.3
HHC LR LR
comp=Z,2μm,21.4s,MS5.3
HIA **Hailar** 82.06 330 *e*P P 09 57 48.4 -1.4
LZH **Lanzhou** 83.40 312 *e*P P 09 57 58.6 +1.8
LZH PP PP 10 01 14.0 +5.0
LZH *e*S S 10 08 15.3 +0.4
LZH AMB AMB
comp=Z,30nm,1.0s,mb5.3
LZH AMB AMB
comp=Z,240nm,4.8s
LZH LR LR
comp=E,520nm,18.2s
LZH LR LR
comp=Z,850nm,19.0s,MS5.1
SYO **Syowa Base** 83.73 196⇑ *e*P P 09 57 57.8 -0.7
SYO **Syowa Base** 83.73 196⇓ *e*PcP PcP 09 58 00.0 -2.6
SYO **Syowa Base** 83.73 196⇑ *e*pP pP 09 58 10.6 -0.4
KDAK **Kodiak Island** 84.23 20 P P 09 57 59.6 -1.4
comp=Z,9.2nm,1.0s,mb4.9,baz=148,slow=3.0,SNR=6.7
KDAK **Kodiak Island** 84.23 20 *e*P P 09 57 59.9 -1.1
comp=Z,16nm,0.9s,mb5.2
KDAK *e*pP pP 09 58 12.9 -0.6
KDAK *e*sP sP 09 58 19.0 +0.9

CLNS **Chul'man** 85.43 337 *e*P P 09 58 01.9 -5.2
CLNS pmax pmax
comp=Z,30nm,0.8s,mb5.5
CLNS pmax pmax
comp=N,13nm,1.0s
CLNS pmax pmax
comp=E,10.0nm,0.9s
SVW2 **Sparrevohn** 86.10 16 *e*P P 09 58 10.2 -0.2
CIT **Chita** 86.83 329 *e*P pP 09 58 23.1 -3.4
CIT pmax pmax
comp=Z,35nm,1.9s,mb5.3
NVL **N'lazarevskaya** 87.64 187 *e*P pP 09 58 31.0 +0.6
NVL pmax pmax
comp=Z,19nm,1.2s,mb5.2
ULN **Ulaanbaatar** 87.72 323 *e*P P 09 58 18.6 +0.3
ULN pmax pmax
comp=Z,30nm,1.2s,mb5.4
ULN **Ulaanbaatar** 87.72 323 *e*P P 09 58 18.6 +0.4
comp=Z,30nm,1.2s,mb5.4
SHL **Shillong** 87.75 298 *e*P P 09 58 19.0 +0.5
SHL *e*S 10 08 48.0
GTA **Gaotai** 87.82 314 *e*P P 09 58 19.6 +0.8
GTA PP PP 10 01 50.3 +5.4
GTA SKS 10 08 39.1
GTA S 10 08 55.0
GTA SS SS 10 14 47.5 +1.7
GTA AMB AMB
comp=Z,11nm,1.0s,mb5.0
GTA AMB AMB
comp=Z,287nm,7.2s
GTA LR LR
comp=N,941nm,25.1s,MS5.2
GTA LR LR
comp=E,612nm,25.1s,MS5.2
GTA LR LR
comp=Z,903nm,21.3s,MS5.2
SNAA **Sanae** 87.95 183⇑ *i*P P 09 58 13.4 -6.0
SNAA *e* 09 58 15.1
SNAA *e* 09 58 21.4
SNAA *e* pP 09 58 24.8 -7.1
SNAA *e* 09 58 30.5
SNAA *e* 09 58 36.2
SNAA *e* 09 58 45.3
SNAA *e* 09 58 50.8
SNAA **Sanae** 87.95 183 *e*P P 09 58 13.2 -6.2
SNAA pmax pmax
comp=Z,26nm,1.3s
SNAA **Sanae** 87.95 183 *e*P P 09 58 13.2 -6.2
comp=Z,26nm,1.3s,mb5.3
YAK **Yakutsk** 87.96 343 *e*P P 09 58 19.1 -0.3
YAK pmax pmax
comp=Z,21nm,1.0s,mb5.3
YAK pmax pmax
comp=N,8.0nm,1.7s
YAK pmax pmax
comp=E,6.0nm,2.0s
YAK **Yakutsk** 87.96 343 *e*P P 09 58 19.0 -0.5
comp=E,48nm,1.0s,mb5.7
SONM **Songino Array** 88.07 323 P P 09 58 20.1 +0.1
comp=E,5.7nm,1.1s,mb4.7,baz=154,slow=4.3,SNR=15
CMB **Columbia Colle** 88.09 48 *e*P P 09 58 20.4 +0.3
CMB *e**PP pP 09 58 32.5 -0.1
CMB pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
CMB **Columbia Colle** 88.09 48 *e*P P 09 58 20.4 +0.4
comp=Z,7.5nm,0.9s,mb4.9
CMB *e*pP pP 09 58 32.5 -0.1
BILL **Bilibino** 88.25 359*c* *i*P P 09 58 19.5 -1.3
BILL *e* 09 58 27.8
BILL pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
BILL **Bilibino** 88.25 359 *e*P P 09 58 19.7 -1.1
comp=Z,20nm,1.1s,mb5.3
YBH **Yreka Blue Hor** 88.29 44 P P 09 58 21.3 +0.3
comp=Z,2.7nm,0.6s,mb4.7,baz=248,slow=4.2,SNR=11
VNA3 **Neumayer Olymp** 88.55 180⇑ *i*P P 09 58 21.4 -0.8
VNA3 *e* 09 58 22.9
VNA3 *e* 09 58 29.2
VNA3 *e* pP 09 58 32.8 -2.0
VNA3 *e* 09 58 38.4
VNA3 *e* 09 58 41.1
VNA3 *e* 09 58 44.2
VNA3 *e* 09 58 53.6
VNA3 *e* 09 58 59.6
VNA3 *e* 09 59 02.7
VNA3 *e* 09 59 15.4
HUMO **Hull Mountain** 88.56 43 *e*P P 09 58 22.7 +0.4
comp=Z,12nm,0.9s,mb5.2
VNA2 **Neumayer--Watz** 88.84 181⇑ *i*P P 09 58 23.0 -0.6
VNA2 *e* 09 58 24.2
VNA2 *e* 09 58 29.5
VNA2 *e* pP 09 58 33.6 -2.5
VNA2 *e* 09 58 40.2
VNA2 *e* 09 58 42.7
VNA2 *e* 09 58 45.9
VNA2 *e* 09 58 55.1
VNA2 *e* 09 59 01.7
VNA2 *e* 09 59 04.7
VNA2 *e* 09 59 16.6
MTUM **Tungsten Hills** 89.07 49 *e*P P 09 58 25.4 +0.8
VNA1 **Neumayer--Stat** 89.13 181⇑ *i*P P 09 58 24.6 -0.3
VNA1 *e* 09 58 25.5
VNA1 *e* 09 58 32.4
VNA1 *e* pP 09 58 36.2 -1.3
VNA1 *e* 09 58 41.2
VNA1 *e* 09 58 44.4
VNA1 *e* 09 58 46.7
VNA1 *e* 09 58 56.2
VNA1 *e* 09 59 00.8
VNA1 *e* 09 59 03.8
NVAR **Mina Array Bea** 89.73 49 P P 09 58 28.3 +0.5
comp=Z,4.4nm,0.9s,mb4.8,baz=211,slow=5.1,SNR=22
MNV **Mina** 89.84 49 *e*P P 09 58 28.7 +0.4
MNV pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
MNV **Mina** 89.84 49 *e*P P 09 58 28.7 +0.5
comp=Z,8.2nm,0.9s,mb5.1
MOD **Modoc** 89.95 45 *e*P P 09 58 29.6 +0.9
comp=Z,12nm,0.9s,mb5.2
BOD **Bodaibo** 90.33 334 *e*P P 09 58 28.9 -1.7
BOD pmax pmax
comp=Z,14nm,1.7s,mb5.0
TPNV **Topopah Spring** 90.56 51 *e*P P 09 58 32.0 +0.4
TPNV pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
TPNV **Topopah Spring** 90.56 51 *e*P P 09 58 32.0 +0.4
comp=Z,9.0nm,0.9s,mb5.1
NEN **Nelson** 91.04 52 *e*P P 09 58 34.8 +1.0
ZAK **Zakamensk** 91.16 324 *e*P P 09 58 33.3 -1.1
ZAK pmax pmax
comp=Z,27nm,1.7s,mb5.3
COLA **College** 91.24 17 *e*P P 09 58 33.7 -1.1
COLA *e**PP pP 09 58 45.8 -1.6
COLA pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
COLA **College** 91.24 17 *e*P P 09 58 33.6 -1.1
comp=Z,5.9nm,1.0s,mb4.9
COLA *e*pP pP 09 58 45.8 -1.5
PGC **Sidney** 91.26 38 *e*P P 09 58 34.6 -0.3
comp=Z,44nm,1.3s,mb5.6
WVOR **Wild Horse Val** 91.30 45 *e*P P 09 58 35.3 +0.3
WVOR pmax pmax
comp=Z,12nm,1.0s,mb5.2
WVOR **Wild Horse Val** 91.30 45 *e*P P 09 58 35.3 +0.2
comp=Z,12nm,1.0s,mb5.2
BMN **Battle Mountai** 91.37 47 *e*P P 09 58 35.9 +0.5
BMN pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
BMN **Battle Mountai** 91.37 47 *e*P P 09 58 35.9 +0.5
comp=Z,8.4nm,1.0s,mb5.0
ILAR **Eielson Array** 91.43 17 P P 09 58 33.0 -2.7
comp=Z,1.4nm,0.9s,mb4.3,baz=237,slow=5.1,SNR=12
SKAG **Skagway** 91.62 25 *e*P P 09 58 36.0 -0.6
TUC **Tucson** 92.82 57 *e*P P 09 58 42.9 +0.8
TUC pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
TUC **Tucson** 92.82 57 *e*Pn P 09 58 42.9 +0.8
comp=Z,2.5nm,0.8s,mb4.7
ELK **Elko** 92.87 47 *e*P P 09 58 42.9 +0.6
ELK pmax pmax
comp=Z,4.0nm,0.9s
ELK **Elko** 92.87 47 *e*P P 09 58 42.9 +0.6
comp=Z,4.1nm,0.9s,mb4.9
DAWY **Dawson** 93.19 20 *e*P P 09 58 42.4 -1.4

DLBC **Dease Lake** 93.19 27 P P 09 58 42.4 -1.4
comp=Z,2.6nm,0.9s,mb4.7,baz=230,slow=15,SNR=5.6
DLBC **Dease Lake** 93.19 27 *e*P P 09 58 43.6 -0.2
JIRN **Jiri** 93.26 298 *e*P P 09 58 45.3 +1.2
comp=Z,32nm,1.2s,mb5.6
GUN **Gumba** 93.61 298 *e*P P 09 58 46.6 +0.9
PKI **Pulchoki** 93.88 298 *e*P P 09 58 47.8 +0.8
comp=Z,33nm,1.0s,mb5.7
PKI **Pulchoki** 93.88 298 *e*P P 09 58 47.8 +0.8
PKI pmax pmax
comp=Z,33nm,1.0s,mb5.7
KKN **Kakani** 94.06 298 *e*P P 09 58 48.6 +0.8
comp=Z,27nm,1.0s,mb5.6
KKN **Kakani** 94.06 298 *e*P P 09 58 48.6 +0.8
KKN pmax pmax
comp=Z,27nm,1.0s,mb5.6
DMN **Daman** 94.14 298 *e*P P 09 58 48.6 +0.4
comp=Z,34nm,0.8s,mb5.8
GKN **Gorkha** 94.67 298 *e*P P 09 58 50.4 -0.2
KOLN **Koldanda** 95.45 297 *e*P P 09 58 53.9 -0.3
TIXI **Tiksi** 95.88 348 *e*P P 09 58 49.5 -6.6
TIXI pmax pmax
comp=Z,3.0nm,1.2s,mb4.6
PDAR **Pinedale Array** 97.57 47 P P 09 59 05.0 +1.2
comp=Z,0.8nm,0.9s,mb4.2,baz=211,slow=5.2,SNR=4.6
INK **Inuvik** 97.74 18 P P 09 59 02.3 -2.2
comp=Z,1.5nm,1.1s,mb4.5,baz=278,slow=11,SNR=2.3
WMQ **Urumqi** 97.90 314⇑ P P 09 59 05.6 +0.3
WMQ PP PP 10 03 07.8 +3.8
WMQ SKS 10 09 34.1
WMQ *e*S 10 10 22.0
WMQ AMB AMB
comp=Z,7.0nm,0.7s,mb5.3
WMQ AMB AMB
comp=Z,61nm,3.6s
WMQ LR LR
comp=N,406nm,22.1s,MS4.9
WMQ LR LR
comp=E,188nm,18.8s,MS4.9
WMQ LR LR
comp=Z,763nm,20.3s,MS5.2
YKA **Yellowknife Ar** 101.82 27 P Pdif 09 59 22.5 -0.2
comp=Z,0.3nm,0.4s,baz=257,slow=4.7,SNR=5.6
MKAR **Makanchi Array** 102.46 315 P Pdif 09 59 25.6 0.0
comp=Z,1.0nm,0.7s,baz=102,slow=5.1,SNR=7.1
AKTK **Aktyubinsk** 118.83 317 PKP PKPdf 10 04 16.9 -0.7
AKTO **Aktyubinsk** 118.83 317 PKP PKPdf 10 04 16.9 -0.7
comp=Z,1.8nm,0.7s,baz=80,slow=3.3,SNR=6.3
SDV **Santo Domingo** 121.41 92 *e*PKPdf PKPdf 10 04 22.7 +0.1
APA **Apatity** 125.31 341⇑ *i*PKIKP PKPdf 10 04 30.4 +0.3
APA *i* 10 04 44.9
APA pmax pmax
comp=Z,16nm,1.0s
APA MLR MLR
comp=Z,600nm,20.0s,MS5.3
ARCES **ARCESS Array B** 126.18 345 PKP PKPdf 10 04 30.7 -1.1
comp=Z,2.6nm,0.6s,baz=40,slow=1.7,SNR=10
SJG **San Juan** 128.05 83 *e*PKIKP PKPdf 10 04 35.4 0.0
KMBO **Kilima Mbogo** 128.17 251 PKP PKPdf 10 04 37.1 +1.5
comp=Z,1.2nm,0.6s,baz=146,slow=7.3,SNR=3.2
BDFB **Brasilia** 128.90 132 PKP PKPdf 10 04 37.9 +0.9
comp=Z,4.3nm,0.8s,baz=351,slow=1.6,SNR=5.0
FINES **FINESS Array B** 131.63 337 PKP PKPdf 10 04 40.3 -1.9
comp=Z,1.9nm,0.9s,baz=108,slow=2.2,SNR=3.3
TSUM **Tsumeb** 131.68 217 PKP PKPdf 10 04 42.0 -0.3
comp=Z,2.7nm,0.8s,baz=348,slow=3.3,SNR=4.1
SOC **Sochi** 132.10 311 *i* PKIKP PKPdf 10 04 43.3 +0.2
SOC *e* 10 07 04.8
SOC *e*SS SS 10 25 15.0 +36
SOC *e*SSS 10 29 32.1
AKASG **Malin Array Be** 136.35 324 PKP PKPdf 10 04 51.0 0.0
comp=Z,0.4nm,0.3s,baz=42,slow=2.2,SNR=3.5
COP **Copenhagen** 140.68 339 *i* P PKPdf 10 04 55.3 -3.7
COP *e* 10 08 01.0
COP
comp=Z,150nm,20.0s
COP **Copenhagen** 140.68 339 *e*P PKPdf 10 04 55.3 -3.7
COP *e* 10 08 01.0
COP LR LR
comp=Z,150nm,20.0s,MS4.7
MUD **Monsted U'grnd** 141.05 342 *i* P PKPdf 10 04 55.0 -4.6
MUD
comp=Z,390nm,21.0s
MUD **Monsted U'grnd** 141.05 342 *e*PKIKP PKPdf 10 04 55.0 -4.6
MUD MLR MLR
comp=Z,390nm,21.0s,MS5.1
OKC **Ostrava-Krasne** 142.67 329 AMS AMS 11 19 20.0
comp=Z,800nm,21.0s
BSEG **Bad Segeberg** 142.82 339 *e*PKPbc PKPdf 10 04 58.9 -3.9
DPC **Dobruska-Polom** 143.19 331 *e*PKP PKPdf 10 04 58.7 -4.7
DPC AMS AMS 11 20 40.0
comp=Z,1μm,19.7s
UPC **Upice** 143.22 331 *e*PKP PKPdf 10 04 57.3 -6.2
BRG **Berggiesshubel** 143.86 333 *e*PKP PKPdf 10 05 02.0 -2.6
comp=Z,38nm,1.8s
BRG
comp=Z,254nm,18.1s
BRG **Berggiesshubel** 143.86 333 *e*PKIKP PKPdf 10 05 02.0 -2.6
BRG pmax pmax
comp=Z,38nm,1.8s
BRG MLR MLR
comp=Z,254nm,18.1s,MS5.0
CLL **Collm** 143.93 334 *i* PKPdf PKPdf 10 05 02.8 -1.9
comp=Z,47nm,1.6s
CLL *e*PP PP 10 08 19.0 +0.6
CLL **Collm** 143.93 334 *i* PKIKP PKPdf 10 05 02.8 -1.9
CLL pmax pmax
comp=Z,47nm,1.6s
PRU **Pruhonice** 144.25 332 *e*PKP PKPdf 10 05 04.6 -0.7
PRU AMS AMS 11 22 20.0
comp=Z,900nm,22.1s
SANT **Santorini** 144.50 304 *e*PKPdf PKPdf 10 05 06.2 +0.4
CLZ **Clausthal** 144.52 337 *e*PKPbc PKPdf 10 05 04.1 -1.7
PLG **Polygyros** 144.61 312 *e*P PKPdf 10 05 00.0 -5.9
NPS **Neapolis** 144.68 303 *e*P PKPdf 10 05 06.5 +0.5
XRY **Khrisi** 144.71 302 *e*P PKPdf 10 05 05.5 -0.6
GRUS **Gruza** 144.78 319 *i* P PKPdf 10 05 04.6 -1.7
VAY **Valandovo** 144.81 314 *e*PKP PKPdf 10 05 04.0 -2.3
TANN **Tannenbergstha** 144.83 334 *e*PKPbc PKPdf 10 05 05.5 -0.8
BWH **Wardlaw** 144.89 353⇑ *e*P PKPdf 10 05 04.3 -2.1
NKC **Novy Kostel** 144.97 334 *e*PKP PKPdf 10 05 05.9 -0.7
NKC AMS AMS 11 22 30.0
comp=Z,1μm,15.5s
MOX **Moxa** 145.00 335 *e*PKPbc PKPdf 10 05 06.0 -0.6
MOX **Moxa** 145.00 335 *e*PKP PKPdf 10 05 05.8 -0.8
comp=Z,90nm,1.6s
MOX
comp=Z,1μm,21.0s
MOX **Moxa** 145.00 335 *e*PKIKP PKPdf 10 05 05.8 -0.8
MOX pmax pmax
comp=Z,90nm,1.6s
MOX MLR MLR
comp=Z,1μm,21.0s,MS5.7
IBBN **Ibbenburen** 145.03 340 *e*PKPbc PKPbc 10 05 06.1 0.0
DIVS **Divcibare** 145.11 320 *i* P PKPbc 10 05 05.2 -1.1
BDL **Dobcross Hall** 145.16 352⇑ *e*P PKPbc 10 05 05.5 -1.0
NEO **Neokhori** 145.19 310 *e*P PKPbc 10 05 06.0 -0.6
BBO1 **Bothel** 145.27 352⇑ *e*P PKPbc 10 05 05.6 -1.2
SKO **Skopje** 145.27 315 *e*PKP PKPdf 10 05 06.4 -0.7
KHC **Kasperske Hory** 145.31 331 *e*PKP PKPdf 10 05 07.3 +0.2
KHC pPKP pPKPdf 10 05 19.0 -1.1
KHC AMS AMS 11 21 00.0
comp=Z,1μm,19.6s
KHC **Kasperske Hory** 145.31 331 *e*PKIKP PKPdf 10 05 07.3 +0.2
KHC *e* 10 05 19.0
KHC MLR MLR
comp=Z,1μm,19.6s,MS5.6
CKE **Keswick** 145.40 352⇑ *e*P PKPbc 10 05 06.4 -0.8
ROTZ **Rotzenmuhle** 145.43 333 *e*PKPbc PKPbc 10 05 07.7 +0.3
GEC2 **GERESS Array S** 145.46 331 *e*PKPbc PKPbc 10 05 07.3 -0.2
GERES **GERESS Array B** 145.46 331 PKPbc PKPbc 10 05 07.3 -0.1
comp=Z,7.3nm,0.6s,baz=42,slow=4.2,SNR=32
UBBA **Unterbreizbach** 145.48 336 *e*PKPbc PKPbc 10 05 06.8 -0.7
XDE **Dent Fell** 145.53 352 *e*P PKPdf 10 05 06.1 -1.4
XDE AMb AMB 10 05 08.2
comp=Z,235nm,1.2s
BBLS **Bajina Basta -** 145.59 320 *i* P PKPdf 10 05 07.5 -0.1
WET **Wettzell** 145.61 332 *e*PKPbc PKPbc 10 05 08.0 +0.1
WTSB **Winterswijk** 145.63 340⇑ *e*P PKPdf 10 05 07.7 0.0
comp=Z,16nm,0.7s
MGER **Gerania Oros** 145.65 308 *e*P PKPdf 10 05 09.5 +1.8
ARSA **Arzberg** 145.70 327⇓ *i*P PKPdf 10 05 08.1 +0.3
comp=Z,446nm,4.1s
GIM **North Isle of** 145.85 353 *e*P PKPdf 10 05 07.5 -0.6
GRF **Grafenberg Arr** 145.90 334 *e*PKPbc PKPbc 10 05 08.4 -0.4

GRF				*e*L			11 22 07.5		
	comp=Z,1μm,19.8s								
MOA	**Molln**	**145.91 329**	⇓	*i*	P	KPDf	10 05 07.8	-0.4	
	comp=Z,577nm,4.2s,SNR=11								
BUG	**Bochum--Univer**	**145.93 340**		*e*	PKPbc	PKPbc	10 05 08.7	-0.2	
WIM	**Isle of Man**	**146.02 353**	⇑	*e*	P	KPDf	10 05 08.5	+0.1	
WIM					AMb	AMB	10 05 12.5		
	comp=Z,222nm,1.5s								
LHO	**Holmfirth**	**146.23 350**	⇑	*e*	P	KPDf	10 05 08.5	-0.2	
PERS	**Pernice**	**146.31 327**		*e*	PKPDf	KPDf	10 05 09.6	+0.8	
VLI	**Veliai**	**146.32 306**		*e*	P	KPDab	10 05 16.0	+5.0	
EVR	**Evrytania**	**146.35 310**		*e*	P	KPDf	10 05 10.5	+1.6	
QSH	**Qafa e Shtames**	**146.49 316**		*i*	p	KPDf	10 05 10.2	+1.1	
TNS	**Taunus Mts**	**146.54 337**		*e*	PKPbc	PKPbc	10 05 10.2	-0.5	
WPM1	**Penmaenmawr**	**146.80 352**	⇑	*e*	P	KPDf	10 05 10.8	+1.1	
WPM1					AMb	AMB	10 05 14.3		
	comp=Z,102nm,1.0s								
WLF1	**Llynfaes**	**146.83 353**	⇑	*e*	P	KPDf	10 05 10.4	+0.7	
WLF1					AMb	AMB	10 05 12.0		
	comp=Z,102nm,0.9s								
YRC	**Rhoscolyn**	**146.89 353**	⇑	*e*	P	KPDf	10 05 10.8	+0.9	
YRC					AMb	AMB	10 05 12.1		
	comp=Z,84nm,0.9s								
ITM	**Ithomi**	**146.93 307**		*e*	P	KPAb	10 05 14.5	+1.2	
BOJS	**Bojanci**	**146.99 325**		*e*	PKPDf	KPDf	10 05 12.2	+2.2	
LJU	**Ljubljana**	**147.01 327**		*e*	PKPDf	KPDf	10 05 11.7	+1.7	
DLF	**Lyons Farm**	**147.03 355**	⇑	*i*	P	KPDf	10 05 11.0	+0.9	
DCN	**Croghan**	**147.04 356**	⇑	*i*	P	KPDf	10 05 11.4	+1.3	
FUR	**Furstenfeldbru**	**147.04 332**		*e*	PKPbc	PKPbc	10 05 13.7	+1.5	
SBD1	**Bryn Du**	**147.06 351**		*e*	P	KPDf	10 05 11.7	+1.6	
VOY	**Vojsko**	**147.35 327**		*e*	PKPDf	KPDf	10 05 12.3	+1.7	
VOY				*e*			10 05 36.6		
HLM1	**Long Mynd**	**147.38 351**		*e*	P	KPDf	10 05 12.5	+1.9	
HLM1					AMb	AMB	10 05 19.9		
	comp=Z,79nm,1.3s								
UCC	**Uccle**	**147.39 342**			PKPab	PKPab	10 05 12.7	-2.4	
BCLA	**Clavier**	**147.44 341**			PKPab	PKPab	10 05 14.5	-0.8	
STU	**Stuttgart**	**147.44 335**		*e*	PKPbc	PKPbc	10 05 13.2	-0.1	
STU	**Stuttgart**	**147.44 335**		*e*	PKPbc	PKPbc	10 05 13.2	-0.1	
SSP1	**Stoney Pound**	**147.51 351**	⇑	*e*	P	PKDf	10 05 12.6	+1.8	
SSP1					AMb	AMB	10 05 14.2		
	comp=Z,86nm,1.0s								
VLS	**Valsamata**	**147.52 310**		*e*	P	KPAb	10 05 16.0	+0.4	
WTTA	**Wattenberg**	**147.56 331**	⇓	*i*	P	PKDf	10 05 13.3	+2.4	
	comp=Z,349nm,3.6s								
SNF	**Seneffe**	**147.67 342**			PKPab	PKPbc	10 05 15.2	-1.0	
MOTA	**Moosalm**	**147.74 331**	⇑	*i*	P	PKPbc	10 05 13.9	-0.2	
	comp=Z,17nm,0.9s,SNR=13								
SQTA	**Sankt Quirin**	**147.79 331**		*i*	P	PKPbc	10 05 14.3	+0.1	
	comp=Z,1.1nm,0.7s,SNR=7.9								
HAE	**Alders End**	**147.79 350**	⇑	*e*	P	PKPbc	10 05 13.1	-1.2	
HAE					AMb	AMB	10 05 16.9		
	comp=Z,128nm,1.0s								
LANF	**Langenberg**	**147.81 337**			PKP	PKPbc	10 05 14.2	-0.1	
WLF	**Walferdange**	**147.82 339**		*e*	PKPbc	PKPbc	10 05 14.3	0.0	
WLF	**Walferdange**	**147.82 339**			PKPab	PKPbc	10 05 15.1	+0.8	
WLF	**Walferdange**	**147.82 339**		*e*	PKPbc	PKPbc	10 05 14.8	+0.5	
GIVF	**Givet**	**147.87 341**		*e*	PKIKP	PKPbc	10 05 14.1	-0.3	
	comp=Z,54nm,0.8s								
MCH1	**Michaelchurch**	**147.90 351**		*e*	P	PKPbc	10 05 13.6	-0.9	
DOU	**Dourbes**	**147.94 341**			PKPab	PKPbc	10 05 15.6	+0.9	
BAIF	**Baives**	**148.09 341**		*e*	PKIKP	PKPbc	10 05 14.8	-0.2	
	comp=Z,87nm,1.2s								
BFO	**Black Forest**	**148.14 335**		*e*	PKPbc	PKPbc	10 05 15.4	+0.2	
BFO	**Black Forest**	**148.14 335**		*e*	PKPbc	PKPbc	10 05 14.9	-0.3	
HGH	**Gray Hill**	**148.22 350**		*e*	P	PKPbc	10 05 14.1	-1.3	
HGH					AMb	AMB	10 05 22.1		
	comp=Z,113nm,1.4s								
DAVA	**Damuels**	**148.32 333**	⇑	*i*	P	PKPbc	10 05 15.4	-0.2	
	comp=Z,264nm,3.3s								
WLS	**Welschbruch**	**148.44 336**			PKP	PKPbc	10 05 15.6	-0.4	
CDF	**Champ du Feu**	**148.47 337**		*e*	PKIKP	PKPbc	10 05 15.6	-0.4	
	comp=Z,36nm,0.8s								
FELD	**Feldberg im Sc**	**148.63 335**			PKP	PKPbc	10 05 15.1	-1.3	
ECH	**Echery**	**148.68 336**			PKP	PKPbc	10 05 15.8	-0.8	
MOF	**Molkenrain**	**148.99 336**			PKP	PKPbc	10 05 18.0	+0.6	
THEF	**They Montfort**	**149.10 338**			PKP	PKPbc	10 05 18.2	+0.6	
HINF	**Hinteralfeld**	**149.13 336**		*e*	PKIKP	PKPbc	10 05 17.2	-0.5	
HAU	**Haudompre**	**149.16 337**		*e*	PKIKP	PKPbc	10 05 17.5	-0.3	
	comp=Z,19nm,0.8s								
FLN	**La Foliniere**	**150.52 346**		*e*	PKIKP	PKPbc	10 05 19.9	-1.2	
	comp=Z,30nm,0.7s								
LDF	**La Druitiere**	**150.60 345**		*e*	PKIKP	PKPbc	10 05 19.7	-1.6	
LOR	**Lormes**	**150.66 339**		*e*	PKIKP	PKPbc	10 05 20.4	-1.0	
	comp=Z,14nm,0.7s								
SSF	**Saint Saulge**	**150.96 339**		*e*	PKIKP	PKPbc	10 05 20.8	-1.3	
	comp=Z,60nm,1.1s								
GRR	**Gorron**	**150.96 346**		*e*	PKIKP	PKPbc	10 05 20.5	-1.6	
	comp=Z,22nm,0.7s								
LPL	**La Plagne**	**151.06 334**		*e*	PKIKP	PKPbc	10 05 20.3	-2.1	
	comp=Z,21nm,0.7s								
LPG	**La Plagne**	**151.07 334**		*e*	PKIKP	PKPbc	10 05 19.7	-2.7	
	comp=Z,19nm,0.7s								
SGMF	**Saint Gilles**	**151.44 348**		*e*	PKIKP	PKPbc	10 05 20.5	-2.7	
BNI	**Bardonecchia**	**151.46 333**		*e*	PKPbc	PKPbc	10 05 23.7	+0.4	
BGF	**Bois d'Agland**	**151.62 340**		*e*	PKIKP	PKPbc	10 05 21.0	-2.6	
MBDF	**Montbardon**	**151.68 333**		*e*	PKIKP	PKPbc	10 05 20.9	-2.9	
	comp=Z,20nm,0.7s								
SURF	**Saint Ours**	**151.85 332**			PKP	PKPbc	10 05 25.1	+0.9	
QUIF	**Quistinic**	**151.88 349**		*e*	PKIKP	PKPbc	10 05 21.3	-2.9	
ORIF	**Oris-en-Rattie**	**151.90 334**		*e*	PKIKP	PKPbc	10 05 21.7	-2.6	
	comp=Z,34nm,0.7s								
TCF	**Toulx Ste Croi**	**152.06 340**		*e*	PKIKP	PKPbc	10 05 22.3	-2.4	
SBF	**Sospel**	**152.06 331**		*e*	PKIKP	PKPbc	10 05 21.1	-3.6	
	comp=Z,24nm,0.8s								
PGF	**Pioggiola**	**152.29 327**		*e*	PKIKP	PKPbc	10 05 22.2	-3.0	
MFF	**Saint Martin d**	**152.45 344**		*e*	PKIKP	PKPbc	10 05 22.3	-3.2	
	comp=Z,19nm,0.8s								
LBL	**Lubilhac**	**152.64 338**			PKP	PKPbc	10 05 29.7	+3.8	
RJF	**Les Rejaudoux**	**153.15 340**		*e*	PKIKP	PKPbc	10 05 22.8	-4.3	
SJPF	**Ste Jean**	**155.97 342**		*e*	PKIKP	PKPdf	10 05 27.0	+3.4	
ESDC	**Sonseca Array**	**159.92 344**			PKPab	PKPab	10 06 07.1	-0.8	
	comp=Z,2.5nm,0.6s,baz=12,slow=3.9,SNR=7.7								
TORD	**Torodi Ar. Bea**	**165.88 241**			PKP	PKPdf	10 05 35.0	+0.8	
	comp=Z,2.4nm,1.3s,baz=185,slow=0.7,SNR=4.5								
TORD					PKPab	PKPab	10 06 34.2	+0.1	
	comp=Z,0.8nm,0.9s,baz=125,slow=5.0,SNR=2.4								

*IDC **24** 09:58:16.0±7.1, 5ϭ3Sₓ151.19E, h38ᵏᵐ±59ᵏᵐ, mb3.8/4, mb1 4.1/5, mb1mx3.7/13, mbtmp4.1/5, Error ellipse: s-maj=100.7km s-min=32.6km az=131.0*
*ISCJB **24** 09:58:16.7±4.2, 54S±05ₓ1507E±06, h50ᵏᵐ±34ᵏᵐ, mb3.9/4, Error ellipse: s-maj=127.0km s-min=26.4km az=75.9*
*NEIC **24** 09:58:18.0±3.2, 555S±05ₓ1502E, h58ᵏᵐ±25ᵏᵐ, mb4.3/1, Error ellipse: s-maj=98.2km s-min=22.8km az=128.0*

ISC 24 09:58:17.6±4.0, 55S±05ₓ1509E±06, h49ᵏᵐ±31ᵏᵐ, n10, σ0ᵠ68/10, mb3.9/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.40**	**223**		Pn		**Pn**	**09 59 36.3**	**+0.8**
	3.4nm,0.3s,baz=48,slow=7.6,SNR=10								
PMG						Sn	**Sn**	**10 00 35.6**	**-0.8**
	2.8nm,0.3s,baz=139,slow=11,SNR=12								
WB2	**Warramunga Arr**	**21.60**	**227**	*e*	P		**P**	**10 03 02.7**	**-0.6**
WRA	**Warramunga Arr**	**21.61**	**227**		P		**P**	**10 03 03.1**	**-0.3**
	2.2nm,0.5s,mb3.8,baz=53,slow=10,SNR=26								
AS31	**Alice Springs**	**24.41**	**220**	*e*	P		**P**	**10 03 32.0**	**+0.6**
ASAR	**Alice Springs**	**24.41**	**220**		P		**P**	**10 03 31.1**	**-0.3**
	3.4nm,0.7s,mb3.9,baz=58,slow=9.1,SNR=30								
ASPA	**Alice Springs**	**24.41**	**220**	*e*	P		**P**	**10 03 32.0**	**+0.6**
FITZ	**Fitzroy Crossi**	**27.70**	**241**	*e*	P		**P**	**10 04 01.8**	**+0.7**
	5.9nm,0.7s,mb4.3								
FITZ	**Fitzroy Crossi**	**27.70**	**241**		P		**P**	**10 04 02.4**	**+1.3**
	4.0nm,0.8s,mb4.1,baz=78,slow=8.6,SNR=12								
ILAR	**Eielson Array**	**83.48**	**22**		P		**P**	**10 10 39.2**	**-0.8**
	0.6nm,0.6s,mb3.8,baz=245,slow=5.0,SNR=14								
TORD	**Torodi Ar. Bea**	**148.72**	**286**		PKPbc	PKPbc		10 18 01.1	+1.7
	2.0nm,0.7s,baz=71,slow=2.8,SNR=9.8								

*NEIC **24** 09:58:50.9, 3243Nₓ11527W, h6ᵏᵐ, ML3.1(PAS), ML3.5(ECX), After ECX.*

ECX 24 09:58:50.9±0.4, 3243N×11527W, h6ᵏᵐ, MD3.4, ML3.5, 7C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.44**	**300**	⇓	*i*	P	Pg	09 58 58.5	-0.9
RMX	**La Rumorosa**	**0.70**	**284**	⇑	*e*	P	Pg	09 59 03.4	-1.1
RMX					*e*	S	Sg	09 59 13.3	-0.3
RMX				⇓	*e*			09 59 14.4	
	comp=N,2μm,0.2s								
RDX	**Rancho Dowling**	**0.76**	**229**	⇑	*e*	P	Pg	09 59 04.1	-1.4
RDX					*e*	S	Sg	09 59 14.8	-0.6
RDX				⇑	*e*			09 59 15.9	
	comp=N,1μm,0.5s								
CBX	**Cerro Bola**	**1.18**	**265**	⇑	*e*	P	Pg	09 59 11.6	-2.0
CBX					*e*	S	Sg	09 59 27.6	-1.4
ENX	**Ensenada**	**1.30**	**246**	⇑	*e*	P	Pn	09 59 13.4	-2.2
ENX					*e*	S	Sb	09 59 30.7	-2.0
ECX	**Ensenada**	**1.30**	**245**		*e*	P	Pn	09 59 14.4	-1.3
ECNX	**Esteban Cantu**	**1.36**	**236**	⇑	*e*	P	Pn	09 59 14.4	-2.1
ECNX					*e*	S	Sb	09 59 33.1	-1.5
SPX	**San Pedro Mart**	**1.39**	**187**		*e*	P	Pn	09 59 14.9	-1.9
SPX					*e*	S	Sb	09 59 33.9	-1.3
PBX	**Punta Banda**	**1.41**	**241**	⇑	*e*	P	Pn	09 59 15.1	-2.1
PBX					*e*	S	Sb	09 59 34.1	-1.8
PFO	**Pinyon Flat Ob**	**1.54**	**320**		*e*	P	Pn	09 59 15.0	-3.9
NEN	**Nelson**	**3.23**	**6**		P		Pn	09 59 38.4	-3.7
NEN					*e*	S	Sn	10 00 29.6	+8.6
CCUT	**Cedar City**	**5.34**	**17**		Pn		Pn	10 00 09.1	-2.1
MSU	**Marysvale**	**6.57**	**22**		Pn		Pn	10 00 23.1	-4.9
PV01	**Paradox Valley**	**7.90**	**42**		Pn		Pn	10 00 42.1	-4.2

*ISCJB **24** 10:03:28.2±0.7, 4232N±004ₓ7623E±005, h10ᵏᵐ, Error ellipse: s-maj=6.3km s-min=4.6km az=119.6*
*KNET **24** 10:03:28.0±0.3, 4234Nₓ7616E, h0ᵏᵐ, ml2.3, Error ellipse: s-maj=2.9km s-min=1.5km az=46.0*
*NNC **24** 10:03:28.3±1.4, 4236Nₓ7619E, h0ᵏᵐ, mb3.2, mpv2.3, Error ellipse: s-maj=9.8km s-min=5.3km az=13.0*

ISC 24 10:03:28.7±0.6, 4232N±004ₓ7619E±005, h10ᵏᵐ, n12, σ0ᵠ96/19, 12C-8D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.08**	**152**	⇑		P	**Pg**	**10 03 30.4**	**-0.6**
	529nm,0.2s,SNR=9806								
ULHL				⇑		S	**Sg**	**10 03 32.0**	**-0.6**
	4μm,0.1s								
KZA	**Kyzart**	**0.74**	**252**	⇓		P	**Pg**	**10 03 42.9**	**-0.1**
	36nm,0.2s,SNR=106								
KZA				⇑		S	**Sg**	**10 03 53.9**	**+1.2**
	64nm,0.2s								
TKM2	**Tokmak 2**	**0.75**	**324**	⇓		P	**Pg**	**10 03 42.3**	**-0.8**
	28nm,0.1s,SNR=20								
TKM2				⇓		S	**Sg**	**10 03 52.3**	**-0.5**
	134nm,0.1s								
TKM2	**Tokmak 2**	**0.75**	**324**	⇑		P	**Pg**	**10 03 42.2**	**-0.9**
	0.1nm,0.1s								
TKM2				⇓		S	**Sg**	**10 03 52.2**	**-0.6**
	2.3nm,0.3s								
KBK	**Karagaybulak**	**0.98**	**291**	⇓		P	**Pg**	**10 03 47.0**	**-0.6**
	18nm,0.1s,SNR=46								
KNDC	**Almaty**	**1.07**	**32**		S		**Sg**	**10 04 02.4**	**-0.6**
UCH	**Uchtor**	**1.25**	**266**	⇑		P	**Pn**	**10 03 51.7**	**-0.4**
	4.2nm,0.1s,SNR=22								
UCH				⇑		S	**Sb**	**10 04 09.3**	**+0.9**
	15nm,0.2s								
CHMS	**Chumysh**	**1.26**	**303**	⇑		P	**Pn**	**10 03 51.7**	**-0.7**
	6.6nm,0.1s								
AAK	**Ala-Archa**	**1.29**	**285**	⇓		P	**Pn**	**10 03 52.4**	**-0.4**
	7.8nm,0.1s,SNR=5.8								
AAK				⇑		S	**Sb**	**10 04 10.4**	**+0.6**
	28nm,0.2s								
USP	**Ospenovka**	**1.57**	**308**	⇓		P	**Pn**	**10 03 57.0**	**+0.5**
	10nm,0.1s,SNR=15								
KK31	**Karatay Array**	**4.26**	**283**	⇑	Pg		**Pg**	**10 04 46.8**	**-3.5**
	1.3nm,0.6s,baz=97,slow=16,SNR=15								
KK31				⇓	Lg			10 05 41.8	
	1.9nm,0.4s,baz=101,slow=28,SNR=9.6								
MK03	**Makanchi Array**	**6.23**	**42**	⇑	Pn		**Pn**	**10 05 02.2**	**+1.5**
	0.5nm,0.5s,baz=221,slow=15								
MK03				⇑	Sn		**Sn**	**10 06 14.4**	**+2.4**
	1.0nm,0.6s,baz=223,slow=24								
MK03				⇑	Lg			10 06 44.5	
	0.9nm,0.5s,baz=226,slow=28								

*IDC **24** 10:11:03.0±0.4, 224Sₓ139.22E, h0ᵏᵐ, mb5.5/24, mb1 5.5/27, mb1mx5.5/28, mbtmp5.5/27, ML5.0/3, MS5.5/15, Ms1 5.5/15, ms1mx5.0/27, Error ellipse: s-maj=15.4km s-min=10.0km az=80.0*
*BJI **24** 10:11:06.6, 222Sₓ139.52E, h42ᵏᵐ, mB5.6, mb5.4, Ms5.3, Msz5.0*
*MOS **24** 10:11:06.9±1.0, 2.17Sₓ139.16E, h33ᵏᵐ, mb5.9/60, MS5.3/39, Error ellipse: s-maj=9.5km s-min=5.0km az=108.8*
*ISCJB **24** 10:11:06.0±0.2, 223S±002ₓ13923E±003, h30ᵏᵐ, mb5.7/129, MS5.4/165, Error ellipse: s-maj=4.8km s-min=3.2km az=148.9*
*NEIC **24** 10:11:07.8±0.1, 225Sₓ139.15E, h30ᵏᵐ, mb5.7/51, ME6.0, MS5.6/130, MW5.7, Error ellipse: s-maj=5.6km s-min=3.9km az=80.0, Moment Tensor Solution. s8 Moment tensor: Scale 10¹⁷Nm; Mᵣᵣ-0.87; Mᵩᵩ-1.86; Mᵩᵩ2.73; Mᵣᵩ-1.99; Mᵩᵩ-1.32; Mᵣᵣ2.68; Best double couple: Mₒ4.20000×10¹⁷ NP1:ϕ₈133.00000°, δ82.00000°, λ-123.00000°. NP2:ϕ₈31.00000°, δ34.00000°, λ-14.00000°. Principal axes: T 4.8300, Plg29.0000°, Azm249.0000°; N -1.3300, Plg33.0000°, Azm138.0000°; P -3.5000, Plg43.0000°, Azm11.0000°; Broadband fault plane solution: P waves. NP1:ϕ₈59.00000°, δ40.00000°, λ-8.00000°. NP2:ϕ₈155.00000°, δ85.00000°, λ-130.00000°. Principal axes: T Plg29.0000°, Azm276.0000°; N Plg0.0000°, Azm0.0000°; P Plg37.0000°, Azm30.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [VI] at Sarmi and [IV] at Jayapura. Also felt at Aberpura.
*HRVD **24** 10:11:08.0±0.1, 205Sₓ139.11E, h30ᵏᵐ, MW5.7/102, Centroid moment Tensor Solution. LP body waves: s89,c165; Mantle waves: s102,c241; Half duration: 1s7 Moment tensor: Scale 10¹⁷Nm; Mᵣᵣ-0.66±.05; Mᵩᵩ-2.43±.04; Mᵩᵩ3.10±.05; Mᵣᵩ-2.40±.10; Mᵩᵩ0.79±.03; Mᵣᵩ2.27±.10; Best double couple: Mₒ4.40000×10¹⁷ NP1:ϕ₈48.00000°, δ42.00000°, λ-10.00000°. NP2: ϕ₈145.00000°, δ84.00000°, λ-132.00000°. Principal axes: T 4.1850, Plg26.0000°, Azm266.0000°; N 0.4410, Plg41.0000°, Azm150.0000°; P -4.6160, Plg37.0000°, Azm19.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 24 10:11:08.3±0.2, 224S±002ₓ13924E±003, h32ᵏᵐ, h32ᵏᵐ±.8ᵏᵐ: pP-P, n485, σ1ᵠ11/335, mb5.7/129, MS5.4/165, 37C-44D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MMPI	**Merauke**	**6.29**	**170**		P		**Pn**	**10 12 41.4**	**+2.7**
	5μm,1.0s								
PMG	**Port Moresby**	**10.61**	**132**		Pn		**Pn**	**10 13 40.8**	**+2.8**
	6.3nm,0.3s,baz=323,slow=10,SNR=39								
PMG	**Port Moresby**	**10.61**	**132**	*e*	P		**Pn**	**10 13 41.6**	**+3.6**
PMG					pmax	pmax			
	comp=Z,651nm,1.0s								
PMG	**Port Moresby**	**10.61**	**132**	*e*	Pn		**Pn**	**10 13 41.6**	**+3.6**
	comp=Z,651nm,1.0s								
KAKA	**Kakadu**	**12.39**	**213**	⇑	*i*	P	**Pn**	**10 14 00.0**	**-2.3**
	comp=Z,543nm,0.6s								
KAKA					*e*	S	**Sn**	**10 16 10.0**	**-9.2**
DAV	**Davao City (W)**	**16.48**	**304**	*e*	P		**Pn**	**10 14 58.6**	**+1.7**
	comp=Z,176nm,0.5s								
BIPH	**Bislig**	**16.50**	**309**	⇓	*i*	P	**Pn**	**10 14 55.7**	**-1.5**
GUMO	**Guam**	**16.69**	**19**		Pn		**Pn**	**10 14 58.6**	**-1.1**
	comp=Z,3.5nm,0.3s,baz=192,slow=9.5,SNR=13								
GUMO						Sn	**Sn**	**10 18 01.1**	**-2.9**
	comp=Z,2.5nm,0.3s,baz=241,slow=19,SNR=2.1								
GUMO						LR	LR	10 20 56.5	
	comp=Z,8μm,18.6s,baz=212,slow=36								
GUMO	**Guam**	**16.69**	**19**		P		**Pn**	**10 14 58.6**	**-1.0**
GUMO								10 18 01.1	
GUMO					pmax	pmax			
	comp=Z,4.0nm,0.3s								
GUMO					smax				
	comp=N,3.0nm,0.3s								
GUMO					MLR	MLR			
	comp=Z,8μm,18.6s								
BUKP	**Musuan**	**17.35**	**306**	*e*	P		**Pn**	**10 15 08.3**	**+0.3**
CGP	**Cagayan de Oro**	**17.98**	**306**	⇓	*e*	P	**Pn**	**10 15 15.6**	**-0.1**
SCPH	**Surigao**	**18.18**	**311**		*e*	P	**Pn**	**10 15 18.0**	**0.0**
WRAB	**Tennant Creek**	**18.22**	**195**		P		**Pn**	**10 15 15.3**	**-3.3**
	comp=Z,3μm,1.4s,SNR=30								
WRAB	**Tennant Creek**	**18.22**	**195**	*e*	P		**Pn**	**10 15 17.9**	**-0.7**
WRAB					*e*	S	**Sn**	**10 18 48.2**	**+7.2**
WRAB					pmax	pmax			
	comp=Z,512nm,0.8s								
WRAB	**Tennant Creek**	**18.22**	**195**	*e*	P		**Pn**	**10 15 17.9**	**-0.7**
	comp=Z,347nm,0.8s								
WRAB					*e*	S	**Sn**	**10 18 48.2**	**+7.2**
WB2	**Warramunga Arr**	**18.23**	**195**	*e*	P		**Pn**	**10 15 14.8**	**-3.9**
WB2					*e*	S	**Sn**	**10 18 29.9**	**-11**
WRA	**Warramunga Arr**	**18.23**	**195**		P		**Pn**	**10 15 15.9**	**-2.9**
	comp=Z,5.4nm,0.3s,baz=16,slow=13,SNR=133								
WRA					S		**Sn**	**10 18 29.8**	**-11**
	comp=Z,6.2nm,0.3s,baz=14,slow=22,SNR=4.9								
WRA	**Warramunga Arr**	**18.23**	**195**		P		**Pn**	**10 15 15.9**	**-2.8**
WRA					S		**Sn**	**10 18 29.8**	**-11**
WRA					pmax	pmax			
	comp=Z,5.0nm,0.3s								
WRA					smax				
	comp=N,6.0nm,0.3s								
PAGZ	**Pagadian**	**18.73**	**303**	*e*	P		**Pn**	**10 15 25.5**	**+0.8**
MSLP	**Maasin**	**18.88**	**311**	*e*	P		**Pn**	**10 15 25.6**	**-1.0**
CTA	**Charters Tower**	**19.01**	**159**	*e*	P		**Pn**	**10 15 27.7**	**-0.5**
	comp=N,82nm,0.9s								
CTA					*e*	S	Sn	10 19 32.7	+33
CTA	**Charters Tower**	**19.01**	**159**		P		**Pn**	**10 15 27.9**	**-0.3**
	comp=N,4.8nm,0.3s,baz=335,slow=11,SNR=61								
CTA					Lg			10 21 11.7	
	comp=N,1.0nm,0.3s,baz=255,slow=20,SNR=3.3								
CTA					LR		LR	10 23 29.9	
	comp=N,24μm,18.3s,baz=344,slow=39								
CTA	**Charters Tower**	**19.01**	**159**	*e*	P		**Pn**	**10 15 27.7**	**-0.5**
CTA					pmax	pmax			
	comp=Z,82nm,0.9s								
CTAO	**Charters Tower**	**19.01**	**159**	*e*	P		**Pn**	**10 15 27.8**	**-0.4**
CTAO					pmax	pmax			
	comp=Z,194nm,1.1s								
CTAO	**Charters Tower**	**19.01**	**159**	*e*	P		**Pn**	**10 15 27.8**	**-0.4**
	comp=Z,194nm,1.1s								
TBP	**Tagbilaran**	**19.37**	**308**	*e*	P		**Pn**	**10 15 40.9**	**+8.4**
TBP	**Tagbilaran**	**19.37**	**308**	⇑	*e*	P	**Pn**	**10 15 36.5**	**+4.0**
	comp=Z,2μm,1.1s								
PCI	**Palu**	**19.44**	**274**		P		**Pn**	**10 15 34.2**	**+0.8**
	comp=Z,5μm,1.1s								
PLP	**Palo**	**19.46**	**313**	*e*	P		**Pn**	**10 15 32.2**	**-1.4**
LLP	**Lapu-Lapu**	**19.67**	**310**	*e*	P		**Pn**	**10 15 33.9**	**-2.2**
WSI	**Waingapu**	**20.22**	**248**		P		**P**	**10 15 40.9**	**+0.4**
	comp=Z,1μm,1.1s								
FITZ	**Fitzroy Crossi**	**20.65**	**219**	⇑	*i*	P	**P**	**10 15 43.8**	**-1.3**
	comp=Z,308nm,0.9s								
FITZ					*e*	S	**S**	**10 19 25.4**	**-8.7**
FITZ	**Fitzroy Crossi**	**20.65**	**219**		P		**P**	**10 15 44.6**	**-0.6**
	comp=Z,75nm,0.9s,baz=41,slow=13,SNR=85								
FITZ					S		**S**	**10 19 24.2**	**-10**
	comp=Z,62nm,0.6s,baz=201,slow=20,SNR=6.2								
FITZ					LR		LR	10 24 35.3	
	comp=Z,21μm,19.0s,MS5.5,baz=40,slow=39								
GUIM	**Jordan**	**20.93**	**308**	*e*	P		**P**	**10 15 48.9**	**+0.7**
RCP	**Roxas**	**21.38**	**310**	⇓	*e*	P	**P**	**10 15 50.1**	**-2.9**
PVCP	**Virac**	**21.72**	**317**	⇑	*i*	P	**P**	**10 15 54.7**	**-1.9**
PVCP						*i* S	sP	10 16 11.8	+2.5

GZH LR LR
comp=N,1μm,16.5s,MS4.9
GZH LR LR
comp=E,1μm,20.5s,MS4.9
GZH LR LR
comp=Z,3μm,16.8s,MS5.2
QIZ Qiongzhong 35.81 307 P **P** **10 18 04.5 -0.1**
QIZ XP sP 10 18 18.0 +0.1
QIZ S **S** **10 23 38.8 -1.1**
QIZ SS SS 10 26 00.3 -16
QIZ AMB AMB
comp=Z,53nm,1.0s,mb5.4
QIZ LR LR
comp=N,2μm,18.5s
QIZ LR LR
comp=Z,2μm,20.7s,MS4.9
QIZ Qiongzhong 35.81 307 *e*P **P** **10 18 04.3 -0.3**
comp=Z,206nm,1.4s,mb5.9
QIZ LR LR
comp=Z,2μm,20.0s,MS5.0
JNU Nakatsue 36.05 348 P **P** **10 18 06.8 +0.1**
comp=Z,126nm,0.9s,mb5.8,baz=34,slow=0.5,SNR=12
KSI Kapahiang 36.62 267 P **P** **10 18 10.3 -1.3**
comp=Z,171nm,1.1s,mb5.8
MUN Mundaring 36.68 214⇑ *i*P **P** **10 18 11.8 -0.2**
NWAO Narrogin (SRO) 36.85 212 P **P** **10 18 13.6 +0.1**
comp=Z,187nm,0.9s,mb5.9,baz=41,slow=8.7,SNR=54
NWAO Narrogin (SRO) 36.85 212⇑ *e*P **P** **10 18 13.4 -0.1**
NWAO pmax pmax
comp=Z,188nm,1.0s
NWAO MLR MLR
comp=Z,26μm,22.0s
NWAO Narrogin (SRO) 36.85 212⇑ *e*P **P** **10 18 13.4 0.0**
comp=Z,188nm,1.0s,mb5.9
NWAO LR LR
comp=Z,26μm,22.0s,MS6.0
SSE Sheshan 37.34 334 *e*P **P** **10 18 18.1 +0.4**
SSE AP pP 10 18 26.8 -0.3
SSE XP sP 10 18 30.3 -0.7
SSE PP PP 10 19 42.8 -0.3
SSE S **S** **10 24 02.8 -0.6**
SSE XS sS 10 24 18.0 -0.9
SSE AMB AMB
comp=Z,53nm,0.8s,mb5.4
SSE AMB AMB
comp=Z,224nm,4.6s
SSE LR LR
comp=N,2μm,20.0s,MS4.9
SSE LR LR
comp=E,1μm,20.0s,MS4.9
SSE LR LR
comp=Z,3μm,28.6s
MJAR Matsushiro Arr 38.60 359 P **P** **10 18 26.3 -2.0**
comp=Z,27nm,0.7s,mb5.1,baz=180,slow=9.1,SNR=62
MJAR PcP PcP 10 20 39.9 -0.3
comp=Z,9.9nm,1.1s,baz=202,slow=2.6,SNR=4.6
MJAR ScP ScP 10 24 27.9 +2.0
comp=Z,16nm,1.1s,baz=186,slow=4.5,SNR=14
MJAR LR LR 10 32 22.8
comp=Z,4μm,20.3s,MS5.2,baz=155,slow=33
MJAR Matsushiro Arr 38.60 359 P **P** **10 18 26.3 -1.9**
MJAR 10 20 39.9
MJAR 10 24 27.9
MJAR pmax pmax
comp=Z,27nm,0.7s
MJAR pmax pmax
comp=Z,10.0nm,1.1s
MJAR pmax pmax
comp=N,16nm,1.2s
MJAR Matsushiro Arr 38.60 359 P **P** **10 18 26.3 -2.0**
MJAR PcP PcP 10 20 39.9 -0.3
MJAR ScP ScP 10 24 27.9 +2.0
MJAR LR LR 10 32 22.8
MAJO Matsushiro 38.60 359⇓ *e*P **P** **10 18 25.8 -2.5**
MAJO *e* 10 20 41.1
MAJO *e* 10 24 27.9
MAJO pmax pmax
comp=Z,41nm,0.7s,mb5.3
MAJO MLR MLR
comp=Z,4μm,20.0s,MS5.2
MAJO Matsushiro 38.60 359⇓ *e*P **P** **10 18 25.8 -2.4**
comp=Z,42nm,0.7s,mb5.3
MAJO *e*PcP PcP 10 20 41.0 +0.8
MAJO *e*ScP ScP 10 24 27.9 +2.0
MAJO LR LR
comp=Z,4μm,20.0s,MS5.3
MAT Matsushiro 38.60 359 P **P** **10 18 26.2 -2.1**
MAT S **S** **10 24 21.0 -1.3**
MAT Matsushiro 38.60 359 *e*P **P** **10 18 26.0 -2.3**
MAT *e*S **S** **10 24 21.0 -1.3**
MAT pmax pmax
comp=Z,29nm,0.5s,mb5.3
MAT MLR MLR
comp=Z,4μm,20.0s,MS5.3
MAT Matsushiro 38.60 359 *e*P **P** **10 18 26.0 -2.3**
comp=Z,29nm,0.5s,mb5.3
MAT *e*S **S** **10 24 21.0 -1.3**
MAT LR LR
comp=Z,4μm,20.0s,MS5.3
NJ2 Nanjing 39.21 332 *e*P **P** **10 18 34.1 +0.7**
NJ2 AP pP 10 18 45.0 +2.2
NJ2 XP sP 10 18 47.8 +1.1
NJ2 PP PP 10 20 09.0 +5.4
NJ2 S **S** **10 24 35.0 +3.5**
NJ2 XS sS 10 24 50.0 +2.9
NJ2 AMB AMB
comp=Z,40nm,0.9s,mb5.2
NJ2 AMB AMB
comp=Z,320nm,11.4s
NJ2 LR LR
comp=N,4μm,25.3s
NJ2 LR LR
comp=E,5μm,17.9s
NJ2 LR LR
comp=Z,2μm,20.4s,MS5.0
KULM Kulim 39.27 281⇑ *e*P **P** **10 18 33.3 -0.6**
KULM *e*pP pP 10 18 41.8 -1.6
WHN Wuhan 40.33 326 *e*P **P** **10 18 42.5 -0.2**
WHN S **S** **10 24 51.6 +3.3**
WHN LR LR
comp=Z,3μm,17.7s,MS5.2
KKTK Khon Kaen 40.43 298⇑ P **P** **10 18 43.7 +0.2**
comp=Z,802nm,0.9s,mb6.5
PSI Prapat 40.61 277 P **P** **10 18 44.5 -0.6**
comp=Z,320nm,0.9s,mb6.0,baz=103,slow=4.9,SNR=159
PSI Prapat 40.61 277 P **P** **10 18 44.5 -0.5**
PSI pmax pmax
comp=Z,320nm,0.9s,mb6.0
KS15 Wonju Array Si 40.87 346 *e*P **P** **10 18 47.0 -0.1**
KS15 *e*pP pP 10 18 56.6 0.0
TSI Tuntungan 41.06 278 P **P** **10 18 48.4 -0.3**
comp=Z,467nm,1.1s,mb6.0
TAU Tasmania Unive 41.13 171 P **P** **10 18 50.7 +1.4**
comp=Z,530nm,0.8s,mb6.2,SNR=8.4
TAU Tasmania Unive 41.13 171 *e*P **P** **10 18 50.7 +1.4**
TAU pmax pmax
comp=Z,79nm,0.9s,mb5.3
TAU MLR MLR
comp=Z,8μm,20.0s,MS5.6
TAU Tasmania Unive 41.13 171 *e*P **P** **10 18 50.7 +1.4**
comp=Z,79nm,0.9s,mb5.3
TAU LR LR
comp=Z,8μm,20.0s,MS5.6
INCN Inchon 41.22 345⇓ *e*P **P** **10 18 50.1 +0.1**
comp=Z,110nm,1.2s,mb5.4
INCN LR LR
comp=Z,3μm,19.0s,MS5.2
NNT Nongplab 41.91 292 P **P** **10 18 56.6 +1.0**
GYA Guiyang 42.47 314⇑ *i*P **P** **10 19 01.6 +1.3**
GYA AP pP 10 19 10.9 +1.1
GYA XP sP 10 19 14.8 +1.2
GYA PP PP 10 20 43.3 +4.3
GYA SCP ScP 10 24 41.9 +0.9
GYA PCS PcS 10 24 45.8 +1.1
GYA S **S** **10 25 20.4 +0.3**
GYA XS sS 10 25 36.9 +1.1
GYA SS SS 10 28 24.3 -5.7
GYA AMB AMB
comp=Z,50nm,0.8s,mb5.2
GYA AMB AMB
comp=Z,510nm,8.7s
GYA LR LR
comp=N,890nm,19.0s,MS5.0
GYA LR LR
comp=E,1μm,20.0s,MS5.0
GYA LR LR
comp=Z,1μm,18.6s,MS4.9
NST Nakhon Sawan 42.57 296⇓ P **P** **10 19 02.0 +1.0**
comp=Z,158nm,1.0s,mb5.7
COCO West Island 43.15 255 PFAKE 10 19 20.0 +14
COCO LR LR
comp=Z,2μm,19.0s,MS5.0
NANT Nan 43.29 301⇑ P **P** **10 19 04.0 -2.9**
comp=Z,965nm,1.0s,mb6.5
TIA Tai'an 43.47 334⇓ P **P** **10 19 07.8 -0.5**
TIA *e*S **S** **10 25 33.0 -1.7**
TIA LR LR
comp=N,1μm,16.0s
DL2 Dalian 44.05 340 PR **P** **10 19 13.5 +0.5**
DL2 AP pP 10 19 22.3 -0.2
DL2 XP sP 10 19 27.3 +0.9
DL2 PP PP 10 20 57.4 +1.5
DL2 S **S** **10 25 44.8 +1.7**
DL2 XS sS 10 26 05.3 +6.4
DL2 AMB AMB
comp=Z,40nm,0.8s,mb5.2
DL2 AMB AMB
comp=Z,270nm,5.0s
DL2 LR LR
comp=N,630nm,18.7s,MS4.7
DL2 LR LR
comp=E,750nm,19.9s,MS4.7
DL2 LR LR
comp=Z,890nm,18.6s,MS4.7
ERM Erimo 44.20 4 PFAKE 10 19 20.0 +5.8
ERM LR LR
comp=Z,21nm,21.0s
CHRT Chiangrai 44.52 301⇑ P **P** **10 19 08.0 -8.8**
BSI Banda Aceh 44.56 280 P **P** **10 19 14.1 -3.0**
comp=Z,165nm,1.3s,mb5.7
KMI Kunming 44.63 310 P **P** **10 19 19.1 +1.5**
KMI AP pP 10 19 26.8 -0.4
KMI XP sP 10 19 29.9 -1.1
KMI PP PP 10 21 04.3 +2.3
KMI SCP ScP 10 24 51.9 +2.1
KMI PCS PcS 10 24 54.9 +1.4
KMI S **S** **10 25 51.9 +0.3**
KMI SS SS 10 29 03.3 -8.8
KMI SCS ScS 10 29 12.8 -0.1
KMI AMB AMB
comp=Z,37nm,1.4s,mb5.0
KMI AMB AMB
comp=Z,182nm,3.1s
KMI LR LR
comp=N,1μm,19.7s,MS4.9
KMI LR LR
comp=E,850nm,17.5s,MS4.9
KMI LR LR
comp=Z,2μm,24.6s
CHG Chiang Mai 44.81 300⇑ P **P** **10 19 18.9 -0.2**
comp=Z,104nm,1.1s,mb5.6
CHTO Chiang Mai 44.81 300⇑ *e*P **P** **10 19 19.4 +0.3**
CHTO *e**PP pP 10 19 28.6 0.0
CHTO pmax pmax
comp=Z,175nm,1.4s,mb5.7
CHTO MLR MLR
comp=Z,1μm,21.0s,MS4.8
CHTO Chiang Mai 44.81 300⇑ *e*P **P** **10 19 19.4 +0.3**
comp=Z,178nm,1.4s,mb5.7
CHTO *e*pP pP 10 19 28.6 -0.1
CHTO LR LR
comp=Z,1μm,21.0s,MS4.8
VLA Vladivostok 45.64 352⇑ *i*P **P** **10 19 26.3 +0.7**
XAN Xi'an 46.00 324 P **P** **10 19 28.1 -0.4**
XAN AP pP 10 19 39.3 +1.2
XAN PP PP 10 21 13.8 -2.9
XAN S **S** **10 26 02.4 -9.1**
XAN AMB AMB
comp=Z,26nm,0.9s,mb5.2
XAN AMB AMB
comp=Z,173nm,4.8s
XAN LR LR
comp=N,750nm,19.8s,MS4.8
XAN LR LR
comp=E,761nm,16.8s,MS4.8
XAN LR LR
comp=Z,2μm,19.2s,MS5.0
SNY Shenyang 46.11 344 PR **P** **10 19 29.8 +0.4**
SNY S **S** **10 26 13.6 +0.6**
SNY AMB AMB
comp=Z,56nm,2.5s,mb5.0
SNY AMB AMB
comp=Z,553nm,4.7s
SNY LR LR
comp=N,1μm,17.4s,MS5.2
SNY LR LR
comp=E,2μm,20.4s,MS5.2
SNY LR LR
comp=Z,3μm,19.8s,MS5.2
BJT Baijiatuau 47.07 336⇓ *e*P **P** **10 19 36.8 -0.1**
BJT *e**PP pP 10 19 46.3 -0.2
BJT pmax pmax
comp=Z,275nm,1.4s
BJT MLR MLR
comp=Z,4μm,20.0s
BJT Baijiatuau 47.07 336⇓ *e*P **P** **10 19 36.8 0.0**
comp=Z,275nm,1.4s,mb6.0
BJT *e*pP pP 10 19 46.3 -0.2
BJT LR LR
comp=Z,4μm,20.0s,MS5.3
BJI Beijing 47.09 336 P **P** **10 19 36.8 -0.2**
BJI AMB AMB
comp=Z,63nm,1.5s,mb5.3
CD2 Chengdu 47.20 317 P **P** **10 19 38.3 +0.4**
CD2 XP sP 10 19 51.8 +0.5
CD2 PP PP 10 21 28.9 0.0
CD2 S **S** **10 26 28.8 +0.3**
CD2 XS sS 10 26 48.5 +4.1
CD2 SS SS 10 29 50.3 -5.7
CD2 AMB AMB
comp=Z,60nm,0.8s,mb5.6
CD2 LR LR
comp=E,940nm,20.4s
CD2 LR LR
comp=Z,1μm,19.2s,MS4.8
MDJ Mudanjiang 47.44 351 P **P** **10 19 40.0 +0.2**
MDJ AP pP 10 19 49.1 -0.3
MDJ XP sP 10 19 52.8 -0.4
MDJ PP PP 10 21 31.3 +0.1
MDJ SCP ScP 10 25 02.4 +0.9
MDJ PCS PcS 10 25 05.4 +0.2
MDJ S **S** **10 26 35.3 +3.3**
MDJ AMB AMB
comp=Z,82nm,1.4s,mb5.5
MDJ AMB AMB
comp=Z,414nm,4.6s
MDJ LR LR
comp=N,3μm,17.6s,MS5.3
MDJ LR LR
comp=E,1μm,19.3s,MS5.3
MDJ LR LR
comp=Z,3μm,19.3s,MS5.3
MDJ Mudanjiang 47.44 351⇓ *e*P **P** **10 19 39.7 -0.1**
comp=Z,145nm,1.4s,mb5.7
MDJ LR LR
comp=Z,5μm,20.0s,MS5.4
CN2 Changchun 47.48 346⇓ *e*P **P** **10 19 39.8 -0.3**
CN2 *e*AP pP 10 19 50.3 +0.6
CN2 *e*S **S** **10 26 32.4 -0.2**
CN2 AMB AMB
comp=Z,50nm,1.3s,mb5.3
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,4μm,20.0s,MS5.4
CN2 LR LR
comp=E,2μm,20.0s,MS5.4
CN2 LR LR
comp=Z,3μm,21.0s,MS5.3
RAO Raoul Island 48.76 128 PFAKE 10 20 00.0 +10
RAO LR LR
comp=Z,3μm,20.0s,MS5.3
YSS Yuzh-Sakhalins 49.09 3 *e*P **P** **10 19 51.5 -1.0**
YSS S **S** **10 26 58.0 +2.7**
YSS pmax pmax
comp=Z,70nm,1.0s,mb5.7
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.8
YSS MLR MLR
comp=N,1μm,18.0s,MS5.1
YSS MLR MLR
comp=E,1μm,18.0s,MS5.1
YSS MLR MLR
comp=Z,2μm,18.0s,MS5.0
YSS Yuzh-Sakhalins 49.09 3 *e*P **P** **10 19 51.5 -1.0**
comp=Z,70nm,1.0s,mb5.7
YSS S **S** **10 26 58.0 +2.7**
YSS LR LR
comp=Z,2μm,18.0s,MS5.0
AFI Afiamalu 49.75 106 P **P** **10 19 58.2 +0.7**
comp=Z,72nm,0.9s,mb5.7,baz=271,slow=11,SNR=4.3
AFI Afiamalu 49.75 106 P **P** **10 19 58.2 +0.7**
AFI LR LR
comp=Z,3μm,21.0s,MS5.2
HHC Hu-ho-hao-te 49.76 333⇓ P **P** **10 19 58.0 +0.4**
HHC AP pP 10 20 07.9 +0.6
HHC XP sP 10 20 11.8 +0.7
HHC PCP PcP 10 21 18.0 -0.2
HHC PP PP 10 21 53.9 +1.6
HHC SCP ScP 10 25 09.3 -2.1
HHC PCS PcS 10 25 13.5 -1.5
HHC S **S** **10 27 05.9 +1.2**
HHC XS sS 10 27 20.0 -0.6
HHC SCS ScS 10 29 44.0 -2.7
HHC SS SS 10 30 34.6 -2.8
HHC AMB AMB
comp=Z,26nm,1.7s,mb5.0
HHC AMB AMB
comp=Z,593nm,4.8s
HHC LR LR
comp=N,2μm,19.6s,MS5.1
HHC LR LR
comp=E,1μm,19.0s,MS5.1
HHC LR LR
comp=Z,2μm,19.3s,MS5.2
BTO Baotou 50.30 331 *e*P **P** **10 20 01.5 -0.2**
BTO S **S** **10 27 10.6 -1.6**
SNZO South Karori 50.30 145 P **P** **10 20 04.0 +2.2**
comp=Z,90nm,1.1s,mb5.7
SNZO LR LR
comp=Z,3μm,22.0s,MS5.2
LZH Lanzhou 50.43 323 *e*P **P** **10 20 04.4 +1.7**
LZH AP pP 10 20 13.4 +1.0
LZH XP sP 10 20 18.4 +2.2
LZH PP PP 10 22 01.0 +2.6
LZH S **S** **10 27 14.6 +0.5**
LZH XS sS 10 27 31.0 +1.0
LZH SS SS 10 30 44.0 -4.1
LZH AMB AMB
comp=Z,60nm,1.0s,mb5.6
LZH AMB AMB
comp=Z,320nm,6.0s
LZH LR LR
comp=N,1μm,17.0s
LZH LR LR
comp=Z,2μm,18.5s,MS5.2
HABR Khabarovsk 50.64 356⇓ *i*P **P** **10 20 04.4 +0.1**
HABR *e*S **S** **10 27 15.9 -1.1**
HABR pmax pmax
comp=Z,196nm,1.6s,mb5.8
HABR MLR MLR
comp=Z,2μm,22.7s,MS5.0
MIDW Midway 51.50 51⇓ *e*P **P** **10 20 11.4 +0.7**
comp=Z,226nm,1.0s,mb6.1
MIDW *e*pP pP 10 20 19.4 -1.1
MIDW LR LR
comp=Z,5μm,20.0s,MS5.6
KLR Kul'dur 51.68 354⇑ *i*P **P** **10 20 09.0 -3.0**
KLR *e*S **S** **10 27 28.0 -3.3**
KLR pmax pmax
comp=E,65nm,1.6s
KLR pmax pmax
comp=Z,240nm,1.6s,mb5.9
KLR MLR MLR
comp=Z,1μm,16.0s,MS4.9
SHL Shillong 53.51 304 *e*P **P** **10 20 27.0 +1.4**
SHL *e*S **S** **10 27 56.0 -0.3**
HIA Hailar 54.01 344⇓ *e*P **P** **10 20 29.0 -0.3**
HIA pmax pmax
comp=Z,144nm,1.5s
HIA MLR MLR
comp=Z,3μm,20.0s
HIA Hailar 54.01 344⇓ *e*P **P** **10 20 29.0 -0.3**
comp=Z,144nm,1.5s,mb5.7
HIA LR LR
comp=Z,3μm,20.0s,MS5.4
GTA Gaotai 55.02 323⇓ *i*P **P** **10 20 37.5 +0.9**
GTA AP pP 10 20 46.8 +0.5
GTA XP sP 10 20 50.6 +0.5
GTA PCP PcP 10 21 39.3 +1.3
GTA PP PP 10 22 43.1 +3.3
GTA SCP ScP 10 25 34.4 +0.3
GTA S **S** **10 28 17.8 +1.2**
GTA XS sS 10 28 34.8 +2.1
GTA SS SS 10 32 01.8 +1.3
GTA AMB AMB
comp=Z,34nm,0.8s,mb5.4
GTA AMB AMB
comp=Z,256nm,5.3s
GTA LR LR
comp=N,973nm,16.0s,MS5.0
GTA LR LR
comp=E,672nm,20.5s,MS5.0
GTA LR LR
comp=Z,1μm,20.5s,MS4.9
LSA Lhasa 55.84 309 P **P** **10 20 44.0 +1.5**
LSA AMB AMB
comp=Z,50nm,0.8s,mb5.6
LSA LR LR
comp=N,480nm,20.0s,MS4.8
LSA LR LR
comp=E,560nm,20.0s,MS4.8
LSA LR LR
comp=Z,1μm,19.0s,MS5.0
LSA Lhasa 55.84 309 *e*P **P** **10 20 44.4 +1.9**
LSA pmax pmax
comp=Z,66nm,0.8s,mb5.7
LSA MLR MLR
comp=Z,1μm,20.0s,MS5.0
LSA Lhasa 55.84 309 *e*P **P** **10 20 44.4 +1.9**
comp=Z,66nm,0.8s,mb5.7
LSA LR LR
comp=Z,1μm,20.0s,MS5.0
GTK Gangtok 56.90 305 *ex* x 10 21 07.0
ULN Ulaanbaatar 57.27 335⇓ *e*P **P** **10 20 53.5 +0.8**
ULN pmax pmax
comp=Z,96nm,1.4s,mb5.6
ULN MLR MLR
comp=Z,22nm,22.0s,MS5.2
ULN Ulaanbaatar 57.27 335⇓ *e*P **P** **10 20 53.5 +0.8**
comp=Z,96nm,1.4s,mb5.6
ULN LR LR
comp=Z,2μm,22.0s,MS5.2
PET Petropavlovsk 57.43 14 *e*P **P** **10 20 58.0 +4.2**
PET *e*S **S** **10 28 52.0 +3.3**
PET *e*SS SS 10 32 41.8 +3.3
PET pmax pmax
comp=Z,60nm,1.0s,mb5.6
PET MLR MLR
comp=Z,1μm,16.0s,MS5.1
PET Petropavlovsk 57.43 14⇑ *e*P **P** **10 20 54.5 +0.7**
PET LR LR
comp=Z,2μm,21.0s,MS5.2
SONM Songino Array 57.53 334 P **P** **10 20 55.1 +0.6**
comp=Z,7.9nm,0.9s,mb4.8,baz=153,slow=8.0,SNR=45
SONM PKP2bc 10 50 55.5
comp=Z,0.7nm,0.9s,baz=163,slow=1.5,SNR=5.3
SONM Songino Array 57.53 334 P **P** **10 20 55.1 +0.6**
SONM pmax pmax
comp=Z,8.0nm,0.9s
SONM pmax pmax
comp=Z,1.0nm,0.9s
SONM Songino Array 57.53 334 P **P** **10 20 55.1 +0.6**
SONM ⇑ *e* 10 50 55.5
BOK Bokaro 57.95 300 *i* P **P** **10 20 57.4 0.0**
BOK *e*P 10 20 58.2
BOK *i* x x 10 21 04.4
BOK AMb AMB 10 21 10.2
comp=Z,142nm,1.3s,mb5.8
BOK *ex* x 10 28 43.7
CIT Chita 58.27 342 *e*P **P** **10 21 00.7 +1.0**
CIT pmax pmax
comp=Z,187nm,2.6s,mb5.7
VIS Vishakhapatnam 58.53 292 *e*P **P** **10 21 01.4 -0.1**
JIRN Jiri 59.02 304 *e*P **P** **10 21 06.0 +1.1**

PALK Pallekele 59.17 280 *e*P P **10 21 06.2 +0.3**
comp=Z,33nm,0.9s,mb5.4
PALK LR LR
comp=Z,824nm,20.0s,MS4.9
GUN Gumba 59.36 304 *e*P P **10 21 08.4 +1.1**
comp=Z,589nm,0.9s,mb6.6
PKI Pulchoki 59.63 304 *e*P P **10 21 09.7 +0.6**
comp=Z,333nm,1.2s,mb6.2
PKI Pulchoki 59.63 304 *e*P P **10 21 09.7 +0.6**
PKI pmax pmax
comp=Z,333nm,1.2s,mb6.2
KKN Kakani 59.81 304 *e*P P **10 21 11.2 +0.8**
comp=Z,498nm,1.0s,mb6.5
KKN Kakani 59.81 304 *e*P P **10 21 11.2 +0.8**
KKN pmax pmax
comp=Z,499nm,1.0s,mb6.5
DMN Daman 59.90 304 *e*P P **10 21 12.0 +1.0**
comp=Z,421nm,1.0s,mb6.4
CLNS Chul'man 60.03 351 *e*P P **10 21 10.3 -1.6**
CLNS *e**PP pP 10 21 16.8 -4.9
CLNS *e* 10 21 55.1
CLNS *e*S S **10 29 19.5 -2.9**
CLNS pmax pmax
comp=Z,63nm,0.9s,mb5.7
CLNS pmax pmax
comp=N,36nm,1.1s
CLNS pmax pmax
comp=E,21nm,0.8s
CLNS pmax pmax
comp=N,23nm,1.0s
CLNS pmax pmax
comp=Z,11nm,1.0s,mb4.8
CLNS pmax pmax
comp=E,13nm,0.9s
CLNS smax
comp=E,440nm,12.5s
CLNS smax
comp=Z,134nm,10.6s
CLNS smax
comp=N,74nm,10.4s
GKN Gorkha 60.42 304 *e*P P **10 21 15.1 +0.5**
comp=N,450nm,0.8s,mb6.5
BLSP Bilaspur 60.75 297 *e*P P **10 21 16.6 -0.2**
BLSP AMb AMB 10 21 28.6
comp=Z,146nm,1.4s,mb5.9
ZAK Zakamensk 60.80 334 *e*P P **10 21 17.4 +0.3**
ZAK *e* 10 29 34.2
ZAK pmax pmax
comp=Z,377nm,1.8s,mb6.2
KOLN Koldanda 61.20 303 *e*P P **10 21 20.8 +0.9**
comp=Z,258nm,0.9s,mb6.3
TLY Talaya 61.61 336 P P **10 21 23.6 +1.0**
comp=Z,163nm,0.8s,mb6.2,SNR=13
TLY Talaya 61.61 336 *e*P P **10 21 23.5 +0.9**
TLY *e* 10 22 01.7
TLY *e* 10 23 43.9
TLY *e*S S **10 29 43.9 +1.3**
TLY *e*PS 10 29 58.8
TLY *e* 10 31 12.9
TLY *e*SS SS 10 33 41.5 -2.6
TLY pmax pmax
comp=Z,93nm,1.3s,mb5.8
TLY MLR MLR
comp=Z,2µm,20.0s,MS5.2
TLY Talaya 61.61 336 *e*P P **10 21 23.5 +0.9**
TLY *e* 10 22 01.7
TLY *e* 10 23 43.9
TLY *e*S S **10 29 43.9 +1.3**
TLY *e*PS 10 29 58.8
TLY *e* 10 31 12.9
TLY *e*SS SS 10 33 41.5 -2.6
IRK Irkutsk 61.78 336 *e*P P **10 21 23.7 -0.1**
IRK *e* 10 21 59.4
IRK pmax pmax
comp=Z,191nm,2.3s,mb5.8
FX1 Attu Island--F 61.86 23 P P **10 21 24.4 +0.1**
comp=Z,42nm,0.9s,mb5.6,baz=262,slow=5.9,SNR=7.8
FX1 Attu Island--F 61.86 23 P P **10 21 24.4 +0.1**
FX1 pmax pmax
comp=Z,42nm,0.9s
RAR Rarotonga 62.21 113 LR LR 10 43 49.7
comp=Z,1µm,21.1s,MS5.1,baz=264,slow=32
MA2 Magadan 62.30 7 *de*P P **10 21 26.8 -0.5**
MA2 pmax pmax
comp=Z,80nm,1.8s,mb5.5
MA2 Magadan 62.30 7 *e*Pr 10 21 26.8
MOY Mondy 62.72 334 *e*P P **10 21 31.1 +1.0**
MOY pmax pmax
comp=Z,258nm,2.6s,mb5.9
HYB Hyderabad 62.91 291 *i* P P **10 21 30.5 -0.8**
comp=Z,50nm,1.0s,mb5.6
HYB *e* 10 21 48.0
HYB *e* 10 22 16.0
HYB *e*S S **10 30 00.0 +1.1**
JBP Jabalpur 62.94 297⇑ *i*P P **10 21 32.2 +0.7**
JBP *ex* x 10 21 50.0
comp=Z,118nm,1.6s
JBP *i* S S **10 30 00.3 +0.9**
BOD Bodaibo 63.20 345⇑ *i*P P **10 21 32.5 -0.8**
BOD pmax pmax
comp=Z,61nm,1.3s,mb5.6
NGP Nagpur 63.27 295⇑ *e*P P **10 21 31.7 -2.1**
NGP AMb AMB 10 21 41.3
comp=Z,390nm,0.8s,mb6.6
NGP ⇓*e*S S **10 30 02.6 -0.9**
DRV Dumont d'Urvil 64.30 180 S S **10 30 20.0 +3.8**
DRV SS SS 10 34 30.0 +3.9
DRV L 10 38 00.0
DRV R 10 42 00.0
YAK Yakutsk 64.52 355 *d*P P **10 21 42.4 +0.5**
YAK *e**PP pP 10 21 51.5 -0.3
YAK *e* 10 22 10.1
YAK *i* S S **10 30 18.1 -0.8**
YAK *i* 10 31 33.3
YAK *e*SS SS 10 34 28.2 -1.3
YAK pmax pmax
comp=Z,60nm,0.9s,mb5.6
YAK pmax pmax
comp=N,31nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.6s
YAK pmax pmax
comp=Z,12nm,1.0s,mb4.9
YAK smax
comp=E,281nm,18.4s
YAK smax
comp=Z,288nm,24.8s
YAK smax
comp=N,209nm,16.7s
YAK Yakutsk 64.52 355 *i* Pr P **10 21 42.4 +0.5**
comp=N,60nm,0.9s,mb5.6
YAK *ep*P pP 10 21 51.5 -0.3
YAK *e* 10 22 10.1
YAK *i* S S **10 30 18.1 -0.8**
YAK *i* 10 31 33.3
YAK *e*SS SS 10 34 28.2 -1.3
WMQ Urumqi 64.98 321⇓ *i*P P **10 21 46.0 +1.1**
WMQ AP pP 10 21 56.4 +1.5
WMQ XP sP 10 22 00.5 +1.9
WMQ PCP PcP 10 22 18.8 +1.0
WMQ PP PP 10 24 11.0 +3.0
WMQ SCP 10 26 17.6
WMQ PCS 10 26 21.4
WMQ S S **10 30 26.8 +2.2**
WMQ XS sS 10 30 41.0 0.0
WMQ SCS ScS 10 31 34.4 -3.0
WMQ SS SS 10 34 38.0 +1.3
WMQ AMB AMB
comp=Z,79nm,0.9s,mb5.7
WMQ AMB AMB
comp=Z,688nm,4.5s
WMQ LR LR
comp=N,714nm,18.9s,MS5.0
WMQ LR LR
comp=E,599nm,15.6s,MS5.0
WMQ LR LR
comp=Z,634nm,20.5s,MS4.8
AKL Akola 65.02 294 *ex* x 10 21 11.7
AKL AMb AMB 10 21 14.2
comp=Z,86nm,1.1s,mb5.7
BHPL Bhopal 65.24 297 *e*P P **10 21 45.9 -0.7**
KIP Kipapa 65.65 65 *i* P P **10 21 51.7 +2.4**
KIP MLR MLR
comp=Z,3µm,20.0s,MS5.5
KIP Kipapa 65.65 65 *i* Pr 10 21 51.7
KIP LR LR
comp=Z,3µm,20.0s,MS5.5
MNGI Mangalore 65.67 285 *e*P P **10 21 49.9 +0.5**
DDI Dehra Dun 66.62 304 *e*P P **10 21 56.2 +0.7**
DGAR Diego Garcia 66.70 263 PFAKE 10 22 10.0 +14
DGAR LR LR
comp=Z,1µm,19.0s,MS5.2
NDI New Delhi 66.84 302 *i* P P **10 21 55.5 -1.4**
NDI *e*P 10 21 56.5
NDI AMb AMB 10 21 57.7
comp=Z,94nm,0.9s,mb5.8
NDI *e*S S 10 30 48.0 +0.7
CASY Casey 67.04 192⇑ *i*P P **10 21 57.6 -0.6**
POHA Pohakuloa 67.59 68 PFAKE 10 22 10.0 +8.4
POHA LR LR
comp=Z,2µm,20.0s,MS5.4
SMLA Simla 67.59 305 *e*P P **10 22 01.1 -0.6**
SMLA ⇑ *i*P 10 22 01.2
comp=Z,59nm,0.3s
SMLA AMb AMB 10 22 05.8
comp=Z,196nm,1.2s,mb6.0
SMLA *i* S S 10 30 55.8 -0.5
SDNR Sundarnagar 67.86 305 *e*P P **10 22 04.0 +0.7**
AJM Ajmer 68.47 300 *e*P P **10 22 06.0 -1.2**
DLH Dalhousie 68.98 306 *e*P P **10 22 11.0 +0.7**
KRAR Krasnoyarsk 69.20 334 *e*P P **10 22 11.3 -0.4**
KRAR pmax pmax
comp=Z,28nm,0.4s,mb5.5
KRAR MLR MLR
comp=Z,1µm,21.0s,MS5.2
MK31 Makanchi Array 69.75 322 P P **10 22 15.7 +0.6**
MK31 pmax pmax
comp=Z,176nm,1.1s,mb5.9
MKAR Makanchi Array 69.75 322 P P **10 22 15.8 +0.7**
comp=Z,61nm,0.7s,mb5.6,baz=115,slow=7.8,SNR=351
MKAR PKPPKP 10 50 26.1
comp=Z,0.3nm,0.6s,baz=264,slow=3.7,SNR=3.8
KSH Kashi 71.15 313 *i*P P **10 22 25.8 +2.1**
KSH *ea*P pP 10 22 35.3 +1.6
KSH *ex*P sP 10 22 39.1 +1.6
KSH *ep*CP PcP 10 22 45.3 +1.7
KSH *ep*P PP 10 25 05.0 +3.4
KSH *e*S S 10 31 37.5 -0.8
KSH *ex*S sS 10 31 55.1 +0.2
KSH *e*SKS 10 32 20.1
KSH *e*SCS ScS 10 32 22.8 -2.9
KSH *e*SS SS 10 36 14.3 +2.1
KSH AMB AMB
comp=Z,234nm,2.2s,mb5.7
KSH LR LR
comp=N,394nm,10.4s,MS5.1
KSH LR LR
comp=E,356nm,11.2s,MS5.1
KSH LR LR
comp=Z,887nm,19.7s
PPT Papeete 71.39 108 *e*S S 10 32 00.8 +20
comp=Z,663nm,24.5s
PPT *e*LQ 10 41 54.2
comp=Z,7µm,31.5s
PPT *e*LR LR 10 44 56.8
comp=Z,4µm,25.5s,baz=294
NIL Nilore 71.47 307 P P **10 22 27.9 +2.3**
comp=Z,312nm,0.7s,mb6.3,SNR=6.3
MIR Mirnyy 71.80 198 *d*P P **10 22 28.5 +0.9**
MIR pmax pmax
comp=Z,950nm,2.0s,mb6.4
MIR pmax pmax
comp=Z,2µm,12.0s
ZAL Zalesovo 71.81 330 P P **10 22 28.1 +0.4**
comp=Z,11nm,0.7s,mb4.9,baz=1.6,slow=6.2,SNR=40
ZAL LR LR 10 55 12.2
comp=Z,1µm,19.1s,MS5.2,baz=348,slow=37
ZAL Zalesovo 71.81 330 P P **10 22 28.1 +0.5**
ZAL pmax pmax
comp=Z,11nm,0.7s
ZAL MLR MLR
comp=Z,1µm,19.1s
TBI Tubuai 71.95 114 *e*S S 10 32 11.4 +24
comp=Z,490nm,29.5s
TBI *e*SS SS 10 36 56.3 +32
comp=Z,525nm,34.5s
TBI *e*LQ 10 42 20.4
comp=Z,3µm,39.5s
TBI *e*LR LR 10 45 29.0
comp=Z,2µm,36.5s
BILL Bilibino 72.62 10 *d*P P **10 22 32.0 -0.5**
BILL *i* 10 22 44.6
BILL *e* 10 22 49.3
BILL *e* 10 25 15.2
BILL pmax pmax
comp=Z,16nm,1.0s,mb4.9
BILL MLR MLR
comp=Z,1µm,21.0s,MS5.1
BILL Bilibino 72.62 10 *i* Pr P **10 22 32.0 -0.5**
comp=Z,16nm,1.0s,mb4.9
BILL *i* 10 22 44.6
BILL *e* 10 22 49.3
BILL *e* 10 25 15.2
BILL LR LR
comp=Z,1µm,21.0s,MS5.1
NVS Novosibirsk 73.06 330 *e*P P **10 22 33.4 -1.7**
NVS *e*S S 10 31 57.9 -2.2
NVS pmax pmax
comp=N,102nm,1.5s
NVS pmax pmax
comp=E,154nm,1.5s
NVS pmax pmax
comp=Z,199nm,1.5s,mb5.8
NVS smax
comp=N,109nm,2.1s
NVS smax
comp=E,88nm,2.1s
FRU Bishkek 73.22 316 *e*P P **10 22 37.0 +0.9**
FRU *e* 10 22 49.0
FRU *e*S S 10 32 04.0 +2.0
FRU pmax pmax
comp=Z,90nm,2.0s,mb5.3
FRU smax
comp=N,1µm,11.0s
FRU MLR MLR
comp=Z,700nm,20.0s,MS4.9
AAK Ala-Archa 73.24 316 P P **10 22 36.0 -0.2**
comp=Z,225nm,1.0s,mb6.0,SNR=20
KURK Kurchatov 73.64 325 P P **10 22 38.7 +0.2**
comp=Z,556nm,0.9s,mb6.5,SNR=48
KURK Kurchatov 73.64 325⇓ *e*P P **10 22 38.4 -0.1**
KURK pmax pmax
comp=Z,74nm,0.8s,mb5.7
KURK MLR MLR
comp=Z,1µm,20.0s,MS5.2
TIXI Tiksi 74.07 357 *e*P P **10 22 34.9 -6.1**
TIXI *e*S S 10 32 06.1 -5.5
TIXI *e* 10 32 42.7
TIXI pmax pmax
comp=Z,25nm,1.0s,mb5.1
TIXI smax
comp=N,229nm,9.7s
TIXI smax
comp=E,287nm,10.3s
TIXI MLR MLR
comp=Z,989nm,18.0s,MS5.1
TIXI Tiksi 74.07 357 *i* Pr P **10 22 39.5 -1.5**
TIXI LR LR
comp=Z,1µm,20.0s,MS5.2
SDPT Sand Point 75.46 31 *e*P P **10 22 49.2 +0.1**
comp=Z,722nm,1.9s,mb6.3
KK31 Karatay Array 76.17 315 *i* P P **10 22 53.4 +0.3**
KKAR Karatay Array 76.17 315 *i* P P **10 22 53.4 +0.3**
KKAR pmax pmax
comp=Z,59nm,1.1s,mb5.4
VNDA Vanda 76.19 175 P P **10 22 53.2 -0.1**
comp=Z,8.5nm,0.7s,mb4.8,baz=319,slow=6.2,SNR=41
VNDA LR LR 10 56 34.4
comp=Z,4µm,19.1s,MS5.8,baz=352,slow=36
VNDA Vanda 76.19 175 *e*P P **10 22 52.6 -0.7**
VNDA pmax pmax
comp=Z,43nm,1.1s
VNDA MLR MLR
comp=Z,4µm,19.0s
VNDA Vanda 76.19 175 *e*P P **10 22 52.6 -0.6**
comp=Z,43nm,1.1s,mb5.3
VNDA LR LR
comp=Z,4µm,19.0s,MS5.8
SBA Scott Base 76.95 174 *e*P P **10 22 58.2 +0.6**
SBA pmax pmax
comp=Z,82nm,1.3s,mb5.5
SBA MLR MLR
comp=Z,3µm,22.0s,MS5.6
SBA Scott Base 76.95 174 *e*P P **10 22 58.1 +0.6**
comp=Z,82nm,1.3s,mb5.5
SBA LR LR
comp=Z,3µm,22.0s,MS5.6
VOSK Vostochnaya 78.80 325 P P **10 23 07.2 -0.6**
VOSK pmax pmax
comp=Z,135nm,1.4s,mb5.7
BVA0 Borovoye Array 79.24 325 *i* P P **10 23 10.7 +0.5**
BVA0 pmax pmax
comp=Z,43nm,1.4s,mb5.2
BRVK Borovoye 79.31 325 P P **10 23 11.8 +1.2**
comp=Z,751nm,0.7s,mb6.7,SNR=54
BRVK Borovoye 79.31 325⇓ *e*P P **10 23 10.7 +0.1**
BRVK pmax pmax
comp=Z,54nm,0.7s,mb5.6
BRVK MLR MLR
comp=Z,679nm,20.0s,MS5.0
BRVK Borovoye 79.31 325⇓ *e*P P **10 23 10.7 +0.1**
comp=Z,54nm,0.7s,mb5.6
BRVK LR LR
comp=Z,680nm,20.0s,MS5.0
CHKZ Chkalovo 79.31 326 *e*P P **10 23 10.5 -0.2**
CHKZ pmax pmax
comp=Z,55nm,0.9s,mb5.5
ZRNK Zerenda 80.01 325⇓ *e*P P **10 23 14.3 -0.1**
ZRNK pmax pmax
comp=Z,134nm,1.1s,mb5.8
SVW2 Sparrevohn 80.22 27 *e*P P **10 23 16.8 +1.2**
TAOE Nuku Hiva Isla 80.38 99 *e*SS SS 10 38 43.1 +11
comp=Z,2µm,27.7s
TAOE *e*LR LR 10 48 49.9
comp=Z,6µm,27.5s
KDAK Kodiak Island 80.44 30 P P **10 23 17.8 +1.1**
comp=Z,747nm,1.1s,mb6.5,SNR=37
KDAK Kodiak Island 80.44 30 P P **10 23 17.5 +0.8**
comp=Z,105nm,1.0s,mb5.7,baz=234,slow=2.4,SNR=67
KDAK Kodiak Island 80.44 30 P P **10 23 17.5 +0.8**
KDAK LR LR
comp=Z,861nm,20.0s,MS5.1
TTA Tatalina 80.77 25 *e*P P **10 23 19.2 +0.7**
TTA pmax pmax
comp=Z,206nm,1.3s,mb5.9
TTA Tatalina 80.77 25 *e*P P **10 23 19.2 +0.7**
comp=Z,206nm,1.3s,mb5.9
WBK Wadi Bani Khal 81.89 293 ⇓P P **10 23 25.6 +1.2**
SNR=9.0
WSAR Wadi Sarin 82.26 294 P P **10 23 26.9 +0.5**
comp=Z,17nm,0.8s,mb5.0,baz=115,slow=4.3,SNR=17
JMDO Jabal Madar 82.66 293⇑ P P **10 23 28.9 +0.5**
SNR=11
BIDO Bidbid 82.75 294 P P **10 23 30.2 +1.3**
SNR=21
MAW Mawson 82.75 202 *e*P P **10 23 28.6 -0.4**
comp=Z,33nm,0.9s,mb5.4
MAW Mawson 82.75 202 P P **10 23 28.4 -0.6**
comp=Z,16nm,0.8s,mb5.1,baz=74,slow=4.6,SNR=16
MAW LR LR 10 58 24.0
comp=Z,5µm,19.6s,MS5.9,baz=73,slow=34
MAW Mawson 82.75 202 *e*P P **10 23 28.6 -0.4**
MAW pmax pmax
comp=Z,33nm,0.9s
SMDO Samad 82.77 293 ⇓P P **10 23 29.8 +0.7**
SNR=9.0
PMR Palmer 83.31 27 *e*P P **10 23 31.3 -0.5**
PMR pmax pmax
comp=Z,230nm,1.1s,mb6.1
PMR Palmer 83.31 27 *e*P P **10 23 31.3 -0.5**
comp=Z,230nm,1.1s,mb6.1
HOQ Hoqain 83.50 294 P P **10 23 33.9 +1.1**
SNR=17
BSY Bisya 83.53 293 P P **10 23 33.5 +0.6**
SNR=12
ARQ Araqi 84.20 294 P P **10 23 37.2 +0.8**
SNR=8.8
ABKT Ailbek 84.37 308 P P **10 23 38.7 +1.5**
comp=Z,529nm,1.2s,mb6.5,SNR=16
BANOM Banah 84.63 296⇑ P P **10 23 39.6 +1.0**
SNR=8.6
AB31 Akbulak array 84.71 320 *i* P P **10 23 38.6 -0.4**
AB31 pmax pmax
comp=Z,47nm,0.9s,mb5.6
ASHO Ashiyiah 84.74 295 ⇓P P **10 23 39.5 +0.4**
SNR=9.9
COLA College 84.82 24⇓ *e*P P **10 23 38.5 -1.0**
COLA pmax pmax
comp=Z,97nm,1.0s,mb5.9
COLA MLR MLR
comp=Z,2µm,19.0s,MS5.5
COLA College 84.82 24⇓ *e*P P **10 23 38.5 -1.0**
comp=Z,97nm,1.0s,mb5.9
COLA LR LR
comp=Z,2µm,19.0s,MS5.5
ILAR Eielson Array 85.19 24 P P **10 23 40.0 -1.4**
comp=Z,111nm,0.9s,mb6.0,baz=262,slow=4.3,SNR=402
ILAR Eielson Array 85.19 24 P P **10 23 40.0 -1.4**
ILAR pmax pmax
comp=Z,111nm,0.9s
RKT Rikitea 85.25 113 *e*S 10 34 28.1
comp=Z,482nm,27.8s
RKT *e*SS SS 10 40 15.6 +31
comp=Z,296nm,27.8s
RKT *e*LQ 10 47 54.9
comp=Z,1µm,40.8s
RKT *e*LR LR 10 51 41.6
comp=Z,2µm,26.5s
SVE Sverdlovsk 85.64 327⇑ *e*P P **10 23 45.0 +1.4**
SVE *e*S 10 34 11.0
SVE *e*PS 10 35 16.0
SVE *e*SS SS 10 39 52.0 +2.1
SVE pmax pmax
comp=Z,230nm,2.8s,mb5.9
SVE smax
comp=N,1µm,9.0s
SVE smax
comp=E,500nm,9.0s
SVE MLR MLR
comp=N,300nm,18.0s,MS5.0
SVE MLR MLR
comp=E,500nm,18.0s,MS5.0
SVE MLR MLR
comp=Z,1µm,18.0s,MS5.2
RBK Rabkut 85.94 288 ⇓P P **10 23 45.4 +0.3**
SNR=10
AKTK Aktyubinsk 86.12 321 P P **10 23 45.0 -1.0**
AKTO Aktyubinsk 86.12 321 P P **10 23 45.0 -1.0**
comp=Z,9.9nm,0.8s,mb5.1,baz=97,slow=5.2,SNR=34
AKTO Aktyubinsk 86.12 321 P P **10 23 45.1 -0.9**
AKTO pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
WHFO Wadi Hawf 86.37 288⇑ P P **10 23 47.1 -0.1**
SNR=9.8
ARU Arti 86.70 327⇓ *i*P P **10 23 47.8 -1.0**
ARU *e* 10 27 10.5
ARU *e*PPP 10 29 03.2
ARU *e*S 10 34 11.4
ARU *e*SS SS 10 40 00.7 -4.8
ARU pmax pmax
comp=Z,33nm,0.8s,mb5.6
ARU MLR MLR
comp=Z,1µm,20.0s,MS5.3
ARU MLR MLR
comp=N,400nm,17.0s,MS5.1
ARU MLR MLR
comp=E,600nm,18.0s,MS5.1
ARU Arti 86.70 327⇓ *i*P P **10 23 47.8 -1.0**
comp=E,33nm,0.8s,mb5.6
ARU *e* 10 27 10.5
ARU *e*PPP 10 29 03.2
ARU *e*S 10 34 11.4
ARU *e*SS SS 10 40 00.7 -4.8
ARU LR LR
comp=Z,1µm,20.0s,MS5.3
QSPA South Pole Qui 87.70 180 *e*P P **10 23 52.9 -0.8**
comp=Z,72nm,1.0s,mb5.9
SOKR Solikamsk 88.09 330⇑ *i*P P **10 23 58.9 +3.4**
SOKR pmax pmax
comp=Z,20nm,1.0s,mb5.3
DAWY Dawson 88.22 26⇓ *e*P P **10 23 57.0 +0.8**
DAWY *ep*P pP 10 24 06.3 -0.1
ORR Orenburg 88.31 322 *e*P P **10 23 55.0 -1.6**
ORR pmax pmax
comp=Z,30nm,0.9s,mb5.5
SIT Sitka 89.38 33 PFAKE 10 24 10.0 +8.4
SIT LR LR

comp=Z,3µm,19.0s,MS5.7
INK Inuvik 91.04 22 PKPPKP 10 49 46.2
comp=Z,1.6nm,1.1s,baz=118,slow=5.0,SNR=3.9
INK LR LR 11 03 38.4
comp=Z,1µm,19.0s,MS5.3,baz=226,slow=35
INK Inuvik 91.04 22 *eP* **P 10 24 08.5 -0.9**
INK *e**PP pP 10 24 18.0 -1.7
SYO Syowa Base 91.38 201‖ *eP* **P 10 24 09.0 -1.9**
SYO Syowa Base 91.38 201‖ *e*PcP PcP 10 24 11.8 -0.1
SYO Syowa Base 91.38 201‖ *e*pP pP 10 24 20.0 -1.2
SYO Syowa Base 91.38 201‖ *i*PP PP 10 27 48.0 -0.6
DLBC Dease Lake 92.28 32 LR LR 11 01 57.5
comp=Z,2µm,19.5s,MS5.5,baz=286,slow=33
DLBC Dease Lake 92.28 32‖ *eP* **P 10 24 15.4 +0.3**
DLBC *e*PP PP 10 28 08.2 +12
BBB Bella Bella 93.39 38 LR LR 10 57 40.6
comp=Z,2µm,20.6s,MS5.5,baz=275,slow=30
GNI Garni 94.88 310 *eP* **P 10 24 26.6 -0.5**
BHD Baghdad 95.29 303 *ex* x 10 24 26.5
BHD *ex* x 10 28 17.0
BHD *ex* x 10 35 02.0
BHD *ex* x 10 35 42.0
ZEI Tsey 95.44 313 *eP* **P 10 24 28.6 -1.0**
ZEI *e**PP pP 10 24 39.2 -0.7
ZEI pmax pmax
comp=Z,5.0nm,0.5s,mb5.2
OCWA Octopus Mounta 96.08 42 PFAKE 10 24 40.0 +7.4
OCWA LR LR
comp=Z,3µm,20.0s,MS5.8
KIV Kislovodsk 96.27 314 *eP* **P 10 24 33.4 0.0**
KIV MLR MLR
comp=Z,851nm,19.0s,MS5.2
KLMR Klimovskoe 96.69 331 *eP* **P 10 24 32.8 -2.5**
KLMR pmax pmax
comp=Z,20nm,1.3s,mb5.4
COR Corvallis 96.88 46 PFAKE 10 24 50.0 +14
COR LR LR
comp=Z,2µm,20.0s,MS5.6
TMCR Tamitsa 96.89 334 *eP* **P 10 24 41.2 +5.0**
TMCR pmax pmax
comp=N,60nm,1.1s
TMCR pmax pmax
comp=Z,40nm,1.1s,mb5.8
TMCR pmax pmax
comp=E,40nm,0.9s
HUMO Hull Mountain 97.26 48 PFAKE 10 24 50.0 +12
HUMO LR LR
comp=Z,3µm,21.0s,MS5.7
HOPS Hopland 97.38 51 PFAKE 10 24 50.0 +12
HOPS LR LR
comp=Z,2µm,19.0s,MS5.7
YBH Yreka Blue Hor 97.50 48 LR LR 10 59 28.9
comp=Z,3µm,21.8s,MS5.8,baz=328,slow=30
YBH Yreka Blue Hor 97.50 48 PFAKE 10 24 50.0 +11
YBH LR LR
comp=Z,3µm,19.0s,MS5.7
LVZ Lovozero 97.54 338 PFAKE 10 24 50.0 +11
LVZ LR LR
comp=Z,1µm,22.0s,MS5.3
WDC Whiskeytown Da 97.70 50 PFAKE 10 24 50.0 +10
WDC LR LR
comp=Z,3µm,22.0s,MS5.8
VOR Voronezh 97.98 322 P **P 10 24 39.0 -2.1**
VOR 10 28 40.0
VOR pmax pmax
comp=Z,80nm,2.0s,mb5.9
VOR pmax pmax
comp=Z,120nm,2.5s,mb6.0
APA Apatity 98.08 338‖ *iP* **P 10 24 39.0 -2.6**
APA *i* 10 24 45.6
APA *i* 10 24 52.0
APA *e* 10 36 04.0
APA *e*PS PS 10 37 35.0 +1.1
APA *e*SS SS 10 42 48.0 -0.9
APA pmax pmax
comp=Z,10.0nm,0.8s,mb5.4
APA MLR MLR
comp=Z,900nm,19.0s,MS5.3
MOS Moscow 98.39 326 *eP* **P 10 24 39.7 -3.3**
MOS *e* 10 28 46.6
MOS *e* 10 35 16.8
MOS pmax pmax
comp=Z,100nm,1.6s,mb6.1
MOS pmax pmax
comp=Z,56nm,1.6s,mb5.8
MOS MLR MLR
comp=Z,2µm,20.0s,MS5.5
MOS MLR MLR
comp=E,4µm,21.0s
SOC Sochi 98.45 314 *eP* **P 10 24 41.8 -1.4**
SOC *e**PP pP 10 24 50.9 -2.6
SOC *e*PPP 10 30 54.0
SOC *e* 10 35 21.4
SOC pmax pmax
comp=Z,5.0nm,0.6s,mb5.2
SAO San Andreas Ge 98.80 53 PFAKE 10 25 00.0 +15
SAO LR LR
comp=Z,3µm,20.0s,MS5.7
OBN Obninsk 99.08 325 *eP* **P 10 24 44.3 -1.7**
OBN *i* 10 24 57.8
OBN pmax pmax
comp=Z,18nm,0.9s,mb5.6
OBN MLR MLR
comp=Z,1µm,19.0s,MS5.4
OBN Obninsk 99.08 325 *eP* **P 10 24 44.3 -1.7**
comp=Z,18nm,0.9s,mb5.6
OBN *i* 10 24 57.8
OBN LR LR
comp=Z,1µm,19.0s,MS5.4
MOD Modoc 99.28 48 PFAKE 10 25 00.0 +13
MOD LR LR
comp=Z,2µm,20.0s,MS5.6
YKA Yellowknife Ar 99.41 27 P **P 10 24 47.2 -0.3**
comp=Z,13nm,0.9s,mb5.4,baz=288,slow=4.6,SNR=98
YKA PP PP 10 28 53.7 +2.8
comp=Z,4.0nm,1.1s,baz=283,slow=7.2,SNR=6.6
YKA PKKP PKKPbc 10 41 09.0 -1.4
comp=Z,0.4nm,0.7s,baz=105,slow=3.0,SNR=9.1
YKA LR LR 11 07 14.1
comp=Z,2µm,20.5s,MS5.7,baz=285,slow=34
YKA Yellowknife Ar 99.41 27 P **P 10 24 47.2 -0.3**
YKA PP PP 10 28 53.7 +2.8
YKA PKKP PKKPbc 10 41 09.0 -1.4
YKA LR LR 11 07 14.1
CMB Columbia Colle 99.55 52 PFAKE 10 25 00.0 +12
CMB LR LR
comp=Z,2µm,19.0s,MS5.6
KEV Kevo 99.68 341 *e*pkp Pdif 10 24 47.4 -1.3
KEV Kevo 99.68 341 PFAKE 10 25 00.0 +11
KEV LR LR
comp=Z,2µm,21.0s,MS5.5
MALT Malatya 99.88 308 *eP* Pdif 10 24 49.8 +0.2
ANN Anapa 99.96 315 *eP* Pdif 10 24 49.3 -0.7
ANN *e* 10 28 56.3
ANN *e* 10 35 25.3
ANN *e* 10 36 20.8
ANN *e*SS SS 10 43 08.8 -6.4
ANN pmax pmax
comp=Z,21nm,1.0s,mb5.5
JOF Joensuu 100.10 334 *e*pkp Pdif 10 24 48.8 -1.8
comp=Z,1.1nm,0.3s
JOF Joensuu 100.10 334 *eP* Pdif 10 24 48.8 -1.8
JOF pmax pmax
comp=Z,1.0nm,0.3s
ARCES ARCESS Array B 100.25 341 P Pdif 10 24 50.0 -1.2
comp=Z,9.8nm,0.6s,baz=84,slow=6.1,SNR=26
ARCES ARCESS Array B 100.25 341 P Pdif 10 24 50.1 -1.1
ARCES pmax pmax
comp=Z,10.0nm,0.6s
ARE0 ARCESS Array S 100.25 341 *e*Pdif Pdif 10 24 49.5 -1.7
WVOR Wild Horse Val 100.46 47 PFAKE 10 25 00.0 +7.8
WVOR LR LR
comp=Z,1µm,19.0s,MS5.5
SNCC San Nicolas Is 100.62 57 PFAKE 10 25 00.0 +7.1
SNCC LR LR
comp=Z,3µm,20.0s,MS5.8
NEW Newport 100.74 41 PFAKE 10 25 00.0 +6.6
NEW LR LR
comp=Z,2µm,21.0s,MS5.5
BMO Blue Mountains 101.11 45 PFAKE 10 25 10.0 +15
BMO LR LR
comp=Z,1µm,21.0s,MS5.4
RES Resolute Bay 101.13 13 P Pdif 10 24 54.1 -1.1
NVAR Mina Array Bea 101.15 51 PKKP PKKPbc 10 41 27.3 +22
comp=Z,0.6nm,0.7s,baz=152,slow=2.5,SNR=4.2

MNV Mina 101.26 51 *eP* Pdif 10 24 56.3 +0.5
MNV *e* 10 29 02.3
MNV pmax pmax
comp=Z,6.0nm,1.0s
MNV MLR MLR
comp=Z,2µm,19.0s,MS5.6
MNV Mina 101.26 51 *e*Pdif Pdif 10 24 56.3 +0.6
comp=Z,5.9nm,1.0s
MNV *e*PP PP 10 29 02.3 -2.7
MNV LR LR
comp=Z,2µm,19.0s,MS5.6
ISA Isabella 101.29 54 PFAKE 10 25 10.0 +14
ISA LR LR
comp=Z,660nm,19.0s,MS5.2
BMN Battle Mountai 101.75 49 PFAKE 10 25 10.0 +12
BMN LR LR
comp=Z,2µm,19.0s,MS5.6
KMBO Kilima Mbogo 101.93 268 PP PP 10 29 13.7 +3.6
comp=Z,3.2nm,1.0s,baz=22,slow=9.1,SNR=4.2
KMBO Kilima Mbogo 101.93 268 PFAKE 10 25 10.0 +11
KMBO LR LR
comp=Z,469nm,19.0s,MS5.0
DAC Darwin (Calif) 101.94 54 PFAKE 10 25 10.0 +11
DAC LR LR
comp=Z,3µm,19.0s,MS5.8
TPH Tonopah 102.03 52 PFAKE 10 25 10.0 +11
TPH LR LR
comp=Z,2µm,19.0s,MS5.7
SNAA Sanae 102.27 191 *e*Pdiff Pdif 10 25 00.0 -0.2
SNAA *e* 10 25 09.1
SNAA *e* 10 25 12.8
SNAA *e* 10 25 30.9
SNAA *e* 10 25 57.8
SNAA *e* 10 26 08.1
SNAA Sanae 102.27 191 *eP* Pdif 10 24 59.9 -0.3
SNAA pmax pmax
comp=Z,7.0nm,1.1s
SNAA Sanae 102.27 191 *e*Pdif Pdif 10 24 59.9 -0.3
comp=Z,7.3nm,1.1s
SNAA *e*PP PP 10 29 04.4 -8.1
FINES FINESS Array B 102.88 333 P Pdif 10 25 01.6 -1.3
comp=Z,2.6nm,0.6s,baz=77,slow=4.6,SNR=15
FINES FINESS Array B 102.88 333 P Pdif 10 25 01.6 -1.4
FINES pmax pmax
comp=Z,3.0nm,0.6s
TPNV Topopah Spring 102.94 53 PFAKE 10 25 10.0 +6.8
TPNV LR LR
comp=Z,2µm,19.0s,MS5.6
MSO Missoula 103.11 42 PFAKE 10 25 10.0 +6.0
MSO LR LR
comp=Z,1µm,20.0s,MS5.4
PFO Pinyon Flat Ob 103.15 56 PFAKE 10 25 20.0 +16
PFO LR LR
comp=Z,2µm,19.0s,MS5.7
ELK Elko 103.20 49 PFAKE 10 25 20.0 +16
ELK LR LR
comp=Z,2µm,20.0s,MS5.7
HLID Hailey 103.36 46 PFAKE 10 25 20.0 +15
HLID LR LR
comp=Z,2µm,20.0s,MS5.5
VNA2 Neumayer--Watz 103.75 191 *e*Pdiff Pdif 10 25 11.2 +4.4
VNA2 *e* 10 25 23.0
VNA2 *e* 10 25 26.4
VNA2 *e* 10 25 39.3
VNA2 *e* 10 25 48.2
VNA2 *e* 10 26 08.5
VNA2 *e* 10 26 18.2
VNA3 Neumayer Olymp 103.89 190 *e*Pdiff Pdif 10 25 11.6 +4.2
VNA3 *e* 10 25 22.6
VNA3 *e* 10 25 26.3
VNA3 *e* 10 25 39.8
ANTO Ankara 104.04 310 PFAKE 10 25 20.0 +12
ANTO LR LR
comp=Z,603nm,21.0s,MS5.1
AKASG Malin Array Be 104.33 322 Pdiff Pdif 10 25 07.8 -1.7
comp=Z,2.1nm,0.8s,baz=61,slow=4.3,SNR=8.9
AKASG PP PP 10 29 26.4 -1.6
comp=Z,0.7nm,0.5s,baz=67,slow=6.5,SNR=4.6
AKASG PKKPbc PKKPbc 10 40 56.0 -0.1
comp=Z,0.5nm,0.3s,baz=260,slow=4.7,SNR=4.6
AKASG Malin Array Be 104.33 322 P Pdif 10 25 07.8 -1.6
AKASG 10 29 26.4
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 104.33 322 P Pdif 10 25 07.8 -1.6
comp=Z,2.0nm,0.8s
AKASG *e* 10 29 26.4
BOZ Bozeman (W) 104.92 43 P Pdif 10 25 13.7 +1.7
BOZ *e* 10 29 32.7
BOZ pmax pmax
comp=Z,17nm,1.5s
BOZ Bozeman (W) 104.92 43 *e*Pdif Pdif 10 25 13.4 +1.4
comp=Z,17nm,1.5s
BOZ *e*PP PP 10 29 32.1 -0.2
BOZ LR LR
comp=Z,2µm,20.0s,MS5.6
DUG Dugway 105.12 49 PFAKE 10 29 40.0 +13
DUG LR LR
comp=Z,2µm,20.0s,MS5.6
YMR Madison River 105.59 44 PFAKE 10 29 40.0 +12
YMR LR LR
comp=Z,2µm,21.0s,MS5.6
EGMT Eagleton 105.62 41 *e*PP PP 10 29 40.8 +3.2
EGMT LR LR
comp=Z,870nm,19.0s,MS5.3
HWUT Hardware Ranch 105.79 47 PFAKE 10 29 40.0 +11
HWUT LR LR
comp=Z,3µm,19.0s,MS5.8
MVU Marysvale 105.87 51 PFAKE 10 29 40.0 +11
MVU LR LR
comp=Z,1µm,20.0s,MS5.5
AHID Auburn Hatcher 105.89 46 PFAKE 10 29 40.0 +11
AHID LR LR
comp=Z,1µm,19.0s,MS5.5
MSU Marysvale 105.90 51 P Pdif 10 25 22.2 +5.8
MSU *e* 10 29 40.2
MSU Marysvale 105.90 51 Pdif Pdif 10 25 16.5 +0.1
MSU *e*PP PP 10 29 39.9 +0.3
LKWY Lake 106.00 44 PFAKE 10 29 40.0 +11
LKWY LR LR
comp=Z,1µm,20.0s,MS5.5
MPU Maple Canyon 106.04 49 PFAKE 10 29 40.0 +11
MPU LR LR
comp=Z,2µm,19.0s,MS5.7
DAU Daniels Canyon 106.25 49 *e*PP PP 10 29 42.9 +0.8
BW06 Boulder Array 107.00 46 PFAKE 10 29 40.0 +9.2
BW06 LR LR
comp=Z,1µm,19.0s,MS5.4
PDAR Pinedale Array 107.00 46 Pdiff Pdif 10 25 24.4 +3.2
comp=Z,2.0nm,1.2s,baz=299,slow=3.1,SNR=5.6
PDAR PP PP 10 29 46.8 -1.0
comp=Z,1.9nm,0.9s,baz=300,slow=3.3,SNR=4.7
PDAR PKKPbc PKKPbc 10 40 54.1 +6.2
comp=Z,0.6nm,0.9s,baz=106,slow=3.2,SNR=3.6
TUC Tucson 108.04 57 PFAKE 10 29 40.0 +7.3
TUC LR LR
comp=Z,2µm,19.0s,MS5.7
FFC Flin Flon 108.11 32 PFAKE 10 29 40.0 +7.2
FFC LR LR
comp=Z,2µm,20.0s,MS5.7
LAO LASA Array 108.29 41 PFAKE 10 29 40.0 +6.8
LAO LR LR
comp=Z,2µm,20.0s,MS5.6
PV10 Paradox Valley 108.34 50 *e*PKPdf PKiKP 10 29 40.6 +7.3
PV10 *e*PP PP 10 29 56.3 -1.2
PV01 Paradox Valley 108.75 50 *e*PKPdf PKiKP 10 29 37.8 +3.8
PV01 *e*PP PP 10 30 00.5 0.0
NB2 NORSAR Subarra 109.49 336 P Pdif 10 25 30.2 -2.1
comp=Z,3.0nm,0.8s,baz=58,slow=5.1
NOA NORSAR Array B 109.49 336 Pdiff Pdif 10 25 29.2 -3.1
comp=Z,1.4nm,0.8s,baz=66,slow=4.5,SNR=3.6
NOA NORSAR Array B 109.49 336 P Pdif 10 25 29.3 -3.0
NOA pmax pmax
comp=Z,1.0nm,0.8s
LSZ Lusaka 109.65 253 PFAKE 10 29 50.0 +14
LSZ LR LR
comp=Z,1µm,22.0s,MS5.4
NAO01 NORSAR Array S 109.73 336 PFAKE 10 29 50.0 +14
NAO01 LR LR
comp=Z,1µm,20.0s,MS5.5
LBTB Lobatse 110.32 242 PFAKE 10 29 50.0 +13
LBTB LR LR
comp=Z,832nm,20.0s,MS5.3
ISCO Idaho Springs 110.60 48 PFAKE 10 29 50.0 +12
ISCO LR LR
comp=Z,2µm,20.0s,MS5.6
KONO Kongsberg 110.93 335 PFAKE 10 29 50.0 +12
KONO LR LR
comp=Z,2µm,20.0s,MS5.7
PMSA Palmer Station 110.99 170 PFAKE 10 29 50.0 +12
PMSA LR LR
comp=Z,2µm,19.0s,MS5.6
ANMO Albuquerque 111.10 53 *e*PKIKP PKiKP 10 29 40.6 +2.2
ANMO *e* 10 30 17.8
ANMO MLR MLR
comp=Z,2µm,19.0s
SUR Sutherland 112.44 234 PFAKE 10 29 50.0 +9.0
SUR LR LR
comp=Z,1µm,19.0s,MS5.6
MNTX Cornudas Mount 112.67 57 *e*PKPdf PKiKP 10 29 42.7 +1.3
MNTX LR LR
comp=Z,2µm,22.0s,MS5.7
CLL Collm 113.64 326 *e*PP PP 10 30 32.0 -3.6
CLL *ex* x 10 30 52.0
CLL *e*PPP 10 33 06.0
CLL *e*PS PS 10 40 13.0 +0.8
CLL *e*SS SS 10 46 19.0 -2.1
CLL *e*SSS 10 50 31.0
CLL Lm 11 21 00.0
comp=N,1µm,20.2s
CLL Lm 11 21 00.0
comp=E,1µm,19.9s
CLL Lm 11 21 00.0
comp=Z,2µm,19.6s
KHC Kasperske Hory 114.33 324 *e*PP PP 10 30 35.5 -5.0
GERES GERESS Array B 114.39 324 PKP PKiKP 10 29 44.3 -0.4
comp=Z,1.1nm,0.6s,baz=93,slow=2.7,SNR=5.0
GERES GERESS Array B 114.39 324 PKIKP PKiKP 10 29 44.3 -0.4
GERES pmax pmax
comp=Z,1.0nm,0.6s
LTX Lajitas 114.60 59 PFAKE 10 30 00.0 +15
LTX LR LR
comp=Z,2µm,20.0s,MS5.7
AMTX Amarillo 114.92 52 PFAKE 10 30 00.0 +14
AMTX LR LR
comp=Z,3µm,19.0s,MS5.9
CBKS Cedar Bluff 115.25 48 PFAKE 10 30 00.0 +14
CBKS LR LR
comp=Z,2µm,20.0s,MS5.6
ECSD EROS,Sioux Fal 115.68 42 *e*PKPdf PKPdf 10 29 47.2 +0.1
ECSD *ep*PKPdf pPKPdf 10 29 55.9 -1.9
EYMN Ely 117.00 36 PFAKE 10 30 00.0 +10
EYMN LR LR
comp=Z,35µm,20.0s
KSU1 Kansas State U 117.44 47 *e*PKPdf PKPdf 10 29 51.1 +0.5
KSU1 *e*PP PP 10 30 56.0 -6.4
JCT Junction City 117.60 57 PKIKP PKPdf 10 29 52.4 +1.5
JCT Junction City 117.60 57 *e*PKPdf PKPdf 10 29 52.0 +1.1
JCT LR LR
comp=Z,1µm,19.0s,MS5.6
HINF Hinteralfeld 118.87 325 *e*PKIKP PKPdf 10 29 52.8 -0.5
comp=Z,15nm,1.0s
TSUM Tsumeb 118.88 247 *e*PKPdf PKPdf 10 29 54.6 +1.3
TSUM *ep*PKPdf pPKPdf 10 30 04.9 +1.0
TSUM LR LR
comp=Z,1µm,21.0s,MS5.4
ESK Eskdalemuir 119.00 337 PFAKE 10 30 00.0 +6.4
ESK LR LR
comp=Z,2µm,21.0s,MS5.6
CABF La Chapelle 119.96 325 *e*PKIKP PKPdf 10 29 54.5 -0.9
comp=Z,17nm,0.9s
LPG La Plagne 120.16 323 *e*PKIKP PKPdf 10 29 55.6 -0.2
comp=Z,11nm,0.8s
LPL La Plagne 120.16 323 *e*PKIKP PKPdf 10 29 55.4 -0.4
comp=Z,5.1nm,0.5s
PGF Pioggiola 120.21 319 *e*PKIKP PKPdf 10 29 55.3 -0.6
comp=Z,30nm,0.9s
MBDF Montbardon 120.55 322 *e*PKIKP PKPdf 10 29 56.2 -0.4
LOR Lormes 120.86 326 *e*PKIKP PKPdf 10 29 56.7 -0.5
LOR *e*R
comp=Z,2µm,19.8s
LOR Lormes 120.86 326 *e*PKPdf PKPdf 10 29 56.7 -0.5
LOR LR LR
comp=Z,2µm,19.8s,MS5.7
ORIF Oris-en-Rattie 120.99 323 *e*PKIKP PKPdf 10 29 56.9 -0.5
ORIF *e*R
comp=Z,1µm,22.8s
HKT Hockley 121.05 56 *e*PKIKP PKPdf 10 29 58.7 +1.2
HKT MLR MLR
comp=Z,1µm,19.0s,MS5.6
SSF Saint Saulge 121.17 326 *e*PKIKP PKPdf 10 29 57.1 -0.7
MIAR Mount Ida 121.36 50 *e*PKIKP PKPdf 10 29 59.0 +0.9
MIAR *e* 10 31 27.3
MIAR MLR MLR
comp=Z,3µm,20.0s,MS5.9
AVF Avril sur Loir 121.42 326 *e*PKIKP PKPdf 10 29 57.8 -0.4
comp=Z,7.6nm,0.9s
LMR La Mourre 121.42 321 *e*PKIKP PKPdf 10 29 57.4 -0.8
comp=Z,58nm,1.2s
NATX Nacogdoches 121.46 54 PFAKE 10 30 10.0 +12
NATX LR LR
comp=Z,2µm,22.0s,MS5.8
CCM Cathedral Cave 121.72 46 *e*PKIKP PKPdf 10 29 59.1 +0.3
CCM MLR MLR
comp=Z,1µm,20.0s,MS5.6
BGF Bois d'Agland 121.83 326 *e*PKIKP PKPdf 10 29 58.6 -0.4
comp=Z,7.2nm,0.5s
UALR University of 122.22 50 *e*PKPdf PKPdf 10 30 01.0 +1.2
FVM French Village 122.34 45 *e*PKIKP PKPdf 10 29 59.7 -0.3
FVM *e* 10 30 09.4
FVM *e* 10 31 33.4
TCF Toulx Ste Croi 122.35 326 *e*PKIKP PKPdf 10 29 59.3 -0.7
CAF Calviac 123.23 325 *e*PKIKP PKPdf 10 30 01.0 -0.7
PARMO Parma 123.39 47 *e*PKPdf PKPdf 10 30 02.4 +0.4
SCHQ Schefferville 123.44 18 PKP PKPdf 10 30 02.6 +0.5
comp=Z,3.7nm,0.6s,baz=154,slow=1.4,SNR=7.0
SCHQ Schefferville 123.44 18 PKP PKPdf 10 30 02.6 +0.5
SCHQ LR LR
comp=Z,2µm,20.0s,MS5.7
MFF Saint Martin d 123.45 327 *e*PKIKP PKPdf 10 30 01.5 -0.6
HOPE Hope Point 123.56 183 PFAKE 10 30 10.0 +7.7
HOPE LR LR
comp=Z,3µm,19.0s,MS6.0
EFI East Falkland 124.31 167 PFAKE 10 30 10.0 +6.2
EFI LR LR
comp=Z,2µm,21.0s,MS5.7
BLO Bloomington 124.50 43 *e*PKIKP PKPdf 10 30 04.9 +0.8
BLO *e* 10 30 13.5
OXF Oxford 124.55 49 PFAKE 10 30 10.0 +5.8
OXF LR LR
comp=Z,2µm,19.0s,MS5.8
WVT Waverly 125.02 46 *e*PKIKP PKPdf 10 30 05.1 0.0
WVT *e* 10 31 51.4
WVT MLR MLR
comp=Z,1µm,19.0s,MS5.6
WCI Wyandotte Cave 125.11 43 *e*PKIKP PKPdf 10 30 05.4 +0.1
WCI *e* 10 30 14.6
WCI MLR MLR
comp=Z,1µm,19.0s,MS5.6
PLAL Pickwick Lake 125.34 48 *e*PKPdf PKPdf 10 30 05.2 -0.6
PLAL *e*PP PP 10 31 51.8 -4.4
PLAL LR LR
comp=Z,1µm,20.0s,MS5.6
ACSO Alum Creek Sta 126.27 40 *e*PKPdf PKPdf 10 30 08.0 +0.5
ACSO LR LR
comp=Z,1µm,21.0s,MS5.6
SWET Sewanee 126.81 46 *e*PKPdf PKPdf 10 30 08.4 -0.1
LRAL Lakeview Retre 126.99 49 *e*PKPdf PKPdf 10 30 09.4 +0.5
LRAL LR LR
comp=Z,2µm,20.0s,MS5.8
ERPA Erie 127.00 36 PFAKE 10 30 20.0 +11
ERPA LR LR
comp=Z,2µm,20.0s,MS5.8
TZTN Tazewell 127.85 44 *e*PKPdf PKPdf 10 30 10.7 +0.1
MCWV Mont Chateau 128.57 39 PFAKE 10 30 20.0 +8.1
MCWV LR LR
comp=Z,2µm,21.0s,MS5.8
FRNY Flat Rock 128.66 30 *e*PKPdf PKPdf 10 30 11.5 -0.6
NCB Newcomb 128.96 31 *e*PKPdf PKPdf 10 30 13.8 +1.2
NCB *e*SKPdf SKPdf 10 33 32.4 -13
NCB LR LR
comp=Z,2µm,20.0s,MS5.8
FWV Forest Hill 129.15 41 *e*PKPdf PKPdf 10 30 13.6 +0.6
FWV *ep*PKPdf pPKPdf 10 30 22.4 -1.2
SSPA Standing Stone 129.16 36 *e*PKPdf PKPdf 10 30 13.9 +0.8

SSPA				LR	LR				
	comp=Z,3μm,20.0s,MS5.9								
MIV	**Mineville/With**	**129.24**	**30**	*e*PKPdf	PKPdf	10 30 12.3	-0.9		
BINY	**Binghamton**	**129.24**	**34**	PFAKE		10 30 20.0	+6.8		
BINY				LR	LR				
	comp=Z,2μm,20.0s,MS5.7								
PLCA	**Paso Flores**	**129.32**	**151**	PKP	PKPdf	10 30 14.5	+1.1		
	comp=Z,4.8nm,0.8s,baz=203,slow=3.4,SNR=7.5								
PLCA	**Paso Flores**	**129.32**	**151**	PKP	PKPdf	10 30 14.5	+1.1		
PLCA				LR	LR				
	comp=Z,1μm,20.0s,MS5.6								
BLA	**Blacksburg**	**129.61**	**41**	*e*PKPdf	PKPdf	10 30 14.7	+0.8		
BLA				*e*SKPdf	SKPdf	10 33 35.2	-12		
LBNH	**Lisbon**	**129.91**	**29**	PFAKE		10 30 20.0	+5.5		
LBNH				LR	LR				
	comp=Z,2μm,20.0s,MS5.8								
ESLA	**Sonseca Array**	**129.96**	**323**	PFAKE		10 30 20.0	+5.4		
ESLA				LR	LR				
	comp=Z,4μm,20.0s,MS6.1								
PAYG	**Puerto Ayora**	**130.40**	**93**	PFAKE		10 30 30.0	+15		
PAYG				LR	LR				
	comp=Z,1μm,19.0s,MS5.7								
JSC	**Jenkinsville**	**130.61**	**45**	*e*PKIKP	PKPdf	10 30 15.2	-0.6		
JSC				*e*		10 32 28.4			
JSC	**Jenkinsville**	**130.61**	**45**	*e*PKPdf	PKPdf	10 30 15.2	-0.6		
JSC				*e*PP	PP	10 32 28.4	-2.4		
JSC				*e*SKPdf	SKPdf	10 33 39.9	-8.7		
CBN	**Corbin**	**130.98**	**38**	PFAKE		10 30 30.0	+13		
CBN				LR	LR				
	comp=Z,2μm,22.0s,MS5.8								
HRV	**Harvard--Oak R**	**131.37**	**30**	PFAKE		10 30 30.0	+13		
HRV				LR	LR				
	comp=Z,2μm,20.0s,MS5.8								
COW	**Cow Castle Cre**	**131.48**	**46**	*e*PKPdf	PKPdf	10 30 20.3	+2.8		
COW				*ep*PKPdf	pPKPdf	10 30 29.2	+1.2		
COW				*e*PP	PP	10 32 35.1	-1.4		
WES	**Weston**	**131.57**	**30**	PFAKE		10 30 30.0	+12		
WES				LR	LR				
	comp=Z,2μm,22.0s,MS5.7								
NHSC	**New Hope**	**131.99**	**46**	PFAKE		10 30 30.0	+12		
NHSC				LR	LR				
	comp=Z,2μm,21.0s,MS5.8								
DWPF	**Disney**	**133.45**	**52**	PFAKE		10 30 30.0	+8.8		
DWPF				LR	LR				
	comp=Z,832nm,20.0s,MS5.5								
TRQA	**Tornquist**	**135.35**	**156**	PFAKE		10 30 40.0	+15		
TRQA				LR	LR				
	comp=Z,3μm,19.0s,MS6.0								
TORD	**Torodi Ar. Bea**	**136.63**	**287**	PKhKP		10 30 16.6			
	comp=Z,2.6nm,0.9s,baz=75,slow=3.3,SNR=8.0								
TORD				PKP	PKPdf	10 30 28.5	+1.4		
	comp=Z,8.3nm,0.7s,baz=99,slow=3.2,SNR=6.7								
TORD				PP	PP	10 33 05.0	-4.2		
	comp=Z,3.0nm,0.9s,baz=59,slow=5.6,SNR=4.1								
NNA	**Nana**	**141.46**	**112**	PFAKE		10 30 50.0	+14		
NNA				LR	LR				
	comp=Z,400nm,21.0s,MS5.2								
BBSR	**BB Station**	**142.52**	**34**	PFAKE		10 30 50.0	+12		
BBSR				LR	LR				
	comp=Z,1μm,20.0s,MS5.7								
LVC	**Limon Verde**	**143.06**	**133**	*e*PKPdf	PKPdf	10 30 37.8	-0.9		
LVC				LR	LR				
	comp=Z,919nm,21.0s,MS5.5								
DBIC	**Dimbokro**	**143.95**	**278**	PKP	PKPdf	10 30 38.8	-1.5		
	comp=Z,52nm,0.8s,baz=72,slow=4.2,SNR=51								
DBIC	**Dimbokro**	**143.95**	**278**	PKIKP	PKPdf	10 30 39.2	-1.1		
DBIC	**Dimbokro**	**143.95**	**278**	*e*PKPdf	PKPdf	10 30 38.9	-1.4		
DBIC				LR	LR				
	comp=Z,1μm,22.0s,MS5.6								
ARE	**Arequipa**	**144.41**	**123**	*e*PKIKP	PKPdf	10 30 41.0	-0.1		
ROSC	**El Rosal**	**146.40**	**85**	PKPbc	PKPbc	10 30 47.7	+1.8		
	comp=Z,32nm,0.7s,baz=272,slow=23,SNR=14								
LPAZ	**La Paz**	**147.28**	**125**	PKPbc	PKPbc	10 30 49.1	+0.7		
	comp=Z,38nm,0.9s,baz=252,slow=2.5,SNR=74								
LPAZ	**La Paz**	**147.28**	**125**	*e*PKPdf	PKPdf	10 30 48.8	+2.8		
LPAZ				*e*PKPbc	PKPbc	10 30 51.0	+2.6		
LPAZ				LR	LR				
	comp=Z,459nm,20.0s,MS5.3								
CPUP	**Villa Florida**	**147.39**	**152**	PKPdf	PKPdf	10 30 49.8	+3.6		
CPUP	**Villa Florida**	**147.39**	**152**	PKPbc	PKPbc	10 30 48.8	+0.1		
	comp=Z,16nm,0.9s,baz=218,slow=3.1,SNR=27								
CPUP	**Villa Florida**	**147.39**	**152**	*e*PKPdf	PKPdf	10 30 47.9	+1.7		
CPUP				*e*PKPbc	PKPbc	10 30 49.7	+1.0		
CPUP				LR	LR				
	comp=Z,222nm,19.0s,MS5.0								
SDV	**Santo Domingo**	**149.56**	**76**	*e*PKPdf	PKPdf	10 30 52.0	+2.3		
SDV				*e*PKPbc	PKPbc	10 30 55.9	+1.5		
SDV				LR	LR				
	comp=Z,899nm,20.0s,MS5.6								
SJG	**San Juan**	**150.52**	**56**	*e*PKIKP	PKPdf	10 30 57.3	+6.0		
SJG				*e*		10 34 29.9			
SJG				MLR	MLR				
	comp=Z,763nm,22.0s								
CPD	**Cerro la Pandu**	**150.75**	**56**	PKIKP	PKPdf	10 30 52.0	+0.4		
CPD	**Cerro la Pandu**	**150.75**	**56**	*e*PKPbc	PKPbc	10 30 58.6	+1.4		
MTP	**Monte Pirata**	**151.02**	**55**	*e*PKPbc	PKPbc	10 30 58.6	+0.8		
MTP				*e*PP	PP	10 34 34.2	-1.3		
BDFB	**Brasilia**	**160.84**	**158**	PKP	PKPdf	10 31 06.1	+1.1		
	comp=Z,7.3nm,0.9s,baz=84,slow=5.3,SNR=6.4								
BDFB	**Brasilia**	**160.84**	**158**	PKIKP	PKPdf	10 31 06.1	+1.1		
BDFB				pmax	pmax				
	comp=Z,7.0nm,0.9s								

*IDC **24** 10:55:07.3±1.2, 4.65S×101.85E, h0km, mb4.4/10, mb1 4.5/10, mb1mx4.2/18, mbtmp4.4/10, MS3.8/1, Ms1 3.8/1, ms1mx2.7/30, Error ellipse: s-maj=62.8km s-min=15.9km az=48.0*
*MOS **24** 10:55:10.5±0.9, 4.50S×102.03E, h33km, mb4.7/10, Error ellipse: s-maj=31.2km s-min=10.2km az=116.5*
*NEIC **24** 10:55:12.9±0.4, 4.45S×102.14E, h30km, mb4.7/10, Error ellipse: s-maj=14.0km s-min=7.2km az=58.0*
*ISCJB **24** 10:55:13.4±1.9, 4.47S±0.08×102.09E±0.09, h54km±19km, mb4.6/30, Error ellipse: s-maj=17.6km s-min=8.8km az=107.4*

ISC 24 10:55:16.2±1.4, 4.47S±0.08×102.10E±0.09, h59km±14km, n52, σ0§88/49, mb4.6/30, 1C, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.88**	**336**	LR	LR	11 00 21.4	
	comp=Z,577nm,19.1s,baz=138,slow=40						
COCO	**West Island**	**9.27**	**214**	*e*Pn	**Pn**	**10 57 26.7**	**-0.4**
	197nm,0.8s						
KULM	**Kulim**	**9.80**	**351**	*e*Pn	**Pn**	**10 57 33.7**	**-0.6**
QIZ	**Qiongzhong**	**24.56**	**18**	*e*P	**P**	**11 00 31.7**	**+1.3**
	13nm,0.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**26.72**	**122**	⇑*i*P	**P**	**11 00 50.0**	**+0.1**
	6.3nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**26.72**	**122**	P	**P**	**11 00 50.1**	**+0.1**
	2.5nm,0.7s,mb3.9,baz=273,slow=8.0,SNR=12						
WRA	**Warramunga Arr**	**34.96**	**119**	P	**P**	**11 02 01.8**	**-0.7**
	1.1nm,0.4s,mb4.1,baz=300,slow=10.0,SNR=42						
WRAB	**Tennant Creek**	**34.97**	**119**	*e*P	**P**	**11 02 02.2**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.7						
WRAB	**Tennant Creek**	**34.97**	**119**	*e*P	**P**	**11 02 02.1**	**-0.4**
	comp=Z,4.4nm,0.4s,mb4.7						
WB2	**Warramunga Arr**	**34.97**	**119**	*e*P	**P**	**11 02 02.6**	**0.0**
JIRN	**Jiri**	**35.44**	**335**	*e*P	**P**	**11 02 07.7**	**+1.1**
PKI	**Pulchoki**	**35.69**	**334**	*e*P	**P**	**11 02 09.4**	**+0.6**
GUN	**Gumba**	**35.79**	**335**	*e*P	**P**	**11 02 10.7**	**+1.1**
	comp=Z,37nm,0.4s,mb5.7						
DMN	**Daman**	**35.86**	**334**	*e*P	**P**	**11 02 11.0**	**+0.8**
KKN	**Kakani**	**35.94**	**334**	*e*P	**P**	**11 02 11.6**	**+0.7**
	comp=Z,20nm,0.5s,mb5.3						
KKN	**Kakani**	**35.94**	**334**	*e*P	**P**	**11 02 11.6**	**+0.7**
KKN				pmax	pmax		
	comp=Z,20nm,0.5s,mb5.3						
ASPA	**Alice Springs**	**36.12**	**125**	*e*P	**P**	**11 02 13.3**	**+0.8**
ASAR	**Alice Springs**	**36.12**	**125**	P	**P**	**11 02 12.6**	**+0.1**
	comp=Z,0.8nm,0.4s,mb4.0,baz=300,slow=7.9,SNR=35						
AS31	**Alice Springs**	**36.12**	**125**	*e*P	**P**	**11 02 13.3**	**+0.8**
GKN	**Gorkha**	**36.41**	**333**	*e*P	**P**	**11 02 15.7**	**+0.8**
	comp=Z,13nm,0.3s,mb5.3						
KOLN	**Koldanda**	**36.68**	**332**	*e*P	**P**	**11 02 18.2**	**+1.0**
	comp=Z,18nm,0.8s,mb5.0						
SONM	**Songino Array**	**52.22**	**4**	P	**P**	**11 04 21.3**	**+0.3**
	comp=Z,5.4nm,0.6s,mb4.6,baz=184,slow=9.3,SNR=44						
ULN	**Ulaanbaatar**	**52.29**	**4**	*e*P	**P**	**11 04 21.8**	**+0.2**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
ULN	**Ulaanbaatar**	**52.29**	**4**	*e*P	**P**	**11 04 21.8**	**+0.1**
	comp=Z,2.1nm,0.8s,mb4.1						

MK31	**Makanchi Array**	**53.96**	**343**	P	**P**	**11 04 33.5**	**-0.4**		
MK31				pmax	pmax				
	comp=Z,3.0nm,0.5s,mb4.5								
MKAR	**Makanchi Array**	**53.96**	**343**	P	**P**	**11 04 33.5**	**-0.4**		
	comp=Z,11nm,0.7s,mb4.9,baz=147,slow=8.3,SNR=84								
KKAR	**Karatay Array**	**55.29**	**332**	*i* P	**P**	**11 04 43.1**	**-0.4**		
KURK	**Kurchatov**	**58.56**	**343**	*e*P	**P**	**11 05 05.8**	**-0.8**		
KURK				pmax	pmax				
	comp=Z,7.0nm,0.8s,mb4.7								
KURK	**Kurchatov**	**58.56**	**343**	*e*P	**P**	**11 05 05.8**	**-0.8**		
	comp=Z,6.8nm,0.8s,mb4.7								
ZAL	**Zalesovo**	**59.97**	**348**	P	**P**	**11 05 16.9**	**+0.5**		
	comp=Z,7.2nm,0.4s,mb5.0,baz=299,slow=3.7,SNR=16								
NAY	**Al-Naaiem**	**62.36**	**306**	*e*P	**P**	**11 05 34.0**	**+1.4**		
NAY				AMb	AMB	11 05 35.1			
	comp=Z,7.0nm,0.6s,mb5.0								
MIB	**Mutribah**	**62.50**	**307**	*e*P	**P**	**11 05 34.9**	**+1.4**		
MIB				AMb	AMB	11 05 37.3			
	comp=Z,18nm,1.1s,mb5.1								
RST	**Umm Al-Ruwaisa**	**62.65**	**306**	*e*P	**P**	**11 05 35.7**	**+1.2**		
RST				AMb	AMB	11 05 36.8			
	comp=Z,16nm,0.7s,mb5.3								
VOSK	**Vostochnaya**	**62.76**	**339**	P	**P**	**11 05 34.2**	**-1.0**		
VOSK				pmax	pmax				
	comp=Z,1.0nm,0.5s,mb4.2								
BOD	**Bodaibo**	**62.82**	**7**	*e*P	**P**	**11 05 16.2**	**-19**		
BOD				*e*	pP	11 05 33.6	-18		
BOD				pmax	pmax				
	comp=Z,4.0nm,1.0s,mb4.5								
BVA0	**Borovoye Array**	**63.21**	**339**	*i* P	**P**	**11 05 37.3**	**-0.9**		
BVA0				pmax	pmax				
	comp=Z,1.0nm,1.1s,mb3.9								
BRVK	**Borovoye**	**63.27**	**339**	*e*P	**P**	**11 05 37.2**	**-1.4**		
BRVK				pmax	pmax				
	comp=Z,2.0nm,0.4s,mb4.6								
BRVK	**Borovoye**	**63.27**	**339**	*e*P	**P**	**11 05 37.2**	**-1.4**		
	comp=Z,1.8nm,0.4s,mb4.5								
ZRNK	**Zerenda**	**63.65**	**338**	*e*P	**P**	**11 05 39.4**	**-1.7**		
ZRNK				pmax	pmax				
	comp=Z,6.0nm,1.0s,mb4.6								
ZRNK	**Zerenda**	**63.65**	**338**	*e*P	**P**	**11 05 39.4**	**-1.8**		
	comp=Z,5.6nm,1.0s,mb4.5								
CHKZ	**Chkalovo**	**63.66**	**340**	*e*P	**P**	**11 05 40.2**	**-1.0**		
CHKZ				pmax	pmax				
	comp=Z,6.0nm,0.9s,mb4.6								
CHKZ	**Chkalovo**	**63.66**	**340**	*e*P	**P**	**11 05 40.2**	**-0.9**		
	comp=Z,6.3nm,0.9s,mb4.7								
AB31	**Akbulak array**	**64.80**	**331**	P	**P**	**11 05 48.0**	**-0.6**		
AB31				pmax	pmax				
	comp=Z,5.0nm,0.6s,mb4.7								
AKTK	**Aktyubinsk**	**66.51**	**331**	P	**P**	**11 05 58.2**	**-1.4**		
AKTO	**Aktyubinsk**	**66.51**	**331**	P	**P**	**11 05 58.2**	**-1.4**		
	comp=Z,0.9nm,0.3s,mb4.2,baz=161,slow=3.9,SNR=4.1								
BRTR	**Keskin Array B**	**76.52**	**312**	P	**P**	**11 06 59.4**	**-0.5**		
	comp=Z,1.9nm,0.8s,mb4.1,baz=137,slow=7.0,SNR=10								
TIXI	**Tiksi**	**77.96**	**8**	*e*P	**P**	**11 07 03.6**	**-4.3**		
TIXI				pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.3								
FINES	**FINESS Array B**	**87.25**	**332**	P	**P**	**11 07 56.3**	**+0.1**		
	comp=Z,4.6nm,1.0s,mb4.7,baz=68,slow=5.1,SNR=5.2								
ARCES	**ARCESS Array B**	**89.49**	**340**	P	**P**	**11 08 06.6**	**-0.2**		
	comp=Z,1.8nm,0.7s,mb4.5,baz=76,slow=5.1,SNR=7.1								
ARCES	**ARCESS Array B**	**89.49**	**340**	P	**P**	**11 08 06.6**	**-0.2**		
MIAR	**Mount Ida**	**146.72**	**24**	*e*PKP2	PKPab	11 14 51.5	-1.1		
JCT	**Junction City**	**146.89**	**36**	*e*PKP2	PKPab	11 14 52.7	-0.6		

*ATH **24** 11:18:10.3, 3950N×1976E, h9km, MD3.2/4*
*ISCJB **24** 11:18:11.7±1.2, 3953N±004×199E±0.1, h10km, Error ellipse: s-maj=12.7km s-min=5.4km az=145.9*
*CSEM **24** 11:18:11.0±0.4, 3952N×1980E, h2km, MD3.2, Error ellipse: s-maj=12.8km s-min=3.3km az=85.0*
*THE **24** 11:18:14.5, 3955N×2009E, h10km*

ISC 24 11:18:12.4±1.1, 3954N±005×199E±01, h10km, n10, σ1§42/13, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.19**	**338**	*e*PG	**Pg**	**11 18 14.9**	**-1.5**
IGT	**Igoumenitsa**	**0.34**	**91**	*e*Pg	**Pg**	**11 18 17.6**	**-1.6**
SRN	**Sarande**	**0.35**	**14**	*e*Pg	**Pg**	**11 18 18.5**	**-0.8**
SRN				*i* Sg	**Sg**	**11 18 25.3**	**+1.3**
JAN	**Janina**	**0.75**	**81**	*e*PB	**Pg**	**11 18 26.0**	**-0.9**
LKD	**Levkas**	**1.02**	**144**	*e*Pg	**Pg**	**11 18 30.9**	**-1.1**
LKD				*e*Sg	**Sg**	**11 18 47.4**	**+2.1**
VLS	**Valsamata**	**1.47**	**158**	*e*PG	**Pn**	**11 18 38.1**	**-0.8**
EVR	**Evrytania**	**1.62**	**112**	*e*PN	**Pn**	**11 18 43.0**	**+2.1**
FNA	**Florina**	**1.69**	**42**	*e*Pg	**Pn**	**11 18 43.8**	**+1.9**
AGG	**Agios Georgios**	**1.96**	**105**	*e*Pb	**Pn**	**11 18 47.2**	**+1.4**
AGG				*e*Sb	**Sb**	**11 19 11.0**	**-1.8**
XOR	**Xorichti**	**2.56**	**93**	*e*Pn	**Pn**	**11 18 54.5**	**+0.5**

IDC 24 11:29:07.9±1.8, 2137N×14310E, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/19, mbtmp3.8/5, Error ellipse: s-maj=178.4km s-min=21.0km az=110.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.95**	**192**	P	P	11 37 00.4	+0.1
	2.0nm,0.6s,baz=14,slow=8.8,SNR=21						
ASAR	**Alice Springs**	**45.65**	**192**	P	P	11 37 30.2	+0.1
	1.1nm,0.7s,baz=17,slow=9.8,SNR=20						
ILAR	**Eielson Array**	**62.36**	**27**	P	P	11 39 31.2	-1.0
	0.8nm,0.7s,baz=259,slow=5.5,SNR=9.1						
YKA	**Yellowknife Ar**	**76.78**	**28**	P	P	11 41 01.3	+0.1
	0.5nm,0.8s,baz=286,slow=5.8,SNR=5.2						
NVAR	**Mina Array Bea**	**83.40**	**51**	P	P	11 41 38.8	+1.8
	0.5nm,0.8s,baz=271,slow=9.8,SNR=3.7						

*ISCJB **24** 11:31:17.6±0.4, 3600N±003×2341E±003, h33km, Error ellipse: s-maj=4.4km s-min=3.0km az=89.8*
*HLW **24** 11:31:20.1, 3604N×2368E, h33km, Mb4.2*
*THE **24** 11:31:21.2, 3616N×2341E, h81km, ML3.8*
*CSEM **24** 11:31:21.2±0.1, 3619N×2333E, h40km, ML3.6, Error ellipse: s-maj=3.1km s-min=1.7km az=29.0*
*NEIC **24** 11:31:21.2, 3623N×2340E, h46km, MD3.7(ATH), After ATH.*
*ATH **24** 11:31:21.0, 3625N×2348E, h36km±2km, MD3.7/18, ML3.6*

ISC 24 11:31:20.2±0.3, 3602N±003×2331E±004, h35km, n63, σ1§22/80, 1C-4D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.34**	**319**	*e*PB	**Pn**	**11 31 30.5**	**+1.9**
VLI	**Veliai**	**0.76**	**337**	⇓*i*PN	**Pn**	**11 31 34.4**	**+0.1**
VLI				*e*SN	**Sn**	**11 31 43.6**	**-0.9**
VAM	**Vamos**	**0.95**	**130**	*e*PB	**Pn**	**11 31 39.8**	**+2.8**
VAM				*e*SN	**Sn**	**11 31 54.7**	**+5.4**
GVD	**Gavdhos**	**1.34**	**152**	*e*PN	**Pn**	**11 31 48.0**	**+5.6**
ITM	**Ithomi**	**1.60**	**316**	⇓*i*PN	**Pn**	**11 31 46.8**	**+0.8**
ITM				*e*SN	**Sn**	**11 32 08.0**	**+2.5**
THR3	**Thira Island,**	**1.73**	**77**	*e*Pb	**Pn**	**11 31 48.8**	**+1.0**
SANT	**Santorini**	**1.77**	**78**	*e*Pb	**Pn**	**11 31 49.3**	**+1.0**
SANT				*e*Sb	**Sn**	**11 32 09.4**	**-0.2**
SANT	**Santorini**	**1.77**	**78**	*e*Pn	**Pn**	**11 31 49.0**	**+0.7**
SANT				*e*Sn	**Sn**	**11 32 05.7**	**-3.9**
SANT	**Santorini**	**1.77**	**78**	*e*Pn	**Pn**	**11 31 49.0**	**+0.7**
SANT	**Santorini**	**1.77**	**78**	*e*Pb	**Pn**	**11 31 49.3**	**+1.0**
SANT				*e*Sb	**Sn**	**11 32 09.4**	**-0.2**
THR1	**Thera Island**	**1.77**	**78**	*e*Pb	**Pn**	**11 31 49.3**	**+1.0**
KVR	**Kavouri**	**1.84**	**11**	*e*PN	**Pn**	**11 31 48.0**	**-1.2**
MGER	**Gerania Oros**	**1.96**	**359**	*e*PB	**Pn**	**11 31 51.0**	**+0.1**
ATH	**Athens Observa**	**1.97**	**9**	*e*PB	**Pn**	**11 31 50.6**	**-0.5**
ATH				*e*SN	**Sn**	**11 32 11.7**	**-2.8**
NPS	**Neapolis**	**2.02**	**111**	*e*PN	**Pn**	**11 31 53.3**	**+1.5**
NPS				*e*SN	**Sn**	**11 32 18.0**	**+2.2**
NPS	**Neapolis**	**2.02**	**111**	*e*P	**Pn**	**11 31 53.4**	**+1.6**
PTL	**Penteli**	**2.07**	**12**	*e*PB	**Pn**	**11 31 52.0**	**-0.4**
APE	**Apeiranthos**	**2.07**	**59**	*e*Pb	**Pn**	**11 31 52.5**	**+0.1**
APE				*e*Sb	**Sn**	**11 32 15.8**	**-1.2**
APE	**Apeiranthos**	**2.07**	**59**	*e*PB	**Pn**	**11 31 52.8**	**+0.4**
APE				*e*SN	**Sn**	**11 32 14.5**	**-2.5**
APE	**Apeiranthos**	**2.07**	**59**	*e*P	**Pn**	**11 31 52.8**	**+0.4**
APE				*e*Sb	**Sn**	**11 32 15.8**	**-1.2**
XRY	**Khrisi**	**2.26**	**120**	*e*PN	**Pn**	**11 31 57.5**	**+2.5**
RLS	**Riolos of Patr**	**2.51**	**325**	*e*PN	**Pn**	**11 31 59.5**	**+1.0**
RLS				*e*SN	**Sn**	**11 32 29.5**	**+1.7**
LKR	**Lokris**	**2.63**	**355**	⇓*i*PN	**Pn**	**11 31 59.9**	**-0.3**
LKR				*e*SN	**Sn**	**11 32 29.2**	**-1.7**

AGG	**Agios Georgios**	**3.09**	**346**	*e*Pn	**Pn**	**11 32 07.1**	**+0.6**		
AGG				*e*Sn	**Sn**	**11 32 42.8**	**+0.6**		
EVR	**Evrytania**	**3.12**	**338**	*e*PN	**Pn**	**11 32 08.0**	**+1.1**		
KARP	**Karpathos**	**3.17**	**98**	*e*PN	**Pn**	**11 32 10.5**	**+3.0**		
AOS	**Alonnisos**	**3.17**	**8**	*e*Pn	**Pn**	**11 32 07.0**	**-0.6**		
CHOS	**Chios island**	**3.22**	**42**	*e*Pn	**Pn**	**11 32 07.7**	**-0.5**		
CHOS				*e*Sn	**Sn**	**11 32 43.6**	**-1.7**		
NEO	**Neokhori**	**3.28**	**359**	*e*PN	**Pn**	**11 32 09.0**	**0.0**		
XOR	**Xorichti**	**3.34**	**358**	*e*Pn	**Pn**	**11 32 09.8**	**-0.1**		
LKD	**Levkas**	**3.42**	**322**	*e*Pn	**Pn**	**11 32 11.2**	**+0.2**		
LKD	**Levkas**	**3.42**	**322**	*e*Pn	**Pn**	**11 32 11.1**	**+0.2**		
BDRM	**Kayabasi**	**3.49**	**71**	*i* P	**Pn**	**11 32 13.6**	**+1.7**		
URLA	**Izmir**	**3.51**	**47**	*i* P	**Pn**	**11 32 11.8**	**-0.4**		
ARG	**Arkhangelos**	**3.90**	**86**	*e*PN	**Pn**	**11 32 20.5**	**+2.9**		
PAIG	**Paliouri**	**3.91**	**4**	*e*Pn	**Pn**	**11 32 17.3**	**-0.4**		
AYDN	**Tasoluk**	**4.01**	**65**	*i* P	**Pn**	**11 32 20.5**	**+1.4**		
JAN	**Janina**	**4.12**	**333**	*e*PN	**Pn**	**11 32 21.4**	**+0.9**		
IGT	**Igoumenitsa**	**4.22**	**327**	*e*Pn	**Pn**	**11 32 20.9**	**-1.1**		
PLG	**Polygyros**	**4.34**	**1**	*e*PN	**Pn**	**11 32 24.0**	**+0.3**		
SLUM		**4.79**	**160**	P	**Pn**	**11 32 29.6**	**-0.3**		
SLUM				S	**Sn**	**11 33 19.1**	**-5.0**		
SLUM		**4.79**	**160**	P	**Pn**	**11 32 29.5**	**-0.3**		
KNT	**Kendrikon**	**5.14**	**357**	*e*Pn	**Pn**	**11 32 34.9**	**+0.3**		
VAY	**Valandovo**	**5.32**	**354**	*e*Pn	**Pn**	**11 32 37.7**	**+0.6**		
TKTP	**Tekketepe**	**5.96**	**68**	*i* P	**Pn**	**11 32 50.2**	**+4.3**		
TIP	**Timpagrande**	**6.08**	**303**	*e*Pn	**Pn**	**11 32 46.3**	**-1.2**		
TIP	**Timpagrande**	**6.08**	**303**	*e*Pn	**Pn**	**11 32 46.3**	**-1.2**		
SWA2		**7.00**	**164**	P	**Pn**	**11 32 60.0**	**-0.2**		
SWA1		**7.04**	**163**	P	**Pn**	**11 33 00.2**	**-0.5**		
SWA1				S	**Sn**	**11 34 14.2**	**-5.2**		
CUC	**Castrocucco** 48nm,0.4s	**7.12**	**306**	Pn	**Pn**	**11 33 00.9**	**-0.9**		
MGR	**Morigerati** 24nm,0.8s	**7.37**	**306**	Pn	**Pn**	**11 33 03.6**	**-1.6**		
SLCN	**Sala Consilina** 52nm,0.4s	**7.45**	**308**	Pn	**Pn**	**11 33 05.1**	**-1.3**		
SGO	**Sicignano**	**7.75**	**308**	Pn	**Pn**	**11 33 10.3**	**-0.2**		
SGKT	**Sivrigoynuk**	**8.24**	**54**	*i* P	**Pn**	**11 33 21.8**	**+4.7**		
CII	**Carovilli**	**9.04**	**312**	Pn	**Pn**	**11 33 29.0**	**+0.9**		
HSAF	**As Saff**	**9.43**	**130**	P	**Pn**	**11 33 31.9**	**-1.6**		
GLL	**Jalalah**	**9.55**	**130**	P	**Pn**	**11 33 33.4**	**-1.8**		
HFRF	**Wahat Farafira**	**9.82**	**153**	P	**Pn**	**11 33 38.2**	**-0.6**		
AMAG	**Maghara**	**9.86**	**120**	P	**Pn**	**11 33 37.6**	**-1.8**		
TR2		**11.64**	**128**	⇓P	**Pn**	**11 34 01.8**	**-2.0**		
HDK1	**Dakhla**	**11.68**	**152**	⇑P	**Pn**	**11 34 03.9**	**-0.5**		
HKAT	**Jabal Katrina**	**11.73**	**127**	P	**Pn**	**11 34 03.5**	**-1.5**		
GTR	**Jabal at Tayr**	**12.19**	**147**	P	**Pn**	**11 34 10.7**	**-0.5**		

*NEIC **24** 11:39:42.5, 18.12N×6851W, h76km, MD3.6(RSPR), After RSPR.*

RSPR 24 11:39:42.5, 18.12N×6851W, h76km±2km, MD3.6/4, MD3.6/4, 12C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**1.33**	**95**	⇑*e*P	Pn

ellipse: s-maj=25.1km s-min=16.9km az=55.0
*ISCJB **24** 12:11:31.7±2.1, 8555S±0.10×12791E±009, h51km±24km, mb4.1/5, Error ellipse: s-maj=17.1km s-min=14.4km az=47.2*

ISC 24 12:11:31.8±1.9, 84S±01×12790E±009, h39km±20km, n17, σ1§28/24, mb4.1/5, Timor region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.19**	**134**	*eP*		**Pn**	**12 13 02.5**	**+1.9**
	15nm,0.3s							
KAKA				*eS*		**Sn**	**12 14 17.1**	**+7.0**
FITZ	**Fitzroy Crossi**	**9.90**	**193**	*eP*		**Pn**	**12 13 51.2**	**-0.3**
	8.7nm,0.3s							
FITZ				*eS*		**Sn**	**12 15 43.0**	**+1.7**
FITZ	**Fitzroy Crossi**	**9.90**	**193**	Pn		**Pn**	**12 13 50.8**	**-0.7**
	1.3nm,0.3s,baz=28,slow=11,SNR=68							
FITZ				Sn		**Sn**	**12 15 41.6**	**+0.3**
	2.6nm,0.3s,baz=304,slow=22,SNR=6.8							
WRAB	**Tennant Creek**	**13.06**	**152**	*ePn*		**Pn**	**12 14 34.1**	**-0.6**
WRAB				*eSn*		**Sn**	**12 16 57.9**	**-0.7**
WRA	**Warramunga Arr**	**13.06**	**152**	Pn		**Pn**	**12 14 33.9**	**-0.9**
	2.6nm,0.3s,baz=322,slow=14,SNR=44							
WRA				Sn		**Sn**	**12 16 58.9**	**+0.2**
	2.2nm,0.3s,baz=328,slow=23,SNR=9.1							
WB2	**Warramunga Arr**	**13.07**	**152**	*eP*		**Pn**	**12 14 33.7**	**-1.1**
WB2				*eS*		**Sn**	**12 16 56.5**	**-2.3**
MBWA	**Marble Bar**	**14.94**	**211**	*eP*		**Pn**	**12 15 00.9**	**+0.7**
	24nm,0.9s							
ASAR	**Alice Springs**	**16.24**	**160**	Pn		**Pn**	**12 15 16.7**	**-0.3**
	1.2nm,0.3s,baz=337,slow=12,SNR=105							
ASAR				Sn		**Sn**	**12 18 17.2**	**+1.3**
	1.0nm,0.3s,baz=318,slow=20,SNR=9.6							
CTA	**Charters Tower**	**21.22**	**125**	P		**P**	**12 16 16.2**	**+2.0**
	5.6nm,0.9s,mb3.9,baz=290,slow=12,SNR=4.1							
CTA	**Charters Tower**	**21.22**	**125**	P		**P**	**12 16 16.2**	**+2.0**
FORT	**Forrest**	**22.27**	**180**	*eP*		**P**	**12 16 28.3**	**+2.9**
	25nm,0.7s,mb4.8							
NWAO	**Narrogin (SRO)**	**26.34**	**201**	P		**P**	**12 17 02.0**	**-2.0**
	8.5nm,0.7s,mb4.4,baz=36,slow=6.9,SNR=5.8							
STKA	**Stephens Creek**	**26.61**	**153**	*eP*		**P**	**12 17 06.5**	**0.0**
	2.0nm,0.8s,mb3.7							
STKA	**Stephens Creek**	**26.61**	**153**	P		**P**	**12 17 06.5**	**0.0**
	0.8nm,0.3s,mb3.7,baz=327,slow=11,SNR=4.5							
STKA	**Stephens Creek**	**26.61**	**153**	*eP*		**P**	**12 17 06.0**	**-0.4**
MKAR	**Makanchi Array**	**68.27**	**328**	P		**P**	**12 22 20.9**	**-7.7**
	0.5nm,0.6s,mb3.7,baz=116,slow=7.8,SNR=6.6							
MKAR	**Makanchi Array**	**68.27**	**328**	P		**P**	**12 22 20.9**	**-7.7**

*LDG **24** 12:17:53.2±0.2, 1367S×16761E, h10km, Mb4.7/4, Error ellipse: s-maj=24.7km s-min=9.2km az=91.0*
*IDC **24** 12:18:07.4±3.0, 1457S×16745E, h140km±24km, mb4.0/15, mb1 4.2/15, mb1mx4.2/17, mbtmp4.4/15, MS4.6/1, Ms1 4.6/1, ms1mx3.0/20, Error ellipse: s-maj=22.2km s-min=15.9km az=120.0*
*ISCJB **24** 12:18:12.0±1.4, 1469S±006×16730E±009, h190km±12km, mb4.3/24, Error ellipse: s-maj=15.1km s-min=9.8km az=160.5*
*NEIC **24** 12:18:11.9±1.5, 1458S×16731E, h178km±12km, mb4.4/11, Error ellipse: s-maj=14.7km s-min=10.0km az=74.0*
*BJI **24** 12:18:11.3, 1460S×16730E, h177km, mB4.7, mb4.5*

ISC 24 12:18:12.2±1.4, 1469S±006×1675E±01, h183km±11km, h179km±2.6km; pP-P, n78, σ1§15/39, mb4.3/24, 1C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.40**	**187**	P		**Pn**	**12 19 58.4**	**+0.8**
	1.5nm,0.3s,baz=42,slow=19,SNR=12							
DZM				S		**Sn**	**12 21 20.6**	**-0.3**
	0.6nm,0.3s,baz=125,slow=19,SNR=1.4							
HNR	**Honiara**	**9.01**	**305**	P		**Pn**	**12 20 17.4**	**-1.3**
	4.2nm,0.3s,baz=99,slow=1.7,SNR=5.4							
HNR				S		**Sn**	**12 22 00.4**	**+1.1**
	1.9nm,0.3s,baz=90,slow=20,SNR=3.3							
HNR	**Honiara**	**9.01**	**305**	*ePn*		**Pn**	**12 20 16.6**	**-2.1**
	40nm,0.8s							
CTA	**Charters Tower**	**20.92**	**252**	*eP*		**P**	**12 22 40.0**	**-0.5**
	7.2nm,0.7s							
CTA	**Charters Tower**	**20.92**	**252**	P		**P**	**12 22 41.0**	**+0.5**
	10nm,0.8s,baz=87,slow=12,SNR=9.6							
CTAO	**Charters Tower**	**20.92**	**252**	*eP*		**P**	**12 22 40.7**	**+0.2**
	9.1nm,0.7s							
STKA	**Stephens Creek**	**29.15**	**230**	*eP*		**P**	**12 23 55.5**	**-0.7**
	2.8nm,0.6s,mb4.2							
STKA	**Stephens Creek**	**29.15**	**230**	P		**P**	**12 23 55.2**	**-0.9**
	3.2nm,0.5s,mb4.3,baz=48,slow=9.8,SNR=13							
STKA				PcP		PcP	12 26 58.1	-0.9
	5.4nm,0.7s,baz=62,slow=4.7,SNR=8.9							
RAR	**Rarotonga**	**31.80**	**107**	LR		LR	12 34 46.2	
	comp=Z,1μm,19.1s,baz=105,slow=31							
WRAB	**Tennant Creek**	**32.00**	**256**	*eP*		**P**	**12 24 19.2**	**-2.0**
	3.5nm,0.8s,mb4.1							
WRA	**Warramunga Arr**	**32.01**	**256**	P		**P**	**12 24 20.3**	**-1.0**
	1.7nm,0.8s,mb3.8,baz=84,slow=8.6,SNR=17							
WRA				S		**S**	**12 29 15.2**	**-4.0**
	0.7nm,0.9s,baz=91,slow=13,SNR=4.8							
ASAR	**Alice Springs**	**32.85**	**249**	P		**P**	**12 24 28.1**	**-0.5**
	2.5nm,0.5s,mb4.2,baz=81,slow=9.2,SNR=33							
ASAR				PcP		PcP	12 27 09.2	+0.3
	0.9nm,0.8s,baz=64,slow=2.5,SNR=6.6							
FITZ	**Fitzroy Crossi**	**40.20**	**259**	P		**P**	**12 25 31.0**	**+0.3**
	2.8nm,0.7s,mb4.0,baz=134,slow=4.2,SNR=7.5							
NWAO	**Narrogin (SRO)**	**48.92**	**239**	P		**P**	**12 26 40.1**	**+0.4**
	9.4nm,0.7s,mb4.5,baz=73,slow=9.8,SNR=7.1							
MJAR	**Matsushiro Arr**	**57.95**	**332**	P		**P**	**12 27 43.9**	**-1.5**
	1.8nm,0.6s,mb4.1,baz=173,slow=8.2,SNR=6.3							
VNDA	**Vanda**	**62.90**	**181**	P		**P**	**12 28 19.6**	**+0.7**
	2.7nm,0.6s,mb4.3,baz=357,slow=6.9,SNR=28							
VNDA	**Vanda**	**62.90**	**181**	*eP*		**P**	**12 28 19.1**	**+0.3**
	3.7nm,0.8s,mb4.3							
SBA	**Scott Base**	**63.17**	**180**	*eP*		**P**	**12 28 22.1**	**+1.4**
	13nm,1.2s,mb4.6							
CASY	**Casey**	**63.63**	**202**	*eP*		**P**	**12 28 23.3**	**-0.4**
NJ2	**Nanjing**	**65.77**	**316**	*eP*		**P**	**12 28 40.3**	**+2.8**
NJ2				AP		pP	12 29 20.6	+0.1
NJ2				XP		sP	12 29 39.9	-0.3
NJ2				PP		PP	12 31 09.5	+4.9
NJ2				S		S	12 37 11.0	+1.8
NJ2				XS		sS	12 38 20.0	-3.8
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.5s,mb4.9							
NJ2				AMB		AMB		
	comp=Z,60nm,4.5s							
NJ2				LR		LR		
	comp=N,380nm,33.5s							
NJ2				LR		LR		
	comp=E,300nm,29.8s							
NJ2				LR		LR		
	comp=Z,190nm,36.8s							
MDJ	**Mudanjiang**	**68.33**	**332**	P		**P**	**12 28 55.1**	**+1.4**
MDJ				AP		pP	12 29 37.5	+0.6
MDJ				XP		sP	12 29 57.1	+0.5
MDJ				PP		PP	12 31 28.1	+1.3
MDJ				S		S	12 37 42.3	+2.5
MDJ				SCS		ScS	12 38 37.0	+1.4
MDJ				XS		sS	12 38 56.8	+1.9
MDJ				AMB		AMB		
	comp=Z,4.0nm,0.9s,mb4.2							
MDJ				AMB		AMB		
	comp=Z,124nm,4.7s							
KMI	**Kunming**	**74.44**	**302**	P		**P**	**12 29 32.1**	**+1.9**
KMI				AMB		AMB		
	comp=Z,8.0nm,0.8s,mb4.5							
KMI				LR		LR		
	comp=Z,51nm,23.4s							
QSPA	**South Pole Qui**	**75.33**	**180**	*eP*		**P**	**12 29 36.0**	**+0.7**
	comp=Z,5.3nm,0.7s,mb4.3							
HHC	**Hu-ho-hao-te**	**75.67**	**320**	*eP*		**P**	**12 29 38.9**	**+1.6**
HHC				PCP		PcP	12 29 51.1	+1.9
HHC				AP		pP	12 30 21.6	+0.2
HHC				XP		sP	12 30 40.8	0.0
HHC				PP		PP	12 32 33.0	+3.6
HHC				S		S	12 39 04.8	+1.4
HHC				SKS			12 39 28.3	
HHC				SCS		ScS	12 39 32.0	-2.0
HHC				XS		sS	12 40 18.9	-1.2
HHC				SS		SS	12 44 01.1	+2.4
HHC				AMB		AMB		
	comp=Z,12nm,1.2s,mb4.4							
HHC				AMB		AMB		
	comp=Z,55nm,5.1s							
HHC				LR		LR		
	comp=N,130nm,19.6s							
HHC				LR		LR		
	comp=E,116nm,20.4s							
HHC				LR		LR		
	comp=Z,133nm,21.2s							
MAW	**Mawson**	**81.99**	**202**	P		**P**	**12 30 12.6**	**+1.0**
	comp=Z,4.8nm,0.6s,mb4.3,baz=98,slow=5.9,SNR=5.1							
MAW	**Mawson**	**81.99**	**202**	*eP*		**P**	**12 30 12.5**	**+0.8**
	comp=Z,4.7nm,0.6s,mb4.3							
YAK	**Yakutsk**	**82.05**	**343**	*eP*		**P**	**12 30 11.4**	**-0.5**
	comp=Z,17nm,0.6s,mb4.8							
SONM	**Songino Array**	**82.57**	**324**	P		**P**	**12 30 15.5**	**+0.8**
	comp=Z,1.1nm,0.6s,mb3.8,baz=138,slow=6.5,SNR=12							
COLA	**College**	**86.23**	**18**	*eP*		**P**	**12 30 31.4**	**-1.6**
	comp=Z,2.2nm,0.7s,mb4.0							
ILAR	**Eielson Array**	**86.44**	**18**	P		**P**	**12 30 32.4**	**-1.7**
	comp=Z,4.0nm,0.7s,mb4.3,baz=237,slow=5.6,SNR=60							
NVAR	**Mina Array Bea**	**87.11**	**49**	P		**P**	**12 30 38.6**	**+1.3**
	comp=Z,1.1nm,0.9s,mb3.7,baz=236,slow=10,SNR=5.0							
SYO	**Syowa Base**	**88.79**	**197**	*i*,*e*	sP	sP	12 31 49.6	-0.2
WMQ	**Urumqi**	**92.83**	**315**	⇑P		**P**	**12 31 03.9**	**-0.1**
WMQ				AP		pP	12 31 49.8	+0.3
WMQ				XP		sP	12 32 08.9	+0.3
WMQ				PP		PP	12 34 50.5	+1.8
WMQ				AMB		AMB		
	comp=Z,8.0nm,0.7s,mb5.0							
WMQ				AMB		AMB		
	comp=Z,114nm,4.8s							
VNA3	**Neumayer Olymp**	**94.25**	**181**	*e*		**P**	**12 31 09.5**	**-1.0**
VNA3				*e*			12 31 12.2	
VNA2	**Neumayer--Watz**	**94.52**	**182**	*e*		**P**	**12 31 11.7**	**-0.1**
	baz=187,slow=4.0							
VNA2				*e*			12 31 13.9	
VNA2				*e*			12 31 21.3	
MKAR	**Makanchi Array**	**97.30**	**316**	P		**P**	**12 31 24.6**	**+0.2**
	comp=Z,2.3nm,0.7s,mb4.6,baz=94,slow=6.3,SNR=28							
YKA	**Yellowknife Ar**	**97.43**	**27**	P		**P**	**12 31 23.0**	**-1.9**
	comp=Z,0.5nm,0.7s,mb3.9,baz=257,slow=4.6,SNR=8.4							
ZAL	**Zalesovo**	**97.48**	**324**	P		**P**	**12 31 25.1**	**-0.1**
	comp=Z,1.4nm,0.5s,mb4.6,baz=38,slow=4.7,SNR=4.8							
ARCES	**ARCESS Array B**	**120.26**	**345**	PKP		PKPdf	12 36 41.0	-0.4
	comp=Z,4.8nm,0.7s,baz=80,slow=2.2,SNR=20							
FINES	**FINESS Array B**	**125.75**	**338**	PKP		PKPdf	12 36 51.9	-0.1
	comp=Z,9.7nm,1.2s,baz=48,slow=2.8,SNR=7.1							
NB2	**NORSAR Subarra**	**130.63**	**345**	PKPd		PKPdf	12 37 01.9	+0.6
	comp=Z,2.3nm,0.9s,baz=31,slow=1.9							
NOA	**NORSAR Array B**	**130.63**	**345**	PKP		PKPdf	12 37 01.0	-0.3
	comp=Z,1.4nm,0.7s,baz=33,slow=2.0,SNR=3.8							
NOA				SKPbc		SKPbc	12 40 11.2	+3.3
	comp=Z,1.7nm,0.6s,baz=31,slow=3.0,SNR=7.3							
TIP	**Timpagrande**	**144.54**	**319**	*e*PKPdf		PKPdf	12 37 27.2	+0.5
CABF	**La Chapelle**	**144.56**	**338**	*e*PKP1		PKPdf	12 37 27.5	+0.7
	comp=Z,34nm,0.8s							
FLN	**La Foliniere**	**144.60**	**346**	*e*PKP1		PKPdf	12 37 26.4	-0.5
	comp=Z,24nm,0.6s							
LDF	**La Druitiere**	**144.68**	**346**	*e*PKP1		PKPdf	12 37 26.9	-0.1
	comp=Z,25nm,0.7s							
LOR	**Lormes**	**144.76**	**341**	*e*PKP1		PKPdf	12 37 27.5	+0.4
	comp=Z,23nm,0.9s							
GRR	**Gorron**	**145.04**	**346**	*e*PKP1		PKPbc	12 37 27.9	+0.5
	comp=Z,72nm,0.7s							
SSF	**Saint Saulge**	**145.06**	**341**	*e*PKP1		PKPbc	12 37 28.6	+1.1
	comp=Z,80nm,0.8s							
LPL	**La Plagne**	**145.23**	**336**	*e*PKP1		PKPbc	12 37 29.6	+1.6
LPG	**La Plagne**	**145.24**	**336**	*e*PKP1		PKPbc	12 37 29.8	+1.7
	comp=Z,61nm,0.9s							
SMF	**Signal de Mont**	**145.32**	**340**	*e*PKP1		PKPbc	12 37 28.6	+0.3
	comp=Z,67nm,1.0s							
AVF	**Avril sur Loir**	**145.35**	**341**	*e*PKP1		PKPbc	12 37 29.2	+0.8
	comp=Z,46nm,0.9s							
SGMF	**Saint Gilles**	**145.53**	**348**	*e*PKP1		PKPbc	12 37 28.9	-0.1
	comp=Z,34nm,0.7s							
ROSF	**Rostrenen**	**145.59**	**349**	*e*PKP1		PKPbc	12 37 29.2	+0.1
BNI	**Bardonecchia**	**145.64**	**336**	*e*PKPdf		PKPdf	12 37 30.7	+2.1
BGF	**Bois d'Agland**	**145.72**	**341**	*e*PKP1		PKPbc	12 37 29.6	+0.1
	comp=Z,34nm,0.7s							
MBDF	**Montbardon**	**145.87**	**335**	*e*PKP1		PKPbc	12 37 30.6	+0.6
	comp=Z,26nm,0.9s							
QUIF	**Quistinic**	**145.97**	**349**	*e*PKP1		PKPbc	12 37 30.5	+0.2
ORIF	**Oris-en-Rattie**	**146.06**	**336**	*e*PKP1		PKPbc	12 37 31.3	+0.7
	comp=Z,51nm,0.7s							
TCF	**Toulx Ste Croi**	**146.15**	**342**	*e*PKP1		PKPbc	12 37 31.9	+1.1
	comp=Z,44nm,1.1s							
SBF	**Sospel**	**146.29**	**334**	*e*PKP1		PKPbc	12 37 31.6	+0.4
	comp=Z,81nm,0.8s							
MFF	**Saint Martin d**	**146.53**	**344**	*e*PKP1		PKPbc	12 37 32.8	+0.9
	comp=Z,65nm,0.9s							
VIVF	**Saint-Julien-l**	**146.57**	**338**	*e*PKP1		PKPbc	12 37 32.4	+0.4
PGF	**Pioggiola**	**146.61**	**330**	*e*PKP1		PKPbc	12 37 32.5	+0.4
	comp=Z,55nm,0.9s							
FRF	**La Foret Royal**	**146.87**	**334**	*e*PKP1		PKPbc	12 37 33.2	+0.3
	comp=Z,40nm,0.8s							
SMRF	**Simiane la Rot**	**146.97**	**336**	*e*PKP1		PKPbc	12 37 33.5	+0.3
LMR	**La Mourre**	**147.12**	**334**	*e*PKP1		PKPbc	12 37 33.6	0.0
RJF	**Les Rejaudoux**	**147.25**	**342**	*e*PKP1		PKPbc	12 37 34.4	+0.5
	comp=Z,30nm,0.8s							
CAF	**Calviac**	**147.42**	**341**	*e*PKP1		PKPbc	12 37 35.0	+0.6
	comp=Z,27nm,1.0s							
LASF	**Ste Croix**	**147.54**	**338**	*e*PKP1		PKPbc	12 37 35.3	+0.6
LFF	**La Frestale**	**147.81**	**342**	*e*PKP1		PKPbc	12 37 35.9	+0.5
	comp=Z,41nm,0.7s							
MTLF	**Montolieu**	**148.77**	**339**	*e*PKP1		PKPbc	12 37 38.8	+0.9
	comp=Z,35nm,0.8s							
EPF	**Esparros**	**149.67**	**341**	*e*PKP1		PKPbc	12 37 41.1	+1.0
	comp=Z,30nm,0.9s							
SJPF	**Ste Jean**	**150.06**	**343**	*e*PKP1		PKPbc	12 37 42.1	+1.0
	comp=Z,11nm,0.7s							
ETSF	**Etsaut**	**150.06**	**342**	*e*PKP1		PKPbc	12 37 42.1	+1.0
	comp=Z,29nm,0.9s							
EVO	**Evora**	**155.92**	**351**	*e*PKIKP		PKPdf	12 37 45.6	+1.2
	comp=Z,9.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**166.09**	**265**	PKPab		PKPab	12 38 57.7	+0.9
	comp=Z,2.6nm,0.9s,baz=101,slow=4.6,SNR=11							

GUC 24 13:10:36.8±0.7, 2487S×7025W, h52km±9km, MD3.8, ML2.2, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**0.28**	**329**	*eP*		Pn	13 10 46.6	+0.7
CPN1				*i* S		Sn	13 10 54.3	+1.9
CPN1				AML		AML	13 10 56.2	
	comp=E,634nm,0.2s							
ANCH	**Antofagasta**	**1.19**	**353**	*eP*		Pn	13 10 57.8	+0.6
ANCH				*i* S		Sn	13 11 13.6	+1.4
CEN1	**Los Morros**	**1.47**	**2**	*i* P		Pn	13 10 59.0	-1.9
CEN1				*i* S		Sn	13 11 15.6	-3.5
CEN1				AML		AML	13 11 18.2	
	comp=N,46nm,0.3s							
CRCH	**Chaqaral**	**1.51**	**193**	*eP*		Pn	13 11 02.4	+1.0
CRCH				*i* S		Sn	13 11 21.0	+1.0

IDC 24 13:14:35.5±63.0, 1518S×16756E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/14, mbtmp4.0/3, Error ellipse: s-maj=1059.0km s-min=109.6km az=67.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**28.92**	**230**	P		P	13 20 36.1	-0.1
	1.0nm,0.3s,baz=65,slow=10,SNR=8.4							
WRA	**Warramunga Arr**	**31.99**	**257**	P		P	13 21 04.1	+0.8
	0.3nm,0.3s,baz=87,slow=9.1,SNR=9.7							
ASAR	**Alice Springs**	**32.78**	**250**	P		P	13 21 10.5	+0.3
	1.3nm,0.5s,baz=76,slow=9.0,SNR=20							

*IDC **24** 13:17:51.5±0.8, 4242N×7286E, h0km, mb4.0/11, mb1 4.3/14, mb1mx4.2/21, mbtmp4.1/14, ML4.5/3, MS3.4/6, Ms1 3.4/6, ms1mx3.0/29, Error ellipse: s-maj=17.8km s-min=10.6km az=164.0*
*ISCJB **24** 13:17:53.3±0.3, 4291N±003×7290E±003, h10km, mb4.2/25, MS3.4/9, Error ellipse: s-maj=4.7km s-min=2.8km az=48.2*
*MOS **24** 13:17:53.7±1.4, 4291N×7292E, h13km, mb4.2/17, Error ellipse: s-maj=7.6km s-min=6.2km az=101.2*
MOS Felt (III) at Merke, Talas.
*NEIC **24** 13:17:54.1±0.4, 4272N×7299E, h10km, mb4.4/10, Error ellipse: s-maj=9.0km s-min=6.4km az=223.0*
NEIC Felt [IV] at Lugovoye and [III] at Merke. Also felt [III] at Talas, Kyrgyzstan.
*KNET **24** 13:17:55.5±0.6, 4262N×7305E, h21km±3km, ml4.2, Error ellipse: s-maj=3.4km s-min=2.2km az=91.0*
*NNC **24** 13:17:55.4±0.5, 4308N×7294E, h0km, mb4.6, mpv4.3, Error ellipse: s-maj=8.9km s-min=2.8km az=3.0*
*BJI **24** 13:17:56.2, 4275N×7301E, h9km, mB4.8, mb4.5, ML4.6, Ms4.0, Ms2.9*

ISC 24 13:17:54.5±0.3, 4280N±003×7294E±003, h10km, n112, σ1§45/145, mb4.2/25, MS3.4/9, 27C-18D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
EKS2	**Erkin-Say**	**0.63**	**102**	P		**Pg**	**13 18 06.3**	**-0.4**
	537nm,0.1s,SNR=475							
EKS2				⇓S		**Sg**	**13 18 14.8**	**-0.2**
	3μm,0.2s							
AML	**Almayashu**	**0.87**	**140**	⇑P		**Pg**	**13 18 08.6**	**-2.6**
	567nm,0.1s,SNR=2033							
AML				⇓S		**Sg**	**13 18 19.0**	**-3.5**
	4μm,0.2s							
AAK	**Ala-Archa**	**1.16**	**98**	P		**Pb**	**13 18 15.8**	**-0.8**
	337nm,0.1s,SNR=490							
AAK				⇑S		**Sb**	**13 18 31.1**	**-0.5**
	2μm,0.2s							
AAK	**Ala-Archa**	**1.16**	**98**	*e*Pn		**Pn**	**13 18 14.8**	**-1.9**
AAK				*e*S		**Sb**	**13 18 29.7**	**-1.9**
FRU	**Bishkek**	**1.23**	**88**	*i* PG		**Pg**	**13 18 17.6**	**-0.6**
FRU				*i*			13 18 34.0	
FRU				pmax		pmax		
	comp=Z,1μm,1.2s							
FRU				smax				
	comp=E,5μm,2.0s							
USP	**Ospenovka**	**1.24**	**67**	P		**Pn**	**13 18 18.2**	**+0.4**
	comp=E,433nm,0.1s,SNR=1274							
USP				⇓S		**Sb**	**13 18 35.7**	**+1.8**
	comp=E,3μm,0.2s							
UCH	**Uchtor**	**1.29**	**115**	P		**Pn**	**13 18 17.3**	**-1.3**
	comp=E,285nm,0.1s,SNR=716							
UCH				⇑S		**Sb**	**13 18 34.0**	**-1.5**
	comp=E,2μm,0.2s							
CHMS	**Chumysh**	**1.35**	**81**	⇓P		**Pn**	**13 18 19.5**	**+0.2**
	comp=E,227nm,0.1s,SNR=324							
CHMS				⇓S		**Sb**	**13 18 37.9**	**+0.9**
	comp=E,2μm,0.2s							
KBK	**Karagaybulak**	**1.48**	**95**	⇓P		**Pn**	**13 18 21.8**	**+0.5**
	comp=E,574nm,0.1s,SNR=2131							
KBK				⇑S		**Sn**	**13 18 42.0**	**+1.4**
	comp=E,4μm,0.2s							
KK31	**Karatay Array**	**1.81**	**281**	⇑P		**Pn**	**13 18 26.9**	**+1.2**
	comp=E,310nm,0.3s,baz=101,slow=13,SNR=6845							
KK31				⇑S		**Sn**	**13 18 51.5**	**+2.8**
	comp=E,2μm,0.4s,baz=108,slow=33,SNR=23							
KK31	**Karatay Array**	**1.81**	**281**	*i* P		**Pn**	**13 18 26.9**	**+1.2**
KKAR	**Karatay Array**	**1.81**	**281**	*e*PN		**Pn**	**13 18 26.9**	**+1.2**
KKAR				S		**Sn**	**13 18 51.4**	**+2.7**
KKAR				pmax		pmax		
	comp=Z,168nm,0.3s							
KKAR				smax				
	comp=N,631nm,0.3s							
KZA	**Kyzart**	**1.85**	**112**	⇑P		**Pn**	**13 18 27.5**	**+1.2**
	comp=N,628nm,0.4s,SNR=236							
KZA				⇑S		**Sn**	**13 18 51.7**	**+2.0**
	comp=N,1μm,0.3s							
TKM2	**Tokmak 2**	**1.96**	**85**	P		**Pn**	**13 18 29.3**	**+1.6**
	comp=N,871nm,0.4s,SNR=938							
TKM2				⇓S		**Sn**	**13 18 55.9**	**+3.6**
	comp=N,3μm,0.2s							
TKM2	**Tokmak 2**	**1.96**	**85**	⇓P		**Pn**	**13 18 29.4**	**+1.7**
	comp=N,25nm,0.4s							
TKM2				⇑S		**Sn**	**13 18 55.9**	**+3.5**
	comp=N,84nm,0.3s							
TKM2	**Tokmak 2**	**1.96**	**85**	PN		**Pn**	**13 18 29.3**	**+1.6**
TKM2				S		**Sn**	**13 18 55.8**	**+3.5**
TKM2				pmax		pmax		
	comp=Z,157nm,0.4s							
TKM2				smax				
	comp=Z,2μm,0.6s							
ULHL	**Ulahol**	**2.50**	**102**	⇓P		**Pn**	**13 18 37.6**	**+2.4**
	comp=Z,489nm,0.5s,SNR=157							
AAA	**Alma-Ata**	**2.98**	**79**	*i* PN		**Pg**	**13 18 49.3**	**-2.2**
AAA				*i* S		**Sg**	**13 19 27.2**	**-2.9**
AAA				pmax		pmax		
	comp=Z,1.0nm,0.3s							
AAA				smax				
	comp=N,2.0nm,0.2s							
KNDC	**Almaty**	**2.98**	**81**	⇑Pn		**Pn**	**13 18 43.9**	**+2.1**
	comp=N,26nm,0.5s							
KNDC				⇑Pg		**Pg**	**13 18 51.2**	**-0.4**
	comp=N,449nm,0.7s							
KNDC				⇑Lg			13 19 28.2	
	comp=N,3μm,0.9s							
KSH	**Kashi**	**4.00**	**144**	P		**Pn**	**13 18 58.6**	**+2.8**
KSH				S		**Sg**	**13 19 54.6**	**-8.2**
KSH				Smax				
	comp=N,592nm,0.7s							
KSH				Smax				
	comp=E,910nm,0.8s							
MK09	**Makanchi Array**	**7.74**	**56**	⇓

ZRNK				*e*			13 22 19.6		
ZRNK				pmax	pmax				
	comp=Z,28nm,0.4s								
ZRNK	**Zerenda**	**10.50**	**347**	*e*Pn		**Pn**	**13 20 24.4**	**-0.6**	
	comp=Z,28nm,0.4s								
ZRNK				*e*Sn		**Sn**	**13 22 19.6**	**-3.0**	
DLH	**Dalhousie**	**10.51**	**166**	*e*P		**Pn**	**13 20 31.0**	**+5.8**	
CHKZ	**Chkalovo**	**11.00**	**353**	⇓Pn		**Pn**	**13 20 30.9**	**-1.0**	
	comp=Z,8.9nm,0.5s								
CHKZ				⇓Sn		**Sn**	**13 22 31.2**	**-3.7**	
	comp=Z,22nm,0.7s								
CHKZ				⇑Lg			13 23 40.2		
	comp=Z,146nm,1.0s								
CHKZ	**Chkalovo**	**11.00**	**353**	*e*P		**Pn**	**13 20 30.7**	**-1.1**	
CHKZ				pmax	pmax				
	comp=Z,18nm,0.5s								
CHKZ	**Chkalovo**	**11.00**	**353**	*e*Pn		**Pn**	**13 20 30.7**	**-1.1**	
	comp=Z,18nm,0.5s								
AB31	**Akbulak array**	**11.10**	**310**	Pn		**Pn**	**13 20 31.9**	**-1.3**	
	comp=Z,12nm,0.6s,baz=107,slow=19,SNR=114								
AB31				⇑Sn		**Sn**	**13 22 30.9**	**-6.5**	
	comp=Z,12nm,0.6s								
AB31				⇑Lg			13 23 42.4		
	comp=Z,32nm,0.7s								
AB31	**Akbulak array**	**11.10**	**310**	P		**Pn**	**13 20 31.9**	**-1.3**	
AB31							13 22 30.2		
AB31				pmax	pmax				
	comp=Z,7.0nm,0.6s								
AB31				smax					
	comp=N,20nm,0.7s								
AB31				smax					
	comp=N,20nm,0.7s								
SDNR	**Sundarnagar**	**11.72**	**163**	*e*P		**Pn**	**13 20 39.4**	**-2.3**	
SDNR				*e*S		**Sn**	**13 22 45.4**	**-7.2**	
AKTK	**Aktyubinsk**	**12.78**	**312**	Pn		**Pn**	**13 20 56.1**	**-0.1**	
AKTK				Sn		**Sn**	**13 23 12.4**	**-6.0**	
AKTK				Lg			13 24 39.0		
AKTO	**Aktyubinsk**	**12.78**	**312**	⇓Pn		**Pn**	**13 20 55.9**	**-0.3**	
	comp=N,0.3nm,0.7s								
AKTO				⇑Sn		**Sn**	**13 23 13.2**	**-5.2**	
	comp=N,0.2nm,0.5s								
AKTO	**Aktyubinsk**	**12.78**	**312**	Pn		**Pn**	**13 20 56.1**	**-0.1**	
	comp=N,1.9nm,0.3s,baz=121,slow=14,SNR=24								
AKTO				Sn		**Sn**	**13 23 12.4**	**-6.0**	
	comp=N,1.1nm,0.3s,baz=342,slow=19,SNR=4.9								
AKTO				Lg			13 24 39.0		
	comp=N,1.1nm,0.3s,baz=335,slow=19,SNR=1.9								
AKTO	**Aktyubinsk**	**12.78**	**312**	P		**Pn**	**13 20 56.1**	**-0.1**	
AKTO							13 23 12.4		
AKTO				pmax	pmax				
	comp=Z,2.0nm,0.3s								
AKTO				smax					
	comp=N,1.0nm,0.3s								
AKTO				MLR	MLR				
	comp=N,1.0nm,0.3s								
ZAL	**Zalesovo**	**13.63**	**31**	Pn		**Pn**	**13 21 09.6**	**+1.8**	
	comp=N,3.5nm,0.3s,baz=254,slow=13,SNR=32								
ZAL				Sn		**Sn**	**13 23 38.0**	**-1.3**	
	comp=N,1.2nm,0.3s,baz=22,slow=19,SNR=3.2								
ZAL				Lg			13 25 07.6		
	comp=N,0.8nm,0.3s,baz=155,slow=22,SNR=3.4								
ZAL				LR	LR		13 27 35.7		
	comp=N,159nm,19.5s,baz=246,slow=42								
ZAL	**Zalesovo**	**13.63**	**31**	P		**Pn**	**13 21 09.6**	**+1.8**	
ZAL							13 23 38.0		
ZAL				pmax	pmax				
	comp=Z,4.0nm,0.3s								
ZAL				smax					
	comp=N,1.0nm,0.3s								
ZAL				MLR	MLR				
	comp=N,1.0nm,0.3s								
ZAL				MLR	MLR				
	comp=Z,159nm,19.5s								
ZAL	**Zalesovo**	**13.63**	**31**	Pn		**Pn**	**13 21 09.6**	**+1.8**	
ZAL				Sn		**Sn**	**13 23 38.0**	**-1.3**	
ZAL				Lg			13 25 07.6		
NVS	**Novosibirsk**	**13.81**	**26**	*e*P		**Pn**	**13 21 08.9**	**-1.4**	
NVS				*e*S		**Sn**	**13 23 42.1**	**-1.6**	
NVS				pmax	pmax				
	comp=N,8.0nm,0.8s								
NVS				pmax	pmax				
	comp=Z,9.0nm,0.8s								
NVS				pmax	pmax				
	comp=E,3.0nm,0.4s								
NVS				smax					
	comp=N,15nm,0.5s								
NVS				smax					
	comp=E,22nm,0.5s								
ORR	**Orenburg**	**15.15**	**312**	*e*P		**Pn**	**13 21 38.7**	**+10**	
ORR							13 24 06.4		
ORR				pmax	pmax				
	comp=Z,10.0nm,0.7s								
SVE	**Sverdlovsk**	**16.09**	**335**	*e*P		**Pn**	**13 21 46.0**	**+5.2**	
ARU	**Arti**	**16.47**	**331**	⇑*i*P		**Pn**	**13 21 43.3**	**-2.4**	
ARU				*e*S		**Sn**	**13 24 38.0**	**-11**	
ARU				pmax	pmax				
	comp=Z,4.0nm,0.9s								
ARU	**Arti**	**16.47**	**331**	*e*P		**Pn**	**13 21 42.9**	**-2.8**	
	comp=Z,6.6nm,0.4s								
KOLN	**Koldanda**	**17.31**	**147**	*e*P		**Pn**	**13 21 54.0**	**-2.2**	
GKN	**Gorkha**	**17.54**	**144**	*e*P		**Pn**	**13 22 00.5**	**+1.4**	
	comp=Z,16nm,0.5s								
KKN	**Kakani**	**18.01**	**142**	*e*P		**Pn**	**13 22 03.6**	**-1.3**	
DMN	**Daman**	**18.09**	**143**	*e*P		**Pn**	**13 22 03.1**	**-2.7**	
GUN	**Gumba**	**18.18**	**141**	*e*P		**Pn**	**13 22 07.5**	**+0.5**	
	comp=Z,9.4nm,0.4s								
JIRN	**Jiri**	**18.54**	**140**	*e*P		**Pn**	**13 22 10.2**	**-1.2**	
	comp=Z,16nm,0.5s								
GTA	**Gaotai**	**20.50**	**90**	*e*P		**P**	**13 22 38.1**	**+5.5**	
GTA				AP			13 22 46.1		
GTA				XP	sP		13 22 49.8	+13	
GTA				AMB	AMB				
	comp=Z,9.0nm,0.9s								
MOY	**Mondy**	**20.91**	**55**	*e*P		**P**	**13 22 38.0**	**+1.0**	
GNI	**Garni**	**21.26**	**272**	P		**P**	**13 22 42.3**	**+1.5**	
	comp=Z,7.4nm,0.6s,mb4.2,baz=1.9,slow=10,SNR=6.4								
GNI				LR	LR		13 31 41.3		
	comp=Z,33nm,21.7s,MS2.7,baz=352,slow=39								
GNI	**Garni**	**21.26**	**272**	*e*P		**P**	**13 22 43.0**	**+2.2**	
GNI				pmax	pmax				
	comp=Z,43nm,1.1s								
GNI	**Garni**	**21.26**	**272**	*e*P		**P**	**13 22 43.0**	**+2.2**	
	comp=Z,43nm,1.1s,mb4.7								
ZEI	**Tsey**	**21.28**	**280**	*e*P		**P**	**13 22 40.7**	**-0.3**	
ZEI				*e**PP			13 22 50.6		
ZEI				pmax	pmax				
	comp=Z,5.0nm,0.6s,mb4.0								
KIV	**Kislovodsk**	**21.97**	**283**	⇑*e*P		**P**	**13 22 51.0**	**+2.6**	
KIV				pmax	pmax				
	comp=Z,12nm,0.6s,mb4.5								
KIV				MLR	MLR				
	comp=Z,100nm,18.0s,MS3.3								
KIV	**Kislovodsk**	**21.97**	**283**	*e*P		**P**	**13 22 48.1**	**-0.4**	
	comp=Z,15nm,0.6s,mb4.6								
ZAK	**Zakamensk**	**22.07**	**59**	⇓*e*P		**P**	**13 22 51.0**	**+1.5**	
ZAK				pmax	pmax				
	comp=Z,17nm,1.8s,mb4.2								
ZAK				pmax	pmax				
	comp=Z,18nm,1.9s,mb4.2								
TLY	**Talaya**	**22.52**	**56**	*e*P		**P**	**13 23 01.7**	**+7.4**	
TLY				pmax	pmax				
	comp=Z,11nm,1.9s,mb4.0								
TLY				MLR	MLR				
	comp=Z,276nm,12.0s,MS3.9								
TLY	**Talaya**	**22.52**	**56**	*e*P		**P**	**13 22 57.3**	**+3.0**	
	comp=Z,11nm,1.4s,mb4.1								
WSAR	**Wadi Sarin**	**22.84**	**216**	LR	LR		13 33 58.5		
	comp=Z,126nm,19.9s,MS3.4,baz=85,slow=43								
SONM	**Songino Array**	**23.94**	**66**	P		**P**	**13 23 09.4**	**+0.7**	
	comp=Z,0.3nm,0.5s,baz=271,slow=9.3,SNR=2.6								
ULN	**Ulaanbaatar**	**24.38**	**66**	*e*P		**P**	**13 23 17.3**	**+4.5**	
ULN				pmax	pmax				
	comp=Z,9.0nm,1.0s,mb4.2								
ULN	**Ulaanbaatar**	**24.38**	**66**	*e*P		**P**	**13 23 17.2**	**+4.5**	
	comp=Z,9.0nm,1.0s,mb4.2								
ANN	**Anapa**	**25.59**	**287**	*e*P		**P**	**13 23 24.5**	**+0.8**	
ANN				*e*S		**S**	**13 27 49.9**	**-1.7**	
ANN				pmax	pmax				
	comp=Z,36nm,1.1s,mb4.8								
MALT	**Malatya**	**26.49**	**272**	*e*P		**P**	**13 23 33.4**	**+1.5**	
MALT				pmax	pmax				
	comp=Z,5.0nm,0.9s,mb4.0								
MALT	**Malatya**	**26.49**	**272**	*e*P		**P**	**13 23 33.4**	**+1.5**	
	comp=Z,5.2nm,0.9s,mb4.1								
HHC	**Hu-ho-hao-te**	**28.68**	**81**	*e*P		**P**	**13 23 56.1**	**+4.6**	
HHC				AP	pP		13 24 04.9	+10	
HHC				XP	sP		13 24 09.8	+14	
HHC				PP	PP		13 24 49.1	-7.2	
HHC				PCP	PcP		13 27 07.0	+5.0	
HHC				S	**S**		**13 28 41.9**	**+1.5**	
HHC				XS	sS		13 28 57.1	+12	
HHC				SS	SS		13 30 07.6	-34	
HHC				SCP	ScP		13 30 44.9	+1.6	
HHC				PCS	PcS		13 30 48.6	+4.1	
HHC				AMB	AMB				
	comp=Z,16nm,1.0s,mb4.7								
HHC				AMB	AMB				
	comp=Z,91nm,5.2s								
HHC				LR	LR				
	comp=N,136nm,12.8s,MS3.9								
HHC				LR	LR				
	comp=E,118nm,12.7s,MS3.9								
HHC				LR	LR				
	comp=Z,116nm,13.9s,MS3.6								
AKASG	**Malin Array Be**	**30.60**	**300**	P		**P**	**13 24 06.8**	**-1.8**	
	comp=Z,0.3nm,0.4s,mb3.5,baz=81,slow=8.3,SNR=4.2								
FINES	**FINESS Array B**	**33.34**	**320**	P		**P**	**13 24 33.3**	**+0.8**	
	comp=Z,5.8nm,1.0s,mb4.5,baz=123,slow=9.4,SNR=7.1								
FINES	**FINESS Array B**	**33.34**	**320**	P		**P**	**13 24 33.3**	**+0.7**	
FINES				pmax	pmax				
	comp=Z,6.0nm,1.0s								
MLR	**Muntele Rosu**	**33.46**	**291**	LR	LR		13 41 00.9		
	comp=Z,52nm,19.9s,MS3.2,baz=55,slow=41								
ARCES	**ARCESS Array B**	**36.02**	**334**	P		**P**	**13 24 56.2**	**+0.4**	
	comp=Z,2.3nm,0.9s,mb4.1,baz=106,slow=8.9,SNR=6.4								
ARCES	**ARCESS Array B**	**36.02**	**334**	P		**P**	**13 24 56.2**	**+0.4**	
ARCES				pmax	pmax				
	comp=Z,2.0nm,0.9s								
NJ2	**Nanjing**	**37.59**	**91**	*e*P		**P**	**13 25 15.0**	**+5.8**	
NJ2				AMB	AMB				
	comp=Z,10.0nm,0.6s,mb4.7								
YAK	**Yakutsk**	**38.07**	**40**	*e*P		**P**	**13 25 13.2**	**0.0**	
YAK				pmax	pmax				
	comp=Z,12nm,0.5s,mb4.9								
YAK	**Yakutsk**	**38.07**	**40**	*e*P		**P**	**13 25 13.2**	**0.0**	
	comp=Z,12nm,0.5s,mb4.9								
TIXI	**Tiksi**	**39.40**	**24**	*e*P		**P**	**13 25 23.2**	**-1.2**	
TIXI				pmax	pmax				
	comp=Z,4.0nm,0.7s,mb4.3								
SSE	**Sheshan**	**39.79**	**91**	*e*P		**P**	**13 25 32.6**	**+5.0**	
SSE				AMB	AMB				
	comp=Z,60nm,0.7s								
SSE				AMB	AMB				
	comp=Z,26nm,3.7s								
MDJ	**Mudanjiang**	**40.29**	**67**	P		**P**	**13 25 35.3**	**+3.6**	
MDJ				AP	pP		13 25 44.1	+9.2	
MDJ				XP	sP		13 25 48.1	+12	
MDJ				AMB	AMB				
	comp=Z,3.0nm,0.6s,mb4.2								
MDJ				AMB	AMB				
	comp=Z,79nm,3.7s								
MDJ				LR	LR				
	comp=N,35nm,18.4s,MS3.3								
MDJ				LR	LR				
	comp=E,9.0nm,16.9s,MS3.3								
MDJ				LR	LR				
	comp=Z,30nm,18.4s,MS3.2								
NOA	**NORSAR Array B**	**40.45**	**319**	P		**P**	**13 25 33.4**	**+0.3**	
	comp=Z,0.7nm,0.6s,mb3.5,baz=88,slow=8.4,SNR=2.4								
NOA	**NORSAR Array B**	**40.45**	**319**	P		**P**	**13 25 33.4**	**+0.4**	
NOA				pmax	pmax				
	comp=Z,1.0nm,0.6s								
GERES	**GERESS Array B**	**40.81**	**300**	P		**P**	**13 25 37.0**	**+1.0**	
	comp=Z,1.3nm,0.4s,mb3.9,baz=69,slow=7.3,SNR=9.0								
GERES				LR	LR		13 44 08.0		
	comp=Z,36nm,18.3s,MS3.3,baz=96,slow=38								
GERES	**GERESS Array B**	**40.81**	**300**	P		**P**	**13 25 37.0**	**+0.9**	
GERES				pmax	pmax				
	comp=Z,1.0nm,0.4s								
GERES				MLR	MLR				
	comp=Z,37nm,18.3s								
MJAR	**Matsushiro Arr**	**49.51**	**74**	P		**P**	**13 26 45.6**	**+0.4**	
	comp=Z,1.8nm,0.9s,mb4.1,baz=308,slow=10,SNR=3.3								
MJAR	**Matsushiro Arr**	**49.51**	**74**	P		**P**	**13 26 45.6**	**+0.4**	
MJAR				pmax	pmax				
	comp=Z,2.0nm,0.9s								
TORD	**Torodi Ar. Bea**	**67.45**	**267**	P		**P**	**13 28 48.9**	**-1.4**	
	comp=Z,3.1nm,0.8s,mb4.4,baz=44,slow=5.8,SNR=16								
INK	**Inuvik**	**67.46**	**10**	*e*P		**P**	**13 28 50.8**	**+0.4**	
INK				pmax	pmax				
	comp=Z,1.0nm,0.6s								
INK	**Inuvik**	**67.46**	**10**	*e*P		**P**	**13 28 50.8**	**+0.4**	
	comp=Z,1.3nm,0.6s,mb4.1								
ILAR	**Eielson Array**	**68.33**	**17**	P		**P**	**13 28 55.0**	**-0.8**	
	comp=Z,0.7nm,0.8s,mb3.8,baz=318,slow=4.6,SNR=11								
ILAR	**Eielson Array**	**68.33**	**17**	P		**P**	**13 28 55.1**	**-0.8**	
ILAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
YKA	**Yellowknife Ar**	**74.89**	**4**	P		**P**	**13 29 35.4**	**0.0**	
	comp=Z,0.8nm,0.6s,mb3.8,baz=350,slow=5.8,SNR=11								
YKA				LR	LR		14 05 54.3		
	comp=Z,45nm,18.9s,MS3.8,baz=85,slow=38								
YKA	**Yellowknife Ar**	**74.89**	**4**	P		**P**	**13 29 35.4**	**0.0**	
YKA				pmax	pmax				
	comp=Z,1.0nm,0.6s								
YKA				MLR	MLR				
	comp=Z,45nm,18.9s								
WRA	**Warramunga Arr**	**84.15**	**124**	P		**P**	**13 30 23.9**	**-1.8**	
	comp=Z,0.5nm,0.8s,mb3.7,baz=326,slow=4.8,SNR=4.2								
WRA	**Warramunga Arr**	**84.15**	**124**	P		**P**	**13 30 23.9**	**-1.9**	
WRA				pmax	pmax				
	comp=Z,1.0nm,0.8s								
ASAR	**Alice Springs**	**86.71**	**127**	P		**P**	**13 30 36.8**	**-1.8**	
	comp=Z,0.7nm,0.9s,mb3.9,baz=303,slow=3.6,SNR=7.4								
ASAR	**Alice Springs**	**86.71**	**127**	P		**P**	**13 30 36.8**	**-1.8**	
ASAR				pmax	pmax				
	comp=Z,1.0nm,0.9s								
PLCA	**Paso Flores**	**152.82**	**262**	PKPbc	PKPbc		13 37 50.1	-1.6	
	comp=Z,2.5nm,0.8s,baz=306,slow=8.9,SNR=3.9								
PLCA	**Paso Flores**	**152.82**	**262**	PKIKP	PKPbc		13 37 50.1	-1.6	
PLCA				pmax	pmax				
	comp=Z,3.0nm,0.8s								

*IDC **24** 13:26:08.8±7.7,36.14N×7071E,h159km±70km,mb3.4/6, mb1 3.5/8,mb1mx3.2/22,mbtmp3.9/8,Error ellipse: s-maj=39.9km s-min=20.8km az=25.0*
*MOS **24** 13:26:09.1±0.4,36.18N×7065E,h173km,mb4.2/2,Error ellipse: s-maj=44.6km s-min=23.0km az=102.9*
*ISCJB **24** 13:26:11.5±1.0,3640N±008×707E±0.1,h191km±12km, mb3.6/6,Error ellipse: s-maj=21.6km s-min=6.7km az=115.7*
*NNC **24** 13:26:21.8±4.9,37.17N×7087E,h226km±58km,mb2.8, mpv4.0,Error ellipse: s-maj=48.4km s-min=29.3km az=24.0*

ISC 24 13:26:12.6±1.0,3641N±008×707E±01,h187km±12km,n29,
σ1§11/36,mb3.6/6,3C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DLH	**Dalhousie**	**5.80**	**130**	*e*P		**Pn**	**13 27 39.0**	**+1.9**
DLH				*e*S		**Sn**	**13 28 43.0**	**-0.6**
KK31	**Karatay Array**	**6.69**	**359**	⇓P		**Pn**	**13 27 48.2**	**-0.4**
	21nm,0.6s,baz=164,slow=11,SNR=112							
KK31				⇓S		**Sn**	**13 28 58.3**	**-6.2**
	6.4nm,0.5s,baz=186,slow=22,SNR=5.7							
SDNR	**Sundarnagar**	**7.14**	**132**	*e*P		**Pn**	**13 27 53.8**	**-0.7**
SDNR				*e*S		**Sn**	**13 29 10.0**	**-5.2**
TKM2	**Tokmak 2**	**7.51**	**29**	⇓P		**Pn**	**13 27 59.2**	**-0.2**
	2.1nm,0.5s							
TKM2				⇑S		**Sn**	**13 29 18.4**	**-5.6**
	0.5nm,0.6s							
SMLA	**Simla**	**7.52**	**133**	*i* P		**Pn**	**13 27 58.2**	**-1.3**
SMLA				*i* S		**Sn**	**13 29 18.2**	**-6.1**
KLP	**Kalpa**	**7.92**	**126**	*e*S		**Sn**	**13 29 29.3**	**-4.5**
KLP				*ex*	x		13 29 34.6	
KLP				AML	AML		13 29 37.1	
	comp=E,110nm,0.2s							
KLP				AML	AML		13 29 38.0	
	comp=N,131nm,0.8s							
JOSI	**Joshimath**	**9.41**	**126**	*e*S		**Sn**	**13 30 02.2**	**-7.0**
JOSI				AML	AML		13 30 04.6	
	comp=E,74nm,1.2s							
NDI	**New Delhi**	**9.45**	**143**	*e*S		**Sn**	**13 30 03.0**	**-7.3**
KUDL	**Kundal**	**9.58**	**148**	*e*P		**Pn**	**13 28 25.8**	**-0.7**
KUDL				*e*S		**Sn**	**13 30 05.4**	**-7.9**
KUDL				AML	AML		13 30 07.4	
	comp=N,9.3nm,0.6s							
KUDL				AML	AML		13 30 07.4	
	comp=E,21nm,0.5s							
MKAR	**Makanchi Array**	**13.50**	**36**	P		**Pn**	**13 29 15.7**	**-0.9**
	comp=E,0.1nm,0.3s,baz=224,slow=12,SNR=2.8							
MKAR	**Makanchi Array**	**13.50**	**36**	P		**Pn**	**13 29 15.7**	**-1.0**
KOLN	**Koldanda**	**13.90**	**125**	*e*P		**Pn**	**13 29 21.5**	**-0.2**
GKN	**Gorkha**	**14.45**	**122**	*e*P		**Pn**	**13 29 30.7**	**+2.2**
DMN	**Daman**	**15.02**	**122**	*e*P		**Pn**	**13 29 35.3**	**-0.2**
KKN	**Kakani**	**15.03**	**121**	*e*P		**Pn**	**13 29 37.4**	**+1.8**
AB31	**Akbulak array**	**15.05**	**332**	P		**Pn**	**13 29 37.0**	**+1.0**
	comp=E,0.6nm,0.3s,baz=152,slow=11,SNR=19							
AB31				⇑S		**S**	**13 32 14.6**	**-8.7**
	comp=E,1.4nm,0.7s,baz=155,slow=23,SNR=2.6							
GUN	**Gumba**	**15.37**	**119**	*e*P		**Pn**	**13 29 41.4**	**+1.6**
JIRN	**Jiri**	**15.74**	**119**	*e*P		**Pn**	**13 29 45.3**	**+1.0**
AKTO	**Aktyubinsk**	**16.75**	**331**	⇑P		**Pn**	**13 29 56.6**	**+0.2**
AKTO	**Aktyubinsk**	**16.75**	**331**	P		**Pn**	**13 29 56.5**	**+0.1**
	comp=E,0.9nm,0.3s,baz=144,slow=9.9,SNR=7.7							
AKTO	**Aktyubinsk**	**16.75**	**331**	P		**Pn**	**13 29 56.5**	**+0.1**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.3s							
FINES	**FINESS Array B**	**37.43**	**326**	P		**P**	**13 33 08.4**	**+0.7**
	comp=Z,2.8nm,0.9s,mb3.9,baz=108,slow=12,SNR=3.8							
FINES	**FINESS Array B**	**37.43**	**326**	P		**P**	**13 33 08.4**	**+0.7**
FINES				pmax	pmax			
	comp=Z,3.0nm,0.9s							
HFS	**Hagfors**	**43.00**	**322**	P		**P**	**13 33 54.0**	**+0.6**
	comp=Z,3.7nm,0.9s,mb4.0,baz=96,slow=13,SNR=2.9							
HFS	**Hagfors**	**43.00**	**322**	P		**P**	**13 33 54.0**	**+0.6**
HFS				pmax	pmax			
	comp=Z,4.0nm,0.9s							
TORD	**Torodi Ar. Bea**	**65.49**	**269**	P		**P**	**13 36 34.6**	**-1.1**
	comp=Z,1.2nm,0.6s,mb3.9,baz=54,slow=5.2,SNR=9.6							
YKA	**Yellowknife Ar**	**81.35**	**2**	P		**P**	**13 38 07.8**	**-0.4**
	comp=Z,0.3nm,0.3s,mb3.4,baz=346,slow=5.1,SNR=5.2							
WRA	**Warramunga Arr**	**82.14**	**122**	P		**P**	**13 38 11.4**	**-1.0**
	comp=Z,0.2nm,0.4s,mb3.1,baz=324,slow=4.9,SNR=9.5							
ASAR	**Alice Springs**	**84.39**	**125**	P		**P**	**13 38 22.9**	**-0.9**
	comp=Z,0.4nm,0.8s,mb3.2,baz=319,slow=5.4,SNR=6.2							

*ISCJB **24** 13:35:38.6±0.8,5137N±004×16.10E±004,h0km,Error ellipse: s-maj=6.3km s-min=3.2km az=35.0*
*VIE **24** 13:35:39.9±0.3,5135N×1597E,h0km,mb2.1/1,ML2.6/4, Error ellipse: s-maj=2.2km s-min=2.0km az=168.0 78 km WNW of Breslau Suspected Mining induced.*
*CSEM **24** 13:35:40.1±0.8,5144N×1606E,h1km,ML3.1/4,Error ellipse: s-maj=11.7km s-min=6.2km az=168.0,Suspected Mining induced.*
*PRU **24** 13:35:41.2,5138N×1611E,h0km*

ISC 24 13:35:39.5±0.9,5143N±004×1613E±004,h0km,n15,
σ1§12/28,1C-2D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.60**	**170**	⇓*i*Pg		**Pg**	**13 35 52.3**	**+1.3**
KSP				*i* Sg		**Sg**	**13 36 00.7**	**+2.0**
UPC	**Upice**	**0.93**	**185**	*e*PG		**Pg**	**13 35 58.0**	**+0.7**
DPC	**Dobruska-Polom**	**1.09**	**173**	*e*PG		**Pg**	**13 36 01.1**	**+0.7**
DPC				*e*SG		**Sg**	**13 36 15.4**	**+0.9**
	21nm,0.3s							
BRG	**Berggiesshubel**	**1.48**	**249**	PG		**Pg**	**13 36 07.9**	**-0.1**
BRG				SG		**Sg**	**13 36 27.9**	**+0.7**
	26nm,0.4s							
PRU	**Pruhonice**	**1.76**	**216**	*e*PG		**Pg**	**13 36 12.5**	**-0.8**
PRU				*e*SG		**Sg**	**13 36 35.8**	**-0.3**
	12nm,0.2s							
MORC	**Moravsky Berou**	**1.89**	**151**	*e*Pg		**Pg**	**13 36 13.8**	**-1.9**
MORC				*e*Sg		**Sg**	**13 36 38.1**	**-2.0**
CLL	**Collm**	**1.96**	**268**	*e*Pn		**Pn**	**13 36 13.0**	**-1.0**
	comp=Z,3.0nm,0.5s							
CLL				*i* Pg		**Pg**	**13 36 16.3**	**-0.8**
CLL				*ex*	x		13 36 18.0	
CLL				*e*Sg		**Sg**	**13 36 43.0**	**+0.4**
	comp=Z,16nm,0.6s							
OKC	**Ostrava-Krasne**	**2.05**	**140**	*e*SG		**Sg**	**13 36 45.4**	**0.0**
VRAC	**Vranov**	**2.15**	**172**	*e*Sg		**Sg**	**13 36 46.5**	**-2.0**
TREC	**Trest**	**2.18**	**191**	*e*PG		**Pg**	**13 36 19.9**	**-1.4**
NKC	**Novy Kostel**	**2.62**	**244**	*e*PN		**Pn**	**13 36 24.2**	**+1.1**
NKC				*e*SG		**Sg**	**13 37 04.7**	**+0.9**
	comp=Z,40nm,0.3s							
OJC	**Ojcow**	**2.62**	**116**	*e*Pg		**Pg**	**13 36 30.4**	**+0.6**
OJC				*e*Sg		**Sg**	**13 37 06.4**	**+2.5**
KHC	**Kasperske Hory**	**2.82**	**216**	*e*PN		**Pn**	**13 36 26.5**	**+0.6**
KHC				*e*PG		**Pg**	**13 36 31.8**	**-1.8**
KHC				*e*SG		**Sg**	**13 37 10.2**	**-0.1**
	comp=Z,7.5nm,0.4s							
MOX	**Moxa**	**2.96**	**256**	*e*PG		**Pg**	**13 36 35.5**	**-0.7**
MOX				*e*SG		**Sg**	**13 37 15.4**	**+0.9**
MOA	**Molln**	**3.78**	**199**	⇑*i*Pn		**Pn**	**13 36 38.2**	**-0.9**
MOA				⇓*i*Sg		**Sg**	**13 37 41.6**	**+0.5**
	comp=Z,6.4nm,0.4s							

*IDC **24** 13:44:17.5±1.6,2051S×16905E,h0km,mb4.0/9, mb1 4.3/10,mb1mx4.2/15,mbtmp4.0/10,ML3.5/1,MS3.7/8,

KHC	**Kasperske Hory**	**145.41**	**331**	*e*P		PKPbc	14 03 57.5	+0.2
GERES	**GERESS Array B**	**145.56**	**331**	PKPbc		PKPbc	14 03 57.0	-0.8
	0.6nm,0.5s,baz=67,slow=4.5,SNR=6.2							

BJI 24 13:58:30.2, 2924N×10245E, h10km, ML3.4, Ms3.5, Msz3.4, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CD2	**Chengdu**	**2.01**	**34**	P		Pn	13 59 06.6	+2.4
CD2				PG		Pg	13 59 08.0	-0.8
CD2				SG		Sg	13 59 36.1	+1.2
CD2				Smax				
	comp=N,220nm,0.8s							
CD2				Smax				
	comp=E,170nm,0.6s							
KMI	**Kunming**	**4.11**	**176**	P		Pn	13 59 38.0	+5.0
KMI				PG		Pg	13 59 47.0	-1.9
KMI				S		Sn	14 00 20.8	-0.3
KMI				SG		Sg	14 00 35.6	-6.5
KMI				Smax				
	comp=N,73nm,1.3s							
KMI				Smax				
	comp=E,73nm,1.1s							
KMI				LR		LR		
	comp=N,220nm,4.5s							
KMI				LR		LR		
	comp=E,238nm,4.9s							
KMI				LR		LR		
	comp=Z,68nm,4.5s							
XAN	**Xi'an**	**7.30**	**47**	PG		Pg	14 00 34.3	-16
XAN				SG		Sg	14 02 26.6	+2.1
XAN				Smax				
	comp=N,26nm,1.0s							
XAN				Smax				
	comp=E,19nm,1.1s							

PRE 24 14:08:00.5±1.0, 2697S×2680E, h2km, ML3.6, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SWZ	**Schweizer**	**1.32**	**261**	*e*P		Pg	14 08 26.4	+0.5
SWZ				*e*S		Sg	14 08 44.0	+1.0
SWZ				AML		AML	14 08 48.0	
	comp=Z,688nm,0.5s							
SLR	**Silverton**	**1.81**	**48**	*e*P		Pn	14 08 33.3	+0.6
SLR				*e*S		Sn	14 08 57.0	+0.6
SLR				AML		AML	14 09 02.2	
	comp=Z,557nm,0.5s							
BFT	**Belfast (SA)**	**3.18**	**67**	*e*P		Pn	14 08 52.6	+1.0
BFT				*e*S		Sn	14 09 30.3	+0.2
BFT				AML		AML	14 09 45.2	
	comp=Z,98nm,0.3s							
POGA	**Pongola**	**4.31**	**96**	*e*P		Pn	14 09 08.7	+1.7
POGA				*e*S		Sn	14 09 58.8	+1.0
POGA				AML		AML	14 10 22.2	
	comp=Z,74nm,0.5s							
UPI	**Upington**	**5.11**	**253**	*e*P		Pn	14 09 19.5	+1.5
UPI				*e*S		Sn	14 10 16.2	-1.4
UPI				AML		AML	14 10 42.8	
	comp=Z,40nm,0.4s							
SUR	**Sutherland**	**7.49**	**223**	*e*P		Pn	14 09 51.5	+0.8
SUR				*e*S		Sn	14 11 13.2	-3.0
CVNA	**Calvinia**	**7.61**	**232**	*e*P		Pn	14 09 52.8	+0.4
CVNA				*e*S		Sn	14 11 16.2	-3.1
CVNA				AML		AML	14 11 31.1	
	comp=Z,11nm,0.5s							

IDC 24 14:12:42.5±1.8, 804S×12534E, h0km, mb3.3/1, mb1 3.7/4, mb1mx3.5/14, mbtmp3.5/4, ML3.3/3, Error ellipse: s-maj=112.4km s-min=27.1km az=67.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.01**	**178**	Pn		Pn	14 15 06.9	-0.6
	0.1nm,0.3s,baz=84,slow=22,SNR=6.5							
FITZ				Sn		Sn	14 16 51.2	-9.2
	0.1nm,0.3s,baz=105,slow=20,SNR=2.6							
WRA	**Warramunga Arr**	**14.69**	**145**	Pn		Pn	14 16 11.2	-0.4
	0.2nm,0.3s,baz=321,slow=13,SNR=17							
WRA				Sn		Sn	14 18 47.9	-7.2
	0.1nm,0.3s,baz=316,slow=26,SNR=4.8							
ASAR	**Alice Springs**	**17.57**	**153**	Pn		Pn	14 16 50.2	+1.4
	0.1nm,0.3s,baz=326,slow=11,SNR=12							
ASAR				Sn		Sn	14 19 56.0	-9.0
	0.0nm,0.3s,baz=320,slow=20,SNR=3.6							
MKAR	**Makanchi Array**	**66.66**	**329**	P		P	14 23 35.1	+0.2
	0.2nm,0.5s,baz=147,slow=8.1,SNR=3.2							

*ISCJB **24** 14:14:15.3±0.7, 3006S×006×1795W×0.1, h330km±8km, mb3.5/6, Error ellipse: s-maj=20.9km s-min=8.9km az=19.3*

*IDC **24** 14:14:18.3±1.4, 2996S×17941W, h350km±15km, mb3.3/4, mb1 3.4/5, mb1mx3.3/14, mbtmp4.1/5, Error ellipse: s-maj=33.5km s-min=24.8km az=166.0*

*NEIC **24** 14:14:18.1±0.7, 2995S×17945W, h349km±8km, mb3.8/2, Error ellipse: s-maj=16.4km s-min=13.6km az=67.0*

ISC 24 14:14:18.2±0.9, 3024S×007×1796W×02, h336km±9km, n26, σ0§86/25, mb3.5/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**1.74**	**56**	P		**Pn**	**14 15 06.2**	**-0.2**
	131nm,0.3s,baz=40,slow=22,SNR=4.1							
RAO				S		**S**	**14 15 38.6**	**-6.5**
	127nm,0.3s,baz=291,slow=17,SNR=3.6							
PUZ	**Puketiti**	**8.02**	**192**	PN		**Pn**	**14 16 13.0**	**+0.6**
PUZ				SN		**S**	**14 17 45.3**	**0.0**
URZ	**Urewera**	**8.46**	**198**	P		**Pn**	**14 16 21.6**	**+4.0**
	1.3nm,0.3s,baz=17,slow=22,SNR=9.2							
URZ				S		**S**	**14 17 55.8**	**+0.8**
	2.3nm,0.3s,baz=149,slow=20,SNR=12							
URZ	**Urewera**	**8.46**	**198**	PN		**Pn**	**14 16 18.1**	**+0.5**
BFZ	**Birch Farm**	**10.96**	**197**	PN		**Pn**	**14 16 48.6**	**+0.9**
BFZ				SN		**S**	**14 18 48.5**	**-2.0**
BFZ				SN		**S**	**14 18 50.0**	**-0.5**
MRZ	**Mangatainoka R**	**11.13**	**199**	PN		**Pn**	**14 16 48.5**	**-1.2**
MRZ				SN		**S**	**14 18 50.0**	**-4.1**
KHZ	**Kahutara**	**13.36**	**203**	PN		**Pn**	**14 17 15.9**	**-0.3**
CTAO	**Charters Tower**	**32.43**	**280**	P		**P**	**14 20 16.0**	**-1.7**
STKA	**Stephens Creek**	**33.19**	**257**	P		**P**	**14 20 25.1**	**+0.8**
	0.7nm,0.3s,mb3.3,baz=100,slow=12,SNR=5.3							
ASAR	**Alice Springs**	**41.76**	**267**	P		**P**	**14 21 35.8**	**+0.3**
	1.1nm,0.6s,mb3.1,baz=105,slow=6.8,SNR=21							
WB2	**Warramunga Arr**	**42.72**	**273**	*e*P		**P**	**14 21 43.2**	**0.0**
WRAB	**Tennant Creek**	**42.72**	**273**	*e*P		**P**	**14 21 43.7**	**+0.5**
	4.1nm,0.7s,mb3.7							
WRA	**Warramunga Arr**	**42.73**	**273**	P		**P**	**14 21 43.4**	**+0.2**
	2.7nm,0.6s,mb3.6,baz=112,slow=7.3,SNR=34							
SBA	**Scott Base**	**48.10**	**184**	*e*P		**P**	**14 22 24.6**	**-0.5**
VNDA	**Vanda**	**48.13**	**185**	*e*P		**P**	**14 22 24.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**51.00**	**271**	P		**P**	**14 22 46.6**	**0.0**
	1.9nm,0.8s,mb3.4,baz=129,slow=11,SNR=3.4							
QSPA	**South Pole Qui**	**59.87**	**180**	*e*P		**P**	**14 23 51.3**	**+2.0**
	1.5nm,0.5s,mb3.7							
VNA3	**Neumayer Olymp**	**78.56**	**177**	*e*		**P**	**14 25 42.4**	**-0.6**
VNA3				*e*			14 25 47.9	
VNA2	**Neumayer--Watz**	**78.97**	**177**	*e*		**P**	**14 25 39.7**	**-5.5**
	baz=194,slow=6.2							
VNA2				*e*			14 25 45.8	
VNA2				*e*			14 25 47.8	
KEV	**Kevo**	**137.65**	**347**	*e*p		PKPdf	14 33 12.1	+10
	0.5nm,0.4s							
KAF	**Kangasniemi**	**143.93**	**340**	*e*p		PKPdf	14 33 05.3	-8.4
	0.6nm,0.3s							
KIV	**Kislovodsk**	**144.01**	**304**	*e*PKP		PKPdf	14 33 12.5	-1.3
FINES	**FINESS Array B**	**144.51**	**339**	PKP		PKPdf	14 33 11.3	-3.5
	3.3nm,0.5s,baz=52,slow=2.9,SNR=38							
FINES	**FINESS Array B**	**144.51**	**339**	PKP		PKPdf	14 33 11.3	-3.5
AKASG	**Malin Array Be**	**150.34**	**322**	PKPbc		PKPbc	14 33 27.9	-2.1
	0.8nm,0.5s,baz=46,slow=2.4,SNR=5.1							
TORD	**Torodi Ar. Bea**	**162.96**	**184**	PKPab		PKPab	14 34 31.7	-0.2
	0.4nm,0.6s,baz=180,slow=4.6,SNR=4.9							

*IDC **24** 14:36:53.8±4.0, 5558N×16226E, h17km±25km, mb4.3/19, mb1 4.5/21, mb1mx4.4/24, mbtmp4.4/21, ML4.4/2, MS3.7/7, Ms1 3.7/7, ms1mx3.2/32, Error ellipse: s-maj=14.9km s-min=11.5km az=177.0*

*ISCJB **24** 14:36:54.2±0.2, 5543N±002×16264E±004, h33km, mb4.6/59, MS3.7/7, Error ellipse: s-maj=3.1km s-min=2.5km az=74.5*

*MOS **24** 14:36:54.6±1.3, 5559N×16226E, h36km, mb4.7/37, Error ellipse: s-maj=10.3km s-min=5.4km az=93.2*

*KRSC **24** 14:36:55.8±0.7, 5542N×16245E, h32km±5km, ML5.0*

*BJI **24** 14:36:57.5, 5560N×16220E, h63km, mB4.4, mb4.7*

*NEIC **24** 14:36:59.5±0.9, 5559N×16222E, h64km±8km, mb4.7/31, Error ellipse: s-maj=8.1km s-min=5.6km az=151.0*

ISC 24 14:36:55.7±0.2, 5547N±002×16256E±004, h35km, n218, σ1§32/249, mb4.6/59, MS3.7/7, 3C-17D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.76**	**11**	*i* P		**Pn**	**14 37 11.2**	**+1.3**
KBTR				*e*S		**Sn**	**14 37 22.1**	**+1.9**
KBG	**Krutoberegovo**	**0.80**	**6**	*i* P		**Pn**	**14 37 11.8**	**+1.4**
KBG				*i* S		**Sn**	**14 37 24.6**	**+3.5**
KBG				Smax				
	126µm,0.9s							
MKZ	**Mys Kozlova**	**1.03**	**208**	P		**Pn**	**14 37 12.8**	**-0.8**
MKZ				S		**Sn**	**14 37 25.4**	**-1.4**
MKZ	**Mys Kozlova**	**1.03**	**208**	P		**Pn**	**14 37 12.8**	**-0.8**
MKZ				*e*S		**Sn**	**14 37 26.2**	**-0.6**
ZLN	**Zelenaya**	**1.14**	**300**	*i* P		**Pn**	**14 37 15.8**	**+0.7**
CIRR	**Tsirk**	**1.21**	**303**	*i* P		**Pn**	**14 37 16.8**	**+0.6**
LGNR	**Loginova**	**1.22**	**301**	*i* P		**Pn**	**14 37 17.3**	**+1.0**
SMKR	**Semkarok**	**1.28**	**332**	*i* P		**Pn**	**14 37 18.3**	**+1.3**
SMKR				*e*S		**Sn**	**14 37 34.6**	**+1.7**
BDR	**Baidarnaya**	**1.34**	**326**	*i* P		**Pn**	**14 37 19.4**	**+1.5**
BDR				*e*S		**Sn**	**14 37 36.4**	**+1.9**
KMNR	**Kamenistaya**	**1.35**	**283**	*i* P		**Pn**	**14 37 18.8**	**+0.8**
KRSR	**Krestovskiy**	**1.35**	**305**	*i* P		**Pn**	**14 37 18.3**	**+0.2**
KRSR				*e*S		**Sn**	**14 37 35.1**	**+0.3**
KLY	**Klyuchi**	**1.37**	**309**	P		**Pn**	**14 37 17.8**	**-0.5**
KLY				S		**Sn**	**14 37 33.2**	**-2.0**
KLY	**Klyuchi**	**1.37**	**309**	*i* P		**Pn**	**14 37 17.8**	**-0.5**
KLY				*i* S		**Sn**	**14 37 33.5**	**-1.7**
TUMR	**Tumrok**	**1.39**	**263**	*i* P		**Pn**	**14 37 19.2**	**+0.6**
TUMR				*i* S		**Sn**	**14 37 35.9**	**+0.2**
KPT	**Kopyto**	**1.41**	**292**	*i* P		**Pn**	**14 37 19.9**	**+1.0**
KPT				*e*S		**Sn**	**14 37 37.1**	**+0.8**
SRKR	**Sorokina**	**1.42**	**327**	*i* P		**Pn**	**14 37 20.5**	**+1.4**
SRKR				*e*S		**Sn**	**14 37 38.3**	**+1.7**
KOZR	**Kozyr**	**1.62**	**293**	PN		**Pn**	**14 37 23.4**	**+1.6**
KOZ	**Kozyrevsk**	**1.63**	**292**	P		**Pn**	**14 37 23.4**	**+1.5**
KOZ				S		**Sn**	**14 37 43.1**	**+1.4**
KOZ	**Kozyrevsk**	**1.63**	**292**	*i* P		**Pn**	**14 37 23.2**	**+1.3**
SRDR	**Sredinnyy**	**1.81**	**299**	*i* P		**Pn**	**14 37 25.6**	**+1.2**
SRDR				*i* S		**Sn**	**14 37 47.4**	**+1.2**
BKI	**Bering**	**1.97**	**96**	*i* P		**Pn**	**14 37 27.9**	**+1.3**
BKI				*i* S		**Sn**	**14 37 50.4**	**+0.4**
BKI				Smax				
	2µm,0.2s							
ESO	**Esso**	**2.23**	**284**	*i* P		**Pn**	**14 37 30.6**	**+0.4**
ESO				Smax				
	2µm,1.1s							
SPN	**Mys Shipunski**	**2.80**	**213**	P		**Pn**	**14 37 38.0**	**0.0**
SPN				S		**Sn**	**14 38 08.0**	**-2.5**
SPN	**Mys Shipunski**	**2.80**	**213**	*e*P		**Pn**	**14 37 38.2**	**+0.2**
SPN				*e*S		**Sn**	**14 38 09.0**	**-1.5**
NLC	**Nalytchevo**	**2.97**	**221**	P		**Pn**	**14 37 40.7**	**+0.3**
NLC				S		**Sn**	**14 38 13.5**	**-1.2**
NLC	**Nalytchevo**	**2.97**	**221**	*e*P		**Pn**	**14 37 40.9**	**+0.6**
NLC				*e*S		**Sn**	**14 38 14.7**	**0.0**
SDLR	**Sedlovina**	**3.07**	**226**	*i* P		**Pn**	**14 37 42.3**	**+0.6**
SDLR				*i* S		**Sn**	**14 38 16.5**	**-0.7**
SMAR	**Somma**	**3.12**	**226**	*i* P		**Pn**	**14 37 43.0**	**+0.7**
SMAR				*e*S		**Sn**	**14 38 17.3**	**-1.0**
AVH	**Avacha**	**3.14**	**227**	*e*P		**Pn**	**14 37 43.8**	**+1.1**
UGLR	**Uglovaya**	**3.15**	**226**	*i* P		**Pn**	**14 37 43.7**	**+1.0**
KOK	**Koryaka**	**3.16**	**228**	*i* P		**Pn**	**14 37 44.6**	**+1.6**
GNL	**Ganaly**	**3.22**	**238**	*i* P		**Pn**	**14 37 44.8**	**+1.0**
PET	**Petropavlovsk**	**3.35**	**225**	P		**Pn**	**14 37 47.3**	**+1.7**
PET				S		**Sn**	**14 38 24.9**	**+0.8**
PET	**Petropavlovsk**	**3.35**	**225**	*i*PN		**Pn**	**14 37 47.0**	**+1.4**
PET				*i* S		**Sn**	**14 38 26.7**	**+2.6**
PET				pmax	pmax			
	comp=E,900nm,1.0s							
PET				pmax	pmax			
	comp=Z,1µm,0.5s							
PET				pmax	pmax			
	comp=N,606nm,0.5s							
PET				smax				
	comp=N,1µm,4.9s							
PET				smax				
	comp=N,3µm,0.5s							
PET				smax				
	comp=E,2µm,0.7s							
PET				smax				
	comp=E,3µm,1.3s							
PET				MLR	MLR			
	comp=E,600nm,19.0s							
PET				MLR	MLR			
	comp=N,1µm,20.0s							
PET				MLR	MLR			
	comp=Z,1µm,18.0s							
PET	**Petropavlovsk**	**3.35**	**225**	*e*Pn		**Pn**	**14 37 47.1**	**+1.5**
PET				*e*Sn		**Sn**	**14 38 26.9**	**+2.8**
PET	**Petropavlovsk**	**3.35**	**225**	*i* P		**Pn**	**14 37 47.3**	**+1.7**
PET				*e*S		**Sn**	**14 38 24.7**	**+0.6**
KRMR	**Karymshinskiy**	**3.71**	**226**	*i* P		**Pn**	**14 37 52.6**	**+2.1**
RUS	**Russkaya**	**3.87**	**220**	P		**Pn**	**14 37 53.8**	**+1.2**
RUS				S		**Sn**	**14 38 37.0**	**+0.2**
RUS	**Russkaya**	**3.87**	**220**	*e*P		**Pn**	**14 37 53.5**	**+0.9**
GRL	**Gorelyy**	**3.94**	**224**	*i* P		**Pn**	**14 37 56.0**	**+2.3**
APC	**Apacha**	**4.07**	**233**	*i* P		**Pn**	**14 37 57.4**	**+2.0**
APC				Smax				
	comp=Z,370nm,0.8s							
MIPR	**Malaya Ipel'ka**	**4.69**	**229**	*e*P		**Pn**	**14 38 05.5**	**+1.5**
PAU	**Pauzhetka**	**5.27**	**223**	*e*P		**Pn**	**14 38 13.0**	**+1.0**
PAU				Smax				
	comp=Z,720nm,1.3s							
SKR	**Severo-Kuril's**	**6.16**	**222**	*e*PN		**Pn**	**14 38 22.0**	**-2.2**
SKR				*e*S		**Sn**	**14 39 44.0**	**+11**
SKR				pmax	pmax			
	comp=Z,160nm,0.6s							
SKR				pmax	pmax			
	comp=E,50nm,0.4s							
SKR				smax				
	comp=N,560nm,1.0s							
SKR				smax				
	comp=E,400nm,1.0s							
FX1	**Attu Island--F**	**6.74**	**108**	Pn		**Pn**	**14 38 33.6**	**+1.4**
	comp=E,20nm,0.3s,baz=351,slow=2.3,SNR=104							
FX1				Sn		**Sn**	**14 39 45.2**	**-2.5**
	comp=E,26nm,0.3s,baz=173,slow=18,SNR=16							
FX1	**Attu Island--F**	**6.74**	**108**	*e*Pn		**Pn**	**14 38 33.5**	**+1.3**
FX1				*e*Sn		**Sn**	**14 39 46.1**	**-1.6**
KAMR	**Kamenskoye**	**7.26**	**14**	*e*P		**Pn**	**14 38 43.5**	**+4.2**
KAMR				Smax				
	comp=E,90nm,1.2s							
MA2	**Magadan**	**7.56**	**308**	*e*PN		**Pn**	**14 38 47.6**	**+4.1**
MA2				pmax	pmax			
	comp=Z,20nm,0.8s							
MA2	**Magadan**	**7.56**	**308**	Pn		**Pn**	**14 38 43.1**	**-0.3**
BILL	**Bilibino**	**12.74**	**6***c*	*i*PN		**Pn**	**14 40 00.0**	**+5.7**
BILL				pmax	pmax			
	comp=Z,58nm,1.5s							
BILL				MLR	MLR			
	comp=Z,300nm,17.0s							
BILL	**Bilibino**	**12.74**	**6**	*e*P		**Pn**	**14 39 58.2**	**+3.9**
	comp=Z,121nm,0.6s							
YSS	**Yuzh-Sakhalins**	**15.01**	**244**	*e*P		**Pn**	**14 40 30.0**	**+4.8**
YSS	**Yuzh-Sakhalins**	**15.01**	**244**	*e*P		**Pn**	**14 40 28.8**	**+3.6**
	comp=Z,12nm,0.6s							
ASAJ	**Asahikawa**	**17.11**	**237**	Pn		**Pn**	**14 40 51.1**	**-0.9**
	comp=E,2.8nm,0.3s,baz=51,slow=9.7,SNR=28							
ASAJ				LR		LR	14 47 43.9	
	comp=Z,271nm,18.6s,baz=345,slow=38							
ASAJ	**Asahikawa**	**17.11**	**237**	P		**Pn**	**14 40 51.2**	**-0.8**
ASAJ				pmax	pmax			
	comp=Z,3.0nm,0.3s							
ASAJ				MLR	MLR			
	comp=Z,271nm,18.6s							
YAK	**Yakutsk**	**18.12**	**305**	*e*P		**Pn**	**14 41 04.4**	**-0.2**
YAK				*e*S		**S**	**14 44 27.2**	**-3.2**
YAK				pmax	pmax			
	comp=E,8.0nm,0.8s							
YAK				pmax	pmax			
	comp=N,3.0nm,1.4s							
YAK				pmax	pmax			
	comp=E,8.0nm,1.3s							
YAK				smax				
	comp=E,8.0nm,1.2s							
YAK				smax				
	comp=Z,3.0nm,0.9s							
YAK				smax				
	comp=N,7.0nm,1.1s							
YAK				MLR	MLR			
	comp=Z,70nm,23.0s							
YAK				MLR	MLR			
	comp=N,39nm,14.0s							
YAK				MLR	MLR			
	comp=E,37nm,16.0s							
YAK	**Yakutsk**	**18.12**	**305**	*e*P		**Pn**	**14 41 02.4**	**-2.1**
	comp=E,30nm,0.6s							
HABR	**Khabarovsk**	**18.25**	**259**	*e*P		**Pn**	**14 41 07.1**	**+1.0**
HABR				*e*S		**S**	**14 44 28.9**	**-4.1**
KLR	**Kul'dur**	**19.71**	**264**	*e*P		**Pn**	**14 41 21.6**	**-2.2**
TIXI	**Tiksi**	**21.60**	**331**	*e*P		**P**	**14 41 38.4**	**-4.1**
TIXI				*e*S		**S**	**14 45 37.8**	**-2.0**
TIXI				pmax	pmax			
	comp=Z,54nm,0.8s,mb5.0							
TIXI				smax				
	comp=N,39nm,14.0s							
TIXI				smax				
	comp=E,15nm,12.7s							
TIXI				MLR	MLR			
	comp=Z,117nm,11.0s,MS3.5							
TTA	**Tatalina**	**22.14**	**53**	*e*P		**P**	**14 41 52.0**	**+3.7**
TTA				pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.3							
TTA	**Tatalina**	**22.14**	**53**	*e*P		**P**	**14 41 52.0**	**+3.7**
	comp=Z,9.6nm,0.8s,mb4.3							
SVW2	**Sparrevohn**	**22.40**	**58**	*e*P		**P**	**14 41 52.8**	**+1.7**
KDAK	**Kodiak Island**	**24.45**	**66**	P		**P**	**14 42 11.3**	**+0.2**
	comp=Z,6.4nm,0.7s,mb4.2,baz=329,slow=7.0,SNR=7.1							
KDAK	**Kodiak Island**	**24.45**	**66**	P		**P**	**14 42 11.3**	**+0.2**
MAJO	**Matsushiro**	**25.16**	**231**	*e*P		**P**	**14 42 17.4**	**-0.2**
MAJO				pmax	pmax			
	comp=Z,28nm,0.6s,mb5.0							
MAJO	**Matsushiro**	**25.16**	**231**	*e*P		**P**	**14 42 17.4**	**-0.2**
	comp=Z,28nm,0.6s,mb5.0							
MAT	**Matsushiro**	**25.16**	**231**	P		**P**	**14 42 17.0**	**-0.6**
MAT	**Matsushiro**	**25.16**	**231**	*e*P		**P**	**14 42 17.0**	**-0.6**
MAT				pmax	pmax			
	comp=Z,24nm,0.8s,mb4.8							
MAT	**Matsushiro**	**25.16**	**231**	*e*P		**P**	**14 42 17.0**	**-0.6**
	comp=Z,24nm,0.8s,mb4.8							
MJAR	**Matsushiro Arr**	**25.16**	**231**	P		**P**	**14 42 17.0**	**-0.6**
	comp=Z,15nm,0.6s,mb4.7,baz=33,slow=8.0,SNR=56							
MJAR				LR		LR	14 53 13.9	
	comp=Z,110nm,19.0s,MS3.4,baz=65,slow=39							
MJAR	**Matsushiro Arr**	**25.16**	**231**	P		**P**	**14 42 17.0**	**-0.6**
MJAR				pmax	pmax			
	comp=Z,15nm,0.6s							
MJAR				MLR	MLR			
	comp=Z,110nm,19.0s							
COLA	**College**	**25.72**	**49***d*	*i*P		**P**	**14 42 23.0**	**+0.3**
ILAR	**Eielson Array**	**25.14**	**49**	P		**P**	**14 42 27.2**	**+0.7**
	comp=Z,3.6nm,1.0s,mb3.9,baz=271,slow=8.7,SNR=28							
ILAR	**Eielson Array**	**26.14**	**49**	P		**P**	**14 42 27.2**	**+0.7**
ILAR				pmax	pmax			
	comp=Z,4.0nm,1.0s							
BOD	**Bodaibo**	**26.35**	**295**	*e*P		**P**	**14 42 25.6**	**-2.8**
BOD				pmax	pmax			
	comp=Z,12nm,0.8s,mb4.5							
INK	**Inuvik**	**31.11**	**40**	P		**P**	**14 43 11.2**	**+0.4**
	comp=Z,0.7nm,0.3s,mb3.9,baz=309,slow=8.9,SNR=7.1							
INK				PcP		PcP	14 46 05.4	-0.1
	comp=Z,0.8nm,0.6s,baz=317,slow=3.3,SNR=4.3							
INK	**Inuvik**	**31.11**	**40**	*e*P		**P**	**14 43 10.8**	**0.0**
INK							14 46 05.4	
INK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
INK	**Inuvik**	**31.11**	**40**	*e*P		**P**	**14 43 10.8**	**0.0**
	comp=Z,3.0nm,0.8s,mb4.2							
INK				PcP		PcP	14 46 05.4	-0.1
ULN	**Ulaanbaatar**	**34.42**	**281**	*e*P		**P**	**14 43 40.4**	**+0.7**
ULN				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.9							
ULN	**Ulaanbaatar**	**34.42**	**281**	*e*P		**P**	**14 43 40.4**	**+0.6**
	comp=Z,1.3nm,0.6s,mb4.0							
SONM	**Songino Array**	**34.81**	**281**	P		**P**	**14 43 43.5**	**+0.4**
	comp=Z,1.9nm,0.8s,mb4.1,baz=58,slow=8.8,SNR=13							
SONM				PcP		PcP	14 46 15.1	-0.7
	comp=Z,2.2nm,0.7s,baz=55,slow=1.5,SNR=12							
SONM				ScP		ScP	14 49 58.9	+0.4
	comp=Z,1.3nm,1.0s,baz=86,slow=2.0,SNR=6.2							
SONM	**Songino Array**	**34.81**	**281**	P		**P**	**14 43 43.5**	**+0.4**
SONM							14 46 15.1	
SONM				pmax	pmax			
	comp=Z,2.0nm,0.8s							
SONM				pmax	pmax			
	comp=Z,2.0nm,0.7s							
SONM				pmax	pmax			
	comp=N,1.0nm,1.0s							
YKA	**Yellowknife Ar**	**40.45**	**45**	P		**P**	**14 44 31.9**	**+1.2**
	comp=N,1.4nm,0.5s,mb3.9,baz=299,slow=7.9,SNR=14							
YKA				LR		LR	15 03 38.5	
	comp=N,67nm,19.5s,MS3.5,baz=355,slow=40							
YKA	**Yellowknife Ar**	**40.45**	**45**	P		**P**	**14 44 31.9**	**+1.2**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
YKA				MLR	MLR			
	comp=Z,67nm,19.5s							
YKA	**Yellowknife Ar**	**40.45**	**45**	P		**P**	**14 44 31.9**	**+1.2**
YKA				LR	LR		15 03 38.5	
ZAL	**Zalesovo**	**42.75**	**302**	P		**P**	**14 44 49.2**	**-0.4**
	comp=Z,1.0nm,0.4s,mb3.9,baz=63,slow=10,SNR=4.1							
ZAL				LR		LR	15 04 24.3	
	comp=Z,92nm,19.7s,MS3.7,baz=316,slow=39							
ZAL	**Zalesovo**	**42.75**	**302**	P		**P**

comp=Z,2.9nm,0.6s,mb4.4
ARCES ARCESS Array B 51.48 342 P **P** **14 45 56.4 -1.2**
comp=Z,6.1nm,0.8s,mb4.6,baz=32,slow=8.9,SNR=13
ARCES ARCESS Array B 51.48 342 P **P** **14 45 56.4 -1.2**
ARCES pmax pmax
comp=Z,6.0nm,0.8s
ARU Arti 52.63 317 ⇓*i*P **P** **14 46 03.4 -2.8**
ARU *e* 14 47 10.0
ARU *e* 14 48 02.4
ARU *e*S **S** **14 53 25.4 -5.7**
ARU *e*SS SS 14 57 01.3 -8.4
ARU pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
NVAR Mina Array Bea 53.62 73 P **P** **14 46 16.4 +2.9**
comp=Z,1.0nm,0.5s,mb4.0,baz=51,slow=26,SNR=11
BW06 Boulder Array 55.14 64 *e*P **P** **14 46 26.6 +2.0**
comp=Z,7.0nm,1.4s,mb4.5
PDAR Pinedale Array 55.14 64 P **P** **14 46 26.6 +2.1**
comp=Z,1.2nm,0.6s,mb4.1,baz=343,slow=4.6,SNR=12
AAK Ala-Archa 55.33 296 *e*P **P** **14 46 23.7 -2.2**
AAK pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
AAK Ala-Archa 55.33 296 *e*P **P** **14 46 23.7 -2.2**
comp=Z,3.4nm,0.6s,mb4.5
TPNV Topopah Spring 55.82 73 *e*P **P** **14 46 31.5 +2.1**
TPNV pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
TPNV Topopah Spring 55.82 73 *e*P **P** **14 46 31.5 +2.1**
comp=Z,5.4nm,1.2s,mb4.5
JOF Joensuu 56.02 335 *e*p **P** **14 46 28.4 -2.4**
comp=Z,9.1nm,0.4s,mb5.2
JOF Joensuu 56.02 335 *e*P **P** **14 46 28.4 -2.4**
JOF pmax pmax
comp=Z,9.0nm,0.4s,mb5.2
KK31 Karatay Array 56.99 299 *i*P **P** **14 46 35.3 -2.5**
KK31 pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
KKAR Karatay Array 56.99 299 *e*P **P** **14 46 35.3 -2.5**
KKAR pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
AB31 Akbulak array 57.35 311 *e*P **P** **14 46 38.2 -2.1**
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
KAF Kangasniemi 57.86 337 *e*p **P** **14 46 42.0 -1.9**
comp=Z,14nm,0.6s,mb5.2,baz=27,slow=6.5
KAF Kangasniemi 57.86 337 *e*P **P** **14 46 42.0 -1.9**
KAF pmax pmax
comp=Z,15nm,0.6s,mb5.2
FINES FINESS Array B 58.50 337 P **P** **14 46 47.1 -1.2**
comp=Z,19nm,0.5s,mb5.4,baz=38,slow=8.5,SNR=133
FINES LR LR 15 13 54.8
comp=Z,64nm,20.5s,MS3.7,baz=14,slow=38
FINES FINESS Array B 58.50 337 P **P** **14 46 47.2 -1.2**
FINES pmax pmax
comp=Z,19nm,0.5s
FINES MLR MLR
comp=Z,64nm,20.5s
GUN Gumba 60.08 276 *e*P **P** **14 46 59.8 +0.5**
comp=Z,18nm,0.4s,mb5.4
JIRN Jiri 60.09 276 *e*P **P** **14 46 59.3 -0.1**
KKN Kakani 60.51 277 *e*P **P** **14 47 02.6 +0.4**
comp=Z,20nm,0.6s,mb5.5
KKN Kakani 60.51 277 *e*P **P** **14 47 02.6 +0.4**
KKN pmax pmax
comp=Z,21nm,0.6s,mb5.4
PKI Pulchoki 60.60 277 *e*P **P** **14 47 02.4 -0.5**
GKN Gorkha 60.71 278 *e*P **P** **14 47 04.4 +0.8**
DMN Daman 60.74 277 *e*P **P** **14 47 04.1 +0.3**
comp=Z,4.2nm,0.3s,mb5.1
KOLN Koldanda 61.47 278 *e*P **P** **14 47 09.1 +0.4**
comp=Z,11nm,0.6s,mb5.1
NB2 NORSAR Array B 61.65 345 P **P** **14 47 08.4 -1.6**
comp=Z,4.0nm,0.5s,mb4.8,baz=18,slow=6.9
NOA NORSAR Array B 61.65 345 P **P** **14 47 08.7 -1.2**
comp=Z,4.6nm,0.6s,mb4.8,baz=18,slow=6.9,SNR=24
NOA NORSAR Array B 61.65 345 P **P** **14 47 08.7 -1.3**
NOA pmax pmax
comp=Z,5.0nm,0.6s
ANMO Albuquerque 62.56 68⇑ *e*P **P** **14 47 17.4 +1.3**
SCHQ Schefferville 62.87 30 P **P** **14 47 17.4 -0.7**
comp=Z,2.6nm,0.5s,mb4.6,baz=327,slow=7.8,SNR=5.5
HNR Honiara 64.69 183 LR LR 15 10 51.2
comp=Z,93nm,19.8s,MS4.0,baz=357,slow=31
CPRX Cap Rock 65.41 67 *e*P **P** **14 47 37.1 +2.3**
WMOK Wichita Mounta 66.69 62 *e*P **P** **14 47 44.2 +1.2**
WMOK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
WMOK Wichita Mounta 66.69 62 *e*P **P** **14 47 44.1 +1.1**
comp=Z,5.4nm,0.8s,mb4.6
AKASG Malin Array Be 67.30 330 P **P** **14 47 45.1 -1.8**
comp=Z,6.3nm,0.4s,mb5.0,baz=27,slow=7.0,SNR=15
AKASG Malin Array Be 67.30 330 P **P** **14 47 45.1 -1.8**
AKASG pmax pmax
comp=Z,6.0nm,0.4s
LVV L'vov 69.52 333 *i*P **P** **14 47 57.0 -3.8**
OJC Ojcow 70.20 336 *e*P **P** **14 48 04.5 -0.5**
STHS Stebnicka Huta 70.60 334 *i*P **P** **14 48 07.9 +0.5**
CLL Collm 70.63 340 *e*P **P** **14 48 06.0 -1.6**
comp=Z,6.0nm,1.0s,mb4.5
CLL Collm 70.63 340 *e*P **P** **14 48 06.0 -1.6**
CLL pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
UPC Upice 70.78 338 *e*P **P** **14 48 08.3 -0.2**
KOLS Kolonicke sedl 70.79 333 *e*P **P** **14 48 09.1 +0.6**
NIE Niedzica 70.83 335 *e*P **P** **14 48 09.7 +0.9**
BRG Berggiesshubel 70.86 340 *e*(P) **P** **14 48 09.0 0.0**
DPC Dobruska-Polom 70.86 338 *e*P **P** **14 48 08.6 -0.4**
MORC Moravsky Berou 71.13 337 ⇓P **P** **14 48 10.5 -0.1**
MORC Moravsky Berou 71.13 337 *e*P **P** **14 48 09.7 -0.9**
comp=Z,6.6nm,0.8s,mb4.6
BURAR Bucovina Array 71.22 331 ⇓*i*P **P** **14 48 10.5 -0.7**
BURAR Bucovina Array 71.22 331 ⇓P **P** **14 48 10.5 -0.7**
PRU Pruhonice 71.58 339 *e*P **P** **14 48 12.9 -0.4**
KECS Kecovo 71.65 334 *e*P **P** **14 48 13.5 -0.3**
NKC Novy Kostel 71.76 340 *e*P **P** **14 48 14.3 -0.1**
VRAC Vranov 71.79 337 ⇓P **P** **14 48 14.7 +0.1**
VYHS Vyhne 72.04 336 *e*P **P** **14 48 16.7 +0.6**
KHC Kasperske Hory 72.59 339 *e*P **P** **14 48 17.2 -2.2**
KHC Kasperske Hory 72.59 339⇑ *e*P **P** **14 48 17.4 -2.0**
CFR Carcaliu 72.59 328 ⇓*i*P **P** **14 48 20.8 +1.4**
CFR Carcaliu 72.59 328 ⇓P **P** **14 48 20.8 +1.4**
GERES GERESS Array B 72.84 339 P **P** **14 48 20.4 -0.5**
comp=Z,1.6nm,0.5s,mb4.2,baz=42,slow=4.3,SNR=12
GERES LR LR 15 23 30.4
comp=Z,55nm,20.5s,MS3.8,baz=54,slow=38
GERES GERESS Array B 72.84 339 P **P** **14 48 20.4 -0.4**
GERES pmax pmax
comp=Z,2.0nm,0.5s
GERES MLR MLR
comp=Z,55nm,20.5s
GERES GERESS Array B 72.84 339 P **P** **14 48 20.4 -0.5**
GERES LR LR 15 23 30.4
MLR Muntele Rosu 72.96 330 ⇓*i*P **P** **14 48 21.8 +0.3**
MLR Muntele Rosu 72.96 330 ⇓P **P** **14 48 21.8 +0.2**
TIRR Tirgusor 73.16 328 ⇓*i*P **P** **14 48 22.3 -0.5**
TIRR Tirgusor 73.16 328 ⇓P **P** **14 48 22.3 -0.5**
VOIR 73.26 330 ⇓*i*P **P** **14 48 23.8 +0.5**
VOIR 73.26 330 ⇓P **P** **14 48 23.8 +0.5**
BAIF Baives 73.30 346 *e*P **P** **14 48 22.2 -1.4**
LRAL Lakeview Retre 73.81 55 *e*P **P** **14 48 26.5 -0.1**
comp=Z,5.0nm,0.8s,mb4.5
BZS Buzias 74.03 333 ⇓*i*P **P** **14 48 27.0 -0.9**
BZS Buzias 74.03 333 ⇓P **P** **14 48 27.1 -0.8**
LDF La Druitiere 75.30 348 *e*P **P** **14 48 34.4 -0.8**
GRR Gorron 75.59 349 *e*P **P** **14 48 35.8 -1.1**
comp=Z,25nm,0.8s,mb4.9
GRR Gorron 75.59 349 *e*P **P** **14 48 35.8 -1.1**
GRR pmax pmax
comp=Z,13nm,0.8s,mb4.9
GRR Gorron 75.59 349 *e*P **P** **14 48 35.8 -1.1**
comp=Z,12nm,0.8s,mb4.9
BRTR Keskin Array B 75.68 322 P **P** **14 48 36.2 -1.2**
comp=Z,1.6nm,0.8s,mb4.0,baz=59,slow=3.9,SNR=7.6
BRTR Keskin Array B 75.68 322 P **P** **14 48 36.3 -1.1**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
ROSF Rostrenen 75.89 350 *e*P **P** **14 48 37.3 -1.3**
comp=Z,98nm,1.3s,mb5.3
ROSF Rostrenen 75.89 350 *e*P **P** **14 48 37.3 -1.3**
ROSF pmax pmax
comp=Z,49nm,1.3s,mb5.3
ROSF Rostrenen 75.89 350 *e*P **P** **14 48 37.3 -1.3**
comp=Z,49nm,1.3s,mb5.3
SGMF Saint Gilles 75.90 350 *e*P **P** **14 48 37.6 -1.1**
LOR Lormes 76.08 345 *e*P **P** **14 48 38.6 -1.1**
comp=Z,2.7nm,0.5s,mb4.1
LOR Lormes 76.08 345 *e*P **P** **14 48 38.6 -1.1**
LOR pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
LOR Lormes 76.08 345 *e*P **P** **14 48 38.6 -1.1**
comp=Z,1.4nm,0.5s,mb4.2
SSF Saint Saulge 76.33 345 *e*P **P** **14 48 40.3 -0.8**
TCF Toulx Ste Croi 77.27 346 *e*P **P** **14 48 45.2 -1.2**
LPL La Plagne 77.34 343 *e*P **P** **14 48 46.1 -0.7**
LPG La Plagne 77.35 343 *e*P **P** **14 48 46.3 -0.6**
comp=Z,9.6nm,0.8s,mb4.5
LPG La Plagne 77.35 343 *e*P **P** **14 48 46.3 -0.6**
LPG pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LPG La Plagne 77.35 343 *e*P **P** **14 48 46.3 -0.6**
comp=Z,4.8nm,0.8s,mb4.5
ORIF Oris-en-Rattie 78.06 343 *e*P **P** **14 48 50.0 -0.8**
comp=Z,12nm,0.9s,mb4.5
ORIF Oris-en-Rattie 78.06 343 *e*P **P** **14 48 50.0 -0.8**
ORIF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
ORIF Oris-en-Rattie 78.06 343 *e*P **P** **14 48 50.0 -0.8**
comp=Z,6.1nm,0.9s,mb4.5
MBDF Montbardon 78.10 343 *e*P **P** **14 48 50.2 -0.8**
comp=Z,5.1nm,0.5s,mb4.4
MBDF Montbardon 78.10 343 *e*P **P** **14 48 50.2 -0.8**
MBDF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
MBDF Montbardon 78.10 343 *e*P **P** **14 48 50.2 -0.8**
comp=Z,2.5nm,0.5s,mb4.4
MIB Mutribah 78.72 307 *e*P **P** **14 48 52.1 -2.3**
SBF Sospel 78.82 342 *e*P **P** **14 48 54.3 -0.7**
comp=Z,30nm,0.8s,mb5.0
SBF Sospel 78.82 342 *e*P **P** **14 48 54.3 -0.7**
SBF pmax pmax
comp=Z,15nm,0.8s,mb5.0
SBF Sospel 78.82 342 *e*P **P** **14 48 54.3 -0.7**
comp=Z,15nm,0.8s,mb5.0
WB2 Warramunga Arr 78.85 207 *e*P **P** **14 48 56.6 +1.5**
WRA Warramunga Arr 78.85 207 P **P** **14 48 56.5 +1.3**
comp=Z,2.4nm,0.9s,mb4.1,baz=21,slow=6.0,SNR=15
WRA Warramunga Arr 78.85 207 P **P** **14 48 56.5 +1.3**
WRA pmax pmax
comp=Z,2.0nm,0.9s
NAY Al-Naaiem 79.24 306 *e*P **P** **14 48 55.0 -2.3**
QRN Al-Qurain 79.35 306 *e*P **P** **14 48 56.3 -1.6**
ASAR Alice Springs 82.52 206 P **P** **14 49 15.4 +0.6**
comp=Z,2.0nm,0.9s,mb4.2,baz=17,slow=4.8,SNR=15
ASAR Alice Springs 82.52 206 P **P** **14 49 15.4 +0.6**
ASAR pmax pmax
comp=Z,2.0nm,0.9s
QSPA South Pole Qui 145.22 180 *e*P PKPbc 14 56 27.1 -2.2

IDC 24 14:51:54.3±5.2, 358S×2871E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.6/20, mbtmp3.8/4, Error ellipse: s-maj=132.5km s-min=27.1km az=180.0, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**8.88**	**74**	Pn	Pn	14 54 04.8	+1.0
	1.0nm,0.3s,baz=239,slow=19,SNR=13						
KMBO				Sn	Sn	14 55 47.3	+2.7
	0.9nm,0.3s,baz=230,slow=23,SNR=3.6						
KMBO				Lg		14 56 26.8	
	3.8nm,0.3s,baz=181,slow=20,SNR=8.0						
TORD	**Torodi Ar. Bea**	**31.55**	**302**	P	P	14 58 18.9	+0.6
	0.7nm,0.4s,baz=110,slow=7.1,SNR=16						
BRTR	**Keskin Array B**	**43.33**	**6**	P	P	14 59 58.3	+0.3
	0.9nm,0.5s,baz=186,slow=7.8,SNR=3.0						
MKAR	**Makanchi Array**	**68.77**	**36**	P	P	15 02 60.0	-0.1
	0.7nm,0.6s,baz=245,slow=5.2,SNR=10						

IDC 24 15:16:41.9±3.2, 3388S×17900W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.8/13, mbtmp3.8/3, ML3.8/1, Error ellipse: s-maj=72.1km s-min=36.6km az=115.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**5.39**	**215**	Pn	Pn	15 18 04.1	+0.5
	3.4nm,0.3s,baz=297,slow=4.0,SNR=17						
URZ				Sn	Sn	15 19 05.7	-0.6
	2.8nm,0.3s,baz=139,slow=21,SNR=8.0						
ASAR	**Alice Springs**	**42.20**	**271**	P	P	15 24 36.9	+0.4
	0.7nm,0.7s,baz=110,slow=7.6,SNR=15						
WRA	**Warramunga Arr**	**43.51**	**276**	P	P	15 24 47.0	0.0
	1.1nm,0.8s,baz=118,slow=7.6,SNR=13						
FINES	**FINESS Array B**	**148.06**	**337**	PKPbc	PKPbc	15 36 27.9	-1.6
	2.6nm,0.8s,baz=83,slow=3.5,SNR=3.8						

WEL 24 15:21:09.7±0.4, 4507S×16747E, h112km±3km, ML3.5/8, 2D, Error ellipse: s-maj=2.5km s-min=1.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.47**	**209**	PN	Pn	15 21 25.8	-0.6
DCZ				SN	Sn	15 21 38.3	-0.7
MSZ	**Milford Sound**	**0.51**	**39**	PN	Pn	15 21 26.9	+0.1
MSZ				SN	Sn	15 21 39.3	-0.3
MLZ	**Mavora Lakes**	**0.57**	**119**	PN	Pn	15 21 26.9	-0.1
MLZ				SN	Sn	15 21 39.9	-0.3
WHZ	**Wether Hill Ro**	**0.89**	**158**	PN	Pn	15 21 29.8	0.0
WHZ				SN	Sn	15 21 44.7	-0.3
WKZ	**Wanaka**	**1.12**	**78**	PN	Pn	15 21 32.4	+0.1
WKZ				SN	Sn	15 21 49.0	-0.3
EAZ	**Earnscleugh**	**1.31**	**98**	PN	Pn	15 21 34.2	-0.1
EAZ				SN	Sn	15 21 51.7	-1.3
JCZ	**Jackson Bay**	**1.35**	**43**	PN	Pn	15 21 34.4	-0.4
JCZ				SN	Sn	15 21 52.6	-1.4
TUZ	**Tuapeka**	**1.76**	**121**	PN	Pn	15 21 39.6	-0.1
TUZ				SN	Sn	15 22 00.3	-2.2
APZ	**The Paps**	**1.80**	**169**	PN	Pn	15 21 40.0	-0.1
APZ				SN	Sn	15 22 03.0	-0.4
SYZ	**Scrubby Hill**	**1.87**	**142**	PN	Pn	15 21 41.2	+0.2
SYZ				SN	Sn	15 22 03.6	-1.4
LBZ	**Lake Benmore**	**2.05**	**71**	⇓PN	Pn	15 21 41.8	-1.5
FOZ	**Fox Glacier**	**2.19**	**47**	PN	Pn	15 21 44.3	-0.8
ODZ	**Otahua Downs**	**2.25**	**90**	⇓PN	Pn	15 21 44.7	-1.1
ODZ				SN	Sn	15 22 10.5	-3.1
HHSZ	**Highcliff Hill**	**2.34**	**111**	PN	Pn	15 21 46.8	-0.3
RPZ	**Rata Peaks**	**2.90**	**63**	PN	Pn	15 21 52.0	-2.4
WVZ	**Waitaha Valley**	**3.08**	**51**	PN	Pn	15 21 53.9	-2.8
MQZ	**McQueen's Vall**	**3.95**	**72**	PN	Pn	15 22 06.2	-2.2
CRLZ	**Canterbury Las**	**3.98**	**70**	PN	Pn	15 22 06.3	-2.5
LTZ	**Lake Taylor**	**4.15**	**58**	PN	Pn	15 22 07.8	-3.2
DSZ	**Denniston Nort**	**4.58**	**45**	PN	Pn	15 22 13.9	-2.9
KHZ	**Kahutara**	**5.13**	**61**	PN	Pn	15 22 21.6	-2.6
THZ	**Tophouse**	**5.15**	**52**	PN	Pn	15 22 21.1	-3.4
QRZ	**Quartz Range**	**5.63**	**43**	PN	Pn	15 22 28.4	-2.6

*IDC **24** 15:33:19.7±0.8, 3093N×101.15E, h0km, mb4.1/11, mb1 4.3/12, mb1mx4.1/20, mbtmp4.1/12, ML4.0/1, MS3.6/2, Ms1 3.6/2, ms1mx3.2/21, Error ellipse: s-maj=35.0km s-min=16.7km az=61.0*
*BJI **24** 15:33:21.2, 3099N×10106E, h13km, mB4.7, mb4.7, ML4.3, Ms4.4, Msz4.0*
*NEIC **24** 15:33:21.1±0.4, 3088N×10099E, h10km, mb4.2/7, Error ellipse: s-maj=9.0km s-min=6.5km az=156.0*
*ISCJB **24** 15:33:22.5±0.8, 3089N±004×10089E±004, h34km±9km, mb4.2/22, MS3.5/2, Error ellipse: s-maj=7.6km s-min=5.5km az=113.4*
*MOS **24** 15:33:22.7±1.0, 3089N×10089E, h38km, mb4.3/19, Error ellipse: s-maj=12.6km s-min=8.5km az=103.7*

ISC 24 15:33:20.5±1.1, 3087N±004×10098E±003, h5km±8km, n71, s61§19/81, mb4.2/22, MS3.5/2, 1C, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.39**	**88**	P	**Pn**	**15 34 03.1**	**+2.9**
CD2				PG	**Pg**	**15 34 05.1**	**-1.2**
CD2				SG	**Sg**	**15 34 37.1**	**-0.1**
CD2				Smax			
	comp=N,2μm,0.9s						
CD2				Smax			
	comp=E,2μm,0.7s						
CD2				LR	LR		
	comp=N,7μm,4.9s						
CD2				LR	LR		
	comp=Z,1μm,6.9s						
LZH	**Lanzhou**	**5.73**	**24**	*e*P	**Pn**	**15 34 47.8**	**+1.6**
LZH				*e*S	**Sn**	**15 35 53.5**	**+1.3**
LZH				Smax			
	comp=N,220nm,0.9s						
LZH				Smax			
	comp=E,231nm,1.0s						
LZH				LR	LR		
	comp=E,1μm,5.2s						
LZH				LR	LR		
	comp=Z,1μm,8.4s						
KMI	**Kunming**	**5.93**	**164**	P	**Pn**	**15 34 52.8**	**+3.9**
GYA	**Guiyang**	**6.65**	**130**	P	**Pn**	**15 35 03.3**	**+4.5**
GYA				PG	**Pg**	**15 35 23.8**	**-4.1**
GYA				SG	**Sg**	**15 36 54.8**	**+0.8**
GYA				Smax			
	comp=N,240nm,1.0s						
GYA				Smax			
	comp=E,290nm,1.0s						
GYA				LR	LR		
	comp=N,3μm,7.8s						
GYA				LR	LR		
	comp=E,3μm,7.8s						
GYA				LR	LR		
	comp=Z,930nm,7.5s						
XAN	**Xi'an**	**7.42**	**63**	P	**Pn**	**15 35 09.6**	**+0.2**
XAN				PG	**Pg**	**15 35 33.9**	**-8.7**
XAN				SG	**Sg**	**15 37 11.6**	**-7.1**
XAN				Smax			
	comp=N,185nm,1.0s						
XAN				Smax			
	comp=E,332nm,1.0s						
LSA	**Lhasa**	**8.58**	**265**	*e*P	**Pn**	**15 35 25.4**	**+0.1**
LSA	**Lhasa**	**8.58**	**265**	*e*P	**Pn**	**15 35 28.4**	**+3.1**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.5s						
LSA	**Lhasa**	**8.58**	**265**	*e*Pn	**Pn**	**15 35 28.4**	**+3.1**
	comp=Z,7.4nm,0.5s						
SHL	**Shillong**	**9.60**	**239**	*e*P	**Pn**	**15 35 41.0**	**+1.7**
SHL				*e*S	**Sn**	**15 37 28.0**	**+0.4**
WHN	**Wuhan**	**11.51**	**88**	⇑P	**Pn**	**15 36 07.0**	**+1.5**
WHN				*e*S	**Sn**	**15 38 11.5**	**-2.9**
WHN				LR	LR		
	comp=Z,2μm,8.8s						
BTO	**Baotou**	**12.17**	**35**	*e*P	**Pn**	**15 36 14.8**	**+0.3**
JIRN	**Jiri**	**13.30**	**260**	*e*P	**Pn**	**15 36 31.5**	**+1.6**
	comp=Z,11nm,0.5s						
GZH	**Guangzhou**	**13.47**	**122**	P	**Pn**	**15 36 31.9**	**-0.3**
GZH				S	**Sn**	**15 38 59.3**	**-2.9**
GUN	**Gumba**	**13.49**	**261**	*e*P	**Pn**	**15 36 32.3**	**-0.2**
	comp=Z,19nm,0.4s						
PKI	**Pulchoki**	**13.99**	**260**	*e*P	**Pn**	**15 36 38.5**	**-0.8**
	comp=Z,18nm,0.5s						
PKI	**Pulchoki**	**13.99**	**260**	*e*P	**Pn**	**15 36 38.5**	**-0.8**
PKI				pmax	pmax		
	comp=Z,18nm,0.5s						
KKN	**Kakani**	**14.04**	**261**	*e*P	**Pn**	**15 36 39.2**	**-0.7**
DMN	**Daman**	**14.23**	**261**	*e*P	**Pn**	**15 36 41.9**	**-0.8**
	comp=Z,20nm,0.6s						
GKN	**Gorkha**	**14.53**	**263**	*e*P	**Pn**	**15 36 43.6**	**-3.0**
	comp=Z,23nm,0.4s						
KOLN	**Koldanda**	**15.47**	**263**	*e*P	**Pn**	**15 36 53.8**	**-5.5**
WMQ	**Urumqi**	**16.67**	**325**	*e*P	**Pn**	**15 37 17.3**	**+2.6**
SONM	**Songino Array**	**17.45**	**12**	P	**Pn**	**15 37 24.2**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=194,slow=12,SNR=52						
SONM	**Songino Array**	**17.45**	**12**	P	**Pn**	**15 37 24.2**	**-0.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ULN	**Ulaanbaatar**	**17.60**	**14**	*e*P	**Pn**	**15 37 26.0**	**-0.5**
ULN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ULN	**Ulaanbaatar**	**17.60**	**14**	*e*P	**Pn**	**15 37 26.0**	**-0.5**
	comp=Z,7.6nm,0.8s						
ZAK	**Zakamensk**	**19.57**	**4**	*e*P	**Pn**	**15 37 48.5**	**-1.9**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.6s						
ZAK				pmax	pmax		
	comp=Z,7.0nm,2.0s						
ZAK				pmax	pmax		
	comp=Z,11nm,2.1s						
MOY	**Mondy**	**20.78**	**0**	*e*P	**P**	**15 38 01.8**	**-0.5**
SNY	**Shenyang**	**21.17**	**53**	P	**P**	**15 38 10.1**	**+3.5**
SNY				AP		15 38 19.0	
SNY				PP		15 38 34.0	
SNY				S	**S**	**15 42 04.9**	**+2.5**
SNY				XS	sS	15 42 10.3	+5.5
SNY				SS		15 42 30.6	
SNY				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.1						
SNY				AMB	AMB		
	comp=Z,71nm,4.7s						
SNY				LR	LR		
	comp=E,326nm,14.7s						
SNY				LR	LR		
	comp=Z,230nm,9.6s						
MK31	**Makanchi Array**	**21.48**	**323**	P	**P**	**15 38 09.8**	**0.0**
MK31				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.0						
MKAR	**Makanchi Array**	**21.48**	**323**	P	**P**	**15 38 10.1**	**+0.2**
	comp=Z,1.9nm,0.5s,mb3.7,baz=133,slow=12,SNR=18						
MKAR	**Makanchi Array**	**21.48**	**323**	P	**P**	**15 38 10.1**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**21.48**	**323**	P	**P**	**15 38 10.1**	**+0.2**
KS15	**Wonju Array Si**	**23.16**	**66**	*e*P	**P**	**15 38 27.7**	**-0.1**
HIA	**Hailar**	**23.21**	**32**	*e*P	**P**	**15 38 28.4**	**+0.1**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HIA	**Hailar**	**23.21**	**32**	*e*P	**P**	**15 38 28.4**	**+0.1**
	comp=Z,3.9nm,0.6s,mb4.0						
CN2	**Changchun**	**23.25**	**49**	*e*P	**P**	**15 38 27.8**	**-0.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
JOW	**Kunigami**	**24.22**	**93**	LR	LR	15 47 58.3	
	comp=Z,116nm,19.1s,MS3.4,baz=79,slow=36						
ZAL	**Zalesovo**	**25.84**	**338**	P	**P**	**15 38 54.0**	**+1.2**
	comp=Z,3.3nm,0.6s,mb4.0,baz=326,slow=8.4,SNR=13						
ZAL				LR	LR	15 50 55.1	
	comp=Z,163nm,21.7s,MS3.5,baz=320,slow=41						
ZAL	**Zalesovo**	**25.84**	**338**	P	**P**	**15 38 54.0**	**+1.2**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZAL				MLR	MLR		
	comp=Z,163nm,21.7s						
KURK	**Kurchatov**	**25.89**	**326**	*e*P	**P**	**15 38 52.8**	**-0.4**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.2						
KURK	**Kurchatov**	**25.89**	**326**	*e*P	**P**	**15 38 52.8**	**-0.5**
	comp=Z,6.6nm,0.8s,mb4.2						
NVS	**Novosibirsk**	**27.11**	**337**	*e*P	**P**	**15 39 06.8**	**+2.6**
NVS				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.0						
NVS				pmax	pmax		
	comp=N,4.0nm,1.4s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.0s						
CHKZ	**Chkalovo**	**31.60**	**325**	*e*P	**P**	**15 39 43.5**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
CHKZ	**Chkalovo**	**31.60**	**325**	*e*P	**P**	**15 39 43.5**	**-0.6**
	comp=Z,1.2nm,0.5s,mb4.0						
ZRNK	**Zerenda**	**32.03**	**323**	*e*P	**P**	**15 39 46.8**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
ZRNK	**Zerenda**	**32.03**	**323**	*e*P	**P**	**15 39 46.8**	**-1.1**
	comp=Z,1.4nm,0.6s,mb4.0						
TIXI	**Tiksi**	**43.53**	**12**	*e*P	**P**	**15 41 19.2**	**-5.8**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.0						
FINES	**FINESS Array B**	**56.27**	**326**	P	**P**	**15 43 01.1**	**-0.7**
	comp=Z,1.7nm,0.8s,mb4.1,baz=100,slow=7.3,SNR=10.0						
FINES	**FINESS Array B**	**56.27**	**326**	P	**P**	**15 43 01.1**	**-0.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	**ARCESS Array B**	**56.38**	**336**	P	**P**	**15 43 01.7**	**-0.9**
	comp=Z,2.1nm,0.6s,mb4.4,baz=91,slow=9.4,SNR=3.9						
ARCES	**ARCESS Array B**	**56.38**	**336**	P	**P**	**15 43 01.7**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES	**ARCESS Array B**	**56.38**	**336**	P	**P**	**15 43 01.7**	**-1.0**
WRAB	**Tennant

WRA	**Warramunga Arr**	**59.83**	**143**	P		**P**		**15 43 26.6**	**-0.2**
	comp=Z,4.5nm,0.7s,mb4.6,baz=335,slow=7.6,SNR=20								
WRA	**Warramunga Arr**	**59.83**	**143**	P		**P**		**15 43 26.6**	**-0.2**
WRA				pmax		pmax			
	comp=Z,5.0nm,0.7s								
WB2	**Warramunga Arr**	**59.84**	**143**	*e*P		**P**		**15 43 26.6**	**-0.3**
ASAR	**Alice Springs**	**62.74**	**146**	P		**P**		**15 43 46.6**	**+0.1**
	comp=Z,0.7nm,0.8s,mb3.8,baz=293,slow=2.2,SNR=8.2								
ASAR	**Alice Springs**	**62.74**	**146**	P		**P**		**15 43 46.6**	**+0.1**
ASAR				pmax		pmax			
	comp=Z,1.0nm,0.9s								
NOA	**NORSAR Array B**	**63.41**	**327**	P		**P**		**15 43 51.2**	**+0.3**
	comp=Z,1.6nm,0.8s,mb4.2,baz=74,slow=6.6,SNR=3.8								
NOA	**NORSAR Array B**	**63.41**	**327**	P		**P**		**15 43 51.3**	**+0.3**
NOA				pmax		pmax			
	comp=Z,2.0nm,0.8s								
GERES	**GERESS Array B**	**65.78**	**314**	P		**P**		**15 44 05.6**	**-0.9**
	comp=Z,0.5nm,0.5s,mb3.8,baz=103,slow=5.8,SNR=4.6								
GERES	**GERESS Array B**	**65.78**	**314**	P		**P**		**15 44 05.6**	**-0.9**
GERES				pmax		pmax			
	comp=Z,1.0nm,0.5s								
ILAR	**Eielson Array**	**71.19**	**25**	P		**P**		**15 44 39.4**	**-0.9**
	comp=Z,3.2nm,1.1s,mb4.2,baz=290,slow=7.4,SNR=10								
ILAR	**Eielson Array**	**71.19**	**25**	P		**P**		**15 44 39.4**	**-0.9**
ILAR				pmax		pmax			
	comp=Z,3.0nm,1.1s								
INK	**Inuvik**	**73.25**	**18**	*e*P		**P**		**15 44 52.2**	**-0.4**
INK				pmax		pmax			
	comp=Z,4.0nm,0.8s								
INK	**Inuvik**	**73.25**	**18**	*e*P		**P**		**15 44 52.2**	**-0.4**
	comp=Z,3.9nm,0.8s,mb4.4								
DAWY	**Dawson**	**74.24**	**23**	*e*P		**P**		**15 44 57.5**	**-1.0**
YKA	**Yellowknife Ar**	**82.68**	**16**	P		**P**		**15 45 44.1**	**-0.9**
	comp=Z,1.8nm,0.9s,mb4.1,baz=326,slow=4.6,SNR=11								
YKA	**Yellowknife Ar**	**82.68**	**16**	P		**P**		**15 45 44.1**	**-0.9**
YKA				pmax		pmax			
	comp=Z,2.0nm,0.9s								
MATP	**Matopo**	**86.24**	**244**	P		**P**		**15 46 05.7**	**+2.6**
	comp=Z,2.2nm,0.5s,mb4.6,baz=44,slow=4.3,SNR=4.6								

*IDC **24** 15:34:37.2±2.0, 8 41S×108 21E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.8/17, mbtmp3.9/6, ML3.5/1, Error ellipse: s-maj=93.2km s-min=19.2km az=54.0*
*ISCJB **24** 15:34:40.8±1.0, 82S±02×108 4E±02, h33km, mb3.9/6, Error ellipse: s-maj=38.5km s-min=14.1km az=104.1*
*NEIC **24** 15:34:44.1±4.5, 850S×108.16E, h54km±47km, mb4.4/2, Error ellipse: s-maj=72.0km s-min=16.1km az=51.0*
ISC 24 15:34:42.9±1.0, 84S±02×1083E±02, h35km, n13, σ0§30/13, mb3.9/6, 2D, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MBWA	**Marble Bar**	**16.84**	**140**	P		**Pn**	**15 38 35.7**	**-0.2**
FITZ	**Fitzroy Crossi**	**19.44**	**122**	P		**Pn**	**15 39 07.5**	**-0.2**
	0.1nm,0.3s,baz=325,slow=12,SNR=4.7							
WRA	**Warramunga Arr**	**27.70**	**117**	P		**P**	**15 40 27.9**	**+0.2**
	0.9nm,0.4s,mb3.7,baz=290,slow=11,SNR=18							
WRAB	**Tennant Creek**	**27.71**	**117**	*e*P		**P**	**15 40 27.8**	**-0.1**
	7.3nm,0.8s,mb4.4							
ASPA	**Alice Springs**	**28.86**	**125**	*e*P		**P**	**15 40 38.4**	**+0.4**
ASAR	**Alice Springs**	**28.86**	**125**	P		**P**	**15 40 38.2**	**+0.1**
	1.6nm,0.5s,mb4.0,baz=307,slow=9.2,SNR=64							
AS31	**Alice Springs**	**28.86**	**125**	*e*P		**P**	**15 40 38.4**	**+0.3**
STKA	**Stephens Creek**	**38.78**	**132**	*e*P		**P**	**15 42 03.4**	**-0.6**
	5.1nm,0.7s,mb4.4							
STKA	**Stephens Creek**	**38.78**	**132**	P		**P**	**15 42 03.7**	**-0.4**
	5.3nm,0.5s,mb4.5,baz=309,slow=9.1,SNR=16							
STKA				PcP		PcP	15 44 13.7	-1.3
	0.8nm,0.4s,baz=332,slow=7.0,SNR=2.9							
SONM	**Songino Array**	**55.98**	**358**	P		**P**	**15 44 17.3**	**-0.5**
	0.3nm,0.5s,mb3.6,baz=186,slow=10,SNR=2.4							
MKAR	**Makanchi Array**	**59.60**	**340**	P		**P**	**15 44 43.6**	**+0.4**
	0.2nm,0.4s,mb3.5,baz=157,slow=7.8,SNR=2.6							
SNAA	**Sanae**	**88.61**	**197**	⇓*i*		**P**	**15 47 32.2**	**0.0**
SNAA				*e*			15 47 33.8	
VNA2	**Neumayer--Watz**	**90.26**	**197**	⇓*i*		**P**	**15 47 45.2**	**+5.2**
	baz=108,slow=4.7							
VNA2				*e*			15 47 46.9	

*NNC **24** 15:36:39.2±15.0, 3800N×74 76E, h0km, mb3.6, mpv3.5, Error ellipse: s-maj=131.1km s-min=88.9km az=146.0*
*ISCJB **24** 15:36:40.8±0.5, 3847N±004×7540E±007, h10km, mb3.8/8, Error ellipse: s-maj=8.2km s-min=5.2km az=135.1*
*IDC **24** 15:36:41.7±1.2, 3844N×7521E, h0km, mb4.0/8, mb1 4.1/10, mb1mx3.9/22, mbtmp4.0/10, ML3.4/2, Error ellipse: s-maj=29.4km s-min=23.7km az=4.0*
*NEIC **24** 15:36:42.6±6.3, 3850N×7553E, h6km±45km, Error ellipse: s-maj=21.2km s-min=9.7km az=69.0*
*MOS **24** 15:36:43.8±1.8, 3832N×7516E, h33km, mb4.4/5, Error ellipse: s-maj=22.6km s-min=9.0km az=104.8*
*BJI **24** 15:36:45.0, 3868N×7528E, h19km, ML3.7*
ISC 24 15:36:42.9±0.5, 3849N±004×7539E±007, h10km, n35, σ1§23/40, mb3.8/8, 1C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSH	**Kashi**	**1.12**	**24**	PG		**Pg**	**15 37 02.3**	**-2.2**
KSH				SG		**Sg**	**15 37 18.3**	**-0.8**
KSH				Smax				
	comp=N,916nm,0.5s							
KSH				Smax				
	comp=E,1μm,0.7s							
AAK	**Ala-Archa**	**4.20**	**351**	*e*Pn		**Pn**	**15 37 47.8**	**+0.8**
AAK				*e*Pg		**Pg**	**15 37 57.6**	**-5.7**
TKM2	**Tokmak 2**	**4.43**	**2**	⇓P		**Pn**	**15 37 52.8**	**+2.7**
	comp=E,1.1nm,0.5s,baz=128,slow=13							
TKM2				⇓S		**Sg**	**15 38 57.2**	**-8.0**
	comp=E,4.1nm,0.6s,baz=128,slow=13							
TKM2	**Tokmak 2**	**4.43**	**2**	PN		**Pn**	**15 37 52.8**	**+2.7**
TKM2				S		**Sg**	**15 38 57.2**	**-8.0**
TKM2				pmax		pmax		
	comp=Z,7.0nm,0.5s							
TKM2				smax				
	comp=Z,26nm,0.6s							
KK31	**Karatay Array**	**5.91**	**323**	⇓P		**Pn**	**15 38 11.1**	**+0.7**
	comp=Z,4.8nm,0.3s,baz=128,slow=13,SNR=98							
KK31				⇓S		**Sn**	**15 39 18.2**	**-0.1**
	comp=Z,4.1nm,0.4s,baz=143,slow=23							
KKAR	**Karatay Array**	**5.91**	**323**	PN		**Pn**	**15 38 11.1**	**+0.6**
KKAR				pmax		pmax		
	comp=Z,4.0nm,0.3s							
MKAR	**Makanchi Array**	**9.73**	**29**	Pn		**Pn**	**15 39 04.2**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=205,slow=15,SNR=2.6							
KOLN	**Koldanda**	**12.70**	**145**	*e*P		**Pn**	**15 39 45.1**	**+1.6**
	comp=Z,29nm,1.0s							
GKN	**Gorkha**	**13.00**	**141**	*e*P		**Pn**	**15 39 46.2**	**-1.3**
GUN	**Gumba**	**13.71**	**137**	*e*P		**Pn**	**15 39 56.7**	**-0.6**
PKI	**Pulchoki**	**13.74**	**139**	*e*P		**Pn**	**15 39 56.1**	**-1.6**
JIRN	**Jiri**	**14.08**	**137**	*e*P		**Pn**	**15 40 01.8**	**-0.5**
	comp=Z,8.7nm,0.4s							
BRVK	**Borovoye**	**15.00**	**348**	*e*P		**Pn**	**15 40 20.2**	**+5.4**
AB31	**Akbulak array**	**15.46**	**319**	⇑P		**Pn**	**15 40 18.5**	**-2.5**
	comp=Z,1.8nm,0.6s,baz=128,slow=13,SNR=27							
AB31	**Akbulak array**	**15.46**	**319**	*i* P		**Pn**	**15 40 18.4**	**-2.5**
AB31				pmax		pmax		
	comp=Z,4.0nm,0.9s							
AKTK	**Aktyubinsk**	**17.17**	**320**	P		**Pn**	**15 40 42.0**	**-0.8**
AKTO	**Aktyubinsk**	**17.17**	**320**	⇓P		**Pn**	**15 40 41.9**	**-0.9**
	comp=Z,0.2nm,0.9s,baz=128,slow=13							
AKTO	**Aktyubinsk**	**17.17**	**320**	P		**P**	**15 40 42.0**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=120,slow=19,SNR=12							
WSAR	**Wadi Sarin**	**20.88**	**228**	P		**P**	**15 41 28.8**	**+3.8**
	comp=Z,4.8nm,0.7s,baz=30,slow=4.7,SNR=5.8							
TLY	**Talaya**	**23.74**	**47**	*e*P		**P**	**15 42 04.0**	**+8.7**
SONM	**Songino Array**	**24.33**	**57**	P		**P**	**15 42 02.8**	**+2.1**
	comp=Z,1.2nm,0.9s,mb3.3,baz=277,slow=7.6,SNR=4.2							
SONM	**Songino Array**	**24.33**	**57**	P		**P**	**15 42 02.8**	**+2.1**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.9s							
FINES	**FINESS Array B**	**37.88**	**324**	P		**P**	**15 43 59.6**	**-0.3**
	comp=Z,1.3nm,0.4s,mb4.0,baz=114,slow=10,SNR=9.4							
FINES	**FINESS Array B**	**37.88**	**324**	P		**P**	**15 43 59.7**	**-0.2**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.4s							
ARCES	**ARCESS Array B**	**40.71**	**336**	P		**P**	**15 44 23.5**	**-0.1**
	comp=Z,4.5nm,0.9s,mb4.1,baz=104,slow=9.4,SNR=6.0							
ARCES	**ARCESS Array B**	**40.71**	**336**	P		**P**	**15 44 23.5**	**-0.1**
ARCES				pmax		pmax		
	comp=Z,5.0nm,0.9s							
NB2	**NORSAR Subarra**	**44.95**	**322**	P		**P**	**15 44 57.3**	**-0.7**
	comp=Z,1.3nm,0.5s,mb4.0,baz=91,slow=7.9							
NOA	**NORSAR Array B**	**44.95**	**322**	P		**P**	**15 44 57.5**	**-0.4**
	comp=Z,1.7nm,0.5s,mb4.2,baz=90,slow=7.9,SNR=8.3							
NOA	**NORSAR Array B**	**44.95**	**322**	P		**P**	**15 44 57.6**	**-0.4**
NOA				pmax		pmax		
	comp=Z,2.0nm,0.5s							
EKA	**Eskdalemuir Ar**	**53.30**	**316**	P		**P**	**15 46 03.0**	**+1.0**
	comp=Z,1.9nm,0.8s,mb4.1,baz=76,slow=7.0,SNR=4.7							
EKA	**Eskdalemuir Ar**	**53.30**	**316**	P		**P**	**15 46 03.0**	**+1.1**
EKA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**69.23**	**270**	P		**P**	**15 47 49.0**	**-0.9**
	comp=Z,0.5nm,0.4s,mb3.8,baz=48,slow=5.9,SNR=11							
YKA	**Yellowknife Ar**	**79.05**	**5**	P		**P**	**15 48 47.8**	**+0.7**
	comp=Z,1.2nm,0.8s,mb3.9,baz=347,slow=5.5,SNR=7.7							
YKA	**Yellowknife Ar**	**79.05**	**5**	P		**P**	**15 48 47.8**	**+0.6**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
ASAR	**Alice Springs**	**82.62**	**128**	P		**P**	**15 49 07.8**	**+1.5**
	comp=Z,0.2nm,0.6s,mb3.3,baz=317,slow=4.7,SNR=4.1							

*BJI **24** 15:44:47.6, 6100N×165 73E, h8km, mB5.1, mb5.1, Ms5.2, Msz4.9*
*IDC **24** 15:44:49.7±0.4, 6089N×165 63E, h0km, mb4.7/27, mb1 4.9/28, mb1mx4.8/31, mbtmp4.7/28, ML3.8/1, MS4.5/16, Ms1 4.5/16, ms1mx4.2/33, Error ellipse: s-maj=11.6km s-min=10.6km az=38.0*
*KRSC **24** 15:44:49.4±0.7, 6078N×165 92E, h8km±3km, ML5.2*
*MOS **24** 15:44:49.5±0.9, 6090N×165 52E, h11km, mb5.2/97, MS4.6/46, Error ellipse: s-maj=7.8km s-min=3.9km az=89.7*
*ISCJB **24** 15:44:50.4±0.1, 6088N±002×165 51E±003, h16km, mb5.1/182, MS4.7/61, Error ellipse: s-maj=2.8km s-min=2.0km az=102.4*
*NEIC **24** 15:44:55.7±0.7, 6096N×165 49E, h41km±7km, mb5.1/104, MS4.5/11, Error ellipse: s-maj=5.1km s-min=2.8km az=179.0*
*HRVD **24** 15:44:55.7±0.2, 6082N×165 81E, h12km±1km, MW5.1/93, Centroid moment Tensor Solution. LP body waves: s59,c81;Mantle waves: s93,c168; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.96±.10; $M_{\theta\theta}$-0.23±.10; $M_{\phi\phi}$-0.73±.09; $M_{r\theta}$2.11±.34; $M_{\theta\phi}$4.18±.09; $M_{\phi r}$-0.44±.24; Best double couple: M_o4.71000×10^{16} NP1:ϕ_s2.00000°, δ62.00000°, λ175.00000°. NP2: ϕ_s94.00000°, δ86.00000°, λ28.00000°. Principal axes: T 4.2290, Plg23.0000°, Azm322.0000°; N 0.9620, Plg61.0000°, Azm102.0000°; P -5.1910, Plg16.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **24** 15:45:01.5, 6157N×163 85E, h33km, mb5.0, Eastern Siberia, Russia*
ISC 24 15:44:52.2±0.1, 6092N±002×16550E±003, h17km, h17km±1.8km:pP-P, n507, σ1§02/530, mb5.1/182, MS4.7/61, 44C-7D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TILR	**Tilichiki**	**0.56**	**151**	*i* P		**Pg**	**15 44 57.3**	**-6.1**
TILR				*i* S		**Sg**	**15 45 03.2**	**-7.8**
KAMR	**Kamenskoye**	**1.57**	**12**	*i* P		**Pn**	**15 45 19.7**	**+0.3**
KAMR				*i* S		**Sn**	**15 45 41.4**	**+2.1**
KAMR				Smax				
	60μm,0.9s							
OSSR	**Ossora**	**2.08**	**217**	*e*P		**Pn**	**15 45 24.3**	**-2.0**
EVNR	**Evensk**	**3.16**	**291**	*i* P		**Pn**	**15 45 43.4**	**+2.2**
SMKR	**Semkarok**	**4.83**	**208**	*i* P		**Pn**	**15 46 03.6**	**-0.6**
SRKR	**Sorokina**	**4.84**	**210**	*e*P		**Pn**	**15 46 03.4**	**-0.9**
KBG	**Krutoberegovo**	**4.91**	**199**	*i* P		**Pn**	**15 46 04.0**	**-1.2**
BDR	**Baidarnaya**	**4.91**	**209**	*e*P		**Pn**	**15 46 04.6**	**-0.6**
KBTR	**Krutoberegovo**	**4.93**	**198**	P		**Pn**	**15 46 03.9**	**-1.7**
KBTR				S		**Sn**	**15 46 59.7**	**-2.5**
KBTR	**Krutoberegovo**	**4.93**	**198**	*i* P		**Pn**	**15 46 04.3**	**-1.3**
KBTR				*e*S		**Sn**	**15 46 59.9**	**-2.3**
KLY	**Klyuchi**	**5.27**	**211**	P		**Pn**	**15 46 08.9**	**-1.3**
KLY				S		**Sn**	**15 47 08.2**	**-2.4**
KLY	**Klyuchi**	**5.27**	**211**	*e*P		**Pn**	**15 46 09.2**	**-1.0**
KRSR	**Krestovskiy**	**5.38**	**211**	*e*P		**Pn**	**15 46 11.2**	**-0.5**
CIRR	**Tsirk**	**5.43**	**209**	*e*P		**Pn**	**15 46 12.3**	**-0.1**
LGNR	**Loginova**	**5.47**	**210**	*e*P		**Pn**	**15 46 13.3**	**+0.4**
ZLN	**Zelenaya**	**5.50**	**209**	*i* P		**Pn**	**15 46 13.4**	**0.0**
SRDR	**Sredinnyy**	**5.52**	**216**	*e*P		**Pn**	**15 46 13.4**	**-0.2**
KPT	**Kopyto**	**5.69**	**211**	*e*P		**Pn**	**15 46 16.7**	**+0.7**
BKI	**Bering**	**5.74**	**177**	*e*P		**Pn**	**15 46 16.4**	**-0.3**
KMNR	**Kamenistaya**	**5.88**	**210**	*e*P		**Pn**	**15 46 18.7**	**+0.2**
ESO	**Esso**	**6.15**	**218**	P		**Pn**	**15 46 22.2**	**-0.1**
ESO	**Esso**	**6.15**	**218**	*e*P		**Pn**	**15 46 22.1**	**-0.2**
TUMR	**Tumrok**	**6.33**	**209**	*e*P		**Pn**	**15 46 25.8**	**+1.1**
MKZ	**Mys Kozlova**	**6.70**	**199**	P		**Pn**	**15 46 28.8**	**-1.0**
MKZ				S		**Sn**	**15 47 44.1**	**-1.6**
MKZ	**Mys Kozlova**	**6.70**	**199**	*e*P		**Pn**	**15 46 29.7**	**-0.1**
BILL	**Bilibino**	**7.15**	**2**	*d*iPN		**Pn**	**15 46 37.4**	**+1.4**
BILL				pmax		pmax		
	comp=Z,29nm,0.7s							
BILL	**Bilibino**	**7.15**	**2**	*e*Pn		**Pn**	**15 46 36.2**	**+0.1**
	comp=Z,77nm,0.6s							
BILL				*e*Sn		**Sn**	**15 47 57.7**	**+0.8**
BILL	**Bilibino**	**7.15**	**2**	*e*P		**Pn**	**15 46 38.9**	**+2.9**
MA2	**Magadan**	**7.46**	**266**	*i* PN		**Pn**	**15 46 40.5**	**+0.3**
MA2				pmax		pmax		
	comp=N,40nm,0.6s							
MA2				pmax		pmax		
	comp=E,100nm,0.6s							
MA2				pmax		pmax		
	comp=Z,100nm,0.6s							
MA2				MLR		MLR		
	comp=Z,6μm,12.6s							
MA2	**Magadan**	**7.46**	**266**	*e*Pn		**Pn**	**15 46 40.2**	**0.0**
	comp=Z,186nm,0.6s							
MA2				*e*Sn		**Sn**	**15 48 04.8**	**+0.4**
MA2	**Magadan**	**7.46**	**266**	*i* P		**Pn**	**15 46 42.7**	**+2.5**
KII	**Karymskiy**	**7.63**	**208**	P		**Pn**	**15 46 43.4**	**+0.7**
GNL	**Ganaly**	**8.32**	**213**	*e*P		**Pn**	**15 46 53.0**	**+1.0**
SPN	**Mys Shipunski**	**8.39**	**203**	P		**Pn**	**15 46 52.8**	**-0.3**
SPN				S		**Sn**	**15 48 22.8**	**-4.6**
SPN	**Mys Shipunski**	**8.39**	**203**	*e*P		**Pn**	**15 46 53.6**	**+0.5**
NLC	**Nalytchevo**	**8.46**	**206**	P		**Pn**	**15 46 55.3**	**+1.3**
NLC	**Nalytchevo**	**8.46**	**206**	*e*P		**Pn**	**15 46 55.1**	**+1.1**
SDLR	**Sedlovina**	**8.46**	**208**	*e*P		**Pn**	**15 46 55.8**	**+1.7**
AVH	**Avacha**	**8.51**	**209**	*e*P		**Pn**	**15 46 56.6**	**+1.9**
UGLR	**Uglovaya**	**8.54**	**208**	*e*P		**Pn**	**15 46 56.5**	**+1.4**
PET	**Petropavlovsk**	**8.75**	**208**	P		**Pn**	**15 46 58.9**	**+0.9**
PET				S		**Sn**	**15 48 33.0**	**-3.3**
PET	**Petropavlovsk**	**8.75**	**208**	*e*P		**Pn**	**15 46 58.9**	**+0.9**
	comp=Z,109nm,0.9s							
KRMR	**Karymshinskiy**	**9.06**	**210**	*e*P		**Pn**	**15 47 03.0**	**+0.8**
FX1	**Attu Island--F**	**9.08**	**149**	Pn		**Pn**	**15 46 59.4**	**-3.0**
	comp=Z,3.7nm,0.3s,baz=324,slow=16,SNR=26							
FX1				LR		LR	15 50 01.4	
	comp=Z,78nm,20.7s,baz=346,slow=35							
FX1	**Attu Island--F**	**9.08**	**149**	*e*P		**Pn**	**15 46 59.5**	**-2.9**
APC	**Apacha**	**9.22**	**213**	*e*P		**Pn**	**15 47 05.0**	**+0.6**
GRL	**Gorelyy**	**9.33**	**209**	*e*P		**Pn**	**15 47 07.2**	**+1.3**
RUS	**Russkaya**	**9.34**	**207**	*e*P		**Pn**	**15 47 08.1**	**+2.1**
SKR	**Severo-Kuril's**	**11.53**	**211**	*e*PN		**Pn**	**15 47 32.5**	**-3.5**
SKR				*e*S		**Sn**	**15 49 54.0**	**+10**
SKR				pmax		pmax		
	comp=N,60nm,0.7s							
SKR				pmax		pmax		
	comp=Z,110nm,0.7s							
SKR				MLR		MLR		
	comp=N,8μm,14.0s							
SKR				MLR		MLR		
	comp=E,7μm,14.0s							
SKR				MLR		MLR		
	comp=Z,8μm,14.0s							
OKH	**Okha**	**14.22**	**249**	*e*P		**Pn**	**15 48 11.0**	**-1.8**
OKH				pmax		pmax		
	comp=Z,1μm,8.0s							
OKH				MLR		MLR		
	comp=Z,6μm,14.0s							
YAK	**Yakutsk**	**17.01**	**289**	*e*P		**Pn**	**15 48 50.5**	**+1.2**
YAK				*e*S		**Sn**	**15 52 05.5**	**+7.5**
YAK				pmax		pmax		
	comp=Z,224nm,0.8s							
YAK				pmax		pmax		
	comp=N,29nm,1.3s							
YAK				pmax		pmax		
	comp=E,133nm,1.2s							
YAK				smax				
	comp=N,114nm,21.3s							
YAK				smax				
	comp=Z,73nm,17.8s							
YAK				smax				
	comp=E,20nm,9.1s							
YAK				MLR		MLR		
	comp=Z,603nm,15.0s							
YAK				MLR		MLR		
	comp=N,288nm,16.0s							
YAK				MLR		MLR		
	comp=E,671nm,16.0s							
YAK	**Yakutsk**	**17.01**	**289**	⇑*i*P		**Pn**	**15 48 51.8**	**+2.5**
	comp=E,37nm,0.8s							
UGL	**Uglegorsk**	**17.80**	**239**	*e*P		**Pn**	**15 49 02.0**	**+2.8**
UGL				pmax		pmax		
	comp=Z,181nm,1.1s							
UGL				pmax		pmax		
	comp=Z,1μm,8.0s							
UGL				MLR		MLR		
	comp=N,3μm,12.0s							
UGL				MLR		MLR		
	comp=E,4μm,12.0s							
UGL				MLR		MLR		
	comp=Z,4μm,12.0s							
TIXI	**Tiksi**	**17.86**	**322**	*e*P		**Pn**	**15 48 55.6**	**-4.3**
TIXI				*e*S		**Sn**	**15 52 17.7**	**-0.9**
TIXI				pmax		pmax		
	comp=Z,48nm,0.7s							
TIXI				smax				
	comp=N,158nm,10.9s							
TIXI				smax				
	comp=E,109nm,8.9s							
TIXI				MLR		MLR		
	comp=Z,2μm,11.0s							
TIXI	**Tiksi**	**17.86**	**322**	⇑*i*P		**Pn**	**15 49 01.1**	**+1.2**
TTA	**Tatalina**	**18.04**	**67**	*e*P		**Pn**	**15 49 03.6**	**+1.5**
SVW2	**Sparrevohn**	**18.68**	**72**	*e*P		**Pn**	**15 49 09.9**	**0.0**
YSS	**Yuzh-Sakhalins**	**19.22**	**234**	⇓*e*P		**Pn**	**15 49 18.8**	**+2.4**
YSS				pmax		pmax		
	comp=Z,160nm,1.5s							
YSS				MLR		MLR		
	comp=Z,3μm,15.0s							
YSS				MLR		MLR		
	comp=N,2μm,16.0s							
YSS	**Yuzh-Sakhalins**	**19.22**	**234**	*e*P		**Pn**	**15 49 18.0**	**+1.6**
	comp=N,141nm,1.5s							
CLNS	**Chul'man**	**21.13**	**277**	*e*P		**P**	**15 49 38.9**	**+2.7**
CLNS				*e**PP			15 49 44.8	
CLNS				*e*PPP			15 50 01.8	
CLNS				*e*S		**S**	**15 53 22.2**	**-8.3**
CLNS				*e*			15 53 38.4	
CLNS				*e*SS			15 54 08.8	
CLNS				pmax		pmax		
	comp=Z,100nm,1.0s,mb5.1							
CLNS				pmax		pmax		
	comp=N,38nm,0.7s							
CLNS				pmax		pmax		
	comp=E,95nm,1.1s							
CLNS				smax				
	comp=E,290nm,12.8s							
CLNS				smax				
	comp=Z,183nm,12.6s							
CLNS				smax				
	comp=N,86nm,11.2s							
CLNS				MLR		MLR		
	comp=Z,2μm,10.0s,MS4.8							
CLNS				MLR		MLR		
	comp=N,400nm,11.0s							
CLNS				MLR		MLR		
	comp=E,1μm,9.0s							
COLA	**College**	**21.22**	**59**	*i* P		**P**	**15 49 36.9**	**-0.2**
COLA	**College**	**21.22**	**59**	*e*P		**P**	**15 49 36.3**	**-0.8**
	comp=E,111nm,1.1s,mb5.1							
NRGR	**Nerungri**	**21.30**	**277**	*e*P		**P**	**15 49 37.2**	**-0.8**
KDAK	**Kodiak Island**	**21.32**	**80**	P		**P**	**15 49 37.6**	**-0.7**
	comp=E,8.2nm,0.5s,mb4.3,baz=338,slow=3.3,SNR=8.9							
KDAK				LR		LR	15 58 31.5	
	comp=E,806nm,20.2s,MS4.1,baz=144,slow=39							
KDAK	**Kodiak Island**	**21.32**	**80**	*e*P		**P**	**15 49 36.9**	**-1.4**
	comp=E,58nm,1.2s,mb4.8							
HABR	**Khabarovsk**	**21.32**	**248**	⇓*i*P		**P**	**15 49 40.2**	**+1.9**
HABR				*e*S		**S**	**15 53 39.6**	**+5.2**
HABR				pmax		pmax		
	comp=Z,187nm,1.6s,mb5.2							
HABR				MLR		MLR		
	comp=Z,3μm,15.1s,MS4.8							
SLKM	**Skilak Lake**	**21.36**	**72**	*e*P		**P**	**15 49 38.3**	**-0.3**
PMR	**Palmer**	**21.50**	**68**	*e*P		**P**	**15 49 38.6**	**-1.5**
PMR				pmax		pmax		
	comp=Z,3.0nm,0.4s,mb4.0							
PMR	**Palmer**	**21.50**	**68**	*e*P		**P**	**15 49 38.6**	**-1.5**
	comp=Z,2.8nm,0.4s,mb4.0							
ILAR	**Eielson Array**	**21.64**	**59**	P		**P**	**15 49 41.1**	**-0.6**
	comp=Z,63nm,0.7s,mb5.1,baz=273,slow=8.1,SNR=97							
ILAR	**Eielson Array**	**21.64**	**59**	P		**P**	**15 49 41.1**	**-0.6**
ILAR				pmax		pmax		
	comp=Z,63nm,0.7s							
ASAJ	**Asahikawa**	**21.66**	**229**	P		**P**	**15 49 43.6**	**+1.7**
	comp=Z,20nm,0.9s,mb

CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,2μm,20.0s,MS4.8
CN2 LR LR
comp=E,2μm,20.0s,MS4.8
CN2 LR LR
comp=Z,2μm,16.0s,MS4.8
CIT Chita 29.30 276 *e*P **P** **15 50 54.2 +0.5**
CIT *e* 16 01 34.8
CIT pmax pmax
comp=Z,55nm,2.3s,mb4.9
SIT Sitka 29.82 71 *e*P **P** **15 50 59.3 +1.0**
SIT pmax pmax
comp=Z,58nm,1.0s,mb5.3
SIT Sitka 29.82 71 *e*P **P** **15 50 59.3 +1.0**
comp=Z,58nm,1.0s,mb5.3
MAT Matsushiro 29.90 228 P **P** **15 50 59.7 +0.6**
MAT S **S** **15 55 54.0 -1.6**
MAT Matsushiro 29.90 228 *e*P **P** **15 55 00.0 +0.9**
MAT *e*S **S** **15 55 55.0 -0.6**
MAT LR LR
comp=Z,1μm,20.0s,MS4.5
MJAR Matsushiro Arr 29.90 228 P **P** **15 51 00.2 +1.2**
comp=Z,7.2nm,1.0s,mb4.4,baz=11,slow=8.2,SNR=16
MJAR LR LR 16 04 00.4
comp=Z,776nm,18.5s,MS4.4,baz=35,slow=38
MJAR Matsushiro Arr 29.90 228 P **P** **15 51 00.2 +1.1**
MJAR pmax pmax
comp=Z,7.0nm,1.0s
MJAR MLR MLR
comp=Z,776nm,18.5s
MJAR Matsushiro Arr 29.90 228 P **P** **15 51 00.2 +1.2**
MJAR LR LR 16 04 00.4
SNY Shenyang 31.64 252 PR 15 51 15.3
SNY AMB AMB
comp=Z,32nm,0.8s,mb5.2
SNY AMB AMB
comp=Z,67nm,4.6s
IRK Irkutsk 33.62 283 *e*P **P** **15 51 31.9 +0.1**
IRK *e* 15 51 39.6
IRK pmax pmax
comp=Z,55nm,1.7s,mb5.2
TLY Talaya 34.28 283 P **P** **15 51 38.9 +1.4**
comp=Z,78nm,1.3s,mb5.5,SNR=6.1
TLY Talaya 34.28 283*c i*P **P** **15 51 37.0 -0.5**
TLY *e* 15 52 54.1
TLY *e*S **S** **15 57 04.1 +0.2**
TLY *e*SS SS 15 59 09.8 -23
TLY pmax pmax
comp=Z,28nm,1.6s,mb4.9
TLY MLR MLR
comp=Z,847nm,12.0s,MS4.7
TLY Talaya 34.28 283 *e*P **P** **15 51 37.8 +0.3**
comp=Z,37nm,1.5s,mb5.1
ULN Ulaanbaatar 35.19 275⇑*i*P **P** **15 51 46.1 +0.7**
ULN Ulaanbaatar 35.19 275 *e*P **P** **15 51 45.9 +0.5**
comp=Z,21nm,0.9s,mb5.1
ULN LR LR
comp=Z,356nm,19.0s,MS4.1
ZAK Zakamensk 35.31 281⇑*i*P **P** **15 51 47.2 +0.9**
ZAK *e* 15 53 05.6
ZAK pmax pmax
comp=Z,18nm,1.5s,mb4.8
ZAK pmax pmax
comp=Z,12nm,1.6s,mb4.6
SONM Songino Array 35.53 276 P **P** **15 51 49.4 +1.1**
comp=Z,12nm,0.9s,mb4.8,baz=58,slow=8.2,SNR=57
SONM Songino Array 35.53 276 P **P** **15 51 49.4 +1.1**
SONM pmax pmax
comp=Z,12nm,0.9s
MOY Mondy 35.55 285 *e*P **P** **15 51 49.4 +1.0**
MOY pmax pmax
comp=Z,74nm,2.5s,mb5.2
YKW3 Yellowknife Ar 35.60 52 *e*P **P** **15 51 48.0 -0.9**
YKA Yellowknife Ar 35.65 52 P **P** **15 51 48.4 -0.8**
comp=Z,12nm,0.9s,mb4.8,baz=303,slow=8.4,SNR=62
YKA PcP PcP 15 54 15.8 -1.7
comp=Z,2.8nm,0.9s,baz=303,slow=2.9,SNR=9.8
YKA Yellowknife Ar 35.65 52 P **P** **15 51 48.4 -0.9**
YKA 15 54 15.8
YKA pmax pmax
comp=Z,12nm,0.9s
YKA Yellowknife Ar 35.65 52 P **P** **15 51 48.4 -0.8**
YKA PcP PcP 15 54 15.8 -1.7
KRAR Krasnoyarsk 36.50 296*c i*P **P** **15 51 56.9 +0.4**
KRAR pmax pmax
comp=Z,140nm,1.4s,mb5.7
KRAR MLR MLR
comp=Z,900nm,18.0s,MS4.6
BJT Baijiatuau 36.55 258 *e*P **P** **15 51 56.6 -0.4**
BJT pmax pmax
comp=Z,116nm,1.1s
BJT Baijiatuau 36.55 258 *e*P **P** **15 51 56.6 -0.4**
comp=Z,116nm,1.1s,mb5.6
HHC Hu-ho-hao-te 38.13 263⇑P **P** **15 52 09.9 -0.4**
HHC AP pP 15 52 14.6 -1.0
HHC XP sP 15 52 17.3 -0.4
HHC PP PP 15 53 40.1 +2.6
HHC PCP PcP 15 54 26.4 +1.3
HHC S **S** **15 58 01.8 -0.8**
HHC SCP ScP 15 58 12.1 +0.1
HHC PCS PcS 15 58 13.6 -0.4
HHC SS SS 16 00 37.8 -13
HHC SCS ScS 16 02 20.3 -1.2
HHC AMB AMB
comp=Z,30nm,1.2s,mb4.9
HHC AMB AMB
comp=Z,159nm,4.0s
HHC LR LR
comp=N,2μm,13.9s,MS5.2
HHC LR LR
comp=E,2μm,13.8s,MS5.2
HHC LR LR
comp=Z,788nm,11.3s,MS4.8
BTO Baotou 39.06 265 *e*P **P** **15 52 19.0 +0.8**
BTO S **S** **15 58 19.8 +3.0**
BTO AMB AMB
comp=Z,40nm,0.8s,mb5.2
TIA Tai'an 39.14 253 P **P** **15 52 18.9 0.0**
ZAL Zalesovo 41.38 298 P **P** **15 52 38.6 +1.2**
comp=Z,3.6nm,0.5s,mb4.2,baz=60,slow=8.0,SNR=20
ZAL LR LR 16 12 24.4
comp=Z,1μm,18.2s,MS4.8,baz=65,slow=40
ZAL Zalesovo 41.38 298 P **P** **15 52 38.6 +1.2**
ZAL pmax pmax
comp=Z,4.0nm,0.5s
ZAL MLR MLR
comp=Z,1μm,18.2s
NVS Novosibirsk 41.43 300 *e*P **P** **15 52 36.8 -1.0**
NVS *e* 15 54 15.0
NVS *e*S **S** **15 58 50.0 -2.1**
NVS pmax pmax
comp=E,55nm,1.1s
NVS pmax pmax
comp=Z,77nm,1.1s,mb5.2
NVS pmax pmax
comp=N,44nm,1.2s
NVS pmax pmax
comp=N,34nm,1.4s
NVS pmax pmax
comp=E,31nm,1.4s
NVS pmax pmax
comp=Z,28nm,1.4s,mb4.7
NVS smax
comp=N,13nm,2.0s
NVS smax
comp=E,12nm,2.0s
CMW Cultus Mountai 41.47 73 P **P** **15 52 39.4 +1.2**
SSE Sheshan 41.56 245 *e*P **P** **15 52 39.1 +0.2**
SSE AP pP 15 52 42.1 -2.1
SSE XP sP 15 52 43.8 -2.5
SSE PP PP 15 54 13.5 -1.5
SSE PCP PcP 15 54 33.8 -2.2
SSE S **S** **15 58 54.0 -0.1**
SSE AMB AMB
comp=Z,47nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,61nm,8.3s
SSE LR LR
comp=N,318nm,12.9s,MS4.8
SSE LR LR
comp=E,711nm,12.9s,MS4.8
SSE LR LR
comp=Z,777nm,17.9s,MS4.6

NJ2 Nanjing 41.79 248 *e*P **P** **15 52 42.1 +1.3**
NJ2 AP pP 15 52 45.6 -0.5
NJ2 XP sP 15 52 49.5 +1.3
NJ2 PP PP 15 54 21.1 +3.6
NJ2 AMB AMB
comp=Z,40nm,1.0s,mb5.0
NJ2 AMB AMB
comp=Z,60nm,10.7s
NJ2 LR LR
comp=N,700nm,22.0s,MS4.5
NJ2 LR LR
comp=E,410nm,25.3s,MS4.5
EDM Edmonton 42.06 62 *e*P **P** **15 52 43.1 +0.1**
DAG Danmarks Havn 42.53 1⇑*i*P **P** **15 52 46.7 -0.1**
comp=E,4.8nm,0.7s,mb4.3
DAG Danmarks Havn 42.53 1⇑*i*P **P** **15 52 46.7 -0.1**
DAG pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
NLW Nelson Butte 42.55 73 P **P** **15 52 48.7 +1.8**
TBM Table Mountain 43.08 74 P **P** **15 52 52.0 +0.7**
EBG Ellensburg 43.29 74 P **P** **15 52 53.6 +0.6**
EPH Ephrata 43.42 73 P **P** **15 52 53.8 -0.2**
NEW Newport 43.90 70 *e*P **P** **15 52 58.2 +0.3**
NEW pmax pmax
comp=Z,38nm,1.4s
NEW MLR MLR
comp=Z,790nm,20.0s
NEW Newport 43.90 70 *e*P **P** **15 52 58.2 +0.3**
comp=Z,38nm,1.4s,mb4.9
NEW LR LR
comp=Z,790nm,20.0s,MS4.6
FRIS Frissel Point 44.55 78 P **P** **15 53 03.6 +0.5**
WALA Waterton Lakes 44.78 67 *e*P **P** **15 53 04.5 -0.5**
comp=Z,63nm,1.2s,mb5.3
XAN Xi'an 44.80 260 P **P** **15 53 04.3 -0.8**
XAN AP pP 15 53 12.6 +2.2
XAN AMB AMB
comp=Z,8.0nm,1.3s,mb4.4
GTA Gaotai 44.97 272⇑P **P** **15 53 06.8 +0.4**
GTA AP pP 15 53 11.4 -0.3
GTA XP sP 15 53 13.8 0.0
GTA PCP PcP 15 54 46.8 -0.7
GTA PP PP 15 54 53.8 +2.3
GTA SCP ScP 15 58 38.6 -0.5
GTA S **S** **15 59 45.4 +1.4**
GTA XS sS 15 59 53.4 +0.7
GTA SS SS 16 02 58.9 -6.8
GTA AMB AMB
comp=Z,35nm,0.9s,mb5.2
GTA AMB AMB
comp=Z,114nm,3.8s
GTA LR LR
comp=N,2μm,17.1s,MS5.1
GTA LR LR
comp=E,2μm,19.4s,MS5.1
GTA LR LR
comp=Z,2μm,18.6s,MS5.1
BSMT Bassoo Peak 45.27 69 P **P** **15 53 10.8 +1.9**
LZH Lanzhou 45.61 266 *e*P **P** **15 53 12.3 +0.8**
LZH AP pP 15 53 16.3 -0.6
LZH XP sP 15 53 19.4 +0.4
LZH PP PP 15 54 59.3 +0.9
LZH *e*S **S** **15 59 53.1 -0.2**
LZH SS SS 16 03 06.0 -11
LZH AMB AMB
comp=Z,92nm,1.4s,mb5.5
LZH AMB AMB
comp=Z,250nm,5.0s
LZH LR LR
comp=E,3μm,13.4s
LZH LR LR
comp=Z,3μm,15.0s,MS5.4
FCC Fort Churchill 45.68 46 *e*P **P** **15 53 11.1 -0.9**
FCC pmax pmax
comp=Z,43nm,1.1s,mb5.3
FCC Fort Churchill 45.68 46 *e*P **P** **15 53 11.1 -1.0**
comp=Z,43nm,1.1s,mb5.3
FFC Flin Flon 45.71 54 *e*P **P** **15 53 12.8 +0.5**
FFC pmax pmax
comp=Z,32nm,1.3s,mb5.1
FFC Flin Flon 45.71 54 *e*P **P** **15 53 12.8 +0.5**
comp=Z,32nm,1.3s,mb5.1
SUMG Summit 45.77 10 *e*P **P** **15 53 13.0 +0.2**
comp=Z,27nm,1.0s,mb5.1
YBH Yreka Blue Hor 46.14 80 *e*P **P** **15 53 16.2 +0.5**
YBH pmax pmax
comp=Z,14nm,1.0s
YBH MLR MLR
comp=Z,538nm,21.0s
YBH Yreka Blue Hor 46.14 80 *e*P **P** **15 53 16.2 +0.5**
comp=Z,14nm,1.0s,mb4.8
YBH LR LR
comp=Z,538nm,21.0s,MS4.5
KURK Kurchatov 46.34 299 P **P** **15 53 17.8 +0.6**
comp=Z,1μm,0.6s
KURK Kurchatov 46.34 299 *e*P **P** **15 53 17.2 0.0**
KURK pmax pmax
comp=Z,129nm,0.7s,mb6.0
KURK MLR MLR
comp=Z,1μm,19.0s,MS4.9
KURK Kurchatov 46.34 299 *e*P **P** **15 53 17.2 0.0**
comp=Z,129nm,0.7s,mb6.0
KURK LR LR
comp=Z,1μm,19.0s,MS4.9
BMO Blue Mountains 46.34 73 *e*P **P** **15 53 17.4 +0.2**
comp=Z,29nm,1.2s,mb5.1
MSO Missoula 46.42 69 P **P** **15 53 17.2 -0.7**
comp=Z,21nm,1.2s,mb5.0
CHMT Chamberlain Mo 46.67 69 *e*P **P** **15 53 20.5 +0.6**
ARCES ARCESS Array B 46.75 342 P **P** **15 53 20.1 -0.4**
comp=Z,7.7nm,0.7s,mb4.7,baz=31,slow=7.2,SNR=16
ARCES PcP PcP 15 54 53.1 -0.6
comp=Z,3.6nm,0.7s,baz=30,slow=5.6,SNR=5.0
ARCES LR LR 16 15 18.0
comp=Z,426nm,19.4s,MS4.4,baz=42,slow=39
ARCES ARCESS Array B 46.75 342 P **P** **15 53 20.1 -0.4**
ARCES 15 54 53.2
ARCES pmax pmax
comp=Z,8.0nm,0.7s
ARCES MLR MLR
comp=Z,426nm,19.4s
APA Apatity 47.15 337⇑*e*P **P** **15 53 18.6 -5.0**
APA pmax pmax
comp=Z,32nm,1.2s,mb5.1
MOD Modoc 47.16 78 *e*P **P** **15 53 24.3 +0.5**
comp=Z,14nm,1.1s,mb4.8
EGMT Eagleton 47.41 65 *e*P **P** **15 53 25.6 0.0**
comp=Z,28nm,0.8s,mb5.2
WMQ Urumqi 47.41 286⇑*i*P **P** **15 53 26.5 +0.8**
WMQ AP pP 15 53 31.1 +0.1
WMQ PCP PcP 15 54 57.3 +1.2
WMQ PP PP 15 55 17.3 +0.4
WMQ SCP ScP 15 58 46.0 -3.3
WMQ S **S** **16 00 19.3 +0.2**
WMQ AMB AMB
comp=Z,54nm,1.1s,mb5.4
WMQ LR LR
comp=N,1μm,17.0s,MS5.1
WMQ LR LR
comp=E,1μm,19.0s,MS5.1
WMQ LR LR
comp=Z,595nm,18.0s,MS4.6
CHKZ Chkalovo 47.42 306 *e*P **P** **15 53 25.5 -0.2**
CHKZ *e* 15 55 13.3
CHKZ pmax pmax
comp=Z,83nm,1.0s,mb5.6
CHKZ Chkalovo 47.42 306 *e*P **P** **15 53 25.5 -0.2**
comp=Z,83nm,1.0s,mb5.6
CHKZ *e*PP PP 15 55 13.3 -3.7
HRY Holter Researc 47.47 68 *e*P **P** **15 53 26.1 +0.1**
WVOR Wild Horse Val 47.55 77 *e*P **P** **15 53 26.9 +0.2**
WVOR pmax pmax
comp=Z,18nm,1.1s,mb5.0
WVOR Wild Horse Val 47.55 77 *e*P **P** **15 53 26.9 +0.1**
comp=Z,18nm,1.1s,mb5.0
MK31 Makanchi Array 47.65 293 P **P** **15 53 26.6 -0.9**
MK31 pmax pmax
comp=Z,12nm,0.6s,mb5.1
MKAR Makanchi Array 47.65 293 P **P** **15 53 26.8 -0.7**
comp=Z,20nm,0.6s,mb5.3,baz=48,slow=7.3,SNR=243
MKAR PP PP 15 55 15.0 -4.1
comp=Z,5.6nm,0.9s,baz=48,slow=9.9,SNR=3.5
MKAR Makanchi Array 47.65 293 P **P** **15 53 26.8 -0.7**
MKAR 15 55 15.0
MKAR pmax pmax
comp=Z,21nm,0.6s
MKAR pmax pmax
comp=Z,6.0nm,0.9s
SOKR Solikamsk 47.83 319*c i*P **P** **15 53 28.8 -0.1**
SOKR pmax pmax
comp=Z,40nm,0.9s,mb5.5
SOKR MLR MLR
comp=Z,770nm,17.0s,MS4.7
VOSK Vostochnaya 48.00 305 P **P** **15 53 30.1 -0.1**
VOSK pmax pmax
comp=Z,14nm,0.9s,mb5.0
BVA0 Borovoye Array 48.00 306 *i* P **P** **15 53 30.5 +0.3**
BVA0 pmax pmax
comp=Z,14nm,0.9s,mb5.0
BRVK Borovoye 48.02 306 P **P** **15 53 30.9 +0.5**
comp=Z,569nm,0.9s,SNR=48
BRVK Borovoye 48.02 306 *e*P **P** **15 53 30.2 -0.2**
BRVK pmax pmax
comp=Z,46nm,0.8s,mb5.6
BRVK Borovoye 48.02 306 *e*P **P** **15 53 30.2 -0.2**
comp=Z,46nm,0.8s,mb5.6
QZH Quanzhou 48.02 243 *e*P **P** **15 53 32.6 +2.2**
QZH S **S** **16 00 30.4 +2.7**
QZH LR LR
comp=N,770nm,10.8s
QZH LR LR
comp=E,950nm,9.7s
QZH LR LR
comp=Z,1μm,13.3s,MS5.0
DLMT Dillon 48.14 70 *e*P **P** **15 53 31.4 +0.1**
comp=Z,28nm,1.0s,mb5.2
BOZ Bozeman (W) 48.36 69 *e*P **P** **15 53 33.8 +0.8**
BOZ pmax pmax
comp=Z,18nm,1.0s,mb5.1
BOZ MLR MLR
comp=Z,477nm,20.0s,MS4.5
BOZ Bozeman (W) 48.36 69 *e*P **P** **15 53 33.8 +0.8**
comp=Z,18nm,1.0s,mb5.1
BOZ LR LR
comp=Z,477nm,20.0s,MS4.5
MCMT McKenzie Canyo 48.43 70 *e*P **P** **15 53 33.2 -0.3**
ZRNK Zerenda 48.60 307 *e*P **P** **15 53 35.1 +0.2**
ZRNK pmax pmax
comp=Z,58nm,0.9s,mb5.6
ZRNK Zerenda 48.60 307 *e*P **P** **15 53 35.0 +0.2**
comp=Z,58nm,0.9s,mb5.6
HLID Hailey 48.67 72 *e*P **P** **15 53 35.5 +0.1**
comp=Z,9.2nm,0.8s,mb4.9
SVE Sverdlovsk 48.70 315⇑*e*P **P** **15 53 36.0 +0.4**
SVE *e* 15 55 29.0
SVE *e* 15 56 24.0
SVE pmax pmax
comp=Z,120nm,1.6s,mb5.7
SVE MLR MLR
comp=N,600nm,13.0s,MS4.8
SVE MLR MLR
comp=E,100nm,13.0s,MS4.8
SVE MLR MLR
comp=Z,1μm,13.0s,MS5.0
QLMT Earthquake Lak 49.08 69 *e*P **P** **15 53 39.3 +0.8**
GCMT Greycliff 49.14 67 *e*P **P** **15 53 40.2 +1.2**
TMCR Tamitsa 49.15 333 *e*P **P** **15 53 39.3 +0.3**
TMCR pmax pmax
comp=Z,50nm,1.4s,mb5.3
TMCR pmax pmax
comp=N,60nm,1.1s
TMCR pmax pmax
comp=E,20nm,1.2s
PAHR Pah Rah Range 49.30 80 *e*P **P** **15 53 40.3 +0.1**
comp=E,20nm,1.3s,mb5.0
YMR Madison River 49.41 69 *e*P **P** **15 53 42.5 +1.4**
comp=E,44nm,1.1s,mb5.4
YFT Old Faithful 49.64 69 *e*P **P** **15 53 45.2 +2.4**
SFJD Kangerlussuaq 49.66 18 P **P** **15 53 41.8 -1.2**
comp=E,7.7nm,0.6s,mb4.9,baz=311,slow=6.5,SNR=5.3
SFJD Kangerlussuaq 49.66 18 P **P** **15 53 41.8 -1.2**
SFJD pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
ARU Arti 49.72 316 P **P** **15 53 43.8 +0.3**
comp=Z,225nm,0.7s,SNR=10.0
ARU Arti 49.72 316⇑*i*P **P** **15 53 43.6 +0.1**
ARU *e* 15 55 02.8
ARU *e* 15 55 36.9
ARU *e*PPP 15 56 30.4
ARU *e*S **S** **16 00 53.7 +2.0**
ARU *e*SS SS 16 04 23.9 -0.2
ARU *e*SSS 16 05 51.1
ARU pmax pmax
comp=Z,61nm,1.4s,mb5.4
ARU MLR MLR
comp=Z,500nm,18.0s,MS4.6
ARU MLR MLR
comp=N,100nm,14.0s,MS4.3
ARU MLR MLR
comp=E,200nm,17.0s,MS4.3
ARU Arti 49.72 316 *e*P **P** **15 53 43.3 -0.1**
comp=E,68nm,1.3s,mb5.5
LKWY Lake 49.75 69 *e*P **P** **15 53 42.9 -0.8**
LKWY pmax pmax
comp=Z,41nm,0.8s,mb5.5
LKWY Lake 49.75 69 *e*P **P** **15 53 42.9 -0.8**
comp=Z,41nm,0.8s,mb5.5
FLWY Flagg Ranch 49.99 69 *e*P **P** **15 53 46.4 +0.9**
comp=Z,67nm,0.9s,mb5.7
CMB Columbia Colle 50.13 82 *e*P **P** **15 53 46.3 -0.3**
CMB pmax pmax
comp=Z,16nm,1.1s,mb5.0
CMB Columbia Colle 50.13 82 *e*P **P** **15 53 46.3 -0.3**
comp=Z,16nm,1.1s,mb5.0
MOOW Moose Ponds 50.22 70 *e*P **P** **15 53 47.6 +0.4**
comp=Z,17nm,1.3s,mb4.9
TPAW Teton Pass 50.33 70 *e*P **P** **15 53 48.9 +0.8**
comp=Z,23nm,0.9s,mb5.2
LOHW Long Hollow 50.39 70 *e*P **P** **15 53 49.1 +0.6**
comp=Z,27nm,0.9s,mb5.3
ELK Elko 50.47 75 *e*P **P** **15 53 48.5 -0.6**
ELK pmax pmax
comp=Z,11nm,0.9s
ELK Elko 50.47 75 *e*P **P** **15 53 48.5 -0.6**
comp=Z,11nm,0.9s,mb4.9
REDW Red Top Meadow 50.48 70 *e*P **P** **15 53 49.8 +0.7**
comp=Z,36nm,1.2s,mb5.3
SAO San Andreas Ge 50.63 84 *e*P **P** **15 53 50.3 0.0**
SAO pmax pmax
comp=Z,12nm,0.9s,mb4.8
SAO San Andreas Ge 50.63 84 *e*P **P** **15 53 50.3 0.0**
comp=Z,12nm,0.9s,mb4.8
HVU Hansel Valley 50.82 73 *e*P **P** **15 53 52.5 +0.8**
HVU pmax pmax
comp=Z,16nm,1.0s,mb4.9
HVU Hansel Valley 50.82 73 *e*P **P** **15 53 52.5 +0.8**
comp=Z,16nm,1.0s,mb4.9
NVAR Mina Array Bea 50.83 80 P **P** **15 53 52.2 +0.4**
comp=Z,6.3nm,0.9s,mb4.5,baz=317,slow=5.8,SNR=27
NVAR PcP PcP 15 55 09.9 +1.5
comp=Z,3.8nm,1.0s,baz=305,slow=4.3,SNR=4.7
LRV Little Rabbit 51.11 83 *e*P **P** **15 53 54.9 +1.0**
HWUT Hardware Ranch 51.52 72 *e*P **P** **15 53 58.0 +1.0**
comp=Z,28nm,1.1s,mb5.1
PDAR Pinedale Array 51.53 70 P **P** **15 53 57.1 0.0**
comp=Z,23nm,0.8s,mb5.2,baz=332,slow=3.2,SNR=95
PDAR LR LR 16 16 36.2
comp=Z,526nm,20.7s,MS4.5,baz=344,slow=37
MTUM Tungsten Hills 51.55 81 P **P** **15 53 57.7 +0.4**
TPH Tonopah 51.63 79 *e*P **P** **15 53 57.6 -0.2**
TPH pmax pmax
comp=Z,16nm,1.1s,mb4.9
TPH Tonopah 51.63 79 *e*P **P** **15 53 57.6 -0.2**
comp=Z,16nm,1.1s,mb4.9
KLMR Klimovskoe 51.66 330 *e*P **P** **15 53 57.0 -1.0**
KLMR pmax pmax
comp=Z,70nm,1.5s,mb5.4
GZH Guangzhou 51.96 247 P **P** **15 53 56.6 -3.7**
GZH S **S** **16 01 15.4 -7.3**
GZH LR LR
comp=N,1μm,18.5s,MS5.3
GZH LR LR
comp=E,2μm,17.8s,MS5.3
GZH LR LR
comp=Z,2μm,14.3s,MS5.2
TCUT Toone Canyon 51.97 72 *e*P **P** **15 54 01.8 +1.4**
DUG Dugway 52.04 74 *e*P **P** **15 54 01.5 +0.6**
DUG pmax pmax
comp=Z,26nm,1.3s,mb5.0
DUG Dugway 52.04 74 *e*P **P** **15 54 01.5 +0.5**
comp=Z,26nm,1.3s,mb5.0

GYA **Guiyang** **52.17 256**⇑ *i*P **P** **15 54 01.8 -0.1**
GYA AP pP 15 54 05.8 -1.5
GYA XP sP 15 54 09.3 -0.1
GYA PCP PcP 15 55 15.3 +1.8
GYA PP PP 15 56 01.3 +1.1
GYA SCP ScP 15 59 09.8 +0.1
GYA S **S** **16 01 22.0 -3.6**
GYA SS SS 16 04 56.4 -6.6
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,130nm,4.0s
GYA LR LR
comp=N,410nm,19.8s,MS4.6
GYA LR LR
comp=E,430nm,20.1s,MS4.6
GYA LR LR
comp=Z,440nm,20.4s,MS4.5
NLU **North Lily Min** **52.58 74** *e*P **P** **15 54 03.5 -1.4**
DAU **Daniels Canyon** **52.60 73** *e*P **P** **15 54 06.0 +0.9**
TMUT **Trail Mountain** **53.51 73** *e*P **P** **15 54 13.3 +1.5**
TKM2 **Tokmak 2** **53.66 294** P **P** **15 54 13.9 +1.0**
SNR=17
ARUT **Antelope Range** **53.66 76** *e*P **P** **15 54 14.1 +1.2**
MSU **Marysvale** **53.68 75** *e*P **P** **15 54 13.9 +0.9**
USP **Ospenovka** **53.87 295** P **P** **15 54 15.2 +0.8**
SNR=47
CHMS **Chumysh** **53.97 295** P **P** **15 54 15.6 +0.4**
SNR=31
SRU **San Rafael** **53.98 73** *e*P **P** **15 54 15.7 +0.5**
SRU pmax pmax
comp=Z,42nm,1.2s,mb5.2
SRU **San Rafael** **53.98 73** *e*P **P** **15 54 15.7 +0.5**
comp=Z,42nm,1.2s,mb5.2
FINES **FINESS Array B** **54.06 337** P **P** **15 54 15.1 -0.7**
comp=Z,8.2nm,0.8s,mb4.7,baz=22,slow=8.7,SNR=19
FINES PcP PcP 15 55 19.4 -1.1
comp=Z,10nm,1.0s,baz=204,slow=4.2,SNR=4.4
FINES LR LR 16 21 31.7
comp=Z,170nm,18.3s,MS4.1,baz=182,slow=41
FINES **FINESS Array B** **54.06 337** P **P** **15 54 15.1 -0.7**
FINES 15 55 19.5
FINES pmax pmax
comp=Z,8.0nm,0.8s
FINES MLR MLR
comp=Z,170nm,18.3s
FINES **FINESS Array B** **54.06 337** P **P** **15 54 15.1 -0.7**
FINES PcP PcP 15 55 19.4 -1.1
FINES LR LR 16 21 31.7
KBK **Karagaybulak** **54.15 294** P **P** **15 54 17.4 +0.9**
SNR=23
FRU **Bishkek** **54.16 295**⇑ *i*P **P** **15 54 18.0 +1.5**
FRU *i* 15 56 18.0
FRU pmax pmax
comp=Z,80nm,1.9s,mb5.3
FRU MLR MLR
comp=Z,2μm,14.0s,MS5.2
AAK **Ala-Archa** **54.37 295** P **P** **15 54 19.0 +0.9**
SNR=32
AAK **Ala-Archa** **54.37 295** P **P** **15 54 17.0 -1.1**
comp=Z,322nm,0.7s,SNR=25
KZA **Kyzart** **54.48 294** P **P** **15 54 20.0 +1.1**
SNR=22
EKS2 **Erkin-Say** **54.67 295** P **P** **15 54 21.1 +0.9**
SNR=54
UCH **Uchtor** **54.69 294** P **P** **15 54 21.5 +1.1**
SNR=17
NEN **Nelson** **54.71 79** *e*P **P** **15 54 21.4 +0.9**
PUL **Pulkovo** **54.74 334** *ce*P **P** **15 54 30.5 +10**
PUL MLR MLR
comp=Z,606nm,14.0s,MS4.8
AKTK **Aktyubinsk** **54.76 312** P **P** **15 54 21.0 +0.1**
AKTO **Aktyubinsk** **54.76 312** P **P** **15 54 21.0 +0.1**
comp=Z,15nm,0.9s,mb5.0,baz=43,slow=8.1,SNR=36
AKTO **Aktyubinsk** **54.76 312** P **P** **15 54 21.0 +0.1**
AKTO pmax pmax
comp=Z,15nm,0.9s,mb5.0
ORR **Orenburg** **54.95 315**⇑ *i*P **P** **15 54 22.4 +0.2**
ORR pmax pmax
comp=Z,160nm,2.0s,mb5.7
ORR MLR MLR
comp=Z,890nm,16.0s,MS4.9
AB31 **Akbulak array** **55.02 310** P **P** **15 54 22.9 +0.2**
AB31 pmax pmax
comp=Z,17nm,0.7s,mb5.2
EYMN **Ely** **55.11 53** *e*P **P** **15 54 22.6 -0.8**
comp=Z,24nm,1.1s,mb5.1
AML **Almayashu** **55.13 295** P **P** **15 54 24.9 +1.3**
SNR=23
KMI **Kunming** **55.17 259** P **P** **15 54 23.8 -0.1**
KMI AP pP 15 54 28.0 -1.3
KMI XP sP 15 54 29.8 -1.6
KMI PCP PcP 15 55 25.1 +0.2
KMI PP PP 15 56 28.8 +1.5
KMI S **S** **16 02 04.4 -1.9**
KMI SS SS 16 05 48.5 -1.9
KMI AMB AMB
comp=Z,19nm,1.0s,mb5.1
KMI AMB AMB
comp=Z,154nm,3.9s
KMI LR LR
comp=N,767nm,16.3s,MS5.0
KMI LR LR
comp=E,797nm,14.6s,MS5.0
KMI LR LR
comp=Z,556nm,14.0s,MS4.8
PV10 **Paradox Valley** **55.26 72** *e*P **P** **15 54 26.6 +2.1**
SMCO **Snowmass** **55.57 70** *e*P **P** **15 54 27.8 +1.0**
comp=Z,18nm,1.0s,mb5.1
PFO **Pinyon Flat Ob** **55.58 82** P **P** **15 54 28.3 +1.5**
comp=Z,103nm,1.4s,mb5.7,SNR=5.2
PFO **Pinyon Flat Ob** **55.58 82** *e*P **P** **15 54 27.1 +0.3**
PFO pmax pmax
comp=Z,29nm,1.2s,mb5.2
PFO **Pinyon Flat Ob** **55.58 82** *e*P **P** **15 54 27.1 +0.3**
comp=Z,30nm,1.2s,mb5.2
PV01 **Paradox Valley** **55.67 72** *e*P **P** **15 54 27.9 +0.5**
ISCO **Idaho Springs** **55.69 69** *e*P **P** **15 54 28.9 +1.3**
ISCO pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ISCO **Idaho Springs** **55.69 69** *e*P **P** **15 54 28.9 +1.3**
comp=Z,10nm,0.9s,mb4.9
KK31 **Karatay Array** **55.74 298** *i* P **P** **15 54 27.8 -0.1**
KKAR **Karatay Array** **55.74 298** P **P** **15 54 27.7 -0.2**
KKAR pmax pmax
comp=Z,25nm,0.8s,mb5.3
KSH **Kashi** **56.21 291** *e*P **P** **15 54 32.0 +0.7**
KSH *e*AP pP 15 54 36.0 -0.8
KSH *e*XP sP 15 54 39.0 +0.2
KSH *e*PCP PcP 15 55 31.1 +2.2
KSH *e*PP PP 15 56 38.4 +1.8
KSH *e*SCP ScP 15 59 27.3 -0.1
KSH *e*PCS PcS 15 59 29.3 -0.1
KSH *e*S **S** **16 02 16.1 -4.1**
KSH *e*SCS ScS 16 04 17.3 -2.6
KSH *e*SS SS 16 06 02.1 -4.6
KSH AMB AMB
comp=Z,160nm,4.0s
KSH LR LR
comp=N,1μm,11.3s,MS5.4
KSH LR LR
comp=E,1μm,10.2s,MS5.4
KSH LR LR
comp=Z,1μm,10.5s,MS5.2
MOS **Moscow** **56.63 328** *e*P **P** **15 54 34.3 0.0**
MOS *e* 15 56 45.4
MOS pmax pmax
comp=Z,66nm,1.5s,mb5.4
MOS MLR MLR
comp=Z,1μm,17.0s,MS5.0
NB2 **NORSAR Subarra** **56.77 345** P **P** **15 54 34.4 -0.9**
comp=Z,12nm,0.7s,mb5.0,baz=15,slow=7.4
NOA **NORSAR Array B** **56.77 345** P **P** **15 54 34.7 -0.5**
comp=Z,11nm,0.7s,mb5.0,baz=14,slow=7.3,SNR=19
NOA PcP PcP 15 55 29.8 -1.2
comp=Z,3.4nm,0.8s,baz=19,slow=2.9,SNR=3.5
NOA LR LR 16 21 33.5
comp=Z,174nm,19.7s,MS4.2,baz=40,slow=39
NOA **NORSAR Array B** **56.77 345** P **P** **15 54 34.7 -0.6**
NOA 15 55 29.8
NOA pmax pmax
comp=Z,11nm,0.7s
NOA MLR MLR
comp=Z,174nm,19.7s
NOA **NORSAR Array B** **56.77 345** P **P** **15 54 34.7 -0.6**
NOA PcP PcP 15 55 29.8 -1.2
NOA LR LR 16 21 33.5
LSA **Lhasa** **56.99 272** P **P** **15 54 37.6 +0.7**
LSA AMB AMB
comp=Z,20nm,1.1s,mb5.1
LSA **Lhasa** **56.99 272** *e*P **P** **15 54 37.1 +0.2**
LSA pmax pmax
comp=Z,30nm,1.1s,mb5.2
LSA **Lhasa** **56.99 272** *e*P **P** **15 54 37.1 +0.3**
comp=Z,30nm,1.1s,mb5.2
QIZ **Qiongzhong** **57.08 249** P **P** **15 54 37.6 +0.1**
QIZ S **S** **16 02 33.3 +1.7**
QIZ XS sS 16 02 39.1 -1.5
QIZ SS SS 16 06 26.0 +5.7
QIZ AMB AMB
comp=Z,130nm,6.1s
QIZ LR LR
comp=E,1μm,15.9s
QIZ LR LR
comp=Z,998nm,15.0s,MS5.0
SCHQ **Schefferville** **57.38 33** P **P** **15 54 38.4 -1.3**
comp=Z,4.7nm,0.7s,mb4.7,baz=333,slow=7.3,SNR=8.3
SCHQ LR LR 16 23 16.7
comp=Z,388nm,19.2s,MS4.5,baz=114,slow=40
OBN **Obninsk** **57.47 328** *c* *i*P **P** **15 54 39.9 -0.3**
OBN pmax pmax
comp=Z,54nm,1.5s,mb5.4
OBN MLR MLR
comp=Z,1μm,19.0s,MS5.0
KONO **Kongsberg** **58.32 346** *c* *i*P **P** **15 54 45.8 -0.4**
KONO **Kongsberg** **58.32 346**⇑ *i*P **P** **15 54 45.9 -0.3**
CBKS **Cedar Bluff** **59.13 65** P **P** **15 54 52.5 +0.6**
CBKS pmax pmax
comp=Z,90nm,1.1s,mb5.7
CBKS **Cedar Bluff** **59.13 65** *e*P **P** **15 54 52.1 +0.2**
comp=Z,90nm,1.1s,mb5.7
ANMO **Albuquerque** **59.25 73** *e*P **P** **15 54 53.3 +0.6**
ANMO pmax pmax
comp=Z,18nm,1.4s
ANMO MLR MLR
comp=Z,474nm,21.0s
ANMO **Albuquerque** **59.25 73** *e*P **P** **15 54 53.2 +0.6**
comp=Z,18nm,1.4s,mb4.9
ANMO LR LR
comp=Z,474nm,21.0s,MS4.6
TUC **Tucson** **59.37 78** *e*P **P** **15 54 54.2 +0.7**
TUC pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
TUC **Tucson** **59.37 78** *e*P **P** **15 54 54.2 +0.6**
comp=Z,6.2nm,0.9s,mb4.6
LAZ **Ladron** **59.38 74** *e*P **P** **15 54 54.0 +0.4**
VRHR **Novokhopersk** **59.63 323** *e*P **P** **15 54 55.2 -0.1**
VRHR pmax pmax
comp=Z,30nm,1.6s,mb5.1
VRHR pmax pmax
comp=N,50nm,1.7s
VRHR pmax pmax
comp=E,20nm,0.7s
LPM **Los Pinos Moun** **59.69 73** P **P** **15 54 55.8 +0.1**
BNM **Barren Site** **59.83 73** *e*P **P** **15 54 56.7 +0.1**
KSU1 **Kansas State U** **60.27 63** *e*P **P** **15 54 59.2 -0.5**
GUN **Gumba** **61.04 276** *e*P **P** **15 55 04.5 -0.5**
comp=E,176nm,1.0s,mb6.1
JIRN **Jiri** **61.10 275** *e*P **P** **15 55 04.3 -1.1**
comp=E,57nm,1.2s,mb5.6
KKN **Kakani** **61.43 276** *e*P **P** **15 55 07.0 -0.6**
comp=E,22nm,0.7s,mb5.4
AMTX **Amarillo** **61.51 69** *e*P **P** **15 55 07.5 -0.6**
comp=E,22nm,0.8s,mb5.3
NANT **Nan** **61.54 257**⇑ P **P** **15 55 06.0 -2.4**
comp=E,228nm,1.0s
PKI **Pulchoki** **61.55 276** *e*P **P** **15 55 07.8 -0.6**
comp=E,25nm,0.9s,mb5.4
GKN **Gorkha** **61.57 277** *e*P **P** **15 55 07.6 -0.9**
comp=E,65nm,1.0s,mb5.7
DMN **Daman** **61.67 276** *e*P **P** **15 55 08.6 -0.6**
comp=E,104nm,1.7s,mb5.7
CPRX **Cap Rock** **62.04 72** *e*P **P** **15 55 12.1 +0.4**
KOLN **Koldanda** **62.27 278** *e*P **P** **15 55 12.6 -0.6**
comp=E,46nm,1.1s,mb5.5
CHTO **Chiang Mai** **62.37 259** *e*P **P** **15 55 13.3 -0.6**
CHTO pmax pmax
comp=Z,12nm,1.1s,mb4.9
CHTO **Chiang Mai** **62.37 259** *e*P **P** **15 55 13.3 -0.6**
comp=Z,12nm,1.1s,mb5.0
MNTX **Cornudas Mount** **62.44 74** *e*P **P** **15 55 14.6 +0.2**
comp=Z,27nm,1.3s,mb5.2
GDL2 **Guadalupe Moun** **62.50 73** *e*P **P** **15 55 15.4 +0.6**
KKTK **Khon Kaen** **62.67 254** P **P** **15 55 16.0 +0.1**
comp=Z,370nm,0.9s
WMOK **Wichita Mounta** **62.94 67** *e*P **P** **15 55 17.4 -0.3**
WMOK pmax pmax
comp=Z,48nm,0.9s,mb5.6
WMOK MLR MLR
comp=Z,706nm,19.0s,MS4.9
WMOK **Wichita Mounta** **62.94 67** *e*P **P** **15 55 17.4 -0.3**
comp=Z,48nm,0.9s,mb5.6
WMOK LR LR
comp=Z,706nm,19.0s,MS4.9
AKASG **Malin Array Be** **63.33 331** P **P** **15 55 19.4 -0.9**
comp=Z,12nm,0.9s,mb5.1,baz=23,slow=6.5,SNR=46
AKASG **Malin Array Be** **63.33 331** P **P** **15 55 19.4 -0.9**
AKASG pmax pmax
comp=Z,13nm,0.9s
CCM **Cathedral Cave** **63.43 59** P **P** **15 55 20.5 -0.5**
CCM pmax pmax
comp=Z,32nm,1.1s,mb5.4
CCM **Cathedral Cave** **63.43 59** *e*P **P** **15 55 20.3 -0.7**
comp=Z,32nm,1.1s,mb5.4
BSEG **Bad Segeberg** **63.80 344** *e*P **P** **15 55 23.3 -0.1**
FVM **French Village** **63.84 59** *e*P **P** **15 55 23.0 -0.7**
FVM pmax pmax
comp=Z,71nm,1.1s,mb5.6
FVM **French Village** **63.84 59** *e*P **P** **15 55 23.0 -0.7**
comp=Z,71nm,1.1s,mb5.6
LONY **Lake Ozonia** **64.10 43** *e*P **P** **15 55 25.0 -0.4**
ERPA **Erie** **64.39 49** *e*P **P** **15 55 27.2 -0.1**
comp=Z,41nm,1.0s,mb5.4
GOF **Gofitskoye** **64.55 319** *e*P **P** **15 55 28.9 +0.6**
GOF pmax pmax
comp=Z,120nm,1.3s,mb5.8
NDI **New Delhi** **64.57 283** *ex* x 15 55 25.0
ALLY **Alegheny Colle** **64.74 49** *e*P **P** **15 55 28.7 -0.9**
LTX **Lajitas** **65.22 74** *e*P **P** **15 55 33.1 +0.4**
LTX pmax pmax
comp=Z,34nm,1.4s,mb5.2
LTX **Lajitas** **65.22 74** *e*P **P** **15 55 33.1 +0.4**
comp=Z,34nm,1.4s,mb5.2
ABKT **Ailbek** **65.25 304** P **P** **15 55 33.7 +0.8**
comp=Z,210nm,0.8s,SNR=9.3
LBNH **Lisbon** **65.31 42** *e*P **P** **15 55 34.1 +0.8**
LBNH pmax pmax
comp=Z,43nm,1.1s,mb5.4
LBNH **Lisbon** **65.31 42** *e*P **P** **15 55 34.1 +0.8**
comp=Z,43nm,1.1s,mb5.4
MIAR **Mount Ida** **65.41 63** *e*P **P** **15 55 33.3 -0.6**
MIAR pmax pmax
comp=Z,25nm,1.0s,mb5.2
MIAR **Mount Ida** **65.41 63** *e*P **P** **15 55 33.3 -0.7**
comp=Z,25nm,1.0s,mb5.2
KIV **Kislovodsk** **65.65 318** *c* *i*P **P** **15 55 36.5 +1.0**
KIV pmax pmax
comp=Z,38nm,1.2s,mb5.3
KIV MLR MLR
comp=Z,200nm,16.0s,MS4.4
KIV **Kislovodsk** **65.65 318** *e*P **P** **15 55 35.4 0.0**
comp=Z,32nm,1.1s,mb5.3
HNH **Hanover** **65.67 42** *e*P **P** **15 55 36.2 +0.6**
comp=Z,1.1nm,0.8s
BINY **Binghamton** **65.75 46** *e*P **P** **15 55 35.8 -0.3**
comp=Z,20nm,0.9s,mb5.2
OJC **Ojcow** **65.83 337** *e*P **P** **15 55 36.7 +0.1**
CLZ **Clausthal** **65.83 343** *e*P **P** **15 55 36.6 -0.1**
comp=Z,26nm,1.4s,mb5.1
CLZ **Clausthal** **65.83 343** *e*P **P** **15 55 36.6 -0.1**
CLZ pmax pmax
comp=Z,26nm,1.4s,mb5.1
KSP **Ksiaz** **65.87 339** *e*P **P** **15 55 36.2 -0.7**
CLL **Collm** **65.97 341** *e*P **P** **15 55 36.9 -0.6**
comp=Z,10.0nm,0.8s,mb4.9
CLL **Collm** **65.97 341**⇓ *i*P **P** **15 55 37.1 -0.4**
comp=Z,44nm,1.9s,mb5.2
CLL *i* pP pP 15 55 48.5 +5.5
CLL *e*PP PP 15 58 00.0 -2.7
CLL *e*S S 16 04 36.0 +12
CLL Lm 16 27 00.0
comp=N,300nm,21.6s
CLL Lm 16 27 00.0
comp=E,200nm,21.0s
CLL Lm 16 27 00.0
comp=Z,200nm,19.5s
JCT **Junction City** **66.06 70** *e*P **P** **15 55 38.2 +0.1**
JCT pmax pmax
comp=Z,52nm,1.3s,mb5.4
JCT **Junction City** **66.06 70** *e*P **P** **15 55 38.2 +0.2**
comp=Z,52nm,1.3s,mb5.4
BRG **Berggiesshubel** **66.24 341** *e*P **P** **15 55 38.5 -0.8**
comp=Z,4.1nm,1.0s,mb4.4
BRG *e* 15 55 54.0
comp=Z,7.4nm,1.3s
BRG
comp=Z,293nm,15.6s
BRG
comp=N,223nm,13.4s
BRG
comp=E,382nm,13.4s
BRG **Berggiesshubel** **66.24 341** *e*P **P** **15 55 38.5 -0.8**
comp=E,4.1nm,1.0s,mb4.4
BRG *e* 15 55 54.0
BRG LR LR
comp=Z,290nm,15.6s,MS4.6
UPC **Upice** **66.25 339** *e*P **P** **15 55 39.2 -0.1**
UPC *e*pP pP 15 55 54.0 +9.2
ZEI **Tsey** **66.31 317** *e*P **P** **15 55 39.7 0.0**
ZEI *e**PP pP 15 55 45.4 +0.2
ZEI pmax pmax
comp=Z,37nm,1.2s,mb5.3
STHS **Stebnicka Huta** **66.31 335** *e*P **P** **15 55 40.2 +0.5**
STHS *e*PP PP 15 58 03.9 -1.8
DPC **Dobruska-Polom** **66.34 339** *e*P **P** **15 55 39.9 0.0**
DPC *e*pP pP 15 55 52.2 +6.7
DPC AMS AMS 16 30 40.0
comp=Z,400nm,12.1s
WVT **Waverly** **66.50 58** *e*P **P** **15 55 39.6 -1.3**
WVT pmax pmax
comp=Z,37nm,0.9s,mb5.4
WVT **Waverly** **66.50 58** *e*P **P** **15 55 39.6 -1.3**
comp=Z,37nm,0.9s,mb5.4
OKC **Ostrava-Krasne** **66.51 338** *e*P **P** **15 55 41.1 +0.1**
OKC *e*pP pP 15 55 53.9 +7.4
OKC AMS AMS 16 31 38.2
ANN **Anapa** **66.53 322** *e*P **P** **15 55 40.2 -0.9**
ANN *e**PP pP 15 55 45.5 -1.1
ANN *e*S S 16 04 31.6 +0.4
ANN pmax pmax
comp=Z,42nm,1.3s,mb5.3
ANN MLR MLR
comp=E,558nm,22.0s
ANN MLR MLR
comp=Z,180nm,22.0s,MS4.2
KOLS **Kolonicke sedl** **66.55 335** *e*P **P** **15 55 44.3 +3.0**
MORC **Moravsky Berou** **66.68 338**⇑ P **P** **15 55 42.1 0.0**
MORC **Moravsky Berou** **66.68 338** *e*P **P** **15 55 41.2 -0.9**
comp=Z,23nm,1.4s,mb5.0
MOX **Moxa** **66.82 342** *e*P **P** **15 55 42.2 -0.8**
MOX **Moxa** **66.82 342** *e*P **P** **15 55 42.4 -0.6**
KIS **Kishinev** **66.87 329** *e*P **P** **15 55 41.0 -2.3**
KIS *e*S S 16 04 28.0 -7.3
KIS *e*PS 16 04 55.0
KIS MLR MLR
comp=N,900nm,16.0s,MS5.2
KIS MLR MLR
comp=E,600nm,16.0s,MS5.2
KIS MLR MLR
comp=Z,2μm,16.0s,MS5.3
KIS MLR MLR
comp=Z,2μm,16.0s
TANN **Tannenbergstha** **66.92 342** *e*P **P** **15 55 42.9 -0.7**
SOC **Sochi** **66.93 320** *e*P **P** **15 55 43.9 +0.2**
SOC *e* 15 55 51.8
SOC *e*S S 16 04 27.2 -8.8
SOC *e* 16 05 38.9
SOC pmax pmax
comp=Z,27nm,1.2s,mb5.2
SOC MLR MLR
comp=Z,508nm,17.0s,MS4.8
HRV **Harvard--Oak R** **66.98 42** *e*P **P** **15 55 44.7 +0.7**
HRV pmax pmax
comp=Z,17nm,1.0s,mb5.0
HRV **Harvard--Oak R** **66.98 42** P **P** **15 55 44.0 -0.1**
comp=Z,17nm,1.0s,mb5.0
PRU **Pruhonice** **67.00 340** *e*P **P** **15 55 43.8 -0.3**
PRU *e*pP pP 15 55 53.2 +3.6
PRU AMS AMS 16 31 10.0
comp=Z,400nm,14.4s
NKC **Novy Kostel** **67.09 342** *e*P **P** **15 55 43.9 -0.8**
NKC *e*pP pP 15 55 56.6 +6.3
NKC AMS AMS 16 31 30.0
comp=Z,500nm,13.8s
BURAR **Bucovina Array** **67.15 332**⇑ *i*P **P** **15 55 45.2 +0.1**
BURAR **Bucovina Array** **67.15 332**⇑ P **P** **15 55 45.2 +0.1**
WES **Weston** **67.17 42** *e*P **P** **15 55 44.1 -1.1**
WES pmax pmax
comp=Z,43nm,1.0s,mb5.4
WES **Weston** **67.17 42** *e*P **P** **15 55 44.0 -1.2**
comp=Z,43nm,1.0s,mb5.4
OXF **Oxford** **67.22 60** *e*P **P** **15 55 45.1 -0.5**
OXF pmax pmax
comp=Z,72nm,1.0s,mb5.7
OXF **Oxford** **67.22 60** *e*P **P** **15 55 45.1 -0.5**
comp=Z,72nm,1.0s,mb5.7
NATX **Nacogdoches** **67.30 65** *e*P **P** **15 55 46.3 +0.3**
comp=Z,32nm,0.8s,mb5.4
VRAC **Vranov** **67.30 339**⇑ P **P** **15 55 46.2 +0.2**
KECS **Kecovo** **67.35 336** *e*P **P** **15 55 46.6 +0.3**
SIM **Simferopol'** **67.35 325** *e*P **P** **15 55 46.6 +0.2**
SIM pmax pmax
comp=Z,17nm,1.4s,mb4.9
SIM MLR MLR
comp=Z,230nm,13.9s,MS4.5
PLAL **Pickwick Lake** **67.38 59** *e*P **P** **15 55 45.2 -1.3**
comp=Z,25nm,0.9s,mb5.2
TREC **Trest** **67.51 339** *e*P **P** **15 55 47.1 -0.2**
ROTZ **Rotzenmuhle** **67.58 342** *e*P **P** **15 55 47.7 -0.1**
MEM **Membach** **67.60 346** P **P** **15 55 47.6 -0.3**
VYHS **Vyhne** **67.66 337** *e*P **P** **15 55 48.7 +0.4**
TNS **Taunus Mts** **67.68 344** *e*P **P** **15 55 48.8 +0.4**
GRF **Grafenberg Arr** **67.81 342** *e*P **P** **15 55 49.0 -0.2**
comp=Z,45nm,1.6s,mb5.2
GRF **Grafenberg Arr** **67.81 342** *e*P **P** **15 55 49.0 -0.2**
GRF pmax pmax
comp=Z,45nm,1.6s,mb5.2
GRF **Grafenberg Arr** **67.81 342** *e*P **P** **15 55 49.0 -0.2**
GRF pmax pmax
comp=Z,45nm,1.6s,mb5.2
TZTN **Tazewell** **67.87 54** *e*P **P** **15 55 48.9 -0.7**
SNF **Seneffe** **67.90 347**⇓ P **P** **15 55 49.3 -0.5**
SMOL **Smolenice** **67.91 338** *e*P **P** **15 55 51.1 +1.2**
KHC **Kasperske Hory** **67.99 341** *e*P **P** **15 55 49.9 -0.5**
KHC *e*pP pP 15 55 59.7 +3.8
KHC AMS AMS 16 32 20.0
comp=Z,400nm,11.4s
KHC **Kasperske Hory** **67.99 341**⇑ *i*P **P** **15 55 50.1 -0.3**
PSZ **Piszkesteto** **68.01 336** *e*P **P** **15 55 51.2 +0.7**
PSZ pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
PSZ **Piszkesteto** **68.01 336** *e*P **P** **15 55 51.2 +0.7**
comp=Z,6.0nm,0.9s,mb4.6
FWV **Forest Hill** **68.04 52** *e*P **P** **15 55 50.5 -0.1**
SWET **Sewanee** **68.06 57** *e*P **P** **15 55 49.7 -1.2**
WET **Wettzell** **68.09 341** *e*P **P** **15 55 51.0 0.0**
GEC2 **GERESS Array S** **68.24 340** *e*P **P** **15 55 51.7 -0.3**
comp=Z,6.0nm,0.8s,mb4.7
GEC2 **GERESS Array S** **68.24 340** *e*P **P** **15 55 51.7 -0.3**
GEC2 pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
GERES **GERESS Array B** **68.24 340** P **P** **15 55 51.8 -0.1**
comp=Z,2.7nm,0.7s,mb4.4,baz=24,slow=4.4,SNR=23
GERES LR LR 16 29 15.3
comp=Z,244nm,18.8s,MS4.5,baz=197,slow=39
GERES **GERESS Array B** **68.24 340** P **P** **15 55 51.8 -0.2**
GERES pmax pmax
comp=Z,3.0nm,0.7s
GERES MLR MLR
comp=Z,244nm,18.8s
DOU **Dourbes** **68.27 347**⇓ P **P** **15 55 50.5 -1.7**
ZST **Bratislava** **68.28 338** *e*P **P** **15 55 53.3 +1.1**
GNI **Garni** **68.35 315** P **P** **15 55 53.3 +0.6**
comp=Z,3.0nm,0.3s,mb4.8,baz=329,slow=15,SNR=11
GNI **Garni** **68.35 315** *c* *i*P **P** **15 55 54.3 +1.6**
GNI pmax pmax

comp=Z,500nm,1.4s
GNI MLR MLR

comp=Z,900nm,22.0s
GNI Garni 68.35 315 *e*P **P 15 55 52.0 -0.6**
comp=Z,32nm,1.1s,mb5.3
ELN Prospectdale 68.37 52 P **P 15 55 52.1 -0.6**
CPCT Cooper Cave 68.43 56 *e*P **P 15 55 53.0 -0.2**
VRI Vrincioaia 68.44 330⇑*i*P **P 15 55 54.5 +1.3**
VRI Vrincioaia 68.44 330⇑⇑P **P 15 55 54.5 +1.3**
PLOR Plostina 68.47 330⇑⇑P **P 15 55 55.1 +1.7**
BLA Blacksburg 68.51 52 *e*P **P 15 55 52.4 -1.2**
BLA pmax pmax

comp=Z,3.0nm,1.0s,mb4.2
BLA Blacksburg 68.51 52 *e*P **P 15 55 52.4 -1.2**
comp=Z,3.2nm,1.0s,mb4.2
CFR Carcaliu 68.74 329⇑*i*P **P 15 55 55.9 +0.8**
CFR Carcaliu 68.74 329⇑⇑P **P 15 55 55.9 +0.8**
MLR Muntele Rosu 68.98 331 P **P 15 55 58.2 +1.6**
comp=Z,11nm,0.8s,mb4.8,baz=105,slow=0.3,SNR=16
MLR Muntele Rosu 68.98 331⇑⇑*i*P **P 15 55 58.9 +2.3**
MLR Muntele Rosu 68.98 331⇑⇑P **P 15 55 58.9 +2.3**
VOIR 69.24 331⇑⇑*i*P **P 15 55 59.6 +1.4**
VOIR 69.24 331⇑⇑P **P 15 55 59.6 +1.4**
TIRR Tirgusor 69.34 329⇑*i*P **P 15 55 59.1 +0.3**
TIRR Tirgusor 69.34 329⇑⇑P **P 15 55 59.1 +0.3**
BFO Black Forest 69.55 344 *e*P **P 15 55 59.5 -0.6**
comp=Z,6.0nm,0.9s,mb4.5
BFO Black Forest 69.55 344 *e*P **P 15 55 59.5 -0.6**
BFO pmax pmax

comp=Z,6.0nm,0.9s,mb4.5
CDF Champ du Feu 69.61 345 *e*P **P 15 55 59.2 -1.3**
comp=Z,7.1nm,0.7s,mb4.4
CDF Champ du Feu 69.61 345 *e*P **P 15 55 59.2 -1.3**
CDF pmax pmax

comp=Z,4.0nm,0.7s,mb4.5
CDF Champ du Feu 69.61 345 *e*P **P 15 55 59.2 -1.3**
comp=Z,3.5nm,0.7s,mb4.4
BZS Buzias 69.84 334⇑*i*P **P 15 56 02.2 +0.3**
FLN La Foliniere 70.08 350 *e*P **P 15 56 02.0 -1.4**
comp=Z,31nm,1.0s,mb4.9
FLN *e*R

comp=Z,197nm,22.8s
FLN La Foliniere 70.08 350 *e*P **P 15 56 02.0 -1.4**
FLN pmax pmax

comp=Z,15nm,1.0s,mb4.9
FLN MLR MLR

comp=Z,200nm,22.8s,MS4.3
FLN La Foliniere 70.08 350 *e*P **P 15 56 02.0 -1.4**
comp=Z,15nm,1.0s,mb4.9
FLN LR LR

comp=Z,200nm,22.8s,MS4.3
HAU Haudompre 70.12 345 *e*P **P 15 56 02.4 -1.2**
comp=Z,8.0nm,0.6s,mb4.5
HAU *e*R

comp=Z,204nm,22.8s
HAU Haudompre 70.12 345 *e*P **P 15 56 02.4 -1.2**
HAU pmax pmax

comp=Z,4.0nm,0.6s,mb4.5
HAU MLR MLR

comp=Z,200nm,22.8s,MS4.3
HAU Haudompre 70.12 345 *e*P **P 15 56 02.4 -1.2**
comp=Z,4.0nm,0.6s,mb4.5
HAU LR LR

comp=Z,200nm,22.8s,MS4.3
HINF Hinteralfeld 70.25 345 *e*P **P 15 56 03.0 -1.4**
comp=Z,3.4nm,0.6s,mb4.2
HINF Hinteralfeld 70.25 345 *e*P **P 15 56 03.0 -1.4**
HINF pmax pmax

comp=Z,2.0nm,0.6s,mb4.2
HINF Hinteralfeld 70.25 345 *e*P **P 15 56 03.0 -1.4**
comp=Z,1.7nm,0.6s,mb4.2
GRR Gorron 70.49 350 *e*P **P 15 56 04.6 -1.3**
comp=Z,56nm,1.1s,mb5.1
GRR Gorron 70.49 350 *e*P **P 15 56 04.6 -1.3**
GRR pmax pmax

comp=Z,28nm,1.1s,mb5.1
GRR Gorron 70.49 350 *e*P **P 15 56 04.6 -1.3**
comp=Z,28nm,1.1s,mb5.1
ROBS Robic 70.80 340 *e*PKPdf **P 15 56 07.2 -0.6**
LOR Lormes 71.14 347 *e*P **P 15 56 08.0 -1.8**
comp=Z,19nm,0.8s,mb4.8
LOR *e*R

comp=Z,172nm,21.8s
LOR Lormes 71.14 347 *e*P **P 15 56 08.0 -1.8**
LOR pmax pmax

comp=Z,10.0nm,0.8s,mb4.8
LOR MLR MLR

comp=Z,170nm,21.8s,MS4.3
LOR Lormes 71.14 347 *e*P **P 15 56 08.0 -1.8**
comp=Z,9.6nm,0.8s,mb4.8
LOR LR LR

comp=Z,170nm,21.8s,MS4.3
BOJS Bojanci 71.21 338 *e*PKPbc **P 15 56 12.4 +2.2**
SSF Saint Saulge 71.39 347 *e*P **P 15 56 09.5 -1.8**
comp=Z,5.4nm,0.6s,mb4.4
SSF Saint Saulge 71.39 347 *e*P **P 15 56 09.5 -1.8**
SSF pmax pmax

comp=Z,3.0nm,0.6s,mb4.4
SSF Saint Saulge 71.39 347 *e*P **P 15 56 09.5 -1.8**
comp=Z,2.7nm,0.6s,mb4.3
CABF La Chapelle 71.53 345 *e*P **P 15 56 10.2 -2.0**
comp=Z,20nm,1.1s,mb4.7
CABF La Chapelle 71.53 345 *e*P **P 15 56 10.2 -2.0**
CABF pmax pmax

comp=Z,10.0nm,1.1s,mb4.7
CABF La Chapelle 71.53 345 *e*P **P 15 56 10.2 -2.0**
comp=Z,9.9nm,1.1s,mb4.7
AVF Avril sur Loir 71.67 347 *e*P **P 15 56 11.3 -1.7**
comp=Z,25nm,1.0s,mb4.8
AVF Avril sur Loir 71.67 347 *e*P **P 15 56 11.3 -1.7**
AVF pmax pmax

comp=Z,12nm,1.0s,mb4.8
AVF Avril sur Loir 71.67 347 *e*P **P 15 56 11.3 -1.7**
comp=Z,12nm,1.0s,mb4.8
SMF Signal de Mont 71.76 347 *e*P **P 15 56 12.1 -1.5**
comp=Z,23nm,1.1s,mb4.7
SMF Signal de Mont 71.76 347 *e*P **P 15 56 12.1 -1.5**
SMF pmax pmax

comp=Z,12nm,1.1s,mb4.7
SMF Signal de Mont 71.76 347 *e*P **P 15 56 12.1 -1.5**
comp=Z,12nm,1.1s,mb4.7
COW Cow Castle Cre 71.76 54 *e*P **P 15 56 12.5 -1.1**
MALT Malatya 72.12 319⇑P **P 15 56 17.1 +1.4**
MALT Malatya 72.12 319 *e*P **P 15 56 16.6 +0.9**
comp=Z,22nm,1.2s,mb5.0
MFF Saint Martin d 72.20 350 *e*P **P 15 56 14.2 -2.0**
TCF Toulx Ste Croi 72.29 348 *e*P **P 15 56 14.8 -1.9**
comp=Z,8.2nm,0.8s,mb4.4
TCF Toulx Ste Croi 72.29 348 *e*P **P 15 56 14.8 -1.9**
TCF pmax pmax

comp=Z,4.0nm,0.8s,mb4.4
TCF Toulx Ste Croi 72.29 348 *e*P **P 15 56 14.8 -1.9**
comp=Z,4.1nm,0.8s,mb4.4
BR131 Keskin Array S 72.30 323 *e*P **P 15 56 16.9 +0.1**
comp=Z,5.0nm,0.7s,mb4.5
BRTR Keskin Array B 72.30 323 P **P 15 56 17.6 +0.8**
comp=Z,8.1nm,1.0s,mb4.6,baz=46,slow=3.6,SNR=40
BRTR Keskin Array B 72.30 323 P **P 15 56 17.6 +0.8**
BRTR pmax pmax

comp=Z,8.0nm,1.0s
VTS Vitosha 72.36 332⇑⇑P **P 15 56 17.3 +0.1**
ANTO Ankara 72.41 324 *e*P **P 15 56 18.2 +0.7**
ANTO pmax pmax

comp=Z,10.0nm,1.0s,mb4.7
ANTO Ankara 72.41 324 *e*P **P 15 56 18.2 +0.7**
comp=Z,10nm,1.0s,mb4.7
LPL La Plagne 72.52 345 *e*P **P 15 56 16.8 -1.3**
LPG La Plagne 72.54 345 *e*P **P 15 56 17.0 -1.2**
comp=Z,41nm,1.4s,mb4.9
LPG La Plagne 72.54 345 *e*P **P 15 56 17.0 -1.2**
LPG pmax pmax

comp=Z,21nm,1.4s,mb4.9
LPG La Plagne 72.54 345 *e*P **P 15 56 17.0 -1.2**
comp=Z,20nm,1.4s,mb4.9
HYB Hyderabad 73.48 276 *i*P **P 15 56 22.5 -1.3**
CAF Calviac 73.65 348 *e*P **P 15 56 23.1 -1.7**
SBF Sospel 74.05 344 *e*P **P 15 56 25.4 -1.8**
SMRF Simiane la Rot 74.19 345 *e*P **P 15 56 26.2 -1.7**
LASF Ste Croix 74.29 346 *e*P **P 15 56 26.9 -1.7**
comp=Z,36nm,1.4s,mb4.8
LMR La Mourre 74.70 344 *e*P **P 15 56 28.9 -2.0**
comp=Z,42nm,1.2s,mb5.0
LMR La Mourre 74.70 344 *e*P **P 15 56 28.9 -2.0**
LMR pmax pmax

comp=Z,21nm,1.2s,mb4.9
LMR La Mourre 74.70 344 *e*P **P 15 56 28.9 -2.0**

comp=Z,21nm,1.2s,mb5.0
EPF Esparros 75.70 349 *e*P **P 15 56 34.9 -1.8**
comp=Z,19nm,1.1s,mb4.7
EPF Esparros 75.70 349 *e*P **P 15 56 34.9 -1.8**
EPF pmax pmax

comp=Z,10.0nm,1.1s,mb4.7
EPF Esparros 75.70 349 *e*P **P 15 56 34.9 -1.8**
comp=Z,9.7nm,1.1s,mb4.7
SJPF Ste Jean 75.76 350 *e*P **P 15 56 35.3 -1.7**
ETSF Etsaut 75.91 349 *e*P **P 15 56 36.1 -1.8**
comp=Z,20nm,1.0s,mb4.7
ETSF Etsaut 75.91 349 *e*P **P 15 56 36.1 -1.8**
ETSF pmax pmax

comp=Z,10.0nm,1.0s,mb4.7
ETSF Etsaut 75.91 349 *e*P **P 15 56 36.1 -1.8**
comp=Z,9.9nm,1.0s,mb4.7
PSI Prapat 76.33 251 P **P 15 56 41.6 +1.3**
comp=Z,3.3nm,0.4s,mb4.6,baz=173,slow=8.0,SNR=5.3
PSI Prapat 76.33 251 P **P 15 56 41.6 +1.3**
PSI pmax pmax

comp=Z,3.0nm,0.4s,mb4.6
UMR Umm Al-Rimmam 76.72 308 *e*P **P 15 56 41.4 -1.1**
UMR AMb AMB 15 56 43.1

comp=Z,42nm,0.6s,mb5.5
KBD Kabd 77.06 307 *e*P **P 15 56 44.1 -0.3**
KBD AMb AMB 15 56 46.8

comp=Z,72nm,0.7s,mb5.7
NAY Al-Naaiem 77.17 308 *e*P **P 15 56 44.6 -0.5**
NAY AMb AMB 15 56 47.2

comp=Z,33nm,1.3s,mb5.1
RDF Al-Radifah 77.34 307 *e*P **P 15 56 45.7 -0.3**
RDF AMb AMB 15 56 47.2

comp=Z,84nm,1.0s,mb5.6
WSAR Wadi Sarin 77.77 296 P **P 15 56 48.8 +0.4**
comp=Z,6.7nm,0.9s,mb4.6,baz=74,slow=3.3,SNR=4.7
KAKA Kakadu 77.95 213 *e*P **P 15 56 45.8 -3.6**
comp=Z,13nm,0.9s,mb4.9
ESDC Sonseca Array 79.39 352 P **P 15 56 57.1 -0.2**
comp=Z,2.8nm,0.6s,mb4.4,baz=4.7,slow=6.2,SNR=10
CCIG Comitan 81.80 71 *i*P **P 15 57 12.1 +1.8**
CTA Charters Tower 82.21 198 *e*P **P 15 57 10.6 -1.8**
comp=Z,5.0nm,0.8s,mb4.5
CTA Charters Tower 82.21 198 *e*P **P 15 57 10.6 -1.8**
CTA pmax pmax

comp=Z,5.0nm,0.8s
CTAO Charters Tower 82.21 198 *e*P **P 15 57 10.9 -1.5**
CTAO pmax pmax

comp=Z,20nm,1.3s,mb4.9
CTAO Charters Tower 82.21 198 *e*P **P 15 57 10.9 -1.5**
comp=Z,20nm,1.3s,mb4.9
WRAB Tennant Creek 84.40 209 P **P 15 57 22.5 -1.2**
WRAB pmax pmax

comp=Z,20nm,1.0s,mb5.2
WRAB Tennant Creek 84.40 209 *e*P **P 15 57 21.9 -1.8**
comp=Z,20nm,1.0s,mb5.2
WB2 Warramunga Arr 84.41 209 *e*P **P 15 57 21.8 -1.9**
WRA Warramunga Arr 84.41 209 P **P 15 57 22.1 -1.7**
comp=Z,7.2nm,1.0s,mb4.8,baz=13,slow=5.3,SNR=15
WRA Warramunga Arr 84.41 209 P **P 15 57 22.1 -1.6**
WRA pmax pmax

comp=Z,7.0nm,1.0s
FITZ Fitzroy Crossi 85.00 218 *e*P **P 15 57 24.3 -2.4**
comp=Z,11nm,0.9s,mb5.0
ASAR Alice Springs 88.10 209 P **P 15 57 40.5 -1.4**
comp=Z,1.2nm,0.7s,mb4.2,baz=13,slow=4.4,SNR=11
ASAR Alice Springs 88.10 209 P **P 15 57 40.5 -1.4**
ASAR pmax pmax

comp=Z,1.0nm,0.7s
JTS JuntasÁbangare 90.34 68 LR LR 16 41 33.9
comp=Z,210nm,20.2s,MS4.6,baz=12,slow=38
SJG San Juan 91.07 48 LR LR 16 39 53.4
comp=Z,262nm,21.2s,MS4.6,baz=273,slow=36
CPD Cerro la Pandu 91.22 48 *e*P **P 15 57 57.9 +1.4**
CPD Cerro la Pandu 91.22 48 P **P 15 57 56.6 +0.1**
SDV Santo Domingo 97.76 56 LR LR 16 46 45.6
comp=Z,284nm,18.4s,MS4.8,baz=21,slow=38
PCRV Puerto La Cruz 98.92 50 LR LR 16 47 22.5
comp=Z,174nm,20.6s,MS4.5,baz=356,slow=38
ROSC El Rosal 99.86 61 LR LR 16 43 41.4
comp=Z,136nm,21.8s,MS4.4,baz=7.2,slow=35
TORD Torodi Ar. Bea 105.06 344 PP PP 16 03 12.9 -6.6
comp=Z,0.9nm,1.0s,baz=15,slow=6.3,SNR=3.1
TORD PKKPab PKKPab 16 14 56.5 -1.5

comp=Z,1.4nm,1.1s,baz=186,slow=2.6,SNR=3.7
CPUP Villa Florida 134.94 60 P Pdif 16 01 04.0 -7.8
VNDA Vanda 138.21 181 PKP PKPdf 16 04 13.5 -2.9
comp=Z,0.8nm,0.5s,baz=300,slow=4.0,SNR=8.4
VNDA Vanda 138.21 181 PKIKP PKPdf 16 04 13.5 -2.9
VNDA pmax pmax

comp=Z,1.0nm,0.5s
MAW Mawson 147.88 225 PKPbc PKPbc 16 04 34.6 -1.7
comp=Z,10nm,1.0s,baz=58,slow=4.3,SNR=8.0

*CSEM **24** 15:56:07.6±0.1, 3668N×532E, h2km, ML3.3/5, Error ellipse: s-maj=3.3km s-min=1.9km az=53.0*
*CRAAG **24** 15:56:08.9, 3666N×533E, Ml3.0*
*NEIC **24** 15:56:09.1±5.7, 3673N×553E, h10km, MG4.3(MDD), Error ellipse: s-maj=65.4km s-min=12.1km az=165.0*
*MDD **24** 15:56:09.1±0.6, 3666N×526E, h0km, mb4.3/4, Error ellipse: s-maj=9.1km s-min=4.8km az=58.0, PRXIMO*
*ISCJB **24** 15:56:09.3±0.5, 3702N±003×551E±005, h10km, Error ellipse: s-maj=6.4km s-min=4.0km az=119.7*
*LDG **24** 15:56:12.7±0.4, 3682N×551E, h10km, Ml3.4/8, Error ellipse: s-maj=7.9km s-min=6.6km az=158.0*
ISC 24 15:56:10.1±0.5,**3692N**±003×**552E**±005,**h10**km,**n40,**
σ1$**54**/62,**Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DFRA	**Djebel Bou Aff**	**0.47**	**142**	P	**Pg**	**15 56 17.0**	**-2.3**
SET	**Setif**	**0.72**	**188**	P	**Pg**	**15 56 18.0**	**-6.1**
AKF	**Akfadou**	**0.81**	**250**	P	**Pg**	**15 56 25.2**	**-0.6**
CKHR	**Kef el Ahmar**	**0.90**	**180**	P	**Pg**	**15 56 20.0**	**-7.4**
CASM	**Ain Smara**	**1.02**	**130**	P	**Pg**	**15 56 29.0**	**-0.7**
CAEH	**Ain El Ouahch**	**1.08**	**97**	P	**Pb**	**15 56 32.0**	**+1.2**
CKFL	**Kef-Lekhel**	**1.10**	**118**	P	**Pb**	**15 56 31.0**	**-0.1**
CTEI	**Djebel Teioual**	**1.11**	**140**	P	**Pb**	**15 56 31.0**	**-0.4**
CMER	**Merouana**	**1.33**	**166**	P	**Pn**	**15 56 33.0**	**-1.7**
ADJB	**Djebel Djouab**	**1.84**	**246**	P	**Pn**	**15 56 30.0**	**-12**
ETOS	**Mallorca**	**3.55**	**324**	P	**Pn**	**15 57 06.3**	**+1.1**
	12nm,0.3s,SNR=7.9						
ETOS				S	**Sn**	**15 57 47.4**	**+0.1**
	3.9nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**3.55**	**324**	P	**Pn**	**15 57 06.3**	**+1.1**
ETOS				S	**Sn**	**15 57 45.3**	**-2.0**
ETOS	**Mallorca**	**3.55**	**324**	P	**Pn**	**15 57 06.3**	**+1.1**
	12nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**3.91**	**304**	P	**Pn**	**15 57 10.6**	**+0.4**
	6.2nm,0.2s,SNR=6.7						
EIBI				S	**Sn**	**15 57 52.1**	**-4.0**
	11nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**3.91**	**304**	P	**Pn**	**15 57 10.6**	**+0.4**
EIBI				S	**Sn**	**15 57 54.3**	**-1.9**
EIBI	**Ibiza**	**3.91**	**304**	P	**Pn**	**15 57 10.6**	**+0.4**
	6.2nm,0.2s,SNR=6.7						
EIBI				S	**Sn**	**15 57 54.3**	**-1.9**
	11nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**5.61**	**323**	P	**Pn**	**15 57 34.4**	**+0.8**
	1.0nm,0.1s,SNR=7.9						
EPOB				S	**Sn**	**15 58 35.5**	**-2.6**
	5.2nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**5.61**	**323**	P	**Pn**	**15 57 34.4**	**+0.8**
EPOB				S	**Sn**	**15 58 34.7**	**-3.4**
EPOB	**Poblet**	**5.61**	**323**	P	**Pn**	**15 57 34.4**	**+0.8**
	1.0nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**5.87**	**329**	P	**Pn**		**+2.5**
	6.5nm,0.2s,SNR=7.9						
EMIR				S	**Sn**	**15 58 45.2**	**+0.8**
	11nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**5.87**	**329**	P	**Pn**	**15 57 39.6**	**+2.5**
	6.5nm,0.2s,SNR=7.9						
PGF	**Pioggiola**	**6.23**	**24**	*e*Pn	**Pn**	**15 57 43.9**	**+1.8**
PGF				*e*Sn	**Sn**	**15 58 52.9**	**-0.4**
	1.7nm,0.2s						
PGF	**Pioggiola**	**6.23**	**24**	*e*Pn	**Pn**	**15 57 43.9**	**+1.8**
PGF				*e*Sn	**Sn**	**15 58 52.9**	**-0.4**
	0.9nm,0.2s						
LMR	**La Mourre**	**6.45**	**6**	*e*Pn	**Pn**	**15 57 47.2**	**+2.1**
LMR				*e*Sn	**Sn**	**15 58 57.5**	**-1.3**
	3.4nm,0.2s						
LMR	**La Mourre**	**6.45**	**6**	P	**Pn**	**15 57 47.2**	**+2.1**
LMR				S	**Sn**	**15 58 57.5**	**-1.3**
	1.7nm,0.2s						
FRF	**La Foret Royal**	**6.69**	**7**	*e*Pn	**Pn**	**15 57 49.8**	**+1.4**
FRF				*e*Sn	**Sn**	**15 59 03.1**	**-1.6**
	2.6nm,0.2s						
FRF	**La Foret Royal**	**6.69**	**7**	P	**Pn**	**15 57 49.8**	**+1.4**
FRF				S	**Sn**	**15 59 03.1**	**-1.6**
	1.3nm,0.2s						
MTLF	**Montolieu**	**6.89**	**340**	*e*Pn	**Pn**	**15 57 52.7**	**+1.5**
MTLF				*e*Sn	**Sn**	**15 59 07.9**	**-1.8**
	5.5nm,0.4s						
MTLF	**Montolieu**	**6.89**	**340**	*e*Pn	**Pn**	**15 57 52.7**	**+1.5**
MTLF				*e*Sn	**Sn**	**15 59 07.9**	**-1.8**
	2.8nm,0.4s						
SMRF	**Simiane la Rot**	**7.05**	**0**	*e*Pn	**Pn**	**15 57 54.1**	**+0.8**
SBF	**Sospel**	**7.09**	**11**	*e*Sn	**Sn**	**15 59 11.9**	**-2.6**
	3.7nm,0.2s						
SBF	**Sospel**	**7.09**	**11**	S	**Sn**	**15 59 11.9**	**-2.6**
	1.9nm,0.2s						
LASF	**Ste Croix**	**7.26**	**350**	*e*Pn	**Pn**	**15 57 57.9**	**+1.7**
LASF				*e*Sn	**Sn**	**15 59 16.0**	**-2.7**
	2.3nm,0.3s						
LASF	**Ste Croix**	**7.26**	**350**	*e*Pn	**Pn**	**15 57 57.9**	**+1.7**
LASF				*e*Sn	**Sn**	**15 59 16.0**	**-2.7**
	1.1nm,0.3s						
EPF	**Esparros**	**7.28**	**329**	*e*Pn	**Pn**	**15 57 59.3**	**+2.8**
EPF				*e*Sn	**Sn**	**15 59 17.0**	**-2.3**
	3.0nm,0.3s						
EPF	**Esparros**	**7.28**	**329**	*e*Pn	**Pn**	**15 57 59.3**	**+2.8**
EPF				*e*Sn	**Sn**	**15 59 17.0**	**-2.3**
	1.5nm,0.3s						
ETSF	**Etsaut**	**7.58**	**324**	*e*Pn	**Pn**	**15 58 02.3**	**+1.7**
VIVF	**Saint-Julien-l**	**7.96**	**356**	*e*Pn	**Pn**	**15 58 06.7**	**+1.0**
VIVF				*e*Sn	**Sn**	**15 59 32.8**	**-3.0**
	3.2nm,0.3s						
VIVF	**Saint-Julien-l**	**7.96**	**356**	*e*Pn	**Pn**	**15 58 06.7**	**+1.0**
VIVF				*e*Sn	**Sn**	**15 59 32.8**	**-3.0**
	1.6nm,0.3s						
SJPF	**Ste Jean**	**8.06**	**322**	*e*Pn	**Pn**	**15 58 07.4**	**+0.2**

*ISCJB **24** 16:32:53.9±3.3, 374N±03×720E±04, h206km±50km, Error ellipse: s-maj=69.8km s-min=8.9km az=106.9*
*NNC **24** 16:33:04.8±6.7, 3819N×7214E, h222km±64km, mb2.2, mpv3.1, Error ellipse: s-maj=66.8km s-min=52.0km az=30.0*
ISC 24 16:32:51.9±1.2,**3735N**±008×**715E**±02,**h200**km,**n14,**
σ1$**14**/16,**1C-1D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.06**	**19**	P	**Pn**	**16 34 07.5**	**+0.5**
	SNR=22						
UCH	**Uchtor**	**5.39**	**24**	P	**Pn**	**16 34 11.2**	**0.0**
	SNR=15						
KZA	**Kyzart**	**5.53**	**30**	P	**Pn**	**16 34 11.8**	**-1.2**
	SNR=7.4						
EKS2	**Erkin-Say**	**5.58**	**17**	P	**Pn**	**16 34 15.0**	**+1.4**
	SNR=6.0						
AAK	**Ala-Archa**	**5.75**	**23**	P	**Pn**	**16 34 16.4**	**+0.6**
	SNR=12						
KK31	**Karatay Array**	**5.79**	**353**⇑	P	**Pn**	**16 34 19.6**	**+3.2**
	0.8nm,0.2s,baz=161,slow=11,SNR=46						
KK31				S	**Sn**	**16 35 21.4**	**-1.9**
	2.8nm,0.3s,baz=166,slow=23,SNR=22						
KOLN	**Koldanda**	**13.96**	**130**	*e*P	**Pn**	**16 36 00.6**	**-0.6**
	1.6nm,0.3s						
GKN	**Gorkha**	**14.44**	**126**	*e*P	**Pn**	**16 36 05.1**	**-2.1**
	6.7nm,0.4s						
AB31	**Akbulak array**	**14.56**	**328**	P	**Pn**	**16 36 18.0**	**+9.4**
	0.6nm,0.6s,baz=133,slow=11,SNR=3.8						
AB31				⇓S	**S**	**16 38 50.2**	**-0.2**
	0.5nm,0.5s,baz=135,slow=23,SNR=6.0						
KKN	**Kakani**	**15.00**	**125**	*e*P	**Pn**	**16 36 13.2**	**-0.8**
DMN	**Daman**	**15.01**	**126**	*e*P	**Pn**	**16 36 14.3**	**+0.1**
PKI	**Pulchoki**	**15.23**	**126**	*e*P	**Pn**	**16 36 16.9**	**0.0**
GUN	**Gumba**	**15.31**	**124**	*e*P	**Pn**	**16 36 18.7**	**+0.9**
JIRN	**Jiri**	**15.69**	**124**	*e*P	**Pn**	**16 36 23.7**	**+1.4**

*ISCJB **24** 16:33:22.8±4.9, 54S±03×1529E±03, h41km±38km, mb3.6/7, Error ellipse: s-maj=64.8km s-min=25.4km az=68.6*
*IDC **24** 16:33:26.4±6.8, 5445S×1528E, h64km±54km, mb3.3/5, mb1 3.6/6, mb1mx3.5/15, mbtmp3.7/6, ML3.2/1, Error ellipse: s-maj=71.0km s-min=33.7km az=118.0*
*NEIC **24** 16:33:26.2±3.8, 551S×15301E, h65km±27km, mb4.1/2, Error ellipse: s-maj=54.5km s-min=20.3km az=118.0*
ISC 24 16:33:24.9±4.4,**55S**±02×**1531E**±03,**h53**km±35km,**n11,**
σ0$**76**/12,**mb3.7**/7,**New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.03**	**236**	P	**Pn**	**16 35 04.6**	**-0.6**
	2.8nm,0.3s,baz=12,slow=9.6,SNR=12						
PMG				S	**Sn**	**16 36 23.3**	**-0.4**
	1.9nm,0.3s,baz=15,slow=16,SNR=4.9						
PMG	**Port Moresby**	**7.03**	**236**	*e*Pn	**Pn**	**16 35 05.5**	**+0.4**
PMG				*e*Sn	**Sn**	**16 36 16.9**	**-6.8**
KAKA	**Kakadu**	**21.58**	**249**	*e*P	**P**	**16 38 11.3**	**+1.3**
	9.0nm,0.6s,mb4.4						
WRAB	**Tennant Creek**	**23.18**	**230**	P	**P**	**16 38 25.9**	**-1.2**
	3.0nm,0.7s,mb3.8						
WB2	**Warramunga Arr**	**23.19**	**230**	*e*P	**P**	**16 38 28.3**	**+1.2**
WRA	**Warramunga Arr**	**23.20**	**230**	P	**P**	**16 38 26.9**	**-0.3**
	0.8nm,0.6s,mb3.3,baz=55,slow=9.9,SNR=13						
ASAR	**Alice Springs**	**25.83**	**224**	P	**P**	**16 38 51.1**	**-0.1**
	0.6nm,0.8s,mb3.2,baz=53,slow=8.9,SNR=7.7						
MKAR	**Makanchi Array**	**81.00**	**319**	P	**P**	**16 45 33.2**	**-0.7**
	0.4nm,0.7s,mb3.4,baz=107,slow=5.2,SNR=5.0						
ZAL	**Zalesovo**	**81.86**	**326**	P	**P**	**16 45 38.4**	**-0.1**
	1.4nm,0.6s,mb4.1,baz=349,slow=4.0,SNR=7.1						
ILAR	**Eielson Array**	**82.69**	**22**	P	**P**	**16 45 43.2**	**+0.4**
	0.2nm,0.5s,mb3.4,baz=242,slow=6.3,SNR=4.2						
TORD	**Torodi Ar. Bea**	**150.76**	**287**	PKPbc	PKPbc	16 53 11.7	+0.4
	2.1nm,0.7s,baz=74,slow=2.3,SNR=13						

*IDC **24** 16:35:08.9±10.0, 2407S×17972E, h599km±63km, mb3.7/4, mb1 3.8/6, mb1mx3.4/15, mbtmp4.7/6, Error ellipse: s-maj=171.6km s-min=47.0km az=59.0*
*NEIC **24** 16:35:12.5±4.1, 2436S×17925E, h601km±19km, mb4.2/4, Error ellipse: s-maj=81.7km s-min=14.9km az=47.0*
*ISCJB **24** 16:35:13.3±5.9, 2445S±06×1792E±06, h629km±32km, mb4.3/7, Error ellipse: s-maj=121.4km s-min=22.4km az=91.9*
ISC 24 16:35:12.3±5.8,**2445**±05×**1793E**±06,**h599**km±27km,**n15,**
σ0$**49**/15,**mb4.3**/7,**1C, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.05**	**278**	P	**P**	**16 37 51.7**	**+0.2**
	0.5nm,0.3s,baz=78,slow=17,SNR=5.4						
URZ	**Urewera**	**13.97**	**187**	P	**P**	**16 38 10.6**	**-0.2**
	1.1nm,0.3s,baz=275,slow=6.9,SNR=4.1						
CTA	**Charters Tower**	**30.85**	**271**⇑*i*P		**P**	**16 40 41.3**	**0.0**
	16nm,0.4s,mb5.0						
CTA	**Charters Tower**	**30.85**	**271**	P	**P**	**16 40 41.4**	**+0.1**
	20nm,0.5s,mb5.0,baz=95,slow=10,SNR=67						
CTAO	**Charters Tower**	**30.85**	**271**	*e*P	**P**	**16 40 41.2**	**0.0**
	19nm,0.4s,mb5.1						
STKA	**Stephens Creek**	**33.97**	**249**	*e*P	**P**	**16 41 07.7**	**+0.2**
	3.5nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**33.97**	**249**	P	**P**	**16 41 07.4**	**-0.1**
	5.0nm,0.6s,mb4.4,baz=94,slow=11,SNR=16						
AS31	**Alice Springs**	**41.34**	**261**	*e*P	**P**	**16 42 07.8**	**+0.5**
ASAR	**Alice Springs**	**41.34**	**261**	P	**P**	**16 42 07.8**	**+0.6**
	7.4nm,0.7s,mb4.3,baz=101,slow=7.0,SNR=51						
ASPA	**Alice Springs**	**41.34**	**261**	*e*P	**P**	**16 42 07.8**	**+0.5**
WB2	**Warramunga Arr**	**41.74**	**267**	*e*P	**P**	**16 42 09.5**	**-0.9**
WRAB	**Tennant Creek**	**41.74**	**267**	*e*P	**P**	**16 42 09.7**	**-0.8**
	9.9nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**41.75**	**267**	P	**P**	**16 42 10.0**	**-0.5**
	4.6nm,0.4s,mb4.3,baz=102,slow=8.2,SNR=110						
FITZ	**Fitzroy Crossi**	**50.17**	**266**	*e*P	**P**	**16 43 14.4

s-maj=18.1km s-min=11.0km az=81.0
*TRN **24** 16:38:52.8, 18.14N×6584W, h154km, MD4.4*
*NEIC **24** 16:38:55.4, 18.18N×6590W, h148km, mb4.0/6, MD4.1(RSPR),MD4.4(TRN), After RSPR.*
NEIC Felt [III] at Utado. Felt at Adjuntas, Carolina, Guaynabo, Naranjito and San Juan.
*RSPR **24** 16:38:55.4, 18.18N×6590W, h148km±1km, MD4.0/19, MD4.0/19*

ISC 24 16:38:53.7±0.2, 1810N±005×6584W±003, h156km±2km, n78, σ0 98/101, mb4.0/19, 6C-13D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUMP	**Col San Antoni**	**0.05**	**343**	⇓*e*P	**Pn**	**16 39 15.1**	**+0.7**
HUMP				*e*S	**Sn**	**16 39 30.8**	**+0.6**
CPD	**Cerro la Pandu**	**0.10**	**233**	⇓*e*P	**Pn**	**16 39 15.1**	**+0.6**
CPD				*e*S	**Sn**	**16 39 30.6**	**+0.3**
CBYP	**Canovanas**	**0.17**	**353**	⇓*e*P	**Pn**	**16 39 14.7**	**+0.1**
CBYP				*e*S	**Sn**	**16 39 30.4**	**-0.1**
MTP	**Monte Pirata**	**0.27**	**91**	⇓*e*P	**Pn**	**16 39 15.0**	**+0.3**
MTP				*e*S	**Sn**	**16 39 31.1**	**+0.2**
SJG	**San Juan**	**0.30**	**273**	*e*S	**Sn**	**16 39 29.9**	**-1.1**
SJG	**San Juan**	**0.30**	**273**	⇑*i*P	**Pn**	**16 39 15.2**	**+0.4**
SJG				*e*S	**Sn**	**16 39 30.1**	**-1.0**
SJG	**San Juan**	**0.30**	**273**	⇑*e*P	**Pn**	**16 39 14.7**	**-0.2**
SJG				*e*S	**Sn**	**16 39 29.9**	**-1.1**
SJG	**San Juan**	**0.30**	**273**	P	**Pn**	**16 39 15.2**	**+0.3**
	506nm,0.3s,baz=349,slow=0.9,SNR=729						
SJG				S	**Sn**	**16 39 30.8**	**-0.2**
	701nm,0.3s,baz=216,slow=22,SNR=31						
ICM	**Isla Caja Muer**	**0.68**	**253**	⇓*e*P	**Pn**	**16 39 16.8**	**+0.2**
ICM				*e*S	**Sn**	**16 39 34.0**	**-0.1**
CELP	**Cerrillos**	**0.71**	**268**	⇓*i*P	**Pn**	**16 39 17.3**	**+0.5**
OBIP	**Obispado Ponce**	**0.73**	**266**	⇓*e*P	**Pn**	**16 39 17.4**	**+0.4**
OBIP				*e*S	**Sn**	**16 39 34.9**	**+0.1**
STVI	**Saint Thomas**	**0.87**	**73**	⇓*e*P	**Pn**	**16 39 18.1**	**+0.2**
STVI				*e*S	**Sn**	**16 39 36.6**	**+0.2**
AOPR	**Arecibo Observ**	**0.91**	**286**	⇑*e*P	**Pn**	**16 39 18.2**	**+0.1**
AOPR				*e*S	**Sn**	**16 39 36.6**	**-0.4**
LRS	**Lares**	**0.98**	**282**	⇑*i*P	**Pn**	**16 39 19.0**	**+0.2**
LRS				*e*S	**Sn**	**16 39 36.4**	**-1.6**
LRS	**Lares**	**0.98**	**282**	*i* Pu		16 39 19.0	
LRS				*e*S	**Sn**	**16 39 36.4**	**-1.6**
LSP	**Las Mesas**	**1.19**	**274**	⇓*e*P	**Pn**	**16 39 20.9**	**+0.3**
MGP	**Maguayo**	**1.20**	**266**	⇓*i*P	**Pn**	**16 39 20.7**	**0.0**
TBVI	**Tortola**	**1.21**	**75**	*i* P	**Pn**	**16 39 20.5**	**-0.3**
TBVI				*e*S	**Sn**	**16 39 40.4**	**-1.0**
CRPR	**Cabo Rojo, PR**	**1.22**	**266**	⇑*e*P	**Pn**	**16 39 20.6**	**-0.2**
CRPR				*e*S	**Sn**	**16 39 40.8**	**-0.9**
MPR	**Mayaguez**	**1.25**	**276**	*e*P	**Pn**	**16 39 20.9**	**-0.2**
MPR				*e*S	**Sn**	**16 39 41.2**	**-0.9**
MPR	**Mayaguez**	**1.25**	**276**	⇑*e*P	**Pn**	**16 39 20.9**	**-0.2**
MPR				*e*S	**Sn**	**16 39 41.9**	**-0.2**
AGPR	**Aguadilla, PR**	**1.27**	**287**	⇑*e*P	**Pn**	**16 39 21.7**	**+0.3**
AGPR				*e*S	**Sn**	**16 39 42.1**	**-0.4**
ABV	**Anegada**	**1.56**	**66**	⇑*e*P	**Pn**	**16 39 24.8**	**+0.5**
SABT	**Saba**	**2.51**	**100**	*e*P	**Pn**	**16 39 37.1**	**+1.9**
SABT				*e*S	**Sn**	**16 40 10.5**	**+3.3**
STMA	**St. Maarten, A**	**2.59**	**91**	*e*P	**Pn**	**16 39 36.5**	**+0.3**
STMA				*e*S	**Sn**	**16 40 07.7**	**-1.3**
CPB	**Codrington**	**3.84**	**96**	*e*P	**Pn**	**16 39 51.5**	**-0.5**
CPB				*e*S	**Sn**	**16 40 35.5**	**-1.9**
BPA	**Boggy Peak**	**3.94**	**105**	*e*P	**Pn**	**16 39 53.9**	**+0.6**
BPA				*e*S	**Sn**	**16 40 39.4**	**-0.2**
LZG	**Guadaloupe-1**	**4.34**	**116**	*e*P	**Pn**	**16 39 58.8**	**+0.3**
SEG	**Port Louis**	**4.47**	**112**	⇓*e*P	**Pn**	**16 40 00.3**	**+0.2**
HMG	**Houelmont**	**4.48**	**117**	*e*P	**Pn**	**16 40 00.7**	**+0.4**
TBG	**Guadaloupe-3**	**4.59**	**118**	⇓*e*P	**Pn**	**16 40 02.2**	**+0.5**
SFG	**Saint Francois**	**4.80**	**112**	*e*P	**Pn**	**16 40 05.2**	**+0.7**
MGG	**Marie-Galante**	**4.83**	**116**	*e*P	**Pn**	**16 40 05.6**	**+0.6**
DEG	**La Desirade**	**4.90**	**111**	*e*P	**Pn**	**16 40 04.4**	**-1.4**
DEG				*e*S	**Sn**	**16 40 59.8**	**-2.2**
BBL	**Barber's Block**	**4.90**	**121**	⇓*e*P	**Pn**	**16 40 06.1**	**+0.3**
FDF	**Fort de France**	**5.60**	**126**	*e*P	**Pn**	**16 40 15.1**	**-0.1**
CRM	**Caravelle**	**5.77**	**124**	*e*P	**Pn**	**16 40 17.5**	**+0.1**
BIM	**Bigot**	**5.80**	**127**	*e*P	**Pn**	**16 40 18.2**	**+0.6**
PCRV	**Puerto La Cruz**	**7.96**	**171**	P	**Pn**	**16 40 49.0**	**+2.6**
	1.1nm,0.3s,baz=343,slow=11,SNR=4.2						
MASC	**Masc**	**8.20**	**286**	*e*P	**Pn**	**16 40 45.9**	**-3.8**
MASC				*e*S	**Sn**	**16 42 12.4**	**-8.6**
	comp=N,1.6nm,0.4s						
MASC				*e*			
	comp=E,2.7nm,0.7s						
MOAC	**Moa**	**8.98**	**288**	*e*P	**Pn**	**16 40 55.8**	**-4.2**
MOAC				*e*S	**Sn**	**16 42 28.9**	**-11**
	comp=N,2.7nm,0.2s						
MOAC				*e*			
	comp=E,0.4nm,0.2s						
RCC	**Rio Carpintero**	**9.52**	**283**	*e*P	**Pn**	**16 40 55.1**	**-12**
RCC				*e*S	**Sn**	**16 42 32.0**	**-21**
	comp=N,0.7nm,0.7s						
RCC				*e*			
SDV	**Santo Domingo**	**10.27**	**208**	P	**Pn**	**16 41 19.7**	**+2.6**
	comp=N,0.6nm,0.3s,baz=56,slow=8.2,SNR=21						
SDV	**Santo Domingo**	**10.27**	**208**	*e*P	**Pn**	**16 41 19.6**	**+2.5**
CCCC	**Cccc**	**11.66**	**287**	*e*P	**Pn**	**16 41 25.3**	**-10**
ROSC	**El Rosal**	**15.56**	**213**	P	**Pn**	**16 42 26.4**	**+1.7**
	comp=N,3.3nm,0.3s,baz=49,slow=2.7,SNR=15						
ROSC	**El Rosal**	**15.56**	**213**	*e*P	**Pn**	**16 42 27.0**	**+2.3**
JTS	**JuntasAbangare**	**20.08**	**250**	P	**P**	**16 43 13.6**	**-1.4**
	comp=N,1.8nm,0.3s,baz=261,slow=12,SNR=10						
JTS	**Juntas_Abangare**	**20.08**	**250**	P	**P**	**16 43 13.6**	**-1.4**
WVT	**Waverly**	**26.46**	**317**	*e*P	**P**	**16 44 16.4**	**+0.2**
	comp=N,3.5nm,0.6s,mb4.2						
SAML	**Samuel**	**27.00**	**174**	*e*P	**P**	**16 44 19.0**	**-1.9**
	comp=N,2.1nm,0.8s,mb3.8						
SIV	**San Ignacio**	**34.20**	**172**	P	**P**	**16 45 22.8**	**-1.3**
	comp=N,4.5nm,0.7s,mb4.3,baz=16,slow=10,SNR=29						
LPAZ	**La Paz**	**34.24**	**184**	P	**P**	**16 45 24.0**	**-0.6**
	comp=N,4.9nm,0.8s,mb4.3,baz=351,slow=3.9,SNR=14						
LPAZ	**La Paz**	**34.24**	**184**	*e*P	**P**	**16 45 23.8**	**-0.8**
ECSD	**EROS,Sioux Fal**	**36.39**	**321**	*e*P	**P**	**16 45 42.5**	**-0.4**
SCHQ	**Schefferville**	**36.67**	**359**	P	**P**	**16 45 46.2**	**+0.8**
	comp=N,1.7nm,0.4s,mb4.0,baz=179,slow=9.0,SNR=9.3						
SCHQ	**Schefferville**	**36.67**	**359**	*e*P	**P**	**16 45 45.8**	**+0.5**
	comp=N,2.0nm,0.5s,mb4.0						
MNTX	**Cornudas Mount**	**38.13**	**298**	*e*P	**P**	**16 45 58.3**	**+0.7**
	comp=N,2.6nm,0.6s,mb4.0						
BNM	**Barren Site**	**39.67**	**302**	*e*P	**P**	**16 46 12.0**	**+1.6**
SRU	**San Rafael**	**43.94**	**308**	*e*P	**P**	**16 46 45.7**	**+0.7**
	comp=N,1.8nm,0.5s,mb4.0						
CPUP	**Villa Florida**	**44.93**	**169**	P	**P**	**16 46 50.2**	**-2.7**
	comp=N,0.9nm,0.5s,mb3.7,baz=316,slow=3.7,SNR=6.4						
CPUP	**Villa Florida**	**44.93**	**169**	P	**P**	**16 46 50.2**	**-2.7**
ELK	**Elko**	**47.86**	**309**	*e*P	**P**	**16 47 16.7**	**+1.0**
	comp=N,1.4nm,0.7s,mb3.7						
NVAR	**Mina Array Bea**	**49.74**	**305**	P	**P**	**16 47 31.8**	**+1.7**
	comp=N,1.0nm,0.5s,mb3.7,baz=98,slow=7.0,SNR=9.3						
NVAR	**Mina Array Bea**	**49.74**	**305**	P	**P**	**16 47 31.8**	**+1.7**
YBH	**Yreka Blue Hor**	**53.57**	**309**	P	**P**	**16 47 57.6**	**-0.9**
	comp=N,1.9nm,0.5s,mb4.1,baz=45,slow=7.2,SNR=4.2						
YKA	**Yellowknife Ar**	**55.63**	**335**	P	**P**	**16 48 12.4**	**-0.9**
	comp=N,2.2nm,0.6s,mb4.2,baz=112,slow=7.4,SNR=17						
PLCA	**Paso Flores**	**58.69**	**184**	P	**P**	**16 48 31.9**	**-2.9**
	comp=N,2.4nm,0.9s,mb4.0,baz=11,slow=5.8,SNR=4.0						
DBIC	**Dimbokro**	**60.40**	**93**	P	**P**	**16 48 47.0**	**+0.5**
	comp=N,1.3nm,0.4s,mb4.1,baz=264,slow=6.4,SNR=4.7						
DBIC	**Dimbokro**	**60.40**	**93**	P	**P**	**16 48 47.0**	**+0.5**
ILAR	**Eielson Array**	**69.98**	**333**	P	**P**	**16 49 47.4**	**-0.8**
	comp=N,1.9nm,0.5s,mb4.0,baz=99,slow=4.2,SNR=28						
KDAK	**Kodiak Island**	**73.17**	**326**	P	**P**	**16 50 06.9**	**-0.4**
	comp=N,3.6nm,0.6s,mb4.2,baz=47,slow=2.8,SNR=4.8						
ARCES	**ARCESS Array B**	**73.67**	**21**	P	**P**	**16 50 10.4**	**+0.2**
	comp=N,3.5nm,0.7s,mb4.2,baz=296,slow=3.9,SNR=11						
SVW2	**Sparrevohn**	**74.22**	**330**	*e*P	**P**	**16 50 12.3**	**-1.1**
FINES	**FINESS Array B**	**75.20**	**30**	P	**P**	**16 50 19.2**	**+0.2**
	comp=N,3.1nm,0.8s,mb4.0,baz=270,slow=3.0,SNR=6.6						
BRTR	**Keskin Array B**	**85.65**	**50**	P	**P**	**16 51 15.7**	**+0.9**
	comp=N,0.7nm,0.6s,mb3.6,baz=316,slow=5.2,SNR=5.4						
CTA	**Charters Tower**	**149.63**	**261**	PKPbc	PKPbc	16 58 25.1	+0.4
	comp=N,5.0nm,0.5s,baz=335,slow=1.5,SNR=9.6						
STKA	**Stephens Creek**	**151.70**	**236**	PKPbc	PKPbc	16 58 28.1	-1.6
	comp=N,6.1nm,0.8s,baz=98,slow=5.8,SNR=5.8						

*ISCJB **24** 16:42:57.0±0.5, 0.18N×007×9680E±008, h30km, mb4.4/26, Error ellipse: s-maj=14.0km s-min=7.8km az=101.8*
*NEIC **24** 16:42:58.4±0.4, 0.14N×9670E, mb4.4/6, Error ellipse: s-maj=10.7km s-min=7.0km az=51.0*
*IDC **24** 16:42:58.1±0.7, 001N×9656E, h29km±3km, mb4.0/14, mb1 4.2/15, mb1mx4.1/21, mbtmp4.2/15, MS3.5/1, Ms1 3.5/1, ms1mx2.5/14, Error ellipse: s-maj=26.8km s-min=13.6km az=52.0*
*BJI **24** 16:42:59.7, 051N×97.41E, h18km, mB4.9, mb4.8*
ISC 24 16:42:59.3±0.5, 016N±008×9677E±008, h32km, h32km±5km: pP-P, n36, σ0 87/34, mb4.4/26, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.39**	**39**	Pn	**Pn**	**16 43 49.6**	**-0.5**
	2.9nm,0.3s,baz=221,slow=8.3,SNR=26						
PSI				LR	LR	16 45 29.9	
	comp=Z,725nm,21.9s,baz=220,slow=43						
KULM	**Kulim**	**6.40**	**37**	*e*P	**Pn**	**16 44 29.6**	**-1.8**
KKM	**Kota Kinabalu**	**20.27**	**73**	*e*P	**P**	**16 47 32.6**	**+0.5**
HYB	**Hyderabad**	**24.82**	**315**	*i* P	**P**	**16 48 29.0**	**+10**
SHL	**Shillong**	**25.70**	**350**	*e*P	**P**	**16 48 27.0**	**+0.5**
JIRN	**Jiri**	**29.17**	**340**	*e*P	**P**	**16 48 58.8**	**+1.1**
	16nm,0.6s,mb4.9						
PKI	**Pulchoki**	**29.36**	**339**	*e*P	**P**	**16 49 00.3**	**+1.0**
GUN	**Gumba**	**29.51**	**340**	*e*P	**P**	**16 49 02.2**	**+1.6**
	24nm,0.7s,mb5.0						
KKN	**Kakani**	**29.61**	**339**	*e*P	**P**	**16 49 02.3**	**+0.8**
	16nm,0.9s,mb4.8						
LSA	**Lhasa**	**29.86**	**350**	P	**P**	**16 49 04.7**	**+0.8**
	2.7nm,0.5s,mb4.2						
LSA				*e*	pP	16 49 14.3	+1.3
GKN	**Gorkha**	**30.03**	**338**	*e*P	**P**	**16 49 06.3**	**+1.0**
	11nm,0.5s,mb4.8						
KOLN	**Koldanda**	**30.23**	**336**	*e*P	**P**	**16 49 07.7**	**+0.7**
	18nm,0.7s,mb4.9						
FITZ	**Fitzroy Crossi**	**33.68**	**124**	*e*P	**P**	**16 49 37.7**	**+0.3**
	6.5nm,0.8s,mb4.6						
XAN	**Xi'an**	**35.58**	**17**	P	**P**	**16 49 53.0**	**-0.7**
XAN				AP	pP	16 50 01.3	-1.7
XAN				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**41.86**	**121**	P	**P**	**16 50 46.5**	**+0.1**
	comp=Z,3.9nm,0.9s,mb4.0,baz=301,slow=9.2,SNR=27						
WRAB	**Tennant Creek**	**41.87**	**121**	*e*P	**P**	**16 50 46.6**	**+0.2**
	comp=Z,42nm,1.6s,mb4.8						
WB2	**Warramunga Arr**	**41.87**	**121**	*e*P	**P**	**16 50 46.8**	**+0.3**
ASAR	**Alice Springs**	**43.12**	**126**	P	**P**	**16 50 57.3**	**+0.7**
	comp=Z,3.4nm,0.9s,mb4.0,baz=301,slow=8.2,SNR=22						
AAK	**Ala-Archa**	**46.79**	**337**	P	**P**	**16 51 25.9**	**+0.1**
	comp=Z,7.6nm,1.5s,mb4.4						
MKAR	**Makanchi Array**	**48.15**	**347**	P	**P**	**16 51 36.1**	**-0.3**
	comp=Z,2.0nm,0.7s,mb4.3,baz=159,slow=8.0,SNR=25						
MKAR				pP	pP	16 51 45.6	-0.3
	comp=Z,3.1nm,0.5s,baz=166,slow=8.8,SNR=20						
SONM	**Songino Array**	**48.22**	**9**	P	**P**	**16 51 36.9**	**0.0**
	comp=Z,1.5nm,0.7s,mb4.1,baz=189,slow=8.8,SNR=8.8						
SONM				pP	pP	16 51 46.3	-0.2
	comp=Z,2.6nm,0.8s,baz=192,slow=9.2,SNR=7.0						
PMG	**Port Moresby**	**51.04**	**102**	P	**P**	**16 51 59.7**	**+1.3**
	comp=Z,6.2nm,0.5s,mb4.8,baz=243,slow=2.3,SNR=5.3						
KURK	**Kurchatov**	**52.69**	**346**	*e*P	**P**	**16 52 09.7**	**-1.0**
	comp=Z,3.4nm,1.1s,mb4.2						
STKA	**Stephens Creek**	**52.98**	**131**	P	**P**	**16 52 12.2**	**-0.7**
	comp=Z,2.8nm,0.6s,mb4.3,baz=319,slow=9.3,SNR=8.7						
ZAL	**Zalesovo**	**54.51**	**351**	P	**P**	**16 52 24.8**	**+0.8**
	comp=Z,3.7nm,0.6s,mb4.6,baz=305,slow=5.1,SNR=24						
ZAL				pP	pP	16 52 34.0	+0.4
	comp=Z,8.1nm,0.4s,baz=303,slow=5.2,SNR=14						
ZAL	**Zalesovo**	**54.51**	**351**	P	**P**	**16 52 24.8**	**+0.7**
ZAL				pP	pP	16 52 34.0	+0.4
CHKZ	**Chkalovo**	**57.58**	**342**	*e*P	**P**	**16 52 44.6**	**-1.4**
	comp=Z,3.1nm,1.2s,mb4.2						
CHKZ				*e*pP	pP	16 52 53.6	-2.0
BRTR	**Keskin Array B**	**69.50**	**313**	P	**P**	**16 54 03.4**	**-1.3**
	comp=Z,0.6nm,0.6s,mb3.7,baz=111,slow=6.8,SNR=3.9						
BRTR				pP	pP	16 54 12.8	-1.8
	comp=Z,1.0nm,0.6s,baz=136,slow=7.3,SNR=5.8						
AKASG	**Malin Array Be**	**75.82**	**323**	P	**P**	**16 54 40.6**	**-1.7**
	comp=Z,1.3nm,0.5s,mb4.1,baz=93,slow=5.0,SNR=6.3						
AKASG				pP	pP	16 54 49.9	-2.4
	comp=Z,3.2nm,0.6s,baz=95,slow=4.8,SNR=7.4						
MLR	**Muntele Rosu**	**76.53**	**317**	P	**P**	**16 54 46.3**	**0.0**
	comp=Z,1.3nm,0.5s,mb4.2,baz=65,slow=4.3,SNR=3.9						
FINES	**FINESS Array B**	**80.72**	**333**	P	**P**	**16 55 08.2**	**-1.1**
	comp=Z,3.8nm,0.9s,mb4.3,baz=105,slow=10,SNR=3.4						
FINES				pP	pP	16 55 17.6	-1.9
	comp=Z,1.1nm,0.6s,baz=116,slow=8.7,SNR=1.4						
ARCES	**ARCESS Array B**	**83.37**	**340**	P	**P**	**16 55 22.9**	**-0.4**
	comp=Z,3.3nm,1.0s,mb4.3,baz=97,slow=7.5,SNR=3.5						
ARCES				pP	pP	16 55 32.0	-1.4
	comp=Z,1.8nm,0.7s,baz=95,slow=6.1,SNR=1.6						
VNDA	**Vanda**	**84.89**	**169**	P	**P**	**16 55 30.1**	**-0.9**
	comp=Z,1.0nm,1.0s,mb3.9,baz=311,slow=3.4,SNR=5.2						
GERES	**GERESS Array B**	**85.31**	**319**	P	**P**	**16 55 32.9**	**-0.2**
	comp=Z,0.3nm,0.6s,mb3.6,baz=79,slow=10.0,SNR=3.5						
CPUP	**Villa Florida**	**143.95**	**222**	PKP	PKPdf	17 02 29.8	-1.7
	comp=Z,0.3nm,0.3s,baz=56,slow=3.5,SNR=3.7						
CPUP				pPKP	pPKPdf	17 02 39.5	-2.4
	comp=Z,1.3nm,0.5s,baz=126,slow=3.5,SNR=3.0						
JCT	**Junction City**	**145.69**	**26**	*e*PKP	PKPdf	17 02 35.1	+0.6

*IDC **24** 16:47:38.5±0.7, 2028S×16892E, h0km, mb4.6/14, mb1 4.7/15, mb1mx4.7/18, mbtmp4.6/15, ML4.1/1, MS4.7/16, Ms1 4.7/16, ms1mx4.7/17, Error ellipse: s-maj=22.7km s-min=17.7km az=131.0*
*HRVD **24** 16:47:40.3±0.1, 2044S×16877E, h22km, MW5.5/100, Centroid moment Tensor Solution. LP body waves: s87,c158;Mantle waves: s100,c174; Half duration: 1s3 Moment tensor: Scale 10^17Nm; Mrr 1.51±.03; Mθθ-0.28±.02; Mφφ-1.23±.02; Mrθ 0.44±.04; Mθφ 0.81±.02; Mφr-0.97±.04; Best double couple: Mo1.92200×10^17 NP1:φs326.00000°, δ28.00000°, λ84.00000°. NP2: φs154.00000°, δ62.00000°, λ93.00000°. Principal axes: T 1.8340, Plg73.0000°, Azm72.0000°; N 0.1760, Plg3.0000°, Azm332.0000°; P -2.0100, Plg17.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **24** 16:47:40.3±0.3, 2030S×16882E, h10km, mb5.1/27, MS5.1/4 Error ellipse: s-maj=10.9km s-min=7.2km az=140.0*
*SZGRF **24** 16:47:40.4, 22.16S×16829E, h33km, New Caledonia*
*ISCJB **24** 16:47:41.0±1.7, 2044S±005×16882E±005, h24km±11km, mb4.9/55, MS4.8/35, Error ellipse: s-maj=8.7km s-min=6.8km az=91.9*
*BJI **24** 16:47:43.3, 2030S×16880E, h29km, mB5.4, mb4.9, Ms5.0, Msz4.7*
*MOS **24** 16:47:43.5±2.2, 2032S×16880E, h33km, mb5.2/26, MS4.9/14, Error ellipse: s-maj=11.4km s-min=9.5km az=132.5*
*LDG **24** 16:47:45.7±0.2, 1959S×16733E, h10km, Mb5.2/4, Ms4.8/9, Error ellipse: s-maj=31.6km s-min=13.4km az=23.0*
ISC 24 16:47:42.5±1.9, 2041S±005×16886E±005, h23km±12km, h34km±1.0km: pP-P, n226, σ1§37/127, mb4.9/55, MS4.8/35, 12C-5D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**2.79**	**348**	⇑*i*P	**Pn**	**16 48 23.9**	**-1.8**
DZM	**Mont Dzumac**	**2.79**	**233**	Pn	**Pn**	**16 48 23.5**	**-2.2**
	31nm,0.3s,baz=78,slow=18,SNR=490						
DZM				Sn	**Sn**	**16 48 56.6**	**-2.0**
	149nm,0.3s,baz=129,slow=24,SNR=9.7						
HNR	**Honiara**	**13.89**	**320**	LR	LR	16 55 35.8	
	comp=Z,2μm,19.2s,baz=177,slow=34						
HNR	**Honiara**	**13.89**	**320**	*e*P	**Pn**	**16 51 02.3**	**+4.4**
HNR				pmax	pmax		
	comp=Z,166nm,1.1s						
HNR	**Honiara**	**13.89**	**320**	*e*Pn	**Pn**	**16 51 02.3**	**+4.4**
	comp=Z,166nm,1.1s						
RAO	**Raoul Island**	**14.88**	**129**	LR	LR	16 55 39.8	
	comp=Z,3μm,21.0s,baz=196,slow=32						
ARMA	**Armidale**	**18.46**	**234**	*e*P	**Pn**	**16 51 51.8**	**-4.9**
URZ	**Urewera**	**19.17**	**160**	P	**Pn**	**16 52 06.0**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=345,slow=18,SNR=2.3						
URZ				LR	LR	16 58 18.5	
	comp=Z,4μm,19.9s,baz=212,slow=33						
AFI	**Afiamalu**	**19.59**	**74**	LR	LR	16 58 08.4	
	comp=Z,4μm,19.0s,baz=263,slow=32						
CTA	**Charters Tower**	**21.21**	**267**	*e*P	**P**	**16 52 29.7**	**+3.2**
	comp=Z,19nm,0.8s,mb4.5						
CTA				*e*S	**S**	**16 56 28.6**	**+7.5**
CTA	**Charters Tower**	**21.21**	**267**	P	**P**	**16 52 29.4**	**+3.0**
	comp=Z,19nm,0.8s,mb4.5,baz=98,slow=14,SNR=16						
CTA	**Charters Tower**	**21.21**	**267**	*e*P	**P**	**16 52 29.7**	**+3.2**
CTA				*e*S	**S**	**16 56 28.6**	**+7.5**
CTA				pmax	pmax		
	comp=Z,19nm,0.8s						
CTAO	**Charters Tower**	**21.21**	**267**	*e*P	**P**	**16 52 29.8**	**+3.3**
CTAO				pmax	pmax		
	comp=Z,60nm,1.0s,mb4.9						
CTAO	**Charters Tower**	**21.21**	**267**	*e*P	**P**	**16 52 29.8**	**+3.3**
	comp=Z,60nm,1.0s,mb4.9						
CNB	**Canberra Magne**	**22.68**	**225**	*e*P	**P**	**16 52 40.5**	**-1.7**
	comp=Z,163nm,1.4s,mb5.3						
RPZ	**Rata Peaks**	**23.31**	**176**	P	**P**	**16 52 52.3**	**+3.4**
	comp=Z,12nm,0.9s,mb4.3,baz=18,slow=13,SNR=2.7						
RPZ				LR	LR	17 00 53.6	
	comp=Z,1μm,20.2s,MS4.4,baz=347,slow=44						
PMG	**Port Moresby**	**23.62**	**294**	P	**P**	**16 52 53.3**	**+1.5**
	comp=Z,48nm,1.1s,mb4.8,baz=108,slow=4.1,SNR=7.6						
PMG				LR	LR	17 00 28.8	
	comp=Z,2μm,20.7s,MS4.5,baz=330,slow=33						
PMG	**Port Moresby**	**23.62**	**294**	*e*P	**P**	**16 52 52.2**	**+0.4**
PMG				pmax	pmax		
	comp=Z,71nm,1.1s						
PMG	**Port Moresby**	**23.62**	**294**	*e*P	**P**	**16 52 52.1**	**+0.3**
	comp=Z,71nm,1.1s,mb5.0						
TOO	**Toolangi**	**26.53**	**225**	*e*P	**P**	**16 53 20.6**	**+2.2**
	comp=Z,19nm,1.1s,mb4.5						
TOO	**Toolangi**	**26.53**	**225**	*e*P	**P**	**16 53 20.6**	**+2.2**
TOO				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.5						
STKA	**Stephens Creek**	**26.93**	**239**	*e*P	**P**	**16 53 21.7**	**-0.2**
	comp=Z,12nm,0.7s,mb4.5						
STKA				*e*S	**S**	**16 57 54.4**	**-3.1**
STKA	**Stephens Creek**	**26.93**	**239**	P	**P**	**16 53 21.5**	**-0.4**
	comp=Z,7.0nm,0.6s,mb4.4,baz=89,slow=10,SNR=12						
STKA				LR	LR	17 03 54.6	
	comp=Z,3μm,18.2s,MS4.8,baz=62,slow=36						
RAR	**Rarotonga**	**29.31**	**97**	LR	LR	17 02 44.6	
	comp=Z,2μm,20.4s,MS4.7,baz=280,slow=31						
WB2	**Warramunga Arr**	**32.36**	**265**	*e*P	**P**	**16 54 08.8**	**-1.3**
WRAB	**Tennant Creek**	**32.36**	**265**	P	**P**	**16 54 11.0**	**+0.9**
	comp=Z,88nm,1.3s,mb5.4,SNR=5.3						
WRAB	**Tennant Creek**	**32.36**	**265**	*e*P	**P**	**16 54 09.9**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.1						
WRAB	**Tennant Creek**	**32.36**	**265**	*e*P	**P**	**16 54 09.9**	**-0.2**
	comp=Z,35nm,1.0s,mb5.2						
WRA	**Warramunga Arr**	**32.37**	**265**	P	**P**	**16 54 10.1**	**0.0**
	comp=Z,5.6nm,0.8s,mb4.5,baz=94,slow=8.4,SNR=53						
AS31	**Alice Springs**	**32.51**	**258**	*e*P	**P**	**16 54 11.1**	**-0.3**
ASAR	**Alice Springs**	**32.51**	**258**	P	**P**	**16 54 11.1**	**-0.3**
	comp=Z,14nm,0.7s,mb5.0,baz=87,slow=9.1,SNR=103						
ASAR				ScP	ScP	17 00 44.1	+3.9
	comp=Z,1.0nm,1.0s,baz=72,slow=4.1,SNR=4.2						
ASPA	**Alice Springs**	**32.51**	**258**	*e*P	**P**	**16 54 11.1**	**-0.3**
KAKA	**Kakadu**	**35.67**	**277**	*e*P	**P**	**16 54 40.0**	**+1.2**
	comp=Z,26nm,1.2s,mb5.0						
TBI	**Tubuai**	**38.70**	**102**	*e*S	**S**	**17 01 01.4**	**+1.4**
	comp=Z,683nm,29.5s	

NJ2 AMB AMB
comp=Z,60nm,10.2s
NJ2 LR LR
comp=N,630nm,30.0s
NJ2 LR LR
comp=E,440nm,35.9s
NJ2 LR LR
comp=Z,210nm,36.6s
YSS Yuzh-Sakhalins 71.07 341 *e*P **P 16 59 01.0 +2.3**
PSI Prapat 72.26 280 P **P 16 59 07.4 +1.5**
comp=Z,1.6nm,0.4s,mb4.3,baz=306,slow=9.1,SNR=2.8
PET Petropavlovsk 73.66 354*d i*P **P 16 59 20.5 +6.3**
PET *e*S S 17 08 48.5 +5.2
PET *e*PS 17 09 20.3
PET pmax pmax
comp=Z,200nm,16.7s
PET pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
PET smax
comp=E,300nm,16.5s
PET MLR MLR
comp=Z,300nm,18.0s,MS4.6
MDJ Mudanjiang 73.98 332 P **P 16 59 18.8 +2.8**
MDJ AP pP 16 59 28.3 +4.7
MDJ XP sP 16 59 32.0 +5.7
MDJ PP PP 17 02 04.6 +3.4
MDJ S S 17 08 52.0 +5.1
MDJ XS sS 17 09 07.8 +8.4
MDJ AMB AMB
comp=Z,15nm,1.0s,mb4.9
MDJ AMB AMB
comp=Z,159nm,7.2s
MDJ LR LR
comp=N,239nm,27.1s,MS4.5
MDJ LR LR
comp=E,275nm,26.2s,MS4.5
MDJ LR LR
comp=Z,265nm,19.0s
HABR Khabarovsk 74.94 337 *e*P **P 16 59 21.4 -0.2**
HABR *e*S S 17 08 57.0 -0.7
KLR Kul'dur 76.79 336 *e*P **P 16 59 28.7 -3.5**
KLR *e*S S 17 09 21.5 +3.4
KLR pmax pmax
comp=Z,50nm,1.8s,mb5.1
MAW Mawson 77.22 202 P **P 16 59 35.6 +1.1**
comp=Z,6.5nm,0.9s,mb4.5,baz=112,slow=5.9,SNR=4.6
MAW LR LR 17 30 41.2
comp=Z,819nm,18.4s,MS5.1,baz=98,slow=33
BJI Beijing 77.62 321 P **P 16 59 36.0 -0.8**
BJI S S 17 09 28.8 +1.7
BJI AMB AMB
comp=Z,5.0nm,1.5s,mb4.2
BJI LR LR
comp=N,306nm,21.6s,MS4.7
BJI LR LR
comp=E,297nm,21.2s,MS4.7
BJI LR LR
comp=Z,357nm,20.3s,MS4.7
KMI Kunming 78.59 302 P **P 16 59 44.0 +1.8**
KMI AP pP 16 59 54.8 +5.0
KMI XP sP 16 59 58.6 +6.1
KMI PP PP 17 02 45.0 +5.0
KMI S S 17 09 39.4 +1.9
KMI SKS 17 09 52.0
KMI XS sS 17 09 56.8 +6.8
KMI SS SS 17 14 48.0 +6.7
KMI AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
KMI AMB AMB
comp=Z,120nm,7.4s
KMI LR LR
comp=N,224nm,18.1s,MS4.7
KMI LR LR
comp=E,216nm,18.4s,MS4.7
KMI LR LR
comp=Z,324nm,20.5s,MS4.7
XAN Xi'an 78.64 313 P **P 16 59 43.3 +0.8**
XAN AP pP 16 59 54.1 +4.0
XAN AMB AMB
comp=Z,6.0nm,1.1s,mb4.4
CHTO Chiang Mai 78.81 295 *e*P **P 16 59 44.5 +1.1**
CHTO pmax pmax
comp=Z,27nm,1.3s,mb5.0
CHTO Chiang Mai 78.81 295 *e*P **P 16 59 44.5 +1.1**
comp=Z,27nm,1.3s,mb5.0
HHC Hu-ho-hao-te 80.87 320 *e*P **P 16 59 56.9 +2.3**
HHC AP pP 17 00 07.3 +5.1
HHC XP sP 17 00 11.3 +6.3
HHC S S 17 10 03.8 +2.1
HHC SKS 17 10 08.8
HHC XS sS 17 10 21.1 +6.8
HHC AMB AMB
comp=Z,11nm,1.2s,mb4.7
HHC AMB AMB
comp=Z,216nm,8.2s
HHC LR LR
comp=N,274nm,20.0s,MS4.7
HHC LR LR
comp=E,281nm,22.9s,MS4.7
HHC LR LR
comp=Z,335nm,21.4s,MS4.7
HIA Hailar 81.94 330⇑*i*P **P 17 00 01.3 +1.1**
LZH Lanzhou 83.24 312 *e*P **P 17 00 11.3 +4.3**
LZH AP pP 17 00 19.8 +5.1
LZH XP sP 17 00 24.5 +7.1
LZH PP PP 17 03 25.0 +6.4
LZH *e*S S 17 10 30.0 +3.9
LZH XS sS 17 10 46.0 +7.3
LZH SS SS 17 15 56.0 +5.2
LZH AMB AMB
comp=Z,15nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,89nm,4.5s
LZH LR LR
comp=E,490nm,15.7s
LZH LR LR
comp=Z,770nm,16.4s,MS5.2
SYO Syowa Base 83.71 196⇑*e*P **P 17 00 10.0 +0.6**
SYO Syowa Base 83.71 196⇓*e*pP pP 17 00 18.0 +0.9
KDAK Kodiak Island 84.25 20 P **P 17 00 11.5 -0.7**
comp=Z,5.6nm,0.9s,mb4.7,baz=227,slow=10,SNR=5.7
KDAK Kodiak Island 84.25 20 *e*P **P 17 00 10.6 -1.7**
comp=Z,14nm,0.9s,mb5.1
CLNS Chul'man 85.33 337 *e*P **P 17 00 19.7 +2.1**
CLNS pmax pmax
comp=Z,20nm,1.1s,mb5.2
CLNS pmax pmax
comp=N,14nm,0.9s
CLNS pmax pmax
comp=E,14nm,0.9s
SVW2 Sparrevohn 86.12 16 *e*P **P 17 00 22.8 +1.2**
CIT Chita 86.71 329 *e*P **P 17 00 21.2 -3.3**
KIPM Iron Peak 86.93 46 P **P 17 00 25.1 -0.5**
SLKM Skilak Lake 87.17 19 *e*P **P 17 00 25.0 -1.7**
SHL Shillong 87.58 298 *e*P **P 17 00 29.0 +0.3**
SHL *e*S 17 11 04.0
ULN Ulaanbaatar 87.59 324 *e*P **P 17 00 27.7 -1.0**
ULN pmax pmax
comp=Z,22nm,1.1s,mb5.3
ULN Ulaanbaatar 87.59 324 *e*P **P 17 00 27.7 -1.0**
comp=Z,22nm,1.1s,mb5.3
NVL N'lazarevskaya 87.65 187⇓*i*P pP 17 00 42.2 +5.5
NVL *e*S 17 10 59.4
NVL pmax pmax
comp=Z,22nm,1.5s,mb5.2
NVL MLR MLR
comp=Z,538nm,17.1s,MS5.0
GTA Gaotai 87.67 314 *e*P **P 17 00 28.8 -0.3**
GTA AP pP 17 00 39.3 +2.5
GTA XP sP 17 00 43.3 +3.8
GTA PP PP 17 03 59.5 +5.0
GTA SKS 17 10 52.1
GTA S 17 11 08.8
GTA XS sS 17 11 26.3 +4.0
GTA SS SS 17 17 01.3 +5.4
GTA AMB AMB
comp=Z,4.0nm,0.6s,mb4.8
GTA AMB AMB
comp=Z,230nm,6.1s
GTA LR LR
comp=N,199nm,19.0s,MS4.7
GTA LR LR
comp=E,185nm,19.4s,MS4.7
GTA LR LR
comp=Z,272nm,18.6s,MS4.7

YAK Yakutsk 87.88 343 *e*P **P 17 00 29.2 -0.9**
YAK pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
YAK pmax pmax
comp=N,5.0nm,1.7s
YAK pmax pmax
comp=E,4.0nm,1.6s
YAK MLR MLR
comp=N,259nm,18.0s,MS4.8
YAK MLR MLR
comp=Z,376nm,18.0s,MS4.8
YAK MLR MLR
comp=E,241nm,19.0s,MS4.8
YAK Yakutsk 87.88 343 *e*P **P 17 00 28.5 -1.5**
comp=E,13nm,0.6s,mb5.3
SONM Songino Array 87.94 323 P **P 17 00 30.0 -0.3**
comp=E,3.5nm,1.1s,mb4.5,baz=129,slow=4.2,SNR=12
SNAA Sanae 87.98 183 *e*P **P 17 00 23.0 -7.6**
SNAA pmax pmax
comp=Z,12nm,0.9s
SNAA Sanae 87.98 183 *e*P **P 17 00 23.0 -7.6**
comp=Z,12nm,0.9s,mb5.1
BILL Bilibino 88.21 359 *e*P **P 17 00 30.2 -1.5**
BILL *e* 17 00 42.1
BILL pmax pmax
comp=Z,13nm,2.5s,mb4.7
BILL MLR MLR
comp=Z,300nm,22.0s,MS4.7
BILL pmax pmax
comp=E,10.0nm,1.2s
BILL Bilibino 88.21 359 *e*P **P 17 00 28.9 -2.7**
comp=E,8.5nm,1.0s,mb4.9
YBH Yreka Blue Hor 88.39 44 P **P 17 00 32.2 -0.3**
comp=E,3.3nm,0.8s,mb4.6,baz=130,slow=7.2,SNR=3.8
YBH Yreka Blue Hor 88.39 44 P **P 17 00 33.8 +1.3**
YBH pmax pmax
comp=Z,16nm,1.3s
YBH Yreka Blue Hor 88.39 44 P **P 17 00 33.8 +1.3**
comp=Z,16nm,1.3s,mb5.1
VNA3 Neumayer Olymp 88.58 180 *e*P **P 17 00 31.2 -2.2**
VNA3 *e* 17 00 33.3
VNA3 *e* 17 00 41.3
VNA3 *e* 17 00 48.1
VNA3 *e* 17 00 51.8
VNA3 *e* 17 02 03.7
VNA3 *e* 17 02 13.2
HUMO Hull Mountain 88.66 43 P **P 17 00 35.5 +1.7**
comp=Z,17nm,1.1s,mb5.3
VNA2 Neumayer--Watz 88.87 181 *e*P **P 17 00 33.3 -1.5**
VNA2 *e* 17 00 35.0
VNA2 *e* 17 00 43.7
VNA2 *e* 17 00 47.7
VNA2 *e* 17 00 51.5
VNA2 *e* 17 02 05.7
VNA2 *e* 17 02 15.2
VNA1 Neumayer--Stat 89.16 181 *e*P **P 17 00 34.5 -1.7**
VNA1 *e* 17 00 36.4
VNA1 *e* 17 00 45.2
VNA1 *e* 17 00 50.1
NVAR Mina Array Bea 89.84 49 P **P 17 00 38.1 -1.2**
comp=Z,2.5nm,0.9s,mb4.5,baz=233,slow=8.9
MNV Mina 89.95 49 *e*P **P 17 00 39.4 -0.4**
MNV pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
MNV Mina 89.95 49 *e*P **P 17 00 39.4 -0.4**
comp=Z,9.5nm,1.0s,mb5.1
MOD Modoc 90.05 45 *e*P **P 17 00 41.5 +1.2**
comp=Z,9.1nm,0.9s,mb5.1
BOD Bodaibo 90.22 334 *e*P **P 17 00 34.2 -6.9**
BOD pmax pmax
comp=Z,9.0nm,1.6s,mb4.8
TPNV Topopah Spring 90.67 51 *e*P **P 17 00 41.2 -2.0**
TPNV pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
TPNV Topopah Spring 90.67 51 *e*P **P 17 00 41.2 -2.0**
comp=Z,8.8nm,0.8s,mb5.1
ZAK Zakamensk 91.03 324 *e*P **P 17 00 44.2 -0.7**
ZAK pmax pmax
comp=Z,25nm,1.6s,mb5.3
COLA College 91.26 17 *e*P **P 17 00 45.8 -0.1**
WVOR Wild Horse Val 91.40 45 *e*P **P 17 00 45.8 -0.8**
WVOR pmax pmax
comp=Z,136nm,1.1s
WVOR Wild Horse Val 91.40 45 *e*P **P 17 00 45.8 -0.8**
comp=Z,136nm,1.1s
ILAR Eielson Array 91.45 17 P **P 17 00 44.5 -2.3**
comp=Z,0.9nm,0.6s,mb4.2,baz=235,slow=4.9,SNR=7.0
BMN Battle Mountai 91.47 47 *e*P **P 17 00 47.6 +0.7**
BMN pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
BMN Battle Mountai 91.47 47 *e*P **P 17 00 47.6 +0.7**
comp=Z,6.7nm,1.0s,mb4.9
TLY Talaya 91.52 326 *e*P **P 17 00 49.6 +2.5**
TLY *e* 17 11 18.5
TLY *e*S 17 11 45.9
TLY pmax pmax
comp=Z,6.0nm,1.2s,mb4.8
TLY MLR MLR
comp=Z,248nm,19.0s,MS4.7
TLY Talaya 91.52 326 P **P 17 00 46.7 -0.4**
comp=Z,12nm,1.1s,mb5.1
SKAG Skagway 91.66 25 P **P 17 00 46.9 -0.9**
MOY Mondy 92.93 325 *e*P **P 17 01 02.9 +9.2**
JIRN Jiri 93.09 298 *e*P **P 17 00 55.1 +0.7**
GUN Gumba 93.44 298 *e*P **P 17 00 57.7 +1.7**
PKI Pulchoki 93.70 298 *e*P **P 17 00 56.5 -0.7**
KKN Kakani 93.89 298 *e*P **P 17 00 58.6 +0.5**
DMN Daman 93.97 298 *e*P **P 17 00 57.5 -0.9**
comp=Z,80nm,1.5s,mb5.9
GKN Gorkha 94.50 298 *e*P **P 17 01 02.0 +1.1**
KOLN Koldanda 95.28 298 *e*P **P 17 01 02.5 -1.9**
TIXI Tiksi 95.81 348 *e*P **P 17 01 04.8 -2.1**
TIXI *e* 17 12 20.1
TIXI *e*SP SP 17 13 39.2 -2.3
TIXI *e*SSS 17 22 32.1
TIXI pmax pmax
comp=Z,2.0nm,1.2s,mb4.4
TIXI MLR MLR
comp=Z,217nm,19.0s,MS4.7
PDAR Pinedale Array 97.67 47 LR LR 17 43 24.6
comp=Z,229nm,18.5s,MS4.7,baz=245,slow=34
WMQ Urumqi 97.75 314 ⇑P **P 17 01 16.0 +0.3**
WMQ AP pP 17 01 26.5 +3.1
WMQ XP sP 17 01 31.0 +4.9
WMQ PP PP 17 05 18.3 +4.6
WMQ SKS 17 11 50.0
WMQ *e*S 17 12 36.3
WMQ XS sS 17 12 54.5 +1.7
WMQ AMB AMB
comp=Z,7.0nm,0.5s,mb5.5
WMQ AMB AMB
comp=Z,78nm,4.5s
WMQ LR LR
comp=N,198nm,20.2s,MS4.7
WMQ LR LR
comp=E,160nm,20.1s,MS4.7
WMQ LR LR
comp=Z,238nm,18.2s,MS4.7
PLCA Paso Flores 97.90 139 LR LR 17 36 09.1
comp=Z,204nm,18.2s,MS4.7,baz=86,slow=30
MKAR Makanchi Array 102.32 315 P Pdif 17 01 35.4 -0.6
comp=Z,0.6nm,0.8s,baz=95,slow=6.1,SNR=5.6
MKAR PP PP 17 05 46.7 -1.7
comp=Z,0.1nm,0.4s,baz=109,slow=7.8,SNR=2.9
APA Apatity 125.22 341⇑*i*PKHKP 17 06 23.3
APA MLR MLR
comp=Z,600nm,20.0s,MS5.3
ARCES ARCESS Array B 126.10 345 PKP PKPdf 17 06 40.9 -1.9
comp=Z,2.9nm,0.8s,baz=37,slow=1.6,SNR=4.9
OBN Obninsk 130.27 326⇑*i*PKIKP PKPdf 17 06 52.9 +2.2
OBN pmax pmax
comp=Z,6.0nm,0.7s
OBN MLR MLR
comp=Z,400nm,21.0s,MS5.1
AKASG Malin Array Be 136.22 323 PKhKP PKPdf 17 06 57.7 -4.2
comp=Z,0.2nm,0.3s,baz=11,slow=0.6,SNR=3.1
AKASG PKP PKPdf 17 07 02.1 +0.2
comp=Z,0.6nm,0.4s,baz=41,slow=1.5,SNR=5.9
OKC Ostrava-Krasne 142.55 329 AMS AMS 18 12 10.0
comp=Z,400nm,21.3s
DPC Dobruska-Polom 143.07 331 *e*PKP PKPdf 17 07 12.3 -2.1
DPC *ex* x 17 07 24.4
DPC AMS AMS 18 10 20.0
comp=Z,500nm,24.1s
UPC Upice 143.10 331 *e*PKP PKPdf 17 07 11.7 -2.7

BRG Berggiesshubel 143.75 333 *e*PKP PKPdf 17 07 12.7 -2.9
comp=Z,13nm,1.5s
BRG *e* 17 08 01.1
BRG comp=Z,5.7nm,1.1s *e* 17 08 35.0
BRG comp=Z,14nm,1.7s
comp=Z,213nm,14.7s
BRG Berggiesshubel 143.75 333 *e*PKIKP PKPdf 17 07 12.7 -2.9
BRG pmax pmax
comp=Z,13nm,1.5s
BRG pmax pmax
comp=Z,6.0nm,1.1s
BRG pmax pmax
comp=Z,14nm,1.7s
BRG MLR MLR
comp=Z,213nm,14.7s,MS5.0
CLL Collm 143.82 334 *e*PKPdf PKPdf 17 07 15.0 -0.7
comp=Z,50nm,2.0s
CLL *e*SSS 17 34 18.0
CLL LmV 18 13 00.0
comp=Z,200nm,20.4s
PRU Pruhonice 144.14 331 *e*PKP PKPdf 17 07 15.8 -0.5
PRU *ex* x 17 07 27.5
PRU AMS AMS 18 11 20.0
comp=Z,200nm,18.7s
CLZ Clausthal 144.42 337 *e*PKPbc PKPdf 17 07 13.9 -2.8
NPS Neapolis 144.51 302 *e*P PKPdf 17 07 16.5 -0.4
XRY Khrisi 144.54 302 *e*P PKPdf 17 07 16.5 -0.5
PKSM Moradgy 144.57 323⇓*e*PKIKP PKPdf 17 07 17.7 +0.7
VAY Valandovo 144.66 314 *e*PKP PKPdf 17 07 16.2 -1.0
TANN Tannenbergstha 144.72 334 *e*PKPbc PKPdf 17 07 16.2 -1.1
SOP Sopron 144.76 327⇑*e*PKP/p PKPdf 17 07 19.2 +1.9
SOP Sopron 144.76 327⇑*e*P PKPdf 17 07 19.1 +1.8
NKC Novy Kostel 144.86 333 *e*PKP PKPdf 17 07 16.2 -1.3
NKC *ex* x 17 07 24.3
MOX Moxa 144.89 335 *e*PKPbc PKPdf 17 07 15.3 -2.3
MOX Moxa 144.89 335 *e*PKP PKPdf 17 07 16.3 -1.3
comp=Z,44nm,1.1s
MOX comp=Z,200nm,19.0s
MOX Moxa 144.89 335 *e*PKIKP PKPdf 17 07 16.3 -1.3
MOX pmax pmax
comp=Z,44nm,1.1s
MOX MLR MLR
comp=Z,200nm,19.0s,MS4.9
IBBN Ibbenburen 144.94 340 *e*PKPbc PKPdf 17 07 16.6 -1.0
RHK1 Bakonya 144.95 324 *e*P PKPdf 17 07 17.4 -0.3
SKO Skopje 145.12 315 *e*PKP PKPdf 17 07 18.2 +0.2
KHC Kasperske Hory 145.19 331 *e*PKP PKPdf 17 07 17.5 -0.6
KHC *ex* x 17 07 26.7
KHC AMS AMS 18 11 50.0
comp=Z,400nm,24.2s
GEC2 GERESS Array S 145.34 331 *e*PKPbc PKPbc 17 07 18.0 -0.2
GERES GERESS Array B 145.34 331 PKPbc PKPbc 17 07 17.2 -1.0
comp=Z,4.0nm,0.8s,baz=31,slow=3.1,SNR=16
WET Wettzell 145.50 332 *e*PKPbc PKPbc 17 07 17.7 -1.0
WTSB Winterswijk 145.54 340 *e*P PKPdf 17 07 16.5 -2.1
comp=Z,60nm,2.6s
ARSA Arzberg 145.57 327⇓*i*P PKPdf 17 07 20.8 +2.1
comp=Z,218nm,4.1s
VAM Vamos 145.59 303 *e*P PKPdf 17 07 20.0 +1.2
MOA Molln 145.78 329⇑*i*P PKPdf 17 07 21.4 +2.3
comp=Z,146nm,2.5s
MOA Molln 145.78 329⇑*i*PKPab PKPab 17 07 20.0 0.0
comp=Z,146nm,2.5s
GRF Grafenberg Arr 145.79 334 *e*PKPbc PKPbc 17 07 19.4 -0.2
GVD Gavdhos 145.83 302 *e*PKP PKPdf 17 07 18.9 -0.3
BUG Bochum--Univer 145.83 339 *e*PKPbc PKPbc 17 07 19.2 -0.6
VLI Veliai 146.16 306 *e*P pPKPbc 17 07 31.5 +2.9
PERS Pernice 146.19 327 *e*PKPdf PKPdf 17 07 22.3 +2.5
KYTH Kithira 146.23 305 *e*P pPKPbc 17 07 32.5 +3.7
TNS Taunus Mts 146.44 337 *e*PKPbc PKPbc 17 07 21.1 -0.5
ITM Ithomi 146.76 307 *e*P pPKPbc 17 07 34.5 +4.1
TOD Tromm 146.82 336 PKP2 PKPab 17 07 23.5 -0.5
HGN Heimansgroeve 146.85 340 *e*P PKPdf 17 07 23.0 +2.1
comp=Z,44nm,3.5s
BOJS Bojanci 146.86 325 *e*PKPdf PKPdf 17 07 24.7 +3.7
LJU Ljubljana 146.89 326 *e*PKPdf PKPdf 17 07 23.6 +2.7
MEM Membach 146.96 340 PKPbc PKPbc 17 07 22.2 -0.7
MEM PKPab PKPab 17 07 24.4 -0.1
MEM APKP 17 07 31.5
DLF Lyons Farm 146.98 355 *e*P PKPdf 17 07 21.5 +0.4
DCN Croghan 146.99 356 *e*P PKPdf 17 07 20.6 -0.5
ABH Alteburg 147.05 338 PKP PKPdf 17 07 24.6 +3.4
VOY Vojsko 147.22 327 *e*PKPbc PKPbc 17 07 31.3 +7.5
VOY *e* 17 07 36.8
VOY *e* 17 07 49.5
STU Stuttgart 147.34 335 *e*PKPbc PKPbc 17 07 25.6 +1.5
BCLA Clavier 147.35 340 PKPbc PKPbc 17 07 22.8 -1.4
BCLA PKPab PKPab 17 07 26.0 -0.1
BCLA APKPbc 17 07 34.2
RUP Ruppelstein 147.38 338 PKP2 PKPab 17 07 25.5 -0.7
WTTA Wattenberg 147.44 331⇑*i*P PKPbc 17 07 25.5 +1.1
comp=Z,114nm,2.8s
WTTA Wattenberg 147.44 331⇑*i*P PKPbc 17 07 25.5 +1.1
LANF Langenberg 147.70 336 PKP PKPbc 17 07 26.8 +1.7
WLF Walferdange 147.72 339 PKPbc PKPbc 17 07 25.5 +0.3
WLF Walferdange 147.72 339 *e*PKPbc PKPbc 17 07 25.2 0.0
GIVF Givet 147.78 341 *e*PKIKP PKPbc 17 07 26.1 +0.8
DOU Dourbes 147.85 341 PKPbc PKPbc 17 07 25.1 -0.5
DOU PKPab PKPab 17 07 27.0 -1.1
DOU APKPbc 17 07 36.3
DOU APKPab 17 07 37.6
BAIF Baives 148.00 341 *e*PKIKP PKPbc 17 07 26.2 +0.3
BFO Black Forest 148.03 335 *e*PKIKP PKPdf 17 07 23.5 +0.6
WLS Welschbruch 148.34 336 PKP PKPbc 17 07 28.1 +1.3
CDF Champ du Feu 148.37 336 *e*PKIKP PKPbc 17 07 27.2 +0.3
comp=Z,11nm,0.8s
FELD Feldberg im Sc 148.53 335 PKP PKPdf 17 07 26.3 +2.6
ECH Echery 148.58 336 PKP2 PKPab 17 07 30.4 -0.6
HINF Hinteralfeld 149.02 336 *e*PKIKP PKPdf 17 07 28.2 +3.7
HAU Haudompre 149.06 337 *e*PKIKP PKPdf 17 07 28.2 +3.7
HAU *e*R
comp=Z,324nm,21.0s
HAU Haudompre 149.06 337 *e*PKPdf PKPdf 17 07 28.2 +3.7
HAU LR LR
comp=Z,320nm,21.0s,MS5.1
LOMF Lomont 149.42 336 PKP PKPbc 17 07 30.7 +1.1
TIP Timpagrande 149.59 314 PKPdf PKPdf 17 07 24.6 -0.8
OG01 Vacheresse 150.31 335 PKP PKPbc 17 07 31.8 +0.1
OG01 Vacheresse 150.31 335 PKP PKPbc 17 07 32.1 +0.4
CABF La Chapelle 150.31 336 *e*PKIKP PKPdf 17 07 29.1 +2.6
comp=Z,12nm,0.7s
FLN La Foliniere 150.45 346 *e*PKIKP PKPdf 17 07 29.8 +3.1
comp=Z,19nm,0.7s
FLN *e*R
comp=Z,385nm,21.0s
FLN La Foliniere 150.45 346 *e*PKPdf PKPdf 17 07 29.8 +3.1
FLN LR LR
comp=Z,380nm,21.0s,MS5.2
LDF La Druitiere 150.52 345 *e*PKIKP PKPdf 17 07 29.8 +2.9
comp=Z,8.7nm,0.7s
LOR Lormes 150.56 339 *e*PKIKP PKPdf 17 07 30.1 +3.2
comp=Z,9.4nm,0.8s
LOR *e*R
comp=Z,315nm,21.2s
LOR Lormes 150.56 339 *e*PKPdf PKPdf 17 07 30.1 +3.2
LOR LR LR
comp=Z,310nm,21.3s,MS5.1
SSF Saint Saulge 150.86 339 *e*PKIKP PKPdf 17 07 30.7 +3.3
comp=Z,28nm,1.1s
GRR Gorron 150.88 346 *e*PKIKP PKPdf 17 07 30.7 +3.3
LPL La Plagne 150.95 334 *e*PKIKP PKPdf 17 07 31.3 +3.8
comp=Z,7.5nm,0.8s
LPG La Plagne 150.96 334 *e*PKIKP PKPdf 17 07 31.3 +3.8
comp=Z,15nm,1.0s
SMF Signal de Mont 151.11 338 *e*PKIKP PKPdf 17 07 30.7 +2.9
AVF Avril sur Loir 151.15 339 *e*PKIKP PKPdf 17 07 31.5 +3.7
BNI Bardonecchia 151.34 333 PKPdf PKPdf 17 07 29.5 +1.4
MBDF Montbardon 151.56 333 *e*PKIKP PKPdf 17 07 32.2 +3.7
comp=Z,4.7nm,0.6s
ORIF Oris-en-Rattie 151.79 334 *e*PKIKP PKPdf 17 07 32.2 +3.4
comp=Z,7.7nm,0.7s
ORIF *e*R
comp=Z,303nm,22.8s
SBF Sospel 151.95 331 *e*PKIKP PKPdf 17 07 32.2 +3.2
TCF Toulx Ste Croi 151.97 340 *e*PKIKP PKPdf 17 07 32.5 +3.4
VIVF Saint-Julien-l 152.32 335 *e*PKIKP PKPdf 17 07 33.0 +3.4
MFF Saint Martin d 152.37 344 *e*PKIKP PKPdf 17 07 33.2 +3.5
ESDC Sonseca Array 159.84 344 PKPab PKPab 17 08 17.9 -0.7
comp=Z,0.4nm,0.4s,baz=15,slow=6.2,SNR=5.1

ISCJB ***24*** *17:54:44.8±2.0, 2653N×006×54.11E×004, h16km±16km, mb3.9/12, Error ellipse: s-maj=10.0km s-min=6.1km az=40.4*

IDC ***24*** *17:54:44.5±1.2, 2660N×54.15E, h0km, mb4.0/10, mb1 4.1/12, mb1mx3.9/24, mbtmp4.0/12, ML3.4/2, MS3.3/2, Ms1 3.3/2, ms1mx2.7/24, Error ellipse: s-maj=26.5km s-min=19.3km az=5.0*

MOS ***24*** *17:54:45.3±0.9, 2637N×5407E, h31km, mb4.0/7, Error ellipse: s-maj=25.7km s-min=12.0km az=107.1*

NEIC ***24*** *17:54:45.1±3.5, 2665N×5419E, h3km±24km, mb4.1/5, ML3.7(THR), Error ellipse: s-maj=12.0km s-min=7.3km az=200.0*

THR ***24*** *17:54:45.1±0.3, 2669N×5421E, h15km±3km, ML3.5*

CSEM ***24*** *17:54:46.8±0.2, 2678N×5423E, h25km, mb4.0/10, Error ellipse: s-maj=5.7km s-min=2.7km az=4.0*

TEH ***24*** *17:54:54.1, 2697N×5399E, h28km, Mn3.7*

ISC 24 17:54:45.2±2.9, 2660N±007×**5414E**±006, **h3**km±18km, **n57, σ0$85/65, mb3.9/12, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.96**	**329**	*e*PG	**Pg**	**17 55 20.3**	**-2.5**
GHIR				*e*SG	**Sg**	**17 55 45.9**	**-2.4**
GHIR	**Ghir-Karzin**	**1.96**	**329**	*e*Pg	**Pg**	**17 55 20.0**	**-2.8**
GHIR				*e*Sg	**Sg**	**17 55 45.0**	**-3.3**
GHIR	**Ghir-Karzin** SNR=90	**1.96**	**329**	*e*Pg	**Pg**	**17 55 20.3**	**-2.5**
GHIR				*e*Sg	**Sg**	**17 55 45.0**	**-3.3**
BNDS	**Bandar-Abbas**	**1.98**	**66**	*e*PG	**Pg**	**17 55 19.5**	**-3.7**
BNDS				*e*SG	**Sg**	**17 55 44.7**	**-4.2**
BNDS	**Bandar-Abbas**	**1.98**	**66**	*e*Pg	**Pg**	**17 55 19.0**	**-4.2**
BNDS				*e*Sg	**Sg**	**17 55 44.0**	**-4.9**
BNDS	**Bandar-Abbas** SNR=90	**1.98**	**66**	*e*Pg	**Pg**	**17 55 19.5**	**-3.7**
BNDS				*e*Sg	**Sg**	**17 55 44.0**	**-4.9**
IMOK	**Mook**	**2.74**	**333**	*e*Pn	**Pn**	**17 55 30.7**	**+0.7**
KRBR	**Kerman**	**4.09**	**34**	*e*PN	**Pn**	**17 55 47.9**	**-0.6**
KRBR	comp=E,62nm,0.7s			AML	AML	17 56 46.7	
KRBR	comp=N,56nm,0.6s			AML	AML	17 56 51.9	
KRBR	**Kerman**	**4.09**	**34**	*e*Pn	**Pn**	**17 55 47.0**	**-1.5**
IMEH	**Mehriz**	**4.79**	**5**	*e*Pn	**Pn**	**17 56 00.3**	**+2.1**
IBAF	**Bafgh**	**5.12**	**14**	*e*Pn	**Pn**	**17 56 04.0**	**+1.2**
IBAF				*e*Sn	**Sn**	**17 56 56.0**	**-6.4**
WSAR	**Wadi Sarin** comp=N,0.4nm,0.3s,baz=307,slow=17,SNR=13	**5.28**	**128**	Pn	**Pn**	**17 56 05.0**	**+0.1**
WSAR	comp=N,0.7nm,0.3s,baz=86,slow=21,SNR=3.7			Sn	**Sn**	**17 57 06.5**	**+0.3**
WSAR	comp=N,172nm,18.3s,baz=254,slow=34			LR	LR	17 57 42.0	
WSAR	**Wadi Sarin**	**5.28**	**128**	Pn	**Pn**	**17 56 05.0**	**+0.1**
WSAR				Sn	**Sn**	**17 57 06.5**	**+0.3**
ISAD	**Sadrabad**	**5.31**	**356**	*e*Sn	**Sn**	**17 56 58.8**	**-8.1**
RDF	**Al-Radifah**	**6.28**	**293**	*e*P	**Pn**	**17 56 18.8**	**+0.1**
RDF	comp=Z,22nm,0.6s			AML	AML	17 56 59.0	
NASN	**Na'in**	**6.28**	**350**	*e*PN	**Pn**	**17 56 18.9**	**+0.2**
NASN	comp=E,15nm,0.8s			AML	AML	17 57 31.5	
NASN	comp=N,19nm,0.7s			AML	AML	17 57 34.9	
NASN	**Na'in**	**6.28**	**350**	*e*Pn	**Pn**	**17 56 18.0**	**-0.7**
NAY	**Al-Naaiem**	**6.64**	**295**	*e*P	**Pn**	**17 56 24.0**	**+0.4**
NAY	comp=Z,13nm,0.8s			AML	AML	17 57 00.4	
MIB	**Mutribah**	**6.79**	**300**	*e*P	**Pn**	**17 56 25.6**	**-0.1**
MIB	comp=Z,34nm,0.6s			AML	AML	17 57 10.9	
BHD	**Baghdad**	**10.75**	**310**	*ex*	x	17 58 30.0	
BHD				*ex*	x	18 00 34.0	
BHD				*ex*	x	18 01 21.0	
GNI	**Garni** comp=Z,1.9nm,0.3s,baz=233,slow=2.4,SNR=11	**15.61**	**332**	Pn	**Pn**	**17 58 31.9**	**+5.8**
GNI	comp=Z,204nm,21.6s,baz=111,slow=40			LR	LR	18 05 16.3	
GNI	**Garni**	**15.61**	**332**	*e*P	**Pn**	**17 58 31.4**	**+5.3**
GNI	comp=Z,18nm,0.7s			pmax	pmax		
GNI	**Garni** comp=Z,18nm,0.7s	**15.61**	**332**	*e*P	**Pn**	**17 58 31.4**	**+5.3**
GNI				LR	LR	18 05 16.3	
MMAI	**Mount Meron Ar** comp=Z,0.5nm,0.3s,baz=107,slow=17,SNR=4.0	**17.46**	**296**	P	**Pn**	**17 58 49.7**	**+0.1**
MALT	**Malatya**	**17.64**	**315**	*e*P	**Pn**	**17 58 51.6**	**-0.2**
ZEI	**Tsey**	**18.17**	**335**	*e*P	**Pn**	**17 58 59.6**	**+1.2**
KIV	**Kislovodsk**	**19.64**	**335**	*e*P	**Pn**	**17 59 15.5**	**-0.7**
KIV	comp=Z,7.0nm,0.6s			pmax	pmax		
KIV	**Kislovodsk** comp=Z,6.8nm,0.6s	**19.64**	**335**	*e*P	**Pn**	**17 59 15.5**	**-0.7**
KIV	**Kislovodsk** comp=Z,7.0nm,0.6s	**19.64**	**335**	*e*P	**Pn**	**17 59 15.5**	**-0.7**
BRTR	**Keskin Array B** comp=Z,4.1nm,0.7s,mb4.0,baz=133,slow=13,SNR=16	**21.52**	**313**	P	**P**	**17 59 35.9**	**+0.7**
BRTR	comp=Z,4.0nm,0.7s			pmax	pmax		
BR131	**Keskin Array S** comp=Z,3.5nm,0.8s,mb3.8	**21.52**	**313**	*e*P	**P**	**17 59 35.7**	**+0.4**
BR131	**Keskin Array S** comp=Z,3.5nm,0.8s,mb3.8	**21.52**	**313**	*e*P	**P**	**17 59 35.7**	**+0.5**
AKTK	**Aktyubinsk**	**23.98**	**6**	P	**P**	**18 00 01.4**	**+0.6**
AKTO	**Aktyubinsk** comp=Z,1.0nm,0.5s,mb3.5,baz=178,slow=11,SNR=5.1	**23.98**	**6**	P	**P**	**18 00 01.4**	**+0.6**
AKTO	comp=Z,1.0nm,0.5s,mb3.5			pmax	pmax		
IDI	**Anoyia** comp=Z,4.0nm,0.6s,mb4.1,baz=109,slow=8.1,SNR=9.1	**26.46**	**296**	P	**P**	**18 00 24.2**	**+0.8**
GVD	**Gavdhos** comp=Z,3.3nm,0.6s,mb4.0	**27.03**	**295**	*e*P	**P**	**18 00 28.3**	**-0.2**
GVD	**Gavdhos** comp=Z,3.2nm,0.6s,mb4.0	**27.03**	**295**	*e*P	**P**	**18 00 28.3**	**-0.2**
MKAR	**Makanchi Array** comp=Z,0.5nm,0.8s,mb3.3,baz=218,slow=8.7,SNR=6.1	**30.00**	**40**	P	**P**	**18 00 54.4**	**-0.6**
MKAR	**Makanchi Array** comp=Z,1.0nm,0.8s	**30.00**	**40**	P	**P**	**18 00 54.4**	**-0.6**
MKAR				pmax	pmax		
KURK	**Kurchatov**	**30.48**	**31**	*e*P	**P**	**18 00 58.3**	**-0.9**
KURK	comp=Z,1.0nm,0.9s,mb3.5			pmax	pmax		
KURK	**Kurchatov** comp=Z,1.3nm,0.9s,mb3.7	**30.48**	**31**	*e*P	**P**	**18 00 58.3**	**-0.9**
KURK	**Kurchatov** comp=Z,1.0nm,0.9s,mb3.5	**30.48**	**31**	*e*P	**P**	**18 00 58.3**	**-0.9**
ZAL	**Zalesovo** comp=Z,1.4nm,0.6s,mb4.1,baz=238,slow=7.9,SNR=7.4	**35.46**	**31**	P	**P**	**18 01 42.6**	**-0.1**
ZAL	**Zalesovo** comp=Z,1.0nm,0.6s	**35.46**	**31**	P	**P**	**18 01 42.6**	**-0.1**
ZAL				pmax	pmax		
KHC	**Kasperske Hory**	**38.49**	**317**	*e*P	**P**	**18 02 07.5**	**-1.0**
FINES	**FINESS Array B** comp=Z,5.9nm,0.9s,mb4.3,baz=134,slow=11,SNR=8.1	**39.62**	**339**	P	**P**	**18 02 16.7**	**-1.2**
FINES	**FINESS Array B** comp=Z,6.0nm,0.9s	**39.62**	**339**	P	**P**	**18 02 16.7**	**-1.3**
FINES				pmax	pmax		
NB2	**NORSAR Subarra** comp=Z,1.2nm,0.7s,mb3.8,baz=118,slow=7.9	**44.91**	**332**	P	**P**	**18 02 59.4**	**-1.7**
NOA	**NORSAR Array B** comp=Z,2.0nm,0.8s,mb4.0,baz=120,slow=8.0,SNR=5.2	**44.91**	**332**	P	**P**	**18 02 59.4**	**-1.7**
NOA	**NORSAR Array B** comp=Z,2.0nm,0.8s	**44.91**	**332**	P	**P**	**18 02 59.4**	**-1.7**
NOA				pmax	pmax		
NOA	**NORSAR Array B**	**44.91**	**332**	P	**P**	**18 02 59.4**	**-1.7**
ARCES	**ARCESS Array B** comp=Z,2.0nm,0.7s,mb4.2,baz=152,slow=8.1,SNR=5.5	**46.10**	**346**	P	**P**	**18 03 10.9**	**+0.4**
ARCES	**ARCESS Array B** comp=Z,2.0nm,0.7s	**46.10**	**346**	P	**P**	**18 03 10.9**	**+0.4**
ARCES				pmax	pmax		
ESDC	**Sonseca Array** comp=Z,1.0nm,0.7s,mb4.0,baz=82,slow=8.9,SNR=4.6	**49.58**	**301**	P	**P**	**18 03 37.3**	**-0.2**
TORD	**Torodi Ar. Bea** comp=Z,3.2nm,0.9s,mb4.3,baz=63,slow=7.2,SNR=19	**50.78**	**265**	P	**P**	**18 03 46.9**	**+0.3**

ISCJB ***24*** *17:58:04.8±0.5, 39N×0.1×3206W±0.10, h10km, mb4.3/22, MS4.3/10, Error ellipse: s-maj=19.8km s-min=8.7km az=104.8*

MOS ***24*** *17:58:04.8±0.9, 389N×3208W, h10km, mb4.8/4, Error ellipse: s-maj=28.9km s-min=11.2km az=51.6*

IDC ***24*** *17:58:05.1±0.6, 386N×3206W, h0km, mb4.4/18, mb1 4.5/18, mb1mx4.4/25, mbtmp4.3/18, MS4.3/10, Ms1 4.2/10, ms1mx4.1/14, Error ellipse: s-maj=26.1km s-min=12.4km az=143.0*

NEIC ***24*** *17:58:06.5±0.4, 384N×3209W, h10km, mb4.6/9, Error ellipse: s-maj=16.3km s-min=7.2km az=141.0*

HRVD ***24*** *17:58:06.5±0.2, 394N×3208W, h21km±1km, MW5.1/81, Centroid moment Tensor Solution. LP body waves: s43,c55;Mantle waves: s81,c128; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.51±.17; Mθθ 0.93±.13; Mϕϕ -0.42±.13; Mrθ 0.06±.24; Mrϕ -5.29±.14; Mθϕ -0.15±.24; Best double couple: M=5.33500×10^16 NP1: ϑ=86.00000°, δ=88.00000°, λ=180.00000°. NP2: ϕs=176.00000°, δ=90.00000°, λ=2.00000°. Principal axes: T 5.5900, Plg1.0000°, Azm41.0000°; N -0.5100, Plg88.0000°, Azm189.0000°; P -5.0800, Plg1.0000°, Azm311.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 24 17:58:07.0±0.5, 39N±01×**3210W**±010, **h10**km, **n47, σ0$81/42, mb4.3/22, MS4.3/10, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	**Brasilia** 10nm,0.9s,mb4.4,baz=53,slow=5.4,SNR=7.5	**25.00**	**219**	P	**P**	**18 03 29.5**	**-1.4**
BDFB	comp=Z,768nm,20.2s,MS4.2,baz=220,slow=34			LR	LR	18 12 15.8	
DBIC	**Dimbokro** 23nm,0.9s,mb4.7,baz=243,slow=10.0,SNR=23	**27.27**	**83**	P	**P**	**18 03 50.8**	**-0.6**
DBIC	**Dimbokro** comp=Z,21nm,0.8s	**27.27**	**83**	*e*P	**P**	**18 03 50.8**	**-0.6**
DBIC				pmax	pmax		
DBIC	**Dimbokro** comp=Z,21nm,0.8s,mb4.7	**27.27**	**83**	*e*P	**P**	**18 03 50.8**	**-0.6**
SAML	**Samuel** comp=Z,19nm,1.6s,mb4.8	**33.51**	**247**	*e*P	**P**	**18 04 46.8**	**+0.2**
TORD	**Torodi Ar. Bea** comp=Z,10nm,0.7s,mb4.9,baz=262,slow=8.6,SNR=45	**34.62**	**73**	P	**P**	**18 04 55.5**	**-0.7**
MDT	**Midelt** comp=Z,9.6nm,0.9s,mb4.5,baz=246,slow=8.1,SNR=5.6	**38.58**	**39**	P	**P**	**18 05 29.7**	**-0.4**
SDV	**Santo Domingo** comp=Z,2.7nm,0.4s,mb4.4,baz=90,slow=4.1,SNR=6.7	**38.59**	**279**	P	**P**	**18 05 31.5**	**+1.3**
CPUP	**Villa Florida** comp=Z,7.6nm,0.9s,mb4.4,baz=20,slow=8.3,SNR=12	**38.72**	**218**	P	**P**	**18 05 32.2**	**+1.0**
CPUP	comp=Z,755nm,19.9s,MS4.5,baz=38,slow=36			LR	LR	18 21 01.2	
CPUP	**Villa Florida** comp=Z,79nm,1.3s	**38.72**	**218**	*e*P	**P**	**18 05 31.8**	**+0.6**
CPUP	comp=Z,79nm,1.3s,mb5.3			pmax	pmax		
CPUP	**Villa Florida** comp=Z,79nm,1.3s,mb5.3	**38.72**	**218**	*e*P	**P**	**18 05 31.8**	**+0.6**
CPUP				LR	LR	18 21 01.2	
LPAZ	**La Paz** comp=Z,2.5nm,0.9s,mb3.9,baz=75,slow=8.2,SNR=12	**40.88**	**240**	P	**P**	**18 05 50.8**	**+1.6**
LPAZ	**La Paz** comp=Z,3.0nm,0.9s	**40.88**	**240**	*e*P	**P**	**18 05 49.9**	**+0.7**
LPAZ	comp=Z,3.3nm,0.9s,mb4.0			pmax	pmax		
LPAZ	**La Paz** comp=Z,3.3nm,0.9s,mb4.0	**40.88**	**240**	*e*P	**P**	**18 05 49.9**	**+0.7**
ESDC	**Sonseca Array** comp=Z,1.3nm,0.6s,mb3.9,baz=227,slow=8.8,SNR=9.4	**43.78**	**32**	P	**P**	**18 06 13.6**	**+0.8**
LVC	**Limon Verde** comp=Z,2.0nm,0.6s,mb4.1,baz=68,slow=14,SNR=3.6	**44.58**	**232**	P	**P**	**18 06 18.7**	**-0.5**
LVC	**Limon Verde** comp=Z,4.8nm,1.0s,mb4.3	**44.58**	**232**	*e*P	**P**	**18 06 18.6**	**-0.6**
PLCA	**Paso Flores** comp=Z,476nm,18.5s,MS4.6,baz=58,slow=36	**56.64**	**214**	LR	LR	18 32 02.4	
SCHQ	**Schefferville** comp=Z,2.8nm,0.9s,mb4.3,baz=130,slow=7.6,SNR=5.2	**58.03**	**337**	P	**P**	**18 07 60.0**	**-0.1**
GERES	**GERESS Array B** comp=Z,2.2nm,1.0s,mb4.1,baz=232,slow=6.5,SNR=12	**59.32**	**33**	P	**P**	**18 08 08.5**	**-0.6**
GERES	comp=Z,185nm,18.2s,MS4.2,baz=281,slow=36			LR	LR	18 33 22.7	
KHC	**Kasperske Hory**	**59.42**	**33**	*e*P	**P**	**18 08 09.8**	**+0.1**
KHC				*ex*	x	18 08 18.0	
NKC	**Novy Kostel**	**59.44**	**32**	*e*P	**P**	**18 08 08.8**	**-1.1**
CLL	**Collm**	**60.36**	**31**	*e*P	**P**	**18 08 24.0**	**+7.8**
PRU	**Pruhonice**	**60.41**	**33**	*e*P	**P**	**18 08 09.2**	**-7.4**
TREC	**Trest**	**60.55**	**34**	*e*P	**P**	**18 08 17.7**	**+0.2**
UPC	**Upice**	**61.49**	**33**	*e*P	**P**	**18 08 24.4**	**+0.5**
DPC	**Dobruska-Polom**	**61.57**	**33**	*e*P	**P**	**18 08 24.4**	**-0.1**
DPC				*ex*	x	18 08 32.1	
OKC	**Ostrava-Krasne**	**62.32**	**34**	*e*P	**P**	**18 08 29.5**	**0.0**
PSZ	**Piszkesteto**	**62.41**	**37**	*e*P	**P**	**18 08 31.2**	**+1.1**
PSZ	comp=Z,3.0nm,0.6s,mb4.6			pmax	pmax		
PSZ	**Piszkesteto** comp=Z,2.8nm,0.6s,mb4.6	**62.41**	**37**	*e*P	**P**	**18 08 31.2**	**+1.1**
MLR	**Muntele Rosu** comp=Z,5.3nm,0.7s,mb4.7,baz=216,slow=9.9	**65.20**	**41**	P	**P**	**18 08 49.5**	**+1.0**
NB2	**NORSAR Subarra** comp=Z,1.5nm,0.8s,mb4.1,baz=227,slow=6.5	**65.65**	**21**	P	**P**	**18 08 50.9**	**-0.5**
NOA	**NORSAR Array B** comp=Z,2.2nm,0.9s,mb4.2,baz=224,slow=6.9,SNR=5.9	**65.65**	**21**	P	**P**	**18 08 51.4**	**0.0**
NOA	comp=Z,126nm,19.2s,MS4.1,baz=245,slow=34			LR	LR	18 35 48.5	
BR131	**Keskin Array S** comp=Z,1.1nm,0.6s,mb4.0	**68.95**	**49**	*e*P	**P**	**18 09 12.4**	**+0.1**
BRTR	**Keskin Array B** comp=Z,2.8nm,1.0s,mb4.2,baz=242,slow=5.0,SNR=20	**68.95**	**49**	P	**P**	**18 09 12.8**	**+0.4**
MMAI	**Mount Meron Ar** comp=Z,0.7nm,0.4s,mb3.9,baz=289,slow=4.4,SNR=3.6	**69.06**	**56**	P	**P**	**18 09 14.4**	**+1.4**
AKASG	**Malin Array Be** comp=Z,7.1nm,1.0s,mb4.6,baz=248,slow=7.0,SNR=28	**69.11**	**37**	P	**P**	**18 09 12.5**	**-0.8**
FINES	**FINESS Array B** comp=Z,165nm,20.4s,MS4.3,baz=220,slow=32	**71.82**	**25**	LR	LR	18 36 15.2	
FCC	**Fort Churchill** comp=Z,3.0nm,0.7s,mb4.3	**72.43**	**331**	*e*P	**P**	**18 09 32.2**	**-1.3**
FCC				pmax	pmax		
FCC	**Fort Churchill** comp=Z,2.7nm,0.7s,mb4.3	**72.43**	**331**	*e*P	**P**	**18 09 32.2**	**-1.3**
ARCES	**ARCESS Array B** comp=Z,156nm,21.5s,MS4.3,baz=93,slow=31	**75.45**	**18**	LR	LR	18 36 53.0	
KIV	**Kislovodsk** comp=Z,15nm,1.3s,mb4.8	**76.36**	**46**	*e*P	**P**	**18 09 57.3**	**+0.9**
KIV				pmax	pmax		
KIV	**Kislovodsk** comp=Z,15nm,1.3s,mb4.8	**76.36**	**46**	*e*P	**P**	**18 09 57.3**	**+0.9**
PDAR	**Pinedale Array** comp=Z,76nm,20.6s,MS4.0,baz=94,slow=32	**78.16**	**313**	LR	LR	18 39 57.7	
YKA	**Yellowknife A** comp=Z,0.4nm,0.7s,mb3.6,baz=94,slow=4.7,SNR=6.3	**83.09**	**332**	P	**P**	**18 10 32.0**	**-0.9**
YKA	comp=Z,137nm,18.1s,MS4.4,baz=65,slow=33			LR	LR	18 44 18.5	
MAW	**Mawson** comp=Z,100nm,18.3s,MS4.3,baz=62,slow=31	**95.48**	**157**	LR	LR	18 47 22.9	
ILAR	**Eielson Array** comp=Z,0.5nm,0.8s,mb4.0,baz=72,slow=2.9,SNR=3.4	**96.79**	**337**	P	**P**	**18 11 37.3**	**-0.7**

IDC ***24*** *18:11:20.4±1.3, 3933N×7583E, h0km, mb3.9/9, mb1 4.0/12, mb1mx3.9/21, mbtmp3.9/12, ML3.3/3, MS3.3/1, Ms1 3.3/1, ms1mx2.2/19, Error ellipse: s-maj=28.1km s-min=19.6km az=155.0*

NEIC ***24*** *18:11:24.9±0.3, 3964N×7551E, h10km, mb3.9/1, Error ellipse: s-maj=9.7km s-min=4.5km az=56.0*

MOS ***24*** *18:11:25.9±1.1, 3963N×7555E, h33km, mb4.1/8, Error ellipse: s-maj=14.2km s-min=6.9km az=101.6*

BJI ***24*** *18:11:26.5, 40.10N×7538E, h32km, ML3.9*

ISCJB ***24*** *18:11:27.7±0.4, 3963N±004×7561E±007, h60km±5km, mb3.7/11, Error ellipse: s-maj=10.3km s-min=4.5km az=132.2*

NNC ***24*** *18:11:29.3±2.6, 4002N×7516E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=26.6km s-min=14.8km az=150.0*

ISC 24 18:11:29.2±0.4, 3965N±003×**7563E**±007, **h56**km±5km, **n65, σ1$09/70, mb3.7/11, 13C-10D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.29**	**116**	⇓*i*PG	**Pn**	**18 11 37.8**	**-1.0**
KSH				SG	**Sn**	**18 11 46.5**	**+0.8**
KSH	comp=N,9μm,1.0s			Smax			
KSH	comp=E,5μm,1.0s			Smax			
KZA	**Kyzart** SNR=403	**2.45**	**353**	P	**Pn**	**18 12 06.5**	**-0.2**
ULHL	**Ulahol** SNR=301	**2.64**	**10**	P	**Pn**	**18 12 09.7**	**+0.4**
UCH	**Uchtor** SNR=837	**2.71**	**342**	P	**Pn**	**18 12 10.3**	**0.0**
AML	**Almayashu** SNR=92	**2.88**	**330**	P	**Pn**	**18 12 12.8**	**+0.1**
KBK	**Karagaybulak** SNR=111	**3.05**	**350**	P	**Pn**	**18 12 15.3**	**+0.4**
AAK	**Ala-Archa** SNR=156	**3.11**	**344**	P	**Pn**	**18 12 16.2**	**+0.6**
AAK	**Ala-Archa**	**3.11**	**344**	*e*P	**Pn**	**18 12 15.1**	**-0.6**
TKM2	**Tokmak 2** SNR=51	**3.27**	**360**	P	**Pn**	**18 12 18.6**	**+0.7**
TKM2	**Tokmak 2** comp=E,3.6nm,0.7s	**3.27**	**360**	⇑Pn	**Pn**	**18 12 18.6**	**+0.6**
TKM2	comp=E,2.9nm,0.3s			⇑Pg	**Pn**	**18 12 22.6**	**+4.6**
TKM2	comp=E,21nm,0.5s			⇓Lg		18 13 01.3	
FRU	**Bishkek**	**3.27**	**347**	⇑*i*PN	**Pn**	**18 12 19.0**	**+1.0**
FRU				*i*		18 13 02.0	
FRU	comp=Z,410nm,1.6s			pmax	pmax		
FRU	comp=E,1μm,1.5s			smax			
EKS2	**Erkin-Say** SNR=23	**3.32**	**336**	P	**Pn**	**18 12 19.1**	**+0.4**
CHMS	**Chumysh** SNR=30	**3.41**	**349**	P	**Pn**	**18 12 20.3**	**+0.3**
KNDC	**Almaty** comp=E,41nm,0.5s	**3.71**	**15**	⇑Pn	**Pn**	**18 12 25.0**	**+1.1**
KNDC	comp=E,779nm,0.8s			⇑Lg		18 13 16.8	
USP	**Ospenovka** SNR=46	**3.72**	**347**	P	**Pn**	**18 12 24.0**	**0.0**
KK31	**Karatay Array** comp=E,17nm,0.7s,baz=127,slow=12,SNR=168	**5.17**	**314**	⇑Pn	**Pn**	**18 12 42.7**	**-1.3**
KK31	comp=E,24nm,0.6s,baz=123,slow=29,SNR=6.2			⇓Lg		18 13 57.4	
KK31	**Karatay Array**	**5.17**	**314**	*i* PN	**Pn**	**18 12 42.7**	**-1.3**
KK31	comp=Z,6.0nm,0.1s			pmax	pmax		
KKAR	**Karatay Array**	**5.17**	**314**	PN	**Pn**	**18 12 42.7**	**-1.3**
KKAR						18 14 03.1	
KKAR	comp=Z,1.0nm,0.2s			pmax	pmax		
KKAR				smax			
SMLA	**Simla** comp=Z,138nm,0.3s	**8.59**	**171**	*i* P	**Pn**	**18 13 34.2**	**+3.4**
SMLA				*i* S	**Sn**	**18 15 06.4**	**+0.1**
MK03	**Makanchi Array** comp=Z,4.4nm,0.8s	**8.62**	**32**	⇓Pn	**Pn**	**18 13 31.2**	**0.0**
MK03	comp=Z,6.4nm,1.0s			⇓Lg		18 15 54.0	
MK31	**Makanchi Array**	**8.64**	**32**	P	**Pn**	**18 13 31.4**	**-0.1**
MK31	comp=Z,2.0nm,0.7s			pmax	pmax		
MKAR	**Makanchi Array** comp=Z,0.2nm,0.3s,baz=206,slow=14,SNR=21	**8.64**	**32**	Pn	**Pn**	**18 13 31.1**	**-0.4**
MKAR	comp=Z,0.2nm,0.3s,baz=213,slow=26,SNR=3.9			Lg		18 15 53.8	
MKAR	**Makanchi Array**	**8.64**	**32**	*e*P	**Pn**	**18 13 31.8**	**+0.3**
KURK	**Kurchatov** comp=Z,1.4nm,1.2s	**11.27**	**10**	⇓Pn	**Pn**	**18 14 06.8**	**-0.6**
KURK	comp=Z,33nm,1.2s			⇓Lg		18 17 18.2	
KURK	**Kurchatov**	**11.27**	**10**	*e*P	**Pn**	**18 14 05.4**	**-2.0**
VOSK	**Vostochnaya** comp=Z,1.7nm,0.6s	**13.47**	**348**	⇑Pn	**Pn**	**18 14 39.5**	**+2.1**
VOSK	comp=Z,23nm,1.4s			⇓Lg		18 18 23.9	
KOLN	**Koldanda** comp=Z,14nm,0.7s	**13.57**	**148**	*e*P	**Pn**	**18 14 38.7**	**-0.1**
GKN	**Gorkha** comp=Z,24nm,0.5s	**13.80**	**145**	*e*P	**Pn**	**18 14 41.9**	**-0.1**
BVA0	**Borovoye Array** comp=Z,1.0nm,0.8s,baz=171,slow=18,SNR=4.6	**13.86**	**347**	⇑Pn	**Pn**	**18 14 37.1**	**-5.6**
BVA0	comp=Z,6.4nm,1.8s			⇓Lg		18 18 36.0	
ZRNK	**Zerenda** comp=Z,2.5nm,0.8s	**14.06**	**343**	⇑Pn	**Pn**	**18 14 47.9**	**+2.4**
ZRNK	comp=Z,33nm,2.0s			⇑Lg		18 18 43.1	
KKN	**Kakani**	**14.28**	**143**	*e*P	**Pn**	**18 14 47.8**	**-0.5**
DMN	**Daman**	**14.35**	**144**	*e*P	**Pn**	**18 14 49.3**	**0.0**
CHKZ	**Chkalovo** comp=Z,3.1nm,1.0s	**14.45**	**348**	⇑Pn	**Pn**	**18 14 47.8**	**-2.7**
CHKZ	comp=Z,8.5nm,0.9s			⇓Lg		18 18 54.9	
GUN	**Gumba**	**14.46**	**141**	*e*P	**Pn**	**18 14 50.2**	**-0.5**
PKI	**Pulchoki**	**14.53**	**143**	*e*P	**Pn**	**18 14 51.4**	**-0.1**
AB31	**Akbulak array** comp=Z,1.2nm,0.7s,baz=133,slow=13,SNR=15	**14.73**	**316**	Pn	**Pn**	**18 14 51.1**	**-3.2**
AB31	**Akbulak array**	**14.73**	**316**	*i* P	**Pn**	**18 14 51.0**	**-3.3**
AB31	comp=Z,1.0nm,0.7s			pmax	pmax		
JIRN	**Jiri** comp=Z,56nm,1.0s	**14.82**	**141**	*e*P	**Pn**	**18 14 55.4**	**0.0**
ZAL	**Zalesovo** comp=Z,0.3nm,0.3s,baz=262,slow=10,SNR=6.8	**15.59**	**21**	Pn	**Pn**	**18 15 04.7**	**-0.7**
ZAL	comp=Z,0.3nm,0.3s,baz=300,slow=15,SNR=3.2			Lg		18 19 34.0	
ZAL	comp=Z,96nm,18.2s,baz=22,slow=38			LR	LR	18 21 23.0	
ZAL	**Zalesovo**	**15.59**	**21**	Pn	**Pn**	**18 15 04.7**	**-0.7**
ZAL				Lg		18 19 34.0	
ZAL				LR	LR	18 21 23.0	
NVS	**Novosibirsk**	**16.04**	**16**	*e*P	**Pn**	**18 15 10.6**	**-0.4**
NVS				*e*S	**S**	**18 18 15.7**	**-3.2**
NVS	comp=N,5.0nm,1.3s			pmax	pmax		
NVS	comp=Z,5.0nm,1.3s			pmax	pmax		
NVS	comp=N,6.0nm,1.7s			smax			
NVS	comp=E,4.0nm,1.7s			smax			
AKTK	**Aktyubinsk**	**16.43**	**317**	Pn	**Pn**	**18 15 14.3**	**-1.7**
AKTK				Lg		18 20 06.8	
AKTO	**Aktyubinsk** comp=E,0.1nm,0.9s	**16.43**	**317**	⇑Pn	**Pn**	**18 15 13.1**	**-2.9**
AKTO	**Aktyubinsk** comp=E,0.2nm,0.3s,baz=116,slow=11,SNR=4.6	**16.43**	**317**	Pn	**Pn**	**18 15 14.3**	**-1.7**
AKTO	comp=E,0.1nm,0.3s,baz=56,slow=21,SNR=2.5			Lg		18 20 06.8	
SVE	**Sverdlovsk**	**19.80**	**335**	*e*P	**Pn**	**18 16 02.6**	**+5.6**
ARU	**Arti**	**20.21**	**332**	⇑*i*P	**P**	**18 16 00.3**	**+0.9**
ARU				*e*		18 16 14.8	
ARU				*e*PPP		18 16 24.9	
ARU				*e*S	**S**	**18 19 44.8**	**+1.7**
ARU				*e*SS		18 20 02.1	
ARU	comp=Z,4.0nm,1.1s			pmax	pmax		
SONM	**Songino Array** comp=Z,0.2nm,0.5s,mb2.8,baz=224,slow=10,SNR=3.7	**23

comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 77.87 5 P **P 18 23 21.2 +0.3**
comp=Z,1.5nm,0.6s,mb4.1,baz=347,slow=5.6,SNR=14
YKA Yellowknife Ar 77.87 5 P **P 18 23 21.2 +0.3**
YKA pmax pmax
comp=Z,2.0nm,0.6s
ASAR Alice Springs 83.19 128 P **P 18 23 46.2 -3.1**
comp=Z,0.3nm,0.8s,mb3.4,baz=294,slow=3.7,SNR=2.6

IDC 24 18:31:38.1±4.8, 219S×13951E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.4/12, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=191.7km s-min=28.2km az=87.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WB2	**Warramunga Arr**	**18.35**	**196**	*e*P	Pn	18 35 55.3	+1.3
WRA	**Warramunga Arr**	**18.35**	**196**	P	Pn	18 35 53.9	-0.1
	0.2nm,0.3s,baz=18,slow=12,SNR=14						
ASAR	**Alice Springs**	**22.03**	**194**	P	P	18 36 34.7	+0.6
	0.3nm,0.4s,baz=25,slow=12,SNR=13						
ASPA	**Alice Springs**	**22.03**	**194**	*e*P	P	18 36 35.3	+1.2
MKAR	**Makanchi Array**	**69.87**	**322**	P	P	18 42 50.9	+0.2
	0.7nm,0.8s,baz=117,slow=7.4,SNR=7.9						

*ISCJB **24** 18:35:48.3±1.7, 103S±0.1×161.0E±0.1, h59km±13km, mb3.7/6, MS3.2/2, Error ellipse: s-maj=26.5km s-min=14.4km az=123.4*
*IDC **24** 18:35:48.9±3.0, 1029S×16106E, h49km±22km, mb3.7/5, mb1 3.9/7, mb1mx3.7/16, mbtmp4.0/7, ML3.9/2, MS3.3/5, Ms1 3.3/5, ms1mx3.1/20, Error ellipse: s-maj=35.7km s-min=17.6km az=63.0*
*NEIC **24** 18:35:49.2±1.4, 1020S×16099E, h49km±12km, mb3.9/2, Error ellipse: s-maj=18.3km s-min=12.1km az=68.0*
ISC 24 18:35:49.7±1.6, 102S±0.1×161.0E±0.1, h53km±13km, n13, σ0s80/13, mb3.7/6, MS3.2/2, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.32**	**307**	P	**Pn**	**18 36 10.2**	**-1.6**
	696nm,0.3s,baz=110,slow=2.6,SNR=536						
HNR				S	**Sn**	**18 36 29.3**	**+0.9**
	900nm,0.3s,baz=282,slow=16,SNR=17						
DZM	**Mont Dzumac**	**12.86**	**157**	P	**Pn**	**18 38 50.1**	**+0.4**
	0.5nm,0.3s,baz=113,slow=22,SNR=6.9						
DZM				LR	LR	18 42 34.0	
	comp=Z,148nm,20.1s,baz=231,slow=32						
PMG	**Port Moresby**	**13.68**	**272**	LR	LR	18 43 51.9	
	comp=Z,144nm,20.1s,baz=41,slow=35						
CTA	**Charters Tower**	**17.27**	**234**	P	**Pn**	**18 39 48.5**	**+1.4**
	0.4nm,0.3s,baz=69,slow=12,SNR=8.2						
CTA				LR	LR	18 45 44.9	
	comp=Z,126nm,18.4s,baz=294,slow=34						
CTA	**Charters Tower**	**17.27**	**234**	*e*P	**Pn**	**18 39 48.5**	**+1.4**
CTA				LR	LR	18 45 44.9	
CTAO	**Charters Tower**	**17.27**	**234**	*e*P	**Pn**	**18 39 47.5**	**+0.5**
	11nm,1.0s						
WRAB	**Tennant Creek**	**27.45**	**246**	*e*P	**P**	**18 41 29.7**	**-0.9**
WRA	**Warramunga Arr**	**27.46**	**246**	P	**P**	**18 41 31.3**	**+0.6**
	1.2nm,0.6s,mb3.6,baz=77,slow=8.8,SNR=13						
STKA	**Stephens Creek**	**28.04**	**217**	P	**P**	**18 41 35.3**	**-0.6**
	1.5nm,0.7s,mb3.7,baz=58,slow=9.5,SNR=3.0						
STKA				LR	LR	18 51 12.1	
	comp=Z,108nm,21.5s,MS3.4,baz=27,slow=33						
ASAR	**Alice Springs**	**29.09**	**239**	P	**P**	**18 41 44.8**	**-0.5**
	0.7nm,0.8s,mb3.5,baz=61,slow=10,SNR=7.6						
FITZ	**Fitzroy Crossi**	**35.13**	**253**	P	**P**	**18 42 37.7**	**-0.4**
	2.4nm,0.8s,mb4.2,baz=71,slow=9.6,SNR=5.9						
FITZ				LR	LR	18 54 44.3	
	comp=Z,24nm,19.3s,MS3.0,baz=38,slow=32						
ULN	**Ulaanbaatar**	**74.97**	**326**	*e*P	**P**	**18 47 25.4**	**+0.2**
	0.9nm,0.6s,mb3.9						
SONM	**Songino Array**	**75.32**	**325**	P	**P**	**18 47 28.0**	**+0.7**
	0.5nm,0.5s,mb3.7,baz=142,slow=5.2,SNR=6.6						

*ISCJB **24** 18:52:02.6±0.6, 4259N±0.002×4344E±0.005, h10km, Error ellipse: s-maj=4.8km s-min=2.7km az=174.2*
*TIF **24** 18:52:04.1, 4258N×4360E, h24km±1km*
*MOS **24** 18:52:05.3±0.7, 4265N×4368E, h18km, mb3.9/1, Error ellipse: s-maj=10.8km s-min=6.1km az=85.6*
ISC 24 18:52:03.2±0.6, 4257N±0.002×4348E±0.004, h6km±5km, n23, σ0s76/40, 11C-4D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DIGR	**Digorskoe uzhe**	**0.33**	**13**	⇓*i*Pg	**Pg**	**18 52 10.1**	**+0.4**
DIGR				*i* S	**Sg**	**18 52 15.2**	**+1.1**
ZEI	**Tsey**	**0.36**	**57**	⇓*i*Pg	**Pg**	**18 52 10.5**	**+0.2**
ZEI				*i* S	**Sg**	**18 52 15.8**	**+0.7**
LACR	**Lac**	**0.65**	**67**	⇑*i*Pg	**Pg**	**18 52 15.3**	**-0.4**
LACR				*i* S	**Sg**	**18 52 24.2**	**0.0**
KORR	**Kora**	**0.67**	**40**	*e*Pg	**Pg**	**18 52 15.9**	**-0.2**
KORR				*i* S	**Sg**	**18 52 25.2**	**+0.4**
GOR	**Gori**	**0.75**	**141**	P	**Pg**	**18 52 18.2**	**+0.6**
GOR				S	**Sg**	**18 52 28.6**	**+1.2**
ARNR	**Ardon**	**0.85**	**43**	⇑*i*Pg	**Pg**	**18 52 19.1**	**-0.4**
ARNR				*i* S	**Sg**	**18 52 30.8**	**+0.2**
KMSR	**Komsomolskaya**	**0.99**	**37**	⇑*i*Pg	**Pg**	**18 52 21.9**	**-0.4**
KMSR				*i* S	**Sg**	**18 52 35.6**	**+0.4**
VLKR	**Vladikavkaz**	**1.00**	**61**	⇑*i*Pg	**Pg**	**18 52 21.8**	**-0.6**
VLKR				*i* S	**Sg**	**18 52 35.4**	**0.0**
SNJR	**Sundja**	**1.10**	**63**	⇑*i*Pg	**Pg**	**18 52 23.6**	**-0.7**
SNJR				*i* S	**Sg**	**18 52 38.5**	**0.0**
BTKR	**Batakoyurt**	**1.11**	**44**	⇑*i*Pg	**Pg**	**18 52 24.0**	**-0.6**
BTKR				*i* S	**Sg**	**18 52 39.3**	**+0.2**
AKH	**Akhalkalaki**	**1.16**	**180**	P	**Pg**	**18 52 24.9**	**-0.6**
AKH				S	**Sg**	**18 52 41.0**	**+0.4**
KUBR	**Kubataba**	**1.23**	**358**	⇑*i*Pg	**Pg**	**18 52 27.8**	**+1.1**
TBLG	**Delisi**	**1.26**	**132**	PG	**Pg**	**18 52 26.4**	**-1.0**
TBLG				S	**Sg**	**18 52 43.7**	**0.0**
SHAR	**Shatzhatmas**	**1.31**	**333**	⇓*i*Pg	**Pg**	**18 52 28.5**	**+0.2**
MTA	**Mtatsminda**	**1.31**	**132**	P	**Pn**	**18 52 28.2**	**+0.1**
MTA				S	**Sb**	**18 52 45.1**	**-0.3**
MTA	**Mtatsminda**	**1.31**	**132**	PG	**Pg**	**18 52 28.0**	**-0.4**
MTA				*e*S	**Sb**	**18 52 44.8**	**-0.5**
PRTR	**Priterechnaya**	**1.31**	**26**	⇑*i*PG	**Pg**	**18 52 27.4**	**-1.0**
PRTR				*i* S	**Sb**	**18 52 45.0**	**-0.4**
KZR	**Kazreti**	**1.38**	**149**	S	**Sb**	**18 52 45.5**	**-1.8**
TRKR	**Terskaya**	**1.47**	**38**	⇓*i*PG	**Pg**	**18 52 29.8**	**-1.6**
TRKR				*i* S	**Sn**	**18 52 49.1**	**-0.6**
PYA	**Pyatigorsk**	**1.49**	**348**	⇑*i*PG	**Pg**	**18 52 31.9**	**+0.1**
KIV	**Kislovodsk**	**1.50**	**337**	⇑*i*PG	**Pg**	**18 52 31.9**	**0.0**
BEYR	**Belyy Ugol+**	**1.52**	**342**	⇑*i*PG	**Pg**	**18 52 32.3**	**0.0**
DGRG	**David-gareji**	**1.80**	**128**	PN	**Pn**	**18 52 36.6**	**+1.8**
DGRG				*e*S	**Sn**	**18 53 00.2**	**+2.3**

IDC 24 18:53:40.1±6.8, 2662N×5439E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.3/20, mbtmp3.6/3, Error ellipse: s-maj=135.8km s-min=51.3km az=113.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**21.68**	**312**	P	P	18 58 32.6	+0.2
	0.4nm,0.5s,baz=131,slow=13,SNR=3.7						
FINES	**FINESS Array B**	**39.69**	**339**	P	P	19 01 13.6	-0.4
	2.3nm,0.9s,baz=134,slow=8.2,SNR=5.1						
TORD	**Torodi Ar. Bea**	**51.01**	**266**	P	P	19 02 44.1	+0.4
	0.6nm,0.6s,baz=71,slow=7.9,SNR=6.2						

PRE 24 19:13:44.5±0.6, 2126S×3311E, h5km, ML3.7, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BFT	**Belfast (SA)**	**5.23**	**212**	*e*P	Pn	19 15 04.5	+1.2
BFT				*e*S	Sn	19 16 02.2	-1.8
BFT				AML	AML	19 16 33.7	
	comp=Z,18nm,0.5s						
POGA	**Pongola**	**6.24**	**192**	*e*P	Pn	19 15 17.1	0.0
POGA				*e*S	Sn	19 16 25.6	-3.2
POGA				AML	AML	19 17 13.5	
	comp=Z,27nm,0.5s						
LBTB	**Lobatse**	**7.86**	**240**	*e*P	Pn	19 15 40.6	+1.1
LBTB				*e*S	Sn	19 17 05.4	-3.4
LBTB				AML	AML	19 18 06.8	
	comp=Z,12nm,0.6s						

*IDC **24** 19:18:53.3±0.8, 3967N×7548E, h0km, mb3.9/12, mb1 4.1/15, mb1mx4.0/21, mbtmp3.9/15, ML3.7/3, MS3.2/6, Ms1 3.2/6, ms1mx2.8/23, Error ellipse: s-maj=18.1km s-min=15.8km az=172.0*
*NEIC **24** 19:18:54.6±3.2, 3966N×7551E, h9km±22km, mb3.9/1, Error ellipse: s-maj=12.0km s-min=5.9km az=63.0*
*NNC **24** 19:18:55.9±5.6, 3965N×7500E, h0km, mb3.9, mpv3.8, Error ellipse: s-maj=45.2km s-min=23.8km az=163.0*
*MOS **24** 19:18:56.2±1.4, 3967N×7548E, h33km, mb4.2/9, Error ellipse: s-maj=12.8km s-min=6.3km az=102.6*
*ISCJB **24** 19:18:57.3±0.4, 3968N±0.003×7555E±0.006, h51km±5km, mb3.7/15, MS3.3/5, Error ellipse: s-maj=9.0km s-min=4.4km az=126.6*
*BJI **24** 19:18:58.0, 3989N×7542E, h32km, ML4.2*
ISC 24 19:18:58.8±0.4, 3967N±0.003×7557E±0.007, h44km±5km, n72, σ1s28/84, mb3.7/15, MS3.3/5, 18C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**0.35**	**117**	⇑*i*PG	**Pn**	**19 19 07.8**	**-0.1**
KSH				SG	**Sn**	**19 19 15.1**	**+0.8**
KSH				Smax			
	comp=N,26μm,0.4s						
KSH				Smax			
	comp=E,22μm,0.7s						
AAK	**Ala-Archa**	**3.07**	**345**	*e*PN	**Pn**	**19 19 45.3**	**+0.6**
FRU	**Bishkek**	**3.24**	**348**	⇑*i*PN	**Pn**	**19 19 48.5**	**+1.4**
FRU				*i*		19 20 33.5	
FRU				pmax	pmax		
	comp=Z,420nm,1.6s						
FRU				smax			
	comp=E,1μm,1.5s						
TKM2	**Tokmak 2**	**3.24**	**0**	⇑Pn	**Pn**	**19 19 48.6**	**+1.4**
	comp=E,2.2nm,0.4s						
TKM2				⇑Pg	**Pn**	**19 19 52.6**	**+5.4**
	comp=E,9.3nm,0.5s						
TKM2				⇑Sn	**Sn**	**19 20 32.1**	**+7.6**
	comp=E,49nm,0.8s						
KNDC	**Almaty**	**3.69**	**16**	⇑Pn	**Pn**	**19 19 55.6**	**+2.2**
	comp=E,115nm,0.5s						
KNDC				⇓Sn	**Sn**	**19 20 47.4**	**+12**
	comp=E,942nm,0.7s						
KK31	**Karatay Array**	**5.12**	**314**	⇑Pn	**Pn**	**19 20 13.0**	**0.0**
	comp=E,4.6nm,0.3s,baz=127,slow=12,SNR=289						
KK31				⇓Sn	**Sn**	**19 21 12.0**	**+1.3**
	comp=E,9.1nm,0.4s						
KK31				⇓Lg		19 21 30.1	
	comp=E,41nm,0.6s,baz=120,slow=34						
KK31	**Karatay Array**	**5.12**	**314**	*i* PN	**Pn**	**19 20 12.9**	**0.0**
KK31				pmax	pmax		
	comp=Z,11nm,0.2s						
KKAR	**Karatay Array**	**5.12**	**314**	PN	**Pn**	**19 20 12.9**	**0.0**
KKAR						19 21 10.1	
KKAR						19 21 30.7	
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.2s						
KKAR				smax			
	comp=N,2.0nm,0.3s						
KKAR				smax			
	comp=N,19nm,0.5s						
CHCP	**Chirah Chowk**	**6.28**	**198**	P	**Pn**	**19 20 35.2**	**+6.3**
CEP	**Cherat**	**6.54**	**208**	P	**Pn**	**19 20 39.1**	**+6.7**
DLH	**Dalhousie**	**7.12**	**177**	*e*P	**Pn**	**19 20 46.0**	**+5.6**
DLH				*e*S	**Sn**	**19 21 51.0**	**-9.1**
THW	**Thamme Wali**	**7.53**	**205**	P	**Pn**	**19 20 50.1**	**+4.1**
THW				S	**Sn**	**19 22 20.0**	**+10**
SDNR	**Sundarnagar**	**8.23**	**172**	*e*P	**Pn**	**19 21 00.0**	**+4.3**
SDNR				*e*S	**Sn**	**19 22 18.0**	**-9.4**
KLP	**Kalpa**	**8.41**	**164**	*e*S	**Sn**	**19 22 33.1**	**+1.4**
KLP				AML	AML	19 22 45.8	
	comp=E,179nm,0.6s						
KLP				AML	AML	19 22 46.6	
	comp=N,156nm,1.0s						
SMLA	**Simla**	**8.62**	**171**	*i* P	**Pn**	**19 21 05.0**	**+3.9**
SMLA				*i* S	**Sn**	**19 22 26.5**	**-10**
	comp=N,314nm,0.3s						
MK05	**Makanchi Array**	**8.64**	**32**	⇑Pn	**Pn**	**19 21 02.0**	**+0.8**
	comp=N,3.6nm,0.7s						
MK05				⇑Lg		19 23 39.6	
	comp=N,12nm,0.9s						
MK31	**Makanchi Array**	**8.64**	**32**	P	**Pn**	**19 21 01.5**	**+0.3**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**8.64**	**32**	Pn	**Pn**	**19 21 01.9**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=205,slow=14,SNR=34						
MKAR				Lg		19 23 22.1	
	comp=Z,0.4nm,0.3s,baz=222,slow=30,SNR=4.2						
MKAR	**Makanchi Array**	**8.64**	**32**	Pn	**Pn**	**19 21 01.9**	**+0.7**
MKAR				Lg		19 23 22.1	
KURK	**Kurchatov**	**11.25**	**10**	⇑Pn	**Pn**	**19 21 38.3**	**+1.4**
	comp=Z,1.5nm,0.9s						
KURK				⇓Lg		19 24 55.1	
	comp=Z,47nm,1.4s						
KURK	**Kurchatov**	**11.25**	**10**	*e*P	**Pn**	**19 21 33.4**	**-3.5**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**11.25**	**10**	*e*P	**Pn**	**19 21 33.4**	**-3.5**
	comp=Z,1.4nm,0.7s						
SONA	**Sohna**	**11.46**	**173**	*e*P	**Pn**	**19 21 40.7**	**+0.8**
SONA				*e*S	Sn	19 23 25.0	-21
SONA				AML	AML	19 23 51.7	
	comp=E,16nm,0.9s						
SONA				AML	AML	19 23 55.1	
	comp=N,6.7nm,0.6s						
VOSK	**Vostochnaya**	**13.43**	**348**	⇓Pn	**Pn**	**19 22 04.9**	**-1.8**
	comp=N,2.6nm,0.7s						
VOSK				⇑Lg		19 25 58.1	
	comp=N,20nm,1.1s						
KOLN	**Koldanda**	**13.62**	**148**	*e*P	**Pn**	**19 22 07.9**	**-1.3**
	comp=N,22nm,0.4s						
BVA0	**Borovoye Array**	**13.82**	**347**	⇑Pn	**Pn**	**19 22 11.6**	**-0.4**
	comp=N,1.3nm,0.7s,baz=164,slow=13,SNR=4.8						
BVA0				⇑Lg		19 26 12.8	
	comp=N,3.4nm,1.2s,baz=160,slow=26,SNR=4.0						
GKN	**Gorkha**	**13.86**	**144**	*e*P	**Pn**	**19 22 12.0**	**-0.5**
	comp=N,52nm,0.4s						
ZRNK	**Zerenda**	**14.02**	**343**	⇓Pn	**Pn**	**19 22 12.1**	**-2.7**
	comp=N,6.4nm,1.6s						
ZRNK				⇑Lg		19 26 14.2	
	comp=N,14nm,1.1s						
ZRNK	**Zerenda**	**14.02**	**343**	*e*P	**Pn**	**19 22 12.2**	**-2.6**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ZRNK	**Zerenda**	**14.02**	**343**	*e*P	**Pn**	**19 22 12.2**	**-2.6**
	comp=Z,4.1nm,0.8s						
KKN	**Kakani**	**14.33**	**143**	*e*P	**Pn**	**19 22 17.6**	**-1.4**
	comp=Z,21nm,0.5s						
KKN	**Kakani**	**14.33**	**143**	*e*P	**Pn**	**19 22 17.6**	**-1.4**
KKN				pmax	pmax		
	comp=Z,21nm,0.5s						
DMN	**Daman**	**14.41**	**144**	*e*P	**Pn**	**19 22 19.1**	**-0.9**
	comp=Z,23nm,0.5s						
CHKZ	**Chkalovo**	**14.41**	**348**	P	**Pn**	**19 22 16.6**	**-3.4**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CHKZ	**Chkalovo**	**14.41**	**348**	P	**Pn**	**19 22 16.6**	**-3.4**
	comp=Z,2.7nm,0.8s						
GUN	**Gumba**	**14.52**	**141**	*e*P	**Pn**	**19 22 20.3**	**-1.2**
	comp=Z,19nm,0.4s						
PKI	**Pulchoki**	**14.58**	**143**	*e*P	**Pn**	**19 22 21.1**	**-1.2**
AB31	**Akbulak array**	**14.68**	**316**	⇓Pn	**Pn**	**19 22 21.1**	**-2.5**
	comp=Z,0.7nm,0.4s						
AB31				⇑Sn	**Sn**	**19 25 00.1**	**-4.8**
	comp=Z,2.2nm,0.6s,baz=135,slow=21,SNR=5.3						
JIRN	**Jiri**	**14.88**	**140**	*e*P	**Pn**	**19 22 25.4**	**-0.8**
	comp=Z,46nm,0.4s						
ZAL	**Zalesovo**	**15.58**	**21**	Pn	**Pn**	**19 22 34.8**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=265,slow=8.8,SNR=9.4						
ZAL				Lg		19 27 07.2	
	comp=Z,0.2nm,0.3s,baz=344,slow=19,SNR=3.2						
ZAL				LR	LR	19 29 37.7	
	comp=Z,82nm,20.6s,baz=211,slow=41						
NVS	**Novosibirsk**	**16.02**	**16**	*e*P	**Pn**	**19 22 40.5**	**-0.5**
NVS				pmax	pmax		
	comp=N,4.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,2.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,5.0nm,1.1s						
AKTK	**Aktyubinsk**	**16.38**	**317**	Pn	**Pn**	**19 22 42.3**	**-3.1**
AKTK				LR	LR	19 29 53.7	
AKTO	**Aktyubinsk**	**16.38**	**317**	⇑Pn	**Pn**	**19 22 40.6**	**-4.9**
	comp=Z,0.1nm,0.9s						
AKTO				⇑Sn	**Sn**	**19 25 42.2**	**-3.9**
	comp=Z,0.1nm,1.1s						
AKTO	**Aktyubinsk**	**16.38**	**317**	Pn	**Pn**	**19 22 42.3**	**-3.2**
	comp=Z,0.3nm,0.3s,baz=118,slow=14,SNR=6.9						
AKTO				LR	LR	19 29 53.7	
	comp=Z,42nm,21.3s,baz=0.0,slow=40						
ARU	**Arti**	**20.16**	**332**	⇑*i*P		**19 23 30.8**	**+1.4**
ARU				*e*		19 23 44.4	
ARU				*e*PPP		19 23 56.7	
ARU				*e*S	**S**	**19 27 13.6**	**+0.3**
ARU				*e*SS		19 27 30.4	
ARU				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ZAK	**Zakamensk**	**22.19**	**52**	*e*P	**P**	**19 23 54.2**	**+3.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.4						
SONM	**Songino Array**	**23.59**	**60**	P	**P**	**19 24 06.7**	**+1.1**
	comp=Z,0.3nm,0.8s,mb2.8,baz=264,slow=13,SNR=3.5						
BR131	**Keskin Array S**	**32.05**	**284**	*e*P	**P**	**19 25 22.6**	**+1.4**
	comp=Z,0.7nm,0.4s,mb3.8						
BRTR	**Keskin Array B**	**32.05**	**284**	P	**P**	**19 25 22.4**	**+1.2**
	comp=Z,1.2nm,0.5s,mb4.0,baz=95,slow=7.1,SNR=9.4						
BRTR	**Keskin Array B**	**32.05**	**284**	*e*P	**P**	**19 25 22.8**	**+1.5**
AKASG	**Malin Array Be**	**33.95**	**305**	P	**P**	**19 25 37.2**	**-0.6**
	comp=Z,0.3nm,0.3s,mb3.7,baz=86,slow=7.1,SNR=6.7						
AKASG	**Malin Array Be**	**33.95**	**305**	*e*P	**P**	**19 25 38.2**	**+0.4**
AKASG	**Malin Array Be**	**33.95**	**305**	P	**P**	**19 25 37.2**	**-0.6**
FINES	**FINESS Array B**	**37.01**	**323**	P	**P**	**19 26 03.7**	**-0.4**
	comp=Z,1.1nm,0.3s,mb4.1,baz=113,slow=9.8,SNR=14						
FINES				LR	LR	19 41 54.3	
	comp=Z,52nm,18.6s,MS3.4,baz=266,slow=37						
FINES	**FINESS Array B**	**37.01**	**323**	P	**P**	**19 26 03.7**	**-0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES				MLR	MLR		
	comp=Z,52nm,18.6s						
FINES	**FINESS Array B**	**37.01**	**323**	P	**P**	**19 26 03.7**	**-0.4**
FINES				LR	LR	19 41 54.2	
ARCES	**ARCESS Array B**	**39.69**	**335**	P	**P**	**19 26 25.6**	**-1.0**
	comp=Z,3.0nm,0.7s,mb4.1,baz=106,slow=8.9,SNR=7.8						
ARCES				LR	LR	19 43 30.3	
	comp=Z,40nm,18.0s,MS3.3,baz=80,slow=37						
ARCES	**ARCESS Array B**	**39.69**	**335**	P	**P**	**19 26 25.7**	**-1.0**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,40nm,18.0s						
TIXI	**Tiksi**	**41.48**	**23**	*e*P	**P**	**19 26 39.7**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.9						
TIXI				MLR	MLR		
	comp=Z,79nm,16.0s,MS3.7						
NOA	**NORSAR Array B**	**44.11**	**321**	P	**P**	**19 27 02.2**	**-0.5**
	comp=Z,0.7nm,0.5s,mb3.6,baz=90,slow=7.9,SNR=2.7						
NOA				LR	LR	19 46 14.4	
	comp=Z,30nm,19.7s,MS3.2,baz=60,slow=37						
NOA	**NORSAR Array B**	**44.11**	**321**	P	**P**	**19 27 02.2**	**-0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA				MLR	MLR		
	comp=Z,30nm,19.7s						
GERES	**GERESS Array B**	**44.13**	**303**	P	**P**	**19 27 03.5**	**+0.6**
	comp=Z,1.5nm,0.7s,mb3.8,baz=76,slow=7.2,SNR=14						
GERES				LR	LR	19 48 19.0	
	comp=Z,27nm,19.4s,MS3.2,baz=275,slow=40						
GERES	**GERESS Array B**	**44.13**	**303**	P	**P**	**19 27 03.5**	**+0.6**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GERES				MLR	MLR		
	comp=Z,27nm,19.4s						
KMBO	**Kilima Mbogo**	**53.63**	**230**	P	**P**	**19 28 17.6**	**+1.9**
	comp=Z,0.6nm,0.4s,mb3.9,baz=38,slow=18,SNR=3.7						
KMBO	**Kilima Mbogo**	**53.63**	**230**	P	**P**	**19 28 17.6**	**+1.9**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TORD	**Torodi Ar. Bea**	**69.36**	**270**	P	**P**	**19 30 02.1**	**+0.2**
	comp=Z,0.5nm,0.4s,mb3.8,baz=50,slow=5.6,SNR=24						
ILAR	**Eielson Array**	**70.70**	**18**	P	**P**	**19 30 09.1**	**-1.0**
	comp=Z,0.6nm,0.8s,mb3.6,baz=320,slow=5.2,SNR=6.0						
ILAR	**Eielson Array**	**70.70**	**18**	P	**P**	**19 30 09.1**	**-1.0**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**77.85**	**5**	P	**P**	**19 30 50.8**	**-0.9**
	comp=Z,1.3nm,0.5s,mb4.2,baz=347,slow=5.5,SNR=13						
WRA	**Warramunga Arr**	**80.74**	**125**	P	**P**	**19 31 09.0**	**+1.5**
	comp=Z,0.4nm,0.9s,mb3.4,baz=324,slow=5.3,SNR=7.2						
ASAR	**Alice Springs**	**83.24**	**128**	P	**P**	**19 31 22.5**	**+1.9**
	comp=Z,0.8nm,0.8s,mb3.8,baz=322,slow=4.9,SNR=13						
ASAR	**Alice Springs**	**83.24**	**128**	P	**P**	**19 31 22.5**	**+1.9**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*ISCJB **24** 19:20:23.3±0.4, 4021N±0.002×2253E±0.003, h8km±5km, Error ellipse: s-maj=3.6km s-min=3.5km az=136.7*
*CSEM **24** 19:20:23.9±0.1, 4022N×2249E, h10km±1km, ML2.7, Error ellipse: s-maj=1.2km s-min=1.2km az=86.0*
*THE **24** 19:20:23.9, 4022N×2254E, h8km, ML2.7*
*NEIC **24** 19:20:24.0, 4017N×2247E, h3km, MD3.0(ATH), After ATH.*
*ATH **24** 19:20:24.1, 4017N×2247E, h5km, MD3.0/4*
ISC 24 19:20:23.8±0.4, 4020N±0.002×2252E±0.003, h12km±4km, n23, σ0s86/41, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIT	**Litokhoron**	**0.10**	**194**	*e*Pg	**Pg**	**19 20 26.6**	**0.0**
LIT				*e*Sg	**Sg**	**19 20 28.6**	**-0.1**
THE	**Thessaloniki**	**0.55**	**38**	*e*Pg	**Pg**	**19 20 34.3**	**-0.2**
THE				*e*Sg	**Sg**	**19 20 42.2**	**+0.4**
KZN	**Kozani**	**0.58**	**281**	*e*PB	**Pg**

CEN1					AML	AML	19 24 27.6	
	comp=E,522nm,0.5s							
CRCH	**Chaqaral**	**2.26**	**194**	⇑	*i*P	Pn	19 24 43.0	+2.1
CRCH					*i* S	Sn	19 25 11.0	+3.4
CRCH					AML	AML	19 25 13.3	
	comp=E,245nm,0.3s							

STR ***24*** *19:26:38.3±0.1, 4274N×247E, h2km±1km, MI1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 24 19:26:38.9±0.1, 4284N×236E, h10km, Md2.2/1, MI1.9/4, Error ellipse: s-maj=1.4km s-min=1.0km az=107.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRDF	**Laroque-de-Fa**	**0.17**	**52**	Pg	Pg	19 26 42.3	-0.2
LRDF				Sg	Sg	19 26 45.4	+0.4
CARF	**Carcanieres**	**0.22**	**238**	Pg	Pg	19 26 43.5	0.0
CARF				Sg	Sg	19 26 47.3	+0.7
MTLF	**Montolieu**	**0.52**	**348**	*e*Pg	Pg	19 26 49.6	+0.7
MTLF				*e*Sg	Sg	19 26 55.8	+0.1
MTLF				*e*Sn	Sg	19 26 59.5	+3.8
	4.9nm,0.2s						
EPF	**Esparros**	**1.50**	**278**	*e*Pn	Pn	19 27 04.3	-1.5
EPF	**Esparros**	**1.50**	**278**	*e*Pg	Pg	19 27 06.8	-0.8
EPF				*e*Sn	Sn	19 27 22.7	-2.7
EPF				*e*Sg	Sg	19 27 26.6	-0.4
	2.5nm,0.3s						
LASF	**Ste Croix**	**1.65**	**41**	*e*Pg	Pg	19 27 09.8	-0.8
LASF				*e*Sg	Sg	19 27 31.2	-0.8
	1.3nm,0.3s						
CAF	**Calviac**	**2.10**	**354**	*e*Pn	Pn	19 27 12.8	-1.3
CAF	**Calviac**	**2.10**	**354**	*e*Pg	Pg	19 27 17.7	-1.5
CAF				*e*Sg	Sg	19 27 45.4	-1.0
	0.9nm,0.2s						
ETSF	**Etsaut**	**2.15**	**273**	*e*Sg	Sg	19 27 46.9	-1.0
	2.2nm,0.4s						

IDC 24 19:28:15.1±1.3, 1227N×14405E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.4/18, mbtmp3.3/3, Error ellipse: s-maj=47.5km s-min=18.4km az=112.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.53**	**31**	Pn	Pn	19 28 44.1	+0.4
	24nm,0.3s,baz=179,slow=8.0,SNR=30						
GUMO				Sn	Sn	19 29 04.3	0.0
	22nm,0.3s,baz=32,slow=23,SNR=8.0						
WRA	**Warramunga Arr**	**33.41**	**197**	P	P	19 34 54.9	-0.5
	0.8nm,0.7s,baz=19,slow=9.8,SNR=7.0						
ASAR	**Alice Springs**	**37.07**	**196**	P	P	19 35 27.8	+0.9
	0.3nm,0.7s,baz=20,slow=13,SNR=5.6						
MKAR	**Makanchi Array**	**61.89**	**341**	P	P	19 38 36.5	+0.2
	0.1nm,0.5s,baz=85,slow=3.6,SNR=3.5						

ISCJB ***24*** *19:37:14.9±3.1, 4867N×009×1554E±02, h26km±22km, mb4.2/16, Error ellipse: s-maj=24.1km s-min=7.6km az=72.2*

MOS ***24*** *19:37:15.9±1.4, 4869N×15538E, h37km, mb4.3/8, Error ellipse: s-maj=23.6km s-min=11.9km az=80.6*

IDC ***24*** *19:37:21.5±4.3, 4851N×15530E, h73km±40km, mb3.6/11, mb1 3.8/13, mb1mx3.7/21, mbtmp3.9/13, ML3.8/2, Error ellipse: s-maj=26.1km s-min=21.1km az=141.0*

ISC 24 19:37:19.7±1.6, 488N±01×1553E±02, h46km±12km, n30, σ1§14/32, mb4.2/16, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.99**	**15**	⇑ *i*PN	**Pn**	**19 37 47.0**	**-3.8**
SKR				*e*S	**Sn**	**19 38 13.6**	**-0.9**
SKR				pmax	pmax		
	comp=Z,240nm,0.2s						
SKR				smax			
	comp=N,170nm,0.6s						
SKR				smax			
	comp=E,460nm,0.5s						
PET	**Petropavlovsk**	**4.76**	**25**	⇓ *i*PN	**Pn**	**19 38 28.7**	**-0.1**
PET				*i* S	**Sn**	**19 39 24.6**	**+2.0**
PET				pmax	pmax		
	comp=Z,33nm,0.4s						
PET				smax			
	comp=N,42nm,0.4s						
PET				smax			
	comp=E,83nm,0.5s						
PET				MLR	MLR		
	comp=Z,100nm,16.0s						
PET				MLR	MLR		
	comp=N,100nm,15.0s						
ASAJ	**Asahikawa**	**9.94**	**247**	P	**Pn**	**19 39 41.1**	**+1.3**
	comp=N,1.1nm,0.3s,baz=85,slow=17,SNR=11						
ASAJ	**Asahikawa**	**9.94**	**247**	PN	**Pn**	**19 39 41.2**	**+1.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**17.49**	**232**	P	**Pn**	**19 41 17.4**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=29,slow=13,SNR=4.4						
TIXI	**Tiksi**	**26.00**	**341**	⇑ *i*P	**P**	**19 42 46.7**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.8						
SONM	**Songino Array**	**32.12**	**287**	P	**P**	**19 43 41.5**	**-1.1**
	comp=Z,0.3nm,0.4s,mb3.5,baz=66,slow=7.8,SNR=6.9						
ILAR	**Eielson Array**	**34.04**	**40**	P	**P**	**19 43 59.8**	**+0.5**
	comp=Z,0.2nm,0.6s,mb3.2,baz=253,slow=6.4,SNR=3.7						
MKAR	**Makanchi Array**	**47.36**	**297**	P	**P**	**19 45 48.8**	**-0.2**
	comp=Z,1.9nm,0.6s,mb4.2,baz=77,slow=11,SNR=31						
MKAR	**Makanchi Array**	**47.36**	**297**	P	**P**	**19 45 48.8**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
JIRN	**Jiri**	**56.27**	**275**	*e*P	**P**	**19 46 56.2**	**+0.7**
GUN	**Gumba**	**56.31**	**275**	*e*P	**P**	**19 46 56.5**	**+0.8**
	comp=Z,10.0nm,0.6s,mb5.0						
ARCES	**ARCESS Array B**	**56.44**	**341**	P	**P**	**19 46 54.7**	**-1.9**
	comp=Z,4.8nm,1.0s,mb4.5,baz=32,slow=7.5,SNR=5.8						
ARCES	**ARCESS Array B**	**56.44**	**341**	P	**P**	**19 46 54.7**	**-1.9**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KKN	**Kakani**	**56.78**	**275**	*e*P	**P**	**19 47 00.2**	**+1.1**
	comp=Z,9.5nm,0.6s,mb5.0						
DMN	**Daman**	**57.02**	**275**	*e*P	**P**	**19 47 02.0**	**+1.2**
	comp=Z,9.2nm,0.6s,mb5.0						
GKN	**Gorkha**	**57.07**	**276**	*e*P	**P**	**19 47 01.6**	**+0.5**
	comp=Z,9.2nm,0.5s,mb5.1						
KOLN	**Koldanda**	**57.90**	**277**	*e*P	**P**	**19 47 07.3**	**+0.3**
PDAR	**Pinedale Array**	**62.37**	**56**	P	**P**	**19 47 37.8**	**+0.2**
	comp=Z,0.4nm,0.6s,mb3.7,baz=330,slow=5.6,SNR=4.0						
FINES	**FINESS Array B**	**62.84**	**335**	P	**P**	**19 47 40.4**	**-0.4**
	comp=Z,1.7nm,0.7s,mb4.3,baz=37,slow=7.4,SNR=5.9						
FINES	**FINESS Array B**	**62.84**	**335**	P	**P**	**19 47 40.4**	**-0.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	**NORSAR Array B**	**66.79**	**342**	P	**P**	**19 48 06.4**	**0.0**
	comp=Z,0.7nm,0.6s,mb3.9,baz=25,slow=6.5,SNR=3.3						
NOA	**NORSAR Array B**	**66.79**	**342**	P	**P**	**19 48 06.4**	**0.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**70.69**	**327**	P	**P**	**19 48 30.1**	**-0.6**
	comp=Z,1.0nm,0.4s,mb4.1,baz=32,slow=6.1,SNR=5.6						
AKASG	**Malin Array Be**	**70.69**	**327**	P	**P**	**19 48 30.1**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**70.92**	**201**	P	**P**	**19 48 29.0**	**-3.1**
	comp=Z,0.3nm,0.5s,mb3.5,baz=13,slow=6.2,SNR=7.1						
GERES	**GERESS Array B**	**77.28**	**335**	P	**P**	**19 49 09.8**	**+0.7**
	comp=Z,0.7nm,0.6s,mb3.8,baz=35,slow=5.4,SNR=8.0						
GERES	**GERESS Array B**	**77.28**	**335**	P	**P**	**19 49 09.8**	**+0.6**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**77.92**	**318**	P	**P**	**19 49 13.6**	**+0.8**
	comp=Z,1.9nm,0.9s,mb4.0,baz=58,slow=4.8,SNR=11						
BRTR	**Keskin Array B**	**77.92**	**318**	P	**P**	**19 49 13.6**	**+0.8**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						

ISCJB ***24*** *19:52:41.5±0.4, 6.18S±006×7472W±007, h27km, mb4.1/12, MS3.4/2, Error ellipse: s-maj=10.9km s-min=7.3km az=129.6*

IDC ***24*** *19:52:43.5±0.7, 6.13S×7472W, h27km±4km, mb3.9/10, mb1 4.1/15, mb1mx4.0/22, mbtmp4.1/15, ML4.4/5, MS3.4/8, Ms1 3.4/8, ms1mx3.2/21, Error ellipse: s-maj=24.1km s-min=13.0km az=62.0*

NEIC ***24*** *19:52:45.6±1.0, 6.24S×7472W, h47km±11km, mb4.5/2, Error ellipse: s-maj=14.3km s-min=7.6km az=75.0*

ISC 24 19:52:43.9±0.4, 618S±006×7475W±007, h29km, h29km±9km: pP-P, n43, σ0§74/29, mb4.1/12, MS3.4/2, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.71**	**257**	Pn	**Pn**	**19 53 39.5**	**+0.2**
	5.9nm,0.3s,baz=77,slow=8.2,SNR=18						
ATAH				Lg		19 54 29.9	
	32nm,0.3s,baz=253,slow=23,SNR=8.7						
ATAH				LR	LR	19 55 24.2	
	comp=Z,540nm,18.6s,baz=144,slow=42						
NNA	**Nana**	**6.13**	**200**	*e*P	**Pn**	**19 54 11.6**	**-0.9**
	82nm,0.8s						
NNA				*e*S	**Sn**	**19 55 10.0**	**-12**
ROSC	**El Rosal**	**10.96**	**2**	Pn	**Pn**	**19 55 23.5**	**+4.7**
	0.8nm,0.3s,baz=90,slow=20,SNR=3.6						
ROSC				Lg		19 58 32.6	
	3.2nm,0.3s,baz=256,slow=20,SNR=5.1						
ROSC				LR	LR	20 00 17.2	
	comp=Z,153nm,19.5s,baz=244,slow=42						
SAML	**Samuel**	**11.79**	**104**	*e*P	**Pn**	**19 55 30.3**	**+0.2**
LPAZ	**La Paz**	**11.96**	**148**	Pn	**Pn**	**19 55 33.1**	**+0.7**
	1.3nm,0.3s,baz=338,slow=11,SNR=28						
LPAZ				Lg		19 59 03.5	
	1.5nm,0.3s,baz=170,slow=18,SNR=5.4						
LPAZ				LR	LR	20 00 45.9	
	comp=Z,98nm,20.2s,baz=158,slow=40						
LPAZ	**La Paz**	**11.96**	**148**	Pn	**Pn**	**19 55 33.1**	**+0.7**
LPAZ				Lg		19 59 03.5	
LPAZ				LR	LR	20 00 45.9	
SDV	**Santo Domingo**	**15.51**	**15**	Pn	**Pn**	**19 56 21.1**	**+0.6**
	0.8nm,0.3s,baz=36,slow=3.4,SNR=3.2						
SDV				Lg		20 01 03.0	
	1.2nm,0.3s,baz=353,slow=17,SNR=4.8						
SIV	**San Ignacio**	**16.58**	**127**	Pn	**Pn**	**19 56 33.2**	**-1.0**
	0.9nm,0.3s,baz=308,slow=12,SNR=24						
SIV				Lg		20 01 31.3	
	1.7nm,0.3s,baz=33,slow=21,SNR=7.2						
LVC	**Limon Verde**	**17.29**	**162**	P	**Pn**	**19 56 45.0**	**+2.0**
	0.4nm,0.3s,baz=0.1,slow=9.6,SNR=5.3						
LVC				LR	LR	20 04 21.3	
	comp=Z,105nm,20.3s,baz=217,slow=40						
PCRV	**Puerto La Cruz**	**19.11**	**32**	LR	LR	20 05 20.1	
	comp=Z,182nm,21.6s,baz=251,slow=40						
JTS	**JuntasAbangare**	**19.26**	**328**	LR	LR	20 04 16.7	
	comp=Z,71nm,20.1s,baz=96,slow=36						
CFAA	**Coronel Fontan**	**26.02**	**167**	P	**P**	**19 58 14.6**	**+0.1**
	0.3nm,0.5s,mb3.1,baz=308,slow=7.8,SNR=5.4						
CPUP	**Villa Florida**	**26.04**	**142**	P	**P**	**19 58 15.1**	**+0.5**
	2.7nm,0.7s,mb3.9,baz=303,slow=11,SNR=7.7						
CPUP				LR	LR	20 10 55.9	
	comp=Z,72nm,18.1s,MS3.2,baz=260,slow=42						
CPUP	**Villa Florida**	**26.04**	**142**	*e*P	**P**	**19 58 13.6**	**-0.9**
CPUP				LR	LR	20 10 56.0	
BDFB	**Brasilia**	**27.85**	**112**	LR	LR	20 10 14.6	
	comp=Z,137nm,18.1s,MS3.6,baz=123,slow=38						
PLCA	**Paso Flores**	**34.61**	**174**	P	**P**	**19 59 29.9**	**-0.4**
	2.9nm,0.8s,mb4.2,baz=358,slow=15,SNR=5.3						
PLCA	**Paso Flores**	**34.61**	**174**	P	**P**	**19 59 29.9**	**-0.4**
MNTX	**Cornudas Mount**	**47.67**	**324**	*e*P	**P**	**20 01 17.2**	**-0.5**
	4.1nm,1.0s,mb4.4						
CPRX	**Cap Rock**	**47.80**	**327**	*e*P	**P**	**20 01 19.9**	**+1.3**
CPRX				*e*	pP	20 01 26.4	-0.9
ANMO	**Albuquerque**	**50.66**	**326**	*e*P	**P**	**20 01 40.8**	**+0.3**
	4.5nm,0.6s,mb4.6						
ANMO				*e*	pP	20 01 49.9	+0.7
PDAR	**Pinedale Array**	**58.07**	**330**	P	**P**	**20 02 34.6**	**+0.3**
	0.2nm,0.4s,mb3.5,baz=145,slow=9.9,SNR=3.4						
NVAR	**Mina Array Bea**	**60.01**	**321**	P	**P**	**20 02 48.5**	**+0.7**
	1.1nm,0.8s,mb3.9,baz=128,slow=7.0,SNR=4.1						
SCHQ	**Schefferville**	**61.14**	**5**	P	**P**	**20 02 54.2**	**-1.3**
	1.8nm,0.7s,mb4.3,baz=34,slow=19,SNR=4.1						
DBIC	**Dimbokro**	**70.90**	**81**	P	**P**	**20 03 58.4**	**+0.1**
	3.1nm,0.6s,mb4.4,baz=168,slow=3.5,SNR=9.3						
YKA	**Yellowknife Ar**	**74.94**	**342**	P	**P**	**20 04 21.4**	**-0.8**
	1.2nm,0.5s,mb4.1,baz=141,slow=6.2,SNR=18						
YKA				pP	pP	20 04 30.1	-1.1
	1.5nm,0.6s,baz=142,slow=5.8,SNR=13						
VNA3	**Neumayer Olymp**	**76.31**	**162**	*e*	**P**	**20 04 29.9**	**-0.1**
VNA3				*e*	pP	20 04 38.5	-0.6
VNA1	**Neumayer--Stat**	**76.53**	**162**	*e*	**P**	**20 04 31.4**	**+0.1**
VNA1				*e*	pP	20 04 40.0	-0.4
VNA2	**Neumayer--Watz**	**76.89**	**162**	*e*	**P**	**20 04 32.9**	**-0.4**
	baz=296,slow=5.3						
VNA2				*e*	pP	20 04 41.9	-0.5
TORD	**Torodi Ar. Bea**	**78.30**	**75**	P	**P**	**20 04 41.1**	**0.0**
	1.2nm,0.3s,mb4.3,baz=269,slow=5.5,SNR=43						
SNAA	**Sanae**	**78.52**	**162**	*e*	**P**	**20 04 37.2**	**-5.2**
SNAA				*e*	pP	20 04 45.8	-5.7
ILAR	**Eielson Array**	**88.04**	**336**	P	**P**	**20 05 30.7**	**-0.7**
	1.6nm,0.8s,mb4.3,baz=128,slow=3.0,SNR=15						
ILAR				pP	pP	20 05 39.3	-1.4
	1.4nm,0.8s,baz=132,slow=3.6,SNR=8.0						
ZAL	**Zalesovo**	**129.57**	**16**	PKP	PKPdf	20 11 51.1	+1.2
	1.2nm,0.8s,baz=211,slow=2.5,SNR=9.0						
ZAL				pPKP	pPKPdf	20 12 00.2	+0.8
	1.4nm,0.8s,baz=183,slow=3.4,SNR=4.3						
MKAR	**Makanchi Array**	**134.96**	**22**	PKP	PKPdf	20 11 59.7	-0.4
	0.4nm,0.5s,baz=296,slow=2.8,SNR=7.2						
MKAR				pPKP	pPKPdf	20 12 09.4	-0.2
	0.4nm,0.7s,baz=312,slow=2.8,SNR=3.8						
MKAR	**Makanchi Array**	**134.96**	**22**	PKP	PKPdf	20 11 59.7	-0.5
MKAR				pPKP	pPKPdf	20 12 09.4	-0.2
ASAR	**Alice Springs**	**139.23**	**222**	PKhKP		20 11 58.5	
	0.5nm,0.6s,baz=146,slow=2.6,SNR=7.1						
WB2	**Warramunga Arr**	**141.36**	**227**	*e*P	PKPdf	20 12 06.6	-5.3
WRA	**Warramunga Arr**	**141.37**	**227**	PKhKP		20 12 03.6	
	0.7nm,0.7s,baz=127,slow=2.7,SNR=9.3						
WRA				PKP	PKPdf	20 12 12.4	+0.5
	1.1nm,0.6s,baz=125,slow=1.7,SNR=15						
FITZ	**Fitzroy Crossi**	**148.59**	**219**	*e*P	PKPbc	20 12 27.7	-0.3
	4.6nm,0.4s						
MBWA	**Marble Bar**	**149.34**	**207**	*e*P	PKPbc	20 12 29.5	-0.4
MBWA				*e*		20 12 39.0	
KOLN	**Koldanda**	**150.27**	**41**	*e*P	PKPbc	20 12 33.0	+0.8
GKN	**Gorkha**	**150.78**	**40**	*e*P	PKPbc	20 12 34.4	+1.0
KKN	**Kakani**	**151.34**	**39**	*e*P	PKPbc	20 12 36.0	+1.3
GUN	**Gumba**	**151.62**	**38**	*e*P	PKPbc	20 12 37.5	+2.2

IDC ***24*** *19:58:22.6±1.7, 705S×12907E, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.6/13, mbtmp3.7/4, ML3.9/2, Error ellipse: s-maj=106.2km s-min=26.5km az=65.0*

ISCJB ***24*** *19:58:40.9±1.3, 780S±010×1291E±02, h200km, mb3.3/2, Error ellipse: s-maj=21.9km s-min=13.5km az=174.4*

ISC 24 19:58:42.7±1.4, 788S±009×1289E±02, h200km, n7, σ1§19/12, mb3.3/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.65**	**197**	*e*P	**Pn**	**20 01 11.1**	**+0.9**
	6.3nm,0.4s						
FITZ				*e*S	**Sn**	**20 03 08.3**	**-0.7**
WRA	**Warramunga Arr**	**13.09**	**157**	Pn	**Pn**	**20 01 39.9**	**-1.3**
	0.6nm,0.3s,baz=338,slow=13,SNR=34						
WRA				Sn	**Sn**	**20 04 00.1**	**-7.2**
	0.7nm,0.3s,baz=337,slow=22,SNR=12						
WB2	**Warramunga Arr**	**13.10**	**157**	*e*P	**Pn**	**20 01 40.1**	**-1.2**
WB2				*e*S	**S**	**20 03 57.2**	**-10**
ASAR	**Alice Springs**	**16.41**	**164**	P	**P**	**20 02 23.2**	**+2.2**
	0.4nm,0.3s,baz=339,slow=9.7,SNR=50						
ASAR				S	**S**	**20 05 22.8**	**+0.4**
	0.3nm,0.3s,baz=347,slow=26,SNR=6.5						
ASPA	**Alice Springs**	**16.41**	**164**	*e*P	**P**	**20 02 25.1**	**+4.1**
ASPA				*e*S	**S**	**20 05 22.6**	**+0.1**
STKA	**Stephens Creek**	**26.64**	**155**	P	**P**	**20 04 09.3**	**+6.6**
	0.8nm,0.5s,mb3.6,baz=340,slow=12,SNR=3.2						
MKAR	**Makanchi Array**	**68.38**	**328**	P	**P**	**20 09 22.2**	**-0.4**
	0.3nm,0.7s,mb3.0,baz=111,slow=9.5,SNR=4.6						

IDC 24 20:14:38.8±3.0, 615S×12922E, h0km, mb3.6/1, mb1 3.5/3, mb1mx3.4/13, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=289.9km s-min=30.5km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.38**	**196**	*e*P	Pn	20 17 47.8	+12
	3.7nm,1.0s						
FITZ				*e*S	Sn	20 19 58.4	+3.5
WRA	**Warramunga Arr**	**14.58**	**161**	Pn	Pn	20 18 05.5	-0.9
	0.2nm,0.3s,baz=334,slow=13,SNR=12						
WRA				Sn	Sn	20 20 34.6	-14
	0.2nm,0.3s,baz=342,slow=23,SNR=7.7						
WB2	**Warramunga Arr**	**14.59**	**160**	*e*P	Pn	20 18 06.2	-0.2
WB2				*e*S	Sn	20 20 33.3	-16
ASAR	**Alice Springs**	**17.99**	**166**	P	Pn	20 18 51.2	+1.0
	0.1nm,0.3s,baz=358,slow=9.2,SNR=8.2						
ASAR				S	Sn	20 21 57.2	-14
	0.1nm,0.3s,baz=267,slow=39,SNR=4.0						
MKAR	**Makanchi Array**	**67.09**	**327**	P	P	20 25 34.2	+0.2
	0.3nm,0.3s,baz=112,slow=8.2,SNR=9.4						

CSEM ***24*** *20:20:45.5±0.1, 3517N×393W, h12km, MD3.5, Error ellipse: s-maj=2.3km s-min=1.5km az=100.0*

SFS ***24*** *20:20:46.0, 3515N×394W, h0km, ML3.3*

INMG ***24*** *20:20:46.7±1.0, 3515N×398W, h0km, ML2.3, Error ellipse: s-maj=4.3km s-min=2.5km az=8.0*

ISCJB ***24*** *20:20:46.9±0.9, 3519N±002×400W±002, h15km±6km, Error ellipse: s-maj=3.4km s-min=3.1km az=29.8*

CNRM ***24*** *20:20:47.1, 3517N×379W, h3km, MD3.5*

MDD ***24*** *20:20:48.7±1.1, 3517N×389W, h3km±2km, mb3.6/20, Error ellipse: s-maj=3.9km s-min=2.8km az=104.0, PRXIMO*

ISC 24 20:20:46.8±0.5, 3518N±002×396W±003, h10km±4km, n59, σ1§01/103, 2C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.04**	**19**	*i* P	**Pg**	**20 20 49.0**	**+0.2**
TOU	**Touzarine**	**0.28**	**143**	*i* P	**Pg**	**20 20 51.0**	**-1.4**
EMEL	**Melilla**	**0.83**	**82**	⇑P	**Pg**	**20 21 02.2**	**-0.6**
	277nm,0.1s,SNR=18						
EMEL				S	**Sg**	**20 21 14.3**	**+0.7**
	937nm,0.2s,SNR=7.9						
EMLI	**Melilla**	**0.83**	**82**	P	**Pg**	**20 21 02.2**	**-0.7**
	277nm,0.1s,SNR=18						
EMLI				S	**Sg**	**20 21 14.3**	**+0.5**
	937nm,0.2s,SNR=7.9						
MELI	**Melilla**	**0.84**	**82**	P	**Pg**	**20 21 02.4**	**-0.8**
MELI				S	**Sg**	**20 21 13.5**	**-0.6**
MELI	**Melilla**	**0.84**	**82**	*i* P	**Pg**	**20 21 02.3**	**-0.8**
MELI				*e*S	**Sg**	**20 21 13.5**	**-0.6**
ZAI	**Zaio**	**1.02**	**102**	*i* P	**Pg**	**20 21 04.0**	**-2.4**
EMIJ	**Mijas**	**1.53**	**335**	P	**Pn**	**20 21 12.9**	**-1.2**
	3.2nm,0.1s,SNR=18						
EMIJ				S	**Sn**	**20 21 32.3**	**-1.6**
	18nm,0.2s,SNR=7.9						
MAL	**Malaga**	**1.58**	**347**	*e*P	**Pn**	**20 21 14.3**	**-0.5**
MAL				*i* S	**Sn**	**20 21 34.8**	**-0.5**
REAL	**Reales**	**1.65**	**322**	P	**Pn**	**20 21 15.1**	**-0.6**
REAL	**Reales**	**1.65**	**322**	*e*P	**Pn**	**20 21 15.1**	**-0.6**
EGUA	**Guajares**	**1.68**	**11**	⇓P	**Pn**	**20 21 15.0**	**-1.1**
	1.7nm,0.2s,SNR=18						
EGUA				S	**Sn**	**20 21 34.5**	**-3.1**
	3.5nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.76**	**316**	P	**Pn**	**20 21 16.9**	**-0.4**
	3.5nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**20 21 38.5**	**-1.3**
	4.1nm,0.3s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.76**	**316**	P	**Pn**	**20 21 16.9**	**-0.4**
	3.5nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**20 21 41.0**	**+1.2**
	4.1nm,0.3s,SNR=7.9						
ERON	**Agron**	**1.83**	**4**	P	**Pn**	**20 21 18.0**	**-0.3**
	1.8nm,0.2s,SNR=4.0						
ERON				S	**Sn**	**20 21 41.2**	**-0.3**
	6.3nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.92**	**27**	P	**Pn**	**20 21 18.6**	**-0.9**
	5.1nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**20 21 43.6**	**0.0**
	21nm,0.3s,SNR=7.9						
EBER	**Berja**	**1.92**	**27**	P	**Pn**	**20 21 18.6**	**-0.8**
	5.1nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**20 21 43.6**	**0.0**
	21nm,0.3s,SNR=7.9						
ELOJ	**Sierra Loja**	**1.97**	**355**	P	**Pn**	**20 21 22.0**	**+1.9**
	7.7nm,0.4s,SNR=7.9						
ELOJ				S	**Sn**	**20 21 45.7**	**+0.9**
	4.1nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**2.06**	**12**	P	**Pn**	**20 21 21.8**	**+0.4**
	3.3nm,0.2s,SNR=9.3						
EQUE				S	**Sn**	**20 21 46.4**	**-0.7**
	19nm,0.6s,SNR=7.9						
MIF	**Mishlifen**	**2.06**	**211**	*i* P	**Pn**	**20 21 22.0**	**+0.6**
MIF				*i* S	**Sn**	**20 21 48.0**	**+0.9**
LIJA	**Lijar**	**2.08**	**326**	S	**Sn**	**20 21 47.8**	**+0.3**
LIJA	**Lijar**	**2.08**	**326**	*e*S	**Sn**	**20 21 47.8**	**+0.2**
ECOG	**Cogollos-Vega**	**2.11**	**9**	P	**Pn**	**20 21 22.7**	**+0.5**
	3.9nm,0.3s,SNR=7.9						
ECOG				S	**Sn**	**20 21 48.2**	**-0.2**
	3.3nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.28**	**318**	P	**Pn**	**20 21 25.5**	**+1.1**
	2.7nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**20 21 56.2**	**+3.7**
	7.8nm,0.3s,SNR=7.9						
ESPR	**Espera**	**2.28**	**318**	P	**Pn**	**20 21 25.5**	**+1.1**
	2.7nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**20 21 56.2**	**+3.7**

ETOB	**Tobarra**	**3.96**	**29**	P		**Pn**	**20 21 48.7**	**+1.2**
	2.1nm,0.2s,SNR=4.0								
ETOB				S		**Sn**	**20 22 34.4**	**+0.5**
	3.9nm,0.4s,SNR=7.9								
PBEJ	**Beja**	**4.23**	**313**	*e*Pn		**Pn**	**20 21 52.0**	**+0.7**
PBEJ				*e*Sn		**Sn**	**20 22 39.5**	**-1.2**
PBEJ									
	2.2nm,0.2s								
PBEJ	**Beja**	**4.23**	**313**	*e*Pn		**Pn**	**20 21 52.0**	**+0.7**
PBEJ				*e*Sn		**Sn**	**20 22 39.5**	**-1.2**
	2.2nm,0.2s								
EBAD	**Badajoz**	**4.32**	**326**	P		**Pn**	**20 21 52.7**	**+0.2**
	1.7nm,0.2s,SNR=9.3								
EBAD				S		**Sn**	**20 22 41.8**	**-1.1**
	8.3nm,0.2s,SNR=7.9								
EBAD	**Badajoz**	**4.32**	**326**	P		**Pn**	**20 21 52.7**	**+0.2**
	1.7nm,0.2s,SNR=9.3								
ESDC	**Sonseca Array**	**4.48**	**360**	P		**Pn**	**20 21 56.1**	**+1.4**
	1.8nm,0.2s,baz=174,slow=13,SNR=10								
ESDC				S		**Sn**	**20 22 46.8**	**-0.1**
	1.3nm,0.5s,baz=175,slow=22,SNR=7.9								
PTEO	**Sao Teotonio**	**4.51**	**303**	*e*Pn		**Pn**	**20 21 55.9**	**+0.8**
PTEO				*e*Sn		**Sn**	**20 22 46.4**	**-1.2**
MOE	**Montemor**	**4.85**	**315**	*e*Pn		**Pn**	**20 22 00.5**	**+0.8**
MOE				*e*Sn		**Sn**	**20 22 55.5**	**-0.4**
PCBR	**Castelo Branco**	**5.42**	**330**	*e*Pn		**Pn**	**20 22 08.4**	**+0.7**
PCBR				*e*Sn		**Sn**	**20 23 07.9**	**-2.2**
PCBR									
	2.1nm,0.4s								
PTOM	**Tomar**	**5.67**	**323**	*e*Pn		**Pn**	**20 22 11.5**	**+0.5**
MTE	**Manteigas**	**5.93**	**332**	*e*Pn		**Pn**	**20 22 15.3**	**+0.7**
MTE				*e*Sn		**Sn**	**20 23 20.8**	**-1.7**
PVIS	**Viseu**	**6.34**	**332**	*e*Pn		**Pn**	**20 22 21.2**	**+1.0**
PVRL	**Vila Real**	**6.76**	**335**	*e*Pn		**Pn**	**20 22 26.8**	**+0.8**
PVRL				*e*Sn		**Sn**	**20 23 42.2**	**-0.8**
PVRL									
	5.0nm,0.1s								
PBRG	**Braganca**	**6.96**	**343**	*e*Pn		**Pn**	**20 22 30.0**	**+1.2**

IDC ***24*** *20:27:38.2±3.6, 3264N×8540E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.2/20, mbtmp3.2/3, ML2.6/1, Error ellipse: s-maj=99.8km s-min=35.9km az=84.0*
NEIC ***24*** *20:27:41.7±0.7, 3289N×8533E, h10km, Error ellipse: s-maj=17.3km s-min=7.6km az=97.0*
ISCJB ***24*** *20:27:42.2±0.9, 3289N±007×853E±02, h33km, mb3.1/2, Error ellipse: s-maj=20.9km s-min=9.4km az=15.2*
DMN ***24*** *20:28:03.0±9.7, 3122N×8494E, h10km, Error ellipse: s-maj=247.3km s-min=24.2km az=1.0*

ISC 24 20:27:44.4±0.9, 3290N±007×853E±02, h35km, n11, σ0§86/11, mb3.1/2, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GKN	**Gorkha**	**4.91**	**187**	*e*P	**Pn**	**20 28 55.1**	**-0.6**
	11nm,0.5s						
GUN	**Gumba**	**4.99**	**174**	*e*P	**Pn**	**20 28 57.6**	**+0.8**
KKN	**Kakani**	**5.09**	**180**	*e*P	**Pn**	**20 28 57.7**	**-0.4**
JIRN	**Jiri**	**5.27**	**172**	*e*P	**Pn**	**20 29 02.4**	**+1.8**
	12nm,0.3s						
DMN	**Daman**	**5.27**	**182**	*e*P	**Pn**	**20 29 00.2**	**-0.4**
PKI	**Pulchoki**	**5.31**	**179**	*e*P	**Pn**	**20 29 01.5**	**+0.4**
KOLN	**Koldanda**	**5.32**	**197**	*e*P	**Pn**	**20 29 00.9**	**-0.4**
	6.6nm,0.3s						
LSA	**Lhasa**	**5.92**	**121**	*e*P	**Pn**	**20 29 09.2**	**-0.3**
	6.2nm,0.9s						
MKAR	**Makanchi Array**	**14.07**	**351**	Pn	**Pn**	**20 31 01.3**	**+0.2**
	0.0nm,0.3s,baz=167,slow=13,SNR=7.2						
SONM	**Songino Array**	**21.82**	**41**	P	**P**	**20 32 34.0**	**+0.6**
	0.3nm,0.7s,mb2.8,baz=236,slow=11,SNR=4.0						
WRA	**Warramunga Arr**	**70.38**	**131**	P	**P**	**20 38 52.8**	**-1.8**
	0.4nm,0.8s,mb3.4,baz=326,slow=6.4,SNR=5.7						

IDC ***24*** *20:37:44.4±2.4, 3245N×8572E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.8/19, mbtmp3.7/9, MS3.5/4, Ms1 3.5/4, ms1mx3.0/23, Error ellipse: s-maj=54.0km s-min=33.5km az=142.0*
NDI ***24*** *20:37:46.3±4.2, 3352N×8575E, h33km, ML3.7*
ISCJB ***24*** *20:37:50.5±0.9, 3281N±005×8535E±005, h33km±13km, mb3.9/15, MS3.4/4, Error ellipse: s-maj=9.1km s-min=6.4km az=152.3*
BJI ***24*** *20:37:50.5, 3298N×8567E, h34km, mB4.4, mb3.8, Ms4.2, Msz4.0*
NEIC ***24*** *20:37:52.2±2.2, 3282N×8541E, h32km±19km, mb4.3/4, Error ellipse: s-maj=10.2km s-min=5.8km az=83.0*
MOS ***24*** *20:37:52.4±1.2, 3302N×8552E, h33km, mb4.2/9, Error ellipse: s-maj=20.1km s-min=9.1km az=98.4*
DMN ***24*** *20:37:53.4±15.0, 3242N×8535E, h10km, Error ellipse: s-maj=400.9km s-min=32.0km az=5.0*

ISC 24 20:37:52.6±0.7, 3285N±005×8542E±005, h35km±10km, n51, σ1§02/54, mb3.9/15, MS3.4/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GKN	**Gorkha**	**4.88**	**188**	*e*P	**Pn**	**20 39 03.0**	**-0.4**
	47nm,0.6s						
GUN	**Gumba**	**4.94**	**175**	*e*P	**Pn**	**20 39 03.7**	**-0.5**
	60nm,0.5s						
KKN	**Kakani**	**5.04**	**181**	*e*P	**Pn**	**20 39 05.1**	**-0.5**
	37nm,0.5s						
KKN	**Kakani**	**5.04**	**181**	*e*P	**Pn**	**20 39 05.1**	**-0.5**
KKN				pmax	pmax		
	comp=Z,37nm,0.5s						
JIRN	**Jiri**	**5.21**	**173**	*e*P	**Pn**	**20 39 08.3**	**+0.3**
DMN	**Daman**	**5.23**	**183**	*e*P	**Pn**	**20 39 08.0**	**-0.2**
PKI	**Pulchoki**	**5.26**	**180**	*e*P	**Pn**	**20 39 08.2**	**-0.4**
KOLN	**Koldanda**	**5.30**	**198**	*e*P	**Pn**	**20 39 08.8**	**-0.4**
LSA	**Lhasa**	**5.82**	**121**	P	**Pn**	**20 39 18.3**	**+2.0**
LSA				AMB	AMB		
	comp=Z,20nm,1.1s						
LSA	**Lhasa**	**5.82**	**121**	*e*P	**Pn**	**20 39 17.3**	**+1.0**
LSA				pmax	pmax		
	comp=Z,21nm,0.9s						
LSA	**Lhasa**	**5.82**	**121**	*e*P	**Pn**	**20 39 17.3**	**+1.0**
	comp=Z,21nm,0.9s						
KLP	**Kalpa**	**6.22**	**260**	*e*P	**Pn**	**20 39 20.9**	**-0.9**
KLP				*e*S	**Sn**	**20 40 27.9**	**-3.8**
KLP				AML	AML	20 40 55.2	
	comp=E,93nm,0.7s						
KLP				AML	AML	20 40 58.2	
	comp=N,48nm,0.7s						
SMLA	**Simla**	**7.22**	**258**	*i* P	**Pn**	**20 39 34.4**	**-1.2**
SMLA				*i* S	**Sn**	**20 40 57.5**	**+1.2**
SDNR	**Sundarnagar**	**7.29**	**262**	*ex*	x	20 39 42.6	
RTUL	**Rataul**	**8.02**	**242**	*e*P	**Pn**	**20 39 48.0**	**+1.5**
RTUL				*e*S	**Sn**	**20 41 15.9**	**0.0**
SONA	**Sohna**	**8.53**	**240**	*e*P	**Pn**	**20 39 53.4**	**-0.1**
SONA				*e*S	**Sn**	**20 41 28.1**	**-0.3**
KUDL	**Kundal**	**9.02**	**241**	*e*P	**Pn**	**20 40 02.7**	**+2.5**
KUDL				*e*S	**Sn**	**20 41 40.6**	**+0.1**
KSH	**Kashi**	**10.13**	**314**	*e*P	**Pn**	**20 40 13.3**	**-2.1**
KSH				*e*AP		20 40 20.6	
KSH				*e*S	**Sn**	**20 42 20.1**	**+12**
KSH				AMB	AMB		
	comp=Z,78nm,3.4s						
KSH				LR	LR		
	comp=N,926nm,8.1s						
KSH				LR	LR		
	comp=E,1μm,7.3s						
KSH				LR	LR		
	comp=Z,641nm,7.2s						
AAK	**Ala-Archa**	**13.04**	**322**	P	**Pn**	**20 40 55.6**	**+0.4**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
AAK	**Ala-Archa**	**13.04**	**322**	P	**Pn**	**20 40 55.6**	**+0.4**
	comp=Z,4.9nm,1.1s						
FRU	**Bishkek**	**13.11**	**323**	*e*P	**Pn**	**20 41 00.0**	**+3.8**
MKAR	**Makanchi Array**	**14.13**	**351**	Pn	**Pn**	**20 41 09.6**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=169,slow=13,SNR=36						
KURK	**Kurchatov**	**18.55**	**346**	*e*P	**Pn**	**20 42 04.8**	**-1.7**
KURK				pmax	pmax		
	comp=Z,38nm,1.5s						
KURK	**Kurchatov**	**18.55**	**346**	*e*P	**Pn**	**20 42 04.8**	**-1.8**
	comp=Z,38nm,1.5s						
ZAL	**Zalesovo**	**21.09**	**359**	P	**P**	**20 42 35.0**	**+1.2**
	comp=Z,1.7nm,0.6s,mb3.5,baz=295,slow=11,SNR=7.9						
ZAL				LR	LR	20 51 48.6	
	comp=Z,78nm,20.0s,MS3.1,baz=285,slow=39						
ZAL	**Zalesovo**	**21.09**	**359**	P	**P**	**20 42 35.0**	**+1.2**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZAL				MLR	MLR		
	comp=Z,78nm,20.0s						
SONM	**Songino Array**	**21.80**	**40**	P	**P**	**20 42 43.0**	**+1.6**
	comp=Z,2.0nm,0.7s,mb3.7,baz=228,slow=12,SNR=15						
SONM	**Songino Array**	**21.80**	**40**	P	**P**	**20 42 43.0**	**+1.6**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZAK	**Zakamensk**	**21.93**	**32**	*e*P	**P**	**20 42 43.1**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,20nm,1.8s,mb4.2						
MOY	**Mondy**	**21.97**	**27**	*e*P	**P**	**20 42 43.5**	**+0.2**
MOY				pmax	pmax		
	comp=Z,17nm,1.8s,mb4.2						
ULN	**Ulaanbaatar**	**22.18**	**41**	*e*P	**P**	**20 42 45.6**	**+0.1**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.7						
ULN	**Ulaanbaatar**	**22.18**	**41**	*e*P	**P**	**20 42 45.6**	**+0.2**
	comp=Z,3.4nm,1.0s,mb3.7						
BRVK	**Borovoye**	**22.95**	**336**	*e*P	**P**	**20 42 54.5**	**+0.9**
ZRNK	**Zerenda**	**23.31**	**334**	*e*P	**P**	**20 42 57.7**	**+0.2**
ZRNK				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.2						
ZRNK	**Zerenda**	**23.31**	**334**	*e*P	**P**	**20 42 57.7**	**+0.2**
	comp=Z,12nm,1.1s,mb4.2						
CHKZ	**Chkalovo**	**23.35**	**337**	*e*P	**P**	**20 42 58.2**	**+0.3**
CHKZ				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.2						
CHKZ	**Chkalovo**	**23.35**	**337**	*e*P	**P**	**20 42 58.2**	**+0.3**
	comp=Z,10nm,1.0s,mb4.2						
AKTO	**Aktubinsk**	**26.76**	**319**	LR	LR	20 55 11.7	
	comp=Z,136nm,18.2s,MS3.5,baz=0.0,slow=38						
PSI	**Prapat**	**32.46**	**154**	LR	LR	20 58 21.9	
	comp=Z,135nm,18.1s,MS3.7,baz=110,slow=39						
BRTR	**Keskin Array B**	**41.82**	**295**	P	**P**	**20 45 40.5**	**+1.7**
	comp=Z,0.4nm,0.7s,mb3.1,baz=107,slow=8.4,SNR=3.7						
TIXI	**Tiksi**	**45.12**	**18**	*e*P	**P**	**20 46 03.8**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.0						
FINES	**FINESS Array B**	**47.18**	**326**	P	**P**	**20 46 22.6**	**+1.0**
	comp=Z,1.8nm,0.8s,mb4.1,baz=81,slow=12,SNR=5.8						
FINES	**FINESS Array B**	**47.18**	**326**	P	**P**	**20 46 22.7**	**+1.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NB2	**NORSAR Subarra**	**54.33**	**325**	P	**P**	**20 47 14.2**	**-1.3**
	comp=Z,3.6nm,0.9s,mb4.3,baz=86,slow=7.4						
NOA	**NORSAR Array B**	**54.33**	**325**	P	**P**	**20 47 14.3**	**-1.2**
	comp=Z,2.2nm,0.8s,mb4.1,baz=85,slow=7.2,SNR=6.0						
NOA				LR	LR	21 11 28.5	
	comp=Z,31nm,19.3s,MS3.4,baz=5.0,slow=37						
NOA	**NORSAR Array B**	**54.33**	**325**	P	**P**	**20 47 14.3**	**-1.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,31nm,19.3s						
GERES	**GERESS Array B**	**54.57**	**310**	P	**P**	**20 47 17.7**	**+0.5**
	comp=Z,0.3nm,0.5s,mb3.6,baz=86,slow=4.2,SNR=4.1						
ILAR	**Eielson Array**	**74.50**	**21**	P	**P**	**20 49 26.4**	**-1.1**
	comp=Z,0.3nm,0.7s,mb3.3,baz=302,slow=4.3,SNR=4.5						
TORD	**Torodi Ar. Bea**	**77.78**	**278**	P	**P**	**20 49 45.3**	**-0.8**
	comp=Z,0.5nm,0.6s,mb3.6,baz=66,slow=4.8,SNR=8.6						
YKA	**Yellowknife Ar**	**83.63**	**9**	P	**P**	**20 50 16.4**	**-0.9**
	comp=Z,0.9nm,0.8s,mb4.0,baz=340,slow=5.1,SNR=5.0						
YKA	**Yellowknife Ar**	**83.63**	**9**	P	**P**	**20 50 16.4**	**-0.9**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						

IDC 24 20:41:57.7±8.5, 1362N×9292E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/20, mbtmp3.6/4, Error ellipse: s-maj=183.6km s-min=52.2km az=147.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**11.92**	**355**	*e*P	Pn	20 44 45.0	-3.9
MKAR	**Makanchi Array**	**34.25**	**347**	P	P	20 48 45.2	-0.1
	0.7nm,0.8s,baz=156,slow=9.2,SNR=7.5						
SONM	**Songino Array**	**35.91**	**16**	P	P	20 48 59.8	+0.3
	0.4nm,0.8s,baz=196,slow=7.8,SNR=4.3						
BRTR	**Keskin Array B**	**57.85**	**308**	P	P	20 51 51.8	+0.6
	0.7nm,0.7s,baz=120,slow=7.3,SNR=6.2						
GERES	**GERESS Array B**	**72.79**	**317**	P	P	20 53 28.0	+0.1
	0.4nm,0.8s,baz=80,slow=9.6,SNR=4.1						

ISCJB ***24*** *20:42:30.7±1.7, 737S×1009×1284E±02, h129km±19km, mb3.5/2, Error ellipse: s-maj=28.2km s-min=11.0km az=139.7*
IDC ***24*** *20:42:30.7±13.0, 734S×1283E, h109km±150km, mb3.3/2, mb1 3.7/5, mb1mx3.5/14, mbtmp3.9/5, ML3.8/3, MS2.7/1, Ms1 2.7/1, ms1mx2.3/13, Error ellipse: s-maj=119.6km s-min=58.7km az=43.0*
NEIC ***24*** *20:42:30.7±2.9, 731S×1281E, h104km±34km, mb4.6/2, Error ellipse: s-maj=31.3km s-min=23.5km az=85.0*

ISC 24 20:42:35.4±1.3, 765S±008×1284E±01, h169km±11km, n13, σ1§04/23, mb3.5/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.39**	**142**	*e*P	**Pn**	**20 44 07.6**	**+0.1**
	13nm,0.1s						
KAKA				*e*S	**Sn**	**20 45 19.0**	**-0.8**
FITZ	**Fitzroy Crossi**	**10.74**	**194**	*e*P	**Pn**	**20 45 05.1**	**+0.3**
	19nm,0.8s						
FITZ				*e*S	**Sn**	**20 46 58.8**	**-5.1**
FITZ	**Fitzroy Crossi**	**10.74**	**194**	P	**Pn**	**20 45 05.4**	**+0.7**
	1.4nm,0.3s,baz=32,slow=13,SNR=52						
FITZ				S	**Sn**	**20 47 02.8**	**-1.1**
	2.4nm,0.3s,baz=45,slow=12,SNR=12						
FITZ				LR	LR	20 49 36.9	
	comp=Z,38nm,18.1s,baz=236,slow=39						
WRAB	**Tennant Creek**	**13.49**	**155**	*e*P	**Pn**	**20 45 41.2**	**+1.1**
	5.1nm,0.7s						
WRAB				*e*S	**Sn**	**20 48 03.5**	**-6.4**
WRA	**Warramunga Arr**	**13.50**	**155**	P	**Pn**	**20 45 40.3**	**+0.1**
	0.2nm,0.3s,baz=334,slow=13,SNR=33						
WRA				S	**Sn**	**20 48 05.3**	**-4.7**
	1.3nm,0.3s,baz=325,slow=24,SNR=12						
WB2	**Warramunga Ar**	**13.50**	**155**	*e*P	**Pn**	**20 45 39.9**	**-0.4**
WB2				*e*S	**Sn**	**20 48 04.3**	**-5.8**
AS31	**Alice Springs**	**16.77**	**162**	*e*P	**Pn**	**20 46 24.2**	**+3.7**
AS31				*e*S	**S**	**20 49 25.3**	**-0.9**
ASAR	**Alice Springs**	**16.77**	**162**	P	**Pn**	**20 46 24.3**	**+3.8**
	0.4nm,0.3s,baz=337,slow=11,SNR=41						
ASAR				S	**S**	**20 49 28.4**	**+2.2**
	0.5nm,0.3s,baz=314,slow=17,SNR=8.5						
ASAR	**Alice Springs**	**16.77**	**162**	P	**Pn**	**20 46 24.3**	**+3.8**
ASAR				S	**S**	**20 49 28.4**	**+2.2**
ASPA	**Alice Springs**	**16.77**	**162**	*e*P	**Pn**	**20 46 24.2**	**+3.7**
ASPA				*e*S	**S**	**20 49 25.3**	**-0.9**
SONM	**Songino Array**	**58.58**	**343**	P	**P**	**20 52 14.4**	**0.0**
	0.8nm,0.9s,mb3.5,baz=170,slow=4.7,SNR=5.4						
MKAR	**Makanchi Array**	**67.92**	**328**	P	**P**	**20 53 15.0**	**-0.8**
	0.6nm,0.8s,mb3.4,baz=126,slow=8.0,SNR=4.6						
MKAR	**Makanchi Array**	**67.92**	**328**	P	**P**	**20 53 15.0**	**-0.8**

BJI ***24*** *20:45:03.8, 2002S×17721W, h426km, mB4.9, mb4.7*
ISCJB ***24*** *20:45:06.6±1.0, 1940S±006×17802W±006, h414km±11km, mb4.7/43, Error ellipse: s-maj=9.9km s-min=7.4km az=107.0*
MOS ***24*** *20:45:06.6±1.9, 1937S×17807W, h406km, mb4.8/9, Error ellipse: s-maj=13.5km s-min=10.8km az=153.0*
NEIC ***24*** *20:45:08.4±0.9, 1936S×17797W, h427km±10km, mb4.7/24, Error ellipse: s-maj=10.3km s-min=6.4km az=148.0*
IDC ***24*** *20:45:11.3±0.7, 1934S×17805W, h456km±7km, mb4.2/17, mb1 4.3/18, mb1mx4.2/21, mbtmp5.0/18, Error ellipse: s-maj=12.5km s-min=10.6km az=143.0*

ISC 24 20:45:08.3±1.0, 1947S±006×17792W±006, h420km±12km, n134, σ0§97/92, mb4.7/43, 18C-9D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.08**	**48**	P	**P**	**20 47 01.9**	**-2.2**
	11nm,0.3s,baz=40,slow=17,SNR=7.6						
AFI				S	**S**	**20 48 29.3**	**-10**
	8.4nm,0.3s,baz=25,slow=22,SNR=7.7						
RAO	**Raoul Island**	**9.73**	**180**	P	**P**	**20 47 23.3**	**+0.8**
	88nm,0.3s,baz=72,slow=21,SNR=4.4						
RAO				S	**S**	**20 49 12.2**	**-0.7**
	36nm,0.3s,baz=313,slow=24,SNR=2.1						
RAO	**Raoul Island**	**9.73**	**180**	P	**P**	**20 47 23.3**	**+0.8**
RAO				S	**S**	**20 49 12.2**	**-0.7**
DZM	**Mont Dzumac**	**14.85**	**257**	P	**P**	**20 48 19.0**	**+0.6**
	0.4nm,0.3s,baz=76,slow=17,SNR=4.8						
URZ	**Urewera**	**19.21**	**192**	P	**P**	**20 49 03.0**	**-1.1**
	3.7nm,0.3s,baz=349,slow=7.0,SNR=11						
URZ				S	**S**	**20 52 21.1**	**+4.2**
	2.0nm,0.3s,baz=154,slow=22,SNR=6.9						
HNR	**Honiara**	**23.61**	**292**	P	**P**	**20 49 44.8**	**+0.7**
	68nm,0.7s,mb5.2,baz=262,slow=4.4,SNR=5.9						
HNR	**Honiara**	**23.61**	**292**	*e*P	**P**	**20 49 44.3**	**+0.2**
HNR				pmax	pmax		
	comp=Z,26nm,0.6s,mb4.8						
HNR	**Honiara**	**23.61**	**292**	*e*P	**P**	**20 49 44.3**	**+0.2**
	comp=Z,26nm,0.6s,mb4.8						
RPZ	**Rata Peaks**	**25.88**	**199**	P	**P**	**20 50 05.4**	**+1.1**
	comp=Z,8.5nm,0.5s,mb4.5,baz=19,slow=5.5,SNR=10						
ARMA	**Armidale**	**29.59**	**242**	*i* P	**P**	**20 50 38.9**	**+1.9**
CNB	**Canberra Magne**	**32.87**	**235**	*i* P	**P**	**20 51 06.8**	**+1.5**
	comp=Z,89nm,0.7s,mb5.2						
CTA	**Charters Tower**	**33.68**	**263**	*e*P	**P**	**20 51 12.7**	**+0.5**
	comp=Z,23nm,0.8s,mb4.6						
CTA				*e*pP	pP	20 52 25.5	-3.4
CTA	**Charters Tower**	**33.68**	**263**	P	**P**	**20 51 12.8**	**+0.7**
	comp=Z,31nm,0.8s,mb4.7,baz=95,slow=9.8,SNR=26						
CTA	**Charters Tower**	**33.68**	**263**	*e*P	**P**	**20 51 12.7**	**+0.5**
CTA				*e**PP	pP	20 52 25.5	-3.4
CTA				pmax	pmax		
	comp=Z,23nm,0.8s						
CTAO	**Charters Tower**	**33.68**	**263**	*e*P	**P**	**20 51 12.7**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,51nm,1.0s,mb4.8						
CTAO	**Charters Tower**	**33.68**	**263**	*e*P	**P**	**20 51 12.7**	**+0.5**
	comp=Z,51nm,1.0s,mb4.8						
TOO	**Toolangi**	**36.57**	**233**	*e*P	**P**	**20 51 37.3**	**+0.8**
	comp=Z,44nm,0.7s,mb4.9						
TOO	**Toolangi**	**36.57**	**233**	*e*P	**P**	**20 51 37.3**	**+0.8**
TOO				pmax	pmax		
	comp=Z,44nm,0.7s,mb4.9						
STKA	**Stephens Creek**	**38.31**	**243**	*e*P	**P**	**20 51 50.0**	**-0.9**
	comp=Z,25nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**38.31**	**243**	P	**P**	**20 51 50.0**	**-0.9**
	comp=Z,48nm,0.8s,mb4.8,baz=89,slow=9.3,SNR=37						
WB2	**Warramunga Arr**	**44.81**	**261**	*e*P	**P**	**20 52 42.0**	**-0.8**
WB2				*e*S	**S**	**20 58 42.9**	**-5.2**
WRAB	**Tennant Creek**	**44.81**	**261**	*e*P	**P**	**20 52 42.1**	**-0.7**
WRA	**Warramunga Arr**	**44.82**	**261**	P	**P**	**20 52 42.2**	**-0.7**
	comp=Z,28nm,0.5s,mb4.9,baz=98,slow=6.8,SNR=52						
WRA				PcP	PcP	20 54 16.0	-0.3
	comp=Z,6.8nm,0.9s,baz=93,slow=4.6,SNR=5.8						
AS31	**Alice Springs**	**44.83**	**256**	*i* P	**P**	**20 52 43.2**	**+0.2**
AS31				*e*S	**S**	**20 58 45.0**	**-3.4**
ASAR	**Alice Springs**	**44.83**	**256**	P	**P**	**20 52 43.2**	**+0.3**
	comp=Z,196nm,0.6s,mb5.6,baz=94,slow=8.2,SNR=64						
ASPA	**Alice Springs**	**44.84**	**256**	*i* P	**P**	**20 52 43.2**	**+0.2**
ASPA				*e*S	**S**	**20 58 45.0**	**-3.4**
KAKA	**Kakadu**	**48.03**	**270**	*e*P	**P**	**20 53 06.9**	**-0.6**
	comp=Z,8.4nm,0.4s,mb4.4						
GUMO	**Guam**	**49.21**	**309**	P	**P**	**20 53 16.0**	**-0.3**
	comp=Z,59nm,0.7s,mb5.0,baz=191,slow=17,SNR=4.2						
FORT	**Forrest**	**49.77**	**246**	*i* P	**P**	**20 53 20.1**	**-0.4**
	comp=Z,130nm,0.6s,mb5.4						
FITZ	**Fitzroy Crossi**	**53.24**	**262**	*i* P	**P**	**20 53 46.0**	**+0.2**
	comp=Z,32nm,0.5s,mb4.8						
FITZ				*e*S	**S**	**21 00 42.3**	**-1.8**
FITZ	**Fitzroy Crossi**	**53.24**	**262**	P	**P**	**20 53 46.1**	**+0.3**
	comp=Z,19nm,0.5s,mb4.5,baz=126,slow=4.4,SNR=38						
MBWA	**Marble Bar**	**58.15**	**257**	*e*P	**P**	**20 54 19.8**	**-0.4**
	comp=Z,57nm,0.7s,mb5.0						
KLBR	**Kellerberrin**	**58.56**	**244**	*i* P	**P**	**20 54 22.4**	**-0.5**
	comp=Z,57nm,0.8s,mb5.0						
NWAO	**Narrogin (SRO)**	**58.90**	**243**	P	**P**	**20 54 24.9**	**-0.2**
	comp=Z,24nm,0.6s,mb4.7,baz=89,slow=5.8,SNR=17						
NWAO	**Narrogin (SRO)**	**58.90**	**243**	*e*P	**P**	**20 54 24.6**	**-0.6**
NWAO				pmax	pmax		
	comp=Z,19nm,0.6s						
NWAO	**Narrogin (SRO)**	**58.90**	**243**	*e*P	**P**	**20 54 24.6**	**-0.6**
	comp=Z,18nm,0.6s,mb4.6						
VNDA	**Vanda**	**58.93**	**185**	P	**P**	**20 54 26.6**	**+1.1**
	comp=Z,6.5nm,0.6s,mb4.1,baz=355,slow=7.6,SNR=51						
MUN	**Mundaring**	**59.84**	**244**	*e*P	**P**	**20 54 31.7**	**+0.2**
CASY	**Casey**	**64.92**	**205**	*i* P	**P**	**20 55 04.3**	**-0.4**
MJAR	**Matsushiro Arr**	**69.43**	**323**	P	**P**	**20 55 31.2**	**-1.5**
	comp=Z,7.4nm,0.6s,mb4.5,baz=156,slow=6.3,SNR=16						
MAT	**Matsushiro**	**69.43**	**323**	P	**P**	**20 55 31.2**	**-1.5**
MAT	**Matsushiro**	**69.43**	**323**	*e*P	**P**	**20 55 31.0**	**-1.7**
MAT				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.4						
MAT	**Matsushiro**	**69.43**	**323**	*e*P	**P**	**20 55 31.0**	**-1.7**
	comp=Z,6.0nm,0.6s,mb4.4						
QSPA	**South Pole Qui**	**70.59**	**180**	*i* P	**P**	**20 55 40.2**	**+0.6**
	comp=Z,53nm,0.9s,mb5.1						
MIR	**Mirnyy**	**71.95**	**205**	*

	comp=Z,6.0nm,1.0s									
SNAA	**Sanae**	**89.03**	**178**	*e*P		**P**	**20**	**57**	**10.2**	**-6.9**
	comp=Z,6.1nm,1.0s,mb4.3									
VNA3	**Neumayer Olymp**	**89.16**	**176**	⇑*i*P		**P**	**20**	**57**	**16.7**	**-1.0**
VNA3				*e*			20	57	17.8	
VNA2	**Neumayer--Watz**	**89.60**	**177**	⇑*i*P		**P**	**20**	**57**	**19.0**	**-0.7**
	baz=191,slow=3.7									
VNA2				*e*			20	57	20.1	
NVL	**N'lazarevskaya**	**89.74**	**183**	⇓*i*P		**P**	**20**	**57**	**18.9**	**-1.5**
NVL					pmax	pmax				
	comp=Z,28nm,0.9s,mb5.1									
VNA1	**Neumayer--Stat**	**89.83**	**177**	⇑*i*P		**P**	**20**	**57**	**20.1**	**-0.7**
VNA1				*e*			20	57	21.2	
PLCA	**Paso Flores**	**89.92**	**134**	P		**P**	**20**	**57**	**22.4**	**+1.1**
	comp=Z,13nm,1.0s,mb4.7,baz=228,slow=5.8,SNR=15									
CHTO	**Chiang Mai**	**89.97**	**290**	*e*P		**P**	**20**	**57**	**22.1**	**+0.7**
CHTO					pmax	pmax				
	comp=Z,9.0nm,0.9s,mb4.6									
CHTO	**Chiang Mai**	**89.97**	**290**	*e*P		**P**	**20**	**57**	**22.1**	**+0.6**
	comp=Z,8.7nm,0.9s,mb4.6									
LZH	**Lanzhou**	**92.20**	**307**	*e*P		**P**	**20**	**57**	**35.5**	**+3.7**
LZH					PP	PP	21	01	26.0	+7.2
LZH				*e*S			21	08	08.0	
LZH					AMB	AMB				
	comp=Z,27nm,1.4s,mb5.0									
LZH					AMB	AMB				
	comp=Z,88nm,4.4s									
EYMN	**Ely**	**101.88**	**43**	*e*P		Pdif	20	58	16.4	+1.2
	comp=Z,16nm,0.9s									
LPAZ	**La Paz**	**102.38**	**112**	P		Pdif	20	58	20.7	+3.2
	comp=Z,1.6nm,0.8s,baz=233,slow=3.3,SNR=6.7									
KURK	**Kurchatov**	**113.29**	**318**	PKIKP		PKiKP	21	02	54.2	-2.8
CHKZ	**Chkalovo**	**118.15**	**321**	PKIKP		PKPdf	21	03	03.3	-3.0
ZRNK	**Zerenda**	**119.18**	**320**	*e*PKIKP		PKPdf	21	03	05.5	-2.8
BDFB	**Brasilia**	**119.63**	**122**	PKP		PKPdf	21	03	08.5	-0.7
	comp=Z,1.1nm,0.4s,baz=237,slow=8.6,SNR=3.3									
ARU	**Arti**	**124.40**	**326**	*e*PKIKP		PKPdf	21	03	15.6	-2.7
ARU	**Arti**	**124.40**	**326**	*e*PKPdf		PKPdf	21	03	15.6	-2.7
AKTK	**Aktyubinsk**	**126.35**	**319**	PKP		PKPdf	21	03	20.8	-1.3
AKTO	**Aktyubinsk**	**126.35**	**319**	PKP		PKPdf	21	03	20.8	-1.3
	comp=Z,0.6nm,0.6s,baz=146,slow=7.3,SNR=4.7									
ARCES	**ARCESS Array B**	**127.93**	**350**	PKP		PKPdf	21	03	23.0	-2.1
	comp=Z,4.6nm,0.9s,baz=48,slow=1.8,SNR=5.0									
FINES	**FINESS Array B**	**134.81**	**344**	PKP		PKPdf	21	03	34.3	-3.8
	comp=Z,1.5nm,0.9s,baz=349,slow=1.9,SNR=4.0									
AKASG	**Malin Array Be**	**142.15**	**332**	PKhKP			21	03	44.9	
	comp=Z,1.4nm,0.5s,baz=43,slow=4.0,SNR=8.3									
MALT	**Malatya**	**143.36**	**309**	⇑PKIKP		PKPdf	21	03	51.4	-2.2
KWP	**Kalwaria**	**145.68**	**336**	*e*PKIKP		PKPdf	21	03	57.1	-0.5
BRTR	**Keskin Array B**	**146.20**	**313**	PKPbc		PKPbc	21	03	59.0	-1.3
	comp=Z,5.4nm,0.7s,baz=132,slow=4.1,SNR=20									
BRTR					pPKPbc	pPKPbc	21	05	47.0	+6.4
	comp=Z,1.0nm,0.9s,baz=45,slow=1.9,SNR=3.3									
BURAR	**Bucovina Array**	**146.20**	**331**	⇓*i*P		PKPdf	21	04	00.6	+2.1
BURAR	**Bucovina Array**	**146.20**	**331**	⇓P		PKPdf	21	04	00.7	+2.2
ANTO	**Ankara**	**146.71**	**314**	⇓PKIKP		PKPdf	21	04	01.2	+1.9
TIRR	**Tirgusor**	**146.81**	**325**	⇓*i*P		PKPdf	21	04	00.6	+1.1
TIRR	**Tirgusor**	**146.81**	**325**	⇓P		PKPdf	21	04	00.6	+1.1
CLL	**Collm**	**147.08**	**347**	*e*PKPdf		PKPdf	21	03	59.0	-1.0
	comp=Z,4.0nm,0.9s									
CLL				*i*	PKPbc	PKPbc	21	04	01.0	-1.8
	comp=Z,17nm,1.0s									
CLL	**Collm**	**147.08**	**347**	*e*PKIKP		PKPdf	21	03	59.0	-1.0
CLL				*i*			21	04	01.0	
CLL					pmax	pmax				
	comp=Z,4.0nm,0.9s									
CLL					pmax	pmax				
	comp=Z,17nm,1.0s									
CLL	**Collm**	**147.08**	**347**	*e*PKP		PKPdf	21	03	59.0	-1.0
CLL				*i*	PKP	PKPdf	21	04	01.0	+1.0
CLL				*e*pPKP		pPKPdf	21	05	28.0	-14
OKC	**Ostrava-Krasne**	**147.09**	**341**	*e*PKPbc		PKPbc	21	04	01.2	-1.6
UPC	**Upice**	**147.11**	**344**	*e*PKPbc		PKPbc	21	04	02.0	-0.9
UPC				*e*PKPab		PKPab	21	04	06.2	+0.5
DPC	**Dobruska-Polom**	**147.17**	**343**	*e*PKPbc		PKPbc	21	04	01.5	-1.5
DPC				*e*PKPab		PKPab	21	04	06.5	+0.5
BRG	**Berggiesshubel**	**147.29**	**346**	*i* PKP		PKPdf	21	04	02.3	+2.0
	comp=Z,6.0nm,1.3s									
BRG					pPKP	pPKPdf	21	05	49.5	+7.1
	comp=Z,5.4nm,1.2s									
BRG	**Berggiesshubel**	**147.29**	**346**	*i* PKIKP		PKPdf	21	04	02.3	+2.0
BRG					pmax	pmax				
	comp=Z,6.0nm,1.3s									
BRG					pmax	pmax				
	comp=Z,5.0nm,1.2s									
MLR	**Muntele Rosu**	**147.40**	**328**	⇑*i*P		PKPdf	21	04	02.8	+2.3
MLR	**Muntele Rosu**	**147.40**	**328**	⇑P		PKPdf	21	04	02.8	+2.3
KECS	**Kecovo**	**147.46**	**337**	*e*PKP		PKPdf	21	04	02.8	+2.2
DRGR		**147.94**	**333**	⇓*i*P		PKPdf	21	04	03.1	+1.7
DRGR		**147.94**	**333**	⇓P		PKPdf	21	04	03.1	+1.7
PRU	**Pruhonice**	**147.97**	**345**	*e*PKPbc		PKPbc	21	04	03.6	-1.5
PRU				*e*PKPab		PKPab	21	04	07.4	-1.8
VYHS	**Vyhne**	**148.04**	**339**	*e*		PKPdf	21	04	04.1	+2.6
NKC	**Novy Kostel**	**148.22**	**347**	*e*PKPbc		PKPbc	21	04	04.1	-1.6
NKC				*e*PKPab		PKPab	21	04	09.1	-1.1
TREC	**Trest**	**148.36**	**343**	*e*PKPbc		PKPbc	21	04	04.6	-1.5
EIL	**Elat**	**148.52**	**295**	*e*PKPbc		PKPbc	21	04	05.6	-0.9
GRF	**Grafenberg Arr**	**148.97**	**348**	*e*PKHKP			21	04	07.1	
KHC	**Kasperske Hory**	**149.00**	**345**	*e*PKPbc		PKPbc	21	04	06.4	-1.3
KHC				*e*PKPab		PKPab	21	04	13.4	0.0
GERES	**GERESS Array B**	**149.24**	**345**	PKPbc		PKPbc	21	04	06.4	-1.9
	comp=Z,6.4nm,1.0s,baz=270,slow=2.7,SNR=4.1									
GERES					pPKPbc	pPKPbc	21	05	55.6	+6.3
	comp=Z,2.0nm,0.9s,baz=42,slow=4.3,SNR=5.8									
PKSM	**Moragy**	**150.05**	**337**	⇓PKHKP			21	04	08.5	
BFO	**Black Forest**	**150.77**	**351**	*e*PKIKP		PKPdf	21	04	10.3	+4.4
LJU	**Ljubljana**	**151.58**	**342**	*e*PKPdf		PKPdf	21	04	12.6	+5.5
BOJS	**Bojanci**	**151.84**	**340**	*e*PKPdf		PKPdf	21	04	13.1	+5.6
DBIC	**Dimbokro**	**165.60**	**151**	PKP		PKPdf	21	04	22.7	-0.8
	comp=Z,3.2nm,0.6s,baz=55,slow=6.4,SNR=9.7									
DBIC					PKPab	PKPab	21	05	25.7	+0.7
	comp=Z,6.5nm,0.6s,baz=163,slow=6.9,SNR=10									
DBIC	**Dimbokro**	**165.60**	**151**	PKP		PKPdf	21	04	22.7	-0.8
DBIC					PKPab	PKPab	21	05	25.7	+0.7
TORD	**Torodi Ar. Bea**	**173.70**	**177**	PKP		PKPdf	21	04	26.6	-1.6
	comp=Z,3.1nm,0.9s,baz=322,slow=0.6,SNR=14									
TORD					PKPab	PKPab	21	06	01.0	+0.1
	comp=Z,2.6nm,0.9s,baz=192,slow=3.1,SNR=7.6									
TORD					PP	PP	21	09	52.1	-1.2
	comp=Z,3.7nm,1.3s,baz=216,slow=4.6,SNR=4.3									

BJI ***24*** *20:48:42.3, 6089N×165.80E, h13km, mB5.0, mb5.1, Ms4.7, Msz4.5*

IDC ***24*** *20:48:43.1±0.5, 6077N×165.68E, h0km, mb4.7/24, mb1 4.9/24, mb1mx4.9/27, mbtmp4.8/24, MS3.9/9, Ms1 3.9/9, ms1mx3.6/30, Error ellipse: s-maj=15.1km s-min=11.9km az=142.0*

KRSC ***24*** *20:48:44.7±0.5, 6071N×166.03E, h15km±3km, ML4.6*

NEIC ***24*** *20:48:44.8±0.2, 6085N×165.70E, h10km, mb5.1/85, Error ellipse: s-maj=6.1km s-min=3.4km az=175.0*

MOS ***24*** *20:48:44.1±0.9, 6086N×165.70E, h17km, mb5.2/86, MS4.2/20, Error ellipse: s-maj=8.9km s-min=4.0km az=93.9*

HRVD ***24*** *20:48:44.8±0.3, 6081N×165.84E, h17km±1km, MW4.8/64, Centroid moment Tensor Solution. LP body waves: s31,c37;Mantle waves: s64,c97; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.86±.13; Mθθ-0.80±.10; Mϕϕ-1.06±.08; Mrθ 0.72±.27; Mrϕ 1.03±.05; Mθϕ-0.31±.24; Best double couple: M◎2.06900×10^16 NP1:ϕs328.00000°, δ36.00000°, λ106.00000°. NP2: ϕs129.00000°, δ56.00000°, λ79.00000°. Principal axes: T 2.0430, Plg76.0000°, Azm4.0000°; N 0.0570, Plg9.0000°, Azm135.0000°; P -2.0950, Plg10.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***24*** *20:48:46.1±0.1, 6079N±002×165.76E±004, h32km, mb5.0/154, MS4.3/29 Error ellipse: s-maj=3.6km s-min=2.6km az=96.4*

SZGRF ***24*** *20:48:47.9, 6074N×167.41E, h33km, mb5.2, Eastern Siberia, Russia*

ISC 24 20:48:48.1±0.1, 6083N±002×16575E±004, h34km, h34km±2.3km: pP-P, n409, σ0.97/424, mb5.0/154, MS4.3/29, 39C-9D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h	m	s	Res ISC
TILR	**Tilichiki**	**0.43**	**159**	*i* P			**Pb**	**20**	**48**	**51.3**	**-6.3**
TILR				*i* S			**Sb**	**20**	**48**	**56.0**	**-8.2**
KAMR	**Kamenskoye**	**1.65**	**7**	*i* P			**Pn**	**20**	**49**	**14.6**	**+0.1**
KAMR				*i* S			**Sn**	**20**	**49**	**36.7**	**+2.2**
KAMR					Smax						
	23μm,0.9s										
EVNR	**Evensk**	**3.31**	**292**	*i* P			**Pn**	**20**	**49**	**38.8**	**+1.4**
SMKR	**Semkarok**	**4.81**	**210**	*e*P			**Pn**	**20**	**49**	**58.4**	**+0.4**
SRKR	**Sorokina**	**4.82**	**212**	*e*P			**Pn**	**20**	**49**	**57.8**	**-0.3**
KBG	**Krutoberegovo**	**4.86**	**201**	*e*P			**Pn**	**20**	**49**	**58.8**	**+0.1**
KBTR	**Krutoberegovo**	**4.88**	**200**	P			**Pn**	**20**	**49**	**57.9**	**-1.1**
KBTR				S			**Sn**	**20**	**50**	**52.9**	**-1.4**
KBTR	**Krutoberegovo**	**4.88**	**200**	*e*P			**Pn**	**20**	**49**	**58.7**	**-0.3**
KBTR				*e*S			**Sn**	**20**	**50**	**52.1**	**-2.2**
BDR	**Baidarnaya**	**4.89**	**211**	*e*P			**Pn**	**20**	**49**	**59.3**	**+0.2**
KLY	**Klyuchi**	**5.26**	**213**	P			**Pn**	**20**	**50**	**02.9**	**-1.2**
KRSR	**Krestovskiy**	**5.36**	**213**	*e*P			**Pn**	**20**	**50**	**06.0**	**+0.4**
CIRR	**Tsirk**	**5.41**	**211**	*e*P			**Pn**	**20**	**50**	**06.5**	**+0.3**
ZLN	**Zelenaya**	**5.48**	**210**	*e*P			**Pn**	**20**	**50**	**08.1**	**+0.9**
BKI	**Bering**	**5.64**	**179**	*e*P			**Pn**	**20**	**50**	**09.5**	**+0.1**
KPT	**Kopyto**	**5.68**	**213**	*e*P			**Pn**	**20**	**50**	**11.0**	**+1.1**
KMNR	**Kamenistaya**	**5.86**	**212**	*e*P			**Pn**	**20**	**50**	**12.9**	**+0.5**
TUMR	**Tumrok**	**6.31**	**211**	*e*P			**Pn**	**20**	**50**	**19.6**	**+1.0**
MKZ	**Mys Kozlova**	**6.65**	**201**	P			**Pn**	**20**	**50**	**24.0**	**+0.7**
MKZ	**Mys Kozlova**	**6.65**	**201**	*e*P			**Pn**	**20**	**50**	**23.2**	**-0.1**
BILL	**Bilibino**	**7.24**	**2**	*d i*PN			**Pn**	**20**	**50**	**31.6**	**+0.2**
BILL					pmax	pmax					
	comp=Z,12nm,0.5s										
BILL	**Bilibino**	**7.24**	**2**	*e*P			**Pn**	**20**	**50**	**31.7**	**+0.3**
	comp=Z,89nm,0.7s										
BILL	**Bilibino**	**7.24**	**2**	*e*P			**Pn**	**20**	**50**	**33.8**	**+2.4**
MA2	**Magadan**	**7.57**	**267**	*c i*PN			**Pn**	**20**	**50**	**35.3**	**-0.6**
MA2					pmax	pmax					
	comp=N,60nm,0.3s										
MA2					pmax	pmax					
	comp=E,150nm,0.3s										
MA2					pmax	pmax					
	comp=Z,150nm,0.3s										
MA2					MLR	MLR					
	comp=Z,2μm,7.8s										
MA2	**Magadan**	**7.57**	**267**	*e*P			**Pn**	**20**	**50**	**35.1**	**-0.8**
	comp=Z,197nm,0.6s										
MA2	**Magadan**	**7.57**	**267**	*i* P			**Pn**	**20**	**50**	**37.4**	**+1.5**
GNL	**Ganaly**	**8.31**	**214**	*e*P			**Pn**	**20**	**50**	**46.5**	**+0.5**
SPN	**Mys Shipunski**	**8.36**	**204**	P			**Pn**	**20**	**50**	**48.6**	**+1.9**
SPN				S			**Sn**	**20**	**52**	**18.7**	**-1.1**
SPN	**Mys Shipunski**	**8.36**	**204**	*e*P			**Pn**	**20**	**50**	**49.7**	**+3.0**
PET	**Petropavlovsk**	**8.73**	**209**	*e*PN			**Pn**	**20**	**50**	**55.9**	**+4.1**
PET					pmax	pmax					
	comp=Z,100nm,12.6s										
PET					pmax	pmax					
	comp=Z,26nm,0.9s										
PET					MLR	MLR					
	comp=E,2μm,16.0s										
PET					MLR	MLR					
	comp=N,2μm,11.0s										
PET					MLR	MLR					
	comp=Z,2μm,15.0s										
PET					MLR	MLR					
	comp=Z,2μm,13.0s										
PET	**Petropavlovsk**	**8.73**	**209**	⇑*i*P			**Pn**	**20**	**50**	**56.4**	**+4.6**
YAK	**Yakutsk**	**17.16**	**290**	*c i*P			**Pn**	**20**	**52**	**47.4**	**+2.4**
YAK					pmax	pmax					
	comp=Z,162nm,0.7s										
YAK					pmax	pmax					
	comp=N,13nm,1.0s										
YAK					pmax	pmax					
	comp=E,62nm,1.0s										
YAK					MLR	MLR					
	comp=N,115nm,17.0s										
YAK					MLR	MLR					
	comp=E,431nm,17.0s										
YAK					MLR	MLR					
	comp=Z,506nm,17.0s										
YAK	**Yakutsk**	**17.16**	**290**	*e*P			**Pn**	**20**	**52**	**45.7**	**+0.6**
	comp=Z,361nm,0.8s										
UGL	**Uglegorsk**	**17.86**	**239**	*e*P			**Pn**	**20**	**52**	**56.0**	**+2.3**
UGL					pmax	pmax					
	comp=Z,1μm,5.0s										
UGL					pmax	pmax					
	comp=Z,83nm,1.0s										
UGL					MLR	MLR					
	comp=N,1μm,13.0s										
UGL					MLR	MLR					
	comp=E,2μm,13.0s										
UGL					MLR	MLR					
	comp=Z,2μm,13.0s										
TTA	**Tatalina**	**17.97**	**67**	*e*P			**Pn**	**20**	**52**	**56.5**	**+1.5**
TTA					pmax	pmax					
	comp=Z,110nm,1.4s										
TTA	**Tatalina**	**17.97**	**67**	*e*P			**Pn**	**20**	**52**	**57.5**	**+2.5**
TIXI	**Tiksi**	**18.01**	**322**	*e*P			**Pn**	**20**	**52**	**54.7**	**-0.9**
TIXI				*e*S			**Sn**	**20**	**56**	**18.0**	**+2.6**
TIXI					pmax	pmax					
	comp=Z,29nm,0.7s										
TIXI					smax						
	comp=N,65nm,10.9s										
TIXI					smax						
	comp=E,24nm,9.4s										
TIXI					MLR	MLR					
	comp=Z,521nm,9.0s										
TIXI	**Tiksi**	**18.01**	**322**	⇑*e*P			**Pn**	**20**	**52**	**56.2**	**+0.6**
SDPT	**Sand Point**	**18.52**	**92**	*e*P			**Pn**	**20**	**53**	**01.6**	**-0.2**
	comp=Z,238nm,1.9s										
SVW2	**Sparrevohn**	**18.59**	**72**	*e*P			**Pn**	**20**	**53**	**03.8**	**+1.2**
CHGN	**Chignik**	**19.06**	**88**	*e*P			**Pn**	**20**	**53**	**08.2**	**-0.1**
YSS	**Yuzh-Sakhalins**	**19.26**	**234**	*e*P			**Pn**	**20**	**53**	**14.0**	**+3.3**
YSS					MLR	MLR					
	comp=Z,700nm,14.0s										
YSS					MLR	MLR					
	comp=N,600nm,12.0s										
YSS					MLR	MLR					
	comp=E,1μm,12.0s										
YSS	**Yuzh-Sakhalins**	**19.26**	**234**	*e*P			**Pn**	**20**	**53**	**11.0**	**+0.2**
	comp=E,100nm,1.5s										
COLA	**College**	**21.16**	**59**	*i* P			**P**	**20**	**53**	**31.1**	**+0.9**
COLA	**College**	**21.16**	**59**	*e*P			**P**	**20**	**53**	**31.2**	**+1.0**
	comp=E,47nm,0.9s,mb4.8										
KDAK	**Kodiak Island**	**21.22**	**80**	P			**P**	**20**	**53**	**30.9**	**+0.1**
	comp=E,6.9nm,0.6s,mb4.1,baz=84,slow=3.8,SNR=9.1										
KDAK					LR	LR	21	02	02.0		
	comp=E,475nm,21.9s,MS3.8,baz=295,slow=38										
KDAK	**Kodiak Island**	**21.22**	**80**	*e*P			**P**	**20**	**53**	**29.1**	**-1.7**
	comp=E,24nm,1.1s,mb4.5										
CLNS	**Chul'man**	**21.26**	**277**	*e*P			**P**	**20**	**53**	**29.1**	**-2.1**
CLNS				*e*PP			20	53	35.3		
CLNS				*e*PPP			20	53	54.8		
CLNS				*e*S			**S**	**20**	**57**	**21.1**	**-4.5**
CLNS				*e*			20	57	29.9		
CLNS				*e*SS			20	58	13.4		
CLNS					pmax	pmax					
	comp=Z,30nm,1.1s,mb4.5										
CLNS					pmax	pmax					
	comp=N,7.0nm,0.7s										
CLNS					pmax	pmax					
	comp=E,19nm,0.8s										
CLNS					smax						
	comp=N,74nm,12.5s										
CLNS					smax						
	comp=Z,52nm,10.4s										
CLNS					smax						
	comp=E,147nm,12.3s										
CLNS					MLR	MLR					
	comp=E,1μm,10.0s,MS4.5										
CLNS					MLR	MLR					
	comp=Z,2μm,10.0s,MS4.7										
CLNS					MLR	MLR					
	comp=N,200nm,13.0s,MS4.5										
HABR	**Khabarovsk**	**21.40**	**249**	⇑*e*P			**P**	**20**	**53**	**33.1**	**+0.3**
HABR				*e*S			**S**	**20**	**57**	**29.9**	**+1.6**
HABR					pmax	pmax					
	comp=Z,73nm,1.0s,mb5.0										
PMR	**Palmer**	**21.42**	**68**	P			**P**	**20**	**53**	**34.3**	**+1.4**
NRGR	**Nerungri**	**21.43**	**277**	*e*P			**P**	**20**	**53**	**34.2**	**+1.2**
NRGR				S			**S**	**20**	**57**	**27.8**	**-1.0**
NRGR					smax						
	comp=E,8.0nm,0.2s										
ILAR	**Eielson Array**	**21.58**	**59**	P			**P**	**20**	**53**	**35.6**	**+0.9**
	comp=E,36nm,0.7s,mb4.9,baz=274,slow=10.0,SNR=83										
ILAR	**Eielson Array**	**21.58**	**59**	P			**P**	**20**	**53**	**35.7**	**+1.0**
ILAR					pmax	pmax					
	comp=Z,36nm,0.7s										
ASAJ	**Asahikawa**	**21.69**	**230**	P			**P**	**20**	**53**	**35.2**	**-0.7**
	comp=Z,7.5nm,1.0s,mb4.1,baz=59,slow=24,SNR=3.1										
ASAJ					LR	LR	21	01	58.3		
	comp=Z,295nm,21.1s,MS3.7,baz=18,slow=37										
KLR	**Kul'dur**	**22.40**	**254**	*e*P			**P**	**20**	**53**	**40.0**	**-3.4**
KLR				*e*S			**S**	**20**	**57**	**46.0**	**-1.7**
KLR					pmax	pmax					
	comp=E,28nm,1.4s										
KLR					pmax	pmax					
	comp=Z,43nm,1.4s,mb4.7										
KLR					smax						
	comp=N,500nm,8.5s										
KLR					smax						
	comp=E,800nm,8.5s										
KLR					MLR	MLR					
	comp=E,600nm,13.0s										
KLR					MLR	MLR					
	comp=Z,1μm,13.0s,MS4.4										
EYAK	**Cordova Ski Ar**	**23.32**	**69**	*e*P			**P**	**20**	**53**	**53.1**	**0.0**
DAWY	**Dawson**	**24.91**	**59**	*e*P			**P**	**20**	**54**	**07.6**	**-0.1**
BOD	**Bodaibo**	**26.01**	**287**	⇓*i*P			**P**	**20**	**54**	**17.5**	**-0.2**
BOD					pmax	pmax					
	comp=Z,461nm,0.8s,mb6.1										
INK	**Inuvik**	**26.06**	**48**	P			**P**	**20**	**54**	**18.1**	**0.0**
	comp=Z,24nm,1.0s,mb4.7,baz=287,slow=9.2,SNR=31										
INK					PcP	PcP	20	57	45.6	+0.2	
	comp=Z,3.8nm,0.9s,baz=55,slow=1.8,SNR=4.3										
INK					LR	LR	21	06	08.9		
	comp=Z,433nm,21.3s,MS4.0,baz=308,slow=40										
INK	**Inuvik**	**26.06**	**48**	P			**P**	**20**	**54**	**18.2**	**0.0**
INK							20	57	45.6		
INK					pmax	pmax					
	comp=Z,24nm,1.0s										
INK					MLR	MLR					
	comp=Z,433nm,21.3s										
INK	**Inuvik**	**26.06**	**48**	*e*P			**P**	**20**	**54**	**18.0**	**-0.1**
MDJ	**Mudanjiang**	**26.79**	**249**	P			**P**	**20**	**54**	**25.0**	**+0.3**
MDJ				AP			pP	20	54	33.6	-1.0
MDJ				XP			sP	20	54	37.5	-1.3
MDJ				S			**S**	**20**	**58**	**59.6**	**+1.1**
MDJ				XS			sS	20	59	13.8	-1.0
MDJ				SCP			ScP	21	01	25.6	+1.1
MDJ				PCS			PcS	21	01	29.1	+0.7
MDJ				SCS			ScS	21	05	15.3	+0.1
MDJ					AMB	AMB					
	comp=Z,10.0nm,1.0s,mb4.3										
MDJ					AMB	AMB					
	comp=Z,44nm,4.8s										
MDJ					LR	LR					
	comp=N,585nm,15.2s,MS4.4										
MDJ					LR	LR					
	comp=E,543nm,16.4s,MS4.4										
MDJ					LR	LR					
	comp=Z,728nm,13.9s,MS4.4										
VLA	**Vladivostok**	**26.92**	**244**	*e*P			**P**	**20**	**54**	**27.6**	**+1.6**
HIA	**Hailar**	**28.17**	**267**	*e*P			**P**	**20**	**54**	**36.5**	**-0.6**
HIA					pmax	pmax					
	comp=Z,35nm,1.3s										
HIA	**Hailar**	**28.17**	**267**	*e*P			**P**	**20**	**54**	**36.5**	**-0.6**
	comp=Z,35nm,1.3s,mb4.8										
SKAG	**Skagway**	**28.52**	**66**	*e*P			**P**	**20**	**54**	**42.9**	**+2.7**
CIT	**Chita**	**29.43**	**276**	*e*P			**P**	**20**	**54**	**48.2**	**-0.1**
CIT					pmax	pmax					
	comp=Z,52nm,2.0s,mb4.9										
MAT	**Matsushiro**	**29.93**	**228**	P			**P**	**20**	**54**	**52.0**	**-0.8**
MAT				S			**S**	**20**	**59**	**57.0**	**+9.1**
MAT	**Matsushiro**	**29.93**	**228**	*e*P			**P**	**20**	**54**	**52.0**	**-0.8**
MAT				*e*S			**S**	**20**	**59**	**58.0**	**+10**
MAT					pmax	pmax					
	comp=Z,7.0nm,1.0s,mb4.3										
MAT	**Matsushiro**	**29.93**	**228**	*e*P			**P**	**20**	**54

SSE AP pP 20 56 42.9 -0.1
SSE PP PP 20 58 08.4 -1.0
SSE PCP PcP 20 58 28.4 -1.0
SSE S **S** **21 02 45.1 -1.8**
SSE XS sS 21 03 04.8 +1.2
SSE SCS ScS 21 06 28.6 -4.9
SSE AMB AMB
comp=Z,25nm,0.8s,mb4.9
SSE AMB AMB
comp=Z,66nm,5.5s
SSE LR LR
comp=N,156nm,14.6s,MS4.3
SSE LR LR
comp=E,254nm,14.6s,MS4.3
SSE LR LR
comp=Z,248nm,15.1s,MS4.2
NJ2 Nanjing 41.87 248 *e*P **P** **20 56 36.6 +1.8**
NJ2 AP pP 20 56 46.0 +1.0
NJ2 PP PP 20 58 16.0 +4.0
NJ2 S **S** **21 02 51.0 +0.5**
NJ2 XS sS 21 03 07.0 -0.2
NJ2 AMB AMB
comp=Z,50nm,1.2s,mb5.0
NJ2 AMB AMB
comp=Z,70nm,10.0s
NJ2 LR LR
comp=N,980nm,18.9s,MS4.9
NJ2 LR LR
comp=E,1μm,16.3s,MS4.9
NJ2 LR LR
comp=Z,370nm,15.4s,MS4.4
EDM Edmonton 42.00 63 *e*P **P** **20 56 37.0 +1.1**
DAG Danmarks Havn 42.62 1⇑*i*P **P** **20 56 40.9 0.0**
comp=Z,5.5nm,0.7s,mb4.4
DAG Danmarks Havn 42.62 1⇑*i*P **P** **20 56 40.9 0.0**
DAG pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
WALA Waterton Lakes 44.71 67 *e*P **P** **20 56 59.1 +1.4**
comp=Z,38nm,1.2s,mb5.1
WALA *e*PcP PcP 20 58 40.1 +0.4
XAN Xi'an 44.90 260 P **P** **20 56 58.3 -1.0**
XAN AP pP 20 57 05.6 -3.9
XAN AMB AMB
comp=Z,8.0nm,1.4s,mb4.4
GTA Gaotai 45.09 273 P **P** **20 57 01.3 +0.5**
GTA AP pP 20 57 10.8 -0.2
GTA XP sP 20 57 14.5 -0.6
GTA PCP PcP 20 58 41.4 +0.4
GTA PP PP 20 58 48.0 +1.5
GTA S **S** **21 03 37.4 -0.2**
GTA XS sS 21 03 53.8 -0.6
GTA SS SS 21 06 51.8 -8.6
GTA AMB AMB
comp=Z,30nm,1.0s,mb5.1
GTA AMB AMB
comp=Z,166nm,6.5s
GTA LR LR
comp=N,677nm,10.7s,MS4.9
GTA LR LR
comp=E,464nm,11.8s,MS4.9
GTA LR LR
comp=Z,810nm,11.0s,MS4.9
WHN Wuhan 45.21 252 *e*P **P** **20 57 01.8 +0.1**
FCC Fort Churchill 45.66 46 *e*P **P** **20 57 04.7 -0.5**
FCC pmax pmax
comp=Z,35nm,0.8s,mb5.3
FCC Fort Churchill 45.66 46 *e*P **P** **20 57 04.7 -0.5**
comp=Z,35nm,0.8s,mb5.3
FFC Flin Flon 45.67 54 P **P** **20 57 05.0 -0.3**
comp=Z,76nm,1.2s,mb5.5,SNR=5.7
FFC Flin Flon 45.67 54 *e*P **P** **20 57 04.7 -0.6**
FFC *e* 20 58 41.9
FFC pmax pmax
comp=Z,20nm,1.3s,mb4.9
FFC Flin Flon 45.67 54 *e*P **P** **20 57 04.7 -0.6**
comp=Z,20nm,1.3s,mb4.9
FFC *e*PcP PcP 20 58 41.9 -1.1
SUMG Summit 45.84 10 *e*P **P** **20 57 07.6 +0.9**
comp=Z,42nm,1.1s,mb5.3
BMO Blue Mountains 46.25 74 *e*P **P** **20 57 10.9 +1.0**
comp=Z,21nm,1.4s,mb4.9
KEV Kevo 46.45 342 *e*p **P** **20 57 10.6 -0.9**
comp=Z,0.7nm,0.5s
KEV Kevo 46.45 342 *e*P **P** **20 57 10.6 -0.9**
KEV pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
KURK Kurchatov 46.49 299 P **P** **20 57 12.5 +0.7**
comp=Z,916nm,0.7s
KURK Kurchatov 46.49 299 *e*P **P** **20 57 11.7 -0.1**
KURK *e* 20 59 00.0
KURK pmax pmax
comp=Z,105nm,0.8s,mb5.8
KURK Kurchatov 46.49 299 *e*P **P** **20 57 11.7 -0.1**
comp=Z,105nm,0.8s,mb5.8
KURK *e*PP PP 20 58 60.0 -1.3
ARCES ARCESS Array B 46.88 342 P **P** **20 57 14.3 -0.5**
comp=Z,11nm,0.7s,mb4.9,baz=13,slow=6.6,SNR=17
ARCES PcP PcP 20 58 46.5 -0.8
comp=Z,12nm,0.9s,baz=35,slow=4.4,SNR=9.1
ARCES ARCESS Array B 46.88 342 P **P** **20 57 14.3 -0.5**
ARCES 20 58 46.5
ARCES pmax pmax
comp=Z,11nm,0.7s
ARCES ARCESS Array B 46.88 342 P **P** **20 57 14.3 -0.5**
ARCES PcP PcP 20 58 46.5 -0.8
HRY Holter Researc 47.39 68 *e*P **P** **20 57 20.6 +1.7**
WMQ Urumqi 47.56 286⇑*i*P **P** **20 57 21.0 +0.9**
WMQ AP pP 20 57 31.0 +0.6
WMQ PCP PcP 20 58 50.9 +1.2
WMQ PP PP 20 59 11.8 +0.1
WMQ SCP ScP 21 02 41.0 -0.2
WMQ S **S** **21 04 13.3 +0.4**
WMQ AMB AMB
comp=Z,93nm,2.0s,mb5.5
WMQ LR LR
comp=N,266nm,18.4s,MS4.4
WMQ LR LR
comp=E,261nm,21.0s,MS4.4
WMQ LR LR
comp=Z,206nm,18.4s,MS4.1
CHKZ Chkalovo 47.58 307 P **P** **20 57 20.3 0.0**
CHKZ pmax pmax
comp=Z,54nm,0.9s,mb5.6
CHKZ Chkalovo 47.58 307 *e*P **P** **20 57 20.2 0.0**
comp=Z,67nm,0.9s,mb5.7
MK31 Makanchi Array 47.80 293 P **P** **20 57 21.2 -0.8**
MK31 pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
MKAR Makanchi Array 47.80 293 P **P** **20 57 21.2 -0.8**
comp=Z,12nm,0.6s,mb5.1,baz=48,slow=7.2,SNR=146
MKAR PP PP 20 59 10.4 -3.5
comp=Z,2.9nm,0.7s,baz=49,slow=9.6,SNR=3.8
MKAR Makanchi Array 47.80 293 P **P** **20 57 21.3 -0.7**
MKAR 20 59 10.4
MKAR pmax pmax
comp=Z,12nm,0.6s
MKAR pmax pmax
comp=Z,3.0nm,0.7s
SOKR Solikamsk 47.98 320*c i*P **P** **20 57 23.5 0.0**
SOKR pmax pmax
comp=Z,30nm,0.7s,mb5.4
VOSK Vostochnaya 48.15 306 P **P** **20 57 24.8 +0.1**
VOSK pmax pmax
comp=Z,24nm,0.8s,mb5.3
BVA0 Borovoye Array 48.16 306 *i* P **P** **20 57 25.1 +0.3**
BVA0 pmax pmax
comp=Z,11nm,0.8s,mb4.9
BRVK Borovoye 48.17 306 P **P** **20 57 25.6 +0.7**
comp=Z,647nm,0.7s,SNR=25
BRVK Borovoye 48.17 306 *e*P **P** **20 57 25.3 +0.4**
BRVK pmax pmax
comp=Z,52nm,0.8s,mb5.6
BRVK Borovoye 48.17 306 *e*P **P** **20 57 25.3 +0.4**
comp=Z,52nm,0.8s,mb5.6
ZRNK Zerenda 48.76 307 P **P** **20 57 29.8 +0.4**
ZRNK pmax pmax
comp=Z,41nm,0.9s,mb5.5
ZRNK Zerenda 48.76 307 *e*P **P** **20 57 29.8 +0.3**
comp=Z,58nm,0.8s,mb5.7
SVE Sverdlovsk 48.85 315⇑*e*P **P** **20 57 31.0 +0.8**
SVE *e* 20 58 55.0
SVE *e* 20 59 23.3
SVE pmax pmax
comp=Z,100nm,1.5s,mb5.6
SVE MLR MLR
comp=N,200nm,12.0s,MS4.6
SVE MLR MLR
comp=E,300nm,12.0s,MS4.6
SVE MLR MLR
comp=Z,800nm,12.0s,MS4.9
GCMT Greycliff 49.06 67 *e*P **P** **20 57 30.8 -1.0**
TMCR Tamitsa 49.29 333 *e*P **P** **20 57 33.3 -0.2**
TMCR pmax pmax
comp=Z,40nm,1.3s,mb5.3
TMCR pmax pmax
comp=N,60nm,1.5s
TMCR pmax pmax
comp=E,30nm,1.0s
YFT Old Faithful 49.56 69 *e*P **P** **20 57 36.1 +0.6**
SFJD Kangerlussuaq 49.72 18 *e*P **P** **20 57 36.1 -0.6**
ARU Arti 49.88 316 P **P** **20 57 38.8 +0.8**
comp=E,219nm,0.7s,SNR=19
ARU Arti 49.88 316⇑*i*P **P** **20 57 38.2 +0.2**
ARU *e* 20 58 56.5
ARU *e*PPP 21 00 28.0
ARU *e*S **S** **21 04 46.9 +1.3**
ARU *e*SS SS 21 08 19.8 +1.3
ARU pmax pmax
comp=Z,60nm,1.5s,mb5.4
ARU MLR MLR
comp=Z,200nm,16.5s,MS4.2
ARU MLR MLR
comp=N,80nm,14.5s,MS4.0
ARU MLR MLR
comp=E,100nm,17.0s,MS4.0
ARU Arti 49.88 316 *e*P **P** **20 57 38.0 +0.1**
comp=E,57nm,1.1s,mb5.5
ARU *e*PcP PcP 20 58 57.9 -0.2
FLWY Flagg Ranch 49.91 69 *e*P **P** **20 57 40.3 +2.1**
comp=E,30nm,0.9s,mb5.3
LOHW Long Hollow 50.31 70 *e*P **P** **20 57 43.0 +1.7**
comp=E,18nm,1.1s,mb5.0
ELK Elko 50.37 76 *e*P **P** **20 57 42.7 +1.0**
PDAR Pinedale Array 51.45 70 P **P** **20 57 51.0 +1.1**
comp=E,10nm,1.0s,mb4.7,baz=336,slow=3.3,SNR=19
PDAR PcP PcP 20 59 03.9 0.0
comp=E,4.0nm,0.9s,baz=345,slow=1.4,SNR=2.9
PDAR LR LR 21 20 30.3
comp=E,135nm,20.5s,MS4.0,baz=172,slow=37
KLMR Klimovskoe 51.80 330*c i*P **P** **20 57 52.4 0.0**
KLMR pmax pmax
comp=Z,60nm,1.5s,mb5.3
JOF Joensuu 51.82 335 *e*p **P** **20 57 48.1 -4.5**
comp=Z,10nm,0.7s,mb4.9
JOF Joensuu 51.82 335 *e*P **P** **20 57 48.1 -4.5**
JOF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
TPNV Topopah Spring 52.89 79 P **P** **20 58 01.4 +0.9**
KAF Kangasniemi 53.53 338 *e*p **P** **20 58 03.1 -2.1**
comp=Z,9.8nm,0.7s,mb4.8,baz=21,slow=7.0
KAF Kangasniemi 53.53 338 *e*P **P** **20 58 03.1 -2.1**
KAF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
MSU Marysvale 53.59 75 *e*P **P** **20 58 07.1 +1.5**
FINES FINESS Array B 54.19 337 P **P** **20 58 09.3 -0.7**
comp=Z,10.0nm,0.9s,mb4.8,baz=30,slow=8.8,SNR=19
FINES PcP PcP 20 59 13.3 -0.9
comp=Z,2.1nm,0.7s,baz=118,slow=2.8,SNR=4.2
FINES LR LR 21 23 32.6
comp=Z,65nm,18.8s,MS3.7,baz=126,slow=38
FINES FINESS Array B 54.19 337 P **P** **20 58 09.3 -0.7**
FINES PcP PcP 20 59 13.3 -0.9
FINES LR LR 21 23 32.6
FRU Bishkek 54.31 295⇑*i*P **P** **20 58 11.0 +0.1**
FRU *i* 21 00 13.0
FRU pmax pmax
comp=Z,80nm,2.0s,mb5.3
FRU MLR MLR
comp=Z,500nm,17.0s,MS4.7
AAK Ala-Archa 54.52 295 P **P** **20 58 12.8 +0.3**
comp=Z,212nm,0.8s,SNR=16
AAK Ala-Archa 54.52 295 *e*P **P** **20 58 12.3 -0.2**
AAK *e* 21 00 11.7
AAK pmax pmax
comp=Z,28nm,0.8s,mb5.3
AAK Ala-Archa 54.52 295 *e*P **P** **20 58 12.3 -0.2**
comp=Z,28nm,0.8s,mb5.3
AAK *e*PP PP 21 00 11.7 -3.2
AKTK Aktyubinsk 54.92 312 P **P** **20 58 15.7 +0.3**
AKTK LR LR 21 24 33.9
AKTO Aktyubinsk 54.92 312 P **P** **20 58 15.7 +0.3**
comp=Z,19nm,1.0s,mb5.1,baz=42,slow=7.6,SNR=44
AKTO LR LR 21 24 33.8
comp=Z,186nm,18.7s,MS4.2,baz=176,slow=39
AKTO Aktyubinsk 54.92 312 P **P** **20 58 15.7 +0.4**
AKTO pmax pmax
comp=Z,19nm,1.0s,mb5.1
AKTO MLR MLR
comp=Z,186nm,18.7s,MS4.2
ORR Orenburg 55.10 315⇑*i*P **P** **20 58 16.5 -0.2**
ORR pmax pmax
comp=Z,60nm,0.9s,mb5.6
ORR MLR MLR
comp=Z,250nm,16.0s,MS4.4
AB31 Akbulak array 55.17 310 *i* P **P** **20 58 17.4 +0.2**
AB31 pmax pmax
comp=Z,20nm,0.7s,mb5.3
KMI Kunming 55.28 259 P **P** **20 58 17.9 0.0**
KMI S **S** **21 05 58.1 -1.3**
KMI SS SS 21 09 43.8 -0.1
KMI AMB AMB
comp=Z,19nm,0.9s,mb5.1
KMI AMB AMB
comp=Z,115nm,4.9s
KMI LR LR
comp=N,251nm,16.1s,MS4.5
KMI LR LR
comp=E,218nm,14.7s,MS4.5
KMI LR LR
comp=Z,163nm,13.7s,MS4.3
SMCO Snowmass 55.49 70 P **P** **20 58 18.9 -0.5**
comp=Z,12nm,1.0s,mb4.9
PV01 Paradox Valley 55.58 72 *e*P **P** **20 58 21.2 +1.1**
ISCO Idaho Springs 55.61 69 *e*P **P** **20 58 21.6 +1.3**
ISCO pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
ISCO Idaho Springs 55.61 69 *e*P **P** **20 58 21.6 +1.2**
comp=Z,7.0nm,0.9s,mb4.7
KK31 Karatay Array 55.89 298 *i* P **P** **20 58 22.5 +0.2**
KKAR Karatay Array 55.89 298 *i* P **P** **20 58 22.5 +0.2**
KKAR pmax pmax
comp=Z,26nm,0.9s,mb5.3
ECSD EROS,Sioux Fal 56.40 60 *e*P **P** **20 58 25.4 -0.5**
MOS Moscow 56.78 328 *e*P **P** **20 58 28.0 -0.7**
MOS pmax pmax
comp=Z,39nm,1.2s,mb5.3
NB2 NORSAR Subarra 56.89 346 P **P** **20 58 28.8 -0.6**
comp=Z,16nm,0.7s,mb5.2,baz=15,slow=7.4
NOA NORSAR Array B 56.89 346 P **P** **20 58 29.1 -0.3**
comp=Z,16nm,0.7s,mb5.2,baz=14,slow=7.3,SNR=33
NOA PcP PcP 20 59 24.6 -0.1
comp=Z,5.7nm,0.8s,baz=17,slow=2.7,SNR=8.4
NOA LR LR 21 25 29.1
comp=Z,48nm,18.4s,MS3.6,baz=0.0,slow=39
LSA Lhasa 57.12 273 *e*P **P** **20 58 32.3 +1.2**
LSA Lhasa 57.12 273 *e*P **P** **20 58 32.0 +0.9**
QIZ Qiongzhong 57.16 249 P **P** **20 58 33.0 +1.6**
QIZ AP pP 20 58 41.8 0.0
QIZ S **S** **21 06 25.9 +1.6**
QIZ SS SS 21 10 16.1 +2.6
QIZ LR LR
comp=E,247nm,17.9s
QIZ LR LR
comp=Z,339nm,16.2s,MS4.5
SCHQ Schefferville 57.40 33 P **P** **20 58 32.8 -0.2**
comp=Z,17nm,0.8s,mb5.1,baz=346,slow=8.2,SNR=28
SCHQ LR LR 21 22 37.9
comp=Z,70nm,19.2s,MS3.8,baz=358,slow=35
SCHQ Schefferville 57.40 33 *e*P **P** **20 58 32.6 -0.4**
comp=Z,21nm,0.9s,mb5.2
OBN Obninsk 57.61 328*c i*P **P** **20 58 34.1 -0.4**
OBN *e* 20 59 27.6
OBN pmax pmax
comp=Z,60nm,1.9s,mb5.3
OBN MLR MLR
comp=Z,300nm,18.0s,MS4.4
OBN Obninsk 57.61 328⇑*i*P **P** **20 58 34.2 -0.3**
OBN LR LR
comp=Z,300nm,18.0s,MS4.4
KONO Kongsberg 58.44 346⇑*i*P **P** **20 58 40.3 0.0**
CBKS Cedar Bluff 59.06 65 P **P** **20 58 45.2 +0.5**
CBKS pmax pmax
comp=Z,33nm,1.0s,mb5.3
CBKS Cedar Bluff 59.06 65 P **P** **20 58 45.2 +0.6**
comp=Z,34nm,1.0s,mb5.3
ANMO Albuquerque 59.16 73⇑*i*P **P** **20 58 47.8 +2.5**
VRHR Novokhopersk 59.78 323 *e*P **P** **20 58 49.6 -0.1**
VRHR pmax pmax
comp=Z,40nm,0.6s,mb5.6
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,7.0nm,0.5s
KSU1 Kansas State U 60.20 63 *e*P **P** **20 58 52.2 -0.4**
VRSR Storozhevoye 60.38 324 *e*P **P** **20 58 53.8 0.0**
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=E,5.0nm,1.0s
GUN Gumba 61.17 276 *e*P **P** **20 58 58.8 -0.3**
comp=E,71nm,0.8s,mb5.8
JIRN Jiri 61.23 276 *e*P **P** **20 58 59.3 -0.2**
AMTX Amarillo 61.43 69 *e*P **P** **20 59 00.8 0.0**
comp=E,13nm,0.8s,mb5.1
KKN Kakani 61.57 276 *e*P **P** **20 59 01.5 -0.3**
comp=E,18nm,0.9s,mb5.2
KKN Kakani 61.57 276 *e*P **P** **20 59 01.5 -0.3**
KKN pmax pmax
comp=Z,19nm,0.9s,mb5.2
SUW Suwalki 61.70 336 *e*P **P** **20 59 02.0 -0.7**
GKN Gorkha 61.70 277 *e*P **P** **20 59 02.0 -0.7**
comp=Z,65nm,1.1s,mb5.7
DMN Daman 61.80 277 *e*P **P** **20 59 03.1 -0.3**
CPRX Cap Rock 61.95 72 *e*P **P** **20 59 06.0 +1.6**
MNTX Cornudas Mount 62.35 74 *e*P **P** **20 59 08.0 +0.9**
comp=Z,17nm,1.3s,mb5.0
KOLN Koldanda 62.40 278 *e*P **P** **20 59 06.8 -0.6**
comp=Z,46nm,1.2s,mb5.5
CHTO Chiang Mai 62.47 259 *e*P **P** **20 59 07.6 -0.3**
CHTO pmax pmax
comp=Z,14nm,1.1s,mb5.0
CHTO Chiang Mai 62.47 259 *e*P **P** **20 59 07.6 -0.3**
comp=Z,14nm,1.1s,mb5.0
WMOK Wichita Mounta 62.87 67 *e*P **P** **20 59 10.9 +0.4**
WMOK pmax pmax
comp=Z,26nm,0.9s,mb5.4
WMOK Wichita Mounta 62.87 67 *e*P **P** **20 59 10.9 +0.4**
comp=Z,26nm,0.9s,mb5.4
CCM Cathedral Cave 63.38 59 *e*P **P** **20 59 12.6 -1.3**
CCM pmax pmax
comp=Z,17nm,0.9s,mb5.2
CCM Cathedral Cave 63.38 59 *e*P **P** **20 59 12.6 -1.3**
comp=Z,17nm,0.9s,mb5.2
AKASG Malin Array Be 63.47 331 P **P** **20 59 14.2 -0.3**
comp=Z,20nm,0.8s,mb5.3,baz=23,slow=6.2,SNR=59
AKASG Malin Array Be 63.47 331 P **P** **20 59 14.2 -0.3**
AKASG pmax pmax
comp=Z,20nm,0.8s
GKP Gorka Klasztor 63.51 339 *e*P **P** **20 59 14.9 +0.1**
FVM French Village 63.78 59 *e*P **P** **20 59 15.6 -1.0**
FVM pmax pmax
comp=Z,28nm,0.7s,mb5.4
FVM French Village 63.78 59 *e*P **P** **20 59 15.6 -0.9**
comp=Z,28nm,0.7s,mb5.4
LONY Lake Ozonia 64.08 44 *e*P **P** **20 59 17.3 -1.2**
FRNY Flat Rock 64.23 43 *e*P **P** **20 59 18.1 -1.4**
GOF Gofitskoye 64.70 319 *e*P **P** **20 59 20.8 -1.8**
GOF pmax pmax
comp=Z,113nm,0.8s,mb6.0
ALLY Alegheny Colle 64.71 49 *e*P **P** **20 59 22.1 -0.5**
NCB Newcomb 64.78 44 *e*P **P** **20 59 22.0 -1.0**
comp=Z,11nm,0.9s,mb4.9
ACSO Alum Creek Sta 64.86 52 *e*P **P** **20 59 22.3 -1.3**
comp=Z,12nm,0.8s,mb5.0
MAK Makhachkala 65.06 315⇑*i*P **P** **20 59 24.9 0.0**
LTX Lajitas 65.13 74 *e*P **P** **20 59 26.5 +1.1**
LTX pmax pmax
comp=Z,25nm,1.5s,mb5.0
LTX Lajitas 65.13 74 *e*P **P** **20 59 26.5 +1.1**
comp=Z,25nm,1.5s,mb5.0
LBNH Lisbon 65.30 42 *e*P **P** **20 59 26.3 -0.2**
LBNH pmax pmax
comp=Z,33nm,0.8s,mb5.4
LBNH Lisbon 65.30 42 *e*P **P** **20 59 26.3 -0.2**
comp=Z,33nm,0.8s,mb5.4
MIAR Mount Ida 65.34 63 *e*P **P** **20 59 27.0 +0.2**
MIAR pmax pmax
comp=Z,12nm,0.9s,mb4.9
MIAR Mount Ida 65.34 63 *e*P **P** **20 59 27.0 +0.2**
comp=Z,12nm,0.9s,mb4.9
ABKT Ailbek 65.40 304 P **P** **20 59 27.0 -0.1**
comp=Z,166nm,0.9s,mb6.1,SNR=18
ACCN Adirondack Com 65.48 44 *e*P **P** **20 59 26.8 -0.9**
HNH Hanover 65.66 42 *e*P **P** **20 59 28.5 -0.3**
comp=Z,2.2nm,0.8s,mb4.2
BINY Binghamton 65.73 46 *e*P **P** **20 59 28.1 -1.1**
comp=Z,20nm,0.8s,mb5.2
KIV Kislovodsk 65.80 318 P **P** **20 59 31.6 +1.9**
comp=Z,165nm,0.8s,mb6.1,SNR=9.2
KIV Kislovodsk 65.80 318*c i*P **P** **20 59 30.9 +1.2**
KIV pmax pmax
comp=Z,30nm,1.0s,mb5.3
KIV Kislovodsk 65.80 318 *e*P **P** **20 59 30.7 +1.0**
comp=Z,23nm,0.8s,mb5.2
KWP Kalwaria 65.94 335 *e*P **P** **20 59 31.4 +0.8**
OJC Ojcow 65.96 337 *e*P **P** **20 59 31.1 +0.3**
JCT Junction City 65.97 70 *e*P **P** **20 59 31.0 +0.2**
JCT pmax pmax
comp=Z,18nm,1.0s,mb5.1
JCT Junction City 65.97 70 *e*P **P** **20 59 31.0 +0.2**
comp=Z,18nm,1.0s,mb5.0
KSP Ksiaz 66.01 339 *e*P **P** **20 59 31.1 +0.1**
KSP Ksiaz 66.01 339 *e*P **P** **20 59 30.5 -0.5**
CLL Collm 66.09 342 *i* P **P** **20 59 31.3 -0.3**
comp=Z,13nm,0.9s,mb5.0
CLL *ex* x 20 59 46.0
CLL Collm 66.09 342 *i* P **P** **20 59 31.3 -0.3**
CLL pmax pmax
comp=Z,13nm,0.9s,mb5.0
BRG Berggiesshubel 66.37 341 *i* P **P** **20 59 33.0 -0.3**
comp=Z,3.1nm,0.8s,mb4.4
BRG *e* 20 59 47.2
comp=Z,2.6nm,1.1s
BRG *e* 21 00 01.1
comp=Z,2.4nm,0.8s
BRG Berggiesshubel 66.37 341 *i* P **P** **20 59 33.0 -0.4**
BRG *e* 21 00 01.1
BRG pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
UPC Upice 66.38 339 *e*P **P** **20 59 33.5 +0.1**
UPC *e*pP pP 20 59 45.7 +1.7
SSPA Standing Stone 66.42 48 *e*P **P** **20 59 32.5 -1.2**
comp=Z,25nm,0.8s,mb5.3
STHS Stebnicka Huta 66.44 336 *e*P **P** **20 59 35.1 +1.3**
WVT Waverly 66.44 58 *e*P **P** **20 59 33.6 -0.2**
WVT pmax pmax
comp=Z,36nm,0.9s,mb5.4
WVT Waverly 66.44 58 *e*P **P** **20 59 33.6 -0.2**
comp=Z,36nm,0.9s,mb5.4
ZEI Tsey 66.46 317 *e*P **P** **20 59 34.7 +0.8**
ZEI *e**PP pP 20 59 42.4 -2.2
ZEI pmax pmax
comp=Z,42nm,1.1s,mb5.4
DPC Dobruska-Polom 66.48 339 *e*P **P** **20 59 34.3 +0.3**
DPC *e*pP pP 20 59 48.7 +4.0
OKC Ostrava-Krasne 66.64 338 *e*P **P** **20 59 34.9 -0.2**
ANN Anapa 66.68 323 *e*P **P** **20 59 34.9 -0.4**
ANN pmax pmax
comp=Z,34nm,1.6s,mb5.1
ANN MLR MLR
comp=N,257nm,18.0s
KOLS Kolonicke sedl 66.69 335 *e*P **P** **20 59 38.9 +3.5**
MORC Moravsky Berou 66.81 338⇑P **P** **20 59 36.4 +0.2**
MORC Moravsky Berou 66.81 338 *e*P **P** **20 59 36.3 +0.1**
comp=N,3.1nm,0.6s,mb4.5
CRVS Cervenica-Dubn 66.89 335 *e*P **P** **20 59 40.5 +3.8**
CRVS *e* 20 59 59.3
MOX Moxa 66.95 342 *e*P **P** **20 59 37.0 -0.1**
HRV Harvard--Oak R 66.97 43 *e*P **P** **20 59 37.0 -0.2**
HRV pmax pmax
comp=Z,21nm,0.8s,mb5.2
HRV Harvard--Oak R 66.97 43 *e*P **P** **20 59 37.0 -0.1**
comp=Z,21nm,0.8s,mb5.2
KIS Kishinev 67.01 329 *e*P **P** **20 59 36.0 -1.5**

KIS MLR MLR
comp=Z,500nm,17.0s,MS4.8
KIS MLR MLR
comp=Z,600nm,17.0s
SOC Sochi 67.08 320 *e*P **P** **20 59 38.1 +0.2**
SOC *e*S S 21 08 22.4 -7.0
SOC pmax pmax
comp=Z,26nm,1.1s,mb5.2
SOC pmax pmax
comp=Z,99nm,2.0s,mb5.5
SOC MLR MLR
comp=Z,150nm,15.0s,MS4.3
PRU Pruhonice 67.13 340 *e*P **P** **20 59 38.4 +0.2**
PRU *epP* pP 20 59 53.8 +5.0
PRU AMS AMS 21 34 00.0
comp=Z,200nm,7.3s
WES Weston 67.16 42 *e*P **P** **20 59 38.1 -0.3**
WES pmax pmax
comp=Z,36nm,0.8s,mb5.5
WES Weston 67.16 42 *e*P **P** **20 59 38.1 -0.2**
comp=Z,36nm,0.8s,mb5.5
NKC Novy Kostel 67.22 342 *e*P **P** **20 59 38.9 +0.1**
BURAR Bucovina Array 67.29 332⇑ *i*P **P** **20 59 39.5 +0.3**
BURAR Bucovina Array 67.29 332⇑P **P** **20 59 39.5 +0.3**
PLAL Pickwick Lake 67.33 59 *e*P **P** **20 59 38.9 -0.6**
comp=Z,18nm,0.8s,mb5.2
KECS Kecovo 67.49 336 *e*P **P** **20 59 41.1 +0.6**
KECS *e* 21 00 03.2
SIM Simferopol' 67.50 325*c i*P **P** **20 59 40.9 +0.3**
SIM pmax pmax
comp=Z,20nm,1.0s,mb5.1
SIM MLR MLR
comp=Z,130nm,15.6s,MS4.3
PAL Palisades 67.51 45 *e*P **P** **20 59 38.1 -2.5**
PAL pmax pmax
comp=Z,21nm,0.7s,mb5.3
PAL Palisades 67.51 45 *e*P **P** **20 59 38.1 -2.5**
comp=Z,21nm,0.7s,mb5.3
TREC Trest 67.64 339 *e*P **P** **20 59 41.5 +0.1**
VYHS Vyhne 67.80 337 *e*P **P** **20 59 43.2 +0.8**
SDMD Soldier's Deli 67.88 48 *e*P **P** **20 59 41.2 -1.7**
GRF Grafenberg Arr 67.94 342 *e*P **P** **20 59 43.7 +0.4**
comp=Z,16nm,1.0s,mb5.0
GRF Grafenberg Arr 67.94 342 *e*P **P** **20 59 43.7 +0.4**
GRF pmax pmax
comp=Z,16nm,1.0s,mb5.0
GRF Grafenberg Arr 67.94 342 *e*P **P** **20 59 43.7 +0.4**
GRF pmax pmax
comp=Z,16nm,1.0s,mb5.0
FWV Forest Hill 68.00 52 *e*P **P** **20 59 43.2 -0.5**
SWET Sewanee 68.01 57 *e*P **P** **20 59 42.9 -0.9**
SMOL Smolenice 68.05 338 *e*P **P** **20 59 45.7 +1.7**
KHC Kasperske Hory 68.12 341 *e*P **P** **20 59 44.5 +0.1**
KHC *epP* pP 21 00 03.1 +8.0
KHC AMS AMS 21 34 40.0
comp=Z,200nm,13.7s
KHC Kasperske Hory 68.12 341⇑ *i*P **P** **20 59 44.5 +0.1**
GERES GERESS Array B 68.37 341 P **P** **20 59 46.1 +0.1**
comp=Z,4.0nm,0.7s,mb4.6,baz=30,slow=4.4,SNR=37
GERES GERESS Array B 68.37 341 P **P** **20 59 46.1 +0.1**
GERES pmax pmax
comp=Z,4.0nm,0.7s
ZST Bratislava 68.41 338 *e*P **P** **20 59 47.6 +1.3**
BAIF Baives 68.47 347 *e*P **P** **20 59 45.4 -1.2**
comp=Z,19nm,0.9s,mb4.8
BAIF Baives 68.47 347 *e*P **P** **20 59 45.4 -1.2**
BAIF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
BAIF Baives 68.47 347 *e*P **P** **20 59 45.4 -1.2**
comp=Z,9.3nm,0.9s,mb4.8
BLA Blacksburg 68.47 52 *e*P **P** **20 59 46.3 -0.4**
BLA pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
BLA Blacksburg 68.47 52 *e*P **P** **20 59 46.3 -0.4**
comp=Z,1.6nm,1.0s,mb4.0
GNI Garni 68.51 315*c i*P **P** **20 59 48.9 +2.0**
GNI pmax pmax
comp=Z,57nm,1.6s
GNI MLR MLR
comp=Z,100nm,19.0s
GNI Garni 68.51 315 *e*P **P** **20 59 48.7 +1.9**
comp=Z,26nm,0.9s,mb5.2
VRI Vrincioaia 68.58 331⇑ *i*P **P** **20 59 49.2 +1.9**
VRI Vrincioaia 68.58 331⇑P **P** **20 59 49.2 +1.8**
PLOR Plostina 68.61 331⇑ *i*P **P** **20 59 48.8 +1.3**
DRGR 68.63 334⇑ *i*P **P** **20 59 48.1 +0.5**
DRGR 68.63 334⇑P **P** **20 59 48.1 +0.5**
CFR Carcaliu 68.88 329⇓ *i*P **P** **20 59 50.2 +1.0**
CFR Carcaliu 68.88 329⇓P **P** **20 59 50.2 +1.0**
MLR Muntele Rosu 69.12 331⇑ *i*P **P** **20 59 53.1 +2.4**
MLR Muntele Rosu 69.12 331⇑P **P** **20 59 53.1 +2.4**
VOIR 69.38 332⇑ *i*P **P** **20 59 54.3 +2.0**
VOIR 69.38 332⇑P **P** **20 59 54.4 +2.0**
TIRR Tirgusor 69.48 329⇓ *i*P **P** **20 59 53.8 +0.9**
TIRR Tirgusor 69.48 329⇓P **P** **20 59 53.8 +0.8**
CDF Champ du Feu 69.73 345 *e*P **P** **20 59 53.4 -1.1**
comp=Z,27nm,1.2s,mb4.8
CDF Champ du Feu 69.73 345 *e*P **P** **20 59 53.4 -1.1**
CDF pmax pmax
comp=Z,14nm,1.2s,mb4.8
CDF Champ du Feu 69.73 345 *e*P **P** **20 59 53.4 -1.1**
comp=Z,14nm,1.2s,mb4.8
MEZF Maizieres J'vi 69.91 346 *e*P **P** **20 59 54.5 -1.1**
PKSM Moragy 70.03 336⇓P **P** **20 59 56.8 +0.5**
FLN La Foliniere 70.20 350 *e*P **P** **20 59 56.1 -1.2**
comp=Z,26nm,0.8s,mb4.9
FLN La Foliniere 70.20 350 *e*P **P** **20 59 56.1 -1.2**
FLN pmax pmax
comp=Z,13nm,0.8s,mb4.9
FLN La Foliniere 70.20 350 *e*P **P** **20 59 56.1 -1.2**
comp=Z,13nm,0.8s,mb4.9
HAU Haudompre 70.25 345 *e*P **P** **20 59 56.5 -1.1**
LDF La Druitiere 70.34 350 *e*P **P** **20 59 56.9 -1.3**
comp=Z,18nm,0.8s,mb4.7
LDF La Druitiere 70.34 350 *e*P **P** **20 59 56.9 -1.3**
LDF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LDF La Druitiere 70.34 350 *e*P **P** **20 59 56.9 -1.3**
comp=Z,9.1nm,0.8s,mb4.8
HINF Hinteralfeld 70.37 345 *e*P **P** **20 59 57.0 -1.4**
GRR Gorron 70.60 351 *e*P **P** **20 59 58.6 -1.2**
comp=Z,28nm,0.7s,mb5.0
GRR Gorron 70.60 351 *e*P **P** **20 59 58.6 -1.2**
GRR pmax pmax
comp=Z,14nm,0.6s,mb5.1
GRR Gorron 70.60 351 *e*P **P** **20 59 58.6 -1.2**
comp=Z,14nm,0.6s,mb5.1
JSC Jenkinsville 70.71 54 *e*P **P** **20 59 59.3 -1.2**
ROSF Rostrenen 70.83 352 *e*P **P** **20 59 59.4 -1.8**
SGMF Saint Gilles 70.86 352 *e*P **P** **20 59 59.9 -1.5**
ROBS Robic 70.93 340 *i*P **P** **21 00 01.6 -0.2**
LOR Lormes 71.26 347 *e*P **P** **21 00 02.4 -1.4**
comp=Z,26nm,0.9s,mb4.9
LOR Lormes 71.26 347 *e*P **P** **21 00 02.4 -1.4**
LOR pmax pmax
comp=Z,13nm,0.9s,mb4.9
LOR Lormes 71.26 347 *e*P **P** **21 00 02.4 -1.4**
comp=Z,13nm,0.9s,mb4.8
BOJS Bojanci 71.34 339 *e*P **P** **21 00 01.9 -2.4**
SSF Saint Saulge 71.51 347 *e*P **P** **21 00 03.9 -1.4**
comp=Z,13nm,0.8s,mb4.6
SSF Saint Saulge 71.51 347 *e*P **P** **21 00 03.9 -1.4**
SSF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
SSF Saint Saulge 71.51 347 *e*P **P** **21 00 03.9 -1.4**
comp=Z,6.5nm,0.8s,mb4.6
PMG Port Moresby 71.54 199 P **P** **21 00 05.5 0.0**
comp=Z,11nm,0.7s,mb4.9,baz=24,slow=8.3,SNR=3.0
PMG Port Moresby 71.54 199 P **P** **21 00 05.5 0.0**
PMG pmax pmax
comp=Z,11nm,0.7s
CABF La Chapelle 71.65 345 *e*P **P** **21 00 05.1 -1.1**
comp=Z,36nm,1.2s,mb4.9
CABF La Chapelle 71.65 345 *e*P **P** **21 00 05.1 -1.1**
CABF pmax pmax
comp=Z,18nm,1.2s,mb4.9
CABF La Chapelle 71.65 345 *e*P **P** **21 00 05.1 -1.1**
comp=Z,18nm,1.2s,mb4.9
AVF Avril sur Loir 71.79 347 *e*P **P** **21 00 05.5 -1.5**
comp=Z,28nm,1.0s,mb4.8
AVF Avril sur Loir 71.79 347 *e*P **P** **21 00 05.5 -1.5**
AVF pmax pmax
comp=Z,14nm,1.0s,mb4.8
AVF Avril sur Loir 71.79 347 *e*P **P** **21 00 05.5 -1.5**
comp=Z,14nm,1.0s,mb4.8

SMF Signal de Mont 71.88 347 *e*P **P** **21 00 06.3 -1.2**
comp=Z,7.8nm,0.7s,mb4.4
SMF Signal de Mont 71.88 347 *e*P **P** **21 00 06.3 -1.2**
SMF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
SMF Signal de Mont 71.88 347 *e*P **P** **21 00 06.3 -1.2**
comp=Z,3.9nm,0.7s,mb4.5
BGF Bois d'Agland 72.07 348 *e*P **P** **21 00 07.2 -1.5**
comp=Z,65nm,1.4s,mb5.1
BGF Bois d'Agland 72.07 348 *e*P **P** **21 00 07.2 -1.5**
BGF pmax pmax
comp=Z,33nm,1.4s,mb5.1
BGF Bois d'Agland 72.07 348 *e*P **P** **21 00 07.2 -1.5**
comp=Z,32nm,1.4s,mb5.1
MALT Malatya 72.27 319⇓P **P** **21 00 11.9 +2.0**
MALT Malatya 72.27 319 *e*P **P** **21 00 11.4 +1.5**
comp=Z,21nm,1.1s,mb5.0
TCF Toulx Ste Croi 72.41 348 *e*P **P** **21 00 09.3 -1.4**
comp=Z,8.4nm,0.6s,mb4.5
TCF Toulx Ste Croi 72.41 348 *e*P **P** **21 00 09.3 -1.4**
TCF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
TCF Toulx Ste Croi 72.41 348 *e*P **P** **21 00 09.3 -1.4**
comp=Z,4.2nm,0.6s,mb4.5
BR131 Keskin Array S 72.45 323 *e*P **P** **21 00 12.0 +1.1**
comp=Z,7.3nm,0.8s,mb4.7
BRTR Keskin Array B 72.45 323 P **P** **21 00 12.1 +1.1**
comp=Z,11nm,0.9s,mb4.8,baz=43,slow=3.4,SNR=42
BRTR Keskin Array B 72.45 323 P **P** **21 00 12.1 +1.2**
BRTR pmax pmax
comp=Z,11nm,0.9s
ANTO Ankara 72.56 324⇓P **P** **21 00 13.0 +1.4**
ANTO Ankara 72.56 324 *e*P **P** **21 00 13.1 +1.5**
comp=Z,38nm,1.4s,mb5.1
LPL La Plagne 72.65 345 *e*P **P** **21 00 11.0 -1.1**
LPG La Plagne 72.66 345 *e*P **P** **21 00 11.3 -0.9**
comp=Z,26nm,1.1s,mb4.8
LPG La Plagne 72.66 345 *e*P **P** **21 00 11.3 -0.9**
LPG pmax pmax
comp=Z,13nm,1.1s,mb4.8
LPG La Plagne 72.66 345 *e*P **P** **21 00 11.3 -0.9**
comp=Z,13nm,1.1s,mb4.8
CAF Calviac 73.77 348 *e*P **P** **21 00 17.5 -1.2**
comp=Z,12nm,0.8s,mb4.6
CAF Calviac 73.77 348 *e*P **P** **21 00 17.5 -1.2**
CAF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
CAF Calviac 73.77 348 *e*P **P** **21 00 17.5 -1.2**
comp=Z,6.3nm,0.8s,mb4.6
VAY Valandovo 73.86 332 *e*P **P** **21 00 19.5 +0.2**
LFF La Frestale 73.89 349 *e*P **P** **21 00 18.1 -1.3**
comp=Z,20nm,0.7s,mb4.8
LFF La Frestale 73.89 349 *e*P **P** **21 00 18.1 -1.3**
LFF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
LFF La Frestale 73.89 349 *e*P **P** **21 00 18.1 -1.3**
comp=Z,10nm,0.7s,mb4.9
MTLF Montolieu 75.32 348 *e*P **P** **21 00 26.1 -1.6**
comp=Z,19nm,1.1s,mb4.6
MTLF Montolieu 75.32 348 *e*P **P** **21 00 26.1 -1.6**
MTLF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
MTLF Montolieu 75.32 348 *e*P **P** **21 00 26.1 -1.6**
comp=Z,9.4nm,1.1s,mb4.6
EPF Esparros 75.81 349 *e*P **P** **21 00 29.2 -1.4**
comp=Z,24nm,1.1s,mb4.7
EPF Esparros 75.81 349 *e*P **P** **21 00 29.2 -1.4**
EPF pmax pmax
comp=Z,12nm,1.1s,mb4.7
EPF Esparros 75.81 349 *e*P **P** **21 00 29.2 -1.4**
comp=Z,12nm,1.1s,mb4.8
ETSF Etsaut 76.03 350 *e*P **P** **21 00 30.5 -1.3**
comp=Z,31nm,1.2s,mb4.8
ETSF Etsaut 76.03 350 *e*P **P** **21 00 30.5 -1.3**
ETSF pmax pmax
comp=Z,16nm,1.2s,mb4.8
ETSF Etsaut 76.03 350 *e*P **P** **21 00 30.5 -1.3**
comp=Z,16nm,1.2s,mb4.8
EVR Evrytania 76.33 332 *e*P **P** **21 00 34.5 +1.0**
MIB Mutribah 76.79 308 *e*P **P** **21 00 36.1 0.0**
MIB AMb AMB 21 00 37.4
comp=Z,62nm,0.8s,mb5.6
UMR Umm Al-Rimmam 76.87 308 *e*P **P** **21 00 36.3 -0.3**
UMR AMb AMB 21 00 37.6
comp=Z,31nm,0.7s,mb5.3
CSS Prodhromos 76.95 322 *e*P **P** **21 00 37.5 +0.5**
comp=Z,17nm,1.0s,mb4.9
KBD Kabd 77.22 308 *e*P **P** **21 00 38.5 0.0**
KBD AMb AMB 21 00 43.0
comp=Z,97nm,1.3s,mb5.6
VLS Valsamata 77.31 333 *e*P **P** **21 00 40.0 +1.0**
NAY Al-Naaiem 77.33 308 *e*P **P** **21 00 38.9 -0.2**
NAY AMb AMB 21 00 40.3
comp=Z,31nm,1.1s,mb5.2
RDF Al-Radifah 77.50 308 *e*P **P** **21 00 40.0 -0.1**
RDF AMb AMB 21 00 41.6
comp=Z,71nm,0.8s,mb5.6
QRN Al-Qurain 77.52 307 *e*P **P** **21 00 40.3 +0.1**
QRN AMb AMB 21 00 41.5
comp=Z,42nm,0.9s,mb5.3
ITM Ithomi 77.95 331 *e*P **P** **21 00 42.5 -0.1**
BBSR BB Station 78.43 42 *e*P **P** **21 00 44.9 -0.3**
comp=Z,32nm,0.8s,mb5.3
NPS Neapolis 78.86 328 *e*P **P** **21 00 46.5 -1.1**
VAM Vamos 79.08 329 *e*P **P** **21 00 49.0 +0.2**
XRY Khrisi 79.20 327 *e*P **P** **21 00 49.0 -0.5**
ESDC Sonseca Array 79.50 352 P **P** **21 00 50.7 -0.4**
comp=Z,6.0nm,0.8s,mb4.6,baz=3.9,slow=6.1,SNR=17
ESLA Sonseca Array 79.50 352 *e*P **P** **21 00 50.9 -0.2**
comp=Z,4.2nm,1.2s,mb4.2
GVD Gavdhos 79.65 329 *e*P **P** **21 00 51.3 -0.6**
comp=Z,48nm,1.3s,mb5.3
EVO Evora 80.86 355 *e*P **P** **21 00 57.0 -1.4**
comp=Z,34nm,1.1s,mb4.9
EIL Elat 81.33 318 *e*P **P** **21 01 01.7 +0.7**
comp=Z,337nm,1.4s,mb6.1
CTA Charters Tower 82.16 198 P **P** **21 01 04.8 -0.6**
comp=Z,16nm,1.1s,mb4.9,baz=354,slow=4.4,SNR=6.2
CTA Charters Tower 82.16 198 P **P** **21 01 04.8 -0.5**
CTA pmax pmax
comp=Z,16nm,1.1s
CTAO Charters Tower 82.16 198 *e*P **P** **21 01 04.8 -0.5**
WRA Warramunga Arr 84.39 210 P **P** **21 01 16.2 -0.6**
comp=Z,7.2nm,0.8s,mb4.9,baz=14,slow=5.2,SNR=30
WRA Warramunga Arr 84.39 210 P **P** **21 01 16.2 -0.6**
WRA pmax pmax
comp=Z,7.0nm,0.8s
FITZ Fitzroy Crossi 85.00 218 *e*P **P** **21 01 19.9 0.0**
comp=Z,19nm,1.0s,mb5.2
FITZ Fitzroy Crossi 85.00 218 P **P** **21 01 19.0 -0.9**
comp=Z,11nm,1.0s,mb5.0,baz=26,slow=5.1,SNR=8.0
ASAR Alice Springs 89.07 209 P **P** **21 01 33.9 -1.0**
comp=Z,3.3nm,1.0s,mb4.5,baz=17,slow=4.3,SNR=18
ASAR Alice Springs 88.07 209 P **P** **21 01 33.9 -1.0**
ASAR pmax pmax
comp=Z,3.0nm,1.0s
MBWA Marble Bar 89.73 222 *e*P **P** **21 01 41.6 -1.1**
BDFB Brasilia 128.75 43 PKP PKPdf 21 07 52.3 +0.6
comp=Z,3.0nm,0.7s,baz=96,slow=3.4,SNR=5.5
BDFB Brasilia 128.75 43 PKIKP PKPdf 21 07 52.3 +0.6
BDFB pmax pmax
comp=Z,3.0nm,0.7s
CPUP Villa Florida 134.89 60 PKP PKPdf 21 08 03.8 +0.5
comp=Z,0.3nm,0.3s,baz=0.0,slow=1.0,SNR=3.1
VNDA Vanda 138.12 181 PKP PKPdf 21 08 09.2 0.0
comp=Z,0.8nm,0.7s,baz=358,slow=3.2,SNR=4.4
VNDA Vanda 138.12 181 PKIKP PKPdf 21 08 09.3 0.0
VNDA pmax pmax
comp=Z,1.0nm,0.7s
MAW Mawson 147.90 225 PKPbc PKPbc 21 08 27.7 -1.8
comp=Z,11nm,1.2s,baz=33,slow=4.1,SNR=7.6
QSPA South Pole Qui 150.60 180⇑ *i*P PKPdf 21 08 34.2 +3.4

CSEM ***24*** *20:50:07.7±0.2, 34.99N×4.04W, h25km, MD3.0, Error ellipse: s-maj=5.9km s-min=4.6km az=42.0*
CNRM ***24*** *20:50:08.4, 35.01N×4.10W, h18km, MD3.0*
MDD 24 20:50:10.6±1.0, 3500N×399W, h9km±11km, mb3.3/10, Error ellipse: s-maj=7.8km s-min=4.7km az=15.0, PRXIMO, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOU	**Touzarine**	**0.20**	**101**	P	Pg	20 50 15.0	+0.2
TOU				S	Sg	20 50 19.0	+1.4
TOU	**Touzarine**	**0.20**	**101**	*i* P	Pg	20 50 15.0	+0.2

MPAL Palemas 0.23 11 *i* P Pg 20 50 13.0 -2.3
EMEL Melilla 0.90 70 P Pg 20 50 25.0 -2.9
80nm,0.1s,SNR=7.9
EMEL S Sg 20 50 37.9 -1.7
135nm,0.2s,SNR=7.9
EMLI Melilla 0.91 70 P Pg 20 50 25.0 -3.0
80nm,0.1s,SNR=7.9
EMLI S Sg 20 50 37.9 -1.9
135nm,0.2s,SNR=7.9
ZAI Zaio 1.02 91 *e*P Pg 20 50 28.0 -2.3
ZAI *i* S Sg 20 50 42.0 -1.6
EMIJ Mijas 1.69 338 P Pn 20 50 36.7 -3.5
3.4nm,0.6s,SNR=7.3
EMIJ S Sn 20 50 57.1 -4.8
4.8nm,0.2s,SNR=4.5
EGUA Guajares 1.86 11 P Pn 20 50 38.6 -4.0
0.3nm,0.1s,SNR=7.9
EGUA S Sn 20 50 59.1 -7.1
0.9nm,0.2s,SNR=7.9
EBER Berja 2.10 25 P Pn 20 50 42.4 -3.4
6.8nm,0.7s,SNR=5.6
EBER S Sn 20 51 08.1 -3.9
12nm,0.6s,SNR=5.4
EBER Berja 2.10 25 P Pn 20 50 42.4 -3.4
6.8nm,0.7s,SNR=5.6
EBER S Sn 20 51 08.1 -3.9
12nm,0.6s,SNR=5.4
CZD Col de Zad 2.15 204 *e*P Pn 20 50 42.0 -4.5
EQUE Quentar 2.25 11 S Sn 20 51 11.5 -4.2
1.0nm,0.6s,SNR=7.9
EQES Quesada 2.90 15 P Pn 20 50 55.3 -1.5
0.8nm,0.1s,SNR=7.1
EQES S Sn 20 51 27.5 -4.2
8.6nm,0.4s,SNR=7.9
EQES Quesada 2.90 15 P Pn 20 50 56.3 -0.5
0.8nm,0.1s,SNR=7.1
EQES S Sn 20 51 27.5 -4.2
8.6nm,0.4s,SNR=7.9
EADA Adamuz 3.20 352 P Pn 20 50 58.0 -3.0
0.3nm,0.2s,SNR=7.9
EADA S Sn 20 51 34.1 -5.0
0.8nm,0.2s,SNR=7.9
EADA Adamuz 3.20 352 P Pn 20 50 59.8 -1.2
0.3nm,0.2s,SNR=7.9
EADA S Sn 20 51 34.1 -5.1
0.8nm,0.2s,SNR=7.9
EMIN Mina Concepcio 3.51 323 P Pn 20 51 02.7 -2.6
0.2nm,0.2s,SNR=7.9
EMIN S Sn 20 51 41.6 -5.3
0.8nm,0.3s,SNR=7.9
EMIN Mina Concepcio 3.51 323 P Pn 20 51 02.7 -2.5
0.2nm,0.2s,SNR=7.9
EMIN S Sn 20 51 41.6 -5.2
0.8nm,0.3s,SNR=7.9
EGRO El Granado 3.79 313 P Pn 20 51 07.0 -2.1
0.7nm,0.3s,SNR=7.9
EGRO S Sn 20 51 50.3 -3.5
1.7nm,0.3s,SNR=7.9
EGRO El Granado 3.79 313 P Pn 20 51 07.7 -1.4
0.7nm,0.3s,SNR=7.9
EGRO S Sn 20 51 50.3 -3.5
1.7nm,0.3s,SNR=7.9
ETOB Tobarra 4.13 28 P Pn 20 51 11.8 -2.0
0.3nm,0.2s,SNR=7.9
ETOB S Sn 20 51 57.0 -5.3
1.6nm,0.6s,SNR=4.0
ETOB Tobarra 4.13 28 P Pn 20 51 11.9 -2.0
0.3nm,0.2s,SNR=7.9
ETOB S Sn 20 51 57.0 -5.3
1.6nm,0.6s,SNR=4.0
EBAD Badajoz 4.46 328 P Pn 20 51 15.6 -2.7
0.3nm,0.1s,SNR=7.9
EBAD S Sn 20 52 04.6 -5.8
1.9nm,0.2s,SNR=7.9

ISCJB ***24*** *20:52:39.2±1.8, 226N±0.1×121.12E±005, h100km, Error ellipse: s-maj=20.6km s-min=6.7km az=1.8*
JMA ***24*** *20:52:39.2±0.3, 2277N×12102E, h113km, M3.1*
BJI ***24*** *20:52:43.2, 23.10N×12107E, h28km, ML3.9*
ISC 24 20:52:40.4±1.8, 226N±01×12112E±005, h100km, n8, σ0§47/15, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**2.52**	**43**	P	**Pn**	**20 53 19.0**	**-0.8**
YOJ				*e*S	**Sn**	**20 53 49.9**	**-0.1**
HATJ	**Hateruma jima**	**2.85**	**59**	P	**Pn**	**20 53 24.1**	**0.0**
HATJ				*e*S	**Sn**	**20 53 58.4**	**+0.6**
IRIF	**Iriomote-Funau**	**2.94**	**54**	P	**Pn**	**20 53 25.2**	**-0.1**
IRIF				*e*S	**Sn**	**20 53 59.9**	**0.0**
JKRS	**Kuro-shima**	**3.10**	**58**	P	**Pn**	**20 53 27.6**	**+0.1**
JKRS				*e*S	**Sn**	**20 54 04.5**	**+0.7**
QZH	**Quanzhou**	**3.27**	**315**	P	**Pn**	**20 53 30.3**	**+0.6**
QZH				S	**Sn**	**20 54 07.6**	**-0.2**
QZH				Smax			
	comp=N,230nm,0.8s						
QZH				Smax			
	comp=E,280nm,1.0s						
JIJ	**Ishigaki jima**	**3.27**	**57**	P	**Pn**	**20 53 29.6**	**-0.2**
JIJ				*e*S	**Sn**	**20 54 06.8**	**-1.1**
JTJ	**Tarama**	**3.85**	**58**	P	**Pn**	**20 53 37.5**	**0.0**
JTJ				*e*S	**Sn**	**20 54 22.2**	**+0.4**
GZH	**Guangzhou**	**7.18**	**275**	P	**Pn**	**20 54 28.3**	**+5.5**
GZH				Smax			
	comp=N,55nm,1.6s						
GZH				Smax			
	comp=E,40nm,1.3s						

IDC 24 21:03:31.8±6.1, 660S×15371E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/12, mbtmp3.5/3, Error ellipse: s-maj=184.3km s-min=38.7km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.02**	**233**	P	P	21 08 38.4	0.0
	1.0nm,0.8s,baz=55,slow=9.2,SNR=8.3						
ASAR	**Alice Springs**	**25.51**	**226**	P	P	21 09 01.8	0.0
	0.7nm,1.0s,baz=62,slow=9.8,SNR=4.3						
MKAR	**Makanchi Array**	**82.27**	**319**	P	P	21 15 55.8	+0.7
	0.5nm,0.6s,baz=100,slow=5.5,SNR=6.2						

IDC ***24*** *21:32:46.7±0.6, 2034S×16904E, h0km, mb4.7/15, mb1 4.8/17, mb1mx4.8/19, mbtmp4.7/17, ML3.7/2, MS4.2/1, Ms1 4.2/1, ms1mx3.4/8, Error ellipse: s-maj=18.9km s-min=16.1km az=112.0*
ISCJB ***24*** *21:32:48.4±2.5, 2043S±005×16904E±007, h18km±16km, mb5.0/49, MS4.7/19, Error ellipse: s-maj=11.8km s-min=8.3km az=172.6*
MOS ***24*** *21:32:51.9±2.1, 2040S×16891E, h33km, mb5.3/25, MS4.5/5, Error ellipse: s-maj=12.4km s-min=9.3km az=126.4*
LDG ***24*** *21:32:53.1±0.2, 2002S×16837E, h30km, Mb5.3/4, Ms4.5/9, Error ellipse: s-maj=14.9km s-min=3.3km az=121.0*
NEIC ***24*** *21:32:53.8±1.6, 2045S×16904E, h49km±13km, mb5.0/31, Error ellipse: s-maj=11.1km s-min=8.6km az=87.0*
ORF ***24*** *21:32:53.1, 1994S×170.15E, h30km, mb5.9*
BJI ***24*** *21:32:56.3, 20.15S×169.46E, h86km, mB5.0, mb4.8, Ms4.8, Msz4.5*
BGS ***24*** *21:32:57.9±2.8, 2041S×16900E, h72km, mb5.0(NEIC)*
HRVD ***24*** *21:32:57.7±0.2, 2036S×16871E, h26km, MW5.3/83, Centroid moment Tensor Solution. LP body waves: s81,c135;Mantle waves: s83,c121; Half duration: 1§1 Moment tensor: Scale 10^17Nm; Mrr=0.90±.02; Mθθ=0.04±.02; Mφφ=0.86±.02; Mrθ=0.28±.04; Mθφ=0.44±.01; Mφr=0.73±.04; Best double couple: Mo=1.25300×10^17 NP1:φs335.00000°, δ26.00000°, λ87.00000°. NP2: φs158.00000°, δ64.00000°, λ92.00000°. Principal axes: T 1.1770, Plg71.0000°, Azm72.0000°; N 0.1530, Plg2.0000°, Azm338.0000°; P -1.3300, Plg19.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***24*** *21:33:15.9, 2020S×16996E, h225km, Vanuatu Islands*
ISC 24 21:32:48.2±3.0, 2042S±005×16913E±008, h8km±17km, n305, σ1§17/113, mb5.0/49, MS4.7/19, 15C-5D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**2.86**	**343**	⇑*i*P	**Pn**	**21 33 33.5**	**-0.6**
DZM	**Mont Dzumac**	**3.00**	**236**	Pn	**Pn**	**21 33 33.7**	**-2.3**
	33nm,0.3s,baz=59,slow=17,SNR=196						
DZM				Sn	**Sn**	**21 34 05.9**	**-6.4**
	92nm,0.3s,baz=268,slow=23,SNR=4.1						
HNR	**Honiara**	**14.06**	**320**	Pn	**Pn**	**21 36 12.5**	**+4.8**
	6.0nm,0.3s,baz=119,slow=2.9,SNR=7.8						
HNR				LR	LR	21 40 25.4	
	comp=Z,956nm,20.3s,baz=177,slow=33						
HNR	**Honiara**	**14.06**	**320**	*e*P	**Pn**	**21 36 13.2**	**+5.5**
HNR				pmax	pmax		
	comp=Z,269nm,1.4s						
HNR	**Honiara**	**14.06**	**320**	*e*P	**Pn**	**21 36 12.7**	**+5.0**
	comp=Z,313nm,1.4s						
ARMA	**Armidale**	**18.67**	**234**	*e*P	**Pn**	**21 37 08.5**	**+1.6**
URZ	**Urewera**	**19.08**	**160**	P	**Pn**	**21 37 13.4**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=321,slow=17,SNR=2.5						
CTA	**Charters Tower**	**21.47**	**267**	*e*P	**P**	**21 37 38.4**	**+1.3**
	comp=Z,21nm,0.9s,mb4.5						
CTA	**Charters Tower**	**21.47**	**267**	P	**P**	**21 37 37.5**	**+0.5**
	comp=Z,29nm,0.9s,mb4.6,baz=90,slow=13,SNR=16						
CTA	**Charters Tower**	**21.47**	**267**	*e*P	**P**	**21 37 38.4**	**+1.3**
CTA				pmax	pmax		
	comp=Z,21nm,0.9s						
CTAO	**Charters Tower**	**21.47**	**267**	*e*P	**P**	**21 37 38.4**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,37nm,0.9s,mb4.7						
CTAO	**Charters Tower**	**21.47**	**267**	*e*P	**P**	**21 37 38.4**	**+1.3**
	comp=Z,37nm,0.9s,mb4.7						
CNB	**Canberra Magne**	**22.87**	**225**	*e*P	**P**	**21 37 54.1**	**+2.1**
	comp=Z,91nm,1.1s,mb5.1						
RPZ	**Rata Peaks**	**23.29**	**176**	P	**P**	**21 37 57.9**	**+1.4**
	comp=Z,5.5nm,0.6s,mb4.2,baz=90,slow=4.0,SNR=3.4						
PMG	**Port Moresby**	**23.86**	**294**	P	**P**	**21 38 01.8**	**-0.2**
	comp=Z,32nm,1.0s,mb4.7,baz=234,slow=2.0,SNR=6.4						
PMG	**Port Moresby**	**23.86**	**294**	LR	LR	21 46 38.6	
	comp=Z,2μm,18.4s,MS4.7,baz=333,slow=32						
PMG	**Port Moresby**	**23.86**	**294**	*e*P	**P**	**21 38 02.3**	**+0.3**
PMG				pmax	pmax		
	comp=Z,38nm,0.9s						
PMG	**Port Moresby**	**23.86**	**294**	*e*P	**P**	**21 38 02.3**	**+0.3**
	comp=Z,38nm,0.9s,mb4.8						
TOO	**Toolangi**	**26.71**	**225**	*e*P	**P**	**21 38 28.6**	**+0.6**
	comp=Z,17nm,1.4s,mb4.4						
TOO	**Toolangi**	**26.71**	**225**	*e*P	**P**	**21 38 28.6**	**+0.6**
TOO				pmax	pmax		
	comp=Z,17nm,1.4s,mb4.4						
STKA	**Stephens Creek**	**27.15**	**240**	*e*P	**P**	**21 38 29.8**	**-2.1**
	comp=Z,14nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**27.15**	**240**	P	**P**	**21 38 30.8**	**-1.1**
	comp=Z,12nm,0.9s,mb4.5,baz=48,slow=7.5,SNR=13						
WRA	**Warramunga Arr**	**32.63**	**265**	P	**P**	**21 39 19.2**	**-1.2**
	comp=Z,13nm,0.9s,mb4.9,baz=93,slow=8.8,SNR=5.9						
WRA				ScP	ScP	21 45 51.7	+1.1
	comp=Z,2.6nm,1.1s,baz=98,slow=3.4,SNR=6.6						
ASAR	**Alice Springs**	**32.77**	**258**	P	**P**	**21 39 20.9**	**-0.7**
	comp=Z,32nm,0.8s,mb5.3,baz=81,slow=9.0,SNR=10						
ASAR				ScP	ScP	21 45 52.5	+1.3
	comp=Z,1.7nm,1.0s,baz=90,slow=3.9,SNR=5.8						
TBI	**Tubuai**	**38.44**	**102**	*e*S	**S**	**21 46 06.7**	**+1.0**
	comp=Z,328nm,28.8s						
TBI				*e*LQ		21 49 00.2	
	comp=Z,2μm,30.5s						
TBI				*e*LR	LR	21 50 41.6	
	comp=Z,623nm,25.5s						
PPT	**Papeete**	**39.08**	**93**	*e*S	**S**	**21 46 16.5**	**+1.3**
	comp=Z,516nm,26.2s						
PPT				*e*LQ		21 49 16.7	
	comp=Z,2μm,29.5s						
PPT				*e*LR	LR	21 50 56.4	
	comp=Z,1μm,24.0s						
FITZ	**Fitzroy Crossi**	**41.04**	**266**	P	**P**	**21 40 31.4**	**-0.6**
	comp=Z,10nm,0.7s,mb4.6,baz=114,slow=11,SNR=4.9						
MBWA	**Marble Bar**	**46.04**	**260**	*e*P	**P**	**21 41 11.7**	**-0.6**
NWAO	**Narrogin (SRO)**	**47.60**	**244**	P	**P**	**21 41 24.3**	**-0.2**
	comp=Z,23nm,0.9s,mb5.2,baz=77,slow=5.9,SNR=4.5						
NWAO	**Narrogin (SRO)**	**47.60**	**244**	P	**P**	**21 41 24.2**	**-0.3**
NWAO				pmax	pmax		
	comp=Z,84nm,1.6s						
NWAO	**Narrogin (SRO)**	**47.60**	**244**	P	**P**	**21 41 24.2**	**-0.3**
	comp=Z,84nm,1.6s,mb5.5						
TAOE	**Nuku Hiva Isla**	**50.22**	**85**	*e*S	**S**	**21 48 55.1**	**-1.8**
	comp=Z,1μm,27.5s						
TAOE				*e*LR	LR	21 56 03.2	
	comp=Z,2μm,27.2s						
RKT	**Rikitea**	**51.71**	**104**	*e*S	**S**	**21 49 18.1**	**+0.5**
	comp=Z,373nm,26.8s						
RKT				*e*LR	LR	21 56 49.4	
	comp=Z,299nm,24.8s						
VNDA	**Vanda**	**57.26**	**182**	P	**P**	**21 42 35.6**	**-0.5**
	comp=Z,1.8nm,0.8s,mb4.2,baz=20,slow=7.2,SNR=9.4						
CASY	**Casey**	**59.01**	**204**	*e*P	**P**	**21 42 44.5**	**-4.0**
MJAR	**Matsushiro Arr**	**63.74**	**333**	P	**P**	**21 43 19.7**	**-0.8**
	comp=Z,7.1nm,0.8s,mb4.7,baz=169,slow=7.3,SNR=18						
MAJO	**Matsushiro**	**63.74**	**333**	*e*P	**P**	**21 43 20.1**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
MAJO	**Matsushiro**	**63.74**	**333**	*e*P	**P**	**21 43 20.1**	**-0.4**
	comp=Z,6.3nm,0.6s,mb4.8						
YHNB	**Yeheng**	**64.55**	**312**	*e*P	**P**	**21 43 25.2**	**-0.6**
MIR	**Mirnyy**	**65.93**	**205**	*e*P	**P**	**21 43 31.0**	**-3.7**
MIR				pmax	pmax		
	comp=Z,210nm,1.0s						
QZH	**Quanzhou**	**66.69**	**310**	*i* PR	**P**	**21 43 42.1**	**+2.5**
QZH				S	S	21 52 31.0	-0.5
QZH				AMB	AMB		
	comp=Z,430nm,5.7s						
QZH				LR	LR		
	comp=Z,490nm,17.2s,MS4.8						
SSE	**Sheshan**	**68.85**	**317**	*e*P	**P**	**21 43 54.9**	**+1.7**
SSE				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,16nm,4.6s						
SSE	**Sheshan**	**68.85**	**317**	*e*P	**P**	**21 43 54.9**	**+1.7**
	comp=Z,31nm,0.7s,mb5.3						
QSPA	**South Pole Qui**	**69.64**	**180**	*e*P	**P**	**21 43 58.0**	**-0.1**
	comp=Z,15nm,0.9s,mb4.9						
QIZ	**Qiongzhong**	**70.08**	**300**	P	**P**	**21 44 02.5**	**+1.7**
QIZ				AP	pP	21 44 20.6	+17
QIZ				PP	PP	21 46 38.0	+2.2
QIZ				S	S	21 53 10.8	-1.1
QIZ				LR	LR		
	comp=E,140nm,14.6s						
QIZ				LR	LR		
	comp=Z,157nm,19.7s						
NJ2	**Nanjing**	**70.98**	**316**	*e*P	**P**	**21 44 08.8**	**+2.5**
NJ2				AP	pP	21 44 29.9	+21
NJ2				XP	sP	21 44 37.4	+27
NJ2				PP	PP	21 46 48.5	+4.9
NJ2				S	S	21 53 17.0	-5.4
NJ2				XS	sS	21 53 53.0	+26
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,140nm,8.1s						
NJ2				LR	LR		
	comp=N,460nm,22.0s						
NJ2				LR	LR		
	comp=E,630nm,38.0s						
NJ2				LR	LR		
	comp=Z,100nm,20.8s,MS4.0						
YSS	**Yuzh-Sakhalins**	**71.16**	**341**	⇑*e*P	**P**	**21 44 08.5**	**+1.1**
YSS				*e*		21 44 18.7	
YSS				MLR	MLR		
	comp=N,1μm,20.0s						
YSS				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.1						
YSS	**Yuzh-Sakhalins**	**71.16**	**341**	⇑*e*P	**P**	**21 44 08.5**	**+1.1**
YSS				*e*		21 44 18.7	
YSS				LR	LR		
	comp=Z,1μm,20.0s,MS5.1						
PSI	**Prapat**	**72.52**	**280**	P	**P**	**21 44 14.7**	**-0.9**
	comp=Z,1.8nm,0.4s,mb4.4,baz=351,slow=18,SNR=3.8						
PET	**Petropavlovsk**	**73.69**	**353**	*e*P	**P**	**21 44 26.9**	**+4.4**
PET				*e*S	S	21 53 58.5	+5.0
PET				*e*PS		21 54 34.3	
PET				pmax	pmax		
	comp=Z,100nm,17.1s						
PET				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.0						
PET				smax			
	comp=E,100nm,17.5s						
PET				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.1						
PET	**Petropavlovsk**	**73.69**	**353**	*e*P	**P**	**21 44 26.9**	**+4.4**
	comp=Z,13nm,0.6s,mb5.0						
PET				*e*S	S	21 53 58.5	+5.0
PET				*e*PS		21 54 34.3	
PET				LR	LR		
	comp=Z,100nm,19.0s,MS4.1						
MDJ	**Mudanjiang**	**74.11**	**332**	P	**P**	**21 44 25.6**	**+0.7**
MDJ				AP	pP	21 44 44.3	+17
MDJ				XP	sP	21 44 52.3	+24
MDJ				PP	PP	21 47 11.4	+1.1
MDJ				S	S	21 53 53.4	-4.7
MDJ				XS	sS	21 54 25.9	+23
MDJ				AMB	AMB		
	comp=Z,24nm,1.2s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,109nm,4.7s						
MDJ				LR	LR		
	comp=N,134nm,25.3s,MS4.3						
MDJ				LR	LR		
	comp=E,112nm,23.4s,MS4.3						
MDJ				LR	LR		
	comp=Z,141nm,23.4s,MS4.2						
MDJ	**Mudanjiang**	**74.11**	**332**	*e*P	**P**	**21 44 25.2**	**+0.3**
	comp=Z,26nm,1.1s,mb5.1						
HABR	**Khabarovsk**	**75.04**	**337**	*e*P	**P**	**21 44 31.5**	**+1.1**
HABR				S	S	21 54 12.1	+3.5
HABR				pmax	pmax		
	comp=Z,38nm,1.0s,mb5.3						
CN2	**Changchun**	**75.41**	**329**	*e*P	**P**	**21 44 33.0**	**+0.5**
CN2				*e*AP	pP	21 44 53.4	+18
CN2				*e*S	S	21 54 07.8	-4.9
CN2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,400nm,21.0s,MS4.8						
CN2				LR	LR		
	comp=E,300nm,21.0s,MS4.8						
CN2				LR	LR		
	comp=Z,200nm,21.0s,MS4.4						
KLR	**Kul'dur**	**76.90**	**336**	*e*P	**P**	**21 44 38.2**	**-2.7**
KLR				pmax	pmax		
	comp=Z,90nm,2.0s,mb5.3						
MAW	**Mawson**	**77.31**	**202**	P	**P**	**21 44 43.2**	**-0.1**
	comp=Z,10nm,1.0s,mb4.7,baz=128,slow=7.4,SNR=12						
BJI	**Beijing**	**77.78**	**321**	P	**P**	**21 44 46.8**	**+0.9**
BJI				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.6						
BJI				AMB	AMB		
	comp=Z,211nm,3.8s						
BJI				LR	LR		
	comp=N,206nm,20.7s,MS4.6						
BJI				LR	LR		
	comp=E,206nm,20.1s,MS4.6						
BJI				LR	LR		
	comp=Z,199nm,21.0s,MS4.4						
BJI	**Beijing**	**77.78**	**321**	P	**P**	**21 44 46.7**	**+0.8**
	comp=Z,11nm,1.3s,mb4.6						
BJI				S	S	21 54 39.5	+0.8
BJI				LR	LR		
	comp=Z,200nm,21.0s,MS4.4						
KMI	**Kunming**	**78.81**	**302**	P	**P**	**21 44 52.6**	**+1.0**
KMI				AP	pP	21 45 11.4	+17
KMI				PP	PP	21 47 56.1	+6.2
KMI				S	S	21 54 44.1	-5.6
KMI				SKS		21 54 57.1	
KMI				SS	SS	21 59 53.3	-0.9
KMI				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.8						
KMI				AMB	AMB		
	comp=Z,148nm,6.7s						
KMI				LR	LR		
	comp=N,152nm,18.1s,MS4.5						
KMI				LR	LR		
	comp=E,145nm,17.8s,MS4.5						
KMI				LR	LR		
	comp=Z,198nm,20.4s,MS4.4						
KMI	**Kunming**	**78.81**	**302**	P	**P**	**21 44 52.6**	**+1.0**
	comp=Z,14nm,1.2s,mb4.8						
KMI				pP	pP	21 45 11.4	+17
KMI				sP	sP	21 45 18.5	+23
KMI				PP	PP	21 47 56.1	+6.2
KMI				PPP		21 49 43.9	
KMI				S	S	21 54 44.1	-5.6
KMI				SKS		21 54 57.1	
KMI				sS	sS	21 55 16.0	+22
KMI				PS		21 55 36.7	
KMI				SS	SS	21 59 53.2	-1.0
KMI				SSS		22 03 13.1	
KMI				LR	LR		
	comp=Z,200nm,20.4s,MS4.4						
CHTO	**Chiang Mai**	**79.05**	**295**	*e*P	**P**	**21 44 54.1**	**+1.2**
CHTO				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
CHTO	**Chiang Mai**	**79.05**	**295**	*e*P	**P**	**21 44 54.0**	**+1.1**
	comp=Z,12nm,1.0s,mb4.8						
HHC	**Hu-ho-hao-te**	**81.05**	**320**	*e*P	**P**	**21 45 04.5**	**+0.8**
HHC				AP	pP	21 45 24.8	+18
HHC				XP	sP	21 45 33.3	+26
HHC				PP	PP	21 48 12.5	+4.0
HHC				S	S	21 55 07.9	-5.4
HHC				SKS		21 55 13.1	
HHC				XS	sS	21 55 43.3	+26
HHC				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.9						
HHC				AMB	AMB		
	comp=Z,192nm,7.5s						
HHC				LR	LR		
	comp=N,161nm,16.5s,MS4.6						
HHC				LR	LR		
	comp=E,203nm,19.0s,MS4.6						
HHC				LR	LR		
	comp=Z,230nm,18.4s,MS4.6						
LZH	**Lanzhou**	**83.44**	**312**	*e*P	**P**	**21 45 18.0**	**+1.8**
LZH				AP	pP	21 45 38.5	+20
LZH				XP	sP	21 45 46.6	+27
LZH				PP	PP	21 48 33.5	+5.3
LZH				XS	sS	21 56 09.0	+27
LZH				SS	SS	22 01 02.0	-1.3
LZH				AMB	AMB		
	comp=Z,31nm,1.2s,mb5.2						
LZH				AMB	AMB		
	comp=Z,160nm,5.5s						
LZH				LR	LR		
	comp=N,415nm,17.5s						
LZH				LR	LR		
	comp=Z,714nm,18.1s,MS5.1						
LZH	**Lanzhou**	**83.44**	**312**	*e*P	**P**	**21 45 18.0**	**+1.8**
	comp=Z,31nm,1.2s,mb5.2						
LZH				pP	pP	21 45 38.5	+20
LZH				sP	sP	21 45 46.6	+27
LZH				PP	PP	21 48 33.5	+5.3
LZH				*e*S	S	21 55 39.0	+1.1
LZH				sS	sS	21 56 09.0	+27
LZH				SS	SS	22 01 02.0	-1.3
LZH				LR	LR		
	comp=Z,710nm,18.1s,MS5.1						
SYO	**Syowa Base**	**83.78**	**196**	⇓*e*P	**P**	**21 45 16.0**	**-2.0**
KDAK	**Kodiak Island**	**84.17**	**19**	LR	LR	22 20 54.7	
	comp=Z,890nm,18.2s,MS5.2,baz=126,slow=34						
KDAK	**Kodiak Island**	**84.17**	**19**	*e*P	**P**	**21 45 19.6**	**-0.4**
	comp=Z,12nm,0.7s,mb5.1						
CLNS	**Chul'man**	**85.43**	**337**	*e*P	**P**	**21 45 25.5**	**-0.8**
CLNS				pmax	pmax		
	comp=N,27nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,49nm,1.0s,mb5.6						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.8s						
CIT	**Chita**	**86.85**	**329**	*e*P	**P**	**21 45 31.8**	**-1.5**
CIT				pmax	pmax		
	comp=Z,35nm,1.9s,mb5.3						
CIT	**Chita**	**86.85**	**329**	*e*P	**P**	**21 45 31.8**	**-1.5**
	comp=Z,35nm,1.9s,mb5.3						
TTA	**Tatalina**	**87.49**	**15**	*e*P	**P**	**21 45 36.3**	**-0.1**
TTA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.6						
TTA	**Tatalina**	**87.49**	**15**	*e*P	**P**	**21 45 36.3**	**-0.1**
	comp=Z,3.3nm,0.8s,mb4.6						
NVL	**N'lazarevskaya**	**87.68**	**187**	⇓*i*P	**P**	**21 45 36.5**	**-0.9**
NVL				pmax	pmax		
	comp=Z,16nm,1.2s,mb5.1						
NVL				MLR	MLR		
	comp=Z,443nm,18.8s,MS4.9						
ULN	**Ulaanbaatar**	**87.74**	**323**	*e*P	**P**	**21 45 37.7**	**0.0**
ULN				pmax	pmax		
	comp=Z,41nm,1.4s,mb5.5						
ULN	**Ulaanbaatar**	**87.74**	**323**	*e*P	**P**	**21 45 37.7**	**+0.1**
	comp=Z,14nm,1.0s,mb5.1						
GTA	**Gaotai**	**87.86**	**314**	*e*P	**P**	**21 45 39.1**	**+0.9**
GTA				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.9						
YAK	**Yakutsk**	**87.96**	**343**	*e*P	**P**	**21 45 35.6**	**-3.1**
YAK				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.4						
YAK	**Yakutsk**	**87.96**	**343**	*e*P	**P**	**21 45 35.6**	**-3.1**
	comp=Z,15nm,0.6s,mb5.4						
SNAA	**Sanae**	**87.99**	**183**	*i*P	**P**	**21 45 33.2**	**-5.6**
SNAA				*e*	pP	21 45 34.5	-7.0
SNAA				*e*		21 46 29.4	
SNAA				*e*		21 46 31.9	
SNAA				*e*		21 46 54.6	
SNAA	**Sanae**	**87.99**	**183**	*e*P	**P**	**21 45 32.1**	**-6.7**
SNAA				pmax	pmax		
	comp=Z,15nm,1.3s						
SNAA	**Sanae**	**87.99**	**183**	*e*P	**P**	**21 45 32.1**	**-6.7**
	comp=Z,15nm,1.3s,mb5.1						
SONM	**Songino Array**	**88.10**	**323**	P	**P**	**21 45 38.8**	**-0.6**
	comp=Z,4.9nm,0.8s,mb4.8,baz=142,slow=5.1,SNR=36						
BILL	**Bilibino**	**88.22**	**359**	⇑*i*P	**P**	**21 45 39.1**	**-0.8**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.9						
BILL				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.5						
BILL	**Bilibino**	**88.22**	**359**	⇑*i*P	**P**	**21 45 39.1**	**-0.8**
	comp=Z,5.0nm,0.6s,mb4.9						
BILL				LR	LR		
	comp=Z,200nm,19.0s,MS4.5						
VNA3	**Neumayer Olymp**	**88.58**	**180**	⇑*i*P	**P**	**21 45 40.6**	**-1.0**
VNA3				*e*	pP	21 45 42.8	-1.5
VNA3				*e*		21 45 45.2	
VNA3				*e*		21 45 54.3	
VNA3				*e*		21 45 56.6	
VNA3				*e*		21 45 58.7	
VNA3				*e*		21 46 05.2	
VNA3				*e*		21 46 11.2	
VNA3				*e*		21 46 37.9	
VNA3				*e*		21 46 42.3	
VNA3				*e*		21 46 46.6	
VNA3				*e*		21 46 49.9	
VNA3				*e*		21 46 58.9	
VNA3				*e*		21 47 04.5	
VNA2	**Neumayer--Watz**	**88.87**	**181**	⇑*i*P	**P**	**21 45 41.9**	**-1.1**
VNA2				*e*	pP	21 45 44.0	-1.7
VNA2				*e*		21 45 46.8	
VNA2				*e*		21 45 51.6	
VNA2				*e*		21 45 58.7	
VNA2				*e*		21 46 00.8	
VNA2				*e*		21 46 04.4	
VNA2				*e*		21 46 09.8	
VNA2				*e*		21 46 39.7	
VNA2				*e*		21 46 43.4	
VNA2				*e*		21 46 48.7	
VNA2				*e*		21 46 51.2	
VNA2				*e*		21 47 00.6	
VNA2				*e*		21 47 06.2	
MTUM	**Tungsten Hills**	**88.98**	**49**	*e*P	**P**	**21 45 45.2**	**+1.7**
LSA	**Lhasa**	**90.06**	**302**	*e*P	**P**	**21 45 49.2**	**+0.6**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.9						
LSA	**Lhasa**	**90.06**	**302**	*e*P	**P**	**21 45 49.2**	**+0.7**
	comp=Z,3.8nm,0.6s,mb4.9						
LSA				*e*pP	pP	21 46 00.9	+10
BOD	**Bodaibo**	**90.34**	**334**	*e*P	**P**	**21 45 48.3**	**-1.6**
BOD				pmax	pmax		
	comp=Z,14nm,1.8s,mb5.0						
BOD	**Bodaibo**	**90.34**	**334**	*e*P	**P**	**21 45 48.3**	**-1.6**
	comp=Z,14nm,1.8s,mb5.0						
TPNV	**Topopah Spring**	**90.47**	**51**	*e*P	**P**	**21 45 51.3**	**+0.8**
TPNV				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb5.0						
TPNV	**Topopah Spring**	**90.47**	**51**	*e*P	**P**	**21 45 51.2**	**+0.8**
	comp=Z,8.1nm,1.0s,mb5.0						
NEN	**Nelson**	**90.96**	**52**	*e*P	**P**	**21 45 52.5**	**-0.2**
ZAK	**Zakamensk**	**91.19**	**324**	*e*P	**P**	**21 45 54.5**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,24nm,1.6s,mb5.3						
ZAK				pmax	pmax		
	comp=Z,13nm,1.7s,mb5.0						
ZAK	**Zakamensk**	**91.19**	**324**	*e*P	**P**	**21 45 54.5**	**+0.7**
	comp=Z,24nm,1.6s,mb5.3						
COLA	**College**	**91.19**	**17**	*c i*P	**P**	**21 45 52.3**	**-1.5**
ILAR	**Eielson Array**	**91.38**	**17**	P	**P**	**21 45 52.0**	**-2.7**
	comp=Z,2.4nm,0.7s,mb4.7,baz=232,slow=5.1,SNR=13						
SKAG	**Skagway**	**91.55**	**25**	*e*P	**P**	**21 45 54.5**	**-1.0**
TLY	**Talaya**	**91.67**	**325**	*e*P	**P**	**21 45 56.1**	**+0.1**
TLY				*e*S		21 56 53.2	
TLY				*e*PS	PS	21 58 04.6	-2.0
TLY				pmax	pmax		
	comp=Z,11nm,1.5s,mb5.0						
TLY				MLR	MLR		
	comp=Z,134nm,19.0s,MS4.4						
TLY	**Talaya**	**91.67**	**325**	*e*P	**P**	**21 45 56.1**	**+0.1**
TLY				*e*S		21 56 53.2	
TLY				*e*PS	PS	21 58 04.6	-2.0
MOY	**Mondy**	**93.08**	**325**	*e*P	**P**	**21 46 02.1**	**-0.5**
MOY				pmax	pmax		
	comp=Z,35nm,3.1s						
MOY	**Mondy**	**93.08**	**325**	*e*P	**P**	**21 46 02.1**	**-0.5**
	comp=Z,35nm,3.1s						
JIRN	**Jiri**	**93.32**	**298**	*e*P	**P**	**21 46 04.4**	**+0.7**
GUN	**Gumba**	**93.67**	**298**	*e*P	**P**	**21 46 05.4**	**+0.1**
KKN	**Kakani**	**94.12**	**298**	*e*P	**P**	**21 46 07.4**	**0.0**
	comp=Z,25nm,1.1s,mb5.5						
KKN	**Kakani**	**94.12**	**298**	*e*P	**P**	**21 46 07.4**	**0.0**
KKN				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.6						
DMN	**Daman**	**94.20**	**298**	*e*P	**P**	**21 46 07.9**	**+0.2**
	comp=Z,35nm,1.1s,mb5.7						
GKN	**Gorkha**	**94.73**	**298**	*e*P	**P**	**21 46 09.8**	**-0.3**
	comp=Z,14nm,0.9s,mb5.4						
TIXI	**Tiksi**	**95.87**	**348**	*e*P	**P**	**21 46 11.9**	**-3.4**
TIXI				*e*		21 57 25.5	
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.5						
TIXI	**Tiksi**	**95.87**	**348**	*e*P	**P**	**21 46 11.9**	**-3.4**
	comp=Z,2.0nm,1.0s,mb4.5						
TIXI				*e*		21 57 25.5	
PDAR	**Pinedale Array**	**97.48**	**47**	P	**P**	**21 46 23.2**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=197,slow=2.8,SNR=3.0						
YKA	**Yellowknife Ar**	**101.75**	**27**	P	Pdif	21 46 41.9	+0.2
	comp=Z,0.4nm,0.6s,baz=254,slow=4.4,SNR=4.3						
MKAR	**Makanchi Array**	**102.50**	**315**	P	Pdif	21 46 45.2	+0.2
	comp=Z,0.7nm,0.8s,baz=105,slow=6.1,SNR=8.1						
MKAR				PP	PP	21 50 56.4	-1.5
	comp=Z,0.6nm,1.0s,baz=97,slow=10.0,SNR=3.8						
MKAR				PKiKP	PKiKP	21 51 06.9	+0.5
	comp=Z,1.4nm,1.1s,baz=100,slow=4.4,SNR=5.3						
MKAR	**Makanchi Array**	**102.50**	**315**	P	Pdif	21 46 45.2	+0

UPC	**Upice**	**143.23 331**	*e*PKP	PKPdf	21 52 20.2	-2.8
UPC			*ex*	x	21 52 24.7	
VRAC	**Vranov**	**143.79 329**	PKP	PKPdf	21 52 22.8	-1.2
	comp=Z,1.4nm,0.5s,baz=46,slow=4.8,SNR=3.7					
VTS	**Vitosha**	**143.86 315**	*e*P	PKPdf	21 52 21.6	-2.5
BRG	**Berggiesshubel**	**143.87 333**	*e*PKPbc	PKPdf	21 52 21.5	-2.6
BRG	**Berggiesshubel**	**143.87 333**	*i* PKP	PKPdf	21 52 21.9	-2.2
	comp=Z,16nm,1.3s					
BRG			*e*		21 52 28.2	
	comp=Z,7.1nm,0.8s					
BRG			*e*		21 52 35.2	
	comp=Z,15nm,1.2s					
BRG	**Berggiesshubel**	**143.87 333**	*i* PKIKP	PKPdf	21 52 21.9	-2.2
BRG			*e*		21 52 28.2	
BRG			*e*		21 52 35.2	
BRG			pmax	pmax		
	comp=Z,16nm,1.3s					
BRG			pmax	pmax		
	comp=Z,7.0nm,0.8s					
BRG			pmax	pmax		
	comp=Z,15nm,1.2s					
CLL	**Collm**	**143.93 334**	*e*PKPbc	PKPdf	21 52 22.7	-1.5
CLL	**Collm**	**143.93 334**⇓	*i* PKPdf	PKPdf	21 52 21.8	-2.4
	comp=Z,78nm,2.1s					
CLL			*e*PKiKP	PKiKP	21 52 28.0	+0.3
CLL			*e*(pPKPdf)		21 52 35.0	
CLL			*es*PKPdf		21 52 42.0	
CLL			*e*PP	PP	21 55 40.0	+2.4
CLL			LmV		23 04 00.0	
	comp=Z,200nm,18.4s					
PRU	**Pruhonice**	**144.26 332**	*e*PKP	PKPdf	21 52 23.9	-0.9
PRU			*ex*	x	21 52 29.3	
OUR	**Ouranopolis**	**144.29 312**	*e*P	PKPdf	21 52 22.7	-2.1
ZST	**Bratislava**	**144.29 327**	*e*PKP	PKPdf	21 52 24.2	-0.6
TREC	**Trest**	**144.33 330**	*e*PKP	PKPdf	21 52 24.3	-0.6
TREC			*ex*	x	21 52 29.7	
CLZ	**Clausthal**	**144.52 337**	*e*PKPbc	PKPdf	21 52 24.6	-0.6
SOH	**Sokhos**	**144.53 313**	*e*P	PKPdf	21 52 22.9	-2.4
KNT	**Kendrikon**	**144.70 313**	*e*P	PKPdf	21 52 23.5	-2.0
NPS	**Neapolis**	**144.73 303**	*e*P	PKPdf	21 52 25.0	-0.6
XRY	**Khrisi**	**144.77 302**	*e*P	PKPdf	21 52 31.0	+5.4
TANN	**Tannenbergstha**	**144.84 334**	*e*PKPbc	PKPdf	21 52 24.5	-1.3
VAY	**Valandovo**	**144.85 314**	*e*P	PKPdf	21 52 23.8	-2.0
VAY	**Valandovo**	**144.85 314**	*e*PKP	PKPdf	21 52 23.9	-1.9
LAST	**Lasithi**	**144.87 302**	*e*P	PKPdf	21 52 24.0	-1.8
BWH	**Wardlaw**	**144.87 353**	*e*P	PKPdf	21 52 24.1	-1.7
THE	**Thessaloniki**	**144.88 313**	*e*P	PKPdf	21 52 23.6	-2.3
GMK	**Mull of Kintyr**	**144.90 355**	*e*P	PKPdf	21 52 23.9	-2.0
NKC	**Novy Kostel**	**144.98 334**	*e*PKP	PKPdf	21 52 25.3	-0.7
NKC			*ex*	x	21 52 30.6	
NKC			*ex*	x	21 53 23.2	
NKC	**Novy Kostel**	**144.98 334**	*e*PKIKP	PKPdf	21 52 25.3	-0.7
NKC			*e*		21 52 30.6	
MOX	**Moxa**	**145.00 335**	*e*PKPbc	PKPbc	21 52 25.2	-0.2
MOX	**Moxa**	**145.00 335**	*e*PKP	PKPdf	21 52 25.3	-0.7
	comp=Z,75nm,1.5s					
MOX			*e*		21 52 31.6	
MOX			*e*		21 53 22.9	
MOX						
	comp=Z,200nm,20.0s					
MOX	**Moxa**	**145.00 335**	*e*PKIKP	PKPdf	21 52 25.3	-0.7
MOX			*e*		21 52 31.6	
MOX			pmax	pmax		
	comp=Z,75nm,1.5s					
MOX			MLR	MLR		
	comp=Z,200nm,20.0s,MS4.9					
IBBN	**Ibbenburen**	**145.03 340**	*e*PKPbc	PKPbc	21 52 25.3	-0.1
RHK1	**Bakonya**	**145.11 324**⇑	*e*P	PKPbc	21 52 25.8	+0.1
GRG	**Griva**	**145.12 313**	*e*P	PKPbc	21 52 25.1	-0.6
DIVS	**Divcibare**	**145.14 320**	*i* P	PKPbc	21 52 26.3	+0.5
DIVS	**Divcibare**	**145.14 320**	*e*P	PKPbc	21 52 25.8	0.0
GCL	**Cushendall**	**145.21 355**	*e*P	PKPbc	21 52 24.8	-1.2
XOR	**Xorichti**	**145.23 310**	*e*P	PKPbc	21 52 25.1	-1.0
BBO1	**Bothel**	**145.25 352**	*e*P	PKPbc	21 52 25.0	-1.2
LWH	**Whinny Nab**	**145.26 350**	*e*P	PKPbc	21 52 25.7	-0.5
GAL1	**Galloway**	**145.29 354**	*e*P	PKPbc	21 52 25.9	-0.5
SKO	**Skopje**	**145.31 316**	*e*P	PKPbc	21 52 26.0	-0.4
SKO	**Skopje**	**145.31 316**	*e*PKP	PKPdf	21 52 27.4	+0.8
KHC	**Kasperske Hory**	**145.32 331**	*e*PKP	PKPdf	21 52 26.0	-0.6
KHC			*ex*	x	21 52 32.4	
KHC			*ex*	x	21 53 24.5	
KHC	**Kasperske Hory**	**145.32 331**	*e*PKIKP	PKPdf	21 52 26.0	-0.6
KHC			*e*		21 52 32.4	
CKE	**Keswick**	**145.38 352**	*e*P	PKPbc	21 52 26.2	-0.3
LIT	**Litokhoron**	**145.43 312**	*e*P	PKPbc	21 52 25.9	-0.8
SIVA	**Sivas**	**145.43 302**	*e*P	PKPbc	21 52 27.2	+0.4
ROTZ	**Rotzenmuhle**	**145.44 333**	*e*PKPbc	PKPbc	21 52 26.7	-0.1
GERES	**GERESS Array B**	**145.47 331**	PKPbc	PKPbc	21 52 26.0	-0.9
	comp=Z,5.1nm,0.7s,baz=38,slow=3.8,SNR=32					
UBBA	**Unterbreizbach**	**145.49 336**	*e*PKPbc	PKPbc	21 52 26.8	-0.1
XDE	**Dent Fell**	**145.51 352**⇓	*e*P	PKPdf	21 52 25.9	-1.0
XDE			AMb	AMB	21 52 28.3	
	comp=Z,278nm,1.4s					
WET	**Wettzell**	**145.62 332**	*e*PKPbc	PKPbc	21 52 27.0	-0.4
WTSB	**Winterswijk**	**145.63 341**⇑	*i* PKP	PKPdf	21 52 27.2	+0.1
	comp=Z,86nm,1.9s					
ARSA	**Arzberg**	**145.72 327**⇑	*i* P	PKPdf	21 52 27.4	+0.1
	comp=Z,218nm,2.5s,SNR=13					
ARSA	**Arzberg**	**145.72 327**⇑	*i* P	PKPdf	21 52 27.4	+0.1
VAM	**Vamos**	**145.81 303**	*e*P	PKPdf	21 52 30.0	+2.6
GIM	**North Isle of**	**145.83 353**	*e*P	PKPdf	21 52 27.0	-0.5
KOGS	**Kog**	**145.87 326**	*e*PKP	PKPdf	21 52 27.9	+0.4
FNA	**Florina**	**145.90 314**	*e*P	PKPdf	21 52 25.6	-2.0
GRF	**Grafenberg Arr**	**145.91 334**	*e*PKPbc	PKPbc	21 52 28.4	+0.2
MOA	**Molln**	**145.92 329**⇑	*i* P	PKPdf	21 52 28.6	+1.0
	comp=Z,206nm,2.4s,SNR=12					
BUG	**Bochum--Univer**	**145.93 340**	*e*PKPbc	PKPbc	21 52 28.6	+0.3
AGG	**Agios Georgios**	**145.98 310**	*e*P	PKPdf	21 52 27.4	-0.3
WIM	**Isle of Man**	**146.00 353**	*e*P	PKPdf	21 52 27.6	-0.1
WIM			AMb	AMB	21 52 29.2	
	comp=Z,173nm,1.2s					
KARN	**Karanos**	**146.03 303**	*e*P	PKPdf	21 52 27.2	-0.6
GVD	**Gavdhos**	**146.05 302**	*e*P	PKPdf	21 52 35.5	+7.7
GVD	**Gavdhos**	**146.05 302**	*e*PKPdf	PKPdf	21 52 27.7	-0.1
LHO	**Holmfirth**	**146.21 350**	*e*P	PKPdf	21 52 27.9	-0.2
PERS	**Pernice**	**146.34 327**	*i* PKPdf	PKPdf	21 52 30.1	+1.8
VLI	**Veliai**	**146.38 306**	*e*P		21 52 39.0	
EVR	**Evrytania**	**146.39 310**	*e*P	PKPdf	21 52 31.0	+2.6
KYTH	**Kithira**	**146.44 305**	*e*P	PKPdf	21 52 31.0	+2.5
TNS	**Taunus Mts**	**146.55 337**	*e*PKPbc	PKPbc	21 52 30.5	+0.3
WCB1	**Church Bay**	**146.74 353**	*e*P	PKPdf	21 52 29.6	+0.6
WCB1			AMb	AMB	21 52 31.2	
	comp=Z,84nm,1.6s					
WPM1	**Penmaenmawr**	**146.78 352**	*e*P	PKPdf	21 52 30.0	+0.9
WPM1			AMb	AMB	21 52 31.7	
	comp=Z,126nm,0.8s					
WLF1	**Llynfaes**	**146.81 353**	*e*P	PKPdf	21 52 29.9	+0.8
WLF1			AMb	AMB	21 52 31.2	
	comp=Z,97nm,0.8s					
YRC	**Rhoscolyn**	**146.87 353**	*e*P	PKPdf	21 52 30.1	+0.9
YRC			AMb	AMB	21 52 31.2	
	comp=Z,122nm,0.8s					
TOD	**Tromm**	**146.92 336**	PKP2	PKPab	21 52 31.3	-1.3
HGN	**Heimansgroeve**	**146.94 340**⇑	*i* PKP	PKPdf	21 52 30.7	+1.3
	comp=Z,72nm,3.2s					
ITM	**Ithomi**	**146.97 307**	*e*P	PKPdf	21 52 32.5	+3.1
BEBN	**Eben Emael**	**146.99 341**	PKPab	PKPab	21 52 32.6	-0.3
DLF	**Lyons Farm**	**147.01 355**	*e*P	PKPdf	21 52 30.3	+0.8
BOJS	**Bojanci**	**147.01 325**	*e*PKPdf	PKPdf	21 52 31.8	+2.4
DCN	**Croghan**	**147.01 356**	*e*P	PKPdf	21 52 30.5	+1.0
SBD1	**Bryn Du**	**147.04 352**	*e*P	PKPdf	21 52 30.7	+1.2
SBD1			AMb	AMB	21 52 32.6	
	comp=Z,115nm,1.1s					
MEM	**Membach**	**147.05 340**	PKPab	PKPab	21 52 31.4	-1.7
MEM			E		21 53 27.6	
FUR	**Furstenfeldbru**	**147.06 332**	*e*PKPbc	PKPbc	21 52 32.4	+0.8
YRE	**Yr Eifl**	**147.12 353**	*e*P	PKPdf	21 52 31.1	+1.5
YRE			AMb	AMB	21 52 33.0	
	comp=Z,107nm,1.1s					
ABH	**Alteburg**	**147.15 338**	PKP	PKPdf	21 52 32.0	+2.3
IGT	**Igoumenitsa**	**147.17 312**	*e*P	PKPdf	21 52 31.0	+1.2
HLM1	**Long Mynd**	**147.36 351**	*e*P	PKPdf	21 52 30.5	+0.4
HLM1			AMb	AMB	21 52 33.4	
	comp=Z,69nm,1.7s					
VOY	**Vojsko**	**147.37 327**	*e*PKPdf	PKPdf	21 52 30.7	+0.6
VOY			*e*		21 52 34.5	
VOY			*e*		21 52 39.3	
VOY			*e*		21 53 33.4	
UCC	**Uccle**	**147.39 342**	PKPab	PKPab	21 52 32.9	-1.6
UCC			E		21 52 38.7	
BCLA	**Clavier**	**147.44 341**	PKPab	PKPab	21 52 32.3	-2.3
BCLA			APKPab		21 52 54.3	
STU	**Stuttgart**	**147.45 335**	*e*PKPbc	PKPbc	21 52 32.9	+0.2
STU	**Stuttgart**	**147.45 335**	*e*PKPbc	PKPbc	21 52 32.7	0.0
RUP	**Ruppelstein**	**147.48 338**	PKP2	PKPab	21 52 33.0	-1.8
SSP1	**Stoney Pound**	**147.49 351**	*e*P	PKPdf	21 52 31.5	+1.2
VLS	**Valsamata**	**147.57 310**	*e*P		21 52 45.0	
WTTA	**Wattenberg**	**147.57 331**	*i* P	PKPbc	21 52 33.1	+0.1
	comp=Z,109nm,2.3s,SNR=7.0					
SNF	**Seneffe**	**147.67 342**	PKPab	PKPab	21 52 33.8	-1.7
MOTA	**Moosalm**	**147.75 332**	*i* P	PKPbc	21 52 33.3	-0.2
	comp=Z,8.4nm,0.9s,SNR=12					
SQTA	**Sankt Quirin**	**147.80 331**	*i* P	PKPbc	21 52 33.5	-0.1
	comp=Z,8.7nm,0.8s,SNR=12					
LANF	**Langenberg**	**147.81 337**	PKP	PKPbc	21 52 33.9	+0.2
WLF	**Walferdange**	**147.82 339**	*e*PKPbc	PKPbc	21 52 33.9	+0.2
WLF	**Walferdange**	**147.82 339**	PKPab	PKPab	21 52 34.0	-2.1
WLF			E		21 52 39.8	
WLF	**Walferdange**	**147.82 339**	*e*PKPbc	PKPbc	21 52 34.1	+0.4
GIVF	**Givet**	**147.87 341**	*e*PKP1	PKPbc	21 52 33.1	-0.7
	comp=Z,90nm,1.0s					
MCH1	**Michaelchurch**	**147.89 351**	*e*P	PKPdf	21 52 32.3	+1.3
DOU	**Dourbes**	**147.94 341**	PKPbc	PKPbc	21 52 33.7	-0.3
DOU			PKPab	PKPab	21 52 34.8	-1.8
DOU			E		21 52 36.3	
DOU			E		21 52 40.1	
BAIF	**Baives**	**148.09 342**	*e*PKP1	PKPbc	21 52 34.3	-0.1
	comp=Z,64nm,1.0s					
BFO	**Black Forest**	**148.15 335**	*e*PKPbc	PKPbc	21 52 34.1	-0.5
BFO	**Black Forest**	**148.15 335**	*e*PKPbc	PKPbc	21 52 33.9	-0.7
MENF	**Mencas**	**148.21 344**	PKP	PKPbc	21 52 34.2	-0.5
DAVA	**Damuels**	**148.34 333**⇑	*i* P	PKPbc	21 52 34.8	-0.3
	comp=Z,271nm,2.9s,SNR=5.5					
WLS	**Welschbruch**	**148.45 337**	PKP	PKPbc	21 52 36.0	+0.6
CTI	**Castel Tesino**	**148.46 329**	P	PKPdf	21 52 23.3	-8.6
CDF	**Champ du Feu**	**148.48 337**	*e*PKP1	PKPbc	21 52 34.7	-0.8
	comp=Z,62nm,1.0s					
FELD	**Feldberg im Sc**	**148.64 335**	PKP	PKPbc	21 52 35.5	-0.4
ECH	**Echery**	**148.69 337**	PKP	PKPbc	21 52 35.3	-0.7
DAVOX	**Davos**	**148.73 332**	PKPbc	PKPbc	21 52 35.9	-0.2
	comp=Z,18nm,0.7s,baz=84,slow=2.3,SNR=28					
BRMO	**Bormio**	**148.74 331**	P	PKPdf	21 52 33.6	+1.3
MOF	**Molkenrain**	**149.00 336**	PKP	PKPbc	21 52 36.5	-0.3
THEF	**They Montfort**	**149.10 338**	PKP	PKPbc	21 52 37.4	+0.4
HINF	**Hinteralfeld**	**149.13 336**	*e*PKP1	PKPbc	21 52 36.6	-0.5
HAU	**Haudompre**	**149.16 337**	*e*PKP1	PKPbc	21 52 37.4	+0.2
	comp=Z,52nm,1.0s					
HAU			*e*R			
	comp=Z,121nm,22.2s					
HAU	**Haudompre**	**149.16 337**	*e*PKP	PKPbc	21 52 37.4	+0.2
HAU			LR	LR		
	comp=Z,120nm,22.3s,MS4.6					
BBS	**Basel-Blauen**	**149.17 335**	PKIKP	PKPdf	21 52 34.1	+1.1
RGNG	**Rignano Grg**	**149.18 319**	P	PKPdf	21 52 36.4	+3.4
MEZF	**Maizieres J'vi**	**149.19 339**	*e*PKP1	PKPbc	21 52 36.9	-0.4
	comp=Z,31nm,0.9s					
TUE	**Stuetta**	**149.20 332**	P	PKPbc	21 52 37.8	+0.5
LOMF	**Lomont**	**149.53 336**	PKP	PKPbc	21 52 38.1	0.0
ARV	**Arcevia**	**149.58 325**	P	PKPbc	21 52 39.2	+1.0
TIP	**Timpagrande**	**149.78 314**	*e*PKPbc	PKPbc	21 52 38.9	+0.1
SFI	**Santa Sofia**	**149.88 326**	PKP2	PKPbc	21 52 39.8	+0.8
NRCA	**Norcia**	**149.92 323**	P	PKPbc	21 52 39.1	0.0
SGO	**Sicignano**	**149.99 318**	P	PKPbc	21 52 39.3	+0.1
ZCCA	**Zocca**	**150.02 328**	P	PKPbc	21 52 40.2	+0.9
MCGN	**Macugnaga**	**150.19 333**	P	PKPbc	21 52 40.1	+0.4
GSCL	**Gusciola**	**150.21 328**	P	PKPbc	21 52 40.0	+0.2
CABF	**La Chapelle**	**150.42 336**	*e*PKP1	PKPbc	21 52 39.7	-0.6
	comp=Z,162nm,1.6s					
OG01	**Vacheresse**	**150.43 335**	PKP	PKPbc	21 52 42.5	+2.2
ORO	**Oropa**	**150.45 333**	P	PKPbc	21 52 40.2	-0.1
MNS	**Montasola**	**150.45 323**	P	PKPab	21 52 46.1	-0.7
BOB	**Bobbio (Coli)**	**150.45 330**	P	PKPbc	21 52 40.3	-0.1
FLN	**La Foliniere**	**150.51 346**	*e*PKP1	PKPbc	21 52 39.9	-0.6
FLN			*e*R			
	comp=Z,215nm,22.0s					
FLN	**La Foliniere**	**150.51 346**	*e*PKP	PKPbc	21 52 39.9	-0.6
FLN			LR	LR		
	comp=Z,220nm,22.0s,MS4.9					
LDF	**La Druitiere**	**150.59 345**	*e*PKP1	PKPbc	21 52 40.1	-0.6
LOR	**Lormes**	**150.66 339**	*e*PKP1	PKPbc	21 52 40.0	-0.8
	comp=Z,27nm,0.8s					
LOR			*e*R			
	comp=Z,150nm,22.8s					
LOR	**Lormes**	**150.66 339**	*e*PKP	PKPbc	21 52 40.0	-0.8
LOR			LR	LR		
	comp=Z,150nm,22.8s,MS4.7					
GRR	**Gorron**	**150.95 346**	*e*PKP1	PKPbc	21 52 40.8	-0.7
	comp=Z,12nm,0.6s					
SSF	**Saint Saulge**	**150.96 340**	*e*PKP1	PKPbc	21 52 40.8	-0.7
	comp=Z,61nm,1.0s					
LPL	**La Plagne**	**151.07 334**	*e*PKP1	PKPbc	21 52 41.5	-0.3
LPG	**La Plagne**	**151.07 334**	*e*PKP1	PKPbc	21 52 41.6	-0.2
	comp=Z,26nm,0.8s					
AVF	**Avril sur Loir**	**151.24 339**	*e*PKP1	PKPbc	21 52 41.7	-0.5
BNI	**Bardonecchia**	**151.47 333**	*e*PKPbc	PKPbc	21 52 42.1	-0.6
BGF	**Bois d'Agland**	**151.61 340**	*e*PKP1	PKPbc	21 52 42.6	-0.5
MBDF	**Montbardon**	**151.69 333**	*e*PKP1	PKPbc	21 52 43.1	-0.1
	comp=Z,14nm,0.7s					
ORIF	**Oris-en-Rattie**	**151.91 334**	*e*PKP1	PKPbc	21 52 43.1	-0.6
	comp=Z,16nm,0.7s					
ORIF			*e*R			
	comp=Z,117nm,22.5s					
AUTN	**L'Aution**	**151.98 331**	PKP	PKPdf	21 52 43.2	+5.8
TCF	**Toulx Ste Croi**	**152.06 340**	*e*PKP1	PKPbc	21 52 43.6	-0.5
	comp=Z,45nm,1.2s					
SBF	**Sospel**	**152.08 331**	*e*PKP1	PKPbc	21 52 43.7	-0.4
PYM	**Petit Puy Mans**	**152.27 339**	PKP	PKPbc	21 52 45.1	+0.5
PGF	**Pioggiola**	**152.31 327**	*e*PKP1	PKPbc	21 52 44.0	-0.7
	comp=Z,39nm,0.8s					
VIVF	**Saint-Julien-l**	**152.44 336**	*e*PKP1	PKPbc	21 52 44.7	-0.2
MFF	**Saint Martin d**	**152.45 344**	*e*PKP1	PKPbc	21 52 44.4	-0.6
	comp=Z,25nm,0.9s					
LBL	**Lubilhac**	**152.64 338**	PKP	PKPbc	21 52 46.7	+1.3
SMRF	**Simiane la Rot**	**152.80 333**	*e*PKP1	PKPbc	21 52 45.5	-0.2
LMR	**La Mourre**	**152.91 331**	*e*PKP1	PKPbc	21 52 45.5	-0.5
	comp=Z,28nm,1.0s					
LASF	**Ste Croix**	**153.41 336**	*e*PKP1	PKPbc	21 52 47.0	-0.1
	comp=Z,24nm,1.0s					
LFF	**La Frestale**	**153.72 341**	*e*PKP1	PKPbc	21 52 47.5	-0.3
ESDC	**Sonseca Array**	**159.91 344**	PKPab	PKPab	21 53 27.0	-0.2
	comp=Z,2.9nm,0.8s,baz=15,slow=3.6,SNR=8.8					
TORD	**Torodi Ar. Bea**	**165.97 241**	PKP	PKPdf	21 52 52.9	-0.8
	comp=Z,0.5nm,0.9s,baz=33,slow=1.3,SNR=2.7					
TORD			PKPab	PKPab	21 53 53.5	-0.3
	comp=Z,0.4nm,0.7s,baz=94,slow=3.2,SNR=2.7					

IDC 24 21:33:43.0±3.5, 2046S×16926E, h0km, mb4.6/2, mb1 4.8/2, mb1mx4.4/11, mbtmp4.6/2, MS5.0/2, Ms1 5.0/2, ms1mx4.1/9, Error ellipse: s-maj=148.2km s-min=120.3km az=171.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**88.20**	**323**	P	P	21 46 35.6	-0.3
	5.9nm,1.1s,baz=140,slow=6.1,SNR=3.7						
ILAR	**Eielson Array**	**91.38**	**17**	P	P	21 46 50.5	-0.4
	1.6nm,0.7s,baz=236,slow=5.3,SNR=3.4						
ARCES	**ARCESS Array B**	**126.25**	**345**	PKP	PKPdf	21 52 46.8	-0.7
	15nm,1.2s,baz=47,slow=2.1,SNR=4.4						
EKA	**Eskdalemuir Ar**	**144.71**	**353**	PKP	PKPdf	21 53 20.0	-1.7
	3.8nm,0.7s,baz=356,slow=2.3,SNR=6.4						
IBBN	**Ibbenburen**	**145.11**	**340**	*ep*PKPbc		21 53 22.2	
GERES	**GERESS Array B**	**145.57**	**331**	PKPbc	PKPbc	21 53 22.4	-0.9
	3.2nm,0.7s,baz=46,slow=4.2,SNR=2.8						
GRF	**Grafenberg Arr**	**146.00**	**334**	*ep*PKPbc		21 53 25.1	
DLF	**Lyons Farm**	**147.06**	**355**	*e*P	PKPab	21 53 26.4	-2.9
DCN	**Croghan**	**147.06**	**356**	*e*P	PKPab	21 53 28.0	-1.3
WLF				E		21 53 36.8	
WLF	**Walferdange**	**147.90**	**339**	E	PKPab	21 53 30.6	-2.0
GIVF	**Givet**	**147.94**	**341**	*e*PKP1	PKPbc	21 53 29.7	-0.5
DOU				E		21 53 36.8	
DOU	**Dourbes**	**148.02**	**341**	E	PKPbc	21 53 30.4	0.0
BAIF	**Baives**	**148.17**	**342**	*e*PKP1	PKPbc	21 53 30.4	-0.4
	38nm,1.0s						
CDF	**Champ du Feu**	**148.56**	**337**	*e*PKP1	PKPbc	21 53 31.1	-0.7
DAVOX	**Davos**	**148.82**	**332**	PKPbc	PKPbc	21 53 32.8	+0.3
	11nm,0.7s,baz=27,slow=1.9,SNR=2.3						
HAU	**Haudompre**	**149.25**	**337**	*e*PKP1	PKPbc	21 53 33.6	0.0
	25nm,1.0s						
MEZF	**Maizieres J'vi**	**149.27**	**339**	*e*PKP1	PKPbc	21 53 33.3	-0.3
CABF	**La Chapelle**	**150.51**	**336**	*e*PKP1	PKPbc	21 53 36.9	+0.3
	19nm,0.9s						
FLN	**La Foliniere**	**150.58**	**346**	*e*PKP1	PKPbc	21 53 36.6	-0.2
LOR	**Lormes**	**150.74**	**339**	*e*PKP1	PKPbc	21 53 37.1	-0.1
	14nm,0.9s						
SSF	**Saint Saulge**	**151.04**	**340**	*e*PKP1	PKPbc	21 53 37.9	0.0
LPL	**La Plagne**	**151.16**	**334**	*e*PKP1	PKPbc	21 53 38.9	+0.7
	10nm,0.7s						
LPG	**La Plagne**	**151.16**	**334**	*e*PKP1	PKPbc	21 53 38.9	+0.7
	16nm,0.8s						
ORIF	**Oris-en-Rattie**	**151.99**	**334**	*e*PKP1	PKPbc	21 53 40.8	+0.7
	22nm,0.9s						
TCF	**Toulx Ste Croi**	**152.14**	**341**	*e*PKP1	PKPbc	21 53 41.0	+0.6
ESDC	**Sonseca Array**	**159.98**	**345**	PKPab	PKPab	21 54 23.8	+0.2
	1.7nm,0.7s,baz=5.2,slow=4.1,SNR=4.9						

*ISCJB **24** 21:34:25.3±0.5, 2316S×1005E×12997E±004, h10km, Error ellipse: s-maj=6.7km s-min=4.7km az=152.1*
*IDC **24** 21:34:27.0±2.4, 2320S×12999E, h0km, mb1 4.2/5, mb1mx4.0/13, mbtmp4.1/5, ML3.9/4, Error ellipse: s-maj=33.3km s-min=27.6km az=16.0*
*AUST **24** 21:34:30.6, 2301S×13004E, h0km, ML3.9*
*NEIC **24** 21:34:30.0, 2301S×13004E, h0km, ML3.9(AUST), After AUST.*

ISC 24 21:34:27.7±0.5, 2320S±004×12998E±003, h10km, n27, σ1°58/53, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASPA	**Alice Springs**	**3.63**	**98**	*e*P	**Pn**	**21 35 26.8**	**+2.9**
ASPA				*e*S	**Sn**	**21 36 07.8**	**+1.1**
ASAR	**Alice Springs**	**3.63**	**98**	Pn	**Pn**	**21 35 26.6**	**+2.7**
	3.4nm,0.3s,baz=282,slow=13,SNR=120						
ASAR				Lg		21 36 15.9	
	90nm,0.3s,baz=299,slow=28,SNR=40						
AS31	**Alice Springs**	**3.63**	**98**	*e*P	**Pn**	**21 35 26.8**	**+2.9**
AS31				*e*S	**Sn**	**21 36 07.8**	**+1.0**
WRA	**Warramunga Arr**	**5.19**	**52**	Pn	**Pn**	**21 35 44.1**	**-1.3**
	4.5nm,0.3s,baz=234,slow=13,SNR=358						
WRA				Pg	**Pg**	**21 36 01.6**	**-5.5**
	9.8nm,0.3s,baz=234,slow=18,SNR=32						
WRA				Sn	**Sn**	**21 36 39.5**	**-5.8**
	6.6nm,0.3s,baz=236,slow=24,SNR=5.0						
WRA				Lg		21 37 00.6	
	21nm,0.3s,baz=236,slow=28,SNR=14						
WB2	**Warramunga Arr**	**5.20**	**52**	*e*P	**Pn**	**21 35 44.2**	**-1.3**
WB2				*e*S	**Sn**	**21 36 40.2**	**-5.3**
WRAB	**Tennant Creek**	**5.21**	**52**	*e*P	**Pn**	**21 35 44.4**	**-1.1**
	58nm,0.4s						
FITZ	**Fitzroy Crossi**	**6.50**	**321**	*e*P	**Pn**	**21 36 05.3**	**+1.9**
	22nm,0.6s						
FITZ				*e*S	**Sn**	**21 37 17.2**	**-0.5**
	21nm,0.4s						
FITZ	**Fitzroy Crossi**	**6.50**	**321**	Pn	**Pn**	**21 36 05.6**	**+2.1**
	1.0nm,0.3s,baz=148,slow=16,SNR=52						
FITZ				Sn	**Sn**	**21 37 16.8**	**-0.8**
	2.1nm,0.3s,baz=45,slow=17,SNR=3.3						
FORT	**Forrest**	**7.74**	**192**	*e*P	**Pn**	**21 36 26.4**	**+6.1**
FORT				*e*S	**Sn**	**21 37 52.4**	**+4.4**
	59nm,0.6s						
FORT	**Forrest**	**7.74**	**192**	*e*P	**Pn**	**21 36 26.4**	**+6.1**
	59nm,0.6s						
FORT				*e*S	**Sn**	**21 37 52.4**	**+4.4**
QIS	**Mount Isa**	**9.31**	**75**	*e*P	**Pn**	**21 36 40.9**	**-1.1**

	22nm,0.7s						
SSF	**Saint Saulge**	**145.15 341**	*e*PKIKP	PKPdf		22 14 56.7	+1.5
	22nm,0.8s						
LPL	**La Plagne**	**145.31 336**	*e*PKIKP	PKPdf		22 14 56.9	+1.5
LPG	**La Plagne**	**145.32 336**	*e*PKIKP	PKPdf		22 14 57.0	+1.6
	7.9nm,0.7s						
SMF	**Signal de Mont**	**145.40 340**	*e*PKIKP	PKPdf		22 14 56.9	+1.3
SGMF	**Saint Gilles**	**145.63 348**	*e*PKIKP	PKPdf		22 14 57.6	+1.6
ROSF	**Rostrenen**	**145.69 349**	*e*PKIKP	PKPdf		22 14 57.8	+1.7
BGF	**Bois d'Agland**	**145.80 341**	*e*PKIKP	PKPdf		22 14 57.9	+1.6
MBDF	**Montbardon**	**145.94 335**	*e*PKIKP	PKPdf		22 14 58.4	+1.9
ORIF	**Oris-en-Rattie**	**146.14 336**	*e*PKIKP	PKPdf		22 14 58.7	+1.8
	12nm,0.8s						
TCF	**Toulx Ste Croi**	**146.24 341**	*e*PKIKP	PKPdf		22 14 58.8	+1.8
	32nm,1.4s						
SBF	**Sospel**	**146.37 333**	*e*PKIKP	PKPdf		22 14 58.8	+1.6
MFF	**Saint Martin d**	**146.63 344**	*e*PKIKP	PKPdf		22 14 59.1	+1.4
PGF	**Pioggiola**	**146.68 330**	*e*PKIKP	PKPdf		22 14 59.3	+1.5
FRF	**La Foret Royal**	**146.95 334**	*e*PKIKP	PKPdf		22 14 59.8	+1.6
LMR	**La Mourre**	**147.19 334**	*e*PKIKP	PKPdf		22 15 00.0	+1.4
RJF	**Les Rejaudoux**	**147.34 341**	*e*PKIKP	PKPdf		22 15 00.6	+1.7
CAF	**Calviac**	**147.50 340**	*e*PKIKP	PKPdf		22 15 00.8	+1.7
	4.7nm,0.6s						
LASF	**Ste Croix**	**147.63 338**	*e*PKIKP	PKPdf		22 15 00.9	+1.6
	51nm,1.6s						

ISC 24 22:09:39.0±0.8, 3820N±004×2676E±005, h10km, n8, σ0⁶65/15, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.20**	**321**	*i* P	**Pg**	**22 09 42.4**	**-0.9**
URLA				*i* S	**Sg**	**22 09 45.8**	**-0.4**
IZM	**Izmir**	**0.44**	**64** PG		**Pg**	**22 09 47.2**	**-0.5**
IZM			SG		**Sg**	**22 09 52.9**	**-0.6**
KDAG	**Bornova**	**0.45**	**63** *i* P		**Pg**	**22 09 47.4**	**-0.4**
KDAG				*i* S	**Sg**	**22 09 53.2**	**-0.5**
AYDN	**Tasoluk**	**1.04**	**121** *i* P		**Pg**	**22 09 58.6**	**-0.4**
AYDN				*i* S	**Sg**	**22 10 12.0**	**-0.5**
AKS	**Akhisar**	**1.07**	**50** *e*PG		**Pg**	**22 10 00.3**	**+0.7**
AYVA	**Ayvalik**	**1.11**	**357** *i* P		**Pb**	**22 10 00.0**	**-0.2**
AYVA				*i* S	**Sg**	**22 10 15.8**	**+1.2**
BDRM	**Kayabasi**	**1.26**	**154** *i* P		**Pn**	**22 10 03.2**	**+0.6**
BDRM				*i* S	**Sb**	**22 10 19.5**	**+0.4**
MANT	**Manisa**	**1.44**	**78** *i* P		**Pn**	**22 10 05.8**	**+0.6**
MANT				*i* S	**Sn**	**22 10 25.3**	**+1.1**

IDC 24 22:12:32.5±104.0, 15.19S×175.23E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/12, mbtmp3.9/3, Error ellipse: s-maj=1817.0km s-min=149.1km az=71.0

NEIC 24 22:12:49.4±8.3, 1565S×17385E, h35km, mb4.2/2, Error ellipse: s-maj=149.0km s-min=25.5km az=64.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**14.90**	**293**	*e*Pn	Pn	22 16 17.3	-0.2
	19nm,0.4s						
CTAO	**Charters Tower**	**26.61**	**256**	*e*P	P	22 18 25.9	+1.4
	9.1nm,1.1s						
PMG	**Port Moresby**	**26.76**	**280**	*e*P	P	22 18 26.2	+0.4
STKA	**Stephens Creek**	**33.48**	**235**	P	P	22 19 24.9	-0.3
	2.4nm,0.8s,baz=56,slow=11,SNR=4.2						
STKA	**Stephens Creek**	**33.48**	**235**	*e*P	P	22 19 24.7	-0.5
WRAB	**Tennant Creek**	**37.79**	**258**	*e*P	P	22 20 02.5	+0.3
	1.7nm,0.6s						
WRA	**Warramunga Arr**	**37.80**	**258**	P	P	22 20 02.9	+0.7
	0.4nm,0.4s,baz=87,slow=8.7,SNR=22						
ASAR	**Alice Springs**	**38.35**	**252**	P	P	22 20 07.2	+0.2
	0.8nm,0.5s,baz=78,slow=9.1,SNR=11						
FITZ	**Fitzroy Crossi**	**46.09**	**260**	*e*P	P	22 21 15.6	+5.6
	9.8nm,0.7s						
MBWA	**Marble Bar**	**51.44**	**255**	*e*P	P	22 21 51.6	+0.6

IDC 24 22:14:22.2±2.5, 1366S×16730E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/14, mbtmp4.0/5, MS3.4/3, Ms1 3.4/3, ms1mx2.9/21, Error ellipse: s-maj=103.5km s-min=30.3km az=137.0

ISCJB 24 22:14:25.0±0.8, 137S±02×1673E±0.1, h35km, mb4.0/7, MS3.3/3, Error ellipse: s-maj=25.5km s-min=14.2km az=164.6

NEIC 24 22:14:27.1±0.7, 1369S×16732E, h35km, mb4.1/3, Error ellipse: s-maj=20.0km s-min=10.7km az=172.0

ISC 24 22:14:27.3±4.8, 137S±02×1673E±01, h36km±49km, n14, σ0⁶53/13, mb4.0/7, MS3.3/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**20.22**	**280**	P	**P**	**22 18 58.6**	**-0.5**
AFI	**Afiamalu**	**20.29**	**93**	P	**P**	**22 18 59.9**	**0.0**
CTA	**Charters Tower**	**21.14**	**250**	P	**P**	**22 19 10.8**	**+1.7**
	5.9nm,0.9s,mb3.9,baz=73,slow=14,SNR=5.6						
CTA				LR	LR	22 25 55.4	
	comp=Z,80nm,20.0s,MS3.1,baz=78,slow=33						
CTAO	**Charters Tower**	**21.14**	**250**	*e*P	**P**	**22 19 08.3**	**-0.7**
	8.2nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**29.72**	**228**	P	**P**	**22 20 30.2**	**+0.2**
	6.5nm,0.7s,mb4.5,baz=43,slow=8.1,SNR=16						
STKA				LR	LR	22 31 04.6	
	comp=Z,108nm,19.5s,MS3.5,baz=214,slow=34						
STKA	**Stephens Creek**	**29.72**	**228**	P	**P**	**22 20 30.2**	**+0.2**
STKA				LR	LR	22 31 04.6	
WRAB	**Tennant Creek**	**32.14**	**254**	*e*P	**P**	**22 20 51.6**	**+0.3**
	0.6nm,0.4s,mb3.8						
WRA	**Warramunga Arr**	**32.15**	**254**	P	**P**	**22 20 51.4**	**0.0**
	0.6nm,0.6s,mb3.6,baz=86,slow=9.3,SNR=7.2						
ASAR	**Alice Springs**	**33.11**	**248**	P	**P**	**22 20 59.1**	**-0.7**
	0.8nm,0.6s,mb3.8,baz=74,slow=9.4,SNR=4.6						
TAU	**Tasmania Unive**	**33.84**	**207**	P	**P**	**22 21 06.5**	**+0.3**
FITZ	**Fitzroy Crossi**	**40.28**	**258**	LR	LR	22 37 59.2	
	comp=Z,52nm,19.9s,MS3.4,baz=288,slow=35						
MBWA	**Marble Bar**	**45.89**	**254**	*e*P	**P**	**22 22 46.4**	**+0.3**
SBA	**Scott Base**	**64.16**	**180**	*e*P	**P**	**22 24 57.5**	**-0.6**
	1.3nm,0.7s,mb4.1						
ILAR	**Eielson Array**	**85.53**	**18**	P	**P**	**22 27 01.9**	**+0.3**
	0.5nm,0.6s,mb3.9,baz=238,slow=5.3,SNR=5.2						

IDC 24 22:21:41.7±2.3, 019N×9828E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/18, mbtmp3.9/4, ML2.3/1, Error ellipse: s-maj=82.4km s-min=22.4km az=61.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.67**	**14**	P	Pn	22 22 25.2	-0.8
	0.5nm,0.3s,baz=180,slow=20,SNR=4.7						
WRA	**Warramunga Arr**	**40.59**	**122**	P	P	22 29 23.6	+0.5
	0.8nm,0.5s,baz=302,slow=9.0,SNR=7.7						
ASAR	**Alice Springs**	**41.93**	**127**	P	P	22 29 34.1	+0.1
	0.2nm,0.3s,baz=298,slow=7.7,SNR=4.5						
MKAR	**Makanchi Array**	**48.48**	**345**	P	P	22 30 25.2	-0.9
	0.9nm,0.5s,baz=159,slow=8.3,SNR=5.5						
ZAL	**Zalesovo**	**54.72**	**350**	P	P	22 31 13.3	+0.6
	2.1nm,0.4s,baz=324,slow=7.2,SNR=6.6						

NEIC 24 22:35:14.5±1.4, 1368N×14582E, h20km, Error ellipse: s-maj=26.9km s-min=17.1km az=216.0

NEIC Felt at Agana Heights, Mangilao and Yigo.

IDC 24 22:35:22.9±0.9, 1356N×14489E, h57km±11km, mb3.3/3, mb1 3.6/3, mb1mx3.3/17, mbtmp3.6/3, MS3.4/2, Ms1 3.4/2, ms1mx2.7/14, Error ellipse: s-maj=28.4km s-min=5.8km az=147.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.03**	**328**	P	Pn	22 35 31.9	+0.5
	2µm,0.3s,baz=143,slow=4.4,SNR=748						
GUMO				S	Sn	22 35 38.3	+0.8
	2µm,0.3s,baz=41,slow=19,SNR=102						
GUMO	**Guam**	**0.03**	**328**	P	Pn	22 35 31.9	+0.5
GUMO				S	Sn	22 35 38.3	+0.8
MJAR	**Matsushiro Arr**	**23.65**	**347**	LR	LR	22 49 28.1	
	comp=Z,82nm,18.6s,baz=160,slow=36						
HNR	**Honiara**	**27.30**	**146**	LR	LR	22 49 40.1	
	comp=Z,72nm,18.5s,baz=357,slow=31						
WRA	**Warramunga Arr**	**34.88**	**198**	P	P	22 42 08.5	-0.2
	1.0nm,0.4s,baz=20,slow=8.8,SNR=11						
ASAR	**Alice Springs**	**38.53**	**196**	P	P	22 42 39.5	-0.2
	1.4nm,1.0s,baz=21,slow=13,SNR=6.8						

STKA	**Stephens Creek**	**45.29**	**184**	P	P	22 43 31.8	-3.0
	3.1nm,0.8s,baz=32,slow=10,SNR=4.2						
MKAR	**Makanchi Array**	**61.52**	**316**	P	P	22 45 34.0	+0.1
	0.2nm,0.6s,baz=84,slow=7.6,SNR=4.1						

NEIC 24 22:39:38.6, 1655N×9844W, h20km, MD3.8(MEX), After MEX.

MEX 24 22:39:37.5±1.1, 1658N×9847W, h4km±12km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.38**	**120**	*i* P	Pg	22 39 44.5	-0.4
PNIG				*i* S	Sg	22 39 50.3	+0.5
UTMO	**Huajuapan**	**1.40**	**27**	*i* P	Pn	22 39 59.7	-4.1
UTMO				*i* S	Sb	22 40 17.1	-5.2
ACX	**Acapulco**	**1.41**	**282**	*i* P	Pn	22 40 01.0	-3.0
ACX				*i* S	Sb	22 40 17.5	-5.3
MEIG	**Mezcala**	**1.73**	**321**	*i* P	Pn	22 40 05.5	-2.8
MEIG				*i* S	Sn	22 40 26.8	-4.1
VHO	**Vista Hermosa**	**1.74**	**73**	*i* P	Pn	22 40 05.2	-3.3
VHO				*i* S	Sn	22 40 27.9	-3.2
VHO	**Vista Hermosa**	**1.74**	**73**	*i* P	Pn	22 40 05.2	-3.3
VHO				*i* S	Sn	22 40 27.6	-3.4
OXX	**Oaxaca**	**1.75**	**73**	*e*P	Pn	22 40 05.5	-3.1
OXX				*i* S	Sn	22 40 29.5	-1.9
CAIG	**El Cayaco**	**1.78**	**285**	*i* P	Pn	22 40 04.9	-4.2
CAIG				*i* S	Sn	22 40 25.6	-6.5
PLIG	**Platanillo**	**2.05**	**332**	*i* P	Pn	22 40 10.7	-2.1
PLIG				*i* S	Sn	22 40 34.4	-4.4
PPM	**Popocatepetl**	**2.47**	**357**	*e*P	Pn	22 40 17.5	-1.1
PPM				*i* P		22 40 17.9	
PPM				*i* S	Sn	22 40 45.4	-3.9
PPM	**Popocatepetl**	**2.47**	**357**	*e*P	Pn	22 40 17.5	-1.1
PPM				*i* P		22 40 18.1	
PPM				*i* S	Sn	22 40 45.4	-3.9

IDC 24 22:56:52.6±1.3, 261S×13903E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.8/12, mbtmp3.7/5, ML3.4/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/18, Error ellipse: s-maj=66.1km s-min=24.7km az=89.0

ISCJB 24 22:56:55.5±0.8, 271S±008×1390E±02, h33km, mb3.8/8, MS3.2/1, Error ellipse: s-maj=24.8km s-min=10.9km az=155.5

NEIC 24 22:56:57.5±0.6, 270S×13899E, h35km, mb3.9/7, Error ellipse: s-maj=20.1km s-min=8.7km az=79.0

ISC 24 22:56:57.4±0.8, 269S±008×1391E±02, h35km, n16, σ0⁶65/14, mb3.8/8, MS3.2/1, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRAB	**Tennant Creek**	**17.75**	**195**	*e*Pn	**Pn**	**23 01 01.8**	**+0.1**
	3.1nm,0.6s						
WRA	**Warramunga Arr**	**17.76**	**195**	P	**Pn**	**23 01 00.5**	**-1.3**
	0.1nm,0.3s,baz=16,slow=13,SNR=9.5						
CTA	**Charters Tower**	**18.66**	**158**	LR	LR	23 07 40.5	
	comp=Z,67nm,19.0s,baz=218,slow=35						
CTAO	**Charters Tower**	**18.66**	**158**	*e*P	**Pn**	**23 01 12.6**	**-0.2**
	0.7nm,0.4s						
ASAR	**Alice Springs**	**21.44**	**193**	P	**P**	**23 01 42.9**	**+0.4**
	0.8nm,0.7s,mb3.1,baz=19,slow=11,SNR=4.7						
KKM	**Kota Kinabalu**	**24.41**	**291**	*e*P	**P**	**23 02 12.2**	**-0.3**
MJAR	**Matsushiro Arr**	**39.04**	**359**	LR	LR	23 20 08.7	
	comp=Z,37nm,18.8s,MS3.2,baz=205,slow=36						
KULM	**Kulim**	**39.19**	**282**	*e*P	**P**	**23 04 22.6**	**+0.7**
MKAR	**Makanchi Array**	**69.99**	**322**	P	**P**	**23 08 05.8**	**+0.4**
	1.3nm,0.8s,mb3.9,baz=111,slow=7.8,SNR=11						
KURK	**Kurchatov**	**73.91**	**325**	*e*P	**P**	**23 08 28.5**	**-0.3**
	1.0nm,0.5s,mb4.0						
VNDA	**Vanda**	**75.77**	**175**	P	**P**	**23 08 41.3**	**+1.7**
	1.0nm,0.9s,mb3.8,baz=354,slow=5.6,SNR=4.1						
VNDA	**Vanda**	**75.77**	**175**	*e*P	**P**	**23 08 41.0**	**+1.4**
	1.0nm,0.8s,mb3.8						
BRVK	**Borovoye**	**79.57**	**325**	*e*P	**P**	**23 09 00.3**	**-0.5**
	0.7nm,0.4s,mb3.9						
CHKZ	**Chkalovo**	**79.58**	**326**	*e*P	**P**	**23 09 01.0**	**+0.1**
	0.7nm,0.5s,mb3.9						
ZRNK	**Zerenda**	**80.27**	**325**	*e*P	**P**	**23 09 04.5**	**-0.1**
	0.5nm,0.3s,mb3.9						
ILAR	**Eielson Array**	**85.67**	**24**	P	**P**	**23 09 32.1**	**-0.4**
	0.4nm,0.8s,mb3.7,baz=254,slow=6.3,SNR=4.0						

NEIC 24 23:05:29.7, 1913N×6642W, h27km, MD2.8(RSPR), After RSPR.

RSPR 24 23:05:29.7, 1913N×6642W, h27km±29km, MD3.0/3, MD3.0/3, 11C-9D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AOPR	**Arecibo Observ**	**0.84**	**202**	*e*P	Pb	23 05 43.1	-2.7
AOPR	**Arecibo Observ**	**0.84**	**202**	*e*S	Sb	23 05 53.9	-2.8
AOPR	**Arecibo Observ**	**0.84**	**202**	∥*e*P	Pb	23 05 43.2	-2.5
AOPR				*e*S	Sb	23 05 54.2	-2.4
CBYP	**Canovanas**	**1.01**	**148**	∥*e*P	Pn	23 05 45.6	-2.5
CBYP	**Canovanas**	**1.01**	**148**	*e*S	Sb	23 05 58.4	-3.0
CBYP	**Canovanas**	**1.01**	**148**	∥*e*P	Pn	23 05 45.7	-2.4
CBYP	**Canovanas**	**1.01**	**148**	*e*S	Sb	23 05 58.8	-2.5
CBYP	**Canovanas**	**1.01**	**148**	∥*e*P	Pn	23 05 45.7	-2.4
CBYP				*e*S	Sb	23 05 58.8	-2.5
CELP	**Cerrillos**	**1.06**	**188**	∥*e*P	Pn	23 05 46.6	-2.2
CELP				*e*S	Sn	23 05 59.1	-3.7
OBIP	**Obispado Ponce**	**1.10**	**189**	*e*S	Sn	23 05 59.8	-3.8
OBIP	**Obispado Ponce**	**1.10**	**189**	*e*S	Sn	23 06 01.2	-2.5
OBIP	**Obispado Ponce**	**1.10**	**189**	∥*e*P	Pn	23 05 48.0	-1.3
OBIP				*e*S	Sn	23 06 01.2	-2.5
HUMP	**Col San Antoni**	**1.12**	**151**	∥*e*P	Pn	23 05 47.0	-2.7
HUMP	**Col San Antoni**	**1.12**	**151**	*e*S	Sn	23 06 00.9	-3.4
HUMP	**Col San Antoni**	**1.12**	**151**	∥*e*P	Pn	23 05 47.8	-1.9
HUMP	**Col San Antoni**	**1.12**	**151**	*e*S	Sn	23 06 01.7	-2.5
HUMP	**Col San Antoni**	**1.12**	**151**	∥*e*P	Pn	23 05 47.8	-1.9
HUMP				*e*S	Sn	23 06 01.7	-2.5
LSP	**Las Mesas**	**1.14**	**214**	∥*e*P	Pn	23 05 47.5	-2.4
LSP	**Las Mesas**	**1.14**	**214**	*e*S	Sn	23 06 01.8	-2.9
LSP	**Las Mesas**	**1.14**	**214**	∥*e*P	Pn	23 05 48.8	-1.2
LSP				*e*S	Sn	23 06 02.1	-2.6
ICM	**Isla Caja Muer**	**1.24**	**185**	*e*S	Sn	23 06 03.4	-3.7
ICM	**Isla Caja Muer**	**1.24**	**185**	∥*e*P	Pn	23 05 49.4	-1.9
ICM				*e*S	Sn	23 06 03.4	-3.7
MGP	**Maguayo**	**1.29**	**210**	∥*e*P	Pn	23 05 50.0	-2.0
MGP				*e*S	Sn	23 06 05.5	-2.8
CRPR	**Cabo Rojo, PR**	**1.30**	**210**	∥*e*P	Pn	23 05 49.7	-2.4
CRPR	**Cabo Rojo, PR**	**1.30**	**210**	*e*S	Sn	23 06 05.7	-2.9
CRPR	**Cabo Rojo, PR**	**1.30**	**210**	∥*e*P	Pn	23 05 49.6	-2.5
CRPR	**Cabo Rojo, PR**	**1.30**	**210**	*e*S	Sn	23 06 05.9	-2.7
CRPR	**Cabo Rojo, PR**	**1.30**	**210**	∥*e*P	Pn	23 05 49.6	-2.5
CRPR				*e*S	Sn	23 06 05.9	-2.7
MTP	**Monte Pirata**	**1.32**	**142**	∥*e*P	Pn	23 05 49.7	-2.6
MTP	**Monte Pirata**	**1.32**	**142**	*e*S	Sn	23 06 05.0	-4.0
MTP	**Monte Pirata**	**1.32**	**142**	∥*e*P	Pn	23 05 49.9	-2.4
MTP	**Monte Pirata**	**1.32**	**142**	∥*e*P	Pn	23 05 49.9	-2.4

NEIC 24 23:10:02.6±0.7, 584S×12767E, h35km, mb3.8/7, Error ellipse: s-maj=23.2km s-min=11.1km az=67.0

IDC 24 23:10:17.6±14.0, 587S×12882E, h215km±159km, mb2.9/1, mb1 3.3/4, mb1mx3.1/14, mbtmp3.8/4, Error ellipse: s-maj=131.3km s-min=45.3km az=49.0

ISC 24 23:10:17.1±4.7, 60S±02×1285E±02, h197km±48km, n16, σ0⁶83/18, mb3.4/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.33**	**193**	*e*P	**Pn**	**23 13 11.1**	**+4.9**
	4.2nm,1.0s						
FITZ	**Fitzroy Crossi**	**12.33**	**193**	P	**Pn**	**23 13 10.9**	**+4.7**
	0.3nm,0.3s,baz=28,slow=16,SNR=12						
FITZ				S	**Sn**	**23 15 24.0**	**+0.4**
	0.1nm,0.3s,baz=72,slow=20,SNR=2.7						
WRAB	**Tennant Creek**	**14.94**	**158**	*e*Pn	**Pn**	**23 13 38.5**	**-0.1**
	2.0nm,0.2s						
WRA	**Warramunga Arr**	**14.94**	**158**	P	**Pn**	**23 13 38.5**	**-0.2**
	0.3nm,0.3s,baz=334,slow=13,SNR=22						
WRA				S	**S**	**23 16 24.1**	**-0.5**
	0.1nm,0.3s,baz=333,slow=23,SNR=3.3						
WB2	**Warramunga Arr**	**14.95**	**158**	*e*P	**Pn**	**23 13 38.3**	**-0.4**
MBWA	**Marble Bar**	**17.29**	**209**	P	**Pn**	**23 13 57.7**	**-9.1**
	20nm,1.3s						
AS31	**Alice Springs**	**18.29**	**164**	*e*P	**P**	**23 14 15.9**	**-0.2**

ASAR	**Alice Springs**	**18.29**	**164**	P	**P**	**23 14 16.2**	**+0.1**
	0.8nm,0.3s,baz=344,slow=11,SNR=47						
ASPA	**Alice Springs**	**18.29**	**164**	*e*P	**P**	**23 14 15.9**	**-0.3**
CTAO	**Charters Tower**	**22.18**	**131**	*e*P	**P**	**23 14 58.6**	**+1.4**
	1.0nm,0.4s,mb3.7						
HNR	**Honiara**	**31.31**	**98**	*e*P	**P**	**23 16 26.5**	**+7.7**
MKAR	**Makanchi Array**	**66.62**	**327**	P	**P**	**23 20 45.1**	**-1.2**
	0.3nm,0.5s,mb3.2,baz=120,slow=7.7,SNR=5.3						
KURK	**Kurchatov**	**70.93**	**329**	*e*P	**P**	**23 21 14.6**	**+1.6**
	0.4nm,0.5s,mb3.3						
BRVK	**Borovoye**	**76.54**	**328**	*e*P	**P**	**23 21 45.1**	**-0.4**
	0.3nm,0.4s,mb3.3						
CHKZ	**Chkalovo**	**76.67**	**329**	*e*P	**P**	**23 21 46.9**	**+0.6**
	0.3nm,0.3s,mb3.4						
ZRNK	**Zerenda**	**77.16**	**328**	*e*P	**P**	**23 21 47.9**	**-1.1**
	0.4nm,0.3s,mb3.5						

NEIC 24 23:33:21.9, 3156S×6656W, h33km, MD4.2(GUC), After GUC.

GUC 24 23:33:21.9±0.7, 3156S×6656W, h33km, MD4.2, 1C, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDZ	**Mendoza**	**2.35**	**235**	*e*P	Pn	23 34 03.0	+4.8
MDZ				*e*		23 34 34.0	
JACH	**Jahuel**	**3.60**	**251**	*e*P	Pn	23 34 17.7	+2.3
JACH				*i* S	Sn	23 34 59.0	+2.1
CMCH	**Combarbala**	**3.82**	**275**	*e*P	Pn	23 34 20.3	+1.9
CMCH				*i* S	Sn	23 35 04.3	+2.1
PEL	**Peldehue**	**3.84**	**245**	*e*P	Pn	23 34 19.9	+1.3
PEL				*i* S	Sn	23 35 06.6	+4.1
TLL	**Tololo Astrono**	**3.91**	**290**	*e*P	Pn	23 34 22.8	+3.2
TLL				*i* S	Sn	23 35 06.6	+2.3
PCH	**Pirque**	**3.92**	**237**	*e*P	Pn	23 34 21.6	+1.8
CHCH	**Chadas Angostu**	**4.19**	**234**	∥*i*P	Pn	23 34 24.4	+1.0
TACH	**Talagante**	**4.25**	**239**	*e*P	Pn	23 34 25.7	+1.5
LCO	**Las Campanas**	**4.39**	**304**	*e*P	Pn	23 34 28.2	+2.0
CPUP	**Villa Florida**	**9.61**	**60**	*e*Pn	Pn	23 35 33.2	-4.7
	17nm,0.7s						
CPUP				*e*Sn	Sn	23 37 26.6	+1.9

ISCJB 24 23:37:21.5±1.7, 179S±02×1753W±02, h238km±27km, mb4.0/8, Error ellipse: s-maj=38.0km s-min=22.2km az=65.4

IDC 24 23:37:21.5±2.1, 1791S×17521W, h224km±32km, mb3.8/4, mb1 4.0/5, mb1mx3.6/15, mbtmp4.4/5, MS3.4/1, Ms1 3.4/1, ms1mx2.9/16, Error ellipse: s-maj=42.3km s-min=20.2km az=115.0

NEIC 24 23:37:22.7±1.2, 1798S×17519W, h238km±18km, mb4.1/4, Error ellipse: s-maj=24.6km s-min=14.4km az=118.0

ISC 24 23:37:22.4±1.8, 179S±02×1751W±02, h239km±26km, n14, σ0⁶66/15, mb4.0/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.11**	**39**	P	**Pn**	**23 38 40.7**	**+1.5**
	10nm,0.3s,baz=107,slow=23,SNR=7.1						
AFI				S	**S**	**23 39 39.1**	**-1.2**
	9.2nm,0.3s,baz=255,slow=20,SNR=8.0						
AFI				LR	LR	23 40 22.1	
	comp=Z,345nm,19.0s,baz=149,slow=35						
URZ	**Urewera**	**21.36**	**197**	P	**P**	**23 41 51.4**	**0.0**
	7.2nm,0.6s,mb4.4,baz=32,slow=17,SNR=7.3						
CTAO	**Charters Tower**	**36.57**	**260**	*e*P	**P**	**23 44 06.0**	**+0.5**
	4.0nm,0.8s,mb4.0						
PMG	**Port Moresby**	**37.60**	**278**	*e*P	**P**	**23 44 14.0**	**-0.1**
WB2	**Warramunga Arr**	**47.74**	**259**	*e*P	**P**	**23 45 35.3**	**0.0**
WRAB	**Tennant Creek**	**47.74**	**259**	*e*P	**P**	**23 45 35.4**	**+0.1**
	5.1nm,0.3s,mb4.3						
WRA	**Warramunga Arr**	**47.75**	**259**	P	**P**	**23 45 35.3**	**-0.1**
	1.7nm,0.3s,mb3.8,baz=98,slow=6.7,SNR=67						
AS31	**Alice Springs**	**47.84**	**254**	*e*P	**P**	**23 45 36.0**	**-0.1**
ASAR	**Alice Springs**	**47.84**	**254**	P	**P**	**23 45 36.0**	**-0.1**
	10nm,0.6s,mb4.3,baz=91,slow=7.8,SNR=130						
ASPA	**Alice Springs**	**47.84**	**254**	*e*P	**P**	**23 45 36.0**	**-0.1**
KAKA	**Kakadu**	**50.76**	**268**	*e*P	**P**	**23 45 58.1**	**-0.1**
	5.3nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**56.15**	**260**	*e*P	**P**	**23 46 37.8**	**+0.5**
	4.4nm,1.1s,mb3.9						
NWAO	**Narrogin (SRO)**	**62.00**	**242**	*e*P	**P**	**23 47 15.8**	**-1.5**
ILAR	**Eielson Array**	**85.24**	**12**	P	**P**	**23 49 32.6**	**+0.6**
	0.4nm,0.6s,mb3.4,baz=215,slow=5.6,SNR=5.0						

*BJI 24 23:44:19.1, 2635S×17782W, h146km, mB5

RAR	**Rarotonga**	**17.66**	**76**	LR	LR	23 53 40.3		
	comp=Z,246nm,21.0s,baz=77,slow=32							
LTZ	**Lake Taylor**	**17.78**	**204**	SN	**Sn**	**23 51 32.1**	**-7.3**	
MQZ	**McQueen's Vall**	**18.47**	**202**	SN	**Sn**	**23 51 45.0**	**-11**	
RPZ	**Rata Peaks**	**19.03**	**205**	S	**S**	**23 51 58.6**	**-1.5**	
	2.6nm,0.3s,baz=201,slow=17,SNR=16							
TBI	**Tubuai**	**26.17**	**89**	*e*LQ		23 54 51.7		
	848nm,26.0s							
TBI				*e*LR	LR	23 56 14.7		
	292nm,27.8s							
HNR	**Honiara**	**26.97**	**306**	P	**P**	**23 49 46.2**	**-3.1**	
PPT	**Papeete**	**27.94**	**77**	*e*LQ		23 55 33.8		
	1µm,29.2s							
PPT				*e*LR	LR	23 56 59.5		
	363nm,24.5s							
PPT	**Papeete**	**27.94**	**77**	LR	LR	23 58 12.4		
	comp=Z,245nm,20.6s,baz=328,slow=30							
TAU	**Tasmania Unive**	**32.33**	**231**	*e*P	**P**	**23 50 39.7**	**+3.2**	
CTA	**Charters Tower**	**33.27**	**274**	P	**P**	**23 50 49.0**	**+4.3**	
	4.7nm,0.6s,mb4.4,baz=112,slow=12,SNR=7.8							
CTAO	**Charters Tower**	**33.27**	**274**	*e*P	**P**	**23 50 48.4**	**+3.7**	
CTAO				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.4							
CTAO	**Charters Tower**	**33.27**	**274**	*e*P	**P**	**23 50 48.4**	**+3.7**	
	comp=Z,6.5nm,0.8s,mb4.4							
STKA	**Stephens Creek**	**35.33**	**252**	*e*P	**P**	**23 51 01.8**	**-0.7**	
PMG	**Port Moresby**	**37.07**	**291**	*e*P	**P**	**23 51 19.0**	**+1.8**	
RKT	**Rikitea**	**39.17**	**94**	*e*LR	LR	00 02 19.2		
	comp=Z,201nm,37.2s							
ASAR	**Alice Springs**	**43.30**	**263**	P	**P**	**23 52 11.0**	**+2.5**	
	comp=Z,2.3nm,0.7s,mb3.9,baz=110,slow=7.6,SNR=14							
WRAB	**Tennant Creek**	**43.95**	**268**	*e*P	**P**	**23 52 14.9**	**+1.2**	
WRAB				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.3							
WRAB	**Tennant Creek**	**43.95**	**268**	*e*P	**P**	**23 52 14.9**	**+1.1**	
	comp=Z,7.4nm,0.8s,mb4.4							
WRA	**Warramunga Arr**	**43.96**	**268**	P	**P**	**23 52 14.9**	**+1.1**	
	comp=Z,3.7nm,0.8s,mb4.0,baz=100,slow=7.5,SNR=9.4							
SBA	**Scott Base**	**51.62**	**184**	*e*P	**P**	**23 53 17.6**	**+4.8**	
SBA				pmax	pmax			
	comp=Z,81nm,1.6s,mb5.1							
SBA	**Scott Base**	**51.62**	**184**	*e*P	**P**	**23 53 17.6**	**+4.8**	
	comp=Z,81nm,1.6s,mb5.1							
VNDA	**Vanda**	**51.67**	**185**	P	**P**	**23 53 17.5**	**+4.4**	
	comp=Z,2.8nm,0.6s,mb4.1,baz=18,slow=8.6,SNR=20							
VNDA	**Vanda**	**51.67**	**185**	*e*P	**P**	**23 53 17.7**	**+4.6**	
VNDA				pmax	pmax			
	comp=Z,22nm,1.4s							
VNDA	**Vanda**	**51.67**	**185**	*e*P	**P**	**23 53 17.7**	**+4.6**	
	comp=Z,22nm,1.4s,mb4.6							
CASY	**Casey**	**58.29**	**207**	*e*P	**P**	**23 54 03.5**	**+2.9**	
	comp=Z,1.9nm,0.6s,mb4.1							
QSPA	**South Pole Qui**	**63.32**	**180**	*e*P	**P**	**23 54 38.0**	**+3.4**	
	comp=Z,47nm,0.8s,mb5.4							
QSPA				*e*PcP	PcP	23 55 12.6	+2.3	
MJAR	**Matsushiro Arr**	**75.22**	**325**	P	**P**	**23 55 43.7**	**-4.1**	
	comp=Z,6.6nm,0.9s,mb4.2,baz=159,slow=5.5,SNR=9.7							
MAJO	**Matsushiro**	**75.22**	**325**	*e*P	**P**	**23 55 46.0**	**-1.8**	
MAW	**Mawson**	**75.65**	**200**	P	**P**	**23 55 52.3**	**+2.1**	
	comp=Z,7.5nm,0.6s,mb4.5,baz=136,slow=7.0,SNR=28							
MAW	**Mawson**	**75.65**	**200**	*e*P	**P**	**23 55 52.4**	**+2.2**	
MAW				pmax	pmax			
	comp=Z,47nm,1.4s							
MAW	**Mawson**	**75.65**	**200**	*e*P	**P**	**23 55 52.4**	**+2.2**	
	comp=Z,46nm,1.4s,mb4.9							
SYO	**Syowa Base**	**80.60**	**193**	⇑*i*P	**P**	**23 56 18.5**	**+1.0**	
SYO	**Syowa Base**	**80.60**	**193**	⇓*e*PcP	PcP	23 56 24.0	+0.1	
SNAA	**Sanae**	**81.76**	**178**	P	**P**	**23 56 24.7**	**+1.1**	
	comp=Z,5.3nm,0.8s,mb4.2,baz=154,slow=3.7,SNR=33							
SNAA	**Sanae**	**81.76**	**178**	*e*P	**P**	**23 56 19.5**	**-4.1**	
SNAA				pmax	pmax			
	comp=Z,83nm,1.5s							
SNAA	**Sanae**	**81.76**	**178**	*e*P	**P**	**23 56 19.5**	**-4.1**	
	comp=Z,83nm,1.5s,mb5.1							
NJ2	**Nanjing**	**83.81**	**310**	*e*P	**P**	**23 56 34.4**	**+0.2**	
NJ2				AP	pP	23 57 14.4	+2.2	
NJ2				XP	sP	23 57 31.1	+2.8	
NJ2				PP	PP	23 59 49.0	-0.4	
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.5s,mb4.8							
NJ2				LR	LR			
	comp=N,530nm,24.0s							
NJ2				LR	LR			
	comp=E,670nm,28.0s							
NJ2				LR	LR			
	comp=Z,140nm,34.4s							
CMB	**Columbia Colle**	**84.16**	**42**	*e*P	**P**	**23 56 36.7**	**+0.7**	
PLCA	**Paso Flores**	**85.06**	**133**	P	**P**	**23 56 40.8**	**+0.3**	
	comp=Z,7.1nm,1.0s,mb4.4,baz=254,slow=2.6,SNR=8.7							
MDJ	**Mudanjiang**	**85.59**	**325**	P	**P**	**23 56 44.0**	**+0.9**	
MDJ				AP	pP	23 57 21.6	+0.3	
MDJ				XP	sP	23 57 37.5	+0.2	
MDJ				AMB	AMB			
	comp=Z,8.0nm,1.0s,mb4.4							
MDJ				AMB	AMB			
	comp=Z,52nm,4.9s							
MDJ	**Mudanjiang**	**85.59**	**325**	*e*P	**P**	**23 56 39.7**	**-3.4**	
NVAR	**Mina Array Bea**	**85.67**	**43**	P	**P**	**23 56 39.9**	**-3.6**	
	comp=Z,1.2nm,0.9s,mb3.6,baz=224,slow=6.2,SNR=4.1							
NVAR	**Mina Array Bea**	**85.67**	**43**	P	**P**	**23 56 39.9**	**-3.6**	
TPH	**Tonopah**	**86.11**	**44**	*e*P	**P**	**23 56 45.7**	**0.0**	
CN2	**Changchun**	**87.20**	**323**	*e*P	**P**	**23 56 50.1**	**-0.8**	
CN2				AMB	AMB			
	comp=Z,10.0nm,1.3s,mb4.5							
KLR	**Kul'dur**	**87.86**	**330**	*e*P	**P**	**23 56 48.2**	**-5.9**	
KLR				pmax	pmax			
	comp=Z,35nm,1.8s,mb4.9							
ENH	**Enshi**	**89.47**	**304**	P	**P**	**23 56 59.1**	**-2.5**	
BJT	**Baijiatuan**	**90.26**	**316**	P	**P**	**23 57 03.4**	**-1.9**	
ANMO	**Albuquerque**	**91.42**	**51**	*e*P	**P**	**23 57 09.3**	**-1.4**	
ANMO				pmax	pmax			
	comp=Z,1.0nm,0.6s							
ANMO	**Albuquerque**	**91.42**	**51**	*e*P	**P**	**23 57 09.2**	**-1.4**	
	comp=Z,0.6nm,0.6s,mb3.8							
KMI	**Kunming**	**92.08**	**297**	P	**P**	**23 57 14.1**	**+0.3**	
KMI				AMB	AMB			
	comp=Z,15nm,0.9s,mb5.0							
CHTO	**Chiang Mai**	**92.25**	**290**	*e*P	**P**	**23 57 15.0**	**+0.4**	
CHTO				pmax	pmax			
	comp=Z,11nm,1.0s,mb4.8							
CHTO	**Chiang Mai**	**92.25**	**290**	*e*P	**P**	**23 57 15.0**	**+0.4**	
	comp=Z,10nm,1.0s,mb4.8							
PDAR	**Pinedale Array**	**93.60**	**43**	P	**P**	**23 57 17.7**	**-3.0**	
	comp=Z,0.3nm,0.4s,mb3.8,baz=180,slow=0.3,SNR=3.4							
HHC	**Hu-ho-hao-te**	**93.64**	**314**	*e*P	**P**	**23 57 20.6**	**-0.3**	
HHC				AP	pP	23 58 01.3	+1.8	
HHC				XP	sP	23 58 18.4	+3.0	
HHC				AMB	AMB			
	comp=Z,11nm,1.3s,mb4.8							
HHC				AMB	AMB			
	comp=Z,87nm,5.5s							
HHC				LR	LR			
	comp=N,113nm,23.2s							
HHC				LR	LR			
	comp=E,121nm,21.7s							
HHC				LR	LR			
	comp=Z,152nm,20.7s							
ILAR	**Eielson Array**	**94.44**	**13**	P	**P**	**23 57 18.6**	**-6.0**	
	comp=Z,0.4nm,0.8s,mb3.6,baz=224,slow=4.8,SNR=3.5							
LPAZ	**La Paz**	**99.72**	**114**	P	Pdif	23 57 48.6	+0.3	
	comp=Z,1.1nm,1.0s,baz=245,slow=3.8,SNR=4.5							
WMQ	**Urumqi**	**110.87**	**309**	PKP	PKiKP	00 02 35.6	-1.3	
WMQ				PP	PP	00 03 17.6	+0.8	
WMQ				PP	PP			
	comp=Z,104nm,5.6s							
WMQ				LR	LR			
	comp=N,23nm,19.5s							
WMQ				LR	LR			
	comp=E,10.0nm,21.6s							
WMQ				LR	LR			
	comp=Z,12nm,19.5s							
BLA	**Blacksburg**	**111.45**	**58**	*e*P	Pdif	23 58 40.0	-0.6	
MKAR	**Makanchi Array**	**115.33**	**311**	PKP	PKPdf	00 02 42.6	-2.7	
	comp=Z,0.7nm,0.8s,baz=48,slow=1.8,SNR=5.5							
ARCES	**ARCESS Array B**	**135.04**	**348**	PKP	PKPdf	00 03 18.8	-4.2	
	comp=Z,2.5nm,0.8s,baz=15,slow=3.7,SNR=5.1							
FINES	**FINESS Array B**	**141.70**	**341**	PKhKP		00 03 25.3		
	comp=Z,3.9nm,1.0s,baz=88,slow=5.9,SNR=7.5							
FINES	**FINESS Array B**	**141.70**	**341**	PKP		00 03 25.3		
NB2	**NORSAR Subarra**	**145.17**	**352**	PKPa	PKPdf	00 03 36.6	-4.7	
	comp=Z,15nm,0.9s,baz=14,slow=3.4							
NOA	**NORSAR Array B**	**145.17**	**352**	PKP	PKPdf	00 03 36.2	-5.0	
	comp=Z,9.5nm,0.9s,baz=15,slow=5.0,SNR=22							
MALT	**Malatya**	**147.30**	**300**	⇑PKP2	PKPab	00 03 47.8	-1.8	
AKASG	**Malin Array Be**	**148.29**	**326**	PKPbc	PKPbc	00 03 46.8	-3.3	
	comp=Z,2.9nm,0.5s,baz=46,slow=4.1,SNR=13							
BR131	**Keskin Array S**	**150.62**	**304**	*e*PKPbc	PKPbc	00 03 55.0	-0.8	
BRTR	**Keskin Array B**	**150.62**	**304**	PKPbc	PKPbc	00 03 54.9	-0.9	
	comp=Z,2.5nm,0.9s,baz=126,slow=2.1,SNR=13							
BRTR				PKPab	PKPab	00 04 02.2	-0.9	
	comp=Z,3.6nm,0.7s,baz=102,slow=2.2,SNR=15							
ANTO	**Ankara**	**151.20**	**305**	⇓PKIKP	PKPbc	00 03 56.4	-0.8	
BURAR	**Bucovina Array**	**152.29**	**325**	⇑*i*P	PKPbc	00 03 58.9	-0.7	
BURAR	**Bucovina Array**	**152.29**	**325**	⇑P	PKPbc	00 03 58.9	-0.7	
TIRR	**Tirgusor**	**152.31**	**316**	⇑*i*P	PKPbc	00 03 58.7	-1.0	
TIRR	**Tirgusor**	**152.31**	**316**	⇑P	PKPbc	00 03 58.7	-0.9	
VRI	**Vrincioaia**	**152.54**	**320**	⇓*i*P	PKPab	00 04 09.6	-1.6	
VRI	**Vrincioaia**	**152.54**	**320**	⇓P	PKPab	00 04 09.7	-1.5	
PLOR	**Plostina**	**152.60**	**320**	⇑*i*P	PKPab	00 04 10.7	-0.7	
CRVS	**Cervenica-Dubn**	**153.19**	**331**	*e*PKP	PKPab	00 04 14.9	+1.0	
MLR	**Muntele Rosu**	**153.21**	**320**	⇓*i*P	PKPab	00 04 13.5	-0.5	
MLR	**Muntele Rosu**	**153.21**	**320**	⇓P	PKPab	00 04 13.5	-0.5	
UPC	**Upice**	**153.95**	**339**	*e*PKPab	PKPab	00 04 14.1	-3.0	
DPC	**Dobruska-Polom**	**153.99**	**339**	*e*PKPab	PKPab	00 04 15.7	-1.6	
CLL	**Collm**	**154.09**	**344**	*i* P	PKPdf	00 03 46.6	-8.7	
CLL	**Collm**	**154.09**	**344**	*i* PKPdf	PKPdf	00 03 53.5	-1.8	
	comp=Z,3.0nm,0.5s							
CLL				*i* PKPbc	PKPbc	00 04 01.8	-1.7	
	comp=Z,10.0nm,1.4s							
CLL				*e*PKPab	PKPab	00 04 14.0	-3.7	
CLL	**Collm**	**154.09**	**344**	*i* PKIKP	PKPdf	00 03 56.2	+0.9	
CLL				pmax	pmax			
	comp=Z,3.0nm,0.5s							
CLL				pmax	pmax			
	comp=Z,10.0nm,1.4s							
CLL	**Collm**	**154.09**	**344**	*i* PKP	PKPdf	00 03 56.2	+0.9	
CLL				*e*PKP	PKPbc	00 04 02.0	-1.5	
BRG	**Berggiesshubel**	**154.24**	**342**	*e*PKP	PKPab	00 04 15.8	-2.6	
	comp=Z,2.4nm,1.0s							
BRG	**Berggiesshubel**	**154.24**	**342**	*e*PKP2	PKPab	00 04 15.8	-2.6	
BRG				pmax	pmax			
	comp=Z,2.0nm,1.0s							
VRAC	**Vranov**	**154.78**	**337**	⇑PKP2	PKPab	00 04 18.5	-2.2	
PRU	**Pruhonice**	**154.86**	**341**	*e*PKPab	PKPab	00 04 18.8	-2.2	
KHC	**Kasperske Hory**	**155.91**	**341**	*e*PKPab	PKPab	00 04 21.7	-3.8	
GERES	**GERESS Array B**	**156.13**	**340**	PKPab	PKPab	00 04 23.0	-3.5	
	comp=Z,0.9nm,0.7s,baz=18,slow=4.8,SNR=6.9							
VTS	**Vitosha**	**156.50**	**318**	⇑PKP2	PKPab	00 04 27.2	-0.9	
DBIC	**Dimbokro**	**159.00**	**161**	PKPab	PKPab	00 04 39.6	+0.8	
	comp=Z,4.0nm,0.9s,baz=230,slow=3.7,SNR=3.6							
TORD	**Torodi Ar. Bea**	**166.44**	**179**	PKP	PKPdf	00 04 07.1	-1.8	
	comp=Z,1.3nm,0.9s,baz=230,slow=1.8,SNR=5.2							
TORD				PKPab	PKPab	00 05 12.9	+1.4	
	comp=Z,4.8nm,0.7s,baz=179,slow=2.8,SNR=21							

LDG ***24*** *23:58:38.7±1.1, 4293N×140W, h2km, Md1.8/2, Ml1.6/1, Error ellipse: s-maj=20.6km s-min=9.8km az=51.0*

MDD 24 23:58:37.8±0.1, 4284N×136W, h0km, mbLg1.1/9, 2D, Error ellipse: s-maj=1.6km s-min=1.1km az=96.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
IPRE	**Itoiz**	**0.03**	**181**	⇓Pg	Pg	23 58 38.3		-0.2
	8.6nm,0.1s,SNR=18							
IPRE				Lg		23 58 39.1		
	51nm,0.2s,SNR=4.6							
IUNC	**Unciti**	**0.13**	**232**	⇓Pg	Pg	23 58 40.4		0.0
	14nm,0.1s,SNR=18							
IUNC				Lg		23 58 43.0		
	91nm,0.2s,SNR=7.9							
EARA	**Aranguren**	**0.18**	**249**	Pg	Pg	23 58 41.1		-0.1
	13nm,0.3s,SNR=7.9							
EARA				Lg		23 58 44.2		
	14nm,0.1s,SNR=8.9							
IUSE	**Utxeti**	**0.18**	**308**	Pg	Pg	23 58 40.6		-0.6
	2.0nm,0.2s,SNR=7.9							
IUSE				Lg		23 58 43.8		
	4.7nm,0.1s,SNR=7.9							
SJPF	**Ste Jean**	**0.29**	**19**	*e*Pg	Pg	23 58 43.0		-0.4
SJPF				*e*Sg	Sg	23 58 47.0		-0.2
	10nm,0.4s							
SJPF	**Ste Jean**	**0.29**	**19**	Pg	Pg	23 58 43.0		-0.4
SJPF				Lg		23 58 47.0		
	5.1nm,0.4s							
LARF	**Larrau**	**0.34**	**53**	Pg	Pg	23 58 44.1		-0.2
LARF				Lg		23 58 49.8		
ELIZ	**Elizondo**	**0.35**	**339**	Pg	Pg	23 58 44.0		-0.5
	1.5nm,0.3s,SNR=9.0							
ELIZ				Lg		23 58 48.8		
	2.2nm,0.1s,SNR=13							
EALK	**Alkurruntz**	**0.40**	**344**	Pg	Pg	23 58 44.7		-0.8
	0.5nm,0.3s,SNR=12							
EALK				Lg		23 58 50.5		
	3.7nm,0.2s,SNR=5.5							
ETSF	**Etsaut**	**0.59**	**84**	*e*Pg	Pg	23 58 49.7		+0.6
ETSF				*e*Sg	Sg	23 58 58.0		+1.3
	2.0nm,0.3s							
ETSF	**Etsaut**	**0.59**	**84**	Pg	Pg	23 58 49.7		+0.6
ETSF				Lg		23 58 58.0		
	1.0nm,0.3s							
EBIE	**Bielsa**	**1.11**	**97**	Pg	Pg	23 59 01.7		+2.5
	0.7nm,0.1s,SNR=6.2							
EBIE				Lg		23 59 17.2		
	0.7nm,0.1s,SNR=5.9							
EPF	**Esparros**	**1.26**	**81**	*e*Pg	Pg	23 59 03.1		+1.1
EPF				*e*Sg	Sg	23 59 19.5		+1.2
	1.4nm,0.3s							
EPF	**Esparros**	**1.26**	**81**	Lg		23 59 19.5		
	0.7nm,0.3s							
ESAC	**San Caprasio**	**1.29**	**149**	Pg	Pg	23 59 00.2		-2.4
	3.1nm,0.3s,SNR=7.9							
ESAC				Lg		23 59 18.9		
	4.4nm,0.2s,SNR=7.9							
EGRA	**Graus**	**1.39**	**117**	Pg	Pg	23 59 02.6		-1.9
	0.2nm,0.2s,SNR=7.9							
EGRA				Lg		23 59 21.2		
	0.3nm,0.2s,SNR=7.9							

NEIC ***24*** *23:58:39.7, 2966S×7135W, h68km, mb4.0/1, After GUC.*

GUC 24 23:58:39.7±0.8, 2966S×7135W, h68km±4km, MD4.2, ML4.3, 4C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
LSCH	**La Serena**	**0.26**	**159**	⇓*i*P	Pn	23 58 50.8		+0.3
LSCH				*i* S	Sn	23 58 58.6		+0.3
LSCH				AML	AML	23 58 59.4		
	comp=E,7µm,0.3s							
LSCH	**La Serena**	**0.26**	**159**	⇓*i*P	Pn	23 58 50.8		+0.3
LSCH				*i* S	Sn	23 58 58.6		+0.3
TLL	**Tololo Astrono**	**0.69**	**137**	⇑*i*P	Pn	23 58 55.4		+1.0
TLL				*i* S	Sn	23 59 07.5		+2.3
TLL				AML	AML	23 59 09.3		
	comp=N,8µm,0.2s							
TLL	**Tololo Astrono**	**0.69**	**137**	⇑*i*P	Pn	23 58 55.4		+1.0
TLL				*i* S	Sn	23 59 07.5		+2.3
LCO	**Las Campanas**	**0.86**	**42**	*e*P	Pn	23 58 56.9		+0.5
LCO				*i* S	Sn	23 59 10.3		+1.6
OVCH	**Ovalle**	**0.95**	**172**	*i* P	Pn	23 58 57.9		+0.3
OVCH				*i* S	Sn	23 59 11.2		+0.5
OVCH				AML	AML	23 59 12.4		
	comp=E,8µm,0.4s							
OVCH	**Ovalle**	**0.95**	**172**	*i* P	Pn	23 58 57.9		+0.3
OVCH				*i* S	Sn	23 59 11.2		+0.5
VACH	**Vallenar**	**1.20**	**26**	*e*P	Pn	23 59 01.2		+0.6
VACH				*i* S	Sn	23 59 17.4		+1.1
CMCH	**Combarbala**	**1.54**	**169**	⇓*i*P	Pn	23 59 05.7		+0.6
CMCH				*i* S	Sn	23 59 25.2		+0.9
CMCH				AML	AML	23 59 26.8		
	comp=E,6µm,0.7s							
CMCH	**Combarbala**	**1.54**	**169**	⇓*i*P	Pn	23 59 05.7		+0.6
CMCH				*i* S	Sn	23 59 25.2		+0.9
CHNG	**Los Chungos**	**2.22**	**183**	⇑*i*P	Pn	23 59 14.0		-0.3
CHNG				*i* S	Sn	23 59 38.5		-2.1
CPCH	**Copiapo**	**2.46**	**21**	*e*P	Pn	23 59 16.9		-0.6
CPCH				*i* S	Sn	23 59 46.0		-0.4
CPCH				AML	AML	23 59 47.8		
	comp=E,9µm,0.1s							
CPCH	**Copiapo**	**2.46**	**21**	*e*P	Pn	23 59 16.9		-0.6
CPCH				*i* S	Sn	23 59 46.0		-0.4
CDCH	**Caldera**	**2.62**	**10**	*e*P	Pn	23 59 18.0		-1.7
CDCH				*i* S	Sn	23 59 46.6		-3.7
PACH	**Papudo**	**2.87**	**181**	*i* P	Pn	23 59 22.7		-0.3
JACH	**Jahuel**	**3.08**	**168**	*e*P	Pn	23 59 27.5		+1.5
PEL	**Peldehue**	**3.52**	**171**	⇓*e*P	Pn	23 59 32.6		+0.6
PEL				*i* S	Sn	00 00 13.2		+0.9
PEL				AML	AML	00 00 16.1		
	comp=N,637nm,0.3s							
PEL	**Peldehue**	**3.52**	**171**	⇓*e*P	Pn	23 59 32.6		+0.6
PEL				*i* S	Sn	00 00 53.2		+41
CLCH	**Cerro Calan**	**3.79**	**170**	*e*P	Pn	23 59 36.7		+1.1
CLCH				*i* S	Sn	00 00 20.2		+1.3
CLCH				AML	AML	00 00 26.7		
	comp=N,364nm,0.9s							
LCCH	**Las Cruces**	**3.81**	**183**	*e*P	Pn	23 59 35.2		-0.7
TACH	**Talagante**	**4.00**	**175**	*e*P	Pn	23 59 39.0		+0.5
TACH				*i* S	Sn	00 00 23.8		-0.2
PCH	**Pirque**	**4.01**	**170**	*e*P	Pn	23 59 39.5		+0.9
PCH				*i* S	Sn	00 00 24.6		+0.2
LNV	**Longovilo**	**4.28**	**181**	*i* P	Pn	23 59 41.5		-0.9
CHCH	**Chadas Angostu**	**4.30**	**172**	⇓*i*P	Pn	23 59 43.3		+0.7
CACH	**El Canelo**	**4.49**	**172**	⇑*i*P	Pn	23 59 46.6		+1.4
CICH	**Cipreses**	**4.71**	**171**	⇓*i*P	Pn	23 59 49.5		+1.3
SFDO	**San Fernando**	**4.95**	**177**	*e*P	Pn	23 59 51.4		-0.1
LVC	**Limon Verde**	**7.35**	**18**	*e*Pn	Pn	00 00 22.4		-2.0
	comp=N,5.0nm,0.4s							
PLCA	**Paso Flores**	**11.07**	**177**	*e*Pn	Pn	00 01 14.8		-0.3
TRQA	**Tornquist**	**11.43**	**140**	*e*P	Pn	00 01 21.6		+1.6
CPUP	**Villa Florida**	**12.83**	**78**	*e*Pn	Pn	00 01 39.4		+0.4
LPAZ	**La Paz**	**13.63**	**13**	*e*Pn	Pn	00 01 52.7		+2.8
SAML	**Samuel**	**21.98**	**22**	*e*P	P	00 03 28.2		+0.2
SDV	**Santo Domingo**	**38.33**	**1**	*e*P	P	00 05 54.0		+0.3
	comp=N,0.7nm,0.3s							

CSEM ***25*** *00:07:06.1±0.1, 3787N×2030E, h2km, MD3.7, Error ellipse: s-maj=4.4km s-min=1.7km az=89.0*
NEIC ***25*** *00:07:08.9, 3808N×2044E, h17km, MD3.7(ATH), After ATH.*
ISCJB ***25*** *00:07:08.1±0.6, 3793N±004×2039E±005, h17km, Error ellipse: s-maj=5.9km s-min=4.5km az=100.8*
ATH ***25*** *00:07:09.0, 3808N×2045E, h17km±1km, MD3.7/8*
HLW ***25*** *00:07:09.5, 3821N×2074E, h33km, Mb3.6*
THE ***25*** *00:07:10.9, 3818N×2050E, h10km*

ISC 25 00:07:08.3±1.0, 3804N±003×2041E±005, h0km±6km, n34, σ0§69/45, 3C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
VLS	**Valsamata**	**0.20**	**46**	*e*PB	**Pg**	**00 07 13.5**		**+1.4**
LKD	**Levkas**	**0.69**	**16**	*e*Pg	**Pg**	**00 07 21.2**		**-0.4**
RLS	**Riolos of Patr**	**0.83**	**88**	⇓*i*PB	**Pg**	**00 07 24.1**		**-0.2**
RLS				*e*SN	**Sg**	**00 07 35.4**		**+0.3**
EVR	**Evrytania**	**1.41**	**51**	*e*PN	**Pn**	**00 07 35.1**		**0.0**
EVR				*e*SN	**Sn**	**00 07 53.3**		**-1.0**
ITM	**Ithomi**	**1.48**	**125**	*e*PN	**Pn**	**00 07 36.9**		**+0.8**
ITM				*e*SN	**Sn**	**00 07 57.1**		**+1.6**
IGT	**Igoumenitsa**	**1.49**	**358**	*e*Pg	**Pg**	**00 07 36.4**		**-0.5**
IGT				*e*Sg	**Sg**	**00 07 56.3**		**0.0**
JAN	**Janina**	**1.65**	**12**	*e*PN	**Pn**	**00 07 38.1**		**-0.4**
JAN				*e*SN	**Sn**	**00 08 00.7**		**+0.3**
KEK	**Kerkira**	**1.74**	**344**	*e*PN	**Pn**	**00 07 39.8**		**+0.2**
AGG	**Agios Georgios**	**1.80**	**56**	*e*Pb	**Pb**	**00 07 41.3**		**-0.7**
AGG				*e*Sb	**Sb**	**00 08 03.6**		**-1.5**
SRN	**Sarande**	**1.87**	**350**	*i* Pn	**Pn**	**00 07 41.3**		**-0.1**
SRN	**Sarande**	**1.87**	**350**	*e*Pn	**Pn**	**00 07 41.3**		**-0.1**
LSK	**Leskovik**	**2.11**	**4**	*i* Pn	**Pn**	**00 07 45.9**		**+1.1**
LSK	**Leskovik**	**2.11**	**4**	*e*Pn	**Pn**	**00 07 45.9**		**+1.1**
LKR	**Lokris**	**2.13**	**72**	*e*PN	**Pn**	**00 07 45.7**		**+0.7**
NEO	**Neokhori**	**2.54**	**59**	*e*PN	**Pn**	**00 07 50.8**		**+0.1**
XOR	**Xorichti**	**2.55**	**58**	*e*Pn	**Pn**	**00 07 51.3**		**+0.5**
LIT	**Litokhoron**	**2.62**	**38**	*e*Pn	**Pn**	**00 07 52.4**		**+0.6**
PTL	**Penteli**	**2.73**	**89**	*e*P

PCAB
16nm,0.3s
PCAB Cabril 1.50 11 Lg 00 34 05.4
8.0nm,0.3s
ELOB Lobios 1.65 9 Pg Pg 00 33 47.6 -3.2
1.2nm,0.4s,SNR=6.9
ELOB Lg 00 34 09.9
6.4nm,0.3s,SNR=16
MOE Montemor 1.72 178 *e*Sg Sg 00 34 10.5 -4.0
EBAD Badajoz 1.83 144 Pg Pg 00 33 50.6 -3.8
0.7nm,0.2s,SNR=27
EBAD Lg 00 34 15.0
3.7nm,0.1s,SNR=19
EZAM Zamans 1.92 354 Lg 00 34 17.5
1.6nm,0.1s,SNR=7.9
PBRG Braganca 2.01 38 *e*Sg Sg 00 34 21.3 -2.4
ECAL Calabor 2.12 36 Pg Pg 00 33 57.6 -2.2
0.5nm,0.2s,SNR=9.9
ECAL Lg 00 34 25.2
2.6nm,0.2s,SNR=6.5
PBEJ Beja 2.25 169 *e*Sg Sg 00 34 27.9 -3.7
PBEJ
2.6nm,0.2s
PBEJ Beja 2.25 169 Lg 00 34 27.9
1.3nm,0.2s
PTEO Sao Teotonio 2.70 185 *e*Sg Sg 00 34 42.5 -3.6
EMAZ Mazaricos 2.74 351 Pn Pn 00 34 01.6 -1.2
0.0nm,0.2s,SNR=7.9
EMAZ Lg 00 34 44.2
2.1nm,0.2s,SNR=4.0
EGRO El Granado 2.80 165 Pn Pn 00 34 01.5 -2.2
0.1nm,0.1s,SNR=4.0
EGRO Lg 00 34 45.8
62nm,1.8s
EMIN Mina Concepcio 2.82 151 Pg Pg 00 34 08.3 -4.8
0.1nm,0.1s,SNR=7.0
EMIN Sn Sn 00 34 34.2 -3.6
27nm,1.5s
EMIN Lg 00 34 46.2
1.1nm,0.2s,SNR=7.9
EPON Pontenova 3.22 17 Lg 00 35 00.4
0.7nm,0.2s,SNR=7.9
GUD Guadarrama 3.27 82 Lg 00 35 01.3
0.6nm,0.2s,SNR=7.9
EADA Adamuz 3.63 124 Lg 00 35 12.3
0.0nm,0.5s,SNR=7.9

IDC ***25*** *00:36:07.9±0.6, 753N×9394E, h0km, mb4.3/17, mb1 4.4/17, mb1mx4.3/24, mbtmp4.3/17, MS2.8/1, Ms1 2.8/1, ms1mx2.5/27, Error ellipse: s-maj=30.8km s-min=13.6km az=48.0*
MOS ***25*** *00:36:10.8±0.8, 758N×9400E, h33km, mb4.4/13, Error ellipse: s-maj=19.7km s-min=6.5km az=118.0*
NEIC ***25*** *00:36:12.3±0.3, 752N×9387E, h30km, mb4.3/10, Error ellipse: s-maj=12.2km s-min=5.7km az=223.0*
ISCJB ***25*** *00:36:13.4±1.8, 759N±007×9406E±008, h56km±16km, mb4.4/40, Error ellipse: s-maj=16.1km s-min=7.9km az=95.8*

ISC 25 00:36:16.1±1.4, 764N±007×9410E±008, h61km±13km, n78, σ0§90/76, mb4.4/40, 3C-6D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.80**	**135**	Pn	**Pn**	**00 37 54.0**	**+0.8**
0.7nm,0.3s,baz=306,slow=16,SNR=6.1							
PSI				LR	LR	00 40 24.5	
comp=Z,76nm,18.4s,baz=356,slow=37							
PSI	**Prapat**	**6.80**	**135**	Pn	**Pn**	**00 37 54.0**	**+0.8**
PSI				LR	LR	00 40 24.5	
KULM	**Kulim**	**6.92**	**109**	*e*Pn	**Pn**	**00 37 54.2**	**-0.7**
KULM				*e*Sn	**Sn**	**00 39 10.6**	**-1.6**
QIZ	**Qiongzhong**	**19.03**	**52**	P	**Pn**	**00 40 35.5**	**+1.1**
JIRN	**Jiri**	**21.27**	**340**	*e*P	**P**	**00 40 57.6**	**+0.3**
20nm,0.6s,mb4.6							
PKI	**Pulchoki**	**21.46**	**339**	*e*P	**P**	**00 41 00.9**	**+1.5**
16nm,0.5s,mb4.6							
GUN	**Gumba**	**21.61**	**340**	*e*P	**P**	**00 40 58.5**	**-2.4**
DMN	**Daman**	**21.61**	**338**	*e*P	**P**	**00 41 02.2**	**+1.3**
24nm,0.7s,mb4.7							
KKN	**Kakani**	**21.70**	**338**	*e*P	**P**	**00 41 01.2**	**-0.8**
20nm,0.6s,mb4.7							
KKM	**Kota Kinabalu**	**22.02**	**93**	*e*P	**P**	**00 41 07.5**	**+2.1**
LSA	**Lhasa**	**22.11**	**353**	*e*P	**P**	**00 41 06.5**	**+0.1**
LSA				pmax	pmax		
comp=Z,14nm,0.7s,mb4.5							
LSA	**Lhasa**	**22.11**	**353**	*e*P	**P**	**00 41 06.5**	**+0.2**
comp=Z,14nm,0.7s,mb4.5							
KOLN	**Koldanda**	**22.35**	**335**	*e*P	**P**	**00 41 08.3**	**-0.5**
comp=Z,54nm,1.1s,mb4.9							
ENH	**Enshi**	**26.74**	**31**	*e*P	**P**	**00 41 52.3**	**+2.4**
MK31	**Makanchi Array**	**40.30**	**347**	P	**P**	**00 43 47.1**	**-0.2**
MKAR	**Makanchi Array**	**40.30**	**347**	P	**P**	**00 43 47.4**	**0.0**
comp=Z,1.2nm,0.7s,mb3.7,baz=167,slow=8.1,SNR=12							
MKAR				PcP	PcP	00 45 51.3	+1.4
comp=Z,0.7nm,0.6s,baz=174,slow=2.6,SNR=5.1							
FITZ	**Fitzroy Crossi**	**40.30**	**130**	P	**P**	**00 43 46.7**	**-0.6**
comp=Z,1.0nm,0.6s,mb3.8,baz=126,slow=19,SNR=4.6							
FITZ				PcP	PcP	00 45 51.3	+1.4
comp=Z,0.6nm,0.4s,baz=103,slow=14,SNR=4.7							
KKAR	**Karatay Array**	**40.95**	**333**	*i*P	**P**	**00 43 52.5**	**-0.2**
KKAR				pmax	pmax		
comp=Z,1.0nm,0.5s,mb3.7							
SONM	**Songino Array**	**41.40**	**13**	P	**P**	**00 43 57.4**	**+1.0**
comp=Z,1.7nm,0.6s,mb3.9,baz=200,slow=8.0,SNR=12							
SONM				PcP	PcP	00 45 55.7	+2.2
comp=Z,0.7nm,0.5s,baz=206,slow=4.4,SNR=3.6							
KURK	**Kurchatov**	**44.82**	**346**	*e*P	**P**	**00 44 24.5**	**+0.5**
KURK				*e*		00 46 06.5	
KURK				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.1							
KURK	**Kurchatov**	**44.82**	**346**	*e*P	**P**	**00 44 24.5**	**+0.5**
comp=Z,1.9nm,0.7s,mb4.0							
KURK				*e*PcP	PcP	00 46 06.5	+1.5
ZAL	**Zalesovo**	**46.77**	**352**	P	**P**	**00 44 40.5**	**+1.2**
comp=Z,6.0nm,0.4s,mb4.9,baz=318,slow=4.6,SNR=18							
NVS	**Novosibirsk**	**47.86**	**352**	*e*P	**P**	**00 44 44.8**	**-3.1**
NVS				pmax	pmax		
comp=N,4.0nm,0.8s							
NVS				pmax	pmax		
comp=E,3.0nm,0.8s							
NVS				pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.7							
WRA	**Warramunga Arr**	**48.16**	**125**	P	**P**	**00 44 50.2**	**0.0**
comp=Z,1.7nm,0.5s,mb4.4,baz=305,slow=8.6,SNR=63							
WRA				PcP	PcP	00 46 18.2	+1.4
comp=Z,0.5nm,0.4s,baz=315,slow=2.8,SNR=12							
WRAB	**Tennant Creek**	**48.17**	**125**	*e*P	**P**	**00 44 50.5**	**+0.3**
WRAB				pmax	pmax		
comp=Z,3.0nm,0.3s,mb4.8							
WRAB	**Tennant Creek**	**48.17**	**125**	*e*P	**P**	**00 44 50.5**	**+0.3**
comp=Z,2.8nm,0.3s,mb4.8							
KBD	**Kabd**	**48.56**	**302**	*e*P	**P**	**00 44 53.5**	**+0.3**
RDF	**Al-Radifah**	**48.61**	**302**	*e*P	**P**	**00 44 53.8**	**+0.2**
RDF				AMb	AMB	00 44 54.4	
comp=Z,18nm,0.5s,mb5.4							
VOSK	**Vostochnaya**	**48.75**	**341**	P	**P**	**00 44 53.8**	**-0.9**
VOSK				pmax	pmax		
comp=Z,2.0nm,0.9s,mb4.2							
NAY	**Al-Naaiem**	**48.96**	**302**	*e*P	**P**	**00 44 56.2**	**0.0**
NAY				AMb	AMB	00 44 56.9	
comp=Z,10nm,0.5s,mb5.1							
MIB	**Mutribah**	**49.03**	**303**	*e*P	**P**	**00 44 56.9**	**0.0**
MIB				AMb	AMB	00 44 58.3	
comp=Z,16nm,0.7s,mb5.2							
BVA0	**Borovoye Array**	**49.19**	**341**	*i*P	**P**	**00 44 57.5**	**-0.6**
BRVK	**Borovoye**	**49.25**	**341**	*e*P	**P**	**00 44 58.3**	**-0.2**
BRVK				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.2							
BRVK	**Borovoye**	**49.25**	**341**	*e*P	**P**	**00 44 58.3**	**-0.2**
comp=Z,0.5nm,0.4s,mb3.9							
ZRNK	**Zerenda**	**49.58**	**340**	*e*P	**P**	**00 45 00.6**	**-0.4**
ZRNK				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.2							
ZRNK	**Zerenda**	**49.58**	**340**	*e*P	**P**	**00 45 00.6**	**-0.4**
comp=Z,0.6nm,0.4s,mb4.0							
CHKZ	**Chkalovo**	**49.68**	**342**	*e*P	**P**	**00 45 01.8**	**0.0**
CHKZ				*e*		00 46 23.4	
CHKZ				*e*		00 46 53.0	
CHKZ				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.4							
CHKZ	**Chkalovo**	**49.68**	**342**	*e*P	**P**	**00 45 01.8**	**0.0**
comp=Z,4.4nm,1.0s,mb4.4							
CHKZ				*e*PcP	PcP	00 46 23.4	+1.1
CHKZ				*e*PP	PP	00 46 53.0	-3.7
ASAR	**Alice Springs**	**49.80**	**130**	P	**P**	**00 45 02.8**	**+0.1**
comp=Z,1.8nm,0.5s,mb4.3,baz=303,slow=7.5,SNR=7.3							
AB31	**Akbulak array**	**50.41**	**331**	*e*P	**P**	**00 45 07.7**	**+0.4**
AB31				pmax	pmax		
comp=Z,1.0nm,0.3s,mb4.3							
AKTK	**Aktyubinsk**	**52.13**	**332**	P	**P**	**00 45 20.1**	**0.0**
AKTK				PcP	PcP	00 46 32.0	+0.7
AKTO	**Aktyubinsk**	**52.13**	**332**	P	**P**	**00 45 20.1**	**0.0**
comp=Z,2.7nm,0.6s,mb4.4,baz=127,slow=10,SNR=12							
AKTO				PcP	PcP	00 46 32.0	+0.7
comp=Z,1.0nm,0.5s,baz=326,slow=0.2,SNR=3.9							
BOD	**Bodaibo**	**52.38**	**13**	*e*P	**P**	**00 45 22.5**	**+0.5**
ARU	**Arti**	**56.08**	**337**	*e*P	**P**	**00 45 48.2**	**-0.8**
ARU	**Arti**	**56.08**	**337**	*e*P	**P**	**00 45 48.4**	**-0.6**
comp=Z,2.4nm,0.8s,mb4.3							
CTAO	**Charters Tower**	**58.23**	**119**	*e*P	**P**	**00 46 04.5**	**+0.3**
CTAO				pmax	pmax		
comp=Z,1.0nm,0.3s,mb4.3							
CTAO	**Charters Tower**	**58.23**	**119**	*e*P	**P**	**00 46 04.5**	**+0.4**
comp=Z,0.8nm,0.3s,mb4.2							
ASF	**Jabal al Asfar**	**58.30**	**303**	P	**P**	**00 46 06.3**	**+1.6**
comp=Z,1.0nm,0.6s,mb4.1,baz=27,slow=3.5,SNR=4.0							
BR131	**Keskin Array S**	**62.54**	**311**	*e*P	**P**	**00 46 32.0**	**-1.5**
comp=Z,1.7nm,0.7s,mb4.3							
BRTR	**Keskin Array B**	**62.54**	**311**	P	**P**	**00 46 32.5**	**-1.0**
comp=Z,1.8nm,0.7s,mb4.3,baz=120,slow=6.3,SNR=15							
TIRR	**Tirgusor**	**67.38**	**315**	⇑*i*P	**P**	**00 47 04.3**	**-0.7**
TIRR	**Tirgusor**	**67.38**	**315**	⇑P	**P**	**00 47 04.3**	**-0.7**
TIXI	**Tiksi**	**67.47**	**11**	*e*P	**P**	**00 47 03.4**	**-2.1**
TIXI				pmax	pmax		
comp=Z,4.0nm,0.6s,mb4.6							
AKASG	**Malin Array Be**	**68.31**	**322**	P	**P**	**00 47 09.1**	**-1.7**
comp=Z,1.0nm,0.7s,mb4.0,baz=88,slow=4.9,SNR=5.6							
AKASG				PP	PP	00 49 43.1	+1.1
comp=Z,0.3nm,0.3s,baz=125,slow=9.4,SNR=6.7							
IDI	**Anoyia**	**68.66**	**305**	P	**P**	**00 47 13.1**	**+0.1**
comp=Z,7.1nm,0.6s,mb4.8,baz=90,slow=7.2,SNR=22							
VRI	**Vrincioaia**	**68.83**	**316**	⇓*i*P	**P**	**00 47 14.4**	**+0.4**
PLOR	**Plostina**	**68.88**	**316**	⇓*i*P	**P**	**00 47 14.5**	**+0.1**
MLR	**Muntele Rosu**	**69.30**	**316**	⇓*i*P	**P**	**00 47 17.4**	**+0.5**
TAU	**Tasmania Unive**	**69.74**	**141**	*e*P	**P**	**00 47 19.7**	**+0.1**
BURAR	**Bucovina Array**	**70.19**	**318**	⇓*i*P	**P**	**00 47 21.9**	**-0.5**
JOF	**Joensuu**	**71.03**	**335**	*e*p	**P**	**00 47 26.7**	**-0.8**
comp=Z,6.6nm,0.5s,mb4.8							
DRGR		**71.73**	**317**	⇑*i*P	**P**	**00 47 32.2**	**+0.4**
FINES	**FINESS Array B**	**72.89**	**332**	P	**P**	**00 47 38.5**	**-0.2**
comp=Z,4.8nm,0.7s,mb4.5,baz=116,slow=6.2,SNR=21							
KAF	**Kangasniemi**	**72.97**	**333**	*e*p	**P**	**00 47 38.2**	**-0.9**
comp=Z,3.6nm,0.5s,mb4.6,baz=105,slow=5.7							
KAF	**Kangasniemi**	**72.97**	**333**	*e*P	**P**	**00 47 38.2**	**-0.9**
KAF				pmax	pmax		
comp=Z,4.0nm,0.5s,mb4.6							
PKSM	**Moragy**	**74.46**	**316**	⇓P	**P**	**00 47 47.5**	**-0.3**
ARCES	**ARCESS Array B**	**75.47**	**340**	P	**P**	**00 47 54.0**	**+0.4**
comp=Z,2.0nm,0.8s,mb4.1,baz=88,slow=8.6,SNR=4.9							
MORC	**Moravsky Berou**	**75.52**	**319**	⇓P	**P**	**00 47 54.2**	**+0.3**
GERES	**GERESS Array B**	**77.97**	**318**	P	**P**	**00 48 08.0**	**+0.3**
comp=Z,3.0nm,0.7s,mb4.3,baz=89,slow=5.1,SNR=30							
KHC	**Kasperske Hory**	**78.06**	**319**	*e*P	**P**	**00 48 08.5**	**+0.3**
NB2	**NORSAR Subarra**	**79.91**	**331**	P	**P**	**00 48 17.9**	**-0.5**
comp=Z,1.0nm,0.5s,mb4.0,baz=98,slow=5.1							
NOA	**NORSAR Array B**	**79.91**	**331**	P	**P**	**00 48 17.5**	**-0.9**
comp=Z,1.2nm,0.7s,mb3.9,baz=98,slow=5.4,SNR=4.7							
TORD	**Torodi Ar. Bea**	**90.61**	**283**	P	**P**	**00 49 13.1**	**+1.4**
comp=Z,1.1nm,0.7s,mb4.3,baz=91,slow=4.0,SNR=6.9							
ESDC	**Sonseca Array**	**91.33**	**310**	P	**P**	**00 49 16.2**	**+1.0**
comp=Z,0.9nm,0.5s,mb4.3,baz=64,slow=4.4,SNR=8.1							
SLKM	**Skilak Lake**	**95.61**	**27**	*e*P	**P**	**00 49 33.6**	**-1.2**
NVAR	**Mina Array Bea**	**125.14**	**31**	PKP	PKPdf	00 55 12.4	+2.8
comp=Z,0.4nm,0.4s,baz=336,slow=0.6,SNR=3.9							
PDAR	**Pinedale Array**	**125.40**	**21**	PKP	PKPdf	00 55 11.5	+1.4
comp=Z,0.4nm,0.9s,baz=14,slow=2.4,SNR=3.5							
CPUP	**Villa Florida**	**147.09**	**232**	PKPbc	PKPbc	00 55 53.5	+1.3
comp=Z,1.8nm,0.7s,baz=76,slow=3.4,SNR=5.7							

IDC 25 00:52:49.6±4.6, 2668N×14249E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.4/17, mbtmp3.8/3, Error ellipse: s-maj=315.0km s-min=29.4km az=85.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.01**	**191**	P	P	01 01 22.6	0.0
0.8nm,0.3s,baz=12,slow=8.7,SNR=40							
ASAR	**Alice Springs**	**50.73**	**190**	P	P	01 01 51.5	+0.3
0.1nm,0.5s,baz=5.4,slow=6.7,SNR=2.8							
FINES	**FINESS Array B**	**78.44**	**334**	P	P	01 04 52.0	-0.3
1.1nm,0.6s,baz=73,slow=4.7,SNR=8.1							

IDC ***25*** *00:57:29.8±0.7, 1094N×141.16E, h0km, mb4.1/11, mb1 4.3/12, mb1mx4.2/22, mbtmp4.1/12, ML4.5/1, MS3.6/13, Ms1 3.6/13, ms1mx3.4/28, Error ellipse: s-maj=26.2km s-min=15.2km az=100.0*
ISCJB ***25*** *00:57:32.9±0.4, 1088N±005×141.19E±006, h33km, mb4.3/20, MS3.6/11, Error ellipse: s-maj=9.3km s-min=6.9km az=72.7*
MOS ***25*** *00:57:32.5±1.1, 1094N×141.23E, h33km, mb4.7/9, Error ellipse: s-maj=17.5km s-min=10.2km az=94.8*
NEIC ***25*** *00:57:33.2±3.9, 1092N×141.18E, h22km±28km, mb4.5/6, Error ellipse: s-maj=15.2km s-min=7.1km az=96.0*

ISC 25 00:57:35.1±0.4, 1092N±006×14131E±009, h35km, (h41km±2.2km:pP-P), n50, σ0§93/42, mb4.3/20, MS3.6/11, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.37**	**52**	Pn	**Pn**	**00 58 40.7**	**+1.7**
22nm,0.3s,baz=258,slow=2.8,SNR=7.0							
GUMO				Sn	**Sn**	**00 59 33.8**	**+5.2**
8.6nm,0.3s,baz=29,slow=24,SNR=2.8							
GUMO				LR	LR	01 00 15.1	
comp=Z,264nm,19.1s,baz=281,slow=37							
GUMO	**Guam**	**4.37**	**52**	*e*P	**Pn**	**00 58 39.5**	**+0.6**
GUMO						00 59 33.8	
GUMO	**Guam**	**4.37**	**52**	*e*Pn	**Pn**	**00 58 39.5**	**+0.6**
GUMO				Sn	**Sn**	**00 59 33.8**	**+5.1**
GUMO				LR	LR	01 00 15.1	
CBIJ	**Chichi jima**	**16.11**	**3**	LR	LR	01 07 23.5	
comp=Z,141nm,18.6s,baz=132,slow=37							
JOW	**Kunigami**	**20.04**	**324**	LR	LR	01 09 11.3	
comp=Z,72nm,20.4s,MS3.0,baz=165,slow=35							
PMG	**Port Moresby**	**21.02**	**164**	P	**P**	**01 02 15.7**	**+0.2**
21nm,0.8s,mb4.5,baz=254,slow=6.9,SNR=4.0							
PMG				LR	LR	01 09 43.3	
comp=Z,226nm,18.7s,MS3.6,baz=253,slow=35							
PMG	**Port Moresby**	**21.02**	**164**	*e*P	**P**	**01 02 16.0**	**+0.4**
PMG				pmax	pmax		
comp=Z,34nm,1.1s							
PMG	**Port Moresby**	**21.02**	**164**	*e*P	**P**	**01 02 16.0**	**+0.4**
comp=Z,34nm,1.1s,mb4.6							
PMG				LR	LR	01 09 43.3	
JHJ	**Hachijo jima 2**	**22.14**	**357**	LR	LR	01 10 35.2	
comp=Z,267nm,18.1s,MS3.7,baz=102,slow=36							
MJAR	**Matsushiro Arr**	**25.66**	**354**	P	**P**	**01 03 02.1**	**+0.6**
comp=Z,0.6nm,0.3s,mb3.6,baz=174,slow=13,SNR=4.4							
CTA	**Charters Tower**	**31.20**	**171**	LR	LR	01 15 32.6	
comp=Z,142nm,21.0s,MS3.6,baz=42,slow=35							
CTAO	**Charters Tower**	**31.20**	**171**	*e*P	**P**	**01 03 51.1**	**+0.2**
WRAB	**Tennant Creek**	**31.42**	**193**	*e*P	**P**	**01 03 53.0**	**+0.2**
WRAB				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.3							
WRAB	**Tennant Creek**	**31.42**	**193**	*e*P	**P**	**01 03 53.0**	**+0.1**
comp=Z,5.0nm,0.9s,mb4.3							
WRA	**Warramunga Arr**	**31.43**	**193**	P	**P**	**01 03 52.3**	**-0.7**
comp=Z,2.1nm,0.9s,mb4.0,baz=13,slow=9.9,SNR=8.7							
FITZ	**Fitzroy Crossi**	**32.73**	**208**	P	**P**	**01 04 03.5**	**-0.8**
comp=Z,1.6nm,1.0s,mb4.1,baz=0.0,slow=20,SNR=2.9							
ASAJ	**Asahikawa**	**33.09**	**2**	LR	LR	01 18 27.3	
comp=Z,40nm,18.1s,MS3.2,baz=7.4,slow=38							
ASAR	**Alice Springs**	**35.13**	**192**	P	**P**	**01 04 26.0**	**+0.8**
comp=Z,0.5nm,0.4s,mb3.8,baz=20,slow=12,SNR=8.5							
KLR	**Kul'dur**	**39.01**	**350**	*e*P	**P**	**01 04 55.0**	**-3.1**
STKA	**Stephens Creek**	**42.56**	**180**	LR	LR	01 24 25.5	
comp=Z,252nm,18.4s,MS4.1,baz=25,slow=38							
STKA	**Stephens Creek**	**42.56**	**180**	*e*P	**P**	**01 05 27.1**	**-0.3**
SONM	**Songino Array**	**47.02**	**328**	P	**P**	**01 06 03.7**	**+0.7**
comp=Z,0.4nm,0.3s,mb3.8,baz=126,slow=7.5,SNR=6.4							
ZAK	**Zakamensk**	**50.22**	**329**	*e*P	**P**	**01 06 26.8**	**-0.7**
ZAK				pmax	pmax		
comp=Z,8.0nm,1.3s,mb4.6							
JIRN	**Jiri**	**54.19**	**296**	*e*P	**P**	**01 06 58.3**	**+1.3**
comp=Z,16nm,1.0s,mb4.9							
GUN	**Gumba**	**54.49**	**296**	*e*P	**P**	**01 07 00.3**	**+1.1**
PKI	**Pulchoki**	**54.87**	**296**	*e*P	**P**	**01 07 02.2**	**+0.3**
KKN	**Kakani**	**55.01**	**296**	*e*P	**P**	**01 07 03.9**	**+1.0**
DMN	**Daman**	**55.14**	**296**	*e*P	**P**	**01 07 04.3**	**+0.4**
GKN	**Gorkha**	**55.59**	**296**	*e*P	**P**	**01 07 07.6**	**+0.4**
KOLN	**Koldanda**	**56.48**	**296**	*e*P	**P**	**01 07 13.5**	**0.0**
comp=Z,11nm,0.8s,mb4.9							
BILL	**Bilibino**	**59.38**	**11**	P	**P**	**01 07 32.0**	**-1.8**
BILL				*e*	pP	01 07 45.0	+0.5
BILL				pmax	pmax		
comp=Z,5.0nm,1.2s,mb4.4							
MKAR	**Makanchi Array**	**61.04**	**318**	P	**P**	**01 07 45.0**	**-0.2**
comp=Z,1.3nm,0.5s,mb4.3,baz=99,slow=8.6,SNR=23							
ZAL	**Zalesovo**	**61.82**	**326**	LR	LR	01 36 21.1	
comp=Z,51nm,18.8s,MS3.7,baz=134,slow=38							
CHKZ	**Chkalovo**	**69.85**	**323**	*e*P	**P**	**01 08 41.0**	**-1.1**
CHKZ				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.3							
CHKZ	**Chkalovo**	**69.85**	**323**	*e*P	**P**	**01 08 41.0**	**-1.1**
comp=Z,3.9nm,1.0s,mb4.3							
BRVK	**Borovoye**	**69.95**	**323**	*e*P	**P**	**01 08 42.5**	**-0.3**
BRVK				*e*	pP	01 08 53.7	+0.1
BRVK				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.3							
BRVK	**Borovoye**	**69.95**	**323**	*e*P	**P**	**01 08 42.5**	**-0.3**
comp=Z,4.3nm,1.0s,mb4.3							
BRVK				*e*	pP	01 08 53.7	+0.1
ZRNK	**Zerenda**	**70.70**	**322**	*e*P	**P**	**01 08 47.0**	**-0.3**
ZRNK				*e*	pP	01 08 58.5	+0.3
ZRNK				pmax	pmax		
comp=Z,9.0nm,1.1s,mb4.6							
ZRNK	**Zerenda**	**70.70**	**322**	*e*P	**P**	**01 08 47.0**	**-0.4**
comp=Z,9.1nm,1.1s,mb4.6							
ZRNK				*e*	pP	01 08 58.5	+0.3
ILAR	**Eielson Array**	**72.45**	**25**	P	**P**	**01 08 56.5**	**-1.3**
comp=Z,1.7nm,0.8s,mb4.0,baz=250,slow=5.2,SNR=16							
INK	**Inuvik**	**78.14**	**22**	*e*P	**P**	**01 09 30.7**	**+0.1**
INK				*e*	pP	01 09 41.4	-0.1
INK				pmax	pmax		
comp=Z,3.0nm,1.1s							
INK	**Inuvik**	**78.14**	**22**	*e*P	**P**	**01 09 30.7**	**+0.2**
comp=Z,3.4nm,1.1s,mb4.2							
INK				*e*PcP	PcP	01 09 41.4	+1.4
YKA	**Yellowknife Ar**	**86.80**	**27**	P	**P**	**01 10 16.2**	**+0.5**
comp=Z,1.2nm,0.3s,mb4.5,baz=290,slow=4.9,SNR=37							
YKA				LR	LR	01 48 41.6	
comp=Z,39nm,18.1s,MS3.9,baz=275,slow=35							
YKA	**Yellowknife Ar**	**86.80**	**27**	P	**P**	**01 10 16.2**	**+0.5**
YKA				pmax	pmax		
comp=Z,1.0nm,0.4s							
YKA				MLR	MLR		
comp=Z,39nm,18.1s							
ARCES	**ARCESS Array B**	**88.52**	**342**	LR	LR	01 53 56.4	
comp=Z,39nm,18.6s,MS3.9,baz=289,slow=38							
SBA	**Scott Base**	**89.78**	**175**	*e*P	**P**	**01 10 29.3**	**-0.6**
NVAR	**Mina Array Bea**	**91.29**	**51**	P	**P**	**01 10 38.5**	**+1.6**
comp=Z,1.1nm,0.8s,mb4.2,baz=253,slow=3.3,SNR=6.9							
FINES	**FINESS Array B**	**92.07**	**334**	P	**P**	**01 10 38.6**	**-1.9**
comp=Z,2.8nm,0.9s,mb4.6,baz=90,slow=5.7,SNR=9.0							
FINES				LR	LR	01 57 10.3	
comp=Z,29nm,19.6s,MS3.7,baz=166,slow=39							
NOA	**NORSAR Array B**	**98.24**	**338**	LR	LR	01 59 59.3	
comp=Z,23nm,19.5s,MS3.7,baz=90,slow=38							
LPAZ	**La Paz**	**150.91**	**104**	PKPbc	PKPbc	01 17 27.6	+3.6
comp=Z,3.8nm,0.8s,baz=347,slow=3.0,SNR=21							

IDC 25 01:12:53.1±4.5, 1988S×16915E, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.8/13, mbtmp3.8/3, ML3.4/1, Error ellipse: s-maj=126.8km s-min=45.1km az=133.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.34**	**229**	Pn	Pn	01 13 46.8	+0.2
4.1nm,0.3s,baz=73,slow=19,SNR=69							
DZM				Sn	Sn	01 14 22.1	-4.9
11nm,0.3s,baz=174,slow=23,SNR=14							
WRA	**Warramunga Arr**	**32.70**	**264**	P	P	01 19 27.6	+0.5
0.5nm,0.5s,baz=92,slow=8.3,SNR=24							
ASAR	**Alice Springs**	**32.90**	**257**	P	P	01 19 29.0	+0.1
1.6nm,0.6s,baz=86,slow=9.0,SNR=13							
GERES	**GERESS Array B**	**145.01**	**331**	PKPbc	PKPbc	01 32 31.1	-0.5
0.3nm,0.7s,baz=352,slow=2.0,SNR=3.7							

ISCJB ***25*** *01:13:04.6±0.4, 6138N±003×1679E±0.1, h9km, mb3.8/10, Error ellipse: s-maj=7.4km s-min=4.6km az=40.3*
IDC ***25*** *01:13:04.8±1.0, 6150N×16753E, h0km, mb3.6/9, mb1 3.9/9, mb1mx3.8/22, mbtmp3.6/9, Error ellipse: s-maj=37.5km s-min=18.3km az=159.0*
MOS ***25*** *01:13:04.8±1.3, 6136N×16769E, h12km, mb4.3/4, Error ellipse: s-maj=18.8km s-min=12

MKAR	**Makanchi Array**	**48.46**	**294**	P	**P**	**01 21 51.0**	**+1.8**
ZRNK	**Zerenda**	**49.17**	**308**	*e*P	**P**	**01 21 53.5**	**-1.2**
PDAR	**Pinedale Array**	**50.33**	**72**	P	**P**	**01 22 03.0**	**-0.5**
	comp=Z,0.5nm,0.7s,mb3.7,baz=340,slow=6.8,SNR=4.7						
GOF	**Gofitskoye**	**64.89**	**320**	*e*P	**P**	**01 23 45.5**	**-0.5**
ANN	**Anapa**	**66.78**	**324**	*e*P	**P**	**01 24 00.4**	**+2.1**
ANN				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.7						
GERES	**GERESS Array B**	**68.12**	**342**	P	**P**	**01 24 03.7**	**-3.0**
	comp=Z,0.3nm,0.6s,mb3.5,baz=28,slow=6.0,SNR=3.6						
WRA	**Warramunga Arr**	**85.40**	**211**	P	**P**	**01 25 42.6**	**-1.6**
	comp=Z,0.8nm,0.8s,mb3.9,baz=17,slow=5.5,SNR=5.4						
WRA	**Warramunga Arr**	**85.40**	**211**	P	**P**	**01 25 42.6**	**-1.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**89.08**	**211**	P	**P**	**01 26 02.0**	**0.0**
	comp=Z,0.3nm,0.5s,mb3.9,baz=91,slow=7.9,SNR=4.5						

ISC 25 01:38:36.6±0.7,**3851N**±004×**2683E**±005,**h10**km±6km,**n8,**
σ0°**83**/15,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.24**	**232**	*i* P	**Pg**	**01 38 41.2**	**-0.3**
URLA				*i* S	**Sg**	**01 38 44.9**	**+0.1**
IZM	**Izmir**	**0.35**	**108**	*i* PG	**Pg**	**01 38 43.5**	**-0.1**
IZM				*i* SG	**Sg**	**01 38 48.9**	**+0.5**
KDAG	**Bornova**	**0.35**	**107**	*i* P	**Pg**	**01 38 43.4**	**-0.3**
KDAG				*i* S	**Sg**	**01 38 49.0**	**+0.6**
AYVA	**Ayvalik**	**0.81**	**352**	*i* P	**Pg**	**01 38 51.6**	**-0.7**
AYVA				*i* S	**Sg**	**01 39 03.8**	**+0.9**
AKS	**Akhisar**	**0.85**	**64**	PG	**Pg**	**01 38 51.9**	**-1.1**
AYDN	**Tasoluk**	**1.18**	**135**	*i* P	**Pb**	**01 38 57.8**	**-1.3**
AYDN				*i* S	**Sb**	**01 39 14.8**	**+0.3**
MANT	**Manisa**	**1.35**	**90**	*i* P	**Pn**	**01 39 02.0**	**+0.5**
MANT				*i* S	**Sb**	**01 39 19.1**	**-0.3**
BDRM	**Kayabasi**	**1.52**	**161**	*i* P	**Pn**	**01 39 06.6**	**+2.8**
BDRM				*i* S	**Sn**	**01 39 23.1**	**-0.5**

MOS ***25*** *01:49:21.9*±*0.7,5.16S*×*15359E, h31km, mb4.9/7, Error ellipse: s-maj=13.2km s-min=10.1km az=69.9*
ISCJB ***25*** *01:49:22.4*±*3.7,524S*±*007*×*15357E*±*005, h32km*±*26km, mb4.4/23, Error ellipse: s-maj=11.0km s-min=7.9km az=15.8*
IDC ***25*** *01:49:25.6*±*3.7,526S*×*15358E, h48km*±*33km, mb4.0/11, mb1 4.2/13,mb1mx4.1/18, mbtmp4.3/13, ML4.0/2, MS3.4/2, Ms1 3.4/2, ms1mx2.6/19, Error ellipse: s-maj=24.3km s-min=19.9km az=81.0*
NEIC ***25*** *01:49:25.6*±*1.4,524S*×*15356E, h51km*±*13km, mb4.7/11, Error ellipse: s-maj=9.9km s-min=8.8km az=174.0*
BJI ***25*** *01:49:25.6, 551S*×*15345E, h60km, mB5.0, mb4.9, Ms4.6, Msz4.3*

ISC 25 01:49:26.7±1.4,**528S**±007×**15357E**±005,**h54**km±13km,
n62,σ1°**18**/59,**mb4.4**/23,**4C-1D,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.56**	**123**	LR	LR	01 53 59.3	
	comp=Z,224nm,20.4s,baz=176,slow=36						
HNR	**Honiara**	**7.56**	**123**	*e*Pn	**Pn**	**01 51 13.8**	**-0.4**
HNR				*e*Sn	**Sn**	**01 52 39.6**	**+1.2**
PMG	**Port Moresby**	**7.56**	**237**	P	**Pn**	**01 51 15.5**	**+1.3**
	9.5nm,0.3s,baz=70,slow=10,SNR=14						
PMG				S	**Sn**	**01 52 37.6**	**-0.9**
	6.5nm,0.3s,baz=5.6,slow=20,SNR=3.4						
PMG	**Port Moresby**	**7.56**	**237**	*e*P	**Pn**	**01 51 12.8**	**-1.4**
PMG				*e*		01 52 39.0	
PMG				pmax	pmax		
	comp=Z,47nm,0.7s						
PMG	**Port Moresby**	**7.56**	**237**	*e*Pn	**Pn**	**01 51 12.8**	**-1.4**
	comp=Z,47nm,0.7s						
PMG				*e*Sn	**Sn**	**01 52 39.0**	**+0.5**
CTA	**Charters Tower**	**16.35**	**205**	P	**Pn**	**01 53 13.1**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=36,slow=12,SNR=4.2						
CTAO	**Charters Tower**	**16.35**	**205**	*e*P	**Pn**	**01 53 13.1**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,11nm,1.1s						
CTAO	**Charters Tower**	**16.35**	**205**	*e*P	**Pn**	**01 53 13.1**	**+0.6**
	comp=Z,11nm,1.1s						
DZM	**Mont Dzumac**	**20.84**	**144**	P	**P**	**01 54 04.1**	**+0.4**
	comp=Z,15nm,0.6s,baz=295,slow=24,SNR=21						
KAKA	**Kakadu**	**22.12**	**249**	↑*i*P	**P**	**01 54 16.8**	**-0.7**
	comp=Z,16nm,0.4s,mb4.8						
WRAB	**Tennant Creek**	**23.70**	**230**	*e*P	**P**	**01 54 33.5**	**0.0**
WRAB				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**23.70**	**230**	*e*P	**P**	**01 54 33.5**	**+0.1**
	comp=Z,12nm,0.8s,mb4.4						
WB2	**Warramunga Arr**	**23.70**	**230**	↑*i*P	**P**	**01 54 32.8**	**-0.7**
WRA	**Warramunga Arr**	**23.71**	**230**	P	**P**	**01 54 33.1**	**-0.5**
	comp=Z,3.8nm,0.7s,mb3.9,baz=54,slow=9.9,SNR=29						
WRA				PcP	PcP	01 58 17.6	+1.2
	comp=Z,2.8nm,0.9s,baz=52,slow=2.2,SNR=8.2						
ASAR	**Alice Springs**	**26.33**	**224**	P	**P**	**01 54 57.2**	**0.0**
	comp=Z,3.2nm,0.9s,mb3.9,baz=59,slow=8.3,SNR=17						
ASAR				PcP	PcP	01 58 23.1	+1.0
	comp=Z,2.2nm,0.8s,baz=48,slow=2.8,SNR=9.6						
STKA	**Stephens Creek**	**28.74**	**202**	↑*i*P	**P**	**01 55 15.7**	**-3.2**
	comp=Z,2.2nm,0.8s,mb3.9						
STKA	**Stephens Creek**	**28.74**	**202**	LR	LR	02 06 29.7	
	comp=Z,106nm,20.5s,baz=28,slow=36						
FITZ	**Fitzroy Crossi**	**30.11**	**243**	*e*P	**P**	**01 55 30.1**	**-0.9**
	comp=Z,4.5nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**30.11**	**243**	P	**P**	**01 55 30.4**	**-0.7**
	comp=Z,1.6nm,0.4s,mb4.1,baz=53,slow=10,SNR=22						
RAO	**Raoul Island**	**36.00**	**135**	*e*P	**P**	**01 56 22.4**	**+0.1**
MBWA	**Marble Bar**	**36.40**	**241**	*e*P	**P**	**01 56 27.0**	**+1.2**
KKM	**Kota Kinabalu**	**38.95**	**286**	P	**P**	**01 56 46.1**	**-1.1**
KSM	**Kuching**	**43.72**	**278**	*e*P	**P**	**01 57 27.3**	**+0.9**
KS15	**Wonju Array Si**	**48.77**	**333**	*e*P	**P**	**01 58 05.1**	**-1.0**
KULM	**Kulim**	**53.87**	**280**	*e*P	**P**	**01 58 45.4**	**+1.2**
XAN	**Xi'an**	**57.49**	**316**	P	**P**	**01 59 10.9**	**+0.8**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
LZH	**Lanzhou**	**62.10**	**316**	*e*P	**P**	**01 59 45.0**	**+3.2**
LZH				AP	pP	01 59 59.6	+2.9
LZH				XP	sP	02 00 06.0	+3.1
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,88nm,4.2s						
MA2	**Magadan**	**64.69**	**358**	*e*P	**P**	**01 59 57.5**	**-1.4**
SONM	**Songino Array**	**67.13**	**328**	P	**P**	**02 00 15.1**	**+0.5**
	comp=Z,2.1nm,0.8s,mb4.2,baz=133,slow=5.6,SNR=9.2						
ZAK	**Zakamensk**	**70.29**	**328**	*e*P	**P**	**02 00 34.4**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
VNDA	**Vanda**	**72.33**	**178**	P	**P**	**02 00 46.1**	**-0.4**
	comp=Z,1.3nm,0.8s,mb3.9,baz=334,slow=4.5,SNR=8.0						
BILL	**Bilibino**	**73.69**	**5**	P	**P**	**02 00 54.0**	**-0.6**
BILL				*e*	pP	02 01 09.4	-0.5
TIXI	**Tiksi**	**78.47**	**352**	*e*P	**P**	**02 01 21.1**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.9						
MKAR	**Makanchi Array**	**81.18**	**319**	P	**P**	**02 01 37.3**	**+0.8**
	comp=Z,4.2nm,0.7s,mb4.5,baz=100,slow=6.5,SNR=33						
ZAL	**Zalesovo**	**81.98**	**326**	P	**P**	**02 01 40.6**	**0.0**
	comp=Z,1.8nm,0.4s,mb4.4,baz=84,slow=3.5,SNR=6.6						
ILAR	**Eielson Array**	**82.31**	**22**	P	**P**	**02 01 40.2**	**-2.2**
	comp=Z,0.7nm,0.9s,mb3.6,baz=252,slow=5.9,SNR=7.2						
ULHL	**Ulahol**	**84.20**	**313**	P	**P**	**02 01 54.3**	**+2.2**
	SNR=6.1						
KURK	**Kurchatov**	**84.61**	**322**	*e*P	**P**	**02 01 53.8**	**-0.4**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.9						
KURK	**Kurchatov**	**84.61**	**322**	*e*P	**P**	**02 01 53.8**	**-0.4**
	comp=Z,10nm,1.1s,mb4.9						
QSPA	**South Pole Qui**	**84.69**	**180**	*e*P	**P**	**02 01 54.6**	**0.0**
	comp=Z,6.8nm,0.8s,mb4.8						
TKM2	**Tokmak 2**	**84.81**	**314**	P	**P**	**02 01 56.8**	**+1.6**
	SNR=16						
KZA	**Kyzart**	**84.89**	**313**	P	**P**	**02 01 58.3**	**+2.8**
	SNR=9.6						
KBK	**Karagaybulak**	**85.22**	**313**	P	**P**	**02 01 59.2**	**+1.9**
	SNR=7.6						
MAW	**Mawson**	**85.42**	**203**	P	**P**	**02 01 57.8**	**-0.5**
	comp=Z,2.3nm,0.6s,mb4.5,baz=34,slow=7.6,SNR=7.4						
UCH	**Uchtor**	**85.45**	**313**	P	**P**	**02 02 00.8**	**+2.4**
	SNR=8.8						
AAK	**Ala-Archa**	**85.54**	**313**	P	**P**	**02 02 00.2**	**+1.3**
	SNR=6.3						
AAK	**Ala-Archa**	**85.54**	**313**	*e*P	**P**	**02 01 58.9**	**0.0**
	comp=Z,7.0nm,0.8s,mb4.9						
AAK	**Ala-Archa**	**85.54**	**313**	*e*P	**P**	**02 01 58.9**	**0.0**
	comp=Z,6.8nm,0.8s,mb4.9						
USP	**Ospenovka**	**85.66**	**314**	P	**P**	**02 01 58.8**	**-0.7**
	SNR=7.0						
AML	**Almayashu**	**86.03**	**313**	P	**P**	**02 02 03.8**	**+2.6**
	SNR=12						
CHKZ	**Chkalovo**	**90.04**	**324**	*e*P	**P**	**02 02 18.2**	**-2.2**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.6						
CHKZ	**Chkalovo**	**90.04**	**324**	*e*P	**P**	**02 02 18.2**	**-2.2**
	comp=Z,2.4nm,0.7s,mb4.6						
BRVK	**Borovoye**	**90.14**	**323**	*e*P	**P**	**02 02 20.1**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.7						
BRVK	**Borovoye**	**90.14**	**323**	*e*P	**P**	**02 02 20.1**	**-0.8**
	comp=Z,3.0nm,0.8s,mb4.7						
ZRNK	**Zerenda**	**90.89**	**323**	*e*P	**P**	**02 02 23.4**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.7						
ZRNK	**Zerenda**	**90.89**	**323**	*e*P	**P**	**02 02 23.4**	**-1.0**
	comp=Z,1.7nm,0.5s,mb4.6						
SYO	**Syowa Base**	**93.47**	**199**	‖*e*P	**P**	**02 02 35.8**	**-0.5**
SYO	**Syowa Base**	**93.47**	**199**	‖*e*pP	pP	02 02 40.2	-12
YKA	**Yellowknife Ar**	**95.49**	**28**	P	**P**	**02 02 43.6**	**-2.0**
	comp=Z,0.4nm,1.0s,mb3.8,baz=300,slow=0.5,SNR=3.5						
GERES	**GERESS Array B**	**124.86**	**329**	PKP	PKPdf	02 08 19.6	-0.8
	comp=Z,0.3nm,0.4s,baz=90,slow=0.1,SNR=4.7						
TORD	**Torodi Ar. Bea**	**151.18**	**288**	PKPbc	PKPbc	02 09 14.5	+0.7
	comp=Z,5.0nm,0.7s,baz=53,slow=2.5,SNR=79						
DBIC	**Dimbokro**	**158.49**	**275**	PKPab	PKPab	02 09 57.2	+4.3
	comp=Z,2.8nm,0.8s,baz=80,slow=9.3,SNR=3.8						

MOS ***25*** *01:52:45.5*±*1.1,5622N*×*16262E, h19km, mb4.3/1, Error ellipse: s-maj=28.9km s-min=18.8km az=68.5*
KRSC 25 01:52:46.4±1.0,**5614N**×**16254E, h16**km±2km,**ML3.9,**
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBG	**Krutoberegovo**	**0.15**	**39**	*i* P	Pg	01 52 51.3	+0.9
KBG				*e*S	Sg	01 52 54.8	+1.8
KBG				Smax			
	8μm,0.6s						
KBTR	**Krutoberegovo**	**0.17**	**66**	P	Pg	01 52 51.4	+0.7
KBTR				S	Sg	01 52 55.5	+1.9
KBTR	**Krutoberegovo**	**0.17**	**66**	*i* P	Pg	01 52 51.4	+0.7
KBTR				*e*S	Sg	01 52 55.3	+1.7
SMKR	**Semkarok**	**0.74**	**307**	*i* P	Pg	01 53 01.4	+0.5
SMKR				*e*S	Sg	01 53 12.5	+1.8
BDR	**Baidarnaya**	**0.86**	**301**	*i* P	Pb	01 53 03.5	+0.6
BDR				*e*S	Sb	01 53 15.7	+1.6
SRKR	**Sorokina**	**0.92**	**305**	*i* P	Pb	01 53 04.5	+0.5
SRKR				*e*S	Sb	01 53 18.1	+2.1
ZLN	**Zelenaya**	**0.98**	**263**	*i* P	Pb	01 53 05.2	+0.2
ZLN				*e*S	Sb	01 53 20.0	+2.3
CIRR	**Tsirk**	**1.00**	**269**	*e*P	Pb	01 53 05.5	+0.1
CIRR				*e*S	Sb	01 53 19.5	+1.1
LGNR	**Loginova**	**1.04**	**268**	*i* P	Pb	01 53 06.4	+0.4
LGNR				*e*S	Sb	01 53 20.6	+1.3
KLY	**Klyuchi**	**1.07**	**280**	P	Pb	01 53 04.8	-1.7
KLY				S	Sb	01 53 18.6	-1.6
KLY	**Klyuchi**	**1.07**	**280**	*e*P	Pb	01 53 04.7	-1.8
KLY				*e*S	Sb	01 53 19.1	-1.1
KRSR	**Krestovskiy**	**1.11**	**275**	*i* P	Pb	01 53 06.8	-0.4
KRSR				*e*S	Sb	01 53 21.4	+0.1
KPT	**Kopyto**	**1.31**	**263**	*i* P	Pn	01 53 10.3	+0.3
KPT				*e*S	Sn	01 53 27.2	0.0
KMNR	**Kamenistaya**	**1.35**	**254**	*e*P	Pn	01 53 11.1	+0.5
KMNR				*e*S	Sn	01 53 29.5	+1.3
KOZR	**Kozyr**	**1.48**	**268**	PN	Pn	01 53 13.8	+1.4
KOZR				S	Sn	01 53 34.6	+3.2
KOZ	**Kozyrevsk**	**1.50**	**268**	P	Pn	01 53 13.8	+1.2
KOZ				S	Sn	01 53 34.6	+2.8
KOZ	**Kozyrevsk**	**1.50**	**268**	*e*P	Pn	01 53 13.7	+1.1
SRDR	**Sredinnyy**	**1.59**	**278**	*i* P	Pn	01 53 15.0	+1.2
SRDR				*e*S	Sn	01 53 35.1	+1.1
TUMR	**Tumrok**	**1.60**	**239**	*i* P	Pn	01 53 14.7	+0.6
TUMR				*e*S	Sn	01 53 36.0	+1.6
MKZ	**Mys Kozlova**	**1.65**	**197**	P	Pn	01 53 17.6	+2.9
MKZ				S	Sn	01 53 41.3	+5.7
MKZ	**Mys Kozlova**	**1.65**	**197**	*e*P	Pn	01 53 16.6	+1.9
BKI	**Bering**	**2.16**	**114**	*e*S	Sn	01 53 48.4	+0.3
ESO	**Esso**	**2.17**	**266**	*e*P	Pn	01 53 23.1	+1.3
ESO				Smax			
	170nm,1.0s						
OSSR	**Ossora**	**3.13**	**5**	P	Pn	01 53 37.3	+2.2
NLC	**Nalytchevo**	**3.51**	**213**	P	Pn	01 53 41.3	+1.1
NLC				S	Sn	01 54 21.2	-0.2
NLC	**Nalytchevo**	**3.51**	**213**	*e*P	Pn	01 53 41.7	+1.5
NLC				*e*S	Sn	01 54 20.3	-1.1
SDLR	**Sedlovina**	**3.57**	**218**	*e*P	Pn	01 53 42.1	+1.0
SMAR	**Somma**	**3.61**	**219**	*e*P	Pn	01 53 43.0	+1.4
GNL	**Ganaly**	**3.61**	**229**	*e*P	Pn	01 53 42.4	+0.7
AVH	**Avacha**	**3.63**	**219**	*e*P	Pn	01 53 44.4	+2.5
KOK	**Koryaka**	**3.64**	**220**	*e*P	Pn	01 53 44.4	+2.3
UGLR	**Uglovaya**	**3.64**	**218**	*e*P	Pn	01 53 43.7	+1.6
RUS	**Russkaya**	**4.40**	**214**	P	Pn	01 53 54.3	+1.8
RUS	**Russkaya**	**4.40**	**214**	*e*P	Pn	01 53 54.4	+1.9
GRL	**Gorelyy**	**4.44**	**218**	*e*P	Pn	01 53 56.6	+3.5

ISCJB ***25*** *02:39:29.2*±*0.8,2270S*±*007*×*66.1W*±*0.1, h256km*±*12km, mb3.8/3, Error ellipse: s-maj=19.0km s-min=11.7km az=18.2*
IDC ***25*** *02:39:30.0*±*1.1,2266S*×*66.15W, h244km*±*14km, mb3.7/2, mb1 3.4/7, mb1mx3.3/16, mbtmp3.9/7, Error ellipse: s-maj=22.3km s-min=16.9km az=116.0*
NEIC ***25*** *02:39:30.2*±*0.8,2266S*×*66.13W, h246km*±*10km, mb3.8/2, Error ellipse: s-maj=17.1km s-min=11.5km az=112.0*
ISC 25 02:39:30.3±0.8,**2267S**±007×**662W**±01,**h251**km±11km,**n13,**
σ0°**65**/14,**mb3.9**/3,**Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.54**	**271**	P	**Pn**	**02 40 18.9**	**+0.9**
	11nm,0.3s,baz=92,slow=6.1,SNR=78						
LVC				S	**S**	**02 40 55.3**	**-0.4**
	9.6nm,0.3s,baz=243,slow=20,SNR=16						
LPAZ	**La Paz**	**6.61**	**343**	P	**Pn**	**02 41 06.9**	**+0.8**
	0.5nm,0.3s,baz=181,slow=11,SNR=20						
LPAZ				S	**S**	**02 42 22.6**	**-0.2**
	0.1nm,0.3s,baz=301,slow=24,SNR=5.8						
SIV	**San Ignacio**	**8.20**	**37**	P	**Pn**	**02 41 25.2**	**-0.9**
	0.5nm,0.3s,baz=222,slow=9.4,SNR=20						
CFAA	**Coronel Fontan**	**9.09**	**191**	P	**Pn**	**02 41 36.8**	**-0.6**
	0.1nm,0.3s,baz=8.2,slow=9.2,SNR=58						
CFAA				S	**S**	**02 43 12.2**	**-8.0**
	0.4nm,0.3s,baz=290,slow=22,SNR=13						
SAML	**Samuel**	**13.94**	**12**	*e*P	**Pn**	**02 42 37.2**	**-0.4**
	2.3nm,0.6s						
BDFB	**Brasilia**	**18.51**	**71**	P	**P**	**02 43 29.3**	**+1.1**
	0.5nm,0.3s,baz=251,slow=12,SNR=9.2						
BDFB	**Brasilia**	**18.51**	**71**	P	**P**	**02 43 29.3**	**+1.1**
BDFB				pP		02 51 45.7	
WVT	**Waverly**	**61.97**	**340**	*e*P	**P**	**02 49 23.2**	**-0.6**
	2.0nm,0.6s,mb3.9						
TORD	**Torodi Ar. Bea**	**75.38**	**69**	P	**P**	**02 50 46.1**	**-0.2**
	2.0nm,0.5s,mb4.0,baz=253,slow=5.9,SNR=87						
TORD				pP	pP	02 51 45.7	+0.7
	0.9nm,0.8s,baz=244,slow=5.6,SNR=4.0						
YKA	**Yellowknife Ar**	**93.14**	**340**	P	**P**	**02 52 16.3**	**+0.4**
	0.4nm,0.6s,mb3.6,baz=131,slow=4.7,SNR=7.3						
YKA	**Yellowknife Ar**	**93.14**	**340**	P	**P**	**02 52 16.3**	**+0.4**
MKAR	**Makanchi Array**	**145.01**	**39**	PKPbc	PKPbc	02 58 38.7	+1.2
	1.6nm,0.7s,baz=320,slow=3.6,SNR=8.1						
MKAR	**Makanchi Array**	**145.01**	**39**	PKPbc	PKPbc	02 58 38.7	+1.2

LDG ***25*** *02:45:44.9*±*0.1, 1345S*×*16750E, h30km, Mb4.3/1, Error ellipse: s-maj=20.7km s-min=5.8km az=91.0*
ISCJB ***25*** *02:45:60.0*±*1.4, 1438S*±*009*×*16726E*±*0.10, h185km*±*15km, mb4.3/21, Error ellipse: s-maj=17.1km s-min=13.7km az=80.7*
IDC ***25*** *02:46:00.4*±*2.5, 1438S*×*16734E, h175km*±*21km, mb3.9/13, mb1 4.1/14, mb1mx4.0/19, mbtmp4.4/14, MS4.5/1, Ms1 4.5/1, ms1mx2.8/20, Error ellipse: s-maj=20.0km s-min=16.1km az=110.0*
NEIC ***25*** *02:46:01.5*±*1.6, 1438S*×*16723E, h180km*±*13km, mb4.3/12, Error ellipse: s-maj=10.5km s-min=9.5km az=177.0*
ISC 25 02:46:01.4±1.3,**1442S**±010×**16739E**±010,**h188**km±14km,
n56,σ0°**66**/36,**mb4.3**/21,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**3.33**	**166**	*i* P	**Pn**	**02 46 54.3**	**-0.1**
BKM				S	**Sn**	**02 47 35.6**	**-0.2**
DZM	**Mont Dzumac**	**7.66**	**187**	P	**Pn**	**02 47 51.1**	**+0.9**
	5.6nm,0.3s,baz=31,slow=16,SNR=32						
DZM				S	**Sn**	**02 49 16.4**	**0.0**
	baz=334,slow=23,SNR=2.7						
PMG	**Port Moresby**	**20.40**	**282**	P	**P**	**02 50 24.8**	**+1.0**
	19nm,0.9s,baz=129,slow=4.6,SNR=4.7						
PMG	**Port Moresby**	**20.40**	**282**	*e*P	**P**	**02 50 24.5**	**+0.7**
	22nm,0.9s						
CTA	**Charters Tower**	**20.95**	**251**	P	**P**	**02 50 29.7**	**+0.1**
	4.4nm,0.7s,baz=79,slow=11,SNR=5.6						
CTAO	**Charters Tower**	**20.95**	**251**	*e*P	**P**	**02 50 29.2**	**-0.4**
	5.5nm,0.8s						
STKA	**Stephens Creek**	**29.28**	**229**	*e*P	**P**	**02 51 45.8**	**-0.2**
	3.7nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**29.28**	**229**	P	**P**	**02 51 46.0**	**0.0**
	3.6nm,0.4s,mb4.5,baz=41,slow=9.9,SNR=17						
STKA	**Stephens Creek**	**29.28**	**229**	*e*P	**P**	**02 51 45.5**	**-0.5**
WRAB	**Tennant Creek**	**32.00**	**255**	*e*P	**P**	**02 52 09.1**	**-0.8**
	3.1nm,0.5s,mb4.3						
WRA	**Warramunga Arr**	**32.01**	**255**	P	**P**	**02 52 09.2**	**-0.8**
	2.3nm,0.6s,mb4.1,baz=85,slow=9.2,SNR=64						
WRA				ScP	ScP	02 58 23.4	+2.7
	0.7nm,0.9s,baz=88,slow=3.5,SNR=6.4						
AS31	**Alice Springs**	**32.89**	**249**	*e*P	**P**	**02 52 17.2**	**-0.4**
ASAR	**Alice Springs**	**32.89**	**249**	P	**P**	**02 52 16.9**	**-0.7**
	4.2nm,0.5s,mb4.4,baz=77,slow=9.4,SNR=105						
ASPA	**Alice Springs**	**32.89**	**249**	*e*P	**P**	**02 52 17.2**	**-0.4**
KAKA	**Kakadu**	**34.00**	**269**	*e*P	**P**	**02 52 27.3**	**+0.1**
	10.0nm,0.5s,mb4.8						
GUMO	**Guam**	**35.66**	**320**	LR	LR	03 03 33.3	
	comp=Z,800nm,21.8s,baz=82,slow=30						
KNA	**Kununurra**	**37.28**	**263**	*e*P	**P**	**02 52 53.6**	**-1.5**
	1.7nm,0.4s,mb4.0						
FORT	**Forrest**	**39.55**	**239**	*e*P	**P**	**02 53 14.7**	**+0.6**
	26nm,0.7s,mb5.0						
FITZ	**Fitzroy Crossi**	**40.19**	**259**	*e*P	**P**	**02 53 19.7**	**+0.4**
	12nm,0.7s,mb4.6						
FITZ	**Fitzroy Crossi**	**40.19**	**259**	P	**P**	**02 53 20.0**	**+0.7**
	6.0nm,0.7s,mb4.3,baz=98,slow=9.4,SNR=25						
MBWA	**Marble Bar**	**45.74**	**254**	*e*P	**P**	**02 54 03.6**	**-0.2**
	5.1nm,0.6s,mb4.3						
KKM	**Kota Kinabalu**	**54.67**	**288**	*e*P	**P**	**02 55 11.9**	**+1.1**
MJAR	**Matsushiro Arr**	**57.68**	**332**	P	**P**	**02 55 32.0**	**-0.1**
	2.4nm,0.6s,mb4.2,baz=168,slow=7.5,SNR=8.4						
CASY	**Casey**	**63.86**	**202**	*e*P	**P**	**02 56 14.4**	**+0.7**
	55nm,0.8s,mb5.4						
ENH	**Enshi**	**71.26**	**309**	*e*P	**P**	**02 56 59.9**	**-0.2**
	0.4nm,0.5s,mb3.4						
MA2	**Magadan**	**74.96**	**351**	*e*P	**P**	**02 57 22.0**	**+0.2**
	7.1nm,0.7s,mb4.4						
ULN	**Ulaanbaatar**	**81.95**	**324**	*e*P	**P**	**02 58 01.0**	**+0.9**
	1.5nm,0.6s,mb3.8						
MAW	**Mawson**	**82.21**	**202**	P	**P**	**02 58 02.2**	**+0.8**
	2.3nm,0.6s,mb4.0,baz=77,slow=9.5,SNR=8.0						
BILL	**Bilibino**	**82.23**	**360**	*e*P	**P**	**02 58 01.5**	**0.0**
	2.7nm,0.3s,mb4.3						
SONM	**Songino Array**	**82.31**	**324**	P	**P**	**02 58 02.8**	**+0.8**
	0.8nm,0.4s,mb3.7,baz=142,slow=5.8,SNR=11						
ILAR	**Eielson Array**	**86.20**	**18**	P	**P**	**02 58 20.6**	**-0.9**
	3.0nm,0.7s,mb4.1,baz=237,slow=5.5,SNR=44						
SNAA	**Sanae**	**93.86**	**183**	P	**P**	**02 58 57.3**	**-0.1**
	0.5nm,0.8s,mb3.7,baz=198,slow=15,SNR=3.5	

SNR=16
UCH Uchtor 6.06 347 P **Pn** **02 48 53.6 +1.0**
SNR=13
SBDP Sheikh Budin 6.10 230 P **Pn** **02 49 00.0 +6.8**
AML Almayashu 6.15 341 P **Pn** **02 48 54.6 +0.7**
SNR=9.3
DDI Dehra Dun 6.16 166 *ex* x 02 49 02.2
JOSI Joshimath 6.35 154 *eP* **Pn** **02 48 55.9 -0.7**
KKR Kurukshetra 6.36 176 *eP* **Pn** **02 48 58.9 +2.2**
KBK Karagaybulak 6.41 351 P **Pn** **02 48 60.0 +2.5**
SNR=18
AAK Ala-Archa 6.46 348 P **Pn** **02 49 00.6 +2.5**
SNR=14
AAK Ala-Archa 6.46 348 *eP* **Pn** **02 48 58.2 +0.1**
AAK pmax pmax
comp=Z,83nm,1.1s
AAK Ala-Archa 6.46 348 *ePn* **Pn** **02 48 58.2 +0.1**
comp=Z,83nm,1.1s
TKM2 Tokmak 2 6.61 355 P **Pn** **02 49 01.6 +1.4**
SNR=10
EKS2 Erkin-Say 6.63 343 P **Pn** **02 49 02.0 +1.5**
SNR=5.5
RTUL Rataul 7.52 173 *eP* **Pn** **02 49 12.9 +0.3**
NDI New Delhi 7.66 174 *eP* **Pn** **02 49 14.5 0.0**
NDI *eP* 02 49 15.2
NDI *eS* **Sn** **02 50 34.0 -5.8**
SONA Sohna 8.08 175 *eP* **Pn** **02 49 20.5 +0.2**
SONA *eS* **Sn** **02 50 45.6 -4.5**
KK31 Karatay Array 8.12 328 ⇑P **Pn** **02 49 18.0 -2.9**
comp=Z,7.9nm,0.7s,baz=137,slow=13,SNR=85
KK31 ⇓S **Sn** **02 50 46.7 -4.6**
comp=Z,34nm,1.0s,baz=139,slow=23,SNR=6.8
KKAR Karatay Array 8.12 328 P **Pn** **02 49 18.0 -2.9**
KKAR 02 50 46.6
KKAR pmax pmax
comp=Z,1.0nm,0.3s
KKAR smax
comp=N,3.0nm,0.4s
KUDL Kundal 8.16 179 *eP* **Pn** **02 49 20.4 -1.1**
KUDL *eS* **Sn** **02 50 46.7 -5.4**
AJM Ajmer 9.93 189 *iP* **Pn** **02 49 45.0 -0.5**
AJM *eP* 02 49 45.1
AJM *eS* **Sn** **02 51 27.6 -7.8**
AJM *ix* x 02 51 36.0
KOLN Koldanda 10.51 142 *eP* **Pn** **02 49 54.0 +0.4**
comp=N,21nm,0.3s
GKN Gorkha 10.87 137 *eP* **Pn** **02 49 58.6 +0.2**
comp=N,58nm,0.5s
MK31 Makanchi Array 11.36 21 P **Pn** **02 50 04.1 -1.0**
MK31 pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 11.36 21 Pn **Pn** **02 50 04.2 -0.9**
comp=Z,0.7nm,0.3s,baz=200,slow=13,SNR=21
MKAR Sn **Sn** **02 52 08.4 -2.0**
comp=Z,0.3nm,0.3s,baz=188,slow=21,SNR=3.5
MK05 Makanchi Array 11.36 21 ⇑P **Pn** **02 50 03.4 -1.7**
comp=Z,4.9nm,0.7s
KKN Kakani 11.39 136 *eP* **Pn** **02 50 04.5 -1.0**
comp=Z,32nm,0.5s
KKN Kakani 11.39 136 *eP* **Pn** **02 50 04.5 -1.0**
KKN pmax pmax
comp=Z,33nm,0.5s
DMN Daman 11.43 137 *eP* **Pn** **02 50 05.6 -0.5**
comp=Z,18nm,0.4s
PKI Pulchoki 11.63 136 *eP* **Pn** **02 50 09.1 +0.3**
GUN Gumba 11.64 133 *eP* **Pn** **02 50 08.7 -0.2**
comp=Z,24nm,0.4s
JIRN Jiri 12.01 133 *eP* **Pn** **02 50 13.1 -0.9**
comp=Z,75nm,0.6s
JBP Jabalpur 13.49 166 ⇑*ex* x 02 50 32.0
JBP *i* S **Sn** **02 52 53.8 -8.5**
BHJ Bhuj 14.26 206 *ex* x 02 51 16.9
KURK Kurchatov 14.47 6 ⇑P **Pn** **02 50 44.0 -3.2**
comp=Z,5.6nm,0.9s
KURK Kurchatov 14.47 6 *eP* **Pn** **02 50 44.3 -2.9**
KURK pmax pmax
comp=Z,9.0nm,0.8s
KURK Kurchatov 14.47 6 *ePn* **Pn** **02 50 44.3 -2.9**
comp=Z,8.6nm,0.8s
BOK Bokaro 14.96 144 *ex* x 02 50 40.4
BLSP Bilaspur 15.02 159 *ex* x 02 48 18.6
VOSK Vostochnaya 16.83 349 ⇑P **Pn** **02 51 15.6 -1.6**
comp=Z,4.9nm,0.8s
BVA0 Borovoye Array 17.21 348 P **Pn** **02 51 20.6 -1.3**
comp=Z,4.1nm,1.6s,baz=252,slow=150,SNR=46
BVA0 Borovoye Array 17.21 348 P **Pn** **02 51 22.2 +0.3**
BVA0 pmax pmax
comp=Z,3.0nm,1.0s
BRVK Borovoye 17.27 348 *eP* **Pn** **02 51 23.1 +0.5**
BRVK pmax pmax
comp=Z,7.0nm,0.6s
BRVK Borovoye 17.27 348 *eP* **Pn** **02 51 23.1 +0.5**
comp=Z,7.4nm,0.6s
ZRNK Zerenda 17.41 345 ⇑P **Pn** **02 51 22.7 -1.6**
comp=Z,20nm,1.6s
ZRNK Zerenda 17.41 345 *eP* **Pn** **02 51 23.9 -0.4**
ZRNK pmax pmax
comp=Z,14nm,1.1s
ZRNK Zerenda 17.41 345 *eP* **Pn** **02 51 23.9 -0.5**
comp=Z,14nm,1.1s
AB31 Akbulak array 17.61 322 ⇓P **Pn** **02 51 26.3 -0.5**
comp=Z,7.0nm,1.1s
AB31 Akbulak array 17.61 322 P **Pn** **02 51 22.0 -4.8**
AB31 pmax pmax
comp=Z,1.0nm,0.5s
CHKZ Chkalovo 17.80 349 ⇑P **Pn** **02 51 28.0 -1.2**
comp=Z,15nm,1.3s
CHKZ Chkalovo 17.80 349 P **Pn** **02 51 29.6 +0.4**
CHKZ pmax pmax
comp=Z,19nm,1.3s
CHKZ Chkalovo 17.80 349 *eP* **Pn** **02 51 29.6 +0.4**
comp=Z,14nm,1.0s
ZAL Zalesovo 18.57 16 P **Pn** **02 51 39.3 +0.9**
comp=Z,0.8nm,0.3s,baz=260,slow=9.0,SNR=10
ZAL LR LR 02 59 59.7
comp=Z,50nm,18.1s,baz=85,slow=41
HYB Hyderabad 18.94 174 *iP* **Pn** **02 51 49.0 +6.1**
HYB *eS* **S** **02 55 08.0 -5.5**
NVS Novosibirsk 19.11 12 *eP* **Pn** **02 51 43.1 -1.9**
NVS *eS* **S** **02 55 16.5 -0.6**
NVS pmax pmax
comp=N,12nm,1.1s
NVS pmax pmax
comp=Z,14nm,1.1s
NVS pmax pmax
comp=E,3.0nm,0.6s
NVS smax
comp=N,14nm,1.9s
NVS smax
comp=E,6.0nm,1.3s
AKTK Aktyubinsk 19.33 323 P **Pn** **02 51 44.1 -3.4**
AKTK LR LR 02 59 31.8
AKTO Aktyubinsk 19.33 323 ⇑P **Pn** **02 51 44.8 -2.7**
comp=E,0.2nm,0.8s
AKTO Aktyubinsk 19.33 323 P **Pn** **02 51 44.1 -3.4**
comp=E,0.4nm,0.3s,baz=118,slow=8.3,SNR=9.1
AKTO LR LR 02 59 31.8
comp=E,163nm,18.7s,baz=0.0,slow=38
WSAR Wadi Sarin 20.12 234 LR LR 03 00 53.6
comp=E,58nm,18.4s,baz=0.0,slow=41
ORR Orenburg 21.68 322 ⇓*iP* **P** **02 52 12.7 +1.4**
ORR pmax pmax
comp=Z,20nm,1.3s,mb4.4
SVE Sverdlovsk 23.07 338 *eP* **P** **02 52 29.0 +3.0**
ARU Arti 23.42 335 *eP* **P** **02 52 29.4 0.0**
ARU pmax pmax
comp=Z,13nm,0.9s,mb4.4
ARU Arti 23.42 335 *eP* **P** **02 52 29.4 0.0**
comp=Z,13nm,0.9s,mb4.3
ZAK Zakamensk 23.93 46 *eP* **P** **02 52 37.7 +3.7**
ZAK pmax pmax
comp=Z,7.0nm,1.7s,mb3.8
SONM Songino Array 24.93 53 P **P** **02 52 46.3 +3.2**
comp=Z,2.3nm,0.7s,mb3.8,baz=252,slow=9.7,SNR=17
GNI Garni 25.05 288 P **P** **02 52 45.6 +1.4**
comp=Z,2.3nm,0.3s,mb4.2,baz=352,slow=20,SNR=1.9
GNI LR LR 03 03 58.6
comp=Z,36nm,21.8s,baz=255,slow=40
ULN Ulaanbaatar 25.36 53 *eP* **P** **02 52 50.8 +3.8**
ULN pmax pmax
comp=Z,5.0nm,0.9s,mb4.0
ULN Ulaanbaatar 25.36 53 *eP* **P** **02 52 50.8 +3.7**
comp=Z,4.8nm,0.9s,mb4.0
PBA Port Blair 28.68 145 *eP* x 02 54 13.9
PBA *eS* x 02 54 28.3
BRTR Keskin Array B 33.59 289 P **P** **02 53 59.2 -0.7**
comp=Z,0.3nm,0.5s,mb3.5,baz=133,slow=10,SNR=2.6
BRTR Keskin Array B 33.59 289 P **P** **02 53 59.2 -0.8**
AKASG Malin Array Be 36.43 308 P **P** **02 54 28.6 +4.2**
comp=Z,0.2nm,0.3s,mb3.6,baz=86,slow=7.4,SNR=4.5
JOF Joensuu 38.23 328 *ep* **P** **02 54 39.4 -0.2**
comp=Z,3.3nm,0.6s,mb4.2
JOF Joensuu 38.23 328 *eP* **P** **02 54 39.4 -0.2**
JOF pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
FINES FINESS Array B 40.07 325 P **P** **02 54 54.1 -0.9**
comp=Z,1.5nm,0.5s,mb4.0,baz=116,slow=9.6,SNR=9.7
FINES LR LR 03 12 00.5
comp=Z,40nm,20.5s,baz=49,slow=37
ARCES ARCESS Array B 42.99 336 P **P** **02 55 18.7 -0.2**
comp=Z,3.8nm,0.9s,mb4.1,baz=105,slow=7.6,SNR=4.4
ARCES LR LR 03 14 33.6
comp=Z,24nm,21.5s,baz=156,slow=38
TIXI Tiksi 44.35 21 *eP* **P** **02 55 29.3 -0.5**
TIXI *eS* **S** **03 02 01.8 +2.1**
TIXI pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
GERES GERESS Array B 46.54 306 LR LR 03 16 06.7
comp=Z,36nm,18.6s,baz=94,slow=37
NB2 NORSAR Subarra 47.12 323 P **P** **02 55 55.5 +3.8**
comp=Z,0.8nm,0.5s,mb3.9,baz=100,slow=8.6
NOA NORSAR Array B 47.12 323 P **P** **02 55 52.5 +0.9**
comp=Z,1.4nm,0.9s,mb3.9,baz=89,slow=8.5,SNR=5.7
NOA LR LR 03 16 20.1
comp=Z,45nm,19.3s,baz=105,slow=37
MJAR Matsushiro Arr 48.97 70 LR LR 03 17 48.4
comp=Z,38nm,20.6s,baz=25,slow=37
YSS Yuzh-Sakhalins 49.37 56 *eP* **P** **02 56 12.0 +3.0**
SBF Sospel 51.88 301 *eP* **P** **02 56 20.6 -7.3**
comp=Z,51nm,1.0s,mb5.1
SBF Sospel 51.88 301 *eP* **P** **02 56 20.6 -7.3**
SBF pmax pmax
comp=Z,25nm,1.0s,mb5.1
SBF Sospel 51.88 301 *eP* **P** **02 56 20.6 -7.3**
comp=Z,25nm,1.0s,mb5.1
LPG La Plagne 51.88 303 *eP* **P** **02 56 20.6 -7.3**
comp=Z,8.0nm,0.8s,mb4.4
LPG La Plagne 51.88 303 *eP* **P** **02 56 20.6 -7.3**
LPG pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
LPG La Plagne 51.88 303 *eP* **P** **02 56 20.6 -7.3**
comp=Z,4.0nm,0.8s,mb4.4
LPL La Plagne 51.89 303 *eP* **P** **02 56 20.7 -7.3**
CABF La Chapelle 52.03 305 *eP* **P** **02 56 20.7 -8.3**
comp=Z,5.5nm,0.8s,mb4.3
CABF La Chapelle 52.03 305 *eP* **P** **02 56 20.7 -8.3**
CABF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
CABF La Chapelle 52.03 305 *eP* **P** **02 56 20.7 -8.3**
comp=Z,2.8nm,0.8s,mb4.2
ORIF Oris-en-Rattie 52.64 303 *eP* **P** **02 56 26.1 -7.4**
comp=Z,7.1nm,0.8s,mb4.3
ORIF Oris-en-Rattie 52.64 303 *eP* **P** **02 56 26.1 -7.4**
ORIF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ORIF Oris-en-Rattie 52.64 303 *eP* **P** **02 56 26.1 -7.4**
comp=Z,3.5nm,0.8s,mb4.3
LOR Lormes 53.32 306 *eP* **P** **02 56 30.8 -7.8**
comp=Z,8.3nm,0.9s,mb4.3
LOR Lormes 53.32 306 *eP* **P** **02 56 30.8 -7.8**
LOR pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
LOR Lormes 53.32 306 *eP* **P** **02 56 30.8 -7.8**
comp=Z,4.2nm,0.9s,mb4.4
SMF Signal de Mont 53.51 305 *eP* **P** **02 56 31.8 -8.1**
SSF Saint Saulge 53.61 306 *eP* **P** **02 56 32.6 -8.1**
AVF Avril sur Loir 53.79 305 *eP* **P** **02 56 34.3 -7.7**
comp=Z,7.0nm,0.8s,mb4.4
AVF Avril sur Loir 53.79 305 *eP* **P** **02 56 34.3 -7.7**
AVF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
AVF Avril sur Loir 53.79 305 *eP* **P** **02 56 34.3 -7.7**
comp=Z,3.5nm,0.8s,mb4.3
CAF Calviac 55.22 304 *eP* **P** **02 56 44.7 -7.6**
ESDC Sonseca Array 61.32 300 P **P** **02 57 35.4 +0.5**
comp=Z,0.3nm,0.4s,mb3.8,baz=47,slow=7.4,SNR=2.9
TORD Torodi Ar. Bea 70.03 272 P **P** **02 58 30.1 -1.0**
comp=Z,1.2nm,0.5s,mb4.0,baz=42,slow=4.6,SNR=26
ILAR Eielson Array 73.69 18 P **P** **02 58 53.4 +0.4**
comp=Z,0.4nm,0.6s,mb3.5,baz=293,slow=4.1,SNR=6.3
WRA Warramunga Arr 78.30 125 P **P** **02 59 20.8 +1.6**
comp=Z,0.7nm,0.8s,mb3.6,baz=327,slow=5.0,SNR=7.5
ASAR Alice Springs 80.69 128 P **P** **02 59 36.5 +4.4**
comp=Z,0.3nm,0.7s,mb3.3,baz=331,slow=5.6,SNR=3.4
YKA Yellowknife Ar 81.13 5 P **P** **02 59 34.5 +0.1**
comp=Z,0.9nm,0.5s,mb4.0,baz=345,slow=5.7,SNR=9.2
YKA Yellowknife Ar 81.13 5 P **P** **02 59 34.5 +0.1**

*ISCJB **25** 02:48:26.9±0.8, 1468S×0.10×7239W×0.08, h129km±12km, mb3.3/3, Error ellipse: s-maj=19.0km s-min=7.4km az=74.7*
*IDC **25** 02:48:28.3±4.5, 1464S×7231W, h120km±40km, mb3.3/2, mb1 3.4/6, mb1mx3.2/19, mbtmp3.6/6, Error ellipse: s-maj=37.5km s-min=31.4km az=128.0*
*NEIC **25** 02:48:28.4±1.1, 1440S×72.17W, h119km±15km, mb4.1/2, Error ellipse: s-maj=45.8km s-min=10.9km az=210.0*

ISC 25 02:48:28.2±0.8, 1465S±010×7237W±008, h123km±11km, n11, σ1§04/15, mb3.5/3, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.40**	**112**	P	**Pn**	**02 49 33.8**	**+0.7**
	3.8nm,0.3s,baz=304,slow=11,SNR=138						
LPAZ				S	**Sn**	**02 50 24.4**	**+0.9**
	0.5nm,0.3s,baz=32,slow=24,SNR=22						
NNA	**Nana**	**5.09**	**301**	*ePn*	**Pn**	**02 49 43.1**	**+0.7**
	24nm,0.3s						
NNA				*eSn*	**Sn**	**02 50 40.0**	**-0.2**
LVC	**Limon Verde**	**8.57**	**158**	P	**Pn**	**02 50 29.2**	**-0.2**
	0.3nm,0.3s,baz=1.3,slow=11,SNR=5.3						
LVC				S	**Sn**	**02 52 04.6**	**+0.4**
	1.1nm,0.3s,baz=178,slow=20,SNR=17						
LVC	**Limon Verde**	**8.57**	**158**	*ePn*	**Pn**	**02 50 27.4**	**-2.0**
LVC				*eSn*	**Sn**	**02 52 03.9**	**-0.4**
SAML	**Samuel**	**10.63**	**59**	*ePn*	**Pn**	**02 50 51.2**	**-5.8**
	1.9nm,0.6s						
SIV	**San Ignacio**	**10.98**	**98**	P	**Pn**	**02 50 59.6**	**-2.2**
	0.4nm,0.3s,baz=268,slow=13,SNR=6.8						
CPUP	**Villa Florida**	**18.24**	**132**	P	**P**	**02 52 32.6**	**+0.6**
	0.3nm,0.3s,baz=305,slow=11,SNR=4.6						
WMOK	**Wichita Mounta**	**55.16**	**333**	*eP*	**P**	**02 57 47.3**	**-0.6**
	2.0nm,0.7s,mb4.3						
TORD	**Torodi Ar. Bea**	**78.34**	**73**	P	**P**	**03 00 15.6**	**+0.7**
	0.1nm,0.3s,mb3.0,baz=246,slow=4.7,SNR=5.9						
YKA	**Yellowknife Ar**	**83.68**	**342**	P	**P**	**03 00 43.4**	**+0.3**
	0.4nm,0.9s,mb3.2,baz=133,slow=5.3,SNR=5.6						
YKA	**Yellowknife Ar**	**83.68**	**342**	P	**P**	**03 00 43.4**	**+0.3**

IDC 25 02:53:22.9±5.9, 1889S×17607W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/13, mbtmp3.7/2, Error ellipse: s-maj=304.7km s-min=52.5km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.65**	**260**	P	P	03 01 53.3	+0.2
	0.3nm,0.3s,baz=98,slow=7.4,SNR=22						
ASAR	**Alice Springs**	**46.68**	**255**	P	P	03 01 53.9	+0.6
	0.7nm,0.7s,baz=89,slow=8.3,SNR=7.0						
GERES	**GERESS Array B**	**149.09**	**347**	PKPbc	PKPbc	03 13 12.7	-0.4
	0.5nm,0.7s,baz=5.7,slow=2.0,SNR=4.4						

*ISCJB **25** 03:04:54.5±0.9, 2420S±0.006×668W±0.02, h185km±15km, mb3.2/2, Error ellipse: s-maj=22.7km s-min=10.5km az=8.3*
*IDC **25** 03:04:54.5±1.3, 2427S×6678W, h167km±17km, mb3.2/2, mb1 3.2/8, mb1mx3.1/17, mbtmp3.5/8, Error ellipse: s-maj=24.1km s-min=12.8km az=87.0*
*NEIC **25** 03:04:55.5±0.8, 2421S×6678W, h176km±11km, mb3.5/1, Error ellipse: s-maj=17.6km s-min=9.0km az=103.0*

ISC 25 03:04:55.7±0.9, 2419S±007×669W±02, h183km±15km, n10, σ0§88/12, mb3.2/2, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.45**	**309**	P	**Pn**	**03 05 39.0**	**+1.1**
	10.0nm,0.3s,baz=134,slow=7.2,SNR=47						
LVC				S	**Sn**	**03 06 10.9**	**+0.1**
CFAA	**Coronel Fontan**	**7.49**	**189**	P	**Pn**	**03 06 41.6**	**-0.6**
	0.1nm,0.3s,baz=15,slow=12,SNR=20						
CFAA				S	**Sn**	**03 08 00.1**	**-6.5**
	0.4nm,0.3s,baz=259,slow=20,SNR=14						
LPAZ	**La Paz**	**7.95**	**351**	P	**Pn**	**03 06 49.7**	**+1.5**
	0.4nm,0.3s,baz=160,slow=13,SNR=15						
LPAZ				S	**Sn**	**03 08 15.8**	**-1.6**
	0.0nm,0.3s,baz=278,slow=23,SNR=3.8						
SIV	**San Ignacio**	**9.79**	**35**	P	**Pn**	**03 07 11.8**	**-0.6**
	0.4nm,0.3s,baz=219,slow=13,SNR=6.4						
SAML	**Samuel**	**15.55**	**14**	*eP*	**Pn**	**03 08 24.7**	**-0.6**
	1.6nm,0.7s						
PLCA	**Paso Flores**	**16.79**	**190**	P	**Pn**	**03 08 39.5**	**-0.7**
	0.1nm,0.3s,baz=350,slow=12,SNR=2.7						
BDFB	**Brasilia**	**19.63**	**68**	P	**P**	**03 09 11.2**	**+1.0**
	0.3nm,0.3s,baz=245,slow=9.8,SNR=5.1						
TORD	**Torodi Ar. Bea**	**76.51**	**69**	P	**P**	**03 16 25.8**	**+0.3**
	0.2nm,0.3s,mb3.2,baz=267,slow=5.8,SNR=12						
YKA	**Yellowknife Ar**	**94.34**	**340**	P	**P**	**03 17 54.4**	**0.0**
	0.1nm,0.5s,mb3.2,baz=131,slow=4.5,SNR=5.5						
MKAR	**Makanchi Array**	**146.58**	**40**	PKPbc	PKPbc	03 24 16.6	+1.1
	0.6nm,0.6s,baz=276,slow=3.5,SNR=6.0						

*IDC **25** 03:06:24.2±6.3, 3692N×7220E, h170km±51km, mb3.3/5, mb1 3.6/8, mb1mx3.3/20, mbtmp4.0/8, Error ellipse: s-maj=56.9km s-min=24.3km az=150.0*
*ISCJB **25** 03:06:25.3±0.6, 3723N±003×7193E±008, h175km±7km, mb3.8/13, Error ellipse: s-maj=10.8km s-min=4.2km az=142.4*
*NEIC **25** 03:06:26.6±1.4, 3732N×7211E, h168km±18km, mb4.1/5, Error ellipse: s-maj=16.4km s-min=6.0km az=63.0*
*MOS **25** 03:06:27.0±1.5, 3743N×7211E, h176km, mb4.2/4, Error ellipse: s-maj=15.1km s-min=6.8km az=92.0*
*BJI **25** 03:06:28.1, 3767N×7192E, h179km, mb4.6*
*NNC **25** 03:06:34.3±2.1, 3793N×7209E, h198km±18km, mb2.9, mpv3.6, Error ellipse: s-maj=20.6km s-min=10.4km az=8.0*

ISC 25 03:06:26.5±0.6, 3725N±003×7197E±008, h173km±7km, n72, σ1§12/85, mb3.8/13, 7C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**3.87**	**53**	⇓*iP*	**Pn**	**03 07 27.9**	**+2.2**
KSH				S	**Sn**	**03 08 11.3**	**-0.6**
KSH				Smax			
	comp=N,668nm,0.3s						
KSH				Smax			
	comp=E,668nm,0.4s						
AML	**Almayashu**	**5.05**	**15**	P	**Pn**	**03 07 41.4**	**+0.5**
	SNR=169						
UCH	**Uchtor**	**5.34**	**21**	P	**Pn**	**03 07 45.3**	**+0.6**
	SNR=308						
KZA	**Kyzart**	**5.44**	**27**	P	**Pn**	**03 07 46.2**	**+0.2**
	SNR=22						
EKS2	**Erkin-Say**	**5.58**	**14**	P	**Pn**	**03 07 48.3**	**+0.5**
	SNR=39						
AAK	**Ala-Archa**	**5.71**	**19**	P	**Pn**	**03 07 50.4**	**+0.9**
	SNR=56						
AAK	**Ala-Archa**	**5.71**	**19**	*diPN*	**Pn**	**03 07 49.3**	**-0.3**
AAK	**Ala-Archa**	**5.71**	**19**	*ePn*	**Pn**	**03 07 49.3**	**-0.3**
	comp=E,64nm,0.7s						
AAK				*eSn*	**Sn**	**03 08 50.6**	**-4.2**
DLH	**Dalhousie**	**5.73**	**144**	*eP*	**Pn**	**03 07 52.0**	**+2.2**
DLH				*eS*	**Sn**	**03 08 55.0**	**-0.3**
KBK	**Karagaybulak**	**5.86**	**22**	P	**Pn**	**03 07 53.1**	**+1.6**
	SNR=13						
KK31	**Karatay Array**	**5.95**	**350**	P	**Pn**	**03 07 52.7**	**0.0**
	comp=E,12nm,0.3s,baz=168,slow=12,SNR=269						
KK31				⇑S	**Sn**	**03 08 54.9**	**-5.5**
	comp=E,62nm,0.2s,baz=164,slow=21,SNR=32						
KKAR	**Karatay Array**	**5.95**	**350**	PN	**Pn**	**03 07 52.6**	**-0.1**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.2s						
ULHL	**Ulahol**	**5.97**	**32**	P	**Pn**	**03 07 53.1**	**+0.1**
	SNR=8.6						
CHMS	**Chumysh**	**6.12**	**19**	P	**Pn**	**03 07 55.8**	**+0.9**
	SNR=11						
PONG	**Pong**	**6.22**	**147**	*eP*	**Pn**	**03 07 57.0**	**+0.8**
PONG				*eS*	**Sn**	**03 09 05.0**	**-1.8**
TKM2	**Tokmak 2**	**6.31**	**25**	P	**Pn**	**03 07 58.6**	**+1.2**
	SNR=14						
TKM2	**Tokmak 2**	**6.31**	**25**	⇓P	**Pn**	**03 07 57.6**	**+0.2**
	comp=Z,0.5nm,0.4s						
TKM2				⇑S	**Sn**	**03 09 02.9**	**-6.0**
	comp=Z,2.3nm,0.8s						
USP	**Ospenovka**	**6.31**	**17**	P	**Pn**	**03 07 58.1**	**+0.7**
	SNR=9.3						
SDNR	**Sundarnagar**	**7.07**	**143**	*eP*	**Pn**	**03 08 07.0**	**-0.4**
SDNR				*eS*	**Sn**	**03 09 21.6**	**-5.4**
SMLA	**Simla**	**7.47**	**143**	⇓*iP*	**Pn**	**03 08 11.6**	**-1.1**
SMLA				*iS*	**Sn**	**03 09 30.3**	**-6.3**
KLP	**Kalpa**	**7.71**	**136**	*eP*	**Pn**	**03 08 16.1**	**+0.2**
KLP				*eS*	**Sn**	**03 09 36.0**	**-6.4**
KLP				AML	AML	03 09 43.8	
	comp=E,182nm,0.8s						
KLP				AML	AML	03 09 44.2	
	comp=N,153nm,0.5s						
JOSI	**Joshimath**	**9.18**	**134**	*eP*	**Pn**	**03 08 34.2**	**-1.0**
JOSI				*eS*	**Sn**	**03 10 11.9**	**-5.6**
RTUL	**Rataul**	**9.53**	**150**	AML	AML	03 10 28.4	
	comp=Z,33nm,0.7s						
NDI	**New Delhi**	**9.61**	**151**	*ex*	x	03 10 17.5	
NDI				*ex*	x	03 10 22.0	
KUDL	**Kundal**	**9.85**	**156**	*eP*	**Pn**	**03 08 40.3**	**-3.7**
KUDL				*eS*	**Sn**	**03 10 22.9**	**-11**
KUDL				AML	AML	03 10 26.8	
	comp=E,39nm,0.5s						
MK09	**Makanchi Array**	**12.21**	**36**	⇑P	**Pn**	**03 09 13.5**	**-1.2**
	comp=E,2.4nm,0.7s						
MK31	**Makanchi Array**	**12.23**	**36**	P	**Pn**	**03 09 14.5**	**-0.4**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**12.23**	**36**	P	**Pn**	**03 09 14.3**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=220,slow=14,SNR=18						
KOLN	**Koldanda**	**13.62**	**131**	*eP*	**Pn**	**03 09 31.7**	**-0.8**
	comp=Z,11nm,0.5s						
GKN	**Gorkha**	**14.09**	**127**	*eP*	**Pn**	**03 09 38.6**	**+0.1**
	comp=Z,23nm,0.4s						
KURK	**Kurchatov**	**14.28**	**17**	⇑P	**Pn**	**03 09 39.5**	**-1.3**
	comp=Z,4.2nm,0.7s						
KURK	**Kurchatov**	**14.28**	**17**	*eP*	**Pn**	**03 09 38.3**	**-2.5**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KURK	**Kurchatov**	**14.28**	**17**	*ePn*	**Pn**	**03 09 38.2**	**-2.5**
	comp=Z,9.8nm,0.8s						
KURK				*eP*		03 09 43.0	
KKN	**Kakani**	**14.65**	**126**	*eP*	**Pn**	**03 09 45.3**	**-0.1**
DMN	**Daman**	**14.66**	**127**	*eP*	**Pn**	**03 09 46.3**	**+0.7**
AB31	**Akbulak array**	**14.83**	**328**	P	**Pn**	**03 09 46.6**	**-1.0**
	comp=Z,2.1nm,0.3s,baz=136,slow=12,SNR=143						
AB31	**Akbulak array**	**14.83**	**328**	*eP*	**Pn**	**03 09 46.6**	**-1.1**
AB31				S	**Sn**	**03 12 17.6**	**-15**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AB31				smax			
	comp=Z,10.0nm,0.6s						
GUN	**Gumba**	**14.96**	**125**	*eP*	**Pn**	**03 09 50.1**	**+0.9**
	comp=Z,15nm,0.4s						
JIRN	**Jiri**	**15.33**	**125**	*eP*	**Pn**	**03 09 53.8**	**0.0**
	comp=Z,16nm,0.4s						
VOSK	**Vostochnaya**	**15.49**	**358**	⇑P	**Pn**	**03 09 53.5**	**-2.2**
	comp=Z,3.4nm,0.8s						
VOSK	**Vostochnaya**	**15.49**	**358**	P	**Pn**	**03 09 53.5**	**-2.2**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BVA0	**Borovoye Array**	**15.81**	**356**	⇑P	**Pn**	**03 09 59.2**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=168,slow=15,SNR=48						
BVA0	**Borovoye Array**	**15.81**	**356**	*iP*	**Pn**	**03 09 58.9**	**-0.8**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZRNK	**Zerenda**	**15.84**	**353**	⇓P	**Pn**	**03 09 59.3**	**-0.6**
	comp=Z,4.9nm,0.5s						
ZRNK	**Zerenda**	**15.84**	**353**	*eP*	**Pn**	**03 09 59.1**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.5s						
ZRNK	**Zerenda**	**15.84**	**353**	*eP*	**Pn**	**03 09 59.1**	**-0.8**
	comp=Z,7.9nm,0.5s						
BRVK	**Borovoye**	**15.85**	**356**	*eP*	**Pn**	**03 09 58.5**	**-1.6**
BRVK				*eS*	**S**	**03 12 50.5**	**-5.8**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BRVK	**Borovoye**	**15.85**	**356**	*eP*	**Pn**	**03 09 58.5**	**-1.6**

comp=Z,8.3nm,0.9s
BRVK eS S 03 12 50.5 -5.8
CHKZ Chkalovo 16.45 357 ⇑P Pn 03 10 06.1 -1.3
comp=Z,2.7nm,0.6s
CHKZ Chkalovo 16.45 357 P Pn 03 10 06.0 -1.4
CHKZ pmax pmax
comp=Z,2.0nm,0.6s
CHKZ Chkalovo 16.45 357 *e*P Pn 03 10 06.0 -1.5
comp=Z,4.5nm,0.7s
AKTK Aktyubinsk 16.54 327 P Pn 03 10 08.9 +0.4
AKTO Aktyubinsk 16.54 327 ⇓P Pn 03 10 08.2 -0.3
comp=Z,0.1nm,0.8s
AKTO Aktyubinsk 16.54 327 P Pn 03 10 08.9 +0.4
comp=Z,0.9nm,0.3s,baz=126,slow=11,SNR=22
ZAL Zalesovo 18.89 24 P P 03 10 34.7 +1.0
comp=Z,3.8nm,0.3s,baz=265,slow=7.0,SNR=25
NVS Novosibirsk 19.21 20 *e*P P 03 10 35.7 -1.4
NVS pmax pmax
comp=N,10.0nm,1.0s
NVS pmax pmax
comp=Z,13nm,1.0s
NVS pmax pmax
comp=E,3.0nm,0.6s
ARU Arti 21.19 339 ⇓*i*P P 03 10 58.8 +0.5
ARU *e*S S 03 14 41.2 -2.6
ARU *e*SS 03 14 55.2
ARU pmax pmax
comp=Z,5.0nm,1.0s,mb3.8
GNI Garni 21.42 286 *e*P P 03 11 04.6 +3.9
GNI pmax pmax
comp=Z,4.0nm,0.9s
KIV Kislovodsk 23.14 296 *e*P P 03 11 21.3 +4.0
KIV pmax pmax
comp=Z,4.0nm,0.7s,mb4.0
TLY Talaya 26.56 47 *e*P P 03 11 50.4 +2.2
TLY pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
ANN Anapa 26.97 297 *e*P P 03 11 59.1 +7.2
ANN pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
BR131 Keskin Array S 29.95 287 *e*P P 03 12 20.2 +1.9
comp=Z,0.9nm,0.6s,mb3.7
BRTR Keskin Array B 29.95 287 P P 03 12 20.4 +2.1
comp=Z,0.5nm,0.5s,mb3.5,baz=101,slow=8.5,SNR=5.1
FINES FINESS Array B 37.30 325 P P 03 13 27.1 +5.4
comp=Z,1.8nm,0.9s,mb3.7,baz=116,slow=8.7,SNR=6.2
NJ2 Nanjing 38.61 83 *e*P P 03 13 37.1 +4.4
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
SNY Shenyang 39.57 67 P P 03 13 42.8 +2.1
SNY AMB AMB
comp=Z,6.0nm,0.5s,mb4.5
ARCES ARCESS Array B 40.75 337 P P 03 13 50.8 +0.4
comp=Z,2.0nm,0.9s,mb3.8,baz=104,slow=7.7,SNR=2.9
NOA NORSAR Array B 44.25 323 P P 03 14 18.6 0.0
comp=Z,0.5nm,0.6s,mb3.3,baz=224,slow=11,SNR=3.0
TIXI Tiksi 44.79 22 *e*P P 03 14 23.1 +0.3
TIXI pmax pmax
comp=Z,1.0nm,1.1s,mb3.4
TORD Torodi Ar. Bea 66.51 269 P P 03 16 56.7 -0.8
comp=Z,0.7nm,0.5s,mb3.7,baz=48,slow=5.8,SNR=29
YKA Yellowknife Ar 80.46 3 P P 03 18 18.5 -0.4
comp=Z,0.3nm,0.4s,mb3.2,baz=349,slow=5.4,SNR=11
YKA pP pP 03 19 05.5 +4.2
comp=Z,0.2nm,0.7s,baz=353,slow=4.9,SNR=2.4
YKA Yellowknife Ar 80.46 3 P P 03 18 18.5 -0.4
YKA pP pP 03 19 05.5 +4.2

*ISCJB **25** 03:20:11.3±1.4, 193S±0.1×1694E±02, h266km±7km, mb4.1/11, Error ellipse: s-maj=29.5km s-min=16.5km az=74.8*
*NEIC **25** 03:20:12.4±1.5, 1945S×16951E, h270km±15km, mb4.3/6, Error ellipse: s-maj=32.9km s-min=13.5km az=159.0*
*IDC **25** 03:20:17.1±11.0, 1970S×16947E, h320km±106km, mb3.7/7, mb1 3.9/7, mb1mx3.7/13, mbtmp4.4/7, Error ellipse: s-maj=51.4km s-min=39.6km az=113.0*
ISC 25 03:20:11.8±1.4, 193S±01×1695E±02, h259km±8km, n23, σ0§77/23, mb4.1/11, 2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BKM	**Butte a Klehm**	**1.98**	**324**	*i*P		**Pn**		**03 20 55.1**	**+0.3**
BKM				S		**S**		**03 21 28.3**	**-0.5**
DZM	**Mont Dzumac**	**3.97**	**225**	P		**Pn**		**03 21 15.9**	**+0.3**
	2.9nm,0.3s,baz=63,slow=18,SNR=32								
DZM				S		**S**		**03 22 11.2**	**+4.8**
	1.9nm,0.3s,baz=264,slow=20,SNR=1.6								
CTA	**Charters Tower**	**21.87**	**264**	*e*P		**P**		**03 24 45.0**	**+1.2**
	2.8nm,0.4s,mb4.0								
CTA	**Charters Tower**	**21.87**	**264**	P		**P**		**03 24 44.7**	**+0.9**
	3.8nm,0.5s,mb4.0,baz=88,slow=11,SNR=6.4								
CTAO	**Charters Tower**	**21.87**	**264**	*e*P		**P**		**03 24 44.9**	**+1.0**
	13nm,1.0s,mb4.2								
PMG	**Port Moresby**	**23.71**	**291**	P		**P**		**03 25 01.6**	**+1.1**
	13nm,0.8s,mb4.3,baz=139,slow=13,SNR=4.2								
PMG	**Port Moresby**	**23.71**	**291**	*e*P		**P**		**03 25 01.2**	**+0.7**
	13nm,0.8s,mb4.3								
STKA	**Stephens Creek**	**28.01**	**238**	*e*P		**P**		**03 25 37.5**	**-1.5**
	5.0nm,0.7s,mb4.0								
STKA	**Stephens Creek**	**28.01**	**238**	P		**P**		**03 25 38.0**	**-1.1**
	4.9nm,0.7s,mb4.1,baz=71,slow=6.9,SNR=12								
STKA	**Stephens Creek**	**28.01**	**238**	*e*P		**P**		**03 25 38.0**	**-1.0**
WB2	**Warramunga Arr**	**33.05**	**263**	*e*P		**P**		**03 26 22.4**	**-0.8**
WRAB	**Tennant Creek**	**33.06**	**263**	*e*P		**P**		**03 26 22.2**	**-1.0**
	4.6nm,0.5s,mb4.3								
WRA	**Warramunga Arr**	**33.06**	**263**	P		**P**		**03 26 22.7**	**-0.6**
	1.8nm,0.3s,mb4.1,baz=82,slow=5.9,SNR=167								
AS31	**Alice Springs**	**33.33**	**256**	⇓*i*P		**P**		**03 26 25.6**	**0.0**
ASAR	**Alice Springs**	**33.33**	**256**	P		**P**		**03 26 25.6**	**+0.1**
	23nm,0.6s,mb4.9,baz=84,slow=9.1,SNR=24								
ASPA	**Alice Springs**	**33.33**	**256**	⇓*i*P		**P**		**03 26 25.6**	**0.0**
FITZ	**Fitzroy Crossi**	**41.46**	**264**	*e*P		**P**		**03 27 34.3**	**+0.8**
	9.3nm,0.5s,mb4.3								
MBWA	**Marble Bar**	**46.56**	**259**	*e*P		**P**		**03 28 14.2**	**+0.3**
	5.1nm,0.3s,mb4.3								
SONM	**Songino Array**	**87.38**	**323**	P		**P**		**03 32 30.3**	**+0.6**
	0.4nm,0.4s,mb3.6,baz=134,slow=6.4,SNR=4.8								
NVAR	**Mina Array Bea**	**88.66**	**48**	P		**P**		**03 32 36.6**	**+0.8**
	0.6nm,0.7s,mb3.5,baz=218,slow=8.2,SNR=4.9								
ILAR	**Eielson Array**	**90.20**	**17**	P		**P**		**03 32 41.5**	**-1.4**
	0.4nm,0.6s,mb3.5,baz=237,slow=5.3,SNR=4.4								
ARCES	**ARCESS Array B**	**125.16**	**345**	PKP		PKPdf		03 38 40.4	-1.0
	5.0nm,1.0s,baz=84,slow=3.8,SNR=9.9								
GERES	**GERESS Array B**	**144.62**	**332**	PKPbc		PKPdf		03 39 17.2	-0.3
	1.3nm,0.5s,baz=34,slow=3.3,SNR=16								

*KRSC **25** 03:24:51.9±1.0, 4878N×15584E, h40km±10km, ML4.4*
*MOS **25** 03:24:54.8±1.3, 4927N×15555E, h55km, mb4.2/7, Error ellipse: s-maj=13.8km s-min=8.4km az=61.6*
*ISCJB **25** 03:24:55.0±0.7, 4903N±006×15578E±0.10, h54km±6km, mb4.2/24, MS3.7/5, Error ellipse: s-maj=13.8km s-min=5.1km az=87.6*
*IDC **25** 03:24:57.0±3.1, 4921N×15549E, h55km±29km, mb3.4/10, mb1 3.8/12, mb1mx3.7/21, mbtmp3.8/12, ML4.3/3, MS3.6/6, Ms1 3.7/6, ms1mx3.1/21, Error ellipse: s-maj=24.2km s-min=15.5km az=144.0*
*NEIC **25** 03:24:58.5±1.1, 4924N×15545E, h69km±10km, mb4.2/11, Error ellipse: s-maj=12.8km s-min=6.5km az=139.0*
*BJI **25** 03:24:58.0, 4920N×15550E, h69km, mB4.5, mb4.4, Ms3.7, Msz3.5*
ISC 25 03:24:57.4±0.6, 4910N±006×15570E±010, h61km±6km, n78, σ1§31/78, mb4.2/24, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.61**	**10**	*e*PN		**Pn**		**03 25 18.2**	**-5.3**
SKR				*e*S		**Sn**		**03 25 37.0**	**-6.3**
SKR				pmax	pmax				
	comp=N,140nm,0.5s								
SKR				pmax	pmax				
	comp=Z,200nm,0.5s								
SKR				smax					
	comp=N,600nm,0.5s								
SKR				smax					
	comp=E,1μm,0.5s								
ALID	**Alaid**	**1.77**	**357**	*e*P		**Pn**		**03 25 24.6**	**-1.2**
PAU	**Pauzhetka**	**2.48**	**16**	*e*P		**Pn**		**03 25 34.2**	**-1.1**
PAU				*e*S		**Sn**		**03 26 05.0**	**+0.6**
PAU				Smax					
	comp=E,710nm,0.3s								
GRL	**Gorelyy**	**3.77**	**23**	*e*P		**Pn**		**03 25 52.7**	**-0.3**
RUS	**Russkaya**	**3.79**	**27**	*e*P		**Pn**		**03 25 52.1**	**-1.1**
RUS				*e*S		**Sn**		**03 26 36.8**	**+0.3**
APC	**Apacha**	**3.94**	**13**	*e*P		**Pn**		**03 25 54.5**	**-0.8**
KRMR	**Karymshinskiy**	**4.04**	**21**	*e*P		**Pn**		**03 25 58.0**	**+1.3**
PET	**Petropavlovsk**	**4.35**	**24**	*e*PN		**Pn**		**03 26 00.9**	**0.0**
PET				*e*S		**Sn**		**03 26 50.5**	**+0.2**
PET				pmax	pmax				
	comp=Z,33nm,0.7s								
PET				smax					
	comp=E,161nm,0.6s								
PET				MLR	MLR				
	comp=Z,100nm,14.0s								
PET	**Petropavlovsk**	**4.35**	**24**	*e*Pn		**Pn**		**03 26 00.6**	**-0.3**
PET	**Petropavlovsk**	**4.35**	**24**	*e*P		**Pn**		**03 26 01.0**	**+0.1**
UGLR	**Uglovaya**	**4.56**	**24**	*e*P		**Pn**		**03 26 04.4**	**+0.6**
KOK	**Koryaka**	**4.59**	**23**	*e*P		**Pn**		**03 26 05.3**	**+1.1**
AVH	**Avacha**	**4.59**	**23**	*e*P		**Pn**		**03 26 05.4**	**+1.2**
SMAR	**Somma**	**4.60**	**24**	*e*P		**Pn**		**03 26 05.2**	**+0.8**
SDLR	**Sedlovina**	**4.64**	**24**	*e*P		**Pn**		**03 26 04.8**	**-0.1**
NLC	**Nalytchevo**	**4.68**	**28**	*e*P		**Pn**		**03 26 04.2**	**-1.2**
GNL	**Ganaly**	**4.81**	**16**	*e*P		**Pn**		**03 26 09.1**	**+1.8**
SPN	**Mys Shipunski**	**4.84**	**33**	*e*P		**Pn**		**03 26 06.6**	**-1.1**
KUR	**Kuril'sk**	**6.59**	**237**	⇑*i*PN		**Pn**		**03 26 29.9**	**-1.7**
KUR				pmax	pmax				
	comp=N,80nm,0.5s								
KUR				pmax	pmax				
	comp=E,50nm,0.5s								
KUR				pmax	pmax				
	comp=Z,170nm,0.5s								
ESO	**Esso**	**7.08**	**14**	*e*P		**Pn**		**03 26 39.7**	**+1.4**
YUK	**Yuzh-Kuril'sk**	**8.46**	**237**	⇑*i*PN		**Pn**		**03 26 57.5**	**+0.4**
YUK				pmax	pmax				
	comp=Z,280nm,0.5s								
YSS	**Yuzh-Sakhalins**	**8.94**	**261**	*e*PN		**Pn**		**03 27 05.0**	**+1.3**
YSS				pmax	pmax				
	comp=Z,30nm,1.0s								
YSS	**Yuzh-Sakhalins**	**8.94**	**261**	*e*Pn		**Pn**		**03 27 03.4**	**-0.3**
ASAJ	**Asahikawa**	**10.30**	**246**	P		**Pn**		**03 27 22.6**	**+0.3**
	comp=Z,8.6nm,0.3s,baz=76,slow=14,SNR=42								
ASAJ				LR		LR		03 30 49.1	
	comp=Z,248nm,20.1s,baz=133,slow=34								
ASAJ	**Asahikawa**	**10.30**	**246**	PN		**Pn**		**03 27 22.6**	**+0.3**
ASAJ				pmax	pmax				
	comp=Z,9.0nm,0.3s								
ASAJ				MLR	MLR				
	comp=Z,248nm,20.1s								
FX1	**Attu Island--F**	**11.64**	**64**	P		**Pn**		**03 27 39.3**	**-1.2**
	comp=Z,2.2nm,0.3s,baz=290,slow=15,SNR=13								
FX1				S		**Sn**		**03 29 38.4**	**-10**
	comp=Z,2.3nm,0.3s,baz=352,slow=19,SNR=8.8								
FX1	**Attu Island--F**	**11.64**	**64**	PN		**Pn**		**03 27 39.3**	**-1.3**
FX1				pmax	pmax				
	comp=Z,2.0nm,0.3s								
KLR	**Kul'dur**	**15.65**	**280**	*e*P		**Pn**		**03 28 30.3**	**-3.8**
KLR				MLR	MLR				
	comp=Z,500nm,14.0s								
MAJO	**Matsushiro**	**17.89**	**232**	*e*P		**Pn**		**03 29 00.9**	**-1.0**
MAJO				pmax	pmax				
	comp=Z,18nm,0.9s								
MAJO	**Matsushiro**	**17.89**	**232**	*e*P		**Pn**		**03 29 00.9**	**-1.0**
	comp=Z,18nm,0.9s								
MAT	**Matsushiro**	**17.89**	**232**	P		**Pn**		**03 29 02.3**	**+0.4**
MAT	**Matsushiro**	**17.89**	**232**	P		**Pn**		**03 29 02.0**	**+0.1**
MAT				pmax	pmax				
	comp=Z,9.0nm,0.7s								
MAT	**Matsushiro**	**17.89**	**232**	P		**Pn**		**03 29 02.0**	**+0.1**
	comp=Z,8.9nm,0.7s								
MJAR	**Matsushiro Arr**	**17.89**	**232**	P		**Pn**		**03 29 02.4**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=27,slow=12,SNR=18								
MDJ	**Mudanjiang**	**18.37**	**266**	P		**Pn**		**03 29 08.3**	**+0.6**
MDJ				AMB	AMB				
	comp=Z,15nm,0.8s								
MDJ				AMB	AMB				
	comp=Z,47nm,3.4s								
MDJ				LR	LR				
	comp=N,42nm,19.6s								
MDJ				LR	LR				
	comp=E,73nm,20.4s								
MDJ				LR	LR				
	comp=Z,98nm,20.4s								
MDJ	**Mudanjiang**	**18.37**	**266**	*e*P		**Pn**		**03 29 06.9**	**-0.7**
	comp=Z,23nm,1.0s								
YAK	**Yakutsk**	**19.42**	**322**	*e*P		**Pn**		**03 29 22.2**	**+2.0**
YAK				pmax	pmax				
	comp=Z,10.0nm,0.8s								
YAK				pmax	pmax				
	comp=N,7.0nm,1.7s								
YAK				pmax	pmax				
	comp=E,8.0nm,1.4s								
BILL	**Bilibino**	**19.72**	**12**	P		**Pn**		**03 29 28.0**	**+4.2**
BILL				MLR	MLR				
	comp=Z,100nm,16.0s								
BILL	**Bilibino**	**19.72**	**12**	*e*P		**Pn**		**03 29 21.9**	**-1.9**
	comp=Z,4.2nm,0.6s								
HIA	**Hailar**	**23.37**	**284**	*e*P		**P**		**03 30 00.1**	**-0.4**
HIA				pmax	pmax				
	comp=Z,6.0nm,0.6s								
HIA	**Hailar**	**23.37**	**284**	*e*P		**P**		**03 30 00.1**	**-0.5**
	comp=Z,6.3nm,0.6s,mb4.2								
TIXI	**Tiksi**	**25.76**	**341**	*e*P		**P**		**03 30 17.4**	**-4.8**
TIXI				pmax	pmax				
	comp=Z,4.0nm,1.0s,mb3.9								
COLA	**College**	**33.22**	**41**	*e*P		**P**		**03 31 28.0**	**-0.4**
COLA				*e*PP		pP		03 31 40.1	-3.4
COLA				pmax	pmax				
	comp=Z,5.0nm,0.9s,mb4.4								
COLA	**College**	**33.22**	**41**	*e*P		**P**		**03 31 28.0**	**-0.4**
	comp=Z,5.1nm,0.9s,mb4.5								
COLA				*e*pP		pP		03 31 40.1	-3.4
ILAR	**Eielson Array**	**33.63**	**41**	P		**P**		**03 31 32.3**	**+0.3**
	comp=Z,0.6nm,0.9s,mb3.5,baz=256,slow=8.8,SNR=8.4								
ZAL	**Zalesovo**	**42.70**	**305**	LR		LR		03 52 25.7	
	comp=Z,70nm,19.0s,baz=67,slow=39								
MKAR	**Makanchi Array**	**47.43**	**297**	P		**P**		**03 33 24.1**	**-1.5**
	comp=Z,1.0nm,0.6s,mb3.9,baz=67,slow=8.2,SNR=14								
KURK	**Kurchatov**	**47.53**	**303**	*e*P		**P**		**03 33 23.8**	**-2.7**
KURK				pmax	pmax				
	comp=Z,3.0nm,1.0s,mb4.3								
KURK	**Kurchatov**	**47.53**	**303**	*e*P		**P**		**03 33 23.8**	**-2.7**
	comp=Z,3.5nm,1.0s,mb4.3								
YKA	**Yellowknife Ar**	**48.00**	**39**	P		**P**		**03 33 29.4**	**-0.7**
	comp=Z,0.2nm,0.4s,mb3.5,baz=298,slow=7.3,SNR=5.1								
CHKZ	**Chkalovo**	**50.26**	**310**	*e*P		**P**		**03 33 44.6**	**-2.8**
CHKZ				pmax	pmax				
	comp=Z,2.0nm,0.9s,mb4.2								
CHKZ	**Chkalovo**	**50.26**	**310**	*e*P		**P**		**03 33 44.6**	**-2.8**
	comp=Z,2.2nm,0.9s,mb4.2								
BRVK	**Borovoye**	**50.76**	**309**	*e*P		**P**		**03 33 48.8**	**-2.3**
BRVK				pmax	pmax				
	comp=Z,1.0nm,0.7s,mb3.9								
BRVK	**Borovoye**	**50.76**	**309**	*e*P		**P**		**03 33 48.8**	**-2.3**
	comp=Z,1.0nm,0.7s,mb3.9								
ZRNK	**Zerenda**	**51.47**	**309**	*e*P		**P**		**03 33 54.6**	**-1.8**
ZRNK				pmax	pmax				
	comp=Z,1.0nm,0.7s,mb3.9								
ZRNK	**Zerenda**	**51.47**	**309**	*e*P		**P**		**03 33 54.6**	**-1.9**
	comp=Z,0.8nm,0.7s,mb3.8								
ARCES	**ARCESS Array B**	**56.20**	**341**	LR		LR		04 01 57.8	
	comp=Z,59nm,21.6s,baz=334,slow=40								
JIRN	**Jiri**	**56.49**	**275**	*e*P		**P**		**03 34 36.0**	**+3.0**
	comp=Z,13nm,0.7s,mb5.0								
GUN	**Gumba**	**56.52**	**275**	*e*P		**P**		**03 34 36.1**	**+2.8**
	comp=Z,14nm,0.6s,mb5.2								
KKN	**Kakani**	**57.00**	**276**	*e*P		**P**		**03 34 39.7**	**+3.1**
PKI	**Pulchoki**	**57.06**	**275**	*e*P		**P**		**03 34 39.7**	**+2.6**
DMN	**Daman**	**57.23**	**276**	*e*P		**P**		**03 34 41.2**	**+2.9**
	comp=Z,18nm,0.8s,mb5.2								
GKN	**Gorkha**	**57.27**	**276**	*e*P		**P**		**03 34 41.2**	**+2.6**
	comp=Z,19nm,0.6s,mb5.3								
KOLN	**Koldanda**	**58.11**	**277**	*e*P		**P**		**03 34 46.1**	**+1.7**
	comp=Z,7.0nm,0.8s,mb4.8								
SUMG	**Summit**	**58.22**	**5**	*e*P		**P**		**03 34 45.1**	**-0.2**
	comp=Z,4.3nm,0.7s,mb4.6								
HNR	**Honiara**	**58.40**	**175**	LR		LR		03 55 28.9	
	comp=Z,81nm,19.8s,baz=178,slow=31								
NVAR	**Mina Array Bea**	**59.83**	**65**	P		**P**		**03 34 57.9**	**+1.5**
	comp=Z,0.8nm,0.7s,mb3.8,baz=282,slow=6.3,SNR=5.8								
NVAR	**Mina Array Bea**	**59.83**	**65**	P		**P**		**03 34 57.9**	**+1.5**
PDAR	**Pinedale Array**	**61.98**	**56**	P		**P**		**03 35 11.7**	**+0.8**
	comp=Z,0.6nm,0.8s,mb3.8,baz=304,slow=3.4,SNR=4.9								
FINES	**FINESS Array B**	**62.64**	**335**	P		**P**		**03 35 13.0**	**-2.4**
	comp=Z,1.2nm,0.9s,mb4.0,baz=18,slow=5.8,SNR=5.4								
FINES				LR		LR		04 05 13.6	
	comp=Z,58nm,21.3s,baz=340,slow=39								
NOA	**NORSAR Array B**	**66.55**	**342**	LR		LR		04 08 58.3	
	comp=Z,55nm,18.6s,baz=20,slow=40								
WRA	**Warramunga Arr**	**71.31**	**201**	P		**P**		**03 36 09.4**	**-1.1**
	comp=Z,1.1nm,0.8s,mb3.8,baz=18,slow=6.8,SNR=5.6								
ASAR	**Alice Springs**	**75.00**	**201**	P		**P**		**03 36 33.1**	**+1.0**
	comp=Z,2.6nm,1.0s,mb4.1,baz=72,slow=33,SNR=6.2								
CLL	**Collm**	**75.02**	**337**	⇓*i*P		**P**		**03 36 32.3**	**0.0**
	comp=Z,13nm,1.5s,mb4.6								
KHC	**Kasperske Hory**	**76.85**	**336**	*e*P		**P**		**03 36 42.0**	**-0.7**
GERES	**GERESS Array B**	**77.08**	**335**	P		**P**		**03 36 43.4**	**-0.5**
	comp=Z,0.4nm,0.5s,mb3.6,baz=33,slow=5.1,SNR=6.3								
BRTR	**Keskin Array B**	**77.84**	**318**	P		**P**		**03 36 48.0**	**-0.2**
	comp=Z,1.1nm,1.0s,mb3.8,baz=72,slow=4.0,SNR=4.7								
LPAZ	**La Paz**	**131.72**	**63**	PKP		PKPdf		03 44 06.2	+2.9
	comp=Z,0.7nm,0.3s,baz=284,slow=8.5,SNR=14								

IDC 25 03:32:39.4±1.6, 3146S×17865W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.8/14, mbtmp3.9/3, ML3.6/1, Error ellipse: s-maj=41.8km s-min=32.5km az=110.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.62**	**206**	Pn		Pn	Pn	03 34 32.7	+1.0
	1.0nm,0.3s,baz=345,slow=8.4,SNR=4.0								
URZ				Sn		Sn	Sn	03 35 57.7	-1.1
	0.9nm,0.3s,baz=145,slow=20,SNR=6.4								
ASAR	**Alice Springs**	**42.51**	**268**	P		P	P	03 40 37.6	+1.2
	1.0nm,1.0s,baz=101,slow=7.6,SNR=4.0								
WRA	**Warramunga Arr**	**43.59**	**274**	P		P	P	03 40 44.7	-0.6
	3.0nm,1.2s,baz=112,slow=8.0,SNR=10								
FINES	**FINESS Array B**	**145.94**	**339**	PKPbc		PKPbc	PKPbc	03 52 17.9	-3.0
	3.9nm,0.8s,baz=56,slow=3.4,SNR=7.6								
NOA	**NORSAR Array B**	**149.71**	**350**	PKPbc		PKPbc	PKPbc	03 52 32.3	+1.2
	0.7nm,0.8s,baz=18,slow=2.5,SNR=3.3								
TORD	**Torodi Ar. Bea**	**161.77**	**181**	PKPab		PKPab	PKPab	03 53 27.1	-0.6
	0.6nm,0.7s,baz=166,slow=3.3,SNR=9.3								

*IDC **25** 03:52:10.5±1.8, 270N×12679E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/18, mbtmp3.9/5, Error ellipse: s-maj=103.2km s-min=24.8km az=68.0*
*ISCJB **25** 03:52:25.9±1.1, 24N±03×1262E±05, h148km, mb3.9/6, Error ellipse: s-maj=82.6km s-min=13.9km az=132.3*
*NEIC **25** 03:52:27.7±4.4, 236N×12630E, h148km±43km, mb4.2/4, Error ellipse: s-maj=59.2km s-min=14.9km az=65.0*
ISC 25 03:52:26.8±6.4, 24N±03×1263E±05, h138km±62km, n10, σ0§34/10, mb3.9/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**16.19**	**158**	*e*P		**Pn**		**03 56 06.4**	**0.0**
	7.2nm,0.5s								
FITZ	**Fitzroy Crossi**	**20.37**	**182**	*e*P		**P**		**03 56 52.4**	**-0.1**
	2.2nm,0.3s								
FITZ	**Fitzroy Crossi**	**20.37**	**182**	P		**P**		**03 56 52.3**	**-0.2**
	2.6nm,0.7s,baz=14,slow=9.4,SNR=14								
WRAB	**Tennant Creek**	**23.54**	**161**	*e*P		**P**		**03 57 24.4**	**-0.1**
	6.2nm,0.6s,mb4.3								
WRA	**Warramunga Arr**	**23.55**	**161**	P		**P**		**03 57 24.7**	**+0.1**
	5.0nm,0.7s,mb4.2,baz=341,slow=11,SNR=48								
WB2	**Warramunga Arr**	**23.55**	**161**	*e*P		**P**		**03 57 24.7**	**+0.1**
ASAR	**Alice Springs**	**26.93**	**164**	P		**P**		**03 57 55.9**	**+0.7**
	0.9nm,0.3s,mb3.9,baz=347,slow=12,SNR=11								
STKA	**Stephens Creek**	**37.04**	**158**	P		**P**		**03 59 22.6**	**-0.7**
	1.4nm,0.7s,mb3.7,baz=0.0,slow=10,SNR=3.1								
MKAR	**Makanchi Array**	**58.42**	**326**	P		**P**		**04 02 07.9**	**0.0**
	0.3nm,0.6s,mb3.3,baz=129,slow=6.7,SNR=3.9								
KURK	**Kurchatov**	**62.64**	**328**	*e*P		**P**		**04 02 36.6**	**+0.1**
	1.9nm,0.8s,mb4.0								

IDC 25 04:05:52.3±54.0, 1702S×16843W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, Error ellipse: s-maj=1091.0km s-min=223.4km az=82.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**47.44**	**242**	P		P	P	04 14 28.9	+0.3
	1.8nm,0.8s,baz=90,slow=8.1,SNR=2.9								
WRA	**Warramunga Arr**	**54.14**	**257**	P		P	P	04 15 19.0	-0.1
	0.1nm,0.3s,baz=98,slow=6.7,SNR=4.6								
ASAR	**Alice Springs**	**54.17**	**253**	P		P	P	04 15 20.2	+0.9
	0.7nm,0.6s,baz=89,slow=8.8,SNR=8.3								

*ISCJB **25** 04:22:38.3±0.7, 521N±0.1×300W±0.1, h10km, mb3.6/14, MS2.8/5, Error ellipse: s-maj=18.8km s-min=9.4km az=16.2*
*IDC **25** 04:22:38.5±1.0, 5212N×2999W, h0km, mb3.5/12, mb1 3.8/13, mb1mx3.6/27, mbtmp3.6/13, ML4.1/1, MS2.9/5, Ms1 2.9/5, ms1mx2.7/21, Error ellipse: s-maj=29.3km s-min=15.6km az=15.0*
*NEIC **25** 04:22:40.2±0.7, 5213N×2995W, h10km, mb4.0/3, After NEIC*
*CSEM **25** 04:22:40.2, 5213N×2995W, h10km, mb4.0/3, After NEIC*
ISC 25 04:22:40.0±0.7, 521N±01×300W±01, h10km, n31, σ0§80/27, mb3.6/14, MS2.8/5, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**16

*ISCJB **25** 05:51:12.4±3.6, 1086N±009×1412E±02, h38km±35km, mb4.1/11, Error ellipse: s-maj=38.5km s-min=15.5km az=3.3*

*NEIC **25** 05:51:14.7±0.5, 1090N×141.16E, mb4.2/6, Error ellipse: s-maj=15.9km s-min=11.1km az=93.0*

*IDC **25** 05:51:14.6±1.0, 1095N×141.14E, h38km±6km, mb3.8/5, mb1 4.0/6, mb1mx3.7/20, mbtmp4.0/6, ML4.1/1, Error ellipse: s-maj=31.1km s-min=25.0km az=115.0*

ISC 25 05:51:16.3±3.0, 1091N±009×1413E±02, h56km±32km, h41km±.5km:pP-P, n16, σ0§70/13, mb4.1/11, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.40**	**52**	Pn	**Pn**	**05 52 20.5**	**-0.1**
	8.9nm,0.3s,baz=198,slow=16,SNR=2.9						
PMG	**Port Moresby**	**21.01**	**164**	*eP*	**P**	**05 55 55.4**	**+0.3**
	9.6nm,0.8s,mb4.2						
WRAB	**Tennant Creek**	**31.40**	**193**	*eP*	**P**	**05 57 31.8**	**0.0**
	2.6nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**31.41**	**193**	P	**P**	**05 57 31.6**	**-0.4**
	0.7nm,0.6s,mb3.7,baz=11,slow=9.4,SNR=8.5						
MKAR	**Makanchi Array**	**61.04**	**318**	P	**P**	**06 01 23.9**	**-0.2**
	0.6nm,0.4s,mb4.0,baz=95,slow=9.6,SNR=7.9						
MKAR				pP	pP	06 01 35.6	-3.8
	0.6nm,0.5s,baz=102,slow=7.7,SNR=7.2						
KURK	**Kurchatov**	**64.42**	**321**	*eP*	**P**	**06 01 46.3**	**-0.3**
	3.7nm,0.8s,mb4.5						
KURK				*e*pP	pP	06 01 58.3	-3.7
CHKZ	**Chkalovo**	**69.85**	**323**	*eP*	**P**	**06 02 20.4**	**-0.5**
	1.0nm,0.6s,mb3.9						
BRVK	**Borovoye**	**69.95**	**323**	*eP*	**P**	**06 02 22.9**	**+1.3**
	1.7nm,0.5s,mb4.2						
ZRNK	**Zerenda**	**70.70**	**322**	*eP*	**P**	**06 02 26.9**	**+0.7**
	1.4nm,0.9s,mb3.9						
ZRNK				*e*pP	pP	06 02 38.4	-3.4
ILAR	**Eielson Array**	**72.47**	**25**	P	**P**	**06 02 36.1**	**-0.7**
	0.6nm,0.7s,mb3.6,baz=253,slow=6.0,SNR=7.6						
ILAR				pP	pP	06 02 47.9	-4.6
	0.7nm,0.6s,baz=251,slow=5.8,SNR=5.9						
YKA	**Yellowknife Ar**	**86.83**	**27**	P	**P**	**06 03 55.5**	**+1.0**
	0.6nm,0.3s,mb4.2,baz=290,slow=4.9,SNR=12						
YKA				pP	pP	06 04 07.4	-3.3
	0.7nm,0.6s,baz=289,slow=5.1,SNR=6.4						
YKA	**Yellowknife Ar**	**86.83**	**27**	P	**P**	**06 03 55.5**	**+1.0**
YKA				pP	pP	06 04 07.4	-3.3
FINES	**FINESS Array B**	**92.07**	**334**	P	**P**	**06 04 17.9**	**-1.3**
	2.3nm,1.0s,mb4.5,baz=28,slow=4.5,SNR=4.4						
VNA2	**Neumayer--Watz**	**116.96**	**191**	*e*	PKPdf	06 09 58.8	+4.2
	baz=84,slow=12						
VNA2				*e*		06 10 08.8	
VNA1	**Neumayer--Stat**	**117.35**	**191**	*e*	PKPdf	06 09 59.8	+4.4
VNA1				*e*		06 10 09.7	
LPAZ	**La Paz**	**150.93**	**104**	PKPbc	PKPbc	06 11 06.7	+4.1
	0.9nm,0.7s,baz=278,slow=4.2,SNR=7.4						

IDC 25 06:24:06.8±3.0, 079S×12780E, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.6/3, Error ellipse: s-maj=158.7km s-min=30.4km az=87.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.08**	**162**	P	P	06 28 41.3	-0.4
	0.7nm,0.6s,baz=341,slow=11,SNR=9.7						
ASAR	**Alice Springs**	**25.50**	**166**	P	P	06 29 19.0	+0.7
	0.8nm,0.6s,baz=346,slow=11,SNR=8.4						
ILAR	**Eielson Array**	**88.70**	**25**	P	P	06 37 01.9	-0.2
	0.7nm,0.6s,baz=277,slow=6.2,SNR=15						

*IDC **25** 06:30:10.6±0.8, 3267N×8576E, h0km, mb3.9/14, mb1 4.1/15, mb1mx4.0/22, mbtmp3.9/15, ML3.2/1, MS3.6/7, Ms1 3.6/7, ms1mx3.2/28, Error ellipse: s-maj=22.2km s-min=17.3km az=44.0*

*NDI **25** 06:30:11.1±4.3, 3328N×8595E, h33km, ML3.7, mb4.3(NEIC)*

*MOS **25** 06:30:14.9±1.5, 3278N×8552E, h33km, mb4.4/5, Error ellipse: s-maj=16.6km s-min=8.1km az=101.3*

*BJI **25** 06:30:14.8, 3293N×8566E, h35km, mB4.8, mb4.4, Ms4.3, Msz3.9*

*ISCJB **25** 06:30:14.5±0.9, 3279N±005×8555E±004, h33km±11km, mb3.9/19, MS3.5/7, Error ellipse: s-maj=7.8km s-min=6.1km az=172.3*

*NEIC **25** 06:30:16.8±0.9, 3282N×8557E, h36km±13km, mb4.3/4, Error ellipse: s-maj=12.9km s-min=8.8km az=88.0*

ISC 25 06:30:15.7±1.7, 3280N±004×8564E±004, h29km±15km, n58, σ1§20/64, mb3.9/19, MS3.5/7, 3C-1D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GKN	**Gorkha**	**4.86**	**191**	*eP*	**Pn**	**06 31 27.2**	**+0.4**
	88nm,0.8s						
GUN	**Gumba**	**4.88**	**178**	*eP*	**Pn**	**06 31 28.4**	**+1.3**
	79nm,0.6s						
KKN	**Kakani**	**5.00**	**184**	*eP*	**Pn**	**06 31 29.7**	**+0.9**
	30nm,0.6s						
KKN	**Kakani**	**5.00**	**184**	*eP*	**Pn**	**06 31 29.7**	**+0.9**
KKN				pmax	pmax		
	comp=Z,30nm,0.6s						
JIRN	**Jiri**	**5.14**	**175**	*eP*	**Pn**	**06 31 32.4**	**+1.7**
	comp=Z,37nm,0.4s						
DMN	**Daman**	**5.19**	**185**	*eP*	**Pn**	**06 31 32.3**	**+0.9**
PKI	**Pulchoki**	**5.21**	**182**	*eP*	**Pn**	**06 31 32.8**	**+1.1**
	comp=Z,57nm,0.7s						
PKI	**Pulchoki**	**5.21**	**182**	*eP*	**Pn**	**06 31 32.8**	**+1.1**
PKI				pmax	pmax		
	comp=Z,57nm,0.7s						
KOLN	**Koldanda**	**5.31**	**200**	*eP*	**Pn**	**06 31 32.8**	**-0.3**
	comp=Z,75nm,0.9s						
LSA	**Lhasa**	**5.64**	**122**	P	**Pn**	**06 31 41.4**	**+3.9**
LSA				AMB	AMB		
	comp=Z,40nm,1.1s						
LSA	**Lhasa**	**5.64**	**122**↑	*eP*	**Pn**	**06 31 41.6**	**+4.1**
LSA				pmax	pmax		
	comp=Z,61nm,0.9s						
LSA	**Lhasa**	**5.64**	**122**↑	*e*Pn	**Pn**	**06 31 41.5**	**+4.0**
	comp=Z,61nm,0.9s						
JOSI	**Joshimath**	**5.65**	**248**	*eP*	**Pn**	**06 31 37.0**	**-0.6**
KLP	**Kalpa**	**6.39**	**261**	*eP*	**Pn**	**06 31 49.0**	**+1.1**
KLP				*e*S	**Sn**	**06 33 00.4**	**+0.5**
KLP				AML	AML	06 33 19.3	
	comp=E,119nm,1.0s						
KLP				AML	AML	06 33 22.2	
	comp=N,57nm,1.5s						
RTUL	**Rataul**	**8.16**	**243**	*eP*	**Pn**	**06 32 12.7**	**+0.6**
RTUL				*e*S	**Sn**	**06 33 43.5**	**+0.2**
NDI	**New Delhi**	**8.33**	**243**	*eP*	**Pn**	**06 32 13.0**	**-1.5**
NDI				*e*x	x	06 33 45.0	
SONA	**Sohna**	**8.66**	**241**	*eP*	**Pn**	**06 32 18.6**	**-0.5**
SONA				*e*S	**Sn**	**06 33 54.6**	**-1.1**
SHL	**Shillong**	**9.04**	**141**	*eP*	**Pn**	**06 32 22.0**	**-2.1**
SHL				*e*S	**Sn**	**06 33 57.5**	**-7.4**
KUDL	**Kundal**	**9.16**	**242**	*eP*	**Pn**	**06 32 23.8**	**-2.0**
KUDL				*e*S	**Sn**	**06 34 03.8**	**-4.1**
KSH	**Kashi**	**10.29**	**313**	*eP*	**Pn**	**06 32 41.0**	**-0.4**
KSH				*e*AP		06 32 48.0	
KSH				*e*XP		06 32 53.3	
KSH				AMB	AMB		
	comp=Z,168nm,2.8s						
KSH				LR	LR		
	comp=N,2μm,7.5s						
KSH				LR	LR		
	comp=E,1μm,7.6s						
KSH				LR	LR		
	comp=Z,659nm,7.8s						
JBP	**Jabalpur**	**10.82**	**209**	*eP*	**Pn**	**06 32 46.6**	**-2.0**
JBP				*e*S	**Sn**	**06 34 40.4**	**-8.2**
GTA	**Gaotai**	**13.21**	**56**	*eP*	**Pn**	**06 33 21.8**	**+0.5**
GTA				AP		06 33 27.0	
GTA				XP		06 33 30.5	
GTA				AMB	AMB		
	comp=Z,4.0nm,1.6s						
GTA				AMB	AMB		
	comp=Z,135nm,4.5s						
GTA				LR	LR		
	comp=N,1μm,12.6s						
GTA				LR	LR		
	comp=E,486nm,14.1s						
GTA				LR	LR		
	comp=Z,421nm,11.0s						
FRU	**Bishkek**	**13.27**	**322**	P	**Pn**	**06 33 22.4**	**+0.4**
MKAR	**Makanchi Array**	**14.21**	**351**	Pn	**Pn**	**06 33 32.5**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=164,slow=12,SNR=40						
LZH	**Lanzhou**	**15.37**	**73**	*e*P	**Pn**	**06 33 55.0**	**+4.5**
LZH				AP	pP	06 34 01.3	-1.4
LZH				XP	sP	06 34 04.8	-1.7
LZH				AMB	AMB		
	comp=Z,22nm,1.3s						
HYB	**Hyderabad**	**16.60**	**204**	*i* P	**Pn**	**06 34 07.5**	**+1.3**
KMI	**Kunming**	**16.79**	**113**	P	**Pn**	**06 34 08.0**	**-0.7**
KMI				AMB	AMB		
	comp=Z,16nm,0.9s						
KURK	**Kurchatov**	**18.64**	**346**‖	*eP*	**Pn**	**06 34 29.4**	**-2.0**
KURK	**Kurchatov**	**18.64**	**346**	*eP*	**Pn**	**06 34 30.0**	**-1.4**
	comp=Z,39nm,1.4s						
GYA	**Guiyang**	**19.32**	**104**↑	*i*P	**Pn**	**06 34 37.5**	**-2.2**
GYA				AP	pP	06 34 46.8	+0.4
GYA				XP	sP	06 34 51.0	+0.9
GYA				AMB	AMB		
	comp=Z,40nm,1.0s						
GYA				AMB	AMB		
	comp=Z,250nm,3.9s						
GYA				LR	LR		
	comp=N,420nm,10.5s						
GYA				LR	LR		
	comp=E,330nm,12.4s						
GYA				LR	LR		
	comp=Z,370nm,10.2s						
ZAL	**Zalesovo**	**21.14**	**359**	P	**P**	**06 34 59.1**	**+0.9**
	comp=Z,1.8nm,0.5s,mb3.7,baz=287,slow=6.7,SNR=4.6						
ZAL				LR	LR	06 45 08.3	
	comp=Z,235nm,18.5s,MS3.6,baz=282,slow=42						
SONM	**Songino Array**	**21.72**	**40**	P	**P**	**06 35 05.2**	**+0.8**
	comp=Z,1.9nm,0.7s,mb3.6,baz=232,slow=11,SNR=13						
SONM				LR	LR	06 44 10.7	
	comp=Z,200nm,20.0s,MS3.5,baz=55,slow=39						
ZAK	**Zakamensk**	**21.87**	**31**	*eP*	**P**	**06 35 06.5**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,32nm,2.0s,mb4.4						
MOY	**Mondy**	**21.93**	**26**	*eP*	**P**	**06 35 10.5**	**+3.8**
MOY				pmax	pmax		
	comp=Z,21nm,2.1s,mb4.2						
ULN	**Ulaanbaatar**	**22.09**	**41**	*eP*	**P**	**06 35 10.2**	**+1.7**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.1						
ULN	**Ulaanbaatar**	**22.09**	**41**	*eP*	**P**	**06 35 10.2**	**+1.7**
	comp=Z,8.9nm,1.1s,mb4.1						
NVS	**Novosibirsk**	**22.10**	**356**	*eP*	**P**	**06 35 03.2**	**-5.3**
ZRNK	**Zerenda**	**23.44**	**334**	*eP*	**P**	**06 35 23.6**	**+1.0**
ZRNK				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.3						
ZRNK	**Zerenda**	**23.44**	**334**	*eP*	**P**	**06 35 23.6**	**+0.9**
	comp=Z,15nm,1.2s,mb4.3						
CHKZ	**Chkalovo**	**23.47**	**337**	*eP*	**P**	**06 35 21.1**	**-1.9**
CHKZ				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.2						
CHKZ	**Chkalovo**	**23.47**	**337**	*eP*	**P**	**06 35 21.1**	**-1.8**
	comp=Z,11nm,1.0s,mb4.2						
WSAR	**Wadi Sarin**	**25.62**	**255**	P	**P**	**06 35 43.2**	**+0.7**
	comp=Z,6.3nm,1.0s,mb4.1,baz=74,slow=14,SNR=2.9						
AKTK	**Aktyubinsk**	**26.92**	**319**	P	**P**	**06 35 56.0**	**+1.8**
AKTK					LR	06 47 17.0	
AKTO	**Aktyubinsk**	**26.92**	**319**	P	**P**	**06 35 56.0**	**+1.8**
	comp=Z,0.7nm,0.5s,mb3.5,baz=135,slow=7.1,SNR=2.6						
AKTO				LR	LR	06 47 17.0	
	comp=Z,170nm,19.1s,MS3.6,baz=0.0,slow=38						
BRTR	**Keskin Array B**	**42.01**	**295**	P	**P**	**06 38 04.2**	**-0.2**
	comp=Z,0.6nm,0.7s,mb3.3,baz=90,slow=9.9,SNR=4.1						
FINES	**FINESS Array B**	**47.33**	**326**	P	**P**	**06 38 47.5**	**+0.7**
	comp=Z,0.9nm,0.6s,mb3.9,baz=113,slow=8.9,SNR=4.6						
FINES				LR	LR	06 59 24.4	
	comp=Z,52nm,19.8s,MS3.5,baz=66,slow=37						
FINES	**FINESS Array B**	**47.33**	**326**	P	**P**	**06 38 47.5**	**+0.7**
FINES				LR	LR	06 59 24.4	
ARCES	**ARCESS Array B**	**49.30**	**336**	P	**P**	**06 39 02.5**	**+0.6**
	comp=Z,3.6nm,0.7s,mb4.5,baz=112,slow=9.6,SNR=5.5						
ARCES				LR	LR	07 00 33.3	
	comp=Z,54nm,19.0s,MS3.6,baz=145,slow=37						
NB2	**NORSAR Subarra**	**54.48**	**325**	P	**P**	**06 39 38.5**	**-2.0**
	comp=Z,2.9nm,0.9s,mb4.2,baz=86,slow=7.4						
NOA	**NORSAR Array B**	**54.48**	**325**	P	**P**	**06 39 40.0**	**-0.6**
	comp=Z,2.6nm,0.9s,mb4.2,baz=86,slow=7.2,SNR=5.6						
NOA				LR	LR	07 03 36.1	
	comp=Z,34nm,21.1s,MS3.4,baz=75,slow=37						
NOA	**NORSAR Array B**	**54.48**	**325**	P	**P**	**06 39 40.0**	**-0.6**
NOA				LR	LR	07 03 36.1	
GERES	**GERESS Array B**	**54.75**	**310**	P	**P**	**06 39 43.4**	**+0.9**
	comp=Z,0.7nm,0.7s,mb3.8,baz=72,slow=5.7,SNR=6.2						
GERES				LR	LR	07 03 51.0	
	comp=Z,50nm,20.2s,MS3.6,baz=103,slow=37						
WRA	**Warramunga Arr**	**70.11**	**131**	P	**P**	**06 41 23.8**	**-1.4**
	comp=Z,0.9nm,0.7s,mb3.8,baz=325,slow=6.4,SNR=11						
ASAR	**Alice Springs**	**72.61**	**134**	P	**P**	**06 41 39.6**	**-0.6**
	comp=Z,1.0nm,0.7s,mb3.8,baz=322,slow=4.6,SNR=6.7						
ILAR	**Eielson Array**	**74.48**	**21**	P	**P**	**06 41 50.0**	**-1.3**
	comp=Z,0.5nm,0.7s,mb3.6,baz=316,slow=4.7,SNR=4.1						
TORD	**Torodi Ar. Bea**	**77.97**	**278**	P	**P**	**06 42 11.1**	**0.0**
	comp=Z,1.3nm,0.8s,mb3.9,baz=45,slow=5.3,SNR=7.5						
YKA	**Yellowknife Ar**	**83.65**	**9**	P	**P**	**06 42 40.7**	**-0.8**
	comp=Z,0.6nm,0.7s,mb3.8,baz=339,slow=5.1,SNR=10						
YKA	**Yellowknife Ar**	**83.65**	**9**	P	**P**	**06 42 40.7**	**-0.8**

*SOF **25** 06:37:14.0, 4121N×23.15E, h7km, MD2.6*

*ISCJB **25** 06:37:14.7±0.4, 4120N±003×2321E±003, h7km±6km, Error ellipse: s-maj=4.4km s-min=4.0km az=7.0*

*NEIC **25** 06:37:15.2, 41.19N×2325E, h25km, MD2.6(SOF), MD3.2(ATH), After ATH.*

*THE **25** 06:37:15.8, 41.18N×23.19E, h6km, ML2.9*

*CSEM **25** 06:37:15.0±0.1, 4123N×2323E, h5km, ML2.9, Error ellipse: s-maj=1.3km s-min=1.2km az=146.0*

*SKO **25** 06:37:16.2, 41.19N×23.16E, h14km, M2.4, ML2.1*

*ATH **25** 06:37:18.1, 4108N×2355E, h23km±1km, MD3.2/3*

ISC 25 06:37:15.2±0.4, 4120N±003×2322E±003, h8km±6km, n26, σ0§71/37, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.24**	**262**	*e*Pg	**Pg**	**06 37 20.3**	**+0.3**
KNT				*e*Sg	**Sg**	**06 37 23.5**	**+0.2**
SOH	**Sokhos**	**0.39**	**164**	*e*Pg	**Pg**	**06 37 23.3**	**+0.5**
SOH				*e*Sg	**Sg**	**06 37 28.7**	**+0.7**
VAY	**Valandovo**	**0.50**	**284**	*e*Pg	**Pg**	**06 37 24.4**	**-0.5**
VAY	**Valandovo**	**0.50**	**284**	*e*Pg	**Pg**	**06 37 24.6**	**-0.3**
VAY				*e*Sg	**Sg**	**06 37 33.3**	**+1.8**
VAY				*e*Lg		06 37 33.4	
	comp=N,113nm,0.2s						
VAY				*e*Lg		06 37 33.9	
	comp=E,85nm,0.2s						
NVR	**Nevrokopi**	**0.51**	**72**	*e*PB	**Pg**	**06 37 25.3**	**+0.2**
NVR				*e*SB	**Sg**	**06 37 32.2**	**+0.4**
NVR	**Nevrokopi**	**0.51**	**72**	*e*Pb	**Pg**	**06 37 25.3**	**+0.2**
NVR				*e*Sb	**Sg**	**06 37 32.7**	**+0.9**
MMB	**Musomiste**	**0.55**	**44**	Pg	**Pg**	**06 37 25.3**	**-0.5**
THE	**Thessaloniki**	**0.60**	**199**	*e*Pg	**Pg**	**06 37 26.9**	**+0.2**
GRG	**Griva**	**0.66**	**249**	*e*Pg	**Pg**	**06 37 27.7**	**-0.2**
GRG				*e*Sg	**Sg**	**06 37 32.2**	**+0.6**
KKB	**Krupnik**	**0.68**	**352**	Pg	**Pg**	**06 37 26.9**	**-1.3**
PLG	**Polygyros**	**0.84**	**168**	*e*PB	**Pg**	**06 37 31.0**	**-0.4**
PLG				*e*SN	**Sg**	**06 37 41.8**	**-0.5**
PLG	**Polygyros**	**0.84**	**168**	*e*Pn	**Pg**	**06 37 30.9**	**-0.5**
PLG				*e*Sn	**Sg**	**06 37 42.7**	**+0.4**
STIP	**Stip**	**0.92**	**303**	*e*Pg	**Pg**	**06 37 32.6**	**-0.3**
STIP				*e*Sg	**Sg**	**06 37 45.4**	**+0.5**
STIP				*e*Lg		06 37 45.7	
	comp=E,27nm,0.2s						
STIP				*e*Lg		06 37 45.8	
	comp=N,44nm,0.2s						
STIP	**Stip**	**0.92**	**303**	*e*Pg	**Pg**	**06 37 32.5**	**-0.4**
STIP				*e*Sg	**Sg**	**06 37 45.3**	**+0.5**
OUR	**Ouranopolis**	**1.04**	**146**	*e*Pg	**Pg**	**06 37 35.9**	**+0.7**
LIT	**Litokhoron**	**1.23**	**207**	*e*Pg	**Pg**	**06 37 38.1**	**-0.6**
PAIG	**Paliouri**	**1.32**	**164**	*e*Pg	**Pg**	**06 37 39.3**	**-1.2**
VTS	**Vitosha**	**1.39**	**360**	*e*Pg	**Pg**	**06 37 41.6**	**-0.4**
VTS	**Vitosha**	**1.39**	**360**	P	**Pn**	**06 37 41.0**	**0.0**
VTS	**Vitosha**	**1.39**	**360**	*e*Pg	**Pg**	**06 37 41.6**	**-0.3**
FNA	**Florina**	**1.45**	**254**	*e*Pg	**Pg**	**06 37 41.2**	**-1.9**
FNA				*e*Sg	**Sg**	**06 38 01.7**	**-0.2**
PGB	**Panagyurishte**	**1.53**	**27**	Pg	**Pn**	**06 37 43.6**	**+0.8**
KDZ	**Kurdzhali**	**1.72**	**74**	P	**Pn**	**06 37 46.0**	**+0.5**
RDO	**Rodhopi**	**1.75**	**91**	*e*PN	**Pn**	**06 37 45.8**	**-0.2**
XOR	**Xorichti**	**1.83**	**181**	*e*Pb	**Pn**	**06 37 46.8**	**-0.2**
ALN	**Alexandroupoli**	**2.16**	**97**	*e*Pn	**Pn**	**06 37 51.7**	**+0.1**

*IDC **25** 06:40:49.0±2.1, 3210N×13993E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.2/19, mbtmp3.2/3, ML2.7/1, Error ellipse: s-maj=77.0km s-min=19.3km az=88.0*

*ISCJB **25** 06:40:50.4±1.8, 3268N±008×141.1E±0.1, h58km±17km, mb3.3/2, Error ellipse: s-maj=21.7km s-min=9.8km az=51.1*

*JMA **25** 06:40:51.1±0.1, 3276N×141.10E, h47km, M3.1*

ISC 25 06:40:51.2±1.9, 3267N±009×1411E±01, h46km±21km, n11, σ0§82/15, mb3.3/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.15**	**293**	P	**Pn**	**06 41 11.0**	**+0.1**
JHJ2				*e*S	**Sn**	**06 41 25.5**	**0.0**
JHJ	**Hachijo jima 2**	**1.18**	**293**	Pn	**Pn**	**06 41 11.2**	**-0.1**
	30nm,0.3s,baz=6.3,slow=22,SNR=18						
JHJ				Sn	**Sn**	**06 41 24.9**	**-1.3**
	53nm,0.3s,baz=72,slow=20,SNR=6.1						
BSO1	**Boso 1**	**1.98**	**358**	P	**Pn**	**06 41 21.7**	**-0.5**
BSO1				*e*S	**Sn**	**06 41 44.5**	**-1.3**
BSO2	**Boso 2**	**2.10**	**353**	*e*S	**Sn**	**06 41 48.9**	**+0.3**
BSO3	**Boso 3**	**2.18**	**348**	P	**Pn**	**06 41 25.1**	**+0.2**
BSO3				*e*S	**Sn**	**06 41 50.5**	**-0.2**
JKO	**Kozu shima**	**2.22**	**313**	P	**Pn**	**06 41 26.4**	**+0.9**
JIM2	**Oshima 3**	**2.46**	**326**	P	**Pn**	**06 41 29.2**	**+0.4**
JAG	**Ashikaga**	**3.98**	**341**	*e*S	**Sn**	**06 42 34.9**	**-0.1**
MJAR	**Matsushiro Arr**	**4.53**	**329**	Pn	**Pn**	**06 41 59.4**	**+2.2**
	0.4nm,0.3s,baz=178,slow=13,SNR=3.6						
MKAR	**Makanchi Array**	**46.32**	**306**	P	**P**	**06 49 13.1**	**+0.7**
	0.2nm,0.4s,mb3.4,baz=92,slow=8.4,SNR=3.4						
WRA	**Warramunga Arr**	**52.71**	**188**	P	**P**	**06 49 60.0**	**-1.1**
	0.2nm,0.5s,mb3.3,baz=3.7,slow=7.6,SNR=5.4						

*ISCJB **25** 06:48:57.0±0.5, 3297N±005×853E±0.1, h10km, mb3.8/8, MS3.9/1, Error ellipse: s-maj=15.9km s-min=6.6km az=166.1*

*IDC **25** 06:48:57.2±1.2, 3296N×8526E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.8/20, mbtmp3.8/7, ML3.2/1, MS3.8/1, Ms1 3.8/1, ms1mx2.5/18, Error ellipse: s-maj=34.8km s-min=27.2km az=51.0*

*NEIC **25** 06:48:58.7±0.4, 3297N×8533E, h10km, mb3.9/2, Error ellipse: s-maj=13.3km s-min=5.3km az=83.0*

*BJI **25** 06:49:00.6, 3320N×8612E, h17km, mb4.6, Ms4.2*

ISC 25 06:48:58.5±4.7, 3299N±006×853E±01, h9km±33km, n21, σ0§72/21, mb3.8/8, MS3.9/1, 1C, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GKN	**Gorkha**	**5.01**	**187**	*eP*	**Pn**	**06 50 14.1**	**+0.2**
GUN	**Gumba**	**5.09**	**174**	*eP*	**Pn**	**06 50 14.8**	**-0.2**
	57nm,0.7s						
KKN	**Kakani**	**5.18**	**180**	*eP*	**Pn**	**06 50 16.7**	**+0.4**
	39nm,0.8s						
DMN	**Daman**	**5.37**	**182**	*eP*	**Pn**	**06 50 19.3**	**+0.5**
JIRN	**Jiri**	**5.37**	**172**	*eP*	**Pn**	**06 50 18.4**	**-0.5**
PKI	**Pulchoki**	**5.40**	**179**	*eP*	**Pn**	**06 50 19.4**	**+0.1**
	12nm,0.3s						
KOLN	**Koldanda**	**5.41**	**196**	*eP*	**Pn**	**06 50 19.1**	**-0.3**
LSA	**Lhasa**	**5.98**	**122**	*e*Pn	**Pn**	**06 50 26.5**	**-0.8**
	17nm,0.7s						
MKAR	**Makanchi Array**	**13.98**	**351**	Pn	**Pn**	**06 52 17.0**	**+0.2**
	0.1nm,0.3s,baz=168,slow=12,SNR=12						
GYA	**Guiyang**	**19.64**	**104**↑	*i*P	**Pn**	**06 53 23.5**	**-5.4**
GYA				AMB	AMB		
	comp=Z,20nm,0.7s						
SONM	**Songino Array**	**21.75**	**41**	P	**P**	**06 53 51.6**	**+1.2**
	comp=Z,1.5nm,0.8s,mb3.5,baz=231,slow=10,SNR=10						
ZRNK	**Zerenda**	**23.14**	**334**	*eP*	**P**	**06 54 03.7**	**-1.5**
	comp=Z,3.9nm,1.0s,mb3.8						
ZRNK				*e*S	**S**	**06 58 24.4**	**+7.8**
CHKZ	**Chkalovo**	**23.18**	**337**	*eP*	**P**	**06 54 06.1**	**+0.6**
	comp=Z,3.7nm,0.9s,mb3.8						
FINES	**FINESS Array B**	**47.01**	**326**	P	**P**	**06 57 30.7**	**+0.5**
	comp=Z,1.3nm,0.6s,mb4.0,baz=111,slow=11,SNR=6.0						
FINES	**FINESS Array B**	**47.01**	**326**	P	**P**	**06 57 30.7**	**+0.5**
CBIJ	**Chichi jima**	**49.09**	**81**	LR	LR	07 17 51.0	
	comp=Z,105nm,19.2s,MS3.9,baz=82,slow=35						
NB2	**NORSAR Subarra**	**54.16**	**325**	P	**P**	**06 58 24.2**	**+0.1**
	comp=Z,0.9nm,0.6s,mb3.9,baz=85,slow=7.4						
NOA	**NORSAR Array B**	**54.16**	**325**	P	**P**	**06 58 24.1**	**0.0**
	comp=Z,1.3nm,0.7s,mb4.0,baz=85,slow=7.2,SNR=4.9						
ASAR	**Alice Springs**	**72.94**	**134**	P	**P**	**07 00 29.1**	**+0.8**
	comp=Z,1.7nm,0.7s,mb4.1,baz=307,slow=3.7,SNR=6.6						
TORD	**Torodi Ar. Bea**	**77.67**	**278**	P	**P**	**07 00 55.7**	**+0.2**
	comp=Z,0.5nm,0.7s,mb3.6,baz=52,slow=4.8,SNR=4.5						
YKA	**Yellowknife Ar**	**83.51**	**9**	P	**P**	**07 01 25.1**	**-1.7**
	comp=Z,0.4nm,0.7s,mb3.7,baz=336,slow=5.2,SNR=8.4						

*IDC **25** 06:49:56.7±0.6, 1016N×9156E, h0km, mb4.2/14, mb1 4.3/14, mb1mx4.2/22, mbtmp4.2/14, MS4.4/14, Ms1 4.4/14, ms1mx4.2/20, Error ellipse: s-maj=26.6km s-min=13.5km az=58.0*

*ISCJB **25** 06:49:58.9±1.1, 1038N±004×9169E±004, h24km±8km, mb

KMI AMB AMB
comp=Z,244nm,6.0s
KMI LR LR
comp=N,1μm,15.6s
KMI LR LR
comp=E,2μm,14.0s
KMI LR LR
comp=Z,1μm,19.3s
PKI Pulchoki 18.03 341 *e*P **Pn 06 54 11.2 +0.6**
DMN Daman 18.16 341 *e*P **Pn 06 54 12.6 +0.3**
comp=Z,96nm,0.8s
GOA Goa 18.18 288 *ex* **Sn 06 57 16.0 -19**
GUN Gumba 18.20 343 *e*P **Pn 06 54 13.6 +0.8**
KKN Kakani 18.27 341 *e*P **Pn 06 54 12.8 -0.8**
GKN Gorkha 18.68 340 *e*P **Pn 06 54 18.5 -0.1**
KOLN Koldanda 18.84 337 *e*P **Pn 06 54 20.6 0.0**
comp=Z,153nm,1.4s
POO Poona 19.10 297 *e*P **Pn 06 54 22.0 -1.7**
POO *e*PP 06 54 35.0
POO *i* x 06 57 37.0
POO *ex* x 06 57 59.5
LSA Lhasa 19.13 358 *e*P **Pn 06 54 24.3 +0.2**
LSA pmax pmax
comp=Z,37nm,1.7s
LSA Lhasa 19.13 358 *e*P **Pn 06 54 24.3 +0.2**
comp=Z,37nm,1.7s
LSA *e* 06 54 33.2
QIZ Qiongzhong 19.41 62 P **Pn 06 54 26.0 -1.4**
QIZ AP pP 06 54 35.0 +2.2
QIZ XP sP 06 54 39.5 +3.6
QIZ S **Sn 06 58 03.0 -1.5**
QIZ XS sS 06 58 17.0 +1.9
QIZ SS 06 58 32.0
QIZ LR LR
comp=N,2μm,18.3s
QIZ LR LR
comp=Z,1μm,12.4s
KSM Kuching 20.47 115 *e*P **P 06 54 39.3 +1.6**
GYA Guiyang 21.22 40⇑ *i*P **P 06 54 47.5 +1.7**
GYA AP 06 54 57.0
GYA XP sP 06 55 01.8 +6.2
GYA PP 06 55 12.5
GYA S **S 06 58 40.5 0.0**
GYA XS sS 06 58 54.8 +3.6
GYA SS 06 59 16.8
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.5
GYA AMB AMB
comp=Z,220nm,5.2s
GYA LR LR
comp=N,1μm,15.3s,MS4.5
GYA LR LR
comp=E,910nm,15.3s,MS4.5
GYA LR LR
comp=Z,900nm,13.8s,MS4.3
AJM Ajmer 22.70 317 *e*P **P 06 55 00.6 -1.0**
AJM AMb AMB 06 55 09.7
comp=Z,32nm,1.3s,mb4.6
CD2 Chengdu 23.17 27 P **P 06 55 07.3 +0.7**
CD2 XP sP 06 55 20.3 +3.8
CD2 PP 06 55 37.0
CD2 S **S 06 59 11.0 -5.7**
CD2 XS sS 06 59 26.5 -1.9
CD2 AMB AMB
comp=Z,10.0nm,0.3s,mb4.7
CD2 AMB AMB
comp=Z,150nm,3.1s
CD2 LR LR
comp=N,780nm,18.6s
CD2 LR LR
comp=Z,550nm,19.8s,MS4.0
SMLA Simla 24.62 329 *e*P **P 06 55 20.7 +0.5**
SMLA AMb AMB 06 55 24.1
comp=Z,32nm,0.9s,mb4.9
BHJ Bhuj 24.64 304 *e*P **P 06 55 21.9 +1.5**
SDNR Sundarnagar 25.01 329 *ex* **P 06 55 26.4 +2.6**
LZH Lanzhou 27.74 21 *e*P **P 06 55 52.5 +4.1**
LZH AP pP 06 56 02.0 +6.4
LZH XP sP 06 56 07.5 +8.9
LZH PP 06 56 42.0
LZH *e*S **S 07 00 28.0 -1.5**
LZH XS sS 07 00 43.0 +1.6
LZH SS 07 01 51.0
LZH AMB AMB
comp=Z,26nm,1.2s,mb4.7
LZH AMB AMB
comp=Z,88nm,4.5s
LZH LR LR
comp=N,1μm,13.0s
LZH LR LR
comp=Z,2μm,15.2s,MS4.8
XAN Xi'an 28.22 31 P **P 06 55 52.3 -0.4**
XAN AP pP 06 56 00.0 +0.1
XAN AMB AMB
comp=Z,7.0nm,0.8s,mb4.3
QZH Quanzhou 29.23 57 *e*P **P 06 56 01.8 +0.1**
QZH S **S 07 00 52.8 -0.1**
QZH LR LR
comp=N,2μm,15.0s,MS5.0
QZH LR LR
comp=E,3μm,19.6s,MS5.0
QZH LR LR
comp=Z,2μm,21.2s,MS4.6
GTA Gaotai 29.69 13 *e*P **P 06 56 07.5 +1.8**
GTA AP pP 06 56 16.0 +3.1
GTA XP sP 06 56 19.8 +3.9
GTA PP PP 06 57 05.3 -7.6
GTA S **S 07 00 59.5 -0.6**
GTA XS sS 07 01 16.5 +4.5
GTA AMB AMB
comp=Z,5.0nm,1.2s,mb4.1
GTA AMB AMB
comp=Z,124nm,4.2s
GTA LR LR
comp=N,1μm,17.5s,MS4.8
GTA LR LR
comp=E,2μm,18.6s,MS4.8
GTA LR LR
comp=Z,605nm,14.8s,MS4.4
NJ2 Nanjing 32.95 45 *e*P **P 06 56 35.8 +1.3**
NJ2 AP pP 06 56 46.0 +4.3
NJ2 XP sP 06 56 50.0 +5.3
NJ2 PP PP 06 57 45.0 -4.1
NJ2 S **S 07 01 48.0 -3.2**
NJ2 XS sS 07 02 04.0 +0.9
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
NJ2 AMB AMB
comp=Z,180nm,10.0s
NJ2 LR LR
comp=N,700nm,27.4s
NJ2 LR LR
comp=E,810nm,20.8s
NJ2 LR LR
comp=Z,380nm,22.7s,MS4.0
WMQ Urumqi 33.40 355⇓ P **P 06 56 39.5 +1.1**
WMQ AP pP 06 56 49.0 +3.3
WMQ XP sP 06 56 53.0 +4.4
WMQ PP PP 06 57 51.8 -2.3
WMQ PCP PcP 06 59 20.5 +0.9
WMQ S **S 07 01 57.3 -0.8**
WMQ XS sS 07 02 13.3 +3.2
WMQ SCP ScP 07 03 01.3 -1.1
WMQ PCS PcS 07 03 05.3 +0.1
WMQ SCS ScS 07 07 00.5 -2.8
WMQ AMB AMB
comp=Z,13nm,0.5s,mb5.1
WMQ AMB AMB
comp=Z,223nm,5.2s
WMQ LR LR
comp=N,476nm,20.7s,MS4.6
WMQ LR LR
comp=E,1μm,24.3s,MS4.6
WMQ LR LR
comp=Z,314nm,19.4s,MS4.0
WSAR Wadi Sarin 34.07 296 LR LR 07 09 31.1
comp=Z,685nm,18.8s,MS4.4,baz=359,slow=34
SSE Sheshan 34.12 49 P **P 06 56 45.0 +0.4**
SSE AP pP 06 56 53.8 +1.9
SSE XP sP 06 56 57.5 +2.6
SSE PP PP 06 58 01.5 -0.5
SSE S **S 07 02 07.3 -1.9**
SSE XS sS 07 02 22.3 +1.1
SSE AMB AMB
comp=Z,18nm,0.8s,mb5.0
SSE AMB AMB
comp=Z,42nm,6.9s
SSE LR LR
comp=N,640nm,13.0s,MS4.6
SSE LR LR
comp=E,467nm,13.0s,MS4.6
SSE LR LR
comp=Z,707nm,13.2s,MS4.6
HHC Hu-ho-hao-te 34.93 27 *e*P **P 06 56 52.5 +0.8**
HHC AP pP 06 57 02.5 +3.6
HHC XP sP 06 57 06.5 +4.6
HHC S **S 07 02 21.5 -0.3**
HHC XS sS 07 02 37.5 +3.8
HHC SCP ScP 07 03 05.5 -2.3
HHC PCS PcS 07 03 09.5 -1.1
HHC SS SS 07 04 37.0 -17
HHC SCS ScS 07 07 07.5 -3.9
HHC AMB AMB
comp=Z,23nm,1.2s,mb5.0
HHC AMB AMB
comp=Z,138nm,4.9s
HHC LR LR
comp=N,770nm,14.2s,MS4.7
HHC LR LR
comp=E,686nm,13.9s,MS4.7
HHC LR LR
comp=Z,620nm,14.6s,MS4.5
AAK Ala-Archa 35.41 338 *e*P **P 06 56 55.9 +0.1**
AAK pmax pmax
comp=Z,22nm,1.2s,mb5.0
AAK MLR MLR
comp=Z,500nm,17.0s,MS4.3
AAK Ala-Archa 35.41 338 *e*P **P 06 56 56.6 +0.8**
comp=Z,21nm,1.3s,mb4.9
FRU Bishkek 35.54 338 P **P 06 57 01.0 +4.1**
FRU MLR MLR
comp=N,800nm,17.0s
FRU MLR MLR
comp=Z,700nm,17.0s,MS4.5
BJT Baijiatuau 36.52 32 *e*P **P 06 57 03.7 -1.6**
BJT pmax pmax
comp=Z,12nm,0.8s
BJT Baijiatuau 36.52 32 *e*P **P 06 57 03.7 -1.5**
comp=Z,12nm,0.8s,mb4.8
BJI Beijing 36.54 32 *e*P **P 06 57 07.5 +2.1**
BJI S **S 07 02 52.3 +5.9**
BJI AMB AMB
comp=Z,15nm,0.8s,mb4.9
BJI AMB AMB
comp=Z,310nm,4.1s
BJI LR LR
comp=N,1μm,16.4s,MS4.8
BJI LR LR
comp=E,836nm,15.5s,MS4.8
BJI LR LR
comp=Z,787nm,23.4s
MKAR Makanchi Array 37.08 349 P **P 06 57 10.7 +0.7**
comp=Z,1.7nm,0.6s,mb4.0,baz=170,slow=8.3,SNR=17
DL2 Dalian 38.86 38 *e*P **P 06 57 24.8 -0.3**
DL2 *e*S **S 07 03 22.3 +0.6**
DL2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
DL2 LR LR
comp=N,270nm,17.3s,MS4.3
DL2 LR LR
comp=E,290nm,15.0s,MS4.3
DL2 LR LR
comp=Z,480nm,14.6s,MS4.5
SONM Songino Array 39.22 16 P **P 06 57 29.3 +1.3**
comp=Z,3.4nm,0.8s,mb4.1,baz=200,slow=8.0,SNR=21
SONM LR LR 07 16 37.3
comp=Z,628nm,19.9s,MS4.4,baz=199,slow=40
ULN Ulaanbaatar 39.42 16⇑ *e*P **P 06 57 31.5 +1.7**
ULN Ulaanbaatar 39.42 16 *e*P **P 06 57 29.6 -0.1**
comp=Z,4.1nm,0.9s,mb4.2
ZAK Zakamensk 40.90 11 *e*P **P 06 57 42.3 +0.3**
ZAK pmax pmax
comp=Z,11nm,1.9s,mb4.2
KURK Kurchatov 41.55 347⇑ *e*P **P 06 57 47.2 -0.2**
KURK Kurchatov 41.55 347 *e*P **P 06 57 47.4 0.0**
comp=Z,15nm,1.3s,mb4.5
MBWA Marble Bar 41.75 139 *e*P **P 06 57 48.6 -0.4**
comp=Z,12nm,1.2s,mb4.4
SNY Shenyang 41.86 36⇑ P **P 06 57 50.0 +0.1**
SNY AP pP 06 58 00.0 +2.8
SNY XP sP 06 58 04.0 +3.8
SNY PP PP 06 59 28.0 +1.2
SNY S **S 07 04 03.0 -3.3**
SNY AMB AMB
comp=Z,9.0nm,0.5s,mb4.7
SNY AMB AMB
comp=Z,135nm,4.5s
SNY LR LR
comp=N,724nm,17.6s
SNY LR LR
comp=Z,555nm,17.2s,MS4.5
TLY Talaya 42.21 11 *e*P **P 06 58 00.6 +7.9**
TLY *e* 06 59 49.5
TLY *e*SS SS 07 07 52.1 +32
TLY pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
ZAL Zalesovo 43.70 354 P **P 06 58 07.2 +2.3**
comp=Z,2.4nm,0.7s,mb4.0,baz=60,slow=3.1,SNR=12
ZAL LR LR 07 20 59.5
comp=Z,447nm,19.5s,MS4.4,baz=292,slow=42
FITZ Fitzroy Crossi 43.86 130 *e*P **P 06 58 04.6 -1.6**
comp=Z,10.0nm,1.6s,mb4.3
FITZ Fitzroy Crossi 43.86 130 P **P 06 58 04.7 -1.5**
comp=Z,1.8nm,0.7s,mb3.9,baz=337,slow=15,SNR=4.8
FITZ LR LR 07 16 05.0
comp=Z,222nm,21.9s,MS4.0,baz=300,slow=36
NVS Novosibirsk 44.76 353 *e*P **P 06 58 08.6 -4.7**
NVS pmax pmax
comp=N,8.0nm,1.4s
NVS pmax pmax
comp=E,10.0nm,1.4s
NVS pmax pmax
comp=Z,11nm,1.4s,mb4.5
CIT Chita 45.05 19 *e*P **P 06 58 14.6 -1.0**
CHKZ Chkalovo 46.29 343 *e*P **P 06 58 25.7 +0.2**
CHKZ pmax pmax
comp=Z,17nm,1.2s,mb4.8
CHKZ Chkalovo 46.29 343 *e*P **P 06 58 25.7 +0.2**
comp=Z,17nm,1.2s,mb4.9
MDJ Mudanjiang 47.04 37 P **P 06 58 31.5 +0.2**
MDJ AP pP 06 58 40.5 +1.7
MDJ XP sP 06 58 44.3 +2.6
MDJ PP PP 07 00 21.8 -0.3
MDJ SCP ScP 07 03 54.5 -0.9
MDJ PCS PcS 07 03 58.5 +0.2
MDJ S **S 07 05 22.0 +0.3**
MDJ XS sS 07 05 37.3 +3.3
MDJ SCS ScS 07 08 23.5 -0.6
MDJ AMB AMB
comp=Z,4.0nm,0.5s,mb4.6
MDJ AMB AMB
comp=Z,61nm,5.9s
MDJ LR LR
comp=N,231nm,18.3s,MS4.3
MDJ LR LR
comp=E,256nm,22.2s,MS4.3
MDJ LR LR
comp=Z,239nm,20.8s,MS4.1
MUN Mundaring 48.26 152 *e*P **P 06 58 42.1 +1.3**
AKTK Aktyubinsk 48.56 332 P **P 06 58 43.3 +0.3**
AKTO Aktyubinsk 48.56 332 P **P 06 58 43.3 +0.2**
comp=Z,5.8nm,1.1s,mb4.5,baz=116,slow=12,SNR=6.2
MAT Matsushiro 49.23 50 P **P 06 58 43.9 -4.3**
MAT S **S 07 05 50.6 -2.0**
MAT Matsushiro 49.23 50 P **P 06 58 44.0 -4.2**
MAT *e*S **S 07 05 40.0 -13**
MJAR Matsushiro Arr 49.23 50 P **P 06 58 49.7 +1.5**
comp=Z,0.8nm,0.5s,mb4.0,baz=251,slow=9.7,SNR=3.4
MJAR LR LR 07 22 38.4
comp=Z,524nm,19.1s,MS4.5,baz=255,slow=40
NWAO Narrogin (SRO) 49.53 152 P **P 06 58 49.9 -0.6**
comp=Z,8.9nm,0.7s,mb4.9,baz=312,slow=6.4,SNR=8.3
NWAO LR LR 07 17 43.0
comp=Z,632nm,20.1s,MS4.6,baz=340,slow=34
NWAO Narrogin (SRO) 49.53 152 *e*P **P 06 58 51.0 +0.5**
NWAO pmax pmax
comp=Z,23nm,1.2s
NWAO Narrogin (SRO) 49.53 152 *e*P **P 06 58 51.0 +0.5**
comp=Z,23nm,1.2s,mb5.1
BOD Bodaibo 50.21 15 *e*P **P 06 58 55.8 +0.1**
BOD pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
ORR Orenburg 50.88 331 *e*P **P 06 59 03.6 +2.8**
ORR pmax pmax
comp=Z,20nm,1.3s,mb4.9
KLR Kul'dur 50.91 33 *e*P **P 06 59 00.0 -0.9**
KLR *e*S **S 07 06 17.5 +1.5**
KLR MLR MLR
comp=N,800nm,13.5s,MS5.0
KLR MLR MLR
comp=E,700nm,13.5s,MS5.0
KLR MLR MLR
comp=Z,1μm,13.5s,MS5.0
GNI Garni 50.96 314⇓ *i*P **P 06 59 01.7 +0.4**
GNI pmax pmax
comp=Z,47nm,1.8s
GNI MLR MLR
comp=Z,200nm,17.0s
GNI Garni 50.96 314 *e*P **P 06 59 02.8 +1.4**
comp=Z,54nm,1.4s,mb5.3
WRA Warramunga Arr 51.67 126 P **P 06 59 05.6 -1.1**
comp=Z,5.2nm,0.6s,mb4.6,baz=305,slow=8.5,SNR=36
WRAB Tennant Creek 51.67 126 *e*P **P 06 59 06.4 -0.3**
WRAB pmax pmax
comp=Z,13nm,0.8s,mb4.9
WRAB Tennant Creek 51.67 126 *e*P **P 06 59 06.3 -0.3**
comp=Z,13nm,0.8s,mb4.9
WB2 Warramunga Arr 51.68 126 *e*P **P 06 59 05.5 -1.2**
GUMO Guam 51.94 81 LR LR 07 21 02.6
comp=Z,189nm,18.8s,MS4.2,baz=274,slow=36
SVE Sverdlovsk 52.14 339 *e*P **P 06 59 13.0 +2.8**
SVE pmax pmax
comp=Z,24nm,1.2s,mb5.0
SVE MLR MLR
comp=N,400nm,16.0s,MS4.8
SVE MLR MLR
comp=E,700nm,16.0s,MS4.8
SVE MLR MLR
comp=Z,500nm,16.0s,MS4.7
ASAR Alice Springs 53.37 130 P **P 06 59 16.8 -2.4**
comp=Z,2.7nm,0.6s,mb4.3,baz=308,slow=7.1,SNR=22
KIV Kislovodsk 53.83 317 *e*P **P 06 59 22.8 +0.2**
KIV *e*S **S 07 06 50.3 -5.7**
KIV pmax pmax
comp=Z,21nm,1.1s,mb5.0
KIV MLR MLR
comp=Z,188nm,14.0s,MS4.3
KIV Kislovodsk 53.83 317 *e*P **P 06 59 23.0 +0.4**
comp=Z,27nm,1.1s,mb5.1
MALT Malatya 55.01 310 *e*P **P 06 59 32.4 +1.2**
MALT pmax pmax
comp=Z,12nm,1.5s,mb4.7
MALT Malatya 55.01 310 *e*P **P 06 59 32.4 +1.2**
comp=Z,12nm,1.5s,mb4.7
KMBO Kilima Mbogo 55.45 261 LR LR 07 18 30.1
comp=Z,468nm,21.7s,MS4.5,baz=93,slow=31
SOC Sochi 55.70 316⇓ *i*P **P 06 59 36.4 +0.2**
SOC *e**PP pP 06 59 48.6 +4.9
SOC *e* 07 00 33.0
SOC *e* 07 01 36.8
SOC *i* S **S 07 07 13.7 -7.4**
SOC *e**SS sS 07 07 35.6 +2.1
SOC *e* 07 09 20.3
SOC pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
SOC MLR MLR
comp=Z,259nm,17.0s,MS4.4
ANN Anapa 57.65 317 *e*P pP 07 00 03.2 +5.6
BRTR Keskin Array B 58.97 310 P **P 06 59 57.8 -1.5**
comp=Z,1.8nm,1.0s,mb4.1,baz=133,slow=8.7,SNR=6.4
BRTR Keskin Array B 58.97 310⇑ *i*P **P 07 00 00.8 +1.5**
BRTR pmax pmax
comp=Z,2.0nm,1.0s
CTA Charters Tower 61.61 120 *e*P **P 07 00 17.2 -0.1**
comp=Z,8.5nm,1.1s,mb4.8
CTA Charters Tower 61.61 120 *e*P **P 07 00 17.2 -0.1**
CTA pmax pmax
comp=Z,9.0nm,1.1s
CTAO Charters Tower 61.61 120 *e*P **P 07 00 16.9 -0.4**
CTAO pmax pmax
comp=Z,31nm,1.4s,mb5.2
CTAO Charters Tower 61.61 120 *e*P **P 07 00 16.9 -0.5**
comp=Z,31nm,1.4s,mb5.2
OBN Obninsk 61.94 328⇓ *e*P **P 07 00 23.6 +4.0**
OBN *e* 07 00 36.1
OBN 07 00 58.0
OBN *e*S **S 07 08 43.7 +1.5**
OBN pmax pmax
comp=Z,33nm,1.7s,mb5.2
STKA Stephens Creek 63.58 133 *e*P **P 07 00 28.0 -2.5**
comp=Z,4.5nm,0.7s,mb4.6
STKA Stephens Creek 63.58 133 P **P 07 00 28.2 -2.3**
comp=Z,5.6nm,0.7s,mb4.7,baz=309,slow=7.6,SNR=9.7
STKA LR LR 07 29 13.6
comp=Z,279nm,19.8s,MS4.4,baz=115,slow=37
AKASG Malin Array Be 64.67 321 *i* P **P 07 00 42.7 +5.1**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
TIXI Tiksi 65.17 12 *e*P **P 07 00 39.7 -1.2**
TIXI *e*S S 07 09 18.7 -3.7
TIXI *e* 07 09 40.0
TIXI *e**SS sS 07 09 49.4 +14
TIXI pmax pmax
comp=Z,11nm,1.4s,mb4.7
TIXI smax
comp=N,66nm,11.7s
TIXI smax
comp=E,47nm,13.3s
TIXI MLR MLR
comp=Z,283nm,16.0s,MS4.6
FINES FINESS Array B 69.33 332 LR LR 07 37 40.6
comp=Z,275nm,18.1s,MS4.5,baz=147,slow=41
ARCES ARCESS Array B 72.04 340 LR LR 07 35 24.7
comp=Z,419nm,19.1s,MS4.7,baz=291,slow=38
GERES GERESS Array B 74.34 318 P **P 07 01 35.9 -1.5**
comp=Z,0.6nm,0.7s,mb3.6,baz=77,slow=2.9,SNR=5.8
BILL Bilibino 74.55 22 P **P 07 01 43.0 +4.4**
BILL MLR MLR
comp=Z,500nm,18.0s,MS4.8
NOA NORSAR Array B 76.33 330 LR LR 07 38 45.9
comp=Z,207nm,19.4s,MS4.5,baz=65,slow=38
MAW Mawson 80.62 191 P **P 07 02 13.4 +0.9**
comp=Z,2.0nm,0.9s,mb4.1,baz=306,slow=21,SNR=6.1
MAW LR LR 07 29 07.3
comp=Z,249nm,20.6s,MS4.5,baz=176,slow=29
TORD Torodi Ar. Bea 87.74 283 P **P 07 02 48.0 -0.6**
comp=Z,1.2nm,0.8s,mb4.2,baz=69,slow=4.0,SNR=6.4
ILAR Eielson Array 93.20 22 P **P 07 03 15.8 +1.6**
comp=Z,0.5nm,0.7s,mb4.0,baz=306,slow=4.7,SNR=5.0
DBIC Dimbokro 95.28 278 LR LR 07 46 55.5
comp=Z,144nm,18.8s,MS4.5,baz=57,slow=36
PPT Papeete 120.27 104 *e*LR LR 07 45 45.6
comp=Z,105nm,21.0s
TBI Tubuai 120.41 111 *e*LR LR 07 45 49.7
comp=Z,129nm,23.8s
PDAR Pinedale Array 123.53 19 PKP PKPdf 07 08 58.2 +1.1
comp=Z,0.3nm,0.5s,baz=359,slow=5.9,SNR=5.5
NVAR Mina Array Bea 123.82 28 PKP PKPdf 07 08 58.6 +1.0
comp=Z,0.2nm,0.5s,baz=300,slow=2.0,SNR=3.3
MSU Marysvale 126.37 23 *e*PKIKP PKPdf 07 09 02.4 -0.1
RKT Rikitea 133.71 112 *e*LR LR 07 51 59.3
comp=Z,152nm,38.5s
PLCA Paso Flores 146.06 204 PKPbc PKPbc 07 09 37.9 -1.8
comp=Z,4.9nm,1.1s,baz=25,slow=2.2,SNR=3.3
CPUP Villa Florida 146.84 237 PKPbc PKPbc 07 09 39.2 -2.7
comp=Z,2.4nm,0.8s,baz=110,slow=4.0,SNR=6.3
CPUP Villa Florida 146.84 237 *e*PKPdf PKPdf 07 09 39.9 -0.2
CPUP *e*PKPbc PKPbc 07 09 42.6 +0.7

IDC ***25*** *07:01:54.3s0.6, 721Sx15536E, h0km, mb4.2/10, mb1 4.3/11, mb1mx4.2/16, mbtmp4.2/11, ML4.3/1, MS3.2/2, Ms1 3.2/2, ms1mx2.9/16, Error ellipse: s-maj=26.9km s-min=18.2km az=128.0*

ISCJB ***25*** *07:01:59.2s3.3, 73Ss02x155.4Es0.1, h45km±32km, mb4.3/16, Error ellipse: s-maj=30.2km s-min=13.7km az=114.5*

NEIC ***25*** *07:01:59.9s2.0, 725Sx15536E, h38km±19km, mb4.4/5, Error ellipse: s-maj=19.2km s-min=9.5km az=153.0*

ISC 25 07:02:02.6±2.8, 74S±02x1555E±0.1, h63km±29km, n29, σ0.9 94/24, mb4.3/16, Bougainville - Solomon Islands region

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

HNR	**Honiara**	**4.84**	**115**	Pn	**Pn**	**07 03 13.2**	**+0.4**
	12nm,0.3s,baz=258,slow=10,SNR=2.4						
HNR				Lg		07 04 21.7	
	11nm,0.3s,baz=278,slow=17,SNR=3.3						
HNR				LR	LR	07 05 03.3	
	comp=Z,367nm,20.9s,baz=352,slow=37						
CTA	**Charters Tower**	**15.46**	**214**	LR	LR	07 10 41.8	
	comp=Z,71nm,20.3s,baz=219,slow=34						
KAKA	**Kakadu**	**23.30**	**255**	*e*P	**P**	**07 07 04.0**	**-0.9**
	5.8nm,0.6s,mb4.2						
WRAB	**Tennant Creek**	**23.99**	**237**	*e*P	**P**	**07 07 11.0**	**-0.2**
	12nm,0.9s,mb4.3						
WB2	**Warramunga Arr**	**23.99**	**237**	*e*P	**P**	**07 07 11.3**	**+0.1**
WRA	**Warramunga Arr**	**24.00**	**237**	P	**P**	**07 07 11.7**	**+0.3**
	6.8nm,1.0s,mb4.0,baz=58,slow=9.2,SNR=42						
WRA				PcP	PcP	07 10 52.3	+0.5
	0.4nm,0.6s,baz=62,slow=2.2,SNR=7.0						
ASAR	**Alice Springs**	**26.28**	**230**	P	**P**	**07 07 32.4**	**+0.4**
	1.2nm,0.8s,mb3.5,baz=59,slow=9.8,SNR=7.7						
ASAR				PcP	PcP	07 10 58.1	+1.2
	0.4nm,0.8s,baz=78,slow=2.2,SNR=5.1						
STKA	**Stephens Creek**	**27.58**	**206**	*e*P	**P**	**07 07 42.3**	**-1.4**
	2.9nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**27.58**	**206**	P	**P**	**07 07 42.5**	**-1.2**
	4.2nm,0.8s,mb4.1,baz=20,slow=12,SNR=6.4						
FITZ	**Fitzroy Crossi**	**30.95**	**247**	*e*P	**P**	**07 08 12.9**	**-0.7**
	5.7nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**30.95**	**247**	P	**P**	**07 08 13.1**	**-0.4**
	2.7nm,0.6s,mb4.2,baz=54,slow=3.4,SNR=6.7						
SONM	**Songino Array**	**69.95**	**327**	P	**P**	**07 13 06.9**	**-0.3**
	1.4nm,0.7s,mb4.0,baz=134,slow=5.8,SNR=12						
JIRN	**Jiri**	**75.42**	**301**	*e*P	**P**	**07 13 40.7**	**+1.1**
GUN	**Gumba**	**75.76**	**301**	*e*P	**P**	**07 13 42.6**	**+1.0**
	18nm,0.6s,mb5.2						
KKN	**Kakani**	**76.23**	**301**	*e*P	**P**	**07 13 44.7**	**+0.4**
DMN	**Daman**	**76.33**	**301**	*e*P	**P**	**07 13 45.7**	**+0.9**
	25nm,0.9s,mb5.1						
GKN	**Gorkha**	**76.84**	**301**	*e*P	**P**	**07 13 48.3**	**+0.6**
KOLN	**Koldanda**	**77.66**	**300**	*e*P	**P**	**07 13 52.5**	**+0.2**
	8.9nm,0.7s,mb4.8						
COLA	**College**	**83.28**	**21**	*e*P	**P**	**07 14 20.8**	**-1.7**
	2.9nm,0.6s,mb4.5						
ILAR	**Eielson Array**	**83.58**	**21**	P	**P**	**07 14 21.9**	**-1.9**
	0.7nm,0.5s,mb4.0,baz=249,slow=4.6,SNR=16						
MKAR	**Makanchi Array**	**84.04**	**319**	P	**P**	**07 14 25.4**	**-0.9**
	0.5nm,0.5s,mb3.9,baz=99,slow=7.3,SNR=6.3						
MAW	**Mawson**	**84.21**	**203**	P	**P**	**07 14 28.0**	**+0.9**
	3.5nm,0.8s,mb4.5,baz=86,slow=8.7,SNR=7.5						
NVAR	**Mina Array Bea**	**91.58**	**52**	P	**P**	**07 15 04.6**	**+2.1**
	0.5nm,0.8s,mb3.9,baz=248,slow=11,SNR=4.1						
YKA	**Yellowknife Ar**	**96.47**	**28**	P	**P**	**07 15 24.4**	**-0.5**
	0.7nm,0.6s,mb4.2,baz=265,slow=4.7,SNR=17						
YKA	**Yellowknife Ar**	**96.47**	**28**	P	**P**	**07 15 24.4**	**-0.5**
GERES	**GERESS Array B**	**127.66**	**329**	PKP	PKPdf	07 21 02.2	+1.5
	0.7nm,0.7s,baz=288,slow=1.3,SNR=4.7						
LPAZ	**La Paz**	**130.82**	**119**	PKP	PKPdf	07 21 09.9	+3.3
	1.9nm,0.8s,baz=273,slow=2.4,SNR=6.7						
BDFB	**Brasilia**	**147.34**	**135**	PKPbc	PKPbc	07 21 41.1	+2.0
	2.8nm,0.5s,baz=338,slow=0.5,SNR=12						
TORD	**Torodi Ar. Bea**	**153.62**	**285**	PKPbc	PKPbc	07 21 55.0	+0.9
	0.5nm,0.6s,baz=35,slow=1.8,SNR=5.9						

FUNV 25 07:27:49.1,1004N×6722W,h21km,MW3.7,3C,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POTV	**Potrerito**	**0.23**	**260**	*e*P	Pb	07 27 54.2	-0.6
BOTV	**Botiquin**	**0.36**	**1**	*e*P	Pb	07 27 56.8	-0.1
BOTV				*e*S	Sb	07 28 02.0	-0.2
INTV	**Intevep**	**0.39**	**26**	⇑*i*P	Pb	07 27 57.1	-0.1
INTV				*e*S	Sb	07 28 03.1	+0.3
OCUV	**OCUMARITO**	**0.42**	**79**	*e*P	Pb	07 27 57.4	-0.5
OCUV				*e*S	Sb	07 28 04.5	+0.7
IVIV	**IVIC**	**0.44**	**34**	⇑*i*P	Pb	07 27 57.8	-0.3
IVIV				*e*S	Sb	07 28 05.0	+0.8
FDCV	**FORTIN DE LA C**	**0.56**	**28**	⇑*i*P	Pb	07 28 00.2	-0.1
FDCV				*e*S	Sb	07 28 08.2	+0.3
LLAV	**El Llanito**	**0.59**	**43**	*e*P	Pb	07 28 00.4	-0.3
LLAV				*e*S	Sb	07 28 08.7	0.0
CALV	**Calvario**	**15.65**	**223**	*e*P		07 27 58.2	
CALV				*e*S		07 28 04.8	

*RSPR **25** 07:54:25.6, 1950N×6292W, h55km±6km, MD3.8/5, MD3.8/5*
*NEIC **25** 07:54:25.6, 1950N×6292W, h55km, MD3.8(RSPR), After RSPR.*

TRN 25 07:54:23.1,1940N×6302W,h17km,10C,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**1.41**	**242**	⇑*e*P	Pn	07 54 49.9	+2.0
ABV				*e*S	Sn	07 55 08.9	+2.8
TBVI	**Tortola**	**1.80**	**237**	⇑*e*P	Pn	07 54 55.2	+1.9
TBVI				*e*S	Sn	07 55 18.8	+3.0
STVI	**Saint Thomas**	**2.11**	**241**	⇑*e*P	Pn	07 54 59.4	+1.8
STVI				*e*S	Sn	07 55 25.9	+2.4
CDVI	**St. Croix**	**2.33**	**226**	⇑*e*P	Pn	07 55 03.1	+2.5
CDVI				*e*S	Sn	07 55 31.4	+2.6
MTP	**Monte Pirata**	**2.73**	**242**	⇑*e*P	Pn	07 55 08.2	+2.0
MTP				*e*S	Sn	07 55 41.5	+2.7
CBYP	**Canovanas**	**2.91**	**248**	⇑*e*P	Pn	07 55 10.6	+2.0
CBYP				*e*S	Sn	07 55 45.7	+2.5
HUMP	**Col San Antoni**	**2.96**	**245**	⇑*e*P	Pn	07 55 11.2	+1.9
HUMP				*e*S	Sn	07 55 47.2	+2.9
CPD	**Cerro la Pandu**	**3.06**	**244**	⇑*e*P	Pn	07 55 13.1	+2.4
CPD				*e*S	Sn	07 55 49.4	+2.6
AOPR	**Arecibo Observ**	**3.68**	**254**	⇑*e*P	Pn	07 55 21.3	+2.1
CRPR	**Cabo Rojo, PR**	**4.12**	**251**	⇑*e*P	Pn	07 55 27.5	+2.3
CRPR				*e*S	Sn	07 56 16.3	+3.4

*ISCJB **25** 08:03:59.5±0.8, 3961N×002×4818E×003, h7km±6km, mb3.4/4, Error ellipse: s-maj=4.7km s-min=3.0km az=70.6*
*CSEM **25** 08:03:59.6±0.1, 3965N×4811E, h10km, ML3.9, Error ellipse: s-maj=2.3km s-min=1.4km az=178.0*
*IDC **25** 08:04:00.8±3.2, 3964N×4803E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.5/18, mbtmp3.7/4, Error ellipse: s-maj=60.6km s-min=26.4km az=170.0*
*NSSP **25** 08:04:00.9, 3975N×4795E, h11km, ML3.3*
*TEH **25** 08:04:01.8, 3960N×4806E, h2km, Mn3.9*
*NEIC **25** 08:04:02.6, 3954N×4808E, h30km, ML3.7(CSEM), MN3.9(TEH), After CSEM.*
*THR **25** 08:04:04.7±1.2, 3832N×4745E, h15km, ML3.5*
*MOS **25** 08:04:06.0±2.7, 3960N×4763E, h61km, mb3.8/1, Error ellipse: s-maj=28.2km s-min=17.2km az=24.7*
*NNC **25** 08:04:12.4±5.1, 4003N×4958E, h0km, mb3.4, Error ellipse: s-maj=94.4km s-min=38.1km az=101.0*

ISC 25 08:04:00.7±0.8, 3960N±002×4809E±003, h5km±6km, n59, σ1§17/83, mb3.4/4, 8C-6D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRMI	**Germi**	**0.80**	**191**	*e*PG	**Pg**	**08 04 15.6**	**-0.5**
GRMI				*e*Sg	**Sg**	**08 04 25.6**	**-1.0**
GRMI				AML	AML	08 04 26.5	
	comp=N,2μm,0.4s						
GRMI				AML	AML	08 04 26.6	
	comp=E,2μm,0.2s						
GRMI	**Germi**	**0.80**	**191**	*e*Pg	**Pg**	**08 04 15.0**	**-1.1**
GRMI				*e*Sg	**Sg**	**08 04 23.0**	**-3.5**
EGVZ	**Egvard**	**1.25**	**253**	⇓*e*P	**Pg**	**08 04 23.6**	**-1.0**
EGVZ	**Egvard**	**1.25**	**253**	⇓P	**Pg**	**08 04 23.6**	**-1.0**
EGVZ				S	**Sg**	**08 04 45.2**	**+4.5**
GRS	**Goris**	**1.36**	**266**	⇓*i*P	**Sn**	**08 04 21.0**	**-5.3**
GRS				*i* S	**Sn**	**08 04 39.0**	**-5.7**
GRS	**Goris**	**1.36**	**266**	⇓P	**Pn**	**08 04 21.0**	**-5.3**
GRS				S	**Sn**	**08 04 39.0**	**-5.7**
MGRZ	**Megri**	**1.59**	**245**	⇑*e*P	**Pn**	**08 04 28.7**	**-0.9**
MGRZ				S	**Sn**	**08 04 49.0**	**-1.6**
KDR	**Kadzharan**	**1.60**	**254**	⇓*i*P	**Pb**	**08 04 28.1**	**-2.7**
KDR				*i* S	**Sb**	**08 04 47.6**	**-3.8**
VRD	**Vardenis**	**1.94**	**289**	*e*P	**Pn**	**08 04 33.0**	**-1.3**
VRD				*e*S	**Sn**	**08 04 57.0**	**-2.0**
ITBZ	**Tabriz**	**2.04**	**229**	Pn	**Pn**	**08 04 36.7**	**+1.0**
IMRD	**Marand**	**2.05**	**245**	Pn	**Pn**	**08 04 36.7**	**+0.8**
IBST	**Bostanabad**	**2.12**	**207**	Pn	**Pn**	**08 04 37.9**	**+1.2**
ISHB	**Shabestar**	**2.33**	**236**	Pn	**Pn**	**08 04 39.5**	**-0.2**
IAZR	**Azarshahr**	**2.53**	**221**	*e*Pn	**Pn**	**08 04 43.1**	**+0.7**
IAZR				*e*Sn	**Sn**	**08 05 14.1**	**+0.4**
GNI	**Garni**	**2.63**	**283**	*e*Pn	**Pn**	**08 04 47.0**	**+3.1**
GNI				*e*Pg	**Pg**	**08 04 52.5**	**+1.4**
GNI				*e*Sn	**Sn**	**08 05 20.5**	**+4.3**
GNI	**Garni**	**2.63**	**283**	*e*Pn	**Pn**	**08 04 47.0**	**+3.2**
GNI	**Garni**	**2.63**	**283**	*e*Pg	**Pg**	**08 04 52.5**	**+1.4**
MAKU	**Maku**	**2.65**	**266**	*e*PN	**Pn**	**08 04 45.6**	**+1.6**
MAKU				*e*SG	**Sn**	**08 05 20.0**	**+3.5**
MAKU				AML	AML	08 05 24.9	
	comp=N,267nm,0.4s						
MAKU				AML	AML	08 05 25.8	
	comp=E,230nm,0.4s						
MAKU	**Maku**	**2.65**	**266**	*e*Pn	**Pn**	**08 04 45.0**	**+1.0**
MAKU				*e*Sg	**Sn**	**08 05 20.0**	**+3.5**
	comp=E,230nm,0.4s,SNR=90						
DGRG	**David-gareji**	**2.77**	**313**	P	**Pb**	**08 04 50.0**	**-0.7**
DGRG				S	**Sb**	**08 05 27.1**	**+2.1**
MTA	**Mtatsminda**	**3.26**	**311**	P	**Pb**	**08 04 59.2**	**+0.1**
MTA				S	**Sb**	**08 05 38.7**	**-0.4**
KZR	**Kazreti**	**3.32**	**304**	S	**Sb**	**08 05 40.2**	**-0.4**
TBLG	**Delisi**	**3.32**	**311**	P	**Pb**	**08 04 58.9**	**-1.1**
TBLG				S	**Sb**	**08 05 40.0**	**-0.8**
TBLG	**Delisi**	**3.32**	**311**	P	**Pn**	**08 04 48.4**	**-4.9**
GOR	**Gori**	**3.84**	**310**	S	**Sg**	**08 05 59.5**	**-4.7**
GOR	**Gori**	**3.84**	**310**	P	**Pb**	**08 05 07.6**	**-1.4**
GOR				S	**Sb**	**08 05 56.7**	**+0.8**
AKH	**Akhalkalaki**	**3.94**	**299**	P	**Pb**	**08 05 12.5**	**+1.9**
AKH				S	**Sb**	**08 05 59.2**	**+0.6**
IRAZ	**Razeghan**	**4.44**	**160**	*e*Pn	**Pn**	**08 05 09.8**	**+1.1**
IRAZ				*e*Sn	**Sn**	**08 05 59.4**	**-1.3**
IPRN	**Paran-Amol**	**4.70**	**134**	Pn	**Pn**	**08 05 12.5**	**+0.3**
IAFJ	**Afjeh**	**4.72**	**141**	Pn	**Pn**	**08 05 12.2**	**-0.3**
IAFJ	**Afjeh**	**4.72**	**141**	*e*Pn	**Pn**	**08 05 13.4**	**+0.9**
IAFJ				*e*Sn	**Sn**	**08 06 06.5**	**-1.1**
DAMV	**Damavand**	**5.02**	**141**	*e*Pn	**Pn**	**08 05 14.9**	**-1.8**
IDMV	**Damavand**	**5.09**	**141**	Pn	**Pn**	**08 05 19.3**	**+1.6**
IDMV	**Damavand**	**5.09**	**141**	*e*Pn	**Pn**	**08 05 18.3**	**+0.6**
IDMV				*e*Sn	**Sn**	**08 06 15.7**	**-1.2**
IGLO	**Galoogah**	**5.39**	**126**	Pn	**Pn**	**08 05 23.5**	**+1.7**
IFIR	**Firoozkooh**	**5.42**	**135**	*e*Pn	**Pn**	**08 05 23.2**	**+1.1**
IVRN	**Varamin**	**5.44**	**147**	Pn	**Pn**	**08 05 23.7**	**+1.3**
IVRN	**Varamin**	**5.44**	**147**	*e*Pn	**Pn**	**08 05 23.8**	**+1.4**
IKIA	**Kiasar**	**5.57**	**126**	Pn	**Pn**	**08 05 24.8**	**+0.5**
IKIA	**Kiasar**	**5.57**	**126**	*e*Pn	**Pn**	**08 05 24.9**	**+0.6**
ISHM	**Shahmirzad**	**5.60**	**131**	*e*Pn	**Pn**	**08 05 25.4**	**+0.7**
ISFR	**Esferayen**	**8.20**	**105**	*e*Pn	**Pn**	**08 06 00.7**	**+0.4**
ISFR				*e*Sn	**Sn**	**08 07 29.1**	**-4.3**
IEMG	**Emamqoli**	**8.57**	**101**	*e*Pn	**Pn**	**08 06 05.2**	**-0.2**
IMYA	**Miamay**	**10.03**	**105**	*e*Pn	**Pn**	**08 06 25.9**	**+0.5**
AB31	**Akbulak array**	**12.83**	**37**	⇑P	**Pn**	**08 07 02.1**	**-1.6**
	comp=E,0.4nm,0.4s,baz=216,slow=13,SNR=8.4						
AB31				⇑S	**Sn**	**08 09 16.5**	**-10**
	comp=E,0.6nm,0.5s,baz=212,slow=22,SNR=3.2						
AKTK	**Aktyubinsk**	**12.90**	**30**	Pn	**Pn**	**08 07 03.5**	**-1.1**
AKTO	**Aktyubinsk**	**12.90**	**30**	⇑P	**Pn**	**08 07 03.4**	**-1.2**
AKTO				⇑S	**Sn**	**08 09 19.7**	**-8.9**
AKTO	**Aktyubinsk**	**12.90**	**30**	Pn	**Pn**	**08 07 03.5**	**-1.1**
	baz=198,slow=14						
KK31	**Karatay Array**	**17.19**	**71**	⇑P	**Pn**	**08 07 59.3**	**-2.3**
	comp=E,1.2nm,0.5s,baz=275,slow=13,SNR=15						
BVA0	**Borovoye Array**	**20.32**	**41**	⇑P	**P**	**08 08 37.8**	**+0.2**
	comp=E,0.5nm,0.8s,baz=250,slow=37,SNR=3.6						
BVAR	**Borovoye Array**	**20.32**	**41**	P	**P**	**08 08 37.8**	**+0.2**
	comp=E,0.5nm,0.8s,SNR=3.6						
VOSK	**Vostochnaya**	**20.47**	**43**	⇑P	**P**	**08 08 39.2**	**0.0**
	comp=E,1.9nm,1.2s						
KURK	**Kurtov**	**24.06**	**52**	⇓P	**P**	**08 09 17.8**	**+1.0**
	comp=E,2.9nm,2.0s,mb3.4						
KURK	**Kurchatov**	**24.06**	**52**	P	**P**	**08 09 17.8**	**+1.0**
FINES	**FINESS Array B**	**25.71**	**335**	P	**P**	**08 09 32.4**	**+0.5**
	comp=E,1.6nm,0.8s,mb3.6,baz=148,slow=11,SNR=3.4						
FINES	**FINESS Array B**	**25.71**	**335**	P	**P**	**08 09 32.4**	**+0.5**
MKAR	**Makanchi Array**	**25.80**	**63**	P	**P**	**08 09 33.7**	**+1.1**
	comp=E,0.8nm,0.7s,mb3.4,baz=261,slow=8.3,SNR=7.2						
MKAR	**Makanchi Array**	**25.80**	**63**	P	**P**	**08 09 33.7**	**+1.1**
GERES	**GERESS Array B**	**26.12**	**302**	P	**P**	**08 09 35.7**	**+0.1**
	comp=E,0.3nm,0.5s,mb3.1,baz=108,slow=9.4,SNR=2.6						

*IDC **25** 08:04:04.9±0.7, 4.72S×12656E, h0km, mb4.3/11, mb1 4.4/11, mb1mx4.3/19, mbtmp4.3/11, MS3.7/8, Ms1 3.7/8, ms1mx3.4/21, Error ellipse: s-maj=30.1km s-min=14.9km az=59.0*
*NEIC **25** 08:04:06.9±0.5, 4.78S×12656E, h15km, mb4.4/6, Error ellipse: s-maj=18.6km s-min=8.6km az=62.0*
*ISCJB **25** 08:04:07.2±0.5, 4.86S×008×1265E±0.1, h33km, mb4.1/11, MS3.7/8, Error ellipse: s-maj=18.8km s-min=8.3km az=128.8*

ISC 25 08:04:09.7±0.5, 4.79S±008×1266E±01, h35km, n33, σ1§14/25, mb4.1/11, MS3.7/8, 3C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.79**	**144**	*e*P	**Pn**	**08 06 24.9**	**-3.0**
	16nm,0.5s						
FITZ	**Fitzroy Crossi**	**13.26**	**184**	Pn	**Pn**	**08 07 13.8**	**-1.6**
WRAB	**Tennant Creek**	**16.86**	**154**	*e*Pn	**Pn**	**08 07 57.8**	**-5.1**
	49nm,0.8s						
WRAB				*e*		08 08 05.4	
WRA	**Warramunga Arr**	**16.86**	**154**	Pn	**Pn**	**08 07 58.1**	**-4.9**
	0.4nm,0.3s,baz=332,slow=12,SNR=34						
WB2	**Warramunga Arr**	**16.87**	**154**	⇑*i*P	**Pn**	**08 07 58.1**	**-5.0**
AS31	**Alice Springs**	**20.06**	**160**	⇑*i*P	**P**	**08 08 41.2**	**+1.3**
ASPA	**Alice Springs**	**20.06**	**160**	⇑*i*P	**P**	**08 08 41.2**	**+1.3**
ASAR	**Alice Springs**	**20.06**	**160**	P	**P**	**08 08 41.5**	**+1.5**
	36nm,0.8s,baz=344,slow=11,SNR=14						
PMG	**Port Moresby**	**20.95**	**104**	P	**P**	**08 08 50.2**	**+0.6**
	17nm,0.8s,baz=210,slow=4.4,SNR=3.9						
CTA	**Charters Tower**	**24.48**	**130**	*e*P	**P**	**08 09 26.4**	**+1.0**
	11nm,1.0s,mb4.2						
CTA	**Charters Tower**	**24.48**	**130**	P	**P**	**08 09 26.6**	**+1.2**
	17nm,1.1s,mb4.4,baz=318,slow=12,SNR=9.9						
CTA				LR	LR	08 19 09.5	
	comp=Z,109nm,20.7s,MS3.3,baz=55,slow=37						
CTAO	**Charters Tower**	**24.48**	**130**	*e*P	**P**	**08 09 25.2**	**-0.2**
	15nm,1.1s,mb4.3						
GUMO	**Guam**	**25.77**	**45**	LR	LR	08 19 14.4	
	comp=Z,63nm,19.7s,MS3.1,baz=236,slow=35						
PSI	**Prapat**	**28.61**	**285**	P	**P**	**08 10 02.7**	**0.0**
	1.0nm,0.3s,mb4.0,baz=342,slow=23,SNR=2.1						
NWAO	**Narrogin (SRO)**	**29.31**	**196**	LR	LR	08 24 14.7	
	comp=Z,141nm,18.4s,MS3.6,baz=228,slow=41						
STKA	**Stephens Creek**	**30.41**	**154**	*e*P	**P**	**08 10 17.5**	**-1.2**
	3.5nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**30.41**	**154**	P	**P**	**08 10 18.1**	**-0.6**
	4.6nm,0.7s,mb4.3,baz=342,slow=8.3,SNR=9.8						
JHJ	**Hachijo jima 2**	**39.74**	**17**	LR	LR	08 24 34.0	
	comp=Z,74nm,20.7s,MS3.5,baz=332,slow=31						
MJAR	**Matsushiro Arr**	**42.54**	**14**	P	**P**	**08 12 00.9**	**-1.0**
	1.8nm,0.8s,mb3.8,baz=182,slow=9.8,SNR=4.5						
MJAR				LR	LR	08 26 22.8	
	comp=Z,91nm,21.8s,MS3.6,baz=210,slow=32						
SONM	**Songino Array**	**55.32**	**344**	P	**P**	**08 13 41.0**	**+1.2**
	1.4nm,0.8s,mb4.0,baz=159,slow=7.1,SNR=7.1						
MKAR	**Makanchi Array**	**64.53**	**328**	P	**P**	**08 14 44.3**	**+1.2**
	1.9nm,0.7s,mb4.2,baz=133,slow=8.1,SNR=16						
ZAL	**Zalesovo**	**68.12**	**335**	P	**P**	**08 15 05.8**	**-0.2**
	1.9nm,0.3s,mb4.6,baz=45,slow=7.3,SNR=4.4						
ZAL	**Zalesovo**	**68.12**	**335**	P	**P**	**08 15 05.8**	**-0.2**
KURK	**Kurchatov**	**68.87**	**330**	*e*P	**P**	**08 15 10.8**	**0.0**
	2.3nm,0.8s,mb4.2						
CHKZ	**Chkalovo**	**74.61**	**329**	*e*P	**P**	**08 15 44.9**	**-0.4**
	1.2nm,0.7s,mb3.9						
CHKZ				*e*pP	pP	08 15 50.5	-5.6
CHKZ				*e*PcP	PcP	08 16 00.2	+0.7
VNDA	**Vanda**	**75.05**	**173**	LR	LR	08 44 21.2	
	comp=Z,185nm,20.5s,MS4.4,baz=351,slow=32						
MAW	**Mawson**	**75.76**	**201**	LR	LR	08 44 24.4	
	comp=Z,122nm,21.5s,MS4.2,baz=256,slow=32						
AKTK	**Aktyubinsk**	**80.24**	**323**	P	**P**	**08 16 16.6**	**-0.1**
AKTO	**Aktyubinsk**	**80.24**	**323**	P	**P**	**08 16 16.6**	**-0.1**
	0.7nm,0.6s,mb3.8,baz=140,slow=7.9,SNR=3.6						
ILAR	**Eielson Array**	**92.83**	**25**	P	**P**	**08 17 17.1**	**-1.6**
	0.4nm,0.9s,mb3.9,baz=288,slow=4.4,SNR=3.1						
ARCES	**ARCESS Array B**	**98.33**	**340**	LR	LR	09 03 38.2	
	comp=Z,29nm,19.7s,MS3.8,baz=77,slow=36						
CPUP	**Villa Florida**	**148.84**	**173**	PKPbc	PKPbc	08 23 55.6	+2.0
	3.2nm,0.9s,baz=262,slow=1.6,SNR=6.5						
LPAZ	**La Paz**	**154.51**	**146**	PKPab	PKPab	08 24 25.2	+4.1
	3.1nm,1.1s,baz=208,slow=2.5,SNR=7.0						

*BJI **25** 08:09:41.1, 520S×12733E, h29km, mb4.3*
*IDC **25** 08:09:42.5±0.7, 4.78S×12656E, h0km, mb4.3/11, mb1 4.5/11, mb1mx4.3/18, mbtmp4.4/11, MS3.6/2, Ms1 3.6/2, ms1mx2.9/21, Error ellipse: s-maj=31.4km s-min=14.4km az=58.0*
*NEIC **25** 08:09:44.6±0.4, 4.77S×12660E, h15km, mb4.5/7, Error ellipse: s-maj=19.7km s-min=7.7km az=56.0*
*MOS **25** 08:09:44.4±1.7, 4.84S×12657E, h33km, mb4.5/6, Error ellipse: s-maj=23.9km s-min=10.3km az=121.2*
*ISCJB **25** 08:09:47.8±1.4, 4.74S±006×127.1E±0.1, h62km±14km, mb4.1/15, Error ellipse: s-maj=17.5km s-min=9.1km az=158.4*

ISC 25 08:09:49.2±1.3, 4.77S±005×1271E±01, h60km±14km, n40, σ1§27/38, mb4.1/15, MS3.6/2, 2C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.53**	**45**	P	**Pn**	**08 10 13.9**	**-0.4**
	344nm,1.0s						
TLE	**Tual**	**5.68**	**99**	P	**Pn**	**08 11 16.3**	**+5.4**
	74nm,1.5s						
SWI	**Sorong**	**5.68**	**47**	P	**Pn**	**08 11 11.9**	**+0.9**
	348nm,1.1s						
KAKA	**Kakadu**	**9.49**	**147**	*e*P	**Pn**	**08 12 03.2**	**+0.1**
	12nm,0.6s						
WRAB	**Tennant Creek**	**16.64**	**156**	*e*P	**Pn**	**08 13 35.9**	**-2.5**
WRAB				pmax	pmax		
	comp=Z,67nm,0.9s						
WRAB	**Tennant Creek**	**16.64**	**156**	*e*Pn	**Pn**	**08 13 35.9**	**-2.5**
	comp=Z,67nm,0.9s						
WRAB				*e*		08 13 42.6	
WRA	**Warramunga Arr**	**16.64**	**156**	Pn	**Pn**	**08 13 35.9**	**-2.5**
	comp=Z,0.4nm,0.3s,baz=334,slow=11,SNR=10						
WB2	**Warramunga Arr**	**16.65**	**156**	⇑*i*P	**Pn**	**08 13 36.1**	**-2.4**
BJI	**Banjamegara**	**17.48**	**261**	P	**Pn**	**08 13 49.2**	**+0.4**
	comp=Z,40nm,1.0s						
QIS	**Mount Isa**	**19.85**	**143**	⇑*i*P	**Pn**	**08 14 16.6**	**-0.6**
	comp=Z,9.9nm,0.6s						
AS31	**Alice Springs**	**19.89**	**161**	*e*P	**Pn**	**08 14 18.8**	**+1.0**
ASAR	**Alice Springs**	**19.90**	**161**	P	**Pn**	**08 14 18.9**	**+1.1**
	comp=Z,49nm,0.8s,baz=343,slow=11,SNR=11						
ASPA	**Alice Springs**	**19.90**	**161**	*e*P	**Pn**	**08 14 18.8**	**+1.0**
PMG	**Port Moresby**	**20.42**	**104**	P	**P**	**08 14 27.5**	**+6.1**
	comp=Z,24nm,1.0s,baz=277,slow=8.0,SNR=3.5						
CTA	**Charters Tower**	**24.07**	**131**	*e*P	**P**	**08 15 03.3**	**+4.4**
	comp=Z,16nm,1.1s,mb4.4						
CTA	**Charters Tower**	**24.07**	**131**	P	**P**	**08 15 03.6**	**+4.7**
	comp=Z,24nm,1.1s,mb4.5,baz=307,slow=12,SNR=13						
CTA	**Charters Tower**	**24.07**	**131**	*e*P	**P**	**08 15 03.3**	**+4.4**
CTA				pmax	pmax		
	comp=Z,16nm,1.1s						
CTAO	**Charters Tower**	**24.07**	**131**	*e*P	**P**	**08 15 03.4**	**+4.5**
CTAO				pmax	pmax		
	comp=Z,35nm,1.2s,mb4.7						
CTAO	**Charters Tower**	**24.07**	**131**	*e*P	**P**	**08 15 03.4**	**+4.6**
	comp=Z,35nm,1.2s,mb4.7						
PSI	**Prapat**	**29.14**	**284**	P	**P**	**08 15 40.1**	**-4.4**
	comp=Z,8.1nm,1.0s,mb4.4,baz=110,slow=17,SNR=2.0						
STKA	**Stephens Creek**	**30.19**	**155**	*e*P	**P**	**08 15 54.9**	**+1.1**
	comp=Z,5.4nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**30.19**	**155**	P	**P**	**08 15 54.9**	**+1.0**
	comp=Z,7.6nm,0.7s,mb4.5,baz=321,slow=10,SNR=15						
STKA	

	3µm,0.7s								
BOURR	**Bourrignon**	**0.31**	**332**	⇓*i*	Pg	**Pg**	**08 18 20.4**	**+0.7**
	732nm,0.5s								
BBS	**Basel-Blauen**	**0.35**	**7**		Pg	**Pg**	**08 18 20.7**	**+0.3**
BBS					Sg	**Sg**	**08 18 25.7**	**+0.6**
WIMIS	**Wimmis**	**0.47**	**165**	⇓*i*	Pg	**Pg**	**08 18 23.3**	**+0.7**
	339nm,0.8s								
WIMIS					*e*Sg	**Sg**	**08 18 30.2**	**+1.4**
	339nm,0.8s								
TORNY	**Torny**	**0.48**	**224**	⇑*i*	Pg	**Pg**	**08 18 24.1**	**+1.3**
	526nm,0.3s								
LOMF	**Lomont**	**0.48**	**299**		Pg	**Pg**	**08 18 23.8**	**+1.0**
LOMF					Sg	**Sg**	**08 18 31.0**	**+1.7**
HASLI	**Hasliberg**	**0.60**	**127**	⇓*i*	Pg	**Pg**	**08 18 25.5**	**+0.4**
	638nm,0.7s								
SULZ	**Sulz-Cheisache**	**0.61**	**48**	⇑*i*	Pg	**Pg**	**08 18 25.3**	**0.0**
	663nm,0.7s								
BRANT	**Les Verrieres**	**0.69**	**255**	⇑*i*		**Sg**	**08 18 37.7**	**+1.9**
	359nm,0.4s								
BRANT	**Les Verrieres**	**0.69**	**255**	⇑*i*	P	**Pg**	**08 18 28.0**	**+1.2**
BNALP	**Bannalp**	**0.71**	**110**	⇓*i*	P	**Pg**	**08 18 27.2**	**0.0**
	281nm,0.6s								
BNALP					*e*S	**Sg**	**08 18 34.2**	**-2.3**
	281nm,0.6s								
BNALP	**Bannalp**	**0.71**	**110**	⇓*i*	P	**Pg**	**08 18 27.6**	**+0.4**
LKBD	**Leukerbad**	**0.74**	**170**	⇑*i*	P	**Pg**	**08 18 28.3**	**+0.6**
	138nm,0.2s								
LKBD	**Leukerbad**	**0.74**	**170**	⇑*i*	P	**Pg**	**08 18 28.4**	**+0.7**
SENIN	**Lac Senin**	**0.76**	**188**	⇓*i*	P	**Pg**	**08 18 28.8**	**+0.7**
	468nm,0.6s								
MOF	**Molkenrain**	**0.77**	**344**		Pg	**Pg**	**08 18 28.6**	**+0.4**
MOF					Sg	**Sg**	**08 18 39.3**	**+1.1**
HINF	**Hinteralfeld**	**0.81**	**330**	*e*Pn		**Pn**	**08 18 30.5**	**0.0**
HINF				*e*Sg		**Sg**	**08 18 40.4**	**+0.9**
HINF				*e*Sn		**Sn**	**08 18 42.9**	**+0.5**
	152nm,0.2s,SNR=1.0								
HINF	**Hinteralfeld**	**0.81**	**330**	*e*Pg		**Pg**	**08 18 29.3**	**+0.3**
HINF				*e*Pn		**Pn**	**08 18 30.5**	**0.0**
HINF				*e*Sg		**Sg**	**08 18 40.4**	**+0.9**
HINF				*e*Sn		**Sn**	**08 18 42.9**	**+0.5**
HINF	**Hinteralfeld**	**0.81**	**330**	*e*Pn		**Pn**	**08 18 30.5**	**0.0**
HINF				*e*Sg		**Sg**	**08 18 40.4**	**+0.9**
HINF				*e*Sn		**Sn**	**08 18 42.9**	**+0.5**
	76nm,0.2s,SNR=1.0								
ZUR	**Zurich**	**0.81**	**72**	⇑*i*	P	**Pg**	**08 18 28.8**	**-0.3**
	1µm,0.2s								
ZUR	**Zurich**	**0.81**	**72**	*i*	P	**Pg**	**08 18 28.9**	**-0.2**
AIGLE	**Aigle**	**0.85**	**204**	*e*P		**Pg**	**08 18 28.9**	**-0.8**
	357nm,0.4s								
AIGLE	**Aigle**	**0.85**	**204**	*e*P		**Pg**	**08 18 30.4**	**+0.7**
FELD	**Feldberg im Sc**	**0.85**	**26**		Pg	**Pg**	**08 18 29.5**	**-0.2**
FELD					Sg	**Sg**	**08 18 41.4**	**+0.6**
FLACH	**Flaach**	**0.89**	**59**	⇑*i*	P	**Pg**	**08 18 30.4**	**-0.1**
OG01	**Vacheresse**	**0.95**	**214**		Pg	**Pg**	**08 18 32.8**	**+1.2**
OG01					Sg	**Sg**	**08 18 47.3**	**+3.3**
SLE	**Schleitheim**	**0.96**	**47**	⇑*i*	P	**Pg**	**08 18 30.8**	**-1.1**
	415nm,0.6s								
SLE	**Schleitheim**	**0.96**	**47**	⇑*i*	P	**Pg**	**08 18 31.5**	**-0.4**
GIMEL	**Gimel**	**1.00**	**235**	⇑*i*	P	**Pb**	**08 18 30.4**	**-2.2**
	241nm,0.4s								
GIMEL	**Gimel**	**1.00**	**235**	⇑*i*	P	**Pb**	**08 18 33.7**	**+1.1**
WILA	**Wila**	**1.04**	**73**	*e*P		**Pb**	**08 18 30.4**	**-2.8**
	1µm,0.3s								
WILA	**Wila**	**1.04**	**73**	*e*P		**Pb**	**08 18 33.3**	**+0.1**
CABF	**La Chapelle**	**1.06**	**242**	*e*Pg		**Pg**	**08 18 34.8**	**+1.0**
	SNR=1.0								
CABF	**La Chapelle**	**1.06**	**242**	*e*P		**Pb**	**08 18 35.8**	**+2.2**
	SNR=1.0								
CABF				*e*Sg		**Sg**	**08 18 48.8**	**+1.2**
	47nm,0.2s,SNR=1.0								
CABF				*e*Sn		**Sn**	**08 18 50.1**	**+1.4**
	SNR=1.0								
CABF	**La Chapelle**	**1.06**	**242**	*e*P		**Pb**	**08 18 35.8**	**+2.2**
	SNR=1.0								
CABF				*e*Sg		**Sg**	**08 18 48.8**	**+1.2**
	23nm,0.2s,SNR=1.0								
CABF				*e*Sn		**Sn**	**08 18 50.1**	**+1.4**
	SNR=1.0								
FUSIO	**Fusio**	**1.07**	**128**	⇓*i*	P	**Pb**	**08 18 31.5**	**-2.2**
	312nm,0.4s								
FUSIO	**Fusio**	**1.07**	**128**	*e*P		**Pb**	**08 18 34.1**	**+0.4**
STEIN	**Stein am Rhein**	**1.11**	**60**	⇑*i*	P	**Pb**	**08 18 34.6**	**+0.1**
ECH	**Echery**	**1.12**	**350**		Pg	**Pg**	**08 18 35.4**	**+0.6**
ECH	**Echery**	**1.12**	**350**		Pn	**Pn**	**08 18 34.6**	**-0.2**
ECH					Pg	**Pg**	**08 18 35.4**	**+0.6**
ECH	**Echery**	**1.12**	**350**		Pg	**Pg**	**08 18 35.4**	**+0.6**
MMK	**Mattmark**	**1.12**	**161**	⇓*i*	P	**Pb**	**08 18 33.3**	**-1.4**
	116nm,0.5s								
MMK	**Mattmark**	**1.12**	**161**	⇓*i*	P	**Pb**	**08 18 35.4**	**+0.7**
HAU	**Haudompre**	**1.16**	**320**	*e*Pg		**Pg**	**08 18 36.6**	**+0.9**
	SNR=1.0								
HAU				*e*Sg		**Sg**	**08 18 51.6**	**+0.9**
	72nm,0.2s,SNR=1.0								
HAU	**Haudompre**	**1.16**	**320**	*e*Pg		**Pg**	**08 18 36.6**	**+0.9**
	SNR=1.0								
HAU				*e*Sg		**Sg**	**08 18 51.6**	**+0.9**
	36nm,0.2s,SNR=1.0								
MCGN	**Macugnaga**	**1.22**	**162**		Pg	**Pg**	**08 18 37.3**	**+0.5**
MCGN					Sg	**Sg**	**08 18 53.7**	**+1.0**
WLS	**Welschbruch**	**1.30**	**357**		Pn	**Pn**	**08 18 37.3**	**0.0**
WLS					Sg	**Sg**	**08 18 55.0**	**-0.2**
CDF	**Champ du Feu**	**1.30**	**355**	*e*Pg		**Pg**	**08 18 38.4**	**0.0**
	SNR=1.0								
CDF				*e*Sn		**Sn**	**08 18 54.4**	**-0.2**
	SNR=1.0								
CDF				*e*Sg		**Sg**	**08 18 55.5**	**+0.2**
	95nm,0.3s,SNR=1.0								
CDF	**Champ du Feu**	**1.30**	**355**	*e*Pn		**Pn**	**08 18 37.3**	**0.0**
CDF				*e*Pg		**Pg**	**08 18 38.4**	**0.0**
CDF				*e*Sn		**Sn**	**08 18 54.4**	**-0.2**
CDF				*e*Sg		**Sg**	**08 18 55.5**	**+0.2**
CDF	**Champ du Feu**	**1.30**	**355**	*e*Pg		**Pg**	**08 18 38.4**	**0.0**
	SNR=1.0								
CDF				*e*Sn		**Sn**	**08 18 54.4**	**-0.2**
	SNR=1.0								
CDF				*e*Sg		**Sg**	**08 18 55.5**	**+0.2**
	48nm,0.3s,SNR=1.0								
BFO	**Black Forest**	**1.35**	**26**	*e*Pg		**Pg**	**08 18 38.3**	**-1.0**
BFO				*e*Sg		**Sg**	**08 18 56.5**	**-0.4**
BFO	**Black Forest**	**1.35**	**26**	*e*Pg		**Pg**	**08 18 38.3**	**-1.0**
BFO				*e*Sg		**Sg**	**08 18 56.5**	**-0.4**
TUE	**Stuetta**	**1.46**	**116**		Pg	**Pg**	**08 18 41.8**	**+0.5**
TUE					Sg	**Sg**	**08 19 02.2**	**+2.0**
THEF	**They Montfort**	**1.49**	**319**		Pg	**Pg**	**08 18 41.8**	**-0.1**
THEF	**They Montfort**	**1.49**	**319**		Pn	**Pn**	**08 18 40.7**	**+0.8**
THEF					Pg	**Pg**	**08 18 41.8**	**-0.1**
THEF	**They Montfort**	**1.49**	**319**		Pg	**Pg**	**08 18 41.8**	**-0.1**
RSL	**Roselend**	**1.54**	**202**		Pg	**Pg**	**08 18 43.5**	**+0.6**
DAVA	**Damuels**	**1.67**	**83**	⇑*i*	Pg	**Pg**	**08 18 45.1**	**-0.2**
DAVA				⇑*i*	Sg	**Sg**	**08 19 07.0**	**0.0**
	42nm,0.3s								
LPL	**La Plagne**	**1.68**	**197**	*e*Pg		**Pg**	**08 18 45.6**	**+0.1**
	SNR=1.0								
LPL				*e*Sn		**Sn**	**08 19 03.5**	**-0.4**
	SNR=1.0								
LPL				*e*Sg		**Sg**	**08 19 07.2**	**-0.1**
	36nm,0.7s,SNR=1.0								
LPL	**La Plagne**	**1.68**	**197**	*e*Pn		**Pn**	**08 18 42.6**	**+0.1**
LPL				*e*Pg		**Pg**	**08 18 45.6**	**+0.1**
LPL				*e*Sn		**Sn**	**08 19 03.5**	**-0.4**
LPL				*e*Sg		**Sg**	**08 19 07.2**	**-0.1**
LPL	**La Plagne**	**1.68**	**197**	*e*Pg		**Pg**	**08 18 45.6**	**+0.1**
	SNR=1.0								
LPL				*e*Sn		**Sn**	**08 19 03.5**	**-0.4**
	SNR=1.0								
LPL				*e*Sg		**Sg**	**08 19 07.2**	**-0.1**
	18nm,0.7s,SNR=1.0								
LPG	**La Plagne**	**1.69**	**197**	*e*Pg		**Pg**	**08 18 45.8**	**0.0**
	SNR=1.0								
LPG				*e*Sg		**Sg**	**08 19 08.2**	**+0.5**
	19nm,0.4s,SNR=1.0								
LPG	**La Plagne**	**1.69**	**197**	*e*Pg		**Pg**	**08 18 45.8**	**0.0**
	SNR=1.0								
LPG				*e*Sg		**Sg**	**08 19 08.2**	**+0.5**
	9.4nm,0.4s,SNR=1.0								
OG05	**Jujurieux**	**1.74**	**233**		Pg	**Pg**	**08 18 48.0**	**+1.2**
SFTF	**Sexfontaines**	**1.96**	**305**	*e*Pn		**Pn**	**08 18 46.8**	**+0.4**
	baz=131								
SFTF	**Sexfontaines**	**1.96**	**305**	*e*Pg		**Pg**	**08 18 50.9**	**0.0**
	baz=118								
SFTF				*e*Sg		**Sg**	**08 19 16.7**	**+0.4**
	32nm,0.3s								
SFTF	**Sexfontaines**	**1.96**	**305**	*e*Pn		**Pn**	**08 18 46.8**	**+0.4**
SFTF				*e*Pg		**Pg**	**08 18 50.9**	**0.0**
SFTF				*e*Sg		**Sg**	**08 19 16.7**	**+0.4**
SFTF	**Sexfontaines**	**1.96**	**305**	*e*Pg		**Pg**	**08 18 50.9**	**0.0**
SFTF				*e*Sg		**Sg**	**08 19 16.7**	**+0.4**
	16nm,0.3s								
RFYF	**Reffroy**	**2.01**	**319**	*e*Pn		**Pn**	**08 18 47.1**	**0.0**
	baz=133								
RFYF				*e*Sg		**Sg**	**08 19 18.2**	**+0.1**
	39nm,0.2s								
RFYF	**Reffroy**	**2.01**	**319**	*e*Pn		**Pn**	**08 18 47.1**	**0.0**
RFYF				*e*Sg		**Sg**	**08 19 18.2**	**+0.1**
	20nm,0.2s								
STU	**Stuttgart**	**2.03**	**35**	*e*Pn		**Pn**	**08 18 52.3**	**+5.0**
MEZF	**Maizieres J'vi**	**2.13**	**312**	*e*Pn		**Pn**	**08 18 49.1**	**+0.4**
	baz=124								
MEZF	**Maizieres J'vi**	**2.13**	**312**	*e*Pg		**Pg**	**08 18 54.3**	**+0.2**
	baz=132								
MEZF				*e*Sn		**Sn**	**08 19 14.8**	**-0.2**
	SNR=1.0								
MEZF				*e*Sg		**Sg**	**08 19 21.0**	**-0.7**
	42nm,0.5s,SNR=1.0								
MEZF	**Maizieres J'vi**	**2.13**	**312**	*e*Pn		**Pn**	**08 18 49.1**	**+0.4**
MEZF				*e*Pg		**Pg**	**08 18 54.3**	**+0.2**
MEZF				*e*Sn		**Sn**	**08 19 14.8**	**-0.2**
MEZF				*e*Sg		**Sg**	**08 19 21.0**	**-0.7**
MEZF	**Maizieres J'vi**	**2.13**	**312**	*e*Pg		**Pg**	**08 18 54.3**	**+0.2**
MEZF				*e*Sn		**Sn**	**08 19 14.8**	**-0.2**
	SNR=1.0								
MEZF				*e*Sg		**Sg**	**08 19 21.0**	**-0.7**
	21nm,0.5s,SNR=1.0								
MBDF	**Montbardon**	**2.44**	**191**	*e*Pg		**Pg**	**08 18 59.5**	**-0.6**
	SNR=1.0								
MBDF				*e*Sg		**Sg**	**08 19 30.7**	**-1.0**
	6.9nm,0.4s								
MBDF	**Montbardon**	**2.44**	**191**	*e*Pn		**Pn**	**08 18 52.8**	**-0.1**
MBDF				*e*Pg		**Pg**	**08 18 59.5**	**-0.6**
MBDF				*e*Sg		**Sg**	**08 19 30.7**	**-1.0**
MBDF	**Montbardon**	**2.44**	**191**	*e*Pg		**Pg**	**08 18 59.5**	**-0.6**
	SNR=1.0								
MBDF				*e*Sg		**Sg**	**08 19 30.7**	**-1.0**
	3.5nm,0.4s								
LOR	**Lormes**	**2.45**	**275**	*e*P		**Pn**	**08 18 56.3**	**+3.2**
	baz=99,SNR=1.0								
LOR	**Lormes**	**2.45**	**275**	*e*Pg		**Pg**	**08 19 00.2**	**-0.2**
	baz=98								
LOR				*e*Sg		**Sg**	**08 19 30.6**	**-1.5**
	38nm,0.3s,SNR=1.0								
LOR	**Lormes**	**2.45**	**275**	*e*Pn		**Pn**	**08 18 53.6**	**+0.5**
LOR				*e*Pg		**Pg**	**08 19 00.2**	**-0.2**
LOR				*e*Sg		**Sg**	**08 19 30.6**	**-1.5**
LOR	**Lormes**	**2.45**	**275**	*e*P		**Pn**	**08 18 56.3**	**+3.2**
	SNR=1.0								
LOR	**Lormes**	**2.45**	**275**	*e*Pg		**Pg**	**08 19 00.2**	**-0.2**
LOR				*e*Sg		**Sg**	**08 19 30.6**	**-1.5**
	19nm,0.3s,SNR=1.0								
ORIF	**Oris-en-Rattie**	**2.46**	**207**	*e*Pg		**Pg**	**08 18 59.9**	**-0.5**
	SNR=1.0								
ORIF				*e*Sg		**Sg**	**08 19 31.0**	**-1.3**
	11nm,0.3s,SNR=1.0								
ORIF	**Oris-en-Rattie**	**2.46**	**207**	*e*Pn		**Pn**	**08 18 53.1**	**-0.1**
ORIF				*e*Pg		**Pg**	**08 18 59.9**	**-0.5**
ORIF				*e*Sg		**Sg**	**08 19 31.0**	**-1.3**
ORIF	**Oris-en-Rattie**	**2.46**	**207**	*e*Pg		**Pg**	**08 18 59.9**	**-0.5**
	SNR=1.0								
ORIF				*e*Sg		**Sg**	**08 19 31.0**	**-1.3**
	5.3nm,0.3s,SNR=1.0								
MOTA	**Moosalm**	**2.50**	**83**	⇑*i*	Pn	**Pn**	**08 18 54.5**	**+0.6**
MOTA				⇓*i*	Pg	**Pg**	**08 18 59.6**	**-1.7**
MOTA				⇓*i*	Sg	**Sg**	**08 19 33.4**	**-0.3**
	9.6nm,0.2s								
SMF	**Signal de Mont**	**2.52**	**261**	*e*Pg		**Pg**	**08 19 00.8**	**-0.8**
	SNR=1.0								
SMF				*e*Sn		**Sn**	**08 19 24.6**	**-0.1**
	SNR=1.0								
SMF				*e*Sg		**Sg**	**08 19 33.6**	**-0.7**
	35nm,0.4s,SNR=1.0								
SMF	**Signal de Mont**	**2.52**	**261**	*e*Pn		**Pn**	**08 18 54.8**	**+0.7**
SMF				*e*Pg		**Pg**	**08 19 00.8**	**-0.8**
SMF				*e*Sn		**Sn**	**08 19 24.6**	**-0.1**
SMF				*e*Sg		**Sg**	**08 19 33.6**	**-0.7**
SMF	**Signal de Mont**	**2.52**	**261**	*e*Pg		**Pg**	**08 19 00.8**	**-0.8**
	SNR=1.0								
SMF				*e*Sn		**Sn**	**08 19 24.6**	**-0.1**
	SNR=1.0								
SMF				*e*Sg		**Sg**	**08 19 33.6**	**-0.7**
	17nm,0.4s,SNR=1.0								
SQTA	**Sankt Quirin**	**2.57**	**86**	⇓*i*	Pn	**Pn**	**08 18 55.7**	**+0.9**
SQTA				⇓*i*	Pg	**Pg**	**08 19 01.9**	**-0.7**
SQTA				⇓*i*	Sg	**Sg**	**08 19 36.0**	**+0.1**
	12nm,0.3s								
SQTA	**Sankt Quirin**	**2.57**	**86**	⇓*i*	Pg	**Pg**	**08 19 01.9**	**-0.7**
SQTA					Sg	**Sg**	**08 19 36.0**	**+0.1**
	12nm,0.3s								
SSF	**Saint Saulge**	**2.69**	**270**	*e*P		**Pn**	**08 18 59.6**	**+3.1**
	SNR=1.0								
SSF	**Saint Saulge**	**2.69**	**270**	*e*Pg		**Pg**	**08 19 04.7**	**-0.3**
	SNR=1.0								
SSF				*e*Sg		**Sg**	**08 19 39.3**	**-0.6**
	11nm,0.2s,SNR=1.0								
SSF	**Saint Saulge**	**2.69**	**270**	*e*Pn		**Pn**	**08 18 56.6**	**+0.1**
SSF				*e*Pg		**Pg**	**08 19 04.7**	**-0.3**
SSF				*e*Sg		**Sg**	**08 19 39.3**	**-0.6**
SSF	**Saint Saulge**	**2.69**	**270**	*e*P		**Pn**	**08 18 59.6**	**+3.1**
	SNR=1.0								
SSF	**Saint Saulge**	**2.69**	**270**	*e*Pg		**Pg**	**08 19 04.7**	**-0.3**
	SNR=1.0								
SSF				*e*Sg		**Sg**	**08 19 39.3**	**-0.6**
	5.7nm,0.2s,SNR=1.0								
AVF	**Avril sur Loir**	**2.82**	**265**	*e*Pg		**Pg**	**08 19 07.2**	**-0.3**
	SNR=1.0								
AVF				*e*Sg		**Sg**	**08 19 43.8**	**-0.3**
	12nm,0.4s,SNR=1.0								
AVF	**Avril sur Loir**	**2.82**	**265**	*e*Pn		**Pn**	**08 18 58.9**	**+0.6**
AVF				*e*Pg		**Pg**	**08 19 07.2**	**-0.3**
AVF				*e*Sg		**Sg**	**08 19 43.8**	**-0.3**
AVF	**Avril sur Loir**	**2.82**	**265**	*e*Pg		**Pg**	**08 19 07.2**	**-0.3**
	SNR=1.0								
AVF				*e*Sg		**Sg**	**08 19 43.8**	**-0.3**
	6.2nm,0.4s,SNR=1.0								
VIVF	**Saint-Julien-l**	**2.98**	**222**	*e*Pg		**Pg**	**08 19 09.7**	**-0.7**
	SNR=1.0								
VIVF				*e*Sg		**Sg**	**08 19 48.0**	**-1.0**
	20nm,0.4s,SNR=1.0								
VIVF	**Saint-Julien-l**	**2.98**	**222**	*e*Pn		**Pn**	**08 19 00.5**	**+0.1**
VIVF				*e*Pg		**Pg**	**08 19 09.7**	**-0.7**
VIVF				*e*Sg		**Sg**	**08 19 48.0**	**-1.0**
VIVF	**Saint-Julien-l**	**2.98**	**222**	*e*Pg		**Pg**	**08 19 09.7**	**-0.7**
	SNR=1.0								
VIVF				*e*Sg		**Sg**	**08 19 48.0**	**-1.0**
	10nm,0.4s,SNR=1.0								
BGF	**Bois d'Agland**	**3.21**	**262**	*e*Pg		**Pg**	**08 19 13.7**	**-1.1**
BGF				*e*Sg		**Sg**	**08 19 55.6**	**-0.8**
	21nm,0.3s								
BGF	**Bois d'Agland**	**3.21**	**262**	*e*Pn		**Pn**	**08 19 03.7**	**+0.2**
BGF				*e*Pg		**Pg**	**08 19 13.7**	**-1.1**
BGF				*e*Sg		**Sg**	**08 19 55.6**	**-0.8**
BGF	**Bois d'Agland**	**3.21**	**262**	*e*Pg		**Pg**	**08 19 13.7**	**-1.1**
BGF				*e*Sg		**Sg**	**08 19 55.6**	**-0.8**
	11nm,0.3s								
HYF	**Humbligny**	**3.28**	**274**	*e*Pg		**Pg**	**08 19 15.5**	**-0.7**
HYF				*e*Sg		**Sg**	**08 19 58.6**	**-0.2**
GIVF	**Givet**	**3.46**	**331**	*e*Pn		**Pn**	**08 19 07.1**	**+0.1**
	SNR=1.0								
GIVF				*e*Sg		**Sg**	**08 20 03.0**	**-1.4**
	2.9nm,0.3s								
GIVF	**Givet**	**3.46**	**331**	*e*Pn		**Pn**	**08 19 07.1**	**+0.1**
	SNR=1.0								
GIVF				*e*Sg		**Sg**	**08 20 03.0**	**-1.4**
	1.5nm,0.3s								
BAIF	**Baives**	**3.65**	**325**	*e*Pg		**Pg**	**08 19 21.8**	**-1.4**
	SNR=1.0								
BAIF				*e*Sg		**Sg**	**08 20 09.1**	**-1.3**
	1.5nm,0.2s								
BAIF	**Baives**	**3.65**	**325**	*e*Pn		**Pn**	**08 19 09.4**	**-0.2**
BAIF				*e*Pg		**Pg**	**08 19 21.8**	**-1.4**
BAIF				*e*Sg		**Sg**	**08 20 09.1**	**-1.3**
BAIF	**Baives**	**3.65**	**325**	*e*Pg		**Pg**	**08 19 21.8**	**-1.4**
	SNR=1.0								
BAIF				*e*Sg		**Sg**	**08 20 09.1**	**-1.3**
	0.8nm,0.2s								
TCF	**Toulx Ste Croi**	**3.70**	**259**	*e*Pg		**Pg**	**08 19 23.0**	**-1.2**
	SNR=1.0								
TCF				*e*Sn		**Sn**	**08 19 52.6**	**-1.2**
	SNR=1.0								
TCF				*e*Sg		**Sg**	**08 20 11.0**	**-1.1**
	7.7nm,0.4s,SNR=1.0								
TCF	**Toulx Ste Croi**	**3.70**	**259**	*e*Pn		**Pn**	**08 19 10.5**	**+0.2**
TCF				*e*Pg		**Pg**	**08 19 23.0**	**-1.2**
TCF				*e*Sn		**Sn**	**08 19 52.6**	**-1.2**
TCF				*e*Sg		**Sg**	**08 20 11.0**	**-1.1**
TCF	**Toulx Ste Croi**	**3.70**	**259**	*e*Pg		**Pg**	**08 19 23.0**	**-1.2**
	SNR=1.0								
TCF				*e*Sn		**Sn**	**08 19 52.6**	**-1.2**
	SNR=1.0								
TCF				*e*Sg		**Sg**	**08 20 11.0**	**-1.1**
	3.8nm,0.4s,SNR=1.0								
LASF	**Ste Croix**	**3.95**	**221**	*e*Pg		**Pg**	**08 19 27.2**	**-1.8**
LASF				*e*Sg		**Sg**	**08 20 18.8**	**-1.4**
	16nm,0.6s,SNR=1.0								
LASF	**Ste Croix**	**3.95**	**221**	*e*Pn		**Pn**	**08 19 13.9**	**+0.2**
LASF				*e*Pg		**Pg**	**08 19 27.2**	**-1.8**
LASF				*e*Sg		**Sg**	**08 20 18.8**	**-1.4**
LASF	**Ste Croix**	**3.95**	**221**	*e*Pg		**Pg**	**08 19 27.2**	**-1.8**
LASF				*e*Sg		**Sg**	**08 20 18.8**	**-1.4**
	7.9nm,0.6s,SNR=1.0								
MTLF	**Montolieu**	**5.28**	**226**	*e*Pg		**Pg**	**08 19 52.3**	**-2.2**
MTLF				*e*Sg		**Sg**	**08 21 00.1**	**-2.8**
	5.1nm,0.5s								
MTLF	**Montolieu**	**5.28**	**226**	*e*Pn		**Pn**	**08 19 36.3**	**+4.2**
MTLF				*e*Pg		**Pg**	**08 19 52.3**	**-2.2**
MTLF				*e*Sg		**Sg**	**08 21 00.1**	**-2.8**
MTLF	**Montolieu**	**5.28**	**226**	*e*Pg		**Pg**	**08 19 52.3**	**-2.2**
MTLF				*e*Sg		**Sg**	**08 21 00.1**	**-2.8**
	2.5nm,0.5s								
CLL	**Collm**	**5.55**	**39**	*e*Sg		**Sg**	**08 21 11.0**	**-0.6**
BRG	**Berggiesshubel**	**5.69**	**46**	SG		**Sg**	**08 21 14.4**	**-1.6**
	1.9nm,0.7s								

IDC 25 08:18:45.6±2.9, 378S×12880E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/14, mbtmp4.1/3, Error ellipse: s-maj=350.8km s-min=26.0km az=66.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.95**	**162**	Pn	Pn	08 22 41.5	-2.5
	0.1nm,0.3s,baz=326,slow=14,SNR=5.3						
ASAR	**Alice Springs**	**20.38**	**166**	P	P	08 23 24.2	+0.4
	5.3nm,0.6s,baz=341,slow=11,SNR=40						
STKA	**Stephens Creek**	**30.43**	**158**	P	P	08 24 59.7	+0.1
	1.8nm,0.6s,baz=338,slow=12,SNR=4.7						
MKAR	**Makanchi Array**	**64.90**	**327**	P	P	08 29 26.9	+0.2
	0.7nm,0.7s,baz=132,slow=8.1,SNR=8.0						

*ISCJB **25** 08:24:40.5±0.9, 47.13N±003×742E±007, h3km±7km, Error ellipse: s-maj=7.8km s-min=4.7km az=34.2*
*LDG **25** 08:24:41.7±0.2, 47.12N×749E, h5km, Md2.2/1, Ml2.2/8, Error ellipse: s-maj=3.4km s-min=2.4km az=112.0*
*STR **25** 08:24:42.3±0.6, 47.17N×751E, h10km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 25 08:24:41.5±0.9, 4713N±003×746E±007, h12km±6km, n14, σ0°64/21, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOF	**Molkenrain**	**0.76**	**343**	Pg	**Pg**	**08 24 56.0**	**-0.1**
HINF	**Hinteralfeld**	**0.80**	**329**	*e*Pg	**Pg**	**08 24 57.0**	**0.0**
HINF	**Hinteralfeld**	**0.80**	**329**	*e*Pn	**Pn**	**08 24 58.1**	**-0.5**
HINF				*e*Sg	**Sg**	**08 25 08.0**	**+0.5**
HINF				*e*Sn	**Sn**	**08 25 10.6**	**+0.1**
	12nm,0.2s						
CABF	**La Chapelle**	**1.07**	**242**	*e*Pg	**Pg**	**08 25 03.4**	**+1.2**
CABF				*e*Sn	**Sn**	**08 25 17.9**	**+0.7**
	5.4nm,0.3s						
ECH	**Echery**	**1.11**	**350**	Pg	**Pg**	**08

KUR A 08 51 22.5
comp=N,860nm,0.8s
KUR Kuril'sk 4.79 232 ⇑*i*PN **Pn** **08 50 24.1 -1.7**
KUR *e*S **Sn** **08 51 20.6 +0.3**
KUR pmax pmax
comp=N,60nm,0.5s
KUR pmax pmax
comp=E,20nm,0.5s
KUR pmax pmax
comp=Z,140nm,0.5s
KUR smax
comp=N,440nm,0.4s
KUR smax
comp=E,590nm,0.4s
PET Petropavlovsk 5.85 34 *e*P **Pn** **08 50 42.3 +2.3**
PET *e*S **Sn** **08 51 46.0 +0.2**
PET A 08 52 05.5
comp=E,110nm,0.5s
PET Petropavlovsk 5.85 34 *e*PN **Pn** **08 50 42.3 +2.3**
PET *e*S **Sn** **08 51 46.0 +0.2**
PET smax
comp=N,119nm,0.5s
PET MLR MLR
comp=Z,100nm,20.0s
PET Petropavlovsk 5.85 34 *e*Pn **Pn** **08 50 39.9 -0.1**
YUK Yuzh-Kuril'sk 6.66 233 *i* P **Pn** **08 50 50.9 0.0**
YUK AMB AMB 08 50 51.2
comp=Z,550nm,0.2s
YUK *e*S **Sn** **08 52 04.4 -0.9**
YUK A 08 52 08.2
comp=Z,380nm,0.5s
YUK Yuzh-Kuril'sk 6.66 233 ⇑*i*PN **Pn** **08 50 50.9 0.0**
YUK *e*S **Sn** **08 52 04.4 -0.9**
YUK pmax pmax
comp=Z,550nm,0.3s
YUK smax
comp=N,380nm,0.5s
YUK smax
comp=E,380nm,0.5s
YSS Yuzh-Sakhalins 7.19 263 *e*P **Pn** **08 51 05.2 +7.0**
YSS AMB AMB 08 51 07.8
comp=E,30nm,1.0s
YSS *e*S **Sn** **08 52 26.2 +7.9**
YSS Yuzh-Sakhalins 7.19 263 *e*PN **Pn** **08 51 05.2 +7.0**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS Yuzh-Sakhalins 7.19 263 *e*P **Pn** **08 51 05.4 +7.2**
JMP Maruseppu 8.08 241 P **Pn** **08 51 11.1 +0.9**
ASAJ Asahikawa 8.47 244 P **Pn** **08 51 18.1 +2.6**
comp=Z,7.8nm,0.3s,baz=81,slow=12,SNR=40
ASAJ Asahikawa 8.47 244 P **Pn** **08 51 17.9 +2.4**
ASAJ Asahikawa 8.47 244 PN **Pn** **08 51 18.1 +2.6**
ASAJ pmax pmax
comp=Z,8.0nm,0.3s
JEM Erimo 9.48 232 P **Pn** **08 51 24.8 -4.4**
JOT Ohata 11.06 236 P **Pn** **08 51 46.3 -4.0**
JTM Tenmabayashi 11.46 233 P **Pn** **08 51 50.0 -5.6**
JTM *e*S **Sn** **08 53 48.0 -14**
JOM Ohasama 12.31 229 P **Pn** **08 52 01.1 -5.7**
FX1 Attu Island--F 13.46 63 P **Pn** **08 52 21.8 0.0**
comp=Z,3.5nm,0.3s,baz=48,slow=18,SNR=9.9
FX1 S **Sn** **08 54 38.3 -12**
comp=Z,7.0nm,0.3s,baz=163,slow=21,SNR=13
KLR Kul'dur 14.18 282 *e*P **Pn** **08 52 32.5 +1.6**
KLR pmax pmax
comp=E,68nm,1.6s
KLR pmax pmax
comp=Z,65nm,1.6s
JSD Sado 14.95 232 P **Pn** **08 52 43.9 +3.2**
MAJO Matsushiro 16.12 229 *e*P **Pn** **08 52 53.7 -1.6**
MAJO pmax pmax
comp=Z,20nm,0.7s
MAJO Matsushiro 16.12 229 *e*P **Pn** **08 52 53.7 -1.6**
comp=Z,20nm,0.7s
MAT Matsushiro 16.12 229 P **Pn** **08 52 56.6 +1.3**
MAT Matsushiro 16.12 229 P **Pn** **08 52 53.6 -1.7**
MAT Matsushiro 16.12 229 *e*P **Pn** **08 52 57.0 +1.7**
MAT pmax pmax
comp=Z,7.0nm,0.7s
MAT Matsushiro 16.12 229 *e*P **Pn** **08 52 57.0 +1.7**
comp=Z,6.8nm,0.7s
MJAR Matsushiro Arr 16.12 229 P **Pn** **08 52 53.3 -2.0**
comp=Z,1.4nm,0.3s,baz=32,slow=10,SNR=13
JRY Ryogami san 16.20 226 P **Pn** **08 52 54.8 -1.4**
MDJ Mudanjiang 16.66 266 P **Pn** **08 53 01.3 -0.6**
MDJ S **S** **08 56 05.8 -1.9**
MDJ PCS PcS 09 01 20.3 +0.2
MDJ AMB AMB
comp=Z,14nm,0.8s
MDJ AMB AMB
comp=Z,39nm,4.0s
JWT Wachi 18.54 232 P **P** **08 53 22.7 -0.1**
YAK Yakutsk 19.05 325 ⇑*e*P **P** **08 53 26.5 -1.9**
YAK pmax pmax
comp=Z,11nm,0.7s
JAD Aida 19.45 234 P **P** **08 53 33.0 +0.3**
CN2 Changchun 19.73 267 *e*P **P** **08 53 34.8 -1.0**
CN2 AMB AMB
comp=Z,30nm,0.9s
CN2 AMB AMB
comp=Z,90nm,4.0s
JWZ Kozaga 19.75 228 P **P** **08 53 36.4 +0.4**
BILL Bilibino 20.85 14 ⇓*e*P **P** **08 53 48.9 +1.1**
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL Bilibino 20.85 14 *e*P **P** **08 53 48.3 +0.5**
comp=Z,2.6nm,0.4s
KS15 Wonju Array Si 21.41 249 *e*P **P** **08 53 54.7 +1.0**
SNY Shenyang 21.82 264 ⇑P **P** **08 54 00.3 +2.2**
SNY AMB AMB
comp=Z,16nm,0.5s,mb4.6
TIXI Tiksi 25.98 343 ⇑*e*P **P** **08 54 36.1 -1.0**
TIXI pmax pmax
comp=Z,13nm,1.8s,mb4.1
TIXI MLR MLR
comp=Z,100nm,19.0s
SSE Sheshan 29.75 246 P **P** **08 55 11.0 +0.4**
SSE AMB AMB
comp=Z,32nm,0.8s,mb5.0
SSE AMB AMB
comp=Z,51nm,4.6s
HHC Hu-ho-hao-te 30.28 271 *e*P **P** **08 55 16.3 +1.0**
HHC PP PP 08 56 24.0 -1.8
HHC PCP PcP 08 58 12.3 -0.5
HHC S **S** **08 59 59.5 -6.7**
HHC SCP ScP 09 01 37.0 -7.0
HHC PCS PcS 09 01 54.5 -2.0
HHC AMB AMB
comp=Z,33nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,97nm,6.3s
HHC LR LR
comp=N,140nm,14.4s
HHC LR LR
comp=E,116nm,13.3s
HHC LR LR
comp=Z,115nm,13.8s
ULN Ulaanbaatar 30.47 287 ⇑*e*P **P** **08 55 17.1 +0.1**
ULN Ulaanbaatar 30.47 287 *e*P **P** **08 55 16.4 -0.6**
comp=Z,1.1nm,0.5s,mb3.7
NJ2 Nanjing 30.55 251 *e*P **P** **08 55 20.8 +3.2**
NJ2 AP pP 08 55 45.0 +1.1
NJ2 PP PP 08 56 24.0 -4.8
NJ2 S **S** **09 00 12.0 +1.6**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
NJ2 AMB AMB
comp=Z,180nm,10.0s
NJ2 LR LR
comp=N,700nm,27.4s
NJ2 LR LR
comp=E,810nm,20.8s
NJ2 LR LR
comp=Z,380nm,22.7s
SONM Songino Array 30.90 287 P **P** **08 55 20.9 +0.1**
comp=Z,0.7nm,0.5s,mb3.7,baz=69,slow=8.4,SNR=8.1
SONM ScP ScP 09 01 42.1 -3.9
comp=Z,0.7nm,0.7s,baz=80,slow=1.8,SNR=3.8
SONM LR LR 09 08 56.7
comp=Z,62nm,18.5s,baz=262,slow=38
TTA Tatalina 31.22 43 *e*P **P** **08 55 23.4 -0.1**
TTA pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
TTA Tatalina 31.22 43 *e*P **P** **08 55 23.4 -0.2**
comp=Z,3.3nm,0.6s,mb4.2

TLY Talaya 31.54 295 *e*P **P** **08 55 26.8 +0.4**
TLY *e* 08 56 00.4
TLY pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
TLY Talaya 31.54 295 *e*P **P** **08 55 26.9 +0.5**
ZAK Zakamensk 32.10 293 *e*P **P** **08 55 30.6 -0.6**
ZAK *e* pP 08 55 55.4 -2.2
ZAK pmax pmax
comp=Z,10.0nm,1.7s,mb4.3
ZAK pmax pmax
comp=Z,11nm,1.8s,mb4.3
KDAK Kodiak Island 33.09 53 P **P** **08 55 38.4 -1.4**
comp=Z,5.4nm,0.7s,mb4.5,baz=110,slow=5.3,SNR=6.9
KDAK Kodiak Island 33.09 53 P **P** **08 55 38.4 -1.4**
COLA College 34.88 40 *e*P **P** **08 55 55.6 +0.2**
COLA *e**PP pP 08 56 23.5 +1.5
COLA pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
COLA College 34.88 40 *e*P **P** **08 55 55.6 +0.2**
comp=Z,9.6nm,0.6s,mb4.8
COLA *e*pP pP 08 56 23.5 +1.5
ILAR Eielson Array 35.30 40 P **P** **08 55 58.5 -0.4**
comp=Z,1.9nm,0.5s,mb4.2,baz=260,slow=6.4,SNR=45
LZH Lanzhou 37.93 270 *e*P **P** **08 56 22.5 +1.3**
LZH AP pP 08 56 48.0 -0.1
LZH PP PP 08 57 54.0 +3.8
LZH PCP PcP 08 58 37.8 +3.1
LZH *e*S **S** **09 02 02.5 -1.4**
LZH *e*SS SS 09 04 47.3 -8.1
LZH AMB AMB
comp=Z,56nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,152nm,4.0s
GTA Gaotai 38.81 277 *e*P **P** **08 56 29.0 +0.4**
GTA PP PP 08 58 05.0 +5.1
GTA PCP PcP 08 58 38.3 +0.8
GTA SCP ScP 09 02 07.5 -7.0
GTA S **S** **09 02 10.5 -6.7**
GTA PCS PcS 09 02 27.8 +0.7
GTA SCS ScS 09 06 16.8 -8.8
GTA AMB AMB
comp=Z,8.0nm,1.4s,mb4.4
GTA AMB AMB
comp=Z,65nm,5.3s
GTA LR LR
comp=N,400nm,21.7s
GTA LR LR
comp=E,552nm,20.5s
GTA LR LR
comp=Z,90nm,12.6s
INK Inuvik 40.30 33 P **P** **08 56 41.1 +0.1**
comp=Z,3.7nm,0.6s,mb4.4,baz=284,slow=6.8,SNR=36
INK Inuvik 40.30 33 *e*P **P** **08 56 41.1 +0.1**
INK *e**PP pP 08 57 10.6 +2.4
INK pmax pmax
comp=Z,4.0nm,0.7s
INK Inuvik 40.30 33 *e*P **P** **08 56 41.1 +0.1**
comp=Z,4.4nm,0.7s,mb4.4
INK *e*pP pP 08 57 10.6 +2.4
ZAL Zalesovo 41.78 304 LR LR 09 16 28.0
comp=Z,33nm,20.8s,baz=267,slow=39
GYA Guiyang 42.13 256 ⇑*i*P **P** **08 56 56.3 +0.3**
GYA PP PP 08 58 39.0 +3.2
GYA SCP ScP 09 02 20.0 -7.5
GYA S **S** **09 02 58.8 -7.8**
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,90nm,3.2s
WMQ Urumqi 44.43 290 ⇓*i*P **P** **08 57 15.5 +1.1**
WMQ AP pP 08 57 42.5 +0.5
WMQ PCP PcP 08 58 58.0 +2.0
WMQ PP PP 08 59 02.0 +1.6
WMQ S **S** **09 03 41.0 +0.8**
WMQ AMB AMB
comp=Z,7.0nm,1.2s,mb4.3
WMQ AMB AMB
comp=Z,113nm,6.5s
KMI Kunming 45.61 258 P **P** **08 57 24.3 +0.6**
KMI PP PP 08 59 15.3 +2.5
KMI AMB AMB
comp=Z,9.0nm,0.6s,mb4.7
MKAR Makanchi Array 46.29 296 P **P** **08 57 28.3 -0.8**
comp=Z,7.8nm,0.8s,mb4.5,baz=70,slow=8.1,SNR=10.0
KURK Kurchatov 46.56 302*c* *i*P **P** **08 57 30.4 -0.8**
KURK *i* *PP pP 08 58 06.7 +7.7
CHKZ Chkalovo 49.48 309 *e*P **P** **08 57 52.7 -0.9**
CHKZ pmax pmax
comp=Z,51nm,0.5s,mb5.7
CHKZ Chkalovo 49.48 309 *e*P **P** **08 57 52.7 -0.9**
comp=Z,51nm,0.5s,mb5.7
YKA Yellowknife Ar 49.64 38 P **P** **08 57 54.6 -0.2**
comp=Z,1.8nm,0.7s,mb4.1,baz=297,slow=7.0,SNR=31
BRVK Borovoye 49.96 309 *e*P **P** **08 57 56.4 -0.9**
BRVK pmax pmax
comp=Z,22nm,0.6s,mb5.3
BRVK Borovoye 49.96 309 *e*P **P** **08 57 56.4 -0.9**
comp=Z,22nm,0.6s,mb5.3
LSA Lhasa 50.27 272 *e*P **P** **08 58 02.2 +2.6**
LSA pmax pmax
comp=Z,14nm,0.6s,mb5.1
LSA Lhasa 50.27 272 *e*P **P** **08 58 02.2 +2.7**
comp=Z,14nm,0.6s,mb5.1
ZRNK Zerenda 50.68 309 *e*P **P** **08 58 01.9 -0.8**
ZRNK pmax pmax
comp=Z,21nm,0.6s,mb5.3
ZRNK Zerenda 50.68 309 *e*P **P** **08 58 01.9 -0.8**
comp=Z,21nm,0.6s,mb5.3
ULHL Ulahol 52.37 294 P **P** **08 58 16.2 +0.9**
SNR=5.5
SHL Shilong 52.49 267 *e*P **P** **08 58 15.5 -0.6**
CHTO Chiang Mai 52.55 256 *e*P **P** **08 58 17.3 +0.7**
CHTO pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
CHTO Chiang Mai 52.55 256 *e*P **P** **08 58 17.2 +0.6**
comp=Z,8.4nm,0.6s,mb5.0
USP Ospenovka 52.84 296 P **P** **08 58 19.6 +0.8**
SNR=8.0
KBK Karagaybulak 52.92 295 P **P** **08 58 20.1 +0.8**
SNR=5.3
KZA Kyzart 53.07 294 P **P** **08 58 22.1 +1.7**
SNR=12
AAK Ala-Archa 53.21 295 P **P** **08 58 21.6 +0.2**
SNR=7.7
AAK Ala-Archa 53.21 295*c* *i*P **P** **08 58 20.2 -1.2**
AAK *i* *PP pP 08 59 03.2 +13
AAK pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
AAK Ala-Archa 53.21 295 *e*P **P** **08 58 20.5 -0.9**
comp=Z,5.3nm,0.6s,mb4.8
EKS2 Erkin-Say 53.62 296 P **P** **08 58 24.9 +0.4**
SNR=6.6
ARU Arti 53.91 317 ⇑*i*P **P** **08 58 25.3 -1.2**
ARU *e* 08 59 01.9
ARU *e* 09 00 25.9
ARU *e*S **S** **09 05 44.5 -8.0**
ARU pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
ARU Arti 53.91 317 *e*P **P** **08 58 25.5 -1.0**
comp=Z,12nm,0.6s,mb5.1
AML Almayashu 53.98 295 P **P** **08 58 28.4 +1.4**
SNR=5.6
JIRN Jiri 54.90 274 *e*P **P** **08 58 34.4 +0.7**
comp=Z,17nm,0.3s,mb5.6
GUN Gumba 54.94 274 *e*P **P** **08 58 34.3 +0.3**
comp=Z,20nm,0.4s,mb5.5
EDM Edmonton 55.19 47 *e*P **P** **08 58 35.4 -0.4**
KKN Kakani 55.42 274 *e*P **P** **08 58 38.1 +0.7**
comp=Z,20nm,0.5s,mb5.4
KKN Kakani 55.42 274 *e*P **P** **08 58 38.1 +0.7**
KKN pmax pmax
comp=Z,20nm,0.5s,mb5.4
PKI Pulchoki 55.48 274 *e*P **P** **08 58 38.1 +0.3**
comp=Z,14nm,0.4s,mb5.3
DMN Daman 55.65 274 *e*P **P** **08 58 40.3 +1.2**
comp=Z,15nm,0.4s,mb5.4
GKN Gorkha 55.70 275 *e*P **P** **08 58 40.1 +0.6**
comp=Z,34nm,0.5s,mb5.7
NEW Newport 56.19 54 *e*P **P** **08 58 42.5 -0.4**
ARCES ARCESS Array B 56.40 340 P **P** **08 58 43.8 -0.5**
comp=Z,5.7nm,1.0s,mb4.5,baz=36,slow=8.4,SNR=7.7
KOLN Koldanda 56.55 275 *e*P **P** **08 58 46.0 +0.5**
comp=Z,5.5nm,0.3s,mb5.1
WALA Waterton Lakes 57.40 51 *e*P **P** **08 58 51.2 -0.2**
AKTK Aktyubinsk 57.73 311 P **P** **08 58 52.7 -1.1**

AKTO Aktyubinsk 57.73 311 P **P** **08 58 52.7 -1.1**
comp=Z,2.2nm,0.5s,mb4.5,baz=66,slow=8.8,SNR=12
BMO Blue Mountains 58.16 57 *e*P **P** **08 58 56.8 0.0**
comp=Z,12nm,1.4s,mb4.7
MSO Missoula 58.77 53 *e*P **P** **08 59 01.3 +0.3**
comp=Z,10nm,1.2s,mb4.7
WVOR Wild Horse Val 58.91 60 *e*P **P** **08 59 02.3 +0.3**
WVOR pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
WVOR Wild Horse Val 58.91 60 *e*P **P** **08 59 02.3 +0.4**
comp=Z,9.4nm,0.9s,mb4.8
CHMT Chamberlain Mo 59.08 53 *e*P **P** **08 59 02.6 -0.5**
SUMG Summit 59.13 4 *e*P **P** **08 59 03.5 0.0**
comp=Z,5.0nm,0.6s,mb4.7
FCC Fort Churchill 59.92 34 *e*P **P** **08 59 07.8 -1.1**
FCC pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
FCC Fort Churchill 59.92 34 *e*P **P** **08 59 07.8 -1.1**
comp=Z,1.8nm,0.5s,mb4.4
JOF Joensuu 59.96 333 *e*p **P** **08 59 05.1 -4.1**
comp=Z,3.1nm,0.5s,mb4.6
JOF Joensuu 59.96 333 *e*P **P** **08 59 05.1 -4.1**
JOF pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
HRY Holter Researc 59.97 52 *e*P **P** **08 59 09.8 +0.6**
EGMT Eagleton 60.20 50 *e*P **P** **08 59 11.1 +0.2**
comp=Z,32nm,1.9s,mb5.0
DLMT Dillon 60.42 54 *e*P **P** **08 59 12.2 -0.1**
comp=Z,4.5nm,0.8s,mb4.5
HLID Hailey 60.58 56 *e*P **P** **08 59 14.1 +0.6**
comp=Z,1.5nm,0.6s,mb4.2
MCMT McKenzie Canyo 60.63 55 *e*P **P** **08 59 13.9 +0.2**
BOZ Bozeman (W) 60.76 53 *e*P **P** **08 59 14.9 +0.3**
BOZ pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
BOZ Bozeman (W) 60.76 53 *e*P **P** **08 59 14.9 +0.3**
comp=Z,9.7nm,0.7s,mb4.9
QLMT Earthquake Lak 61.40 54 *e*P **P** **08 59 19.5 +0.6**
NVAR Mina Array Bea 61.66 63 P **P** **08 59 20.6 -0.1**
comp=Z,3.5nm,0.5s,mb4.6,baz=293,slow=8.2,SNR=30
GCMT Greycliff 61.70 52 *e*P **P** **08 59 21.2 +0.2**
ELK Elko 61.95 59 *e*P **P** **08 59 22.9 +0.3**
ELK *e* 08 59 59.1
ELK pmax pmax
comp=Z,3.0nm,0.8s
ELK Elko 61.95 59 *e*P **P** **08 59 22.9 +0.3**
comp=Z,2.7nm,0.8s,mb4.3
ELK *e*PcP PcP 08 59 59.1 -3.1
TPH Tonopah 62.54 63 *e*P **P** **08 59 26.8 +0.3**
TPAW Teton Pass 62.54 55 *e*P **P** **08 59 27.2 +0.7**
comp=Z,26nm,1.1s,mb5.1
FINES FINESS Array B 62.65 334 P **P** **08 59 26.1 -1.2**
comp=Z,3.5nm,0.5s,mb4.6,baz=37,slow=7.7,SNR=50
REDW Red Top Meadow 62.68 55 *e*P **P** **08 59 28.4 +0.9**
comp=Z,24nm,1.3s,mb5.0
HWUT Hardware Ranch 63.45 57 *e*P **P** **08 59 32.7 +0.1**
comp=Z,5.7nm,0.6s,mb4.7
DUG Dugway 63.70 58 *e*P **P** **08 59 34.5 +0.3**
DUG pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
DUG Dugway 63.70 58 *e*P **P** **08 59 34.5 +0.3**
comp=Z,9.6nm,1.0s,mb4.6
BW06 Boulder Array 63.78 55 *e*P **P** **08 59 35.0 +0.3**
PDAR Pinedale Array 63.78 55 P **P** **08 59 34.8 0.0**
comp=Z,6.2nm,0.8s,mb4.5,baz=304,slow=1.9,SNR=40
TPNV Topopah Spring 63.86 63 *e*P **P** **08 59 35.1 -0.2**
TPNV pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
TPNV Topopah Spring 63.86 63 *e*P **P** **08 59 35.1 -0.1**
comp=Z,9.3nm,1.0s,mb4.6
OBN Obninsk 64.06 325 ⇓*e*P **P** **08 59 35.1 -1.4**
OBN *e* pP 09 00 05.7 -0.2
OBN *e* 09 08 05.7
OBN pmax pmax
comp=Z,20nm,1.6s,mb4.7
NLU North Lily Min 64.28 58 *e*P **P** **08 59 38.4 +0.4**
DAU Daniels Canyon 64.43 57 *e*P **P** **08 59 39.6 +0.6**
MSU Marysvale 65.19 59 *e*P **P** **08 59 44.2 +0.3**
SRU San Rafael 65.73 58 *e*P **P** **08 59 47.4 0.0**
SRU pmax pmax
comp=Z,11nm,0.9s,mb4.7
SRU San Rafael 65.73 58 *e*P **P** **08 59 47.4 0.0**
comp=Z,11nm,0.9s,mb4.7
NB2 NORSAR Subarra 66.77 341 P **P** **08 59 53.5 -0.5**
comp=Z,4.0nm,0.7s,mb4.4,baz=27,slow=6.5
NOA NORSAR Array B 66.77 341 P **P** **08 59 53.8 -0.3**
comp=Z,3.0nm,0.6s,mb4.3,baz=26,slow=6.3,SNR=20
PV01 Paradox Valley 67.51 58 *e*P **P** **08 59 59.0 +0.3**
SMCO Snowmass 67.67 56 *e*P **P** **08 59 60.0 +0.3**
comp=Z,6.2nm,0.7s,mb4.5
ISCO Idaho Springs 67.98 55 *e*P **P** **09 00 02.5 +0.9**
ISCO pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
ISCO Idaho Springs 67.98 55 *e*P **P** **09 00 02.5 +0.9**
comp=Z,8.1nm,0.9s,mb4.5
ECSD EROS,Sioux Fal 69.76 46 *e*P **P** **09 00 12.2 -0.4**
WRAB Tennant Creek 70.00 199 *e*P **P** **09 00 12.2 -2.0**
WRA Warramunga Arr 70.01 199 P **P** **09 00 12.2 -2.0**
comp=Z,3.4nm,0.7s,mb4.3,baz=16,slow=6.1,SNR=36
AKASG Malin Array Be 70.28 326 P **P** **09 00 15.1 -0.7**
comp=Z,2.9nm,0.5s,mb4.4,baz=33,slow=6.2,SNR=11
ANMO Albuquerque 70.96 59 *e*P **P** **09 00 20.4 +0.4**
ANMO pmax pmax
comp=Z,1.0nm,0.9s
ANMO Albuquerque 70.96 59 *e*P **P** **09 00 20.4 +0.4**
comp=Z,1.4nm,0.9s,mb3.8
SCHQ Schefferville 71.84 23 P **P** **09 00 25.5 +0.2**
comp=Z,1.6nm,0.7s,mb4.0,baz=253,slow=7.1,SNR=5.8
AMTX Amarillo 73.69 56 *e*P **P** **09 00 36.4 +0.2**
comp=Z,9.0nm,1.1s,mb4.4
ASAR Alice Springs 73.71 198 P **P** **09 00 35.2 -1.1**
comp=Z,1.0nm,0.6s,mb3.7,baz=16,slow=5.6,SNR=23
STHS Stebnicka Huta 74.19 330 *i* P **P** **09 00 39.5 +0.4**
BURAR Bucovina Array 74.32 326 ⇓*i*P **P** **09 00 39.6 -0.2**
UPC Upice 74.91 333 *e*P **P** **09 00 43.1 -0.1**
DPC Dobruska-Polom 74.95 333 *e*P **P** **09 00 43.7 +0.2**
CLL Collm 75.06 335 ⇑*i*P **P** **09 00 43.5 -0.6**
CLL *e**PP pP 09 01 29.0 +15
CLL pmax pmax
comp=Z,15nm,0.8s,mb4.8
CLL Collm 75.06 335 ⇑*i*P **P** **09 00 43.5 -0.6**
comp=Z,15nm,0.8s,mb4.8
CLL *e*pP pP 09 01 29.0 +15
MORC Moravsky Berou 75.08 332 *e*P **P** **09 00 43.9 -0.3**
MORC pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
MORC Moravsky Berou 75.08 332 *e*P **P** **09 00 43.9 -0.4**
comp=Z,4.5nm,0.6s,mb4.4
BRG Berggiesshubel 75.19 335 *i* P **P** **09 00 44.5 -0.3**
comp=Z,4.1nm,1.0s,mb4.1
BRG Berggiesshubel 75.19 335 *i* P **P** **09 00 44.5 -0.4**
BRG pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
KECS Kecovo 75.25 330 *e*P **P** **09 00 43.9 -1.3**
WMOK Wichita Mounta 75.38 54 *e*P **P** **09 00 45.6 -0.4**
WMOK pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
WMOK Wichita Mounta 75.38 54 *e*P **P** **09 00 45.6 -0.4**
comp=Z,3.4nm,1.0s,mb4.0
TIRR Tirgusor 75.70 323 ⇓*i*P **P** **09 00 49.2 +1.4**
HARR Harsova 75.70 323 ⇑*i*P **P** **09 00 47.7 -0.1**
VYHS Vyhne 75.79 331 *e*P **P** **09 00 48.0 -0.3**
PRU Pruhonice 75.81 334 *e*P **P** **09 00 48.2 -0.2**
MLR Muntele Rosu 75.82 325 ⇓*i*P **P** **09 00 49.3 +0.9**
DRGR 75.93 327 ⇓*i*P **P** **09 00 49.1 0.0**
WSAR Wadi Sarin 75.93 289 P **P** **09 00 49.9 +0.8**
comp=Z,2.7nm,0.6s,mb4.2,baz=6.5,slow=14,SNR=5.3
MALT Malatya 76.13 313 *e*P **P** **09 00 51.1 +0.9**
MALT pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
MALT Malatya 76.13 313 *e*P **P** **09 00 51.0 +0.8**
comp=Z,2.5nm,0.6s,mb4.1
TREC Trest 76.14 333 *e*P **P** **09 00 50.0 -0.3**
NKC Novy Kostel 76.19 335 *e*P **P** **09 00 49.1 -1.4**
VOIR 76.21 325 ⇓*i*P **P** **09 00 51.2 +0.6**
LTX Lajitas 76.67 61 *e*P **P** **09 00 53.1 -0.2**
LTX pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
LTX Lajitas 76.67 61 *e*P **P** **09 00 53.1 -0.2**
comp=Z,9.5nm,0.9s,mb4.5
KHC Kasperske Hory 76.86 334 *e*P **P** **09 00 54.5 +0.2**
KHC Kasperske Hory 76.86 334*c* *i*P **P** **09 00 54.1 -0.2**
KHC *i* *PP pP 09 01 38.4 +14
GRF Grafenberg Arr 77.02 336 *e*P **P** **09 00 55.3 +0.1**
comp=Z,18nm,0.9s,mb4.8

GRF	**Grafenberg Arr**	**77.02**	**336**	*e*P		**P**	**09 00 55.3**	**+0.1**
GRF				pmax		pmax		
	comp=Z,18nm,0.9s,mb4.8							
GRF	**Grafenberg Arr**	**77.02**	**336**	*e*P		**P**	**09 00 55.3**	**+0.1**
GRF				pmax		pmax		
	comp=Z,18nm,0.9s,mb4.8							
GERES	**GERESS Array B**	**77.08**	**334**	P		**P**	**09 00 55.5**	**-0.1**
	comp=Z,2.3nm,0.5s,mb4.2,baz=36,slow=6.2,SNR=25							
BR131	**Keskin Array S**	**77.29**	**317**	*e*P		**P**	**09 00 57.1**	**+0.3**
	comp=Z,3.8nm,0.9s,mb4.1							
BRTR	**Keskin Array B**	**77.29**	**317**	P		**P**	**09 00 57.2**	**+0.5**
	comp=Z,2.7nm,0.8s,mb4.0,baz=64,slow=4.3,SNR=12							
MIB	**Mutribah**	**77.90**	**301**	*e*P		**P**	**09 00 59.0**	**-1.1**
MIB				AMb		AMB	09 01 01.6	
	comp=Z,32nm,0.4s,mb5.4							
ARSA	**Arzberg**	**77.95**	**332**	⇑*i*P		**P**	**09 01 00.2**	**-0.2**
	comp=Z,2.8nm,0.5s,mb4.2							
KBD	**Kabd**	**78.17**	**301**	*e*P		**P**	**09 01 01.7**	**+0.1**
NAY	**Al-Naaiem**	**78.37**	**301**	*e*P		**P**	**09 01 02.5**	**-0.2**
NAY				AMb		AMB	09 01 04.8	
	comp=Z,11nm,0.7s,mb4.7							
BAIF	**Baives**	**78.43**	**340**	*e*P		**P**	**09 01 03.3**	**+0.3**
	comp=Z,4.8nm,0.6s,mb4.1							
BAIF	**Baives**	**78.43**	**340**	*e*P		**P**	**09 01 03.3**	**+0.3**
BAIF				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.0							
BAIF	**Baives**	**78.43**	**340**	*e*P		**P**	**09 01 03.3**	**+0.3**
	comp=Z,2.4nm,0.6s,mb4.1							
PERS	**Pernice**	**78.62**	**332**	*e*P		**P**	**09 01 04.2**	**+0.2**
KBA	**Koelnbreinsper**	**78.77**	**333**	⇓*i*P		**P**	**09 01 05.6**	**+0.8**
	comp=Z,21nm,1.1s,mb4.9							
KBA	**Koelnbreinsper**	**78.77**	**333**	⇓*i*P		**P**	**09 01 05.6**	**+0.7**
KBA				pmax		pmax		
	comp=Z,21nm,1.1s,mb4.9							
WTTA	**Wattenberg**	**79.10**	**334**	⇑*i*P		**P**	**09 01 06.1**	**-0.6**
	comp=Z,14nm,0.6s,mb5.0							
WTTA	**Wattenberg**	**79.10**	**334**	⇑*i*P		**P**	**09 01 06.1**	**-0.6**
WTTA				pmax		pmax		
	comp=Z,14nm,0.6s,mb5.0							
GCIS	**Gornji Cirnik**	**79.14**	**331**	*e*P		**P**	**09 01 06.6**	**-0.3**
CDF	**Champ du Feu**	**79.23**	**338**	*e*P		**P**	**09 01 07.5**	**+0.1**
	comp=Z,11nm,0.8s,mb4.5							
CDF	**Champ du Feu**	**79.23**	**338**	*e*P		**P**	**09 01 07.5**	**+0.1**
CDF				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.5							
CDF	**Champ du Feu**	**79.23**	**338**	*e*P		**P**	**09 01 07.5**	**+0.1**
	comp=Z,5.7nm,0.8s,mb4.5							
MEZF	**Maizieres J'vi**	**79.69**	**339**	*e*P		**P**	**09 01 10.2**	**+0.3**
	comp=Z,31nm,0.9s,mb4.8							
MEZF	**Maizieres J'vi**	**79.69**	**339**	*e*P		**P**	**09 01 10.2**	**+0.3**
	comp=Z,31nm,0.9s,mb5.1							
LOR	**Lormes**	**81.13**	**339**	*e*P		**P**	**09 01 17.8**	**+0.2**
	comp=Z,8.4nm,0.7s,mb4.4							
LOR	**Lormes**	**81.13**	**339**	*e*P		**P**	**09 01 17.8**	**+0.2**
LOR				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.4							
LOR	**Lormes**	**81.13**	**339**	*e*P		**P**	**09 01 17.8**	**+0.2**
	comp=Z,4.2nm,0.7s,mb4.4							
CABF	**La Chapelle**	**81.20**	**338**	*e*P		**P**	**09 01 18.3**	**+0.3**
	comp=Z,12nm,0.8s,mb4.5							
CABF	**La Chapelle**	**81.20**	**338**	*e*P		**P**	**09 01 18.3**	**+0.3**
CABF				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.5							
CABF	**La Chapelle**	**81.20**	**338**	*e*P		**P**	**09 01 18.3**	**+0.3**
	comp=Z,6.0nm,0.8s,mb4.5							
SSF	**Saint Saulge**	**81.41**	**340**	*e*P		**P**	**09 01 19.4**	**+0.3**
AVF	**Avril sur Loir**	**81.70**	**340**	*e*P		**P**	**09 01 20.1**	**-0.5**
	comp=Z,6.7nm,0.5s,mb4.4							
AVF	**Avril sur Loir**	**81.70**	**340**	*e*P		**P**	**09 01 20.1**	**-0.5**
AVF				pmax		pmax		
	comp=Z,3.0nm,0.5s,mb4.4							
AVF	**Avril sur Loir**	**81.70**	**340**	*e*P		**P**	**09 01 20.1**	**-0.5**
	comp=Z,3.3nm,0.5s,mb4.4							
SMF	**Signal de Mont**	**81.72**	**339**	*e*P		**P**	**09 01 20.8**	**+0.1**
	comp=Z,16nm,0.7s,mb4.7							
SMF	**Signal de Mont**	**81.72**	**339**	*e*P		**P**	**09 01 20.8**	**+0.1**
SMF				pmax		pmax		
	comp=Z,8.0nm,0.7s,mb4.7							
SMF	**Signal de Mont**	**81.72**	**339**	*e*P		**P**	**09 01 20.8**	**+0.1**
	comp=Z,8.1nm,0.7s,mb4.7							
LPL	**La Plagne**	**82.05**	**337**	*e*P		**P**	**09 01 22.7**	**+0.2**
	comp=Z,11nm,0.5s,mb4.6							
LPL	**La Plagne**	**82.05**	**337**	*e*P		**P**	**09 01 22.7**	**+0.2**
LPL				pmax		pmax		
	comp=Z,5.0nm,0.5s,mb4.6							
LPL	**La Plagne**	**82.05**	**337**	*e*P		**P**	**09 01 22.7**	**+0.2**
	comp=Z,5.4nm,0.5s,mb4.6							
LPG	**La Plagne**	**82.07**	**337**	*e*P		**P**	**09 01 22.8**	**+0.3**
	comp=Z,13nm,0.7s,mb4.6							
LPG	**La Plagne**	**82.07**	**337**	*e*P		**P**	**09 01 22.8**	**+0.3**
LPG				pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.6							
LPG	**La Plagne**	**82.07**	**337**	*e*P		**P**	**09 01 22.8**	**+0.3**
	comp=Z,6.7nm,0.7s,mb4.6							
TCF	**Toulx Ste Croi**	**82.44**	**340**	*e*P		**P**	**09 01 24.6**	**+0.2**
MBDF	**Montbardon**	**82.78**	**337**	*e*P		**P**	**09 01 26.0**	**-0.2**
	comp=Z,12nm,0.7s,mb4.5							
MBDF	**Montbardon**	**82.78**	**337**	*e*P		**P**	**09 01 26.0**	**-0.2**
MBDF				pmax		pmax		
	comp=Z,6.0nm,0.7s,mb4.5							
MBDF	**Montbardon**	**82.78**	**337**	*e*P		**P**	**09 01 26.0**	**-0.2**
	comp=Z,5.9nm,0.7s,mb4.5							
ORIF	**Oris-en-Rattie**	**82.83**	**337**	*e*P		**P**	**09 01 26.6**	**+0.1**
	comp=Z,8.6nm,0.7s,mb4.4							
ORIF	**Oris-en-Rattie**	**82.83**	**337**	*e*P		**P**	**09 01 26.6**	**+0.1**
ORIF				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.4							
ORIF	**Oris-en-Rattie**	**82.83**	**337**	*e*P		**P**	**09 01 26.6**	**+0.1**
	comp=Z,4.3nm,0.7s,mb4.4							
SBF	**Sospel**	**83.40**	**336**	*e*P		**P**	**09 01 29.0**	**-0.4**
CAF	**Calviac**	**83.76**	**340**	*e*P		**P**	**09 01 31.1**	**-0.1**
	comp=Z,4.1nm,0.6s,mb4.2							
CAF	**Calviac**	**83.76**	**340**	*e*P		**P**	**09 01 31.1**	**-0.1**
CAF				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.1							
CAF	**Calviac**	**83.76**	**340**	*e*P		**P**	**09 01 31.1**	**-0.1**
	comp=Z,2.0nm,0.6s,mb4.1							
FRF	**La Foret Royal**	**83.89**	**336**	*e*P		**P**	**09 01 31.4**	**-0.5**
	comp=Z,9.9nm,0.9s,mb4.3							
FRF	**La Foret Royal**	**83.89**	**336**	*e*P		**P**	**09 01 31.4**	**-0.5**
FRF				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.3							
FRF	**La Foret Royal**	**83.89**	**336**	*e*P		**P**	**09 01 31.4**	**-0.5**
	comp=Z,4.9nm,0.9s,mb4.3							
LMR	**La Mourre**	**84.14**	**336**	*e*P		**P**	**09 01 33.0**	**-0.2**
	comp=Z,8.8nm,0.7s,mb4.4							
LMR	**La Mourre**	**84.14**	**336**	*e*P		**P**	**09 01 33.0**	**-0.2**
LMR				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.4							
LMR	**La Mourre**	**84.14**	**336**	*e*P		**P**	**09 01 33.0**	**-0.2**
	comp=Z,4.4nm,0.7s,mb4.4							
SJPF	**Ste Jean**	**86.21**	**342**	*e*P		**P**	**09 01 43.1**	**-0.4**
ETSF	**Etsaut**	**86.27**	**341**	*e*P		**P**	**09 01 43.7**	**-0.1**
	comp=Z,3.8nm,0.6s,mb4.2							
ETSF	**Etsaut**	**86.27**	**341**	*e*P		**P**	**09 01 43.7**	**-0.1**
ETSF				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.2							
ETSF	**Etsaut**	**86.27**	**341**	*e*P		**P**	**09 01 43.7**	**-0.1**
	comp=Z,1.9nm,0.6s,mb4.2							
NWAO	**Narrogin (SRO)**	**87.05**	**210**	P		**P**	**09 01 46.0**	**-1.6**
	comp=Z,6.1nm,0.9s,mb4.5,baz=332,slow=5.7,SNR=3.5							
NWAO	**Narrogin (SRO)**	**87.05**	**210**	*e*P		**P**	**09 01 46.4**	**-1.2**
SBA	**Scott Base**	**126.17**	**176**	*e*PKIKP		PKPdf	09 08 02.4	-1.4
LPAZ	**La Paz**	**133.54**	**61**	*e*PKIKP		PKPdf	09 08 18.0	+0.2
QSPA	**South Pole Qui**	**138.05**	**180**	*e*PKPdf		PKPdf	09 08 24.3	-1.9
CFAA	**Coronel Fontan**	**144.61**	**77**	PKP		PKPdf	09 08 34.2	-3.7
	comp=Z,0.5nm,0.5s,baz=276,slow=3.4,SNR=8.2							
CFAA	**Coronel Fontan**	**144.61**	**77**	PKP		PKPdf	09 08 34.2	-3.7

*ISCJB **25** 09:02:57.4±0.6, 4501N±003×1454E±003, h10km, Error ellipse: s-maj=4.1km s-min=3.1km az=56.2*
*CSEM **25** 09:02:58.3±0.2, 4501N×1461E, h30km, ML3.2/6, Error ellipse: s-maj=3.3km s-min=2.4km az=58.0*
*ROM **25** 09:02:58.7±0.4, 4509N×1481E, h10km, Md2.8/3, Ml2.0/1, Error ellipse: s-maj=15.7km s-min=4.4km az=39.0*
*VIE **25** 09:02:59.2±0.5, 4509N×1458E, h8km, mb2.4/3, ML2.5/3, Error ellipse: s-maj=3.0km s-min=2.1km az=9.0 31 km SSE of Rijeka*

ISC 25 09:02:56.9±0.9, 4492N±004×1456E±003, h10km, n31, σ1s06/52, 6C-8D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NVLJ	**Novalja**	**0.42**	**148**	*i* Pg		**Pg**	**09 03 08.7**	**+3.6**
NVLJ				*i* Sg		**Sg**	**09 03 16.9**	**+6.2**
CEY	**Cerknica**	**0.82**	**354**	*i* Pg		**Pg**	**09 03 12.1**	**-0.7**
CEY				*e*Sg		**Sg**	**09 03 24.1**	**+0.6**
TRI	**Trieste**	**0.97**	**325**	Pg		**Pg**	**09 03 16.9**	**+1.4**
TRI				Sg		**Sg**	**09 03 29.7**	**+1.6**
	35nm,0.2s							
JAVS	**Javornik**	**1.03**	**341**	*e*Pg		**Pg**	**09 03 16.1**	**-0.7**
CRES	**Cresnjev**	**1.11**	**35**	*i* Pg		**Pg**	**09 03 18.6**	**+0.5**
CRES				*e*Sg		**Sg**	**09 03 33.1**	**+0.5**
CRES								
	comp=Z,24nm,0.3s							
LJU	**Ljubljana**	**1.12**	**359**	*e*Pg		**Pg**	**09 03 18.6**	**+0.1**
LJU				*e*Sg		**Sg**	**09 03 34.5**	**+1.4**
LEGS	**Legarje**	**1.16**	**27**	*e*Pg		**Pg**	**09 03 19.0**	**-0.2**
LEGS				*e*Sg		**Sg**	**09 03 34.1**	**-0.2**
PDKS	**Podkum**	**1.18**	**15**	*e*Pg		**Pg**	**09 03 19.7**	**+0.1**
VOJS	**Vojsko**	**1.21**	**337**	*e*Sg		**Sg**	**09 03 37.7**	**+1.8**
GCIS	**Gornji Cirnik**	**1.21**	**38**	*i* Pg		**Pg**	**09 03 20.6**	**+0.5**
GCIS				*e*Sg		**Sg**	**09 03 36.0**	**+0.1**
GCIS								
	comp=Z,34nm,0.4s							
GOLS	**Golise**	**1.32**	**34**	*e*Pg		**Pg**	**09 03 23.3**	**+1.0**
GOLS				*e*Sg		**Sg**	**09 03 41.0**	**+1.5**
GOLS								
	comp=Z,27nm,0.3s							
DOBS	**Dobrina**	**1.39**	**27**	*e*Pg		**Pg**	**09 03 23.5**	**0.0**
DRE	**Drenchia**	**1.41**	**333**	⇑*e*Pg		**Pg**	**09 03 24.0**	**+0.1**
DRE				*e*Sg		**Sg**	**09 03 43.4**	**+1.2**
CADS	**Cadrg**	**1.43**	**337**	*i* Pg		**Pg**	**09 03 24.5**	**+0.2**
CADS				*e*Sg		**Sg**	**09 03 44.9**	**+2.0**
CADS								
	comp=Z,60nm,0.2s							
ROBS	**Robic**	**1.52**	**331**	*e*Pg		**Pg**	**09 03 25.6**	**-0.4**
ROBS				*e*Sg		**Sg**	**09 03 46.0**	**+0.4**
ROBS								
	comp=Z,63nm,0.5s							
OBKA	**Obir**	**1.59**	**360**	⇓*e*Pg		**Pg**	**09 03 26.7**	**-0.7**
	SNR=40							
OBKA				⇑*i*Sg		**Sg**	**09 03 46.3**	**-1.7**
	comp=Z,52nm,0.5s							
BAD	**Bernadia**	**1.61**	**325**	⇓*i*Pg		**Pg**	**09 03 27.3**	**-0.4**
BAD				*i* Sg		**Sg**	**09 03 49.1**	**+0.5**
GMNA	**Gemona**	**1.64**	**326**	Pg		**Pg**	**09 03 28.4**	**0.0**
GMNA				Sg		**Sg**	**09 03 50.9**	**+1.2**
	comp=Z,142nm,0.5s							
BUA	**Buia**	**1.64**	**323**	⇓*i*Pg		**Pg**	**09 03 28.2**	**-0.2**
BUA				*i* Sg		**Sg**	**09 03 50.9**	**+1.1**
GROS	**Grobnik**	**1.68**	**23**	*e*Sg		**Sg**	**09 03 49.8**	**-1.0**
PTCC	**Patocco-Chiusa**	**1.71**	**331**	Pg		**Pg**	**09 03 28.5**	**-1.2**
PTCC				Sg		**Sg**	**09 03 50.3**	**-1.5**
	comp=Z,20nm,0.3s							
LSR	**Lussari**	**1.71**	**336**	⇑*i*Pg		**Pg**	**09 03 29.1**	**-0.7**
LSR				*i* Sg		**Sg**	**09 03 52.9**	**+0.9**
LSR	**Lussari**	**1.71**	**336**	*i* Pg		**Pg**	**09 03 29.0**	**-0.8**
MPRI	**Monte Prat**	**1.72**	**321**	⇑*i*Pg		**Pg**	**09 03 29.1**	**-0.7**
MPRI				*i* Sg		**Sg**	**09 03 52.5**	**+0.3**
MPRI	**Monte Prat**	**1.72**	**321**	*i* Pg		**Pg**	**09 03 29.1**	**-0.8**
BOO	**Bordano**	**1.73**	**324**	⇓*i*Pg		**Pg**	**09 03 28.9**	**-1.3**
PERS	**Pernice**	**1.76**	**13**	*i* Pg		**Pg**	**09 03 29.3**	**-1.4**
PLRO	**Paularo**	**1.91**	**329**	⇓*e*Pg		**Pg**	**09 03 32.1**	**-1.3**
PLRO				*e*Sg		**Sg**	**09 03 56.8**	**-1.3**
ZOU	**Zoufplan**	**1.98**	**326**	⇑*e*Pg		**Pg**	**09 03 32.6**	**-2.2**
KBA	**Koelnbreinsper**	**2.32**	**339**	⇓*e*Pg		**Pg**	**09 03 40.6**	**-0.7**
	SNR=8.4							
KBA				⇓*i*Sg		**Sg**	**09 04 11.0**	**-0.4**
	comp=Z,7.1nm,0.3s							
ARSA	**Arzberg**	**2.43**	**16**	⇓*i*Pg		**Pg**	**09 03 42.3**	**-1.1**
ARSA				⇑*i*Sg		**Sg**	**09 04 14.0**	**-0.9**
	comp=Z,4.2nm,0.4s							

MAN 25 09:36:08.2, 1603N×12188E, h27km, mb1.9, ML3.6, MS1.6, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BALP	**Baler**	**0.41**	**226**	*e*P		Pb	09 36 18.4	+1.4
BALP				*e*S		Sb	09 36 26.6	+3.5
CAUP	**Cauayan**	**0.91**	**356**	*e*P		Pn	09 36 23.9	-1.3
CAUP				*e*S		Sb	09 36 36.9	-0.1
BCPH	**Baguio City Da**	**1.30**	**286**	⇑*e*P		Pn	09 36 30.4	-0.1
BCPH				*i* S		Sn	09 36 47.0	+0.1

*CSEM **25** 10:15:00.8±0.2, 4333N×4617E, h2km, mb4.3, Error ellipse: s-maj=5.6km s-min=2.7km az=17.0*
*TIF **25** 10:15:00.8, 4330N×4614E, h20km±2km*
*ISCJB **25** 10:15:01.1±0.7, 4339N±003×4621E±003, h18km±5km, Error ellipse: s-maj=5.7km s-min=4.0km az=15.1*
*MOS **25** 10:15:02.8±0.9, 4311N×4597E, h17km, mb4.3/1, Error ellipse: s-maj=13.9km s-min=6.9km az=20.1*
*NNC **25** 10:15:10.2±27.0, 4402N×4631E, h0km, mb3.6, Error ellipse: s-maj=307.7km s-min=204.0km az=123.0*

ISC 25 10:14:59.8±0.6, 4338N±003×4618E±003, h1km±4km, n34, σ1s24/57, 5C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BTLR	**Botlikh**	**0.72**	**178**	⇓*i*PG		**Pg**	**10 15 14.7**	**+1.2**
BTLR				*e*S		**Sg**	**10 15 23.1**	**+0.3**
BTLR				pmax		pmax		
	comp=Z,211nm,0.3s							
BTLR	**Botlikh**	**0.72**	**178**	*i* Pg		**Pg**	**10 15 14.7**	**+1.2**
	comp=Z,211nm,0.3s							
BTLR				*e*Sg		**Sg**	**10 15 23.1**	**+0.3**
SNJR	**Sundja**	**1.05**	**253**	*e*Pg		**Pg**	**10 15 20.0**	**+0.1**
SNJR				*e*Sg		**Sg**	**10 15 34.8**	**+1.3**
MAK	**Makhachkala**	**1.05**	**113**	*e*PG		**Pg**	**10 15 25.4**	**+5.5**
MAK				*e*			10 15 43.0	
MAK				pmax		pmax		
	comp=Z,242nm,0.3s							
MAK				smax				
	comp=N,1μm,0.4s							
MAK				smax				
	comp=E,1μm,0.4s							
TRKR	**Terskaya**	**1.11**	**289**	*e*PG		**Pg**	**10 15 21.7**	**+0.7**
TRKR				*e*S		**Sg**	**10 15 39.4**	**+4.0**
GNBR	**Gunib**	**1.14**	**150**	*e*PG		**Pg**	**10 15 21.0**	**-0.7**
GNBR				*e*S		**Sg**	**10 15 36.0**	**-0.5**
GNBR				pmax		pmax		
	comp=Z,38nm,0.2s							
GNBR	**Gunib**	**1.14**	**150**	*e*Pg		**Pg**	**10 15 21.0**	**-0.7**
	comp=Z,38nm,0.2s							
GNBR				*e*Sg		**Sg**	**10 15 36.0**	**-0.5**
VLKR	**Vladikavkaz**	**1.15**	**254**	*i* Pg		**Pg**	**10 15 21.6**	**-0.2**
VLKR				*e*Sg		**Sg**	**10 15 37.6**	**+0.9**
BTKR	**Batakoyurt**	**1.20**	**270**	⇑*i*PG		**Pg**	**10 15 23.9**	**+1.2**
BTKR				*e*S		**Sg**	**10 15 41.5**	**+3.3**
MNSR	**Manas**	**1.31**	**120**	⇑*i*PG		**Pg**	**10 15 25.5**	**+0.6**
MNSR				*i* S		**Sg**	**10 15 47.0**	**+5.0**
MNSR				pmax		pmax		
	comp=Z,214nm,0.3s							
MNSR	**Manas**	**1.31**	**120**	*i* Pg		**Pg**	**10 15 25.5**	**+0.6**
	comp=Z,214nm,0.3s							
KMSR	**Komsomolskaya**	**1.38**	**270**	*e*Pg		**Pg**	**10 15 26.3**	**+0.1**
KMSR				*e*Sg		**Sg**	**10 15 45.6**	**+1.5**
ARNR	**Ardon**	**1.40**	**263**	*e*Pg		**Pg**	**10 15 26.0**	**-0.7**
ARNR				*e*Sg		**Sg**	**10 15 45.2**	**+0.3**
LACR	**Lac**	**1.49**	**249**	*e*Pg		**Pg**	**10 15 26.0**	**-2.3**
LACR				*i* Sg		**Sg**	**10 15 45.0**	**-2.6**
KORR	**Kora**	**1.57**	**260**	*e*Pg		**Pg**	**10 15 28.0**	**-1.9**
KORR				*e*Sg		**Sg**	**10 15 48.6**	**-1.8**
URKR	**Urkarakh**	**1.62**	**138**	*i* PG		**Pg**	**10 15 29.0**	**-1.7**
URKR				*i* S		**Sg**	**10 15 52.0**	**+0.3**
URKR				pmax		pmax		
	comp=Z,153nm,0.3s							
URKR	**Urkarakh**	**1.62**	**138**	*i* Pg		**Pg**	**10 15 29.0**	**-1.7**
	comp=Z,153nm,0.3s							
URKR				*i* Sg		**Sg**	**10 15 52.0**	**+0.3**
ZEI	**Tsey**	**1.78**	**251**	*e*PG		**Pg**	**10 15 30.0**	**-3.9**
ZEI				*i* S		**Sn**	**10 15 52.0**	**-3.0**
TBLG	**Delisi**	**1.96**	**213**	P		**Pn**	**10 15 35.1**	**+0.9**
TBLG				S		**Sn**	**10 15 59.4**	**-0.1**
DIGR	**Digorskoe uzhe**	**1.96**	**257**	*e*PN		**Pn**	**10 15 32.9**	**-1.3**
DIGR				*e*S		**Sn**	**10 15 57.3**	**-2.2**
MTA	**Mtatsminda**	**1.97**	**212**	P		**Pn**	**10 15 35.6**	**+1.2**
MTA				S		**Sn**	**10 15 59.1**	**-0.7**
KUBR	**Kubataba**	**2.06**	**283**	*i* PN		**Pn**	**10 15 36.2**	**+0.7**
KUBR				*i*			10 16 09.0	
KUBR				pmax		pmax		
	comp=Z,44nm,0.6s							
KUBR				smax				
	comp=Z,47nm,0.6s							
KUBR	**Kubataba**	**2.06**	**283**	*i* Pn		**Pn**	**10 15 36.2**	**+0.7**
	comp=Z,44nm,0.6s							
GOR	**Gori**	**2.07**	**228**	P		**Pn**	**10 15 37.3**	**+1.6**
GOR				S		**Sn**	**10 16 02.4**	**+0.3**
SHAR	**Shatzhatmas**	**2.58**	**279**	*e*PN		**Pn**	**10 15 42.2**	**-0.5**
SHAR				*i*			10 16 20.5	
SHAR				pmax		pmax		
	comp=Z,7.0nm,0.6s							
SHAR				smax				
	comp=Z,53nm,1.3s							
SHAR	**Shatzhatmas**	**2.58**	**279**	*e*Pn		**Pn**	**10 15 42.2**	**-0.5**
	comp=Z,7.0nm,0.6s							
KIV	**Kislovodsk**	**2.60**	**284**	*i* PN		**Pn**	**10 15 42.8**	**-0.2**
KIV				*i* S		**Sn**	**10 16 24.4**	**+9.1**
KIV				pmax		pmax		
	comp=Z,11nm,0.7s							
KIV				smax				
	comp=Z,31nm,0.5s							
KIV	**Kislovodsk**	**2.60**	**284**	*i* Pn		**Pn**	**10 15 42.8**	**-0.2**
	comp=Z,11nm,0.7s							
AKH	**Akhalkalaki**	**2.80**	**226**	P		**Pn**	**10 15 49.5**	**+3.8**
AKH				S		**Sn**	**10 16 22.9**	**+2.7**
GOF	**Gofitskoye**	**2.82**	**308**	*e*PN		Px	10 15 57.3	
GOF				*i* S		**Sg**	**10 16 30.2**	**-0.1**
GOF				pmax		pmax		
	comp=Z,60nm,0.7s							
GOF				smax				
	comp=N,110nm,0.8s							
GOF				smax				
	comp=E,300nm,0.8s							
AKTO	**Aktyubinsk**	**10.73**	**45**	⇑S		**Sn**	**10 19 34.8**	**-0.5**
	comp=E,0.1nm,1.1s							
AB31	**Akbulak array**	**11.18**	**54**	⇑P		**Pn**	**10 17 45.1**	**+4.4**
	comp=E,0.5nm,0.4s,baz=242,slow=15,SNR=18							
AB31				⇑S		**Sn**	**10 19 46.8**	**+0.5**
	comp=E,1.3nm,0.5s,baz=249,slow=22,SNR=7.6							
FINES	**FINESS Array B**	**21.69**	**333**	*i* P		**P**	**10 19 58.2**	**+6.1**
KURK	**Kurchatov**	**23.15**	**60**	*i* P		**P**	**10 20 12.0**	**+4.4**

*INMG **25** 10:32:17.9±1.1, 3682N×695W, h17km±4km, ML2.0, Error ellipse: s-maj=4.4km s-min=3.1km az=50.0*
*MDD **25** 10:32:17.9±0.9, 3682N×692W, h21km±5km, mbLg2.4/5, 1C-3D, Error ellipse: s-maj=9.9km s-min=4.1km az=22.0, PRXIMO, Strait of Gibraltar*

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
EGRO	**El Granado**	**0.84**	**328**	⇓Pg		Pb	10 32 33.8	0.0
	11nm,0.1s,SNR=18							
EGRO				Lg			10 32 44.8	
	17nm,0.1s,SNR=17							
ESPR	**Espera**	**0.85**	**87**	⇑Pg		Pb	10 32 33.5	-0.5
	16nm,0.2s,SNR=18							
ESPR				Lg			10 32 44.1	
	96nm,0.2s,SNR=10							
EMIN	**Mina Concepcio**	**0.96**	**12**	⇓Pg		Pb	10 32 35.3	-0.5
	6.3nm,0.1s,SNR=18							
EMIN				Lg			10 32 47.5	
	7.9nm,0.1s,SNR=12							
PBEJ	**Beja**	**1.42**	**328**	*e*P		Pn	10 32 41.3	-1.2
PBEJ				*e*S		Sn	10 32 58.5	-2.0
PBEJ								
	8.3nm,0.1s							
PTEO	**Sao Teotonio**	**1.61**	**297**	*e*P		Pn	10 32 43.3	-1.8
PTEO				*e*S		Sn	10 33 03.2	-2.1
PTEO								
	7.8nm,0.1s							
EMIJ	**Mijas**	**1.74**	**98**	Sn		Sn	10 33 08.3	-0.2
	4.0nm,0.3s,SNR=4.0							
EBAD	**Badajoz**	**1.93**	**358**	⇓Pn		Pn	10 32 48.8	-0.7
	6.5nm,0.1s,SNR=18							
EBAD				Sn		Sn	10 33 12.2	-0.9
	3.1nm,0.1s,SNR=4.0							
EBAD				Lg			10 33 18.9	
	7.5nm,0.2s,SNR=7.9							
MOE	**Montemor**	**2.04**	**327**	*e*Pn		Pn	10 32 50.2	-0.8
MOE				*e*Sn		Sn	10 33 13.5	-2.4
EADA

QSH				*i* Sn		**Sn**	**10 46 16.0 +2.9**		
QSH	**Qafa e Shtames**	**1.02**	**148**	*e*Pn		**Pn**	**10 45 58.0 -1.1**		
QSH				*i* Sn		**Sn**	**10 46 16.0 +2.9**		
TIR	**Tirane**	**1.16**	**154**	*e*P		**Pn**	**10 45 59.9 -1.1**		
PHP	**Peshkopia**	**1.17**	**127**	*i* pn?		**Pn**	**10 46 08.0 +6.9**		
PHP	**Peshkopia**	**1.17**	**127**	*i* Sn		**Sn**	**10 46 20.7 +3.9**		
STON	**Ston**	**1.20**	**294**	*i* Pg		**Pg**	**10 46 00.6 -1.8**		
STON				*i* Sg		**Sg**	**10 46 19.1 +1.0**		
STON	**Ston**	**1.20**	**294**	*i* Pg		**Pg**	**10 46 00.6 -1.8**		
STON				*i* Sg		**Sg**	**10 46 19.0 +0.9**		
SKO	**Skopje**	**1.73**	**103**	*e*P		**Pn**	**10 46 10.0 +1.3**		
SKO	**Skopje**	**1.73**	**103**	*e*Pn		**Pn**	**10 46 09.9 +1.2**		
SKO				*e*Sn		**Sn**	**10 46 34.4 +4.0**		
SKO	**Skopje**	**1.73**	**103**	*e*Pn		**Pn**	**10 46 09.9 +1.2**		
OHR	**Ohrid**	**1.76**	**136**	*e*P		**Pn**	**10 46 09.5 +0.3**		
DIVS	**Divcibare**	**1.80**	**19**	*i* Pn		**Pn**	**10 46 09.2 -0.6**		
DIVS				Sn		**Sn**	**10 46 31.7 -0.6**		
DIVS	**Divcibare**	**1.80**	**19**	*e*P		**Pn**	**10 46 09.1 -0.7**		
DIVS	**Divcibare**	**1.80**	**19**	Pn		**Pn**	**10 46 09.1 -0.6**		
DIVS				Sn		**Sn**	**10 46 31.7 -0.6**		
BIA	**Bitola**	**2.11**	**130**	*e*Pn		**Pn**	**10 46 16.9 +2.9**		
BIA				*e*Sn		**Sn**	**10 46 44.3 +4.5**		
BIA	**Bitola**	**2.11**	**130**	*e*P		**Pn**	**10 46 12.8 -1.2**		
KBN	**Korca**	**2.14**	**145**	*i* Pn		**Pn**	**10 46 17.8 +3.4**		
KBN	**Korca**	**2.14**	**145**	*i* Sn		**Sn**	**10 46 45.2 +4.6**		
BAI	**Bari**	**2.15**	**234**	⇓*i* Pn		**Pn**	**10 46 13.4 -1.2**		
LCI	**Lecce**	**2.21**	**202**	Pn		**Pn**	**10 46 14.0 -1.4**		
FNA	**Florina**	**2.30**	**134**	*e*P		**Pn**	**10 46 17.5 +0.9**		
STIP	**Stip**	**2.34**	**106**	*e*Pn		**Pn**	**10 46 17.3 +0.1**		
STIP				*e*Sn		**Sg**	**10 46 56.6 +1.9**		
SG1	**Sgolgore (BA)**	**2.44**	**231**	⇓*i* Pn		**Pn**	**10 46 17.4 -1.1**		
FGMS	**Monte Sant'Ang**	**2.50**	**255**	Pn		**Pn**	**10 46 18.8 -0.6**		
MS1	**Monte Sant'Ang**	**2.51**	**255**	*e*Pn		**Pn**	**10 46 18.9 -0.6**		
KEK	**Kerkira**	**2.72**	**170**	*e*P		**Pn**	**10 46 21.5 -0.9**		
VAY	**Valandovo**	**2.75**	**112**	*e*Pn		**Pn**	**10 46 22.4 -0.3**		
VAY				*e*Sn		**Sn**	**10 47 03.4 +7.8**		
VAY	**Valandovo**	**2.75**	**112**	*e*Pn		**Pn**	**10 46 22.3 -0.4**		
VAY	**Valandovo**	**2.75**	**112**	*e*P		**Pn**	**10 46 22.5 -0.2**		
BLY	**Banja Luka**	**2.77**	**329**	P		**Pn**	**10 46 23.6 +0.6**		
BLY				S		**Sn**	**10 46 58.4 +2.3**		
RGNG	**Rignano Grg**	**2.78**	**256**	Pn		**Pn**	**10 46 22.5 -0.7**		
GRG	**Griva**	**2.80**	**120**	*e*P		**Pn**	**10 46 23.7 +0.2**		
KZN	**Kozani**	**2.85**	**136**	*e*P		**Pn**	**10 46 24.5 +0.3**		
VTS	**Vitosha**	**2.98**	**85**	*e*P		**Pn**	**10 46 26.6 +0.7**		
VTS	**Vitosha**	**2.98**	**85**	⇑P		**Pn**	**10 46 26.6 +0.6**		
VTS				S		**Sn**	**10 47 03.0 +1.6**		
VTS	**Vitosha**	**2.98**	**85**	P		**Pn**	**10 46 26.6 +0.6**		
VTS				S		**Sn**	**10 47 03.0 +1.6**		
IGT	**Igoumenitsa**	**2.99**	**163**	*e*P		**Pn**	**10 46 25.9 -0.2**		
JAN	**Janina**	**3.01**	**155**	*e*P		**Pn**	**10 46 27.0 +0.6**		
KNT	**Kendrikon**	**3.04**	**113**	*e*P		**Pn**	**10 46 27.3 +0.6**		
FG2	**Serracapriola**	**3.05**	**260**	Pn		**Pn**	**10 46 26.5 -0.5**		
ORI	**Oriolo Calabro**	**3.11**	**222**	Pn		**Pn**	**10 46 26.7 -1.1**		
MRLC	**Muro Lucano**	**3.22**	**241**	Pn		**Pn**	**10 46 28.8 -0.5**		
CIGN	**Sant'Elia a Pi**	**3.27**	**258**	Pn		**Pn**	**10 46 30.5 +0.5**		
SLCN	**Sala Consilina**	**3.34**	**234**	Pn		**Pn**	**10 46 30.5 -0.4**		
LIT	**Litokhoron**	**3.38**	**132**	*e*P		**Pn**	**10 46 31.1 -0.4**		
SGO	**Sicignano**	**3.44**	**239**	Pn		**Pn**	**10 46 31.5 -0.8**		
PSB1	**Pescosannita**	**3.48**	**252**	Pn		**Pn**	**10 46 33.5 +0.7**		
CSSN	**Cassano Irpino**	**3.48**	**245**	Pn		**Pn**	**10 46 33.3 +0.5**		
CUC	**Castrocucco**	**3.50**	**228**	Pn		**Pn**	**10 46 32.6 -0.5**		
MGR	**Morigerati**	**3.55**	**232**	Pn		**Pn**	**10 46 33.2 -0.6**		
RHK3	**Tenkes**	**3.56**	**349**	⇑*e*P		**Pn**	**10 46 34.1 +0.2**		
RHK3				*e*S		**Sn**	**10 47 14.7 -0.9**		
	1.5nm,0.2s								
CII	**Carovilli**	**3.70**	**261**	Pn		**Pn**	**10 46 37.0 +1.2**		
TIP	**Timpagrande**	**3.71**	**211**	*e*Pn		**Pn**	**10 46 34.5 -1.4**		
TIP	**Timpagrande**	**3.71**	**211**	*e*Pn		**Pn**	**10 46 34.5 -1.4**		
SGG	**Gregorio Mates**	**3.73**	**256**	Pn		**Pn**	**10 46 36.4 +0.2**		
MIDA	**Miranda**	**3.75**	**260**	Pn		**Pn**	**10 46 37.0 +0.4**		
RHK1	**Bakonya**	**3.78**	**348**	⇑*e*P		**Pn**	**10 46 37.0 0.0**		
RHK1				*e*S		**Sn**	**10 47 21.2 0.0**		
	8.1nm,0.4s								
RNI2	**Rionero Sannit**	**3.81**	**261**	Pn		**Pn**	**10 46 38.2 +0.8**		
NVLJ	**Novalja**	**3.82**	**306**	*i* Pn		**Pn**	**10 46 38.3 +0.8**		
NVLJ				*i* Sn		**Sn**	**10 47 22.7 +0.7**		
NVLJ	**Novalja**	**3.82**	**306**	*i* Pn		**Pn**	**10 46 38.2 +0.8**		
NVLJ				*i* Sn		**Sn**	**10 47 22.6 +0.6**		
PKSM	**Moragy**	**3.84**	**354**	⇓*i* Pn		**Pn**	**10 46 37.3 -0.4**		
PKSM				*e*Sn		**Sn**	**10 47 20.7 -1.8**		
PKSM	**Moragy**	**3.84**	**354**	⇓*i* Pn		**Pn**	**10 46 37.3 -0.4**		
PKSM				S		**Sn**	**10 47 20.9 -1.6**		
LKD	**Levkas**	**3.85**	**163**	*e*P		**Pn**	**10 46 36.5 -1.4**		
INTR	**Introdacqua**	**3.94**	**266**	Pn		**Pn**	**10 46 38.6 -0.6**		
RFI	**Roccamonfina**	**4.04**	**256**	Pn		**Pn**	**10 46 41.7 +1.2**		
SDI	**San Donato**	**4.06**	**262**	Pn		**Pn**	**10 46 41.8 +1.0**		
AGG	**Agios Georgios**	**4.13**	**144**	*e*P		**Pn**	**10 46 41.2 -0.5**		
TERO	**Teramo**	**4.13**	**275**	Pn		**Pn**	**10 46 42.1 +0.3**		
OUR	**Ouranopolis**	**4.15**	**118**	*e*P		**Pn**	**10 46 42.5 +0.4**		
VVLD	**Villa Vallelon**	**4.17**	**265**	Pn		**Pn**	**10 46 42.5 +0.2**		
BOJS	**Bojanci**	**4.21**	**319**	*i* Pn		**Pn**	**10 46 44.5 +1.6**		
PKS9	**Tamasi**	**4.24**	**351**	⇓*e*P		**Pn**	**10 46 43.3 0.0**		
XOR	**Xorichti**	**4.29**	**134**	*e*P		**Pn**	**10 46 43.2 -0.7**		
VLS	**Valsamata**	**4.35**	**165**	*e*P		**Pn**	**10 46 42.5 -2.3**		
CRES	**Cresnjev**	**4.36**	**323**	*e*Sn		**Sn**	**10 47 37.5 +2.2**		
GUAR	**Guarcino**	**4.41**	**264**	Pn		**Pn**	**10 46 49.5 +3.8**		
PKS8	**Sarbogard**	**4.50**	**356**	⇑*e*P		**Pn**	**10 46 46.6 -0.2**		
PKS8				*e*S		**Sn**	**10 47 37.5 -1.3**		
	1.6nm,0.4s								
FIAM	**Fiamignano**	**4.50**	**270**	Pn		**Pn**	**10 46 48.2 +1.3**		
NRCA	**Norcia**	**4.50**	**278**	Pn		**Pn**	**10 46 47.2 +0.3**		
CERT	**Cerreto**	**4.63**	**267**	Pn		**Pn**	**10 46 51.5 +2.8**		
ARV	**Arcevia**	**4.72**	**286**	Pn		**Pn**	**10 46 50.5 +0.7**		
MNS	**Montasola**	**4.82**	**272**	Pn		**Pn**	**10 46 52.1 +0.9**		
LJU	**Ljubljana**	**4.95**	**319**	*e*Pn		**Pn**	**10 46 55.0 +1.9**		
LJU				*e*Pg		**Pg**	**10 47 11.5 -2.7**		
LJU				*e*Sn		**Sn**	**10 47 54.5 +4.5**		
LJU				*e*Sg		**Sg**	**10 48 28.5 +10**		
LJU	**Ljubljana**	**4.95**	**319**	*e*P		**Pn**	**10 46 55.0 +1.9**		
LJU				*e*			10 47 54.5		
MURB	**Monte Urbino**	**4.98**	**282**	Pn		**Pn**	**10 46 54.1 +0.7**		
PKSG		**5.03**	**354**	*e*S		**Sn**	**10 47 53.5 +1.6**		
	2.7nm,0.5s								
DRGR		**5.06**	**29**	⇑*i*P		**Pn**	**10 46 54.5 -0.1**		
DRGR		**5.06**	**29**	⇑P		**Pn**	**10 46 54.5 -0.1**		
DRGR				S		**Sn**	**10 47 50.7 -2.1**		
DRGR		**5.06**	**29**	P		**Pn**	**10 46 54.5 -0.1**		
DRGR				S		**Sn**	**10 47 50.7 -2.1**		
BUD	**Budapest**	**5.09**	**359**	*e*Sn		**Sn**	**10 47 54.4 +1.0**		
TRI	**Trieste**	**5.12**	**312**	P		**Pn**	**10 46 55.9 +0.5**		
TRI				pmax	pmax				
	comp=Z,85nm,0.8s								
TRI	**Trieste**	**5.12**	**312**	Pn		**Pn**	**10 46 55.9 +0.5**		
	comp=Z,85nm,0.8s								
VOIR		**5.21**	**52**	⇑*i*P		**Pn**	**10 46 58.5 +1.9**		
VOIR		**5.21**	**52**	⇑P		**Pn**	**10 46 58.5 +1.8**		
VOY	**Vojsko**	**5.26**	**315**	*e*Pn		**Pn**	**10 46 58.7 +1.4**		
VOY				*e*Sn		**Sn**	**10 47 58.6 +1.0**		
OBKA	**Obir**	**5.29**	**323**	⇑*i*Pn		**Pn**	**10 46 59.5 +1.9**		
	SNR=12								
OBKA				⇑*i*Sn		**Sn**	**10 47 57.4 -0.8**		
TOLF	**Tolfa**	**5.35**	**269**	Pn		**Pn**	**10 46 58.7 +0.2**		
ALN	**Alexandroupoli**	**5.35**	**104**	*e*P		**Pn**	**10 46 59.4 +0.8**		
SRO2	**Moca**	**5.40**	**354**	*e*SN		**Sn**	**10 48 02.6 +1.6**		
SRO1	**Iza**	**5.41**	**353**	*e*SN		**Sn**	**10 48 03.0 +1.7**		
ARSA	**Arzberg**	**5.51**	**333**	*i* Pn		**Pn**	**10 47 02.3 +1.6**		
	SNR=33								
ARSA				⇓*i*Sn		**Sn**	**10 48 02.6 -1.2**		
PSZ	**Piszkesteto**	**5.55**	**5**	⇓*i*Pn		**Pn**	**10 47 00.3 -0.9**		
PSZ				*e*Sn		**Sn**	**10 48 04.8 +0.2**		
MLR	**Muntele Rosu**	**5.78**	**55**	P		**Pn**	**10 47 05.4 +1.0**		
	comp=Z,1.9nm,0.3s,baz=214,slow=1.9,SNR=10								
MLR				S		**Sn**	**10 48 02.8 -7.6**		
	comp=Z,0.3nm,0.3s,baz=256,slow=23,SNR=1.9								
MLR	**Muntele Rosu**	**5.78**	**55**	⇓*i*P		**Pn**	**10 47 06.2 +1.8**		
MLR	**Muntele Rosu**	**5.78**	**55**	P		**Pn**	**10 47 05.4 +1.0**		
MLR				S		**Sn**	**10 48 02.8 -7.5**		
MLR				pmax	pmax				
	comp=Z,2.0nm,0.3s								
MLR	**Muntele Rosu**	**5.78**	**55**	⇓P		**Pn**	**10 47 06.2 +1.8**		
PTCC	**Patocco-Chiusa**	**5.79**	**316**	Pn		**Pn**	**10 47 05.8 +1.2**		
	comp=Z,37nm,0.7s								
ZST	**Bratislava**	**5.98**	**346**	*e*SN		**Sn**	**10 48 13.1 -2.3**		
VYHS	**Vyhne**	**6.10**	**358**	*e*PN		**Pn**	**10 47 07.8 -1.1**		
VYHS				*e*SN		**Sn**	**10 48 17.7 -0.7**		
VAE	**Valguarnera**	**6.13**	**218**	P		**Pn**	**10 47 11.5 +2.2**		
	comp=Z,2.1nm,0.3s,baz=291,slow=17,SNR=8.9								
KECS	**Kecovo**	**6.16**	**8**	*i* PN		**Pn**	**10 47 09.8 +0.2**		
KECS				*e*SN		**Sn**	**10 48 16.9 -2.8**		
KBA	**Koelnbreinsper**	**6.26**	**320**	⇓*i*Pn		**Pn**	**10 47 12.1 +1.1**		
	SNR=13								
KBA				⇓*i*Sn		**Sn**	**10 48 22.7 +0.4**		
KBA	**Koelnbreinsper**	**6.26**	**320**	⇓*i*Pn		**Pn**	**10 47 12.1 +1.0**		
KBA				*i* S		**Sn**	**10 48 22.7 +0.4**		
VRI	**Vrincioaia**	**6.44**	**55**	⇓*i*P		**Pn**	**10 47 15.6 +2.1**		
VRI	**Vrincioaia**	**6.44**	**55**	⇓P		**Pn**	**10 47 15.6 +2.1**		
MOA	**Molln**	**6.47**	**329**	⇑*i*Pn		**Pn**	**10 47 15.1 +1.2**		
MOA				⇑*i*Sn		**Sn**	**10 48 28.0 +0.6**		
CTI	**Castel Tesino**	**6.53**	**307**	Pn		**Pn**	**10 47 14.8 +0.1**		
CRVS	**Cervenica-Dubn**	**6.70**	**13**	*e*PN		**Pn**	**10 47 17.6 +0.5**		
CRVS	**Cervenica-Dubn**	**6.70**	**13**	*e*P		**Pn**	**10 47 17.7 +0.6**		
BURAR	**Bucovina Array**	**6.74**	**37**	⇑*i*P		**Pn**	**10 47 19.0 +1.3**		
BURAR	**Bucovina Array**	**6.74**	**37**	⇑P		**Pn**	**10 47 19.0 +1.3**		
HARR	**Harsova**	**6.75**	**67**	⇓*i*P		**Pn**	**10 47 19.6 +1.8**		
HARR	**Harsova**	**6.75**	**67**	⇓P		**Pn**	**10 47 19.6 +1.8**		
BRES	**Bressanone**	**6.84**	**311**	Pn		**Pn**	**10 47 20.4 +1.3**		
	comp=Z,16nm,0.7s								
TIRR	**Tirgusor**	**7.03**	**70**	⇓*i*P		**Pn**	**10 47 22.7 +1.1**		
TIRR	**Tirgusor**	**7.03**	**70**	⇓P		**Pn**	**10 47 22.7 +1.2**		
VRAC	**Vranov**	**7.15**	**346**	P		**Pn**	**10 47 23.1 -0.1**		
	comp=Z,0.4nm,0.3s,baz=191,slow=16,SNR=3.0								
VRAC				S		**Sn**	**10 48 36.8 -7.3**		
	comp=Z,0.6nm,0.3s,baz=103,slow=12,SNR=2.0								
STHS	**Stebnicka Huta**	**7.17**	**11**	*e*PN		**Pn**	**10 47 23.3 -0.2**		
WTTA	**Wattenberg**	**7.24**	**315**	⇑*i*Pn		**Pn**	**10 47 24.6 +0.1**		
WTTA				⇓*i*Sn		**Sn**	**10 48 46.8 +0.4**		
SQTA	**Sankt Quirin**	**7.45**	**313**	⇓*i*Pn		**Pn**	**10 47 28.1 +0.8**		
	SNR=10								
SQTA				⇑*i*Sn		**Sn**	**10 48 51.4 -0.1**		
MORC	**Moravsky Berou**	**7.47**	**352**	⇑P		**Pn**	**10 47 29.2 +1.5**		
MORC				S		**Sn**	**10 48 50.5 -1.5**		
GERES	**GERESS Array B**	**7.51**	**331**	P		**Pn**	**10 47 28.7 +0.6**		
	comp=Z,0.7nm,0.3s,baz=157,slow=13,SNR=12								
GERES				S		**Sn**	**10 48 51.5 -1.5**		
	comp=Z,1.2nm,0.3s,baz=144,slow=23,SNR=12								
GERES				LR	LR		10 51 01.1		
	comp=Z,49nm,19.6s,baz=88,slow=43								
GERES	**GERESS Array B**	**7.51**	**331**	P		**Pn**	**10 47 28.7 +0.6**		
GERES				S		**Sn**	**10 48 51.5 -1.5**		
PGF	**Pioggiola**	**7.54**	**275**	*e*P		**Pn**	**10 47 29.2 +0.7**		
MOTA	**Moosalm**	**7.58**	**314**	⇓*i*Pn		**Pn**	**10 47 29.4 +0.3**		
	SNR=11								
MOTA				⇑*i*Sn		**Sn**	**10 48 55.0 +0.3**		
KHC	**Kasperske Hory**	**7.79**	**332**	*e*PN		**Pn**	**10 47 34.7 +2.6**		
KHC				*e*SN		**Sn**	**10 48 56.6 -3.4**		
	comp=Z,20nm,0.7s								
DAVOX	**Davos**	**7.96**	**307**	P		**Pn**	**10 47 35.4 +1.1**		
	comp=Z,1.2nm,0.3s,baz=292,slow=22,SNR=12								
DAVOX				S		**Sn**	**10 48 55.1 -9.0**		
	comp=Z,0.2nm,0.3s,baz=136,slow=23,SNR=2.1								
DAVA	**Damuels**	**8.22**	**310**	⇓*i*Pn		**Pn**	**10 47 38.4 +0.4**		
DAVA				⇓*i*Sn		**Sn**	**10 49 09.9 -0.6**		
PRU	**Pruhonice**	**8.25**	**339**	*e*SN		**Sn**	**10 49 06.9 -4.3**		
IDI	**Anoyia**	**8.37**	**146**	P		**Pn**	**10 47 40.2 +0.2**		
	comp=Z,0.8nm,0.3s,baz=6.5,slow=7.3,SNR=3.9								
IDI				S		**Sn**	**10 49 04.9 -9.4**		
	comp=Z,0.7nm,0.3s,baz=113,slow=17,SNR=3.2								
SBF	**Sospel**	**8.72**	**284**	*e*P		**Pn**	**10 47 44.7 -0.1**		
NKC	**Novy Kostel**	**9.12**	**332**	*e*SN		**Sn**	**10 49 27.9 -4.6**		
	comp=Z,4.5nm,0.5s								
FRF	**La Foret Royal**	**9.27**	**281**	*e*P		**Pn**	**10 47 52.7 +0.4**		
LMR	**La Mourre**	**9.36**	**280**	*e*P		**Pn**	**10 47 53.7 +0.1**		
LPG	**La Plagne**	**9.49**	**293**	*e*Pn		**Pn**	**10 47 52.2 -3.2**		
LPG				*e*Sn		**Sn**	**10 49 33.8 -7.9**		
	comp=Z,20nm,0.9s								
LPL	**La Plagne**	**9.51**	**293**	*e*Pn		**Pn**	**10 47 52.9 -2.7**		
LPL				*e*Sn		**Sn**	**10 49 33.0 -9.1**		
	comp=Z,11nm,0.7s								
CLL	**Collm**	**9.87**	**337**	*e*Sn		**Sn**	**10 49 49.0 -1.9**		
CLL				*e*(Sb)		Sn	10 50 16.0 +25		
ORIF	**Oris-en-Rattie**	**9.97**	**289**	*e*P		**Pn**	**10 48 02.4 +0.5**		
CABF	**La Chapelle**	**10.26**	**299**	*e*Pn		**Pn**	**10 48 01.9 -4.0**		
HINF	**Hinteralfeld**	**10.26**	**306**	*e*Pn		**Pn**	**10 48 03.1 -2.8**		
HINF				*e*Sn		**Sn**	**10 49 51.8 -8.8**		
	comp=Z,4.2nm,0.5s								
HINF	**Hinteralfeld**	**10.26**	**306**	*e*Pn		**Pn**	**10 48 03.1 -2.8**		
HINF				*e*Sn		**Sn**	**10 49 51.8 -8.8**		
	comp=Z,2.1nm,0.5s								
CDF	**Champ du Feu**	**10.31**	**310**	*e*Pn		**Pn**	**10 48 04.7 -1.8**		
HAU	**Haudompre**	**10.65**	**306**	*e*Pn		**Pn**	**10 48 06.5 -4.8**		
AKASG	**Malin Array Be**	**10.80**	**36**	P		**Pn**	**10 48 14.1 +0.8**		
	comp=Z,0.2nm,0.3s,baz=225,slow=13,SNR=2.5								
VIVF	**Saint-Julien-l**	**10.81**	**288**	*e*P		**Pn**	**10 48 16.0 +2.6**		
BRTR	**Keskin Array B**	**11.23**	**99**	P		**Pn**	**10 48 21.1 +1.9**		
	comp=Z,0.2nm,0.3s,baz=280,slow=13,SNR=2.8								
SMF	**Signal de Mont**	**11.75**	**296**	*e*Pn		**Pn**	**10 48 22.9 -3.4**		
SMF				*e*Sn		**Sn**	**10 50 27.2 -10**		
	comp=Z,3.5nm,0.5s								
SMF	**Signal de Mont**	**11.75**	**296**	*e*Pn		**Pn**	**10 48 22.9 -3.4**		
SMF				*e*Sn		**Sn**	**10 50 27.2 -10**		
	comp=Z,1.8nm,0.5s								
LOR	**Lormes**	**11.92**	**299**	*e*Pn		**Pn**	**10 48 25.7 -2.9**		
LOR				*e*Sn		**Sn**	**10 50 32.6 -8.6**		
	comp=Z,3.8nm,0.4s								
SSF	**Saint Saulge**	**12.09**	**298**	*e*Sn		**Sn**	**10 50 34.9 -10**		
	comp=Z,4.4nm,0.4s								
SSF	**Saint Saulge**	**12.09**	**298**	*e*Sn		**Sn**	**10 50 34.9 -10**		
	comp=Z,0.7nm,0.4s								
AVF	**Avril sur Loir**	**12.11**	**297**	*e*Pn		**Pn**	**10 48 28.5 -2.7**		
HFS	**Hagfors**	**18.08**	**351**	P		**Pn**	**10 49 50.1 +0.2**		
	comp=Z,0.3nm,0.3s,baz=162,slow=15,SNR=7.7								
HFS				LR	LR		10 57 42.8		
	comp=Z,17nm,18.3s,baz=348,slow=40								
NB2	**NORSAR Subarra**	**19.29**	**348**	P		**Pn**	**10 50 02.5 -2.0**		
	comp=Z,0.7nm,0.6s,baz=159,slow=9.3								
NOA	**NORSAR Array B**	**19.29**	**348**	P		**Pn**	**10 50 03.0 -1.4**		
	comp=Z,0.3nm,0.3s,baz=164,slow=8.4,SNR=4.1								
EKA	**Eskdalemuir Ar**	**19.48**	**319**	P		**Pn**	**10 50 04.3 -2.4**		
	comp=Z,0.2nm,0.3s,baz=112,slow=10,SNR=3.8								
FINES	**FINESS Array B**	**19.52**	**10**	P		**Pn**	**10 50 03.8 -3.5**		
	comp=Z,0.3nm,0.3s,baz=180,slow=11,SNR=13								
KAF	**Kangasniemi**	**20.20**	**10**	*ep*		**P**	**10 50 10.5 -2.9**		
	comp=Z,3.1nm,0.5s								
KAF	**Kangasniemi**	**20.20**	**10**	*eP*		**P**	**10 50 10.5 -2.9**		
KAF				pmax	pmax				
	comp=Z,3.0nm,0.5s								
JOF	**Joensuu**	**21.76**	**15**	*ep*		**P**	**10 50 27.4 -2.8**		
	comp=Z,4.2nm,0.6s,mb4.0								
JOF	**Joensuu**	**21.76**	**15**	*eP*		**P**	**10 50 27.4 -2.8**		
JOF				pmax	pmax				
	comp=Z,4.0nm,0.6s,mb4.0								
ARCES	**ARCESS Array B**	**27.40**	**5**	P		**P**	**10 51 20.9 -3.2**		
	comp=Z,3.9nm,0.9s,mb3.9,baz=189,slow=11,SNR=8.4								
TORD	**Torodi Ar. Bea**	**32.85**	**213**	P		**P**	**10 52 12.0 -0.3**		
	comp=Z,0.3nm,0.7s,mb3.4,baz=26,slow=8.2,SNR=3.6								
MKAR	**Makrichi Array**	**44.08**	**62**	P		**P**	**10 53 44.8 -1.8**		
	comp=Z,0.3nm,0.5s,mb3.3,baz=280,slow=7.3,SNR=5.0								
SONM	**Songino Array**	**58.62**	**52**	P		**P**	**10 55 33.7 -1.9**		
	comp=Z,0.3nm,0.4s,mb3.6,baz=309,slow=9.1,SNR=3.7								
YKA	**Yellowknife Ar**	**69.09**	**339**	P		**P**	**10 56 41.9 -2.6**		
	comp=Z,0.3nm,0.5s,mb3.5,baz=37,slow=5.6,SNR=9.8								
YKA	**Yellowknife Ar**	**69.09**	**339**	P		**P**	**10 56 41.9 -2.6**		
ILAR	**Eielson Array**	**72.61**	**354**	P		**P**	**10 57 03.9 -2.1**		
	comp=Z,0.3nm,0.6s,mb3.4,baz=359,slow=4.3,SNR=5.7								

IDC 25 10:47:45.6±18.0, 1979S×17389W, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/15, mbtmp3.7/4, Error ellipse: s-maj=461.5km s-min=40.3km az=38.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**37.41**	**263**	P		P	10 55 01.4	+1.1
	2.4nm,0.6s,baz=82,slow=7.4,SNR=6.7							
ASAR	**Alice Springs**	**48.44**	**256**	P		P	10 56 29.1	-0.6
	0.2nm,0.4s,baz=88,slow=7.7,SNR=7.3							
WRA	**Warramunga Arr**	**48.53**	**261**	P		P	10 56 30.8	+0.5
	0.3nm,0.3s,baz=97,slow=8.4,SNR=18							
VNDA	**Vanda**	**58.98**	**186**	P		P	10 57 46.5	-0.4
	0.4nm,0.4s,baz=26,slow=4.8,SNR=5.9							

*CSEM **25** 11:11:32.8±0.9, 3816N×2638W, h0km±3km, ML2.7, Error ellipse: s-maj=14.2km s-min=1.2km az=42.0, After PDA*
*PDA **25** 11:11:32.8±0.9, 3816N×2638W, h0km±3km, MD2.8, ML2.7, Error ellipse: s-maj=14.2km s-min=1.2km az=42.0*
SVSA 25 11:11:32.8±0.9, 3816N×2638W, h0km±3km, MD2.8, ML2.7, Error ellipse: s-maj=14.2km s-min=1.2km az=42.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SET4	**Mosteiros**	**0.54**	**122**	*e*P		Pg	11 11 42.5	-0.6
SET4				*e*S		Sg	11 11 49.9	-0.2
SET2	**Ginetes**	**0.55**	**125**	*e*P		Pg	11 11 42.8	-0.5
SET2				*e*S		Sg	11 11 50.2	-0.3
PFET	**Feteiras**	**0.58**	**126**	*e*P		Pg	11 11 43.1	-0.8
PFET				*e*S		Sg	11 11 50.5	-0.8
PSAN	**Santo Antonio**	**0.60**	**121**	*e*P		Pg	11 11 43.5	-0.8
PSAN				*e*S		Sg	11 11 50.4	-1.6
PSET	**Sete Cidades**	**0.62**	**123**	*i* P		Pg	11 11 42.8	-1.8
PSET				*i* S		Sg	11 11 51.1	-1.5
PSET								
	162nm,0.2s							
PSET	**Sete Cidades**	**0.62**	**123**	*i* S		Sg	11 11 51.1	-1.5
FAC	**Faja de Cima**	**0.69**	**124**	*e*S		Sg	11 11 53.8	-1.2
PDA	**Ponta Delgada**	**0.70**	**126**	*e*P		Pg	11 11 44.9	-1.3
PDA				*e*S		Sg	11 11 54.3	-0.9
CML	**Cha da Macela**	**0.76**	**120**	*e*S		Sg	11 11 55.6	-1.7
PVER	**Pico

SRKR	**Sorokina**	**6.71 307**	*e*P		**Pn**	**11 43 52.3 +1.8**
SRKR			*e*S		**Sn**	**11 45 06.2 +0.6**
TUMR	**Tumrok**	**6.71 295**	*e*S		**Sn**	**11 45 04.5 -1.1**
KLY	**Klyuchi**	**6.80 304**	*i* P		**Pn**	**11 43 52.0 +0.2**
KLY			*e*S		**Sn**	**11 45 04.2 -3.8**
KMNR	**Kamenistaya**	**6.80 299**	*e*P		**Pn**	**11 43 52.3 +0.5**
KMNR			*e*S		**Sn**	**11 45 07.3 -0.7**
KRSR	**Krestovskiy**	**6.81 303**	*e*P		**Pn**	**11 43 52.3 +0.5**
KRSR			*e*S		**Sn**	**11 45 07.0 -1.1**
KPT	**Kopyto**	**6.89 300**	*e*P		**Pn**	**11 43 55.1 +2.2**
KPT			*e*S		**Sn**	**11 45 10.7 +0.7**
NLC	**Nalytchevo**	**6.94 276**	*e*P		**Pn**	**11 43 54.2 +0.6**
NLC			*e*S		**Sn**	**11 45 06.8 -4.5**
KOZ	**Kozyrevsk**	**7.10 300**	P		**Pn**	**11 43 57.4 +2.0**
KOZ			*e*S		**Sn**	**11 45 15.5 +0.2**
SDLR	**Sedlovina**	**7.21 277**	*e*P		**Pn**	**11 43 57.5 +0.2**
SDLR			*e*S		**Sn**	**11 45 14.1 -3.9**
UGLR	**Uglovaya**	**7.25 277**	*e*P		**Pn**	**11 43 58.3 +0.4**
UGLR			*e*S		**Sn**	**11 45 14.6 -4.3**
SMAR	**Somma**	**7.26 277**	*e*P		**Pn**	**11 43 59.1 +1.1**
SMAR			*e*S		**Sn**	**11 45 17.2 -2.0**
SRDR	**Sredinnyy**	**7.28 302**	*i* P		**Pn**	**11 43 59.6 +1.3**
SRDR			*e*S		**Sn**	**11 45 20.6 +0.9**
AVH	**Avacha**	**7.30 277**	*e*P		**Pn**	**11 43 59.3 +0.7**
AVH			*e*S		**Sn**	**11 45 16.2 -3.9**
KOK	**Koryaka**	**7.36 277**	*e*P		**Pn**	**11 43 59.6 +0.2**
KOK			*e*S		**Sn**	**11 45 16.8 -4.8**
PET	**Petropavlovsk**	**7.36 275**	P		**Pn**	**11 44 00.7 +1.2**
PET			*e*S		**Sn**	**11 45 17.6 -4.1**
RUS	**Russkaya**	**7.51 271**	*e*P		**Pn**	**11 44 01.6 0.0**
RUS			*e*S		**Sn**	**11 45 20.6 -4.9**
ESO	**Esso**	**7.68 298**	*e*P		**Pn**	**11 44 03.9 +0.1**
ESO			*e*S		**Sn**	**11 45 27.5 -2.0**
GRL	**Gorelyy**	**7.76 272**	P		**Pn**	**11 44 06.2 +1.2**
GNL	**Ganaly**	**7.76 281**	*e*P		**Pn**	**11 44 06.5 +1.5**
GNL			*e*S		**Sn**	**11 45 30.1 -1.5**
APC	**Apacha**	**8.27 275**	*e*S		**Sn**	**11 45 41.6 -2.5**
KAMR	**Kamenskoye**	**9.84 347**	*e*P		**Pn**	**11 44 35.6 +2.2**
YKA	**Yellowknife Ar**	**38.74 46**	P		**P**	**11 49 33.3 -1.9**
	comp=N,0.2nm,0.6s,mb3.0,baz=292,slow=8.3,SNR=4.9					
YKA			PcP		PcP	11 51 45.6 -0.8
	comp=N,0.2nm,0.6s,baz=299,slow=3.4,SNR=4.8					
YKA	**Yellowknife Ar**	**38.74 46**	P		**P**	**11 49 33.3 -2.0**
YKA						11 51 45.6
SONM	**Songino Array**	**40.16 290**	P		**P**	**11 49 48.4 +1.2**
	comp=N,0.3nm,0.6s,mb3.2,baz=81,slow=8.9,SNR=3.0					
GUMO	**Guam**	**44.38 218**	LR		LR	12 06 08.8
	comp=N,57nm,19.8s,baz=254,slow=32					
PDAR	**Pinedale Array**	**51.75 67**	P		**P**	**11 51 18.2 -0.2**
	comp=N,0.8nm,0.5s,mb3.9,baz=319,slow=3.1,SNR=6.5					
ARCES	**ARCESS Array B**	**55.23 346**	P		**P**	**11 51 42.8 -1.1**
	comp=N,4.4nm,1.0s,mb4.5,baz=45,slow=9.0,SNR=3.2					
ARCES	**ARCESS Array B**	**55.23 346**	P		**P**	**11 51 42.8 -1.1**
ARCES			pmax		pmax	
	comp=Z,4.0nm,1.0s					
NB2	**NORSAR Subarra**	**65.19 349**	P		**P**	**11 52 50.9 -1.3**
	comp=Z,0.8nm,0.6s,mb3.9,baz=13,slow=6.9					
NOA	**NORSAR Array B**	**65.19 349**	P		**P**	**11 52 51.3 -0.9**
	comp=Z,1.1nm,0.6s,mb4.0,baz=15,slow=6.5,SNR=5.2					
NOA	**NORSAR Array B**	**65.19 349**	P		**P**	**11 52 51.3 -0.9**
NOA			pmax		pmax	
	comp=Z,1.0nm,0.6s					
HFS	**Hagfors**	**65.78 348**	P		**P**	**11 52 54.5 -1.4**
	comp=Z,1.0nm,0.5s,mb4.1,baz=28,slow=3.4,SNR=7.5					
HFS	**Hagfors**	**65.78 348**	P		**P**	**11 52 54.5 -1.4**
HFS			pmax		pmax	
	comp=Z,1.0nm,0.5s					
GERES	**GERESS Array B**	**76.73 345**	P		**P**	**11 54 01.9 -0.2**
	comp=Z,0.4nm,0.6s,mb3.5,baz=16,slow=8.2,SNR=2.0					
WRA	**Warramunga Arr**	**79.19 215**	P		**P**	**11 54 16.4 +0.6**
	comp=Z,0.6nm,0.8s,mb3.6,baz=27,slow=5.8,SNR=5.6					
WRA	**Warramunga Arr**	**79.19 215**	P		**P**	**11 54 16.4 +0.6**
WRA			pmax		pmax	
	comp=Z,1.0nm,0.8s					
BRTR	**Keskin Array B**	**80.53 328**	P		**P**	**11 54 23.4 +0.4**
	comp=Z,0.8nm,0.3s,mb4.1,baz=21,slow=7.2,SNR=5.8					
BRTR	**Keskin Array B**	**80.53 328**	P		**P**	**11 54 23.4 +0.3**
BRTR			pmax		pmax	
	comp=Z,1.0nm,0.3s					

NIED ***25*** *11:44:00,42.40N×144.60E,h17km,Mw3.4 Best double couple: M0 1.47000×10^14 NP1:φ=233.00000°,δ=73.00000°, λ=84.00000°. NP2:φ=72.00000°,δ=18.00000°,λ=108.00000°.*

JMA 25 11:44:32.5,42.36N×144.58E,h35km±1km,M3.5,5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAK	**Akkeshi**	**0.64**	**8**	⇓P		Pn	11 44 45.1	0.0
JAK				*e*S		Sn	11 44 54.8	+0.8
JOB	**Onbets**	**0.77**	**315**	⇓P		Pn	11 44 47.2	+0.3
JOB				*e*S		Sn	11 44 57.3	0.0
JCH	**Churui**	**0.94**	**286**	⇓P		Pn	11 44 49.5	+0.4
JCH				*e*S		Sn	11 45 02.3	+1.0
JAR	**Ashorobuto**	**1.11**	**328**	⇓P		Pn	11 44 51.6	+0.1
JAR				*e*S		Sn	11 45 05.9	+0.3
JEM	**Erimo**	**1.11**	**252**	P		Pn	11 44 52.4	+0.8
JEM				*e*S		Sn	11 45 07.1	+1.5
JNK	**Nakash**	**1.23**	**5**	⇓P		Pn	11 44 53.1	-0.1
NEM2	**Nemuro 2**	**1.32**	**40**	P		Pn	11 44 54.8	+0.4
NEM2				*e*S		Sn	11 45 11.8	+1.0
JNBK	**Urakawa-nobuka**	**1.36**	**267**	P		Pn	11 44 55.3	+0.4
JRA	**Rausu**	**1.63**	**14**	P		Pn	11 44 59.2	+0.6
JRA				*e*S		Sn	11 45 19.6	+1.3
JFR	**Furan**	**1.67**	**299**	P		Pn	11 45 00.1	+0.9
JFR				*e*S		Sn	11 45 20.9	+1.5

ISCJB ***25*** *11:45:48.9±0.3,49.36N×001.0×684E±003,h0km, Error ellipse: s-maj=2.8km s-min=1.8km az=9.0*
CSEM ***25*** *11:45:50.8±0.1,49.38N×6.94E,h1km,ML2.8/7, Error ellipse: s-maj=1.4km s-min=1.0km az=98.0*
STR ***25*** *11:45:50.4±0.2,49.36N×6.89E,h1km±1km,Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
NEIC ***25*** *11:45:50.4,49.36N×6.89E,h1km,ML2.5(STR), ML2.9(LDG),After STR.*
BGR ***25*** *11:45:51.2±0.5,49.36N×6.93E,h1km,ML2.2/3, Error ellipse: s-maj=7.8km s-min=5.6km az=71.0*
LDG ***25*** *11:45:51.0±0.1,49.39N×6.90E,h1km,Md2.9/1,Ml2.9/9, Error ellipse: s-maj=1.7km s-min=1.3km az=100.0, Suspected Mining induced.*
BNS ***25*** *11:45:52.5±1.0,49.44N×6.89E,h1km,ML1.8*

ISC 25 11:45:49.9±0.2,4937N±001×687E±003,h0km,n51, σ0=95/86,Germany

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RUP	**Ruppelstein**	**0.35**	**20**	Pg		**Pg**	**11 45 57.3**	**+0.6**
RUP				Sg		**Sg**	**11 46 02.5**	**+1.2**
WLF	**Walferdange**	**0.55**	**302**	*e*Pg		**Pg**	**11 46 01.8**	**+1.2**
	SNR=7.9							
WLF	**Walferdange**	**0.55**	**302**	P		**Pg**	**11 46 01.7**	**+1.2**
WLF				S		**Sg**	**11 46 07.5**	**-0.2**
WLF	**Walferdange**	**0.55**	**302**	*e*Pg		**Pg**	**11 46 01.4**	**+0.9**
ABH	**Alteburg**	**0.67**	**40**	Pg		**Pg**	**11 46 02.7**	**-0.2**
LANF	**Langenberg**	**0.73**	**122**	Pg		**Pg**	**11 46 04.1**	**+0.2**
BGG	**Burgeitz**	**0.89**	**20**	*e*Pg		**Pg**	**11 46 08.4**	**+1.5**
BGG				*e*Sg		**Sg**	**11 46 19.1**	**+0.6**
BGG	**Burgeitz**	**0.89**	**20**	Pg		**Pg**	**11 46 08.4**	**+1.4**
BGG				Sg		**Sg**	**11 46 19.0**	**+0.5**
CDF	**Champ du Feu**	**1.00**	**164**	*e*Pg		**Pg**	**11 46 10.1**	**+1.1**
	SNR=1.0							
CDF				*e*Sg		**Sg**	**11 46 23.2**	**+1.2**
	29nm,0.3s,SNR=1.0							
CDF	**Champ du Feu**	**1.00**	**164**	*e*Pn		**Pn**	**11 46 09.1**	**-2.1**
CDF				*e*Pg		**Pg**	**11 46 10.1**	**+1.1**
CDF				*e*Sg		**Sg**	**11 46 23.2**	**+1.2**
CDF	**Champ du Feu**	**1.00**	**164**	*e*Sg		**Sg**	**11 46 23.2**	**+1.2**
	14nm,0.3s,SNR=1.0							
WLS	**Welschbruch**	**1.01**	**161**	Pg		**Pg**	**11 46 10.3**	**+1.0**
WLS				Sg		**Sg**	**11 46 22.6**	**+0.2**
ECH	**Echery**	**1.17**	**171**	Pg		**Pg**	**11 46 13.0**	**+0.6**
ECH				Sg		**Sg**	**11 46 27.9**	**+0.3**
RFYF	**Reffroy**	**1.18**	**232**	*e*Pg		**Pg**	**11 46 13.5**	**+0.9**
STB	**Steinbach**	**1.22**	**359**	*e*Pg		**Pg**	**11 46 13.7**	**+0.3**
STB				*e*Sg		**Sg**	**11 46 30.2**	**+0.9**
	24nm,0.9s							
TOD	**Tromm**	**1.28**	**79**	Pg		**Pg**	**11 46 14.0**	**-0.5**
THEF	**They Montfort**	**1.29**	**207**	Pg		**Pg**	**11 46 14.7**	**+0.1**
THEF				Sg		**Sg**	**11 46 31.5**	**+0.2**
KLL	**Kalltalsperre**	**1.33**	**344**	*e*Pg		**Pg**	**11 46 14.9**	**-0.5**
TNS	**Taunus Mts**	**1.33**	**50**	*e*Pg		**Pg**	**11 46 15.6**	**+0.1**
	SNR=6.1							
TNS				*e*Sg		**Sg**	**11 46 32.3**	**-0.4**
	SNR=5.1							
HAU	**Haudompre**	**1.41**	**194**	*e*Pg		**Pg**	**11 46 18.2**	**+1.2**
	SNR=1.0							
HAU				*e*Sg		**Sg**	**11 46 35.7**	**+0.4**
	24nm,0.3s,SNR=1.0							
BFO	**Black Forest**	**1.42**	**137**	*e*Pg		**Pg**	**11 46 17.8**	**+0.7**
	SNR=11							
BFO				*e*Sg		**Sg**	**11 46 34.4**	**-1.1**
	SNR=5.8							
BFO	**Black Forest**	**1.42**	**137**	*e*Pn		**Pn**	**11 46 16.8**	**-0.2**
BFO				*e*Sg		**Sg**	**11 46 36.0**	**+0.4**
BFO	**Black Forest**	**1.42**	**137**	*e*Pn		**Pn**	**11 46 16.8**	**-0.2**
BFO				*e*Sg		**Sg**	**11 46 36.0**	**+0.5**
BCLA	**Clavier**	**1.46**	**317**	P		**Pn**	**11 46 17.2**	**-0.3**
MEZF	**Maizieres J'vi**	**1.48**	**235**	*e*Pn		**Pn**	**11 46 18.9**	**+1.1**
	SNR=1.0							
MEZF				*e*Sg		**Sg**	**11 46 38.5**	**+0.9**
	17nm,0.4s							
MEZF	**Maizieres J'vi**	**1.48**	**235**	*e*Pn		**Pn**	**11 46 18.9**	**+1.1**
	SNR=1.0							
MEZF				*e*Sg		**Sg**	**11 46 38.5**	**+0.9**
	8.4nm,0.4s							
GIVF	**Givet**	**1.52**	**300**	*e*Pn		**Pn**	**11 46 16.4**	**-1.9**
	SNR=1.0							
GIVF				*e*Sg		**Sg**	**11 46 40.1**	**+1.4**
	36nm,0.5s,SNR=1.0							
GIVF	**Givet**	**1.52**	**300**	*e*Pn		**Pn**	**11 46 16.4**	**-1.9**
	SNR=1.0							
GIVF				*e*Sg		**Sg**	**11 46 40.1**	**+1.4**
	18nm,0.5s,SNR=1.0							
HGN	**Heimansgroeve**	**1.52**	**337**	*e*Pg		**Pg**	**11 46 18.2**	**-0.9**
	4.1nm,0.6s							
HGN				*e*Sg		**Sg**	**11 46 38.8**	**0.0**
MOF	**Molkenrain**	**1.53**	**173**	Pg		**Pg**	**11 46 19.4**	**+0.1**
MOF				Sg		**Sg**	**11 46 39.7**	**+0.6**
HINF	**Hinteralfeld**	**1.56**	**180**	*e*Pg		**Pg**	**11 46 19.9**	**+0.1**
	SNR=1.0							
HINF				*e*Sg		**Sg**	**11 46 40.3**	**+0.4**
	59nm,0.3s,SNR=1.0							
DOU	**Dourbes**	**1.65**	**297**	P		**Pn**	**11 46 20.3**	**+0.2**
SFTF	**Sexfontaines**	**1.68**	**227**	*e*Pn		**Pn**	**11 46 20.2**	**-0.4**
BAIF	**Baives**	**1.86**	**293**	*e*Pg		**Pg**	**11 46 26.0**	**+0.4**
BAIF	**Baives**	**1.86**	**293**	*e*Pn		**Pn**	**11 46 22.6**	**-0.5**
BAIF				*e*Pg		**Pg**	**11 46 26.0**	**+0.4**
BAIF	**Baives**	**1.86**	**293**	*e*Pg		**Pg**	**11 46 26.0**	**+0.4**
BUG	**Bochum--Univer**	**2.09**	**7**	*e*Sg		**Sg**	**11 46 57.9**	**+0.9**
	SNR=2.4							
UBBA	**Unterbreizbach**	**2.48**	**53**	*e*Sg		**Sg**	**11 47 07.3**	**-2.4**
	SNR=1.5							
CABF	**La Chapelle**	**2.81**	**191**	*e*Pn		**Pn**	**11 46 35.6**	**-0.5**
CABF				*e*Sg		**Sg**	**11 47 20.1**	**-0.2**
	5.5nm,0.5s,SNR=1.0							
LOR	**Lormes**	**2.91**	**225**	*e*Pg		**Pg**	**11 46 44.3**	**-1.4**
	SNR=1.0							
LOR				*e*Sn		**Sn**	**11 47 11.6**	**-1.6**
	SNR=1.0							
LOR	**Lormes**	**2.91**	**225**	*e*Pn		**Pn**	**11 46 36.1**	**-1.4**
LOR				*e*Pg		**Pg**	**11 46 44.3**	**-1.4**
LOR				*e*Sn		**Sn**	**11 47 11.6**	**-1.6**
LOR	**Lormes**	**2.91**	**225**	*e*Pg		**Pg**	**11 46 44.3**	**-1.4**
	SNR=1.0							
LOR				*e*Sn		**Sn**	**11 47 11.6**	**-1.6**
	SNR=1.0							
SSF	**Saint Saulge**	**3.23**	**226**	*e*Pn		**Pn**	**11 46 40.4**	**-1.4**
	SNR=1.0							
SSF				*e*Sn		**Sn**	**11 47 19.0**	**-1.9**
SSF				*e*Sg		**Sg**	**11 47 34.4**	**+0.8**
	15nm,0.7s,SNR=1.0							
SSF	**Saint Saulge**	**3.23**	**226**	*e*Pn		**Pn**	**11 46 40.4**	**-1.4**
	SNR=1.0							
SSF				*e*Sn		**Sn**	**11 47 19.0**	**-1.9**
SSF				*e*Sg		**Sg**	**11 47 34.4**	**+0.8**
	7.4nm,0.7s,SNR=1.0							
MOX	**Moxa**	**3.31**	**66**	*e*Pg		**Pg**	**11 46 51.2**	**-2.3**
	SNR=1.5							
CLZ	**Clausthal**	**3.33**	**41**	*e*Sg		**Sg**	**11 47 33.1**	**-3.9**
	SNR=2.5							
SMF	**Signal de Mont**	**3.40**	**218**	*e*Pn		**Pn**	**11 46 43.5**	**-0.8**
	SNR=1.0							
SMF				*e*Sg		**Sg**	**11 47 39.3**	**0.0**
	5.5nm,0.3s,SNR=1.0							
SMF	**Signal de Mont**	**3.40**	**218**	*e*Pn		**Pn**	**11 46 43.5**	**-0.8**
	SNR=1.0							
SMF				*e*Sg		**Sg**	**11 47 39.3**	**0.0**
	2.8nm,0.3s,SNR=1.0							
AVF	**Avril sur Loir**	**3.50**	**224**	*e*Pn		**Pn**	**11 46 43.8**	**-1.8**
WET	**Wettzell**	**3.94**	**91**	*e*Pn		**Pn**	**11 46 52.1**	**+0.4**
	SNR=2.2							
GEC2	**GERESS Array S**	**4.52**	**94**	*e*Pn		**Pn**	**11 46 59.8**	**+0.2**
	SNR=6.8							

IDC ***25*** *11:49:14.7±0.6,5006N×88.14E,h0km,mb4.2/19, mb1 4.4/22,mb1mx4.3/26,mbtmp4.3/22,ML4.2/3,MS3.3/7, Ms1 3.3/7,ms1mx3.2/15,Error ellipse: s-maj=11.6km s-min=9.4km az=105.0*
LDG ***25*** *11:49:15.0±0.1,50.17N×8792E,h10km,Mb4.6/15,Ms3.3/6, Error ellipse: s-maj=8.4km s-min=3.0km az=35.0*
ISCJB ***25*** *11:49:16.9±0.2,5017N±003×8785E±003,h18km, mb4.4/58,MS3.5/11,Error ellipse: s-maj=3.8km s-min=2.9km az=23.3*
BJI ***25*** *11:49:16.6,5008N×8808E,h14km,mB4.4,mb4.2,ML4.8, Ms4.2,Msz3.8*
MOS ***25*** *11:49:16.2±1.1,5014N×8786E,h16km,mb4.7/38,Error ellipse: s-maj=7.8km s-min=6.1km az=133.7*
NEIC ***25*** *11:49:18.7±0.2,5018N×8790E,mb4.5/34,MS4.0/1,Error ellipse: s-maj=4.7km s-min=4.3km az=58.0*
NNC ***25*** *11:49:21.3±2.3,5026N×8751E,h12km±15km,mb4.3, mpv4.7,Error ellipse: s-maj=18.5km s-min=9.6km az=83.0*

ISC 25 11:49:18.9±0.2,5020N±003×8784E±003,h19km, h19km±2.3km:pP-P,n179,σ1=11/195,mb4.4/58,MS3.5/11, 15C-9D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AKAR	**Aktash**	**0.19**	**312**	*e*PG		**Pg**	**11 49 24.1**	**+0.4**
AKAR				*e*			11 49 28.9	
UKR	**Ust'-Kan**	**2.09**	**292**	*e*PN		**Pb**	**11 49 57.1**	**+0.9**
UKR				*e*			11 50 26.9	
TASR	**Tashtagol**	**2.57**	**1**	*e*PN		**Pb**	**11 50 07.3**	**+3.0**
TASR				*e*			11 50 41.6	
ELT	**Yel'tsovka**	**3.23**	**343**	*e*PN		**Pb**	**11 50 13.8**	**-1.8**
ELT				*e*			11 51 00.5	
CERR	**Cheremushki**	**3.48**	**39**	*e*PN		**Pn**	**11 50 14.8**	**+2.9**
CERR				*i*			11 50 21.8	
ZAL	**Zalesovo**	**4.19**	**335**	P		**Pn**	**11 50 25.4**	**+3.7**
	22nm,0.3s,baz=316,slow=12,SNR=50							
ZAL					Sn	**Sn**	**11 51 15.2**	**+5.0**
	44nm,0.3s,baz=316,slow=12,SNR=4.5							
ZAL					Lg		11 51 33.2	
	56nm,0.3s,baz=240,slow=16,SNR=3.7							
ZAL	**Zalesovo**	**4.19**	**335**	PN		**Pn**	**11 50 25.4**	**+3.7**
ZAL							11 51 15.2	
ZAL					pmax	pmax		
	comp=Z,22nm,0.3s							
ZAL					smax			
	comp=N,44nm,0.3s							
ZAL	**Zalesovo**	**4.19**	**335**	Pn		**Pn**	**11 50 25.4**	**+3.7**
ZAL					Sn	**Sn**	**11 51 15.2**	**+5.0**
ZAL					Lg		11 51 33.2	
MK31	**Makanchi Array**	**5.02**	**229**	PN		**Pn**	**11 50 35.2**	**+2.1**
MK31							11 51 32.8	
MK31					pmax	pmax		
	comp=Z,15nm,0.3s							
MK31					smax			
	comp=N,63nm,0.5s							
MKAR	**Makanchi Array**	**5.02**	**229**	Pn		**Pn**	**11 50 35.3**	**+2.2**
	comp=N,26nm,0.3s,baz=60,slow=12,SNR=936							
MKAR					Sn	**Sn**	**11 51 31.3**	**+0.8**
	comp=N,49nm,0.3s,baz=53,slow=23,SNR=10							
MKAR					Lg		11 51 53.7	
	comp=N,45nm,0.3s,baz=52,slow=30,SNR=8.6							
MK09	**Makanchi Array**	**5.04**	**229**	⇑Pn		**Pn**	**11 50 35.6**	**+2.2**
	comp=N,106nm,0.7s,baz=59,slow=12							
MK09					⇓Sn	**Sn**	**11 51 33.1**	**+2.0**
	comp=N,145nm,0.7s,baz=51,slow=23							
MK09					⇑Lg		11 51 56.6	
	comp=N,335nm,0.7s,baz=51,slow=30							
NVS	**Novosibirsk**	**5.43**	**331**	*e*PN		**Pn**	**11 50 39.9**	**+1.1**
NVS				*e*			11 50 58.3	
NVS				*e*			11 51 44.1	
KURK	**Kurchatov**	**5.91**	**279**	⇑Pn		**Pn**	**11 50 47.2**	**+1.8**
	comp=N,52nm,0.7s							
KURK				⇑Sn		**Sn**	**11 51 52.7**	**+0.1**
	comp=N,86nm,0.6s							
KURK				⇑Lg			11 52 22.8	
	comp=N,225nm,0.9s							
KURK	**Kurchatov**	**5.91**	**279**	PN		**Pn**	**11 50 47.2**	**+1.8**
KURK							11 51 56.5	
KURK					pmax	pmax		
	comp=Z,36nm,0.7s							
KURK					smax			
	comp=N,52nm,0.6s							
KURK	**Kurchatov**	**5.91**	**279**	*e*Pn		**Pn**	**11 50 47.5**	**+2.1**
	comp=N,103nm,0.6s							
WMQ	**Urumqi**	**6.38**	**181**	P		**Pn**	**11 50 50.0**	**-1.8**
WMQ					S	**Sn**	**11 52 01.5**	**-2.6**
WMQ					LR	LR		
	comp=N,365nm,17.9s							
WMQ					LR	LR		
	comp=E,160nm,11.5s							
WMQ					LR	LR		
	comp=Z,341nm,16.3s							
MOY	**Mondy**	**8.44**	**75**	*e*P		**Pn**	**11 51 27.3**	**+7.2**
MOY				*e*S		**Sn**	**11 52 59.8**	**+5.0**
MOY					pmax	pmax		
	comp=Z,24nm,0.9s							
MOY					smax			
	comp=N,263nm,1.3s							
ZAK	**Zakamensk**	**9.89**	**83**	*e*P		**Pn**	**11 51 50.0**	**+10**
ZAK				*e*S		**Sn**	**11 53 30.6**	**+0.2**
ZAK					pmax	pmax		
	comp=Z,18nm,1.8s							
ZAK					smax			
	comp=N,99nm,1.2s							
TLY	**Talaya**	**10.09**	**75**	⇑*e*P		**Pn**	**11 51 42.2**	**-0.5**
VOSK	**Vostochnaya**	**10.82**	**290**	⇑Pn		**Pn**	**11 51 52.1**	**-0.6**
	comp=N,9.5nm,0.6s							
VOSK				⇓Sn		**Sn**	**11 53 51.7**	**-1.6**
	comp=N,24nm,0.7s							
VOSK	**Vostochnaya**	**10.82**	**290**	P		**Pn**	**11 51 52.1**	**-0.6**
VOSK							11 53 49.2	
VOSK					pmax	pmax		
	comp=Z,6.0nm,0.6s							
VOSK					smax			
	comp=N,17nm,0.7s							
TKM2	**Tokmak 2**	**11.12**	**234**	⇓Pn		**Pn**	**11 51 57.8**	**+0.9**
	comp=N,0.9nm,0.6s							
TKM2	**Tokmak 2**	**11.12**	**234**	P		**Pn**	**11 51 57.7**	**+0.8**
TKM2					pmax	pmax		
	comp=Z,6.0nm,0.6s							
CHKZ	**Chkalovo**	**11.19**	**295**	⇓Pn		**Pn**	**11 51 57.0**	**-0.8**
	comp=Z,8.3nm,0.8s							
CHKZ					⇑Sn	**Sn**	**11 54 00.1**	**-2.2**
	comp=Z,21nm,0.6s							
CHKZ	**Chkalovo**	**11.19**	**295**	P		**Pn**	**11 51 56.9**	**-0.8**
CHKZ							11 54 00.0	
CHKZ					pmax	pmax		
	comp=Z,7.0nm,0.9s							
CHKZ					smax			
	comp=N,13nm,0.6s							
CHKZ	**Chkalovo**	**11.19**	**295**	*e*Pn		**Pn**	**11 51 57.3**	**-0.4**
	comp=N,6.9nm,0.4s							
BVA0	**Borovoye Array**	**11.21**	**291**	Pn		**Pn**	**11 51 58.2**	**+0.1**
	comp=N,1.3nm,0.4s,baz=108,slow=14,SNR=41							
BVA0					⇑Sn	**Sn**	**11 54 01.2**	**-1.7**
	comp=N,6.0nm,0.8s,baz=333,slow=42,SNR=8.3							
BVA0	**Borovoye Array**	**11.21**	**291**	*e*P		**Pn**	**11 51 58.1**	**0.0**
BVA0							11 53 59.3	
BVA0					pmax	pmax		
	comp=Z,1.0nm,0.4s							
BVA0					smax			
	comp=N,1.0nm,0.3s							
BRVK	**Borovoye**	**11.28**	**291**	*e*P		**Pn**	**11 51 59.6**	**+0.6**
BRVK					pmax	pmax		
	comp=Z,9.0nm,0.6s							
BRVK	**Borovoye**	**11.28**	**291**	*e*Pn		**Pn**	**11 51 59.6**	**+0.6**
	comp=Z,9.1nm,0.6s							
FRU	**Bishkek**	**11.70**	**236**	P		**Pn**	**11 52 06.6**	**+1.8**
FRU					pmax	pmax		
	comp=E,120nm,1.6s							
AAK	**Ala-Archa**	**11.90**	**236**	*e*P		**Pn**	**11 52 06.9**	**-0.7**
AAK					pmax	pmax		
	comp=Z,9.0nm,0.5s							
AAK	**Ala-Archa**	**11.90**	**236**	*e*Pn		**Pn**	**11 52 06.9**	**-0.7**
	comp=Z,8.6nm,0.5s							
ZRNK	**Zerenda**	**12.04**	**290**	P		**Pn**	**11 52 08.5**	**-0.9**
ZRNK							11 54 18.2	
ZRNK					pmax	pmax		
	comp=Z,2.0nm,0.5s							
ZRNK					smax			
	comp=N,61nm,1.3s							
ZRNK	**Zerenda**	**12.04**	**290**	*e*Pn		**Pn**	**11 52 09.2**	**-0.2**
	comp=N,12nm,0.8s							
SONM	**Songino Array**	**12.41**	**94**	Pn		**Pn**	**11 52 15.3**	**+0.9**
	comp=N,0.1nm,0.3s,baz=134,slow=48,SNR=5.2							
SONM				

comp=Z,0.3nm,0.8s
AKTO Aktyubinsk 18.99 282 P Pn 11 53 40.7 +0.6
comp=Z,0.6nm,0.3s,baz=84,slow=11,SNR=31
AKTO S Sn **11 57 07.2 -5.0**
comp=Z,0.1nm,0.3s,baz=184,slow=12,SNR=2.7
AKTO LR LR 12 01 15.5
comp=Z,109nm,20.9s,baz=0.0,slow=38
AKTO Aktyubinsk 18.99 282 P Pn 11 53 40.7 +0.7
AKTO S Sn **11 57 07.2 -5.0**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO MLR MLR
comp=Z,109nm,20.9s
HHC Hu-ho-hao-te 19.00 110 *e*P **Pn 11 53 36.3 -3.8**
HHC XP sP 11 53 45.0 -2.2
HHC PP 11 53 52.5
HHC S **Sn 11 57 02.3 -10**
HHC XS sS 11 57 09.0 -14
HHC SS 11 57 27.3
HHC PCP PcP 11 58 04.3 +0.1
HHC AMB AMB
comp=Z,11nm,1.2s
HHC AMB AMB
comp=Z,103nm,8.0s
HHC LR LR
comp=N,230nm,15.7s
HHC LR LR
comp=E,173nm,10.3s
HHC LR LR
comp=Z,283nm,13.2s
ORR Orenburg 20.82 287 ⇓*i*P **P 11 53 59.0 -0.2**
ORR pmax pmax
comp=Z,10.0nm,0.4s
GKN Gorkha 22.30 187 *e*P **P 11 54 15.4 +0.4**
comp=Z,12nm,0.5s,mb4.5
BJI Beijing 22.30 106 *e*P **P 11 54 16.0 +0.9**
BJI S **S 11 58 13.5 -6.1**
BJI AMB AMB
comp=Z,6.0nm,1.0s,mb4.0
BJI LR LR
comp=N,399nm,11.0s,MS4.2
BJI LR LR
comp=E,289nm,10.4s,MS4.2
BJI LR LR
comp=Z,146nm,21.1s
GUN Gumba 22.30 185 *e*P **P 11 54 16.0 +0.9**
comp=Z,28nm,0.8s,mb4.8
KKN Kakani 22.46 186 *e*P **P 11 54 16.5 -0.3**
comp=Z,18nm,0.5s,mb4.7
KKN Kakani 22.46 186 *e*P **P 11 54 16.5 -0.3**
KKN pmax pmax
comp=Z,18nm,0.5s,mb4.8
JIRN Jiri 22.54 184 *e*P **P 11 54 18.7 +1.1**
comp=Z,16nm,0.6s,mb4.6
KOLN Koldanda 22.63 190 *e*P **P 11 54 16.9 -1.6**
comp=Z,25nm,1.1s,mb4.5
DMN Daman 22.65 186 *e*P **P 11 54 18.6 -0.2**
comp=Z,14nm,0.7s,mb4.5
PKI Pulchoki 22.67 186 *e*P **P 11 54 19.5 +0.5**
comp=Z,23nm,0.7s,mb4.7
PKI Pulchoki 22.67 186 *e*P **P 11 54 19.5 +0.5**
PKI pmax pmax
comp=Z,23nm,0.7s,mb4.7
YAK Yakutsk 25.66 47 *e*P **P 11 54 46.9 -0.5**
YAK pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
YAK Yakutsk 25.66 47 *e*P **P 11 54 46.9 -0.6**
comp=Z,10nm,0.7s,mb4.5
KMI Kunming 27.56 150 P **P 11 55 04.8 +0.2**
KMI AP pP 11 55 10.0 -0.4
KMI XP sP 11 55 12.8 +0.1
KMI PP 11 55 54.3
KMI S **S 11 59 42.8 -2.1**
KMI XS sS 11 59 51.8 -2.7
KMI SS 12 00 55.5
KMI AMB AMB
comp=Z,5.0nm,0.9s,mb4.1
KMI AMB AMB
comp=Z,32nm,3.7s
KMI LR LR
comp=N,110nm,11.7s,MS3.9
KMI LR LR
comp=E,115nm,10.6s,MS3.9
KMI LR LR
comp=Z,138nm,10.2s,MS3.8
TIXI Tiksi 28.33 26⇑*e*P **P 11 55 10.8 -0.6**
TIXI pmax pmax
comp=Z,3.0nm,1.3s,mb3.8
MDJ Mudanjiang 28.52 85 P **P 11 55 12.3 -0.8**
MDJ AP pP 11 55 15.3 -3.6
MDJ AMB AMB
comp=Z,4.0nm,0.9s,mb4.2
MDJ AMB AMB
comp=Z,52nm,6.2s
NJ2 Nanjing 29.27 116 *e*P **P 11 55 21.0 +1.2**
OBN Obninsk 30.90 299 ⇑P **P 11 55 35.0 +0.8**
OBN *e* 11 55 43.3
OBN 11 56 36.0
OBN pmax pmax
comp=Z,9.0nm,0.5s,mb4.9
OBN MLR MLR
comp=Z,100nm,18.0s,MS3.5
KIV Kislovodsk 30.99 276 *e*P **P 11 55 34.7 -0.3**
KIV *e* 11 58 31.3
KIV *e*S **S 12 00 40.1 +1.3**
KIV pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
KIV MLR MLR
comp=Z,83nm,13.0s,MS3.6
GNI Garni 31.60 268 LR LR 12 10 19.7
comp=Z,37nm,18.9s,MS3.1,baz=163,slow=40
ANN Anapa 33.94 281 *e*P **P 11 55 53.0 -7.8**
ANN *e**PP pP 11 56 01.5 -5.2
ANN pmax pmax
comp=Z,15nm,0.7s,mb5.0
ARCES ARCESS Array B 34.70 327 LR LR 12 11 55.3
comp=Z,46nm,19.7s,MS3.2,baz=85,slow=39
FINES FINESS Array B 35.12 313 P **P 11 56 11.1 0.0**
comp=Z,1.6nm,0.5s,mb4.2,baz=78,slow=9.1,SNR=11
FINES LR LR 12 12 14.8
comp=Z,36nm,20.7s,MS3.1,baz=195,slow=39
FINES FINESS Array B 35.12 313 P **P 11 56 11.1 +0.1**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES MLR MLR
comp=Z,36nm,20.7s
AKASG Malin Array Be 36.48 294 P **P 11 56 22.4 -0.3**
comp=Z,1.3nm,0.3s,mb4.3,baz=63,slow=9.1,SNR=6.1
AKASG Malin Array Be 36.48 294 P **P 11 56 22.4 -0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
MALT Malatya 36.69 270 *e*P **P 11 56 24.3 -0.1**
MALT *e**PP pP 11 56 31.1 +0.8
MALT pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
MALT Malatya 36.69 270 *e*P **P 11 56 24.2 -0.2**
comp=Z,5.3nm,0.8s,mb4.4
MALT *e*pP pP 11 56 31.1 +0.8
BR131 Keskin Array S 38.96 276 *e*P **P 11 56 44.0 +0.3**
comp=Z,4.5nm,0.5s,mb4.5
BRTR Keskin Array B 38.96 276 P **P 11 56 44.4 +0.7**
comp=Z,7.3nm,0.7s,mb4.5,baz=90,slow=7.2,SNR=32
BRTR Keskin Array B 38.96 276 P **P 11 56 44.4 +0.8**
BRTR pmax pmax
comp=Z,7.0nm,0.7s
BILL Bilibino 40.68 34 *e*P **P 11 56 58.9 +0.9**
BILL *e*S **S 12 03 13.8 +6.6**
BILL pmax pmax
comp=Z,3.0nm,1.4s,mb3.7
MLR Muntele Rosu 40.76 288 P **P 11 56 59.2 +0.6**
comp=Z,1.3nm,0.4s,mb4.0,baz=239,slow=19,SNR=3.2
MLR Muntele Rosu 40.76 288 P **P 11 56 59.2 +0.6**
MLR pmax pmax
comp=Z,1.0nm,0.4s
HFS Hagfors 41.31 313 P **P 11 57 02.8 -0.3**
comp=Z,4.8nm,0.7s,mb4.3,baz=118,slow=8.9,SNR=7.7
HFS Hagfors 41.31 313 P **P 11 57 02.8 -0.4**
HFS pmax pmax
comp=Z,5.0nm,0.7s
NB2 NORSAR Subarra 42.13 315 P **P 11 57 09.3 -0.6**
comp=Z,2.7nm,0.6s,mb4.0,baz=65,slow=7.9
NOA NORSAR Array B 42.13 315 P **P 11 57 09.6 -0.3**
comp=Z,3.7nm,0.7s,mb4.2,baz=65,slow=7.8,SNR=19
NOA LR LR 12 16 12.8
comp=Z,49nm,20.2s,MS3.4,baz=50,slow=38
NOA NORSAR Array B 42.13 315 P **P 11 57 09.6 -0.3**
NOA pmax pmax
comp=Z,4.0nm,0.7s
NOA MLR MLR
comp=Z,49nm,20.2s
CLL Collm 45.42 302 ⇓*i*P **P 11 57 36.8 +0.5**
comp=Z,6.0nm,0.5s,mb4.7
CLL ⇓*i*P(2) 11 57 38.0
comp=Z,7.0nm,0.7s
CLL *e*pP pP 11 57 41.0 -1.3
CLL Collm 45.42 302 *i*P **P 11 57 36.8 +0.5**
CLL *e**PP pP 11 57 41.0 -1.3
CLL pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
KHC Kasperske Hory 46.20 299⇑*e*P **P 11 57 43.2 +0.7**
GERES GERESS Array B 46.28 298 P **P 11 57 43.7 +0.6**
comp=Z,0.6nm,0.6s,mb3.7,baz=64,slow=7.7,SNR=3.1
GERES LR LR 12 18 41.5
comp=Z,39nm,19.7s,MS3.4,baz=100,slow=38
IDI Anoyia 47.18 277 P **P 11 57 48.8 -1.4**
comp=Z,4.9nm,0.5s,mb4.7,baz=37,slow=10,SNR=8.5
GVD Gavdhos 47.97 277 *e*P **P 11 57 55.9 -0.4**
comp=Z,9.5nm,0.7s,mb4.9
TIP Timpagrande 49.91 286 *e*P **P 11 58 11.9 +0.7**
HINF Hinteralfeld 50.67 301 *e*P **P 11 58 17.3 +0.4**
comp=Z,5.5nm,0.7s,mb4.3
HINF Hinteralfeld 50.67 301 *e*P **P 11 58 17.3 +0.4**
HINF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
HINF Hinteralfeld 50.67 301 *e*P **P 11 58 17.3 +0.4**
comp=Z,2.8nm,0.7s,mb4.3
BAIF Baives 50.83 304 *e*P **P 11 58 18.5 +0.4**
comp=Z,10nm,0.9s,mb4.5
BAIF Baives 50.83 304 *e*P **P 11 58 18.5 +0.4**
BAIF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BAIF Baives 50.83 304 *e*P **P 11 58 18.5 +0.4**
comp=Z,5.2nm,0.9s,mb4.5
MEZF Maizieres J'vi 51.26 302 *e*P **P 11 58 21.8 +0.4**
comp=Z,26nm,0.9s,mb4.8
MEZF Maizieres J'vi 51.26 302 *e*P **P 11 58 21.8 +0.4**
comp=Z,26nm,0.9s,mb5.2
ESK Eskdalemuir 51.55 313 *e*P **P 11 58 23.1 -0.4**
ESK pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
ESK Eskdalemuir 51.55 313 *e*P **P 11 58 23.1 -0.4**
comp=Z,1.8nm,0.4s,mb4.3
LPG La Plagne 52.08 298 *e*P **P 11 58 28.4 +0.9**
comp=Z,5.9nm,0.5s,mb4.5
LPG La Plagne 52.08 298 *e*P **P 11 58 28.4 +0.9**
LPG pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
LPG La Plagne 52.08 298 *e*P **P 11 58 28.4 +0.9**
comp=Z,3.0nm,0.5s,mb4.5
LPL La Plagne 52.08 298 *e*P **P 11 58 28.4 +0.9**
comp=Z,4.5nm,0.4s,mb4.5
MBDF Montbardon 52.52 297 *e*P **P 11 58 32.0 +1.2**
comp=Z,16nm,0.6s,mb4.8
MBDF Montbardon 52.52 297 *e*P **P 11 58 32.0 +1.2**
MBDF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
MBDF Montbardon 52.52 297 *e*P **P 11 58 32.0 +1.2**
comp=Z,8.1nm,0.6s,mb4.8
LOR Lormes 52.64 302 *e*P **P 11 58 32.2 +0.6**
LOR *e*R
comp=Z,23nm,17.9s
LOR Lormes 52.64 302 *e*P **P 11 58 32.2 +0.6**
LOR LR LR
comp=Z,20nm,17.9s,MS3.2
ORIF Oris-en-Rattie 52.92 298 *e*P **P 11 58 34.5 +0.8**
comp=Z,5.1nm,0.6s,mb4.3
ORIF *e*R
comp=Z,104nm,19.5s
ORIF Oris-en-Rattie 52.92 298 *e*P **P 11 58 34.5 +0.8**
ORIF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ORIF Oris-en-Rattie 52.92 298 *e*P **P 11 58 34.5 +0.8**
comp=Z,2.5nm,0.6s,mb4.3
SSF Saint Saulge 52.95 302 *e*P **P 11 58 33.6 -0.4**
comp=Z,24nm,1.2s,mb4.7
SSF Saint Saulge 52.95 302 *e*P **P 11 58 33.6 -0.4**
SSF pmax pmax
comp=Z,12nm,1.2s,mb4.7
SSF Saint Saulge 52.95 302 *e*P **P 11 58 33.6 -0.4**
comp=Z,12nm,1.2s,mb4.7
AVF Avril sur Loir 53.20 301 *e*P **P 11 58 36.1 +0.3**
comp=Z,5.9nm,0.7s,mb4.3
AVF Avril sur Loir 53.20 301 *e*P **P 11 58 36.1 +0.3**
AVF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
AVF Avril sur Loir 53.20 301 *e*P **P 11 58 36.1 +0.3**
comp=Z,3.0nm,0.7s,mb4.3
FRF La Foret Royal 53.30 296 *e*P **P 11 58 36.9 +0.4**
comp=Z,20nm,0.9s,mb4.7
FRF La Foret Royal 53.30 296 *e*P **P 11 58 36.9 +0.4**
FRF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
FRF La Foret Royal 53.30 296 *e*P **P 11 58 36.9 +0.4**
comp=Z,9.8nm,0.9s,mb4.7
LMR La Lourre 53.52 296 *e*P **P 11 58 38.6 +0.5**
VIVF Saint-Julien-l 53.64 299 *e*P **P 11 58 39.1 +0.1**
comp=Z,5.1nm,0.5s,mb4.4
VIVF Saint-Julien-l 53.64 299 *e*P **P 11 58 39.1 +0.1**
VIVF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
VIVF Saint-Julien-l 53.64 299 *e*P **P 11 58 39.1 +0.1**
comp=Z,2.5nm,0.5s,mb4.4
LDF La Druitiere 53.98 305 *e*P **P 11 58 41.7 +0.2**
comp=Z,15nm,0.7s,mb4.7
LDF La Druitiere 53.98 305 *e*P **P 11 58 41.7 +0.2**
LDF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
LDF La Druitiere 53.98 305 *e*P **P 11 58 41.7 +0.2**
comp=Z,7.4nm,0.7s,mb4.7
FLN La Foliniere 54.06 305 *e*P **P 11 58 42.6 +0.5**
comp=Z,13nm,0.5s,mb4.8
FLN *e*R
comp=Z,128nm,19.2s
FLN La Foliniere 54.06 305 *e*P **P 11 58 42.6 +0.5**
FLN pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
FLN MLR MLR
comp=Z,130nm,19.3s,MS4.0
FLN La Foliniere 54.06 305 *e*P **P 11 58 42.6 +0.5**
comp=Z,6.4nm,0.5s,mb4.8
FLN LR LR
comp=Z,130nm,19.3s,MS4.0
TCF Toulx Ste Croi 54.13 301 *e*P **P 11 58 43.3 +0.7**
GRR Gorron 54.49 305 *e*P **P 11 58 45.1 -0.1**
LASF Ste Croix 54.58 298 *e*P **P 11 58 46.4 +0.5**
COLA College 57.45 25 *e*P **P 11 59 05.7 -0.7**
COLA pmax pmax
comp=Z,4.0nm,1.3s,mb4.3
COLA College 57.45 25 *e*P **P 11 59 05.7 -0.7**
comp=Z,3.7nm,1.3s,mb4.2
ILAR Eielson Array 57.78 24 P **P 11 59 08.0 -0.8**
comp=Z,1.0nm,0.6s,mb4.0,baz=316,slow=5.3,SNR=16
ILAR Eielson Array 57.78 24 P **P 11 59 08.0 -0.8**
ILAR pmax pmax
comp=Z,1.0nm,0.6s
INK Inuvik 57.87 17 *e*P **P 11 59 09.2 -0.2**
INK *e**PP pP 11 59 14.7 -0.8
INK pmax pmax
comp=Z,5.0nm,1.0s
INK Inuvik 57.87 17 *e*P **P 11 59 09.2 -0.2**
comp=Z,4.8nm,1.0s,mb4.5
INK *e*pP pP 11 59 14.7 -0.8
KDAK Kodiak Island 61.51 32 P **P 11 59 34.2 -0.3**
comp=Z,3.1nm,0.8s,mb4.5,baz=61,slow=7.7,SNR=5.1
KDAK Kodiak Island 61.51 32 P **P 11 59 34.2 -0.3**
ESDC Sonseca Array 61.87 299 P **P 11 59 37.3 +0.5**
comp=Z,3.0nm,0.6s,mb4.6,baz=45,slow=6.7,SNR=11
ESLA Sonseca Array 61.87 299 *e*P **P 11 59 36.5 -0.3**
comp=Z,0.7nm,0.7s,mb3.9
YKW3 Yellowknife Ar 66.19 11 *e*P **P 12 00 04.6 -0.7**
YKW3 *e*pP pP 12 00 08.9 -2.5
YKW3 *e*sP sP 12 00 10.8 -2.9
YKA Yellowknife Ar 66.25 11 P **P 12 00 04.4 -1.2**
comp=Z,0.8nm,0.6s,mb3.9,baz=338,slow=7.0,SNR=16
FCC Fort Churchill 71.39 1 *e*P **P 12 00 37.1 -0.6**
FCC pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
FCC Fort Churchill 71.39 1 *e*P **P 12 00 37.1 -0.5**
comp=Z,0.6nm,0.6s,mb3.7
SCHQ Schefferville 73.22 345 P **P 12 00 47.0 -1.5**
comp=Z,1.4nm,0.7s,mb4.0,baz=9.5,slow=9.1,SNR=3.6
SCHQ Schefferville 73.22 345 *e*P **P 12 00 47.2 -1.4**
comp=Z,0.8nm,0.4s,mb4.0
FITZ Fitzroy Crossi 75.73 143 P **P 12 01 00.6 -2.6**
comp=Z,0.8nm,0.6s,mb3.8,baz=331,slow=19,SNR=5.8
MBWA Marble Bar 76.44 150 *e*P **P 12 01 05.2 -2.0**
comp=Z,0.7nm,0.5s,mb3.9
TORD Torodi Ar. Bea 77.57 276 P **P 12 01 12.9 -0.6**
comp=Z,2.2nm,0.9s,mb4.1,baz=43,slow=4.8,SNR=16
WRA Warramunga Arr 81.00 136 P **P 12 01 29.7 -2.6**
comp=Z,1.1nm,0.7s,mb3.9,baz=341,slow=5.7,SNR=12
WRA Warramunga Arr 81.00 136 P **P 12 01 29.7 -2.6**
WRA pmax pmax
comp=Z,1.0nm,0.7s
BOZ Bozeman (W) 83.06 14 *e*P **P 12 01 43.5 +0.4**
BOZ pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
BOZ Bozeman (W) 83.06 14 *e*P **P 12 01 43.5 +0.4**
comp=Z,1.5nm,0.7s,mb4.1
MCMT McKenzie Canyo 83.66 15 *e*P **P 12 01 46.4 +0.2**
ASAR Alice Springs 84.08 138 P **P 12 01 45.9 -2.5**
comp=Z,1.1nm,0.6s,mb4.2,baz=334,slow=5.5,SNR=25
ASAR Alice Springs 84.08 138 P **P 12 01 45.9 -2.5**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
PDAR Pinedale Array 86.18 13 P **P 12 01 58.0 -0.8**
comp=Z,0.6nm,0.5s,mb4.1,baz=44,slow=3.5,SNR=4.4
DBIC Dimbokro 86.65 276 P **P 12 02 00.6 -0.6**
comp=Z,1.5nm,0.4s,mb4.5,baz=60,slow=6.2,SNR=5.4
DBIC Dimbokro 86.65 276 *e*P **P 12 02 01.1 -0.1**
DBIC *e**PP pP 12 02 07.4 -0.1
DBIC pmax pmax
comp=Z,1.0nm,0.5s
DBIC Dimbokro 86.65 276 *e*P **P 12 02 01.1 -0.1**
comp=Z,1.2nm,0.5s,mb4.4
DBIC *e*pP pP 12 02 07.4 -0.2
PV01 Paradox Valley 90.86 13 *e*P **P 12 02 22.2 +1.1**
CASY Casey 117.43 170 *e*Pdif Pdif 12 04 13.2 -7.0
CPUP Villa Florida 144.24 299 PKP PKPdf 12 08 50.1 -3.3
comp=Z,3.4nm,0.5s,baz=40,slow=3.4,SNR=15
CPUP Villa Florida 144.24 299 PKIKP PKPdf 12 08 50.2 -3.3
CPUP pmax pmax
comp=Z,3.0nm,0.5s
CPUP Villa Florida 144.24 299 *e*PKPdf PKPdf 12 08 50.2 -3.3
PLCA Paso Flores 162.19 294 PKPab PKPab 12 10 05.7 -0.2
comp=Z,3.5nm,1.1s,baz=292,slow=1.9,SNR=3.8

CASC 25 12:16:44.5±2.4, 1323N×8985W, h23km±12km, MD3.8, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**0.64**	**20**	*e*P		Pb	12 17 27.8	+31
BOQS	**Boqueron**	**0.74**	**48**	*e*P		Pb	12 17 28.8	+30
BOQS				*e*S		Sb	12 17 40.5	+32
SNET	**Serv Nac Est T**	**0.75**	**53**	*e*P		Pb	12 16 58.0	-0.9
SNET				*e*S		Sb	12 17 09.2	+0.6
LFRS	**El Faro**	**0.86**	**63**	*e*P		Pb	12 17 30.0	+29
RBDL	**Robledal**	**0.89**	**10**	*e*P		Pb	12 17 31.4	+30
RBDL				*e*S		Sb	12 17 44.3	+32
LBRS	**Las Brisas**	**0.93**	**57**	*e*P		Pb	12 17 31.6	+30
LBRS				*e*S		Sb	12 17 43.7	+30
LCBS	**La Ceiba**	**0.94**	**64**	*e*P		Pb	12 17 31.3	+29
SNVI	**San Vicente**	**1.05**	**69**	*e*P		Pn	12 17 32.9	+29
SNVI				*e*S		Sb	12 17 47.3	+30
IXG	**Ixpaco**	**1.11**	**328**	*e*P		Pn	12 17 03.8	-0.8
IXG				*e*S		Sb	12 17 18.8	-0.1
MTO2	**Montecristo 2**	**1.25**	**22**	*e*P		Pn	12 17 36.9	+30
VSM	**San Miguel**	**1.54**	**83**	*e*P		Pn	12 17 39.9	+29
VSM				*e*S		Sn	12 17 59.9	+30
FUG	**Fuego 3**	**1.55**	**321**	*e*P		Pn	12 17 10.9	+0.3
FUG				*e*S		Sn	12 17 29.8	-0.2
TP2	**Tecpan 2**	**1.92**	**324**	*e*P		Pn	12 17 17.1	+1.4
TP2				*e*S		Sn	12 17 41.9	+2.8

*NAO **25** 12:31:25.6±1.2, 6807N×3285E, ML2.3*
*CSEM **25** 12:31:27.1±0.5, 6797N×3289E, h1km, ML2.2, Error ellipse: s-maj=12.3km s-min=5.5km az=65.0, Mining explosion.*

HEL 25 12:31:24.9±0.2, 6813N×3306E, h0km, ML2.6, ML2.2(BER), **ML2.3**(NAO), **Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**0.53**	**183**	*i*P		Pg	12 31 34.3	-0.7
APA0				*i*S		Sg	12 31 40.9	-0.9
APA0				*e*RG			12 31 42.6	
APA0	**Apatity Array** baz=350,slow=14	**0.53**	**183**	Pg		Pg	12 31 34.3	-0.7
APA0	slow=37			Lg			12 31 40.9	
APA0	slow=37			Rg			12 31 42.6	
KU4	**Liikasenvaara**	**2.23**	**219**	*e*P		Pn	12 32 03.4	+0.3
KU4				*e*S		Sn	12 32 30.9	-0.4
KU4	**Liikasenvaara**	**2.23**	**219**	P		Pn	12 32 03.3	+0.2
KU4				S		Sn	12 32 30.8	-0.5
KEV	**Kevo**	**2.73**	**310**	*e*P		Pn	12 32 10.2	+0.3
KEV				MSG			12 32 48.0	
KEV	**Kevo** comp=Z,42nm,0.2s	**2.73**	**310**	P		Pn	12 32 10.2	+0.2
ARA0	**ARCESS Array S**	**3.08**	**301**	*e*P		Pn	12 32 14.7	-0.1
ARA0				*e*PG		Pg	12 32 22.4	-1.7
ARA0				*e*S		Sn	12 32 50.7	-1.7
ARA0				*e*SB		Sb	12 32 57.0	-1.7
ARA0	**ARCESS Array S** baz=120,slow=16	**3.08**	**301**	Pn		Pn	12 32 14.7	-0.1
ARA0	baz=123,slow=16			Pg		Pg	12 32 22.4	-1.7
ARA0	baz=104,slow=28			Sn		Sn	12 32 50.7	-1.7
ARA0	baz=112,slow=37			Lg			12 32 57.0	
ARA0	**ARCESS Array S** SNR=90	**3.08**	**301**	Pg		Pg	12 32 22.4	-1.6
ARA0	SNR=50			Sn		Sn	12 32 50.7	-1.7
KTK1	**Kautokeino**	**3.71**	**288**	*e*P		Pn	12 32 23.6	+0.1
KTK1				*e*S		Sn	12 33 06.2	-1.7
KTK1				AML		AML	12 33 19.6	
KJN	**Kajaani** comp=Z,14nm,0.5s	**4.61**	**211**	*e*P		Pn	12 32 36.2	+0.4
KJN				*e*S		Sn	12 33 28.0	-1.9
KJN	**Kajaani**	**4.61**	**211**	P		Pn	12 32 36.1	+0.3
KJN				S		Sn	12 33 28.0	-1.9
KEF	**Keuruu**	**6.90**	**214**	*e*P		Pn	12 33 07.2	-0.1
KEF				*e*S		Sn	12 34 21.8	-4.8
KEF				MSG			12 34 26.6	
FIA0	**FINESS Array S** comp=Z,2.0nm,0.2s baz=24,slow=12	**7.34**	**207**	Pn		Pn	12 33 12.1	-1.3
FIA0	baz=32,slow=22			Sn		Sn	12 34 30.8	-6.5
FIA0	baz=21,slow=28			Lg			12 35 06.5	
FIA0	**FINESS Array S**	**7.34**	**207**	*e*P		Pn	12 33 12.1	-1.3
FIA0				*e*S		Sn	12 34 30.8	-6.5
FIA0				*e*SG			12 35 06.5	
SPA0	**Spitsbergen Ar** baz=149,slow=18	**11.12**	**342**	Pn		Pn	12 34 01.3	-3.8
SPA0	**Spitsbergen Ar**	**11.12**	**342**	*e*P		Pn	12 34 01.3	-3.8
HFS	**Hagfors** baz=57,slow=14	**11.60**	**236**	Pn		Pn	12 34 07.5	-4.1
HFS	baz=43,slow=28			Sn		Sn	12 36 10.1	-12
HFS	**Hagfors**	**11.60**	**236**	*e*P		Pn	12 34 07.5	-4.1
HFS				*e*S		Sn	12 36 10.1	-12
HFS	**Hagfors** SNR=50	**11.60**	**236**	Sn		Sn	12 36 10.1	-12

*IDC **25** 12:45:22.4±1.4, 4446S×16753E, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.6/9, mbtmp3.5/2, Error ellipse: s-maj=96.8km s-min=42.0km az=37.0*
*NEIC **25** 12:45:24.9, 4429S×167.17E, h12km, ML4.4(WEL), After WEL.*
*ISCJB **25** 12:45:26.3±1.1, 4427S±004×1673E±0.1, h38km±15km, mb3.5/2, Error ellipse: s-maj=13.8km s-min=5.5km az=40.3*
*WEL **25** 12:45:26.1±0.5, 4436S×16726E, h12km, ML4.4/18, Error ellipse: s-maj=3.9km s-min=3.1km az=90.0*

WEL Felt in the Otago region, maximum reported intensity MM 4.

ISC 25 12:45:26.1±1.3, 4434S±003×16732E±006, h19km±8km, n67, σ1§04/70, mb3.5/2, 4D, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.55**	**127**	P*	**Pb**	**12 45 37.9**	**+0.8**
MSZ				S*	**Sb**	**12 45 44.5**	**-0.1**
MSZ				S*	**Sb**	**12 45 44.6**	**+0.1**
MSZ	**Milford Sound**	**0.55**	**127**	P	**Pb**	**12 45 38.0**	**+0.9**
MSZ				S	**Sg**	**12 45 44.6**	**0.0**
JCZ	**Jackson Bay**	**1.07**	**76**	P*	**Pb**	**12 45 46.0**	**0.0**
JCZ				S*	**Sb**	**12 45 59.0**	**-0.6**
JCZ	**Jackson Bay**	**1.07**	**76**	P	**Pb**	**12 45 46.1**	**+0.1**
DCZ	**Deep Cove**	**1.14**	**186**	⇓P*	**Pb**	**12 45 45.7**	**-1.5**
DCZ	**Deep Cove**	**1.14**	**186**	P	**Pn**	**12 45 45.7**	**-1.3**
WKZ	**Wanaka**	**1.31**	**112**	⇓PN	**Pn**	**12 45 50.5**	**+1.2**
WKZ				SN	**Sn**	**12 46 06.5**	**+0.2**
WKZ	**Wanaka**	**1.31**	**112**	P	**Pn**	**12 45 50.5**	**+1.2**
WHZ	**Wether Hill Ro**	**1.62**	**164**	⇓PN	**Pn**	**12 45 54.0**	**+0.5**
WHZ				SN	**Sn**	**12 46 13.7**	**-0.1**
WHZ	**Wether Hill Ro**	**1.62**	**164**	P	**Pn**	**12 45 54.0**	**+0.5**
EAZ	**Earnscleugh**	**1.68**	**123**	PN	**Pn**	**12 45 55.6**	**+1.2**
FOZ	**Fox Glacier**	**1.88**	**66**	PN	**Pn**	**12 45 57.7**	**+0.6**
FOZ	**Fox Glacier**	**1.88**	**66**	P	**Pn**	**12 45 57.8**	**+0.6**
LBZ	**Lake Benmore**	**2.06**	**92**	PN	**Pn**	**12 45 59.8**	**+0.2**
LBZ	**Lake Benmore**	**2.06**	**92**	*e*P	**Pn**	**12 46 00.2**	**+0.6**
TUZ	**Tuapeka**	**2.30**	**135**	PN	**Pn**	**12 46 03.7**	**+0.7**
TUZ	**Tuapeka**	**2.30**	**135**	*e*P	**Pn**	**12 46 03.6**	**+0.6**
ODZ	**Otahua Downs**	**2.48**	**108**	PN	**Pn**	**12 46 05.5**	**+0.2**
ODZ	**Otahua Downs**	**2.48**	**108**	P	**Pn**	**12 46 05.7**	**+0.3**
APZ	**The Paps**	**2.54**	**170**	PN	**Pn**	**12 46 06.6**	**+0.4**
SYZ	**Scrubby Hill**	**2.54**	**150**	PN	**Pn**	**12 46 06.6**	**+0.2**
RPZ	**Rata Peaks**	**2.77**	**78**	PN	**Pn**	**12 46 09.3**	**0.0**
RPZ	**Rata Peaks**	**2.77**	**78**	P	**Pn**	**12 46 09.4**	**0.0**
WVZ	**Waitaha Valley**	**2.78**	**64**	PN	**Pn**	**12 46 08.5**	**-1.0**
WVZ	**Waitaha Valley**	**2.78**	**64**	P	**Pn**	**12 46 08.6**	**-1.0**
HHSZ	**Highcliff Hill**	**2.79**	**125**	⇓PN	**Pn**	**12 46 10.7**	**+1.0**
MQZ	**McQueen's Vall**	**3.90**	**83**	PN	**Pn**	**12 46 23.4**	**-1.6**
CRLZ	**Canterbury Las**	**3.91**	**81**	PN	**Pn**	**12 46 23.6**	**-1.4**
CRLZ	**Canterbury Las**	**3.91**	**81**	P	**Pn**	**12 46 23.7**	**-1.3**
LTZ	**Lake Taylor**	**3.92**	**68**	PN	**Pn**	**12 46 24.1**	**-1.2**
DSZ	**Denniston Nort**	**4.19**	**53**	PN	**Pn**	**12 46 28.2**	**-0.7**
DSZ	**Denniston Nort**	**4.19**	**53**	P	**Pn**	**12 46 28.5**	**-0.4**
THZ	**Tophouse**	**4.84**	**60**	PN	**Pn**	**12 46 37.6**	**-0.3**
THZ	**Tophouse**	**4.84**	**60**	*e*P	**Pn**	**12 46 37.9**	**+0.1**
KHZ	**Kahutara**	**4.93**	**69**	*e*PN	**Pn**	**12 46 37.5**	**-1.6**
QRZ	**Quartz Range**	**5.21**	**49**	PN	**Pn**	**12 46 42.5**	**-0.4**
QRZ	**Quartz Range**	**5.21**	**49**	P	**Pn**	**12 46 42.6**	**-0.3**
NNZ	**Nelson**	**5.44**	**57**	PN	**Pn**	**12 46 46.1**	**-0.1**
NNZ	**Nelson**	**5.44**	**57**	*e*P	**Pn**	**12 46 46.3**	**+0.1**
BSWZ	**Blackbirch Sta**	**5.48**	**64**	PN	**Pn**	**12 46 49.1**	**+2.5**
BSWZ	**Blackbirch Sta**	**5.48**	**64**	P	**Pn**	**12 46 49.3**	**+2.7**
TUWZ	**Tuamarina**	**5.67**	**61**	*e*PN	**Pn**	**12 46 50.3**	**+1.0**
TCW	**Tory Channel**	**6.00**	**61**	P	**Pn**	**12 46 54.3**	**+0.5**
SNZO	**South Karori**	**6.22**	**63**	*e*P	**Pn**	**12 46 56.2**	**-0.6**
MRW	**Makara Radio**	**6.26**	**63**	P	**Pn**	**12 47 00.2**	**+2.8**
CAW	**Cannon Point**	**6.56**	**63**	P	**Pn**	**12 46 59.6**	**-1.9**
KIW	**Kapiti Island**	**6.59**	**61**	P	**Pn**	**12 47 01.4**	**-0.5**
MRZ	**Mangatainoka R**	**7.13**	**62**	*e*PN	**Pn**	**12 47 07.0**	**-2.3**
MRZ				SN	**Sn**	**12 48 22.6**	**-7.0**
MRZ	**Mangatainoka R**	**7.13**	**62**	*e*P	**Pn**	**12 47 07.1**	**-2.2**
TIWZ	**Tintock**	**7.26**	**64**	SN	**Sn**	**12 48 25.8**	**-7.2**
WAZ	**Wanganui**	**7.32**	**54**	PN	**Pn**	**12 47 13.3**	**+1.5**
WAZ	**Wanganui**	**7.32**	**54**	*e*P	**Pn**	**12 47 13.5**	**+1.6**
VRZ	**Vera Road**	**7.62**	**49**	PN	**Pn**	**12 47 16.1**	**0.0**
VRZ	**Vera Road**	**7.62**	**49**	*e*P	**Pn**	**12 47 16.7**	**+0.6**
WNVZ	**Wahianoa**	**7.96**	**54**	P	**Pn**	**12 47 22.7**	**+2.1**
HIZ	**Hauiti**	**8.12**	**47**	PN	**Pn**	**12 47 22.4**	**-0.5**
HIZ	**Hauiti**	**8.12**	**47**	*e*P	**Pn**	**12 47 22.6**	**-0.3**
WCZ	**Waipu Caves**	**9.96**	**35**	PN	**Pn**	**12 47 48.2**	**0.0**
WCZ	**Waipu Caves**	**9.96**	**35**	*e*P	**Pn**	**12 47 48.3**	**+0.1**
ASAR	**Alice Springs**	**34.19**	**296**	P	**P**	**12 52 11.4**	**+1.2**
	0.5nm,0.7s,mb3.5,baz=140,slow=7.6,SNR=5.6						
ASAR				PcP	PcP	12 54 46.2	-0.6
	0.8nm,0.7s,baz=135,slow=4.1,SNR=8.1						
WRA	**Warramunga Arr**	**36.64**	**301**	P	**P**	**12 52 32.0**	**+0.8**
	0.4nm,0.6s,mb3.4,baz=136,slow=8.0,SNR=7.3						
WRA				PcP	PcP	12 54 53.4	-0.6
	0.4nm,0.4s,baz=139,slow=3.1,SNR=5.6						
VNA3	**Neumayer Olymp**	**64.71**	**181**	*e*	**P**	**12 56 02.2**	**-0.6**
VNA3				*e*	pP	12 56 07.2	-1.9
VNA2	**Neumayer--Watz**	**64.98**	**182**	*e*	**P**	**12 56 03.2**	**-1.4**
	baz=155,slow=4.3						
VNA2				*e*		12 56 05.0	
VNA2				*e*	pP	12 56 07.8	-3.1
BRTR	**Keskin Array B**	**145.64**	**279**	PKPbc	PKPbc	13 05 02.9	-0.5
	1.3nm,0.8s,baz=144,slow=4.4,SNR=7.8						
TORD	**Torodi Ar. Bea**	**146.56**	**206**	PKPbc	PKPbc	13 05 05.1	-1.0
	0.8nm,0.4s,baz=125,slow=2.3,SNR=8.6						
ARCES	**ARCESS Array B**	**148.25**	**336**	PKPbc	PKPbc	13 05 09.5	-1.3
	2.7nm,0.7s,baz=72,slow=4.0,SNR=7.0						
FINES	**FINESS Array B**	**151.60**	**321**	PKPbc	PKPbc	13 05 17.5	-1.5
	0.9nm,0.5s,baz=85,slow=4.4,SNR=11						

*ISCJB **25** 12:50:49.4±0.9, 503S±03×114.1E±06, h10km, mb4.0/6, MS3.7/2, Error ellipse: s-maj=64.4km s-min=14.0km az=66.3*

*IDC **25** 12:50:49.6±1.0, 5038S×114.16E, h0km, mb4.1/6, mb1 4.2/6, mb1mx4.0/12, mbtmp4.1/6, MS3.7/3, Ms1 3.7/3, ms1mx3.3/14, Error ellipse: s-maj=73.9km s-min=18.3km az=123.0*

ISC 25 12:50:51.2±0.9, 504S±03×1142E±06, h10km, n12, σ0§57/8, mb4.0/6, MS3.7/2, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**17.58**	**9**	LR	LR	12 59 58.7	
	comp=Z,184nm,21.6s,baz=337,slow=31						
STKA	**Stephens Creek**	**27.47**	**58**	P	**P**	**12 56 37.3**	**-0.1**
	1.5nm,0.7s,mb3.6,baz=207,slow=9.0,SNR=2.1						
MAW	**Mawson**	**30.36**	**216**	P	**P**	**12 57 02.5**	**-0.7**
	2.3nm,0.7s,mb4.0,baz=79,slow=14,SNR=4.1						
ASAR	**Alice Springs**	**30.77**	**37**	P	**P**	**12 57 06.5**	**-0.2**
	1.6nm,0.8s,mb3.9,baz=207,slow=7.7,SNR=16						
VNDA	**Vanda**	**32.48**	**163**	LR	LR	13 09 41.5	
	comp=Z,126nm,18.8s,MS3.6,baz=1.9,slow=35						
FITZ	**Fitzroy Crossi**	**33.48**	**20**	P	**P**	**12 57 31.0**	**+0.5**
	1.8nm,0.7s,mb4.1,baz=168,slow=12,SNR=5.9						
WRA	**Warramunga Arr**	**34.32**	**35**	P	**P**	**12 57 37.7**	**-0.2**
	2.4nm,0.7s,mb4.2,baz=204,slow=8.7,SNR=12						
SNAA	**Sanae**	**50.46**	**201**	P	**P**	**12 59 48.5**	**-0.6**
	1.4nm,0.7s,mb4.1,baz=142,slow=9.8,SNR=12						
SNAA	**Sanae**	**50.46**	**201**	*e*	**P**	**12 59 42.9**	**-6.2**
SNAA				*e*		12 59 50.0	
VNA2	**Neumayer--Watz**	**52.03**	**201**	*e*	**P**	**13 00 02.0**	**+1.1**
VNA2				*e*		13 00 07.4	
PSI	**Prapat**	**54.58**	**341**	LR	LR	13 19 50.7	
	comp=Z,83nm,19.4s,MS3.8,baz=155,slow=32						
YKA	**Yellowknife Ar**	**151.19**	**46**	PKPbc	PKPbc	13 10 43.1	-1.6
	0.7nm,0.7s,baz=285,slow=2.0,SNR=14						

IDC 25 12:51:07.5±5.3, 2040N×12075E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/17, mbtmp3.4/3, Error ellipse: s-maj=342.4km s-min=35.5km az=87.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.24**	**161**	P	P	12 59 01.4	-0.9
	1.2nm,0.8s,baz=340,slow=8.4,SNR=11						
ASAR	**Alice Springs**	**45.63**	**163**	P	P	12 59 31.1	+1.6
	0.2nm,0.5s,baz=0.6,slow=12,SNR=4.7						
YKA	**Yellowknife Ar**	**86.61**	**22**	P	P	13 03 52.5	-0.2
	0.2nm,0.6s,baz=309,slow=4.6,SNR=4.6						

*IDC **25** 13:22:17.8±1.0, 2977S×17699W, h0km, mb4.6/5, mb1 4.6/8, mb1mx4.4/17, mbtmp4.5/8, ML3.9/3, MS4.1/12, Ms1 4.1/12, ms1mx3.9/22, Error ellipse: s-maj=25.9km s-min=19.5km az=42.0*

*NEIC **25** 13:22:18.8±1.0, 2983S×17691W, h10km, mb4.9/6, Error ellipse: s-maj=19.8km s-min=14.5km az=76.0*

*HRVD **25** 13:22:18.8±0.5, 2950S×17679W, h30km±1km, MW4.9/48, Centroid moment Tensor Solution. LP body waves: s21,c26;Mantle waves: s48,c62; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.74±.19; $M_{\theta\theta}$-0.82±.13; $M_{\phi\phi}$-1.92±.12; $M_{r\theta}$-0.39±.24; $M_{\theta\phi}$-0.48±.09; $M_{r\phi}$1.45±.15; Best double couple: M_o2.81600×10^{16} NP1:ϕ208.00000°, δ32.00000°, λ110.00000°. NP2: ϕ4.00000°, δ60.00000°, λ78.00000°. Principal axes: T 3.2190, Plg72.0000°, Azm246.0000°; N -0.8030, Plg10.0000°, Azm10.0000°; P -2.4130, Plg14.0000°, Azm103.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*ISCJB **25** 13:22:22.0±1.8, 3010S±003×17756W±0.10, h13km±10km, mb4.7/9, MS4.1/10 Error ellipse: s-maj=13.9km s-min=5.5km az=11.9*

*MOS **25** 13:22:23.1±1.4, 2988S×17728W, h34km, mb4.8/9, Error ellipse: s-maj=32.8km s-min=17.9km az=20.7*

ISC 25 13:22:22.4±1.6, 3002S±003×17745W±010, h9km±9km, n72, σ1§17/48, mb4.7/9, MS4.1/10, 1C-3D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.87**	**332**	Pn	**Pn**	**13 22 38.7**	**-2.2**
	1μm,0.3s,baz=140,slow=3.7,SNR=48						
RAO				Sn	**Sn**	**13 22 53.0**	**-0.7**
	7μm,0.3s,baz=171,slow=22,SNR=29						
RAO	**Raoul Island**	**0.87**	**332**	P	**Pg**	**13 22 38.7**	**-0.5**
RAO						14 22 53.0	
PUZ	**Puketiti**	**8.78**	**203**	*e*PN	**Pn**	**13 24 29.3**	**-0.3**
PUZ				SN	**Sn**	**13 26 12.7**	**+4.0**
MWZ	**Matawai**	**9.27**	**205**	*e*PN	**Pn**	**13 24 37.8**	**+1.4**
MWZ				SN	**Sn**	**13 26 25.7**	**+4.9**
URZ	**Urewera**	**9.37**	**207**	Pn	**Pn**	**13 24 37.9**	**+0.3**
	0.8nm,0.3s,baz=15,slow=19,SNR=6.2						
URZ				Sn	**Sn**	**13 26 30.8**	**+7.7**
	3.3nm,0.3s,baz=169,slow=22,SNR=7.6						
URZ	**Urewera**	**9.37**	**207**	*e*Pn	**Pn**	**13 24 36.6**	**-1.0**
URZ				SN	**Sn**	**13 26 28.2**	**+5.1**
BKZ	**Black Stump Fm**	**10.39**	**207**	*e*PN	**Pn**	**13 24 50.8**	**-0.9**
BKZ				SN	**Sn**	**13 26 54.3**	**+6.0**
TIWZ	**Tintock**	**12.02**	**205**	SN	**Sn**	**13 27 28.9**	**+0.7**
MRZ	**Mangatainoka R**	**12.04**	**206**	*e*PN	**Pn**	**13 25 12.0**	**-2.2**
MRZ				SN	**Sn**	**13 27 27.2**	**-1.4**
KIW	**Kapiti Island**	**12.47**	**208**	SN	**Sn**	**13 27 38.1**	**-1.1**
TCW	**Tory Channel**	**13.03**	**209**	SN	**Sn**	**13 27 52.9**	**+0.1**
NNZ	**Nelson**	**13.42**	**211**	SN	**Sn**	**13 28 01.9**	**-0.4**
THZ	**Tophouse**	**14.07**	**211**	*e*PN	**Pn**	**13 25 43.2**	**+1.3**
KHZ	**Kahutara**	**14.34**	**208**	*e*PN	**Pn**	**13 25 44.2**	**-1.3**
MQZ	**McQueen's Vall**	**15.77**	**207**	SN	**Sn**	**13 28 52.6**	**-7.0**
RPZ	**Rata Peaks**	**16.45**	**211**	Pn	**Pn**	**13 26 14.9**	**+1.4**
	1.8nm,0.3s,baz=25,slow=19,SNR=8.4						
RPZ				Sn	**Sn**	**13 29 08.6**	**-7.5**
	0.8nm,0.3s,baz=82,slow=10,SNR=3.0						
DZM	**Mont Dzumac**	**16.49**	**295**	Pn	**Pn**	**13 26 15.2**	**+1.3**
	0.1nm,0.3s,baz=67,slow=17,SNR=2.2						
DZM				LR	LR	13 31 28.0	
	comp=Z,2μm,19.2s,baz=53,slow=33						
RAR	**Rarotonga**	**18.18**	**65**	LR	LR	13 31 20.2	
	comp=Z,544nm,19.4s,baz=106,slow=31						
TBI	**Tubuai**	**25.84**	**82**	*e*S	**S**	**13 32 21.6**	**-2.2**
	110nm,27.9s						
TBI				*e*LR	LR	13 34 06.4	
	668nm,28.0s						
PPT	**Papeete**	**28.27**	**70**	*e*LR	LR	13 35 21.9	
	640nm,25.0s						
PPT	**Papeete**	**28.27**	**70**	LR	LR	13 36 10.6	
	comp=Z,451nm,18.9s,MS4.1,baz=3.0,slow=30						
HNR	**Honiara**	**29.42**	**309**	LR	LR	13 38 10.8	
	comp=Z,219nm,20.2s,MS3.8,baz=179,slow=32						
CTA	**Charters Tower**	**34.21**	**278**	P	**P**	**13 29 09.7**	**+1.4**
	4.3nm,0.5s,mb4.6,baz=102,slow=9.2,SNR=9.5						
CTA				LR	LR	13 42 19.9	
	comp=Z,697nm,18.1s,MS4.4,baz=110,slow=35						
CTA	**Charters Tower**	**34.21**	**278**	P	**P**	**13 29 09.7**	**+1.4**
CTA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
CTA				MLR	MLR		
	comp=Z,697nm,18.1s						
CTAO	**Charters Tower**	**34.21**	**278**	*e*P	**P**	**13 29 09.6**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.9						
CTAO	**Charters Tower**	**34.21**	**278**	*e*P	**P**	**13 29 09.6**	**+1.2**
	comp=Z,6.5nm,0.4s,mb4.9						
STKA	**Stephens Creek**	**35.03**	**256**	*e*P	**P**	**13 29 17.0**	**+1.6**
	comp=Z,5.9nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**35.03**	**256**	P	**P**	**13 29 15.8**	**+0.4**
	comp=Z,10.0nm,0.9s,mb4.7,baz=91,slow=8.8,SNR=14						
STKA				LR	LR	13 42 13.7	
	comp=Z,514nm,19.1s,MS4.3,baz=292,slow=34						
RKT	**Rikitea**	**38.44**	**90**	*e*LR	LR	13 39 59.7	
	comp=Z,400nm,28.0s						
ASAR	**Alice Springs**	**43.61**	**266**	P	**P**	**13 30 27.4**	**+0.3**
	comp=Z,3.2nm,0.7s,mb4.2,baz=107,slow=7.4,SNR=41						
ASAR	**Alice Springs**	**43.61**	**266**	P	**P**	**13 30 27.4**	**+0.4**
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WB2	**Warramunga Arr**	**44.55**	**271**	*e*P	**P**	**13 30 34.5**	**-0.1**
WRAB	**Tennant Creek**	**44.55**	**271**	*e*P	**P**	**13 30 34.5**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.0						
WRAB	**Tennant Creek**	**44.55**	**271**	*e*P	**P**	**13 30 34.5**	**-0.2**
	comp=Z,21nm,0.9s,mb5.0						
WRA	**Warramunga Arr**	**44.56**	**271**	P	**P**	**13 30 33.8**	**-0.9**
	comp=Z,8.1nm,0.6s,mb4.8,baz=112,slow=7.1,SNR=102						
WRA	**Warramunga Arr**	**44.56**	**271**	P	**P**	**13 30 33.8**	**-0.9**
WRA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
FORT	**Forrest**	**46.60**	**255**	*e*P	**P**	**13 30 52.3**	**+1.4**
	comp=Z,17nm,0.9s,mb5.0						
VNDA	**Vanda**	**48.52**	**186**	LR	LR	13 48 48.7	
	comp=Z,126nm,19.5s,MS3.9,baz=24,slow=33						
FITZ	**Fitzroy Crossi**	**52.84**	**269**	⇓*i*P	**P**	**13 31 38.3**	**0.0**
	comp=Z,14nm,1.0s,mb4.8						
MBWA	**Marble Bar**	**56.74**	**263**	*e*P	**P**	**13 32 05.6**	**-1.1**
QSPA	**South Pole Qui**	**60.09**	**180**	*e*P	**P**	**13 32 32.4**	**+2.4**
	comp=Z,8.3nm,0.8s,mb4.8						
MAW	**Mawson**	**72.83**	**200**	P	**P**	**13 33 51.0**	**-0.5**
	comp=Z,4.2nm,1.0s,mb4.3,baz=287,slow=21,SNR=3.0						
MAW				LR	LR	14 05 41.2	
	comp=Z,174nm,19.3s,MS4.3,baz=241,slow=36						
MAW	**Mawson**	**72.83**	**200**	*e*P	**P**	**13 33 50.7**	**-0.8**
VNA3	**Neumayer Olymp**	**78.65**	**176**	*e*	**P**	**13 34 24.6**	**-0.2**
VNA3				*e*		13 34 34.9	
VNA3				*e*		13 34 37.3	
VNA3				*e*		13 34 46.4	
VNA2	**Neumayer--Watz**	**79.09**	**177**	*e*	**P**	**13 34 27.7**	**+0.5**
	baz=223,slow=2.2						
VNA2				*e*		13 34 38.5	
VNA2				*e*		13 34 40.3	
VNA2				*e*		13 34 48.8	
VNA2				*e*		13 34 53.1	
PLCA	**Paso Flores**	**82.42**	**133**	LR	LR	14 02 45.8	
	comp=Z,93nm,21.0s,MS4.1,baz=182,slow=30						
KLR	**Kul'dur**	**90.95**	**320**	*e*P	**P**	**13 35 29.2**	**+2.4**
PDAR	**Pinedale Array**	**95.53**	**43**	LR	LR	14 15 28.0	
	comp=Z,84nm,18.7s,MS4.2,baz=254,slow=34						
LPAZ	**La Paz**	**97.86**	**114**	LR	LR	14 09 15.8	
	comp=Z,34nm,20.6s,MS3.8,baz=62,slow=29						
CPUP	**Villa Florida**	**99.84**	**128**	LR	LR	14 11 33.6	
	comp=Z,75nm,19.2s,MS4.2,baz=207,slow=30						
MKAR	**Makanchi Array**	**117.89**	**310**	PKP	PKPdf	13 41 06.5	-2.9
	comp=Z,0.6nm,0.8s,baz=76,slow=1.5,SNR=4.0						
MKAR	**Makanchi Array**	**117.89**	**310**	PKIKP	PKPdf	13 41 06.5	-2.9
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KURK	**Kurchatov**	**121.13**	**314**	*i* PKIKP	PKPdf	13 41 11.7	-4.0
ARCES	**ARCESS Array B**	**138.32**	**348**	PKP	PKPdf	13 41 45.5	-2.8
	comp=Z,5.5nm,1.0s,baz=8.1,slow=1.7,SNR=4.7						
ARCES	**ARCESS Array B**	**138.32**	**348**	PKIKP	PKPdf	13 41 45.5	-2.7
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GNI	**Garni**	**144.32**	**298**	*i* PKIKP	PKPdf	13 41 55.6	-3.4
KAF	**Kangasniemi**	**144.35**	**341**	*e*p	PKPdf	13 41 52.7	-6.3
	comp=Z,3.7nm,0.6s						
KAF	**Kangasniemi**	**144.35**	**341**	*e*PKIKP	PKPdf	13 41 52.7	-6.3
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
FINES	**FINESS Array B**	**144.95**	**340**	PKP	PKPdf	13 41 53.8	-6.3
	comp=Z,3.4nm,0.5s,baz=77,slow=2.4,SNR=33						
FINES	**FINESS Array B**	**144.95**	**340**	PKIKP	PKPdf	13 41 53.8	-6.3
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
OBN	**Obninsk**	**145.13**	**326**κ	*i* PKIKP	PKPdf	13 41 56.8	-3.6
OBN				*e*		13 42 08.0	
OBN				pmax	pmax		
	comp=Z,41nm,1.6s						
KIV	**Kislovodsk**	**145.41**	**305**	⇑*i* PKIKP	PKPdf	13 41 58.1	-2.7
NB2	**NORSAR Subarra**	**148.45**	**352**	PKPa	PKPdf	13 42 05.6	-0.3
	comp=Z,3.7nm,0.8s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**148.45**	**352**	PKPbc	PKPdf	13 42 05.2	-0.7
	comp=Z,3.9nm,1.0s,baz=14,slow=4.3,SNR=4.8						
NOA	**NORSAR Array B**	**148.45**	**352**	PKIKP	PKPdf	13 42 05.2	-0.7
NOA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KONO	**Kongsberg**	**149.99**	**353**	*i* PKP2	PKPdf	13 42 10.4	+2.0
AKASG	**Malin Array Be**	**151.28**	**324**	PKPbc	PKPdf	13 42 12.4	+2.0
	comp=Z,3.8nm,0.7s,baz=46,slow=2.0,SNR=17						
AKASG	**Malin Array Be**	**151.28**	**324**	PKIKP	PKPdf	13 42 12.5	+2.1
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRTR	**Keskin Array B**	**152.84**	**299**	PKPbc	PKPdf	13 42 16.6	+3.8
	comp=Z,1.2nm,0.8s,baz=133,slow=5.2,SNR=7.6						
BRTR	**Keskin Array B**	**152.84**	**299**	PKIKP	PKPdf	13 42 16.6	+3.9
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KHC	**Kasperske Hory**	**159.15**	**339**	*e*PKPab	PKPab	13 42 55.0	-3.0
GERES	**GERESS Array B**	**159.37**	**339**	PKPab	PKPab	13 42 54.6	-4.3
	comp=Z,0.2nm,0.4s,baz=32,slow=8.0,SNR=4.4						

*ISCJB **25** 13:56:26.2±0.3, 2188N±004×9462E±004, h28km, mb4.4/46, MS3.7/3, Error ellipse: s-maj=7.0km s-min=4.9km az=72.7*

*MOS **25** 13:56:26.2±1.1, 2184N×9464E, h33km, mb4.7/23, Error ellipse: s-maj=15.0km s-min=6.6km az=117.4*

*BJI **25** 13:56:26.7, 2160N×9436E, h47km, mB4.7, mb4.7, ML4.7, Ms4.1, Msz4.1*

*IDC **25** 13:56:27.9±0.8, 2192N×9470E, h30km±4km, mb3.9/16, mb1 4.1/17, mb1mx4.0/22, mbtmp4.1/17, ML4.3/1, MS3.7/2, Ms1 3.6/2, ms1mx2.8/30, Error ellipse: s-maj=22.0km s-min=13.1km az=48.0*

*NEIC **25** 13:56:27.5±0.4, 2183N×9460E, mb4.5/18, Error ellipse: s-maj=12.8km s-min=7.1km az=51.0*

ISC 25 13:56:28.4±0.3, 2190N±004×9464E±004, h30km, h30km±1.1km:pP-P, n112, σ1§15/112, mb4.4/46, MS3.7/3, 1C-1D, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**4.44**	**326**	*e*PN	**Pn**	**13 57 35.5**	**+1.8**
SHL				*e*SN	**Sn**	**13 58 24.0**	**-0.3**
CHG	**Chiang Mai**	**5.07**	**126**	PG	**Pn**	**13 57 40.0**	**-2.4**
CHG				SG	Sx	13 59 11.4	
CHTO	**Chiang Mai**	**5.07**	**126**	*e*P	**Pn**	**13 57 42.7**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,35nm,0.6s						
CHTO	**Chiang Mai**	**5.07**	**126**	*e*Pn	**Pn**	**13 57 42.7**	**+0.3**
	comp=Z,35nm,0.6s						
CHRT	**Chiangrai**	**5.22**	**112**	PG	**Pn**	**13 57 44.5**	**+0.1**
CHRT				SG	Sx	13 59 07.0	
NST	**Nakhon Sawan**	**8.09**	**139**	P	**Pn**	**13 58 26.0**	**+2.2**
	comp=Z,47nm,0.8s						
KMI	**Kunming**	**8.10**	**65**	P	**Pn**	**13 58 31.3**	**+7.4**
KMI				S	**Sn**	**14 00 07.8**	**+13**
KMI				Smax			
	comp=N,155nm,1.5s						
KMI				Smax			
	comp=E,80nm,1.5s						
KMI				LR	LR		
	comp=N,551nm,7.7s						
KMI				LR	LR		
	comp=E,945nm,12.9s						
KMI				LR	LR		
	comp=Z,1μm,11.6s						
LSA	**Lhasa**	**8.38**	**339**	P	**Pn**	**13 58 31.5**	**+3.7**
LSA				LR	LR		
	comp=N,130nm,13.0s						
LSA				LR	LR		
	comp=E,600nm,17.0s						
LSA				LR	LR		
	comp=Z,380nm,17.0s						
LSA	**Lhasa**	**8.38**	**339

comp=Z,9.0nm,0.6s,mb4.8
KURK Kurchatov 31.38 340 *e*P **P** **14 02 47.3 +0.7**
comp=Z,9.2nm,0.6s,mb4.8
KURK *e*pP pP 14 02 55.4 +0.2
ZAL Zalesovo 32.85 349 P **P** **14 03 00.1 +0.7**
comp=Z,4.7nm,0.6s,mb4.6,baz=299,slow=7.8,SNR=25
ZAL pP pP 14 03 07.3 -0.8
comp=Z,5.0nm,0.5s,baz=306,slow=7.9,SNR=6.9
ZAL LR LR 14 18 54.4
comp=Z,86nm,20.5s,MS3.4,baz=145,slow=41
ZAL Zalesovo 32.85 349 P **P** **14 03 00.2 +0.8**
ZAL *PP pP 14 03 07.4 -0.7
ZAL Zalesovo 32.85 349 P **P** **14 03 00.1 +0.7**
ZAL pP pP 14 03 07.3 -0.8
ZAL LR LR 14 18 54.4
NVS Novosibirsk 33.99 348 *i* P **P** **14 03 08.2 -1.2**
NVS *e*S **S** **14 08 24.2 -8.4**
NVS pmax pmax
comp=Z,19nm,0.9s,mb5.0
NVS pmax pmax
comp=N,9.0nm,0.7s
NVS pmax pmax
comp=E,6.0nm,0.7s
NVS smax
comp=N,10.0nm,1.8s
NVS smax
comp=E,18nm,1.8s
BRVK Borovoye 36.26 335 *e*P **P** **14 03 29.6 +0.7**
BRVK *e*PP pP 14 03 38.0 +0.3
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BRVK Borovoye 36.26 335 *e*P **P** **14 03 29.6 +0.7**
comp=Z,2.3nm,0.6s,mb4.3
BRVK *e*pP pP 14 03 38.0 +0.3
CHKZ Chkalovo 36.61 336 *e*P **P** **14 03 32.2 +0.3**
CHKZ *e*PP pP 14 03 41.0 +0.3
CHKZ pmax pmax
comp=Z,15nm,0.7s,mb4.9
CHKZ Chkalovo 36.61 336 *e*P **P** **14 03 32.2 +0.3**
comp=Z,15nm,0.7s,mb4.9
CHKZ *e*pP pP 14 03 41.0 +0.4
ZRNK Zerenda 36.69 334 *e*P **P** **14 03 32.7 +0.1**
ZRNK *e*PP pP 14 03 41.4 0.0
ZRNK pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
ZRNK Zerenda 36.69 334 *e*P **P** **14 03 32.7 +0.1**
comp=Z,5.3nm,0.6s,mb4.5
ZRNK *e*pP pP 14 03 41.4 +0.1
AKTK Aktyubinsk 40.38 324 P **P** **14 04 03.9 +0.4**
AKTK pP pP 14 04 12.4 0.0
AKTK ScP ScP 14 09 52.3 -1.2
AKTO Aktyubinsk 40.38 324 P **P** **14 04 03.9 +0.4**
comp=Z,2.8nm,0.4s,mb4.3,baz=113,slow=9.5,SNR=10
AKTO pP pP 14 04 12.4 0.0
comp=Z,3.3nm,0.4s,baz=124,slow=9.3,SNR=7.1
AKTO ScP ScP 14 09 52.3 -1.2
comp=Z,0.8nm,0.5s,baz=165,slow=3.9,SNR=6.2
AKTO Aktyubinsk 40.38 324 P **P** **14 04 03.9 +0.3**
AKTO *PP pP 14 04 12.4 0.0
MAT Matsushiro 40.38 59 P **P** **14 04 03.2 -0.4**
MAT Matsushiro 40.38 59 *e*P **P** **14 04 03.0 -0.6**
MAT pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
MAT Matsushiro 40.38 59 *e*P **P** **14 04 03.0 -0.6**
comp=Z,2.1nm,0.5s,mb4.1
MJAR Matsushiro Arr 40.38 59 P **P** **14 04 03.4 -0.2**
comp=Z,2.5nm,0.8s,mb4.0,baz=273,slow=10,SNR=8.5
MJAR pP pP 14 04 12.6 +0.1
comp=Z,8.6nm,0.8s,baz=271,slow=10,SNR=18
MJAR Matsushiro Arr 40.38 59 P **P** **14 04 03.4 -0.2**
MJAR pP pP 14 04 12.6 +0.1
KBD Kabd 42.75 290 *e*P **P** **14 04 24.9 +2.0**
ORR Orenburg 42.76 324 *i* P **P** **14 04 24.1 +1.1**
ORR pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
SVE Sverdlovsk 42.86 333 *e*P **P** **14 04 24.9 +1.0**
SVE pmax pmax
comp=Z,20nm,1.2s,mb4.7
RDF Al-Radifah 42.88 289 *e*P **P** **14 04 25.0 +1.0**
MIB Mutribah 43.05 291 *e*P **P** **14 04 26.8 +1.4**
MIB AMb AMB 14 04 37.7
comp=Z,38nm,0.7s,mb5.2
NAY Al-Naaiem 43.14 290 *e*P **P** **14 04 27.5 +1.3**
NAY AMb AMB 14 04 38.3
comp=Z,19nm,0.7s,mb4.9
ARU Arti 43.50 332 *e*P **P** **14 04 29.0 -0.1**
ARU pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
ARU Arti 43.50 332 *e*P **P** **14 04 29.0 -0.1**
comp=Z,7.2nm,0.7s,mb4.5
KIV Kislovodsk 47.94 310 *e*P **P** **14 05 06.3 +2.2**
KIV pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
TIXI Tiksi 53.49 13 *e*P **P** **14 05 40.5 -5.4**
TIXI pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
BRTR Keskin Array B 54.32 304 P **P** **14 05 52.4 +0.4**
comp=Z,1.6nm,0.9s,mb4.0,baz=101,slow=5.2,SNR=6.4
WRA Warramunga Arr 56.87 134 P **P** **14 06 09.9 -0.5**
comp=Z,0.9nm,0.5s,mb4.1,baz=320,slow=7.5,SNR=34
WB2 Warramunga Arr 56.88 134 *e*P **P** **14 06 10.1 -0.3**
AKASG Malin Array Be 57.87 317 P **P** **14 06 15.5 -1.9**
comp=Z,1.7nm,0.4s,mb4.4,baz=82,slow=6.4,SNR=11
JOF Joensuu 58.63 331 *e*p **P** **14 06 22.0 -0.7**
comp=Z,2.0nm,0.4s,mb4.5
JOF Joensuu 58.63 331 *e*P **P** **14 06 22.0 -0.7**
JOF pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
ASAR Alice Springs 59.25 138 P **P** **14 06 26.6 -0.4**
comp=Z,0.8nm,0.6s,mb3.9,baz=320,slow=6.6,SNR=18
MLR Muntele Rosu 59.94 311⇑ *i*P **P** **14 06 33.1 +1.4**
BURAR Bucovina Array 60.40 313⇓ *i*P **P** **14 06 35.6 +0.7**
FINES FINESS Array B 60.77 329 P **P** **14 06 36.5 -0.9**
comp=Z,1.1nm,0.6s,mb4.2,baz=108,slow=6.2,SNR=7.5
ARCES ARCESS Array B 62.39 338 P **P** **14 06 48.0 -0.3**
comp=Z,3.2nm,0.6s,mb4.6,baz=88,slow=6.9,SNR=10
ARCES pP pP 14 06 56.0 -1.6
comp=Z,4.1nm,0.6s,baz=82,slow=6.7,SNR=3.5
ARCES ARCESS Array B 62.39 338 P **P** **14 06 48.0 -0.3**
ARCES pP pP 14 06 56.0 -1.6
NB2 NORSAR Subarra 67.93 329 P **P** **14 07 22.9 -1.4**
comp=Z,1.3nm,0.5s,mb4.2,baz=84,slow=6.5
NOA NORSAR Array B 67.93 329 P **P** **14 07 23.2 -1.1**
comp=Z,1.1nm,0.6s,mb4.1,baz=85,slow=6.5,SNR=9.2
GERES GERESS Array B 67.97 315 P **P** **14 07 24.3 -0.3**
comp=Z,1.4nm,0.7s,mb4.1,baz=64,slow=6.2,SNR=9.4
CDF Champ du Feu 72.24 316 *e*P **P** **14 07 49.4 -1.3**
comp=Z,1.6nm,0.5s,mb3.9
CDF Champ du Feu 72.24 316 *e*P **P** **14 07 49.4 -1.3**
CDF pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
CDF Champ du Feu 72.24 316 *e*P **P** **14 07 49.4 -1.3**
comp=Z,0.8nm,0.5s,mb3.9
PGF Pioggiola 72.42 309 *e*P **P** **14 07 50.7 -1.1**
comp=Z,34nm,1.1s,mb4.9
PGF Pioggiola 72.42 309 *e*P **P** **14 07 50.7 -1.1**
PGF pmax pmax
comp=Z,17nm,1.1s,mb4.9
PGF Pioggiola 72.42 309 *e*P **P** **14 07 50.7 -1.1**
comp=Z,17nm,1.1s,mb4.9
LPG La Plagne 73.28 313 *e*P **P** **14 07 56.0 -0.9**
comp=Z,12nm,1.0s,mb4.5
LPG La Plagne 73.28 313 *e*P **P** **14 07 56.0 -0.9**
LPG pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
LPG La Plagne 73.28 313 *e*P **P** **14 07 56.0 -0.9**
comp=Z,6.2nm,1.0s,mb4.5
LPL La Plagne 73.29 313 *e*P **P** **14 07 55.8 -1.1**
comp=Z,5.9nm,0.5s,mb4.5
LPL La Plagne 73.29 313 *e*P **P** **14 07 55.8 -1.1**
LPL pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
LPL La Plagne 73.29 313 *e*P **P** **14 07 55.8 -1.1**
comp=Z,3.0nm,0.5s,mb4.5
ORIF Oris-en-Rattie 74.02 312 *e*P **P** **14 08 00.0 -1.2**
comp=Z,4.7nm,0.6s,mb4.3
ORIF Oris-en-Rattie 74.02 312 *e*P **P** **14 08 00.0 -1.2**
ORIF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
ORIF Oris-en-Rattie 74.02 312 *e*P **P** **14 08 00.0 -1.2**
comp=Z,2.3nm,0.6s,mb4.3
VIVF Saint-Julien-I 74.87 313 *e*P **P** **14 08 04.8 -1.4**
comp=Z,2.3nm,0.6s,mb4.0
VIVF Saint-Julien-I 74.87 313 *e*P **P** **14 08 04.8 -1.4**
VIVF pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
VIVF Saint-Julien-I 74.87 313 *e*P **P** **14 08 04.8 -1.4**
comp=Z,1.1nm,0.6s,mb4.0
SMF Signal de Mont 74.94 314 *e*P **P** **14 08 05.4 -1.2**
comp=Z,8.8nm,0.8s,mb4.5
SMF Signal de Mont 74.94 314 *e*P **P** **14 08 05.4 -1.2**
SMF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
SMF Signal de Mont 74.94 314 *e*P **P** **14 08 05.4 -1.2**
comp=Z,4.4nm,0.8s,mb4.4
SSF Saint Saulge 75.04 315 *e*P **P** **14 08 05.5 -1.7**
comp=Z,14nm,1.1s,mb4.5
SSF Saint Saulge 75.04 315 *e*P **P** **14 08 05.5 -1.7**
SSF pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
SSF Saint Saulge 75.04 315 *e*P **P** **14 08 05.5 -1.7**
comp=Z,6.9nm,1.1s,mb4.5
AVF Avril sur Loir 75.22 315 *e*P **P** **14 08 06.6 -1.6**
comp=Z,3.4nm,0.6s,mb4.1
AVF Avril sur Loir 75.22 315 *e*P **P** **14 08 06.6 -1.6**
AVF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
AVF Avril sur Loir 75.22 315 *e*P **P** **14 08 06.6 -1.6**
comp=Z,1.7nm,0.6s,mb4.2
TCF Toulx Ste Croi 76.12 314 *e*P **P** **14 08 12.1 -1.2**
LBTB Lobatse 81.64 239 *e*P **P** **14 08 44.4 +0.8**
ILAR Eielson Array 81.65 22 P **P** **14 08 41.4 -2.3**
comp=Z,0.8nm,0.7s,mb3.8,baz=302,slow=5.4,SNR=12
INK Inuvik 83.46 16 *e*P **P** **14 08 51.7 -1.4**
INK *e*PP pP 14 08 59.7 -2.9
INK pmax pmax
comp=Z,4.0nm,1.0s
INK Inuvik 83.46 16 *e*P **P** **14 08 51.7 -1.4**
comp=Z,4.1nm,1.0s,mb4.4
INK *e*pP pP 14 08 59.7 -2.9
TORD Torodi Ar. Bea 87.86 283 P **P** **14 09 16.1 +1.1**
comp=Z,0.4nm,0.5s,mb3.9,baz=67,slow=4.1,SNR=5.7
YKA Yellowknife Ar 92.74 13 P **P** **14 09 36.0 -1.7**
comp=Z,0.1nm,0.3s,mb3.7,baz=330,slow=4.3,SNR=3.7
VNA2 Neumayer--Watz 114.45 201 *e* PKiKP 14 15 04.9 -0.4
baz=48,slow=1.9
VNA2 *e* 14 15 06.6
VNA3 Neumayer Olymp 115.16 200 *e* PKiKP 14 15 05.8 -0.9
VNA3 *e* 14 15 07.4
SDV Santo Domingo 146.16 333 *e*PKPdf PKPdf 14 16 05.1 +0.5
CPUP Villa Florida 154.06 255 PKPbc PKPbc 14 16 24.3 -0.8
comp=Z,0.8nm,0.4s,baz=96,slow=3.5,SNR=4.9

*IDC **25** 14:10:08.6±1.1, 20.34N×119.73E, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.6/18, mbtmp3.6/5, Error ellipse: s-maj=43.6km s-min=22.7km az=77.0*
*ISCJB **25** 14:10:14.8±2.7, 203N±0.1×119.7E±0.3, h59km±25km, mb3.5/5, Error ellipse: s-maj=42.8km s-min=23.0km az=168.1*
ISC 25 14:10:16.1±2.4, 204N±0.1×198E±0.3, h57km±24km, n8, σ1§16/8, mb3.5/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**3.28**	**144**	*e*P		**Pn**		**14 11 03.0**	**-2.1**
CAUP	**Cauayan**	**3.92**	**150**	*e*P		**Pn**		**14 11 14.6**	**+0.8**
BALP	**Baler**	**4.91**	**159**	*e*P		**Pn**		**14 11 28.3**	**+0.9**
MJAR	**Matsushiro Arr**	**22.78**	**41**	P		**P**		**14 15 14.0**	**+0.3**
	1.5nm,0.7s,mb3.5,baz=239,slow=12,SNR=4.7								
MKAR	**Makanchi Array**	**40.28**	**320**	P		**P**		**14 17 47.2**	**-0.4**
	0.2nm,0.5s,mb3.1,baz=110,slow=13,SNR=2.2								
WRA	**Warramunga Arr**	**42.53**	**160**	P		**P**		**14 18 05.6**	**-0.4**
	2.4nm,1.2s,mb3.6,baz=342,slow=8.8,SNR=8.1								
ASAR	**Alice Springs**	**45.88**	**162**	P		**P**		**14 18 33.0**	**+0.1**
	0.4nm,0.9s,mb3.4,baz=346,slow=7.2,SNR=8.6								
YKA	**Yellowknife Ar**	**86.97**	**22**	P		**P**		**14 22 55.4**	**+0.3**
	0.3nm,0.7s,mb3.6,baz=308,slow=5.0,SNR=6.6								

*NIED **25** 14:19:00, 20.70N×120.30E, h32km, Mw5.1 Best double couple: M0 4.62000×10^16 NP1:φs 91.00000°, δ 72.00000°, λ 156.00000°. NP2:φs 188.00000°, δ 67.00000°, λ 19.00000°.*
*IDC **25** 14:19:23.5±0.5, 20.50N×120.12E, h0km, mb4.7/19, mb1 4.8/20, mb1mx4.8/22, mbtmp4.7/20, ML3.9/1, MS4.2/25, Ms1 4.2/25, ms1mx4.1/32, Error ellipse: s-maj=16.9km s-min=11.4km az=67.0*
*BJI **25** 14:19:25.8, 20.83N×119.85E, h8km, mB5.1, mb4.7, ML4.5, Ms5.1, Ms2.4*
*ISCJB **25** 14:19:26.3±0.1, 20.68N±0.01×120.14E±0.02, h24km, mb5.1/129, MS4.5/54, Error ellipse: s-maj=2.8km s-min=2.1km az=0.4*
*MOS **25** 14:19:27.9±0.9, 20.71N×120.11E, h33km, mb5.3/79, MS4.5/23, Error ellipse: s-maj=8.9km s-min=4.2km az=117.7*
*MAN **25** 14:19:27.1, 20.57N×120.25E, h6km, mb5.0, ML5.6, MS8.3*
*NEIC **25** 14:19:28.0±0.2, 20.65N×120.11E, mb5.2/70, MS4.6/1, Error ellipse: s-maj=4.9km s-min=3.8km az=89.0*
*HRVD **25** 14:19:28.0±0.2, 20.62N×119.99E, h12km, MW5.1/85, Centroid moment Tensor Solution. LP body waves: s45,c53;Mantle waves: s85,c142; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=4.83±.08; Mθθ 0.17±.07; Mφφ 4.66±.08; Mrθ -0.82±.32; Mφθ -0.05±.07; Mφr -1.03±.24; Best double couple: M0 4.92100×10^16 NP1:φs 171.00000°, δ 40.00000°, λ -104.00000°. NP2: φs 8.00000°, δ 52.00000°, λ -79.00000°. Principal axes: T 4.7710, Plg 6.0000°, Azm 90.0000°; N 0.2990, Plg 9.0000°, Azm 181.0000°; P -5.0700, Plg 79.0000°, Azm 326.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*JMA **25** 14:19:30.0±0.3, 20.70N×120.29E, h114km, M4.3*
*SZGRF **25** 14:19:32.3, 20.99N×119.81E, h27km, mb5.5, Philippine Islands region*
ISC 25 14:19:28.3±0.1, 2068N±0.01×12011E±0.02, h25km, h25km±.4km:pP-P, n397, σ§98/422, mb5.1/129, MS4.5/54, 20C-34D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**2.39**	**168**	*i*P		**Pn**		**14 20 03.8**	**-2.0**
PIP				*e*S		**Sn**		**14 20 32.0**	**-2.3**
APYP	**Conner**	**3.00**	**159**	*e*P		**Pn**		**14 20 14.1**	**-0.1**
SGCP	**Mt. Cagua**	**3.04**	**143**	*e*P		**Pn**		**14 20 13.8**	**-0.9**
SGCP				*e*S		**Sn**		**14 20 49.1**	**-1.1**
ABRA	**Dolores**	**3.07**	**169**	*e*P		**Pn**		**14 20 13.8**	**-1.3**
CVP	**Callao Caves**	**3.37**	**151**	⇓ *i*P		**Pn**		**14 20 19.0**	**-0.3**
CVP				*i* S		**Sn**		**14 20 59.0**	**+0.5**
NACB	**Ninganchiao**	**3.74**	**21**	*e*Pn		**Pn**		**14 20 23.2**	**-1.2**
NACB				*e*Sn		**Sn**		**14 21 00.6**	**-7.0**
CAUP	**Cauayan**	**4.05**	**156**	*e*P		**Pn**		**14 20 30.7**	**+2.0**
YHNB	**Yeheng**	**4.14**	**16**	*e*Pn		**Pn**		**14 20 29.4**	**-0.5**
YHNB				*e*Sn		**Sn**		**14 21 16.5**	**-1.0**
PALP	**Palanan**	**4.21**	**148**	⇓ *i*P		**Pn**		**14 20 32.2**	**+1.3**
PALP				*i* S		**Sn**		**14 21 20.4**	**+1.2**
PALP	**Palanan**	**4.21**	**148**	*e*P		**Pn**		**14 20 30.0**	**-0.8**
BOLP	**Bolinao**	**4.28**	**182**	*e*P		**Pn**		**14 20 31.8**	**+0.1**
BCPH	**Baguio City Da**	**4.30**	**174**	‖ *e*P		**Pn**		**14 20 31.8**	**-0.2**
BCPH				*i* S		**Sn**		**14 21 20.2**	**-1.0**
TATO	**Taipei**	**4.46**	**16**	*e*Pn		**Pn**		**14 20 32.8**	**-1.5**
QZH	**Quanzhou**	**4.47**	**342**	P		**Pn**		**14 20 31.3**	**-3.1**
QZH				S		**Sn**		**14 21 19.8**	**-5.8**
QZH				Smax					
	comp=N,790nm,0.9s								
QZH				Smax					
	comp=E,900nm,0.8s								
QZH				LR	LR				
	comp=N,16μm,8.8s								
QZH				LR	LR				
	comp=E,20μm,7.6s								
QZH				LR	LR				
	comp=Z,19μm,9.4s								
YOJ	**Yonaguni jima**	**4.62**	**35**	P		**Pn**		**14 20 37.3**	**+0.8**
YOJ				S		**Sn**		**14 21 29.3**	**-0.1**
HATJ	**Hateruma jima**	**4.80**	**45**	P		**Pn**		**14 20 39.5**	**+0.6**
HATJ				*e*S		**Sn**		**14 21 32.7**	**-1.0**
SCZP	**Santa Cruz**	**4.88**	**182**	*e*P		**Pn**		**14 20 38.6**	**-1.4**
IRIF	**Iriomote-Funau**	**4.95**	**42**	P		**Pn**		**14 20 41.1**	**+0.1**
IRIF				S		**Sn**		**14 21 36.9**	**-0.4**
JKRS	**Kuro-shima**	**5.06**	**45**	P		**Pn**		**14 20 43.2**	**+0.7**
JKRS				*e*S		**Sn**		**14 21 39.4**	**-0.7**
BALP	**Baler**	**5.10**	**164**	*e*P		**Pn**		**14 20 44.4**	**+1.3**
PCPH	**Palayan**	**5.17**	**169**	‖ *e*P		**Pn**		**14 20 45.8**	**+1.8**
JJ	**Ishigaki jima**	**5.23**	**45**	P		**Pn**		**14 20 44.9**	**0.0**
JJ				S		**Sn**		**14 21 42.5**	**-1.9**
HKC	**Hong Kong**	**5.76**	**287**	*i* Pn		**Pn**		**14 20 48.0**	**-4.1**
HKC				*i* Sn		**Sn**		**14 21 50.0**	**-7.3**
JTJ	**Tarama**	**5.79**	**46**	P		**Pn**		**14 20 53.1**	**+0.5**
JTJ				S		**Sn**		**14 21 56.8**	**-1.4**
POLP	**Polilio Island**	**6.17**	**163**	*e*P		**Pn**		**14 20 59.8**	**+2.0**
JMJ	**Miyako jima 2**	**6.32**	**48**	*e*S		**Sn**		**14 22 10.4**	**-0.6**
JOGS	**Gusukube**	**6.36**	**49**	*e*S		**Sn**		**14 22 11.5**	**-0.6**
TGY	**Tagaytay City**	**6.59**	**173**	Pn		**Pn**		**14 21 11.5**	**+8.0**
	comp=Z,46nm,0.3s,baz=279,slow=4.6,SNR=4.0								
LQP	**Lukban**	**6.67**	**168**	*e*P		**Pn**		**14 21 08.2**	**+3.6**
GZH	**Guangzhou**	**6.72**	**292**	P		**Pn**		**14 21 00.5**	**-4.8**
GZH				S		**Sn**		**14 22 09.0**	**-12**
GZH				Smax					
	comp=N,370nm,1.2s								
GZH				Smax					
	comp=E,320nm,1.0s								
GZH				LR	LR				
	comp=N,7μm,10.6s								
GZH				LR	LR				
	comp=E,6μm,10.8s								
GZH				LR	LR				
	comp=Z,12μm,9.3s								
LUBP	**Lubang**	**6.91**	**179**	*e*P		**Pn**		**14 21 10.9**	**+3.1**
PVCP	**Virac**	**8.03**	**151**	*e*P		**Pn**		**14 21 22.9**	**-0.4**
BUSP	**Coron**	**8.62**	**179**	*e*P		**Pn**		**14 21 32.8**	**+1.4**
ENPP	**El Nido**	**9.44**	**184**	*e*P		**Pn**		**14 21 41.3**	**-1.3**
JOW	**Kunigami**	**9.67**	**49**	Pn		**Pn**		**14 21 45.4**	**-0.3**
	comp=Z,2.2nm,0.3s,baz=227,slow=28,SNR=6.4								
QIZ	**Qiongzhong**	**9.80**	**262**	P		**Pn**		**14 21 45.0**	**-2.5**
QIZ				S		**Sn**		**14 23 34.0**	**-2.7**
QIZ				LR	LR				
	comp=E,7μm,10.5s								
QIZ				LR	LR				
	comp=Z,9μm,9.8s								
QIZ	**Qiongzhong**	**9.80**	**262**	*e*Pn		**Pn**		**14 21 43.9**	**-3.6**
	comp=Z,34nm,0.8s								
GUIM	**Jordan**	**10.28**	**166**	*e*P		**Pn**		**14 22 00.8**	**+6.8**
SSE	**Sheshan**	**10.42**	**5**	P		**Pn**		**14 22 00.3**	**+4.2**
SSE				AP				14 22 05.5	
SSE				S		**Sn**		**14 23 58.5**	**+6.5**
SSE				AMB	AMB				
	comp=Z,37nm,0.7s								
SSE				AMB	AMB				
	comp=Z,41nm,4.8s								
SSE				LR	LR				
	comp=N,608nm,15.2s								
SSE				LR	LR				
	comp=E,1μm,15.2s								
WHN	**Wuhan**	**11.11**	**333**	P		**Pn**		**14 22 03.0**	**-2.5**
WHN				LR	LR				
	comp=Z,10μm,10.6s								
NJ2	**Nanjing**	**11.38**	**355**	*e*P		**Pn**		**14 22 14.5**	**+5.3**
NJ2				AP				14 22 18.5	
NJ2				S		**Sn**		**14 24 22.0**	**+6.4**
NJ2				AMB	AMB				
	comp=Z,100nm,9.5s								
NJ2				LR	LR				
	comp=N,11μm,9.9s								
NJ2				LR	LR				
	comp=E,15μm,8.7s								
NJ2				LR	LR				
	comp=Z,4μm,9.6s								
GYA	**Guiyang**	**13.60**	**298**	⇑ *i*P		**Pn**		**14 22 36.5**	**-3.0**
GYA				AP				14 22 42.5	
GYA				XP				14 22 46.3	
GYA				PP				14 22 50.0	
GYA				AMB	AMB				
	comp=Z,40nm,0.9s								
GYA				AMB	AMB				
	comp=Z,260nm,5.7s								
GYA				LR	LR				
	comp=N,4μm,11.2s								
GYA				LR	LR				
	comp=E,4μm,9.5s								
GYA				LR	LR				
	comp=Z,5μm,9.3s								
JNU	**Nakatsue**	**15.67**	**36**	P		**Pn**		**14 23 11.7**	**+4.4**
TIA	**Tai'an**	**15.70**	**351**	⇑ P		**Pn**		**14 23 08.5**	**+0.8**
TIA				LR	LR				
	comp=E,7μm,11.0s								
XAN	**Xi'an**	**16.59**	**326**	P		**Pn**		**14 23 18.8**	**-0.3**
XAN				AMB	AMB				
	comp=Z,52nm,1.5s								
XAN				LR	LR				
	comp=N,4μm,9.4s								
XAN				LR	LR				
	comp=E,3μm,10.0s								
XAN				LR	LR				
	comp=Z,3μm,8.4s								
KMI	**Kunming**	**16.60**	**289**	P		**Pn**		**14 23 19.5**	**+0.3**
KMI				AP	pP			14 23 27.5	-0.9
KMI				PP				14 23 33.3	
KMI				S		**Sn**		**14 26 21.5**	**-1.2**
KMI				SS				14 26 42.0	
KMI				PCP	PcP			14 28 10.3	+1.6
KMI				AMB	AMB				
	comp=Z,24nm,1.6s								
KMI				AMB	AMB				
	comp=Z,312nm,3.5s								
KMI				LR	LR				
	comp=N,2μm,8.9s								
KMI				LR	LR				
	comp=E,3μm,12.2s								
KMI				LR	LR				
	comp=Z,2μm,15.4s								
CD2	**Chengdu**	**17.88**	**308**	P		**Pn**		**14 23 33.5**	**-1.7**
CD2				XP	sP			14 23 43.5	-2.4
CD2				PP				14 23 48.0	
CD2				S		**Sn**		**14 26 44.5**	**-9.3**
CD2				XS	sS			14 26 57.0	-14
CD2				SS				14 27 05.8	
CD2				AMB	AMB				
	comp=Z,10.0nm,0.5s								
CD2				AMB	AMB				
	comp=Z,220nm,2.8s								
CD2				LR	LR				
	comp=E,3μm,12.6s								
CD2				LR	LR				
	comp=Z,2μm,15.0s								
KS15	**Wonju Array Si**	**18.02**	**20**	*e*Pn		**Pn**		**14 23 38.3**	**+1.4**
DL2	**Dalian**	**18.21**	**4**	P		**Pn**		**14 23 41.5**	**+2.2**
DL2				AP	pP			14 23 47.3	+1.0
DL2				AMB	AMB				
	comp=Z,20nm,0.8s								
DL2				AMB	AMB				
	comp=Z,440nm,5.3s								
DL2				LR	LR				
	comp=N,990nm,11.1s								
DL2				LR	LR				
	comp=E,2μm,11.4s								
DL2				LR	LR				
	comp=Z,1μm,10.8s								
JHS	**Saijyo**	**18.30**	**36**	P		**Pn**		**14 23 38.4**	**-1.9**
BJT	**Baijiatuau**	**19.57**	**351**	*e*P		**Pn**		**14 23 55.3**	**-0.4**
BJT				pmax	pmax				
	comp=Z,73nm,0.8s								
BJT	**Baijiatuau**	**19.57**	**351**	*e*P		**Pn**		**14 23 55.3**	**-0.4**
	comp=Z,73nm,0.8s								
BJT				*e*pP	pP			14 24 03.0	+1.9
BJI	**Beijing**	**19.59**	**351**	P		**Pn**		**14 23 55.8**	**-0.1**
BJI				AP	pP			14 24 02.5	+1.1
BJI				XP	sP			14 24 05.5	+0.8
BJI				S		**Sn**		**14 27 35.3**	**+0.2**
BJI				AMB	AMB				
	comp=Z,66nm,0.9s								
BJI				AMB	AMB				
	comp=Z,370nm,4.6s								
BJI				LR	LR				
	comp=N,2μm,11.1s								
BJI				LR	LR				
	comp=E,1μm,13.8s								
BJI				LR	LR				
	comp=Z,452nm,15.4s								
NST	**Nakhon Sawan**	**19.61**	**259**	P		**Pn**		**14 23 56.2**	**0.0**
JWT	**Wachi**	**19.82**	**40**	P		**Pn**		**14 23 59.0**	**+0.4**
CHG	**Chiang Mai**	**20.00**	**268**	P		**P**		**14 23 57.6**	**-1.4**
	comp=Z,35nm,1.5s								
CHTO	**Chiang Mai**	**20.00**	**268**	*e*P		**P**		**14 23 59.2**	**+0.2**
CHTO				pmax	pmax				
	comp=Z,95nm,1.7s								
CHTO	**Chiang Mai**	**20.00**	**268**	*e*P		**P**		**14 23 59.2**	**+0.2**
	comp=Z,95nm,1.7s								
JIE	**Ise**	**20.04**	**44**	P		**P**		**14 24 01.3**	**+1.9**
LZH	**Lanzhou**	**20.94**	**321**	*e*P		**P**		**14 24 09.8**	**+0.7**
LZH				AP				14 24 17.5	
LZH				XP	sP			14 24 21.3	+2.0

LZH PP 14 24 32.0
LZH S **S** **14 27 56.3 -4.9**
LZH XS sS 14 28 04.3 -8.0
LZH SS 14 28 28.0
LZH AMB AMB
comp=Z,208nm,1.5s
LZH AMB AMB
comp=Z,630nm,4.2s
LZH LR LR
comp=E,3μm,8.8s
LZH LR LR
comp=Z,4μm,10.0s,MS5.0
CBIJ Chichi jima 21.16 68 P **P** **14 24 11.2 -0.3**
comp=Z,31nm,0.7s,mb4.8,baz=287,slow=20,SNR=2.2
CBIJ LR LR 14 30 55.0
comp=Z,566nm,21.8s,MS3.9,baz=260,slow=33
JGF Kuroka 21.22 42 P **P** **14 24 13.3 +1.2**
SNY Shenyang 21.29 7 ⇑P **P** **14 24 13.0 +0.1**
SNY AP 14 24 20.0
SNY XP sP 14 24 23.5 +0.4
SNY PP 14 24 36.8
SNY S **S** **14 28 09.3 +1.2**
SNY XS sS 14 28 14.3 -5.0
SNY SS 14 28 33.0
SNY AMB AMB
comp=Z,20nm,2.5s
SNY AMB AMB
comp=Z,357nm,3.5s
SNY LR LR
comp=N,2μm,12.5s,MS5.1
SNY LR LR
comp=E,4μm,12.1s,MS5.1
SNY LR LR
comp=Z,1μm,11.3s,MS4.5
KSM Kuching 21.35 208 *e*P **P** **14 24 12.8 -0.8**
HHC Hu-ho-hao-te 21.38 342 ⇓P **P** **14 24 14.8 +0.9**
HHC AP 14 24 21.5
HHC XP sP 14 24 24.8 +0.7
HHC PP 14 24 39.5
HHC S **S** **14 28 06.8 -3.1**
HHC XS sS 14 28 16.8 -4.3
HHC PCP PcP 14 28 18.0 +0.9
HHC SS 14 28 40.8
HHC AMB AMB
comp=Z,45nm,1.2s,mb4.7
HHC AMB AMB
comp=Z,391nm,9.2s
HHC LR LR
comp=N,3μm,11.4s,MS5.0
HHC LR LR
comp=E,3μm,13.0s,MS5.0
HHC LR LR
comp=Z,2μm,12.0s,MS4.7
JHJ Hachijo jima 2 21.44 51 LR LR 14 31 41.9
comp=Z,896nm,21.3s,MS4.1,baz=261,slow=34
BTO Baotou 21.65 339 *e*P **P** **14 24 16.0 -0.7**
BTO S **S** **14 28 18.0 +2.9**
BTO AMB AMB
comp=Z,28nm,2.4s,mb4.3
BTO LR LR
comp=N,2μm,9.7s
BTO LR LR
comp=E,1μm,11.6s
MAJO Matsushiro 22.35 41 *e*P **P** **14 24 27.4 +3.1**
MAJO pmax pmax
comp=Z,81nm,1.4s,mb5.0
MAJO Matsushiro 22.35 41 *e*P **P** **14 24 27.4 +3.1**
comp=Z,81nm,1.4s,mb5.0
MAT Matsushiro 22.35 41 P **P** **14 24 21.8 -2.5**
MAT S **S** **14 28 30.0 +1.2**
MAT Matsushiro 22.35 41 P **P** **14 24 27.1 +2.8**
MAT Matsushiro 22.35 41 P **P** **14 24 22.0 -2.3**
MAT *e*S **S** **14 28 30.0 +1.2**
MJAR Matsushiro Arr 22.35 41 P **P** **14 24 24.0 -0.3**
comp=Z,24nm,1.1s,mb4.5,baz=241,slow=9.8,SNR=28
MJAR LR LR 14 34 37.9
comp=Z,424nm,18.2s,MS3.9,baz=235,slow=41
JRY Ryogami san 22.46 43 P **P** **14 24 25.8 +0.4**
JSD Sado 23.37 38 P **P** **14 24 35.3 +0.3**
CN2 Changchun 23.49 10 *e*P **P** **14 24 35.0 -1.2**
CN2 *e*S **S** **14 28 47.5 -0.5**
CN2 AMB AMB
comp=Z,20nm,1.3s,mb4.4
CN2 AMB AMB
comp=Z,380nm,6.0s
CN2 LR LR
comp=N,2μm,12.0s,MS4.9
CN2 LR LR
comp=E,2μm,12.0s,MS4.9
CN2 LR LR
comp=Z,2μm,12.0s,MS4.8
KULM Kulim 24.31 234 *e*P **P** **14 24 43.5 -0.3**
KULM *ep*P 14 24 50.6
VLA Vladivostok 24.46 21 *e*P **P** **14 24 44.0 -1.1**
VLA pmax pmax
comp=Z,83nm,1.6s,mb4.9
VLA MLR MLR
comp=Z,600nm,15.0s,MS4.2
IPM Ipoh 24.57 232 P **P** **14 24 45.7 -0.4**
JYA Atsumi 24.59 39 P **P** **14 24 45.7 -0.6**
GUMO Guam 24.67 103 P **P** **14 24 45.6 -1.4**
comp=Z,63nm,0.8s,mb5.2,baz=189,slow=19,SNR=3.3
GUMO LR LR 14 32 13.9
comp=Z,744nm,21.8s,MS4.1,baz=270,slow=31
KGM Kluang 24.75 224 P **P** **14 24 47.9 +0.2**
MDJ Mudanjiang 25.14 16 P **P** **14 24 52.0 +0.8**
MDJ AP pP 14 24 58.0 -0.7
MDJ XP sP 14 25 00.8 -1.0
MDJ S **S** **14 29 18.3 +3.7**
MDJ XS sS 14 29 27.3 +0.4
MDJ SCP ScP 14 32 03.0 +0.7
MDJ PCS PcS 14 32 05.8 +0.6
MDJ SCS ScS 14 35 51.8 +1.0
MDJ AMB AMB
comp=Z,50nm,1.1s,mb5.0
MDJ AMB AMB
comp=Z,174nm,5.4s
MDJ LR LR
comp=N,275nm,17.4s,MS4.3
MDJ LR LR
comp=E,707nm,17.4s,MS4.3
MDJ Mudanjiang 25.14 16 *e*P **P** **14 24 51.5 +0.3**
comp=E,97nm,1.4s,mb5.1
MDJ *ep*P pP 14 24 59.5 +0.8
GTA Gaotai 25.53 321 P **P** **14 24 54.5 -0.3**
GTA AP pP 14 25 02.3 0.0
GTA XP sP 14 25 05.3 -0.1
GTA S **S** **14 29 24.0 +3.2**
GTA AMB AMB
comp=Z,14nm,1.4s,mb4.3
GTA AMB AMB
comp=Z,538nm,6.5s
GTA LR LR
comp=N,2μm,11.0s,MS5.0
GTA LR LR
comp=E,1μm,10.6s,MS5.0
GTA LR LR
comp=Z,2μm,9.9s
JOM Ohasama 26.10 39 P **P** **14 24 59.1 -0.9**
SHL Shillong 26.38 286 *e*P **P** **14 25 01.2 -1.3**
PSI Prapat 27.24 232 P **P** **14 25 08.9 -1.3**
comp=Z,21nm,1.1s,mb4.6,baz=23,slow=6.8,SNR=16
PSI LR LR 14 35 12.9
comp=Z,626nm,19.8s,MS4.2,baz=342,slow=35
LSA Lhasa 27.64 295 *e*P **P** **14 25 14.5 +0.7**
LSA Lhasa 27.64 295 *e*P **P** **14 25 14.4 +0.6**
LSA *e**PP pP 14 25 22.2 +0.9
LSA pmax pmax
comp=Z,22nm,0.8s,mb4.8
LSA Lhasa 27.64 295 *e*P **P** **14 25 14.4 +0.6**
comp=Z,22nm,0.8s,mb4.8
LSA *ep*P pP 14 25 22.2 +0.8
HIA Hailar 28.53 360 *e*P **P** **14 25 20.8 -0.9**
HIA pmax pmax
comp=Z,21nm,1.1s
HIA Hailar 28.53 360 *e*P **P** **14 25 20.8 -1.0**
comp=Z,21nm,1.1s,mb4.8
ULN Ulaanbaatar 29.11 342 *d i*P **P** **14 25 26.7 -0.2**
SONM Songino Array 29.27 341 P **P** **14 25 28.2 -0.2**
comp=Z,7.6nm,0.9s,mb4.4,baz=158,slow=6.7,SNR=49
SONM LR LR 14 37 08.7
comp=Z,442nm,18.4s,MS4.1,baz=155,slow=36
KLR Kul'dur 29.97 15 *e*P **P** **14 25 31.7 -2.9**
KLR *e*S **S** **14 30 22.5 -8.3**
KLR pmax pmax
comp=E,45nm,2.0s
KLR pmax pmax
comp=Z,80nm,2.0s,mb5.1
KLR MLR MLR
comp=N,2μm,12.0s
KLR MLR MLR
comp=Z,2μm,12.0s,MS5.0
HABR Khabarovsk 30.23 20 ⇑*i*P **P** **14 25 37.2 +0.4**
HABR *e*S **S** **14 30 34.8 +0.1**
HABR pmax pmax
comp=Z,45nm,2.2s,mb4.8
HABR MLR MLR
comp=Z,447nm,11.0s,MS4.4
JIRN Jiri 31.64 289 *e*P **P** **14 25 49.6 +0.3**
comp=Z,134nm,1.1s,mb5.7
CIT Chita 31.70 352 *e*P **P** **14 25 49.5 -0.3**
CIT *e* pP 14 25 56.8 -0.5
CIT pmax pmax
comp=Z,40nm,2.0s,mb4.9
GUN Gumba 31.94 290 *e*P **P** **14 25 52.2 +0.3**
comp=Z,135nm,0.9s,mb5.8
YSS Yuzh-Sakhalins 32.04 30 P **P** **14 25 52.2 -0.6**
YSS MLR MLR
comp=N,800nm,18.0s,MS4.5
YSS MLR MLR
comp=E,500nm,18.0s,MS4.5
YSS MLR MLR
comp=Z,700nm,18.0s,MS4.4
YSS Yuzh-Sakhalins 32.04 30 *e*P **P** **14 25 52.7 -0.1**
comp=Z,22nm,0.9s,mb5.0
PKI Pulchoki 32.33 289 *e*P **P** **14 25 54.9 -0.4**
comp=Z,63nm,1.1s,mb5.4
KKN Kakani 32.46 289 *e*P **P** **14 25 55.9 -0.6**
comp=Z,86nm,1.0s,mb5.5
ZAK Zakamensk 32.49 340 *e*P **P** **14 25 56.4 -0.4**
ZAK pmax pmax
comp=Z,12nm,2.0s,mb4.4
ZAK pmax pmax
comp=Z,11nm,2.1s,mb4.3
DMN Daman 32.60 289 *e*P **P** **14 25 57.4 -0.3**
comp=Z,98nm,1.0s,mb5.7
GKN Gorkha 33.04 290 *e*P **P** **14 26 00.9 -0.7**
comp=Z,128nm,1.1s,mb5.8
TLY Talaya 33.51 341 *e*P **P** **14 26 05.7 0.0**
TLY *e*S **S** **14 31 18.1 -7.9**
TLY *e*SSS 14 33 35.0
TLY pmax pmax
comp=Z,12nm,0.8s,mb4.9
TLY MLR MLR
comp=Z,589nm,13.0s,MS4.5
TLY Talaya 33.51 341 *e*P **P** **14 26 06.1 +0.4**
IRK Irkutsk 33.83 342 *e*P **P** **14 26 07.9 -0.5**
IRK pmax pmax
comp=Z,50nm,2.2s,mb5.1
KOLN Koldanda 33.94 289 *e*P **P** **14 26 08.8 -0.6**
comp=Z,96nm,1.0s,mb5.7
MOY Mondy 34.34 339 *e*P **P** **14 26 13.2 +0.3**
MOY pmax pmax
comp=Z,35nm,2.6s,mb4.8
KAKA Kakadu 35.33 159 *e*P **P** **14 26 20.0 -1.4**
comp=Z,16nm,0.8s,mb5.0
WMQ Urumqi 35.47 318 ⇓P **P** **14 26 23.0 +0.4**
WMQ AP pP 14 26 30.3 +0.1
WMQ XP sP 14 26 34.0 +0.7
WMQ PP PP 14 27 43.0 -0.3
WMQ PCP PcP 14 28 53.0 +1.2
WMQ S **S** **14 31 55.5 -0.8**
WMQ XS sS 14 32 07.5 -1.3
WMQ SCP ScP 14 32 35.5 -0.5
WMQ PCS PcS 14 32 38.8 -0.1
WMQ SS sS 14 34 13.8 -17
WMQ SCS ScS 14 36 38.8 -1.7
WMQ AMB AMB
comp=Z,24nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,263nm,4.1s
WMQ LR LR
comp=N,285nm,16.7s,MS4.3
WMQ LR LR
comp=E,364nm,15.4s,MS4.3
WMQ LR LR
comp=Z,488nm,15.4s,MS4.4
BOD Bodaibo 37.36 355 *e*P **P** **14 26 36.6 -2.2**
BOD pmax pmax
comp=Z,4.0nm,1.2s,mb4.1
FITZ Fitzroy Crossi 38.92 172 *e*P **P** **14 26 50.6 -1.3**
comp=Z,3.8nm,0.6s,mb4.3
FITZ Fitzroy Crossi 38.92 172 LR LR 14 42 00.9
comp=Z,95nm,21.4s,MS3.6,baz=186,slow=35
PMG Port Moresby 40.02 136 P **P** **14 27 02.9 +1.9**
comp=Z,15nm,0.9s,mb4.7,baz=326,slow=7.3,SNR=4.2
PMG Port Moresby 40.02 136 P **P** **14 27 02.9 +1.9**
PMG *e**PP pP 14 27 08.8 +0.1
PMG pmax pmax
comp=Z,36nm,1.0s
PMG Port Moresby 40.02 136 P **P** **14 27 02.9 +1.9**
comp=Z,36nm,1.0s,mb5.1
PMG *ep*P pP 14 27 08.8 +0.2
MKAR Makanchi Array 40.24 319 P **P** **14 27 03.2 +0.3**
comp=Z,8.5nm,0.7s,mb4.6,baz=115,slow=9.4,SNR=77
MKAR Makanchi Array 40.24 319 *i* P **P** **14 27 03.2 +0.3**
MKAR pmax pmax
comp=Z,9.0nm,0.7s
MKAR Makanchi Array 40.24 319 P **P** **14 27 03.2 +0.2**
PALK Pallekele 40.37 256 P **P** **14 27 05.5 +1.6**
comp=Z,11nm,0.8s,mb4.7
MBWA Marble Bar 41.58 181 *e*P **P** **14 27 12.5 -1.4**
comp=Z,46nm,1.7s,mb4.8
YAK Yakutsk 41.85 7 *e*P **P** **14 27 16.1 0.0**
YAK *e**PP pP 14 27 24.2 +0.4
YAK *e* 14 28 55.5
YAK *e* 14 29 13.1
YAK *e*PPP 14 29 22.2
YAK *e*S **S** **14 33 30.3 -2.2**
YAK *e* 14 37 16.1
YAK pmax pmax
comp=Z,11nm,1.1s,mb4.4
YAK pmax pmax
comp=N,11nm,1.5s
YAK pmax pmax
comp=E,3.0nm,1.8s
YAK pmax pmax
comp=Z,4.0nm,1.1s
YAK pmax pmax
comp=N,3.0nm,1.2s
YAK pmax pmax
comp=E,5.0nm,1.6s
YAK smax
comp=E,125nm,9.8s
YAK smax
comp=N,39nm,11.3s
YAK MLR MLR
comp=Z,302nm,13.0s,MS4.4
YAK MLR MLR
comp=N,179nm,11.0s,MS4.4
YAK MLR MLR
comp=E,311nm,16.0s,MS4.4
YAK Yakutsk 41.85 7 *e*P **P** **14 27 15.8 -0.4**
comp=E,25nm,0.8s,mb4.9
YAK *ep*P pP 14 27 23.3 -0.5
KSH Kashi 42.07 306 *i* PR **P** **14 27 20.0 +2.1**
KSH *e*AP pP 14 27 26.0 +0.4
KSH *e*XP sP 14 27 30.0 +1.3
KSH *e*PCP PcP 14 29 14.3 +1.9
KSH *e*SCP ScP 14 33 02.0 +0.8
KSH *e*PCS PcS 14 33 04.3 +0.2
KSH *e*S **S** **14 33 37.5 +1.8**
KSH *e*XS sS 14 33 46.0 -2.4
KSH *e*SS SS 14 36 38.0 -5.4
KSH *e*SCS ScS 14 37 17.0 -1.7
KSH AMB AMB
comp=Z,314nm,2.7s,mb5.5
KSH LR LR
comp=N,959nm,11.1s,MS5.2
KSH LR LR
comp=E,1μm,11.4s,MS5.2
KSH LR LR
comp=Z,770nm,14.8s,MS4.7
WRAB Tennant Creek 42.70 160 P **P** **14 27 22.0 -1.1**
comp=Z,306nm,0.7s,mb6.1,SNR=9.2
WRAB Tennant Creek 42.70 160 *e*P **P** **14 27 22.6 -0.5**
WRAB *e**PP pP 14 27 29.3 -1.5
WRAB pmax pmax
comp=Z,90nm,1.0s,mb5.5
WRAB Tennant Creek 42.70 160 *e*P **P** **14 27 22.6 -0.5**
comp=Z,90nm,1.0s,mb5.5
WRAB *ep*P pP 14 27 29.2 -1.5
ZAL Zalesovo 42.70 330 P **P** **14 27 23.6 +0.6**
comp=Z,13nm,1.0s,mb4.6,baz=355,slow=8.5,SNR=55
ZAL LR LR 14 48 11.0
comp=Z,374nm,18.2s,MS4.3,baz=340,slow=40
ZAL Zalesovo 42.70 330 *i* P **P** **14 27 24.1 +1.0**
ZAL pmax pmax
comp=Z,13nm,1.0s
WRA Warramunga Arr 42.70 160 P **P** **14 27 22.7 -0.4**
comp=Z,17nm,1.1s,mb4.7,baz=342,slow=9.1,SNR=101
WRA S **S** **14 33 42.4 -2.7**
comp=Z,1.0nm,1.1s,baz=347,slow=15,SNR=4.6
WRA Warramunga Arr 42.70 160 *i* P **P** **14 27 22.7 -0.4**
WRA pmax pmax
comp=Z,17nm,1.1s
WB2 Warramunga Arr 42.71 160 *e*P **P** **14 27 22.7 -0.4**
WB2 *e* pP 14 27 29.6 -1.2
WB2 *e*S **S** **14 33 42.2 -2.9**
PET Petropavlovsk 43.77 33 *e*P **P** **14 27 32.5 +0.8**
PET *e*S **S** **14 34 03.2 +2.5**
PET pmax pmax
comp=Z,32nm,2.1s,mb4.7
PET Petropavlovsk 43.77 33 *e*P **P** **14 27 32.4 +0.7**
comp=Z,33nm,1.1s,mb5.0
FRU Bishkek 43.89 311 *e*P **P** **14 27 33.2 +0.5**
FRU pmax pmax
comp=Z,120nm,2.5s,mb5.2
AAK Ala-Archa 43.92 311 *d i*P **P** **14 27 33.1 +0.2**
AAK pmax pmax
comp=Z,33nm,2.5s,mb4.6
AAK MLR MLR
comp=Z,900nm,20.0s,MS4.7
AAK Ala-Archa 43.92 311 *e*P **P** **14 27 33.2 +0.3**
comp=Z,13nm,1.1s,mb4.6
NVS Novosibirsk 43.98 330 *i* P **P** **14 27 31.7 -1.6**
NVS pmax pmax
comp=N,57nm,1.9s
NVS pmax pmax
comp=E,50nm,1.9s
NVS pmax pmax
comp=Z,69nm,1.9s,mb5.1
KURK Kurchatov 44.20 323 P **P** **14 27 35.3 +0.1**
comp=Z,181nm,1.2s,mb5.7,SNR=22
KURK Kurchatov 44.20 323 *e*P **P** **14 27 35.1 -0.1**
KURK *e* 14 29 19.1
KURK pmax pmax
comp=Z,74nm,1.4s,mb5.2
KURK Kurchatov 44.20 323 *e*P **P** **14 27 35.1 -0.1**
comp=Z,74nm,1.4s,mb5.2
KURK *e* 14 29 19.1
MA2 Magadan 44.59 22 *e*P **P** **14 27 38.1 -0.2**
MA2 *e*S **S** **14 34 10.2 -2.5**
MA2 *e*SS SS 14 37 36.1 +3.3
MA2 pmax pmax
comp=Z,50nm,1.5s,mb5.1
MA2 pmax pmax
comp=N,30nm,1.3s
MA2 MLR MLR
comp=Z,600nm,15.7s,MS4.6
MA2 Magadan 44.59 22 *e*P **P** **14 27 35.5 -2.9**
comp=Z,44nm,1.4s,mb5.1
MA2 *ep*P pP 14 27 41.2 -4.8
AS31 Alice Springs 46.08 162 *e*P **P** **14 27 50.0 -0.1**
AS31 *e* pP 14 27 57.8 0.0
ASPA Alice Springs 46.08 162 *e*P **P** **14 27 50.0 -0.1**
ASPA *e* pP 14 27 57.8 0.0
ASAR Alice Springs 46.08 162 P **P** **14 27 49.6 -0.5**
comp=Z,2.1nm,0.4s,mb4.4,baz=344,slow=6.9,SNR=133
CTA Charters Tower 47.92 146 *e*P **P** **14 28 05.9 +1.5**
comp=Z,25nm,0.9s,mb5.2
CTA Charters Tower 47.92 146 LR LR 14 47 35.6
comp=Z,324nm,18.4s,MS4.3,baz=133,slow=35
CTA Charters Tower 47.92 146 *e*P **P** **14 28 05.9 +1.5**
CTA pmax pmax
comp=Z,25nm,0.9s
CTAO Charters Tower 47.92 146 *e*P **P** **14 28 05.8 +1.4**
CTAO pmax pmax
comp=Z,50nm,0.9s,mb5.5
CTAO Charters Tower 47.92 146 *e*P **P** **14 28 05.8 +1.4**
comp=Z,50nm,0.9s,mb5.5
HNR Honiara 49.29 123 LR LR 14 48 30.0
comp=Z,210nm,18.6s,MS4.2,baz=359,slow=36
BRVK Borovoye 49.87 323 P **P** **14 28 19.2 -0.2**
comp=Z,168nm,1.1s,mb6.0,SNR=12
BRVK Borovoye 49.87 323 *e*P **P** **14 28 19.2 -0.2**
BRVK *e**PP pP 14 28 27.0 -0.2
BRVK *e* 14 29 38.1
BRVK pmax pmax
comp=Z,22nm,1.2s,mb5.1
BRVK Borovoye 49.87 323 *e*P **P** **14 28 19.2 -0.2**
comp=Z,22nm,1.2s,mb5.1
BRVK *ep*P pP 14 28 27.0 -0.2
BRVK *e* 14 29 38.1
CHKZ Chkalovo 49.91 324 *e*P **P** **14 28 19.3 -0.4**
CHKZ *e**PP pP 14 28 26.7 -0.8
CHKZ *e* 14 29 38.1
CHKZ pmax pmax
comp=Z,45nm,1.2s,mb5.4
CHKZ Chkalovo 49.91 324 *e*P **P** **14 28 19.3 -0.4**
comp=Z,45nm,1.2s,mb5.4
CHKZ *ep*P pP 14 28 26.7 -0.8
CHKZ *e*PcP PcP 14 29 38.1 -1.7
CHKZ *ep*PcP 14 29 46.9
ZRNK Zerenda 50.56 322 *e*P **P** **14 28 24.6 0.0**
ZRNK *e**PP pP 14 28 31.9 -0.6
ZRNK *e* 14 29 41.9
ZRNK pmax pmax
comp=Z,46nm,1.1s,mb5.3
ZRNK Zerenda 50.56 322 *e*P **P** **14 28 24.6 -0.1**
comp=Z,46nm,1.1s,mb5.3
ZRNK *ep*P pP 14 28 31.9 -0.5
ZRNK *e*PcP PcP 14 29 41.9 -0.3
ZRNK *ep*PcP 14 29 48.9
TIXI Tiksi 51.24 4 *e*P **P** **14 28 25.4 -4.3**
TIXI *e*S **S** **14 35 41.5 -5.3**
TIXI pmax pmax
comp=Z,12nm,1.0s,mb4.8
TIXI smax
comp=N,77nm,12.3s
TIXI smax
comp=E,88nm,10.8s
TIXI MLR MLR
comp=Z,440nm,12.0s,MS4.7
FX1 Attu Island--F 51.66 38 LR LR 14 48 08.1
comp=Z,8.3nm,19.9s,baz=269,slow=33
FX1 Attu Island--F 51.66 38 *e*P **P** **14 28 35.4 +2.5**
FORT Forrest 51.73 171 *e*P **P** **14 28 33.1 -0.3**
comp=Z,15nm,0.6s,mb5.1
NWAO Narrogin (SRO) 53.37 183 *e*P **P** **14 28 44.8 -0.8**
NWAO pmax pmax
comp=Z,9.0nm,0.8s
NWAO Narrogin (SRO) 53.37 183 *e*P **P** **14 28 44.8 -0.8**
comp=Z,8.8nm,0.8s,mb4.7
BILL Bilibino 55.31 19 *ke*P **P** **14 28 59.6 -0.1**
BILL *e* pP 14 29 06.7 -0.8
BILL 14 30 08.0
BILL *e*S **S** **14 36 41.9 -0.2**
BILL pmax pmax
comp=Z,30nm,1.8s,mb5.0
BILL MLR MLR
comp=Z,300nm,17.0s,MS4.4
BILL Bilibino 55.31 19 *e*P **P** **14 28 59.6 0.0**
comp=Z,5.9nm,0.7s,mb4.7
BILL *ep*P pP 14 29 07.5 -0.1
ABKT Ailbek 55.76 302 P **P** **14 29 04.4 +1.5**
comp=Z,135nm,1.2s,mb5.8,SNR=8.1
STKA Stephens Creek 56.16 158 *e*P **P** **14 29 04.3 -1.5**
comp=Z,4.3nm,0.8s,mb4.5
STKA Stephens Creek 56.16 158 P **P** **14 29 04.0 -1.9**
comp=Z,3.5nm,0.6s,mb4.5,baz=328,slow=9.2,SNR=11
STKA LR LR 14 53 19.7
comp=Z,187nm,21.6s,MS4.1,baz=22,slow=36
SVE Sverdlovsk 56.31 325 ⇓*e*P **P** **14 29 06.0 -0.8**
SVE *e* 14 30 00.0
SVE *e*S **S** **14 37 00.0 +4.6**
SVE pmax pmax
comp=Z,180nm,2.3s,mb5.7
AKTO Aktyubinsk 56.62 317 LR LR 14 54 46.7
comp=Z,264nm,18.4s,MS4.4,baz=181,slow=37
WSAR Wadi Sarin 56.70 285 LR LR 14 54 48.2
comp=Z,282nm,20.4s,MS4.3,baz=65,slow=37
ARU Arti 57.34 325 P **P** **14 29 14.5 +0.4**
comp=Z,220nm,0.6s,SNR=5.1
ARU Arti 57.34 325 ⇓*i*P **P** **14 29 13.9 -0.2**
ARU *e*S **S** **14 37 05.8 -3.2**

ARU pmax pmax
comp=Z,22nm,0.8s,mb5.2
ARU MLR MLR
comp=Z,300nm,18.0s,MS4.4
ARU MLR MLR
comp=N,100nm,15.0s,MS4.4
ARU MLR MLR
comp=E,200nm,17.0s,MS4.4
ORR Orenburg 58.81 319 *e*P **P 14 29 24.6 +0.2**
ORR pmax pmax
comp=Z,60nm,1.1s,mb5.5
ORR MLR MLR
comp=Z,340nm,21.0s,MS4.5
SOKR Solikamsk 58.92 328*d i*P **P 14 29 25.0 -0.2**
SOKR pmax pmax
comp=Z,20nm,0.8s,mb5.2
SOKR MLR MLR
comp=Z,560nm,20.0s,MS4.7
DZM Mont Dzumac 62.06 131 LR LR 14 52 05.4
comp=Z,237nm,18.8s,MS4.4,baz=3.3,slow=32
CNB Canberra Magne 62.22 153 *e*P **P 14 29 56.0 +8.3**
comp=Z,15nm,0.7s,mb5.2
TOO Toolangi 62.67 157 *e*P **P 14 29 52.3 +1.6**
comp=Z,4.9nm,0.6s,mb4.8
TOO Toolangi 62.67 157 *e*P **P 14 29 52.3 +1.6**
TOO pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
KBD Kabd 65.31 293 *e*P **P 14 30 07.7 -0.4**
RDF Al-Radifah 65.48 293 *e*P **P 14 30 08.6 -0.6**
RDF AMb AMB 14 30 10.6
comp=Z,41nm,0.9s,mb5.5
MIB Mutribah 65.50 294 *e*P **P 14 30 08.7 -0.6**
MIB AMb AMB 14 30 10.7
comp=Z,19nm,1.1s,mb5.0
NAY Al-Naaiem 65.69 294 *e*P **P 14 30 09.7 -0.8**
NAY AMb AMB 14 30 11.8
comp=Z,14nm,1.0s,mb5.0
GNI Garni 66.00 306 LR LR 15 03 31.8
comp=Z,234nm,18.9s,MS4.4,baz=79,slow=40
GNI Garni 66.00 306 *e*P **P 14 30 14.0 +1.5**
GNI pmax pmax
comp=Z,25nm,1.5s
GNI MLR MLR
comp=Z,200nm,17.0s
ZEI Tsey 66.31 309 *e*P **P 14 30 14.5 0.0**
ZEI *e**PP pP 14 30 23.0 +0.5
ZEI pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
GOF Gofitskoye 66.67 311 *e*P **P 14 30 16.5 -0.3**
KIV Kislovodsk 67.04 310 P **P 14 30 20.7 +1.5**
comp=Z,135nm,0.8s,mb6.0,SNR=6.5
KIV Kislovodsk 67.04 310 *e*P **P 14 30 19.2 0.0**
KIV *e* 14 30 48.3
KIV *e*S S 14 39 09.0 -2.3
KIV pmax pmax
comp=Z,18nm,0.7s,mb5.2
KIV MLR MLR
comp=Z,311nm,17.0s,MS4.6
KIV Kislovodsk 67.04 310 *e*P **P 14 30 20.0 +0.8**
comp=Z,43nm,1.4s,mb5.3
KLMR Klimovskoe 67.60 329*d i*P **P 14 30 21.9 -0.8**
KLMR pmax pmax
comp=Z,90nm,1.8s,mb5.5
KLMR pmax pmax
comp=Z,50nm,5.1s
KLMR MLR MLR
comp=Z,480nm,15.0s,MS4.8
TMCR Tamitsa 68.15 332 *e*P **P 14 30 25.2 -1.0**
TMCR pmax pmax
comp=N,50nm,1.2s
TMCR pmax pmax
comp=Z,40nm,1.2s,mb5.3
TMCR pmax pmax
comp=E,20nm,1.0s
MOS Moscow 68.97 323 *e*P **P 14 30 30.5 -0.8**
MOS *e* 14 30 53.0
MOS *e* 14 33 03.3
MOS pmax pmax
comp=Z,92nm,1.6s,mb5.5
TTA Tatalina 69.04 29 *e*P **P 14 30 33.4 +1.7**
TTA *e**PP pP 14 30 40.5 +0.7
TTA pmax pmax
comp=Z,18nm,0.6s,mb5.2
TTA Tatalina 69.04 29 *e*P **P 14 30 33.4 +1.7**
comp=Z,18nm,0.6s,mb5.2
TTA *ep*P pP 14 30 40.5 +0.7
SOC Sochi 69.22 310 *e*P **P 14 30 30.0 -2.9**
SOC *e**PP pP 14 30 39.5 -1.4
SOC *e*S S 14 39 33.6 -3.8
SOC *e* 14 40 09.9
SOC pmax pmax
comp=Z,18nm,1.2s,mb4.9
SVW2 Sparrevohn 69.40 31 *e*P **P 14 30 35.5 +1.5**
SVW2 *ep*P pP 14 30 43.0 +0.9
OBN Obninsk 69.64 322K P **P 14 30 34.9 -0.6**
OBN *e* pP 14 30 43.0 -0.6
OBN *e* 14 31 02.7
OBN *e*S S 14 39 44.2 +1.9
OBN SS SS 14 44 06.0 -4.5
OBN pmax pmax
comp=Z,65nm,1.4s,mb5.4
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.4
OBN Obninsk 69.64 322 *e*P **P 14 30 35.1 -0.4**
comp=Z,30nm,0.8s,mb5.3
APA Apatity 69.83 336⇓*e*P **P 14 30 36.3 -0.3**
APA *i* pP 14 30 42.5 -2.2
APA *e* 14 40 25.0
APA pmax pmax
comp=Z,43nm,1.2s,mb5.2
APA MLR MLR
comp=Z,600nm,16.0s,MS4.9
ANN Anapa 70.64 312 *e*P **P 14 30 40.7 -0.9**
ANN *e*S S 14 39 50.0 -4.0
ANN pmax pmax
comp=Z,21nm,1.2s,mb4.9
MALT Malatya 71.14 305 ⇓P **P 14 30 46.2 +1.6**
MALT Malatya 71.14 305 *e*P **P 14 30 46.0 +1.4**
comp=Z,8.5nm,0.9s,mb4.7
JOF Joensuu 71.27 331 *ep* **P 14 30 44.4 -1.0**
comp=Z,28nm,1.0s,mb5.1
JOF Joensuu 71.27 331 *e*P **P 14 30 44.4 -1.0**
JOF pmax pmax
comp=Z,28nm,1.0s,mb5.2
KDAK Kodiak Island 71.34 34 LR LR 15 00 05.4
comp=Z,129nm,20.5s,MS4.2,baz=169,slow=34
KDAK Kodiak Island 71.34 34 *e*P **P 14 30 46.3 +0.5**
comp=Z,34nm,1.1s,mb5.2
KDAK *ep*P pP 14 30 53.8 -0.2
COLA College 72.35 27 *e*P **P 14 30 53.3 +1.4**
COLA *e**PP pP 14 31 00.2 +0.2
COLA pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
COLA College 72.35 27 *e*P **P 14 30 53.3 +1.4**
comp=Z,7.9nm,0.6s,mb4.8
COLA *ep*P pP 14 31 00.1 +0.1
PMR Palmer 72.40 30 *e*P **P 14 30 51.8 -0.4**
PMR *e**PP pP 14 30 59.9 -0.4
PMR pmax pmax
comp=Z,13nm,0.8s,mb4.9
PMR Palmer 72.40 30 *e*P **P 14 30 51.8 -0.4**
comp=Z,13nm,0.8s,mb4.9
PMR *ep*P pP 14 30 59.9 -0.4
ARCES ARCESS Array B 72.41 338 P **P 14 30 52.5 +0.3**
comp=Z,13nm,1.0s,mb4.8,baz=72,slow=8.0,SNR=8.9
ARCES LR LR 15 06 23.9
comp=Z,215nm,19.7s,MS4.4,baz=255,slow=39
ILAR Eielson Array 72.78 27 P **P 14 30 54.5 +0.1**
comp=Z,1.1nm,0.6s,baz=287,slow=4.7,SNR=16
KAF Kangasniemi 73.70 331 *ep* **P 14 30 58.2 -1.7**
comp=Z,25nm,1.0s,mb5.1,baz=74,slow=5.5
KAF Kangasniemi 73.70 331 *e*P **P 14 30 58.2 -1.7**
KAF pmax pmax
comp=Z,25nm,1.0s,mb5.1
FINES FINESS Array B 73.97 330 P **P 14 31 01.6 +0.1**
comp=Z,24nm,1.0s,mb5.1,baz=76,slow=8.0,SNR=33
FINES FINESS Array B 73.97 330 *i* P **P 14 31 01.6 +0.2**
FINES pmax pmax
comp=Z,24nm,1.0s
EYAK Cordova Ski Ar 74.23 31 *e*P **P 14 31 04.1 +1.1**
EYAK *ep*P pP 14 31 11.9 +0.8
VSU Vasula 74.36 327 *e*P **P 14 31 03.2 -0.5**
BR131 Keskin Array S 74.46 307 *e*P **P 14 31 04.8 +0.5**
comp=Z,1.2nm,0.6s
BRTR Keskin Array B 74.46 307 P **P 14 31 04.2 -0.1**
comp=Z,1.3nm,0.6s,baz=116,slow=7.0,SNR=8.5
AKASG Malin Array Be 74.83 319 P **P 14 31 05.8 -0.7**
comp=Z,1.3nm,0.3s,mb4.3,baz=64,slow=5.6,SNR=32
AKASG Malin Array Be 74.83 319 *i* P **P 14 31 05.8 -0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
ANTO Ankara 75.05 307 ⇓P **P 14 31 08.1 +0.3**
AFI Afiamalu 75.22 111 LR LR 14 58 33.6
comp=Z,242nm,19.3s,MS4.5,baz=181,slow=31
CSS Prodhromos 75.91 302 *e*P **P 14 31 12.9 +0.3**
comp=Z,15nm,0.8s,mb5.0
CSS *ep*P pP 14 31 20.2 -0.6
DAWY Dawson 76.10 26 *e*P **P 14 31 14.5 +0.7**
DAWY *ep*P pP 14 31 22.3 +0.4
INK Inuvik 76.84 21 *e*P **P 14 31 18.0 +0.1**
INK *e**PP pP 14 31 27.3 +1.2
INK pmax pmax
comp=Z,20nm,1.4s
INK Inuvik 76.84 21 *e*P **P 14 31 18.0 0.0**
comp=Z,20nm,1.4s,mb4.8
INK *ep*P pP 14 31 27.3 +1.3
TIRR Tirgusor 76.99 313⇑*i*P **P 14 31 19.0 +0.2**
TIRR Tirgusor 76.99 313 ⇑P **P 14 31 19.0 +0.2**
SUW Suwalki 77.48 323 *e*P **P 14 31 21.3 -0.3**
SUW *e**PP pP 14 31 28.7 -1.0
SUW pmax pmax
comp=Z,96nm,0.9s,mb5.7
SUW Suwalki 77.48 323 *e*P **P 14 31 21.2 -0.3**
comp=Z,96nm,0.9s,mb5.7
SUW *ep*P pP 14 31 28.6 -1.1
VRI Vrincioaia 77.73 314⇓*i*P **P 14 31 24.2 +1.3**
VRI Vrincioaia 77.73 314 ⇓P **P 14 31 24.2 +1.3**
BURAR Bucovina Array 78.20 316⇓*i*P **P 14 31 26.4 +0.9**
BURAR Bucovina Array 78.20 316 ⇓P **P 14 31 26.4 +0.8**
LVV L'vov 78.27 319 *i* P **P 14 31 26.3 +0.3**
LVV *e* 14 31 37.3
LVV *e* 14 34 23.1
LVV *e*S S 14 41 13.7 -5.8
LVV *e* 14 41 33.1
LVV *e*PS 14 42 02.5
LVV *e*SS SS 14 46 17.5 -4.4
LVV *e*SSS 14 49 43.9
LVV MLR MLR
comp=N,200nm,19.0s,MS4.7
LVV MLR MLR
comp=Z,200nm,19.0s,MS4.5
LVV MLR MLR
comp=E,300nm,21.0s,MS4.7
MLR Muntele Rosu 78.36 314⇓*i*P **P 14 31 27.1 +0.7**
URZ Urewera 79.34 138 LR LR 15 01 44.0
comp=E,150nm,21.8s,MS4.3,baz=65,slow=32
SKAG Skagway 79.54 30 *e*P **P 14 31 34.2 +1.3**
KOLS Kolonicke sedl 79.65 318 *e*P **P 14 31 34.6 +1.1**
KOLS *e* 14 31 49.4
DAG Danmarks Havn 79.66 351⇑*i*P **P 14 31 32.9 -0.7**
comp=E,5.9nm,0.9s,mb4.5
DAG Danmarks Havn 79.66 351⇑*i*P **P 14 31 32.9 -0.7**
DAG pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
DRGR 80.08 316⇓*i*P **P 14 31 36.6 +0.8**
DRGR 80.08 316 P **P 14 31 36.8 +1.0**
DRGR 80.08 316 ⇓P **P 14 31 36.6 +0.7**
STHS Stebnicka Huta 80.12 319 *e*P **P 14 31 36.7 +0.7**
STHS *e* 14 31 50.9
CRVS Cervenica-Dubn 80.16 319 *e*P **P 14 31 39.8 +3.5**
CRVS *e* 14 31 55.0
CRVS Cervenica-Dubn 80.16 319 *e*P **P 14 31 39.9 +3.6**
CRVS *e* 14 31 55.0
SIT Sitka 80.48 32 *e*P **P 14 31 34.8 -3.2**
SIT pmax pmax
comp=Z,19nm,0.8s,mb5.1
SIT Sitka 80.48 32 *e*P **P 14 31 34.8 -3.2**
comp=Z,14nm,0.9s,mb4.9,baz=64,slow=5.3,SNR=22
NIE Niedzica 80.69 319 *e*P **P 14 31 40.2 +1.1**
OJC Ojcow 80.71 320 *e*P **P 14 31 39.6 +0.4**
NB2 NORSAR Subarra 80.85 332 P **P 14 31 39.0 -0.9**
comp=Z,1.1nm,0.8s,baz=66,slow=5.9
NOA NORSAR Array B 80.85 332 P **P 14 31 39.0 -1.0**
comp=Z,14nm,0.9s,mb4.9,baz=64,slow=5.3,SNR=22
NOA LR LR 15 11 21.4
comp=Z,260nm,18.6s,MS4.6,baz=75,slow=38
KECS Kecovo 80.91 318 *e*P **P 14 31 41.0 +0.7**
VTS Vitosha 81.16 312 ⇓P **P 14 31 42.6 +1.0**
PSZ Piszkesteto 81.49 318 ⇓P **P 14 31 43.7 +0.4**
PSZ Piszkesteto 81.49 318 *e*P **P 14 31 44.1 +0.8**
comp=Z,8.5nm,0.8s,mb4.7
OKC Ostrava-Krasne 81.84 320 *e*P **P 14 31 45.9 +0.7**
OKC *ep*P pP 14 31 53.0 -0.4
OKC AMS AMS 15 14 00.0
comp=Z,300nm,7.3s
VYHS Vyhne 81.93 319 *i* P **P 14 31 46.2 +0.5**
VYHS *ep*P pP 14 31 53.7 -0.2
VAY Valandovo 82.05 311 *e*P **P 14 31 45.9 -0.4**
MORC Moravsky Berou 82.23 320 *e*P **P 14 31 47.7 +0.4**
MORC *e**PP pP 14 31 54.8 -0.7
MORC pmax pmax
comp=Z,13nm,1.1s,mb4.8
MORC Moravsky Berou 82.23 320 *e*P **P 14 31 47.7 +0.5**
comp=Z,13nm,1.1s,mb4.8
MORC *ep*P pP 14 31 54.8 -0.7
RES Resolute Bay 82.27 9 *e*P **P 14 31 47.5 +0.1**
RES *e**PP pP 14 31 54.6 -1.1
RES pmax pmax
comp=Z,21nm,1.2s,mb4.9
RES Resolute Bay 82.27 9 *e*P **P 14 31 47.5 +0.1**
comp=Z,21nm,1.2s,mb5.0
RES *ep*P pP 14 31 54.6 -1.0
DLBC Dease Lake 82.46 30 *e*P **P 14 31 50.1 +1.6**
KSP Ksiaz 82.55 322 *e*P **P 14 31 49.1 +0.2**
KSP *e**PP pP 14 31 57.2 +0.1
DPC Dobruska-Polom 82.73 321 *e*P **P 14 31 50.7 +0.9**
DPC *ep*P pP 14 31 58.4 +0.3
DPC AMS AMS 15 15 20.0
comp=Z,300nm,15.1s
UPC Upice 82.85 321 *e*P **P 14 31 51.6 +1.1**
UPC *ep*P pP 14 31 59.2 +0.5
PKSM Moragy 82.92 317 ⇓P **P 14 31 51.1 +0.3**
VRAC Vranov 82.98 320 ⇓P **P 14 31 52.3 +1.1**
GVD Gavdhos 83.17 305 *e*P **P 14 31 52.2 0.0**
comp=Z,15nm,0.9s,mb5.0
GVD *ep*P pP 14 31 59.2 -1.1
RUE Ruedersdorf 83.30 324 *e*P **P 14 31 53.4 +0.6**
comp=Z,24nm,0.8s,mb5.3
RUE *ep*P pP 14 32 01.0 0.0
TREC Trest 83.65 320 *e*P **P 14 31 55.9 +1.3**
TREC AMS AMS 15 12 20.0
comp=Z,200nm,9.7s
KMBO Kilima Mbogo 83.71 266 P **P 14 31 56.4 +1.5**
comp=Z,5.8nm,0.8s,mb4.8,baz=55,slow=6.7,SNR=11
KMBO LR LR 15 06 37.8
comp=Z,208nm,20.9s,MS4.5,baz=95,slow=34
KMBO Kilima Mbogo 83.71 266 *i* P **P 14 31 56.4 +1.5**
KMBO pmax pmax
comp=Z,6.0nm,0.8s
BRG Berggiesshubel 83.89 322 *e*P **P 14 31 56.1 +0.3**
comp=Z,37nm,1.3s,mb5.3
BRG Berggiesshubel 83.89 322⇓*i*P **P 14 31 56.5 +0.7**
comp=Z,23nm,1.3s,mb5.1
BRG pP pP 14 32 04.0 0.0
comp=Z,12nm,1.0s
BRG Berggiesshubel 83.89 322 *i* P **P 14 31 56.5 +0.7**
BRG *PP pP 14 32 04.0 -0.1
BRG pmax pmax
comp=Z,23nm,1.3s,mb5.2
BRG pmax pmax
comp=Z,12nm,1.0s,mb5.0
PRU Pruhonice 83.92 321 *e*P **P 14 31 57.0 +1.0**
PRU *ep*P pP 14 32 04.6 +0.4
PRU AMS AMS 15 12 20.0
comp=Z,200nm,12.9s
CLL Collm 84.24 323 *e*P **P 14 31 57.7 +0.1**
comp=Z,42nm,1.2s,mb5.4
CLL *ep*P pP 14 32 05.4 -0.4
CLL Collm 84.24 323⇓*i*P **P 14 31 57.8 +0.2**
comp=Z,42nm,1.2s,mb5.4
CLL LmV 14 16 00.0
comp=Z,300nm,21.1s
CLL *i* pP pP 14 32 05.4 -0.4
comp=Z,27nm,1.0s
CLL *e*PP PP 14 35 10.0 -2.2
CLL *e*PPP 14 37 04.0
CLL Collm 84.24 323⇓*i*P **P 14 31 57.8 +0.2**
CLL *i* *PP pP 14 32 05.4 -0.4
CLL pmax pmax
comp=Z,42nm,1.2s,mb5.4
CLL Collm 84.24 323⇓*i*P **P 14 31 57.8 +0.2**
comp=Z,42nm,1.2s,mb5.4
CLL *i* pP pP 14 32 05.4 -0.4
ARSA Arzberg 84.47 319⇑*i*P **P 14 31 59.8 +1.0**
comp=E,15nm,1.8s,mb4.8
BSEG Bad Segeberg 84.51 326 *e*P **P 14 31 59.5 +0.5**
comp=Z,53nm,1.1s,mb5.6
BSEG Bad Segeberg 84.51 326 *e*P **P 14 31 59.5 +0.5**
BSEG pmax pmax
comp=Z,53nm,1.1s,mb5.6
KHC Kasperske Hory 84.85 321 *e*P **P 14 32 01.2 +0.5**
KHC *ep*P pP 14 32 08.9 -0.1
KHC AMS AMS 15 10 20.0
comp=Z,300nm,16.3s
GEC2 GERESS Array S 84.90 320 *e*P **P 14 32 01.3 +0.3**
comp=Z,52nm,1.7s,mb5.4
GEC2 GERESS Array S 84.90 320 *e*P **P 14 32 01.3 +0.3**
GEC2 pmax pmax
comp=Z,52nm,1.7s,mb5.4
GERES GERESS Array B 84.90 320 P **P 14 32 01.9 +1.0**
comp=Z,7.6nm,0.9s,mb4.8,baz=67,slow=4.5,SNR=40
GERES LR LR 15 13 24.9
comp=Z,186nm,18.2s,MS4.5,baz=276,slow=38
TANN Tannenbergstha 84.94 322 *e*P **P 14 32 01.4 +0.2**
GCIS Gornji Cirnik 84.98 317 *e*P **P 14 32 02.1 +0.7**
GCIS *ep*P pP 14 32 09.3 -0.3
GCIS *e* 14 32 16.7
MOA Molln 84.99 319⇑*i*P **P 14 32 02.8 +1.4**
comp=Z,37nm,1.3s,mb5.4
NKC Novy Kostel 85.03 322 *e*P **P 14 32 02.2 +0.6**
NKC *ep*P pP 14 32 09.8 0.0
NKC AMS AMS 15 12 40.0
comp=Z,300nm,12.4s
CRES Cresnjev 85.10 317 *e*P **P 14 32 02.6 +0.6**
WET Wettzell 85.26 321 *e*P **P 14 32 02.9 +0.1**
comp=Z,29nm,1.4s,mb5.2
WET Wettzell 85.26 321 *e*P **P 14 32 02.9 +0.1**
WET pmax pmax
comp=Z,29nm,1.4s,mb5.2
MOX Moxa 85.32 323 *e*P **P 14 32 03.1 0.0**
comp=Z,42nm,1.5s,mb5.3
MOX Moxa 85.32 323 *e*P **P 14 32 03.4 +0.3**
comp=Z,38nm,1.5s,mb5.3
MOX
comp=Z,400nm,17.0s
MOX Moxa 85.32 323 *e*P **P 14 32 03.4 +0.3**
MOX pmax pmax
comp=Z,38nm,1.5s,mb5.3
MOX MLR MLR
comp=Z,400nm,17.0s,MS4.9
BOJS Bojanci 85.37 317 *e*P **P 14 32 04.1 +0.8**
ROTZ Rotzenmuhle 85.38 322 *e*P **P 14 32 03.6 +0.3**
CLZ Clausthal 85.46 324 *e*P **P 14 32 04.2 +0.4**
comp=Z,62nm,1.3s,mb5.6
CLZ Clausthal 85.46 324 *e*P **P 14 32 04.2 +0.4**
CLZ pmax pmax
comp=Z,62nm,1.3s,mb5.6
LJU Ljubljana 85.60 318 *e*P **P 14 32 05.1 +0.6**
KBA Koelnbreinsper 85.89 319⇑*i*P **P 14 32 06.6 +0.7**
comp=Z,10nm,1.3s,mb4.9
KBA Koelnbreinsper 85.89 319⇑*i*P **P 14 32 06.6 +0.7**
KBA pmax pmax
comp=Z,10.0nm,1.3s,mb4.9
GRF Grafenberg Arr 85.98 322 *e*P **P 14 32 06.7 +0.4**
comp=Z,53nm,1.6s,mb5.5
GRF Grafenberg Arr 85.98 322 *e*P **P 14 32 06.7 +0.4**
GRF pmax pmax
comp=Z,53nm,1.6s,mb5.5
GRF Grafenberg Arr 85.98 322 *e*P **P 14 32 06.7 +0.4**
GRF pmax pmax
comp=Z,53nm,1.6s,mb5.5
VOY Vojsko 86.00 318 *e*P **P 14 32 06.3 -0.2**
VOY *e* pP 14 32 13.8 -0.9
CADS Cadrg 86.02 318 *e*P **P 14 32 06.4 -0.1**
UBBA Unterbreizbach 86.15 323 *e*P **P 14 32 06.9 -0.3**
YKW3 Yellowknife Ar 86.53 22 *e*P **P 14 32 09.5 +0.4**
YKW3 *ep*P pP 14 32 18.2 +0.9
YKA Yellowknife Ar 86.58 22 P **P 14 32 09.8 +0.6**
comp=Z,4.9nm,0.8s,mb4.8,baz=316,slow=4.7,SNR=66
YKA LR LR 15 13 47.9
comp=Z,84nm,20.8s,MS4.1,baz=305,slow=38
YKA Yellowknife Ar 86.58 22 *i* P **P 14 32 09.8 +0.5**
YKA pmax pmax
comp=Z,5.0nm,0.8s
IBBN Ibbenburen 86.65 325 *e*P **P 14 32 09.9 +0.3**
FUR Furstenfeldbru 86.65 321 *e*P **P 14 32 10.3 +0.7**
comp=Z,240nm,2.2s,mb6.0
FUR Furstenfeldbru 86.65 321 *e*P **P 14 32 10.3 +0.7**
FUR pmax pmax
comp=Z,240nm,2.2s,mb6.0
WTTA Wattenberg 86.85 320⇑*i*P **P 14 32 10.4 -0.2**
comp=Z,32nm,1.7s,mb5.3
WTTA Wattenberg 86.85 320⇑*i*P **P 14 32 10.4 -0.2**
WTTA pmax pmax
comp=Z,32nm,1.7s,mb5.3
SQTA Sankt Quirin 87.13 320⇑*i*P **P 14 32 12.3 +0.3**
comp=Z,25nm,1.3s,mb5.3
SQTA Sankt Quirin 87.13 320⇑*i*P **P 14 32 12.3 +0.3**
SQTA pmax pmax
comp=Z,25nm,1.3s,mb5.3
MOTA Moosalm 87.13 320⇓*i*P **P 14 32 12.0 0.0**
comp=Z,13nm,1.2s,mb5.0
MOTA Moosalm 87.13 320⇓*i*P **P 14 32 12.0 0.0**
MOTA pmax pmax
comp=Z,13nm,1.2s,mb5.0
TNS Taunus Mts 87.31 323 *e*P **P 14 32 13.2 +0.4**
comp=Z,32nm,1.7s,mb5.3
TNS Taunus Mts 87.31 323 *e*P **P 14 32 13.2 +0.4**
TNS pmax pmax
comp=Z,32nm,1.7s,mb5.3
STU Stuttgart 87.59 322 P **P 14 32 14.9 +0.7**
DAVA Damuels 87.90 320⇑*i*P **P 14 32 16.4 +0.8**
comp=Z,12nm,1.2s,mb5.0
WLF Walferdange 88.87 324 *e*P **P 14 32 20.8 +0.6**
WLF Walferdange 88.87 324 P **P 14 32 21.0 +0.7**
WLF AP pP 14 32 28.9 +0.4
CDF Champ du Feu 88.87 322 *e*P **P 14 32 20.2 -0.1**
comp=Z,24nm,1.2s,mb5.1
CDF Champ du Feu 88.87 322 *e*P **P 14 32 20.2 -0.1**
CDF pmax pmax
comp=Z,12nm,1.2s,mb5.1
CDF Champ du Feu 88.87 322 *e*P **P 14 32 20.2 -0.1**
comp=Z,12nm,1.2s,mb5.1
BCLA Clavier 88.94 324 P **P 14 32 19.9 -0.6**
GIVF Givet 89.37 324 *e*P **P 14 32 22.5 -0.1**
HINF Hinteralfeld 89.42 322 *e*P **P 14 32 22.9 +0.1**
DOU Dourbes 89.50 324 P **P 14 32 23.7 +0.5**
HAU Haudompre 89.61 322 *e*P **P 14 32 23.7 0.0**
HAU eR
comp=Z,261nm,17.5s
HAU Haudompre 89.61 322 *e*P **P 14 32 23.7 0.0**
HAU LR LR
comp=Z,260nm,17.5s,MS4.7
BAIF Baives 89.73 325 *e*P **P 14 32 24.1 -0.2**
comp=Z,20nm,1.2s,mb5.0
BAIF Baives 89.73 325 *e*P **P 14 32 24.1 -0.2**
BAIF pmax pmax
comp=Z,10.0nm,1.2s,mb5.0
BAIF Baives 89.73 325 *e*P **P 14 32 24.1 -0.2**
comp=Z,10nm,1.2s,mb5.0
LPG La Plagne 90.66 320 *e*P **P 14 32 29.1 +0.5**
comp=Z,42nm,0.9s,mb5.5
LPG La Plagne 90.66 320 *e*P **P 14 32 29.1 +0.5**
LPG pmax pmax
comp=Z,21nm,0.9s,mb5.5
LPG La Plagne 90.66 320 *e*P **P 14 32 29.1 +0.5**
comp=Z,21nm,0.9s,mb5.5
LPL La Plagne 90.66 320 *e*P **P 14 32 28.6 -0.1**
comp=Z,45nm,0.9s,mb5.5
LPL La Plagne 90.66 320 *e*P **P 14 32 28.6 -0.1**
LPL pmax pmax
comp=Z,22nm,0.9s,mb5.5
LPL La Plagne 90.66 320 *e*P **P 14 32 28.6 -0.1**
comp=Z,22nm,0.9s,mb5.5
PGF Pioggiola 90.73 316 *e*P **P 14 32 28.7 -0.2**
comp=Z,80nm,1.1s,mb5.7
PGF Pioggiola 90.73 316 *e*P **P 14 32 28.7 -0.2**
PGF pmax pmax
comp=Z,40nm,1.1s,mb5.7
PGF Pioggiola 90.73 316 *e*P **P 14 32 28.7 -0.2**
comp=Z,40nm,1.1s,mb5.7
BNI Bardonecchia 90.93 319 *e*P **P 14 32 30.4 +0.5**
BNI *e**PP pP 14 32 36.2 -2.0
BNI pmax pmax
comp=Z,14nm,1.0s,mb5.2

BNI	**Bardonecchia**	**90.93**	**319**	*e*P		**P**	**14 32 30.4**	**+0.5**	
	comp=Z,14nm,1.0s,mb5.2								
BNI				*e*pP		pP	14 32 36.2	-2.0	
MBDF	**Montbardon**	**91.04**	**319**	*e*P		**P**	**14 32 30.0**	**-0.4**	
SBF	**Sospel**	**91.07**	**318**	*e*P		**P**	**14 32 30.1**	**-0.4**	
	comp=Z,23nm,0.7s,mb5.3								
SBF	**Sospel**	**91.07**	**318**	*e*P		**P**	**14 32 30.1**	**-0.4**	
SBF					pmax	pmax			
	comp=Z,11nm,0.7s,mb5.3								
SBF	**Sospel**	**91.07**	**318**	*e*P		**P**	**14 32 30.1**	**-0.4**	
	comp=Z,11nm,0.7s,mb5.3								
LOR	**Lormes**	**91.43**	**322**	*e*P		**P**	**14 32 32.3**	**+0.1**	
	comp=Z,41nm,1.5s,mb5.2								
LOR				*e*R					
	comp=Z,229nm,22.0s								
LOR	**Lormes**	**91.43**	**322**	*e*P		**P**	**14 32 32.3**	**+0.1**	
LOR					pmax	pmax			
	comp=Z,20nm,1.5s,mb5.2								
LOR					MLR	MLR			
	comp=Z,230nm,22.0s,MS4.6								
LOR	**Lormes**	**91.43**	**322**	*e*P		**P**	**14 32 32.3**	**+0.1**	
	comp=Z,20nm,1.5s,mb5.2								
LOR					LR	LR			
	comp=Z,230nm,22.0s,MS4.6								
ORIF	**Oris-en-Rattie**	**91.49**	**320**	*e*P		**P**	**14 32 31.9**	**-0.6**	
ORIF				*e*R					
	comp=Z,281nm,22.5s								
SSF	**Saint Saulge**	**91.75**	**322**	*e*P		**P**	**14 32 33.6**	**-0.1**	
SMF	**Signal de Mont**	**91.78**	**322**	*e*P		**P**	**14 32 33.6**	**-0.2**	
LMR	**La Mourre**	**91.92**	**318**	*e*P		**P**	**14 32 34.2**	**-0.3**	
	comp=Z,73nm,1.3s,mb5.5								
LMR	**La Mourre**	**91.92**	**318**	*e*P		**P**	**14 32 34.2**	**-0.3**	
LMR					pmax	pmax			
	comp=Z,37nm,1.3s,mb5.5								
LMR	**La Mourre**	**91.92**	**318**	*e*P		**P**	**14 32 34.2**	**-0.3**	
	comp=Z,37nm,1.3s,mb5.5								
AVF	**Avril sur Loir**	**91.98**	**322**	*e*P		**P**	**14 32 33.9**	**-0.9**	
	comp=Z,48nm,1.6s,mb5.3								
AVF	**Avril sur Loir**	**91.98**	**322**	*e*P		**P**	**14 32 33.9**	**-0.9**	
AVF					pmax	pmax			
	comp=Z,24nm,1.5s,mb5.3								
AVF	**Avril sur Loir**	**91.98**	**322**	*e*P		**P**	**14 32 33.9**	**-0.9**	
	comp=Z,24nm,1.5s,mb5.3								
SMRF	**Simiane la Rot**	**92.17**	**319**	*e*P		**P**	**14 32 34.9**	**-0.7**	
	comp=Z,29nm,1.1s,mb5.2								
SMRF	**Simiane la Rot**	**92.17**	**319**	*e*P		**P**	**14 32 34.9**	**-0.7**	
	comp=Z,29nm,1.1s,mb5.5								
VIVF	**Saint-Julien-l**	**92.25**	**320**	*e*P		**P**	**14 32 35.7**	**-0.3**	
	comp=Z,65nm,1.4s,mb5.5								
VIVF	**Saint-Julien-l**	**92.25**	**320**	*e*P		**P**	**14 32 35.7**	**-0.3**	
VIVF					pmax	pmax			
	comp=Z,33nm,1.4s,mb5.5								
VIVF	**Saint-Julien-l**	**92.25**	**320**	*e*P		**P**	**14 32 35.7**	**-0.3**	
	comp=Z,33nm,1.4s,mb5.5								
BGF	**Bois d'Agland**	**92.40**	**322**	*e*P		**P**	**14 32 36.0**	**-0.7**	
TCF	**Toulx Ste Croi**	**92.92**	**322**	*e*P		**P**	**14 32 39.0**	**-0.1**	
SGMF	**Saint Gilles**	**94.39**	**326**	*e*P		**P**	**14 32 45.1**	**-0.8**	
MTLF	**Montolieu**	**94.56**	**320**	*e*P		**P**	**14 32 46.2**	**-0.4**	
EPF	**Esparros**	**95.87**	**320**	*e*P		**P**	**14 32 52.0**	**-0.6**	
PPT	**Papeete**	**96.33**	**106**	*e*LR		LR	15 03 53.0		
	comp=Z,396nm,26.2s,baz=286								
PPT	**Papeete**	**96.33**	**106**	LR		LR	15 07 09.5		
	comp=Z,185nm,21.6s,MS4.5,baz=191,slow=30								
MAW	**Mawson**	**97.47**	**199**	LR		LR	15 14 11.9		
	comp=Z,90nm,19.2s,MS4.3,baz=246,slow=34								
TBI	**Tubuai**	**98.33**	**112**	*e*LR		LR	15 04 48.2		
	comp=Z,318nm,31.0s								
RKT	**Rikitea**	**111.04**	**108**	*e*LR		LR	15 10 42.1		
	comp=Z,246nm,26.0s								
VNA2	**Neumayer--Watz**	**121.26**	**198**	*e*PKPdf		PKPdf	14 38 18.1	-0.9	
	baz=64,slow=1.0								
VNA2				*e*			14 38 19.5		
VNA2				*e*			14 38 25.9		
VNA2				*e*			14 38 33.0		
VNA3	**Neumayer Olymp**	**121.73**	**197**	*e*PKPdf		PKPdf	14 38 18.7	-1.2	
VNA3				*e*			14 38 19.9		
VNA3				*e*			14 38 22.0		
VNA3				*e*			14 38 27.0		
SDV	**Santo Domingo**	**148.78**	**21**	*e*PKPdf		PKPdf	14 39 10.5	+0.9	
SDV				*e*PKPbc		PKPbc	14 39 14.7	+1.2	

*ISCJB **25** 14:22:14.1±0.8, 6634N±005×135E±0.1, h0km, Error ellipse: s-maj=7.5km s-min=6.3km az=115.3*
*BER **25** 14:22:17.3±3.3, 6640N×1319E, h0km±15km, MD2.5, ML1.8, ML2.0(NAO)*
*NAO **25** 14:22:18.1±2.0, 6631N×1383E, ML2.0*
ISC 25 14:22:16.0±0.8**, 6642N**±004×**130E**±02**, h12**km±4km**, n13, σ0°92/12, 2D, Northern Norway**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STOK	**Stokkvaagen**	**0.09**	**182**	*i*P		**Pg**	**14 22 18.3**	**-0.4**
STOK	**Stokkvaagen**	**0.09**	**182**	*e*S		**Sg**	**14 22 19.8**	**-0.9**
STOK					AML	AML	14 22 20.1		
	comp=Z,477nm,0.1s								
STOK1	**Konsvik**	**0.09**	**26**	*i*P		**Pg**	**14 22 19.0**	**+0.2**
STOK1	**Konsvik**	**0.09**	**26**	*e*S		**Sg**	**14 22 21.0**	**+0.2**
STOK1					AML	AML	14 22 21.4		
	comp=N,426nm,0.1s								
MOR8	**Moi Rana**	**0.62**	**113**	*e*P		**Pg**	**14 22 27.9**	**-0.3**
MOR8				*e*S		**Sg**	**14 22 37.5**	**+1.0**
MOR8					AML	AML	14 22 37.9		
	comp=Z,61nm,0.3s								
LOF	**Lofoten**	**1.73**	**6**	*e*P		**Pn**	**14 22 46.5**	**+0.6**
NSS	**Namsos**	**1.95**	**194**	*e*P		**Pn**	**14 22 49.1**	**+0.2**
NSS					AML	AML	14 23 17.6		
	comp=Z,8.4nm,0.2s								
NB2	**NORSAR Subarra**	**5.46**	**189**	Lg			14 25 07.0		
NB2	**NORSAR Subarra**	**5.46**	**189**	Lg			14 25 07.0		
ARA0	**ARCESS Array S**	**5.64**	**51**	Pn		**Pn**	**14 23 39.7**	**+0.1**
	baz=234,slow=12								
ARA0				Sn		**Sn**	**14 24 41.7**	**-2.6**
	baz=234,slow=22								
ARA0				Lg			14 25 06.3		
	baz=230,slow=37								
HFS	**Hagfors**	**6.32**	**177**	Pn		**Pn**	**14 23 50.7**	**+1.7**
	baz=5.1,slow=12								
HFS				Sn		**Sn**	**14 25 00.2**	**-0.8**
	baz=20,slow=37								
HFS				Lg			14 25 29.4		
	baz=356,slow=37								
FIA0	**FINESS Array S**	**7.61**	**125**	Lg			14 26 09.2		
	baz=326,slow=28								
FIA0	**FINESS Array S**	**7.61**	**125**	Lg			14 26 09.2		
	baz=326,slow=28								

*MOS **25** 14:34:35.7±0.9, 1106S×16634E, h122km, mb4.7/19, Error ellipse: s-maj=11.9km s-min=9.2km az=137.2*
*BJI **25** 14:34:36.8, 1132S×16671E, h149km, mB5.0, mb4.7*
*ISCJB **25** 14:34:38.0±0.2, 1120S±004×16636E±005, h143km, mb4.7/61, Error ellipse: s-maj=7.1km s-min=5.2km az=45.6*
*NEIC **25** 14:34:39.5±0.2, 1113S×16639E, mb4.7/33, Error ellipse: s-maj=6.9km s-min=4.3km az=133.0*
*IDC **25** 14:34:39.1±0.7, 1118S×16644E, h143km±5km, mb4.4/18, mb1 4.4/21, mb1mx4.4/24, mbtmp4.8/21, MS3.6/1, Ms1 3.6/1, ms1mx2.7/25, Error ellipse: s-maj=13.7km s-min=9.8km az=111.0*
*HRVD **25** 14:34:39.5±0.4, 1109S×16630E, h147km±3km, MW4.9/60, Centroid moment Tensor Solution. LP body waves: s17,c20;Mantle waves: s60,c80; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.18±.10; Mθθ-1.21±.15; Mϕϕ-0.97±.15; Mrθ-0.01±.12; Mθϕ-1.31±.15; Mϕr-1.13±.10; Best double couple: Mo2.56300×10^16^ NP1:θ66.00000°, δ39.00000°, λ120.00000°. NP2: ϕs209.00000°, δ57.00000°, λ68.00000°. Principal axes: T 2.5870, Plg69.0000°, Azm72.0000°; N -0.0480, Plg18.0000°, Azm221.0000°; P -2.5390, Plg10.0000°, Azm315.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 25 14:34:39.8±0.2**, 1121S**±004×**16642E**±005**, h145**km**, h145**km±1.3km**; pP-P, n165**, σ1**9**00**/129**, mb4.7**/61**, 9C-2D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.61**	**285**	P		**Pn**	**14 36 15.1**	**+0.5**
	20nm,0.3s,baz=109,slow=0.5,SNR=34							
HNR				S		**Sn**	**14 37 35.4**	**+6.6**
	43nm,0.3s,baz=91,slow=24,SNR=5.5							

HNR	**Honiara**	**6.61**	**285**	*e*P		**Pn**	**14 36 14.7**	**+0.1**
HNR					pmax	pmax		
	comp=Z,336nm,0.8s							
HNR	**Honiara**	**6.61**	**285**	*e*Pn		**Pn**	**14 36 14.7**	**+0.1**
	comp=Z,336nm,0.8s							
DZM	**Mont Dzumac**	**10.80**	**180**	P		**Pn**	**14 37 10.3**	**-0.1**
	comp=Z,2.9nm,0.3s,baz=19,slow=14,SNR=37							
DZM					S	**Sn**	**14 39 08.8**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=306,slow=22,SNR=3.1							
PMG	**Port Moresby**	**19.04**	**274**	P		**P**	**14 38 50.3**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=63,slow=8.7,SNR=6.2							
PMG	**Port Moresby**	**19.04**	**274**	*e*P		**P**	**14 38 50.3**	**-0.3**
PMG					pmax	pmax		
	comp=Z,55nm,1.1s							
PMG	**Port Moresby**	**19.04**	**274**	*e*P		**P**	**14 38 50.3**	**-0.3**
	comp=Z,55nm,1.1s							
CTA	**Charters Tower**	**21.32**	**243**	*e*P		**P**	**14 39 16.0**	**+1.0**
	comp=Z,4.7nm,0.6s,mb4.0							
CTA				*e*			14 39 37.8	
CTA	**Charters Tower**	**21.32**	**243**	P		**P**	**14 39 15.8**	**+0.8**
	comp=Z,6.1nm,0.8s,mb4.0,baz=69,slow=12,SNR=9.5							
CTA	**Charters Tower**	**21.32**	**243**	*e*P		**P**	**14 39 16.0**	**+1.0**
CTA				*e*			14 39 37.8	
CTA					pmax	pmax		
	comp=Z,5.0nm,0.6s							
CTAO	**Charters Tower**	**21.32**	**243**	*e*P		**P**	**14 39 15.7**	**+0.7**
CTAO					pmax	pmax		
	comp=Z,22nm,1.0s,mb4.4							
CTAO	**Charters Tower**	**21.32**	**243**	*e*P		**P**	**14 39 15.7**	**+0.7**
	comp=Z,22nm,1.0s,mb4.5							
CTAO				*e*			14 39 32.7	
ARMA	**Armidale**	**23.54**	**214**	*e*P		**P**	**14 39 38.4**	**+1.6**
CNB	**Canberra Magne**	**28.57**	**210**	*e*P		**P**	**14 40 23.1**	**+1.1**
	comp=Z,18nm,0.8s,mb4.8							
URZ	**Urewera**	**28.59**	**162**	P		**P**	**14 40 22.9**	**+0.8**
	comp=Z,16nm,0.8s,mb4.8,baz=343,slow=7.8,SNR=6.2							
STKA	**Stephens Creek**	**30.79**	**224**	*e*P		**P**	**14 40 40.9**	**-0.6**
	comp=Z,16nm,0.8s,mb4.8							
STKA	**Stephens Creek**	**30.79**	**224**	P		**P**	**14 40 40.5**	**-1.0**
	comp=Z,18nm,0.8s,mb4.9,baz=40,slow=8.7,SNR=29							
STKA					pP	pP	14 41 13.2	+0.7
	comp=Z,2.1nm,0.6s,baz=29,slow=14,SNR=1.5							
STKA					PcP	PcP	14 43 33.7	-1.6
	comp=Z,3.5nm,0.7s,baz=19,slow=4.8,SNR=3.7							
WB2	**Warramunga Arr**	**32.04**	**250**	*e*P		**P**	**14 40 52.0**	**-0.6**
WB2				*e*pP		pP	14 41 25.3	+1.8
WB2				*e*PCP		PcP	14 43 39.6	+0.9
WRAB	**Tennant Creek**	**32.04**	**250**	*e*P		**P**	**14 40 51.5**	**-1.1**
WRAB				*e**PP		pP	14 41 18.4	-5.1
WRAB					pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.5							
WRAB	**Tennant Creek**	**32.04**	**250**	*e*P		**P**	**14 40 51.5**	**-1.1**
	comp=Z,9.0nm,0.9s,mb4.5							
WRAB				*e*pP		pP	14 41 18.4	-5.2
WRA	**Warramunga Arr**	**32.05**	**250**	P		**P**	**14 40 52.5**	**-0.2**
	comp=Z,4.2nm,0.8s,mb4.2,baz=83,slow=8.7,SNR=52							
WRA					pP	pP	14 41 24.3	+0.7
	comp=Z,9.0nm,0.8s,baz=79,slow=9.2,SNR=9.9							
WRA					PcP	PcP	14 43 39.3	+0.6
	comp=Z,3.6nm,0.8s,baz=77,slow=3.0,SNR=16							
WRA					S	**S**	**14 45 50.9**	**-2.9**
	comp=Z,3.4nm,1.2s,baz=82,slow=15,SNR=6.6							
WRA	**Warramunga Arr**	**32.05**	**250**	*i*P		**P**	**14 40 52.5**	**-0.2**
WRA					pmax	pmax		
	comp=Z,4.0nm,0.8s							
TOO	**Toolangi**	**32.28**	**212**	*e*P		**P**	**14 40 55.5**	**+0.8**
	comp=Z,9.6nm,0.9s,mb4.5							
TOO	**Toolangi**	**32.28**	**212**	*e*P		**P**	**14 40 55.5**	**+0.8**
TOO					pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5							
GUMO	**Guam**	**32.62**	**318**	LR		LR	14 50 52.6		
	comp=Z,112nm,20.2s,baz=72,slow=30							
RPZ	**Rata Peaks**	**32.63**	**174**	P		**P**	**14 40 58.2**	**+0.4**
	comp=Z,67nm,0.8s,mb5.5,baz=101,slow=2.2,SNR=24							
RPZ	**Rata Peaks**	**32.63**	**174**	P		**P**	**14 40 58.1**	**+0.4**
KAKA	**Kakadu**	**33.27**	**264**	*e*P		**P**	**14 41 03.4**	**+0.2**
	comp=Z,9.4nm,0.9s,mb4.5							
AS31	**Alice Springs**	**33.31**	**244**	*e*P		**P**	**14 41 03.2**	**-0.4**
AS31				*e*pP		pP	14 41 34.7	0.0
ASAR	**Alice Springs**	**33.32**	**244**	P		**P**	**14 41 03.0**	**-0.6**
	comp=Z,3.6nm,0.9s,mb4.1,baz=66,slow=10,SNR=38							
ASAR					pP	pP	14 41 34.8	0.0
	comp=Z,6.2nm,1.0s,baz=76,slow=8.5,SNR=5.6							
ASAR					PcP	PcP	14 43 42.1	-0.1
	comp=Z,4.7nm,0.8s,baz=76,slow=2.8,SNR=16							
ASAR					S	**S**	**14 46 04.2**	**-9.2**
	comp=Z,0.1nm,0.4s,baz=108,slow=23,SNR=2.5							
ASAR	**Alice Springs**	**33.32**	**244**	P		**P**	**14 41 03.1**	**-0.5**
ASAR				*PP		pP	14 41 34.8	+0.1
ASAR							14 43 42.1	
ASPA	**Alice Springs**	**33.32**	**244**	*e*P		**P**	**14 41 03.2**	**-0.5**
ASPA				*e*pP		pP	14 41 34.7	-0.1
TAU	**Tasmania Unive**	**35.69**	**204**	*e*P		**P**	**14 41 24.1**	**0.0**
TAU					pmax	pmax		
	comp=Z,54nm,1.3s,mb5.0							
TAU	**Tasmania Unive**	**35.69**	**204**	*e*P		**P**	**14 41 24.1**	**0.0**
	comp=Z,54nm,1.3s,mb5.0							
FITZ	**Fitzroy Crossi**	**39.98**	**255**	P		**P**	**14 42 00.7**	**+0.6**
	comp=Z,16nm,0.8s,mb4.7,baz=99,slow=6.4,SNR=29							
FITZ					pP	pP	14 42 33.3	+1.3
	comp=Z,3.0nm,0.6s,baz=92,slow=6.7,SNR=2.3							
FITZ					PcP	PcP	14 44 02.9	+0.6
	comp=Z,2.2nm,0.7s,baz=108,slow=3.2,SNR=4.3							
FORT	**Forrest**	**40.50**	**235**	*e*P		**P**	**14 42 05.1**	**+0.8**
	comp=Z,39nm,0.7s,mb5.2							
MBWA	**Marble Bar**	**45.77**	**251**	*e*P		**P**	**14 42 47.5**	**+0.8**
	comp=Z,29nm,1.1s,mb4.8							
MBWA				*e*pP		pP	14 43 21.9	+2.5
POHA	**Pohakuloa**	**48.48**	**51**	*e*P		**P**	**14 43 09.1**	**+1.5**
	comp=Z,456nm,0.7s							
KLBR	**Kellerberrin**	**49.18**	**238**	*e*P		**P**	**14 43 12.9**	**-0.1**
	comp=Z,16nm,0.6s,mb4.8							
NWAO	**Narrogin (SRO)**	**49.92**	**236**	*e*P		**P**	**14 43 18.9**	**+0.3**
NWAO					pmax	pmax		
	comp=Z,23nm,0.7s							
NWAO	**Narrogin (SRO)**	**49.92**	**236**	*e*P		**P**	**14 43 18.9**	**+0.3**
	comp=Z,24nm,0.7s,mb4.9							
MUN	**Mundaring**	**50.55**	**238**	*e*P		**P**	**14 43 23.7**	**+0.4**
ASAJ	**Asahikawa**	**59.17**	**340**	P		**P**	**14 44 25.7**	**+0.4**
	comp=Z,11nm,0.7s,mb4.8,baz=196,slow=10,SNR=7.5							
NJ2	**Nanjing**	**62.60**	**315**	*e*P		**P**	**14 44 51.0**	**+2.5**
NJ2					AP	pP	14 45 25.0	+2.0
NJ2					XP	sP	14 45 41.3	+2.5
NJ2					PP	PP	14 47 12.0	+4.1
NJ2					AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0							
NJ2					AMB	AMB		
	comp=Z,350nm,7.0s							
NJ2					LR	LR		
	comp=N,2μm,31.9s							
NJ2					LR	LR		
	comp=E,980nm,30.0s							
NJ2					LR	LR		
	comp=Z,1μm,33.5s							
FX1	**Attu Island--F**	**64.09**	**5**	P		**P**	**14 44 58.6**	**+0.3**
	comp=Z,31nm,0.6s,mb5.3,baz=175,slow=2.6,SNR=18							
FX1	**Attu Island--F**	**64.09**	**5**	*e*P		**P**	**14 44 58.0**	**-0.3**
MDJ	**Mudanjiang**	**64.81**	**332**	P		**P**	**14 45 02.8**	**-0.1**
MDJ					AP	pP	14 45 36.5	-1.2
MDJ					XP	sP	14 45 51.8	-1.6
MDJ					PP	PP	14 47 26.5	-0.7
MDJ					AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.4							
MDJ					AMB	AMB		
	comp=Z,214nm,7.8s							
CN2	**Changchun**	**66.22**	**329**	*e*P		**P**	**14 45 15.5**	**+3.5**
VNDA	**Vanda**	**66.34**	**181**	P		**P**	**14 45 12.2**	**-0.5**
	comp=Z,9.6nm,1.0s,mb4.6,baz=340,slow=6.7,SNR=22							
VNDA	**Vanda**	**66.34**	**181**	*e*P		**P**	**14 45 12.3**	**-0.5**
VNDA					pmax	pmax		
	comp=Z,18nm,1.1s							
VNDA	**Vanda**	**66.34**	**181**	*e*P		**P**	**14 45 12.2**	**-0.5**
	comp=Z,18nm,1.1s,mb4.8							
CASY	**Casey**	**66.47**	**201**	*e*P		**P**	**14 45 03.6**	**-10**
	comp=Z,16nm,0.5s,mb5.1							
SBA	**Scott Base**	**66.64**	**180**	*e*P		**P**	**14 45 15.2**	**+0.6**
SBA					pmax	pmax		
	comp=Z,43nm,1.3s,mb5.1							
SBA	**Scott Base**	**66.64**	**180**	*e*P		**P**	**14 45 15.2**	**+0.5**
	comp=Z,43nm,1.3s,mb5.1							
KLR	**Kul'dur**	**67.47**	**336**	*e*P		**P**	**14 45 16.8**	**-3.1**
PSI	**Prapat**	**68.55**	**277**	P		**P**	**14 45 26.1**	**-0.6**
	comp=Z,4.8nm,0.6s,mb4.4,baz=150,slow=23,SNR=5.9							
GYA	**Guiyang**	**69.06**	**304**	*i*P		**P**	**14 45 29.8**	**0.0**
GYA					AP	pP	14 46 04.0	-1.0
GYA					XP	sP	14 46 19.5	-1.1
GYA					PP	PP	14 48 06.0	+1.9
GYA					SCP		14 49 42.5	
GYA					S	S	14 54 20.0	-3.2
GYA					AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7							
GYA					AMB	AMB		
	comp=Z,70nm,4.0s							
XAN	**Xi'an**	**70.72**	**312**	P		**P**	**14 45 40.0**	**+0.1**
XAN					AMB	AMB		
	comp=Z,13nm,0.8s,mb4.7							
MA2	**Magadan**	**71.66**	**352**	P		**P**	**14 45 43.0**	**-2.6**
KMI	**Kunming**	**71.77**	**301**	P		**P**	**14 45 48.0**	**+1.7**
KMI					AP	pP	14 46 21.8	+0.1
KMI					XP	sP	14 46 41.0	+3.8
KMI					PP	PP	14 48 32.0	+4.6
KMI					S	S	14 54 54.8	+0.1
KMI					XS	sS	14 55 58.3	+2.4
KMI					SS	SS	14 59 31.8	-1.7
KMI					AMB	AMB		
	comp=Z,14nm,1.0s,mb4.7							
KMI					LR	LR		
	comp=Z,29nm,35.1s							
HHC	**Hu-ho-hao-te**	**72.39**	**319**	*e*P		**P**	**14 45 52.0**	**+2.1**
HHC					AP	pP	14 46 27.0	+1.6
HHC					XP	sP	14 46 42.5	+1.6
HHC					PP	PP	14 48 36.5	+3.8
HHC					AMB	AMB		
	comp=Z,12nm,1.2s,mb4.5							
HHC					AMB	AMB		
	comp=Z,164nm,11.3s							
HHC					LR	LR		
	comp=N,123nm,18.6s							
HHC					LR	LR		
	comp=E,112nm,17.3s							
HHC					LR	LR		
	comp=Z,107nm,20.8s							
CHTO	**Chiang Mai**	**72.90**	**294**	*e*P		**P**	**14 45 53.7**	**+0.8**
CHTO					pmax	pmax		
	comp=Z,13nm,1.2s,mb4.5							
CHTO	**Chiang Mai**	**72.90**	**294**	*e*P		**P**	**14 45 53.7**	**+0.8**
CHTO					pmax	pmax		
	comp=Z,13nm,1.2s,mb4.5							
CHTO	**Chiang Mai**	**72.90**	**294**	*e*P		**P**	**14 45 53.7**	**+0.7**
	comp=Z,13nm,1.2s,mb4.5							
LZH	**Lanzhou**	**75.36**	**312**	*e*P		**P**	**14 46 08.5**	**+1.3**
LZH					AP	pP	14 46 43.5	+0.6
LZH					XP	sP	14 46 59.5	+1.1
LZH					PP	PP	14 49 01.5	+3.6
LZH					AMB	AMB		
	comp=Z,30nm,1.0s,mb4.9							
LZH					AMB	AMB		
	comp=Z,120nm,4.5s							
KDAK	**Kodiak Island**	**76.49**	**21**	P		**P**	**14 46 12.8**	**-0.7**
	comp=Z,8.5nm,0.8s,mb4.4,baz=188,slow=0.2,SNR=6.5							
CIT	**Chita**	**77.64**	**330**	*e*P		**P**	**14 46 19.8**	**-0.2**
SVW2	**Sparrevohn**	**78.06**	**18**	*e*P		**P**	**14 46 21.7**	**-0.7**
YAK	**Yakutsk**	**78.44**	**343**	*e*P		**P**	**14 46 22.7**	**-1.7**
	comp=Z,10nm,0.6s,mb4.6							
QSPA	**South Pole Qui**	**78.80**	**180**	*e*P		**P**	**14 46 26.0**	**-0.4**
	comp=Z,8.7nm,0.8s,mb4.4							
ULN	**Ulaanbaatar**	**78.82**	**324**	*c i*P		**P**	**14 46 25.4**	**-1.1**
ULN	**Ulaanbaatar**	**78.82**	**324**	*e*P		**P**	**14 46 26.6**	**0.0**
	comp=Z,12nm,1.1s,mb4.4							
BILL	**Bilibino**	**79.04**	**360**	*α i*P		**P**	**14 46 27.0**	**-0.7**
BILL							14 46 35.0	
BILL					pmax	pmax		
	comp=Z,24nm,1.2s,mb4.7							
BILL	**Bilibino**	**79.04**	**360**	*e*P		**P**	**14 46 27.0**	**-0.8**
	comp=Z,19nm,1.0s,mb4.7							
SONM	**Songino Array**	**79.19**	**324**	P		**P**	**14 46 28.2**	**-0.4**
	comp=Z,3.3nm,0.9s,mb4.0,baz=137,slow=5.2,SNR=19							
SONM					pP	pP	14 47 03.0	-1.5
	comp=Z,1.0nm,0.6s,baz=148,slow=6.3,SNR=3.0							
TTA	**Tatalina**	**79.39**	**16**	*e*P		**P**	**14 46 28.7**	**-0.9**
TTA					pmax	pmax		
	comp=Z,40nm,1.4s,mb4.9							
TTA	**Tatalina**	**79.39**	**16**	*e*P		**P**	**14 46 28.7**	**-1.0**
	comp=Z,40nm,1.4s,mb4.8							
GTA	**Gaotai**	**79.65**	**314**	*e*P		**P**	**14 46 32.0**	**+1.0**
GTA					AP	pP	14 47 07.5	+0.4
GTA					XP	sP	14 47 22.3	-0.2
GTA					PP	PP	14 49 34.8	+1.0
GTA					S	S	14 56 19.8	-1.4
GTA					SCS	ScS	14 56 39.0	-2.7
GTA					SS	SS	15 01 32.5	-0.1
GTA					AMB	AMB		
	comp=Z,13nm,1.2s,mb4.4							
GTA					AMB	AMB		
	comp=Z,220nm,7.6s							
GTA					LR	LR		
	comp=N,118nm,7.6s							
GTA					LR	LR		
	comp=E,108nm,9.1s							
GTA					LR	LR		
	comp=Z,124nm,9.1s							
PMR	**Palmer**	**80.48**	**20**	*e*P		**P**	**14 46 39.8**	**+4.

	comp=Z,1.7nm,0.6s,mb4.0									
TPNV					*e*PP		PP	14 50 34.2	+2.5	
GUN	**Gumba**	**86.98**	**299**		*e*P		**P**	**14 47 09.2**	**+0.7**	
PKI	**Pulchoki**	**87.30**	**299**		*e*P		**P**	**14 47 10.5**	**+0.4**	
	comp=Z,18nm,0.7s,mb5.0									
KKN	**Kakani**	**87.46**	**299**		*e*P		**P**	**14 47 11.2**	**+0.3**	
	comp=Z,19nm,0.9s,mb4.9									
NEN	**Nelson**	**87.47**	**53**		*e*P		**P**	**14 47 10.9**	**0.0**	
DMN	**Daman**	**87.57**	**299**		*e*P		**P**	**14 47 11.9**	**+0.5**	
	comp=Z,54nm,0.9s,mb5.4									
GKN	**Gorkha**	**88.07**	**299**		*e*P		**P**	**14 47 13.4**	**-0.3**	
	comp=Z,30nm,0.8s,mb5.2									
KOLN	**Koldanda**	**88.91**	**298**		*e*P		**P**	**14 47 17.4**	**-0.3**	
	comp=Z,18nm,0.8s,mb5.0									
ARUT	**Antelope Range**	**89.12**	**51**		*e*P		**P**	**14 47 19.8**	**+1.1**	
WMQ	**Urumqi**	**89.68**	**315**	⇑	P		**P**	**14 47 20.5**	**-0.8**	
WMQ					AP		pP	14 47 57.8	-0.3	
WMQ					XP		sP	14 48 13.5	+0.2	
WMQ					PP		PP	14 50 56.5	+1.3	
WMQ					AMB		AMB			
	comp=Z,13nm,0.7s,mb5.0									
WMQ					AMB		AMB			
	comp=Z,34nm,5.7s									
WMQ					LR		LR			
	comp=N,121nm,7.2s									
WMQ					LR		LR			
	comp=Z,172nm,4.0s									
DUG	**Dugway**	**90.20**	**49**		P		**P**	**14 47 23.9**	**+0.2**	
MSU	**Marysvale**	**90.27**	**51**		*e*P		**P**	**14 47 25.5**	**+1.5**	
MSU					*e*PP		pP	14 48 01.4	+0.6	
MCMT	**McKenzie Canyo**	**91.33**	**45**		*e*P		**P**	**14 47 29.6**	**+0.7**	
MCMT					*e*pP		pP	14 48 07.4	+1.6	
DLMT	**Dillon**	**91.63**	**44**		*e*P		**P**	**14 47 30.7**	**+0.4**	
	comp=Z,13nm,1.1s,mb4.9									
DLMT					*e*pP		pP	14 48 08.1	+0.8	
SYO	**Syowa Base**	**91.82**	**197**	⇑	*e*P		**P**	**14 47 28.6**	**-2.6**	
SYO	**Syowa Base**	**91.82**	**197**	⇑	*e*PcP		PcP	14 47 30.0	-2.0	
PDAR	**Pinedale Array**	**93.17**	**47**		P		**P**	**14 47 37.9**	**+0.4**	
	comp=Z,1.0nm,0.8s,mb4.0,baz=298,slow=3.2,SNR=7.5									
PDAR					pP		pP	14 48 14.0	-0.3	
	comp=Z,0.8nm,1.0s,baz=264,slow=4.5,SNR=1.7									
BNM	**Barren Site**	**93.70**	**56**		*e*P		**P**	**14 47 41.2**	**+1.3**	
ANMO	**Albuquerque**	**93.99**	**55**		*e*P		**P**	**14 47 41.9**	**+0.7**	
ZAL	**Zalesovo**	**94.09**	**324**		P		**P**	**14 47 41.1**	**-0.5**	
	comp=Z,2.0nm,0.4s,mb4.6,baz=350,slow=5.5,SNR=12									
MKAR	**Makanchi Array**	**94.09**	**317**		P		**P**	**14 47 41.6**	**-0.1**	
	comp=Z,5.5nm,0.5s,mb5.0,baz=96,slow=8.9,SNR=31									
MKAR					pP		pP	14 48 15.9	-2.7	
	comp=Z,1.0nm,0.3s,baz=100,slow=6.3,SNR=1.9									
YKA	**Yellowknife Ar**	**94.81**	**27**		P		**P**	**14 47 42.8**	**-2.2**	
	comp=Z,1.1nm,0.6s,mb4.3,baz=257,slow=4.7,SNR=22									
YKA					pP		pP	14 48 19.4	-2.5	
	comp=Z,0.5nm,0.7s,baz=258,slow=4.5,SNR=3.0									
YKA	**Yellowknife Ar**	**94.81**	**27**		P		**P**	**14 47 42.8**	**-2.2**	
YKA					pP		pP	14 48 19.4	-2.5	
VNA3	**Neumayer Olymp**	**97.70**	**181**		*e*P		**P**	**14 47 56.0**	**-2.0**	
VNA3					*e*			14 47 58.7		
VNA2	**Neumayer--Watz**	**97.95**	**182**		*e*P		**P**	**14 47 58.5**	**-0.7**	
	baz=172,slow=4.5									
VNA2					*e*			14 48 00.7		
ARCES	**ARCESS Array B**	**116.66**	**346**		PKP		PKPdf	14 53 05.0	-1.6	
	comp=Z,3.9nm,0.6s,baz=75,slow=1.4,SNR=12									
JOF	**Joensuu**	**119.33**	**338**		*e*p		PKPdf	14 53 08.0	-3.8	
	comp=Z,3.9nm,0.6s									
JOF	**Joensuu**	**119.33**	**338**		*e*PKIKP		PKPdf	14 53 08.0	-3.8	
JOF					pmax		pmax			
	comp=Z,4.0nm,0.6s									
KAF	**Kangasniemi**	**121.63**	**339**		*e*p		PKPdf	14 53 13.7	-2.5	
	comp=Z,2.3nm,0.5s									
KAF	**Kangasniemi**	**121.63**	**339**		*e*PKIKP		PKPdf	14 53 13.7	-2.5	
KAF					pmax		pmax			
	comp=Z,2.0nm,0.5s									
FINES	**FINESS Array B**	**122.17**	**339**		PKP		PKPdf	14 53 15.6	-1.6	
	comp=Z,1.5nm,0.6s,baz=33,slow=4.5,SNR=11									
SUR	**Sutherland**	**125.61**	**216**		PKPdf		PKPdf	14 53 24.7	+0.9	
MALT	**Malatya**	**126.47**	**310**		PKIKP		PKPdf	14 53 25.6	+0.1	
NB2	**NORSAR Subarra**	**127.03**	**345**		PKPd		PKPdf	14 53 25.7	-0.8	
	comp=Z,1.4nm,0.7s,baz=30,slow=1.9									
NOA	**NORSAR Array B**	**127.03**	**345**		PKP		PKPdf	14 53 25.6	-0.9	
	comp=Z,2.4nm,0.8s,baz=33,slow=2.0,SNR=7.4									
AKASG	**Malin Array Be**	**127.36**	**327**		PKP		PKPdf	14 53 25.5	-1.7	
	comp=Z,0.4nm,0.3s,baz=43,slow=2.0,SNR=5.9									
LBTB	**Lobatse**	**127.51**	**226**		*e*PKIKP		PKPdf	14 53 28.2	+0.8	
LSZ	**Lusaka**	**130.98**	**238**		*e*PKIKP		PKPdf	14 53 35.6	+1.6	
CLL	**Collm**	**134.52**	**337**		*e*PKIKP		PKPdf	14 53 41.0	+0.3	
CLL					pmax		pmax			
	comp=Z,3.0nm,0.8s									
GERES	**GERESS Array B**	**136.14**	**334**		PKP		PKPdf	14 53 43.7	0.0	
	comp=Z,1.2nm,0.7s,baz=236,slow=0.5,SNR=9.0									
TSUM	**Tsumeb**	**136.91**	**226**		*e*PKPpre			14 53 41.3		
LOR	**Lormes**	**141.16**	**341**		*e*PKIKP		PKPdf	14 53 52.3	-0.6	
SSF	**Saint Saulge**	**141.46**	**341**		*e*PKIKP		PKPdf	14 53 52.8	-0.6	
	comp=Z,4.1nm,0.7s									
LPL	**La Plagne**	**141.66**	**337**		*e*PKIKP		PKPdf	14 53 53.1	-0.7	
LPG	**La Plagne**	**141.67**	**337**		*e*PKIKP		PKPdf	14 53 53.1	-0.7	
	comp=Z,8.5nm,0.9s									
ORIF	**Oris-en-Rattie**	**142.49**	**337**		*e*PKIKP		PKPdf	14 53 54.2	-1.1	
	comp=Z,8.2nm,0.7s									
TCF	**Toulx Ste Croi**	**142.55**	**342**		*e*PKIKP		PKPdf	14 53 54.7	-0.7	
SMRF	**Simiane la Rot**	**143.40**	**337**		*e*PKIKP		PKPdf	14 53 56.2	-0.7	
	comp=Z,15nm,0.9s									
LASF	**Ste Croix**	**143.96**	**338**		*e*PKIKP		PKPdf	14 53 56.0	-1.9	
	comp=Z,30nm,1.1s									
MTLF	**Montolieu**	**145.18**	**340**		*e*PKIKP		PKPdf	14 53 59.2	-0.8	
	comp=Z,22nm,0.8s									
EPF	**Esparros**	**146.06**	**342**		*e*PKIKP		PKPdf	14 54 00.2	-1.3	
ETSF	**Etsaut**	**146.46**	**343**		*e*PKIKP		PKPdf	14 54 01.2	-1.0	
	comp=Z,17nm,0.8s									
EPON	**Pontenova**	**147.52**	**351**		PKP		PKPbc	14 54 07.0	+0.2	
STS	**Santiago**	**148.14**	**353**		PKP2		PKPbc	14 54 08.8	+0.4	
GUD	**Guadarrama**	**149.53**	**346**	⇑	PKP2		PKPbc	14 54 12.7	+0.8	
ECHE	**Chera**	**149.60**	**341**	⇓	PKP2		PKPbc	14 54 13.0	+1.0	
ESDC	**Sonseca Array**	**150.39**	**345**		PKP		PKPbc	14 54 14.5	+0.6	
ETOB	**Tobarra**	**150.64**	**341**		PKP		PKPbc	14 54 16.3	+1.7	
EVIA	**Vianos**	**150.95**	**342**	⇑	PKIKP		PKPbc	14 54 16.8	+1.5	
EMUR	**La Murta**	**151.26**	**339**		PKP		PKPbc	14 54 19.1	+3.1	
EADA	**Adamuz**	**151.97**	**345**		PKP		PKPbc	14 54 17.2	-0.4	
ERON	**Agron**	**152.84**	**343**	⇓	PKP		PKPbc	14 54 18.9	-0.7	
TORD	**Torodi Ar. Bea**	**164.95**	**279**		PKP		PKPdf	14 54 26.6	+0.2	
	comp=Z,2.9nm,1.2s,baz=101,slow=0.8,SNR=6.6									
TORD					PKPab		PKPab	14 55 23.9	+0.3	
	comp=Z,1.7nm,0.9s,baz=86,slow=4.9,SNR=5.5									

*MOS **25** 14:37:40.6±1.3, 1305N×1443.3E, h33km, mb4.6/14, Error ellipse: s-maj=20.7km s-min=10.4km az=94.0*
*ISCJB **25** 14:37:43.8±0.8, 1308N±007×1448E±02, h73km, 6km, mb4.2/24, Error ellipse: s-maj=27.4km s-min=10.6km az=13.4*
*NEIC **25** 14:37:44.6±0.8, 1310N×1447.1E, h64km±7km, mb4.4/9, Error ellipse: s-maj=15.8km s-min=6.9km az=99.0*
NEIC Felt at Mangilao, Tumon and Yigo.
*IDC **25** 14:37:44.5±0.9, 1318N×1446.6E, h60km±6km, mb4.0/12, mb1 4.2/12, mb1mx4.1/21, mbtmp4.3/12, MS3.2/2, Ms1 3.2/2, ms1mx2.4/24, Error ellipse: s-maj=33.9km s-min=13.7km az=104.0*

ISC 25 14:37:45.1±0.8, 1313N±007×1448E±02, h70km±6km, n47, σ0§78/44, mb4.2/24, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.47**	**8**	P		**Pn**	**14 37 57.3**	**-0.3**
	2μm,0.3s,baz=140,slow=3.5,SNR=3102							
GUMO				S		**Sn**	**14 38 06.9**	**+0.2**
GUMO	**Guam**	**0.47**	**8**	P		**Pn**	**14 37 57.3**	**-0.3**
GUMO				S		**Sn**	**14 38 06.9**	**+0.2**
PMG	**Port Moresby**	**22.51**	**174**	LR		LR	14 51 30.7	
	comp=Z,69nm,18.2s,baz=227,slow=37							
PMG	**Port Moresby**	**22.51**	**174**	P		pP	14 42 50.5	-3.1
MJAR	**Matsushiro Arr**	**24.06**	**347**	P		**P**	**14 42 52.9**	**-0.8**
	2.5nm,0.6s,mb3.7,baz=173,slow=8.9,SNR=6.3							
MJAR				LR		LR	14 51 30.0	
	comp=Z,49nm,20.3s,baz=220,slow=34							
MAJO	**Matsushiro**	**24.06**	**347**	*e*P		**P**	**14 42 54.1**	**+0.4**
MAJO				pmax		pmax		
	comp=Z,8.0nm,0.7s,mb4.2							
MAJO	**Matsushiro**	**24.06**	**347**	*e*P		**P**	**14 42 54.1**	**+0.4**
	comp=Z,8.4nm,0.7s,mb4.2							
MAT	**Matsushiro**	**24.06**	**347**	P		**P**	**14 42 53.1**	**-0.6**
MAT	**Matsushiro**	**24.06**	**347**	P		**P**	**14 42 53.0**	**-0.7**
MAT				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb3.8							
MAT	**Matsushiro**	**24.06**	**347**	P		**P**	**14 42 53.0**	**-0.7**
	comp=Z,3.3nm,0.6s,mb3.8							

WRAB	**Tennant Creek**	**34.42**	**198**		*e*P		**P**	**14 44 25.4**	**-0.3**	
WRAB					*e*			14 44 36.7		
WRAB					pmax		pmax			
	comp=Z,9.0nm,0.9s,mb4.6									
WRAB	**Tennant Creek**	**34.42**	**198**		*e*P		**P**	**14 44 25.4**	**-0.3**	
	comp=Z,8.8nm,0.9s,mb4.6									
WRAB					*e*			14 44 36.7		
WB2	**Warramunga Arr**	**34.43**	**198**		*e*P		**P**	**14 44 25.6**	**-0.2**	
WB2					*e*S		PP	14 45 52.5	+7.6	
WRA	**Warramunga Arr**	**34.44**	**198**		P		**P**	**14 44 25.4**	**-0.5**	
	comp=Z,2.3nm,0.5s,mb4.2,baz=19,slow=9.1,SNR=22									
ASAR	**Alice Springs**	**38.09**	**196**		P		**P**	**14 44 56.6**	**-0.4**	
	comp=Z,1.3nm,0.5s,mb4.0,baz=21,slow=12,SNR=10									
HIA	**Hailar**	**41.53**	**335**		*e*P		**P**	**14 45 26.5**	**+0.9**	
HIA					pmax		pmax			
	comp=Z,6.0nm,0.7s									
HIA	**Hailar**	**41.53**	**335**		*e*P		**P**	**14 45 26.5**	**+1.0**	
	comp=Z,6.2nm,0.7s,mb4.5									
MBWA	**Marble Bar**	**42.04**	**216**		*e*P		**P**	**14 45 30.0**	**+0.3**	
	comp=Z,4.4nm,0.6s,mb4.4									
STKA	**Stephens Creek**	**44.85**	**184**		P		**P**	**14 45 55.0**	**+2.8**	
	comp=Z,8.4nm,1.2s,mb4.3,baz=132,slow=4.9,SNR=4.2									
STKA	**Stephens Creek**	**44.85**	**184**		P		**P**	**14 45 55.6**	**+3.3**	
SONM	**Songino Array**	**47.07**	**325**		P		**P**	**14 46 10.3**	**+0.5**	
	comp=Z,0.4nm,0.5s,mb3.5,baz=141,slow=7.5,SNR=4.4									
YAK	**Yakutsk**	**50.03**	**351**		*e*P		**P**	**14 46 32.6**	**+0.1**	
YAK					pmax		pmax			
	comp=Z,33nm,0.6s,mb5.4									
YAK	**Yakutsk**	**50.03**	**351**		*e*P		**P**	**14 46 34.3**	**+1.8**	
YAK					pmax		pmax			
	comp=Z,11nm,0.9s,mb4.8									
YAK	**Yakutsk**	**50.03**	**351**		*e*P		**P**	**14 46 32.6**	**+0.1**	
	comp=Z,33nm,0.6s,mb5.4									
BOD	**Bodaibo**	**50.33**	**339**		*e*P		**P**	**14 46 35.6**	**+0.9**	
BOD					pmax		pmax			
	comp=Z,4.0nm,1.3s,mb4.2									
TIXI	**Tiksi**	**59.29**	**354**		*e*P		**P**	**14 47 37.5**	**-2.0**	
TIXI					pmax		pmax			
	comp=Z,4.0nm,1.1s,mb4.4									
KDAK	**Kodiak Island**	**64.50**	**32**		P		**P**	**14 48 15.4**	**+1.0**	
	comp=Z,4.5nm,0.5s,mb4.6,baz=304,slow=5.6,SNR=6.2									
KURK	**Kurchatov**	**64.90**	**320**		*e*P		**P**	**14 48 16.6**	**-0.4**	
KURK					pmax		pmax			
	comp=Z,2.0nm,0.4s,mb4.3									
KURK	**Kurchatov**	**64.90**	**320**		*e*P		**P**	**14 48 16.6**	**-0.4**	
	comp=Z,1.9nm,0.4s,mb4.3									
ILAR	**Eielson Array**	**69.01**	**25**		P		**P**	**14 48 42.5**	**-0.7**	
	comp=Z,5.0nm,0.5s,mb4.6,baz=252,slow=5.8,SNR=43									
ZRNK	**Zerenda**	**71.08**	**322**		P		**P**	**14 48 56.5**	**+0.7**	
ZRNK					pmax		pmax			
	comp=Z,1.0nm,0.8s,mb3.7									
ZRNK	**Zerenda**	**71.08**	**322**		P		**P**	**14 48 56.5**	**+0.7**	
	comp=Z,1.3nm,0.8s,mb3.8									
INK	**Inuvik**	**74.82**	**22**		P		**P**	**14 49 17.8**	**-0.1**	
	comp=Z,1.9nm,0.5s,mb4.1,baz=298,slow=6.5,SNR=14									
INK	**Inuvik**	**74.82**	**22**		*e*P		**P**	**14 49 17.7**	**-0.2**	
INK					pmax		pmax			
	comp=Z,2.0nm,0.6s									
INK	**Inuvik**	**74.82**	**22**		*e*P		**P**	**14 49 17.7**	**-0.1**	
	comp=Z,2.1nm,0.6s,mb4.0									
DLBC	**Dease Lake**	**76.41**	**33**		P		**P**	**14 49 27.1**	**+0.1**	
	comp=Z,1.1nm,0.4s,mb3.9,baz=197,slow=25,SNR=5.1									
YKA	**Yellowknife Ar**	**83.30**	**27**		P		**P**	**14 50 04.6**	**+0.5**	
	comp=Z,0.9nm,0.4s,mb3.9,baz=287,slow=5.2,SNR=13									
YKA	**Yellowknife Ar**	**83.30**	**27**		P		**P**	**14 50 04.6**	**+0.5**	
RES	**Resolute Bay**	**85.02**	**13**		*e*P		**P**	**14 50 12.6**	**-0.3**	
RES					pmax		pmax			
	comp=Z,5.0nm,0.7s,mb4.5									
RES	**Resolute Bay**	**85.02**	**13**		*e*P		**P**	**14 50 12.6**	**-0.3**	
	comp=Z,5.2nm,0.7s,mb4.6									
CMB	**Columbia Colle**	**85.76**	**52**		P		**P**	**14 50 21.8**	**+5.2**	
ARCES	**ARCESS Array B**	**87.50**	**342**		P		**P**	**14 50 25.8**	**+0.7**	
	comp=Z,2.6nm,0.6s,mb4.4,baz=66,slow=7.0,SNR=11									
JOF	**Joensuu**	**88.69**	**335**		*e*p		**P**	**14 50 29.6**	**-1.1**	
	comp=Z,4.6nm,0.8s,mb4.6									
FINES	**FINESS Array B**	**91.55**	**335**		P		**P**	**14 50 43.6**	**-0.4**	
	comp=Z,0.7nm,0.4s,mb4.2,baz=76,slow=4.7,SNR=12									
TORD	**Torodi Ar. Bea**	**135.07**	**304**		PKP		PKPdf	14 56 59.4	+3.0	
	comp=Z,0.3nm,0.4s,baz=23,slow=3.1,SNR=4.9									
LPAZ	**La Paz**	**148.01**	**100**		PKPbc		PKPbc	14 57 26.4	+3.9	
	comp=Z,2.9nm,0.7s,baz=288,slow=4.3,SNR=16									
LPAZ	**La Paz**	**148.01**	**100**		*e*PKPdf		PKPdf	14 57 23.2	+3.8	
LPAZ					*e*PKPbc		PKPbc	14 57 26.3	+3.7	

*BJI **25** 14:38:52.1, 1690S×17688W, h436km, mB4.8, mb4.5*
*ISCJB **25** 14:38:55.6±0.9, 1635S±01×1772W±0.1, h430km±13km, mb3.9/19, Error ellipse: s-maj=23.8km s-min=11.6km az=86.0*
*IDC **25** 14:38:55.5±1.6, 1591S×17746W, h402km±20km, mb3.4/9, mb1 3.7/10, mb1mx3.6/15, mbtmp4.2/10, Error ellipse: s-maj=28.4km s-min=13.7km az=141.0*
*NEIC **25** 14:38:56.1±1.1, 1608S×17731W, h417km±15km, mb4.1/9, Error ellipse: s-maj=21.0km s-min=10.2km az=138.0*

ISC 25 14:38:56.9±0.9, 162S±01×1772W±01, h430km±15km, h442km±3.9km: pP-P, n38, σ1§25/34, mb3.9/19, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.67**	**67**	P		**P**	**14 40 28.0**	**+1.0**
	9.7nm,0.3s,baz=264,slow=19,SNR=10.0							
AFI					S		**S**	**14 41 40.1**	**-0.5**
	1.3nm,0.3s,baz=292,slow=23,SNR=2.5							
AFI	**Afiamalu**	**5.67**	**67**	*e*Pn		**P**	**14 40 27.4**	**+0.4**
	46nm,0.6s							
RAO	**Raoul Island**	**13.04**	**183**	*e*P		**P**	**14 41 46.0**	**-1.2**
	1μm,1.6s							
DZM	**Mont Dzumac**	**16.56**	**247**	P		**P**	**14 42 29.5**	**+4.5**
	0.2nm,0.3s,baz=163,slow=16,SNR=3.3							
URZ	**Urewera**	**22.58**	**192**	P		**P**	**14 43 24.7**	**+1.9**
	7.7nm,0.6s,mb4.3,baz=258,slow=8.1,SNR=3.7							
CTA	**Charters Tower**	**34.94**	**258**	*e*P		**P**	**14 45 11.8**	**+1.0**
	3.1nm,0.8s,mb3.7							
CTA	**Charters Tower**	**34.94**	**258**	P		**P**	**14 45 10.7**	**-0.1**
	2.1nm,0.6s,mb3.6,baz=77,slow=12,SNR=5.1							
CTAO	**Charters Tower**	**34.94**	**258**	*e*P		**P**	**14 45 11.0**	**+0.2**
	5.0nm,0.8s,mb3.9							
CNB	**Canberra Magne**	**35.43**	**231**	*e*P		**P**	**14 45 17.8**	**+2.9**
	22nm,1.2s,mb4.4							
WRAB	**Tennant Creek**	**46.13**	**258**	*e*P		**P**	**14 46 40.4**	**-0.4**
	2.5nm,0.5s,mb3.8							
WRA	**Warramunga Arr**	**46.14**	**258**	P		**P**	**14 46 39.5**	**-1.3**
	1.0nm,0.4s,mb3.5,baz=91,slow=6.4,SNR=25							
AS31	**Alice Springs**	**46.42**	**253**	*e*P		**P**	**14 46 43.2**	**+0.2**
ASAR	**Alice Springs**	**46.42**	**253**	P		**P**	**14 46 43.3**	**+0.2**
	4.3nm,0.3s,mb4.2,baz=85,slow=8.1,SNR=168							
ASPA	**Alice Springs**	**46.43**	**253**	*e*P		**P**	**14 46 43.2**	**+0.1**
FITZ	**Fitzroy Crossi**	**54.51**	**259**	*e*P		**P**	**14 47 47.1**	**+4.6**
	5.8nm,0.6s,mb4.0							
FITZ	**Fitzroy Crossi**	**54.51**	**259**	P		**P**	**14 47 46.3**	**+3.8**
	2.6nm,0.5s,mb3.7,baz=148,slow=8.2,SNR=13							
MBWA	**Marble Bar**	**59.66**	**255**	P		**P**	**14 48 16.6**	**-1.5**
SBA	**Scott Base**	**62.22**	**184**	P		**P**	**14 48 30.9**	**-4.2**
MJAR	**Matsushiro Arr**	**67.25**	**322**	P		**P**	**14 49 04.9**	**-2.1**
	0.4nm,0.4s,mb3.4,baz=163,slow=6.5,SNR=4.3							
KSM	**Kuching**	**73.66**	**276**	*e*P		**P**	**14 49 45.6**	**+0.4**
MDJ	**Mudanjiang**	**77.47**	**324**	P		**P**	**14 50 08.0**	**+1.5**
MDJ				AP		pP	14 51 44.8	+3.3
MDJ				XP		sP	14 52 31.0	+4.5
MDJ				PP		PP	14 53 10.8	+2.5
MDJ				S		S	14 59 24.5	+3.2
MDJ				SCS		ScS	14 59 45.5	+1.3
MDJ				XS		sS	15 02 17.8	+7.5
MDJ				AMB		AMB		
	comp=Z,2.0nm,1.1s,mb3.7							
MDJ				AMB		AMB		
	comp=Z,165nm,7.4s							
NJ2	**Nanjing**	**77.77**	**309**	*e*P		**P**	**14 50 09.3**	**+1.1**
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.6							
COLA	**College**	**83.83**	**12**	*e*P		**P**	**14 50 39.1**	**-0.7**
	comp=Z,5.1nm,0.8s,mb4.3							
ILAR	**Eielson Array**	**83.94**	**13**	P		**P**	**14 50 39.7**	**-0.6**
	comp=Z,2.1nm,0.9s,mb3.9,baz=227,slow=6.0,SNR=9.2							
BILL	**Bilibino**	**84.83**	**354**	*e*P		**P**	**14 50 43.6**	**-1.1**
	comp=Z,4.3nm,0.7s,mb4.3							
PDAR	**Pinedale Array**	**85.28**	**43**	P		**P**	**14 50 49.1**	**+2.2**
	comp=Z,0.6nm,0.7s,mb3.4,baz=252,slow=1.4,SNR=3.9							
HHC	**Hu-ho-hao-te**	**86.92**	**314**	*e*P		**P**	**14 50 55.0**	**+0.2**
HHC				AP		pP	14 52 37.0	+4.7
HHC				XP		sP	14 53 21.8	+5.1
HHC				PP		PP	14 54 29.8	+4.8
HHC				SKS			15 00 39.3	
HHC				S			15 00 57.0	
HHC				XS		sS	15 03 54.8	+5.1
HHC				SS		SS	15 06 58.0	+7.7
HHC				AMB		AMB		
	comp=Z,9.0nm,1.2s,mb4.4							
HHC				AMB		AMB		
	comp=Z,177nm,9.4s							
INK	**Inuvik**	**89.91**	**15**	P		**P**	**14 51 08.9**	**+0.2**
	comp=Z,1.0nm,0.8s,mb3.7							
LZH	**Lanzhou**	**90.78**	**307**	*e*P		**P**	**14 51 11.5**	**-1.3**
LZH				AP		pP	14 52 51.8	+0.8
LZH				XP		sP	14 53 38.5	+3.3
LZH				AMB		AMB		
	comp=Z,13nm,1.0s,mb4.7							
LZH				AMB		AMB		
	comp=Z,58nm,4.4s							
SYO	**Syowa Base**	**91.11**	**192**	⇓	*e*P		**P**	**14 51 11.0**	**-3.3**
YKA	**Yellowknife Ar**	**92.26**	**24**		P		**P**	**14 51 20.1**	**+0.5**
	comp=Z,0.4nm,0.7s,mb3.4,baz=255,slow=4.1,SNR=4.0									
YKA	**Yellowknife Ar**	**92.26**	**24**		P		**P**	**14 51 20.1**	**+0.5**	
SONM	**Songino Array**	**93.02**	**319**		P		**P**	**14 51 24.3**	**+1.2**	
	comp=Z,2.0nm,0.5s,mb3.3,baz=124,slow=4.5,SNR=2.8									
ARCES	**ARCESS Array B**	**124.81**	**350**		PKP		PKPdf	14 57 06.6	0.0	
	comp=Z,4.3nm,0.8s,baz=55,slow=5.0,SNR=4.6									
NOA	**NORSAR Array B**	**134.78**	**354**		PKP		PKPdf	14 57 25.6	0.0	
	comp=Z,0.9nm,0.7s,baz=196,slow=5.1,SNR=3.3									
BR131	**Keskin Array S**	**144.36**	**317**	*e*PKPdf		PKPdf	14 57 43.2	+0.4		
BRTR	**Keskin Array B**	**144.36**	**317**	PKP		PKPdf	14 57 43.8	+0.9		
	comp=Z,4.9nm,0.8s,baz=93,slow=2.5,SNR=24									
GERES	**GERESS Array B**	**146.22**	**347**	PKPbc		PKPbc	14 57 48.6	+0.6		
	comp=Z,1.0nm,0.6s,baz=42,slow=2.2,SNR=6.2									

IDC 25 14:46:19.1±1.1, 1951N×11793E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/20, mbtmp3.7/5, MS3.5/2, Ms1 3.5/2, ms1mx2.9/24, Error ellipse: s-maj=118.9km s-min=20.1km az=64.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**4.11**	**115**	*e*P		Pn	14 47 11.0	-12
SONM	**Songino Array**	**29.77**	**344**	P		P	14 52 27.8	+0.5
	0.2nm,0.3s,baz=157,slow=7.8,SNR=3.5							
MKAR	**Makanchi Array**	**39.83**	**321**	P		P	14 53 53.8	-0.4
	0.4n

FCH					AML	AML	15 24 09.8	
	comp=E,852nm,0.3s							
TLL	**Tololo Astrono**	**1.62**	**342**	⇑*i*	P	Pn	15 23 46.6	+1.4
TLL				*i*	S	Sn	15 24 09.1	+1.3
TLL					AML	AML	15 24 11.6	
	comp=E,480nm,0.5s							
TLL	**Tololo Astrono**	**1.62**	**342**	⇑*i*	P	Pn	15 23 46.6	+1.4
TLL				*i*	S	Sn	15 24 09.1	+1.3
MDZ	**Mendoza**	**1.64**	**136**	*e*	P	Pn	15 23 44.8	-0.6
MDZ				*i*	S	Sn	15 24 07.0	-1.0
CLCH	**Cerro Calan**	**1.70**	**189**	*e*	P	Pn	15 23 46.8	+0.6
CLCH				*i*	S	Sn	15 24 10.0	+0.8
CLCH					AML	AML	15 24 11.5	
	comp=N,721nm,0.5s							
ANTU	**Antumapu**	**1.88**	**191**	*i*	P	Pn	15 23 48.9	+0.6
ANTU				*i*	S	Sn	15 24 13.9	+0.7
ANTU					AML	AML	15 24 14.9	
	comp=E,890nm,0.4s							
ANTU	**Antumapu**	**1.88**	**191**	*i*	P	Pn	15 23 48.9	+0.6
ANTU				*i*	S	Sn	15 24 13.9	+0.7
PCH	**Pirque**	**1.92**	**188**	⇑*i*	P	Pn	15 23 49.6	+0.9
PCH				*i*	S	Sn	15 24 14.8	+0.9
TACH	**Talagante**	**2.03**	**197**	*i*	P	Pn	15 23 50.2	+0.1
TACH				*i*	S	Sn	15 24 16.4	+0.2
LCCH	**Las Cruces**	**2.10**	**213**	*i*	P	Pn	15 23 51.4	+0.5
CHCH	**Chadas Angostu**	**2.24**	**189**	⇓*i*	P	Pn	15 23 52.8	0.0
CHCH				*i*	S	Sn	15 24 21.6	+0.6
CACH	**El Canelo**	**2.42**	**188**	*i*	P	Pn	15 23 55.5	+0.5
CICH	**Cipreses**	**2.60**	**184**	⇑*i*	P	Pn	15 23 58.1	+0.8
CICH				*i*	S	Sn	15 24 30.4	+1.2
LCO	**Las Campanas**	**2.73**	**351**	⇑*i*	P	Pn	15 23 59.8	+0.9
LCO				*i*	S	Sn	15 24 31.6	-0.4
SFDO	**San Fernando**	**2.97**	**193**	⇓*i*	P	Pn	15 24 01.9	-0.2

NEIC ***25*** *15:39:20.2,2727S×7127W, h30km, ML4.1(GUC), After GUC.*

GUC 25 15:39:20.2±0.5, 2727S×7127W, h30km±6km, MD4.1, ML4.1, 4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
CDCH	**Caldera**	**0.44**	**63**	⇓*i*	P	Pb	15 39 29.2	-0.4
CDCH				*i*	S	Sb	15 39 36.5	+0.4
CPCH	**Copiapo**	**0.82**	**96**	⇓*i*	P	Pn	15 39 36.2	+0.5
CPCH				*i*	S	Sb	15 39 47.4	+0.7
CPCH					AML	AML	15 39 49.4	
	comp=E,26μm,0.1s							
CPCH	**Copiapo**	**0.82**	**96**	⇓*i*	P	Pn	15 39 36.2	+0.5
CPCH				*i*	S	Sb	15 39 47.4	+0.7
CRCH	**Chaqaral**	**1.09**	**32**	*i*	P	Pn	15 39 39.3	-0.1
CRCH				*i*	S	Sn	15 39 53.9	+0.4
LCO	**Las Campanas**	**1.81**	**164**	⇓*i*	P	Pn	15 39 51.4	+2.1
LCO				*i*	S	Sn	15 40 12.9	+1.8
CPN1	**Cerro Paranal**	**2.75**	**17**	*e*	P	Pn	15 40 01.9	-0.3
CPN1					AML	AML	15 40 55.1	
	comp=N,472nm,0.5s							
TLL	**Tololo Astrono**	**2.91**	**172**	*e*	P	Pn	15 40 06.6	+2.1
TLL				*i*	S	Sn	15 40 41.8	+3.3
TLL					AML	AML	15 40 56.7	
	comp=E,543nm,0.3s							
TLL	**Tololo Astrono**	**2.91**	**172**	*e*	P	Pn	15 40 06.6	+2.1
TLL				*i*	S	Sn	15 40 41.8	+3.3
LVC	**Limon Verde**	**5.11**	**25**	*e*	Pn	Pn	15 40 35.9	+1.2
	comp=E,14nm,0.4s							
LPAZ	**La Paz**	**11.31**	**16**		Pn	Pn	15 41 57.5	-2.2
PLCA	**Paso Flores**	**13.44**	**178**		P	Pn	15 42 29.0	+0.2
	comp=E,8.5nm,1.2s							

HLW ***25*** *15:49:15.8, 3650N×2689E, h33km, Mb3.1*
ISCJB ***25*** *15:49:16.7±1.0, 3649N±007×265E±01, h128km±9km, Error ellipse: s-maj=18.3km s-min=11.8km az=166.1*
CSEM ***25*** *15:49:19.5±0.3, 3657N×2650E, h80km, ML3.1, Error ellipse: s-maj=13.5km s-min=6.9km az=93.0*
ATH ***25*** *15:49:21.0, 3651N×2634E, h34km, MD3.1/3*

ISC 25 15:49:17.5±1.1, 3650N±007×265E±01, h124km±10km, n13, σ1§11/18, 5C-1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
APE	**Apeiranthos**	**0.93**	**308**	*e*P	**Pn**	**15 49 39.1**		**-0.1**
KARP	**Karpathos**	**1.11**	**149**	⇑*i*PN	**Sn**	**15 49 43.2**		**+2.2**
KARP				*e*SN	**Sn**	**15 49 58.4**		**-0.4**
KARP	**Karpathos**	**1.11**	**149**	⇑*i*P	**Pn**	**15 49 43.2**		**+2.2**
KARP				*e*S	**Sn**	**15 49 58.0**		**-0.8**
SMG	**Samos**	**1.24**	**14**	*e*P	**Pn**	**15 49 41.4**		**-0.9**
NPS	**Neapolis**	**1.42**	**209**	*e*PB	**Pn**	**15 49 45.2**		**+1.0**
NPS				*e*SN	**Sn**	**15 50 03.6**		**-0.9**
XRY	**Khrisi**	**1.74**	**201**	*e*PN	**Pn**	**15 49 50.0**		**+2.0**
SWA1		**7.25**	**185**	⇑P	**Pn**	**15 51 00.3**		**-0.4**
SWA2		**7.29**	**187**	⇓P	**Pn**	**15 51 00.6**		**-0.8**
SWA2				S	**Sn**	**15 52 18.5**		**-4.0**
AMAG	**Maghara**	**8.12**	**134**	⇑P	**Pn**	**15 51 08.3**		**-4.3**
HFRF	**Wahat Farafira**	**9.46**	**170**	⇑P	**Pn**	**15 51 30.0**		**-0.7**
HFRF				S	**Sn**	**15 53 07.6**		**-7.5**
HDK1	**Dakhla**	**11.21**	**166**	P	**Pn**	**15 51 54.6**		**+0.6**
GTR	**Jabal at Tayr**	**11.51**	**161**	P	**Pn**	**15 51 58.0**		**+0.1**
GTR	**Jabal at Tayr**	**11.51**	**161**	P	**Pn**	**15 51 58.0**		**+0.1**

IDC ***25*** *15:50:23.9±0.7, 372S×13602E, h0km, mb4.3/8, mb1 4.5/10, mb1mx4.5/13, mbtmp4.4/10, ML5.0/2, MS3.8/8, Ms1 3.8/8, ms1mx3.4/24, Error ellipse: s-maj=28.0km s-min=16.7km az=72.0*
NEIC ***25*** *15:50:25.9±5.0, 399S×13632E, h27km±38km, mb4.5/22, Error ellipse: s-maj=13.5km s-min=10.5km az=196.0*
MOS ***25*** *15:50:25.4±1.2, 402S×13623E, h36km, mb4.7/16, Error ellipse: s-maj=14.8km s-min=7.5km az=114.7*
ISCJB ***25*** *15:50:25.5±1.1, 406S±005×13632E±006, h38km±11km, mb4.6/41, MS3.8/9, Error ellipse: s-maj=9.8km s-min=7.6km az=9.2*
BJI ***25*** *15:50:25.9, 400S×13630E, h24km, mB4.9, mb4.8, Ms4.4, Msz3.9*
HRVD ***25*** *15:50:25.9±0.4, 372S×13635E, h13km±2km, MW4.7/48, Centroid moment Tensor Solution. LP body waves: s7,c8;Mantle waves: s48,c69; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.01±.10; Mθθ 0.24±.07; Mϕϕ -0.22±.10; Mrθ 0.44±.24; Mrϕ 1.35±.07; Mθϕ 0.03±.18; Best double couple: M0 1.43700×10^16 NP1:ϕs 5.00000°, δ 73.00000°, λ 178.00000°. NP2:ϕs 95.00000°, δ 88.00000°, λ 17.00000°. Principal axes: T 1.4610, Plg14.0000°, Azm321.0000°; N -0.0470, Plg72.0000°, Azm101.0000°; P -1.4130, Plg11.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 25 15:50:29.0±0.9, 407S±004×13641E±006, h53km±9km, h23km±2.4km: pP-P, n100, σ1§30/104, mb4.6/41, MS3.8/9, 1C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
BAKI	**Biak**	**2.88**	**354**	P	**Pn**	**15 51 04.6**		**-7.8**
	2μm,1.0s							
TLE	**Tual**	**3.98**	**247**	P	**Pn**	**15 51 33.2**		**+5.8**
	207nm,1.0s							
JAY	**Jayapura**	**4.56**	**70**	P	**Pn**	**15 51 34.6**		**-0.7**
	157nm,0.9s							
SWI	**Sorong**	**6.05**	**302**	P	**Pn**	**15 51 49.9**		**-6.0**
	458nm,0.6s							
AAI	**Ambon**	**8.21**	**272**	P	**Pn**	**15 52 26.2**		**+0.8**
	159nm,0.8s							
KAKA	**Kakadu**	**9.44**	**204**	*e*P	**Pn**	**15 52 42.7**		**+0.5**
	87nm,0.6s							
PMG	**Port Moresby**	**11.91**	**117**	Pn	**Pn**	**15 53 17.4**		**+1.4**
	1.6nm,0.3s,baz=337,slow=4.7,SNR=7.9							
PMG	**Port Moresby**	**11.91**	**117**	*e*P	**Pn**	**15 53 18.4**		**+2.4**
PMG	**Port Moresby**	**11.91**	**117**	*e*Pn	**Pn**	**15 53 15.8**		**-0.2**
	80nm,0.8s							
WRAB	**Tennant Creek**	**15.89**	**187**	*e*P	**Pn**	**15 54 07.6**		**-1.5**
WRAB				pmax	pmax			
	comp=Z,69nm,0.6s							
WRAB	**Tennant Creek**	**15.89**	**187**	*e*Pn	**Pn**	**15 54 07.6**		**-1.5**
	comp=Z,69nm,0.6s							
WRAB				*e*Sn	**Sn**	**15 56 53.0**		**-11**
WB2	**Warramunga Arr**	**15.90**	**187**	*e*P	**Pn**	**15 54 08.0**		**-1.2**
WB2				*e*S	**S**	**15 57 01.8**		**-14**
WRA	**Warramunga Arr**	**15.90**	**187**	Pn	**Pn**	**15 54 06.7**		**-2.5**
	comp=Z,0.6nm,0.3s,baz=6.1,slow=13,SNR=49							
WRA				Sn	**Sn**	**15 56 58.8**		**-5.7**
	comp=Z,1.9nm,0.3s,baz=9.1,slow=22,SNR=6.4							
PCI	**Palu**	**16.85**	**280**	P	**Pn**	**15 54 23.4**		**+2.2**
	comp=Z,70nm,1.2s							
FITZ	**Fitzroy Crossi**	**17.48**	**216**	*e*P	**Pn**	**15 54 28.7**		**-0.2**
	comp=Z,35nm,0.6s							
FITZ				*e*S	**S**	**15 57 32.7**		**-16**
FITZ	**Fitzroy Crossi**	**17.48**	**216**	P	**Pn**	**15 54 29.3**		**+0.3**
	comp=Z,3.8nm,0.3s,baz=36,slow=11,SNR=32							
FITZ				S	**S**	**15 57 32.4**		**-16**
	comp=Z,1.0nm,0.3s,baz=178,slow=18,SNR=2.6							
FITZ				LR	LR	16 01 28.5		
	comp=Z,239nm,20.3s,baz=42,slow=38							
CTA	**Charters Tower**	**18.58**	**150**	*e*P	**Pn**	**15 54 43.7**		**+1.3**
	comp=Z,16nm,0.8s							
CTA				*e*S	S	15 58 36.2		+26
CTA	**Charters Tower**	**18.58**	**150**	P	**Pn**	**15 54 43.4**		**+1.0**
	comp=Z,1.4nm,0.3s,baz=323,slow=12,SNR=21							
CTA				LR	LR	16 02 34.2		
	comp=Z,379nm,18.3s,baz=334,slow=38							
CTA	**Charters Tower**	**18.58**	**150**	*e*P	**Pn**	**15 54 43.7**		**+1.3**
CTA				pmax	pmax			
	comp=Z,16nm,0.8s							
CTAO	**Charters Tower**	**18.58**	**150**	*e*P	**Pn**	**15 54 43.3**		**+0.9**
CTAO				pmax	pmax			
	comp=Z,45nm,1.1s							
CTAO	**Charters Tower**	**18.58**	**150**	*e*P	**Pn**	**15 54 43.3**		**+0.9**
	comp=Z,45nm,1.1s							
ASAR	**Alice Springs**	**19.63**	**187**	P	**Pn**	**15 54 56.9**		**+2.0**
	comp=Z,5.1nm,0.3s,baz=11,slow=11,SNR=115							
ASAR				S	**S**	**15 58 32.3**		**+0.6**
	comp=Z,0.4nm,0.3s,baz=2.7,slow=31,SNR=4.8							
MBWA	**Marble Bar**	**23.48**	**222**	*e*P	**P**	**15 55 35.3**		**+1.4**
	comp=Z,17nm,0.8s,mb4.5							
MBWA				*e*		15 55 47.3		
TGY	**Tagaytay City**	**23.70**	**320**	P	**P**	**15 55 34.8**		**-1.1**
	comp=Z,71nm,0.4s,baz=180,slow=9.1,SNR=2.5							
HNR	**Honiara**	**23.96**	**104**	P	**P**	**15 55 44.3**		**+6.0**
	comp=Z,43nm,0.8s,mb4.9,baz=165,slow=0.5,SNR=4.2							
HNR	**Honiara**	**23.96**	**104**	*e*P	**P**	**15 55 40.0**		**+1.7**
HNR				pmax	pmax			
	comp=Z,60nm,0.9s,mb5.0							
HNR	**Honiara**	**23.96**	**104**	*e*P	**P**	**15 55 40.0**		**+1.7**
	comp=Z,60nm,0.9s,mb5.0							
KSM	**Kuching**	**26.66**	**281**	*e*P	**P**	**15 56 02.8**		**0.0**
STKA	**Stephens Creek**	**28.08**	**171**	*e*P	**P**	**15 56 15.4**		**-0.1**
	comp=Z,4.7nm,0.9s,mb4.1							
STKA	**Stephens Creek**	**28.08**	**171**	P	**P**	**15 56 19.3**		**+3.8**
	comp=Z,3.0nm,0.6s,mb4.1,baz=353,slow=9.8,SNR=4.4							
NWAO	**Narrogin (SRO)**	**33.84**	**210**	LR	LR	16 11 59.8		
	comp=Z,240nm,18.6s,MS4.0,baz=30,slow=38							
QIZ	**Qiongzhong**	**34.80**	**312**	P	**P**	**15 57 13.2**		**-1.3**
	comp=Z,18nm,1.1s,mb4.9							
SSE	**Sheshan**	**37.87**	**338**	P	**P**	**15 57 43.0**		**+2.3**
SSE				AP	pP	15 57 51.8		-2.6
SSE				XP	sP	15 57 55.5		-5.1
SSE				PP	PP	15 59 09.5		+1.6
SSE				PCP	PcP	15 59 58.3		+2.2
SSE				S	**S**	**16 03 32.5**		**+4.2**
SSE				XS	sS	16 03 48.0		-3.4
SSE				AMB	AMB			
	comp=Z,24nm,0.7s,mb5.0							
SSE				AMB	AMB			
	comp=Z,96nm,4.8s							
SSE				LR	LR			
	comp=N,81nm,23.1s,MS3.6							
SSE				LR	LR			
	comp=E,74nm,23.1s,MS3.6							
SSE				LR	LR			
	comp=Z,115nm,21.8s,MS3.6							
PSI	**Prapat**	**38.08**	**280**	P	**P**	**15 57 40.9**		**-1.6**
	comp=Z,2.1nm,0.3s,mb4.3,baz=316,slow=6.7,SNR=2.3							
PSI				LR	LR	16 13 59.9		
	comp=Z,133nm,19.5s,MS3.8,baz=273,slow=38							
NJ2	**Nanjing**	**39.62**	**336**	*e*P	**P**	**15 57 56.0**		**+0.7**
NJ2				AP	pP	15 58 03.0		-6.1
NJ2				XP	sP	15 58 06.5		-8.8
NJ2				PP	PP	15 59 31.3		+4.3
NJ2				S	**S**	**16 03 57.0**		**+2.4**
NJ2				XS	sS	16 04 09.0		-8.8
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.7							
NJ2				AMB	AMB			
	comp=Z,60nm,10.2s							
NJ2				LR	LR			
	comp=N,630nm,30.0s							
NJ2				LR	LR			
	comp=E,440nm,35.9s							
NJ2				LR	LR			
	comp=Z,210nm,36.6s							
COCO	**West Island**	**39.96**	**256**	P	**P**	**15 57 55.6**		**-2.5**
	comp=Z,399nm,1.6s,mb5.9							
WHN	**Wuhan**	**40.37**	**330**	*e*P	**P**	**15 58 04.8**		**+3.2**
MJAR	**Matsushiro Arr**	**40.44**	**2**	P	**P**	**15 57 59.8**		**-2.3**
	comp=Z,2.8nm,0.7s,mb4.1,baz=178,slow=8.1,SNR=10							
MAJO	**Matsushiro**	**40.44**	**2**	P	**P**	**15 57 58.0**		**-4.1**
MAJO				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.3							
MAJO	**Matsushiro**	**40.44**	**2**	P	**P**	**15 57 58.0**		**-4.2**
	comp=Z,5.1nm,0.7s,mb4.4							
CHTO	**Chiang Mai**	**43.34**	**303**	*e*P	**P**	**15 58 25.3**		**-0.5**
CHTO				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.5							
CHTO	**Chiang Mai**	**43.34**	**303**	*e*P	**P**	**15 58 25.3**		**-0.5**
	comp=Z,7.6nm,0.9s,mb4.4							
KMI	**Kunming**	**43.72**	**313**	P	**P**	**15 58 30.8**		**+1.9**
KMI				AMB	AMB			
	comp=Z,12nm,1.3s,mb4.5							
XAN	**Xi'an**	**45.93**	**328**	P	**P**	**15 58 45.5**		**-1.0**
XAN				AP	pP	15 58 54.0		-6.5
XAN				AMB	AMB			
	comp=Z,5.0nm,1.4s,mb4.2							
SNY	**Shenyang**	**47.16**	**347**	P	**P**	**15 58 58.3**		**+2.3**
SNY				AMB	AMB			
	comp=Z,6.0nm,0.5s,mb4.8							
BJT	**Baijiatuan**	**47.66**	**339**	*e*P	**P**	**15 59 00.1**		**+0.1**
BJT				pmax	pmax			
	comp=Z,17nm,1.3s							
BJT	**Baijiatuan**	**47.66**	**339**	*e*P	**P**	**15 59 00.1**		**+0.2**
	comp=Z,17nm,1.3s,mb4.9							
MDJ	**Mudanjiang**	**48.85**	**354**	P	**P**	**15 59 11.0**		**+1.8**
MDJ				AP	pP	15 59 17.0		-6.3
MDJ				XP	sP	15 59 19.8		-10
MDJ				AMB	AMB			
	comp=Z,9.0nm,0.7s,mb4.9							
MDJ				AMB	AMB			
	comp=Z,25nm,6.5s							
MDJ	**Mudanjiang**	**48.85**	**354**	*e*P	**P**	**15 59 07.9**		**-1.3**
	comp=Z,6.9nm,0.6s,mb4.9							
HHC	**Hu-ho-hao-te**	**50.16**	**335**	*e*P	**P**	**15 59 18.5**		**-0.6**
HHC				AP	pP	15 59 26.0		-7.3
HHC				XP	sP	15 59 29.5		-10
HHC				PCP	PcP	16 00 38.0		+0.2
HHC				PP	PP	16 01 15.3		+0.7
HHC				SCP	ScP	16 04 30.3		+1.2
HHC				PCS	PcS	16 04 34.5		-0.4
HHC				S	**S**	**16 06 27.8**		**+0.8**
HHC				XS	sS	16 06 40.0		-11
HHC				SCS	ScS	16 09 04.5		-1.1
HHC				SS	SS	16 09 58.5		-2.2
HHC				AMB	AMB			
	comp=Z,13nm,1.1s,mb4.9							
HHC				AMB	AMB			
	comp=Z,87nm,6.3s							
HHC				LR	LR			
	comp=N,155nm,19.6s,MS4.2							
HHC				LR	LR			
	comp=E,111nm,15.0s,MS4.2							
HHC				LR	LR			
	comp=Z,121nm,19.1s,MS3.9							
LZH	**Lanzhou**	**50.24**	**325**	*e*P	**P**	**15 59 22.5**		**+2.8**
LZH				AP	pP	15 59 29.0		-4.9
LZH				XP	sP	15 59 31.3		-8.7
LZH				AMB	AMB			
	comp=Z,39nm,1.2s,mb5.3							
LZH				AMB	AMB			
	comp=Z,110nm,4.0s							
SHL	**Shillong**	**52.27**	**307**	*e*P	**P**	**15 59 35.2**		**+0.3**
KLR	**Kul'dur**	**53.24**	**356**	*e*P	**P**	**15 59 40.0**		**-2.1**
LSA	**Lhasa**	**54.82**	**311**	*e*P	**P**	**15 59 55.5**		**+1.9**
LSA				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.7							
LSA	**Lhasa**	**54.82**	**311**	*e*P	**P**	**15 59 55.5**		**+1.9**
	comp=Z,5.3nm,0.6s,mb4.8							
GTA	**Gaotai**	**54.84**	**326**	*e*P	**P**	**15 59 53.0**		**-0.8**
GTA				AMB	AMB			
	comp=Z,3.0nm,1.4s,mb4.1							
JIRN	**Jiri**	**57.76**	**306**	*e*P	**P**	**16 00 14.1**		**-0.4**
ULN	**Ulaanbaatar**	**57.77**	**337**	P	**P**	**16 00 14.5**		**-0.1**
ULN				pmax	pmax			
	comp=Z,7.0nm,1.6s,mb4.4							
ULN	**Ulaanbaatar**	**57.77**	**337**	P	**P**	**16 00 14.5**		**-0.1**
	comp=Z,7.4nm,1.6s,mb4.5							
SONM	**Songino Array**	**58.01**	**337**	P	**P**	**16 00 17.0**		**+0.7**
	comp=Z,0.7nm,0.7s,mb3.8,baz=152,slow=7.4,SNR=3.7							
SONM				LR	LR	16 25 50.5		
	comp=Z,82nm,18.1s,MS3.9,baz=144,slow=37							
GUN	**Gumba**	**58.11**	**306**	*e*P	**P**	**16 00 17.3**		**+0.3**
	comp=Z,29nm,0.7s,mb5.4							
KKN	**Kakani**	**58.54**	**306**	*e*P	**P**	**16 00 20.3**		**+0.3**
DMN	**Daman**	**58.61**	**306**	*e*P	**P**	**16 00 20.8**		**+0.3**
	comp=Z,20nm,0.7s,mb5.3							
GKN	**Gorkha**	**59.15**	**306**	*e*P	**P**	**16 00 24.3**		**+0.1**
	comp=Z,31nm,0.8s,mb5.4							
KOLN	**Koldanda**	**59.90**	**305**	*e*P	**P**	**16 00 29.5**		**+0.1**
	comp=Z,87nm,1.4s,mb5.6							
ZAK	**Zakamensk**	**61.28**	**336**	*e*P	**P**	**16 00 38.1**		**-0.6**
ZAK				pmax	pmax			
	comp=Z,5.0nm,1.8s,mb4.3							
ZAK				pmax	pmax			
	comp=Z,13nm,1.6s,mb4.8							
BOD	**Bodaibo**	**64.28**	**347**	*e*P	**P**	**16 00 54.6**		**-4.1**
WMQ	**Urumqi**	**64.68**	**323**	⇑P	**P**	**16 01 02.0**		**+0.7**
WMQ				AP	pP	16 01 09.8		-6.2
WMQ				XP	sP	16 01 13.0		-9.0
WMQ				PCP	PcP	16 01 35.5		+0.8
WMQ				PP	PP	16 03 25.8		+1.8
WMQ				SCP		16 05 35.5		
WMQ				PCS		16 05 38.5		
WMQ				S	**S**	**16 09 38.0**		**+0.5**
WMQ				AMB	AMB			
	comp=Z,11nm,0.7s,mb5.0							
WMQ				AMB	AMB			
	comp=Z,119nm,4.4s							
WMQ				LR	LR			
	comp=N,56nm,23.8s,MS4.0							
WMQ				LR	LR			
	comp=E,96nm,20.8s,MS4.0							
WMQ				LR	LR			
	comp=Z,29nm,23.8s,MS3.4							
YAK	**Yakutsk**	**66.12**	**357**	*e*P	**P**	**16 01 12.2**		**+1.6**
YAK				pmax	pmax			
	comp=Z,12nm,1.0s,mb4.9							
MKAR	**Makanchi Array**	**69.49**	**324**	P	**P**	**16 01 30.6**		**-1.3**
	comp=Z,1.8nm,0.7s,mb4.1,baz=105,slow=8.2,SNR=25							
MKAR	**Makanchi Array**	**69.49**	**324**	*i*P	**P**	**16 01 31.2**		**-0.6**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
ZAL	**Zalesovo**	**71.98**	**331**	P	**P**	**16 01 46.7**		**-0.3**
	comp=Z,1.1nm,0.5s,mb4.0,baz=46,slow=5.1,SNR=2.9							
ZAL				LR	LR	16 34 28.5		
	comp=Z,39nm,19.6s,MS3.7,baz=70,slow=37							
ZAL	**Zalesovo**	**71.98**	**331**	P	**P**	**16 01 46.7**		**-0.3**
ZAL				LR	LR	16 34 28.6		
AAK	**Ala-Archa**	**72.61**	**317**	*e*P	**P**	**16 01 51.3**		**+0.6**
AAK				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.3							
AAK	**Ala-Archa**	**72.61**	**317**	*e*P	**P**	**16 01 51.3**		**+0.6**
	comp=Z,3.7nm,0.9s,mb4.3							
NVS	**Novosibirsk**	**73.25**	**331**	*i*P	**P**	**16 01 53.0**		**-1.5**
KURK	**Kurchatov**	**73.53**	**326**	*e*P	**P**	**16 01 54.3**		**-1.9**
KURK				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3							
KURK	**Kurchatov**	**73.53**	**326**	*e*P	**P**	**16 01 54.3**		**-1.9**
	comp=Z,3.4nm,0.8s,mb4.3							
VNDA	**Vanda**	**74.64**	**174**	P	**P**	**16 02 08.4**		**+5.7**
	comp=Z,1.4nm,0.9s,mb3.9,baz=334,slow=4.2,SNR=5.6							
VNDA				LR	LR	16 33 11.9		
	comp=Z,140nm,18.9s,MS4.3,baz=82,slow=34							
VNDA	**Vanda**	**74.64**	**174**	P	**P**	**16 02 08.4**		**+5.7**
VNDA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
VNDA				MLR	MLR			
	comp=Z,140nm,18.9s							
VNDA	**Vanda**	**74.64**	**174**	P	**P**	**16 02 09.7**		**+7.1**
	comp=Z,4.9nm,1.2s,mb4.3							
BILL	**Bilibino**	**74.93**	**11**	P	**P**	**16 02 05.5**		**+1.2**
BILL				pmax	pmax			
	comp=Z,2.0nm,1.0s,mb4.0							
BILL	**Bilibino**	**74.93**	**11**	P	**P**	**16 02 05.5**		**+1.2**
	comp=Z,2.3nm,1.0s,mb4.1							
TIXI	**Tiksi**	**75.74**	**358**	*e*P	**P**	**16 02 08.5**		**-0.5**
TIXI				pmax	pmax			
	comp=Z,2.0nm,1.3s,mb3.9							
BRVK	**Borovoye**	**79.20**	**326**	*e*P	**P**	**16 02 27.5**		**-0.8**
BRVK				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3							
BRVK	**Borovoye**	**79.20**	**326**	*e*P	**P**	**16 02 27.5**		**-0.7**
	comp=Z,3.3nm,0.8s,mb4.3							
CHKZ	**Chkalovo**	**79.25**	**326**	*e*P	**P**	**16 02 26.9**		**-1.6**
CHKZ				pmax	pmax			
	comp=Z,9.0nm,1.3s,mb4.5							
CHKZ	**Chkalovo**	**79.25**	**326**	*e*P	**P**	**16 02 26.9**		**-1.7**
	comp=Z,9.0nm,1.3s,mb4.5							
ZRNK	**Zerenda**	**79.88**	**325**	*e*P	**P**	**16 02 29.8**		**-2.2**
ZRNK				pmax	pmax			
	comp=Z,10.0nm,1.1s,mb4.7							
ZRNK	**Zerenda**	**79.88**	**325**	*e*P	**P**	**16 02 29.8**		**-2.2**
	comp=Z,9.6nm,1.1s,mb4.6							
MAW	**Maw

*IDC **25** 16:14:51.8±2.1, 7.03S×127.84E, h0km, mb3.4/1, mb1 4.0/4, mb1mx3.7/14, mbtmp3.8/4, ML3.8/3, Error ellipse: s-maj=102.6km s-min=28.2km az=73.0*

*NEIC **25** 16:14:51.5±0.8, 6.87S×128.03E, h10km, mb4.7/2, Error ellipse: s-maj=27.8km s-min=10.7km az=66.0*

*ISCJB **25** 16:15:14.9±3.4, 8.2S±02×127.8E±02, h279km±40km, mb3.9/3, Error ellipse: s-maj=31.0km s-min=19.0km az=73.5*

ISC 25 16:15:08.7±2.3, 80S±01×1274E±02, h200km±23km, n8, σ1$20/12, mb3.8/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.21**	**189**	Pn	**Pn**	**16 17 34.4**	**+3.7**
	0.4nm,0.3s,baz=18,slow=18,SNR=18						
FITZ				Sn	**Sn**	**16 19 24.5**	**-0.2**
	0.5nm,0.3s,baz=38,slow=19,SNR=3.2						
WRAB	**Tennant Creek**	**13.68**	**151**	*e*Pn	**Pn**	**16 18 14.9**	**+0.3**
	10nm,0.4s						
WRAB				*e*		16 18 21.2	
WRAB				*e*Sn	**Sn**	**16 20 34.8**	**-13**
WRA	**Warramunga Arr**	**13.69**	**151**	Pn	**Pn**	**16 18 14.8**	**+0.1**
	0.4nm,0.3s,baz=324,slow=13,SNR=42						
WRA				Sn	**Sn**	**16 20 38.4**	**-9.1**
	0.9nm,0.3s,baz=326,slow=24,SNR=8.6						
ASAR	**Alice Springs**	**16.82**	**159**	P	**Pn**	**16 18 57.9**	**+5.1**
	0.7nm,0.3s,baz=342,slow=12,SNR=99						
ASAR				S	**S**	**16 21 56.5**	**-0.2**
	0.3nm,0.3s,baz=320,slow=17,SNR=5.7						
KSM	**Kuching**	**19.43**	**298**	P	**P**	**16 19 19.0**	**-0.9**
MKAR	**Makanchi Array**	**67.64**	**328**	P	**P**	**16 25 47.1**	**+3.1**
	0.1nm,0.4s,mb2.8,baz=129,slow=6.1,SNR=4.6						
BILL	**Bilibino**	**80.66**	**14**	P	**P**	**16 26 57.3**	**-1.9**
	1.4nm,0.3s,mb4.1						
ARU	**Arti**	**85.16**	**329**	*e*P	**P**	**16 27 23.3**	**+0.9**
	11nm,0.8s,mb4.6						

*PRU **25** 16:31:20.6, 50.34N×118.95E, h0km*

WAR 25 16:31:21.1, 50.23N×119.07E, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.47**	**91**	*e*Pgd	Pg	16 31 29.9	-0.1
OJC				*i* Sg	Sg	16 31 36.9	+0.8
OKC	**Ostrava-Krasne**	**0.71**	**237**	*e*PG	Pg	16 31 34.2	-0.6
OKC				*e*SG	Sg	16 31 45.2	+1.1
	14nm,0.5s						
NIE	**Niedzica**	**1.14**	**135**	*e*Pg	Pg	16 31 43.5	+0.5
NIE				*e*Sg	Sg	16 32 00.0	+2.2
STHS	**Stebnicka Huta**	**1.62**	**119**	*e*PN	Pn	16 31 52.0	+1.0
STHS				*e*SN	Sn	16 32 16.0	+3.4
VYHS	**Vyhne**	**1.75**	**185**	*e*PN	Pn	16 31 51.1	-1.5
VYHS				*e*SN	Sn	16 32 13.4	-2.1
DPC	**Dobruska-Polom**	**1.77**	**275**	*e*PG	Pg	16 31 51.4	-3.6
DPC				*e*SG	Sg	16 32 14.7	-3.3
	10.0nm,0.5s						
KSP	**Ksiaz**	**1.88**	**290**	*e*Pg	Pg	16 31 54.1	-3.0
KSP				*e*Sg	Sg	16 32 19.3	-2.1
KECS	**Kecovo**	**1.98**	**152**	*e*PN	Pn	16 31 57.5	+1.7
KECS				*e*SN	Sn	16 32 24.4	+3.1
KOLS	**Kolonicke sedl**	**2.45**	**121**	*e*	Pn	16 32 09.9	+7.5
PRU	**Pruhonice**	**2.93**	**267**	*e*PG	Pg	16 32 13.1	-4.1
PRU				*e*SG	Sg	16 32 51.8	-3.4
	4.1nm,0.7s						
KHC	**Kasperske Hory**	**3.73**	**255**	x	x	16 33 06.2	
KHC				*e*SG	Sg	16 33 18.5	-2.6
	5.2nm,0.5s						

IDC 25 16:31:39.0±1.7, 056N×10204E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/19, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=101.4km s-min=21.5km az=46.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.83**	**306**	Pn	Pn	16 32 38.3	-0.9
	4.4nm,0.3s,baz=134,slow=13,SNR=15						
WRA	**Warramunga Arr**	**37.64**	**125**	P	P	16 38 56.3	+0.8
	0.4nm,0.4s,baz=305,slow=9.0,SNR=9.7						
ASAR	**Alice Springs**	**39.21**	**130**	P	P	16 39 08.7	-0.1
	0.4nm,0.7s,baz=301,slow=7.8,SNR=8.3						
MKAR	**Makanchi Array**	**49.18**	**342**	P	P	16 40 28.9	+0.2
	0.4nm,0.3s,baz=154,slow=9.0,SNR=15						

*IDC **25** 16:36:19.5±0.7, 1092N×141.15E, h0km, mb4.0/9, mb1 4.2/10, mb1mx4.1/21, mbtmp4.0/10, ML4.2/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/24, Error ellipse: s-maj=30.6km s-min=17.2km az=94.0*

*ISCJB **25** 16:36:24.7±2.7, 1087N±009×1413E±02, h56km±26km, mb4.1/12, Error ellipse: s-maj=26.9km s-min=15.0km az=3.4*

*NEIC **25** 16:36:25.5±2.6, 1093N×141.23E, h44km±25km, mb4.5/4, Error ellipse: s-maj=23.4km s-min=14.2km az=89.0*

ISC 25 16:36:27.8±2.3, 1091N±009×1414E±02, h68km±23km, n22, σ1$06/19, mb4.0/12, 1C, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.30**	**51**	Pn	**Pn**	**16 37 30.6**	**-0.1**
	13nm,0.3s,baz=192,slow=21,SNR=7.7						
GUMO	**Guam**	**4.30**	**51**	Pn	**Pn**	**16 37 30.6**	**-0.1**
CBIJ	**Chichi jima**	**16.12**	**2**	LR	LR	16 45 47.1	
	comp=Z,63nm,20.3s,baz=126,slow=35						
PMG	**Port Moresby**	**20.98**	**164**	P	**P**	**16 41 06.1**	**+0.8**
	13nm,0.8s,baz=282,slow=17,SNR=5.6						
WRA	**Warramunga Arr**	**31.44**	**193**	P	**P**	**16 42 42.2**	**-0.4**
	1.1nm,0.8s,mb3.7,baz=11,slow=9.5,SNR=10.0						
ASAR	**Alice Springs**	**35.14**	**192**	P	**P**	**16 43 14.1**	**-0.7**
	0.5nm,0.6s,mb3.5,baz=18,slow=12,SNR=14						
BJT	**Baijiatuao**	**36.62**	**327**	P	**P**	**16 43 24.1**	**-3.3**
	10nm,1.2s,mb4.6						
SONM	**Songino Array**	**47.09**	**328**	P	**P**	**16 44 53.8**	**+1.0**
	0.5nm,0.6s,mb3.5,baz=139,slow=7.0,SNR=5.4						
LSA	**Lhasa**	**50.29**	**300**	P	**P**	**16 45 19.0**	**+1.6**
	3.4nm,0.9s,mb4.3						
MKAR	**Makanchi Array**	**61.12**	**318**	P	**P**	**16 46 34.8**	**-0.2**
	0.7nm,0.5s,mb4.0,baz=101,slow=8.2,SNR=24						
KURK	**Kurchatov**	**64.49**	**321**	*e*P	**P**	**16 46 56.8**	**-0.5**
	4.3nm,0.7s,mb4.4						
KURK				*e*		16 47 08.5	
ZRNK	**Zerenda**	**70.77**	**322**	*e*P	**P**	**16 47 36.7**	**-0.1**
	1.4nm,0.6s,mb4.0						
ZRNK				*e*		16 47 47.8	
ILAR	**Eielson Array**	**72.42**	**25**	P	**P**	**16 47 46.9**	**+0.1**
	1.3nm,0.6s,mb3.9,baz=248,slow=6.3,SNR=13						
SIT	**Sitka**	**77.26**	**34**	P	**P**	**16 48 13.1**	**-1.6**
INK	**Inuvik**	**78.11**	**22**	P	**P**	**16 48 19.9**	**+0.5**
	1.2nm,0.7s,mb3.8,baz=231,slow=4.9,SNR=5.6						
INK	**Inuvik**	**78.11**	**22**	P	**P**	**16 48 19.9**	**+0.5**
YKA	**Yellowknife Ar**	**86.77**	**27**	P	**P**	**16 49 06.5**	**+2.0**
	0.9nm,0.4s,mb4.1,baz=289,slow=5.1,SNR=15						
YKA	**Yellowknife Ar**	**86.77**	**27**	P	**P**	**16 49 06.5**	**+2.0**
FINES	**FINESS Array B**	**92.12**	**334**	P	**P**	**16 49 28.5**	**-1.1**
	1.3nm,0.7s,mb4.3,baz=64,slow=4.4,SNR=5.7						
FINES	**FINESS Array B**	**92.12**	**334**	P	**P**	**16 49 28.5**	**-1.1**
SYO	**Syowa Base**	**104.35**	**201**	⇑*e*PP	PP	16 54 40.0	-3.9
LPAZ	**La Paz**	**150.81**	**104**	PKPbc	PKPbc	16 56 17.4	+4.9
	1.8nm,0.8s,baz=278,slow=2.2,SNR=8.3						

*MOS **25** 16:37:58.3±1.3, 1156S×166.41E, h33km, mb5.2/23, Error ellipse: s-maj=9.9km s-min=9.0km az=138.8*

*IDC **25** 16:37:59.1±2.6, 1152S×166.48E, h31km±17km, mb4.7/18, mb1 4.8/18, mb1mx4.8/19, mbtmp4.8/18, MS4.3/14, Ms1 4.3/14, ms1mx4.2/15, Error ellipse: s-maj=18.8km s-min=13.8km az=113.0*

*BJI **25** 16:38:00.3, 11.40S×166.66E, h53km, mB5.1, mb5.1, Ms4.7, Msz4.5*

*ISCJB **25** 16:38:00.4±0.3, 1165S±004×166.32E±005, h48km, mb5.0/63, MS4.4/26, Error ellipse: s-maj=6.7km s-min=5.7km az=168.8*

*HRVD **25** 16:38:01.9±0.2, 1170S×166.16E, h55km, MW5.3/89, Centroid moment Tensor Solution. LP body waves: s89,c142; Mantle waves: s84,c154; Half duration: 1†1 Moment tensor: Scale 10^17Nm; Mrr 0.98±.02; Mθθ -0.01±.01; Mϕϕ -0.97±.01; Mrθ -0.06±.01; Mϕθ 0.17±.01; Mϕr 0.27±.01; Best double couple: M0 1.02800×10^17*

NP1:ϕs 171.00000°, δ37.00000°, λ91.00000°. NP2: ϕs 349.00000°, δ53.00000°, λ89.00000°. Principal axes: T 1.0160, Plg82.0000°, Azm254.0000°; N 0.0230, Plg1.0000°, Azm350.0000°; P -1.0390, Plg8.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*NEIC **25** 16:38:01.9±0.3, 1156S×166.35E, mb5.1/29 Error ellipse: s-maj=8.9km s-min=6.4km az=117.0*

ISC 25 16:38:02.4±0.3, 1166S±004×16638E±005, h50km, h50km±1.1km:pP-P, n159, σ1$22/145, mb5.0/63, MS4.4/26, 27C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.70**	**289**	Pn	**Pn**	**16 39 39.5**	**+1.2**
	73nm,0.3s,baz=250,slow=0.6,SNR=87						
HNR				Sn	**Sn**	**16 40 52.6**	**-0.6**
	33nm,0.3s,baz=270,slow=20,SNR=4.3						
HNR	**Honiara**	**6.70**	**289**	P	**Pn**	**16 39 39.5**	**+1.3**
HNR						16 40 52.6	
HNR				pmax	pmax		
	comp=Z,73nm,0.3s						
HNR				smax			
	comp=N,33nm,0.3s						
HNR	**Honiara**	**6.70**	**289**	*e*Pn	**Pn**	**16 39 39.6**	**+1.4**
	comp=N,816nm,0.8s						
DZM	**Mont Dzumac**	**10.35**	**180**	Pn	**Pn**	**16 40 30.5**	**+2.3**
	comp=N,8.6nm,0.3s,baz=3.7,slow=19,SNR=68						
DZM				Sn	**Sn**	**16 42 21.1**	**-1.6**
	comp=N,3.5nm,0.3s,baz=303,slow=21,SNR=3.0						
DZM				LR	LR	16 44 07.5	
	comp=N,3μm,21.4s,baz=17,slow=35						
PMG	**Port Moresby**	**19.03**	**275**	P	**Pn**	**16 42 22.3**	**+0.9**
	comp=N,0.5nm,0.3s,baz=255,slow=10,SNR=4.7						
PMG	**Port Moresby**	**19.03**	**275**	*e*P	**Pn**	**16 42 22.5**	**+1.2**
PMG				pmax	pmax		
	comp=Z,63nm,1.0s						
PMG	**Port Moresby**	**19.03**	**275**	*e*Pn	**Pn**	**16 42 22.4**	**+1.1**
	comp=Z,63nm,1.0s						
PMG				*e*pP	pP	16 42 39.2	+7.6
CTA	**Charters Tower**	**21.07**	**244**	⇑*i*P	**P**	**16 42 43.9**	**+1.5**
	comp=Z,19nm,0.6s,mb4.6						
CTA	**Charters Tower**	**21.07**	**244**	P	**P**	**16 42 44.2**	**+1.8**
	comp=Z,26nm,0.7s,mb4.7,baz=71,slow=12,SNR=25						
CTA				LR	LR	16 49 45.9	
	comp=Z,1μm,20.7s,MS4.3,baz=66,slow=33						
CTA	**Charters Tower**	**21.07**	**244**	⇑*i*P	**P**	**16 42 43.9**	**+1.5**
CTA				pmax	pmax		
	comp=Z,19nm,0.6s						
CTAO	**Charters Tower**	**21.07**	**244**	*e*P	**P**	**16 42 44.0**	**+1.6**
CTAO				pmax	pmax		
	comp=Z,92nm,1.2s,mb5.0						
CTAO	**Charters Tower**	**21.07**	**244**	*e*P	**P**	**16 42 44.0**	**+1.6**
	comp=Z,92nm,1.2s,mb5.0						
ARMA	**Armidale**	**23.14**	**214**	⇑*i*P	**P**	**16 43 05.7**	**+1.3**
RIV	**Riverview**	**26.08**	**210**	*e*P	**P**	**16 43 32.6**	**+1.3**
CNB	**Canberra Magne**	**28.16**	**210**	*e*P	**P**	**16 43 50.8**	**+0.9**
	comp=Z,56nm,1.1s,mb5.1						
URZ	**Urewera**	**28.17**	**162**	P	**P**	**16 43 50.7**	**+0.7**
	comp=Z,7.5nm,0.4s,mb4.7,baz=328,slow=3.2,SNR=9.8						
URZ				LR	LR	16 53 01.2	
	comp=Z,838nm,21.7s,MS4.3,baz=254,slow=32						
STKA	**Stephens Creek**	**30.43**	**225**	⇑*i*P	**P**	**16 44 08.7**	**-1.4**
	comp=Z,26nm,0.6s,mb5.1						
STKA				*e*pP	pP	16 44 20.6	-2.4
STKA	**Stephens Creek**	**30.43**	**225**	P	**P**	**16 44 09.3**	**-0.8**
	comp=Z,32nm,0.7s,mb5.2,baz=36,slow=8.1,SNR=75						
STKA				ScP	ScP	16 50 49.8	+2.9
	comp=Z,5.6nm,1.1s,baz=73,slow=3.7,SNR=2.9						
STKA				LR	LR	16 54 58.0	
	comp=Z,1μm,21.8s,MS4.5,baz=44,slow=33						
WRAB	**Tennant Creek**	**31.85**	**251**	P	**P**	**16 44 22.0**	**-0.6**
	comp=Z,208nm,1.2s,mb5.8,SNR=20						
WRAB	**Tennant Creek**	**31.85**	**251**	⇑*i*P	**P**	**16 44 21.6**	**-1.0**
WRAB	**Tennant Creek**	**31.85**	**251**	*e*P	**P**	**16 44 22.4**	**-0.1**
	comp=Z,130nm,1.3s,mb5.6						
WB2	**Warramunga Arr**	**31.85**	**251**	⇑*i*P	**P**	**16 44 22.4**	**-0.2**
WB2				*i* PCP	PcP	16 47 12.7	+0.3
WB2				*e*SCP	ScP	16 50 57.5	+5.9
WRA	**Warramunga Arr**	**31.86**	**251**	P	**P**	**16 44 22.6**	**-0.1**
	comp=Z,21nm,0.7s,mb5.1,baz=84,slow=9.3,SNR=150						
WRA				PcP	PcP	16 47 12.6	+0.1
	comp=Z,3.0nm,0.5s,baz=76,slow=3.3,SNR=7.7						
WRA				ScP	ScP	16 50 53.2	+1.6
	comp=Z,5.0nm,1.1s,baz=77,slow=4.0,SNR=7.9						
WRA	**Warramunga Arr**	**31.86**	**251**	*i* P	**P**	**16 44 22.6**	**-0.1**
WRA				pmax	pmax		
	comp=Z,21nm,0.7s						
TOO	**Toolangi**	**31.88**	**212**	⇑*i*P	**P**	**16 44 23.9**	**+1.1**
	comp=Z,22nm,0.6s,mb5.2						
TOO	**Toolangi**	**31.88**	**212**	⇑*i*P	**P**	**16 44 23.9**	**+1.1**
TOO				pmax	pmax		
	comp=Z,22nm,0.6s,mb5.2						
RPZ	**Rata Peaks**	**32.19**	**174**	P	**P**	**16 44 25.1**	**-0.4**
	comp=Z,39nm,0.7s,mb5.4,baz=58,slow=9.5,SNR=22						
RPZ				LR	LR	16 55 57.0	
	comp=Z,717nm,21.9s,MS4.3,baz=298,slow=33						
AS31	**Alice Springs**	**33.08**	**244**	⇑*i*P	**P**	**16 44 32.7**	**-0.6**
AS31				*i* PcP	PcP	16 47 15.7	-0.1
AS31				*e*ScP	ScP	16 51 01.1	+5.3
ASAR	**Alice Springs**	**33.08**	**244**	P	**P**	**16 44 33.1**	**-0.2**
	comp=Z,15nm,0.7s,mb5.0,baz=68,slow=9.8,SNR=235						
ASAR				PcP	PcP	16 47 15.8	0.0
	comp=Z,4.5nm,0.5s,baz=88,slow=3.1,SNR=11						
ASAR				ScP	ScP	16 50 57.3	+1.5
	comp=Z,5.8nm,1.0s,baz=78,slow=3.4,SNR=17						
ASAR	**Alice Springs**	**33.08**	**244**	P	**P**	**16 44 33.1**	**-0.2**
ASAR						16 47 15.8	
ASPA	**Alice Springs**	**33.08**	**244**	⇑*i*P	**P**	**16 44 32.7**	**-0.6**
ASPA				*i* PCP	PcP	16 47 15.7	-0.1
ASPA				*e*SCP	ScP	16 51 01.1	+5.3
KAKA	**Kakadu**	**33.18**	**265**	⇑*i*P	**P**	**16 44 34.2**	**0.0**
	comp=Z,23nm,0.6s,mb5.3						
TAU	**Tasmania Unive**	**35.26**	**205**	*e*P	**P**	**16 44 52.5**	**+0.3**
TAU				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
TAU	**Tasmania Unive**	**35.26**	**205**	*e*P	**P**	**16 44 52.5**	**+0.3**
	comp=Z,20nm,0.8s,mb5.1						
FITZ	**Fitzroy Crossi**	**39.83**	**256**	⇑*i*P	**P**	**16 45 30.8**	**0.0**
	comp=Z,46nm,0.7s,mb5.3						
FITZ				*i* PCP	PcP	16 47 36.5	+0.5
FITZ	**Fitzroy Crossi**	**39.83**	**256**	P	**P**	**16 45 31.0**	**+0.2**
	comp=Z,26nm,0.8s,mb5.0,baz=85,slow=9.0,SNR=67						
FITZ				PcP	PcP	16 47 36.6	+0.5
	comp=Z,5.6nm,0.6s,baz=104,slow=3.3,SNR=6.2						
FITZ				LR	LR	17 00 48.9	
	comp=Z,652nm,20.4s,MS4.5,baz=93,slow=34						
FORT	**Forrest**	**40.20**	**236**	*e*P	**P**	**16 45 34.4**	**+0.5**
	comp=Z,20nm,0.7s,mb5.0						
PPT	**Papeete**	**42.95**	**103**	LR	LR	17 01 17.0	
	comp=Z,333nm,18.3s,MS4.3,baz=270,slow=33						
TBI	**Tubuai**	**43.53**	**112**	*e*LQ		16 56 47.0	
	comp=Z,836nm,30.5s						
TBI				*e*LR	LR	16 58 34.1	
	comp=Z,2μm,30.2s						
MBWA	**Marble Bar**	**45.59**	**252**	*e*P	**P**	**16 46 18.6**	**+1.0**
	comp=Z,42nm,0.7s,mb5.5						
MBWA				*e*pP	pP	16 46 29.5	-1.4
KLBR	**Kellerberrin**	**48.91**	**238**	⇑*i*P	**P**	**16 46 43.2**	**-0.1**
	comp=Z,36nm,0.9s,mb5.4						
NWAO	**Narrogin (SRO)**	**49.64**	**237**	P	**P**	**16 46 49.2**	**+0.3**
	comp=Z,38nm,1.0s,mb5.4,baz=64,slow=6.1,SNR=21						
NWAO	**Narrogin (SRO)**	**49.64**	**237**	*e*P	**P**	**16 46 49.0**	**+0.1**
NWAO				pmax	pmax		
	comp=Z,50nm,1.1s						
NWAO	**Narrogin (SRO)**	**49.64**	**237**	*e*P	**P**	**16 46 49.0**	**+0.1**
	comp=Z,50nm,1.1s,mb5.5						
MUN	**Mundaring**	**50.27**	**238**	⇑*i*P	**P**	**16 46 54.2**	**+0.5**
TSM	**Tawau**	**50.78**	**285**	P	**P**	**16 46 54.5**	**-3.1**
TAOE	**Nuku Hiva Isla**	**52.63**	**92**	*e*LR	LR	17 02 22.3	
	comp=Z,2μm,26.6s						
KKM	**Kota Kinabalu**	**52.91**	**287**	P	**P**	**16 47 14.2**	**+0.8**
KKM	**Kota Kinabalu**	**52.91**	**287**	*e*P	**P**	**16 47 14.1**	**+0.7**
MJAR	**Matsushiro Arr**	**54.80**	**332**	P	**P**	**16 47 24.2**	**-3.0**
	comp=Z,3.0nm,0.8s,mb4.4,baz=165,slow=8.6,SNR=8.8						
MJAR				LR	LR	17 08 36.6	
	comp=Z,75nm,18.1s,MS3.8,baz=175,slow=34						
NACB	**Ninganchiao**	**56.41**	**309**	*e*P	**P**	**16 47 37.7**	**-1.1**
RKT	**Rikitea**	**56.79**	**110**	*e*LR	LR	17 04 43.9	
	comp=Z,1μm,28.2s						
YHNB	**Yeheng**	**56.85**	**310**	*e*P	**P**	**16 47 41.8**	**-0.2**
KSM	**Kuching**	**57.22**	**279**	*e*P	**P**	**16 47 43.2**	**-1.3**
KSM				*e*pP	pP	16 47 57.3	-0.9
QZH	**Quanzhou**	**59.12**	**308**	⇑*i*P	**P**	**16 47 58.5**	**+0.7**
QZH				*e*S	**S**	**16 56 01.5**	**+0.2**
QZH				AMB	AMB		
	comp=Z,350nm,8.8s						
SSE	**Sheshan**	**60.73**	**316**	P	**P**	**16 48 08.5**	**-0.3**
SSE				AP	pP	16 48 22.3	-0.4
SSE				XP	sP	16 48 28.5	+0.1
SSE				PCP	PcP	16 48 52.8	+0.4
SSE				S	**S**	**16 56 20.3**	**-1.7**
SSE				XS	sS	16 56 45.8	+0.6
SSE				SCS	ScS	16 57 54.5	-1.0
SSE				SS	SS	17 00 21.5	+0.3
SSE				AMB	AMB		
	comp=Z,41nm,0.7s,mb5.7						
SSE				AMB	AMB		
	comp=Z,112nm,4.5s						
SSE				LR	LR		
	comp=N,116nm,21.6s,MS4.1						
SSE				LR	LR		
	comp=E,102nm,21.6s,MS4.1						
SSE				LR	LR		
	comp=Z,202nm,19.8s,MS4.3						
KS15	**Wonju Array Si**	**60.75**	**325**	P	**P**	**16 48 08.3**	**-0.6**
NJ2	**Nanjing**	**62.89**	**315**	*e*P	**P**	**16 48 24.0**	**+0.6**
NJ2				AP	pP	16 48 38.3	+1.0
NJ2				XP	sP	16 48 41.3	-1.7
NJ2				PP	PP	16 50 45.0	+2.9
NJ2				S	**S**	**16 56 50.0**	**+0.6**
NJ2				XS	sS	16 57 11.0	-1.7
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,70nm,8.7s						
NJ2				LR	LR		
	comp=N,750nm,27.2s,MS4.9						
NJ2				LR	LR		
	comp=E,800nm,25.4s,MS4.9						
NJ2				LR	LR		
	comp=Z,160nm,27.0s,MS4.1						
QIZ	**Qiongzhong**	**63.52**	**298**	P	**P**	**16 48 28.3**	**+0.8**
QIZ				S	**S**	**16 57 00.8**	**+3.6**
QIZ				AMB	AMB		
	comp=Z,23nm,1.8s,mb4.9						
QIZ				AMB	AMB		
	comp=Z,171nm,8.7s						
QIZ				LR	LR		
	comp=N,142nm,24.7s,MS4.3						
QIZ				LR	LR		
	comp=E,206nm,23.3s,MS4.3						
QIZ				LR	LR		
	comp=Z,366nm,25.4s,MS4.5						
KGM	**Kluang**	**64.12**	**278**	P	**P**	**16 48 24.6**	**-6.8**
FX1	**Attu Island--F**	**64.55**	**5**	*e*P	**P**	**16 48 33.4**	**-0.9**
PET	**Petropavlovsk**	**64.77**	**355**	*e*P	**P**	**16 48 42.7**	**+7.0**
PET				*e*S	**S**	**16 57 15.1**	**+2.5**
PET				*e*PS		16 57 41.9	
PET				pmax	pmax		
	comp=Z,100nm,30.2s						
MDJ	**Mudanjiang**	**65.18**	**332**	P	**P**	**16 48 39.8**	**+1.4**
MDJ				AP	pP	16 48 51.5	-0.9
MDJ				XP	sP	16 48 56.5	-1.6
MDJ				PP	PP	16 51 03.8	+1.6
MDJ				S	S	16 57 22.3	+4.6
MDJ				XS	sS	16 57 41.5	+0.3
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,109nm,4.0s						
MDJ				LR	LR		
	comp=N,103nm,29.9s,MS4.1						
MDJ				LR	LR		
	comp=E,137nm,25.3s,MS4.1						
MDJ				LR	LR		
	comp=Z,225nm,27.6s,MS4.2						
VNDA	**Vanda**	**65.89**	**181**	P	**P**	**16 48 42.0**	**-0.9**
	comp=Z,5.2nm,0.5s,mb4.8,baz=350,slow=7.5,SNR=63						
VNDA				LR	LR	17 15 19.8	
	comp=Z,173nm,19.3s,MS4.3,baz=14,slow=34						
VNDA	**Vanda**	**65.89**	**181**	*e*P	**P**	**16 48 41.6**	**-1.4**
VNDA				pmax	pmax		
	comp=Z,40nm,1.3s						
VNDA	**Vanda**	**65.89**	**181**	*e*P	**P**	**16 48 41.6**	**-1.3**
	comp=Z,40nm,1.3s,mb5.3						
CASY	**Casey**	**66.03**	**201**	⇑*i*P	**P**	**16 48 42.8**	**-1.1**
SBA	**Scott Base**	**66.18**	**180**	*e*P	**P**	**16 48 45.0**	**+0.2**
SBA				*e**PP	pP	16 48 58.1	-0.8
SBA				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.1						
SBA	**Scott Base**	**66.18**	**180**	*e*P	**P**	**16 48 45.0**	**+0.1**
	comp=Z,22nm,1.0s,mb5.1						
SBA				*e*pP	pP	16 48 58.1	-0.8
SNY	**Shenyang**	**66.19**	**326**	P	**P**	**16 48 48.0**	**+3.1**
SNY				AP	pP	16 49 01.0	+2.1
SNY				XP	sP	16 49 06.0	+1.5
SNY				PP	PP	16 51 16.3	+5.3
SNY				SS	SS	17 01 47.5	+1.0
SNY				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.7						
SNY				AMB	AMB		
	comp=Z,191nm,6.7s						
SNY				LR	LR		
	comp=N,182nm,20.8s						
SNY				LR	LR		
	comp=Z,182nm,28.4s						
CN2	**Changchun**	**66.59**	**329**	*e*P	**P**	**16 48 47.0**	**-0.4**
CN2				*e*AP	pP	16 49 00.8	-0.7
CN2				*e*S	S	16 57 34.3	-0.5
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
CN2				LR	LR		
	comp=N,130nm,20.0s,MS4.3						
CN2				LR	LR		
	comp=E,160nm,20.0s,MS4.3						
CN2				LR	LR		
	comp=Z,160nm,21.0s,MS4.2						
IPM	**Ipoh**	**66.94**	**280**	P	**P**

comp=Z,34nm,1.6s,mb5.0
KMI AMB AMB
comp=Z,266nm,4.9s
KMI LR LR
comp=N,115nm,22.2s,MS4.4
KMI LR LR
comp=E,203nm,25.2s,MS4.4
KMI LR LR
comp=Z,302nm,25.7s,MS4.5
MA2 Magadan 72.11 352 P **P 16 49 20.6 -0.9**
MA2 pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MA2 Magadan 72.11 352 P **P 16 49 20.6 -0.9**
comp=Z,6.9nm,0.9s,mb4.6
CHRT Chiangrai 72.64 295 ⇑P **P 16 49 26.0 +1.3**
comp=Z,195nm,1.2s,mb5.9
HHC Hu-ho-hao-te 72.70 320 ⇑P **P 16 49 25.5 +0.4**
HHC AP pP 16 49 38.5 -0.8
HHC XP sP 16 49 45.0 +0.1
HHC PP PP 16 52 10.3 +3.1
HHC S S 16 58 47.3 +0.6
HHC XS sS 16 59 09.5 -1.0
HHC SKS 16 59 22.3
HHC SCS ScS 16 59 25.8 -2.5
HHC AMB AMB
comp=Z,17nm,1.3s,mb4.8
HHC AMB AMB
comp=Z,78nm,8.1s
HHC LR LR
comp=N,165nm,19.2s,MS4.5
HHC LR LR
comp=E,209nm,21.0s,MS4.5
HHC LR LR
comp=Z,418nm,23.5s,MS4.6
MIR Mirnyy 72.76 204 *e*P **P 16 49 25.5 +0.1**
MIR pmax pmax
comp=Z,294nm,1.7s,mb5.9
CHG Chiang Mai 73.04 294 ⇑P **P 16 49 28.1 +1.0**
comp=Z,27nm,1.0s,mb5.1
CHTO Chiang Mai 73.04 294 *e*P **P 16 49 28.1 +1.0**
CHTO *e**PP pP 16 49 41.7 +0.4
CHTO pmax pmax
comp=Z,42nm,1.1s,mb5.3
CHTO Chiang Mai 73.04 294 *e*P **P 16 49 28.1 +1.0**
comp=Z,42nm,1.1s,mb5.3
CHTO *e*pP pP 16 49 41.7 +0.4
HIA Hailar 73.21 330 *c*e P **P 16 49 27.6 -0.5**
HIA Hailar 73.21 330 *e*P **P 16 49 26.9 -1.2**
comp=Z,9.7nm,0.9s,mb4.7
CD2 Chengdu 73.47 307 P **P 16 49 30.0 +0.4**
CD2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
LZH Lanzhou 75.63 312 *e*P **P 16 49 43.5 +1.4**
LZH AP pP 16 49 57.5 +1.1
LZH XP sP 16 50 02.5 +0.5
LZH PP PP 16 52 36.0 +3.9
LZH *e*S S 16 59 18.0 -1.5
LZH *e*SS SS 17 04 10.0 -1.4
LZH AMB AMB
comp=Z,73nm,1.2s,mb5.5
LZH AMB AMB
comp=Z,210nm,4.2s
LZH LR LR
comp=E,370nm,15.0s
LZH LR LR
comp=Z,560nm,16.1s,MS5.0
CIT Chita 78.00 330 *e*P **P 16 49 55.4 -0.1**
CIT *e* pP 16 50 09.1 -0.7
CIT pmax pmax
comp=Z,56nm,1.1s,mb5.4
QSPA South Pole Qui 78.34 180 ⇑ *i*P **P 16 49 56.6 -0.8**
comp=Z,48nm,1.1s,mb5.3
YAK Yakutsk 78.86 343 ⇑ *i*P **P 16 49 58.4 -1.8**
YAK pmax pmax
comp=Z,13nm,1.3s,mb4.7
ULN Ulaanbaatar 79.16 324 *e*P **P 16 50 01.8 -0.1**
ULN *e**PP pP 16 50 16.4 +0.2
ULN pmax pmax
comp=Z,26nm,1.1s,mb5.1
ULN Ulaanbaatar 79.16 324 *e*P **P 16 50 01.8 -0.1**
comp=Z,26nm,1.1s,mb5.1
ULN *e*pP pP 16 50 16.4 +0.1
BILL Bilibino 79.49 360 ⇑ *e*P **P 16 50 02.0 -1.7**
BILL *e* 16 50 09.2
BILL *e* pP 16 50 15.3 -2.7
BILL pmax pmax
comp=Z,14nm,1.9s,mb4.6
BILL MLR MLR
comp=Z,100nm,20.0s,MS4.2
BILL Bilibino 79.49 360 *e*P **P 16 50 01.9 -1.8**
comp=Z,10nm,1.0s,mb4.7
SONM Songino Array 79.53 324 P **P 16 50 03.6 -0.2**
comp=Z,4.2nm,0.5s,mb4.6,baz=138,slow=5.3,SNR=36
SONM LR LR 17 22 26.6
comp=Z,107nm,21.3s,MS4.2,baz=116,slow=34
SONM Songino Array 79.53 324 P **P 16 50 03.6 -0.2**
SONM LR LR 17 22 26.6
GTA Gaotai 79.93 314 P **P 16 50 07.0 +0.9**
GTA AP pP 16 50 21.3 +0.9
GTA XP sP 16 50 26.5 +0.5
GTA PP PP 16 53 11.3 +3.2
GTA S S 17 00 07.5 +1.6
GTA SKS 17 00 15.5
GTA XS sS 17 00 29.3 -0.8
GTA SS SS 17 05 21.3 +5.1
GTA AMB AMB
comp=Z,25nm,0.3s,mb5.6
GTA AMB AMB
comp=Z,175nm,6.1s
GTA LR LR
comp=N,112nm,17.9s,MS4.5
GTA LR LR
comp=E,173nm,19.0s,MS4.5
GTA LR LR
comp=Z,254nm,20.2s,MS4.6
BOD Bodaibo 81.35 335 *e*P **P 16 50 10.9 -2.7**
BOD pmax pmax
comp=Z,6.0nm,1.6s,mb4.3
ZAK Zakamensk 82.56 325 *e*P **P 16 50 18.1 -1.9**
ZAK pmax pmax
comp=Z,18nm,2.1s,mb4.7
IRK Irkutsk 82.91 327 *e*P **P 16 50 19.8 -2.0**
IRK pmax pmax
comp=Z,29nm,2.9s,mb4.8
TLY Talaya 82.98 326 *e*P **P 16 50 20.4 -1.8**
TLY *e* pP 16 50 35.5 -1.1
TLY *e*S S 17 00 33.3 -4.1
TLY pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
TLY Talaya 82.98 326 *e*P **P 16 50 21.4 -0.8**
TLY *e*pP pP 16 50 34.7 -1.9
LSA Lhasa 83.21 302 *e*P **P 16 50 24.9 +1.6**
LSA pmax pmax
comp=Z,36nm,1.5s,mb5.2
LSA Lhasa 83.21 302 *e*P **P 16 50 24.9 +1.5**
comp=Z,36nm,1.5s,mb5.2
YBH Yreka Blue Hor 83.88 45 P **P 16 50 26.5 -0.3**
comp=Z,1.9nm,0.4s,mb4.5,baz=226,slow=4.0,SNR=6.4
YBH Yreka Blue Hor 83.88 45 *e*P **P 16 50 27.4 +0.6**
YBH *e**PP pP 16 50 43.0 +1.7
YBH pmax pmax
comp=Z,13nm,1.3s
YBH Yreka Blue Hor 83.88 45 *e*P **P 16 50 27.4 +0.6**
comp=Z,13nm,1.3s,mb4.9
YBH *e*pP pP 16 50 43.0 +1.7
ILAR Eielson Array 83.90 18 P **P 16 50 24.8 -2.1**
comp=Z,3.7nm,0.5s,mb4.8,baz=238,slow=4.7,SNR=37
MAW Mawson 84.39 202 *e*P **P 16 50 28.2 -1.2**
comp=Z,9.6nm,1.2s,mb4.8
MAW Mawson 84.39 202 P **P 16 50 27.9 -1.5**
comp=Z,18nm,1.2s,mb5.1,baz=124,slow=3.3,SNR=10
MAW LR LR 17 21 50.2
comp=Z,199nm,21.3s,MS4.5,baz=316,slow=31
MAW Mawson 84.39 202 *e*P **P 16 50 28.2 -1.2**
MAW pmax pmax
comp=Z,10.0nm,1.2s
WAKR Walker 85.13 49 *e*P **P 16 50 34.3 +1.2**
WAKR *e*pP pP 16 50 49.4 +1.8
PAHR Pah Rah Range 85.56 48 *e*P **P 16 50 38.0 +2.8**
PAHR *e*pP pP 16 50 51.7 +1.9
MNV Mina 86.06 50 *e*P **P 16 50 40.7 +3.0**
MNV *e**PP pP 16 50 54.0 +1.7
MNV pmax pmax
comp=Z,12nm,1.3s,mb5.0
MNV Mina 86.06 50 *e*P **P 16 50 40.7 +3.0**
comp=Z,12nm,1.3s,mb5.0
MNV *e*pP pP 16 50 54.0 +1.8
TIXI Tiksi 86.81 349 *e*P **P 16 50 37.7 -3.7**
TIXI *e*S 17 01 00.5
TIXI *e* 17 01 21.2
TIXI pmax pmax
comp=Z,4.0nm,1.4s,mb4.5
TIXI smax
comp=N,32nm,12.3s
TIXI smax
comp=E,34nm,11.5s
PALK Pallekele 87.25 278 P **P 16 50 41.1 -2.4**
comp=E,31nm,1.1s,mb5.5
BMO Blue Mountains 88.64 44 *e*P **P 16 50 51.3 +1.1**
BMO *e**PP pP 16 51 05.5 +0.7
BMO pmax pmax
comp=Z,20nm,1.7s,mb5.2
BMO Blue Mountains 88.64 44 *e*P **P 16 50 51.3 +1.2**
comp=Z,20nm,1.7s,mb5.2
BMO *e*pP pP 16 51 05.5 +0.7
ELK Elko 88.89 48 *e*P **P 16 50 53.3 +1.9**
ELK *e**PP pP 16 51 07.8 +1.9
WMQ Urumqi 89.97 315 ⇑P **P 16 50 57.0 +0.6**
WMQ AP pP 16 51 10.5 -0.5
WMQ XP sP 16 51 15.5 -1.0
WMQ PP PP 16 54 32.0 +2.3
WMQ AMB AMB
comp=Z,12nm,1.1s,mb5.1
WMQ AMB AMB
comp=Z,25nm,10.4s
WMQ LR LR
comp=N,54nm,23.8s
WMQ LR LR
comp=E,172nm,32.2s
WMQ LR LR
comp=Z,208nm,27.0s,MS4.4
MSU Marysvale 90.59 51 *e*P **P 16 51 01.4 +2.1**
HVU Hansel Valley 90.96 48 *e*P **P 16 51 02.6 +1.6**
HVU *e**PP pP 16 51 17.7 +2.1
BSMT Bassoo Peak 91.19 41 *e*P **P 16 51 03.7 +1.7**
BSMT *e*pP pP 16 51 17.2 +0.6
SYO Syowa Base 91.38 197 ⇑ *e*P **P 16 51 00.8 -2.1**
SYO Syowa Base 91.38 197 ⇑ *e*PcP PcP 16 51 02.8 -1.0
SYO Syowa Base 91.38 197 ⇑ *e*pP pP 16 51 16.8 -0.7
HYB Hyderabad 91.39 287 *i* P **P 16 51 03.0 0.0**
HYB *e* pP 16 51 17.5 -0.1
HYB Hyderabad 91.39 287 *e*P **P 16 51 03.0 0.0**
PDAR Pinedale Array 93.51 47 P **P 16 51 11.8 -1.0**
comp=Z,0.2nm,0.4s,mb3.9,baz=224,slow=6.3,SNR=2.9
PDAR LR LR 17 24 40.7
comp=Z,100nm,20.9s,MS4.2,baz=249,slow=30
MKAR Makanchi Array 94.39 317 P **P 16 51 16.4 -0.5**
comp=Z,3.8nm,0.7s,mb5.0,baz=92,slow=6.7,SNR=6.8
MKAR PKKPbc PKKPbc 17 08 13.8 -2.2
comp=Z,0.3nm,0.6s,baz=269,slow=3.4,SNR=8.3
MKAR Makanchi Array 94.39 317 P **P 16 51 16.4 -0.5**
MKAR PKKPbc PKKPbc 17 08 13.8 -2.2
ZAL Zalesovo 94.43 324 P **P 16 51 15.8 -1.1**
comp=Z,1.3nm,0.6s,mb4.5,baz=8.2,slow=4.8,SNR=9.2
ZAL LR LR 17 30 20.2
comp=Z,136nm,21.8s,MS4.4,baz=25,slow=33
YKA Yellowknife Ar 95.23 27 P **P 16 51 17.3 -3.4**
comp=Z,0.5nm,0.4s,mb4.3,baz=258,slow=4.7,SNR=8.9
YKA LR LR 17 26 51.6
comp=Z,99nm,22.0s,MS4.2,baz=270,slow=31
SNAA Sanae 96.54 183 *e*P **P 16 51 20.7 -5.9**
SNAA *e* 16 51 27.2
SNAA *e* pP 16 51 38.8 -2.5
VNA3 Neumayer Olymp 97.24 181 *e*P **P 16 51 26.9 -2.9**
VNA3 *e* pP 16 51 37.7 -6.8
VNA3 *e* pP 16 51 44.5 0.0
VNA3 *e* 16 51 53.2
VNA2 Neumayer--Watz 97.50 182 *e*P **P 16 51 30.1 -0.9**
baz=189,slow=4.9
VNA2 *e* 16 51 36.1
VNA2 *e* 16 51 38.6
VNA2 *e* pP 16 51 44.1 -1.5
VNA2 *e* pP 16 51 48.6 +3.0
VNA2 *e* 16 51 52.6
KURK Kurchatov 97.51 320 *i* P **P 16 51 27.8 -3.2**
MDZ Mendoza 111.20 132 *e*P Pdif 16 52 34.1 +2.2
APA Apatity 116.22 342 ⇑ *e*PKIKP PKPdf 16 56 49.6 +8.9
APA *i* 16 56 55.6
APA pmax pmax
comp=Z,13nm,1.0s
ARCES ARCESS Array B 117.08 346 PKP PKPdf 16 56 39.5 -2.3
comp=Z,2.3nm,0.6s,baz=72,slow=1.4,SNR=13
ARCES ARCESS Array B 117.08 346 PKP PKPdf 16 56 39.5 -2.3
FINES FINESS Array B 122.57 339 PKP PKPdf 16 56 50.2 -2.2
comp=Z,2.5nm,0.8s,baz=58,slow=3.4,SNR=11
FINES FINESS Array B 122.57 339 PKP PKPdf 16 56 50.2 -2.2
NOA NORSAR Array B 127.46 345 PKP PKPdf 16 56 59.3 -2.4
comp=Z,0.5nm,0.6s,baz=32,slow=1.9,SNR=3.6
AKASG Malin Array Be 127.72 327 PKP PKPdf 16 56 58.7 -3.5
comp=Z,0.2nm,0.4s,baz=65,slow=1.6,SNR=5.4
LVV L'vov 130.95 328 *e*PKHKP 16 56 29.9
CLL Collm 134.92 337 *e*PKSbc 17 00 46.0
CLL LmV 17 50 00.0
comp=Z,100nm,21.9s
GERES GERESS Array B 136.53 334 PKP PKPdf 16 57 18.5 -0.3
comp=Z,0.3nm,0.6s,baz=2.9,slow=2.7,SNR=3.6
ESDC Sonseca Array 150.82 345 PKP PKPdf 16 57 42.6 -1.0
comp=Z,0.2nm,0.3s,baz=3.8,slow=2.7,SNR=2.2
ESDC PKPbc PKPbc 16 57 47.9 -1.3
comp=Z,0.2nm,0.3s,baz=61,slow=0.9,SNR=4.0
TORD Torodi Ar. Bea 164.97 277 PKP PKPdf 16 58 00.9 0.0
comp=Z,1.3nm,0.9s,baz=55,slow=0.9,SNR=4.9
TORD PKPab PKPab 16 58 58.0 +0.5
comp=Z,5.5nm,1.1s,baz=84,slow=4.4,SNR=11
DBIC Dimbokro 170.03 241 PKPab PKPab 16 59 20.7 +0.8
comp=Z,4.7nm,0.9s,baz=134,slow=3.8,SNR=3.7
DBIC Dimbokro 170.03 241 PKP2 PKPab 16 59 20.7 +0.8
DBIC pmax pmax
comp=Z,5.0nm,0.9s
DLBC Sn **Sn 16 52 20.7 -0.1**
0.7nm,0.3s,baz=232,slow=23,SNR=5.8
DLBC LR LR 16 53 38.6
comp=Z,45nm,20.1s,baz=218,slow=37
DLBC Dease Lake 6.86 81 Pn **Pn 16 51 05.8 +2.7**
DLBC Sn **Sn 16 52 19.9 -0.9**
DLBC Trac 16 52 24.3
comp=Z,2.0nm,0.2s
DLBC Dease Lake 6.86 81 Pn **Pn 16 51 06.9 +3.9**
DLBC Sn **Sn 16 52 20.7 -0.1**
DLBC LR LR 16 53 38.6
NDB Naden 6.91 121 Pn **Pn 16 51 05.2 +1.5**
NDB Sn **Sn 16 52 19.2 -2.8**
comp=Z,6.0nm,0.2s
NDB Trac 16 52 25.3
comp=Z,6.0nm,0.2s
ILAR Eielson Array 7.09 346 Pn **Pn 16 51 05.2 -1.0**
0.8nm,0.3s,baz=175,slow=12,SNR=5.5
ILAR Sn **Sn 16 52 20.3 -6.2**
baz=166,slow=19,SNR=5.7
SVW2 Sparrevohn 7.14 301 *e*Pn **Pn 16 51 06.3 -0.7**
VIB Van Inlet 7.55 124 Pn **Pn 16 51 14.6 +2.0**
VIB Sn **Sn 16 52 34.6 -3.2**
comp=Z,2.0nm,0.1s
VIB Trac 16 52 37.8
comp=Z,2.0nm,0.1s
MOBC Moresby Island 7.88 123 Pn **Pn 16 51 19.2 +2.3**
MOBC Sn **Sn 16 52 43.8 -2.1**
MOBC Trac 16 52 46.0
comp=Z,5.0nm,0.2s
RUBB Prince Rupert 7.98 112 Pn **Pn 16 51 18.7 +0.3**
RUBB Sn **Sn 16 52 45.9 -2.4**
RUBB Trac 16 52 48.6
comp=Z,4.0nm,0.2s
TTA Tatalina 8.14 313 *e*Pn **Pn 16 51 18.9 -1.8**
5.3nm,0.6s
BNAB Bonilla 8.27 118 Pn **Pn 16 51 22.4 0.0**
BNB Barry Inlet 8.37 125 Pn **Pn 16 51 25.6 +1.9**
BNB Sn **Sn 16 52 55.6 -2.3**
comp=Z,53nm,0.2s
BNB Trac 16 52 59.2
comp=Z,53nm,0.2s
YKA Yellowknife Ar 14.73 60 Pn **Pn 16 52 53.0 +2.3**
baz=262,slow=12,SNR=3.2
MKAR Makanchi Array 69.09 329 P **P 17 00 30.1 +1.7**
0.1nm,0.5s,mb3.0,baz=26,slow=5.9,SNR=4.2
BRG Berggiesshubel 69.89 15 *e*(P) **P 17 00 44.0 +11**
2.3nm,0.9s,mb4.1
GERES GERESS Array B 71.83 16 P **P 17 00 48.8 +3.7**
1.3nm,0.9s,mb3.9,baz=334,slow=5.6,SNR=6.1
GERES GERESS Array B 71.83 16 P **P 17 00 48.8 +3.7**
GERES LR LR 17 59 49.8

ISCJB ***25*** *16:49:21.0±0.5, 57.95N×005.4×14292W±0.06, h15km, mb3.7/3, Error ellipse: s-maj=7.4km s-min=3.8km az=53.4*
IDC ***25*** *16:49:25.3±1.8, 58.26N×143.14W, h0km, mb3.5/2, mb1 3.8/6, mb1mx3.6/22, mbtmp3.5/6, ML3.6/4, MS2.6/1, Ms1 2.6/1, ms1mx2.2/25, Error ellipse: s-maj=31.2km s-min=18.1km az=17.0*
PGC ***25*** *16:49:26.2, 58.01N×142.83W, h10km, MLSn3.5/8, 240km southwest of Yakutat, Ak Gulf of Alaska.*
NEIC ***25*** *16:49:27.3, 58.18N×143.15W, h15km, ML3.3(AEIC), After AEIC.*

ISC 25 16:49:23.0±0.4, 5796N±005×14296W±006, h15km, n35, σ1°46/50, mb3.7/3, 1D, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MID	**Middleton Isla**	**2.30**	**311**	P	**Pn**	**16 49 59.3**	**-1.0**
EYAK	**Cordova Ski Ar**	**2.96**	**332**	P	**Pn**	**16 50 08.6**	**-1.0**
BMRM	**Bremner River**	**3.13**	**345**	P	**Pn**	**16 50 11.1**	**-0.7**
PLBC	**Pleasant Camp**	**3.75**	**64**	⇓Pn	**Pn**	**16 50 22.1**	**+1.7**
PLBC				Sn	**Sn**	**16 51 03.3**	**-1.0**
HYT	**Haines Junctio**	**4.00**	**42**	Pn	**Pn**	**16 50 25.5**	**+1.7**
SIT	**Sitka**	**4.22**	**99**	*e*Pn	**Pn**	**16 50 24.7**	**-2.0**
SIT				*e*Sn	**Sn**	**16 51 10.9**	**-4.8**
SKAG	**Skagway**	**4.26**	**66**	*e*Pn	**Pn**	**16 50 27.8**	**+0.5**
KNK	**Knik Glacier**	**4.44**	**324**	P	**Pn**	**16 50 29.8**	**0.0**
SLKM	**Skilak Lake**	**4.52**	**307**	P	**Pn**	**16 50 30.3**	**-0.6**
RC01	**Rabbit Creek A**	**4.66**	**315**	P	**Pn**	**16 50 31.9**	**-1.0**
SML	**Sawmill**	**4.71**	**327**	P	**Pn**	**16 50 32.8**	**-0.8**
PMR	**Palmer**	**4.79**	**322**	*e*Pn	**Pn**	**16 50 34.3**	**-0.4**
GHO	**Glory Hole Cre**	**4.86**	**324**	P	**Pn**	**16 50 35.7**	**+0.1**
WHY	**Whitehorse**	**4.95**	**53**	Pn	**Pn**	**16 50 38.8**	**+2.0**
WHY				Sn	**Sn**	**16 51 32.6**	**-1.1**
WHY				Trac		16 51 36.9	
comp=Z,7.0nm,0.3s							
KDAK	**Kodiak Island**	**5.14**	**272**	Pn	**Pn**	**16 50 41.2**	**+1.8**
12nm,0.3s,baz=77,slow=5.7,SNR=114							
KDAK				Sn	**Sn**	**16 51 32.5**	**-6.0**
4.0nm,0.3s,baz=254,slow=23,SNR=5.3							
KDAK	**Kodiak Island**	**5.14**	**272**	P	**Pn**	**16 50 40.7**	**+1.2**
CRAG	**Craig**	**5.97**	**111**	*e*Pn	**Pn**	**16 50 51.0**	**+0.2**
CRAG				*e*Sn	**Sn**	**16 51 55.7**	**-3.2**
DAWY	**Dawson**	**6.37**	**14**	Pn	**Pn**	**16 50 57.5**	**+1.2**
DAWY				Sn	**Sn**	**16 52 02.9**	**-5.8**
DAWY				Trac		16 52 19.6	
comp=Z,3.0nm,0.4s							
DLBC	**Dease Lake**	**6.86**	**81**	Pn	**Pn**	**16 51 06.9**	**+3.9**
0.7nm,0.3s,baz=249,slow=14,SNR=4.1							

IPEC ***25*** *17:37:43.9±0.2, 4981N×1858E, h1km±1km, ML2.1/3, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0*
ISCJB ***25*** *17:37:43.5±0.4, 4982N±003×1839E±003, h0km, Error ellipse: s-maj=4.4km s-min=2.2km az=23.9*
VIE ***25*** *17:37:44.8±0.6, 4969N×1848E, h0km, mb2.1/4, ML2.4/4, Error ellipse: s-maj=3.9km s-min=2.4km az=83.0 23 km SE of Ostrava Suspected Mining induced.*
CSEM ***25*** *17:37:44.6±0.1, 4979N×1852E, h1km, ML2.8/3, Error ellipse: s-maj=2.5km s-min=1.4km az=177.0*
NEIC ***25*** *17:37:44.1±0.9, 4983N×1849E, h5km, MG2.6(WAR), Error ellipse: s-maj=16.3km s-min=7.2km az=173.0*
PRU ***25*** *17:37:45.8, 4984N×1843E, h0km*

ISC 25 17:37:44.5±0.4, 4981N±003×1847E±003, h0km, n26, σ1°23/49, 2C, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.21**	**278**	*e*PG	**Pg**	**17 37 49.6**	**+1.1**
OKC				*e*SG	**Sg**	**17 37 53.5**	**+2.3**
266nm,0.6s							
OKC	**Ostrava-Krasne**	**0.21**	**278**	*e*Pg	**Pg**	**17 37 49.3**	**+0.8**
OKC				*e*Sg	**Sg**	**17 37 53.0**	**+1.8**
RAC	**Raciborz**	**0.33**	**328**	*e*Pg	**Pg**	**17 37 51.8**	**+1.1**
RAC				*e*Sg	**Sg**	**17 37 57.0**	**+2.0**
MORC	**Moravsky Berou**	**0.60**	**267**	*e*Pg	**Pg**	**17 37 56.2**	**+0.2**
MORC				*e*Sg	**Sg**	**17 38 05.0**	**+1.2**
MORC	**Moravsky Berou**	**0.60**	**267**	*e*Pg	**Pg**	**17 37 56.8**	**+0.8**
MORC				*e*Sg	**Sg**	**17 38 04.9**	**+1.2**
OJC	**Ojcow**	**0.95**	**64**	*e*Pg	**Pg**	**17 38 01.8**	**-0.9**
OJC				*i* Sg	**Sg**	**17 38 14.2**	**-0.9**
JAVC	**Velka Javorina**	**1.08**	**209**	*e*Pg	**Pg**	**17 38 06.9**	**+1.6**
JAVC				*e*Sg	**Sg**	**17 38 23.3**	**+4.0**
23nm,0.6s							
NIE	**Niedzica**	**1.26**	**107**	*e*Pg	**Pg**	**17 38 08.2**	**-0.5**
NIE				*e*Sg	**Sg**	**17 38 27.1**	**+2.0**
VRAC	**Vranov**	**1.32**	**248**	*e*Pg	**Pg**	**17 38 09.4**	**-0.4**
VRAC				*e*Sg	**Sg**	**17 38 27.4**	**+0.6**
VYHS	**Vyhne**	**1.34**	**169**	*i* PN	**Pn**	**17 38 09.6**	**-0.8**
VYHS				*e*SN	**Sn**	**17 38 28.2**	**-0.7**
DPC	**Dobruska-Polom**	**1.48**	**292**	*e*PG	**Pg**	**17 38 11.9**	**-1.0**
DPC				*e*SG	**Sg**	**17 38 32.7**	**+0.5**
18nm,0.6s							
DPC	**Dobruska-Polom**	**1.48**	**292**	*e*Pg	**Pg**	**17 38 11.9**	**-1.0**
DPC				*e*Sg	**Sg**	**17 38 32.5**	**+0.3**
KRUC	**Moravsky**	**1.54**	**242**	*e*Pg	**Pg**	**17 38 13.1**	**-1.0**
KRUC				*e*Sg	**Sg**	**17 38 34.2**	**+0.1**
22nm,0.6s							
KSP	**Ksiaz**	**1.74**	**307**	*e*Pg	**Pg**	**17 38 15.5**	**-2.3**
KSP				*e*Sg	**Sg**	**17 38 40.3**	**0.0**
STHS	**Stebnicka Huta**	**1.85**	**101**	*e*PN	**Pn**	**17 38 19.5**	**+2.1**
STHS				*e*SN	**Sn**	**17 38 45.1**	**+3.6**
KECS	**Kecovo**	**1.88**	**134**	*e*PN	**Pn**	**17 38 16.9**	**-0.9**
KECS				*e*SN	**Sn**	**17 38 41.7**	**-0.5**
PSZ	**Piszkesteto**	**2.11**	**153**	*e*Pn	**Pn**	**17 38 20.4**	**-0.7**
PSZ	**Piszkesteto**	**2.11**	**153**	*e*Pn	**Pn**	**17 38 20.4**	**-0.7**
CRVS	**Cervenica-Dubn**	**2.16**	**114**	*e*PN	**Pn**	**17 38 24.2**	**+2.5**
CRVS				*e*SN	**Sn**	**17 38 53.2**	**+4.1**
PRU	**Pruhonice**	**2.54**	**276**	*e*PG	**Pg**	**17 38 30.8**	**-2.4**
PRU				*e*SG	**Sg**	**17 39 06.2**	**0.0**
32nm,1.6s							
KOLS	**Kolonicke sedl**	**2.64**	**108**	*e*PG	**Pg**	**17 38 34.9**	**-0.1**
KOLS				*e*SG	**Sg**	**17 39 13.8**	**+4.6**
BRG	**Berggiesshubel**	**3.09**	**292**	PG	**Pg**	**17 38 41.1**	**-2.6**
BRG				SG	**Sg**	**17 39 22.9**	**-0.8**
4.3nm,0.7s							
KHC	**Kasperske Hory**	**3.26**	**260**	*e*PN	**Pn**	**17 38 36.7**	**-0.1**
KHC				*e*PG	**Pg**	**17 38 43.8**	**-3.2**
KHC				*e*SG	**Sg**	**17 39 28.8**	**-0.4**
5.6nm,0.5s							
MOA	**Molln**	**3.40**	**236**	⇑ *i*Pn	**Pn**	**17 38 37.7**	**-1.1**
MOA				⇑ *i*Sg	**Sg**	**17 39 34.1**	**+0.5**
comp=Z,4.7nm,0.6s							
CLL	**Collm**	**3.79**	**295**	*e*Sg	**Sg**	**17 39 46.0**	**-0.4**
comp=Z,9.0nm,0.9s							
NKC	**Novy Kostel**	**3.90**	**279**	*e*SG	**Sg**	**17 39 50.7**	**+0.8**
comp=Z,10nm,0.7s							

ISCJB ***25*** *17:43:13.2±0.5, 3404S±009×1462W±009, h10km, mb4.2/15, MS4.0/9, Error ellipse: s-maj=12.5km s-min=11.1km az=168.1*
IDC ***25*** *17:43:13.3±0.7, 3408S×1465W, h0km, mb4.2/11, mb1 4.3/11, mb1mx4.0/22, mbtmp4.2/11, MS4.0/9, Ms1 4.0/9, ms1mx3.8/21, Error ellipse: s-maj=22.0km s-min=14.8km az=168.0*
NEIC ***25*** *17:43:14.4±0.6, 3421S×1459W, h10km, mb4.6/6, Error ellipse: s-maj=17.8km s-min=13.1km az=189.0*
HRVD ***25*** *17:43:14.4±0.3, 3426S×1425W, h25km±1km, MW5.0/69, Centroid moment Tensor Solution. LP body waves: s20,c25;Mantle waves: s69,c87; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr-0.71±.17; Mθθ-0.56±.17; Mφφ 1.26±.15; Mrθ-1.37±.33; Mθφ 3.37±.12; Mφr-0.61±.28; Best double couple: M3.77600×10^16 NP1:φs172.00000°, δ67.00000°, λ-179.00000°. NP2: φs81.00000°, δ89.00000°, λ-23.00000°. Principal axes: T 4.2010, Plg15.0000°, Azm129.0000°; N -0.8510, Plg67.0000°, Azm259.0000°; P -3.3520, Plg17.0000°, Azm34.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 25 17:43:15.0±0.5, 3409S±009×1462W±009, h10km, n33, σ0°99/26, mb4.2/15, MS4.0/9, 1C, Tristan da Cunha region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRIS	**Tristan da Cun**	**3.52**	**148**	*e*Pn	**Pn**	**17 44 04.9**	**-4.9**

TRIS					*e*Sn	**Sn**	**17 44 38.2**	**-13**
SUR	**Sutherland**	**29.60**	**97**		LR	LR	17 58 12.1	
	comp=Z,296nm,18.3s,MS4.0,baz=286,slow=30							
TSUM	**Tsumeb**	**32.21**	**71**		P	**P**	**17 49 42.8**	**-0.5**
	3.3nm,1.1s,mb4.1,baz=229,slow=14,SNR=2.9							
TSUM					LR	LR	17 59 49.8	
	comp=Z,112nm,19.3s,MS3.6,baz=68,slow=31							
TSUM	**Tsumeb**	**32.21**	**71**	*e*P		**P**	**17 49 41.8**	**-1.5**
	12nm,1.3s,mb4.5							
BDFB	**Brasilia**	**35.21**	**293**		P	**P**	**17 50 08.5**	**-0.9**
	6.0nm,0.8s,mb4.6,baz=105,slow=9.4,SNR=5.8							
BDFB					LR	LR	18 01 46.1	
	comp=Z,362nm,20.9s,MS4.1,baz=144,slow=32							
LBTB	**Lobatse**	**35.94**	**86**		P	**P**	**17 50 15.8**	**+0.1**
	3.4nm,1.0s,mb4.2,baz=292,slow=11,SNR=3.4							
LBTB	**Lobatse**	**35.94**	**86**	*e*P		**P**	**17 50 15.5**	**-0.2**
	6.4nm,1.0s,mb4.5							
VNA2	**Neumayer--Watz**	**37.11**	**176**	*e*		**P**	**17 50 26.3**	**+0.7**
	baz=348,slow=9.9							
VNA2				*e*			17 50 33.7	
VNA2				*e*			17 50 38.3	
VNA3	**Neumayer Olymp**	**37.31**	**177**	*e*		**P**	**17 50 28.1**	**+0.8**
VNA3				*e*			17 50 35.7	
VNA3				*e*			17 50 39.9	
CPUP	**Villa Florida**	**37.50**	**270**		LR	LR	18 02 55.5	
	comp=Z,168nm,21.3s,MS3.8,baz=108,slow=32							
SNAA	**Sanae**	**38.16**	**174**		P	**P**	**17 50 34.6**	**+0.1**
	0.7nm,0.9s,mb3.4,baz=352,slow=11,SNR=5.8							
MATP	**Matopo**	**40.38**	**82**		P	**P**	**17 50 53.0**	**-0.1**
	6.9nm,1.1s,mb4.3,baz=240,slow=12,SNR=6.2							
DBIC	**Dimbokro**	**41.57**	**15**		P	**P**	**17 51 03.0**	**+0.1**
	3.8nm,0.9s,mb4.0,baz=188,slow=5.4,SNR=3.6							
DBIC	**Dimbokro**	**41.57**	**15**		P	**P**	**17 51 03.0**	**+0.1**
USHA	**Ushuaia**	**42.40**	**224**		LR	LR	18 05 22.2	
	comp=Z,306nm,19.4s,MS4.2,baz=271,slow=31							
LSZ	**Lusaka**	**42.80**	**75**		P	**P**	**17 51 14.1**	**+1.2**
	3.7nm,1.1s,mb4.0,baz=216,slow=8.7,SNR=2.3							
PLCA	**Paso Flores**	**44.28**	**244**		P	**P**	**17 51 25.0**	**+0.2**
	1.5nm,0.7s,mb3.8,baz=45,slow=6.1,SNR=3.1							
PLCA	**Paso Flores**	**44.28**	**244**		P	**P**	**17 51 25.0**	**+0.2**
CFAA	**Coronel Fontan**	**44.69**	**258**		P	**P**	**17 51 26.5**	**-1.6**
	0.1nm,0.3s,mb3.1,baz=90,slow=9.1,SNR=3.0							
CFAA	**Coronel Fontan**	**44.69**	**258**		P	**P**	**17 51 26.5**	**-1.6**
SIV	**San Ignacio**	**45.36**	**282**		P	**P**	**17 51 34.3**	**+0.9**
	7.2nm,0.7s,mb4.6,baz=120,slow=8.8,SNR=53							
SYO	**Syowa Base**	**45.95**	**156**⇓	*e*P		**P**	**17 51 37.0**	**-1.1**
TORD	**Torodi Ar. Bea**	**49.47**	**21**		P	**P**	**17 52 05.4**	**0.0**
	5.2nm,0.8s,mb4.6,baz=199,slow=8.1,SNR=18							
LPAZ	**La Paz**	**50.99**	**276**	*e*P		**P**	**17 52 16.2**	**-0.7**
	3.0nm,1.2s,mb4.1							
MAW	**Mawson**	**54.26**	**153**		P	**P**	**17 52 40.3**	**-0.8**
	1.4nm,0.7s,mb4.0,baz=11,slow=3.7,SNR=4.5							
MAW					LR	LR	18 10 21.3	
	comp=Z,252nm,20.2s,MS4.3,baz=69,slow=30							
MAW	**Mawson**	**54.26**	**153**	*e*P		**P**	**17 52 39.9**	**-1.2**
	13nm,1.2s,mb4.7							
PCRV	**Puerto La Cruz**	**64.72**	**303**		LR	LR	18 20 32.9	
	comp=Z,510nm,18.6s,MS4.7,baz=176,slow=35							
SDV	**Santo Domingo**	**68.11**	**298**		P	**P**	**17 54 18.1**	**+3.0**
	5.8nm,1.0s,mb4.6							
SBA	**Scott Base**	**68.32**	**180**	*e*P		**P**	**17 54 17.5**	**+1.1**
	5.0nm,1.0s,mb4.5							
VNDA	**Vanda**	**68.64**	**179**		LR	LR	18 20 54.0	
	comp=Z,42nm,20.0s,MS3.7,baz=271,slow=33							
GERES	**GERESS Array B**	**86.34**	**18**		LR	LR	18 31 39.0	
	comp=Z,57nm,18.1s,MS4.0,baz=99,slow=34							
YKA	**Yellowknife Ar**	**124.12**	**326**	PKP		PKPdf	18 02 17.3	+3.5
	0.3nm,0.7s,baz=97,slow=2.1,SNR=4.7							
ILAR	**Eielson Array**	**138.01**	**332**	PKP		PKPdf	18 02 40.5	+0.5
	0.3nm,0.8s,baz=123,slow=3.3,SNR=3.5							

MAN ***25*** *17:47:09.2,630N×12806E,h55km,mb4.8,ML5.5,MS6.0*
BJI ***25*** *17:47:19.8,620N×127.13E,h69km,mB5.0,mb4.9,Ms4.4, Msz4.2*
MOS ***25*** *17:47:20.5±1.1,687N×12699E,h33km,mb5.2/29, MS4.3/4,Error ellipse: s-maj=11.7km s-min=6.1km az=106.0*
IDC ***25*** *17:47:23.1±2.4,684N×12701E,h40km±20km,mb4.3/23, mb1 4.4/23,mb1mx4.3/26,mbtmp4.5/23,MS3.9/4, Ms1 3.9/4,ms1mx3.3/24,Error ellipse: s-maj=20.8km s-min=11.7km az=79.0*
ISCJB ***25*** *17:47:23.7±0.6,683N±003×12709E±005,h63km±4km, mb4.8/89,Error ellipse: s-maj=7.6km s-min=5.1km az=162.0*
NEIC ***25*** *17:47:26.0±1.0,682N×12703E,h70km±9km,mb4.8/36, Error ellipse: s-maj=7.9km s-min=4.7km az=79.0*
ISC 25 17:47:25.2±0.6,683N±003×12711E±005,h60km±4km, h66km±3.3km:pP-P,n208,σ1§08/218,mb4.8/88,14C-8D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.86**	**277**	*e*P	**Pn**	**17 47 39.2**	**-2.2**
BIPH	**Bislig**	**1.54**	**331**	*i*P	**Pn**	**17 47 48.0**	**-2.3**
BIPH				*i* S	**Sn**	**17 48 07.0**	**-2.3**
DAV	**Davao City (W)**	**1.54**	**279**	*e*Pn	**Pn**	**17 47 50.8**	**+0.3**
BUKP	**Musuan**	**2.29**	**297**	*e*P	**Pn**	**17 48 00.9**	**+0.4**
BUKP				*e*S	**Sn**	**17 48 14.3**	**-13**
BUTP	**Butuan**	**2.59**	**325**	*e*P	**Pn**	**17 48 04.8**	**+0.2**
CTBH	**Cotabato--PC H**	**2.87**	**278**⇓	*e*P	**Pn**	**17 48 09.0**	**+0.4**
CTBH				*i* S	Sx	17 48 53.7	
CGP	**Cagayan de Oro**	**2.89**	**304**⇓	*e*P	**Pn**	**17 48 08.6**	**-0.1**
CGP				*i* S	Sx	17 48 54.3	
SCPH	**Surigao**	**3.34**	**331**	*e*P	**Pn**	**17 48 14.0**	**-0.9**
SCPH				*e*S	Sx	17 49 04.0	
PAGZ	**Pagadian**	**3.84**	**285**	*e*P	**Pn**	**17 48 22.6**	**+0.9**
MSLP	**Maasin**	**3.96**	**326**	*e*P	**Pn**	**17 48 23.1**	**-0.3**
DCPH	**Dipolog City**	**4.11**	**295**⇑	*e*P	**Pn**	**17 48 27.9**	**+2.4**
TBP	**Tagbilaran**	**4.29**	**312**	*e*P	**Pn**	**17 48 36.5**	**+8.6**
TBP				*e*S	**Sn**	**17 49 26.5**	**+10**
SNPH	**Sibulan**	**4.58**	**303**⇓	*e*P	**Pn**	**17 48 33.0**	**+1.1**
LLP	**Lapu-Lapu**	**4.65**	**318**⇑	*i*P	**Pn**	**17 48 33.3**	**+0.4**
LLP				*e*S	**Sn**	**17 49 24.7**	**-0.9**
PLP	**Palo**	**4.79**	**334**	*e*P	**Pn**	**17 48 32.9**	**-1.9**
PLP				*e*S	Sx	17 49 40.7	
OCLP	**Ormoc**	**4.87**	**330**	*e*P	**Pn**	**17 48 35.3**	**-0.5**
GUIM	**Jordan**	**5.85**	**310**	*e*P	**Pn**	**17 48 49.7**	**+0.4**
CUYO	**Cuyo Island**	**7.22**	**304**	*e*P	**Pn**	**17 49 09.1**	**+1.0**
PVCP	**Virac**	**7.32**	**337**⇑	*i*P	**Pn**	**17 49 09.6**	**+0.1**
PVCP				*i* S	**Sn**	**17 50 26.7**	**-4.4**
PVCP	**Virac**	**7.32**	**337**	*e*P	**Pn**	**17 49 15.8**	**+6.3**
BUSP	**Coron**	**8.54**	**307**	*e*P	**Pn**	**17 49 26.5**	**+0.4**
ENPP	**El Nido**	**8.75**	**300**	*e*P	**Pn**	**17 49 29.0**	**+0.1**
PPR	**Puerto Princes**	**8.80**	**290**⇑	*i*P	**Pn**	**17 49 29.4**	**-0.2**
POLP	**Polilio Island**	**9.35**	**327**	*e*P	**Pn**	**17 49 43.3**	**+6.2**
TGY	**Tagaytay City**	**9.44**	**320**	P	**Pn**	**17 49 46.9**	**+8.5**
	baz=196,slow=8.5,SNR=5.6						
TSM	**Tawau**	**9.54**	**255**	P	**Pn**	**17 49 43.4**	**+3.7**
LUBP	**Lubang**	**9.62**	**316**	*e*P	**Pn**	**17 49 43.1**	**+2.1**
KKM	**Kota Kinabalu**	**10.86**	**266**	P	**Pn**	**17 49 58.7**	**+0.9**
KKM	**Kota Kinabalu**	**10.86**	**266**	P	**Pn**	**17 49 58.5**	**+0.7**
KSM	**Kuching**	**17.58**	**253**	*e*P	**Pn**	**17 51 27.7**	**+1.8**
GUMO	**Guam**	**18.71**	**68**	LR	LR	17 57 45.5	
	comp=Z,252nm,18.7s,baz=66,slow=33						
JOW	**Kunigami**	**19.92**	**3**	P	**Pn**	**17 51 54.8**	**+0.8**
	7.1nm,0.3s,baz=197,slow=8.2,SNR=32						
KAKA	**Kakadu**	**20.13**	**165**	*e*P	**P**	**17 51 52.5**	**-1.6**
	29nm,0.9s						
QIZ	**Qiongzhong**	**20.72**	**307**	P	**P**	**17 52 01.0**	**+0.5**
QIZ				S	**S**	**17 55 49.3**	**+0.8**
QIZ				LR	LR		
	comp=N,464nm,13.9s						
QIZ				LR	LR		
	comp=Z,560nm,16.5s						
QIZ	**Qiongzhong**	**20.72**	**307**	*e*P	**P**	**17 52 00.7**	**+0.2**
	comp=Z,97nm,1.3s						
QIZ				*e*		17 52 06.9	
QIZ				*e*		17 52 19.2	
QIZ				*e*		17 52 30.4	
KGM	**Kluang**	**24.20**	**260**	P	**P**	**17 52 35.7**	**-0.3**
SSE	**Sheshan**	**24.77**	**348**	P	**P**	**17 52 43.3**	**+2.2**
SSE				AP		17 53 01.5	
SSE				XP	sP	17 53 11.5	+8.5
SSE				S	**S**	**17 56 58.5**	**-0.7**
SSE				XS	sS	17 57 31.0	+6.8
SSE				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,99nm,3.6s						
SSE				LR	LR		
	comp=N,98nm,21.5s						
SSE				LR	LR		
	comp=E,75nm,21.5s						
SSE				LR	LR		
	comp=Z,186nm,22.3s						
FITZ	**Fitzroy Crossi**	**24.82**	**183**	*e*P	**P**	**17 52 41.0**	**-0.6**
	comp=Z,26nm,0.9s,mb4.8						
FITZ				*i* S	**S**	**17 57 08.0**	**+8.0**
FITZ	**Fitzroy Crossi**	**24.82**	**183**	P	**P**	**17 52 41.7**	**+0.1**
	comp=Z,13nm,0.8s,mb4.5,baz=6.4,slow=7.7,SNR=26						
PMG	**Port Moresby**	**25.68**	**129**	P	**P**	**17 52 40.6**	**-8.8**
PMG				pmax	pmax		
	comp=Z,18nm,1.0s						
PMG	**Port Moresby**	**25.68**	**129**	P	**P**	**17 52 40.6**	**-8.7**
	comp=Z,18nm,1.0s,mb4.5						
IPM	**Ipoh**	**26.06**	**266**	P	**P**	**17 52 51.2**	**-1.7**
NJ2	**Nanjing**	**26.25**	**344**	*e*P	**P**	**17 52 57.0**	**+2.5**
NJ2				AP	pP	17 53 13.8	+4.5
NJ2				XP	sP	17 53 22.8	+6.4
NJ2				PP		17 53 41.5	
NJ2				S	**S**	**17 57 20.0**	**-2.6**
NJ2				XS	sS	17 57 50.0	+2.1
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,80nm,5.1s						
NJ2				LR	LR		
	comp=N,410nm,22.0s						
NJ2				LR	LR		
	comp=E,450nm,24.1s						
NJ2				LR	LR		
	comp=Z,150nm,23.5s						
KULM	**Kulim**	**26.36**	**268**	*e*P	**P**	**17 52 55.1**	**-0.4**
JNU	**Nakatsue**	**26.39**	**7**	P	**P**	**17 52 55.3**	**-0.5**
	comp=Z,79nm,0.8s,mb5.3,baz=173,slow=10,SNR=9.8						
WRAB	**Tennant Creek**	**27.54**	**165**	*e*P	**P**	**17 53 06.3**	**+0.2**
WRAB	**Tennant Creek**	**27.54**	**165**	*e*P	**P**	**17 53 06.0**	**-0.1**
	comp=Z,50nm,1.1s,mb5.1						
WRA	**Warramunga Arr**	**27.54**	**165**	P	**P**	**17 53 05.3**	**-0.9**
	comp=Z,3.0nm,0.5s,mb4.2,baz=345,slow=11,SNR=36						
WRA				ScP	ScP		
	comp=Z,1.3nm,0.8s,baz=342,slow=3.5,SNR=7.2					18 00 01.7	+3.5
WB2	**Warramunga Arr**	**27.55**	**165**	*e*P	**P**	**17 53 06.8**	**+0.6**
WB2				*e*S	**S**	**17 57 48.4**	**+5.3**
GYA	**Guiyang**	**27.57**	**317**	P	**P**	**17 53 06.8**	**+0.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
PSI	**Prapat**	**28.37**	**263**	P	**P**	**17 53 14.6**	**+1.1**
	comp=Z,2.2nm,0.4s,mb4.1,baz=12,slow=15,SNR=6.2						
MBWA	**Marble Bar**	**28.75**	**194**	*e*P	**P**	**17 53 16.2**	**-0.7**
	comp=Z,43nm,1.5s,mb5.0						
KMI	**Kunming**	**29.56**	**311**	P	**P**	**17 53 24.8**	**+0.7**
KMI				AP	pP	17 53 38.8	-0.2
KMI				XP	sP	17 53 45.0	-1.1
KMI				PP	PP	17 54 22.8	-8.9
KMI				S	**S**	**17 58 15.0**	**+0.2**
KMI				SS	SS	17 59 52.3	-30
KMI				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.3						
KMI				AMB	AMB		
	comp=Z,123nm,5.3s						
KMI				LR	LR		
	comp=N,229nm,20.1s						
KMI				LR	LR		
	comp=E,251nm,13.1s						
KMI				LR	LR		
	comp=Z,325nm,18.6s						
KS15	**Wonju Array Si**	**30.48**	**1**	*e*P	**P**	**17 53 32.1**	**-0.1**
KS15				*e*	pP	17 53 47.6	+0.5
ASAR	**Alice Springs**	**31.03**	**168**	P	**P**	**17 53 37.0**	**-0.1**
	comp=Z,2.0nm,0.5s,mb4.2,baz=344,slow=7.5,SNR=22						
ASAR				ScP	ScP	18 00 10.9	+1.7
	comp=Z,1.0nm,0.7s,baz=345,slow=2.8,SNR=6.7						
MAJO	**Matsushiro**	**31.26**	**17**	*e*P	**P**	**17 53 38.9**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.8						
MAJO	**Matsushiro**	**31.26**	**17**	*e*P	**P**	**17 53 38.9**	**-0.2**
	comp=Z,14nm,0.9s,mb4.8						
MAT	**Matsushiro**	**31.26**	**17**	P	**P**	**17 53 38.0**	**-1.1**
MAT				*e*S	**S**	**17 58 56.0**	**+15**
MAT	**Matsushiro**	**31.26**	**17**	*e*P	**P**	**17 53 38.0**	**-1.1**
MAT				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
MAT	**Matsushiro**	**31.26**	**17**	*e*P	**P**	**17 53 38.0**	**-1.1**
	comp=Z,7.5nm,0.8s,mb4.6						
MAT				S	**S**	**17 58 56.0**	**+15**
MJAR	**Matsushiro Arr**	**31.26**	**17**	P	**P**	**17 53 39.2**	**0.0**
	comp=Z,8.6nm,0.8s,mb4.6,baz=198,slow=9.2,SNR=26						
MJAR				PcP	PcP	17 56 33.7	+1.5
	comp=Z,1.7nm,0.7s,baz=186,slow=2.5,SNR=4.4						
XAN	**Xi'an**	**31.87**	**331**	P	**P**	**17 53 42.5**	**-2.0**
XAN				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.3						
CTA	**Charters Tower**	**32.72**	**145**	P	**P**	**17 53 54.1**	**+2.2**
	comp=Z,2.0nm,0.8s,mb4.1,baz=340,slow=14,SNR=2.8						
CTAO	**Charters Tower**	**32.72**	**145**	P	**P**	**17 53 52.0**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.8						
CTAO	**Charters Tower**	**32.72**	**145**	P	**P**	**17 53 52.0**	**+0.1**
	comp=Z,19nm,1.4s,mb4.8						
BJI	**Beijing**	**34.49**	**345**	*e*P	**P**	**17 54 11.0**	**+3.7**
BJI				XP	sP	17 54 36.8	+7.4
BJI				PP	PP	17 55 28.3	+1.9
BJI				PCP	PcP	17 56 43.0	+1.7
BJI				S	**S**	**17 59 33.8**	**+2.3**
BJI				XS	sS	18 00 07.8	+11
BJI				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.4						
BJI				AMB	AMB		
	comp=Z,137nm,4.3s						
BJI				LR	LR		
	comp=N,103nm,21.7s						
BJI				LR	LR		
	comp=E,227nm,20.2s						
BJI				LR	LR		
	comp=Z,170nm,20.1s						
SNY	**Shenyang**	**34.99**	**355**	⇓P	**P**	**17 54 12.3**	**+0.7**
SNY				AP	pP	17 54 30.5	+3.8
SNY				XP	sP	17 54 39.5	+5.8
SNY				PP	PP	17 55 31.8	-0.1
SNY				S	**S**	**17 59 42.8**	**+3.6**
SNY				XS	sS	18 00 07.5	+2.7
SNY				AMB	AMB		
	comp=Z,17nm,0.9s,mb5.0						
SNY				AMB	AMB		
	comp=Z,117nm,4.7s						
SNY				LR	LR		
	comp=E,345nm,13.7s						
SNY				LR	LR		
	comp=Z,234nm,13.5s						
VLA	**Vladivostok**	**36.38**	**6**	*e*P	**P**	**17 54 25.0**	**+1.4**
VLA				pmax	pmax		
	comp=Z,107nm,1.2s,mb5.7						
HNR	**Honiara**	**36.49**	**116**	LR	LR	18 07 39.5	
	comp=Z,99nm,21.8s,baz=359,slow=33						
HHC	**Hu-ho-hao-te**	**36.61**	**340**	*e*P	**P**	**17 54 28.3**	**+2.8**
HHC				AP	pP	17 54 46.5	+5.9
HHC				XP	sP	17 54 55.5	+7.8
HHC				PP	PP	17 55 56.3	+6.6
HHC				S	**S**	**18 00 07.0**	**+3.0**
HHC				SCP	ScP	18 00 27.8	-1.1
HHC				PCS	PcS	18 00 36.8	+1.3
HHC				XS	sS	18 00 38.3	+8.7
HHC				SS	SS	18 02 38.3	-7.6
HHC				SCS	ScS	18 04 34.0	-1.6
HHC				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.6						
HHC				AMB	AMB		
	comp=Z,132nm,7.9s						
HHC				LR	LR		
	comp=N,201nm,13.3s						
HHC				LR	LR		
	comp=E,256nm,15.9s						
HHC				LR	LR		
	comp=Z,287nm,15.7s						
CN2	**Changchun**	**36.85**	**358**	*e*P	**P**	**17 54 31.8**	**+4.3**
MDJ	**Mudanjiang**	**37.70**	**3**	P	**P**	**17 54 36.3**	**+1.6**
MDJ				AP	pP	17 54 53.3	+3.4
MDJ				XP	sP	17 55 01.8	+4.9
MDJ				PP	PP	17 56 04.0	+2.3
MDJ				S	**S**	**18 00 24.5**	**+4.0**
MDJ				SCP	ScP	18 00 32.8	-0.2
MDJ				PCS	PcS	18 00 40.5	+1.0
MDJ				XS	sS	18 00 52.5	+6.2
MDJ				AMB	AMB		
	comp=Z,38nm,0.9s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,139nm,5.1s						
MDJ				LR	LR		
	comp=N,94nm,16.8s						
MDJ				LR	LR		
	comp=E,87nm,23.1s						
MDJ				LR	LR		
	comp=Z,132nm,18.9s						
MDJ	**Mudanjiang**	**37.70**	**3**	*e*P	**P**	**17 54 35.6**	**+0.9**
	comp=Z,30nm,0.8s,mb5.1						
SHL	**Shillong**	**38.43**	**303**	*e*P	**P**	**17 54 40.0**	**-0.9**
KLBR	**Kellerberrin**	**39.24**	**193**	*e*P	**P**	**17 54 47.6**	**-0.1**
	comp=Z,26nm,1.0s,mb4.9						
MUN	**Mundaring**	**39.97**	**194**	*e*P	**P**	**17 54 53.5**	**-0.2**
NWAO	**Narrogin (SRO)**	**40.64**	**193**	*e*P	**P**	**17 55 00.0**	**+0.7**
NWAO				*e*	pP	17 55 11.6	-3.0
NWAO				pmax	pmax		
	comp=Z,27nm,0.8s						
NWAO	**Narrogin (SRO)**	**40.64**	**193**	*e*P	**P**	**17 54 60.0**	**+0.7**
	comp=Z,27nm,0.8s,mb4.9						
NWAO				*e*	pP	17 55 11.6	-3.0
GTA	**Gaotai**	**40.68**	**327**	*e*P	**P**	**17 54 59.8**	**+0.2**
GTA				AP	pP	17 55 18.3	+3.4
GTA				XP	sP	17 55 27.3	+5.4
GTA				PP	PP	17 56 38.0	+3.7
GTA				PCP	PcP	17 57 03.0	+2.7
GTA				SCP	ScP	18 00 44.5	0.0
GTA				PCS	PcS	18 00 52.3	+1.2
GTA				S	**S**	**18 01 03.0**	**-2.3**
GTA				XS	sS	18 01 34.0	+2.7
GTA				SCS	ScS	18 04 57.3	-1.9
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.2						
GTA				AMB	AMB		
	comp=Z,107nm,8.4s						
GTA				LR	LR		
	comp=N,192nm,25.8s						
GTA				LR	LR		
	comp=E,169nm,17.1s						
GTA				LR	LR		
	comp=Z,290nm,21.3s						
LSA	**Lhasa**	**40.75**	**308**	*e*P	**P**	**17 54 59.6**	**-0.6**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.2						
LSA	**Lhasa**	**40.75**	**308**	*e*P	**P**	**17 54 59.5**	**-0.6**
	comp=Z,6.0nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**40.90**	**161**	*e*P	**P**	**17 54 58.4**	**-3.0**
	comp=Z,6.8nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**40.90**	**161**	P	**P**	**17 54 58.5**	**-2.9**
	comp=Z,10nm,0.7s,mb4.5,baz=333,slow=9.4,SNR=17						
HABR	**Khabarovsk**	**42.04**	**8**⇓	*i*P	**P**	**17 55 10.6**	**-0.1**
HABR				*e*S	**S**	**18 01 29.0**	**+3.6**
HABR				pmax	pmax		
	comp=Z,59nm,1.3s,mb5.1						
YSS	**Yuzh-Sakhalins**	**42.17**	**16**	*e*P	**P**	**17 55 13.6**	**+1.8**
YSS				*e*	pP	17 55 31.8	+4.6
YSS	**Yuzh-Sakhalins**	**42.17**	**16**	*e*P	**P**	**17 55 12.0**	**+0.2**
	comp=Z,54nm,1.3s,mb5.0						
KLR	**Kul'dur**	**42.43**	**5**	*e*P	**P**	**17 55 11.3**	**-2.6**
KLR				pmax	pmax		
	comp=Z,38nm,1.2s,mb4.9						
HIA	**Hailar**	**42.74**	**353**	*e*P	**P**	**17 55 15.8**	**-0.6**
HIA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HIA	**Hailar**	**42.74**	**353**	*e*P	**P**	**17 55 15.8**	**-0.7**
	comp=Z,5.6nm,1.0s,mb4.2						
JIRN	**Jiri**	**43.94**	**303**	*e*P	**P**	**17 55 26.5**	**+0.4**
	comp=Z,32nm,0.8s,mb5.1						
GUN	**Gumba**	**44.28**	**303**	*e*P	**P**	**17 55 29.3**	**+0.5**
ULN	**Ulaanbaatar**	**44.32**	**341**	*e*P	**P**	**17 55 28.8**	**-0.3**
ULN				*e*		17 57 13.2	
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
ULN	**Ulaanbaatar**	**44.32**	**341**	*e*P	**P**	**17 55 28.8**	**-0.3**
	comp=Z,3.3nm,0.6s,mb4.2						
ULN				*e*		17 57 13.2	
SONM	**Songino Array**	**44.51**	**340**	P	**P**	**17 55 30.3**	**-0.4**
	comp=Z,0.9nm,0.7s,mb3.7,baz=161,slow=7.9,SNR=11						
SONM				PcP	PcP	17 57 12.8	-0.3
	comp=Z,1.6nm,0.8s,baz=163,slow=3.4,SNR=4.7						
SONM				LR	LR	18 16 44.6	
	comp=Z,198nm,19.6s,baz=149,slow=40						
SONM	**Songino Array**	**44.51**	**340**	P	**P**	**17 55 30.3**	**-0.3**
SONM						17 57 12.8	
PKI	**Pulchoki**	**44.56**	**303**	*e*P	**P**	**17 55 31.3**	**+0.3**
KKN	**Kakani**	**44.74**	**303**	*e*P	**P**	**17 55 31.0**	**-1.5**
	comp=Z,27nm,0.8s,mb5.1						
DMN	**Daman**	**44.83**	**303**	*e*P	**P**	**17 55 33.1**	**0.0**
	comp=Z,32nm,0.9s,mb5.2						
GKN	**Gorkha**	**45.35**	**303**	*e*P	**P**	**17 55 36.5**	**-0.8**
KOLN	**Koldanda**	**46.14**	**302**	*e*P	**P**	**17 55 43.4**	**-0.1**
	comp=Z,58nm,0.8s,mb5.6						
ZAK	**Zakamensk**	**47.75**	**340**	*e*P	**P**	**17 56 04.3**	**+8.2**
ZAK				*e*		17 57 18.8	
ZAK				pmax	pmax		
	comp=Z,6.0nm,2.0s,mb4.3						
ZAK				pmax	pmax		
	comp=Z,6.0nm,2.0s,mb4.3						
HYB	**Hyderabad**	**48.50**	**287**	*i*P	**P**	**17 56 02.5**	**+0.6**
HYB	**Hyderabad**	**48.50**	**287**	*e*P	**P**	**17 56 02.5**	**+0.6**
TLY	**Talaya**	**48.73**	**341**	*e*P	**P**	**17 56 14.6**	**+11**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.5						
TLY				MLR	MLR		
	comp=Z,104nm,2.0s						
WMQ	**Urumqi**	**50

SNR=11
AML Almayashu 58.72 316 P **P** 17 57 17.7 +1.1
SNR=13
EKS2 Erkin-Say 58.86 316 P **P** 17 57 18.2 +0.7
SNR=16
NVS Novosibirsk 59.31 332 *i* P **P** 17 57 18.7 -2.0
KURK Kurchatov 59.36 326 *c i* P **P** 17 57 20.7 -0.4
KURK Kurchatov 59.36 326 *e* P **P** 17 57 20.7 -0.4
comp=Z,19nm,0.8s,mb5.2
TIXI Tiksi 64.75 1 *e* P **P** 17 57 55.2 -2.0
TIXI *e* S **S** 18 06 35.7 +2.5
TIXI pmax pmax
comp=Z,15nm,1.0s,mb5.0
BRVK Borovoye 65.03 326 *e* P **P** 17 57 58.4 -0.6
BRVK *e* 17 58 06.2
BRVK *e* pP 17 58 16.9 +1.6
BRVK pmax pmax
comp=Z,11nm,1.0s,mb4.8
BRVK Borovoye 65.03 326 *e* P **P** 17 57 58.4 -0.6
comp=Z,11nm,1.0s,mb4.8
BRVK *e* 17 58 06.2
BRVK *e* pP 17 58 16.9 +1.5
CHKZ Chkalovo 65.10 327 *e* P **P** 17 57 58.4 -1.0
CHKZ pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
CHKZ Chkalovo 65.10 327 *e* P **P** 17 57 58.4 -1.0
comp=Z,8.7nm,1.1s,mb4.7
ZRNK Zerenda 65.70 326 *e* P **P** 17 58 02.7 -0.6
ZRNK *e* 17 58 10.5
ZRNK *e* pP 17 58 21.0 +1.3
ZRNK pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
ZRNK Zerenda 65.70 326 *e* P **P** 17 58 02.7 -0.6
comp=Z,9.9nm,0.7s,mb5.0
ZRNK *e* 17 58 10.5
ZRNK *e* pP 17 58 21.0 +1.3
BILL Bilibino 66.47 15 *ke* P **P** 17 58 09.5 +1.2
BILL SS SS 18 11 21.0 +9.1
BILL pmax pmax
comp=Z,12nm,1.7s,mb4.7
BILL MLR MLR
comp=Z,100nm,18.0s
BILL Bilibino 66.47 15 *e* P **P** 17 58 08.3 0.0
comp=Z,4.7nm,0.8s,mb4.6
AKTK Aktyubinsk 71.49 321 P **P** 17 58 39.3 -0.1
AKTO Aktyubinsk 71.49 321 P **P** 17 58 39.3 -0.1
comp=Z,7.5nm,0.7s,mb4.7,baz=91,slow=7.8,SNR=35
SVE Sverdlovsk 71.54 328 *e* P **P** 17 58 38.8 -0.9
SVE *e* pP 17 58 50.5 -5.8
SVE pmax pmax
comp=Z,28nm,1.5s,mb5.0
ARU Arti 72.54 327 ⇑ *i* P **P** 17 58 44.9 -0.8
ARU *e* pP 17 59 00.7 -1.6
ARU *e* 18 01 24.4
ARU *e* PPP 18 03 06.8
ARU *e* S S 18 08 06.3 +0.8
ARU *e* SS SS 18 12 46.3 +1.0
ARU pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
ARU Arti 72.54 327 *e* P **P** 17 58 44.9 -0.8
comp=Z,6.6nm,0.6s,mb4.7
ARU *e* 17 58 52.4
ORR Orenburg 73.74 322 ⇓ *i* P **P** 17 58 52.8 +0.1
ORR pmax pmax
comp=Z,30nm,0.9s,mb5.2
ORR MLR MLR
comp=Z,130nm,18.0s
CASY Casey 73.92 187 *e* P **P** 17 58 54.0 +0.2
MIR Mirnyy 77.25 193 *e* P **P** 17 59 14.0 +1.2
MIR pmax pmax
comp=Z,130nm,1.1s,mb5.8
QRN Al-Qurain 77.29 298 *e* P **P** 17 59 12.4 -0.7
UMR Umm Al-Rimmam 77.46 299 *e* P **P** 17 59 13.7 -0.3
UMR AMb AMB 17 59 14.8
comp=Z,28nm,0.8s,mb5.2
RDF Al-Radifah 77.61 298 *e* P **P** 17 59 14.1 -0.8
RDF AMb AMB 17 59 15.6
comp=Z,17nm,0.8s,mb5.0
MIB Mutribah 77.78 299 *e* P **P** 17 59 15.3 -0.5
MIB AMb AMB 17 59 17.3
comp=Z,45nm,0.7s,mb5.5
NAY Al-Naaiem 77.87 298 *e* P **P** 17 59 15.8 -0.6
NAY AMb AMB 17 59 16.9
comp=Z,18nm,0.8s,mb5.1
TTA Tatalina 77.98 27 P **P** 17 59 18.1 +1.2
TTA pmax pmax
comp=Z,12nm,1.4s,mb4.6
TTA Tatalina 77.98 27 P **P** 17 59 18.1 +1.2
comp=Z,12nm,1.4s,mb4.6
KDAK Kodiak Island 79.08 33 P **P** 17 59 24.6 +1.6
comp=Z,7.8nm,0.6s,mb4.8,baz=321,slow=2.7,SNR=9.5
KDAK Kodiak Island 79.08 33 *e* P **P** 17 59 24.7 +1.7
comp=Z,6.8nm,0.6s,mb4.8
GNI Garni 79.81 309 P **P** 17 59 31.6 +4.7
comp=Z,8.8nm,0.6s,mb4.8,baz=142,slow=7.6,SNR=6.2
GNI Garni 79.81 309 *e* P **P** 17 59 27.1 +0.2
GNI pmax pmax
comp=Z,16nm,0.9s
ZEI Tsey 80.42 312 *e* P **P** 17 59 31.2 +0.9
ZEI *e** PP pP 17 59 37.6 -9.5
ZEI pmax pmax
comp=Z,11nm,0.9s,mb4.8
SLKM Skilak Lake 80.48 30 *e* P **P** 17 59 30.6 +0.1
PMR Palmer 81.06 29 *e* P **P** 17 59 34.2 +0.6
PMR pmax pmax
comp=Z,21nm,1.2s,mb4.9
PMR Palmer 81.06 29 *e* P **P** 17 59 34.2 +0.6
comp=Z,21nm,1.2s,mb4.9
KIV Kislovodsk 81.29 313 *e* P **P** 17 59 35.8 +0.9
KIV pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
KIV Kislovodsk 81.29 313 *e* P **P** 17 59 35.8 +0.9
comp=Z,8.3nm,0.6s,mb4.8
COLA College 81.75 25 *e* P **P** 17 59 38.0 +0.7
COLA College 81.75 25 P **P** 17 59 37.4 +0.2
comp=Z,9.1nm,1.2s,mb4.6
VRHR Novokhopersk 81.89 321 *e* P **P** 17 59 37.3 -0.8
VRHR pmax pmax
comp=N,6.0nm,0.5s
VRHR pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
VRHR pmax pmax
comp=E,10.0nm,0.7s
ILAR Eielson Array 82.16 26 P **P** 17 59 39.3 -0.1
comp=E,2.0nm,0.7s,mb4.1,baz=246,slow=6.1,SNR=18
KLMR Klimovskoe 82.91 330 *c i* P **P** 17 59 42.8 -0.5
KLMR pmax pmax
comp=Z,20nm,1.4s,mb5.0
TMCR Tamitsa 83.50 334 *e* P **P** 17 59 45.6 -0.8
TMCR pmax pmax
comp=N,50nm,1.3s
TMCR pmax pmax
comp=Z,30nm,1.3s,mb5.2
TMCR pmax pmax
comp=E,10.0nm,0.7s
OBN Obninsk 84.76 325 *ce* P **P** 17 59 52.7 -0.1
OBN *e* 18 00 01.1
OBN *e* pP 18 00 06.8 -2.9
OBN pmax pmax
comp=Z,42nm,1.6s,mb5.3
OBN MLR MLR
comp=Z,100nm,17.0s
OBN Obninsk 84.76 325 *e* P **P** 17 59 52.3 -0.5
MALT Malatya 84.78 308 P **P** 17 59 53.3 +0.4
ANN Anapa 85.01 314 *e* P **P** 17 59 52.7 -1.4
ANN *e* S 18 10 12.8
ANN pmax pmax
comp=Z,48nm,1.1s,mb5.5
DAWY Dawson 85.44 26 *e* P **P** 17 59 58.1 +1.9
DAWY *e* pP 18 00 12.7 -0.4
VNDA Vanda 86.44 173 P **P** 18 00 00.9 -0.2
comp=Z,1.8nm,0.9s,mb4.3,baz=306,slow=2.7,SNR=5.4
ASF Jabal al Asfar 86.59 302 P **P** 18 00 03.0 +1.1
comp=Z,5.7nm,0.8s,mb4.8,baz=324,slow=4.7,SNR=13
JOF Joensuu 86.61 333 *ep* **P** 18 00 00.9 -1.1
comp=Z,5.5nm,0.8s,mb4.8
JOF Joensuu 86.61 333 *e* P **P** 18 00 00.9 -1.1
JOF pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
INK Inuvik 87.15 22 P **P** 18 00 04.9 +0.3
comp=Z,2.0nm,0.8s,mb4.4,baz=258,slow=7.3,SNR=5.0
INK Inuvik 87.15 22 P **P** 18 00 03.7 -0.9
INK pmax pmax
comp=Z,3.0nm,1.0s
INK Inuvik 87.15 22 P **P** 18 00 03.7 -0.9
comp=Z,3.5nm,1.0s,mb4.5
ARCES ARCESS Array B 87.69 340 P **P** 18 00 06.6 -0.6
comp=Z,8.3nm,0.9s,mb5.0,baz=66,slow=6.0,SNR=9.3
ARCES LR LR 18 45 53.1
comp=Z,93nm,19.0s,baz=192,slow=40
ARE0 ARCESS Array S 87.69 340 P **P** 18 00 04.9 -2.3
MMAI Mount Meron Ar 87.75 303 P **P** 18 00 08.4 +0.9
comp=Z,2.4nm,0.7s,mb4.5,baz=80,slow=9.4,SNR=6.5
BR131 Keskin Array S 88.35 310 P **P** 18 00 09.7 -0.6
comp=Z,2.7nm,0.8s,mb4.5
BRTR Keskin Array B 88.35 310 P **P** 18 00 09.4 -0.9
comp=Z,1.4nm,0.9s,mb4.2,baz=81,slow=3.9,SNR=6.7
KAF Kangasniemi 89.04 332 *ep* **P** 18 00 08.3 -5.3
comp=Z,5.3nm,0.8s,mb4.9
KAF Kangasniemi 89.04 332 *e* P **P** 18 00 08.3 -5.3
KAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
FINES FINESS Array B 89.29 332 P **P** 18 00 14.2 -0.6
comp=Z,2.3nm,0.8s,mb4.5,baz=78,slow=5.6,SNR=9.1
AKASG Malin Array Be 89.74 321 P **P** 18 00 15.8 -1.0
comp=Z,3.6nm,0.6s,mb4.8,baz=70,slow=4.4,SNR=19
AKASG Malin Array Be 89.74 321 P **P** 18 00 15.8 -1.0
SYO Syowa Base 95.44 201 ⇓ *e* P **P** 18 00 43.6 +0.5
NB2 NORSAR Subarra 96.19 334 P **P** 18 00 45.1 -1.5
comp=Z,2.6nm,0.9s,mb4.7,baz=65,slow=4.6
NOA NORSAR Array B 96.19 334 P **P** 18 00 45.3 -1.3
comp=Z,1.3nm,0.8s,mb4.4,baz=64,slow=4.6,SNR=4.6
YKA Yellowknife Ar 96.53 24 P **P** 18 00 48.2 +0.1
comp=Z,0.9nm,0.8s,mb4.3,baz=303,slow=4.7,SNR=17
YKA PKiKP PKiKP 18 05 26.6 +1.5
comp=Z,0.2nm,0.7s,baz=330,slow=1.9,SNR=4.2
YKA Yellowknife Ar 96.53 24 ⇑ *e* P **P** 18 00 48.9 +0.8
YKA Yellowknife Ar 96.53 24 P **P** 18 00 48.2 +0.1
BRG Berggiesshubel 98.98 324 *e*(P) **P** 18 01 07.2 +8.1
comp=Z,2.3nm,0.9s,mb4.7
BRG Berggiesshubel 98.98 324 *e* P **P** 18 01 07.2 +8.1
BRG pmax pmax
comp=Z,2.0nm,0.9s,mb4.7
CLL Collm 99.36 325 *e*(Pdif) 18 01 03.0
CLL *e* PP PP 18 05 10.0 +5.6
CLL LmV 18 58 00.0
comp=Z,100nm,19.0s
CLL Collm 99.36 325 *e* Pdif **P** 18 00 58.0 -2.8
KHC Kasperske Hory 99.86 322 *e* P Pdif 18 01 03.3 +0.2
GERES GERESS Array B 99.90 322 P Pdif 18 01 03.2 0.0
comp=Z,1.3nm,0.8s,baz=57,slow=4.9,SNR=9.1
MATP Matopo 100.40 251 P Pdif 18 01 05.2 -0.2
comp=Z,1.9nm,0.7s,baz=106,slow=4.1,SNR=4.9
MATP Matopo 100.40 251 P Pdif 18 01 05.2 -0.2
ANMO Albuquerque 114.64 47 *i* PKiKP PKiKP 18 06 00.1 +1.5
TORD Torodi Ar. Bea 122.27 290 PKP PKPdf 18 06 14.2 +1.0
comp=Z,2.7nm,0.7s,baz=38,slow=1.9,SNR=21
DBIC Dimbokro 130.24 285 PKP PKPdf 18 06 30.2 +1.8
comp=Z,2.0nm,0.6s,baz=60,slow=4.3,SNR=4.8
CFAA Coronel Fontan 151.48 152 PKPbc PKPbc 18 07 13.9 +1.6
comp=Z,0.2nm,0.5s,baz=184,slow=6.5,SNR=3.6

*ISCJB **25** 18:01:56.1±1.3, 1823S∧0.006×7121W∧0.009, h43km±12km, mb4.3/11, MS3.6/4, Error ellipse: s-maj=15.1km s-min=8.7km az=149.0*
*IDC **25** 18:02:00.7±2.4, 1834S×71.13W, h70km±21km, mb4.0/11, mb1 4.2/14, mb1mx4.1/19, mbtmp4.4/14, MS3.6/8, Ms1 3.6/8, ms1mx3.4/28, Error ellipse: s-maj=21.9km s-min=14.9km az=91.0*
*NEIC **25** 18:02:00.4±1.3, 1837S×71.19W, h69km±11km, mb3.9/1, Error ellipse: s-maj=14.5km s-min=7.8km az=100.0*
ISC 25 18:01:59.0±1.0, 1827S∧0.005×7126W∧0.009, h55km±9km, n43, σ0s87/32, mb4.3/11, MS3.6/4, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
LPAZ	**La Paz**	**3.58**	**57**	P		**Pn**	**18 02 55.2**	**+3.2**
	2.5nm,0.3s,baz=234,slow=9.9,SNR=46							
LPAZ				LR		LR	18 04 22.5	
	comp=Z,554nm,21.3s,baz=246,slow=40							
LPAZ	**La Paz**	**3.58**	**57**	P		**Pn**	**18 02 55.2**	**+3.2**
LPAZ				*eP*			18 02 55.5	
LPAZ				LR		LR	18 04 22.5	
LVC	**Limon Verde**	**4.84**	**153**	P		**Pn**	**18 03 08.3**	**-1.1**
	26nm,0.3s,baz=344,slow=9.7,SNR=283							
LVC				S		**Sn**	**18 04 04.4**	**+0.3**
	36nm,0.3s,baz=20,slow=12,SNR=14							
LVC				LR		LR	18 05 24.2	
	comp=Z,1μm,18.5s,baz=326,slow=43							
LVC	**Limon Verde**	**4.84**	**153**	*eP*		**Pn**	**18 03 08.1**	**-1.3**
LVC				P			18 03 08.3	
LVC				S		**Sn**	**18 04 04.4**	**+0.3**
LVC				LR		LR	18 05 24.2	
NNA	**Nana**	**8.25**	**318**	*eP*		**Pn**	**18 03 56.0**	**-0.1**
	26nm,0.8s							
SIV	**San Ignacio**	**10.00**	**78**	P		**Pn**	**18 04 20.5**	**+0.6**
	3.4nm,0.3s,baz=262,slow=13,SNR=66							
SAML	**Samuel**	**12.14**	**41**	*eP*		**Pn**	**18 04 47.8**	**-1.4**
ATAH	**Atahualpa**	**13.19**	**327**	LR		LR	18 10 20.4	
	comp=Z,381nm,20.5s,baz=160,slow=38							
CFAA	**Coronel Fontan**	**13.55**	**169**	P		**Pn**	**18 05 08.9**	**+0.5**
	0.1nm,0.3s,baz=352,slow=12,SNR=6.3							
CPUP	**Villa Florida**	**15.17**	**124**	P		**Pn**	**18 05 33.7**	**+3.9**
	0.5nm,0.3s,baz=285,slow=13,SNR=4.5							
CPUP				LR		LR	18 11 53.2	
	comp=Z,198nm,20.6s,baz=77,slow=39							
CPUP	**Villa Florida**	**15.17**	**124**	P		**Pn**	**18 05 28.9**	**-0.9**
CPUP				P			18 05 33.7	
CPUP				LR		LR	18 11 53.1	
OTAV	**Otavalo**	**19.71**	**338**	*eP*		**Pn**	**18 06 32.4**	**+6.7**
	6.7nm,1.0s							
TRQA	**Tornquist**	**21.31**	**160**	*eP*		**P**	**18 06 40.9**	**-0.4**
BDFB	**Brasilia**	**22.38**	**87**	P		**P**	**18 06 52.5**	**0.0**
	9.8nm,0.5s,mb4.5,baz=267,slow=10,SNR=14							
BDFB				LR		LR	18 16 46.1	
	comp=Z,204nm,18.4s,MS3.6,baz=284,slow=40							
PLCA	**Paso Flores**	**22.39**	**179**	P		**P**	**18 06 52.3**	**-0.4**
	5.6nm,0.9s,mb4.0,baz=14,slow=13,SNR=7.4							
SADO	**Sadowa**	**63.15**	**354**	P		**P**	**18 12 20.1**	**-1.0**
	1.8nm,0.3s,mb4.6,baz=162,slow=4.9,SNR=3.5							
VNA3	**Neumayer Olymp**	**63.82**	**162**	*e*		**P**	**18 12 26.2**	**+0.6**
VNA3				*e*			18 12 31.0	
VNA3				*e*			18 12 34.1	
VNA1	**Neumayer--Stat**	**64.05**	**161**	*e*		**P**	**18 12 27.9**	**+0.9**
VNA1				*e*			18 12 32.8	
VNA2	**Neumayer--Watz**	**64.41**	**161**	*e*		**P**	**18 12 29.8**	**+0.4**
	baz=274,slow=5.5							
VNA2				*e*			18 12 35.1	
VNA2				*e*			18 12 37.9	
SNAA	**Sanae**	**66.03**	**161**	*e*		**P**	**18 12 33.9**	**-6.0**
SNAA				*e*			18 12 38.9	
DBIC	**Dimbokro**	**70.01**	**76**	P		**P**	**18 13 04.5**	**-0.4**
	4.1nm,0.5s,mb4.6,baz=242,slow=5.8,SNR=9.2							
DBIC	**Dimbokro**	**70.01**	**76**	P		**P**	**18 13 04.5**	**-0.4**
PDAR	**Pinedale Array**	**70.23**	**331**	P		**P**	**18 13 06.3**	**0.0**
	0.3nm,0.5s,mb3.5,baz=123,slow=9.8,SNR=4.8							
PDAR				LR		LR	18 45 48.7	
	comp=Z,122nm,21.1s,MS4.1,baz=67,slow=37							
PDAR	**Pinedale Array**	**70.23**	**331**	P		**P**	**18 13 06.3**	**0.0**
PDAR				LR		LR	18 45 48.7	
NVAR	**Mina Array Bea**	**71.60**	**323**	P		**P**	**18 13 16.0**	**+1.4**
	0.8nm,0.3s,mb4.1,baz=152,slow=7.9,SNR=5.8							
PPT	**Papeete**	**73.92**	**256**	LR		LR	18 39 57.7	
	comp=Z,7.8nm,19.4s,MS3.0,baz=256,slow=31							
TORD	**Torodi Ar. Bea**	**78.41**	**72**	P		**P**	**18 13 52.9**	**-0.9**
	3.0nm,0.9s,mb4.2,baz=253,slow=5.1,SNR=12							
MDT	**Midelt**	**81.42**	**51**	LR		LR	18 47 48.5	
	comp=Z,42nm,20.1s,MS3.8,baz=7.4,slow=34							
ESDC	**Sonseca Array**	**85.13**	**46**	P		**P**	**18 14 29.8**	**+0.7**
	0.2nm,0.3s,mb3.7,baz=247,slow=4.8,SNR=6.9							
YKA	**Yellowknife Ar**	**87.43**	**341**	P		**P**	**18 14 39.6**	**-0.8**
	5.6nm,0.8s,mb4.9,baz=136,slow=4.8,SNR=113							
MAW	**Mawson**	**88.03**	**164**	P		**P**	**18 14 42.7**	**-0.6**
	5.6nm,1.0s,mb4.8,baz=247,slow=2.8,SNR=6.5							
DLBC	**Dease Lake**	**90.34**	**333**	P		**P**	**18 14 54.7**	**+0.5**
	0.9nm,0.4s,mb4.5,baz=166,slow=25,SNR=3.8							
DLBC	**Dease Lake**	**90.34**	**333**	P		**P**	**18 14 54.7**	**+0.5**
ASAR	**Alice Springs**	**131.62**	**211**	PKP		PKPdf	18 21 06.4	+0.8
	1.2nm,1.0s,baz=115,slow=1.4,SNR=6.0							
WRA	**Warramunga Arr**	**134.47**	**215**	PKP		PKPdf	18 21 11.1	+0.1
	0.5nm,0.6s,baz=160,slow=1.6,SNR=6.8							
ZAL	**Zalesovo**	**139.89**	**22**	PKP		PKPdf	18 21 21.4	+0.4
	1.1nm,0.4s,baz=213,slow=0.8,SNR=7.1							
MKAR	**Makanchi Array**	**144.19**	**32**	PKP		PKPdf	18 21 27.2	-1.4
	1.9nm,0.8s,baz=318,slow=4.3,SNR=23							
MJAR	**Matsushiro Arr**	**148.32**	**311**	PKPbc		PKPbc	18 21 40.1	+1.0
	2.4nm,0.8s,baz=97,slow=0.7,SNR=9.8							
MAJO	**Matsushiro**	**148.32**	**311**	*e* PKPbc		PKPbc	18 21 39.4	+0.2
MAT	**Matsushiro**	**148.32**	**311**	PKP		PKPdf	18 21 39.2	+3.5
MAT	**Matsushiro**	**148.32**	**311**	*e* PKP		PKPdf	18 21 39.0	+3.3
SONM	**Songino Array**	**150.45**	**3**	PKP		PKPdf	18 21 39.3	+0.2
	3.2nm,0.9s,baz=144,slow=0.7,SNR=5.9							
SONM				PKPbc		PKPbc	18 21 45.2	+0.8
	2.8nm,0.8s,baz=312,slow=1.9,SNR=22							
ULN	**Ulaanbaatar**	**150.45**	**2**	*e* PKPbc		PKPbc	18 21 45.2	+0.8

*NEIC **25** 18:17:15.4, 2709S×71.15W, h17km, ML4.0(GUC), After GUC.*
GUC 25 18:17:15.4±2.4, 2709S×7115W, h17km±17km, MD4.1, ML4.0,1C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CDCH	**Caldera**	**0.29**	**87**	⇑ *i* P		Pg	18 17 22.0	+0.3
CDCH				*i* S		Sg	18 17 26.3	+0.5
CPCH	**Copiapo**	**0.76**	**111**	*e* P		Pb	18 17 29.7	-0.4
CPCH				*i* S		Sb	18 17 39.7	-0.5
CPCH				AML		AML	18 17 41.0	
	comp=N,62μm,0.1s							
CPCH	**Copiapo**	**0.76**	**111**	*e* P		Pb	18 17 29.7	-0.4
CPCH				*i* S		Sb	18 17 39.7	-0.5
LCO	**Las Campanas**	**1.96**	**168**	*e* P		Pn	18 17 49.0	+1.3
LCO				*i* S		Sn	18 18 13.4	+1.5
CPN1	**Cerro Paranal**	**2.54**	**15**	*e* P		Pn	18 17 55.3	-0.6
CPN1				*i* S		Sn	18 18 25.4	-1.0
CPN1				AML		AML	18 18 37.1	
	comp=E,224nm,0.6s							
TLL	**Tololo Astrono**	**3.08**	**174**	*e* P		Pn	18 18 05.1	+1.8
TLL				*i* S		Sn	18 18 42.6	+2.9
TLL				AML		AML	18 18 59.4	
	comp=N,351nm,0.9s							
TLL	**Tololo Astrono**	**3.08**	**174**	*e* P		Pn	18 18 05.1	+1.8
TLL				*i* S		Sn	18 18 42.6	+2.9

*CSEM **25** 18:18:07.0±0.4, 3963N×2977W, h5km, ML2.4, Error ellipse: s-maj=49.0km s-min=3.4km az=54.0, After PDA*
*PDA **25** 18:18:07.0±0.4, 3963N×2977W, h5km, MD3.5, ML2.4, Error ellipse: s-maj=49.0km s-min=3.4km az=54.0*
SVSA 25 18:18:07.0±0.4, 3963N×2977W, h5km, MD3.5, ML2.4, Error ellipse: s-maj=49.0km s-min=3.4km az=54.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PICO	**Pico**	**1.54**	**137**	*e* P		Pn	18 18 30.4	-4.7
PICO				*e* S		Sn	18 18 47.8	-7.7
PCND	**Candelaria**	**1.54**	**138**	*e* P		Pn	18 18 30.4	-4.8
PCND				*e* S		Sn	18 18 48.1	-7.5
PCND								
	20nm,0.3s							
PTEI	**Pico do Teixo**	**1.58**	**135**	*e* P		Pn	18 18 30.9	-4.8
PTEI				*e* S		Sn	18 18 49.0	-7.5
PTEI								
	16nm,0.2s							
PBOI	**Pico dos Bois**	**1.61**	**137**	*e* S		Sn	18 18 49.5	-7.8
PBOI								
	12nm,0.2s							
PMAN	**Manadas**	**1.65**	**127**	*e* rx			18 18 13.8	

*CSEM **25** 18:22:14.8±0.8, 3984N×2915W, h0km, ML2.5, Error ellipse: s-maj=19.8km s-min=6.5km az=70.0, After PDA*
*PDA **25** 18:22:14.8±0.8, 3984N×2915W, h0km, MD3.5, ML2.5, Error ellipse: s-maj=19.8km s-min=6.5km az=70.0,*
SVSA 25 18:22:14.8±0.8, 3984N×2915W, h0km, MD3.5, ML2.5, Error ellipse: s-maj=19.8km s-min=6.5km az=70.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CALA	**Caldeira**	**1.31**	**164**	*e* S		Sg	18 22 50.6	-6.2
ROSA	**Rosais**	**1.32**	**147**	*e* S		Sg	18 22 51.1	-6.3
PICO	**Pico**	**1.45**	**157**	*e* P		Pn	18 22 37.5	-4.8
PICO				*e* S		Sg	18 22 54.8	-6.7
PMAN	**Manadas**	**1.46**	**145**	*e* rx			18 22 38.0	
PCND	**Candelaria**	**1.47**	**158**	*e* P		Pn	18 22 37.8	-4.8
PCND				*e* S		Sg	18 22 55.0	-7.1
PCND								
	27nm,0.2s							
PTEI	**Pico do Teixo**	**1.48**	**155**	*e* rx			18 22 57.2	
PBOI	**Pico dos Bois**	**1.53**	**156**	*e* P		Pn	18 22 38.5	-4.8
PBOI				*e* S		Sb	18 22 56.6	-7.3
PBOI								
	20nm,0.2s							
PID	**Ribeirinha**	**1.61**	**150**	*e* S		Sn	18 22 58.1	-7.9

CASC 25 18:25:31.7±0.7, 1369N×9115W, h11km±5km, MD3.7, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JAT	**Jato**	**0.79**	**323**	*e* P		Pg	18 25 46.3	-0.6
IXG	**Ixpaco**	**0.82**	**54**	*e* P		Pg	18 25 47.4	-0.3
TP2	**Tecpan 2**	**1.09**	**6**	*e* P		Pb	18 25 51.6	-1.0
TP2				*e* S		Sb	18 26 07.9	+1.0
RBDL	**Robledal**	**1.48**	**73**	*e* P		Pn	18 25 59.1	+0.9
SBLS	**San Blas**	**1.49**	**84**	*e* P		Pn	18 25 58.7	+0.4
SBLS				*e* S		Sn	18 26 19.1	+1.4
SNJE	**San Jose**	**1.51**	**83**	*e* P		Pn	18 25 59.2	+0.6
BOQS	**Boqueron**	**1.81**	**88**	*e* P		Pn	18 26 04.3	+1.4
LFRS	**El Faro**	**2.03**	**92**	*e* P		Pn	18 26 06.8	+1.0
LFRS				*e* S		Sn	18 26 33.1	+2.1
LCBS	**La Ceiba**	**2.11**	**91**	*e* P		Pn	18 26 07.9	+1.0
LCBS				*e* S		Sn	18 26 35.2	+2.2

*IDC **25** 18:28:07.8±1.2, 2048N×11973E, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.5/18, mbtmp3.5/5, MS3.5/1, Ms1 3.5/1, ms1mx2.5/22, Error ellipse: s-maj=43.7km s-min=23.2km az=78.0*
*ISCJB **25** 18:28:11.3±0.9, 2056N∧0.1×1197E±0.2, h33km, mb3.5/5, MS3.5/1, Error ellipse: s-maj=28.5km s-min=11.4km az=140.0*
ISC 25 18:28:13.1±0.9, 2049N±0.010×1198E±0.2, h35km, n12, σ0s72/11, mb3.5/5, MS3.5/1, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
APYP	**Conner**	**2.95**	**152**	*e* P		**Pn**	**18 28 57.2**	**-0.2**
ABRA	**Dolores**	**2.96**	**163**	*e* P		**Pn**	**18 28 57.9**	**+0.5**
SGCP	**Mt. Cagua**	**3.09**	**136**	*e* P		**Pn**	**18 28 57.7**	**-1.5**
CVP	**Callao Caves**	**3.37**	**145**	*e* P		**Pn**	**18 29 04.0**	**+0.8**
CAUP	**Cauayan**	**4.02**	**151**	*e* P		**Pn**	**18 29 17.9**	**+5.9**
BALP	**Baler**	**5.02**	**160**	*e* P		**Pn**	**18 29 36.0**	**+10**
MJAR	**Matsushiro Arr**	**22.69**	**41**	P		**P**	**18 33 12.2**	**+0.8**
	1.5nm,0.8s,mb3.5,baz=233,slow=9.8,SNR=5.5							
MKAR	**Makanchi Array**	**40.20**	**320**	P		**P**	**18 35 45.7**	**-0.3**
	0.4nm,0.6s,mb3.3,baz=119,slow=9.5,SNR=6.2							
WRA	**Warramunga Arr**	**42.63**	**160**	P		**P**	**18 36 05.9**	**-0.1**
	1.1nm,0.8s,mb3.6,baz=341,slow=9.1,SNR=7.3							
ZAL	**Zalesovo**	**42.72**	**330**	LR		LR	18 57 35.3	
	comp=Z,54nm,18.3s,MS3.5,baz=96,slow=41							
ASAR	**Alice Springs**	**45.99**	**162**	P		**P**	**18 36 33.4**	**+0.6**
	0.2nm,0.5s,mb3.3,baz=344,slow=7.0,SNR=3.8							
YKA	**Yellowknife Ar**	**86.86**	**22**	P		**P**	**18 40 53.4**	**-0.6**
	0.4nm,0.9s,mb3.6,baz=311,slow=4.3,SNR=4.5							

*ISCJB **25** 18:29:54.2±2.6, 387N∧0.02×710E∧0.02, h33km, Error ellipse: s-maj=26.5km s-min=15.1km az=57.4*
*NNC **25** 18:29:59.5±7.3, 3908N×7038E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=54.1km s-min=40.9km az=169.0*
ISC 25 18:29:56.2±2.7, 387N∧0.02×710E∧0.02, h35km, n10, σ0s48/11, 3C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
AML	**Almayashu**	**4.03**	**30**	P		**Pn**	**18 30 54.9**	**-0.5**
	SNR=

	SNR=7.2								
KZA	**Kyzart**	**4.71**	**42**	P		**Pn**	**18 31 05.2**	**+0.5**	
	SNR=8.4								
AAK	**Ala-Archa**	**4.78**	**33**	P		**Pn**	**18 31 04.8**	**-0.8**	
	SNR=7.5								
KBK	**Karagaybulak**	**5.00**	**36**	P		**Pn**	**18 31 09.0**	**+0.4**	
	SNR=10								
USP	**Ospenovka**	**5.31**	**29**	P		**Pn**	**18 31 12.9**	**-0.1**	
	SNR=6.4								
TKM2	**Tokmak 2**	**5.51**	**38**	P		**Pn**	**18 31 15.8**	**+0.2**	
	SNR=5.5								
AB31	**Akbulak array**	**13.23**	**327**	⇑P		**Pn**	**18 33 01.1**	**-0.4**	
	0.9nm,0.6s,baz=170,slow=11,SNR=12								

ISCJB ***25*** *18:30:17.5±1.0, 08N±0.1×977E±02, h33km, mb3.8/6, Error ellipse: s-maj=25.1km s-min=13.1km az=147.9*
NEIC ***25*** *18:30:19.1±0.7, 079N×9771E, h30km, Error ellipse: s-maj=18.7km s-min=9.7km az=73.0*
IDC ***25*** *18:30:24.4±11.0, 098N×9806E, h66km±81km, mb3.5/6, mb1 3.7/6, mb1mx3.4/19, mbtmp3.8/6, Error ellipse: s-maj=152.1km s-min=18.0km az=59.0*
ISC 25 18:30:20.3±1.1, 09N±01×978E±02, h35km, n10, σ0§43/10, mb3.8/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**2.26**	**31**	P		**Pn**	**18 30 54.9**	**-0.3**
	0.9nm,0.3s,baz=198,slow=13,SNR=7.4							
KULM	**Kulim**	**5.27**	**33**	*e*P		**Pn**	**18 31 36.9**	**+0.3**
WRA	**Warramunga Arr**	**41.38**	**122**	P		**P**	**18 38 02.3**	**-0.6**
	1.8nm,0.8s,mb3.7,baz=301,slow=9.1,SNR=9.7							
WRAB	**Tennant Creek**	**41.39**	**122**	*e*P		**P**	**18 38 03.2**	**+0.2**
ASAR	**Alice Springs**	**42.75**	**127**	P		**P**	**18 38 14.6**	**+0.5**
	0.8nm,0.6s,mb3.6,baz=297,slow=7.8,SNR=12							
SONM	**Songino Array**	**47.39**	**8**	P		**P**	**18 38 50.7**	**-0.3**
	0.3nm,0.7s,mb3.3,baz=175,slow=8.9,SNR=3.9							
MKAR	**Makanchi Array**	**47.71**	**346**	P		**P**	**18 38 53.8**	**+0.3**
	0.8nm,0.5s,mb4.0,baz=158,slow=9.0,SNR=16							
STKA	**Stephens Creek**	**52.71**	**132**	P		**P**	**18 39 31.4**	**0.0**
	2.7nm,1.0s,mb4.1,baz=328,slow=9.5,SNR=2.9							
ZAL	**Zalesovo**	**53.98**	**351**	P		**P**	**18 39 41.3**	**+0.6**
	0.8nm,0.4s,mb4.0,baz=321,slow=8.8,SNR=3.1							
CHKZ	**Chkalovo**	**57.23**	**341**	P		**P**	**18 40 03.4**	**-0.6**

MAN 25 18:31:26.2, 1681N×12261E, h8km, mb2.6, ML4.1, MS1.4, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PALP	**Palanan**	**0.31**	**325**	⇓*i*P		Pg	18 31 32.7	+0.4
PALP				*i* S		Sg	18 31 41.5	+5.0
PALP	**Palanan**	**0.31**	**325**	*e*P		Pg	18 31 32.8	+0.4
PALP				*e*S		Sg	18 31 38.2	+1.8
CAUP	**Cauayan**	**0.77**	**280**	*e*P		Pg	18 31 40.7	-0.2
CVP	**Callao Caves**	**1.17**	**320**	*e*P		Pg	18 31 41.5	-7.1
CVP				*e*S		Sg	18 32 06.0	+2.2
BALP	**Baler**	**1.45**	**223**	*e*P		Pn	18 31 51.8	-0.9
APYP	**Conner**	**1.68**	**309**	*e*P		Pn	18 31 55.7	-0.1

ISCJB ***25*** *18:32:53.1±0.5, 4378N±004×10512W±006, h0km, mb3.9/3, Error ellipse: s-maj=6.9km s-min=5.0km az=69.8*
IDC ***25*** *18:32:53.0±2.3, 4338N×10524W, h0km, mb3.8/3, mb1 3.9/6, mb1mx3.6/24, mbtmp3.7/6, ML3.7/3, Error ellipse: s-maj=55.8km s-min=8.6km az=154.0*
NEIC ***25*** *18:32:55.3±0.3, 4374N×10523W, h0km, ML3.4, Error ellipse: s-maj=5.4km s-min=3.8km az=138.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
ISC 25 18:32:55.3±0.4, 4378N±004×10520W±006, h0km, n45, σ1§09/50, mb3.9/3, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RSSD	**Black Hills**	**0.90**	**68**	*e*P		**Pg**	**18 33 14.6**	**+2.0**
PHWY	**Pilot Hill**	**2.49**	**185**	*e*P		**Pn**	**18 33 36.3**	**-0.7**
RWWY	**Rawlins**	**2.56**	**216**	*e*Pn		**Pn**	**18 33 38.1**	**0.0**
RWWY				*e*Sn		**Sn**	**18 34 12.2**	**+2.3**
LAO	**LASA Array**	**3.00**	**346**	*e*Pn		**Pn**	**18 33 43.8**	**-0.2**
BW06	**Boulder Array**	**3.34**	**254**	*e*Pn		**Pn**	**18 33 48.4**	**-0.4**
BW06				*e*Sn		**Sn**	**18 34 32.3**	**+3.0**
PDAR	**Pinedale Array**	**3.34**	**254**	Pn		**Pn**	**18 33 48.5**	**-0.4**
	6.3nm,0.3s,baz=75,slow=14,SNR=63							
PDAR				Lg			18 34 33.5	
	16nm,0.3s,baz=81,slow=34,SNR=12							
GCMT	**Greycliff**	**3.77**	**304**	*e*Pn		**Pn**	**18 33 55.3**	**+0.8**
LOHW	**Long Hollow**	**3.93**	**269**	*e*P		**Pn**	**18 33 57.6**	**+0.7**
FLWY	**Flagg Ranch**	**3.99**	**276**	*e*P		**Pn**	**18 33 57.6**	**0.0**
MOOW	**Moose Ponds**	**4.02**	**271**	*e*Pn		**Pn**	**18 33 58.6**	**+0.5**
YFT	**Old Faithful**	**4.12**	**278**	*e*Pn		**Pn**	**18 34 00.8**	**+1.3**
REDW	**Red Top Meadow**	**4.13**	**266**	*e*Pn		**Pn**	**18 33 59.9**	**+0.2**
IMW	**Indian Meadow**	**4.16**	**274**	*e*Pn		**Pn**	**18 34 00.4**	**+0.4**
TPAW	**Teton Pass**	**4.19**	**268**	*e*Pn		**Pn**	**18 34 00.9**	**+0.5**
YMR	**Madison River**	**4.24**	**284**	P		**Pn**	**18 33 55.0**	**-6.2**
YMR				Pg		**Pg**	**18 34 10.0**	**-6.6**
DCID1	**Drake Creek**	**4.35**	**270**	*e*Pn		**Pn**	**18 34 03.8**	**+1.2**
AHID	**Auburn Hatcher**	**4.43**	**259**	*e*Pn		**Pn**	**18 34 02.6**	**-1.1**
AHID				*e*Pg		**Pg**	**18 34 15.5**	**-4.7**
SMCO	**Snowmass**	**4.79**	**197**	*e*Pn		**Pn**	**18 34 11.4**	**+2.8**
SMCO				*e*Pg		**Pg**	**18 34 21.0**	**-6.1**
BOZ	**Bozeman (W)**	**4.95**	**294**	*e*Pn		**Pn**	**18 34 09.7**	**-1.2**
HWUT	**Hardware Ranch**	**5.17**	**247**	Pn		**Pn**	**18 34 14.2**	**+0.2**
	16nm,0.3s							
EGMT	**Eagleton**	**5.30**	**325**	*e*Pn		**Pn**	**18 34 15.8**	**0.0**
	20nm,0.5s							
TCUT	**Toone Canyon**	**5.31**	**242**	*e*Pn		**Pn**	**18 34 15.5**	**-0.3**
DLMT	**Dillon**	**5.52**	**289**	Pn		**Pn**	**18 34 21.6**	**+2.9**
	5.2nm,0.4s							
HRY	**Holter Researc**	**5.53**	**304**	*e*Pn		**Pn**	**18 34 18.3**	**-0.5**
MCMT	**McKenzie Canyo**	**5.59**	**283**	*e*Pn		**Pn**	**18 34 22.4**	**+2.7**
DAU	**Daniels Canyon**	**5.63**	**235**	*e*Pn		**Pn**	**18 34 18.5**	**-1.7**
HVU	**Hansel Valley**	**5.93**	**253**	*e*Pn		**Pn**	**18 34 23.5**	**-0.8**
	7.0nm,0.3s							
PV10	**Paradox Valley**	**6.13**	**210**	*e*Pn		**Pn**	**18 34 27.4**	**+0.3**
SRU	**San Rafael**	**6.15**	**222**	*e*Pn		**Pn**	**18 34 25.8**	**-1.6**
	21nm,0.4s							
PV01	**Paradox Valley**	**6.19**	**205**	*e*Pn		**Pn**	**18 34 28.0**	**0.0**
ECSD	**EROS,Sioux Fal**	**6.21**	**87**	*e*Pn		**Pn**	**18 34 29.1**	**+0.9**
TMUT	**Trail Mountain**	**6.36**	**227**	*e*Pn		**Pn**	**18 34 28.6**	**-1.6**
CHMT	**Chamberlain Mo**	**6.48**	**302**	*e*Pn		**Pn**	**18 34 31.8**	**-0.1**
DUG	**Dugway**	**6.71**	**240**	*e*Pn		**Pn**	**18 34 33.2**	**-1.9**
MSU	**Marysvale**	**7.45**	**227**	*e*Pn		**Pn**	**18 34 44.8**	**-0.3**
ULM	**Lac du Bonnet**	**9.07**	**41**	Pn		**Pn**	**18 35 07.5**	**0.0**
ULM				Lg			18 37 44.2	
ULM	**Lac du Bonnet**	**9.07**	**41**	Pn		**Pn**	**18 35 07.5**	**0.0**
	2.7nm,0.3s,baz=230,slow=12,SNR=15							
ULM				Lg			18 37 44.2	
	0.5nm,0.3s,baz=128,slow=18,SNR=3.0							
FFC	**Flin Flon**	**11.15**	**10**	*e*Pn		**Pn**	**18 35 35.0**	**-0.9**
	3.5nm,0.6s							
FCC	**Fort Churchill**	**16.49**	**21**	*e*Pn		**Pn**	**18 36 43.9**	**-4.1**
YKA	**Yellowknife Ar**	**19.54**	**347**	P		**Pn**	**18 37 24.9**	**-0.6**
YKA	**Yellowknife Ar**	**19.54**	**347**	P		**Pn**	**18 37 24.9**	**-0.6**
	baz=154,slow=11,SNR=6.5							
ARCES	**ARCESS Array B**	**61.36**	**18**	P		**P**	**18 43 11.9**	**-1.0**
	2.8nm,0.8s,mb4.4,baz=332,slow=7.6,SNR=7.0							
SONM	**Songino Array**	**84.62**	**339**	P		**P**	**18 45 30.3**	**-0.4**
	0.3nm,0.8s,mb3.6,baz=29,slow=3.3,SNR=2.8							
MKAR	**Makanchi Array**	**89.57**	**355**	P		**P**	**18 45 54.2**	**-0.5**
MKAR	**Makanchi Array**	**89.57**	**355**	P		**P**	**18 45 54.2**	**-0.5**
	0.4nm,0.8s,mb3.7,baz=358,slow=3.6,SNR=4.8							

KNET ***25*** *18:33:04.9±0.4, 42.15N×7376E, h3km±5km, ml2.1, Error ellipse: s-maj=3.8km s-min=2.9km az=109.0*
ISCJB ***25*** *18:33:06.3±0.6, 42.17N±004×7376E±004, h3km, Error ellipse: s-maj=5.5km s-min=3.6km az=139.8*
NNC ***25*** *18:33:09.0±2.5, 4247N×7378E, h0km, mb2.3, mpv2.1, Error ellipse: s-maj=48.1km s-min=11.7km az=173.0*
ISC 25 18:33:06.6±0.6, 4217N±004×7376E±004, h3km, n12, σ0§94/24, 15C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AML	**Almayashu**	**0.06**	**232**	⇑P		**Pg**	**18 33 06.9**	**-0.9**
	91nm,0.1s,SNR=1886							
AML				⇑S		**Sg**	**18 33 08.0**	**-0.7**
	2µm,0.1s							
EKS2	**Erkin-Say**	**0.49**	**2**	⇑P		**Pg**	**18 33 15.4**	**-0.6**
	11nm,0.1s,SNR=70							
EKS2				⇑S		**Sg**	**18 33 22.5**	**+0.1**
	23nm,0.1s							
UCH	**Uchtor**	**0.56**	**84**	⇓P		**Pg**	**18 33 16.9**	**-0.5**
	8.7nm,0.1s,SNR=35							
UCH				⇑S		**Sg**	**18 33 24.9**	**+0.2**
	91nm,0.2s							
AAK	**Ala-Archa**	**0.72**	**49**	⇑P		**Pg**	**18 33 19.9**	**-0.5**
	7.9nm,0.2s,SNR=11							
AAK				⇑S		**Sg**	**18 33 30.2**	**+0.6**
	32nm,0.2s							
KBK	**Karagaybulak**	**1.01**	**61**	⇑P		**Pg**	**18 33 25.2**	**-0.7**
	8.4nm,0.1s,SNR=29							
KBK				⇓S		**Sg**	**18 33 39.2**	**+0.3**
	64nm,0.3s							
CHMS	**Chumysh**	**1.11**	**41**	⇑P		**Pg**	**18 33 26.9**	**-0.9**
	8.7nm,0.2s							
CHMS				⇓S		**Sg**	**18 33 42.2**	**0.0**
	14nm,0.2s							
KZA	**Kyzart**	**1.11**	**94**	⇑P		**Pg**	**18 33 27.0**	**-0.9**
	7.1nm,0.1s,SNR=36							
KZA				⇓S		**Sg**	**18 33 43.0**	**+0.6**
	53nm,0.3s							
USP	**Ospenovka**	**1.23**	**26**	⇑P		**Pg**	**18 33 28.9**	**-1.2**
	8.6nm,0.2s,SNR=6.5							
USP				⇓S		**Sg**	**18 33 45.8**	**-0.2**
	21nm,0.3s							
TKM2	**Tokmak 2**	**1.55**	**60**	⇓P		**Pn**	**18 33 34.8**	**-0.3**
	5.7nm,0.1s,SNR=13							
TKM2				⇑S		**Sn**	**18 33 55.7**	**0.0**
	33nm,0.1s							
TKM2	**Tokmak 2**	**1.55**	**60**	⇑P		**Pn**	**18 33 34.6**	**-0.4**
	0.3nm,0.5s							
TKM2				⇑S		**Sn**	**18 33 55.2**	**-0.5**
	0.9nm,0.6s							
ULHL	**Ulahol**	**1.85**	**87**	⇓P		**Pn**	**18 33 40.1**	**+1.0**
	9.1nm,0.2s,SNR=32							
ULHL				⇓S		**Sn**	**18 34 05.4**	**+2.4**
	9.4nm,0.2s							
KK31	**Karatay Array**	**2.57**	**292**	⇓Pn		**Pn**	**18 33 50.8**	**+1.7**
	2.3nm,0.6s,baz=107,slow=16,SNR=8.8							
KK31				⇑Sn		**Sn**	**18 34 23.5**	**+2.7**
	3.7nm,0.4s,baz=101,slow=29,SNR=9.4							

MOS ***25*** *18:46:36.7±0.8, 3564N×13535E, h358km, mb3.3/2, Error ellipse: s-maj=28.9km s-min=22.1km az=103.7*
ISCJB ***25*** *18:46:37.6±0.5, 357N±01×1354E±01, h365km±5km, mb3.2/8, Error ellipse: s-maj=18.5km s-min=11.1km az=124.4*
NEIC ***25*** *18:46:38.0±1.0, 3567N×13537E, h352km±11km, mb3.2/2, Error ellipse: s-maj=23.9km s-min=21.7km az=64.0*
IDC ***25*** *18:46:38.5±1.2, 3565N×13533E, h356km±13km, mb3.0/6, mb1 3.2/7, mb1mx2.9/22, mbtmp3.7/7, Error ellipse: s-maj=27.8km s-min=16.9km az=92.0*
JMA ***25*** *18:46:38.9±0.2, 3574N×13545E, h353km±2km, M3.1*
ISC 25 18:46:38.5±0.5, 357N±01×1354E±01, h358km±5km, n31, σ0§71/33, mb3.2/8, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JKY	**Yasaka**	**0.25**	**249**	P		**Pn**	**18 47 23.4**	**+0.1**
JWT	**Wachi**	**0.44**	**179**	P		**Pn**	**18 47 23.5**	**0.0**
JWT				S		**S**	**18 47 58.3**	**-1.4**
JFM	**Mihama**	**0.52**	**111**	P		**Pn**	**18 47 23.7**	**0.0**
JKG	**Kaga**	**0.94**	**54**	P		**Pn**	**18 47 24.6**	**-0.3**
JGM	**Miyama**	**1.08**	**91**	P		**Pn**	**18 47 25.3**	**-0.1**
JWY	**Kouya**	**1.51**	**174**	P		**Pn**	**18 47 27.7**	**+0.2**
JIE	**Ise**	**1.71**	**140**	P		**Pn**	**18 47 28.8**	**+0.2**
JHS	**Saijyo**	**2.00**	**250**	P		**Pn**	**18 47 30.9**	**+0.4**
JAI	**Aioi**	**2.07**	**202**	P		**Pn**	**18 47 31.4**	**+0.4**
JWZ	**Kozaga**	**2.20**	**173**	P		**Pn**	**18 47 31.8**	**-0.1**
MAT	**Matsushiro**	**2.42**	**69**	P		**Pn**	**18 47 32.3**	**-1.3**
MAT	**Matsushiro**	**2.42**	**69**	P		**Pn**	**18 47 33.4**	**-0.2**
MAT	**Matsushiro**	**2.42**	**69**	*e*P		**Pn**	**18 47 32.0**	**-1.6**
MJAR	**Matsushiro Arr**	**2.42**	**69**	P		**Pn**	**18 47 33.8**	**+0.1**
	1.0nm,0.3s,baz=263,slow=8.6,SNR=18							
MJAR				S		**S**	**18 48 19.6**	**+1.6**
	baz=81,slow=24,SNR=2.3							
JYN	**Shimob**	**2.58**	**94**	P		**Pn**	**18 47 34.5**	**-0.3**
JHT	**Toyohira**	**2.65**	**247**	P		**Pn**	**18 47 36.0**	**+0.5**
JRY	**Ryogami san**	**2.87**	**83**	P		**Pn**	**18 47 38.1**	**+0.8**
JOD2	**Odawara 2**	**3.05**	**98**	P		**Pn**	**18 47 39.2**	**+0.3**
JSD	**Sado**	**3.26**	**44**	P		**Pn**	**18 47 40.5**	**-0.3**
JAG	**Ashikaga**	**3.36**	**77**	P		**Pn**	**18 47 40.5**	**-1.2**
MKAR	**Makanchi Array**	**40.71**	**303**	P		**P**	**18 53 46.5**	**+1.0**
	0.3nm,0.5s,mb2.7,baz=94,slow=8.6,SNR=5.2							
KURK	**Kurchatov**	**42.94**	**309**	*e*P		**P**	**18 54 03.5**	**+0.2**
KURK				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb3.1							
KURK	**Kurchatov**	**42.94**	**309**	*e*P		**P**	**18 54 03.5**	**+0.2**
	comp=Z,1.0nm,0.6s,mb3.1							
CHKZ	**Chkalovo**	**47.66**	**313**	*e*P		**P**	**18 54 39.9**	**-0.1**
CHKZ				pmax		pmax		
	comp=Z,1.0nm,0.7s,mb3.1							
CHKZ	**Chkalovo**	**47.66**	**313**	*e*P		**P**	**18 54 39.9**	**-0.1**
	comp=Z,1.1nm,0.7s,mb3.2							
ILAR	**Eielson Array**	**53.18**	**32**	P		**P**	**18 55 22.3**	**+1.5**
	comp=Z,0.3nm,0.8s,mb2.7,baz=266,slow=8.9,SNR=4.2							
WRA	**Warramunga Arr**	**55.37**	**181**	P		**P**	**18 55 36.2**	**-0.2**
	comp=Z,0.7nm,0.4s,mb3.4,baz=358,slow=7.6,SNR=27							
INK	**Inuvik**	**57.74**	**26**	P		**P**	**18 55 52.3**	**-0.7**
	comp=Z,0.5nm,0.5s,mb3.1,baz=254,slow=5.0,SNR=3.6							
ARCES	**ARCESS Array B**	**63.47**	**338**	P		**P**	**18 56 30.0**	**-1.3**
	comp=Z,3.6nm,0.9s,mb3.9,baz=72,slow=8.6,SNR=3.8							
FINES	**FINESS Array B**	**67.64**	**331**	P		**P**	**18 56 57.5**	**-0.3**
	comp=Z,1.6nm,0.8s,mb3.8,baz=68,slow=7.7,SNR=4.0							
FINES	**FINESS Array B**	**67.64**	**331**	P		**P**	**18 56 57.5**	**-0.3**

BJI ***25*** *19:28:24.6, 6080N×16570E, h10km, mB4.8, mb4.7, Ms3.9, Msz3.6*
IDC ***25*** *19:28:24.9±0.7, 6077N×16565E, h0km, mb4.0/17, mb1 4.2/17, mb1mx4.1/23, mbtmp4.0/17, MS3.5/6, Ms1 3.5/6, ms1mx3.0/46, Error ellipse: s-maj=20.9km s-min=15.0km az=150.0*
KRSC ***25*** *19:28:25.6±0.2, 6073N×16590E, h11km±3km, ML4.0*
NEIC ***25*** *19:28:26.6±0.4, 6077N×16566E, h10km, mb4.6/8, Error ellipse: s-maj=12.7km s-min=7.3km az=164.0*
MOS ***25*** *19:28:26.7±1.0, 6076N×16563E, h22km, mb4.6/9, Error ellipse: s-maj=15.8km s-min=9.3km az=94.0*
ISCJB ***25*** *19:28:27.0±0.8, 6072N±004×1658E±01, h26km±6km, mb4.2/34, MS3.4/9, Error ellipse: s-maj=8.8km s-min=5.1km az=51.8*
ISC 25 19:28:27.0±1.0, 6076N±004×1659E±01, h15km±7km, h25km±5.7km: pP-P, n85, σ1§03/89, mb4.2/34, MS3.4/9, 10C-1D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TILR	**Tilichiki**	**0.34**	**167**	*i* P		**Pg**	**19 28 32.9**	**-1.2**
TILR				*i* S		**Sg**	**19 28 38.3**	**+0.1**
KAMR	**Kamenskoye**	**1.70**	**5**	*i* P		**Pn**	**19 28 56.2**	**0.0**
KAMR				*i* S		**Sn**	**19 29 18.4**	**+0.6**
KAMR				Smax				
	3µm,1.2s							
OSSR	**Ossora**	**2.08**	**224**	*e*P		**Pn**	**19 29 01.3**	**-0.2**
EVNR	**Evensk**	**3.40**	**293**	*e*P		**Pn**	**19 29 20.7**	**+1.1**
SMKR	**Semkarok**	**4.79**	**211**	*e*P		**Pn**	**19 29 38.7**	**0.0**
SRKR	**Sorokina**	**4.80**	**213**	*e*P		**Pn**	**19 29 38.8**	**-0.1**
KBG	**Krutoberegovo**	**4.82**	**202**	*e*P		**Pn**	**19 29 39.3**	**+0.2**
KBTR	**Krutoberegovo**	**4.85**	**201**	*e*P		**Pn**	**19 29 40.6**	**+1.1**
BDR	**Baidarnaya**	**4.87**	**212**	*e*P		**Pn**	**19 29 39.6**	**-0.2**
KLY	**Klyuchi**	**5.24**	**214**	*e*P		**Pn**	**19 29 43.9**	**-1.0**
CIRR	**Tsirk**	**5.39**	**212**	*e*P		**Pn**	**19 29 47.5**	**+0.6**
ZLN	**Zelenaya**	**5.46**	**212**	*e*P		**Pn**	**19 29 48.9**	**+1.0**
BKI	**Bering**	**5.58**	**180**	*e*P		**Pn**	**19 29 50.4**	**+0.9**
KMNR	**Kamenistaya**	**5.84**	**213**	*e*P		**Pn**	**19 29 53.0**	**-0.1**
ESO	**Esso**	**6.16**	**221**	*e*P		**Pn**	**19 29 58.6**	**+1.2**
TUMR	**Tumrok**	**6.29**	**212**	*e*P		**Pn**	**19 29 59.1**	**-0.1**
MKZ	**Mys Kozlova**	**6.61**	**202**	*e*P		**Pn**	**19 30 05.2**	**+1.5**
BILL	**Bilibino**	**7.31**	**1**	PN		**Pn**	**19 30 16.0**	**+2.8**
BILL				pmax		pmax		
	comp=Z,8.0nm,1.1s							
BILL				MLR		MLR		
	comp=Z,200nm,11.0s							
BILL	**Bilibino**	**7.31**	**1**	*e*P		**Pn**	**19 30 16.2**	**+3.0**
MA2	**Magadan**	**7.64**	**268**	*c i*PN		**Pn**	**19 30 17.4**	**-0.4**
MA2				pmax		pmax		
	comp=Z,42nm,1.0s							
MA2				MLR		MLR		
	comp=Z,400nm,10.0s							
MA2	**Magadan**	**7.64**	**268**	*e*P		**Pn**	**19 30 19.5**	**+1.7**
PET	**Petropavlovsk**	**8.71**	**210**	⇑*e*PN		**Pn**	**19 30 34.4**	**+1.9**
PET				pmax		pmax		
	comp=Z,89nm,2.5s							
PET				MLR		MLR		
	comp=Z,400nm,18.0s							
YAK	**Yakutsk**	**17.25**	**290**	*e*P		**Pn**	**19 32 29.2**	**+1.8**
YAK				pmax		pmax		
	comp=Z,19nm,0.8s							
YAK				pmax		pmax		
	comp=N,2.0nm,0.9s							
YAK				pmax		pmax		
	comp=E,7.0nm,0.9s							
YAK				MLR		MLR		
	comp=E,78nm,11.0s							
YAK				MLR		MLR		
	comp=Z,93nm,11.0s							
YAK				MLR		MLR		
	comp=N,36nm,9.0s							
TTA	**Tatalina**	**17.93**	**66**	*e*P		**Pn**	**19 32 39.2**	**+3.4**
TTA				pmax		pmax		
	comp=Z,19nm,1.4s							
TTA	**Tatalina**	**17.93**	**66**	*e*P		**Pn**	**19 32 39.2**	**+3.5**
	comp=Z,19nm,1.4s							
TIXI	**Tiksi**	**18.11**	**322**	*e*P		**Pn**	**19 32 38.2**	**+0.2**
TIXI				*e*S		**Sn**	**19 36 02.4**	**+2.6**
TIXI				pmax		pmax		
	comp=Z,7.0nm,1.7s							
TIXI				smax				
	comp=N,40nm,11.3s							
TIXI				smax				
	comp=E,20nm,10.7s							
TIXI				MLR		MLR		
	comp=Z,79nm,11.0s							
HABR	**Khabarovsk**	**21.45**	**249**	⇑*e*P		**P**	**19 33 15.5**	**+0.8**
HABR				S		**S**	**19 37 13.4**	**+1.2**
HABR				pmax		pmax		
	comp=Z,49nm,1.9s,mb4.5							
ILAR	**Eielson Array**	**21.56**	**59**	P		**P**	**19 33 17.1**	**+1.3**
	comp=Z,5.6nm,1.0s,mb4.0,baz=273,slow=9.7,SNR=27							
ASAJ	**Asahikawa**	**21.71**	**230**	LR		LR	19 43 44.4	
	comp=Z,60nm,18.0s,MS3.0,baz=127,slow=42							
KLR	**Kul'dur**	**22.45**	**255**	*e*P		**P**	**19 33 21.8**	**-3.6**
DAWY	**Dawson**	**24.88**	**59**	*e*P		**P**	**19 33 49.4**	**+0.2**
INK	**Inuvik**	**26.05**	**48**	P		**P**	**19 34 00.1**	**+0.3**
	comp=Z,4.8nm,0.8s,mb4.1,baz=275,slow=10,SNR=10							
INK				LR		LR	19 45 47.6	
	comp=Z,128nm,18.2s,MS3.5,baz=275,slow=40							
BOD	**Bodaibo**	**26.09**	**287**	*e*P		**P**	**19 33 59.3**	**-0.9**
BOD				pmax		pmax		
	comp=Z,4.0nm,1.0s,mb3.9							
MJAR	**Matsushiro Arr**	**29.94**	**229**	P		**P**	**19 34 34.1**	**-0.5**
	comp=Z,0.3nm,0.3s,mb3.5,baz=7.5,slow=11,SNR=4.9							
MJAR				LR		LR	19 47 43.6	
	comp=Z,105nm,18.7s,MS3.5,baz=25,slow=39							
SNY	**Shenyang**	**31.78**	**253**	⇓P		**P**	**19 34 51.0**	**+0.2**
SNY				AP		pP	19 35 00.5	+5.3
SNY				XP		sP	19 35 04.5	+7.5
SNY				PP		PP	19 35 53.3	-9.2
SNY				S		**S**	**19 39 55.8**	**-4.5**
SNY				XS		sS	19 40 07.3	-0.4
SNY				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.7							
SNY				AMB		AMB		
	comp=Z,108nm,5.6s							
SNY				LR		LR		
	comp=N,105nm,13.9s							
SNY				LR		LR		
	comp=Z,107nm,19.2s							
TLY	**Talaya**	**34.51**	**283**	*e*P		**P**	**19 35 13.6**	**-1.0**
TLY				*e*S		**S**	**19 40 34.6**	**-8.2**
TLY				pmax		pmax		
	comp=Z,6.0nm,2.1s,mb4.2							
TLY				MLR		MLR		
	comp=Z,68nm,13.0s,MS3.6							
ULN	**Ulaanbaatar**	**35.40**	**276**	⇑*e*P		**P**	**19 35 22.5**	**+0.2**
ULN	**Ulaanbaatar**	**35.40**	**276**	*e*P		**P**	**19 35 23.0**	**+0.6**
	comp=Z,5.8nm,1.1s,mb4.4							
YKA	**Yellowknife Ar**	**35.59**	**52**	P		**P**	**19 35 24.0**	**+0.1**
	comp=Z,1.0nm,0.6s,mb3.9,baz=303,slow=8.2,SNR=16							
YKA				PcP		PcP	19 37 52.4	-0.2
	comp=Z,0.8nm,0.8s,baz=311,slow=3.5,SNR=11							
YKA	**Yellowknife Ar**	**35

comp=Z,7.0nm,1.3s,mb4.5
AAK Ala-Archa 54.62 295 *e*P P **19 37 54.2 -0.8**
comp=Z,5.3nm,0.9s,mb4.6
AKTK Aktyubinsk 55.02 312 P P **19 37 57.3 -0.6**
AKTO Aktyubinsk 55.02 312 P P **19 37 57.3 -0.6**
comp=Z,0.9nm,0.5s,mb4.1,baz=48,slow=7.0,SNR=4.7
NB2 NORSAR Subarra 56.97 346 P P **19 38 10.2 -1.7**
comp=Z,0.7nm,0.4s,mb4.8,baz=14,slow=7.4
NOA NORSAR Array B 56.97 346 P P **19 38 11.2 -0.7**
comp=Z,1.4nm,0.7s,mb4.1,baz=14,slow=7.3,SNR=3.9
LSA Lhasa 57.20 273 *e*P P **19 38 13.8 +0.3**
LSA pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
LSA Lhasa 57.20 273 *e*P P **19 38 13.8 +0.3**
comp=Z,3.8nm,0.9s,mb4.4
AKASG Malin Array Be 63.56 331 P P **19 38 56.0 -1.0**
comp=Z,0.3nm,0.3s,mb3.8,baz=23,slow=6.1,SNR=5.0
AKASG Malin Array Be 63.56 331 *i* P P **19 38 56.0 -1.0**
GOF Gofitskoye 64.80 319 *e*P P **19 39 05.6 +0.5**
KIV Kislovodsk 65.90 319 *e*P P **19 39 12.0 -0.2**
KIV pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
KIV MLR MLR
comp=Z,21nm,19.0s,MS3.4
ZEI Tsey 66.56 317 *e*P P **19 39 17.2 +0.7**
GERES GERESS Array B 68.46 341 P P **19 39 27.5 -1.0**
comp=Z,0.5nm,0.6s,mb3.7,baz=44,slow=12,SNR=4.1
BRTR Keskin Array B 72.55 323 P P **19 39 53.1 -0.4**
comp=Z,0.7nm,0.6s,mb3.8,baz=20,slow=3.9,SNR=7.1
BRTR Keskin Array B 72.55 323⇑ *e*P P **19 39 54.2 +0.7**
WRA Warramunga Arr 84.37 210 P P **19 40 58.2 -0.5**
comp=Z,1.4nm,0.7s,mb4.2,baz=12,slow=5.0,SNR=12
WRA Warramunga Arr 84.37 210⇑ *e*P P **19 40 58.2 -0.5**
FITZ Fitzroy Crossi 85.00 218 P P **19 41 01.5 -0.3**
comp=Z,3.1nm,0.9s,mb4.4,baz=202,slow=5.4,SNR=4.5
ASAR Alice Springs 88.05 209 P P **19 41 14.6 -2.3**
comp=Z,0.6nm,0.8s,mb3.9,baz=6.2,slow=4.8,SNR=6.8
QSPA South Pole Qui 150.53 180 *e*P PKPdf 19 48 15.9 +3.1

IDC 25 19:37:55.9±1.5, 203N×12636E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=162.7km s-min=23.8km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.19**	**161**	P		P	19 43 03.3	-1.0
	1.0nm,0.4s,baz=338,slow=10,SNR=30							
WRA				PcP		PcP	19 46 52.2	-0.3
	0.3nm,0.5s,baz=333,slow=2.2,SNR=5.8							
WB2	**Warramunga Arr**	**23.20**	**161**	*e*P		P	19 43 03.3	-1.0
ASAR	**Alice Springs**	**26.57**	**164**	P		P	19 43 37.5	+2.0
	0.4nm,0.4s,baz=348,slow=12,SNR=4.7							
ASAR				PcP		PcP	19 47 00.1	+0.1
	0.3nm,0.5s,baz=349,slow=1.9,SNR=4.6							
MKAR	**Makanchi Array**	**58.74**	**326**	P		P	19 47 55.9	+0.4
	0.5nm,0.4s,baz=119,slow=8.4,SNR=14							

SVSA 25 19:39:52.4±0.9, 3917N×3011W, h0km, MD3.6, ML3.0, Error ellipse: s-maj=24.3km s-min=8.3km az=34.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PTCA	**Ponta do Capel**	**1.18**	**119**	*e*S		Sg	19 40 25.7	-4.6
PTCA								
	40nm,0.2s							
CALA	**Caldeira**	**1.25**	**118**	*e*S		Sg	19 40 27.2	-5.3
HOR	**Horta**	**1.32**	**119**	*e*S		Sg	19 40 28.7	-6.2
PCND	**Candelaria**	**1.47**	**118**	*e*P		Pn	19 40 15.8	-4.3
PCND				*e*S		Sg	19 40 32.6	-6.9
PCND								
	96nm,0.2s							
PICO	**Pico**	**1.48**	**116**	*e*P		Pn	19 40 15.0	-5.2
PICO				*e*S		Sg	19 40 32.5	-7.3
ROSA	**Rosais**	**1.52**	**107**	*e*S		Sg	19 40 33.8	-7.6
PTEI	**Pico do Teixo**	**1.53**	**116**	*e*S		Sb	19 40 34.0	-7.5
PTEI								
	77nm,0.4s							
PBOI	**Pico dos Bois**	**1.54**	**118**	*e*S		Sn	19 40 34.4	-7.4
PBOI								
	121nm,0.4s							
PGRA	**Graciosa**	**1.66**	**94**	*er*x			19 40 29.1	
PMAN	**Manadas**	**1.67**	**108**	*er*x			19 40 28.3	
PID	**Ribeirinha**	**1.72**	**114**	*e*P		Pn	19 40 18.8	-4.7
PID				*e*S		Sn	19 40 38.5	-7.7

IDC 25 19:55:14.4±5.3, 724S×14747E, h124km±49km, mb3.0/2, mb1 3.1/4, mb1mx2.9/13, mbtmp3.3/4, Error ellipse: s-maj=84.0km s-min=49.8km az=125.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**2.18**	**188**	P		Pn	19 55 50.8	+0.6
	5.6nm,0.3s,baz=28,slow=15,SNR=21							
PMG				S		Sn	19 56 18.2	+0.6
	1.9nm,0.3s,baz=344,slow=18,SNR=2.9							
WRA	**Warramunga Arr**	**17.94**	**224**	P		Pn	19 59 15.0	-0.8
	0.1nm,0.3s,baz=51,slow=11,SNR=13							
ASAR	**Alice Springs**	**20.89**	**217**	P		P	19 59 48.3	+1.6
	0.5nm,0.4s,baz=52,slow=9,SNR=9.9							
FITZ	**Fitzroy Crossi**	**23.85**	**241**	P		P	20 00 15.4	-0.7
	0.6nm,0.4s,baz=48,slow=12,SNR=8.6							
TORD	**Torodi Ar. Bea**	**145.83**	**283**	PKPbc		PKPbc	20 14 39.4	+0.3
	0.5nm,1.1s,baz=78,slow=3.5,SNR=4.7							

*IDC **25** 19:55:43.4±0.6, 1491S×16691E, h0km, mb4.4/16, mb1 4.5/17, mb1mx4.5/19, mbtmp4.4/17, ML4.5/1, MS4.2/13, Ms1 4.2/13, ms1mx3.9/28, Error ellipse: s-maj=20.5km s-min=15.1km az=104.0*
*ISCJB **25** 19:55:44.5±3.7, 1495S±005×16687E±008, h16km±25km, mb4.6/38, MS4.1/17, Error ellipse: s-maj=14.1km s-min=7.3km az=144.0*
*HRVD **25** 19:55:48.7±0.3, 1504S×16673E, h29km, MW5.0/62, Centroid moment Tensor Solution. LP body waves: s50,c67;Mantle waves: s62,c84; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.49±.13; $M_{\theta\theta}$-0.32±.10; $M_{\phi\phi}$-3.17±.10; $M_{r\theta}$1.04±.17; $M_{\theta\phi}$0.91±.08; $M_{\phi r}$-0.64±.14; Best double couple: Mw3.6700×10^{16} NP1:ϕ_s355.00000°, δ39.00000°, λ.109.00000°. NP2: ϕ_s152.00000°, δ54.00000°, λ75.00000°. Principal axes: T 3.7780, Plg76.0000°, Azm14.0000°; N -0.2240, Plg12.0000°, Azm160.0000°; P -3.5560, Plg8.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **25** 19:55:48.2, 1455S×167.13E, h32km, mB5.0, mb4.7, Ms4.4, Msz4.0*
*NEIC **25** 19:55:48.7±3.1, 1495S×16692E, h34km±20km, mb4.7/11, Error ellipse: s-maj=11.6km s-min=7.4km az=80.0*
*MOS **25** 19:55:50.2±1.2, 1450S×16634E, h33km, mb5.1/10, Error ellipse: s-maj=13.1km s-min=10.9km az=118.8*
*LDG **25** 19:56:11.9±0.3, 1628S×16602E, h240km, Mb4.4/3, Error ellipse: s-maj=56.6km s-min=15.5km az=82.0*

ISC 25 19:55:48.5±3.8, 1493S±005×16700E±008, h33km±26km, h31km±1.9km:pP-P, n170, σ1s10/89, mb4.6/38, MS4.1/17, 3C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BKM	**Butte a Klehm**	**2.97**	**157**⇑	*i*P		**Pn**	**19 56 42.3**	**+9.0**
DZM	**Mont Dzumac**	**7.12**	**184**	Pn		**Pn**	**19 57 30.9**	**+0.6**
	7.6nm,0.3s,baz=9.4,slow=20,SNR=96							
DZM				Sn		**Sn**	**19 58 50.3**	**+0.2**
	9.3nm,0.3s,baz=130,slow=21,SNR=7.1							
DZM				LR		LR	19 59 58.9	
	comp=Z,3μm,20.8s,baz=356,slow=36							
HNR	**Honiara**	**8.80**	**308**	Pn		**Pn**	**19 57 54.2**	**+0.8**
	22nm,0.3s,baz=104,slow=8.3,SNR=15							
HNR				Sn		**Sn**	**19 59 30.3**	**-1.0**
	17nm,0.3s,baz=82,slow=13,SNR=3.7							
HNR				LR		LR	20 00 50.6	
	comp=Z,2μm,20.2s,baz=177,slow=35							
HNR	**Honiara**	**8.80**	**308**	*e*P		**Pn**	**19 57 53.7**	**+0.4**
	126nm,0.6s							
CTA	**Charters Tower**	**20.43**	**252**	*e*P		**P**	**20 00 23.1**	**+0.2**
	15nm,0.8s							
CTA	**Charters Tower**	**20.43**	**252**	P		**P**	**20 00 23.0**	**0.0**
	17nm,0.8s,baz=78,slow=12,SNR=19							
CTA				LR		LR	20 06 46.9	
	comp=Z,749nm,20.2s,MS4.0,baz=1.8,slow=33							
CTA	**Charters Tower**	**20.43**	**252**	*e*P		**P**	**20 00 23.1**	**+0.2**
CTA				pmax		pmax		
	comp=Z,15nm,0.8s							
CTAO	**Charters Tower**	**20.43**	**252**	*e*P		**P**	**20 00 23.0**	**+0.1**
CTAO				pmax		pmax		
	comp=Z,25nm,0.9s							
CTAO	**Charters Tower**	**20.43**	**252**	*e*P		**P**	**20 00 23.0**	**0.0**
	comp=Z,25nm,0.9s							
AFI	**Afiamalu**	**20.58**	**90**	LR		LR	20 06 26.5	
	comp=Z,570nm,20.2s,MS3.9,baz=132,slow=31							
URZ	**Urewera**	**24.90**	**161**	P		**P**	**20 01 07.9**	**-0.3**
	comp=Z,4.6nm,0.5s,mb4.3,baz=274,slow=9.2,SNR=2.9							
URZ				LR		LR	20 08 38.7	
	comp=Z,313nm,20.4s,MS3.8,baz=30,slow=31							
CNB	**Canberra Magne**	**25.75**	**215**	*e*P		**P**	**20 01 20.5**	**+4.5**
	comp=Z,9.7nm,0.6s,mb4.5							
STKA	**Stephens Creek**	**28.67**	**230**	*e*P		**P**	**20 01 40.9**	**-1.3**
	comp=Z,3.6nm,0.6s,mb4.3							
STKA	**Stephens Creek**	**28.67**	**230**	P		**P**	**20 01 40.5**	**-1.7**
	comp=Z,5.6nm,1.0s,mb4.2,baz=30,slow=6.3,SNR=5.5							
STKA				LR		LR	20 12 19.1	
	comp=Z,621nm,20.7s,MS4.2,baz=42,slow=35							
RPZ	**Rata Peaks**	**28.90**	**174**	LR		LR	20 11 25.3	
	comp=Z,581nm,18.4s,MS4.2,baz=207,slow=33							
WRAB	**Tennant Creek**	**31.52**	**256**	*e*P		**P**	**20 02 10.4**	**+3.0**
WRAB	**Tennant Creek**	**31.52**	**256**	*e*P		**P**	**20 02 12.2**	**+4.8**
	comp=Z,9.7nm,1.2s,mb4.5							
WRA	**Warramunga Arr**	**31.53**	**256**	P		**P**	**20 02 05.5**	**-2.0**
	comp=Z,1.8nm,1.1s,mb3.8,baz=81,slow=6.7,SNR=15							
WRA				ScP		ScP	20 08 50.7	+10
	comp=Z,1.4nm,0.9s,baz=88,slow=3.4,SNR=6.8							
ASAR	**Alice Springs**	**32.36**	**249**	P		**P**	**20 02 13.8**	**-1.0**
	comp=Z,3.7nm,0.9s,mb4.2,baz=76,slow=9.3,SNR=15							
ASAR				PcP		PcP	20 05 04.8	+2.8
	comp=Z,0.9nm,0.6s,baz=88,slow=2.5,SNR=4.8							
GUMO	**Guam**	**35.81**	**321**	LR		LR	20 16 40.0	
	comp=Z,194nm,19.3s,MS3.9,baz=302,slow=35							
FITZ	**Fitzroy Crossi**	**39.72**	**260**	*e*P		**P**	**20 03 16.5**	**-1.3**
	comp=Z,15nm,0.9s,mb4.7							
FITZ	**Fitzroy Crossi**	**39.72**	**260**	P		**P**	**20 03 16.5**	**-1.3**
	comp=Z,4.7nm,0.7s,mb4.3,baz=144,slow=6.0,SNR=15							
FITZ				LR		LR	20 19 25.1	
	comp=Z,581nm,18.5s,MS4.5,baz=90,slow=36							
PPT	**Papeete**	**41.71**	**100**	*e*LR		LR	20 15 36.2	
	comp=Z,396nm,25.0s							
PPT	**Papeete**	**41.71**	**100**	LR		LR	20 16 23.0	
	comp=Z,187nm,18.9s,MS4.0,baz=346,slow=30							
TBI	**Tubuai**	**41.84**	**108**	*e*LR		LR	20 15 42.6	
	comp=Z,193nm,25.5s							
MBWA	**Marble Bar**	**45.24**	**255**	*e*P		**P**	**20 04 02.3**	**-0.4**
	comp=Z,34nm,1.7s,mb4.9							
CBIJ	**Chichi jima**	**49.23**	**330**	LR		LR	20 22 56.2	
	comp=Z,239nm,18.1s,MS4.2,baz=128,slow=34							
NWAO	**Narrogin (SRO)**	**48.42**	**239**	P		**P**	**20 04 26.6**	**-0.9**
	comp=Z,7.5nm,0.9s,mb4.7,baz=344,slow=20,SNR=3.2							
NWAO				LR		LR	20 25 13.7	
	comp=Z,627nm,19.2s,MS4.6,baz=109,slow=37							
NWAO	**Narrogin (SRO)**	**48.42**	**239**	*e*P		**P**	**20 04 28.0**	**+0.5**
RKT	**Rikitea**	**55.16**	**108**	*e*LR		LR	20 21 45.1	
	comp=Z,284nm,25.0s							
MJAR	**Matsushiro Arr**	**57.96**	**333**	P		**P**	**20 05 37.5**	**-0.2**
	comp=Z,3.1nm,0.7s,mb4.5,baz=167,slow=8.0,SNR=10.0							
MJAR				LR		LR	20 26 53.3	
	comp=Z,78nm,19.1s,MS3.8,baz=110,slow=32							
MJAR	**Matsushiro Arr**	**57.96**	**333**	P		**P**	**20 05 37.5**	**-0.2**
MJAR				LR		LR	20 26 53.3	
MAJO	**Matsushiro**	**57.96**	**333**	*e*P		**P**	**20 05 36.8**	**-0.9**
MAJO				pmax		pmax		
	comp=Z,14nm,1.2s,mb4.9							
MAJO	**Matsushiro**	**57.96**	**333**	*e*P		**P**	**20 05 36.8**	**-0.9**
	comp=Z,14nm,1.2s,mb4.9							
MAT	**Matsushiro**	**57.96**	**333**	P		**P**	**20 05 36.5**	**-1.2**
MAT	**Matsushiro**	**57.96**	**333**	P		**P**	**20 05 37.0**	**-0.7**
MAT				pmax		pmax		
	comp=Z,3.0nm,1.0s,mb4.3							
MAT	**Matsushiro**	**57.96**	**333**	P		**P**	**20 05 37.0**	**-0.7**
	comp=Z,3.0nm,1.0s,mb4.3							
VNDA	**Vanda**	**62.66**	**181**	P		**P**	**20 06 09.7**	**-0.1**
	comp=Z,2.3nm,0.7s,mb4.4,baz=4.7,slow=8.2,SNR=19							
SSE	**Sheshan**	**63.49**	**317**	P		**P**	**20 06 16.8**	**+1.5**
SSE				AP		pP	20 06 26.0	+0.6
SSE				XP		sP	20 06 30.0	+0.7
SSE				S		**S**	**20 14 52.0**	**+5.8**
SSE				AMB		AMB		
	comp=Z,27nm,0.7s,mb5.5							
SSE				AMB		AMB		
	comp=Z,23nm,3.7s							
SSE				LR		LR		
	comp=N,35nm,18.3s,MS3.7							
SSE				LR		LR		
	comp=E,28nm,18.3s,MS3.7							
SSE				LR		LR		
	comp=Z,67nm,21.8s,MS3.8							
YSS	**Yuzh-Sakhalins**	**65.34**	**342**	*e*P		**P**	**20 06 28.1**	**+0.7**
YSS				pmax		pmax		
	comp=Z,93nm,2.0s,mb5.5							
YSS	**Yuzh-Sakhalins**	**65.34**	**342**	*e*P		**P**	**20 06 28.2**	**+0.8**
PET	**Petropavlovsk**	**68.06**	**355**	*e*P		sP	20 07 00.2	+1.5
PET				MLR		MLR		
	comp=Z,100nm,16.0s,MS4.1							
MDJ	**Mudanjiang**	**68.33**	**332**	P		**P**	**20 06 47.5**	**+1.0**
MDJ				AMB		AMB		
	comp=Z,13nm,1.2s,mb4.8							
MDJ				AMB		AMB		
	comp=Z,31nm,4.0s							
MDJ				LR		LR		
	comp=N,40nm,22.9s,MS3.7							
MDJ				LR		LR		
	comp=E,31nm,20.0s,MS3.7							
MDJ				LR		LR		
	comp=Z,44nm,22.9s,MS3.6							
MDJ	**Mudanjiang**	**68.33**	**332**	*e*P		**P**	**20 06 47.5**	**+1.0**
	comp=Z,18nm,1.1s,mb5.0							
HABR	**Khabarovsk**	**69.22**	**338**	*e*P		**P**	**20 06 52.3**	**+0.3**
SNY	**Shenyang**	**69.23**	**327**⇑	P		**P**	**20 06 55.3**	**+3.3**
SNY				AP		pP	20 07 05.5	+3.3
SNY				XP		sP	20 07 09.5	+3.4
SNY				PP		PP	20 09 31.5	+6.3
SNY				XS		sS	20 16 16.8	+4.1
SNY				AMB		AMB		
	comp=Z,10.0nm,0.5s,mb5.0							
SNY				AMB		AMB		
	comp=Z,91nm,5.2s							
SNY				LR		LR		
	comp=N,145nm,21.0s							
SNY				LR		LR		
	comp=Z,90nm,16.5s,MS4.1							
CN2	**Changchun**	**69.68**	**329**	*e*P		**P**	**20 06 54.8**	**0.0**
CN2				AMB		AMB		
	comp=Z,20nm,1.2s,mb4.9							
KLR	**Kul'dur**	**71.09**	**336**	*e*P		**P**	**20 07 00.0**	**-3.4**
BJT	**Baijiatuau**	**72.25**	**321**	*e*P		**P**	**20 07 11.4**	**+1.0**
BJI	**Beijing**	**72.26**	**321**	*e*P		**P**	**20 07 11.5**	**+1.0**
BJI				AMB		AMB		
	comp=Z,12nm,1.0s,mb4.8							
BJI				LR		LR		
	comp=Z,123nm,27.9s,MS4.0							
XAN	**Xi'an**	**73.63**	**313**	P		**P**	**20 07 18.5**	**-0.1**
XAN				AP		pP	20 07 29.8	+0.9
XAN				AMB		AMB		
	comp=Z,7.0nm,1.0s,mb4.5							
KMI	**Kunming**	**74.19**	**302**	P		**P**	**20 07 23.5**	**+1.6**
KMI				AMB		AMB		
	comp=Z,11nm,1.4s,mb4.6							
QSPA	**South Pole Qui**	**75.10**	**180**	*e*P		**P**	**20 07 26.4**	**-0.7**
QSPA				*e*P			20 07 28.6	
HHC	**Hu-ho-hao-te**	**75.57**	**320**	*e*P		**P**	**20 07 31.5**	**+1.7**
HHC				AMB		AMB		
	comp=Z,9.0nm,1.2s,mb4.6							
HHC				AMB		AMB		
	comp=Z,119nm,5.7s							
HIA	**Hailar**	**76.33**	**330**	*e*P		**P**	**20 07 31.2**	**-3.0**
LZH	**Lanzhou**	**78.26**	**312**	*e*P		**P**	**20 07 47.5**	**+2.5**
LZH				AP		pP	20 07 52.0	-3.3
LZH				XP		sP	20 07 55.5	-3.6
LZH				AMB		AMB		
	comp=Z,38nm,1.4s,mb5.1							
LZH				AMB		AMB		
	comp=Z,112nm,4.0s							
MAW	**Mawson**	**81.60**	**202**	P		**P**	**20 08 04.2**	**+1.1**
	comp=Z,3.6nm,0.8s,mb4.4,baz=134,slow=8.7,SNR=4.1							
ULN	**Ulaanbaatar**	**82.14**	**324**	*e*P		**P**	**20 08 06.0**	**+0.1**
ULN	**Ulaanbaatar**	**82.14**	**324**	*e*P		**P**	**20 08 06.1**	**+0.2**
YAK	**Yakutsk**	**82.15**	**343**	*e*P		**P**	**20 08 05.8**	**-0.1**
YAK				pmax		pmax		
	comp=Z,8.0nm,0.6s,mb4.8							
YAK	**Yakutsk**	**82.15**	**343**	*e*P		**P**	**20 08 05.9**	**0.0**
SONM	**Songino Array**	**82.50**	**324**	P		**P**	**20 08 08.4**	**+0.6**
	comp=Z,2.2nm,1.0s,mb4.2,baz=138,slow=5.3,SNR=15							
SLKM	**Skilak Lake**	**82.61**	**20**	*e*P		**P**	**20 08 08.6**	**+0.3**
GTA	**Gaotai**	**82.62**	**314**	*e*P		**P**	**20 08 09.0**	**+0.6**
GTA				AP		pP	20 08 18.3	-0.5
GTA				XP		sP	20 08 22.8	+0.2
GTA				AMB		AMB		
	comp=Z,9.0nm,1.4s,mb4.6							
BILL	**Bilibino**	**82.74**	**360**	*c*e	P	**P**	**20 08 08.6**	**-0.4**
BILL				*e*	pP		20 08 16.9	-2.5
BILL				pmax	pmax			
	comp=Z,26nm,1.0s,mb5.2							
BILL	**Bilibino**	**82.74**	**360**	*e*P		**P**	**20 08 08.0**	**-1.0**
SHL	**Shillong**	**83.43**	**299**	*e*P		**P**	**20 08 13.0**	**+0.4**
PMR	**Palmer**	**83.78**	**19**	*e*P		**P**	**20 08 15.3**	**+1.0**
PMR				pmax	pmax			
	comp=Z,3.0nm,0.3s,mb4.9							
PMR	**Palmer**	**83.78**	**19**	*e*P		**P**	**20 08 15.3**	**+1.0**
	comp=Z,3.1nm,0.3s,mb4.9							
BOD	**Bodaibo**	**84.54**	**335**	*e*P		**P**	**20 08 16.2**	**-2.0**
BOD				pmax	pmax			
	comp=Z,5.0nm,1.4s,mb4.5							
LSA	**Lhasa**	**85.45**	**302**	*e*P		**P**	**20 08 24.5**	**+1.7**
ZAK	**Zakamensk**	**85.56**	**325**	*e*P		**P**	**20 08 23.0**	**-0.4**
ZAK				pmax	pmax			
	comp=Z,13nm,1.3s,mb5.0							
ZAK				pmax	pmax			
	comp=Z,7.0nm,2.0s,mb4.5							
TLY	**Talaya**	**86.01**	**326**	*e*P		**P**	**20 08 25.0**	**-0.6**
TLY				pmax	pmax			
	comp=Z,10.0nm,1.5s,mb4.8							
TLY	**Talaya**	**86.01**	**326**	*e*P		**P**	**20 08 25.2**	**-0.4**
COLA	**College**	**86.58**	**18**	*e*P		**P**	**20 08 26.5**	**-1.9**
ILAR	**Eielson Array**	**86.80**	**18**	P		**P**	**20 08 28.3**	**-1.1**
	comp=Z,2.3nm,0.7s,mb4.5,baz=238,slow=5.4,SNR=22							
JIRN	**Jiri**	**88.93**	**299**	*e*P		**P**	**20 08 41.0**	**+1.4**
GUN	**Gumba**	**89.27**	**299**	*e*P		**P**	**20 08 42.1**	**+0.9**
PKI	**Pulchoki**	**89.56**	**299**	*e*P		**P**	**20 08 43.3**	**+0.7**
KKN	**Kakani**	**89.74**	**299**	*e*P		**P**	**20 08 43.2**	**-0.2**
DMN	**Daman**	**89.83**	**299**	*e*P		**P**	**20 08 44.9**	**+1.0**
TIXI	**Tiksi**	**90.11**	**349**⇓	*i*P		**P**	**20 08 43.0**	**-2.2**
TIXI				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.8							
TIXI	**Tiksi**	**90.11**	**349**	*e*P		**P**	**20 08 44.1**	**-1.1**
GKN	**Gorkha**	**90.34**	**299**	*e*P		**P**	**20 08 45.8**	**-0.4**
KOLN	**Koldanda**	**91.16**	**298**	*e*P		**P**	**20 08 49.0**	**-1.0**
SNAA	**Sanae**	**93.33**	**183**	P		**P**	**20 08 59.1**	**-0.9**
	comp=Z,1.1nm,0.8s,mb4.3,baz=274,slow=1.5,SNR=3.3							
SNAA	**Sanae**	**93.33**	**183**	*e*P		**P**	**20 08 53.9**	**-6.2**
VNA3	**Neumayer Olymp**	**94.01**	**181**	*e*P		**P**	**20 09 03.2**	**0.0**
VNA3				*e*			20 09 06.4	
VNA3				*e*		pP	20 09 12.9	-0.8
VNA3				*e*			20 09 17.7	
VNA2	**Neumayer--Watz**	**94.27**	**182**	*e*P		**P**	**20 09 05.4**	**+1.0**
	baz=189,slow=6.3							
VNA2				*e*			20 09 07.7	
VNA2				*e*		pP	20 09 14.9	0.0
VNA2				*e*			20 09 19.2	
VNA2				*e*			20 09 22.8	
MKAR	**Makanchi Array**	**97.17**	**316**	P		**P**	**20 09 17.4**	**-0.2**
	comp=Z,2.1nm,0.8s,mb4.6,baz=98,slow=6.7,SNR=9.1							
MKAR	**Makanchi Array**	**97.17**	**316**	*i* P		**P**	**20 09 18.5**	**+0.9**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ZAL	**Zalesovo**	**97.41**	**324**	P		**P**	**20 09 17.3**	**-1.4**
	comp=Z,0.9nm,0.9s,mb4.2,baz=322,slow=2.4,SNR=5.1							
ZAL	**Zalesovo**	**97.41**	**324**	P		**P**	**20 09 17.3**	**-1.4**
YKA	**Yellowknife Ar**	**97.84**	**27**	P		**P**	**20 09 19.2**	**-1.4**
	comp=Z,0.6nm,0.8s,mb4.2,baz=257,slow=4.5,SNR=10							
YKA	**Yellowknife Ar**	**97.84**	**27**	P		**P**	**20 09 19.2**	**-1.4**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ARCES	**ARCESS Array B**	**120.38**	**345**	PKP		PKPdf	20 14 35.7	-0.6
	comp=Z,3.3nm,0.7s,baz=83,slow=2.2,SNR=20							
SDV	**Santo Domingo**	**123.41**	**89**	PKP		PKPdf	20 14 42.8	+0.6
	comp=Z,2.7nm,0.7s,baz=284,slow=3.4,SNR=5.2							
KIV	**Kislovodsk**	**124.80**	**313**	*i* PKIKP		PKPdf	20 14 47.4	+2.6
KIV				pmax	pmax			
	comp=Z,5.0nm,1.1s							
KIV				MLR	MLR			
	comp=Z,76nm,19.0s,MS4.4							
FINES	**FINESS Array B**	**125.81**	**338**	PKP		PKPdf	20 14 46.8	0.0
	comp=Z,3.4nm,0.9s,baz=127,slow=1.0,SNR=7.2							
NOA	**NORSAR Array B**	**130.75**	**345**	SKPbc		SKPbc	20 18 23.9	+6.3
	comp=Z,2.0nm,1.0s,baz=60,slow=10.0,SNR=2.7							
AKASG	**Malin Array Be**	**130.75**	**326**	PKP		PKPdf	20 14 56.6	+0.4
	comp=Z,0.5nm,0.4s,baz=51,slow=1.9,SNR=4.4							
AKASG				SKPbc		SKPbc	20 18 26.1	+8.4
	comp=Z,0.6nm,0.5s,baz=52,slow=3.9,SNR=5.1							
BRTR	**Keskin Array B**	**132.44**	**311**	PKP		PKPdf	20 14 60.0	+0.6
	comp=Z,0.4nm,0.6s,baz=28,slow=5.6,SNR=3.9							
CLL	**Collm**	**138.13**	**336**	*e*pPKPdf		pPKPdf	20 15 18.0	-2.8
EKA	**Eskdalemuir Ar**	**138.97**	**351

	comp=Z,44nm,1.1s							
LFF	**La Frestale** comp=Z,36nm,1.0s	**147.90**	**341**	*e*PKP1	PKPbc	20 15 30.7	+0.5	
MTLF	**Montolieu** comp=Z,44nm,1.2s	**148.83**	**338**	*e*PKP1	PKPbc	20 15 33.2	+0.6	
VALF	**Valcebollere**	**149.72**	**338**	PKP	PKPbc	20 15 36.5	+1.7	
EPF	**Esparros** comp=Z,15nm,1.1s	**149.75**	**340**	*e*PKP1	PKPbc	20 15 35.4	+0.5	
RESF	**Ens**	**149.95**	**340**	PKP	PKPbc	20 15 37.7	+2.3	
VIEF	**Viey**	**149.98**	**341**	PKP	PKPbc	20 15 37.7	+2.2	
EBIE	**Bielsa**	**150.12**	**340**	P	PKPbc	20 15 38.0	+2.2	
EALK	**Alkurruntz**	**150.13**	**343**	P	PKPbc	20 15 37.9	+2.1	
ETSF	**Etsaut** comp=Z,31nm,1.2s	**150.15**	**341**	*e*PKP1	PKPbc	20 15 36.6	+0.7	
SJPF	**Ste Jean** comp=Z,34nm,1.1s	**150.15**	**343**	*e*PKP1	PKPbc	20 15 36.5	+0.6	
EGRA	**Graus**	**150.50**	**340**	⇓P	PKPbc	20 15 38.7	+2.0	
ELAN	**Lanestosa**	**150.63**	**346**	P	PKPbc	20 15 38.0	+1.0	
EPOB	**Poblet**	**150.98**	**338**	P	PKPbc	20 15 38.5	+0.7	
ESAC	**San Caprasio**	**151.18**	**340**	P	PKPbc	20 15 42.9	+4.5	
EPON	**Pontenova**	**151.26**	**351**	P	PKPbc	20 15 39.5	+1.0	
ERTA	**Horta de San J**	**151.59**	**338**	P	PKPbc	20 15 41.9	+2.7	
STS	**Santiago**	**151.88**	**353**	P	PKPbc	20 15 41.2	+1.3	
EMOS	**Mosqueruela**	**152.40**	**339**	P	PKPbc	20 15 46.7	+5.6	
GUD	**Guadarrama**	**153.25**	**345**	P	PKPbc	20 15 44.2	+1.3	
ESDC	**Sonseca Array** comp=Z,1.2nm,0.8s,baz=16,slow=2.6,SNR=5.0	**154.11**	**344**	PKPbc	PKPbc	20 15 46.6	+1.8	
ESDC				PKPab	PKPab	20 15 58.8	+0.3	
	comp=Z,1.1nm,0.8s,baz=34,slow=2.5,SNR=4.4							
ESDC	**Sonseca Array**	**154.11**	**344**	P	PKPbc	20 15 48.7	+3.9	
TORD	**Torodi Ar. Bea** comp=Z,2.2nm,1.2s,baz=51,slow=1.0,SNR=4.1	**165.63**	**265**	PKP	PKPdf	20 15 50.6	+1.0	
TORD				PKPab	PKPab	20 16 49.5	+1.0	
	comp=Z,0.9nm,0.9s,baz=94,slow=3.5,SNR=3.2							

IDC ***25*** *20:10:13.2±1.6, 127N×126.05E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/17, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=109.3km s-min=21.6km az=67.0*

NEIC 25 20:10:14.2±1.1, 144N×126.46E, h10km, mb4.0/1, Error ellipse: s-maj=63.6km s-min=15.4km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=11,slow=16,SNR=5.9	**19.43**	**182**	P	Pn	20 14 40.7	-1.1
WRAB	**Tennant Creek** 3.3nm,0.6s	**22.60**	**160**	*e*P	P	20 15 14.6	-0.3
WRA	**Warramunga Arr** 1.6nm,0.4s,baz=335,slow=11,SNR=43	**22.61**	**160**	P	P	20 15 15.8	+0.8
WB2	**Warramunga Arr**	**22.61**	**160**	*e*P	P	20 15 15.9	+0.9
ASAR	**Alice Springs** 0.6nm,0.3s,baz=347,slow=12,SNR=9.4	**25.98**	**164**	P	P	20 15 47.8	+0.8
STKA	**Stephens Creek** 0.5nm,0.3s,baz=352,slow=7.3,SNR=4.7	**36.11**	**158**	P	P	20 17 15.6	-0.6
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=120,slow=7.6,SNR=11	**59.28**	**326**	P	P	20 20 16.2	+0.2

ISCJB ***25*** *20:12:11.9±2.7, 1842S×008×711W±02, h86km±22km, mb3.6/4, Error ellipse: s-maj=34.8km s-min=13.1km az=17.5*

NEIC ***25*** *20:12:13.1±2.1, 1848S×7106W, h86km±18km, mb3.7/1, Error ellipse: s-maj=30.0km s-min=12.4km az=108.0*

IDC ***25*** *20:12:13.1±3.4, 1842S×7109W, h84km±28km, mb3.5/3, mb1 3.6/6, mb1mx3.4/16, mbtmp3.8/6, MS2.8/1, Ms1 2.8/1, ms1mx2.1/17, Error ellipse: s-maj=37.9km s-min=19.5km az=94.0*

ISC 25 20:12:12.4±2.6, 1840S±009×712W±02, h81km±21km, n10, σ0§76/9, mb3.6/4, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz** 0.6nm,0.3s,baz=243,slow=6.6,SNR=24	**3.60**	**55**	P	**Pn**	**20 13 07.0**	**+1.2**
LVC	**Limon Verde** 4.1nm,0.3s,baz=340,slow=9.5,SNR=18	**4.71**	**153**	P	**Pn**	**20 13 19.7**	**-1.2**
LVC				S	**Sn**	**20 14 15.0**	**+0.8**
	4.0nm,0.3s,baz=200,slow=17,SNR=9.6						
LVC				LR	LR	20 15 26.3	
	comp=Z,95nm,18.7s,baz=212,slow=42						
SIV	**San Ignacio** 0.5nm,0.3s,baz=271,slow=10,SNR=15	**9.97**	**78**	P	**Pn**	**20 14 31.8**	**-0.9**
PLCA	**Paso Flores** 2.9nm,0.9s,mb3.6	**22.26**	**179**	P	**P**	**20 17 03.0**	**+0.4**
BDFB	**Brasilia** 2.4nm,0.5s,mb3.8,baz=285,slow=12,SNR=3.0	**22.33**	**86**	P	**P**	**20 17 03.0**	**-0.4**
TORD	**Torodi Ar. Bea** 0.6nm,0.8s,mb3.4,baz=253,slow=5.9,SNR=3.5	**78.39**	**72**	P	**P**	**20 24 04.3**	**+0.3**
YKA	**Yellowknife Ar** 0.6nm,0.7s,mb3.7,baz=134,slow=4.6,SNR=15	**87.57**	**341**	P	**P**	**20 24 51.3**	**-0.1**
YKA				pP	pP	20 25 01.5	-12
	0.3nm,0.6s,baz=137,slow=4.9,SNR=5.1						
YKA	**Yellowknife Ar**	**87.57**	**341**	P	**P**	**20 24 51.3**	**-0.1**
YKA				pP	pP	20 25 01.5	-12
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=304,slow=4.2,SNR=4.0	**144.26**	**32**	PKP	PKPdf	20 31 38.2	-0.7
SONM	**Songino Array** 0.2nm,0.4s,baz=11,slow=2.9,SNR=3.0	**150.58**	**3**	PKPbc	PKPbc	20 31 55.8	+1.0

SVSA 25 20:19:42.8±0.9, 3903N×3025W, h0km, MD3.7, ML2.9, Error ellipse: s-maj=25.0km s-min=7.3km az=23.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**1.22**	**111**	*e*P	Pg	20 20 02.3	-3.9
PTCA				*e*S	Sg	20 20 16.9	-5.1
PTCA	28nm,0.2s						
CALA	**Caldeira**	**1.29**	**110**	*e*S	Sg	20 20 18.9	-5.4
HOR	**Horta**	**1.36**	**111**	*e*S	Sg	20 20 20.1	-6.5
PCND	**Candelaria**	**1.51**	**111**	*e*P	Pn	20 20 06.6	-4.4
PCND				*e*S	Sg	20 20 24.0	-7.2
PCND	90nm,0.2s						
PICO	**Pico**	**1.52**	**110**	*e*P	Pn	20 20 06.4	-4.8
PICO				*e*S	Sg	20 20 23.7	-8.0
PTEI	**Pico do Teixo**	**1.57**	**109**	*e*P	Pn	20 20 07.0	-5.0
PTEI				*e*S	Sn	20 20 25.5	-7.5
PTEI	47nm,0.2s						
PBOI	**Pico dos Bois**	**1.58**	**111**	*e*S	Sn	20 20 25.7	-7.5
PBOI	57nm,0.3s						
ROSA	**Rosais**	**1.60**	**100**	*e*S	Sn	20 20 26.0	-7.7
PMAN	**Manadas**	**1.73**	**102**	*er*x		20 20 05.4	
PID	**Ribeirinha**	**1.77**	**109**	*er*x		20 20 24.9	

CSEM ***25*** *20:22:59.4±0.9, 3938N×2997W, h0km, ML2.9, Error ellipse: s-maj=19.9km s-min=6.6km az=44.0, After PDA*

PDA ***25*** *20:22:59.4±0.9, 3938N×2997W, h0km, MD3.5, ML2.9, Error ellipse: s-maj=19.9km s-min=6.6km az=44.0*

SVSA 25 20:22:59.4±0.9, 3938N×2997W, h0km, MD3.5, ML2.9, Error ellipse: s-maj=19.9km s-min=6.6km az=44.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCA	**Ponta do Capel**	**1.21**	**131**	*e*S	Sg	20 20 33.4	-4.9
PTCA	33nm,0.3s						
CALA	**Caldeira**	**1.27**	**129**	*e*S	Sg	20 20 34.5	-5.7
HOR	**Horta**	**1.35**	**129**	*e*P	Pg	20 20 20.3	-4.9
HOR				*e*S	Sg	20 20 36.2	-6.5
PCND	**Candelaria**	**1.48**	**127**	*e*P	Pn	20 20 23.1	-4.2
PCND				*e*S	Sg	20 20 39.9	-7.2
PCND	89nm,0.2s						
PICO	**Pico**	**1.49**	**126**	*e*P	Pn	20 20 22.3	-5.1
PICO				*e*S	Sg	20 20 39.8	-7.4
ROSA	**Rosais**	**1.50**	**116**	*e*S	Sg	20 20 40.0	-7.5
PTEI	**Pico do Teixo**	**1.54**	**125**	*e*S	Sn	20 20 41.3	-7.4
PTEI	60nm,0.2s						
PBOI	**Pico dos Bois**	**1.56**	**127**	*e*S	Sn	20 20 41.7	-7.6
PBOI	65nm,0.3s						
PMAN	**Manadas**	**1.64**	**116**	*er*x		20 23 43.4	
PID	**Ribeirinha**	**1.72**	**122**	*e*P	Pn	20 23 25.9	-4.7
PID				*e*S	Sn	20 23 45.7	-7.5
MESC	**Monte Escuro**	**3.88**	**113**	*e*S	Sn	20 24 36.7	-10

CASC 25 20:23:25.7±1.5, 1368N×9064W, h33km±5km, MD3.6, 2C-4D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.52**	**20**	*e*P	Pb	20 23 36.8	+0.1
IXG				*e*S	Sb	20 23 45.4	+1.2
PCG	**Pacaya**	**0.71**	**3**	*e*P	Pn	20 23 40.8	+1.4
SBLS	**San Blas**	**1.00**	**81**	⇓*i*P	Pn	20 23 45.5	+2.0
SBLS				*e*S	Sn	20 23 59.5	+3.1
RBDL	**Robledal**	**1.02**	**65**	⇓*i*P	Pn	20 23 46.4	+2.7
SNJE	**San Jose**	**1.02**	**79**	⇓*i*P	Pn	20 23 45.9	+2.2
JAT	**Jato**	**1.15**	**303**	⇓*e*P	Pn	20 23 45.8	+0.3
TP2	**Tecpan 2**	**1.16**	**342**	⇓*e*P	Pn	20 23 46.0	+0.4
TP2				*e*S	Sn	20 24 02.3	+2.1
BOQS	**Boqueron**	**1.33**	**88**	*e*P	Pn	20 23 50.1	+2.2
SNET	**Serv Nac Est T**	**1.37**	**90**	*e*P	Pn	20 23 47.3	-1.2
SNET				*e*S	Sn	20 24 04.5	-1.0
LFRS	**El Faro**	**1.54**	**92**	*e*P	Pn	20 23 52.7	+1.9
LFRS				*e*S	Sn	20 24 12.5	+2.9
LBRS	**Las Brisas**	**1.56**	**88**	⇓*e*P	Pn	20 23 53.3	+2.3
LCBS	**La Ceiba**	**1.62**	**91**	*e*P	Pn	20 23 54.1	+2.2
LCBS				*e*S	Sn	20 24 14.7	+3.1
SNVI	**San Vicente**	**1.75**	**92**	*e*P	Pn	20 23 56.0	+2.2
SNVI				*e*S	Sn	20 24 18.8	+3.8

ISCJB ***25*** *20:27:34.2±1.1, 2113S×009×686W±02, h111km±12km, mb3.7/1, Error ellipse: s-maj=28.1km s-min=13.4km az=31.3*

NEIC ***25*** *20:27:35.0±1.1, 2105S×6861W, h99km±14km, mb3.9/1, Error ellipse: s-maj=22.5km s-min=12.7km az=106.0*

IDC ***25*** *20:27:35.2±1.4, 2120S×6854W, h111km±13km, mb3.8/2, mb1 3.6/6, mb1mx3.5/16, mbtmp4.0/6, Error ellipse: s-maj=34.8km s-min=15.8km az=112.0*

ISC 25 20:27:35.6±1.1, 2114S±009×685W±02, h102km±13km, n11, σ1§06/11, mb3.7/1, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde** 33nm,0.3s,baz=33,slow=10,SNR=444	**1.51**	**193**	P	**Pn**	**20 28 01.5**	**-0.5**
LVC				S	**Sn**	**20 28 21.8**	**-0.1**
	119nm,0.3s,baz=246,slow=20,SNR=39						
LPAZ	**La Paz** 1.2nm,0.3s,baz=184,slow=8.2,SNR=22	**4.84**	**5**	P	**Pn**	**20 28 48.3**	**+2.2**
LPAZ	**La Paz**	**4.84**	**5**	*e*P	**Pn**	**20 28 46.0**	**-0.1**
SIV	**San Ignacio** 5.2nm,0.3s,baz=250,slow=10,SNR=90	**8.73**	**55**	P	**Pn**	**20 29 38.1**	**-0.9**
CPUP	**Villa Florida** 0.3nm,0.3s,baz=281,slow=10.0,SNR=4.1	**11.49**	**119**	P	**Pn**	**20 30 16.2**	**-0.1**
CPUP	**Villa Florida**	**11.49**	**119**	*e*P	**Pn**	**20 30 17.6**	**+1.3**
PLCA	**Paso Flores** 0.3nm,0.3s,baz=347,slow=11,SNR=5.9	**19.61**	**185**	P	**P**	**20 31 55.5**	**-0.2**
PLCA	**Paso Flores** 4.6nm,0.8s	**19.61**	**185**	*e*P	**P**	**20 31 57.9**	**+2.1**
BDFB	**Brasilia** 6.3nm,0.4s,baz=260,slow=8.9,SNR=10	**20.22**	**78**	P	**P**	**20 32 03.2**	**+0.8**
TORD	**Torodi Ar. Bea** 0.7nm,0.5s,mb3.7,baz=265,slow=5.9,SNR=13	**76.91**	**70**	P	**P**	**20 39 15.2**	**-1.5**
MKAR	**Makanchi Array** 1.1nm,0.7s,baz=330,slow=2.9,SNR=8.5	**145.14**	**36**	PKPbc	PKPbc	20 46 59.1	-1.7
MKAR	1.1nm,0.7s,baz=329,slow=3.7,SNR=11			pPKPbc		20 47 30.5	

IDC ***25*** *20:29:30.4±1.1, 644N×9330E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.7/21, mbtmp3.6/8, ML3.4/1, Error ellipse: s-maj=45.8km s-min=18.5km az=54.0*

ISCJB ***25*** *20:29:33.4±4.3, 63N±02×932E±03, h39km±38km, mb3.7/9, Error ellipse: s-maj=59.8km s-min=19.3km az=116.8*

NEIC ***25*** *20:29:35.6±2.7, 643N×9334E, h36km±24km, mb3.9/2, Error ellipse: s-maj=34.0km s-min=11.6km az=63.0*

ISC 25 20:29:36.1±3.6, 64N±02×932E±03, h42km±32km, n12, σ0§59/11, mb3.7/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat** 0.8nm,0.3s,baz=319,slow=15,SNR=5.6	**6.68**	**122**	Pn	**Pn**	**20 31 11.5**	**-0.2**
PSI	**Prapat**	**6.68**	**122**	Pn	**Pn**	**20 31 11.5**	**-0.2**
LSA	**Lhasa** 2.9nm,0.8s,mb3.8	**23.29**	**355**	*e*P	**P**	**20 34 40.9**	**+0.7**
MKAR	**Makanchi Array** 0.5nm,0.6s,mb3.3,baz=168,slow=6.2,SNR=7.7	**41.36**	**349**	P	**P**	**20 37 17.6**	**-0.4**
SONM	**Songino Array** 0.3nm,0.7s,mb3.2,baz=187,slow=9.4,SNR=3.3	**42.81**	**13**	P	**P**	**20 37 29.0**	**-0.7**
ZAL	**Zalesovo** 1.3nm,0.5s,mb4.2,baz=317,slow=7.7,SNR=6.5	**47.91**	**353**	P	**P**	**20 38 11.2**	**+1.0**
WRA	**Warramunga Arr** 0.4nm,0.4s,mb3.8,baz=303,slow=8.9,SNR=12	**48.14**	**124**	P	**P**	**20 38 12.6**	**+0.6**
ASAR	**Alice Springs** 0.3nm,0.5s,mb3.6,baz=304,slow=7.9,SNR=6.6	**49.66**	**128**	P	**P**	**20 38 23.4**	**-0.2**
CHKZ	**Chkalovo** 1.3nm,0.7s,mb4.0	**50.62**	**343**	*e*P	**P**	**20 38 30.5**	**-0.3**
BRTR	**Keskin Array B** 0.5nm,0.7s,mb3.8,baz=111,slow=5.4,SNR=3.8	**62.74**	**312**	P	**P**	**20 39 57.2**	**+0.3**
FINES	**FINESS Array B** 1.1nm,0.7s,mb3.9,baz=118,slow=11,SNR=4.0	**73.62**	**333**	P	**P**	**20 41 04.2**	**-0.8**
CPUP	**Villa Florida** 0.3nm,0.3s,baz=90,slow=3.0,SNR=3.1	**145.64**	**231**	PKPbc	PKPbc	20 49 12.6	+2.4

IDC 25 20:45:56.7±1.9, 1839S×7163W, h0km, mb3.6/3, mb1 3.8/6, mb1mx3.7/16, mbtmp3.7/6, ML3.9/3, Error ellipse: s-maj=39.6km s-min=29.6km az=49.0, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz** 1.2nm,0.3s,baz=244,slow=14,SNR=23	**3.95**	**58**	Pn	Pn	20 47 01.1	+2.6
LVC	**Limon Verde** 3.0nm,0.3s,baz=338,slow=11,SNR=7.0	**4.91**	**149**	Pn	Pn	20 47 13.4	+1.7
LVC				Sn	Sn	20 48 09.7	+0.5
	2.3nm,0.3s,baz=203,slow=20,SNR=4.2						
SIV	**San Ignacio** 0.6nm,0.3s,baz=268,slow=10,SNR=13	**10.37**	**78**	Pn	Pn	20 48 26.5	-0.2
BDFB	**Brasilia** 1.8nm,0.4s,baz=243,slow=11,SNR=2.6	**22.75**	**87**	P	P	20 50 59.0	-1.4
TORD	**Torodi Ar. Bea** 0.4nm,0.9s,baz=263,slow=5.1,SNR=4.1	**78.78**	**72**	P	P	20 58 02.7	+1.5
YKA	**Yellowknife Ar** 0.2nm,0.7s,baz=138,slow=4.6,SNR=6.4	**87.43**	**342**	P	P	20 58 45.0	-0.9

ISCJB ***25*** *20:48:03.8±0.2, 1812S±003×7125W±004, h34km, mb5.4/168, MS5.1/67, Error ellipse: s-maj=6.1km s-min=3.9km az=103.0*

MOS ***25*** *20:48:04.3±1.0, 1797S×7125W, h33km, mb5.7/84, MS5.0/24, Error ellipse: s-maj=8.8km s-min=5.3km az=80.3*

BJI ***25*** *20:48:04.2, 1760S×71.14W, h23km, mB5.4, Ms5.6, Msz5.4*

HRVD ***25*** *20:48:05.4±0.1, 1841S×7191W, h44km, MW5.5/90, Centroid moment Tensor Solution. LP body waves: s87,c165;Mantle waves: s90,c174; Half duration: 1§4 Moment tensor: Scale 10¹⁷Nm; Mrr 1.58±.03; Mθθ 0.10±.03; Mϕϕ -1.68±.04; Mrθ 0.31±.03; Mθϕ 1.21±.02; Mϕr -1.33±.04; Best double couple: M₀2.38400×10¹⁷ NP1:ϕs 317.00000°, δ30.00000°, λ65.00000°, NP2:ϕs 165.00000°, δ63.00000°, λ103.00000°. Principal axes: T 2.0620, Plg69.0000°, Azm101.0000°; N 0.6430, Plg12.0000°, Azm339.0000°; P -2.7060, Plg17.0000°, Azm245.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***25*** *20:48:05.4±0.1, 1814S×71.16W, mb5.5/146, MS5.1/26, MW5.6 Error ellipse: s-maj=4.8km s-min=3.1km az=225.0, Moment Tensor Solution. s35 Moment tensor: Scale 10¹⁷Nm; Mrr 1.86; Mθθ 0.11; Mϕϕ -1.97; Mrθ -0.17; Mθϕ 0.87; Mϕr -2.41; Best double couple: M₀3.20000×10¹⁷ NP1: ϕs 179.00000°, δ71.00000°, λ105.00000°. NP2: ϕs 319.00000°, δ25.00000°, λ53.00000°. Principal axes: T 3.1200, Plg61.0000°, Azm112.0000°; N 0.1600, Plg15.0000°, Azm354.0000°; P -3.2800, Plg24.0000°, Azm257.0000°;*

NEIC Felt [III] at Ilo and Moquegua; [II] at Arequipa, Tacna and Ubinas, Peru. Also felt [II] at Arica, Chile.

IDC ***25*** *20:48:05.5±0.5, 1814S×71.17W, h36km±3km, mb5.1/14, mb1 5.2/18, mb1mx5.2/19, mbtmp5.2/18, ML5.3/2, MS5.0/21, Ms1 5.0/21, ms1mx4.9/28 Error ellipse: s-maj=17.4km s-min=11.5km az=79.0*

LDG ***25*** *20:48:08.8±0.3, 1743S×7092W, h50km, Mb5.4/33, Ms5.2/9, Error ellipse: s-maj=21.8km s-min=4.2km az=3.0*

GUC ***25*** *20:48:10.4±5.8, 1926S×7192W, h0km±999km, MW5.6(NEIC)*

SZGRF ***25*** *20:48:21.7, 1506S×6889W, h33km, mb5.4, Central Bolivia*

ISC 25 20:48:05.6±0.2, 1815S±003×7115W±004, h35km, h35km±1.4km: pP-P, n577, σ0§83/427, mb5.4/168, MS5.1/67, 23C-6D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.71**	**349**	*i* P	**Pn**	**20 48 28.0**	**-5.0**
LPAZ	**La Paz** 11nm,0.3s,baz=238,slow=11,SNR=48	**3.43**	**58**	Pn	**Pn**	**20 49 04.1**	**+7.5**
LPAZ				LR	LR	20 50 31.6	
	comp=Z,17μm,21.9s,baz=299,slow=42						
LVC	**Limon Verde** 113nm,0.3s,baz=332,slow=9.2,SNR=78	**4.91**	**155**	Pn	**Pn**	**20 49 17.0**	**+0.1**
LVC				Sn	**Sn**	**20 50 10.4**	**-2.1**
	347nm,0.3s,baz=219,slow=20,SNR=14						
LVC				LR	LR	20 51 24.7	
	comp=Z,47μm,18.2s,baz=325,slow=40						
ANCH	**Antofagasta**	**5.54**	**173**	*e*P	**Pn**	**20 49 21.9**	**-3.7**
ANCH				*i* S	**Sn**	**20 50 20.4**	**-7.7**
CPN1	**Cerro Paranal**	**6.48**	**174**	*e*P	**Pn**	**20 49 34.1**	**-4.4**
CPN1				*i* S	**Sn**	**20 50 37.2**	**-14**
NNA	**Nana** 212nm,0.9s	**8.23**	**317**	*e*P	**Pn**	**20 50 01.8**	**-0.7**
SIV	**San Ignacio** 27nm,0.3s,baz=264,slow=12,SNR=119	**9.88**	**79**	Pn	**Pn**	**20 50 26.0**	**+0.9**
TLL	**Tololo Astrono**	**11.96**	**179**	*e*P	**Pn**	**20 50 47.1**	**-6.5**
ATAH	**Atahualpa** 0.5nm,0.3s,baz=108,slow=9.6,SNR=3.3	**13.14**	**327**	Pn	**Pn**	**20 51 09.6**	**-0.1**
ATAH				LR	LR	20 56 28.9	
	comp=Z,13μm,21.9s,baz=0.0,slow=39						
CFAA	**Coronel Fontan** 0.1nm,0.3s,baz=342,slow=14,SNR=8.6	**13.65**	**169**	Pn	**Pn**	**20 51 11.0**	**-5.7**
CFAA				LR	LR	20 56 53.5	
	comp=Z,730nm,18.7s,baz=343,slow=39						
MDZ	**Mendoza**	**14.81**	**172**	*e*P	**Pn**	**20 51 33.1**	**+0.6**
FCH	**Farellones**	**15.13**	**177**	*e*P	**Pn**	**20 51 35.3**	**-1.4**
CPUP	**Villa Florida** 1.6nm,0.3s,baz=287,slow=12,SNR=14	**15.16**	**125**	Pn	**Pn**	**20 51 35.2**	**-1.8**
CPUP				LR	LR	20 58 27.3	
	comp=Z,5μm,18.3s,baz=287,slow=41						
CPUP	**Villa Florida**	**15.16**	**125**	Pn	**Pn**	**20 51 35.2**	**-1.8**
CPUP				LR	LR	20 58 27.3	
SCR	**San Cristobal**	**15.28**	**180**	*e*P	**Pn**	**20 51 33.3**	**-5.3**
LMEL	**Las Melosas**	**15.65**	**177**	⇓*i*P	**Pn**	**20 51 42.9**	**-0.5**
OTAV	**Otavalo** 100nm,1.0s	**19.63**	**338**	*e*P	**Pn**	**20 52 32.7**	**0.0**
LPA	**La Plata**	**20.42**	**147**	*ce*P	**P**	**20 52 41.0**	**+1.3**
LPA	**La Plata**	**20.42**	**147**	*ce*P	**P**	**20 52 47.0**	**+7.3**
LPA				*ep*P		20 52 49.0	
LPA				*ep*P		20 52 52.0	
LPA				*e*S	**S**	**20 56 29.0**	**+2.6**
LPA				*e*S	**S**	**20 56 33.0**	**+6.6**
LPA				*es*S	sS	20 56 42.0	+0.9
TRQA	**Tornquist** 789nm,1.6s,mb5.8	**21.39**	**160**	*e*P	**P**	**20 52 49.4**	**-0.8**
BDFB	**Brasilia** 123nm,0.5s,mb5.6,baz=266,slow=10,SNR=110	**22.28**	**87**	P	**P**	**20 53 00.4**	**+0.7**
BDFB				LR	LR	21 02 33.4	
	comp=Z,7μm,19.2s,MS5.1,baz=271,slow=39						
PLCA	**Paso Flores** 132nm,1.1s,mb5.3,baz=358,slow=11,SNR=66	**22.51**	**179**	P	**P**	**20 53 01.6**	**-0.5**
PLCA				PcP	PcP	20 56 56.0	+0.8
	9.4nm,0.8s,baz=338,slow=2.7,SNR=4.1						
PLCA	**Paso Flores**	**22.51**	**179**	P	**P**	**20 53 01.6**	**-0.5**
PLCA				PcP	PcP	20 56 56.0	+0.8
PLCA				LR	LR		
	comp=Z,3μm,19.0s,MS4.8						
ROSC	**El Rosal** comp=Z,15nm,0.5s,mb4.7,baz=89,slow=23,SNR=10.0	**23.08**	**352**	P	**P**	**20 53 08.1**	**+0.1**
PAYG	**Puerto Ayora**	**25.59**	**311**	PFAKE		20 53 40.0	+8.6
PAYG				LR	LR		
	comp=Z,4μm,19.0s,MS4.9						
SDV	**Santo Domingo** comp=Z,28nm,0.9s,mb4.8,baz=243,slow=4.6,SNR=25	**26.87**	**1**	P	**P**	**20 53 41.9**	**-1.1**
SDV	**Santo Domingo** comp=Z,37nm,0.8s,mb5.0	**26.87**	**1**	*e*P	**P**	**20 53 41.9**	**-1.1**
CAM4	**Nova Friburgo**	**27.12**	**104**	*e*P	**P**	**20 53 42.3**	**-2.9**
CAM4				*i*		20 53 45.2	
CAM4				*i*		20 53 48.3	
CAM4				*i*		20 53 56.7	
CAM4				*i*		20 54 12.0	
PCRV	**Puerto La Cruz** comp=Z,10μm,18.8s,MS5.5,baz=6.6,slow=38	**28.88**	**13**	LR	LR	21 06 34.2	
CAM3	**Guarapari**	**28.98**	**100**	*e*P	**P**	**20 53 58.8**	**-3.0**
CAM3				*i*		20 54 01.5	
CAM3				*i*	pP	20 54 09.3	-2.6
CAM3				*i*		20 54 40.7	
JTS	**JuntasAbangare**	**31.38**	**333**	PFAKE		20 54 40.0	+17
JTS				LR	LR		
	comp=Z,5μm,20.0s,MS5.2						
EFI	**East Falkland**	**35.02**	**166**	PFAKE		20 55 10.0	+15
EFI				LR	LR		
	comp=Z,2μm,21.0s,MS4.9						
CPD	**Cerro la Pandu**	**36.33**	**8**	*e*P	**P**	**20 55 03.9**	**-2.1**
SJG	**San Juan**	**36.37**	**8**	*e*P	**P**	**20 55 04.0**	**-2.4**
SJG				pmax	pmax		
	comp=Z,88nm,1.0s						
SJG	**San Juan** comp=Z,88nm,1.0s,mb5.6	**36.37**	**8**	*e*P	**P**	**20 55 04.0**	**-2.4**
MTP	**Monte Pirata**	**36.44**	**9**	*e*P	**P**	**20 55 04.2**	**-2.7**
USHA	**Ushuaia** comp=Z,10nm,0.6s,mb4.8,baz=350,slow=8.5,SNR=8.5	**36.67**	**177**	P	**P**	**20 55 09.1**	**+0.2**
CCCC	**Cccc**	**39.64**	**350**	*e*P	**P**	**20 55 33.5**	**-0.4**
HOPE	**Hope Point** comp=Z,163nm,1.1s,mb5.8	**44.81**	**152**	*e*P	**P**	**20 56 17.1**	**+1.1**
HOPE				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
COW	**Cow Castle Cre**	**52.05**	**350**	*e*P	**P**	**20 57 12.2**	**+0.4**
COW				*ep*P	pP	20 57 21.9	-0.5
JSC	**Jenkinsville**	**53.02**	**350**	*e*P	**P**	**20 57 18.4**	**-0.6**
LRAL	**Lakeview Retre** comp=Z,35nm,1.1s,mb5.2	**53.10**	**343**	*e*P	**P**	**

LTX pmax pmax
comp=Z,44nm,1.5s,mb5.3
LTX Lajitas 56.69 326 *e*P **P 20 57 45.5 0.0**
comp=Z,44nm,1.5s,mb5.3
SDMD Soldier's Deli 57.51 355 *e*P **P 20 57 50.3 -1.0**
SDMD *e*pP pP 20 58 00.7 -1.3
WCI Wyandotte Cave 57.86 346 *e*P **P 20 57 52.3 -1.5**
WCI *e**PP pP 20 58 03.1 -1.3
WCI pmax pmax
comp=Z,33nm,0.8s,mb5.4
WCI Wyandotte Cave 57.86 346 *e*P **P 20 57 52.3 -1.5**
comp=Z,33nm,0.8s,mb5.4
WCI *e*pP pP 20 58 03.1 -1.3
USIN University of 57.94 345 *e*P **P 20 57 52.5 -1.8**
comp=Z,54nm,0.8s,mb5.6
MVL Millersville 58.05 355 *e*P **P 20 57 55.0 -0.1**
MVL *e*pP pP 20 58 06.0 +0.2
MCWV Mont Chateau 58.08 352 *e*P **P 20 57 55.2 -0.1**
comp=Z,47nm,0.8s,mb5.6
BRNJ Basking Ridge 58.62 357 P **P 20 57 59.3 +0.2**
FVM French Village 58.70 342 *e*P **P 20 57 58.1 -1.6**
FVM pmax pmax
comp=Z,43nm,0.8s,mb5.5
FVM French Village 58.70 342 *e*P **P 20 57 58.1 -1.5**
comp=Z,43nm,0.8s,mb5.5
SSPA Standing Stone 58.82 354 *e*P **P 20 58 00.6 +0.1**
comp=Z,90nm,1.4s,mb5.6
PAL Palisades 58.91 358 *e*P **P 20 58 00.7 -0.4**
PAL *e**PP pP 20 58 11.3 -0.5
PAL pmax pmax
comp=Z,74nm,1.1s,mb5.6
PAL Palisades 58.91 358 *e*P **P 20 58 00.7 -0.4**
comp=Z,74nm,1.2s,mb5.6
PAL *e*pP pP 20 58 11.3 -0.5
CCM Cathedral Cave 59.01 342 *e*P **P 20 57 59.8 -2.0**
comp=Z,35nm,1.0s,mb5.3
CCM *e*pP pP 20 58 11.6 -0.9
CCM LR LR
comp=Z,777nm,20.0s,MS4.8
CLNB Carlsbad 59.12 328 *e*P **P 20 58 02.0 -0.5**
GDL2 Guadalupe Moun 59.32 327 *e*P **P 20 58 03.9 -0.1**
MNTX Cornudas Mount 59.46 326 *e*P **P 20 58 03.7 -1.2**
comp=Z,31nm,1.2s,mb5.2
RKT Rikitea 59.53 253 *e*S **S 21 06 16.4 +3.8**
comp=Z,1μm,28.2s
RKT *e*LR LR 21 15 39.0
comp=Z,2μm,22.2s,baz=104
CPRX Cap Rock 59.73 328 *e*P **P 20 58 07.7 +1.0**
ALLY Alegheny Colle 60.08 352 *e*P **P 20 58 08.7 -0.5**
QUA2 Belchertown 60.14 359 *e*P **P 20 58 08.4 -1.2**
comp=Z,60nm,1.1s,mb5.5
AMTX Amarillo 60.20 331 *e*P **P 20 58 08.3 -1.6**
comp=Z,7.6nm,1.0s,mb4.7
BINY Binghamton 60.21 356 *e*P **P 20 58 10.1 0.0**
comp=Z,75nm,0.9s,mb5.7
BINY *e*pP pP 20 58 19.3 -1.5
BINY *e*sP sP 20 58 25.5 +0.6
WES Weston 60.23 360 *e*P **P 20 58 10.1 -0.1**
WES pmax pmax
comp=Z,97nm,1.1s,mb5.8
WES Weston 60.23 360 *e*P **P 20 58 10.1 -0.2**
comp=Z,97nm,1.2s,mb5.7
HRV Harvard--Oak R 60.35 360 *e*P **P 20 58 10.8 -0.3**
comp=Z,119nm,1.0s,mb5.9
HRV *e*pP pP 20 58 20.8 -1.0
HRV LR LR
comp=Z,1μm,19.0s,MS5.1
ERPA Erie 60.52 352 *e*P **P 20 58 11.7 -0.5**
comp=Z,118nm,1.0s,mb6.0
ACCN Adirondack Com 61.27 358 *e*P **P 20 58 16.9 -0.4**
HNH Hanover 61.56 359 *e*P **P 20 58 19.6 +0.4**
comp=Z,3.4nm,1.0s,mb4.4
HNH *e*pP pP 20 58 32.0 +2.0
NCB Newcomb 61.88 357 *e*P **P 20 58 21.2 -0.1**
comp=Z,34nm,1.1s,mb5.4
MIV Mineville/With 61.96 358 *e*P **P 20 58 21.8 -0.1**
BNM Barren Site 62.02 327 *e*P **P 20 58 22.6 +0.3**
LBNH Lisbon 62.09 359 *e*P **P 20 58 22.9 +0.1**
comp=Z,64nm,1.0s,mb5.7
LBNH LR LR
comp=Z,1μm,20.0s,MS5.0
LPM Los Pinos Moun 62.15 327 *e*P **P 20 58 23.8 +0.6**
LAZ Ladron 62.48 327 *e*P **P 20 58 26.0 +0.6**
ANMO Albuquerque 62.56 328 *e*P **P 20 58 25.9 0.0**
ANMO Albuquerque 62.56 328 *e*P **P 20 58 25.7 -0.2**
comp=Z,138nm,2.0s,mb5.7
CBKS Cedar Bluff 62.68 335 *e*P **P 20 58 26.2 -0.5**
CBKS pmax pmax
comp=Z,36nm,1.0s,mb5.5
CBKS Cedar Bluff 62.68 335 *e*P **P 20 58 26.2 -0.5**
comp=Z,36nm,1.1s,mb5.4
FRNY Flat Rock 62.72 358 *e*P **P 20 58 27.0 0.0**
TUC Tucson 62.91 323 *e*P **P 20 58 28.1 -0.2**
comp=Z,47nm,1.8s,mb5.3
TUC LR LR
comp=Z,2μm,21.0s,MS5.2
MSNY Massena 62.94 357 *e*P **P 20 58 28.5 +0.1**
VNA3 Neumayer Olymp 63.91 162⇑ *i*P **P 20 58 34.7 -0.2**
VNA3 *e* 20 58 37.5
VNA3 *e* pP 20 58 42.8 -2.8
VNA3 *e* pP 20 58 45.2 -0.4
VNA3 *e* 20 58 48.7
VNA3 *e* 20 58 59.0
VNA1 Neumayer--Stat 64.13 161⇑ *i*P **P 20 58 36.7 +0.4**
VNA1 *e* 20 58 38.8
VNA1 *e* pP 20 58 44.7 -2.4
VNA1 *e* pP 20 58 47.5 +0.4
VNA1 *e* 20 58 51.3
VNA1 *e* 20 59 01.0
SDCO Great Sand Dun 64.31 330 *e*P **P 20 58 38.3 +0.8**
VNA2 Neumayer--Watz 64.49 161⇑ *i*P **P 20 58 38.6 -0.1**
baz=278,slow=5.8
VNA2 *e* 20 58 41.1
VNA2 *e* pP 20 58 46.4 -3.1
VNA2 *e* pP 20 58 49.6 +0.1
VNA2 *e* 20 58 53.8
VNA2 *e* 20 59 04.8
VNA2 *e* 20 59 21.2
VNA2 *e* 20 59 33.8
VNA2 *e* 20 59 45.4
VNA2 *e* 20 59 51.7
PV01 Paradox Valley 66.10 328 *e*P **P 20 58 49.8 +0.7**
SNAA Sanae 66.11 161⇑ *i*P **P 20 58 43.0 -6.2**
SNAA *e* 20 58 47.5
SNAA *e* pP 20 58 53.7 -6.3
SNAA *e* 20 58 58.3
SNAA *e* 20 59 10.9
SNAA Sanae 66.11 161 *e*P **P 20 58 42.9 -6.3**
comp=Z,87nm,1.1s,mb5.7
SMCO Snowmass 66.14 330 *e*P **P 20 58 49.9 +0.5**
comp=Z,26nm,0.9s,mb5.2
PV10 Paradox Valley 66.52 328 *e*P **P 20 58 50.8 -1.1**
PHWY Pilot Hill 67.16 333 *e*P **P 20 58 56.0 +0.2**
PFO Pinyon Flat Ob 67.20 320 P **P 20 58 57.0 +0.9**
comp=Z,176nm,1.1s,mb6.0,SNR=7.3
PFO Pinyon Flat Ob 67.20 320 *e*P **P 20 58 57.3 +1.2**
PFO pmax pmax
comp=Z,51nm,1.2s,mb5.4
PFO Pinyon Flat Ob 67.20 320 *e*P **P 20 58 57.3 +1.1**
comp=Z,51nm,1.3s,mb5.4
TAOE Nuku Hiva Isla 67.41 268 *e*S S 21 07 53.5 +2.7
comp=Z,2μm,26.4s
TAOE *e*LR LR 21 19 09.7
comp=Z,4μm,30.2s
NEN Nelson 67.65 323 *e*P **P 20 58 59.6 +0.6**
SRU San Rafael 67.83 328 *e*P **P 20 59 00.5 +0.4**
SRU pmax pmax
comp=Z,56nm,1.3s,mb5.4
SRU San Rafael 67.83 328 *e*P **P 20 59 00.5 +0.4**
comp=Z,56nm,1.4s,mb5.4
MSU Marysvale 68.24 326 *e*P **P 20 59 03.7 +1.0**
RWWY Rawlins 68.25 332 *e*P **P 20 59 02.7 0.0**
comp=Z,147nm,1.6s,mb5.8
RWWY pP pP 20 59 14.8 +1.1
EYMN Ely 68.27 345 *e*P **P 20 59 01.4 -1.5**
comp=Z,27nm,1.0s,mb5.2
TMUT Trail Mountain 68.32 327 *e*P **P 20 59 03.6 +0.5**
ARUT Antelope Range 68.39 325 *e*P **P 20 59 04.9 +1.3**
RSSD Black Hills 68.88 335 *e*P **P 20 59 06.3 -0.4**
RSSD pmax pmax
comp=Z,38nm,1.3s,mb5.2
RSSD Black Hills 68.88 335 *e*P **P 20 59 06.3 -0.4**
comp=Z,38nm,1.3s,mb5.2
MPU Maple Canyon 69.08 328 *e*P **P 20 59 08.4 +0.5**
comp=Z,80nm,1.4s,mb5.5
DAU Daniels Canyon 69.19 328 *e*P **P 20 59 09.5 +0.9**
NLU North Lily Min 69.26 327 *e*P **P 20 59 09.6 +0.6**
TPNV Topopah Spring 69.37 323 *e*P **P 20 59 11.1 +1.4**
TPNV pmax pmax
comp=Z,70nm,1.1s,mb5.5
TPNV Topopah Spring 69.37 323 *e*P **P 20 59 11.1 +1.4**
comp=Z,70nm,1.1s,mb5.5
DAC Darwin (Calif) 69.69 321 *e*P **P 20 59 12.3 +0.6**
TCUT Toone Canyon 69.79 329 *e*P **P 20 59 13.0 +0.7**
DBIC Dimbokro 69.88 76 P **P 20 59 13.1 +0.2**
comp=Z,72nm,0.8s,mb5.7,baz=224,slow=6.3,SNR=41
DBIC LR LR 21 30 12.4
comp=Z,2μm,18.0s,MS5.3,baz=228,slow=36
PDAR Pinedale Array 70.17 331 P **P 20 59 14.4 -0.2**
comp=Z,6.5nm,0.8s,mb4.6,baz=149,slow=6.6,SNR=38
PDAR LR LR 21 31 45.7
comp=Z,1μm,20.2s,MS5.1,baz=142,slow=37
HWUT Hardware Ranch 70.24 329 *e*P **P 20 59 14.9 -0.1**
comp=Z,32nm,0.9s,mb5.2
SPUT South Promonto 70.45 328 *e*P **P 20 59 16.7 +0.3**
MAIT Maitri 70.66 160 *e*P **P 20 59 18.2 +0.6**
NVL N'lazarevskaya 70.69 160 *c i*P **P 20 59 17.5 -0.3**
NVL *e**PP pP 20 59 26.3 -2.4
NVL *e* 20 59 44.2
NVL pmax pmax
comp=Z,134nm,1.9s,mb5.5
NVL pmax pmax
comp=N,5.0nm,0.9s
NVL pmax pmax
comp=E,57nm,1.9s
NVL MLR MLR
comp=Z,1μm,18.0s,MS5.2
TPH Tonopah 70.70 323 *e*P **P 20 59 18.7 +0.8**
TPH pmax pmax
comp=Z,33nm,1.0s,mb5.2
TPH Tonopah 70.70 323 *e*P **P 20 59 18.7 +0.8**
comp=Z,33nm,1.0s,mb5.2
AHID Auburn Hatcher 70.89 330 *e*P **P 20 59 19.0 -0.1**
comp=Z,34nm,1.1s,mb5.2
HVU Hansel Valley 70.97 328 P **P 20 59 20.2 +0.7**
HVU pmax pmax
comp=Z,26nm,0.9s,mb5.2
HVU Hansel Valley 70.97 328 *e*P **P 20 59 19.7 +0.2**
comp=Z,26nm,0.9s,mb5.2
MTUM Tungsten Hills 70.99 322 *e*P **P 20 59 20.8 +1.1**
LOHW Long Hollow 71.31 331 *e*P **P 20 59 21.8 +0.2**
comp=Z,238nm,2.1s,mb5.8
TPAW Teton Pass 71.38 331 *e*P **P 20 59 22.3 +0.3**
comp=Z,31nm,1.0s,mb5.2
MOOW Moose Ponds 71.48 331 *e*P **P 20 59 22.8 +0.2**
comp=Z,21nm,1.2s,mb5.0
MNV Mina 71.48 323 P **P 20 59 23.4 +0.8**
MNV pmax pmax
comp=Z,24nm,1.1s,mb5.0
MNV Mina 71.48 323 *e*P **P 20 59 23.4 +0.8**
comp=Z,24nm,1.1s,mb5.0
ULM Lac du Bonnet 71.52 344 P **P 20 59 21.5 -1.3**
comp=Z,12nm,0.6s,mb5.0,baz=154,slow=5.6,SNR=20
ULM LR LR 21 33 04.2
comp=Z,918nm,21.9s,MS5.0,baz=144,slow=38
ULM Lac du Bonnet 71.52 344 P **P 20 59 21.5 -1.3**
ULM LR LR 21 33 04.2
NVAR Mina Array Bea 71.57 323 P **P 20 59 24.3 +1.2**
comp=Z,13nm,0.8s,mb4.9,baz=152,slow=5.8,SNR=75
IMW Indian Meadow 71.68 331 *e*P **P 20 59 24.4 +0.6**
comp=Z,54nm,1.2s,mb5.3
FLWY Flagg Ranch 71.72 331 *e*P **P 20 59 24.9 +0.8**
comp=Z,62nm,1.0s,mb5.5
LRV Little Rabbit 71.86 320 *e*P **P 20 59 26.0 +1.1**
LAO LASA Array 71.87 335 *e*P **P 20 59 25.0 0.0**
comp=Z,87nm,1.3s,mb5.5
QSPA South Pole Qui 72.02 180⇑ *i*P **P 20 59 25.9 +0.1**
comp=Z,76nm,1.1s,mb5.5
QSPA LR LR
comp=Z,436nm,20.0s,MS4.7
YFT Old Faithful 72.06 331 *e*P **P 20 59 27.7 +1.6**
CMB Columbia Colle 72.53 321 P **P 20 59 29.9 +1.0**
CMB pmax pmax
comp=Z,23nm,1.1s,mb5.0
CMB Columbia Colle 72.53 321 *e*P **P 20 59 28.9 +0.1**
comp=Z,23nm,1.1s,mb5.0
GCMT Greycliff 72.58 333 *e*P **P 20 59 29.3 +0.1**
TBI Tubuai 72.59 251 *e*S S 21 08 55.5 +4.0
comp=Z,1μm,27.0s
TBI *e*LR LR 21 21 42.0
comp=Z,3μm,27.5s,baz=104
SCHQ Schefferville 72.78 3 P **P 20 59 29.8 -0.6**
comp=Z,21nm,0.9s,mb5.0,baz=174,slow=5.9,SNR=20
SCHQ pP pP 20 59 41.8 +0.4
comp=Z,13nm,0.9s,baz=105,slow=7.5,SNR=5.8
SCHQ LR LR 21 34 44.7
comp=Z,732nm,19.0s,MS5.0,baz=192,slow=38
SCHQ Schefferville 72.78 3 *e*P **P 20 59 29.8 -0.6**
comp=Z,22nm,0.9s,mb5.1
PAHR Pah Rah Range 73.05 323 *e*P **P 20 59 32.0 +0.1**
comp=Z,74nm,1.0s,mb5.6
MCMT McKenzie Canyo 73.28 330 *e*P **P 20 59 34.2 +0.9**
BOZ Bozeman (W) 73.34 332 P **P 20 59 33.7 0.0**
BOZ pmax pmax
comp=Z,46nm,1.4s,mb5.2
BOZ Bozeman (W) 73.34 332 *e*P **P 20 59 33.6 0.0**
comp=Z,46nm,1.4s,mb5.2
DLMT Dillon 73.57 331 *e*P **P 20 59 35.2 +0.2**
comp=Z,46nm,1.2s,mb5.3
OHCM Honcut 74.02 322 *e*P **P 20 59 38.5 +0.8**
PPT Papeete 74.04 256 *e*S S 21 09 11.2 +3.3
comp=Z,1μm,26.2s
PPT *e*LR LR 21 22 23.5
comp=Z,1μm,24.5s,baz=98
PPT Papeete 74.04 256 LR LR 21 25 21.0
comp=Z,1μm,18.1s,MS5.2,baz=153,slow=30
NSHM Saint Helena R 74.17 320 *e*P **P 20 59 39.8 +1.2**
HRY Holter Researc 74.25 332 *e*P **P 20 59 39.6 +0.6**
EGMT Eagleton 74.38 334 PFAKE 20 59 50.0 +10
EGMT LR LR
comp=Z,854nm,21.0s,MS5.0
HOPS Hopland 74.75 321 *e*P **P 20 59 42.6 +0.7**
comp=Z,46nm,1.2s,mb5.3
MOD Modoc 75.03 324 *e*P **P 20 59 44.4 +0.8**
comp=Z,80nm,1.2s,mb5.5
CHMT Chamberlain Mo 75.04 332 *e*P **P 20 59 44.0 +0.5**
MSO Missoula 75.29 331 *e*P **P 20 59 45.6 +0.6**
comp=Z,44nm,1.4s,mb5.2
WDC Whiskeytown Da 75.45 322 *e*P **P 20 59 44.6 -1.3**
WDC *e* pP 20 59 52.3 -4.6
WDC pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
WDC Whiskeytown Da 75.45 322 *e*P **P 20 59 44.6 -1.4**
comp=Z,7.6nm,0.8s,mb4.7
WDC *e* pP 20 59 52.3 -4.6
BMO Blue Mountains 75.47 328 *e*P **P 20 59 46.3 +0.2**
comp=Z,35nm,1.0s,mb5.2
KIPM Iron Peak 75.51 321 *e*P **P 20 59 46.6 +0.3**
VSP Spence Mountai 76.24 324 P **P 20 59 48.3 -2.2**
YBH Yreka Blue Hor 76.28 323 LR LR 21 34 00.1
comp=Z,665nm,21.1s,MS4.9,baz=124,slow=36
YBH Yreka Blue Hor 76.28 323 P **P 20 59 50.7 0.0**
YBH pmax pmax
comp=Z,25nm,1.0s
YBH Yreka Blue Hor 76.28 323 *e*P **P 20 59 50.0 -0.7**
comp=Z,25nm,1.0s,mb5.1
KHMM Horse Mountain 76.33 322 *e*P **P 20 59 52.3 +1.3**
BUOR Burton Butte 76.37 324 P **P 20 59 52.0 +0.8**
WALA Waterton Lakes 76.94 333 *e*P **P 20 59 54.1 -0.3**
comp=Z,36nm,1.0s,mb5.3
HUMO Hull Mountain 76.98 323 *e*P **P 20 59 54.1 -0.6**
comp=Z,21nm,1.1s,mb5.0
BBOR Butler Butte 77.01 324 P **P 20 59 54.9 +0.1**
FFC Flin Flon 77.21 342 P **P 20 59 54.7 -1.2**
comp=Z,65nm,1.2s,mb5.4,SNR=7.3
FFC Flin Flon 77.21 342 *e*P **P 20 59 54.6 -1.3**
FFC pmax pmax
comp=Z,63nm,1.8s,mb5.2
FFC Flin Flon 77.21 342 *e*P **P 20 59 54.6 -1.3**
comp=Z,63nm,1.8s,mb5.2
HBO Huckleberry Mo 77.43 325 P **P 20 59 58.0 +0.9**
HAWA Hanford 77.67 328 P **P 20 59 59.4 +0.9**
BROR Big Rock Looko 77.78 325 P **P 20 59 59.6 +0.5**
NEW Newport 77.81 331 LR LR 21 36 16.1
comp=Z,229nm,21.6s,MS4.5,baz=134,slow=37
OD2 Odessa Site #2 77.95 329 P **P 21 00 01.3 +1.2**
TORD Torodi Ar. Bea 78.28 72 P **P 21 00 01.8 -0.1**
comp=Z,40nm,0.9s,mb5.3,baz=255,slow=5.0,SNR=147
EBG Ellensburg 78.54 328 P **P 21 00 04.9 +1.6**
TBM Table Mountain 78.73 328 P **P 21 00 05.8 +1.5**
FCC Fort Churchill 78.93 348 *e*P **P 21 00 04.2 -1.3**
FCC pmax pmax
comp=Z,49nm,1.1s,mb5.3
FCC Fort Churchill 78.93 348 *e*P **P 21 00 04.2 -1.2**
comp=Z,49nm,1.1s,mb5.3
VNDA Vanda 79.76 190 P **P 21 00 10.3 +0.3**
comp=Z,8.3nm,0.9s,mb4.7,baz=133,slow=5.3,SNR=28
VNDA pP pP 21 00 19.9 -1.2
comp=Z,6.0nm,0.8s,baz=140,slow=8.4,SNR=10.0
VNDA LR LR 21 29 53.0
comp=Z,684nm,20.4s,MS5.0,baz=132,slow=31
VNDA Vanda 79.76 190 P **P 21 00 10.3 +0.3**
VNDA *PP pP 21 00 19.9 -1.1
EDM Edmonton 79.85 336 *e*P **P 21 00 09.6 -0.9**
CMW Cultus Mountai 80.33 328 P **P 21 00 13.3 +0.2**
SYO Syowa Base 80.36 160⇓ *i*P **P 21 00 12.4 -0.8**
SYO Syowa Base 80.36 160⇓ *i*pP pP 21 00 21.0 -3.3
SYO Syowa Base 80.36 160⇓ *i*PP PP 21 03 15.0 -1.3
PTEO Sao Teotonio 80.68 46 *e*P **P 21 00 16.9 +1.9**
comp=Z,185nm,1.6s,mb5.8
LIS Liebon 81.01 44 *e*P **P 21 00 15.6 -1.1**
PGC Sidney 81.15 328 *e*P **P 21 00 17.9 +0.5**
comp=Z,210nm,1.3s,mb5.9
PBEJ Beja 81.51 46 *e*P **P 21 00 19.8 +0.4**
comp=Z,53nm,1.4s,mb5.3
EGRO El Granado 81.52 46 P **P 21 00 19.4 -0.1**
comp=Z,81nm,1.3s,mb5.5
EVO Evora 81.67 45 *e*P **P 21 00 20.7 +0.5**
comp=Z,191nm,1.4s,mb5.5
EVO *e*R
comp=Z,2μm,20.0s
PTOM Tomar 81.97 44 *e*P **P 21 00 22.9 +1.1**
comp=Z,62nm,1.1s,mb5.5
SUR Sutherland 82.10 121 P **P 21 00 24.2 +1.7**
comp=Z,242nm,1.1s,mb6.0,SNR=10
SUR Sutherland 82.10 121 *e*P **P 21 00 23.6 +1.1**
comp=Z,63nm,1.1s,mb5.5
EMIN Mina Concepcio 82.20 46 P **P 21 00 23.9 +0.9**
comp=Z,61nm,1.2s,mb5.4
ESPR Espera 82.32 47 P **P 21 00 24.0 +0.4**
comp=Z,76nm,1.5s,mb5.4
EJIF Jimena Fronter 82.39 48 P **P 21 00 25.9 +1.9**
EJIF pmax pmax
comp=Z,38nm,1.2s,mb5.2
EJIF Jimena Fronter 82.39 48 P **P 21 00 25.9 +1.9**
comp=Z,38nm,1.2s,mb5.2
EBAD Badajoz 82.46 45 P **P 21 00 24.7 +0.4**
comp=Z,48nm,1.0s,mb5.4
PCBR Castelo Branco 82.70 44 *e*P **P 21 00 26.4 +0.8**
comp=Z,44nm,1.5s,mb5.3
PVIS Viseu 82.88 43 *e*P **P 21 00 27.0 +0.5**
comp=Z,64nm,1.6s,mb5.4
MTE Manteigas 82.94 44 *e*P **P 21 00 27.7 +0.8**
comp=Z,53nm,1.3s,mb5.4
MTE Manteigas 82.94 44 *e*S S 21 10 47.1 +3.8
MTE Manteigas 82.94 44 *e*LQ 21 22 21.4
MTE *e*LR LR 21 29 55.6
comp=Z,3μm,20.8s
MTE Manteigas 82.94 44 *e*P **P 21 00 27.8 +0.9**
comp=Z,58nm,0.9s,mb5.3
TSUM Tsumeb 83.05 108 *e*P **P 21 00 28.9 +1.5**
comp=Z,88nm,1.1s,mb5.7
EZAM Zamans 83.11 42 P **P 21 00 28.3 +0.5**
EZAM pmax pmax
comp=Z,37nm,1.0s,mb5.4
EZAM Zamans 83.11 42 P **P 21 00 28.3 +0.5**
comp=Z,36nm,1.0s,mb5.4
PVRL Vila Real 83.28 43 *e*P **P 21 00 29.6 +1.0**
comp=Z,76nm,1.2s,mb5.6
PCAB Cabril 83.31 42 *e*P **P 21 00 29.6 +0.8**
comp=Z,84nm,2.1s,mb5.4
ELOB Lobios 83.37 42 P **P 21 00 29.9 +0.8**
comp=Z,42nm,1.7s,mb5.2
STS Santiago 83.59 41 P **P 21 00 30.5 +0.3**
STS pmax pmax
comp=Z,31nm,1.0s,mb5.4
STS Santiago 83.59 41 P **P 21 00 30.5 +0.3**
comp=Z,31nm,1.0s,mb5.4
ELOJ Sierra Loja 83.65 48 P **P 21 00 32.0 +1.5**
ELOJ pmax pmax
comp=Z,58nm,1.0s,mb5.7
ELOJ Sierra Loja 83.65 48 P **P 21 00 32.0 +1.5**
comp=Z,58nm,1.0s,mb5.7
ELUQ Luque 83.76 47 P **P 21 00 32.5 +1.4**
ELUQ pmax pmax
comp=Z,73nm,1.0s,mb5.8
ELUQ Luque 83.76 47 P **P 21 00 32.5 +1.4**
comp=Z,72nm,1.0s,mb5.8
ERON Agron 83.83 48 P **P 21 00 32.5 +1.1**
comp=Z,5.7nm,0.7s,mb4.8
EADA Adamuz 83.84 47 P **P 21 00 31.5 +0.1**
comp=Z,78nm,1.2s,mb5.7
ECOG Cogollos-Vega 84.12 48 P **P 21 00 33.7 +0.8**
ECOG pmax pmax
comp=Z,16nm,1.0s,mb5.1
ECOG Cogollos-Vega 84.12 48 P **P 21 00 33.7 +0.8**
comp=Z,16nm,1.0s,mb5.1
PBRG Braganca 84.18 43 *e*P **P 21 00 34.2 +1.0**
comp=Z,110nm,1.8s,mb5.7
ERUA La Rua 84.22 42 P **P 21 00 34.6 +1.2**
ERUA pmax pmax
comp=Z,71nm,1.0s,mb5.8
ERUA La Rua 84.22 42 P **P 21 00 34.6 +1.2**
comp=Z,70nm,1.0s,mb5.8
ECAL Calabor 84.25 43 P **P 21 00 33.1 -0.5**
comp=Z,122nm,1.3s,mb5.9
EPON Pontenova 84.70 41 P **P 21 00 35.5 -0.3**
comp=Z,104nm,1.3s,mb5.8
EQES Quesada 84.71 48 P **P 21 00 35.4 -0.5**
comp=Z,64nm,1.4s,mb5.6
ENIJ Nijar 84.94 49 P **P 21 00 37.0 -0.1**
ENIJ pmax pmax
comp=Z,39nm,1.1s,mb5.5
ENIJ Nijar 84.94 49 P **P 21 00 37.0 -0.1**
comp=Z,39nm,1.1s,mb5.5
ESDC Sonseca Array 84.98 46 P **P 21 00 38.5 +1.3**
comp=Z,33nm,0.9s,mb5.5,baz=248,slow=5.5,SNR=86
ESDC pP pP 21 00 48.7 +0.4
comp=Z,28nm,1.0s,baz=260,slow=5.3,SNR=9.9
ESDC Sonseca Array 84.98 46 P **P 21 00 38.0 +0.8**
comp=Z,67nm,1.0s,mb5.7
ESLA Sonseca Array 84.98 46 *e*P **P 21 00 38.2 +1.0**
comp=Z,44nm,1.3s,mb5.4
ESLA *e* 21 00 52.5
GUD Guadarrama 85.31 45 P **P 21 00 39.8 +0.9**
GUD pmax pmax
comp=Z,31nm,1.0s,mb5.4
GUD Guadarrama 85.31 45 P **P 21 00 39.8 +0.9**
comp=Z,31nm,1.0s,mb5.4
EVIA Vianos 85.50 47 P **P 21 00 40.8 +1.0**
EVIA pmax pmax
comp=Z,18nm,0.8s,mb5.2
EVIA Vianos 85.50 47 P **P 21 00 40.8 +1.0**
comp=Z,18nm,0.8s,mb5.2
EARI Arriondas 85.91 42 P **P 21 00 42.6 +0.7**
comp=Z,101nm,1.7s,mb5.8
ETOB Tobarra 86.17 47 P **P 21 00 42.8 -0.4**
comp=Z,63nm,1.7s,mb5.6
SFJD Kangerlussuaq 86.26 8 *i* S 21 11 13.9
SFJD
comp=Z,440nm,22.0s
SFJD Kangerlussuaq 86.26 8⇑ *i*P **P 21 00 42.6 -1.0**
SFJD *i* S 21 11 13.9
SFJD pmax pmax
comp=Z,17nm,0.9s,mb5.3
SFJD MLR MLR
comp=Z,440nm,22.0s,MS4.8
SFJD Kangerlussuaq 86.26 8⇑ *i*P **P 21 00 42.6 -1.0**
comp=Z,17nm,0.9s,mb5.3
SFJD *i* S 21 11 13.9
SFJD LR LR
comp=Z,440nm,22.0s,MS4.8
ECHE Chera 86.99 47 P **P 21 00 47.8 +0.6**
ECHE pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
ECHE Chera 86.99 47 P **P 21 00 47.8 +0.6**
comp=Z,10.0nm,0.8s,mb5.1
ELAN Lanestosa 87.01 43 P **P 21 00 47.8 +0.5**
comp=Z,39nm,1.1s,mb5.5
YKA Yellowknife Ar 87.35 341 P **P 21 00 48.1 -0.8**
comp=Z,79nm,0.8s,mb6.0,baz=136,slow=4.8,SNR=846
YKA PKKPbc PKKPbc 21 18 38.5 -0.2
comp=Z,0.2nm,0.4s,baz=304,slow=2.4,SNR=6.2
YKA LR LR 21 44 25.2
comp=Z,686nm,20.1s,MS5.1,baz=105,slow=39
YKA Yellowknife Ar 87.35 341 P **P 21 00 48.1 -0.8**
YKA PKKPbc PKKPbc 21 18 38.5 -0.2

YKA LR LR 21 44 25.2
YKW3 Yellowknife Ar 87.41 341 *e*P **P 21 00 48.2 -1.0**
EMOS Mosqueruela 87.67 46 P **P 21 00 51.5 +1.0**
comp=Z,13nm,0.8s,mb5.2
MAW Mawson 88.12 164 P **P 21 00 52.5 -0.1**
comp=Z,54nm,0.9s,mb5.8,baz=231,slow=6.6,SNR=58
MAW LR LR 21 38 43.1
comp=Z,702nm,19.1s,MS5.1,baz=231,slow=34
MAW Mawson 88.12 164 *e*P **P 21 00 52.2 -0.4**
MAW *e* pP 21 01 01.0 -2.8
MAW pmax pmax
comp=Z,83nm,1.0s
MAW Mawson 88.12 164 *e*P **P 21 00 52.1 -0.5**
comp=Z,83nm,1.0s,mb5.9
MAW *e* pP 21 01 00.9 -2.8
ESAC San Caprasio 88.27 45 P **P 21 00 53.0 -0.3**
comp=Z,8.5nm,0.5s,mb5.2
LBTB Lobatse 88.35 116 PFAKE 21 01 10.0 +16
LBTB LR LR
comp=Z,1μm,19.0s,MS5.4
SJPF Ste Jean 88.39 43 *e*P **P 21 00 53.8 -0.1**
comp=Z,90nm,1.1s,mb5.6
SJPF Ste Jean 88.39 43 *e*P **P 21 00 53.8 -0.1**
SJPF pmax pmax
comp=Z,45nm,1.1s,mb5.6
SJPF Ste Jean 88.39 43 *e*P **P 21 00 53.8 -0.1**
comp=Z,45nm,1.1s,mb5.6
ERTA Horta de San J 88.48 46 P **P 21 00 53.5 -0.9**
comp=Z,55nm,1.2s,mb5.7
EBR Ebro Roquetas 88.53 46 *e*P **P 21 00 54.5 -0.1**
ATE Arette 88.72 44 *e*P **P 21 00 56.3 +0.8**
ETSF Etsaut 88.73 44 *e*P **P 21 00 55.9 +0.4**
comp=Z,60nm,1.1s,mb5.5
ETSF Etsaut 88.73 44 *e*P **P 21 00 55.9 +0.4**
ETSF pmax pmax
comp=Z,30nm,1.1s,mb5.5
ETSF Etsaut 88.73 44 *e*P **P 21 00 55.9 +0.4**
comp=Z,30nm,1.1s,mb5.5
REYF Montagne du Re 88.92 44 *e*P **P 21 00 57.3 +0.9**
EGRA Graus 89.01 45 P **P 21 00 57.5 +0.7**
comp=Z,19nm,0.9s,mb5.4
EBIE Bielsa 89.10 44 P **P 21 00 57.1 -0.2**
comp=Z,45nm,1.2s,mb5.7
VIEF Viey 89.11 44 *e*P **P 21 00 58.2 +0.9**
EPOB Poblet 89.16 46 P **P 21 00 57.0 -0.5**
comp=Z,21nm,1.1s,mb5.4
LABF Labassere 89.22 44 *e*P **P 21 00 58.5 +0.7**
RESF Ens 89.29 44 *e*P **P 21 00 59.2 +1.1**
EPF Esparros 89.38 44 *e*P **P 21 00 59.0 +0.4**
comp=Z,65nm,1.3s,mb5.5
EPF Esparros 89.38 44 *e*P **P 21 00 59.0 +0.4**
EPF pmax pmax
comp=Z,33nm,1.3s,mb5.5
EPF Esparros 89.38 44 *e*P **P 21 00 59.0 +0.4**
comp=Z,33nm,1.3s,mb5.5
QUIF Quistinic 89.39 39 *e*P **P 21 00 57.7 -0.9**
comp=Z,68nm,1.0s,mb5.7
QUIF Quistinic 89.39 39 *e*P **P 21 00 57.7 -0.9**
QUIF pmax pmax
comp=Z,34nm,1.0s,mb5.6
QUIF Quistinic 89.39 39 *e*P **P 21 00 57.7 -0.9**
comp=Z,34nm,1.0s,mb5.6
ROSF Rostrenen 89.53 38 *e*P **P 21 00 59.0 -0.2**
comp=Z,89nm,1.0s,mb5.7
ROSF Rostrenen 89.53 38 *e*P **P 21 00 59.0 -0.2**
ROSF pmax pmax
comp=Z,44nm,1.0s,mb5.7
ROSF Rostrenen 89.53 38 *e*P **P 21 00 59.0 -0.2**
comp=Z,44nm,1.0s,mb5.8
EMIR Miracle 89.70 45 P **P 21 00 59.4 -0.7**
comp=Z,36nm,1.2s,mb5.6
DCN Croghan 89.82 33 *e*P **P 21 00 57.0 -3.6**
SALF Salau 89.83 45 *e*P **P 21 01 01.9 +1.2**
SGMF Saint Gilles 89.91 38 *e*P **P 21 01 00.4 -0.6**
comp=Z,47nm,0.9s,mb5.5
SGMF Saint Gilles 89.91 38 *e*P **P 21 01 00.4 -0.6**
SGMF pmax pmax
comp=Z,23nm,0.9s,mb5.5
SGMF Saint Gilles 89.91 38 *e*P **P 21 01 00.4 -0.6**
comp=Z,23nm,0.9s,mb5.5
DLF Lyons Farm 90.17 33 *e*P **P 21 00 00.0 -2.3**
DLBC Dease Lake 90.28 333 *e*P **P 21 01 02.5 -0.2**
CARF Carcanieres 90.43 45 *e*P **P 21 01 04.0 +0.6**
LFF La Frestale 90.47 42 *e*P **P 21 01 03.5 -0.1**
comp=Z,96nm,1.0s,mb5.8
LFF La Frestale 90.47 42 *e*P **P 21 01 03.5 -0.1**
LFF pmax pmax
comp=Z,48nm,1.0s,mb5.8
LFF La Frestale 90.47 42 *e*P **P 21 01 03.5 -0.1**
comp=Z,48nm,1.0s,mb5.8
MFF Saint Martin d 90.63 41 *e*P **P 21 01 04.2 -0.2**
FILF Fillols 90.67 45 *e*P **P 21 01 04.8 +0.2**
MTLF Montolieu 90.76 44 *e*P **P 21 01 05.0 0.0**
comp=Z,53nm,1.1s,mb5.5
MTLF Montolieu 90.76 44 *e*P **P 21 01 05.0 0.0**
MTLF pmax pmax
comp=Z,27nm,1.1s,mb5.5
MTLF Montolieu 90.76 44 *e*P **P 21 01 05.0 0.0**
comp=Z,27nm,1.1s,mb5.5
GRR Gorron 90.98 39 *e*P **P 21 01 05.6 -0.4**
comp=Z,92nm,0.9s,mb5.8
GRR Gorron 90.98 39 *e*P **P 21 01 05.6 -0.4**
GRR pmax pmax
comp=Z,46nm,0.9s,mb5.8
GRR Gorron 90.98 39 *e*P **P 21 01 05.6 -0.4**
comp=Z,46nm,0.9s,mb5.8
RJF Les Rejaudoux 91.12 42 *e*P **P 21 01 06.1 -0.5**
comp=Z,80nm,1.2s,mb5.6
RJF *e*R
comp=Z,2μm,21.0s
RJF Les Rejaudoux 91.12 42 *e*P **P 21 01 06.1 -0.5**
RJF pmax pmax
comp=Z,40nm,1.2s,mb5.6
RJF MLR MLR
comp=Z,2μm,21.0s,MS5.6
RJF Les Rejaudoux 91.12 42 *e*P **P 21 01 06.1 -0.5**
comp=Z,40nm,1.2s,mb5.6
RJF LR LR
comp=Z,2μm,21.0s,MS5.6
CAF Calviac 91.31 43 *e*P **P 21 01 07.6 0.0**
comp=Z,42nm,1.1s,mb5.4
CAF Calviac 91.31 43 *e*P **P 21 01 07.6 0.0**
CAF pmax pmax
comp=Z,21nm,1.1s,mb5.4
CAF Calviac 91.31 43 *e*P **P 21 01 07.6 0.0**
comp=Z,21nm,1.1s,mb5.4
FLN La Foliniere 91.37 39 *e*P **P 21 01 07.6 -0.2**
comp=Z,116nm,1.3s,mb5.8
FLN *e*R
comp=Z,803nm,21.2s
FLN La Foliniere 91.37 39 *e*P **P 21 01 07.6 -0.2**
FLN pmax pmax
comp=Z,58nm,1.3s,mb5.8
FLN MLR MLR
comp=Z,800nm,21.3s,MS5.1
FLN La Foliniere 91.37 39 *e*P **P 21 01 07.6 -0.2**
comp=Z,58nm,1.3s,mb5.8
FLN LR LR
comp=Z,800nm,21.3s,MS5.1
LDF La Druitiere 91.51 39 *e*P **P 21 01 08.1 -0.4**
comp=Z,88nm,1.0s,mb5.7
LDF La Druitiere 91.51 39 *e*P **P 21 01 08.1 -0.4**
LDF pmax pmax
comp=Z,44nm,1.0s,mb5.7
LDF La Druitiere 91.51 39 *e*P **P 21 01 08.1 -0.4**
comp=Z,44nm,1.0s,mb5.7
TCF Toulx Ste Croi 91.97 42 *e*P **P 21 01 10.2 -0.4**
comp=Z,32nm,1.2s,mb5.2
TCF Toulx Ste Croi 91.97 42 *e*P **P 21 01 10.2 -0.4**
TCF pmax pmax
comp=Z,16nm,1.2s,mb5.2
TCF Toulx Ste Croi 91.97 42 *e*P **P 21 01 10.2 -0.4**
comp=Z,16nm,1.2s,mb5.2
LASF Ste Croix 92.14 44 *e*P **P 21 01 10.7 -0.7**
comp=Z,22nm,1.0s,mb5.2
LBL Lubilhac 92.20 43 *e*P **P 21 01 12.7 +1.0**
AGO Saint Agoulin 92.46 42 *e*P **P 21 01 12.7 -0.1**
BGF Bois d'Agland 92.48 42 *e*P **P 21 01 12.7 -0.3**
comp=Z,127nm,1.6s,mb5.7
BGF Bois d'Agland 92.48 42 *e*P **P 21 01 12.7 -0.3**
BGF pmax pmax
comp=Z,64nm,1.6s,mb5.7
BGF Bois d'Agland 92.48 42 *e*P **P 21 01 12.7 -0.3**
comp=Z,64nm,1.6s,mb5.7
COLF Collangettes 92.61 43 *e*P **P 21 01 13.9 +0.4**
HYF Humbligny 92.64 41 *e*P **P 21 01 13.5 -0.2**
PLDF La Plantade 92.74 42 *e*P **P 21 01 14.3 +0.2**
AVF Avril sur Loir 92.89 42 *e*P **P 21 01 14.2 -0.7**
comp=Z,15nm,1.0s,mb5.1
AVF Avril sur Loir 92.89 42 *e*P **P 21 01 14.2 -0.7**
AVF pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
AVF Avril sur Loir 92.89 42 *e*P **P 21 01 14.2 -0.7**
comp=Z,7.3nm,1.0s,mb5.1
VIVF Saint-Julien-l 92.99 44 *e*P **P 21 01 15.1 -0.2**
comp=Z,70nm,1.4s,mb5.6
VIVF Saint-Julien-l 92.99 44 *e*P **P 21 01 15.1 -0.2**
VIVF pmax pmax
comp=Z,35nm,1.4s,mb5.6
VIVF Saint-Julien-l 92.99 44 *e*P **P 21 01 15.1 -0.2**
comp=Z,35nm,1.4s,mb5.6
SSF Saint Saulge 93.10 41 *e*P **P 21 01 15.1 -0.7**
comp=Z,18nm,1.2s,mb5.1
SSF Saint Saulge 93.10 41 *e*P **P 21 01 15.1 -0.7**
SSF pmax pmax
comp=Z,9.0nm,1.2s,mb5.1
SSF Saint Saulge 93.10 41 *e*P **P 21 01 15.1 -0.7**
comp=Z,8.8nm,1.2s,mb5.1
SUMG Summit 93.11 9 *e*P **P 21 01 16.6 +0.7**
comp=Z,35nm,0.8s,mb5.8
SKAG Skagway 93.14 333 *e*P **P 21 01 14.5 -1.5**
SMF Signal de Mont 93.14 42 *e*P **P 21 01 15.6 -0.4**
comp=Z,41nm,1.1s,mb5.5
SMF Signal de Mont 93.14 42 *e*P **P 21 01 15.6 -0.4**
SMF pmax pmax
comp=Z,21nm,1.1s,mb5.5
SMF Signal de Mont 93.14 42 *e*P **P 21 01 15.6 -0.4**
comp=Z,20nm,1.1s,mb5.5
SMRF Simiane la Rot 93.25 45 *e*P **P 21 01 16.3 -0.2**
comp=Z,98nm,1.6s,mb5.7
SMRF Simiane la Rot 93.25 45 *e*P **P 21 01 16.3 -0.2**
comp=Z,98nm,1.5s,mb6.0
LOR Lormes 93.40 41 *e*P **P 21 01 16.6 -0.6**
comp=Z,6.5nm,0.7s,mb4.9
LOR *e*R
comp=Z,2μm,22.2s
LOR Lormes 93.40 41 *e*P **P 21 01 16.6 -0.6**
LOR pmax pmax
comp=Z,3.0nm,0.7s,mb4.8
LOR MLR MLR
comp=Z,2μm,22.3s,MS5.5
LOR Lormes 93.40 41 *e*P **P 21 01 16.6 -0.6**
comp=Z,3.3nm,0.7s,mb4.9
LOR LR LR
comp=Z,2μm,22.3s,MS5.5
LMR La Mourre 93.64 46 *e*P **P 21 01 17.5 -0.8**
ORIF Oris-en-Rattie 93.80 44 *e*P **P 21 01 18.8 -0.3**
comp=Z,54nm,1.1s,mb5.6
ORIF *e*R
comp=Z,3μm,20.2s
ORIF Oris-en-Rattie 93.80 44 *e*P **P 21 01 18.8 -0.3**
ORIF pmax pmax
comp=Z,27nm,1.1s,mb5.6
ORIF Oris-en-Rattie 93.80 44 *e*P **P 21 01 18.8 -0.3**
comp=Z,27nm,1.1s,mb5.6
MBDF Montbardon 94.32 44 *e*P **P 21 01 21.6 +0.2**
REVF Revere 94.37 45 *e*P **P 21 01 21.7 0.0**
LUCF Luceram 94.41 45 *e*P **P 21 01 22.4 +0.6**
SBF Sospel 94.46 45 *e*P **P 21 01 22.1 0.0**
AUTN L'Aution 94.50 45 *e*P **P 21 01 21.9 -0.4**
CABF La Chapelle 94.56 42 *e*P **P 21 01 22.1 -0.4**
comp=Z,42nm,1.2s,mb5.4
CABF La Chapelle 94.56 42 *e*P **P 21 01 22.1 -0.4**
CABF pmax pmax
comp=Z,21nm,1.2s,mb5.4
CABF La Chapelle 94.56 42 *e*P **P 21 01 22.1 -0.4**
comp=Z,21nm,1.2s,mb5.5
LPL La Plagne 94.58 44 *e*P **P 21 01 22.5 -0.1**
comp=Z,24nm,0.8s,mb5.4
LPL La Plagne 94.58 44 *e*P **P 21 01 22.5 -0.1**
LPL pmax pmax
comp=Z,12nm,0.8s,mb5.4
LPL La Plagne 94.58 44 *e*P **P 21 01 22.5 -0.1**
comp=Z,12nm,0.8s,mb5.4
SAOF Saorge 94.58 45 *e*P **P 21 01 22.6 0.0**
LPG La Plagne 94.59 44 *e*P **P 21 01 23.0 +0.3**
comp=Z,51nm,1.2s,mb5.5
LPG La Plagne 94.59 44 *e*P **P 21 01 23.0 +0.3**
LPG pmax pmax
comp=Z,25nm,1.2s,mb5.5
LPG La Plagne 94.59 44 *e*P **P 21 01 23.0 +0.3**
comp=Z,25nm,1.2s,mb5.5
MEZF Maizieres J'vi 94.61 40 *e*P **P 21 01 22.1 -0.7**
comp=Z,28nm,0.9s,mb5.4
MEZF Maizieres J'vi 94.61 40 *e*P **P 21 01 22.1 -0.7**
comp=Z,28nm,0.9s,mb5.7
BAIF Baives 94.70 39 *e*P **P 21 01 22.7 -0.5**
SNF Seneffe 94.92 38 P **P 21 01 23.7 -0.5**
DOU Dourbes 94.94 39 ⇑P **P 21 01 24.0 -0.3**
comp=Z,4.8nm,1.2s,mb4.8
PGF Pioggiola 95.08 47 *e*P **P 21 01 24.3 -0.6**
GIVF Givet 95.08 39 *e*P **P 21 01 24.7 -0.2**
THEF They Montfort 95.09 41 *e*P **P 21 01 24.7 -0.3**
SNZO South Karori 95.12 224 PFAKE 21 01 40.0 +15
SNZO LR LR
comp=Z,2μm,19.0s,MS5.6
HAU Haudompre 95.24 41 *e*P **P 21 01 25.2 -0.4**
HAU *e*R
comp=Z,2μm,22.5s
HAU Haudompre 95.24 41 *e*P **P 21 01 25.2 -0.4**
HAU LR LR
comp=Z,2μm,22.5s,MS5.5
LOMF Lomont 95.30 42 *e*P **P 21 01 25.8 -0.1**
BCLA Clavier 95.48 39 P **P 21 01 26.6 -0.2**
HINF Hinteralfeld 95.49 41 *e*P **P 21 01 26.2 -0.6**
comp=Z,15nm,0.9s,mb5.1
HINF Hinteralfeld 95.49 41 *e*P **P 21 01 26.2 -0.6**
HINF pmax pmax
comp=Z,8.0nm,0.9s,mb5.2
HINF Hinteralfeld 95.49 41 *e*P **P 21 01 26.2 -0.6**
comp=Z,7.6nm,0.9s,mb5.1
MOF Molkenrain 95.67 42 *e*P **P 21 01 27.1 -0.5**
WLF Walferdange 95.72 40 *e*P **P 21 01 28.1 +0.3**
WLF Walferdange 95.72 40 P **P 21 01 28.4 +0.5**
WLF Walferdange 95.72 40 P **P 21 01 28.5 +0.7**
WLF pmax pmax
comp=Z,32nm,1.6s,mb5.5
WLF Walferdange 95.72 40 *e*P **P 21 01 28.1 +0.3**
comp=Z,32nm,1.6s,mb5.5
CASY Casey 95.81 181 PFAKE 21 01 40.0 +12
CASY LR LR
comp=Z,1μm,20.0s,MS5.3
ECH Echery 95.82 41 *e*P **P 21 01 27.5 -0.8**
CDF Champ du Feu 95.96 41 *e*P **P 21 01 28.4 -0.5**
comp=Z,68nm,1.5s,mb5.6
CDF Champ du Feu 95.96 41 *e*P **P 21 01 28.4 -0.5**
CDF pmax pmax
comp=Z,34nm,1.5s,mb5.6
CDF Champ du Feu 95.96 41 *e*P **P 21 01 28.4 -0.5**
comp=Z,34nm,1.5s,mb5.6
MEM Membach 95.97 39 P **P 21 01 29.2 +0.2**
FELD Feldberg im Sc 96.23 42 *e*P **P 21 01 29.5 -0.7**
RUP Ruppelstein 96.28 40 *e*P **P 21 01 29.7 -0.7**
LANF Langenberg 96.49 41 *e*P **P 21 01 30.8 -0.5**
BFO Black Forest 96.59 41 *e*P **P 21 01 31.4 -0.4**
ABH Alteburg 96.64 40 *e*P **P 21 01 32.1 +0.1**
BUG Bochum--Univer 97.01 38 *e*P **P 21 01 33.5 -0.2**
DAWY Dawson 97.07 336 *e*P **P 21 01 32.4 -1.6**
DAWY *e*pP pP 21 01 43.2 -2.0
DAVOX Davos 97.07 43 LR LR 21 46 38.2
comp=Z,1μm,18.5s,MS5.4,baz=235,slow=36
INK Inuvik 97.09 341 LR LR 21 49 49.2
comp=Z,507nm,19.2s,MS5.0,baz=117,slow=38
INK Inuvik 97.09 341 P **P 21 01 32.7 -1.4**
INK pmax pmax
comp=Z,13nm,0.9s
INK Inuvik 97.09 341 *e*P **P 21 01 32.4 -1.7**
comp=Z,13nm,0.9s,mb5.4
DAVA Damuels 97.23 43 ⇑*i*P **P 21 01 35.0 +0.3**
comp=Z,12nm,0.9s,mb5.3
STU Stuttgart 97.28 41 *e*P **P 21 01 34.7 -0.2**
STU Stuttgart 97.28 41 P **P 21 01 35.3 +0.4**
STU pmax pmax
comp=Z,6.0nm,0.7s,mb5.1
STU Stuttgart 97.28 41 *e*P **P 21 01 34.7 -0.2**
comp=Z,6.0nm,0.6s,mb5.2
TNS Taunus Mts 97.30 40 *e*P **P 21 01 35.3 +0.3**
VAE Valguarnera 97.42 53 LR LR 21 48 13.2
comp=Z,1μm,20.1s,MS5.3,baz=233,slow=37
IBBN Ibbenburen 97.59 37 *e*P **P 21 01 36.3 0.0**
SQTA Sankt Quirin 98.07 43 ⇑*i*PcP PcP 21 01 38.8 +0.3
comp=Z,17nm,1.1s
SQTA Sankt Quirin 98.07 43 ⇑*i*P **P 21 01 38.8 +0.3**
SQTA pmax pmax
comp=Z,17nm,1.1s,mb5.5
AQU L'Aquila 98.11 48 P **P 21 01 39.7 +1.1**
AQU pmax pmax
comp=Z,23nm,1.1s,mb5.6
AQU L'Aquila 98.11 48 *e*P **P 21 01 39.1 +0.5**
comp=Z,23nm,1.1s,mb5.6
WTTA Wattenberg 98.36 43 ⇑*i*P **P 21 01 40.2 +0.4**
comp=Z,17nm,0.9s,mb5.6
WTTA Wattenberg 98.36 43 ⇑*i*P **P 21 01 40.2 +0.4**
WTTA pmax pmax
comp=Z,17nm,0.9s,mb5.6
FUR Furstenfeldbru 98.41 42 *e*P **P 21 01 40.3 +0.3**
JMIC Jan Mayen 98.59 17 LR LR 21 41 41.9
comp=Z,505nm,21.9s,MS5.0,baz=243,slow=33
GRF Grafenberg Arr 98.83 41 *e*P **P 21 01 42.2 +0.3**
comp=Z,21nm,1.4s,mb5.5
GRF Grafenberg Arr 98.83 41 *e*P **P 21 01 42.2 +0.3**
GRF pmax pmax
comp=Z,21nm,1.4s,mb5.5
GRF Grafenberg Arr 98.83 41 *e*P **P 21 01 42.2 +0.3**
GRF pmax pmax
comp=Z,21nm,1.4s,mb5.5
CLZ Clausthal 98.97 38 *e*P **P 21 01 42.9 +0.4**
MOX Moxa 99.36 40 *e*(P) **P 21 01 44.0 -0.2**
MOX
comp=Z,600nm,22.0s
CADS Cadrg 99.45 45 *e*P **P 21 01 44.9 +0.3**
BSEG Bad Segeberg 99.58 36 *e*P Pdif 21 01 45.4 +0.2
WET Wettzell 99.71 41 *e*P Pdif 21 01 46.3 +0.5
NKC Novy Kostel 99.75 40 *e*PDIF Pdif 21 01 47.1 +1.1
NKC *e*pP 21 02 01.1
NKC AMS AMS 21 16 00.0
comp=Z,300nm,22.4s
NKC Novy Kostel 99.75 40 *i* P Pdif 21 01 47.1 +1.1
NKC *e**PP 21 02 01.1
NKC MLR MLR
comp=Z,300nm,22.4s,MS4.8
GEC2 GERESS Array S 100.15 42 *e*P Pdif 21 01 47.9 +0.2
GERES GERESS Array B 100.15 42 P Pdif 21 01 47.3 -0.4
comp=Z,6.2nm,0.8s,baz=239,slow=4.2,SNR=11
GERES pP 21 01 60.0
comp=Z,1.6nm,0.9s,baz=256,slow=4.0,SNR=3.2
KHC Kasperske Hory 100.15 42 *e*PDIF Pdif 21 01 47.8 +0.1
KHC *e*pP 21 02 01.7
KHC AMS AMS 21 16 00.0
comp=Z,200nm,19.7s
KHC Kasperske Hory 100.15 42 *i* P Pdif 21 01 47.8 +0.1
KHC MLR MLR
comp=Z,200nm,19.7s,MS4.6
ILAR Eielson Array 100.33 335 P Pdif 21 01 46.9 -1.6
comp=Z,1.1nm,0.9s,baz=132,slow=2.9,SNR=7.7
ILAR pP 21 01 59.0
comp=Z,2.1nm,0.9s,baz=131,slow=2.8,SNR=11
ILAR PP PP 21 05 45.1 -10
comp=Z,0.8nm,0.9s,baz=108,slow=7.0,SNR=4.9
CLL Collm 100.39 39 *e*Pdiff Pdif 21 01 48.6 -0.2
comp=Z,15nm,1.4s
CLL *e*pPdiff 21 02 01.4
CLL *e*PP PP 21 06 01.7 +6.4
CLL *e*SKSac SKSac 21 12 28.9 +3.9
CLL *e*Sdiff Sdif 21 13 36.4 +14
CLL *e*PS PS 21 14 59.8 +4.0
CLL *e*SS SS 21 20 28.6 +11
CLL *e*LR LR 21 37 25.6
CLL *e*L 21 42 49.3
comp=Z,953nm,22.0s
CLL Collm 100.39 39 *i* Pdif Pdif 21 01 48.5 -0.3
comp=Z,14nm,1.4s
CLL *e*pPdif 21 02 01.0
CLL *e*PP PP 21 05 58.0 +2.7
CLL *e*SKSac SKSac 21 12 37.0 +12
CLL *e*Sdif Sdif 21 13 18.0 -4.4
CLL *e*PS PS 21 15 03.0 +7.2
CLL *e*SS SS 21 20 17.0 -0.9
CLL LmV 21 44 00.0
comp=Z,700nm,21.1s
CLL Collm 100.39 39 *i* P Pdif 21 01 48.5 -0.3
CLL pmax pmax
comp=Z,14nm,1.4s
CLL MLR MLR
comp=Z,700nm,21.1s,MS5.1
CLL Collm 100.39 39 *i* Pdif Pdif 21 01 48.5 -0.3
comp=Z,14nm,1.4s
CLL *e*SKS 21 12 37.0
CLL LR LR
comp=Z,700nm,21.1s,MS5.1
GROS Grobnik 100.69 45 *e*P Pdif 21 01 50.5 +0.3
BRG Berggiesshubel 100.84 40 *e*P Pdif 21 01 50.8 0.0
BRG Berggiesshubel 100.84 40 *e*P Pdif 21 01 51.5 +0.7
comp=Z,7.1nm,1.5s
BRG *e* 21 02 05.1
comp=Z,16nm,1.8s
BRG *e* 21 12 31.0
BRG *i* 21 15 07.0
BRG
comp=Z,418nm,23.2s
BRG
comp=N,140nm,24.4s
BRG
comp=E,274nm,24.4s
BRG Berggiesshubel 100.84 40 *e*P Pdif 21 01 51.5 +0.7
BRG *e* 21 12 31.0
BRG *i* 21 15 07.0
BRG pmax pmax
comp=Z,7.0nm,1.5s
BRG MLR MLR
comp=Z,418nm,23.2s,MS4.9
BRG MLR MLR
comp=N,140nm,24.4s,MS4.7
BRG MLR MLR
comp=E,274nm,24.4s,MS4.7
BRG Berggiesshubel 100.84 40 *e*P Pdif 21 01 51.5 +0.7
comp=E,7.1nm,1.5s
BRG *e* 21 02 05.1
BRG *e* 21 12 31.0
BRG *i* 21 15 07.0
BRG LR LR
comp=Z,420nm,23.2s,MS4.9
KONO Kongsberg 100.90 31 ⇑*e*P Pdif 21 01 46.4 -4.7
PRU Pruhonice 100.98 41 *e*PDIF Pdif 21 01 52.5 +1.1
PRU *e*pP 21 02 05.9
PRU AMS AMS 21 16 10.0
comp=Z,400nm,23.5s
PRU Pruhonice 100.98 41 *i* P Pdif 21 01 52.5 +1.1
PRU MLR MLR
comp=Z,400nm,23.5s,MS4.9
TREC Trest 101.40 42 AMS AMS 21 16 00.0
comp=Z,300nm,19.3s
UPC Upice 102.02 41 *e*PDIF Pdif 21 01 57.8 +1.7
UPC *e*pP 21 02 11.3
UPC Upice 102.02 41 *i* P Pdif 21 01 57.8 +1.7
DPC Dobruska-Polom 102.18 41 *e*PDIF Pdif 21 01 57.9 +1.1
DPC *e*pP 21 02 09.1
DPC AMS AMS 21 16 00.0
comp=Z,300nm,16.4s
DPC Dobruska-Polom 102.18 41 *i* P Pdif 21 01 57.9 +1.1
DPC MLR MLR
comp=Z,300nm,16.4s,MS4.9
OKC Ostrava-Krasne 103.21 42 AMS AMS 21 16 30.0
comp=Z,200nm,18.4s
LVV L'vov 106.95 42 *e*P Pdif 21 02 31.1 +13
LVV *e* 21 06 48.1
ARCES ARCESS Array B 109.19 22 PKKPbc PKKPbc 21 17 35.7 -2.3
comp=Z,2.8nm,0.9s,baz=66,slow=3.0,SNR=9.3
AKASG Malin Array Be 110.36 42 PKiKP PKiKP 21 06 33.1 -0.8
comp=Z,1.8nm,0.8s,baz=265,slow=2.5,SNR=5.4
AKASG PP PP 21 07 03.1 -5.9
comp=Z,2.0nm,0.9s,baz=260,slow=8.5,SNR=5.6
BRTR Keskin Array B 112.60 54 PKiKP PKiKP 21 06 38.9 +0.6
comp=Z,2.4nm,1.0s,baz=194,slow=2.5,SNR=12
BRTR PP PP 21 07 18.2 -6.9
comp=Z,1.4nm,0.9s,baz=247,slow=5.9,SNR=3.8
OBN Obninsk 114.82 37 ⇓*i*PKIKP PKiKP 21 06 42.3 -0.2
OBN 21 07 44.0
OBN pmax pmax
comp=Z,13nm,1.1s
OBN MLR MLR
comp=Z,800nm,17.0s,MS5.4
OBN MLR MLR
comp=Z,100nm,18.0s
ANN Anapa 115.67 48 *i* PKIKP PKPdf 21 06 39.2 -4.9

ANN pmax pmax
comp=Z,9.0nm,0.6s
ANN MLR MLR
comp=Z,159nm,21.0s,MS4.6
SOC Sochi 117.32 50 *i* PKIKP PKPdf 21 06 47.3 0.0
SOC *e* 21 13 46.7
SOC *e*PS PS 21 17 44.0 +1.3
SOC *e*SS SS 21 24 06.1 +0.2
SOC pmax pmax
comp=Z,15nm,0.9s
SOC MLR MLR
comp=Z,420nm,22.0s,MS5.0
BILL Bilibino 118.65 339 *i* PKIKP PKPdf 21 06 49.0 -0.8
BILL *e* 21 08 05.1
BILL *e*PS PS 21 17 56.4 +1.7
BILL *e*SS SS 21 24 33.4 +10
BILL pmax pmax
comp=Z,2.0nm,0.8s
BILL MLR MLR
comp=Z,500nm,23.0s,MS5.1
KIV Kislovodsk 119.46 49 *i* PKIKP PKPdf 21 06 47.5 -3.9
KIV *e* 21 08 10.2
KIV *e*SP SP 21 17 55.0 -2.7
KIV *e*PS PS 21 17 58.5 -3.5
KIV *e*SS SS 21 24 30.2 -3.4
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,534nm,22.0s,MS5.1
GOF Gofitskoye 119.64 48 *e*PKIKP PKPdf 21 06 50.0 -1.7
GOF pmax pmax
comp=Z,20nm,1.0s
ZEI Tsey 120.40 51 *e*PKIKP PKPdf 21 06 54.2 +1.0
ZEI *e* 21 08 20.9
GNI Garni 121.14 54 *i* PKIKP PKPdf 21 06 50.8 -3.8
GNI MLR MLR
comp=Z,300nm,24.0s
STKA Stephens Creek 121.17 213 PKP PKPdf 21 06 53.0 -1.6
comp=Z,2.3nm,0.6s,baz=306,slow=24,SNR=7.9
HNR Honiara 122.59 246 PFAKE 21 07 10.0 +13
HNR LR LR
comp=Z,645nm,22.0s,MS5.2
NAY Al-Naaiem 123.07 67 *e*P PKPdf 21 06 58.8 +0.4
NAY AMb AMB 21 07 00.1
comp=Z,13nm,1.1s
MIB Mutribah 123.19 66 *e*P PKPdf 21 06 59.2 +0.7
MIB AMb AMB 21 07 00.5
comp=Z,33nm,1.0s
RDF Al-Radifah 123.32 67 *e*P PKPdf 21 06 59.3 +0.5
UMR Umm Al-Rimmam 123.50 66 *e*P PKPdf 21 06 59.9 +0.8
UMR AMb AMB 21 07 01.1
comp=Z,42nm,0.9s
TIXI Tiksi 125.22 352 *i* PKIKP PKPdf 21 07 00.3 -2.1
TIXI *e* 21 07 11.4
TIXI *e*SP SP 21 18 46.9 -1.9
TIXI *e*PS PS 21 18 52.0 -1.1
TIXI *e*SS SS 21 25 47.9 +1.0
TIXI pmax pmax
comp=Z,8.0nm,1.0s
ORR Orenburg 126.14 39*d* *i*PKIKP PKPdf 21 07 04.2 0.0
ORR 21 08 57.1
ORR pmax pmax
comp=Z,30nm,1.0s
ORR MLR MLR
comp=Z,820nm,21.0s,MS5.4
ARU Arti 126.52 32 *i* PKIKP PKPdf 21 07 04.2 -0.7
ARU *e* 21 14 06.1
ARU *e*SP SP 21 18 58.4 -1.8
ARU *e*PS PS 21 19 07.6 +3.2
ARU *e*SS SS 21 25 58.4 -4.8
ARU MLR MLR
comp=Z,700nm,19.0s,MS5.4
ARU MLR MLR
comp=N,200nm,18.0s,MS5.3
ARU MLR MLR
comp=E,600nm,19.0s,MS5.3
CTA Charters Tower 127.17 226 *e*P PKPdf 21 07 03.3 -2.9
comp=E,5.9nm,1.1s
CTA *e* 21 07 16.0
CTAO Charters Tower 127.17 226 PFAKE 21 07 20.0 +14
CTAO LR LR
comp=Z,993nm,20.0s,MS5.5
SVE Sverdlovsk 127.38 31 *e*PKIKP PKPdf 21 07 05.8 -0.8
SVE *e* 21 09 02.3
SVE pmax pmax
comp=Z,28nm,1.8s
FORT Forrest 127.96 201 *e*P PKPdf 21 07 07.0 -0.7
comp=Z,29nm,0.7s
MA2 Magadan 128.80 334 *e*PKIKP PKPdf 21 07 07.9 -1.4
MA2 *e* 21 09 23.8
MA2 pmax pmax
comp=Z,20nm,1.1s
MA2 MLR MLR
comp=Z,600nm,24.2s,MS5.2
MUN Mundaring 129.66 188 *e*P PKPdf 21 07 11.2 +0.3
KLBR Kellerberrin 129.81 190 *e*P PKPdf 21 07 11.1 -0.1
comp=Z,32nm,0.9s
ASAR Alice Springs 131.77 211 PKP PKPdf 21 07 15.0 +0.1
comp=Z,13nm,1.0s,baz=145,slow=2.4,SNR=42
AS31 Alice Springs 131.77 211 *e*P PKPdf 21 07 14.9 0.0
ASPA Alice Springs 131.77 211 *e*P PKPdf 21 07 14.9 0.0
YAK Yakutsk 133.79 347 *i* PKIKP PKPdf 21 07 17.5 -1.2
WB2 Warramunga Arr 134.62 215 *e*P PKPdf 21 07 19.9 -0.4
WB2 *e*S SKPbc 21 10 49.9 +2.4
WRA Warramunga Arr 134.62 215 PKhKP 21 07 07.7
comp=Z,0.8nm,0.7s,baz=137,slow=3.4,SNR=8.0
WRA PKP PKPdf 21 07 20.3 0.0
comp=Z,6.9nm,0.7s,baz=152,slow=1.8,SNR=38
WRA Warramunga Arr 134.62 215 PKHKP 21 07 07.7
WRA 21 07 20.3
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA pmax pmax
comp=Z,7.0nm,0.7s
WRA Warramunga Arr 134.62 215 PKP PKPdf 21 07 20.3 0.0
NVS Novosibirsk 138.47 22 *i* PKIKP PKPdf 21 07 26.3 -1.1
NVS pmax pmax
comp=Z,29nm,1.0s
ZAL Zalesovo 139.74 22 PKhKP 21 07 21.9
comp=Z,4.2nm,0.9s,baz=174,slow=5.6,SNR=12
ZAL PKP PKPdf 21 07 30.6 +0.8
comp=Z,14nm,0.8s,baz=191,slow=2.9,SNR=36
ZAL Zalesovo 139.74 22 PKHKP 21 07 21.9
ZAL 21 07 30.6
ZAL pmax pmax
comp=Z,4.0nm,0.9s
ZAL pmax pmax
comp=Z,14nm,0.8s
ZAL Zalesovo 139.74 22 PKP PKPdf 21 07 30.6 +0.9
BOD Bodaibo 140.21 356 *e*PKHKP 21 07 20.6
BOD pmax pmax
comp=Z,9.0nm,1.5s
KRAR Krasnoyarsk 140.32 14 *i* PKIKP PKPdf 21 07 30.5 -0.3
KRAR MLR MLR
comp=Z,400nm,24.0s,MS5.1
FITZ Fitzroy Crossi 140.37 206 *e*P PKPdf 21 07 22.6 -8.3
comp=Z,18nm,1.0s
FITZ *e* 21 07 34.1
FRU Bishkek 142.01 42 *e*PKIKP PKPdf 21 07 30.8 -3.0
FRU *e* 21 10 36.0
AAK Ala-Archa 142.03 43 *i* PKHKP 21 07 29.5
ERM Erimo 142.35 317 PFAKE 21 07 50.0 +16
ERM LR LR
comp=Z,28nm,21.0s,MS4.0
HABR Khabarovsk 143.02 331 *e*PKIKP PKPdf 21 07 36.9 +1.3
KLR Kul'dur 143.90 334 *e*PKHKP 21 07 32.1
KLR pmax pmax
comp=Z,33nm,1.4s
MKAR Makanchi Array 144.04 32 PKP PKPdf 21 07 35.4 -2.0
comp=Z,23nm,0.7s,baz=322,slow=5.1,SNR=257
KSH Kashi 144.49 46 *i* PKP PKPdf 21 07 38.0 -0.2
KSH *e*APKP 21 07 48.0
KSH *e*XPKP 21 07 52.0
KSH *e*PKS 21 11 12.0
KSH *e*SKS SKSdf 21 14 42.0 -2.8
KSH *e*SKKS SKKSac 21 17 40.3 -3.8
KSH *e*SS SS 21 29 35.3 -3.1
KSH PP PP
comp=Z,304nm,4.2s
KSH LR LR
comp=N,190nm,4.6s
KSH LR LR
comp=E,164nm,4.8s
KSH LR LR
comp=Z,657nm,21.8s,MS5.4
IRK Irkutsk 145.79 5 *e*PKP2 PKPab 21 07 40.9 -0.5
IRK pmax pmax
comp=Z,317nm,1.8s
MOY Mondy 145.99 9 *e*PKP2 PKPab 21 07 41.9 -0.2
MOY pmax pmax
comp=Z,167nm,1.8s
CIT Chita 146.00 355 *e*PKP2 PKPab 21 07 42.9 +0.7
CIT pmax pmax
comp=Z,248nm,2.0s
TLY Talaya 146.29 6 *i* PKP2 PKPab 21 07 41.5 -1.8
TLY *e*PPS 21 23 39.6
TLY pmax pmax
comp=Z,61nm,0.9s
TLY MLR MLR
comp=Z,553nm,20.0s,MS5.3
POO Poona 146.81 84⇑ *i*P PKPdf 21 07 42.0 -0.1
comp=Z,120nm,1.0s
POO ⇑ *i*P 21 07 42.0
comp=Z,120nm,1.0s
POO *ex* x 21 08 18.3
DLH Dalhousie 147.17 58 *e*P PKPdf 21 07 42.0 -0.7
AJM Ajmer 147.37 69 *i* x x 21 07 06.0
ZAK Zakamensk 147.54 7 *i* PKP2 PKPab 21 07 44.5 -3.6
ZAK *e* 21 11 11.5
ZAK pmax pmax
comp=Z,80nm,2.0s
ZAK pmax pmax
comp=Z,60nm,1.8s
ZAK pmax pmax
comp=Z,30nm,1.9s
TRD Trivandrum 147.57 103 *e*P PKPdf 21 07 44.1 +0.7
TRD AMb AMB 21 07 48.2
comp=Z,78nm,1.1s
SDNR Sundarnagar 148.29 59 *e*P PKPdf 21 07 45.8 +1.2
MJAR Matsushiro Arr 148.32 311 PKP PKPdf 21 07 44.7 0.0
comp=Z,38nm,0.9s,baz=88,slow=1.4,SNR=43
MJAR PKPbc PKPbc 21 07 48.3 +0.2
comp=Z,38nm,0.9s,baz=83,slow=2.0,SNR=68
MJAR pPKPbc pPKPbc 21 07 59.0 -0.5
comp=Z,59nm,0.8s,baz=85,slow=1.7,SNR=22
MAT Matsushiro 148.32 311 PKP PKPdf 21 07 44.6 0.0
MAT Matsushiro 148.32 311 *e*PKP PKPdf 21 07 45.0 +0.4
MAT LR LR
comp=Z,350nm,20.0s,MS5.2
MDJ Mudanjiang 148.41 331 PKP PKPdf 21 07 45.0 +0.2
MDJ PP PP 21 11 17.8 +0.4
MDJ PKS 21 11 20.3
MDJ SKS SKSdf 21 14 51.3 +0.9
MDJ SS SS 21 30 24.5 +1.6
MDJ PP PP
comp=Z,198nm,11.4s
MDJ LR LR
comp=N,352nm,22.9s,MS5.2
MDJ LR LR
comp=E,257nm,20.9s,MS5.2
MDJ LR LR
comp=Z,472nm,20.9s,MS5.3
SMLA Simla 148.56 60 *i* P PKPdf 21 07 43.8 -1.3
comp=Z,15nm,0.3s
SMLA *e*P 21 07 44.8
SMLA AMb AMB 21 07 52.1
comp=Z,120nm,1.0s
SMLA *i* x x 21 11 17.7
WMQ Urumqi 148.82 30 PKP PKPdf 21 07 45.8 +0.3
WMQ PKP2 PKPab 21 07 55.3 +2.0
WMQ XPKP 21 08 00.3
WMQ PP PP 21 11 23.0 +3.2
WMQ PP PP
comp=Z,86nm,5.4s
WMQ LR LR
comp=N,799nm,22.9s,MS5.6
WMQ LR LR
comp=E,807nm,22.8s,MS5.6
WMQ LR LR
comp=Z,851nm,24.0s,MS5.5
NDI New Delhi 149.23 64 *e*P PKPdf 21 07 47.8 +1.6
NDI *ex* x 21 07 50.0
NDI AMb AMB 21 07 53.4
comp=Z,137nm,1.0s
AKL Akola 149.90 80 *ex* x 21 07 20.3
AKL AMb AMB 21 07 22.1
comp=Z,165nm,1.1s
SONM Songino Array 150.33 3 PKP PKPdf 21 07 48.7 +0.8
comp=Z,15nm,1.0s,baz=312,slow=1.1,SNR=55
SONM PKPbc PKPbc 21 07 53.2 +0.1
comp=Z,43nm,0.8s,baz=326,slow=1.5,SNR=100
ULN Ulaanbaatar 150.33 2 PKPdf PKPdf 21 07 48.8 +0.9
ULN PKPbc PKPbc 21 07 53.8 +0.7
ULN PKPab PKPab 21 08 00.9 +1.4
ULN Ulaanbaatar 150.33 2 *i* PKIKP PKPdf 21 07 49.0 +1.1
PALK Pallekele 150.54 108 PFAKE 21 08 00.0 +12
PALK LR LR
comp=Z,1μm,22.0s,MS5.7
CN2 Changchun 150.85 335 PKP PKPdf 21 07 53.5 +4.8
CN2 PP PP
comp=Z,410nm,6.0s
CN2 LR LR
comp=N,150nm,18.0s,MS5.0
CN2 LR LR
comp=E,160nm,18.0s,MS5.0
CN2 LR LR
comp=Z,120nm,20.0s,MS4.7
HYB Hyderabad 151.16 87 *i* PKP PKPdf 21 07 50.5 +1.3
HYB *e* 21 07 56.5
HYB *e* 21 08 04.5
HYB *e*PP PP 21 11 40.0 +6.7
HYB Hyderabad 151.16 87 *e*P PKPdf 21 07 50.0 +0.8
HYB *e* 21 07 56.0
LGTI Lohaghat 151.60 61 *i* x x 21 07 56.0
NGP Nagpur 151.80 79 *e*P PKPdf 21 07 47.8 -2.3
NGP AMb AMB 21 07 57.2
comp=Z,97nm,1.0s
MDRS Chennai 152.01 96 *ex* x 21 09 05.8
JBP Jabalpur 152.56 75⇑ *e*P PKPdf 21 07 52.4 +1.1
JBP *i* x x 21 07 59.5
JBP *ex* x 21 08 00.7
comp=Z,97nm,1.1s
BLSP Bilaspur 154.62 77 *e*P PKPdf 21 07 55.0 +0.7
KOLN Koldanda 154.91 63 *e*P PKPdf 21 07 54.9 +0.3
INCN Inchon 155.22 325 PFAKE 21 08 10.0 +15
INCN LR LR
comp=Z,508nm,20.0s,MS5.3
GKN Gorkha 155.71 62 *e*P PKPdf 21 07 56.4 +0.7
DMN Daman 156.23 62 *e*P PKPdf 21 07 55.5 -0.9
KKN Kakani 156.31 62 *e*P PKPdf 21 07 56.7 +0.2
PKI Pulchoki 156.49 62 *e*P PKPdf 21 07 56.4 -0.3
GUN Gumba 156.78 61 *e*P PKPdf 21 07 57.8 +0.7
JIRN Jiri 157.12 61 *e*P PKPdf 21 07 57.8 +0.3
HHC Hu-ho-hao-te 157.26 355⇑ PKP PKPdf 21 07 58.3 +0.6
HHC APKP 21 08 09.8
HHC XPKP 21 08 12.8
HHC PKP2 PKPab 21 08 31.0 +2.2
HHC PKS 21 11 31.0
HHC PP PP 21 12 11.0 +3.5
HHC SKS SKSdf 21 14 59.0 -1.9
HHC SKKS SKKSac 21 18 57.0 +2.8
HHC PP PP
comp=Z,180nm,11.0s
HHC LR LR
comp=N,392nm,22.6s,MS5.5
HHC LR LR
comp=E,651nm,23.1s,MS5.5
HHC LR LR
comp=Z,515nm,21.4s,MS5.3
BJI Beijing 157.29 345 PKP PKPdf 21 07 58.5 +0.8
BJI PP PP 21 12 12.8 +5.1
BJI SKKS SKKSac 21 18 56.0 +1.6
BJI PP PP
comp=Z,329nm,9.3s
BJI LR LR
comp=N,512nm,20.6s,MS5.3
BJI LR LR
comp=E,154nm,21.6s,MS5.3
BJI LR LR
comp=Z,668nm,22.8s,MS5.4
GTA Gaotai 157.41 18 PKP PKPdf 21 07 58.8 +0.9
GTA APKP 21 08 10.0
GTA PKS 21 11 32.0
GTA PP PP 21 12 13.0 +4.6
GTA SKS SKSdf 21 14 58.0 -3.1
GTA SKKS SKKSac 21 18 56.5 +1.5
GTA PP PP
comp=Z,231nm,8.4s
GTA LR LR
comp=N,138nm,21.7s,MS5.0
GTA LR LR
comp=E,191nm,24.7s,MS5.0
GTA LR LR
comp=Z,235nm,25.9s,MS4.9
BOK Bokaro 157.85 71 *e*P PKPdf 21 07 59.6 +1.2
BOK AMb AMB 21 08 01.3
comp=Z,22nm,0.8s
LZH Lanzhou 161.60 13 *e*PKP PKPdf 21 08 04.8 +2.1
LZH PKP2 PKPab 21 08 49.0 +1.3
LZH PP PP 21 12 33.0 +1.9
LZH SKKS SKKSac 21 19 18.0 +1.2
LZH *e*SS SS 21 32 43.0 -2.8
LZH PP PP
comp=Z,200nm,5.7s
LZH LR LR
comp=E,761nm,19.5s
LZH LR LR
comp=Z,994nm,20.3s
SHL Shillong 162.62 62 *e*P PKPdf 21 08 04.0 +0.3
SSE Sheshan 162.94 321 PKP PKPdf 21 08 04.5 +0.5
SSE PP PP 21 12 41.0 +2.8
SSE SS SS 21 32 59.0 -0.7
SSE PP PP
comp=Z,79nm,4.9s
SSE LR LR
comp=N,214nm,22.2s
SSE LR LR
comp=E,172nm,22.3s
SSE LR LR
comp=Z,481nm,18.7s
XAN Xi'an 164.18 360 PKP PKPdf 21 08 06.0 +0.8
XAN APKP 21 08 16.3
CD2 Chengdu 166.49 19 PKP PKPdf 21 08 09.0 +1.9
WHN Wuhan 166.69 339⇓ PKP PKPdf 21 08 08.3 +1.0
QZH Quanzhou 168.69 308 *i* PKP PKPdf 21 08 09.0 +0.3
QZH PKP2 PKPab 21 09 18.3 -0.6
QZH PP PP 21 13 14.5 +6.4
QZH SS SS 21 34 00.3 +1.9
QZH LR LR
comp=N,3μm,29.8s
QZH LR LR
comp=E,820nm,18.5s
QZH LR LR
comp=Z,1μm,18.8s
KMI Kunming 171.04 38 PKP PKPdf 21 08 11.0 +0.9
KMI APKP 21 08 21.5
KMI XPKP 21 08 25.0
KMI PKP2 PKPab 21 09 30.0 +0.7
KMI PKS 21 11 42.0
KMI PP PP 21 13 21.3 +1.5
KMI SKS SKSdf 21 15 09.3 -1.4
KMI SKKS SKKSac 21 20 03.5 -0.5
KMI SS SS 21 34 18.0 -3.6
KMI PP PP
comp=Z,215nm,9.2s
KMI LR LR
comp=N,325nm,22.2s
KMI LR LR
comp=E,286nm,22.2s
KMI LR LR
comp=Z,587nm,27.0s
GYA Guiyang 171.49 13 *i* PKP PKPdf 21 08 11.3 +1.0
GYA APKP 21 08 22.0
GYA XPKP 21 08 25.5
GYA PKP2 PKPab 21 09 31.0 -0.3
GYA PP PP 21 13 21.8 -0.3
GYA SKKS SKKSac 21 20 06.5 +0.3
GYA SS SS 21 34 22.0 -4.1
GYA PP PP
comp=Z,370nm,9.0s
GYA LR LR
comp=N,360nm,20.6s
GYA LR LR
comp=E,350nm,19.5s
GYA LR LR
comp=Z,550nm,19.0s
QIZ Qiongzhong 178.71 313 PKP PKPdf 21 08 12.5 +0.2
QIZ PP PP 21 13 56.5 -0.3
QIZ LR LR
comp=E,344nm,20.8s
QIZ LR LR
comp=Z,569nm,19.1s
QIZ Qiongzhong 178.71 313 PFAKE 21 08 20.0 +7.7
QIZ LR LR
comp=Z,697nm,21.0s

*ISCJB **25** 21:17:16.2±0.9, 2054N±009×1200E±03, h10km, mb3.8/6, Error ellipse: s-maj=34.1km s-min=13.2km az=176.9*
*IDC **25** 21:17:16.5±1.2, 2051N×11994E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.6/19, mbtmp3.7/5, Error ellipse: s-maj=44.1km s-min=23.0km az=81.0*
*NEIC **25** 21:17:17.7±0.8, 2056N×11996E, h10km, mb4.6/1, Error ellipse: s-maj=29.9km s-min=12.1km az=90.0*
ISC 25 21:17:17.9±0.9, 2058N±009×1200E±02, h10km, n8, σ0§89/8, mb3.8/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YHNB	**Yeheng**	**4.28**	**17**	*e*P		**Pn**	**21 18 21.6**	**-1.4**
MJAR	**Matsushiro Arr**	**22.52**	**41**	P		**P**	**21 22 19.6**	**+2.0**
	2.5nm,0.8s,mb3.7,baz=229,slow=12,SNR=3.5							
MKAR	**Makanchi Array**	**40.24**	**319**	P		**P**	**21 24 55.4**	**+0.7**
	0.4nm,0.7s,mb3.3,baz=106,slow=8.9,SNR=4.4							
WRAB	**Tennant Creek**	**42.65**	**160**	P		**P**	**21 25 14.2**	**-0.3**
	16nm,1.4s,mb4.5							
WRA	**Warramunga Arr**	**42.66**	**160**	P		**P**	**21 25 14.4**	**-0.2**
	2.7nm,0.8s,mb4.0,baz=343,slow=8.9,SNR=10							
WB2	**Warramunga Arr**	**42.66**	**160**	*e*P		**P**	**21 25 14.4**	**-0.2**
ASAR	**Alice Springs**	**46.02**	**162**	P		**P**	**21 25 41.8**	**+0.3**
	0.4nm,0.5s,mb3.6,baz=343,slow=7.0,SNR=6.3							
YKA	**Yellowknife Ar**	**86.72**	**22**	P		**P**	**21 30 01.4**	**-0.6**
	0.3nm,0.8s,mb3.5,baz=312,slow=4.3,SNR=7.4							

*ISCJB **25** 21:19:06.5±6.0, 50N±04×949E±06, h52km±41km, mb3.9/7, Error ellipse: s-maj=122.4km s-min=18.9km az=117.2*
*NEIC **25** 21:19:08.3±3.9, 5.14N×9508E, h47km±27km, mb4.1/2, Error ellipse: s-maj=79.5km s-min=12.5km az=59.0*
*IDC **25** 21:19:09.4±6.6, 526N×9527E, h49km±48km, mb3.5/5, mb1 3.7/6, mb1mx3.4/21, mbtmp3.7/6, ML3.2/1, Error ellipse: s-maj=136.3km s-min=20.2km az=60.0*
ISC 25 21:19:08.6±5.6, 51N±04×950E±06, h49km±38km, n9, σ0§59/9, mb3.8/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.54**	**120**	P		**Pn**	**21 20 14.6**	**-0.1**
	1.1nm,0.3s,baz=308,slow=17,SNR=5.2							
LSA	**Lhasa**	**24.72**	**352**	*e*P		**P**	**21 24 26.6**	**+1.3**
	2.8nm,0.5s,mb4.0							
MKAR	**Makanchi Array**	**42.95**	**347**	P		**P**	**21 27 02.5**	**-0.1**
	0.9nm,0.4s,mb3.8,baz=159,slow=8.4,SNR=26							
SONM	**Songino Array**	**43.67**	**11**	P		**P**	**21 27 07.8**	**-0.6**
	0.2nm,0.4s,mb3.2,baz=187,slow=9.2,SNR=4.4							
WRA	**Warramunga Arr**	**45.99**	**124**	P		**P**	**21 27 27.0**	**+0.1**
	0.3nm,0.5s,mb3.5,baz=302,slow=9.5,SNR=7.4							
KURK	**Kurchatov**	**47.48**	**346**	P		**P**	**21 27 38.3**	**-0.3**
	1.4nm,0.5s,mb4.2							
ASAR	**Alice Springs**	**47.52**	**129**	P		**P**	**21 27 39.1**	**+0.2**
	0.5nm,0.6s,mb3.7,baz=299,slow=7.8,SNR=8.5							
ASAR				pP		pP	21 27 52.0	0.0
	0.2nm,0.5s,baz=305,slow=8.0,SNR=4.7							
ZAL	**Zalesovo**	**49.38**	**352**	P		**P**	**21 27 53.6**	**+0.4**
	1.0nm,0.3s,mb4.4,baz=320,slow=5.6,SNR=3.2							
CHKZ	**Chkalovo**	**52.34**	**342**	*e*P		**P**	**21 28 14.7**	**-0.8**

*IDC **25** 21:31:20.0±1.4, 2050N×12002E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.6/19, mbtmp3.6/5, MS3.5/2, Ms1 3.5/2, ms1mx2.6/27, Error ellipse: s-maj=42.7km s-min=26.6km az=68.0*
*ISCJB **25** 21:31:24.1±2.4, 205N±01×1200E±02, h40km±27km, mb3.6/5, MS3.9/1, Error ellipse: s-maj=37.9km s-min=23.4km az=148.3*
*MAN **25** 21:31:54.8, 1859N×12138E, h1km, MS2.5*
ISC 25 21:31:25.9±2.3, 205N±01×1200E±02, h40km±27km, n12, σ0§92/10, mb3.6/5, MS3.9/1, Philippine Islands region

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

APYP	Conner	2.88	156	*e*P		Pn	21 32 08.0	-1.2
ABRA	Dolores	2.92	167	*e*P		Pn	21 32 16.7	+6.8
SGCP	Mt. Cagua	2.96	140	*e*P		Pn	21 32 09.1	-1.2
CVP	Callao Caves	3.27	149	*e*P		Pn	21 32 15.0	+0.4
CAUP	Cauayan	3.94	154	*e*P		Pn	21 32 26.1	+2.3
JOW	Kunigami	9.82	49	LR		LR	21 37 29.0	
	comp=Z,116nm,21.1s,baz=177,slow=37							
MJAR	Matsushiro Arr	22.52	41	P		P	21 36 22.4	+0.3
	2.2nm,0.9s,mb3.6,baz=238,slow=12,SNR=5.1							
SONM	Songino Array	29.40	341	P		P	21 37 25.2	-0.1
	0.2nm,0.3s,mb3.3,baz=146,slow=8.7,SNR=3.3							
PMG	Port Moresby	39.95	136	LR		LR	21 53 07.2	
	comp=Z,155nm,19.7s,MS3.9,baz=63,slow=33							
MKAR	Makanchi Array	40.32	319	P		P	21 38 59.3	0.0
	0.3nm,0.8s,mb3.1,baz=117,slow=9.0,SNR=3.0							
WRA	Warramunga Arr	42.58	160	P		P	21 39 17.8	0.0
	3.5nm,0.9s,mb4.1,baz=342,slow=9.1,SNR=4.8							
YKA	Yellowknife Ar	86.75	22	P		P	21 44 05.5	-0.1
	0.4nm,0.6s,mb3.9,baz=311,slow=4.8,SNR=9.7							

*IDC **25** 21:33:32.6±0.7, 399S×129.49E, h0km, mb4.2/10, mb1 4.3/12, mb1mx4.2/20, mbtmp4.2/12, ML4.0/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/18, Error ellipse: s-maj=35.6km s-min=14.6km az=70.0*

*ISCJB **25** 21:33:35.6±0.3, 399S±004×12952E±007, h33km, mb4.5/29, MS3.9/2, Error ellipse: s-maj=9.9km s-min=5.4km az=142.9*

*MOS **25** 21:33:36.0±1.0, 388S×12950E, h33km, mb4.5/11, Error ellipse: s-maj=23.5km s-min=9.2km az=117.9*

*BJI **25** 21:33:37.3, 390S×12960E, h38km, mb4.7*

*NEIC **25** 21:33:38.3±1.9, 394S×12955E, h39km±19km, mb4.4/10, Error ellipse: s-maj=16.2km s-min=9.7km az=65.0*

ISC 25 21:33:37.6±0.3, 401S±004×12959E±008, h35km, n64, σ1§01/63, mb4.5/29, MS3.9/2, 6C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AAI	Ambon	1.43	283	P		Pn	21 33 59.3	-1.7
	801nm,0.5s							
TLE	Tual	3.53	117	P		Pn	21 34 37.7	+7.9
	118nm,0.9s							
SWI	Sorong	3.55	28	P		Pn	21 34 30.1	0.0
	159nm,0.3s							
KAKA	Kakadu	9.09	162	*e*P		Pn	21 35 47.8	+1.6
	21nm,0.6s							
JAY	Jayapura	11.20	83	P		Pn	21 36 19.3	+4.3
	172nm,0.5s							
FITZ	Fitzroy Crossi	14.53	195	*e*P		Pn	21 37 01.2	+0.7
	5.5nm,0.5s							
FITZ				*e*			21 37 10.1	
FITZ	Fitzroy Crossi	14.53	195	Pn		Pn	21 37 00.0	-0.5
	0.5nm,0.3s,baz=25,slow=9.4,SNR=15							
WRAB	Tennant Creek	16.49	164	*i* P		Pn	21 37 24.7	-1.4
WRAB	Tennant Creek	16.49	164	*e*P		Pn	21 37 24.1	-2.0
	8.9nm,0.6s							
WRA	Warramunga Arr	16.50	164	Pn		Pn	21 37 24.2	-1.9
	0.5nm,0.3s,baz=344,slow=13,SNR=26							
WRA				Sn		Sn	21 40 23.8	-4.3
	0.3nm,0.3s,baz=334,slow=22,SNR=3.2							
WB2	Warramunga Arr	16.50	164	*e*P		Pn	21 37 23.9	-2.3
MBWA	Marble Bar	19.55	209	*e*P		Pn	21 38 04.6	+1.0
	14nm,1.0s							
AS31	Alice Springs	19.98	168	*e*P		Pn	21 38 09.8	+1.1
AS31				*e*			21 38 16.8	
ASAR	Alice Springs	19.98	168	P		Pn	21 38 08.9	+0.2
	4.3nm,0.5s,baz=346,slow=10,SNR=65							
ASAR				S		S	21 41 49.2	-0.4
	0.8nm,0.6s,baz=356,slow=24,SNR=4.4							
ASPA	Alice Springs	19.98	168	*e*P		Pn	21 38 09.8	+1.1
ASPA				*e*			21 38 16.8	
CTA	Charters Tower	22.78	136	P		P	21 38 39.2	+2.3
	3.0nm,0.7s,mb3.9,baz=309,slow=11,SNR=5.5							
CTAO	Charters Tower	22.78	136	P		P	21 38 39.3	+2.4
STKA	Stephens Creek	29.92	159	P		P	21 39 41.7	-0.4
	0.6nm,0.3s,mb3.8,baz=134,slow=23,SNR=4.0							
PSI	Prapat	31.39	282	P		P	21 39 54.2	-0.8
	1.5nm,0.4s,mb4.2,baz=60,slow=9.5,SNR=4.1							
JHJ	Hachijo jima 2	38.17	14	LR		LR	21 54 17.6	
	comp=Z,32nm,18.9s,MS3.2,baz=116,slow=33							
MJAR	Matsushiro Arr	41.14	11	P		P	21 41 17.5	-0.8
	5.0nm,0.7s,mb4.2,baz=183,slow=9.5,SNR=16							
MAT	Matsushiro	41.14	11	P		P	21 41 17.1	-1.2
MAT	Matsushiro	41.14	11	*e*P		P	21 41 17.0	-1.3
MAT				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.0							
MAT	Matsushiro	41.14	11	*e*P		P	21 41 17.0	-1.3
	comp=Z,2.7nm,0.7s,mb4.0							
LSA	Lhasa	49.79	315	*e*P		P	21 42 28.6	+1.9
LSA				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.7							
LSA	Lhasa	49.79	315	*e*P		P	21 42 28.6	+1.8
	comp=Z,7.0nm,0.8s,mb4.7							
GTA	Gaotai	51.18	330	*e*P		P	21 42 38.0	+0.8
GTA				AMB		AMB		
	comp=Z,5.0nm,1.4s,mb4.2							
JIRN	Jiri	52.35	310	*e*P		P	21 42 46.5	+0.5
GUN	Gumba	52.72	310	*e*P		P	21 42 49.5	+0.8
	comp=Z,26nm,0.7s,mb5.3							
PKI	Pulchoki	52.91	309	*e*P		P	21 42 50.4	+0.3
	comp=Z,9.4nm,0.5s,mb5.0							
KKN	Kakani	53.12	309	*e*P		P	21 42 52.0	+0.4
	comp=Z,19nm,0.9s,mb5.0							
DMN	Daman	53.16	309	*e*P		P	21 42 52.6	+0.6
	comp=Z,19nm,0.8s,mb5.1							
GKN	Gorkha	53.72	309	*e*P		P	21 42 56.4	+0.4
	comp=Z,25nm,0.8s,mb5.2							
KOLN	Koldanda	54.41	308	*e*P		P	21 43 01.2	+0.1
	comp=Z,34nm,0.9s,mb5.3							
ULN	Ulaanbaatar	55.32	342	⇑*e*P		P	21 43 08.7	+1.1
ULN	Ulaanbaatar	55.32	342	*e*P		P	21 43 08.4	+0.8
	comp=Z,3.3nm,0.8s,mb4.4							
SONM	Songino Array	55.50	341	P		P	21 43 09.6	+0.7
	comp=Z,2.5nm,0.9s,mb4.2,baz=162,slow=6.8,SNR=14							
ZAK	Zakamensk	58.73	341	*e*P		P	21 43 30.1	-1.7
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.2s,mb4.0							
MKAR	Makanchi Array	65.53	326	P		P	21 44 17.7	+0.4
	comp=Z,4.6nm,0.8s,mb4.6,baz=123,slow=8.8,SNR=47							
YAK	Yakutsk	65.86	0	⇓*e*P		P	21 44 19.9	+0.4
YAK				pmax		pmax		
	comp=Z,22nm,0.8s,mb5.2							
SMY	Shemya	67.82	27	PFAKE			21 44 40.0	+8.0
SMY				LR		LR		
	comp=Z,530nm,22.0s,MS4.7							
AAK	Ala-Archa	68.02	319	⇑*e*P		P	21 44 33.9	+0.7
AAK				pmax		pmax		
	comp=Z,3.0nm,1.3s,mb4.2							
ZAL	Zalesovo	68.75	333	P		P	21 44 38.4	+0.6
	comp=Z,1.6nm,0.3s,mb4.4,baz=1,5,slow=4.1,SNR=12							
ZAL	Zalesovo	68.75	333	⇑*e*P		P	21 44 39.2	+1.4
KURK	Kurchatov	69.78	328	⇑*e*P		P	21 44 44.7	+0.5
KURK	Kurchatov	69.78	328	*e*P		P	21 44 44.1	-0.1
	comp=Z,22nm,1.0s,mb5.0							
NVS	Novosibirsk	70.03	334	*i* P		P	21 44 44.4	-1.3
BRVK	Borovoye	75.41	328	*e*P		P	21 45 17.7	0.0
BRVK				pmax		pmax		
	comp=Z,5.0nm,1.2s,mb4.3							
BRVK	Borovoye	75.41	328	*e*P		P	21 45 17.7	+0.1
	comp=Z,5.2nm,1.2s,mb4.3							
VNDA	Vanda	75.44	173	P		P	21 45 17.8	0.0
	comp=Z,0.4nm,0.4s,mb3.7,baz=317,slow=11,SNR=4.3							
VNDA	Vanda	75.44	173	*e*P		P	21 45 18.3	+0.5
VNDA				pmax		pmax		
	comp=Z,2.0nm,1.0s							
VNDA	Vanda	75.44	173	*e*P		P	21 45 18.3	+0.5
	comp=Z,1.6nm,1.0s,mb3.9							
CHKZ	Chkalovo	75.52	328	*e*P		P	21 45 17.5	-0.8
CHKZ				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.5							
CHKZ	Chkalovo	75.52	328	*e*P		P	21 45 17.5	-0.8
	comp=Z,5.6nm,1.0s,mb4.5							
TIXI	Tiksi	75.52	360	⇑*e*P		P	21 45 18.2	-0.1
TIXI				pmax		pmax		
	comp=Z,6.0nm,1.4s,mb4.3							
ZRNK	Zerenda	76.05	327	*e*P		P	21 45 21.4	+0.1
ZRNK				pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.5							
ZRNK	Zerenda	76.05	327	*e*P		P	21 45 21.4	+0.1
	comp=Z,7.0nm,1.0s,mb4.5							
AKTK	Aktyubinsk	81.48	322	P		P	21 45 50.7	-0.5
AKTO	Aktyubinsk	81.48	322	P		P	21 45 50.7	-0.5
	comp=Z,1.2nm,0.4s,mb4.2,baz=106,slow=6.0,SNR=9.6							
ARU	Arti	82.97	328	⇓*i* P		P	21 45 59.0	0.0
ARU				*e*			21 49 10.0	
ARU				*e*S		S	21 56 16.5	+1.0
ARU				*e*SS		SS	22 01 35.2	-4.0
ARU				pmax		pmax		
	comp=Z,2.0nm,1.0s,mb4.1							
QSPA	South Pole Qui	85.94	180	P		P	21 46 12.8	-1.2
TORD	Torodi Ar. Bea	127.78	283	PKP		PKPdf	21 52 40.7	+1.5
	comp=Z,0.5nm,0.6s,baz=84,slow=1.9,SNR=5.6							

*SKO **25** 21:48:39.3, 4192N×1934E, h0km*

*ISCJB **25** 21:48:41.7±1.1, 4161N±006×1952E±006, h18km±6km, Error ellipse: s-maj=10.0km s-min=6.5km az=48.0*

*PDG **25** 21:48:42.4±0.2, 4174N×1961E, h18km*

*NEIC **25** 21:48:42.4, 4174N×1961E, h18km, MD2.5(PDG), After PDG.*

ISC 25 21:48:42.9±1.0, 4172N±005×1954E±005, h18km±4km, n18, σ1§35/32, 8C-2D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ULC	Ulcinj	0.33	319	⇑*i* Pg		Pg	21 48 49.4	-0.5
ULC				*e*Sg		Sg	21 48 55.8	+1.2
TTG	Podgorica	0.74	344	⇑*i* Pg		Pg	21 48 55.6	-1.8
TTG				*e*Sg		Sg	21 49 08.2	+1.0
BUM	Brajici-Budva	0.75	321	⇑*i* Pg		Pg	21 48 56.9	-0.7
BUM				*e*Sg		Sg	21 49 09.3	+1.6
PVY	Plav	0.93	20	⇓*i* Pg		Pg	21 48 59.1	-2.0
PVY				*e*Sg		Sg	21 49 13.9	+0.6
HCY	Herceg Novi	1.06	314	⇑*i* Pg		Pg	21 49 03.1	-0.4
HCY				*e*Sg		Sg	21 49 19.6	+2.1
NKY	Niksic	1.17	340	⇑*i* Pg		Pg	21 49 04.5	-0.9
NKY				*e*Sg		Sg	21 49 22.1	+1.4
IVA	Berane	1.18	13	⇑*i* Pg		Pg	21 49 03.8	-1.9
IVA				*e*Sg		Sg	21 49 22.6	+1.4
BRY	Bratogost	1.39	328	⇓*i* Pg		Pg	21 49 08.2	-1.5
BRY				*e*Sg		Sg	21 49 28.5	+0.6
SKO	Skopje	1.44	79	*e*Pn		Pn	21 49 07.9	-0.3
SKO				*e*Sn		Sn	21 49 29.5	+2.9
BIA	Bitola	1.51	117	*e*Pn		Pn	21 49 10.7	+1.6
BIA				*e*Sn		Sn	21 49 32.5	+4.1
UPM	Unac-Piva	1.55	343	*e*Pg		Pg	21 49 10.4	-2.4
UPM				*e*Sg		Sg	21 49 32.3	-0.8
PLE	Pljevlja	1.61	356	*e*Pn		Pn	21 49 10.8	+0.3
PLE				*e*Sn		Sn	21 49 33.8	+2.9
STON	Ston	1.79	311	*i* Pn		Pn	21 49 11.8	-1.1
STON				*i* Sn		Sn	21 49 34.8	-0.3
DIVS	Divcibare	2.40	8	*i* Pn		Pn	21 49 21.8	+0.5
DIVS				Sg		Sn	21 49 49.1	-1.2
BZS	Buzias	4.18	20	⇑*i*P		Pn	21 49 46.3	+0.5
BZS	Buzias	4.18	20	S		Sn	21 50 33.0	-1.1
DRGR		5.56	23	⇑*i*P		Pn	21 50 06.2	+1.4
DRGR		5.56	23	S		Sn	21 51 06.7	-1.5

WEL 25 22:12:28.8±0.2, 3729S×17720E, h154km±2km, ML3.6/12, Error ellipse: s-maj=2.8km s-min=2.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	Matakaoa Point	0.93	108	PN		Pn	22 12 53.4	+0.2
MXZ				SN		Sn	22 13 11.9	-0.1
URZ	Urewera	0.97	184	PN		Pn	22 12 53.6	-0.1
URZ				SN		Sn	22 13 12.9	+0.3
MWZ	Matawai	1.08	166	PN		Pn	22 12 54.5	0.0
MWZ				SN		Sn	22 13 14.6	+0.4
PUZ	Puketiti	1.15	133	*e*PN		Pn	22 12 55.2	+0.1
PUZ				SN		Sn	22 13 14.7	-0.6
KNZ	Kokohu	1.77	168	PN		Pn	22 13 01.5	0.0
KNZ				SN		Sn	22 13 26.1	-0.5
BKZ	Black Stump Fm	1.96	196	*e*PN		Pn	22 13 03.1	-0.5
BKZ				SN		Sn	22 13 29.3	-1.1
FWVZ	Far West T-bar	2.35	213	PN		Pn	22 13 08.6	+0.3
MTVZ	Mangateitei	2.50	212	*e*PN		Pn	22 13 09.9	-0.1
MTVZ				SN		Sn	22 13 43.7	+2.0
PXZ	Pawanui	2.75	185	PN		Pn	22 13 11.8	-1.3
TSZ	Takapari Road	2.93	199	PN		Pn	22 13 14.2	-1.2
BFZ	Birch Farm	3.47	192	PN		Pn	22 13 20.3	-1.9
MRZ	Mangatainoka R	3.60	200	*e*PN		Pn	22 13 21.3	-2.5
MRZ				SN		Sn	22 14 02.5	-4.2
TIWZ	Tintock	3.63	196	*e*PN		Pn	22 13 22.1	-2.2
KIW	Kapiti Island	3.99	206	*e*PN		Pn	22 13 26.0	-2.9
TCW	Tory Channel	4.53	209	*e*PN		Pn	22 13 32.5	-3.5
NNZ	Nelson	4.92	216	*e*PN		Pn	22 13 37.2	-3.9
QRZ	Quartz Range	5.07	224	*e*PN		Pn	22 13 39.3	-3.8
THZ	Tophouse	5.56	215	*e*PN		Pn	22 13 45.2	-4.5
KHZ	Kahutara	5.84	208	*e*PN		Pn	22 13 49.7	-3.7
LTZ	Lake Taylor	6.66	213	*e*PN		Pn	22 14 00.0	-4.3

IDC 25 22:13:53.0±1.5, 2028N×11960E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/18, mbtmp3.3/3, Error ellipse: s-maj=89.1km s-min=31.4km az=64.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKAR	Makanchi Array	40.24	320	P		P	22 21 31.2	-0.2
	0.3nm,0.6s,baz=120,slow=10.0,SNR=4.4							
WRA	Warramunga Arr	42.50	159	P		P	22 21 50.2	+0.2
	0.5nm,0.7s,baz=341,slow=9.2,SNR=5.0							
YKA	Yellowknife Ar	87.12	22	P		P	22 26 40.6	-0.1
	0.1nm,0.4s,baz=302,slow=4.8,SNR=3.0							

*ISCJB **25** 22:17:31.1±1.1, 1836S±006×714W±0.1, h64km±12km, mb3.7/4, Error ellipse: s-maj=18.5km s-min=7.8km az=135.5*

*IDC **25** 22:17:33.7±3.8, 1836S×7132W, h74km±30km, mb3.5/3, mb1 3.7/6, mb1mx3.5/17, mbtmp3.8/6, MS3.1/3, Ms1 3.2/3, ms1mx2.8/21, Error ellipse: s-maj=40.6km s-min=20.4km az=92.0*

*NEIC **25** 22:17:33.1±1.0, 1844S×7139W, h74km±11km, mb3.9/2, Error ellipse: s-maj=14.3km s-min=9.7km az=53.0*

ISC 25 22:17:33.0±1.0, 1834S±006×714W±01, h65km±11km, n14, σ1§03/14, mb3.6/4, 1C, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ARE	Arequipa	1.87	358	⇑*i*P		Pn	22 18 00.3	-2.4
ARE				*i* S		Sn	22 18 24.7	-0.6
LPAZ	La Paz	3.75	58	P		Pn	22 18 29.0	+0.7
	0.6nm,0.3s,baz=240,slow=10,SNR=27							
LPAZ				LR		LR	22 20 14.5	
	comp=Z,196nm,18.7s,baz=287,slow=44							
LVC	Limon Verde	4.86	151	P		Pn	22 18 42.2	-1.2
	3.7nm,0.3s,baz=339,slow=10,SNR=41							
LVC				S		Sn	22 19 39.2	+0.8
	5.6nm,0.3s,baz=303,slow=23,SNR=12							
LVC				LR		LR	22 20 48.7	
	comp=Z,180nm,18.0s,baz=218,slow=41							
NNA	Nana	8.20	320	*e*Pn		Pn	22 19 30.8	+1.6
SIV	San Ignacio	10.16	78	P		Pn	22 19 55.6	-0.5
	0.7nm,0.3s,baz=258,slow=12,SNR=16							
SAML	Samuel	12.29	42	*e*Pn		Pn	22 20 27.0	+2.0
ATAH	Atahualpa	13.16	328	LR		LR	22 25 49.7	
	comp=Z,134nm,20.1s,baz=0.0,slow=38							
CPUP	Villa Florida	15.26	124	*e*Pn		Pn	22 21 04.3	-0.2
	3.5nm,0.3s							
BDFB	Brasilia	22.54	87	P		P	22 22 27.1	-0.3
	3.1nm,0.5s,mb3.9,baz=253,slow=12,SNR=5.6							
SDV	Santo Domingo	27.06	2	*e*P		P	22 23 09.2	0.0
	1.3nm,0.6s,mb3.6							
TORD	Torodi Ar. Bea	78.58	72	P		P	22 29 27.2	-0.2
	0.5nm,0.8s,mb3.4,baz=242,slow=3.0,SNR=3.3							
YKA	Yellowknife Ar	87.44	341	P		P	22 30 13.1	-0.1
	0.4nm,0.6s,mb3.5,baz=135,slow=4.7,SNR=12							
YKA				pP		pP	22 30 23.3	-8.0
	0.8nm,0.8s,baz=136,slow=5.0,SNR=9.5							
YKA	Yellowknife Ar	87.44	341	P		P	22 30 13.1	-0.1
YKA				pP		pP	22 30 23.3	-8.0
MKAR	Makanchi Array	144.32	31	PKP		PKPdf	22 37 00.1	-1.5
	0.3nm,0.6s,baz=328,slow=3.8,SNR=4.4							

*ISCJB **25** 22:18:49.2±0.7, 4673N±003×1054E±003, h14km±10km, Error ellipse: s-maj=4.6km s-min=3.5km az=129.3*

*ROM **25** 22:18:49.8±0.2, 4671N×1049E, h11km, Md2.1/6, Ml1.6/3, Error ellipse: s-maj=2.7km s-min=1.3km az=90.0*

*VIE **25** 22:18:49.8±0.4, 4675N×1053E, h8km, mb1.0/1, ML1.5/5, Error ellipse: s-maj=3.7km s-min=1.2km az=166.0 9 km N of Glorenza*

*ZUR **25** 22:18:50.4, 4672N×1047E, h11km±4km, ML1.4/3*

ISC 25 22:18:49.8±0.9, 4673N±003×1052E±004, h14km±14km, n14, σ0§23/27, 10C-2D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FUORN	Ofenpass	0.21	239	Pg		Pg	22 18 54.6	+0.1
FUORN				Sg		Sg	22 18 57.6	-0.1
FUORN	Ofenpass	0.21	239	⇑*i* Pg		Pg	22 18 54.6	+0.1
	138nm,0.2s							
FUORN				*e*Sg		Sg	22 18 57.7	0.0
	138nm,0.2s							
BRMO	Bormio	0.27	202	Pg		Pg	22 18 55.5	0.0
BRMO				Sg		Sg	22 18 59.3	-0.1
	38nm,0.3s							
DAVOX	Davos	0.45	277	Pg		Pg	22 18 58.7	0.0
DAVOX				Sg		Sg	22 19 04.7	0.0
DAVOX	Davos	0.45	277	⇑*e*Pg		Pg	22 18 58.7	0.0
	47nm,0.4s							
BERNI	Berninapass	0.47	228	*e*P		Pg	22 18 59.0	0.0
	85nm,0.2s							
BERNI				*i* Sg		Sg	22 19 05.2	-0.1
	85nm,0.2s							
APPI	Appiano	0.55	117	Pg		Pg	22 19 00.7	+0.2
APPI				Sg		Sg	22 19 08.3	+0.5
	41nm,0.2s							
SQTA	Sankt Quirin	0.68	43	⇑*i* Pg		Pg	22 19 03.1	0.0
SQTA				⇓*i* Sg		Sg	22 19 11.5	-0.5
	7.2nm,0.2s							
DAVA	Damuels	0.71	322	⇑*i* Pg		Pg	22 19 03.6	0.0
DAVA				⇑*i* Sg		Sg	22 19 13.3	+0.3
	2.2nm,0.2s							
MOTA	Moosalm	0.73	33	⇓*i* Pg		Pg	22 19 04.2	+0.1
MOTA				⇑*i* Sg		Sg	22 19 14.0	+0.2
	1.6nm,0.1s							
BRES	Bressanone	0.83	92	Pg		Pg	22 19 05.9	-0.1
BRES				Sg		Sg	22 19 17.1	+0.2
WTTA	Wattenberg	0.93	54	⇑*i* Pg		Pg	22 19 07.7	-0.1
WTTA				⇑*i* Sg		Sg	22 19 19.8	-0.2
	1.5nm,0.3s							
WATA	Walderalm	0.94	49	⇑*i* Pg		Pg	22 19 07.5	-0.5
WATA				⇑*i* Sg		Sg	22 19 20.6	+0.2
	0.8nm,0.1s							
CTI	Castel Tesino	1.03	131	Pg		Pg	22 19 09.9	+0.1
CTI				Sg		Sg	22 19 22.9	-0.4
	16nm,0.3s							

*ISCJB **25** 22:54:44.9±3.5, 201S±08×1776W±05, h485km±42km, mb3.9/6, Error ellipse: s-maj=137.0km s-min=31.9km az=125.9*

*NEIC **25** 22:54:44.9±2.3, 2027S×17760W, h464km±24km, mb4.1/3, Error ellipse: s-maj=84.5km s-min=17.9km az=153.0*

*IDC **25** 22:54:46.1±49.0, 1996S×17773W, h476km±258km, mb3.4/5, mb1 3.5/6, mb1mx3.2/16, mbtmp4.3/6, Error ellipse: s-maj=542.4km s-min=93.6km az=76.0*

ISC 25 22:54:45.3±3.3, 203S±08×1776W±05, h463km±35km, n15, σ0§47/15, mb3.9/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	Afiamalu	8.42	42	*e*P		P	22 56 45.3	0.0
DZM	Mont Dzumac	14.99	260	P		P	22 57 56.1	+0.2
	1.0nm,0.3s,baz=74,slow=18,SNR=17							
CTA	Charters Tower	33.88	264	P		P	23 00 47.9	-0.1
	9.3nm,0.7s,mb4.3,baz=98,slow=11,SNR=11							
CTAO	Charters Tower	33.88	264	*e*P		P	23 00 48.2	+0.2
	19nm,1.1s,mb4.4							
STKA	Stephens Creek	38.23	244	P		P	23 01 23.7	-0.5
	1.1nm,0.6s,mb3.5,baz=80,slow=11,SNR=2.5							
STKA	Stephens Creek	38.23	244	P		P	23 01 23.7	-0.5
AS31	Alice Springs	44.93	256	*e*P		P	23 02 18.0	+0.5
ASAR	Alice Springs	44.93	256	P		P	23 02 17.6	+0.2
	3.5nm,0.6s,mb4.0,baz=91,slow=8.3,SNR=50							
ASPA	Alice Springs	44.94	256	*e*P		P	23 02 18.0	+0.5
WB2	Warramunga Arr	44.99	262	*e*P		P	23 02 17.3	-0.6
WRAB	Tennant Creek	44.99	262	*e*P		P	23 02 17.4	-0.5
	3.9nm,0.4s,mb4.2							
WRA	Warramunga Arr	45.00	262	P		P	23 02 17.4	-0.6
	2.7nm,0.4s,mb4.0,baz=96,slow=7.5,SNR=133							
FITZ	Fitzroy Crossi	53.42	262	*e*P		P	23 03 21.7	+1.1
	2.8nm,0.9s,mb3.6							
FITZ	Fitzroy Crossi	53.42	262	P		P	23 03 20.2	-0.3
	0.5nm,0.3s,mb3.3,baz=102,slow=9.3,SNR=7.3							
MBWA	Marble Bar	58.27	257	P		P	23 03 54.7	+0.4

*ISCJB **25** 23:08:25.9±0.4, 2065N±004×11997E±008, h10km, mb3.8/11, Error ellipse: s-maj=11.4km s-min=5.3km az=167.9*

*IDC **25** 23:08:25.8±0.9, 2053N×11988E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.9/19, mbtmp3.8/8, Error ellipse: s-maj=38.7km s-min=17.2km az=70.0*

*NEIC **25** 23:08:27.3±0.4, 2055N×11992E, h10km, mb4.1/5, Error ellipse: s-maj=9.9km s-min=6.7km az=82.0*

*MAN **25** 23:09:07.0, 18.12N×121.21E, h19km, MS1.3*

ISC 25 23:08:28.6±2.9, 2063N±004×11999E±008, h17km±20km, n28, σ0§94/30, mb3.8/11, Philippine Islands region

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NNA	**Nana**	**47.26**	**249**	*e*P	P	23 17 57.3	+0.2		
	2.0nm,0.4s								
JTS	**JuntasAbangare**	**52.29**	**279**	*e*P	P	23 18 37.0	+1.6		
LSZ	**Lusaka**	**63.29**	**110**	*e*P	P	23 19 54.0	+1.3		
	2.1nm,0.5s								
NAO01	**NORSAR Array S**	**64.55**	**22**	*e*P	P	23 19 56.5	-4.5		
	31nm,0.7s								
NAO01				*e*		23 20 07.0			
LOHW	**Long Hollow**	**78.05**	**313**	*e*P	P	23 21 21.7	-0.8		
	8.1nm,0.7s								
IMW	**Indian Meadow**	**78.31**	**314**	*e*P	P	23 21 24.1	+0.1		
	9.9nm,0.5s								
HWUT	**Hardware Ranch**	**78.61**	**311**	*e*P	P	23 21 23.8	-1.9		
	11nm,0.7s								
SPUT	**South Promonto**	**79.26**	**311**	*e*P	P	23 21 30.8	+1.6		
HVU	**Hansel Valley**	**79.53**	**311**	*e*P	P	23 21 28.1	-2.7		
	9.1nm,0.6s								

*ISCJB **25** 23:10:33.1±0.6, 1092N±009×1413E±0.1, h41km, mb4.0/9, Error ellipse: s-maj=16.6km s-min=12.7km az=166.6*
*IDC **25** 23:10:34.9±0.8, 1097N×14133E, h39km±6km, mb3.7/7, mb1 3.9/8, mb1mx3.8/20, mbtmp4.0/8, ML4.1/1, Error ellipse: s-maj=26.6km s-min=18.9km az=93.0*
*NEIC **25** 23:10:35.1±0.5, 1096N×14125E, mb4.3/2, Error ellipse: s-maj=16.1km s-min=12.1km az=86.0*
ISC 25 23:10:35.4±0.6**, 1096N**±009×**1413E**±01**, h43**km**, h43**km±.7km**:pP-P,n15,**σ**91/14,mb4.0/9,Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.38**	**53**	Pn	**Pn**	**23 11 39.6**	**+0.3**
	10.0nm,0.3s,baz=204,slow=20,SNR=4.3						
HNR	**Honiara**	**27.48**	**137**	P	**P**	**23 16 17.9**	**+0.4**
WRAB	**Tennant Creek**	**31.45**	**193**	*e*P	**P**	**23 16 52.9**	**+0.3**
	2.3nm,0.6s,mb4.2						
ASAR	**Alice Springs**	**35.16**	**192**	P	**P**	**23 17 25.1**	**+0.1**
	0.5nm,0.6s,mb3.6,baz=20,slow=13,SNR=5.1						
ASAR				pP	pP	23 17 36.5	-0.3
	0.5nm,0.6s,baz=22,slow=12,SNR=2.6						
SONM	**Songino Array**	**46.97**	**328**	P	**P**	**23 19 03.1**	**+1.1**
	0.2nm,0.4s,mb3.4,baz=105,slow=4.9,SNR=3.6						
RAO	**Raoul Island**	**56.10**	**137**	*e*P	**P**	**23 20 11.0**	**+0.8**
MKAR	**Makanchi Array**	**60.99**	**318**	P	**P**	**23 20 44.4**	**+0.1**
	0.4nm,0.4s,mb3.9,baz=98,slow=9.3,SNR=13						
MKAR				pP	pP	23 20 56.4	-0.4
	0.6nm,0.4s,baz=99,slow=8.8,SNR=7.5						
KURK	**Kurchatov**	**64.37**	**321**	*e*P	**P**	**23 21 06.0**	**-0.7**
	2.1nm,0.7s,mb4.3						
KURK				*e*pP	pP	23 21 18.6	-0.8
ILAR	**Eielson Array**	**72.43**	**25**	P	**P**	**23 21 55.0**	**-2.1**
	0.9nm,0.7s,mb3.8,baz=256,slow=5.6,SNR=10						
ILAR				pP	pP	23 22 07.4	-2.5
	0.5nm,0.5s,baz=256,slow=6.0,SNR=3.8						
AKTK	**Aktyubinsk**	**77.35**	**319**	P	**P**	**23 22 25.9**	**+0.3**
AKTO	**Aktyubinsk**	**77.35**	**319**	P	**P**	**23 22 25.9**	**+0.3**
	10nm,0.8s,mb4.8,baz=90,slow=10.0,SNR=3.5						
YKA	**Yellowknife Ar**	**86.78**	**27**	P	**P**	**23 23 15.5**	**+0.5**
	0.5nm,0.4s,mb4.1,baz=290,slow=4.9,SNR=10						
YKA				pP	pP	23 23 27.6	-0.4
	0.4nm,0.4s,baz=289,slow=5.2,SNR=6.3						
YKA	**Yellowknife Ar**	**86.78**	**27**	P	**P**	**23 23 15.5**	**+0.5**
YKA				pP	pP	23 23 27.6	-0.4
VNDA	**Vanda**	**89.11**	**176**	P	**P**	**23 23 24.0**	**-2.1**
	0.7nm,0.7s,mb4.1,baz=311,slow=11,SNR=3.6						
LPAZ	**La Paz**	**150.95**	**104**	PKPbc	PKPbc	23 30 26.9	+3.6
	1.8nm,0.8s,baz=247,slow=2.5,SNR=7.8						

*PDG **25** 23:14:33.8±0.2, 3678N×19.14E, h23km±11km*
*PRU **25** 23:14:33.5, 3691N×2049E, h0km, M4.5*
*ATH **25** 23:14:34.3, 3682N×2027E, h18km±3km, MD4.8/26, ML4.9*
*MOS **25** 23:14:34.6±1.1, 3692N×2043E, h10km, mb5.0/37, MS4.7/26, Error ellipse: s-maj=3.5km s-min=2.0km az=97.2*
*HLW **25** 23:14:34.0, 3703N×2055E, h33km, Mb4.9*
*IDC **25** 23:14:34.5±0.6, 3694N×2037E, h0km, mb4.3/23, mb1 4.3/34, mb1mx4.3/37, mbtmp4.2/34, ML4.2/10, MS4.9/8, Ms1 4.9/8, ms1mx4.1/41, Error ellipse: s-maj=12.2km s-min=11.3km az=162.0*
*THE **25** 23:14:36.9, 3686N×2028E, h12km, ML4.9*
*NEIC **25** 23:14:36.9, 3687N×2034E, h35km, mb4.5/71, MS4.7/1, ML4.8(THE), ML4.8(ATH), After ATH.*
*ISCJB **25** 23:14:36.6±0.4, 3691N±002×2038E±001, h28km±3km, mb4.8/85, MS5.0/31, Error ellipse: s-maj=2.7km s-min=1.7km az=43.7*
*HRVD **25** 23:14:36.9±0.2, 3655N×1991E, h24km±1km, MW5.2/73, Centroid moment Tensor Solution. LP body waves: s54,c85;Mantle waves: s73,c123; Half duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.63±.21; $M_{\theta\theta}$-1.06±.14; $M_{\phi\phi}$-2.58±.15; $M_{r\theta}$4.96±.35; $M_{r\phi}$3.58±.12; $M_{\theta r}$-3.24±.28; Best double couple: M07.54900×10^{16} NP1:ϕ_s346.00000°, δ23.00000°, λ129.00000°. NP2: ϕ_s124.00000°, δ72.00000°, λ75.00000°. Principal axes: T 6.8630, Plg60.0000°, Azm13.0000°; N 1.3630, Plg14.0000°, Azm129.0000°; P -8.2360, Plg26.0000°, Azm226.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SFS **25** 23:14:38.6, 3704N×2038E, h40km, ML4.6*
*CSEM **25** 23:14:38.6, 3704N×2038E, h40km, mb4.6*
*BJI **25** 23:14:41.9, 3736N×2094E, h35km, mB5.2, mb4.7, Ms5.3, Msz5.2*
*SZGRF **25** 23:14:41.8, 3675N×1968E, h10km, mb4.5, Central Mediterranean Sea*
ISC 25 23:14:39.1±0.2**, 3688N**±002×**2037E**±001**, h35**km±2km**, h31**km±1.8km**:pP-P,n800,**σ**1§35/875,mb4.8/85,MS5.0/31, 69C-42D,Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ITM	**Ithomi**	**1.28**	**76**	⇑*i*PN	**Pn**	**23 15 00.7**	**+0.2**
VLS	**Valsamata**	**1.31**	**8**	⇑*e*PN	**Pn**	**23 15 00.4**	**-0.5**
RLS	**Riolos of Patr**	**1.47**	**36**	⇑*i*PN	**Pn**	**23 15 03.9**	**+0.8**
LKD	**Levkas**	**1.84**	**7**	*e*Pb	**Pn**	**23 15 09.1**	**+0.8**
LKD	**Levkas**	**1.84**	**7**	P	**Pn**	**23 15 09.1**	**+0.8**
LKD				S	**Sn**	**23 15 32.5**	**+2.3**
LKD	**Levkas**	**1.84**	**7**	S	**Sn**	**23 15 32.5**	**+2.2**
VLI	**Veliai**	**2.06**	**94**	⇑*i*PN	**Pn**	**23 15 12.3**	**+1.0**
KYTH	**Kithira**	**2.23**	**105**	*e*PN	**Pn**	**23 15 14.0**	**+0.5**
KYTH	**Kithira**	**2.23**	**105**	*e*Pb	**Pn**	**23 15 15.0**	**+1.5**
EVR	**Evrytania**	**2.33**	**29**	⇑*i*PB	**Pn**	**23 15 17.0**	**+2.0**
EVR	**Evrytania**	**2.33**	**29**	⇑*i*Pb	**Pn**	**23 15 17.3**	**+2.3**
MGER	**Gerania Oros**	**2.55**	**63**	*e*PN	**Pn**	**23 15 18.5**	**+0.5**
NAIG	**Nisos Aigina**	**2.64**	**70**	*e*PN	**Pn**	**23 15 19.0**	**-0.1**
AGG	**Agios Georgios**	**2.64**	**35**	*e*Pn	**Pn**	**23 15 21.1**	**+1.8**
IGT	**Igoumenitsa**	**2.65**	**359**	*e*Pn	**Pn**	**23 15 18.8**	**-0.6**
LKR	**Lokris**	**2.73**	**49**	⇑*i*PN	**Pn**	**23 15 21.4**	**+0.9**
JAN	**Janina**	**2.80**	**8**	⇑*i*PB	**Pn**	**23 15 22.3**	**+0.9**
KEK	**Kerkira**	**2.87**	**351**	*e*PN	**Pn**	**23 15 21.5**	**-0.8**
KVR	**Kavouri**	**2.87**	**70**	*e*PN	**Pn**	**23 15 22.0**	**-0.3**
ATH	**Athens Observa**	**2.88**	**67**	*e*PN	**Pn**	**23 15 22.4**	**-0.1**
SRN	**Sarande**	**3.01**	**355**	*i*Pn	**Pn**	**23 15 23.9**	**-0.4**
SRN				*i*Sn	**Sn**	**23 15 58.2**	**-1.0**
SRN	**Sarande**	**3.01**	**355**	*e*Pn	**Pn**	**23 15 23.9**	**-0.4**
SRN				*i*Sn	**Sn**	**23 15 58.2**	**-1.0**
PTL	**Penteli**	**3.02**	**66**	*e*PN	**Pn**	**23 15 24.0**	**-0.4**
KARN	**Karanos**	**3.22**	**116**	*e*Pn	**Pn**	**23 15 27.7**	**+0.5**
KARN				*e*Sn	**Sn**	**23 16 06.9**	**+2.5**
LSK	**Leskovik**	**3.27**	**3**	*i*Pn	**Pn**	**23 15 28.3**	**+0.4**
LSK				*i*Sn	**Sn**	**23 16 05.8**	**+0.2**
LSK	**Leskovik**	**3.27**	**3**	*e*Pn	**Pn**	**23 15 28.3**	**+0.4**
LSK				*i*Sn	**Sn**	**23 16 05.8**	**+0.2**
NEO	**Neokhori**	**3.31**	**42**	*e*PN	**Pn**	**23 15 29.0**	**+0.6**
XOR	**Xorichti**	**3.33**	**41**	*e*Pn	**Pn**	**23 15 29.6**	**+0.9**
TPE	**Tepelena**	**3.43**	**355**	*i*Pn	**Pn**	**23 15 29.5**	**-0.5**
TPE				*i*Sn	**Sn**	**23 16 07.5**	**-1.9**
TPE	**Tepelena**	**3.43**	**355**	*e*Pn	**Pn**	**23 15 29.5**	**-0.5**
VAM	**Vamos**	**3.43**	**114**	*e*PN	**Pn**	**23 15 29.9**	**-0.1**
KZN	**Kozani**	**3.60**	**17**	*e*PN	**Pn**	**23 15 33.6**	**+1.3**
LIT	**Litokhoron**	**3.62**	**27**	*e*Pn	**Pn**	**23 15 33.0**	**+0.3**
SOI	**Samo**	**3.64**	**290**	P	**Pn**	**23 15 31.8**	**-1.1**
GVD	**Gavdhos**	**3.64**	**123**	*e*PN	**Pn**	**23 15 33.0**	**+0.1**
GVD	**Gavdhos**	**3.64**	**123**	*e*Pn	**Pn**	**23 15 30.7**	**-2.2**
GVD	**Gavdhos**	**3.64**	**123**	*e*Pn	**Pn**	**23 15 30.7**	**-2.2**
VLO	**Vlora**	**3.65**	**349**	*i*Pn	**Pn**	**23 15 32.2**	**-0.9**
VLO	**Vlora**	**3.65**	**349**	*e*Pn	**Pn**	**23 15 32.2**	**-0.9**
TIP	**Timpagrande**	**3.66**	**310**	*e*Pn	**Pn**	**23 15 32.3**	**-1.0**
TIP				*e*Sn	**Sn**	**23 16 11.8**	**-3.4**
TIP	**Timpagrande**	**3.66**	**310**	*e*Pn	**Pn**	**23 15 32.3**	**-1.0**
TIP				*e*Sn	**Sn**	**23 16 11.8**	**-3.4**
GRI	**Girifalco**	**3.68**	**303**	P	**Pn**	**23 15 33.0**	**-0.5**
KBN	**Korca**	**3.76**	**5**	*i*Pn	**Pn**	**23 15 36.1**	**+1.6**
KBN				*i*Sn	**Sn**	**23 16 19.8**	**+2.3**
KBN	**Korca**	**3.76**	**5**	*e*Pn	**Pn**	**23 15 36.1**	**+1.6**
KBN				*i*Sn	**Sn**	**23 16 19.8**	**+2.3**
LCI	**Lecce**	**3.88**	**334**	P	**Pn**	**23 15 35.5**	**-0.8**
MTTG	**Motta San Giov**	**3.89**	**288**	P	**Pn**	**23 15 35.3**	**-1.1**
SCLL	**Scilla**	**3.95**	**292**	P	**Pn**	**23 15 36.2**	**-1.0**
FNA	**Florina**	**3.98**	**11**	*e*Pn	**Pn**	**23 15 38.3**	**+0.7**
IDI	**Anoyia**	**3.99**	**112**	Pn	**Pn**	**23 15 38.7**	**+1.0**
	3.1nm,0.3s,baz=276,slow=12,SNR=17						
IDI					Sn	**Sn**	**23 16 24.1**	**+0.8**
	58nm,0.3s,baz=19,slow=18,SNR=15						
PAIG	**Paliouri**	**4.00**	**39**	*e*Pn	**Pn**	**23 15 37.8**	**-0.2**
MSI	**Messina ING**	**4.05**	**291**	P	**Pn**	**23 15 39.9**	**+1.3**
SANT	**Santorini**	**4.12**	**96**	*e*Pn	**Pn**	**23 15 38.2**	**-1.4**
SANT					Sn	**Sn**	**23 16 26.3**	**-0.2**
SANT	**Santorini**	**4.12**	**96**	*e*Pn	**Pn**	**23 15 38.2**	**-1.4**
AGST	**Augusta-Monte**	**4.13**	**277**	Pn	**Pn**	**23 15 37.4**	**-2.3**
APE	**Apeiranthos**	**4.13**	**86**	*e*P	**Pn**	**23 15 42.0**	**+2.3**
APE	**Apeiranthos**	**4.13**	**86**	*e*Pn	**Pn**	**23 15 38.5**	**-1.2**
APE	**Apeiranthos**	**4.13**	**86**	*e*Pn	**Pn**	**23 15 39.0**	**-0.7**
APE	**Apeiranthos**	**4.13**	**86**	P	**Pn**	**23 15 39.2**	**-0.5**
BIA	**Bitola**	**4.20**	**10**	*e*Pn	**Pn**	**23 15 41.2**	**+0.5**
BIA				*e*Sn	**Sn**	**23 16 29.7**	**+1.2**
BIA	**Bitola**	**4.20**	**10**	*e*Pn	**Pn**	**23 15 40.9**	**+0.2**
HAVL	**Avola**	**4.21**	**273**	Pn	**Pn**	**23 15 38.4**	**-2.3**
PLG	**Polygyros**	**4.24**	**34**	*e*PN	**Pn**	**23 15 41.0**	**-0.2**
OHR	**Ohrid**	**4.24**	**4**	*e*Pn	**Pn**	**23 15 41.9**	**+0.6**
OHR	**Ohrid**	**4.24**	**4**	*e*Pn	**Pn**	**23 15 41.8**	**+0.6**
SSY	**Sortino**	**4.25**	**275**	Pn	**Pn**	**23 15 39.3**	**-2.0**
THE	**Thessaloniki**	**4.26**	**28**	*e*Pn	**Pn**	**23 15 41.5**	**0.0**
GRG	**Griva**	**4.37**	**21**	*e*Pn	**Pn**	**23 15 43.3**	**+0.3**
ORI	**Oriolo Calabro**	**4.43**	**317**	P	**Pn**	**23 15 44.5**	**+0.7**
HMDC	**Modica**	**4.48**	**273**	Pn	**Pn**	**23 15 42.5**	**-2.0**
TIR	**Tirane**	**4.48**	**355**	*e*Pn	**Pn**	**23 15 44.7**	**+0.2**
HVZN	**Vizzini**	**4.54**	**276**	Pn	**Pn**	**23 15 43.6**	**-1.7**
NPS	**Neapolis**	**4.54**	**109**	*e*PN	**Pn**	**23 15 46.2**	**+0.9**
PE1	**Pezze di Greco**	**4.55**	**330**	*e*Pn	**Pn**	**23 15 44.1**	**-1.3**
SOH	**Sokhos**	**4.58**	**30**	*e*Pn	**Pn**	**23 15 46.5**	**+0.7**
KNT	**Kendrikon**	**4.71**	**24**	*e*Pn	**Pn**	**23 15 47.9**	**+0.3**
CUC	**Castrocucco**	**4.74**	**312**	P	**Pn**	**23 15 48.4**	**+0.3**
VAV	**Valandovo**	**4.76**	**20**	*e*Pn	**Pn**	**23 15 48.1**	**-0.2**
VAY	**Valandovo**	**4.76**	**20**	*e*Pn	**Pn**	**23 15 48.4**	**+0.1**
XRY	**Khrisi**	**4.76**	**113**	*e*PN	**Pn**	**23 15 50.0**	**+1.7**
VAE	**Valguarnera**	**4.80**	**279**	Pn	**Pn**	**23 15 50.1**	**+1.3**
	10nm,0.3s,baz=287,slow=8.3,SNR=45						
VAE					Sn	**Sn**	**23 16 46.9**	**+3.7**
	58nm,0.3s,baz=123,slow=17,SNR=3.6						
SG1	**Sgolgore (BA)**	**4.90**	**325**	*e*Pn	**Pn**	**23 15 48.6**	**-1.6**
MGR	**Morigerati**	**4.99**	**312**	P	**Pn**	**23 15 51.6**	**+0.1**
STIP	**Stip**	**5.01**	**16**	*e*Pn	**Pn**	**23 15 52.1**	**+0.3**
STIP	**Stip**	**5.01**	**16**	*e*Pn	**Pn**	**23 15 52.0**	**+0.2**
BAI	**Bari**	**5.03**	**328**	*e*Pn	**Pn**	**23 15 50.7**	**-1.3**
SLCN	**Sala Consilina**	**5.11**	**315**	P	**Pn**	**23 15 53.7**	**+0.6**
CSLB	**Castelbuono**	**5.14**	**284**	P	**Pn**	**23 15 53.0**	**-0.5**
ULC	**Ulcinj**	**5.15**	**351**	⇑*i*Pn	**Pn**	**23 15 51.0**	**-2.8**
ULC				*e*Sn	**Sn**	**23 16 50.0**	**-2.0**
SKO	**Skopje**	**5.16**	**9**	*e*Pn	**Pn**	**23 15 54.6**	**+0.8**
SKO	**Skopje**	**5.16**	**9**	P	**Pn**	**23 15 54.3**	**+0.5**
SKO	**Skopje**	**5.16**	**9**	*e*Pn	**Pn**	**23 15 54.6**	**+0.8**
URLA	**Izmir**	**5.16**	**71**	*i*P	**Pn**	**23 15 53.7**	**-0.1**
GIB	**Gibilmanna**	**5.17**	**284**	P	**Pn**	**23 15 53.8**	**-0.2**
SMG	**Samos**	**5.22**	**79**	*e*PN	**Pn**	**23 15 54.1**	**-0.6**
PRK	**Paraskevi**	**5.22**	**61**	*e*PN	**Pn**	**23 15 54.9**	**+0.2**
NVR	**Nevrokopi**	**5.23**	**30**	⇑*i*PN	**Pn**	**23 15 54.8**	**0.0**
CDT	**Castel del Mon**	**5.28**	**324**	*e*Pn	**Pn**	**23 15 53.8**	**-1.6**
MMB	**Musomiste**	**5.38**	**28**	P	**Pn**	**23 15 56.5**	**-0.3**
SGO	**Sicignano**	**5.41**	**314**	P	**Pn**	**23 15 57.5**	**+0.3**
KKB	**Krupnik**	**5.41**	**22**	*e*P	**Pn**	**23 15 57.8**	**+0.6**
NISR	**Nisiros**	**5.43**	**91**	*e*PN	**Pn**	**23 15 58.5**	**+0.9**
MRLC	**Muro Lucano**	**5.44**	**317**	P	**Pn**	**23 15 58.5**	**+0.9**
BCI	**Bajram Curri**	**5.49**	**358**	*i*Pn	**Pn**	**23 15 58.5**	**+0.2**
BCI	**Bajram Curri**	**5.49**	**358**	*e*Pn	**Pn**	**23 15 58.5**	**+0.2**
BUM	**Brajici-Budva**	**5.54**	**349**	⇑*i*Pn	**Pn**	**23 15 56.3**	**-2.7**
BUM				*e*Sn	**Sn**	**23 16 58.2**	**-3.2**
BODT	**Bodrum**	**5.56**	**86**	*e*P	**Pn**	**23 15 59.4**	**+0.1**
TTG	**Podgorica**	**5.61**	**352**	⇑*i*Pn	**Pn**	**23 15 57.6**	**-2.5**
TTG				*e*Sn	**Sn**	**23 17 00.8**	**-2.5**
KARP	**Karpathos**	**5.65**	**102**	*e*PN	**Pn**	**23 16 02.3**	**+1.8**
IZM	**Izmir**	**5.67**	**72**	*e*P	**Pn**	**23 15 58.7**	**-2.2**
FG4	**Candela**	**5.69**	**320**	P	**Pn**	**23 16 01.4**	**+0.3**
PVY	**Plav**	**5.72**	**357**	⇑*i*Pn	**Pn**	**23 16 00.7**	**-0.8**
PVY				*e*Sn	**Sn**	**23 17 05.7**	**-0.2**
HCY	**Herceg Novi**	**5.75**	**346**	⇑*i*Pn	**Pn**	**23 15 57.9**	**-4.0**
HCY				*e*Sn	**Sn**	**23 17 01.9**	**-4.8**
CLTB	**Caltabellotta**	**5.75**	**279**	P	**Pn**	**23 16 05.1**	**+3.1**
DAT	**Datca**	**5.78**	**89**	*e*P	**Pn**	**23 16 02.0**	**-0.4**
RDO	**Rodhopi**	**5.86**	**42**	*e*PN	**Pn**	**23 16 03.9**	**+0.4**
RZN	**Rozhen**	**5.87**	**34**	*e*P	**Pn**	**23 16 04.7**	**+1.1**
FGMS	**Monte Sant'Ang**	**5.92**	**326**	P	**Pn**	**23 16 03.3**	**-0.9**
MS1	**Monte Sant'Ang**	**5.92**	**326**	*e*Pn	**Pn**	**23 16 03.2**	**-1.1**
FG5	**Orsara di Pugl**	**5.93**	**320**	P	**Pn**	**23 16 04.0**	**-0.4**
MLSB	**Milas**	**5.93**	**84**	*e*P	**Pn**	**23 16 09.8**	**+5.3**
ALN	**Alexandroupoli**	**5.97**	**46**	*e*Pn	**Pn**	**23 16 05.1**	**+0.1**
USI	**Ustica**	**5.98**	**290**	P	**Pn**	**23 16 04.5**	**-0.6**
IVA	**Berane**	**6.00**	**357**	⇑*i*Pn	**Pn**	**23 16 04.4**	**-0.9**
IVA				*e*Sn	**Sn**	**23 17 12.6**	**-0.2**
NKY	**Niksic**	**6.02**	**350**	⇑*i*Pn	**Pn**	**23 16 03.2**	**-2.5**
NKY				*e*Sn	**Sn**	**23 17 10.3**	**-3.1**
AYDN	**Tasoluk**	**6.04**	**80**	*i*P	**Pn**	**23 16 08.2**	**+2.3**
RGNG	**Rignano Grg**	**6.06**	**324**	P	**Pn**	**23 16 05.2**	**-1.0**
VTS	**Vitosha**	**6.11**	**20**	P	**Pn**	**23 16 07.0**	**+0.1**
VTS	**Vitosha**	**6.11**	**20**	⇓P	**Pn**	**23 16 07.7**	**+0.8**
PSB1	**Pescosannita**	**6.13**	**317**	P	**Pn**	**23 16 08.2**	**+1.1**
KDZ	**Kurdzhali**	**6.17**	**38**	P	**Pn**	**23 16 06.8**	**-0.9**
BRY	**Bratogost**	**6.18**	**347**	⇑*i*Pn	**Pn**	**23 16 04.8**	**-3.1**
BRY				*e*Sn	**Sn**	**23 17 12.4**	**-4.8**
ARG	**Arkhangelos**	**6.28**	**94**	*e*PN	**Pn**	**23 16 11.3**	**+2.1**
ERC	**Erice**	**6.30**	**283**	P	**Pn**	**23 16 11.1**	**+2.4**
STON	**Ston**	**6.33**	**342**	*i*Pn	**Pn**	**23 16 07.7**	**-2.2**
STON				*i*Sn	**Sn**	**23 17 15.7**	**-5.3**
YER	**Yerkesik**	**6.34**	**85**	*e*P	**Pn**	**23 16 11.7**	**+1.7**
FG2	**Serracapriola**	**6.37**	**322**	P	**Pn**	**23 16 09.6**	**-0.8**
PGB	**Panagyurishte**	**6.38**	**26**	P	**Pn**	**23 16 10.6**	**+0.1**
CIGN	**Sant'Elia a Pi**	**6.38**	**320**	P	**Pn**	**23 16 12.4**	**+1.8**
SJES	**Sjenica**	**6.39**	**357**	Pn	**Pn**	**23 16 09.9**	**-0.9**
UPM	**Unac-Piva**	**6.42**	**350**	*e*Pn	**Pn**	**23 16 08.8**	**-2.3**
UPM				*e*Sn	**Sn**	**23 17 19.7**	**-3.4**
PLE	**Pljevlja**	**6.49**	**354**	⇑*i*Pn	**Pn**	**23 16 10.7**	**-1.4**
PLE				*e*Sn	**Sn**	**23 17 22.8**	**-2.1**
BALB	**Balikesir**	**6.52**	**63**	*e*P	**Pn**	**23 16 13.7**	**+1.2**
DIM	**Dimitrovgrad**	**6.53**	**36**	*e*P	**Pn**	**23 16 14.2**	**+1.6**
DALT	**Dalyan (Mudla)**	**6.63**	**88**	*e*P	**Pn**	**23 16 18.7**	**+4.7**
RFI	**Roccamonfina**	**6.65**	**314**	P	**Pn**	**23 16 15.0**	**+0.7**
BTOK	**Tokmak**	**6.67**	**62**	*i*P	**Pn**	**23 16 15.9**	**+1.2**
SLUM		**6.70**	**142**	⇓P	**Pn**	**23 16 11.1**	**-3.9**
SLUM					S	**Sn**	**23 17 22.3**	**-7.8**
MIDA	**Miranda**	**6.72**	**317**	P	**Pn**	**23 16 18.2**	**+2.9**
CII	**Carovilli**	**6.75**	**318**	P	**Pn**	**23 16 17.6**	**+1.9**
MRMT	**Marmara Adasi**	**6.76**	**54**	*e*P	**Pn**	**23 16 15.1**	**-0.7**
RNI2	**Rionero Sannit**	**6.82**	**317**	P	**Pn**	**23 16 19.7**	**+3.1**
BNT	**Bandirma**	**6.86**	**57**	*e*P	**Pn**	**23 16 23.4**	**+6.3**
DNZL	**Cakiroluk**	**6.96**	**81**	*i*P	**Pn**	**23 16 20.5**	**+1.9**
FETY	**Fethiye**	**7.00**	**89**	*e*P	**Pn**	**23 16 23.2**	**+4.1**
EDRB	**Edirne**	**7.00**	**43**	*e*P	**Pn**	**23 16 17.9**	**-1.2**
GRUS	**Gruza**	**7.01**	**2**	*i*Pn	**Pn**	**23 16 17.4**	**-1.8**
SDI	**San Donato**	**7.01**	**316**	P	**Pn**	**23 16 18.9**	**-0.4**
INTR	**Introdacqua**	**7.16**	**318**	P	**Pn**	**23 16 22.0**	**+0.6**
DIVS	**Divcibare**	**7.22**	**358**	*i*Pn	**Pn**	**23 16 20.4**	**-1.7**
DIVS	**Divcibare**	**7.22**	**358**	*e*Pn	**Pn**	**23 16 20.2**	**-1.9**
VVLD	**Villa Vallelon**	**7.22**	**316**	P	**Pn**	**23 16 22.5**	**+0.3**
GUAR	**Guarcino**	**7.35**	**314**	P	**Pn**	**23 16 25.4**	**+1.5**
PVL	**Pavlikeni**	**7.39**	**29**	*e*P	**Pn**	**23 16 23.0**	**-1.4**
KSL	**Kastellorizon**	**7.45**	**93**	*e*PN	**Pn**	**23 16 25.5**	**+3.2**
CERT	**Cerreto**	**7.64**	**314**	P	**Pn**	**23 16 29.6**	**+1.7**
ELL	**Elmali**	**7.65**	**88**	*e*P	**Pn**	**23 16 28.5**	**+0.4**
AQU	**L'Aquila**	**7.67**	**318**	⇑P	**Pn**	**23 16 27.4**	**-0.9**
AQU	**L'Aquila**	**7.67**	**318**	*e*Pn	**Pn**	**23 16 27.5**	**-0.8**
	183nm,1.1s						
AQU	**L'Aquila**	**7.67**	**318**	*e*Pn	**Pn**	**23 16 27.5**	**-0.8**
	183nm,1.1s						
FIAM	**Fiamignano**	**7.77**	**316**	P	**Pn**	**23 16 32.0**	**+2.3**
YLV	**Yalova**	**7.94**	**60**	*e*P	**Pn**	**23 16 39.5**	**+7.5**
ISP	**Isparta**	**8.13**	**80**	*e*P	**Pn**	**23 16 35.8**	**+1.2**
ISP	**Isparta**	**8.13**	**80**	*e*P	**Pn**	**23 16 34.9**	**+0.3**
ISP	**Isparta**	**8.13**	**80**	Pn	**Pn**	**23 16 33.0**	**-1.7**
NRCA	**Norcia**	**8.16**	**319**	P	**Pn**	**23 16 35.7**	**+0.7**
BCK	**Bucak**	**8.18**	**83**	*e*P	**Pn**	**23 16 39.6**	**+4.4**
BLY	**Banja Luka**	**8.23**	**344**	P	**Pn**	**23 16 35.9**	**0.0**
ANTB	**Antalya**	**8.24**	**87**	*e*P	**Pn**	**23 16 41.4**	**+5.2**
HRT	**Hereke**	**8.25**	**59**	*e*P	**Pn**	**23 16 43.2**	**+6.9**
BORA	**Eskisehir**	**8.47**	**66**	*i*P	**Pn**	**23 16 50.6**	**+11**
CING	**Cingoli**	**8.50**	**322**	P	**Pn**	**23 16 41.2**	**+1.5**
ARV	**Arcevia**	**8.72**	**322**	P	**Pn**	**23 16 42.0**	**-0.7**
SWA2		**8.72**	**149**	⇑P	**Pn**	**23 16 40.0**	**-2.8**
NVLJ	**Novalja**	**8.74**	**333**	*i*Pn	**Pn**	**23 16 41.3**	**-1.6**
NVLJ				*i*Sn	**Sn**	**23 18 13.1**	**-7.1**
BZS	**Buzias**	**8.78**	**6**	⇓*i*P	**Pn**	**23 16 41.2**	**-2.4**
BZS	**Buzias**	**8.78**	**6**	P	**Pn**	**23 16 41.5**	**-2.1**
BZS	**Buzias**	**8.78**	**6**	⇓P	**Pn**	**23 16 41.1**	**-2.4**
SWA1		**8.81**	**148**	⇑P	**Pn**	**23 16 41.5**	**-2.4**
SWA1				S	**Sn**	**23 18 12.9**	**-9.1**
VSL	**Villasalto**	**9.04**	**290**	*e*Pn	**Pn**	**23 16 48.0**	**+0.8**
	81nm,1.2s						
BADI	**Badiali**	**9.08**	**319**	P	**Pn**	**23 16 50.5**	**+2.8**
SISC	**Sisak**	**9.10**	**342**	*e*Pn	**Pn**	**23 16 52.1**	**+4.2**
VOIR		**9.25**	**21**	⇓*i*P	**Pn**	**23 16 51.5**	**+1.5**
VOIR		**

comp=Z,35nm,1.1s
SBF Sospel 12.08 309 *e*P **Pn** 23 17 30.2 +1.5
comp=Z,35nm,1.1s
KOLS Kolonicke sedl 12.13 6 *e*PN **Pn** 23 17 28.5 -0.9
JAVC Velka Javorina 12.14 351 P **Pn** 23 17 29.8 +0.3
LUCF Luceram 12.15 309 *e*P **Pn** 23 17 34.7 +5.1
AUTN L'Aution 12.15 310 *e*P **Pn** 23 17 36.2 +6.5
BRMO Bormio 12.15 325 P **Pn** 23 17 28.8 -0.9
WTTA Wattenberg 12.23 331 ⇓*i*Pn **Pn** 23 17 30.6 -0.2
WTTA ⇑*i*Sn **Sn** 23 19 36.8 -9.0
MVIF Mont Vial 12.27 309 *e*P **Pn** 23 17 37.8 +6.5
WATA Walderalm 12.31 331 ⇑*i*Pn **Pn** 23 17 31.8 -0.1
SNR=15
WATA ⇓*i*Sn **Sn** 23 19 39.2 -8.6
KOZT Kozan 12.35 83 *e*P **Pn** 23 17 35.1 +2.8
AMAG Maghara 12.35 116 ⇓P **Pn** 23 17 28.5 -4.0
AMAG S **Sn** 23 19 36.5 -12
SQTA Sankt Quirin 12.37 330 ⇓*i*Sn **Sn** 23 19 41.3 -7.8
SQTA Sankt Quirin 12.37 330 ⇑*i*Pn **Pn** 23 17 32.0 -0.6
SQTA ⇓*i*Sn **Sn** 23 19 45.8 -3.3
SQTA Sankt Quirin 12.37 330 ⇑*i*Pn **Pn** 23 17 32.0 -0.6
SQTA *i* Sn **Sn** 23 19 41.3 -7.8
BNN Bunyan 12.39 76 *e*P **Pn** 23 17 37.0 +4.1
LMR La Mourre 12.41 306 *e*P **Pn** 23 17 34.8 +1.6
comp=Z,90nm,1.4s
LMR La Mourre 12.41 306 *e*P **Pn** 23 17 34.8 +1.6
LMR pmax pmax
comp=Z,45nm,1.4s
LMR La Mourre 12.41 306 *e*P **Pn** 23 17 34.8 +1.6
comp=Z,45nm,1.4s
MOTA Moosalm 12.51 330 ⇓*i*Pn **Pn** 23 17 33.7 -0.9
SNR=12
MOTA ⇑*i*Sn **Sn** 23 19 44.5 -8.2
KRUC Moravsky 12.52 348 P **Pn** 23 17 34.4 -0.3
NIE Niedzica 12.54 360 *e*P **Pn** 23 17 34.2 -0.7
NIE Niedzica 12.54 360 *e*P **Pn** 23 17 34.3 -0.6
STHS Stebnicka Huta 12.55 3 *e*PN **Pn** 23 17 35.2 +0.1
DAVOX Davos 12.60 325 Pn **Pn** 23 17 36.2 +0.3
comp=Z,0.6nm,0.3s,baz=147,slow=19,SNR=6.1
DAVOX Sn **Sn** 23 19 48.2 -6.7
comp=Z,1.1nm,0.3s,baz=143,slow=20,SNR=4.2
HTY Hatay 12.71 89 *e*P **Pn** 23 17 40.5 +3.2
VRAC Vranov 12.73 349 Pn **Pn** 23 17 36.3 -1.2
comp=Z,0.3nm,0.3s,baz=182,slow=17,SNR=3.3
COBT Iskenderun 12.76 87 *i* P **Pn** 23 17 31.6 -6.4
SURF Saint Ours 12.78 311 *e*P **Pn** 23 17 45.6 +7.3
BHL Bhannes 12.82 99 *e*P **Pn** 23 17 39.1 +0.3
KWP Kalwaria 12.86 7 *e*P **Pn** 23 17 40.4 +1.0
KWP L 23 24 12.5
comp=Z,4.7nm,17.8s
TREC Trest 12.91 346 AMS AMS 23 24 30.0
comp=Z,5µm,14.9s
GERES GERESS Array B 12.92 340 Pn **Pn** 23 17 37.3 -2.8
comp=Z,0.5nm,0.3s,baz=157,slow=14,SNR=18
GERES Sn **Sn** 23 19 55.3 -7.3
comp=Z,1.1nm,0.3s,baz=157,slow=23,SNR=7.0
MMAI Mount Meron Ar 12.92 103 Pn **Pn** 23 17 36.7 -3.4
comp=Z,2.3nm,0.3s,baz=295,slow=12,SNR=12
MMAI Sn **Sn** 23 19 52.5 -10
comp=Z,7.4nm,0.3s,baz=287,slow=17,SNR=7.6
MBDF Montbardon 12.94 312 *e*P **Pn** 23 17 41.8 +1.4
comp=Z,69nm,0.9s
MBDF Montbardon 12.94 312 *e*P **Pn** 23 17 41.8 +1.4
MBDF pmax pmax
comp=Z,34nm,0.9s
MBDF Montbardon 12.94 312 *e*P **Pn** 23 17 41.8 +1.4
comp=Z,34nm,0.9s
HWQ Hawqa 12.94 97 *e*Pn **Pn** 23 17 39.4 -1.1
DAVA Damuels 12.98 327 ⇑*i*Sn **Sn** 23 19 55.8 -8.4
DAVA Damuels 12.98 327 ⇑*i*Pn **Pn** 23 17 41.1 0.0
DAVA ⇑*i*Sn **Sn** 23 19 59.8 -4.4
DAVA Damuels 12.98 327 ⇑*i*Pn **Pn** 23 17 41.0 0.0
DAVA *i* Sn **Sn** 23 19 55.8 -8.4
KSDI Kefar Szold 13.05 102 P **Pn** 23 17 45.1 +3.1
OKC Ostrava-Krasne 13.06 354 *e*P **Pn** 23 17 41.7 -0.3
OKC *e*pP 23 17 49.8
OKC AMS AMS 23 25 00.0
comp=Z,5µm,14.1s
OKC Ostrava-Krasne 13.06 354 *e*P **Pn** 23 17 41.7 -0.3
comp=Z,5µm,14.1s
MORC Moravsky Berou 13.06 352 ⇓P **Pn** 23 17 42.5 +0.5
MORC Moravsky Berou 13.06 352 *e*P **Pn** 23 17 41.7 -0.3
FUR Furstenfeldbru 13.11 332 *e*Pn **Pn** 23 17 47.3 +4.5
SIM Simferopol' 13.14 48 *e*P **Pn** 23 17 45.3 +2.1
SIM *e*S **Sn** 23 20 10.1 +2.0
SIM pmax pmax
comp=Z,27nm,1.0s
SIM MLR MLR
comp=Z,2µm,18.3s
SIM Simferopol' 13.14 48 *e*P **Pn** 23 17 45.3 +2.1
comp=Z,27nm,1.0s
SIM *e*S **Sn** 23 20 10.1 +2.0
comp=Z,2µm,18.3s
BNI Bardonecchia 13.17 313 *e*P **Pn** 23 17 43.8 +0.2
BNI pmax pmax
comp=Z,18nm,0.8s
BNI Bardonecchia 13.17 313 *e*Pn **Pn** 23 17 43.8 +0.2
comp=Z,18nm,0.8s
BNI Bardonecchia 13.17 313 *e*P **Pn** 23 17 43.8 +0.2
comp=Z,18nm,0.8s
LVV L'vov 13.21 10 *e*P **Pn** 23 17 45.1 +1.0
LVV *e*S **Sn** 23 20 06.9 -2.7
LVV MLR MLR
comp=Z,2µm,13.0s
LVV MLR MLR
comp=N,2µm,12.0s
LVV MLR MLR
comp=E,1µm,11.0s
LVV L'vov 13.21 10 *e*P **Pn** 23 17 45.1 +1.0
comp=E,2µm,13.0s
KHC Kasperske Hory 13.21 340 *e*P **Pn** 23 17 41.6 -2.5
KHC *e*pP 23 17 51.1
KHC AMS AMS 23 24 30.0
comp=E,4µm,13.6s
KHC Kasperske Hory 13.21 340 P **Pn** 23 17 42.7 -1.4
SMRF Simiane la Rot 13.31 307 *e*P **Pn** 23 17 46.1 +0.6
ASUT 13.38 132 ⇓*e*P **Pn** 23 17 43.4 -3.0
LPG La Plagne 13.38 314 *e*P **Pn** 23 17 47.7 +1.3
comp=E,55nm,1.1s
LPG La Plagne 13.38 314 *e*P **Pn** 23 17 47.7 +1.3
LPG pmax pmax
comp=Z,28nm,1.1s
LPG La Plagne 13.38 314 *e*P **Pn** 23 17 47.7 +1.3
comp=Z,28nm,1.1s
SVSK Karacayir 13.39 72 *e*P **Pn** 23 17 51.8 +5.2
LPL La Plagne 13.40 314 *e*P **Pn** 23 17 48.2 +1.5
WET Wettzell 13.42 338 *e*Pn **Pn** 23 17 48.8 +1.8
WET Wettzell 13.42 338 P **Pn** 23 17 47.0 0.0
ORIF Oris-en-Rattie 13.58 311 *e*P **Pn** 23 17 50.1 +1.0
comp=Z,53nm,1.1s
ORIF *e*R
comp=Z,5µm,21.0s
ORIF Oris-en-Rattie 13.58 311 *e*P **Pn** 23 17 50.1 +1.0
ORIF pmax pmax
comp=Z,27nm,1.1s
ORIF Oris-en-Rattie 13.58 311 *e*P **Pn** 23 17 50.1 +1.0
comp=Z,27nm,1.1s
HDK1 Dakhla 13.68 143 ⇑P **Pn** 23 17 47.6 -2.9
PRU Pruhonice 13.77 344 *e*P **Pn** 23 17 50.0 -1.7
PRU *e*pP 23 18 04.4
PRU AMS AMS 23 25 00.0
comp=Z,4µm,13.5s
DPC Dobruska-Polom 13.78 349 *e*P **Pn** 23 17 58.3 +6.4
DPC AMS AMS 23 24 30.0
comp=Z,6µm,11.7s
UPC Upice 13.98 348 *e*P **Pn** 23 18 03.5 +8.8
UPC *e*pP 23 18 10.2
EMHD Djebel Mahouad 14.03 272 P **Pn** 23 17 59.0 +3.7
TR2 14.07 123 ⇓P **Pn** 23 17 52.2 -3.6
ETOS Mallorca 14.09 287 P **Pn** 23 18 05.4 +9.3
HKAT Jabal Katrina 14.16 122 ⇑P **Pn** 23 17 54.0 -3.2
ROTZ Rotzenmuhle 14.18 338 *e*Pn **Pn** 23 17 56.8 -0.5
ROTZ *e*Sn **Sn** 23 20 28.8 -4.5
BBS Basel-Blauen 14.22 322 *e*P **Pn** 23 18 08.9 +11
HBST Basata 14.25 118 ⇑P **Pn** 23 17 54.7 -3.6
AKRG Al Kharijah 14.26 140 ⇑P **Pn** 23 17 56.5 -1.9
KSP Ksiaz 14.27 349 *e*P **Pn** 23 18 06.9 +8.4
KSP *e*S **Sn** 23 20 54.2 +19
KSP L 23 26 17.3
comp=Z,5.3nm,17.9s
KSP Ksiaz 14.27 349 *e*P **Pn** 23 18 06.5 +8.0
KSP *e*pP 23 18 16.1
KSP *e* 23 18 56.7
KSP *e*S **Sn** 23 20 45.5 +10

FELD Feldberg im Sc 14.28 324 *e*P **Pn** 23 18 05.5 +6.8
GTR Jabal at Tayr 14.28 140 ⇑P **Pn** 23 17 56.2 -2.6
VIVF Saint-Julien-l 14.29 309 *e*P **Pn** 23 17 59.7 +0.8
comp=Z,96nm,1.5s
VIVF Saint-Julien-l 14.29 309 *e*P **Pn** 23 17 59.7 +0.8
VIVF pmax pmax
comp=Z,48nm,1.5s
VIVF Saint-Julien-l 14.29 309 *e*P **Pn** 23 17 59.7 +0.8
comp=Z,48nm,1.5s
ATAB Bozova 14.31 82 *i* P **Pn** 23 18 07.6 +8.5
MALT Malatya 14.39 79 *e*P **Pn** 23 18 08.5 +8.3
MALT Malatya 14.39 79 ⇑P **Pn** 23 18 03.0 +2.8
ASF Jabal al Asfar 14.40 104 Pn **Pn** 23 17 59.8 -0.6
comp=Z,0.7nm,0.3s,baz=202,slow=0.8,SNR=9.9
ASF Sn **Sn** 23 20 35.7 -3.2
comp=Z,0.7nm,0.3s,baz=120,slow=20,SNR=3.7
CABF La Chapelle 14.41 317 *e*P **Pn** 23 18 01.1 +0.6
comp=Z,34nm,1.0s
CABF La Chapelle 14.41 317 *e*P **Pn** 23 18 01.1 +0.6
CABF pmax pmax
comp=Z,17nm,1.0s
CABF La Chapelle 14.41 317 *e*P **Pn** 23 18 01.1 +0.6
comp=Z,17nm,1.0s
GRF Grafenberg Arr 14.42 336 *e*Pn **Pn** 23 18 02.7 +2.0
GRF *e*L 23 24 54.8
comp=Z,3µm,18.1s
STU Stuttgart 14.42 329 *e*Pn **Pn** 23 17 59.1 -1.6
STU Stuttgart 14.42 329 *e*Pn **Pn** 23 17 59.1 -1.5
comp=Z,34nm,1.0s
BFO Black Forest 14.46 326 *e*Pn **Pn** 23 17 59.7 -1.5
BFO Black Forest 14.46 326 *e*Pn **Pn** 23 18 00.5 -0.6
BFO Black Forest 14.46 326 *e*P **Pn** 23 18 00.5 -0.7
TR1 14.47 124 ⇓P **Pn** 23 17 58.2 -3.1
HDHB Dhahab 14.47 120 ⇑P **Pn** 23 17 57.9 -3.4
LASF Ste Croix 14.47 305 *e*P **Pn** 23 18 02.0 +0.7
comp=Z,64nm,1.3s
LASF Ste Croix 14.47 305 *e*P **Pn** 23 18 02.0 +0.7
comp=Z,32nm,1.3s
LOMF Lomont 14.49 320 *e*P **Pn** 23 18 07.4 +5.8
NKC Novy Kostel 14.52 339 *e*P **Pn** 23 18 08.2 +6.2
NKC *e*pP pP 23 18 17.8 +0.5
NKC AMS AMS 23 25 20.0
comp=Z,6µm,13.8s
SHRM 14.66 124 ⇓P **Pn** 23 18 00.7 -3.3
MOF Molkenrain 14.68 322 *e*P **Pn** 23 18 06.8 +2.7
TANN Tannenbergstha 14.68 340 *e*Pn **Pn** 23 18 06.8 +2.6
URFA Urfa 14.73 82 *e*P **Pn** 23 18 08.5 +3.7
BRG Berggiesshubel 14.73 344 *e*Pn **Pn** 23 18 07.2 +2.3
BRG Berggiesshubel 14.73 344 *e*P **Pn** 23 18 04.7 -0.2
comp=Z,1.5nm,0.8s
BRG *i* 23 18 10.4
comp=Z,4.2nm,0.8s
BRG *e* 23 18 16.5
comp=Z,7.3nm,1.1s
BRG *e* 23 20 57.0
BRG
comp=Z,4µm,11.8s
BRG
comp=N,2µm,13.1s
BRG
comp=E,2µm,13.1s
BRG Berggiesshubel 14.73 344 *e*P **Pn** 23 18 04.7 -0.2
BRG *e* 23 20 57.0
BRG pmax pmax
comp=Z,2.0nm,0.8s
BRG MLR MLR
comp=Z,4µm,11.8s
BRG MLR MLR
comp=N,2µm,13.1s
BRG MLR MLR
comp=E,2µm,13.1s
BRG Berggiesshubel 14.73 344 *e*P **Pn** 23 18 04.7 -0.2
comp=E,1.5nm,0.8s
BRG *i* 23 18 10.4
BRG *e* 23 18 16.5
BRG *e* 23 20 57.0
HHRG Al Ghardaqah 14.75 127 ⇑P **Pn** 23 18 02.5 -2.6
HINF Hinteralfeld 14.79 322 *e*P **Pn** 23 18 06.1 +0.4
comp=E,82nm,1.1s
HINF Hinteralfeld 14.79 322 *e*P **Pn** 23 18 06.1 +0.4
HINF pmax pmax
comp=Z,41nm,1.1s
HINF Hinteralfeld 14.79 322 *e*P **Pn** 23 18 06.1 +0.4
comp=Z,41nm,1.1s
ELZG Elazig 14.83 78 *i* P **Pn** 23 18 06.4 +0.2
ECH Echery 14.92 324 *e*P **Pn** 23 18 11.5 +4.2
WLS Welschbruch 14.96 324 *e*P **Pn** 23 18 10.9 +2.9
CDF Champ du Feu 15.00 324 *e*P **Pn** 23 18 08.4 0.0
comp=Z,165nm,1.4s
CDF Champ du Feu 15.00 324 *e*P **Pn** 23 18 08.4 0.0
CDF pmax pmax
comp=Z,83nm,1.4s
CDF Champ du Feu 15.00 324 *e*P **Pn** 23 18 08.4 0.0
comp=Z,82nm,1.4s
ANN Anapa 15.13 53 ⇓*i*P **Pn** 23 18 14.4 +4.3
ANN pmax pmax
comp=Z,41nm,0.6s
MOX Moxa 15.13 338 *e*Pn **Pn** 23 18 09.5 -0.7
MOX *e*Sn **Sn** 23 20 52.7 -3.8
MOX Moxa 15.13 338 *e*PN **Pn** 23 18 09.4 -0.8
MOX *e*SN **Sn** 23 20 53.0 -3.5
MOX
comp=Z,3µm,19.0s
MOX Moxa 15.13 338 *e*Pn **Pn** 23 18 09.4 -0.8
MOX *e*Sn **Sn** 23 20 53.0 -3.5
MOX Moxa 15.13 338 *e*P **Pn** 23 18 09.4 -0.8
comp=Z,3µm,19.0s
EIBI Ibiza 15.17 284 P pP 23 18 22.9 -1.6
HAU Haudompre 15.17 322 *e*P **Pn** 23 18 11.3 +0.7
comp=Z,53nm,1.0s
HAU *e*R
comp=Z,4µm,17.8s
HAU Haudompre 15.17 322 *e*P **Pn** 23 18 11.3 +0.7
HAU pmax pmax
comp=Z,26nm,1.0s
HAU Haudompre 15.17 322 *e*P **Pn** 23 18 11.3 +0.7
comp=Z,26nm,1.0s
LANF Langenberg 15.18 327 *e*P **Pn** 23 18 18.0 +7.3
AKASG Malin Array Be 15.21 22 Pn **Pn** 23 18 07.7 -3.5
comp=Z,1.7nm,0.3s,baz=209,slow=12,SNR=14
TOD Tromm 15.24 330 *e*P **Pn** 23 18 17.4 +5.9
MTLF Montolieu 15.31 301 *e*P **Pn** 23 18 12.0 -0.4
comp=Z,8.9nm,1.1s
MTLF Montolieu 15.31 301 *e*P **Pn** 23 18 12.0 -0.4
MTLF pmax pmax
comp=Z,4.0nm,1.1s
MTLF Montolieu 15.31 301 *e*P **Pn** 23 18 12.0 -0.4
comp=Z,4.4nm,1.1s
GUMT Gumushane 15.35 71 *e*P **Pn** 23 18 12.2 -0.8
CLL Collm 15.36 342 *e*Pn **Pn** 23 18 16.6 +3.5
CLL Collm 15.36 342 *e*PP 23 18 20.0
comp=Z,27nm,1.6s
CLL *e*sPP 23 18 31.0
comp=Z,92nm,1.7s
CLL *e*x x 23 18 54.0
CLL Collm 15.36 342 *e*P **Pn** 23 18 20.0 +6.9
CLL pmax pmax
comp=Z,27nm,1.6s
CLL MLR MLR
comp=Z,5µm,11.8s
LBL Lubilhac 15.36 308 *e*P **Pn** 23 18 16.6 +3.5
WAR Warsaw 15.37 2 *e*P **Pn** 23 18 22.0 +8.7
WAR *e*S **S** 23 20 47.2 -30
WAR L 23 25 50.2
comp=Z,8.8nm,14.9s
WAR Warsaw 15.37 2 *e*P **Pn** 23 18 22.0 +8.7
WAR *e*S **S** 23 20 47.2 -30
EMIR Miracle 15.41 295 P **Pn** 23 18 18.5 +4.7
comp=Z,16nm,1.2s
HSFG 15.43 128 ⇑*e*P **Pn** 23 18 11.8 -2.3
THEF They Montfort 15.50 322 *e*P **Pn** 23 18 18.0 +3.1
EPOB Poblet 15.62 293 P **Pn** 23 18 21.1 +4.6
comp=Z,13nm,1.4s
SMF Signal de Mont 15.70 314 *e*P **Pn** 23 18 17.9 +0.3
comp=Z,14nm,0.9s
SMF Signal de Mont 15.70 314 *e*P **Pn** 23 18 17.9 +0.3
SMF pmax pmax
comp=Z,7.0nm,0.9s
SMF Signal de Mont 15.70 314 *e*P **Pn** 23 18 17.9 +0.3
comp=Z,6.8nm,0.9s
PYM Petit Puy Mans 15.75 310 *e*P **Pn** 23 18 23.4 +5.2
SALF Salau 15.86 298 *e*P **Pn** 23 18 25.9 +6.3
TNS Taunus Mts 15.87 331 *e*Pn **Pn** 23 18 20.3 +0.6
TNS *e*Sn **Sn** 23 21 05.4 -9.1
ABH Alteburg 15.97 329 *e*P **Pn** 23 18 25.2 +4.2

EBR Ebro Roquetas 15.98 290 *e*Ts 23 19 02.3
EBR *e*Ts 23 19 42.0
CAF Calviac 15.98 306 *e*P **Pn** 23 18 21.8 +0.6
comp=Z,61nm,1.5s
CAF Calviac 15.98 306 *e*P **Pn** 23 18 21.8 +0.6
CAF pmax pmax
comp=Z,30nm,1.5s
CAF Calviac 15.98 306 *e*P **Pn** 23 18 21.8 +0.6
comp=Z,30nm,1.5s
LOR Lormes 16.04 316 *e*P **Pn** 23 18 22.0 +0.1
comp=Z,11nm,0.9s
LOR *e*R
comp=Z,2µm,17.8s
LOR Lormes 16.04 316 *e*P **Pn** 23 18 22.0 +0.1
LOR pmax pmax
comp=Z,5.0nm,0.9s
LOR Lormes 16.04 316 *e*P **Pn** 23 18 22.0 +0.1
comp=Z,5.4nm,0.9s
RUP Ruppelstein 16.04 327 *e*P **Pn** 23 18 28.9 +7.0
HEDF Idfu 16.06 133 ⇓P **Pn** 23 18 20.5 -1.7
AVF Avril sur Loir 16.06 313 *e*P **Pn** 23 18 22.2 0.0
comp=Z,23nm,1.0s
AVF Avril sur Loir 16.06 313 *e*P **Pn** 23 18 22.2 0.0
AVF pmax pmax
comp=Z,11nm,1.0s
AVF Avril sur Loir 16.06 313 *e*P **Pn** 23 18 22.2 0.0
comp=Z,11nm,1.0s
ERTA Horta de San J 16.11 291 P **Pn** 23 18 23.0 +0.1
comp=Z,23nm,1.3s
ERTA Horta de San J 16.11 291 P **Pn** 23 18 23.0 +0.1
comp=Z,23nm,1.3s
SSF Saint Saulge 16.12 314 *e*P **Pn** 23 18 23.2 +0.2
comp=Z,8.5nm,0.9s
SSF Saint Saulge 16.12 314 *e*P **Pn** 23 18 23.2 +0.2
SSF pmax pmax
comp=Z,4.0nm,0.9s
SSF Saint Saulge 16.12 314 *e*P **Pn** 23 18 23.2 +0.2
comp=Z,4.2nm,0.9s
MEZF Maizieres J'vi 16.15 321 *e*P **Pn** 23 18 23.5 +0.2
comp=Z,7.2nm,0.7s
MEZF Maizieres J'vi 16.15 321 *e*P **Pn** 23 18 23.5 +0.2
comp=Z,3.6nm,0.7s
SOC Sochi 16.20 60 *e*P **Pn** 23 18 27.0 +3.0
SOC pmax pmax
comp=Z,31nm,1.7s
SOC MLR MLR
comp=Z,2µm,14.0s
BGF Bois d'Agland 16.24 312 *e*P **Pn** 23 18 24.6 +0.1
RUE Ruedersdorf 16.28 345 *e*P **Pn** 23 18 25.6 +0.6
comp=Z,131nm,1.2s
RUE Ruedersdorf 16.28 345 *e*P **Pn** 23 18 25.6 +0.6
comp=Z,131nm,1.2s
EGRA Graus 16.35 295 P **Pn** 23 18 34.0 +8.1
EBEN Beniarda 16.39 283 P **Pn** 23 18 32.9 +6.5
comp=Z,12nm,0.8s
WLF Walferdange 16.41 326 *e*Pn **Pn** 23 18 29.0 +2.3
WLF Walferdange 16.41 326 AP pP 23 18 31.0 -7.3
WLF Walferdange 16.41 326 *e*Pn **Pn** 23 18 25.6 -1.1
WLF Walferdange 16.41 326 *e*P **Pn** 23 18 25.6 -1.1
TCF Toulx Ste Croi 16.49 310 *e*P **Pn** 23 18 28.3 +0.6
comp=Z,69nm,1.5s
TCF Toulx Ste Croi 16.49 310 *e*P **Pn** 23 18 28.3 +0.6
TCF pmax pmax
comp=Z,35nm,1.5s
TCF Toulx Ste Croi 16.49 310 *e*P **Pn** 23 18 28.3 +0.6
comp=Z,35nm,1.5s
RJF Les Rejaudoux 16.49 307 *e*P **Pn** 23 18 28.3 +0.6
comp=Z,42nm,1.1s
RJF *e*R
comp=Z,4µm,21.0s
RJF Les Rejaudoux 16.49 307 *e*P **Pn** 23 18 28.3 +0.6
RJF pmax pmax
comp=Z,21nm,1.1s
RJF Les Rejaudoux 16.49 307 *e*P **Pn** 23 18 28.3 +0.6
comp=Z,21nm,1.1s
BNGL BINGOL 16.53 76 *i* P **Pn** 23 18 35.5 +7.4
EPF Esparros 16.53 298 *e*P **Pn** 23 18 28.8 +0.6
GKP Gorka Klasztor 16.54 353 *e*P **Pn** 23 18 32.6 +4.3
GKP *e*pP pP 23 18 35.6 -4.1
GKP Gorka Klasztor 16.54 353 *e*pP pP 23 18 35.6 -4.1
CLZ Clausthal 16.56 338 *e*Pn **Pn** 23 18 33.9 +5.4
CLZ *e*L 23 26 10.5
comp=Z,3µm,19.4s
EBIE Bielsa 16.58 297 P **Pn** 23 18 34.4 +5.5
comp=Z,25nm,2.1s
EMOS Mosqueruela 16.65 288 P **Pn** 23 18 35.0 +5.3
comp=Z,30nm,1.9s
ASHG Umm Shaghir 16.70 141 ⇑P **Pn** 23 18 30.1 -0.1
HADB 16.74 129 ⇑P **Pn** 23 18 29.8 -1.0
BTMT Batman 16.80 79 *e*P **Pn** 23 18 34.5 +2.9
ESAC San Caprasio 16.83 293 P **Pn** 23 18 36.7 +4.7
comp=Z,7.7nm,0.4s
LFF La Frestale 16.86 305 *e*P **Pn** 23 18 32.4 +0.1
comp=Z,47nm,1.1s
LFF La Frestale 16.86 305 *e*P **Pn** 23 18 32.4 +0.1
LFF pmax pmax
comp=Z,23nm,1.0s
LFF La Frestale 16.86 305 *e*P **Pn** 23 18 32.4 +0.1
comp=Z,23nm,1.1s
AAHD Abu Hadid 16.87 137 ⇑P **Pn** 23 18 31.8 -0.7
AKRL Khor El Raml 16.92 138 ⇑P **Pn** 23 18 32.4 -0.7
ECHE Chera 16.98 286 P **Pn** 23 18 38.4 +4.6
ECHE pmax pmax
comp=Z,8.0nm,0.9s
ECHE Chera 16.98 286 P **Pn** 23 18 38.4 +4.6
comp=Z,7.9nm,0.9s
CART Cartagena 17.04 279 *i* S **S** 23 21 45.0 -6.7
BCA Borcka 17.09 68 *e*P **Pn** 23 18 34.8 -0.4
HKFR Khafra 17.09 143 ⇑P **Pn** 23 18 36.4 +1.2
EMRS Mersa Alam 17.12 130 ⇑P **Pn** 23 18 34.6 -1.0
HMSM Jabal Masmas 17.13 141 P **Pn** 23 18 35.5 -0.2
ETSF Etsaut 17.14 297 *e*P **Pn** 23 18 36.4 +0.6
comp=Z,20nm,0.7s
ETSF Etsaut 17.14 297 *e*P **Pn** 23 18 36.4 +0.6
ETSF pmax pmax
comp=Z,10.0nm,0.7s
ETSF Etsaut 17.14 297 *e*P **Pn** 23 18 36.4 +0.6
comp=Z,9.9nm,0.7s
MEM Membach 17.17 328 XP sP 23 18 46.6 -4.5
SUW Suwalki 17.25 6 *e*P **Pn** 23 18 37.2 0.0
SUW *e*pP pP 23 18 42.6 -5.0
SUW *e*S **S** 23 21 55.7 -0.3
SUW *e*sS sS 23 22 04.0 -6.5
SUW L 23 28 01.9
comp=Z,5.5nm,17.1s
SUW Suwalki 17.25 6 *e*P **Pn** 23 18 35.1 -2.1
SUW *e*S **S** 23 21 55.7 -0.3
SUW Suwalki 17.25 6 *e*Pn **Pn** 23 18 35.1 -2.0
SUW *e*pP pP 23 18 42.6 -5.0
SUW *e*S **S** 23 21 55.7 -0.3
SUW *e*SS 23 22 04.0
SUW Suwalki 17.25 6 *e*P **Pn** 23 18 35.1 -2.1
SUW *e*pP pP 23 18 42.6 -5.0
ARTV Artvin 17.28 69 *i* P **Pn** 23 18 37.0 -0.5
ARTV Artvin 17.28 69 *i* P **Pn** 23 18 37.0 -0.6
BUG Bochum--Univer 17.29 331 *e*Pn **Pn** 23 18 42.2 +4.5
HGN Heimansgroeve 17.31 328 *e*P **Pn** 23 18 42.3 +4.4
comp=Z,50nm,1.2s
HGN *e*x x 23 21 40.7
HGN *e*S **S** 23 22 01.6 +4.2
GIVF Givet 17.33 325 *e*P **Pn** 23 18 39.0 +0.8
comp=Z,208nm,1.4s
GIVF Givet 17.33 325 *e*P **Pn** 23 18 39.0 +0.8
GIVF pmax pmax
comp=Z,104nm,1.4s
GIVF Givet 17.33 325 *e*P **Pn** 23 18 39.0 +0.8
comp=Z,104nm,1.4s
BCLA Clavier 17.34 326 AP pP 23 18 46.5 -2.0
BCLA XP sP 23 18 51.3 -1.7
BCLA E 23 19 07.0
DOU Dourbes 17.43 324 AP pP 23 18 44.3 -5.3
DOU XP sP 23 18 51.2 -3.0
BAIF Baives 17.59 324 *e*P **Pn** 23 18 41.8 +0.4
comp=Z,62nm,1.2s
BAIF Baives 17.59 324 *e*P **Pn** 23 18 41.8 +0.4
BAIF pmax pmax
comp=Z,31nm,1.2s
BAIF Baives 17.59 324 *e*P **Pn** 23 18 41.8 +0.4
comp=Z,31nm,1.2s
AADN Adndan 17.60 144 ⇓P **Pn** 23 18 43.5 +2.0
SJPF Ste Jean 17.66 297 *e*P **Pn** 23 18 42.5 +0.2
comp=Z,87nm,1.0s
SJPF Ste Jean 17.66 297 *e*P **Pn** 23 18 42.5 +0.2
SJPF pmax pmax
comp=Z,44nm,1.0s

SJPF	Ste Jean	17.66	297	eP		Pn	23 18 42.5	+0.2		
	comp=Z,44nm,1.0s									
HAGS	Hagol	17.67	131	⇑P		Pn	23 18 42.1	-0.4		
IBBN	Ibbenburen	17.81	334	ePn		Pn	23 18 51.7	+7.6		
SNF	Seneffe	17.86	325	P		Pn	23 18 47.6	+2.8		
SNF				AP		pP	23 18 53.4	-1.0		
SNF				XP		sP	23 18 59.7	+0.8		
SNF	Seneffe	17.86	325	P		Pn	23 18 47.5	+2.7		
EALK	Alkurruntz	17.89	298	P		Pn	23 18 46.6	+1.5		
	comp=Z,57nm,2.0s									
EALK	Alkurruntz	17.89	298	P		Pn	23 18 46.6	+1.6		
	comp=Z,57nm,2.0s									
WTSB	Winterswijk	17.89	332	eP		Pn	23 18 46.6	+1.5		
	comp=Z,30nm,1.3s									
ELIZ	Elizondo	17.89	297	P		Pn	23 18 47.8	+2.7		
UCC	Uccle	18.03	326	AP		pP	23 18 52.7	-3.5		
MFF	Saint Martin d	18.09	309	eP		Pn	23 18 48.1	+0.6		
	comp=Z,123nm,1.4s									
MFF	Saint Martin d	18.09	309	eP		Pn	23 18 48.1	+0.6		
MFF				pmax		pmax				
	comp=Z,61nm,1.4s									
MFF	Saint Martin d	18.09	309	eP		Pn	23 18 48.1	+0.6		
	comp=Z,61nm,1.4s									
MSL	Mosul	18.25	85	ex		x	23 18 50.0			
MSL				ex		x	23 22 18.0			
MSL				ex		x	23 22 31.0			
MSL				ex		x	23 25 10.0			
MSL				ex		x	23 27 04.0			
EHUE	Huescar	18.28	280	P		Pn	23 18 55.2	+5.3		
EHUE				pmax		pmax				
	comp=Z,9.0nm,1.0s									
EHUE	Huescar	18.28	280	P		Pn	23 18 55.2	+5.3		
	comp=Z,8.5nm,1.0s									
RGN	Rugen	18.33	347	eP		Pn	23 18 47.5	-3.0		
MNK	Minsk	18.36	14	eP		Pn	23 18 44.0	-6.9		
MNK				MLR		MLR				
	comp=Z,14µm,14.0s									
MNK				MLR		MLR				
	comp=N,10µm,14.0s									
KIV	Kislovodsk	18.37	60	eP		Pn	23 18 50.0	-1.0		
KIV				eS		S	23 22 15.8	-3.0		
KIV				pmax		pmax				
	comp=Z,44nm,1.1s									
KIV				MLR		MLR				
	comp=Z,659nm,11.0s									
KIV	Kislovodsk	18.37	60	eP		Pn	23 18 51.4	+0.4		
	comp=Z,55nm,0.9s									
KIV	Kislovodsk	18.37	60	eP		Pn	23 18 50.0	-1.0		
	comp=Z,44nm,1.1s									
BSEG	Bad Segeberg	18.43	341	ePn		Pn	23 18 53.5	+1.8		
BSEG				eL			23 28 04.8			
	comp=Z,2µm,19.6s									
AKH	Akhalkalaki	18.48	69	P		Pn	23 18 53.2	+0.9		
CUKT	Cukurca	18.54	82	eP		Pn	23 18 58.8	+5.7		
NE53	Naroch'	18.56	12	eS		S	23 22 16.4	-6.2		
BSD	Bornholm Skovb	18.62	350	i P		Pn	23 18 56.6	+2.6		
	comp=Z,17nm,0.8s									
BSD				i S		S	23 22 24.7	+0.9		
BSD										
	comp=Z,1µm,16.0s									
BSD	Bornholm Skovb	18.62	350	i P		Pn	23 18 56.6	+2.6		
BSD				i S		S	23 22 24.7	+0.9		
BSD				pmax		pmax				
	comp=Z,17nm,0.8s									
BSD				MLR		MLR				
	comp=Z,1µm,16.0s									
BSD	Bornholm Skovb	18.62	350	i P		Pn	23 18 56.6	+2.6		
	comp=Z,17nm,0.8s									
BSD				i S		S	23 22 24.7	+0.9		
EQES	Quesada	18.66	280	P		Pn	23 19 00.7	+6.2		
	comp=Z,14nm,0.8s									
GOF	Gofitskoye	18.92	57	eP		Pn	23 19 04.9	+7.3		
GOF				pmax		pmax				
	comp=Z,70nm,1.0s									
ZEI	Tsey	18.98	65	eP		Pn	23 18 58.5	+0.2		
LDF	La Druitiere	19.00	314	eP		Pn	23 18 58.0	-0.7		
	comp=Z,15nm,0.7s									
LDF	La Druitiere	19.00	314	eP		Pn	23 18 58.0	-0.7		
LDF				pmax		pmax				
	comp=Z,8.0nm,0.7s									
LDF	La Druitiere	19.00	314	eP		Pn	23 18 58.0	-0.7		
	comp=Z,7.6nm,0.7s									
EBAN	Banos Encina	19.20	281	P		Pn	23 19 00.6	-0.4		
ELAN	Lanestosa	19.27	297	P		Pn	23 19 06.7	+4.9		
	comp=Z,61nm,1.4s									
ESDC	Sonseca Array	19.30	286	P		Pn	23 19 00.9	-1.2		
	comp=Z,0.5nm,0.3s,baz=86,slow=11,SNR=9.0									
ESDC	Sonseca Array	19.30	286	P		Pn	23 19 00.9	-1.2		
ESDC				P			23 19 05.6			
ESLA	Sonseca Array	19.30	286	eP		Pn	23 19 01.9	-0.2		
	comp=Z,18nm,1.3s									
ESLA	Sonseca Array	19.30	286	eP		Pn	23 19 02.0	-0.1		
	comp=Z,18nm,1.3s									
FLN	La Foliniere	19.30	315	eP		Pn	23 19 02.8	+0.7		
	comp=Z,58nm,0.9s									
FLN				eR						
	comp=Z,3µm,18.2s									
FLN	La Foliniere	19.30	315	eP		Pn	23 19 02.8	+0.7		
FLN				pmax		pmax				
	comp=Z,29nm,0.9s									
FLN	La Foliniere	19.30	315	eP		Pn	23 19 02.8	+0.7		
	comp=Z,29nm,0.9s									
GRR	Gorron	19.33	313	eP		Pn	23 19 02.9	+0.4		
	comp=Z,16nm,0.8s									
GRR	Gorron	19.33	313	eP		Pn	23 19 02.9	+0.4		
GRR				pmax		pmax				
	comp=Z,8.0nm,0.8s									
GRR	Gorron	19.33	313	eP		Pn	23 19 02.9	+0.4		
	comp=Z,7.9nm,0.8s									
GNI	Garni	19.33	73	eP		Pn	23 19 06.6	+4.0		
GNI	Garni	19.33	73	P		Pn	23 19 00.9	-1.6		
	comp=Z,1.5nm,0.3s,baz=338,slow=4.9,SNR=20									
GNI	Garni	19.33	73	P		Pn	23 19 00.9	-1.7		
GNI				pmax		pmax				
	comp=Z,2.0nm,0.3s									
GNI	Garni	19.33	73	P		Pn	23 19 00.9	-1.7		
	comp=Z,2.0nm,0.3s									
TBLG	Delisi	19.45	68	P		Pn	23 19 03.0	-1.0		
GUD	Guadarrama	19.48	289	P		Pn	23 19 05.2	+0.9		
MTA	Mtatsminda	19.48	68	P		Pn	23 19 03.6	-0.7		
COP	Copenhagen	19.57	346	i P		Pn	23 19 05.4	0.0		
	comp=Z,34nm,0.9s									
COP				i S		S	23 22 47.2	+4.2		
COP										
	comp=Z,460nm,16.0s									
COP	Copenhagen	19.57	346	i P		Pn	23 19 05.4	0.0		
COP				i S		S	23 22 47.2	+4.2		
COP				pmax		pmax				
	comp=Z,34nm,0.9s									
COP				MLR		MLR				
	comp=Z,460nm,16.0s									
COP	Copenhagen	19.57	346	i P		Pn	23 19 05.4	0.0		
	comp=Z,34nm,0.9s									
COP				i S		S	23 22 47.2	+4.2		
ELUQ	Luque	19.62	279	P		Pn	23 19 04.7	-1.4		
VRSR	Storozhevoye	19.63	37	eP		Pn	23 19 04.4	-1.7		
VRSR				pmax		pmax				
	comp=Z,3.0nm,0.7s									
VRSR				pmax		pmax				
	comp=N,6.0nm,1.0s									
VRSR				pmax		pmax				
	comp=E,2.0nm,0.9s									
VRSR				MLR		MLR				
	comp=N,90nm,16.0s									
VRSR				MLR		MLR				
	comp=Z,100nm,16.0s									
VRSR				MLR		MLR				
	comp=E,20nm,14.0s									
VRSR	Storozhevoye	19.63	37	eP		Pn	23 19 04.4	-1.7		
	comp=E,6.0nm,1.0s									
EADA	Adamuz	19.82	281	P		Pn	23 19 06.5	-1.9		
	comp=E,17nm,1.5s									
EADA	Adamuz	19.82	281	P		Pn	23 19 06.5	-1.9		
	comp=E,17nm,1.5s									
BHD	Baghdad	19.96	93	ex		x	23 18 58.0			
BHD				ex		x	23 19 06.0			
BHD				ex		x	23 19 25.0			
BHD				ex		x	23 22 31.0			
BHD				ex		x	23 22 43.0			
BHD				ex		x	23 28 38.0			
VOR	Voronezh	19.96	36	eP		Pn	23 19 07.0	-3.1		
VOR				pmax		pmax				
	comp=N,30nm,0.1s									
VOR				pmax		pmax				
	comp=Z,50nm,0.1s									

EMIJ	Mijas	20.15	277	P		P	23 19 14.2	+4.0		
	comp=Z,51nm,1.0s									
SGMF	Saint Gilles	20.28	311	eP		P	23 19 13.6	+2.0		
	comp=Z,110nm,1.2s									
SGMF	Saint Gilles	20.28	311	eP		P	23 19 13.6	+2.0		
SGMF				pmax		pmax				
	comp=Z,55nm,1.2s									
SGMF	Saint Gilles	20.28	311	eP		P	23 19 13.6	+2.0		
	comp=Z,55nm,1.2s									
QUIF	Quistinic	20.51	310	eP		P	23 19 15.7	+1.6		
	comp=Z,58nm,0.8s									
QUIF	Quistinic	20.51	310	eP		P	23 19 15.7	+1.6		
QUIF				pmax		pmax				
	comp=Z,29nm,0.8s									
QUIF	Quistinic	20.51	310	eP		P	23 19 15.7	+1.6		
	comp=Z,29nm,0.8s									
REAL	Reales	20.51	277	eP		P	23 19 14.0	-0.1		
EARI	Arriondas	20.55	296	P		P	23 19 22.4	+7.8		
LIJA	Lijar	20.60	278	eP		P	23 19 14.2	-0.9		
EJIF	Jimena Fronter	20.72	277	P		P	23 19 22.6	+6.2		
EJIF				pmax		pmax				
	comp=Z,5.0nm,0.5s									
EJIF	Jimena Fronter	20.72	277	P		P	23 19 22.6	+6.2		
	comp=Z,5.4nm,0.5s									
ROSF	Rostrenen	20.75	311	eP		P	23 19 18.1	+1.4		
	comp=Z,90nm,1.2s									
ROSF	Rostrenen	20.75	311	eP		P	23 19 18.1	+1.4		
ROSF				pmax		pmax				
	comp=Z,45nm,1.2s									
ROSF	Rostrenen	20.75	311	eP		P	23 19 18.1	+1.4		
	comp=Z,45nm,1.2s									
VRHR	Novokhopersk	20.77	40	eP		P	23 19 17.1	+0.1		
VRHR				pmax		pmax				
	comp=Z,90nm,0.6s									
VRHR				pmax		pmax				
	comp=N,5.0nm,0.3s									
VRHR				pmax		pmax				
	comp=E,20nm,0.5s									
VRHR				MLR		MLR				
	comp=Z,3µm,14.0s,MS4.8									
VRHR				MLR		MLR				
	comp=N,1µm,12.0s,MS4.7									
VRHR				MLR		MLR				
	comp=E,2µm,14.0s,MS4.7									
VRHR	Novokhopersk	20.77	40	eP		P	23 19 17.1	+0.1		
	comp=E,1µm,12.0s									
MDT	Midelt	20.88	266	P		P	23 19 17.2	-1.0		
	comp=E,3.5nm,0.8s,baz=76,slow=14,SNR=5.8									
ZFT	Errachidia	20.93	264	i P		P	23 19 22.0	+3.3		
ESPR	Espera	20.97	278	P		P	23 19 21.6	+2.5		
	comp=E,2.2nm,0.3s									
MUD	Monsted U'grnd	20.99	342	i P		P	23 19 25.2	+5.9		
	comp=E,37nm,0.9s									
MUD				i			23 23 46.8			
MUD										
	comp=Z,1µm,19.0s									
MUD	Monsted U'grnd	20.99	342	i P		P	23 19 25.2	+5.9		
MUD				i			23 23 46.8			
MUD				pmax		pmax				
	comp=Z,37nm,0.9s									
MUD				MLR		MLR				
	comp=Z,1µm,19.0s,MS4.3									
MUD	Monsted U'grnd	20.99	342	i P		P	23 19 25.2	+5.9		
	comp=Z,37nm,0.9s									
MUD				i			23 23 46.8			
OBN	Obninsk	21.34	26	oeP		P	23 19 21.8	-1.2		
OBN				e			23 23 18.5			
OBN				e			23 23 45.7			
OBN				e			23 24 05.5			
OBN				pmax		pmax				
	comp=Z,16nm,0.6s,mb4.5									
OBN				MLR		MLR				
	comp=Z,4µm,15.0s,MS4.9									
OBN	Obninsk	21.34	26	eP		P	23 19 21.9	-1.2		
	comp=Z,132nm,1.1s,mb5.2									
OBN	Obninsk	21.34	26	eP		P	23 19 21.8	-1.2		
	comp=Z,16nm,0.6s,mb4.5									
PBRG	Braganca	21.50	292	eP		P	23 19 27.0	+2.2		
	comp=Z,18nm,1.9s,mb4.1									
PBRG				i -			23 19 39.8			
EMIN	Mina Concepcio	21.50	281	P		P	23 19 27.8	+2.9		
EMIN	Mina Concepcio	21.50	281	P		P	23 19 27.8	+3.0		
ECAL	Calabor	21.51	292	P		P	23 19 25.0	+0.1		
	comp=Z,19nm,1.4s,mb4.3									
ECAL	Calabor	21.51	292	P		P	23 19 25.0	+0.1		
	comp=Z,19nm,1.4s,mb4.3									
MAK	Makhachkala	21.63	65	eP		P	23 19 24.1	-2.1		
MAK				eS		S	23 23 22.9	-0.8		
MAK				pmax		pmax				
	comp=Z,246nm,0.9s,mb5.6									
MAK	Makhachkala	21.63	65	eP		P	23 19 24.1	-2.1		
	comp=Z,246nm,0.9s,mb5.6									
EBAD	Badajoz	21.69	283	P		P	23 19 29.8	+2.9		
	comp=Z,5.1nm,0.7s,mb4.1									
EBAD	Badajoz	21.69	283	P		P	23 19 29.8	+3.0		
	comp=Z,5.1nm,0.7s,mb4.1									
VSU	Vasula	22.00	9	eP		P	23 19 28.9	-1.2		
PCBR	Castelo Branco	22.00	286	eP		P	23 19 30.9	+0.7		
	comp=Z,15nm,1.1s,mb4.3									
PCBR				i -			23 19 43.7			
MTE	Manteigas	22.05	288	eP		P	23 19 30.8	+0.1		
	comp=Z,28nm,2.0s,mb4.3									
MTE	Manteigas	22.05	288	eP		P	23 19 28.3	-2.4		
	comp=Z,44nm,0.9s,mb4.9									
MOS	Moscow	22.20	26	eP		P	23 19 25.0	-7.3		
MOS				e			23 19 54.0			
MOS				e			23 20 10.6			
MOS				eS		S	23 23 23.5	-11		
MOS				pmax		pmax				
	comp=Z,50nm,0.7s,mb5.0									
MOS				MLR		MLR				
	comp=Z,6µm,14.0s,MS5.2									
MOS				MLR		MLR				
	comp=N,4µm,14.1s,MS5.2									
MOS				MLR		MLR				
	comp=E,4µm,13.6s,MS5.2									
PBEJ	Beja	22.42	282	i -			23 19 48.5			
PTOM	Tomar	22.73	286	eP		P	23 19 40.7	+2.8		
	comp=E,40nm,1.1s,mb4.8									
PTOM				i -			23 19 51.3			
MIB	Mutribah	23.56	100	eP		P	23 19 45.4	-1.0		
MIB				AMb		AMB	23 19 58.6			
	comp=Z,145nm,1.1s,mb5.3									
HFS	Hagfors	23.67	352	P		P	23 19 45.8	-1.6		
	comp=Z,34nm,0.6s,mb4.9,baz=163,slow=9.9,SNR=138									
HFA0	Hagfors New Ar	23.68	352	P		P	23 19 45.9	-1.6		
NAY	Al-Naaiem	23.72	101	eP		P	23 19 47.1	-0.7		
NAY				AMb		AMB	23 20 00.1			
	comp=Z,88nm,0.8s,mb5.2									
PUL	Pulkovo	23.79	13	eP		P	23 19 39.0	-10		
PUL				eS		S	23 23 54.4	-7.2		
PUL				MLR		MLR				
	comp=N,5µm,14.0s,MS5.2									
PUL				MLR		MLR				
	comp=E,1µm,14.0s,MS5.2									
PUL				MLR		MLR				
	comp=Z,6µm,14.0s,MS5.2									
KONO	Kongsberg	23.83	346	eP		P	23 19 45.9	-3.0		
OUK	Oukaimeden	24.03	265	i P		P	23 19 49.0	-1.7		
RDF	Al-Radifah	24.10	101	eP		P	23 19 51.2	-0.1		
RDF				AMb		AMB	23 20 04.0			
	comp=Z,91nm,1.3s,mb5.0									
EKA	Eskdalemuir Ar	24.43	327	P		P	23 19 54.7	+0.3		
	comp=Z,3.7nm,0.6s,mb4.0,baz=128,slow=9.2,SNR=27									
ESK	Eskdalemuir	24.44	326	eP		P	23 19 55.1	+0.6		
ESK				pmax		pmax				
	comp=Z,58nm,1.3s,mb4.8									
ESK	Eskdalemuir	24.44	326	eP		P	23 19 55.1	+0.6		
	comp=Z,58nm,1.3s,mb4.8									
QRN	Al-Qurain	24.47	101	eP		P	23 19 54.0	-0.7		
QRN				AMb		AMB	23 20 05.9			
	comp=Z,88nm,0.8s,mb5.2									
FINES	FINESS Array B	24.85	7	P		P	23 19 57.7	-0.5		
	comp=Z,6.8nm,0.5s,mb4.4,baz=169,slow=9.1,SNR=69									
FINES	FINESS Array B	24.85	7	i P		P	23 19 57.7	-0.5		
FINES				pmax		pmax				
	comp=Z,7.0nm,0.5s									
FINES	FINESS Array B	24.85	7	i P		P	23 19 57.7	-0.5		
	comp=Z,7.0nm,0.5s,mb4.5									
NB2	NORSAR Subarra	24.87	349	P		P	23 19 57.5	-0.9		
	comp=Z,2.5nm,0.6s,mb3.9,baz=156,slow=10									
NOA	NORSAR Array B	24.87	349	P		P	23 19 57.0	-1.4		
	comp=Z,9.0nm,0.6s,mb4.5,baz=160,slow=9.3,SNR=46									
NOA	NORSAR Array B	24.87	349	P		P	23 19 57.0	-1.4		
DLF	Lyons Farm	24.89	320	eP		P	23 19 59.0	+0.5		
PECR	Pechory	25.15	32	eP		P	23 20 02.6	+1.7		

PECR				eS		S	23 24 31.2	+7.8		
PECR				eSS			23 25 40.0			
	comp=Z,1µm,1.6s			pmax		pmax				
PECR				smax						
	comp=N,500nm,7.0s									
PECR				smax						
	comp=E,500nm,7.0s									
PECR				MLR		MLR				
	comp=E,3µm,14.0s,MS5.1									
PECR				MLR		MLR				
	comp=Z,6µm,14.0s,MS5.3									
PECR				MLR		MLR				
	comp=N,3µm,13.0s,MS5.1									
PECR	Pechory	25.15	32	eP		P	23 20 02.6	+1.7		
	comp=N,1µm,1.6s									
DCN	Croghan	25.30	319	eP		P	23 20 03.6	+1.3		
KAF	Kangasniemi	25.53	6	ep		P	23 20 03.4	-1.0		
	comp=N,23nm,0.7s,mb4.8									
KAF	Kangasniemi	25.53	6	eP		P	23 20 03.4	-1.0		
KAF				pmax		pmax				
	comp=Z,23nm,0.7s,mb4.8									
KLMR	Klimovskoe	26.89	21	eP		P	23 20 18.1	+1.4		
KLMR				eS		S	23 24 46.6	-4.5		
KLMR				pmax		pmax				
	comp=Z,130nm,1.6s,mb5.2									
KLMR				MLR		MLR				
	comp=Z,6µm,17.0s,MS5.2									
KLMR	Klimovskoe	26.89	21	eP		P	23 20 18.1	+1.4		
	comp=Z,130nm,1.6s,mb5.2									
JOF	Joensuu	26.93	11	ep		P	23 20 15.5	-1.5		
	comp=Z,7.6nm,0.5s,mb4.5									
JOF	Joensuu	26.93	11	eP		P	23 20 15.5	-1.5		
JOF				pmax		pmax				
	comp=Z,8.0nm,0.5s,mb4.5									
ORR	Orenburg	28.39	48	⇑i P		P	23 20 28.8	-1.2		
ORR				S		S	23 25 15.4	+0.8		
ORR				SS		SS	23 26 50.7	-25		
ORR				pmax		pmax				
	comp=Z,30nm,1.8s,mb4.6									
ORR				MLR		MLR				
	comp=Z,830nm,18.0s,MS4.4									
ORR	Orenburg	28.39	48	i P		P	23 20 28.8	-1.2		
	comp=Z,30nm,1.8s,mb4.6									
ORR				S		S	23 25 15.4	+0.8		
	comp=Z,830nm,18.0s									
TORD	Torodi Ar. Bea	28.95	220	P		P	23 20 35.1	0.0		
	comp=Z,8.5nm,0.8s,mb4.5,baz=30,slow=8.6,SNR=43									
TMCR	Tamitsa	29.32	16	eP		pP	23 20 49.1	+0.7		
TMCR				pmax		pmax				
	comp=Z,40nm,1.0s,mb5.1									
TMCR				pmax		pmax				
	comp=N,80nm,1.2s									
TMCR				pmax		pmax				
	comp=E,30nm,1.1s									
AKTK	Aktyubinsk	30.07	51	P		P	23 20 45.1	+0.1		
AKTK	Aktyubinsk	30.07	51	P		P	23 20 45.1	+0.1		
AKTO	Aktyubinsk	30.07	51	P		P	23 20 45.1	+0.1		
	comp=E,2.5nm,0.6s,mb4.1,baz=259,slow=8.5,SNR=7.4									
APA	Apatity	31.62	10	⇓eP		pP	23 21 11.4	+2.6		
APA				eS		S	23 26 08.0	+2.8		
APA				e			23 28 20.0			
APA				pmax		pmax				
	comp=Z,19nm,1.0s,mb4.9									
APA				MLR		MLR				
	comp=Z,6µm,14.0s,MS5.4									
LVZ	Lovozero	32.10	10	P		P	23 20 52.8	-10		
LVZ				S		S	23 26 08.0	-4.7		
LVZ				MLR		MLR				
	comp=N,4µm,14.0s,MS5.3									
LVZ				MLR		MLR				
	comp=E,2µm,14.0s,MS5.3									
LVZ				MLR		MLR				
	comp=Z,6µm,14.0s,MS5.4									
ARU	Arti	32.12	40	⇓i P		P	23 21 02.9	-0.1		
ARU				e			23 22 09.2			
ARU				ePPP			23 22 20.4			
ARU				e			23 23 57.2			
ARU				eS		S	23 26 13.4	+0.3		
ARU				eSS		SS	23 28 01.8	-30		
ARU				e			23 31 31.6			
ARU				pmax		pmax				
	comp=Z,7.0nm,0.8s,mb4.5									
ARU				MLR		MLR				
	comp=Z,2µm,15.0s,MS4.9									
ARU				MLR		MLR				
	comp=N,200nm,12.0s,MS4.9									
ARU				MLR		MLR				
	comp=E,2µm,15.0s,MS4.9									
ARU	Arti	32.12	40	eP		P	23 21 01.5	-1.5		
	comp=E,9.1nm,0.8s,mb4.7									
ARU				epP		pP	23 21 09.6	-3.5		
ARU	Arti	32.12	40	eP		P	23 21 01.5	-1.5		
	comp=E,9.1nm,0.8s,mb4.7									
ARU				epP		pP	23 21 09.6	-3.6		
ARU				eS		S	23 26 13.4	+0.3		
ARU				eScS		ScS	23 31 31.6	+0.4		
	comp=E,200nm,12.0s									
ARCES	ARCESS Array B	32.84	3	P		P	23 21 08.2	-1.2		
	comp=E,0.9nm,0.3s,mb4.1,baz=188,slow=11,SNR=25									
ARCES	ARCESS Array B	32.84	3	P		P	23 21 08.1	-1.2		
ARE0	ARCESS Array S	32.84	3	P		P	23 21 08.7	-0.6		
SVE	Sverdlovsk	33.33	40	eP		P	23 21 17.0	+3.4		
SVE				e		pP	23 21 25.0	+1.2		
SVE				e			23 22 27.0			
SVE				eSSS			23 29 03.0			
SVE				MLR		MLR				
	comp=N,1µm,14.0s,MS5.3									
SVE				MLR		MLR				
	comp=E,4µm,14.0s,MS5.3									
SVE				MLR		MLR				
	comp=Z,5µm,14.0s,MS5.4									
ZRNK	Zerenda	37.22	49	eP		P	23 21 45.5	-1.5		
ZRNK				pmax		pmax				
	comp=Z,22nm,1.3s,mb4.8									
ZRNK	Zerenda	37.22	49	eP		P	23 21 45.5	-1.5		
	comp=Z,22nm,1.3s,mb4.8									
ZRNK				epP		pP	23 21 56.1	-1.2		
ZRNK	Zerenda	37.22	49	eP		P	23 21 45.5	-1.5		
	comp=Z,22nm,1.3s,mb4.8									
ZRN

comp=Z,31nm,1.1s,mb5.0
KURK Kurchatov 43.16 52 *e*P **P 23 22 35.1 -1.2**
comp=Z,31nm,1.1s,mb5.0
KURK *e*pP pP 23 22 43.0 -3.6
KURK *es*P sP 23 22 49.0 -1.8
KURK Kurchatov 43.16 52 *e*P **P 23 22 35.1 -1.2**
comp=Z,31nm,1.1s,mb5.0
KURK *e*pP pP 23 22 43.0 -3.6
KSH Kashi 43.19 69 *e*P **P 23 22 38.0 +1.5**
KSH *e*AP pP 23 22 47.0 +0.1
KSH *e*XP sP 23 22 51.3 +0.2
KSH *e*PP PP 23 24 21.5 +4.3
KSH *e*PCP PcP 23 24 27.0 +1.5
KSH *e*S **S 23 29 03.8 +3.0**
KSH *e*SCS ScS 23 32 32.0 -1.9
KSH AMB AMB
comp=Z,96nm,5.0s
KSH LR LR
comp=N,545nm,11.2s,MS4.9
KSH LR LR
comp=E,529nm,10.2s,MS4.9
KSH LR LR
comp=Z,410nm,10.6s,MS4.6
NVS Novosibirsk 45.66 46 *e*P **P 23 22 56.3 +0.1**
NVS *e*S **S 23 29 48.3 +12**
NVS pmax pmax
comp=Z,44nm,2.2s,mb5.0
NVS pmax pmax
comp=N,2.0nm,0.8s
NVS pmax pmax
comp=E,5.0nm,0.8s
NVS smax
comp=N,17nm,1.9s
NVS smax
comp=E,10.0nm,1.4s
NVS Novosibirsk 45.66 46 *e*P **P 23 22 56.3 +0.1**
comp=E,44nm,2.2s,mb5.0
SUMG Summit 45.99 339 *e*P **P 23 22 59.5 +0.7**
SUMG *e*pP pP 23 23 06.8 -2.5
SUMG Summit 45.99 339 *e*P **P 23 22 59.5 +0.6**
SUMG *e*pP pP 23 23 06.8 -2.5
MKAR Makanchi Array 46.09 57 P **P 23 22 59.0 -0.6**
comp=E,5.5nm,0.5s,mb4.7,baz=278,slow=6.9,SNR=84
MKAR Makanchi Array 46.09 57 *i* P **P 23 22 59.2 -0.5**
MKAR pmax pmax
comp=Z,6.0nm,0.5s
ZAL Zalesovo 46.64 47 P **P 23 23 04.4 +0.4**
comp=Z,2.4nm,0.5s,mb4.4,baz=189,slow=6.4,SNR=15
ZAL Zalesovo 46.64 47 *i* P **P 23 23 04.4 +0.4**
ZAL pmax pmax
comp=Z,2.0nm,0.5s
ZAL Zalesovo 46.64 47 *i* P **P 23 23 04.4 +0.4**
comp=Z,2.0nm,0.5s,mb4.3
SFJD Kangerlussuaq 49.30 331 *i* P **P 23 23 26.2 +1.6**
comp=Z,13nm,1.0s,mb4.9
SFJD *i* S **S 23 30 30.3 +1.8**
SFJD *i* 23 34 08.8
SFJD
comp=Z,780nm,20.0s
SFJD Kangerlussuaq 49.30 331 *e*P **P 23 23 26.2 +1.6**
SFJD *i* S **S 23 30 30.3 +1.8**
SFJD pmax pmax
comp=Z,13nm,1.0s,mb4.9
SFJD MLR MLR
comp=Z,780nm,20.0s,MS4.7
SFJD Kangerlussuaq 49.30 331 *e*P **P 23 23 26.2 +1.6**
comp=Z,13nm,1.0s,mb4.9
SFJD *i* S **S 23 30 30.3 +1.8**
SFJD *i* 23 34 08.8
SFJD
comp=Z,780nm,20.0s
SFJD LR LR
comp=Z,780nm,20.0s,MS4.7
SFJD Kangerlussuaq 49.30 331 *e*P **P 23 23 26.2 +1.6**
comp=Z,13nm,1.0s,mb4.9
SFJD *i* S **S 23 30 30.3 +1.8**
comp=Z,780nm,20.0s
WMQ Urumqi 50.50 60 *e*P **P 23 23 32.0 -1.7**
LSZ Lusaka 52.39 170 *e*P **P 23 23 45.2 -2.6**
LSZ pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
LSZ Lusaka 52.39 170 *e*P **P 23 23 45.2 -2.6**
comp=Z,5.8nm,0.6s,mb4.7
LSZ *e*pP pP 23 23 56.0 -2.3
KOLN Koldanda 53.35 80 *e*P **P 23 23 54.6 -0.2**
comp=Z,52nm,0.8s,mb5.5
GKN Gorkha 54.06 80 *e*P **P 23 23 59.8 -0.3**
comp=Z,72nm,0.7s,mb5.7
HYB Hyderabad 54.45 94 *e*P sP 23 24 20.0 +2.3
DMN Daman 54.61 80 *e*P **P 23 24 04.2 +0.1**
comp=Z,71nm,0.7s,mb5.8
KKN Kakani 54.66 80 *e*P **P 23 24 04.5 0.0**
comp=Z,44nm,0.7s,mb5.6
PKI Pulchoki 54.87 80 *e*P **P 23 24 06.7 +0.8**
comp=Z,71nm,0.9s,mb5.7
GUN Gumba 55.08 79 *e*P **P 23 24 08.0 +0.5**
comp=Z,56nm,0.7s,mb5.7
JIRN Jiri 55.44 79 *e*P **P 23 24 10.1 0.0**
comp=Z,71nm,0.8s,mb5.7
TSUM Tsumeb 55.84 183 *e*P **P 23 24 11.2 -1.7**
MOY Mondy 56.71 47 *e*P pP 23 24 32.7 +2.9
FRB Frobisher Bay 57.19 328 P **P 23 24 22.7 +0.2**
comp=Z,2.8nm,0.8s,mb4.4,baz=61,slow=13,SNR=3.5
TLY Talaya 58.26 47 *e*P pP 23 24 39.4 -1.4
TLY *e*PPP 23 28 09.3
TLY *e*S **S 23 32 31.3 +1.6**
TLY *e* 23 38 38.9
TLY pmax pmax
comp=Z,19nm,1.9s,mb4.8
TLY MLR MLR
comp=Z,1μm,14.0s,MS5.3
TRD Trivandrum 58.36 104‖ *e*P **P 23 24 38.4 +7.7**
LSA Lhasa 58.38 75 *e*P **P 23 24 33.0 +2.1**
LSA Lhasa 58.38 75 *e*P **P 23 24 32.6 +1.7**
LSA pmax pmax
comp=Z,18nm,0.7s,mb5.2
LSA Lhasa 58.38 75 *e*P **P 23 24 32.6 +1.7**
comp=Z,18nm,0.7s,mb5.2
LSA Lhasa 58.38 75 *e*P **P 23 24 32.6 +1.7**
comp=Z,18nm,0.7s,mb5.2
IRK Irkutsk 58.43 46 *e*P **P 23 24 38.8 +7.6**
IRK pmax pmax
comp=Z,49nm,2.1s,mb5.2
ZAK Zakamensk 58.51 48 *e*P **P 23 24 33.2 +1.4**
ZAK pmax pmax
comp=Z,19nm,2.2s,mb4.7
ZAK pmax pmax
comp=Z,9.0nm,2.1s,mb4.4
ZAK Zakamensk 58.51 48 *e*P **P 23 24 33.2 +1.4**
comp=Z,9.0nm,2.1s,mb4.4
SCHQ Schefferville 59.34 318 P **P 23 24 37.8 +0.2**
comp=Z,1.7nm,0.7s,mb4.2,baz=61,slow=10,SNR=3.4
SCHQ LR LR 23 51 09.6
comp=Z,404nm,19.2s,MS4.6,baz=270,slow=37
GTA Gaotai 60.55 61 *e*P **P 23 24 47.8 +1.9**
GTA AMB AMB
comp=Z,4.0nm,0.9s,mb4.5
GTA AMB AMB
comp=Z,111nm,7.6s
GTA LR LR
comp=N,653nm,16.1s,MS5.0
GTA LR LR
comp=E,583nm,15.7s,MS5.0
GTA LR LR
comp=Z,483nm,16.0s,MS4.7
TIXI Tiksi 60.91 20 *e*P **P 23 24 47.2 -1.1**
TIXI *e*S **S 23 33 03.5 -0.3**
TIXI *e* 23 34 34.3
TIXI *es*S SS 23 37 02.7 -0.6
TIXI pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
TIXI smax
comp=N,43nm,9.1s
TIXI smax
comp=E,63nm,10.0s
TIXI MLR MLR
comp=Z,2μm,15.0s,MS5.3
TIXI Tiksi 60.91 20 *e*P **P 23 24 47.2 -1.1**
comp=Z,7.0nm,0.9s,mb4.8
TIXI *e*S **S 23 33 03.5 -0.3**
comp=Z,43nm,9.1s
TIXI *e*ScS ScS 23 34 34.3 -2.3
SONM Songino Array 61.38 50 P **P 23 24 51.9 +0.4**
comp=Z,1.8nm,0.8s,mb4.3,baz=275,slow=8.4,SNR=9.4
SONM LR LR 23 57 04.8
comp=Z,698nm,18.4s,MS4.8,baz=298,slow=42
BOD Bodaibo 61.48 37 *e*P **P 23 24 51.5 -0.6**
BOD pmax pmax
comp=Z,17nm,1.4s,mb5.0
BOD Bodaibo 61.48 37 *e*P **P 23 24 51.5 -0.6**
comp=Z,17nm,1.4s,mb5.0
ULN Ulaanbaatar 61.77 50 *e*P **P 23 24 53.7 -0.4**
ULN *e**PP pP 23 25 02.4 -2.5
ULN pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
ULN Ulaanbaatar 61.77 50 *e*P **P 23 24 53.7 -0.5**
comp=Z,7.4nm,0.9s,mb4.8
ULN *ep*P pP 23 25 02.4 -2.5
ULN Ulaanbaatar 61.77 50 *e*P **P 23 24 53.7 -0.4**
comp=Z,7.0nm,0.9s,mb4.8
ULN *ep*P pP 23 25 02.4 -2.5
LZH Lanzhou 64.90 63 *e*P **P 23 25 18.0 +3.2**
LZH AP pP 23 25 26.0 +0.4
LZH XP sP 23 25 29.3 -0.5
LZH AMB AMB
comp=Z,20nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,80nm,4.0s
YAK Yakutsk 66.30 29 *e*P **P 23 25 30.3 +6.4**
YAK pmax pmax
comp=Z,13nm,1.1s,mb4.9
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK MLR MLR
comp=Z,730nm,15.0s,MS5.0
YAK MLR MLR
comp=N,364nm,18.0s,MS4.9
YAK MLR MLR
comp=E,561nm,17.0s,MS4.9
HHC Hu-ho-hao-te 67.87 55 *e*P **P 23 25 35.8 +1.9**
HHC AP pP 23 25 45.0 +0.3
HHC XP sP 23 25 49.5 +0.7
HHC AMB AMB
comp=Z,11nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,161nm,4.8s
HHC LR LR
comp=Z,922nm,12.0s,MS5.2
ACCN Adirondack Com 68.42 309 *e*P **P 23 25 34.5 -2.8**
HIA Hailar 68.53 44 *e*P **P 23 25 39.0 +1.0**
XAN Xi'an 69.53 62 P **P 23 25 45.5 +1.3**
XAN AP pP 23 25 56.8 +1.7
XAN AMB AMB
comp=Z,6.0nm,0.7s,mb4.6
KMI Kunming 69.58 73 P **P 23 25 49.0 +4.5**
KMI AMB AMB
comp=Z,11nm,1.0s,mb4.7
BJI Beijing 71.30 54 *e*P **P 23 26 00.3 +5.3**
BJI AMB AMB
comp=Z,8.0nm,1.1s,mb4.6
BJI LR LR
comp=Z,353nm,26.3s,MS4.5
GYA Guiyang 71.86 70 P **P 23 25 58.5 +0.1**
GYA AP pP 23 26 08.0 -1.3
GYA XP sP 23 26 12.8 -0.6
GYA AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
GYA AMB AMB
comp=Z,70nm,4.5s
ENH Enshi 71.92 66 P **P 23 25 56.6 -2.1**
ENH Enshi 71.92 66 P **P 23 25 56.6 -2.1**
BILL Bilibino 72.31 13 P **P 23 26 05.0 +3.9**
BILL *e* 23 26 10.9
BILL *e* pP 23 26 15.3 +3.3
BILL *e*PS 23 36 16.0
BILL pmax pmax
comp=Z,12nm,1.3s,mb4.7
BILL Bilibino 72.31 13 *e*P **P 23 25 58.9 -2.2**
comp=Z,14nm,1.2s,mb4.8
BILL Bilibino 72.31 13 *e*PcP PcP 23 26 15.3 -3.7
INK Inuvik 73.32 350 P **P 23 26 06.7 -0.4**
comp=Z,1.0nm,0.6s,mb3.9,baz=122,slow=2.6,SNR=4.6
INK Inuvik 73.32 350 *e*P **P 23 26 06.0 -1.1**
INK Inuvik 73.32 350 *e*P **P 23 26 06.0 -1.1**
TIA Tai'an 74.03 57 *e*P **P 23 26 16.3 +5.1**
YKW3 Yellowknife Ar 74.52 340 *e*P **P 23 26 10.5 -3.6**
YKA Yellowknife Ar 74.57 340 P **P 23 26 14.5 +0.2**
comp=Z,0.4nm,0.6s,baz=34,slow=4.9,SNR=6.7
YKA Yellowknife Ar 74.57 340 *i* P **P 23 26 14.5 +0.1**
CN2 Changchun 74.86 46 *e*P **P 23 26 16.3 +0.2**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CN2 AMB AMB
comp=Z,230nm,6.0s
CN2 LR LR
comp=N,700nm,12.0s,MS5.3
CN2 LR LR
comp=E,780nm,12.0s,MS5.3
CN2 LR LR
comp=Z,940nm,12.0s,MS5.3
SNY Shenyang 74.93 49 ⇑P **P 23 26 15.5 -0.9**
SNY AP pP 23 26 27.3 -0.1
SNY XP sP 23 26 32.0 +0.5
SNY AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
SNY AMB AMB
comp=Z,173nm,4.0s
SNY LR LR
comp=N,410nm,13.7s,MS5.3
SNY LR LR
comp=E,975nm,15.9s,MS5.3
SNY LR LR
comp=Z,981nm,14.6s,MS5.2
KLR Kul'dur 74.95 39 *e*P **P 23 26 17.9 +1.3**
MA2 Magadan 75.53 24 *e*P **P 23 26 20.1 +0.2**
MA2 pmax pmax
comp=Z,12nm,0.8s,mb4.9
MA2 Magadan 75.53 24 *e*P **P 23 26 27.0 +7.1**
comp=Z,12nm,0.8s,mb4.9
MA2 Magadan 75.53 24 *e*P **P 23 26 20.1 +0.2**
comp=Z,12nm,0.8s,mb4.9
FFC Flin Flon 76.25 330 *e*P **P 23 26 22.4 -1.6**
FFC pmax pmax
comp=Z,16nm,1.4s,mb4.8
FFC Flin Flon 76.25 330 *e*P **P 23 26 22.4 -1.6**
comp=Z,16nm,1.4s,mb4.8
FFC Flin Flon 76.25 330 *e*P **P 23 26 22.4 -1.6**
comp=Z,16nm,1.4s,mb4.8
ULM Lac du Bonnet 76.68 324 P **P 23 26 27.4 +0.9**
comp=Z,2.4nm,0.7s,mb4.2,baz=34,slow=11,SNR=1.8
DAWY Dawson 78.12 351 *e*P **P 23 26 35.5 +0.9**
DAWY Dawson 78.12 351 *e*P **P 23 26 35.5 +1.0**
ILAR Eielson Array 78.19 354 P **P 23 26 35.8 +0.9**
comp=Z,1.1nm,0.9s,mb3.8,baz=292,slow=2.2,SNR=4.8
QIZ Qiongzhong 78.42 75 *e*P **P 23 26 34.1 -2.0**
comp=Z,48nm,1.3s,mb5.3
QIZ Qiongzhong 78.42 75 *e*P **P 23 26 34.1 -2.1**
comp=Z,48nm,1.3s,mb5.3
PSI Prapat 79.17 95 P **P 23 26 41.3 +1.0**
comp=Z,3.2nm,0.6s,mb4.4,baz=236,slow=20,SNR=3.7
EDM Edmonton 81.71 334 *e*P **P 23 26 51.2 -2.7**
YSS Yuzh-Sakhalins 81.89 36‖ *e*P **P 23 27 04.2 +9.3**
YSS pmax pmax
comp=Z,30nm,0.8s,mb5.3
YSS MLR MLR
comp=N,1μm,16.0s,MS5.5
YSS MLR MLR
comp=E,2μm,16.0s,MS5.5
YSS MLR MLR
comp=Z,1μm,16.0s,MS5.4
CCM Cathedral Cave 82.32 312 *e*P **P 23 26 57.6 +0.5**
CCM pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
CCM Cathedral Cave 82.32 312 *e*P **P 23 26 57.5 +0.4**
comp=Z,3.2nm,0.6s,mb4.4
CCM Cathedral Cave 82.32 312 *e*P **P 23 26 57.5 +0.4**
comp=Z,3.2nm,0.6s,mb4.4
PLAL Pickwick Lake 82.38 308 *e*P **P 23 26 55.5 -1.9**
comp=Z,6.4nm,0.9s,mb4.5
PLAL Pickwick Lake 82.38 308 *e*P **P 23 26 55.5 -1.9**
comp=Z,6.4nm,0.9s,mb4.5
BDFB Brasilia 82.85 245 P **P 23 27 02.6 +2.7**
comp=Z,4.7nm,0.9s,mb4.5,baz=139,slow=2.4,SNR=4.9
BDFB LR LR 00 06 26.2
comp=Z,2μm,18.1s,MS5.5,baz=58,slow=38
LRAL Lakeview Retre 82.93 306 P **P 23 26 59.5 -0.8**
comp=Z,12nm,1.0s,mb4.9
LRAL Lakeview Retre 82.93 306 P **P 23 26 59.5 -0.8**
comp=Z,12nm,1.0s,mb4.9
PET Petropavlovsk 83.42 24 *e*P **P 23 27 00.8 -2.0**
PET *e*S S 23 37 13.6 -7.9
PET *e*PPS 23 38 22.1
PET pmax pmax
comp=Z,100nm,12.0s
PET smax
comp=E,100nm,10.8s
PET Petropavlovsk 83.42 24 *e*P **P 23 27 00.8 -2.0**
comp=E,100nm,12.0s
SDV Santo Domingo 85.54 278 *e*P **P 23 27 11.8 -1.7**
comp=E,9.0nm,0.9s,mb5.0
SDV Santo Domingo 85.54 278 *e*P **P 23 27 11.8 -1.7**
comp=E,9.0nm,0.9s,mb5.0
MIAR Mount Ida 86.06 311 *e*P **P 23 27 14.3 -1.8**
MIAR pmax pmax
comp=Z,13nm,1.2s,mb5.0
MIAR Mount Ida 86.06 311 *e*P **P 23 27 14.3 -1.8**
comp=Z,13nm,1.2s,mb5.0
MIAR Mount Ida 86.06 311 *e*P **P 23 27 14.3 -1.8**
comp=Z,13nm,1.2s,mb5.0
MJAR Matsushiro Arr 86.98 45 P **P 23 27 22.6 +2.0**
comp=Z,1.5nm,0.6s,mb4.4,baz=316,slow=4.0,SNR=3.8
NEW Newport 87.16 333 LR LR 00 08 37.1
comp=Z,503nm,19.9s,MS4.9,baz=33,slow=37
PDAR Pinedale Array 88.56 326 P **P 23 27 31.1 +3.0**
comp=Z,0.6nm,0.7s,mb4.0,baz=41,slow=2.9,SNR=4.4
PDAR LR LR 00 08 57.6
comp=Z,418nm,20.1s,MS4.8,baz=41,slow=37
SAML Samuel 90.19 259 *e*P **P 23 27 35.8 0.0**
comp=Z,8.8nm,1.5s,mb4.9
SAML Samuel 90.19 259 *e*P **P 23 27 35.8 0.0**
comp=Z,8.8nm,1.5s,mb4.9
KKM Kota Kinabalu 91.07 82 P **P 23 27 43.7 +3.8**
KKM Kota Kinabalu 91.07 82 *e*P **P 23 27 38.8 -1.1**
CPUP Villa Florida 96.33 242 LR LR 00 15 31.1
comp=Z,1μm,19.3s,MS5.3,baz=32,slow=38
LPAZ La Paz 98.42 256 LR LR 00 13 42.9
comp=Z,235nm,21.6s,MS4.6,baz=235,slow=36
QSPA South Pole Qui 126.73 180 *e*P PKPdf 23 33 45.6 +6.8

NIED ***25*** *23:24:00, 2080N×120.10E, h32km, Mw4.8 Best double couple: M0 1.75000×10^16 NP1:ϕs225.00000°, δ48.00000°, λ88.00000°. NP2:ϕs48.00000°, δ42.00000°, λ93.00000°.*
ISCJB ***25*** *23:24:05.5±1.1, 2060N±002×12003E±004, h3km±6km, mb4.8/79, MS4.2/14, Error ellipse: s-maj=5.7km s-min=3.2km az=153.1*
IDC ***25*** *23:24:06.3±0.4, 2057N×12003E, h0km, mb4.5/30, mb1 4.6/30, mb1mx4.6/33, mbtmp4.5/30, MS4.1/9, Ms1 4.1/9, ms1mx3.7/32, Error ellipse: s-maj=17.6km s-min=8.4km az=68.0*
BJI ***25*** *23:24:09.6, 2084N×119.75E, h7km, mB4.8, mb4.5, ML4.2, Ms4.7, Msz4.3*
MAN ***25*** *23:24:09, 2040N×12002E, h7km, mb4.3, ML5.1, MS5.8*
NEIC ***25*** *23:24:11.0±0.2, 2058N×12005E, h30km, mb4.9/38, Error ellipse: s-maj=5.7km s-min=4.2km az=88.0*
MOS ***25*** *23:24:10.3±1.1, 2065N×12002E, h33km, mb5.1/39, Error ellipse: s-maj=9.7km s-min=5.1km az=116.8*
HRVD ***25*** *23:24:11.0±0.5, 2065N×11995E, h16km±1km, MW4.9/74, Centroid moment Tensor Solution. LP body waves: s14,c15;Mantle waves: s74,c108; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.73±.17; Mθθ0.60±.08; Mϕϕ2.13±.11; Mrθ0.20±.28; Mϕθ-0.60±.05; Mϕr0.14±.26; Best double couple: M02.54300×10^16 NP1:ϕs337.00000°, δ44.00000°, λ-96.00000°. NP2: ϕs165.00000°, δ46.00000°, λ-84.00000°. Principal axes: T 2.3390, Plg1.0000°, Azm251.0000°; N 0.4140, Plg4.0000°, Azm341.0000°; P -2.7480, Plg86.0000°, Azm151.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***25*** *23:24:15.4, 2095N×11951E, h33km, mb5.2, Philippine Islands region*
ISC 25 23:24:08.6±1.3, 2058N±002×12003E±003, h12km±8km, n240, σ1$00/253, mb4.8/79, MS4.2/14, 8C-12D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
PIP	**Pasuquin**	**2.31**	**166**	‖ *i*P	**Pn**	**23 24 44.6**	**-1.8**
PIP				*e*S	**Sn**	**23 25 12.0**	**-2.9**
APYP	**Conner**	**2.94**	**157**	*e*P	**Pn**	**23 24 54.5**	**-0.6**
APYP				*e*S	**Sn**	**23 25 29.5**	**-0.7**
ABRA	**Dolores**	**2.99**	**167**	*e*P	**Pn**	**23 24 54.7**	**-1.0**
SGCP	**Mt. Cagua**	**3.01**	**140**	*e*P	**Pn**	**23 24 55.7**	**-0.3**
CVP	**Callao Caves**	**3.33**	**149**	*e*P	**Pn**	**23 25 01.0**	**+0.6**
CVP				*e*S	**Sn**	**23 25 40.0**	**+0.2**
NACB	**Ninganchiao**	**3.85**	**22**	*e*Pn	**Pn**	**23 25 05.6**	**-2.0**
NACB				*e*Sn	**Sn**	**23 25 45.3**	**-7.5**
CAUP	**Cauayan**	**4.00**	**155**	*e*P	**Pn**	**23 25 11.8**	**+2.2**
PALP	**Palanan**	**4.17**	**147**	*e*P	**Pn**	**23 25 12.5**	**+0.5**
BOLP	**Bolinao**	**4.18**	**182**	*e*P	**Pn**	**23 25 11.9**	**-0.2**
BCPH	**Baguio City Da**	**4.21**	**173**‖	*e*P	**Pn**	**23 25 12.6**	**+0.1**
YHNB	**Yeheng**	**4.25**	**17**	*e*Pn	**Pn**	**23 25 11.7**	**-1.5**
YHNB				*e*Sn	**Sn**	**23 26 01.2**	**-1.4**
QZH	**Quanzhou**	**4.54**	**343**	P	**Pn**	**23 25 14.0**	**-3.0**
QZH				S	**Sn**	**23 26 02.8**	**-6.9**
QZH				Smax			
	comp=N,420nm,1.1s						
QZH				Smax			
	comp=E,330nm,0.8s						
QZH				LR	LR		
	comp=N,8μm,9.6s						
QZH				LR	LR		
	comp=E,3μm,9.0s						
QZH				LR	LR		
	comp=Z,8μm,9.0s						
TATO	**Taipei**	**4.57**	**17**	*e*Pn	**Pn**	**23 25 16.5**	**-1.0**
TATO				*e*Sn	**Sn**	**23 25 59.3**	**-11**
SCZP	**Santa Cruz**	**4.78**	**181**	*e*P	**Pn**	**23 25 21.7**	**+1.3**
BALP	**Baler**	**5.04**	**163**	*e*P	**Pn**	**23 25 23.5**	**-0.4**
TGY	**Tagaytay City**	**6.50**	**172**	Pn	**Pn**	**23 25 49.2**	**+5.2**
	comp=Z,28nm,0.3s,baz=221,slow=12,SNR=6.0						
GZH	**Guangzhou**	**6.69**	**293**	P	**Pn**	**23 25 43.3**	**-3.3**
GZH				S	**Sn**	**23 26 54.3**	**-8.5**
GZH				Smax			
	comp=N,132nm,0.6s						
GZH				Smax			
	comp=E,181nm,1.0s						
LUBP	**Lubang**	**6.81**	**178**	*e*P	**Pn**	**23 25 49.5**	**+1.2**
QIZ	**Qiongzhong**	**9.71**	**263**	P	**Pn**	**23 26 27.5**	**-0.6**
QIZ				AP		23 26 34.8	
QIZ				S	**Sn**	**23 28 14.0**	**-3.1**
QIZ				LR	LR		
	comp=N,2μm,8.0s						
QIZ				LR	LR		
	comp=E,3μm,10.0s						
QIZ				LR	LR		
	comp=Z,4μm,10.0s						
SSE	**Sheshan**	**10.52**	**5**	P	**Pn**	**23 26 41.0**	**+1.9**
SSE				XP		23 26 52.8	
SSE				S	**Sn**	**23 28 38.8**	**+2.0**
SSE				AMB	AMB		
	comp=Z,46nm,0.9s						
SSE				AMB	AMB		
	comp=Z,90nm,3.6s						
SSE				LR	LR		
	comp=N,746nm,11.6s						
SSE				LR	LR		
	comp=E,1μm,11.6s						
SSE				LR	LR		
	comp=Z,1μm,10.8s						
NJ2	**Nanjing**	**11.47**	**355**	*e*P	**Pn**	**23 26 54.0**	**+1.9**
NJ2				AP		23 27 00.8	
NJ2				PP		23 27 03.0	
NJ2				S	**Sn**	**23 29 02.0**	**+1.9**
NJ2				AMB	AMB		
	comp=Z,120nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,120nm,5.0s						
NJ2				LR	LR		
	comp=N,3μm,9.8s						
NJ2				LR	LR		
	comp=E,3μm,18.0s						
NJ2				LR	LR		
	comp=Z,1μm,10.0s						
ENH	**Enshi**	**13.55**	**317**	P	**Pn**	**23 27 20.6**	**0.0**
TSM	**Tawau**	**16.33**	**188**	P	**Pn**	**23 27 58.9**	**+1.3**
CD2	**Chengdu**	**17.89**	**308**	P	**Pn**	**23 28 18.3**	**+1.2**
CD2				XP	sP	23 28 29.5	+6.7
CD2				PP		23 28 34.8	
CD2				S	**Sn**	**23 31 34.3**	**-2.1**
CD2				AMB	AMB		
	comp=Z,20nm,0.5s						

CD2 AMB AMB
comp=Z,50nm,2.9s
CD2 LR LR
comp=N,2µm,14.4s
CD2 LR LR
comp=Z,600nm,11.6s
KS15 Wonju Array Si 18.13 20 *e*P **Pn** **23 28 20.9 +0.7**
DL2 Dalian 18.31 4 ⇑P **Pn** **23 28 22.3 -0.1**
DL2 AMB AMB
comp=Z,20nm,0.9s
DL2 AMB AMB
comp=Z,150nm,6.6s
DL2 LR LR
comp=N,250nm,12.3s
DL2 LR LR
comp=E,940nm,13.8s
DL2 LR LR
comp=Z,450nm,10.2s
NST Nakhon Sawan 19.53 259 P **Pn** **23 28 37.5 +0.4**
BJT Baijiatuau 19.65 351 *e*P **Pn** **23 28 35.9 -2.6**
BJT pmax pmax
comp=Z,34nm,0.9s
BJT Baijiatuau 19.65 351 *e*P **Pn** **23 28 35.9 -2.6**
comp=Z,34nm,0.9s
BJI Beijing 19.67 351 P **Pn** **23 28 38.8 0.0**
BJI S **Sn** **23 32 17.8 -1.8**
BJI AMB AMB
comp=Z,20nm,1.2s
BJI AMB AMB
comp=Z,271µm,3.0s
BJI LR LR
comp=N,210nm,18.4s
BJI LR LR
comp=E,1µm,17.2s
BJI LR LR
comp=Z,237nm,21.5s
CHG Chiang Mai 19.93 269 ⇑P **Pn** **23 28 41.6 -0.3**
comp=Z,24nm,1.4s
CHTO Chiang Mai 19.93 269 *e*P **Pn** **23 28 40.7 -1.2**
CHTO pmax pmax
comp=Z,42nm,1.4s
CHTO Chiang Mai 19.93 269 *e*P **Pn** **23 28 40.7 -1.2**
comp=Z,42nm,1.4s
CHTO *e* 23 28 58.8
LZH Lanzhou 20.97 321 *e*P **P** **23 28 52.5 +1.1**
LZH PP 23 29 12.0
LZH *e*S **S** **23 32 37.0 -7.8**
LZH SS 23 33 12.0
LZH AMB AMB
comp=Z,56nm,1.5s
LZH AMB AMB
comp=Z,170nm,4.0s
LZH LR LR
comp=N,1µm,9.4s
LZH LR LR
comp=Z,2µm,10.8s,MS4.7
KSM Kuching 21.23 208 *e*P **P** **23 28 52.9 -1.5**
CBIJ Chichi jima 21.26 68 LR LR 23 35 10.9
comp=Z,437nm,20.8s,MS3.8,baz=31,slow=31
SNY Shenyang 21.39 7 ⇓P **P** **23 28 59.8 +3.8**
SNY AP 23 29 08.5
SNY PP 23 29 22.0
SNY S **S** **23 32 51.5 -1.6**
SNY SS 23 33 17.3
SNY AMB AMB
comp=Z,10.0nm,0.6s,mb4.3
SNY AMB AMB
comp=Z,255nm,6.1s
SNY LR LR
comp=N,596nm,13.3s,MS4.5
SNY LR LR
comp=E,1µm,15.9s,MS4.5
SNY LR LR
comp=Z,514nm,12.0s,MS4.1
JHJ Hachijo jima 2 21.55 51 LR LR 23 36 54.1
comp=Z,464nm,19.1s,MS3.9,baz=269,slow=36
MAJO Matsushiro 22.47 41 *e*P **P** **23 29 08.9 +1.4**
MAJO pmax pmax
comp=Z,40nm,1.1s,mb4.8
MAJO Matsushiro 22.47 41 *e*P **P** **23 29 08.9 +1.4**
comp=Z,40nm,1.1s,mb4.8
MAT Matsushiro 22.47 41 P **P** **23 29 06.3 -1.2**
MAT S **S** **23 33 15.0 +0.9**
MAT Matsushiro 22.47 41 *e*P **P** **23 29 06.0 -1.5**
MAT *e*S **S** **23 33 15.0 +0.9**
MAT pmax pmax
comp=Z,27nm,1.2s,mb4.5
MAT Matsushiro 22.47 41 *e*P **P** **23 29 06.0 -1.5**
comp=Z,27nm,1.2s,mb4.5
MAT *e*S **S** **23 33 15.0 +0.9**
MJAR Matsushiro Arr 22.47 41 P **P** **23 29 07.2 -0.3**
comp=Z,18nm,0.8s,mb4.6,baz=244,slow=10,SNR=29
MJAR LR LR 23 38 11.3
comp=Z,241nm,21.6s,MS3.6,baz=230,slow=38
KULM Kulim 24.20 234 *e*P **P** **23 29 25.1 +0.3**
KULM *e* 23 29 44.1
IPM Ipoh 24.45 232 P **P** **23 29 26.5 -0.7**
KGM Kluang 24.63 224 P **P** **23 29 30.3 +1.5**
GUMO Guam 24.72 102 LR LR 23 37 14.2
comp=Z,402nm,20.7s,MS3.9,baz=255,slow=32
MDJ Mudanjiang 25.25 16 P **P** **23 29 35.0 +0.6**
MDJ AMB AMB
comp=Z,31nm,0.9s,mb4.8
MDJ AMB AMB
comp=Z,140nm,6.0s
MDJ LR LR
comp=N,236nm,18.2s,MS4.0
MDJ LR LR
comp=E,383nm,16.2s,MS4.0
MDJ LR LR
comp=Z,201nm,14.2s,MS3.8
MDJ Mudanjiang 25.25 16 *e*P **P** **23 29 35.1 +0.7**
comp=Z,63nm,0.9s,mb5.2
MDJ *e* 23 29 42.2
GTA Gaotai 25.56 322 *e*P **P** **23 29 37.5 +0.3**
GTA AP pP 23 29 44.5 +3.5
GTA XP sP 23 29 48.3 +5.7
GTA AMB AMB
comp=Z,10.0nm,1.2s,mb4.2
GTA AMB AMB
comp=Z,71nm,8.4s
GTA LR LR
comp=N,787nm,13.0s,MS4.4
GTA LR LR
comp=E,481nm,16.8s,MS4.4
GTA LR LR
comp=Z,436nm,15.3s,MS4.1
SHL Shillong 26.34 286 *e*P **P** **23 29 44.0 -0.3**
PSI Prapat 27.13 232 P **P** **23 29 51.4 0.0**
comp=Z,16nm,0.8s,mb4.6,baz=307,slow=1.5,SNR=13
PSI LR LR 23 40 32.4
comp=Z,618nm,18.4s,MS4.2,baz=352,slow=36
PSI Prapat 27.13 232 P **P** **23 29 51.4 0.0**
PSI LR LR 23 40 32.4
LSA Lhasa 27.61 295 *e*P **P** **23 29 57.6 +1.8**
HIA Hailar 28.62 360 P **P** **23 30 03.2 -1.5**
ULN Ulaanbaatar 29.17 342 *e*P **P** **23 30 09.9 +0.3**
ULN *e* 23 30 15.8
SONM Songino Array 29.34 341 P **P** **23 30 10.4 -0.7**
comp=Z,1.8nm,0.9s,mb3.8,baz=157,slow=8.9,SNR=9.9
ASAJ Asahikawa 30.05 34 P **P** **23 30 18.1 +0.7**
comp=Z,6.9nm,0.5s,mb4.6,baz=249,slow=18,SNR=4.0
ASAJ LR LR 23 42 47.6
comp=Z,690nm,19.6s,MS4.3,baz=356,slow=37
ASAJ Asahikawa 30.05 34 P **P** **23 30 18.1 +0.7**
ASAJ pmax pmax
comp=Z,7.0nm,0.5s
ASAJ MLR MLR
comp=Z,690nm,19.6s
KLR Kul'dur 30.08 15 *e*P **P** **23 30 15.0 -2.7**
KLR pmax pmax
comp=Z,130nm,3.0s
JIRN Jiri 31.61 290 *e*P **P** **23 30 32.1 +0.9**
comp=Z,60nm,1.0s,mb5.4
GUN Gumba 31.91 290 *e*P **P** **23 30 34.6 +0.8**
comp=Z,78nm,0.9s,mb5.5
YSS Yuzh-Sakhalins 32.15 30 *e*P **P** **23 30 36.6 +0.6**
PKI Pulchoki 32.29 289 *e*P **P** **23 30 37.5 +0.3**
KKN Kakani 32.42 290 *e*P **P** **23 30 38.5 +0.2**
comp=Z,55nm,1.0s,mb5.4
DMN Daman 32.56 289 *e*P **P** **23 30 39.9 +0.4**
comp=Z,87nm,1.1s,mb5.6
GKN Gorkha 33.01 290 *e*P **P** **23 30 43.2 -0.3**
comp=Z,69nm,1.1s,mb5.5
KOLN Koldanda 33.91 289 *e*P **P** **23 30 51.6 +0.3**
comp=Z,58nm,0.9s,mb5.5

WMQ Urumqi 35.49 318 *e*P **P** **23 31 05.0 0.0**
FITZ Fitzroy Crossi 38.84 171 ⇓*i*P **P** **23 31 32.1 -1.3**
comp=Z,10nm,0.9s,mb4.5
FITZ Fitzroy Crossi 38.84 171 P **P** **23 31 32.0 -1.4**
comp=Z,8.9nm,1.0s,mb4.4,baz=346,slow=8.8,SNR=9.1
MKAR Makanchi Array 40.27 319 P **P** **23 31 45.2 -0.1**
comp=Z,3.2nm,0.6s,mb4.2,baz=115,slow=8.9,SNR=40
MKAR Makanchi Array 40.27 319⇑*e*P **P** **23 31 45.7 +0.4**
MKAR Makanchi Array 40.27 319 P **P** **23 31 45.2 -0.1**
MBWA Marble Bar 41.49 180 *e*P **P** **23 31 54.4 -1.0**
comp=Z,5.3nm,0.6s,mb4.3
WRAB Tennant Creek 42.64 160 *e*P **P** **23 32 04.1 -0.7**
WRAB Tennant Creek 42.64 160 *e*P **P** **23 32 04.3 -0.4**
comp=Z,111nm,1.1s,mb5.5
WRA Warramunga Arr 42.64 160 P **P** **23 32 04.3 -0.5**
comp=Z,42nm,0.9s,mb5.1,baz=342,slow=8.9,SNR=127
WRA S **S** **23 38 29.7 +2.1**
comp=Z,0.8nm,0.9s,baz=345,slow=14,SNR=3.6
WB2 Warramunga Arr 42.65 160 ⇓*i*P **P** **23 32 04.3 -0.5**
ZAL Zalesovo 42.75 330 P **P** **23 32 06.6 +0.9**
comp=Z,3.0nm,0.8s,mb4.1,baz=1,slow=8.2,SNR=18
ZAL Zalesovo 42.75 330 P **P** **23 32 06.6 +0.9**
FRU Bishkek 43.90 311 *e*P **P** **23 32 16.0 +1.0**
AAK Ala-Archa 43.93 311 *e*P **P** **23 32 15.3 +0.1**
AAK pmax pmax
comp=Z,7.0nm,1.9s,mb4.1
AAK Ala-Archa 43.93 311 *e*P **P** **23 32 15.5 +0.3**
comp=Z,2.2nm,0.8s,mb3.9
NVS Novosibirsk 44.02 330 *i*P **P** **23 32 13.8 -2.1**
NVS pmax pmax
comp=Z,40nm,2.3s,mb4.7
NVS pmax pmax
comp=N,21nm,1.8s
NVS pmax pmax
comp=E,9.0nm,1.6s
KURK Kurchatov 44.23 323 *e*P **P** **23 32 17.5 -0.1**
KURK pmax pmax
comp=Z,30nm,1.4s,mb4.8
KURK Kurchatov 44.23 323 *e*P **P** **23 32 17.5 -0.1**
comp=Z,30nm,1.4s,mb4.8
MA2 Magadan 44.71 22 *e*P **P** **23 32 27.8 +6.4**
MA2 *e* 23 32 41.7
MA2 pmax pmax
comp=Z,30nm,1.5s,mb4.9
AS31 Alice Springs 46.01 162 ⇓*i*P **P** **23 32 31.7 -0.1**
ASAR Alice Springs 46.01 162 P **P** **23 32 31.8 0.0**
comp=Z,14nm,1.1s,mb4.8,baz=341,slow=6.5,SNR=40
ASAR S **S** **23 39 19.8 +3.2**
comp=Z,0.4nm,0.9s,baz=357,slow=19,SNR=2.5
ASPA Alice Springs 46.01 162 ⇓*i*P **P** **23 32 31.7 -0.1**
CTA Charters Tower 47.88 146 *e*P **P** **23 32 48.0 +1.6**
comp=Z,23nm,0.9s,mb5.2
CTA Charters Tower 47.88 146 P **P** **23 32 47.3 +0.9**
comp=Z,29nm,0.9s,mb5.3,baz=330,slow=8.8,SNR=24
CTA Charters Tower 47.88 146 *e*P **P** **23 32 48.0 +1.6**
CTA pmax pmax
comp=Z,23nm,0.9s
CTAO Charters Tower 47.88 146 *e*P **P** **23 32 48.1 +1.7**
CTAO *e* 23 33 00.6
CTAO pmax pmax
comp=Z,41nm,1.0s,mb5.4
CTAO Charters Tower 47.88 146 *e*P **P** **23 32 48.1 +1.7**
comp=Z,41nm,1.0s,mb5.4
CTAO *e* 23 33 00.6
CTAO *e* 23 33 06.6
HNR Honiara 49.30 123 LR LR 23 50 04.2
comp=Z,148nm,20.8s,MS4.0,baz=356,slow=32
BRVK Borovoye 49.90 323 *e*P **P** **23 33 02.2 +0.3**
BRVK pmax pmax
comp=Z,23nm,1.6s,mb5.0
BRVK Borovoye 49.90 323 *e*P **P** **23 33 02.2 +0.3**
comp=Z,23nm,1.6s,mb5.0
CHKZ Chkalovo 49.94 324 *e*P **P** **23 33 02.3 +0.1**
CHKZ pmax pmax
comp=Z,17nm,1.3s,mb4.9
CHKZ Chkalovo 49.94 324 *e*P **P** **23 33 02.3 +0.1**
comp=Z,17nm,1.3s,mb4.9
ZRNK Zerenda 50.59 322 *e*P **P** **23 33 07.3 +0.2**
ZRNK pmax pmax
comp=Z,16nm,1.1s,mb4.9
ZRNK Zerenda 50.59 322 *e*P **P** **23 33 07.3 +0.2**
comp=Z,16nm,1.1s,mb4.8
TIXI Tiksi 51.34 4 *e*P **P** **23 33 10.6 -2.1**
TIXI pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
TIXI MLR MLR
comp=Z,2µm,15.0s,MS5.2
KLBR Kellerberrin 51.92 182 *e*P **P** **23 33 16.1 -1.0**
comp=Z,29nm,1.2s,mb5.1
NWAO Narrogin (SRO) 53.27 183 P **P** **23 33 25.7 -1.4**
comp=Z,11nm,0.9s,mb4.8,baz=359,slow=6.3,SNR=5.2
NWAO Narrogin (SRO) 53.27 183 *e*P **P** **23 33 26.6 -0.5**
NWAO pmax pmax
comp=Z,8.0nm,0.7s
NWAO Narrogin (SRO) 53.27 183 *e*P **P** **23 33 26.6 -0.6**
comp=Z,7.9nm,0.7s,mb4.8
BILL Bilibino 55.42 19 P **P** **23 33 42.9 +0.2**
BILL *e* 23 34 01.7
BILL pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
BILL Bilibino 55.42 19 *e*P **P** **23 33 42.6 -0.1**
comp=Z,12nm,1.2s,mb4.8
STKA Stephens Creek 56.11 158 *e*P **P** **23 33 45.6 -2.1**
comp=Z,9.9nm,0.9s,mb4.8
STKA Stephens Creek 56.11 158 P **P** **23 33 45.9 -1.8**
comp=Z,8.7nm,0.8s,mb4.8,baz=339,slow=9.1,SNR=12
STKA Stephens Creek 56.11 158 *e*P **P** **23 33 46.2 -1.4**
AKTK Aktyubinsk 56.64 317 P **P** **23 33 51.8 +0.3**
AKTO Aktyubinsk 56.64 317 P **P** **23 33 51.8 +0.3**
comp=Z,4.6nm,0.9s,mb4.5,baz=97,slow=8.1,SNR=16
ARU Arti 57.37 325 ⇑*i*P **P** **23 33 55.8 -0.8**
ARU *e* 23 36 00.2
ARU *e*S **S** **23 41 50.4 -2.6**
ARU *e*SS SS 23 45 39.3 -3.1
ARU pmax pmax
comp=Z,12nm,0.8s,mb5.0
ARU Arti 57.37 325 *e*P **P** **23 33 56.4 -0.2**
comp=Z,8.3nm,0.7s,mb4.9
ORR Orenburg 58.83 319 *e*P **P** **23 34 07.2 +0.3**
ORR pmax pmax
comp=Z,20nm,1.1s,mb5.1
DZM Mont Dzumac 62.05 130 P **P** **23 34 29.5 +0.6**
comp=Z,8.9nm,0.9s,mb4.9,baz=73,slow=5.7,SNR=4.7
GNI Garni 65.99 306 P **P** **23 34 55.5 +0.7**
comp=Z,0.6nm,0.4s,mb4.0,baz=113,slow=14,SNR=4.0
GNI Garni 65.99 306 *e*P **P** **23 34 55.6 +0.8**
GNI pmax pmax
comp=Z,9.0nm,1.3s
GOF Gofitskoye 66.67 311 *e*P **P** **23 34 56.0 -3.2**
KIV Kislovodsk 67.05 310 *e*P **P** **23 35 01.6 +0.1**
KIV pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
KIV Kislovodsk 67.05 310 *e*P **P** **23 35 01.6 +0.1**
comp=Z,6.1nm,0.6s,mb4.8
KLMR Klimovskoe 67.64 329 *e*P **P** **23 35 04.7 -0.6**
KLMR pmax pmax
comp=Z,30nm,1.5s,mb5.1
TMCR Tamitsa 68.20 332 *e*P **P** **23 35 06.8 -2.0**
TMCR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
TMCR pmax pmax
comp=N,30nm,1.1s
TMCR pmax pmax
comp=E,20nm,0.9s
TTA Tatalina 69.15 29 *e*P **P** **23 35 16.1 +1.4**
TTA pmax pmax
comp=Z,14nm,1.3s,mb4.7
TTA Tatalina 69.15 29 *e*P **P** **23 35 16.1 +1.4**
comp=Z,14nm,1.3s,mb4.7
OBN Obninsk 69.67 323×*e*P **P** **23 35 17.2 -0.8**
OBN *e* 23 35 30.4
OBN *e* 23 35 43.5
OBN pmax pmax
comp=Z,24nm,1.4s,mb4.9
OBN Obninsk 69.67 323 *e*P **P** **23 35 17.2 -0.7**
ANN Anapa 70.65 312 *e*P **P** **23 35 22.9 -1.1**
ANN *e* 23 38 00.2
ANN *e*S S 23 44 36.5 -1.2
MALT Malatya 71.13 305 *e*P **P** **23 35 27.7 +0.8**
MALT pmax pmax
comp=Z,44nm,1.9s,mb5.1
MALT Malatya 71.13 305 *e*P **P** **23 35 27.7 +0.8**
comp=Z,44nm,1.9s,mb5.1
JOF Joensuu 71.32 331 *e*p **P** **23 35 25.9 -2.1**
comp=Z,11nm,0.8s,mb4.8
JOF Joensuu 71.32 331 *e*P **P** **23 35 25.9 -2.1**

JOF pmax pmax
comp=Z,11nm,0.8s,mb4.8
COLA College 72.47 27 *e*P **P** **23 35 34.7 -0.2**
ARCES ARCESS Array B 72.47 338 P **P** **23 35 32.9 -2.0**
comp=Z,6.9nm,1.1s,mb4.5,baz=64,slow=5.5,SNR=5.1
ILAR Eielson Array 72.89 27 P **P** **23 35 36.1 -1.3**
comp=Z,0.8nm,0.6s,mb3.8,baz=263,slow=5.2,SNR=13
ASF Jabal al Asfar 73.73 299 P **P** **23 35 42.6 +0.3**
comp=Z,1.7nm,0.7s,mb4.1,baz=270,slow=2.7,SNR=7.2
KAF Kangasniemi 73.75 331 *e*p **P** **23 35 41.4 -1.1**
comp=Z,8.0nm,0.8s,mb4.7,baz=74,slow=5.5
KAF Kangasniemi 73.75 331 *e*P **P** **23 35 41.4 -1.1**
KAF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
FINES FINESS Array B 74.01 330 P **P** **23 35 43.9 -0.2**
comp=Z,6.5nm,0.8s,mb4.6,baz=49,slow=7.3,SNR=16
FINES FINESS Array B 74.01 330 *i*P **P** **23 35 43.9 -0.1**
FINES pmax pmax
comp=Z,7.0nm,0.8s
BRTR Keskin Array B 74.46 307 P **P** **23 35 46.8 +0.2**
comp=Z,0.8nm,0.6s,mb3.8,baz=116,slow=5.6,SNR=6.8
AKASG Malin Array Be 74.85 319 P **P** **23 35 48.1 -0.8**
comp=Z,3.7nm,0.8s,mb4.3,baz=63,slow=5.7,SNR=14
DAWY Dawson 76.22 26 *e*P **P** **23 35 57.6 +0.9**
INK Inuvik 76.95 21 P **P** **23 36 00.5 -0.4**
comp=Z,1.1nm,0.7s,mb3.9,baz=311,slow=9.3,SNR=3.0
INK Inuvik 76.95 21 *e*P **P** **23 36 00.8 -0.1**
SUW Suwalki 77.52 323 *e*P **P** **23 36 04.0 -0.1**
VRI Vrincioaia 77.74 314 ⇑*i*P **P** **23 36 06.0 +0.7**
BURAR Buccovina Array 78.22 316 ⇓*i*P **P** **23 36 08.7 +0.7**
MLR Muntele Rosu 78.38 314 P **P** **23 36 09.1 +0.2**
comp=Z,5.2nm,0.9s,mb4.5,baz=137,slow=0.9,SNR=9.1
MLR Muntele Rosu 78.38 314 ⇑*i*P **P** **23 36 09.7 +0.8**
KWP Kalwaria 79.17 319 *e*P **P** **23 36 13.6 +0.4**
SKAG Skagway 79.66 30 P **P** **23 36 17.4 +1.5**
KOLS Kolonicke sedl 79.67 318 *e*P **P** **23 36 15.8 -0.1**
DRGR 80.10 316 ⇑*i*P **P** **23 36 19.0 +0.7**
STHS Stebnicka Huta 80.14 319 *i*P **P** **23 36 17.2 -1.3**
HFS Hagfors 80.17 331 P **P** **23 36 17.8 -0.9**
comp=Z,9.1nm,0.7s,mb4.8,baz=97,slow=4.9,SNR=13
HFS LR LR 00 13 52.2
comp=Z,150nm,19.5s,MS4.3,baz=167,slow=37
CRVS Cervenica-Dubn 80.18 319 *e*P **P** **23 36 20.8 +2.1**
OJC Ojcow 80.74 320 *e*P **P** **23 36 22.0 +0.3**
NB2 NORSAR Subarra 80.89 332 P **P** **23 36 21.4 -1.2**
comp=Z,5.4nm,0.8s,mb4.5,baz=59,slow=5.6
NOA NORSAR Array B 80.89 332 P **P** **23 36 21.7 -0.8**
comp=Z,5.2nm,0.8s,mb4.5,baz=64,slow=5.4,SNR=14
KECS Kecovo 80.94 318 *e*P **P** **23 36 23.2 +0.4**
KECS *e* 23 36 40.5
GKP Gorka Klasztor 81.09 324 *e*P **P** **23 36 23.9 +0.3**
OKC Ostrava-Krasne 81.87 320 *e*P **P** **23 36 28.2 +0.5**
VYHS Vyhne 81.95 319 *i*P **P** **23 36 28.7 +0.5**
VYHS *e*pP pP 23 36 37.9 +5.6
MORC Moravsky Berou 82.26 320 *e*P **P** **23 36 30.1 +0.4**
MORC pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
MORC Moravsky Berou 82.26 320 *e*P **P** **23 36 30.1 +0.4**
comp=Z,2.4nm,0.8s,mb4.2
DPC Dobruska-Polom 82.75 321 *e*P **P** **23 36 33.0 +0.7**
DPC *ex* x 23 36 51.8
UPC Upice 82.87 321 *e*P **P** **23 36 33.6 +0.6**
UPC *ex* x 23 36 52.0
VRAC Vranov 83.01 320 P **P** **23 36 34.6 +0.9**
comp=Z,5.3nm,0.7s,mb4.7,baz=72,slow=7.7,SNR=7.8
KMBO Kilima Mbogo 83.63 266 P **P** **23 36 38.1 +1.3**
comp=Z,2.5nm,0.7s,mb4.5,baz=50,slow=9.7,SNR=8.3
KMBO LR LR 00 13 17.7
comp=Z,189nm,19.6s,MS4.5,baz=339,slow=35
KMBO Kilima Mbogo 83.63 266⇑*e*P **P** **23 36 39.0 +2.1**
BRG Berggiesshubel 83.92 322 *i*P **P** **23 36 38.8 +0.4**
comp=Z,9.7nm,1.4s,mb4.8
BRG *e* 23 36 57.7
comp=Z,20nm,2.0s
BRG Berggiesshubel 83.92 322 *i*P **P** **23 36 38.8 +0.4**
BRG *e* 23 36 57.7
BRG pmax pmax
comp=Z,10.0nm,1.4s,mb4.8
BRG pmax pmax
comp=Z,20nm,2.0s,mb4.9
PRU Pruhonice 83.95 321 *e*P **P** **23 36 39.2 +0.7**
PRU *ex* x 23 36 57.8
CLL Collm 84.27 323 ⇓*i*P **P** **23 36 40.1 0.0**
comp=Z,18nm,1.2s,mb5.1
CLL *e*(sP) sP 23 36 59.0 +13
CLL Collm 84.27 323 ⇓*i*P **P** **23 36 40.1 0.0**
CLL *e* 23 36 59.0
CLL pmax pmax
comp=Z,18nm,1.2s,mb5.1
KHC Kasperske Hory 84.88 321 *e*P **P** **23 36 43.5 +0.3**
KHC *ex* x 23 37 01.7
GERES GERESS Array B 84.93 320 P **P** **23 36 44.0 +0.5**
comp=Z,3.5nm,0.8s,mb4.5,baz=70,slow=4.4,SNR=26
NKC Novy Kostel 85.06 322 *e*P **P** **23 36 44.7 +0.6**
NKC *ex* x 23 37 03.3
MOX Moxa 85.35 323 *e*P **P** **23 36 45.7 +0.1**
comp=Z,17nm,1.6s,mb4.9
MOX Moxa 85.35 323 *e*P **P** **23 36 45.7 +0.1**
MOX pmax pmax
comp=Z,17nm,1.6s,mb4.9
BOJS Bojanci 85.39 317 *e*P **P** **23 36 46.7 +0.9**
LJU Ljubljana 85.62 318 *e*P **P** **23 36 47.6 +0.7**
SUMG Summit 85.95 354 *e*P **P** **23 36 48.9 +0.3**
JAVS Javornik 85.98 318 *e*P **P** **23 36 48.7 0.0**
GRF Grafenberg Arr 86.01 322 *e*P **P** **23 36 49.0 +0.1**
comp=Z,27nm,1.7s,mb5.2
GRF Grafenberg Arr 86.01 322 *e*P **P** **23 36 49.0 +0.1**
GRF pmax pmax
comp=Z,27nm,1.7s,mb5.2
GRF Grafenberg Arr 86.01 322 *e*P **P** **23 36 49.0 +0.1**
GRF pmax pmax
comp=Z,27nm,1.7s,mb5.2
YKW3 Yellowknife Ar 86.64 22 *e*P **P** **23 36 52.1 +0.2**
YKA Yellowknife Ar 86.69 22 P **P** **23 36 52.1 0.0**
comp=Z,4.1nm,0.7s,mb4.8,baz=314,slow=4.7,SNR=72
YKA Yellowknife Ar 86.69 22⇑*e*P **P** **23 36 52.0 -0.2**
DAVOX Davos 88.16 320 P **P** **23 36 59.9 +0.6**
comp=Z,1.8nm,0.8s,mb4.4,baz=113,slow=15,SNR=4.3
CDF Champ du Feu 88.90 322 *e*P **P** **23 37 02.8 0.0**
HINF Hinteralfeld 89.45 322 *e*P **P** **23 37 05.6 +0.3**
DOU Dourbes 89.53 324 P **P** **23 37 05.0 -0.8**
LPG La Plagne 90.69 320 *e*P **P** **23 37 11.7 +0.6**
comp=Z,18nm,0.8s,mb5.2
LPG La Plagne 90.69 320 *e*P **P** **23 37 11.7 +0.6**
LPG pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
LPG La Plagne 90.69 320 *e*P **P** **23 37 11.7 +0.6**
comp=Z,9.3nm,0.8s,mb5.2
LPL La Plagne 90.69 320 *e*P **P** **23 37 11.9 +0.8**
comp=Z,23nm,0.9s,mb5.2
LPL La Plagne 90.69 320 *e*P **P** **23 37 11.9 +0.8**
LPL pmax pmax
comp=Z,11nm,0.9s,mb5.2
LPL La Plagne 90.69 320 *e*P **P** **23 37 11.9 +0.8**
comp=Z,11nm,0.9s,mb5.2
PGF Pioggiola 90.75 316 *e*P **P** **23 37 11.9 +0.5**
comp=Z,72nm,1.3s,mb5.5
PGF Pioggiola 90.75 316 *e*P **P** **23 37 11.9 +0.5**
PGF pmax pmax
comp=Z,36nm,1.3s,mb5.5
PGF Pioggiola 90.75 316 *e*P **P** **23 37 11.9 +0.5**
comp=Z,36nm,1.3s,mb5.5
BNI Bardonecchia 90.96 319 *e*P **P** **23 37 12.2 -0.2**
BNI pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
BNI Bardonecchia 90.96 319 *e*P **P** **23 37 12.2 -0.2**
comp=Z,6.9nm,0.9s,mb5.0
MBDF Montbardon 91.07 319 *e*P **P** **23 37 13.1 +0.2**
comp=Z,16nm,1.1s,mb5.0
MBDF Montbardon 91.07 319 *e*P **P** **23 37 13.1 +0.2**
MBDF pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
MBDF Montbardon 91.07 319 *e*P **P** **23 37 13.1 +0.2**
comp=Z,8.3nm,1.1s,mb5.0
SBF Sospel 91.09 318 *e*P **P** **23 37 13.0 0.0**
comp=Z,25nm,0.8s,mb5.3
SBF Sospel 91.09 318 *e*P **P** **23 37 13.0 0.0**
SBF pmax pmax
comp=Z,12nm,0.8s,mb5.3
SBF Sospel 91.09 318 *e*P **P** **23 37 13.0 0.0**
comp=Z,12nm,0.8s,mb5.3
LOR Lormes 91.46 322 *e*P **P** **23 37 14.8 +0.1**
ORIF Oris-en-Rattie 91.51 320 *e*P **P** **23 37 15.3 +0.3**
comp=Z,16nm,1.0s,mb5.0
ORIF Oris-en-Rattie 91.51 320 *e*P **P** **23 37 15.3 +0.3**

ORIF					pmax	pmax			
	comp=Z,8.0nm,1.0s,mb5.0								
ORIF	**Oris-en-Rattie**	**91.51**	**320**	*e*P	**P**		**23 37 15.3**	**+0.3**
	comp=Z,8.1nm,1.0s,mb5.0								
SMRF	**Simiane la Rot**	**92.19**	**319**	*e*P	**P**		**23 37 18.1**	**0.0**
	comp=Z,53nm,1.5s,mb5.3								
SMRF	**Simiane la Rot**	**92.19**	**319**	*e*P	**P**		**23 37 18.1**	**0.0**
	comp=Z,53nm,1.5s,mb5.7								
VIVF	**Saint-Julien-l**	**92.28**	**320**	*e*P	**P**		**23 37 18.7**	**+0.2**
TCF	**Toulx Ste Croi**	**92.95**	**322**	*e*P	**P**		**23 37 22.1**	**+0.5**
	comp=Z,11nm,1.2s,mb4.9								
TCF	**Toulx Ste Croi**	**92.95**	**322**	*e*P	**P**		**23 37 22.1**	**+0.5**
TCF					pmax	pmax			
	comp=Z,5.0nm,1.2s,mb4.8								
TCF	**Toulx Ste Croi**	**92.95**	**322**	*e*P	**P**		**23 37 22.1**	**+0.5**
	comp=Z,5.4nm,1.2s,mb4.8								
FLN	**La Foliniere**	**93.02**	**325**	*e*P	**P**		**23 37 21.5**	**-0.4**
LASF	**Ste Croix**	**93.19**	**320**	*e*P	**P**		**23 37 22.8**	**+0.1**
EDM	**Edmonton**	**93.26**	**29**	*e*P	**P**		**23 37 24.1**	**+1.1**
CAF	**Calviac**	**93.79**	**321**	*e*P	**P**		**23 37 25.5**	**0.0**
	comp=Z,13nm,1.3s,mb4.9								
CAF	**Calviac**	**93.79**	**321**	*e*P	**P**		**23 37 25.5**	**0.0**
CAF					pmax	pmax			
	comp=Z,7.0nm,1.3s,mb4.9								
CAF	**Calviac**	**93.79**	**321**	*e*P	**P**		**23 37 25.5**	**0.0**
	comp=Z,6.5nm,1.3s,mb4.9								
MTLF	**Montolieu**	**94.58**	**320**	*e*P	**P**		**23 37 28.7**	**-0.4**
	comp=Z,6.2nm,0.9s,mb4.7								
MTLF	**Montolieu**	**94.58**	**320**	*e*P	**P**		**23 37 28.7**	**-0.4**
MTLF					pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.7								
MTLF	**Montolieu**	**94.58**	**320**	*e*P	**P**		**23 37 28.7**	**-0.4**
	comp=Z,3.1nm,0.9s,mb4.7								
FCC	**Fort Churchill**	**96.08**	**17**	*e*P	**P**		**23 37 35.0**	**-1.0**
SDV	**Santo Domingo**	**148.89**	**21**	*e*PKPdf	PKPdf		23 43 52.7	+0.5
SDV				*e*PKPbc	PKPbc		23 43 56.7	+0.6
NNA	**Nana**	**161.70**	**65**	*e*PKPdf	PKPdf		23 44 09.6	+0.2
LPAZ	**La Paz**	**171.15**	**62**	PKP	PKPdf		23 44 18.6	+1.8
	comp=Z,2.0nm,1.1s,baz=318,slow=0.9,SNR=5.1								
LPAZ	**La Paz**	**171.15**	**62**	*e*PKPdf	PKPdf		23 44 18.8	+2.1

ISCJB ***25*** *23:26:03.0±0.8, 114N±0.1×1412E±03, h41km, mb4.1/6, Error ellipse: s-maj=36.4km s-min=16.4km az=1.3*
NEIC ***25*** *23:26:04.8±0.6, 1146N×14130E, mb4.3/2, Error ellipse: s-maj=30.5km s-min=15.0km az=91.0*
IDC ***25*** *23:26:04.9±2.1, 1142N×14129E, h41km±7km, mb3.8/4, mb1 4.0/4, mb1mx3.7/19, mbtmp4.0/4, Error ellipse: s-maj=64.3km s-min=34.6km az=11.0*

ISC 25 23:26:05.2±0.8, 115N±01×1413E±03, h43km, h43km±1.3km:pP-P,n10,σ0$92/9, mb4.1/6, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**31.74**	**171**	P	**P**	**23 32 24.4**	**-0.6**
WRAB	**Tennant Creek**	**31.95**	**192**	P	**P**	**23 32 26.4**	**-0.5**
MBWA	**Marble Bar**	**38.75**	**213**	*e*P	**P**	**23 33 26.6**	**+1.4**
	2.8nm,0.8s,mb4.0						
MKAR	**Makanchi Array**	**60.64**	**317**	P	**P**	**23 36 12.2**	**+0.5**
	0.5nm,0.5s,mb3.9,baz=98,slow=8.0,SNR=7.9						
MKAR				pP	pP	23 36 24.3	+0.3
	0.9nm,0.5s,baz=101,slow=8.0,SNR=7.8						
KURK	**Kurchatov**	**63.99**	**321**	*e*P	**P**	**23 36 33.5**	**-0.6**
	2.6nm,0.6s,mb4.4						
KURK				*e*pP	pP	23 36 46.2	-0.3
ILAR	**Eielson Array**	**71.95**	**25**	P	**P**	**23 37 24.2**	**+0.1**
	0.9nm,0.6s,mb3.9,baz=251,slow=6.2,SNR=8.9						
ILAR				pP	pP	23 37 35.9	-0.9
	1.2nm,0.6s,baz=248,slow=6.3,SNR=5.9						
YKA	**Yellowknife Ar**	**86.31**	**27**	P	**P**	**23 38 43.8**	**+1.3**
	0.5nm,0.4s,mb4.1,baz=290,slow=4.9,SNR=8.2						
YKA				pP	pP	23 38 55.7	+0.3
	1.3nm,0.7s,baz=288,slow=5.0,SNR=5.1						
YKA	**Yellowknife Ar**	**86.31**	**27**	P	**P**	**23 38 43.8**	**+1.3**
YKA				pP	pP	23 38 55.7	+0.3
FINES	**FINESS Array B**	**91.57**	**334**	P	**P**	**23 39 05.9**	**-1.4**
	0.6nm,0.6s,mb4.1,baz=46,slow=5.5,SNR=4.3						
LPAZ	**La Paz**	**151.04**	**103**	PKPbc	PKPbc	23 45 54.9	+1.5
	2.0nm,0.8s,baz=239,slow=2.1,SNR=7.8						

WEL 25 23:33:34.1±0.1, 4613S×16678E, h102km±1km, ML3.5/6, 2C, Error ellipse: s-maj=1.3km s-min=0.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.70**	**22**	PN	Pn	23 33 51.6	-0.1
DCZ				SN	Sn	23 34 04.7	-0.1
WHZ	**Wether Hill Ro**	**0.84**	**74**	⇑PN	Pn	23 33 52.8	-0.2
WHZ				SN	Sn	23 34 07.0	-0.2
APZ	**The Paps**	**1.09**	**131**	*e*PN	Pn	23 33 55.5	-0.1
APZ				SN	Sn	23 34 11.4	-0.4
SYZ	**Scrubby Hill**	**1.68**	**105**	PN	Pn	23 34 02.5	-0.1
SYZ				SN	Sn	23 34 24.0	-0.4
EAZ	**Earnscleugh**	**1.99**	**64**	⇑PN	Pn	23 34 06.2	-0.3
TUZ	**Tuapeka**	**1.99**	**86**	PN	Pn	23 34 06.2	-0.4
TUZ				SN	Sn	23 34 29.3	-2.1
WKZ	**Wanaka**	**2.04**	**51**	PN	Pn	23 34 07.4	+0.2
ODZ	**Otahua Downs**	**2.92**	**70**	PN	Pn	23 34 16.9	-1.8
LBZ	**Lake Benmore**	**2.97**	**55**	PN	Pn	23 34 17.3	-2.0

IDC 25 23:37:49.0±4.8, 2078N×12128E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/19, mbtmp3.6/3, Error ellipse: s-maj=313.7km s-min=33.8km az=88.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.45**	**162**	P	P	23 45 45.5	-0.1
	1.6nm,0.7s,baz=342,slow=9.1,SNR=9.5						
ASAR	**Alice Springs**	**45.86**	**164**	P	P	23 46 13.6	+0.7
	0.6nm,0.7s,baz=343,slow=6.5,SNR=4.2						
YKA	**Yellowknife Ar**	**86.06**	**23**	P	P	23 50 31.3	-0.3
	0.2nm,0.6s,baz=309,slow=4.4,SNR=6.8						

ISCJB ***25*** *23:51:13.4±0.3, 2065N±004×11999E±006, h10km, mb4.2/23, Error ellipse: s-maj=8.9km s-min=4.5km az=136.2*
IDC ***25*** *23:51:13.6±0.7, 2062N×11990E, h0km, mb4.0/12, mb1 4.2/12, mb1mx4.0/20, mbtmp4.0/12, Error ellipse: s-maj=36.5km s-min=15.8km az=66.0*
NEIC ***25*** *23:51:17.9±0.6, 2098N×11979E, h10km, mb4.3/9, Error ellipse: s-maj=13.4km s-min=12.1km az=78.0*
MAN ***25*** *23:51:19.3, 2076N×12071E, h30km, mb2.8, ML4.3, MS6.6*
BJI ***25*** *23:51:21.7, 2127N×11938E, h10km, mB4.6, mb4.1, ML3.6, Ms4.1, Msz3.9*

ISC 25 23:51:16.7±3.0, 2065N±004×12004E±007, h20km±19km, n42, σ0$75/47, mb4.2/23, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**3.00**	**158**	*e*P	**Pn**	**23 52 01.9**	**-1.1**
APYP				*e*S	**Sn**	**23 52 37.9**	**-0.5**
SGCP	**Mt. Cagua**	**3.05**	**141**	*e*P	**Pn**	**23 52 03.3**	**-0.5**
CVP	**Callao Caves**	**3.38**	**150**	⇑*e*P	**Pn**	**23 52 09.0**	**+0.7**
CVP				*e*S	**Sn**	**23 52 48.0**	**+0.2**
NACB	**Ninganchiao**	**3.79**	**22**	*e*Pn	**Pn**	**23 52 13.7**	**-0.2**
NACB				*e*Sn	**Sn**	**23 52 48.1**	**-10**
CAUP	**Cauayan**	**4.06**	**155**	*e*P	**Pn**	**23 52 08.4**	**-9.2**
YHNB	**Yeheng**	**4.18**	**17**	*e*Pn	**Pn**	**23 52 19.3**	**-0.1**
YHNB				*e*Sn	**Sn**	**23 53 07.7**	**0.0**
QZH	**Quanzhou**	**4.48**	**343**	P	**Pn**	**23 52 19.0**	**-4.3**
QZH				S	**Sn**	**23 53 08.0**	**-6.8**
QZH				Smax			
	comp=N,90nm,0.6s						
QZH				Smax			
	comp=E,120nm,0.5s						
GZH	**Guangzhou**	**6.67**	**293**	P	**Pn**	**23 52 48.0**	**-5.6**
GZH				S	**Sn**	**23 53 59.5**	**-10**
GZH				Smax			
	comp=N,50nm,0.7s						
GZH				Smax			
	comp=E,59nm,1.0s						
BJT	**Baijiatuau**	**19.59**	**351**	*e*P	**Pn**	**23 55 44.8**	**-0.1**
	comp=E,7.9nm,0.8s						
BJI	**Beijing**	**19.61**	**351**	P	**Pn**	**23 55 45.0**	**-0.1**
BJI				AMB	AMB		
	comp=Z,11nm,0.8s						
MJAR	**Matsushiro Arr**	**22.41**	**41**	P	**P**	**23 56 16.1**	**+2.2**
	comp=Z,1.1nm,0.4s,mb3.7,baz=234,slow=9.3,SNR=5.3						
GTA	**Gaotai**	**25.51**	**322**	*e*P	**P**	**23 56 43.0**	**-0.7**
GTA				AP	pP	23 56 47.5	-2.3
GTA				XP	sP	23 56 50.3	-1.9
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb3.9						
LSA	**Lhasa**	**27.59**	**295**	*e*P	**P**	**23 57 04.4**	**+1.9**
	comp=Z,2.2nm,0.4s,mb4.1						
ULN	**Ulaanbaatar**	**29.11**	**342**	*e*P	**P**	**23 57 16.0**	**0.0**
	comp=Z,0.5nm,0.4s,mb3.6						
SONM	**Songino Array**	**29.28**	**341**	P	**P**	**23 57 16.3**	**-1.2**
	comp=Z,0.8nm,0.7s,mb3.5,baz=157,slow=12,SNR=7.7						
JIRN	**Jiri**	**31.59**	**289**	*e*P	**P**	**23 57 38.9**	**+0.9**
	comp=Z,10nm,0.8s,mb4.7						
GUN	**Gumba**	**31.89**	**290**	*e*P	**P**	**23 57 41.0**	**+0.4**
PKI	**Pulchoki**	**32.28**	**289**	*e*P	**P**	**23 57 44.0**	**0.0**
KKN	**Kakani**	**32.41**	**290**	*e*P	**P**	**23 57 45.5**	**+0.4**
DMN	**Daman**	**32.55**	**289**	*e*P	**P**	**23 57 46.5**	**+0.2**
GKN	**Gorkha**	**32.99**	**290**	*e*P	**P**	**23 57 49.8**	**-0.4**
KOLN	**Koldanda**	**33.89**	**289**	*e*P	**P**	**23 57 57.8**	**-0.3**
	comp=Z,15nm,0.9s,mb4.9						
MKAR	**Makanchi Array**	**40.22**	**319**	P	**P**	**23 58 52.1**	**+0.3**
	comp=Z,1.3nm,0.7s,mb3.8,baz=115,slow=9.7,SNR=19						
ZAL	**Zalesovo**	**42.69**	**330**	P	**P**	**23 59 12.8**	**+0.7**
	comp=Z,1.7nm,0.2s,mb4.3,baz=24,slow=2.4,SNR=8.6						
ZAL	**Zalesovo**	**42.69**	**330**	P	**P**	**23 59 12.8**	**+0.7**
WRAB	**Tennant Creek**	**42.70**	**160**	*e*P	**P**	**23 59 18.5**	**+6.4**
	comp=Z,25nm,1.1s,mb4.8						
WRA	**Warramunga Arr**	**42.70**	**160**	P	**P**	**23 59 11.8**	**-0.4**
	comp=Z,7.0nm,0.8s,mb4.4,baz=345,slow=8.8,SNR=12						
KURK	**Kurchatov**	**44.19**	**323**	*e*P	**P**	**23 59 22.7**	**-1.5**
	comp=Z,4.2nm,1.1s,mb4.1						
ASAR	**Alice Springs**	**46.07**	**162**	P	**P**	**23 59 39.8**	**+0.7**
	comp=Z,0.8nm,0.9s,mb3.6,baz=342,slow=6.8,SNR=5.0						
CTAO	**Charters Tower**	**47.93**	**146**	*e*P	**P**	**00 00 00.2**	**+6.6**
	comp=Z,5.1nm,0.8s,mb4.6						
CHKZ	**Chkalovo**	**49.89**	**324**	*e*P	**P**	**00 00 08.9**	**+0.2**
	comp=Z,4.3nm,1.3s,mb4.3						
ZRNK	**Zerenda**	**50.55**	**322**	*e*P	**P**	**00 00 14.0**	**+0.4**
	comp=Z,3.8nm,1.2s,mb4.2						
STKA	**Stephens Creek**	**56.16**	**158**	P	**P**	**00 00 56.1**	**+1.2**
	comp=Z,1.1nm,0.6s,mb4.1,baz=335,slow=13,SNR=3.0						
AKTK	**Aktyubinsk**	**56.60**	**317**	P	**P**	**00 00 57.5**	**-0.5**
AKTO	**Aktyubinsk**	**56.60**	**317**	P	**P**	**00 00 57.5**	**-0.5**
	comp=Z,1.3nm,0.6s,mb4.1,baz=76,slow=8.3,SNR=6.2						
FINES	**FINESS Array B**	**73.96**	**330**	P	**P**	**00 02 49.8**	**-0.8**
	comp=Z,2.3nm,0.8s,mb4.2,baz=70,slow=6.3,SNR=6.5						
NOA	**NORSAR Array B**	**80.84**	**332**	P	**P**	**00 03 28.1**	**-1.0**
	comp=Z,1.1nm,0.6s,mb4.0,baz=64,slow=5.3,SNR=3.8						
GERES	**GERESS Array B**	**84.89**	**320**	P	**P**	**00 03 50.3**	**+0.2**
	comp=Z,1.0nm,0.8s,mb4.0,baz=67,slow=4.5,SNR=6.9						
YKA	**Yellowknife Ar**	**86.62**	**22**	P	**P**	**00 03 58.5**	**-0.1**
	comp=Z,0.6nm,0.8s,mb3.9,baz=314,slow=4.7,SNR=8.9						
YKA	**Yellowknife Ar**	**86.62**	**22**	P	**P**	**00 03 58.5**	**-0.1**
WALA	**Waterton Lakes**	**95.65**	**32**	*e*P	**P**	**00 04 35.3**	**-5.5**
	comp=Z,4.8nm,0.8s,mb5.0						
YMR	**Madison River**	**100.07**	**34**	*e*Pdif	Pdif	00 05 04.8	+4.1
	comp=Z,28nm,0.7s						

ISCJB ***26*** *00:24:29.0±1.5, 182S±02×1775W±02, h446km±21km, mb3.6/7, Error ellipse: s-maj=30.5km s-min=18.6km az=94.9*
NEIC ***26*** *00:24:30.8±1.3, 1808S×17738W, h466km±17km, mb3.8/3, Error ellipse: s-maj=27.5km s-min=14.8km az=139.0*
IDC ***26*** *00:24:30.6±2.1, 1812S×17741W, h461km±27km, mb3.5/5, mb1 3.5/6, mb1mx3.2/16, mbtmp4.1/6, Error ellipse: s-maj=33.8km s-min=17.0km az=140.0*

ISC 26 00:24:30.5±1.5, 182S±02×1774W±02, h452km±22km, n15, σ0$71/11, mb3.6/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.86**	**53**	P	**P**	**00 26 13.6**	**-0.1**
	1.9nm,0.3s,baz=113,slow=23,SNR=6.7						
AFI	**Afiamalu**	**6.86**	**53**	P	**P**	**00 26 13.6**	**-0.1**
AFI				*e*P		00 26 14.0	
URZ	**Urewera**	**20.58**	**192**	P	**P**	**00 28 36.9**	**-0.1**
	5.1nm,0.3s,baz=178,slow=11,SNR=7.2						
CTAO	**Charters Tower**	**34.36**	**261**	P	**P**	**00 30 39.5**	**+1.5**
	1.7nm,0.3s,mb4.0						
WRAB	**Tennant Creek**	**45.53**	**260**	*e*P	**P**	**00 32 07.6**	**-0.5**
	2.5nm,0.3s,mb4.1						
WRA	**Warramunga Arr**	**45.54**	**260**	P	**P**	**00 32 07.8**	**-0.4**
	1.3nm,0.4s,mb3.8,baz=97,slow=7.1,SNR=54						
ASAR	**Alice Springs**	**45.65**	**254**	P	**P**	**00 32 09.1**	**0.0**
	1.2nm,0.6s,mb3.5,baz=90,slow=7.8,SNR=17						
NWAO	**Narrogin (SO)**	**59.94**	**242**	*e*P	**P**	**00 33 51.4**	**-0.4**
VNDA	**Vanda**	**60.27**	**185**	*e*P	**P**	**00 33 53.9**	**0.0**
	0.2nm,0.5s,mb2.8						
ILAR	**Eielson Array**	**85.93**	**13**	P	**P**	**00 36 20.6**	**-1.0**
	0.4nm,0.5s,mb3.3,baz=219,slow=5.4,SNR=6.4						
PDAR	**Pinedale Array**	**86.88**	**43**	P	**P**	**00 36 27.3**	**+1.2**
	0.9nm,1.0s,mb3.5,baz=210,slow=5.1,SNR=4.2						
ARCES	**ARCESS Array B**	**126.74**	**350**	PKP	PKPdf	00 42 38.3	-3.4
	1.6nm,0.7s,baz=45,slow=3.6,SNR=4.4						
FINES	**FINESS Array B**	**133.70**	**345**	PKP	PKPdf	00 42 52.0	-2.9
	2.0nm,1.0s,baz=116,slow=4.4,SNR=3.5						
CLL	**Collm**	**145.93**	**348**	*i* PKPbc	PKPbc	00 43 16.2	-2.3
GERES	**GERESS Array B**	**148.11**	**346**	PKPbc	PKPbc	00 43 22.2	-2.1
	0.6nm,0.7s,baz=30,slow=8.3,SNR=5.1						

PRU ***26*** *00:26:37.2, 4365N×1203E, h0km*
ISCJB ***26*** *00:26:39.6±0.2, 4380N±001×1187E±002, h9km, mb3.7/2, MS3.8/1, Error ellipse: s-maj=2.2km s-min=1.8km az=144.9*
MOS ***26*** *00:26:39.2±0.8, 4377N×1191E, h10km, mb3.7/1, Error ellipse: s-maj=5.8km s-min=3.9km az=114.2*
CSEM ***26*** *00:26:40.5±0.1, 4376N×1191E, h20km, ML3.7/7, Error ellipse: s-maj=1.3km s-min=0.9km az=10.0*
IDC ***26*** *00:26:41.8±1.4, 4391N×1222E, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.5/19, mbtmp3.6/4, ML3.0/2, MS3.8/1, Ms1 3.8/1, ms1mx2.6/35, Error ellipse: s-maj=51.0km s-min=15.2km az=101.0*
LDG ***26*** *00:26:41.1±0.1, 4378N×1210E, h10km, Ml3.5/25, Error ellipse: s-maj=3.1km s-min=2.4km az=41.0*
NEIC ***26*** *00:26:41.2, 4374N×1192E, h9km, ML3.5(LDG), ML3.3(ROM), ML3.6(STR), After ROM.*
ROM ***26*** *00:26:41.2±0.1, 4374N×1192E, h9km±1km, Md2.8/4, Ml3.3/16, Error ellipse: s-maj=1.3km s-min=0.9km az=131.0*
SZGRF ***26*** *00:26:42.8, 4379N×1196E, h10km, mb3.5, Central Italy*
STR ***26*** *00:26:45.0±1.0, 4375N×1144E, h10km±1km, Ml3.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 26 00:26:41.7±0.3, 4375N±002×1186E±002, h20km±1km, n161, σ1$28/245, mb3.7/2, MS3.8/1, 12C-12D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.16**	**356**	Pg	**Pg**	**00 26 45.6**	**-0.6**
SFI				Sg	**Sg**	**00 26 48.6**	**-0.7**
	17μm,0.2s						
VMG	**Vicchio**	**0.32**	**313**	Pg	**Pg**	**00 26 48.8**	**+0.2**
BADI	**Badiali**	**0.36**	**130**	Pg	**Pg**	**00 26 48.6**	**-0.8**
BADI				Sg	**Sg**	**00 26 54.5**	**-0.2**
RSM	**Repubblica di**	**0.46**	**66**	Pg	**Pg**	**00 26 50.4**	**-0.8**
	2μm,0.9s						
SEI	**Scarperia**	**0.48**	**310**	Pg	**Pg**	**00 26 51.5**	**+0.1**
	1μm,0.3s						
CSNT	**Castellina Chi**	**0.50**	**237**	Pg	**Pg**	**00 26 52.0**	**+0.2**
CSNT				Sg	**Sg**	**00 27 00.2**	**+1.7**
	3μm,0.4s						
BRSN	**Barisano**	**0.56**	**16**	Pg	**Pg**	**00 26 52.6**	**-0.3**
	1μm,0.3s						
FNVD	**Fontana Vidola**	**0.68**	**309**	Pg	**Pg**	**00 26 55.3**	**+0.2**
FNVD				Sg	**Sg**	**00 27 05.5**	**+1.3**
	1μm,0.7s						
MURB	**Monte Urbino**	**0.68**	**135**	Pg	**Pg**	**00 26 54.3**	**-0.8**
	7μm,0.3s						
PESA	**Pesaro**	**0.73**	**74**	Pg	**Pg**	**00 26 54.8**	**-1.3**
	2μm,0.7s						
PZZT	**Monte Pizzetto**	**0.82**	**298**	Pg	**Pg**	**00 26 57.6**	**-0.1**
PZZT				Sg	**Sg**	**00 27 09.3**	**+0.7**
	1μm,0.3s						
ARV	**Arcevia**	**0.82**	**107**	Pg	**Pg**	**00 26 56.2**	**-1.6**
GRFL	**Gerfalco**	**0.88**	**227**	Pg	**Pg**	**00 26 58.5**	**-0.4**
	11nm,0.4s						
SACS	**San Casciano d**	**0.90**	**178**	Pg	**Pg**	**00 26 58.2**	**-1.0**
SACS				Sg	**Sg**	**00 27 11.4**	**+0.3**
	1μm,0.6s						
ARCI	**Arcidosso**	**0.94**	**198**	Pg	**Pg**	**00 26 58.9**	**-1.0**
	2μm,1.0s						
BDI	**Bagni Di Lucca**	**0.97**	**290**	Pg	**Pg**	**00 26 59.9**	**-0.6**
	601nm,0.5s						
PII	**Pisa**	**0.97**	**269**	Pg	**Pg**	**00 26 59.9**	**-0.6**
MAIM		**1.01**	**280**	P	**Pb**	**00 27 00.1**	**-0.3**
MAIM				S	**Sb**	**00 27 11.4**	**-1.8**
CING	**Cingoli**	**1.04**	**110**	Pg	**Pg**	**00 27 00.2**	**-1.6**
	409nm,0.4s						
GSCL	**Gusciola**	**1.10**	**304**	Pg	**Pg**	**00 27 02.3**	**-0.7**
	211nm,0.6s						
VLC	**Villacollemand**	**1.14**	**292**	Pg	**Pg**	**00 27 03.5**	**-0.3**
	423nm,1.1s						
ERBM	**Eremo**	**1.24**	**303**	Pg	**Pg**	**00 27 04.9**	**-0.8**
	683nm,1.4s						
NRCA	**Norcia**	**1.29**	**134**	Pg	**Pn**	**00 27 03.3**	**-1.3**
	77nm,0.3s						
VINC	**Vinca**	**1.30**	**288**	P	**Pn**	**00 27 04.1**	**-0.5**
VINC				S	**Sn**	**00 27 19.1**	**-2.3**
VALM		**1.31**	**298**	P	**Pn**	**00 27 05.0**	**+0.1**
VALM				S	**Sn**	**00 27 19.8**	**-2.0**
BACM		**1.40**	**293**	P	**Pn**	**00 27 05.5**	**-0.5**
BACM				S	**Sn**	**00 27 21.1**	**-2.8**
MAON	**Monte Argentar**	**1.42**	**202**	Pg	**Pg**	**00 27 07.6**	**-1.5**
	138nm,0.8s						
GRAM		**1.49**	**301**	P	**Pn**	**00 27 07.5**	**+0.2**
CODM		**1.59**	**295**	P	**Pn**	**00 27 08.8**	**+0.2**
CODM				S	**Sn**	**00 27 26.0**	**-2.6**
TERO	**Teramo**	**1.70**	**131**	Pg	**Pn**	**00 27 11.1**	**+0.9**
	307nm,0.6s						
AQU	**L'Aquila**	**1.79**	**140**	Pg	**Pn**	**00 27 12.0**	**+0.5**
	303nm,0.9s						
SC2M	**Scurtabr**	**1.80**	**292**	P	**Pn**	**00 27 12.2**	**+0.6**
GENL	**Genova Univers**	**2.19**	**289**	P	**Pn**	**00 27 15.8**	**-1.1**
GUAR	**Guarcino**	**2.22**	**151**	Pg	**Pn**	**00 27 17.8**	**+0.4**
	78nm,0.4s						
NVLJ	**Novalja**	**2.31**	**68**	*i* Pn	**Pn**	**00 27 18.7**	**0.0**
NVLJ				*i* Sn	**Sn**	**00 27 46.0**	**-0.6**
NVLJ	**Novalja**	**2.31**	**68**	*i* Pn	**Pn**	**00 27 18.7**	**0.0**
NVLJ				*i* Sn	**Sn**	**00 27 45.9**	**-0.6**
PGF	**Pioggiola**	**2.41**	**241**	*e*Pn	**Pn**	**00 27 20.1**	**+0.1**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**00 27 49.4**	**+0.4**
	26nm,0.2s,SNR=1.0						
PGF	**Pioggiola**	**2.41**	**241**	*e*Pn	**Pn**	**00 27 20.1**	**+0.1**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**00 27 49.4**	**+0.4**
	13nm,0.2s,SNR=1.0						
CORF	**Corte**	**2.46**	**235**	P	**Pn**	**00 27 21.7**	**+1.1**
CORF				S	**Sn**	**00 27 49.5**	**-0.6**
KNDS	**Knezji Dol**	**2.53**	**44**	*i* Pn	**Pn**	**00 27 20.9**	**-0.7**
FIN	**Finale Ligure**	**2.68**	**281**	P	**Pn**	**00 27 22.1**	**-1.5**
VOY	**Vojsko**	**2.70**	**32**	*e*Pn	**Pn**	**00 27 23.1**	**-0.9**
VOY				*e*		00 27 31.1	
VOY				*e*Sn	**Sn**	**00 27 57.1**	**+1.0**
RORO		**2.77**	**279**	P	**Pn**	**00 27 23.9**	**-1.0**
CADS	**Cadrg**	**2.82**	**28**	*i* Pn	**Pn**	**00 27 24.9**	**-0.7**
OSPF	**L'Ospedale**	**2.87**	**224**	P	**Pn**	**00 27 26.8**	**+0.6**
ROB	**Roburent**	**2.93**	**282**	P	**Pn**	**00 27 26.0**	**-1.1**
LJU	**Ljubljana**	**2.98**	**39**	*i* Pn	**Pn**	**00 27 27.5**	**-0.3**
LJU				*e*Sn	**Sn**	**00 28 04.1**	**+1.2**
MONE	**Monesi**	**2.99**	**278**	P	**Pn**	**00 27 27.6**	**-0.3**
BOJS	**Bojanci**	**2.99**	**53**	*e*Pn	**Pn**	**00 27 27.9**	**0.0**
BOJS				*i* Sn	**Sn**	**00 28 03.4**	**+0.2**
NEGI	**Negi**	**3.01**	**273**	P	**Pn**	**00 27 27.0**	**-1.2**
SBF	**Sospel**	**3.21**	**274**	*e*Pn	**Pn**	**00 27 31.2**	**+0.3**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**00 28 08.1**	**-0.5**
	146nm,0.4s,SNR=1.0						
SBF	**Sospel**	**3.21**	**274**	*e*Pn	**Pn**	**00 27 31.2**	**+0.3**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**00 28 08.1**	**-0.5**
	73nm,0.4s,SNR=1.0						
AUTN	**L'Aution**	**3.22**	**276**	P	**Pn**	**00 27 31.5**	**+0.4**
AUTN				S	**Sn**	**00 28 06.9**	**-1.9**
ENR	**Entracque**	**3.24**	**280**	P	**Pn**	**00 27 30.6**	**-0.8**
REVF	**Revere**	**3.26**	**271**	P	**Pn**	**00 27 31.6**	**0.0**
LUCF	**Luceram**	**3.27**	**274**	P	**Pn**	**00 27 31.9**	**+0.1**
SCE	**Schlegeis**	**3.29**	**358**	⇑*i* Pn	**Pn**	**00 27 33.9**	**+1.8**
STV	**Sta Anna Valdi**	**3.31**	**280**	P	**Pn**	**00 27 31.5**	**-0.9**

MOA	**Molln**	**4.43**	**21**	⇓*i*Pn		**Pn**	**00 27 48.3**	**+0.5**
	SNR=43								
MOA				⇓*i*Sn		**Sn**	**00 28 39.4**	**+0.6**
MOA	**Molln**	**4.43**	**21**	*e*Pn		**Pn**	**00 27 48.4**	**+0.6**
MOA				*e*Sn		**Sn**	**00 28 39.0**	**+0.2**
MOA	**Molln**	**4.43**	**21**	⇓*i*Pn		**Pn**	**00 27 48.3**	**+0.5**
MOA				*i* Sn		**Sn**	**00 28 39.4**	**+0.6**
ORIF	**Oris-en-Rattie**	**4.45**	**287**	*e*Pn		**Pn**	**00 27 49.8**	**+1.8**
	SNR=1.0								
ORIF				*e*Sn		**Sn**	**00 28 41.7**	**+2.5**
	36nm,0.6s								
ORIF				*e*Sg		**Sg**	**00 29 02.2**	**-2.3**
	11nm,0.5s,SNR=1.0								
ORIF	**Oris-en-Rattie**	**4.45**	**287**	*e*P		**Pn**	**00 27 49.8**	**+1.8**
ORIF				*e*			00 28 41.7		
ORIF	**Oris-en-Rattie**	**4.45**	**287**	*e*Pn		**Pn**	**00 27 49.8**	**+1.8**
	SNR=1.0								
ORIF				*e*Sg		**Sg**	**00 29 02.2**	**-2.3**
	5.4nm,0.5s,SNR=1.0								
VILF	**Villemus**	**4.45**	**273**	P		**Pn**	**00 27 49.6**	**+1.6**
PUYF	**Puyloubier**	**4.48**	**269**	P		**Pn**	**00 27 49.4**	**+1.0**
OG01	**Vacheresse**	**4.49**	**307**	P		**Pn**	**00 27 50.9**	**+2.4**
SMRF	**Simiane la Rot**	**4.55**	**275**	*e*Pn		**Pn**	**00 27 50.9**	**+1.5**
	SNR=1.0								
SMRF				*e*Sn		**Sn**	**00 28 41.1**	**-0.6**
	17nm,0.4s								
SMRF	**Simiane la Rot**	**4.55**	**275**	*e*Pn		**Pn**	**00 27 50.9**	**+1.5**
	SNR=1.0								
SMRF				*e*Sn		**Sn**	**00 28 41.1**	**-0.6**
	8.6nm,0.4s								
GELF	**Grande-Etoile**	**4.69**	**268**	P		**Pn**	**00 27 52.3**	**+1.0**
BBS	**Basel-Blauen**	**4.81**	**322**	P		**Pn**	**00 27 54.3**	**+1.3**
FELD	**Feldberg im Sc**	**4.93**	**328**	P		**Pn**	**00 27 56.0**	**+1.4**
CABF	**La Chapelle**	**4.99**	**307**	*e*Pn		**Pn**	**00 27 56.6**	**+1.2**
	SNR=1.0								
CABF				*e*Sn		**Sn**	**00 28 52.1**	**-0.4**
	9.9nm,0.4s,SNR=1.0								
LOMF	**Lomont**	**5.05**	**317**	P		**Pn**	**00 27 57.8**	**+1.6**
BFO	**Black Forest**	**5.20**	**333**	*e*Pn		**Pn**	**00 27 59.7**	**+1.4**
BFO				*e*Sn		**Sn**	**00 28 56.2**	**-1.6**
GEC2	**GERESS Array S**	**5.26**	**13**	*e*Pn		**Pn**	**00 27 58.7**	**-0.4**
GEC2				*e*Sn		**Sn**	**00 28 58.7**	**-0.4**
GERES	**GERESS Array B**	**5.26**	**13**	Pn		**Pn**	**00 27 58.6**	**-0.5**
	1.1nm,0.3s,baz=195,slow=13,SNR=26								
GERES				Sn		**Sn**	**00 28 58.8**	**-0.3**
	2.0nm,0.3s,baz=194,slow=21,SNR=5.7								
MOF	**Molkenrain**	**5.27**	**323**	P		**Pn**	**00 28 00.6**	**+1.3**
VIVF	**Saint-Julien-l**	**5.28**	**285**	*e*Pn		**Pn**	**00 28 00.0**	**+0.6**
	SNR=1.0								
VIVF				*e*Sn		**Sn**	**00 28 57.6**	**-2.0**
	8.7nm,0.6s,SNR=1.0								
VIVF	**Saint-Julien-l**	**5.28**	**285**	*e*Pn		**Pn**	**00 28 00.0**	**+0.6**
	SNR=1.0								
VIVF				*e*Sn		**Sn**	**00 28 57.6**	**-2.0**
	4.3nm,0.6s,SNR=1.0								
HINF	**Hinteralfeld**	**5.37**	**321**	*e*Pn		**Pn**	**00 28 01.2**	**+0.5**
	SNR=1.0								
HINF				*e*Sn		**Sn**	**00 28 59.7**	**-2.2**
	22nm,0.3s								
HINF	**Hinteralfeld**	**5.37**	**321**	*e*Pn		**Pn**	**00 28 01.2**	**+0.5**
	SNR=1.0								
HINF				*e*Sn		**Sn**	**00 28 59.7**	**-2.2**
	11nm,0.3s								
WET	**Wettzell**	**5.45**	**7**	*e*Pn		**Pn**	**00 28 01.2**	**-0.5**
WET				*e*Sn		**Sn**	**00 29 00.4**	**-3.4**
KHC	**Kasperske Hory**	**5.51**	**12**	*e*PN		**Pn**	**00 28 02.3**	**-0.3**
KHC				*e*SN		**Sn**	**00 29 03.6**	**-1.9**
ECH	**Echery**	**5.54**	**325**	P		**Pn**	**00 28 03.9**	**+0.9**
WLS	**Welschbruch**	**5.62**	**328**	P		**Pn**	**00 28 05.2**	**+1.1**
CDF	**Champ du Feu**	**5.65**	**327**	*e*Pn		**Pn**	**00 28 05.4**	**+0.9**
	SNR=1.0								
CDF				*e*Sn		**Sn**	**00 29 05.3**	**-3.6**
	30nm,0.6s								
HAU	**Haudompre**	**5.74**	**320**	*e*Pn		**Pn**	**00 28 07.5**	**+1.8**
	SNR=1.0								
HAU				*e*Sn		**Sn**	**00 29 09.6**	**-1.4**
	46nm,0.4s,SNR=1.0								
ZST	**Bratislava**	**5.76**	**38**	*e*SN		**Sn**	**00 29 06.9**	**-4.5**
LASF	**Ste Croix**	**5.79**	**276**	*e*Pn		**Pn**	**00 28 07.0**	**+0.5**
	SNR=1.0								
LASF				*e*Sn		**Sn**	**00 29 08.5**	**-3.8**
	6.7nm,0.5s								
LANF	**Langenberg**	**5.94**	**333**	P		**Pn**	**00 28 09.7**	**+1.2**
ROTZ	**Rotzenmuhle**	**6.03**	**2**	*e*Pn		**Pn**	**00 28 09.4**	**-0.3**
ROTZ				*e*Sn		**Sn**	**00 29 13.0**	**-5.1**
THEF	**They Montfort**	**6.07**	**320**	P		**Pn**	**00 28 11.7**	**+1.5**
LBL	**Lubilhac**	**6.34**	**287**	P		**Pn**	**00 28 16.0**	**+2.0**
SMF	**Signal de Mont**	**6.37**	**300**	*e*Pn		**Pn**	**00 28 15.7**	**+1.4**
	SNR=1.0								
SMF				*e*Sn		**Sn**	**00 29 23.9**	**-2.5**
	6.9nm,0.4s								
NKC	**Novy Kostel**	**6.50**	**3**	*e*PN		**Pn**	**00 28 17.0**	**+0.8**
NKC				*e*SN		**Sn**	**00 29 26.8**	**-3.0**
PRU	**Pruhonice**	**6.51**	**15**	*e*SN		**Sn**	**00 29 27.6**	**-2.4**
LOR	**Lormes**	**6.63**	**305**	*e*Pn		**Pn**	**00 28 19.0**	**+1.0**
	SNR=1.0								
LOR				*e*Sn		**Sn**	**00 29 30.9**	**-2.1**
	15nm,0.4s,SNR=1.0								
MEZF	**Maizieres J'vi**	**6.71**	**318**	*e*Pn		**Pn**	**00 28 20.4**	**+1.4**
	SNR=1.0								
MEZF				*e*Sn		**Sn**	**00 29 31.7**	**-3.2**
	8.1nm,0.4s								
WERD	**Werda**	**6.71**	**2**	*e*Pn		**Pn**	**00 28 19.1**	**0.0**
AVF	**Avril sur Loir**	**6.73**	**300**	*e*Pn		**Pn**	**00 28 20.2**	**+0.8**
	SNR=1.0								
AVF				*e*Sn		**Sn**	**00 29 32.9**	**-2.5**
	3.6nm,0.6s								
SSF	**Saint Saulge**	**6.75**	**302**	*e*Pn		**Pn**	**00 28 21.0**	**+1.4**
	SNR=1.0								
SSF				*e*Sn		**Sn**	**00 29 32.9**	**-3.0**
MOX	**Moxa**	**6.90**	**359**	*e*Pn		**Pn**	**00 28 21.9**	**+0.2**
MOX				*e*Sn		**Sn**	**00 29 35.6**	**-4.1**
MOX	**Moxa**	**6.90**	**359**	*e*PN		**Pn**	**00 28 20.7**	**-1.0**
MOX				*e*SN		**Sn**	**00 29 35.2**	**-4.5**
BGF	**Bois d'Agland**	**6.97**	**297**	*e*Pn		**Pn**	**00 28 23.6**	**+1.0**
	SNR=1.0								
BGF				*e*Sn		**Sn**	**00 29 39.3**	**-1.9**
	7.2nm,0.3s,SNR=1.0								
MTLF	**Montolieu**	**7.02**	**270**	*e*Pn		**Pn**	**00 28 23.8**	**+0.5**
	SNR=1.0								
MTLF				*e*Sn		**Sn**	**00 29 39.4**	**-3.2**
	3.6nm,0.4s,SNR=1.0								
CAF	**Calviac**	**7.12**	**283**	*e*Pn		**Pn**	**00 28 25.8**	**+1.1**
	SNR=1.0								
CAF				*e*Sn		**Sn**	**00 29 42.9**	**-2.2**
	3.0nm,0.6s								
BRG	**Berggiesshubel**	**7.27**	**10**	PN		**Pn**	**00 28 26.1**	**-0.7**
BRG				PG		Pn	00 28 56.5	+30
BRG				SN		**Sn**	**00 29 46.0**	**-2.7**
BRG				SG		Sn	00 30 38.4	+50
	3.1nm,0.7s								
BRG	**Berggiesshubel**	**7.27**	**10**	Pn		**Pn**	**00 28 26.1**	**-0.7**
	3.1nm,0.7s								
BRG				Pg		Pn	00 28 56.5	+30
BRG				Sn		**Sn**	**00 29 46.0**	**-2.7**
BRG				Sg		Sn	00 30 38.4	+50
BRG	**Berggiesshubel**	**7.27**	**10**	Pn		**Pn**	**00 28 26.0**	**-0.7**
	3.1nm,0.7s								
DPC	**Dobruska-Polom**	**7.27**	**23**	*e*PN		**Pn**	**00 28 25.4**	**-1.4**
TCF	**Toulx Ste Croi**	**7.30**	**294**	*e*Pn		**Pn**	**00 28 25.0**	**-2.1**
	SNR=1.0								
TCF				*e*Sn		**Sn**	**00 29 48.4**	**-1.0**
	2.4nm,0.3s,SNR=1.0								
OKC	**Ostrava-Krasne**	**7.46**	**33**	*e*PN		**Pn**	**00 28 29.3**	**-0.1**
CLL	**Collm**	**7.61**	**5**	*e*Pn		**Pn**	**00 28 31.0**	**-0.3**
CLL				*e*Sg		Sn	00 30 50.0	+53
	comp=Z,11nm,1.1s								
CLL	**Collm**	**7.61**	**5**	*e*Pn		**Pn**	**00 28 30.8**	**-0.5**
EPF	**Esparros**	**8.42**	**269**	*e*Pn		**Pn**	**00 28 43.9**	**+1.3**
	SNR=1.0								
MFF	**Saint Martin d**	**8.95**	**293**	*e*Pn		**Pn**	**00 28 50.8**	**+1.0**
ETSF	**Etsaut**	**9.10**	**269**	*e*Pn		**Pn**	**00 28 55.0**	**+3.2**
SJPF	**Ste Jean**	**9.54**	**271**	*e*Pn		**Pn**	**00 28 59.3**	**+1.3**
FINES	**FINESS Array B**	**19.64**	**21**	P		**Pn**	**00 31 08.5**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=222,slow=22,SNR=4.1								
TORD	**Torodi Ar. Bea**	**31.72**	**199**	P		**P**	**00 33 09.8**	**+5.7**
	comp=Z,0.4nm,0.5s,mb3.5,baz=16,slow=8.0,SNR=11								
WSAR	**Wadi Sarin**	**43.37**	**103**	LR		LR	00 54 37.6		
	comp=Z,123nm,21.8s,MS3.8,baz=305,slow=39								
MKAR	**Makanchi Array**	**48.13**	**60**	P		**P**	**00 35 20.8**	**+0.6**
	comp=Z,0.9nm,0.6s,mb4.0,baz=290,slow=6.3,SNR=13								

*IDC **26** 00:41:32.7±0.5,3301N×7625E,h0km,mb4.7/24, mb1 4.9/26,mb1mx4.8/28,mbtmp4.7/26,ML4.4/2,MS3.8/10, Ms1 3.8/10,ms1mx3.6/26,Error ellipse: s-maj=14.8km s-min=12.0km az=22.0*

*MOS **26** 00:41:34.9±0.9,3312N×7622E,h24km,mb5.0/79,Error ellipse: s-maj=6.9km s-min=3.2km az=128.2*

*LDG **26** 00:41:35.0±0.1,3294N×7611E,h33km,Mb4.9/34,Ms3.7/7, Error ellipse: s-maj=8.2km s-min=3.0km az=22.0*

*BJI **26** 00:41:37.9,3331N×7594E,h76km,mB4.8,mb4.7,Ms4.5, Msz4.4*

*SZGRF **26** 00:41:38.4,3318N×7618E,h33km,mb4.8,MS4.1, Kashmir-India border region*

*ISCJB **26** 00:41:38.1±0.4,3312N±002×7628E±002,h53km±3km, mb4.9/163,MS3.9/26,Error ellipse: s-maj=3.7km s-min=2.9km az=75.6*

*NDI **26** 00:41:39.1±3.6,3307N×7614E,h17km±10km,mb4.9, ML4.9,mb5.0(NEIC)*

*NEIC **26** 00:41:41.7±0.1,3315N×7624E,mb5.0/106,Error ellipse: s-maj=4.6km s-min=3.0km az=201.0*

*NNC **26** 00:41:46.1±6.2,3399N×7540E,h5km±67km,mb4.4, mpv4.0,Error ellipse: s-maj=70.1km s-min=41.6km az=144.0*

ISC 26 00:41:39.6±0.3,3313N±002×7627E±002,h48km±3km, h59km±4.8km:pP-P,n495,σ0§94/528,mb4.9/163,MS3.9/26, 38C-22D,Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**0.64**	**203**	*e*P			**Pn**	**00 41 52.0**	**-0.5**
DLH				*ex*			x	00 42 15.0	
PONG	**Pong**	**1.21**	**193**	*e*P			**Pn**	**00 42 00.0**	**-0.1**
PONG				*ex*			x	00 42 44.0	
SRNI	**Srinagar**	**1.52**	**310**	*e*P			**Pn**	**00 42 05.2**	**+0.8**
SRNI				*e*S			**Sn**	**00 42 26.0**	**+2.9**
BHK	**Bhakra**	**1.72**	**176**	*e*P			**Pn**	**00 42 12.8**	**+5.8**
BHK				*e*S			**Sn**	**00 42 35.2**	**+7.4**
SDNR	**Sundarnagar**	**1.73**	**160**	*e*P			**Pn**	**00 42 08.0**	**+0.7**
SMLA	**Simla**	**2.14**	**159**	*e*P			**Pn**	**00 42 13.6**	**+0.8**
SMLA				*e*P				00 42 14.9	
SMLA				*e*S			**Sn**	**00 42 39.5**	**+1.3**
SMLA					AML		AML	00 42 45.0	
	comp=E,43μm,0.7s								
SMLA					AML		AML	00 42 45.5	
	comp=N,21μm,0.7s								
KLP	**Kalpa**	**2.32**	**133**	*e*P			**Pn**	**00 42 18.6**	**+3.3**
KLP				*e*S			**Sn**	**00 42 45.8**	**+5.3**
KLP					AML		AML	00 42 57.5	
	comp=E,31μm,0.6s								
KLP					AML		AML	00 43 00.1	
	comp=N,17μm,0.3s								
CHCP	**Chirah Chowk**	**2.57**	**283**	⇑P			**Pn**	**00 42 19.5**	**+0.8**
NIL	**Nilore**	**2.58**	**282**	Pn			**Pn**	**00 42 20.9**	**+2.1**
	comp=N,5μm,0.5s								
DDI	**Dehra Dun**	**3.19**	**151**	*e*P			**Pn**	**00 42 29.4**	**+2.2**
DDI				*e*S			**Sn**	**00 43 06.5**	**+2.5**
SARP	**Sargodha**	**3.27**	**249**	P			**Pn**	**00 42 27.0**	**-1.3**
CEP	**Cherat**	**3.71**	**282**	P			**Pn**	**00 42 35.0**	**+0.7**
THW	**Thamme Wali**	**3.82**	**266**	⇓P			**Pn**	**00 42 35.5**	**-0.3**
BHGR	**Bahadurgarh**	**4.47**	**172**	*e*P			**Pn**	**00 42 45.6**	**+0.9**
NDI	**New Delhi**	**4.51**	**169**	*e*P			**Pn**	**00 42 46.1**	**+0.8**
NDI				*e*S			**Sn**	**00 43 34.1**	**-2.4**
BISR	**Bishrakh**	**4.66**	**167**	*e*P			**Pn**	**00 42 48.6**	**+1.2**
SBDP	**Sheikh Budin**	**4.68**	**261**	P			**Pn**	**00 42 45.8**	**-1.8**
PTH	**Pithoragarh**	**4.92**	**136**	*e*P			**Pn**	**00 42 53.5**	**+2.6**
PTH				*ex*			x	00 43 12.0	
SONA	**Sohna**	**4.92**	**172**	*e*P			**Pn**	**00 42 51.8**	**+0.8**
SONA				*e*S			**Sn**	**00 43 44.0**	**-2.5**
LGHT	**Lohaghat**	**5.01**	**136**	*e*P			**Pn**	**00 42 52.2**	**0.0**
LGTI				*e*S			**Sn**	**00 43 46.2**	**-2.5**
KHET	**Khetri**	**5.06**	**185**	*e*P			**Pn**	**00 42 52.9**	**0.0**
KHET				*e*S			**Sn**	**00 43 47.5**	**-2.5**
AGRA	**Agra**	**6.06**	**166**	*e*P			**Pn**	**00 43 06.2**	**-0.4**
AGRA					AML		AML	00 45 03.8	
	comp=N,494nm,0.5s								
AGRA					AML		AML	00 45 04.0	
	comp=E,848nm,0.9s								
AJM	**Ajmer**	**6.78**	**192**	*i* P			**Pn**	**00 43 15.0**	**-1.5**
AJM				*i* S			**Sn**	**00 44 27.0**	**-5.3**
JASL	**Jaisalmer**	**7.74**	**218**	*e*P			**Pn**	**00 43 26.4**	**-3.2**
KOLN	**Koldanda**	**8.28**	**128**	*e*Pn			**Pn**	**00 43 35.5**	**-1.6**
KOLN				*e*Sn			**Sn**	**00 45 03.8**	**-5.4**
	comp=E,204nm,0.6s								
GKN	**Gorkha**	**8.84**	**123**	*e*Pn			**Pn**	**00 43 44.8**	**+0.1**
GKN				*e*Sn			**Sn**	**00 45 20.7**	**-2.3**
	comp=E,283nm,0.5s								
DMN	**Daman**	**9.41**	**123**	*e*Pn			**Pn**	**00 43 52.0**	**-0.5**
DMN				*e*Sn			**Sn**	**00 45 34.2**	**-2.7**
	comp=E,210nm,0.7s								
KKN	**Kakani**	**9.42**	**122**	*e*Pn			**Pn**	**00 43 52.2**	**-0.5**
KKN				*e*Sn			**Sn**	**00 45 35.5**	**-1.7**
AAK	**Ala-Archa**	**9.59**	**352**	Pn			**Pn**	**00 43 55.3**	**+0.4**
	comp=E,202nm,0.6s,SNR=15								
AAK	**Ala-Archa**	**9.59**	**352**	*e*P			**Pn**	**00 43 55.5**	**+0.6**
AAK				*e*				00 45 40.3	
AAK					pmax		pmax		
	comp=Z,43nm,0.7s								
AAK	**Ala-Archa**	**9.59**	**352**	*e*Pn			**Pn**	**00 43 55.5**	**+0.5**
	comp=Z,43nm,0.7s								
AAK				*e*Sn			**Sn**	**00 45 40.3**	**-0.9**
PKI	**Pulchoki**	**9.65**	**123**	*e*Pn			**Pn**	**00 43 54.6**	**-1.1**
PKI				*e*Sn			**Sn**	**00 45 39.3**	**-3.4**
	comp=Z,130nm,0.4s								
FRU	**Bishkek**	**9.77**	**353**	*e*P			**Pn**	**00 44 02.4**	**+5.0**
FRU				*e*				00 45 47.6	
FRU					pmax		pmax		
	comp=Z,80nm,1.6s								
FRU					smax				
	comp=N,270nm,1.8s								
TKM2	**Tokmak 2**	**9.79**	**357**	⇑Pn			**Pn**	**00 43 59.4**	**+1.7**
	comp=N,6.3nm,0.9s								
TKM2				⇑Sn			**Sn**	**00 45 46.0**	**-0.1**
	comp=N,11nm,0.8s								
TKM2	**Tokmak 2**	**9.79**	**357**	P			**Pn**	**00 43 59.3**	**+1.7**
TKM2				S			**Sn**	**00 45 46.0**	**-0.1**
TKM2					pmax		pmax		
	comp=Z,12nm,0.5s								
TKM2					smax				
	comp=Z,67nm,0.9s								
GUN	**Gumba**	**9.79**	**120**	*e*Pn			**Pn**	**00 43 58.6**	**+0.9**
GUN				*e*Sn			**Sn**	**00 45 45.4**	**-0.7**
	comp=Z,314nm,0.8s								
BHPL	**Bhopal**	**9.91**	**174**	⇓*i*P			**Pn**	**00 44 00.1**	**+0.8**
BHPL				⇓*i*x			x	00 45 51.4	
JIRN	**Jiri**	**10.15**	**120**	*e*Pn			**Pn**	**00 44 02.9**	**+0.2**
JIRN				*e*Sn			**Sn**	**00 45 53.1**	**-2.0**
	comp=Z,233nm,0.6s								
JBP	**Jabalpur**	**10.46**	**161**	⇑P			**Pn**	**00 44 07.0**	**+0.2**
JBP				*i* S			**Sn**	**00 45 54.9**	**-7.6**
KK31	**Karatay Array**	**10.93**	**337**	⇓Pn			**Pn**	**00 44 11.5**	**-1.9**
	comp=Z,24nm,0.5s,baz=147,slow=12,SNR=306								
KK31				⇑Sn			**Sn**	**00 46 03.1**	**-11**
	comp=Z,372nm,0.9s,baz=153,slow=20,SNR=26								
KKAR	**Karatay Array**	**10.93**	**337**	*e*P			**Pn**	**00 44 11.4**	**-1.9**
KKAR					pmax		pmax		
	comp=Z,27nm,0.5s								
BHJ	**Bhuj**	**11.44**	**212**	*e*P			**Pn**	**00 44 18.6**	**-1.6**
BHJ				*ex*			x	00 46 21.0	
BLSP	**Bilaspur**	**12.13**	**153**	*e*P			**Pn**	**00 44 30.1**	**+0.4**
BLSP					AMb		AMB	00 44 31.4	
	comp=Z,6.6nm,0.3s								
BLSP				*e*S			**Sn**	**00 46 32.8**	**-11**
NGP	**Nagpur**	**12.19**	**168**	⇑*e*P			**Pn**	**00 44 25.5**	**-5.0**
NGP				*e*S			**Sn**	**00 46 31.1**	**-14**
NGP				*ex*			x	00 46 34.8	
	comp=N,88nm,0.6s								
BOK	**Bokaro**	**12.57**	**135**	*e*P			**Pn**	**00 44 37.5**	**+1.9**
BOK					AMb		AMB	00 44 40.9	
	comp=Z,11nm,0.8s								
BOK				*e*S			**Sn**	**00 46 45.7**	**-8.4**
LSA	**Lhasa**	**13.16**	**101**	*e*P			**Pn**	**00 44 45.8**	**+2.0**
WMQ	**Urumqi**	**13.91**	**37**	P			**Pn**	**00 44 56.0**	**+2.0**
WMQ					AP			00 45 05.8	
WMQ					PP			00 45 08.8	
WMQ					XP			00 45 15.0	
WMQ					S		**Sn**	**00 47 29.5**	**+2.6**
WMQ					SS			00 47 47.0	
MK05	**Makanchi Array**	**14.40**	**17**	⇓Pn			**Pn**	**00 44 59.4**	**-1.2**
	comp=Z,15nm,1.0s								
MK05				⇑Sn			**Sn**	**00 47 31.5**	**-7.2**
	comp=Z,52nm,0.8s								
MK31	**Makanchi Array**	**14.40**	**17**	P			**Pn**	**00 44 59.3**	**-1.2**
MK31				S			**Sn**	**00 47 31.5**	**-7.2**
MK31					pmax		pmax		
	comp=Z,1.0nm,0.3s								
MK31					smax				
	comp=Z,68nm,1.0s								
MKAR	**Makanchi Array**	**14.40**	**17**	Pn			**Pn**	**00 44 59.1**	**-1.4**
	comp=Z,1.7nm,0.3s,baz=203,slow=13,SNR=52								
BOM	**Bombay**	**14.51**	**193**	*e*P			**Pn**	**00 45 02.9**	**+0.8**
BOM				*ex*			x	00 45 17.1	
	comp=Z,42nm,0.7s								
BOM				*e*S			**Sn**	**00 47 28.4**	**-13**
LATR	**Latur**	**14.66**	**179**	*ex*			**Pn**	**00 45 00.0**	**-4.0**
LATR				*e*S			**Sn**	**00 47 32.9**	**-12**
POO	**Poona**	**14.71**	**189**	*ex*			x	00 45 17.0	
POO				*ex*			x	00 45 24.0	
POO				*e*P				00 45 47.4	
POO					AMb		AMB	00 45 48.9	
	comp=Z,62nm,1.0s								
POO				*ex*			x	00 47 24.0	
POO				*i* S			**Sn**	**00 47 33.0**	**-13**
POO				*i* SS				00 47 47.0	
POO				*ex*			x	00 48 09.3	
ABKT	**Ailbek**	**15.53**	**293**	Pn			**Pn**	**00 45 11.6**	**-3.7**
	comp=Z,204nm,0.8s,SNR=8.7								
SHL	**Shillong**	**15.55**	**115**	*e*P			**Pn**	**00 45 16.0**	**+0.4**
SHL				*ex*			x	00 47 48.0	
HYB	**Hyderabad**	**15.79**	**172**	*i* P			**Pn**	**00 45 14.0**	**-4.6**
HYB				*e*				00 45 26.0	
HYB				*e*				00 45 38.5	
HYB				*e*				00 47 57.0	
HYB				*e*S			**S**	**00 48 15.0**	**-10**
HYB	**Hyderabad**	**15.79**	**172**	*e*P			**Pn**	**00 45 14.0**	**-4.6**
HYB				*e*S			S	00 47 57.0	-28
VIS	**Vishakhapatnam**	**16.61**	**156**	*e*P			**Pn**	**00 45 31.3**	**+2.3**
VIS					AMb		AMB	00 45 33.1	
	comp=Z,15nm,0.7s								
VIS				*i* x			x	00 45 40.1	
VIS				*e*S			S	00 48 17.8	-24
VIS				*i* x			x	00 48 22.1	
KURK	**Kurchatov**	**17.65**	**5**	⇓P			**Pn**	**00 45 39.7**	**-2.3**
	comp=Z,25nm,1.2s								
KURK				⇑S			**S**	**00 48 55.0**	**-8.2**
	comp=Z,18nm,1.2s								
KURK	**Kurchatov**	**17.65**	**5**	Pn			**Pn**	**00 45 39.3**	**-2.7**
	comp=Z,198nm,0.5s,SNR=11								
KURK	**Kurchatov**	**17.65**	**5**	*e*P			**Pn**	**00 45 39.8**	**-2.2**
KURK				*e*				00 48 58.2	
KURK					pmax		pmax		
	comp=Z,35nm,0.7s								
KURK	**Kurchatov**	**17.65**	**5**	*e*Pn			**Pn**	**00 45 39.8**	**-2.2**
	comp=Z,35nm,0.7s								
KURK				*e*Sn			**Sn**	**00 48 58.2**	**+0.5**
WSAR	**Wadi Sarin**	**18.39**	**242**	P			**Pn**	**00 45 49.8**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=58,slow=9.8,SNR=10								
BANOM	**Banah**	**18.79**	**253**	⇑P			**Pn**	**00 45 56.6**	**+0.8**
	SNR=8.9								
ASHO	**Ashiyiah**	**19.57**	**250**	P			**Pn**	**00 46 05.4**	**+0.3**
	SNR=48								
BSY	**Bisya**	**19.74**	**243**	P			**Pn**	**00 46 09.0**	**+1.8**
	SNR=8.8								
ARQ	**Araqi**	**19.92**	**246**	P			**Pn**	**00 46 09.8**	**+0.5**
	SNR=6.8								
VOSK	**Vostochnaya**	**19.95**	**351**	⇑P			**Pn**	**00 46 07.4**	**-2.2**
	comp=Z,10nm,0.5s								
VOSK				⇓S			**S**	**00 49 44.6**	**-4.7**
	comp=Z,13nm,1.5s								
VOSK	**Vostochnaya**	**19.95**	**351**	P			**Pn**	**00 46 07.3**	**-2.3**
VOSK					pmax		pmax		
	comp=Z,5.0nm,0.5s								
GTA	**Gaotai**	**19.96**	**65**	*e*P			**Pn**	**00 46 10.0**	**+0.2**
GTA					AMB		AMB		
	comp=Z,6.0nm,0.9s								
GTA					AMB		AMB		
	comp=Z,124nm,8.4s								
GTA					LR		LR		
	comp=N,83nm,8.4s								
GTA					LR		LR		
	comp=E,64nm,12.2s								
GTA					LR		LR		
	comp=Z,99nm,9.1s								
AB31	**Akbulak array**	**20.18**	**328**	P			**P**	**00 46 10.0**	**-0.2**
	comp=Z,45nm,0.6s,baz=133,slow=11,SNR=728

LZH *SP sP 00 47 03.2 +7.1
LZH 00 47 12.5
LZH eS **S** **00 50 49.6 +4.7**
LZH eSS 00 51 29.1
LZH pmax pmax
comp=Z,39nm,1.2s,mb4.7
LZH MLR MLR
comp=Z,1µm,13.5s,MS4.5
LZH Lanzhou 22.86 75 eP **P** **00 46 41.3 +2.5**
comp=Z,39nm,1.2s,mb4.7
LZH pP 00 46 55.6
LZH sP sP 00 47 03.2 +7.1
LZH PP 00 47 12.5
LZH eS **S** **00 50 49.6 +4.7**
LZH sS sS 00 51 05.7 +0.9
LZH eSS 00 51 29.1
LZH LR LR
comp=Z,1µm,13.5s,MS4.5
CD2 Chengdu 23.39 88 eP **P** **00 46 46.3 +2.1**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.3
ORR Orenburg 24.21 326⇑ *i*P **P** **00 46 51.7 0.0**
ORR pmax pmax
comp=Z,30nm,0.8s,mb4.8
KMI Kunming 24.42 102 P **P** **00 46 55.0 +1.4**
KMI AMB AMB
comp=Z,28nm,0.8s,mb4.7
KMI LR LR
comp=N,66nm,16.2s,MS3.6
KMI LR LR
comp=E,158nm,17.4s,MS3.6
KMI LR LR
comp=Z,193nm,18.6s,MS3.6
KMI Kunming 24.42 102 P **P** **00 46 54.9 +1.3**
KMI pmax pmax
comp=Z,28nm,0.8s,mb4.7
KMI MLR MLR
comp=Z,190nm,18.6s,MS3.6
KMI Kunming 24.42 102 P **P** **00 46 54.9 +1.3**
comp=Z,28nm,0.8s,mb4.7
KMI pP 00 47 18.5
KMI LR LR
comp=Z,190nm,18.6s,MS3.6
UMR Umm Al-Rimmam 24.61 269 eP **P** **00 46 55.6 +0.2**
UMR AMb AMB 00 46 57.1
comp=Z,72nm,0.5s,mb5.4
QRN Al-Qurain 24.67 267 eP **P** **00 46 55.7 -0.2**
QRN AMb AMB 00 46 57.5
comp=Z,183nm,0.6s,mb5.8
KBD Kabd 24.73 269 eP **P** **00 46 56.8 +0.3**
KBD AMb AMB 00 46 59.1
comp=Z,290nm,0.6s,mb6.0
CHTO Chiang Mai 24.80 119 eP **P** **00 46 58.0 +0.9**
CHTO pmax pmax
comp=Z,13nm,0.7s,mb4.6
CHTO Chiang Mai 24.80 119 eP **P** **00 46 58.0 +0.9**
comp=Z,13nm,0.7s,mb4.6
CHTO e 00 47 14.2
MIB Mutribah 24.86 270 eP **P** **00 46 58.0 +0.4**
MIB AMb AMB 00 46 59.0
comp=Z,180nm,0.5s,mb5.9
RDF Al-Radifah 24.93 268 eP **P** **00 46 58.4 +0.2**
RDF AMb AMB 00 47 00.3
comp=Z,224nm,0.6s,mb5.9
NAY Al-Naaiem 25.09 269 eP **P** **00 46 59.8 +0.1**
NAY AMb AMB 00 47 02.0
comp=Z,84nm,0.7s,mb5.4
RBK Rabkut 25.22 237⇓ P **P** **00 47 01.9 +1.0**
SNR=14
WHFO Wadi Hawf 25.25 239⇓ P **P** **00 47 01.8 +0.7**
SNR=59
ABTO Aybut 25.96 238⇑ P **P** **00 47 08.2 +0.6**
SNR=14
SVE Sverdlovsk 26.02 340 eP **P** **00 47 07.7 -0.4**
SVE e 00 58 08.0
GNI Garni 26.15 295 P **P** **00 47 11.6 +2.3**
comp=Z,67nm,0.7s,mb5.3,baz=26,slow=2.0,SNR=63
GNI Garni 26.15 295 eP **P** **00 47 12.9 +3.6**
GNI pmax pmax
comp=Z,102nm,0.8s
GNI Garni 26.15 295 eP **P** **00 47 12.9 +3.6**
comp=Z,102nm,0.8s,mb5.4
ZAK Zakamensk 26.30 41 eP **P** **00 47 10.4 -0.2**
ZAK e 00 50 35.2
ZAK pmax pmax
comp=Z,10.0nm,2.0s,mb4.0
ZAK pmax pmax
comp=Z,6.0nm,1.9s
ARU Arti 26.31 338 P **P** **00 47 11.0 +0.3**
comp=Z,211nm,0.6s,mb5.8,SNR=14
ARU Arti 26.31 338⇑ *i*P **P** **00 47 11.0 +0.3**
ARU e 00 47 50.4
ARU ePPP 00 47 59.2
ARU eS **S** **00 51 44.3 +4.1**
ARU eSS 00 52 47.7
ARU pmax pmax
comp=Z,21nm,0.7s,mb4.8
ARU MLR MLR
comp=Z,400nm,18.0s,MS4.0
ARU MLR MLR
comp=N,200nm,17.0s,MS3.9
ARU MLR MLR
comp=E,200nm,18.0s,MS3.9
ARU Arti 26.31 338 eP **P** **00 47 11.3 +0.5**
comp=E,16nm,0.6s,mb4.7
SONM Songino Array 27.00 48 P **P** **00 47 19.2 +2.2**
comp=E,6.2nm,0.6s,mb4.3,baz=244,slow=9.7,SNR=55
SONM LR LR 00 59 06.3
comp=E,134nm,20.0s,MS3.5,baz=254,slow=39
SONM PKKP 01 13 12.3
comp=E,1.1nm,0.8s,baz=202,slow=3.7,SNR=6.5
ZEI Tsey 27.14 300 eP **P** **00 47 19.5 +1.3**
ZEI e*PP pP 00 47 27.6 -2.9
ZEI pmax pmax
comp=Z,13nm,0.8s,mb4.5
GYA Guiyang 27.14 96⇓ *i*P **P** **00 47 20.5 +2.3**
GYA AP pP 00 47 35.0 +4.4
GYA XP sP 00 47 42.3 +6.0
GYA PP 00 48 07.0
GYA S **S** **00 51 51.3 -2.0**
GYA AMB AMB
comp=Z,20nm,0.7s,mb4.8
GYA AMB AMB
comp=Z,350nm,4.8s
GYA LR LR
comp=N,410nm,16.8s,MS4.2
GYA LR LR
comp=E,430nm,17.0s,MS4.2
GYA LR LR
comp=Z,450nm,17.2s,MS4.1
XAN Xi'an 27.16 79 P **P** **00 47 20.3 +1.9**
XAN AMB AMB
comp=Z,5.0nm,0.9s,mb4.0
TLY Talaya 27.18 39 eP **P** **00 47 22.1 +3.6**
TLY pmax pmax
comp=Z,3.0nm,0.6s,mb4.0
TLY MLR MLR
comp=Z,286nm,15.0s,MS4.0
ULN Ulaanbaatar 27.43 48 eP **P** **00 47 22.1 +1.3**
ULN e pP 00 47 35.2 +2.0
ULN pmax pmax
comp=Z,3.0nm,0.6s,mb4.0
ULN Ulaanbaatar 27.43 48 eP **P** **00 47 22.1 +1.3**
comp=Z,2.9nm,0.6s,mb4.0
ULN e pP 00 47 35.2 +2.0
KIV Kislovodsk 28.22 302 eP **P** **00 47 28.2 +0.3**
KIV e 00 48 12.0
KIV e 00 50 40.1
KIV pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
KIV MLR MLR
comp=Z,100nm,17.0s,MS3.5
KIV Kislovodsk 28.22 302 eP **P** **00 47 28.1 +0.3**
KIV e pP 00 47 42.3 +2.0
MALT Malatya 31.00 290 eP **P** **00 47 53.6 +1.1**
MALT pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
MALT Malatya 31.00 290 eP **P** **00 47 53.6 +1.1**
comp=Z,8.7nm,0.7s,mb4.7
GZT Gaziantep 31.74 289 *i*P **P** **00 48 00.3 +1.4**
ANN Anapa 32.07 303 *c i*P **P** **00 48 00.9 -1.0**
ANN e*PP pP 00 48 11.6 -2.8
ANN eS **S** **00 53 12.3 +1.6**
ANN pmax pmax
comp=Z,49nm,0.7s,mb5.5

VRSR Storozhevoye 32.44 315 eP **P** **00 48 04.5 -0.6**
VRSR pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
VRSR pmax pmax
comp=N,2.0nm,0.8s
VRSR pmax pmax
comp=E,10.0nm,1.0s
VOR Voronezh 32.61 316 eP **P** **00 48 05.0 -1.6**
VOR pmax pmax
comp=Z,70nm,1.3s,mb5.4
VOR pmax pmax
comp=N,40nm,1.2s
COBT Iskenderun 32.86 287 *i* P **P** **00 48 09.7 +0.9**
ASF Jabal al Asfar 33.03 279 P **P** **00 48 11.7 +1.4**
comp=N,2.6nm,0.7s,mb4.3,baz=340,slow=3.3,SNR=9.0
BOYT Boyabat 33.68 296 *i* P **P** **00 48 16.8 +0.9**
CTKT Corum 33.76 295 *i* P **P** **00 48 17.3 +0.6**
AVNT Avonos 33.78 292 *i* P **P** **00 48 13.3 -3.5**
MEST Erdemli 34.54 288 *i* P **P** **00 48 23.8 +0.4**
BR131 Keskin Array S 34.67 293 eP **P** **00 48 24.9 +0.4**
comp=N,3.9nm,0.6s,mb4.5
BR131 epP pP 00 48 42.2 +5.1
BRTR Keskin Array B 34.67 293 P **P** **00 48 24.9 +0.4**
comp=N,5.2nm,0.5s,mb4.7,baz=115,slow=7.2,SNR=44
ELDT Eldivan 34.80 295 *i* P **P** **00 48 26.6 +0.9**
MOS Moscow 34.98 322 eP **P** **00 48 26.0 -1.2**
MOS *e* 00 49 42.9
MOS *e* 00 50 05.0
MOS pmax pmax
comp=Z,45nm,0.9s,mb5.4
EIL Elat 35.27 276 eP **P** **00 48 29.1 -0.6**
comp=Z,123nm,1.1s,mb5.8
EIL epP pP 00 48 46.7 +4.4
OBN Obninsk 35.30 321 P **P** **00 48 29.4 -0.5**
comp=Z,1µm,0.5s,SNR=11
OBN Obninsk 35.30 321 eP **P** **00 48 29.6 -0.3**
OBN *e* 00 49 51.5
OBN *e* 00 50 58.9
OBN *i* S **S** **00 53 59.9 -0.6**
OBN pmax pmax
comp=Z,51nm,0.4s,mb5.8
OBN MLR MLR
comp=Z,100nm,20.0s,MS3.6
OBN Obninsk 35.30 321 eP **P** **00 48 29.8 -0.2**
comp=Z,86nm,0.6s,mb5.9
CSS Prodhromos 35.42 285 eP **P** **00 48 30.9 -0.2**
comp=Z,8.3nm,0.8s,mb4.7
BOD Bodaibo 35.45 34 eP **P** **00 48 31.5 +0.3**
BOD pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
NJ2 Nanjing 35.72 80 eP **P** **00 48 36.0 +2.5**
NJ2 AP pP 00 48 50.5 +4.4
NJ2 XP sP 00 48 58.8 +7.0
NJ2 PP PP 00 49 57.3 +2.0
NJ2 S **S** **00 54 09.0 +2.0**
NJ2 XS sS 00 54 33.0 +4.8
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
NJ2 AMB AMB
comp=Z,270nm,4.5s
NJ2 LR LR
comp=N,380nm,24.8s
NJ2 LR LR
comp=E,460nm,33.8s
NJ2 LR LR
comp=Z,180nm,24.0s,MS3.8
SGKT Sivrigoynuk 35.85 295 *i* P **P** **00 48 35.2 +0.6**
KLMR Klimovskoe 36.53 331 *c i*P **P** **00 48 40.3 -0.2**
KLMR eS **S** **00 54 23.1 +3.6**
KLMR pmax pmax
comp=Z,30nm,1.1s,mb5.0
KLMR MLR MLR
comp=Z,190nm,13.0s,MS4.1
HENT Hendek 36.71 295 *i* P **P** **00 48 42.4 +0.3**
ESKT Eskisehir 36.84 293 *i* P **P** **00 48 43.0 0.0**
PSI Prapat 36.89 140 P **P** **00 48 42.6 -0.9**
comp=Z,3.6nm,0.6s,mb4.3,baz=333,slow=11,SNR=5.1
SSE Sheshan 37.88 81 P **P** **00 48 50.3 -1.6**
SSE AMB AMB
comp=Z,28nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,75nm,5.2s
SSE Sheshan 37.88 81 P **P** **00 48 50.2 -1.7**
comp=Z,28nm,0.7s,mb5.1
AKASG Malin Array Be 38.42 312 P **P** **00 48 55.6 -0.9**
comp=Z,18nm,0.6s,mb5.0,baz=80,slow=7.4,SNR=66
CFR Carcaliu 38.68 303⇑ *i*P **P** **00 48 58.8 +0.2**
CFR Carcaliu 38.68 303⇑ P **P** **00 48 58.8 +0.2**
TMCR Tamitsa 38.94 334 eP **P** **00 49 00.8 0.0**
TMCR pmax pmax
comp=Z,30nm,1.2s,mb4.9
TMCR pmax pmax
comp=N,30nm,1.0s
TMCR pmax pmax
comp=E,20nm,1.0s
BTOK Tokmak 38.98 294 *i* P **P** **00 49 01.5 +0.3**
VRI Vrincioaia 39.68 304⇑ *i*P **P** **00 49 07.8 +0.8**
VRI Vrincioaia 39.68 304⇓ P **P** **00 49 08.0 +1.0**
KDAG Borinova 39.73 292 *i* P **P** **00 49 07.0 -0.4**
PLOR Plostina 39.73 304⇓ *i*P **P** **00 49 08.4 +1.0**
YHNB Yeheng 40.13 90 eP **P** **00 49 12.1 +1.3**
MLR Muntele Rosu 40.23 303 P **P** **00 49 12.8 +1.3**
comp=E,41nm,0.8s,mb5.2,baz=8.6,slow=0.8,SNR=53
MLR Muntele Rosu 40.23 303⇑ *i*P **P** **00 49 12.8 +1.3**
MLR Muntele Rosu 40.23 303⇓ P **P** **00 49 12.7 +1.2**
KARP Karpathos 40.29 288 eP **P** **00 49 12.0 0.0**
ALN Alexandroupoli 40.38 296 eP **P** **00 49 13.1 +0.3**
BURAR Bucovina Array 40.76 306⇑ *i*P **P** **00 49 16.0 +0.1**
BURAR Bucovina Array 40.76 306⇑ P **P** **00 49 16.0 +0.1**
VOIR 40.86 303⇑ *i*P **P** **00 49 17.4 +0.7**
JOF Joensuu 40.93 330 *ep* **P** **00 49 16.4 -1.0**
comp=E,39nm,0.7s,mb5.2
JOF Joensuu 40.93 330 eP **P** **00 49 16.4 -1.0**
JOF pmax pmax
comp=Z,39nm,0.7s,mb5.2
APE Apeiranthos 41.30 290 eP **P** **00 49 20.4 0.0**
APE Apeiranthos 41.30 290 eP **P** **00 49 19.0 -1.4**
APE Apeiranthos 41.30 290⇑ P **P** **00 49 20.1 -0.3**
NPS Neapolis 41.58 288 eP **P** **00 49 22.0 -0.7**
XRY Khrísi 41.60 287 eP **P** **00 49 22.5 -0.3**
LVV L'vov 41.64 310 eP **P** **00 49 21.5 -1.7**
LVV *e* 00 51 07.7
LVV ePPP 00 51 22.1
LVV eS **S** **00 55 29.9 -6.4**
LVV eSS SS 00 58 34.5 -8.3
LAST Lasithi 41.71 287 eP **P** **00 49 24.1 +0.3**
SIVA Sivas 42.28 287 eP **P** **00 49 27.9 -0.5**
PAIG Paliouri 42.29 295 eP **P** **00 49 28.9 +0.4**
SOH Sokhos 42.42 296 eP **P** **00 49 30.1 +0.6**
DRGR 42.46 305⇓ *i*P **P** **00 49 30.2 +0.4**
KWP Kalwaria 42.49 309 eP **P** **00 49 30.2 +0.1**
SUW Suwalki 42.56 316 eP **P** **00 49 29.8 -0.8**
FINES FINESS Array B 42.67 327 P **P** **00 49 31.6 +0.1**
comp=Z,13nm,0.5s,mb5.0,baz=117,slow=10,SNR=213
FINES LR LR 01 08 30.1
comp=Z,189nm,19.8s,MS4.0,baz=121,slow=38
VAM Vamos 42.68 288 eP **P** **00 49 31.0 -0.6**
KNT Kendrikon 42.72 297 eP **P** **00 49 31.9 0.0**
THE Thessaloniki 42.73 296 eP **P** **00 49 26.5 -5.6**
XOR Xorichti 42.74 294 eP **P** **00 49 32.1 0.0**
KOLS Kolonicke sedl 42.76 308 eP **P** **00 49 30.7 -1.5**
KAF Kangasniemi 42.78 328 ep **P** **00 49 31.7 -0.8**
KAF Kangasniemi 42.78 328 eP **P** **00 49 31.7 -0.8**
KAF pmax pmax
comp=Z,12nm,0.4s,mb5.0
GVD Gavdhos 42.90 287 eP **P** **00 49 32.9 -0.5**
GVD Gavdhos 42.90 287 eP **P** **00 49 33.0 -0.4**
KARN Karanos 42.91 288 eP **P** **00 49 33.7 +0.2**
BZS Buzias 43.26 303⇑ *i*P **P** **00 49 36.5 +0.2**
BZS Buzias 43.26 303⇓ P **P** **00 49 36.9 +0.5**
CRVS Cervenica-Dubn 43.29 308 eP **P** **00 49 38.5 +1.9**
STHS Stebnicka Huta 43.44 309 *i* P **P** **00 49 37.2 -0.6**
AGG Agios Georgios 43.46 294 eP **P** **00 49 37.5 -0.4**
KLR Kul'dur 43.74 51 eP **P** **00 49 38.0 -2.2**
FNA Florina 43.91 296 eP **P** **00 49 41.7 +0.1**
KECS Kecovo 43.94 308 eP **P** **00 49 42.4 +0.6**
GRUS Gruza 44.03 301 *i* P **P** **00 49 42.6 +0.1**
NIE Niedzica 44.05 309 eP **P** **00 49 43.5 +0.9**
YAK Yakutsk 44.31 33 eP **P** **00 49 45.1 +0.3**
YAK pmax pmax
comp=Z,13nm,0.4s,mb5.0
YAK Yakutsk 44.31 33 eP **P** **00 49 45.1 +0.3**
comp=Z,13nm,0.4s,mb5.0

PSZ Piszkesteto 44.35 307 eP **P** **00 49 45.6 +0.5**
PSZ pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
PSZ Piszkesteto 44.35 307 eP **P** **00 49 45.6 +0.5**
comp=Z,7.5nm,0.7s,mb4.5
OJC Ojcow 44.38 310 eP **P** **00 49 44.9 -0.4**
DIVS Divcibare 44.53 301 *i* P **P** **00 49 47.1 +0.6**
LKD Levkas 44.80 294 eP **P** **00 49 47.1 -1.6**
IGT Igoumenitsa 44.90 295 eP **P** **00 49 48.3 -1.2**
VYHS Vyhne 45.04 308 eP **P** **00 49 51.4 +0.9**
OKC Ostrava-Krasne 45.45 310 eP **P** **00 49 54.1 +0.3**
MORC Moravsky Berou 45.84 309⇓ P **P** **00 49 57.1 +0.2**
ARCES ARCESS Array B 45.90 338 P **P** **00 49 57.8 +0.5**
comp=Z,10.0nm,0.6s,mb4.9,baz=112,slow=8.0,SNR=74
ARCES LR LR 01 09 38.9
comp=Z,151nm,21.6s,MS3.9,baz=325,slow=37
ARE0 ARCESS Array S 45.90 338 eP **P** **00 49 57.9 +0.5**
GKP Gorka Klasztor 46.03 314 eP **P** **00 49 58.2 -0.2**
VRAC Vranov 46.48 309⇑ P **P** **00 50 02.3 +0.4**
DPC Dobruska-Polom 46.61 310 eP **P** **00 50 03.3 +0.3**
UPC Upice 46.80 310 eP **P** **00 50 04.4 -0.1**
TREC Trest 47.20 309 eP **P** **00 50 08.0 +0.4**
ARSA Arzberg 47.34 306⇑ *i*P **P** **00 50 08.6 -0.1**
comp=Z,7.8nm,1.1s,mb4.5
TIXI Tiksi 47.36 20 eP **P** **00 50 07.8 -1.0**
TIXI pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
TIXI MLR MLR
comp=Z,105nm,14.0s,MS4.0
PERS Pernice 47.68 305 eP **P** **00 50 11.2 -0.1**
TIP Timpagrande 47.69 295 eP **P** **00 50 11.1 -0.2**
BOJS Bojanci 47.72 304 eP **P** **00 50 11.2 -0.4**
PRU Pruhonice 47.77 310 eP **P** **00 50 12.1 +0.1**
BRG Berggiesshubel 48.10 311 eP **P** **00 50 14.6 +0.1**
comp=Z,10.0nm,0.9s,mb4.8
BRG Berggiesshubel 48.10 311 *i* P **P** **00 50 14.8 +0.2**
comp=Z,9.8nm,1.2s,mb4.7
BRG *e* pP 00 50 26.0 -1.6
comp=Z,5.1nm,1.3s
BRG Berggiesshubel 48.10 311 *i* P **P** **00 50 14.8 +0.3**
BRG *e* pP 00 50 26.0 -1.6
BRG pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
RUE Ruedersdorf 48.13 313 eP **P** **00 50 14.8 +0.1**
comp=Z,12nm,0.4s,mb5.3
RUE Ruedersdorf 48.13 313 P **P** **00 50 13.8 -0.9**
MOA Molln 48.13 307 *i* P **P** **00 50 14.5 -0.3**
comp=Z,21nm,1.0s,mb5.1,SNR=16
CUC Castrocucco 48.23 296 P **P** **00 50 15.7 +0.2**
SLCN Sala Consilina 48.29 297 P **P** **00 50 16.8 +0.8**
MRLC Muro Lucano 48.32 297 P **P** **00 50 16.9 +0.7**
RGN Rugen 48.36 316 P **P** **00 50 17.2 +0.7**
FG5 Orsara di Pugl 48.38 298 P **P** **00 50 18.0 +1.3**
FG5 pmax pmax
comp=Z,51nm,0.6s,mb5.7
FG5 Orsara di Pugl 48.38 298 P **P** **00 50 18.0 +1.3**
comp=Z,50nm,0.6s,mb5.7
MGR Morigerati 48.40 297 P **P** **00 50 16.6 -0.2**
GEC2 GERESS Array S 48.41 308 eP **P** **00 50 16.8 -0.1**
comp=Z,4.0nm,1.0s,mb4.4
GEC2 GERESS Array S 48.41 308 eP **P** **00 50 16.8 -0.1**
GEC2 pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
GERES GERESS Array B 48.41 308 P **P** **00 50 17.1 +0.2**
comp=Z,2.2nm,0.7s,mb4.3,baz=91,slow=6.7,SNR=18
KHC Kasperske Hory 48.47 309 eP **P** **00 50 17.1 -0.2**
SGO Sicignano 48.49 297 P **P** **00 50 18.0 +0.4**
SGO pmax pmax
comp=Z,31nm,0.8s,mb5.4
SGO Sicignano 48.49 297 P **P** **00 50 18.0 +0.4**
comp=Z,31nm,0.8s,mb5.4
CLL Collm 48.67 312 eP **P** **00 50 18.0 -0.9**
comp=Z,16nm,1.5s,mb4.8
CLL *e*(pP) pP 00 50 38.0 +6.1
CLL *e*(PcP) PcP 00 51 39.0 -4.6
CLL Collm 48.67 312 eP **P** **00 50 18.0 -0.9**
CLL pmax pmax
comp=Z,16nm,1.5s,mb4.8
MTTG Motta San Giov 48.76 294 P **P** **00 50 20.2 +0.6**
comp=Z,35nm,0.5s,mb5.2
ROBS Robic 48.84 305 eP **P** **00 50 19.7 -0.5**
PTCC Patocco-Chiusa 48.92 305 P **P** **00 50 20.6 -0.2**
comp=Z,6.4nm,0.5s,mb4.9
CII Carovilli 49.01 299 P **P** **00 50 23.5 +2.0**
comp=Z,19nm,0.8s,mb5.2
MIDA Miranda 49.06 299 P **P** **00 50 22.1 +0.2**
NKC Novy Kostel 49.10 310 eP **P** **00 50 22.6 +0.4**
WERD Werda 49.17 311 eP **P** **00 50 22.5 -0.3**
comp=Z,5.0nm,1.0s,mb4.5
ROTZ Rotzenmuhle 49.30 310 eP **P** **00 50 24.6 +0.9**
comp=Z,10.0nm,1.0s,mb4.8
MANZ Manzenberg 49.34 310 eP **P** **00 50 24.5 +0.5**
comp=Z,10.0nm,1.2s,mb4.7
SDI San Donato 49.37 299 P **P** **00 50 24.1 -0.2**
SDI pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
SDI San Donato 49.37 299 P **P** **00 50 24.1 -0.2**
comp=Z,8.5nm,0.5s,mb5.0
VVLD Villa Vallelon 49.48 299 P **P** **00 50 25.6 +0.5**
CING Cingoli 49.51 301 P **P** **00 50 26.0 +0.7**
AQU L'Aquila 49.55 300⇓ P **P** **00 50 26.5 +0.9**
MOX Moxa 49.59 311 eP **P** **00 50 26.0 0.0**
comp=Z,9.0nm,1.0s,mb4.8
MOX Moxa 49.59 311 eP **P** **00 50 26.3 +0.3**
comp=Z,16nm,1.3s,mb4.9
MOX Moxa 49.59 311 eP **P** **00 50 26.3 +0.3**
MOX pmax pmax
comp=Z,16nm,1.3s,mb4.9
NB2 NORSAR Subarra 49.65 325 P **P** **00 50 25.8 -0.6**
comp=Z,23nm,0.6s,mb5.4,baz=94,slow=7.9
NOA NORSAR Array B 49.65 325 P **P** **00 50 25.9 -0.5**
comp=Z,20nm,0.6s,mb5.3,baz=95,slow=7.5,SNR=80
NOA LR LR 01 12 37.2
comp=Z,98nm,19.4s,MS3.8,baz=40,slow=38
NRCA Norcia 49.66 301 P **P** **00 50 26.9 +0.4**
comp=Z,13nm,0.7s,mb5.1
ARV Arcevia 49.67 301 P **P** **00 50 26.7 +0.2**
ARV pmax pmax
comp=Z,20nm,0.6s,mb5.3
ARV Arcevia 49.67 301 P **P** **00 50 26.7 +0.2**
comp=Z,20nm,0.6s,mb5.3
FIAM Fiamignano 49.77 300 P **P** **00 50 27.7 +0.4**
NAO01 NORSAR Array S 49.80 324 eP **P** **00 50 27.1 -0.4**
comp=Z,6.1nm,0.5s,mb4.9
CERT Cerreto 49.93 299 P **P** **00 50 28.1 -0.5**
GRA1 Grafenberg Arr 49.94 310 eP **P** **00 50 29.4 +0.8**
comp=Z,7.0nm,0.7s,mb4.8
GRA1 LR LR
comp=Z,200nm,21.1s,MS4.1
GRF Grafenberg Arr 49.94 310 eP **P** **00 50 29.4 +0.8**
comp=Z,7.0nm,0.7s,mb4.8
GRF eL 01 30 47.2
comp=Z,189nm,21.1s
GRF Grafenberg Arr 49.94 310 eP **P** **00 50 29.4 +0.8**
GRF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
GRF MLR MLR
comp=Z,200nm,21.1s,MS4.1
WTTA Wattenberg 49.97 307⇑ *i*P **P** **00 50 28.1 -0.8**
comp=Z,8.9nm,0.8s,mb4.9
WTTA Wattenberg 49.97 307⇑ *i*P **P** **00 50 28.1 -0.7**
WTTA pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
WATA Walderalm 50.00 307⇓ *i*P **P** **00 50 28.1 -0.9**
comp=Z,4.8nm,1.1s,mb4.5,SNR=10
WATA Walderalm 50.00 307⇓ *i*P **P** **00 50 28.1 -1.0**
WATA pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
GIB Gibilmanna 50.04 294 P **P** **00 50 28.8 -0.6**
MNS Montasola 50.06 300 P **P** **00 50 29.8 +0.2**
FUR Furstenfeldbru 50.09 308 eP **P** **00 50 29.6 -0.1**
comp=Z,18nm,0.9s,mb5.1
FUR Furstenfeldbru 50.09 308 eP **P** **00 50 29.6 -0.1**
FUR pmax pmax
comp=Z,18nm,0.9s,mb5.1
KMBO Kilima Mbogo 50.12 235 P **P** **00 50 30.6 +0.7**
comp=Z,23nm,0.9s,mb5.2,baz=40,slow=11,SNR=53
KMBO LR LR 01 11 52.6
comp=Z,52nm,19.4s,MS3.5,baz=204,slow=36
BSEG Bad Segeberg 50.14 315 eP **P** **00 50 30.1 0.0**
comp=Z,10.0nm,0.7s,mb5.0
BSEG Bad Segeberg 50.14 315 eP **P** **00 50 30.1 0.0**
BSEG pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
CTI Castel Tesino 50.14 305 P **P** **00 50 30.1 0.0**

CTI pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
CTI Castel Tesino 50.14 305 P **P** **00 50 30.1 0.0**
comp=Z,8.5nm,0.5s,mb5.0
BADI Badiali 50.16 302 P **P** **00 50 31.8 +1.5**
MJAR Matsushiro Arr 50.18 68 P **P** **00 50 30.8 +0.3**
comp=Z,3.8nm,0.7s,mb4.5,baz=287,slow=9.5,SNR=12
MJAR LR LR 01 15 42.2
comp=Z,103nm,19.8s,MS3.8,baz=245,slow=41
CLZ Clausthal 50.26 313 *eP* **P** **00 50 31.6 +0.5**
comp=Z,22nm,1.0s,mb5.1
CLZ Clausthal 50.26 313 *eP* **P** **00 50 31.6 +0.5**
CLZ pmax pmax
comp=Z,22nm,1.0s,mb5.1
SQTA Sankt Quirin 50.27 307⇑*i*P **P** **00 50 29.9 -1.1**
comp=Z,6.7nm,1.0s,mb4.6,SNR=7.9
SQTA Sankt Quirin 50.27 307⇑*i*P **P** **00 50 29.9 -1.2**
SQTA pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
MOTA Moosalm 50.32 307⇓*i*P **P** **00 50 30.3 -1.1**
comp=Z,4.9nm,0.7s,mb4.6,SNR=13
MOTA Moosalm 50.32 307⇓*i*P **P** **00 50 30.4 -1.1**
MOTA pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
SFI Santa Sofia 50.37 302 P **P** **00 50 32.9 +1.0**
SFI pmax pmax
comp=Z,32nm,1.0s,mb5.3
SFI Santa Sofia 50.37 302 P **P** **00 50 32.9 +1.0**
comp=Z,32nm,1.0s,mb5.3
KONO Kongsberg 50.40 323 *eP* **P** **00 50 31.7 -0.4**
KONO pmax pmax
comp=Z,11nm,0.7s,mb5.0
KONO Kongsberg 50.40 323 *eP* **P** **00 50 31.7 -0.4**
comp=Z,11nm,0.7s,mb5.0
VMG Vicchio 50.58 302 P **P** **00 50 34.8 +1.4**
comp=Z,102nm,1.0s,mb5.7
UBBA Unterbreizbach 50.60 311 *eP* **P** **00 50 33.2 -0.4**
comp=Z,3.0nm,0.7s,mb4.3
CSNT Castellina Chi 50.85 302 P **P** **00 50 35.0 -0.5**
comp=Z,17nm,0.7s,mb5.1
DAVA Damuels 51.15 307 *i*P **P** **00 50 37.2 -0.6**
comp=Z,28nm,0.7s,mb5.3,SNR=21
STU Stuttgart 51.38 309 *eP* **P** **00 50 39.6 +0.2**
comp=Z,16nm,0.7s,mb5.1
STU Stuttgart 51.38 309 *eP* **P** **00 50 39.2 -0.2**
STU pmax pmax
comp=Z,12nm,0.8s,mb4.9
STU Stuttgart 51.38 309 *eP* **P** **00 50 39.2 -0.2**
comp=Z,12nm,0.8s,mb4.9
STU *ep*P pP 00 50 55.7 +3.1
TNS Taunus Mts 51.65 311 *eP* **P** **00 50 41.8 +0.3**
comp=Z,4.0nm,0.8s,mb4.4
TNS Taunus Mts 51.65 311 *eP* **P** **00 50 41.8 +0.3**
TNS pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ASAJ Asahikawa 51.68 57 LR LR 01 16 20.4
comp=Z,85nm,21.6s,MS3.7,baz=32,slow=40
IBBN Ibbenburen 51.82 313 *eP* **P** **00 50 42.8 +0.1**
comp=Z,22nm,1.3s,mb4.9
BOB Bobbio (Coli) 51.90 304 P **P** **00 50 44.2 +0.9**
BOB pmax pmax
comp=Z,11nm,0.6s,mb5.0
BOB Bobbio (Coli) 51.90 304 P **P** **00 50 44.2 +0.9**
comp=Z,11nm,0.6s,mb5.0
BUG Bochum-Univer 52.23 312 *eP* **P** **00 50 45.9 +0.1**
comp=Z,14nm,1.1s,mb4.8
PGF Pioggiola 52.69 301 *eP* **P** **00 50 48.5 -0.7**
comp=Z,30nm,0.7s,mb5.0
PGF Pioggiola 52.69 301 *eP* **P** **00 50 48.5 -0.7**
PGF pmax pmax
comp=Z,15nm,0.7s,mb5.0
PGF Pioggiola 52.69 301 *eP* **P** **00 50 48.5 -0.7**
comp=Z,15nm,0.7s,mb5.0
CDF Champ du Feu 52.69 309 *eP* **P** **00 50 48.7 -0.5**
HINF Hinteralfeld 53.08 308 *eP* **P** **00 50 51.3 -0.8**
comp=Z,12nm,0.7s,mb4.6
HINF Hinteralfeld 53.08 308 *eP* **P** **00 50 51.3 -0.8**
HINF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
HINF Hinteralfeld 53.08 308 *eP* **P** **00 50 51.3 -0.8**
comp=Z,6.1nm,0.7s,mb4.6
MEM Membach 53.14 311 P **P** **00 50 52.6 +0.1**
VSL Villasalto 53.17 297 *eP* **P** **00 50 52.5 -0.3**
comp=Z,45nm,0.9s,mb5.4
WLF Walferdange 53.20 310 *eP* **P** **00 50 53.1 +0.1**
comp=Z,10.0nm,0.8s,mb4.8
WLF Walferdange 53.20 310 *eP* **P** **00 50 53.4 +0.4**
HAU Haudompre 53.38 308 *eP* **P** **00 50 54.7 +0.5**
comp=Z,22nm,0.8s,mb4.9
HAU *eR*
comp=Z,135nm,20.8s
HAU Haudompre 53.38 308 *eP* **P** **00 50 54.7 +0.5**
HAU pmax pmax
comp=Z,11nm,0.8s,mb4.8
HAU MLR MLR
comp=Z,140nm,20.8s,MS4.0
HAU Haudompre 53.38 308 *eP* **P** **00 50 54.7 +0.5**
comp=Z,11nm,0.8s,mb4.8
HAU LR LR
comp=Z,140nm,20.8s,MS4.0
SBF Sospel 53.50 303 *eP* **P** **00 50 54.7 -0.5**
comp=Z,74nm,0.9s,mb5.3
SBF Sospel 53.50 303 *eP* **P** **00 50 54.7 -0.5**
SBF pmax pmax
comp=Z,37nm,0.9s,mb5.3
SBF Sospel 53.50 303 *eP* **P** **00 50 54.7 -0.5**
comp=Z,37nm,0.9s,mb5.3
LPG La Plagne 53.61 305 *eP* **P** **00 50 56.2 +0.2**
comp=Z,26nm,0.7s,mb5.0
LPG La Plagne 53.61 305 *eP* **P** **00 50 56.2 +0.2**
LPG pmax pmax
comp=Z,13nm,0.7s,mb5.0
LPG La Plagne 53.61 305 *eP* **P** **00 50 56.2 +0.2**
comp=Z,13nm,0.7s,mb5.0
BCLA Clavier 53.62 311 P **P** **00 50 56.1 +0.1**
LPL La Plagne 53.62 305 *eP* **P** **00 50 56.2 +0.2**
comp=Z,47nm,0.6s,mb5.3
LPL La Plagne 53.62 305 *eP* **P** **00 50 56.2 +0.2**
LPL pmax pmax
comp=Z,24nm,0.6s,mb5.3
LPL La Plagne 53.62 305 *eP* **P** **00 50 56.2 +0.2**
comp=Z,24nm,0.6s,mb5.3
BNI Bardonecchia 53.76 305 *eP* **P** **00 50 56.9 -0.2**
BNI pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
BNI Bardonecchia 53.76 305 *eP* **P** **00 50 56.9 -0.2**
comp=Z,9.1nm,1.0s,mb4.7
MBDF Montbardon 53.77 304 *eP* **P** **00 50 56.5 -0.6**
comp=Z,20nm,0.7s,mb4.9
MBDF Montbardon 53.77 304 *eP* **P** **00 50 56.5 -0.6**
MBDF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
MBDF Montbardon 53.77 304 *eP* **P** **00 50 56.5 -0.6**
comp=Z,10nm,0.7s,mb4.9
CABF La Chapelle 53.83 307 *eP* **P** **00 50 57.3 -0.3**
comp=Z,7.1nm,0.6s,mb4.5
CABF La Chapelle 53.83 307 *eP* **P** **00 50 57.3 -0.3**
CABF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
CABF La Chapelle 53.83 307 *eP* **P** **00 50 57.3 -0.3**
comp=Z,3.5nm,0.6s,mb4.5
GIVF Givet 53.97 311 *eP* **P** **00 50 58.1 -0.5**
DOU Dourbes 54.12 311 P **P** **00 50 60.0 +0.3**
comp=Z,4.1nm,0.7s,mb4.5
MEZF Maizieres J'vi 54.13 309 *eP* **P** **00 50 59.2 -0.6**
comp=Z,14nm,0.8s,mb4.7
MEZF Maizieres J'vi 54.13 309 *eP* **P** **00 50 59.2 -0.6**
comp=Z,14nm,0.8s,mb5.0
SNF Seneffe 54.24 312 P **P** **00 51 00.7 +0.1**
comp=Z,4.0nm,0.8s,mb4.4
ORIF Oris-en-Rattie 54.34 305 *eP* **P** **00 51 00.9 -0.4**
ORIF *eR*
comp=Z,170nm,21.0s
BAIF Baives 54.37 311 *eP* **P** **00 51 01.1 -0.4**
comp=Z,5.8nm,0.6s,mb4.4
BAIF Baives 54.37 311 *eP* **P** **00 51 01.1 -0.4**
BAIF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BAIF Baives 54.37 311 *eP* **P** **00 51 01.1 -0.4**
comp=Z,2.9nm,0.6s,mb4.4
LOR Lormes 55.18 308 *eP* **P** **00 51 06.7 -0.6**
LOR *eR*
comp=Z,149nm,22.8s
LOR Lormes 55.18 308 *eP* **P** **00 51 06.7 -0.6**
LOR LR LR
comp=Z,150nm,22.8s,MS4.0
VIVF Saint-Julien-l 55.19 305 *eP* **P** **00 51 06.8 -0.6**
comp=Z,33nm,1.1s,mb5.0
VIVF Saint-Julien-l 55.19 305 *eP* **P** **00 51 06.8 -0.6**
VIVF pmax pmax
comp=Z,16nm,1.1s,mb5.0
VIVF Saint-Julien-l 55.19 305 *eP* **P** **00 51 06.8 -0.6**
comp=Z,16nm,1.1s,mb5.0
SMF Signal de Mont 55.33 307 *eP* **P** **00 51 07.8 -0.6**
comp=Z,23nm,0.7s,mb5.0
SMF Signal de Mont 55.33 307 *eP* **P** **00 51 07.8 -0.6**
SMF pmax pmax
comp=Z,12nm,0.7s,mb5.0
SMF Signal de Mont 55.33 307 *eP* **P** **00 51 07.8 -0.6**
comp=Z,12nm,0.7s,mb5.0
SSF Saint Saulge 55.46 308 *eP* **P** **00 51 08.7 -0.7**
comp=Z,11nm,0.7s,mb4.7
SSF Saint Saulge 55.46 308 *eP* **P** **00 51 08.7 -0.7**
SSF pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
SSF Saint Saulge 55.46 308 *eP* **P** **00 51 08.7 -0.7**
comp=Z,5.4nm,0.7s,mb4.7
AVF Avril sur Loir 55.62 307 *eP* **P** **00 51 09.9 -0.6**
comp=Z,21nm,0.8s,mb4.9
AVF Avril sur Loir 55.62 307 *eP* **P** **00 51 09.9 -0.6**
AVF pmax pmax
comp=Z,11nm,0.8s,mb4.9
AVF Avril sur Loir 55.62 307 *eP* **P** **00 51 09.9 -0.6**
comp=Z,11nm,0.8s,mb4.9
LASF Ste Croix 55.95 304 *eP* **P** **00 51 12.6 -0.3**
comp=Z,40nm,1.1s,mb5.1
BGF Bois d'Agland 56.02 307 *eP* **P** **00 51 12.5 -0.9**
comp=Z,17nm,1.0s,mb4.8
BGF Bois d'Agland 56.02 307 *eP* **P** **00 51 12.5 -0.9**
BGF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
BGF Bois d'Agland 56.02 307 *eP* **P** **00 51 12.5 -0.9**
comp=Z,8.7nm,1.0s,mb4.7
TCF Toulx Ste Croi 56.51 307 *eP* **P** **00 51 16.6 -0.3**
comp=Z,10nm,0.6s,mb4.8
TCF Toulx Ste Croi 56.51 307 *eP* **P** **00 51 16.6 -0.3**
TCF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
TCF Toulx Ste Croi 56.51 307 *eP* **P** **00 51 16.6 -0.3**
comp=Z,5.2nm,0.6s,mb4.7
CAF Calviac 56.97 305 *eP* **P** **00 51 19.9 -0.2**
comp=Z,30nm,1.0s,mb5.0
CAF Calviac 56.97 305 *eP* **P** **00 51 19.9 -0.2**
CAF pmax pmax
comp=Z,15nm,1.0s,mb5.0
CAF Calviac 56.97 305 *eP* **P** **00 51 19.9 -0.2**
comp=Z,15nm,1.0s,mb5.0
RJF Les Rejaudoux 57.24 306 *eP* **P** **00 51 21.7 -0.3**
comp=Z,33nm,1.2s,mb4.9
RJF *eR*
comp=Z,133nm,20.8s
RJF Les Rejaudoux 57.24 306 *eP* **P** **00 51 21.7 -0.3**
RJF pmax pmax
comp=Z,16nm,1.2s,mb4.9
RJF MLR MLR
comp=Z,130nm,20.8s,MS4.0
RJF Les Rejaudoux 57.24 306 *eP* **P** **00 51 21.7 -0.3**
comp=Z,16nm,1.2s,mb4.9
RJF LR LR
comp=Z,130nm,20.8s,MS4.0
MTLF Montolieu 57.30 304 *eP* **P** **00 51 21.9 -0.6**
comp=Z,17nm,0.9s,mb4.8
MTLF Montolieu 57.30 304 *eP* **P** **00 51 21.9 -0.6**
MTLF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
MTLF Montolieu 57.30 304 *eP* **P** **00 51 21.9 -0.6**
comp=Z,8.6nm,0.9s,mb4.8
LDF La Druitiere 57.46 310 *eP* **P** **00 51 22.9 -0.7**
comp=Z,22nm,0.8s,mb5.0
LDF La Druitiere 57.46 310 *eP* **P** **00 51 22.9 -0.7**
LDF pmax pmax
comp=Z,11nm,0.8s,mb4.9
LDF La Druitiere 57.46 310 *eP* **P** **00 51 22.9 -0.7**
comp=Z,11nm,0.8s,mb4.9
FLN La Foliniere 57.65 310 *eP* **P** **00 51 23.9 -1.0**
FLN *eR*
comp=Z,155nm,19.2s
FLN La Foliniere 57.65 310 *eP* **P** **00 51 23.9 -1.0**
FLN LR LR
comp=Z,160nm,19.3s,MS4.1
ESK Eskdalemuir 57.72 318 *eP* **P** **00 51 25.2 -0.3**
ESK pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
ESK Eskdalemuir 57.72 318 *eP* **P** **00 51 25.1 -0.3**
comp=Z,8.6nm,0.9s,mb4.8
LFF La Frestale 57.87 306 *eP* **P** **00 51 26.4 -0.1**
comp=Z,32nm,1.0s,mb5.0
LFF La Frestale 57.87 306 *eP* **P** **00 51 26.4 -0.1**
LFF pmax pmax
comp=Z,16nm,1.0s,mb5.0
LFF La Frestale 57.87 306 *eP* **P** **00 51 26.4 -0.1**
comp=Z,16nm,1.0s,mb5.0
ETOS Mallorca 57.94 299 P **P** **00 51 26.8 -0.2**
comp=Z,48nm,1.2s,mb5.4
GRR Gorron 57.98 310 *eP* **P** **00 51 26.5 -0.8**
comp=Z,29nm,0.8s,mb5.1
GRR Gorron 57.98 310 *eP* **P** **00 51 26.5 -0.8**
GRR pmax pmax
comp=Z,14nm,0.8s,mb5.0
GRR Gorron 57.98 310 *eP* **P** **00 51 26.5 -0.8**
comp=Z,14nm,0.8s,mb5.1
MFF Saint Martin d 58.00 308 *eP* **P** **00 51 26.5 -0.9**
comp=Z,14nm,0.9s,mb4.7
MFF Saint Martin d 58.00 308 *eP* **P** **00 51 26.5 -0.9**
MFF pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
MFF Saint Martin d 58.00 308 *eP* **P** **00 51 26.5 -0.9**
comp=Z,6.8nm,0.9s,mb4.7
EPOB Poblet 58.70 302 P **P** **00 51 31.8 -0.5**
comp=Z,5.6nm,0.7s,mb4.7
EPF Esparros 58.70 304 *eP* **P** **00 51 31.2 -1.1**
comp=Z,6.6nm,0.8s,mb4.4
EPF Esparros 58.70 304 *eP* **P** **00 51 31.2 -1.1**
EPF pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
EPF Esparros 58.70 304 *eP* **P** **00 51 31.2 -1.1**
comp=Z,3.3nm,0.8s,mb4.4
EBIE Bielsa 58.95 303 P **P** **00 51 33.9 -0.1**
comp=Z,3.6nm,0.5s,mb4.7
EGRA Graus 58.98 303 P **P** **00 51 34.2 0.0**
comp=Z,10nm,0.8s,mb4.9
SGMF Saint Gilles 59.11 310 *eP* **P** **00 51 34.7 -0.4**
comp=Z,17nm,0.6s,mb5.0
SGMF Saint Gilles 59.11 310 *eP* **P** **00 51 34.7 -0.4**
SGMF pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
SGMF Saint Gilles 59.11 310 *eP* **P** **00 51 34.7 -0.4**
comp=Z,8.4nm,0.6s,mb5.0
DAG Danmarks Havn 59.15 344⇑*i*P **P** **00 51 35.8 +0.4**
comp=Z,3.3nm,0.6s,mb4.5
DAG Danmarks Havn 59.15 344⇑*i*P **P** **00 51 35.8 +0.4**
DAG pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
EBR Ebro Roquetas 59.29 301 *eP* **P** **00 51 36.5 +0.2**
ERTA Horta de San J 59.36 301 P **P** **00 51 36.4 -0.4**
comp=Z,35nm,1.3s,mb5.2
ETSF Etsaut 59.37 304 *eP* **P** **00 51 37.0 +0.1**
comp=Z,23nm,0.8s,mb5.0
ETSF Etsaut 59.37 304 *eP* **P** **00 51 37.0 +0.1**
ETSF pmax pmax
comp=Z,11nm,0.8s,mb4.9
ETSF Etsaut 59.37 304 *eP* **P** **00 51 37.0 +0.1**
comp=Z,11nm,0.8s,mb5.0
ROSF Rostrenen 59.55 310 *eP* **P** **00 51 37.5 -0.6**
comp=Z,28nm,0.7s,mb5.1
ROSF Rostrenen 59.55 310 *eP* **P** **00 51 37.5 -0.6**
ROSF pmax pmax
comp=Z,14nm,0.7s,mb5.1
ROSF Rostrenen 59.55 310 *eP* **P** **00 51 37.5 -0.6**
comp=Z,14nm,0.7s,mb5.1
QUIF Quistinic 59.60 310 *eP* **P** **00 51 38.0 -0.5**
comp=Z,14nm,0.5s,mb4.9
QUIF Quistinic 59.60 310 *eP* **P** **00 51 38.0 -0.5**
QUIF pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
QUIF Quistinic 59.60 310 *eP* **P** **00 51 38.0 -0.5**
comp=Z,6.8nm,0.5s,mb4.9
ESAC San Caprasio 59.68 302 P **P** **00 51 38.9 -0.2**
comp=Z,38nm,0.8s,mb5.5
BILL Bilibino 59.73 26 *eP* **P** **00 51 37.8 -1.6**
BILL pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
BILL MLR MLR
comp=Z,100nm,14.0s,MS4.1
BILL Bilibino 59.73 26 P **P** **00 51 39.9 +0.5**
CART Cartagena 61.49 298 *eP* **P** **00 51 51.4 0.0**
comp=Z,26nm,0.5s,mb5.6
EVIA Vianos 62.21 300 P **P** **00 51 57.0 +0.8**
EVIA pmax pmax
comp=Z,14nm,0.6s,mb5.3
EVIA Vianos 62.21 300 P **P** **00 51 57.0 +0.8**
comp=Z,14nm,0.6s,mb5.2
EHUE Huescar 62.58 299 P **P** **00 51 58.6 -0.1**
EHUE pmax pmax
comp=Z,11nm,0.7s,mb5.1
EHUE Huescar 62.58 299 P **P** **00 51 58.6 -0.1**
comp=Z,11nm,0.7s,mb5.1
ENIJ Nijar 62.61 298 P **P** **00 51 59.0 +0.1**
ENIJ pmax pmax
comp=Z,19nm,0.6s,mb5.4
ENIJ Nijar 62.61 298 P **P** **00 51 59.0 +0.1**
comp=Z,19nm,0.6s,mb5.4
GUD Guadarrama 62.66 302 P **P** **00 51 59.4 +0.1**
GUD pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
GUD Guadarrama 62.66 302 P **P** **00 51 59.4 +0.2**
comp=Z,7.6nm,0.6s,mb5.0
ESDC Sonseca Array 62.88 301 P **P** **00 52 00.7 0.0**
comp=Z,2.0nm,0.4s,mb4.6,baz=56,slow=6.9,SNR=19
ESDC Sonseca Array 62.88 301 P **P** **00 52 00.2 -0.5**
comp=Z,5.4nm,0.5s,mb4.9
ESLA Sonseca Array 62.88 301 *eP* **P** **00 52 01.0 +0.3**
comp=Z,0.6nm,0.7s
EQES Quesada 62.93 299 P **P** **00 52 00.7 -0.3**
comp=Z,18nm,0.9s,mb5.2
EBER Berja 63.14 298 P **P** **00 52 02.4 0.0**
comp=Z,26nm,0.7s,mb5.5
ECOG Cogollos-Vega 63.50 299 P **P** **00 52 05.0 +0.2**
ECOG pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
ECOG Cogollos-Vega 63.50 299 P **P** **00 52 05.0 +0.2**
comp=Z,9.6nm,0.8s,mb5.0
ERON Agron 63.77 298 P **P** **00 52 05.4 -1.2**
comp=Z,12nm,0.8s,mb5.0
ELUQ Luque 63.90 299 P **P** **00 52 06.4 -1.1**
ELUQ pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
ELUQ Luque 63.90 299 P **P** **00 52 06.4 -1.1**
comp=Z,5.3nm,0.4s,mb4.9
PVIS Viseu 65.27 304 *eP* **P** **00 52 16.1 -0.3**
comp=Z,12nm,1.0s,mb4.9
SUMG Summit 65.61 343 *eP* **P** **00 52 19.3 +0.8**
comp=Z,38nm,0.9s,mb5.4
PTOM Tomar 66.07 303 *eP* **P** **00 52 21.4 -0.1**
comp=Z,49nm,1.8s,mb5.2
PBEJ Beja 66.33 301 *eP* **P** **00 52 22.4 -0.8**
comp=Z,26nm,1.6s,mb5.0
LSZ Lusaka 66.51 232 LR LR 01 18 33.5
comp=Z,75nm,20.8s,MS3.9,baz=129,slow=33
LSZ Lusaka 66.51 232 *eP* **P** **00 52 24.5 +0.2**
TORD Torodi Ar. Bea 70.10 273 P **P** **00 52 45.4 -1.4**
comp=Z,16nm,0.8s,mb5.0,baz=48,slow=4.9,SNR=139
KAKA Kakadu 70.31 121⇑*i*P **P** **00 52 48.0 -0.1**
comp=Z,13nm,0.5s,mb5.1
LBTB Lobatse 75.30 227 *eP* **P** **00 53 17.0 -0.7**
LBTB pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
LBTB Lobatse 75.30 227 *eP* **P** **00 53 17.0 -0.7**
comp=Z,9.1nm,0.6s,mb4.9
TSUM Tsumeb 76.45 236 *eP* **P** **00 53 25.1 +0.9**
comp=Z,4.2nm,0.6s,mb4.5
INK Inuvik 76.45 11 P **P** **00 53 24.4 +0.2**
comp=Z,2.8nm,0.5s,mb4.5,baz=344,slow=6.6,SNR=21
INK Inuvik 76.45 11 P **P** **00 53 24.4 +0.2**
INK pmax pmax
comp=Z,3.0nm,0.5s
WRA Warramunga Arr 76.53 125 P **P** **00 53 25.1 +0.4**
comp=Z,12nm,0.6s,mb5.0,baz=322,slow=6.2,SNR=268
WRAB Tennant Creek 76.53 125 P **P** **00 53 25.9 +1.3**
comp=Z,163nm,0.5s,SNR=19
WRAB Tennant Creek 76.53 125 *eP* **P** **00 53 25.4 +0.8**
WRAB pmax pmax
comp=Z,16nm,0.5s,mb5.2
WRAB Tennant Creek 76.53 125 *eP* **P** **00 53 25.4 +0.7**
comp=Z,16nm,0.5s,mb5.2
WB2 Warramunga Arr 76.53 125⇑*i*P **P** **00 53 25.1 +0.4**
ILAR Eielson Array 76.75 18 P **P** **00 53 25.6 -0.4**
comp=Z,3.2nm,0.7s,mb4.3,baz=316,slow=4.9,SNR=32
ASPA Alice Springs 78.77 128 *eP* **P** **00 53 37.1 -0.1**
AS31 Alice Springs 78.77 128 *eP* **P** **00 53 37.1 -0.1**
ASAR Alice Springs 78.77 128 P **P** **00 53 37.5 +0.3**
comp=Z,6.2nm,0.7s,mb4.7,baz=318,slow=5.6,SNR=62
DBIC Dimbokro 78.97 271 P **P** **00 53 37.3 -0.9**
comp=Z,8.7nm,0.7s,mb4.8,baz=36,slow=6.2,SNR=19
KDAK Kodiak Island 80.58 24 P **P** **00 53 46.9 -0.1**
comp=Z,5.5nm,0.7s,mb4.6,baz=30,slow=2.4,SNR=7.9
SUR Sutherland 83.53 225 *eP* **P** **00 54 03.1 +0.6**
YKA Yellowknife Ar 84.31 5 P **P** **00 54 06.1 -0.3**
comp=Z,2.0nm,0.5s,mb4.5,baz=346,slow=5.2,SNR=6.4
YKA PKKPbc PKKPbc 01 12 16.9 -1.5
comp=Z,0.3nm,0.6s,baz=162,slow=2.5,SNR=8.0
YKA Yellowknife Ar 84.31 5 P **P** **00 54 06.1 -0.3**
YKA PKKPbc PKKPbc 01 12 16.9 -1.5
CTA Charters Tower 85.17 118 *eP* **P** **00 54 11.3 +0.6**
comp=Z,11nm,0.6s,mb5.2
CTA Charters Tower 85.17 118 *eP* **P** **00 54 11.3 +0.6**
CTA pmax pmax
comp=Z,11nm,0.6s
STKA Stephens Creek 89.31 129 P **P** **00 54 29.2 -1.5**
comp=Z,2.3nm,0.6s,mb4.7,baz=334,slow=10.0,SNR=5.2
PDAR Pinedale Array 104.28 4 PKIKP PKiKP 00 59 56.0 +0.9
comp=Z,0.6nm,0.5s,baz=69,slow=3.0,SNR=5.0
VNA2 Neumayer--Watz 118.90 202 *e*PKPdf PKPdf 01 00 21.9 -0.8
VNA3 Neumayer Olymp 119.70 202 *e*PKPdf PKPdf 01 00 23.3 -1.0
VNA3 *e* 01 00 26.2
QSPA South Pole Qui 122.93 180 *eP* PKPdf 01 00 29.3 -1.2
SDV Santo Domingo 127.67 317 PKP PKPdf 01 00 40.7 +1.1
comp=Z,2.1nm,0.4s,baz=0.5,slow=2.7,SNR=4.1
ROSC El Rosal 133.05 318 PKP PKPdf 01 00 52.9 +3.2
comp=Z,7.1nm,0.7s,baz=98,slow=22,SNR=5.3
CPUP Villa Florida 139.40 267 PKP PKPdf 01 01 01.6 +0.1
comp=Z,1.3nm,0.5s,baz=77,slow=1.9,SNR=6.2
LPAZ La Paz 143.79 289 PKP PKPdf 01 01 10.4 +1.0
comp=Z,1.1nm,0.8s,baz=45,slow=2.5,SNR=5.9
ATAH Atahualpa 144.95 312 PKPbc PKPdf 01 01 13.0 +1.6
comp=Z,5.4nm,0.8s,baz=122,slow=14,SNR=3.4
TRQA Tornquist 145.90 250 *e*PKPdf PKPdf 01 01 13.9 +0.9
LVC Limon Verde 147.62 280 *e*PKPdf PKPdf 01 01 17.3 +1.4
PLCA Paso Flores 152.53 244 PKPbc PKPbc 01 01 31.5 +0.9
comp=Z,6.5nm,0.7s,baz=128,slow=0.9,SNR=20
PLCA Paso Flores 152.53 244 PKPbc PKPbc 01 01 31.5 +0.9

*ATH **26** 00:43:57.1, 3392N×2500E, h19km, MD3.2/4*
*ISCJB **26** 00:44:00.6±0.8, 3397N±005×25.1E±02, h33km, Error ellipse: s-maj=21.9km s-min=6.6km az=7.5*
*CSEM **26** 00:44:00.3±0.1, 3399N×2505E, h60km, MD3.2, Error ellipse: s-maj=11.1km s-min=2.9km az=85.0*
*HLW **26** 00:44:02.3, 3399N×2562E, h33km, Mb2.8*
ISC 26 00:44:01.7±0.8, 3399N±005×251E±02, h35km, n9, σ1§00/12, 2C-2D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**1.01**	**29**	*e*PN	**Pn**	**00 44 18.0**	**-1.3**
NPS	**Neapolis**	**1.34**	**18**	*e*PN	**Pn**	**00 44 24.0**	**+0.2**
VAM	**Vamos**	**1.60**	**332**	*e*PN	**Pn**	**00 44 27.0**	**-0.4**
KARP	**Karpathos**	**2.30**	**47**	*e*PN	**Pn**	**00 44 38.0**	**+1.0**
SLUM		**2.49**	**178**	⇓P	**Pn**	**00 44 40.8**	**+1.1**
SLUM				S	**Sn**	**00 45 08.9**	**+0.1**
SLUM		**2.49**	**178**	P	**Pn**	**00 44 40.8**	**+1.1**
SLUM				S	**Sn**	**00 45 08.9**	**0.0**
SWA1		**4.74**	**174**	⇑P	**Pn**	**00 45 11.5**	**+0.9**
SWA1				S	**Sn**	**00 46 01.6**	**-2.8**
SWA2		**4.74**	**176**	⇑P	**Pn**	**00 45 11.2**	**+0.6**
HFRF	**Wahat Farafira**	**7.36**	**157**	⇓P	**Pn**	**00 45 46.0**	**-0.6**

*MOS **26** 00:44:07.8±1.1, 1306N×8857W, h33km, mb4.9/24, Error ellipse: s-maj=15.2km s-min=5.9km az=115.5*
*BJI **26** 00:44:09.4, 1284N×8781W, h58km, mB5.2, Ms5.1, Msz4.7*
*ISCJB **26** 00:44:11.0±0.2, 1311N±003×8871W±003, h56km, mb4.8/76, MS4.2/20, Error ellipse: s-maj=5.8km s-min=2.2km az=81.8*
*CASC **26** 00:44:11.7±2.3, 1292N×8888W, h43km±41km, MD4.6, ML5.0, mb4.8(NEIC)*
*HRVD **26** 00:44:11.6±0.3, 1273N×8900W, h57km±1km, MW5.0/64,*

Centroid moment Tensor Solution. LP body waves: s62,c97;Mantle waves: s64,c95; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.76±.13; Mθθ-3.35±.10; Mφφ-0.41±.14; Mrθ0.50±.08; Mθφ2.26±.10; Mφr-0.78±.10; Best double couple: Mo4.27900×10¹⁶ NP1:ϕs290.00000°,δ40.00000°,λ77.00000°. NP2: ϕs126.00000°,δ51.00000°,λ100.00000°. Principal axes: T 3.9020, Plg80.0000°, Azm85.0000°; N 0.7500, Plg8.0000°, Azm300.0000°; P -4.6560, Plg6.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

IDC ***26*** *00:44:11.3±0.6, 1313N×8850W, h54km±4km, mb4.3/22, mb1 4.5/22, mb1mx4.4/26, mbtmp4.6/22, MS4.0/18, Ms1 4.0/18, ms1mx3.9/20 Error ellipse: s-maj=18.4km s-min=9.5km az=59.0*

NEIC ***26*** *00:44:11.6±0.3, 1297N×8868W, mb4.8/59, MD5.2(SNET), Error ellipse: s-maj=7.5km s-min=4.2km az=46.0*

NEIC Felt [III] at San Salvador.

ISC 26 00:44:13.1±0.2, 1313N±003×8867W±003, h58km, h58km±.6km: pP-P, n245, σ1s10/216, mb4.8/76, MS4.2/20, 9C-11D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**0.78**	**315**	*eP*			Px	00 44 26.8	
SNET				*eS*			Sx	00 44 38.5	
SNET				*i*				00 44 42.2	
	comp=Z,78μm,0.6s								
CRIN	**San Cristobal**	**1.63**	**105**	*eP*		**Pn**		**00 44 40.1**	**+0.7**
TEL3	**Telica 3**	**1.86**	**107**	*iP*		**Pn**		**00 44 42.7**	**+0.1**
TELN	**Telica**	**1.86**	**106**	*eP*		**Pn**		**00 44 42.6**	**0.0**
LEON	**Leon**	**1.87**	**112**	*eP*		**Pn**		**00 44 41.7**	**-1.0**
CNGN	**Cerro Negro**	**2.02**	**108**	*eP*		**Pn**		**00 44 44.6**	**-0.1**
MIRN	**Miramar**	**2.02**	**110**	*eP*		**Pn**		**00 44 44.4**	**-0.4**
IXG	**Ixpaco**	**2.03**	**301**	*eP*		**Pn**		**00 44 42.6**	**-2.3**
IXG				*eS*		**Sn**		**00 45 05.4**	**-3.7**
COPN	**Copaltepe**	**2.23**	**115**	*eP*		**Pn**		**00 44 46.6**	**-1.1**
PCG	**Pacaya**	**2.27**	**304**	*eP*		**Pn**		**00 44 48.4**	**+0.2**
GCG	**Guatemala City**	**2.32**	**309**	*eP*		**Pn**		**00 44 48.3**	**-0.6**
FUG	**Fuego 3**	**2.49**	**302**	*eP*		**Pn**		**00 44 50.5**	**-0.6**
TISN	**Laguna Tiscapa**	**2.54**	**112**	*eP*		**Pn**		**00 44 51.4**	**-0.4**
MGAN	**Managua**	**2.55**	**112**	*eP*		**Pn**		**00 44 51.6**	**-0.5**
MGAN				*eP*				00 44 52.0	
MGAN				*eS*		**Sn**		**00 45 21.7**	**-0.2**
MGAN				*i*				00 45 24.4	
	comp=N,9μm,0.5s								
MGAN				*i*				00 45 26.2	
	comp=E,11μm,0.4s								
TICN	**Ticuantepe**	**2.61**	**114**	*eP*		**Pn**		**00 44 52.6**	**-0.3**
MASN	**Masaya**	**2.70**	**115**	*eP*		**Pn**		**00 44 54.1**	**0.0**
MASN				*eP*				00 44 54.1	
MASN				*i*				00 45 37.8	
	comp=E,13μm,0.5s								
MASN				*i*				00 45 43.8	
	comp=N,20μm,0.6s								
APON	**Apoyo**	**2.81**	**115**	*eP*		**Pn**		**00 44 55.9**	**+0.4**
TP2	**Tecpan 2**	**2.82**	**306**	*eP*		**Pn**		**00 44 55.5**	**-0.2**
JAT	**Jato**	**3.12**	**293**	*eP*		**Pn**		**00 44 58.1**	**-1.7**
SSNN	**San Juan del S**	**3.31**	**123**	*eP*		**Pn**		**00 45 01.8**	**-0.5**
CONN	**Concepcion**	**3.35**	**117**	*eP*		**Pn**		**00 45 03.5**	**+0.6**
LIM1	**Limonal**	**4.12**	**125**	*eP*		**Pn**		**00 45 14.2**	**+0.7**
LIM1				*eS*		**Sn**		**00 46 02.0**	**+1.7**
VCR	**Vista de Mar**	**4.21**	**135**	*eP*		**Pn**		**00 45 14.4**	**-0.4**
CCIG	**Comitan**	**4.59**	**313**	*iP*		**Pn**		**00 45 20.6**	**+0.6**
CCIG				*i* S		**Sn**		**00 46 16.5**	**+4.4**
JTS	**JuntasAbangare**	**4.60**	**127**	P		**Pn**		**00 45 19.9**	**-0.2**
	comp=N,25nm,0.3s,baz=306,slow=21,SNR=107								
JTS				S		**Sn**		**00 46 09.6**	**-2.6**
	comp=N,95nm,0.3s,baz=296,slow=20,SNR=4.4								
JTS				LR		LR		00 47 34.5	
	comp=N,2μm,20.8s,baz=303,slow=45								
JTS	**JuntasAbangare**	**4.60**	**127**	*ePn*		**Pn**		**00 45 20.4**	**+0.3**
JTS				*eSn*		**Sn**		**00 46 06.6**	**-5.6**
CGA2	**Cerro Gallo 2**	**5.15**	**126**	*eP*		**Pn**		**00 45 29.7**	**+2.2**
PRS1	**Puriscal**	**5.29**	**126**	*eP*		**Pn**		**00 45 31.5**	**+2.0**
SJS	**Escuela Geolog**	**5.52**	**125**	*eP*		**Pn**		**00 45 32.9**	**+0.3**
LCR2	**La Lucha 2**	**5.67**	**126**	*eP*		**Pn**		**00 45 36.5**	**+1.7**
LCR2				*eS*		**Sn**		**00 46 40.0**	**+1.5**
ICR	**Volcan Irazu**	**5.68**	**123**	*eP*		**Pn**		**00 45 35.6**	**+0.8**
URSC	**Urasca**	**5.80**	**124**	*eP*		**Pn**		**00 45 38.1**	**+1.6**
BUS	**Buena Vista**	**5.98**	**126**	*eP*		**Pn**		**00 45 41.2**	**+2.3**
HUIG	**Huatulco**	**7.67**	**291**	*iP*		**Pn**		**00 46 02.7**	**+0.6**
HUIG				*i* S		**Sn**		**00 47 35.2**	**+7.6**
OXX	**Oaxaca**	**8.72**	**298**	*eP*		**Pn**		**00 46 10.0**	**-6.4**
VHO	**Vista Hermosa**	**8.72**	**298**	*iP*		**Pn**		**00 46 07.2**	**-9.3**
VHO				*i* S		**Sn**		**00 47 36.7**	**-17**
SOR	**Soroa**	**11.01**	**28**	*eP*		**Pn**		**00 46 53.0**	**+5.2**
PPM	**Popocatepetl**	**11.24**	**303**	*eP*		**Pn**		**00 46 52.0**	**+1.0**
YAIG	**Yautepec**	**11.51**	**301**	*iP*		**Pn**		**00 46 46.9**	**-7.7**
CCCC	**Cccc**	**13.14**	**51**	*eP*		**Pn**		**00 47 25.7**	**+8.8**
PAYG	**Puerto Ayora**	**13.80**	**187**	*ePn*		**Pn**		**00 47 28.8**	**+2.9**
	comp=N,85nm,0.8s								
PAYG				*eSn*		**Sn**		**00 49 57.5**	**+0.1**
RCC	**Rio Carpintero**	**14.18**	**60**	*eP*		**Pn**		**00 47 29.2**	**-1.6**
OTAV	**Otavalo**	**16.32**	**141**	*ePn*		**Pn**		**00 47 59.0**	**+0.6**
	comp=N,30nm,1.3s								
OTAV				*e*				00 48 19.4	
ROSC	**El Rosal**	**16.36**	**119**	P		**Pn**		**00 47 58.9**	**+0.1**
	comp=N,1.1nm,0.3s,baz=104,slow=23,SNR=10								
ROSC				LR		LR		00 55 06.8	
	comp=N,122nm,18.0s,baz=16,slow=40								
DWPF	**Disney**	**16.36**	**23**	*ePn*		**Pn**		**00 48 05.5**	**+6.6**
	comp=N,72nm,0.8s								
DWPF				*e*				00 48 19.9	
HKT	**Hockley**	**18.01**	**339**	*eP*		**Pn**		**00 48 22.2**	**+3.0**
HKT				*eS*		**S**		**00 51 39.4**	**-3.2**
HKT				pmax		pmax			
	comp=Z,61nm,1.5s								
HKT	**Hockley**	**18.01**	**339**	*eP*		**Pn**		**00 48 22.2**	**+3.0**
	comp=Z,61nm,1.5s								
HKT				*e*				00 48 35.3	
HKT				*eS*		**S**		**00 51 39.4**	**-3.2**
SDV	**Santo Domingo**	**18.19**	**102**	P		**Pn**		**00 48 21.1**	**-0.4**
	comp=Z,4.3nm,0.3s,baz=300,slow=5.3,SNR=69								
SDV				PcP		PcP		00 52 52.2	+0.4
	comp=Z,0.1nm,0.3s,baz=280,slow=2.5,SNR=4.3								
SDV	**Santo Domingo**	**18.19**	**102**	*eP*		**Pn**		**00 48 20.9**	**-0.6**
	comp=Z,64nm,0.8s								
SDV				*e*				00 48 44.8	
SDV				*ePcP*		PcP		00 52 52.4	+0.6
SDV				*e*				00 53 07.1	
NATX	**Nacogdoches**	**19.35**	**344**	*eP*		**Pn**		**00 48 37.5**	**+2.2**
	comp=Z,308nm,1.3s								
LRAL	**Lakeview Retre**	**19.88**	**4**	*eP*		**Pn**		**00 48 42.0**	**+0.4**
	comp=Z,34nm,0.8s								
JCT	**Junction City**	**20.10**	**331**	*eP*		**P**		**00 48 42.3**	**+0.4**
JCT				pmax		pmax			
	comp=Z,24nm,0.6s								
JCT	**Junction City**	**20.10**	**331**	*eP*		**P**		**00 48 42.3**	**+0.3**
	comp=Z,24nm,0.6s								
OXF	**Oxford**	**21.30**	**358**	*eP*		**P**		**00 48 57.0**	**+2.1**
OXF				*e*				00 49 08.2	
OXF				pmax		pmax			
	comp=Z,149nm,1.1s,mb5.2								
OXF	**Oxford**	**21.30**	**358**	*eP*		**P**		**00 48 57.0**	**+2.1**
	comp=Z,149nm,1.1s,mb5.2								
OXF				*e*				00 49 08.2	
LTX	**Lajitas**	**21.30**	**322**	*eP*		**P**		**00 48 56.0**	**+1.1**
LTX				*e*				00 49 07.4	
LTX				pmax		pmax			
	comp=Z,18nm,0.7s,mb4.5								
LTX	**Lajitas**	**21.30**	**322**	*eP*		**P**		**00 48 56.0**	**+1.0**
	comp=Z,18nm,0.7s,mb4.5								
LTX				*e*				00 49 07.4	
NHSC	**New Hope**	**21.34**	**20**	*eP*		**P**		**00 48 58.3**	**+3.0**
	comp=Z,84nm,0.9s,mb5.1								
NHSC				*e*				00 49 11.4	
PLAL	**Pickwick Lake**	**21.77**	**1**	*eP*		**P**		**00 49 01.2**	**+1.4**
	comp=Z,19nm,0.9s,mb4.5								
PLAL				*e*				00 49 13.3	
UALR	**University of**	**21.81**	**352**	*eP*		**P**		**00 49 01.8**	**+1.5**
	comp=Z,69nm,1.0s,mb5.0								
UALR				*e*				00 49 16.4	
SWET	**Sewanee**	**22.13**	**6**	*eP*		**P**		**00 49 04.6**	**+0.9**
SWET				*e*				00 49 24.3	
SJG	**San Juan**	**22.23**	**74**	P		**P**		**00 49 03.7**	**-1.1**
	comp=Z,9.2nm,0.5s,mb4.5,baz=329,slow=18,SNR=5.3								
SJG				PcP		PcP		00 52 58.8	-0.5
	comp=Z,5.5nm,0.2s,baz=14,slow=1.5,SNR=3.9								
ATAH	**Atahualpa**	**22.45**	**152**	P		**P**		**00 49 08.4**	**+1.3**
	comp=Z,8.6nm,0.9s,mb4.2,baz=357,slow=4.7,SNR=5.0								
ATAH				LR		LR		00 57 04.6	
	comp=Z,394nm,20.7s,MS3.8,baz=154,slow=34								
MTP	**Monte Pirata**	**22.79**	**75**	*eP*		**P**		**00 49 09.8**	**-0.9**
MTP				*e*				00 49 23.9	
WVT	**Waverly**	**22.92**	**2**	*eP*		**P**		**00 49 11.9**	**-0.1**
WVT				*e*				00 49 25.5	
WVT				pmax		pmax			
	comp=Z,13nm,0.7s,mb4.5								
WVT	**Waverly**	**22.92**	**2**	*eP*		**P**		**00 49 11.9**	**-0.2**
	comp=Z,13nm,0.7s,mb4.5								
WVT				*e*				00 49 25.4	
WMOK	**Wichita Mounta**	**23.39**	**339**	*eP*		**P**		**00 49 16.4**	**-0.3**
WMOK				*e*PP				00 49 30.5	
WMOK				*e*				00 53 01.0	
WMOK				*eS*		**S**		**00 53 29.0**	**+3.7**
WMOK				pmax		pmax			
	comp=Z,22nm,0.8s,mb4.6								
WMOK	**Wichita Mounta**	**23.39**	**339**	*eP*		**P**		**00 49 16.4**	**-0.3**
	comp=Z,22nm,0.8s,mb4.6								
WMOK				*e*pP				00 49 30.4	
WMOK				*e*PcP		PcP		00 53 01.0	-0.6
WMOK				*eS*		**S**		**00 53 29.0**	**+3.8**
PARMO	**Parma**	**23.46**	**358**	*eP*		**P**		**00 49 19.6**	**+2.2**
PCRV	**Puerto La Cruz**	**23.71**	**95**	P		**P**		**00 49 19.5**	**-0.2**
	comp=Z,23nm,0.6s,mb4.8,baz=319,slow=5.1,SNR=14								
PCRV				LR		LR		00 59 11.5	
	comp=Z,265nm,21.7s,MS3.7,baz=166,slow=38								
TZTN	**Tazewell**	**23.77**	**10**	*eP*		**P**		**00 49 20.5**	**+0.4**
TZTN				*e*				00 49 33.9	
GDL2	**Guadalupe Moun**	**23.82**	**325**	*eP*		**P**		**00 49 20.7**	**0.0**
GDL2				*e*				00 49 35.2	
MNTX	**Cornudas Mount**	**24.03**	**323**	*eP*		**P**		**00 49 21.5**	**-1.1**
	comp=Z,29nm,1.2s,mb4.6								
MNTX				*e*				00 49 35.2	
MNTX				*ePcP*		PcP		00 53 02.2	-0.8
CPRX	**Cap Rock**	**24.19**	**327**	*eP*		**P**		**00 49 24.3**	**+0.2**
AMTX	**Amarillo**	**24.66**	**334**	*eP*		**P**		**00 49 29.1**	**+0.8**
	comp=Z,71nm,0.9s,mb5.2								
AMTX				*e*				00 49 42.8	
AMTX				*ePcP*		PcP		00 53 04.5	+0.1
USIN	**University of**	**24.75**	**2**	*eP*		**P**		**00 49 29.0**	**-0.2**
	comp=Z,38nm,0.9s,mb4.9								
CCM	**Cathedral Cave**	**24.93**	**355**	*eP*		**P**		**00 49 30.6**	**-0.2**
CCM				*e*				00 49 45.4	
CCM				pmax		pmax			
	comp=Z,56nm,0.7s,mb5.2								
CCM	**Cathedral Cave**	**24.93**	**355**	*eP*		**P**		**00 49 30.6**	**-0.2**
	comp=Z,56nm,0.7s,mb5.2								
CCM				*e*				00 49 45.4	
ELN	**Prospectdale**	**25.02**	**15**	*eP*		**P**		**00 49 33.0**	**+1.4**
BLA	**Blacksburg**	**25.09**	**16**	*eP*		**P**		**00 49 33.3**	**+1.1**
BLA				*e*		pP		00 49 48.4	+2.0
BLA				pmax		pmax			
	comp=Z,7.0nm,1.3s,mb4.0								
BLA	**Blacksburg**	**25.09**	**16**	*eP*		**P**		**00 49 33.3**	**+1.0**
	comp=Z,6.8nm,1.3s,mb4.0								
BLA				*e*		pP		00 49 48.4	+1.9
FWV	**Forest Hill**	**25.34**	**15**	*eP*		**P**		**00 49 35.0**	**+0.5**
FWV				*e*		pP		00 49 50.0	+1.3
BLO	**Bloomington**	**26.01**	**4**	*eP*		**P**		**00 49 39.8**	**-0.8**
BLO				*e*		pP		00 49 55.1	+0.3
BLO				pmax		pmax			
	comp=Z,15nm,0.7s,mb4.6								
BLO	**Bloomington**	**26.01**	**4**	*eP*		**P**		**00 49 39.8**	**-0.7**
	comp=Z,15nm,0.7s,mb4.6								
BLO				*e*		pP		00 49 55.1	+0.3
BNM	**Barren Site**	**26.54**	**325**	*eP*		**P**		**00 49 46.1**	**+0.8**
BNM				*e*		pP		00 49 59.8	+0.2
LPM	**Los Pinos Moun**	**26.66**	**325**	*eP*		**P**		**00 49 47.0**	**+0.6**
LPM				*e*		pP		00 50 00.1	-0.5
LPM				*ePcP*		PcP		00 53 08.6	-0.3
KSU1	**Kansas State U**	**26.81**	**346**	*eP*		**P**		**00 49 47.6**	**-0.1**
KSU1				*e*		pP		00 50 17.7	-0.4
KSU1				*ePcP*		PcP		00 53 07.9	-1.4
CBN	**Corbin**	**26.92**	**20**	*eP*		**P**		**00 49 49.4**	**+0.7**
	comp=Z,54nm,0.7s,mb5.2								
CBN				*e*		pP		00 50 03.7	+0.6
LAZ	**Ladron**	**27.01**	**325**	*eP*		**P**		**00 49 50.6**	**+1.0**
ANMO	**Albuquerque**	**27.04**	**326**	P		**P**		**00 49 50.6**	**+0.8**
	comp=Z,3.0nm,0.6s,mb4.0,baz=153,slow=12,SNR=11								
ANMO				PcP		PcP		00 53 10.0	+0.1
	comp=Z,5.7nm,0.8s,baz=158,slow=4.5,SNR=7.2								
ANMO				pPcP				00 53 25.4	
	comp=Z,7.8nm,1.0s,baz=119,slow=5.0,SNR=5.1								
ANMO				LR		LR		01 02 36.4	
	comp=Z,151nm,20.6s,MS3.5,baz=154,slow=41								
ANMO	**Albuquerque**	**27.04**	**326**	P		**P**		**00 49 50.6**	**+0.7**
ANMO								00 53 10.0	
CBKS	**Cedar Bluff**	**27.40**	**341**	*eP*		**P**		**00 49 53.3**	**+0.2**
CBKS				*e*		pP		00 50 07.5	+0.1
CBKS				*e*				00 53 09.6	
CBKS				pmax		pmax			
	comp=Z,21nm,0.7s,mb4.8								
CBKS	**Cedar Bluff**	**27.40**	**341**	*eP*		**P**		**00 49 53.2**	**+0.2**
	comp=Z,21nm,0.7s,mb4.8								
CBKS				*e*		pP		00 50 07.5	+0.1
CBKS				*ePcP*		PcP		00 53 09.6	-1.2
ACSO	**Alum Creek Sta**	**27.46**	**9**	*eP*		**P**		**00 49 53.3**	**-0.2**
	comp=Z,14nm,0.8s,mb4.5								
ACSO				*e*		pP		00 50 08.5	+0.7
MCWV	**Mont Chateau**	**27.55**	**15**	*eP*		**P**		**00 49 54.9**	**+0.5**
	comp=Z,11nm,0.8s,mb4.5								
MCWV				*e*		pP		00 50 09.8	+1.1
MCWV				*ePcP*		PcP		00 53 10.3	-0.8
SDMD	**Soldier's Deli**	**28.19**	**20**	*eP*		**P**		**00 50 00.2**	**+0.1**
SDMD				*e*		pP		00 50 15.2	+0.7
MVL	**Millersville**	**28.88**	**20**	*eP*		**P**		**00 50 07.4**	**+1.2**
MVL				*e*pP		pP		00 50 22.1	+1.4
SSPA	**Standing Stone**	**28.99**	**17**	*eP*		**P**		**00 50 07.8**	**+0.6**
	comp=Z,16nm,1.1s,mb4.7								
MVCO	**Mesa Verde**	**29.83**	**327**	*eP*		**P**		**00 50 15.1**	**+0.5**
MVCO				*e*pP		pP		00 50 29.5	+0.5
MVCO				*e*				00 53 32.0	
ISCO	**Idaho Springs**	**30.48**	**334**	*eP*		**P**		**00 50 20.8**	**+0.4**
ISCO				*e*PP		pP		00 50 33.8	-1.0
ISCO				pmax		pmax			
	comp=Z,13nm,0.8s,mb4.7								
ISCO	**Idaho Springs**	**30.48**	**334**	*eP*		**P**		**00 50 20.8**	**+0.4**
	comp=Z,13nm,0.8s,mb4.7								
ISCO				*e*pP		pP		00 50 33.8	-1.0
PV01	**Paradox Valley**	**30.56**	**328**	*eP*		**P**		**00 50 21.6**	**+0.5**
PV01				*e*pP		pP		00 50 34.1	-1.4
SMCO	**Snowmass**	**30.59**	**331**	*eP*		**P**		**00 50 22.3**	**+1.0**
	comp=Z,21nm,0.8s,mb5.0								
SMCO				*e*pP		pP		00 50 35.9	+0.1
PV10	**Paradox Valley**	**30.98**	**328**	*eP*		**P**		**00 50 25.0**	**+0.2**
PV10				*e*pP		pP		00 50 37.8	-1.4
BINY	**Binghamton**	**30.99**	**18**	*eP*		**P**		**00 50 25.3**	**+0.4**
	comp=Z,13nm,0.6s,mb4.9								
BINY				*e*pP		pP		00 50 40.4	+1.1
ECSD	**EROS,Sioux Fal**	**31.26**	**349**	*eP*		**P**		**00 50 26.2**	**-1.0**
ECSD				*e*pP		pP		00 50 41.0	-0.6
ECSD				*e*PP		PP		00 51 40.7	+2.1
PHWY	**Pilot Hill**	**31.67**	**336**	*eP*		**P**		**00 50 31.5**	**+0.6**
PHWY				*e*pP		pP		00 50 45.0	-0.2
SRU	**San Rafael**	**32.30**	**327**	*eP*		**P**		**00 50 36.1**	**-0.4**
SRU				*e*PP		pP		00 50 51.1	+0.2
SRU				pmax		pmax			
	comp=Z,9.0nm,0.7s,mb4.7								
SRU	**San Rafael**	**32.30**	**327**	*eP*		**P**		**00 50 36.1**	**-0.3**
	comp=Z,8.9nm,0.7s,mb4.7								
SRU				*e*pP		pP		00 50 51.1	+0.2
PFO	**Pinyon Flat Ob**	**32.48**	**314**	*eP*		**P**		**00 50 38.7**	**+0.7**
PFO				*e*PP		pP		00 50 51.8	-0.6
PFO				pmax		pmax			
	comp=Z,13nm,1.1s,mb4.7								
PFO	**Pinyon Flat Ob**	**32.48**	**314**	*eP*		**P**		**00 50 38.7**	**+0.7**
	comp=Z,13nm,1.1s,mb4.7								
PFO				*e*pP		pP		00 50 51.8	-0.7
NEN	**Nelson**	**32.54**	**318**	*eP*		**P**		**00 50 39.1**	**+0.6**
NEN				*e*pP		pP		00 50 53.1	+0.2
SADO	**Sadowa**	**32.57**	**13**	P		**P**		**00 50 38.4**	**-0.4**
	comp=Z,31nm,0.6s,mb5.5,baz=213,slow=8.7,SNR=61								
RWWY	**Rawlins**	**32.72**	**334**	*eP*		**P**		**00 50 40.5**	**+0.4**
	comp=Z,33nm,0.8s,mb5.3								
RWWY				*e*pP		pP		00 50 55.0	+0.4
RWWY				*ePcP*		PcP		00 53 23.8	-0.7
MSU	**Marysvale**	**32.78**	**325**	*eP*		**P**		**00 50 41.2**	**+0.6**
MSU				*e*PP		pP		00 50 55.6	+0.6
MSU				*e*				00 53 25.0	
TMUT	**Trail Mountain**	**32.80**	**327**	*eP*		**P**		**00 50 41.8**	**+1.0**
TMUT				*e*pP		pP		00 50 55.8	+0.5
ACCN	**Adirondack Com**	**32.80**	**20**	*eP*		**P**		**00 50 41.0**	**+0.2**
ACCN				*e*pP		pP		00 50 57.0	+1.7
ARUT	**Antelope Range**	**33.02**	**322**	*eP*		**P**		**00 50 43.6**	**+0.9**
ARUT				*e*PP		pP		00 50 57.4	+0.3
MPU	**Maple Canyon**	**33.55**	**327**	*eP*		**P**		**00 50 46.6**	**-0.7**
	comp=Z,17nm,0.8s,mb5.0								
MPU				*e*pP		pP		00 51 02.1	+0.3
MPU				*e*PP		PP		00 52 05.0	+1.0
RSSD	**Black Hills**	**33.58**	**340**	*eP*		**P**		**00 50 48.3**	**+0.7**
RSSD				*e*PP		pP		00 51 02.1	0.0
RSSD				pmax		pmax			
	comp=Z,16nm,0.6s,mb5.1								
RSSD	**Black Hills**	**33.58**	**340**	*eP*		**P**		**00 50 48.3**	**+0.7**
	comp=Z,16nm,0.6s,mb5.1								
RSSD				*e*pP		pP		00 51 02.1	+0.1
LONY	**Lake Ozonia**	**33.61**	**18**	*eP*		**P**		**00 50 47.5**	**-0.4**
LONY				*e*pP		pP		00 51 02.0	-0.3
DAU	**Daniels Canyon**	**33.64**	**328**	*eP*		**P**		**00 50 48.9**	**+0.8**
DAU				*e*PP		pP		00 51 03.0	+0.4
ARE	**Arequipa**	**33.95**	**150**	*eP*		**P**		**00 50 51.0**	**+0.2**
FRNY	**Flat Rock**	**34.12**	**19**	*eP*		**P**		**00 50 51.8**	**-0.5**
FRNY				*e*pP		pP		00 51 06.7	0.0
TPNV	**Topopah Spring**	**34.23**	**319**	*eP*		**P**		**00 50 53.8**	**+0.6**
TPNV				*e*PP		pP		00 51 08.3	+0.6
TPNV				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.5								
TPNV	**Topopah Spring**	**34.23**	**319**	*eP*		**P**		**00 50 53.8**	**+0.6**
	comp=Z,4.7nm,0.8s,mb4.5								
TPNV				*e*pP		pP		00 51 08.3	+0.6
NOQ	**North Oquirrh**	**34.27**	**327**	*eP*		**P**		**00 50 54.2**	**+0.7**
	comp=Z,19nm,0.7s,mb5.1								
NOQ				*e*pP		pP		00 51 08.2	+0.2
DUG	**Dugway**	**34.31**	**326**	*eP*		**P**		**00 50 54.6**	**+0.7**
DUG				*e*PP		pP		00 51 08.6	+0.2
DUG				*e*				00 53 29.0	
DUG				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.4								
DUG	**Dugway**	**34.31**	**326**	*eP*		**P**		**00 50 54.6**	**+0.7**
	comp=Z,3.9nm,0.8s,mb4.4								
DUG				*e*pP		pP		00 51 08.6	+0.2
DUG				*es*P		sP		00 51 14.4	-0.8
DUG				*e*PcP		PcP		00 53 29.0	0.0
PDAR	**Pinedale Array**	**34.62**	**332**	P		**P**		**00 50 56.4**	**-0.3**
	comp=Z,7.1nm,0.8s,mb4.7,baz=133,slow=9.1,SNR=42								
PDAR				PcP		PcP		00 53 28.6	-1.2
	comp=Z,5.0nm,0.6s,baz=140,slow=5.3,SNR=14								
PDAR				pPcP				00 53 44.5	
	comp=Z,3.7nm,0.6s,baz=122,slow=4.7,SNR=6.9								
PDAR				LR		LR		01 08 13.8	
	comp=Z,206nm,21.0s,MS3.9,baz=149,slow=42								
HWUT	**Hardware Ranch**	**34.69**	**329**	*eP*		**P**		**00 50 57.1**	**0.0**
	comp=Z,8.6nm,0.7s,mb4.8								
HWUT				*e*pP		pP		00 51 11.6	-0.1
EYMN	**Ely**	**34.79**	**357**	*eP*		**P**		**00 50 56.7**	**-1.4**
	comp=Z,16nm,0.7s,mb5.0								
EYMN				*e*pP		pP		00 51 11.8	-0.8
SPUT	**South Promonto**	**34.91**	**328**	*eP*		**P**		**00 50 59.2**	**+0.1**
SPUT				*e*pP		pP		00 51 13.8	+0.2
BGU	**Big Grassy Mou**	**34.94**	**327**	*eP*		**P**		**00 51 06.9**	**+7.5**
AHID	**Auburn Hatcher**	**35.33**	**331**	*eP*		**P**		**00 51 02.8**	**+0.1**
	comp=Z,15nm,0.6s,mb5.1								
AHID				*e*pP		pP		00 51 17.2	-0.1
HVU	**Hansel Valley**	**35.42**	**328**	*eP*		**P**		**00 51 04.4**	**+0.9**
HVU				pmax		pmax			

FFC	**Flin Flon**	**42.80**	**349**	*eP*	**P**		**00 52 04.6**	**-0.4**
	comp=Z,18nm,0.6s,mb5.0								
FFC				*e*pP	pP		00 52 18.3	-1.6
SCHQ	**Schefferville**	**44.99**	**18**	P	**P**		**00 52 21.4**	**-1.2**
	comp=Z,20nm,0.7s,mb5.1,baz=210,slow=6.6,SNR=36								
SCHQ				PcP	PcP		00 54 00.7	-2.2
	comp=Z,5.1nm,0.5s,baz=226,slow=4.0,SNR=7.5								
SCHQ				LR	LR		01 12 07.0		
	comp=Z,243nm,18.9s,MS4.2,baz=80,slow=37								
BDFB	**Brasilia**	**49.34**	**124**	P	**P**		**00 52 54.1**	**-2.3**
	comp=Z,29nm,0.8s,mb5.4,baz=295,slow=9.0,SNR=38								
BDFB				LR	LR		01 12 37.4		
	comp=Z,158nm,20.8s,MS4.0,baz=303,slow=35								
CPUP	**Villa Florida**	**49.67**	**142**	P	**P**		**00 52 57.0**	**-2.0**
	comp=Z,4.2nm,0.6s,mb4.6,baz=312,slow=8.4,SNR=18								
CPUP				pP	pP		00 53 10.9	-3.3	
	comp=Z,6.3nm,0.6s,baz=329,slow=10,SNR=9.1								
CPUP				LR	LR		01 14 31.1		
	comp=Z,201nm,20.8s,MS4.1,baz=308,slow=37								
CPUP	**Villa Florida**	**49.67**	**142**	P	**P**		**00 52 57.0**	**-2.0**
CPUP				*PP	pP		00 53 10.9	-3.2	
CPUP	**Villa Florida**	**49.67**	**142**	P	**P**		**00 52 57.0**	**-2.0**
CPUP				pP	pP		00 53 10.9	-3.3	
CPUP				LR	LR		01 14 31.1		
YKA	**Yellowknife Ar**	**52.65**	**345**	P	**P**		**00 53 19.5**	**-1.9**
	comp=Z,26nm,0.7s,mb5.3,baz=138,slow=7.9,SNR=515								
YKA				PcP	PcP		00 54 28.2	-2.4	
	comp=Z,3.0nm,0.6s,baz=149,slow=3.8,SNR=6.4								
YKA				LR	LR		01 18 15.5		
	comp=Z,255nm,21.6s,MS4.2,baz=140,slow=39								
YKA	**Yellowknife Ar**	**52.65**	**345**	P	**P**		**00 53 19.5**	**-1.9**
YKA							00 54 28.3		
DLBC	**Dease Lake**	**54.79**	**335**	*eP*	**P**		**00 53 37.2**	**+0.2**
DLBC				*e*pP	pP		00 53 51.2	-1.1	
TAOE	**Nuku Hiva Isla**	**55.59**	**250**	*e*LR	LR		01 09 54.3		
	comp=Z,1µm,28.0s								
PLCA	**Paso Flores**	**56.16**	**163**	P	**P**		**00 53 45.1**	**-1.7**
	comp=Z,2.9nm,1.0s,mb4.3,baz=341,slow=13,SNR=6.0								
PLCA				PcP	PcP		00 54 42.9	-1.1	
	comp=Z,2.3nm,0.9s,baz=346,slow=5.9,SNR=4.0								
PLCA				LR	LR		01 12 04.6		
	comp=Z,174nm,19.6s,MS4.2,baz=90,slow=30								
PLCA	**Paso Flores**	**56.16**	**163**	P	**P**		**00 53 45.1**	**-1.7**
PLCA							00 54 42.9		
CAM4	**Nova Friburgo**	**57.32**	**128**	*i*P	**P**		**00 53 53.8**	**-1.2**
CAM4				*i*	pP		00 54 07.8	-2.6	
CAM4				*i*			00 54 42.6		
RKT	**Rikitea**	**57.90**	**232**	*e*LR	LR		01 10 55.8		
	comp=Z,301nm,28.0s								
RES	**Resolute Bay**	**61.65**	**358**	*eP*	**P**		**00 54 22.6**	**-2.2**
RES				*e*PP	pP		00 54 37.5	-2.9	
RES				pmax	pmax				
	comp=Z,12nm,0.7s,mb5.1								
RES	**Resolute Bay**	**61.65**	**358**	*eP*	**P**		**00 54 22.6**	**-2.2**
	comp=Z,12nm,0.7s,mb5.1								
RES				*e*pP	pP		00 54 37.5	-3.0	
INK	**Inuvik**	**62.21**	**343**	P	**P**		**00 54 26.9**	**-1.7**
	comp=Z,28nm,0.8s,mb5.5,baz=127,slow=7.5,SNR=33								
ILAR	**Eielson Array**	**64.93**	**336**	P	**P**		**00 54 44.6**	**-1.9**
	comp=Z,5.9nm,0.8s,mb4.7,baz=171,slow=4.5,SNR=23								
KDAK	**Kodiak Island**	**65.17**	**328**	P	**P**		**00 54 46.5**	**-1.6**
	comp=Z,4.3nm,0.6s,mb4.7,baz=354,slow=2.3,SNR=4.6								
KDAK	**Kodiak Island**	**65.17**	**328**	P	**P**		**00 54 46.5**	**-1.6**
SUMG	**Summit**	**66.23**	**15**	*eP*	**P**		**00 54 53.4**	**-1.5**
SUMG				*e*pP	pP		00 55 09.2	-1.5	
PPT	**Papeete**	**67.41**	**245**	LR	LR		01 15 38.1		
	comp=Z,444nm,19.6s,MS4.7,baz=233,slow=28								
TTA	**Tatalina**	**68.14**	**333**	*eP*	**P**		**00 55 04.2**	**-2.8**
TTA				pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.4								
TTA	**Tatalina**	**68.14**	**333**	*eP*	**P**		**00 55 04.2**	**-2.8**
	comp=Z,2.9nm,0.8s,mb4.4								
TBI	**Tubuai**	**69.64**	**239**	*e*LR	LR		01 16 23.4		
	comp=Z,460nm,26.8s,baz=57								
DAG	**Danmarks Havn**	**72.77**	**13**	*i*P	**P**		**00 55 32.7**	**-2.5**
	comp=Z,3.3nm,0.6s,mb4.4								
DAG	**Danmarks Havn**	**72.77**	**13**	*i*P	**P**		**00 55 32.7**	**-2.5**
DAG				pmax	pmax				
	comp=Z,3.0nm,0.6s,mb4.4								
ESDC	**Sonseca Array**	**77.71**	**52**	P	**P**		**00 56 01.4**	**-2.2**
	comp=Z,1.0nm,0.6s,mb3.9,baz=283,slow=5.1,SNR=5.3								
ESDC				pP	pP		00 56 17.2	-2.5	
	comp=Z,1.9nm,0.7s,baz=282,slow=5.8,SNR=6.1								
NOA	**NORSAR Array B**	**83.35**	**29**	P	**P**		**00 56 31.5**	**-2.4**
	comp=Z,1.1nm,0.7s,mb4.0,baz=286,slow=5.0,SNR=5.0								
NOA				LR	LR		01 29 12.6		
	comp=Z,106nm,22.0s,MS4.2,baz=280,slow=32								
BILL	**Bilibino**	**83.46**	**339**	*i* P	**P**		**00 56 31.8**	**-2.6**
BILL				*e*	pP		00 56 47.8	-2.9	
BILL				*e*			00 59 44.3		
BILL				pmax	pmax				
	comp=Z,14nm,1.3s,mb4.8								
ARCES	**ARCESS Array B**	**85.93**	**19**	P	**P**		**00 56 44.9**	**-1.9**
	comp=Z,1.3nm,0.5s,mb4.4,baz=286,slow=4.5,SNR=9.1								
ARCES				pP	pP		00 57 01.5	-1.7	
	comp=Z,3.6nm,0.8s,baz=305,slow=4.3,SNR=1.7								
ARCES				LR	LR		01 34 23.5		
	comp=Z,62nm,18.2s,MS4.0,baz=43,slow=35								
ARCES	**ARCESS Array B**	**85.93**	**19**	P	**P**		**00 56 44.9**	**-1.9**
ARCES				*PP	pP		00 57 01.5	-1.7	
ARCES	**ARCESS Array B**	**85.93**	**19**	P	**P**		**00 56 44.9**	**-1.9**
ARCES				pP	pP		00 57 01.5	-1.7	
ARCES				LR	LR		01 34 23.5		
CLL	**Collm**	**87.02**	**38**	*i* P	**P**		**00 56 50.8**	**-1.4**
	comp=Z,5.0nm,0.9s,mb4.7								
TORD	**Torodi Ar. Bea**	**87.42**	**77**	P	**P**		**00 56 51.1**	**-3.0**
	comp=Z,0.4nm,0.5s,mb3.9,baz=292,slow=5.0,SNR=10								
TORD				pP	pP		00 57 06.8	-3.6	
	comp=Z,0.4nm,0.5s,baz=294,slow=5.4,SNR=2.2								
GERES	**GERESS Array B**	**88.19**	**40**	P	**P**		**00 56 55.5**	**-2.3**
	comp=Z,0.2nm,0.5s,baz=228,slow=1.6,SNR=3.6								
GERES				LR	LR		01 31 48.2		
	comp=Z,153nm,20.9s,MS4.4,baz=97,slow=32								
FINES	**FINESS Array B**	**89.89**	**26**	LR	LR		01 34 26.4		
	comp=Z,58nm,21.2s,MS4.0,baz=347,slow=34								
TIXI	**Tiksi**	**91.76**	**349**	*eP*	**P**		**00 57 10.4**	**-4.0**
TIXI				*e*	pP		00 57 25.9	-5.0	
TIXI				pmax	pmax				
	comp=Z,5.0nm,0.8s,mb4.9								
TIXI				MLR	MLR				
	comp=Z,158nm,23.0s,MS4.4								
VNA3	**Neumayer Olymp**	**98.82**	**161**	*e*Pdiff	**P**		**00 57 43.4**	**-3.2**
VNA3				*e*	pP		00 57 58.4	-4.7	
VNA3				*e*			00 58 10.7		
VNA3				*e*			00 58 21.0		
VNA2	**Neumayer--Watz**	**99.47**	**161**	*e*Pdiff	**P**		**00 57 46.5**	**-3.0**
VNA2				*e*			00 58 13.4		
VNA2				*e*			00 58 22.2		
ZAL	**Zalesovo**	**112.97**	**4**	PKiKP	PKiKP		01 02 43.2	-0.4	
	comp=Z,1.2nm,0.4s,baz=58,slow=1.4,SNR=4.0								
ZAL	**Zalesovo**	**112.97**	**4**	PKPdf	PKiKP		01 02 43.2	-0.4	
SONM	**Songino Array**	**117.84**	**349**	PKP	PKPdf		01 02 51.6	-1.4	
	comp=Z,3.0nm,0.7s,baz=337,slow=1.6,SNR=22								
SONM				pPKP	pPKPdf		01 03 07.6	-2.4	
	comp=Z,2.2nm,0.7s,baz=341,slow=1.9,SNR=8.3								
LSZ	**Lusaka**	**118.93**	**100**	*e*PKIKP	PKPdf		01 02 55.4	+0.4	
LSZ				*e*			01 03 10.5		
MKAR	**Makanchi Array**	**119.81**	**7**	PKP	PKPdf		01 02 53.6	-3.1	
	comp=Z,1.2nm,0.7s,baz=10,slow=1.9,SNR=15								
MAW	**Mawson**	**122.45**	**168**	PKP	PKPdf		01 02 59.7	-2.1	
	comp=Z,2.6nm,0.6s,baz=210,slow=5.3,SNR=11								
MAW				pPKP	pPKPdf		01 03 15.2	-3.6	
	comp=Z,6.1nm,0.7s,baz=197,slow=1.5,SNR=7.2								
WMQ	**Urumqi**	**123.23**	**3**	*e*PKP	PKPdf		01 03 00.0	-3.3	
GTA	**Gaotai**	**127.14**	**352**	*e*PKP	PKPdf		01 03 10.3	-0.5	
SSE	**Sheshan**	**127.51**	**327**	PKP	PKPdf		01 03 08.8	-2.7	
SSE				PP	PP				
	comp=Z,85nm,4.6s								
SSE	**Sheshan**	**127.51**	**327**	P	PKPdf		01 03 08.7	-2.8	
NJ2	**Nanjing**	**127.92**	**330**	*e*PKP	PKPdf		01 03 11.3	-1.0	
NJ2				PP	PP		01 05 21.0	+5.9	
NJ2				PKS			01 06 47.0		
NJ2				PP	PP				
	comp=Z,100nm,5.4s								
NJ2				LR	LR				
	comp=N,430nm,32.0s,MS5.0								
NJ2				LR	LR				
	comp=E,340nm,29.0s,MS5.0								
NJ2				LR	LR				
	comp=Z,160nm,23.7s								
LZH	**Lanzhou**	**129.65**	**347**	*e*PKP	PKPdf		01 03 14.3	-1.3	
LZH				PP	PP		01 05 25.3	-1.2	
LZH				SKS	SKSdf		01 10 14.5	-7.7	
LZH				PP	PP				
	comp=Z,96nm,8.7s								
LZH				LR	LR				
	comp=E,149nm,18.3s								
LZH				LR	LR				
	comp=Z,198nm,20.4s,MS4.8								
LZH	**Lanzhou**	**129.65**	**347**	*e*PKIKP	PKPdf		01 03 14.2	-1.4	
LZH							01 05 25.2		
LZH							01 10 14.5		
LZH				MLR	MLR				
	comp=Z,200nm,20.4s,MS4.8								
LZH	**Lanzhou**	**129.65**	**347**	*e*PKP	PKPdf		01 03 14.2	-1.4	
LZH				pPKP	pPKPdf		01 03 39.7	+7.1	
LZH				sPKP			01 03 51.6		
LZH				PP	PP		01 05 25.2	-1.3	
LZH				SKS	SKSdf		01 10 14.5	-7.7	
LZH				SKKS	SKKSac		01 12 09.6	-8.8	
LZH				*e*SS	SS		01 22 39.8	-5.3	
LZH				LR	LR				
	comp=Z,200nm,20.4s,MS4.8								
XAN	**Xi'an**	**130.20**	**341**	PKP	PKPdf		01 03 16.0	-0.6	
STKA	**Stephens Creek**	**130.43**	**239**	PKP	PKPdf		01 03 17.7	+0.6	
	comp=Z,1.5nm,0.5s,baz=94,slow=7.0,SNR=4.7								
STKA	**Stephens Creek**	**130.43**	**239**	PKP	PKPdf		01 03 17.7	+0.6	
LSA	**Lhasa**	**137.42**	**0**	*e*PKIKP	PKPdf		01 03 31.3	+1.1	
GYA	**Guiyang**	**137.92**	**339**	*i* PKP	PKPdf		01 03 31.0	-0.1	
WB2	**Warramunga Arr**	**138.30**	**255**	*e*P	PKPdf		01 03 30.1	-1.7	
WRAB	**Tennant Creek**	**138.30**	**255**	*e*PKIKP	PKPdf		01 03 31.3	-0.5	
WRAB				*e*			01 03 47.3		
WRA	**Warramunga Arr**	**138.31**	**255**	PKhKP			01 03 21.4		
	comp=Z,0.7nm,0.8s,baz=87,slow=3.0,SNR=6.7								
WRA				PKP	PKPdf		01 03 31.4	-0.4	
	comp=Z,6.8nm,0.8s,baz=89,slow=2.3,SNR=21								
ASAR	**Alice Springs**	**138.41**	**249**	PKhKP			01 03 21.0		
	comp=Z,1.1nm,0.7s,baz=111,slow=2.8,SNR=9.8								
ASAR				PKP	PKPdf		01 03 31.5	-0.5	
	comp=Z,2.4nm,0.8s,baz=80,slow=2.0,SNR=12								
GKN	**Gorkha**	**138.60**	**9**	*e*P	PKPdf		01 03 31.7	-0.6	
	comp=Z,7.1nm,0.3s								
KOLN	**Koldanda**	**138.66**	**10**	*e*P	PKPdf		01 03 31.6	-0.8	
	comp=Z,15nm,1.0s								
GUN	**Gumba**	**138.87**	**7**	*e*P	PKPdf		01 03 30.7	-2.1	
	comp=Z,15nm,0.6s								
KKN	**Kakani**	**138.91**	**8**	*e*P	PKPdf		01 03 31.3	-1.6	
DMN	**Daman**	**139.06**	**8**	*e*P	PKPdf		01 03 32.1	-1.1	
PKI	**Pulchoki**	**139.14**	**8**	*e*P	PKPdf		01 03 31.2	-2.2	
JIRN	**Jiri**	**139.15**	**7**	*e*P	PKPdf		01 03 32.0	-1.3	
	comp=Z,8.1nm,0.5s								
KMI	**Kunming**	**140.39**	**344**	PKP	PKPdf		01 03 35.8	+0.2	
KMI				LR	LR				
	comp=N,93nm,30.6s,MS4.5								
KMI				LR	LR				
	comp=E,99nm,26.4s,MS4.5								
KMI				LR	LR				
	comp=Z,118nm,26.3s,MS4.5								
KMI	**Kunming**	**140.39**	**344**	PKP	PKPdf		01 03 35.7	+0.1	
KMI				LR	LR				
	comp=Z,120nm,26.3s,MS4.5								
FITZ	**Fitzroy Crossi**	**146.63**	**257**	*e*P	PKPdf		01 03 46.6	+0.1	
	comp=Z,24nm,0.9s								
FITZ	**Fitzroy Crossi**	**146.63**	**257**	PKPbc	PKPbc		01 03 46.9	-1.3	
	comp=Z,11nm,0.8s,baz=242,slow=2.4,SNR=22								
CHTO	**Chiang Mai**	**147.39**	**347**	*e*PKIKP	PKPdf		01 03 48.1	+0.3	
CHTO				*e*			01 04 02.9		
PSI	**Prapat**	**162.47**	**334**	PKP	PKPdf		01 04 08.0	-0.3	
	comp=Z,10.0nm,0.9s,baz=237,slow=3.4,SNR=9.0								
PSI				pPKP	pPKPdf		01 04 23.4	-2.0	
	comp=Z,14nm,0.9s,baz=30,slow=2.5,SNR=4.7								
PSI	**Prapat**	**162.47**	**334**	PKP	PKPdf		01 04 08.0	-0.3	
PSI				pPKP	pPKPdf		01 04 23.4	-2.0	

*ISCJB **26** 00:55:58.6±0.7, 68N±0.1×1252E±0.3, h10km, mb4.0/5, Error ellipse: s-maj=50.0km s-min=11.1km az=141.2*
*IDC **26** 00:55:59.4±2.4, 6.77N×12526E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/19, mbtmp4.0/3, Error ellipse: s-maj=220.3km s-min=24.6km az=65.0*
*NEIC **26** 00:56:00.5±0.5, 6.77N×12522E, h10km, mb4.3/2, Error ellipse: s-maj=35.7km s-min=8.0km az=71.0*

ISC 26 00:56:00.8±0.7, 68N±01×1252E±03, h10km, n10, σ0§43/10, mb4.0/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**17.64**	**349**	*e*P		**Pn**	**01 00 06.3**	**-0.4**
WRA	**Warramunga Arr**	**28.03**	**161**	P		**P**	**01 01 52.4**	**+0.4**
	0.8nm,0.3s,mb3.8,baz=341,slow=9.2,SNR=41							
ASAR	**Alice Springs**	**31.43**	**165**	P		**P**	**01 02 22.2**	**+0.1**
	0.9nm,0.5s,mb3.9,baz=339,slow=7.7,SNR=13							
CTAO	**Charters Tower**	**33.79**	**143**	*e*P		**P**	**01 02 42.5**	**-0.3**
NWAO	**Narrogin (SRO)**	**40.20**	**190**	*e*P		**P**	**01 03 36.5**	**-0.7**
STKA	**Stephens Creek**	**41.50**	**159**	*e*P		**P**	**01 03 48.3**	**+0.3**
TLY	**Talaya**	**48.18**	**342**	P		**P**	**01 04 41.1**	**-0.2**
MKAR	**Makanchi Array**	**54.20**	**325**	P		**P**	**01 05 27.1**	**+0.6**
	0.5nm,0.3s,mb3.9,baz=124,slow=7.9,SNR=10							
KURK	**Kurchatov**	**58.37**	**327**	*e*P		**P**	**01 05 55.9**	**-0.3**
	1.6nm,0.3s,mb4.5							
ZRNK	**Zerenda**	**64.68**	**326**	*e*P		**P**	**01 06 39.4**	**+0.5**
	0.5nm,0.4s,mb3.9							

*ISCJB **26** 00:58:10.6±0.4, 2046N±006×1198E±0.1, h10km, mb4.0/15, MS3.9/2, Error ellipse: s-maj=17.6km s-min=5.9km az=130.0*
*IDC **26** 00:58:10.7±0.9, 2044N×11987E, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.8/19, mbtmp3.8/7, MS3.7/3, Ms1 3.7/3, ms1mx3.1/26, Error ellipse: s-maj=39.2km s-min=20.3km az=71.0*
*NEIC **26** 00:58:12.1±0.3, 2045N×11990E, h10km, mb4.1/8, Error ellipse: s-maj=13.2km s-min=6.2km az=74.0*

ISC 26 00:58:12.4±0.4, 2049N±006×1199E±01, h10km, n26, σ0§73/25, mb4.0/15, MS3.9/2, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
APYP	**Conner**	**2.92**	**153**	*e*P		**Pn**	**00 58 58.7**	**-0.2**
APYP				*e*S		**Sn**	**00 59 36.8**	**+2.6**
CVP	**Callao Caves**	**3.34**	**146**	*e*P		**Pn**	**00 59 05.0**	**+0.4**
CVP				*e*S		**Sn**	**00 59 44.0**	**-0.3**
YHNB	**Yeheng**	**4.39**	**18**	Pn		**Pn**	**00 59 18.7**	**-0.4**
JOW	**Lunigami**	**9.97**	**49**	LR		LR	01 05 02.2	
	comp=Z,173nm,20.1s,baz=331,slow=41							
MJAR	**Matsushiro Arr**	**22.65**	**41**	P		**P**	**01 03 13.7**	**+0.1**
	2.8nm,0.8s,mb3.8,baz=243,slow=11,SNR=6.6							
SONM	**Songino Array**	**29.37**	**341**	LR		LR	01 15 41.4	
	comp=Z,51nm,18.8s,MS3.2,baz=84,slow=36							
TLY	**Talaya**	**33.61**	**342**	*e*P		**P**	**01 04 52.8**	**-0.1**
	2.3nm,0.4s,mb4.5							
MKAR	**Makanchi Array**	**40.23**	**320**	P		**P**	**01 05 49.4**	**+0.2**
	0.5nm,0.6s,mb3.4,baz=113,slow=9.3,SNR=4.4							
MKAR	**Makanchi Array**	**40.23**	**320**	P		**P**	**01 05 49.4**	**+0.2**
MBWA	**Marble Bar**	**41.39**	**180**	*e*P		**P**	**01 05 57.0**	**-1.8**
WRAB	**Tennant Creek**	**42.61**	**160**	*e*P		**P**	**01 06 08.4**	**-0.2**
	8.4nm,0.8s,mb4.5							
WRA	**Warramunga Arr**	**42.61**	**160**	P		**P**	**01 06 08.1**	**-0.6**
	5.2nm,0.9s,mb4.2,baz=343,slow=9.1,SNR=9.9							
WB2	**Warramunga Arr**	**42.62**	**160**	*e*P		**P**	**01 06 07.7**	**-1.0**
ZAL	**Zalesovo**	**42.74**	**330**	P		**P**	**01 06 09.4**	**-0.4**
	0.6nm,0.4s,mb3.7,baz=328,slow=11,SNR=4.3							
KURK	**Kurchatov**	**44.21**	**323**	*e*P		**P**	**01 06 22.1**	**+0.5**
	0.6nm,0.4s,mb3.7							
ASAR	**Alice Springs**	**45.97**	**162**	P		**P**	**01 06 35.4**	**-0.3**
	2.2nm,1.1s,mb4.0,baz=330,slow=6.2,SNR=7.3							
CTAO	**Charters Tower**	**47.90**	**146**	*e*P		**P**	**01 06 50.5**	**-0.2**
	2.8nm,0.5s,mb4.5							
BRVK	**Borovoye**	**49.88**	**323**	*e*P		**P**	**01 07 06.2**	**+0.3**
	0.7nm,0.5s,mb4.0							
CHKZ	**Chkalovo**	**49.92**	**324**	*e*P		**P**	**01 07 06.3**	**+0.1**
	0.5nm,0.5s,mb3.8							
ZRNK	**Zerenda**	**50.57**	**323**	*e*P		**P**	**01 07 11.7**	**+0.6**
	0.9nm,0.5s,mb4.0							
STKA	**Stephens Creek**	**56.08**	**158**	P		**P**	**01 07 52.5**	**+0.9**
INK	**Inuvik**	**77.10**	**21**	*e*P		**P**	**01 10 05.3**	**-0.6**
	0.8nm,0.7s,mb3.8							
GERES	**GERESS Array B**	**84.90**	**320**	P		**P**	**01 10 48.2**	**+0.7**
	0.3nm,0.6s,mb3.6,baz=104,slow=8.2,SNR=3.3							
YKA	**Yellowknife Ar**	**86.84**	**22**	P		**P**	**01 10 57.7**	**+0.6**
	0.6nm,0.9s,mb3.8,baz=313,slow=4.4,SNR=6.0							
YKA	**Yellowknife Ar**	**86.84**	**22**	P		**P**	**01 10 57.7**	**+0.6**
MAW	**Mawson**	**97.22**	**199**	LR		LR	01 47 36.6	
	comp=Z,209nm,19.5s,MS4.6,baz=236,slow=30							

*CSEM **26** 01:05:33.8±0.1, 3784N×2768E, h12km, MD3.1, Error ellipse: s-maj=2.8km s-min=1.7km az=81.0*
*ISK **26** 01:05:33.9, 3783N×2766E, h20km, MD3.1*
*ISCJB **26** 01:05:34.4±0.5, 3783N±002×2762E±003, h3km±5km, Error ellipse: s-maj=4.4km s-min=3.2km az=134.3*
*NEIC **26** 01:05:34.0, 3783N×2774E, h14km, MD3.1(ISK), MD3.2(ATH), After ISK.*
*ATH **26** 01:05:37.9, 3763N×2730E, h32km±2km, MD3.2/3*

ISC 26 01:05:34.9±0.4, 3784N±002×2763E±003, h10km±5km, n22, σ1§06/35, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AYDN	**Tasoluk**	**0.26**	**132**	*i* P			**Pg**	**01 05 40.2**	**-0.1**
AYDN				*i* S			**Sg**	**01 05 43.8**	**0.0**
MLSB	**Milas**	**0.55**	**168**	*i* PG			**Pg**	**01 05 45.0**	**-0.6**
IZM	**Izmir**	**0.63**	**333**	PG			**Pg**	**01 05 47.0**	**-0.1**
IZM				SG			**Sg**	**01 05 56.7**	**+1.3**
KDAG	**Bornova**	**0.64**	**333**	*i* P			**Pg**	**01 05 47.1**	**-0.1**
KDAG				*i* S			**Sg**	**01 05 54.9**	**-0.6**
SMG	**Samos**	**0.64**	**259**	*e*PB			**Pb**	**01 05 46.9**	**-1.3**
BDRM	**Kayabasi**	**0.78**	**191**	*i* P			**Pg**	**01 05 49.2**	**-0.8**
BDRM				*i* S			**Sg**	**01 06 01.3**	**+1.1**
BODT	**Bodrum**	**0.81**	**198**	PG			**Pg**	**01 05 49.9**	**-0.7**
BODT				SG			**Sg**	**01 06 02.3**	**+1.1**
YER	**Yerkesik**	**0.87**	**143**	PG			**Pg**	**01 05 51.3**	**-0.4**
YER				SG			**Sg**	**01 06 03.7**	**+0.7**
URLA	**Izmir**	**0.97**	**303**	*i* P			**Pg**	**01 05 54.0**	**+0.5**
URLA				*i* S			**Sg**	**01 06 07.0**	**+0.8**
MANT	**Manisa**	**0.98**	**48**	*i* P			**Pg**	**01 05 53.4**	**-0.3**
MANT				*i* S			**Sg**	**01 06 06.1**	**-0.4**
AKS	**Akhisar**	**1.05**	**8**	PG			**Pg**	**01 05 54.2**	**-0.9**
AKS				SG			**Sg**	**01 06 08.6**	**-0.2**
DAT	**Datca**	**1.11**	**182**	PN			**Pn**	**01 05 55.6**	**-0.8**
DENT	**Denizli**	**1.11**	**94**	PN			**Pn**	**01 05 54.7**	**-1.8**
DNZL	**Cakiroluk**	**1.13**	**97**	*i* P			**Pb**	**01 05 56.9**	**+0.4**
DNZL				*i* S			**Sb**	**01 06 13.2**	**+2.0**
DNZL	**Cakiroluk**	**1.13**	**97**	*i* P			**Pb**	**01 05 56.9**	**+0.4**
DNZL				*i* S			**Sb**	**01 06 13.2**	**+1.9**
ARG	**Arkhangelos**	**1.67**	**166**	*e*PN			**Pn**	**01 06 05.7**	**+1.6**
FETY	**Fethiye**	**1.67**	**136**	*e*PN			**Pn**	**01 06 02.1**	**-2.0**
PRK	**Paraskevi**	**1.77**	**323**	*e*PN			**Pn**	**01 06 08.7**	**+3.2**
PRK				*e*SN			**Sn**	**01 06 31.4**	**+3.4**
BALB	**Balikesir**	**1.81**	**6**	*e*PN			**Pn**	**01 06 05.5**	**-0.6**
APE	**Apeiranthos**	**1.84**	**246**	*e*PN			**Pn**	**01 06 05.6**	**-0.9**
TKTP	**Tekketepe**	**2.14**	**84**	*i* P			**Pn**	**01 06 12.7**	**+2.1**
TKTP				*i* S			**Sg**	**01 06 48.3**	**+4.8**
KARP	**Karpathos**	**2.31**	**190**	*e*PN			**Pn**	**01 06 12.5**	**-0.5**

*NEIC **26** 01:41:09.4, 3143S×7165W, h8km±5km, MD3.5, ML2.5(GUC), After GUC.*

GUC 26 01:41:09.4±0.5, 3143S×7165W, h8km±5km, MD3.5, ML2.5, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.61**	**65**	*i* P			Pg	01 41 21.9	+0.6
CMCH				*i* S			Sg	01 41 31.4	+2.2
TLL	**Tololo Astrono**	**1.46**	**30**	*e*P			Pn	01 41 35.6	-0.3
TLL				*i* S			Sn	01 41 55.4	+0.3
TLL				AML		AML		01 42 00.7	
	comp=N,125nm,0.4s								

ML3.0,7C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**0.78**	**217**	⇑*i*P	Pn	01 51 41.6	+0.4
JACH				*i* S	Sn	01 51 57.2	+1.1
CMCH	**Combarbala**	**1.21**	**317**	⇓*i*P	Pn	01 51 45.8	+0.3
CMCH				*i* S	Sn	01 52 04.5	+1.0
CMCH				AML	AML	01 52 05.5	
	comp=N,984nm,0.6s						
CMCH	**Combarbala**	**1.21**	**317**	⇓*i*P	Pn	01 51 45.8	+0.3
CMCH				*i* S	Sn	01 52 04.5	+1.0
ROCH	**El Roble**	**1.23**	**222**	⇑*i*P	Pn	01 51 46.3	+0.6
ROCH				*i* S	Sn	01 52 05.6	+1.6
PACH	**Papudo**	**1.28**	**248**	⇑*i*P	Pn	01 51 46.4	+0.1
PACH				*i* S	Sn	01 52 05.3	+0.3
FCH	**Farellones**	**1.28**	**190**	⇑*i*P	Pn	01 51 47.4	+1.0
FCH				*i* S	Sn	01 52 06.8	+1.8
FCH				AML	AML	01 52 10.8	
	comp=E,109nm,0.2s						
PCH	**Pirque**	**1.61**	**194**	*e*P	Pn	01 51 51.0	+0.9
TACH	**Talagante**	**1.76**	**205**	⇑*i*P	Pn	01 51 52.5	+0.5
TACH				*i* S	Sn	01 52 15.7	+0.6
LCCH	**Las Cruces**	**1.92**	**222**	⇑*i*P	Pn	01 51 54.4	+0.6
LCCH				*i* S	Sn	01 52 19.1	+0.7
CHCH	**Chadas Angostu**	**1.94**	**195**	⇑*i*P	Pn	01 51 54.5	+0.3
CHCH				*i* S	Sn	01 52 19.6	+0.6
OTAV	**Otavalo**	**33.09**	**344**	*e*P	P	01 57 47.3	+1.1
	comp=E,1.5nm,0.5s						

ISCJB ***26*** *01:57:27.3±1.1, 120S±0.1×778W±0.1, h33km, mb3.9/6, MS3.1/3, Error ellipse: s-maj=24.6km s-min=10.5km az=93.9*

NEIC ***26*** *01:57:27.9±1.1, 1199S×7789W, h35km, mb4.3/2, ML4.5(LIM), Error ellipse: s-maj=23.9km s-min=10.3km az=50.0*

NEIC Felt [III] at Lima.

IDC ***26*** *01:57:35.6±3.9, 1209S×7743W, h88km±26km, mb3.7/6, mb1 3.7/9, mb1mx3.6/21, mbtmp4.0/9, MS3.3/4, Ms1 3.2/4, ms1mx2.9/26, Error ellipse: s-maj=56.8km s-min=15.4km az=54.0*

ISC 26 01:57:29.9±1.2, 120S±01×777W±02, h35km, n21, σ1§17/19, mb3.9/6, MS3.1/3, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**0.82**	**92**	*e*Pn	**Pn**	**01 57 43.9**	**-1.1**
NNA				*e*Sn	**Sn**	**01 57 51.5**	**-4.4**
ATAH	**Atahualpa**	**4.98**	**352**	P	**Pn**	**01 58 47.7**	**+5.7**
	13nm,0.3s,baz=138,slow=1.8,SNR=38						
ATAH				S	**Sn**	**01 59 47.0**	**+8.7**
	14nm,0.3s,baz=46,slow=22,SNR=7.5						
LPAZ	**La Paz**	**10.21**	**116**	P	**Pn**	**01 59 56.1**	**+2.2**
	0.4nm,0.3s,baz=304,slow=10,SNR=11						
LPAZ	**La Paz**	**10.21**	**116**	*e*Pn	**Pn**	**01 59 56.6**	**+2.7**
	2.6nm,0.6s						
OTAV	**Otavalo**	**12.14**	**356**	*e*Pn	**Pn**	**02 00 19.5**	**-0.8**
LVC	**Limon Verde**	**13.50**	**143**	P	**Pn**	**02 00 47.7**	**+8.9**
	0.8nm,0.3s,baz=314,slow=6.0,SNR=8.4						
LVC	**Limon Verde**	**13.50**	**143**	Pn	**Pn**	**02 00 38.8**	**0.0**
SIV	**San Ignacio**	**16.61**	**106**	P	**Pn**	**02 01 20.9**	**+1.0**
	0.3nm,0.3s,baz=301,slow=17,SNR=6.8						
PAYG	**Puerto Ayora**	**16.80**	**311**	Pn	**Pn**	**02 01 18.4**	**-3.9**
	26nm,0.9s						
ROSC	**El Rosal**	**17.03**	**11**	LR	LR	02 09 05.8	
	comp=Z,94nm,20.6s,baz=20,slow=40						
SDV	**Santo Domingo**	**21.86**	**19**	P	**P**	**02 02 21.3**	**+1.8**
	4.3nm,0.4s,mb4.2,baz=306,slow=7.5,SNR=8.3						
SDV				LR	LR	02 12 14.0	
	comp=Z,54nm,18.1s,MS3.0,baz=195,slow=40						
SDV	**Santo Domingo**	**21.86**	**19**	*e*P	**P**	**02 02 19.9**	**+0.5**
	4.0nm,0.4s,mb4.2						
CPUP	**Villa Florida**	**23.91**	**130**	P	**P**	**02 02 38.9**	**-1.5**
	0.3nm,0.5s,mb3.0,baz=316,slow=12,SNR=2.8						
CPUP	**Villa Florida**	**23.91**	**130**	P	**P**	**02 02 39.1**	**-1.3**
PCRV	**Puerto La Cruz**	**25.53**	**31**	LR	LR	02 14 01.9	
	comp=Z,69nm,18.1s,MS3.2,baz=208,slow=39						
BDFB	**Brasilia**	**29.03**	**101**	LR	LR	02 15 55.3	
	comp=Z,55nm,19.6s,MS3.2,baz=292,slow=38						
ULM	**Lac du Bonnet**	**63.96**	**347**	P	**P**	**02 08 00.1**	**+0.7**
	1.5nm,0.4s,mb4.4,baz=172,slow=6.9,SNR=4.7						
DBIC	**Dimbokro**	**74.74**	**80**	P	**P**	**02 09 04.8**	**-1.3**
	1.8nm,0.6s,mb4.2,baz=208,slow=14,SNR=3.7						
YKA	**Yellowknife Ar**	**79.58**	**344**	P	**P**	**02 09 33.9**	**+0.7**
	0.4nm,0.6s,mb3.5,baz=142,slow=6.0,SNR=14						
TORD	**Torodi Ar. Bea**	**82.58**	**75**	P	**P**	**02 09 49.0**	**-0.3**
	1.3nm,0.7s,mb4.1,baz=252,slow=4.6,SNR=9.7						
SONM	**Songino Array**	**144.07**	**355**	PKP	PKPdf	02 17 01.2	-0.5
	0.8nm,0.5s,baz=338,slow=2.5,SNR=6.1						

NIED ***26*** *01:58:00, 42.90N×142.80E, h104km, Mw3.8 Best double couple: M0=4.86000×10^14 NP1:φ=94.00000°, δ=83.00000°, λ=92.00000°. NP2:φ=261.00000°, δ=7.00000°, λ=77.00000°.*

ISCJB ***26*** *01:58:46.8±0.3, 4281N±004×14281E±004, h144km, mb3.8/16, Error ellipse: s-maj=6.0km s-min=4.0km az=124.8*

MOS ***26*** *01:58:47.4±0.8, 4280N×14287E, h143km, mb4.1/6, Error ellipse: s-maj=17.5km s-min=11.1km az=97.2*

IDC ***26*** *01:58:48.5±1.3, 4284N×14282E, h132km±8km, mb3.6/11, mb1 3.8/12, mb1mx3.6/22, mbtmp4.0/12, Error ellipse: s-maj=19.0km s-min=15.0km az=135.0*

NEIC ***26*** *01:58:49.4±1.3, 4277N×14281E, h144km±13km, mb4.1/6, Error ellipse: s-maj=9.2km s-min=7.7km az=118.0*

JMA ***26*** *01:58:49.0±0.1, 4287N×14284E, h124km±1km, M3.5*

ISC 26 01:58:48.1±0.3, 4281N±004×14280E±004, h131km±2km, n52, σ0§57/69, mb3.8/16, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JBT2	**Biratori 2**	**0.32**	**265**	P	**Pn**	**01 59 06.8**	**+0.4**
JBT2				*e*S	**Sn**	**01 59 20.4**	**+0.2**
JFR	**Furan**	**0.39**	**337**	P	**Pn**	**01 59 06.5**	**-0.1**
JFR				*e*S	**Sn**	**01 59 20.1**	**-0.6**
JCH	**Churui**	**0.46**	**115**	P	**Pn**	**01 59 07.0**	**0.0**
JCH				*e*S	**Sn**	**01 59 20.4**	**-0.9**
JNBK	**Urakawa-nobuka**	**0.53**	**184**	P	**Pn**	**01 59 08.8**	**+1.4**
JOB	**Onbets**	**0.77**	**83**	P	**Pn**	**01 59 09.6**	**+0.6**
JOB				*e*S	**Sn**	**01 59 25.0**	**+0.1**
JAB	**Ashibetsu**	**0.81**	**329**	P	**Pn**	**01 59 09.3**	**-0.1**
JAB				*e*S	**Sn**	**01 59 25.7**	**+0.1**
JEM	**Erimo**	**0.84**	**161**	P	**Pn**	**01 59 10.8**	**+1.2**
JAR	**Ashorobuto**	**0.86**	**55**	P	**Pn**	**01 59 09.7**	**-0.1**
JAR				*e*S	**Sn**	**01 59 25.7**	**-0.6**
JEW	**Eniwo**	**0.99**	**272**	P	**Pn**	**01 59 11.2**	**+0.2**
JEW				*e*S	**Sn**	**01 59 28.3**	**-0.1**
JKK2	**Kamakawa 2**	**1.06**	**358**	P	**Pn**	**01 59 11.9**	**+0.3**
JHR	**Hokuryu**	**1.22**	**320**	P	**Pn**	**01 59 13.4**	**+0.2**
JHR				*e*S	**Sn**	**01 59 32.9**	**+0.6**
ASAJ	**Asahikawa**	**1.31**	**354**	P	**Pn**	**01 59 14.7**	**+0.5**
	81nm,0.3s,baz=210,slow=9.9,SNR=149						
ASAJ				S	**Sn**	**01 59 33.8**	**-0.2**
	17nm,0.3s,baz=167,slow=31,SNR=3.8						
ASAJ	**Asahikawa**	**1.31**	**354**	PN	**Pn**	**01 59 14.7**	**+0.5**
ASAJ				S	**Sn**	**01 59 33.8**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,81nm,0.3s						
ASAJ				smax			
	comp=N,17nm,0.3s						
JAK	**Akkeshi**	**1.41**	**82**	P	**Pn**	**01 59 15.0**	**-0.2**
JAK				*e*S	**Sn**	**01 59 34.5**	**-1.3**
JTKR	**Abashiri--Toko**	**1.42**	**34**	P	**Pn**	**01 59 15.4**	**+0.1**
JTKR				*e*S	**Sn**	**01 59 35.3**	**-0.7**
JKB	**Kayabe**	**1.60**	**235**	P	**Pn**	**01 59 17.4**	**0.0**
JKB				*e*S	**Sn**	**01 59 39.0**	**-0.7**
JSK	**Shakotan**	**1.79**	**288**	P	**Pn**	**01 59 19.4**	**-0.1**
JSK				*e*S	**Sn**	**01 59 43.1**	**-0.5**
JYG	**Yagishiri**	**1.90**	**329**	P	**Pn**	**01 59 20.8**	**-0.1**
JOT	**Ohata**	**1.93**	**223**	P	**Pn**	**01 59 21.1**	**-0.1**
JOT				*e*S	**Sn**	**01 59 45.9**	**-0.7**
JRA	**Rausu**	**2.04**	**56**	P	**Pn**	**01 59 23.0**	**+0.5**
JRA				*e*S	**Sn**	**01 59 49.7**	**+0.8**
YUK	**Yuzh-Kuril'sk**	**2.54**	**60**	*e*PN	**Pn**	**01 59 29.3**	**+0.4**
YUK				S	**Sn**	**02 00 00.5**	**+0.3**
YUK				pmax	pmax		
	comp=N,210nm,0.2s						
YUK				pmax	pmax		
	comp=Z,210nm,0.2s						
YUK				smax			
	comp=N,810nm,0.7s						
YUK				smax			
	comp=E,460nm,0.5s						
YUK				smax			
	comp=N,2μm,0.9s						
MJAR	**Matsushiro Arr**	**7.19**	**211**	P	**Pn**	**02 00 31.6**	**+1.0**
	comp=N,0.9nm,0.3s,baz=29,slow=10,SNR=7.4						
YAK	**Yakutsk**	**20.77**	**342**	*e*P	**P**	**02 03 18.5**	**-0.1**
YAK				pmax	pmax		
	comp=Z,19nm,0.5s						
YAK	**Yakutsk**	**20.77**	**342**	*e*P	**P**	**02 03 18.5**	**-0.1**
	comp=Z,19nm,0.5s						
ULN	**Ulaanbaatar**	**25.48**	**294**	*e*P	**P**	**02 04 04.8**	**+0.8**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.7						
ULN	**Ulaanbaatar**	**25.48**	**294**	*e*P	**P**	**02 04 04.8**	**+0.9**
	comp=Z,0.9nm,0.4s,mb3.6						
NACB	**Ninganchiao**	**25.53**	**230**	P	**P**	**02 04 04.2**	**-0.2**
SONM	**Songino Array**	**25.92**	**294**	P	**P**	**02 04 08.5**	**+0.5**
	comp=Z,0.6nm,0.4s,mb3.6,baz=78,slow=8.3,SNR=7.4						
QIZ	**Qiongzhong**	**36.52**	**240**	P	**P**	**02 05 39.7**	**-1.1**
ZAL	**Zalesovo**	**39.05**	**307**	P	**P**	**02 06 03.0**	**+1.0**
	comp=Z,1.9nm,0.6s,mb3.9,baz=32,slow=6.5,SNR=1.6						
MKAR	**Makanchi Array**	**42.19**	**297**	P	**P**	**02 06 28.0**	**+0.1**
	comp=Z,1.3nm,0.6s,mb3.7,baz=84,slow=9.5,SNR=11						
KDAK	**Kodiak Island**	**42.21**	**46**	P	**P**	**02 06 28.2**	**+0.2**
	comp=Z,1.6nm,0.3s,mb4.1,baz=115,slow=21,SNR=5.0						
KDAK	**Kodiak Island**	**42.21**	**46**	P	**P**	**02 06 28.2**	**+0.2**
KURK	**Kurchatov**	**43.41**	**304**	*e*P	**P**	**02 06 37.6**	**-0.1**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.9						
KURK	**Kurchatov**	**43.41**	**304**	*e*P	**P**	**02 06 37.6**	**-0.1**
	comp=Z,2.4nm,0.7s,mb3.9						
ILAR	**Eielson Array**	**44.11**	**35**	P	**P**	**02 06 43.0**	**-0.3**
	comp=Z,1.4nm,0.8s,mb3.6,baz=270,slow=7.0,SNR=16						
CHKZ	**Chkalovo**	**47.30**	**310**	*e*P	**P**	**02 07 08.0**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.2						
CHKZ	**Chkalovo**	**47.30**	**310**	*e*P	**P**	**02 07 08.0**	**-0.3**
	comp=Z,3.9nm,0.7s,mb4.2						
BRVK	**Borovoye**	**47.68**	**309**	P	**P**	**02 07 11.4**	**+0.2**
ZRNK	**Zerenda**	**48.45**	**309**	*e*P	**P**	**02 07 17.2**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
ZRNK	**Zerenda**	**48.45**	**309**	*e*P	**P**	**02 07 17.2**	**+0.1**
	comp=Z,2.2nm,0.6s,mb4.0						
INK	**Inuvik**	**48.80**	**29**	*e*P	**P**	**02 07 19.5**	**-0.3**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK	**Inuvik**	**48.80**	**29**	*e*P	**P**	**02 07 19.4**	**-0.4**
	comp=Z,2.4nm,0.5s,mb4.1						
YKA	**Yellowknife Ar**	**58.32**	**32**	P	**P**	**02 08 28.8**	**-0.4**
	comp=Z,0.7nm,0.5s,mb3.8,baz=308,slow=6.7,SNR=20						
YKA	**Yellowknife Ar**	**58.32**	**32**	P	**P**	**02 08 28.8**	**-0.4**
ARCES	**ARCESS Array B**	**58.99**	**339**	P	**P**	**02 08 34.2**	**+0.3**
	comp=Z,4.0nm,0.9s,mb4.2,baz=56,slow=6.6,SNR=3.9						
WRAB	**Tennant Creek**	**62.91**	**189**	*e*P	**P**	**02 09 00.1**	**-0.2**
WRA	**Warramunga Arr**	**62.92**	**189**	P	**P**	**02 09 00.6**	**+0.2**
	comp=Z,0.4nm,0.6s,mb3.4,baz=6.7,slow=6.9,SNR=5.9						
FINES	**FINESS Array B**	**64.23**	**332**	P	**P**	**02 09 07.6**	**-1.4**
	comp=Z,1.2nm,0.5s,mb4.0,baz=39,slow=7.7,SNR=13						
NB2	**NORSAR Subarra**	**69.28**	**337**	P	**P**	**02 09 39.9**	**-1.1**
	comp=Z,0.8nm,0.6s,mb3.6,baz=35,slow=6.5						
NOA	**NORSAR Array B**	**69.28**	**337**	P	**P**	**02 09 40.2**	**-0.8**
	comp=Z,0.6nm,0.8s,mb3.4,baz=36,slow=6.2,SNR=4.3						
PDAR	**Pinedale Array**	**72.91**	**47**	P	**P**	**02 10 03.0**	**+0.1**
	comp=Z,0.3nm,0.4s,mb3.3,baz=224,slow=4.1,SNR=3.7						

IDC ***26*** *02:14:32.1±2.0, 2121S×16940E, h41km±7km, mb3.9/7, mb1 4.1/8, mb1mx3.9/15, mbtmp4.1/8, ML3.7/1, MS3.9/5, Ms1 3.8/5, ms1mx3.2/27, Error ellipse: s-maj=67.3km s-min=21.8km az=146.0*

NEIC ***26*** *02:14:33.3±0.9, 2094S×16920E, mb4.5/7, Error ellipse: s-maj=29.3km s-min=15.0km az=150.0*

ISCJB ***26*** *02:14:34.1±0.9, 205S±0.1×1688E±0.1, h40km, mb4.2/11, MS3.9/5, Error ellipse: s-maj=22.1km s-min=10.5km az=94.2*

SZGRF ***26*** *02:14:34.6, 1897S×17389E, h33km, Fiji Islands region*

LDG ***26*** *02:14:38.8±0.2, 1966S×16672E, h10km, Error ellipse: s-maj=35.3km s-min=6.9km az=90.0*

ISC 26 02:14:35.9±0.9, 207S±01×1688E±01, h42km, h42km±1.0km:pP-P, n54, σ0§91/24, mb4.2/11, MS3.9/5, 1C, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.64**	**237**	P	**Pn**	**02 15 15.0**	**-0.9**
	12nm,0.3s,baz=60,slow=17,SNR=151						
DZM				S	**Sn**	**02 15 46.1**	**-0.6**
	16nm,0.3s,baz=151,slow=22,SNR=5.9						
BKM	**Butte a Klehm**	**3.02**	**349**	⇑*i*P	**Pn**	**02 15 15.8**	**-5.4**
CTA	**Charters Tower**	**21.17**	**268**	*e*P	**P**	**02 19 19.5**	**+1.9**
	6.4nm,0.9s,mb4.0						
CTA	**Charters Tower**	**21.17**	**268**	P	**P**	**02 19 20.2**	**+2.6**
	8.2nm,0.8s,mb4.1,baz=84,slow=13,SNR=8.7						
CTA				LR	LR	02 26 11.6	
	comp=Z,125nm,19.9s,MS3.3,baz=57,slow=32						
CTAO	**Charters Tower**	**21.17**	**268**	*e*P	**P**	**02 19 19.9**	**+2.4**
	12nm,1.0s,mb4.2						
PMG	**Port Moresby**	**23.70**	**295**	P	**P**	**02 19 48.9**	**+5.0**
	6.2nm,0.6s,mb4.2,baz=99,slow=13,SNR=2.4						
PMG	**Port Moresby**	**23.70**	**295**	*e*P	**P**	**02 19 43.6**	**-0.2**
	25nm,0.9s,mb4.6						
PMG				*e*pP		02 19 55.3	
STKA	**Stephens Creek**	**26.79**	**240**	*e*P	**P**	**02 20 12.3**	**+0.4**
	4.5nm,0.7s,mb4.1						
STKA	**Stephens Creek**	**26.79**	**240**	P	**P**	**02 20 11.2**	**-0.7**
	4.2nm,0.8s,mb4.0,baz=94,slow=13,SNR=4.4						
STKA				LR	LR	02 31 29.2	
	comp=Z,147nm,18.7s,MS3.6,baz=24,slow=38						
STKA	**Stephens Creek**	**26.79**	**240**	*e*P	**P**	**02 20 12.2**	**+0.3**
WRA	**Warramunga Arr**	**32.33**	**265**	P	**P**	**02 21 00.1**	**-0.9**
	1.0nm,0.8s,mb3.7,baz=91,slow=8.4,SNR=7.2						
AS31	**Alice Springs**	**32.44**	**258**	*e*P	**P**	**02 21 02.3**	**+0.3**
AS31				*e*	pP	02 21 13.2	-0.2
ASAR	**Alice Springs**	**32.44**	**258**	P	**P**	**02 21 01.5**	**-0.5**
	3.6nm,0.6s,mb4.4,baz=86,slow=9.0,SNR=37						
ASAR				pP	pP	02 21 13.2	-0.1
	6.1nm,0.6s,baz=85,slow=8.9,SNR=16						
ASPA	**Alice Springs**	**32.44**	**258**	*e*P	**P**	**02 21 02.3**	**+0.3**
ASPA				*e*	pP	02 21 13.2	-0.2
PPT	**Papeete**	**39.34**	**93**	LR	LR	02 36 19.4	
	comp=Z,4.0nm,18.3s,baz=188,slow=34						
FITZ	**Fitzroy Crossi**	**40.74**	**266**	*e*P	**P**	**02 22 13.4**	**+0.7**
	9.6nm,0.8s,mb4.5						
FITZ				*e*	pP	02 22 24.4	+0.1
MBWA	**Marble Bar**	**45.72**	**260**	*e*P	**P**	**02 22 54.0**	**+1.1**
	8.0nm,0.8s,mb4.7						
MBWA				*e*pP	pP	02 23 04.5	-0.1
KDAK	**Kodiak Island**	**84.48**	**20**	LR	LR	03 02 15.9	
	comp=Z,70nm,18.6s,MS4.1,baz=274,slow=34						
SNAA	**Sanae**	**87.74**	**183**	*e*P	**P**	**02 27 14.8**	**-5.6**
	1.9nm,0.8s,mb4.4						
ULN	**Ulaanbaatar**	**87.77**	**324**	*e*P	**P**	**02 27 20.1**	**-0.4**
	2.3nm,0.9s,mb4.4						
SONM	**Songino Array**	**88.12**	**323**	P	**P**	**02 27 21.2**	**-0.9**
	1.0nm,0.8s,mb4.1,baz=160,slow=4.7,SNR=7.1						
SONM				pP	pP	02 27 33.7	-1.0
	1.5nm,0.8s,baz=143,slow=5.1,SNR=6.5						
VNA3	**Neumayer Olymp**	**88.34**	**180**	*e*	**P**	**02 27 23.6**	**+0.4**
VNA3				*e*		02 27 26.9	
YBH	**Yreka Blue Hor**	**88.58**	**44**	LR	LR	03 01 55.3	
	comp=Z,57nm,18.9s,MS4.0,baz=337,slow=32						
VNA2	**Neumayer--Watz**	**88.63**	**181**	*e*	**P**	**02 27 24.9**	**+0.4**
VNA2				*e*		02 27 27.6	
ILAR	**Eielson Array**	**91.69**	**17**	P	**P**	**02 27 35.2**	**-3.6**
	0.4nm,0.7s,mb3.9,baz=237,slow=5.9,SNR=6.2						
ILAR	**Eielson Array**	**91.69**	**17**	P	**P**	**02 27 35.1**	**-3.6**
ANMO	**Albuquerque**	**97.41**	**56**	LR	LR	03 02 20.8	
	comp=Z,109nm,21.1s,MS4.3,baz=124,slow=30						
WERD	**Werda**	**144.97**	**334**	*e*PKPbc	PKPdf	02 34 07.2	-1.3
MOX	**Moxa**	**145.10**	**334**	*e*PKPbc	PKPbc	02 34 09.0	+0.8
IBBN	**Ibbenburen**	**145.16**	**340**	*e*PKPbc	PKPbc	02 34 08.1	-0.3
KHC	**Kasperske Hory**	**145.39**	**331**	*e*PKP	PKPdf	02 34 09.0	-0.2
MANZ	**Manzenberg**	**145.40**	**333**	*e*PKPbc	PKPbc	02 34 10.7	+1.5
ROTZ	**Rotzenmuhle**	**145.52**	**333**	*e*PKPbc	PKPbc	02 34 11.1	+1.5
GERES	**GERESS Array B**	**145.54**	**331**	PKPbc	PKPbc	02 34 09.1	-0.5
	0.9nm,0.6s,baz=28,slow=3.2,SNR=7.2						
GERES				pPKPbc	pPKPbc	02 34 21.0	-1.7
	1.4nm,0.8s,baz=31,slow=3.6,SNR=5.9						
UBBA	**Unterbreizbach**	**145.59**	**336**	*e*PKPbc	PKPbc	02 34 09.4	-0.4
WET	**Wettzell**	**145.70**	**332**	*e*PKPbc	PKPbc	02 34 11.2	+1.1
GRA1	**Grafenberg Arr**	**145.99**	**334**	*e*PKPbc	PKPbc	02 34 10.9	-0.1
GRF	**Grafenberg Arr**	**145.99**	**334**	*e*PKPbc	PKPbc	02 34 10.9	-0.1
TNS	**Taunus Mts**	**146.66**	**337**	*e*PKPbc	PKPbc	02 34 12.3	-0.7
FUR	**Furstenfeldbru**	**147.13**	**332**	*e*PKPbc	PKPbc	02 34 14.4	0.0
STU	**Stuttgart**	**147.54**	**335**	*e*PKPbc	PKPbc	02 34 16.8	+1.3
WLF	**Walferdange**	**147.94**	**339**	*e*PKPbc	PKPbc	02 34 15.7	-0.9
WLF	**Walferdange**	**147.94**	**339**	*e*PKPbc	PKPbc	02 34 17.1	+0.5
BAIF	**Baives**	**148.22**	**341**	*e*PKIKP	PKPbc	02 34 18.4	+1.1
	17nm,1.1s						
CDF	**Champ du Feu**	**148.58**	**336**	*e*PKIKP	PKPbc	02 34 20.0	+1.8
	3.9nm,0.7s						
FLN	**La Foliniere**	**150.67**	**345**	*e*PKIKP	PKPbc	02 34 22.2	-1.2
	40nm,1.2s						
LDF	**La Druitiere**	**150.74**	**345**	*e*PKIKP	PKPbc	02 34 23.6	0.0
	25nm,1.2s						
LOR	**Lormes**	**150.78**	**339**	*e*PKIKP	PKPbc	02 34 23.4	-0.2
	16nm,1.2s						
SSF	**Saint Saulge**	**151.08**	**339**	*e*PKIKP	PKPbc	02 34 23.7	-0.6
	16nm,1.3s						
GRR	**Gorron**	**151.11**	**346**	*e*PKIKP	PKPbc	02 34 23.6	-0.8
LPL	**La Plagne**	**151.15**	**333**	*e*PKIKP	PKPbc	02 34 24.2	-0.3
LPG	**La Plagne**	**151.16**	**333**	*e*PKIKP	PKPbc	02 34 24.3	-0.2
SBF	**Sospel**	**152.14**	**330**	*e*PKIKP	PKPbc	02 34 25.5	-1.3
	20nm,0.9s						
TCF	**Toulx Ste Croi**	**152.18**	**340**	*e*PKIKP	PKPbc	02 34 25.2	-1.7

ISCJB ***26*** *02:16:39.1±2.3, 2075S±02×1666E±0.3, h40km, mb4.0/5, Error ellipse: s-maj=43.6km s-min=20.6km az=146.6*

IDC ***26*** *02:16:39.1±3.4, 2064S×16680E, h40km±11km, mb3.8/4, mb1 4.0/4, mb1mx3.7/12, mbtmp4.0/4, Error ellipse: s-maj=60.8km s-min=29.8km az=81.0*

ISC 26 02:16:39.5±2.6, 207S±02×1669E±04, h43km, h43km±1.6km:pP-P, n6, σ1§15/6, mb4.1/5, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**1.40**	**196**	P	**Pn**	**02 17 02.8**	**+0.4**
	20nm,0.3s,baz=91,slow=19,SNR=2.7						
STKA	**Stephens Creek**	**25.16**	**239**	P	**P**	**02 21 59.0**	**-1.6**
	4.7nm,1.1s,mb3.9,baz=45,slow=9.7,SNR=3.1						
STKA				pP	pP	02 22 10.9	-1.2
	4.5nm,0.8s,baz=46,slow=8.4,SNR=4.0						
WRA	**Warramunga Arr**	**30.48**	**266**	P	**P**	**02 22 47.9**	**-0.3**
	1.1nm,0.9s,mb3.6,baz=91,slow=8.5,SNR=5.8						
WRA				pP	pP	02 22 59.1	-0.7
	1.3nm,0.6s,baz=92,slow=8.4,SNR=5.8						
ASAR	**Alice Springs**	**30.62**	**258**	P	**P**	**02 22 50.2**	**+0.9**
	2.4nm,0.5s,mb4.3,baz=88,slow=9.4,SNR=9.0						
ASAR				pP	pP	02 23 01.1	+0.1
	4.4nm,0.7s,baz=86,slow=9.2,SNR=7.2						
FITZ	**Fitzroy Crossi**	**38.89**	**267**	*e*P	**P**	**02 24 01.4**	**+0.7**
	6.6nm,0.6s,mb4.5						
FITZ				*e*	pP	02 24 12.4	-0.2
SONM	**Songino Array**	**87.08**	**324**	P	**P**	**02 29 20.4**	**-0.1**
	0.6nm,0.7s,mb4.0,baz=136,slow=4.5,SNR=3.9						

IDC ***26*** *02:30:08.6±1.2, 2047N×11987E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/18, mbtmp3.6/5, Error ellipse: s-maj=45.0km s-min=23.0km az=81.0*

ISCJB ***26*** *02:30:10.2±4.6, 2065N±006×1200E±02, h27km±35km, mb3.6/7, Error ellipse: s-maj=31.2km s-min=9.6km az=1.0*

NEIC ***26*** *02:30:12.1±0.6, 2066N×12019E, h30km, mb4.0/2, Error ellipse: s-maj=28.3km s-min=11.0km az=78.0*

ISC 26 02:30:11.0±5.6, 2063N±007×1200E±02, h18km±37km, n11, σ1§13/12, mb3.6/7, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**2.99**	**157**	*e*P	**Pn**	**02 30 56.5**	**-1.1**
CVP	**Callao Caves**	**3.38**	**149**	⇓*e*P	**Pn**	**02 31 04.0**	**+1.1**
YHNB	**Yeheng**	**4.22**	**17**	*e*Pn	**Pn**	**02 31 13.4**	**-1.0**
YHNB				*e*Sn	**Sn**	**02 32 02.1**	**-1.1**
MJAR	**Mats

KRMR	**Karymshinskiy**	**4.30**	**244**	*e*P		**Pn**	02	**53**	**14.6 +0.6**
RUS	**Russkaya**	**4.32**	**238**	P		**Pn**	02	**53**	**13.7 -0.6**
RUS				S		**Sn**	02	**53**	**58.5 -5.0**
RUS	**Russkaya**	**4.32**	**238**	*e*P		**Pn**	02	**53**	**14.8 +0.5**
OSSR	**Ossora**	**4.48**	**350**	*i* S		**Sn**	02	**54**	**03.5 -3.9**
KAMR	**Kamenskoye**	**7.68**	**6**	*e*P		**Pn**	02	**54**	**01.6 +1.2**
KDAK	**Kodiak Island**	**23.67**	**65**	P		**P**	02	**57**	**18.4 -0.8**
	comp=E,2.0nm,0.4s,mb3.9,baz=315,slow=17,SNR=6.0								
COLA	**College**	**25.29**	**48**	*e*P		**P**	02	**57**	**34.2 +0.3**
COLA				pmax	pmax				
	comp=Z,5.0nm,0.5s,mb4.3								
COLA	**College**	**25.29**	**48**	*e*P		**P**	02	**57**	**34.2 +0.3**
	comp=Z,4.7nm,0.5s,mb4.3								
ILAR	**Eielson Array**	**25.70**	**48**	P		**P**	02	**57**	**37.8 +0.1**
	comp=Z,3.6nm,0.8s,mb4.0,baz=261,slow=8.9,SNR=41								
INK	**Inuvik**	**30.86**	**40**	P		**P**	02	**58**	**24.5 +0.8**
	comp=Z,2.2nm,0.5s,mb4.2,baz=285,slow=8.3,SNR=23								
INK	**Inuvik**	**30.86**	**40**	P		**P**	02	**58**	**24.5 +0.8**
INK				pmax	pmax				
	comp=Z,2.0nm,0.5s								
INK	**Inuvik**	**30.86**	**40**	*e*P		**P**	02	**58**	**24.1 +0.4**
	comp=Z,2.6nm,0.6s,mb4.2								
YKW3	**Yellowknife Ar**	**40.04**	**45**	*e*P		**P**	02	**59**	**42.9 +0.4**
YKA	**Yellowknife Ar**	**40.08**	**45**	P		**P**	02	**59**	**43.5 +0.8**
	comp=Z,0.9nm,0.5s,mb3.8,baz=298,slow=8.2,SNR=19								
YKA	**Yellowknife Ar**	**40.08**	**45**	P		**P**	02	**59**	**43.5 +0.8**
KURK	**Kurchatov**	**49.01**	**303**	*e*P		**P**	03	**00**	**53.7 -0.4**
KURK				pmax	pmax				
	comp=Z,1.0nm,0.6s,mb4.0								
KURK	**Kurchatov**	**49.01**	**303**	*e*P		**P**	03	**00**	**53.7 -0.3**
	comp=Z,1.2nm,0.6s,mb4.1								
FCC	**Fort Churchill**	**50.45**	**42**	*e*P		**P**	03	**01**	**05.4 +0.4**
FCC				pmax	pmax				
	comp=Z,2.0nm,0.6s,mb4.3								
FCC	**Fort Churchill**	**50.45**	**42**	*e*P		**P**	03	**01**	**05.4 +0.4**
	comp=Z,2.2nm,0.6s,mb4.4								
CHKZ	**Chkalovo**	**50.78**	**310**	*e*P		**P**	03	**01**	**07.2 -0.3**
CHKZ				pmax	pmax				
	comp=Z,1.0nm,0.5s,mb4.0								
CHKZ	**Chkalovo**	**50.78**	**310**	*e*P		**P**	03	**01**	**07.2 -0.3**
	comp=Z,0.6nm,0.5s,mb3.8								
ZRNK	**Zerenda**	**51.99**	**310**	*e*P		**P**	03	**01**	**14.5 -2.1**
ZRNK				pmax	pmax				
	comp=Z,1.0nm,0.6s,mb3.9								
ZRNK	**Zerenda**	**51.99**	**310**	*e*P		**P**	03	**01**	**14.5 -2.1**
	comp=Z,1.1nm,0.6s,mb4.0								
NB2	**NORSAR Subarra**	**62.53**	**346**	P		**P**	03	**02**	**30.9 -0.1**
	comp=Z,2.8nm,0.8s,mb4.4,baz=18,slow=6.9								
NOA	**NORSAR Array B**	**62.53**	**346**	P		**P**	03	**02**	**31.6 +0.6**
	comp=Z,1.8nm,0.8s,mb4.3,baz=18,slow=6.8,SNR=5.6								

ATH ***26*** *02:56:16.8, 3457N×2488E, h41km±9km, MD3.1/4*
NEIC ***26*** *02:56:16.8, 3458N×2488E, h40km, MD3.1(ATH), After ATH.*
ISCJB ***26*** *02:56:17.3±1.1, 3454N±008×2490E±009, h54km±36km, Error ellipse: s-maj=16.1km s-min=9.5km az=72.7*
CSEM ***26*** *02:56:17.2±0.1, 3455N×2490E, h30km, MD3.1, Error ellipse: s-maj=4.7km s-min=2.3km az=66.0*
HLW ***26*** *02:56:17.7, 3472N×2525E, h33km, Mb2.3*

ISC 26 02:56:17.9±1.1, 3457N±004×2488E±007, h27km±12km, n9, σ0§86/14, 4D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.71**	**293**	*e*P	**Pb**	02 **56** 31.5	**-0.1**
XRY	**Khrisi**	**0.74**	**65**	*e*P	**Pb**	02 **56** 31.0	**-1.2**
XRY				*e*S	**Sb**	02 **56** 42.5	**+0.5**
NPS	**Neapolis**	**0.92**	**41**	*e*P	**Pn**	02 **56** 35.0	**-0.1**
NPS	**Neapolis**	**0.92**	**41**	*e*P	**Pn**	02 **56** 35.2	**+0.1**
VAM	**Vamos**	**1.01**	**327**	*e*P	**Pn**	02 **56** 35.4	**-0.8**
VAM				*e*S	**Sn**	02 **56** 49.8	**+0.3**
SLUM		**3.08**	**175**	⇓P	**Pn**	02 **57** 06.1	**+1.4**
SLUM				S	**Sn**	02 **57** 40.6	**0.0**
SWA2		**5.33**	**175**	⇓P	**Pn**	02 **57** 36.7	**+1.0**
SWA2				S	**Sn**	02 **58** 35.3	**-0.8**
SWA1		**5.33**	**172**	⇓P	**Pn**	02 **57** 36.8	**+1.1**
SWA1				S	**Sn**	02 **58** 34.6	**-1.6**
HFRF	**Wahat Farafira**	**7.96**	**157**	⇓P	**Pn**	02 **58** 12.1	**+0.3**

CASC 26 02:56:27.1±2.5, 1305N×8898W, h35km±8km, MD4.0, ML3.3, 1C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.58**	**13**	*e*P	Pn	02 56 45.0	+6.2
SNVI				*e*S	Sn	02 56 54.5	+7.4
SNET	**Serv Nac Est T**	**0.68**	**339**	*e*P	Pn	02 56 40.3	0.0
SNET				*e*S	Sn	02 56 50.4	+0.7
LBRS	**Las Brisas**	**0.69**	**355**	*e*P	Pn	02 56 46.4	+6.1
LBRS				*e*S	Sn	02 56 55.9	+6.1
BOQS	**Boqueron**	**0.75**	**337**	*e*P	Pn	02 56 46.9	+5.8
BOQS				*e*S	Sn	02 56 58.5	+7.2
VSM	**San Miguel**	**0.78**	**61**	*e*P	Pn	02 56 48.3	+6.6
VSM				*e*S	Sn	02 57 01.0	+8.8
BLLM	**Bellamira**	**0.82**	**61**	*e*P	Pn	02 56 48.4	+6.3
BLLM				*e*S	Sn	02 57 01.1	+8.1
SBLS	**San Blas**	**1.01**	**322**	*e*P	Pn	02 56 51.1	+6.3
SBLS				*e*S	Sn	02 57 04.5	+6.8
CNCH	**Conchagua**	**1.14**	**78**	*e*P	Pn	02 56 52.5	+6.0
CNCH				*e*S	Sn	02 57 08.7	+7.8
MTO2	**Montecristo 2**	**1.40**	**345**	*e*P	Pn	02 56 55.9	+5.9
IXG	**Ixpaco**	**1.82**	**308**	⇑*e*P	Pn	02 56 55.5	-0.4
IXG				*e*S	Sn	02 57 18.6	+0.8
LEON	**Leon**	**2.13**	**107**	*e*P	Pn	02 57 00.1	-0.1
TEL3	**Telica 3**	**2.13**	**102**	*e*P	Pn	02 57 00.1	0.0
MIRN	**Miramar**	**2.29**	**105**	*e*P	Pn	02 57 01.9	-0.5
COPN	**Copaltepe**	**2.48**	**110**	*e*P	Pn	02 57 04.3	-0.7
COPN				*e*S	Sn	02 57 34.2	+0.1
COPN				*i*		02 57 40.3	
	comp=Z,216nm,0.4s						
TP2	**Tecpan 2**	**2.63**	**311**	*e*P	Pn	02 57 08.9	+1.9
TP2				*e*S	Sn	02 57 41.9	+4.2
JAT	**Jato**	**2.88**	**296**	*e*P	Pn	02 57 11.3	+0.8
PRS1	**Puriscal**	**5.49**	**123**	*e*P	Pn	02 57 46.6	+0.2
LCR2	**La Lucha 2**	**5.88**	**123**	*e*P	Pn	02 57 54.5	+2.8
LCR2				*e*S	Sn	02 58 59.6	+1.8
BUS	**Buena Vista**	**6.18**	**124**	*e*P	Pn	02 57 58.8	+2.9
BUS				*e*S	Sn	02 59 07.2	+1.9

ISCJB ***26*** *02:57:54.6±5.9, 1082N±008×1413E±02, h21km±43km, mb4.1/14, MS3.4/5, Error ellipse: s-maj=25.3km s-min=13.9km az=10.8*
NEIC ***26*** *02:57:58.8±0.4, 1084N×1413 2E, mb4.2/6, Error ellipse: s-maj=12.5km s-min=8.9km az=94.0*
IDC ***26*** *02:57:59.2±0.6, 1088N×1413 0E, h38km±5km, mb3.8/8, mb1 4.0/9, mb1mx3.9/19, mbtmp4.0/9, ML4.2/1, MS3.5/6, Ms1 3.5/6, ms1mx3.1/22, Error ellipse: s-maj=23.5km s-min=15.0km az=86.0*

ISC 26 02:57:59.3±2.5, 1087N±008×1413E±02, h43km±24km, h41km±1.1km: pP-P, n25, σ0§68/19, mb4.1/14, MS3.4/5, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.38**	**52**	Pn	**Pn**	02 **59** 03.2	**-0.1**
	13nm,0.3s,baz=204,slow=10.0,SNR=4.7						
CBIJ	**Chichi jima**	**16.16**	**3**	LR	LR	03 07 04.5	
	comp=Z,111nm,21.3s,baz=134,slow=34						
PMG	**Port Moresby**	**20.95**	**164**	LR	LR	03 10 36.0	
	comp=Z,57nm,18.8s,MS3.0,baz=115,slow=36						
JHJ	**Hachijo jima 2**	**22.19**	**357**	LR	LR	03 10 43.8	
	comp=Z,144nm,20.8s,MS3.4,baz=253,slow=34						
HNR	**Honiara**	**27.37**	**137**	P	**P**	**03 03 40.9**	**+0.4**
	119nm,0.3s,baz=219,slow=3.3,SNR=5.1						
HNR	**Honiara**	**27.37**	**137**	P	**P**	**03 03 40.9**	**+0.4**
CTA	**Charters Tower**	**31.14**	**171**	LR	LR	03 15 45.1	
	comp=Z,78nm,18.2s,MS3.4,baz=45,slow=34						
WRAB	**Tennant Creek**	**31.37**	**193**	*e*P	**P**	**03 04 16.3**	**+0.4**
	1.9nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**31.38**	**193**	P	**P**	**03 04 14.9**	**-1.1**
	1.4nm,0.8s,mb3.9,baz=13,slow=9.5,SNR=5.9						
ASAR	**Alice Springs**	**35.08**	**192**	P	**P**	**03 04 48.6**	**+0.4**
	0.7nm,0.6s,mb3.8,baz=18,slow=12,SNR=8.8						
ASAR				pP	pP	03 05 00.7	+0.8
	0.9nm,0.6s,baz=17,slow=12,SNR=5.4						
DZM	**Mont Dzumac**	**40.96**	**143**	LR	LR	03 19 55.9	
	comp=Z,81nm,18.9s,MS3.6,baz=202,slow=32						
SONM	**Songino Array**	**47.09**	**328**	P	**P**	**03 06 27.5**	**+0.6**
	0.3nm,0.4s,mb3.6,baz=136,slow=7.4,SNR=4.5						
SONM				pP	pP	03 06 40.2	+1.3
	0.4nm,0.6s,baz=148,slow=6.3,SNR=3.0						
SONM				PcP	PcP	03 07 58.2	-0.1
	0.5nm,0.6s,baz=132,slow=2.1,SNR=2.9						
MKAR	**Makanchi Array**	**61.11**	**318**	P	**P**	**03 08 09.6**	**+0.6**
	0.9nm,0.5s,mb4.2,baz=96,slow=9.2,SNR=10						
MKAR				pP	pP	03 08 20.7	-0.7
	1.3nm,0.5s,baz=99,slow=8.9,SNR=11						
KURK	**Kurchatov**	**64.48**	**321**	*e*P	**P**	**03 08 31.0**	**-0.5**
	5.5nm,0.8s,mb4.6						
KURK				*e*pP	pP	03 08 42.7	-1.2
CHKZ	**Chkalovo**	**69.91**	**323**	*e*P	**P**	**03 09 05.3**	**-0.6**
	1.6nm,0.8s,mb4.0						
CHKZ				*e*pP	pP	03 09 16.2	-2.3
BRVK	**Borovoye**	**70.01**	**323**	*e*P	**P**	**03 09 07.7**	**+1.2**
	1.8nm,0.9s,mb4.0						
BRVK				*e*pP	pP	03 09 17.9	-1.2
ZRNK	**Zerenda**	**70.76**	**322**	*e*P	**P**	**03 09 11.1**	**0.0**
	4.9nm,0.9s,mb4.4						
ZRNK				*e*pP	pP	03 09 22.1	-1.6
ILAR	**Eielson Array**	**72.48**	**25**	P	**P**	**03 09 20.8**	**-0.7**
	1.3nm,0.7s,mb4.0,baz=252,slow=5.2,SNR=14						
ILAR				pP	pP	03 09 32.5	-1.6
	1.1nm,0.6s,baz=250,slow=5.9,SNR=7.4						
INK	**Inuvik**	**78.18**	**22**	*e*P	**P**	**03 09 54.5**	**+0.3**
	3.3nm,1.1s,mb4.2						
INK				*e*pP	pP	03 10 06.0	-0.9
YKW3	**Yellowknife Ar**	**86.81**	**27**	*e*P	**P**	**03 10 38.6**	**-0.5**
YKW3				*e*pP	pP	03 10 51.4	-0.6
YKA	**Yellowknife Ar**	**86.84**	**27**	P	**P**	**03 10 40.2**	**+1.0**
	0.6nm,0.4s,mb4.2,baz=289,slow=5.4,SNR=15						
YKA				pP	pP	03 10 52.1	0.0
	1.0nm,0.4s,baz=288,slow=5.0,SNR=12						
YKA	**Yellowknife Ar**	**86.84**	**27**	P	**P**	**03 10 40.2**	**+1.0**
YKA				pP	pP	03 10 52.1	0.0
ARCES	**ARCESS Array B**	**88.58**	**342**	P	**P**	**03 10 47.8**	**+0.2**
	2.1nm,0.9s,mb4.5,baz=40,slow=8.5,SNR=3.9						
ARCES				LR	LR	03 50 03.4	
	comp=Z,30nm,21.3s,MS3.7,baz=113,slow=35						
FINES	**FINESS Array B**	**92.13**	**334**	P	**P**	**03 11 02.8**	**-1.4**
	1.1nm,0.6s,mb4.3,baz=20,slow=6.1,SNR=5.8						
FINES				pP	pP	03 11 14.3	-2.8
	1.0nm,0.5s,baz=98,slow=5.8,SNR=1.6						
LPAZ	**La Paz**	**150.87**	**104**	PKPbc	PKPbc	03 17 51.6	+4.4
	2.5nm,0.8s,baz=270,slow=2.6,SNR=15						

IDC 26 03:08:53.7±1.8, 491S×12623E, h0km, mb3.8/2, mb1 4.2/4, mb1mx3.8/16, mbtmp4.0/4, ML3.5/2, Error ellipse: s-maj=103.6km s-min=25.4km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.13**	**182**	Pn	Pn	03 12 01.6	+0.2
	0.1nm,0.3s,baz=0.6,slow=18,SNR=4.1						
WRA	**Warramunga Arr**	**16.90**	**153**	Pn	Pn	03 12 50.9	-0.8
	0.2nm,0.3s,baz=331,slow=12,SNR=16						
WB2	**Warramunga Arr**	**16.91**	**153**	*e*P	Pn	03 12 47.8	-3.9
ASPA	**Alice Springs**	**20.07**	**159**	*e*P	P	03 13 29.4	+0.9
ASAR	**Alice Springs**	**20.07**	**159**	P	P	03 13 29.3	+0.8
	7.5nm,0.6s,baz=344,slow=12,SNR=90						
MKAR	**Makanchi Array**	**64.45**	**328**	P	P	03 19 32.1	+0.1
	0.2nm,0.4s,baz=138,slow=7.1,SNR=3.5						

MOS ***26*** *03:11:20.3±1.2, 5396N×11041E, h6km, mb4.2/1, Error ellipse: s-maj=50.9km s-min=35.4km az=83.8*

BYKL 26 03:11:21.1±0.3, 5399N×11034E, h11km±20km, 4C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXMB	**Maximikha**	**1.20**	**233**	⇓*i*Pg	Pg	03 11 43.3	-0.8
MXMB				*e*Pb	Pb	03 11 44.3	+0.5
MXMB				*e*Sg	Sg	03 11 59.9	+0.2
MXMB				*e*Sb	Sb	03 12 02.2	+2.9
MXMB				max			
	134nm,0.5s						
MXMB				max			
	923nm,0.6s						
OGRR	**Ongureny**	**1.66**	**259**	⇑*i*Pg	Pg	03 11 50.6	-2.4
OGRR				*e*Sg	Sg	03 12 12.6	-2.0
OGRR				Pmax			
	19nm,0.4s						
OGRR				Smax			
	318nm,0.9s						
OGRR	**Ongureny**	**1.66**	**259**	*e*PN	Pn	03 11 50.6	+0.4
OGRR				*e*		03 12 13.9	
OGRR				pmax	pmax		
	comp=Z,26nm,0.4s						
OGRR				smax			
	comp=N,318nm,1.0s						
KELR	**Kotokel**	**1.83**	**229**	⇑*i*Pg	Pg	03 11 54.0	-2.2
KELR				*e*Sg	Sg	03 12 18.6	-1.4
KELR				Pmax			
	comp=N,206nm,0.3s						
KELR				Smax			
	comp=N,961nm,0.3s						
NIZ	**Nizh Angarsk**	**1.85**	**346**	⇑*i*Pg	Pg	03 11 54.5	-2.0
NIZ				*e*Sg	Sg	03 12 19.4	-1.1
NIZ				Pmax			
	comp=N,106nm,0.3s						
NIZ				Smax			
	comp=N,324nm,0.4s						
NIZ	**Nizh Angarsk**	**1.85**	**346**	*e*PN	Pn	03 11 53.9	+1.2
NIZ				*e*		03 11 54.5	
NIZ				*e*S	Sn	03 12 18.0	+1.9
NIZ				*e*		03 12 19.4	
NIZ				pmax	pmax		
	comp=Z,106nm,0.3s						
NIZ				smax			
	comp=N,324nm,0.6s						
KMO	**Kumora**	**1.96**	**14**	⇑*i*Pg	Pg	03 11 56.3	-2.5
KMO				*e*Sg	Sg	03 12 22.6	-1.7
KMO				Pmax			
	comp=N,89nm,0.3s						
KMO				Smax			
	comp=N,305nm,0.9s						
KMO	**Kumora**	**1.96**	**14**	*e*PN	Pn	03 11 54.7	+0.4
KMO				*e*		03 11 56.2	
KMO				*e*S	Sn	03 12 19.5	+0.5
KMO				*e*		03 12 21.3	
KMO				pmax	pmax		
	comp=Z,88nm,0.4s						
KMO				smax			
	comp=N,306nm,1.0s						
YOA	**Uoyan**	**2.29**	**20**	*e*Pg	Pg	03 12 03.0	-2.0
YOA				*e*Sg	Sg	03 12 33.3	-1.4
YOA				Pmax			
	comp=N,321nm,0.2s						
YOA				Smax			
	comp=N,661nm,0.6s						
TRTB	**Turuntaevo**	**2.40**	**224**	*e*Pn	Pn	03 12 00.8	+0.4
TRTB				*e*Pg	Pg	03 12 03.7	-3.5
TRTB				*e*Sg	Sg	03 12 36.3	-2.0
TRTB				Pmax			
	comp=N,14nm,0.5s						
TRTB				Smax			
	comp=N,113nm,1.2s						
UKT	**Uakit**	**2.43**	**50**	*e*Pn	Pn	03 12 02.6	+1.9
UKT				*e*Pg	Pg	03 12 05.4	-2.2
UKT				*e*Sg	Sg	03 12 36.7	-2.4
UKT				Pmax			
	comp=N,16nm,0.6s						
UKT				Smax			
	comp=N,67nm,0.4s						
TRG	**Tyrgan**	**2.69**	**244**	*e*Pn	Pn	03 12 04.5	+0.2
TRG				*e*Pg	Pg	03 12 09.4	-3.3
TRG				*e*Sg	Sg	03 12 44.0	-3.5
TRG				Pmax			
	comp=N,7.0nm,0.4s						
TRG				Smax			
	comp=N,62nm,0.3s						
CIT	**Chita**	**2.77**	**134**	*e*Pg	Pg	03 12 09.9	-4.2
CIT				*e*Sn	Sn	03 12 38.5	-0.2
CIT				*e*Sg	Sg	03 12 46.0	-4.0
CIT				Pmax			
	comp=N,16nm,0.4s						
CIT				Smax			
	comp=N,54nm,0.6s						
SVKR	**Severomuysk**	**2.82**	**40**	*e*Sg	Sg	03 12 50.3	-1.5
SVKR				Smax			
	comp=N,212nm,1.1s						
FFNB	**Fofonovo**	**2.91**	**229**	*e*	Pg	03 12 17.3	+0.5
FFNB				*e*Sg	Sg	03 12 51.5	-3.0
FFNB				Smax			
	comp=N,218nm,0.6s						
HRMR	**Khuramsha**	**3.13**	**222**	*e*Pn	Pn	03 12 10.8	+0.4
HRMR				*e*Pg	Pg	03 12 17.2	-3.9
HRMR				*e*Sg	Sg	03 12 59.6	-2.1
HRMR				Pmax			
	comp=N,46nm,0.5s						
HRMR				Smax			
	comp=N,379nm,0.4s						
LSTR	**Listvyanka**	**3.95**	**240**	*e*	Pb	03 12 27.9	-2.9
LSTR				*e*Sg	Sg	03 13 22.6	-5.4
LSTR				Smax			
	comp=N,23nm,2.2s						
NLYR	**Nelyaty**	**3.96**	**49**	*e*Pn	Pn	03 12 23.1	+1.3
NLYR				*e*Pg	Pg	03 12 32.2	-4.8
NLYR				*e*Sg	Sg	03 13 23.0	-5.4
NLYR				Pmax			
	comp=N,17nm,0.8s						
NLYR				Smax			
	comp=N,67nm,1.4s						
IRK	**Irkutsk**	**4.05**	**247**	*e*Sg	Sg	03 13 27.0	-4.3
IRK				Smax			
	comp=N,246nm,0.4s						
BOD	**Bodaibo**	**4.36**	**27**	*e*Pn	Pn	03 12 26.2	-1.0
BOD				*e*Pg	Pg	03 12 37.5	-7.0
BOD				*e*Sg	Sg	03 13 33.8	-7.2
BOD				Pmax			
	comp=N,3.0nm,0.5s						
BOD				Smax			
	comp=N,30nm,1.3s						
KPC	**Khapcheranga**	**4.47**	**163**	*e*	Pn	03 12 32.9	+4.1
KPC				*e*Pg	Pg	03 12 41.2	-5.6
KPC				*e*Sn	Sn	03 13 20.6	-0.3
KPC				*e*Sg	Sg	03 13 39.4	-5.4
KPC				Pmax			
	comp=N,10.0nm,0.7s						
KPC				Smax			
	comp=N,57nm,0.6s						
ARS	**Arshan**	**5.22**	**250**	*e*	Pn	03 12 43.1	+4.1
ARS				*e*Pg	Pg	03 12 53.5	-7.5
ARS				*e*Sg	Sg	03 14 00.6	-7.9
ARS				Pmax			
	comp=N,7.0nm,0.6s						
ARS				Smax			
	comp=N,90nm,0.8s						
CRS	**Chara**	**5.37**	**54**	*e*Sg	Sg	03 14 05.8	-7.8
CRS				Smax			
	comp=N,32nm,1.4s						
ZAK	**Zakamensk**	**5.65**	**233**	*e*Pg	Pg	03 13 04.0	-5.3
ZAK				*e*Sg	Sg	03 14 17.4	-5.0
ZAK				Pmax			
	comp=N,2.0nm,0.5s						
ZAK				Smax			
	comp=N,11nm,1.0s						
TUP	**Tupik**	**5.66**	**82**	*e*Sg	Sg	03 14 16.9	-5.9
TUP				Smax			
	comp=N,58nm,1.3s						
MOY	**Mondy**	**6.12**	**251**	*e*	Pb	03 13 07.3	-0.5
MOY				*e*		03 14 05.1	
MOY				*e*Sg	Sg	03 14 29.3	-8.4
MOY				Smax			
	comp=N,18nm,1.6s						
ORL	**Orlik**	**6.48**	**261**	*e*Pn	Pn	03 12 57.0	+0.6
ORL				*e*Sn	Sn	03 14 11.0	+0.6
ORL				*e*Sg	Sg	03 14 41.2	-8.0
ORL				max			
	comp=N,3.0nm,0.5s						
ORL				Smax			
	comp=N,22nm,1.0s						
ORL	**Orlik**	**6.48**	**261**	*e*PN	Pn	03 12 57.0	+0.6
ORL				*e*		03 13 17.5	
ORL				*e*S	Sn	03 14 09.8	-0.6
ORL				*e*		03 14 41.0	
ORL				smax			
	comp=N,20nm,1.2s						

IDC ***26*** *03:16:45.5±1.3, 2069N×120.16E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, Error ellipse: s-maj=82.4km s-min=25.3km az=66.0*
ISCJB ***26*** *03:16:46.9±5.5, 206N±02×1199E±05, h20km±42km, mb3.5/4, Error ellipse: s-maj=82.6km s-min=13.7km az=130.1*

ISC 26 03:16:48.1±5.9, 206N±02×1200E±05, h16km±38km, n6, σ0§68/7, mb3.5/4, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**3.00**	**157**	*e*P	**Pn**	03 **17** 34.1	**-0.8**
APYP				*e*S	**Sn**	03 **18** 10.5	**0.0**
CVP	**Callao Caves**	**3.38**	**150**	⇓*e*P	**Pn**	03 **17** 41.0	**+0.8**
SONM	**Songino Array**	**29.28**	**341**	P	**P**	03 **22** 49.1	**-0.4**
	0.2nm,0.3s,mb3.3,baz=171,slow=10,SNR=3.1						
MKAR	**Makanchi Array**	**40.22**	**319**	P	**P**	**03 24 24.3**	**+0.5**
	0.5nm,0.6s,mb3.4,baz=112,slow=9.3,SNR=6.0						
WRA	**Warramunga Arr**	**42.70**	**160**	P	**P**	**03 24 44.2**	**0.0**
	2.4nm,1.0s,mb3.9,baz=344,slow=8.8,SNR=8.2						
YKA	**Yellowknife Ar**	**86.63**	**22**	P	**P**	**03 29 30.8**	**0.0**
	0.2nm,0.6s,mb3.6,baz=314,slow=4.8,SNR=3.8						

IDC ***26*** *03:28:00.7±0.9, 498S×10291E, h0km, mb4.4/12, mb1 4.5/13, mb1mx4.3/18, mbtmp4.4/13, ML3.6/1, MS3.6/5, Ms1 3.6/5, ms1mx3.0/26, Error ellipse: s-maj=42.3km s-min=12.0km az=47.0*
ISCJB ***26*** *03:28:04.5±0.5, 478S±010×1032E±01, h33km, mb4.6/38, MS3.8/4, Error ellipse: s-maj=19.7km s-min=6.8km az=96.1*
MOS ***26*** *03:28:04.3±0.8, 481S×10307E, h33km, mb4.8/17, Error ellipse: s-maj=20.0km s-min=8.0km az=117.6*
BJI ***26*** *03:28:05.1, 490S×10310E, h53km, mB4.8, mb4.8, Ms4.5, Msz3.8*
NEIC ***26*** *03:28:08.2±0.4, 486S×10313E, mb4.7/19, Error ellipse: s-maj=19.4km s-min=5.7km az=47.0*

ISC 26 03:28:06.8±0.5, 48S±01×1032E±01, h35km, n80, σ0§91/71, mb4.6/38, MS3.8/4, 4D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**5.10**	**327**	P	**Pn**	**03 29 27.6**	**+6.9**
	93nm,0.8s						
PSI	**Prapat**	**8.63**	**331**	Pn	**Pn**	**03 30 07.1**	**-2.1**
	0.7nm,0.3s,baz=190,slow=11,SNR=3.4						
PSI				LR	LR	03 34 30.4	
	comp=Z,116nm,18.3s,baz=148,slow=45						
CHTO	**Chiang Mai**	**23.81**	**350**	*e*P	**P**	**03 33 16.8**	**+0.4**
CHTO				pmax	pmax

comp=Z,34nm,0.9s,mb5.2
XAN Xi'an 38.99 8 P **P** 03 35 29.5 -0.2
NJ2 Nanjing 39.56 21 *eP* **P** 03 35 34.5 +0.1
NJ2 PP PP 03 37 11.0 +5.4
NJ2 S **S** 03 41 31.0 -3.7
NJ2 XS sS 03 41 57.0 +5.4
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.8
NJ2 AMB AMB
comp=Z,110nm,6.6s
NJ2 LR LR
comp=N,420nm,16.7s
NJ2 LR LR
comp=E,380nm,27.0s
NJ2 LR LR
comp=Z,190nm,28.7s
SSE Sheshan 39.61 25 P **P** 03 35 33.0 -1.9
SSE AMB AMB
comp=Z,41nm,0.7s,mb5.3
SSE Sheshan 39.61 25 P **P** 03 35 33.1 -1.8
comp=Z,41nm,0.7s,mb5.3
NDI New Delhi 41.59 325 *ex* x 03 35 49.5
CTA Charters Tower 44.59 114 *j*/P **P** 03 36 16.3 +0.8
comp=Z,4.5nm,1.0s,mb4.2
CTA Charters Tower 44.59 114 P **P** 03 36 14.8 -0.6
comp=Z,6.6nm,1.1s,mb4.4,baz=275,slow=8.7,SNR=4.7
CTA LR LR 03 56 30.7
comp=Z,111nm,19.4s,MS3.8,baz=50,slow=38
CTA Charters Tower 44.59 114 *j*/P **P** 03 36 16.3 +0.8
CTA pmax pmax
comp=Z,5.0nm,1.0s
CTAO Charters Tower 44.59 114 *eP* **P** 03 36 16.0 +0.5
CTAO pmax pmax
comp=Z,13nm,1.4s,mb4.6
CTAO Charters Tower 44.59 114 *eP* **P** 03 36 16.0 +0.5
comp=Z,13nm,1.4s,mb4.6
STKA Stephens Creek 44.96 132 *j*/P **P** 03 36 16.9 -1.5
comp=Z,3.3nm,0.5s,mb4.4
STKA Stephens Creek 44.96 132 P **P** 03 36 17.1 -1.3
comp=Z,4.4nm,0.7s,mb4.4,baz=305,slow=6.3,SNR=13
STKA Stephens Creek 44.96 132 *eP* **P** 03 36 16.6 -1.8
SONM Songino Array 52.47 3 P **P** 03 37 17.8 +1.7
comp=Z,6.4nm,0.9s,mb4.6,baz=183,slow=8.4,SNR=35
SONM PcP PcP 03 38 26.5 +0.2
comp=Z,1.0nm,0.5s,baz=190,slow=4.0,SNR=5.4
SONM LR LR 04 01 37.8
comp=Z,41nm,19.8s,MS3.5,baz=235,slow=38
SONM Songino Array 52.47 3 P **P** 03 37 17.8 +1.7
SONM 03 38 26.5
ULN Ulaanbaatar 52.53 3 *eP* **P** 03 37 17.8 +1.2
ULN pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
ULN Ulaanbaatar 52.53 3 *eP* **P** 03 37 17.8 +1.3
comp=Z,4.3nm,1.0s,mb4.3
MJAR Matsushiro Arr 52.56 36 P **P** 03 37 17.5 +0.7
comp=Z,3.9nm,1.0s,mb4.3,baz=214,slow=7.1,SNR=7.9
AAK Ala-Archa 53.88 334 *eP* **P** 03 37 25.9 -0.6
AAK pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
AAK Ala-Archa 53.88 334 *eP* **P** 03 37 25.9 -0.5
comp=Z,1.2nm,0.5s,mb4.1
MK31 Makanchi Array 54.57 343 P **P** 03 37 31.5 0.0
MK31 pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
MKAR Makanchi Array 54.57 343 P **P** 03 37 31.7 +0.2
comp=Z,6.1nm,0.6s,mb4.8,baz=145,slow=8.2,SNR=73
MKAR Makanchi Array 54.57 343 P **P** 03 37 31.7 +0.2
KURK Kurchatov 59.17 342 *eP* **P** 03 38 03.5 -0.6
KURK pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
KURK Kurchatov 59.17 342 *eP* **P** 03 38 03.5 -0.6
comp=Z,6.4nm,0.8s,mb4.7
BOD Bodaibo 63.01 6 *eP* **P** 03 38 29.8 -0.3
BOD pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
BRVK Borovoye 63.95 339 *eP* **P** 03 38 35.3 -1.0
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
BRVK Borovoye 63.95 339 *eP* **P** 03 38 35.3 -1.0
comp=Z,4.1nm,0.8s,mb4.5
CHKZ Chkalovo 64.32 339 P **P** 03 38 38.1 -0.7
CHKZ pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
CHKZ Chkalovo 64.32 339 *eP* **P** 03 38 38.0 -0.7
comp=Z,5.5nm,0.6s,mb4.8
CHKZ *ep*P pP 03 38 53.4 +3.9
ZRNK Zerenda 64.33 338 *eP* **P** 03 38 37.6 -1.2
ZRNK *e**PP pP 03 38 52.0 +2.4
ZRNK pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
ZRNK Zerenda 64.33 338 *eP* **P** 03 38 37.6 -1.2
comp=Z,2.8nm,0.6s,mb4.5
ZRNK *ep*P pP 03 38 52.0 +2.4
AB31 Akbulak array 65.58 330 *i* P **P** 03 38 46.3 -0.7
AB31 pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
MAW Mawson 68.42 195 LR LR 04 04 08.6
comp=Z,130nm,19.0s,MS4.2,baz=251,slow=32
SVE Sverdlovsk 70.45 337 *eP* **P** 03 39 17.1 -0.4
SVE *e* 03 39 33.6
SVE *eS* sS 03 49 07.0 +21
SVE pmax pmax
comp=Z,20nm,1.0s,mb5.0
SVE MLR MLR
comp=N,100nm,9.0s
SVE MLR MLR
comp=E,100nm,9.0s
SVE MLR MLR
comp=Z,200nm,9.0s
ARU Arti 71.01 336 *j*/P **P** 03 39 20.4 -0.5
ARU *e* 03 41 56.4
ARU *eS* S 03 48 33.8 -0.7
ARU *eSS* SS 03 53 05.1 -2.7
ARU pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KIV Kislovodsk 72.69 319 *eP* **P** 03 39 30.8 -0.2
KIV pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
EIL Elat 73.66 303 *eP* **P** 03 39 37.4 +0.6
comp=Z,82nm,1.0s,mb5.6
BR131 Keskin Array S 77.51 312 *eP* **P** 03 39 58.3 -0.5
comp=Z,2.0nm,0.7s,mb4.2
BRTR Keskin Array B 77.51 312 P **P** 03 39 58.5 -0.3
comp=Z,2.5nm,0.7s,mb4.2,baz=137,slow=7.2,SNR=17
OBN Obninsk 80.80 328 *eP* **P** 03 40 16.7 -0.1
OBN pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
KLMR Klimovskoe 81.69 334 *eP* **P** 03 40 21.5 0.0
KLMR pmax pmax
comp=Z,20nm,1.9s,mb4.7
AKASG Malin Array Be 83.59 322 P **P** 03 40 30.9 -0.5
comp=Z,0.8nm,0.5s,mb4.1,baz=90,slow=4.8,SNR=6.7
BILL Bilibino 84.68 20 *eP* **P** 03 40 35.5 -1.4
BILL *eSS* SS 03 56 33.9 +0.2
BILL pmax pmax
comp=Z,1.0nm,0.6s,mb4.1
JOF Joensuu 86.07 334 *ep* **P** 03 40 43.1 -0.8
comp=Z,5.6nm,0.7s,mb4.9
JOF Joensuu 86.07 334 *eP* **P** 03 40 43.1 -0.8
JOF pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
FINES FINESS Array B 88.02 332 P **P** 03 40 53.2 -0.1
comp=Z,2.7nm,0.8s,mb4.5,baz=108,slow=6.0,SNR=9.9
KAF Kangasniemi 88.08 333 *ep* **P** 03 40 52.7 -0.9
comp=Z,8.2nm,0.9s,mb5.0,baz=98,slow=4.3
KAF Kangasniemi 88.08 333 *eP* **P** 03 40 52.7 -0.9
KAF pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
ARCES ARCESS Array B 90.14 340 P **P** 03 41 03.0 -0.4
comp=Z,1.6nm,0.6s,mb4.5,baz=105,slow=5.8,SNR=13
ARCES LR LR 04 24 52.0
comp=Z,28nm,18.3s,MS3.7,baz=74,slow=38
YKA Yellowknife Ar 116.05 18 PKP PKPdf 03 46 44.7 -1.3
comp=Z,0.2nm,0.5s,baz=296,slow=1.1,SNR=4.8
YKA Yellowknife Ar 116.05 18 PKP PKPdf 03 46 44.7 -1.3
WMOK Wichita Mounta 143.93 31 *e*PKIKP PKPdf 03 47 35.8 -2.6
LTX Lajitas 144.78 43 *e*PKIKP PKPdf 03 47 40.0 +0.1
MCWV Mont Chateau 145.17 4 *e*PKPbc PKPbc 03 47 39.8 -0.4
JCT Junction City 146.51 38 *e*PKP2 PKPab 03 47 44.5 -0.8
WVT Waverly 147.20 17 *e*PKP2 PKPab 03 47 45.9 -2.1
PLAL Pickwick Lake 148.20 18 *e*PKPbc PKPbc 03 47 47.7 -1.2
PLAL *e*PKPab PKPab 03 47 51.6 -0.4
HKT Hockley 149.21 33 *e*PKP2 PKPab 03 47 51.8 -4.2

*ISCJB **26** 03:48:56.0±4.6, 64S×02×1474E±02, h88km±27km, mb3.6/4, Error ellipse: s-maj=46.5km s-min=24.9km az=70.4*
*IDC **26** 03:48:57.7±6.3, 6.46S×147.45E, h74km±46km, mb3.5/3, mb1 3.8/6, mb1mx3.5/15, mbtmp3.9/6, ML3.8/3, MS3.5/2, Ms1 3.5/2, ms1mx3.0/13, Error ellipse: s-maj=49.3km s-min=38.8km az=36.0*
*NEIC **26** 03:48:59.1±6.2, 6.57S×147.35E, h86km±28km, mb3.8/4, Error ellipse: s-maj=67.7km s-min=21.4km az=204.0*
ISC 26 03:48:57.1±4.6, 64S±03×1474E±02, h82km±27km, n18, σ1ᵗ92/17, mb3.6/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
PMG	**Port Moresby**	**2.97**	**185**	P	**Pn**	**03 49 41.2**	**-0.9**
	36nm,0.3s,baz=49,slow=5.9,SNR=62						
PMG				S	**Sn**	**03 50 17.5**	**+0.8**
	48nm,0.3s,baz=167,slow=19,SNR=7.2						
CTA	**Charters Tower**	**13.63**	**185**	*eP*	**Pn**	**03 52 08.3**	**+1.5**
	2.7nm,0.9s						
CTA	**Charters Tower**	**13.63**	**185**	P	**Pn**	**03 52 07.5**	**+0.7**
	0.7nm,0.3s,baz=4.9,slow=9.5,SNR=6.5						
CTAO	**Charters Tower**	**13.63**	**185**	*eP*	**Pn**	**03 52 08.2**	**+1.4**
	3.3nm,0.7s						
KAKA	**Kakadu**	**16.04**	**246**	*eP*	**Pn**	**03 52 38.7**	**+1.0**
	5.5nm,0.6s						
WRAB	**Tennant Creek**	**18.48**	**222**	*eP*	**Pn**	**03 53 06.3**	**-1.3**
	2.2nm,0.5s						
WB2	**Warramunga Arr**	**18.49**	**222**	*eP*	**Pn**	**03 53 06.9**	**-0.8**
WRA	**Warramunga Arr**	**18.50**	**222**	P	**Pn**	**03 53 07.1**	**-0.7**
	0.4nm,0.3s,baz=48,slow=10,SNR=22						
AS31	**Alice Springs**	**21.52**	**216**	*eP*	**P**	**03 53 39.1**	**-0.3**
ASAR	**Alice Springs**	**21.52**	**216**	P	**P**	**03 53 40.0**	**+0.6**
	1.5nm,0.5s,mb3.6,baz=49,slow=9.3,SNR=26						
ASPA	**Alice Springs**	**21.52**	**216**	*eP*	**P**	**03 53 39.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**24.21**	**239**	*eP*	**P**	**03 54 07.7**	**+1.6**
	8.0nm,1.1s,mb4.0						
FITZ	**Fitzroy Crossi**	**24.21**	**239**	P	**P**	**03 54 07.8**	**+1.7**
	1.6nm,0.6s,mb3.5,baz=69,slow=4.1,SNR=28						
FITZ				LR	LR	04 04 41.4	
	comp=Z,27nm,18.1s,baz=91,slow=39						
STKA	**Stephens Creek**	**25.90**	**191**	P	**P**	**03 54 19.6**	**-1.7**
	1.3nm,0.4s,mb3.8,baz=359,slow=9.9,SNR=6.1						
RAO	**Raoul Island**	**39.78**	**129**	LR	LR	04 10 03.7	
	comp=Z,305nm,20.2s,baz=78,slow=32						
VNDA	**Vanda**	**71.47**	**177**	P	**P**	**04 00 09.3**	**+0.5**
	0.4nm,0.6s,mb3.5,baz=328,slow=5.0,SNR=6.2						
VNDA	**Vanda**	**71.47**	**177**	*eP*	**P**	**04 00 09.8**	**+1.0**
	0.5nm,0.6s,mb3.5						
TORD	**Torodi Ar. Bea**	**145.61**	**284**	PKPbc	PKPbc	04 08 29.0	+2.7
	0.9nm,0.5s,baz=76,slow=3.8,SNR=26						

*ISCJB **26** 04:30:44.4±0.7, 1880S±004×6948W±006, h108km±8km, mb4.0/6, Error ellipse: s-maj=9.5km s-min=7.0km az=148.9*
*IDC **26** 04:30:45.0±0.7, 1878S×6948W, h96km±6km, mb3.8/7, mb1 3.9/10, mb1mx3.7/20, mbtmp4.2/10, Error ellipse: s-maj=19.2km s-min=11.1km az=84.0*
*NEIC **26** 04:30:45.7±0.9, 1881S×6955W, h103km±11km, mb4.1/3, Error ellipse: s-maj=15.7km s-min=9.8km az=71.0*
ISC 26 04:30:45.8±0.6, 1881S±004×6950W±006, h104km±8km, n18, σ0ᵗ94/21, mb4.0/6, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
LPAZ	**La Paz**	**2.83**	**28**	P	**Pn**	**04 31 32.6**	**+3.3**
	20nm,0.3s,baz=199,slow=4.1,SNR=369						
LPAZ				S	**Sn**	**04 32 03.3**	**+0.4**
	3.7nm,0.3s,baz=211,slow=9.4,SNR=6.1						
ARE	**Arequipa**	**3.01**	**321**	*eP*	**Pn**	**04 31 30.0**	**-1.7**
ARE				*i* S	**Sn**	**04 32 07.3**	**+0.2**
LVC	**Limon Verde**	**3.83**	**172**	P	**Pn**	**04 31 42.7**	**0.0**
	17nm,0.3s,baz=329,slow=9.7,SNR=115						
LVC				S	**Sn**	**04 32 26.3**	**-0.3**
	21nm,0.3s,baz=27,slow=13,SNR=6.9						
SIV	**San Ignacio**	**8.52**	**72**	P	**Pn**	**04 32 46.3**	**-0.1**
	3.7nm,0.3s,baz=276,slow=9.8,SNR=84						
SIV				S	**Sn**	**04 34 20.2**	**-0.5**
	baz=328,slow=20,SNR=2.3						
CFAA	**Coronel Fontan**	**12.79**	**175**	P	**Pn**	**04 33 33.8**	**-10**
	0.1nm,0.3s,baz=280,slow=2.9,SNR=2.6						
CPUP	**Villa Florida**	**13.50**	**126**	P	**Pn**	**04 33 53.1**	**0.0**
	0.2nm,0.3s,baz=176,slow=9.0,SNR=3.4						
TRQA	**Torquist**	**20.27**	**163**	*eP*	**P**	**04 35 13.0**	**0.0**
	11nm,0.9s						
BDFB	**Brasilia**	**20.76**	**85**	P	**P**	**04 35 18.1**	**-0.2**
	1.7nm,0.3s,baz=105,slow=6.3,SNR=4.9						
OTAV	**Otavalo**	**20.87**	**334**	*eP*	**P**	**04 35 21.2**	**+1.8**
	1.7nm,0.6s						
PLCA	**Paso Flores**	**21.87**	**182**	P	**P**	**04 35 31.5**	**+1.4**
	5.7nm,0.8s,mb4.0,baz=3.3,slow=11,SNR=8.8						
PLCA	**Paso Flores**	**21.87**	**182**	*eP*	**P**	**04 35 31.5**	**+1.4**
	9.7nm,0.9s,mb4.1						
SDV	**Santo Domingo**	**27.54**	**358**	P	**P**	**04 36 22.7**	**0.0**
	1.5nm,0.3s,mb3.9,baz=202,slow=11,SNR=4.3						
SADO	**Sadowa**	**63.88**	**352**	P	**P**	**04 41 06.4**	**-0.9**
	1.3nm,0.6s,mb4.0,baz=198,slow=9.6,SNR=3.0						
ULM	**Lac du Bonnet**	**72.59**	**343**	P	**P**	**04 42 00.0**	**-1.8**
	0.9nm,0.4s,mb4.0,baz=123,slow=1.6,SNR=2.9						
TORD	**Torodi Ar. Bea**	**77.00**	**71**	P	**P**	**04 42 27.3**	**+0.2**
	0.6nm,0.4s,mb3.7,baz=262,slow=4.4,SNR=30						
TORD				pP	pP	04 42 52.7	-1.0
	1.0nm,0.6s,baz=249,slow=5.4,SNR=3.6						
YKA	**Yellowknife Ar**	**88.47**	**341**	P	**P**	**04 43 26.9**	**+0.4**
	1.2nm,0.5s,mb4.2,baz=134,slow=4.7,SNR=33						
YKA				pP	pP	04 43 50.9	-2.7
	0.5nm,0.5s,baz=132,slow=4.7,SNR=4.6						
YKA				sP	sP	04 44 01.4	-3.2
	0.7nm,0.6s,baz=133,slow=4.7,SNR=3.2						
YKA	**Yellowknife Ar**	**88.47**	**341**	P	**P**	**04 43 26.9**	**+0.5**
YKA				pP	pP	04 43 50.9	-2.7
YKA				sP	sP	04 44 01.4	-3.2
SONM	**Songino Array**	**150.86**	**6**	PKPbc	PKPbc	04 50 27.3	+1.2
	1.2nm,0.6s,baz=328,slow=1.0,SNR=5.0						
SONM				pPKPbc	pPKPbc	04 50 53.2	-1.2
	0.8nm,0.6s,baz=323,slow=2.0,SNR=2.9						

*BJI **26** 04:34:40.0, 070S×122.91E, h281km, mB4.8, mb5.0*
*MOS **26** 04:34:47.3±1.2, 025N×122.48E, h284km, mb5.1/36, MS4.5/4, Error ellipse: s-maj=11.7km s-min=5.5km az=113.0*
*IDC **26** 04:34:47.8±0.6, 0.16N×122.41E, h279km±5km, mb4.5/28, mb1 4.5/29, mb1mx4.5/30, mbtmp5.1/29, Error ellipse: s-maj=9.8km s-min=5.6km az=70.0*
*ISCJB **26** 04:34:48.0±0.1, 007N±002×122.48E±003, h294km, mb5.0/109, Error ellipse: s-maj=4.2km s-min=2.6km az=158.4*
*NEIC **26** 04:34:48.2±0.2, 0.11N×122.48E, mb5.2/35, Error ellipse: s-maj=7.7km s-min=4.4km az=67.0*
*HRVD **26** 04:34:48.2±0.2, 0.15N×122.56E, h286km±1km, MW5.3/89, Centroid moment Tensor Solution. LP body waves: s71,c112;Mantle waves: s89,c148; Half duration: 1ˢ1 Moment tensor: Scale 10¹⁷Nm; Mrr-0.78±.02; Mθθ 0.67±.02; Mϕϕ 0.10±.02; Mrθ-0.62±.02; Mϕϕ-0.35±.02; Mϕr-0.22±.02; Best double couple: Mo1.03900×10¹⁷ NP1:ϕs316.00000°, δ34.00000°, λ-50.00000°. NP2: ϕs91.00000°, δ65.00000°, λ-113.00000°. Principal axes: T 0.9790, Plg17.0000°, Azm198.0000°; N 0.1190, Plg21.0000°, Azm101.0000°; P -1.0980, Plg63.0000°, Azm324.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 26 04:34:49.6±0.1, 006N±002×12250E±003, h296km, h296km±3.8km; pP-P, n320, σ1ˢ16/311, mb5.0/109, 17C-19D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
PCI	**Palu**	**2.83**	**250**	P	**Pn**	**04 35 42.0**	**-1.4**
	5μm,0.9s						
KAPI	**Kappang**	**5.74**	**209**	Pn	**Pn**	**04 36 14.8**	**-0.8**
	5μm,0.6s						
TARAI	**Tarakan**	**5.91**	**303**	P	**Pn**	**04 36 16.3**	**-1.3**
	2μm,0.8s						
TSM	**Tawau**	**6.25**	**312**	P	**Pn**	**04 36 21.0**	**-0.8**
AAI	**Ambon**	**6.79**	**123**	P	**Pn**	**04 36 29.3**	**+1.0**
	258nm,1.1s						
CTBH	**Cotabato--PC H**	**7.33**	**14**	*eP*	**Pn**	**04 36 35.8**	**+0.9**
DMPH	**Davao City--Mi**	**7.60**	**23**	*eP*	**Pn**	**04 36 40.2**	**+2.1**
DAV	**Davao City (W)**	**7.61**	**24**	*ePn*	**Pn**	**04 36 39.2**	**+0.9**

PAGZ Pagadian 7.79 6 *eP* **Pn** 04 36 41.6 +1.1
MATI Mati 7.80 29 *eP* **Pn** 04 36 40.3 -0.3
BUKP Musuan 8.18 18 *eP* **Pn** 04 36 46.4 +1.1
CGP Cagayan de Oro 8.62 15 *j*/P **Pn** 04 36 51.5 +0.8
8600μm,1.0s
KKM Kota Kinabalu 8.65 314 P **Pn** 04 36 51.7 +0.7
KKM Kota Kinabalu 8.65 314 *ePn* **Pn** 04 36 51.1 +0.1
SWI Sorong 8.80 96 P **Pn** 04 36 52.9 0.0
132nm,0.9s
BIPH Bislig 8.94 25 *j*/P **Pn** 04 36 52.8 -1.8
BIPH *j* S **S** 04 38 32.3 -4.1
TBP Tagbilaran 9.67 8 *eP* **Pn** 04 37 12.8 +9.2
BATP Bataraza 9.87 332 *eP* **Pn** 04 37 06.1 +0.1
WSI Waingapu 9.91 193 P **Pn** 04 37 07.4 +0.9
2μm,1.4s
MSLP Maasin 10.28 13 *eP* **Pn** 04 37 11.7 +0.6
GUIM Jordan 10.50 0 *eP* **Pn** 04 37 14.2 +0.4
CUYO Cuyo Island 10.82 352 *eP* **Pn** 04 37 18.4 +0.6
KMMI Kalianget 11.06 230 P **Pn** 04 37 21.4 +0.7
630nm,0.9s
PLP Palo 11.31 12 *eP* **Pn** 04 37 24.1 +0.4
60μm,1.0s
RCP Roxas 11.43 1 *eP* **Pn** 04 37 25.8 +0.6
ENPP El Nido 11.49 345 *eP* **Pn** 04 37 25.7 -0.2
OTRP Odiongan 12.23 358 *eP* **Pn** 04 37 35.5 +0.5
KSM Kuching 12.28 277 *ePn* **Pn** 04 37 36.1 +0.7
AUQP San Andres 13.18 1 P **Pn** 04 37 49.4 +3.0
BOAC Boac 13.33 357 *eP* **Pn** 04 37 48.8 +0.6
PVCP Virac 13.55 7 *j*/P **Pn** 04 37 52.0 +1.2
PVCP Virac 13.55 7 *eP* **Pn** 04 37 52.2 +1.4
LUBP Lubang 13.77 351 *eP* **Pn** 04 37 53.7 +0.3
TGY Tagaytay City 14.04 354 P **Pn** 04 37 57.7 +1.0
81nm,0.3s,baz=194,slow=2.1,SNR=7.3
TGY S **S** 04 40 26.7 -4.4
79nm,0.3s,baz=345,slow=23,SNR=2.1
BJII Banjamegara 14.72 240 P **Pn** 04 38 01.9 -2.8
176nm,1.8s
BALP Baler 15.61 357 *eP* **Pn** 04 38 15.0 -0.2
SCZP Santa Cruz 15.83 351 *eP* **Pn** 04 38 15.7 -2.1
KAKA Kakadu 16.06 143 *eP* **P** 04 38 18.7 +0.3
124nm,0.6s
KAKA *eS* **S** 04 41 09.3 -2.5
BOLP Bolinao 16.42 351 *eP* **P** 04 38 22.0 -0.3
CAUP Cauayan 16.79 358 *eP* **P** 04 38 27.5 +1.2
FITZ Fitzroy Crossi 18.30 170 *eP* **P** 04 38 42.1 -0.5
83nm,0.5s
FITZ *i* S **S** 04 41 54.9 -1.2
FITZ Fitzroy Crossi 18.30 170 P **P** 04 38 42.2 -0.4
5.7nm,0.3s,baz=358,slow=9.2,SNR=161
FITZ S **S** 04 41 53.6 -2.5
baz=20,slow=20,SNR=3.7
KGM Kluang 19.28 276 P **P** 04 38 54.4 +1.4
MBWA Marble Bar 21.26 187 *eP* **P** 04 39 12.3 -0.7
78nm,0.5s,mb5.3
IPM Ipoh 21.90 282 P **P** 04 39 20.3 +1.4
IPM Ipoh 21.90 282 P **P** 04 39 19.7 +0.8
PPI Padang Panjang 22.11 269 P **P** 04 39 21.2 +0.4
74nm,1.3s,mb4.9
KULM Kulim 22.43 284 *eP* **P** 04 39 23.6 -0.1
QIZ Qiongzhong 22.58 327 P **P** 04 39 24.0 -1.1
QIZ XP sP 04 40 50.3 -1.8
QIZ AMB AMB
comp=Z,39nm,1.5s,mb4.5
QIZ AMB AMB
comp=Z,361nm,9.7s
SNG Songkhla 22.95 288 P **P** 04 39 30.0 +1.6
comp=Z,202nm,0.8s,mb5.5
WRAB Tennant Creek 23.01 150 P **P** 04 39 29.0 +0.1
comp=Z,959nm,0.6s,SNR=92
WRAB Tennant Creek 23.01 150 *eP* **P** 04 39 29.3 +0.3
WRA Warramunga Arr 23.01 150 P **P** 04 39 29.2 +0.2
comp=Z,87nm,0.8s,mb5.1,baz=326,slow=11,SNR=395
WRA pP 04 40 17.3
WRA comp=Z,21nm,0.8s,baz=332,slow=12,SNR=3.2
WRA S **S** 04 43 14.4 -2.5
comp=Z,9.6nm,1.0s,baz=332,slow=16,SNR=6.0
WRA ScP ScP 04 46 20.1 +2.1
comp=Z,5.1nm,0.6s,baz=341,slow=3.0,SNR=9.8
WRA ScS ScS 04 50 04.4 +0.2
comp=Z,0.5nm,0.7s,baz=40,slow=4.7,SNR=4.5
WRA Warramunga Arr 23.01 150 P **P** 04 39 29.2 +0.2
WRA *PP 04 40 17.3
WRA S **S** 04 43 14.4 -2.5
WRA 04 50 04.4
WB2 Warramunga Arr 23.02 150 *j*/P **P** 04 39 29.1 +0.1
WB2 *i* pP 04 40 19.3
WB2 *eS* **S** 04 43 12.2 -4.8
PSI Prapat 23.73 277 P **P** 04 39 35.5 0.0
comp=Z,63nm,0.8s,mb5.0,baz=102,slow=6.1,SNR=43
PSI S **S** 04 43 26.9 -1.4
comp=Z,3.1nm,0.3s,baz=194,slow=10.0,SNR=2.4
PSI ScP ScP 04 46 21.1 +1.2
comp=Z,4.9nm,0.7s,baz=301,slow=2.1,SNR=4.2
PSI Prapat 23.73 277 P **P** 04 39 35.5 0.0
PSI S **S** 04 43 26.9 -1.4
PSI Prapat 23.73 277 P **P** 04 39 35.5 0.0
PSI S **S** 04 43 26.9 -1.4
PSI ScP ScP 04 46 21.1 +1.2
GZH Guangzhou 24.56 339 P **P** 04 39 45.0 +2.0
GZH S **S** 04 43 46.5 +5.0
GZH LR LR
comp=N,327nm,10.6s
GZH LR LR
comp=E,386nm,12.1s
GZH LR LR
comp=Z,569nm,11.5s
QZH Quanzhou 25.03 352 *j*/P **P** 04 39 48.0 +0.8
QZH XP sP 04 41 14.0 -3.8
QZH S **S** 04 43 50.5 +1.7
QZH AMB AMB
comp=Z,180nm,1.1s,mb5.4
KKTK Khon Kaen 25.27 311 P **P** 04 39 51.0 +1.7
comp=Z,741nm,0.6s
AS31 Alice Springs 26.05 156 *eP* **P** 04 39 57.2 +0.9
AS31 *ep*P 04 40 51.0
AS31 *eS* **S** 04 44 07.8 +2.9
ASPA Alice Springs 26.05 156 *eP* **P** 04 39 57.2 +0.9
ASPA *ep*P 04 40 51.0
ASPA *eS* **S** 04 44 07.8 +2.9
ASAR Alice Springs 26.05 156 P **P** 04 39 57.6 +1.3
comp=Z,39nm,0.5s,mb5.1,baz=343,slow=13,SNR=486
ASAR pP 04 40 50.5
comp=Z,46nm,1.0s,baz=335,slow=9.0,SNR=8.1
ASAR PcP PcP 04 43 16.9 +1.4
comp=Z,5.7nm,0.5s,baz=335,slow=2.3,SNR=5.7
ASAR S **S** 04 44 04.5 -0.4
comp=Z,13nm,1.4s,baz=329,slow=36,SNR=2.4
ASAR ScP ScP 04 46 28.9 +2.4
comp=Z,11nm,0.6s,baz=341,slow=2.7,SNR=34
ASAR ScS ScS 04 50 16.1 -0.6
comp=Z,0.5nm,0.6s,baz=308,slow=4.6,SNR=6.1
ASAR Alice Springs 26.05 156 P **P** 04 39 57.7 +1.4
ASAR *PP 04 40 50.6
ASAR 04 43 17.0
ASAR S **S** 04 44 04.5 -0.4
ASAR 04 50 16.1
NST Nakhon Sawan 26.99 306 P **P** 04 40 06.0 +1.3
JOW Kunigami 27.19 11 P **P** 04 40 05.9 -0.6
comp=Z,20nm,0.5s,mb4.8,baz=163,slow=14,SNR=7.0
CHG Chiang Mai 29.71 310 *j*/P **P** 04 40 29.5 +0.9
comp=Z,146nm,0.7s,mb5.6
CHTO Chiang Mai 29.71 310 *eP* **P** 04 40 29.3 +0.7
CHTO pmax pmax
comp=Z,91nm,0.8s,mb5.4
CHTO Chiang Mai 29.71 310 *eP* **P** 04 40 29.3 +0.6
comp=Z,91nm,0.8s,mb5.4
GYA Guiyang 30.36 331 *j*/P **P** 04 40 35.5 +1.1
GYA AP pP 04 41 34.3 +2.8
GYA AMB AMB
comp=Z,20nm,0.9s,mb4.7
GYA AMB AMB
comp=Z,200nm,6.3s
GYA LR LR
comp=N,630nm,12.9s
GYA LR LR
comp=E,360nm,14.7s
GYA LR LR
comp=Z,410nm,15.3s
CTA Charters Tower 30.69 132 *j*/P **P** 04 40 38.9 +1.7
comp=Z,4.0nm,0.8s,mb4.0
CTA *ep*P PP 04 41 52.1 -1.3
CTA *eS* **S** 04 45 18.5 +1.0
CTA Charters Tower 30.69 132 P **P** 04 40 38.6 +1.4
comp=Z,5.4nm,0.7s,mb4.2,baz=317,slow=12,SNR=8.5

CTA PcP PcP 04 43 28.3 +1.1
comp=Z,3.6nm,0.6s,baz=304,slow=3.6,SNR=3.3
CTA S **S** **04 45 20.7 +3.2**
comp=Z,0.7nm,0.3s,baz=76,slow=20,SNR=5.2
CTA Charters Tower 30.69 132 P **P** **04 40 38.6 +1.4**
CTA 04 43 28.3
CTA S **S** **04 45 20.7 +3.2**
CTA pmax pmax
comp=Z,5.0nm,0.7s
CTA pmax pmax
comp=Z,4.0nm,0.6s
CTA smax
comp=N,1.0nm,0.3s
CTAO Charters Tower 30.69 132 *e*P **P** **04 40 38.9 +1.7**
SSE Sheshan 30.89 358 P **P** **04 40 40.5 +1.4**
SSE AP pP 04 41 40.5 +4.2
SSE PP PP 04 41 56.8 +1.1
SSE S **S** **04 45 21.5 +0.7**
SSE XS sS 04 47 10.3 +5.8
SSE AMB AMB
comp=Z,44nm,0.7s,mb5.1
SSE LR LR
comp=N,141nm,21.8s
SSE LR LR
comp=E,126nm,21.9s
SSE LR LR
comp=Z,299nm,15.8s
SSE Sheshan 30.89 358 P **P** **04 40 40.5 +1.4**
comp=Z,44nm,0.7s,mb5.1
SSE pP pP 04 41 40.6 +4.3
SSE PP PP 04 41 56.7 +1.0
SSE S **S** **04 45 21.4 +0.6**
SSE sS sS 04 47 10.3 +5.8
SSE LR LR
comp=Z,300nm,15.8s
FORT Forrest 31.12 171 *e*P **P** **04 40 40.0 -1.0**
comp=Z,162nm,0.6s,mb5.7
FORT *e*pP pP 04 41 37.8 -0.4
FORT *e*S **S** **04 45 24.0 -0.2**
WHN Wuhan 31.30 346 ⇓P **P** **04 40 44.0 +1.4**
WHN S **S** **04 45 29.8 +2.8**
WHN AMB AMB
comp=Z,184nm,1.5s,mb5.4
WHN LR LR
comp=Z,630nm,12.1s
KMI Kunming 31.41 324 P **P** **04 40 45.5 +2.0**
KMI AP pP 04 41 41.3 +0.5
KMI PP PP 04 42 02.5 +1.2
KMI XP sP 04 42 18.0 +2.9
KMI PCP PcP 04 43 31.3 +2.2
KMI S **S** **04 45 30.3 +1.6**
KMI PCS PcS 04 47 14.5 +0.7
KMI AMB AMB
comp=Z,36nm,1.4s,mb4.7
KMI AMB AMB
comp=Z,357nm,3.9s
KMI LR LR
comp=N,296nm,15.1s
KMI LR LR
comp=E,255nm,15.1s
KMI LR LR
comp=Z,321nm,14.0s
KMI Kunming 31.41 324 P **P** **04 40 45.5 +2.0**
KMI *PP pP 04 41 41.3 +0.5
KMI 04 42 02.6
KMI *SP sP 04 42 17.9 +2.8
KMI 04 43 31.2
KMI S **S** **04 45 30.3 +1.6**
KMI 04 47 14.6
KMI SS SS 04 47 44.6 -9.2
KMI pmax pmax
comp=Z,36nm,1.4s,mb4.7
KMI MLR MLR
comp=Z,320nm,14.0s
KMI Kunming 31.41 324 P **P** **04 40 45.5 +2.0**
comp=Z,36nm,1.4s,mb4.7
KMI pP pP 04 41 41.3 +0.5
KMI PP PP 04 42 02.6 +1.3
KMI sP sP 04 42 17.9 +2.8
KMI PcP PcP 04 43 31.2 +2.1
KMI S **S** **04 45 30.3 +1.6**
KMI PcS PcS 04 47 14.6 +0.8
KMI SS SS 04 47 44.6 -9.2
KMI LR LR
comp=Z,320nm,14.0s
KLBR Kellerberrin 31.80 188 *e*P **P** **04 40 46.8 -0.1**
comp=Z,44nm,0.5s,mb5.2
KLBR *e*S **S** **04 45 28.9 -5.8**
NJ2 Nanjing 32.01 354 *e*P **P** **04 40 50.3 +1.5**
NJ2 PP PP 04 42 11.5 +3.5
NJ2 XS sS 04 47 24.0 +2.0
NJ2 AMB AMB
comp=Z,100nm,1.0s,mb5.3
NJ2 AMB AMB
comp=Z,70nm,5.9s
NJ2 LR LR
comp=N,710nm,35.6s
NJ2 LR LR
comp=E,880nm,35.5s
NJ2 LR LR
comp=Z,270nm,29.9s
MUN Mundaring 32.41 190 *e*P **P** **04 40 52.7 +0.4**
CBIJ Chichi jima 32.88 34 P **P** **04 40 55.5 -0.7**
comp=Z,211nm,0.5s,mb6.0,baz=231,slow=5.1,SNR=36
NWAO Narrogin (SRO) 33.18 188 P **P** **04 40 59.8 +0.9**
comp=Z,18nm,0.4s,mb4.9,baz=24,slow=8.1,SNR=25
NWAO S **S** **04 45 58.8 +2.7**
comp=Z,5.0nm,1.0s,baz=248,slow=17,SNR=2.0
NWAO Narrogin (SRO) 33.18 188 P **P** **04 40 59.8 +0.9**
NWAO S **S** **04 45 58.8 +2.7**
NWAO pmax pmax
comp=Z,18nm,0.4s
NWAO smax
comp=N,5.0nm,1.0s
NWAO Narrogin (SRO) 33.18 188 *e*P **P** **04 40 59.4 +0.5**
comp=N,85nm,1.3s,mb5.1
CD2 Chengdu 35.47 332 P **P** **04 41 18.3 -0.1**
CD2 AP pP 04 42 21.3 +4.6
CD2 PP PP 04 42 49.5 +3.5
CD2 S **S** **04 46 28.8 -2.3**
CD2 XS sS 04 48 21.3 +5.2
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.5
CD2 LR LR
comp=E,2μm,9.0s
CD2 LR LR
comp=Z,2μm,10.2s
XAN Xi'an 36.13 341 P **P** **04 41 25.0 +1.0**
XAN SS SS 04 49 31.0 -1.9
XAN AMB AMB
comp=Z,93nm,1.5s,mb5.1
XAN AMB AMB
comp=Z,252nm,8.2s
XAN LR LR
comp=N,2μm,11.7s
XAN LR LR
comp=E,2μm,13.1s
XAN LR LR
comp=Z,2μm,15.6s
STKA Stephens Creek 36.54 152 ⇑*i*P **P** **04 41 26.5 -0.9**
comp=Z,16nm,0.6s,mb4.6
STKA *e*pP pP 04 42 21.8 -4.1
STKA *e*S **S** **04 46 45.8 -1.4**
STKA Stephens Creek 36.54 152 P **P** **04 41 26.5 -0.9**
comp=Z,15nm,0.5s,mb4.7,baz=324,slow=7.7,SNR=34
STKA pP pP 04 42 22.4 -3.5
comp=Z,23nm,1.0s,baz=323,slow=6.7,SNR=4.0
STKA PP PP 04 42 56.8 -0.9
comp=Z,14nm,0.8s,baz=309,slow=11,SNR=4.6
STKA ScP ScP 04 47 01.9 +0.2
comp=Z,6.7nm,0.6s,baz=341,slow=2.2,SNR=8.8
KS15 Wonju Array Si 37.53 7 *e*P **P** **04 41 34.9 -0.8**
DL2 Dalian 38.67 359 P **P** **04 41 45.8 +0.6**
DL2 S **S** **04 47 19.5 +0.3**
DL2 XS sS 04 49 03.5 -1.9
DL2 AMB AMB
comp=Z,20nm,0.5s,mb4.8
SHL Shillong 38.95 313 *e*P **P** **04 41 48.0 +0.5**
MAJO Matsushiro 39.12 20 *e*P **P** **04 41 47.8 -1.1**
MAJO pmax pmax
comp=Z,58nm,1.1s,mb4.9
MAJO Matsushiro 39.12 20 *e*P **P** **04 41 47.8 -1.1**
comp=Z,58nm,1.1s,mb4.9
MAT Matsushiro 39.12 20 P **P** **04 41 46.9 -2.0**
MAT S **S** **04 47 19.0 -6.9**

MAT Matsushiro 39.12 20 *e*P **P** **04 41 47.0 -1.9**
MAT *e*S **S** **04 47 20.0 -5.9**
MAT pmax pmax
comp=Z,44nm,1.2s,mb4.8
MAT Matsushiro 39.12 20 *e*P **P** **04 41 47.0 -1.9**
comp=Z,44nm,1.2s,mb4.8
MAT *e*S **S** **04 47 20.0 -5.9**
MJAR Matsushiro Arr 39.12 20 P **P** **04 41 47.0 -1.8**
comp=Z,22nm,0.6s,mb4.8,baz=192,slow=8.6,SNR=58
MJAR pP pP 04 42 43.2 -4.9
comp=Z,4.0nm,1.0s,baz=191,slow=7.6,SNR=1.7
MJAR S **S** **04 47 22.7 -3.1**
comp=Z,0.5nm,0.3s,baz=273,slow=24,SNR=3.4
LZH Lanzhou 39.83 336 ⇑P **P** **04 41 56.5 +1.8**
LZH AP pP 04 42 55.5 +1.4
LZH XP sP 04 43 26.3 -1.6
LZH PP PP 04 43 37.5 +4.3
LZH PCP PcP 04 43 55.5 +1.3
LZH SCP ScP 04 47 16.0 +1.7
LZH S **S** **04 47 37.3 +0.9**
LZH XS sS 04 49 26.3 +3.3
LZH SCS ScS 04 51 26.5 -1.7
LZH AMB AMB
comp=Z,193nm,1.2s,mb5.3
LZH AMB AMB
comp=Z,580nm,4.0s
LZH Lanzhou 39.83 336 ⇑P **P** **04 41 56.6 +1.9**
LZH *PP pP 04 42 55.5 +1.4
LZH *SP sP 04 43 26.3 -1.6
LZH 04 43 37.4
LZH 04 43 55.5
LZH S **S** **04 47 37.3 +0.9**
LZH SS SS 04 50 40.1 -5.9
LZH 04 51 26.5
LZH pmax pmax
comp=Z,193nm,1.2s,mb5.3
LZH Lanzhou 39.83 336 ⇑P **P** **04 41 56.6 +1.9**
comp=Z,193nm,1.2s,mb5.3
LZH pP pP 04 42 55.5 +1.4
LZH sP sP 04 43 26.3 -1.6
LZH PP PP 04 43 37.4 +4.2
LZH PcP PcP 04 43 55.5 +1.3
LZH ScP ScP 04 47 16.1 +1.8
LZH S **S** **04 47 37.3 +0.9**
LZH PcS PcS 04 47 47.0 +2.2
LZH sS sS 04 49 26.2 +3.2
LZH SS SS 04 50 40.1 -5.9
LZH ScS ScS 04 51 26.5 -1.7
BJI Beijing 40.21 352 *e*P **P** **04 41 58.8 +1.0**
BJI AP pP 04 43 00.8 +3.4
BJI XP sP 04 43 26.8 -4.3
BJI PP PP 04 43 38.8 +1.5
BJI S **S** **04 47 41.3 -0.8**
BJI XS sS 04 49 29.5 +0.6
BJI SS SS 04 50 52.0 -1.6
BJI AMB AMB
comp=Z,67nm,1.0s,mb4.9
BJI AMB AMB
comp=Z,284nm,4.2s
BJI Beijing 40.21 352 *e*P **P** **04 41 58.7 +0.9**
BJI *PP pP 04 43 00.8 +3.4
BJI *SP sP 04 43 26.8 -4.3
BJI 04 43 38.7
BJI S **S** **04 47 41.3 -0.8**
BJI pmax pmax
comp=Z,67nm,1.0s,mb4.9
BJI Beijing 40.21 352 *e*P **P** **04 41 58.7 +0.9**
comp=Z,67nm,1.0s,mb4.9
BJI pP pP 04 43 00.8 +3.4
BJI sP sP 04 43 26.8 -4.3
BJI PP PP 04 43 38.7 +1.4
BJI S **S** **04 47 41.3 -0.8**
BJI sS sS 04 49 29.5 +0.6
BJI SS SS 04 50 52.1 -1.5
ARMA Armidale 41.05 140 *e*P **P** **04 42 07.8 +3.2**
SNY Shenyang 41.59 1 ⇓P **P** **04 42 07.0 -2.0**
SNY AP pP 04 43 11.3 +2.3
SNY AMB AMB
comp=Z,14nm,0.4s,mb4.5
SNY LR LR
comp=N,654nm,12.7s
SNY LR LR
comp=E,769nm,13.7s
SNY LR LR
comp=Z,495nm,16.1s
HHC Hu-ho-hao-te 41.80 348 ⇑P **P** **04 42 12.0 +1.3**
HHC PP PP 04 43 57.8 +3.5
HHC PCP PcP 04 44 02.8 +2.2
HHC SCP ScP 04 47 21.0 -1.1
HHC S **S** **04 48 07.0 +1.6**
HHC XS sS 04 49 59.3 +6.5
HHC SCS ScS 04 51 37.3 -2.9
HHC AMB AMB
comp=Z,66nm,1.1s,mb4.8
HHC AMB AMB
comp=Z,138nm,6.2s
HHC LR LR
comp=N,2μm,13.8s
HHC LR LR
comp=E,2μm,14.5s
HHC LR LR
comp=Z,1μm,11.8s
BTO Baotou 41.93 346 *e*P **P** **04 42 11.3 -0.4**
BTO AMB AMB
comp=Z,27nm,2.0s,mb4.1
LSA Lhasa 41.97 317 P **P** **04 42 12.5 +0.4**
TOO Toolangi 43.04 153 *e*P **P** **04 42 22.7 +2.1**
comp=Z,8.9nm,1.4s
TOO *i* pP pP 04 43 19.8 -1.2
TOO Toolangi 43.04 153 *e*P **P** **04 42 22.7 +2.1**
TOO *i* *PP pP 04 43 19.8 -1.2
TOO pmax pmax
comp=Z,9.0nm,1.4s
CNB Canberra Magne 43.19 147 ⇑*i*P **P** **04 42 23.9 +2.1**
comp=Z,15nm,0.5s,mb4.5
CNB *i* pP pP 04 43 21.4 -0.9
CN2 Changchun 43.63 3 *e*P **P** **04 42 25.3 0.0**
CN2 PCP PcP 04 44 07.3 +0.5
CN2 *e*S **S** **04 48 31.5 -0.5**
CN2 SS SS 04 51 50.5 -5.9
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.2
CN2 LR LR
comp=N,670nm,14.0s
CN2 LR LR
comp=E,710nm,14.0s
CN2 LR LR
comp=Z,690nm,16.0s
GTA Gaotai 44.33 335 P **P** **04 42 32.5 +1.7**
GTA PP PP 04 44 22.0 +1.2
GTA SCP ScP 04 47 33.5 +1.2
GTA S **S** **04 48 40.5 -1.5**
GTA XS sS 04 50 35.0 +4.6
GTA SCS ScS 04 51 54.3 -1.7
GTA AMB AMB
comp=Z,74nm,1.4s,mb4.7
GTA AMB AMB
comp=Z,284nm,5.7s
GTA LR LR
comp=N,817nm,14.8s
GTA LR LR
comp=E,6μm,12.5s
GTA LR LR
comp=Z,409nm,14.8s
JIRN Jiri 44.34 311 *e*P **P** **04 42 32.8 +1.9**
comp=Z,232nm,0.6s,mb5.6
GUN Gumba 44.71 311 *e*P **P** **04 42 35.5 +1.7**
comp=Z,501nm,0.9s,mb5.8
MDJ Mudanjiang 44.81 7 P **P** **04 42 34.5 -0.1**
MDJ AP pP 04 43 36.0 +0.5
MDJ PP PP 04 44 25.3 +0.1
MDJ S **S** **04 48 49.8 +0.9**
MDJ XS sS 04 50 39.8 +2.2
MDJ SCS ScS 04 51 58.3 -0.9
MDJ SS SS 04 52 18.0 +2.4
MDJ AMB AMB
comp=Z,41nm,0.8s,mb4.7
MDJ LR LR
comp=N,191nm,17.6s
MDJ LR LR
comp=E,89nm,16.3s
MDJ LR LR
comp=Z,211nm,15.7s
PKI Pulchoki 44.89 311 *e*P **P** **04 42 36.5 +1.3**
comp=Z,423nm,1.3s,mb5.5
PKI pmax pmax
comp=Z,423nm,1.3s,mb5.5
KKN Kakani 45.10 311 *e*P **P** **04 42 38.0 +1.2**
DMN Daman 45.13 310 *e*P **P** **04 42 38.5 +1.4**
comp=Z,291nm,0.9s,mb5.5
GKN Gorkha 45.69 311 *e*P **P** **04 42 42.7 +1.2**
KOLN Koldanda 46.37 310 *e*P **P** **04 42 47.7 +1.0**
comp=Z,424nm,0.9s,mb5.8
HYB Hyderabad 46.56 294 *i* P **P** **04 42 48.0 -0.2**
HYB Hyderabad 46.56 294 *e*P **P** **04 42 48.0 -0.2**
ASAJ Asahikawa 47.38 20 P **P** **04 42 54.2 -0.3**
comp=Z,41nm,0.6s,mb4.9,baz=231,slow=10,SNR=20
ASAJ Asahikawa 47.38 20 P **P** **04 42 54.2 -0.3**
ASAJ pmax pmax
comp=Z,41nm,0.6s
HABR Khabarovsk 49.44 11 *e*P **P** **04 43 09.0 -1.1**
HABR *e*S **S** **04 49 52.8 -1.1**
SONM Songino Array 49.61 346 P **P** **04 43 11.5 +0.1**
comp=Z,92nm,0.6s,mb5.3,baz=165,slow=8.5,SNR=255
SONM ScP ScP 04 47 54.3 -0.3
comp=Z,0.8nm,0.5s,baz=144,slow=2.7,SNR=3.6
SONM S **S** **04 49 56.7 +0.4**
comp=Z,0.8nm,0.5s,baz=150,slow=12,SNR=6.0
KLR Kul'dur 49.63 8 *e*P **P** **04 43 06.8 -4.7**
KLR pmax pmax
comp=Z,40nm,1.6s,mb4.5
YSS Yuzh-Sakhalins 49.95 18 ⇓*i*P **P** **04 43 13.0 -0.9**
YSS pmax pmax
comp=Z,40nm,1.1s,mb4.7
CIT Chita 52.33 353 *e*P **P** **04 43 31.0 -0.5**
CIT *e* pP 04 44 38.8 +4.4
CIT *e* 04 50 28.0
CIT pmax pmax
comp=Z,99nm,1.9s,mb4.8
ZAK Zakamensk 52.75 345 *e*P **P** **04 43 34.1 -0.5**
ZAK *e* pP 04 44 38.7 +1.1
ZAK pmax pmax
comp=Z,34nm,1.5s,mb4.5
ZAK pmax pmax
comp=Z,17nm,1.8s,mb4.1
WMQ Urumqi 53.49 329 ⇓*i*P **P** **04 43 40.5 +0.6**
WMQ PCP PcP 04 44 43.5 +0.9
WMQ AP pP 04 44 45.5 +2.3
WMQ PP PP 04 45 46.5 +2.7
WMQ SCP ScP 04 48 11.5 +0.1
WMQ PCS PcS 04 48 41.5 -0.6
WMQ S **S** **04 50 47.8 -1.3**
WMQ XS sS 04 52 41.8 +0.5
WMQ SCS ScS 04 52 55.5 -2.5
WMQ AMB AMB
comp=Z,78nm,0.9s,mb5.0
WMQ LR LR
comp=N,830nm,10.4s
WMQ LR LR
comp=E,1μm,13.3s
WMQ LR LR
comp=Z,442nm,20.2s
TLY Talaya 53.85 346 P **P** **04 43 42.9 +0.4**
comp=Z,289nm,0.7s,mb5.7,SNR=5.7
TLY Talaya 53.85 346 ⇓*i*P **P** **04 43 41.6 -0.9**
TLY *e*S **S** **04 50 56.8 +2.9**
TLY *e*SS SS 04 54 31.0 -8.4
TLY pmax pmax
comp=Z,32nm,0.7s,mb4.8
TLY MLR MLR
comp=Z,326nm,13.0s
TLY Talaya 53.85 346 *e*P **P** **04 43 40.0 -2.5**
IRK Irkutsk 54.21 346 *e*P **P** **04 43 42.9 -2.2**
IRK pmax pmax
comp=Z,67nm,1.9s,mb4.7
MOY Mondy 54.54 344 *e*P **P** **04 43 47.9 +0.5**
MOY pmax pmax
comp=Z,88nm,2.1s,mb4.8
NIL Nilore 56.98 311 P **P** **04 44 06.3 +1.7**
comp=Z,537nm,0.5s,SNR=15
KSH Kashi 57.81 318 P **P** **04 44 11.5 +1.1**
KSH *e*PCP PcP 04 45 00.8 +1.4
KSH *e*PP PP 04 46 26.5 +4.3
KSH *e*SCP ScP 04 48 28.3 -2.1
KSH *e*PCS PcS 04 49 00.3 -0.8
KSH *e*SCS ScS 04 53 25.3 -4.0
KSH AMB AMB
comp=Z,398nm,1.8s,mb5.5
KSH LR LR
comp=N,775nm,9.4s
KSH LR LR
comp=E,1μm,9.1s
KSH LR LR
comp=Z,920nm,9.2s
BOD Bodaibo 57.99 355 *e*P **P** **04 44 10.9 -0.8**
BOD pmax pmax
comp=Z,33nm,1.0s,mb4.7
MK31 Makanchi Array 58.31 329 P **P** **04 44 13.8 0.0**
MK31 pmax pmax
comp=Z,20nm,0.6s,mb4.7
MKAR Makanchi Array 58.31 329 P **P** **04 44 13.7 -0.1**
comp=Z,42nm,0.5s,mb5.1,baz=122,slow=8.9,SNR=310
MKAR PcP PcP 04 45 00.8 -0.6
comp=Z,9.2nm,0.5s,baz=167,slow=3.3,SNR=7.6
MKAR ScP ScP 04 48 31.9 -0.7
comp=Z,0.9nm,0.6s,baz=123,slow=4.7,SNR=3.2
MKAR S **S** **04 51 53.6 +1.3**
comp=Z,0.7nm,1.0s,baz=132,slow=7.2,SNR=2.7
MKAR Makanchi Array 58.31 329 P **P** **04 44 13.7 -0.1**
MKAR 04 45 00.8
MKAR S **S** **04 51 53.6 +1.3**
AAK Ala-Archa 60.37 321 P **P** **04 44 27.0 -0.9**
comp=Z,284nm,0.6s,mb6.0,SNR=20
AAK Ala-Archa 60.37 321 *e*P **P** **04 44 27.1 -0.8**
FRU Bishkek 60.40 321 *e*P **P** **04 44 28.0 -0.1**
FRU pmax pmax
comp=Z,100nm,2.0s,mb5.0
RPZ Rata Peaks 61.36 142 P **P** **04 44 36.4 +1.9**
comp=Z,28nm,0.7s,mb4.9,baz=222,slow=3.9,SNR=11
YAK Yakutsk 62.05 4 *e*P **P** **04 44 38.3 -0.8**
YAK *e*S **S** **04 52 36.9 -2.9**
YAK pmax pmax
comp=Z,47nm,0.9s,mb5.1
YAK pmax pmax
comp=N,3.0nm,1.3s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK smax
comp=E,8.0nm,1.4s
YAK smax
comp=N,5.0nm,1.5s
YAK Yakutsk 62.05 4 *e*P **P** **04 44 38.6 -0.5**
ZAL Zalesovo 62.06 336 P **P** **04 44 38.9 -0.2**
comp=N,5.9nm,0.4s,mb4.5,baz=340,slow=5.1,SNR=24
SNZO South Karori 62.54 138 *e*P **P** **04 44 43.6 +1.2**
KURK Kurchatov 62.68 330 P **P** **04 44 42.0 -1.2**
comp=N,1μm,0.6s
KURK Kurchatov 62.68 330 *e*P **P** **04 44 42.2 -1.0**
KKAR Karatay Array 63.15 320 *e*P **P** **04 44 45.6 -0.7**
KKAR pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
MA2 Magadan 63.31 16*c* ⇓*i*P **P** **04 44 47.8 +0.4**
MA2 pmax pmax
comp=Z,120nm,1.1s,mb5.4
MA2 Magadan 63.31 16 *e*P **P** **04 44 48.1 +0.7**
comp=Z,72nm,1.1s,mb5.2
NVS Novosibirsk 63.34 336 *i* P **P** **04 44 44.4 -3.2**
NVS *i* *PP pP 04 45 52.8 -0.4
NVS *i* S **S** **04 52 51.7 -4.0**
NVS pmax pmax
comp=Z,61nm,1.2s,mb5.1
NVS pmax pmax
comp=N,46nm,1.4s
NVS pmax pmax
comp=E,25nm,1.0s
NVS smax
comp=N,33nm,1.9s
NVS smax
comp=E,22nm,1.4s
WSAR Wadi Sarin 66.08 295 P **P** **04 45 04.1 -1.1**
comp=E,15nm,0.7s,mb4.8,baz=99,slow=5.5,SNR=21
JMDO Jabal Madar 66.40 294 ⇑P **P** **04 45 07.6 +0.4**

	SNR=11									
BIDO	**Bidbid**		**66.59**	**296**	⇓	P		**P**	**04 45 09.0**	**+0.6**
	SNR=10									
CASY	**Casey**		**66.74**	**185**		*e*P		**P**	**04 45 09.6**	**+0.3**
BSY	**Bisya**		**67.29**	**295**	⇑	P		**P**	**04 45 13.4**	**+0.7**
	SNR=7.9									
HOQ	**Hoqain**		**67.34**	**296**	⇓	P		**P**	**04 45 13.6**	**+0.5**
	SNR=6.8									
VOSK	**Vostochnaya**		**67.72**	**329**		P		**P**	**04 45 14.0**	**-1.4**
VOSK						pmax	pmax			
	comp=Z,20nm,0.6s,mb5.0									
ARQ	**Araqi**		**68.01**	**295**	⇓	P		**P**	**04 45 16.2**	**-1.0**
	SNR=9.2									
BVA0	**Borovoye Array**		**68.18**	**329**	*i*	P		**P**	**04 45 17.2**	**-1.1**
BVA0						pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.3									
BRVK	**Borovoye**		**68.25**	**329**		P		**P**	**04 45 17.2**	**-1.5**
	comp=Z,453nm,0.5s,SNR=20									
BRVK	**Borovoye**		**68.25**	**329**	*e*	P		**P**	**04 45 17.4**	**-1.3**
BRVK						pmax	pmax			
	comp=Z,21nm,0.5s,mb5.1									
BRVK	**Borovoye**		**68.25**	**329**	*e*	P		**P**	**04 45 17.4**	**-1.3**
	comp=Z,22nm,0.5s,mb5.1									
CHKZ	**Chkalovo**		**68.41**	**330**	*e*	P		**P**	**04 45 18.6**	**-1.1**
CHKZ						pmax	pmax			
	comp=Z,43nm,0.6s,mb5.4									
CHKZ	**Chkalovo**		**68.41**	**330**	*e*	P		**P**	**04 45 18.6**	**-1.1**
	comp=Z,43nm,0.6s,mb5.4									
ASHO	**Ashiyiah**		**68.66**	**296**	⇑	P		**P**	**04 45 21.5**	**+0.3**
	SNR=7.6									
ZRNK	**Zerenda**		**68.86**	**329**		P		**P**	**04 45 21.2**	**-1.2**
ZRNK						pmax	pmax			
	comp=Z,40nm,0.6s,mb5.3									
ZRNK	**Zerenda**		**68.86**	**329**	*e*	P		**P**	**04 45 21.2**	**-1.3**
ZRNK					*e*	PcP	PcP		04 45 45.8	+1.1
WHFO	**Wadi Hawf**		**69.78**	**289**		P		**P**	**04 45 28.5**	**+0.5**
	SNR=8.3									
TIXI	**Tiksi**		**71.59**	**2**	*e*	P		**P**	**04 45 35.5**	**-3.5**
TIXI					*e*				04 45 53.1	
TIXI						pmax	pmax			
	comp=Z,34nm,0.8s,mb5.0									
TIXI	**Tiksi**		**71.59**	**2**	*e*	P		**P**	**04 45 36.7**	**-2.3**
AB31	**Akbulak array**		**72.38**	**322**	*i*	P		**P**	**04 45 42.7**	**-0.9**
AB31						pmax	pmax			
	comp=Z,10.0nm,0.7s,mb4.5									
AKTK	**Aktyubinsk**		**73.97**	**323**		P		**P**	**04 45 51.8**	**-1.0**
AKTK						S	S		04 55 00.1	-0.1
AKTO	**Aktyubinsk**		**73.97**	**323**		P		**P**	**04 45 51.8**	**-1.0**
	comp=Z,30nm,0.6s,mb5.1,baz=108,slow=7.9,SNR=81									
AKTO						S		S	04 55 00.1	-0.1
	comp=Z,0.6nm,0.5s,baz=141,slow=23,SNR=4.1									
BILL	**Bilibino**		**74.18**	**16**	*d*	P		**P**	**04 45 52.9**	**-1.2**
BILL					*e*				04 46 05.0	
BILL					*e*	SS	SS		04 59 52.4	-2.3
BILL						pmax	pmax			
	comp=Z,39nm,1.7s,mb4.8									
BILL	**Bilibino**		**74.18**	**16**	*e*	P		**P**	**04 45 53.4**	**-0.7**
	comp=Z,8.4nm,0.6s,mb4.5									
SVE	**Sverdlovsk**		**74.93**	**330**	⇓	*e*	P	**P**	**04 45 57.0**	**-1.3**
SVE						*e*	pP		04 47 02.0	-4.3
SVE						*e*			04 47 31.7	
SVE						*e*			04 48 50.0	
SVE						pmax	pmax			
	comp=Z,200nm,1.5s,mb5.5									
ARU	**Arti**		**75.83**	**329**		P		**P**	**04 46 03.9**	**+0.5**
	comp=Z,552nm,0.6s,SNR=9.2									
ARU	**Arti**		**75.83**	**329**	⇑	*i* P		**P**	**04 46 02.1**	**-1.3**
ARU						*e*			04 46 13.1	
ARU						*e*	pP		04 47 08.1	-3.5
ARU						*e*			04 48 55.8	
ARU						*e*	PPP		04 50 49.3	
ARU						*e*S	S		04 55 18.0	-2.6
ARU						*e*SS	SS		05 00 13.7	-5.8
ARU						pmax	pmax			
	comp=Z,48nm,0.7s,mb5.2									
ARU	**Arti**		**75.83**	**329**	*e*	P		**P**	**04 46 02.1**	**-1.3**
	comp=Z,57nm,0.6s,mb5.4									
ORR	**Orenburg**		**76.30**	**324**	⇓	*i* P		**P**	**04 46 06.1**	**0.0**
ORR						pmax	pmax			
	comp=Z,110nm,1.2s,mb5.4									
ORR						MLR	MLR			
	comp=Z,230nm,15.0s									
QRN	**Al-Qurain**		**76.48**	**299**	*e*	P		**P**	**04 46 05.8**	**-1.2**
QRN						AMb	AMB		04 46 08.4	
	comp=Z,90nm,0.4s,mb5.7									
KBD	**Kabd**		**76.73**	**300**	*e*	P		**P**	**04 46 07.3**	**-1.1**
KBD						AMb	AMB		04 46 09.8	
	comp=Z,140nm,0.6s,mb5.9									
RDF	**Al-Radifah**		**76.82**	**300**	*e*	P		**P**	**04 46 07.7**	**-1.3**
RDF						AMb	AMB		04 46 10.3	
	comp=Z,88nm,0.6s,mb5.7									
NAY	**Al-Naaiem**		**77.13**	**300**	*e*	P		**P**	**04 46 09.4**	**-1.3**
NAY						AMb	AMB		04 46 12.4	
	comp=Z,40nm,0.6s,mb5.3									
SPIA	**Saint Paul Isl**		**77.79**	**31**	*e*	P		**P**	**04 46 14.7**	**+0.3**
MAW	**Mawson**		**78.88**	**200**	*e*	P		**P**	**04 46 21.3**	**+1.0**
	comp=Z,8.1nm,0.9s,mb4.5									
MAW	**Mawson**		**78.88**	**200**		P		**P**	**04 46 21.0**	**+0.8**
	comp=Z,8.6nm,0.9s,mb4.5,baz=44,slow=8.0,SNR=11									
MAW	**Mawson**		**78.88**	**200**	*e*	P		**P**	**04 46 21.3**	**+1.0**
MAW						pmax	pmax			
	comp=Z,8.0nm,0.9s									
GAMB	**Gambell**		**79.45**	**24**	*e*	P		**P**	**04 46 23.7**	**+0.3**
VNDA	**Vanda**		**80.37**	**172**		P		**P**	**04 46 29.1**	**+0.9**
	comp=Z,11nm,0.8s,mb4.7,baz=316,slow=5.9,SNR=56									
GNI	**Garni**		**80.61**	**311**		P		**P**	**04 46 30.0**	**+0.5**
	comp=Z,5.3nm,0.5s,mb4.6,baz=312,slow=22,SNR=5.8									
SBA	**Scott Base**		**81.33**	**171**	*e*	P		**P**	**04 46 35.1**	**+1.8**
ZEI	**Tsey**		**81.60**	**313**	*e*	P		**P**	**04 46 35.0**	**+0.3**
ZEI					*e*	*P	pP		04 47 45.5	+1.6
ZEI					*e*				04 49 44.5	
ZEI						pmax	pmax			
	comp=Z,13nm,0.6s,mb4.8									
SDPT	**Sand Point**		**82.58**	**34**	*e*	P		**P**	**04 46 38.9**	**-0.8**
	comp=Z,53nm,0.6s,mb5.5									
SDPT						LR	LR			
	comp=Z,100nm,19.0s									
KIV	**Kislovodsk**		**82.63**	**314**	*e*	P		**P**	**04 46 39.4**	**-0.6**
KIV					*e*	*PP	pP		04 47 45.0	-4.3
KIV					*e*	*SP	sP		04 48 20.0	-0.5
KIV					*e*				04 49 52.4	
KIV					*e*	SS	SS		05 01 59.8	-1.1
KIV						pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.4									
ARTV	**Artvin**		**82.86**	**311**	*i*	P		**P**	**04 46 41.4**	**+0.3**
BNGL	**BINGOL**		**83.23**	**309**	*i*	P		**P**	**04 46 44.0**	**+1.0**
SOC	**Sochi**		**84.73**	**314**	*e*	P		**P**	**04 46 48.8**	**-1.8**
SOC					*e*	SS	SS		05 02 33.8	+2.0
SOC						pmax	pmax			
	comp=Z,25nm,1.2s,mb4.9									
ELZG	**Elazig**		**84.89**	**308**	*i*	P		**P**	**04 46 51.7**	**+0.3**
KMBO	**Kilima Mbogo**		**85.25**	**269**		P		**P**	**04 46 53.1**	**0.0**
	comp=Z,5.3nm,0.6s,mb4.5,baz=57,slow=8.2,SNR=13									
KMBO	**Kilima Mbogo**		**85.25**	**269**	*e*	P		**P**	**04 46 54.2**	**+1.1**
MALT	**Malatya**		**85.31**	**308**	*e*	P		**P**	**04 46 53.9**	**+0.5**
MALT						pmax	pmax			
	comp=Z,30nm,1.5s,mb4.9									
MALT	**Malatya**		**85.31**	**308**	*e*	P		**P**	**04 46 53.9**	**+0.4**
	comp=Z,30nm,1.5s,mb4.9									
VOR	**Voronezh**		**85.80**	**322**	*e*	P		**P**	**04 46 54.5**	**-1.3**
VOR						pmax	pmax			
	comp=Z,280nm,1.3s,mb5.9									
TTA	**Tatalina**		**86.07**	**27**	*e*	P		**P**	**04 46 57.5**	**+0.4**
ANN	**Anapa**		**86.45**	**315**	*e*	P		**P**	**04 46 59.0**	**0.0**
ANN					*e*	*PP	pP		04 48 10.1	+1.0
ANN					*e*				04 50 27.0	
ANN					*e*	S			04 56 55.8	
ANN					*e*	SS	SS		05 03 01.2	+4.2
ANN						pmax	pmax			
	comp=Z,50nm,1.1s,mb5.3									
KLMR	**Klimovskoe**		**86.52**	**331**	*d*	*i* P		**P**	**04 46 57.4**	**-2.0**
KLMR					*e*	S			04 57 10.5	
KLMR						pmax	pmax			
	comp=Z,150nm,0.6s,mb6.0									
KLMR						pmax	pmax			
	comp=Z,70nm,6.5s									
KLMR						MLR	MLR			
	comp=Z,370nm,16.0s									
COBT	**Iskenderun**		**86.95**	**306**	*i*	P		**P**	**04 47 01.5**	**+0.2**
MOS	**Moscow**		**87.06**	**326**	*e*	P		**P**	**04 47 01.2**	**-0.7**
MOS					*e*				04 50 34.6	
MOS						pmax	pmax			
	comp=Z,66nm,1.0s,mb5.4									
KDAK	**Kodiak Island**		**87.23**	**32**		P		**P**	**04 47 02.4**	**-0.3**
	comp=Z,4.3nm,0.5s,mb4.5,baz=278,slow=3.4,SNR=7.6									
KDAK	**Kodiak Island**		**87.23**	**32**		P		**P**	**04 47 02.4**	**-0.3**
SYO	**Syowa Base**		**87.50**	**201**	⇓	*e*P		**P**	**04 47 03.6**	**-0.4**
SYO	**Syowa Base**		**87.50**	**201**	⇑	*e*sP		sP	04 48 47.6	+2.4
SYO	**Syowa Base**		**87.50**	**201**	⇓	*e*PP		PP	04 50 35.4	+2.0
TMCR	**Tamitsa**		**87.53**	**334**	*e*	P		**P**	**04 47 01.3**	**-2.8**
TMCR						pmax	pmax			
	comp=Z,30nm,0.7s,mb5.2									
TMCR						pmax	pmax			
	comp=N,50nm,0.6s									
TMCR						pmax	pmax			
	comp=E,20nm,0.9s									
MMAI	**Mount Meron Ar**		**87.53**	**303**		P		**P**	**04 47 04.6**	**+0.4**
	comp=E,7.2nm,0.5s,mb4.8,baz=84,slow=8.5,SNR=17									
OBN	**Obninsk**		**87.62**	**325**	*e*	P		**P**	**04 47 02.9**	**-1.7**
OBN						pmax	pmax			
	comp=Z,46nm,1.3s,mb5.2									
EIL	**Elat**		**87.84**	**300**	*e*	P		**P**	**04 47 06.1**	**+0.5**
AVNT	**Avonos**		**88.13**	**309**	*i*	P		**P**	**04 47 01.5**	**-5.4**
BOYT	**Boyabat**		**88.16**	**311**	*i*	P		**P**	**04 47 05.4**	**-1.7**
CTKT	**Corum**		**88.22**	**310**	*i*	P		**P**	**04 47 07.1**	**-0.3**
BR131	**Keskin Array S**		**89.09**	**310**	*e*	P		**P**	**04 47 10.2**	**-1.2**
	comp=Z,2.0nm,0.5s,mb4.2									
BRTR	**Keskin Array B**		**89.09**	**310**		P		**P**	**04 47 10.0**	**-1.5**
	comp=Z,2.2nm,0.5s,mb4.2,baz=124,slow=5.4,SNR=19									
BRTR						PP	PP		04 50 41.2	-4.8
	comp=Z,1.8nm,0.8s,baz=120,slow=9.5,SNR=3.6									
PMR	**Palmer**		**89.17**	**29**	*e*	P		**P**	**04 47 11.0**	**-0.8**
PMR						pmax	pmax			
	comp=Z,22nm,1.5s,mb4.8									
PMR	**Palmer**		**89.17**	**29**	*e*	P		**P**	**04 47 11.0**	**-0.8**
	comp=Z,22nm,1.5s,mb4.8									
ELDT	**Eldivan**		**89.26**	**310**	*i*	P		**P**	**04 47 11.2**	**-1.1**
CSS	**Prodhromos**		**89.29**	**305**	*e*	P		**P**	**04 47 12.1**	**-0.3**
	comp=Z,25nm,1.0s,mb5.0									
BALT	**Daday**		**89.30**	**311**	*i*	P		**P**	**04 47 11.9**	**-0.5**
ERMK	**Ermenek**		**89.64**	**306**	*i*	P		**P**	**04 47 11.1**	**-2.9**
QSPA	**South Pole Qui**		**89.99**	**180**	*e*	P		**P**	**04 47 16.7**	**+1.1**
	comp=Z,3.5nm,0.7s,mb4.3									
ILAR	**Eielson Array**		**90.21**	**25**		P		**P**	**04 47 14.4**	**-2.3**
	comp=Z,1.6nm,0.5s,mb4.1,baz=262,slow=4.7,SNR=17									
ILAR						PKKP	PKKPbc		05 04 44.2	-0.3
	comp=Z,0.5nm,0.6s,baz=105,slow=2.7,SNR=6.1									
SGKT	**Sivrigoynuk**		**90.31**	**310**	*i*	P		**P**	**04 47 15.6**	**-1.5**
JOF	**Joensuu**		**90.50**	**333**	*ep*			**P**	**04 47 14.9**	**-3.1**
	comp=Z,37nm,0.5s,mb5.5									
JOF	**Joensuu**		**90.50**	**333**	*e*	P		**P**	**04 47 14.9**	**-3.1**
JOF						pmax	pmax			
	comp=Z,37nm,0.5s,mb5.5									
AKASG	**Malin Array Be**		**92.04**	**321**		P		**P**	**04 47 22.9**	**-2.3**
	comp=Z,8.8nm,0.6s,mb4.9,baz=79,slow=4.0,SNR=28									
AKASG						PP	PP		04 51 05.2	-4.1
	comp=Z,0.1nm,0.3s,baz=75,slow=7.3,SNR=4.1									
ARCES	**ARCESS Array B**		**92.40**	**340**		P		**P**	**04 47 24.4**	**-2.4**
	comp=Z,4.0nm,0.5s,mb4.6,baz=92,slow=5.1,SNR=14									
ARCES						PKKP	PKKPbc		05 04 39.6	+0.6
	comp=Z,1.3nm,0.7s,baz=233,slow=4.4,SNR=5.6									
ARE0	**ARCESS Array S**		**92.40**	**340**	*e*	P		**P**	**04 47 26.3**	**-0.5**
KAF	**Kangasniemi**		**92.86**	**332**	*ep*			**P**	**04 47 28.1**	**-0.8**
	comp=Z,20nm,0.5s,mb5.3,baz=80,slow=4.2									
KAF	**Kangasniemi**		**92.86**	**332**	*e*	P		**P**	**04 47 28.1**	**-0.8**
KAF						pmax	pmax			
	comp=Z,20nm,0.5s,mb5.3									
FINES	**FINESS Array B**		**93.03**	**331**		P		**P**	**04 47 27.5**	**-2.2**
	comp=Z,8.5nm,0.6s,mb4.9,baz=85,slow=4.5,SNR=44									
DAWY	**Dawson**		**93.50**	**26**	*e*	P		**P**	**04 47 32.0**	**+0.2**
LSZ	**Lusaka**		**94.18**	**255**	*e*	P		**P**	**04 47 35.6**	**+0.6**
LSZ						pmax	pmax			
	comp=Z,42nm,1.5s,mb5.2									
LSZ	**Lusaka**		**94.18**	**255**	*e*	P		**P**	**04 47 35.6**	**+0.6**
	comp=Z,42nm,1.5s,mb5.2									
INK	**Inuvik**		**95.10**	**21**		P		**P**	**04 47 37.9**	**-1.3**
	comp=Z,2.1nm,0.6s,mb4.5,baz=294,slow=5.6,SNR=16									
SKAG	**Skagway**		**96.13**	**30**	*e*	P		**P**	**04 47 44.8**	**+0.9**
NB2	**NORSAR Subarra**		**100.13**	**333**		P		Pdif	04 47 59.3	-2.4
	comp=Z,6.2nm,0.9s,baz=74,slow=4.6									
NOA	**NORSAR Array B**		**100.13**	**333**		P		Pdif	04 47 59.5	-2.2
	comp=Z,2.1nm,0.6s,baz=75,slow=4.5,SNR=13									
NOA						PP	PP		04 52 07.7	-3.6
	comp=Z,0.8nm,0.7s,baz=316,slow=23,SNR=2.3									
BRG	**Berggiesshubel**		**101.59**	**322**	*e*	P		Pdif	04 48 09.5	+1.3
	comp=Z,3.1nm,0.7s									
BRG						PP	PP		04 52 27.4	+5.2
	comp=Z,2.4nm,0.9s									
BRG	**Berggiesshubel**		**101.59**	**322**	*e*	P		Pdif	04 48 09.5	+1.3
BRG									04 52 27.5	
BRG						pmax	pmax			
	comp=Z,3.0nm,0.7s									
CLL	**Collm**		**102.05**	**323**	*e*	PP		PP	04 52 27.0	+1.3
CLL					*e*	PKiKP	PKiKP		04 52 32.0	+0.9
CLL					*e*	Sdif	Sdif		04 59 22.0	-4.2
CLL					*e*	PS	PS		05 01 39.0	+0.6
GERES	**GERESS Array B**		**102.25**	**320**		P		Pdif	04 48 10.7	-0.4
	comp=Z,0.8nm,0.6s,baz=100,slow=6.9,SNR=5.3									
GERES						PP	PP		04 52 26.4	-0.8
	comp=Z,0.7nm,0.7s,baz=90,slow=8.1,SNR=4.4									
MOX	**Moxa**		**103.08**	**322**	*e*	P		PKiKP	04 52 36.9	+3.9
	comp=Z,22nm,1.8s									
GRF	**Grafenberg Arr**		**103.59**	**321**	*e*	PP		PP	04 52 41.0	+3.8
YKA	**Yellowknife Ar**		**104.55**	**24**		Pdiff		Pdif	04 48 22.0	+0.7
	comp=Z,0.3nm,0.5s,baz=299,slow=4.6,SNR=7.0									
YKA						PKiKP	PKiKP		04 52 34.9	-0.8
	comp=Z,0.3nm,0.5s,baz=313,slow=1.9,SNR=7.3									
YKA						PKKPbc	PKKPbc		05 04 03.2	-2.1
	comp=Z,0.4nm,0.6s,baz=121,slow=3.5,SNR=11									
YKA	**Yellowknife Ar**		**104.55**	**24**		P		Pdif	04 48 22.0	+0.6
PGF	**Pioggiola**		**107.10**	**315**	*e*	PKiKP	PKiKP		04 52 40.5	+0.1
	comp=Z,46nm,1.1s									
CABF	**La Chapelle**		**107.82**	**320**	*e*	PKiKP	PKiKP		04 52 41.8	+0.1
	comp=Z,5.0nm,0.5s									
MBDF	**Montbardon**		**107.99**	**318**	*e*	PKiKP	PKiKP		04 52 42.4	+0.4
SSF	**Saint Saulge**		**109.31**	**321**	*e*	PKiKP	PKiKP		04 52 45.0	+0.5
BGF	**Bois d'Agland**		**109.92**	**320**	*e*	PKiKP	PKiKP		04 52 46.0	+0.3
	comp=Z,7.4nm,0.6s									
TCF	**Toulx Ste Croi**		**110.43**	**320**	*e*	PKiKP	PKiKP		04 52 47.3	+0.7
	comp=Z,3.2nm,0.7s									
CAF	**Calviac**		**111.05**	**319**	*e*	PKiKP	PKiKP		04 52 48.5	+0.7
	comp=Z,4.7nm,0.7s									
RJF	**Les Rejaudoux**		**111.26**	**320**	*e*	PKiKP	PKiKP		04 52 49.1	+0.9
MFF	**Saint Martin d**		**111.80**	**321**	*e*	PKiKP	PKiKP		04 52 48.7	-0.5
	comp=Z,9.9nm,0.7s									
NVAR	**Mina Array Bea**		**112.49**	**48**		PKiKP	PKiKP		04 52 52.3	+1.8
	comp=Z,1.2nm,0.5s,baz=244,slow=3.5,SNR=8.4									
SGMF	**Saint Gilles**		**112.53**	**324**	*e*	PKiKP	PKiKP		04 52 51.0	+0.4
EPF	**Esparros**		**112.94**	**318**	*e*	PKiKP	PKiKP		04 52 52.2	+0.8
	comp=Z,9.2nm,0.9s									
QUIF	**Quistinic**		**113.05**	**324**	*e*	PKiKP	PKiKP		04 52 51.9	+0.3
ETSF	**Etsaut**		**113.59**	**318**	*e*	PKiKP	PKiKP		04 52 53.7	+1.1
	comp=Z,4.3nm,0.6s									
SJPF	**Ste Jean**		**113.95**	**318**	*e*	PKiKP	PKiKP		04 52 54.0	+0.7
	comp=Z,12nm,0.8s									
DUG	**Dugway**		**115.80**	**44**	*e*	PKiKP	PKPdf		04 52 58.6	+1.7
PDAR	**Pinedale Array**		**116.88**	**41**		PKP	PKPdf		04 52 58.5	-0.4
	comp=Z,0.8nm,0.5s,baz=297,slow=1.0,SNR=7.5									
PDAR						PKKPbc	PKKPbc		05 03 25.4	0.0
	comp=Z,0.3nm,0.6s,baz=138,slow=6.8,SNR=3.2									
PDAR						PKKPab	PKKPab		05 03 31.1	+0.7
	comp=Z,1.2nm,0.8s,baz=117,slow=5.2,SNR=7.6									
PCAB	**Cabril**		**119.07**	**319**	*e*	PKPdf	PKPdf		04 53 04.5	+1.3
PVRL	**Vila Real**		**119.08**	**319**	*e*	PKPdf	PKPdf		04 53 04.3	+1.1
PV10	**Paradox Valley**		**119.22**	**45**	*e*	PKPdf	PKPdf		04 53 04.9	+1.4
PCBR	**Castelo Branco**		**119.61**	**317**	*e*	PKPdf	PKPdf		04 53 05.3	+1.1
PV01	**Paradox Valley**		**119.66**	**45**	*e*	PKPdf	PKPdf		04 53 06.4	+2.1
TORD	**Torodi Ar. Bea**		**119.92**	**285**		PKP	PKPdf		04 53 05.1	+0.3
	comp=Z,9.8nm,0.6s,baz=96,slow=1.5,SNR=138									
TORD						PP	PP		04 54 31.5	-1.7
	comp=Z,2.2nm,0.7s,baz=62,slow=6.8,SNR=7.4									
TORD						PKKPab	PKKPab		05 03 19.7	+2.6
	comp=Z,1.7nm,1.0s,baz=239,slow=3.6,SNR=11									
ULM	**Lac du Bonnet**		**120.17**	**27**		PKP	PKPdf		04 53 05.0	-0.3
	comp=Z,3.2nm,0.6s,baz=304,slow=2.2,SNR=8.6									
EVO	**Evora**		**120.59**	**316**	*e*	PKiKP	PKPdf		04 53 06.6	+0.5
	comp=Z,35nm,1.1s									
LAZ	**Ladron**		**122.34**	**48**	*e*	PKPdf	PKPdf		04 53 11.5	+2.0
ANMO	**Albuquerque**		**122.60**	**47**		PKP	PKPdf		04 53 11.8	+1.8
	comp=Z,3.2nm,0.6s,baz=221,slow=2.3,SNR=13									
ANMO						pPKP	pPKPdf		04 54 22.2	-2.1
	comp=Z,1.1nm,0.8s,baz=242,slow=7.0,SNR=2.4									
ANMO	**Albuquerque**		**122.60**	**47**		PKiKP	PKPdf		04 53 11.8	+1.9
ANMO									04 54 22.2	
ANMO						pmax	pmax			
	comp=Z,3.0nm,0.6s									
ANMO						pmax	pmax			
	comp=Z,1.0nm,0.8s									
ANMO	**Albuquerque**		**122.60**	**47**	*e*	PKPdf	PKPdf		04 53 11.7	+1.7
LPM	**Los Pinos Moun**		**122.75**	**48**	*e*	PKPdf	PKPdf		04 53 12.1	+1.9
BNM	**Barren Site**		**122.83**	**48**	*e*	PKPdf	PKPdf		04 53 12.7	+2.3
ECSD	**EROS,Sioux Fal**		**124.18**	**34**	*e*	PKPdf	PKPdf		04 53 13.2	+0.3
SCHQ	**Schefferville**		**124.76**	**7**		PKP	PKPdf		04 53 14.4	+0.3
	comp=Z,2.6nm,0.5s,baz=37,slow=3.4,SNR=6.4									
DBIC	**Dimbokro**		**127.06**	**278**		PKP	PKPdf		04 53 19.8	+1.3
	comp=Z,7.0nm,0.5s,baz=57,slow=2.6,SNR=21									
WMOK	**Wichita Mounta**		**128.19**	**44**	*e*	PKiKP	PKPdf		04 53 22.3	+1.7
JCT	**Junction City**		**129.64**	**49**	*e*	PKiKP	PKPdf		04 53 25.2	+1.8
SADO	**Sadowa**		**131.41**	**21**		PKP	PKPdf		04 53 27.6	+0.9
	comp=Z,3.0nm,0.5s,baz=338,slow=2.7,SNR=12									
MIAR	**Mount Ida**		**131.81**	**41**	*e*	PKiKP	PKPdf		04 53 29.0	+1.5
WVT	**Waverly**		**134.28**	**35**	*e*	PKiKP	PKPdf		04 53 32.5	+0.4
LRAL	**Lakeview Retre**		**136.93**	**37**	*e*	PKPdf	PKPdf		04 53 38.4	+1.3
PLCA	**Paso Flores**		**137.81**	**165**		PKP	PKPdf		04 53 39.5	+0.8
	comp=Z,3.3nm,0.7s,baz=218,slow=6.2,SNR=4.6									
SOR	**Soroa**		**146.36**	**46**	*e*	P		PKPdf	04 53 56.5	+2.7
CFAA	**Coronel Fontan**		**147.01**	**163**		PKP	PKPdf		04 53 56.5	+1.6
	comp=Z,3.3nm,0.5s,baz=212,slow=2.9,SNR=68									
CFAA						PKPbc	PKPbc		04 53 59.4	+1.9
	comp=Z,3.3nm,0.5s,baz=210,slow=2.9,SNR=68									
CFAA						pPKP	pPKPdf		04 55 05.9	-3.5
	comp=Z,0.4nm,0.6s,baz=224,slow=5.9,SNR=1.5									
JTS	**JuntasAbangare**		**150.82**	**69**	*e*	PKiKP	PKPdf		04 54 08.8	+7.8
CPUP	**Villa Florida**		**153.88**	**180**		PKP	PKPdf		04 54 07.7	+2.2
	comp=Z,1.4nm,0.7s,baz=164,slow=4.2,SNR=4.6									
CPUP						PKPbc	PKPbc		04 54 15.7	+2.0
	comp=Z,1.2nm,0.5s,baz=142,slow=3.2,SNR=9.1									
CPUP						PKPab	PKPab		04 54 30.3	+2.1
	comp=Z,3.3nm,0.5s,baz=168,slow=1.7,SNR=11									
CPUP						pPKPab	pPKPab		04 55 34.1	-5.5
	comp=Z,3.2nm,0.8s,baz=181,slow=3

GUN Gumba 9.97 282 *e*Pn **Pn** **04 54 31.1 +0.4**
GUN *e*Sn **Sn** **04 56 22.4 +0.1**
comp=Z,111nm,0.7s
BOK Bokaro 10.30 259 *i* P **Pn** **04 54 34.3 -0.9**
BOK *e*P 04 54 35.2
BOK *e*S **Sn** **04 56 19.8 -11**
PKI Pulchoki 10.35 280 *e*Pn **Pn** **04 54 35.2 -0.7**
PKI *e*Sn **Sn** **04 56 28.2 -3.5**
comp=Z,78nm,0.7s
KKN Kakani 10.48 281 *e*Pn **Pn** **04 54 36.9 -0.8**
KKN *e*Sn **Sn** **04 56 34.5 -0.5**
comp=Z,124nm,0.9s
DMN Daman 10.62 280 *e*Pn **Pn** **04 54 38.3 -1.3**
GKN Gorkha 11.07 282 *e*Pn **Pn** **04 54 45.3 -0.5**
GKN *e*Sn **Sn** **04 56 46.7 -2.7**
comp=Z,404nm,1.2s
LZH Lanzhou 11.44 30 *e*P **Pn** **04 54 50.8 0.0**
LZH AP 04 54 56.3
LZH XP 04 54 59.3
LZH *e*PP 04 55 00.5
LZH *e*S **Sn** **04 56 58.0 -0.3**
LZH *e*SS 04 57 12.3
LZH AMB AMB
comp=Z,69nm,1.2s
LZH AMB AMB
comp=Z,176nm,4.1s
LZH LR LR
comp=E,1μm,7.2s
LZH LR LR
comp=Z,2μm,11.7s
LZH Lanzhou 11.44 30 *e*P **Pn** **04 54 50.7 -0.1**
LZH *e*S **Sn** **04 56 58.1 -0.2**
LZH pmax pmax
comp=Z,69nm,1.2s
LZH Lanzhou 11.44 30 *e*P **Pn** **04 54 50.7 -0.1**
comp=Z,69nm,1.2s
LZH pP 04 54 56.3
LZH sP 04 54 59.2
LZH *e*PP 04 55 00.4
LZH *e*S **Sn** **04 56 58.1 -0.2**
LZH sS 04 57 05.3
LZH *e*SS 04 57 12.2
KOLN Koldanda 11.97 280 *e*Pn **Pn** **04 54 55.1 -2.9**
QIZ Qiongzhong 13.93 118 P **Pn** **04 55 25.0 +0.1**
QIZ S **Sn** **04 58 00.0 +0.7**
QIZ LR LR
comp=E,980nm,9.0s
QIZ LR LR
comp=Z,952nm,10.5s
BLSP Bilaspur 14.11 256 *e*P **Pn** **04 55 25.7 -1.5**
VIS Vishakhapatnam 15.19 239 *e*P **Pn** **04 55 44.6 +2.7**
VIS AMb AMB 04 55 49.2
comp=Z,49nm,1.8s
JBP Jabalpur 15.69 262 ⇓ *i* P **Pn** **04 55 47.4 -1.1**
JBP *i* S **Sn** **04 58 36.8 -5.4**
WHN Wuhan 15.92 70 *e*P **Pn** **04 55 51.3 -0.1**
AGRA Agra 16.98 277 *e*P **Pn** **04 56 07.2 +2.3**
AGRA AMb AMB 04 56 07.8
comp=Z,76nm,0.2s
AGRA *e*x x 04 59 07.8
NGP Nagpur 17.13 256 *e*P **Pn** **04 56 07.4 +0.5**
NGP *e*x x 04 59 25.4
KLP Kalpa 17.16 292 *e*P **Pn** **04 56 09.1 +1.9**
KLP AMb AMB 04 56 17.0
comp=Z,32nm,0.7s
KLP *e*S **Sn** **04 59 17.5 -0.3**
ASOR Ausora 17.16 283 *e*P **Pn** **04 56 10.3 +3.0**
NDI New Delhi 17.65 282 *e*P **Pn** **04 56 16.3 +3.0**
NDI AMb AMB 04 56 20.5
comp=Z,20nm,0.5s
BHPL Bhopal 17.96 265 *e*P **Pn** **04 56 17.2 +0.2**
BHPL AMb AMB 04 56 21.2
comp=Z,48nm,1.4s
BHPL *e*x x 04 59 18.9
BTO Baotou 17.97 34 *e*P **Pn** **04 56 14.0 -3.2**
BTO LR LR
comp=N,3μm,13.0s
BTO LR LR
comp=E,2μm,14.7s
KHET Khetri 18.87 280 *e*P **Pn** **04 56 28.4 +0.2**
KHET AMb AMB 04 56 32.7
comp=Z,13nm,0.7s
KHET *e*S **Sn** **04 59 58.1 -1.0**
WMQ Urumqi 19.05 339 P **Pn** **04 56 30.0 -0.3**
HYB Hyderabad 19.17 246 *i* P **Pn** **04 56 31.0 -0.8**
HYB *e*sP sP 04 56 41.0 +4.2
HYB Hyderabad 19.17 246 *e*P **Pn** **04 56 31.0 -0.8**
AJM Ajmer 19.96 276 *e*P **Pn** **04 56 40.8 -0.5**
AJM AMb AMB 04 56 43.6
comp=Z,43nm,0.8s
NJ2 Nanjing 19.99 68 *e*P **Pn** **04 56 40.3 -1.4**
NJ2 AP pP 04 56 48.5 +4.6
NJ2 XP sP 04 56 52.5 +6.7
NJ2 PP 04 57 00.0
NJ2 S **Sn** **05 00 16.0 -10**
NJ2 XS sS 05 00 32.0 +1.3
NJ2 AMB AMB
comp=Z,100nm,1.0s
NJ2 AMB AMB
comp=Z,70nm,5.9s
BJT Baijiatuau 21.10 45 *e*P **P** **04 56 51.5 -0.4**
BJT pmax pmax
comp=Z,33nm,1.4s
BJT Baijiatuau 21.10 45 *e*P **P** **04 56 51.5 -0.5**
comp=Z,33nm,1.4s,mb4.5
KULM Kulim 21.16 170 *e*P **P** **04 56 52.4 -0.2**
SSE Sheshan 21.81 72 P **P** **04 56 56.8 -2.8**
SSE XP sP 04 57 09.0 +3.5
SSE S **S** **05 00 48.3 -12**
SSE AMB AMB
comp=Z,34nm,0.8s,mb4.8
SSE AMB AMB
comp=Z,99nm,3.6s
SSE LR LR
comp=N,103nm,18.6s,MS3.9
SSE LR LR
comp=E,415nm,18.5s,MS3.9
SSE LR LR
comp=Z,560nm,16.7s,MS4.0
SSE Sheshan 21.81 72 P **P** **04 56 56.7 -2.9**
comp=Z,34nm,0.8s,mb4.8
SSE sP sP 04 57 08.9 +3.4
SSE S **S** **05 00 48.3 -12**
SSE sS sS 05 01 02.1 -4.7
SSE LR LR
comp=Z,560nm,16.7s,MS4.0
POO Poona 22.65 255 *ex* x 04 57 48.1
SONM Songino Array 22.78 17 P **P** **04 57 08.2 -1.7**
comp=Z,2.6nm,1.0s,mb3.6,baz=194,slow=8.9,SNR=11
ULN Ulaanbaatar 22.98 18 *e*P **P** **04 57 11.9 -0.1**
ULN pmax pmax
comp=Z,9.0nm,1.0s,mb4.2
ULN Ulaanbaatar 22.98 18 *e*P **P** **04 57 11.9 -0.1**
comp=Z,9.1nm,1.0s,mb4.2
JASL Jaisalmer 23.26 277 *e*P **P** **04 57 15.8 +0.9**
PSI Prapat 23.41 175 P **P** **04 57 17.5 +1.0**
comp=Z,2.6nm,0.4s,mb4.0,baz=314,slow=12,SNR=3.7
PSI LR LR 05 08 18.9
comp=Z,226nm,19.2s,MS3.6,baz=341,slow=42
MK31 Makanchi Array 23.54 334 P **P** **04 57 19.3 +1.4**
MK31 pmax pmax
comp=Z,41nm,1.1s,mb4.8
MKAR Makanchi Array 23.54 334 P **P** **04 57 18.3 +0.4**
comp=Z,6.4nm,0.6s,mb4.2,baz=142,slow=9.9,SNR=57
MKAR Makanchi Array 23.54 334 P **P** **04 57 18.3 +0.4**
MKAR pmax pmax
comp=Z,6.0nm,0.6s
AAK Ala-Archa 24.55 317 *e*P **P** **04 57 25.8 -1.3**
AAK pmax pmax
comp=Z,25nm,1.3s,mb4.6
AAK Ala-Archa 24.55 317 *e*P **P** **04 57 25.8 -1.3**
comp=Z,25nm,1.3s,mb4.6
ZAK Zakamensk 24.57 10 *e*P **P** **04 57 26.9 -0.3**
ZAK pmax pmax
comp=Z,22nm,1.8s,mb4.4
FRU Bishkek 24.59 318 *e*P **P** **04 57 30.0 +2.5**
FRU *e* 04 58 01.0
TLY Talaya 25.89 10 *e*P **P** **04 57 38.5 -0.7**
TLY pmax pmax
comp=Z,12nm,1.9s,mb4.1
JOW Kunigami 28.02 82 LR LR 05 09 34.9
comp=Z,376nm,18.3s,MS4.0,baz=9.1,slow=37
KURK Kurchatov 28.15 335 *e*P **P** **04 58 00.7 +1.2**
KURK pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
KURK Kurchatov 28.15 335 *e*P **P** **04 58 00.7 +1.1**
comp=Z,10.0nm,0.9s,mb4.5
ZAL Zalesovo 29.07 345 P **P** **04 58 08.5 +0.8**
comp=Z,1.5nm,0.3s,mb4.2,baz=1.8,slow=3.9,SNR=4.1
ZAL LR LR 05 11 46.6
comp=Z,415nm,20.8s,MS4.0,baz=271,slow=41
ZAL Zalesovo 29.07 345 P **P** **04 58 08.5 +0.8**
ZAL LR LR 05 11 46.6
NVS Novosibirsk 30.26 344 *i* P **P** **04 58 15.7 -2.6**
BVA0 Borovoye Array 33.27 331 P **P** **04 58 46.1 +1.3**
BVA0 pmax pmax
comp=Z,1.0nm,1.1s,mb3.7
BRVK Borovoye 33.34 331 *e*P **P** **04 58 47.4 +2.0**
BRVK pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BRVK Borovoye 33.34 331 *e*P **P** **04 58 47.4 +2.0**
comp=Z,6.7nm,0.9s,mb4.6
CHKZ Chkalovo 33.62 332 *e*P **P** **04 58 48.1 +0.3**
CHKZ pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
CHKZ Chkalovo 33.62 332 *e*P **P** **04 58 48.1 +0.2**
comp=Z,3.6nm,0.6s,mb4.5
ZRNK Zerenda 33.84 329 *e*P **P** **04 58 51.3 +1.5**
ZRNK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
ZRNK Zerenda 33.84 329 *e*P **P** **04 58 51.3 +1.5**
comp=Z,6.2nm,1.0s,mb4.5
MJAR Matsushiro Arr 36.46 63 P **P** **04 59 11.0 -1.3**
comp=Z,1.5nm,0.6s,mb4.1,baz=272,slow=9.0,SNR=5.0
MJAR LR LR 05 15 40.7
comp=Z,271nm,18.3s,MS4.1,baz=265,slow=39
AB31 Akbulak array 36.62 319 *i* P **P** **04 59 15.1 +1.4**
AB31 pmax pmax
comp=Z,6.0nm,1.1s,mb4.3
AKTK Aktyubinsk 38.25 320 P **P** **04 59 27.4 -0.1**
AKTO Aktyubinsk 38.25 320 P **P** **04 59 27.4 -0.1**
comp=Z,1.5nm,0.7s,mb3.9,baz=77,slow=16,SNR=2.5
SVE Sverdlovsk 40.04 330 *e*P **P** **04 59 44.2 +1.8**
SVE *e* 04 59 50.3
SVE *e* 05 01 22.0
GNI Garni 45.19 301 *e*P **P** **05 00 22.5 -1.8**
GNI pmax pmax
comp=Z,15nm,0.9s
GNI Garni 45.19 301 *e*P **P** **05 00 22.5 -1.8**
comp=Z,15nm,0.9s,mb4.8
KIV Kislovodsk 46.88 307 *i* P **P** **05 00 39.2 +1.6**
KIV pmax pmax
comp=Z,15nm,1.5s,mb4.7
TIXI Tiksi 48.79 13 *e*P **P** **05 00 49.4 -3.0**
TIXI pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
TIXI MLR MLR
comp=Z,203nm,14.0s,MS4.3
KLMR Klimovskoe 51.63 328 *e*P **P** **05 01 16.6 +2.6**
KLMR pmax pmax
comp=Z,20nm,1.3s,mb4.9
MBWA Marble Bar 52.08 153 *e*P **P** **05 01 16.9 -0.4**
comp=Z,6.3nm,0.8s,mb4.6
ASF Jabal al Asfar 52.14 291 LR LR 05 27 47.1
comp=Z,72nm,21.2s,MS3.7,baz=126,slow=41
FITZ Fitzroy Crossi 52.19 145 *e*P **P** **05 01 17.4 -0.7**
comp=Z,6.3nm,1.4s,mb4.3
PET Petropavlovsk 52.58 42 *e*P **P** **05 01 19.2 -1.8**
PET pmax pmax
comp=Z,31nm,1.0s,mb5.2
PET Petropavlovsk 52.58 42 *e*P **P** **05 01 19.2 -1.8**
comp=Z,31nm,1.0s,mb5.2
BR131 Keskin Array S 53.73 301 *e*P **P** **05 01 28.8 -0.6**
comp=Z,1.2nm,0.6s,mb4.0
BRTR Keskin Array B 53.73 301 P **P** **05 01 29.6 +0.1**
comp=Z,1.2nm,0.5s,mb4.0,baz=102,slow=9.0,SNR=7.4
JOF Joensuu 55.87 330 *e*p **P** **05 01 43.2 -1.8**
comp=Z,4.6nm,0.6s,mb4.7
JOF Joensuu 55.87 330 *e*P **P** **05 01 43.2 -1.8**
JOF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
AKASG Malin Array Be 56.19 315 P **P** **05 01 46.1 -1.2**
comp=Z,1.3nm,0.4s,mb4.3,baz=80,slow=6.5,SNR=11
CFR Carcaliu 57.24 308 ⇑ *i* P **P** **05 01 57.2 +2.4**
FINES FINESS Array B 58.15 328 P **P** **05 02 00.9 -0.2**
comp=Z,2.3nm,0.8s,mb4.2,baz=116,slow=8.7,SNR=4.7
FINES LR LR 05 29 23.3
comp=Z,132nm,20.2s,MS4.0,baz=157,slow=38
VRI Vrincioaia 58.16 309 ⇑ *i* P **P** **05 02 04.8 +3.6**
BILL Bilibino 58.20 24 ⇑ *e*P **P** **05 02 01.8 +0.3**
BILL *e*S **S** **05 10 02.6 -0.1**
BILL pmax pmax
comp=Z,4.0nm,1.2s,mb4.3
BILL MLR MLR
comp=Z,200nm,15.0s,MS4.3
WRA Warramunga Arr 58.56 138 P **P** **05 02 04.0 0.0**
comp=Z,6.9nm,0.8s,mb4.7,baz=326,slow=7.6,SNR=30
WRAB Tennant Creek 58.56 138 *e*P **P** **05 02 03.7 -0.3**
WRAB pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
WRAB Tennant Creek 58.56 138 *e*P **P** **05 02 03.7 -0.3**
comp=Z,8.8nm,0.8s,mb4.8
WB2 Warramunga Arr 58.57 138 *e*P **P** **05 02 03.8 -0.2**
MLR Muntele Rosu 58.75 309 LR LR 05 33 37.6
comp=Z,112nm,19.6s,MS4.0,baz=81,slow=42
MLR Muntele Rosu 58.75 309 ⇑ *i* P **P** **05 02 07.4 +2.1**
BURAR Bucovina Array 59.01 311 ⇓ *i* P **P** **05 02 09.2 +2.1**
ARCES ARCESS Array B 59.15 337 P **P** **05 02 07.7 -0.4**
comp=Z,1.8nm,0.8s,mb4.1,baz=92,slow=9.9,SNR=3.8
ARCES LR LR 05 30 43.0
comp=Z,243nm,19.5s,MS4.3,baz=212,slow=39
LVV L'vov 59.57 314 *e*P pP 05 02 22.7 +7.2
LVV MLR MLR
comp=Z,100nm,18.0s,MS4.0
ASPA Alice Springs 61.19 141 *e*P **P** **05 02 22.6 +0.5**
AS31 Alice Springs 61.19 141 *e*P **P** **05 02 22.6 +0.5**
ASAR Alice Springs 61.19 141 P **P** **05 02 22.3 +0.2**
comp=Z,6.5nm,0.9s,mb4.8,baz=324,slow=6.7,SNR=43
IDI Anoyia 61.33 298 LR LR 05 34 37.2
comp=Z,58nm,18.6s,MS3.8,baz=347,slow=42
NWAO Narrogin (SRO) 61.96 161 P **P** **05 02 26.4 -0.9**
comp=Z,5.0nm,0.9s,mb4.7,baz=13,slow=8.2,SNR=3.2
NWAO Narrogin (SRO) 61.96 161 P **P** **05 02 26.4 -0.9**
KMBO Kilima Mbogo 63.59 254 P **P** **05 02 37.7 -0.4**
comp=Z,1.2nm,0.8s,mb4.0,baz=42,slow=19,SNR=4.4
KMBO LR LR 05 29 09.6
comp=Z,84nm,18.7s,MS4.0,baz=277,slow=35
KMBO Kilima Mbogo 63.59 254 *e*P **P** **05 02 39.4 +1.3**
KMBO pmax pmax
comp=Z,2.0nm,0.8s
KMBO Kilima Mbogo 63.59 254 *e*P **P** **05 02 39.4 +1.3**
comp=Z,1.7nm,0.8s,mb4.1
MORC Moravsky Berou 63.74 315 *e*P **P** **05 02 39.9 +0.8**
MORC pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
MORC Moravsky Berou 63.74 315 *e*P **P** **05 02 39.9 +0.8**
comp=Z,6.8nm,1.3s,mb4.5
HFS Hagfors 64.27 327 LR LR 05 33 09.2
comp=Z,190nm,19.7s,MS4.3,baz=84,slow=38
VRAC Vranov 64.43 314 LR LR 05 35 51.0
comp=Z,135nm,18.8s,MS4.2,baz=69,slow=41
NB2 NORSAR Subarra 65.34 328 P **P** **05 02 49.0 -0.6**
comp=Z,4.2nm,1.1s,mb4.4,baz=82,slow=6.9
NOA NORSAR Array B 65.34 328 P **P** **05 02 48.8 -0.8**
comp=Z,2.2nm,0.8s,mb4.2,baz=80,slow=6.6,SNR=6.1
NOA LR LR 05 33 36.7
comp=Z,164nm,20.6s,MS4.2,baz=75,slow=38
BRG Berggiesshubel 65.79 316 *e*P **P** **05 02 53.5 +1.1**
comp=Z,2.8nm,0.9s,mb4.3
BRG Berggiesshubel 65.79 316 *e*P **P** **05 02 53.5 +1.0**
BRG pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
GERES GERESS Array B 66.39 314 P **P** **05 02 55.3 -1.0**
comp=Z,1.9nm,0.8s,mb4.2,baz=75,slow=5.7,SNR=9.3
GERES LR LR 05 35 37.0
comp=Z,205nm,19.2s,MS4.3,baz=280,slow=39
GERES GERESS Array B 66.39 314 P **P** **05 02 55.3 -1.0**
GERES LR LR 05 35 37.0
CTA Charters Tower 66.44 129 *e*P **P** **05 02 57.6 +0.9**
comp=Z,5.2nm,0.9s,mb4.6
CTA Charters Tower 66.44 129 P **P** **05 02 57.0 +0.3**
comp=Z,7.1nm,0.9s,mb4.7,baz=318,slow=6.9,SNR=8.9
CTA Charters Tower 66.44 129 *e*P **P** **05 02 57.6 +0.9**
CTA pmax pmax
comp=Z,5.0nm,0.9s
CTAO Charters Tower 66.44 129 *e*P **P** **05 02 56.7 0.0**
CTAO pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
CTAO Charters Tower 66.44 129 *e*P **P** **05 02 56.7 0.0**
comp=Z,9.3nm,1.0s,mb4.8
GRA1 Grafenberg Arr 67.76 316 *e*P **P** **05 03 07.0 +2.0**
comp=Z,5.0nm,0.9s,mb4.5
GRF Grafenberg Arr 67.76 316 *e*P **P** **05 03 07.0 +2.0**
comp=Z,5.0nm,0.9s,mb4.5
GRF Grafenberg Arr 67.76 316 *e*P **P** **05 03 07.0 +2.0**
GRF pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
GRF Grafenberg Arr 67.76 316 *e*P **P** **05 03 07.0 +2.0**
GRF pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
DAVOX Davos 69.41 313 LR LR 05 38 31.2
comp=Z,134nm,18.2s,MS4.2,baz=331,slow=40
CDF Champ du Feu 70.61 315 *e*P **P** **05 03 22.5 -0.2**
HNR Honiara 70.72 111 LR LR 05 30 59.8
comp=Z,53nm,19.3s,MS3.8,baz=179,slow=33
WLF Walferdange 70.92 317 *e*P **P** **05 03 24.3 -0.3**
WLF pmax pmax
comp=Z,15nm,0.9s,mb4.9
WLF Walferdange 70.92 317 *e*P **P** **05 03 24.3 -0.4**
comp=Z,15nm,0.9s,mb4.9
HAU Haudompre 71.33 315 *e*P **P** **05 03 27.2 +0.1**
HAU *e*R
comp=Z,149nm,20.0s
HAU Haudompre 71.33 315 *e*P **P** **05 03 27.2 +0.1**
HAU LR LR
comp=Z,150nm,20.0s,MS4.2
STKA Stephens Creek 71.83 141 *e*P **P** **05 03 26.6 -3.5**
comp=Z,4.2nm,0.9s,mb4.4
STKA Stephens Creek 71.83 141 P **P** **05 03 27.9 -2.2**
comp=Z,6.3nm,1.0s,mb4.5,baz=330,slow=11,SNR=6.6
STKA LR LR 05 34 19.9
comp=Z,159nm,20.1s,MS4.3,baz=0.0,slow=35
STKA Stephens Creek 71.83 141 *e*P **P** **05 03 27.2 -2.9**
LPG La Plagne 71.88 312 *e*P **P** **05 03 30.5 +0.1**
comp=Z,16nm,0.8s,mb4.7
LPG La Plagne 71.88 312 *e*P **P** **05 03 30.5 +0.1**
LPG pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
LPG La Plagne 71.88 312 *e*P **P** **05 03 30.5 +0.1**
comp=Z,7.5nm,0.8s,mb4.7
LPL La Plagne 71.88 312 *e*P **P** **05 03 30.4 0.0**
comp=Z,11nm,0.6s,mb4.7
LPL La Plagne 71.88 312 *e*P **P** **05 03 30.4 0.0**
LPL pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
LPL La Plagne 71.88 312 *e*P **P** **05 03 30.4 0.0**
comp=Z,5.7nm,0.6s,mb4.7
MEZF Maizieres J'vi 71.98 316 *e*P **P** **05 03 31.0 0.0**
BNI Bardonecchia 72.07 312 *e*P **P** **05 03 32.7 +1.2**
BNI pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
BNI Bardonecchia 72.07 312 *e*P **P** **05 03 32.7 +1.2**
comp=Z,8.1nm,1.2s,mb4.5
MBDF Montbardon 72.12 311 *e*P **P** **05 03 32.3 +0.5**
comp=Z,9.0nm,0.7s,mb4.5
MBDF Montbardon 72.12 311 *e*P **P** **05 03 32.3 +0.5**
MBDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MBDF Montbardon 72.12 311 *e*P **P** **05 03 32.3 +0.5**
comp=Z,4.5nm,0.7s,mb4.5
ORIF Oris-en-Rattie 72.65 312 *e*P **P** **05 03 34.3 -0.7**
comp=Z,7.9nm,0.8s,mb4.4
ORIF *e*R
comp=Z,254nm,21.0s
ORIF Oris-en-Rattie 72.65 312 *e*P **P** **05 03 34.3 -0.7**
ORIF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ORIF Oris-en-Rattie 72.65 312 *e*P **P** **05 03 34.3 -0.7**
comp=Z,4.0nm,0.8s,mb4.4
LOR Lormes 73.16 315 *e*P **P** **05 03 37.9 -0.1**
LOR *e*R
comp=Z,119nm,20.2s
LOR Lormes 73.16 315 *e*P **P** **05 03 37.9 -0.1**
LOR LR LR
comp=Z,120nm,20.3s,MS4.2
SMF Signal de Mont 73.39 314 *e*P **P** **05 03 39.2 -0.2**
comp=Z,4.1nm,0.6s,mb4.3
SMF Signal de Mont 73.39 314 *e*P **P** **05 03 39.2 -0.2**
SMF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
SMF Signal de Mont 73.39 314 *e*P **P** **05 03 39.2 -0.2**
comp=Z,2.0nm,0.6s,mb4.2
SSF Saint Saulge 73.46 315 *e*P **P** **05 03 40.0 +0.2**
comp=Z,13nm,0.9s,mb4.5
SSF Saint Saulge 73.46 315 *e*P **P** **05 03 40.0 +0.2**
SSF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
SSF Saint Saulge 73.46 315 *e*P **P** **05 03 40.0 +0.2**
comp=Z,6.5nm,0.9s,mb4.6
TCF Toulx Ste Croi 74.57 314 *e*P **P** **05 03 46.3 0.0**
comp=Z,17nm,1.1s,mb4.6
TCF Toulx Ste Croi 74.57 314 *e*P **P** **05 03 46.3 0.0**
TCF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
TCF Toulx Ste Croi 74.57 314 *e*P **P** **05 03 46.3 0.0**
comp=Z,8.5nm,1.1s,mb4.6
RJF Les Rejaudoux 75.39 313 *e*P **P** **05 03 50.7 -0.3**
comp=Z,18nm,1.0s,mb4.7
RJF *e*R
comp=Z,124nm,22.2s
RJF Les Rejaudoux 75.39 313 *e*P **P** **05 03 50.7 -0.3**
RJF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
RJF MLR MLR
comp=Z,120nm,22.3s,MS4.2
RJF Les Rejaudoux 75.39 313 *e*P **P** **05 03 50.7 -0.3**
comp=Z,9.3nm,1.0s,mb4.7
RJF LR LR
comp=Z,120nm,22.3s,MS4.2
ILAR Eielson Array 76.83 23 P **P** **05 03 59.7 +0.5**
comp=Z,0.6nm,0.9s,mb3.5,baz=285,slow=5.6,SNR=6.5
SUMG Summit 76.87 347 *e*P **P** **05 03 59.5 +0.1**
comp=Z,9.4nm,1.0s,mb4.7
KDAK Kodiak Island 78.27 31 LR LR 05 39 04.2
comp=Z,171nm,21.2s,MS4.3,baz=318,slow=36
LSZ Lusaka 78.51 247 *e*P **P** **05 04 08.5 -0.1**
LSZ pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
LSZ Lusaka 78.51 247 *e*P **P** **05 04 08.5 -0.1**
comp=Z,7.2nm,1.3s,mb4.4
INK Inuvik 78.70 17 *e*P **P** **05 04 09.2 -0.4**
INK pmax pmax
comp=Z,9.0nm,1.2s
INK Inuvik 78.70 17 *e*P **P** **05 04 09.2 -0.5**
comp=Z,8.7nm,1.2s,mb4.6
LBTB Lobatse 85.65 240 *e*P **P** **05 04 45.1 -1.0**
LBTB pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
LBTB Lobatse 85.65 240 *e*P **P** **05 04 45.1 -0.9**
comp=Z,8.4nm,1.0s,mb4.9
YKA Yellowknife Ar 88.03 14 P **P** **05 04 55.9 -1.7**
comp=Z,1.1nm,0.9s,mb4.1,baz=326,slow=4.8,SNR=15
YKA LR LR 05 47 57.0
comp=Z,117nm,20.4s,MS4.3,baz=300,slow=38
TORD Torodi Ar. Bea 88.86 284 P **P** **05 05 01.0 -0.5**
comp=Z,0.5nm,0.7s,mb3.9,baz=48,slow=4.5,SNR=5.7
BDFB Brasilia 145.69 281 PKPbc PKPbc 05 11 45.5 -0.7
comp=Z,1.6nm,0.7s,baz=39,slow=12,SNR=3.0

NAO **26** *04:55:29.7±1.3, 78.13N×1288E, ML2.2*
ISCJB **26** *04:55:31.0±0.8, 7824N±006×135E±05, h10km, Error ellipse: s-maj=15.7km s-min=5.1km az=118.4*
BER **26** *04:55:31.2±2.2, 78.13N×1293E, h1km±15km, MD2.2, ML3.1, ML2.2(NAO)*
CSEM **26** *04:55:32.3±0.3, 7828N×1332E, h30km, ML3.1, Error ellipse: s-maj=19.0km s-min=5.6km az=63.0*
ISC 26 04:55:30.9±1.0, 7819N±006×132E±05, h10km, n7, σ0.966/12, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar** baz=267,slow=16	**0.66**	**89**	Pg	**Pg**	**Pg**	**04 55 44.4**	**+0.7**
SPA0				Lg			04 55 52.5	
	baz=262,slow=37							
KBS	**Kingsbay**	**0.78**	**342**	Pg	**Pg**	**Pg**	**04 55 46.0**	**+0.1**
KBS				Lg			04 55 56.3	
KBS	**Kingsbay**	**0.78**	**342**	*e*P	**Pg**	**Pg**	**04 55 46.4**	**+0.4**
KBS				*e*S	**Sg**	**Sg**	**04 55 55.7**	**-0.5**
KBS	**Kingsbay** SNR=91	**0.78**	**342**	*e*P	**Pg**	**Pg**	**04 55 46.4**	**+0.4**
KBS				*e*S	**Sg**	**Sg**	**04 55 55.7**	**-0.4**
	SNR=91							
HSP	**Hornsund**	**1.29**	**155**	*e*P	**Pn**	**Pn**	**04 55 55.4**	**+0.4**
HSP				*e*S	**Sb**	**Sb**	**04 56 12.2**	**+0.2**

HOPEN	**Hopen**	**3.10**	**117**	*e*P	**Pn**	**04 56 20.6**	**+0.7**
HOPEN				*e*S	**Sn**	**04 56 55.8**	**-1.1**
HOPEN				AML	AML	04 56 56.9	
	comp=N,158nm,0.3s						
ARA0	**ARCESS Array S**	**9.32**	**152**	Pn	**Pn**	**04 57 44.4**	**-0.8**
	baz=344,slow=22						
ARA0				Sn	**Sn**	**04 59 22.7**	**-7.4**
	baz=352,slow=22						

*NEIC **26** 04:58:31.2, 3549S×7258W, h29km, ML3.1(GUC), After GUC.*

GUC 26 04:58:31.2±0.8, 3549S×7258W, h29km±2km, MD3.8, ML3.1, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTCH	**Constitucion**	**0.21**	**41**	*e*P	Pb	04 58 37.2	-0.2
CTCH				*i* S	Sb	04 58 42.0	+0.4
CTCH				AML	AML	04 58 42.6	
	comp=N,6μm,0.3s						
CTCH	**Constitucion**	**0.21**	**41**	*e*P	Pb	04 58 37.2	-0.2
CTCH				*i* S	Sb	04 58 42.0	+0.4
CNCO	**Chanco**	**0.25**	**172**	⇓*i*P	Pb	04 58 37.8	-0.1
CNCO				*i* S	Sb	04 58 42.3	-0.1
CNCO				AML	AML	04 58 43.4	
	comp=N,4μm,0.2s						
CNCO	**Chanco**	**0.25**	**172**	⇓*i*P	Pb	04 58 37.8	-0.1
CNCO				*i* S	Sb	04 58 42.3	-0.1
TALC	**Talca**	**0.78**	**84**	*e*P	Pb	04 58 43.5	-2.7
TALC				*i* S	Sb	04 58 54.1	-2.2
TALC				AML	AML	04 58 55.5	
	comp=E,2μm,0.8s						
TALC	**Talca**	**0.78**	**84**	*e*P	Pb	04 58 43.5	-2.7
TALC				*i* S	Sb	04 58 54.1	-2.2
LNCH	**Linares**	**0.87**	**115**	*e*P	Pn	04 58 47.2	-0.3
LNCH				*i* S	Sb	04 58 58.7	-0.4
LNCH				AML	AML	04 59 01.0	
	comp=E,792nm,0.5s						
LNCH	**Linares**	**0.87**	**115**	*e*P	Pn	04 58 47.2	-0.3
LNCH				*i* S	Sb	04 58 58.7	-0.4
CCHI	**Chillan**	**1.18**	**160**	*e*P	Pn	04 58 51.9	+0.2
CCHI				*i* S	Sn	04 59 07.8	+1.0
CCHI				AML	AML	04 59 15.6	
	comp=E,1μm,0.6s						
CCHI	**Chillan**	**1.18**	**160**	*e*P	Pn	04 58 51.9	+0.2
CCHI				*i* S	Sn	04 59 07.8	+1.0
NICH	**Los Niches**	**1.21**	**67**	*e*P	Pn	04 58 52.0	0.0
NICH				*i* S	Sn	04 59 08.8	+1.4
CICH	**Cipreses**	**2.12**	**57**	*e*P	Pn	04 59 06.0	+1.3
CICH				*i* S	Sn	04 59 32.9	+2.9
CACH	**El Canelo**	**2.13**	**50**	*e*P	Pn	04 59 06.7	+1.9
CHCH	**Chadas Angostu**	**2.22**	**46**	*e*P	Pn	04 59 06.2	+0.2
CHCH				*i* S	Sn	04 59 34.7	+2.3
LMEL	**Las Melosas**	**2.55**	**51**	*e*P	Pn	04 59 12.3	+1.7
LMEL				AML	AML	04 59 52.5	
	comp=E,87nm,0.7s						

*NEIC **26** 05:07:24.6, 3542S×7262W, h40km, MG3.1(GUC), After GUC.*

GUC 26 05:07:24.6±1.1, 3542S×7262W, h40km±4km, MD3.9, ML3.1, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTCH	**Constitucion**	**0.19**	**62**	*e*P	Pn	05 07 32.1	+0.2
CTCH				*i* S	Sn	05 07 36.9	0.0
CTCH				AML	AML	05 07 37.5	
	comp=N,7μm,0.4s						
CTCH	**Constitucion**	**0.19**	**62**	*e*P	Pn	05 07 32.1	+0.2
CTCH				*i* S	Sn	05 07 36.9	0.0
CNCO	**Chanco**	**0.32**	**168**	⇓*i*P	Pn	05 07 32.6	-0.5
CNCO				*i* S	Sn	05 07 37.4	-1.6
CNCO				AML	AML	05 07 38.7	
	comp=N,2μm,0.4s						
CNCO	**Chanco**	**0.32**	**168**	⇓*i*P	Pn	05 07 32.6	-0.5
CNCO				S	Sn	05 07 37.4	-1.6
TALC	**Talca**	**0.80**	**89**	*e*P	Pn	05 07 38.4	-1.1
TALC				*i* S	Sn	05 07 49.4	-0.8
TALC				AML	AML	05 07 52.2	
	comp=N,2μm,0.1s						
TALC	**Talca**	**0.80**	**89**	*e*P	Pn	05 07 38.4	-1.1
TALC				*i* S	Sn	05 07 49.4	-0.8
LNCH	**Linares**	**0.93**	**118**	*e*P	Pn	05 07 42.1	+0.9
LNCH				*i* S	Sn	05 07 54.6	+1.3
LNCH				AML	AML	05 07 56.0	
	comp=E,797nm,0.4s						
LNCH	**Linares**	**0.93**	**118**	*e*P	Pn	05 07 42.1	+0.9
LNCH				*i* S	Sn	05 07 54.6	+1.3
SFDO	**San Fernando**	**1.54**	**59**	*e*P	Pn	05 07 51.7	+2.1
CACH	**El Canelo**	**2.11**	**53**	*e*P	Pn	05 07 59.7	+2.3
CICH	**Cipreses**	**2.11**	**59**	*e*P	Pn	05 07 58.7	+1.3
CHCH	**Chadas Angostu**	**2.20**	**48**	*e*P	Pn	05 07 59.5	+1.0
PCH	**Pirque**	**2.50**	**45**	*e*P	Pn	05 08 03.8	+1.1

OTT 26 05:09:52.4±0.5, 7779N×8995W, h18km, ML2.5/2, Sverdrup Seismic Zone. 233km northwest from Grise Fiord, Nu, Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EUNU	**Eureka**	**2.38**	**15**	PN	Pn	05 10 30.2	-0.3
EUNU				SN	Sn	05 11 00.4	+1.2
RES	**Resolute Bay**	**3.33**	**203**	PN	Pn	05 10 44.0	+0.4
RES				SN	Sn	05 11 24.2	+1.5
RES				Trac		05 11 41.1	
	comp=Z,5.7nm,0.2s						
PINU	**Pond Inlet**	**5.94**	**143**	PN	Pn	05 11 17.6	-1.9
PINU				SN	Sn	05 12 23.3	-3.8
PINU				Trac		05 12 36.0	
	comp=Z,5.8nm,0.5s						
GIFN	**Gifford Fjord,**	**8.15**	**159**	PN	Pn	05 11 48.9	-0.9
GIFN				SN	Sn	05 13 12.9	-8.6
GIFN				Trac		05 13 19.4	
	comp=Z,0.4nm,0.2s						
AP3N	**Apex site 3 Nu**	**8.51**	**167**	PN	Pn	05 11 51.2	-3.5
AP3N				SN	Sn	05 13 27.4	-2.8
AP3N				Trac		05 13 29.6	
	comp=Z,0.2nm,0.2s						
ILON	**Igloolik, Nuna**	**8.75**	**161**	PN	Pn	05 11 55.2	-2.8
ILON				SN	Sn	05 13 29.0	-6.7
QILN	**Qikiligaq Expl**	**11.24**	**173**	PN	Pn	05 12 28.4	-3.8
QILN				Trac		05 14 37.7	
	comp=Z,0.1nm,0.1s						

*NEIC **26** 05:15:26.7, 3547S×7263W, h27km, ML3.8(GUC), After GUC.*

GUC 26 05:15:26.7±0.8, 3547S×7263W, h27km±2km, MD4.1, ML3.8, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTCH	**Constitucion**	**0.22**	**52**	⇑*i*P	Pb	05 15 32.8	0.0
CTCH				*i* S	Sb	05 15 37.5	+0.6
CTCH				AML	AML	05 15 38.3	
	comp=N,27μm,0.4s						
CTCH	**Constitucion**	**0.22**	**52**	⇑*i*P	Pb	05 15 32.8	0.0
CTCH				*i* S	Sb	05 15 37.5	+0.6
CNCO	**Chanco**	**0.28**	**164**	⇓*i*P	Pb	05 15 33.5	-0.1
CNCO				*i* S	Sb	05 15 38.1	0.0
TALC	**Talca**	**0.81**	**85**	⇑*i*P	Pb	05 15 39.4	-2.8
TALC				*i* S	Sb	05 15 50.3	-2.5
TALC				AML	AML	05 15 50.6	
	comp=E,8μm,0.6s						
LNCH	**Linares**	**0.92**	**115**	*e*P	Pn	05 15 43.1	-0.7
LNCH				*i* S	Sb	05 15 55.2	-0.5
LNCH				AML	AML	05 15 56.7	
	comp=E,3μm,0.5s						
LNCH	**Linares**	**0.92**	**115**	*e*P	Pn	05 15 43.1	-0.7
LNCH				*i* S	Sb	05 15 55.2	-0.5
CCHI	**Chillan**	**1.22**	**159**	*e*P	Pn	05 15 47.8	-0.1
CCHI				*i* S	Sn	05 16 04.2	+0.8
CCHI				AML	AML	05 16 11.3	
	comp=E,3μm,0.5s						
CCHI	**Chillan**	**1.22**	**159**	*e*P	Pn	05 15 47.8	-0.1
CCHI				*i* S	Sn	05 16 04.2	+0.8
NICH	**Los Niches**	**1.23**	**68**	*i* P	Pn	05 15 48.0	-0.2
NICH				*i* S	Sn	05 16 04.8	+0.8
SFDO	**San Fernando**	**1.57**	**58**	⇓*i*P	Pn	05 15 53.0	+0.2
LNV	**Longovilo**	**1.81**	**34**	*i* P	Pn	05 15 57.1	+1.0
CACH	**El Canelo**	**2.15**	**52**	*e*P	Pn	05 16 02.4	+1.7
CICH	**Cipreses**	**2.15**	**58**	*e*P	Pn	05 16 02.3	+1.6
LCCH	**Las Cruces**	**2.17**	**24**	*e*P	Pn	05 16 02.2	+1.1
CHCH	**Chadas Angostu**	**2.23**	**47**	*e*P	Pn	05 16 03.4	+1.5
TACH	**Talagante**	**2.29**	**38**	*e*P	Pn	05 16 03.6	+1.0
ANTU	**Antumapu**	**2.51**	**42**	*e*P	Pn	05 16 07.4	+1.7
ANTU				*i* S	Sn	05 16 35.3	-0.1
ANTU				AML	AML	05 16 45.5	
	comp=E,768nm,0.4s						
ANTU	**Antumapu**	**2.51**	**42**	*e*P	Pn	05 16 07.4	+1.7
ANTU				S	Sn	05 16 35.3	-0.1
PCH	**Pirque**	**2.54**	**44**	*e*P	Pn	05 16 07.5	+1.4
LMEL	**Las Melosas**	**2.57**	**52**	*e*P	Pn	05 16 08.4	+1.9
LMEL				*i* S	Sn	05 16 40.1	+3.2
LMEL				AML	AML	05 16 48.2	
	comp=E,504nm,0.7s						
LMEL	**Las Melosas**	**2.57**	**52**	*e*P	Pn	05 16 08.4	+1.9
LMEL				*i* S	Sn	05 16 40.1	+3.2
CLCH	**Cerro Calan**	**2.69**	**40**	*e*P	Pn	05 16 09.5	+1.2
CLCH				AML	AML	05 17 00.5	
	comp=N,585nm,0.9s						

NNC 26 05:20:16.2±4.3, 5428N×8667E, h0km, mb4.0, mpv3.6, 9C-3D, Error ellipse: s-maj=41.2km s-min=24.9km az=80.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**6.07**	**237**	⇓Pn	Pn	05 21 47.2	0.0
	5.4nm,0.9s						
KURK				⇑Sn	Sn	05 23 02.4	+4.9
	3.3nm,0.7s						
KURK				⇑Lg		05 23 30.4	
	19nm,1.0s						
MK02	**Makanchi Array**	**8.02**	**202**	⇓Pn	Pn	05 22 13.4	-0.6
	2.3nm,0.6s,baz=29,slow=11						
MK02				⇑Sn	Sn	05 23 43.7	-1.5
	4.5nm,0.8s,baz=26,slow=28						
MK02				⇑Lg		05 24 31.0	
	7.7nm,0.8s,baz=30,slow=30						
VOSK	**Vostochnaya**	**9.48**	**267**	⇑Pn	Pn	05 22 34.1	+0.1
	2.4nm,0.7s						
VOSK				⇑Sn	Sn	05 24 15.8	-5.5
	7.8nm,0.7s						
CHKZ	**Chkalovo**	**9.48**	**273**	⇑Pn	Pn	05 22 34.2	+0.2
	2.2nm,1.0s						
CHKZ				⇑Sn	Sn	05 24 14.3	-7.0
	3.0nm,0.7s						
ZRNK	**Zerenda**	**10.58**	**270**	⇓Pn	Pn	05 22 49.4	+0.3
	2.4nm,0.7s						
ZRNK				⇑Sn	Sn	05 24 50.9	+2.6
	6.4nm,0.8s						

*IDC **26** 05:34:28.7±11.0, 6028N×16848E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.4/23, mbtmp3.3/4, Error ellipse: s-maj=375.5km s-min=30.5km az=170.0*
*ISCJB **26** 05:34:31.6±0.7, 6133N±004×1680E±01, h10km, mb3.5/3, Error ellipse: s-maj=10.0km s-min=5.8km az=39.9*
*KRSC **26** 05:34:31.1±1.2, 6137N×168.13E, h18km±10km, ML3.9*
*MOS **26** 05:34:32.1±1.7, 6131N×167.85E, h11km, mb3.7/2, Error ellipse: s-maj=83.9km s-min=32.8km az=80.4*

ISC 26 05:34:33.4±0.7, 6137N±004×1678E±01, h10km, n16, σ1s09/19, mb3.5/3, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TILR	**Tilichiki**	**1.28**	**223**	*e*P	**Pn**	**05 34 55.2**	**-2.1**
TILR				*e*S	**Sb**	**05 35 13.7**	**-0.3**
TILR				Smax			
	5μm,0.8s						
KAMR	**Kamenskoye**	**1.32**	**326**	*i* P	**Pn**	**05 34 56.7**	**-1.3**
KAMR				*e*S	**Sb**	**05 35 15.4**	**0.0**
KAMR				Smax			
	2μm,0.8s						
OSSR	**Ossora**	**3.18**	**230**	*e*P	**Pn**	**05 35 23.3**	**-0.2**
KBTR	**Krutoberegovo**	**5.79**	**209**	*e*P	**Pn**	**05 35 58.9**	**-0.5**
SMKR	**Semkarok**	**5.82**	**217**	*e*P	**Pn**	**05 36 00.4**	**+0.7**
SRKR	**Sorokina**	**5.84**	**219**	*e*P	**Pn**	**05 36 00.7**	**+0.6**
CIRR	**Tsirk**	**6.42**	**218**	*e*P	**Pn**	**05 36 08.9**	**+0.8**
ZLN	**Zelenaya**	**6.49**	**217**	*e*P	**Pn**	**05 36 09.1**	**+0.1**
BILL	**Bilibino**	**6.73**	**355**	*e*PN	**Pn**	**05 36 13.1**	**+0.9**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.5s						
BILL				pmax	pmax		
	comp=N,38nm,0.9s						
BILL	**Bilibino**	**6.73**	**355**	*e*P	**Pn**	**05 36 11.8**	**-0.4**
BILL				*e*S	**Sn**	**05 37 24.4**	**-4.5**
ILAR	**Eielson Array**	**20.45**	**61**	P	**P**	**05 39 08.7**	**-2.3**
	comp=N,0.7nm,0.8s,baz=275,slow=11,SNR=9.5						
ILAR	**Eielson Array**	**20.45**	**61**	P	**P**	**05 39 08.7**	**-2.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	**Inuvik**	**24.95**	**49**	P	**P**	**05 39 57.1**	**+0.3**
	comp=Z,2.4nm,0.7s,mb3.8,baz=295,slow=8.7,SNR=12						
INK	**Inuvik**	**24.95**	**49**	P	**P**	**05 39 57.2**	**+0.3**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	**Yellowknife Ar**	**34.48**	**53**	P	**P**	**05 41 22.8**	**+1.3**
	comp=Z,0.1nm,0.3s,mb3.2,baz=302,slow=8.0,SNR=2.7						
MKAR	**Makanchi Array**	**48.50**	**294**	P	**P**	**05 43 18.4**	**+2.0**
	comp=Z,0.3nm,0.6s,mb3.5,baz=46,slow=10,SNR=3.5						

*IDC **26** 05:47:11.8±1.0, 2072S×17471W, h0km, mb4.0/8, mb1 4.3/8, mb1mx4.1/16, mbtmp4.0/8, MS3.4/1, Ms1 3.4/1, ms1mx2.7/24, Error ellipse: s-maj=34.4km s-min=22.9km az=131.0*
*ISCJB **26** 05:47:12.4±1.0, 205S±01×1744W±02, h33km, mb4.0/11, Error ellipse: s-maj=28.8km s-min=8.6km az=58.8*
*NEIC **26** 05:47:17.1±0.7, 2073S×17477W, h35km, mb4.4/2, Error ellipse: s-maj=23.1km s-min=15.5km az=133.0*

ISC 26 05:47:15.0±0.9, 206S±01×1744W±02, h35km, n18, σ1s19/15, mb4.0/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.07**	**21**	Pn	**Pn**	**05 48 55.8**	**-0.2**
	7.7nm,0.3s,baz=40,slow=21,SNR=5.6						
AFI				Sn	**Sn**	**05 50 14.8**	**-0.3**
	3.4nm,0.3s,baz=260,slow=20,SNR=2.4						
RAR	**Rarotonga**	**13.67**	**95**	Pn	**Pn**	**05 50 16.5**	**-10**
	4.7nm,0.3s,baz=282,slow=8.2,SNR=10.0						
DZM	**Mont Dzumac**	**17.93**	**262**	P	**Pn**	**05 51 24.9**	**+3.4**
	0.3nm,0.3s,baz=57,slow=16,SNR=6.5						
URZ	**Urewera**	**19.11**	**201**	LR	LR	05 57 49.1	
	comp=Z,129nm,21.6s,baz=284,slow=34						
RPZ	**Rata Peaks**	**26.09**	**204**	P	**P**	**05 52 46.3**	**+1.0**
	9.4nm,0.7s,mb4.5,baz=86,slow=22,SNR=4.3						
CTA	**Charters Tower**	**36.86**	**264**	P	**P**	**05 54 20.1**	**+0.2**
	0.8nm,0.3s,mb4.0,baz=96,slow=7.5,SNR=5.3						
STKA	**Stephens Creek**	**40.82**	**245**	P	**P**	**05 54 48.9**	**-4.2**
	1.1nm,0.5s,mb3.8,baz=349,slow=24,SNR=3.6						
ASAR	**Alice Springs**	**47.80**	**256**	P	**P**	**05 55 48.2**	**-0.7**
	2.8nm,0.7s,mb4.4,baz=102,slow=7.4,SNR=35						
WRAB	**Tennant Creek**	**47.94**	**261**	*e*P	**P**	**05 55 49.4**	**-0.6**
	2.0nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**47.95**	**261**	P	**P**	**05 55 48.9**	**-1.2**
	0.9nm,0.7s,mb3.9,baz=91,slow=6.0,SNR=15						
VNDA	**Vanda**	**58.17**	**186**	P	**P**	**05 57 05.0**	**-0.4**
	0.6nm,0.8s,mb3.7,baz=357,slow=5.8,SNR=3.0						
MBWA	**Marble Bar**	**61.14**	**257**	*e*P	**P**	**05 57 24.8**	**-1.1**
	2.1nm,0.5s,mb4.5						
MJAR	**Matsushiro Arr**	**72.32**	**322**	P	**P**	**05 58 39.3**	**+2.2**
	1.8nm,0.6s,mb4.2,baz=149,slow=7.0,SNR=6.4						
NVAR	**Mina Array Bea**	**78.78**	**42**	P	**P**	**05 59 17.8**	**+3.7**
	0.5nm,0.6s,mb3.6,baz=225,slow=11,SNR=4.5						
ILAR	**Eielson Array**	**87.66**	**11**	P	**P**	**06 00 03.6**	**+3.7**
	0.4nm,0.8s,mb3.7,baz=214,slow=6.1,SNR=4.3						
AKASG	**Malin Array Be**	**144.64**	**334**	PKP	PKPdf	06 06 48.6	+0.7
	1.7nm,0.5s,baz=40,slow=3.9,SNR=14						
BRTR	**Keskin Array B**	**149.34**	**315**	PKPbc	PKPbc	06 07 03.0	+2.9
	0.6nm,0.7s,baz=64,slow=3.4,SNR=3.6						
GERES	**GERESS Array B**	**151.05**	**349**	PKPbc	PKPbc	06 07 07.3	+3.1
	0.3nm,0.4s,baz=14,slow=2.0,SNR=3.6						

*NEIC **26** 05:47:49.7, 2612S×7067W, h48km, MG3.1(GUC), After GUC.*

GUC 26 05:47:49.7±0.7, 2612S×7067W, h48km±8km, MD3.9, ML3.1, 3C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRCH	**Chaqaral**	**0.23**	**170**	⇑*i*P	Pn	05 48 00.0	+2.0
CRCH				*i* S	Sn	05 48 06.3	+2.5
CDCH	**Caldera**	**0.96**	**189**	*e*P	Pn	05 48 07.6	+0.8
CDCH				*i* S	Sn	05 48 20.4	+1.0
CPCH	**Copiapo**	**1.26**	**167**	⇑*i*P	Pn	05 48 11.7	+0.7
CPCH				*i* S	Sn	05 48 27.9	+1.2
CPCH				AML	AML	05 48 29.7	
	comp=E,6μm,0.1s						
CPCH	**Copiapo**	**1.26**	**167**	⇑*i*P	Pn	05 48 11.7	+0.7
CPCH				*i* S	Sn	05 48 27.9	+1.2
CPN1	**Cerro Paranal**	**1.51**	**9**	*e*P	Pn	05 48 15.7	+1.5
CPN1				*i* S	Sn	05 48 35.3	+2.7
CPN1				AML	AML	05 48 40.6	
	comp=N,127nm,0.7s						
ANCH	**Antofagasta**	**2.44**	**6**	*e*P	Pn	05 48 27.4	+0.4
ANCH				*i* S	Sn	05 48 56.0	+0.4
CEN1	**Los Morros**	**2.75**	**9**	*i* P	Pn	05 48 28.9	-2.4
CEN1				*i* S	Sn	05 48 59.3	-4.0
CEN1				AML	AML	05 49 09.5	
	comp=E,40nm,0.7s						

GUC 26 06:01:23.4±0.7, 3399S×7001W, h8km±3km, MD3.6, ML1.7, 3C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LMEL	**Las Melosas**	**0.21**	**311**	⇑*i*P	Pg	06 01 27.8	+0.1
LMEL				*i* S	Sg	06 01 31.5	+0.9
LMEL				AML	AML	06 01 32.0	
	comp=N,428nm,0.1s						
SJCH	**San Jose de Ma**	**0.45**	**320**	*e*P	Pg	06 01 31.6	-0.6
SJCH				*i* S	Sg	06 01 38.3	+0.2
SJCH				AML	AML	06 01 38.9	
	comp=N,101nm,0.3s						
CICH	**Cipreses**	**0.48**	**226**	*i* P	Pg	06 01 32.6	0.0
CICH				*i* S	Sg	06 01 39.6	+0.7
CACH	**El Canelo**	**0.51**	**255**	⇓*i*P	Pg	06 01 33.2	0.0
CACH				*i* S	Sg	06 01 40.3	+0.5
CHCH	**Chadas Angostu**	**0.54**	**276**	⇑*i*P	Pg	06 01 33.6	-0.2
CHCH				*i* S	Sg	06 01 41.2	+0.4
PCH	**Pirque**	**0.56**	**311**	*i* P	Pg	06 01 34.3	+0.1
PCH				*i* S	Sg	06 01 42.2	+0.7
ANTU	**Antumapu**	**0.67**	**309**	*e*P	Pg	06 01 36.1	-0.1
ANTU				*i* S	Sg	06 01 45.6	+0.7
ANTU				AML	AML	06 01 46.6	
	comp=E,52nm,0.2s						
TACH	**Talagante**	**0.84**	**293**	⇑*i*P	Pg	06 01 39.4	-0.2
LCCH	**Las Cruces**	**1.40**	**291**	*i* S	Sb	06 02 07.1	-0.7

*ISCJB **26** 06:03:50.3±2.0, 1825S±01×1757W±02, h223km±24km, mb3.8/8, Error ellipse: s-maj=26.5km s-min=21.3km az=40.3*
*IDC **26** 06:03:50.9±2.5, 1819S×17563W, h213km±29km, mb3.6/6, mb1 3.9/7, mb1mx3.6/16, mbtmp4.2/7, Error ellipse: s-maj=30.4km s-min=17.1km az=110.0*
*NEIC **26** 06:03:50.7±1.5, 1821S×17566W, h211km±21km, mb4.2/3, Error ellipse: s-maj=20.8km s-min=14.4km az=78.0*

ISC 26 06:03:51.6±1.8, 1825±01×1755W±02, h223km±23km, n13, σ0s36/14, mb3.8/8, 2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.60**	**41**	P	**Pn**	**06 05 14.0**	**0.0**
	3.2nm,0.3s,baz=43,slow=23,SNR=3.4						
AFI				S	**S**	**06 06 14.0**	**-5.6**
	22nm,0.3s,baz=51,slow=24,SNR=9.7						
URZ	**Urewera**	**20.98**	**196**	P	**P**	**06 08 17.6**	**-0.1**
	6.8nm,0.5s,baz=91,slow=19,SNR=8.3						
WB2	**Warramunga Arr**	**47.26**	**259**	*e*P	**P**	**06 12 01.5**	**-0.8**
WRA	**Warramunga Arr**	**47.27**	**259**	P	**P**	**06 12 02.0**	**-0.4**
	1.4nm,0.4s,mb3.7,baz=97,slow=7.4,SNR=72						
AS31	**Alice Springs**	**47.34**	**254**	⇓*i*P	**P**	**06 12 03.1**	**+0.1**
ASAR	**Alice Springs**	**47.35**	**254**	P	**P**	**06 12 03.2**	**+0.2**
	9.5nm,0.6s,mb4.3,baz=90,slow=8.3,SNR=124						
ASPA	**Alice Springs**	**47.35**	**254**	⇓*i*P	**P**	**06 12 03.1**	**+0.1**
KAKA	**Kakadu**	**50.31**	**268**	*e*P	**P**	**06 12 25.6**	**+0.1**
	1.3nm,0.4s,mb3.6						
FITZ	**Fitzroy Crossi**	**55.68**	**260**	*e*P	**P**	**06 13 05.1**	**+0.5**
	2.0nm,0.3s,mb4.1						
VNDA	**Vanda**	**60.39**	**186**	P	**P**	**06 13 37.5**	**+0.3**
	0.5nm,0.7s,mb3.2,baz=15,slow=6.8,SNR=3.8						
MJAR	**Matsushiro Arr**	**69.81**	**322**	P	**P**	**06 14 38.2**	**+0.5**
	1.5nm,0.6s,mb3.8,baz=147,slow=5.4,SNR=4.9						
QSPA	**South Pole Qui**	**71.84**	**180**	*e*P	**P**	**06 14 49.9**	**-0.1**
	5.9nm,1.1s,mb4.1						
ILAR	**Eielson Array**	**85.59**	**12**	P	**P**	**06 16 04.3**	**-0.4**
	0.5nm,0.5s,mb3.5,baz=230,slow=6.1,SNR=11						

*ISCJB **26** 06:08:33.6±3.7, 4.1N±02×949E±02, h56km±31km, mb4.1/10, Error ellipse: s-maj=46.0km s-min=13.8km az=99.9*
*IDC **26** 06:08:34.2±4.9, 4.04N×9482E, h42km±41km, mb3.9/8, mb1 4.0/9, mb1mx3.8/21, mbtmp4.1/9, ML3.7/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/23, Error ellipse: s-maj=51.9km s-min=16.2km az=49.0*
*NEIC **26** 06:08:34.6±2.4, 4.02N×9482E, h48km±19km, mb4.6/2, Error ellipse: s-maj=29.4km s-min=8.5km az=54.0*

ISC 26 06:08:38.4±2.7, 43N±01×951E±02, h75km±24km, n16, σ0s80/16, mb4.1/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**4.10**	**111**	P	**Pn**	**06 09 38.1**	**-0.5**
	3.9nm,0.3s,baz=315,slow=12,SNR=26						
PSI				S	**Sn**	**06 10 26.6**	**+1.3**
	5.9nm,0.3s,baz=118,slow=11,SNR=6.4						
PSI				LR	LR	06 11 29.4	
	comp=Z,257nm,21.1s,baz=234,slow=41						
KULM	**Kulim**	**5.64**	**79**	*e*Pn	**Pn**	**06 09 59.8**	**+0.2**
KULM				*e*Sn	**Sn**	**06 11 01.2**	**-1.7**
FITZ	**Fitzroy Crossi**	**37.44**	**127**	*e*P	**P**	**06 15 43.2**	**-1.1**
	7.4nm,0.8s,mb4.7						
MKAR	**Makanchi Array**	**43.78**	**347**	P	**P**	**06 16 37.5**	**+0.9**
	5.3nm,0.6s,mb4.4,baz=166,slow

mb1 3.7/14,mb1mx3.6/28,mbtmp3.8/14,ML3.8/6,MS3.1/5, Ms1 3.1/5,ms1mx2.7/31,Error ellipse: s-maj=18.8km s-min=16.2km az=118.0

THE ***26*** *06:20:14.9,3657N×2145E,h24km,ML3.9*

ISC 26 06:20:13.8±0.3,3648N±002×2130E±003,h35km,n116, σ1§32/145,mb3.8/11,MS3.1/3,18C-6D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ITM	**Ithomi**	**0.86**	**36**	*e*PN	**Pn**	**06 20 28.2**	**-1.1**
ITM				*e*SN	**Sn**	**06 20 39.8**	**-0.9**
VLI	**Veliai**	**1.34**	**79**	*e*PN	**Pn**	**06 20 37.6**	**+1.7**
VLI				*e*SN	**Sn**	**06 20 56.4**	**+3.9**
KYTH	**Kithira**	**1.42**	**98**	*e*PN	**Pn**	**06 20 39.0**	**+2.0**
RLS	**Riolos of Patr**	**1.58**	**5**	*e*PN	**Pn**	**06 20 40.0**	**+0.8**
RLS				*e*SN	**Sn**	**06 21 00.0**	**+1.6**
VLS	**Valsamata**	**1.78**	**342**	*e*PN	**Pn**	**06 20 42.7**	**+0.7**
VLS				*e*SN	**Sn**	**06 21 04.6**	**+1.1**
NAIG	**Nisos Aigina**	**2.17**	**53**	*e*PB	**Pn**	**06 20 48.7**	**+1.4**
MGER	**Gerania Oros**	**2.17**	**46**	*e*PN	**Pn**	**06 20 47.5**	**+0.2**
LKD	**Levkas**	**2.28**	**347**	*e*Pn	**Pn**	**06 20 50.6**	**+1.8**
KARN	**Karanos**	**2.38**	**116**	*e*Pn	**Pn**	**06 20 51.9**	**+1.6**
KVR	**Kavouri**	**2.39**	**55**	*e*PN	**Pn**	**06 21 51.0**	**+0.7**
ATH	**Athens Observa**	**2.44**	**52**	*e*PN	**Pn**	**06 20 51.2**	**+0.2**
LKR	**Lokris**	**2.55**	**31**	*e*PN	**Pn**	**06 20 53.5**	**+0.9**
PTL	**Penteli**	**2.58**	**52**	*e*PN	**Pn**	**06 20 52.8**	**-0.1**
VAM	**Vamos**	**2.59**	**114**	*e*PN	**Pn**	**06 20 54.8**	**+1.7**
AGG	**Agios Georgios**	**2.66**	**18**	*e*Pn	**Pn**	**06 20 54.8**	**+0.7**
GVD	**Gavdhos**	**2.80**	**125**	*e*Pn	**Pn**	**06 20 57.1**	**+1.0**
GVD	**Gavdhos**	**2.80**	**125**	*e*Pn	**Pn**	**06 20 57.0**	**+1.0**
GVD	**Gavdhos**	**2.80**	**125**	*e*Pn	**Pn**	**06 20 57.0**	**+1.0**
IGT	**Igoumenitsa**	**3.14**	**346**	*e*Pn	**Pn**	**06 21 01.1**	**+0.4**
IGT				*e*Sn	**Sn**	**06 21 38.7**	**+1.8**
IDI	**Anoyia**	**3.15**	**111**	Pn	**Pn**	**06 21 02.3**	**+1.4**
	2.3nm,0.3s,baz=307,slow=18,SNR=14						
IDI				Sn	**Sn**	**06 21 40.2**	**+3.0**
	41nm,0.3s,baz=318,slow=20,SNR=19						
IDI				LR	LR	06 22 43.4	
	comp=Z,181nm,18.0s,baz=222,slow=47						
IDI	**Anoyia**	**3.15**	**111**	Pn	**Pn**	**06 21 02.3**	**+1.5**
IDI				Sn	**Sn**	**06 21 40.2**	**+3.0**
NEO	**Neokhori**	**3.20**	**28**	P	**Pn**	**06 21 03.2**	**+1.6**
XOR	**Xorichti**	**3.25**	**27**	*e*Pn	**Pn**	**06 21 02.6**	**+0.4**
XOR	**Xorichti**	**3.25**	**27**	P	**Pn**	**06 21 02.5**	**+0.4**
AOS	**Alonnisos**	**3.37**	**37**	*e*Pn	**Pn**	**06 21 03.6**	**-0.3**
KEK	**Kerkira**	**3.44**	**340**	*e*PN	**Pn**	**06 21 04.8**	**0.0**
APE	**Apeiranthos**	**3.45**	**79**	*e*Pn	**Pn**	**06 21 04.8**	**-0.1**
SRN	**Sarande**	**3.54**	**344**	*i* Pn	**Pn**	**06 21 02.0**	**-4.2**
SRN	**Sarande**	**3.54**	**344**	*e*Pn	**Pn**	**06 21 02.0**	**-4.2**
LAST	**Lasithi**	**3.64**	**110**	*e*Pn	**Pn**	**06 21 08.4**	**+0.8**
LSK	**Leskovik**	**3.70**	**352**	*i* Pn	**Pn**	**06 21 09.0**	**+0.6**
LSK	**Leskovik**	**3.70**	**352**	*e*Pn	**Pn**	**06 21 09.0**	**+0.6**
LIT	**Litokhoron**	**3.73**	**14**	*e*Pn	**Pn**	**06 21 10.1**	**+1.3**
PAIG	**Paliouri**	**3.92**	**28**	*e*Pn	**Pn**	**06 21 11.7**	**+0.3**
XRY	**Khrisi**	**3.92**	**113**	*e*PN	**Pn**	**06 21 13.3**	**+1.9**
FNA	**Florina**	**4.29**	**1**	*e*Pn	**Pn**	**06 21 17.2**	**+0.6**
OUR	**Ouranopolis**	**4.38**	**28**	*e*Pn	**Pn**	**06 21 18.2**	**+0.4**
TIP	**Timpagrande**	**4.49**	**308**	*e*Pn	**Pn**	**06 21 19.7**	**+0.4**
TIP				Sn	**Sn**	**06 22 04.5**	**-5.8**
TIP				Sn	**Sn**	**06 22 07.6**	**-2.6**
TIP	**Timpagrande**	**4.49**	**308**	*e*Pn	**Pn**	**06 21 19.7**	**+0.4**
TIP				Sn	**Sn**	**06 22 04.4**	**-5.8**
BIA	**Bitola**	**4.53**	**0**	*i* Pn	**Pn**	**06 21 20.1**	**+0.2**
BIA	**Bitola**	**4.53**	**0**	*i* Pn	**Pn**	**06 21 20.0**	**+0.2**
GRG	**Griva**	**4.55**	**11**	*e*Pn	**Pn**	**06 21 20.6**	**+0.5**
SOH	**Sokhos**	**4.62**	**20**	*e*Pn	**Pn**	**06 21 22.1**	**+1.1**
MTTG	**Motta San Giov**	**4.72**	**290**	Pn	**Pn**	**06 21 23.2**	**+0.8**
KNT	**Kendrikon**	**4.84**	**14**	*e*Pn	**Pn**	**06 21 25.1**	**+1.1**
VAY	**Valandovo**	**4.93**	**11**	*i* Pn	**Pn**	**06 21 25.9**	**+0.6**
HAVL	**Avola**	**4.98**	**277**	Pn	**Pn**	**06 21 27.3**	**+1.3**
HAVL				Sn	**Sn**	**06 22 22.5**	**+0.1**
STIP	**Stip**	**5.25**	**7**	*i* Pn	**Pn**	**06 21 30.4**	**+0.7**
PE1	**Pezze di Greco**	**5.28**	**326**	*e*Pn	**Pn**	**06 21 29.5**	**-0.5**
HVZN	**Vizzini**	**5.33**	**279**	Pn	**Pn**	**06 21 34.9**	**+1.1**
HVZN				Sn	**Sn**	**06 22 29.7**	**-1.2**
CUC	**Castrocucco**	**5.56**	**311**	Pn	**Pn**	**06 21 36.1**	**+2.2**
	34nm,0.5s						
VAE	**Valguarnera**	**5.60**	**282**	Pn	**Pn**	**06 21 37.9**	**+3.4**
	3.9nm,0.3s,baz=165,slow=2.8,SNR=2.2						
VAE				Sn	**Sn**	**06 22 36.3**	**-1.3**
	5.1nm,0.3s,baz=104,slow=8.3,SNR=1.9						
SG1	**Sgolgore (BA)**	**5.66**	**322**	*e*Pn	**Pn**	**06 21 35.8**	**+0.5**
ULC	**Ulcinj**	**5.70**	**344**	⇑*i*Pn	**Pn**	**06 21 34.6**	**-1.3**
ULC				*e*Sn	**Sn**	**06 22 35.7**	**-4.4**
MGR	**Morigerati**	**5.81**	**311**	Pn	**Pn**	**06 21 39.6**	**+2.3**
	16nm,0.4s						
SLCN	**Sala Consilina**	**5.92**	**313**	Pn	**Pn**	**06 21 41.6**	**+2.8**
	54nm,0.5s						
SLUM		**5.95**	**146**	⇓P	**Pn**	**06 21 38.6**	**-0.6**
BUM	**Brajici-Budva**	**6.10**	**343**	⇑*i*Pn	**Pn**	**06 21 39.8**	**-1.6**
BUM				*e*Sn	**Sn**	**06 22 44.6**	**-5.3**
TTG	**Podgorica**	**6.14**	**346**	⇑*i*Pn	**Pn**	**06 21 40.7**	**-1.3**
TTG				*e*Sn	**Sn**	**06 22 46.4**	**-4.6**
PVY	**Plav**	**6.19**	**351**	⇑*i*Pn	**Pn**	**06 21 43.0**	**+0.4**
PVY				*e*Sn	**Sn**	**06 22 49.5**	**-2.6**
PVY	**Plav**	**6.19**	**351**	⇑*i*Pn	**Pn**	**06 21 43.0**	**+0.4**
MRLC	**Muro Lucano**	**6.24**	**315**	Pn	**Pn**	**06 21 45.0**	**+1.8**
HCY	**Herceg Novi**	**6.34**	**341**	⇑*i*Pn	**Pn**	**06 21 42.9**	**-1.7**
HCY				*e*Sn	**Sn**	**06 22 49.4**	**-6.3**
IVA	**Berane**	**6.47**	**351**	⇑*i*Pn	**Pn**	**06 21 46.2**	**-0.1**
IVA				*e*Sn	**Sn**	**06 22 55.8**	**-3.3**
NKY	**Niksic**	**6.57**	**345**	⇑*i*Pn	**Pn**	**06 21 47.0**	**-0.8**
NKY				*e*Sn	**Sn**	**06 22 56.3**	**-5.1**
BRY	**Bratogost**	**6.75**	**343**	⇑*i*Pn	**Pn**	**06 21 48.9**	**-1.4**
BRY				*e*Sn	**Sn**	**06 22 59.8**	**-6.2**
RGNG	**Rignano Grg**	**6.83**	**321**	Pn	**Pn**	**06 21 52.7**	**+1.4**
STON	**Ston**	**6.96**	**338**	*i* Pn	**Pn**	**06 21 51.1**	**-2.1**
STON				*i* Sn	**Sn**	**06 23 03.2**	**-7.8**
PLE	**Pljevlja**	**6.99**	**349**	⇑*i*Pn	**Pn**	**06 21 52.8**	**-0.8**
PLE				*e*Sn	**Sn**	**06 23 08.0**	**-3.9**
BBLS	**Bajina Basta -**	**7.52**	**350**	⇑*i*Pn	**Pn**	**06 22 03.2**	**+2.3**
DIVS	**Divcibare**	**7.67**	**353**	⇑*i*Pn	**Pn**	**06 22 01.6**	**-1.3**
SWA2		**8.02**	**153**	P	**Pn**	**06 22 07.9**	**+0.2**
SWA2				S	**Sn**	**06 23 31.9**	**-5.2**
SWA1		**8.10**	**152**	⇓P	**Pn**	**06 22 08.9**	**+0.1**
SWA1				S	**Sn**	**06 23 33.1**	**-5.9**
NRCA	**Norcia**	**8.94**	**318**	Pn	**Pn**	**06 22 22.6**	**+2.2**
	6.6nm,0.6s						
MLR	**Muntele Rosu**	**9.66**	**20**	Pn	**Pn**	**06 22 28.0**	**-2.2**
	0.1nm,0.3s,baz=163,slow=11,SNR=2.6						
KOT	**Kottamia**	**10.97**	**124**	P	**Pn**	**06 22 46.6**	**-1.6**
KOT				S	**Sn**	**06 24 38.0**	**-12**
HSAF	**As Saff**	**10.99**	**126**	⇑P	**Pn**	**06 22 46.8**	**-1.7**
GLL	**Jalalah**	**11.12**	**125**	⇑P	**Pn**	**06 22 48.1**	**-2.1**
OBKA	**Obir**	**11.22**	**335**	⇑*i*Pn	**Pn**	**06 22 50.1**	**-1.5**
OBKA				⇑*i*Sn	**Sn**	**06 24 46.2**	**-10**
AMAG	**Maghara**	**11.51**	**117**	⇓P	**Pn**	**06 22 53.4**	**-2.2**
MMAI	**Mount Meron Ar**	**12.11**	**102**	Sn	**Sn**	**06 25 07.8**	**-10**
	1.6nm,0.3s,baz=296,slow=23,SNR=2.7						
MOA	**Molln**	**12.49**	**338**	⇑*i*Pn	**Pn**	**06 23 08.1**	**-0.8**
MOA				⇓*i*Sn	**Sn**	**06 25 18.0**	**-8.9**
ASUT		**12.56**	**133**	⇓P	**Pn**	**06 23 08.5**	**-1.5**
TR2		**13.23**	**124**	⇓P	**Pn**	**06 23 17.3**	**-1.7**
HKAT	**Jabal Katrina**	**13.32**	**123**	P	**Pn**	**06 23 19.1**	**-1.2**
DAVOX	**Davos**	**13.36**	**324**	Pn	**Pn**	**06 23 19.1**	**-1.7**
	0.3nm,0.3s,baz=114,slow=20,SNR=2.0						
DAVOX				Sn	**Sn**	**06 25 38.2**	**-10**
	0.3nm,0.3s,baz=135,slow=17,SNR=2.4						
GERES	**GERESS Array B**	**13.55**	**338**	Pn	**Pn**	**06 23 22.4**	**-1.0**
	0.4nm,0.3s,baz=158,slow=12,SNR=5.8						
GERES				Sn	**Sn**	**06 25 40.4**	**-12**
	0.2nm,0.3s,baz=141,slow=36,SNR=2.9						
ASF	**Jabal al Asfar**	**13.59**	**104**	Sn	**Sn**	**06 25 43.6**	**-10**
	0.2nm,0.3s,baz=46,slow=11,SNR=2.2						
TR1		**13.63**	**125**	P	**Pn**	**06 23 23.2**	**-1.3**
TR1		**13.63**	**125**	P	**Pn**	**06 23 23.2**	**-1.3**
HHRG	**Al Ghardaqah**	**13.92**	**128**	⇑P	**Pn**	**06 23 26.9**	**-1.5**
AKASG	**Malin Array Be**	**15.31**	**19**	Pn	**Pn**	**06 23 44.4**	**-2.8**
	0.9nm,0.3s,baz=207,slow=12,SNR=7.2						
AKASG	**Malin Array Be**	**15.31**	**19**	P	**Pn**	**06 23 44.4**	**-2.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GNI	**Garni**	**18.74**	**72**	LR	LR	06 32 58.3	
	comp=Z,56nm,20.6s,baz=5.4,slow=41						
HFS	**Hagfors**	**24.17**	**351**	P	**P**	**06 25 25.5**	**-1.2**
	comp=Z,1.6nm,0.5s,mb3.8,baz=156,slow=11,SNR=9.1						
HFS				LR	LR	06 35 50.2	
	comp=Z,25nm,21.2s,MS2.7,baz=327,slow=39						
HFS	**Hagfors**	**24.17**	**351**	P	**P**	**06 25 25.5**	**-1.1**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HFS				MLR	MLR		
	comp=Z,25nm,21.2s						
FINES	**FINESS Array B**	**25.16**	**5**	P	**P**	**06 25 34.5**	**-1.2**
	comp=Z,0.9nm,0.4s,mb3.7,baz=167,slow=12,SNR=6.2						
FINES				LR	LR	06 36 51.4	
	comp=Z,68nm,20.1s,MS3.1,baz=165,slow=40						
FINES	**FINESS Array B**	**25.16**	**5**	P	**P**	**06 25 34.5**	**-1.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES				MLR	MLR		
	comp=Z,68nm,20.1s						
NB2	**NORSAR Subarra**	**25.40**	**349**	P	**P**	**06 25 36.4**	**-1.4**
	comp=Z,1.8nm,0.9s,mb3.6,baz=155,slow=11						
NOA	**NORSAR Array B**	**25.40**	**349**	P	**P**	**06 25 37.2**	**-0.7**
	comp=Z,0.8nm,0.5s,mb3.5,baz=157,slow=8.9,SNR=5.4						
NOA	**NORSAR Array B**	**25.40**	**349**	P	**P**	**06 25 37.2**	**-0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
JOF	**Joensuu**	**27.18**	**10**	*e*p	**P**	**06 25 52.4**	**-1.5**
	comp=Z,1.5nm,0.3s,mb4.0						
JOF	**Joensuu**	**27.18**	**10**	*e*P	**P**	**06 25 52.4**	**-1.5**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.1						
TORD	**Torodi Ar. Bea**	**29.15**	**222**	P	**P**	**06 26 13.3**	**+1.9**
	comp=Z,0.6nm,0.6s,mb3.5,baz=34,slow=8.6,SNR=9.3						
AKTK	**Aktyubinsk**	**29.74**	**50**	P	**P**	**06 26 15.6**	**-1.1**
	comp=Z,1.0nm,0.5s,mb3.8						
AKTO	**Aktyubinsk**	**29.74**	**50**	P	**P**	**06 26 15.6**	**-1.2**
	comp=Z,1.1nm,0.5s,mb3.9,baz=269,slow=9.4,SNR=7.9						
AKTO	**Aktyubinsk**	**29.74**	**50**	P	**P**	**06 26 15.6**	**-1.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
ARCES	**ARCESS Array B**	**33.19**	**3**	P	**P**	**06 26 46.6**	**-0.5**
	comp=Z,0.8nm,0.7s,mb3.8,baz=193,slow=11,SNR=8.3						
ARCES				LR	LR	06 41 32.2	
	comp=Z,78nm,18.3s,MS3.5,baz=188,slow=39						
ARCES	**ARCESS Array B**	**33.19**	**3**	P	**P**	**06 26 46.6**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,78nm,18.3s						
CHKZ	**Chkalovo**	**37.97**	**47**	*e*P	**P**	**06 27 27.9**	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
CHKZ	**Chkalovo**	**37.97**	**47**	*e*P	**P**	**06 27 27.9**	**-0.2**
	comp=Z,1.3nm,0.4s,mb4.0						
CHKZ	**Chkalovo**	**37.97**	**47**	*e*P	**P**	**06 27 27.9**	**-0.1**
	comp=Z,1.3nm,0.4s,mb4.0						
DBIC	**Dimbokro**	**38.10**	**225**	P	**P**	**06 27 30.4**	**+1.2**
	comp=Z,3.7nm,0.9s,mb4.1,baz=50,slow=7.9,SNR=2.9						
DBIC	**Dimbokro**	**38.10**	**225**	P	**P**	**06 27 30.4**	**+1.2**
DBIC				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MKAR	**Makanchi Array**	**45.68**	**57**	P	**P**	**06 28 29.9**	**-1.1**
	comp=Z,0.5nm,0.4s,mb3.8,baz=270,slow=7.1,SNR=8.9						
MKAR	**Makanchi Array**	**45.68**	**57**	P	**P**	**06 28 29.9**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						

ISCJB ***26*** *06:23:49.7±0.4,3663N±003×7.17W±003,h75km±6km, Error ellipse: s-maj=4.8km s-min=2.8km az=62.7*

CSEM ***26*** *06:23:49.4±0.1,3644N×708W,h90km,ML3.9/4,Error ellipse: s-maj=2.6km s-min=1.9km az=99.0*

SFS ***26*** *06:23:50.0,3662N×709W,h0km,ML2.9*

MDD ***26*** *06:23:50.6±0.5,3648N×727W,h50km,mb4.2/20,Error ellipse: s-maj=5.0km s-min=3.5km az=38.0,PRXIMO*

NEIC ***26*** *06:23:51.5,3664N×7.12W,h14km,ML2.9(CSEM), ML2.9(LIS),MN2.9(MDD),After MDD.*

IGIL ***26*** *06:23:51.1,3660N×730W,h15km,ML2.7*

LDG ***26*** *06:23:51.4±0.3,3650N×727W,h25km,Ml3.6/4,Error ellipse: s-maj=5.8km s-min=2.5km az=24.0*

INMG ***26*** *06:23:51.8±1.2,3652N×724W,h31km,MD2.8,ML2.8, Error ellipse: s-maj=4.0km s-min=2.0km az=31.0*

CNRM ***26*** *06:23:51.9,3629N×7.31W,h24km,MD3.4*

ISC 26 06:23:51.3±0.5,3664N±003×716W±002,h61km±9km,n100, σ1§25/166,8C-1D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCRT	**Cerro San Cris**	**0.79**	**90**	P	**Pn**	**06 24 07.5**	**+0.8**
SCRT				S	**Sn**	**06 24 17.3**	**-0.7**
SCRT	**Cerro San Cris**	**0.79**	**90**	*e*P	**Pn**	**06 24 07.5**	**+0.8**
EGRO	**El Granado**	**0.93**	**344**	⇓P	**Pn**	**06 24 08.7**	**+0.3**
	5.6nm,0.1s,SNR=18						
EGRO				S	**Sn**	**06 24 21.2**	**+0.2**
	248nm,0.2s,SNR=29						
EGRO	**El Granado**	**0.93**	**344**	P	**Pn**	**06 24 08.7**	**+0.3**
	5.6nm,0.1s,SNR=18						
EGRO				S	**Sn**	**06 24 21.2**	**+0.2**
	248nm,0.2s,SNR=29						
GIBL	**Gibalbin**	**0.98**	**79**	P	**Pn**	**06 24 10.0**	**+1.0**
GIBL	**Gibalbin**	**0.98**	**79**	*e*P	**Pn**	**06 24 10.0**	**+1.0**
ESPR	**Espera**	**1.07**	**77**	⇑P	**Pn**	**06 24 10.0**	**-0.2**
	76nm,0.2s,SNR=18						
ESPR				S	**Sn**	**06 24 24.3**	**0.0**
	380nm,0.3s,SNR=7.5						
ESPR	**Espera**	**1.07**	**77**	⇑P	**Pn**	**06 24 10.1**	**-0.1**
ESPR				S	**Sn**	**06 24 24.3**	**0.0**
	380nm,0.3s,SNR=7.5						
EMIN	**Mina Concepcio**	**1.19**	**19**	⇑P	**Pn**	**06 24 12.4**	**+0.6**
	3.8nm,0.2s,SNR=18						
EMIN				S	**Sn**	**06 24 28.1**	**+1.0**
	49nm,0.1s,SNR=29						
EMIN	**Mina Concepcio**	**1.19**	**19**	P	**Pn**	**06 24 12.4**	**+0.6**
	3.8nm,0.2s,SNR=18						
EMIN				S	**Sn**	**06 24 28.1**	**+1.0**
	49nm,0.1s,SNR=29						
MORF	**Marmelete**	**1.37**	**299**	*e*P	**Pn**	**06 24 12.7**	**-1.5**
MORF				*e*S	**Sn**	**06 24 29.1**	**-2.3**
MORF				*e*S	**Sn**	**06 24 29.1**	**-2.3**
MORF				AML	AML	06 24 30.6	
	comp=N,110nm,0.1s						
MORF	**Marmelete**	**1.37**	**299**	*e*P	**Pn**	**06 24 12.7**	**-1.5**
MORF				*e*S	**Sn**	**06 24 29.1**	**-2.2**
EJIF	**Jimena Fronter**	**1.37**	**97**	P	**Pn**	**06 24 14.6**	**+0.3**
	comp=N,1.2nm,0.1s,SNR=6.5						
EJIF				S	**Sn**	**06 24 29.3**	**-2.2**
	comp=N,22nm,0.3s,SNR=10						
EJIF	**Jimena Fronter**	**1.37**	**97**	P	**Pn**	**06 24 14.6**	**+0.3**
EJIF				S	**Sn**	**06 24 33.5**	**+2.0**
EJIF	**Jimena Fronter**	**1.37**	**97**	P	**Pn**	**06 24 14.6**	**+0.3**
	comp=N,1.2nm,0.1s,SNR=6.5						
EJIF				S	**Sn**	**06 24 33.5**	**+2.0**
	comp=N,22nm,0.3s,SNR=10						
LIJA	**Lijar**	**1.43**	**79**	P	**Pn**	**06 24 15.9**	**+0.8**
LIJA	**Lijar**	**1.43**	**79**	*e*P	**Pn**	**06 24 15.9**	**+0.8**
PBEJ	**Beja**	**1.49**	**338**	*e*P	**Pn**	**06 24 16.1**	**+0.2**
PBEJ				*e*S	**Sn**	**06 24 34.5**	**+0.1**
PBEJ							
	comp=N,42nm,0.3s						
PTEO	**Sao Teotonio**	**1.54**	**306**	*i* P	**Pn**	**06 24 15.8**	**-0.7**
PTEO				*e*S	**Sn**	**06 24 34.0**	**-1.6**
PTEO							
	comp=N,53nm,0.1s						
TSY	**Tnine Yamani**	**1.59**	**142**	*i* P	**Pn**	**06 24 14.5**	**-2.7**
TSY				*i* S	**Sn**	**06 24 33.0**	**-3.8**
EMIJ	**Mijas**	**1.92**	**92**	P	**Pn**	**06 24 22.8**	**+1.1**
	comp=N,1.1nm,0.2s,SNR=13						
EMIJ				S	**Sn**	**06 24 44.3**	**-0.5**
	comp=N,36nm,0.3s,SNR=7.9						
EVO	**Evora**	**2.00**	**340**	*e*Pn	**Pn**	**06 24 23.7**	**+0.9**
EVO				*e*Sn	**Sn**	**06 24 47.0**	**+0.2**
	comp=N,76nm,0.2s						
MOE	**Montemor**	**2.10**	**334**	*e*Pn	**Pn**	**06 24 24.7**	**+0.6**
MOE				*e*Sn	**Sn**	**06 24 49.0**	**-0.2**
EBAD	**Badajoz**	**2.11**	**3**	P	**Pn**	**06 24 25.1**	**+0.8**
	comp=N,1.3nm,0.1s,SNR=18						
EBAD				S	**Sn**	**06 24 50.5**	**+1.0**
	comp=N,20nm,0.1s,SNR=5.0						
EBAD	**Badajoz**	**2.11**	**3**	P	**Pn**	**06 24 25.1**	**+0.8**
	comp=N,1.3nm,0.1s,SNR=18						
EBAD				S	**Sn**	**06 24 50.5**	**+1.1**
	comp=N,20nm,0.1s,SNR=5.0						
ELOJ	**Sierra Loja**	**2.46**	**77**	S	**Sn**	**06 24 57.8**	**-0.2**
	comp=N,16nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**2.49**	**68**	⇑P	**Pn**	**06 24 29.8**	**+0.4**
	comp=N,11nm,0.3s,SNR=18						
ELUQ				S	**Sn**	**06 24 58.6**	**+0.1**
	comp=N,14nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**2.56**	**53**	P	**Pn**	**06 24 31.3**	**+1.0**
	comp=N,1.4nm,0.1s,SNR=16						
EADA				S	**Sn**	**06 25 00.4**	**+0.1**
	comp=N,31nm,0.2s,SNR=12						
EADA	**Adamuz**	**2.56**	**53**	P	**Pn**	**06 24 31.3**	**+1.0**
	comp=N,1.4nm,0.1s,SNR=16						
EADA				S	**Sn**	**06 25 00.4**	**+0.1**
	comp=N,31nm,0.2s,SNR=12						
ERON	**Agron**	**2.72**	**81**	S	**Sn**	**06 25 03.5**	**-0.6**
	comp=N,14nm,0.3s,SNR=5.9						
ERON	**Agron**	**2.72**	**81**	S	**Sn**	**06 25 03.5**	**-0.7**
	comp=N,14nm,0.3s,SNR=5.9						
PLOU	**Loures**	**2.74**	**325**	*e*Pn	**Pn**	**06 24 33.4**	**+0.6**
PLOU				*e*Sn	**Sn**	**06 25 03.8**	**-0.9**
PLOU							
	comp=N,33nm,0.2s						
PLOU	**Loures**	**2.74**	**325**	*e*Pn	**Pn**	**06 24 33.4**	**+0.6**
PLOU				*e*Sn	**Sn**	**06 25 03.8**	**-0.9**
	comp=N,33nm,0.2s						
EGUA	**Guajares**	**2.89**	**85**	S	**Sn**	**06 25 09.1**	**+0.6**
	comp=N,3.5nm,0.3s,SNR=7.9						
EGUA	**Guajares**	**2.89**	**85**	S	**Sn**	**06 25 09.8**	**+1.3**
	comp=N,3.5nm,0.3s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.95**	**76**	S	**Sn**	**06 25 11.0**	**+1.2**
	comp=N,19nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**3.03**	**78**	P	**Pn**	**06 24 37.8**	**+1.0**
	comp=N,2.9nm,0.2s,SNR=5.6						
EQUE				S	**Sn**	**06 25 11.8**	**-0.1**
	comp=N,14nm,0.2s,SNR=8.7						
EBAN	**Banos Encina**	**3.09**	**59**	⇑P	**Pn**	**06 24 38.1**	**+0.5**
	comp=N,21nm,0.2s,SNR=18						
EBAN				S	**Sn**	**06 25 11.9**	**-1.4**
	comp=N,21nm,0.2s,SNR=5.0						
EBAN	**Banos Encina**	**3.09**	**59**	⇑P	**Pn**	**06 24 38.1**	**+0.5**
EBAN				S	**Sn**	**06 25 12.0**	**-1.2**
EBAN	**Banos Encina**	**3.09**	**59**	P	**Pn**	**06 24 38.1**	**+0.6**
	comp=N,21nm,0.2s,SNR=18						
EBAN				S	**Sn**	**06 25 12.0**	**-1.2**
	comp=N,21nm,0.2s,SNR=5.0						
PTOM	**Tomar**	**3.13**	**342**	*e*Pn	**Pn**	**06 24 39.1**	**+1.0**
PTOM				*e*Sn	**Sn**	**06 25 13.7**	**-0.6**
PTOM							
	comp=N,27nm,0.3s						
PTOM	**Tomar**	**3.13**	**342**	*e*Pn	**Pn**	**06 24 39.1**	**+1.0**
PTOM				*e*Sn	**Sn**	**06 25 13.7**	**-0.6**
	comp=N,27nm,0.3s						
PCBR	**Castelo Branco**	**3.20**	**356**	*e*Pn	**Pn**	**06 24 40.0**	**+0.9**
PCBR				*e*Sn	**Sn**	**06 25 15.9**	**-0.2**
PCBR							
	comp=N,28nm,0.2s						
PCBR	**Castelo Branco**	**3.20**	**356**	*e*Pn	**Pn**	**06 24 40.0**	**+0.9**
PCBR				*e*Sn	**Sn**	**06 25 15.9**	**-0.2**
	comp=N,28nm,0.2s						
EBER	**Berja**	**3.44**	**84**	P	**Pn**	**06 24 43.2**	**+0.9**
	comp=N,1.4nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**06 25 22.2**	**+0.4**
	comp=N,5.5nm,0.2s,SNR=5.5						
EBER	**Berja**	**3.44**	**84**	P	**Pn**	**06 24 43.2**	**+0.9**
	comp=N,1.4nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**06 25 22.2**	**+0.4**
	comp=N

IUSE	**Utxeti**	**7.63**	**33**	P		**Pn**	**06 25 42.1**	**+2.3**
	comp=N,2.1nm,0.2s,SNR=7.9							
ELIZ	**Elizondo**	**7.82**	**32**	P		**Pn**	**06 25 44.2**	**+1.9**
	comp=N,4.7nm,0.3s,SNR=13							
EALK	**Alkurruntz**	**7.87**	**32**	P		**Pn**	**06 25 44.5**	**+1.5**
	comp=N,1.8nm,0.2s,SNR=13							
EALK				S		**Sn**	**06 27 07.1**	**-3.5**
	comp=N,9.5nm,0.3s,SNR=7.9							
SJPF	**Ste Jean**	**7.91**	**33**	*e*Pn		**Pn**	**06 25 45.4**	**+1.9**
SJPF				*e*Sn		**Sn**	**06 27 10.1**	**-1.5**
	comp=N,4.9nm,0.4s							
SJPF	**Ste Jean**	**7.91**	**33**	P		**Pn**	**06 25 45.4**	**+1.9**
SJPF				S		**Sn**	**06 27 10.1**	**-1.5**
	comp=N,2.5nm,0.4s							
ETSF	**Etsaut**	**8.05**	**37**	*e*Pn		**Pn**	**06 25 47.2**	**+1.7**
ETSF				*e*Sn		**Sn**	**06 27 14.0**	**-1.1**
	comp=N,3.9nm,0.4s							
ETSF	**Etsaut**	**8.05**	**37**	P		**Pn**	**06 25 47.2**	**+1.7**
ETSF				S		**Sn**	**06 27 14.0**	**-1.1**
	comp=N,1.9nm,0.4s							
EBIE	**Bielsa**	**8.25**	**41**	P		**Pn**	**06 25 50.0**	**+1.8**
	comp=N,2.6nm,0.3s,SNR=8.2							
EBIE				S		**Sn**	**06 27 17.5**	**-2.5**
	comp=N,1.5nm,0.4s,SNR=7.9							
EBIE	**Bielsa**	**8.25**	**41**	P		**Pn**	**06 25 50.0**	**+1.8**
	comp=N,2.6nm,0.3s,SNR=8.2							
EPF	**Esparros**	**8.60**	**40**	*e*Pn		**Pn**	**06 25 55.2**	**+2.2**
EPF				*e*Sn		**Sn**	**06 27 26.5**	**-1.9**
	comp=N,4.3nm,0.4s							
EPF	**Esparros**	**8.60**	**40**	P		**Pn**	**06 25 55.2**	**+2.2**
EPF				S		**Sn**	**06 27 26.5**	**-1.9**
	comp=N,2.2nm,0.4s							
CAF	**Calviac**	**10.83**	**37**	*e*Pn		**Pn**	**06 26 23.9**	**+0.5**
RJF	**Les Rejaudoux**	**10.85**	**34**	*e*Pn		**Pn**	**06 26 23.9**	**+0.1**
MFF	**Saint Martin d**	**11.24**	**26**	*e*Pn		**Pn**	**06 26 30.5**	**+1.4**
AVF	**Avril sur Loir**	**12.81**	**34**	*e*Pn		**Pn**	**06 26 50.6**	**+0.1**
LDF	**La Druitiere**	**13.01**	**21**	*e*Pn		**Pn**	**06 26 54.1**	**+0.9**

*IDC **26** 06:36:09.5±0.8, 2050N×12000E, h0km, mb3.9/9, mb1 4.2/9, mb1mx4.0/18, mbtmp3.9/9, Error ellipse: s-maj=38.1km s-min=17.2km az=72.0*
*MAN **26** 06:36:10.2, 2044N×11992E, h1km, mb2.8, ML4.3, MS7.5*
*ISCJB **26** 06:36:11.4±2.6, 2061N±003×120.1E±0.1, h24km±20km, mb3.9/11, Error ellipse: s-maj=16.6km s-min=5.6km az=170.5*
*NEIC **26** 06:36:13.8±0.4, 2055N×120.13E, h30km, mb4.2/2, Error ellipse: s-maj=16.4km s-min=7.7km az=84.0*

ISC 26 06:36:12.6±2.9, 2061N±004×12006E±010, h19km±19km, n19, σ0=83/23, mb3.9/11, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**2.95**	**158**	*e*P	**Pn**	**06 36 57.7**	**-0.6**
APYP				*e*S	**Sn**	**06 37 33.1**	**0.0**
SGCP	**Mt. Cagua**	**3.01**	**141**	*e*P	**Pn**	**06 36 58.8**	**-0.3**
CVP	**Callao Caves**	**3.33**	**150**⇑	*e*P	**Pn**	**06 37 04.9**	**+1.3**
CVP				*e*S	**Sn**	**06 37 44.0**	**+1.4**
NACB	**Ninganchiao**	**3.83**	**22**	*e*Pn	**Pn**	**06 37 10.1**	**-0.3**
NACB				*e*Sn	**Sn**	**06 37 53.4**	**-1.4**
BOLP	**Bolinao**	**4.20**	**182**	*e*P	**Pn**	**06 37 14.4**	**-1.2**
YHNB	**Yeheng**	**4.22**	**16**	*e*Pn	**Pn**	**06 37 16.3**	**+0.4**
YHNB				*e*Sn	**Sn**	**06 38 04.5**	**-0.1**
MJAR	**Matsushiro Arr**	**22.44**	**41**	P	**P**	**06 41 11.3**	**+1.2**
	1.6nm,0.5s,mb3.8,baz=240,slow=13,SNR=11						
MJAR	**Matsushiro Arr**	**22.44**	**41**	P	**P**	**06 41 11.3**	**+1.2**
SONM	**Songino Array**	**29.33**	**341**	P	**P**	**06 42 14.9**	**+1.0**
	0.2nm,0.3s,mb3.3,baz=145,slow=8.1,SNR=2.9						
MKAR	**Makanchi Array**	**40.27**	**319**	P	**P**	**06 43 49.4**	**+1.2**
	0.6nm,0.6s,mb3.5,baz=120,slow=8.6,SNR=5.0						
WRAB	**Tennant Creek**	**42.65**	**160**	*e*P	**P**	**06 44 07.0**	**-0.7**
	4.9nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**42.65**	**160**	P	**P**	**06 44 07.5**	**-0.3**
	5.5nm,1.0s,mb4.3,baz=342,slow=9.0,SNR=22						
WB2	**Warramunga Arr**	**42.66**	**160**	*e*P	**P**	**06 44 07.2**	**-0.6**
ASAR	**Alice Springs**	**46.02**	**162**	P	**P**	**06 44 35.0**	**+0.2**
	0.6nm,0.4s,mb3.9,baz=342,slow=6.8,SNR=10						
CHKZ	**Chkalovo**	**49.94**	**324**	*e*P	**P**	**06 45 05.4**	**+0.3**
	1.2nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**56.12**	**158**	P	**P**	**06 45 49.0**	**-1.5**
	3.6nm,1.0s,mb4.3,baz=332,slow=21,SNR=2.9						
NOA	**NORSAR Array B**	**80.89**	**332**	P	**P**	**06 48 25.3**	**0.0**
	0.7nm,0.8s,mb3.7,baz=68,slow=4.8,SNR=3.2						
GERES	**GERESS Array B**	**84.93**	**320**	P	**P**	**06 48 45.7**	**-0.6**
	0.4nm,0.4s,mb3.9,baz=104,slow=3.5,SNR=4.2						
YKA	**Yellowknife Ar**	**86.66**	**22**	P	**P**	**06 48 55.6**	**+0.7**
	1.3nm,0.8s,mb4.2,baz=315,slow=4.9,SNR=21						

MAN 26 07:00:39.0, 1786N×12022E, h28km, mb2.3, ML3.9, MS2.0, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.52**	**114**	*e*P	Pb	07 00 50.4	+0.8
ABRA				*e*S	Sb	07 00 59.2	+2.5
ABRA	**Dolores**	**0.52**	**114**	*e*P	Pb	07 00 50.4	+0.8
ABRA				*e*S	Sb	07 00 59.3	+2.5
PIP	**Pasuquin**	**0.60**	**40**⇑	*i*P	Pb	07 00 51.6	+0.7
PIP				*i* S	Sb	07 01 01.2	+2.1
APYP	**Conner**	**0.98**	**90**	*e*P	Pn	07 00 56.4	-0.4
APYP	**Conner**	**0.98**	**90**	*e*P	Pn	07 00 56.4	-0.4
BOLP	**Bolinao**	**1.50**	**191**	*e*P	Pn	07 01 03.8	-0.1
BOLP	**Bolinao**	**1.50**	**191**	*e*P	Pn	07 01 03.9	0.0
BCPH	**Baguio City Da**	**1.51**	**167**⇓	*i*P	Pn	07 01 04.0	-0.1
BCPH				*i* S	Sn	07 01 22.9	0.0
CVP	**Callao Caves**	**1.54**	**96**⇓	*e*P	Pn	07 01 05.0	+0.5
CVP				*e*S	Sn	07 01 25.0	+1.4
SGCP	**Mt. Cagua**	**1.78**	**77**	*e*P	Pn	07 01 08.0	+0.1
SGCP	**Mt. Cagua**	**1.78**	**77**	*e*P	Pn	07 01 08.9	+1.0
CAUP	**Cauayan**	**1.79**	**120**	*e*P	Pn	07 01 10.4	+2.5
CAUP	**Cauayan**	**1.79**	**120**	*e*P	Pn	07 01 13.1	+5.2

*SZGRF **26** 07:01:30.7, 2212S×17954W, h33km, South of Fiji Islands*
*ISCJB **26** 07:02:00.3±0.2, 2242S±003×17836W±006, h285km, mb4.5/44, Error ellipse: s-maj=7.7km s-min=3.9km az=42.2*
*BJI **26** 07:02:01.1, 2230S×17840W, h300km, mB4.4, mb4.6*
*MOS **26** 07:02:02.1±0.8, 2229S×17840W, h303km, mb4.6/15, Error ellipse: s-maj=16.2km s-min=10.8km az=47.0*
*NEIC **26** 07:02:03.1±0.8, 2233S×17837W, h300km±8km, mb4.7/31, Error ellipse: s-maj=8.2km s-min=4.8km az=142.0*
*IDC **26** 07:02:03.7±1.5, 2231S×17837W, h311km±14km, mb4.1/13, mb1 4.3/16, mb1mx4.2/19, mbtmp4.8/16, Error ellipse: s-maj=16.2km s-min=9.8km az=134.0*

ISC 26 07:02:01.7±0.2, 2248S±004×17827W±006, h287km, h287km±2.7km:pP-P, n147, σ0=95/118, mb4.5/44, 14C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.75**	**177**	P	**Pn**	**07 03 43.9**	**+4.2**
	36nm,0.3s,baz=68,slow=21,SNR=2.6						
RAO				S	**S**	**07 04 57.5**	**-1.2**
	45nm,0.3s,baz=243,slow=23,SNR=2.0						
RAO	**Raoul Island**	**6.75**	**177**	P	**Pn**	**07 03 43.9**	**+4.2**
RAO				S	**S**	**07 04 57.5**	**-1.2**
AFI	**Afiamalu**	**10.53**	**37**	P	**Pn**	**07 04 25.6**	**-0.6**
	17nm,0.3s,baz=55,slow=3.4,SNR=11						
AFI				S	**S**	**07 06 11.3**	**-13**
	13nm,0.3s,baz=230,slow=23,SNR=3.9						
AFI	**Afiamalu**	**10.53**	**37**	*e*Pn	**Pn**	**07 04 26.2**	**-0.1**
DZM	**Mont Dzumac**	**14.16**	**269**	P	**Pn**	**07 05 15.4**	**+5.0**
	3.3nm,0.3s,baz=81,slow=18,SNR=57						
PUZ	**Puketiti**	**15.82**	**190**	SN	**S**	**07 08 16.0**	**-4.0**
URZ	**Urewera**	**16.22**	**193**	P	**P**	**07 05 34.2**	**+1.6**
	2.4nm,0.3s,baz=316,slow=8.5,SNR=19						
URZ				S	**S**	**07 08 26.5**	**-1.4**
	9.9nm,0.3s,baz=94,slow=22,SNR=21						
URZ	**Urewera**	**16.22**	**193**	*e*PN	**Pn**	**07 05 33.4**	**-1.3**
URZ				SN	**S**	**07 08 26.7**	**-1.2**
BKZ	**Black Stump Fm**	**17.22**	**194**	*e*PN	**P**	**07 05 45.0**	**+1.4**
BKZ				SN	**S**	**07 08 46.5**	**-1.4**
OTVZ	**Oturere**	**17.41**	**196**	*e*PN	**P**	**07 05 51.8**	**+6.1**
BFZ	**Birch Farm**	**18.73**	**193**	PN	**P**	**07 06 01.1**	**+1.4**
BFZ				SN	**S**	**07 09 13.5**	**-3.9**
MRZ	**Mangatainoka R**	**18.85**	**195**	*e*PN	**P**	**07 06 01.1**	**-0.1**
MRZ				SN	**S**	**07 09 15.4**	**-4.5**
SNZO	**South Karori**	**19.68**	**196**	*e*P	**P**	**07 06 11.3**	**+1.4**
	53nm,0.6s						
THZ	**Tophouse**	**20.60**	**199**	*e*PN	**P**	**07 06 20.8**	**+1.2**
KHZ	**Kahutara**	**21.02**	**197**	*e*PN	**P**	**07 06 23.2**	**-0.5**
LTZ	**Lake Taylor**	**21.72**	**199**	PN	**P**	**07 06 30.0**	**-0.1**
RPZ	**Rata Peaks**	**22.95**	**200**	P	**P**	**07 06 42.0**	**+0.8**
	34nm,0.7s,mb4.8,baz=53,slow=0.7,SNR=12						
RPZ	**Rata Peaks**	**22.95**	**200**	P	**P**	**07 06 42.0**	**+0.8**
ARMA	**Armidale**	**28.02**	**247**	*e*P	**P**	**07 07 29.1**	**+2.4**
CTA	**Charters Tower**	**33.09**	**267**	*e*P	**P**	**07 08 12.4**	**+1.4**
	25nm,0.6s,mb4.9						
CTA	**Charters Tower**	**33.09**	**267**	*e*P	**P**	**07 08 12.4**	**+1.4**
CTA				pmax	pmax		
	comp=Z,25nm,0.6s						
CTAO	**Charters Tower**	**33.09**	**267**	*e*P	**P**	**07 08 10.9**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,29nm,0.6s,mb5.0						
CTAO	**Charters Tower**	**33.09**	**267**	*e*P	**P**	**07 08 10.9**	**-0.1**
	comp=Z,29nm,0.6s,mb5.0						
TOO	**Toolangi**	**34.55**	**236**⇑	*i*P	**P**	**07 08 25.2**	**+1.7**
	comp=Z,14nm,0.6s,mb4.7						
TOO	**Toolangi**	**34.55**	**236**⇑	*i*P	**P**	**07 08 25.2**	**+1.7**
TOO				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.7						
PMG	**Port Moresby**	**35.59**	**286**	P	**P**	**07 08 33.1**	**+0.8**
	comp=Z,19nm,0.6s,mb4.8,baz=104,slow=7.0,SNR=7.2						
STKA	**Stephens Creek**	**36.73**	**246**	*e*P	**P**	**07 08 41.1**	**-0.8**
	comp=Z,4.5nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**36.73**	**246**	P	**P**	**07 08 41.1**	**-0.8**
	comp=Z,4.0nm,0.5s,mb4.1,baz=94,slow=10,SNR=16						
STKA				S	**S**	**07 14 02.9**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=101,slow=23,SNR=2.3						
AS31	**Alice Springs**	**43.85**	**259**	*e*P	**P**	**07 09 40.2**	**+0.2**
ASAR	**Alice Springs**	**43.85**	**259**	P	**P**	**07 09 39.3**	**-0.7**
	comp=Z,2.7nm,0.5s,mb3.8,baz=92,slow=8.5,SNR=12						
ASAR				ScP	ScP	07 14 42.4	-2.1
	comp=Z,0.8nm,0.9s,baz=102,slow=3.9,SNR=5.7						
ASAR				S	**S**	**07 15 38.5**	**-10**
	comp=Z,0.4nm,0.7s,baz=93,slow=18,SNR=2.9						
ASPA	**Alice Springs**	**43.85**	**259**	*e*P	**P**	**07 09 40.2**	**+0.2**
WB2	**Warramunga Arr**	**44.10**	**264**⇑	*i*P	**P**	**07 09 41.5**	**-0.4**
WRAB	**Tennant Creek**	**44.10**	**264**	*e*P	**P**	**07 09 41.3**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.4s,mb4.3						
WRAB	**Tennant Creek**	**44.10**	**264**	*e*P	**P**	**07 09 41.3**	**-0.7**
	comp=Z,8.0nm,0.4s,mb4.3						
WRA	**Warramunga Arr**	**44.11**	**264**	P	**P**	**07 09 41.7**	**-0.4**
	comp=Z,4.7nm,0.3s,mb4.2,baz=96,slow=8.0,SNR=292						
WRA				ScP	ScP	07 14 40.2	-5.4
	comp=Z,2.1nm,0.9s,baz=95,slow=3.8,SNR=7.9						
WRA				S	**S**	**07 15 41.6**	**-11**
	comp=Z,0.6nm,0.7s,baz=96,slow=14,SNR=2.8						
KAKA	**Kakadu**	**47.79**	**273**⇑	*i*P	**P**	**07 10 10.1**	**-0.5**
	comp=Z,7.2nm,0.3s,mb4.5						
FORT	**Forrest**	**48.30**	**248**	*e*P	**P**	**07 10 13.9**	**-0.6**
	comp=Z,49nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**52.54**	**264**	*e*P	**P**	**07 10 46.1**	**+0.1**
	comp=Z,14nm,0.4s,mb4.6						
VNDA	**Vanda**	**55.92**	**185**	P	**P**	**07 11 12.3**	**+2.1**
	comp=Z,1.5nm,0.7s,mb3.6,baz=345,slow=7.2,SNR=6.3						
CASY	**Casey**	**62.07**	**206**	*e*P	**P**	**07 11 51.7**	**-0.6**
QSPA	**South Pole Qui**	**67.59**	**180**	*e*P	**P**	**07 12 29.0**	**+1.3**
	comp=Z,16nm,0.7s,mb4.8						
MJAR	**Matsushiro Arr**	**71.66**	**324**	P	**P**	**07 12 51.5**	**-0.9**
	comp=Z,7.6nm,0.7s,mb4.5,baz=156,slow=5.9,SNR=13						
SSE	**Sheshan**	**78.77**	**310**	P	**P**	**07 13 32.5**	**-0.2**
SSE				AMB	AMB		
	comp=Z,52nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,146nm,3.6s						
SSE	**Sheshan**	**78.77**	**310**	P	**P**	**07 13 32.4**	**-0.3**
	comp=Z,52nm,0.7s,mb5.4						
PMSA	**Palmer Station**	**79.58**	**157**	*e*P	**P**	**07 13 38.2**	**+1.1**
MAW	**Mawson**	**79.62**	**200**	*e*P	**P**	**07 13 35.8**	**-1.5**
	comp=Z,5.6nm,0.6s,mb4.5						
MAW	**Mawson**	**79.62**	**200**	P	**P**	**07 13 37.3**	**0.0**
	comp=Z,7.4nm,0.7s,mb4.5,baz=110,slow=7.0,SNR=13						
MAW	**Mawson**	**79.62**	**200**	*e*P	**P**	**07 13 35.8**	**-1.5**
MAW				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KHMM	**Horse Mountain**	**80.85**	**39**	*e*P	**P**	**07 13 42.9**	**-0.9**
NJ2	**Nanjing**	**80.95**	**310**	*e*P	**P**	**07 13 45.5**	**+1.1**
NJ2				AP	pP	07 14 52.5	+1.1
NJ2				XP	sP	07 15 22.8	+1.1
NJ2				PP	PP	07 16 57.0	+3.7
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,60nm,10.6s						
NJ2				LR	LR		
	comp=N,730nm,31.4s						
NJ2				LR	LR		
	comp=E,730nm,37.2s						
NJ2				LR	LR		
	comp=Z,410nm,36.7s						
MTUM	**Tungsten Hills**	**81.83**	**44**	*e*P	**P**	**07 13 50.0**	**+1.0**
YBH	**Yreka Blue Hor**	**81.99**	**39**	P	**P**	**07 13 50.4**	**+0.6**
	comp=Z,7.9nm,0.7s,mb4.6,baz=152,slow=2.8,SNR=11						
YBH	**Yreka Blue Hor**	**81.99**	**39**	*e*P	**P**	**07 13 50.0**	**+0.2**
YBH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
YBH	**Yreka Blue Hor**	**81.99**	**39**	*e*P	**P**	**07 13 50.0**	**+0.2**
	comp=Z,5.0nm,0.7s,mb4.3						
MDJ	**Mudanjiang**	**81.99**	**325**	P	**P**	**07 13 51.3**	**+1.5**
MDJ				AP	pP	07 14 59.0	+1.9
MDJ				XP	sP	07 15 29.8	+2.6
MDJ				PP	PP	07 17 03.3	+1.4
MDJ				S	S	07 23 41.3	+2.0
MDJ				XS	sS	07 25 41.5	+3.6
MDJ				SS	SS	07 29 08.0	+2.8
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,34nm,4.9s						
HUMO	**Hull Mountain**	**82.41**	**38**	*e*P	**P**	**07 13 52.2**	**+0.2**
	comp=Z,19nm,1.1s,mb4.7						
NVAR	**Mina Array Bea**	**82.64**	**43**	P	**P**	**07 13 53.4**	**+0.3**
	comp=Z,6.5nm,0.8s,mb4.5,baz=215,slow=6.9,SNR=32						
NVAR	**Mina Array Bea**	**82.64**	**43**	P	**P**	**07 13 53.4**	**+0.3**
MNV	**Mina**	**82.73**	**43**	*e*P	**P**	**07 13 53.7**	**+0.1**
MNV				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
MNV	**Mina**	**82.73**	**43**	*e*P	**P**	**07 13 53.7**	**+0.1**
	comp=Z,8.8nm,1.0s,mb4.5						
TPNV	**Topopah Spring**	**83.11**	**45**	*e*P	**P**	**07 13 56.1**	**+0.6**
TPNV				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
TPNV	**Topopah Spring**	**83.11**	**45**	*e*P	**P**	**07 13 56.0**	**+0.5**
	comp=Z,7.1nm,0.9s,mb4.5						
NEN	**Nelson**	**83.32**	**47**	*e*P	**P**	**07 13 57.0**	**+0.4**
SSOR	**Sweet Springs**	**84.12**	**36**	P	**P**	**07 14 00.8**	**+0.1**
BMN	**Battle Mountai**	**84.49**	**42**	*e*P	**P**	**07 14 02.0**	**-0.5**
BMN				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
BMN	**Battle Mountai**	**84.49**	**42**	*e*P	**P**	**07 14 02.0**	**-0.4**
	comp=Z,6.8nm,0.9s,mb4.5						
SYO	**Syowa Base**	**84.75**	**193**⇑	*e*P	**P**	**07 14 02.2**	**-1.6**
SYO	**Syowa Base**	**84.75**	**193**⇑	*e*pP	pP	07 15 14.0	+2.5
SYO	**Syowa Base**	**84.75**	**193**⇑	*e*sP	sP	07 15 43.6	+2.1
LVP	**Lakeview Peak**	**84.93**	**35**	P	**P**	**07 14 04.8**	**+0.1**
VNA3	**Neumayer Olymp**	**86.19**	**176**	*e*P	**P**	**07 14 17.1**	**+6.3**
VNA3				*e*		07 14 19.3	
VNA2	**Neumayer--Watz**	**86.63**	**177**	*e*P	**P**	**07 14 17.5**	**+4.5**
	baz=188,slow=3.6						
VNA2				*e*		07 14 19.6	
MSU	**Marysvale**	**86.66**	**46**	*e*P	**P**	**07 14 13.5**	**+0.4**
TTA	**Tatalina**	**86.93**	**10**	*e*P	**P**	**07 14 12.9**	**-1.5**
TTA				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
TTA	**Tatalina**	**86.93**	**10**	*e*P	**P**	**07 14 12.9**	**-1.6**
	comp=Z,3.2nm,0.7s,mb4.3						
BMO	**Blue Mountains**	**87.02**	**39**	*e*P	**P**	**07 14 14.3**	**-0.5**
BMO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
BMO	**Blue Mountains**	**87.02**	**39**	*e*P	**P**	**07 14 14.3**	**-0.5**
	comp=Z,3.7nm,0.6s,mb4.4						
WTV	**Waterville**	**87.26**	**35**	P	**P**	**07 14 15.5**	**-0.5**
TMUT	**Trail Mountain**	**87.72**	**46**	*e*P	**P**	**07 14 18.7**	**+0.6**
OD2	**Odessa Site #2**	**87.74**	**36**	P	**P**	**07 14 18.1**	**-0.1**
HLID	**Hailey**	**87.99**	**41**	*e*P	**P**	**07 14 19.9**	**+0.5**
	comp=Z,9.1nm,1.2s,mb4.5						
SRU	**San Rafael**	**88.08**	**46**	*e*P	**P**	**07 14 19.9**	**+0.1**
SRU				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.6						
SRU	**San Rafael**	**88.08**	**46**	*e*P	**P**	**07 14 19.9**	**+0.1**
	comp=Z,5.8nm,0.6s,mb4.6						
MNTX	**Cornudas Mount**	**88.10**	**55**	*e*P	**P**	**07 14 20.4**	**+0.5**
	comp=Z,10.0nm,0.9s,mb4.7						
ANMO	**Albuquerque**	**88.84**	**51**	*e*P	**P**	**07 14 23.8**	**+0.4**
ANMO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ANMO	**Albuquerque**	**88.84**	**51**	*e*P	**P**	**07 14 23.8**	**+0.4**
	comp=Z,6.0nm,1.0s,mb4.4						
PV01	**Paradox Valley**	**88.90**	**48**	*e*P	**P**	**07 14 23.5**	**-0.2**
MCMT	**McKenzie Canyo**	**89.62**	**40**	*e*P	**P**	**07 14 27.4**	**+0.3**
KMI	**Kunming**	**90.02**	**297**	P	**P**	**07 14 29.0**	**+0.1**
KMI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
KMI	**Kunming**	**90.02**	**297**	P	**P**	**07 14 29.1**	**+0.2**
	comp=Z,8.0nm,0.9s,mb4.5						
DLMT	**Dillon**	**90.06**	**40**	*e*P	**P**	**07 14 29.1**	**0.0**
	comp=Z,15nm,1.2s,mb4.7						
REDW	**Red Top Meadow**	**90.07**	**42**	*e*P	**P**	**07 14 29.2**	**+0.1**
	comp=Z,14nm,1.2s,mb4.7						
COLA	**College**	**90.19**	**12**	*e*P	**P**	**07 14 27.0**	**-2.7**
COLA				pmax	pmax		
	comp=Z,24nm,1.3s,mb4.9						
COLA	**College**	**90.19**	**12**	*e*P	**P**	**07 14 27.0**	**-2.7**
	comp=Z,24nm,1.3s,mb4.9						
COLA				*e*pP	pP	07 15 34.2	-4.0
IMW	**Indian Meadow**	**90.29**	**42**	*e*P	**P**	**07 14 30.6**	**+0.5**
	comp=Z,21nm,1.1s,mb4.9						
ILAR	**Eielson Array**	**90.30**	**13**	P	**P**	**07 14 27.4**	**-2.8**
	comp=Z,3.1nm,0.6s,mb4.3,baz=216,slow=5.4,SNR=80						
LOHW	**Long Hollow**	**90.35**	**42**	*e*P	**P**	**07 14 30.7**	**+0.3**
	comp=Z,3.9nm,0.6s,mb4.4						
FLWY	**Flagg Ranch**	**90.53**	**42**	*e*P	**P**	**07 14 31.8**	**+0.5**
	comp=Z,22nm,1.0s,mb4.9						
HHC	**Hu-ho-hao-te**	**90.55**	**314**	*e*P	**P**	**07 14 32.0**	**+0.6**
HHC				AP	pP	07 15 40.5	+0.6
HHC				XP	sP	07 16 10.8	+1.1
HHC				PP	PP	07 18 13.5	+3.0
HHC				SKS		07 24 34.3	
HHC				S		07 25 00.0	
HHC				XS	sS	07 27 01.5	-1.2
HHC				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.5						
HHC				AMB	AMB		
	comp=Z,103nm,7.1s						
HHC				LR	LR		
	comp=N,225nm,23.1s						
HHC				LR	LR		
	comp=E,280nm,22.9s						
HHC				LR	LR		
	comp=Z,96nm,19.0s						
PDAR	**Pinedale Array**	**90.57**	**43**	P	**P**	**07 14 31.1**	**-0.4**
	comp=Z,5.1nm,0.7s,mb4.5,baz=218,slow=3.1,SNR=36						
YMR	**Madison River**	**90.68**	**41**	*e*P	**P**	**07 14 32.2**	**+0.2**
	comp=Z,4.3nm,0.7s,mb4.4						
BOZ	**Bozeman (W)**	**90.79**	**40**	*e*P	**P**	**07 14 32.2**	**-0.3**
BOZ				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
BOZ	**Bozeman (W)**	**90.79**	**40**	*e*P	**P**	**07 14 32.2**	**-0.3**
	comp=Z,7.5nm,0.8s,mb4.6						
DAWY	**Dawson**	**91.43**	**16**	*e*P	**P**	**07 14 33.7**	**-1.7**
BTO	**Baotou**	**91.46**	**314**	*e*P	**P**	**07 14 35.0**	**-0.6**
LZH	**Lanzhou**	**93.77**	**307**	*e*P	**P**	**07 14 45.5**	**-0.7**
LZH				AP	pP	07 15 55.5	+0.7
LZH				XP	sP	07 16 23.3	-1.3
LZH				PP	PP	07 18 37.5	+1.8
LZH				AMB	AMB		
	comp=Z,22nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,63nm,9.5s						
LZH	**Lanzhou**	**93.77**	**307**	*e*P	**P**	**07 14 45.5**	**-0.7**
LZH				*PP	pP	07 15 55.5	+0.7
LZH						07 18 37.5	
LZH				pmax	pmax		
	comp=Z,22nm,1.4s,mb5.0						
LZH	**Lanzhou**	**93.77**	**307**	*e*P	**P**	**07 14 45.5**	**-0.7**
	comp=Z,22nm,1.4s,mb5.0						
LZH				pP	pP	07 15 55.5	+0.7
LZH				sP	sP	07 16 23.2	-1.4
LZH				PP	PP	07 18 37.5	+1

BNDS				AML	AML	07 11 58.5	
	comp=E,1μm,0.3s						
BANOM	**Banah**	**1.05**	**147**	⇓P	**Pb**	**07 11 43.5**	**-1.6**
	SNR=1023						
BANOM				⇓S	**Sb**	**07 11 59.1**	**+0.4**
ASHO	**Ashiyiah**	**2.15**	**171**	⇓P	**Pn**	**07 12 01.4**	**+0.9**
	SNR=63						
GHIR	**Ghir-Karzin**	**2.80**	**302**	*e*Pn	**Pn**	**07 12 12.6**	**+3.2**
GHIR				AML	AML	07 13 27.2	
	comp=E,66nm,1.2s						
KRBR	**Kerman**	**3.30**	**17**	*e*PN	**Pn**	**07 12 16.0**	**-0.4**
KRBR				*e*SG	**Sn**	**07 12 56.7**	**+1.4**
KRBR				AML	AML	07 12 59.5	
	comp=E,76nm,0.3s						
KRBR				AML	AML	07 13 00.2	
	comp=N,82nm,0.3s						
KRBR	**Kerman**	**3.30**	**17**	*e*Pn	**Pn**	**07 12 16.0**	**-0.4**
	SNR=52						
KRBR				*e*Sg	**Sn**	**07 12 56.7**	**+1.4**
	SNR=90						
BIDO	**Bidbid**	**3.96**	**145**	P	**Pn**	**07 12 24.5**	**-0.9**
	SNR=9.2						
BSY	**Bisya**	**4.28**	**161**	⇓P	**Pn**	**07 12 30.7**	**+0.8**
BSYO	**Bisya**	**4.31**	**160**	P	**Pn**	**07 12 30.7**	**+0.5**
SMDO	**Samad**	**4.32**	**149**	⇑P	**Pn**	**07 12 30.1**	**-0.2**
	SNR=11						
WBK	**Wadi Bani Khal**	**5.15**	**144**	⇓P	**Pn**	**07 12 41.0**	**-0.7**
	SNR=15						
NASN	**Na'in**	**6.46**	**338**	*e*PN	**Pn**	**07 13 00.2**	**+0.4**
QRN	**Al-Qurain**	**7.13**	**287**	*e*P	**Pn**	**07 13 10.1**	**+1.1**
QRN				*e*S	**Sn**	**07 14 29.9**	**+0.1**
QRN				AML	AML	07 14 30.8	
	comp=Z,12nm,0.2s						
KBD	**Kabd**	**7.43**	**290**	*e*P	**Pn**	**07 13 14.2**	**+1.1**
RDF	**Al-Radifah**	**7.49**	**288**	*e*P	**Pn**	**07 13 15.0**	**+1.1**
RDF				AML	AML	07 14 37.8	
	comp=Z,8.3nm,0.4s						
RDF				*e*S	**Sn**	**07 14 37.9**	**-0.7**
RDF	**Al-Radifah**	**7.49**	**288**	*e*P	**Pn**	**07 13 15.0**	**+1.1**
RDF				*e*S	**Sn**	**07 14 37.9**	**-0.6**
UMR	**Umm Al-Rimmam**	**7.53**	**293**	*e*P	**Pn**	**07 13 15.7**	**+1.2**
UMR				*e*S	**Sn**	**07 14 37.7**	**-1.9**
UMR				AML	AML	07 14 41.3	
	comp=Z,15nm,0.3s						
UMR	**Umm Al-Rimmam**	**7.53**	**293**	*e*P	**Pn**	**07 13 15.6**	**+1.1**
UMR				*e*S	**Sn**	**07 14 37.7**	**-1.9**
NAY	**Al-Naaiem**	**7.83**	**290**	*e*P	**Pn**	**07 13 20.0**	**+1.4**
NAY				*e*S	**Sn**	**07 14 45.0**	**-2.0**
NAY				AML	AML	07 14 45.9	
	comp=Z,2.6nm,0.4s						
NAY	**Al-Naaiem**	**7.83**	**290**	*e*P	**Pn**	**07 13 20.0**	**+1.4**
NAY				*e*S	**Sn**	**07 14 45.0**	**-2.0**
MIB	**Mutribah**	**7.92**	**294**	*e*P	**Pn**	**07 13 21.1**	**+1.2**
MIB				*e*S	**Sn**	**07 14 47.7**	**-1.5**
MIB				AML	AML	07 14 49.7	
	comp=Z,9.1nm,0.4s						
MIB	**Mutribah**	**7.92**	**294**	*e*P	**Pn**	**07 13 21.1**	**+1.2**
MIB				*e*S	**Sn**	**07 14 47.7**	**-1.6**
WHFO	**Wadi Hawf**	**9.03**	**192**	⇓P	**Pn**	**07 13 35.7**	**+0.7**
ABTO	**Aybut**	**9.67**	**194**	⇑P	**Pn**	**07 13 42.8**	**-1.0**
BRTR	**Keskin Array B**	**22.40**	**311**	P	**P**	**07 16 23.8**	**+0.7**
	comp=Z,0.5nm,0.5s,mb3.2,baz=130,slow=13,SNR=3.3						
AKASG	**Malin Array Be**	**31.23**	**327**	P	**P**	**07 17 41.8**	**-2.3**
	comp=Z,0.3nm,0.2s,mb3.7,baz=130,slow=8.7,SNR=4.2						
TORD	**Torodi Ar. Bea**	**52.16**	**266**	P	**P**	**07 20 35.1**	**-0.1**
	comp=Z,1.1nm,0.5s,mb4.0,baz=66,slow=7.4,SNR=24						

IDC 26 07:13:34.0±3.0, 122N×9885E, h108km±21km, mb3.4/6, mb1 3.6/6, mb1mx3.4/20, mbtmp3.8/6, Error ellipse: s-maj=52.9km s-min=17.0km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**1.57**	**3**	P	Pn	07 14 01.3	-0.2
	6.3nm,0.3s,baz=178,slow=9.4,SNR=18						
PSI				S	Sn	07 14 20.3	-2.1
	5.0nm,0.3s,baz=234,slow=7.5,SNR=12						
WRA	**Warramunga Arr**	**40.66**	**123**	P	P	07 21 02.6	-0.8
	0.6nm,0.4s,baz=303,slow=9.1,SNR=5.9						
ASAR	**Alice Springs**	**42.10**	**128**	P	P	07 21 16.4	+1.1
	0.3nm,0.7s,baz=296,slow=7.1,SNR=3.0						
SONM	**Songino Array**	**46.89**	**7**	P	P	07 21 54.5	+1.2
	0.3nm,0.4s,baz=193,slow=5.9,SNR=3.0						
MKAR	**Makanchi Array**	**47.64**	**345**	P	P	07 21 59.9	+0.7
	0.5nm,0.4s,baz=154,slow=7.5,SNR=8.5						
ZAL	**Zalesovo**	**53.80**	**350**	P	P	07 22 43.4	-2.0
	2.5nm,0.3s,baz=160,slow=20,SNR=3.5						
BRTR	**Keskin Array B**	**70.32**	**312**	P	P	07 24 36.1	+0.3
	0.4nm,0.5s,baz=104,slow=6.1,SNR=2.5						

WEL 26 07:22:13.6±0.8, 3609S×17634E, h33km, ML3.9/3, Error ellipse: s-maj=9.7km s-min=6.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**2.25**	**164**	PN	Pn	07 22 48.2	-0.3
URZ				SN	Sn	07 23 14.0	-1.1
URZ				SN	Sn	07 23 14.0	-1.0
MWZ	**Matawai**	**2.43**	**157**	PN	Pn	07 22 49.6	-1.3
MWZ				SN	Sn	07 23 17.0	-2.5
MWZ				SN	Sn	07 23 17.1	-2.5
PUZ	**Puketiti**	**2.50**	**143**	PN	Pn	07 22 51.4	-0.6
PUZ				SN	Sn	07 23 20.1	-1.2

WEL 26 08:04:19.0±0.2, 3969S×17686E, h52km±2km, ML3.0/9, 1C, Error ellipse: s-maj=1.9km s-min=0.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PXZ	**Pawanui**	**0.35**	**179**	PN	Pn	08 04 28.3	-0.4
PXZ				SN	Sn	08 04 35.9	+0.2
BKZ	**Black Stump Fm**	**0.59**	**331**	⇑PN	Pn	08 04 31.3	-0.1
BKZ				SN	Sn	08 04 40.4	0.0
TSZ	**Takapari Road**	**0.78**	**241**	P*	Pn	08 04 33.9	0.0
TSZ				S*	Sn	08 04 40.5	-4.2
MOVZ	**Moawhango**	**0.90**	**288**	SN	Sn	08 04 47.6	+0.2
MOVZ	**Moawhango**	**0.90**	**288**	P*	Pn	08 04 33.6	-1.7
MOVZ				S*	Sn	08 04 40.0	-7.4
HATZ	**Hinemaiaia**	**0.99**	**323**	P*	Pn	08 04 37.4	+0.8
TUVZ	**Tukino**	**1.02**	**294**	P*	Pn	08 04 36.5	-0.5
TUVZ				S*	Sn	08 04 44.5	-5.8
OTVZ	**Oturere**	**1.06**	**299**	PN	Pn	08 04 37.4	-0.2
OTVZ	**Oturere**	**1.06**	**299**	P*	Pn	08 04 37.3	-0.2
OTVZ				S*	Sn	08 04 46.3	-4.9
FWVZ	**Far West T-bar**	**1.10**	**293**	P*	Pn	08 04 37.2	-0.8
FWVZ				S*	Sn	08 04 45.6	-6.6
BFZ	**Birch Farm**	**1.10**	**205**	*e*PN	Pn	08 04 38.1	0.0
BFZ				SN	Sn	08 04 52.5	+0.3
MTVZ	**Mangateitei**	**1.11**	**285**	P*	Pn	08 04 36.9	-1.4
MTVZ				S*	Sn	08 04 45.8	-6.8
WPVZ	**Whakapapa**	**1.12**	**295**	P*	Pn	08 04 37.9	-0.5
WPVZ				S*	Sn	08 04 47.9	-4.9
MRZ	**Mangatainoka R**	**1.38**	**225**	PN	Pn	08 04 41.6	-0.3
MRZ				SN	Sn	08 04 58.7	-0.3
URZ	**Urewera**	**1.44**	**8**	PN	Pn	08 04 42.7	+0.1
WAZ	**Wanganui**	**1.45**	**267**	PN	Pn	08 04 42.1	-0.7
MWZ	**Matawai**	**1.45**	**21**	PN	Pn	08 04 42.5	-0.2
KIW	**Kapiti Island**	**1.90**	**231**	PN	Pn	08 04 49.4	+0.5
CAW	**Cannon Point**	**1.97**	**223**	*e*PN	Pn	08 04 49.6	-0.3

IDC 26 08:36:29.2±1.6, 2070S×6886W, h110km±17km, mb3.3/2, mb1 3.5/4, mb1mx3.3/16, mbtmp3.7/4, Error ellipse: s-maj=41.0km s-min=16.0km az=102.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.90**	**181**	P	Pn	08 37 00.8	-0.1
	24nm,0.3s,baz=350,slow=9.0,SNR=227						
LVC				S	Sn	08 37 26.0	+0.9
	115nm,0.3s,baz=270,slow=21,SNR=62						
LPAZ	**La Paz**	**4.45**	**9**	P	Pn	08 37 36.4	+1.8
	2.9nm,0.3s,baz=206,slow=6.6,SNR=61						
SIV	**San Ignacio**	**8.76**	**59**	P	Pn	08 38 31.6	-1.3
	1.4nm,0.3s,baz=258,slow=12,SNR=35						
TORD	**Torodi Ar. Bea**	**77.05**	**70**	P	P	08 48 11.1	+0.8
	0.3nm,0.4s,baz=255,slow=4.6,SNR=7.1						
YKA	**Yellowknife Ar**	**90.45**	**341**	P	P	08 49 17.8	-0.7
	0.2nm,0.5s,baz=134,slow=4.3,SNR=7.0						

IDC 26 08:53:43.5±67.0, 2136S×17712E, h0km, mb4.4/3, mb1 4.6/3, mb1mx4.0/13, mbtmp4.4/3, Error ellipse: s-maj=1174.0km s-min=133.3km az=82.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**33.31**	**244**	*e*P	P	09 00 21.9	-1.0
	2.1nm,0.4s						
STKA	**Stephens Creek**	**33.31**	**244**	P	P	09 00 21.9	-1.0
	3.1nm,0.4s,baz=91,slow=10,SNR=17						
ASAR	**Alice Springs**	**39.88**	**258**	P	P	09 01 19.6	+0.7
	4.8nm,0.7s,baz=94,slow=8.0,SNR=38						
ASPA	**Alice Springs**	**39.88**	**258**	*e*P	P	09 01 19.5	+0.5
WB2	**Warramunga Arr**	**39.96**	**264**	*e*P	P	09 01 20.2	+0.6
WRA	**Warramunga Arr**	**39.97**	**264**	P	P	09 01 20.7	+1.0
	2.0nm,0.3s,baz=95,slow=8.0,SNR=165						
KAKA	**Kakadu**	**43.45**	**274**	*e*P	P	09 01 48.8	+0.6
	2.9nm,0.2s						
FITZ	**Fitzroy Crossi**	**48.40**	**264**	*e*P	P	09 02 22.4	-4.9
	2.4nm,0.3s						

NNC 26 09:18:45.7±8.6, 3679N×7032E, h94km±171km, mb3.1, mpv3.4, 3C-3D, Error ellipse: s-maj=110.8km s-min=50.4km az=61.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.31**	**1**	⇓P	Pn	09 20 16.8	+0.7
	2.9nm,0.3s,baz=184,slow=14,SNR=168						
KK31				⇑S	Sn	09 21 28.7	+2.0
	1.6nm,0.3s,baz=176,slow=20,SNR=9.0						
TKM2	**Tokmak 2**	**7.35**	**32**	⇑P	Pn	09 20 28.4	-1.9
	0.4nm,0.6s						
AB31	**Akbulak array**	**14.57**	**332**	P	Pn	09 22 07.2	0.0
	0.5nm,0.3s,baz=162,slow=12,SNR=38						
AB31				⇓S	Sn	09 24 41.8	-5.8
	1.3nm,0.5s,baz=154,slow=19,SNR=10						
AKTO	**Aktyubinsk**	**16.26**	**331**	⇓P	Pn	09 22 30.4	+2.0
AKTO				⇑S	S	09 25 25.9	-9.3
	0.1nm,1.1s						

*OTT **26** 09:57:37.7±1.6, 8285N×2454W, h18km, ML4.1/6, East coast of Greenland 531km northeast from Alert, Nu*
*IDC **26** 09:57:41.6±1.1, 8305N×2769W, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.4/25, mbtmp3.6/7, ML3.4/1, MS2.9/1, Ms1 2.8/1, ms1mx2.0/25, Error ellipse: s-maj=36.8km s-min=19.7km az=15.0*
*ISCJB **26** 09:57:42.8±0.9, 8264N±009×305W±04, h10km, mb3.5/5, Error ellipse: s-maj=14.2km s-min=7.1km az=36.9*
*NEIC **26** 09:57:42.4±0.8, 8283N×2920W, h10km, ML3.9(OTT), Error ellipse: s-maj=17.2km s-min=10.5km az=7.0*

ISC 26 09:57:44.6±0.8, 8248N±007×305W±04, h10km, n25, σ1§20/39, mb3.5/4, 2C, Near north coast of Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAG	**Danmarks Havn**	**6.10**	**154**	⇑*i*P	**Pn**	**09 59 16.7**	**+1.9**
	3.9nm,0.3s						
DAG	**Danmarks Havn**	**6.10**	**154**	⇑*e*P	**Pn**	**09 59 16.7**	**+1.9**
	3.9nm,0.3s						
EUNU	**Eureka**	**8.50**	**283**	PN	**Pn**	**09 59 48.3**	**+0.6**
EUNU				SN	**Sn**	**10 01 23.1**	**-0.6**
EUNU				SN	**Sn**	**10 01 24.8**	**+1.1**
EUNU				Trac		10 02 18.8	
	comp=Z,13nm,0.7s						
SUMG	**Summit**	**10.09**	**194**	*e*Pn	**Pn**	**10 00 13.8**	**+4.3**
	8.8nm,0.4s						
SUMG				*e*Sn	**Sn**	**10 02 02.4**	**-0.4**
PINU	**Pond Inlet**	**13.47**	**251**	PN	**Pn**	**10 00 54.7**	**-1.0**
PINU				SN	**Sn**	**10 03 23.8**	**-1.7**
PINU				Trac		10 03 47.5	
	comp=Z,10.0nm,0.5s						
SFJD	**Kangerlussuaq**	**16.24**	**209**	PN	**Pn**	**10 01 33.5**	**+0.8**
SFJD				SN	**Sn**	**10 04 29.1**	**-3.7**
SFJD				Trac		10 04 34.3	
	comp=Z,5.8nm,0.5s						
SFJD	**Kangerlussuaq**	**16.24**	**209**	Pn	**Pn**	**10 01 33.5**	**+0.8**
SFJD				Sn	**Sn**	**10 04 29.1**	**-3.7**
GIFN	**Gifford Fjord,**	**16.43**	**251**	PN	**Pn**	**10 01 37.3**	**+2.1**
GIFN				SN	**Sn**	**10 04 37.5**	**-0.1**
GIFN				Trac		10 04 52.8	
	comp=Z,0.8nm,0.4s						
GIFN	**Gifford Fjord,**	**16.43**	**251**	Pn	**Pn**	**10 01 34.1**	**-1.1**
GIFN				Sn	**Sn**	**10 04 32.9**	**-4.7**
ILON	**Igloolik, Nuna**	**17.04**	**251**	PN	**Pn**	**10 01 43.5**	**+0.6**
ILON				SN	**Sn**	**10 04 48.9**	**-3.4**
ILON				Trac		10 05 21.0	
	comp=Z,0.7nm,0.3s						
ILON	**Igloolik, Nuna**	**17.04**	**251**	Pn	**Pn**	**10 01 43.5**	**+0.6**
ILON				Sn	**Sn**	**10 04 43.3**	**-9.1**
AP3N	**Apex site 3 Nu**	**17.29**	**254**	PN	**Pn**	**10 01 46.0**	**0.0**
AP3N				SN	**Sn**	**10 04 59.2**	**+0.9**
AP3N				Trac		10 05 30.0	
	comp=Z,0.8nm,0.5s						
AP3N	**Apex site 3 Nu**	**17.29**	**254**	Pn	**Pn**	**10 01 46.0**	**-0.1**
AP3N				*e*		10 05 29.9	
ARCES	**ARCESS Array B**	**17.47**	**104**	P	**Pn**	**10 01 43.4**	**-4.9**
	0.2nm,0.3s,baz=349,slow=9.9,SNR=4.9						
QILN	**Qililugaq Expl**	**20.18**	**253**	PN	**P**	**10 02 21.1**	**+1.8**
QILN				SN	**S**	**10 06 08.4**	**+2.6**
QILN	**Qililugaq Expl**	**20.18**	**253**	Pn	**P**	**10 02 21.1**	**+1.8**
QILN				Sn	**S**	**10 05 54.4**	**-11**
FRB	**Frobisher Bay**	**20.94**	**230**	P	**P**	**10 02 31.6**	**+4.2**
	1.9nm,0.7s,baz=25,slow=19,SNR=4.6						
FRB	**Frobisher Bay**	**20.94**	**230**	SN	**S**	**10 06 27.1**	**+6.4**
FRB	**Frobisher Bay**	**20.94**	**230**	P	**P**	**10 02 31.6**	**+4.2**
FRB				Sn	**S**	**10 06 19.1**	**-1.6**
NOA	**NORSAR Array B**	**23.96**	**127**	P	**P**	**10 02 58.5**	**-0.6**
	1.2nm,0.8s,mb3.4,baz=348,slow=9.5,SNR=3.3						
INK	**Inuvik**	**24.61**	**300**	P	**P**	**10 03 03.5**	**-1.4**
	0.7nm,0.6s,mb3.4,baz=321,slow=3.9,SNR=4.3						
HFS	**Hagfors**	**25.11**	**125**	P	**P**	**10 03 08.2**	**-1.3**
	0.9nm,0.5s,mb3.6,baz=354,slow=7.4,SNR=5.9						
YKA	**Yellowknife Ar**	**27.85**	**279**	P	**P**	**10 03 34.2**	**+0.1**
	0.1nm,0.5s,baz=11,slow=8.8,SNR=4.2						
YKA				LR	LR	10 16 13.5	
	comp=Z,23nm,20.5s,baz=35,slow=40						
YKA	**Yellowknife Ar**	**27.85**	**279**	P	**P**	**10 03 34.2**	**+0.1**
YKA				LR	LR	10 16 13.5	
MKAR	**Makanchi Array**	**46.75**	**60**	P	**P**	**10 06 07.0**	**-7.0**
	0.3nm,0.5s,mb3.5,baz=350,slow=8.1,SNR=5.1						

*NIED **26** 10:25:00, 3040N×13880E, h460km, Mw4.9 Best double couple: M₀2.34000×10¹⁶ NP1:φ₉355.00000°, δ87.00000°, λ-67.00000°. NP2:φ₉93.00000°, δ23.00000°, λ-171.00000°.*
*MOS **26** 10:25:56.8±0.9, 3034N×13838E, h418km, mb4.9/72, Error ellipse: s-maj=7.7km s-min=4.6km az=107.2*
*BJI **26** 10:25:58.6, 3037N×13845E, h447km, mB4.9, mb5.3*
*JMA **26** 10:25:58.4±0.2, 3038N×13880E, h464km±4km, M4.5*
*ISCJB **26** 10:25:59.1±0.1, 3041N±002×13837E±002, h439km, mb4.8/168, Error ellipse: s-maj=3.3km s-min=2.5km az=113.2*
*NEIC **26** 10:25:60.0±0.1, 3040N×13835E, mb4.9/96, MW4.8(NIED), Error ellipse: s-maj=3.7km s-min=2.9km az=147.0*
*IDC **26** 10:25:59.5±0.5, 3042N×13838E, h432km±4km, mb4.3/29, mb1 4.4/34, mb1mx4.4/35, mbtmp5.1/34, Error ellipse: s-maj=9.4km s-min=6.0km az=94.0*
*HRVD **26** 10:26:00.0±0.7, 3020N×13869E, h472km±4km, MW5.2/25, Centroid moment Tensor Solution. LP body waves: s25,c26; Half duration: 0 Moment tensor: Scale 10¹⁶ Nm; Mrr-0.37±.43; Mθθ-0.30±.50; Mφφ0.66±.52; Mrθ3.56±.82; Mθφ-0.76±.45; Mφr-5.74±.45; Best double couple: M₀6.79400×10¹⁶ NP1:φ₉163.00000°, δ3.00000°, λ-75.00000°. NP2:φ₉328.00000°, δ87.00000°, λ-91.00000°. Principal axes: T 7.1480, Plg42.0000°, Azm59.0000°; N -0.7080, Plg1.0000°, Azm328.0000°; P -6.4390, Plg48.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=40s.*

ISC 26 10:26:00.6±0.1, 3047N±002×13840E±002, h441km, h441km±4.0km: pP-P, n434, σ0§96/477, mb4.8/168, 22C-22D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**2.90**	**24**	P	**P**	**10 27 06.0**	**0.0**
	566nm,0.3s,baz=172,slow=6.0,SNR=257						
JHJ				S	**S**	**10 27 57.2**	**-2.0**
	758nm,0.3s,baz=281,slow=20,SNR=10						
JHJ2	**Mitsune**	**2.90**	**24**	P	**P**	**10 27 06.2**	**+0.1**
JHJ2				*e*S	**S**	**10 27 58.7**	**-0.6**
TK01	**Tokai 1**	**3.36**	**348**	P	**P**	**10 27 12.2**	**+2.5**
TK01				*e*S	**S**	**10 28 09.2**	**+3.4**
JMY	**Miyakejima3**	**3.72**	**14**	P	**P**	**10 27 13.2**	**+0.6**
JWZ	**Kozaga**	**3.81**	**324**	P	**P**	**10 27 15.7**	**+2.3**
JWZ				S	**S**	**10 28 15.9**	**+3.2**
JIE	**Ise**	**4.17**	**340**	P	**P**	**10 27 19.0**	**+2.4**
JIE				*e*S	**S**	**10 28 20.3**	**+1.8**
JIM2	**Oshima 3**	**4.33**	**11**	P	**P**	**10 27 17.5**	**-0.5**
BSO1	**Boso 1**	**4.71**	**27**	P	**P**	**10 27 20.4**	**-1.2**
BSO1				S	**S**	**10 28 25.3**	**-2.4**
CBIJ	**Chichi jima**	**4.72**	**134**	P	**P**	**10 27 18.7**	**-3.1**
	252nm,0.3s,baz=329,slow=3.7,SNR=146						
CBIJ				S	**S**	**10 28 21.0**	**-6.9**
	1μm,0.3s,baz=306,slow=23,SNR=45						
CBIJ	**Chichi jima**	**4.72**	**134**	P	**P**	**10 27 18.3**	**-3.5**
CBIJ				S	**S**	**10 28 20.5**	**-7.4**
JOD2	**Odawara 2**	**4.82**	**7**	P	**P**	**10 27 22.4**	**-0.3**
JOD2				*e*S	**S**	**10 28 29.8**	**+0.2**
JTO	**Tosashimizu**	**5.33**	**298**	P	**P**	**10 27 30.7**	**+3.0**
JTO				S	**S**	**10 28 42.6**	**+3.7**
JRY	**Ryogami san**	**5.55**	**4**	P	**P**	**10 27 30.0**	**+0.1**
JRY				*e*S	**S**	**10 28 41.3**	**-1.5**
MJAR	**Matsushiro Arr**	**6.06**	**359**	P	**P**	**10 27 34.7**	**-0.4**
	7.8nm,0.3s,baz=174,slow=12,SNR=84						
MJAR				S	**S**	**10 28 49.9**	**-2.5**
	3.4nm,0.3s,baz=30,slow=31,SNR=4.1						
MAJO	**Matsushiro**	**6.06**	**359**	*e*P	**P**	**10 27 34.6**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,65nm,0.7s						
MAJO	**Matsushiro**	**6.06**	**359**	*e*Pn	**P**	**10 27 34.6**	**-0.5**
	comp=Z,65nm,0.7s						
MAT	**Matsushiro**	**6.06**	**359**	P	**P**	**10 27 34.9**	**-0.2**
MAT				S	**S**	**10 28 50.1**	**-2.3**
MAT	**Matsushiro**	**6.06**	**359**	*e*P	**P**	**10 27 35.0**	**-0.1**
MAT				*e*S	**S**	**10 28 50.0**	**-2.4**
MAT				pmax	pmax		
	comp=Z,46nm,0.7s						
MAT	**Matsushiro**	**6.06**	**359**	*e*P	**P**	**10 27 35.0**	**-0.1**
	comp=Z,46nm,0.7s						
MAT				*e*S	**S**	**10 28 50.0**	**-2.4**
JHS	**Saijyo**	**6.34**	**317**	P	**P**	**10 27 40.4**	**+2.3**
JHS				S	**S**	**10 29 00.8**	**+3.0**
JNU	**Nakatsue**	**6.93**	**294**	P	**P**	**10 27 47.6**	**+3.4**
	comp=Z,3.7nm,0.3s,baz=90,slow=20,SNR=6.9						
JSJ	**Shimokoshiki**	**7.55**	**281**	P	**P**	**10 27 53.8**	**+2.9**
JMZ	**Minamidaito 2**	**7.85**	**236**	P	**P**	**10 27 56.1**	**+2.0**
JAM	**Amami Oshima**	**7.94**	**257**	P	**P**	**10 27 57.1**	**+2.0**
JTU	**Tsushima**	**8.61**	**300**	P	**P**	**10 28 04.7**	**+2.3**
JMK	**Ichinoseki**	**8.78**	**15**	P	**P**	**10 28 04.4**	**+0.1**
JMK				S	**S**	**10 29 41.7**	**-4.2**
JOW	**Kunigami**	**9.60**	**250**	P	**P**	**10 28 15.8**	**+2.6**
	comp=Z,33nm,0.3s,baz=79,slow=8.3,SNR=58						
JOW				S	**S**	**10 30 05.9**	**+3.4**
	baz=226,slow=28,SNR=12						
JOW	**Kunigami**	**9.60**	**250**	P	**P**	**10 28 16.1**	**+2.8**
JKE	**Kume jima 2**	**11.03**	**251**	P	**P**	**10 28 30.1**	**+1.3**
JOT	**Ohata**	**11.10**	**10**	P	**P**	**10 28 30.3**	**+0.6**
JOT				S	**S**	**10 30 31.9**	**-0.7**
KS15	**Wonju Array Si**	**11.16**	**311**	*e*Pn	**P**	**10 28 31.6**	**+1.3**
JKB	**Kayabe**	**11.59**	**10**	P	**P**	**10 28 35.2**	**+0.2**
JKB				*e*S	**S**	**10 30 40.5**	**-2.0**
JOSM	**Okushiri--Mats**	**11.62**	**4**	P	**P**	**10 28 35.2**	**-0.2**
ASAJ	**Asahikawa**	**14.03**	**13**	P	**P**	**10 29 02.6**	**+1.2**
	comp=Z,3.6nm,0.3s,baz=224,slow=13,SNR=28						
ASAJ				S	**S**	**10 31 35.3**	**+4.5**
	comp=Z,0.5nm,0.3s,baz=24,slow=12,SNR=4.8						
ASAJ				ScP	ScP	10 36 39.0	-0.5
	comp=Z,0.5nm,0.3s,baz=44,slow=3.6,SNR=8.5						
ASAJ	**Asahikawa**	**14.03**	**13**	P	**P**	**10 29 02.6**	**+1.2**
ASAJ				S	**S**	**10 31 35.3**	**+4.5**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ				pmax	pmax		
	comp=N,1.0nm,0.3s						
NEM2	**Nemuro 2**	**14.14**	**22**	P	**P**	**10 29 03.3**	**+0.7**
JTKR	**Abashiri--Toko**	**14.17**	**16**	P	**P**	**10 29 04.2**	**+1.3**
YUK	**Yuzh-Kuril'sk**	**14.78**	**22**	*e*P	**P**	**10 29 10.1**	**+0.6**
YUK				pmax	pmax		
	comp=Z,3μm,1.1s						
YUK				pmax	pmax		
	comp=N,2μm,1.0s						
YUK				pmax	pmax		
	comp=E,750nm,0.9s						
YUK				pmax	pmax		
	comp=E,540nm,0.7s						
YUK				pmax	pmax		
	comp=N,210nm,0.6s						
SSE	**Sheshan**	**14.81**	**277**	P	**P**	**10 29 09.0**	**-0.8**
SSE				XP		10 30 51.0	
SSE				S	**S**	**10 31 42.8**	**-3.5**
SSE				AMB	AMB		
	comp=Z,42nm,0.8s						
SSE				AMB	AMB		
	comp=Z,188nm,7.2s						
SSE	**Sheshan**	**14.81**	**277**	P	**P**	**10 29 09.0**	**-0.8**
	comp=Z,42nm,0.8s						
SSE				sP		10 30 51.0	
SSE				S	**S**	**10 31 42.8**	**-3.5**
YOJ	**Yonaguni jima**	**14.91**	**250**	P	**P**	**10

GUMO	**Guam**	**17.83**	**159**	P	**P**	**10 29 41.6**	**-0.1**	
	comp=Z,6.2nm,0.3s,baz=233,slow=16,SNR=6.5							
HABR	**Khabarovsk**	**18.16**	**353**	*e*P	**P**	**10 29 45.5**	**+0.3**	
HABR				*e*S	**S**	**10 32 50.4**	**+0.8**	
HABR				pmax	pmax			
	comp=Z,63nm,1.3s							
QZH	**Quanzhou**	**18.37**	**257**⇑	*i*P	**P**	**10 29 46.5**	**-0.9**	
QZH				S	**S**	**10 32 53.5**	**+0.4**	
QZH				AMB	AMB			
	comp=Z,160nm,0.8s							
TIA	**Tai'an**	**18.66**	**294**	⇓P	**P**	**10 29 48.8**	**-1.4**	
TIA				AMB	AMB			
	comp=Z,281nm,1.0s							
KLR	**Kul'dur**	**19.41**	**347**	*e*P	**P**	**10 29 54.8**	**-2.2**	
KLR				*e*S	**S**	**10 33 07.9**	**-2.1**	
KLR				smax				
	comp=E,38nm,1.2s							
BJT	**Baijiatuau**	**20.46**	**304**	*e*P	**P**	**10 30 06.2**	**-0.4**	
BJT				pmax	pmax			
	comp=Z,197nm,1.2s							
BJT	**Baijiatuau**	**20.46**	**304**	*e*P	**P**	**10 30 06.2**	**-0.4**	
	comp=Z,197nm,1.2s							
BJI	**Beijing**	**20.46**	**304**	P	**P**	**10 30 05.8**	**-0.8**	
BJI				XP	sP	10 32 04.3	-1.5	
BJI				S	**S**	**10 33 24.8**	**-2.3**	
BJI				SCP	ScP	10 36 52.0	-0.8	
BJI				AMB	AMB			
	comp=Z,122nm,1.2s							
BJI				AMB	AMB			
	comp=Z,442nm,3.6s							
BJI	**Beijing**	**20.46**	**304**	P	**P**	**10 30 05.7**	**-0.9**	
BJI				*SP	sP	10 32 04.3	-1.5	
BJI				S	**S**	**10 33 24.8**	**-2.3**	
BJI				pmax	pmax			
	comp=Z,122nm,1.2s							
BJI	**Beijing**	**20.46**	**304**	P	**P**	**10 30 05.7**	**-0.9**	
	comp=Z,122nm,1.2s							
BJI				sP	sP	10 32 04.3	-1.5	
BJI				S	**S**	**10 33 24.8**	**-2.3**	
BJI				ScP	ScP	10 36 52.0	-0.8	
WHN	**Wuhan**	**20.72**	**276**	⇓P	**P**	**10 30 09.5**	**+0.6**	
WHN				AMB	AMB			
	comp=Z,86nm,0.7s							
HIA	**Hailar**	**23.50**	**328**	*e*P	**P**	**10 30 34.7**	**+0.6**	
HIA				pmax	pmax			
	comp=Z,34nm,0.8s							
HIA	**Hailar**	**23.50**	**328**	*e*P	**P**	**10 30 34.6**	**+0.5**	
	comp=Z,34nm,0.8s,mb4.8							
GZH	**Guangzhou**	**23.51**	**258**	P	**P**	**10 30 29.0**	**-5.2**	
GZH				S	**S**	**10 34 12.5**	**-3.0**	
HHC	**Hu-ho-hao-te**	**24.05**	**303**	⇓P	**P**	**10 30 39.0**	**-0.1**	
HHC				XP	sP	10 32 46.0	+1.2	
HHC				PCP	PcP	10 34 06.8	+0.7	
HHC				S	**S**	**10 34 23.8**	**-0.2**	
HHC				SCP	ScP	10 37 02.5	+0.3	
HHC				PCS	PcS	10 37 46.0	-0.3	
HHC				SCS	ScS	10 40 47.8	-2.2	
HHC				AMB	AMB			
	comp=Z,57nm,1.4s,mb4.8							
HHC				AMB	AMB			
	comp=Z,177nm,6.8s							
BTO	**Baotou**	**25.12**	**302**	*e*P	**P**	**10 30 48.8**	**+0.3**	
BTO				AMB	AMB			
	comp=Z,30nm,1.7s,mb4.5							
XAN	**Xi'an**	**25.14**	**286**	P	**P**	**10 30 50.0**	**+1.3**	
XAN				AMB	AMB			
	comp=Z,246nm,0.8s,mb5.7							
PET	**Petropavlovsk**	**26.95**	**27**	*i*P	**P**	**10 31 04.8**	**0.0**	
PET				pmax	pmax			
	comp=Z,71nm,1.1s,mb5.0							
GYA	**Guiyang**	**28.13**	**270**⇓	*i*P	**P**	**10 31 15.3**	**+0.1**	
GYA				XP	sP	10 33 24.8	+0.7	
GYA				PCP	PcP	10 34 16.0	+0.2	
GYA				S	**S**	**10 35 27.0**	**-1.1**	
GYA				SCP	ScP	10 37 14.8	+0.5	
GYA				PCS	PcS	10 37 58.5	0.0	
GYA				SCS	ScS	10 41 06.8	-1.0	
GYA				AMB	AMB			
	comp=Z,160nm,1.3s,mb5.2							
QIZ	**Qiongzhong**	**28.24**	**253**	P	**P**	**10 31 17.3**	**+1.2**	
QIZ				XP	sP	10 33 25.5	+0.4	
QIZ				S	**S**	**10 35 32.5**	**+2.7**	
QIZ				PCS	PcS	10 38 00.0	+1.2	
QIZ				AMB	AMB			
	comp=Z,19nm,0.8s,mb4.5							
CIT	**Chita**	**28.26**	**327**	*e*P	**P**	**10 31 17.4**	**+1.1**	
CIT				*e*		10 35 31.7		
CIT				pmax	pmax			
	comp=Z,132nm,1.1s,mb5.2							
LZH	**Lanzhou**	**29.33**	**290**	⇓P	**P**	**10 31 25.8**	**+0.2**	
LZH				PP	PP	10 32 48.0	+3.6	
LZH				XP	sP	10 33 31.3	-3.6	
LZH				PCP	PcP	10 34 19.3	+0.5	
LZH				S	**S**	**10 35 47.5**	**+0.8**	
LZH				SCP	ScP	10 37 18.8	+0.7	
LZH				SS	sS	10 38 11.3	-5.5	
LZH				SCS	ScS	10 41 14.8	+1.3	
LZH				AMB	AMB			
	comp=Z,156nm,1.2s,mb5.2							
LZH				AMB	AMB			
	comp=Z,449nm,4.5s							
LZH	**Lanzhou**	**29.33**	**290**	⇓P	**P**	**10 31 25.7**	**+0.1**	
LZH				*SP	sP	10 33 31.3	-3.6	
LZH						10 34 19.2		
LZH				S	**S**	**10 35 47.4**	**+0.7**	
LZH						10 41 14.8		
LZH				pmax	pmax			
	comp=Z,156nm,1.2s,mb5.2							
LZH	**Lanzhou**	**29.33**	**290**	⇓P	**P**	**10 31 25.7**	**+0.1**	
	comp=Z,156nm,1.2s,mb5.2							
LZH				pP		10 32 38.0		
LZH				PP	PP	10 32 48.1	+3.7	
LZH				sP	sP	10 33 31.3	-3.6	
LZH				PcP	PcP	10 34 19.2	+0.4	
LZH				S	**S**	**10 35 47.4**	**+0.7**	
LZH				ScP	ScP	10 37 18.7	+0.6	
LZH				sS	sS	10 37 55.0	-16	
LZH				SS	SS	10 38 11.2	-5.6	
LZH				ScS	ScS	10 41 14.8	+1.3	
ULN	**Ulaanbaatar**	**29.60**	**315**	*e*P	**P**	**10 31 28.5**	**+0.5**	
ULN				pmax	pmax			
	comp=Z,52nm,0.9s,mb4.9							
ULN	**Ulaanbaatar**	**29.60**	**315**	*e*P	**P**	**10 31 28.5**	**+0.5**	
	comp=Z,52nm,0.9s,mb4.9							
CD2	**Chengdu**	**29.73**	**280**	P	**P**	**10 31 28.5**	**-0.6**	
CD2				S	**S**	**10 35 52.0**	**-0.8**	
CD2				AMB	AMB			
	comp=Z,30nm,0.5s,mb4.9							
SONM	**Songino Array**	**29.99**	**314**	P	**P**	**10 31 31.9**	**+0.5**	
	comp=Z,12nm,0.4s,mb4.6,baz=123,slow=8.4,SNR=148							
SONM				ScP	ScP	10 37 19.3	-0.9	
	comp=Z,1.3nm,0.6s,baz=155,slow=2.3,SNR=6.6							
MA2	**Magadan**	**30.29**	**12***c*	*i*P	**P**	**10 31 34.2**	**+0.2**	
MA2				*e*S	**S**	**10 36 01.6**	**+0.1**	
MA2				pmax	pmax			
	comp=Z,20nm,0.9s,mb4.5							
MA2	**Magadan**	**30.29**	**12**⇑	*e*P	**P**	**10 31 34.0**	**+0.1**	
	comp=Z,176nm,0.8s,mb5.4							
KMI	**Kunming**	**31.90**	**269**	P	**P**	**10 31 48.5**	**+0.6**	
KMI				PP	PP	10 33 15.0	+2.5	
KMI				PCP	PcP	10 34 25.3	-0.4	
KMI				S	**S**	**10 36 31.5**	**+5.0**	
KMI				SCP	ScP	10 37 27.5	+0.8	
KMI				XS	sS	10 38 47.8	-4.1	
KMI				SS	SS	10 39 08.3	-0.2	
KMI				SSS		10 39 44.0		
KMI				AMB	AMB			
	comp=Z,53nm,0.8s,mb4.9							
KMI	**Kunming**	**31.90**	**269**	P	**P**	**10 31 48.5**	**+0.6**	
KMI				*PP	pP	10 33 02.1	-4.6	
KMI						10 33 15.0		
KMI						10 34 25.2		
KMI				S	**S**	**10 36 31.6**	**+5.1**	
KMI				*SS	sS	10 38 47.8	-4.1	
KMI				SS	SS	10 39 08.3	-0.2	
KMI				pmax	pmax			
	comp=Z,53nm,0.8s,mb4.9							
KMI				MLR	MLR			
	comp=Z,120nm,11.7s							
KMI	**Kunming**	**31.90**	**269**	P	**P**	**10 31 48.5**	**+0.6**	
	comp=Z,53nm,0.8s,mb4.9							
KMI				pP	pP	10 33 02.1	-4.6	
KMI				PP	PP	10 33 15.0	+2.5	
KMI				PPP		10 33 39.7		
KMI				PcP	PcP	10 34 25.2	-0.5	
KMI				S	**S**	**10 36 31.6**	**+5.1**	
KMI				ScP	ScP	10 37 27.6	+0.9	
KMI				sS	sS	10 38 47.8	-4.1	
KMI				SS	SS	10 39 08.3	-0.2	
KMI				SSS		10 39 44.0		
KMI				LR	LR			
	comp=Z,120nm,11.7s							
KKM	**Kota Kinabalu**	**32.02**	**225**	*e*P	**P**	**10 31 48.8**	**-0.1**	
YAK	**Yakutsk**	**32.08**	**352**	*e*P	**P**	**10 31 48.7**	**-0.8**	
YAK				*e*S	**S**	**10 36 25.2**	**-4.0**	
YAK				*e*		10 38 44.4		
YAK				*e*		10 41 22.2		
YAK				pmax	pmax			
	comp=Z,15nm,0.9s,mb4.3							
YAK				pmax	pmax			
	comp=N,5.0nm,1.1s							
YAK				pmax	pmax			
	comp=E,2.0nm,0.9s							
YAK				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb3.8							
YAK				pmax	pmax			
	comp=E,2.0nm,1.1s							
YAK				smax				
	comp=N,14nm,1.0s							
YAK				smax				
	comp=E,12nm,1.0s							
BOD	**Bodaibo**	**32.12**	**335**	*e*P	**P**	**10 31 49.0**	**-0.7**	
BOD				pmax	pmax			
	comp=Z,13nm,0.9s,mb4.3							
TSM	**Tawau**	**32.45**	**221**	P	**P**	**10 31 51.7**	**-0.9**	
GTA	**Gaotai**	**32.66**	**296**	P	**P**	**10 31 54.5**	**+0.1**	
GTA				AP	pP	10 33 10.5	-3.0	
GTA				PCP	PcP	10 34 28.5	+0.7	
GTA				S	**S**	**10 36 36.8**	**-1.3**	
GTA				SCP	ScP	10 37 29.3	0.0	
GTA				PCS	PcS	10 38 15.5	+1.8	
GTA				SS	SS	10 39 16.5	-7.1	
GTA				SCS	ScS	10 41 29.5	-0.7	
GTA				AMB	AMB			
	comp=Z,85nm,1.1s,mb5.0							
GTA				AMB	AMB			
	comp=Z,167nm,5.3s							
ZAK	**Zakamensk**	**32.89**	**317**⇓	*i*P	**P**	**10 31 56.8**	**+0.4**	
ZAK				*e*		10 36 41.5		
ZAK				pmax	pmax			
	comp=Z,57nm,1.3s,mb4.7							
ZAK				pmax	pmax			
	comp=Z,8.0nm,1.9s,mb3.7							
ZAK				pmax	pmax			
	comp=Z,7.0nm,1.9s,mb3.7							
IRK	**Irkutsk**	**33.14**	**321**	*e*P	**P**	**10 31 58.6**	**+0.1**	
IRK				pmax	pmax			
	comp=Z,38nm,1.6s,mb4.5							
TLY	**Talaya**	**33.23**	**320**⇓	*i*P	**P**	**10 31 59.6**	**+0.3**	
TLY				*e*S	**S**	**10 36 42.2**	**-4.6**	
TLY				pmax	pmax			
	comp=Z,35nm,1.1s,mb4.6							
TLY				MLR	MLR			
	comp=Z,47nm,17.0s							
TLY	**Talaya**	**33.23**	**320**	*e*P	**P**	**10 32 00.5**	**+1.2**	
MOY	**Mondy**	**34.73**	**318**	*e*P	**P**	**10 32 12.3**	**+0.3**	
MOY				pmax	pmax			
	comp=Z,29nm,2.4s,mb4.2							
KKTK	**Khon Kaen**	**35.38**	**255**	P	**P**	**10 32 18.2**	**+0.7**	
	comp=Z,1μm,0.5s							
CHG	**Chiang Mai**	**37.52**	**261**	⇓P	**P**	**10 32 35.6**	**+0.4**	
	comp=Z,150nm,0.6s,mb5.5							
CHTO	**Chiang Mai**	**37.52**	**261**	*e*P	**P**	**10 32 35.5**	**+0.3**	
CHTO				pmax	pmax			
	comp=Z,113nm,0.8s,mb5.2							
CHTO	**Chiang Mai**	**37.52**	**261**	*e*P	**P**	**10 32 35.5**	**+0.4**	
	comp=Z,113nm,0.8s,mb5.2							
NST	**Nakhon Sawan**	**37.96**	**256**	⇑P	**P**	**10 32 39.0**	**+0.2**	
	comp=Z,100nm,1.0s,mb5.1							
KSM	**Kuching**	**39.26**	**228**	*e*P	**P**	**10 32 50.1**	**+0.7**	
NNT	**Nongplab**	**39.88**	**252**	P	**P**	**10 32 55.9**	**+1.4**	
LSA	**Lhasa**	**40.66**	**281**	*e*P	**P**	**10 33 01.6**	**+0.9**	
LSA				pmax	pmax			
	comp=Z,15nm,0.6s,mb4.5							
LSA	**Lhasa**	**40.66**	**281**	*e*P	**P**	**10 33 01.6**	**+0.8**	
	comp=Z,15nm,0.6s,mb4.5							
BILL	**Bilibino**	**41.02**	**16***d*	*i*P	**P**	**10 33 03.0**	**-0.6**	
BILL				*e*		10 34 45.6		
BILL				*e*S	**S**	**10 38 40.5**	**-2.4**	
BILL				pmax	pmax			
	comp=Z,98nm,1.1s,mb5.0							
BILL	**Bilibino**	**41.02**	**16**	*e*P	**P**	**10 33 03.4**	**-0.2**	
	comp=Z,70nm,0.9s,mb5.0							
SHL	**Shillong**	**41.13**	**275**	*e*P	**P**	**10 33 05.0**	**+0.4**	
SHL				AMb	AMB	10 33 13.4		
	comp=Z,1μm,1.1s							
TIXI	**Tiksi**	**41.56**	**355**	*e*P	**P**	**10 33 04.8**	**-3.2**	
TIXI				*e*SS	SS	10 42 07.0	-7.1	
TIXI				pmax	pmax			
	comp=Z,15nm,0.8s,mb4.4							
WMQ	**Urumqi**	**41.94**	**303**⇓	*i*P	**P**	**10 33 11.5**	**+0.5**	
WMQ				AP	pP	10 34 35.0	+0.9	
WMQ				PCP	PcP	10 34 57.5	+0.9	
WMQ				PP	PP	10 35 00.0	+0.3	
WMQ				XP	sP	10 35 22.0	-2.0	
WMQ				SCP	ScP	10 38 05.8	+1.0	
WMQ				PCS	PcS	10 38 48.8	-0.2	
WMQ				S	**S**	**10 38 58.0**	**+1.7**	
WMQ				XS	sS	10 41 27.0	-0.3	
WMQ				SCS	ScS	10 42 23.5	+0.1	
WMQ				AMB	AMB			
	comp=Z,103nm,0.6s,mb5.3							
SNG	**Songkhla**	**42.29**	**245**	P	**P**	**10 33 15.0**	**+1.2**	
	comp=Z,402nm,1.0s,mb5.7							
KAKA	**Kakadu**	**43.31**	**188**	*e*P	**P**	**10 33 20.9**	**-0.9**	
	comp=Z,13nm,0.6s,mb4.4							
KULM	**Kulim**	**43.45**	**242**	*e*P	**P**	**10 33 23.3**	**+0.4**	
KGM	**Kluang**	**43.63**	**236**	P	**P**	**10 33 24.9**	**+0.6**	
IPM	**Ipoh**	**43.68**	**241**	P	**P**	**10 33 25.0**	**+0.3**	
ZAL	**Zalesovo**	**44.78**	**317**	P	**P**	**10 33 34.0**	**+0.8**	
	comp=Z,11nm,0.4s,mb4.5,baz=4.3,slow=7.7,SNR=36							
ZAL				PcP	PcP	10 35 06.2	-0.1	
	comp=Z,4.2nm,0.7s,baz=3.3,slow=1.1,SNR=5.0							
JIRN	**Jiri**	**45.39**	**280**	*e*P	**P**	**10 33 39.2**	**+1.2**	
	comp=Z,266nm,0.4s							
GUN	**Gumba**	**45.59**	**281**	*e*P	**P**	**10 33 40.5**	**+1.0**	
MK31	**Makanchi Array**	**45.78**	**307**	P	**P**	**10 33 40.9**	**-0.1**	
MK31				pmax	pmax			
	comp=Z,20nm,0.8s,mb4.5							
MKAR	**Makanchi Array**	**45.78**	**307**	P	**P**	**10 33 40.9**	**-0.1**	
	comp=Z,25nm,0.7s,mb4.7,baz=92,slow=9.4,SNR=315							
MKAR				PcP	PcP	10 35 09.4	-0.4	
	comp=Z,5.0nm,0.5s,baz=240,slow=2.2,SNR=6.9							
MKAR				ScP	ScP	10 38 18.6	-1.5	
	comp=Z,5.6nm,0.9s,baz=89,slow=5.2,SNR=5.1							
MKAR	**Makanchi Array**	**45.78**	**307**	P	**P**	**10 33 40.9**	**-0.1**	
MKAR					pP	10 35 09.5	+3.5	
MKAR	**Makanchi Array**	**45.78**	**307**	P	**P**	**10 33 40.9**	**-0.1**	
MKAR				PcP	PcP	10 35 09.4	-0.4	
MKAR				ScP	ScP	10 38 18.6	-1.4	
NVS	**Novosibirsk**	**45.83**	**319**	*i*P	**P**	**10 33 39.9**	**-1.5**	
NVS				*e*		10 42 43.8		
NVS				pmax	pmax			
	comp=N,17nm,1.3s							
NVS				pmax	pmax			
	comp=E,45nm,1.3s							
NVS				pmax	pmax			
	comp=Z,51nm,1.3s,mb4.7							
PKI	**Pulchoki**	**46.08**	**280**	*e*P	**P**	**10 33 43.7**	**+0.4**	
AKUT	**Akutan**	**46.11**	**42**	*e*P	**P**	**10 33 42.7**	**-0.8**	
	comp=Z,66nm,0.6s,mb5.1							
KKN	**Kakani**	**46.13**	**281**	*e*P	**P**	**10 33 43.8**	**+0.1**	
	comp=Z,79nm,0.5s,mb5.3							
DMN	**Daman**	**46.33**	**280**	*e*P	**P**	**10 33 45.3**	**+0.1**	
	comp=Z,64nm,0.4s,mb5.3							
PSI	**Prapat**	**46.36**	**241**	P	**P**	**10 33 45.5**	**+0.1**	
	comp=Z,47nm,0.8s,mb4.8,baz=20,slow=5.3,SNR=25							
PSI				PcP	PcP	10 35 12.7	+0.9	
	comp=Z,13nm,0.7s,baz=344,slow=3.1,SNR=4.3							
PSI				ScP	ScP	10 38 22.9	+0.5	
	comp=Z,6.8nm,0.8s,baz=63,slow=8.5,SNR=4.1							
PSI	**Prapat**	**46.36**	**241**	P	**P**	**10 33 45.5**	**+0.1**	
PSI					pP	10 35 12.7	+2.0	
GKN	**Gorkha**	**46.61**	**281**	*e*P	**P**	**10 33 47.8**	**+0.4**	
BOK	**Bokaro**	**46.87**	**275**	*e*P	**P**	**10 33 48.9**	**-0.4**	
BOK				AMb	AMB	10 33 52.0		
	comp=Z,91nm,1.2s,mb5.0							
KOLN	**Koldanda**	**47.56**	**281**	*e*P	**P**	**10 33 55.0**	**+0.5**	
	comp=Z,286nm,0.9s,mb5.6							
KURK	**Kurchatov**	**48.26**	**313**	*e*P	**P**	**10 33 59.2**	**-0.7**	
KURK				pmax	pmax			
	comp=Z,57nm,0.8s,mb5.0							
KURK	**Kurchatov**	**48.26**	**313**	*e*P	**P**	**10 33 59.2**	**-0.7**	
	comp=Z,57nm,0.8s,mb5.0							
SDPT	**Sand Point**	**49.29**	**41**	*e*P	**P**	**10 34 06.3**	**-1.2**	
	comp=Z,103nm,0.6s,mb5.3							
FITZ	**Fitzroy Crossi**	**49.82**	**196**	*e*P	**P**	**10 34 11.0**	**-0.5**	
	comp=Z,23nm,1.0s,mb4.5							
FITZ	**Fitzroy Crossi**	**49.82**	**196**	P	**P**	**10 34 11.1**	**-0.3**	
	comp=Z,13nm,0.8s,mb4.3,baz=25,slow=8.3,SNR=28							
LGTI	**Lohaghat**	**49.90**	**284**	*e*P	**P**	**10 34 13.0**	**+1.0**	
WRAB	**Tennant Creek**	**50.26**	**185**	*e*P	**P**	**10 34 13.6**	**-1.1**	
WRAB				pmax	pmax			
	comp=Z,23nm,0.7s,mb4.6							
WRAB	**Tennant Creek**	**50.26**	**185**	*e*P	**P**	**10 34 13.6**	**-1.1**	
	comp=Z,23nm,0.7s,mb4.6							
WB2	**Warramunga Arr**	**50.27**	**185**	*e*P	**P**	**10 34 13.7**	**-1.1**	
WRA	**Warramunga Arr**	**50.27**	**185**	P	**P**	**10 34 13.7**	**-1.0**	
	comp=Z,15nm,0.5s,mb4.6,baz=0.6,slow=7.8,SNR=212							
WRA				pP	pP	10 35 41.0	-0.8	
	comp=Z,7.7nm,0.9s,baz=4.8,slow=8.1,SNR=4.9							
WRA				PP	PP	10 36 13.9	-1.6	
	comp=Z,19nm,0.7s,baz=11,slow=8.4,SNR=12							
WRA				ScP	ScP	10 38 38.4	-0.7	
	comp=Z,4.2nm,0.9s,baz=358,slow=4.3,SNR=4.8							
WRA				S	**S**	**10 40 47.5**	**-5.8**	
	comp=Z,3.5nm,0.9s,baz=0.1,slow=13,SNR=6.8							
WRA	**Warramunga Arr**	**50.27**	**185**	P	**P**	**10 34 13.7**	**-1.1**	
WRA				*PP	pP	10 35 41.0	-0.8	
WRA						10 36 13.9		
WRA				S	**S**	**10 40 47.5**	**-5.8**	
CHGN	**Chignik**	**50.51**	**40**	*e*P	**P**	**10 34 15.9**	**-0.6**	
BLSP	**Bilaspur**	**50.69**	**275**	*e*P	**P**	**10 34 17.6**	**-0.3**	
BLSP				AMb	AMB	10 34 19.0		
	comp=Z,68nm,1.0s,mb4.8							
CTA	**Charters Tower**	**50.83**	**170**	*e*P	**P**	**10 34 16.8**	**-2.1**	
	comp=Z,3.7nm,1.1s							
CTA	**Charters Tower**	**50.83**	**170**	P	**P**	**10 34 18.1**	**-0.8**	
	comp=Z,3.6nm,0.8s,baz=337,slow=7.8,SNR=4.5							
CTA	**Charters Tower**	**50.83**	**170**	P	**P**	**10 34 18.1**	**-0.8**	
CTA				pmax	pmax			
	comp=Z,4.0nm,0.8s							
VIS	**Vishakhapatnam**	**51.41**	**269**	*e*P	**P**	**10 34 24.2**	**+1.1**	
VIS				AMb	AMB	10 34 25.0		
	comp=Z,73nm,0.7s,mb5.0							
FRU	**Bishkek**	**51.51**	**303**	*e*P	**P**	**10 34 24.0**	**+0.1**	
FRU				pmax	pmax			
	comp=Z,80nm,1.4s,mb4.8							
AAK	**Ala-Archa**	**51.63**	**302**	*e*P	**P**	**10 34 23.9**	**-0.8**	
AAK				pmax	pmax			
	comp=Z,25nm,0.8s,mb4.5							
AAK	**Ala-Archa**	**51.63**	**302**	*e*P	**P**	**10 34 23.9**	**-0.8**	
	comp=Z,26nm,0.8s,mb4.5							
SMLA	**Simla**	**51.99**	**287**	*i*P	**P**	**10 34 25.1**	**-2.2**	
	comp=Z,29nm,0.3s,mb5.0							
SMLA				*e*P		10 34 25.7		
SMLA				AMb	AMB	10 34 27.2		
	comp=Z,143nm,0.8s,mb5.3							
SMLA				*i* x	x	10 41 12.2		
SDNR	**Sundarnagar**	**52.05**	**288**	*e*P	**P**	**10 34 27.6**	**-0.2**	
TTA	**Tatalina**	**52.28**	**32**	*e*P	**P**	**10 34 29.1**	**-0.3**	
TTA				pmax	pmax			
	comp=Z,20nm,1.0s,mb4.3							
TTA	**Tatalina**	**52.28**	**32**	*e*P	**P**	**10 34 29.1**	**-0.4**	
	comp=Z,20nm,1.0s,mb4.3							
TTA				*e*P		10 34 29.3		
SVW2	**Sparrevohn**	**52.31**	**34**	*e*P	**P**	**10 34 30.2**	**+0.6**	
DLH	**Dalhousie**	**52.59**	**289**	*e*P	**P**	**10 34 31.0**	**-0.7**	
NDI	**New Delhi**	**52.66**	**284**	*e*P	**P**	**10 34 31.0**	**-1.2**	
NDI				*e*P		10 34 32.2		
NDI				AMb	AMB	10 34 33.6		
	comp=Z,141nm,1.9s,mb4.9							
VOSK	**Vostochnaya**	**52.98**	**315**	P	**P**	**10 34 33.2**	**-1.3**	
VOSK				pmax	pmax			
	comp=Z,15nm,0.9s,mb4.2							
CHKZ	**Chkalovo**	**53.15**	**317**	P	**P**	**10 34 34.9**	**-0.8**	
CHKZ				pmax	pmax			
	comp=Z,52nm,0.9s,mb4.8							
BVA0	**Borovoye Array**	**53.32**	**316**	*i*P	**P**	**10 34 36.8**	**-0.1**	
BVA0				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb3.8							
NGP	**Nagpur**	**53.71**	**275**	*e*P	**P**	**10 34 38.1**	**-1.6**	
NGP				AMb	AMB	10 34 38.4		
	comp=Z,115nm,0.8s,mb5.2							
KDAK	**Kodiak Island**	**53.73**	**38**	P	**P**	**10 34 39.4**	**-0.4**	
	comp=Z,76nm,0.7s,mb5.0,baz=277,slow=3.9,SNR=112							
AS31	**Alice Springs**	**53.99**	**185**	*e*P	**P**	**10 34 40.8**	**-0.9**	
ASAR	**Alice Springs**	**53.99**	**185**	P	**P**	**10 34 40.9**	**-0.8**	
	comp=Z,6.0nm,0.5s,mb4.0,baz=360,slow=5.8,SNR=168							
ASAR				pP	pP	10 36 08.3	-2.1	
	comp=Z,0.6nm,0.6s,baz=10,slow=5.8,SNR=1.6							
ASAR				ScP	ScP	10 38 54.5	-0.8	
	comp=Z,1.2nm,0.7s,baz=0.6,slow=4.4,SNR=4.6							
ASAR				S	**S**	**10 41 39.5**	**-3.8**	
	comp=Z,1.5nm,0.7s,baz=17,slow=22,SNR=12							
ASAR	**Alice Springs**	**53.99**	**185**	P	**P**	**10 34 40.9**	**-0.8**	
ASAR				*PP	pP	10 36 08.3	-2.1	
ASAR				S	**S**	**10 41 39.5**	**-3.8**	
ASPA	**Alice Springs**	**54.00**	**185**	*e*P	**P**	**10 34 40.8**	**-0.9**	
ZRNK	**Zerenda**	**54.16**	**316**	P	**P**	**10 34 42.2**	**-0.7**	
ZRNK				pmax	pmax			
	comp=Z,13nm,0.7s,mb4.3							
ZRNK	**Zerenda**	**54.16**	**316**	*e*P	**P**	**10 34 42.2**	**-0.7**	
	comp=Z,17nm,0.5s,mb4.5							
BHPL	**Bhopal**	**54.32**	**278**	*e*P	**P**	**10 34 43.7**	**-0.3**	
BHPL				AMb	AMB	10 34 44.7		
	comp=Z,68nm,0.6s

AB31 pmax pmax
comp=Z,12nm,0.4s,mb4.7
TRD Trivandrum 61.16 263 *e*P **P** 10 35 31.1 +0.3
AKTK Aktyubinsk 61.31 314 P **P** 10 35 31.6 -0.2
AKTO Aktyubinsk 61.31 314 P **P** 10 35 31.6 -0.2
comp=Z,37nm,0.6s,mb5.0,baz=87,slow=6.6,SNR=56
INK Inuvik 61.38 25 P **P** 10 35 31.7 -0.6
comp=Z,16nm,0.6s,mb4.6,baz=291,slow=6.4,SNR=175
FORT Forrest 61.70 190 *e*P **P** 10 35 33.8 -0.6
comp=Z,44nm,0.5s,mb5.2
STKA Stephens Creek 62.08 177 *e*P **P** 10 35 34.1 -2.8
comp=Z,5.6nm,0.7s,mb4.2
STKA Stephens Creek 62.08 177 P **P** 10 35 34.5 -2.3
comp=Z,5.9nm,0.6s,mb4.3,baz=354,slow=8.4,SNR=22
SKAG Skagway 62.46 35 *e*P **P** 10 35 39.9 +0.5
comp=Z,68nm,1.1s,mb5.1
ORR Orenburg 63.00 316 *i* P **P** 10 35 42.5 -0.4
ORR pmax pmax
comp=Z,40nm,0.7s,mb5.1
CRAG Craig 64.67 39 *e*P **P** 10 35 54.0 +0.4
KLBR Kellerberrin 64.75 199 *e*P **P** 10 35 52.5 -1.6
comp=Z,15nm,0.9s,mb4.6
DLBC Dease Lake 65.38 35 P **P** 10 35 58.9 +0.8
comp=Z,22nm,1.0s,mb4.8,baz=293,slow=7.5,SNR=39
DLBC Dease Lake 65.38 35 *e*P **P** 10 35 58.5 +0.3
MUN Mundaring 65.57 201 *e*P PcP 10 36 25.5 -1.4
NWAO Narrogin (SRO) 66.16 199 P **P** 10 36 02.4 -0.6
comp=Z,21nm,0.6s,mb4.9,baz=26,slow=6.9,SNR=40
NWAO Narrogin (SRO) 66.16 199 P **P** 10 36 02.4 -0.6
ARCES ARCESS Array B 69.26 340 P **P** 10 36 22.3 +0.2
comp=Z,2.6nm,0.3s,mb4.3,baz=73,slow=8.5,SNR=55
RES Resolute Bay 69.56 13 *e*P **P** 10 36 23.4 -0.5
RES pmax pmax
comp=Z,16nm,0.7s,mb4.7
RES Resolute Bay 69.56 13 *e*P **P** 10 36 23.4 -0.5
comp=Z,16nm,0.7s,mb4.7
WBK Wadi Bani Khal 70.17 285 P **P** 10 36 28.5 +0.9
SNR=7.8
BIDO Bidbid 70.48 286 P **P** 10 36 30.5 +1.1
SNR=6.1
JOF Joensuu 70.58 332 *e*p **P** 10 36 28.6 -1.4
comp=Z,16nm,0.4s,mb4.9
JOF Joensuu 70.58 332 *e*P **P** 10 36 28.6 -1.4
JOF pmax pmax
comp=Z,16nm,0.4s,mb4.9
YKW3 Yellowknife Ar 70.72 28 *e*P **P** 10 36 29.9 -0.9
YKA Yellowknife Ar 70.75 28 P **P** 10 36 30.1 -0.9
comp=Z,16nm,0.8s,mb4.6,baz=296,slow=6.0,SNR=166
JMDO Jabal Madar 71.00 285 P **P** 10 36 32.7 +0.2
SNR=8.8
MOS Moscow 71.05 324 *e*P **P** 10 36 31.5 -1.3
MOS pmax pmax
comp=Z,66nm,0.9s,mb5.2
HOQ Hoqain 71.13 287 P **P** 10 36 33.6 +0.4
SNR=5.3
BSY Bisya 71.59 286 P **P** 10 36 36.4 +0.4
SNR=9.1
ASHO Ashiyiah 71.69 288 P **P** 10 36 37.2 +0.7
SNR=7.1
OBN Obninsk 71.87 324⇑ *e*P **P** 10 36 37.3 -0.3
OBN pmax pmax
comp=Z,34nm,0.8s,mb4.9
ARQ Araqi 71.89 287 P **P** 10 36 38.4 +0.7
SNR=15
DAG Danmarks Havn 72.07 355⇑ *i*P **P** 10 36 38.7 -0.1
comp=Z,6.7nm,0.9s,mb4.2
DAG Danmarks Havn 72.07 355⇑ *i*P **P** 10 36 38.7 -0.1
DAG pmax pmax
comp=Z,7.0nm,0.9s,mb4.2
VRSR Storozhevoye 72.22 319 *e*P **P** 10 36 39.3 -0.4
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
VRSR pmax pmax
comp=E,10.0nm,0.8s
GOF Gofitskoye 72.62 312⇑ *i*P **P** 10 36 41.5 -0.5
GOF pmax pmax
comp=Z,60nm,0.7s,mb5.2
OOW Octopus West 72.72 45 P **P** 10 36 44.2 +1.7
PGC Sidney 72.76 43 *e*P **P** 10 36 43.4 +0.6
comp=Z,123nm,1.1s,mb5.3
KAF Kangasniemi 72.99 333 *e*p **P** 10 36 42.6 -1.5
comp=Z,14nm,0.5s,mb4.8,baz=54,slow=5.4
KAF Kangasniemi 72.99 333 *e*P **P** 10 36 42.6 -1.5
KAF pmax pmax
comp=Z,14nm,0.5s,mb4.8
KIV Kislovodsk 73.33 311⇑ *e*P **P** 10 36 46.7 +0.6
KIV *e* 10 45 38.1
KIV pmax pmax
comp=Z,68nm,0.9s,mb5.2
KIV Kislovodsk 73.33 311 *e*P **P** 10 36 46.3 +0.2
comp=Z,56nm,0.8s,mb5.1
FINES FINESS Array B 73.45 332 P **P** 10 36 46.2 -0.6
comp=Z,6.9nm,0.3s,mb4.6,baz=75,slow=5.3,SNR=88
GNI Garni 73.63 307 *e*P **P** 10 36 49.1 +1.3
GNI pmax pmax
comp=Z,18nm,0.8s
GNI Garni 73.63 307 *e*P **P** 10 36 49.1 +1.2
comp=Z,18nm,0.8s,mb4.9
CMW Cultus Mountai 73.65 43 P **P** 10 36 48.8 +0.9
JCW Jim Creek 73.87 43 P **P** 10 36 49.9 +0.7
KEBM Edson Butte 74.83 49 *e*P **P** 10 36 55.6 +1.0
TWW Teanaway 75.00 44 P **P** 10 36 56.7 +1.2
TBM Table Mountain 75.14 44 P **P** 10 36 56.8 +0.4
BROR Big Rock Looko 75.39 47 P **P** 10 36 58.4 +0.6
SOC Sochi 75.41 312 *e*P **P** 10 36 57.8 -0.1
SOC *e* 10 39 49.0
SOC *e*PPP 10 41 49.7
SOC *e*S S 10 45 58.3 -2.9
SOC *e*SS SS 10 51 04.6 +1.8
SOC pmax pmax
comp=Z,38nm,0.7s,mb5.1
VFP Flag Point 75.50 46 P **P** 10 36 59.2 +0.8
MXC Moxie City 75.61 44 P **P** 10 36 59.9 +0.9
EPH Ephrata 75.65 43 P **P** 10 36 59.4 +0.1
HBO Huckleberry Mo 75.67 47 P **P** 10 37 00.1 +0.8
HUMO Hull Mountain 75.85 49 *e*P **P** 10 37 01.0 +0.7
comp=Z,38nm,1.5s,mb4.8
EDM Edmonton 76.08 36 *e*P **P** 10 37 01.4 -0.2
OD2 Odessa Site #2 76.16 43 P **P** 10 37 02.0 0.0
HAWA Hanford 76.16 44 *e*P **P** 10 37 02.4 +0.3
comp=Z,2.1nm,1.0s
UMR Umm Al-Rimmam 76.20 296 *e*P **P** 10 37 01.9 -0.3
UMR AMb AMB 10 37 02.6
comp=Z,136nm,0.3s
ANN Anapa 76.27 314 *e*P **P** 10 37 02.6 -0.1
ANN *i* *PP pP 10 38 40.5 +1.3
ANN *e* 10 40 01.6
ANN *e*PPP 10 41 51.1
ANN *e*S S 10 46 11.1 +0.6
ANN *e*SS SS 10 51 17.0 +1.3
ANN pmax pmax
comp=Z,95nm,1.1s,mb5.3
MIB Mutribah 76.37 297 *e*P **P** 10 37 02.8 -0.5
MIB AMb AMB 10 37 04.1
comp=Z,183nm,0.6s
KBD Kabd 76.39 296 *e*P **P** 10 37 03.0 -0.3
KBD AMb AMB 10 37 03.8
comp=Z,302nm,0.4s
QRN Al-Qurain 76.41 295 *e*P **P** 10 37 03.2 -0.2
QRN AMb AMB 10 37 03.7
comp=Z,111nm,0.6s,mb5.6
YBH Yreka Blue Hor 76.43 50 P **P** 10 37 04.3 +0.8
comp=Z,15nm,0.8s,mb4.7,baz=0.2,slow=2.5,SNR=20
RBK Rabkut 76.46 282⇑P **P** 10 37 03.6 -0.1
RDF Al-Radifah 76.61 296 *e*P **P** 10 37 04.1 -0.5
RDF AMb AMB 10 37 05.0
comp=Z,141nm,0.5s
WHFO Wadi Hawf 76.63 283⇑P **P** 10 37 04.3 -0.4
NEW Newport 76.64 42 P **P** 10 37 04.8 +0.1
comp=Z,42nm,0.8s,mb5.1,baz=301,slow=3.8,SNR=58
NAY Al-Naaiem 76.70 296 *e*P **P** 10 37 04.6 -0.5
NAY AMb AMB 10 37 05.4
comp=Z,91nm,0.5s,mb5.7
WDC Whiskeytown Da 77.09 51 *e*P **P** 10 37 07.5 +0.3
WDC pmax pmax
comp=Z,25nm,1.2s,mb4.7
WDC Whiskeytown Da 77.09 51 *e*P **P** 10 37 07.5 +0.3
comp=Z,25nm,1.2s,mb4.7
SUMG Summit 77.21 359 *e*P **P** 10 37 08.4 +0.6
comp=Z,11nm,0.8s,mb4.5
ABTO Aybut 77.29 283⇓P **P** 10 37 08.3 0.0
MOD Modoc 77.91 48 *e*P **P** 10 37 11.9 +0.3
comp=Z,18nm,0.8s,mb4.8

AKASG Malin Array Be 77.94 322 P **P** 10 37 11.0 -0.8
comp=Z,6.1nm,0.3s,mb4.7,baz=51,slow=5.6,SNR=40
AKASG WALA Malin Array Be 77.94 322 P **P** 10 37 11.0 -0.8
WALA Waterton Lakes 78.03 40 *e*P **P** 10 37 12.7 +0.4
comp=Z,31nm,0.6s,mb5.1
NSHM Saint Helena R 78.05 52 *e*P **P** 10 37 12.8 +0.4
BMO Blue Mountains 78.29 45 *e*P **P** 10 37 13.8 +0.1
BMO pmax pmax
comp=Z,24nm,0.8s,mb4.9
BMO Blue Mountains 78.29 45 *e*P **P** 10 37 13.8 +0.1
comp=Z,24nm,0.8s,mb4.9
OHCM Honcut 78.41 51 *e*P **P** 10 37 14.3 -0.1
WVOR Wild Horse Val 78.71 47 *e*P **P** 10 37 16.4 +0.4
WVOR pmax pmax
comp=Z,29nm,0.9s,mb4.9
WVOR Wild Horse Val 78.71 47 *e*P **P** 10 37 16.4 +0.4
comp=Z,29nm,0.9s,mb4.9
MALT Malatya 78.82 308 *e*P **P** 10 37 17.5 +0.9
MALT pmax pmax
comp=Z,14nm,0.8s,mb4.6
MALT Malatya 78.82 308 *e*P **P** 10 37 17.5 +0.9
comp=Z,14nm,0.8s,mb4.6
SUW Suwalki 79.04 327 *e*P **P** 10 37 17.6 -0.1
MSO Missoula 79.23 42 *e*P **P** 10 37 17.9 -0.8
comp=Z,4.9nm,0.8s,mb4.2
NB2 NORSAR Subarra 79.24 337 P **P** 10 37 17.8 -1.0
comp=Z,9.2nm,0.7s,mb4.5,baz=46,slow=5.3
NOA NORSAR Array B 79.24 337 P **P** 10 37 18.2 -0.6
comp=Z,7.3nm,0.7s,mb4.4,baz=45,slow=5.3,SNR=22
NOA NORSAR Array B 79.24 337 P **P** 10 37 18.2 -0.6
CHMT Chamberlain Mo 79.58 41 *e*P **P** 10 37 20.1 -0.5
PAHR Pah Rah Range 79.63 50 *e*P **P** 10 37 20.9 0.0
comp=Z,39nm,1.3s,mb4.9
CMB Columbia Colle 79.81 52 *e*P **P** 10 37 21.9 +0.1
CMB pmax pmax
comp=Z,41nm,1.1s,mb5.0
CMB Columbia Colle 79.81 52 *e*P **P** 10 37 21.9 +0.1
comp=Z,41nm,1.1s,mb5.0
HRY Holter Researc 80.50 41 *e*P **P** 10 37 25.6 +0.2
FFC Flin Flon 80.60 31 *e*P **P** 10 37 25.1 -0.9
FFC pmax pmax
comp=Z,27nm,0.8s,mb5.0
FFC Flin Flon 80.60 31 *e*P **P** 10 37 25.1 -0.9
comp=Z,27nm,0.8s,mb5.0
BMN Battle Mountai 80.66 49 *e*P **P** 10 37 27.2 +0.9
BMN pmax pmax
comp=Z,13nm,0.9s,mb4.7
BMN Battle Mountai 80.66 49 *e*P **P** 10 37 27.2 +0.9
comp=Z,13nm,0.9s,mb4.7
HLID Hailey 80.74 45 *e*P **P** 10 37 27.4 +0.7
comp=Z,17nm,0.8s,mb4.8
DLMT Dillon 80.82 42 *e*P **P** 10 37 27.3 +0.2
comp=Z,55nm,0.8s,mb5.3
EGMT Eagleton 80.89 39 *e*P **P** 10 37 27.5 0.0
comp=Z,34nm,0.9s,mb5.1
LCCM Lewis and Clar 80.97 42 P **P** 10 37 28.3 +0.4
MCMT McKenzie Canyo 80.97 43 *e*P **P** 10 37 27.9 0.0
FCC Fort Churchill 80.99 25 *e*P **P** 10 37 26.8 -1.2
FCC pmax pmax
comp=Z,14nm,1.1s,mb4.6
FCC Fort Churchill 80.99 25 *e*P **P** 10 37 26.8 -1.2
comp=Z,14nm,1.1s,mb4.6
NVAR Mina Array Bea 81.01 51 P **P** 10 37 28.8 +0.7
comp=Z,6.5nm,0.6s,mb4.6,baz=290,slow=6.4,SNR=74
NVAR pP pP 10 39 04.5 -1.5
comp=Z,0.5nm,0.6s,baz=274,slow=6.1,SNR=1.7
MNV Mina 81.11 51 *e*P **P** 10 37 28.8 +0.2
MNV pmax pmax
comp=Z,24nm,1.3s,mb4.8
MNV Mina 81.11 51 *e*P **P** 10 37 28.8 +0.2
comp=Z,24nm,1.3s,mb4.8
BOZ Bozeman (W) 81.22 42 *e*P **P** 10 37 29.4 +0.2
BOZ pmax pmax
comp=Z,27nm,0.7s,mb5.1
BOZ Bozeman (W) 81.22 42 *e*P **P** 10 37 29.4 +0.2
comp=Z,28nm,0.7s,mb5.1
BR131 Keskin Array S 81.29 311 *e*P **P** 10 37 29.4 -0.1
comp=Z,25nm,0.8s,mb5.0
BR131 *e* 10 37 49.2
BRTR Keskin Array B 81.29 311 P **P** 10 37 29.6 0.0
comp=Z,29nm,0.8s,mb5.0,baz=99,slow=4.0,SNR=122
CFR Carcaliu 81.66 318⇑ *i*P **P** 10 37 31.4 0.0
CFR Carcaliu 81.66 318⇑ P **P** 10 37 31.2 -0.3
ANTO Ankara 81.76 311 *e*P **P** 10 37 32.7 +0.7
ANTO pmax pmax
comp=Z,19nm,0.8s,mb4.9
ANTO Ankara 81.76 311 *e*P **P** 10 37 32.7 +0.7
comp=Z,18nm,0.8s,mb4.9
ELK Elko 81.77 47 *e*P **P** 10 37 32.8 +0.8
ELK pmax pmax
comp=Z,20nm,1.0s
ELK Elko 81.77 47 *e*P **P** 10 37 32.8 +0.8
comp=Z,20nm,1.0s,mb4.8
QLMT Earthquake Lak 81.80 42 *e*P **P** 10 37 33.4 +1.2
BURAR Bucovina Array 81.86 321⇓ *i*P **P** 10 37 32.6 +0.1
BURAR Bucovina Array 81.86 321⇑ P **P** 10 37 33.0 +0.5
TPH Tonopah 81.92 51 *e*P **P** 10 37 33.5 +0.7
TPH pmax pmax
comp=Z,59nm,1.3s,mb5.2
TPH Tonopah 81.92 51 *e*P **P** 10 37 33.5 +0.7
comp=Z,60nm,1.3s,mb5.2
KWP Kalwaria 81.96 324 *e*P **P** 10 37 33.2 +0.2
HARR Harsova 82.06 318⇑ *i*P **P** 10 37 33.9 +0.4
VRI Vrincioaia 82.06 319⇓ *i*P **P** 10 37 34.4 +0.9
VRI Vrincioaia 82.06 319⇑ P **P** 10 37 34.0 +0.4
PLOR Plostina 82.11 319⇑ P **P** 10 37 33.5 -0.3
GCMT Greycliff 82.25 41 *e*P **P** 10 37 35.1 +0.6
YFT Old Faithful 82.37 43 *e*P **P** 10 37 37.5 +2.5
LKWY Lake 82.55 42 *e*P **P** 10 37 38.1 +2.1
LKWY pmax pmax
comp=Z,52nm,0.8s,mb5.3
LKWY Lake 82.55 42 *e*P **P** 10 37 38.1 +2.1
comp=Z,52nm,0.8s,mb5.3
SFJD Kangerlussuaq 82.60 4 *e*P **P** 10 37 34.9 -1.4
KOLS Kolonicke sedl 82.62 323 *e* P **P** 10 37 39.4 +3.0
KOLS *e* 10 39 02.9
KOLS Kolonicke sedl 82.62 323 *e*P **P** 10 37 39.4 +3.0
KOLS pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
DAC Darwin (Calif) 82.63 52 *e*P **P** 10 37 36.4 0.0
DAC pmax pmax
comp=Z,23nm,1.0s,mb4.9
DAC Darwin (Calif) 82.63 52 *e*P **P** 10 37 36.4 0.0
comp=Z,23nm,1.0s,mb4.8
IMW Indian Meadow 82.63 43 *e*P **P** 10 37 37.8 +1.3
comp=Z,33nm,0.8s,mb5.1
DCID1 Drake Creek 82.66 43 *e*P **P** 10 37 38.1 +1.6
FLWY Flagg Ranch 82.66 43 *e*P **P** 10 37 38.1 +1.5
comp=Z,46nm,0.8s,mb5.3
MLR Muntele Rosu 82.73 319⇑ *i*P **P** 10 37 37.2 +0.3
MLR Muntele Rosu 82.73 319⇑ P **P** 10 37 37.1 +0.2
HVU Hansel Valley 82.73 46 *e*P **P** 10 37 37.9 +0.9
HVU pmax pmax
comp=Z,44nm,0.9s,mb5.2
HVU Hansel Valley 82.73 46 *e*P **P** 10 37 37.9 +1.0
comp=Z,44nm,0.9s,mb5.2
MOOW Moose Ponds 82.83 43 *e*P **P** 10 37 38.2 +0.8
comp=Z,9.0nm,0.8s,mb4.5
STHS Stebnicka Huta 82.84 324 *e*P **P** 10 37 38.4 +0.9
TPAW Teton Pass 82.86 43 *e*P **P** 10 37 38.6 +1.1
comp=Z,25nm,0.7s,mb5.0
REDW Red Top Meadow 82.99 43 *e*P **P** 10 37 38.8 +0.6
comp=Z,12nm,1.0s,mb4.6
LOHW Long Hollow 82.99 43 *e*P **P** 10 37 38.9 +0.7
comp=Z,12nm,0.7s,mb4.8
BGU Big Grassy Mou 83.06 46 *e*P **P** 10 37 46.5 +7.9
TPNV Topopah Spring 83.18 51 *e*P **P** 10 37 39.3 +0.1
TPNV pmax pmax
comp=Z,42nm,0.8s,mb5.2
TPNV Topopah Spring 83.18 51 *e*P **P** 10 37 39.3 +0.1
comp=Z,42nm,0.8s,mb5.2
SPUT South Promonto 83.20 46 *e*P **P** 10 37 40.1 +0.8
HWUT Hardware Ranch 83.58 45 *e*P **P** 10 37 41.7 +0.5
comp=Z,69nm,0.8s,mb5.4
DUG Dugway 83.61 47 *e*P **P** 10 37 41.8 +0.4
DUG pmax pmax
comp=Z,35nm,0.8s,mb5.1
DUG Dugway 83.61 47 *e*P **P** 10 37 41.8 +0.5
comp=Z,34nm,0.8s,mb5.1
LAO LASA Array 83.62 39 *e*P **P** 10 37 41.5 +0.1
comp=Z,41nm,1.3s,mb5.0
NOQ North Oquirrh 83.78 46 *e*P **P** 10 37 42.9 +0.7
comp=Z,82nm,0.8s,mb5.5
KECS Kecovo 83.82 324 *e*P **P** 10 37 42.2 -0.2
KECS pmax pmax
comp=Z,2.0nm,1.0s

TCUT Toone Canyon 83.95 45 *e*P **P** 10 37 43.9 +0.8
CSS Prodhromos 84.06 307 *e*P **P** 10 37 43.1 -0.6
comp=Z,13nm,0.8s,mb4.7
PDAR Pinedale Array 84.11 43 P **P** 10 37 43.9 0.0
comp=Z,12nm,0.8s,mb4.7,baz=297,slow=2.5,SNR=69
NLU North Lily Min 84.21 47 *e*P **P** 10 37 44.7 +0.3
MPU Maple Canyon 84.45 46 *e*P **P** 10 37 44.5 -1.0
comp=Z,40nm,1.0s,mb5.1
DAU Daniels Canyon 84.46 46 *e*P **P** 10 37 46.7 +1.1
ARUT Antelope Range 84.57 49 *e*P **P** 10 37 46.5 +0.4
VYHS Vyhne 84.65 324 *e*P **P** 10 37 46.0 -0.5
VYHS pmax pmax
comp=Z,11nm,1.9s,mb4.3
PFO Pinyon Flat Ob 84.86 54 *e*P **P** 10 37 47.6 +0.1
PFO pmax pmax
comp=Z,58nm,1.1s,mb5.2
PFO Pinyon Flat Ob 84.86 54 *e*P **P** 10 37 47.6 +0.1
comp=Z,58nm,1.1s,mb5.2
MSU Marysvale 84.97 48 *e*P **P** 10 37 48.9 +0.8
BRG Berggiesshubel 85.37 328 *e*P **P** 10 37 49.5 -0.5
comp=Z,6.5nm,1.3s,mb4.2
BRG Berggiesshubel 85.37 328 *e*P **P** 10 37 49.5 -0.5
BRG pmax pmax
comp=Z,7.0nm,1.3s,mb4.2
CLL Collm 85.48 329⇓ *i*P **P** 10 37 49.2 -1.4
comp=Z,10.0nm,1.1s,mb4.5
CLL *e*(pP) pP 10 39 34.0 +4.3
CLL *e*pPP 10 42 40.0
CLL Collm 85.48 329⇓ *i*P **P** 10 37 49.2 -1.4
CLL pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
SRU San Rafael 85.68 47 *e*P **P** 10 37 51.6 +0.1
SRU *e**PP pP 10 39 30.7 0.0
SRU pmax pmax
comp=Z,20nm,0.8s,mb4.9
SRU San Rafael 85.68 47 *e*P **P** 10 37 51.6 +0.1
comp=Z,20nm,0.8s,mb4.9
SRU *e*pP pP 10 39 30.7 0.0
RWWY Rawlins 86.15 43 *e*P **P** 10 37 53.2 -0.6
comp=Z,28nm,0.8s,mb5.0
ULM Lac du Bonnet 86.38 31 P **P** 10 37 54.5 -0.4
comp=Z,8.5nm,0.7s,mb4.6,baz=307,slow=5.2,SNR=18
RSSD Black Hills 86.43 40 *e*P **P** 10 37 54.8 -0.4
RSSD pmax pmax
comp=Z,13nm,0.8s,mb4.7
RSSD Black Hills 86.43 40 *e*P **P** 10 37 54.8 -0.3
comp=Z,13nm,0.8s,mb4.7
GERES GERESS Array B 86.90 327 P **P** 10 37 56.2 -1.1
comp=Z,1.2nm,0.6s,mb3.8,baz=46,slow=5.8,SNR=10
PV10 Paradox Valley 87.05 47 *e*P **P** 10 37 58.8 +0.8
PV10 *e*pP pP 10 39 39.5 +1.9
PV01 Paradox Valley 87.49 47 *e*P **P** 10 38 00.2 +0.1
PV01 *e*pP pP 10 39 41.2 +1.3
SMCO Snowmass 87.84 45 *e*P **P** 10 38 02.0 +0.3
comp=Z,13nm,1.0s,mb4.6
MVCO Mesa Verde 88.09 47 *e*P **P** 10 38 03.4 +0.4
ISCO Idaho Springs 88.27 44 *e*P **P** 10 38 04.4 +0.6
ISCO pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
ISCO Idaho Springs 88.27 44 *e*P **P** 10 38 04.4 +0.6
comp=Z,8.6nm,0.8s,mb4.5
WTTA Wattenberg 89.00 327⇑ *i*P **P** 10 38 06.4 -0.8
comp=Z,7.2nm,1.0s,mb4.4
WTTA Wattenberg 89.00 327⇑ *i*P **P** 10 38 06.4 -0.8
WTTA pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
DAVA Damuels 89.80 328⇓ *i*P **P** 10 38 09.9 -1.0
comp=Z,7.6nm,1.3s,mb4.4
EYMN Ely 90.03 31 *e*P **P** 10 38 11.6 -0.4
comp=Z,16nm,1.1s,mb4.8
CDF Champ du Feu 90.12 330 *e*P **P** 10 38 11.6 -0.8
comp=Z,15nm,1.0s,mb4.5
CDF Champ du Feu 90.12 330 *e*P **P** 10 38 11.6 -0.8
CDF pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
CDF Champ du Feu 90.12 330 *e*P **P** 10 38 11.6 -0.8
comp=Z,7.6nm,1.0s,mb4.5
ECSD EROS,Sioux Fal 90.65 36 *e*P **P** 10 38 14.0 -0.9
LAZ Ladron 90.68 49 *e*P **P** 10 38 15.9 +0.9
ANMO Albuquerque 90.78 48 *e*P **P** 10 38 16.2 +0.7
ANMO pmax pmax
comp=Z,16nm,0.8s
ANMO Albuquerque 90.78 48 *e*P **P** 10 38 16.2 +0.8
comp=Z,16nm,0.8s,mb4.9
LPM Los Pinos Moun 91.07 49 *e*P **P** 10 38 17.6 +0.8
BNM Barren Site 91.17 49 *e*P **P** 10 38 17.7 +0.5
CABF La Chapelle 92.02 329 *e*P **P** 10 38 20.2 -1.0
SCHQ Schefferville 92.32 14 P **P** 10 38 21.6 -0.9
comp=Z,1.9nm,0.8s,mb4.1,baz=13,slow=1.1,SNR=4.1
LOR Lormes 92.47 331 *e*P **P** 10 38 22.2 -1.0
LPL La Plagne 92.57 328 *e*P **P** 10 38 22.9 -0.8
comp=Z,10nm,0.7s,mb4.5
LPL La Plagne 92.57 328 *e*P **P** 10 38 22.9 -0.8
LPL pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LPL La Plagne 92.57 328 *e*P **P** 10 38 22.9 -0.8
comp=Z,5.2nm,0.7s,mb4.6
LPG La Plagne 92.58 328 *e*P **P** 10 38 22.7 -1.0
comp=Z,6.9nm,0.6s,mb4.5
LPG La Plagne 92.58 328 *e*P **P** 10 38 22.7 -1.0
LPG pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
LPG La Plagne 92.58 328 *e*P **P** 10 38 22.7 -1.0
comp=Z,3.5nm,0.6s,mb4.5
SMF Signal de Mont 92.97 331 *e*P **P** 10 38 24.2 -1.3
comp=Z,1.9nm,0.9s,mb4.6
SMF Signal de Mont 92.97 331 *e*P **P** 10 38 24.2 -1.3
SMF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
SMF Signal de Mont 92.97 331 *e*P **P** 10 38 24.2 -1.3
comp=Z,6.7nm,0.9s,mb4.6
FLN La Foliniere 92.99 334 *e*P **P** 10 38 24.4 -1.2
AVF Avril sur Loir 93.06 331 *e*P **P** 10 38 25.1 -0.8
comp=Z,14nm,1.0s,mb4.6
AVF Avril sur Loir 93.06 331 *e*P **P** 10 38 25.1 -0.8
AVF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
AVF Avril sur Loir 93.06 331 *e*P **P** 10 38 25.1 -0.8
comp=Z,7.1nm,1.0s,mb4.5
ORIF Oris-en-Rattie 93.42 328 *e*P **P** 10 38 25.9 -1.7
BGF Bois d'Agland 93.45 331 *e*P **P** 10 38 26.7 -1.0
SBF Sospel 93.50 327 *e*P **P** 10 38 27.1 -0.9
PGF Pioggiola 93.73 325 *e*P **P** 10 38 28.0 -1.0
comp=Z,70nm,1.4s,mb5.2
PGF Pioggiola 93.73 325 *e*P **P** 10 38 28.0 -1.0
PGF pmax pmax
comp=Z,35nm,1.4s,mb5.2
PGF Pioggiola 93.73 325 *e*P **P** 10 38 28.0 -1.0
comp=Z,35nm,1.4s,mb5.2
GDL2 Guadalupe Moun 93.87 49 *e*P **P** 10 38 30.4 +0.7
KSU1 Kansas State U 93.92 40 *e*P **P** 10 38 29.2 -0.7
SMRF Simiane la Rot 94.28 328 *e*P **P** 10 38 30.6 -0.9
MFF Saint Martin d 94.63 333 *e*P **P** 10 38 32.3 -0.8
comp=Z,5.8nm,0.7s,mb4.4
MFF Saint Martin d 94.63 333 *e*P **P** 10 38 32.3 -0.8
MFF pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
MFF Saint Martin d 94.63 333 *e*P **P** 10 38 32.3 -0.8
comp=Z,2.9nm,0.7s,mb4.4
TORD Torodi Ar. Bea 119.88 310 PKP PKPdf 10 43 59.4 -0.4
comp=Z,0.9nm,0.6s,baz=28,slow=1.9,SNR=4.6
TORD PP PP 10 45 17.7 -13
comp=Z,0.6nm,0.7s,baz=46,slow=4.2,SNR=3.7
TORD SKP 10 46 51.9
comp=Z,0.8nm,0.5s,baz=14,slow=2.3,SNR=3.9
TORD PKKPbc PKKPbc 10 54 08.6 -1.8
comp=Z,0.7nm,0.6s,baz=252,slow=2.9,SNR=5.5
DBIC Dimbokro 128.98 310 SKPbc 10 46 55.0
comp=Z,4.1nm,0.7s,baz=49,slow=6.4,SNR=5.0
OTAV Otavalo 133.54 56 *e*PKPdf PKPdf 10 44 28.8 +3.0
LPAZ La Paz 151.94 66 PKP PKPdf 10 44 59.9 +2.2
comp=Z,1.0nm,0.7s,baz=276,slow=2.3,SNR=6.3
LPAZ PKPbc PKPbc 10 45 06.3 +1.7
comp=Z,5.3nm,0.7s,baz=325,slow=3.3,SNR=33
LPAZ pPKPbc pPKPbc 10 46 48.7 -1.7
comp=Z,1.1nm,0.7s,baz=333,slow=4.5,SNR=2.1
LPAZ La Paz 151.94 66 PKIKP PKPdf 10 44 59.9 +2.2
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
LPAZ pmax pmax
comp=Z,5.0nm,0.7s
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
LPAZ La Paz 151.94 66 *e*PKPdf PKPdf 10 44 59.4 +1.7
LPAZ *e*PKPbc PKPbc 10 45 05.5 +0.9
PLCA Paso Flores 154.43 122 PKPbc PKPbc 10 45 10.4 +0.4

	comp=Z,3.3nm,0.9s,baz=200,slow=6.7,SNR=4.2									
PLCA					PKPab	PKPab	10 45 27.9	+1.3		
	comp=Z,6.0nm,0.8s,baz=218,slow=3.9,SNR=12									
BDFB	**Brasilia**	**164.12**	**23**		PKPab	PKPab	10 46 09.8	+1.0		
	comp=Z,4.5nm,0.7s,baz=133,slow=0.9,SNR=5.1									
BDFB	**Brasilia**	**164.12**	**23**		PKP2	PKPab	10 46 09.8	+1.1		
BDFB					pmax	pmax				
	comp=Z,5.0nm,0.7s									
CPUP	**Villa Florida**	**165.56**	**77**		PKPab	PKPab	10 46 15.3	+0.2		
	comp=Z,1.1nm,0.6s,baz=288,slow=3.0,SNR=6.3									
CPUP	**Villa Florida**	**165.56**	**77**		PKP2	PKPab	10 46 15.3	+0.2		
CPUP					pmax	pmax				
	comp=Z,1.0nm,0.6s									

IDC 26 10:44:49.8±1.9, 526S×12557E, h0km, mb3.6/1, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, ML2.9/2, Error ellipse: s-maj=135.8km s-min=26.4km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.76**	**180**	Pn	Pn	10 47 52.0	-0.5
	0.0nm,0.3s,baz=0.0,slow=20,SNR=1.9						
WRA	**Warramunga Arr**	**16.90**	**150**	Pn	Pn	10 48 47.4	-0.3
	0.1nm,0.3s,baz=328,slow=12,SNR=6.1						
ASAR	**Alice Springs**	**19.98**	**157**	P	Pn	10 49 24.6	-0.8
	0.1nm,0.3s,baz=344,slow=12,SNR=10						
MKAR	**Makanchi Array**	**64.41**	**329**	P	P	10 55 27.9	+0.1
	0.4nm,0.5s,baz=125,slow=8.5,SNR=5.3						

*ISCJB **26** 10:51:13.4±3.5, 63S×01×1515E×02, h54km±29km, mb4.0/12, Error ellipse: s-maj=32.2km s-min=17.7km az=62.8*
*IDC **26** 10:51:13.7±0.9, 622S×15152E, h44km±6km, mb3.9/8, mb1 4.1/9, mb1mx4.0/14, mbtmp4.1/9, ML2.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/18, Error ellipse: s-maj=33.9km s-min=12.0km az=129.0*
*NEIC **26** 10:51:14.9±2.5, 629S×15155E, h57km±21km, mb4.2/6, Error ellipse: s-maj=23.7km s-min=13.1km az=121.0*
ISC 26 10:51:14.5±3.2, 62S±01×1515E±02, h51km±27km, h48km±.8km: pP-P, n24, σ0§77/23, mb4.0/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.33**	**234**	P	Pn	10 52 32.4	+0.9
	2.5nm,0.3s,baz=47,slow=7.0,SNR=11						
PMG				S	Sn	10 53 31.0	-0.6
	2.9nm,0.3s,baz=55,slow=16,SNR=4.1						
KAKA	**Kakadu**	**19.86**	**250**	*e*P	Pn	10 55 42.9	-0.4
	7.7nm,0.5s						
DZM	**Mont Dzumac**	**21.36**	**139**	LR	LR	11 03 05.8	
	comp=Z,57nm,19.5s,baz=165,slow=33						
WRAB	**Tennant Creek**	**21.52**	**229**	*e*P	P	10 55 58.9	-0.3
	7.1nm,0.9s,mb4.1						
WB2	**Warramunga Arr**	**21.52**	**229**	*e*P	P	10 55 58.2	-1.0
WRA	**Warramunga Arr**	**21.53**	**229**	P	P	10 55 58.9	-0.4
	4.0nm,0.7s,mb4.0,baz=54,slow=9.9,SNR=21						
AS31	**Alice Springs**	**24.22**	**223**	*e*P	P	10 56 26.7	+0.3
ASAR	**Alice Springs**	**24.22**	**222**	P	P	10 56 26.8	+0.4
	8.1nm,0.8s,mb4.2,baz=53,slow=9.0,SNR=66						
ASAR				pP		10 56 40.2	
	4.3nm,0.7s,baz=55,slow=7.9,SNR=10.0						
ASPA	**Alice Springs**	**24.23**	**223**	*e*P	P	10 56 26.7	+0.2
STKA	**Stephens Creek**	**27.14**	**199**	*e*P	P	10 56 52.9	+0.1
	3.1nm,1.2s,mb3.7						
STKA	**Stephens Creek**	**27.14**	**199**	P	P	10 56 52.4	-0.4
	3.7nm,1.0s,mb3.9,baz=37,slow=9.2,SNR=4.4						
FITZ	**Fitzroy Crossi**	**27.85**	**243**	*e*P	P	10 56 58.7	-0.5
	6.4nm,1.1s,mb4.2						
FITZ	**Fitzroy Crossi**	**27.85**	**243**	P	P	10 56 59.4	+0.2
	3.5nm,0.9s,mb4.0,baz=66,slow=12,SNR=14						
MBWA	**Marble Bar**	**34.14**	**241**	*e*P	P	10 57 56.7	+2.1
	6.4nm,1.0s,mb4.5						
SONM	**Songino Array**	**66.86**	**329**	P	P	11 02 01.1	0.0
	0.3nm,0.5s,mb3.6,baz=152,slow=4.6,SNR=3.7						
SONM				pP	pP	11 02 14.2	-1.2
	0.6nm,0.6s,baz=156,slow=6.2,SNR=4.7						
MKAR	**Makanchi Array**	**80.56**	**319**	P	P	11 03 22.1	+0.7
	0.1nm,0.6s,mb2.9,baz=131,slow=4.4,SNR=2.6						
ILAR	**Eielson Array**	**83.97**	**22**	P	P	11 03 38.4	-0.9
	2.3nm,0.9s,mb4.3,baz=254,slow=5.2,SNR=18						
ILAR				pP	pP	11 03 51.5	-2.5
	2.9nm,0.8s,baz=248,slow=5.8,SNR=13						
KURK	**Kurchatov**	**84.10**	**322**	P	P	11 03 40.9	+1.0
DAWY	**Dawson**	**86.62**	**24**	*e*P	P	11 03 52.2	-0.3
DAWY				*e*	pP	11 04 06.4	-0.8
BRVK	**Borovoye**	**89.68**	**323**	*e*P	P	11 04 05.8	-1.2
	0.9nm,0.5s,mb4.4						
NVAR	**Mina Array Bea**	**93.98**	**52**	P	P	11 04 27.8	+0.9
	0.7nm,0.8s,mb4.2,baz=246,slow=6.7,SNR=3.8						
YKA	**Yellowknife Ar**	**97.29**	**28**	P	P	11 04 41.3	-0.7
	0.2nm,0.7s,mb3.6,baz=277,slow=5.1,SNR=4.7						
YKA				pP	pP	11 04 55.0	-1.9
	0.5nm,0.8s,baz=268,slow=5.0,SNR=5.8						
YKA	**Yellowknife Ar**	**97.29**	**28**	P	P	11 04 41.3	-0.7
YKA				pP	pP	11 04 55.0	-1.9
TORD	**Torodi Ar. Bea**	**149.48**	**285**	PKPbc	PKPbc	11 10 59.2	+1.2
	1.7nm,0.7s,baz=69,slow=2.9,SNR=10						

*TIF **26** 10:52:25.0, 4379N×4315E, h15km±2km*
MOS 26 10:52:24.8±1.2, 4380N×4308E, h14km, mb3.7/1, 2C-4D, Error ellipse: s-maj=17.3km s-min=8.7km az=134.2, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYA	**Pyatigorsk**	**0.24**	**356**	*i* PG	Pg	10 52 31.2	+1.3
KUBR	**Kubataba**	**0.24**	**89**	*i* PG	Pg	10 52 29.4	-0.6
BEYR	**Belyy Ugol+**	**0.29**	**318**	*i* PG	Pg	10 52 32.6	+1.8
SHAR	**Shatzhatmas**	**0.30**	**260**	*i* PG	Pg	10 52 33.0	+1.9
KIV	**Kislovodsk**	**0.33**	**299**	*i* PG	Pg	10 52 33.2	+1.7
PRTR	**Priterechnaya**	**0.87**	**93**	*e*PG	Pg	10 52 43.8	+2.1
PRTR				*e*S	Sg	10 52 56.9	+3.8
KMSR	**Komsomolskaya**	**0.98**	**115**	⇓*i*PG	Pg	10 52 44.2	+0.5
KMSR				*i* S	Sb	10 52 57.6	+1.3
KORR	**Kora**	**1.01**	**134**	⇑*i*PG	Pg	10 52 43.7	-0.6
KORR				*i* S	Sb	10 52 56.7	-0.5
ARNR	**Ardon**	**1.06**	**124**	⇓*i*PG	Pg	10 52 45.0	-0.3
ARNR				*e*S	Sb	10 52 59.0	+0.3
BTKR	**Batakoyurt**	**1.14**	**111**	⇓*i*PG	Pg	10 52 47.0	+0.2
BTKR				*e*S	Sb	10 53 02.7	+1.7
ZEI	**Tsey**	**1.19**	**150**	⇓*i*PG	Pg	10 52 45.5	-2.2
ZEI				*i* S	Sb	10 52 59.9	-2.4
LACR	**Lac**	**1.31**	**137**	⇑*i*PG	Pg	10 52 48.3	-1.8
LACR				*i* S	Sb	10 53 04.7	-1.3

MAN 26 10:53:34.1, 914N×12275E, h33km, mb2.4, ML4.0, MS2.6, 1C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.52**	**67**	*i* P	Pb	10 53 46.0	+0.9
SNPH				*i* S	Sb	10 53 54.5	+1.9
DCPH	**Dipolog City**	**0.81**	**133**	⇓*e*P	Pn	10 53 48.8	-0.4
TBP	**Tagbilaran**	**1.23**	**63**	*e*P	Pn	10 54 05.4	+10
TBP				*e*S	Sn	10 54 21.2	+11
IPIL	**Ipil**	**1.35**	**188**	⇑*i*P	Pn	10 53 57.3	+0.7
IPIL				*i* S	Sn	10 54 13.1	-0.3
IPIL	**Ipil**	**1.35**	**188**	*e*P	Pn	10 53 57.2	+0.5
IPIL				*e*S	Sn	10 54 13.8	+0.4
IPIL	**Ipil**	**1.35**	**188**	*e*P	Pn	10 53 57.3	+0.6
IPIL				*e*S	Sn	10 54 13.7	+0.3
PAGZ	**Pagadian**	**1.42**	**154**	*e*P	Pn	10 53 59.5	+1.8
PAGZ	**Pagadian**	**1.42**	**154**	*e*P	Pn	10 53 59.5	+1.8
GUIM	**Jordan**	**1.49**	**354**	*e*P	Pn	10 53 58.9	+0.4
GUIM				*e*S	Sn	10 54 18.3	+1.4
GUIM	**Jordan**	**1.49**	**354**	*e*P	Pn	10 53 59.1	+0.5
GUIM				*e*S	Sn	10 54 18.3	+1.5
MSLP	**Maasin**	**2.31**	**64**	*e*P	Pn	10 54 13.5	+3.7
CUYO	**Cuyo Island**	**2.41**	**315**	*e*P	Pn	10 54 12.1	+0.9
CUYO	**Cuyo Island**	**2.41**	**315**	*e*P	Pn	10 54 12.2	+1.0

*ISCJB **26** 10:55:19.3±3.9, 263N×02×966E±02, h70km±38km, mb3.5/5, Error ellipse: s-maj=30.2km s-min=28.9km az=58.7*
*IDC **26** 10:55:36.6±14.0, 2666N×9691E, h213km±139km, mb3.1/5, mb1 3.4/5, mb1mx3.0/22, mbtmp3.6/5, Error ellipse: s-maj=66.5km s-min=21.3km az=49.0*

ISC 26 10:55:20.2±3.3, 264N±02×966E±02, h57km±33km, n6, σ1§13/7, mb3.6/5, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**4.36**	**260**	*e*PN	Pn	10 56 23.0	-0.9
SHL				*e*SN	Sn	10 57 14.0	+0.6
SONM	**Songino Array**	**22.73**	**17**	P	P	11 00 17.4	+0.1
	0.3nm,0.4s,mb3.1,baz=201,slow=8.1,SNR=3.5						
MKAR	**Makanchi Array**	**23.32**	**335**	P	P	11 00 24.5	+1.2
	3.0nm,0.7s,mb3.9,baz=140,slow=10,SNR=42						
WRA	**Warramunga Arr**	**58.82**	**138**	P	P	11 05 13.2	+0.5
	0.2nm,0.5s,mb3.4,baz=325,slow=7.4,SNR=5.8						
NOA	**NORSAR Array B**	**65.10**	**328**	P	P	11 05 53.6	-1.2
	0.9nm,0.8s,mb3.9,baz=79,slow=6.8,SNR=2.2						
GERES	**GERESS Array B**	**66.12**	**314**	P	P	11 06 01.1	-0.3
	0.5nm,0.3s,mb4.0,baz=60,slow=6.0,SNR=4.3						

*ISCJB **26** 11:09:35.3±1.0, 5981N±007×2428E±007, h0km, Error ellipse: s-maj=10.2km s-min=4.8km az=146.9*
*HEL **26** 11:09:37.4±0.2, 5983N×2434E, h0km, ML2.0, Explosion*
*IDC **26** 11:09:38.3±3.3, 5977N×2472E, h12km±17km, mb1 3.1/3, mb1mx2.8/21, mbtmp3.1/3, ML3.0/2, Error ellipse: s-maj=25.8km s-min=12.2km az=150.0*
ISC 26 11:09:37.3±0.9, 5989N±005×2432E±007, h0km, n11, σ0§89/21, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**0.33**	**6**	*e*P	Pg	11 09 44.0	+0.3
MEF				*e*S	Sg	11 09 49.0	+1.1
PVF	**Pernaja**	**1.01**	**49**	*e*P	Pg	11 09 55.9	-0.9
PVF				*e*S	Sg	11 10 09.6	-0.2
RAF	**Rauma**	**1.70**	**313**	*e*P	Pn	11 10 08.3	0.0
RAF				*e*S	Sn	11 10 31.2	+0.4
VJF	**Virojoki**	**1.74**	**67**	*e*P	Pn	11 10 08.2	-0.6
VJF				*e*S	Sn	11 10 31.6	0.0
FIA0	**FINESS Array S**	**1.78**	**28**	*e*P	Pn	11 10 10.1	+0.7
FIA0				*e*S	Sn	11 10 33.1	+0.4
FIA0				MSG		11 10 38.5	
	comp=Z,8.5nm,0.1s						
FINES	**FINESS Array B**	**1.78**	**28**	Pn	Pn	11 10 09.8	+0.4
	comp=Z,1.3nm,0.3s,baz=210,slow=16,SNR=17						
FINES				Pg	Pg	11 10 13.2	+1.7
	comp=Z,0.8nm,0.3s,baz=198,slow=15,SNR=5.2						
FINES				Lg		11 10 34.2	
	comp=Z,1.5nm,0.3s,baz=193,slow=28,SNR=12						
KEF	**Keuruu**	**2.30**	**6**	*e*P	Pn	11 10 17.3	+0.8
KEF				*e*SG	Sg	11 10 50.2	-1.1
KEF				MSG		11 10 53.9	
	comp=Z,6.6nm,0.1s						
KAF	**Kangasniemi**	**2.43**	**23**	*e*P	Pn	11 10 19.4	+1.1
KAF				*e*SG	Sg	11 10 53.8	-1.6
KAF				MSG		11 10 56.9	
	comp=Z,7.1nm,0.1s						
HFS	**Hagfors**	**5.34**	**277**	Pn	Pn	11 10 58.2	-0.1
	comp=Z,0.1nm,0.3s,baz=104,slow=9.2,SNR=3.9						
HFS				Sn	Sn	11 12 01.5	+1.0
	comp=Z,0.2nm,0.3s,baz=87,slow=26,SNR=3.8						
NOA	**NORSAR Array B**	**6.58**	**286**	Pn	Pn	11 11 14.2	-1.2
	comp=Z,0.2nm,0.3s,baz=90,slow=14,SNR=2.6						
NOA				Sn	Sn	11 12 29.8	-1.4
	comp=Z,0.2nm,0.3s,baz=103,slow=19,SNR=2.4						
ARCES	**ARCESS Array B**	**9.70**	**2**	Pn	Pn	11 11 57.7	-0.4
	comp=Z,0.2nm,0.3s,baz=178,slow=15,SNR=18						

*ISCJB **26** 11:19:32.8±0.6, 5985N±004×2431E±007, h0km, Error ellipse: s-maj=5.5km s-min=4.8km az=5.1*
*IDC **26** 11:19:34.6±2.4, 5980N×2461E, h0km, mb1 3.2/3, mb1mx3.0/21, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=25.4km s-min=7.5km az=144.0*
*HEL **26** 11:19:34.9±0.1, 5984N×2437E, h0km, ML1.9, Explosion*
ISC 26 11:19:33.8±0.6, 5988N±003×2436E±006, h0km, n12, σ0§92/22, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**0.34**	**3**	*e*P	Pg	11 19 41.3	+0.8
MEF				*e*S	Sg	11 19 45.4	+1.6
PVF	**Pernaja**	**1.01**	**48**	*e*P	Pg	11 19 53.2	0.0
PVF				*e*S	Sg	11 20 06.4	+0.1
RAF	**Rauma**	**1.73**	**313**	*e*P	Pn	11 20 05.6	+0.6
RAF				*e*S	Sn	11 20 28.8	+1.0
VJF	**Virojoki**	**1.73**	**66**	*e*P	Pn	11 20 05.6	+0.4
VJF				*e*S	Sn	11 20 27.9	-0.1
FIA0	**FINESS Array S**	**1.79**	**28**	*e*P	Pn	11 20 07.3	+1.4
FIA0				*e*S	Sn	11 20 30.4	+1.1
FIA0				MSG		11 20 35.9	
	comp=Z,4.5nm,0.1s						
FINES	**FINESS Array B**	**1.79**	**28**	Pg	Pg	11 20 07.1	-1.0
	comp=Z,1.7nm,0.3s,baz=203,slow=16,SNR=39						
FINES				Lg		11 20 30.9	
	comp=Z,1.6nm,0.3s,baz=200,slow=26,SNR=13						
VSU	**Vasula**	**1.87**	**138**	*e*P	Pn	11 20 07.1	0.0
VSU				*e*S	Sn	11 20 31.3	-0.2
KEF	**Keuruu**	**2.31**	**6**	*e*PB	Pb	11 20 15.9	-0.5
KEF				*e*SG	Sg	11 20 47.3	-0.8
KEF				MSG		11 20 50.3	
	comp=Z,6.4nm,0.1s						
KAF	**Kangasniemi**	**2.44**	**22**	*e*PB	Pb	11 20 17.6	-1.0
KAF				*e*SG	Sg	11 20 50.5	-1.7
KAF				MSG		11 20 53.3	
	comp=Z,4.9nm,0.1s						
HFS	**Hagfors**	**5.36**	**277**	Pn	Pn	11 20 56.1	+1.1
	comp=Z,0.1nm,0.3s,baz=110,slow=17,SNR=4.1						
HFS				Sn	Sn	11 21 57.4	0.0
	comp=Z,0.2nm,0.3s,baz=86,slow=22,SNR=3.1						
NOA	**NORSAR Array B**	**6.60**	**286**	Pn	Pn	11 21 11.7	-0.5
	comp=Z,0.2nm,0.3s,baz=94,slow=14,SNR=2.9						
NOA				Sn	Sn	11 22 25.9	-2.2
	comp=Z,0.1nm,0.3s,baz=63,slow=15,SNR=2.2						
ARCES	**ARCESS Array B**	**9.71**	**2**	Pn	Pn	11 21 54.3	-0.5
	comp=Z,0.2nm,0.3s,baz=183,slow=13,SNR=14						

*MOS **26** 11:22:33.5±0.2, 5462N×16173E, h17km, mb4.2/1, Error ellipse: s-maj=28.3km s-min=10.6km az=78.1*
KRSC 26 11:22:33.4±0.5, 5467N×16159E, h9km±1km, ML4.2, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.14**	**144**	P	Pg	11 22 37.9	+1.4
MKZ				S	Sg	11 22 40.7	+2.1
MKZ	**Mys Kozlova**	**0.14**	**144**	*i* P	Pg	11 22 37.8	+1.3
MKZ				*e*S	Sg	11 22 40.7	+2.1
TUMR	**Tumrok**	**1.03**	**307**	*e*P	Pg	11 22 53.5	+0.2
KMNR	**Kamenistaya**	**1.34**	**325**	*i* P	Pn	11 22 58.6	+0.4
KMNR				*e*S	Sb	11 23 16.8	+1.0
KII	**Karymskiy**	**1.41**	**244**	P	Pn	11 22 59.6	+0.4
KII				S	Sn	11 23 18.0	+0.2
KII	**Karymskiy**	**1.41**	**244**	*i* P	Pn	11 22 59.4	+0.2
KII				*e*S	Sn	11 23 18.5	+0.7
ZLN	**Zelenaya**	**1.42**	**342**	*i* P	Pn	11 23 00.2	+0.8
ZLN				*e*S	Sn	11 23 19.5	+1.3
LGNR	**Loginova**	**1.51**	**340**	*i* P	Pn	11 23 01.6	+1.0
LGNR				*i* S	Sn	11 23 22.3	+2.0
KPT	**Kopyto**	**1.52**	**330**	*i* P	Pn	11 23 01.6	+0.9
KPT				*e*S	Sn	11 23 22.3	+1.8
CIRR	**Tsirk**	**1.53**	**342**	*e*P	Pn	11 23 01.7	+0.9
CIRR				*e*S	Sn	11 23 22.4	+1.6
KRSR	**Krestovskiy**	**1.66**	**340**	*e*P	Pn	11 23 02.9	+0.3
KRSR				*e*S	Sn	11 23 24.7	+0.7
KBTR	**Krutoberegovo**	**1.69**	**24**	P	Pn	11 23 03.1	+0.4
KBTR				S	Sn	11 23 25.1	+0.2
KBTR	**Krutoberegovo**	**1.69**	**24**	*e*P	Pn	11 23 04.3	+1.2
KBTR				*e*S	Sn	11 23 27.1	+2.2
KOZR	**Kozyr**	**1.70**	**326**	PN	Pn	11 23 04.6	+1.4
KOZR				S	Sn	11 23 27.4	+2.3
KOZ	**Kozyrevsk**	**1.70**	**326**	P	Pn	11 23 04.6	+1.4
KOZ				S	Sn	11 23 27.4	+2.3
KOZ	**Kozyrevsk**	**1.70**	**326**	*e*P	Pn	11 23 04.5	+1.3
KBG	**Krutoberegovo**	**1.71**	**21**	*e*P	Pn	11 23 03.9	+0.5
KBG				*e*S	Sn	11 23 25.8	+0.4
KBG				Smax			
	960nm,0.9s						
KLY	**Klyuchi**	**1.73**	**342**	*i* P	Pn	11 23 03.8	+0.1
KLY				*e*S	Sn	11 23 25.6	-0.3
SPN	**Mys Shipunski**	**1.83**	**211**	P	Pn	11 23 05.0	0.0
SPN				S	Sn	11 23 28.0	-0.2
SPN	**Mys Shipunski**	**1.83**	**211**	*e*P	Pn	11 23 05.0	0.0
SPN				*e*S	Sn	11 23 28.9	+0.7
BDR	**Baidarnaya**	**1.92**	**354**	*e*P	Pn	11 23 07.1	+0.9
BDR				*e*S	Sn	11 23 31.3	+0.9
SMKR	**Semkarok**	**1.92**	**358**	*e*P	Pn	11 23 07.2	+1.0
SRDR	**Sredinnyy**	**1.96**	**328**	*e*P	Pn	11 23 07.7	+0.8
SRDR				*e*S	Sn	11 23 33.1	+1.5
SRKR	**Sorokina**	**2.00**	**353**	*e*P	Pn	11 23 08.5	+1.1
NLC	**Nalytchevo**	**2.00**	**222**	P	Pn	11 23 07.9	+0.5
NLC				S	Sn	11 23 33.0	+0.4
NLC	**Nalytchevo**	**2.00**	**222**	*e*P	Pn	11 23 07.4	0.0
NLC				*e*S	Sn	11 23 33.5	+0.9
ESO	**Esso**	**2.08**	**308**	*e*P	Pn	11 23 09.0	+0.6
ESO				*e*S	Sn	11 23 34.7	+0.3
ESO				Smax			
	250nm,0.4s						
SDLR	**Sedlovina**	**2.12**	**230**	*i* P	Pn	11 23 10.2	+1.2
SDLR				*i* S	Sn	11 23 37.1	+1.6
SMAR	**Somma**	**2.17**	**231**	*i* P	Pn	11 23 10.8	+1.1
UGLR	**Uglovaya**	**2.19**	**229**	*i* P	Pn	11 23 11.4	+1.4
UGLR				*e*S	Sn	11 23 39.1	+1.8
AVH	**Avacha**	**2.20**	**231**	*e*P	Pn	11 23 11.4	+1.4
AVH				*e*S	Sn	11 23 39.3	+2.0
KOK	**Koryaka**	**2.23**	**233**	*e*P	Pn	11 23 11.6	+1.2
GNL	**Ganaly**	**2.36**	**247**	*e*P	Pn	11 23 14.0	+1.8
GNL				*e*S	Sn	11 23 43.2	+1.9
PET	**Petropavlovsk**	**2.40**	**228**	*e*PN	Pn	11 23 13.9	+1.1
PET				*e*S	Sn	11 23 43.8	+1.5
PET				pmax	pmax		
	comp=Z,58nm,0.4s						
PET				smax			
	comp=N,211nm,0.8s						
PET				smax			
	comp=E,251nm,0.5s						
PET				MLR	MLR		
	comp=Z,100nm,20.0s						
PET	**Petropavlovsk**	**2.40**	**228**	*e*P	Pn	11 23 13.8	+1.0
PET				*e*S	Sn	11 23 43.1	+0.8
BKI	**Bering**	**2.58**	**76**	*e*S	Sn	11 23 45.0	-1.9
KRMR	**Karymshinskiy**	**2.76**	**230**	*e*P	Pn	11 23 19.0	+1.2
RUS	**Russkaya**	**2.90**	**221**	*e*P	Pn	11 23 20.5	+0.8
RUS				*e*S	Sn	11 23 55.0	+0.4
GRL	**Gorelyy**	**2.98**	**226**	*e*P	Pn	11 23 22.9	+2.1
GRL				*e*S	Sn	11 23 58.9	+2.2
APC	**Apacha**	**3.16**	**238**	*e*P	Pn	11 23 25.7	+2.4
APC				Smax			
	comp=Z,40nm,1.1s						
MIPR	**Malaya Ipel'ka**	**3.75**	**232**	P	Pn	11 23 33.9	+2.4
PAU	**Pauzhetka**	**4.31**	**224**	P	Pn	11 23 41.2	+2.1
KAMR	**Kamenskoye**	**8.17**	**15**	*e*P	Pn	11 24 35.8	+3.7

*ISCJB **26** 11:28:06.0±0.6, 5985N±004×2429E±007, h0km, Error ellipse: s-maj=5.6km s-min=4.9km az=174.6*
*IDC **26** 11:28:08.6±2.1, 5985N×2443E, h0km, mb1 3.1/3, mb1mx2.9/21, mbtmp3.1/3, ML3.1/2, Error ellipse: s-maj=21.7km s-min=6.5km az=146.0*
*HEL **26** 11:28:08.3±0.1, 5984N×2438E, h0km, ML2.0, Explosion*
ISC 26 11:28:07.2±0.6, 5988N±003×2435E±006, h0km, n12, σ0§94/23, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**0.34**	**4**	*e*P	Pg	11 28 15.0	+1.2
MEF				*e*S	Sg	11 28 20.2	+1.9
PVF	**Pernaja**	**1.01**	**48**	*e*P	Pg	11 28 26.5	-0.1
PVF				*e*S	Sg	11 28 40.1	+0.5
RAF	**Rauma**	**1.72**	**313**	*e*P	Pn	11 28 39.2	+0.7
RAF				*e*S	Sn	11 29 02.2	+1.0
VJF	**Virojoki**	**1.73**	**66**	*e*P	Pn	11 28 39.1	+0.6
VJF				*e*S	Sn	11 29 01.3	0.0
FIA0	**FINESS Array S**	**1.79**	**28**	*e*P	Pn	11 28 40.6	+1.3
FIA0				*e*S	Sn	11 29 02.9	+0.2
FIA0				MSG		11 29 09.3	
	comp=Z,8.8nm,0.1s						
FINES	**FINESS Array B**	**1.79**	**28**	Pg	Pg	11 28 40.7	-0.7
	comp=Z,1.9nm,0.3s,baz=209,slow=16,SNR=49						
FINES				Lg		11 29 04.7	
	comp=Z,2.0nm,0.3s,baz=204,slow=30,SNR=19						
VSU	**Vasula**	**1.88**	**138**	*e*P	Pn	11 28 40.4	-0.1
VSU				*e*S	Sn	11 29 04.8	-0.1
KEF	**Keuruu**	**2.31**	**6**	*e*PB	Pb	11 28 49.5	-0.3
KEF				*e*SG	Sg	11 29 20.4	-1.2
KEF				MSG		11 29 23.1	
	comp=Z,7.0nm,0.1s						
KAF	**Kangasniemi**	**2.44**	**22**	*e*PB	Pb	11 28 50.9	-1.0
KAF				*e*SG	Sg	11 29 23.6	-1.9
KAF				MSG		11 29 25.4	
	comp=Z,7.6nm,0.2s						
HFS	**Hagfors**	**5.36**	**277**	Pn	Pn	11 29 28.8	+0.4
	comp=Z,0.1nm,0.3s,baz=92,slow=17,SNR=5.1						
HFS				Sn	Sn	11 30 30.1	-0.6
	comp=Z,0.2nm,0.3s,baz=90,slow=28,SNR=5.9						
NOA	**NORSAR Array B**	**6.60**	**286**	Pn	Pn	11 29 44.9	-0.6

LCR2 **La Lucha 2** 4.57 342⇑ *e*P P 11 32 04.8 -1.4
UPA **Univ. de Panam** 4.71 40 *e*P P 11 32 09.7 +1.6
LAJ **Bijagual** 4.72 341⇓ *e*P P 11 32 06.3 -2.0
LAJ **Bijagual** 4.72 341⇓ *e*P P 11 32 06.3 -2.1
SJS **Escuela Geolog** 4.77 342⇑ *i*P P 11 32 08.7 -0.3
SJS *e*P 11 32 08.9
SJS *e*S S 11 33 02.1 -2.3
SJS **Escuela Geolog** 4.77 342⇓ *e*P P 11 32 08.7 -0.3
SJS *e*S S 11 33 03.8 -0.6
PRS1 **Puriscal** 4.90 340 *e*P P 11 32 07.9 -2.8
PRS1 **Puriscal** 4.90 340 *e*P P 11 32 08.0 -2.7
CGA2 **Cerro Gallo 2** 4.98 338 *e*P P 11 32 10.7 -1.2
CGA2 **Cerro Gallo 2** 4.98 338 *e*P P 11 32 10.8 -1.1
CGA2 *e*S S 11 33 09.2 -0.3
JTS **JuntasAbangare** 5.42 335 P P 11 32 16.6 -1.4
5µm,1.0s
JTS **JuntasAbangare** 5.42 335 P P 11 32 16.2 -1.8
110nm,0.3s,baz=135,slow=7.6,SNR=347
JTS S S 11 33 19.2 -1.3
130nm,0.3s,baz=252,slow=22,SNR=31
JTS **JuntasAbangare** 5.42 335 *e*P P 11 32 16.4 -1.6
JTS pmax pmax
comp=Z,790nm,0.9s
JTS **JuntasAbangare** 5.42 335 *e*P P 11 32 16.4 -1.7
comp=Z,790nm,0.9s
FORC **Fortuna** 5.47 338 *i*P P 11 32 18.5 -0.2
VCR **Vista de Mar** 5.61 328 *e*P P 11 32 18.8 -1.7
LIM1 **Limonal** 5.92 334 *i*P P 11 32 23.8 -1.0
OTAV **Otavalo** 6.56 141 *e*P P 11 32 31.0 -2.6
comp=Z,42nm,0.8s
CONN **Concepcion** 6.85 334 *e*P P 11 32 38.8 +1.2
MGAN **Managua** 7.65 332 *e*P P 11 32 50.2 +1.7
MGAN *e*S S 11 34 14.2 -1.0
COPN **Copaltepe** 7.84 330 *e*P P 11 32 51.9 +0.7
LEON **Leon** 8.19 329 *e*P P 11 32 55.3 -0.8
ROSC **El Rosal** 8.25 93 P P 11 32 59.0 +2.2
comp=Z,4.1nm,0.3s,baz=291,slow=4.7,SNR=11
ROSC S S 11 34 35.2 +5.2
comp=Z,0.4nm,0.3s,baz=90,slow=20,SNR=2.7
TEL3 **Telica 3** 8.30 330 *e*P P 11 32 59.6 +2.1
TEL3 *e*S S 11 34 30.2 -1.1
CRIN **San Cristobal** 8.51 329 *e*P P 11 32 59.3 -1.1
PAYG **Puerto Ayora** 9.74 232 *e*P P 11 33 17.4 +0.1
comp=Z,233nm,1.5s
SDV **Santo Domingo** 12.37 73 P P 11 33 55.0 +1.8
comp=Z,1.5nm,0.3s,baz=263,slow=9.4,SNR=82
SDV S S 11 36 13.2 +2.0
comp=Z,1.7nm,0.3s,baz=109,slow=18,SNR=3.3
SDV **Santo Domingo** 12.37 73 *e*P P 11 33 55.1 +1.8
comp=Z,112nm,0.9s
ATAH **Atahualpa** 12.98 161 P P 11 34 02.3 +0.8
comp=Z,0.6nm,0.3s,baz=24,slow=8.8,SNR=7.5
ATAH LR LR 11 38 36.8
comp=Z,5µm,19.6s,baz=151,slow=36
CCIG **Comitan** 14.33 320 *e*P P 11 34 17.1 -2.9
LMGC **Las Mercedes** 15.59 20 *e*P P 11 34 40.6 +3.7
RCC **Rio Carpintero** 16.02 24 *e*P P 11 34 44.9 +2.5
CCCC **Cccc** 16.43 16 *e*P P 11 34 52.4 +4.7
MASC **Masc** 16.82 28 *e*P P 11 34 54.7 +2.0
SOR **Soroa** 17.33 359 *e*P P 11 35 01.0 +1.9
SOR *e*S S 11 38 20.3 +8.4
comp=N,1µm,3.5s
SOR *e* 11 38 43.4
comp=E,2µm,4.1s
OXX **Oaxaca** 18.08 311 *e*P P 11 35 10.0 +1.6
VHO **Vista Hermosa** 18.09 311 *i*P P 11 35 10.6 +2.1
NNA **Nana** 18.16 162 *e*P P 11 35 09.1 -0.2
comp=E,53nm,1.3s
PCRV **Puerto La Cruz** 18.42 74 P P 11 35 12.0 -0.5
comp=E,1.0nm,0.3s,baz=210,slow=12,SNR=4.8
PCRV S S 11 38 43.5 +5.2
comp=E,0.3nm,0.3s,baz=210,slow=16,SNR=2.2
SJG **San Juan** 20.46 50 P P 11 35 36.3 +1.5
comp=E,99nm,0.9s,baz=256,slow=5.8,SNR=20
SJG LR LR 11 42 50.2
comp=E,730nm,21.6s,MS4.0,baz=234,slow=35
CPD **Cerro la Pandu** 20.60 51 *e*P P 11 35 37.3 +1.0
MTP **Monte Pirata** 20.91 51 *e*P P 11 35 40.2 +0.6
DWPF **Disney** 22.65 3 *e*P P 11 36 00.0 +1.7
comp=E,125nm,1.1s,mb5.3
ARE **Arequipa** 24.31 153 *e*P P 11 36 17.0 +2.3
LPAZ **La Paz** 25.84 147 P P 11 36 28.0 -0.6
comp=E,1.6nm,0.7s,baz=338,slow=12,SNR=9.0
LPAZ LR LR 11 47 43.3
comp=E,2µm,20.0s,MS4.6,baz=302,slow=39
HKT **Hockley** 27.46 334 *e*P P 11 36 42.5 -0.8
HKT pmax pmax
comp=Z,16nm,1.2s,mb4.4
HKT **Hockley** 27.46 334 *e*P P 11 36 42.5 -0.8
comp=Z,16nm,1.2s,mb4.4
LRAL **Lakeview Retre** 27.84 352 *e*P P 11 36 46.6 0.0
comp=Z,47nm,0.8s,mb5.2
NATX **Nacogdoches** 28.59 338 *e*P P 11 36 53.4 0.0
comp=Z,42nm,0.9s,mb5.2
JSC **Jenkinsville** 28.80 2 *e*P P 11 36 55.6 +0.4
OXF **Oxford** 29.68 349 *e*P P 11 37 01.7 -1.3
OXF pmax pmax
comp=Z,85nm,1.1s,mb5.4
OXF **Oxford** 29.68 349 *e*P P 11 37 01.7 -1.3
comp=Z,86nm,1.1s,mb5.4
JCT **Junction City** 29.78 329 *e*P P 11 37 04.4 +0.5
JCT pmax pmax
comp=Z,11nm,1.0s,mb4.5
JCT **Junction City** 29.78 329 *e*P P 11 37 04.3 +0.5
comp=Z,11nm,1.0s,mb4.5
SWET **Sewanee** 29.87 355 *e*P P 11 37 04.0 -0.7
PLAL **Pickwick Lake** 29.91 351 *e*P P 11 37 04.1 -1.0
comp=Z,30nm,1.0s,mb5.0
SIV **San Ignacio** 30.07 135 P P 11 37 04.9 -1.6
comp=Z,3.6nm,1.0s,mb4.1,baz=303,slow=9.0,SNR=11
UALR **University of** 30.63 344 *e*P P 11 37 10.6 -0.8
comp=Z,18nm,0.9s,mb4.9
MIAR **Mount Ida** 30.77 342 *e*P P 11 37 11.7 -0.9
MIAR pmax pmax
comp=Z,17nm,1.1s,mb4.8
MIAR **Mount Ida** 30.77 342 *e*P P 11 37 11.7 -0.9
comp=Z,17nm,1.1s,mb4.8
LVC **Limon Verde** 30.86 155 P P 11 37 13.2 -0.2
comp=Z,1.6nm,0.7s,mb4.0,baz=118,slow=14,SNR=4.3
LVC LR LR 11 49 47.3
comp=Z,247nm,18.7s,MS3.9,baz=331,slow=37
WVT **Waverly** 31.00 352 *e*P P 11 37 13.8 -0.8
WVT pmax pmax
comp=Z,43nm,0.8s,mb5.3
WVT **Waverly** 31.00 352 *e*P P 11 37 13.8 -0.9
comp=Z,43nm,0.8s,mb5.3
TZTN **Tazewell** 31.05 359 *e*P P 11 37 15.2 +0.1
GNAR **Gosnell** 31.21 348 *e*P P 11 37 16.0 -0.5
comp=Z,1µm,1.2s
UTMT **University of** 31.36 350 *e*P P 11 37 17.8 -0.1
comp=Z,165nm,0.9s,mb5.9
ELN **Prospectdale** 31.76 3 *e*P P 11 37 22.6 +1.2
BLA **Blacksburg** 31.76 3 *e*P P 11 37 22.0 +0.6
BLA pmax pmax
comp=Z,1.0nm,1.0s
BLA **Blacksburg** 31.76 3 *e*P P 11 37 22.0 +0.6
comp=Z,1.5nm,1.0s,mb3.8
PARMO **Parma** 31.84 349 *e*P P 11 37 21.5 -0.5
FWV **Forest Hill** 32.11 3 *e*P P 11 37 25.1 +0.7
USIN **University of** 32.78 353 *e*P P 11 37 29.8 -0.6
comp=Z,44nm,0.7s,mb5.5
WMOK **Wichita Mounta** 32.84 335 *e*P P 11 37 29.8 -1.1
WMOK pmax pmax
comp=Z,15nm,0.9s,mb4.9
WMOK **Wichita Mounta** 32.84 335 *e*P P 11 37 29.8 -1.1
comp=Z,15nm,0.9s,mb4.9
FVM **French Village** 33.24 349 *e*P P 11 37 33.5 -0.9
FVM pmax pmax
comp=Z,64nm,1.3s,mb5.4
FVM **French Village** 33.24 349 *e*P P 11 37 33.5 -0.9
comp=Z,64nm,1.3s,mb5.4
CCM **Cathedral Cave** 33.48 348 *e*P P 11 37 34.7 -1.8
CCM pmax pmax
comp=Z,62nm,0.9s,mb5.5
CCM **Cathedral Cave** 33.48 348 *e*P P 11 37 34.7 -1.7
comp=Z,62nm,0.9s,mb5.5
GDL2 **Guadalupe Moun** 33.57 325 *e*P P 11 37 38.6 +1.3
MNTX **Cornudas Mount** 33.80 324 *e*P P 11 37 38.9 -0.3
comp=Z,16nm,1.1s,mb4.9
SLM **Saint Louis** 33.84 349 *e*P P 11 37 38.9 -0.7
SLM pmax pmax
comp=Z,145nm,1.3s,mb5.8
SLM **Saint Louis** 33.84 349 *e*P P 11 37 38.9 -0.7
comp=Z,145nm,1.3s,mb5.8
BLO **Bloomington** 33.84 355 *e*P P 11 37 39.1 -0.5

BLO pmax pmax
comp=Z,26nm,0.6s,mb5.3
BLO **Bloomington** 33.84 355 *e*P P 11 37 39.1 -0.5
comp=Z,26nm,0.6s,mb5.3
AMTX **Amarillo** 34.27 331 *e*P P 11 37 43.3 +0.1
comp=Z,9.1nm,0.9s,mb4.7
SDMD **Soldier's Deli** 34.29 8 *e*P P 11 37 43.4 -0.1
ACSO **Alum Creek Sta** 34.72 359 *e*P P 11 37 46.8 -0.4
comp=Z,15nm,0.9s,mb4.9
SSPA **Standing Stone** 35.37 6 *e*P P 11 37 53.1 +0.3
comp=Z,32nm,1.3s,mb5.1
KSU1 **Kansas State U** 35.90 341 *e*P P 11 37 56.6 -0.8
BNM **Barren Site** 36.29 325 *e*P P 11 38 02.8 +2.1
LPM **Los Pinos Moun** 36.41 325 *e*P P 11 38 03.8 +2.1
CBKS **Cedar Bluff** 36.75 337 *e*P P 11 38 04.8 +0.2
CBKS pmax pmax
comp=Z,62nm,1.0s,mb5.4
CBKS **Cedar Bluff** 36.75 337 *e*P P 11 38 04.8 +0.2
comp=Z,62nm,1.0s,mb5.4
LAZ **Ladron** 36.76 325 *e*P P 11 38 06.5 +1.7
LAZ *e*PP PP 11 39 32.7 +4.3
ANMO **Albuquerque** 36.78 326 *e*P P 11 38 06.1 +1.2
ANMO pmax pmax
comp=Z,24nm,1.1s
ANMO **Albuquerque** 36.78 326 *e*P P 11 38 06.1 +1.2
comp=Z,24nm,1.1s,mb4.9
BINY **Binghamton** 37.15 8 *e*P P 11 38 09.1 +1.0
comp=Z,52nm,1.3s,mb5.2
ACCN **Adirondack Com** 38.68 10 *e*P P 11 38 21.5 +0.6
NCB **Newcomb** 39.15 10 *e*P P 11 38 25.4 +0.5
comp=Z,16nm,1.2s,mb4.6
CFAA **Coronel Fontan** 39.23 160 P P 11 38 24.5 -1.0
comp=Z,0.2nm,0.5s,baz=352,slow=7.7,SNR=4.3
MIV **Mineville/With** 39.37 10 *e*P P 11 38 25.5 -1.3
MVCO **Mesa Verde** 39.56 327 *e*P P 11 38 29.8 +1.5
LONY **Lake Ozonia** 39.73 9 *e*P P 11 38 29.2 -0.4
CPUP **Villa Florida** 39.90 143 P P 11 38 28.5 -2.7
comp=Z,0.4nm,0.4s,baz=311,slow=5.1,SNR=3.2
CPUP LR LR 11 56 11.6
comp=Z,464nm,20.6s,MS4.3,baz=301,slow=38
MSNY **Massena** 40.05 9 P P 11 38 33.1 +0.7
ISCO **Idaho Springs** 40.08 332 *e*P P 11 38 33.4 +0.8
ISCO pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
ISCO **Idaho Springs** 40.08 332 *e*P P 11 38 33.4 +0.8
comp=Z,7.9nm,0.8s,mb4.5
BDFB **Brasilia** 40.10 122 LR LR 11 55 02.0
comp=Z,615nm,21.8s,MS4.4,baz=301,slow=36
ECSD **EROS,Sioux Fal** 40.16 344 *e*P P 11 38 31.8 -1.6
SMCO **Snowmass** 40.24 330 *e*P P 11 38 35.6 +1.7
comp=Z,40nm,1.0s,mb5.1
PV01 **Paradox Valley** 40.27 328 *e*P P 11 38 35.5 +1.3
PV10 **Paradox Valley** 40.70 328 *e*P P 11 38 38.7 +0.9
GLA **Glamis** 40.73 317 *e*P P 11 38 38.4 +0.4
PHWY **Pilot Hill** 41.21 334 *e*P P 11 38 43.6 +1.7
SRU **San Rafael** 42.03 327 *e*P P 11 38 49.6 +0.9
SRU pmax pmax
comp=Z,33nm,1.0s,mb4.9
SRU **San Rafael** 42.03 327 *e*P P 11 38 49.6 +0.9
comp=Z,33nm,1.0s,mb4.9
PFO **Pinyon Flat Ob** 42.17 316 P P 11 38 51.0 +1.2
comp=Z,75nm,1.0s,mb5.3,SNR=5.0
RWWY **Rawlins** 42.31 332 *e*P P 11 38 52.7 +1.7
comp=Z,42nm,1.1s,mb5.0
MSU **Marysvale** 42.53 325 *e*P P 11 38 54.1 +1.3
ARUT **Antelope Range** 42.78 323 *e*P P 11 38 56.1 +1.3
RSSD **Black Hills** 42.95 337 *e*P P 11 38 57.3 +1.1
RSSD pmax pmax
comp=Z,57nm,1.3s,mb5.1
RSSD **Black Hills** 42.95 337 *e*P P 11 38 57.3 +1.1
comp=Z,57nm,1.3s,mb5.1
EYMN **Ely** 43.11 351 *e*P P 11 38 55.8 -1.6
comp=Z,16nm,1.0s,mb4.7
DAU **Daniels Canyon** 43.36 328 *e*P P 11 39 01.0 +1.5
TCUT **Toone Canyon** 43.95 328 *e*P P 11 39 05.5 +1.3
TPNV **Topopah Spring** 43.98 320 *e*P P 11 39 05.9 +1.4
TPNV pmax pmax
comp=Z,13nm,1.0s,mb4.6
TPNV **Topopah Spring** 43.98 320 *e*P P 11 39 05.9 +1.4
comp=Z,13nm,1.0s,mb4.6
NOQ **North Oquirrh** 43.99 327 *e*P P 11 39 05.4 +0.8
comp=Z,30nm,1.2s,mb4.9
DUG **Dugway** 44.05 326 *e*P P 11 39 06.2 +1.2
DUG pmax pmax
comp=Z,13nm,1.3s,mb4.5
DUG **Dugway** 44.05 326 *e*P P 11 39 06.2 +1.2
comp=Z,13nm,1.3s,mb4.5
PDAR **Pinedale Array** 44.25 331 P P 11 39 07.0 +0.3
comp=Z,6.9nm,1.0s,mb4.3,baz=136,slow=9.4,SNR=35
PDAR LR LR 11 59 40.9
comp=Z,309nm,18.2s,MS4.3,baz=356,slow=39
HWUT **Hardware Ranch** 44.38 329 *e*P P 11 39 08.0 +0.3
comp=Z,16nm,0.8s,mb4.8
AHID **Auburn Hatcher** 45.00 330 *e*P P 11 39 12.3 -0.3
HVU **Hansel Valley** 45.14 328 *e*P P 11 39 14.3 +0.6
HVU pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
HVU **Hansel Valley** 45.14 328 *e*P P 11 39 14.3 +0.5
comp=Z,6.3nm,0.8s,mb4.5
TPH **Tonopah** 45.28 321 *e*P P 11 39 14.6 -0.3
TPH pmax pmax
comp=Z,27nm,1.4s,mb4.9
TPH **Tonopah** 45.28 321 *e*P P 11 39 14.6 -0.3
comp=Z,27nm,1.4s,mb4.9
REDW **Red Top Meadow** 45.32 331 *e*P P 11 39 15.6 +0.4
comp=Z,54nm,1.3s,mb5.2
LOHW **Long Hollow** 45.39 331 *e*P P 11 39 15.8 +0.1
comp=Z,11nm,0.9s,mb4.7
TPAW **Teton Pass** 45.46 331 *e*P P 11 39 17.1 +0.8
comp=Z,38nm,1.2s,mb5.1
MOOW **Moose Ponds** 45.56 331 *e*P P 11 39 16.9 -0.1
comp=Z,15nm,1.1s,mb4.8
IMW **Indian Meadow** 45.76 331 *e*P P 11 39 19.2 +0.5
comp=Z,10.0nm,1.0s,mb4.7
ELK **Elko** 45.78 325 *e*P P 11 39 19.6 +0.8
ELK pmax pmax
comp=Z,8.0nm,0.8s
ELK **Elko** 45.78 325 *e*P P 11 39 19.6 +0.8
comp=Z,7.9nm,0.8s,mb4.7
FLWY **Flagg Ranch** 45.79 332 *e*P P 11 39 19.0 +0.1
comp=Z,27nm,1.1s,mb5.1
LAO **LASA Array** 45.95 337 *e*P P 11 39 20.3 +0.2
comp=Z,40nm,1.0s,mb5.3
MNV **Mina** 46.08 321 *e*P P 11 39 22.8 +1.6
MNV pmax pmax
comp=Z,34nm,1.3s,mb5.1
MNV **Mina** 46.08 321 *e*P P 11 39 22.8 +1.6
comp=Z,34nm,1.3s,mb5.1
ULM **Lac du Bonnet** 46.11 348 P P 11 39 19.8 -1.6
comp=Z,12nm,0.8s,mb4.9,baz=160,slow=9.1,SNR=16
ULM **Lac du Bonnet** 46.11 348 P P 11 39 19.8 -1.6
YFT **Old Faithful** 46.13 332 *e*P P 11 39 23.7 +2.1
NVAR **Mina Array Bea** 46.17 321 P P 11 39 23.2 +1.3
comp=Z,13nm,0.8s,mb4.9,baz=128,slow=8.2,SNR=83
GCMT **Greycliff** 46.63 334 *e*P P 11 39 25.8 +0.3
QLMT **Earthquake Lak** 46.70 332 *e*P P 11 39 26.4 +0.3
BMN **Battle Mountai** 46.73 323 *e*P P 11 39 27.3 +1.0
BMN pmax pmax
comp=Z,31nm,1.2s,mb5.1
BMN **Battle Mountai** 46.73 323 *e*P P 11 39 27.3 +1.0
comp=Z,31nm,1.2s,mb5.1
PLCA **Paso Flores** 47.18 168 P P 11 39 27.3 -2.5
comp=Z,4.9nm,1.1s,mb4.4,baz=318,slow=8.5,SNR=3.6
HLID **Hailey** 47.25 329 *e*P P 11 39 30.7 +0.3
comp=Z,5.5nm,0.8s,mb4.5
MCMT **McKenzie Canyo** 47.37 331 *e*P P 11 39 31.2 -0.1
BOZ **Bozeman (W)** 47.40 332 *e*P P 11 39 31.5 0.0
BOZ pmax pmax
comp=Z,23nm,1.2s,mb5.0
BOZ **Bozeman (W)** 47.40 332 *e*P P 11 39 31.5 0.0
comp=Z,23nm,1.2s,mb5.0
DLMT **Dillon** 47.64 332 *e*P P 11 39 33.6 +0.2
comp=Z,16nm,1.2s,mb4.9
HRY **Holter Researc** 48.30 333 *e*P P 11 39 38.5 0.0
EGMT **Eagleton** 48.43 336 *e*P P 11 39 40.0 +0.5
comp=Z,29nm,1.2s,mb5.2
WVOR **Wild Horse Val** 48.82 325 *e*P P 11 39 42.4 -0.1
WVOR pmax pmax
comp=Z,47nm,1.2s,mb5.4
WVOR **Wild Horse Val** 48.82 325 *e*P P 11 39 42.4 -0.1
comp=Z,47nm,1.2s,mb5.4
MSO **Missoula** 49.35 332 *e*P P 11 39 46.9 +0.3
comp=Z,13nm,1.3s,mb4.8
SCHQ **Schefferville** 50.94 12 P P 11 39 57.6 -1.1
comp=Z,18nm,1.1s,mb4.9,baz=192,slow=4.8,SNR=8.2
WALA **Waterton Lakes** 50.99 334 *e*P P 11 39 59.3 +0.3

comp=Z,6.9nm,0.9s,mb4.6
KHMM **Horse Mountain** 51.01 320 *e*P P 11 39 59.3 +0.1
FFC **Flin Flon** 51.65 346 P P 11 40 03.6 -0.3
comp=Z,51nm,1.2s,mb5.3,SNR=5.5
EDM **Edmonton** 53.94 338 *e*P P 11 40 20.7 -0.2
FCC **Fort Churchill** 54.00 353 *e*P P 11 40 19.6 -1.7
FCC pmax pmax
comp=Z,17nm,1.1s,mb4.9
FCC **Fort Churchill** 54.00 353 *e*P P 11 40 19.6 -1.7
comp=Z,17nm,1.1s,mb4.9
RKT **Rikitea** 58.44 239 *e*S S 11 48 57.5 +1.3
comp=Z,170nm,31.5s
RKT *e*LR LR 11 58 12.4
comp=Z,750nm,27.8s
TAOE **Nuku Hiva Isla** 59.09 256 *e*LR LR 11 58 23.3
comp=Z,945nm,26.2s
YKA **Yellowknife Ar** 61.69 344 P P 11 41 13.7 -1.6
comp=Z,7.4nm,0.9s,mb4.8,baz=141,slow=6.6,SNR=4.8
YKA LR LR 12 07 50.8
comp=Z,209nm,21.9s,MS4.2,baz=120,slow=36
YKW3 **Yellowknife Ar** 61.75 344 *e*P P 11 41 14.3 -1.4
DLBC **Dease Lake** 64.33 335 *e*P P 11 41 33.2 +0.3
SFJD **Kangerlussuaq** 65.33 13 P P 11 41 39.4 -0.1
comp=Z,6.4nm,0.8s,mb4.7,baz=192,slow=5.7,SNR=4.0
SKAG **Skagway** 67.19 334 *e*P P 11 41 51.6 +0.3
comp=Z,7.6nm,0.9s,mb4.7
SKAG LR LR
comp=Z,300nm,20.0s,MS4.5
PPT **Papeete** 69.91 249 *e*S S 11 51 20.1 +1.9
comp=Z,63nm,25.0s
PPT *e*LR LR 12 03 35.1
comp=Z,339nm,24.8s
PPT **Papeete** 69.91 249 LR LR 12 06 28.9
comp=Z,293nm,20.1s,MS4.5,baz=144,slow=31
DAWY **Dawson** 71.15 337 *e*P P 11 42 15.3 -0.6
TBI **Tubuai** 71.16 243 *e*LR LR 12 04 07.5
comp=Z,765nm,28.2s
INK **Inuvik** 71.37 342 *e*P P 11 42 17.1 -0.1
INK pmax pmax
comp=Z,27nm,1.3s
INK **Inuvik** 71.37 342 *e*P P 11 42 17.1 -0.1
comp=Z,27nm,1.3s,mb5.0
SUMG **Summit** 72.31 13 *e*P P 11 42 22.0 -0.9
comp=Z,34nm,1.1s,mb5.2
PMR **Palmer** 74.27 333 *e*P P 11 42 34.3 -0.1
PMR pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
PMR MLR MLR
comp=Z,200nm,22.0s,MS4.4
PMR **Palmer** 74.27 333 *e*P P 11 42 34.3 -0.1
comp=Z,6.8nm,0.9s,mb4.6
PMR LR LR
comp=Z,200nm,22.0s,MS4.4
ILAR **Eielson Array** 74.40 336 P P 11 42 34.7 -0.5
comp=Z,5.3nm,0.9s,mb4.5,baz=121,slow=3.7,SNR=60
SLKM **Skilak Lake** 74.44 332 *e*P P 11 42 34.7 -0.7
EVO **Evora** 74.62 52 *e*P P 11 42 35.2 -1.3
comp=Z,41nm,1.1s,mb5.0
EVO *e*R 11 42 36.2
comp=Z,211nm,19.5s
KDAK **Kodiak Island** 74.88 329 LR LR 12 16 34.2
comp=Z,211nm,18.8s,MS4.5,baz=110,slow=37
SVW2 **Sparrevohn** 77.13 332 *e*P P 11 42 49.7 -1.1
ALE **Alert** 77.60 3 P P 11 42 51.6 -1.8
comp=Z,45nm,1.2s,mb5.3,SNR=6.2
TTA **Tatalina** 77.73 333 *e*P P 11 42 52.8 -1.4
ESDC **Sonseca Array** 77.85 51 P P 11 42 55.2 +0.4
comp=Z,0.5nm,0.3s,mb3.9,baz=274,slow=4.8,SNR=14
QUIF **Quistinic** 78.96 42 *e*P P 11 43 00.0 -0.9
comp=Z,85nm,1.4s,mb5.2
QUIF **Quistinic** 78.96 42 *e*P P 11 43 00.0 -0.9
QUIF pmax pmax
comp=Z,43nm,1.4s,mb5.2
QUIF **Quistinic** 78.96 42 *e*P P 11 43 00.0 -0.9
comp=Z,42nm,1.4s,mb5.2
SGMF **Saint Gilles** 79.39 42 *e*P P 11 43 02.0 -1.3
comp=Z,41nm,1.2s,mb4.9
SGMF **Saint Gilles** 79.39 42 *e*P P 11 43 02.0 -1.3
SGMF pmax pmax
comp=Z,20nm,1.2s,mb4.9
SGMF **Saint Gilles** 79.39 42 *e*P P 11 43 02.0 -1.3
comp=Z,20nm,1.2s,mb4.9
EKA **Eskdalemuir Ar** 79.60 35 P P 11 43 05.0 +0.5
comp=Z,4.1nm,0.9s,mb4.3,baz=264,slow=7.4,SNR=5.6
SJPF **Ste Jean** 80.06 47 *e*P P 11 43 06.2 -0.8
comp=Z,30nm,1.2s,mb4.8
SJPF **Ste Jean** 80.06 47 *e*P P 11 43 06.2 -0.8
SJPF pmax pmax
comp=Z,15nm,1.2s,mb4.8
SJPF **Ste Jean** 80.06 47 *e*P P 11 43 06.2 -0.8
comp=Z,15nm,1.2s,mb4.8
ETSF **Etsaut** 80.54 48 *e*P P 11 43 08.6 -0.9
LDF **La Druitiere** 81.02 42 *e*P P 11 43 11.0 -1.1
comp=Z,10nm,0.8s,mb4.5
LDF **La Druitiere** 81.02 42 *e*P P 11 43 11.0 -1.1
LDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LDF **La Druitiere** 81.02 42 *e*P P 11 43 11.0 -1.1
comp=Z,5.2nm,0.8s,mb4.5
EPF **Esparros** 81.20 47 *e*P P 11 43 12.2 -0.9
comp=Z,18nm,1.1s,mb4.6
EPF **Esparros** 81.20 47 *e*P P 11 43 12.2 -0.9
EPF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
EPF **Esparros** 81.20 47 *e*P P 11 43 12.2 -0.9
comp=Z,9.0nm,1.1s,mb4.6
TCF **Toulx Ste Croi** 82.56 44 *e*P P 11 43 18.9 -1.4
comp=Z,9.6nm,0.8s,mb4.5
TCF **Toulx Ste Croi** 82.56 44 *e*P P 11 43 18.9 -1.4
TCF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
TCF **Toulx Ste Croi** 82.56 44 *e*P P 11 43 18.9 -1.4
comp=Z,4.8nm,0.8s,mb4.6
MTLF **Montolieu** 82.58 47 *e*P P 11 43 19.2 -1.1
comp=Z,21nm,1.2s,mb4.8
MTLF **Montolieu** 82.58 47 *e*P P 11 43 19.2 -1.1
MTLF pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
MTLF **Montolieu** 82.58 47 *e*P P 11 43 19.2 -1.1
comp=Z,10nm,1.2s,mb4.7
TORD **Torodi Ar. Bea** 83.25 77 P P 11 43 23.6 -0.3
comp=Z,1.9nm,0.8s,mb4.2,baz=270,slow=5.4,SNR=8.4
LASF **Ste Croix** 83.76 46 *e*P P 11 43 25.0 -1.4
SMRF **Simiane la Rot** 85.00 46 *e*P P 11 43 31.3 -1.4
ORIF **Oris-en-Rattie** 85.17 45 *e*P P 11 43 32.2 -1.4
comp=Z,13nm,0.9s,mb4.8
ORIF *e*R 11 43 32.2 -1.4
comp=Z,150nm,20.5s
ORIF **Oris-en-Rattie** 85.17 45 *e*P P 11 43 32.2 -1.4
ORIF pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
ORIF **Oris-en-Rattie** 85.17 45 *e*P P 11 43 32.2 -1.4
comp=Z,6.7nm,0.9s,mb4.8
LMR **La Mourre** 85.71 47 *e*P P 11 43 34.9 -1.4
comp=Z,30nm,1.1s,mb5.1
LMR **La Mourre** 85.71 47 *e*P P 11 43 34.9 -1.4
LMR pmax pmax
comp=Z,15nm,1.1s,mb5.1
LMR **La Mourre** 85.71 47 *e*P P 11 43 34.9 -1.4
comp=Z,15nm,1.1s,mb5.1
MBDF **Montbardon** 85.82 46 *e*P P 11 43 35.4 -1.4
SBF **Sospel** 86.35 46 *e*P P 11 43 38.0 -1.4
NOA **NORSAR Array B** 87.20 29 P P 11 43 44.2 +0.7
comp=Z,7.7nm,1.2s,mb4.8,baz=276,slow=4.5,SNR=3.3
NOA LR LR 12 20 08.1
comp=Z,63nm,21.4s,MS4.0,baz=270,slow=34
GRA1 **Grafenberg Arr** 88.42 40 *e*P P 11 43 51.4 +2.0
comp=Z,10.0nm,0.6s,mb5.2
GRF **Grafenberg Arr** 88.42 40 *e*P P 11 43 51.4 +2.0
comp=Z,10.0nm,0.6s,mb5.2
GRF **Grafenberg Arr** 88.42 40 *e*P P 11 43 51.4 +2.0
GRF pmax pmax
comp=Z,10.0nm,0.6s,mb5.2
GRF **Grafenberg Arr** 88.42 40 *e*P P 11 43 51.4 +2.0
GRF pmax pmax
comp=Z,10.0nm,0.6s,mb5.2
CLL **Collm** 89.35 39 *e*S 11 54 48.0
CLL *e*SS SS 12 00 36.0 -2.3
CLL Lm 12 18 00.0
comp=Z,200nm,21.5s
GERES **GERESS Array B** 90.14 41 P P 11 43 59.2 +1.7
comp=Z,1.2nm,0.8s,mb4.3,baz=263,slow=3.5,SNR=6.1
GERES LR LR 12 18 31.7
comp=Z,100nm,18.5s,MS4.3,baz=102,slow=32
AFI **Afiamalu** 90.48 256 LR LR 12 15 46.8
comp=Z,202nm,19.1s,MS4.6,baz=151,slow=30
ARCES **ARCESS Array B** 91.25 20 LR LR 12 22 52.0

comp=Z,63nm,19.8s,MS4.1,baz=247,slow=34
BILL Bilibino 92.81 339 *i* P **P** 11 44 10.0 **+0.1**
BILL *e* 11 47 48.0
BILL pmax pmax
comp=Z,11nm,1.5s,mb5.1
BILL MLR MLR
comp=Z,200nm,17.0s,MS4.6
BILL Bilibino 92.81 339 *e*P **P** **11 44 09.4 -0.5**
comp=Z,18nm,1.5s,mb5.3
FINES FINESS Array B 94.11 27 LR LR 12 19 48.4
comp=Z,181nm,21.5s,MS4.5,baz=192,slow=31
TIXI Tiksi 100.43 350 *e*P Pdif 11 44 41.3 -3.1
TIXI pmax pmax
comp=Z,4.0nm,1.3s
MDJ Mudanjiang 122.47 333 PKP PKPdf 11 49 52.5 -0.2
MDJ PP PP
comp=Z,43nm,5.2s
CN2 Changchun 124.91 335 *e*PKP PKPdf 11 49 55.5 -1.8
CN2 *e*PP PP 11 51 47.8 +2.4
CN2 LR LR
comp=Z,160nm,20.0s,MS4.7
MKAR Makanchi Array 126.37 13 PKP PKPdf 11 49 58.5 -1.6
comp=Z,1.0nm,1.0s,baz=277,slow=2.0,SNR=4.1
MKAR Makanchi Array 126.37 13 PKP PKPdf 11 49 58.5 -1.6
SONM Songino Array 126.44 352 PKP PKPdf 11 49 59.2 -1.1
comp=Z,0.2nm,0.4s,baz=76,slow=0.6,SNR=5.0
SNY Shenyang 127.31 336 *e*PKP PKPdf 11 50 03.0 +1.1
WMQ Urumqi 130.26 9 PKP PKPdf 11 50 07.0 -0.6
WMQ XPKP 11 50 18.5
WMQ PP PP 11 52 25.0 +4.2
WMQ PP PP
comp=Z,88nm,7.2s
WMQ LR LR
comp=N,140nm,29.8s,MS4.7
WMQ LR LR
comp=E,187nm,28.5s,MS4.7
WMQ LR LR
comp=Z,157nm,27.2s,MS4.6
BJI Beijing 131.63 341 *e*PKP PKPdf 11 50 08.0 -2.1
BJI SS SS 12 10 01.0 -3.0
BJI LR LR
comp=Z,190nm,27.6s,MS4.7
BJI Beijing 131.63 341 *e*PKP PKPdf 11 50 08.1 -2.0
BJI SS SS 12 10 01.1 -2.9
BJI LR LR
comp=Z,190nm,27.6s,MS4.7
HHC Hu-ho-hao-te 132.21 345 *e*PKP PKPdf 11 50 09.5 -1.7
HHC PP PP 11 52 35.5 +2.2
HHC PKS 11 53 44.5
HHC SKS SKSdf 11 57 16.5 -6.2
HHC SKKS SKKSac 11 59 22.5 -7.2
HHC SS SS 12 10 09.5 -1.6
HHC LR LR
comp=N,208nm,20.2s,MS4.9
HHC LR LR
comp=E,140nm,18.0s,MS4.9
HHC LR LR
comp=Z,170nm,22.0s,MS4.7
SSE Sheshan 137.21 329 PKP PKPdf 11 50 19.0 -1.6
SSE PP PP 11 53 07.0 +2.0
SSE LR LR
comp=N,53nm,21.4s,MS4.7
SSE LR LR
comp=E,141nm,21.4s,MS4.7
SSE LR LR
comp=Z,71nm,19.3s,MS4.4
SSE Sheshan 137.21 329 PKP PKPdf 11 50 19.1 -1.5
SSE PP PP 11 53 06.9 +1.9
SSE SS SS 12 11 07.9 -3.4
SSE LR LR
comp=Z,70nm,19.3s,MS4.4
NJ2 Nanjing 137.56 333 *e*PKP PKPdf 11 50 20.8 -0.4
NJ2 PP PP 11 53 12.0 +4.8
NJ2 PKS 11 53 55.0
NJ2 PP PP
comp=Z,80nm,5.6s
NJ2 LR LR
comp=Z,120nm,20.0s,MS4.5
LZH Lanzhou 138.33 352 *e*PKIKP PKPdf 11 50 24.9 +2.2
LZH 11 50 33.0
LZH 11 50 37.6
LZH 11 53 18.1
LZH *e*SS SS 12 11 24.0 -0.5
LZH MLR MLR
comp=Z,240nm,20.3s,MS4.9
LZH Lanzhou 138.33 352 *e*PKP PKPdf 11 50 24.9 +2.2
LZH pPKP pPKPdf 11 50 33.0 +6.9
LZH sPKP 11 50 37.6
LZH PP PP 11 53 18.1 +6.1
LZH SKKS SKKSac 12 00 13.5 +7.0
LZH eSS SS 12 11 24.0 -0.5
LZH LR LR
comp=Z,240nm,20.3s,MS4.9
ASAR Alice Springs 140.44 239 PKP PKPdf 11 50 24.9 -1.5
comp=Z,0.5nm,0.7s,baz=109,slow=2.4,SNR=4.3
WRA Warramunga Arr 141.28 245 PKP PKPdf 11 50 25.2 -2.8
comp=Z,0.5nm,0.7s,baz=103,slow=2.1,SNR=5.9
KOLN Koldanda 144.47 21 *e*P PKPdf 11 50 31.4 -2.2
GKN Gorkha 144.62 20 *e*P PKPdf 11 50 32.3 -1.6
KKN Kakani 145.02 19 *e*P PKPbc 11 50 33.3 -0.7
GUN Gumba 145.10 18 *e*P PKPbc 11 50 34.6 +0.4
comp=Z,113nm,1.1s
DMN Daman 145.13 19 *e*P PKPbc 11 50 34.5 +0.2
comp=Z,77nm,1.2s
PKI Pulchoki 145.27 19 *e*P PKPbc 11 50 34.6 -0.2
JIRN Jiri 145.43 18 *e*P PKPbc 11 50 35.6 +0.3
comp=Z,107nm,1.4s
GYA Guiyang 147.12 345 PKP PKPdf 11 50 39.8 +1.6
GYA PP PP 11 54 11.8 +6.7
GYA SKKS SKKSac 12 00 56.0 -1.2
GYA SS SS 12 13 07.5 +1.3
GYA PP PP
comp=Z,180nm,5.7s
GYA LR LR
comp=N,160nm,20.4s,MS5.0
GYA LR LR
comp=E,170nm,21.0s,MS5.0
GYA LR LR
comp=Z,150nm,20.6s,MS4.8
KMI Kunming 149.26 351 PKP PKPdf 11 50 40.8 -0.9
KMI APKP 11 50 47.5
KMI XPKP 11 50 51.0
KMI PKP2 PKPab 11 50 53.8 +3.3
KMI PKS 11 54 10.8
KMI PP PP 11 54 20.3 +2.7
KMI PPP 11 57 44.5
KMI SKKS SKKSac 12 01 04.5 -4.6
KMI PP PP
comp=Z,106nm,4.4s
KMI LR LR
comp=N,136nm,22.1s,MS4.8
KMI LR LR
comp=E,103nm,24.2s,MS4.8
KMI LR LR
comp=Z,131nm,24.2s,MS4.6
KMI Kunming 149.26 351 PKHKP 11 50 40.7
KMI 11 50 47.5
KMI Kunming 149.26 351 PKP PKPdf 11 50 40.7 -1.0
KMI pPKP pPKPdf 11 50 47.5 +2.4
KMI sPKP 11 50 51.1

*IDC **26** 11:33:40.0±5.1, 1362S×16706E, h241km±51km, mb3.4/7, mb1 3.5/8, mb1mx3.3/17, mbtmp3.9/8, MS4.0/2, Ms1 4.0/2, ms1mx2.9/20, Error ellipse: s-maj=42.5km s-min=25.4km az=161.0*
*ISCJB **26** 11:33:41.9±4.8, 137S±03×1670E±02, h277km±55km, mb3.6/7, Error ellipse: s-maj=50.1km s-min=28.1km az=126.1*
*NEIC **26** 11:33:41.8±4.7, 1370S×167.10E, h267km±54km, mb4.0/1, Error ellipse: s-maj=58.0km s-min=22.2km az=160.0*
ISC 26 11:33:42.1±4.7, 137S±03×1671E±02, h269km±54km, n14, σ0§63/13, mb3.6/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.33**	**184**	P		**Pn**	**11 35 39.9**	**+0.3**
	0.2nm,0.3s,baz=38,slow=18,SNR=5.8							
DZM				S		**S**	**11 37 14.5**	**0.0**
	0.1nm,0.3s,baz=139,slow=20,SNR=2.0							
CTA	**Charters Tower**	**20.95**	**250**	P		**P**	**11 38 03.9**	**-0.9**
	2.1nm,0.6s,baz=40,slow=9.5,SNR=5.3							
CTA	**Charters Tower**	**20.95**	**250**	P		**P**	**11 38 03.9**	**-0.9**
STKA	**Stephens Creek**	**29.56**	**228**	P		**P**	**11 39 21.7**	**-0.5**
	2.3nm,0.4s,mb4.1,baz=43,slow=8.8,SNR=20							
STKA	**Stephens Creek**	**29.56**	**228**	P		**P**	**11 39 21.7**	**-0.5**
WRAB	**Tennant Creek**	**31.95**	**254**	P		**P**	**11 39 42.8**	**-0.3**
	3.8nm,0.9s,mb3.9							
WRA	**Warramunga Arr**	**31.96**	**254**	P		**P**	**11 39 43.3**	**+0.1**
	0.9nm,0.6s,mb3.5,baz=86,slow=9.5,SNR=20							
ASAR	**Alice Springs**	**32.93**	**248**	P		**P**	**11 39 51.5**	**0.0**
	2.0nm,0.5s,mb3.9,baz=75,slow=9.3,SNR=96							
ASAR				PcP		PcP	11 42 31.1	+2.2
	0.3nm,0.6s,baz=69,slow=2.8,SNR=4.6							
FITZ	**Fitzroy Crossi**	**40.09**	**258**	P		**P**	**11 40 53.1**	**+1.3**
	1.0nm,0.8s,mb3.2,baz=135,slow=20,SNR=3.6							
NWAO	**Narrogin (SRO)**	**49.16**	**238**	LR		LR	12 01 51.0	
	comp=Z,82nm,18.3s,baz=143,slow=34							
VNDA	**Vanda**	**63.86**	**181**	LR		LR	12 06 27.6	
	comp=Z,167nm,18.3s,baz=284,slow=31							
ILAR	**Eielson Array**	**85.61**	**18**	P		**P**	**11 45 49.6**	**-0.7**
	0.3nm,0.6s,mb3.3,baz=239,slow=5.2,SNR=8.0							
MKAR	**Makanchi Array**	**96.39**	**316**	P		**P**	**11 46 41.3**	**+0.7**
	0.3nm,0.6s,mb3.6,baz=94,slow=5.8,SNR=3.5							
MKAR	**Makanchi Array**	**96.39**	**316**	P		**P**	**11 46 41.3**	**+0.8**

*IDC **26** 11:35:22.0±0.4, 3745S×5130E, h0km, mb4.5/29, mb1 4.6/30, mb1mx4.5/32, mbtmp4.5/30, ML3.3/1, MS4.2/12, Ms1 4.2/12, ms1mx3.9/24, Error ellipse: s-maj=13.9km s-min=9.7km az=64.0*
*ISCJB **26** 11:35:22.2±0.2, 3741S±005×5136E±007, h10km, mb4.7/44, MS4.2/14, Error ellipse: s-maj=8.1km s-min=6.7km az=121.5*
*MOS **26** 11:35:22.6±1.0, 3742S×5132E, h10km, mb5.2/10, Error ellipse: s-maj=15.8km s-min=10.2km az=101.6*
*HRVD **26** 11:35:23.7±0.3, 3742S×5132E, h12km, MW5.0/75, Centroid moment Tensor Solution. LP body waves: s25,c29;Mantle waves: s75,c109; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr=3.19±.11; Mθθ=3.36±.10; Mϕϕ=-0.17±.12; Mrθ=-0.26±.34; Mθϕ=-0.20±.10; Mϕr=0.07±.39; Best double couple: Mo=3.29200×10^16 NP1:ϕs=272.00000°, δ43.00000°, λ-92.00000°. NP2: ϕs=94.00000°, δ47.00000°, λ-88.00000°. Principal axes: T 3.3820, Plg2.0000°, Azm183.0000°; N -0.1810, Plg1.0000°, Azm273.0000°; P -3.2010, Plg87.0000°, Azm29.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **26** 11:35:23.7±0.2, 3743S×5129E, h10km, mb5.1/13 Error ellipse: s-maj=6.9km s-min=5.6km az=212.0*
*BJI **26** 11:35:23.6, 3740S×5130E, h10km, mb5.3, mb5.3, Ms4.9*
*SZGRF **26** 11:35:26.5, 3761S×5077E, h33km, mb4.7, Southwest Indian Ridge*
ISC 26 11:35:23.9±0.2, 3744S±004×5131E±007, h10km, (h17km±2.7km: pP-P), n108, σ0§88/81, mb4.7/44, MS4.2/14, 2C-5D, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**19.14**	**348**	P		**Pn**	**11 39 47.4**	**-0.7**
	0.1nm,0.3s,baz=136,slow=11,SNR=4.6							
OPO				S		**Sn**	**11 43 24.3**	**+1.8**
	0.2nm,0.3s,baz=292,slow=19,SNR=2.5							
BOSA	**Boshof**	**23.49**	**284**	P		**P**	**11 40 32.6**	**-1.4**
	8.3nm,0.9s,mb4.2,baz=118,slow=10.0,SNR=8.2							
LBTB	**Lobatse**	**25.15**	**292**	P		**P**	**11 40 47.1**	**-2.0**
	8.4nm,0.9s,mb4.3,baz=124,slow=8.7,SNR=8.0							
SUR	**Sutherland**	**25.45**	**272**	P		**P**	**11 40 51.9**	**+0.1**
	12nm,0.9s,mb4.4,baz=120,slow=7.2,SNR=3.2							
SUR				LR		LR	11 49 06.4	
	comp=Z,227nm,21.4s,MS3.7,baz=173,slow=32							
MATP	**Matopo**	**26.08**	**304**	P		**P**	**11 40 56.4**	**-1.2**
	8.0nm,1.0s,mb4.2,baz=124,slow=8.8,SNR=7.1							
MATP				LR		LR	11 49 29.3	
	comp=Z,820nm,22.0s,MS4.2,baz=136,slow=32							
LSZ	**Lusaka**	**30.12**	**311**	*e*P		**P**	**11 41 33.9**	**+0.2**
MAW	**Mawson**	**30.91**	**171**	P		**P**	**11 41 40.1**	**-0.5**
	6.1nm,0.8s,mb4.5,baz=340,slow=12,SNR=8.0							
MAW				LR		LR	11 51 53.1	
	comp=Z,673nm,19.4s,MS4.3,baz=63,slow=32							
TSUM	**Tsumeb**	**34.56**	**292**	P		**P**	**11 42 12.1**	**-0.5**
	3.3nm,0.8s,mb4.3,baz=130,slow=9.6,SNR=5.7							
MIR	**Mirnyy**	**37.57**	**154**	*e*P		**P**	**11 42 39.5**	**+1.1**
MIR				pmax	pmax			
	comp=Z,310nm,1.5s,mb5.8							
KMBO	**Kilima Mbogo**	**38.39**	**337**	P		**P**	**11 42 46.0**	**+0.7**
	comp=Z,1.6nm,0.9s,mb3.8,baz=215,slow=19,SNR=3.0							
KMBO				LR		LR	11 56 48.1	
	comp=Z,724nm,20.4s,MS4.5,baz=97,slow=34							
NVL	**N'lazarevskaya**	**39.22**	**199**	*i* P		**P**	**11 42 53.5**	**+1.3**
NVL				pmax	pmax			
	comp=Z,23nm,1.4s,mb4.7							
SNAA	**Sanae**	**43.80**	**202**	P		**P**	**11 43 29.1**	**-0.7**
	comp=Z,2.7nm,0.9s,mb4.0,baz=70,slow=6.9,SNR=9.9							
SNAA				LR		LR	12 00 43.9	
	comp=Z,69nm,18.2s,MS3.6,baz=28,slow=35							
SNAA	**Sanae**	**43.80**	**202**	*e*P		**P**	**11 43 23.6**	**-6.2**
SNAA				*e*		pP	11 43 27.9	-5.0
CASY	**Casey**	**44.08**	**150**	*e*P		**P**	**11 43 30.6**	**-1.4**
VNA2	**Neumayer--Watz**	**44.96**	**203**	*e*P		**P**	**11 43 39.8**	**+0.8**
VNA2				*e*		pP	11 43 43.9	+1.7
VNA1	**Neumayer--Stat**	**45.16**	**204**	*e*P		**P**	**11 43 42.3**	**+1.6**
VNA1				*e*		pP	11 43 46.4	+2.6
VNA3	**Neumayer Olymp**	**45.76**	**203**	*e*P		**P**	**11 43 45.3**	**-0.1**
VNA3				*e*		pP	11 43 49.3	+0.8
MUN	**Mundaring**	**52.70**	**105**	*e*P		**P**	**11 44 39.2**	**+0.7**
QSPA	**South Pole Qui**	**52.75**	**180**	*e*P		**P**	**11 44 38.4**	**-0.5**
	comp=Z,43nm,1.1s,mb5.3							
KLBR	**Kellerberrin**	**54.05**	**105**	*e*P		**P**	**11 44 47.9**	**-0.6**
	comp=Z,12nm,0.9s,mb4.8							
DRV	**Dumont d'Urvil**	**55.77**	**151**	P		**P**	**11 44 59.0**	**-1.9**
DRV	**Dumont d'Urvil**	**55.77**	**151**	PP		PP	11 47 04.0	-1.3
VNDA	**Vanda**	**57.99**	**166**	P		**P**	**11 45 16.0**	**-0.6**
	comp=Z,3.0nm,1.1s,mb4.2,baz=260,slow=6.9,SNR=5.2							
PSI	**Prapat**	**59.56**	**59**	P		**P**	**11 45 27.5**	**-0.1**
	comp=Z,11nm,0.9s,mb4.9,baz=218,slow=6.5,SNR=6.1							
PSI	**Prapat**	**59.56**	**59**	P		**P**	**11 45 27.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**66.96**	**96**	*i* P		**P**	**11 46 17.0**	**+0.4**
	comp=Z,24nm,0.9s,mb5.2							
DBIC	**Dimbokro**	**68.26**	**297**	P		**P**	**11 46 25.6**	**+0.7**
	comp=Z,8.2nm,0.9s,mb4.8,baz=130,slow=4.2,SNR=7.0							
TORD	**Torodi Ar. Bea**	**68.56**	**307**	P		**P**	**11 46 27.2**	**+0.5**
	comp=Z,8.3nm,1.1s,mb4.6,baz=130,slow=3.2,SNR=17							
ASPA	**Alice Springs**	**70.38**	**105**	*e*P		**P**	**11 46 38.4**	**+0.4**
ASAR	**Alice Springs**	**70.39**	**105**	P		**P**	**11 46 38.0**	**0.0**
	comp=Z,11nm,0.7s,mb4.9,baz=232,slow=5.9,SNR=120							
AS31	**Alice Springs**	**70.39**	**105**	*e*P		**P**	**11 46 38.4**	**+0.4**
ASF	**Jabal al Asfar**	**70.55**	**347**	P		**P**	**11 46 40.2**	**+1.2**
	comp=Z,4.9nm,0.9s,mb4.4,baz=46,slow=4.4,SNR=5.4							
KOLN	**Koldanda**	**71.60**	**30**	*e*P		**P**	**11 46 45.0**	**-0.4**
MMAI	**Mount Meron Ar**	**71.65**	**346**	P		**P**	**11 46 46.5**	**+0.8**
	comp=Z,6.3nm,0.9s,mb4.5,baz=204,slow=16,SNR=4.6							
STKA	**Stephens Creek**	**71.65**	**116**	*e*P		**P**	**11 46 43.7**	**-2.0**
	comp=Z,8.2nm,1.4s,mb4.5							
STKA	**Stephens Creek**	**71.65**	**116**	P		**P**	**11 46 44.4**	**-1.3**
	comp=Z,9.0nm,0.8s,mb4.7,baz=256,slow=4.6,SNR=13							
STKA				LR		LR	12 12 25.9	
	comp=Z,89nm,21.1s,MS4.0,baz=202,slow=31							
DMN	**Daman**	**72.07**	**31**	*e*P		**P**	**11 46 48.2**	**0.0**
	comp=Z,27nm,1.0s,mb5.2							
PKI	**Pulchoki**	**72.16**	**32**	*e*P		**P**	**11 46 48.0**	**-0.7**
GKN	**Gorkha**	**72.22**	**31**	*e*P		**P**	**11 46 48.5**	**-0.6**
	comp=Z,31nm,0.9s,mb5.2							
KKN	**Kakani**	**72.30**	**31**	*e*P		**P**	**11 46 49.3**	**-0.2**
JIRN	**Jiri**	**72.56**	**32**	*e*P		**P**	**11 46 50.3**	**-0.8**
GUN	**Gumba**	**72.65**	**32**	*e*P		**P**	**11 46 52.0**	**+0.3**
	comp=Z,123nm,1.0s							
WRA	**Warramunga Arr**	**72.77**	**102**	P		**P**	**11 46 52.8**	**+0.4**
	comp=Z,14nm,0.7s,mb5.0,baz=232,slow=5.2,SNR=75							
WB2	**Warramunga Ar**	**72.78**	**102**	*i* P		**P**	**11 46 52.9**	**+0.5**
WRAB	**Tennant Creek**	**72.79**	**102**	P		**P**	**11 46 53.9**	**+1.4**
	comp=Z,174nm,0.8s,SNR=7.7							
WRAB	**Tennant Creek**	**72.79**	**102**	*e*P		**P**	**11 46 53.4**	**+0.9**
KAKA	**Kakadu**	**75.40**	**95**	*e*P		**P**	**11 47 07.9**	**+0.2**
	comp=Z,12nm,0.7s,mb4.9							
GNI	**Garni**	**77.45**	**355**	LR		LR	12 20 55.9	
	comp=Z,187nm,19.4s,MS4.4,baz=3.6,slow=35							
BRTR	**Keskin Array B**	**78.49**	**346**	P		**P**	**11 47 24.4**	**-0.7**
	comp=Z,2.0nm,1.0s,mb4.0,baz=157,slow=6.6,SNR=7.7							
ZEI	**Tsey**	**80.12**	**354**	*e*P		**P**	**11 47 35.2**	**+1.2**
ZEI				*e**PP		pP	11 47 44.3	+7.0
ZEI				*e*			11 50 40.8	
ZEI				pmax	pmax			
	comp=Z,5.0nm,0.5s,mb4.7							
KIV	**Kislovodsk**	**81.39**	**354**	*e*P		**P**	**11 47 41.8**	**+1.0**
KIV				pmax	pmax			
	comp=Z,30nm,1.4s,mb5.0							
KIV				MLR	MLR			
	comp=Z,100nm,18.0s,MS4.2							
CTA	**Charters Tower**	**81.82**	**109**	*e*P		**P**	**11 47 44.2**	**+1.1**
	comp=Z,9.7nm,0.9s,mb4.7							
CTA	**Charters Tower**	**81.82**	**109**	P		**P**	**11 47 43.6**	**+0.5**
	comp=Z,14nm,0.9s,mb4.9,baz=239,slow=6.8,SNR=12							
CTA				LR		LR	12 17 10.2	
	comp=Z,97nm,19.2s,MS4.2,baz=225,slow=31							
CTA	**Charters Tower**	**81.82**	**109**	*e*P		**P**	**11 47 44.2**	**+1.1**
CTA				pmax	pmax			
	comp=Z,10.0nm,0.9s							
AAK	**Ala-Archa**	**82.45**	**17**	P		**P**	**11 47 46.1**	**-0.3**
	comp=Z,69nm,1.1s,mb5.5,SNR=7.0							
AAK	**Ala-Archa**	**82.45**	**17**	*e*P		**P**	**11 47 46.7**	**+0.3**
FRU	**Bishkek**	**82.67**	**17**	*e*P		**P**	**11 47 48.0**	**+0.5**
FRU				pmax	pmax			
	comp=Z,60nm,2.0s,mb5.3							
ANN	**Anapa**	**82.82**	**350**	*e*P		**P**	**11 47 37.8**	**-11**
ANN				pmax	pmax			
	comp=Z,31nm,1.1s,mb5.2							
MLR	**Muntele Rosu**	**85.66**	**342**	P		**P**	**11 48 02.9**	**+0.1**
	comp=Z,7.8nm,1.0s,mb4.9,baz=62,slow=9.5,SNR=5.8							
MLR	**Muntele Rosu**	**85.66**	**342**	*i* P		**P**	**11 48 03.2**	**+0.4**
PLCA	**Paso Flores**	**85.75**	**220**	P		**P**	**11 48 03.3**	**+0.1**
	comp=Z,6.4nm,1.0s,mb4.8,baz=120,slow=6.0,SNR=4.8							
PLCA				LR		LR	12 19 41.7	
	comp=Z,122nm,18.8s,MS4.3,baz=142,slow=31							
VOIR		**85.83**	**342**	*i* P		**P**	**11 48 02.4**	**-1.2**
VRI	**Vrincioaia**	**85.83**	**343**	*i* P		**P**	**11 48 03.6**	**0.0**
PLOR	**Plostina**	**85.83**	**343**	*i* P		**P**	**11 48 03.5**	**-0.1**
CPUP	**Villa Florida**	**87.78**	**238**	P		**P**	**11 48 13.9**	**+0.8**
	comp=Z,3.3nm,0.8s,mb4.6,baz=103,slow=6.1,SNR=8.7							
CPUP				LR		LR	12 21 04.9	
	comp=Z,97nm,18.7s,MS4.2,baz=135,slow=31							
CPUP	**Villa Florida**	**87.78**	**238**	P		**P**	**11 48 13.9**	**+0.8**
CPUP				LR		LR	12 21 04.9	
BDFB	**Brasilia**	**87.83**	**252**	P		**P**	**11 48 13.6**	**+0.3**
	comp=Z,4.3nm,0.8s,mb4.8,baz=97,slow=3.7,SNR=4.7							
MKAR	**Makanchi Array**	**88.34**	**21**	P		**P**	**11 48 14.7**	**-1.0**
	comp=Z,1.9nm,1.0s,mb4.3,baz=208,slow=6.8,SNR=11							
URZ	**Urewera**	**89.61**	**140**	LR		LR	12 21 45.9	
	comp=Z,246nm,18.7s,MS4.7,baz=126,slow=31							
AKASG	**Malin Array Be**	**89.89**	**346**	P		**P**	**11 48 21.5**	**-1.6**
	comp=Z,1.1nm,0.7s,mb4.3,baz=166,slow=4.4,SNR=8.0							
CFAA	**Coronel Fontan**	**91.10**	**228**	P		**P**	**11 48 29.3**	**+0.6**
	comp=Z,0.4nm,1.0s,baz=201,slow=14,SNR=2.7							
GERES	**GERESS Array B**	**92.17**	**336**	P		**P**	**11 48 32.7**	**-1.0**
	comp=Z,0.4nm,0.5s,mb4.0,baz=163,slow=4.9,SNR=5.4							
GRA1	**Grafenberg Arr**	**93.72**	**335**	*e*P		**P**	**11 48 41.5**	**+0.7**
	comp=Z,4.0nm,0.9s,mb4.8							
GRF	**Grafenberg Arr**	**93.72**	**335**	*e*P		**P**	**11 48 41.5**	**+0.7**
	comp=Z,4.0nm,0.9s,mb4.8							
GRF	**Grafenberg Arr**	**93.72**	**335**	*e*P		**P**	**11 48 41.5**	**+0.7**
GRF				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.8							
GRF	**Grafenberg Arr**	**93.72**	**335**	*e*P		**P**	**11 48 41.5**	**+0.7**
GRF				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.8							
BRG	**Berggiesshubel**	**93.87**	**337**	*e*P		**P**	**11 48 49.4**	**+7.9**
	comp=Z,3.7nm,1.2s,mb4.7							
BRG								
	comp=N,155nm,22.5s							
BRG								
	comp=E,79nm,19.8s							
BRG								
	comp=Z,155nm,22.5s							
BRG	**Berggiesshubel**	**93.87**	**337**	*e*P		**P**	**11 48 49.4**	**+7.9**
BRG				pmax	pmax			
	comp=Z,4.0nm,1.2s,mb4.7							
BRG				MLR	MLR			
	comp=N,155nm,22.5s,MS4.5							
BRG				MLR	MLR			
	comp=E,79nm,19.8s,MS4.5							
BRG				MLR	MLR			
	comp=Z,155nm,22.5s,MS4.4							
SSE	**Sheshan**	**94.37**	**54**	P		**P**	**11 48 43.8**	**0.0**
	comp=Z,48nm,0.7s							
CLL	**Collm**	**94.54**	**337**	*e*P		**P**	**11 48 45.0**	**+0.4**
ZAL	**Zalesovo**	**95.49**	**19**	P		**P**	**11 48 48.5**	**-0.4**
	comp=Z,1.8nm,0.6s,mb4.7,baz=315,slow=5.1,SNR=8.2							
NVS	**Novosibirsk**	**95.91**	**18**	*i* P		**P**	**11 48 49.0**	**-1.8**
NVS				pmax	pmax			
	comp=Z,26nm,2.2s,mb5.3							
NVS				pmax	pmax			
	comp=N,15nm,2.0s							
SIV	**San Ignacio**	**97.23**	**244**	P		**P**	**11 48 58.0**	**+1.2**
	comp=N,1.2nm,1.0s,mb4.3,baz=303,slow=22,SNR=4.8							
SONM	**Songino Array**	**98.07**	**34**	LR		LR	12 29 48.3	
	comp=N,226nm,21.2s,MS4.6,baz=171,slow=33							
BILL	**Bilibino**	**133.41**	**28**	*e*PKIKP		PKPdf	11 54 37.7	-2.6
BILL				*e*			11 57 06.6	
BILL				pmax	pmax			
	comp=Z,3.0nm,1.6s							
SWET	**Sewanee**	**145.69**	**279**	*e*P		PKPdf	11 55 03.0	+0.5
LRAL	**Lakeview Retre**	**145.87**	**275**	*e*P		PKPdf	11 55 02.8	0.0
WVT	**Waverly**	**147.43**	**280**	*e*PKIKP		PKPdf	11 55 04.1	-1.3
OXF	**Oxford**	**148.23**	**277**	*e*PKIKP		PKPdf	11 55 07.9	+1.1
INK	**Inuvik**	**148.96**	**3**	*e*PKIKP		PKPdf	11 55 06.4	-1.6
INK				*e*			11 55 11.2	
FCC	**Fort Churchill**	**149.10**	**325**	*e*PKIKP		PKPdf	11 55 06.1	-2.1
FVM	**French Village**	**149.86**	**283**	*e*PKP2		PKPab	11 55 14.4	-5.3
COLA	**College**	**150.28**	**16**	*e*PKIKP		PKPdf	11 55 14.3	+4.3
CCM	**Cathedral Cave**	**150.51**	**283**	*e*PKIKP		PKPdf	11 55 15.4	+5.0
ILAR	**Eielson Array**	**150.58**	**16**	PKPbc		PKPbc	11 55 14.2	-1.7
	comp=Z,8.7nm,1.0s,baz=315,slow=3.1,SNR=59							
ILAR				PKPab		PKPab	11 55 20.9	-1.7
	comp=Z,4.3nm,0.8s,baz=312,slow=3.4,SNR=12							
UALR	**University of**	**150.63**	**276**	*e*PKPbc		PKPbc	11 55 16.5	+0.5
EYMN	**Ely**	**150.97**	**303**	*e*PKPbc		PKPbc	11 55 16.5	-0.4
MIAR	**Mount Ida**	**151.54**	**275**	*e*PKIKP		PKPbc	11 55 18.6	+0.4
DAWY	**Dawson**	**152.57**	**10**	*e*PKPbc		PKPbc	11 55 20.2	-0.3
ULM	**Lac du Bonnet**	**153.33**	**309**	PKP		PKPdf	11 55 12.4	-2.2
	comp=Z,2.0nm,0.8s,baz=152,slow=4.2,SNR=4.1							
ULM				PKPbc		PKPbc	11 55 20.9	-1.3
	comp=Z,1.5nm,0.4s,baz=110,slow=4.0,SNR=4.0							
YKW3	**Yellowknife Ar**	**153.40**	**345**	*e*PKPbc		PKPbc	11 55 21.1	-1.2
YKA	**Yellowknife Ar**	**153.46**	**345**	PKP		PKPdf	11 55 12.8	-2.0
	comp=Z,1.4nm,1.0s,baz=28,slow=2.0,SNR=11							
YKA				PKPbc		PKPbc	11 55 21.6	-0.9
	comp=Z,2.6nm,0.9s,baz=15,slow=1.7,SNR=14							
YKA	**Yellowknife

MSF			MSG			11 37 31.7
	comp=Z,27nm,0.2s					
MSF	**Maaselka**	**2.71 230**	S	**Sn**		**11 37 23.9 +2.1**
	comp=Z,27nm,0.2s					
SGF	**Sodankyl**	**2.92 268**	*e*P	**Pn**		**11 36 52.2 +0.9**
SGF			*e*SB	**Sb**		**11 37 32.4 -0.4**
SGF			MSG			11 37 42.7
	comp=Z,26nm,0.2s					
SGF	**Sodankyl**	**2.92 268**	P	**Pn**		**11 36 52.2 +0.9**
SGF			S	**Sn**		**11 37 30.2 +3.1**
	comp=Z,26nm,0.2s					
KEV	**Kevo**	**3.29 312**	*e*P	**Pn**		**11 36 56.5 0.0**
KEV			MSG			11 37 52.9
	comp=Z,25nm,0.2s					
KEV	**Kevo**	**3.29 312**	P	**Pn**		**11 36 56.5 0.0**
KEV			S	**Sn**		**11 37 38.4 +2.0**
	comp=Z,25nm,0.2s					
ARA0	**ARCESS Array S**	**3.63 304**	*e*P	**Pn**		**11 37 03.3 +2.1**
ARA0			*e*PG	**Pg**		**11 37 11.6 -1.8**
ARA0			*e*S	**Sn**		**11 37 44.6 -0.2**
ARA0			*e*SG	**Sg**		**11 37 56.8 -3.7**
ARA0	**ARCESS Array S**	**3.63 304**	Pn	**Pn**		**11 37 03.3 +2.1**
	baz=124,slow=16					
ARA0			Pg	**Pg**		**11 37 11.6 -1.8**
	baz=122,slow=16					
ARA0			Sn	**Sn**		**11 37 44.6 -0.2**
	baz=125,slow=28					
ARA0			Lg			11 37 56.8
	baz=126,slow=37					
ARA0	**ARCESS Array S**	**3.63 304**	Pg	**Pg**		**11 37 11.6 -1.8**
	SNR=90					
ARA0			Sn	**Sn**		**11 37 44.6 -0.2**
	SNR=50					
ARCES	**ARCESS Array B**	**3.63 304**	Pn	**Pn**		**11 37 00.5 -0.7**
	comp=Z,12nm,0.3s,baz=122,slow=15,SNR=179					
ARCES			Sn	**Sn**		**11 37 43.9 -0.9**
	comp=Z,7.8nm,0.3s,baz=119,slow=26,SNR=13					
ARCES			Lg			11 37 56.0
	comp=Z,11nm,0.3s,baz=120,slow=31,SNR=12					
KTK1	**Kautokeino**	**4.22 293**	*e*P	**Pn**		**11 37 10.1 +0.8**
KTK1			AML	AML		11 38 16.8
	comp=Z,21nm,0.3s					
OUL	**Oulu**	**4.23 235**	*e*P	**Pn**		**11 37 09.7 +0.3**
OUL	**Oulu**	**4.23 235**	P	**Pn**		**11 37 09.6 +0.2**
KJN	**Kajaani**	**4.49 219**	*e*SG	**Sg**		**11 38 20.8 -7.2**
FIA0	**FINESS Array S**	**7.18 212**	Pn	**Pn**		**11 37 49.5 -0.4**
	baz=24,slow=14					
FIA0			Lg			11 39 41.4
	baz=19,slow=28					
FIA0	**FINESS Array S**	**7.18 212**	Pn	**Pn**		**11 37 49.5 -0.4**
	SNR=5.3					
FINES	**FINESS Array B**	**7.18 212**	Pn	**Pn**		**11 37 49.5 -0.4**
	comp=Z,0.1nm,0.3s,baz=34,slow=14,SNR=3.5					
FINES			Sn	**Sn**		**11 39 04.9 -7.3**
	comp=Z,0.3nm,0.3s,baz=27,slow=22,SNR=3.3					
FINES			Lg			11 39 41.0
	comp=Z,1.2nm,0.3s,baz=28,slow=26,SNR=4.1					
SPA0	**Spitsbergen Ar**	**11.63 342**	Pn	**Pn**		**11 38 50.4 -0.5**
	baz=136,slow=18					
HFS	**Hagfors**	**11.71 239**	Pn	**Pn**		**11 38 49.2 -2.8**
	comp=Z,0.2nm,0.3s,baz=41,slow=9.5,SNR=6.5					
HFS			Sn	**Sn**		**11 40 52.8 -11**
	comp=Z,0.2nm,0.3s,baz=43,slow=28,SNR=2.9					
NB2	**NORSAR Subarra**	**11.89 247**	Pn	**Pn**		**11 38 52.7 -1.8**
	baz=50,slow=14					
NOA	**NORSAR Array B**	**11.89 247**	Pn	**Pn**		**11 38 49.1 -5.4**
	comp=Z,0.2nm,0.3s,baz=40,slow=10,SNR=2.6					
NOA			Sn	**Sn**		**11 40 56.9 -11**
	comp=Z,0.2nm,0.3s,baz=43,slow=25,SNR=2.9					

ISCJB ***26*** *11:52:37.9±0.3,3742S×006×5132E±008,h10km, mb4.6/34,MS4.1/12, Error ellipse: s-maj=9.5km s-min=7.8km az=115.1*

IDC ***26*** *11:52:37.7±0.5,3742S×5132E,h0km,mb4.4/21, mb1 4.5/22,mb1mx4.4/27,mbtmp4.4/22,ML3.9/1,MS4.1/11, Ms1 4.1/11,ms1mx3.8/23,Error ellipse: s-maj=18.2km s-min=13.4km az=27.0*

MOS ***26*** *11:52:38.1±0.7,3741S×5130E,h10km,mb5.2/7,Error ellipse: s-maj=18.2km s-min=13.6km az=103.9*

HRVD ***26*** *11:52:39.4±0.4,3748S×5129E,h17km±1km,MW5.0/61, Centroid moment Tensor Solution. LP body waves: s23,c23;Mantle waves: s61,c82; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-3.80±.28; Mθθ3.16±.19; Mϕϕ0.63±.17; Mrθ-1.81±.52; Mϕθ0.03±.12; Mϕr0.14±.63; Best double couple: Mo3.92500×10^16 NP1:ϕs268.00000°,δ31.00000°,λ-93.00000°. NP2: ϕs91.00000°,δ59.00000°,λ-88.00000°. Principal axes: T 3.6030, Plg14.0000°, Azm180.0000°; N 0.6390, Plg2.0000°, Azm270.0000°; P -4.2470, Plg76.0000°, Azm7.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***26*** *11:52:39.4±0.2,3743S×5127E,h10km,mb5.1/13 Error ellipse: s-maj=7.0km s-min=5.9km az=208.0*

BJI ***26*** *11:52:39.4,3740S×5130E,h10km,mB5.5,mb5.0,Ms5.2, Msz4.9*

ISC 26 11:52:39.5±0.3,3743S±006×5127E±008,h10km, (h22km±6.8km:pP-P),n77,sθ68/61,mb4.6/34,MS4.1/12, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**19.13 348**		P	**Pn**	**11 57 04.0**	**+0.5**
	0.4nm,0.3s,baz=203,slow=5.1,SNR=3.2						
BOSA	**Boshof**	**23.46 284**		P	**Pn**	**11 57 48.6**	**-0.6**
	7.5nm,1.0s,mb4.1,baz=130,slow=8.3,SNR=4.4						
LBTB	**Lobatse**	**25.11 292**		P	**P**	**11 58 04.5**	**0.0**
	6.7nm,0.8s,mb4.2,baz=135,slow=9.7,SNR=7.0						
LBTB				LR	LR	12 06 21.4	
	comp=Z,70nm,20.3s,MS3.2,baz=339,slow=33						
SUR	**Sutherland**	**25.42 272**		LR	LR	12 06 22.3	
	comp=Z,163nm,18.6s,MS3.6,baz=212,slow=32						
MATP	**Matopo**	**26.05 304**		P	**P**	**11 58 12.4**	**-0.6**
	7.4nm,1.2s,mb4.1,baz=165,slow=3.2,SNR=3.6						
MATP				LR	LR	12 06 44.1	
	comp=Z,655nm,21.0s,MS4.1,baz=138,slow=32						
LSZ	**Lusaka**	**30.09 311**		*e*P	**P**	**11 58 49.3**	**+0.3**
LSZ				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.5						
LSZ	**Lusaka**	**30.09 311**		*e*P	**P**	**11 58 49.3**	**+0.3**
	comp=Z,15nm,1.4s,mb4.5						
MAW	**Mawson**	**30.93 171**		LR	LR	12 08 03.0	
	comp=Z,515nm,21.6s,MS4.2,baz=50,slow=30						
MIR	**Mirnyy**	**37.60 154**		*e*P	**P**	**11 59 55.0**	**+0.8**
MIR				pmax	pmax		
	comp=Z,180nm,1.5s,mb5.6						
KMBO	**Kilima Mbogo**	**38.37 337**		LR	LR	12 14 03.4	
	comp=Z,515nm,20.4s,MS4.3,baz=276,slow=34						
SNAA	**Sanae**	**43.80 202**		P	**P**	**12 00 45.3**	**-0.1**
	comp=Z,3.1nm,0.9s,mb4.0,baz=102,slow=8.5,SNR=9.9						
SNAA				LR	LR	12 14 28.8	
	comp=Z,132nm,19.0s,MS3.9,baz=11,slow=30						
SNAA	**Sanae**	**43.80 202**		*e*P	**P**	**12 00 39.3**	**-6.1**
SNAA				*e*		12 00 44.4	
SNAA				*e*		12 00 52.0	
VNA2	**Neumayer--Watz**	**44.95 203**		*e*P	**P**	**12 00 55.3**	**+0.6**
VNA2				*e*		12 01 00.2	
VNA2				*e*		12 01 02.8	
VNA3	**Neumayer Olymp**	**45.75 203**		*e*P	**P**	**12 01 00.6**	**-0.4**
VNA3				*e*	pP	12 01 03.4	-0.7
QSPA	**South Pole Qui**	**52.76 180**		*e*P	**P**	**12 01 53.9**	**-0.7**
	comp=Z,23nm,1.1s,mb5.0						
DRV	**Dumont d'Urvil**	**55.80 151**		R		12 02 00.0	
DRV	**Dumont d'Urvil**	**55.80 151**		P	**P**	**12 02 16.0**	**-0.8**
DRV				S	**S**	**12 10 03.0**	**-0.8**
VNDA	**Vanda**	**58.01 166**		P	**P**	**12 02 32.0**	**-0.4**
	comp=Z,1.8nm,1.1s,mb4.0,baz=257,slow=9.0,SNR=3.1						
VNDA				LR	LR	12 25 11.2	
	comp=Z,459nm,21.2s,MS4.6,baz=182,slow=34						
PSI	**Prapat**	**59.59 59**		P	**P**	**12 02 43.7**	**+0.3**
	comp=Z,13nm,1.1s,mb4.9,baz=196,slow=12,SNR=3.1						
FORT	**Forrest**	**62.31 109**		*e*P	**P**	**12 03 02.9**	**+1.0**
	comp=Z,21nm,0.7s,mb5.4						
FITZ	**Fitzroy Crossi**	**66.99 96**		*e*P	**P**	**12 03 32.6**	**+0.1**
	comp=Z,18nm,0.9s,mb5.1						
FITZ	**Fitzroy Crossi**	**66.99 96**		P	**P**	**12 03 32.2**	**-0.3**
	comp=Z,11nm,0.9s,mb4.8,baz=210,slow=7.1,SNR=13						
DBIC	**Dimbokro**	**68.23 297**		P	**P**	**12 03 42.0**	**+1.8**
	comp=Z,6.4nm,0.9s,mb4.6,baz=85,slow=8.1,SNR=4.9						
TORD	**Torodi Ar. Bea**	**68.53 307**		P	**P**	**12 03 42.9**	**+0.8**
	comp=Z,4.1nm,1.0s,mb4.3,baz=126,slow=4.3,SNR=12						
ASPA	**Alice Springs**	**70.42 105**		*e*P	**P**	**12 03 54.5**	**+0.7**
ASAR	**Alice Springs**	**70.42 105**		P	**P**	**12 03 54.0**	**+0.1**
	comp=Z,7.1nm,0.7s,mb4.7,baz=231,slow=6.0,SNR=40						
AS31	**Alice Springs**	**70.42 105**		*e*P	**P**	**12 03 54.5**	**+0.6**
KOLN	**Koldanda**	**71.61 30**		*e*P	**P**	**12 03 59.8**	**-1.3**
STKA	**Stephens Creek**	**71.69 116**		*e*P	**P**	**12 04 00.1**	**-1.4**
	comp=Z,7.6nm,1.1s,mb4.5						
STKA	**Stephens Creek**	**71.69 116**		P	**P**	**12 04 00.1**	**-1.4**
	comp=Z,14nm,1.1s,mb4.8,baz=215,slow=6.2,SNR=5.8						
STKA				LR	LR	12 27 56.6	
	comp=Z,129nm,19.2s,MS4.2,baz=203,slow=30						
DMN	**Daman**	**72.08 31**		*e*P	**P**	**12 04 04.0**	**+0.1**
	comp=Z,18nm,0.9s,mb5.0						
PKI	**Pulchoki**	**72.17 32**		*e*P	**P**	**12 04 05.5**	**+1.1**
GKN	**Gorkha**	**72.23 31**		*e*P	**P**	**12 04 04.7**	**-0.1**
KKN	**Kakani**	**72.31 31**		*e*P	**P**	**12 04 05.2**	**-0.1**
JIRN	**Jiri**	**72.57 32**		*e*P	**P**	**12 04 06.7**	**-0.1**
GUN	**Gumba**	**72.66 32**		*e*P	**P**	**12 04 07.5**	**+0.1**
	comp=Z,43nm,0.9s,mb5.4						
WRA	**Warramunga Arr**	**72.81 102**		P	**P**	**12 04 08.6**	**+0.3**
	comp=Z,16nm,1.0s,mb4.9,baz=231,slow=5.2,SNR=57						
WB2	**Warramunga Ar**	**72.82 102**		*e*P	**P**	**12 04 08.5**	**+0.2**
WRAB	**Tennant Creek**	**72.82 102**		P	**P**	**12 04 08.6**	**+0.3**
	comp=Z,127nm,0.8s,SNR=5.8						
WRAB	**Tennant Creek**	**72.82 102**		*e*P	**P**	**12 04 09.1**	**+0.8**
WRAB				pmax	pmax		
	comp=Z,42nm,1.2s,mb5.2						
WRAB	**Tennant Creek**	**72.82 102**		*e*P	**P**	**12 04 09.1**	**+0.7**
	comp=Z,42nm,1.2s,mb5.2						
KAKA	**Kakadu**	**75.43 95**		*e*P	**P**	**12 04 23.7**	**+0.1**
	comp=Z,17nm,1.2s,mb4.8						
BRTR	**Keskin Array B**	**78.47 346**		P	**P**	**12 04 40.1**	**-0.6**
	comp=Z,1.5nm,1.0s,mb3.9,baz=179,slow=8.6,SNR=6.3						
KIV	**Kislovodsk**	**81.38 354**		*i* P	**P**	**12 04 56.8**	**+0.4**
KIV				pmax	pmax		
	comp=Z,19nm,1.7s,mb4.8						
CTA	**Charters Tower**	**81.86 109**		*e*P	**P**	**12 04 59.1**	**+0.1**
	comp=Z,6.4nm,0.9s,mb4.5						
CTA	**Charters Tower**	**81.86 109**		P	**P**	**12 04 59.2**	**+0.3**
	comp=Z,9.5nm,0.9s,mb4.7,baz=222,slow=2.8,SNR=8.8						
CTA	**Charters Tower**	**81.86 109**		*e*P	**P**	**12 04 59.1**	**+0.1**
CTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AAK	**Ala-Archa**	**82.45 17**		*e*P	**P**	**12 05 02.3**	**+0.3**
AAK				pmax	pmax		
	comp=Z,30nm,1.5s,mb5.0						
AAK	**Ala-Archa**	**82.45 17**		*e*P	**P**	**12 05 02.3**	**+0.2**
	comp=Z,30nm,1.5s,mb5.0						
FRU	**Bishkek**	**82.67 17**		*e*P	**P**	**12 05 04.0**	**+0.8**
FRU				pmax	pmax		
	comp=Z,40nm,2.0s,mb5.1						
PLCA	**Paso Flores**	**85.73 220**		P	**P**	**12 05 19.1**	**+0.3**
	comp=Z,8.1nm,1.0s,mb4.9,baz=180,slow=6.3,SNR=6.9						
PLCA				LR	LR	12 35 13.8	
	comp=Z,92nm,19.2s,MS4.2,baz=168,slow=30						
CPUP	**Villa Florida**	**87.76 238**		P	**P**	**12 05 29.4**	**+0.7**
	comp=Z,3.8nm,0.9s,mb4.6,baz=120,slow=4.4,SNR=7.5						
CPUP				LR	LR	12 38 09.8	
	comp=Z,63nm,21.7s,MS4.0,baz=151,slow=31						
MKAR	**Makanchi Array**	**88.34 21**		P	**P**	**12 05 30.6**	**-0.9**
	comp=Z,0.5nm,0.7s,mb3.9,baz=197,slow=3.8,SNR=5.1						
GTA	**Gaotai**	**88.53 36**		*e*P	**P**	**12 05 31.8**	**-0.6**
GTA				AP	pP	12 05 38.5	+2.8
GTA				XP	sP	12 05 41.3	+4.4
GTA				AMB	AMB		
	comp=Z,3.0nm,1.6s,mb4.4						
AKASG	**Malin Array Be**	**89.88 346**		P	**P**	**12 05 36.5**	**-2.2**
	comp=Z,0.2nm,0.3s,mb4.0,baz=177,slow=4.8,SNR=4.7						
KURK	**Kurchatov**	**91.01 17**		*e*P	**P**	**12 05 43.5**	**-0.5**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.8						
KURK	**Kurchatov**	**91.01 17**		*e*P	**P**	**12 05 43.5**	**-0.5**
	comp=Z,7.2nm,1.3s,mb4.8						
CFAA	**Coronel Fontan**	**91.08 228**		P	**P**	**12 05 44.1**	**-0.2**
	comp=Z,0.2nm,0.4s,mb3.8,baz=199,slow=18,SNR=2.4						
CFAA	**Coronel Fontan**	**91.08 228**		P	**P**	**12 05 44.1**	**-0.2**
GERES	**GERESS Array B**	**92.15 336**		P	**P**	**12 05 49.3**	**+0.1**
	comp=Z,0.2nm,0.3s,mb4.0,baz=172,slow=7.9,SNR=3.4						
NJ2	**Nanjing**	**93.55 52**		*e*P	**P**	**12 05 55.0**	**-0.7**
NJ2				AP	pP	12 06 06.0	+7.0
NJ2				XP	sP	12 06 09.5	+9.3
NJ2				PP	PP	12 09 45.3	+5.1
NJ2				XS	sS	12 16 59.0	
NJ2				AMB	AMB	12 17 16.0	+6.2
	comp=Z,50nm,1.0s						
NJ2				LR	LR		
	comp=N,380nm,29.3s						
NJ2				LR	LR		
	comp=E,680nm,36.9s						
NJ2				LR	LR		
	comp=Z,670nm,33.3s,MS4.9						
SSE	**Sheshan**	**94.39 54**		P	**P**	**12 05 59.3**	**-0.2**
SSE				AMB	AMB		
	comp=Z,43nm,0.7s						
SSE				AMB	AMB		
	comp=Z,141nm,4.0s						
SSE	**Sheshan**	**94.39 54**		P	**P**	**12 05 59.2**	**-0.3**
	comp=Z,43nm,0.7s						
ZAL	**Zalesovo**	**95.49 19**		P	**P**	**12 06 04.3**	**-0.3**
	comp=Z,1.6nm,0.8s,mb4.5,baz=305,slow=5.9,SNR=6.9						
SONM	**Songino Array**	**98.08 34**		LR	LR	12 47 15.4	
	comp=Z,146nm,19.6s,MS4.5,baz=263,slow=33						
SWET	**Sewanee**	**145.66 280**		*e*P	PKPdf	12 12 18.4	+0.3
INK	**Inuvik**	**148.96 3**		*e*PKP2	PKPbc	12 12 26.6	-1.0
FCC	**Fort Churchill**	**149.07 325**		*e*PKP2	PKPbc	12 12 26.7	-1.2
COLA	**College**	**150.28 16**		*e*PKIKP	PKPbc	12 12 29.7	-1.2
CCM	**Cathedral Cave**	**150.48 283**		*e*PKIKP	PKPbc	12 12 31.3	0.0
ILAR	**Eielson Array**	**150.58 16**		PKPbc	PKPbc	12 12 29.8	-1.8
	comp=Z,5.1nm,1.0s,baz=314,slow=3.4,SNR=35						
ILAR				PKPab	PKPab	12 12 35.9	-2.4
	comp=Z,6.9nm,1.1s,baz=313,slow=3.5,SNR=14						
EYMN	**Ely**	**150.94 303**		*e*PKPbc	PKPbc	12 12 31.9	-0.5
MIAR	**Mount Ida**	**151.50 275**		*e*PKIKP	PKPbc	12 12 34.2	+0.5
YKA	**Yellowknife Ar**	**153.44 345**		PKP	PKPdf	12 12 28.6	-1.9
	comp=Z,0.8nm,1.0s,baz=25,slow=1.7,SNR=7.1						
YKA				PKPbc	PKPbc	12 12 35.9	-2.1
	comp=Z,1.3nm,0.9s,baz=25,slow=2.4,SNR=9.7						
YKA	**Yellowknife Ar**	**153.44 345**		PKP	PKPdf	12 12 28.6	-1.9
YKA				PKPbc	PKPbc	12 12 35.9	-2.1
PDAR	**Pinedale Array**	**164.40 296**		PKP	PKPdf	12 12 42.4	-1.0
	comp=Z,0.4nm,0.8s,baz=264,slow=3.0,SNR=3.9						
NVAR	**Mina Array Bea**	**171.70 280**		PKP	PKPdf	12 12 49.6	+1.3
	comp=Z,1.0nm,0.9s,baz=47,slow=1.4,SNR=6.4						

ISCJB ***26*** *11:56:07.8±0.9, 174S±0.1×178.83W±0.10,h523km±13km, mb4.0/18, Error ellipse: s-maj=21.9km s-min=9.7km az=112.0*

IDC ***26*** *11:56:08.2±1.5,1746S×17876W,h518km±19km,mb3.5/14, mb1 3.6/16,mb1mx3.5/22,mbtmp4.4/16, Error ellipse: s-maj=20.4km s-min=10.5km az=140.0*

NEIC ***26*** *11:56:09.1±0.8,1743S×17880W,h529km±10km,mb4.4/6, Error ellipse: s-maj=14.4km s-min=7.3km az=145.0*

ISC 26 11:56:08.7±0.8,175S±01×17873W±010,h524km±12km, n29,sθ74/30,mb4.0/18,1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.56**	**63**	P	**P**	**11 58 02.5**	**+1.3**
	10.0nm,0.3s,baz=196,slow=23,SNR=10						
AFI				S	**S**	**11 59 32.3**	**-1.1**
	0.8nm,0.3s,baz=131,slow=20,SNR=2.2						
DZM	**Mont Dzumac**	**14.70 249**		P	**P**	**11 59 15.6**	**+0.4**
	0.4nm,0.3s,baz=68,slow=18,SNR=8.3						
URZ	**Urewera**	**21.05 189**		P	**P**	**12 00 15.2**	**-0.3**
	7.2nm,0.3s,mb4.7,baz=345,slow=3.2,SNR=7.5						
RPZ	**Rata Peaks**	**27.58 196**		P	**P**	**12 01 12.4**	**-1.0**
	12nm,0.8s,mb4.6,baz=93,slow=7.5,SNR=4.4						
ARMA	**Armidale**	**29.91 239**		*e*P	**P**	**12 01 35.1**	**+1.3**
CTA	**Charters Tower**	**33.23 260**		P	**P**	**12 02 02.2**	**+0.1**
	2.6nm,0.9s,mb3.8,baz=28,slow=4.0,SNR=3.9						
CNB	**Canberra Magne**	**33.47 232**		*e*P	**P**	**12 02 04.5**	**+0.4**
	16nm,0.5s,mb4.8						
TOO	**Toolangi**	**37.23 230**		*e*P	**P**	**12 02 36.4**	**+1.0**
	11nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**38.59 241**		*i*P	**P**	**12 02 45.5**	**-1.0**
	5.7nm,0.5s,mb4.4						
STKA	**Stephens Creek**	**38.59 241**		P	**P**	**12 02 45.5**	**-1.0**
	9.5nm,0.7s,mb4.5,baz=86,slow=8.5,SNR=15						
WB2	**Warramunga Arr**	**44.41 259**		*e*P	**P**	**12 03 31.5**	**-1.0**
WRAB	**Tennant Creek**	**44.41 259**		*e*P	**P**	**12 03 31.9**	**-0.7**
WRA	**Warramunga Arr**	**44.42 259**		P	**P**	**12 03 32.2**	**-0.5**
	1.7nm,0.5s,mb3.8,baz=96,slow=7.1,SNR=12						
WRA				S	**S**	**12 09 22.6**	**-6.4**
	0.3nm,0.6s,baz=98,slow=7.5,SNR=4.6						
AS31	**Alice Springs**	**44.63 254**		*e*P	**P**	**12 03 34.3**	**+0.1**
ASAR	**Alice Springs**	**44.63 254**		P	**P**	**12 03 34.4**	**+0.2**
	15nm,0.5s,mb4.8,baz=88,slow=8.0,SNR=141						
ASAR				S	**S**	**12 09 27.9**	**-4.0**
	1.9nm,0.9s,baz=83,slow=17,SNR=11						
KAKA	**Kakadu**	**47.29 269**		*e*P	**P**	**12 03 53.9**	**-0.6**
	6.7nm,0.8s,mb4.2						
FORT	**Forrest**	**49.93 244**		*e*P	**P**	**12 04 14.0**	**-0.1**
	15nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**52.81 260**		*e*P	**P**	**12 04 35.6**	**+0.7**
	5.2nm,0.9s,mb3.9						
FITZ	**Fitzroy Crossi**	**52.81 260**		P	**P**	**12 04 35.5**	**+0.6**
	2.5nm,0.7s,mb3.7,baz=106,slow=7.3,SNR=7.4						
MBWA	**Marble Bar**	**57.89 256**		*e*P	**P**	**12 05 10.2**	**-0.2**
KDAK	**Kodiak Island**	**78.03 14**		P	**P**	**12 07 13.1**	**+0.1**
	2.9nm,0.8s,mb3.7,baz=185,slow=13,SNR=3.0						
NVAR	**Mina Array Bea**	**79.30 44**		P	**P**	**12 07 19.8**	**0.0**
	1.0nm,0.7s,mb3.2,baz=229,slow=12,SNR=7.1						
MAW	**Mawson**	**84.19 200**		P	**P**	**12 07 45.0**	**+0.4**
	1.4nm,0.8s,mb3.6,baz=169,slow=10,SNR=2.5						
ILAR	**Eielson Array**	**85.51 13**		P	**P**	**12 07 50.2**	**-0.9**
	0.8nm,0.4s,mb3.7,baz=224,slow=5.3,SNR=14						
PDAR	**Pinedale Array**	**87.23 44**		P	**P**	**12 08 00.8**	**+1.6**
	0.7nm,0.5s,mb3.5,baz=222,slow=2.0,SNR=4.2						
SNAA	**Sanae**	**91.06 179**		P	**P**	**12 08 16.9**	**-0.1**
	0.4nm,0.8s,mb3.4,baz=302,slow=12,SNR=6.7						
YKA	**Yellowknife Ar**	**94.04 25**		P	**P**	**12 08 30.6**	**-0.1**
	0.5nm,0.6s,mb3.8,baz=246,slow=4.3,SNR=6.0						
CLL	**Collm**	**144.95 347**		*e*PKPdf	PKPdf	12 14 46.8	+0.8
GERES	**GERESS Array B**	**147.09 345**		PKPbc	PKPbc	12 14 51.8	-0.9
	0.7nm,0.6s,baz=343,slow=8.7,SNR=5.6						

NEIC ***26*** *11:58:59.8±2.4,4589N×14303E,h293km±35km,mb4.2/5, Error ellipse: s-maj=26.7km s-min=9.8km az=183.0*

BJI ***26*** *11:58:59.8,4590N×14300E,h293km,mB4.3,mb4.1*

ISCJB ***26*** *11:59:00.7±0.3,4576N±005×14307E±008,h330km±3km, mb3.5/10,Error ellipse: s-maj=8.6km s-min=8.0km az=16.5*

NIED ***26*** *11:59:00,4570N×14300E,h320km,Mww1.1 Best double couple: Mo1.34000×10^15 NP1:ϕs174.00000°,δ87.00000°, λ34.00000°. NP2:ϕs82.00000°,δ56.00000°,λ177.00000°.*

MOS ***26*** *11:59:00.4±1.0,4581N×14302E,h327km,mb3.7/2, Error ellipse: s-maj=17.7km s-min=11.6km az=83.4*

IDC ***26*** *11:59:01.7±0.7,4584N×14296E,h316km±19km,mb3.4/8, mb1 3.6/9,mb1mx3.3/22,mbtmp4.1/9, Error ellipse: s-maj=41.1km s-min=14.3km az=169.0*

JMA ***26*** *11:59:01.9±0.2,4569N×14305E,h328km±2km,M3.5*

ISC 26 11:59:01.5±0.3,4576N±005×14309E±008,h324km±3km, n53,sθ84/68,mb3.5/10,1C,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**0.88 204**		P	**Pn**	**11 59 44.4**	**+0.5**
JWK2	**Keihoku**	**0.95 242**		P	**Pn**	**11 59 44.9**	**+0.7**
JWK2				*e*S	**S**	**12 00 17.9**	**-0.5**
YSS	**Yuzh-Sakhalins**	**1.22 349**		*i* PN	**Pn**	**11 59 45.8**	**+0.4**
YSS				*i* S	**S**	**12 00 19.8**	**-0.7**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				smax			
	comp=N,100nm,0.7s						
YSS				smax			
	comp=E,40nm,0.7s						
JRR	**Rishiri**	**1.40 244**		P	**Pn**	**11 59 47.1**	**+0.7**
JSS	**Shosan**	**1.62 213**		P	**Pn**	**11 59 48.4**	**+0.6**
ASAJ	**Asahikawa**	**1.68 192**		P	**Pn**	**11 59 49.0**	**+0.8**
	comp=E,12nm,0.3s,baz=5.5,slow=6.2,SNR=133						
ASAJ				S	**S**	**12 00 25.4**	**-0.1**
	baz=156,slow=20,SNR=4.7						
ASAJ	**Asahikawa**	**1.68 192**		P	**Pn**	**11 59 48.9**	**+0.7**
ASAJ				*e*S	**S**	**12 00 25.6**	**+0.1**
ASAJ	**Asahikawa**	**1.68 192**		PN	**Pn**	**11 59 49.0**	**+0.8**
ASAJ				S	**S**	**12 00 25.4**	**-0.1**
ASAJ				pmax	pmax		
	comp=Z,12nm,0.3s						
JMP	**Maruseppu**	**1.77 174**		P	**Pn**	**11 59 49.3**	**+0.6**
JMP				*e*S	**S**	**12 00 26.1**	**-0.4**
JYG	**Yagishiri**	**1.78 222**		P	**Pn**	**11 59 49.5**	**+0.7**
JTKR	**Abashiri--Toko**	**1.88 162**		P	**Pn**	**11 59 50.3**	**+0.8**
JTKR				S	**S**	**12 00 28.4**	**+0.4**
JKK2	**Kamakawa 2**	**1.91 188**		P	**Pn**	**11 59 50.5**

IDC 26 11:59:27.6±3.4, 296N×9627W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/18, mbtmp3.8/3, MS3.5/3, Ms1 3.5/3, ms1mx3.0/19, Error ellipse: s-maj=207.5km s-min=50.4km az=93.0, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**13.39**	**56**	LR	LR	12 06 07.7	
	comp=Z,189nm,19.8s,baz=12,slow=30						
LPIG	**La Paz**	**25.02**	**328**	LR	LR	12 12 49.7	
	comp=Z,101nm,21.4s,baz=192,slow=32						
PDAR	**Pinedale Array**	**41.38**	**345**	P	P	12 07 15.4	0.0
	0.8nm,0.9s,baz=149,slow=7.2,SNR=4.1						
PDAR				LR	LR	12 24 14.8	
	comp=Z,92nm,19.9s,baz=332,slow=36						
ULM	**Lac du Bonnet**	**47.12**	**0**	P	P	12 08 01.4	-0.1
	1.4nm,0.5s,baz=194,slow=9.7,SNR=4.0						
ILAR	**Eielson Array**	**71.47**	**340**	P	P	12 10 50.1	+0.1
	1.5nm,0.8s,baz=150,slow=4.8,SNR=11						
ASAR	**Alice Springs**	**127.37**	**242**	PKP	PKPdf	12 18 35.0	+0.7
	0.4nm,0.7s,baz=109,slow=1.4,SNR=5.5						

WEL 26 12:09:02.3±0.8, 3586S×17877E, h218km±11km, ML3.5/4, Error ellipse: s-maj=15.5km s-min=11.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.25**	**190**	SN	S	12 10 16.5	-1.3
MWZ	**Matawai**	**2.66**	**202**	*e*PN	Pn	12 09 49.9	+0.8
MWZ				SN	S	12 10 26.4	+0.6
URZ	**Urewera**	**2.74**	**208**	*e*PN	Pn	12 09 50.1	+0.1
KNZ	**Kokohu**	**3.27**	**195**	*e*PN	Pn	12 09 56.6	+0.6
PXZ	**Pawanui**	**4.43**	**199**	*e*PN	Pn	12 10 09.5	-0.4
TSZ	**Takapari Road**	**4.74**	**207**	*e*PN	Pn	12 10 14.6	+0.7
TSZ				SN	S	12 11 09.2	-1.4
BFZ	**Birch Farm**	**5.21**	**202**	*e*PN	Pn	12 10 19.9	+0.2
BFZ				SN	S	12 11 19.0	-2.0
TIWZ	**Tintock**	**5.41**	**204**	*e*PN	Pn	12 10 21.7	-0.6
MRZ	**Mangatainoka R**	**5.41**	**207**	PN	Pn	12 10 21.0	-1.3
MRZ				SN	S	12 11 21.8	-4.0
TCW	**Tory Channel**	**6.40**	**212**	SN	S	12 11 43.6	-5.0
MQZ	**McQueen's Vall**	**9.14**	**209**	SN	S	12 12 44.9	-8.1

WEL 26 12:11:58.5±0.3, 4506S×16744E, h114km±2km, ML3.6/8, 1C, Error ellipse: s-maj=2.9km s-min=1.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.46**	**206**	PN	Pn	12 12 15.1	-0.5
DCZ				SN	Sn	12 12 27.5	-0.8
MSZ	**Milford Sound**	**0.52**	**42**	PN	Pn	12 12 16.0	+0.1
MSZ				SN	Sn	12 12 28.8	-0.3
MLZ	**Mavora Lakes**	**0.59**	**119**	⇑PN	Pn	12 12 16.3	-0.2
MLZ				SN	Sn	12 12 29.5	-0.4
WHZ	**Wether Hill Ro**	**0.91**	**157**	PN	Pn	12 12 19.1	0.0
WHZ				SN	Sn	12 12 34.2	-0.5
WKZ	**Wanaka**	**1.15**	**79**	*e*PN	Pn	12 12 21.6	+0.1
EAZ	**Earnscleugh**	**1.33**	**98**	PN	Pn	12 12 23.5	-0.1
EAZ				SN	Sn	12 12 40.9	-1.8
JCZ	**Jackson Bay**	**1.36**	**44**	PN	Pn	12 12 23.3	-0.7
TUZ	**Tuapeka**	**1.78**	**121**	PN	Pn	12 12 28.8	-0.1
TUZ				SN	Sn	12 12 49.5	-2.6
APZ	**The Paps**	**1.81**	**168**	*e*PN	Pn	12 12 29.0	-0.3
SYZ	**Scrubby Hill**	**1.90**	**142**	*e*PN	Pn	12 12 30.3	0.0
LBZ	**Lake Benmore**	**2.07**	**72**	PN	Pn	12 12 31.0	-1.6
FOZ	**Fox Glacier**	**2.20**	**48**	PN	Pn	12 12 33.7	-0.5
FOZ				SN	Sn	12 12 59.8	-1.8
ODZ	**Otahua Downs**	**2.27**	**91**	PN	Pn	12 12 34.1	-1.1
HHSZ	**Highcliff Hill**	**2.37**	**111**	PN	Pn	12 12 35.7	-0.7
LTZ	**Lake Taylor**	**4.17**	**59**	*e*PN	Pn	12 12 57.3	-2.9

IDC 26 13:01:04.5±1.3, 3732S×5120E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/20, mbtmp3.9/3, MS3.5/3, Ms1 3.5/3, ms1mx3.1/13, Error ellipse: s-maj=45.2km s-min=35.0km az=130.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATP	**Matopo**	**25.95**	**304**	LR	LR	13 14 55.3	
	comp=Z,80nm,18.1s,baz=97,slow=32						
KMBO	**Kilima Mbogo**	**38.24**	**337**	LR	LR	13 23 10.4	
	comp=Z,40nm,20.0s,baz=91,slow=35						
SNAA	**Sanae**	**43.88**	**202**	P	P	13 09 12.2	-0.5
	0.3nm,0.8s,baz=66,slow=12,SNR=3.3						
ASAR	**Alice Springs**	**70.50**	**105**	P	P	13 12 21.2	+0.3
	1.6nm,0.7s,baz=231,slow=5.8,SNR=32						
WRA	**Warramunga Arr**	**72.88**	**102**	P	P	13 12 35.8	+0.5
	1.5nm,0.7s,baz=231,slow=5.1,SNR=21						
GERES	**GERESS Array B**	**92.03**	**336**	LR	LR	14 00 24.8	
	comp=Z,34nm,18.3s,baz=220,slow=39						
ILAR	**Eielson Array**	**150.48**	**16**	PKPbc	PKPbc	13 20 57.0	-1.0
	0.7nm,0.8s,baz=324,slow=3.3,SNR=6.8						
ILAR				PKPab	PKPab	13 21 02.8	-1.7
	0.2nm,0.6s,baz=306,slow=4.1,SNR=3.6						

*NIED **26** 13:58:00, 3630N×14180E, h17km, Mw3.9 Best double couple: M0 8.45000×10^14 NP1:φs35.00000°, δ68.00000°, λ114.00000°. NP2:φs165.00000°, δ32.00000°, λ44.00000°.*
*ISCJB **26** 13:58:53.1±1.6, 3626N±005×14198E±007, h30km±11km, mb3.9/13, Error ellipse: s-maj=10.7km s-min=7.6km az=72.5*
*JMA **26** 13:58:54.4±0.3, 3632N×14180E, h67km, M3.5*
*IDC **26** 13:58:54.5±0.9, 3683N×14176E, h0km, mb3.9/12, mb1 4.0/13, mb1mx3.9/23, mbtmp3.8/13, ML3.4/1, MS3.1/1, Ms1 3.1/1, ms1mx2.2/29, Error ellipse: s-maj=21.1km s-min=19.3km az=116.0*
*NEIC **26** 13:58:57.1±8.4, 3684N×14166E, h17km±52km, mb4.3/1, Error ellipse: s-maj=20.9km s-min=16.9km az=81.0*
*MOS **26** 13:58:57.1±1.3, 3677N×14169E, h33km, mb4.2/2, Error ellipse: s-maj=14.0km s-min=12.0km az=127.3*

ISC 26 13:58:52.2±2.0, 3626N±005×14197E±006, h12km±13km, n37, σ0°93/44, mb3.9/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.06**	**239**	P	**Pb**	**13 59 12.8**	**+0.3**
CHOJ				*e*S	**Sb**	**13 59 27.4**	**+1.1**
JHO	**Hitachi**	**1.19**	**288**	P	**Pn**	**13 59 13.0**	**-1.6**
ONAJ	**Iwakimizuishiy**	**1.27**	**312**	P	**Pn**	**13 59 14.3**	**-1.4**
JFK	**Kawauchi**	**1.42**	**322**	P	**Pn**	**13 59 16.8**	**-1.0**
JFT	**Otama**	**1.82**	**314**	P	**Pn**	**13 59 23.4**	**+0.1**
JMM	**Marumori**	**1.86**	**330**	P	**Pn**	**13 59 23.7**	**-0.2**
JAG	**Ashikaga**	**2.04**	**275**	P	**Pn**	**13 59 25.5**	**-0.9**
JIO	**Ouri**	**2.25**	**347**	P	**Pn**	**13 59 29.3**	**+0.1**
JKT	**Katashina**	**2.25**	**284**	P	**Pn**	**13 59 29.3**	**0.0**
MJAR	**Matsushiro Arr**	**3.05**	**276**	Pn	**Pn**	**13 59 40.8**	**+0.6**
	5.2nm,0.3s,baz=102,slow=7.6,SNR=53						
MJAR				Sn	**Sn**	**14 00 17.1**	**+0.4**
	4.5nm,0.3s,baz=83,slow=21,SNR=6.4						
MAJO	**Matsushiro**	**3.05**	**276**	*e*P	**Pn**	**13 59 41.0**	**+0.7**
MAT	**Matsushiro**	**3.05**	**276**	P	**Pn**	**13 59 41.1**	**+0.8**
MAT				*e*S	**Sn**	**14 00 16.8**	**+0.1**
MAT	**Matsushiro**	**3.05**	**276**	*e*P	**Pn**	**13 59 41.0**	**+0.7**
MAT				S	**Sn**	**14 00 17.0**	**+0.3**
JHJ	**Hachijo jima 2**	**3.61**	**211**	Pn	**Pn**	**13 59 49.4**	**+1.4**
	13nm,0.3s,baz=60,slow=24,SNR=19						
JHJ				Sn	**Sn**	**14 00 28.9**	**-1.7**
	31nm,0.3s,baz=55,slow=21,SNR=9.0						
ASAJ	**Asahikawa**	**7.87**	**3**	Pn	**Pn**	**14 00 46.5**	**0.0**
	0.5nm,0.3s,baz=22,slow=25,SNR=4.7						
ASAJ				Sn	**Sn**	**14 02 09.1**	**-6.3**
	0.1nm,0.3s,baz=180,slow=20,SNR=1.9						
ASAJ	**Asahikawa**	**7.87**	**3**	P	**Pn**	**14 00 46.5**	**+0.1**
ASAJ						14 02 09.1	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CBIJ	**Chichi jima**	**9.13**	**179**	Pn	**Pn**	**14 01 02.7**	**-1.1**
	comp=Z,2.4nm,0.3s,baz=306,slow=19,SNR=3.5						
CBIJ				Sn	**Sn**	**14 02 39.5**	**-7.1**
	comp=Z,2.9nm,0.3s,baz=294,slow=20,SNR=3.1						
SONM	**Songino Array**	**28.59**	**305**	P	**P**	**14 04 48.4**	**+0.2**
	comp=Z,2.5nm,0.9s,mb4.0,baz=110,slow=7.6,SNR=16						
SONM				LR	LR	14 15 58.6	
	comp=Z,38nm,18.6s,baz=284,slow=36						
ZAL	**Zalesovo**	**42.78**	**313**	P	**P**	**14 06 51.1**	**+1.5**
	comp=Z,2.1nm,0.3s,mb4.4,baz=46,slow=1.4,SNR=5.3						
MKAR	**Makanchi Array**	**44.91**	**303**	P	**P**	**14 07 07.1**	**+0.3**
	comp=Z,1.1nm,0.7s,mb3.8,baz=94,slow=9.3,SNR=11						
MKAR	**Makanchi Array**	**44.91**	**303**	P	**P**	**14 07 07.1**	**+0.3**
KURK	**Kurchatov**	**46.77**	**309**	*e*P	**P**	**14 07 20.5**	**-0.9**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
KURK	**Kurchatov**	**46.77**	**309**	*e*P	**P**	**14 07 20.5**	**-0.9**
	comp=Z,2.4nm,0.7s,mb4.2						
ILAR	**Eielson Array**	**49.91**	**32**	P	**P**	**14 07 47.1**	**+1.5**
	comp=Z,0.5nm,0.8s,mb3.6,baz=265,slow=6.3,SNR=5.3						
CHKZ	**Chkalovo**	**51.17**	**314**	*e*P	**P**	**14 07 52.2**	**-3.0**
ZRNK	**Zerenda**	**52.26**	**313**	*e*P	**P**	**14 08 03.5**	**+0.2**
INK	**Inuvik**	**54.88**	**27**	P	**P**	**14 08 24.3**	**+1.8**
	comp=Z,0.6nm,0.5s,mb3.9,baz=283,slow=5.0,SNR=4.9						
WRA	**Warramunga Arr**	**56.36**	**189**	P	**P**	**14 08 40.6**	**+7.5**
	comp=Z,1.2nm,0.8s,mb4.0,baz=2.2,slow=7.1,SNR=8.9						
AKTK	**Aktyubinsk**	**59.53**	**312**	P	**P**	**14 08 55.0**	**-0.5**
AKTO	**Aktyubinsk**	**59.53**	**312**	P	**P**	**14 08 55.0**	**-0.5**
	comp=Z,0.7nm,0.6s,mb3.9,baz=70,slow=8.2,SNR=4.4						
ASAR	**Alice Springs**	**60.08**	**189**	P	**P**	**14 09 08.0**	**+8.8**
	comp=Z,0.4nm,0.9s,mb3.4,baz=358,slow=6.5,SNR=6.5						
YKA	**Yellowknife Ar**	**64.25**	**30**	P	**P**	**14 09 26.7**	**-0.5**
	comp=Z,0.5nm,0.8s,mb3.6,baz=308,slow=7.0,SNR=5.6						
YKA	**Yellowknife Ar**	**64.25**	**30**	P	**P**	**14 09 26.7**	**-0.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**69.71**	**333**	P	**P**	**14 10 02.2**	**+0.3**
	comp=Z,1.5nm,0.8s,mb4.0,baz=76,slow=8.0,SNR=4.1						
FINES	**FINESS Array B**	**69.71**	**333**	P	**P**	**14 10 02.2**	**+0.3**
NOA	**NORSAR Array B**	**75.08**	**338**	P	**P**	**14 10 33.6**	**-0.3**
	comp=Z,1.4nm,0.8s,mb3.9,baz=39,slow=5.7,SNR=4.6						
AKASG	**Malin Array Be**	**75.19**	**323**	P	**P**	**14 10 35.0**	**+0.4**
	comp=Z,0.8nm,0.5s,mb3.9,baz=46,slow=5.9,SNR=5.4						

FUNV 26 14:21:41.4, 657N×7316W, h149km, MW3.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.54**	**33**	*e*P	Pn	14 22 10.4	-0.9
SOCV	**Socops**	**2.85**	**53**	*e*S	Sn	14 22 58.9	-3.0
VIGV	**El Vigia**	**2.87**	**38**	*e*P	Pn	14 22 26.6	-0.5
VIGV				*e*S	Sn	14 22 59.1	-3.3
VIRV	**Villa del Rosa**	**3.98**	**11**	*e*P	Pn	14 23 39.6	-1.7
VIRV				*e*S	Sn	14 24 23.3	-4.5
SANV	**Sanarito**	**4.62**	**51**	*e*P	Pn	14 22 48.6	-1.2
SANV				*e*S	Sn	14 23 37.2	-5.8
SIQV	**Siquisique**	**5.24**	**39**	*e*P	Pn	14 22 56.3	-1.6
SIQV				*e*S	Sn	14 23 51.8	-5.8
PAYV	**Puerto Ayacuch**	**5.59**	**102**	*e*P	Pn	14 23 01.1	-1.5
BAUV	**El Baul**	**5.59**	**65**	*e*P	Pn	14 23 00.7	-2.0
BAUV				*e*S	Sn	14 23 59.0	-7.1
CAOV	**Caicara del Or**	**6.83**	**83**	*e*P	Pn	14 23 16.0	-3.1
CAOV				*e*S	Sn	14 24 27.8	-7.9

*NEIC **26** 14:59:28.4, 3843N×4490E, h0km, mb4.1/8, ML4.0(THR), MN4.2(TEH), After TEH.*
*IDC **26** 14:59:28.8±1.1, 3841N×4484E, h0km, mb3.6/5, mb1 3.8/11, mb1mx3.6/25, mbtmp3.7/11, ML3.6/6, MS2.9/4, Ms1 2.9/4, ms1mx2.5/31, Error ellipse: s-maj=17.5km s-min=11.2km az=104.0*
*TEH **26** 14:59:28.4, 3843N×4490E, h0km, Mn4.2*
*ISCJB **26** 14:59:31.6±0.7, 3832N±003×45.12E±003, h20km±6km, mb3.9/12, MS3.1/4, Error ellipse: s-maj=6.0km s-min=4.1km az=29.3*
*THR **26** 14:59:31.5±0.3, 3857N×45.18E, h14km±10km, ML4.0*
*MOS **26** 14:59:31.6±2.6, 3837N×4498E, h26km, mb4.2/7, Error ellipse: s-maj=10.9km s-min=7.9km az=85.4*
*ISK **26** 14:59:34.7, 3831N×4494E, h29km, MD3.8*
*CSEM **26** 14:59:37.3, 3823N×4532E, h40km, mb4.5*
*NSSP **26** 14:59:39.2, 3830N×4528E, h10km, ML3.7*

ISC 26 14:59:29.7±0.4, 3849N±002×4508E±002, h2km±3km, n106, σ1°37/125, mb3.9/12, MS3.1/4, 3D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHB	**Shabestar**	**0.47**	**115**	*e*Pg	**Pg**	**14 59 39.1**	**+0.5**
ISHB	**Shabestar**	**0.47**	**115**	Pg	**Pg**	**14 59 39.0**	**+0.4**
IMRD	**Marand**	**0.54**	**65**	*e*Pg	**Pg**	**14 59 41.5**	**+1.5**
ITBZ	**Tabriz**	**0.88**	**106**	*e*Pg	**Pg**	**14 59 46.3**	**-0.2**
ITBZ				*e*Sg	**Sg**	**14 59 58.9**	**+1.1**
ITBZ	**Tabriz**	**0.88**	**106**	Pg	**Pg**	**14 59 46.2**	**-0.3**
ITBZ				Sg	**Sg**	**14 59 58.8**	**+1.0**
MAKU	**Maku**	**0.92**	**340**	*e*PG	**Pg**	**14 59 48.1**	**+0.7**
MAKU				AML	AML	15 00 03.2	
	comp=N,5μm,0.3s						
IAZR	**Azarshahr**	**1.07**	**138**	*e*Pg	**Pg**	**14 59 49.0**	**-1.3**
TVAN	**Van**	**1.31**	**272**	*i* P	**Pg**	**15 00 00.0**	**+5.1**
TVAN				*i* S	**Sg**	**15 00 13.8**	**+1.9**
VANT	**Van**	**1.33**	**269**	*i* PN	**Pn**	**14 59 57.2**	**+1.9**
IBST	**Bostanabad**	**1.63**	**118**	*e*Pn	**Pn**	**14 59 58.4**	**-1.0**
GNI	**Garni**	**1.68**	**351**	Pg	**Pg**	**15 00 02.0**	**+0.1**
	comp=N,168nm,0.3s,baz=212,slow=1.6,SNR=116						
GNI				Lg		15 00 26.0	
	comp=N,241nm,0.3s,baz=214,slow=6.1,SNR=11						
GNI	**Garni**	**1.68**	**351**	*e*PN	**Pn**	**15 00 01.6**	**+1.4**
GNI						15 00 02.0	
GNI						15 00 26.0	
GNI	**Garni**	**1.68**	**351**	*e*Pn	**Pn**	**15 00 01.6**	**+1.4**
GNI				Pg	**Pg**	**15 00 02.0**	**+0.1**
GNI				*e*Sn	**Sn**	**15 00 22.5**	**+0.2**
GNI				Lg		15 00 26.0	
GNI	**Garni**	**1.68**	**351**	⇓P	**Pn**	**15 00 02.0**	**+1.8**
GNI				Sg	**Sg**	**15 00 26.0**	**+2.2**
CUKT	**Cukurca**	**1.70**	**224**	*i* PN	**Pn**	**15 00 00.2**	**-0.2**
IHSH	**Hashtroud**	**1.72**	**95**	*e*Pn	**Pg**	**15 00 06.6**	**+3.9**
IHSH	**Hashtroud**	**1.72**	**95**	Pn	**Pg**	**15 00 06.5**	**+3.8**
ERE	**Yerevan**	**1.75**	**344**	⇓P	**Pn**	**15 00 00.0**	**-1.1**
ERE				S	**Sn**	**15 00 27.0**	**+3.1**
GRMI	**Germi**	**2.23**	**81**	*e*PG	**Pg**	**15 00 10.3**	**-2.0**
GRMI				*e*SG	**Sg**	**15 00 38.8**	**-2.5**
GRMI				AML	AML	15 00 41.6	
	comp=N,1μm,0.5s						
GRMI				AML	AML	15 00 41.7	
	comp=E,1μm,0.4s						
GRMI	**Germi**	**2.23**	**81**	*e*Pg	**Pg**	**15 00 10.3**	**-2.1**
	SNR=90						
GRMI				*e*Sg	**Sg**	**15 00 38.8**	**-2.4**
	SNR=90						
KARS	**Kars**	**2.62**	**325**	PN	**Pn**	**15 00 17.6**	**+4.5**
MSL	**Mosul**	**2.70**	**217**	*ex*	x	15 00 10.0	
MSL				*ex*	x	15 00 16.0	
MSL				*ex*	x	15 00 19.0	
MSL				*i* x	x	15 00 44.0	
MSL				*i* x	x	15 00 49.0	
MSL				*i* x	x	15 00 54.5	
BTMT	**Batman**	**2.84**	**265**	PN	**Pn**	**15 00 20.2**	**+4.1**
KZR	**Kazreti**	**2.94**	**350**	P	**Pg**	**15 00 25.1**	**-0.9**
KZR				S	**Sg**	**15 01 04.1**	**+0.1**
DGRG	**David-gareji**	**2.97**	**4**	P	**Pg**	**15 00 25.4**	**-1.2**
DGRG				S	**Sg**	**15 01 08.0**	**+2.9**
BEST	**Besiri**	**3.06**	**260**	*i* P	**Pn**	**15 00 20.0**	**+0.9**
BEST				*i* S	**Sn**	**15 00 55.9**	**-0.4**
BNGL	**BINGOL**	**3.11**	**280**	*i* P	**Pg**	**15 00 25.9**	**-3.4**
BNGL				*i* S	**Sg**	**15 01 09.0**	**-0.6**
AKH	**Akhalkalaki**	**3.17**	**338**	P	**Pg**	**15 00 30.3**	**0.0**
AKH				S	**Sg**	**15 01 13.5**	**+2.1**
MTA	**Mtatsminda**	**3.21**	**356**	P	**Pg**	**15 00 30.2**	**-1.1**
MTA				S	**Sg**	**15 01 12.8**	**-0.1**
ERZM	**Erzurum**	**3.22**	**297**	*i* P	**Pg**	**15 00 29.0**	**-2.3**
ERZM				*i* S	**Sg**	**15 01 16.9**	**+3.8**
EZM	**Erzurum**	**3.22**	**297**	PN	**Pn**	**15 00 25.4**	**+4.1**
TBLG	**Delisi**	**3.25**	**355**	P	**Pg**	**15 00 30.3**	**-1.8**
TBLG				S	**Sg**	**15 01 13.8**	**-0.4**
TBLG	**Delisi**	**3.25**	**355**	PN	**Pg**	**15 00 31.5**	**-0.5**
TBLG				S	**Sg**	**15 01 14.0**	**-0.2**
BKR	**Bakuriani**	**3.46**	**340**	P	**Pg**	**15 00 35.6**	**-0.4**
GOR	**Gori**	**3.58**	**348**	P	**Pg**	**15 00 38.7**	**+0.4**
GOR				S	**Sg**	**15 01 28.1**	**+3.5**
MARD	**Mardin**	**3.60**	**252**	*i* P	**Pn**	**15 00 27.0**	**+0.5**
MARD				*i* S	**Sg**	**15 01 20.9**	**-4.4**
ARTV	**Artvin**	**3.63**	**319**	*i* P	**Pg**	**15 00 38.2**	**-1.0**
ARTV				*i* S	**Sg**	**15 01 39.4**	**+13**
SNGE	**Sanandaj**	**3.84**	**151**	*e*Pn	**Pn**	**15 00 33.0**	**+3.2**
SNGE				AML	AML	15 01 42.3	
	comp=E,187nm,0.5s						
SNGE				AML	AML	15 01 43.4	
	comp=N,160nm,1.1s						
IDHR	**Dehrash**	**3.92**	**164**	*e*Pn	**Pn**	**15 00 32.8**	**+1.9**
AMRG		**4.29**	**340**	P	**Pg**	**15 00 50.7**	**-1.2**
IGHG	**Ghaleghazi**	**4.32**	**163**	*e*Pn	**Pn**	**15 00 33.5**	**-2.9**
IGHG	**Ghaleghazi**	**4.32**	**163**	Pn	**Pn**	**15 00 33.4**	**-3.0**
ZEI	**Tsey**	**4.37**	**349**	*e*PN	**Pb**	**15 00 49.2**	**+1.9**
ZEI				*e*		15 01 01.5	
ZEI				*e*		15 01 48.7	
IGZV	**Gazvin**	**4.59**	**116**	*e*Pn	**Pn**	**15 00 41.4**	**+1.2**
IRAZ	**Razeghan**	**4.95**	**127**	*e*Pn	**Pb**	**15 00 58.6**	**+1.5**
URFA	**Urfa**	**5.05**	**260**	*e*PN	**Pn**	**15 00 49.5**	**+3.0**
MALT	**Malatya**	**5.23**	**270**	*e*PN	**Pn**	**15 00 50.0**	**+1.1**
MALT				pmax	pmax		
	comp=Z,19nm,0.8s						
MALT	**Malatya**	**5.23**	**270**	*e*Pn	**Pn**	**15 00 50.0**	**+1.0**
	comp=Z,19nm,0.8s						
MALT	**Malatya**	**5.23**	**270**	*e*Pn	**Pn**	**15 00 50.0**	**+1.1**
	comp=Z,19nm,0.8s						
BHD	**Baghdad**	**5.23**	**186**	*ex*	x	15 00 58.0	
BHD				*ex*	x	15 02 05.0	
BHD				*ex*	x	15 02 24.5	
BHD				*ex*	x	15 02 38.0	
IMHD	**Mahdasht**	**5.27**	**120**	*e*Pn	**Pn**	**15 00 49.7**	**+0.3**
THKV	**Tehran--Karaj**	**5.29**	**117**	*e*Pn	**Pn**	**15 00 52.0**	**+2.2**
THKV				AML	AML	15 02 23.0	
	comp=E,71nm,0.7s						
THKV				AML	AML	15 02 27.0	
	comp=N,74nm,0.6s						
IPRN	**Paran-Amol**	**6.13**	**109**	*e*Pn	**Pn**	**15 01 00.5**	**-0.7**
IDMV	**Damavand**	**6.27**	**115**	*e*Pn	**Pn**	**15 01 05.0**	**+1.8**
IVRN	**Varamin**	**6.37**	**121**	*e*Pn	**Pn**	**15 01 03.4**	**-1.2**
SOC	**Sochi**	**6.51**	**323**	*e*P	**Pn**	**15 01 10.7**	**+4.2**
SOC				*e*		15 02 25.8	
SOC				pmax	pmax		
	comp=Z,21nm,0.7s						
SOC				MLR	MLR		
	comp=Z,68nm,8.0s						
ISFB	**Sefidab**	**7.09**	**123**	*e*Pn	**Pn**	**15 01 13.9**	**-0.6**
ISFB				*e*Lg		15 03 12.7	
ISFB	**Sefidab**	**7.09**	**123**	Pn	**Pn**	**15 01 13.8**	**-0.7**
ISFB				Lg		15 03 12.6	
IKIA	**Kiasar**	**7.22**	**106**	*e*Pn	**Pn**	**15 01 16.4**	**+0.1**
BR131	**Keskin Array S**	**8.98**	**281**	Pn	**Pn**	**15 01 40.1**	**-0.3**
	comp=Z,2.0nm,0.6s						
BRTR	**Keskin Array B**	**8.98**	**281**	Pn	**Pn**	**15 01 45.5**	**+5.1**
	comp=Z,0.1nm,0.3s,baz=108,slow=14,SNR=9.8						
ASF	**Jabal al Asfar**	**9.18**	**229**	Pn	**Pn**	**15 01 41.7**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=92,slow=8.3,SNR=2.2						
ASF				Lg		15 04 14.8	
	comp=Z,0.1nm,0.3s,baz=301,slow=18,SNR=2.3						
ASF				LR	LR	15 05 47.4	
	comp=Z,49nm,19.3s,baz=212,slow=42						
MMAI	**Mount Meron Ar**	**9.57**	**238**	Pn	**Pn**	**15 01 48.2**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=72,slow=16,SNR=2.2						
ORR	**Orenburg**	**14.79**	**24**	*e*P	**Pn**	**15 02 59.9**	**+0.1**
ORR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ORR	**Orenburg**	**14.79**	**24**	*e*P	**Pn**	**15 02 59.9**	**+0.1**
	comp=Z,10.0nm,1.0s						
AKTK	**Aktyubinsk**	**15.07**	**33**	Pn	**Pn**	**15 03 02.9**	**-0.8**
AKTK				Sn	**Sn**	**15 05 50.0**	**-1.2**
AKTK	**Aktyubinsk**	**15.07**	**33**	P	**Pn**	**15 03 02.9**	**-0.8**
AKTK				S	**Sn**	**15 05 50.1**	**-1.1**
AKTO	**Aktyubinsk**	**15.07**	**33**	Pn	**Pn**	**15 03 02.9**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=239,slow=10,SNR=6.5						
AKTO				Sn	**Sn**	**15 05 50.0**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=295,slow=19,SNR=2.0						
MLR	**Muntele Rosu**	**15.84**	**302**	Pn	**Pn**	**15 03 12.9**	**-0.9**
	comp=Z,0.0nm,0.3s,baz=139,slow=19,SNR=2.0						
IDI	**Anoyia**	**16.46**	**265**	Pn	**Pn**	**15 03 19.6**	**-2.2**
	comp=Z,0.8nm,0.3s,baz=38,slow=14,SNR=8.1						
AKASG	**Malin Array Be**	**16.59**	**323**	Pn	**Pn**	**15 03 21.8**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=133,slow=11,SNR=5.6						
AKASG	**Malin Array Be**	**16.59**	**323**	Pn	**Pn**	**15 03 21.8**	**-1.7**
OBN	**Obninsk**	**17.60**	**344**	*e*P	**Pn**	**15 03 41.5**	**+5.4**
OBN				*e*SS		15 07 01.0	
OBN				pmax	pmax		
	comp=Z,11nm,0.5s						
WSAR	**Wadi Sarin**	**19.10**	**139**	P	**Pn**	**15 03 55.3**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=345,slow=10,SNR=3.8			

*NEIC **26** 15:11:26.4±1.1,55.13N×11165E,h10km,mb3.7/3,Error ellipse: s-maj=18.6km s-min=16.4km az=120.0*

BYKL 26 15:11:26.1±0.2,5504N×11165E,h11km±4km,9C-8D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YLYR	**Ulyunkhan**	**0.33**	**240**	*e*Pg	Pg	15 11 32.9	+0.3
YLYR				*e*		15 11 33.7	
YLYR				max		15 11 34.2	
	659nm,0.1s						
YLYR				*e*Sg	Sg	15 11 37.7	+0.7
YLYR				Smax		15 11 38.1	
	8μm,0.2s						
YLYR	**Ulyunkhan**	**0.33**	**240**	*e*PG	Pg	15 11 32.9	+0.3
YLYR				*e*		15 11 37.7	
YLYR				pmax	pmax		
	comp=Z,793nm,0.1s						
YLYR				smax			
	comp=E,2μm,0.1s						
KMO	**Kumora**	**0.89**	**343**	⇑*i*Pg	Pg	15 11 42.3	-0.9
	comp=E,266nm,0.6s						
KMO				⇓*i*Pg	Pg	15 11 42.3	-0.9
	comp=E,94nm,0.6s						
KMO				⇑*i*Pg	Pg	15 11 42.3	-0.9
	comp=E,414nm,0.6s						
KMO				Pmax		15 11 48.4	
	comp=E,423nm,0.5s						
KMO				*e*Sg	Sg	15 11 53.4	-1.4
KMO				Smax		15 12 00.5	
	comp=E,2μm,0.7s						
KMO	**Kumora**	**0.89**	**343**	*e*PG	Pg	15 11 42.3	-0.9
KMO				*e*		15 11 53.4	
KMO				pmax	pmax		
	comp=Z,437nm,0.5s						
KMO				smax			
	comp=N,2μm,0.9s						
YOA	**Uoyan**	**1.10**	**2**	⇓*i*Pg	Pg	15 11 46.5	-0.7
YOA				Pmax		15 11 53.1	
	comp=N,421nm,0.3s						
YOA				*e*Sg	Sg	15 12 01.6	+0.2
YOA				Smax		15 12 07.2	
	comp=N,4μm,1.6s						
YOA	**Uoyan**	**1.10**	**2**	⇓*i*PG	Pg	15 11 46.5	-0.7
YOA				*i*		15 12 01.9	
YOA				pmax	pmax		
	comp=Z,596nm,0.4s						
YOA				smax			
	comp=E,3μm,0.5s						
UKT	**Uakit**	**1.22**	**68**	⇑*i*Pg	Pg	15 11 47.9	-1.6
	comp=E,72nm,0.6s						
UKT				⇑*i*Pg	Pg	15 11 47.9	-1.6
	comp=E,233nm,0.6s						
UKT				⇑*i*Pg	Pg	15 11 47.9	-1.6
	comp=E,161nm,0.6s						
UKT				*e*Pb	Pb	15 11 50.1	+1.0
UKT				max		15 11 50.5	
	comp=E,400nm,0.6s						
UKT				*i*Sg	Sg	15 12 04.2	-1.1
UKT				*e*Sb	Sb	15 12 07.9	+3.0
UKT				max		15 12 08.9	
	comp=E,2μm,0.7s						
UKT	**Uakit**	**1.22**	**68**	⇑*i*PG	Pg	15 11 47.9	-1.6
UKT				*e*		15 12 04.3	
UKT				pmax	pmax		
	comp=Z,378nm,0.3s						
UKT				smax			
	comp=N,2μm,0.2s						
NIZ	**Nizh Angarsk**	**1.41**	**302**	⇑*i*Pg	Pg	15 11 51.9	-1.3
NIZ				Pmax		15 11 52.4	
	comp=N,618nm,0.4s						
NIZ				*e*Sg	Sg	15 12 10.8	-0.7
NIZ				Smax		15 12 11.9	
	comp=N,773nm,0.5s						
NIZ	**Nizh Angarsk**	**1.41**	**302**	*e*PG	Pg	15 11 52.2	-1.0
NIZ				*e*		15 12 11.6	
NIZ				pmax	pmax		
	comp=Z,621nm,0.3s						
NIZ				smax			
	comp=N,771nm,0.6s						
SVKR	**Severomuysk**	**1.53**	**44**	⇑*i*Pg	Pg	15 11 54.7	-0.8
SVKR				Pmax		15 11 56.4	
	comp=N,203nm,0.1s						
SVKR				*e*Sg	Sg	15 12 15.4	+0.1
SVKR				Smax		15 12 19.2	
	comp=N,5μm,1.1s						
SVKR	**Severomuysk**	**1.53**	**44**	*e*PN	Pn	15 11 54.6	+1.3
SVKR				*e*		15 11 55.4	
SVKR				*e*		15 12 14.5	
SVKR				pmax	pmax		
	comp=Z,436nm,0.2s						
SVKR				smax			
	comp=N,5μm,0.7s						
SYVR	**Suvo**	**1.69**	**216**	*e*Pg	Pg	15 11 56.5	-2.0
SYVR				*e*		15 12 00.9	
SYVR				max		15 12 02.6	
	comp=N,533nm,0.5s						
SYVR				*e*Sg	Sg	15 12 19.5	-0.9
SYVR				Smax		15 12 24.2	
	comp=N,1μm,1.0s						
SYVR	**Suvo**	**1.69**	**216**	*e*PN	Pn	15 11 56.8	+1.3
SYVR				*e*		15 12 18.9	
SYVR				pmax	pmax		
	comp=Z,484nm,0.6s						
SYVR				smax			
	comp=E,854nm,0.5s						
MXMB	**Maximikha**	**2.47**	**225**	*e*Pn	Pn	15 12 07.1	+0.9
MXMB				*e*Pg	Pg	15 12 11.0	-2.4
MXMB				Pmax		15 12 15.3	
	comp=E,151nm,1.0s						
MXMB				*e*Sn	Sn	15 12 37.7	+1.3
MXMB				*e*Sg	Sg	15 12 43.8	-1.6
MXMB				Smax		15 12 48.1	
	comp=E,2μm,0.5s						
NLYR	**Nelyaty**	**2.71**	**56**	⇓*i*Pn	Pn	15 12 10.4	+0.8
NLYR				*e*Pg	Pg	15 12 14.3	-3.8
NLYR				Pmax		15 12 21.0	
	comp=E,94nm,0.6s						
NLYR				*e*Sg	Sg	15 12 49.0	-4.3
NLYR				Smax		15 12 51.0	
	comp=E,882nm,1.2s						
NLYR	**Nelyaty**	**2.71**	**56**	*e*PN	Pn	15 12 10.1	+0.5
NLYR				*e*		15 12 14.0	
NLYR				*e*		15 12 50.5	
NLYR				pmax	pmax		
	comp=Z,94nm,0.5s						
NLYR				smax			
	comp=N,882nm,1.1s						
OGRR	**Ongureny**	**2.76**	**241**	⇑*i*Pn	Pn	15 12 11.3	+1.1
OGRR				*e*Pg	Pg	15 12 14.9	-4.0
OGRR				Pmax		15 12 20.3	
	comp=N,94nm,0.9s						
OGRR				*e*Sn	Sn	15 12 44.2	+0.7
OGRR				*e*Sg	Sg	15 12 51.0	-3.6
OGRR				Smax		15 12 57.0	
	comp=N,486nm,0.5s						
OGRR	**Ongureny**	**2.76**	**241**	*e*PN	Pn	15 12 11.5	+1.3
OGRR				*e*		15 12 16.4	
OGRR				*e*		15 12 52.2	
OGRR				pmax	pmax		
	comp=Z,96nm,0.7s						
OGRR				smax			
	comp=E,455nm,0.7s						
BOD	**Bodaibo**	**3.08**	**24**	⇓*i*	Pn	15 12 14.9	+0.3
BOD				*e*Pg	Pg	15 12 19.3	-5.8
BOD				Pmax		15 12 27.5	
	comp=E,41nm,0.8s						
BOD				*e*Sn	Sn	15 12 50.3	-1.1
BOD				*e*Sg	Sg	15 12 58.4	-6.5
BOD				Smax		15 13 04.8	
	comp=E,285nm,1.0s						
BOD	**Bodaibo**	**3.08**	**24**	*e*PN	Pn	15 12 14.3	-0.3
BOD				*e*		15 12 20.0	
KELR	**Kotokel**	**3.11**	**224**	*e*Pn	Pn	15 12 16.5	+1.4
KELR				*e*Pg	Pg	15 12 22.8	-2.9
KELR				Pmax		15 12 29.6	
	comp=E,95nm,0.2s						
KELR				*e*Sn	Sn	15 12 52.4	+0.2
KELR				*e*Sg	Sg	15 13 03.8	-2.2
KELR				Smax		15 13 06.2	
	comp=E,972nm,0.4s						
CIT	**Chita**	**3.23**	**159**	⇓*i*Pn	Pn	15 12 17.0	+0.3
CIT				*e*Pg	Pg	15 12 23.9	-4.1
CIT				Pmax		15 12 31.2	
	comp=E,81nm,1.0s						
CIT				*e*Sg	Sg	15 13 05.1	-4.8
CIT				Smax		15 13 12.5	
	comp=E,641nm,0.8s						
CIT	**Chita**	**3.23**	**159**	*e*PN	Pn	15 12 16.9	+0.2
CIT				*e*		15 12 25.4	
CIT				*e*		15 13 06.3	
CIT				pmax	pmax		
	comp=Z,71nm,1.2s						
CIT				smax			
	comp=N,638nm,1.0s						
TRG	**Tyrgan**	**3.88**	**236**	*e*Pn	Pn	15 12 26.3	+0.6
TRG				*e*Pg	Pg	15 12 34.8	-5.6
TRG				Pmax		15 12 43.2	
	comp=N,42nm,1.2s						
TRG				*e*Sn	Sn	15 13 11.9	+0.7
TRG				*e*Sg	Sg	15 13 24.8	-5.9
TRG				Smax		15 13 30.1	
	comp=N,345nm,0.8s						
TRG	**Tyrgan**	**3.88**	**236**	*e*PN	Pn	15 12 26.5	+0.8
TRG				*e*		15 12 36.2	
TRG				*e*		15 13 26.5	
TRG				pmax	pmax		
	comp=Z,30nm,0.5s						
TRG				smax			
	comp=N,291nm,0.3s						
CRS	**Chara**	**4.16**	**61**	*e*Pn	Pn	15 12 30.5	+1.0
CRS				*e*Pg	Pg	15 12 40.9	-4.9
CRS				Pmax		15 12 48.7	
	comp=N,71nm,1.0s						
CRS				*e*Sg	Sg	15 13 35.0	-4.7
CRS				Smax		15 13 38.4	
	comp=N,848nm,1.1s						
CRS	**Chara**	**4.16**	**61**	*e*PN	Pn	15 12 30.3	+0.8
CRS				*e*		15 12 41.5	
CRS				*e*		15 13 34.7	
CRS				pmax	pmax		
	comp=Z,72nm,1.0s						
CRS				smax			
	comp=E,850nm,1.3s						
FFNB	**Fofonovo**	**4.18**	**226**	*e*Pg	Pb	15 12 41.0	+1.3
FFNB				*e*Sg	Sg	15 13 35.0	-5.4
FFNB				Smax		15 13 43.5	
	comp=E,711nm,0.6s						
HRMR	**Khuramsha**	**4.43**	**221**	*e*Pn	Pn	15 12 34.3	+1.1
HRMR				*e*Pg	Pg	15 12 46.2	-4.7
HRMR				Pmax		15 12 51.2	
	comp=E,81nm,0.8s						
HRMR				*e*Sg	Sg	15 13 44.3	-3.9
HRMR				Smax		15 13 52.8	
	comp=E,808nm,0.8s						
TUP	**Tupik**	**4.85**	**94**	⇓*i*Pn	Pn	15 12 39.2	+0.2
TUP				*e*Pg	Pg	15 12 52.9	-6.1
TUP				Pmax		15 12 54.3	
	comp=E,45nm,0.7s						
TUP				*e*Sg	Sg	15 13 56.0	-5.9
TUP				Smax		15 14 01.8	
	comp=E,563nm,0.6s						
TUP	**Tupik**	**4.85**	**94**	*e*PN	Pn	15 12 39.2	+0.2
TUP				*e*		15 12 52.8	
TUP				*e*S	Sn	15 13 34.9	-0.3
TUP				*e*		15 13 56.2	
TUP				pmax	pmax		
	comp=Z,44nm,0.6s						
TUP				smax			
	comp=E,569nm,0.6s						
LSTR	**Listvyanka**	**5.17**	**235**	*e*	Pg	15 13 00.2	-4.8
LSTR				*e*		15 13 43.3	
LSTR				*e*Sg	Sg	15 14 04.0	-8.0
LSTR				Smax		15 14 10.5	
	comp=E,145nm,1.2s						
LSTR	**Listvyanka**	**5.17**	**235**	*e*PN	Pn	15 12 43.9	+0.6
LSTR				*e*		15 13 01.0	
LSTR				*e*S	Sn	15 13 43.0	+0.1
LSTR				*e*		15 14 04.7	
LSTR				pmax	pmax		
	comp=Z,20nm,0.7s						
LSTR				smax			
	comp=E,144nm,1.2s						
IRK	**Irkutsk**	**5.21**	**240**	*e*PN	Pg	15 12 59.8	-6.0
IRK				*e*		15 14 06.9	
IRK				pmax	pmax		
	comp=Z,32nm,0.1s						
IRK				smax			
	comp=N,370nm,0.5s						
KPC	**Khapcheranga**	**5.36**	**175**	*e*Pn	Pn	15 12 46.0	-0.1
KPC				*e*Pg	Pg	15 13 02.5	-6.3
KPC				Pmax		15 13 13.2	
	comp=N,25nm,0.8s						
KPC				*e*Sg	Sg	15 14 12.0	-6.3
KPC				Smax		15 14 17.3	
	comp=N,309nm,1.3s						
KPC	**Khapcheranga**	**5.36**	**175**	*e*PN	Pn	15 12 47.2	+1.1
KPC				*e*		15 13 03.4	
KPC				*e*		15 14 12.7	
KPC				pmax	pmax		
	comp=Z,25nm,0.8s						
KPC				smax			
	comp=E,308nm,1.2s						
TLY	**Talaya**	**5.86**	**238**	*e*PN	Pn	15 12 52.7	-0.1
TLY				pmax	pmax		
	comp=Z,17nm,0.4s						
TLY	**Talaya**	**5.86**	**238**	*e*Pn	Pn	15 12 52.7	-0.1
	comp=Z,17nm,0.4s						
TLY				*e*S	Sb	15 14 21.9	+3.6
ARS	**Arshan**	**6.33**	**244**	*e*Pn	Pn	15 12 59.6	+0.2
ARS				*e*Pg	Pg	15 13 18.6	-8.7
ARS				Pmax		15 13 22.9	
	comp=Z,35nm,0.6s						
ARS				*e*Sg	Sg	15 14 40.0	-9.3
ARS				Smax		15 14 45.7	
	comp=Z,514nm,1.0s						
ARS	**Arshan**	**6.33**	**244**	*e*PG	Pg	15 13 20.3	-7.0
ARS				*e*		15 14 41.1	
ARS				pmax	pmax		
	comp=Z,37nm,0.5s						
ARS				smax			
	comp=E,514nm,0.7s						
ZAK	**Zakamensk**	**6.90**	**231**	*e*PN	Pn	15 13 10.8	+3.7
ZAK				*e*		15 13 32.3	
ZAK				*e*		15 15 00.5	
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ZAK				smax			
	comp=E,71nm,1.2s						
MOY	**Mondy**	**7.22**	**246**	*e*PN	Pn	15 13 12.8	+1.3
MOY				*e*		15 13 36.7	
MOY				*e*S	Sn	15 14 32.5	-0.9
MOY				*e*		15 15 10.0	
MOY				pmax	pmax		
	comp=Z,20nm,0.7s						
MOY				smax			
	comp=E,169nm,1.3s						
ORL	**Orlik**	**7.45**	**255**	⇓*i*Pn	Pn	15 13 15.8	+1.1
ORL				max		15 13 22.4	
	comp=E,31nm,1.0s						
ORL				*e*Sn	Sn	15 14 38.1	-1.0
ORL				*e*Sg	Sg	15 15 16.0	-9.1
ORL				Smax		15 15 26.7	
	comp=E,201nm,1.3s						
ORL	**Orlik**	**7.45**	**255**	*e*PN	Pn	15 13 16.1	+1.4
ORL				*e*S	Sg	15 15 16.6	-8.5
ORL				smax			
	comp=N,203nm,1.4s						
ULN	**Ulaanbaatar**	**7.74**	**204**	*e*PN	Pn	15 13 22.8	+4.2
ULN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ULN	**Ulaanbaatar**	**7.74**	**204**	*e*Pn	Pn	15 13 22.8	+4.2
	comp=Z,6.3nm,0.6s						
ULN				*e*Pg	Pn	15 13 50.4	+32
SONM	**Songino Array**	**7.92**	**207**	Pn	Pn	15 13 21.7	+0.5
	comp=Z,0.5nm,0.3s,baz=23,slow=13,SNR=9.8						
SONM				Sn	Sn	15 14 53.9	+3.1
	comp=Z,1.9nm,0.3s,baz=15,slow=28,SNR=5.1						
SONM				Lg		15 15 36.1	
	comp=Z,2.5nm,0.3s,baz=15,slow=28,SNR=8.7						
SONM	**Songino Array**	**7.92**	**207**	PN	Pn	15 13 21.7	+0.5
SONM						15 14 53.9	
ZAL	**Zalesovo**	**15.61**	**277**	Pn	Pn	15 15 05.9	-0.1
	comp=Z,0.3nm,0.3s,baz=27,slow=12,SNR=8.3						
MKAR	**Makanchi Array**	**20.14**	**258**	P	P	15 16 00.9	+0.8
	comp=Z,0.5nm,0.6s,baz=48,slow=9.3,SNR=6.1						
KURK	**Kurchatov**	**20.28**	**271**	*e*P	P	15 16 01.7	0.0
	comp=Z,2.6nm,0.8s						
ASAJ	**Asahikawa**	**22.66**	**106**	LR	LR	15 25 59.4	
	comp=Z,33nm,18.7s,baz=193,slow=39						
BRVK	**Borovoye**	**24.12**	**283**	P	P	15 16 46.8	+5.0
	comp=Z,2.8nm,0.8s						
ZRNK	**Zerenda**	**24.88**	**283**	*e*P	P	15 16 48.9	+0.2
	comp=Z,1.3nm,0.6s						
GNI	**Garni**	**45.72**	**280**	LR	LR	15 41 21.9	
	comp=Z,16nm,20.6s,baz=348,slow=39						
ILAR	**Eielson Array**	**46.39**	**35**	P	P	15 19 52.5	0.0
	comp=Z,0.4nm,0.8s,baz=304,slow=7.6,SNR=5.6						
WRA	**Warramunga Arr**	**77.15**	**158**	P	P	15 23 18.7	-1.1
	comp=Z,0.3nm,0.9s,baz=352,slow=6.7,SNR=4.9						

CASC 26 15:14:18.0±3.1,1160N×8741W,h24km±146km,MD4.0, 4C-2D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEON	**Leon**	**0.96**	**32**	⇑*e*P	Pb	15 14 36.1	+0.1
COPN	**Copaltepe**	**0.99**	**54**	*e*P	Pn	15 14 36.0	-0.4
MIRN	**Miramar**	**1.08**	**39**	⇓*e*P	Pn	15 14 37.5	-0.2
TEL3	**Telica 3**	**1.12**	**30**	⇑*e*P	Pn	15 14 37.9	-0.2
CNGN	**Cerro Negro**	**1.14**	**38**	*e*P	Pn	15 14 38.1	-0.3
TELN	**Telica**	**1.15**	**30**	*e*P	Pn	15 14 38.6	0.0
CRIN	**San Cristobal**	**1.15**	**18**	*e*P	Pn	15 14 38.7	0.0
MOMJ	**Momotombo**	**1.17**	**47**	⇓*e*P	Pn	15 14 38.7	-0.2
TICN	**Ticuantepe**	**1.23**	**69**	*e*P	Pn	15 14 39.5	-0.3
TICN				*e*S	Sn	15 14 56.3	+0.6
TISN	**Laguna Tiscapa**	**1.24**	**64**	⇑*e*P	Pn	15 14 41.6	+1.8
MGAN	**Managua**	**1.26**	**64**	*e*P	Pn	15 14 40.5	+0.3
MGAN				*e*S	Sn	15 14 56.7	+0.3
APON	**Apoyo**	**1.35**	**76**	*e*P	Pn	15 14 40.3	-1.1
LCBS	**La Ceiba**	**2.55**	**323**	*e*P	Pn	15 15 09.2	+11
LCBS				*e*S	Sn	15 15 40.0	+12
LFRS	**El Faro**	**2.58**	**322**	⇑*e*P	Pn	15 15 09.3	+11
LFRS				*e*S	Sn	15 15 37.4	+8.6
RBDL	**Robledal**	**3.34**	**319**	*e*P	Pn	15 15 21.6	+13
RBDL				*e*S	Sn	15 15 59.0	+11
PRS1	**Puriscal**	**3.44**	**117**	*e*P	Pn	15 15 10.3	+0.2
LCR2	**La Lucha 2**	**3.82**	**118**	*e*P	Pn	15 15 15.6	+0.2
URSC	**Urasca**	**3.98**	**116**	*e*P	Pn	15 15 18.4	+1.0
URSC				*e*S	Sn	15 16 05.5	+2.1
BUS	**Buena Vista**	**4.13**	**119**	*e*P	Pn	15 15 20.2	+0.7

*CSEM **26** 15:18:10.6±0.6,37.12N×13.14W,h2km,ML3.9/8,Error ellipse: s-maj=11.6km s-min=8.4km az=41.0*

*MDD **26** 15:18:10.2±1.9,3721N×1318W,h0km,mb4.4/11,Error ellipse: s-maj=17.6km s-min=13.0km az=51.0,PRXIMO*

*IGIL **26** 15:18:11.4±10.0,3720N×1320W,h2km,ML3.2*

*ISCJB **26** 15:18:11.6±0.9,3740N±005×1292W±006,h10km,Error ellipse: s-maj=7.6km s-min=6.1km az=72.0*

*LDG **26** 15:18:11.2±0.3,37.16N×1327W,h10km,Ml3.8/1,Error ellipse: s-maj=5.7km s-min=3.8km az=41.0*

*INMG **26** 15:18:11.7±0.9,3702N×1356W,h10km,ML2.9,Error ellipse: s-maj=5.4km s-min=4.6km az=84.0*

ISC 26 15:18:13.1±0.9,3734N±005×1293W±006,h10km,n47, σ0ᵉ74/80,1C,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	**3.35**	**85**	*e*Pn	**Pn**	**15 19 05.5**	**-0.1**
PTEO				*e*Sn	**Sn**	**15 19 45.5**	**+0.1**
PTEO							
	25nm,0.3s						
PTEO	**Sao Teotonio**	**3.35**	**85**	*e*Pn	**Pn**	**15 19 05.5**	**-0.1**
PTEO				*e*Sn	**Sn**	**15 19 45.5**	**+0.1**
	25nm,0.3s						
PLOU	**Loures**	**3.36**	**61**	*e*Sn	**Sn**	**15 19 47.1**	**+1.6**
PLOU							
	28nm,0.1s						
PLOU	**Loures**	**3.36**	**61**	*e*Sn	**Sn**	**15 19 47.1**	**+1.6**
	28nm,0.1s						
MORF	**Marmelete**	**3.41**	**89**	*e*P	**Pn**	**15 19 07.0**	**+0.6**
MORF				*e*S	**Sn**	**15 19 47.2**	**+0.4**
MORF				*e*S	**Sn**	**15 19 47.2**	**+0.4**
MORF				AML	AML	15 19 50.1	
	comp=N,59nm,0.4s						
MORF	**Marmelete**	**3.41**	**89**	*e*P	**Pn**	**15 19 07.0**	**+0.6**
MORF				*e*S	**Sn**	**15 19 47.2**	**+0.3**
MOE	**Montemor**	**3.81**	**71**	*e*Pn	**Pn**	**15 19 12.2**	**+0.4**
MOE				*e*Sn	**Sn**	**15 19 57.3**	**+0.6**
EVO	**Evora**	**4.07**	**71**	*e*Pn	**Pn**	**15 19 14.4**	**-1.0**
EVO				*e*Sn	**Sn**	**15 20 01.7**	**-1.3**
	comp=N,32nm,0.3s						
PBEJ	**Beja**	**4.08**	**79**	*e*Pn	**Pn**	**15 19 15.6**	**+0.1**
PBEJ				*e*Sn	**Sn**	**15 20 03.5**	**+0.3**
PBEJ							
	comp=N,10nm,0.1s						
PBEJ	**Beja**	**4.08**	**79**	*e*Pn	**Pn**	**15 19 15.6**	**+0.1**
PBEJ				*e*Sn	**Sn**	**15 20 03.5**	**+0.3**
	comp=N,10nm,0.1s						
PTOM	**Tomar**	**4.21**	**56**	*e*Pn	**Pn**	**15 19 18.7**	**+1.3**
PTOM				*e*Sn	**Sn**	**15 20 08.2**	**+1.5**
PTOM							
	comp=N,20nm,0.2s						
PTOM	**Tomar**	**4.21**	**56**	*e*Pn	**Pn**	**15 19 18.7**	**+1.3**
PTOM				*e*Sn	**Sn**	**15 20 08.2**	**+1.5**
	comp=N,20nm,0.2s						
EGRO	**El Granado**	**4.34**	**86**	⇑P	**Pn**	**15 19 18.9**	**-0.2**
	comp=N,0.8nm,0.1s,SNR=18						
EGRO				S	**Sn**	**15 20 08.9**	**-0.9**
	comp=N,6.0nm,0.1s,SNR=9.5						
EGRO	**El Granado**	**4.34**	**86**	Pn	**Pn**	**15 19 18.9**	**-0.2**
	comp=N,0.8nm,0.1s,SNR=18						
EGRO				Sn	**Sn**	**15 20 08.9**	**-0.9**
	comp=N,6.0nm,0.1s,SNR=9.5						
EBAD	**Badajoz**	**4.88**	**71**	P	**Pn**	**15 19 26.5**	**0.0**
	comp=N,1.6nm,0.1s,SNR=9.4						
EBAD				S	**Sn**	**15 20 22.3**	**-0.8**
	comp=N,4.1nm,0.3s,SNR=6.9						
EBAD	**Badajoz**	**4.88**	**71**	Pn	**Pn**	**15 19 26.5**	**-0.1**
	comp=N,1.6nm,0.1s,SNR=9.4						
EBAD				Sn	**Sn**	**15 20 22.3**	**-0.8**
	comp=N,4.1nm,0.3s,SNR=6.9						
PCBR	**Castelo Branco**	**4.95**	**58**	*e*Pn	**Pn**	**15 19 28.3**	**+0.8**
PCBR				*e*Sn	**Sn**	**15 20 25.4**	**+0.6**
PCBR							
	comp=N,6.0nm,0.2s						
PCBR	**Castelo Branco**	**4.95**	**58**	*e*Pn	**Pn**	**15 19 28.3**	**+0.8**
PCBR				*e*Sn	**Sn**	**15 20 25.4**	**+0.6**
	comp=N,6.0nm,0.2s						
EMIN	**Mina Concepcio**	**4.99**	**83**	P	**Pn**	**15 19 27.6**	**-0.5**
	comp=N,0.9nm,0.1s,SNR=7.1						
EMIN				S	**Sn**	**15 20 25.3**	**-0.5**
	comp=N,8.5nm,0.2s,SNR=13						
EMIN	**Mina Concepcio**	**4.99**	**83**	Pn	**Pn**	**15 19 27.6**	**-0.5**
	comp=N,0.9nm,0.1s,SNR=7.1						
EMIN				Sn	**Sn**	**15 20 25.3**	**-0.5**
	comp=N,8.5nm,0.2s,SNR=13						
PTO	**Porto**	**5.07**	**40**	*e*Pn	**Pn**	**15 19 29.1**	**0.0**
PVIS	**Viseu**	**5.17**	**48**	*e*Pn	**Pn**	**15 19 30.7**	**+0.1**
PVIS				*e*Sn	**Sn**	**15 20 30.6**	**+0.3**
MTE	**Manteigas**	**5.20**	**52**	*e*Pn	**Pn**	**15 19 31.1**	**+0.2**
MTE				*e*Sn	**Sn**	**15 20 32.4**	**+1.5**
MTE							
	comp=N,7.9nm,0.2s						
PVRL	**Vila Real**	**5.64**	**44**	*e*Pn	**Pn**	**15 19 37.3**	**+0.3**
PVRL				*e*Sn	**Sn**	**15 20 41.6**	**-0.2**
PVRL							
	comp=N,6.5nm,0.1s						
ESPR	**Espera**	**5.67**	**93**	P	**Pn**	**15 19 37.9**	**+0.4**
	comp=N,4.4nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**15 20 40.9**	**-1.7**
	comp=N,55nm,0.4s,SNR=7.9						
ESPR	**Espera**	**5.67**	**93**	Pn	**Pn**	**15 19 37.9**	**+0.4**
	comp=N,4.4nm,0.2s,SNR=7.9						
ESPR				Sn	**Sn**	**15 20 43.0**	**+0.4**
	SNR=7.9						
PCAB	**Cabril**	**5.78**	**39**	*e*Pn	**Pn**	**15 19 39.0**	**+0.1**
PCAB				*e*Sn	**Sn**	**15 20 44.8**	**-0.5**
EZAM	**Zamans**	**5.81**	**33**	P	**Pn**	**15 19 38.4**	**-0.9**
	comp=N,5.7nm,0.4s,SNR=7.9						
EZAM				S	**Sn**	**15 20 41.4**	**-4.6**
	SNR=7.9						
ELOB	**Lobios**	**5.88**	**38**	P	**

EMAZ	**Mazaricos**	**6.37**	**27**	Pn		**Pn**	**15 19 47.0**	**0.0**	
	comp=N,3.4nm,0.1s,SNR=4.0								
PBRG	**Braganca**	**6.54**	**45**	*e*Pn		**Pn**	**15 19 49.5**	**+0.2**	
PBRG				*e*Sn		**Sn**	**15 21 03.2**	**-0.7**	
PBRG									
	comp=N,2.5nm,0.1s								
ECAL	**Calabor**	**6.63**	**44**	P		**Pn**	**15 19 51.1**	**+0.5**	
	comp=N,1.9nm,0.1s,SNR=6.1								
ECAL				S		**Sn**	**15 21 05.7**	**-0.5**	
	comp=N,11nm,0.5s,SNR=7.9								
ECAL	**Calabor**	**6.63**	**44**	Pn		**Pn**	**15 19 51.1**	**+0.5**	
	comp=N,1.9nm,0.1s,SNR=6.1								
ECAL				Sn		**Sn**	**15 21 06.8**	**+0.6**	
	SNR=7.9								
EADA	**Adamuz**	**6.67**	**80**	P		**Pn**	**15 19 51.6**	**+0.4**	
	comp=N,0.8nm,0.2s,SNR=7.9								
EADA				S		**Sn**	**15 21 05.8**	**-1.4**	
	comp=N,12nm,0.2s,SNR=7.9								
EADA	**Adamuz**	**6.67**	**80**	Pn		**Pn**	**15 19 51.6**	**+0.5**	
	comp=N,0.8nm,0.2s,SNR=7.9								
EADA				Sn		**Sn**	**15 21 05.8**	**-1.4**	
	SNR=7.9								
ESDC	**Sonseca Array**	**7.41**	**69**	P		**Pn**	**15 20 01.6**	**+0.4**	
	comp=N,3.6nm,0.1s,baz=253,slow=13,SNR=4.0								
ESDC	**Sonseca Array**	**7.41**	**69**	Pn		**Pn**	**15 20 01.6**	**+0.3**	
	comp=N,3.6nm,0.1s,SNR=4.0								
EPON	**Pontenova**	**7.43**	**35**	P		**Pn**	**15 20 01.0**	**-0.6**	
	comp=N,1.3nm,0.1s,SNR=7.9								
SJPF	**Ste Jean**	**10.64**	**54**	*e*Pn		**Pn**	**15 20 46.5**	**+0.9**	
ETSF	**Etsaut**	**10.98**	**56**	*e*Pn		**Pn**	**15 20 49.8**	**-0.4**	
EPF	**Esparros**	**11.63**	**57**	*e*Pn		**Pn**	**15 21 00.4**	**+1.3**	
QUIF	**Quistinic**	**12.77**	**31**	*e*Pn		**Pn**	**15 21 14.0**	**-0.8**	
ROSF	**Rostrenen**	**13.06**	**30**	*e*Pn		**Pn**	**15 21 17.8**	**-0.9**	
LASF	**Ste Croix**	**14.39**	**57**	*e*Pn		**Pn**	**15 21 36.5**	**-0.3**	
FLN	**La Foliniere**	**14.58**	**35**	*e*Pn		**Pn**	**15 21 38.5**	**-0.9**	

*IDC **26** 15:21:24.6±1.2,389S×10365W,h0km,mb4.1/12, mb1 4.3/12,mb1mx4.2/18,mbtmp4.1/12,MS4.0/15, Ms1 4.0/15,ms1mx3.8/19,Error ellipse: s-maj=38.7km s-min=16.3km az=50.0*

*ISCJB **26** 15:21:25.3±0.6,391S±008×1035W±0.1,h10km,mb4.5/34, MS4.2/22,Error ellipse: s-maj=18.4km s-min=7.6km az=110.1*

*NEIC **26** 15:21:26.9±0.6,391S×10338W,h10km,mb4.7/23, MS4.9/1,Error ellipse: s-maj=18.6km s-min=7.9km az=53.0*

*HRVD **26** 15:21:26.9±0.3,394S×10336W,h15km,MW4.9/60, Centroid moment Tensor Solution. LP body waves: s34,c44;Mantle waves: s60,c85; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr-2.29±.12; Mθθ1.07±.07; Mϕϕ1.22±.09; Mrθ0.29±.17; Mϕθ1.33±.06; Mϕr~0.28±.19; Best double couple: M○2.42100×10-16 NP1:ϕs234.00000°,δ46.00000°,λ-75.00000°. NP2: ϕs33.00000°,δ46.00000°,λ-105.00000°. Principal axes: T 2.4770, Plg0.0000°, Azm133.0000°; N -0.1130, Plg10.0000°, Azm43.0000°; P -2.3640, Plg80.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **26** 15:21:26.8,390S×10340W,h10km,mB5.4,Ms5.3,Msz4.8*

ISC 26 15:21:27.1±0.6,393S±008×1035W±01,h10km,n74, σ1§13/51,mb4.5/34,MS4.2/22,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**23.25**	**52**	P		**P**	**15 26 33.9**	**-0.8**
	4.7nm,0.8s,mb4.0,baz=234,slow=7.6,SNR=5.1							
JTS				LR		LR	15 33 02.8	
	comp=Z,180nm,18.2s,MS3.6,baz=105,slow=30							
ATAH	**Atahualpa**	**25.16**	**98**	P		**P**	**15 26 53.5**	**+0.9**
	3.3nm,0.6s,mb4.0,baz=287,slow=11,SNR=4.7							
ATAH				LR		LR	15 34 18.0	
	comp=Z,599nm,19.2s,MS4.1,baz=82,slow=30							
OTAV	**Otavalo**	**25.36**	**81**	*e*P		**P**	**15 26 54.8**	**+0.4**
	19nm,1.2s,mb4.5							
LPIG	**La Paz**	**28.64**	**347**	LR		LR	15 35 52.4	
	comp=Z,419nm,20.8s,MS4.0,baz=186,slow=30							
SDV	**Santo Domingo**	**35.15**	**69**	*e*P		**P**	**15 28 20.5**	**-0.4**
	21nm,0.9s,mb5.1							
SDV				*e*			15 28 26.9	
RKT	**Rikitea**	**35.91**	**235**	*e*LR		LR	15 37 43.9	
	170nm,27.5s							
CPRX	**Cap Rock**	**36.76**	**359**	*e*P		**P**	**15 28 34.5**	**-0.2**
LPAZ	**La Paz**	**36.84**	**112**	P		**P**	**15 28 37.8**	**+2.4**
	0.7nm,0.7s,mb3.6,baz=270,slow=4.0,SNR=3.1							
LPAZ				LR		LR	15 41 00.6	
	comp=Z,207nm,19.1s,MS3.9,baz=108,slow=32							
LVC	**Limon Verde**	**38.27**	**122**	P		**P**	**15 28 42.1**	**-5.5**
	4.9nm,1.0s,mb4.2							
LAZ	**Ladron**	**38.28**	**355**	*e*P		**P**	**15 28 48.6**	**+1.0**
WMOK	**Wichita Mounta**	**38.72**	**6**	*e*P		**P**	**15 28 51.3**	**0.0**
	3.5nm,1.0s,mb4.0							
ANMO	**Albuquerque**	**38.78**	**356**	P		**P**	**15 28 53.7**	**+1.9**
MIAR	**Mount Ida**	**39.40**	**13**	*e*P		**P**	**15 28 53.3**	**-3.7**
	32nm,1.8s,mb4.8							
PCRV	**Puerto La Cruz**	**41.16**	**70**	P		**P**	**15 29 13.8**	**+2.2**
	9.8nm,0.8s,mb4.5,baz=14,slow=8.3,SNR=4.1							
PV01	**Paradox Valley**	**42.12**	**354**	*e*P		**P**	**15 29 19.9**	**+0.5**
WVT	**Waverly**	**42.46**	**19**	*e*P		**P**	**15 29 20.9**	**-1.4**
	6.9nm,1.0s,mb4.2							
ARUT	**Antelope Range**	**42.52**	**348**	*e*P		**P**	**15 29 23.9**	**+1.2**
SJG	**San Juan**	**42.84**	**58**	*e*P		**P**	**15 29 22.4**	**-2.8**
	31nm,1.1s,mb5.0							
SMCO	**Snowmass**	**43.02**	**356**	*e*P		**P**	**15 29 28.5**	**+1.8**
	8.8nm,1.0s,mb4.4							
SRU	**San Rafael**	**43.32**	**352**	*e*P		**P**	**15 29 28.8**	**-0.3**
	20nm,1.5s,mb4.6							
ISCO	**Idaho Springs**	**43.56**	**358**	*e*P		**P**	**15 29 32.2**	**+1.1**
	5.3nm,1.0s,mb4.2							
NVAR	**Mina Array Bea**	**44.33**	**343**	P		**P**	**15 29 34.9**	**-2.4**
	0.7nm,0.8s,mb3.5,baz=159,slow=10,SNR=5.7							
CMB	**Columbia Colle**	**44.60**	**341**	P		**P**	**15 29 40.5**	**+1.0**
DAU	**Daniels Canyon**	**44.70**	**352**	*e*P		**P**	**15 29 42.1**	**+1.8**
DUG	**Dugway**	**44.74**	**350**	*e*P		**P**	**15 29 41.6**	**+1.1**
	17nm,1.5s,mb4.7							
HWUT	**Hardware Ranch**	**45.92**	**352**	*e*P		**P**	**15 29 50.4**	**+0.5**
	38nm,1.5s,mb5.1							
PDAR	**Pinedale Array**	**46.80**	**354**	P		**P**	**15 29 56.5**	**-0.5**
	2.3nm,0.8s,mb4.2,baz=170,slow=5.8,SNR=16							
PDAR				LR		LR	15 49 41.4	
	comp=Z,91nm,18.1s,MS3.8,baz=201,slow=36							
PPT	**Papeete**	**47.11**	**250**	*e*LR		LR	15 42 56.7	
	322nm,25.0s							
PPT	**Papeete**	**47.11**	**250**	LR		LR	15 44 26.1	
	comp=Z,192nm,21.1s,MS4.0,baz=84,slow=29							
PLCA	**Paso Flores**	**47.11**	**146**	P		**P**	**15 29 59.0**	**-0.3**
	3.1nm,0.9s,mb4.3,baz=0.3,slow=18,SNR=4.0							
PLCA				LR		LR	15 44 57.7	
	comp=Z,261nm,18.5s,MS4.2,baz=1.8,slow=30							
REDW	**Red Top Meadow**	**47.54**	**353**	*e*P		**P**	**15 30 03.3**	**+0.6**
	12nm,1.3s,mb4.8							
TPAW	**Teton Pass**	**47.68**	**353**	*e*P		**P**	**15 30 03.5**	**-0.3**
	25nm,1.4s,mb5.0							
LOHW	**Long Hollow**	**47.76**	**353**	*e*P		**P**	**15 30 04.1**	**-0.3**
	59nm,1.7s,mb5.3							
RSSD	**Black Hills**	**47.84**	**359**	*e*P		**P**	**15 30 02.8**	**-2.1**
	8.3nm,1.4s,mb4.6							
ECSD	**EROS,Sioux Fal**	**47.85**	**7**	*e*P		**P**	**15 30 04.0**	**-1.1**
IMW	**Indian Meadow**	**48.08**	**353**	*e*P		**P**	**15 30 07.0**	**+0.2**
	53nm,1.6s,mb5.3							
WVOR	**Wild Horse Val**	**48.15**	**345**	*e*P		**P**	**15 30 08.5**	**+1.1**
	23nm,1.6s,mb5.0							
FLWY	**Flagg Ranch**	**48.23**	**353**	*e*P		**P**	**15 30 08.0**	**0.0**
	23nm,1.0s,mb5.2							
HLID	**Hailey**	**48.29**	**349**	*e*P		**P**	**15 30 09.2**	**+0.7**
	4.7nm,1.0s,mb4.5							
TBI	**Tubuai**	**48.38**	**242**	*e*LR		LR	15 43 31.3	
	282nm,44.8s							
MCMT	**McKenzie Canyo**	**49.26**	**351**	*e*P		**P**	**15 30 16.2**	**+0.3**
CPUP	**Villa Florida**	**49.45**	**122**	P		**P**	**15 30 17.4**	**+0.1**
	0.6nm,0.4s,mb4.0,baz=263,slow=10,SNR=4.3							
CPUP				LR		LR	15 47 20.8	
	comp=Z,130nm,18.3s,MS4.0,baz=282,slow=31							
CPUP	**Villa Florida**	**49.45**	**122**	*e*P		**P**	**15 30 16.3**	**-1.0**
	8.4nm,0.8s,mb4.8							
GCMT	**Greycliff**	**49.81**	**354**	*e*P		**P**	**15 30 20.7**	**+0.6**
TRQA	**Tornquist**	**50.83**	**138**	*e*P		**P**	**15 30 26.9**	**-1.0**
	12nm,1.3s,mb4.7							
CHMT	**Chamberlain Mo**	**51.36**	**351**	*e*P		**P**	**15 30 31.1**	**-0.7**
NEW	**Newport**	**53.33**	**349**	*e*P		**P**	**15 30 45.7**	**-0.8**
	6.3nm,0.8s,mb4.6							
ULM	**Lac du Bonnet**	**54.37**	**6**	P		**P**	**15 30 52.0**	**-2.1**
	12nm,1.2s,mb4.7,baz=206,slow=6.6,SNR=7.3							
ULM				LR		LR	15 53 10.1	
	comp=Z,154nm,18.3s,MS4.1,baz=188,slow=35							
BDFB	**Brasilia**	**55.74**	**106**	P		**P**	**15 31 04.4**	**+0.5**
	1.5nm,0.4s,mb4.4,baz=37,slow=8.5,SNR=3.7							
BDFB				LR		LR	15 52 35.7	
	comp=Z,229nm,18.9s,MS4.3,baz=288,slow=34							
EDM	**Edmonton**	**57.55**	**353**	*e*P		**P**	**15 31 16.1**	**-0.7**
SCHQ	**Schefferville**	**65.95**	**22**	LR		LR	15 59 52.5	
	comp=Z,50nm,20.2s,MS3.7,baz=69,slow=35							
YKA	**Yellowknife Ar**	**66.78**	**354**	P		**P**	**15 32 17.3**	**-1.4**
	2.0nm,0.9s,mb4.2,baz=164,slow=6.4,SNR=12							
YKA				LR		LR	16 00 53.0	
	comp=Z,123nm,18.1s,MS4.2,baz=200,slow=36							
YKA	**Yellowknife Ar**	**66.78**	**354**	P		**P**	**15 32 17.3**	**-1.4**
YKA				LR		LR	16 00 53.0	
YKW3	**Yellowknife Ar**	**66.85**	**354**	*e*P		**P**	**15 32 18.1**	**-1.1**
KDAK	**Kodiak Island**	**72.99**	**335**	LR		LR	15 56 44.8	
	comp=Z,166nm,21.2s,MS4.3,baz=144,slow=29							
INK	**Inuvik**	**75.05**	**349**	LR		LR	16 04 38.3	
	comp=Z,144nm,18.4s,MS4.3,baz=127,slow=35							
ILAR	**Eielson Array**	**75.57**	**342**	P		**P**	**15 33 10.8**	**-1.1**
	1.8nm,0.8s,mb4.0,baz=156,slow=5.5,SNR=13							
RPZ	**Rata Peaks**	**84.02**	**227**	LR		LR	16 00 28.4	
	comp=Z,1μm,20.3s,MS5.3,baz=9.7,slow=28							
VNDA	**Vanda**	**87.20**	**193**	LR		LR	16 04 41.5	
	comp=Z,4.8nm,18.3s,MS2.9,baz=292,slow=30							
VNA3	**Neumayer Olymp**	**87.54**	**161**	*e*P		**P**	**15 34 15.9**	**+0.7**
VNA3				*e*		pP	15 34 19.9	+1.3
VNA3				*e*		pP	15 34 20.8	+2.2
VNA2	**Neumayer--Watz**	**88.31**	**161**	*e*P		**P**	**15 34 18.1**	**-0.8**
VNA2				*e*		pP	15 34 21.5	-0.8
DBIC	**Dimbokro**	**99.01**	**84**	LR		LR	16 19 15.0	
	comp=Z,54nm,18.3s,MS4.1,baz=134,slow=35							
CLL	**Collm**	**109.42**	**37**	*e*PP		PP	15 40 26.0	-1.5
	comp=Z,7.0nm,1.4s							
MDJ	**Mudanjiang**	**118.40**	**320**	PKP		PKPdf	15 40 15.3	+0.4
MDJ				PP		PP		
	comp=Z,62nm,5.8s							
CN2	**Changchun**	**121.43**	**320**	*e*PKP		PKPdf	15 40 17.3	-3.4
CN2				*e*PP		PP	15 41 53.3	+1.3
CN2				LR		LR		
	comp=Z,110nm,22.0s,MS4.5							
BRTR	**Keskin Array B**	**127.39**	**41**	PKP		PKPdf	15 40 31.6	-0.5
	comp=Z,0.2nm,0.3s,baz=291,slow=4.0,SNR=2.9							
NJ2	**Nanjing**	**131.46**	**310**	*e*PKP		PKPdf	15 40 35.5	-4.3
NJ2				PP		PP	15 43 01.0	+2.5
NJ2				PKS			15 44 13.0	
NJ2				PPP			15 45 51.0	
NJ2				PP		PP		
	comp=Z,540nm,10.0s							
NJ2				LR		LR		
	comp=N,330nm,24.9s,MS5.1							
NJ2				LR		LR		
	comp=E,380nm,25.6s,MS5.1							
NJ2				LR		LR		
	comp=Z,150nm,25.9s,MS4.6							
HHC	**Hu-ho-hao-te**	**131.60**	**324**	*e*PKP		PKPdf	15 40 39.0	-1.1
HHC				PP		PP	15 43 02.8	+3.4
HHC				PKS			15 44 13.0	
HHC				SKS		SKSdf	15 47 48.5	-3.1
HHC				SKKS		SKKSac	15 49 54.0	-2.0
HHC				SS		SS	16 00 35.5	+1.8
HHC				PP		PP		
	comp=Z,100nm,6.0s							
HHC				LR		LR		
	comp=N,131nm,21.6s,MS4.8							
HHC				LR		LR		
	comp=E,209nm,23.9s,MS4.8							
HHC				LR		LR		
	comp=Z,185nm,18.7s							
MKAR	**Makanchi Array**	**137.01**	**354**	PKP		PKPdf	15 40 51.1	+0.9
	comp=Z,0.8nm,0.9s,baz=0.0,slow=3.0,SNR=5.7							
WMQ	**Urumqi**	**139.06**	**348**	PKP		PKPdf	15 40 52.5	-1.5
WMQ				XPKP			15 41 00.0	
WMQ				PP		PP	15 43 49.5	+3.0
WMQ				PP		PP		
	comp=Z,123nm,4.3s							
LZH	**Lanzhou**	**139.27**	**325**	*e*PKP		PKPdf	15 40 49.5	-4.9
LZH				XPKP			15 40 55.3	
LZH				*e*PP		PP	15 43 47.3	-0.5
LZH				PP		PP		
	comp=Z,105nm,7.9s							
LZH				LR		LR		
	comp=E,137nm,18.7s							
LZH				LR		LR		
	comp=Z,235nm,20.2s,MS4.9							
LZH	**Lanzhou**	**139.27**	**325**	*e*PKP		PKPdf	15 40 49.6	-4.8
LZH				pPKP		pPKPdf	15 40 52.8	-5.0
LZH				sPKP			15 40 55.3	
LZH				*e*PP		PP	15 43 47.2	-0.6
LZH				SKS		SKSdf	15 47 55.8	-9.1
LZH				SKKS		SKKSac	15 50 34.7	-7.4
LZH				*e*SS		SS	16 02 01.3	-4.4
LZH				LR		LR		
	comp=Z,240nm,20.2s,MS4.9							
GYA	**Guiyang**	**143.47**	**311**	PKP		PKPdf	15 41 05.0	+3.1
KMI	**Kunming**	**147.14**	**312**	PKP		PKPdf	15 41 09.0	+0.8
KMI				PP		PP	15 44 38.0	+2.8
KMI				PP		PP		
	comp=Z,100nm,7.2s							
KMI				LR		LR		
	comp=N,86nm,19.3s,MS4.7							
KMI				LR		LR		
	comp=E,89nm,23.7s,MS4.7							
KMI				LR		LR		
	comp=Z,109nm,23.7s,MS4.6							

*IDC **26** 15:50:25.1±1.3,2033N×12049E,h0km,mb3.6/4, mb1 3.9/4,mb1mx3.6/19,mbtmp3.6/4,Error ellipse: s-maj=46.3km s-min=24.0km az=76.0*

*ISCJB **26** 15:50:28.6±1.0,2045N±009×1203E±02,h33km,mb3.5/4, Error ellipse: s-maj=27.9km s-min=11.4km az=151.0*

*MAN **26** 15:50:51.1,1891N×12096E,h14km,MS7.0*

ISC 26 15:50:30.5±1.0,2044N±009×1203E±02,h35km,n11, σ1§14/12,mb3.5/4,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**2.70**	**161**	*e*P		**Pn**	**15 51 10.8**	**-0.6**
APYP				*e*S		**Sn**	**15 51 21.9**	**-21**
SGCP	**Mt. Cagua**	**2.71**	**143**	*e*P		**Pn**	**15 51 11.6**	**0.0**
ABRA	**Dolores**	**2.80**	**173**	*e*P		**Pn**	**15 51 11.3**	**-1.4**
CVP	**Callao Caves**	**3.06**	**153**	*e*P		**Pn**	**15 51 16.5**	**+0.1**
CAUP	**Cauayan**	**3.75**	**158**	*e*P		**Pn**	**15 51 26.4**	**+0.5**
PALP	**Palanan**	**3.90**	**149**	*e*P		**Pn**	**15 51 29.8**	**+2.0**
BALP	**Baler**	**4.82**	**166**	*e*P		**Pn**	**15 51 42.4**	**+1.9**
MJAR	**Matsushiro Arr**	**22.39**	**40**	P		**P**	**15 55 25.2**	**-0.5**
	1.8nm,0.8s,mb3.5,baz=239,slow=11,SNR=4.3							
MKAR	**Makanchi Array**	**40.57**	**319**	P		**P**	**15 58 07.6**	**+1.1**
	0.3nm,0.6s,mb3.1,baz=119,slow=9.1,SNR=5.4							
WRA	**Warramunga Arr**	**42.41**	**160**	P		**P**	**15 58 20.1**	**-1.5**
	2.0nm,0.8s,mb3.8,baz=341,slow=9.1,SNR=12							
ASAR	**Alice Springs**	**45.79**	**163**	P		**P**	**15 58 47.5**	**-1.1**
	0.3nm,0.3s,mb3.6,baz=344,slow=6.9,SNR=22							

*KRSC **26** 15:54:49.7±0.3,6073N×16580E,h8km±3km,ML4.0*

*IDC **26** 15:54:50.4±2.2,6073N×16546E,h0km,mb3.8/7, mb1 4.1/7,mb1mx3.8/23,mbtmp3.8/7,MS3.1/1,Ms1 3.2/1, ms1mx2.4/33,Error ellipse: s-maj=71.9km s-min=19.7km az=172.0*

*ISCJB **26** 15:54:50.1±0.3,6075N±003×16559E±008,h10km, mb4.0/16,Error ellipse: s-maj=5.7km s-min=4.3km az=13.8*

*BJI **26** 15:54:50.7,6100N×16540E,h10km,mB5.1,mb4.2*

*MOS **26** 15:54:51.5±1.0,6099N×16539E,h15km,mb4.4/9,Error ellipse: s-maj=20.1km s-min=12.5km az=89.5*

*NEIC **26** 15:54:52.7±0.5,6099N×16542E,h10km,mb4.3/9,Error ellipse: s-maj=13.9km s-min=7.4km az=164.0*

ISC 26 15:54:51.5±0.3,6076N±003×16562E±008,h10km,n55, σ0§98/57,mb4.0/16,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.39**	**147**	*i* P		**Pg**	**15 54 57.3**	**-1.9**
TILR				*i* S		**Sg**	**15 55 02.7**	**-1.8**
KAMR	**Kamenskoye**	**1.73**	**9**	*i* P		**Pn**	**15 55 21.2**	**-0.3**
KAMR				*i* S		**Sn**	**15 55 44.3**	**+0.7**
KAMR				Smax				
	2μm,1.4s							
OSSR	**Ossora**	**1.99**	**221**	*e*P		**Pn**	**15 55 23.5**	**-1.6**
EVNR	**Evensk**	**3.28**	**294**	*e*P		**Pn**	**15 55 43.7**	**+0.8**
SMKR	**Semkarok**	**4.72**	**209**	*e*P		**Pn**	**15 56 03.1**	**+0.4**
SRKR	**Sorokina**	**4.73**	**211**	*e*P		**Pn**	**15 56 03.4**	**+0.6**
KBG	**Krutoberegovo**	**4.77**	**200**	*e*P		**Pn**	**15 56 03.6**	**+0.2**
BDR	**Baidarnaya**	**4.79**	**211**	*e*P		**Pn**	**15 56 04.1**	**+0.4**
KBTR	**Krutoberegovo**	**4.80**	**199**	*e*P		**Pn**	**15 56 04.1**	**+0.3**
KLY	**Klyuchi**	**5.16**	**212**	*e*P		**Pn**	**15 56 09.0**	**+0.2**
ZLN	**Zelenaya**	**5.39**	**210**	*e*P		**Pn**	**15 56 13.4**	**+1.5**
BKI	**Bering**	**5.58**	**178**	*e*P		**Pn**	**15 56 15.7**	**+1.2**
KMNR	**Kamenistaya**	**5.77**	**212**	*e*P		**Pn**	**15 56 18.7**	**+1.6**
TUMR	**Tumrok**	**6.21**	**210**	*e*P		**Pn**	**15 56 24.3**	**+1.1**
BILL	**Bilibino**	**7.31**	**2**	*e*PN		**Pn**	**15 56 39.5**	**+1.2**
BILL				pmax		pmax		
	comp=Z,3.0nm,0.7s							
BILL				pmax		pmax		
	comp=N,65nm,1.0s							
BILL	**Bilibino**	**7.31**	**2**	*e*Pn		**Pn**	**15 56 38.4**	**0.0**
	comp=N,6.7nm,0.6s							
BILL	**Bilibino**	**7.31**	**2**	*e*P		**Pn**	**15 56 39.7**	**+1.4**
BILL				Smax				
	comp=N,50nm,0.9s							
MA2	**Magadan**	**7.50**	**267**	*e*PN		**Pn**	**15 56 40.3**	**-0.7**
MA2				pmax		pmax		
	comp=Z,30nm,0.9s							
MA2				MLR		MLR		
	comp=Z,2μm,7.9s							
MA2	**Magadan**	**7.50**	**267**	*e*Pn		**Pn**	**15 56 39.0**	**-2.0**
	comp=Z,19nm,0.9s							
MA2	**Magadan**	**7.50**	**267**	*e*P		**Pn**	**15 56 42.4**	**+1.4**
MA2				Smax				
	comp=Z,10.0nm,0.8s							
PET	**Petropavlovsk**	**8.64**	**209**	*e*PN		**Pn**	**15 57 02.4**	**+5.9**
PET				pmax		pmax		
	comp=Z,18nm,1.4s							
PET				MLR		MLR		
	comp=Z,400nm,18.0s							
PET				MLR		MLR		
	comp=Z,600nm,16.0s							
PET	**Petropavlovsk**	**8.64**	**209**	*e*Pn		**Pn**	**15 57 02.0**	**+5.5**
YAK	**Yakutsk**	**17.12**	**290**	*e*P		**Pn**	**15 58 51.5**	**+0.7**
YAK				pmax		pmax		
	comp=Z,7.0nm,0.9s							
YAK				pmax		pmax		
	comp=E,5.0nm,1.3s							
YAK	**Yakutsk**	**17.12**	**290**	*e*Pn		**Pn**	**15 58 50.8**	**0.0**
	comp=E,5.8nm,0.6s							
ILAR	**Eielson Array**	**21.68**	**59**	P		**P**	**15 59 42.9**	**+0.6**
	comp=E,3.7nm,1.0s,mb3.8,baz=275,slow=12,SNR=23							
DAWY	**Dawson**	**25.00**	**58**	*e*P		**P**	**16 00 16.4**	**+1.0**
BOD	**Bodaibo**	**25.96**	**287**	*e*P		**P**	**16 00 23.3**	**-0.8**
BOD				pmax		pmax		
	comp=Z,4.0nm,1.4s,mb3.8							
INK	**Inuvik**	**26.15**	**47**	P		**P**	**16 00 27.5**	**+1.7**
	comp=Z,5.2nm,0.9s,mb4.1,baz=273,slow=15,SNR=15							
INK	**Inuvik**	**26.15**	**47**	*e*P		**P**	**16 00 26.0**	**+0.2**
INK				pmax		pmax		
	comp=Z,8.0nm,1.0s							
INK	**Inuvik**	**26.15**	**47**	*e*P		**P**	**16 00 25.9**	**+0.1**
	comp=Z,8.3nm,1.0s,mb4.2							
ULN	**Ulaanbaatar**	**35.27**	**276**	*e*P		**P**	**16 01 46.0**	**-0.3**
ULN				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb4.0							
ULN	**Ulaanbaatar**	**35.27**	**276**	*e*P		**P**	**16 01 46.0**	**-0.3**
	comp=Z,1.1nm,0.5s,mb4.0							
SONM	**Songino Array**	**35.61**	**276**	P		**P**	**16 01 49.5**	**+0.3**
	comp=Z,0.5nm,0.6s,mb3.7,baz=53,slow=9.4,SNR=6.4							
YKA	**Yellowknife Ar**	**35.70**	**52**	P		**P**	**16 01 50.6**	**+0.6**
	comp=Z,0.6nm,0.5s,mb3.8,baz=304,slow=8.4,SNR=4.6							
NJ2	**Nanjing**	**41.78**	**248**	*e*P		**P**	**16 02 41.5**	**+0.4**
NJ2				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.4							
FCC	**Fort Churchill**	**45.75**	**46**	*e*P		**P**	**16 03 12.4**	**-0.5**
FCC				pmax		pmax		
	comp=Z,8.0nm,1.5s,mb4.4							
FCC	**Fort Churchill**	**45.75**	**46**	*e*P		**P**	**16 03 12.4**	**-0.6**
	comp=Z,8.0nm,1.5s,mb4.4							
KURK	**Kurchatov**	**46.47**	**299**	*e*P		**P**	**16 03 17.4**	**-1.2**
KURK				pmax		pmax		
	comp=Z,5.0nm,0.6s,mb4.6							
KURK	**Kurchatov**	**46.47**	**299**	*e*P		**P**	**16 03 17.4**	**-1.2**
	comp=Z,4.5nm,0.6s,mb4.6							
NACB	**Ninganchiao**	**47.38**	**240**	P		**P**	**16 03 19.1**	**-6.6**
CHKZ	**Chkalovo**	**47.57**	**307**	*e*P		**P**	**16 03 25.9**	**-1.3**
CHKZ				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.2							
CHKZ	**Chkalovo**	**47.57**	**307**	*e*P		**P**	**16 03 25.9**	**-1.3**
	comp=Z,1.9nm,0.8s,mb4.2							

LZH				pP			16 02 02.7	
LZH				sP	sP		16 02 07.5	+1.5
KSM	**Kuching**	**21.33**	**208**	*eP*	**P**		**16 01 59.5**	**+2.2**
KSM				*e*			16 02 06.1	
MAJO	**Matsushiro**	**22.35**	**41**	P	**P**		**16 02 10.9**	**+2.8**
	comp=Z,7.4nm,1.0s,mb4.1							
MJAR	**Matsushiro Arr**	**22.36**	**41**	P	**P**		**16 02 10.8**	**+2.6**
	comp=Z,3.8nm,1.0s,mb3.8,baz=240,slow=11,SNR=8.1							
MDJ	**Mudanjiang**	**25.17**	**16**	P	**P**		**16 02 37.5**	**+2.1**
MDJ				AMB	AMB			
	comp=Z,8.0nm,1.0s,mb4.2							
MDJ				AMB	AMB			
	comp=Z,47nm,4.2s							
MDJ				LR	LR			
	comp=N,70nm,15.3s,MS3.4							
MDJ				LR	LR			
	comp=E,69nm,17.0s,MS3.4							
MDJ				LR	LR			
	comp=Z,59nm,23.9s							
MDJ	**Mudanjiang**	**25.17**	**16**	*eP*	**P**		**16 02 37.8**	**+2.4**
	comp=Z,10.0nm,0.9s,mb4.3							
GTA	**Gaotai**	**25.60**	**321**	*eP*	**P**		**16 02 39.0**	**-0.3**
GTA				AP	pP		16 02 44.0	-4.3
GTA				XP	sP		16 02 46.5	-5.6
GTA				AMB	AMB			
	comp=Z,3.0nm,1.3s,mb3.7							
PSI	**Prapat**	**27.25**	**232**	LR	LR		16 12 12.0	
	comp=Z,73nm,19.0s,MS3.3,baz=164,slow=33							
LSA	**Lhasa**	**27.71**	**295**	P	**P**		**16 02 59.4**	**+1.0**
	comp=Z,3.9nm,0.7s,mb4.2							
HIA	**Hailar**	**28.58**	**359**	P	**P**		**16 03 08.7**	**+2.6**
	comp=Z,7.1nm,1.4s,mb4.2							
ULN	**Ulaanbaatar**	**29.17**	**342**	P	**P**		**16 03 10.0**	**-1.3**
	comp=Z,2.8nm,1.0s,mb4.0							
SONM	**Songino Array**	**29.34**	**341**	P	**P**		**16 03 12.6**	**-0.2**
	comp=Z,0.7nm,0.8s,mb3.4,baz=163,slow=12,SNR=5.2							
ASAJ	**Asahikawa**	**29.94**	**33**	LR	LR		16 16 58.4	
	comp=Z,70nm,19.0s,MS3.3,baz=164,slow=40							
MKAR	**Makanchi Array**	**40.32**	**319**	P	**P**		**16 04 47.4**	**0.0**
	comp=Z,0.8nm,0.7s,mb3.6,baz=117,slow=9.3,SNR=9.0							
WRAB	**Tennant Creek**	**42.63**	**160**	P	**P**		**16 05 06.7**	**+0.3**
	comp=Z,17nm,1.2s,mb4.7							
WRAB				*e*			16 05 13.0	
WRA	**Warramunga Arr**	**42.64**	**160**	P	**P**		**16 05 06.8**	**+0.4**
	comp=Z,3.4nm,1.0s,mb4.0,baz=342,slow=9.0,SNR=13							
ZAL	**Zalesovo**	**42.77**	**330**	P	**P**		**16 05 07.8**	**+0.4**
	comp=Z,0.9nm,0.5s,mb3.8,baz=34,slow=7.4,SNR=5.1							
KURK	**Kurchatov**	**44.27**	**323**	*eP*	**P**		**16 05 19.2**	**-0.4**
	comp=Z,4.1nm,1.2s,mb4.0							
ASAR	**Alice Springs**	**46.02**	**162**	P	**P**		**16 05 33.7**	**+0.3**
	comp=Z,0.5nm,0.8s,mb3.5,baz=342,slow=6.9,SNR=8.2							
CTAO	**Charters Tower**	**47.85**	**146**	P	**P**		**16 05 46.7**	**-1.0**
	comp=Z,13nm,1.2s,mb4.8							
BRVK	**Borovoye**	**49.94**	**323**	P	**P**		**16 06 03.4**	**-0.4**
	comp=Z,2.2nm,0.9s,mb4.2							
CHKZ	**Chkalovo**	**49.98**	**324**	*eP*	**P**		**16 06 03.4**	**-0.7**
	comp=Z,3.8nm,1.3s,mb4.3							
ZRNK	**Zerenda**	**50.63**	**322**	*eP*	**P**		**16 06 08.7**	**-0.3**
	comp=Z,2.3nm,0.9s,mb4.1							
ZRNK				*e*		pP	16 06 15.8	-2.5
STKA	**Stephens Creek**	**56.10**	**158**	P	**P**		**16 06 53.8**	**+4.6**
ARU	**Arti**	**57.41**	**325**	P	**P**		**16 06 57.8**	**-0.6**
	comp=Z,6.1nm,1.2s,mb4.5							
GNI	**Garni**	**66.07**	**306**	LR	LR		16 42 45.6	
	comp=Z,25nm,19.4s,MS3.4,baz=108,slow=42							
FINES	**FINESS Array B**	**74.03**	**330**	P	**P**		**16 08 44.8**	**-0.8**
	comp=Z,3.0nm,1.0s,mb4.2,baz=150,slow=11,SNR=5.1							
HFS	**Hagfors**	**80.20**	**33**	P	**P**		**16 09 19.7**	**-0.5**
	comp=Z,3.3nm,1.0s,mb4.2,baz=93,slow=11,SNR=3.0							
NOA	**NORSAR Array B**	**80.92**	**332**	P	**P**		**16 09 23.6**	**-0.5**
	comp=Z,1.6nm,0.9s,mb4.0,baz=66,slow=5.0,SNR=3.1							
NOA				LR	LR		16 49 13.9	
	comp=Z,16nm,19.1s,MS3.4,baz=245,slow=39							
GERES	**GERESS Array B**	**84.98**	**321**	P	**P**		**16 09 45.8**	**+0.6**
	comp=Z,0.7nm,0.8s,mb3.9,baz=41,slow=9.2,SNR=4.5							
YKA	**Yellowknife Ar**	**86.60**	**22**	P	**P**		**16 09 53.7**	**+0.6**
	comp=Z,0.9nm,0.9s,mb4.0,baz=313,slow=4.6,SNR=7.1							
YKA	**Yellowknife Ar**	**86.60**	**22**	P	**P**		**16 09 53.7**	**+0.6**

IDC 26 16:03:23.2±6.2, 3057S×17794W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.6/13, mbtmp3.5/2, Error ellipse: s-maj=251.7km s-min=55.6km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAR	**Alice Springs**	**43.15**	**267**	P		P	16 11 25.2	-0.2
	0.4nm,0.6s,baz=108,slow=7.5,SNR=9.1							
WRA	**Warramunga Arr**	**44.16**	**272**	P		P	16 11 34.2	+0.7
	0.4nm,0.5s,baz=113,slow=7.8,SNR=13							
FINES	**FINESS Array B**	**145.32**	**340**	PKPbc		PKPbc	16 23 01.1	-1.6
	0.8nm,0.6s,baz=57,slow=5.1,SNR=7.8							

*IDC **26** 16:28:56.5±1.7, 000S×9802E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/20, mbtmp3.7/7, ML3.5/1, Error ellipse: s-maj=61.3km s-min=20.4km az=60.0*

*ISCJB **26** 16:28:59.4±1.2, 0.1N±0.1×982E±0.2, h33km, mb4.0/9, Error ellipse: s-maj=34.9km s-min=15.2km az=122.5*

*NEIC **26** 16:28:59.9±1.1, 006S×98.18E, h30km, mb4.4/3, Error ellipse: s-maj=32.8km s-min=15.9km az=58.0*

ISC 26 16:29:02.0±1.2, 01N±0.2×982E±0.2, h35km, n12, σ1§15/12, mb4.0/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**2.74**	**14**	Pn		**Pn**	**16 29 43.2**	**-0.2**
	6.7nm,0.3s,baz=288,slow=4.8,SNR=11							
PSI	**Prapat**	**2.74**	**14**	Pn		**Pn**	**16 29 43.2**	**-0.2**
WRA	**Warramunga Arr**	**40.59**	**122**	P		**P**	**16 36 37.8**	**-0.4**
	0.6nm,0.8s,mb3.3,baz=301,slow=9.0,SNR=4.1							
ASAR	**Alice Springs**	**41.93**	**127**	P		**P**	**16 36 51.5**	**+2.4**
	0.5nm,0.7s,mb3.2,baz=297,slow=7.8,SNR=4.8							
SONM	**Songino Array**	**48.04**	**7**	P		**P**	**16 37 38.8**	**+1.1**
	0.2nm,0.4s,mb3.5,baz=191,slow=4.5,SNR=3.4							
ULN	**Ulaanbaatar**	**48.16**	**8**	P		**P**	**16 37 39.0**	**+0.3**
MKAR	**Makanchi Array**	**48.53**	**345**	P		**P**	**16 37 42.0**	**+0.6**
	1.3nm,0.5s,mb4.2,baz=156,slow=7.9,SNR=24							
PMG	**Port Moresby**	**49.61**	**102**	P		**P**	**16 37 48.1**	**-1.7**
	14nm,0.9s,mb5.0							
KURK	**Kurchatov**	**53.09**	**345**	*eP*		**P**	**16 38 15.9**	**0.0**
	4.0nm,1.2s,mb4.2							
ZAL	**Zalesovo**	**54.77**	**350**	P		**P**	**16 38 28.9**	**+0.9**
	1.0nm,0.5s,mb4.1,baz=17,slow=15,SNR=3.4							
CHKZ	**Chkalovo**	**58.07**	**341**	P		**P**	**16 38 49.1**	**-2.4**
	2.9nm,1.0s,mb4.3							
FINES	**FINESS Array B**	**81.42**	**332**	P		**P**	**16 41 14.7**	**-0.6**
	1.0nm,0.9s,mb3.8,baz=116,slow=8.7,SNR=3.6							

*ISCJB **26** 16:29:35.4±0.5, 5141N±003×1608E±003, h0km, Error ellipse: s-maj=4.1km s-min=2.4km az=29.0*

*NEIC **26** 16:29:36.0±0.6, 5154N×1609E, h5km, ML2.8(SZGRF), Error ellipse: s-maj=8.3km s-min=6.0km az=208.0*

*IPEC **26** 16:29:37.1±0.2, 5146N×1613E, h8km±1km, ML2.1/3, Error ellipse: s-maj=1.7km s-min=0.7km az=31.0*

*WAR **26** 16:29:37, 5147N×1611E, ML2.6, Mining Induced*

*CSEM **26** 16:29:37.4±0.2, 5145N×1607E, h1km±1km, ML3.2/5, Error ellipse: s-maj=3.7km s-min=1.9km az=17.0*

*PRU **26** 16:29:38.4, 5139N×1605E, h0km*

*VIE **26** 16:29:39.0±0.7, 5127N×1615E, h0km, mb2.3/4, ML2.7/4, Error ellipse: s-maj=4.5km s-min=4.1km az=173.0 62 km WNW of Breslau Suspected Mining induced.*

ISC 26 16:29:36.4±0.5, 5146N±003×1609E±003, h0km, n44, σ0§96/85, 2C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.63**	**168**	*i* Pgd		**Pg**	**16 29 49.1**	**+0.7**
KSP				*i* Sg		**Sg**	**16 29 57.6**	**+1.0**
KSP				*e*L			16 30 01.8	
KSP	**Ksiaz**	**0.63**	**168**	⇓*i* Pg		**Pg**	**16 29 49.1**	**+0.7**
KSP				*e*Sg		**Sg**	**16 29 57.3**	**+0.7**
UPC	**Upice**	**0.95**	**183**	*e*PG		**Pg**	**16 29 55.1**	**+0.5**
UPC	**Upice**	**0.95**	**183**	*e*Pg		**Pg**	**16 29 55.0**	**+0.4**
DPC	**Dobruska-Polom**	**1.12**	**172**	*e*PG		**Pg**	**16 29 57.9**	**+0.1**
DPC				*e*SG		**Sg**	**16 30 12.5**	**+0.1**
	32nm,0.4s							
DPC	**Dobruska-Polom**	**1.12**	**172**	*e*Pg		**Pg**	**16 29 57.8**	**0.0**
DPC				*e*Sg		**Sg**	**16 30 12.1**	**-0.3**
BRG	**Berggiesshubel**	**1.47**	**247**	PN		**Pn**	**16 30 03.9**	**-0.2**
BRG				PG		**Pg**	**16 30 04.8**	**+0.2**
BRG				SG		**Sg**	**16 30 24.8**	**+1.1**
	32nm,0.3s							
BRG	**Berggiesshubel**	**1.47**	**247**	*e*Pn		**Pn**	**16 30 04.5**	**+0.4**
BRG	**Berggiesshubel**	**1.47**	**247**	Pg		**Pg**	**16 30 04.8**	**+0.2**
BRG				*e*Sg		**Sg**	**16 30 23.0**	**-0.7**
RUE	**Ruedersdorf**	**1.76**	**307**	*e*Pn		**Pn**	**16 30 06.6**	**-1.4**
PRU	**Pruhonice**	**1.77**	**214**	*e*PN		**Pn**	**16 30 07.7**	**-0.5**
PRU				*e*PG		**Pg**	**16 30 09.7**	**-0.6**
PRU				*e*SG		**Sg**	**16 30 33.1**	**-0.2**
	14nm,0.3s							
PRU	**Pruhonice**	**1.77**	**214**	*e*Pn		**Pn**	**16 30 08.5**	**+0.3**
PRU	**Pruhonice**	**1.77**	**214**	*e*Pg		**Pg**	**16 30 09.7**	**-0.6**
PRU				*e*Sg		**Sg**	**16 30 32.8**	**-0.5**
MORC	**Moravsky Berou**	**1.92**	**151**	*e*Pn		**Pn**	**16 30 09.8**	**-0.5**
MORC				*e*Sn		**Sn**	**16 30 35.7**	**+0.5**
MORC	**Moravsky Berou**	**1.92**	**151**	*e*Pn		**Pn**	**16 30 09.8**	**-0.5**
MORC				*e*Sn		**Sn**	**16 30 35.7**	**+0.5**
MORC				*e*Sg		**Sg**	**16 30 36.0**	**-2.1**
	14nm,0.2s							
CLL	**Collm**	**1.94**	**267**	*e*Pn		**Pn**	**16 30 09.0**	**-1.6**
	comp=Z,4.0nm,0.4s							
CLL				*e*Pg		**Pg**	**16 30 14.0**	**+0.5**
CLL				*e*x		x	16 30 17.0	
CLL				*e*Sg		**Sg**	**16 30 39.0**	**+0.3**
	comp=Z,17nm,0.4s							
CLL	**Collm**	**1.94**	**267**	*e*Pn		**Pn**	**16 30 09.0**	**-1.6**
CLL				*e*Pg		**Pg**	**16 30 14.0**	**+0.5**
CLL				*e*Sg		**Sg**	**16 30 39.0**	**+0.3**
OKC	**Ostrava-Krasne**	**2.09**	**140**	*e*PG		**Pg**	**16 30 15.5**	**-0.9**
OKC				*e*SG		**Sg**	**16 30 42.2**	**-1.2**
OKC	**Ostrava-Krasne**	**2.09**	**140**	*e*Pg		**Pg**	**16 30 15.4**	**-1.0**
VRAC	**Vranov**	**2.18**	**171**	*e*Pn		**Pn**	**16 30 14.4**	**+0.6**
VRAC				*e*Sg		**Sg**	**16 30 44.9**	**-1.4**
	comp=Z,9.7nm,0.3s							
TREC	**Trest**	**2.20**	**190**	*e*Pn		**Pn**	**16 30 14.5**	**+0.4**
KRUC	**Moravsky**	**2.41**	**175**	*e*Pg		**Pg**	**16 30 20.7**	**-1.8**
NKC	**Novy Kostel**	**2.61**	**243**	*e*PN		**Pn**	**16 30 19.6**	**-0.2**
NKC				*e*PG		**Pg**	**16 30 26.6**	**+0.1**
NKC				*e*SG		**Sg**	**16 31 01.7**	**+1.4**
	comp=Z,22nm,0.3s							
NKC	**Novy Kostel**	**2.61**	**243**	*e*Pn		**Pn**	**16 30 20.1**	**+0.3**
OJC	**Ojcow**	**2.66**	**116**	*e*Pg		**Pg**	**16 30 27.7**	**+0.4**
OJC				*e*Sg		**Sg**	**16 31 02.8**	**+1.0**
JAVC	**Velka Javorina**	**2.79**	**158**	*e*Pn		**Pn**	**16 30 23.2**	**+0.9**
JAVC				*e*Sg		**Sg**	**16 31 04.8**	**-1.4**
	comp=Z,6.1nm,0.3s							
KHC	**Kasperske Hory**	**2.83**	**216**	*e*PN		**Pn**	**16 30 23.2**	**+0.4**
KHC				*e*PG		**Pg**	**16 30 28.9**	**-1.8**
KHC				*e*SN		**Sn**	**16 30 56.5**	**-1.2**
KHC				*e*SG		**Sg**	**16 31 07.2**	**-0.2**
	comp=Z,14nm,0.4s							
KHC	**Kasperske Hory**	**2.83**	**216**	*e*Pn		**Pn**	**16 30 23.1**	**+0.3**
KHC	**Kasperske Hory**	**2.83**	**216**	*e*Pg		**Pg**	**16 30 29.0**	**-1.7**
KHC				*e*SN		**Sn**	**16 30 56.5**	**-1.2**
KHC				*e*Sg		**Sg**	**16 31 07.2**	**-0.2**
	comp=Z,14nm,0.4s							
MOX	**Moxa**	**2.94**	**256**	*e*PN		**Pn**	**16 30 24.0**	**-0.3**
MOX				*e*PG		**Pg**	**16 30 32.5**	**-0.2**
MOX				*e*SG		**Sg**	**16 31 12.4**	**+1.6**
MOX	**Moxa**	**2.94**	**256**	*e*Pn		**Pn**	**16 30 24.0**	**-0.3**
MOX				*e*Pg		**Pg**	**16 30 32.5**	**-0.2**
MOX				*e*Sg		**Sg**	**16 31 12.4**	**+1.6**
MOX	**Moxa**	**2.94**	**256**	*e*Pg		**Pg**	**16 30 32.5**	**-0.2**
MOX				*e*Sg		**Sg**	**16 31 11.1**	**+0.3**
GEC2	**GERESS Array S**	**3.03**	**211**	*e*Pn		**Pn**	**16 30 26.5**	**+0.9**
GEC2				*e*Sg		**Sg**	**16 31 14.1**	**+0.3**
WET	**Wettzell**	**3.10**	**223**	*e*Pn		**Pn**	**16 30 26.7**	**+0.2**
WET				*e*Sg		**Sg**	**16 31 16.4**	**+0.4**
WET	**Wettzell**	**3.10**	**223**	*e*Pn		**Pn**	**16 30 26.6**	**+0.1**
WET				*e*Sg		**Sg**	**16 31 16.4**	**+0.4**
GRA1	**Grafenberg Arr**	**3.57**	**242**	*e*Pn		**Pn**	**16 30 32.1**	**-0.9**
GRF	**Grafenberg Arr**	**3.57**	**242**	*e*Pn		**Pn**	**16 30 32.1**	**-0.9**
CLZ	**Clausthal**	**3.58**	**278**	*e*Pn		**Pn**	**16 30 33.9**	**+0.8**
BSD	**Bornholm Skovb**	**3.73**	**350**	*i* P		**Pn**	**16 30 33.3**	**-1.9**
BSD				*i* S		**Sn**	**16 31 15.2**	**-4.6**
MOA	**Molln**	**3.80**	**199**	⇑*i* Pn		**Pn**	**16 30 36.6**	**+0.5**
MOA				⇓*i* Sg		**Sg**	**16 31 39.6**	**+1.0**
	comp=Z,5.5nm,0.3s							
MOA	**Molln**	**3.80**	**199**	⇑*i* Pn		**Pn**	**16 30 36.7**	**+0.5**
MOA				*i* Sg		**Sg**	**16 31 39.5**	**+1.0**
STHS	**Stebnicka Huta**	**3.88**	**120**	*e*PN		**Pn**	**16 30 37.8**	**+0.6**
STHS				*e*PG		**Pg**	**16 30 52.5**	**+1.8**
STHS				*e*SG		**Sg**	**16 31 44.2**	**+3.2**
KECS	**Kecovo**	**4.11**	**135**	*e*PG		**Pg**	**16 30 56.6**	**+1.4**
CRVS	**Cervenica-Dubn**	**4.30**	**124**	*e*PG		**Pg**	**16 30 58.9**	**+0.2**

OTT 26 17:01:02.9±0.5, 7172N×9646W, h18km, MN2.6/4, 84km west from Fort Ross, Nu Boothia Ungava Seismic Zone., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RES	**Resolute Bay**	**3.02**	**8**	PN		Pn	17 01 49.6	-0.2
RES				SN		Sn	17 02 24.5	-1.1
RES				LG			17 02 37.7	
RES				Trac			17 02 39.0	
	comp=Z,3.6nm,0.1s							
AP3N	**Apex site 3 Nu**	**4.60**	**114**	PN		Pn	17 02 11.9	+0.4
AP3N				SN		Sn	17 03 02.3	-2.1
AP3N				LG			17 03 24.9	
AP3N				Trac			17 03 29.1	
	comp=Z,3.2nm,0.2s							
GIFN	**Gifford Fjord,**	**5.17**	**102**	PN		Pn	17 02 17.9	-1.5
GIFN				SN		Sn	17 03 15.8	-2.7
GIFN				LG			17 03 42.5	
GIFN				Trac			17 03 52.1	
	comp=Z,2.5nm,0.3s							
ILON	**Igloolik, Nuna**	**5.42**	**109**	PN		Pn	17 02 23.1	+0.3
ILON				SN		Sn	17 03 19.9	-4.8
ILON				LG			17 03 48.5	
PINU	**Pond Inlet**	**5.74**	**71**	SN		Sn	17 03 29.7	-3.0
QILN	**Qililugaq Expl**	**6.22**	**140**	PN		Pn	17 02 33.0	-0.8
QILN				SN		Sn	17 03 40.3	-4.1
LUPN	**Lupin Mine**	**8.04**	**229**	PN		Pn	17 02 55.1	-3.6
LUPN				SN		Sn	17 04 22.5	-6.6
LUPN				LG			17 05 04.3	
ACKN	**Achilles Lake**	**8.57**	**225**	PN		Pn	17 03 03.7	-2.4
ACKN				SN		Sn	17 04 34.9	-7.4
FRB	**Frobisher Bay**	**13.11**	**113**	PN		Pn	17 04 08.2	0.0
FRB				SN		Sn	17 06 22.1	-12
FRB				SN		Sn	17 06 23.6	-10
FRB				Trac			17 06 33.2	
	comp=Z,0.9nm,0.3s							

MAN 26 17:42:45.4, 1251N×12602E, h1km, mb3.1, ML4.4, MS6.9, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLP	**Palo**	**1.68**	**217**	*e*P		Pn	17 43 15.7	-0.2
PLP				*e*S		Sn	17 43 34.1	-4.0
PVCP	**Virac**	**2.12**	**301**	⇓*i* P		Pn	17 43 23.0	+1.1
PVCP				*i* S		Sn	17 43 50.3	+1.4
PVCP	**Virac**	**2.12**	**301**	*e*P		Pn	17 43 22.3	+0.4
MSLP	**Maasin**	**2.62**	**206**	*e*P		Pn	17 43 30.5	+1.7
GUIM	**Jordan**	**3.85**	**241**	*e*P		Pn	17 43 47.1	+1.4

*CASC **26** 17:43:50.6±1.6, 1518N×9138W, h182km, MD4.2, mb4.2(NEIC)*

*IDC **26** 17:43:51.7±1.8, 1516N×9132W, h174km±19km, mb3.7/10, mb1 3.9/12, mb1mx3.6/23, mbtmp4.2/12, Error ellipse: s-maj=30.0km s-min=11.6km az=49.0*

*ISCJB **26** 17:43:51.1±0.4, 1508N±005×9154W±007, h185km±3km, mb4.2/20, Error ellipse: s-maj=12.4km s-min=5.6km az=107.1*

*NEIC **26** 17:43:51.5±0.7, 1496N×9158W, h182km±7km, mb4.2/18, MD4.2(MEX), Error ellipse: s-maj=14.5km s-min=8.2km az=58.0*

*BJI **26** 17:43:51.4, 1500N×9160W, h181km, mB4.2*

*MEX **26** 17:43:52.5±1.6, 1508N×9186W, h198km±22km, MD4.3*

ISC 26 17:43:52.1±0.4, 1508N±005×9157W±007, h180km±3km, n55, σ1§14/55, mb4.2/20, 3C-2D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TP2	**Tecpan 2**	**0.60**	**119**	⇑*e*P		**Pn**	**17 44 17.4**	**+0.1**
TP2				*e*S		**Sn**	**17 44 37.3**	**+0.5**
CCIG	**Comitan**	**1.32**	**335**	*i* P		**Pn**	**17 44 23.4**	**+1.0**
CCIG				*i* S		**Sn**	**17 44 46.6**	**+0.9**
IXG	**Ixpaco**	**1.40**	**130**	⇑*e*P		**Pn**	**17 44 22.5**	**-0.7**
IXG				*e*S		**Sn**	**17 44 45.8**	**-1.3**
SCX	**San Cristobal**	**1.94**	**328**	*i* P		**Pn**	**17 44 29.1**	**+0.5**
SCX				*i* S		**Sn**	**17 44 55.0**	**-1.7**
RBDL	**Robledal**	**2.06**	**118**	⇓*i* P		Px	17 44 41.0	
RBDL				*e*S		Sx	17 45 11.1	
BOQS	**Boqueron**	**2.59**	**121**	*e*P		Px	17 44 47.1	
BOQS				*e*S		Sx	17 45 21.2	
LFRS	**El Faro**	**2.83**	**120**	*e*P		Px	17 44 48.3	
LFRS				*e*S		Sx	17 45 25.5	
CMIG	**Matias Romero**	**3.77**	**303**	P		**Pn**	**17 44 50.2**	**-0.1**
	12nm,0.3s,baz=127,slow=9.8,SNR=156							
CMIG				S		**Sn**	**17 45 29.9**	**-5.7**
	20nm,0.3s,baz=37,slow=16,SNR=22							
CMIG	**Matias Romero**	**3.77**	**303**	P		**Pn**	**17 44 50.2**	**-0.1**
CMIG				S		**Sn**	**17 45 29.9**	**-5.7**
SCIG		**3.88**	**5**	*i* P		**Pn**	**17 44 52.1**	**+0.3**
SCIG				*i* S		**Sn**	**17 45 37.0**	**-1.3**
HUIG	**Huatulco**	**4.43**	**280**	*i* P		**Pn**	**17 44 56.9**	**-1.8**
HUIG				*i* S		**Sn**	**17 45 43.3**	**-7.6**
OXX	**Oaxaca**	**5.34**	**293**	*e*P		**Pn**	**17 45 11.0**	**+0.5**
JTS	**JuntasAbangare**	**8.02**	**126**	P		**Pn**	**17 45 45.0**	**-0.6**
	4.9nm,0.3s,baz=314,slow=18,SNR=14							
JTS				S		**Sn**	**17 47 06.5**	**-9.0**
	0.6nm,0.3s,baz=325,slow=17,SNR=2.4							
JTS	**JuntasAbangare**	**8.02**	**126**	*e*Pn		**Pn**	**17 45 44.5**	**-1.1**
	13nm,0.4s							
JTS				*e*S		**Sn**	**17 47 04.8**	**-11**
PRS1	**Puriscal**	**8.71**	**125**	⇑*e*P		**Pn**	**17 45 56.0**	**+1.4**
LCR2	**La Lucha 2**	**9.09**	**125**	*e*P		**Pn**	**17 46 00.1**	**+0.4**
URSC	**Urasca**	**9.22**	**124**	⇓*e*P		**Pn**	**17 46 03.5**	**+2.1**
LTX	**Lajitas**	**18.05**	**324**	*e*P		**P**	**17 47 53.5**	**+3.7**
	2.7nm,0.6s							
LRAL	**Lakeview Retre**	**18.35**	**12**	*e*P		**P**	**17 47 54.7**	**+1.6**
	14nm,1.0s							
MIAR	**Mount Ida**	**19.47**	**355**	*e*P		**P**	**17 48 06.1**	**+0.9**
	4.0nm,0.6s							
OTAV	**Otavalo**	**19.63**	**138**	*e*P		**P**	**17 48 09.2**	**+2.3**
	5.7nm,0.9s							
SWET	**Sewanee**	**20.68**	**13**	*e*P		**P**	**17 48 19.0**	**+0.9**
MNTX	**Cornudas Mount**	**20.81**	**325**	*e*P		**P**	**17 48 20.6**	**+1.2**
	1.5nm,0.5s							
WVT	**Waverly**	**21.23**	**8**	*e*P		**P**	**17 48 23.7**	**-0.2**
	9.4nm,0.7s,mb4.2							
SDV	**Santo Domingo**	**21.37**	**104**	P		**P**	**17 48 23.5**	**-1.9**
	4.1nm,0.3s,mb4.2,baz=325,slow=6.8,SNR=4.3							
SDV	**Santo Domingo**	**21.37**	**104**	*e*P		**P**	**17 48 21.5**	**-3.9**
	7.0nm,0.6s,mb4.2							
SIUC	**Southern Illin**	**22.64**	**5**	*e*P		**P**	**17 48 38.9**	**+1.0**
	111nm,1.2s,mb5.2							
CCM	**Cathedral Cave**	**22.89**	**1**	*e*P		**P**	**17 48 40.4**	**+0.3**
	27nm,0.8s,mb4.7							
BINY	**Binghamton**	**30.18**	**23**	*e*P		**P**	**17 49 45.9**	**+0.5**
	6.9nm,0.5s,mb4.6							
NCB	**Newcomb**	**32.37**	**24**	*e*P		**P**	**17 50 05.0**	**+0.4**
	7.6nm,1.0s,mb4.4							
NVAR	**Mina Array Bea**	**33.11**	**320**	P		**P**	**17 50 13.4**	**+2.4**
	3.0nm,0.7s,mb4.2,baz=126,slow=9.3,SNR=11							
ULM	**Lac du Bonnet**	**35.25**	**355**	P		**P**	**17 50 29.2**	**-0.3**
	0.9nm,0.5s,mb3.7,baz=179,slow=2.8,SNR=3.1							
ULM	**Lac du Bonnet**	**35.25**	**355**	P		**P**	**17 50 29.2**	**-0.3**
LPAZ	**La Paz**	**38.82**	**142**	P		**P**	**17 51 00.1**	**+0.7**
	1.8nm,0.7s,mb3.8,baz=316,slow=6.4,SNR=4.5							
LPAZ	**La Paz**	**38.82**	**142**	*e*P		**P**	**17 50 59.9**	**+0.4**
	1.9nm,0.6s,mb3.9							
SIV	**San Ignacio**	**43.13**	**134**	P		**P**	**17 51 34.0**	**-0.7**
	5.9nm,0.7s,mb4.3,baz=308,slow=8.3,SNR=25							
FCC	**Fort Churchill**	**43.65**	**358**	*e*P		**P**	**17 51 38.6**	**-0.2**
	3.6nm,0.7s,mb4.1							
SCHQ	**Schefferville**	**44.07**	**20**	P	

BSO3					S		Sn	18 03 29.9	+0.3
JYT	**Yasato**	**1.06**	**314**	⇑	P		**Pn**	**18 03 20.4**	**-0.5**
JHO	**Hitachi**	**1.21**	**338**		P		**Pn**	**18 03 22.8**	**-0.2**
JIM2	**Oshima 3**	**1.60**	**242**		P		**Pn**	**18 03 26.5**	**-1.8**
JAG	**Ashikaga**	**1.65**	**305**		P		**Pn**	**18 03 28.5**	**-0.6**
JOD2	**Odawara 2**	**1.69**	**263**		P		**Pn**	**18 03 29.1**	**-0.5**
MJAR	**Matsushiro Arr**	**2.59**	**295**		Pn		**Pn**	**18 03 42.5**	**+0.5**
	4.2nm,0.3s,baz=48,slow=32,SNR=44								
MJAR					Sn		**Sn**	**18 04 20.0**	**+7.6**
	5.0nm,0.3s,baz=121,slow=14,SNR=7.2								
MAJO	**Matsushiro**	**2.59**	**295**	*eP*			**Pn**	**18 03 43.1**	**+1.1**
MAT	**Matsushiro**	**2.59**	**295**		P		**Pn**	**18 03 42.9**	**+0.9**
MAT				*eS*			**Sn**	**18 04 17.3**	**+4.9**
MAT	**Matsushiro**	**2.59**	**295**	*eP*			**Pn**	**18 03 43.0**	**+1.0**
MAT					S		**Sn**	**18 04 20.0**	**+7.6**
JHJ	**Hachijo jima 2**	**2.62**	**206**		Pn		**Pn**	**18 03 42.9**	**+0.5**
	32nm,0.3s,baz=44,slow=7.7,SNR=19								
JHJ					Sn		**Sn**	**18 04 14.3**	**+1.3**
	89nm,0.3s,baz=51,slow=23,SNR=9.8								
CBIJ	**Chichi jima**	**8.42**	**174**		Pn		**Pn**	**18 05 01.6**	**-0.4**
	13nm,0.3s,baz=273,slow=22,SNR=8.5								
CBIJ					Sn		**Sn**	**18 06 31.1**	**-4.8**
	3.4nm,0.3s,baz=307,slow=22,SNR=2.6								
ASAJ	**Asahikawa**	**8.69**	**7**		Pn		**Pn**	**18 05 05.0**	**-0.7**
	1.6nm,0.3s,baz=146,slow=21,SNR=16								
ASAJ	**Asahikawa**	**8.69**	**7**		P		**Pn**	**18 05 05.0**	**-0.7**
ASAJ					pmax		pmax		
	comp=Z,2.0nm,0.3s								
YSS	**Yuzh-Sakhalins**	**11.52**	**6**	*eP*			**Pn**	**18 05 43.8**	**-0.7**
BJI	**Beijing**	**20.22**	**290**	*eP*			pP	18 07 45.4	+2.2
BJI					MLR		MLR		
	comp=Z,110nm,26.2s,MS3.1								
YAK	**Yakutsk**	**27.53**	**348**	*eP*			**P**	**18 08 44.9**	**-1.1**
YAK					pmax		pmax		
	comp=Z,8.0nm,0.6s,mb4.5								
YAK	**Yakutsk**	**27.53**	**348**	*eP*			**P**	**18 08 44.9**	**-1.0**
	comp=Z,7.5nm,0.6s,mb4.5								
SONM	**Songino Array**	**28.49**	**306**		P		**P**	**18 08 55.8**	**+1.2**
	comp=Z,0.5nm,0.8s,mb3.2,baz=105,slow=8.4,SNR=4.4								
SONM					LR		LR	18 20 22.3	
	comp=Z,70nm,20.5s,MS3.2,baz=66,slow=37								
BOD	**Bodaibo**	**28.73**	**329**	*eP*			**P**	**18 08 55.9**	**-0.8**
BOD					pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.0								
MKAR	**Makanchi Array**	**44.76**	**303**		P		**P**	**18 11 13.4**	**+0.7**
	comp=Z,0.7nm,0.8s,mb3.6,baz=87,slow=10.0,SNR=6.2								
KURK	**Kurchatov**	**46.72**	**309**	*eP*			**P**	**18 11 27.5**	**-0.7**
KURK					pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.5								
KURK	**Kurchatov**	**46.72**	**309**	*eP*			**P**	**18 11 27.5**	**-0.7**
	comp=Z,6.6nm,1.0s,mb4.5								
ILAR	**Eielson Array**	**50.92**	**32**		P		**P**	**18 12 02.0**	**+1.6**
	comp=Z,1.6nm,0.8s,mb4.0,baz=270,slow=6.2,SNR=19								
CHKZ	**Chkalovo**	**51.21**	**314**	*eP*			**P**	**18 12 02.7**	**+0.1**
CHKZ					pmax		pmax		
	comp=Z,1.0nm,0.8s,mb3.8								
CHKZ	**Chkalovo**	**51.21**	**314**	*eP*			**P**	**18 12 02.7**	**+0.1**
	comp=Z,1.2nm,0.8s,mb3.9								
ZRNK	**Zerenda**	**52.29**	**313**	*eP*			**P**	**18 12 11.2**	**+0.5**
ZRNK					pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.3								
ZRNK	**Zerenda**	**52.29**	**313**	*eP*			**P**	**18 12 11.2**	**+0.6**
	comp=Z,4.2nm,0.9s,mb4.4								
WRA	**Warramunga Arr**	**55.51**	**188**		P		**P**	**18 12 33.4**	**-0.8**
	comp=Z,2.5nm,0.7s,mb4.4,baz=7.0,slow=7.5,SNR=7.3								
ARU	**Arti**	**57.37**	**319**	*eP*			**P**	**18 12 47.5**	**+0.1**
YKA	**Yellowknife Ar**	**65.25**	**30**		P		**P**	**18 13 42.0**	**+1.3**
	comp=Z,0.7nm,0.8s,mb3.7,baz=301,slow=6.5,SNR=4.2								
YKA	**Yellowknife Ar**	**65.25**	**30**		P		**P**	**18 13 42.0**	**+1.3**
ARCES	**ARCESS Array B**	**65.36**	**340**		LR		LR	18 44 32.1	
	comp=Z,33nm,21.4s,MS3.5,baz=263,slow=38								
FINES	**FINESS Array B**	**70.07**	**332**		LR		LR	18 46 17.9	
	comp=Z,24nm,21.3s,MS3.4,baz=63,slow=37								
NB2	**NORSAR Subarra**	**75.52**	**337**		P		**P**	**18 14 43.7**	**+0.2**
	comp=Z,1.2nm,0.7s,mb3.9,baz=41,slow=5.9								
NOA	**NORSAR Array B**	**75.52**	**337**		P		**P**	**18 14 43.2**	**-0.3**
	comp=Z,1.7nm,0.8s,mb4.0,baz=40,slow=5.7,SNR=6.5								
NOA					LR		LR	18 49 46.1	
	comp=Z,31nm,20.0s,MS3.6,baz=10.0,slow=37								
NOA	**NORSAR Array B**	**75.52**	**337**		P		**P**	**18 14 43.2**	**-0.3**
NOA					LR		LR	18 49 46.1	
LPAZ	**La Paz**	**147.65**	**61**		PKPbc		PKPbc	18 22 46.3	+2.9
	comp=Z,0.9nm,0.8s,baz=320,slow=2.6,SNR=5.0								

*ISCJB **26** 18:07:37.5±3.0, 1092N±009×1414E±02, h67km±30km, mb4.0/9, Error ellipse: s-maj=33.7km s-min=15.4km az=175.7*
*IDC **26** 18:07:38.5±3.7, 1095N×14139E, h59km±35km, mb3.8/8, mb1 4.0/9, mb1mx3.8/20, mbtmp4.1/9, ML4.1/1, MS3.6/6, Ms1 3.5/6, ms1mx3.0/26, Error ellipse: s-maj=31.6km s-min=16.8km az=95.0*
*NEIC **26** 18:07:39.2±1.9, 1094N×14143E, h66km±19km, mb4.4/2, Error ellipse: s-maj=20.6km s-min=10.7km az=88.0*

ISC 26 18:07:40.5±2.6, 1095N±009×1415E±02, h79km±27km, n18, σ0§82/13, mb4.0/9, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**4.18**	**51**	P		**Pn**	**18 08 41.7**	**-0.1**
	9.8nm,0.3s,baz=230,slow=7.4,SNR=7.0							
PMG	**Port Moresby**	**20.98**	**164**	P		**P**	**18 12 17.3**	**+0.1**
	8.4nm,0.7s,baz=342,slow=7.2,SNR=3.8							
PMG				LR		LR	18 19 52.0	
	comp=Z,87nm,18.1s,baz=25,slow=35							
JHJ	**Hachijo jima 2**	**22.12**	**356**	LR		LR	18 20 02.1	
	comp=Z,127nm,18.1s,baz=136,slow=34							
CTA	**Charters Tower**	**31.19**	**171**	LR		LR	18 24 36.6	
	comp=Z,60nm,21.8s,baz=42,slow=33							
WRA	**Warramunga Arr**	**31.51**	**193**		P		**P**	**18 13 54.2**	**-0.6**
	1.3nm,0.8s,mb3.7,baz=12,slow=9.1,SNR=2.7							
ASAR	**Alice Springs**	**35.21**	**192**		P		**P**	**18 14 27.5**	**+0.5**
	0.5nm,0.5s,mb3.6,baz=19,slow=12,SNR=3.5							
STKA	**Stephens Creek**	**42.59**	**180**	LR		LR	18 34 18.8	
	comp=Z,123nm,18.2s,baz=205,slow=38							
SONM	**Songino Array**	**47.12**	**328**		P		**P**	**18 16 05.1**	**+0.5**
	0.3nm,0.3s,mb3.5,baz=131,slow=6.4,SNR=4.7							
SONM					PcP		PcP	18 17 36.2	+1.0
	0.6nm,0.6s,baz=140,slow=3.0,SNR=4.7							
SONM					LR		LR	18 37 06.7	
	comp=Z,72nm,18.7s,baz=70,slow=38							
LSA	**Lhasa**	**50.37**	**300**	*eP*			**P**	**18 16 30.8**	**+1.2**
MKAR	**Makanchi Array**	**61.18**	**318**		P		**P**	**18 17 46.4**	**-0.4**
	1.3nm,0.8s,mb4.0,baz=98,slow=8.0,SNR=12								
KURK	**Kurchatov**	**64.54**	**321**	*eP*			**P**	**18 18 08.5**	**-0.6**
	5.2nm,0.8s,mb4.4								
KURK				*e*				18 18 19.6	
ZRNK	**Zerenda**	**70.82**	**322**	*eP*			**P**	**18 18 48.2**	**-0.3**
	4.5nm,1.0s,mb4.2								
ZRNK				*e*				18 18 59.5	
ILAR	**Eielson Array**	**72.33**	**25**		P		**P**	**18 18 57.1**	**-0.5**
	1.4nm,0.6s,mb4.0,baz=250,slow=5.9,SNR=16								
YKA	**Yellowknife Ar**	**86.67**	**27**		P		**P**	**18 20 17.2**	**+1.8**
	2.0nm,0.7s,mb4.1,baz=290,slow=5.4,SNR=16								
YKA					LR		LR	18 59 31.4	
	comp=Z,28nm,18.2s,baz=280,slow=36								
YKA	**Yellowknife Ar**	**86.67**	**27**		P		**P**	**18 20 17.2**	**+1.8**
YKA					LR		LR	18 59 31.4	
FINES	**FINESS Array B**	**92.14**	**334**		P		**P**	**18 20 39.7**	**-1.4**
	1.3nm,0.7s,mb4.3,baz=48,slow=2.8,SNR=6.3								
LPAZ	**La Paz**	**150.70**	**104**	PKPbc		PKPbc	PKPbc	18 27 26.4	+3.0
	2.5nm,0.9s,baz=37,slow=7.9,SNR=9.0								
LPAZ	**La Paz**	**150.70**	**104**	PKPbc		PKPbc	PKPbc	18 27 26.4	+3.0

*CSEM **26** 18:33:43.4±1.0, 3878N×2889W, h0km±9km, ML1.7, Error ellipse: s-maj=10.4km s-min=3.7km az=96.0, After PDA*
*PDA **26** 18:33:43.4±1.0, 3878N×2889W, h0km±9km, MD3.0, ML1.7, Error ellipse: s-maj=10.4km s-min=3.7km az=96.0*

SVSA 26 18:33:43.4±1.0, 3878N×2889W, h0km±9km, MD3.0, ML1.7, Error ellipse: s-maj=10.4km s-min=3.7km az=96.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PTCA	**Ponta do Capel**	**0.21**	**159**	*i*	P	Pg	18 33 47.9	+0.5
PTCA				*eS*		Sg	18 33 50.9	+0.8
PTCA								
	100nm,0.2s							
PTCA	**Ponta do Capel**	**0.21**	**159**	*eS*		Sg	18 33 50.9	+0.8
PCED	**Cedros**	**0.21**	**135**	*i*	P	Pg	18 33 47.4	-0.1
PCED				*i*	S	Sg	18 33 50.8	+0.5
PCED								
	100nm,0.1s							
PCED	**Cedros**	**0.21**	**135**	*i*	S	Sg	18 33 50.8	+0.5
CALA	**Caldeira**	**0.25**	**143**	*eP*		Pg	18 33 48.0	-0.2
CALA				*eS*		Sg	18 33 51.7	+0.3
HOR	**Horta**	**0.33**	**141**	*i*	P	Pg	18 33 49.1	-0.6
HOR				*eS*		Sg	18 33 53.8	-0.1
HOR	**Horta**	**0.33**	**141**	*eS*		Sg	18 33 53.8	-0.1
PCND	**Candelaria**	**0.46**	**132**	*eS*		Sg	18 33 58.3	+0.1
PCND								
	25nm,0.2s							
PICO	**Pico**	**0.46**	**127**	*i*	P	Pg	18 33 51.8	-0.4
PICO				*eS*		Sg	18 33 58.4	+0.2
PICO	**Pico**	**0.46**	**127**	*eS*		Sg	18 33 58.4	+0.2
PTEI	**Pico do Teixo**	**0.51**	**124**	*eS*		Sg	18 34 00.0	+0.3
PTEI								
	19nm,0.1s							
ROSA	**Rosais**	**0.51**	**97**	*eP*		Pg	18 33 52.9	-0.3
ROSA				*eS*		Sg	18 33 59.5	-0.4
PBOI	**Pico dos Bois**	**0.53**	**130**	*eS*		Sg	18 34 00.3	-0.2
PBOI								
	13nm,0.1s							
PID	**Ribeirinha**	**0.69**	**119**	*eP*		Pg	18 33 55.7	-1.0
PID				*eS*		Sg	18 34 04.7	-1.0

*NEIC **26** 18:42:32.8, 3266S×7178W, h32km, ML3.9(GUC), After GUC.*

GUC 26 18:42:32.8±0.6, 3266S×7178W, h32km±2km, MD4.4, ML3.9, 8C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PACH	**Papudo**	**0.31**	**68**	⇓	*i*P	Pb	18 42 40.8	+0.2
PACH					*i* S	Sb	18 42 46.3	+0.4
IHA	**Instituto Hidr**	**0.39**	**163**	⇓	*e*P	Pb	18 42 41.0	-0.6
ROCH	**El Roble**	**0.72**	**116**	⇑	*i*P	Pn	18 42 46.8	+0.1
CHNG	**Los Chungos**	**0.81**	**17**	⇓	*i*P	Pn	18 42 48.0	0.0
CHNG					*i* S	Sn	18 42 58.9	0.0
CHNG					AML	AML	18 43 00.9	
	comp=E,4μm,0.4s							
LCCH	**Las Cruces**	**0.83**	**168**	⇑	*i*P	Pn	18 42 48.0	-0.4
JACH	**Jahuel**	**1.00**	**92**	⇑	*i*P	Pn	18 42 51.0	+0.4
JACH					*i* S	Sn	18 43 04.8	+1.2
TACH	**Talagante**	**1.22**	**145**	⇑	*i*P	Pn	18 42 54.2	+0.6
SAN	**Santiago**	**1.23**	**131**	*eP*		Pn	18 42 54.3	+0.6
SAN					*i* S	Sn	18 43 10.6	+1.3
CLCH	**Cerro Calan**	**1.28**	**126**	⇓	*i*P	Pn	18 42 55.5	+1.1
CLCH					*i* S	Sn	18 43 12.4	+2.0
CLCH					AML	AML	18 43 17.3	
	comp=N,8μm,0.4s							
ANTU	**Antumapu**	**1.32**	**134**	*eP*		Pn	18 42 55.7	+0.7
ANTU					*i* S	Sn	18 43 13.5	+2.0
ANTU					AML	AML	18 43 18.7	
	comp=E,3μm,0.4s							
ANTU	**Antumapu**	**1.32**	**134**	*eP*		Pn	18 42 55.7	+0.7
ANTU					*i* S	Sn	18 43 13.5	+2.0
LNV	**Longovilo**	**1.33**	**167**	*eP*		Pn	18 42 54.9	-0.2
FCH	**Farellones**	**1.42**	**119**	⇓	*i*P	Pn	18 42 57.9	+1.5
FCH					*i* S	Sn	18 43 16.7	+2.8
FCH					AML	AML	18 43 17.7	
	comp=N,2μm,0.3s							
PCH	**Pirque**	**1.43**	**133**	⇑	*e*P	Pn	18 42 57.7	+1.2
CHCH	**Chadas Angostu**	**1.58**	**144**	⇓	*i*P	Pn	18 43 00.3	+1.7
CHCH					*i* S	Sn	18 43 21.0	+3.0
YECH	**El Yeso**	**1.74**	**126**	⇓	*e*P	Pn	18 43 02.9	+2.1
YECH					*i* S	Sn	18 43 26.6	+4.8
CACH	**El Canelo**	**1.76**	**146**	⇑	*i*P	Pn	18 43 03.4	+2.4
CACH					*i* S	Sn	18 43 26.8	+4.5
CICH	**Cipreses**	**2.01**	**146**	*eP*		Pn	18 43 06.3	+1.8
CICH					*i* S	Sn	18 43 31.4	+2.9
SFDO	**San Fernando**	**2.05**	**162**	*eP*		Pn	18 43 06.5	+1.5
NICH	**Los Niches**	**2.38**	**169**	*eP*		Pn	18 43 12.4	+2.8
TLL	**Tololo Astrono**	**2.62**	**19**	⇑	*i*P	Pn	18 43 14.5	+1.6
TLL					*i* S	Sn	18 43 46.7	+3.2
TLL					AML	AML	18 43 58.4	
	comp=N,2μm,0.4s							
TLL	**Tololo Astrono**	**2.62**	**19**	⇑	*i*P	Pn	18 43 14.5	+1.6
TLL					*i* S	Sn	18 43 46.7	+3.2
LCO	**Las Campanas**	**3.75**	**15**	*eP*		Pn	18 43 29.4	+1.0
LCO					*i* S	Sn	18 44 13.3	+1.9

*ISCJB **26** 18:50:31.4±1.7, 1464S±008×1672E±0.1, h33km±14km, mb4.2/10, MS3.6/7, Error ellipse: s-maj=20.3km s-min=9.5km az=122.7*
*IDC **26** 18:50:34.9±3.2, 1466S×16733E, h50km±28km, mb3.7/8, mb1 4.1/10, mb1mx3.9/17, mbtmp4.2/10, ML5.0/2, MS3.7/9, Ms1 3.7/9, ms1mx3.4/22, Error ellipse: s-maj=28.5km s-min=20.4km az=74.0*
*NEIC **26** 18:50:34.8±2.2, 1465S×16738E, h55km±18km, mb4.5/6, Error ellipse: s-maj=23.0km s-min=15.8km az=59.0*

ISC 26 18:50:33.1±1.6, 1457S±008×1674E±01, h39km±12km, n32, σ1§11/26, mb4.2/10, MS3.6/7, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BKM	**Butte a Klehm**	**3.19**	**165**	⇑	*i*P	**Pn**	**18 51 19.3**	**-1.5**
DZM	**Mont Dzumac**	**7.51**	**187**		P	**Pn**	**18 52 21.1**	**+1.0**
	12nm,0.3s,baz=357,slow=13,SNR=136							
DZM					S	**Sn**	**18 53 44.3**	**+0.3**
	baz=325,slow=23,SNR=2.1							
DZM				LR		LR	18 55 06.8	
	comp=Z,446nm,18.0s,baz=14,slow=37							
HNR	**Honiara**	**8.88**	**304**		P	**Pn**	**18 52 40.2**	**+1.3**
	33nm,0.3s,baz=112,slow=5.1,SNR=14							
HNR					S	**Sn**	**18 54 15.9**	**-1.7**
	9.0nm,0.3s,baz=92,slow=20,SNR=4.1							
HNR				LR		LR	18 55 28.0	
	comp=Z,433nm,21.8s,baz=176,slow=33							
PMG	**Port Moresby**	**20.42**	**282**	LR		LR	19 02 03.1	
	comp=Z,543nm,18.3s,MS4.0,baz=36,slow=34							
CTA	**Charters Tower**	**20.89**	**252**	*eP*		**P**	**18 55 14.9**	**+3.0**
	15nm,0.7s							
CTA	**Charters Tower**	**20.89**	**252**		P	**P**	**18 55 14.2**	**+2.4**
	4.8nm,0.9s,baz=83,slow=13,SNR=8.3							
CTA				LR		LR	19 02 18.8	
	comp=Z,126nm,19.9s,MS3.3,baz=64,slow=34							
CTAO	**Charters Tower**	**20.89**	**252**	*eP*		**P**	**18 55 14.5**	**+2.6**
	23nm,0.8s							
URZ	**Urewera**	**25.12**	**162**	LR		LR	19 04 00.3	
	comp=Z,269nm,21.9s,MS3.7,baz=49,slow=32							
STKA	**Stephens Creek**	**29.17**	**229**	*eP*		**P**	**18 56 30.9**	**+0.3**
	6.4nm,0.8s,mb4.4							
STKA	**Stephens Creek**	**29.17**	**229**		P	**P**	**18 56 31.1**	**+0.5**
	3.9nm,0.7s,mb4.2,baz=46,slow=6.6,SNR=15							
STKA					LR	LR	19 07 04.4	
	comp=Z,115nm,18.0s,MS3.5,baz=32,slow=34							
WB2	**Warramunga Arr**	**31.95**	**256**	*eP*		**P**	**18 56 54.8**	**-0.3**
WRAB	**Tennant Creek**	**31.95**	**256**		P	**P**	**18 56 54.1**	**-1.0**
	10.0nm,0.8s,mb4.7							
WRAB				*e*			18 57 01.7	
WRA	**Warramunga Arr**	**31.96**	**256**		P	**P**	**18 56 55.4**	**+0.2**
	0.8nm,0.5s,mb3.8,baz=86,slow=9.3,SNR=24							
AS31	**Alice Springs**	**32.82**	**249**	*eP*		**P**	**18 57 03.0**	**+0.3**
ASAR	**Alice Springs**	**32.82**	**249**		P	**P**	**18 57 03.1**	**+0.3**
	1.4nm,0.5s,mb4.2,baz=76,slow=9.4,SNR=65							
ASPA	**Alice Springs**	**32.83**	**249**	*eP*		**P**	**18 57 03.0**	**+0.2**
GUMO	**Guam**	**35.77**	**320**	LR		LR	19 09 43.0	
	comp=Z,139nm,21.6s,MS3.7,baz=133,slow=32							
FITZ	**Fitzroy Crossi**	**40.14**	**259**	*eP*		pP	18 58 14.4	-1.9
	25nm,0.8s							
FITZ	**Fitzroy Crossi**	**40.14**	**259**		P	**P**	**18 58 04.8**	**-0.3**
	1.4nm,0.8s,mb3.8,baz=209,slow=19,SNR=3.5							
FITZ	**Fitzroy Crossi**	**40.14**	**259**		P	**P**	**18 58 04.8**	**-0.3**
FITZ				*eP*		pP	18 58 14.4	-1.9
MBWA	**Marble Bar**	**45.68**	**255**		P	**P**	**18 58 48.4**	**-1.6**
MBWA				*e*		pP	18 58 60.0	-1.3
NWAO	**Narrogin (SRO)**	**48.92**	**239**	*eP*		**P**	**18 59 15.4**	**+0.3**
NWAO				*e*			18 59 23.1	
MJAR	**Matsushiro Arr**	**57.81**	**332**	LR		LR	19 20 14.5	
	comp=Z,53nm,21.7s,MS3.6,baz=200,slow=31							
VNDA	**Vanda**	**63.02**	**181**		P	**P**	**19 00 55.4**	**-0.6**
	0.8nm,0.7s,mb4.0,baz=12,slow=6.0,SNR=7.5							
VNDA	**Vanda**	**63.02**	**181**		P	**P**	**19 00 55.4**	**-0.6**
VNDA				*eP*			19 00 55.8	
SBA	**Scott Base**	**63.29**	**180**	*eP*		**P**	**19 00 54.7**	**-3.1**
	28nm,1.4s,mb5.2							
QSPA	**South Pole Qui**	**75.45**	**180**	*eP*		**P**	**19 02 12.8**	**-0.2**
	2.8nm,0.7s,mb4.3							
SONM	**Songino Array**	**82.43**	**324**	LR		LR	19 38 13.8	
	comp=Z,30nm,20.8s,MS3.6,baz=294,slow=35							
ILAR	**Eielson Array**	**86.35**	**18**		P	**P**	**19 03 11.3**	**+0.3**
	0.4nm,0.7s,mb3.8,baz=223,slow=6.2,SNR=2.7							
VNA3	**Neumayer Olymp**	**94.37**	**181**	*e*		pP	19 03 57.6	-3.2
VNA3				*e*			19 03 58.2	
VNA3				*e*			19 03 59.2	
VNA2	**Neumayer--Watz**	**94.64**	**182**	*e*		pP	19 03 59.4	-2.7
	baz=186,slow=5.5							
VNA2				*e*			19 04 00.9	
MKAR	**Makanchi Array**	**97.16**	**316**		P	**P**	**19 04 03.8**	**+2.4**
	0.2nm,0.6s,mb3.7,baz=78,slow=3.0,SNR=2.6							

*NIED **26** 18:52:00, 3260N×14040E, h47km, Mw3.8 Best double couple: M0 5.05000×10^14 NP1:φs319.00000°, δ87.00000°, λ108.00000°. NP2:φs57.00000°, δ18.00000°, λ9.00000°.*
*IDC **26** 18:52:53.8±1.4, 3221N×13999E, h0km, mb3.5/2, mb1 3.9/4, mb1mx3.5/20, mbtmp3.8/4, ML3.5/2, Error ellipse: s-maj=98.0km s-min=15.9km az=82.0*
*ISCJB **26** 18:52:56.1±0.9, 3252N±005×1407E±0.1, h50km±15km, mb3.6/2, Error ellipse: s-maj=15.1km s-min=7.9km az=153.4*
*JMA **26** 18:52:58.7±0.3, 3257N×14037E, h63km, M3.8*

ISC 26 18:52:57.4±0.9, 3252N±006×1407E±01, h40km±17km, n17, σ1§41/26, mb3.6/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JHJ2	**Mitsune**	**0.94**	**309**	P		**Pn**	**18 53 13.5**	**-0.6**
JHJ2				S		**Sn**	**18 53 24.0**	**-2.3**
JHJ	**Hachijo jima 2**	**0.96**	**308**	Pn		**Pn**	**18 53 13.6**	**-0.9**
	123nm,0.3s,baz=253,slow=23,SNR=104							
JHJ				Sn		**Sn**	**18 53 22.6**	**-4.4**
	971nm,0.3s,baz=276,slow=24,SNR=88							
JMY	**Miyakejima3**	**1.83**	**328**	S		**Sn**	**18 53 47.4**	**-0.9**
BSO1	**Boso 1**	**2.14**	**6**	P		**Pn**	**18 53 29.9**	**-0.7**
BSO2	**Boso 2**	**2.22**	**1**	S		**Sn**	**18 53 56.6**	**-1.4**
BSO3	**Boso 3**	**2.28**	**356**	P		**Pn**	**18 53 32.4**	**-0.1**
BSO3				S		**Sn**	**18 53 58.2**	**-1.1**
JIM2	**Oshima 3**	**2.43**	**335**	P		**Pn**	**18 53 34.9**	**+0.3**
JIM2				S		**Sn**	**18 54 01.4**	**-1.6**
JIZS	**Izushimoda**	**2.66**	**326**	P		**Pn**	**18 53 38.9**	**+1.2**
JIZS				S		**Sn**	**18 54 09.0**	**+0.3**
JOD2	**Odawara 2**	**3.04**	**335**	P		**Pn**	**18 53 43.7**	**+0.7**
JOD2				S		**Sn**	**18 54 16.3**	**-1.8**
JYN	**Shimob**	**3.46**	**330**	P		**Pn**	**18 53 50.7**	**+1.9**
JRY	**Ryogami san**	**3.79**	**338**	P		**Pn**	**18 53 54.5**	**+1.3**
JAG	**Ashikaga**	**4.02**	**346**	P		**Pn**	**18 53 56.8**	**+0.3**
MJAR	**Matsushiro Arr**	**4.50**	**334**	Pn		**Pn**	**18 54 05.8**	**+2.7**
	6.9nm,0.3s,baz=158,slow=14,SNR=62							
MJAR				Sn		**Sn**	**18 54 56.9**	**+2.7**
	1.5nm,0.3s,baz=140,slow=26,SNR=3.7							
MAT	**Matsushiro**	**4.50**	**334**	P		**Pn**	**18 54 05.4**	**+2.3**
MAT				*i*	S	**Sn**	**18 54 56.6**	**+2.4**
CBIJ	**Chichi jima**	**5.56**	**166**	Pn		**Pn**	**18 54 17.1**	**-0.5**
	2.6nm,0.3s,baz=287,slow=13,SNR=8.6							
CBIJ				Sn		**Sn**	**18 55 14.4**	**-5.9**
	8.7nm,0.3s,baz=106,slow=23,SNR=6.8							
WRA	**Warramunga Arr**	**52.52**	**188**	P		**P**	**19 02 04.4**	**-2.2**
	0.2nm,0.3s,mb3.5,baz=5.4,slow=7.5,SNR=13							
ASAR	**Alice Springs**	**56.25**	**187**	P		**P**	**19 02 34.3**	**+0.7**
	0.7nm,1.1s,mb3.6,baz=7.3,slow=6.3,SNR=3.5							

*ISCJB **26** 19:22:45.2±0.3, 4982N±002×1837E±002, h0km, Error ellipse: s-maj=3.4km s-min=2.0km az=47.4*
*IPEC **26** 19:22:45.9±0.1, 4984N×1854E, h0km, ML2.2/3, Error ellipse: s-maj=1.1km s-min=0.7km az=173.0*
*NEIC **26** 19:22:45.0±0.7, 4987N×1847E, h5km, ML2.7(BRG), ML3.0(CLL), Error ellipse: s-maj=11.9km s-min=6.3km az=188.0*
*VIE **26** 19:22:46.7±0.5, 4968N×1844E, h0km, mb

CLL				*e*Sg	**Sg**	**19 24 47.0**	**-0.1**
	comp=Z,21nm,0.8s							
CLL	**Collm**	**3.78**	**295**	*e*Pn	**Pn**	**19 23 40.0**	**-5.2**
CLL				*i* Pg	**Pg**	**19 23 58.2**	**+0.1**
CLL				*e*Sg	**Sg**	**19 24 47.0**	**-0.1**
MOX	**Moxa**	**4.47**	**283**	*e*Pg	**Pg**	**19 24 09.4**	**-2.0**
MOX				Sg	**Sg**	**19 25 12.4**	**+3.1**
MOX				(SG)	**Sg**	**19 25 12.4**	**+3.1**
MOX	**Moxa**	**4.47**	**283**	*e*PG	**Pg**	**19 24 09.4**	**-2.0**
BZS	**Buzias**	**4.73**	**152**	ǁ *i* P	**Pn**	**19 23 58.4**	**+0.1**

IDC ***26*** *19:51:50.9±1.3, 756N×9399E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.7/22, mbtmp3.7/8, Error ellipse: s-maj=60.1km s-min=17.8km az=56.0*
ISCJB ***26*** *19:51:53.9±1.1, 76N±02×940E±03, h33km, mb3.7/10, Error ellipse: s-maj=49.2km s-min=13.9km az=115.7*
NEIC ***26*** *19:51:55.3±0.9, 758N×9400E, h30km, mb3.9/2, Error ellipse: s-maj=39.9km s-min=11.4km az=58.0*

ISC 26 19:51:56.2±1.1, 76N±02×940E±03, h35km, n12, σ0§72/12, mb3.7/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**22.17**	**354**	*e*P	**P**	**19 56 49.3**	**+0.3**
	2.2nm,0.6s,mb3.8						
MKAR	**Makanchi Array**	**40.34**	**348**	P	**P**	**19 59 29.6**	**-0.6**
	0.4nm,0.8s,mb3.2,baz=150,slow=8.4,SNR=3.9						
FITZ	**Fitzroy Crossi**	**40.36**	**130**	P	**P**	**19 59 31.2**	**+0.7**
	3.4nm,1.2s,mb4.0,baz=136,slow=20,SNR=2.9						
SONM	**Songino Array**	**41.49**	**13**	P	**P**	**19 59 39.5**	**-0.3**
	0.3nm,0.4s,mb3.3,baz=205,slow=9.3,SNR=8.4						
ZAL	**Zalesovo**	**46.82**	**353**	P	**P**	**20 00 23.5**	**+1.1**
	1.8nm,0.4s,mb4.4,baz=299,slow=3.5,SNR=7.6						
ZAL	**Zalesovo**	**46.82**	**353**	P	**P**	**20 00 23.5**	**+1.1**
WRA	**Warramunga Arr**	**48.24**	**125**	P	**P**	**20 00 33.2**	**-0.3**
	0.2nm,0.5s,mb3.4,baz=305,slow=8.6,SNR=7.6						
ASAR	**Alice Springs**	**49.87**	**130**	P	**P**	**20 00 45.5**	**-0.4**
	0.3nm,0.6s,mb3.5,baz=300,slow=7.1,SNR=6.1						
FINES	**FINESS Array B**	**72.89**	**332**	P	**P**	**20 03 21.5**	**-0.1**
	1.1nm,0.8s,mb3.9,baz=109,slow=5.7,SNR=6.9						
FINES	**FINESS Array B**	**72.89**	**332**	P	**P**	**20 03 21.5**	**-0.1**
KAF	**Kangasniemi**	**72.97**	**333**	*e*p	**P**	**20 03 20.7**	**-1.4**
	1.0nm,0.5s,mb4.0						
GERES	**GERESS Array B**	**77.93**	**318**	P	**P**	**20 03 51.4**	**+0.9**
	0.5nm,0.5s,mb3.7,baz=111,slow=5.4,SNR=2.9						

NEIC ***26*** *20:01:12.7, 3872S×17531E, h214km, MG4.1(WEL), After WEL.*

WEL 26 20:01:13.0±0.5, 3873S×17530E, h211km±4km, ML4.0/17, 8C, Error ellipse: s-maj=4.5km s-min=3.5km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HIZ	**Hauiti**	**0.41**	**302**	⇑PN	Pn	20 01 41.0	-0.1
HIZ				SN	S	20 02 02.7	-0.3
HIZ	**Hauiti**	**0.41**	**302**	P	Pn	20 01 41.0	-0.1
HIZ				S	S	20 02 04.3	+1.3
WTVZ	**West Tongariro**	**0.44**	**150**	PN	Pn	20 01 41.5	+0.2
WTVZ				SN	S	20 02 03.0	-0.1
WTVZ	**West Tongariro**	**0.44**	**150**	P	Pn	20 01 41.5	+0.3
WTVZ				S	S	20 02 03.1	0.0
WPVZ	**Whakapapa**	**0.51**	**158**	PN	Pn	20 01 41.8	+0.3
WPVZ	**Whakapapa**	**0.51**	**158**	P	Pn	20 01 41.8	+0.4
OTVZ	**Oturere**	**0.51**	**147**	PN	Pn	20 01 41.9	+0.5
FWVZ	**Far West T-bar**	**0.56**	**160**	PN	Pn	20 01 41.9	+0.3
FWVZ	**Far West T-bar**	**0.56**	**160**	P	Pn	20 01 42.0	+0.4
VRZ	**Vera Road**	**0.58**	**227**	PN	Pn	20 01 41.3	-0.4
VRZ	**Vera Road**	**0.58**	**227**	P	Pn	20 01 41.3	-0.4
TRVZ	**Turoa**	**0.60**	**161**	PN	Pn	20 01 42.2	+0.4
TUVZ	**Tukino**	**0.60**	**153**	⇑PN	Pn	20 01 42.2	+0.4
TUVZ	**Tukino**	**0.60**	**153**	P	Pn	20 01 42.2	+0.4
WNVZ	**Wahianoa**	**0.64**	**159**	PN	Pn	20 01 42.2	+0.3
WNVZ	**Wahianoa**	**0.64**	**159**	P	Pn	20 01 42.2	+0.3
MOVZ	**Moawhango**	**0.76**	**153**	⇑PN	Pn	20 01 42.4	-0.2
MOVZ				SN	S	20 02 03.8	-1.7
MOVZ	**Moawhango**	**0.76**	**153**	P	Pn	20 01 42.4	-0.1
MOVZ				S	S	20 02 03.8	-1.7
RAEZ	**Rainy Point**	**0.90**	**232**	PN	Pn	20 01 42.9	-0.4
BKZ	**Black Stump Fm**	**1.02**	**115**	PN	Pn	20 01 44.1	0.0
BKZ	**Black Stump Fm**	**1.02**	**115**	P	Pn	20 01 44.2	+0.1
WAZ	**Wanganui**	**1.05**	**194**	PN	Pn	20 01 44.1	-0.2
WAZ	**Wanganui**	**1.05**	**194**	P	Pn	20 01 44.2	-0.1
NEZ	**North Egmont**	**1.08**	**240**	PN	Pn	20 01 44.2	-0.2
NEZ	**North Egmont**	**1.08**	**240**	P	Pn	20 01 44.3	-0.2
PKE	**Pukeiti**	**1.12**	**245**	PN	Pn	20 01 44.2	-0.5
PKE	**Pukeiti**	**1.12**	**245**	P	Pn	20 01 44.3	-0.5
TSZ	**Takapari Road**	**1.42**	**159**	PN	Pn	20 01 46.9	-0.2
TSZ	**Takapari Road**	**1.42**	**159**	P	Pn	20 01 46.9	-0.1
URZ	**Urewera**	**1.49**	**72**	PN	Pn	20 01 47.0	-0.6
URZ	**Urewera**	**1.49**	**72**	P	Pn	20 01 47.1	-0.6
PXZ	**Pawanui**	**1.77**	**138**	PN	Pn	20 01 50.0	-0.1
MWZ	**Matawai**	**1.79**	**78**	PN	Pn	20 01 49.8	-0.5
KNZ	**Kokohu**	**1.87**	**100**	*e*PN	Pn	20 01 51.2	+0.1
KNZ	**Kokohu**	**1.87**	**100**	*e*P	Pn	20 01 51.2	+0.1
MRZ	**Mangatainoka R**	**1.94**	**174**	⇑PN	Pn	20 01 50.7	-1.1
MRZ	**Mangatainoka R**	**1.94**	**174**	P	Pn	20 01 50.7	-1.0
BFZ	**Birch Farm**	**2.08**	**160**	PN	Pn	20 01 52.1	-1.0
TIWZ	**Tintock**	**2.09**	**168**	PN	Pn	20 01 52.2	-1.1
KIW	**Kapiti Island**	**2.15**	**188**	⇑PN	Pn	20 01 52.3	-1.5
DUWZ	**D'Urville Isla**	**2.33**	**207**	PN	Pn	20 01 53.8	-1.9
CAW	**Cannon Point**	**2.38**	**184**	PN	Pn	20 01 54.7	-1.6
MTW	**Mount Morrison**	**2.43**	**176**	PN	Pn	20 01 55.0	-1.8
MRW	**Makara Radio**	**2.54**	**190**	PN	Pn	20 01 56.1	-1.9
TCW	**Tory Channel**	**2.60**	**197**	⇑PN	Pn	20 01 56.8	-1.8
SNZO	**South Karori**	**2.61**	**190**	PN	Pn	20 01 56.7	-2.1
PAWZ	**Paruwai Farm**	**2.65**	**178**	⇑PN	Pn	20 01 57.3	-1.9
BHW	**Baring Head**	**2.69**	**187**	PN	Pn	20 01 57.4	-2.3
NNZ	**Nelson**	**2.89**	**210**	⇑PN	Pn	20 01 59.1	-2.8
TUWZ	**Tuamarina**	**2.89**	**201**	PN	Pn	20 01 59.7	-2.3
QRZ	**Quartz Range**	**2.99**	**225**	PN	Pn	20 01 59.6	-3.5
BSWZ	**Blackbirch Sta**	**3.17**	**200**	PN	Pn	20 02 02.9	-2.3
THZ	**Tophouse**	**3.54**	**210**	PN	Pn	20 02 06.1	-3.5
KHZ	**Kahutara**	**3.92**	**199**	PN	Pn	20 02 11.4	-2.8
LTZ	**Lake Taylor**	**4.65**	**209**	PN	Pn	20 02 19.5	-3.8
MQZ	**McQueen's Vall**	**5.36**	**201**	PN	Pn	20 02 27.5	-4.7

JMA ***26*** *20:08:57.7±0.3, 3030N×13908E, h464km±4km, M3.9*
MOS ***26*** *20:08:57.8±0.8, 3025N×13873E, h439km, mb3.7/1, Error ellipse: s-maj=36.2km s-min=14.2km az=90.9*
ISCJB ***26*** *20:08:58.1±0.4, 3027N±004×13893E±008, h446km±4km, mb3.6/10, Error ellipse: s-maj=11.4km s-min=5.6km az=159.5*
NEIC ***26*** *20:08:58.9±1.1, 3026N×13882E, h436km±13km, mb4.3/2, Error ellipse: s-maj=29.3km s-min=15.2km az=91.0*
IDC ***26*** *20:08:58.6±0.7, 3024N×13887E, h430km±10km, mb3.0/7, mb1 3.2/11, mb1mx3.1/23, mbtmp3.9/11, Error ellipse: s-maj=26.1km s-min=9.6km az=79.0*

ISC 26 20:08:59.0±0.4, 3024N±004×13892E±009, h436km±5km, n43, σ1§06/59, mb3.6/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**2.96**	**14**	P	**P**	**20 10 05.0**	**+0.3**
	45nm,0.3s,baz=198,slow=7.5,SNR=20						
JHJ				S	**S**	**20 10 57.4**	**-0.5**
	57nm,0.3s,baz=68,slow=21,SNR=6.4						
JHJ2	**Mitsune**	**2.96**	**15**	P	**P**	**20 10 05.5**	**+0.9**
JHJ2				*e*S	**S**	**20 10 58.2**	**+0.3**
JMY	**Miyakejima3**	**3.85**	**7**	*e*S	**S**	**20 11 12.8**	**+1.6**
CBIJ	**Chichi jima**	**4.25**	**137**	P	**P**	**20 10 15.8**	**+0.3**
	27nm,0.3s,baz=94,slow=20,SNR=18						
CBIJ				S	**S**	**20 11 16.4**	**-1.4**
	116nm,0.3s,baz=295,slow=22,SNR=34						
JWZ	**Kozaga**	**4.26**	**321**	P	**P**	**20 10 16.3**	**+0.7**
JIM2	**Oshima 3**	**4.49**	**5**	P	**P**	**20 10 18.6**	**+0.9**
JIM2				*e*S	**S**	**20 11 21.6**	**-0.2**
JIE	**Ise**	**4.54**	**336**	P	**P**	**20 10 19.7**	**+1.5**
JHHJ	**Haha-jima-NKT**	**4.60**	**141**	P	**P**	**20 10 19.1**	**+0.3**
JHHJ				*e*S	**S**	**20 11 23.3**	**-0.5**
BSO1	**Boso 1**	**4.73**	**21**	P	**P**	**20 10 20.2**	**+0.1**
BSO1				*e*S	**S**	**20 11 24.6**	**-1.5**
JWY	**Kouya**	**4.86**	**325**	P	**P**	**20 10 22.7**	**+1.4**
JOD2	**Odawara 2**	**5.01**	**2**	P	**P**	**20 10 22.5**	**-0.3**
JOD2				S	**S**	**20 11 28.9**	**-2.1**
JRY	**Ryogami san**	**5.76**	**360**	P	**P**	**20 10 30.3**	**0.0**
JRY				*e*S	**S**	**20 11 40.9**	**-3.9**
MJAR	**Matsushiro Arr**	**6.31**	**355**	P	**P**	**20 10 34.9**	**-1.2**
	2.7nm,0.3s,baz=166,slow=10,SNR=25						
MJAR				S	**S**	**20 11 53.3**	**-2.0**
	0.8nm,0.3s,baz=343,slow=13,SNR=4.9						
MJAR	**Matsushiro Arr**	**6.31**	**355**	P	**P**	**20 10 34.9**	**-1.2**
MJAR				S	**S**	**20 11 53.3**	**-2.0**
MAJO	**Matsushiro**	**6.31**	**355**	*e*P	**P**	**20 10 35.8**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,16nm,0.5s						
MAJO	**Matsushiro**	**6.31**	**355**	*e*P	**P**	**20 10 35.8**	**-0.3**
	comp=Z,16nm,0.5s						
MAT	**Matsushiro**	**6.31**	**355**	P	**P**	**20 10 35.6**	**-0.5**
MAT				S	**S**	**20 11 52.3**	**-3.1**
MAT	**Matsushiro**	**6.31**	**355**	P	**P**	**20 10 35.7**	**-0.4**
MAT				*e*S	**S**	**20 11 52.2**	**-3.2**
MAT	**Matsushiro**	**6.31**	**355**	*e*P	**P**	**20 10 36.0**	**-0.1**
MAT				*e*S	**S**	**20 11 52.0**	**-3.4**
MAT				pmax	pmax		
	comp=Z,11nm,0.6s						
MAT	**Matsushiro**	**6.31**	**355**	*e*P	**P**	**20 10 36.0**	**-0.1**
	comp=Z,11nm,0.6s						
MAT				*e*S	**S**	**20 11 52.0**	**-3.4**
JHS	**Saijyo**	**6.81**	**316**	P	**P**	**20 10 41.9**	**+0.5**
JMK	**Ichinoseki**	**8.89**	**12**	P	**P**	**20 11 04.7**	**+0.7**
JMK				*e*S	**S**	**20 12 42.7**	**-4.0**
JOT	**Ohata**	**11.25**	**8**	P	**P**	**20 11 31.5**	**+1.7**
JKB	**Kayabe**	**11.75**	**8**	P	**P**	**20 11 36.4**	**+1.2**
JOSM	**Okushiri--Mats**	**11.83**	**2**	P	**P**	**20 11 37.1**	**+1.0**
ASAJ	**Asahikawa**	**14.15**	**11**	P	**P**	**20 12 02.9**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=193,slow=14,SNR=7.6						
ASAJ	**Asahikawa**	**14.15**	**11**	P	**P**	**20 12 02.9**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JTKR	**Abashiri--Toko**	**14.27**	**15**	P	**P**	**20 12 05.0**	**+2.4**
JTKR				*e*S	**S**	**20 14 29.6**	**-4.6**
JIRN	**Jiri**	**45.87**	**280**	*e*P	**P**	**20 16 40.4**	**-0.2**
	comp=Z,22nm,0.3s						
GUN	**Gumba**	**46.07**	**281**	*e*P	**P**	**20 16 41.9**	**-0.1**
	comp=Z,14nm,0.4s,mb4.7						
MKAR	**Makanchi Array**	**46.28**	**307**	P	**P**	**20 16 43.0**	**-0.6**
	comp=Z,0.2nm,0.5s,mb2.7,baz=87,slow=8.2,SNR=3.1						
KKN	**Kakani**	**46.61**	**281**	*e*P	**P**	**20 16 45.7**	**-0.5**
DMN	**Daman**	**46.81**	**281**	*e*P	**P**	**20 16 47.1**	**-0.6**
	comp=Z,4.9nm,0.3s,mb4.2						
GKN	**Gorkha**	**47.09**	**281**	*e*P	**P**	**20 16 49.6**	**-0.3**
	comp=Z,5.1nm,0.3s,mb4.4						
KOLN	**Koldanda**	**48.04**	**282**	*e*P	**P**	**20 16 55.9**	**-1.1**
WRA	**Warramunga Arr**	**50.09**	**186**	P	**P**	**20 17 12.8**	**+0.5**
	comp=Z,2.0nm,0.4s,mb3.8,baz=2.5,slow=7.9,SNR=41						
WRA	**Warramunga Arr**	**50.09**	**186**	P	**P**	**20 17 12.8**	**+0.5**
ASAR	**Alice Springs**	**53.81**	**186**	P	**P**	**20 17 40.1**	**+0.8**
	comp=Z,1.1nm,0.5s,mb3.3,baz=16,slow=12,SNR=29						
ILAR	**Eielson Array**	**56.38**	**30**	P	**P**	**20 17 58.1**	**+0.7**
	comp=Z,0.4nm,0.6s,mb2.9,baz=261,slow=5.2,SNR=5.5						
STKA	**Stephens Creek**	**61.83**	**177**	P	**P**	**20 18 33.0**	**-1.1**
	comp=Z,1.3nm,0.5s,mb3.7,baz=10,slow=23,SNR=6.2						
STKA	**Stephens Creek**	**61.83**	**177**	*e*P	**P**	**20 18 33.2**	**-1.0**
YKA	**Yellowknife Ar**	**70.74**	**28**	P	**P**	**20 19 28.5**	**-1.3**
	comp=Z,0.1nm,0.4s,mb2.7,baz=294,slow=5.9,SNR=3.5						
BRTR	**Keskin Array B**	**81.77**	**311**	P	**P**	**20 20 30.6**	**-0.3**
	comp=Z,0.7nm,0.9s,mb3.4,baz=119,slow=7.6,SNR=3.8						

ISCJB ***26*** *20:37:44.4±3.6, 57S±02×146.1E±02, h70km±36km, mb3.4/6, Error ellipse: s-maj=30.0km s-min=22.9km az=73.6*
IDC ***26*** *20:37:44.6±4.6, 565S×146.12E, h54km±45km, mb3.4/6, mb1 3.6/8, mb1mx3.5/15, mbtmp3.6/8, ML3.1/2, Error ellipse: s-maj=31.3km s-min=26.4km az=103.0*
NEIC ***26*** *20:37:46.6±3.4, 570S×146.14E, h77km±36km, mb4.0/1, Error ellipse: s-maj=36.5km s-min=19.1km az=124.0*

ISC 26 20:37:46.2±3.4, 57S±02×1461E±02, h72km±35km, n11, σ0§92/11, mb3.4/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.83**	**164**	P	**Pn**	**20 38 42.0**	**-0.8**
	3.0nm,0.3s,baz=1.8,slow=7.1,SNR=6.8						
PMG				S	**Sn**	**20 39 26.7**	**+0.2**
	13nm,0.3s,baz=226,slow=15,SNR=5.8						
CTAO	**Charters Tower**	**14.31**	**179**	P	**Pn**	**20 41 07.7**	**+2.6**
WRAB	**Tennant Creek**	**18.20**	**218**	*e*P	**Pn**	**20 41 52.5**	**-1.4**
	11nm,1.0s						
WRA	**Warramunga Arr**	**18.22**	**218**	P	**Pn**	**20 41 54.2**	**+0.2**
	0.2nm,0.3s,baz=37,slow=11,SNR=16						
WRA				PcP	PcP	20 46 25.8	+2.6
	0.1nm,0.3s,baz=21,slow=2.0,SNR=7.2						
ASAR	**Alice Springs**	**21.39**	**212**	P	**P**	**20 42 28.5**	**+0.6**
	0.5nm,0.8s,mb2.9,baz=49,slow=8.7,SNR=3.9						
FITZ	**Fitzroy Crossi**	**23.49**	**237**	P	**P**	**20 42 49.4**	**-0.1**
	1.3nm,0.5s,mb3.5,baz=82,slow=11,SNR=11						
STKA	**Stephens Creek**	**26.39**	**189**	P	**P**	**20 43 15.0**	**-0.8**
	1.7nm,0.7s,mb3.6,baz=8.0,slow=11,SNR=3.8						
SONM	**Songino Array**	**63.71**	**331**	P	**P**	**20 48 10.8**	**+0.7**
	0.3nm,0.5s,mb3.3,baz=137,slow=4.4,SNR=3.5						
MKAR	**Makanchi Array**	**76.70**	**321**	P	**P**	**20 49 29.9**	**+0.4**
	0.2nm,0.3s,mb3.3,baz=95,slow=8.9,SNR=9.5						
ILAR	**Eielson Array**	**85.55**	**23**	P	**P**	**20 50 15.7**	**-0.8**
	1.0nm,0.6s,mb3.9,baz=254,slow=5.0,SNR=12						
TORD	**Torodi Ar. Bea**	**144.16**	**285**	PKP	PKPdf	20 57 14.2	+0.6
	0.6nm,0.5s,baz=69,slow=3.5,SNR=11						

CSEM ***26*** *20:39:33.8±0.1, 3839N×2729E, h8km, MD2.9, Error ellipse: s-maj=4.3km s-min=2.6km az=96.0*
ATH ***26*** *20:39:33.3, 3830N×2743E, h40km, MD3.2/3*
ISK ***26*** *20:39:33.2, 3842N×2718E, h11km, MD2.9*
ISCJB ***26*** *20:39:34.2±0.6, 3837N±003×2731E±006, h10km±4km, Error ellipse: s-maj=8.7km s-min=5.2km az=40.0*

ISC 26 20:39:34.4±0.5, 3838N±003×2728E±007, h10km±4km, n12, σ0§79/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IZM	**Izmir**	**0.03**	**325**	*i* PG	**Pg**	**20 39 35.2**	**-1.1**
IZM				*i* SG	**Sg**	**20 39 37.9**	**+0.3**
AKS	**Akhisar**	**0.65**	**40**	PG	**Pg**	**20 39 46.6**	**-0.5**
AKS				SG	**Sg**	**20 39 56.8**	**+1.2**
SMG	**Samos**	**0.75**	**208**	*e*P	**Pg**	**20 39 48.5**	**-0.5**
SMG				*e*S	**Sg**	**20 39 59.6**	**+0.8**
MLSB	**Milas**	**1.15**	**160**	*e*PN	**Pn**	**20 39 56.0**	**-0.5**
PRK	**Paraskevi**	**1.17**	**318**	*e*P	**Pb**	**20 39 56.6**	**-0.2**
PRK				*e*S	**Sb**	**20 40 13.3**	**+1.3**
BODT	**Bodrum**	**1.31**	**179**	*e*PN	**Pn**	**20 39 59.1**	**+0.3**
BALB	**Balikesir**	**1.34**	**20**	*e*PN	**Pn**	**20 39 59.0**	**-0.2**
BALB				*e*SN	**Sn**	**20 40 16.1**	**-1.0**
YER	**Yerkesik**	**1.47**	**147**	*e*PN	**Pn**	**20 40 01.7**	**+0.7**
DAT	**Datca**	**1.66**	**172**	*e*PN	**Pn**	**20 40 04.3**	**+0.7**
APE	**Apeiranthos**	**1.91**	**227**	*e*P	**Pn**	**20 40 05.6**	**-1.3**
KCT	**Karacabey**	**2.06**	**24**	*e*PN	**Pn**	**20 40 08.4**	**-0.7**
YLV	**Yalova**	**2.72**	**36**	*e*PN	**Pn**	**20 40 18.8**	**+0.7**

MAN 26 20:49:44.1, 1787N×12002E, h26km, mb2.3, ML3.9, MS2.5, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**0.69**	**108**	*e*P	Pb	20 49 57.5	-0.1
ABRA				*e*S	Sb	20 50 06.5	-0.2
APYP	**Conner**	**1.16**	**90**	*e*P	Pn	20 50 03.8	-0.8
BOLP	**Bolinao**	**1.48**	**184**	*e*P	Pn	20 50 08.6	-0.5
BCPH	**Baguio City Da**	**1.57**	**160**	ǁ *i*P	Pn	20 50 10.9	+0.6
BCPH				*i* S	Sn	20 50 29.6	-0.3
CAUP	**Cauayan**	**1.95**	**118**	*e*P	Pn	20 50 16.9	+1.5
SGCP	**Mt. Cagua**	**1.96**	**79**	*e*P	Pn	20 50 16.4	+0.7
PALP	**Palanan**	**2.43**	**109**	*e*P	Pn	20 50 22.7	+0.7
BALP	**Baler**	**2.59**	**145**	*e*P	Pn	20 50 25.2	+0.9
ENPP	**El Nido**	**6.65**	**185**	*e*P	Pn	20 51 19.8	-0.3

IDC 26 20:56:28.1±18.0, 1988S×17165E, h0km, mb4.1/5, mb1 4.3/5, mb1mx4.0/14, mbtmp4.1/5, MS3.3/1, Ms1 3.3/1, ms1mx2.5/21, Error ellipse: s-maj=309.7km s-min=106.6km az=75.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**3.91**	**304**	*i* P	Pn	20 57 40.3	+11
CTA	**Charters Tower**	**23.87**	**265**	P	P	21 01 43.8	+0.6
	2.7nm,0.9s,baz=114,slow=11,SNR=3.6						
CTA				LR	LR	21 08 48.4	
	comp=Z,68nm,19.9s,baz=214,slow=31						
STKA	**Stephens Creek**	**29.47**	**240**	P	P	21 02 32.5	-1.2
	1.8nm,0.7s,baz=70,slow=11,SNR=7.1						
WRA	**Warramunga Arr**	**35.04**	**263**	P	P	21 03 22.0	-0.5
	0.7nm,0.5s,baz=89,slow=8.0,SNR=12						
ASAR	**Alice Springs**	**35.19**	**257**	P	P	21 03 23.9	+0.1
	2.8nm,0.6s,baz=84,slow=9.1,SNR=32						
FITZ	**Fitzroy Crossi**	**43.45**	**264**	P	P	21 04 35.0	+2.3
	3.9nm,0.7s,baz=116,slow=7.9,SNR=11						

IDC 26 20:58:44.7±7.2, 619S×14679E, h47km±75km, mb3.4/1, mb1 3.6/3, mb1mx3.2/14, mbtmp3.5/3, ML2.7/2, MS3.0/1, Ms1 3.0/1, ms1mx2.2/23, Error ellipse: s-maj=67.2km s-min=49.3km az=122.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.22**	**174**	P	Pn	20 59 32.6	-0.1
	2.3nm,0.3s,baz=318,slow=14,SNR=6.3						
PMG				S	Sn	21 00 10.5	+0.7
	4.0nm,0.3s,baz=41,slow=20,SNR=4.3						
PMG				LR	LR	21 00 49.4	
	comp=Z,190nm,18.1s,baz=43,slow=39						
WRA	**Warramunga Arr**	**18.26**	**220**	P	Pn	21 02 54.3	-0.2
	0.1nm,0.3s,baz=42,slow=11,SNR=5.6						
ILAR	**Eielson Array**	**85.73**	**23**	P	P	21 11 18.3	-0.4
	0.4nm,0.7s,baz=242,slow=5.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**144.94**	**284**	PKP	PKPdf	21 18 17.4	+0.9
	1.3nm,1.0s,baz=82,slow=3.1,SNR=7.5						

ISCJB ***26*** *21:27:12.9±0.6, 3075S±008×1297E±02, h10km, mb4.0/10, Error ellipse: s-maj=23.8km s-min=7.2km az=137.8*
IDC ***26*** *21:27:13.6±0.7, 331S×12908E, h0km, mb4.0/9, mb1 4.2/10, mb1mx4.1/18, mbtmp4.0/10, ML3.9/1, MS3.2/2, Ms1 3.2/2, ms1mx2.5/21, Error ellipse: s-maj=61.8km s-min=16.2km az=66.0*
NEIC ***26*** *21:27:14.8±0.6, 301S×12980E, h10km, mb4.2/4, Error ellipse: s-maj=22.6km s-min=8.2km az=69.0*

ISC 26 21:27:19.3±1.7, 317S±008×1296E±01, h42km±16km, n30, σ1§04/30, mb4.0/10, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**9.89**	**164**	*e*P	**Pn**	**21 29 38.1**	**-0.7**
	6.5nm,0.6s						
KAKA				*e*S	**Sn**	**21 31 27.9**	**-0.6**
FITZ	**Fitzroy Crossi**	**15.34**	**194**	*e*P	**Pn**	**21 30 56.6**	**+3.8**
	9.3nm,0.9s						
FITZ	**Fitzroy Crossi**	**15.34**	**194**	Pn	**Pn**	**21 30 53.9**	**+1.0**
	0.1nm,0.3s,baz=16,slow=20,SNR=3.8						
FITZ				LR	LR	21 36 15.2	
	comp=Z,52nm,21.6s,baz=249,slow=36						
WRAB	**Tennant Creek**	**17.30**	**165**	*e*P	**Pn**	**21 31 18.4**	**+0.8**
	12nm,0.6s						
WRA	**Warramunga Arr**	**17.30**	**165**	P	**Pn**	**21 31 15.7**	**-1.9**
	0.4nm,0.3s,baz=347,slow=12,SNR=24						
WRA				S	**S**	**21 34 34.5**	**-1.9**
	0.1nm,0.3s,baz=348,slow=20,SNR=8.8						
WB2	**Warramunga Arr**	**17.30**	**165**	*e*P	**Pn**	**21 31 17.2**	**-0.5**
KSM	**Kuching**	**19.83**	**283**	*e*P	**Pn**	**21 31 48.5**	**+0.2**
MBWA	**Marble Bar**	**20.30**	**207**	*e*P	**P**	**21 31 51.5**	**0.0**
AS31	**Alice Springs**	**20.80**	**169**	*e*P	**P**	**21 31 58.2**	**+1.3**
ASPA	**Alice Springs**	**20.80**	**169**	*e*P	**P**	**21 31 58.2**	**+1.3**
ASAR	**Alice Springs**	**20.80**	**169**	P	**P**	**21 31 58.3**	**+1.4**
	21nm,0.8s,baz=348,slow=11,SNR=163						
ASAR				S	**S**	**21 35 48.0**	**+1.3**
	3.4nm,1.1s,baz=349,slow=21,SNR=9.2						
CTA	**Charters Tower**	**23.38**	**137**	P	**P**	**21 32 25.8**	**+1.4**
	5.8nm,1.0s,mb4.0,baz=334,slow=11,SNR=3.4						
CTA	**Charters Tower**	**23.38**	**137

PSI					Sn		**Sn**	**21 52 05.8**	**0.0**
	14nm,0.3s,baz=311,slow=15,SNR=6.9								
WRA	**Warramunga Arr**	**40.40**	**122**	P			**P**	**21 58 29.8**	**-1.2**
	0.3nm,0.4s,mb3.4,baz=305,slow=8.9,SNR=5.7								
WRAB	**Tennant Creek**	**40.40**	**122**	P			**P**	**21 58 31.1**	**0.0**
	2.4nm,0.8s,mb4.0								
ASAR	**Alice Springs**	**41.75**	**127**	P			**P**	**21 58 43.5**	**+1.3**
	0.3nm,0.5s,mb3.1,baz=303,slow=7.9,SNR=5.3								
SONM	**Songino Array**	**47.90**	**7**	P			**P**	**21 59 30.9**	**-0.2**
	2.6nm,0.6s,mb4.4,baz=188,slow=9.2,SNR=20								
MKAR	**Makanchi Array**	**48.50**	**345**	P			**P**	**21 59 35.9**	**+0.1**
	0.9nm,0.5s,mb4.0,baz=158,slow=8.8,SNR=16								
ZAL	**Zalesovo**	**54.72**	**350**	P			**P**	**22 00 23.3**	**+1.1**
	0.8nm,0.5s,mb4.0,baz=259,slow=2.6,SNR=3.3								
FINES	**FINESS Array B**	**81.47**	**332**	P			**P**	**22 03 09.1**	**-0.9**
	0.7nm,0.8s,mb3.7,baz=103,slow=8.2,SNR=4.7								

MOS ***26*** *22:03:43.1±0.5, 54.58N×161.80E, h22km, mb4.3/1, Error ellipse: s-maj=31.5km s-min=12.3km az=74.9*

KRSC 26 22:03:42.0±0.9, 5460N×16198E, h19km±1km, ML4.2, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.15**	**253**	P		Pg	22 03 47.4	+1.0
MKZ				S		Sg	22 03 50.7	+1.4
MKZ	**Mys Kozlova**	**0.15**	**253**	*i* P		Pg	22 03 47.4	+1.0
MKZ				*i* S		Sg	22 03 50.2	+0.9
TUMR	**Tumrok**	**1.26**	**304**	*i* P		Pn	22 04 03.9	-0.7
TUMR				*e*S		Sb	22 04 21.4	+0.4
KMNR	**Kamenistaya**	**1.53**	**320**	*i* P		Pn	22 04 08.3	0.0
ZLN	**Zelenaya**	**1.57**	**335**	*i* P		Pn	22 04 09.7	+0.8
ZLN				*e*S		Sn	22 04 30.3	+1.6
KII	**Karymskiy**	**1.59**	**250**	*i* P		Pn	22 04 09.2	+0.1
LGNR	**Loginova**	**1.66**	**334**	*i* P		Pn	22 04 11.4	+1.3
LGNR				*e*S		Sn	22 04 32.3	+1.5
CIRR	**Tsirk**	**1.67**	**336**	*i* P		Pn	22 04 11.4	+1.1
CIRR				*e*S		Sn	22 04 33.0	+1.8
KBTR	**Krutoberegovo**	**1.68**	**16**	P		Pn	22 04 12.7	+2.3
KBTR				S		Sn	22 04 35.7	+4.3
KBTR	**Krutoberegovo**	**1.68**	**16**	*e*P		Pn	22 04 11.6	+1.2
KPT	**Kopyto**	**1.70**	**324**	*i* P		Pn	22 04 11.0	+0.4
KPT				*e*S		Sn	22 04 32.9	+1.1
KBG	**Krutoberegovo**	**1.71**	**14**	*e*P		Pn	22 04 12.5	+1.7
KBG				*e*S		Sn	22 04 34.1	+2.0
KBG				Smax				
	1μm,0.9s							
KRSR	**Krestovskiy**	**1.81**	**334**	*i* P		Pn	22 04 12.7	+0.6
KRSR				*e*S		Sn	22 04 35.7	+1.1
KLY	**Klyuchi**	**1.88**	**337**	P		Pn	22 04 13.6	+0.6
KLY				S		Sn	22 04 36.6	+0.4
KLY	**Klyuchi**	**1.88**	**337**	*i* P		Pn	22 04 13.4	+0.4
KLY				*e*S		Sn	22 04 36.6	+0.4
KOZR	**Kozyr**	**1.89**	**322**	PN		Pn	22 04 14.3	+1.0
KOZR				S		Sn	22 04 38.2	+1.6
KOZ	**Kozyrevsk**	**1.89**	**321**	*i* P		Pn	22 04 14.3	+1.0
KOZ				*e*S		Sn	22 04 38.2	+1.6
SPN	**Mys Shipunski**	**1.90**	**218**	P		Pn	22 04 13.2	-0.2
SPN				S		Sn	22 04 35.8	-1.0
SPN	**Mys Shipunski**	**1.90**	**218**	*e*P		Pn	22 04 14.4	+1.0
SPN				*e*S		Sn	22 04 37.3	+0.5
SMKR	**Semkarok**	**2.01**	**352**	*e*P		Pn	22 04 16.6	+1.7
BDR	**Baidarnaya**	**2.02**	**348**	*e*P		Pn	22 04 16.7	+1.7
SRKR	**Sorokina**	**2.11**	**348**	*e*P		Pn	22 04 18.0	+1.7
NLC	**Nalytchevo**	**2.12**	**229**	P		Pn	22 04 17.5	+1.1
NLC				S		Sn	22 04 43.1	+1.0
NLC	**Nalytchevo**	**2.12**	**229**	*i* P		Pn	22 04 17.3	+0.9
NLC				*e*S		Sn	22 04 43.1	+1.0
SRDR	**Sredinnyy**	**2.15**	**324**	*e*P		Pn	22 04 17.2	+0.4
SRDR				*e*S		Sn	22 04 43.7	+0.8
SDLR	**Sedlovina**	**2.26**	**235**	*e*P		Pn	22 04 19.6	+1.3
SDLR				*e*S		Sn	22 04 46.4	+0.8
ESO	**Esso**	**2.30**	**307**	*e*P		Pn	22 04 19.2	+0.3
ESO				*e*S		Sn	22 04 47.1	+0.5
ESO				Smax				
	300nm,0.4s							
SMAR	**Somma**	**2.31**	**236**	*e*P		Pn	22 04 20.3	+1.3
UGLR	**Uglovaya**	**2.33**	**235**	*i* P		Pn	22 04 20.8	+1.5
UGLR				*i* S		Sn	22 04 49.1	+1.7
AVH	**Avacha**	**2.34**	**236**	*e*P		Pn	22 04 20.8	+1.4
AVH				*e*S		Sn	22 04 49.6	+2.0
KOK	**Koryaka**	**2.37**	**238**	*e*P		Pn	22 04 21.3	+1.4
BKI	**Bering**	**2.38**	**74**	S		Sn	22 04 48.0	-0.7
PET	**Petropavlovsk**	**2.53**	**233**	P		Pn	22 04 23.4	+1.4
PET				S		Sn	22 04 53.8	+1.6
PET	**Petropavlovsk**	**2.53**	**233**	*e*PN		Pn	22 04 23.3	+1.3
PET				*e*S		Sn	22 04 53.2	+1.0
PET				pmax	pmax			
	comp=Z,89nm,0.4s							
PET				smax				
	comp=E,178nm,0.4s							
PET				smax				
	comp=N,347nm,0.5s							
PET				MLR	MLR			
	comp=Z,100nm,13.0s							
PET	**Petropavlovsk**	**2.53**	**233**	*e*P		Pn	22 04 23.3	+1.3
PET				*e*S		Sn	22 04 53.8	+1.6
GNL	**Ganaly**	**2.54**	**251**	*e*P		Pn	22 04 23.3	+1.1
KRMR	**Karymshinskiy**	**2.90**	**234**	*i* P		Pn	22 04 29.1	+2.0
RUS	**Russkaya**	**3.00**	**225**	P		Pn	22 04 29.6	+1.1
RUS				S		Sn	22 05 04.3	+0.4
RUS	**Russkaya**	**3.00**	**225**	*e*P		Pn	22 04 29.4	+0.9
RUS				*e*S		Sn	22 05 04.3	+0.4
GRL	**Gorelyy**	**3.10**	**230**	*e*P		Pn	22 04 31.5	+1.6
GRL				*e*S		Sn	22 05 07.7	+1.2
APC	**Apacha**	**3.32**	**242**	P		Pn	22 04 35.9	+3.0
APC				Smax				
	comp=Z,40nm,0.6s							
MIPR	**Malaya Ipel'ka**	**3.90**	**235**	P		Pn	22 04 43.0	+2.2

CSEM ***26*** *22:35:02.5, 21.23S×174.42W, h10km, mb5.5*
IDC ***26*** *22:35:04.6±3.1, 21.19S×174.39W, h22km±19km, mb4.9/18, mb1 5.0/19, mb1mx4.9/22, mbtmp5.0/19, ML5.4/2, MS5.1/6, Ms1 5.1/6, ms1mx4.6/37, Error ellipse: s-maj=18.9km s-min=11.5km az=140.0*
ISCJB ***26*** *22:35:05.5±0.2, 21.28S±0.05×174.39W±0.04, h34km, mb5.2/79, MS5.8/21, Error ellipse: s-maj=8.1km s-min=4.4km az=113.6*
MOS ***26*** *22:35:05.7±1.0, 21.14S×174.43W, h33km, mb5.5/33, Error ellipse: s-maj=10.6km s-min=7.8km az=50.3*
HRVD ***26*** *22:35:06.7±0.2, 21.42S×173.56W, h12km, MW5.4/59, Centroid moment Tensor Solution. LP body waves: s48,c73;Mantle waves: s59,c96; Half duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr 1.04±.03; Mθθ 0.01±.03; Mφφ -1.05±.03; Mrθ 0.34±.07; Mrφ -0.09±.02; Mθφ 0.99±.06; Best double couple: M0 1.48000×10^17 NP1:φs 175.00000°, δ 24.00000°, λ 72.00000°. NP2:φs 15.00000°, δ 68.00000°, λ 98.00000°. Principal axes: T 1.4870, Plg 67.0000°, Azm 298.0000°; N -0.0150, Plg 7.0000°, Azm 192.0000°; P -1.4730, Plg 22.0000°, Azm 99.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***26*** *22:35:06.7±0.6, 21.25S×174.39W, h33km±3km, mb5.3/58, MS5.4/4 Error ellipse: s-maj=8.0km s-min=4.1km az=145.0*
BJI ***26*** *22:35:06.7, 21.30S×174.40W, h33km, mB5.7, mb5.2, Ms5.9, Ms2.5*
SZGRF ***26*** *22:35:11.8, 19.29S×175.01W, h33km, Tonga Islands*

ISC 26 22:35:07.3±0.2, 2131S±004×17432W±004, h36km, h36km±.6km: pP-P, n427, σ1s09/234, mb5.2/79, MS5.8/21, 26C-18D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**7.75**	**19**	Pn		**Pn**	**22 36 47.9**	**-10**
	35nm,0.3s,baz=356,slow=3.6,SNR=31							
AFI				Sn		**Sn**	**22 38 08.1**	**-16**
	18nm,0.3s,baz=274,slow=19,SNR=2.8							
AFI				LR		LR	22 39 34.7	
	comp=Z,7μm,21.3s,baz=190,slow=35							
RAO	**Raoul Island**	**8.55**	**202**	Pn		**Pn**	**22 37 06.5**	**-2.1**
	144nm,0.3s,baz=153,slow=1.2,SNR=6.4							
RAO				Sn		**Sn**	**22 38 42.1**	**-1.7**
	49nm,0.3s,baz=55,slow=23,SNR=9.5							
RAR	**Rarotonga**	**13.56**	**92**	Pn		**Pn**	**22 38 03.1**	**-14**
	19nm,0.3s,baz=254,slow=7.4,SNR=15							
RAR				Sn		Sn	22 40 16.8	-30
	1.5nm,0.3s,baz=47,slow=13,SNR=3.7							
RAR				LR		LR	22 42 33.3	
	comp=Z,7μm,21.6s,baz=263,slow=33							
DZM	**Mont Dzumac**	**17.89**	**264**	P		**Pn**	**22 39 16.3**	**+2.9**
	0.8nm,0.3s,baz=83,slow=16,SNR=40							
URZ	**Urewera**	**18.44**	**202**	P		**Pn**	**22 39 20.7**	**+0.7**
	3.0nm,0.3s,baz=33,slow=3.6,SNR=11							
URZ				S		**S**	**22 42 30.2**	**-18**
	0.5nm,0.3s,baz=158,slow=19,SNR=2.2							
TBI	**Tubuai**	**23.08**	**100**	*e*LQ			22 44 23.6	
	6μm,25.0s							
TBI					*e*LR	LR	22 44 52.1	
	5μm,32.8s,baz=278							
PPT	**Papeete**	**23.62**	**85**	*e*LQ			22 44 38.3	
	2μm,22.5s							
PPT					*e*LR	LR	22 45 20.5	
	4μm,20.0s,baz=259							
PPT	**Papeete**	**23.62**	**85**	LR		LR	22 47 29.8	
	comp=Z,6μm,18.0s,MS5.1,baz=254,slow=32							
RPZ	**Rata Peaks**	**25.44**	**205**	P		**P**	**22 40 31.2**	**-0.5**
	36nm,0.9s,mb4.9,baz=19,slow=3.8,SNR=9.7							
PMOR	**Pomariorio Ree**	**25.86**	**80**	*e*P		**P**	**22 40 26.7**	**-8.8**
	122nm,1.2s,mb5.3							
HNR	**Honiara**	**27.43**	**292**	P		**P**	**22 40 51.0**	**+1.4**
	33nm,0.3s,mb5.3,baz=77,slow=1.2,SNR=3.8							
HNR				LR		LR	22 49 50.2	
	comp=Z,2μm,20.6s,MS4.7,baz=178,slow=32							
HNR	**Honiara**	**27.43**	**292**	*e*P		**P**	**22 40 47.9**	**-1.7**
HNR				pmax	pmax			
	comp=Z,60nm,0.9s,mb5.1							
HNR	**Honiara**	**27.43**	**292**	*e*P		**P**	**22 40 47.9**	**-1.7**
	comp=Z,60nm,0.9s,mb5.1							
HNR				LR		LR	22 49 50.2	
ARMA	**Armidale**	**31.86**	**246**	*e*P		**P**	**22 41 29.6**	**+0.7**
TAOE	**Nuku Hiva Isla**	**35.15**	**75**	*e*LR		LR	22 50 51.0	
	comp=Z,13μm,26.9s							
RKT	**Rikitea**	**36.40**	**100**	*e*LR		LR	22 51 16.9	
	comp=Z,4μm,30.8s,baz=264							
CTA	**Charters Tower**	**36.84**	**265**	*e*P		**P**	**22 42 12.2**	**+0.2**
	comp=Z,12nm,0.7s,mb4.8							
CTA	**Charters Tower**	**36.84**	**265**	P		**P**	**22 42 11.3**	**-0.7**
	comp=Z,20nm,0.8s,mb5.0,baz=88,slow=11,SNR=13							
CTA	**Charters Tower**	**36.84**	**265**	*e*P		**P**	**22 42 12.2**	**+0.2**
CTA				pmax	pmax			
	comp=Z,12nm,0.7s							
CTAO	**Charters Tower**	**36.84**	**265**	*e*P		**P**	**22 42 12.1**	**+0.1**
TOO	**Toolangi**	**38.25**	**236**	*e*P		**P**	**22 42 24.7**	**+0.8**
	comp=Z,9.3nm,1.2s,mb4.4							
TOO	**Toolangi**	**38.25**	**236**	*e*P		**P**	**22 42 24.7**	**+0.8**
TOO				pmax	pmax			
	comp=Z,9.0nm,1.2s,mb4.4							
TAU	**Tasmania Unive**	**38.53**	**227**	*e*P		**P**	**22 42 26.8**	**+0.5**
TAU				pmax	pmax			
	comp=Z,49nm,1.2s,mb5.1							
TAU	**Tasmania Unive**	**38.53**	**227**	*e*P		**P**	**22 42 26.8**	**+0.6**
	comp=Z,49nm,1.2s,mb5.1							
PMG	**Port Moresby**	**38.88**	**282**	P		**P**	**22 42 27.8**	**-1.3**
	comp=Z,46nm,0.9s,mb5.2,baz=119,slow=5.8,SNR=9.6							
PMG	**Port Moresby**	**38.88**	**282**	*e*P		**P**	**22 42 27.8**	**-1.3**
STKA	**Stephens Creek**	**40.56**	**246**	*e*P		**P**	**22 42 41.1**	**-2.1**
	comp=Z,21nm,1.0s,mb4.7							
STKA	**Stephens Creek**	**40.56**	**246**	P		**P**	**22 42 40.4**	**-2.8**
	comp=Z,30nm,1.0s,mb4.9,baz=86,slow=9.8,SNR=29							
WAKE	**Wake Island**	**44.43**	**334**	*e*P		**P**	**22 43 14.4**	**-0.3**
AS31	**Alice Springs**	**47.68**	**257**	*e*P		**P**	**22 43 40.2**	**0.0**
ASAR	**Alice Springs**	**47.69**	**257**	P		**P**	**22 43 39.7**	**-0.6**
	comp=Z,82nm,1.0s,mb5.7,baz=89,slow=8.2,SNR=297							
ASAR				S		**S**	**22 50 32.9**	**-0.8**
	comp=Z,1.5nm,0.9s,baz=96,slow=16,SNR=4.9							
ASPA	**Alice Springs**	**47.69**	**257**	*e*P		**P**	**22 43 40.2**	**-0.1**
WB2	**Warramunga Arr**	**47.88**	**262**	*e*P		**P**	**22 43 40.3**	**-1.5**
WB2				*e*S		**S**	**22 50 34.5**	**-2.1**
WRAB	**Tennant Creek**	**47.89**	**262**	P		**P**	**22 43 40.2**	**-1.6**
	comp=Z,282nm,1.0s,mb6.2,SNR=23							
WRAB	**Tennant Creek**	**47.89**	**262**	*e*P		**P**	**22 43 40.5**	**-1.3**
WRA	**Warramunga Arr**	**47.90**	**262**	P		**P**	**22 43 40.3**	**-1.5**
	comp=Z,35nm,1.0s,mb5.3,baz=98,slow=6.9,SNR=111							
WRA				PcP		PcP	22 45 11.1	+1.1
	comp=Z,12nm,1.0s,baz=100,slow=4.7,SNR=4.5							
WRA				S		**S**	**22 50 39.4**	**+2.7**
	comp=Z,0.1nm,0.6s,baz=198,slow=22,SNR=5.3							
KAKA	**Kakadu**	**51.43**	**271**	*e*P		**P**	**22 44 07.7**	**-1.1**
	comp=Z,46nm,1.2s,mb5.3							
FORT	**Forrest**	**52.14**	**247**	*e*P		**P**	**22 44 13.8**	**-0.3**
	comp=Z,34nm,0.7s,mb5.4							
FITZ	**Fitzroy Crossi**	**56.33**	**262**	*e*P		**P**	**22 44 44.2**	**-0.4**
	comp=Z,27nm,1.3s,mb5.1							
FITZ	**Fitzroy Crossi**	**56.33**	**262**	P		**P**	**22 44 43.8**	**-0.8**
	comp=Z,17nm,1.1s,mb5.0,baz=97,slow=5.8,SNR=11							
SBA	**Scott Base**	**57.32**	**185**	*e*P		**P**	**22 44 53.8**	**+2.2**
VNDA	**Vanda**	**57.44**	**186**	P		**P**	**22 44 53.5**	**+1.1**
	comp=Z,2.5nm,0.8s,mb4.3,baz=358,slow=6.1,SNR=13							
VNDA	**Vanda**	**57.44**	**186**	*e*P		**P**	**22 44 54.3**	**+1.9**
VNDA				pmax	pmax			
	comp=Z,10.0nm,1.1s							
VNDA	**Vanda**	**57.44**	**186**	*e*P		**P**	**22 44 54.3**	**+1.8**
	comp=Z,9.9nm,1.1s,mb4.8							
KLBR	**Kellerberrin**	**60.83**	**245**	*e*P		**P**	**22 45 16.1**	**+0.2**
	comp=Z,79nm,1.0s,mb5.8							
MBWA	**Marble Bar**	**61.03**	**257**	*e*P		**P**	**22 45 17.4**	**+0.1**
	comp=Z,51nm,1.1s,mb5.6							
NWAO	**Narrogin (SRO)**	**61.08**	**243**	*e*P		**P**	**22 45 19.5**	**+1.9**
NWAO				pmax	pmax			
	comp=Z,41nm,1.4s							
NWAO	**Narrogin (SRO)**	**61.08**	**243**	*e*P		**P**	**22 45 19.5**	**+1.9**
	comp=Z,41nm,1.4s,mb5.4							
MUN	**Mundaring**	**62.08**	**244**	*e*P		**P**	**22 45 25.2**	**+0.9**
CASY	**Casey**	**64.72**	**206**	*e*P		**P**	**22 45 40.9**	**-0.9**
	comp=Z,15nm,0.7s,mb5.1							
QSPA	**South Pole Qui**	**68.77**	**180**	*e*P		**P**	**22 46 08.0**	**+0.4**
	comp=Z,27nm,1.0s,mb5.1							
QSPA				*e*pP		pP	22 46 16.9	-1.7
MIR	**Mirnyy**	**71.71**	**205**	*d* iP		**P**	**22 46 28.0**	**+2.4**
MIR				pmax	pmax			
	comp=Z,195nm,1.0s,mb6.0							
MJAR	**Matsushiro Arr**	**72.94**	**322**	P		**P**	**22 46 32.3**	**-0.7**
	comp=Z,25nm,1.0s,mb5.1,baz=158,slow=6.1,SNR=42							
MAJO	**Matsushiro**	**72.94**	**322**	*e*P		**P**	**22 46 33.1**	**+0.2**
MAJO				pmax	pmax			
	comp=Z,46nm,1.1s,mb5.3							
MAJO	**Matsushiro**	**72.94**	**322**	*e*P		**P**	**22 46 33.1**	**+0.1**
	comp=Z,46nm,1.1s,mb5.3							
MAT	**Matsushiro**	**72.94**	**322**	P		**P**	**22 46 32.1**	**-0.8**
MAT				S		S	22 56 00.0	+3.0
MAT	**Matsushiro**	**72.94**	**322**	*e*P		**P**	**22 46 32.0**	**-0.9**
MAT				*e*S		S	22 56 01.0	+4.0
MAT				pmax	pmax			
	comp=Z,42nm,1.2s,mb5.2							
MAT	**Matsushiro**	**72.94**	**322**	*e*P		**P**	**22 46 32.0**	**-0.9**
	comp=Z,42nm,1.2s,mb5.2							
MAT				*e*S		S	22 56 01.0	+4.0
SAO	**San Andreas Ge**	**76.31**	**41**	*e*P		**P**	**22 46 53.4**	**+0.9**
SAO				*e*PP		pP	22 47 02.5	-1.1
SAO				pmax	pmax			
	comp=Z,73nm,1.2s,mb5.5							
SAO	**San Andreas Ge**	**76.31**	**41**	*e*P		**P**	**22 46 53.4**	**+0.9**
	comp=Z,73nm,1.2s,mb5.5							
SAO				*e*pP		pP	22 47 02.5	-1.1
LRV	**Little Rabbit**	**76.36**	**42**	*e*P		**P**	**22 46 52.2**	**-0.6**
LRV				*e*pP		pP	22 47 03.2	-0.7
NSHM	**Saint Helena R**	**76.75**	**39**	*e*P		**P**	**22 46 56.1**	**+1.1**
NSHM				*e*pP		pP	22 47 04.4	-1.7
HOPS	**Hopland**	**76.80**	**39**	*e*P		**P**	**22 46 56.5**	**+1.3**
HOPS				*e*pP		pP	22 47 06.2	-0.1
KSM	**Kuching**	**76.93**	**277**	*e*P		**P**	**22 46 56.8**	**+0.9**
KSM				*e*pP		pP	22 47 07.3	+0.2
NACB	**Ninganchiao**	**76.99**	**303**	*e*P		**P**	**22 46 55.7**	**-0.7**
YHNB	**Yeheng**	**77.42**	**303**	*e*P		**P**	**22 46 58.2**	**-0.5**
ISA	**Isabella**	**77.49**	**44**	*e*P		**P**	**22 47 00.3**	**+1.2**
ISA				*e*PP		pP	22 47 08.9	-1.4
ISA				pmax	pmax			
	comp=Z,62nm,1.2s,mb5.4							
ISA	**Isabella**	**77.49**	**44**	*e*P		**P**	**22 47 00.3**	**+1.2**
	comp=Z,62nm,1.2s,mb5.4							
ISA				*e*pP		pP	22 47 08.9	-1.4
PFO	**Pinyon Flat Ob**	**77.59**	**46**	*e*P		**P**	**22 47 00.5**	**+0.8**
PET	**Petropavlovsk**	**77.65**	**344**	*e*P		**P**	**22 47 01.4**	**+1.4**
PET				*e*			22 47 15.2	
PET				*e*			22 49 59.1	
PET				*e*S		S	22 56 49.5	+0.2
PET				*e*PS			22 57 20.3	
PET				*e*PPS			22 57 41.6	
PET				*e*SS		SS	23 01 47.3	-2.0
PET				pmax	pmax			
	comp=Z,200nm,12.3s							
PET				pmax	pmax			
	comp=Z,200nm,14.9s							
PET				pmax	pmax			
	comp=Z,200nm,13.7s							
PET				smax				
	comp=E,400nm,14.8s							
PET				smax				
	comp=N,500nm,12.2s							
KHMM	**Horse Mountain**	**77.68**	**37**	*e*P		**P**	**22 47 01.9**	**+1.7**
KHMM				*e*pP		pP	22 47 11.8	+0.5
CMB	**Columbia Colle**	**77.77**	**41**	*e*P		**P**	**22 47 00.0**	**-0.7**
CMB				*e**PP		pP	22 47 11.2	-0.6
CMB				pmax	pmax			
	comp=Z,52nm,1.1s,mb5.4							
CMB	**Columbia Colle**	**77.77**	**41**	*e*P		**P**	**22 46 60.0**	**-0.7**
	comp=Z,52nm,1.1s,mb5.4							
CMB				*e*pP		pP	22 47 11.2	-0.7
OHCM	**Honcut**	**77.95**	**39**	*e*P		**P**	**22 47 02.6**	**+0.9**
WDC	**Whiskeytown Da**	**78.15**	**38**	*e*P		**P**	**22 47 03.6**	**+0.8**
WDC				*e**PP		pP	22 47 13.4	-0.6
YSS	**Yuzh-Sakhalins**	**78.20**	**332**	*e*P		**P**	**22 47 02.5**	**-0.6**
YSS				*e*			22 47 09.0	
YSS				*e*		pP	22 47 14.0	-0.2
YSS				*e*			22 47 21.0	
YSS				*e*S		S	22 57 00.0	+4.8
YSS				*e*PS			22 57 22.0	
YSS				*e*PPS			22 57 46.0	
YSS				pmax	pmax			
	comp=Z,40nm,1.0s,mb5.3							
YSS				pmax	pmax			
	comp=Z,60nm,1.0s,mb5.5							
YSS				MLR	MLR			
	comp=Z,2μm,16.0s,MS5.6							
YSS	**Yuzh-Sakhalins**	**78.20**	**332**	*e*P		**P**	**22 47 03.2**	**+0.2**
	comp=Z,10nm,1.2s,mb5.5							
GSC	**Goldstone**	**78.36**	**45**	*e*P		**P**	**22 47 04.9**	**+0.9**
GSC				*e**PP		pP	22 47 14.3	-0.8
GLA	**Glamis**	**78.38**	**48**	*e*P		**P**	**22 47 04.1**	**0.0**
GLA				*e**PP		pP	22 47 15.5	+0.3
DAC	**Darwin (Calif)**	**78.43**	**44**	*e*P		**P**	**22 47 00.0**	**-4.4**
DAC				*e**PP		pP	22 47 15.5	0.0
MTUM	**Tungsten Hills**	**78.47**	**42**	*e*P		**P**	**22 47 05.2**	**+0.6**
YBH	**Yreka Blue Hor**	**78.82**	**37**	P		**P**	**22 47 05.8**	**-0.7**
	comp=Z,24nm,1.1s,mb5.0,baz=220,slow=1.3,SNR=15							
YBH	**Yreka Blue Hor**	**78.82**	**37**	*e*P		**P**	**22 47 06.8**	**+0.3**
HUMO	**Hull Mountain**	**79.27**	**36**	*e*P		**P**	**22 47 10.2**	**+1.2**
HUMO				*e*pP		pP	22 47 19.0	-1.1
NVAR	**Mina Array Bea**	**79.30**	**42**	P		**P**	**22 47 07.9**	**-1.2**
	comp=Z,33nm,1.1s,mb5.2,baz=215,slow=7.5,SNR=45							
MNV	**Mina**	**79.39**	**42**	*e*P		**P**	**22 47 08.7**	**-0.9**
PAHR	**Pah Rah Range**	**79.44**	**40**	*e*P		**P**	**22 47 10.2**	**+0.3**
	comp=Z,79nm,1.1s,mb5.6							
PAHR				*e*pP		pP	22 47 20.8	-0.2
TPNV	**Topopah Spring**	**79.70**	**44**	*e*P		**P**	**22 47 11.3**	**0.0**
TPNV				*e**PP		pP	22 47 22.4	-0.1
TPNV				pmax	pmax			
	comp=Z,58nm,1.2s,mb5.4							
TPNV	**Topopah Spring**	**79.70**	**44**	*e*P		**P**	**22 47 11.3**	**0.0**
	comp=Z,58nm,1.2s,mb5.4							
TPNV				*e*pP		pP	22 47 22.4	-0.1
TPH	**Tonopah**	**79.75**	**42**	*e*P		**P**	**22 47 11.5**	**-0.1**
TPH				*e**PP		pP	22 47 22.6	-0.2
TPH				pmax	pmax			
	comp=Z,91nm,1.3s,mb5.5							
TPH	**Tonopah**	**79.75**	**42**	*e*P		**P**	**22 47 11.5**	**-0.1**
	comp=Z,91nm,1.3s,mb5.5							
TPH				*e*pP		pP	22 47 22.6	-0.2
KS15	**Wonju Array Si**	**79.81**	**317**	*e*P		**P**	**22 47 12.0**	**+0.1**
NEN	**Nelson**	**79.86**	**45**	*e*P		**P**	**22 47 11.6**	**-0.6**
NEN				*e*pP		pP	22 47 23.1	-0.2
SHPR	**Sheep Range**	**80.15**	**45**	*e*P		**P**	**22 47 14.7**	**+0.9**
MOD	**Modoc**	**80.29**	**38**	*e*P		**P**	**22 47 13.7**	**-0.8**
	comp=Z,54nm,1.1s,mb5.4							
MOD				*e*pP		pP	22 47 25.4	-0.3
TUC	**Tucson**	**80.81**	**50**	*e*P		**P**	**22 47 18.1**	**+0.8**
TUC				*e**PP		pP	22 47 28.4	-0.1
TUC				pmax	pmax			
	comp=Z,22nm,1.1s,m

MDJ AP pP 22 47 40.3 -0.7
MDJ XP sP 22 47 43.8 -1.3
MDJ PP PP 22 50 42.0 +0.8
MDJ S S 22 57 50.5 +3.2
MDJ SCS ScS 22 58 02.5 +1.4
MDJ XS sS 22 58 05.8 -0.1
MDJ AMB AMB
comp=Z,30nm,1.1s,mb5.2
MDJ AMB AMB
comp=Z,453nm,5.6s
MDJ LR LR
comp=N,6μm,22.1s,MS6.0
MDJ LR LR
comp=E,1μm,18.8s,MS6.0
MDJ LR LR
comp=Z,4μm,25.5s
MDJ Mudanjiang 83.19 323 *e*P **P 22 47 29.0 -0.8**
comp=Z,31nm,1.0s,mb5.3
MVU Marysvale 83.21 44 *e*P **P 22 47 41.5 +12**
MVU *e*pP pP 22 47 52.7 +12
MSU Marysvale 83.24 44 *e*P **P 22 47 30.3 +0.3**
EBG Ellensburg 83.40 34 P **P 22 47 31.5 +0.7**
JCW Jim Creek 83.55 32 P **P 22 47 32.4 +0.7**
HAWA Hanford 83.61 35 *e*P **P 22 47 31.8 -0.1**
KGM Kluang 83.61 275 P **P 22 47 27.5 -4.5**
DUG Dugway 83.77 43 *e*P **P 22 47 33.4 +0.6**
SLKM Skilak Lake 83.84 12 *e*P **P 22 47 31.5 -1.6**
SLKM *e**PP pP 22 47 42.5 -1.9
BMO Blue Mountains 83.85 37 *e*P **P 22 47 31.7 -1.5**
BGU Big Grassy Mou 84.05 42 *e*P **P 22 47 34.8 +0.6**
BGU *e*pP pP 22 47 44.8 -0.6
TMUT Trail Mountain 84.30 44 *e*P **P 22 47 37.2 +1.7**
QIZ Qiongzhong 84.33 293 P **P 22 47 36.5 +0.9**
QIZ S 22 57 59.3
QIZ AMB AMB
comp=Z,261nm,6.4s
MPU Maple Canyon 84.42 43 *e*P **P 22 47 35.0 -1.1**
comp=Z,37nm,1.2s,mb5.4
MPU *e*pP pP 22 47 46.8 -0.6
MPU *e*sP sP 22 47 51.1 -0.3
MNTX Cornudas Mount 84.45 53 *e*P **P 22 47 35.1 -1.1**
NOQ North Oquirrh 84.47 43 *e*P **P 22 47 35.0 -1.3**
comp=Z,70nm,1.3s,mb5.6
NOQ *e*pP pP 22 47 46.5 -1.1
LAZ Ladron 84.50 50 *e*P **P 22 47 37.3 +0.9**
LAZ *e*PcP PcP 22 47 41.5 +1.4
LAZ *e*pP pP 22 47 48.1 +0.4
LENM Lemitar 84.50 50 *e*P **P 22 47 37.6 +1.1**
LTX Lajitas 84.63 56 *e*P **P 22 47 36.0 -1.1**
LTX pmax pmax
comp=Z,23nm,1.3s,mb5.2
LTX Lajitas 84.63 56 *e*P **P 22 47 36.0 -1.1**
comp=Z,22nm,1.3s,mb5.1
SPUT South Promonto 84.63 42 *e*P **P 22 47 37.8 +0.7**
SPUT *e*pP pP 22 47 47.8 -0.6
SRU San Rafael 84.64 45 *e*P **P 22 47 37.9 +0.7**
SRU *e**PP pP 22 47 48.3 -0.1
SRU pmax pmax
comp=Z,83nm,1.3s,mb5.7
SRU San Rafael 84.64 45 *e*P **P 22 47 37.9 +0.7**
comp=Z,83nm,1.3s,mb5.7
SRU *e*pP pP 22 47 48.3 -0.2
HVU Hansel Valley 84.69 41 *e*P **P 22 47 36.5 -0.9**
HVU *e**PP pP 22 47 48.0 -0.7
HVU pmax pmax
comp=Z,32nm,1.1s,mb5.4
HVU Hansel Valley 84.69 41 *e*P **P 22 47 36.5 -0.9**
comp=Z,32nm,1.1s,mb5.4
HVU *e*pP pP 22 47 48.0 -0.7
DL2 Dalian 84.70 315 P **P 22 47 39.5 +2.0**
DL2 S 22 58 03.8
DL2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
DL2 AMB AMB
comp=Z,270nm,5.8s
DL2 LR LR
comp=N,2μm,13.1s,MS5.7
DL2 LR LR
comp=E,2μm,16.5s,MS5.7
DL2 LR LR
comp=Z,1μm,13.8s,MS5.5
HLID Hailey 84.73 39 *e*P **P 22 47 36.9 -0.8**
BNM Barren Site 84.74 50 *e*P **P 22 47 38.6 +0.9**
LPM Los Pinos Moun 84.82 50 *e*P **P 22 47 39.0 +0.9**
DAU Daniels Canyon 84.88 43 *e*P **P 22 47 39.5 +1.1**
DAU *e**PP pP 22 47 49.5 -0.1
KLR Kul'dur 85.00 328 *e*P **P 22 47 36.0 -3.0**
KLR *e*S 22 58 04.0
KLR smax
comp=N,2μm,11.0s
KLR smax
comp=E,500nm,11.0s
PMR Palmer 85.05 12 *e*P **P 22 47 37.3 -1.9**
PMR pmax pmax
comp=Z,13nm,0.3s,mb5.5
PMR MLR MLR
comp=Z,2μm,19.0s,MS5.4
PMR Palmer 85.05 12 *e*P **P 22 47 37.3 -1.9**
comp=Z,13nm,0.3s,mb5.5
PMR LR LR
comp=Z,2μm,19.0s,MS5.4
SNY Shenyang 85.06 318 ⇑P **P 22 47 40.0 +0.7**
SNY SKS 22 57 59.5
SNY S 22 58 08.8
SNY AMB AMB
comp=Z,341nm,9.1s
CN2 Changchun 85.06 321 *e*P **P 22 47 39.5 +0.2**
CN2 *e*S 22 58 05.3
CN2 AMB AMB
comp=Z,30nm,1.2s,mb5.3
TTA Tatalina 85.20 8 *e*P **P 22 47 39.4 -0.6**
ANMO Albuquerque 85.26 50 *e*P **P 22 47 39.8 -0.5**
HWUT Hardware Ranch 85.35 42 *e*P **P 22 47 39.7 -1.0**
comp=Z,22nm,1.1s,mb5.2
PV01 Paradox Valley 85.42 46 *e*P **P 22 47 40.6 -0.4**
GDL2 Guadalupe Moun 85.45 53 *e*P **P 22 47 41.7 +0.5**
WHN Wuhan 85.71 305 ⇑P **P 22 47 44.0 +1.5**
NEW Newport 86.06 34 *e*P **P 22 47 42.8 -1.4**
PLCA Paso Flores 86.20 132 P **P 22 47 44.3 -0.7**
PLCA pmax pmax
comp=Z,10.0nm,1.1s
PLCA Paso Flores 86.20 132 P **P 22 47 44.3 -0.7**
comp=Z,9.5nm,1.1s,mb4.9
CPRX Cap Rock 86.21 53 *e*P **P 22 47 43.5 -1.5**
TIA Tai'an 86.38 311 *e*P **P 22 47 46.8 +1.0**
MCMT McKenzie Canyo 86.38 39 *e*P **P 22 47 45.1 -0.7**
MCMT *e*pP pP 22 47 56.6 -0.6
SKAG Skagway 86.59 19 *e*P **P 22 47 46.2 -0.7**
comp=Z,50nm,1.3s,mb5.6
SKAG LR LR
comp=Z,1μm,18.0s,MS5.4
IPM Ipoh 86.64 276 P **P 22 47 49.4 +2.3**
SYO Syowa Base 86.67 192⇑ *e*P **P 22 47 46.0 -1.2**
SYO Syowa Base 86.67 192⇓ *e*PcP PcP 22 47 50.4 +0.9
REDW Red Top Meadow 86.75 41 *e*P **P 22 47 50.7 +3.0**
comp=Z,29nm,1.3s,mb5.3
TPAW Teton Pass 86.77 41 *e*P **P 22 47 48.8 +1.0**
DLMT Dillon 86.84 38 *e*P **P 22 47 49.0 +0.9**
comp=Z,30nm,1.3s,mb5.4
MSO Missoula 86.92 37 *e*P **P 22 47 48.3 -0.2**
comp=Z,10nm,1.3s,mb4.9
IMW Indian Meadow 87.00 40 *e*P **P 22 47 48.1 -0.7**
comp=Z,13nm,1.2s,mb5.0
IMW *e*pP pP 22 47 59.5 -0.6
SMCO Snowmass 87.03 46 *e*S 22 47 47.6
comp=Z,8.6nm,1.0s
LOHW Long Hollow 87.04 41 *e*P **P 22 47 53.7 +4.7**
BSMT Bassoo Peak 87.05 36 *e*P **P 22 47 48.5 -0.6**
SNAA Sanae 87.08 177 *e*P **P 22 47 42.7 -6.5**
SNAA *e* 22 47 45.6
SNAA *e* pP 22 47 52.9 -7.6
SNAA *e* 22 47 58.4
SNAA Sanae 87.08 177 *e*P **P 22 47 42.8 -6.4**
VNA3 Neumayer Olymp 87.08 175 *e*P **P 22 47 49.0 -0.2**
VNA3 *e* 22 47 51.3
VNA3 *e* pP 22 47 59.8 -0.7
VNA3 *e* 22 48 03.9
VNA3 *e* 22 48 08.0
LRM Limekiln Ridge 87.18 38 *e*P **P 22 47 49.3 -0.4**
QLMT Earthquake Lak 87.22 39 *e*P **P 22 47 51.3 +1.4**
BW06 Boulder Array 87.23 42 *e*P **P 22 47 49.9 -0.1**
PDAR Pinedale Array 87.23 42 P **P 22 47 48.1 -1.9**
comp=Z,4.7nm,1.0s,mb4.7,baz=205,slow=3.1,SNR=16

FLWY Flagg Ranch 87.24 40 *e*P **P 22 47 51.0 +1.0**
comp=Z,19nm,1.0s,mb5.3
FLWY *e*pP pP 22 48 01.7 +0.4
KULM Kulim 87.28 277 *e*P **P 22 47 51.6 +1.4**
CHMT Chamberlain Mo 87.35 37 *e*P **P 22 47 49.5 -1.1**
DLBC Dease Lake 87.49 22 *e*P **P 22 47 50.6 -0.6**
DLBC *e*pP pP 22 48 01.5 -1.0
BOZ Bozeman (W) 87.56 39 *e*P **P 22 47 50.8 -0.8**
VNA2 Neumayer--Watz 87.56 176 *e*P **P 22 47 51.5 -0.1**
VNA2 *e* 22 47 53.3
VNA2 *e* pP 22 48 01.6 -1.3
VNA2 *e* 22 48 05.6
VNA2 *e* 22 48 10.9
HRY Holter Researc 88.04 38 *e*pP pP 22 48 04.5 -0.6
JCT Junction City 88.14 56 P **P 22 47 53.5 -0.8**
JCT *e**PP pP 22 48 04.1 -1.5
JCT pmax pmax
comp=Z,18nm,1.4s,mb5.1
JCT Junction City 88.14 56 P **P 22 47 53.5 -0.8**
comp=Z,18nm,1.4s,mb5.1
JCT *e*pP pP 22 48 04.1 -1.5
WALA Waterton Lakes 88.24 35 *e*P **P 22 47 55.5 +0.7**
WALA *e*pP pP 22 48 04.9 -1.2
COLA College 88.30 11⇑ *i*P **P 22 47 53.2 -1.9**
ILAR Eielson Array 88.38 11 P **P 22 47 53.4 -2.1**
comp=Z,12nm,1.0s,mb5.0,baz=216,slow=4.5,SNR=38
ILAR PP PP 22 51 32.2 +8.9
comp=Z,3.1nm,1.1s,baz=221,slow=7.6,SNR=5.8
BJT Baijiatuau 88.90 314 *e*P **P 22 47 58.1 +0.2**
BJT *e**PP pP 22 48 09.7 +0.5
BJT pmax pmax
comp=Z,190nm,2.0s
BJT Baijiatuau 88.90 314 *e*P **P 22 47 58.1 +0.2**
comp=Z,190nm,2.0s,mb6.1
BJT *e*pP pP 22 48 09.7 +0.5
BJI Beijing 88.90 314 *e*P **P 22 47 58.5 +0.6**
BJI XP sP 22 48 12.0 -1.3
BJI S 22 58 45.5
BJI AMB AMB
comp=Z,20nm,2.3s,mb5.0
BJI AMB AMB
comp=Z,615nm,5.3s
BJI LR LR
comp=Z,10μm,22.9s,MS6.2
BJI Beijing 88.90 314 *e*P **P 22 47 58.5 +0.6**
BJI *SP sP 22 48 11.9 -1.4
BJI S 22 58 45.5
BJI pmax pmax
comp=Z,20nm,2.3s,mb5.0
BJI MLR MLR
comp=Z,10μm,22.9s,MS6.2
BJI Beijing 88.90 314 *e*P **P 22 47 58.5 +0.6**
comp=Z,20nm,2.3s,mb5.0
BJI sP sP 22 48 11.9 -1.4
BJI SKS 22 58 30.8
BJI S 22 58 45.5
BJI LR LR
comp=Z,10μm,22.9s,MS6.2
DAWY Dawson 89.33 15 *e*P **P 22 47 58.2 -1.7**
DAWY *e*pP pP 22 48 10.3 -0.9
ENH Enshi 89.35 303 *e*P **P 22 47 58.9 -1.1**
comp=Z,0.4nm,0.4s
EGMT Eagleton 89.94 37 *e*P **P 22 48 01.8 -1.0**
comp=Z,19nm,1.4s,mb5.2
EGMT *e*pP pP 22 48 12.3 -1.8
GYA Guiyang 90.05 298⇓ *i*P **P 22 48 05.5 +2.2**
GYA AP pP 22 48 17.3 +2.7
GYA XP sP 22 48 20.0 +1.3
GYA PP PP 22 51 42.3 +5.6
GYA SKS 22 58 35.8
GYA S 22 58 56.0
GYA XS sS 22 59 12.3 -0.3
GYA PS PS 23 00 09.5 +5.3
GYA AMB AMB
comp=Z,30nm,1.3s,mb5.5
GYA AMB AMB
comp=Z,340nm,7.2s
GYA LR LR
comp=N,480nm,19.8s,MS5.1
GYA LR LR
comp=E,540nm,20.0s,MS5.1
GYA LR LR
comp=Z,580nm,21.7s,MS5.0
BILL Bilibino 90.23 353*c i*P **P 22 48 02.7 -1.4**
BILL *e* pP 22 48 15.1 -0.3
BILL pmax pmax
comp=Z,21nm,1.6s,mb5.2
BILL Bilibino 90.23 353⇑ *i*P **P 22 48 02.8 -1.3**
EDM Edmonton 90.95 32 *e*P **P 22 48 08.1 +0.6**
HKT Hockley 91.03 58 *e*P pP 22 48 18.4 -0.8
HKT Hockley 91.03 58 *e*pP pP 22 48 18.4 -0.7
HIA Hailar 91.37 323 *e*P **P 22 48 08.5 -0.9**
HIA pmax pmax
comp=Z,4.0nm,0.4s
HIA Hailar 91.37 323 *e*P **P 22 48 08.5 -0.9**
comp=Z,4.3nm,0.4s,mb5.1
XAN Xi'an 91.37 306 P **P 22 48 10.0 +0.6**
XAN AMB AMB
comp=Z,17nm,1.8s,mb5.1
RSSD Black Hills 91.38 43 *e*P **P 22 48 09.4 -0.1**
RSSD *e**PP pP 22 48 19.6 -1.2
RSSD *SP sP 22 48 23.9 -1.0
RSSD pmax pmax
comp=Z,17nm,1.2s,mb5.2
RSSD Black Hills 91.38 43 *e*P **P 22 48 09.4 -0.1**
comp=Z,17nm,1.2s,mb5.3
RSSD *e*pP pP 22 48 19.6 -1.2
RSSD sP sP 22 48 23.9 -1.0
HHC Hu-ho-hao-te 92.39 313 ⇑P **P 22 48 15.0 +0.8**
HHC AP pP 22 48 25.8 +0.3
HHC XP sP 22 48 29.5 -0.1
HHC PP PP 22 51 59.0 +3.8
HHC SKS 22 58 44.8
HHC S 22 59 14.8
HHC XS sS 22 59 30.0 -4.0
HHC PS PS 23 00 35.8 +5.5
HHC AMB AMB
comp=Z,11nm,1.4s,mb5.0
HHC AMB AMB
comp=Z,236nm,4.9s
HHC LR LR
comp=N,1μm,23.2s,MS5.7
HHC LR LR
comp=E,3μm,24.5s,MS5.7
HHC LR LR
comp=Z,3μm,24.1s,MS5.7
KMI Kunming 92.79 296 P **P 22 48 18.8 +2.8**
KMI AP pP 22 48 29.3 +2.0
KMI XP sP 22 48 32.5 +1.1
KMI PP PP 22 51 59.5 +1.2
KMI PPP 22 54 03.3
KMI SKS 22 58 50.0
KMI S 22 59 17.5
KMI XS sS 22 59 32.8 -4.7
KMI AMB AMB
comp=Z,36nm,1.2s,mb5.7
KMI AMB AMB
comp=Z,320nm,3.5s
KMI Kunming 92.79 296 P **P 22 48 18.7 +2.7**
KMI *PP pP 22 48 29.3 +2.0
KMI *SP sP 22 48 32.6 +1.2
KMI 22 51 59.6
KMI PPP 22 54 03.2
KMI 22 58 49.9
KMI S 22 59 17.4
KMI pmax pmax
comp=Z,36nm,1.2s,mb5.7
KMI Kunming 92.79 296 P **P 22 48 18.7 +2.7**
comp=Z,36nm,1.2s,mb5.7
KMI PP pP 22 48 29.3 +2.0
KMI sP sP 22 48 32.6 +1.2
KMI PP PP 22 51 59.6 +1.3
KMI PPP 22 54 03.2
KMI SKS 22 58 49.9
KMI S 22 59 17.4
KMI sS sS 22 59 32.8 -4.7
KMI Kunming 92.79 296 SS SS 23 05 35.3 +3.3
ATAH Atahualpa 92.97 99 LR LR 23 20 30.3
comp=Z,1μm,18.1s,MS5.5,baz=190,slow=29
JTS JuntasAbangare 93.09 80 LR LR 23 19 26.2
comp=Z,914nm,18.7s,MS5.3,baz=189,slow=29
BTO Baotou 93.35 312 *e*P **P 22 48 20.0 +1.4**
CHTO Chiang Mai 93.76 289 *e*P **P 22 48 22.3 +1.8**
CHTO pmax pmax
comp=Z,26nm,1.0s,mb5.6
CHTO Chiang Mai 93.76 289 *e*P **P 22 48 22.3 +1.8**
comp=Z,26nm,1.0s,mb5.6
YAK Yakutsk 94.17 337 *i* P **P 22 48 20.9 -1.5**
INK Inuvik 94.18 14 *e*P **P 22 48 20.8 -1.6**
YKA Yellowknife Ar 95.83 24 P **P 22 48 28.1 -1.9**
comp=Z,3.8nm,0.9s,mb4.8,baz=234,slow=4.2,SNR=22
YKA PKKPbc PKKPbc 23 05 20.4 +1.6
comp=Z,0.3nm,0.5s,baz=15,slow=2.9,SNR=4.0
YKA Yellowknife Ar 95.83 24 P **P 22 48 28.1 -1.9**
YKA PKKPbc PKKPbc 23 05 20.4 +1.6
YKW3 Yellowknife Ar 95.87 24 *e*P **P 22 48 28.1 -2.0**
YKW3 *e*pP pP 22 48 39.9 -1.6
LZH Lanzhou 96.00 306 *e*P **P 22 48 31.8 +1.1**
LZH AP pP 22 48 42.3 +0.2
LZH XP sP 22 48 45.5 -0.7
LZH SKS 22 59 02.3
LZH *e*S 22 59 45.0
LZH XS sS 23 00 02.0 -3.7
LZH PS PS 23 01 13.8 +3.8
LZH AMB AMB
comp=Z,25nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,150nm,7.9s
LZH LR LR
comp=E,835nm,17.5s
LZH LR LR
comp=Z,1μm,18.8s,MS5.4
LZH Lanzhou 96.00 306 *e*P **P 22 48 31.7 +1.0**
LZH *PP pP 22 48 42.2 +0.1
LZH *SP sP 22 48 45.5 -0.7
LZH 22 59 02.3
LZH *e*S 22 59 45.1
LZH PS PS 23 01 13.8 +3.8
LZH *e*SS SS 23 06 18.0 +0.1
LZH pmax pmax
comp=Z,25nm,1.5s,mb5.4
LZH MLR MLR
comp=Z,1μm,18.8s,MS5.4
LZH Lanzhou 96.00 306 *e*P **P 22 48 31.7 +1.0**
comp=Z,25nm,1.5s,mb5.4
LZH pP pP 22 48 42.2 +0.1
LZH sP sP 22 48 45.5 -0.7
LZH PP PP 22 52 36.1 +13
LZH SKS 22 59 02.3
LZH *e*S 22 59 45.1
LZH sS sS 23 00 02.0 -3.7
LZH PS PS 23 01 13.8 +3.8
LZH *e*SS SS 23 06 18.0 +0.1
LZH LR LR
comp=Z,1μm,18.8s,MS5.4
ECSD EROS,Sioux Fal 96.03 45 *e*P **P 22 48 30.4 -0.4**
ECSD *e*pP pP 22 48 40.5 -1.6
ULN Ulaanbaatar 98.24 318 *i* P **P 22 48 41.4 +0.6**
ULN Ulaanbaatar 98.24 318 *i* Pr 22 48 41.4
LPAZ La Paz 98.57 111 P **P 22 48 42.9 +0.5**
comp=Z,0.8nm,0.7s,mb4.3,baz=280,slow=6.1,SNR=3.3
SONM Songino Array 98.64 318 P **P 22 48 41.4 -1.3**
comp=Z,2.9nm,1.1s,mb4.7,baz=134,slow=4.3,SNR=9.6
SONM PP PP 22 52 40.0 -3.6
comp=Z,0.3nm,0.5s,baz=191,slow=7.2,SNR=4.0
GTA Gaotai 100.16 308 *e*P Pdif 22 48 52.0 +2.6
GTA AP 22 49 02.8
GTA XP 22 49 06.8
GTA PP PP 22 53 00.5 +5.3
GTA AMB AMB
comp=Z,2.0nm,1.4s
GTA AMB AMB
comp=Z,142nm,6.1s
TIXI Tiksi 100.43 344 *e*P Pdif 22 48 41.1 -10
TIXI *e* 22 59 17.8
TIXI *e* 23 00 20.6
TIXI *e*SS SS 23 07 10.7 -9.3
TIXI pmax pmax
comp=Z,5.0nm,1.2s
TIXI Tiksi 100.43 344⇑ *e*P Pdif 22 48 49.8 -0.8
MKAR Makanchi Array 114.26 313 PKP PKiKP 22 53 41.6 -1.4
comp=Z,1.2nm,0.8s,baz=79,slow=2.6,SNR=9.4
NVS Novosibirsk 114.26 322 *e*PKiKP PKiKP 22 53 40.6 -2.4
KURK Kurchatov 116.92 317⇑ *e*PKiKP PKPdf 22 53 47.2 -0.9
AAK Ala-Archa 119.50 308⇑ *e*PKiKP PKPdf 22 53 52.4 -0.7
CHKZ Chkalovo 121.70 321 *e*PKiKP PKPdf 22 53 55.6 -1.7
BRVK Borovoye 121.97 320⇑ *e*PKiKP PKPdf 22 53 57.0 -0.8
ZRNK Zerenda 122.75 320 *e*PKiKP PKPdf 22 53 58.2 -1.1
ZRNK *e* 22 54 09.4
SVE Sverdlovsk 126.59 326 *e*PKiKP PKPdf 22 54 04.0 -2.7
SVE *e* 22 56 05.0
BOSA Boshof 126.89 202 PKP PKPdf 22 54 08.0 +0.8
comp=Z,8.1nm,1.1s,baz=179,slow=2.3,SNR=5.3
BOSA Boshof 126.89 202 PKP PKPdf 22 54 08.0 +0.8
ARU Arti 127.81 326 *i* PKiKP PKPdf 22 54 08.1 -0.9
ARU *e* 22 56 05.6
ARU *e* 23 01 10.7
ARU *e*SS SS 23 13 16.6 -4.2
ARCES ARCESS Array B 130.29 351 PKP PKPdf 22 54 13.1 -0.7
comp=Z,3.9nm,1.0s,baz=321,slow=1.7,SNR=4.3
FINES FINESS Array B 137.46 346 PKhKP 22 54 15.8
comp=Z,1.6nm,1.0s,baz=333,slow=2.1,SNR=4.2
FINES PKP PKPdf 22 54 25.2 -1.9
comp=Z,5.5nm,1.1s,baz=342,slow=4.4,SNR=4.3
MAK Makhachkala 139.06 312 *e*PKiKP PKPdf 22 54 24.8 -5.3
MAK *e*PPP 23 00 31.6
MAK pmax pmax
comp=Z,154nm,1.5s
OBN Obninsk 139.06 333 *i* PKiKP PKPdf 22 54 29.4 -0.7
OBN *e* 22 54 42.3
OBN pmax pmax
comp=Z,6.0nm,1.1s
OBN MLR MLR
comp=Z,9μm,20.0s,MS6.5
OBN Obninsk 139.06 333 *i* PKP PKPdf 22 54 29.5 -0.6
NB2 NORSAR Subarra 140.11 356 PKPa 22 54 23.4
comp=Z,5.1nm,1.2s,baz=10,slow=3.2
NOA NORSAR Array B 140.11 356 PKhKP 22 54 22.7
comp=Z,3.0nm,1.0s,baz=16,slow=4.4,SNR=3.8
NOA NORSAR Array B 140.11 356 PKP 22 54 22.7
KMBO Kilima Mbogo 141.93 238 PKP PKPdf 22 54 33.7 -1.6
comp=Z,2.1nm,0.8s,baz=71,slow=5.6,SNR=5.0
KMBO Kilima Mbogo 141.93 238 PKP PKPdf 22 54 33.7 -1.6
CUKT Cukurca 143.58 304 *e*P PKPdf 22 54 33.5 -4.7
BHD Baghdad 143.80 298 *ex* x 22 54 34.0
SOC Sochi 144.07 316 *e*PKiKP PKPdf 22 54 36.2 -2.9
SOC *e* 22 57 53.6
MSL Mosul 144.22 303 *ex* x 22 54 37.0
ERZM Erzurum 144.43 310 *i* P PKPdf 22 54 39.5 -0.2
EZM Erzurum 144.44 310 *e*P PKPdf 22 54 38.9 -0.8
SUW Suwalki 144.74 342 *e*PKP PKPdf 22 54 38.8 -1.4
SUW *e* 22 54 50.8
MUD Monsted U'grnd 144.81 357 *i* P PKPdf 22 54 39.7 -0.7
comp=Z,56nm,1.0s
MUD *i* 22 54 50.1
MUD Monsted U'grnd 144.81 357 *i* PKiKP PKPdf 22 54 39.7 -0.7
MUD *i* 22 54 50.1
MUD pmax pmax
comp=Z,56nm,1.0s
MUD MLR MLR
comp=Z,10μm,20.0s,MS6.6
MUD Monsted U'grnd 144.81 357 *i* P PKPdf 22 54 39.7 -0.7
MUD *i* 22 54 50.1
MUD *i* 23 12 13.1
MUD *i* 23 18 41.8
ANN Anapa 144.91 319 *i* PKiKP PKPdf 22 54 38.6 -1.9
ANN *i* 22 54 50.1
ANN *e* 23 01 49.4
ANN pmax pmax
comp=Z,147nm,1.4s
BTMT Batman 144.91 307 *e*P PKPdf 22 54 38.9 -1.6
BNGL BINGOL 144.92 308 *i* P PKPdf 22 54 40.9 +0.4
BEST Besiri 145.17 306 *i* P PKPbc 22 54 41.2 +0.6
COP Copenhagen 145.30 353⇑ *i*P PKPbc 22 54 39.9 -1.1
comp=Z,26nm,0.9s
COP Copenhagen 145.30 353⇑ *e*PKiKP PKPdf 22 54 39.9 -1.3
COP pmax pmax
comp=Z,26nm,0.9s
COP MLR MLR
comp=Z,3μm,20.0s,MS6.1
COP Copenhagen 145.30 353⇑ *e*P PKPbc 22 54 39.9 -1.1
COP *i* 23 08 15.1
COP *i* 23 12 09.3
COP *i* 23 18 28.1
COP LR LR
comp=Z,3μm,20.0s,MS6.1

AKASG	**Malin Array Be**	**145.33**	**333**	PKPbc	PKPbc	22 54 39.8	-1.3	
	comp=Z,31nm,1.0s,baz=38,slow=3.6,SNR=126							
BSD	**Bornholm Skovb**	**145.54**	**351**	⇑*i*P	PKPdf	22 54 40.2	-1.4	
	comp=Z,105nm,1.1s							
BSD	**Bornholm Skovb**	**145.54**	**351**	⇑*i*PKIKP	PKPdf	22 54 40.2	-1.4	
BSD				pmax	pmax			
	comp=Z,100nm,1.1s							
BSD				MLR	MLR			
	comp=Z,8μm,19.0s,MS6.5							
BSD	**Bornholm Skovb**	**145.54**	**351**	⇑*i*P	PKPdf	22 54 40.2	-1.4	
BSD				*e*		23 08 01.3		
GUMT	**Gumushane**	**145.56**	**311**	*e*P	PKPdf	22 54 43.2	+1.5	
MARD	**Mardin**	**145.72**	**306**	*i* P	PKPdf	22 54 41.7	-0.2	
DIY	**Diyarbakir**	**145.96**	**307**	*e*P	PKPdf	22 54 44.2	+1.8	
ELZG	**Elazig**	**146.66**	**308**	*i* P	PKPbc	22 54 46.7	+1.6	
SIM	**Simferopol'**	**146.79**	**322**	*ce*PKP2	PKPab	22 54 45.7	-1.1	
SIM				pmax	pmax			
	comp=Z,32nm,1.0s							
GKP	**Gorka Klasztor**	**146.88**	**347**	*e*PKP	PKPdf	22 54 46.0	+2.1	
WAR	**Warsaw**	**146.91**	**343**	*e*PKP	PKPbc	22 54 47.8	+1.9	
MYA	**Malataya**	**147.14**	**308**	*e*P	PKPbc	22 54 47.7	+1.2	
MALT	**Malatya**	**147.14**	**308**	*e*PKP2	PKPbc	22 54 46.8	+0.3	
URFA	**Urfa**	**147.16**	**307**	*e*P	PKPdf	22 54 46.3	+1.9	
BSEG	**Bad Segeberg**	**147.24**	**355**	*e*PKPbc	PKPbc	22 54 44.8	-2.0	
SVSK	**Karacayir**	**147.52**	**312**	*e*P	PKPdf	22 54 47.0	+2.0	
SVST	**Sivas**	**147.61**	**312**	*i* P	PKPbc	22 54 49.7	+1.9	
GZT	**Gaziantep**	**148.12**	**307**	*i* P	PKPbc	22 54 50.0	+0.8	
BOYT	**Boyabat**	**148.23**	**316**	*i* P	PKPbc	22 54 50.2	+0.7	
KIS	**Kishinev**	**148.24**	**329**	*e*PKIKP	PKPdf	22 54 46.0	-0.1	
KIS				*e*		23 01 54.0		
GAZ	**Gaziantep**	**148.45**	**307**	*e*P	PKPbc	22 54 51.0	+0.9	
KWP	**Kalwaria**	**148.67**	**339**	*e*PKP	PKPbc	22 54 51.0	+0.4	
KWP				*e*		22 54 55.3		
KWP				*e*		22 55 06.6		
CTKT	**Corum**	**148.70**	**315**	*i* P	PKPbc	22 54 50.4	-0.3	
IBBN	**Ibbenburen**	**149.02**	**358**	*e*PKPbc	PKPbc	22 54 50.8	-0.7	
OJC	**Ojcow**	**149.07**	**342**	*e*PKP	PKPbc	22 54 51.6	0.0	
BALT	**Daday**	**149.14**	**317**	*i* P	PKPbc	22 54 52.7	+0.9	
CLZ	**Clausthal**	**149.31**	**354**	*e*PKPbc	PKPbc	22 54 51.2	-1.0	
STHS	**Stebnicka Huta**	**149.34**	**340**	*e*PKP	PKPbc	22 54 52.6	+0.3	
STHS				*e*		22 54 57.2		
STHS				*e*		22 55 09.5		
KSP	**Ksiaz**	**149.37**	**347**	*e*PKP	PKPbc	22 54 52.3	-0.1	
KSP				*e*		22 54 58.5		
KSP				*e*		22 55 08.9		
KSP	**Ksiaz**	**149.37**	**347**	*e*PKHKP		22 54 48.1		
KSP				*e*		22 54 52.0		
KSP	**Ksiaz**	**149.37**	**347**	*e*PKP	PKPdf	22 54 48.1	+0.1	
KSP				*e*PKPdf	PKPdf	22 54 52.0	+4.0	
KSP				*e*		22 54 57.6		
KSP				*e*pPKP	pPKPdf	22 55 07.4	+7.8	
BURAR	**Bucovina Array**	**149.38**	**334**	⇓*i*P	PKPbc	22 54 53.2	+0.8	
BURAR	**Bucovina Array**	**149.38**	**334**	⇑P	PKPbc	22 54 53.6	+1.2	
WTSB	**Winterswijk**	**149.39**	**359**	*e*PKP	PKPdf	22 54 51.7	+3.7	
	comp=Z,30nm,3.6s							
COBT	**Iskenderun**	**149.40**	**306**	*i* P	PKPbc	22 54 53.0	+0.6	
KOLS	**Kolonicke sedl**	**149.42**	**338**	*e*PKP	PKPbc	22 54 55.2	+2.7	
AVNT	**Avonos**	**149.51**	**311**	*i* P	PKPdf	22 54 47.9	-0.3	
CLL	**Collm**	**149.52**	**351**	*e*PKPbc	PKPbc	22 54 52.0	-0.7	
CLL	**Collm**	**149.52**	**351**	⇑*i*PKPdf	PKPdf	22 54 51.9	+3.7	
	comp=Z,42nm,1.6s							
CLL				*i* PKPbc	PKPbc	22 54 57.2	+4.5	
	comp=Z,55nm,1.1s							
CLL				*e*PKPab	PKPab	22 55 02.0	+4.3	
	comp=Z,72nm,1.6s							
CLL				*i* pPKPbc	pPKPbc	22 55 08.5	+4.2	
	comp=Z,105nm,1.1s							
NIE	**Niedzica**	**149.63**	**341**	*e*PKP	PKPbc	22 54 53.0	0.0	
CRVS	**Cervenica-Dubn**	**149.72**	**339**	*e*PKP	PKPbc	22 54 53.3	+0.1	
CRVS				*e*		22 55 00.7		
CRVS				*e*		22 55 11.1		
UPC	**Upice**	**149.75**	**347**	*e*PKPdf	PKPdf	22 54 49.2	+0.6	
UPC				*e*PKPbc	PKPbc	22 54 54.4	+1.1	
BRG	**Berggiesshubel**	**149.79**	**350**	*i* PKP	PKPbc	22 54 52.8	-0.6	
	comp=Z,28nm,1.7s							
BRG				*i*		22 54 57.1		
	comp=Z,15nm,1.0s							
BRG				*i*		22 55 04.5		
	comp=Z,30nm,1.3s							
BRG	**Berggiesshubel**	**149.79**	**350**	*i* PKP2	PKPbc	22 54 52.8	-0.6	
BRG				pmax	pmax			
	comp=Z,28nm,1.7s							
BRG				pmax	pmax			
	comp=Z,15nm,1.0s							
BRG				pmax	pmax			
	comp=Z,31nm,1.3s							
DPC	**Dobruska-Polom**	**149.83**	**346**	*e*PKPbc	PKPbc	22 54 52.5	-1.0	
DPC				*e*PKPab	PKPab	22 54 58.0	-1.0	
DPC	**Dobruska-Polom**	**149.83**	**346**	*e*PKP2	PKPbc	22 54 52.5	-1.0	
DPC				MLR	MLR			
	comp=Z,9μm,20.3s,MS6.5							
OKC	**Ostrava-Krasne**	**149.87**	**344**	*e*PKPbc	PKPbc	22 54 53.6	0.0	
OKC				*e*PKPab	PKPab	22 54 58.6	-0.6	
OKC	**Ostrava-Krasne**	**149.87**	**344**	*e*PKP2	PKPbc	22 54 53.6	0.0	
OKC				MLR	MLR			
	comp=Z,9μm,18.1s,MS6.6							
CFR	**Carcaliu**	**149.87**	**327**	⇑PKP2	PKPbc	22 54 53.9	+0.3	
BUG	**Bochum--Univer**	**149.90**	**358**	*e*PKPbc	PKPbc	22 54 52.8	-0.9	
BR131	**Keskin Array S**	**149.90**	**314**	*e*PKPbc	PKPbc	22 54 54.1	+0.4	
BRTR	**Keskin Array B**	**149.90**	**314**	PKP	PKPdf	22 54 47.7	-1.1	
	comp=Z,10nm,0.9s,baz=149,slow=2.9,SNR=25							
BRTR				PKPbc	PKPbc	22 54 53.4	-0.3	
	comp=Z,10nm,0.9s,baz=123,slow=2.4,SNR=34							
VRI	**Vrincioaia**	**150.06**	**330**	⇓*i*P	PKPbc	22 54 54.0	-0.1	
VRI	**Vrincioaia**	**150.06**	**330**	⇓P	PKPbc	22 54 55.1	+1.0	
MORC	**Moravsky Berou**	**150.07**	**345**	*e*PKP2	PKPbc	22 54 53.9	-0.2	
PLOR	**Plostina**	**150.11**	**330**	⇓*i*P	PKPbc	22 54 54.7	+0.5	
PLOR	**Plostina**	**150.11**	**330**	⇑PKP2	PKPbc	22 54 55.1	+0.9	
TIRR	**Tirgusor**	**150.23**	**326**	⇓*i*P	PKPab	22 55 01.0	+0.3	
TIRR	**Tirgusor**	**150.23**	**326**	*e*PKPbc	PKPbc	22 54 54.1	-0.4	
HARR	**Harsova**	**150.32**	**327**	⇑*i*P	PKPbc	22 54 56.1	+1.4	
HARR	**Harsova**	**150.32**	**327**	⇓P	PKPbc	22 54 56.5	+1.8	
MOX	**Moxa**	**150.35**	**352**	*e*PKPbc	PKPbc	22 54 53.5	-1.3	
MOX	**Moxa**	**150.35**	**352**	*e*PKP	PKPdf	22 54 49.1	-0.4	
	comp=Z,103nm,1.7s							
MOX	**Moxa**	**150.35**	**352**	*e*PKIKP	PKPdf	22 54 49.1	-0.4	
MOX				pmax	pmax			
	comp=Z,103nm,1.7s							
UBBA	**Unterbreizbach**	**150.35**	**354**	*e*PKPbc	PKPbc	22 54 53.8	-1.0	
ANTO	**Ankara**	**150.40**	**315**	⇓P	PKPbc	22 54 55.1	+0.3	
KECS	**Kecovo**	**150.40**	**340**	*e*PKP	PKPbc	22 54 55.1	+0.2	
KECS				*e*		22 55 01.3		
KECS				*e*		22 55 12.9		
WERD	**Werda**	**150.46**	**351**	*e*PKPbc	PKPbc	22 54 54.6	-0.4	
PRA	**Prague**	**150.47**	**349**	PKPab	PKPab	22 55 00.0	-1.7	
SGKT	**Sivrigoynuk**	**150.51**	**317**	*i* P	PKPbc	22 54 55.3	+0.2	
PRU	**Pruhonice**	**150.53**	**348**	*e*PKPbc	PKPbc	22 54 54.7	-0.5	
PRU				*e*PKPab	PKPab	22 54 59.1	-2.8	
UCC	**Uccle**	**150.55**	**2**	PKPbc	PKPbc	22 54 54.1	-1.1	
UCC				APKPbc		22 55 06.2		
UCC				APKPab		22 55 10.6		
HGN	**Heimansgroeve**	**150.60**	**360**	*e*PKP	PKPbc	22 54 54.1	-1.2	
	comp=Z,30nm,3.2s							
NKC	**Novy Kostel**	**150.65**	**351**	*e*PKPbc	PKPbc	22 54 54.9	-0.6	
NKC				*e*PKPab	PKPab	22 55 02.2	-0.2	
MLR	**Muntele Rosu**	**150.70**	**330**	⇓*i*P	PKPbc	22 54 55.6	0.0	
MLR	**Muntele Rosu**	**150.70**	**330**	⇓P	PKPbc	22 54 56.0	+0.4	
BHL	**Bhannes**	**150.74**	**302**	*e*P	PKPbc	22 54 56.1	+0.4	
MEM	**Membach**	**150.76**	**360**	PKPbc	PKPbc	22 54 56.0	+0.3	
MEM				APKP		22 54 59.4		
MEM				APKPbc		22 55 06.6		
MEM				APKPab		22 55 11.5		
SNF	**Seneffe**	**150.84**	**2**	APKPbc	pPKPbc	22 55 06.8	-0.7	
VYHS	**Vyhne**	**150.90**	**342**	*e*PKP	PKPbc	22 54 56.1	0.0	
MANZ	**Manzenberg**	**150.93**	**351**	*e*PKPbc	PKPbc	22 54 55.7	-0.4	
BCLA	**Clavier**	**150.95**	**0**	PKPbc	PKPbc	22 54 56.9	+0.7	
BCLA				PKPab	PKPab	22 55 03.4	-0.3	
BCLA				APKPab		22 55 14.1		
TREC	**Trest**	**151.00**	**347**	*e*PKPbc	PKPbc	22 54 56.1	-0.2	
TNS	**Taunus Mts**	**151.06**	**356**	*e*PKPbc	PKPbc	22 54 56.2	-0.2	
PSZ	**Piszkesteto**	**151.09**	**340**	⇑*es*PKP/F	PKPab	22 55 04.0	-0.2	
PSZ	**Piszkesteto**	**151.09**	**340**	*e*PKPbc	PKPbc	22 54 56.7	+0.2	
PSZ				*e*PKPab	PKPab	22 55 05.1	+0.9	
ROTZ	**Rotzenmuhle**	**151.13**	**351**	*e*PKPbc	PKPbc	22 54 56.2	-0.4	
VOIR		**151.16**	**331**	⇓*i*P	PKPbc	22 54 57.7	+1.0	
GIVF	**Givet**	**151.26**	**1**	*e*PKIKP	PKPbc	22 54 56.1	-0.8	
DOU	**Dourbes**	**151.26**	**1**	PKPbc	PKPbc	22 54 56.0	-0.9	
DOU				APKPbc		22 55 07.9		
DOU				E		22 55 11.8		
SMOL	**Smolenice**	**151.27**	**344**	*e*PKP	PKPbc	22 54 57.9	+1.0	
SMOL				*e*		22 55 05.3		
BAIF	**Baives**	**151.29**	**2**	*e*PKIKP	PKPbc	22 54 55.7	-1.3	
	comp=Z,38nm,1.1s							
GRA1	**Grafenberg Arr**	**151.34**	**352**	*e*PKPbc	PKPbc	22 54 56.8	-0.3	
GRF	**Grafenberg Arr**	**151.34**	**352**	*e*PKPbc	PKPbc	22 54 56.8	-0.3	
GRF	**Grafenberg Arr**	**151.34**	**352**	*e*PKP	PKPbc	22 54 56.9	-0.2	
ABH	**Alteburg**	**151.45**	**357**	PKP	PKPbc	22 54 57.3	0.0	
KHC	**Kasperske Hory**	**151.53**	**349**	*e*PKPbc	PKPbc	22 54 56.5	-1.0	
KHC				PKPab	PKPab	22 55 06.0	-0.1	
RUP	**Ruppelstein**	**151.65**	**358**	PKP	PKPbc	22 54 58.1	+0.3	
ZST	**Bratislava**	**151.65**	**344**	*e*PKP	PKPbc	22 54 57.9	+0.1	
ZST				*e*		22 55 07.0		
ZST				*e*		22 55 17.7		
TOD	**Tromm**	**151.66**	**356**	PKP	PKPbc	22 54 57.7	-0.1	
WLF	**Walferdange**	**151.70**	**359**	*e*PKPbc	PKPbc	22 54 57.7	-0.2	
WLF	**Walferdange**	**151.70**	**359**	PKPbc	PKPbc	22 54 58.7	+0.8	
WLF				APKP		22 55 03.0		
WLF				APKPbc		22 55 07.5		
WLF				E		22 55 13.5		
WLF	**Walferdange**	**151.70**	**359**	*e*PKPbc	PKPbc	22 54 58.2	+0.2	
GEC2	**GERESS Array S**	**151.79**	**349**	*e*PKPbc	PKPbc	22 54 57.8	-0.3	
GERES	**GERESS Array B**	**151.79**	**349**	PKPbc	PKPbc	22 54 56.2	-1.9	
	comp=Z,2.4nm,0.8s,baz=30,slow=8.0,SNR=3.6							
ROSF	**Rostrenen**	**152.09**	**13**	*e*PKIKP	PKPbc	22 54 57.4	-1.4	
	comp=Z,40nm,1.1s							
FLN	**La Foliniere**	**152.17**	**9**	*e*PKIKP	PKPbc	22 54 57.2	-1.8	
	comp=Z,222nm,1.6s							
CSS	**Prodhromos**	**152.19**	**305**	*e*PKPbc	PKPbc	22 54 58.8	-0.3	
SOP	**Sopron**	**152.26**	**344**	⇓*e*PKP/p	PKPab	22 55 09.6	+0.5	
SGMF	**Saint Gilles**	**152.31**	**12**	*e*PKIKP	PKPbc	22 54 57.4	-1.9	
	comp=Z,75nm,1.3s							
EIL	**Elat**	**152.35**	**293**	*e*PKPbc	PKPbc	22 54 60.0	+0.6	
LDF	**La Druitiere**	**152.38**	**8**	*e*PKIKP	PKPbc	22 54 57.8	-1.7	
	comp=Z,49nm,1.2s							
BZS	**Buzias**	**152.46**	**335**	⇓*i*P	PKPbc	22 55 00.0	+0.4	
BZS	**Buzias**	**152.46**	**335**	⇑P	PKPbc	22 55 00.4	+0.7	
STU	**Stuttgart**	**152.46**	**355**	*e*PKPbc	PKPbc	22 54 58.6	-1.0	
GRR	**Gorron**	**152.48**	**9**	*e*PKIKP	PKPbc	22 54 57.8	-1.9	
	comp=Z,36nm,1.0s							
QUIF	**Quistinic**	**152.51**	**13**	*e*PKIKP	PKPdf	22 54 56.7	+3.9	
MOA	**Molln**	**152.63**	**347**	⇓*i*P	PKPbc	22 54 59.8	-0.2	
	comp=Z,24nm,1.4s							
MEZF	**Maizieres J'vi**	**152.87**	**1**	*e*PKIKP	PKPbc	22 54 58.5	-2.0	
WLS	**Welschbruch**	**152.93**	**358**	PKP	PKPbc	22 55 03.1	+2.4	
CDF	**Champ du Feu**	**152.93**	**358**	*e*PKIKP	PKPbc	22 54 58.7	-2.0	
BFO	**Black Forest**	**152.96**	**356**	*e*PKIKP	PKPdf	22 54 55.5	+2.0	
TKTP	**Tekketepe**	**152.99**	**314**	*i* P	PKPbc	22 55 00.7	-0.2	
PKSM	**Moragy**	**153.00**	**340**	⇓PKIKP	PKPdf	22 54 52.8	-0.7	
ECH	**Echery**	**153.13**	**358**	PKP	PKPbc	22 55 02.2	+1.1	
MOF	**Molkenrain**	**153.49**	**358**	PKP	PKPbc	22 55 01.8	-0.1	
WTTA	**Wattenberg**	**153.66**	**351**	⇓*i*P	PKPbc	22 55 02.1	-0.2	
	comp=Z,24nm,1.1s							
DAVA	**Damuels**	**153.86**	**354**	⇑*i*P	PKPbc	22 54 59.8	-2.9	
	comp=Z,24nm,1.1s							
LOMF	**Lomont**	**154.00**	**358**	PKP	PKPbc	22 55 06.1	+3.1	
LOR	**Lormes**	**154.06**	**3**	*e*PKIKP	PKPbc	22 55 00.6	-2.5	
	comp=Z,15nm,1.1s							
SSF	**Saint Saulge**	**154.25**	**3**	*e*PKIKP	PKPbc	22 55 00.3	-3.2	
	comp=Z,16nm,1.1s							
AVF	**Avril sur Loir**	**154.51**	**4**	*e*PKIKP	PKPbc	22 55 00.8	-3.3	
BOJS	**Bojanci**	**154.62**	**344**	*i* PKPdf	PKPdf	22 54 55.0	-0.8	
BOJS				*i* PKPbc	PKPbc	22 55 03.9	-0.4	
BOJS				*e*		22 55 16.7		
BOJS				*e*		22 55 35.1		
BOJS				*i*		22 55 43.7		
CABF	**La Chapelle**	**154.76**	**359**	*e*PKIKP	PKPbc	22 55 00.9	-3.7	
TCF	**Toulx Ste Croi**	**154.92**	**6**	*e*PKIKP	PKPbc	22 55 01.3	-3.7	
SKO	**Skopje**	**155.49**	**331**	*e*PKP	PKPdf	22 54 56.4	-0.7	
SKO				*e*PKP		22 55 19.2		
LBL	**Lubilhac**	**156.06**	**4**	PKP	pPKPdf	22 55 11.1	+1.7	
BNI	**Bardonecchia**	**156.31**	**358**	*e*PKP2	PKPab	22 55 26.7	+0.4	
BOB	**Bobbio (Coli)**	**156.40**	**353**	PKP2	PKPab	22 55 26.4	-0.3	
SMRF	**Simiane la Rot**	**157.40**	**0**	*e*PKIKP	PKPdf	22 55 04.5	+5.0	
ESDC	**Sonseca Array**	**159.92**	**22**	PKPab	PKPab	22 55 41.6	-0.4	
	comp=Z,1.6nm,0.7s,baz=327,slow=4.5,SNR=7.8							
DBIC	**Dimbokro**	**162.23**	**143**	PKP	PKPdf	22 55 05.2	+0.2	
	comp=Z,4.7nm,1.0s,baz=201,slow=4.3,SNR=3.4							
TORD	**Torodi Ar. Bea**	**171.04**	**154**	PKP	PKPdf	22 55 10.7	-1.0	
	comp=Z,2.9nm,1.1s,baz=274,slow=1.7,SNR=10							
TORD				PKPab	PKPab	22 56 29.5	-1.4	
	comp=Z,2.6nm,0.9s,baz=248,slow=3.3,SNR=4.0							
TORD				PP	PP	23 00 21.5	+0.1	
	comp=Z,1.4nm,1.0s,baz=209,slow=1.5,SNR=4.3							

IDC 26 22:36:35.5±7.8, 543S×15008E, h111km±55km, mb3.3/3, mb1 3.5/4, mb1mx3.3/14, mbtmp3.7/4, Error ellipse: s-maj=99.3km s-min=56.8km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.90**	**216**	P	Pn	22 37 47.8	+0.9
	1.0nm,0.3s,baz=24,slow=19,SNR=4.6						
PMG				S	Sn	22 38 42.3	-0.1
	2.1nm,0.3s,baz=239,slow=16,SNR=4.2						
WRA	**Warramunga Arr**	**21.04**	**225**	P	P	22 41 10.9	+0.6
	0.9nm,0.4s,baz=50,slow=10,SNR=28						
ASAR	**Alice Springs**	**23.91**	**219**	P	P	22 41 38.8	-0.1
	0.5nm,0.4s,baz=57,slow=8.8,SNR=6.8						
FITZ	**Fitzroy Crossi**	**26.99**	**240**	P	P	22 42 08.0	+1.2
	1.4nm,0.4s,baz=66,slow=12,SNR=11						
TORD	**Torodi Ar. Bea**	**147.90**	**286**	PKPbc	PKPbc	22 56 07.2	-0.4
	0.6nm,0.8s,baz=71,slow=2.2,SNR=4.2						

IDC ***26*** *22:53:56.7±0.3, 7925×11045E, h0km, mb5.1/26, mb1 5.2/28, mb1mx5.2/29, mbtmp5.1/28, ML4.6/2, MS6.1/22, Ms1 6.1/22, ms1mx5.9/31, Error ellipse: s-maj=14.2km s-min=9.9km az=38.0*

NEIC ***26*** *22:53:58.9±0.2, 7965×11045E, mb6.0/73, ME6.8, MS6.2/144, MW6.3, Error ellipse: s-maj=6.8km s-min=4.6km az=218.0, Moment Tensor Solution. s29 Moment tensor: Scale 10^18Nm; Mrr 0.69; Mθθ -3.91; Mφφ 3.22; Mrθ -0.44; Mrφ 2.08; Mθφ -0.51; Best double couple: M≈4.20000×10^18 NP1:φ≈241.00000°, δ85.00000°, λ10.00000°. NP2:φ≈150.00000°, δ80.00000°, λ175.00000°. Principal axes: T 3.9000, Plg11.0000°, Azm105.0000°; N 0.5900, Plg79.0000°, Azm268.0000°; P -4.4900, Plg3.0000°, Azm15.0000°; Broadband fault plane solution: P waves. NP1:φ≈170.00000°, δ90.00000°, λ-160.00000°. NP2:φ≈80.00000°, δ70.00000°, λ0.00000°. Principal axes: T Plg14.0000°, Azm303.0000°; N Plg0.0000°, Azm0.0000°; P Plg14.0000°, Azm37.0000°; Energy computed from BB mechanism.*

NEIC At least 5,749 people were killed, 38,568 were injured and as many as 600,000 people were displaced in the Bantul-Yogyakarta area. More than 127,000 houses were destroyed and an additional 451,000 were damaged in the area, with the total loss estimated at approximately 3.1 billion U.S. dollars. Felt [IX] at Bantul and Klaten, [VIII] at Sleman and Yogyakarta, [V] at Surakarta, [IV] at Salatiga and Blitar and [II] at Surabaya. Felt in much of Java. Also felt at Denpasar, Bali.

ISCJB ***26*** *22:53:58.6±0.1, 8.10S×002×110.30E×002, h19km, mb5.8/165, MS6.2/206 Error ellipse: s-maj=3.5km s-min=3.1km az=32.5*

HRVD ***26*** *22:53:58.9±0.1, 803S×110.54E, h22km, MW6.4/113, Centroid moment Tensor Solution. LP body waves: s113,c247;Mantle waves: s111,c427; Half duration: 3s7 Moment tensor: Scale 10^18Nm; Mrr-1.22±.02; Mθθ-3.36±.02; Mφφ4.57±.03; Mrθ0.60±.04; Mθφ1.13±.02; Mrφ0.62±.04; Best double couple: M≈4.21900×10^18 NP1:φ≈323.00000°, δ77.00000°, λ-176.00000°. NP2: φ≈232.00000°, δ86.00000°, λ-13.00000°. Principal axes: T 4.8100, Plg7.0000°, Azm278.0000°; N -1.1920, Plg76.0000°, Azm36.0000°; P -3.6280, Plg12.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

BJI ***26*** *22:53:58.2, 800S×11040E, h12km, mB6.2, mb5.7, Ms6.7, Msz6.3*

MOS ***26*** *22:54:02.1±2.1, 7915×11050E, h33km, mb6.0/60, MS6.1/77, Error ellipse: s-maj=8.0km s-min=4.5km az=114.9*

ISC 26 22:54:00.8±0.1, 808S±002×11027E±002, h20km, h20km±1.9km: pP-P, n887, σ1§49/586, mb5.8/164, MS6.2/206, 40C-54D, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJII	**Banjamegara**	**0.93**	**323**	P	**Pb**	**22 54 15.5**	**-2.8**
	61μm,0.8s						
KRKI	**Karangkates**	**2.16**	**92**	P	**Pn**	**22 54 31.6**	**-4.1**
	250μm,1.0s						
JCJI	**Jatiwangi**	**2.54**	**308**	P	**Pn**	**22 54 39.1**	**-1.8**
	43μm,1.0s						
CBJI	**Citeko**	**3.78**	**296**	P	**Pn**	**22 54 56.3**	**-1.6**
	16μm,1.0s						
KMMI	**Kaliangket**	**3.80**	**75**	P	**Pn**	**22 54 53.4**	**-4.9**
	4μm,0.7s						
TNG	**Tangerang**	**4.07**	**298**	P	**Pn**	**22 55 03.4**	**+1.5**
	8μm,1.5s						
SBJI	**Serang**	**4.55**	**295**	P	**Pn**	**22 55 10.5**	**+1.9**
	1μm,1.2s						
DNP	**Denpasar**	**4.92**	**97**	P	**Pn**	**22 55 11.4**	**-2.2**
	15μm,0.9s						
XMIS	**Christmas Isla**	**5.15**	**242**	P	**Pn**	**22 55 14.8**	**-1.9**
KSM	**Kuching**	**9.49**	**0**	*e*Pn	**Pn**	**22 56 14.7**	**-1.7**
KAPI	**Kappang**	**9.90**	**73**	Pn	**Pn**	**22 56 18.8**	**-3.1**
	7μm,1.2s						
WSI	**Waingapu**	**10.03**	**100**	P	**Pn**	**22 56 25.6**	**+1.9**
	7μm,1.0s						
PCI	**Palu**	**11.90**	**54**	P	**Pn**	**22 56 49.2**	**-0.1**
	2μm,1.1s						
KGM	**Kluang**	**12.20**	**325**	P	**Pn**	**22 56 57.4**	**+4.0**
PPI	**Padang Panjang**	**12.42**	**307**	P	**Pn**	**22 56 55.6**	**-0.8**
	1μm,1.9s						
COCO	**West Island**	**13.84**	**252**	Pn	**Pn**	**22 57 18.7**	**+2.8**
	6μm,1.1s,SNR=5.6						
COCO	**West Island**	**13.84**	**252**	*e*Pn	**Pn**	**22 57 17.5**	**+1.6**
	1μm,1.1s						
TSM	**Tawau**	**14.44**	**32**	P	**Pn**	**22 57 26.2**	**+2.2**
KKM	**Kota Kinabalu**	**15.23**	**23**	P	**Pn**	**22 57 36.9**	**+2.2**
KKM	**Kota Kinabalu**	**15.23**	**23**	*e*Pn	**Pn**	**22 57 32.9**	**-1.8**
IPM	**Ipoh**	**15.52**	**323**	P	**Pn**	**22 57 41.9**	**+3.4**
PSI	**Prapat**	**15.65**	**313**	Pn	**Pn**	**22 57 40.0**	**-0.2**
	1.5nm,0.3s,baz=158,slow=8.6,SNR=20						
PSI					LR	LR	23 04 18.3	
	comp=Z,157μm,19.4s,baz=134,slow=40						
MBWA	**Marble Bar**	**15.89**	**146**	*e*Pn	**Pn**	**22 57 37.7**	**-5.5**
	5.7nm,0.8s						
KULM	**Kulim**	**16.39**	**324**	*e*Pn	**Pn**	**22 57 50.7**	**+1.1**
KULM					Sn	Sx	23 01 02.3	
FITZ	**Fitzroy Crossi**	**17.96**	**125**	*e*P	**Pn**	**22 58 05.3**	**-4.0**
	886nm,0.7s						
FITZ				*e*S	**Sn**	**23 01 20.4**	**-8.6**
FITZ	**Fitzroy Crossi**	**17.96**	**125**	P	**Pn**	**22 58 06.5**	**-2.8**
	2.5nm,0.3s,baz=308,slow=7.9,SNR=51						
AAI	**Ambon**	**18.35**	**77**	P	**Pn**	**22 58 09.9**	**-4.2**
	2μm,1.5s						
BATP	**Bataraza**	**18.37**	**24**	*e*P	**Pn**	**22 58 15.1**	**+0.8**
PPR	**Puerto Princes**	**19.64**	**26**	⇓*e*P	**Pn**	**22 58 28.6**	**-1.0**
IPIL	**Ipil**	**19.97**	**38**	*e*P	**Pn**	**22 58 34.9**	**+1.4**
BSI	**Banda Aceh**	**20.13**	**312**	P	**P**	**22 58 38.5**	**+5.0**
	336nm,2.0s						
PAGZ	**Pagadian**	**20.52**	**40**	*e*P	**P**	**22 58 40.5**	**+2.8**
CTBH	**Cotabato--PC H**	**20.62**	**43**	*e*P	**P**	**22 58 38.8**	**-0.1**
ENPP	**El Nido**	**21.21**	**26**	*e*P	**P**	**22 58

ASAR PKiKP PKiKP 23 10 40.3 -0.3
comp=Z,3.5nm,1.0s,baz=264,slow=1.3,SNR=4.1
ASAR P3KPbc 23 32 20.6
comp=Z,0.5nm,0.7s,baz=113,slow=3.8,SNR=6.0
ASAR P3KP 23 33 18.8
comp=Z,1.2nm,1.0s,baz=132,slow=1.9,SNR=4.4
ASAR Alice Springs 27.44 127 P **P** **22 59 43.0 -2.3**
ASAR PcP PcP 23 03 07.2 +3.6
AS31 Alice Springs 27.44 127 *e*P **P** **22 59 42.9 -2.4**
AS31 *e*S **S** **23 04 27.0 +2.4**
APYP Conner 27.96 23 *e*P **P** **22 59 51.3 +1.3**
FORT Forrest 28.04 146 *e*P **P** **22 59 49.9 -0.8**
comp=Z,442nm,0.7s,mb6.2
FORT *e*S **S** **23 04 32.3 -1.9**
CVP Callao Caves 28.05 24⇓ *e*P **P** **22 59 51.0 +0.3**
CHTO Chiang Mai 28.97 337 *e*P **P** **22 59 57.5 -1.4**
CHTO *e* 23 03 13.2
CHTO pmax pmax
comp=Z,154nm,1.1s,mb5.7
CHTO MLR MLR
comp=Z,87μm,19.0s,MS6.4
CHTO Chiang Mai 28.97 337 *e*P **P** **22 59 57.5 -1.5**
comp=Z,154nm,1.1s,mb5.7
CHTO *e*PcP PcP 23 03 13.2 +5.8
CHTO *e*ScP ScP 23 06 52.0 +4.2
CHTO LR LR
comp=Z,87μm,19.0s,MS6.4
HKC Hong Kong 30.44 7 *i* P **P** **23 00 08.0 -3.9**
HKC *i* S **S** **23 05 08.0 -3.8**
GZH Guangzhou 31.12 5 P **P** **23 00 23.5 +5.5**
GZH S **S** **23 05 29.3 +6.8**
GZH AMB AMB
comp=Z,3μm,9.1s
GZH LR LR
comp=N,22μm,18.6s,MS6.3
GZH LR LR
comp=E,51μm,15.2s,MS6.3
GZH LR LR
comp=Z,31μm,19.9s,MS6.0
PALK Pallekele 33.20 297 *e*P **P** **23 00 33.2 -3.0**
comp=Z,126nm,1.3s,mb5.7
KMI Kunming 33.81 348 P **P** **23 00 44.0 +2.5**
KMI AP pP 23 00 48.8 +1.2
KMI XP sP 23 00 50.5 +0.4
KMI PP PP 23 01 58.5 +0.4
KMI PPP 23 02 18.0
KMI S **S** **23 06 07.8 +3.4**
KMI XS sS 23 06 17.0 +2.5
KMI SCP ScP 23 07 08.5 +4.5
KMI SS SS 23 08 14.0 -17
KMI AMB AMB
comp=Z,34nm,1.1s,mb5.2
KMI AMB AMB
comp=Z,790nm,4.5s
KMI LR LR
comp=N,71μm,20.5s,MS6.9
KMI LR LR
comp=E,209μm,16.7s,MS6.9
KMI LR LR
comp=Z,81μm,21.9s
KMI Kunming 33.81 348 P **P** **23 00 44.0 +2.5**
KMI *SP sP 23 00 50.6 +0.5
KMI 23 01 58.4
KMI PPP 23 02 18.0
KMI S **S** **23 06 07.8 +3.4**
KMI SS SS 23 08 13.9 -17
KMI SSS 23 08 39.9
KMI pmax pmax
comp=Z,34nm,1.1s,mb5.2
KMI MLR MLR
comp=Z,81μm,21.9s,MS6.4
KMI Kunming 33.81 348 P **P** **23 00 44.0 +2.5**
comp=Z,34nm,1.1s,mb5.2
KMI pP pP 23 00 48.8 +1.2
KMI sP sP 23 00 50.6 +0.5
KMI PP PP 23 01 58.4 +0.3
KMI PPP 23 02 18.0
KMI S **S** **23 06 07.8 +3.4**
KMI sS sS 23 06 17.0 +2.5
KMI ScP ScP 23 07 08.6 +4.6
KMI SS SS 23 08 13.9 -17
KMI SSS 23 08 39.9
KMI LR LR
comp=Z,81μm,21.9s,MS6.4
QZH Quanzhou 33.81 14 P **P** **23 00 44.3 +2.8**
QZH S **S** **23 06 09.0 +4.6**
QZH LR LR
comp=N,44μm,13.2s,MS6.5
QZH LR LR
comp=E,36μm,12.6s,MS6.5
QZH LR LR
comp=Z,72μm,17.8s
NACB Ninganchiao 33.91 19 *e*P **P** **23 00 40.5 -1.9**
YHNB Yeheng 34.31 18 *e*P **P** **23 00 44.5 -1.3**
GYA Guiyang 34.51 354⇑ *i*P **P** **23 00 46.3 -1.3**
GYA AP pP 23 00 56.0 +2.3
GYA XP sP 23 01 00.0 +3.8
GYA PP PP 23 02 07.0 +1.1
GYA PCP PcP 23 03 19.5 -2.9
GYA S **S** **23 06 16.5 +1.3**
GYA XS sS 23 06 29.8 +4.5
GYA SS SS 23 08 28.5 -17
GYA AMB AMB
comp=Z,200nm,1.4s,mb5.8
GYA AMB AMB
comp=Z,1μm,5.4s
GYA LR LR
comp=N,70μm,20.3s,MS6.6
GYA LR LR
comp=E,71μm,17.0s,MS6.6
GYA LR LR
comp=Z,70μm,20.0s,MS6.4
TATO Taipei 34.63 18 P **P** **23 00 48.6 0.0**
comp=Z,254nm,1.1s,mb6.1
TATO LR LR
comp=Z,30μm,19.0s,MS6.0
PMG Port Moresby 36.47 95 P **P** **23 01 03.2 -1.3**
comp=Z,132nm,0.9s,mb5.9,baz=216,slow=2.9,SNR=12
PMG Port Moresby 36.47 95 *e*P **P** **23 01 03.2 -1.2**
PMG pmax pmax
comp=Z,234nm,1.0s
PMG MLR MLR
comp=Z,28μm,20.0s
PMG Port Moresby 36.47 95 *e*P **P** **23 01 03.2 -1.2**
comp=Z,234nm,1.0s,mb6.1
PMG *e*ScP ScP 23 07 19.5 +6.0
PMG LR LR
comp=Z,28μm,20.0s,MS6.0
MDRS Chennai 36.49 305 AMS AMS 23 16 10.4
comp=Z,28μm,23.8s,MS6.0
CTA Charters Tower 36.79 113 *e*P **P** **23 01 05.3 -1.9**
comp=Z,212nm,1.1s,mb5.9
CTA *e*S **S** **23 06 45.2 -5.0**
CTA Charters Tower 36.79 113 P **P** **23 01 05.9 -1.3**
comp=Z,72nm,1.0s,mb5.5,baz=287,slow=11,SNR=31
CTA LR LR 23 17 45.3
comp=Z,37μm,20.7s,MS6.2,baz=284,slow=39
CTA Charters Tower 36.79 113 *e*P **P** **23 01 05.3 -1.9**
CTA *e*S **S** **23 06 45.2 -5.0**
CTA pmax pmax
comp=Z,212nm,1.1s
CTAO Charters Tower 36.79 113 *e*P **P** **23 01 05.8 -1.3**
comp=Z,103nm,1.5s,mb5.4
CTAO LR LR
comp=Z,39μm,21.0s,MS6.2
VIS Vishakhapatnam 36.96 314 *e*P **P** **23 01 07.1 -1.5**
VIS AMb AMB 23 01 16.2
comp=Z,68nm,2.0s,mb5.1
VIS *ex* x 23 06 42.5
VIS *i* x x 23 07 07.6
VIS AMS AMS 23 16 18.3
comp=Z,50μm,20.9s,MS6.3
TRD Trivandrum 37.06 296 *e*P **P** **23 01 07.8 -1.7**
TRD AMb AMB 23 01 21.6
comp=Z,274nm,1.1s,mb6.0
TRD *i* S **S** **23 06 54.4 0.0**
TRD AMS AMS 23 16 39.0
comp=Z,57μm,19.2s,MS6.4
CAL Calcutta 37.26 325 *e*P **P** **23 01 12.6 +1.4**
CAL AMb AMB 23 01 13.7
comp=Z,2μm,0.7s
CAL *ex* x 23 02 40.5
CAL AMP 23 03 05.7
comp=E,1μm,0.2s
CAL *ex* x 23 09 41.2
CAL AMP 23 19 18.2
comp=Z,45μm,19.5s
DGAR Diego Garcia 37.47 268 *e*P **P** **23 01 14.9 +1.9**
DGAR pmax pmax
comp=Z,1μm,1.5s,mb6.5
DGAR Diego Garcia 37.47 268 *e*P **P** **23 01 14.9 +1.9**
comp=Z,1μm,1.5s,mb6.5
STKA Stephens Creek 37.53 133⇑ *i*P **P** **23 01 10.1 -3.3**
comp=Z,523nm,0.4s,mb6.6
STKA *e*S **S** **23 06 56.6 -4.8**
STKA Stephens Creek 37.53 133 P **P** **23 01 11.0 -2.4**
comp=Z,155nm,0.5s,mb6.0,baz=312,slow=10,SNR=179
STKA LR LR 23 17 05.2
comp=Z,117μm,20.9s,MS6.7,baz=301,slow=37
SHL Shillong 37.93 332 *e*P **P** **23 01 16.0 -0.9**
SHL AMb AMB 23 01 32.5
comp=Z,3μm,1.2s,mb6.8
SHL *e*S **S** **23 07 10.0 +2.5**
WHN Wuhan 38.60 6 *e*P **P** **23 01 24.0 +1.5**
WHN S **S** **23 07 21.0 +3.3**
WHN LR LR
comp=Z,51μm,15.6s,MS6.5
JOW Kunigami 38.85 26 P **P** **23 01 25.9 +1.3**
comp=Z,50nm,0.7s,mb5.3,baz=212,slow=8.1,SNR=7.2
JOW LR LR 23 17 54.9
comp=Z,23μm,21.2s,MS6.0,baz=212,slow=37
JOW Kunigami 38.85 26 P **P** **23 01 25.9 +1.3**
JOW LR LR 23 17 54.9
CD2 Chengdu 39.27 351 P **P** **23 01 28.8 +0.7**
CD2 XP sP 23 01 35.8 -0.9
CD2 PP PP 23 03 01.3 +3.1
CD2 S **S** **23 07 25.0 -2.7**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
CD2 LR LR
comp=E,56μm,16.2s
CD2 LR LR
comp=Z,29μm,14.4s,MS6.2
BOK Bokaro 39.64 324 *e*P **P** **23 01 29.8 -1.4**
BOK *i* P 23 01 30.0
BOK *i* x x 23 03 01.3
BOK AMb AMB 23 03 16.6
comp=Z,209nm,1.6s,mb5.6
BOK *e*S **S** **23 07 34.2 +0.9**
BOK AMS AMS 23 14 04.4
comp=Z,6μm,18.9s,MS5.5
HYB Hyderabad 40.31 309 *i* P **P** **23 01 39.0 +2.3**
comp=Z,40nm,1.0s,mb5.1
HYB *e* 23 01 42.0
HYB *e* 23 01 49.5
HYB *e*PP PP 23 03 18.0 +8.5
HYB *e*PcP PcP 23 03 42.0 +1.9
HYB *e* 23 07 28.0
HYB *e*S **S** **23 07 38.0 -5.3**
HYB LR LR 23 18 32.0
comp=Z,57nm,20.0s
HYB Hyderabad 40.31 309 *e*P **P** **23 01 39.0 +2.3**
HYB *e*S **S** **23 07 34.0 -9.3**
SSE Sheshan 40.33 15 P **P** **23 01 41.0 +4.1**
SSE XP sP 23 01 50.0 +4.4
SSE PP PP 23 03 13.3 +3.5
SSE S **S** **23 07 48.8 +5.1**
SSE XS sS 23 07 58.5 +4.7
SSE AMB AMB
comp=Z,218nm,1.2s,mb5.8
SSE AMB AMB
comp=Z,1μm,4.6s
SSE LR LR
comp=N,22μm,16.0s,MS6.2
SSE LR LR
comp=E,17μm,16.0s,MS6.2
SSE LR LR
comp=Z,21μm,15.3s,MS6.1
GUMO Guam 40.54 58 P **P** **23 01 36.8 -1.8**
comp=Z,68nm,0.6s,mb5.4,baz=157,slow=7.7,SNR=6.3
GUMO Guam 40.54 58 P **P** **23 01 36.8 -1.8**
NJ2 Nanjing 40.74 11 *e*P **P** **23 01 41.5 +1.2**
NJ2 AP pP 23 01 45.0 -1.5
NJ2 XP sP 23 01 48.0 -1.0
NJ2 PP PP 23 03 16.0 +1.7
NJ2 S **S** **23 07 49.0 -0.7**
NJ2 XS sS 23 07 57.0 -2.9
NJ2 AMB AMB
comp=Z,90nm,1.0s,mb5.3
NJ2 AMB AMB
comp=Z,2μm,5.8s
NJ2 LR LR
comp=N,59μm,12.6s,MS6.7
NJ2 LR LR
comp=E,53μm,15.8s,MS6.7
NJ2 LR LR
comp=Z,24μm,13.9s,MS6.2
LSA Lhasa 41.83 335 P **P** **23 01 47.0 -2.2**
LSA AP pP 23 01 56.0 +0.6
LSA XP sP 23 01 59.8 +1.9
LSA S **S** **23 08 05.0 -0.9**
LSA XS sS 23 08 23.5 +7.4
LSA LR LR
comp=N,24μm,18.8s
LSA LR LR
comp=E,57μm,29.0s
LSA LR LR
comp=Z,29μm,23.5s,MS6.1
LSA Lhasa 41.83 335 P **P** **23 01 50.0 +0.8**
LSA Lhasa 41.83 335 *e*P **P** **23 01 48.8 -0.4**
LSA pmax pmax
comp=Z,278nm,1.0s,mb5.8
LSA MLR MLR
comp=Z,40μm,21.0s,MS6.3
LSA Lhasa 41.83 335 *e*P **P** **23 01 48.8 -0.4**
comp=Z,278nm,1.0s,mb5.8
LSA LR LR
comp=Z,40μm,21.0s,MS6.3
XAN Xi'an 41.91 358 P **P** **23 01 50.3 +0.4**
XAN PP PP 23 03 29.5 +2.6
XAN S **S** **23 08 04.0 -3.1**
XAN AMB AMB
comp=Z,263nm,1.5s,mb5.6
XAN AMB AMB
comp=Z,1μm,3.7s
XAN LR LR
comp=N,17μm,27.2s,MS6.3
XAN LR LR
comp=E,48μm,23.7s,MS6.3
XAN LR LR
comp=Z,58μm,22.5s,MS6.4
NGP Nagpur 42.24 314⇑ *e*P **P** **23 01 50.1 -2.5**
NGP AMb AMB 23 01 57.4
comp=Z,113nm,2.1s,mb5.1
NGP *e*S **S** **23 08 12.2 +0.2**
NGP AMP 23 19 40.4
comp=Z,60μm,23.7s
LATR Latur 42.43 309 *e*P **P** **23 01 54.5 +0.4**
JIRN Jiri 42.49 328 *e*P **P** **23 01 53.4 -1.3**
comp=Z,548nm,1.1s,mb6.1
PKI Pulchoki 42.84 327 *e*P **P** **23 01 56.1 -1.4**
comp=Z,306nm,1.2s,mb5.9
PKI Pulchoki 42.84 327 *e*P **P** **23 01 56.1 -1.4**
PKI pmax pmax
comp=Z,306nm,1.2s,mb5.9
GUN Gumba 42.86 327 *e*P **P** **23 01 56.3 -1.3**
comp=Z,666nm,0.9s,mb6.4
JBP Jabalpur 42.92 317⇓ *i*P **P** **23 01 59.0 +0.8**
JBP *i* S **S** **23 08 22.5 +0.5**
JBP *ex* x 23 20 25.6
comp=Z,46μm,22.4s
DMN Daman 43.04 326 *e*P **P** **23 01 57.8 -1.3**
comp=Z,503nm,1.2s,mb6.1
GOA Goa 43.04 303 *ex* x 23 02 05.5
GOA *ex* x 23 07 47.0
KKN Kakani 43.09 327 *e*P **P** **23 01 58.2 -1.3**
comp=Z,467nm,1.3s,mb6.1
KKN Kakani 43.09 327 *e*P **P** **23 01 58.2 -1.3**
KKN pmax pmax
comp=Z,467nm,1.3s,mb6.1
TOO Toolangi 43.31 138 *e*P **P** **23 02 01.8 +0.5**
comp=Z,124nm,1.1s,mb5.5
TOO Toolangi 43.31 138 *e*P **P** **23 02 01.8 +0.5**
TOO pmax pmax
comp=Z,125nm,1.1s,mb5.6
AKL Akola 43.44 312 *i* x x 23 01 32.0
AKL *i* x x 23 07 29.9
GKN Gorkha 43.60 326 *e*P **P** **23 02 02.2 -1.4**
comp=Z,577nm,1.2s,mb6.2
KAD Karad 43.69 305 *e*P **P** **23 02 02.5 -1.9**
KAD AMb AMB 23 04 01.4
comp=Z,110nm,1.3s,mb5.4
KAD *ex* x 23 08 24.5
KAD AMS AMS 23 21 29.5
comp=Z,32μm,19.2s,MS6.2
KOLN Koldanda 44.00 325 *e*P **P** **23 02 05.5 -1.3**
comp=Z,222nm,0.9s,mb5.9
LZH Lanzhou 44.35 353 *e*P **P** **23 02 11.0 +1.4**
LZH AP pP 23 02 20.0 +4.2
LZH XP sP 23 02 25.0 +6.7
LZH PCP PcP 23 03 54.0 +0.5
LZH PP PP 23 03 56.3 +3.2
LZH SCP ScP 23 07 42.5 -1.9
LZH PCS PcS 23 07 46.3 -0.4
LZH S **S** **23 08 43.0 +0.2**
LZH XS sS 23 08 58.3 +5.2
LZH SS SS 23 11 54.5 -7.1
LZH SCS ScS 23 12 04.5 -2.3
LZH AMB AMB
comp=Z,960nm,1.5s,mb6.3
LZH AMB AMB
comp=Z,4μm,5.1s
LZH LR LR
comp=E,43μm,14.1s
LZH LR LR
comp=Z,60μm,15.8s,MS6.6
LZH Lanzhou 44.35 353 *e*P **P** **23 02 10.9 +1.3**
LZH *PP pP 23 02 19.9 +4.1
LZH *SP sP 23 02 25.0 +6.7
LZH 23 03 54.1
LZH 23 03 56.2
LZH S **S** **23 08 43.0 +0.2**
LZH *SS sS 23 08 58.3 +5.2
LZH SS SS 23 11 54.5 -7.1
LZH 23 12 04.6
LZH pmax pmax
comp=Z,960nm,1.5s,mb6.3
LZH MLR MLR
comp=Z,60μm,15.8s,MS6.6
LZH Lanzhou 44.35 353 *e*P **P** **23 02 10.9 +1.3**
comp=Z,960nm,1.5s,mb6.3
LZH pP pP 23 02 19.9 +4.1
LZH sP sP 23 02 25.0 +6.7
LZH PcP PcP 23 03 54.1 +0.6
LZH PP PP 23 03 56.2 +3.1
LZH ScP ScP 23 07 42.5 -1.9
LZH PcS PcS 23 07 46.3 -0.4
LZH S **S** **23 08 43.0 +0.2**
LZH sS sS 23 08 58.3 +5.2
LZH SS SS 23 11 54.5 -7.1
LZH ScS ScS 23 12 04.6 -2.2
LZH LR LR
comp=Z,60μm,15.8s,MS6.6
TIA Tai'an 44.52 8 *e*P **P** **23 02 10.5 -0.5**
TIA S **S** **23 08 43.0 -2.4**
TIA LR LR
comp=N,22μm,15.0s,MS6.5
TIA LR LR
comp=E,37μm,15.0s,MS6.5
ARMA Armidale 44.57 126 *e*P **P** **23 02 14.1 +2.7**
ARMA *e*S **S** **23 08 49.7 +3.7**
POO Poona 44.62 307⇑ *i*P **P** **23 02 10.0 -1.8**
POO ⇑ *i*P 23 02 10.0
POO *e*P 23 02 42.8
POO *i* PP PP 23 03 55.5 -0.5
POO *i* x x 23 04 34.5
POO *i* PCS PcS 23 07 45.5 -2.3
POO *i* S **S** **23 08 47.0 +0.3**
POO *i* x x 23 09 00.8
POO *ex* x 23 09 13.8
POO *ex* x 23 12 00.0
POO *ex* x 23 12 38.0
POO *ex* x 23 12 38.0
POO *ex* x 23 14 48.0
POO AMS AMS 23 20 25.9
comp=Z,29μm,23.8s,MS6.1
POO AMS AMS 23 22 50.4
comp=Z,31μm,19.2s
BHPL Bhopal 44.74 315 *e*P **P** **23 02 11.3 -1.4**
BHPL ⇑ *i*P 23 02 12.3
BHPL *ex* x 23 08 35.0
BHPL AMS AMS 23 21 15.7
comp=Z,31μm,19.2s,MS6.2
CNB Canberra Magne 44.85 133 *e*P **P** **23 02 16.3 +2.7**
comp=Z,334nm,1.6s,mb5.9
RIV Riverview 45.53 130 *e*P **P** **23 02 22.7 +3.7**
BOM Bombay 45.64 306 *ex* x 23 02 13.6
CBIJ Chichi jima 46.68 40 LR LR 23 19 20.8
comp=Z,6μm,21.8s,MS5.5,baz=49,slow=33
LGTI Lohaghat 47.20 324 *ex* x 23 02 39.5
TAU Tasmania Unive 47.51 143 P **P** **23 02 35.2 +0.6**
TAU pmax pmax
comp=Z,163nm,1.1s,mb6.0
TAU MLR MLR
comp=Z,41μm,20.0s,MS6.4
TAU Tasmania Unive 47.51 143 P **P** **23 02 35.2 +0.6**
comp=Z,163nm,1.1s,mb6.0
TAU LR LR
comp=Z,41μm,20.0s,MS6.4
INCN Inchon 47.84 18 *e*P **P** **23 02 38.6 +1.5**
comp=Z,400nm,1.5s,mb6.2
INCN LR LR
comp=Z,13μm,19.0s,MS5.9
DL2 Dalian 47.92 12 *i* PR 23 02 37.8
DL2 PP PP 23 04 31.0 +1.2
DL2 S **S** **23 09 30.3 -3.9**
DL2 AMB AMB
comp=Z,70nm,1.1s,mb5.6
DL2 AMB AMB
comp=Z,820nm,6.3s
DL2 LR LR
comp=N,11μm,15.8s,MS6.1
DL2 LR LR
comp=E,12μm,14.5s,MS6.1
DL2 LR LR
comp=Z,13μm,14.5s,MS6.0
BJT Baijiatuau 48.17 6 *e*P **P** **23 02 38.2 -1.4**
BJT pmax pmax
comp=Z,850nm,1.6s
BJT MLR MLR
comp=Z,27μm,20.0s
BJT Baijiatuau 48.17 6 *e*P **P** **23 02 38.2 -1.5**
comp=Z,850nm,1.6s,mb6.5
BJT LR LR
comp=Z,27μm,20.0s,MS6.2
BJI Beijing 48.19 6 P **P** **23 02 38.0 -1.8**
BJI XP sP 23 02 45.8 -2.7
BJI S **S** **23 09 38.8 +0.8**
BJI AMB AMB
comp=Z,230nm,1.8s,mb5.9
BJI AMB AMB
comp=Z,3μm,3.7s
BJI LR LR
comp=N,15μm,17.8s,MS6.5
BJI LR LR
comp=E,46μm,17.8s,MS6.5
BJI LR LR
comp=Z,21μm,23.1s
BJI Beijing 48.19 6 P **P** **23 02 38.0 -1.8**
comp=Z,230nm,1.8s,mb5.9
BJI sP sP 23 02 45.8 -2.7
BJI S **S** **23 09 38.8 +0.8**
BJI SS SS 23 13 16.1 +8.9
BJI LR LR
comp=Z,21μm,23.1s,MS6.0
KS15 Wonju Array Si 48.19 19 *e*P **P** **23 02 40.2 +0.4**
GTA Gaotai 48.24 349 P **P** **23 02 40.8 +0.6**
GTA AP pP 23 02 50.5 +4.0
GTA XP sP 23 02 54.5 +5.6
GTA PCP PcP 23 04 07.0 -0.1
GTA SCP ScP 23 08 01.0 +0.4
GTA PCS PcS 23 08 02.8 -0.1
GTA S **S** **23 09 38.5 -0.1**
GTA XS sS 23 09 54.5 +5.5
GTA SS SS 23 13 03.5 -4.5
GTA AMB AMB
comp=Z,2μm,4.6s
GTA LR LR
comp=N,31μm,27.0s
GTA LR LR
comp=E,83μm,19.8s
GTA LR LR
comp=Z,35μm,20.9s
BTO Baotou 48.44 360 *e*P **P** **23 02 41.3 -0.5**

BTO S **S** **23 09 36.3 -5.3**
BTO AMB AMB
comp=Z,291nm,2.0s,mb6.0
NDI New Delhi 48.51 320 *e*P **P** **23 02 39.2 -3.1**
NDI *e*P 23 02 39.5
NDI AMb AMB 23 02 57.1
comp=Z,84nm,2.2s,mb5.4
NDI *e*S **S** **23 09 42.0 -0.5**
HHC Hu-ho-hao-te 48.70 1 ⇓P **P** **23 02 44.5 +0.7**
HHC AP pP 23 02 49.0 -1.1
HHC XP sP 23 02 51.8 -0.7
HHC PCP PcP 23 04 11.8 +2.2
HHC PP PP 23 04 37.5 +0.7
HHC SCP ScP 23 07 59.0 -3.6
HHC PCS PcS 23 08 04.0 -0.9
HHC S **S** **23 09 46.0 +0.8**
HHC XS sS 23 09 53.5 -2.0
HHC SCS ScS 23 12 35.8 +0.6
HHC SS SS 23 13 12.3 -3.2
HHC AMB AMB
comp=Z,153nm,2.1s,mb5.7
HHC LR LR
comp=N,31μm,18.2s,MS6.4
HHC LR LR
comp=E,25μm,18.4s,MS6.4
HHC LR LR
comp=Z,35μm,18.6s,MS6.4
AJM Ajmer 48.74 316 *e*P **P** **23 02 41.3 -2.8**
AJM *i* P pP 23 02 47.0 -3.4
AJM AMb AMB 23 02 51.4
comp=Z,75nm,1.1s,mb5.6
AJM *ex* x 23 09 44.4
AJM AMS AMS 23 24 16.9
comp=Z,36μm,24.7s,MS6.3
HNR Honiara 49.08 95 P **P** **23 02 44.7 -2.0**
comp=Z,276nm,0.6s,mb6.4,baz=283,slow=0.7,SNR=15
HNR Honiara 49.08 95 *e*P **P** **23 02 45.7 -1.0**
comp=Z,940nm,1.0s,mb6.8
HNR LR LR
comp=Z,25μm,21.0s,MS6.2
SMLA Simla 50.25 322 *i* x x 23 02 50.0
comp=Z,39nm,0.4s
SMLA *e*P 23 02 52.8
SMLA AMb AMB 23 03 01.8
comp=Z,151nm,1.2s,mb5.9
BHJ Bhuj 50.47 309 *e*P **P** **23 02 57.2 -0.1**
BHJ AMb AMB 23 03 16.2
comp=Z,442nm,1.7s,mb6.2
BHJ *ex* x 23 10 01.1
BHJ AMS AMS 23 15 22.2
comp=Z,7μm,20.6s,MS5.7
BHJ *ex* x 23 25 02.3
comp=Z,27μm,20.5s
SDNR Sundarnagar 50.63 323 *e*P **P** **23 02 56.4 -2.1**
SNY Shenyang 51.14 13 ⇑P **P** **23 02 59.0 -3.3**
SNY AP pP 23 03 04.0 -4.6
SNY S **S** **23 10 14.0 -5.2**
SNY AMB AMB
comp=Z,31nm,2.2s,mb4.8
SNY LR LR
comp=N,22μm,16.7s,MS6.4
SNY LR LR
comp=E,20μm,18.2s,MS6.4
SNY LR LR
comp=Z,22μm,18.6s,MS6.2
MAJO Matsushiro 51.56 29 *e*P **P** **23 03 02.4 -3.0**
comp=Z,155nm,0.9s,mb5.9
MAJO LR LR
comp=Z,10μm,21.0s,MS5.8
MAT Matsushiro 51.56 29 P **P** **23 03 02.6 -2.8**
MAT *S* **S** **23 10 24.0 -1.0**
MAT Matsushiro 51.56 29 *e*P **P** **23 03 03.0 -2.4**
MAT *e*S **S** **23 10 25.0 0.0**
MAT pmax pmax
comp=Z,78nm,1.0s,mb5.6
MAT MLR MLR
comp=Z,9μm,20.0s,MS5.8
MAT Matsushiro 51.56 29 *e*P **P** **23 03 03.0 -2.4**
comp=Z,78nm,1.0s,mb5.6
MAT *e*S **S** **23 10 25.0 0.0**
MAT LR LR
comp=Z,9μm,20.0s,MS5.8
MJAR Matsushiro Arr 51.56 29 P **P** **23 03 02.6 -2.8**
comp=Z,42nm,0.7s,mb5.5,baz=206,slow=7.6,SNR=43
MJAR ScP ScP 23 08 14.6 -0.2
comp=Z,11nm,1.1s,baz=206,slow=5.3,SNR=4.4
MJAR LR LR 23 24 55.9
comp=Z,9μm,21.7s,MS5.8,baz=210,slow=36
CN2 Changchun 53.44 14 *e*P **P** **23 03 22.5 +3.1**
CN2 *e*XP sP 23 03 32.0 +3.8
CN2 *e*PP PP 23 05 25.5 +5.6
CN2 *e*S **S** **23 10 52.0 +1.2**
CN2 AMB AMB
comp=Z,130nm,1.2s,mb5.7
CN2 AMB AMB
comp=Z,2μm,10.0s
CN2 LR LR
comp=N,28μm,15.0s,MS6.5
CN2 LR LR
comp=E,24μm,15.0s,MS6.5
CN2 LR LR
comp=Z,21μm,18.0s,MS6.2
VLA Vladivostok 54.63 19 *i* P **P** **23 03 28.6 +0.6**
MDJ Mudanjiang 55.28 17 P **P** **23 03 32.8 +0.1**
MDJ AP pP 23 03 36.0 -3.1
MDJ PP PP 23 05 36.5 +0.1
MDJ SCP ScP 23 08 32.0 +1.0
MDJ PCS PcS 23 08 33.3 -0.1
MDJ S **S** **23 11 17.8 +2.3**
MDJ XS sS 23 11 23.3 -2.7
MDJ SCS ScS 23 13 22.3 +1.4
MDJ AMB AMB
comp=Z,93nm,1.2s,mb5.7
MDJ LR LR
comp=N,11μm,19.4s,MS6.0
MDJ LR LR
comp=E,7μm,18.0s,MS6.0
MDJ LR LR
comp=Z,10μm,23.6s
MDJ Mudanjiang 55.28 17 *e*P **P** **23 03 31.4 -1.3**
comp=Z,283nm,1.5s,mb6.1
MDJ LR LR
comp=Z,14μm,20.0s,MS6.0
WMQ Urumqi 55.57 340 ⇓P **P** **23 03 36.3 +1.5**
WMQ AP pP 23 03 40.8 -0.4
WMQ XP sP 23 03 43.3 -0.3
WMQ PCP PcP 23 04 36.5 +2.0
WMQ PP PP 23 05 41.5 +2.5
WMQ PPP 23 06 55.3
WMQ SCP ScP 23 08 33.3 +1.0
WMQ S **S** **23 11 18.8 -0.6**
WMQ XS sS 23 11 26.5 -3.3
WMQ SCS ScS 23 13 21.5 -1.5
WMQ SS SS 23 15 03.0 -1.4
WMQ AMB AMB
comp=Z,50nm,1.4s,mb5.3
WMQ AMB AMB
comp=Z,936nm,3.5s
WMQ LR LR
comp=N,34μm,18.5s,MS6.5
WMQ LR LR
comp=E,28μm,21.6s,MS6.5
WMQ LR LR
comp=Z,20μm,21.9s,MS6.2
DZM Mont Dzumac 55.70 111 P **P** **23 03 35.1 -0.6**
comp=Z,28nm,0.9s,mb5.3,baz=268,slow=6.8,SNR=14
ULN Ulaanbaatar 55.77 357 *e*P **P** **23 03 34.7 -1.6**
ULN pmax pmax
comp=Z,151nm,0.9s,mb6.0
ULN MLR MLR
comp=Z,41μm,19.0s,MS6.5
ULN Ulaanbaatar 55.77 357 *e*P **P** **23 03 34.7 -1.6**
comp=Z,151nm,0.9s,mb6.0
ULN LR LR
comp=Z,41μm,19.0s,MS6.5
SONM Songino Array 55.78 357 P **P** **23 03 34.5 -1.8**
comp=Z,21nm,0.6s,mb5.3,baz=175,slow=8.5,SNR=53
SONM ScP ScP 23 08 30.8 -2.4
comp=Z,11nm,0.9s,baz=178,slow=3.9,SNR=4.5
SONM LR LR 23 29 06.8
comp=Z,47μm,19.4s,MS6.6,baz=178,slow=38
SONM PKPPKP 23 33 29.5
comp=Z,0.9nm,0.8s,baz=238,slow=8.4,SNR=4.3
SONM PKP2bc 23 33 45.4
comp=Z,1.2nm,0.7s,baz=315,slow=0.6,SNR=4.8
SONM Songino Array 55.78 357 P **P** **23 03 34.5 -1.8**
SONM ScP ScP 23 08 30.8 -2.4
SONM LR LR 23 29 06.8
SONM P'P' 23 33 29.5
SONM ⇑*e* 23 33 45.4
KSH Kashi 57.03 329 P **P** **23 03 43.5 -1.8**
KSH *e*AP pP 23 03 53.0 +1.4
KSH *e*XP sP 23 03 57.5 +3.4
KSH *e*PCS PcS 23 08 36.0 -5.1
KSH *e*XS sS 23 11 52.0 +2.8
KSH *e*SS SS 23 15 26.3 -1.1
KSH AMB AMB
comp=Z,643nm,2.3s,mb6.2
KSH LR LR
comp=N,24μm,16.0s,MS6.6
KSH LR LR
comp=E,28μm,16.8s,MS6.6
KSH LR LR
comp=Z,23μm,24.7s
HIA Hailar 57.71 7 *e*P **P** **23 03 48.7 -1.3**
HIA pmax pmax
comp=Z,168nm,1.2s
HIA MLR MLR
comp=Z,22μm,20.0s
HIA Hailar 57.71 7 *e*P **P** **23 03 48.7 -1.3**
comp=Z,168nm,1.2s,mb6.0
HIA LR LR
comp=Z,22μm,20.0s,MS6.3
CASY Casey 58.11 180 *e*P **P** **23 03 52.1 -0.8**
CASY *e*S **S** **23 11 53.4 +0.5**
ERM Erimo 58.23 28 P **P** **23 03 54.4 +0.7**
comp=Z,1μm,1.1s,SNR=7.5
ZAK Zakamensk 58.54 355 *e*P **P** **23 03 58.4 +2.5**
ZAK pmax pmax
comp=Z,189nm,1.8s,mb5.8
WBK Wadi Bani Khal 58.76 302 ⇓P **P** **23 03 57.2 -0.2**
SNR=14
WSAR Wadi Sarin 59.31 303 P **P** **23 03 59.8 -1.4**
comp=Z,24nm,0.8s,mb5.3,baz=106,slow=7.9,SNR=16
JMDO Jabal Madar 59.38 302 ⇓P **P** **23 04 02.0 +0.3**
SNR=14
AAA Alma-Ata 59.41 332 *e*P **P** **23 04 00.5 -1.4**
AAA *e*S **S** **23 12 07.5 -2.3**
AAA pmax pmax
comp=Z,2μm,10.0s
AAA smax
comp=N,5μm,9.5s
AAA MLR MLR
comp=Z,30μm,18.0s,MS6.5
MIR Mirnyy 59.57 188 *d* P **P** **23 04 06.0 +3.0**
MIR pmax pmax
comp=Z,2μm,2.5s,mb6.8
MIR pmax pmax
comp=Z,5μm,22.0s
SMDO Samad 59.72 303 ⇑P **P** **23 04 03.7 -0.3**
SNR=28
TLY Talaya 59.80 355 P **P** **23 04 07.4 +2.8**
comp=Z,220nm,2.2s,mb5.8,SNR=24
TLY Talaya 59.80 355 *e*P **P** **23 04 03.6 -1.0**
TLY *e*PPP 23 07 47.7
TLY *e*S **S** **23 12 07.6 -7.2**
TLY *e* 23 13 53.5
TLY *e*SSS 23 18 41.9
TLY pmax pmax
comp=Z,146nm,2.1s,mb5.6
TLY MLR MLR
comp=Z,22μm,16.0s,MS6.4
TLY Talaya 59.80 355 *e*P **P** **23 04 03.8 -0.7**
comp=Z,277nm,1.9s,mb6.0
TLY LR LR
comp=Z,22μm,22.0s,MS6.2
BIDO Bidbid 59.85 303 ⇓P **P** **23 04 04.1 -0.8**
SNR=45
SHAO Shalim 59.85 296 ⇑P **P** **23 04 05.1 +0.1**
SNR=10
CIT Chita 59.93 2 *e*P **P** **23 04 09.6 +4.1**
CIT *e* 23 06 25.3
CIT *e* 23 12 26.8
CIT pmax pmax
comp=Z,785nm,2.4s,mb6.3
MOY Mondy 60.04 353 *e*P **P** **23 04 05.6 -0.7**
MOY pmax pmax
comp=Z,405nm,1.9s,mb6.1
MK31 Makanchi Array 60.05 338 P **P** **23 04 03.6 -2.7**
MK31 pmax pmax
comp=Z,116nm,1.2s,mb5.8
MKAR Makanchi Array 60.05 338 P **P** **23 04 03.6 -2.7**
comp=Z,5.4nm,0.5s,mb4.8,baz=144,slow=7.0,SNR=23
MKAR PKPPKP 23 33 22.0
comp=Z,0.6nm,0.8s,baz=309,slow=2.6,SNR=4.5
MKAR PKP2bc 23 33 44.5
comp=Z,2.4nm,0.9s,baz=336,slow=2.7,SNR=8.1
MKAR PKP2ab 23 33 49.6
comp=Z,1.3nm,0.7s,baz=28,slow=2.9,SNR=4.7
MKAR Makanchi Array 60.05 338 P **P** **23 04 03.6 -2.7**
MKAR P'P' 23 33 22.0
MKAR ⇑*e* 23 33 44.5
MKAR P'P'ab 23 33 49.6
AAK Ala-Archa 60.09 330 P **P** **23 04 05.1 -1.5**
comp=Z,101nm,1.5s,mb5.6,SNR=12
AAK Ala-Archa 60.09 330 *e*P **P** **23 04 04.0 -2.6**
AAK pmax pmax
comp=Z,99nm,1.4s,mb5.7
AAK MLR MLR
comp=Z,1μm,21.0s
AAK Ala-Archa 60.09 330 *e*P **P** **23 04 04.0 -2.6**
comp=Z,99nm,1.4s,mb5.7
AAK LR LR
comp=Z,1μm,21.0s
KLR Kul'dur 60.09 16 *e*P **P** **23 04 01.3 -5.3**
KLR *e*S **S** **23 12 06.5 -12**
KLR *e* 23 13 48.5
KLR pmax pmax
comp=E,150nm,1.8s
KLR pmax pmax
comp=Z,520nm,1.8s,mb6.3
KLR smax
comp=N,1μm,10.0s
KLR smax
comp=E,3μm,10.0s
KLR MLR MLR
comp=N,14μm,17.0s,MS6.4
KLR MLR MLR
comp=E,21μm,17.0s,MS6.4
FRU Bishkek 60.18 330 *e*P **P** **23 04 11.0 +3.8**
FRU pmax pmax
comp=Z,180nm,2.0s,mb5.8
FRU MLR MLR
comp=Z,24μm,20.0s,MS6.3
BSY Bisya 60.30 302 ⇓P **P** **23 04 08.4 +0.4**
SNR=32
IRK Irkutsk 60.30 356 *e*P **P** **23 04 10.2 +2.1**
IRK *e* 23 07 54.7
IRK *e* 23 12 24.7
IRK pmax pmax
comp=Z,335nm,3.2s
MCQ Macquarie Isla 60.34 150 *e*P **P** **23 04 13.1 +4.8**
HABR Khabarovsk 60.39 19 ⇓*i*P **P** **23 04 12.3 +3.6**
HABR *e*S **S** **23 12 26.9 +4.4**
HABR pmax pmax
comp=Z,269nm,1.5s,mb6.0
HABR MLR MLR
comp=Z,6μm,20.5s,MS5.7
HOQ Hoqain 60.55 303 ⇓P **P** **23 04 09.1 -0.7**
SNR=31
RBK Rabkut 60.94 295 ⇑P **P** **23 04 12.0 -0.4**
SNR=25
YUK Yuzh-Kuril'sk 61.05 29 *e*P **P** **23 04 15.0 +1.9**
YUK *e* 23 05 03.0
YUK *e* 23 06 31.0
YUK *e*S **S** **23 12 36.0 +5.1**
YUK pmax pmax
comp=N,4μm,2.0s
YUK pmax pmax
comp=Z,4μm,2.0s
YUK pmax pmax
comp=Z,490nm,1.0s,mb6.6
YUK smax
comp=E,6μm,6.0s
ARQ Araqi 61.11 302 ⇓P **P** **23 04 12.5 -1.0**
SNR=22
WHFO Wadi Hawf 61.47 295 ⇓P **P** **23 04 16.1 +0.1**
SNR=12
ABTO Aybut 61.71 295 ⇑P **P** **23 04 17.9 +0.3**
SNR=26
WAKE Wake Island 61.83 63 PFAKE 23 04 30.0 +12
WAKE LR LR
comp=Z,6μm,21.0s,MS5.8
DRV Dumont d'Urvil 61.92 167 P **P** **23 04 17.0 -2.1**
DRV S **S** **23 12 43.0 +1.0**
DRV L 23 20 00.0
DRV R 23 24 00.0
YSS Yuzh-Sakhalins 61.94 25 *ke*P **P** **23 04 18.8 -0.3**
YSS *e* 23 04 30.0
YSS *e**SP sP 23 04 37.0 +9.0
YSS *e* 23 06 36.0
YSS *e*S **S** **23 12 40.0 -2.1**
YSS *e*PPS 23 13 00.0
YSS *e*SS SS 23 16 46.0 +1.6
YSS pmax pmax
comp=Z,1μm,4.0s
YSS pmax pmax
comp=Z,280nm,1.1s,mb6.3
YSS pmax pmax
comp=Z,390nm,1.3s,mb6.4
YSS smax
comp=N,3μm,8.0s
YSS smax
comp=E,3μm,8.0s
YSS MLR MLR
comp=Z,11μm,18.0s,MS6.1
YSS MLR MLR
comp=N,16μm,16.0s,MS6.3
YSS MLR MLR
comp=E,8μm,19.0s,MS6.3
YSS Yuzh-Sakhalins 61.94 25 *e*P **P** **23 04 17.8 -1.3**
comp=E,603nm,1.3s,mb6.6
YSS LR LR
comp=Z,9μm,22.0s,MS5.9
OPO Ambohidratompo 62.01 253 P **P** **23 04 20.0 +0.4**
comp=Z,12nm,0.6s,mb5.2,baz=70,slow=4.7,SNR=32
ASHO Ashiyiah 62.05 303 ⇑P **P** **23 04 19.7 -0.2**
SNR=36
BANOM Banah 62.37 305 ⇓P **P** **23 04 21.0 -1.0**
SNR=9.4
KKAR Karatay Array 62.46 328 *i* P **P** **23 04 26.5 +3.9**
KKAR pmax pmax
comp=Z,1.0nm,0.5s
RPZ Rata Peaks 63.47 135 LR LR 23 30 41.2
comp=Z,61μm,21.6s,MS6.7,baz=208,slow=35
KURK Kurchatov 64.66 338 P **P** **23 04 35.4 -1.8**
comp=Z,206nm,1.3s,mb6.0,SNR=18
KURK Kurchatov 64.66 338 ⇑*e*P **P** **23 04 35.1 -2.1**
KURK pmax pmax
comp=Z,74nm,1.0s,mb5.7
KURK MLR MLR
comp=Z,29μm,20.0s,MS6.5
KURK Kurchatov 64.66 338 ⇑*e*P **P** **23 04 35.1 -2.1**
comp=Z,74nm,1.0s,mb5.7
KURK LR LR
comp=Z,29μm,20.0s,MS6.5
MUKL Al Mukalla 64.73 290 ⇑*e*P **P** **23 04 36.8 -0.8**
MUKL AMb AMB 23 04 38.1
comp=Z,232nm,1.1s,mb6.1
ZAL Zalesovo 65.42 344 LR LR 23 34 43.9
comp=Z,37μm,20.2s,MS6.6,baz=316,slow=38
SNZO South Karori 65.56 132 *e*P **P** **23 04 43.5 +0.6**
comp=Z,161nm,0.9s,mb6.0
SNZO LR LR
comp=Z,47μm,21.0s,MS6.7
NRGR Nerungri 65.60 9 *e*P **P** **23 04 45.7 +2.4**
NRGR S S 23 13 27.3 -0.4
NRGR smax
comp=E,382nm,1.7s
BOD Bodaibo 65.74 2 *e*P **P** **23 04 42.4 -1.8**
BOD pmax pmax
comp=Z,85nm,1.9s,mb5.5
CLNS Chul'man 65.80 9 *e*P **P** **23 04 44.6 0.0**
CLNS *e**PP pP 23 04 52.4 +1.4
CLNS *e* 23 05 09.9
CLNS *e* 23 07 06.1
CLNS *e*S S 23 13 28.8 -1.3
CLNS *e*PS 23 13 55.3
CLNS *e* 23 14 39.3
CLNS *e*SSS 23 20 34.1
CLNS pmax pmax
comp=Z,330nm,2.0s,mb6.0
CLNS pmax pmax
comp=N,197nm,1.5s
CLNS pmax pmax
comp=E,86nm,1.4s
CLNS pmax pmax
comp=N,90nm,1.9s
CLNS pmax pmax
comp=Z,65nm,1.9s,mb5.3
CLNS pmax pmax
comp=E,55nm,1.3s
CLNS smax
comp=E,3μm,12.5s
CLNS smax
comp=Z,1μm,13.8s
CLNS smax
comp=N,283nm,22.9s
CLNS MLR MLR
comp=Z,20μm,17.0s,MS6.4
CLNS MLR MLR
comp=N,3μm,15.0s,MS6.4
CLNS MLR MLR
comp=E,19μm,16.0s,MS6.4
NVS Novosibirsk 66.66 343 ⇓*i*P **P** **23 04 52.7 +2.6**
NVS *e* 23 07 20.2
NVS *e*S S 23 13 41.5 +1.0
NVS pmax pmax
comp=Z,605nm,2.5s,mb6.2
NVS pmax pmax
comp=N,178nm,2.2s
NVS pmax pmax
comp=E,160nm,2.5s
NVS pmax pmax
comp=Z,295nm,3.5s
NVS pmax pmax
comp=N,57nm,2.0s
NVS pmax pmax
comp=E,80nm,2.0s
NVS smax
comp=N,220nm,3.7s
NVS smax
comp=E,233nm,3.0s
ABKT Ailbek 66.74 317 P **P** **23 04 48.6 -2.0**
comp=E,173nm,1.7s,mb5.8,SNR=8.3
MAW Mawson 67.30 198 *e*P **P** **23 04 54.6 +0.4**
comp=E,52nm,0.6s,mb5.7
MAW *e*S S 23 13 50.9 +2.5
MAW Mawson 67.30 198 P **P** **23 04 54.9 +0.8**
comp=E,59nm,0.6s,mb5.8,baz=33,slow=6.0,SNR=40
MAW LR LR 23 28 16.1
comp=E,9μm,20.8s,MS6.0,baz=43,slow=30
MAW PKP2bc 23 33 20.2
comp=E,6.9nm,0.9s,baz=283,slow=2.3,SNR=6.4
MAW Mawson 67.30 198 P **P** **23 04 54.9 +0.7**
MAW pmax pmax
comp=Z,59nm,0.6s
MAW MLR MLR
comp=Z,9μm,20.8s
MAW pmax pmax
comp=Z,7.0nm,1.0s
BDHA Al Bayda' **67.84 289** ⇑*e*P **P** **23 04 57.0 -0.6**
LBOS **68.11 288** ⇑*e*P **P** **23 04 59.0 -0.3**
DHBB Dhamar BB 69.09 289 ⇑*e*P **P** **23 05 05.3 -0.1**
DHBB AMb AMB 23 05 07.4
comp=Z,381nm,1.4s,mb6.1
DHBB *i* S S 23 14 11.6 +1.9
BVA0 Borovoye Array 69.66 336 *i* P **P** **23 05 10.0 +1.1**
BVA0 pmax pmax
comp=Z,35nm,2.2s,mb4.9
BRVK Borovoye 69.72 336 P **P** **23 05 10.3 +1.0**
comp=Z,252nm,1.2s,mb6.0,SNR=9.3
BRVK Borovoye 69.72 336 *e*P **P** **23 05 07.5 -1.8**
BRVK pmax pmax
comp=Z,39nm,1.1s,mb5.2
BRVK MLR MLR
comp=Z,13μm,20.0s,MS6.2
BRVK Borovoye 69.72 336 *e*P **P** **23 05 07.5 -1.8**
comp=Z,39nm,1.1s,mb5.2
BRVK LR LR
comp=Z,13μm,20.0s,MS6.2
ATD Arta Tunnel 69.83 285 P **P** **23 05 11.3 +1.3**
comp=Z,34nm,1.0s,mb5.2,baz=34,slow=6.7,SNR=5.5
ATD Arta Tunnel 69.83 285 P **P** **23 05 11.3 +1.3**
CHKZ Chkalovo 70.05 336 P **P** **23 05 12.1 +0.8**
CHKZ pmax pmax
comp=Z,111nm,1.4s,mb5.6

CHKZ **Chkalovo** 70.05 336 eP P 23 05 08.4 -2.8
comp=Z,88nm,1.1s,mb5.6
ZRNK **Zerenda** 70.18 335 eP P 23 05 08.7 -3.4
ZRNK pmax pmax
comp=Z,23nm,0.6s,mb5.3
ZRNK **Zerenda** 70.18 335 eP P 23 05 08.7 -3.4
comp=Z,23nm,0.6s,mb5.3
RAO **Raoul Island** 70.24 118 LR LR 23 35 31.2
comp=Z,17µm,19.9s,MS6.3,baz=80,slow=36
RAO **Raoul Island** 70.24 118 PFAKE 23 05 20.0 +7.5
RAO LR LR
comp=Z,18µm,19.0s,MS6.3
QRN **Al-Qurain** 70.33 304 eP P 23 05 09.3 -3.7
QRN AMb AMB 23 05 20.8
comp=Z,575nm,1.2s,mb6.4
SKR **Severo-Kuril's** 70.67 29 eP P 23 05 09.0 -6.1
SKR e 23 05 28.0
SKR e 23 07 50.0
SKR eS S 23 14 28.0 -0.2
SKR pmax pmax
comp=Z,3µm,10.0s
SKR pmax pmax
comp=Z,770nm,1.4s,mb6.4
SKR smax
comp=N,5µm,10.0s
SKR smax
comp=E,6µm,10.0s
SKR MLR MLR
comp=N,3µm,14.0s,MS5.8
SKR MLR MLR
comp=Z,4µm,14.0s,MS5.8
SKR MLR MLR
comp=E,3µm,16.0s,MS5.8
KBD **Kabd** 70.67 305 eP P 23 05 12.0 -3.1
KBD AMb AMB 23 05 22.7
comp=Z,859nm,0.7s,mb6.8
RDF **Al-Radifah** 70.69 304 eP P 23 05 13.0 -2.3
RDF AMb AMB 23 05 22.9
comp=Z,397nm,0.8s,mb6.4
UMR **Umm Al-Rimmam** 70.79 305 eP P 23 05 12.4 -3.4
UMR AMb AMB 23 05 23.3
comp=Z,518nm,0.5s,mb6.7
NAY **Al-Naaiem** 71.06 305 eP P 23 05 13.7 -3.8
NAY AMb AMB 23 05 24.8
comp=Z,139nm,0.7s,mb6.0
MIB **Mutribah** 71.18 305 eP P 23 05 14.6 -3.6
MIB AMb AMB 23 05 27.4
comp=Z,252nm,0.8s,mb6.2
YAK **Yakutsk** 71.51 10 eP P 23 05 21.6 +1.4
YAK e*PP pP 23 05 36.3 +10
YAK e 23 05 43.4
YAK e 23 08 03.4
YAK eS S 23 14 33.3 -4.6
YAK e*SS sS 23 15 00.6 +12
YAK e 23 15 22.2
YAK pmax pmax
comp=Z,294nm,1.1s,mb6.1
YAK pmax pmax
comp=N,113nm,1.2s
YAK pmax pmax
comp=E,72nm,1.2s
YAK pmax pmax
comp=N,38nm,1.6s
YAK pmax pmax
comp=Z,33nm,1.6s,mb5.0
YAK pmax pmax
comp=E,18nm,1.3s
YAK smax
comp=E,57nm,1.6s
YAK smax
comp=Z,3.0nm,0.8s
YAK smax
comp=N,29nm,1.4s
YAK MLR MLR
comp=Z,10µm,17.0s,MS6.1
YAK MLR MLR
comp=N,10µm,18.0s,MS6.3
YAK MLR MLR
comp=E,13µm,22.0s,MS6.3
YAK **Yakutsk** 71.51 10 eP P 23 05 17.0 -3.2
comp=E,412nm,0.9s,mb6.4
YAK LR LR
comp=Z,19µm,19.0s,MS6.4
AB31 **Akbulak array** 72.02 328 P P 23 05 19.1 -4.2
AB31 pmax pmax
comp=Z,70nm,0.8s,mb5.6
DESE **Dese** 72.82 284 i P P 23 05 31.7 +3.7
DESE eS S 23 14 41.4 -11
DESE **Dese** 72.82 284 i P P 23 05 31.7 +3.7
DESE eS S 23 14 41.4 -11
KMBO **Kilima Mbogo** 73.03 271 P P 23 05 29.9 +0.6
comp=Z,20nm,1.0s,mb5.0,baz=50,slow=8.0,SNR=25
KMBO **Kilima Mbogo** 73.03 271 eP P 23 05 31.2 +1.9
KMBO pmax pmax
comp=Z,129nm,1.4s
KMBO MLR MLR
comp=Z,7µm,19.0s
KMBO **Kilima Mbogo** 73.03 271 eP P 23 05 31.2 +1.9
comp=Z,129nm,1.4s,mb5.7
KMBO LR LR
comp=Z,7µm,19.0s,MS5.9
FURI **Furi** 73.29 282 eP P 23 05 29.4 -1.4
FURI iS S 23 15 04.6 +6.2
PET **Petropavlovsk** 73.38 28κ iP P 23 05 31.2 -0.1
PET e 23 05 52.1
PET e 23 08 18.7
PET eS S 23 14 58.6 -0.8
PET ePS 23 15 37.7
PET eSS SS 23 19 39.6 -2.0
PET pmax pmax
comp=N,400nm,4.7s
PET pmax pmax
comp=Z,1µm,2.7s,mb6.4
PET pmax pmax
comp=Z,900nm,8.5s
PET pmax pmax
comp=Z,198nm,1.5s,mb5.8
PET pmax pmax
comp=Z,2.0nm,12.7s
PET pmax pmax
comp=Z,1.0nm,16.0s
PET pmax pmax
comp=Z,1µm,3.8s
PET smax
comp=N,4µm,9.7s
PET smax
comp=E,3µm,8.8s
PET smax
comp=N,4µm,21.0s
PET MLR MLR
comp=Z,7µm,20.0s,MS5.9
PET MLR MLR
comp=Z,5µm,18.0s
PET **Petropavlovsk** 73.38 28 eP P 23 05 29.4 -2.0
comp=Z,190nm,1.0s,mb6.0
PET LR LR
comp=Z,11µm,20.0s,MS6.1
AKTK **Aktyubinsk** 73.73 328 P P 23 05 31.3 -2.1
AKTK LR LR 23 40 28.0
AKTO **Aktyubinsk** 73.73 328 P P 23 05 31.3 -2.1
comp=Z,9.1nm,0.7s,mb4.8,baz=68,slow=3.7,SNR=19
AKTO LR LR 23 40 28.0
comp=Z,14µm,20.7s,MS6.2,baz=51,slow=38
AKTO **Aktyubinsk** 73.73 328 P P 23 05 30.5 -2.9
AKTO pmax pmax
comp=Z,170nm,2.5s,mb5.5
VNDA **Vanda** 74.32 170 P P 23 05 35.6 -1.2
comp=Z,4.3nm,0.4s,mb4.7,baz=299,slow=6.5,SNR=21
VNDA PKPPKP 23 33 08.8
comp=Z,2.1nm,1.0s,baz=110,slow=2.6,SNR=4.6
VNDA LR LR 23 36 47.6
comp=Z,9µm,19.3s,MS6.0,baz=322,slow=34
VNDA **Vanda** 74.32 170 P P 23 05 35.7 -1.2
VNDA pmax pmax
comp=Z,4.0nm,0.4s
VNDA pmax pmax
comp=Z,2.0nm,1.0s
VNDA MLR MLR
comp=Z,9µm,19.3s
VNDA **Vanda** 74.32 170 eP P 23 05 35.9 -0.9
comp=Z,3.9nm,0.3s,mb4.8
VNDA LR LR
comp=Z,9µm,19.0s,MS6.1
MA2 **Magadan** 74.75 20 eP P 23 05 39.5 +0.2
MA2 e 23 05 57.5
MA2 e 23 08 31.8
MA2 eS S 23 15 08.3 -6.4
MA2 eSS SS 23 19 57.5 -4.9
MA2 pmax pmax
comp=Z,300nm,1.9s,mb5.9
MA2 MLR MLR
comp=Z,62µm,17.8s,MS7.0
MA2 **Magadan** 74.75 20 eP P 23 05 35.8 -3.5
comp=Z,88nm,1.0s,mb5.6
MA2 LR LR
comp=Z,7µm,19.0s,MS6.0
BHD **Baghdad** 74.78 308 ex x 23 05 37.0
BHD ex x 23 05 56.0
BHD ex x 23 15 08.0
BHD ex x 23 15 53.0
SBA **Scott Base** 75.39 169 eP P 23 05 42.4 -0.6
SBA pmax pmax
comp=Z,109nm,0.9s,mb5.8
SBA MLR MLR
comp=Z,8µm,20.0s,MS6.0
SBA **Scott Base** 75.39 169 eP P 23 05 42.4 -0.6
comp=Z,109nm,0.9s,mb5.8
SBA LR LR
comp=Z,8µm,20.0s,MS6.0
ORR **Orenburg** 76.10 328⇓ iP P 23 05 45.2 -1.9
ORR pmax pmax
comp=Z,70nm,1.3s,mb5.4
MAK **Makhachkala** 76.25 318d iP P 23 05 49.5 +1.6
MAK i 23 06 05.1
MAK i PPP 23 10 24.9
MAK i S S 23 15 24.4 -6.9
MAK i 23 15 54.5
MAK i 23 16 05.1
MAK pmax pmax
comp=Z,185nm,1.7s,mb5.7
MAK pmax pmax
comp=N,193nm,1.3s
MAK pmax pmax
comp=E,180nm,1.4s
MAK pmax pmax
comp=Z,2µm,6.6s
MAK smax
comp=N,4µm,8.6s
MAK smax
comp=E,3µm,8.4s
SVE **Sverdlovsk** 76.36 334 eP P 23 05 48.8 +0.3
SVE e 23 06 04.0
SVE eS S 23 15 24.0 -8.5
SVE ePS 23 16 23.0
SVE pmax pmax
comp=Z,280nm,2.2s,mb5.8
SVE smax
comp=N,2µm,15.0s
SVE smax
comp=E,1µm,15.0s
SVE MLR MLR
comp=N,17µm,22.0s,MS6.3
SVE MLR MLR
comp=E,6µm,22.0s,MS6.3
SVE MLR MLR
comp=Z,19µm,22.0s,MS6.4
AFI **Afiamalu** 76.46 102 LR LR 23 36 48.6
comp=Z,5µm,21.9s,MS5.7,baz=51,slow=34
AFI **Afiamalu** 76.46 102 PFAKE 23 06 00.0 +11
AFI LR LR
comp=Z,6µm,19.0s,MS5.9
CUKT **Cukurca** 76.77 311 eP P 23 05 51.2 +0.3
MSL **Mosul** 76.83 310 ex x 23 05 54.0
MSL ex x 23 06 09.0
MSL ex x 23 15 30.0
MSL ex x 23 16 01.0
ARU **Arti** 77.01 333 P P 23 05 53.1 +0.8
comp=Z,218nm,1.0s,mb6.0,SNR=9.4
ARU **Arti** 77.01 333 eP P 23 05 53.8 +1.5
ARU e 23 06 06.8
ARU e 23 08 46.9
ARU ePPP 23 10 33.9
ARU eS S 23 15 40.2 +0.5
ARU e 23 16 05.2
ARU eSSS 23 23 48.3
ARU MLR MLR
comp=Z,29µm,22.0s,MS6.6
ARU MLR MLR
comp=N,20µm,23.0s,MS6.5
ARU MLR MLR
comp=E,19µm,20.0s,MS6.5
ARU **Arti** 77.01 333 i Pr P 23 05 49.7 -2.6
GNI **Garni** 77.02 314 P P 23 05 52.1 -0.2
comp=E,1.3nm,0.3s,baz=243,slow=2.3,SNR=6.4
GNI **Garni** 77.02 314 eP P 23 05 51.4 -0.9
GNI pmax pmax
comp=Z,54nm,0.8s
GNI MLR MLR
comp=Z,14µm,22.0s
GNI **Garni** 77.02 314 eP P 23 05 51.4 -0.9
comp=Z,54nm,0.8s,mb5.5
GNI LR LR
comp=Z,14µm,22.0s,MS6.2
DGRG **David-gareji** 77.08 316 P P 23 05 53.7 +1.0
TVAN **Van** 77.38 312 i P P 23 05 59.2 +4.9
MTA **Mtatsminda** 77.57 316 P P 23 05 54.7 -0.7
TBLG **Delisi** 77.62 316 P P 23 05 55.4 -0.3
GOR **Gori** 78.16 316 P P 23 05 58.8 +0.2
AKH **Akhalkalaki** 78.37 315 P P 23 06 04.7 +4.9
MIDW **Midway** 78.51 59 PFAKE 23 06 10.0 +9.4
MIDW LR LR
comp=Z,4µm,20.0s,MS5.8
ZEI **Tsey** 78.60 317 eP P 23 06 01.2 +0.1
ZEI pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
BTMT **Batman** 78.68 311 eP P 23 06 02.3 +0.8
MARD **Mardin** 78.92 310 i P P 23 06 01.7 -1.2
BNGL **BINGOL** 79.18 312 i P P 23 06 04.2 0.0
ERZM **Erzurum** 79.35 313 i P P 23 06 05.0 -0.2
EZM **Erzurum** 79.35 313 eP P 23 06 08.5 +3.3
ARTV **Artvin** 79.39 314 i P P 23 06 04.5 -0.9
DIY **Diyarbakir** 79.52 311 eP P 23 06 07.1 +1.0
SOKR **Solikamsk** 79.65 335d iP P 23 06 06.5 -0.3
SOKR S S 23 16 05.9 -2.1
SOKR SS SS 23 21 11.2 -5.1
SOKR pmax pmax
comp=Z,70nm,1.7s,mb5.3
SOKR MLR MLR
comp=Z,22µm,20.0s,MS6.5
BCA **Borcka** 79.69 315 eP P 23 06 09.2 +2.1
KIV **Kislovodsk** 79.86 317 P P 23 06 09.2 +1.2
comp=Z,299nm,0.8s,mb6.3,SNR=9.4
KIV **Kislovodsk** 79.86 317 ceP P 23 06 07.0 -1.0
KIV pmax pmax
comp=Z,22nm,1.6s,mb4.8
KIV **Kislovodsk** 79.86 317⇑ iP P 23 06 07.0 -1.0
GOF **Gofitskoye** 80.04 318⇑ iP P 23 06 17.0 +8.1
GOF pmax pmax
comp=Z,43nm,0.7s,mb5.5
JHLN **Al Jahlan** 80.19 308 ⇓P P 23 06 14.8 +5.0
LSZ **Lusaka** 80.32 256 eP P 23 06 12.2 +1.7
LSZ e pP 23 06 18.7 +1.7
LSZ pmax pmax
comp=Z,305nm,1.3s,mb6.1
LSZ MLR MLR
comp=Z,10µm,19.0s,MS6.2
LSZ **Lusaka** 80.32 256 eP P 23 06 12.2 +1.7
comp=Z,305nm,1.3s,mb6.1
LSZ ePcP PcP 23 06 18.7 +1.2
LSZ LR LR
comp=Z,10µm,19.0s,MS6.2
ASF **Jabal al Asfar** 80.43 305 P P 23 06 10.3 -0.8
comp=Z,41nm,1.1s,mb5.3,baz=356,slow=3.3,SNR=31
URFA **Urfa** 80.44 310 eP P 23 06 12.0 +0.9
TIXI **Tiksi** 80.52 6 eP P 23 06 04.4 -7.1
TIXI eS S 23 16 04.2 -13
TIXI e 23 16 25.5
TIXI pmax pmax
comp=Z,98nm,0.8s,mb5.8
TIXI pmax pmax
comp=N,24nm,0.9s
TIXI pmax pmax
comp=E,12nm,1.1s
TIXI pmax pmax
comp=Z,992nm,3.3s
TIXI pmax pmax
comp=Z,335nm,10.4s
TIXI pmax pmax
comp=N,187nm,9.6s
TIXI pmax pmax
comp=E,72nm,11.9s
TIXI smax
comp=N,788nm,15.9s
TIXI smax
comp=E,1µm,14.8s
TIXI MLR MLR
comp=N,13µm,16.0s,MS6.5
TIXI MLR MLR
comp=Z,19µm,16.0s,MS6.5
TIXI MLR MLR
comp=E,9µm,15.0s,MS6.5
TIXI **Tiksi** 80.52 6 PFAKE 23 06 20.0 +8.5
TIXI LR LR
comp=Z,16µm,20.0s,MS6.4
ELZG **Elazig** 80.64 311 i P P 23 06 13.4 +1.2
ROOS **tl_alroos** 80.67 307 ⇓P P 23 06 16.8 +4.4
SALA **Sala** 80.71 305 ⇓P P 23 06 13.7 +1.2
GUMT **Gumushane** 80.89 313 eP P 23 06 14.7 +1.2
MALT **Malatya** 81.00 311 eP P 23 06 11.4 -2.7
MALT pmax pmax
comp=Z,149nm,1.7s,mb5.6
MALT **Malatya** 81.00 311 eP P 23 06 11.4 -2.7
comp=Z,149nm,1.7s,mb5.6
MYA **Malataya** 81.00 311 eP P 23 06 13.3 -0.8
SMY **Shemya** 81.10 34 eP P 23 06 18.0 +3.4
SMY pmax pmax
comp=Z,604nm,2.1s,mb6.2
SMY MLR MLR
comp=Z,4µm,22.0s,MS5.7
SMY **Shemya** 81.10 34 eP P 23 06 18.0 +3.4
comp=Z,604nm,2.1s,mb6.2
SMY LR LR
comp=Z,4µm,22.0s,MS5.7
TOTH **TOTAH** 81.13 306 ⇓P P 23 06 18.0 +3.2
QASN **Qassioun** 81.30 306 ⇓P P 23 06 20.0 +4.3
TCHB **Talchebab** 81.32 305 ⇓P P 23 06 17.6 +1.8
GZT **Gaziantep** 81.37 310 i P P 23 06 17.8 +1.8
EIL **Elat** 81.40 302⇑ eP P 23 06 13.9 -2.3
comp=Z,2µm,0.8s
HAWK **Haweek** 81.47 307 ⇓P P 23 06 23.0 +6.4
BRBR **Barbar** 81.53 305 ⇓P P 23 06 22.8 +5.9
GAZ **Gaziantep** 81.58 309 eP P 23 06 18.9 +1.7
BIDA **Albida** 81.67 307 ⇓P P 23 06 20.1 +2.5
WRDH **Warideh** 81.73 308 ⇓P P 23 06 19.7 +1.7
SOC **Sochi** 81.75 316c iP P 23 06 16.7 -1.4
SOC eS S 23 16 20.2 -10
SOC e 23 16 28.4
SOC eSS SS 23 21 54.1 +6.4
SOC eSSS 23 25 19.0
SOC pmax pmax
comp=Z,69nm,0.8s,mb5.6
SOC pmax pmax
comp=Z,923nm,4.0s
SOC MLR MLR
comp=Z,13µm,22.0s,MS6.2
BOSA **Boshof** 81.83 242 P P 23 06 20.5 +2.0
comp=Z,9.6nm,0.5s,mb5.0,baz=102,slow=4.5,SNR=27
BOSA PKKPbc PKKPbc 23 24 52.2 +3.1
comp=Z,4.4nm,0.8s,baz=180,slow=0.4,SNR=4.0
BOSA LR LR 23 40 44.2
comp=Z,8µm,18.6s,MS6.1,baz=105,slow=34
BOSA **Boshof** 81.83 242 P P 23 06 20.5 +2.0
BOSA pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
BOSA pmax pmax
comp=Z,4.0nm,0.8s
BOSA MLR MLR
comp=Z,8µm,18.6s,MS6.1
BOSA **Boshof** 81.83 242 eP P 23 06 20.3 +1.8
comp=Z,343nm,1.6s,mb6.0
BOSA LR LR
comp=Z,8µm,19.0s,MS6.1
LBTB **Lobatse** 81.83 246 eP P 23 06 19.5 +1.0
LBTB pmax pmax
comp=Z,236nm,1.4s,mb5.9
LBTB MLR MLR
comp=Z,6µm,20.0s,MS5.9
LBTB **Lobatse** 81.83 246 eP P 23 06 19.5 +1.0
comp=Z,236nm,1.4s,mb5.9
LBTB LR LR
comp=Z,6µm,20.0s,MS5.9
BTCH **Batrach** 81.84 308 ⇓P P 23 06 15.3 -3.2
DRWC **Darouich** 81.84 309 ⇓P P 23 06 17.5 -1.1
BHL **Bhannes** 81.90 306 eP P 23 06 19.3 +0.4
SLNF **Slenfeh** 81.91 308 ⇓P P 23 06 19.8 +0.9
QSPA **South Pole Qui** 81.91 180 eP P 23 06 21.7 +2.8
comp=Z,289nm,0.9s,mb6.2
GRSN **GIRESUNGRSN** 81.91 313 i P P 23 06 19.4 +0.4
HTY **Hatay** 82.11 308 eP P 23 06 20.2 +0.3
COBT **Iskenderun** 82.13 309 i P P 23 06 22.9 +2.9
ARNB **Al Arnab** 82.17 308 ⇓P P 23 06 21.3 +1.0
SVSK **Karacayir** 82.54 312 eP P 23 06 23.7 +1.5
CEYT **Ceyhan** 82.66 309 eP P 23 06 22.3 -0.5
KOZT **Kozan** 82.73 309 eP P 23 06 23.7 +0.5
KRTS **Karatas** 82.83 308 eP P 23 06 27.2 +3.4
BNN **Bunyan** 83.09 311 eP P 23 06 25.8 +0.7
VRHR **Novokhopersk** 83.17 324 eP P 23 06 23.9 -1.6
VRHR pmax pmax
comp=Z,30nm,0.4s,mb5.7
VRHR pmax pmax
comp=N,9.0nm,1.0s
VRHR pmax pmax
comp=E,5.0nm,0.4s
VRHR MLR MLR
comp=N,8µm,22.0s,MS6.3
VRHR MLR MLR
comp=Z,11µm,22.0s,MS6.2
VRHR MLR MLR
comp=E,11µm,24.0s,MS6.3
KARA **Karaisali** 83.26 309 eP P 23 06 25.8 -0.2
PHNC **Paralimni** 83.48 307 P P 23 06 28.0 +0.9
comp=E,2.1nm,1.2s
KVT **Kavak** 83.57 313 eP P 23 06 30.4 +2.9
MERS **Mersin** 83.57 309 eP P 23 06 29.9 +2.4
ANN **Anapa** 83.69 317d iP P 23 06 28.9 +0.7
ANN e 23 09 47.1
ANN eS S 23 16 51.4 +1.7
ANN pmax pmax
comp=Z,93nm,1.8s,mb5.6
YOZ **Yozgat** 83.70 311 eP P 23 06 29.9 +1.7
AVNT **Avonos** 83.82 310 i P P 23 06 22.9 -5.9
PECR **Pechory** 83.87 329 eP P 23 06 27.4 -1.7
PECR e pP 23 06 34.0 -1.7
PECR e 23 09 41.0
PECR eS S 23 16 42.0 -10
PECR ePPS 23 17 58.6
PECR pmax pmax
comp=Z,700nm,5.0s
PECR smax
comp=N,2µm,16.0s
PECR smax
comp=E,2µm,13.0s
PECR MLR MLR
comp=E,6µm,19.0s,MS6.3
PECR MLR MLR
comp=Z,11µm,19.0s,MS6.2
PECR MLR MLR
comp=N,11µm,23.0s,MS6.3
CSS **Prodhromos** 84.03 306 P P 23 06 28.3 -1.6
comp=N,1.9nm,0.9s
IKL **Isikli** 84.06 308 eP P 23 06 29.9 -0.1
MAMC **Mammari** 84.17 307 P P 23 06 28.4 -2.2
CTKT **Corum** 84.36 312 i P P 23 06 31.1 -0.5
BOYT **Boyabat** 84.49 313 i P P 23 06 34.3 +2.1
BYBT **Boyabat** 84.60 313 eP P 23 06 32.7 -0.1
VRSR **Storozhevoye** 84.65 323 eP P 23 06 31.6 -1.4
VRSR eS 23 16 49.7
VRSR pmax pmax
comp=N,2.0nm,1.0s
VRSR pmax pmax
comp=E,4.0nm,1.0s
VRSR pmax pmax
comp=Z,4.0nm,1.0s
VRSR smax
comp=N,60nm,2.9s
VRSR smax
comp=Z,20nm,3.0s
VRSR smax
comp=E,70nm,3.1s
ALFC **Alevga** 84.66 306 P P 23 06 34.0 +0.9
comp=E,2.2nm,0.6s
ERMK **Ermenek** 84.76 308 i P P 23 06 31.6 -2.0
PPCY **Paphos** 84.80 306 P P 23 06 33.6 -0.2
VOR **Voronezh** 84.81 324 P P 23 06 33.0 -0.9
VOR e 23 16 51.5
VOR pmax pmax

comp=N,40nm,1.9s
VOR pmax pmax
comp=E,110nm,1.9s
VOR pmax pmax
comp=Z,270nm,1.9s,mb6.0
KAMT Kaman 84.83 311 *eP* **P 23 06 33.4 -0.6**
BR131 Keskin Array S 84.97 311 *eP* **P 23 06 31.0 -3.7**
comp=Z,36nm,0.8s,mb5.6
BR131 LR LR
comp=Z,7µm,20.0s,MS6.1
BRTR Keskin Array B 84.97 311 P **P 23 06 34.0 -0.7**
comp=Z,29nm,1.0s,mb5.4,baz=138,slow=7.1,SNR=32
BRTR ScS ScS 23 17 13.3 +0.1
comp=Z,1.3nm,1.0s,baz=76,slow=7.8,SNR=4.1
BRTR PKKPbc PKKPbc 23 24 47.5 +5.6
comp=Z,1.1nm,0.9s,baz=191,slow=2.7,SNR=4.5
BRTR PKPPKP 23 32 55.4
comp=Z,1.1nm,1.1s,baz=197,slow=2.6,SNR=5.1
NVL N'lazarevskaya 85.20 199 ⇓*iP* **P 23 06 40.2 +4.4**
NVL *i*S 23 17 07.5
NVL *e*SSS 23 26 11.6
NVL pmax pmax
comp=Z,187nm,2.6s,mb5.8
NVL pmax pmax
comp=N,52nm,1.6s
NVL pmax pmax
comp=E,68nm,1.9s
CANT Cankiri 85.21 312 *eP* **P 23 06 37.5 +1.7**
SUR Sutherland 85.28 238 LR LR 23 35 52.7
comp=E,6µm,20.8s,MS6.0,baz=101,slow=29
SUR Sutherland 85.28 238 *eP* **P 23 06 41.3 +5.1**
comp=E,148nm,1.1s,mb6.0
SUR LR LR
comp=Z,7µm,19.0s,MS6.0
ELDT Eldivan 85.33 312 *i*P **P 23 06 36.2 -0.2**
BILL Bilibino 85.48 18*d iP* **P 23 06 35.2 -2.0**
BILL *e*S 23 16 57.3
BILL pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
BILL MLR MLR
comp=Z,7µm,22.0s,MS6.0
BILL Bilibino 85.48 18 *i*Pr **P 23 06 35.3 -1.9**
KONT Konya--Tatoy 85.50 309 *eP* **P 23 06 36.8 -0.5**
BALT Daday 85.62 313 *i*P **P 23 06 38.1 +0.2**
ANTO Ankara 85.64 311 P **P 23 06 38.4 +0.4**
ANTO pmax pmax
comp=Z,240nm,1.5s,mb6.2
ANTO Ankara 85.64 311 ⇓*eP* **P 23 06 39.5 +1.5**
LOD Lodumlu 85.67 311 *eP* **P 23 06 37.5 -0.6**
SIM Simferopol' 85.99 316*ceP* **P 23 06 39.1 -0.7**
SIM *e* 23 16 57.7
SIM pmax pmax
comp=Z,95nm,0.8s,mb6.1
SIM MLR MLR
comp=Z,15µm,23.0s,MS6.3
SAFT Safranbolu 86.06 312 *eP* **P 23 06 41.0 +0.9**
SGKT Sivrigoynuk 86.36 312 *iP* **P 23 06 41.9 +0.4**
ANTB Antalya 86.59 308 *eP* **P 23 06 46.5 +3.8**
BCK Bucak 86.76 308 *eP* **P 23 06 47.5 +4.0**
ISP Isparta 86.91 309 *eP* **P 23 06 45.2 +1.0**
ISP pmax pmax
comp=Z,495nm,2.0s,mb6.4
ISP Isparta 86.91 309 *eP* **P 23 06 45.2 +1.0**
comp=Z,495nm,2.0s,mb6.4
MDU Mudurnu 86.96 311 *eP* **P 23 06 45.1 +0.6**
ESKT Eskisehir 87.02 310 *iP* **P 23 06 44.0 -0.7**
MOS Moscow 87.03 327 *eP* **P 23 06 48.4 +3.6**
MOS *e* 23 17 04.5
MOS *e*S 23 17 16.7
MOS *e* 23 18 28.5
MOS *e* 23 18 43.2
MOS pmax pmax
comp=Z,900nm,2.3s,mb6.6
MOS pmax pmax
comp=Z,316nm,1.8s,mb6.2
MOS smax
comp=N,2µm,6.2s
MOS smax
comp=E,2µm,3.8s
MOS MLR MLR
comp=Z,17µm,18.2s,MS6.5
RAR Rarotonga 87.08 111 LR LR 23 43 17.8
comp=Z,2µm,19.6s,MS5.6,baz=22,slow=34
TKTP Tekketepe 87.09 309 *iP* **P 23 06 44.7 -0.4**
ELL Elmali 87.14 308 *eP* **P 23 06 47.9 +2.5**
HENT Hendek 87.27 312 *iP* **P 23 06 44.9 -1.1**
BORA Eskisehir 87.39 311 *iP* **P 23 06 46.2 -0.4**
OBN Obninsk 87.40 326 P **P 23 06 46.7 0.0**
comp=Z,812nm,0.8s,SNR=9.1
OBN Obninsk 87.40 326 ⇓*iP* **P 23 06 44.4 -2.3**
OBN *e* 23 10 07.8
OBN *e*S 23 17 10.8
OBN *e*SS SS 23 23 13.1 +2.0
OBN pmax pmax
comp=Z,35nm,1.1s,mb5.5
OBN MLR MLR
comp=Z,16µm,17.0s,MS6.5
ALT Altintas 87.47 310 *eP* **P 23 06 46.5 -0.5**
FETY Fethiye 87.77 307 *eP* **P 23 06 48.6 +0.2**
KLMR Klimovskoe 87.82 332*c iP* **P 23 06 46.7 -2.0**
KLMR *e* 23 10 13.7
KLMR *i*S 23 17 11.1
KLMR *e*SS SS 23 23 20.7 +3.4
KLMR pmax pmax
comp=Z,360nm,1.5s,mb6.4
KLMR pmax pmax
comp=Z,200nm,6.3s
KLMR MLR MLR
comp=Z,12µm,20.0s,MS6.3
GDZ Gediz 87.96 310 *iP* **P 23 06 48.8 -0.5**
DENT Denizli 88.03 308 *eP* **P 23 06 54.5 +4.9**
ADVT Abdulvahap 88.05 311 *eP* **P 23 06 48.6 -1.2**
DALT Dalyan (Mudla) 88.14 307 *eP* **P 23 06 51.4 +1.2**
HRT Hereke 88.18 311 *eP* **P 23 06 47.9 -2.5**
YLV Yalova 88.35 311 *eP* **P 23 06 50.6 -0.5**
YER Yerkesik 88.49 308 *eP* **P 23 06 47.9 -3.9**
ISK Istanbul-Kandi 88.69 312 *eP* **P 23 06 52.7 0.0**
DST Dursunbey 88.71 310 *eP* **P 23 06 54.1 +1.2**
KLYT Kilyos 88.74 312 *eP* **P 23 06 50.9 -2.1**
MLSB Milas 88.92 308 *eP* **P 23 06 43.8 -10**
DAT Datca 88.97 307 *eP* **P 23 06 55.5 +1.4**
AKS Akhisar 89.19 309 *eP* **P 23 06 54.8 -0.3**
BODT Bodrum 89.24 307 *eP* **P 23 06 55.5 +0.1**
BALB Balikesir 89.29 310 *eP* **P 23 06 55.5 -0.1**
BNT Bandirma 89.39 311 *eP* **P 23 06 56.2 +0.1**
SNAA Sanae 89.45 197 P **P 23 06 56.6 +0.3**
comp=Z,25nm,0.9s,mb5.5,baz=120,slow=3.8,SNR=34
SNAA PKKPbc PKKPbc 23 24 30.0 -1.1
comp=Z,0.8nm,0.8s,baz=286,slow=1.7,SNR=12
SNAA PKPPKP 23 32 40.6
comp=Z,2.0nm,0.9s,baz=264,slow=1.5,SNR=6.7
SNAA Sanae 89.45 197 *eP* **P 23 06 52.7 -3.7**
SNAA *e* 23 06 54.5
SNAA *e* pP 23 06 57.9 -5.1
SNAA *e* pP 23 07 00.5 -2.5
SNAA *e* 23 07 07.2
SNAA *e* 23 07 18.2
SNAA *e* 23 07 36.4
SNAA *e* 23 10 20.1
SNAA *e* 23 10 27.4
SNAA Sanae 89.45 197 *eP* **P 23 06 52.8 -3.6**
SNAA pmax pmax
comp=Z,214nm,1.1s
SNAA Sanae 89.45 197 *eP* **P 23 06 52.8 -3.6**
comp=Z,214nm,1.1s,mb6.4
SNAA PKKPbc PKKPbc 23 24 30.0 -1.1
SNAA P'P' 23 32 40.6
KDAG Bornova 89.52 309 *iP* **P 23 06 57.6 +0.9**
IZM Izmir 89.53 309 *eP* **P 23 06 56.5 -0.2**
TMCR Tamitsa 89.61 335 *eP* **P 23 07 00.6 +3.5**
TMCR pmax pmax
comp=Z,60nm,1.1s,mb5.8
TMCR pmax pmax
comp=N,80nm,1.0s
TMCR pmax pmax
comp=E,40nm,1.1s
TIRR Tirgusor 89.83 315⇑*iP* **P 23 07 00.8 +2.7**
TSUM Tsumeb 89.90 251 *eP* **P 23 07 01.1 +2.6**
comp=E,81nm,1.4s,mb5.9
TSUM LR LR
comp=Z,8µm,20.0s,MS6.1
RKY Sarkoy-Tekirda 90.01 311 *eP* **P 23 06 56.2 -2.8**
KIS Kishinev 90.06 317 *eP* **P 23 06 58.0 -1.2**
KIS *e* 23 17 25.0
KIS *eS* 23 17 55.0
CFR Carcaliu 90.17 316 ⇓P **P 23 07 03.0 +3.3**
HARR Harsova 90.22 315 ⇓P **P 23 07 03.7 +3.8**
PRD Provadia 90.31 313 P **P 23 07 04.0 +3.6**
LAST Lasithi 90.37 305 *eP* **P 23 07 02.2 +1.6**
CHOS Chios island 90.46 309 *eP* **P 23 07 03.9 +2.8**
EDRB Edirne 90.54 312 *eP* **P 23 06 59.0 -2.5**
AKASG Malin Array Be 90.56 321 P **P 23 06 60.0 -1.6**
comp=Z,5.0nm,0.5s,mb5.1,baz=90,slow=4.8,SNR=19
AKASG PKKPbc PKKPbc 23 24 32.9 +4.5
comp=Z,0.5nm,0.4s,baz=277,slow=3.7,SNR=4.1
AKASG Malin Array Be 90.56 321 P **P 23 06 60.0 -1.6**
AKASG PKKPbc PKKPbc 23 24 32.9 +4.5
SANT Santorini 90.59 307 *eP* **P 23 07 00.9 -0.8**
SANT Santorini 90.59 307 *eP* **P 23 07 01.5 -0.1**
comp=Z,208nm,1.3s,mb6.3
JMB Yambol 90.77 313 *eP* **P 23 07 02.0 -0.5**
SIVA Sivas 90.89 305 *eP* **P 23 07 04.0 +1.0**
ALN Alexandroupoli 90.89 311 *eP* **P 23 07 03.1 +0.1**
VNA2 Neumayer--Watz 91.10 197 *eP* **P 23 07 06.3 +2.3**
baz=98,slow=5.3
VNA2 *e* 23 07 08.3
VNA2 *e* 23 07 09.3
VNA2 *e* pP 23 07 12.3 +1.6
VNA2 *e* 23 07 18.1
VNA2 *e* 23 07 23.8
VNA2 *e* 23 07 35.5
VNA2 *e* 23 07 43.6
VNA2 *e* 23 07 46.9
VNA2 *e* 23 10 41.9
VNA2 *e* 23 10 45.4
VNA2 *e* 23 11 42.2
VRI Vrincioaia 91.27 316⇑*iP* **P 23 07 05.3 +0.5**
VRI Vrincioaia 91.27 316 ⇓P **P 23 07 05.8 +1.0**
PLOR Plostina 91.32 316 ⇓*iP* **P 23 07 08.2 +3.2**
PLOR Plostina 91.32 316 ⇓P **P 23 07 08.8 +3.8**
KDZ Kurdzhali 91.49 312 P **P 23 07 06.5 +0.7**
VNA1 Neumayer--Stat 91.49 197 *eP* **P 23 07 07.0 +1.2**
VNA1 *e* 23 07 07.8
VNA1 *e* pP 23 07 11.5 -1.0
VNA1 *e* pP 23 07 13.5 +1.0
VNA1 *e* 23 07 20.7
VNA1 *e* 23 07 26.7
VNA1 *e* 23 07 40.9
VNA1 *e* 23 07 50.9
VNA1 *e* 23 10 44.3
VNA1 *e* 23 10 47.0
VNA1 *e* 23 10 53.3
VNA3 Neumayer Olymp 91.59 196 *eP* **P 23 07 08.1 +1.8**
VNA3 *e* 23 07 09.3
VNA3 *e* 23 07 11.6
VNA3 *e* pP 23 07 14.1 +1.1
VNA3 *e* 23 07 18.6
VNA3 *e* 23 07 27.5
VNA3 *e* 23 07 35.6
VNA3 *e* 23 07 47.0
VNA3 *e* 23 07 53.5
VNA3 *e* 23 10 47.7
VNA3 *e* 23 10 51.9
VNA3 *e* 23 11 45.8
KARN Karanos 91.67 305 *eP* **P 23 07 06.8 +0.2**
MLR Muntele Rosu 91.75 316 LR LR 23 59 07.3
comp=Z,7µm,18.1s,MS6.1,baz=85,slow=43
MLR Muntele Rosu 91.75 316 ⇓*iP* **P 23 07 08.9 +1.9**
MLR Muntele Rosu 91.75 316 ⇓P **P 23 07 09.5 +2.5**
PUL Pulkovo 91.90 330 P **P 23 07 00.7 -7.0**
PUL *i*S 23 17 33.9
RZN Rozhen 92.01 312 P **P 23 07 08.4 +0.1**
LVZ Lovozero 92.08 338 *eP* **P 23 07 13.4 +4.8**
LVZ *i*S 23 17 33.0
LVZ MLR MLR
comp=Z,12µm,19.0s,MS6.4
LVZ MLR MLR
comp=N,17µm,20.0s,MS6.5
LVZ MLR MLR
comp=E,8µm,19.0s,MS6.5
LVZ Lovozero 92.08 338 PFAKE 23 07 20.0 +11
LVZ LR LR
comp=Z,14µm,19.0s,MS6.4
PLD Plovdiv 92.09 312 P **P 23 07 07.0 -1.6**
JOF Joensuu 92.14 333 *ep* **P 23 07 06.3 -2.6**
comp=Z,19nm,0.9s,mb5.4
JOF Joensuu 92.14 333 *eP* **P 23 07 06.3 -2.6**
JOF pmax pmax
comp=Z,19nm,0.9s,mb5.4
MNK Minsk 92.15 325 *eP* **P 23 07 07.0 -1.9**
MNK *e* 23 10 46.0
MNK *e*PPP 23 12 48.0
MNK *e* 23 17 34.0
MNK *e*S 23 18 04.0
APA Apatity 92.44 338⇑*iP* **P 23 07 15.8 +5.5**
APA *e* 23 12 57.0
APA *e* 23 17 35.0
APA *e*S 23 18 07.0
APA pmax pmax
comp=Z,93nm,1.7s,mb5.8
APA MLR MLR
comp=Z,21µm,19.0s,MS6.6
PAIG Paliouri 92.53 310 *eP* **P 23 07 12.2 +1.6**
PGB Panagyurishte 92.55 312 P **P 23 07 08.0 -2.7**
BURAR Bucovina Array 92.59 318 ⇓*iP* **P 23 07 09.0 -1.9**
BURAR Bucovina Array 92.59 318 ⇓P **P 23 07 11.4 +0.5**
MMB Musomiste 92.73 311 P **P 23 07 12.8 +1.2**
SOH Sokhos 92.90 311 *eP* **P 23 07 15.1 +2.7**
AKUT Akutan 92.96 36 *eP* **P 23 07 11.3 -1.3**
comp=Z,213nm,1.2s,mb6.5
AKUT LR LR
comp=Z,5µm,23.0s,MS5.9
KKB Krupnik 93.25 312 P **P 23 07 10.3 -3.6**
VTS Vitosha 93.25 312 P **P 23 07 13.8 -0.2**
VTS Vitosha 93.25 312 *eP* **P 23 07 13.2 -0.8**
VTS Vitosha 93.25 312⇑P **P 23 07 16.1 +2.1**
KNT Kendrikon 93.29 311 *eP* **P 23 07 12.6 -1.6**
AGG Agios Georgios 93.43 309 *eP* **P 23 07 16.2 +1.4**
LIT Litokhoron 93.45 310 *eP* **P 23 07 14.2 -0.7**
VAY Valandovo 93.55 311 *iP* **P 23 07 16.1 +0.7**
GRG Griva 93.63 311 *eP* **P 23 07 14.2 -1.5**
LVV L'vov 93.69 320 *i* SKSac 23 17 47.7 -1.8
KAF Kangasniemi 94.26 332 *ep* **P 23 07 18.7 +0.1**
comp=Z,13nm,0.8s,mb5.4
KAF Kangasniemi 94.26 332 *eP* **P 23 07 18.7 +0.1**
KAF pmax pmax
comp=Z,13nm,0.8s,mb5.4
FINES FINESS Array B 94.27 331 P **P 23 07 17.2 -1.4**
comp=Z,3.6nm,0.7s,mb4.9,baz=110,slow=6.3,SNR=25
FINES PKiKP PKiKP 23 12 03.4 +1.0
comp=Z,1.0nm,0.6s,baz=98,slow=5.8,SNR=3.7
FINES PKKPbc PKKPbc 23 24 18.3 -0.6
comp=Z,1.3nm,0.8s,baz=254,slow=3.6,SNR=4.1
FINES LR LR 23 55 00.8
comp=Z,15µm,21.3s,MS6.4,baz=274,slow=39
SKO Skopje 94.48 312 *iP* **P 23 07 23.7 +4.1**
KIP Kipapa 94.49 69 PFAKE 23 07 30.0 +10
KIP LR LR
comp=Z,7µm,20.0s,MS6.1
KWP Kalwaria 94.52 319 *eP* **P 23 07 19.5 -0.3**
KWP *ep*P pP 23 07 24.3 -2.2
KWP *e*SKS 23 17 51.3
KWP L 23 56 19.6
comp=Z,13nm,22.2s
KWP Kalwaria 94.52 319 *eP* **P 23 07 19.5 -0.3**
KWP *ep*P pP 23 07 24.3 -2.2
KWP *e*SKS 23 17 51.3
KOLS Kolonicke sedl 94.72 319 *eP* **P 23 07 24.3 +3.6**
KOLS *e* 23 07 37.3
KOLS *e* 23 11 08.4
KOLS pmax pmax
comp=Z,22nm,1.3s,mb5.4
KOLS Kolonicke sedl 94.72 319 *ePP* PP 23 11 08.4 -0.6
KOLS *e* 23 07 37.3
KOLS Kolonicke sedl 94.72 319 *e* pP 23 07 24.3 -3.1
SUW Suwalki 94.77 324 *eP* **P 23 07 19.8 -1.1**
SUW *ep*P pP 23 07 22.2 -5.4
SUW *e*SKS 23 17 54.4
SUW L 23 55 49.2
comp=Z,12nm,21.9s
SUW Suwalki 94.77 324 *eP* **P 23 07 19.9 -1.0**
SUW *e* 23 17 54.4
SUW pmax pmax
comp=Z,71nm,1.0s,mb6.0
SUW Suwalki 94.77 324 *eP* **P 23 07 19.9 -1.1**
comp=Z,71nm,1.0s,mb6.0
SUW *ep*P pP 23 07 22.2 -5.4
SUW *e*SKS 23 17 54.4
BZS Buzias 94.77 315 ⇓*iP* **P 23 07 21.9 +0.9**
BZS Buzias 94.77 315⇑P **P 23 07 22.2 +1.2**
IGT Igoumenitsa 95.03 309 *eP* **P 23 07 25.7 +3.5**
KEV Kevo 95.19 340 PFAKE 23 07 30.0 +7.1
KEV LR LR
comp=Z,13µm,20.0s,MS6.4
CRVS Cervenica-Dubn 95.25 319 *eP* pP 23 07 27.7 -2.1
CRVS pmax pmax
comp=Z,9.0nm,1.2s,mb5.1
CRVS Cervenica-Dubn 95.25 319 *ePP* PP 23 11 12.0 -1.2
CRVS Cervenica-Dubn 95.25 319 *epP* pP 23 07 27.7 -2.1
STHS Stebnicka Huta 95.44 319 *eP* **P 23 07 25.8 +1.8**
STHS pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
ARCES ARCESS Array B 95.68 339 P **P 23 07 24.6 -0.5**
comp=Z,2.4nm,0.6s,mb4.8,baz=87,slow=5.0,SNR=11
ARCES PKiKP PKiKP 23 12 04.3 -0.5
comp=Z,5.3nm,1.0s,baz=83,slow=7.4,SNR=3.9
ARCES LR LR 23 56 18.3
comp=Z,16µm,19.0s,MS6.5,baz=107,slow=39
DIVS Divcibare 95.76 314 *iP* **P 23 07 25.7 +0.2**
KECS Kecovo 95.84 318 *eP* **P 23 07 27.5 +1.6**
KECS pmax pmax
comp=Z,5.0nm,1.4s,mb4.8
WAR Warsaw 95.86 322 *eP* **P 23 07 30.6 +4.7**
WAR *e*SKS 23 18 09.6
WAR L 23 45 55.8
comp=Z,9.0nm,30.9s
NIE Niedzica 96.05 319 *eP* **P 23 07 29.8 +3.0**
TBI Tubuai 96.15 115 *e*LQ 23 34 23.2
comp=Z,24µm,31.5s
TBI Tubuai 96.15 115 *ePP* PP 23 11 11.4 -8.8
comp=Z,635nm,31.2s
TBI Tubuai 96.15 115 *ePS* PS 23 20 03.1 -3.9
comp=Z,9µm,29.2s
TBI Tubuai 96.15 115 *eSKSac* SKSac 23 17 56.5 -6.2
comp=Z,2µm,29.2s
TBI *e*SS SS 23 25 12.5 -4.5
comp=Z,6µm,27.8s
TBI *e*LR LR 23 38 36.6
comp=Z,17µm,28.0s
SDPT Sand Point 96.16 35 *eP* **P 23 07 26.8 -0.5**
comp=Z,121nm,0.8s,mb6.4
SDPT LR LR
comp=Z,9µm,23.0s,MS6.2
PSZ Piszkesteto 96.19 317⇑*epP* pP 23 07 31.6 -2.5
OJC Ojcow 96.45 320 *eP* **P 23 07 29.1 +0.5**
OJC *e*SKSac SKSac 23 18 02.1 -2.1
OJC L 23 57 00.2
comp=Z,73nm,20.2s
POHA Pohakuloa 96.61 71 PFAKE 23 07 40.0 +11
POHA LR LR
comp=Z,5µm,20.0s,MS6.0
PKSM Moragy 96.90 316⇑P **P 23 07 33.2 +2.6**
PKSM Moragy 96.90 316⇑*eP* **P 23 07 34.5 +3.9**
VYHS Vyhne 96.94 318 *eP* **P 23 07 34.9 +4.1**
VYHS pmax pmax
comp=Z,9.0nm,1.6s,mb5.0
VYHS Vyhne 96.94 318 *epP* pP 23 07 34.9 -2.6
PPT Papeete 97.16 109 *e*LQ 23 35 02.0
comp=Z,22µm,27.5s
PPT Papeete 97.16 109 *ePP* PP 23 11 17.0 -11
comp=Z,796nm,26.2s
PPT Papeete 97.16 109 *ePS* PS 23 20 13.3 -4.6
comp=Z,11µm,26.8s
PPT Papeete 97.16 109 *eSKSac* SKSac 23 18 01.5 -6.4
comp=Z,3µm,28.5s
PPT *e*SS SS 23 25 21.9 -9.3
comp=Z,5µm,29.8s
PPT *e*LR LR 23 38 59.6
comp=Z,21µm,28.0s
PPT Papeete 97.16 109 LR LR 23 49 45.5
comp=Z,4µm,21.0s,MS5.9,baz=263,slow=34
STON Ston 97.32 312⇑*iP* **P 23 07 35.1 +2.6**
OKC Ostrava-Krasne 97.48 319 *eP* **P 23 07 36.0 +2.7**
OKC *e*SKS 23 18 11.8
OKC AMS AMS 23 57 00.0
comp=Z,9µm,18.1s
MORC Moravsky Berou 97.87 319 *eP* **P 23 07 35.7 +0.7**
MORC pmax pmax
comp=Z,7.0nm,0.9s,mb5.2
MORC Moravsky Berou 97.87 319 *eP* **P 23 07 35.7 +0.7**
comp=Z,6.9nm,0.9s,mb5.2
TRO Tromso 97.99 339 *ePP* PP 23 11 34.0 -0.4
TRO *e*SKSa 23 18 02.4
TRO AMb AMB 23 57 26.4
comp=Z,17µm,18.1s
BJO Bjornoya 98.02 344 AMS AMS 23 59 43.3
comp=Z,15µm,16.6s,MS6.5
VRAC Vranov 98.47 319 LR LR 23 56 59.8
comp=Z,6µm,21.7s,MS6.1,baz=243,slow=38
DPC Dobruska-Polom 98.68 320 *e*PDIF **P 23 07 41.7 +3.0**
DPC *e*SKS 23 18 18.7
DPC AMS AMS 23 54 30.0
comp=Z,9µm,20.3s
KSP Ksiaz 98.72 320 *eP* **P 23 07 43.3 +4.5**
KSP *e*SKS 23 18 14.2
KSP L 23 57 24.0
comp=Z,19nm,22.4s
KSP Ksiaz 98.72 320 *eP* **P 23 07 39.2 +0.4**
KSP *epP* pP 23 07 42.9 -2.6
KSP *ePP* PP 23 11 44.5 +4.6
KSP *e*SKS 23 18 13.0
KSP *e*S 23 19 02.0
KSP LR LR
comp=Z,27µm,19.7s,MS6.8
TTA Tatalina 98.83 28 *eP* **P 23 07 42.0 +2.7**
UPC Upice 98.89 320 *e*PDIF **P 23 07 44.2 +4.6**
UPC *e*SKS 23 18 20.7
BOJS Bojanci 99.22 315 *i* Pdiff **P 23 07 42.4 +1.3**
BOJS *e* pP 23 07 47.3 -0.4
KBS Kingsbay 99.48 349 *e* **P 23 07 47.3 +5.1**
KBS *ePP* PP 23 11 42.7 -3.1
KBS *e*SKSa 23 18 18.8
KBS *e*SS SS 23 26 02.1 -1.8
KBS AMS AMS 00 00 21.7
comp=Z,11µm,22.3s,MS6.3
KBS Kingsbay 99.48 349 PFAKE 23 07 50.0 +7.7
KBS LR LR
comp=Z,24µm,21.0s,MS6.7
OBKA Obir 99.74 316⇑*iP* Pdif 23 07 51.2 +7.8
comp=Z,7.4nm,1.4s
LJU Ljubljana 99.75 315 *e*Pdiff Pdif 23 07 42.5 -0.9
LJU *es*Pdiff 23 07 47.5
LJU *e* 23 10 05.0
LJU *ePP* PP 23 11 50.5 +2.7
LJU *e*SKSac SKSac 23 18 24.0 +3.0
LJU *e*SKKSac SKKSac 23 18 29.0 -25
LJU *e*Sdiff 23 19 17.0
LJU Ljubljana 99.75 315 *eP* Pdif 23 07 42.5 -0.9
LJU *e* 23 11 50.5
LJU *eS* 23 19 17.0
PRU Pruhonice 99.82 319 *e*PDIF Pdif 23 07 48.6 +4.9
PRU *e*SKS 23 18 23.9
PRU AMS AMS 23 56 10.0
comp=Z,8µm,20.8s
BRG Berggiesshubel 100.21 320 *e*Pdiff Pdif 23 07 49.3 +3.8
BRG *ePP* PP 23 12 13.5 +22
BRG *e*SKSac SKSac 23 18 19.4 -3.8
BRG *e*SP SP 23 20 49.4 +1.1
BRG Berggiesshubel 100.21 320 *e*PKP Pdif 23 07 46.2 +0.8
comp=Z,2.6nm,1.4s
BRG *e* 23 07 50.8
comp=Z,23nm,2.1s
BRG *e* 23 11 22.4
comp=Z,7.8nm,1.3s
BRG SKS 23 18 25.0
BRG SS SS 23 26 04.0 -10
BRG
comp=N,7µm,19.6s
BRG
comp=E,6µm,20.2s
BRG
comp=Z,7µm,21.3s
BRG Berggiesshubel 100.21 320 *eP* Pdif 23 07 46.2 +0.7
BRG 23 18 25.0
BRG pmax pmax
comp=Z,3.0nm,1.4s
BRG MLR MLR
comp=N,7µm,19.7s,MS6.3
BRG MLR MLR
comp=E,6µm,20.2s,MS6.3

BRG MLR MLR
comp=Z,7µm,21.3s,MS6.1
HFS Hagfors 100.24 330 P Pdif 23 07 45.5 -0.1
comp=Z,6.5nm,0.9s,baz=151,slow=3.4,SNR=7.1
RUE Ruedersdorf 100.31 322 *e*PP PP 23 12 15.0 +23
RUE *e*SKSac SKSac 23 18 18.9 -4.8
RUE *e*SP SP 23 20 49.4 0.0
GERES GERESS Array B 100.35 318 P Pdif 23 07 47.0 +0.9
comp=Z,1.2nm,0.7s,baz=60,slow=2.4,SNR=2.7
KHC Kasperske Hory 100.44 318 *e*PDIF Pdif 23 07 49.7 +3.2
KHC *ex* x 23 10 48.4
KHC *ex* x 23 11 03.5
KHC *e*SKS 23 18 25.4
KHC AMS AMS 23 59 30.0
comp=Z,15µm,19.9s
ROBS Robic 100.46 316 *e*Pdiff Pdif 23 07 50.2 +3.6
RGN Rugen 100.56 324 *e*PP PP 23 12 15.0 +21
RGN *e*SKSac SKSac 23 18 23.2 -1.8
RGN *e*SP SP 23 20 50.5 -1.6
KDAK Kodiak Island 100.60 33 *e*P Pdif 23 07 46.7 -0.5
comp=Z,22nm,0.9s
KDAK LR LR
comp=Z,2µm,20.0s,MS5.5
CLL Collm 100.80 321 *e*Pdiff Pdif 23 07 51.7 +3.6
comp=Z,44nm,2.3s
CLL *e*PP PP 23 11 53.8 -2.0
CLL *e*PKiKP PKiKP 23 12 15.8 +1.9
CLL *e*SKSac SKSac 23 18 24.8 -1.3
CLL *e*Sdiff Sdif 23 19 27.8 +3.0
CLL *e*PS PS 23 20 48.0 -9.2
CLL *e*PPS 23 21 59.1
CLL *e*SS SS 23 26 19.8 -2.5
CLL *e*LR LR 23 42 29.2
CLL *e*L 23 56 15.4
comp=Z,9µm,22.0s
CLL Collm 100.80 321 *e*Pdif Pdif 23 07 52.0 +3.9
comp=Z,43nm,2.3s
CLL *i* x x 23 11 19.2
CLL *e*PP PP 23 11 55.0 -0.8
CLL *e*PKiKP PKiKP 23 12 15.0 +1.1
CLL *i* SKSac SKSac 23 18 24.8 -1.3
CLL *i* sSKSac 23 18 32.2
CLL *e*Sdif Sdif 23 19 28.0 +3.2
CLL *e*PS PS 23 20 48.0 -9.2
CLL *e*PPS 23 21 44.0
CLL *e*SS SS 23 26 18.0 -4.3
CLL *e*SSS 23 30 17.0
CLL *e*SKKSdf SKKSdf 23 31 11.0 -4.9
CLL LmV 23 59 00.0
comp=Z,8µm,21.5s
CLL Collm 100.80 321 *e*P Pdif 23 07 52.0 +3.9
CLL *i* 23 18 24.8
CLL *e*S Sdif 23 19 28.0 +3.2
CLL pmax pmax
comp=Z,43nm,2.3s
CLL MLR MLR
comp=Z,8µm,21.5s,MS6.2
CLL Collm 100.80 321 *e*Pdif Pdif 23 07 52.0 +3.9
comp=Z,43nm,2.3s
CLL *i* SKS 23 18 24.8
CLL *e*Sdif Sdif 23 19 28.0 +3.2
CLL LR LR
comp=Z,8µm,21.5s,MS6.2
NSS Namsos 100.82 334 *e* SS 23 26 39.1 +16
NSS AMS AMS 23 57 58.4
comp=Z,16µm,21.2s,MS6.5
WET Wettzell 100.90 318 *e*Pdiff Pdif 23 07 52.7 +4.2
WET *e*PP PP 23 12 15.0 +19
WET *e*SKSac SKSac 23 18 23.4 -3.2
WET *e*SP SP 23 20 58.3 +2.6
NKC Novy Kostel 101.17 320 AMS AMS 23 54 40.0
comp=Z,9µm,19.9s
WERD Werda 101.25 320 *e*Pdiff Pdif 23 07 54.8 +4.7
ROTZ Rotzenmuhle 101.33 319 *e*Pdiff Pdif 23 07 55.0 +4.6
ROTZ *e*PP PP 23 12 21.8 +22
ROTZ *e*SKSac SKSac 23 18 27.2 -1.5
ROTZ *e*SP SP 23 21 03.9 +3.6
MANZ Manzenberg 101.39 319 *e*Pdiff Pdif 23 07 54.3 +3.6
MANZ *e*PP PP 23 12 20.9 +21
MANZ *e*SKSac SKSac 23 18 28.5 -0.5
MANZ *e*SP SP 23 21 03.9 +3.0
NB2 NORSAR Subarra101.41 331 P Pdif 23 07 53.6 +2.8
comp=Z,35nm,1.7s,baz=82,slow=4.6
NOA NORSAR Array B101.41 331 P Pdif 23 07 52.5 +1.7
comp=Z,1.2nm,0.7s,baz=89,slow=5.1,SNR=6.6
NOA PP PP 23 12 00.3 -0.1
comp=Z,1.2nm,0.8s,baz=65,slow=7.3,SNR=3.7
NOA PKKPbc PKKPbc 23 24 00.9 +1.8
comp=Z,1.4nm,1.0s,baz=264,slow=2.3,SNR=3.6
NOA NORSAR Array B101.41 331 P Pdif 23 07 52.6 +1.8
NOA 23 12 00.3
NAO01 NORSAR Array S 101.59 330 PFAKE 23 08 00.0 +8.4
NAO01 LR LR
comp=Z,10µm,19.0s,MS6.3
SLKM Skilak Lake 101.67 30 *e*P Pdif 23 07 51.3 -0.7
MOX Moxa 101.69 320 *e*Pdiff Pdif 23 07 56.4 +4.3
MOX *e*PP PP 23 12 23.9 +21
MOX *e*SKSac SKSac 23 18 25.6 -4.8
MOX *e*SP SP 23 21 05.0 +0.9
MOX Moxa 101.69 320 *e*P Pdif 23 07 57.5 +5.4
MOX
comp=Z,7µm,23.0s
GRA1 Grafenberg Arr 101.97 319 *e*Pdif Pdif 23 07 57.0 +3.7
GRA1 *e*PP PP 23 12 23.9 +19
GRA1 *e*SKSac SKSac 23 18 29.6 -2.1
GRA1 *e*SP SP 23 21 09.4 +2.3
GRA1 LR LR
comp=Z,7µm,21.0s,MS6.2
GRF Grafenberg Arr 101.97 319 *e*Pdiff Pdif 23 07 57.0 +3.7
GRF *e*PP PP 23 12 23.9 +19
GRF *e*SKSac SKSac 23 18 29.6 -2.1
GRF *e*SP SP 23 21 09.4 +2.3
GRF *e*L 23 56 51.4
comp=Z,7µm,21.0s
FUR Furstenfeldbru 101.97 317 *e*SKSac SKSac 23 18 29.0 -2.7
FUR *e*SP SP 23 21 07.7 +0.6
PMR Palmer 102.11 29 *e*P Pdif 23 07 54.5 +0.6
PMR pmax pmax
comp=Z,35nm,1.3s
PMR MLR MLR
comp=Z,7µm,22.0s,MS6.1
PMR Palmer 102.11 29 *e*Pdif Pdif 23 07 54.5 +0.6
comp=Z,35nm,1.3s
PMR LR LR
comp=Z,7µm,22.0s,MS6.1
COLA College 102.32 25 PFAKE 23 08 00.0 +5.2
COLA LR LR
comp=Z,6µm,19.0s,MS6.1
KONO Kongsberg 102.33 329 *e*PP PP 23 12 04.9 -2.3
KONO *e*SKSa 23 18 29.7
KONO Kongsberg 102.33 329 PFAKE 23 08 10.0 +15
KONO LR LR
comp=Z,11µm,20.0s,MS6.4
BSEG Bad Segeberg 102.35 323 *e*SKSac SKSac 23 18 32.3 -1.2
BSEG *e*SP SP 23 21 09.4 -1.8
CLZ Clausthal 102.43 321 *e*Pdiff Pdif 23 07 59.0 +3.7
CLZ *e*PP PP 23 12 31.3 +23
CLZ *e*SKSac SKSac 23 18 32.1 -1.8
CLZ *e*SP SP 23 21 13.9 +1.9
UBBA Unterbreizbach 102.71 320 *e*Pdiff Pdif 23 08 00.2 +3.6
UBBA *e*PP PP 23 12 31.3 +21
UBBA *e*SKSac SKSac 23 18 32.4 -2.8
UBBA *e*SP SP 23 21 15.0 0.0
ILAR Eielson Array 102.74 25 P Pdif 23 07 56.1 -0.6
comp=Z,1.3nm,0.7s,baz=255,slow=4.3,SNR=9.8
ILAR PP PP 23 12 04.7 -5.7
comp=Z,2.8nm,1.1s,baz=295,slow=8.2,SNR=4.8
ILAR PKKPbc PKKPbc 23 23 55.7 +0.5
comp=Z,1.9nm,1.0s,baz=93,slow=1.4,SNR=4.7
ILAR Eielson Array 102.74 25 P Pdif 23 07 56.1 -0.6
ILAR 23 12 04.7
MOL Molde 102.99 332 AMS AMS 00 01 06.6
comp=Z,19µm,18.6s,MS6.7
STU Stuttgart 103.33 318 *e*SKSac SKSac 23 18 34.7 -3.4
STU *e*SP SP 23 21 25.0 +3.5
TNS Taunus Mts 103.73 320 *e*PP PP 23 12 38.7 +21
TNS *e*SKSac SKSac 23 18 37.9 -2.1
TNS *e*SP SP 23 21 29.5 +3.7
TNS *e*SKSac SKSac 23 18 37.9 -2.1
TNS *e*SP SP 23 21 29.5 +3.7
TNS Taunus Mts 103.73 320 *e*PP PP 23 12 38.7 +21
HLG Helgoland 103.76 324 *e*SKSac SKSac 23 18 39.4 -0.7
HLG *e*SP SP 23 21 27.3 +1.3

BFO Black Forest 103.93 318 *e*SKSac SKSac 23 18 36.8 -4.1
BFO *e*SP SP 23 21 29.5 +1.7
IBBN Ibbenburen 104.01 322 *e*SKSac SKSac 23 18 40.3 -1.0
IBBN *e*SP SP 23 21 30.2 +1.6
BER Bergen 104.36 330 *e*PP PP 23 12 20.1 -2.4
BER AMS AMS 00 02 41.3
comp=Z,10µm,21.3s,MS6.3
BUG Bochum--Univer 104.38 321 *e*Pdiff Pdif 23 08 09.2 +5.2
BUG *e*SKSac SKSac 23 18 39.9 -3.1
BUG *e*SP SP 23 21 36.2 +3.6
WTSB Winterswijk 104.62 322 *e*P Pdif 23 08 31.1 +26
CDF Champ du Feu 104.63 318 *e*PKIKP PKiKP 23 12 19.5 -1.3
SBF Sospel 104.81 313 *e*PKIKP PKiKP 23 12 19.6 -1.6
HINF Hinteralfeld 104.96 317 *e*PKIKP PKiKP 23 12 20.1 -1.3
comp=Z,5.1nm,0.6s
WLF Walferdange 105.26 319 *e*SKSac SKSac 23 18 44.7 -2.2
WLF *e*SP SP 23 21 44.5 +2.8
HAU Haudompre 105.28 317 *e*PKIKP PKiKP 23 12 20.8 -1.2
comp=Z,18nm,0.9s
HAU *e*R
comp=Z,8µm,21.5s
HAU Haudompre 105.28 317 *e*PKPdf PKiKP 23 12 20.8 -1.2
HAU LR LR
comp=Z,8µm,21.5s,MS6.2
HGN Heimansgroeve 105.29 320 *e*P Pdif 23 08 33.0 +25
HGN *e*SKS SKSac 23 18 27.4 -20
HGN *e*SKSP 23 21 39.3
CABF La Chapelle 105.57 316 *e*PKIKP PKiKP 23 12 21.0 -1.6
comp=Z,32nm,1.0s
MEZF Maizieres J'vi 106.09 318 *e*PKIKP PKiKP 23 12 22.0 -1.5
DAG Danmarks Havn 106.21 349 *i* P Pdif 23 08 15.0 +2.8
DAG
comp=Z,19µm,22.0s
DAG Danmarks Havn 106.21 349 *e*P Pdif 23 08 15.0 +2.8
DAG MLR MLR
comp=Z,19µm,22.0s,MS6.6
DAG MLR MLR
comp=N,6µm,19.0s,MS6.5
DAG MLR MLR
comp=E,14µm,23.0s,MS6.5
BAIF Baives 106.46 320 *e*PKIKP PKiKP 23 12 23.0 -1.2
JMIC Jan Mayen 106.75 343 *e* PP 23 12 55.6 +15
JMIC AMS AMS 23 55 45.7
comp=Z,8µm,24.8s,MS6.2
INK Inuvik 106.99 20 PKKPbc PKKPbc 23 23 44.9 +2.6
comp=Z,5.1nm,0.7s,baz=136,slow=2.5,SNR=4.3
LOR Lormes 107.03 317 *e*PKIKP PKiKP 23 12 24.4 -0.9
comp=Z,4.5nm,0.8s
LOR *e*R
comp=Z,9µm,21.2s
LOR Lormes 107.03 317 *e*PKPdf PKiKP 23 12 24.4 -0.9
LOR LR LR
comp=Z,9µm,21.3s,MS6.3
SMF Signal de Mont 107.11 316 *e*PKIKP PKiKP 23 12 24.1 -1.3
PMSA Palmer Station 107.22 183 PFAKE 23 12 40.0 +14
PMSA LR LR
comp=Z,8µm,19.0s,MS6.3
SSF Saint Saulge 107.29 317 *e*PKIKP PKiKP 23 12 24.5 -1.3
comp=Z,40nm,1.2s
AVF Avril sur Loir 107.43 316 *e*PKIKP PKiKP 23 12 24.8 -1.2
BGF Bois d'Agland 107.80 316 *e*PKIKP PKiKP 23 12 25.4 -1.3
comp=Z,26nm,1.0s
TAOE Nuku Hiva Isla 107.85 102 *e*LQ 23 39 30.8
comp=Z,28µm,33.8s
TAOE Nuku Hiva Isla 107.85 102 *e*PP PP 23 12 38.5 -10
comp=Z,2µm,25.4s
TAOE Nuku Hiva Isla 107.85 102 *e*PS PS 23 22 01.1 -10
comp=Z,13µm,24.8s
TAOE Nuku Hiva Isla 107.85 102 *e*SS SS 23 28 00.0 +1.0
comp=Z,11µm,28.3s
TAOE *e*LR LR 23 44 14.0
comp=Z,24µm,28.0s
TCF Toulx Ste Croi 108.27 316 *e*PKIKP PKiKP 23 12 26.8 -0.8
CAF Calviac 108.55 315 *e*PKIKP PKiKP 23 12 27.2 -0.9
comp=Z,29nm,1.3s
MTLF Montolieu 108.63 313 *e*PKIKP PKiKP 23 12 27.7 -0.5
comp=Z,16nm,1.1s
RJF Les Rejaudoux 108.89 315 *e*PKIKP PKiKP 23 12 27.7 -1.0
comp=Z,33nm,1.2s
RKT Rikitea 109.10 118 *e*LQ 23 39 55.5
comp=Z,14µm,32.2s
RKT Rikitea 109.10 118 *e*PP PP 23 12 52.6 -4.7
comp=Z,695nm,29.2s
RKT Rikitea 109.10 118 *e*PS PS 23 22 18.7 -5.0
comp=Z,4µm,31.8s
RKT Rikitea 109.10 118 *e*SKSac SKSac 23 18 58.0 -5.7
comp=Z,1µm,28.0s
RKT *e*SS SS 23 28 20.2 +4.4
comp=Z,4µm,35.5s
RKT *e*LR LR 23 44 45.5
comp=Z,9µm,23.5s
LFF La Frestale 109.48 315 *e*PKIKP PKiKP 23 12 28.9 -0.9
LDF La Druitiere 109.48 319 *e*PKIKP PKiKP 23 12 28.6 -1.3
comp=Z,77nm,1.5s
FLN La Foliniere 109.69 319 *e*PKIKP PKiKP 23 12 29.5 -0.7
comp=Z,43nm,1.0s
FLN *e*R
comp=Z,10µm,22.0s
FLN La Foliniere 109.69 319 *e*PKPdf PKiKP 23 12 29.5 -0.7
FLN LR LR
comp=Z,10µm,22.0s,MS6.3
TORD Torodi Ar. Bea 109.81 281 Pdiff Pdif 23 08 34.5 +6.4
comp=Z,0.9nm,1.1s,baz=96,slow=5.7,SNR=2.3
TORD PKiKP PKiKP 23 12 30.9 +0.4
comp=Z,2.8nm,0.6s,baz=47,slow=2.4,SNR=30
TORD PKKPbc PKKPbc 23 23 35.9 +2.4
comp=Z,3.3nm,0.9s,baz=296,slow=4.6,SNR=9.4
MFF Saint Martin d 109.84 317 *e*PKIKP PKiKP 23 12 30.0 -0.5
comp=Z,16nm,0.8s
ESK Eskdalemuir 109.88 326 PFAKE 23 12 40.0 +9.4
ESK LR LR
comp=Z,9µm,22.0s,MS6.3
SIT Sitka 109.91 32 PFAKE 23 12 40.0 +9.4
SIT LR LR
comp=Z,8µm,20.0s,MS6.3
GRR Gorron 110.00 319 *e*PKIKP PKiKP 23 12 29.8 -1.0
comp=Z,15nm,0.7s
EPF Esparros 110.03 313 *e*PKIKP PKiKP 23 12 30.4 -0.5
comp=Z,19nm,1.0s
TRIS Tristan da Cun 110.05 226 PFAKE 23 12 40.0 +9.1
TRIS LR LR
comp=Z,4µm,20.0s,MS5.9
EGRA Graus 110.16 312 PKP PKiKP 23 12 32.3 +1.2
ERTA Horta de San J 110.30 311 PKP PKiKP 23 12 34.2 +2.8
ETSF Etsaut 110.70 313 *e*PKIKP PKiKP 23 12 31.6 -0.5
comp=Z,9.8nm,0.7s
EMOS Mosqueruela 110.98 310 PKP PKiKP 23 12 35.8 +3.1
SJPF Ste Jean 111.15 313 *e*PKIKP PKiKP 23 12 32.5 -0.5
comp=Z,17nm,0.6s
HOPE Hope Point 111.87 200 PFAKE 23 12 50.0 +16
HOPE LR LR
comp=Z,8µm,20.0s,MS6.3
ECRI Cripan 112.17 313 PKIKP PKiKP 23 12 38.6 +3.7
PTCN Pitcairn Islan 112.65 121 PFAKE 23 12 50.0 +14
PTCN LR LR
comp=Z,12µm,20.0s,MS6.5
EVIA Vianos 112.77 308 PKIKP PKiKP 23 12 38.9 +2.8
SUMG Summit 112.84 350 *e*PKPdf PKiKP 23 12 40.4 +4.2
GUD Guadarrama 113.72 311 PKIKP PKiKP 23 12 41.3 +3.4
ESDC Sonseca Array 113.74 310 PKiKP PKiKP 23 12 38.5 +0.6
comp=Z,1.7nm,0.7s,baz=14,slow=3.0,SNR=5.3
ESDC PKKPbc PKKPbc 23 23 24.3 +3.9
comp=Z,0.9nm,0.7s,baz=270,slow=3.1,SNR=4.7
ESDC Sonseca Array 113.74 310 PKP PKiKP 23 12 39.5 +1.6
ESLA Sonseca Array 113.74 310 PFAKE 23 12 50.0 +12
ESLA LR LR
comp=Z,39µm,21.0s,MS7.0
EGUA Guajares 113.86 307 PKIKP PKiKP 23 12 42.1 +4.0
EARI Arriondas 113.98 314 PKP PKiKP 23 12 40.6 +2.2
BORG Borgarnes 114.09 339 PFAKE 23 12 50.0 +11
BORG LR LR
comp=Z,9µm,20.0s,MS6.4
ELUQ Luque 114.31 308 PKIKP PKiKP 23 12 39.1 +0.1
PBRG Braganca 115.41 312 *e*PKPdf PKPdf 23 12 39.3 -1.8
DBIC Dimbokro 115.71 274 PKP PKPdf 23 12 42.1 +0.4
comp=Z,9.5nm,0.9s,baz=92,slow=3.2,SNR=8.3
DBIC PP PP 23 13 49.1 +4.6
comp=Z,12nm,1.1s,baz=62,slow=1.7,SNR=5.6
DBIC PKKPbc PKKPbc 23 23 19.4 +5.6
comp=Z,5.3nm,0.9s,baz=16,slow=0.8,SNR=4.2
DBIC Dimbokro 115.71 274 PKIKP PKPdf 23 12 42.2 +0.5
DBIC 23 13 49.1
DBIC 23 23 19.4
DBIC pmax pmax
comp=Z,10.0nm,0.9s
DBIC pmax pmax
comp=Z,12nm,1.1s
DBIC pmax pmax
comp=Z,5.0nm,0.9s
DBIC Dimbokro 115.71 274 *e*PKPdf PKPdf 23 12 43.0 +1.3
DBIC LR LR
comp=Z,5µm,20.0s,MS6.1
PVRL Vila Real 116.24 312 *e*PKPdf PKPdf 23 12 48.9 +6.2
MTE Manteigas 116.30 311 *e*PKPdf PKPdf 23 12 43.7 +0.9
MTE Manteigas 116.30 311 *e*PP PP 23 13 50.9 +2.2
MTE *e*SKS SKSdf 23 19 25.1 -29
MTE *i* - 23 23 31.4
MTE *e*SS SS 23 29 58.2 +6.8
MTE Manteigas 116.30 311 *e*LQ 23 41 42.2
MTE *e*LR LR 23 48 52.3
comp=Z,2µm,20.0s
PCBR Castelo Branco 116.37 310 *e*PKPdf PKPdf 23 12 42.9 -0.1
STS Santiago 116.46 314 PKIKP PKPdf 23 12 45.9 +2.8
YKA Yellowknife Ar 116.71 22 PKP PKPdf 23 12 41.5 -2.1
comp=Z,2.0nm,0.4s,baz=317,slow=0.9,SNR=29
YKA PP PP 23 13 55.5 +3.9
comp=Z,12nm,1.1s,baz=307,slow=6.9,SNR=6.5
YKA PKKPbc PKKPbc 23 23 16.2 +6.0
comp=Z,1.7nm,0.7s,baz=112,slow=4.0,SNR=5.5
YKA SKKPbc 23 26 59.1
comp=Z,1.5nm,0.9s,baz=128,slow=2.8,SNR=4.3
YKA Yellowknife Ar 116.71 22 PKIKP PKPdf 23 12 41.5 -2.1
YKA 23 13 55.5
YKA Yellowknife Ar 116.71 22 PKP PKPdf 23 12 41.5 -2.1
YKA PP PP 23 13 55.5 +3.9
YKA PKKPbc PKKPbc 23 23 16.2 +6.0
YKA SKKPbc 23 26 59.1
PBEJ Beja 117.03 309 *e*PKPdf PKPdf 23 12 47.9 +3.7
EVO Evora 117.04 309 *e*PKIKP PKPdf 23 12 44.7 +0.4
comp=Z,187nm,1.8s
EVO *e*R
comp=Z,10µm,20.2s
MOE Montemor 117.31 309 *e*PKPdf PKPdf 23 12 48.5 +3.7
USHA Ushuaia 117.31 181 PKP PKPdf 23 12 45.2 +0.5
comp=Z,17nm,0.9s,baz=149,slow=5.9,SNR=1.7
PTEO Sao Teotonio 117.80 308 *e*PKPdf PKPdf 23 12 49.0 +3.3
PLOU Loures 117.84 310 *e*PKPdf PKPdf 23 12 47.1 +1.3
OCWA Octopus Mounta 119.44 39 *e*PKPdf PKPdf 23 12 50.6 +1.8
OCWA *e*PP PP 23 14 19.4 +8.9
OCWA LR LR
comp=Z,5µm,20.0s,MS6.2
EFI East Falkland 119.64 188 PFAKE 23 13 00.0 +11
EFI LR LR
comp=Z,5µm,20.0s,MS6.2
SFJD Kangerlussuaq 119.75 351 ⇑ *i*P PKPdf 23 12 52.2 +2.7
comp=Z,16nm,0.7s
SFJD *i* 23 14 17.8
SFJD *i* S SP 23 23 59.6 +0.3
SFJD *i* 23 30 40.6
SFJD
comp=Z,8µm,21.0s
SFJD Kangerlussuaq 119.75 351 ⇑ *i*PKIKP PKPdf 23 12 52.2 +2.7
SFJD *i* 23 14 17.8
SFJD *i* S SP 23 23 59.6 +0.3
SFJD *i* 23 30 40.6
SFJD pmax pmax
comp=Z,16nm,0.7s
SFJD MLR MLR
comp=Z,8µm,21.0s,MS6.3
COR Corvallis 121.19 42 PFAKE 23 13 00.0 +7.8
COR LR LR
comp=Z,4µm,20.0s,MS6.0
HUMO Hull Mountain 122.13 44 *e*PKPdf PKPdf 23 12 54.9 +0.8
HUMO LR LR
comp=Z,4µm,21.0s,MS6.0
KHMM Horse Mountain 122.17 46 *e*PKPdf PKPdf 23 12 53.2 -0.9
ASCN Ascension 122.57 255 PFAKE 23 13 10.0 +15
ASCN LR LR
comp=Z,4µm,19.0s,MS6.1
YBH Yreka Blue Hor 122.60 45 *e*PKIKP PKPdf 23 12 58.4 +3.4
YBH MLR MLR
comp=Z,4µm,22.0s
HAWA Hanford 122.90 39 *e*PKPdf PKPdf 23 12 55.7 +0.2
HAWA LR LR
comp=Z,338nm,22.0s
WDC Whiskeytown Da 123.12 46 *e*PKIKP PKPdf 23 12 57.5 +1.6
WDC MLR MLR
comp=Z,5µm,22.0s,MS6.1
HOPS Hopland 123.24 48 *e*PKPdf PKPdf 23 12 57.5 +1.3
HOPS LR LR
comp=Z,4µm,22.0s,MS6.1
NEW Newport 123.49 36 PKP PKPdf 23 12 57.6 +0.9
comp=Z,7.7nm,0.8s,baz=285,slow=3.2,SNR=7.4
NEW PP PP 23 14 35.0 -3.1
comp=Z,15nm,1.1s,baz=298,slow=3.5,SNR=3.3
NSHM Saint Helena R 123.74 49 *e*PKPdf PKPdf 23 13 00.1 +3.0
CFTV Fuerteventura 123.94 299 PKP PKPdf 23 13 01.2 +3.6
MOD Modoc 124.22 44 *e*PKPdf PKPdf 23 12 60.0 +1.9
MOD LR LR
comp=Z,5µm,21.0s,MS6.2
OHCM Honcut 124.30 48 *e*PKPdf PKPdf 23 13 00.9 +2.7
BMO Blue Mountains 124.98 40 *e*PKIKP PKPdf 23 12 59.5 0.0
BMO MLR MLR
comp=Z,5µm,21.0s,MS6.1
WVOR Wild Horse Val 125.15 43 *e*PKIKP PKPdf 23 12 59.7 -0.1
WVOR MLR MLR
comp=Z,6µm,21.0s,MS6.2
CMB Columbia Colle 125.55 49 *e*PKIKP PKPdf 23 13 00.9 +0.3
CMB *e* 23 14 52.7
CMB MLR MLR
comp=Z,5µm,21.0s,MS6.1
LRV Little Rabbit 125.59 51 *e*PKPdf PKPdf 23 13 03.5 +2.8
MSO Missoula 126.08 36 *e*PKPdf PKPdf 23 13 01.4 -0.3
MSO *e*PP PP 23 14 57.0 +1.6
MSO *e*SKPdf SKPdf 23 16 37.8 +1.9
MSO LR LR
comp=Z,4µm,20.0s,MS6.1
CHMT Chamberlain Mo 126.43 36 *e*PKPdf PKPdf 23 13 02.6 +0.3
PTRM Twissleman Ran 126.45 51 *e*PKPdf PKPdf 23 13 06.4 +4.1
FFC Flin Flon 126.84 23 PFAKE 23 13 10.0 +6.9
FFC LR LR
comp=Z,10µm,21.0s,MS6.5
BMN Battle Mountai 126.94 45 PFAKE 23 13 10.0 +6.7
BMN LR LR
comp=Z,4µm,20.0s,MS6.1
MNV Mina 127.05 47 *e*PKIKP PKPdf 23 13 04.4 +0.9
MNV MLR MLR
comp=Z,4µm,20.0s,MS6.1
MTUM Tungsten Hills 127.14 49 *e*PKPdf PKPdf 23 13 06.6 +3.0
HRY Holter Researc 127.36 35 *e*PKPdf PKPdf 23 13 04.9 +0.8
HLID Hailey 127.42 40 *e*PKPdf PKPdf 23 13 05.2 +1.1
HLID LR LR
comp=Z,5µm,20.0s,MS6.2
DLMT Dillon 127.64 37 *e*PKPdf PKPdf 23 13 03.8 -0.8
SNCC San Nicolas Is 127.72 54 PFAKE 23 13 20.0 +15
SNCC LR LR
comp=Z,4µm,22.0s,MS6.1
MCMT McKenzie Canyo 127.77 38 *e*PKPdf PKPdf 23 13 05.4 +0.6
ISA Isabella 127.79 51 PFAKE 23 13 20.0 +15
ISA LR LR
comp=Z,788nm,19.0s,MS5.4
TPH Tonopah 127.86 47 *e*PKIKP PKPdf 23 13 07.4 +2.4
TPH MLR MLR
comp=Z,3µm,20.0s,MS5.9
BOZ Bozeman (W) 128.06 37 *e*PKIKP PKPdf 23 13 04.2 -1.2
BOZ *e* 23 15 08.6
BOZ MLR MLR
comp=Z,5µm,20.0s,MS6.2
BOZ Bozeman (W) 128.06 37 *e*PKPdf PKPdf 23 13 04.2 -1.2
BOZ *e*PP PP 23 15 08.6 +0.1
BOZ *e*SKPdf SKPdf 23 16 43.8 +4.2
BOZ LR LR
comp=Z,5µm,20.0s,MS6.2
ELK Elko 128.17 44 *e*PKIKP PKPdf 23 13 06.2 +0.6
ELK MLR MLR
comp=Z,5µm,22.0s
DAC Darwin (Calif) 128.25 50 PKIKP PKPdf 23 13 00.1 -5.7
DAC Darwin (Calif) 128.25 50 *e*PKPdf PKPdf 23 13 07.4 +1.6
DAC LR LR
comp=Z,5µm,20.0s,MS6.2
QLMT Earthquake Lak 128.62 37 *e*PKPdf PKPdf 23 13 08.8 +2.3
YMR Madison River 128.99 37 *e*PKPdf PKPdf 23 13 09.5 +2.4
YMR LR LR
comp=Z,5µm,20.0s,MS6.2
TPNV Topopah Spring 129.01 48 *e*PKPdf PKPdf 23 13 09.0 +1.8
TPNV LR LR
comp=Z,5µm,21.0s,MS6.2
GCMT Greycliff 129.12 35 PKPdf PKPdf 23 13 04.0 -3.4
YFT Old Faithful 129.18 37 *e*PKPdf PKPdf 23 13 09.4 +1.9

HVU	**Hansel Valley**	**129.34**	**41**	PKIKP	PKPdf	23 13 10.1	+2.3
LKWY	**Lake**	**129.38**	**37**	*e*PKPdf	PKPdf	23 13 16.1	+8.2
LKWY				*e*PP	PP	23 15 42.1	+25
LKWY				LR	LR		
	comp=Z,10μm,19.0s,MS6.5						
IMW	**Indian Meadow**	**129.42**	**38**	*e*PKPdf	PKPdf	23 13 11.2	+3.2
FLWY	**Flagg Ranch**	**129.47**	**38**	*e*PKPdf	PKPdf	23 13 09.6	+1.5
MOOW	**Moose Ponds**	**129.62**	**38**	*e*PKPdf	PKPdf	23 13 09.9	+1.6
TPAW	**Teton Pass**	**129.63**	**39**	*e*PKPdf	PKPdf	23 13 09.1	+0.7
REDW	**Red Top Meadow**	**129.76**	**39**	*e*PKPdf	PKPdf	23 13 10.7	+2.0
LOHW	**Long Hollow**	**129.78**	**38**	*e*PKPdf	PKPdf	23 13 11.2	+2.5
SPUT	**South Promonto**	**129.78**	**42**	*e*PKPdf	PKPdf	23 13 07.1	-1.5
AHID	**Auburn Hatcher**	**129.92**	**39**	*e*PKPdf	PKPdf	23 13 10.0	+1.1
AHID				LR	LR		
	comp=Z,6μm,21.0s,MS6.3						
PFO	**Pinyon Flat Ob**	**130.04**	**53**	PFAKE		23 13 20.0	+11
PFO				LR	LR		
	comp=Z,5μm,20.0s,MS6.2						
DUG	**Dugway**	**130.07**	**43**	*e*PKPdf	PKPdf	23 13 11.4	+2.2
DUG				*e*SKPdf	SKPdf	23 16 30.3	-13
DUG				LR	LR		
	comp=Z,4μm,19.0s,MS6.1						
HWUT	**Hardware Ranch**	**130.21**	**41**	*e*PKPdf	PKPdf	23 13 11.0	+1.5
HWUT				*e*SKPdf	SKPdf	23 16 30.8	-13
HWUT				LR	LR		
	comp=Z,7μm,21.0s,MS6.3						
NOQ	**North Oquirrh**	**130.32**	**42**	*e*PKPdf	PKPdf	23 13 13.3	+3.6
LAO	**LASA Array**	**130.49**	**33**	*e*PKPdf	PKPdf	23 13 10.4	+0.3
LAO				LR	LR		
	comp=Z,8μm,21.0s,MS6.4						
NEN	**Nelson**	**130.55**	**49**	*e*PKPdf	PKPdf	23 13 12.9	+2.7
NLU	**North Lily Min**	**130.68**	**43**	*e*PKPdf	PKPdf	23 13 09.7	-0.7
BW06	**Boulder Array**	**130.88**	**39**	*e*PKPdf	PKPdf	23 13 12.2	+1.4
BW06				*e*PKPbc	SKPbc	23 16 33.1	-0.7
BW06				LR	LR		
	comp=Z,6μm,20.0s,MS6.3						
PDAR	**Pinedale Array**	**130.88**	**39**	PKP	PKPdf	23 13 11.1	+0.3
	comp=Z,4.4nm,0.6s,baz=235,slow=0.2,SNR=15						
PDAR				SKPbc	SKPbc	23 16 32.9	-0.9
	comp=Z,24nm,1.1s,baz=258,slow=1.4,SNR=8.7						
MPU	**Maple Canyon**	**130.95**	**43**	*e*PKPdf	PKPdf	23 13 14.4	+3.5
MPU				LR	LR		
	comp=Z,6μm,21.0s,MS6.2						
DAU	**Daniels Canyon**	**131.01**	**42**	*e*PKIKP	PKPdf	23 13 13.5	+2.5
MSU	**Marysvale**	**131.28**	**45**	*e*PKIKP	PKPdf	23 13 14.4	+2.9
PLCA	**Paso Flores**	**131.42**	**179**	PKP	PKPdf	23 13 15.3	+3.6
	comp=Z,4.6nm,0.7s,baz=190,slow=6.7,SNR=5.9						
PLCA	**Paso Flores**	**131.42**	**179**	PKP	PKPdf	23 13 15.3	+3.6
PLCA				LR	LR		
	comp=Z,4μm,19.0s,MS6.1						
TMUT	**Trail Mountain**	**131.59**	**43**	*e*PKPdf	PKPdf	23 13 13.8	+1.8
SRU	**San Rafael**	**132.14**	**43**	*e*PKIKP	PKPdf	23 13 14.3	+1.2
ULM	**Lac du Bonnet**	**132.67**	**23**	PKP	PKPdf	23 13 13.0	-1.2
	comp=Z,19nm,0.8s,baz=322,slow=1.8,SNR=7.8						
RWWY	**Rawlins**	**132.93**	**38**	*e*PKPdf	PKPdf	23 13 16.9	+2.3
RSSD	**Black Hills**	**133.31**	**34**	*e*PKIKP	PKPdf	23 13 07.4	-8.0
RSSD	**Black Hills**	**133.31**	**34**	*e*PKPdf	PKPdf	23 13 14.6	-0.8
RSSD				*e*SKPdf	SKPdf	23 16 41.6	-7.8
RSSD				LR	LR		
	comp=Z,1μm,19.0s,MS5.7						
SCHQ	**Schefferville**	**133.32**	**358**	PKP	PKPdf	23 13 15.2	-0.2
	comp=Z,4.6nm,0.5s,baz=322,slow=2.8,SNR=18						
SCHQ	**Schefferville**	**133.32**	**358**	PKP	PKPdf	23 13 15.2	-0.2
SCHQ				LR	LR		
	comp=Z,13μm,22.0s,MS6.6						
PV10	**Paradox Valley**	**133.51**	**43**	*e*PKPdf	PKPdf	23 13 17.7	+2.0
TRQA	**Tornquist**	**133.53**	**188**	*e*PKPdf	PKPdf	23 13 11.1	-4.6
TRQA				*e*SKPbc	SKPbc	23 16 43.9	+0.7
TRQA				LR	LR		
	comp=Z,5μm,19.0s,MS6.3						
PV01	**Paradox Valley**	**133.95**	**43**	*e*PKPdf	PKPdf	23 13 17.2	+0.6
SMCO	**Snowmass**	**134.47**	**41**	*e*PKPdf	PKPdf	23 13 19.3	+1.8
TUC	**Tucson**	**134.96**	**52**	*e*PKIKP	PKPdf	23 13 17.3	-1.1
TUC				*e*		23 15 53.3	
TUC				MLR	MLR		
	comp=Z,4μm,22.0s,MS6.1						
ISCO	**Idaho Springs**	**135.00**	**40**	*e*PKIKP	PKPdf	23 13 19.6	+1.1
ISCO				MLR	MLR		
	comp=Z,6μm,21.0s,MS6.3						
EYMN	**Ely**	**136.19**	**21**	*e*PKPdf	PKPdf	23 13 21.9	+1.2
EYMN				*e*SKPdf	SKPdf	23 16 51.0	-3.7
EYMN				LR	LR		
	comp=Z,11μm,20.0s,MS6.6						
SDCO	**Great Sand Dun**	**136.22**	**42**	PFAKE		23 13 30.0	+9.2
SDCO				LR	LR		
	comp=Z,8μm,21.0s,MS6.4						
LAZ	**Ladron**	**136.79**	**47**	*e*PKPdf	PKPdf	23 13 21.5	-0.3
ANMO	**Albuquerque**	**137.01**	**46**	*e*PKIKP	PKPdf	23 13 20.1	-2.2
ANMO				MLR	MLR		
	comp=Z,8μm,21.0s						
LENM	**Lemitar**	**137.03**	**47**	*e*PKPdf	PKPdf	23 13 23.1	+0.8
LPM	**Los Pinos Moun**	**137.20**	**47**	*e*PKPdf	PKPdf	23 13 22.8	+0.2
BNM	**Barren Site**	**137.28**	**47**	*e*PKPdf	PKPdf	23 13 21.0	-1.8
ECSD	**EROS,Sioux Fal**	**137.43**	**29**	*e*PKPdf	PKPdf	23 13 16.9	-6.1
MNTX	**Cornudas Mount**	**139.36**	**50**	*e*PKPdf	PKPdf	23 13 19.8	-6.7
MNTX				*e*SKPdf	SKPdf	23 17 02.6	+2.3
MNTX				LR	LR		
	comp=Z,5μm,21.0s,MS6.3						
CAM4	**Nova Friburgo**	**139.71**	**221**	*e*P	PKPdf	23 13 29.6	+2.4
CAM4				*i*		23 13 39.7	
CAM4				*i*		23 13 46.3	
CPRX	**Cap Rock**	**139.84**	**47**	*e*PKPdf	PKPdf	23 13 28.8	+1.4
AMTX	**Amarillo**	**140.37**	**43**	*e*PKPdf	PKPdf	23 13 29.9	+1.5
AMTX				*e*PP	PP	23 16 16.9	-10
AMTX				LR	LR		
	comp=Z,6μm,20.0s,MS6.3						
CFAA	**Coronel Fontan**	**140.51**	**182**	PKhKP		23 13 25.1	
	comp=Z,1.0nm,0.8s,baz=189,slow=4.7,SNR=12						
CFAA				PKP	PKPdf	23 13 30.3	+1.7
	comp=Z,2.3nm,0.7s,baz=186,slow=3.6,SNR=18						
CFAA				PP	PP	23 16 29.2	+1.7
	comp=Z,1.5nm,1.1s,baz=160,slow=9.4,SNR=3.1						
LTX	**Lajitas**	**141.76**	**52**	*e*PKIKP	PKPdf	23 13 31.3	+0.4
LTX				MLR	MLR		
	comp=Z,8μm,22.0s,MS6.4						
WMOK	**Wichita Mounta**	**142.38**	**41**	PFAKE		23 13 40.0	+8.0
WMOK				LR	LR		
	comp=Z,8μm,20.0s,MS6.5						
FRNY	**Flat Rock**	**143.23**	**5**	*e*PKPdf	PKPdf	23 13 33.3	-0.2
CPUP	**Villa Florida**	**143.74**	**199**	PKP	PKPdf	23 13 32.8	-1.6
	comp=Z,12nm,0.5s,baz=143,slow=2.9,SNR=21						
CPUP	**Villa Florida**	**143.74**	**199**	PKIKP	PKPdf	23 13 32.7	-1.7
LBNH	**Lisbon**	**143.93**	**3**	*e*PKPdf	PKPdf	23 13 35.0	+0.2
LBNH				*e*SKPdf	SKPdf	23 17 07.9	-0.1
LBNH				LR	LR		
	comp=Z,7μm,19.0s,MS6.4						
CJM	**Chamela**	**143.95**	**68**	*i* P	PKPdf	23 13 33.4	-1.4
MIV	**Mineville/With**	**143.99**	**5**	*e*PKPdf	PKPdf	23 13 32.7	-2.2
NCB	**Newcomb**	**144.04**	**6**	*e*PKPdf	PKPdf	23 13 33.1	-1.9
NCB				LR	LR		
	comp=Z,9μm,21.0s,MS6.5						
JCT	**Junction City**	**144.12**	**48**	*e*PKPdf	PKPdf	23 13 34.4	-0.7
JCT				*e*SKPdf	SKPdf	23 17 11.3	+2.9
JCT				LR	LR		
	comp=Z,7μm,22.0s,MS6.4						
CCM	**Cathedral Cave**	**144.38**	**30**	*e*PKPdf	PKPdf	23 13 31.7	-3.8
CCM				*e*SKPbc	SKPbc	23 17 13.1	-0.4
CCM				LR	LR		
	comp=Z,2μm,19.0s,MS5.8						
FVM	**French Village**	**144.84**	**29**	*e*PKIKP	PKPdf	23 13 34.1	-2.2
ERPA	**Erie**	**144.91**	**13**	*e*PKPdf	PKPdf	23 13 35.4	-1.0
ERPA				LR	LR		
	comp=Z,9μm,20.0s,MS6.5						
ZAIG	**Zacatecas**	**145.25**	**61**	*i* P	PKPbc	23 13 38.2	+1.5
ALLY	**Alegheny Colle**	**145.32**	**14**	*e*PKPdf	PKPdf	23 13 35.8	-1.4
BINY	**Binghamton**	**145.57**	**8**	*e*PKPdf	PKPdf	23 13 34.9	-2.7
BINY				*e*SKPdf	SKPdf	23 17 12.8	+2.1
BINY				LR	LR		
	comp=Z,13μm,20.0s,MS6.7						
HRV	**Harvard--Oak R**	**145.68**	**2**	*e*PKPdf	PKPdf	23 13 36.9	-0.9
HRV				*e*SKPbc	SKPbc	23 17 16.6	+0.1
HRV				LR	LR		
	comp=Z,5μm,20.0s,MS6.3						
MIAR	**Mount Ida**	**145.73**	**36**	*e*PKPdf	PKPdf	23 13 35.6	-2.2
MIAR				*e*SKPdf	SKPdf	23 17 14.9	+3.9
WES	**Weston**	**145.81**	**2**	PFAKE		23 13 50.0	+12
WES				LR	LR		
	comp=Z,8μm,22.0s,MS6.4						
ACSO	**Alum Creek Sta**	**145.87**	**18**	*e*PKPdf	PKPdf	23 13 35.6	-2.5
ACSO				LR	LR		
	comp=Z,5μm,21.0s,MS6.3						
USIN	**University of**	**146.12**	**26**	*e*PKPdf	PKPdf	23 13 38.8	+0.3
PARMO	**Parma**	**146.21**	**30**	*e*PKPdf	PKPdf	23 13 38.8	+0.1
WCI	**Wyandotte Cave**	**146.46**	**24**	*e*PKIKP	PKPdf	23 13 37.6	-1.5
WCI				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.9						
GNAR	**Gosnell**	**146.63**	**31**	*e*PKPdf	PKPdf	23 13 38.1	-1.3
GLAT	**Glass**	**146.75**	**30**	*e*PKPdf	PKPdf	23 13 38.8	-0.8
SSPA	**Standing Stone**	**146.78**	**11**	*e*PKPdf	PKPdf	23 13 38.0	-1.7
SSPA				*e*SKPbc	SKPbc	23 17 19.2	+0.2
SSPA				LR	LR		
	comp=Z,3μm,22.0s,MS6.0						
UTMT	**University of**	**146.90**	**29**	*e*PKPbc	PKPbc	23 13 40.8	-1.0
NATX	**Nacogdoches**	**146.93**	**41**	*e*PKPbc	PKPbc	23 13 40.9	-1.0
NATX				*e*SKPdf	SKPdf	23 17 13.6	+0.7
NATX				LR	LR		
	comp=Z,6μm,21.0s,MS6.4						
PAL	**Palisades**	**147.00**	**6**	PKP2	PKPab	23 13 40.9	-2.6
BRNJ	**Basking Ridge**	**147.25**	**7**	*e*PKPdf	PKPdf	23 13 36.4	-4.1
HKT	**Hockley**	**147.26**	**45**	*e*PKIKP	PKPdf	23 13 41.1	+0.7
HKT				MLR	MLR		
	comp=Z,3μm,21.0s,MS6.0						
MCWV	**Mont Chateau**	**147.28**	**15**	*e*PKPdf	PKPdf	23 13 40.2	-0.2
MCWV				LR	LR		
	comp=Z,10μm,21.0s,MS6.6						
MET	**Memphis--Engin**	**147.32**	**32**	*e*PKPbc	PKPbc	23 13 42.6	-0.3
WVT	**Waverly**	**147.56**	**28**	*e*PKIKP	PKPdf	23 13 40.6	-0.3
WVT				MLR	MLR		
	comp=Z,7μm,21.0s,MS6.5						
MVL	**Millersville**	**147.67**	**10**	*e*PKPdf	PKPdf	23 13 40.8	-0.3
OXF	**Oxford**	**148.07**	**32**	*e*PKIKP	PKPdf	23 13 42.3	+0.5
OXF				MLR	MLR		
	comp=Z,6μm,22.0s,MS6.4						
BDFB	**Brasilia**	**148.09**	**222**	PKPbc	PKPbc	23 13 46.9	+1.9
	comp=Z,52nm,0.9s,baz=153,slow=2.2,SNR=20						
BDFB	**Brasilia**	**148.09**	**222**	PKP2	PKPab	23 13 46.9	-0.9
BDFB				pmax	pmax		
	comp=Z,52nm,0.9s						
PLAL	**Pickwick Lake**	**148.37**	**30**	*e*PKPdf	PKPdf	23 13 42.1	-0.1
PLAL				LR	LR		
	comp=Z,10μm,20.0s,MS6.6						
CEN1	**Los Morros**	**148.72**	**179**	*e*P	PKPdf	23 13 47.0	+4.1
FWV	**Forest Hill**	**148.96**	**17**	*e*PKPdf	PKPdf	23 13 43.9	+0.6
SWET	**Sewanee**	**149.18**	**26**	*e*PKPdf	PKPdf	23 13 43.0	-0.6
CBN	**Corbin**	**149.23**	**12**	*e*PKPbc	PKPbc	23 13 48.3	+0.4
CBN				LR	LR		
	comp=Z,11μm,21.0s,MS6.6						
BLA	**Blacksburg**	**149.42**	**17**	PKHKP		23 13 47.0	
BLA	**Blacksburg**	**149.42**	**17**	*e*PKPdf	PKPdf	23 13 44.0	+0.1
BLA				LR	LR		
	comp=Z,885nm,22.0s,MS5.5						
LVC	**Limon Verde**	**149.49**	**181**	PKPbc	PKPbc	23 13 49.4	+0.9
	comp=Z,96nm,1.0s,baz=272,slow=1.4,SNR=14						
LRAL	**Lakeview Retre**	**150.47**	**30**	*e*PKPdf	PKPdf	23 13 45.9	+0.3
LRAL				*e*PP	PP	23 17 24.7	-2.0
LRAL				LR	LR		
	comp=Z,12μm,22.0s,MS6.7						
NHSC	**New Hope**	**153.28**	**20**	PFAKE		23 14 00.0	+10
NHSC				LR	LR		
	comp=Z,8μm,22.0s,MS6.5						
CMIG	**Matias Romero**	**153.89**	**68**	PKP	PKPdf	23 13 51.9	+1.2
	comp=Z,3.8nm,0.8s,baz=341,slow=2.0,SNR=6.1						
CMIG				PKPbc	PKPbc	23 13 57.7	-1.0
	comp=Z,6.9nm,0.7s,baz=301,slow=1.0,SNR=13						
CMIG	**Matias Romero**	**153.89**	**68**	*i* P	PKPdf	23 13 52.7	+2.0
SIV	**San Ignacio**	**154.59**	**200**	PKP	PKPdf	23 13 53.5	+1.8
	comp=Z,13nm,1.0s,baz=130,slow=2.8,SNR=26						
SIV				PKPbc	PKPbc	23 14 03.2	+3.0
	comp=Z,28nm,0.9s,baz=138,slow=2.4,SNR=22						
SIV				PKPab	PKPab	23 14 21.1	+6.3
	comp=Z,39nm,0.9s,baz=150,slow=5.0,SNR=6.4						
SIV				PP	PP	23 17 51.0	+0.9
	comp=Z,5.6nm,1.0s,baz=344,slow=19,SNR=2.5						
BBSR	**BB Station**	**155.38**	**350**	*e*PKPdf	PKPdf	23 13 54.0	+1.2
BBSR				LR	LR		
	comp=Z,6μm,22.0s,MS6.4						
ARE	**Arequipa**	**155.55**	**176**	*e*P	PKPdf	23 13 59.0	+6.0
LPAZ	**La Paz**	**155.74**	**184**	PKP	PKPdf	23 13 55.5	+2.2
	comp=Z,6.0nm,1.0s,baz=52,slow=5.5,SNR=17						
LPAZ				PP	PP	23 18 00.1	+3.6
	comp=Z,4.6nm,0.8s,baz=162,slow=1.6,SNR=2.3						
LPAZ	**La Paz**	**155.74**	**184**	PKP	PKPdf	23 13 55.5	+2.2
LPAZ				PP	PP	23 18 00.1	+3.6
LPAZ				LR	LR		
	comp=Z,4μm,22.0s,MS6.2						
CCIG	**Comitan**	**156.65**	**67**	*i* P	PKPdf	23 13 55.8	+1.4
DWPF	**Disney**	**157.22**	**28**	*e*PKPdf	PKPdf	23 13 56.3	+1.1
DWPF				LR	LR		
	comp=Z,3μm,22.0s,MS6.0						
PAYG	**Puerto Ayora**	**157.73**	**112**	PFAKE		23 14 10.0	+14
PAYG				LR	LR		
	comp=Z,3μm,19.0s,MS6.2						
NNA	**Nana**	**158.84**	**160**	PFAKE		23 14 10.0	+13
NNA				LR	LR		
	comp=Z,6μm,20.0s,MS6.4						
SOR	**Soroa**	**160.59**	**40**	*e*P	PKPdf	23 14 02.1	+2.9
ATAH	**Atahualpa**	**162.70**	**150**	PKP	PKPdf	23 14 04.3	+2.9
	comp=Z,13nm,0.9s,baz=75,slow=4.8,SNR=3.1						
ATAH				PKPab	PKPab	23 14 59.0	+9.0
	comp=Z,21nm,1.0s,baz=92,slow=3.6,SNR=4.2						
JTS	**JuntasAbangare**	**164.81**	**81**	PKP	PKPdf	23 14 06.7	+3.4
	comp=Z,4.7nm,0.6s,baz=162,slow=3.3,SNR=3.3						
JTS				PKPab	PKPab	23 15 05.2	+6.0
	comp=Z,18nm,1.0s,baz=270,slow=7.1,SNR=6.4						
JTS	**JuntasAbangare**	**164.81**	**81**	PKP	PKPdf	23 14 06.7	+3.4
JTS				PKPab	PKPab	23 15 05.2	+6.0
JTS				LR	LR		
	comp=Z,5μm,21.0s						
LCR2	**La Lucha 2**	**165.80**	**82**	*e*P	PKPdf	23 14 05.3	+1.1
HLGC	**Holguin**	**165.87**	**25**	*e*P	PKPdf	23 14 10.2	+6.0
URSC	**Urasca**	**166.01**	**82**	*e*P	PKPdf	23 14 07.1	+2.8
BUS	**Buena Vista**	**166.06**	**83**	*e*P	PKPdf	23 14 07.1	+2.7
LMGC	**Las Mercedes**	**166.16**	**30**	*e*P	PKPdf	23 14 10.9	+6.5
RCC	**Rio Carpintero**	**166.82**	**25**	*e*P	PKPdf	23 14 04.1	-0.8
MASC	**Masc**	**167.21**	**19**	*e*P	PKPdf	23 14 09.0	+3.8
DEG	**La Desirade**	**168.23**	**315**	*e*P	PKPdf	23 14 08.0	+2.1
OTAV	**Otavalo**	**168.32**	**131**	PFAKE		23 14 20.0	+14
OTAV				LR	LR		
	comp=Z,4μm,21.0s						
CRM	**Caravelle**	**169.12**	**308**	*e*P	PKPdf	23 14 09.6	+3.1
FDF	**Fort de France**	**169.31**	**309**	*e*P	PKPdf	23 14 10.1	+3.4
BIM	**Bigot**	**169.38**	**308**	*e*P	PKPdf	23 14 08.1	+1.4
CPD	**Cerro la Pandu**	**169.43**	**340**	*e*PKIKP	PKPdf	23 14 08.4	+1.7
SJG	**San Juan**	**169.44**	**341**	PKP	PKPdf	23 14 08.4	+1.7
	comp=Z,4.8nm,0.2s,baz=354,slow=9.9,SNR=3.7						
SJG	**San Juan**	**169.44**	**341**	PKP	PKPdf	23 14 08.4	+1.7
SJG				*e*PKPdf	PKPdf	23 14 08.7	+2.0
SJG				LR	LR		
	comp=Z,4μm,22.0s						
ROSC	**El Rosal**	**174.41**	**125**	PKP	PKPdf	23 14 10.4	+1.4
	comp=Z,5.1nm,0.5s,baz=94,slow=19,SNR=1.8						
ROSC				PP	PP	23 19 48.7	+15
	comp=Z,2.0nm,0.3s,baz=110,slow=22,SNR=3.7						
PCRV	**Puerto La Cruz**	**174.56**	**293**	PKP	PKPdf	23 14 12.4	+3.3
	comp=Z,9.0nm,0.9s,baz=338,slow=11,SNR=2.0						
SDV	**Santo Domingo**	**178.80**	**48**	PKP	PKPdf	23 14 14.3	+4.4
	comp=Z,8.2nm,0.4s,baz=4.9,slow=7.3,SNR=2.7						
SDV				PP	PP	23 19 55.4	+0.7
	comp=Z,1.4nm,0.3s,baz=101,slow=3.8,SNR=3.1						
SDV	**Santo Domingo**	**178.80**	**48**	PFAKE		23 14 20.0	+10
SDV				LR	LR		
	comp=Z,6μm,22.0s						

MAN 26 23:08:05.2,1229N×12371E,h121km,mb3.0,ML4.4, MS4.3,2C,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCP	**Roxas**	**1.19**	**233**	⇑*e*P	Pn	23 08 30.4	+1.2
RCP				*e*S	Sn	23 08 48.7	+1.3
PVCP	**Virac**	**1.37**	**18**	⇑*i*P	Pn	23 08 31.6	+0.4
PVCP				*i* S	Sn	23 08 52.8	+1.9
KALP	**Kalibo**	**1.47**	**246**	*e*P	Sn	23 08 52.5	-0.5
PLP	**Palo**	**1.67**	**132**	*e*P	Pn	23 08 36.8	+2.2
PLP				*e*S	Sn	23 08 58.4	+1.3
LLP	**Lapu-Lapu**	**1.98**	**173**	*e*P	Pn	23 08 38.6	+0.3
LLP				*e*S	Sn	23 09 01.5	-2.3

IDC 26 23:19:27.4±2.6,805S×11003E,h0km,mb3.5/4,mb1 3.7/4, mb1mx3.5/16,mbtmp3.5/4,Error ellipse: s-maj=150.8km s-min=24.7km az=51.0,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.34**	**119**	P	P	23 25 05.4	+0.5
	0.9nm,0.7s,baz=293,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**27.65**	**127**	P	P	23 25 18.6	+1.8
	0.2nm,0.4s,baz=300,slow=8.8,SNR=4.2						
STKA	**Stephens Creek**	**37.72**	**133**	P	P	23 26 43.4	-1.4
	1.4nm,0.5s,baz=319,slow=7.4,SNR=5.2						
MKAR	**Makanchi Array**	**59.92**	**338**	P	P	23 29 35.3	+0.1
	0.1nm,0.5s,baz=151,slow=7.9,SNR=3.2						

*ISCJB **26** 23:43:50.2±0.8,353N×0.1×746E±0.2,h10km, Error ellipse: s-maj=29.2km s-min=5.6km az=115.1*
*NNC **26** 23:44:00.3±2.9,3627N×7533E,h0km,mb3.0,mpv3.4, Error ellipse: s-maj=200.3km s-min=27.1km az=62.0*

ISC 26 23:43:52.1±0.9,352N±01×743E±02,h10km,n12,σ0s96/15, 3C-1D,Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDNR	**Sundarnagar**	**4.29**	**148**	*e*P	**Pn**	**23 45 00.0**	**+2.6**
SDNR				*e*S	**Sn**	**23 46 06.4**	**+19**
SMLA	**Simla**	**4.69**	**149**	*i* P	**Pn**	**23 45 03.3**	**+0.3**
	268nm,0.3s						
SMLA				*i* S	**Sn**	**23 45 56.6**	**-0.9**
KK31	**Karatay Array**	**8.44**	**341**	⇑Pn	**Pn**	**23 45 57.3**	**+2.8**
	1.1nm,0.5s,baz=144,slow=11,SNR=24						
KK31				⇑Sn	**Sn**	**23 47 29.8**	**-0.1**
	1.6nm,0.5s,baz=150,slow=23,SNR=4.2						
KOLN	**Koldanda**	**10.83**	**130**	*e*P	**Pn**	**23 46 27.0**	**-0.1**
	2.9nm,0.3s						
GKN	**Gorkha**	**11.33**	**126**	*e*P	**Pn**	**23 46 34.4**	**+0.3**
	7.9nm,0.4s						
KKN	**Kakani**	**11.90**	**125**	*e*P	**Pn**	**23 46 41.9**	**+0.1**
	5.6nm,0.4s						
DMN	**Daman**	**11.91**	**126**	*e*P	**Pn**	**23 46 41.8**	**-0.1**
PKI	**Pulchoki**	**12.13**	**126**	*e*P	**Pn**	**23 46 44.7**	**-0.3**
GUN	**Gumba**	**12.23**	**123**	*e*P	**Pn**	**23 46 45.9**	**-0.4**
JIRN	**Jiri**	**12.60**	**123**	*e*P	**Pn**	**23 46 51.1**	**-0.3**
	14nm,0.4s						
AB31	**Akbulak array**	**17.59**	**327**	⇑P	**Pn**	**23 47 56.1**	**-1.3**
	0.3nm,0.5s						
AKTO	**Aktyubinsk**	**19.31**	**327**	⇓P	**Pn**	**23 48 17.7**	**-0.6**
	0.1nm,1.1s						

*ISCJB **26** 23:44:09.3±1.2,606N±03×1657E±03,h10km,mb3.6/5, Error ellipse: s-maj=45.6km s-min=18.3km az=137.4*
*IDC **26** 23:44:09.2±1.4,6050N×16576E,h0km,mb3.6/5, mb1 3.9/5,mb1mx3.6/22,mbtmp3.6/5,Error ellipse: s-maj=52.7km s-min=23.0km az=160.0*
*MOS **26** 23:44:09.1±1.8,6064N×16563E,h10km,mb3.9/2,Error ellipse: s-maj=60.6km s-min=44.7km az=61.8*

ISC 26 23:44:10.5±1.2,605N±03×1658E±03,h10km,n7,σ1s26/7, mb3.6/5,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILAR	**Eielson Array**	**21.73**	**58**	P	**P**	**23 49 01.4**	**-0.5**
	1.6nm,0.6s,mb3.6,baz=276,slow=9.5,SNR=19						
ILAR	**Eielson Array**	**21.73**	**58**	P	**P**	**23 49 01.5**	**-0.5**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**26.26**	**47**	P	**P**	**23 49 46.6**	**+0.8**
	comp=Z,1.4nm,0.6s,mb3.6,baz=309,slow=6.5,SNR=3.8						
INK	**Inuvik**	**26.26**	**47**	P	**P**	**23 49 46.7**	**+0.8**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**35.72**	**277**	P	**P**	**23 51 10.9**	**+1.7**
	comp=Z,0.2nm,0.3s,mb3.5,baz=45,slow=8.4,SNR=3.1						
MKAR	**Makanchi Array**	**47.93**	**293**	P	**P**	**23 52 46.9**	**-2.2**
	comp=Z,0.3nm,0.5s,mb3.6,baz=48,slow=7.8,SNR=6.0						
WRA	**Warramunga Arr**	**84.12**	**210

FITZ	**Fitzroy Crossi**	**11.12**	**202**	Pn		**Pn**	**00 48 18.5**	**-1.1**
	0.1nm,0.3s,baz=152,slow=20,SNR=16							
FITZ				Sn		**Sn**	**00 50 23.2**	**+0.6**
	0.1nm,0.3s,baz=56,slow=22,SNR=2.5							
WRAB	**Tennant Creek**	**12.82**	**161**	*e*Pn		**Pn**	**00 48 42.5**	**-0.4**
	0.6nm,0.4s							
WRAB				*e*Sn		**Sn**	**00 51 04.2**	**0.0**
WRA	**Warramunga Arr**	**12.82**	**161**	Pn		**Pn**	**00 48 42.0**	**-0.9**
	0.2nm,0.3s,baz=338,slow=14,SNR=6.4							
WRA				Sn		**Sn**	**00 51 04.4**	**0.0**
	0.2nm,0.3s,baz=332,slow=22,SNR=3.0							
ASAR	**Alice Springs**	**16.26**	**167**	Pn		**Pn**	**00 49 29.2**	**+0.5**
	0.1nm,0.3s,baz=334,slow=8.2,SNR=4.5							
STKA	**Stephens Creek**	**26.32**	**157**	P		**P**	**00 51 16.9**	**+1.3**
	1.0nm,0.5s,mb3.6,baz=319,slow=9.3,SNR=3.6							
STKA	**Stephens Creek**	**26.32**	**157**	P		**P**	**00 51 16.9**	**+1.3**

IDC ***27*** *01:07:39.2±0.9, 789S×11039E, h0km, mb3.9/8, mb1 4.1/9, mb1mx4.0/17, mbtmp4.0/9, ML4.1/1, Error ellipse: s-maj=40.0km s-min=17.3km az=56.0*

ISCJB ***27*** *01:07:43.7±0.6, 78S±0.1×1106E±0.1, h33km, mb4.2/13, Error ellipse: s-maj=25.7km s-min=8.8km az=93.5*

NEIC ***27*** *01:07:44.8±0.8, 8.12S×11035E, h35km, mb4.4/6, Error ellipse: s-maj=34.1km s-min=11.2km az=47.0*

NEIC Felt [III] at Yogyakarta.

ISC 27 01:07:45.7±0.6, 80S±01×1105E±01, h35km, n26, σ1s32/23, mb4.2/13, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**15.71**	**312**	Pn	**Pn**	**01 11 24.9**	**+0.6**
	0.5nm,0.3s,baz=180,slow=15,SNR=2.3						
PSI	**Prapat**	**15.71**	**312**	Pn	**Pn**	**01 11 24.9**	**+0.6**
MBWA	**Marble Bar**	**15.89**	**147**	*e*Pn	**Pn**	**01 11 22.0**	**-4.6**
	9.8nm,0.6s						
MBWA				*e*Sn	**Sn**	**01 14 03.5**	**-18**
KULM	**Kulim**	**16.40**	**323**	*e*Pn	**Pn**	**01 11 34.8**	**+1.6**
FITZ	**Fitzroy Crossi**	**17.88**	**126**	*e*P	**Pn**	**01 11 49.9**	**-1.6**
	11nm,0.6s						
FITZ	**Fitzroy Crossi**	**17.88**	**126**	P	**Pn**	**01 11 51.0**	**-0.5**
	0.4nm,0.3s,baz=304,slow=3.1,SNR=11						
KAKA	**Kakadu**	**22.11**	**104**	*e*P	**P**	**01 12 40.5**	**+2.5**
	17nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**26.00**	**120**	P	**P**	**01 13 15.8**	**+0.5**
	9.4nm,0.9s,mb4.3,baz=292,slow=11,SNR=13						
WRAB	**Tennant Creek**	**26.01**	**120**	*e*P	**P**	**01 13 17.0**	**+1.6**
	16nm,0.8s,mb4.6						
WB2	**Warramunga Arr**	**26.01**	**120**	*e*P	**P**	**01 13 16.4**	**+1.0**
ASPA	**Alice Springs**	**27.36**	**128**	*e*P	pP	01 13 34.0	-3.5
AS31	**Alice Springs**	**27.36**	**128**	*e*P	pP	01 13 34.0	-3.5
ASAR	**Alice Springs**	**27.36**	**128**	P	**P**	**01 13 27.7**	**+0.2**
	1.2nm,0.6s,mb3.6,baz=309,slow=8.8,SNR=7.1						
ASAR				PcP	PcP	01 16 47.4	+1.4
	0.7nm,0.7s,baz=291,slow=1.9,SNR=5.3						
CTA	**Charters Tower**	**36.66**	**113**	P	**P**	**01 14 48.6**	**-0.3**
	2.0nm,0.7s,mb4.1,baz=276,slow=9.3,SNR=2.1						
STKA	**Stephens Creek**	**37.47**	**134**	*e*P	**P**	**01 14 54.2**	**-1.6**
	13nm,0.4s,mb5.1						
STKA	**Stephens Creek**	**37.47**	**134**	P	**P**	**01 14 54.3**	**-1.5**
	15nm,0.4s,mb5.1,baz=314,slow=8.0,SNR=71						
STKA	**Stephens Creek**	**37.47**	**134**	*e*P	**P**	**01 14 54.2**	**-1.6**
MJAR	**Matsushiro Arr**	**51.35**	**29**	P	**P**	**01 16 44.6**	**-2.0**
	1.0nm,0.6s,mb4.0,baz=190,slow=10.0,SNR=4.6						
ULN	**Ulaanbaatar**	**55.65**	**357**	P	**P**	**01 17 18.4**	**+0.2**
	0.9nm,0.5s,mb4.1						
SONM	**Songino Array**	**55.66**	**357**	P	**P**	**01 17 17.9**	**-0.4**
	0.6nm,0.8s,mb3.7,baz=174,slow=7.6,SNR=4.5						
MKAR	**Makanchi Array**	**60.00**	**338**	P	**P**	**01 17 46.0**	**-2.7**
	0.4nm,0.4s,mb3.8,baz=144,slow=6.5,SNR=5.3						
VNDA	**Vanda**	**74.42**	**170**	P	**P**	**01 19 19.1**	**-1.0**
	1.0nm,0.4s,mb4.1,baz=289,slow=5.9,SNR=3.5						
QSPA	**South Pole Qui**	**82.04**	**180**	*e*P	**P**	**01 20 03.5**	**+1.2**
	5.4nm,0.8s,mb4.5						
BRTR	**Keskin Array B**	**85.04**	**311**	P	**P**	**01 20 16.9**	**-0.7**
	0.2nm,0.3s,mb3.7,baz=110,slow=6.9,SNR=3.6						
CPUP	**Villa Florida**	**143.93**	**199**	PKP	PKPdf	01 27 15.7	-1.6
	0.3nm,0.3s,baz=90,slow=2.0,SNR=2.7						
WVT	**Waverly**	**147.35**	**28**	*e*PKPdf	PKPdf	01 27 24.4	+1.3

ISCJB ***27*** *01:16:01.9±3.3, 2058N±006×11966E±007, h3km±21km, mb3.9/18, Error ellipse: s-maj=11.8km s-min=10.0km az=43.1*

IDC ***27*** *01:16:03.2±0.8, 2054N×11971E, h0km, mb3.9/11, mb1 4.1/11, mb1mx4.0/18, mbtmp3.9/11, Error ellipse: s-maj=39.2km s-min=18.7km az=67.0*

NEIC ***27*** *01:16:06.9±0.5, 2059N×11980E, mb4.2/9, Error ellipse: s-maj=13.3km s-min=8.6km az=79.0*

BJI ***27*** *01:16:14.7, 2138N×11926E, h25km, mB4.9, mb4.1, ML3.6, Ms4.0, Msz3.9*

ISC 27 01:16:05.2±3.5, 2061N±006×11969E±007, h13km±22km, n28, σ1s11/30, mb3.9/18, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**3.96**	**26**	*e*Pn	**Pn**	**01 17 04.7**	**-0.9**
NACB				*e*Sn	**Sn**	**01 17 53.2**	**+1.3**
YHNB	**Yeheng**	**4.33**	**21**	*e*Pn	**Pn**	**01 17 09.8**	**-0.9**
YHNB				*e*Sn	**Sn**	**01 17 58.5**	**-2.5**
GZH	**Guangzhou**	**6.39**	**294**	P	**Pn**	**01 17 38.5**	**-0.5**
GZH				S	**Sn**	**01 18 50.0**	**-1.8**
GZH				Smax			
	comp=N,40nm,0.8s						
GZH				Smax			
	comp=E,31nm,0.8s						
BJT	**Baijiatuan**	**19.57**	**352**	P	**Pn**	**01 20 33.5**	**-0.7**
	comp=E,3.7nm,0.4s						
BJI	**Beijing**	**19.60**	**352**	*e*P	**Pn**	**01 20 34.0**	**-0.5**
BJI				AMB	AMB		
	comp=Z,9.0nm,0.9s						
BJI	**Beijing**	**19.60**	**352**	*e*P	**Pn**	**01 20 33.9**	**-0.6**
	comp=Z,9.0nm,0.9s						
LZH	**Lanzhou**	**20.74**	**321**	*e*P	**P**	**01 20 47.3**	**+1.7**
LZH				AP		01 20 53.8	
LZH				XP	sP	01 20 57.0	+6.1
LZH				AMB	AMB		
	comp=Z,21nm,1.4s						
LZH	**Lanzhou**	**20.74**	**321**	*e*P	**P**	**01 20 47.2**	**+1.6**
	comp=Z,21nm,1.4s						
LZH				pP		01 20 53.7	
LZH				sP	sP	01 20 56.9	+6.0
MJAR	**Matsushiro Arr**	**22.66**	**42**	P	**P**	**01 21 08.5**	**+2.3**
	comp=Z,2.0nm,0.9s,mb3.6,baz=227,slow=8.3,SNR=4.3						
GTA	**Gaotai**	**25.34**	**322**	*e*P	**P**	**01 21 34.3**	**+2.5**
GTA				AP	pP	01 21 40.8	+5.1
GTA				XP	sP	01 21 44.0	+6.7
GTA				AMB	AMB		
	comp=Z,4.0nm,1.8s,mb3.6						
HIA	**Hailar**	**28.59**	**0**	P	**P**	**01 22 00.9**	**-0.2**
	comp=Z,4.4nm,0.4s,mb4.5						
SONM	**Songino Array**	**29.21**	**341**	P	**P**	**01 22 06.8**	**+0.3**
	comp=Z,0.6nm,0.8s,mb3.4,baz=157,slow=7.9,SNR=5.0						
MKAR	**Makanchi Array**	**40.04**	**320**	P	**P**	**01 23 41.0**	**+1.0**
	comp=Z,1.3nm,0.6s,mb3.8,baz=114,slow=10,SNR=15						
MKAR				PcP	PcP	01 25 46.2	+1.4
	comp=Z,0.2nm,0.5s,baz=113,slow=3.7,SNR=3.7						
MKAR	**Makanchi Array**	**40.04**	**320**	P	**P**	**01 23 41.0**	**+1.0**
MKAR				PcP	PcP	01 25 46.2	+1.4
ZAL	**Zalesovo**	**42.56**	**330**	P	**P**	**01 24 02.0**	**+1.3**
	comp=Z,0.7nm,0.4s,mb3.8,baz=54,slow=6.9,SNR=3.7						
WRAB	**Tennant Creek**	**42.78**	**159**	*e*P	**P**	**01 24 01.7**	**-0.8**
	comp=Z,7.9nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**42.78**	**159**	P	**P**	**01 24 01.8**	**-0.7**
	comp=Z,9.1nm,0.9s,mb4.0,baz=342,slow=8.9,SNR=7.7						
KURK	**Kurchatov**	**44.02**	**323**	*e*P	**P**	**01 24 12.5**	**0.0**
	comp=Z,9.5nm,1.5s,mb4.3						
ASAR	**Alice Springs**	**46.14**	**162**	P	**P**	**01 24 29.4**	**0.0**
	comp=Z,0.5nm,0.4s,mb3.8,baz=347,slow=7.3,SNR=5.4						
BRVK	**Borovoye**	**49.69**	**323**	*e*P	**P**	**01 24 57.2**	**+0.4**
	comp=Z,0.5nm,0.4s,mb3.9						
CHKZ	**Chkalovo**	**49.73**	**324**	*e*P	**P**	**01 24 57.2**	**0.0**
	comp=Z,2.4nm,1.2s,mb4.1						
CHKZ				*e*PcP	PcP	01 26 17.2	-0.9
ZRNK	**Zerenda**	**50.37**	**323**	*e*P	**P**	**01 25 01.9**	**-0.1**
	comp=Z,0.8nm,0.7s,mb3.9						
ZRNK				*e*pP	pP	01 25 09.8	+3.8
ARCES	**ARCESS Array B**	**72.33**	**338**	P	**P**	**01 27 30.2**	**-0.4**
	comp=Z,1.8nm,0.7s,mb4.1,baz=26,slow=14,SNR=3.9						
FINES	**FINESS Array B**	**73.82**	**330**	P	**P**	**01 27 40.2**	**+0.7**
	comp=Z,1.0nm,1.0s,mb3.7,baz=123,slow=5.1,SNR=5.8						
NOA	**NORSAR Array B**	**80.72**	**332**	P	**P**	**01 28 17.2**	**-1.0**
	comp=Z,0.7nm,0.7s,mb3.7,baz=65,slow=5.0,SNR=3.1						
GERES	**GERESS Array B**	**84.70**	**320**	P	**P**	**01 28 40.2**	**+1.3**
	comp=Z,0.3nm,0.3s,mb3.9,baz=149,slow=7.8,SNR=2.9						
YKA	**Yellowknife Ar**	**86.78**	**22**	P	**P**	**01 28 47.9**	**-1.3**
	comp=Z,1.2nm,1.0s,mb4.1,baz=315,slow=4.3,SNR=5.3						
PV01	**Paradox Valley**	**106.06**	**38**	*e*Pdif	Pdif	01 30 20.4	+3.3

NEIC ***27*** *01:52:38.8, 3393N×2500E, h34km, MD3.6(ATH), After ATH.*

CSEM ***27*** *01:52:38.6±0.1, 3407N×2517E, h94km±3km, MD3.6, Error ellipse: s-maj=4.7km s-min=2.2km az=122.0*

ATH ***27*** *01:52:38.8, 3394N×2500E, h32km±6km, MD3.6/4*

ISCJB ***27*** *01:52:39.9±0.4, 3394N±003×2529E±005, h66km±8km, mb3.6/4, Error ellipse: s-maj=6.7km s-min=4.3km az=167.1*

IDC ***27*** *01:52:40.6±2.5, 3397N×2523E, h41km±24km, mb3.6/4, mb1 3.5/8, mb1mx3.4/23, mbtmp3.6/8, ML4.0/3, Error ellipse: s-maj=21.0km s-min=13.7km az=48.0*

HLW ***27*** *01:52:40.1, 3407N×2533E, h33km, Mb3.8*

ISK ***27*** *01:52:55.3, 3476N×2621E, h30km, MD3.6*

ISC 27 01:52:41.2±0.4, 3395N±003×2522E±005, h52km±9km, n38, σ0s97/47, mb3.7/4, 4C-7D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**1.00**	**23**	*e*Pn	**Pn**	**01 52 59.5**	**+0.5**
GVD	**Gavdhos**	**1.28**	**314**	*e*Pn	**Pn**	**01 53 02.4**	**-0.5**
GVD	**Gavdhos**	**1.28**	**314**	*e*Pn	**Pn**	**01 53 02.4**	**-0.4**
NPS	**Neapolis**	**1.35**	**14**	*e*Pn	**Pn**	**01 53 04.1**	**+0.4**
NPS				*e*SN	**Sn**	**01 53 21.9**	**+1.4**
IDI	**Anoyia**	**1.36**	**349**	P	**Pn**	**01 53 01.9**	**-1.9**
	9.5nm,0.3s,baz=191,slow=9.4,SNR=73						
IDI				S	**Sn**	**01 53 19.9**	**-0.9**
	21nm,0.3s,baz=166,slow=13,SNR=7.5						
VAM	**Vamos**	**1.68**	**330**	*e*PN	**Pn**	**01 53 06.9**	**-1.2**
VAM				*e*SN	**Sn**	**01 53 27.7**	**-0.8**
KARP	**Karpathos**	**2.26**	**45**	*e*PN	**Pn**	**01 53 18.0**	**+1.9**
SLUM		**2.46**	**180**	⇓P	**Pn**	**01 53 19.4**	**+0.6**
SLUM				S	**Sn**	**01 53 48.0**	**+0.4**
DAT	**Datca**	**3.38**	**34**	*e*PN	**Pn**	**01 53 31.2**	**-0.2**
DALT	**Dalyan (Mudla)**	**3.96**	**44**	*e*PN	**Pn**	**01 53 39.5**	**0.0**
YER	**Yerkesik**	**4.04**	**37**	PN	**Pn**	**01 53 41.2**	**+0.7**
FETY	**Fethiye**	**4.14**	**49**	*e*PN	**Pn**	**01 53 41.8**	**-0.1**
AYDN	**Tasoluk**	**4.29**	**30**	*i* P	**Pn**	**01 53 44.7**	**+0.8**
SWA1		**4.70**	**175**	⇓P	**Pn**	**01 53 50.2**	**+0.7**
SWA1				S	**Sn**	**01 54 41.4**	**-1.2**
SWA2		**4.70**	**177**	⇓P	**Pn**	**01 53 50.0**	**+0.4**
ELL	**Elmali**	**4.74**	**53**	*e*PN	**Pn**	**01 53 50.6**	**+0.5**
DNZL	**Cakiroluk**	**4.86**	**39**	*i* P	**Pn**	**01 53 53.9**	**+2.2**
DNZL				*i* S	**Sn**	**01 54 50.9**	**+4.3**
DENT	**Denizli**	**4.90**	**38**	*e*PN	**Pn**	**01 53 52.6**	**+0.3**
HNAT	**Natroun**	**6.30**	**132**	P	**Pn**	**01 54 11.7**	**+0.2**
ERMK	**Ermenek**	**6.84**	**65**	*i* P	**Pn**	**01 54 18.4**	**-0.5**
ERMK				*i* S	**Sn**	**01 55 34.4**	**-1.0**
KOT	**Kottamia**	**6.91**	**124**	⇑P	**Pn**	**01 54 19.4**	**-0.4**
KOT				S	**Sn**	**01 55 31.9**	**-5.1**
GLL	**Jalalah**	**7.04**	**127**	⇓P	**Pn**	**01 54 21.8**	**+0.1**
HHAG	**Hagoal**	**7.08**	**122**	⇓P	**Pn**	**01 54 21.6**	**-0.5**
HHAG	**Hagoal**	**7.08**	**122**	P	**Pn**	**01 54 21.6**	**-0.6**
HFRF	**Wahat Farafira**	**7.29**	**158**	⇑P	**Pn**	**01 54 24.9**	**-0.1**
MMAI	**Mount Meron Ar**	**8.56**	**93**	P	**Pn**	**01 54 41.4**	**-1.1**
	1.2nm,0.3s,baz=263,slow=12,SNR=27						
MMAI				S	**Sn**	**01 56 15.9**	**-1.7**
	2.4nm,0.3s,baz=266,slow=22,SNR=9.0						
BRTR	**Keskin Array B**	**8.87**	**47**	P	**Pn**	**01 54 47.4**	**+0.7**
	0.1nm,0.3s,baz=218,slow=12,SNR=3.9						
BRTR	**Keskin Array B**	**8.87**	**47**	P	**Pn**	**01 54 47.4**	**+0.7**
HDK1	**Dakhla**	**9.13**	**155**	⇑P	**Pn**	**01 54 51.2**	**+0.8**
TR2		**9.16**	**125**	⇑P	**Pn**	**01 54 50.1**	**-0.6**
HBST	**Basata**	**9.39**	**118**	⇓P	**Pn**	**01 54 53.6**	**-0.2**
TR1		**9.55**	**126**	⇓P	**Pn**	**01 54 55.9**	**-0.2**
AKASG	**Malin Array Be**	**16.99**	**9**	P	**Pn**	**01 56 35.3**	**+0.1**
	1.2nm,0.3s,baz=202,slow=11,SNR=4.6						
GERES	**GERESS Array B**	**17.17**	**333**	P	**Pn**	**01 56 38.0**	**+0.6**
	0.2nm,0.3s,baz=139,slow=12,SNR=3.6						
FINES	**FINESS Array B**	**27.51**	**1**	P	**P**	**01 58 21.1**	**-1.6**
	0.5nm,0.6s,mb3.3,baz=168,slow=12,SNR=5.1						
TORD	**Torodi Ar. Bea**	**29.76**	**232**	P	**P**	**01 58 44.1**	**+1.4**
	0.8nm,0.5s,mb3.7,baz=32,slow=8.9,SNR=27						
ARCES	**ARCESS Array B**	**35.63**	**0**	P	**P**	**01 59 32.0**	**-1.9**
	0.9nm,0.6s,mb3.9,baz=182,slow=9.6,SNR=6.4						
MKAR	**Makanchi Array**	**44.41**	**56**	P	**P**	**02 00 48.6**	**+1.9**
	1.2nm,0.6s,mb3.8,baz=275,slow=6.7,SNR=20						

LDG ***27*** *02:25:52.3±1.3, 4278N×154W, h2km, Md1.7/2, Ml1.6/1, Error ellipse: s-maj=22.8km s-min=13.7km az=52.0*

MDD 27 02:25:53.9±0.1, 4280N×137W, h0km, mbLg1.1/6, 2C-1D, Error ellipse: s-maj=2.1km s-min=0.9km az=160.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPRE	**Itoiz**	**0.01**	**64**	⇑Pg	Pg	02 25 54.0	-0.1
	SNR=18						
IPRE				Lg		02 25 54.5	
	32nm,0.1s,SNR=7.9						
IUNC	**Uncitti**	**0.11**	**245**	⇓Pg	Pg	02 25 55.9	-0.1
	8.8nm,0.1s,SNR=18						
IUNC				Lg		02 25 58.1	
	34nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.16**	**259**	⇑Pg	Pg	02 25 56.8	-0.2
	31nm,0.1s,SNR=18						
EARA				Lg		02 25 59.7	
	28nm,0.1s,SNR=12						
IUSE	**Utxeti**	**0.20**	**317**	Pg	Pg	02 25 57.2	-0.5
	1.4nm,0.1s,SNR=7.9						
IUSE				Lg		02 26 00.4	
	2.2nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**0.33**	**18**	*e*Pg	Pg	02 25 59.9	-0.3
SJPF				*e*Sg	Sg	02 26 04.9	+0.4
	5.9nm,0.3s						
SJPF	**Ste Jean**	**0.33**	**18**	Pg	Pg	02 25 59.9	-0.3
SJPF				Lg		02 26 04.9	
	3.0nm,0.3s						
ELIZ	**Elizondo**	**0.38**	**342**	Pg	Pg	02 26 00.8	-0.4
	0.6nm,0.2s,SNR=7.9						
ELIZ				Lg		02 26 05.9	
	0.4nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.43**	**346**	Pg	Pg	02 26 01.6	-0.6
	0.1nm,0.1s,SNR=4.0						
EALK				Lg		02 26 08.2	
	1.0nm,0.1s,SNR=8.6						
ETSF	**Etsaut**	**0.60**	**81**	*e*Pg	Pg	02 26 05.5	0.0
ETSF				*e*Sg	Sg	02 26 14.5	+1.2
	0.9nm,0.2s						
ETSF	**Etsaut**	**0.60**	**81**	Pg	Pg	02 26 05.5	0.0
ETSF				Lg		02 26 14.5	
	0.4nm,0.2s						
EPF	**Esparros**	**1.27**	**79**	*e*Pg	Pg	02 26 18.8	+0.4
EPF				*e*Sg	Sg	02 26 37.5	+2.6
	1.1nm,0.3s						

IDC 27 02:28:47.1±2.2, 895S×11219E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/16, mbtmp3.7/5, ML3.3/1, Error ellipse: s-maj=112.3km s-min=25.7km az=49.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.92**	**126**	Pn	Pn	02 32 32.5	+0.1
	0.1nm,0.3s,baz=253,slow=16,SNR=7.9						
FITZ				Sn	Sn	02 35 19.4	-10
	0.1nm,0.3s,baz=200,slow=21,SNR=4.7						
WRA	**Warramunga Arr**	**24.04**	**119**	P	P	02 34 04.8	+1.0
	1.7nm,0.6s,baz=293,slow=12,SNR=11						
ASAR	**Alice Springs**	**25.41**	**128**	P	P	02 34 17.1	+0.9
	0.7nm,0.4s,baz=303,slow=8.9,SNR=18						
STKA	**Stephens Creek**	**35.56**	**134**	P	P	02 35 45.4	-0.6
	1.3nm,0.3s,baz=318,slow=7.1,SNR=5.9						
MKAR	**Makanchi Array**	**61.57**	**337**	P	P	02 39 05.9	-0.3
	0.2nm,0.5s,baz=156,slow=6.8,SNR=3.7						

NEIC ***27*** *02:32:39.9, 1893N×6902W, h190km, MD4.2(RSPR), After RSPR.*

RSPR 27 02:32:39.9, 1893N×6902W, h190km±3km, MD4.2/16, MD4.2/16, 16C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.86**	**104**	⇑*e*P	Pn	02 33 16.5	+0.3
AGPR				*e*S	Sn	02 33 45.3	+0.9
LSP	**Las Mesas**	**1.98**	**112**	⇑*e*P	Pn	02 33 17.6	+0.2
LSP				*e*S	Sn	02 33 47.7	+1.1
CRPR	**Cabo Rojo, PR**	**2.03**	**117**	⇑*e*P	Pn	02 33 17.3	-0.7
CRPR				*e*S	Sn	02 33 47.5	0.0
MGP	**Maguayo**	**2.05**	**116**	⇑*e*P	Pn	02 33 17.6	-0.5
LRS	**Lares**	**2.16**	**107**	⇑*e*P	Pn	02 33 19.5	+0.2
AOPR	**Arecibo Observ**	**2.23**	**105**	⇑*e*P	Pn	02 33 20.6	+0.5
AOPR				*e*S	Sn	02 33 52.2	+0.9
OBIP	**Obispado Ponce**	**2.45**	**111**	⇑*e*P	Pn	02 33 23.4	+0.8
OBIP				*e*S	Sn	02 33 57.0	+1.1
CELP	**Cerrillos**	**2.47**	**110**	⇑*e*P	Pn	02 33 23.7	+0.9
ICM	**Isla Caja Muer**	**2.59**	**113**	⇑*e*P	Pn	02 33 24.3	+0.2
ICM				*e*S	Sn	02 33 59.4	+0.8
SJG	**San Juan**	**2.84**	**106**	⇑*e*P	Pn	02 33 27.4	+0.3
SJG	**San Juan**	**2.84**	**106**	⇓*e*P	Pn	02 33 27.6	+0.6
SJG				*e*S	Sn	02 34 05.3	+1.5
CBYP	**Canovanas**	**3.07**	**102**	⇑*e*P	Pn	02 33 30.2	+0.4
CBYP				*e*S	Sn	02 34 10.2	+1.4
CPD	**Cerro la Pandu**	**3.08**	**106**	⇑*e*P	Pn	02 33 31.2	+1.3
CPD				*e*S	Sn	02 34 10.3	+1.4
HUMP	**Col San Antoni**	**3.11**	**104**	⇑*e*P	Pn	02 33 31.3	+1.0
HUMP				*e*S	Sn	02 34 11.7	+2.2
MTP	**Monte Pirata**	**3.39**	**104**	⇑*e*P	Pn	02 33 35.0	+1.3
MTP				*e*S	Sn	02 34 17.4	+1.7
STVI	**Saint Thomas**	**3.89**	**98**	⇑*e*P	Pn	02 33 41.2	+1.3
TBVI	**Tortola**	**4.21**	**96**	⇑*e*P	Pn	02 33 45.3	+1.3
TBVI				*e*S	Sn	02 34 35.2	+1.1
MASC	**Masc**	**5.07**	**285**	*e*P	Pn	02 33 49.5	-5.4
	baz=78						
MASC				*e*S	Sn	02 34 42.2	-12
	comp=N,1.3nm,0.1s						
MASC				*e*			
	comp=E,1.1nm,0.1s						

ISCJB ***27*** *02:34:11.4±0.5, 4372N±003×853E±003, h6km±4km, Error ellipse: s-maj=5.0km s-min=3.1km az=4.3*

CSEM ***27*** *02:34:12.6±0.1, 4381N×858E, h12km, ML2.9/5, Error ellipse: s-maj=1.9km s-min=1.0km az=9.0*

GEN ***27*** *02:34:13.8, 4385N×849E, h8km, ML2.0*

NEIC ***27*** *02:34:13.1, 4384N×854E, h10km, ML2.2(ROM), ML2.4(STR), ML2.6(LDG), After ROM.*

ROM ***27*** *02:34:13.1±0.2, 4384N×854E, h10km, Md2.4/5, Ml2.2/3, Error ellipse: s-maj=3.8km s-min=2.3km az=32.0*

STR ***27*** *02:34:13.7±0.6, 4373N×847E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG ***27*** *02:34:13.9±0.2, 4359N×842E, h4km, Md2.6/1, Ml2.6/6, Error ellipse: s-maj=4.0km s-min=2.5km az=45.0*

ISC 27 02:34:11.7±0.5, 4372N±003×856E±002, h6km±3km, n46, σ0s94/76, Corsica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMI	**Imperia**	**0.52**	**292**	Pg	**Pg**	**02 34 22.5**	**+0.7**
IMI				Sg	**Sg**	**02 34 29.6**	**+0.9**
	44nm,0.1s						
FIN	**Finale Ligure**	**0.55**	**333**	Pg	**Pg**	**02 34 22.1**	**-0.3**
FIN				Sg	**Sg**	**02 34 28.7**	**-0.9**
	77nm,0.2s						
QLNO	**Quiliano**	**0.62**	**346**	Pg	**Pg**	**02 34 23.7**	**-0.1**
QLNO				Sg	**Sg**	**02 34 30.1**	**-1.8**
	151nm,0.4s						
NEGI	**Negi**	**0.64**	**282**	P	**Pg**	**02 34 24.8**	**+0.8**
MONE	**Monesi**	**0.69**	**302**	P	**Pg**	**02 34 24.8**	**-0.1**
GENL	**Genova Univers**	**0.75**	**23**	P	**Pg**	**02 34 26.4**	**+0.3**
ROB	**Roburent**	**0.76**	**319**	P	**Pg**	**02 34 25.7**	**-0.7**
PCP	**Pian Castagno**	**0.82**	**359**	P	**Pg**	**02 34 26.6**	**-1.0**
SBF	**Sospel**	**0.83**	**280**	*e*Pg	**Pg**	**02 34 28.4**	**+0.7**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**02 34 39.0**	**+0.6**
	128nm,0.2s						
SBF	**Sospel**	**0.83**	**280**	*e*Pg	**Pg**	**02 34 28.4**	**+0.7**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**02 34 39.0**	**+0.6**
	64nm,0.2s						
AUTN	**L'Aution**	**0.87**	**289**	Pg	**Pg**	**02 34 28.8**	**+0.4**
AUTN				Sg	**Sg**	**02 34 39.5**	**-0.1**
REVF	**Revere**	**0.87**	**272**	Pg	**Pg**	**02 34 28.4**	**0.0**
REVF				Sg	**Sg**	**02 34 39.7**	**+0.1**
LUCF	**Lu

HUIG			*i* S	Sn	02 41 15.4	-4.8
HUIG	**Huatulco**	**1.15 275**	*i* P	Pn	02 41 02.8	-2.5
HUIG			*i* S	Sn	02 41 16.3	-3.9
OXX	**Oaxaca**	**2.22 309**	*i* P	Pn	02 41 18.8	-1.3
OXX			*i* S	Sn	02 41 43.5	-3.2
VHO	**Vista Hermosa**	**2.22 309**	*i* P	Pn	02 41 19.1	-1.0
VHO			*i* S	Sn	02 41 44.0	-2.7
SCX	**San Cristobal**	**2.44 64**	*i* P	Pn	02 41 23.5	+0.4
SCX			*i* S	Sn	02 41 48.5	-3.5
CCIG	**Comitan**	**2.75 77**	*eP*	Pn	02 41 25.3	-2.0
CCIG			*i* S	Sn	02 41 57.6	-2.1
UTMO	**Huajuapan**	**3.49 308**	*i* P	Pn	02 41 35.8	-1.8
UTMO			*i* S	Sn	02 42 14.7	-3.4
SCIG		**4.84 47**	*i* P	Pn	02 41 52.9	-3.3
PPM	**Popocatepetl**	**4.88 314**	*eP*	Pn	02 41 58.0	+1.3
ACX	**Acapulco**	**4.94 285**	*i* P	Pn	02 41 54.0	-3.5
PLIG	**Platanillo**	**5.14 302**	*i* P	Pn	02 41 59.9	-0.4
PLIG			*i* S	Sn	02 42 54.4	-4.4
PLIG	**Platanillo**	**5.14 302**	*i* P	Pn	02 42 01.1	+0.8
PLIG			*i* S	Sn	02 42 53.1	-5.7
CAIG	**El Cayaco**	**5.31 286**	*i* P	Pn	02 42 01.1	-1.4
CAIG			*i* S	Sn	02 42 54.3	-8.6

WEL 27 03:07:36.1±0.4, 3585S×17897E, h237km±5km, ML3.7/7, Error ellipse: s-maj=7.1km s-min=6.9km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.29**	**194**	PN	Pn	03 08 20.4	0.0
PUZ				SN	S	03 08 54.2	-1.0
URZ	**Urewera**	**2.83**	**211**	PN	Pn	03 08 25.8	-0.1
URZ				SN	S	03 09 05.0	-0.2
KNZ	**Kokohu**	**3.33**	**198**	PN	Pn	03 08 31.9	+0.4
KNZ				SN	S	03 09 13.7	-1.6
BKZ	**Black Stump Fm**	**3.86**	**210**	PN	Pn	03 08 38.1	+0.5
BKZ				SN	S	03 09 26.5	+0.2
PXZ	**Pawanui**	**4.50**	**201**	PN	Pn	03 08 44.9	-0.4
BFZ	**Birch Farm**	**5.28**	**203**	PN	Pn	03 08 54.9	0.0
BFZ				SN	S	03 09 57.1	-0.6
MRZ	**Mangatainoka R**	**5.50**	**208**	PN	Pn	03 08 57.1	-0.5
KIW	**Kapiti Island**	**5.94**	**211**	PN	Pn	03 09 02.5	-0.6

*ISCJB **27** 03:10:00.6±1.1, 792S±004×11053E±004, h3km±7km, mb4.7/56, MS4.2/20, Error ellipse: s-maj=8.2km s-min=5.5km az=112.0*

*IDC **27** 03:10:01.1±0.4, 778S×11044E, h0km, mb4.7/16, mb1 4.7/17, mb1mx4.7/20, mbtmp4.7/17, ML4.9/1, MS4.0/11, Ms1 4.0/11, ms1mx3.6/31, Error ellipse: s-maj=18.5km s-min=12.5km az=52.0*

*NEIC **27** 03:10:02.6±0.2, 784S×11044E, h10km, mb4.8/30, Error ellipse: s-maj=8.9km s-min=5.6km az=59.0*

NEIC Felt [III] at Klaten and Yogyakarta.

*BJI **27** 03:10:04.9, 780S×11040E, h10km, mB5.0, mb4.7, Ms4.8, Msz4.4*

*MOS **27** 03:10:05.3±1.5, 786S×11052E, h33km, mb4.9/25, MS4.4/5, Error ellipse: s-maj=12.6km s-min=7.9km az=113.8*

ISC 27 03:10:02.6±1.0, 792S±004×11045E±004, h4km±6km, h9km±2.9km: pP-P, n184, σ1§27/139, mb4.7/56, MS4.2/20, 7C-7D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara** 7μm,0.8s	**0.94**	**308**	P	**Pg**	**03 10 21.4**	**+0.9**
KRKI	**Karangkates** 36μm,1.0s	**2.00**	**97**	P	**Pn**	**03 10 38.5**	**+1.5**
JCJI	**Jatiwangi** 3μm,1.0s	**2.59**	**303**	P	**Pn**	**03 10 45.1**	**-0.1**
KMMI	**Kalianget** 663nm,1.2s	**3.59**	**76**	P	**Pg**	**03 11 11.4**	**0.0**
CBJI	**Citeko** 913nm,0.8s	**3.87**	**292**	P	**Pn**	**03 11 02.7**	**-0.1**
NBBI	**Negara** 2μm,0.7s	**4.15**	**96**	P	**Pn**	**03 11 10.6**	**+4.0**
KLI	**Kotabumi** 214nm,0.5s	**6.33**	**298**	P	**Pn**	**03 11 42.2**	**+5.6**
PCI	**Palu** 113nm,1.4s	**11.66**	**54**	P	**Pn**	**03 12 59.0**	**+9.3**
PPI	**Padang Panjang** 82nm,1.7s	**12.46**	**306**	P	**Pn**	**03 13 06.0**	**+5.3**
KKM	**Kota Kinabalu**	**15.01**	**23**	*e*Pn	**Pn**	**03 13 34.1**	**-1.4**
PSI	**Prapat** 0.5nm,0.3s,baz=132,slow=14,SNR=8.3	**15.67**	**312**	Pn	**Pn**	**03 13 47.7**	**+3.6**
PSI				LR	LR	03 20 20.7	
	comp=Z,1μm,19.4s,baz=147,slow=40						
PSI	**Prapat**	**15.67**	**312**	Pn	**Pn**	**03 13 47.7**	**+3.6**
PSI				LR	LR	03 20 20.7	
MBWA	**Marble Bar** 107nm,1.3s	**15.92**	**147**	*e*Pn	**Pn**	**03 13 43.5**	**-3.9**
KULM	**Kulim**	**16.36**	**323**	*e*P	**Pn**	**03 13 53.8**	**+0.7**
FITZ	**Fitzroy Crossi** 63nm,0.9s	**17.91**	**126**	*e*P	**Pn**	**03 14 12.5**	**0.0**
FITZ	**Fitzroy Crossi** 2.7nm,0.3s,baz=302,slow=10.0,SNR=67	**17.91**	**126**	P	**Pn**	**03 14 12.6**	**+0.1**
FITZ				S	**Sn**	**03 17 21.2**	**-11**
	2.6nm,0.3s,baz=190,slow=17,SNR=5.7						
FITZ				LR	LR	03 21 29.2	
	comp=Z,281nm,19.0s,baz=295,slow=38						
SNG	**Songkhla** 130nm,0.7s	**17.92**	**327**	P	**Pn**	**03 14 17.0**	**+4.5**
AAI	**Ambon** 155nm,1.1s	**18.14**	**78**	P	**Pn**	**03 14 23.4**	**+8.1**
SWI	**Sorong** 53nm,0.9s,mb5.0	**21.89**	**72**	P	**P**	**03 15 03.6**	**+7.2**
KAKA	**Kakadu** 82nm,0.6s,mb5.3	**22.14**	**104**	*e*P	**P**	**03 14 55.8**	**-3.4**
KKTK	**Khon Kaen**	**25.25**	**343**	P	**P**	**03 15 36.0**	**+6.4**
NST	**Nakhon Sawan**	**25.57**	**336**	P	**P**	**03 15 35.0**	**+2.5**
NWAO	**Narrogin (SRO)** 14nm,1.0s,mb4.5,baz=341,slow=13,SNR=9.2	**25.67**	**167**	P	**P**	**03 15 33.2**	**-0.2**
NWAO				LR	LR	03 26 25.3	
	comp=Z,502nm,18.4s,MS4.1,baz=205,slow=38						
WRA	**Warramunga Arr** 24nm,0.8s,mb4.8,baz=291,slow=11,SNR=40	**26.04**	**120**	P	**P**	**03 15 36.4**	**-0.4**
WRAB	**Tennant Creek** comp=Z,62nm,0.8s,mb5.2	**26.05**	**120**	*e*P	**P**	**03 15 36.9**	**+0.1**
WRAB				pmax	pmax		
WRAB	**Tennant Creek** comp=Z,62nm,0.8s,mb5.2	**26.05**	**120**	*e*P	**P**	**03 15 36.9**	**+0.1**
WB2	**Warramunga Arr**	**26.05**	**120**	*e*P	**P**	**03 15 37.1**	**+0.2**
WB2				*e*S	S	03 20 30.9	+23
ASPA	**Alice Springs**	**27.39**	**128**	⇑*i*P	**P**	**03 15 49.5**	**+0.5**
AS31	**Alice Springs**	**27.39**	**128**	⇑*i*P	**P**	**03 15 49.5**	**+0.5**
ASAR	**Alice Springs** comp=Z,24nm,0.9s,mb4.7,baz=303,slow=8.1,SNR=85	**27.39**	**128**	P	**P**	**03 15 49.2**	**+0.3**
ASAR				PcP	PcP	03 19 07.9	0.0
	comp=Z,3.9nm,0.6s,baz=306,slow=1.8,SNR=6.9						
FORT	**Forrest** comp=Z,54nm,0.8s,mb5.2	**28.08**	**146**	*e*P	**P**	**03 15 54.3**	**-0.8**
CHG	**Chiang Mai** comp=Z,10nm,0.9s,mb4.6	**28.89**	**337**	P	**P**	**03 16 08.8**	**+6.5**
CHTO	**Chiang Mai** comp=Z,16nm,1.2s,mb4.6	**28.89**	**337**	*e*P	**P**	**03 16 04.2**	**+1.9**
CHTO				pmax	pmax		
CHTO	**Chiang Mai** comp=Z,16nm,1.2s,mb4.6	**28.89**	**337**	*e*P	**P**	**03 16 04.2**	**+1.9**
KMI	**Kunming**	**33.69**	**347**	P	**P**	**03 16 52.0**	**+7.4**
KMI				S	**S**	**03 22 10.8**	**+2.6**
KMI				XS	sS	03 22 24.8	+14
KMI				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.7						
KMI				AMB	AMB		
	comp=Z,159nm,3.5s						
KMI				LR	LR		
	comp=N,974nm,12.8s,MS4.7						
KMI				LR	LR		
	comp=E,565nm,15.5s,MS4.7						
KMI				LR	LR		
	comp=Z,1μm,13.7s,MS4.8						
KMI	**Kunming**	**33.69**	**347**	P	**P**	**03 16 52.1**	**+7.5**
KMI				*PP	pP	03 17 00.5	+15
KMI				*SP	sP	03 17 03.9	+17
KMI						03 18 08.0	
KMI				S	**S**	**03 22 10.8**	**+2.6**
KMI				*SS	sS	03 22 24.7	+14
KMI				SSS		03 24 39.4	
KMI				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
KMI				MLR	MLR		
	comp=Z,1μm,13.7s,MS4.8						
KMI	**Kunming**	**33.69**	**347**	P	**P**	**03 16 52.1**	**+7.5**
KMI				*PP	pP	03 17 00.5	+15
KMI				*SP	sP	03 17 03.9	+17
KMI						03 18 08.0	
KMI				S	**S**	**03 22 10.8**	**+2.6**
KMI				*SS	sS	03 22 24.7	+14
KMI				SSS		03 24 39.4	
KMI				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
KMI				MLR	MLR		
	comp=Z,1μm,13.7s,MS4.8						
KMI	**Kunming**	**33.69**	**347**	P	**P**	**03 16 52.1**	**+7.5**
KMI				*PP	pP	03 17 00.5	+15
KMI				*SP	sP	03 17 03.9	+17
KMI						03 18 08.0	
KMI				S	**S**	**03 22 10.8**	**+2.6**
KMI				*SS	sS	03 22 24.7	+14
KMI				SSS		03 24 39.4	
KMI				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
PMG	**Port Moresby** comp=Z,11nm,0.9s,mb4.8,baz=225,slow=17,SNR=3.6	**36.31**	**95**	P	**P**	**03 17 07.9**	**+0.7**
CTA	**Charters Tower** comp=Z,12nm,1.1s,mb4.6	**36.69**	**113**	⇑*i*P	**P**	**03 17 12.0**	**+1.5**
CTA	**Charters Tower** comp=Z,13nm,0.9s,mb4.8,baz=274,slow=10,SNR=10	**36.69**	**113**	P	**P**	**03 17 11.7**	**+1.3**
CTA				LR	LR	03 33 10.9	
	comp=Z,203nm,19.8s,MS3.9,baz=126,slow=38						
CTA	**Charters Tower** comp=Z,12nm,1.1s	**36.69**	**113**	⇑*i*P	**P**	**03 17 12.0**	**+1.5**
CTA				pmax	pmax		
CTAO	**Charters Tower** comp=Z,13nm,0.9s,mb4.8	**36.69**	**113**	*e*P	**P**	**03 17 11.1**	**+0.6**
CTAO				pmax	pmax		
CTAO	**Charters Tower** comp=Z,14nm,0.9s,mb4.8	**36.69**	**113**	*e*P	**P**	**03 17 11.1**	**+0.6**
STKA	**Stephens Creek** comp=Z,170nm,0.5s	**37.51**	**134**	⇓*i*P	**P**	**03 17 16.3**	**-1.1**
STKA	**Stephens Creek** comp=Z,212nm,0.6s,baz=311,slow=8.2,SNR=343	**37.51**	**134**	P	**P**	**03 17 16.5**	**-0.9**
STKA				PcP	PcP	03 19 33.5	-2.2
	comp=Z,11nm,0.6s,baz=317,slow=4.9,SNR=3.5						
STKA				LR	LR	03 32 56.2	
	comp=Z,450nm,18.4s,MS4.3,baz=10,slow=37						
CD2	**Chengdu**	**39.14**	**351**	*e*P	**P**	**03 17 38.8**	**+7.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
SSE	**Sheshan**	**40.13**	**14**	P	**P**	**03 17 39.8**	**+0.4**
SSE				S	**S**	**03 23 47.0**	**+0.6**
SSE				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,200nm,3.8s						
SSE				LR	LR		
	comp=N,77nm,21.2s,MS3.6						
SSE				LR	LR		
	comp=E,63nm,21.2s,MS3.6						
SSE				LR	LR		
	comp=Z,85nm,17.6s,MS3.6						
SSE	**Sheshan** comp=Z,40nm,0.7s,mb5.3	**40.13**	**14**	P	**P**	**03 17 39.8**	**+0.4**
SSE				sP	sP	03 17 44.2	+2.9
SSE				PP	PP	03 19 12.1	+0.5
SSE				S	**S**	**03 23 47.1**	**+0.7**
SSE				sS	sS	03 23 52.3	+3.7
SSE				LR	LR		
	comp=Z,90nm,17.6s,MS3.7						
NJ2	**Nanjing**	**40.55**	**11**	*e*P	**P**	**03 17 42.3**	**-0.5**
NJ2				XP	sP	03 17 49.5	+4.8
NJ2				S	**S**	**03 23 49.0**	**-3.6**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
NJ2				AMB	AMB		
	comp=Z,260nm,4.6s						
NJ2				LR	LR		
	comp=N,2μm,20.4s,MS5.1						
NJ2				LR	LR		
	comp=E,2μm,20.6s,MS5.1						
NJ2				LR	LR		
	comp=Z,250nm,21.0s,MS4.0						
TOO	**Toolangi** comp=Z,15nm,1.0s,mb4.7	**43.32**	**138**	*e*P	**P**	**03 18 07.5**	**+2.0**
TOO	**Toolangi** comp=Z,15nm,1.0s,mb4.7	**43.32**	**138**	*e*P	**P**	**03 18 07.5**	**+2.0**
TOO				pmax	pmax		
LZH	**Lanzhou** comp=Z,30nm,1.2s,mb4.9	**44.21**	**352**	*e*P	**P**	**03 18 17.5**	**+4.8**
LZH				AP	pP	03 18 20.8	+6.8
LZH				XP	sP	03 18 22.3	+7.8
LZH				PP	PP	03 20 02.8	+7.2
LZH				*eS	**S**	**03 24 51.5**	**+4.9**
LZH				XS	sS	03 25 01.8	+13
LZH				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.9						
LZH				AMB	AMB		
	comp=Z,160nm,5.6s						
LZH				LR	LR		
	comp=N,792nm,12.5s						
LZH				LR	LR		
	comp=Z,997nm,17.6s						
LZH	**Lanzhou**	**44.21**	**352**	*e*P	**P**	**03 18 17.5**	**+4.8**
LZH						03 20 02.8	
LZH				*eS	**S**	**03 24 51.6**	**+5.0**
LZH				*SS	sS	03 25 01.8	+13
LZH				SS	SS	03 28 03.2	-1.0
LZH				pmax	pmax		
	comp=Z,30nm,1.2s,mb4.9						
LZH				MLR	MLR		
	comp=Z,1μm,17.6s,MS4.8						
LZH	**Lanzhou** comp=Z,30nm,1.2s,mb4.9	**44.21**	**352**	*e*P	**P**	**03 18 17.5**	**+4.8**
LZH				pP	pP	03 18 20.7	+6.7
LZH				sP	sP	03 18 22.3	+7.8
LZH				PP	PP	03 20 02.8	+7.2
LZH				*eS	**S**	**03 24 51.6**	**+5.0**
LZH				*SS	sS	03 25 01.8	+13
LZH				SS	SS	03 28 03.2	-1.0
LZH				LR	LR		
	comp=Z,1μm,17.6s,MS4.8						
CNB	**Canberra Magne** comp=Z,32nm,1.2s,mb5.0	**44.84**	**133**	*e*P	**P**	**03 18 19.0**	**+1.3**
BJT	**Baijiatuao** comp=Z,24nm,1.1s	**47.99**	**6**	*e*P	**P**	**03 18 42.5**	**+0.1**
BJT				pmax	pmax		
BJT	**Baijiatuao** comp=Z,24nm,1.1s,mb5.1	**47.99**	**6**	*e*P	**P**	**03 18 42.5**	**+0.1**
BJI	**Beijing**	**48.01**	**6**	*e*P	**P**	**03 18 43.0**	**+0.4**
BJI				S	**S**	**03 25 38.5**	**-2.7**
BJI				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.6						
BJI				LR	LR		
	comp=N,265nm,17.9s,MS4.5						
BJI				LR	LR		
	comp=E,239nm,13.6s,MS4.5						
BJI				LR	LR		
	comp=Z,169nm,17.1s,MS4.1						
BJI	**Beijing** comp=Z,7.0nm,1.1s,mb4.6	**48.01**	**6**	*e*P	**P**	**03 18 43.1**	**+0.5**
BJI				S	**S**	**03 25 38.5**	**-2.7**
BJI				SS	SS	03 29 18.1	+8.2
BJI				LR	LR		
	comp=Z,170nm,17.1s,MS4.1						
GTA	**Gaotai**	**48.11**	**349**	*e*P	**P**	**03 18 44.0**	**+0.6**
GTA				AP	pP	03 18 48.5	+3.8
GTA				XP	sP	03 18 51.3	+6.0
GTA				PCP	PcP	03 20 10.3	-0.7
GTA				PP	PP	03 20 34.3	-1.2
GTA				PPP		03 21 27.8	
GTA				SCP	ScP	03 24 04.5	-1.7
GTA				PCS	PcS	03 24 06.5	-0.2
GTA				S	**S**	**03 25 45.3**	**+2.7**
GTA				XS	sS	03 25 52.8	+8.0
GTA				SCS	ScS	03 28 32.5	-4.9
GTA				SS	SS	03 29 09.0	-2.6
GTA				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb4.2						
GTA				AMB	AMB		
	comp=Z,84nm,4.9s						
GTA				LR	LR		
	comp=N,236nm,17.5s,MS4.4						
GTA				LR	LR		
	comp=E,230nm,13.7s,MS4.4						
GTA				LR	LR		
	comp=Z,270nm,17.5s,MS4.3						
HHC	**Hu-ho-hao-te**	**48.53**	**1**	*e*P	**P**	**03 18 47.8**	**+1.1**
HHC				AP	pP	03 18 52.3	+4.3
HHC				XP	sP	03 18 54.8	+6.2
HHC				PCP	PcP	03 20 13.0	+0.5
HHC				PP	PP	03 20 40.3	+0.9
HHC				SCP	ScP	03 24 06.3	-1.7
HHC				PCS	PcS	03 24 08.3	-0.2
HHC				S	**S**	**03 25 49.5**	**+0.9**
HHC				XS	sS	03 25 55.0	+4.2
HHC				SCS	ScS	03 28 37.0	-3.2
HHC				SS	SS	03 29 13.0	-5.4
HHC				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.6						
HHC				AMB	AMB		
	comp=Z,91nm,8.1s						
HHC				LR	LR		
	comp=N,280nm,15.1s						
HHC				LR	LR		
	comp=E,591nm,21.0s						
HHC				LR	LR		
	comp=Z,245nm,18.3s,MS4.2						
MAJO	**Matsushiro**	**51.33**	**29**	*e*P	**P**	**03 19 06.8**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
MAJO	**Matsushiro**	**51.33**	**29**	*e*P	**P**	**03 19 06.8**	**-1.2**
	comp=Z,8.0nm,0.8s,mb4.7						
MAT	**Matsushiro**	**51.33**	**29**	P	**P**	**03 19 06.2**	**-1.7**
MJAR	**Matsushiro Arr** comp=Z,9.6nm,0.9s,mb4.7,baz=206,slow=8.0,SNR=18	**51.33**	**29**	P	**P**	**03 19 06.3**	**-1.6**
CN2	**Changchun**	**53.24**	**14**	*e*P	**P**	**03 19 25.5**	**+3.4**
CN2				*e*XP	sP	03 19 32.8	+8.8
CN2				*e*S	**S**	**03 26 55.8**	**+2.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CN2				LR	LR		
	comp=N,460nm,20.0s,MS4.6						
CN2				LR	LR		
	comp=E,230nm,20.0s,MS4.6						
CN2				LR	LR		
	comp=Z,180nm,19.0s,MS4.1						
MDJ	**Mudanjiang**	**55.07**	**17**	P	**P**	**03 19 34.5**	**-1.0**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,58nm,6.3s						
ULN	**Ulaanbaatar**	**55.62**	**357**	*e*P	**P**	**03 19 38.9**	**-0.5**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.8						
ULN	**Ulaanbaatar**	**55.62**	**357**	*e*P	**P**	**03 19 38.9**	**-0.6**
	comp=Z,3.4nm,0.3s,mb4.8						
SONM	**Songino Array** comp=Z,2.6nm,0.7s,mb4.3,baz=170,slow=7.1,SNR=13	**55.62**	**357**	P	**P**	**03 19 38.4**	**-1.1**
SONM				ScP	ScP	03 24 35.8	-3.0
	comp=Z,0.9nm,1.0s,baz=145,slow=5.4,SNR=3.9						
SONM				LR	LR	03 45 37.9	
	comp=Z,186nm,20.4s,MS4.2,baz=81,slow=38						
CASY	**Casey**	**58.27**	**180**	*e*P	**P**	**03 19 57.5**	**-0.7**
ZAK	**Zakamensk**	**58.39**	**355**	*e*P	**P**	**03 20 01.3**	**+2.2**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.6s,mb4.3						
TLY	**Talaya**	**59.65**	**355**	*e*P	**P**	**03 20 10.6**	**+2.8**
TLY				*e*		03 22 14.4	
TLY				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
TLY				MLR	MLR		
	comp=Z,116nm,15.0s,MS4.1						
MIR	**Mirnyy**	**59.76**	**188**	*e*P	**P**	**03 20 09.0**	**+0.5**
MIR				pmax	pmax		
	comp=Z,180nm,1.0s						
KLR	**Kul'dur**	**59.89**	**16**	*e*P	**P**	**03 20 05.0**	**-4.4**
MKAR	**Makanchi Array** comp=Z,2.6nm,0.6s,mb4.5,baz=144,slow=8.2,SNR=20	**59.96**	**338**	P	**P**	**03 20 07.7**	**-2.2**
YSS	**Yuzh-Sakhalins**	**61.72**	**25**	*e*P	**P**	**03 20 20.0**	**-1.9**
YSS				*e*		03 20 26.0	
YSS	**Yuzh-Sakhalins** comp=Z,12nm,0.8s,mb5.1	**61.72**	**25**	*e*P	**P**	**03 20 22.4**	**+0.6**
OPO	**Ambohidratompo** comp=Z,1.6nm,0.6s,mb4.4,baz=86,slow=4.3,SNR=7.6	**62.22**	**253**	P	**P**	**03 20 26.5**	**+1.2**
RPZ	**Rata Peaks** comp=Z,19nm,0.4s,mb5.6,baz=239,slow=0.9,SNR=16	**63.46**	**135**	P	**P**	**03 20 34.1**	**+0.6**
KURK	**Kurchatov**	**64.57**	**338**	*e*P	**P**	**03 20 38.5**	**-2.3**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
KURK	**Kurchatov** comp=Z,3.3nm,0.8s,mb4.4	**64.57**	**338**	*e*P	**P**	**03 20 38.5**	**-2.3**
BOD	**Bodaibo**	**65.58**	**2**	*e*P	**P**	**03 20 43.4**	**-4.0**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.8s,mb4.2						
MAW	**Mawson** comp=Z,6.3nm,1.6s,mb4.4	**67.51**	**198**	*e*P	**P**	**03 20 59.6**	**-0.1**
MAW	**Mawson** comp=Z,4.3nm,0.7s,mb4.6,baz=26,slow=10,SNR=9.4	**67.51**	**198**	P	**P**	**03 20 59.7**	**-0.1**
MAW				LR	LR	03 44 32.3	
	comp=Z,139nm,21.3s,MS4.2,baz=238,slow=31						
MAW	**Mawson**	**67.51**	**198**	*e*P	**P**	**03 20 59.6**	**-0.1**
MAW				pmax	pmax		
	comp=Z,6.0nm,1.6s						
BRVK	**Borovoye**	**69.65**	**335**	*e*P	**P**	**03 21 11.8**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
BRVK	**Borovoye** comp=Z,1.8nm,0.8s,mb4.0	**69.65**	**335**	P	**P**	**03 21 11.8**	**-1.3**
CHKZ	**Chkalovo**	**69.97**	**336**	*e*P	**P**	**03 21 12.2**	**-2.9**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
CHKZ	**Chkalovo** comp=Z,3.4nm,0.8s,mb4.3	**69.97**	**336**	*e*P	**P**	**03 21 12.2**	**-2.9**
YAK	**Yakutsk**	**71.32**	**9**	*e*P	**P**	**03 21 21.2**	**-2.1**
YAK				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
YAK				pmax	pmax		
	comp=N,6.0nm,1.2s						
VNDA	**Vanda** comp=N,9.9nm,0.5s,mb5.0,baz=311,slow=5.9,SNR=12	**74.45**	**170**	P	**P**	**03 21 42.0**	**+0.1**
VNDA				LR	LR	03 53 04.9	
	comp=N,130nm,19.9s,MS4.2,baz=313,slow=35						
VNDA	**Vanda**	**74.45**	**170**	*e*P	**P**	**03 21 41.7**	**-0.2**
SBA	**Scott Base**	**75.51**	**170**	*e*P	**P**	**03 21 47.5**	**-0.5**
SBA				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.0						
SBA	**Scott Base** comp=Z,21nm,1.1s,mb5.0	**75.51**	**170**	*e*P	**P**	**03 21 47.5**	**-0.5**
SYO	**Syowa Base**	**75.83**	**201**	⇑*e*P	**P**	**03 21 49.0**	**-0.9**
SYO	**Syowa Base**	**75.83**	**201**	⇑*e*PcP	PcP	03 22 02.0	-0.4
ARU	**Arti**	**76.95**	**333**	⇓*i*P	**P**	**03 21 57.0**	**+0.8**
ARU				*e*		03 24 49.3	
ARU				*eS	S	03 31 44.1	-0.8
ARU				*eSS	SS	03 36 38.4	-3.0
ARU				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
TIXI	**Tiksi**	**80.33**	**6**	⇓*i*P	**P**	**03 22 10.5**	**-4.3**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
LSZ	**Lusaka**	**80.53**	**256**	*e*P	**P**	**03 22 16.1**	**+0.2**
LSZ				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
LSZ	**Lusaka** comp=Z,12nm,1.2s,mb4.7	**80.53**	**256**	*e*P	**P**	**03 22 16.1**	**+0.3**
EIL	**Elat** comp=Z,244nm,1.0s	**81.46**	**302**	*e*P	**P**	**03 22 19.8**	**-1.1**
LBTB	**Lobatse** comp=Z,3.0nm,0.5s,mb4.5	**82.06**	**246**	*e*P	**P**	**03 22 24.3**	**+0.3**
LBTB				pmax	pmax		
LBTB	**Lobatse** comp=Z,2.6nm,0.5s,mb4.4	**82.06**	**246**	*e*P	**P**	**03 22 24.2**	**+0.3**
BOSA	**Boshof** comp=Z,1.9nm,0.4s,mb4.3,baz=134,slow=6.0,SNR=17	**82.06**	**242**	P	**P**	**03 22 24.4**	**+0.4**
BOSA	**Boshof**	**82.06**	**242**	*e*P	**P**	**03 22 24.3**	**+0.3**
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
BOSA	**Boshof** comp=Z,2.4nm,0.4

BRTR	**Keskin Array B**	**85.00**	**311**	P		**P**	**03 22 37.6**	**-1.5**	
	comp=E,7.8nm,0.9s,mb4.8,baz=134,slow=7.5,SNR=15								
BILL	**Bilibino**	**85.27**	**18**	*i* P		**P**	**03 22 38.5**	**-2.0**	
BILL				pmax	pmax				
	comp=Z,1.0nm,0.6s,mb4.1								
BILL	**Bilibino**	**85.27**	**18**	*e*P		**P**	**03 22 38.1**	**-2.4**	
	comp=Z,2.6nm,0.6s,mb4.5								
OBN	**Obninsk**	**87.36**	**326**	*i* P		**P**	**03 22 49.4**	**-1.4**	
OBN				pmax	pmax				
	comp=Z,8.0nm,0.7s,mb5.1								
OBN				MLR	MLR				
	comp=Z,100nm,20.0s,MS4.2								
KLMR	**Klimovskoe**	**87.76**	**332**	*e*P		**P**	**03 22 53.2**	**+0.5**	
KLMR				pmax	pmax				
	comp=Z,20nm,1.5s,mb5.1								
SNAA	**Sanae**	**89.66**	**197**	⇓*i*P		**P**	**03 22 55.6**	**-6.0**	
SNAA				*e*		pP	03 22 56.5	-6.6	
SNAA				*e*			03 22 59.0		
SNAA				*e*			03 23 02.8		
SNAA				*e*			03 23 05.5		
SNAA				*e*			03 23 13.1		
SNAA				*e*			03 23 19.1		
SNAA				*e*			03 23 35.7		
SNAA				*e*			03 23 40.7		
SNAA	**Sanae**	**89.66**	**197**	*e*P		**P**	**03 22 55.1**	**-6.5**	
SNAA				pmax	pmax				
	comp=Z,17nm,1.4s								
SNAA	**Sanae**	**89.66**	**197**	*e*P		**P**	**03 22 55.1**	**-6.5**	
	comp=Z,17nm,1.4s,mb5.2								
AKASG	**Malin Array Be**	**90.55**	**321**	P		**P**	**03 23 03.2**	**-2.6**	
	comp=Z,0.6nm,0.4s,mb4.3,baz=90,slow=4.8,SNR=5.8								
IDI	**Anoyia**	**90.92**	**305**	LR		LR	04 03 44.1		
	comp=Z,26nm,20.1s,MS3.7,baz=278,slow=36								
VNA2	**Neumayer--Watz**	**91.31**	**197**	⇓*i*P		**P**	**03 23 09.8**	**+0.5**	
VNA2				*e*		pP	03 23 10.8	0.0	
VNA2				*e*		pP	03 23 13.0	+2.2	
VNA2				*e*			03 23 14.6		
VNA2				*e*			03 23 17.2		
VNA2				*e*			03 23 20.2		
VNA2				*e*			03 23 26.8		
VNA2				*e*			03 23 33.5		
VNA2				*e*			03 23 49.6		
VNA2				*e*			03 23 55.9		
VNA2				*e*			03 24 03.2		
VNA2				*e*			03 24 14.1		
VNA1	**Neumayer--Stat**	**91.70**	**197**	⇓*i*P		**P**	**03 23 11.5**	**+0.4**	
VNA1				*e*		pP	03 23 12.5	-0.1	
VNA1				*e*			03 23 15.2		
VNA1				*e*			03 23 16.5		
VNA1				*e*			03 23 19.5		
VNA1				*e*			03 23 22.6		
VNA1				*e*			03 23 29.4		
VNA1				*e*			03 23 35.4		
VNA1				*e*			03 23 50.9		
VNA1				*e*			03 23 57.4		
VNA1				*e*			03 24 04.3		
VNA1				*e*			03 24 13.4		
VNA3	**Neumayer Olymp**	**91.79**	**196**	⇓*i*P		**P**	**03 23 11.8**	**+0.2**	
VNA3				*e*		pP	03 23 12.6	-0.4	
VNA3				*e*		pP	03 23 15.1	+2.1	
VNA3				*e*			03 23 16.5		
VNA3				*e*			03 23 20.1		
VNA3				*e*			03 23 23.3		
VNA3				*e*			03 23 34.9		
VNA3				*e*			03 23 51.6		
VNA3				*e*			03 23 57.4		
VNA3				*e*			03 24 03.2		
VNA3				*e*			03 24 14.3		
FINES	**FINESS Array B**	**94.21**	**331**	P		**P**	**03 23 22.5**	**-0.2**	
	comp=Z,0.7nm,0.7s,mb4.2,baz=123,slow=7.0,SNR=5.9								
FINES				PKiKP		PKiKP	03 28 05.1	-1.5	
	comp=Z,0.3nm,0.6s,baz=80,slow=1.6,SNR=4.2								
FINES				LR		LR	04 10 50.0		
	comp=Z,74nm,21.2s,MS4.1,baz=108,slow=39								
PPT	**Papeete**	**97.04**	**109**	LR		LR	04 06 38.9		
	comp=Z,28nm,18.1s,MS3.8,baz=257,slow=35								
TORD	**Torodi Ar. Bea**	**109.95**	**281**	PKiKP		PKiKP	03 28 34.3	-0.8	
	comp=Z,0.3nm,0.5s,baz=43,slow=1.9,SNR=15								
YKA	**Yellowknife Ar**	**116.50**	**22**	PKP		PKPdf	03 28 46.0	-1.6	
	comp=Z,0.9nm,0.4s,baz=325,slow=1.1,SNR=14								
YKA	**Yellowknife Ar**	**116.50**	**22**	PKP		PKPdf	03 28 46.0	-1.6	
EDM	**Edmonton**	**122.63**	**30**	*e*PKIKP		PKPdf	03 28 58.5	-0.9	
BSMT	**Bassoo Peak**	**124.82**	**36**	*e*PKPdf		PKPdf	03 29 03.0	-0.6	
MSO	**Missoula**	**125.84**	**36**	*e*PKPdf		PKPdf	03 29 05.2	-0.4	
FCC	**Fort Churchill**	**125.91**	**15**	*e*PKIKP		PKPdf	03 29 04.2	-1.5	
CHMT	**Chamberlain Mo**	**126.20**	**36**	*e*PKPdf		PKPdf	03 29 05.8	-0.5	
FFC	**Flin Flon**	**126.62**	**23**	*e*PKIKP		PKPdf	03 29 06.6	-0.4	
NVAR	**Mina Array Bea**	**126.70**	**47**	PKP		PKPdf	03 29 08.6	+1.4	
	comp=Z,1.0nm,0.8s,baz=240,slow=8.2,SNR=6.6								
HLID	**Hailey**	**127.18**	**40**	*e*PKPdf		PKPdf	03 29 08.9	+0.8	
MCMT	**McKenzie Canyo**	**127.53**	**38**	*e*PKPdf		PKPdf	03 29 08.6	-0.1	
EGMT	**Eagleton**	**127.54**	**33**	*e*PKPdf		PKPdf	03 29 08.9	+0.1	
BOZ	**Bozeman (W)**	**127.83**	**37**	*e*PKIKP		PKPdf	03 29 09.5	+0.2	
ELK	**Elko**	**127.93**	**44**	*e*PKIKP		PKPdf	03 29 10.3	+0.8	
LOHW	**Long Hollow**	**129.54**	**38**	*e*PKPdf		PKPdf	03 29 12.9	+0.3	
DUG	**Dugway**	**129.83**	**43**	*e*PKIKP		PKPdf	03 29 12.6	-0.6	
NEN	**Nelson**	**130.31**	**49**	*e*PKPdf		PKPdf	03 29 15.3	+1.2	
PDAR	**Pinedale Array**	**130.64**	**39**	PKP		PKPdf	03 29 14.9	+0.3	
	comp=Z,0.6nm,0.6s,baz=329,slow=0.9,SNR=5.3								
RSSD	**Black Hills**	**133.08**	**34**	*e*PKIKP		PKPdf	03 29 18.2	-1.1	
SCHQ	**Schefferville**	**133.17**	**358**	PKP		PKPdf	03 29 19.5	0.0	
	comp=Z,3.7nm,0.9s,baz=270,slow=7.1,SNR=7.1								
PV10	**Paradox Valley**	**133.27**	**43**	*e*PKPdf		PKPdf	03 29 21.4	+1.8	
PV01	**Paradox Valley**	**133.71**	**43**	*e*PKPdf		PKPdf	03 29 20.7	+0.2	
SMCO	**Snowmass**	**134.23**	**41**	*e*PKPdf		PKPdf	03 29 21.9	+0.5	
ANMO	**Albuquerque**	**136.78**	**46**	*e*PKIKP		PKPdf	03 29 27.2	+1.0	
ECSD	**EROS,Sioux Fal**	**137.20**	**29**	*e*PKPdf		PKPdf	03 29 26.0	-1.0	
MNTX	**Cornudas Mount**	**139.12**	**50**	*e*PKPdf		PKPdf	03 29 33.2	+2.6	
WMOK	**Wichita Mounta**	**142.14**	**41**	*e*PKIKP		PKPdf	03 29 35.2	-0.8	
JCT	**Junction City**	**143.88**	**48**	*e*PKIKP		PKPdf	03 29 36.9	-2.2	
CPUP	**Villa Florida**	**143.95**	**199**	PKP		PKPdf	03 29 37.9	-1.3	
	comp=Z,0.8nm,0.4s,baz=140,slow=2.1,SNR=8.2								
CPUP	**Villa Florida**	**143.95**	**199**	*e*PKPdf		PKPdf	03 29 37.7	-1.5	
CCM	**Cathedral Cave**	**144.16**	**30**	*e*PKIKP		PKPdf	03 29 36.2	-3.3	
ERPA	**Erie**	**144.71**	**13**	*e*PKPdf		PKPdf	03 29 38.4	-2.1	
BLO	**Bloomington**	**145.34**	**24**	*e*PKIKP		PKPdf	03 29 40.7	-0.9	
BINY	**Binghamton**	**145.39**	**8**	*e*PKPdf		PKPdf	03 29 40.0	-1.7	
SIUC	**Southern Illin**	**145.40**	**28**	*e*PKPbc		PKPbc	03 29 41.0	-0.7	
ACSO	**Alum Creek Sta**	**145.66**	**18**	*e*PKPbc		PKPbc	03 29 41.3	-1.1	
PARMO	**Parma**	**145.98**	**30**	*e*PKPbc		PKPbc	03 29 43.1	-0.4	
UALR	**University of**	**146.04**	**35**	*e*PKPbc		PKPbc	03 29 42.6	-1.0	
WCI	**Wyandotte Cave**	**146.24**	**24**	*e*PKP2		PKPab	03 29 43.4	-1.5	
PAL	**Palisades**	**146.82**	**6**	*e*PKP2		PKPab	03 29 44.3	-2.9	
HKT	**Hockley**	**147.02**	**45**	*e*PKP2		PKPab	03 29 46.0	-1.9	
MCWV	**Mont Chateau**	**147.08**	**15**	*e*PKPbc		PKPbc	03 29 44.9	-1.7	
WVT	**Waverly**	**147.33**	**28**	*e*PKPbc		PKPbc	03 29 46.6	-0.7	
WVT				*e*PKPab		PKPab	03 29 50.9	+1.7	
OXF	**Oxford**	**147.84**	**32**	*e*PKP2		PKPab	03 29 47.9	-3.3	
PLAL	**Pickwick Lake**	**148.14**	**30**	*e*PKPbc		PKPbc	03 29 48.2	-1.3	
PLAL				*e*PKPab		PKPab	03 29 52.5	+0.1	
BDFB	**Brasilia**	**148.33**	**222**	PKPbc		PKPbc	03 29 50.7	+0.7	
	comp=Z,3.6nm,0.7s,baz=97,slow=5.1,SNR=7.2								
FWV	**Forest Hill**	**148.75**	**17**	*e*PKPbc		PKPbc	03 29 49.8	-1.3	
TZTN	**Tazewell**	**148.78**	**22**	*e*PKPbc		PKPbc	03 29 50.4	-0.8	
TZTN				*e*PKPab		PKPab	03 29 55.1	+0.2	
SWET	**Sewanee**	**148.95**	**27**	*e*PKPbc		PKPbc	03 29 50.5	-1.1	
SWET				*e*PKPab		PKPab	03 29 54.8	-0.8	
ELN	**Prospectdale**	**149.10**	**18**	*e*PKPbc		PKPbc	03 29 50.9	-1.1	
LVC	**Limon Verde**	**149.65**	**181**	*e*PKPbc		PKPbc	03 29 54.8	+1.4	
LRAL	**Lakeview Retre**	**150.24**	**30**	*e*PKPdf		PKPdf	03 29 49.6	-0.1	
LRAL				*e*PKPbc		PKPbc	03 29 54.2	-0.6	
JSC	**Jenkinsville**	**151.63**	**21**	*e*PKIKP		PKPbc	03 29 57.8	-0.3	
LPAZ	**La Paz**	**155.91**	**183**	PKP		PKPdf	03 29 57.9	0.0	
	comp=Z,0.9nm,1.0s,baz=102,slow=5.5,SNR=3.7								
LPAZ				PKPab		PKPab	03 30 27.2	+2.4	
	comp=Z,2.0nm,0.7s,baz=151,slow=1.9,SNR=12								
LPAZ	**La Paz**	**155.91**	**183**	PKIKP		PKPdf	03 29 57.9	0.0	
LPAZ				*e*			03 30 26.7		
LPAZ	**La Paz**	**155.91**	**183**	PKP		PKPdf	03 29 57.9	0.0	
LPAZ				*e*PKPab		PKPab	03 30 26.6	+1.9	
LPAZ				PKPab		PKPab	03 30 27.2	+2.4	
OTAV	**Otavalo**	**168.30**	**130**	*e*PKPdf		PKPdf	03 30 10.7	+0.3	

*MOS **27** 03:22:23.3±1.1,5.71S×14.693E,h33km,mb4.5/6, Error ellipse: s-maj=21.7km s-min=9.5km az=77.7*
*ISCJB **27** 03:22:27.5±1.5,5.93S×006×14.720E±008,h83km±14km, mb4.3/16, Error ellipse: s-maj=14.7km s-min=8.9km az=43.4*
*IDC **27** 03:22:29.8±2.4,6.00S×147.12E,h85km±20km,mb4.2/8, mb1 4.4/11,mb1mx4.2/17,mbtmp4.5/11,MS3.2/1,*

Ms1 3.2/1,ms1mx2.5/21,Error ellipse: s-maj=21.1km s-min=11.7km az=125.0
*NEIC **27** 03:22:29.6±1.6,5.94S×147.16E,h86km±14km,mb4.6/11, Error ellipse: s-maj=12.2km s-min=11.6km az=123.0*
ISC 27 03:22:30.1±1.4,599S±006×14715E±009,h90km±13km, n48,σ1§03/49,mb4.3/16,1C,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.40**	**180**	P	**Pn**	**03 23 20.1**	**-0.8**
	90nm,0.3s,baz=336,slow=6.3,SNR=172						
PMG				S	**Sn**	**03 24 00.8**	**+0.6**
	129nm,0.3s,baz=199,slow=19,SNR=12						
PMG				LR	LR	03 24 30.9	
	comp=Z,325nm,18.1s,baz=74,slow=36						
PMG	**Port Moresby**	**3.40**	**180**	P	**Pn**	**03 23 20.1**	**-0.8**
PMG				S	**Sn**	**03 24 00.8**	**+0.6**
CTA	**Charters Tower**	**14.04**	**183**	*e*P	**Pn**	**03 25 46.9**	**+2.1**
	5.4nm,0.4s						
CTA				*e*S	**Sn**	**03 28 19.0**	**-0.3**
CTA	**Charters Tower**	**14.04**	**183**	P	**Pn**	**03 25 46.1**	**+1.2**
	1.9nm,0.3s,baz=358,slow=14,SNR=18						
CTA	**Charters Tower**	**14.04**	**183**	*e*P	**Pn**	**03 25 46.9**	**+2.1**
CTA				*e*S	**Sn**	**03 28 19.0**	**-0.3**
CTA				pmax	pmax		
	comp=Z,5.0nm,0.4s						
CTAO	**Charters Tower**	**14.04**	**183**	*e*P	**Pn**	**03 25 46.4**	**+1.6**
CTAO				pmax	pmax		
	comp=Z,5.0nm,0.3s						
CTAO	**Charters Tower**	**14.04**	**183**	*e*P	**Pn**	**03 25 46.4**	**+1.6**
	comp=Z,5.1nm,0.3s						
KAKA	**Kakadu**	**15.97**	**244**	⇑*i*P	**Pn**	**03 26 09.4**	**0.0**
	comp=Z,28nm,0.5s						
WRAB	**Tennant Creek**	**18.63**	**221**	*e*P	**Pn**	**03 26 40.6**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,42nm,0.7s						
WRAB	**Tennant Creek**	**18.63**	**221**	*e*P	**Pn**	**03 26 40.6**	**-1.2**
	comp=Z,42nm,0.7s						
WB2	**Warramunga Arr**	**18.63**	**221**	*e*P	**Pn**	**03 26 40.6**	**-1.2**
WB2				*e*S	**S**	**03 30 03.7**	**-4.3**
WRA	**Warramunga Arr**	**18.64**	**221**	P	**Pn**	**03 26 40.8**	**-1.2**
	comp=Z,2.5nm,0.3s,baz=42,slow=12,SNR=71						
WRA				S	**S**	**03 30 06.3**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=47,slow=22,SNR=4.1						
WRA				PcP	PcP	03 31 07.3	+1.8
	baz=31,slow=1.8,SNR=4.5						
WRA	**Warramunga Arr**	**18.64**	**221**	P	**Pn**	**03 26 40.8**	**-1.1**
WRA				S	**S**	**03 30 06.3**	**-1.9**
AS31	**Alice Springs**	**21.71**	**215**	*e*P	**P**	**03 27 14.3**	**+0.6**
AS31				*e*S	**S**	**03 31 13.1**	**+4.4**
ASAR	**Alice Springs**	**21.71**	**215**	P	**P**	**03 27 14.5**	**+0.8**
	comp=Z,12nm,0.3s,mb4.7,baz=52,slow=8.8,SNR=212						
ASAR				S	**S**	**03 31 11.1**	**+2.3**
	comp=Z,1.1nm,0.6s,baz=32,slow=19,SNR=5.6						
ASPA	**Alice Springs**	**21.71**	**215**	*e*P	**P**	**03 27 14.3**	**+0.5**
ASPA				*e*S	**S**	**03 31 13.1**	**+4.3**
FITZ	**Fitzroy Crossi**	**24.20**	**238**	*e*P	**P**	**03 27 39.1**	**+1.0**
	comp=Z,73nm,0.5s,mb5.3						
FITZ	**Fitzroy Crossi**	**24.20**	**238**	P	**P**	**03 27 39.7**	**+1.6**
	comp=Z,54nm,0.7s,mb5.0,baz=66,slow=8.2,SNR=99						
DZM	**Mont Dzumac**	**24.56**	**132**	P	**P**	**03 27 41.3**	**-0.1**
	comp=Z,2.1nm,0.6s,mb3.8,baz=250,slow=10,SNR=9.4						
STKA	**Stephens Creek**	**26.27**	**191**	*e*P	**P**	**03 27 55.0**	**-1.9**
	comp=Z,7.6nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**26.27**	**191**	P	**P**	**03 27 55.6**	**-1.3**
	comp=Z,11nm,0.6s,mb4.5,baz=348,slow=8.7,SNR=21						
KLBR	**Kellerberrin**	**37.48**	**223**	*e*P	**P**	**03 29 35.4**	**+0.5**
	comp=Z,9.9nm,0.3s,mb5.2						
NWAO	**Narrogin (SRO)**	**38.64**	**222**	P	**P**	**03 29 45.6**	**+1.0**
	comp=Z,7.8nm,0.6s,mb4.7,baz=38,slow=5.4,SNR=7.3						
MUN	**Mundaring**	**38.78**	**224**	*e*P	**P**	**03 29 46.8**	**+1.1**
ULN	**Ulaanbaatar**	**64.17**	**331**	*e*P	**P**	**03 32 56.0**	**+1.0**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
ULN	**Ulaanbaatar**	**64.17**	**331**	*e*P	**P**	**03 32 56.0**	**+1.0**
	comp=Z,1.9nm,0.7s,mb4.0						
SONM	**Songino Array**	**64.47**	**331**	P	**P**	**03 32 57.7**	**+0.7**
	comp=Z,0.9nm,0.8s,mb3.6,baz=140,slow=7.0,SNR=5.3						
CASY	**Casey**	**65.31**	**195**	*e*P	**P**	**03 33 01.9**	**-0.5**
	comp=Z,3.8nm,0.6s,mb4.4						
MA2	**Magadan**	**65.42**	**2**	*e*P	**P**	**03 33 03.2**	**+0.1**
MA2				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5						
MA2	**Magadan**	**65.42**	**2**	*e*P	**P**	**03 33 03.2**	**+0.1**
	comp=Z,6.0nm,0.7s,mb4.5						
ZAK	**Zakamensk**	**67.70**	**331**	*e*P	**P**	**03 33 18.3**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.0						
BOD	**Bodaibo**	**69.02**	**342**	*e*P	**P**	**03 33 25.7**	**-0.2**
BOD				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
VNDA	**Vanda**	**71.91**	**177**	P	**P**	**03 33 44.2**	**+0.7**
	comp=Z,0.7nm,0.6s,mb3.7,baz=342,slow=6.1,SNR=9.5						
VNDA	**Vanda**	**71.91**	**177**	*e*P	**P**	**03 33 43.9**	**+0.4**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
VNDA	**Vanda**	**71.91**	**177**	*e*P	**P**	**03 33 43.9**	**+0.4**
	comp=Z,1.3nm,0.8s,mb3.8						
QSPA	**South Pole Qui**	**83.98**	**180**	*e*P	**P**	**03 34 50.4**	**+0.1**
	comp=Z,4.5nm,0.5s,mb4.5						
ILAR	**Eielson Array**	**85.41**	**23**	P	**P**	**03 34 55.9**	**-1.6**
	comp=Z,1.9nm,0.6s,mb4.2,baz=253,slow=4.7,SNR=25						
ZRNK	**Zerenda**	**87.64**	**324**	*e*P	**P**	**03 35 06.5**	**-1.9**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
ZRNK	**Zerenda**	**87.64**	**324**	*e*P	**P**	**03 35 06.5**	**-1.9**
	comp=Z,0.9nm,0.6s,mb4.0						
LPAZ	**La Paz**	**138.66**	**123**	PKP	PKPdf	03 41 47.8	+2.4
	comp=Z,1.2nm,0.7s,baz=270,slow=3.0,SNR=3.5						
CPUP	**Villa Florida**	**140.05**	**145**	PKP	PKPdf	03 41 50.1	+2.2
	comp=Z,0.9nm,0.7s,baz=214,slow=3.6,SNR=3.5						
SDV	**Santo Domingo**	**142.44**	**83**	PKP	PKPdf	03 41 54.8	+2.5
	comp=Z,3.7nm,0.9s,baz=18,slow=6.4,SNR=4.4						
SDV	**Santo Domingo**	**142.44**	**83**	*e*PKPdf	PKPdf	03 41 53.5	+1.3
SDV				PKP	PKPdf	03 41 54.8	+2.5
SIV	**San Ignacio**	**144.54**	**128**	PKP	PKPdf	03 41 56.3	+0.4
	comp=Z,1.2nm,0.5s,baz=239,slow=4.9,SNR=3.0						
SIV	**San Ignacio**	**144.54**	**128**	PKP	PKPdf	03 41 56.3	+0.4
SIV				pPKPbc		03 42 25.1	
TORD	**Torodi Ar. Bea**	**145.23**	**284**	PKPbc	PKPbc	03 41 58.0	+1.0
	comp=Z,2.3nm,0.6s,baz=71,slow=3.7,SNR=65						
TORD				pPKPbc	pPKPbc	03 42 25.1	+3.4
	comp=Z,5.4nm,0.7s,baz=80,slow=3.7,SNR=12						
DBIC	**Dimbokro**	**152.17**	**273**	PKPbc	PKPbc	03 42 16.0	+0.9
	comp=Z,3.5nm,1.1s,baz=140,slow=6.6,SNR=3.8						
BDFB	**Brasilia**	**153.78**	**145**	PKP	PKPdf	03 42 13.3	+2.6
	comp=Z,2.4nm,0.7s,baz=226,slow=5.7,SNR=4.3						
BDFB				PKPbc	PKPbc	03 42 21.4	+2.8
	comp=Z,1.4nm,0.4s,baz=218,slow=5.2,SNR=5.3						

*ISCJB **27** 03:29:08.5±0.4,3606N±004×2324E±005,h66km, Error ellipse: s-maj=7.4km s-min=3.6km az=106.7*
*ATH **27** 03:29:09.0,36.14N×2332E,h66km±2km,ML3.6*
*NEIC **27** 03:29:09.0,36.14N×2332E,h66km,MG3.6(ATH), After ATH.*
*CSEM **27** 03:29:09.6±0.1,36.17N×2333E,h60km,ML3.6, Error ellipse: s-maj=2.5km s-min=1.2km az=53.0*
*HLW **27** 03:29:10.8,3596N×2370E,h33km,Mb3.8*
*THE **27** 03:29:11.2,36.19N×2335E,h21km*
ISC 27 03:29:09.7±0.4,3608N±004×2329E±005,h66km,n45, σ1§01/52,2C-4D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KYTH	**Kithira**	**0.28**	**314**	*e*P	**Pn**	**03 29 20.0**	**-0.3**
VLI	**Veliai**	**0.70**	**336**	*e*P	**Pn**	**03 29 23.8**	**-0.4**
KARN	**Karanos**	**0.85**	**143**	*e*Pg	**Pn**	**03 29 27.5**	**+1.5**
VAM	**Vamos**	**1.00**	**132**	*e*P	**Pn**	**03 29 28.9**	**+0.9**
GVD	**Gavdhos**	**1.40**	**152**	*e*Pg	**Pn**	**03 29 35.0**	**+1.9**
GVD	**Gavdhos**	**1.40**	**152**	*e*P	**Pn**	**03 29 34.0**	**+0.8**
GVD	**Gavdhos**	**1.40**	**152**	*e*Pg	**Pn**	**03 29 35.0**	**+1.8**
ITM	**Ithomi**	**1.55**	**315**	*e*P	**Pn**	**03 29 35.7**	**+0.5**
SIVA	**Sivas**	**1.63**	**130**	*e*Pb	**Pn**	**03 29 38.0**	**+1.7**
NAIG	**Nisos Aigina**	**1.68**	**5**	*e*P	**Pn**	**03 29 36.5**	**-0.4**
THR3	**Thira Island,**	**1.74**	**79**	*e*Pb	**Pn**	**03 29 38.2**	**+0.5**
SANT	**Santorini**	**1.78**	**80**	*e*Pb	**Pn**	**03 29 38.6**	**+0.4**
SANT	**Santorini**	**1.78**	**80**	*e*Pn	**Pn**	**03 29 37.1**	**-1.1**
SANT				*e*Sn	**Sn**	**03 29 58.2**	**-1.6**
SANT	**Santorini**	**1.78**	**80**	*e*Pn	**Pn**	**03 29 37.1**	**-1.1**
SANT	**Santorini**	**1.78**	**80**	*e*Pb	**Pn**	**03 29 38.6**	**+0.4**
SANT				*e*Sn	**Sn**	**03 29 58.2**	**-1.6**
THR1	**Thera Island**	**1.78**	**80**	*e*Pb	**Pn**	**03 29 38.5**	**+0.3**
KVR	**Kavouri**	**1.78**	**12**	*e*P	**Pn**	**03 29 37.5**	**-0.8**
MGER	**Gerania Oros**	**1.90**	**359**	*e*P	**Pn**	**03 29 40.0**	**+0.1**
ATH	**Athens Observa**	**1.92**	**10**	*e*P	**Pn**	**03 29 39.8**	**-0.3**
LAST	**Lasithi**	**2.01**	**117**	*e*Pn	**Pn**	**03 29 42.0**	**+0.7**
LAST				*e*Sn	**Sn**	**03 30 06.5**	**+1.1**
PTL	**Penteli**	**2.02**	**13**	*e*P	**Pn**	**03 29 41.0**	**-0.4**
APE	**Apeiranthos**	**2.06**	**61**	*e*Pb	**Pn**	**03 29 41.9**	**0.0**
NPS	**Neapolis**	**2.06**	**113**	*e*P	**Pn**	**03 29 42.7**	**+0.7**
XRY	**Khrisi**	**2.30**	**121**	*e*P	**Pn**	**03 29 47.0**	**+1.7**
RLS	**Riolos of Patr**	**2.45**	**324**	*e*P	**Pn**	**03 29 48.5**	**+1.2**
LKR	**Lokris**	**2.57**	**355**	*e*P	**Pn**	**03 29 49.0**	**0.0**
VLS	**Valsamata**	**3.00**	**315**	*e*P	**Pn**	**03 29 55.5**	**+0.6**
AGG	**Agios Georgios**	**3.03**	**346**	*e*Pn	**Pn**	**03 29 56.4**	**+1.1**
AGG				*e*Sn	**Sn**	**03 30 30.3**	**-0.1**
AGG	**Agios Georgios**	**3.03**	**346**	*e*Pn	**Pn**	**03 29 56.3**	**+1.1**
AGG				*e*Sn	**Sn**	**03 30 30.3**	**-0.1**
AOS	**Alonnisos**	**3.12**	**8**	*e*Pn	**Pn**	**03 29 56.1**	**-0.3**
KARP	**Karpathos**	**3.19**	**98**	*e*P	**Pn**	**03 29 58.8**	**+1.4**
XOR	**Xorichti**	**3.28**	**359**	*e*Pn	**Pn**	**03 29 59.1**	**+0.5**
LKD	**Levkas**	**3.36**	**322**	*e*Pn	**Pn**	**03 30 00.4**	**+0.7**
PAIG	**Paliouri**	**3.85**	**4**	*e*Pn	**Pn**	**03 30 06.1**	**-0.3**
IGT	**Igoumenitsa**	**4.17**	**327**	*e*Pn	**Pn**	**03 30 11.3**	**+0.6**
OUR	**Ouranopolis**	**4.28**	**7**	*e*Pn	**Pn**	**03 30 12.4**	**+0.1**
SRN	**Sarande**	**4.60**	**327**	*e*Pn	**Pn**	**03 30 15.8**	**-0.8**
SLUM		**4.85**	**160**	P	**Pn**	**03 30 18.7**	**-1.4**
SLUM				S	**Sn**	**03 31 08.0**	**-6.9**
SG1	**Sgolgore (BA)**	**7.03**	**314**	*e*Pn	**Pn**	**03 30 48.3**	**-1.6**
SWA2		**7.06**	**164**	⇓P	**Pn**	**03 30 49.3**	**-1.0**
SWA1		**7.10**	**163**	⇓P	**Pn**	**03 30 50.0**	**-0.9**
SWA1				S	**Sn**	**03 32 02.6**	**-7.5**
KOT	**Kottamia**	**9.44**	**128**	⇑P	**Pn**	**03 31 20.9**	**-1.8**
GLL	**Jalalah**	**9.60**	**130**	⇓P	**Pn**	**03 31 23.1**	**-1.9**
HFRF	**Wahat Farafira**	**9.88**	**153**	⇓P	**Pn**	**03 31 27.9**	**-0.9**
AMAG	**Maghara**	**9.91**	**120**	⇑P	**Pn**	**03 31 26.9**	**-2.3**

*ISCJB **27** 03:43:51.4±5.1,56.1S±02×277W±03,h96km±51km, mb4.0/7, Error ellipse: s-maj=38.2km s-min=19.6km az=102.2*
*NEIC **27** 03:43:52.5±0.8,5598S×2750W,h100

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.82**	**18**⇑	*i*P	Pg	04 07 29.4	+1.2
COPN				*e*S	Sg	04 07 41.9	+3.0
TICN	**Ticuantepe**	**0.88**	**44**⇓	*e*P	Pg	04 07 30.6	+1.3
XAVN	**Gruta Xavier**	**0.91**	**35**⇓	*e*P	Pg	04 07 30.7	+0.8
APON	**Apoyo**	**0.93**	**56**	*e*P	Pg	04 07 31.0	+0.7
APON				*e*S	Sg	04 07 43.3	+1.0
TISN	**Laguna Tiscapa**	**0.94**	**38**	*e*P	Pg	04 07 31.1	+0.6
MGAN	**Managua**	**0.96**	**38**	*e*P	Pg	04 07 31.3	+0.5
MGAN				*e*S	Sg	04 07 45.9	+2.7
MGAN				⇑*i*		04 07 47.4	
	comp=E,3μm,0.6s						
APYN	**Apoyeque**	**0.97**	**31**⇑	*e*P	Pg	04 07 31.5	+0.5
APYN				*e*S	Sg	04 07 48.8	+5.2
SSNN	**San Juan del S**	**0.99**	**96**	*e*P	Pg	04 07 32.0	+0.6
SSNN				*e*S	Sg	04 07 48.1	+3.8
LEON	**Leon**	**1.02**	**358**⇓	*e*P	Pg	04 07 31.8	-0.1
MIRN	**Miramar**	**1.05**	**8**⇓	*e*P	Pg	04 07 32.4	-0.2
MIRN				*e*S	Sg	04 07 48.3	+2.2
MOMJ	**Momotombo**	**1.06**	**17**⇑	*e*P	Pg	04 07 32.8	+0.1
MOMJ				*e*S	Sg	04 07 46.9	+0.6
CNGN	**Cerro Negro**	**1.11**	**8**	*e*P	Pg	04 07 33.5	-0.2
CNGN				*e*S	Sg	04 07 51.9	+3.8
TEL3	**Telica 3**	**1.17**	**1**⇑	*e*P	Pg	04 07 34.2	-0.7
TELN	**Telica**	**1.20**	**1**	*e*P	Pg	04 07 34.5	-1.0
CONN	**Concepcion**	**1.22**	**82**⇓	*e*P	Pg	04 07 34.6	-1.1
CONN				*e*S	Sg	04 07 51.9	+0.3
MADN	**Villa Maderas**	**1.30**	**89**⇑	*e*P	Pg	04 07 36.1	-1.1
CRIN	**San Cristobal**	**1.31**	**352**⇑	*e*P	Pg	04 07 36.1	-1.5
VCR	**Vista de Mar**	**1.74**	**136**	*e*P	Pn	04 07 45.2	+1.4
VCR				*e*S	Sn	04 08 08.4	+1.8
PRS1	**Puriscal**	**2.87**	**119**⇑	*e*P	Pn	04 08 00.7	+1.4
LAJ	**Bijagual**	**3.09**	**119**	*e*P	Pn	04 07 58.8	-3.5
LCR2	**La Lucha 2**	**3.25**	**120**	*e*P	Pn	04 08 05.9	+1.4

KRSC ***27*** *04:09:01.3±0.4, 6077N×16589E, h7km±3km, ML4.7*
ISCJB ***27*** *04:09:02.0±0.1, 6083N±002×16561E±004, h12km, mb4.6/94, MS4.3/35, Error ellipse: s-maj=3.4km s-min=2.4km az=99.3*
MOS ***27*** *04:09:02.1±1.0, 6086N×16558E, h14km, mb4.9/42, MS4.4/16, Error ellipse: s-maj=10.7km s-min=6.0km az=77.1*
IDC ***27*** *04:09:02.0±0.6, 6087N×16562E, h0km, mb4.3/25, mb1 4.4/25, mb1mx4.4/28, mbtmp4.3/25, MS4.1/17, Ms1 4.1/17, ms1mx3.8/32, Error ellipse: s-maj=17.6km s-min=12.4km az=158.0*
NEIC ***27*** *04:09:03.5±0.2, 6085N×16560E, h10km, mb4.8/59, Error ellipse: s-maj=6.6km s-min=3.2km az=172.0*
BJI ***27*** *04:09:04.6, 6106N×16464E, h10km, mB4.8, mb4.7, Ms4.8, Msz4.6*
ISC 27 04:09:03.8±0.1, 6087N±002×16560E±004, h13km, h13km±1.1km:pP-P,n227,σ0°94/253, mb4.6/94, MS4.3/35, 4C-3D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILR	**Tilichiki**	**0.50**	**153**	*i*P	**Pg**	**04 09 09.3**	**-4.2**
TILR				*i*S	**Sg**	**04 09 15.3**	**-4.9**
KAMR	**Kamenskoye**	**1.61**	**10**	*i*P	**Pn**	**04 09 32.0**	**+0.1**
KAMR				*i*S	**Sn**	**04 09 54.1**	**+1.5**
KAMR				Smax			
	13μm,0.9s						
OSSR	**Ossora**	**2.07**	**219**	*e*P	**Pn**	**04 09 36.1**	**-2.1**
SMKR	**Semkarok**	**4.81**	**208**	*e*P	**Pn**	**04 10 15.8**	**-0.1**
SRKR	**Sorokina**	**4.82**	**211**	*e*P	**Pn**	**04 10 15.5**	**-0.5**
KBG	**Krutoberegovo**	**4.87**	**199**	*e*P	**Pn**	**04 10 16.8**	**+0.1**
BDR	**Baidarnaya**	**4.89**	**210**	*e*P	**Pn**	**04 10 16.5**	**-0.4**
KBTR	**Krutoberegovo**	**4.90**	**199**	P	**Pn**	**04 10 15.6**	**-1.5**
KBTR				S	**Sn**	**04 11 11.1**	**-2.6**
KBTR	**Krutoberegovo**	**4.90**	**199**	*e*P	**Pn**	**04 10 16.7**	**-0.4**
KBTR				*e*S	**Sn**	**04 11 12.0**	**-1.7**
KLY	**Klyuchi**	**5.25**	**212**	P	**Pn**	**04 10 20.9**	**-1.1**
KLY	**Klyuchi**	**5.25**	**212**	*e*P	**Pn**	**04 10 20.6**	**-1.4**
KRSR	**Krestovskiy**	**5.36**	**212**	*e*P	**Pn**	**04 10 22.6**	**-0.9**
CIRR	**Tsirk**	**5.41**	**210**	*e*P	**Pn**	**04 10 24.4**	**+0.3**
ZLN	**Zelenaya**	**5.48**	**209**	*e*P	**Pn**	**04 10 25.7**	**+0.6**
KPT	**Kopyto**	**5.67**	**212**	*e*P	**Pn**	**04 10 28.3**	**+0.6**
KOZ	**Kozyrevsk**	**5.69**	**214**	*e*P	**Pn**	**04 10 28.7**	**+0.8**
BKI	**Bering**	**5.69**	**178**	*e*P	**Pn**	**04 10 27.5**	**-0.5**
KMNR	**Kamenistaya**	**5.86**	**211**	*e*P	**Pn**	**04 10 31.1**	**+0.8**
ESO	**Esso**	**6.14**	**219**	*e*P	**Pn**	**04 10 34.1**	**-0.1**
TUMR	**Tumrok**	**6.31**	**210**	*e*P	**Pn**	**04 10 37.4**	**+1.0**
BILL	**Bilibino**	**7.20**	**2**⇓	*e*PN	**Pn**	**04 10 49.6**	**+0.9**
BILL				pmax	pmax		
	comp=Z,12nm,0.6s						
BILL	**Bilibino**	**7.20**	**2**	*e*Pn	**Pn**	**04 10 49.1**	**+0.4**
	comp=Z,28nm,0.4s						
BILL				*e*Sg	**Sg**	**04 12 55.1**	**+0.2**
BILL	**Bilibino**	**7.20**	**2**	*e*P	**Pn**	**04 10 51.0**	**+2.3**
BILL				*e*S	**Sn**	**04 12 11.2**	**+0.8**
BILL				Smax			
	comp=Z,640nm,1.3s						
MA2	**Magadan**	**7.50**	**267**	*de*PN	**Pn**	**04 10 52.4**	**-0.4**
MA2				pmax	pmax		
	comp=Z,60nm,1.1s						
MA2				MLR	MLR		
	comp=Z,27μm,8.0s						
MA2	**Magadan**	**7.50**	**267**	*e*Pn	**Pn**	**04 10 52.0**	**-0.8**
	comp=Z,54nm,0.6s						
MA2				*e*Sn	**Sn**	**04 12 18.5**	**+0.7**
MA2	**Magadan**	**7.50**	**267**	*e*P	**Pn**	**04 10 54.5**	**+1.7**
MA2				Smax			
	comp=Z,150nm,1.3s						
GNL	**Ganaly**	**8.30**	**213**	*e*P	**Pn**	**04 11 04.7**	**+0.9**
SPN	**Mys Shipunski**	**8.37**	**204**	P	**Pn**	**04 11 04.0**	**-0.7**
SPN				S	**Sn**	**04 12 34.3**	**-4.7**
SPN	**Mys Shipunski**	**8.37**	**204**	*e*P	**Pn**	**04 11 05.5**	**+0.8**
NLC	**Nalytchevo**	**8.44**	**207**	*e*P	**Pn**	**04 11 06.5**	**+0.8**
AVH	**Avacha**	**8.49**	**209**	*e*P	**Pn**	**04 11 07.7**	**+1.3**
PET	**Petropavlovsk**	**8.73**	**209**	P	**Pn**	**04 11 11.0**	**+1.3**
PET	**Petropavlovsk**	**8.73**	**209**	*e*PN	**Pn**	**04 11 10.4**	**+0.7**
PET				pmax	pmax		
	comp=Z,100nm,11.0s						
PET				pmax	pmax		
	comp=Z,87nm,1.0s						
PET				MLR	MLR		
	comp=Z,4μm,18.0s						
PET	**Petropavlovsk**	**8.73**	**209**	*e*Pn	**Pn**	**04 11 10.5**	**+0.8**
	comp=Z,66nm,0.9s						
APC	**Apacha**	**9.20**	**214**	*e*P	**Pn**	**04 11 17.3**	**+1.1**
RUS	**Russkaya**	**9.31**	**208**	P	**Pn**	**04 11 18.5**	**+0.8**
RUS	**Russkaya**	**9.31**	**208**	*e*P	**Pn**	**04 11 19.1**	**+1.4**
YAK	**Yakutsk**	**17.07**	**290**	*e*P	**Pn**	**04 13 04.4**	**+2.3**
YAK				pmax	pmax		
	comp=Z,30nm,1.0s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,23nm,1.7s						
YAK				MLR	MLR		
	comp=Z,1μm,13.0s						
YAK				MLR	MLR		
	comp=N,609nm,10.0s						
YAK				MLR	MLR		
	comp=E,783nm,12.0s						
YAK	**Yakutsk**	**17.07**	**290**	*e*P	**Pn**	**04 13 02.7**	**+0.6**
	comp=E,71nm,0.8s						
TIXI	**Tiksi**	**17.93**	**322**	*e*P	**Pn**	**04 13 11.0**	**-1.8**
TIXI				*e*S	**Sn**	**04 16 28.8**	**-3.8**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TIXI				MLR	MLR		
	comp=Z,716nm,13.0s						
TTA	**Tatalina**	**18.02**	**67**	*e*P	**Pn**	**04 13 15.7**	**+1.9**
SVW2	**Sparrevohn**	**18.65**	**72**	*e*P	**Pn**	**04 13 22.1**	**+0.5**
CHGN	**Chignik**	**19.13**	**88**	*e*P	**Pn**	**04 13 27.1**	**-0.3**
YSS	**Yuzh-Sakhalins**	**19.23**	**234**	*e*P	**Pn**	**04 13 29.5**	**+1.0**
YSS				*e*S	**Sn**	**04 17 07.0**	**+3.1**
YSS				MLR	MLR		
	comp=E,900nm,14.0s						
YSS				MLR	MLR		
	comp=Z,500nm,14.0s						
CLNS	**Chul'man**	**21.18**	**277**	*e*P	**P**	**04 13 50.6**	**+1.8**
CLNS				*e**PP		04 13 54.6	
CLNS				*e*PPP		04 14 12.2	
CLNS				*e*S	**S**	**04 17 33.2**	**-11**
CLNS				*e*		04 18 00.3	
CLNS				pmax	pmax		
	comp=E,19nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.5						
CLNS				pmax	pmax		
	comp=N,9.0nm,0.9s						
CLNS				smax			
	comp=N,12nm,0.9s						
CLNS				smax			
	comp=E,14nm,0.9s						
CLNS				smax			
	comp=Z,4.0nm,0.7s						
CLNS				MLR	MLR		
	comp=E,2μm,11.0s,MS4.7						
CLNS				MLR	MLR		
	comp=Z,2μm,11.0s,MS4.8						
CLNS				MLR	MLR		
	comp=N,200nm,12.0s,MS4.7						
COLA	**College**	**21.20**	**59**	*e*P	**P**	**04 13 49.6**	**+0.6**
COLA				pmax	pmax		
	comp=Z,44nm,1.3s,mb4.6						
COLA	**College**	**21.20**	**59**	*e*P	**P**	**04 13 49.6**	**+0.5**
	comp=Z,44nm,1.3s,mb4.6						
KDAK	**Kodiak Island**	**21.29**	**80**	P	**P**	**04 13 50.0**	**0.0**
	comp=Z,5.4nm,0.7s,mb4.0,baz=299,slow=7.5,SNR=5.6						
KDAK				LR	LR	04 22 46.2	
	comp=Z,644nm,18.1s,MS4.0,baz=183,slow=39						
KDAK	**Kodiak Island**	**21.29**	**80**	*e*P	**P**	**04 13 50.9**	**+0.9**
	comp=Z,35nm,1.2s,mb4.6						
SLKM	**Skilak Lake**	**21.33**	**71**	*e*P	**P**	**04 13 50.1**	**-0.3**
HABR	**Khabarovsk**	**21.35**	**248**	*e*P	**P**	**04 13 51.7**	**+1.0**
HABR				*e*S	**S**	**04 17 50.0**	**+2.6**
HABR				pmax	pmax		
	comp=Z,34nm,1.0s,mb4.6						
HABR				MLR	MLR		
	comp=Z,625nm,15.0s,MS4.1						
PMR	**Palmer**	**21.47**	**68**	*e*P	**P**	**04 13 53.4**	**+1.5**
PMR				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.2						
PMR	**Palmer**	**21.47**	**68**	*e*P	**P**	**04 13 53.4**	**+1.5**
	comp=Z,14nm,1.0s,mb4.3						
ILAR	**Eielson Array**	**21.62**	**59**	P	**P**	**04 13 53.7**	**+0.1**
	comp=Z,21nm,0.9s,mb4.6,baz=275,slow=8.8,SNR=98						
ASAJ	**Asahikawa**	**21.66**	**230**	P	**P**	**04 13 55.4**	**+1.4**
	comp=Z,3.6nm,0.5s,mb4.1,baz=324,slow=8.7,SNR=3.5						
ASAJ	**Asahikawa**	**21.66**	**230**	P	**P**	**04 13 55.4**	**+1.4**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KLR	**Kul'dur**	**22.34**	**254**	*e*P	**P**	**04 13 58.6**	**-2.6**
KLR				*e*S	**S**	**04 18 06.0**	**-0.7**
KLR				MLR	MLR		
	comp=N,1μm,13.0s,MS4.5						
KLR				MLR	MLR		
	comp=E,900nm,13.0s,MS4.5						
KLR				MLR	MLR		
	comp=Z,2μm,13.0s,MS4.7						
EYAK	**Cordova Ski Ar**	**23.37**	**69**	*e*P	**P**	**04 14 11.6**	**-0.6**
MENT	**Mentasta**	**23.45**	**63**	*e*P	**P**	**04 14 12.4**	**-0.6**
MID	**Middleton Isla**	**23.55**	**72**	*e*P	**P**	**04 14 11.9**	**-2.1**
DAWY	**Dawson**	**24.95**	**59**	*e*P	**P**	**04 14 25.6**	**-1.2**
BOD	**Bodaibo**	**25.92**	**286**	*e*P	**P**	**04 14 34.8**	**-0.8**
BOD				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.6						
INK	**Inuvik**	**26.08**	**48**	P	**P**	**04 14 36.9**	**-0.2**
	comp=Z,27nm,0.9s,mb4.8,baz=283,slow=11,SNR=15						
INK				LR	LR	04 26 00.2	
	comp=Z,484nm,19.1s,MS4.1,baz=274,slow=39						
INK	**Inuvik**	**26.08**	**48**	P	**P**	**04 14 36.9**	**-0.2**
INK				pmax	pmax		
	comp=Z,27nm,0.9s						
INK				MLR	MLR		
	comp=Z,484nm,19.1s						
INK	**Inuvik**	**26.08**	**48**	*e*P	**P**	**04 14 37.1**	**0.0**
	comp=Z,38nm,1.0s,mb4.9						
MDJ	**Mudanjiang**	**26.73**	**249**	P	**P**	**04 14 41.5**	**-1.4**
MDJ				AP	pP	04 14 44.5	-2.4
MDJ				PCP	PcP	04 18 05.8	-0.3
MDJ				S	**S**	**04 19 17.5**	**-0.7**
MDJ				XS	sS	04 19 22.3	-2.4
MDJ				SCP	ScP	04 21 45.8	0.0
MDJ				PCS	PcS	04 21 47.0	-0.3
MDJ				SCS	ScS	04 25 36.0	-0.4
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,13nm,4.2s						
MDJ				LR	LR		
	comp=N,1μm,16.3s,MS4.7						
MDJ				LR	LR		
	comp=E,928nm,15.1s,MS4.7						
MDJ				LR	LR		
	comp=Z,585nm,15.1s,MS4.3						
SKAG	**Skagway**	**28.57**	**66**	*e*P	**P**	**04 15 00.2**	**+0.9**
	comp=Z,12nm,0.8s,mb4.7						
SKAG				LR	LR		
	comp=Z,600nm,19.0s,MS4.2						
CN2	**Changchun**	**29.27**	**253**	*e*P	**P**	**04 15 05.3**	**-0.3**
CN2				*e*S	**S**	**04 19 56.0**	**-2.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
CN2				LR	LR		
	comp=N,1μm,14.0s,MS4.7						
CN2				LR	LR		
	comp=E,670nm,14.0s,MS4.7						
CN2				LR	LR		
	comp=Z,910nm,17.0s,MS4.5						
CIT	**Chita**	**29.35**	**276**	*e*P	**P**	**04 14 56.4**	**-10**
CIT				pmax	pmax		
	comp=Z,18nm,1.9s,mb4.5						
MAT	**Matsushiro**	**29.91**	**228**	P	**P**	**04 15 12.1**	**+0.9**
MAT				S	**S**	**04 20 08.3**	**+0.1**
MJAR	**Matsushiro Arr**	**29.91**	**228**	P	**P**	**04 15 11.6**	**+0.4**
	comp=Z,3.5nm,0.9s,mb4.1,baz=14,slow=7.9,SNR=4.9						
MJAR				LR	LR	04 28 23.3	
	comp=Z,288nm,18.1s,MS4.0,baz=50,slow=39						
ULN	**Ulaanbaatar**	**35.25**	**275**	*e*P	**P**	**04 15 58.1**	**+0.1**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
ULN	**Ulaanbaatar**	**35.25**	**275**	*e*P	**P**	**04 15 58.1**	**+0.2**
	comp=Z,10.0nm,1.2s,mb4.6						
ZAK	**Zakamensk**	**35.37**	**282**	*e*P	**P**	**04 15 59.2**	**+0.2**
ZAK				*e*		04 17 21.7	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb4.2						
SONM	**Songino Array**	**35.59**	**276**	P	**P**	**04 16 01.8**	**+0.9**
	comp=Z,3.4nm,0.9s,mb4.3,baz=53,slow=6.0,SNR=21						
SONM				PcP	PcP	04 18 29.2	-0.4
	comp=Z,0.9nm,0.7s,baz=38,slow=1.6,SNR=4.8						
SONM				LR	LR	04 31 25.7	
	comp=Z,652nm,21.0s,MS4.4,baz=326,slow=38						
SONM	**Songino Array**	**35.59**	**276**	P	**P**	**04 16 01.8**	**+0.9**
SONM						04 18 29.2	
YKW3	**Yellowknife Ar**	**35.60**	**52**	*e*P	**P**	**04 16 00.3**	**-0.6**
YKA	**Yellowknife Ar**	**35.64**	**52**	P	**P**	**04 16 00.8**	**-0.5**
	comp=Z,5.8nm,0.9s,mb4.5,baz=303,slow=8.3,SNR=45						
YKA				PcP	PcP	04 18 27.9	-1.9
	comp=Z,0.9nm,1.0s,baz=346,slow=4.1,SNR=3.3						
YKA				LR	LR	04 33 03.9	
	comp=Z,186nm,18.9s,MS3.9,baz=290,slow=40						
YKA	**Yellowknife Ar**	**35.64**	**52**	P	**P**	**04 16 00.8**	**-0.5**
YKA						04 18 27.9	
BJI	**Beijing**	**36.57**	**258**	*e*P	**P**	**04 16 09.5**	**+0.2**
BJI				S	**S**	**04 21 48.5**	**-3.0**
BJI				AMB	AMB		
	comp=Z,16nm,0.7s,mb5.0						
BJI				LR	LR		
	comp=N,637nm,12.4s						
BJI				LR	LR		
	comp=E,338nm,9.8s						
BJI				LR	LR		
	comp=Z,226nm,15.3s,MS4.1						
BJI	**Beijing**	**36.57**	**258**	*e*P	**P**	**04 16 09.6**	**+0.3**
BJI				S	**S**	**04 21 48.6**	**-2.9**
BJI				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.0						
BJI				MLR	MLR		
	comp=Z,230nm,15.3s,MS4.1						
BJI	**Beijing**	**36.57**	**258**	*e*P	**P**	**04 16 09.6**	**+0.3**
	comp=Z,16nm,0.7s,mb5.0						
BJI				S	**S**	**04 21 48.6**	**-2.9**
BJI				SS	SS	04 24 25.0	-6.3
BJI				LR	LR		
	comp=Z,230nm,15.3s,MS4.1						
CBIJ	**Chichi jima**	**37.31**	**216**	LR	LR	04 29 08.3	
	comp=Z,124nm,21.9s,MS3.7,baz=122,slow=32						
HHC	**Hu-ho-hao-te**	**38.17**	**264**	*e*P	**P**	**04 16 23.3**	**+0.5**
HHC				AP	pP	04 16 28.0	+1.2
HHC				XP	sP	04 16 30.3	+1.9
HHC				PP	PP	04 17 53.5	+3.4
HHC				PCP	PcP	04 18 39.5	+2.1
HHC				S	**S**	**04 22 14.8**	**-1.0**
HHC				XS	sS	04 22 21.8	-0.6
HHC				SCP	ScP	04 22 23.8	-1.1
HHC				PCS	PcS	04 22 28.0	+1.6
HHC				SCS	ScS	04 26 33.3	-1.1
HHC				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.7						
HHC				LR	LR		
	comp=N,652nm,14.7s,MS4.8						
HHC				LR	LR		
	comp=E,770nm,12.5s,MS4.8						
HHC				LR	LR		
	comp=Z,805nm,11.9s,MS4.8						
BTO	**Baotou**	**39.11**	**265**	*e*P	**P**	**04 16 30.0**	**-0.7**
NVS	**Novosibirsk**	**41.50**	**300**	*i*P	**P**	**04 16 49.0**	**-1.5**
NVS				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.5						
NVS				pmax	pmax		
	comp=N,7.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.3s						
SSE	**Sheshan**	**41.58**	**245**	P	**P**	**04 16 50.5**	**-0.7**
SSE				AP	pP	04 16 53.5	-1.8
SSE				S	**S**	**04 23 06.3**	**-0.7**
SSE				XS	sS	04 23 11.5	-2.1
SSE				AMB	AMB		
	comp=Z,42nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,147nm,3.8s						
SSE				LR	LR		
	comp=N,173nm,20.5s,MS4.1						
SSE				LR	LR		
	comp=E,197nm,20.4s,MS4.1						
SSE				LR	LR		
	comp=Z,225nm,16.7s,MS4.1						
SSE	**Sheshan**	**41.58**	**245**	P	**P**	**04 16 50.4**	**-0.8**
	comp=Z,42nm,0.7s,mb5.2						
SSE				pP	pP	04 16 53.5	-1.8
SSE				sP	sP	04 16 54.7	-2.2
SSE				S	**S**	**04 23 06.2**	**-0.8**
SSE				sS	sS	04 23 11.4	-2.2
SSE				SS	SS	04 26 12.1	+0.2
SSE				LR	LR		
	comp=Z,230nm,16.7s,MS4.1						
NJ2	**Nanjing**	**41.82**	**248**	*e*P	**P**	**04 16 52.8**	**-0.4**
NJ2				AP	pP	04 16 56.0	-1.2
NJ2				XP	sP	04 16 59.8	+1.0
NJ2				PP	PP	04 18 34.0	+4.1
NJ2				S	**S**	**04 23 10.0**	**-0.4**
NJ2				XS	sS	04 23 20.0	+2.9
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,150nm,10.4s						
NJ2				LR	LR		
	comp=N,3μm,19.4s						
NJ2				LR	LR		
	comp=E,3μm,25.0s						
NJ2				LR	LR		
	comp=Z,600nm,18.7s,MS4.5						
EDM	**Edmonton**	**42.04**	**62**	*e*P	**P**	**04 16 55.2**	**+0.2**
JOW	**Kunigami**	**42.34**	**234**	LR	LR	04 37 26.5	
	comp=Z,179nm,19.1s,MS4.0,baz=266,slow=40						
NEW	**Newport**	**43.87**	**70**	*e*P	**P**	**04 17 09.6**	**-0.2**
NEW				pmax	pmax		
	comp=Z,9.0nm,1.3s						
NEW	**Newport**	**43.87**	**70**	*e*P	**P**	**04 17 09.6**	**-0.3**
	comp=Z,8.8nm,1.3s,mb4.3						
WALA	**Waterton Lakes**	**44.76**	**67**	*e*P	**P**	**04 17 17.0**	**+0.1**
	comp=Z,23nm,1.2s,mb4.9						
GTA	**Gaotai**	**45.02**	**273**	*e*P	**P**	**04 17 19.0**	**0.0**
GTA				AP	pP	04 17 23.3	+0.3
GTA				XP	sP	04 17 26.5	+1.9
GTA				PCP	PcP	04 19 00.3	+0.4
GTA				PP	PP	04 19 05.3	+1.1
GTA				PPP		04 19 45.5	
GTA				SCP	ScP	04 22 51.8	-0.2
GTA				S	**S**	**04 23 57.0**	**-0.3**
GTA				XS	sS	04 24 04.0	+0.1
GTA				SCS	ScS	04 27 13.0	-3.0
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.3						
GTA				AMB	AMB		
	comp=Z,86nm,4.6s						
GTA				LR	LR		
	comp=N,436nm,17.5s,MS4.6						
GTA				LR	LR		
	comp=E,445nm,18.2s,MS4.6						
GTA				LR	LR		
	comp=Z,708nm,12.9s						
BSMT	**Bassoo Peak**	**45.25**	**69**	*e*P	**P**	**04 17 21.1**	**+0.4**
LZH	**Lanzhou**	**45.66**	**266**	*e*P	**P**	**04 17 25.8**	**+1.8**
LZH				AP	pP	04 17 29.3	+1.2
LZH				PP	PP	04 19 12.8	+1.9
LZH				*e*S	**S**	**04 24 06.8**	**+0.3**
LZH				XS	sS	04 24 13.0	-0.2
LZH				*e*SS	SS	04 27 19.8	-11
LZH				AMB	AMB		
	comp=Z,23nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,86nm,6.3s						
LZH				LR	LR		
	comp=E,812nm,15.6s						
LZH				LR	LR		
	comp=Z,1μm,18.3s,MS4.9						
LZH	**Lanzhou**	**45.66**	**266**	*e*P	**P**	**04 17 25.7**	**+1.7**
LZH				*PP	pP	04 17 29.2	+1.1
LZH				*SP	sP	04 17 30.5	+0.8
LZH						04 19 12.8	
LZH				*eS	**S**	**04 24 06.7**	**+0.2**
LZH				*SS	sS	04 24 12.9	-0.3
LZH				*eSS	SS	04 27 19.8	-11
LZH				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.0						
LZH				MLR	MLR		
	comp=Z,1μm,18.3s,MS4.9						
LZH	**Lanzhou**	**45.66**	**266**	*e*P	**P**	**04 17 25.7**	**+1.7**
	comp=Z,23nm,1.3s,mb5.0						
LZH				pP	pP	04 17 29.2	+1.1
LZH				sP	sP	04 17 30.5	+0.8
LZH				PP	PP	04 19 12.8	+1.9
LZH				*eS	**S**	**04 24 06.7**	**+0.2**
LZH				sS	sS	04 24 12.9	-0.3
LZH				*eSS	SS	04 27 19.8	-11
LZH				LR	LR		
	comp=Z,1μm,18.3s,MS4.9						
FCC	**Fort Churchill**	**45.68**	**46**	*e*P	**P**	**04 17 23.2**	**-1.0**
FCC				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
FCC	**Fort Churchill**	**45.68**	**46**	*e*P	**P**	**04 17 23.1**	**-1.1**
	comp=Z,30nm,1.0s,mb5.2						
FFC	**Flin Flon**	**45.70**	**54**	*e*P	**P**	**04 17 23.7**	**-0.7**
FFC				pmax	pmax		
	comp=Z,27nm,1.8s,mb4.9						
FFC	**Flin Flon**

WMQ					XP	sP	04 17 46.0	+2.1	
WMQ					PCP	PcP	04 19 10.0	+1.5	
WMQ					PP	PP	04 19 29.5	-0.1	
WMQ					PPP		04 20 17.5		
WMQ					SCP	ScP	04 23 02.0	-0.3	
WMQ					S	**S**	**04 24 31.8**	**-0.7**	
WMQ					XS	sS	04 24 39.3	+0.1	
WMQ					AMB	AMB			
	comp=Z,8.0nm,0.5s,mb4.9								
WMQ					AMB	AMB			
	comp=Z,15nm,4.2s								
WMQ					LR	LR			
	comp=N,222nm,17.3s,MS4.2								
WMQ					LR	LR			
	comp=E,104nm,20.7s,MS4.2								
WMQ					LR	LR			
	comp=Z,417nm,19.6s,MS4.4								
CHKZ	**Chkalovo**	**47.49**	**306**	*eP*	**P**		**04 17 37.7**	**-0.7**	
CHKZ					pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.6								
CHKZ	**Chkalovo**	**47.49**	**306**	*eP*	**P**		**04 17 37.7**	**-0.8**	
	comp=Z,6.6nm,0.8s,mb4.6								
WVOR	**Wild Horse Val**	**47.52**	**77**	*eP*	**P**		**04 17 38.3**	**-0.3**	
WVOR					pmax	pmax			
	comp=Z,12nm,1.2s,mb4.8								
WVOR	**Wild Horse Val**	**47.52**	**77**	*eP*	**P**		**04 17 38.3**	**-0.3**	
	comp=Z,12nm,1.2s,mb4.8								
MKAR	**Makanchi Array**	**47.71**	**293**	P	**P**		**04 17 39.2**	**-0.9**	
	comp=Z,3.0nm,0.6s,mb4.5,baz=46,slow=7.2,SNR=32								
MKAR					PP	PP	04 19 28.4	-3.4	
	comp=Z,2.0nm,1.0s,baz=39,slow=7.2,SNR=2.5								
BRVK	**Borovoye**	**48.09**	**306**	*eP*	**P**		**04 17 43.2**	**+0.1**	
BRVK					pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.6								
BRVK	**Borovoye**	**48.09**	**306**	*eP*	**P**		**04 17 43.2**	**+0.1**	
	comp=Z,3.7nm,0.6s,mb4.6								
DLMT	**Dillon**	**48.11**	**70**	*eP*	**P**		**04 17 43.4**	**+0.2**	
	comp=Z,7.2nm,0.9s,mb4.7								
MCMT	**McKenzie Canyo**	**48.40**	**70**	*eP*	**P**		**04 17 45.0**	**-0.4**	
HLID	**Hailey**	**48.64**	**73**	*eP*	**P**		**04 17 47.1**	**-0.2**	
	comp=Z,3.4nm,0.8s,mb4.4								
ZRNK	**Zerenda**	**48.67**	**307**	*eP*	**P**		**04 17 47.1**	**-0.5**	
ZRNK					pmax	pmax			
	comp=Z,9.0nm,1.1s,mb4.7								
ZRNK	**Zerenda**	**48.67**	**307**	*eP*	**P**		**04 17 47.1**	**-0.5**	
	comp=Z,9.4nm,1.1s,mb4.7								
SVE	**Sverdlovsk**	**48.77**	**315**	*eP*	**P**		**04 17 49.0**	**+0.7**	
SVE					MLR	MLR			
	comp=N,500nm,14.0s,MS4.8								
SVE					MLR	MLR			
	comp=E,500nm,14.0s,MS4.8								
SVE					MLR	MLR			
	comp=Z,700nm,14.0s,MS4.8								
QLMT	**Earthquake Lak**	**49.05**	**69**	*eP*	**P**		**04 17 50.9**	**+0.4**	
GCMT	**Greyclif**	**49.12**	**67**	*eP*	**P**		**04 17 51.6**	**+0.7**	
YFT	**Old Faithful**	**49.61**	**69**	*eP*	**P**		**04 17 56.7**	**+1.9**	
LKWY	**Lake**	**49.72**	**69**	*eP*	**P**		**04 17 57.6**	**+2.0**	
LKWY					pmax	pmax			
	comp=Z,13nm,0.9s,mb5.0								
LKWY	**Lake**	**49.72**	**69**	*eP*	**P**		**04 17 57.5**	**+1.9**	
	comp=Z,13nm,0.9s,mb5.0								
ARU	**Arti**	**49.80**	**316**	*i*P	**P**		**04 17 56.3**	**+0.1**	
ARU				*e*			04 19 48.0		
ARU				ePPP			04 20 41.8		
ARU				eS	**S**		**04 25 05.1**	**-0.2**	
ARU					pmax	pmax			
	comp=Z,8.0nm,1.3s,mb4.6								
ARU					MLR	MLR			
	comp=Z,300nm,16.0s,MS4.4								
ARU					MLR	MLR			
	comp=N,200nm,18.0s,MS4.4								
ARU					MLR	MLR			
	comp=E,300nm,17.0s,MS4.4								
ARU	**Arti**	**49.80**	**316**	*eP*	**P**		**04 17 56.0**	**-0.2**	
	comp=E,7.7nm,0.9s,mb4.7								
FLWY	**Flagg Ranch**	**49.96**	**69**	*eP*	**P**		**04 17 58.4**	**+1.0**	
	comp=E,23nm,1.0s,mb5.2								
TPAW	**Teton Pass**	**50.30**	**70**	*eP*	**P**		**04 18 00.6**	**+0.6**	
	comp=E,9.2nm,0.9s,mb4.8								
LOHW	**Long Hollow**	**50.37**	**70**	*eP*	**P**		**04 18 01.2**	**+0.7**	
	comp=E,12nm,1.0s,mb4.9								
ELK	**Elko**	**50.44**	**75**	*eP*	**P**		**04 18 01.3**	**+0.3**	
ELK					pmax	pmax			
	comp=Z,5.0nm,1.0s								
ELK	**Elko**	**50.44**	**75**	*eP*	**P**		**04 18 01.3**	**+0.2**	
	comp=Z,5.1nm,1.0s,mb4.5								
NVAR	**Mina Array Bea**	**50.79**	**80**	P	**P**		**04 18 04.3**	**+0.7**	
	comp=Z,3.3nm,0.8s,mb4.3,baz=318,slow=6.6,SNR=17								
HWUT	**Hardware Ranch**	**51.49**	**72**	*eP*	**P**		**04 18 09.2**	**+0.3**	
	comp=Z,6.5nm,1.0s,mb4.5								
BW06	**Boulder Array**	**51.51**	**70**	*eP*	**P**		**04 18 08.9**	**-0.2**	
	comp=Z,11nm,1.0s,mb4.7								
PDAR	**Pinedale Array**	**51.51**	**70**	P	**P**		**04 18 09.2**	**+0.1**	
	comp=Z,9.4nm,0.9s,mb4.7,baz=326,slow=3.4,SNR=46								
PDAR					LR	LR	04 40 18.9		
	comp=Z,226nm,19.2s,MS4.2,baz=171,slow=36								
ULM	**Lac du Bonnet**	**51.53**	**54**	P	**P**		**04 18 08.8**	**-0.4**	
	comp=Z,2.2nm,0.5s,mb4.3,baz=308,slow=9.1,SNR=3.5								
ULM					LR	LR	04 42 37.9		
	comp=Z,178nm,18.6s,MS4.1,baz=322,slow=39								
ULM	**Lac du Bonnet**	**51.53**	**54**	P	**P**		**04 18 08.8**	**-0.4**	
ULM					LR	LR	04 42 37.9		
TPH	**Tonopah**	**51.59**	**79**	*eP*	**P**		**04 18 09.5**	**-0.2**	
TPH					pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.7								
TPH	**Tonopah**	**51.59**	**79**	*eP*	**P**		**04 18 09.5**	**-0.2**	
	comp=Z,8.9nm,0.9s,mb4.7								
KLMR	**Klimovskoe**	**51.73**	**330**	*eP*	**P**		**04 18 09.8**	**-0.9**	
KLMR					pmax	pmax			
	comp=Z,10.0nm,1.2s,mb4.6								
KLMR					MLR	MLR			
	comp=Z,400nm,18.0s,MS4.5								
DUG	**Dugway**	**52.01**	**74**	*eP*	**P**		**04 18 13.0**	**+0.2**	
DUG					pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.4								
DUG	**Dugway**	**52.01**	**74**	*eP*	**P**		**04 18 13.0**	**+0.2**	
	comp=Z,4.7nm,0.9s,mb4.4								
GYA	**Guiyang**	**52.21**	**256**	P	**P**		**04 18 20.5**	**+6.2**	
GYA					AMB	AMB			
	comp=Z,10.0nm,0.7s,mb4.8								
NLU	**North Lily Min**	**52.55**	**74**	*eP*	**P**		**04 18 16.5**	**-0.3**	
RSSD	**Black Hills**	**52.93**	**65**	*eP*	**P**		**04 18 19.9**	**+0.3**	
RSSD					pmax	pmax			
	comp=Z,11nm,0.9s,mb4.8								
RSSD	**Black Hills**	**52.93**	**65**	*eP*	**P**		**04 18 19.9**	**+0.3**	
	comp=Z,10nm,0.9s,mb4.8								
KAF	**Kangasniemi**	**53.47**	**338**	*ep*	**P**		**04 18 22.8**	**-0.8**	
	comp=Z,5.3nm,0.8s,mb4.5								
KAF	**Kangasniemi**	**53.47**	**338**	*eP*	**P**		**04 18 22.8**	**-0.8**	
KAF					pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.5								
TMUT	**Trail Mountain**	**53.48**	**73**	*eP*	**P**		**04 18 24.6**	**+0.9**	
SRU	**San Rafael**	**53.95**	**73**	*eP*	**P**		**04 18 27.6**	**+0.5**	
SRU					pmax	pmax			
	comp=Z,16nm,1.0s,mb4.9								
SRU	**San Rafael**	**53.95**	**73**	*eP*	**P**		**04 18 27.6**	**+0.5**	
	comp=Z,16nm,1.0s,mb4.9								
FINES	**FINESS Array B**	**54.12**	**337**	P	**P**		**04 18 27.8**	**-0.6**	
	comp=Z,0.5nm,0.8s,baz=256,slow=31,SNR=12								
FINES					LR	LR	04 43 35.5		
	comp=Z,118nm,18.3s,MS4.0,baz=15,slow=38								
FINES	**FINESS Array B**	**54.12**	**337**	P	**P**		**04 18 27.8**	**-0.7**	
FINES					LR	LR	04 43 35.5		
FRU	**Bishkek**	**54.23**	**295**	*eP*	**P**		**04 18 33.0**	**+3.8**	
FRU					MLR	MLR			
	comp=Z,500nm,18.0s,MS4.6								
AAK	**Ala-Archa**	**54.44**	**295**	*eP*	**P**		**04 18 29.5**	**-1.2**	
AAK					pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.5								
AAK	**Ala-Archa**	**54.44**	**295**	*eP*	**P**		**04 18 29.5**	**-1.3**	
	comp=Z,6.4nm,0.9s,mb4.5								
NEN	**Nelson**	**54.67**	**79**	*eP*	**P**		**04 18 32.6**	**+0.2**	
AKTK	**Aktyubinsk**	**54.83**	**312**	P	**P**		**04 18 31.7**	**-1.9**	
AKTO	**Aktyubinsk**	**54.83**	**312**	P	**P**		**04 18 31.7**	**-1.9**	
	comp=Z,1.7nm,0.8s,mb4.1,baz=39,slow=6.5,SNR=3.2								
ORR	**Orenburg**	**55.02**	**315**	*i*P	**P**		**04 18 34.8**	**-0.1**	
ORR					pmax	pmax			
	comp=Z,10.0nm,1.0s,mb4.8								
EYMN	**Ely**	**55.10**	**53**	*eP*	**P**		**04 18 34.9**	**-0.6**	
	comp=Z,16nm,1.3s,mb4.9								
KMI	**Kunming**	**55.21**	**259**	P	**P**		**04 18 37.5**	**+1.2**	
KMI					AP	pP	04 18 40.5	+0.1	
KMI					XP	sP	04 18 41.5	-0.5	
KMI					PP	PP	04 20 39.5	-0.3	
KMI					PPP		04 21 50.0		
KMI					S	**S**	**04 26 20.3**	**+0.9**	
KMI					AMB	AMB			
	comp=Z,7.0nm,0.8s,mb4.7								
KMI					AMB	AMB			
	comp=Z,108nm,5.6s								
KMI					LR	LR			
	comp=N,440nm,15.6s,MS4.8								
KMI					LR	LR			
	comp=E,317nm,13.2s,MS4.8								
KMI					LR	LR			
	comp=Z,410nm,13.7s,MS4.7								
KMI	**Kunming**	**55.21**	**259**	P	**P**		**04 18 37.4**	**+1.1**	
KMI				*PP	pP		04 18 40.4	0.0	
KMI				*SP	sP		04 18 41.6	-0.4	
KMI							04 20 39.6		
KMI				PPP			04 21 50.1		
KMI				S	**S**		**04 26 20.3**	**+0.9**	
KMI				SS	SS		04 29 57.0	-6.5	
KMI				SSS			04 32 02.4		
KMI				pmax	pmax				
	comp=Z,7.0nm,0.8s,mb4.7								
KMI				MLR	MLR				
	comp=Z,410nm,13.7s,MS4.7								
KMI	**Kunming**	**55.21**	**259**	P	**P**		**04 18 37.4**	**+1.1**	
	comp=Z,7.0nm,0.8s,mb4.7								
KMI				pP	pP		04 18 40.4	0.0	
KMI				sP	sP		04 18 41.6	-0.4	
KMI				PP	PP		04 20 39.6	-0.2	
KMI				PPP			04 21 50.1		
KMI				S	**S**		**04 26 20.3**	**+0.9**	
KMI				SS	SS		04 29 57.0	-6.5	
KMI				SSS			04 32 02.4		
KMI				LR	LR				
	comp=Z,410nm,13.7s,MS4.7								
SMCO	**Snowmass**	**55.54**	**70**	*eP*	**P**		**04 18 39.4**	**+0.7**	
	comp=Z,5.6nm,0.9s,mb4.6								
PFO	**Pinyon Flat Ob**	**55.54**	**82**	*eP*	**P**		**04 18 38.8**	**+0.1**	
PFO					pmax	pmax			
	comp=Z,10.0nm,1.0s,mb4.8								
PFO	**Pinyon Flat Ob**	**55.54**	**82**	*eP*	**P**		**04 18 38.8**	**+0.1**	
	comp=Z,9.9nm,1.0s,mb4.8								
PV01	**Paradox Valley**	**55.64**	**72**	*eP*	**P**		**04 18 39.7**	**+0.3**	
ISCO	**Idaho Springs**	**55.66**	**69**	*eP*	**P**		**04 18 40.6**	**+1.0**	
ISCO					pmax	pmax			
	comp=Z,5.0nm,1.1s,mb4.5								
ISCO	**Idaho Springs**	**55.66**	**69**	*eP*	**P**		**04 18 40.6**	**+1.1**	
	comp=Z,5.3nm,1.1s,mb4.5								
ECSD	**EROS,Sioux Fal**	**56.44**	**60**	*eP*	**P**		**04 18 45.0**	**-0.1**	
NB2	**NORSAR Subarra**	**56.83**	**345**	P	**P**		**04 18 47.3**	**-0.6**	
	comp=Z,3.4nm,0.6s,mb4.5,baz=14,slow=7.4								
NOA	**NORSAR Array B**	**56.83**	**345**	P	**P**		**04 18 47.5**	**-0.4**	
	comp=Z,2.5nm,0.6s,mb4.5,baz=14,slow=7.3,SNR=11								
NOA					LR	LR	04 47 46.4		
	comp=Z,124nm,18.7s,MS4.0,baz=5.0,slow=41								
SCHQ	**Schefferville**	**57.40**	**33**	P	**P**		**04 18 50.8**	**-1.2**	
	comp=Z,8.6nm,1.0s,mb4.7,baz=351,slow=7.1,SNR=7.0								
SCHQ					LR	LR	04 45 09.9		
	comp=Z,88nm,19.5s,MS3.9,baz=219,slow=38								
SCHQ	**Schefferville**	**57.40**	**33**	*eP*	**P**		**04 18 51.5**	**-0.4**	
	comp=Z,11nm,1.2s,mb4.8								
CBKS	**Cedar Bluff**	**59.11**	**65**	*eP*	**P**		**04 19 03.6**	**-0.3**	
CBKS					pmax	pmax			
	comp=Z,28nm,1.0s,mb5.2								
CBKS	**Cedar Bluff**	**59.11**	**65**	*eP*	**P**		**04 19 03.6**	**-0.3**	
	comp=Z,28nm,1.0s,mb5.2								
ANMO	**Albuquerque**	**59.22**	**73**	*eP*	**P**		**04 19 05.3**	**+0.7**	
ANMO					pmax	pmax			
	comp=Z,3.0nm,1.0s								
ANMO	**Albuquerque**	**59.22**	**73**	*eP*	**P**		**04 19 05.2**	**+0.6**	
	comp=Z,3.3nm,1.0s,mb4.3								
BNM	**Barren Site**	**59.79**	**74**	*eP*	**P**		**04 19 10.1**	**+1.5**	
KSU1	**Kansas State U**	**60.25**	**63**	*eP*	**P**		**04 19 10.7**	**-1.0**	
WMOK	**Wichita Mounta**	**62.92**	**67**	*eP*	**P**		**04 19 29.5**	**-0.2**	
WMOK					pmax	pmax			
	comp=Z,17nm,1.1s,mb5.1								
WMOK	**Wichita Mounta**	**62.92**	**67**	*eP*	**P**		**04 19 29.5**	**-0.2**	
	comp=Z,17nm,1.1s,mb5.1								
AKASG	**Malin Array Be**	**63.39**	**331**	P	**P**		**04 19 33.1**	**+0.2**	
	comp=Z,2.7nm,0.6s,mb4.5,baz=25,slow=6.6,SNR=8.0								
CCM	**Cathedral Cave**	**63.42**	**59**	*eP*	**P**		**04 19 32.0**	**-1.1**	
CCM					pmax	pmax			
	comp=Z,13nm,1.2s,mb4.9								
CCM	**Cathedral Cave**	**63.42**	**59**	*eP*	**P**		**04 19 32.0**	**-1.1**	
	comp=Z,13nm,1.2s,mb4.9								
EKA	**Eskdalemuir Ar**	**63.80**	**353**	P	**P**		**04 19 35.6**	**+0.1**	
	comp=Z,1.7nm,0.7s,mb4.2,baz=2.3,slow=6.0,SNR=5.3								
FVM	**French Village**	**63.82**	**59**	*eP*	**P**		**04 19 34.9**	**-0.8**	
FVM					pmax	pmax			
	comp=Z,15nm,1.0s,mb5.0								
FVM	**French Village**	**63.82**	**59**	*eP*	**P**		**04 19 34.9**	**-0.8**	
	comp=Z,15nm,1.0s,mb5.0								
ERPA	**Erie**	**64.39**	**49**	*eP*	**P**		**04 19 38.5**	**-1.0**	
	comp=Z,15nm,1.0s,mb5.0								
GOF	**Gofitskoye**	**64.62**	**319**	*eP*	**P**		**04 19 45.8**	**+4.8**	
ALLY	**Alegheny Colle**	**64.74**	**49**	*eP*	**P**		**04 19 40.8**	**-0.9**	
LTX	**Lajitas**	**65.19**	**74**	*eP*	**P**		**04 19 43.8**	**-0.9**	
LTX					pmax	pmax			
	comp=Z,10.0nm,1.3s,mb4.7								
LTX	**Lajitas**	**65.19**	**74**	*eP*	**P**		**04 19 43.8**	**-0.9**	
	comp=Z,9.6nm,1.3s,mb4.7								
OJC	**Ojcow**	**65.89**	**337**	*eP*	**P**		**04 19 50.6**	**+1.4**	
JCT	**Junction City**	**66.03**	**70**	*eP*	**P**		**04 19 49.0**	**-1.1**	
JCT					pmax	pmax			
	comp=Z,3.0nm,0.4s,mb4.7								
JCT	**Junction City**	**66.03**	**70**	*eP*	**P**		**04 19 49.0**	**-1.1**	
	comp=Z,3.2nm,0.4s,mb4.7								
CLL	**Collm**	**66.03**	**342**	⇑*i*P	**P**		**04 19 51.9**	**+1.8**	
	comp=Z,4.0nm,1.0s,mb4.4								
CLL	**Collm**	**66.03**	**342**	⇑*i*P	**P**		**04 19 51.9**	**+1.8**	
CLL					pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.4								
LPIG	**La Paz**	**66.41**	**83**	LR	LR		04 48 41.5		
	comp=Z,114nm,18.8s,MS4.1,baz=266,slow=36								
WVT	**Waverly**	**66.48**	**58**	*eP*	**P**		**04 19 51.9**	**-1.1**	
WVT					pmax	pmax			
	comp=Z,9.0nm,0.8s,mb4.8								
WVT	**Waverly**	**66.48**	**58**	*eP*	**P**		**04 19 51.9**	**-1.1**	
	comp=Z,9.1nm,0.8s,mb4.9								
OXF	**Oxford**	**67.21**	**60**	*eP*	**P**		**04 19 56.5**	**-1.1**	
OXF					pmax	pmax			
	comp=Z,26nm,1.1s,mb5.2								
OXF	**Oxford**	**67.21**	**60**	*eP*	**P**		**04 19 56.5**	**-1.2**	
	comp=Z,26nm,1.1s,mb5.2								
PLAL	**Pickwick Lake**	**67.37**	**59**	*eP*	**P**		**04 19 57.5**	**-1.2**	
	comp=Z,5.3nm,0.8s,mb4.6								
FWV	**Forest Hill**	**68.03**	**52**	*eP*	**P**		**04 20 02.5**	**-0.3**	
SWET	**Sewanee**	**68.05**	**57**	*eP*	**P**		**04 20 01.5**	**-1.5**	
GERES	**GERESS Array B**	**68.31**	**340**	P	**P**		**04 20 05.0**	**+0.5**	
	comp=Z,1.4nm,0.7s,mb4.1,baz=282,slow=2.6,SNR=3.7								
GERES					LR	LR	04 53 25.4		
	comp=Z,189nm,19.9s,MS4.3,baz=89,slow=39								
LRAL	**Lakeview Retre**	**69.50**	**59**	*eP*	**P**		**04 20 10.4**	**-1.5**	
	comp=Z,5.6nm,0.7s,mb4.6								
BRTR	**Keskin Array B**	**72.37**	**323**	P	**P**		**04 20 30.1**	**+0.7**	
	comp=Z,1.0nm,0.7s,mb3.9,baz=43,slow=5.6,SNR=5.9								
MMAI	**Mount Meron Ar**	**78.02**	**319**	P	**P**		**04 21 03.0**	**+1.0**	
	comp=Z,1.7nm,0.8s,mb4.1,baz=350,slow=4.4,SNR=3.1								
ESDC	**Sonseca Array**	**79.44**	**352**	P	**P**		**04 21 10.8**	**+1.1**	
	comp=Z,0.7nm,0.6s,mb3.8,baz=3.8,slow=6.4,SNR=4.4								
CTA	**Charters Tower**	**82.18**	**198**	P	**P**		**04 21 24.6**	**+0.2**	
	comp=Z,4.5nm,0.9s,mb4.4,baz=45,slow=7.1,SNR=3.9								
WRA	**Warramunga Arr**	**84.39**	**209**	P	**P**		**04 21 34.9**	**-0.9**	
	comp=Z,2.1nm,0.9s,mb4.3,baz=18,slow=5.5,SNR=9.0								
FITZ	**Fitzroy Crossi**	**84.99**	**218**	*eP*	**P**		**04 21 36.0**	**-2.8**	
	comp=Z,4.5nm,0.9s,mb4.6								
ASAR	**Alice Springs**	**88.08**	**209**	P	**P**		**04 21 53.4**	**-0.6**	
	comp=Z,0.6nm,0.7s,mb3.9,baz=14,slow=5.0,SNR=4.6								
ATD	**Arta Tunnel**	**94.95**	**304**	LR	LR		05 11 23.8		
	comp=Z,150nm,18.8s,MS4.5,baz=88,slow=39								
URZ	**Urewera**	**99.23**	**171**	LR	LR		04 58 46.4		
	comp=Z,114nm,21.5s,MS4.3,baz=186,slow=30								
QSPA	**South Pole Qui**	**150.64**	**180**	*eP*	PKPdf		04 28 53.7	+3.7	

IDC 27 04:15:32.8±3.9, 5997N×16549E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/20, mbtmp3.5/4, Error ellipse: s-maj=139.0km s-min=29.7km az=174.0, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**22.15**	**57**	P	P	04 20 29.8	-0.4
	1.8nm,0.8s,baz=274,slow=8.9,SNR=23						
YKA	**Yellowknife Ar**	**36.25**	**51**	P	P	04 22 35.6	-2.1
	0.2nm,0.5s,baz=306,slow=8.4,SNR=2.8						
MKAR	**Makanchi Array**	**48.02**	**293**	P	P	04 24 13.0	-0.6
	0.3nm,0.6s,baz=47,slow=7.1,SNR=4.0						
PDAR	**Pinedale Array**	**51.88**	**69**	P	P	04 24 44.1	+1.1
	0.8nm,0.7s,baz=318,slow=4.0,SNR=4.7						

*IDC **27** 04:21:49.0±0.6, 781S×11047E, h0km, mb4.4/12, mb1 4.4/13, mb1mx4.3/19, mbtmp4.4/13, ML4.1/1, MS3.8/5, Ms1 3.8/5, ms1mx3.3/27, Error ellipse: s-maj=25.2km s-min=14.1km az=59.0*

*ISCJB **27** 04:21:49.6±0.3, 789S±006×11051E±006, h10km, mb4.5/31, MS4.2/11, Error ellipse: s-maj=10.1km s-min=5.4km az=88.4*

*BJI **27** 04:21:50.6, 780S×11050E, h10km, mB5.1, mb4.6, Ms4.6, Msz4.3*

*NEIC **27** 04:21:50.6±0.3, 778S×11051E, h10km, mb4.6/18, Error ellipse: s-maj=14.4km s-min=7.3km az=49.0*

NEIC Felt [III] at Klaten and Yogyakarta.

*MOS **27** 04:21:53.7±1.9, 775S×11061E, h33km, mb4.7/13, Error ellipse: s-maj=16.1km s-min=10.7km az=114.1*

ISC 27 04:21:51.4±0.3, 788S±006×11048E±005, h10km, (h14km±1.2km:pP-P), n105, σ19 30/85, mb4.5/31, MS4.2/11, 2C, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**0.94**	**305**	P	**Pg**	**04 22 08.8**	**-0.7**
	3μm,0.8s						
KRKI	**Karangkates**	**1.97**	**98**	P	**Pn**	**04 22 25.3**	**+0.5**
	13μm,0.5s						
JCJI	**Jatiwangi**	**2.59**	**302**	P	**Pn**	**04 22 33.8**	**+0.4**
	1μm,1.0s						
KMMI	**Kalianget**	**3.55**	**77**	P	**Pg**	**04 22 57.2**	**-2.2**
	560nm,1.0s						
CBJI	**Citeko**	**3.89**	**292**	P	**Pn**	**04 22 51.3**	**+0.2**
	301nm,0.6s						
NBBI	**Negara**	**4.12**	**97**	P	**Pn**	**04 22 59.5**	**+5.1**
	1μm,1.0s						
PCI	**Palu**	**11.61**	**54**	P	**Pn**	**04 24 45.6**	**+8.4**
	63nm,1.6s						
PSI	**Prapat**	**15.67**	**312**	LR	LR	04 32 44.7	
	comp=Z,621nm,18.7s,baz=143,slow=42						
MBWA	**Marble Bar**	**15.94**	**147**	*eP*	**Pn**	**04 25 32.2**	**-3.5**
	25nm,0.9s						
KULM	**Kulim**	**16.35**	**323**	*eP*	**Pn**	**04 25 39.5**	**-1.5**
FITZ	**Fitzroy Crossi**	**17.91**	**126**	*eP*	**Pn**	**04 26 00.7**	**+0.2**
	20nm,0.9s						
FITZ				*eS*	**Sn**	**04 29 11.5**	**-8.7**
FITZ	**Fitzroy Crossi**	**17.91**	**126**	P	**Pn**	**04 26 00.6**	**+0.1**
	0.5nm,0.3s,baz=320,slow=8.0,SNR=16						
FITZ				S	**Sn**	**04 29 12.5**	**-7.7**
	0.4nm,0.3s,baz=114,slow=9.6,SNR=5.5						
FITZ				LR	LR	04 33 05.9	
	comp=Z,220nm,18.5s,baz=301,slow=38						
AAI	**Ambon**	**18.10**	**78**	P	**Pn**	**04 26 09.0**	**+6.1**
	112nm,1.4s						
KAKA	**Kakadu**	**22.12**	**104**	*eP*	**P**	**04 26 46.7**	**-0.3**
	27nm,0.6s,mb4.8						
NWAO	**Narrogin (SRO)**	**25.70**	**167**	LR	LR	04 38 19.0	
	comp=Z,57nm,18.3s,baz=26,slow=38						
WRA	**Warramunga Arr**	**26.03**	**120**	P	**P**	**04 27 26.0**	**+1.3**
	8.8nm,0.8s,mb4.4,baz=294,slow=11,SNR=37						
WRA				PcP	PcP	04 30 52.4	-0.2
	0.4nm,0.5s,baz=314,slow=1.8,SNR=5.0						
WRAB	**Tennant Creek**	**26.04**	**120**	*eP*	**P**	**04 27 22.6**	**-2.1**
WRAB				pmax	pmax		
	comp=Z,21nm,0.8s,mb4.7						
WRAB	**Tennant Creek**	**26.04**	**120**	*eP*	**P**	**04 27 22.6**	**-2.1**
	comp=Z,21nm,0.8s,mb4.7						
WB2	**Warramunga Arr**	**26.04**	**120**	*eP*	**P**	**04 27 26.4**	**+1.7**
ASPA	**Alice Springs**	**27.39**	**128**	*eP*	**P**	**04 27 37.6**	**+0.7**
AS31	**Alice Springs**	**27.39**	**128**	*eP*	**P**	**04 27 37.6**	**+0.7**
ASAR	**Alice Springs**	**27.39**	**128**	P	**P**	**04 27 36.5**	**-0.4**
	comp=Z,1.6nm,0.5s,mb3.8,baz=302,slow=8.0,SNR=25						
ASAR				PcP	PcP	04 30 56.0	+0.2
	comp=Z,1.3nm,0.8s,baz=253,slow=1.0,SN

LZH	**Lanzhou**	**44.17**	**352**	*e*P	**P**	**04 30 06.5**	**+6.2**
LZH				AP	pP	04 30 10.0	+6.5
LZH				XP	sP	04 30 11.3	+6.6
LZH				AMB	AMB		
	comp=Z,27nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,51nm,5.4s						
LZH				LR	LR		
	comp=N,198nm,15.3s						
LZH				LR	LR		
	comp=Z,237nm,18.5s,MS4.1						
LZH	**Lanzhou**	**44.17**	**352**	*e*P	**P**	**04 30 06.5**	**+6.2**
	comp=Z,27nm,1.5s,mb4.8						
LZH				pP	pP	04 30 10.1	+6.6
LZH				sP	sP	04 30 11.3	+6.6
LZH				PP	PP	04 31 51.5	+8.3
LZH				LR	LR		
	comp=Z,240nm,18.5s,MS4.1						
BJI	**Beijing**	**47.97**	**6**	*e*P	**P**	**04 30 34.0**	**+3.8**
BJI				S	**S**	**04 37 30.5**	**+2.6**
BJI				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.8						
BJI				LR	LR		
	comp=Z,80nm,20.9s,MS3.7						
BJI	**Beijing**	**47.97**	**6**	*e*P	**P**	**04 30 34.0**	**+3.8**
	comp=Z,9.0nm,0.9s,mb4.8						
BJI				S	**S**	**04 37 30.6**	**+2.7**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
BJI				MLR	MLR		
	comp=Z,80nm,20.9s,MS3.7						
BJI	**Beijing**	**47.97**	**6**	*e*P	**P**	**04 30 34.0**	**+3.8**
	comp=Z,9.0nm,0.9s,mb4.8						
BJI				S	**S**	**04 37 30.6**	**+2.7**
BJI				LR	LR		
	comp=Z,80nm,20.9s,MS3.7						
GTA	**Gaotai**	**48.08**	**349**	*e*P	**P**	**04 30 36.8**	**+5.7**
GTA				AP	pP	04 30 41.5	+7.3
GTA				XP	sP	04 30 44.8	+9.4
GTA				PCP	PcP	04 32 03.8	+5.0
GTA				PP	PP	04 32 27.5	+4.3
GTA				PCS	PcS	04 35 58.5	+4.0
GTA				SCS	ScS	04 40 26.0	+1.6
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.3						
GTA				AMB	AMB		
	comp=Z,64nm,5.7s						
GTA				LR	LR		
	comp=N,140nm,13.3s,MS4.2						
GTA				LR	LR		
	comp=E,147nm,16.3s,MS4.2						
GTA				LR	LR		
	comp=Z,174nm,15.2s,MS4.2						
HHC	**Hu-ho-hao-te**	**48.50**	**1**	*e*P	**P**	**04 30 36.0**	**+1.7**
HHC				AP	pP	04 30 40.8	+3.4
HHC				XP	sP	04 30 43.3	+4.6
HHC				PCP	PcP	04 32 01.3	+1.0
HHC				PP	PP	04 32 29.0	+2.0
HHC				SCP	ScP	04 35 54.8	-0.3
HHC				PCS	PcS	04 35 56.3	+0.1
HHC				S	**S**	**04 37 36.8**	**+1.4**
HHC				XS	sS	04 37 45.5	+4.9
HHC				SCS	ScS	04 40 25.3	-1.9
HHC				SS	SS	04 41 03.8	-1.4
HHC				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.9						
HHC				LR	LR		
	comp=N,169nm,12.5s,MS4.5						
HHC				LR	LR		
	comp=E,336nm,14.5s,MS4.5						
HHC				LR	LR		
	comp=Z,121nm,13.9s,MS4.0						
MAJO	**Matsushiro**	**51.28**	**29**	P	**P**	**04 30 53.3**	**-2.2**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
MAJO	**Matsushiro**	**51.28**	**29**	P	**P**	**04 30 53.3**	**-2.2**
	comp=Z,4.6nm,0.5s,mb4.7						
MAT	**Matsushiro**	**51.28**	**29**	P	**P**	**04 30 54.4**	**-1.1**
MJAR	**Matsushiro Arr**	**51.28**	**29**	P	**P**	**04 30 54.3**	**-1.2**
	comp=Z,6.7nm,0.8s,mb4.6,baz=208,slow=8.3,SNR=11						
CN2	**Changchun**	**53.20**	**14**	*e*P	**P**	**04 31 12.0**	**+2.3**
MDJ	**Mudanjiang**	**55.02**	**17**	P	**P**	**04 31 23.5**	**+0.5**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,98nm,7.1s						
WMQ	**Urumqi**	**55.45**	**340**	⇑P	**P**	**04 31 26.3**	**+0.2**
WMQ				AP	pP	04 31 30.8	+1.5
WMQ				XP	sP	04 31 33.3	+2.8
WMQ				PCP	PcP	04 32 26.5	+0.3
WMQ				PP	PP	04 33 31.5	+1.6
WMQ				S	**S**	**04 39 08.8**	**-2.1**
WMQ				XS	sS	04 39 16.5	+0.3
WMQ				AMB	AMB		
	comp=Z,2.0nm,0.5s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,75nm,3.9s						
WMQ				LR	LR		
	comp=N,85nm,20.8s,MS4.0						
WMQ				LR	LR		
	comp=E,105nm,23.8s,MS4.0						
WMQ				LR	LR		
	comp=Z,56nm,20.8s,MS3.6						
ULN	**Ulaanbaatar**	**55.58**	**357**	*e*P	**P**	**04 31 27.9**	**+0.8**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
ULN	**Ulaanbaatar**	**55.58**	**357**	*e*P	**P**	**04 31 27.9**	**+0.9**
	comp=Z,2.3nm,0.6s,mb4.4						
SONM	**Songino Array**	**55.59**	**357**	P	**P**	**04 31 27.7**	**+0.6**
	comp=Z,2.2nm,0.6s,mb4.4,baz=180,slow=6.8,SNR=15						
SONM				PcP	PcP	04 32 23.2	-3.6
	comp=Z,0.8nm,0.5s,baz=180,slow=1.4,SNR=3.6						
SONM				LR	LR	04 56 17.6	
	comp=Z,102nm,18.1s,MS4.0,baz=203,slow=37						
SONM	**Songino Array**	**55.59**	**357**	P	**P**	**04 31 27.7**	**+0.6**
SONM						04 32 23.2	
ASAJ	**Asahikawa**	**59.34**	**26**	P	**P**	**04 31 53.0**	**-0.5**
	comp=Z,2.6nm,0.5s,mb4.5,baz=283,slow=19,SNR=2.2						
KLR	**Kul'dur**	**59.84**	**16**	*e*P	**P**	**04 31 53.2**	**-3.8**
MKAR	**Makanchi Array**	**59.94**	**338**	P	**P**	**04 31 56.9**	**-0.7**
	comp=Z,0.8nm,0.5s,mb4.0,baz=152,slow=7.6,SNR=14						
MKAR	**Makanchi Array**	**59.94**	**338**	P	**P**	**04 31 56.9**	**-0.7**
KURK	**Kurchatov**	**64.55**	**338**	*e*P	**P**	**04 32 29.2**	**+0.6**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
KURK	**Kurchatov**	**64.55**	**338**	*e*P	**P**	**04 32 29.2**	**+0.6**
	comp=Z,1.2nm,0.7s,mb4.0						
BOD	**Bodaibo**	**65.53**	**2**	*e*P	**P**	**04 32 32.9**	**-2.1**
MAW	**Mawson**	**67.56**	**198**	P	**P**	**04 32 49.2**	**+1.2**
	comp=Z,1.9nm,0.7s,mb4.3,baz=14,slow=15,SNR=4.7						
VNDA	**Vanda**	**74.49**	**170**	P	**P**	**04 33 29.2**	**-0.8**
	comp=Z,3.4nm,0.7s,mb4.4,baz=308,slow=5.8,SNR=14						
VNDA	**Vanda**	**74.49**	**170**	*e*P	**P**	**04 33 29.7**	**-0.3**
VNDA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
VNDA	**Vanda**	**74.49**	**170**	*e*P	**P**	**04 33 29.7**	**-0.3**
	comp=Z,4.2nm,0.9s,mb4.4						
ARU	**Arti**	**76.93**	**333**	*e*P	**P**	**04 33 42.8**	**-1.1**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ARU	**Arti**	**76.93**	**333**	*e*P	**P**	**04 33 42.8**	**-1.1**
	comp=Z,2.5nm,0.6s,mb4.3						
TIXI	**Tiksi**	**80.29**	**6**	*e*P	**P**	**04 33 58.4**	**-4.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
ASF	**Jabal al Asfar**	**80.49**	**304**	P	**P**	**04 34 02.9**	**-0.6**
	comp=Z,2.6nm,0.7s,mb4.2,baz=290,slow=2.6,SNR=3.9						
LSZ	**Lusaka**	**80.57**	**256**	*e*P	**P**	**04 34 05.3**	**+1.3**
LSZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
LSZ	**Lusaka**	**80.57**	**256**	*e*P	**P**	**04 34 05.3**	**+1.3**
	comp=Z,2.3nm,0.7s,mb4.2						
EIL	**Elat**	**81.47**	**302**	*e*P	**P**	**04 34 08.8**	**0.0**
	comp=Z,116nm,0.9s						
QSPA	**South Pole Qui**	**82.11**	**180**	*e*P	**P**	**04 34 12.2**	**+0.1**
	comp=Z,6.4nm,1.0s,mb4.5						
BRTR	**Keskin Array B**	**85.00**	**311**	P	**P**	**04 34 24.9**	**-2.1**
	comp=Z,2.0nm,0.9s,mb4.3,baz=121,slow=4.2,SNR=5.0						
PUL	**Pulkovo**	**91.83**	**330**	*e*P	**P**	**04 34 48.2**	**-11**
PUL				MLR	MLR		
	comp=Z,263nm,16.0s,MS4.8						
TORD	**Torodi Ar. Bea**	**109.97**	**281**	PKiKP	PKiKP	04 40 22.7	-0.3
	comp=Z,0.3nm,0.6s,baz=38,slow=2.0,SNR=6.0						
YKA	**Yellowknife Ar**	**116.45**	**22**	PKP	PKPdf	04 40 33.5	-1.8
	comp=Z,0.6nm,0.5s,baz=329,slow=1.4,SNR=11						
YKA	**Yellowknife Ar**	**116.45**	**22**	PKP	PKPdf	04 40 33.5	-1.8

EDM	**Edmonton**	**122.58**	**30**	*e*PKIKP	PKPdf	04 40 47.0	-0.2
BSMT	**Bassoo Peak**	**124.77**	**36**	*e*PKPdf	PKPdf	04 40 50.9	-0.5
FCC	**Fort Churchill**	**125.86**	**16**	*e*PKIKP	PKPdf	04 40 52.5	-0.9
FFC	**Flin Flon**	**126.57**	**23**	*e*PKIKP	PKPdf	04 40 54.3	-0.5
HLID	**Hailey**	**127.13**	**40**	*e*PKPdf	PKPdf	04 40 56.0	+0.2
BOZ	**Bozeman (W)**	**127.78**	**37**	*e*PKIKP	PKPdf	04 40 55.1	-2.0
ELK	**Elko**	**127.88**	**44**	*e*PKIKP	PKPdf	04 40 57.6	+0.3
PDAR	**Pinedale Array**	**130.59**	**39**	PKP	PKPdf	04 41 02.6	+0.1
	comp=Z,0.5nm,0.5s,baz=182,slow=2.4,SNR=5.1						
PDAR				SKPbc	SKPbc	04 44 24.2	-1.9
	comp=Z,1.2nm,1.0s,baz=260,slow=2.7,SNR=4.3						
RSSD	**Black Hills**	**133.03**	**34**	*e*PKIKP	PKPdf	04 41 07.6	+0.5
SCHQ	**Schefferville**	**133.13**	**358**	PKP	PKPdf	04 41 07.1	-0.1
	comp=Z,1.6nm,0.5s,baz=58,slow=9.5,SNR=10						
ANMO	**Albuquerque**	**136.73**	**46**	*e*PKIKP	PKPdf	04 41 14.2	+0.2
WMOK	**Wichita Mounta**	**142.09**	**41**	*e*PKIKP	PKPdf	04 41 22.6	-1.1
JCT	**Junction City**	**143.83**	**48**	*e*PKIKP	PKPdf	04 41 25.6	-1.2
CCM	**Cathedral Cave**	**144.11**	**30**	*e*PKIKP	PKPdf	04 41 24.3	-3.0
BLO	**Bloomington**	**145.29**	**24**	*e*PKP2	PKPab	04 41 27.5	-1.7
ACSO	**Alum Creek Sta**	**145.61**	**18**	*e*PKPbc	PKPbc	04 41 28.4	-1.7
WCI	**Wyandotte Cave**	**146.19**	**24**	*e*PKP2	PKPab	04 41 31.8	-0.8
HKT	**Hockley**	**146.97**	**45**	*e*PKP2	PKPab	04 41 33.4	-2.2
MCWV	**Mont Chateau**	**147.03**	**15**	*e*PKPbc	PKPbc	04 41 33.2	-1.1
WVT	**Waverly**	**147.28**	**28**	*e*PKP2	PKPab	04 41 34.1	-2.7
OXF	**Oxford**	**147.79**	**32**	*e*PKP2	PKPbc	04 41 35.6	-0.8
PLAL	**Pickwick Lake**	**148.09**	**30**	*e*PKPbc	PKPbc	04 41 35.6	-1.6
BDFB	**Brasilia**	**148.38**	**222**	PKPbc	PKPbc	04 41 38.5	+0.5
	comp=Z,1.5nm,0.6s,baz=104,slow=4.3,SNR=3.1						
TZTN	**Tazewell**	**148.73**	**22**	*e*PKPbc	PKPbc	04 41 39.1	+0.2
SWET	**Sewanee**	**148.90**	**27**	*e*PKPbc	PKPbc	04 41 38.0	-1.3
SWET				*e*PKPab	PKPab	04 41 42.2	-1.1
ELN	**Prospectdale**	**149.05**	**18**	*e*PKPbc	PKPbc	04 41 39.4	-0.3
LRAL	**Lakeview Retre**	**150.19**	**30**	*e*PKPbc	PKPbc	04 41 41.6	-0.9

CASC 27 04:31:30.2±1.9, 1447N×9029W, h18km±118km, MD3.0, ML3.6, 1C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GCG	**Guatemala City**	**0.26**	**297**	*e*P		04 31 38.5	+2.5
IXG	**Ixpaco**	**0.33**	**208**	⇓*e*P		04 31 37.6	+0.4
IXG				*e*S		04 31 43.6	+1.6
IXG				AML	AML	04 31 47.4	
	comp=E,4μm,0.4s						
RBDL	**Robledal**	**0.69**	**121**	*e*P		04 31 43.2	-0.5
RBDL				*e*S		04 31 52.1	-0.7
TP2	**Tecpan 2**	**0.77**	**294**	⇓*e*P		04 31 45.1	+0.1
TP2				*e*S		04 31 55.9	+0.7
SNJE	**San Jose**	**0.90**	**132**	*e*P		04 31 47.3	+0.1
SNJE				*e*S		04 32 00.3	+1.5

*ISCJB **27** 04:32:40.6±0.5, 4259N×002E×4343E±004, h10km, Error ellipse: s-maj=4.3km s-min=2.7km az=11.0*
*TIF **27** 04:32:40.7, 4257N×4347E, h17km±1km*
*CSEM **27** 04:32:42.7, 4263N×4363E, h18km, mb3.9, After OBN*
*MOS **27** 04:32:42.7±1.1, 4263N×4363E, h18km, mb3.9/1, Error ellipse: s-maj=13.0km s-min=7.3km az=81.4*

ISC 27 04:32:41.0±0.5, 4257N±002×4342E±004, h5km±7km, n21, σ0=74/37, 2C-1D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DIGR	**Digorskoe uzhe**	**0.35**	**19**	*i* Pg	**Pg**	**04 32 48.0**	**+0.2**
DIGR				*i* Sg	**Sg**	**04 32 53.4**	**+1.0**
ZEI	**Tsey**	**0.41**	**60**	*i* Pg	**Pg**	**04 32 48.8**	**0.0**
ZEI				*i* Sg	**Sg**	**04 32 54.7**	**+0.6**
LACR	**Lac**	**0.69**	**68**	*i* Pg	**Pg**	**04 33 03.8**	**-0.5**
LACR				*i* Sg	**Sg**	**04 33 03.4**	**0.0**
KORR	**Kora**	**0.70**	**42**	*e*Pg	**Pg**	**04 32 54.2**	**-0.3**
KORR				*i* Sg	**Sg**	**04 33 04.1**	**+0.4**
GOR	**Gori**	**0.77**	**138**	P	**Pg**	**04 32 56.1**	**+0.3**
GOR				S	**Sg**	**04 33 06.6**	**+0.8**
BKR	**Bakuriani**	**0.83**	**176**	P	**Pg**	**04 32 56.6**	**-0.3**
BKR				S	**Sg**	**04 33 09.8**	**+2.0**
ARNR	**Ardon**	**0.89**	**45**	*e*Pg	**Pg**	**04 32 57.5**	**-0.5**
ARNR				*i* Sg	**Sg**	**04 33 09.8**	**+0.3**
KMSR	**Komsomolskaya**	**1.03**	**38**	*i* Pg	**Pg**	**04 33 00.2**	**-0.5**
KMSR				*e*Sg	**Sg**	**04 33 14.4**	**+0.4**
VLKR	**Vladikavkaz**	**1.04**	**62**	*e*Pg	**Pg**	**04 33 00.2**	**-0.8**
VLKR				*e*Sg	**Sg**	**04 33 14.6**	**+0.1**
SNJR	**Sundja**	**1.14**	**63**	*i* Pg	**Pg**	**04 33 01.9**	**-0.9**
SNJR				*e*Sg	**Sg**	**04 33 17.5**	**-0.1**
BTKR	**Batakoyurt**	**1.15**	**45**	*e*Pg	**Pg**	**04 33 02.4**	**-0.7**
BTKR				*e*Sg	**Sg**	**04 33 18.1**	**+0.1**
AKH	**Akhalkalaki**	**1.16**	**177**	P	**Pg**	**04 33 02.0**	**-1.1**
AKH				S	**Sg**	**04 33 18.2**	**+0.1**
KUBR	**Kubataba**	**1.23**	**360**	*i* Pg	**Pg**	**04 33 06.0**	**+1.4**
TBLG	**Delisi**	**1.29**	**130**	P	**Pn**	**04 33 04.7**	**-0.8**
TBLG				S	**Sg**	**04 33 22.2**	**-0.1**
TBLG	**Delisi**	**1.29**	**130**	Pg	**Pg**	**04 33 04.8**	**-0.8**
TBLG				Sg	**Sg**	**04 33 22.1**	**-0.2**
SHAR	**Shatzhatmas**	**1.30**	**335**	⇓*i* PG	**Pg**	**04 33 05.8**	**-0.1**
MTA	**Mtatsminda**	**1.34**	**130**	P	**Pn**	**04 33 06.4**	**+0.1**
MTA				S	**Sb**	**04 33 22.9**	**-1.1**
KIV	**Kislovodsk**	**1.49**	**339**	⇑*i* PG	**Pg**	**04 33 09.2**	**-0.3**
PYA	**Pyatigorsk**	**1.49**	**350**	⇑*e*PG	**Pg**	**04 33 09.1**	**-0.5**
BEYR	**Belyy Ugol+**	**1.51**	**343**	*i* Pg	**Pg**	**04 33 10.0**	**0.0**
DGRG	**David-gareji**	**1.83**	**127**	P	**Pn**	**04 33 14.6**	**+1.5**
DGRG				S	**Sn**	**04 33 39.8**	**+3.2**

*KRSC **27** 04:33:44.3±1.0, 6076N×16607E, h10km±4km, ML3.9*
*ISCJB **27** 04:33:45.0±0.4, 6079N±003×1657E±01, h10km, mb3.8/11, Error ellipse: s-maj=7.4km s-min=4.7km az=19.0*
*IDC **27** 04:33:46.6±2.6, 6093N×16555E, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.6/22, mbtmp3.6/6, Error ellipse: s-maj=105.3km s-min=20.2km az=170.0*
*MOS **27** 04:33:46.9±1.0, 6101N×16554E, h18km, mb4.2/5, Error ellipse: s-maj=25.8km s-min=17.3km az=78.8*
*NEIC **27** 04:33:47.9±0.9, 6099N×16553E, h10km, mb4.2/4, Error ellipse: s-maj=24.3km s-min=8.7km az=167.0*

ISC 27 04:33:46.3±0.4, 6080N±004×16572E±010, h10km, n31, σ1=9/15/35, mb3.8/11, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TILR	**Tilichiki**	**0.41**	**156**	*i* P	**Pg**	**04 33 51.8**	**-2.5**
TILR				*i* S	**Sg**	**04 33 57.8**	**-1.9**
TILR				Smax			
	47μm,0.8s						
KAMR	**Kamenskoye**	**1.68**	**8**	*i* P	**Pn**	**04 34 14.6**	**-1.2**
KAMR				*i* S	**Sn**	**04 34 36.2**	**-1.1**
KAMR				Smax			
	3μm,1.2s						
OSSR	**Ossora**	**2.05**	**222**	*e*P	**Pn**	**04 34 20.4**	**-0.4**
SMKR	**Semkarok**	**4.78**	**210**	*e*P	**Pn**	**04 34 58.5**	**+0.2**
SRKR	**Sorokina**	**4.79**	**212**	*e*P	**Pn**	**04 34 59.7**	**+1.2**
KBTR	**Krutoberegovo**	**4.85**	**200**	*e*P	**Pn**	**04 34 59.5**	**+0.2**
BDR	**Baidarnaya**	**4.85**	**211**	*e*P	**Pn**	**04 35 00.5**	**+1.1**
ZLN	**Zelenaya**	**5.45**	**210**	*e*P	**Pn**	**04 35 07.6**	**+0.1**
KMNR	**Kamenistaya**	**5.82**	**212**	*e*P	**Pn**	**04 35 13.6**	**+0.9**
BILL	**Bilibino**	**7.27**	**2**	*e*PN	**Pn**	**04 35 31.9**	**-0.8**
BILL				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BILL	**Bilibino**	**7.27**	**2**	*e*Pn	**Pn**	**04 35 31.9**	**-0.8**
	comp=Z,8.3nm,0.5s						
BILL				*e*Sn	**Sg**	**04 37 33.3**	**-6.5**
BILL	**Bilibino**	**7.27**	**2**	*e*P	**Pn**	**04 35 34.5**	**+1.9**
BILL				Smax			
	comp=Z,90nm,1.0s						
MA2	**Magadan**	**7.55**	**267**	*e*PN	**Pn**	**04 35 36.2**	**-0.3**
MA2				pmax	pmax		
	comp=Z,23nm,0.8s						
MA2	**Magadan**	**7.55**	**267**	*e*Pn	**Pn**	**04 35 36.2**	**-0.3**
	comp=Z,23nm,0.8s						
MA2				*e*Sn	**Sn**	**04 36 59.8**	**-2.3**
MA2	**Magadan**	**7.55**	**267**	*i* P	**Pn**	**04 35 39.2**	**+2.7**
MA2				Smax			
	comp=Z,30nm,1.2s						
COLA	**College**	**21.19**	**59**	*e*P	**P**	**04 38 32.8**	**+0.9**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.6						
COLA	**College**	**21.19**	**59**	*e*P	**P**	**04 38 32.8**	**+0.9**
	comp=Z,2.2nm,0.6s,mb3.7						
ILAR	**Eielson Array**	**21.61**	**59**	P	**P**	**04 38 37.4**	**+0.9**
	comp=Z,2.3nm,0.7s,mb3.7,baz=276,slow=8.7,SNR=22						
DAWY	**Dawson**	**24.94**	**59**	*e*P	**P**	**04 39 09.5**	**-0.2**
BOD	**Bodaibo**	**26.00**	**287**	*e*P	**P**	**04 39 20.0**	**+0.7**
BOD				pmax	pmax		

	comp=Z,5.0nm,0.9s,mb4.0						
INK	**Inuvik**	**26.09**	**48**	P	**P**	**04 39 21.1**	**+1.0**
	comp=Z,1.2nm,0.4s,mb3.7,baz=252,slow=3.2,SNR=4.7						
YKA	**Yellowknife Ar**	**35.64**	**52**	P	**P**	**04 40 44.3**	**-0.1**
	comp=Z,0.4nm,0.7s,mb3.5,baz=304,slow=8.6,SNR=4.0						
SONM	**Songino Array**	**35.65**	**276**	P	**P**	**04 40 46.1**	**+1.7**
	comp=Z,0.6nm,0.9s,mb3.5,baz=42,slow=6.6,SNR=5.0						
FCC	**Fort Churchill**	**45.69**	**46**	*e*P	**P**	**04 42 06.9**	**-0.4**
FCC				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3						
FCC	**Fort Churchill**	**45.69**	**46**	*e*P	**P**	**04 42 06.8**	**-0.5**
	comp=Z,4.5nm,1.3s,mb4.2						
KURK	**Kurchatov**	**46.49**	**299**	*e*P	**P**	**04 42 14.1**	**+0.5**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
KURK	**Kurchatov**	**46.49**	**299**	*e*P	**P**	**04 42 14.1**	**+0.4**
	comp=Z,4.5nm,0.8s,mb4.5						
CHKZ	**Chkalovo**	**47.58**	**307**	*e*P	**P**	**04 42 20.8**	**-1.4**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
CHKZ	**Chkalovo**	**47.58**	**307**	*e*P	**P**	**04 42 20.8**	**-1.4**
	comp=Z,1.0nm,0.7s,mb4.0						
MKAR	**Makanchi Array**	**47.80**	**293**	P	**P**	**04 42 23.1**	**-0.8**
	comp=Z,0.6nm,0.6s,mb3.8,baz=45,slow=7.2,SNR=8.3						
PDAR	**Pinedale Array**	**51.48**	**70**	P	**P**	**04 42 55.1**	**+3.2**
	comp=Z,0.5nm,0.8s,mb3.5,baz=310,slow=5.7,SNR=3.5						

*IDC **27** 04:35:16.8±1.4, 2657S×6735W, h0km, mb3.7/2, mb1 3.7/7, mb1mx3.6/19, mbtmp3.6/7, ML4.0/4, MS3.2/4, Ms1 3.1/4, ms1mx2.8/22, Error ellipse: s-maj=25.8km s-min=19.9km az=80.0*
*ISCJB **27** 04:35:20.6±0.7, 2645S±005×672W±0.1, h33km, mb3.7/1, MS3.4/2, Error ellipse: s-maj=15.2km s-min=7.4km az=22.3*
*NEIC **27** 04:35:21.1±3.9, 2653S×6725W, h24km±37km, Error ellipse: s-maj=18.5km s-min=10.2km az=93.0*

ISC 27 04:35:23.7±0.8, 2642S±006×672W±01, h35km, n13, σ0=74/14, mb3.7/1, MS3.4/2, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**4.11**	**337**	Pn	**Pn**	**04 36 23.6**	**-0.4**
	4.2nm,0.3s,baz=169,slow=10,SNR=41						
LVC				Pg	**Pn**	**04 36 31.7**	**+7.8**
	7.8nm,0.3s,baz=159,slow=16,SNR=20						
CFAA	**Coronel Fontan**	**5.25**	**190**	Pn	**Pn**	**04 36 35.2**	**-4.3**
	0.1nm,0.3s,baz=6.4,slow=13,SNR=16						
CFAA				Pg	**Pn**	**04 36 49.0**	**+9.5**
	0.9nm,0.3s,baz=3.4,slow=16,SNR=15						
CFAA				Lg		04 37 52.9	
	6.5nm,0.3s,baz=281,slow=8.7,SNR=18						
CFAA	**Coronel Fontan**	**5.25**	**190**	Pn	**Pn**	**04 36 35.2**	**-4.3**
CFAA				Pg	**Pn**	**04 36 49.0**	**+9.5**
CFAA				Lg		04 37 52.9	
MDZ	**Mendoza**	**6.60**	**192**	*e*P	**Pn**	**04 36 57.7**	**-0.5**
MDZ				*e*		04 37 21.6	
MDZ				S	**Sn**	**04 38 12.7**	**+0.5**
CPUP	**Villa Florida**	**8.83**	**92**	Pn	**Pn**	**04 37 28.7**	**-0.1**
	1.0nm,0.3s,baz=252,slow=12,SNR=7.7						
CPUP				Lg		04 40 02.4	
	4.2nm,0.3s,baz=341,slow=19,SNR=3.0						
CPUP				LR	LR	04 40 20.6	
	comp=Z,42nm,19.0s,baz=247,slow=34						
LPAZ	**La Paz**	**10.12**	**355**	Pn	**Pn**	**04 37 47.1**	**+0.6**
	0.2nm,0.3s,baz=150,slow=16,SNR=8.9						
SIV	**San Ignacio**	**11.84**	**30**	Pn	**Pn**	**04 38 09.4**	**-0.5**
	0.2nm,0.3s,baz=244,slow=14,SNR=9.6						
TRQA	**Tornquist**	**12.40**	**161**	*e*Pn	**Pn**	**04 38 13.6**	**-4.0**
	15nm,1.1s						
PLCA	**Paso Flores**	**14.54**	**190**	Lg		04 42 52.4	
	0.1nm,0.3s,baz=15,slow=8.0,SNR=4.0						
PLCA				LR	LR	04 44 13.1	
	comp=Z,82nm,21.7s,baz=356,slow=37						
BDFB	**Brasilia**	**20.83**	**63**	P	**P**	**04 40 03.3**	**+1.1**
	3.0nm,1.0s,baz=188,slow=15,SNR=3.2						
BDFB				LR	LR	04 49 17.7	
	comp=Z,104nm,21.2s,MS3.2,baz=115,slow=40						
USHA	**Ushuaia**	**28.40**	**182**	LR	LR	04 54 20.5	
	comp=Z,130nm,19.4s,MS3.5,baz=140,slow=40						
TORD	**Torodi Ar. Bea**	**77.59**	**68**	P	**P**	**04 47 15.4**	**-0.8**
	0.7nm,0.7s,mb3.7,baz=254,slow=4.6,SNR=10						
MKAR	**Makanchi Array**	**148.46**	**42**	PKPbc	PKPbc	04 55 05.5	-1.0
	0.4nm,0.7s,baz=300,slow=2.7,SNR=5.1						

**IDC 27 04:38:35.

*ISCJB **27** 04:59:11.6±0.7, 143N±01×566E±0.1, h10km, mb3.9/11, MS3.8/4, Error ellipse: s-maj=21.5km s-min=12.8km az=51.2*

*IDC **27** 04:59:11.5±0.8, 1421N×5666E, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.8/23, mbtmp3.8/11, ML3.6/1, MS3.9/5, Ms1 3.8/5, ms1mx3.3/23, Error ellipse: s-maj=26.0km s-min=18.5km az=121.0*

ISC 27 04:59:13.6±0.7, 143N±01×566E±01, h10km, n14, σ1$00/12, mb3.9/11, MS3.8/4, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSAR	**Wadi Sarin**	**9.12**	**12**	Pn	**Pn**	**05 01 26.3**	**+1.0**
	0.7nm,0.3s,baz=231,slow=8.4,SNR=8.9						
WSAR				LR	LR	05 04 45.6	
	comp=Z,1μm,20.1s,baz=202,slow=36						
KMBO	**Kilima Mbogo**	**24.55**	**233**	P	**P**	**05 04 33.8**	**+0.4**
	6.1nm,1.1s,mb4.0,baz=37,slow=12,SNR=5.3						
KMBO				LR	LR	05 14 55.6	
	comp=Z,367nm,18.2s,MS3.9,baz=94,slow=38						
ASF	**Jabal al Asfar**	**25.36**	**318**	LR	LR	05 15 16.0	
	comp=Z,117nm,18.5s,MS3.4,baz=314,slow=38						
AKTO	**Aktyubinsk**	**36.09**	**1**	P	**P**	**05 06 14.3**	**-1.2**
	1.6nm,0.9s,mb3.9,baz=163,slow=9.8,SNR=3.5						
MKAR	**Makanchi Array**	**38.88**	**28**	P	**P**	**05 06 40.3**	**+1.1**
	0.3nm,0.5s,mb3.3,baz=216,slow=11,SNR=3.6						
MATP	**Matopo**	**44.20**	**219**	P	**P**	**05 07 24.3**	**+1.6**
	2.0nm,0.5s,mb4.1,baz=24,slow=6.9,SNR=4.5						
JOF	**Joensuu**	**51.77**	**346**	*ep*	**P**	**05 08 21.7**	**+0.3**
	3.4nm,1.0s,mb4.2						
FINES	**FINESS Array B**	**51.98**	**342**	P	**P**	**05 08 21.9**	**-1.0**
	1.4nm,0.8s,mb3.9,baz=133,slow=11,SNR=7.2						
SONM	**Songino Array**	**52.92**	**40**	P	**P**	**05 08 31.1**	**+1.2**
	0.2nm,0.4s,mb3.4,baz=278,slow=7.2,SNR=3.6						
SONM				LR	LR	05 32 09.1	
	comp=Z,75nm,21.4s,MS3.7,baz=78,slow=37						
TORD	**Torodi Ar. Bea**	**53.29**	**276**	P	**P**	**05 08 32.0**	**-0.6**
	0.7nm,0.7s,mb3.7,baz=84,slow=5.4,SNR=6.7						
ARCES	**ARCESS Array B**	**58.59**	**348**	P	**P**	**05 09 09.8**	**-0.8**
	2.4nm,0.8s,mb4.3,baz=143,slow=6.6,SNR=5.2						
MAW	**Mawson**	**81.77**	**178**	LR	LR	05 40 14.5	
	comp=Z,77nm,20.3s,MS4.1,baz=67,slow=30						
WRA	**Warramunga Arr**	**83.61**	**112**	P	**P**	**05 11 41.0**	**-1.2**
	0.8nm,0.9s,mb3.9,baz=298,slow=3.9,SNR=3.9						
ASAR	**Alice Springs**	**84.36**	**116**	P	**P**	**05 11 45.2**	**-0.8**
	0.5nm,0.8s,mb3.7,baz=288,slow=4.6,SNR=6.6						

*TIF **27** 05:02:39.0, 4221N×4764E, h2km±3km*

MOS 27 05:02:37.0±2.7, 4222N×4773E, h6km, mb3.5/1, Error ellipse: s-maj=22.2km s-min=12.9km az=129.7, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URKR	**Urkarakh**	**0.09**	**233**	*i* PG	Pg	05 02 40.0	+1.0
URKR				pmax	pmax		
	comp=Z,1μm,0.1s						
SGKR	**Sergokala**	**0.24**	**348**	*e*PG	Pg	05 02 44.0	+2.2
SGKR				*i* S	Sg	05 02 49.5	+4.4
DRN	**Derbent**	**0.48**	**113**	*e*PG	Pg	05 02 52.7	+6.3
DRN				*i* S	Sg	05 03 00.5	+7.8
DRN				pmax	pmax		
	comp=Z,52nm,0.2s						
GNBR	**Gunib**	**0.59**	**287**	*e*PG	Pg	05 02 50.5	+2.1
GNBR				*e*S	Sg	05 02 59.8	+3.7
XNZR	**Khunzakh**	**0.82**	**293**	*e*PG	Pg	05 02 57.5	+4.7
XNZR				*e*S	Sg	05 03 09.0	+5.5
KRNR	**Karanay**	**0.86**	**315**	*e*PG	Pg	05 02 54.7	+1.2
KRNR				*e*S	Sg	05 03 10.5	+5.8
DBC	**Dubki**	**1.04**	**321**	PG	Pg	05 03 00.0	+3.1
DBC				*e*S	Sg	05 03 16.0	+5.6

*ISCJB **27** 05:04:03.2±0.5, 1495S±009×670E±0.1, h10km, mb4.0/16, MS3.9/1, Error ellipse: s-maj=16.6km s-min=12.7km az=55.9*

*IDC **27** 05:04:03.6±0.7, 1497S×6697E, h0km, mb3.9/12, mb1 4.0/12, mb1mx3.9/23, mbtmp3.9/12, MS3.9/1, Ms1 3.9/1, ms1mx2.9/29, Error ellipse: s-maj=25.3km s-min=18.3km az=178.0*

*NEIC **27** 05:04:05.0±0.4, 1500S×6694E, h10km, mb4.3/6, Error ellipse: s-maj=12.5km s-min=9.4km az=154.0*

ISC 27 05:04:05.4±0.5, 1496S±009×670E±01, h10km, n28, σ0$54/22, mb4.0/16, MS3.9/1, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATP	**Matopo**	**36.98**	**256**	P	**P**	**05 11 15.3**	**+0.5**
	3.6nm,0.9s,mb4.2,baz=105,slow=15,SNR=5.4						
LSZ	**Lusaka**	**37.40**	**264**	P	**P**	**05 11 19.4**	**+0.9**
	2.1nm,0.8s,mb4.0,baz=86,slow=3.2,SNR=6.1						
LSZ	**Lusaka**	**37.40**	**264**	*e*P	**P**	**05 11 18.2**	**-0.2**
	1.5nm,0.6s,mb4.0						
LBTB	**Lobatse**	**40.00**	**249**	P	**P**	**05 11 40.0**	**-0.2**
	2.9nm,0.7s,mb4.1,baz=124,slow=15,SNR=6.0						
LBTB				LR	LR	05 28 41.6	
	comp=Z,146nm,18.8s,MS3.9,baz=60,slow=37						
LBTB	**Lobatse**	**40.00**	**249**	*e*P	**P**	**05 11 39.9**	**-0.4**
	3.0nm,0.7s,mb4.1						
BRTR	**Keskin Array B**	**62.64**	**332**	P	**P**	**05 14 30.1**	**+0.2**
	0.4nm,0.6s,mb3.7,baz=165,slow=12,SNR=2.6						
MKAR	**Makanchi Array**	**62.99**	**12**	P	**P**	**05 14 32.0**	**-0.3**
	0.3nm,0.6s,mb3.6,baz=208,slow=8.2,SNR=4.5						
ASAR	**Alice Springs**	**63.29**	**109**	P	**P**	**05 14 34.6**	**+0.3**
	0.7nm,0.8s,mb3.9,baz=277,slow=5.6,SNR=7.4						
WRA	**Warramunga Arr**	**64.10**	**105**	P	**P**	**05 14 40.2**	**+0.5**
	1.1nm,0.8s,mb4.0,baz=270,slow=6.3,SNR=9.0						
AKTK	**Aktyubinsk**	**65.58**	**354**	P	**P**	**05 14 49.4**	**+0.1**
AKTO	**Aktyubinsk**	**65.58**	**354**	P	**P**	**05 14 49.4**	**+0.1**
	0.8nm,0.8s,mb3.8,baz=201,slow=8.2,SNR=2.6						
KURK	**Kurchatov**	**66.18**	**8**	*e*P	**P**	**05 14 53.0**	**-0.2**
	1.6nm,0.8s,mb4.1						
ZRNK	**Zerenda**	**67.65**	**1**	*e*P	**P**	**05 15 02.0**	**-0.5**
	3.1nm,1.0s,mb4.3						
BRVK	**Borovoye**	**67.79**	**2**	*e*P	**P**	**05 15 02.8**	**-0.7**
	1.9nm,0.8s,mb4.2						
CHKZ	**Chkalovo**	**68.42**	**2**	*e*P	**P**	**05 15 07.0**	**-0.4**
	2.2nm,0.9s,mb4.2						
TORD	**Torodi Ar. Bea**	**70.37**	**290**	P	**P**	**05 15 19.9**	**+0.5**
	0.9nm,0.9s,mb3.7,baz=26,slow=1.2,SNR=5.1						
VNA2	**Neumayer--Watz**	**70.86**	**200**	*e*	**P**	**05 15 22.2**	**-0.2**
	baz=61,slow=5.2						
VNA2				*e*		05 15 28.5	
VNA2				*e*		05 15 33.9	
VNA1	**Neumayer--Stat**	**71.10**	**200**	*e*	**P**	**05 15 23.5**	**-0.3**
VNA1				*e*		05 15 30.0	
VNA1				*e*		05 15 34.9	
VNA3	**Neumayer Olymp**	**71.64**	**199**	*e*	**P**	**05 15 26.3**	**-0.8**
VNA3				*e*		05 15 32.8	
VNA3				*e*		05 15 37.8	
SONM	**Songino Array**	**71.73**	**27**	P	**P**	**05 15 28.7**	**+1.1**
	0.9nm,0.9s,mb3.7,baz=201,slow=7.9,SNR=3.6						
AKASG	**Malin Array Be**	**73.25**	**336**	P	**P**	**05 15 35.9**	**-0.8**
	1.3nm,0.7s,mb3.9,baz=140,slow=5.3,SNR=7.0						
ESDC	**Sonseca Array**	**85.37**	**313**	P	**P**	**05 16 43.7**	**+0.9**
	1.2nm,0.7s,mb4.2,baz=98,slow=3.8,SNR=5.3						
ILAR	**Eielson Array**	**125.15**	**17**	PKP	PKPdf	05 23 04.7	-1.4
	0.4nm,0.9s,baz=304,slow=1.8,SNR=4.1						
YKA	**Yellowknife Ar**	**132.51**	**1**	PKP	PKPdf	05 23 19.4	-0.6
	0.2nm,0.7s,baz=357,slow=2.0,SNR=3.7						
YKA	**Yellowknife Ar**	**132.51**	**1**	PKP	PKPdf	05 23 19.4	-0.6
GCMT	**Greycliff**	**149.13**	**355**	*e*PKPbc	PKPbc	05 23 53.8	-0.1
RSSD	**Black Hills**	**149.94**	**347**	*e*PKPbc	PKPbc	05 23 56.5	+0.6
RSSD				*e*PKPab	PKPab	05 24 01.8	+0.3
PDAR	**Pinedale Array**	**152.13**	**355**	PKPbc	PKPbc	05 24 01.0	0.0
	1.2nm,0.7s,baz=98,slow=3.3,SNR=9.4						

*IDC **27** 05:08:28.9±1.0, 5105N×17844E, h0km, mb3.8/13, mb1 4.0/14, mb1mx3.9/23, mbtmp3.9/14, ML4.1/1, Error ellipse: s-maj=29.8km s-min=17.1km az=168.0*

*MOS **27** 05:08:28.6±1.0, 5108N×17848E, h10km, mb4.4/8, Error ellipse: s-maj=20.2km s-min=12.6km az=105.0*

*ISCJB **27** 05:08:32.0±0.6, 510N±0.1×17833E±007, h33km, mb4.0/23, Error ellipse: s-maj=15.5km s-min=6.4km az=169.1*

*NEIC **27** 05:08:33.7±1.7, 5108N×17842E, h30km±10km, mb4.2/11, ML3.4(AEIC), Error ellipse: s-maj=17.3km s-min=6.9km az=189.0*

ISC 27 05:08:34.1±0.6, 511N±01×17836E±007, h35km, n42, σ0$94/43, mb4.0/23, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**0.66**	**64**	P	**Pn**	**05 08 46.0**	**-0.8**
AMKA				S	**Sn**	**05 08 57.1**	**+1.1**
SMY	**Shemya**	**3.11**	**303**	*e*P	**Pn**	**05 09 21.8**	**+1.2**
ATKA	**Atka Island**	**4.77**	**74**	P	**Pn**	**05 09 44.4**	**+1.0**
BILL	**Bilibino**	**18.00**	**345**	*e*P	**Pn**	**05 12 40.9**	**-0.5**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BILL	**Bilibino**	**18.00**	**345**	*e*P	**Pn**	**05 12 40.9**	**-0.6**
	comp=Z,2.2nm,0.5s						
KDAK	**Kodiak Island**	**18.07**	**57**	P	**Pn**	**05 12 40.1**	**-2.2**
	comp=Z,0.6nm,0.3s,baz=266,slow=4.3,SNR=4.1						
KDAK	**Kodiak Island**	**18.07**	**57**	*e*P	**Pn**	**05 12 41.5**	**-0.9**
	comp=Z,2.3nm,0.5s						
ILAR	**Eielson Array**	**22.59**	**39**	P	**P**	**05 13 28.9**	**-2.5**
	comp=Z,1.1nm,0.8s,mb3.4,baz=237,slow=8.4,SNR=19						
ASAJ	**Asahikawa**	**24.92**	**268**	P	**P**	**05 13 54.8**	**+1.0**
	comp=Z,3.6nm,0.8s,mb4.0,baz=117,slow=11,SNR=3.7						
ASAJ	**Asahikawa**	**24.92**	**268**	P	**P**	**05 13 54.8**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
DAWY	**Dawson**	**25.54**	**43**	*e*P	**P**	**05 14 01.1**	**+1.7**
KLR	**Kul'dur**	**29.54**	**285**	*e*P	**P**	**05 14 32.2**	**-3.0**
BOD	**Bodaibo**	**36.71**	**306**	*e*P	**P**	**05 15 36.8**	**-0.9**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
YKA	**Yellowknife Ar**	**36.72**	**46**	P	**P**	**05 15 37.1**	**-0.7**
	comp=Z,0.3nm,0.6s,mb3.3,baz=286,slow=7.4,SNR=6.8						
YKA				PcP	PcP	05 17 59.2	-0.6
	comp=Z,0.2nm,0.6s,baz=301,slow=3.0,SNR=3.7						
YKA	**Yellowknife Ar**	**36.72**	**46**	P	**P**	**05 15 37.1**	**-0.7**
YKA				PcP	PcP	05 17 59.2	-0.6
NEW	**Newport**	**40.65**	**68**	*e*P	**P**	**05 16 10.1**	**-0.6**
NEW				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NEW	**Newport**	**40.65**	**68**	*e*P	**P**	**05 16 10.1**	**-0.7**
	comp=Z,3.8nm,1.0s,mb4.0						
HLID	**Hailey**	**44.73**	**72**	*e*P	**P**	**05 16 43.6**	**-0.2**
	comp=Z,2.6nm,1.0s,mb4.0						
SONM	**Songino Array**	**45.17**	**295**	P	**P**	**05 16 48.6**	**+1.2**
	comp=Z,0.5nm,0.6s,mb3.5,baz=79,slow=9.4,SNR=3.8						
BOZ	**Bozeman (W)**	**45.22**	**68**	*e*P	**P**	**05 16 47.5**	**-0.3**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
BOZ	**Bozeman (W)**	**45.22**	**68**	*e*P	**P**	**05 16 47.5**	**-0.3**
	comp=Z,2.0nm,0.6s,mb4.1						
NVAR	**Mina Array Bea**	**45.36**	**81**	P	**P**	**05 16 49.7**	**+0.9**
	comp=Z,0.5nm,0.7s,mb3.5,baz=289,slow=8.4,SNR=5.1						
HWUT	**Hardware Ranch**	**47.58**	**73**	*e*P	**P**	**05 17 05.5**	**-0.7**
	comp=Z,2.0nm,0.8s,mb4.2						
DUG	**Dugway**	**47.67**	**75**	*e*P	**P**	**05 17 07.7**	**+0.7**
DUG				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
DUG	**Dugway**	**47.67**	**75**	*e*P	**P**	**05 17 07.7**	**+0.8**
	comp=Z,1.9nm,0.4s,mb4.5						
BW06	**Boulder Array**	**48.09**	**70**	*e*P	**P**	**05 17 10.7**	**+0.5**
	comp=Z,1.7nm,0.7s,mb4.2						
PDAR	**Pinedale Array**	**48.09**	**70**	P	**P**	**05 17 10.6**	**+0.3**
	comp=Z,3.0nm,0.7s,mb4.4,baz=302,slow=4.2,SNR=19						
KURK	**Kurchatov**	**57.91**	**312**	*e*P	**P**	**05 18 22.9**	**+0.3**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
KURK	**Kurchatov**	**57.91**	**312**	*e*P	**P**	**05 18 22.9**	**+0.3**
	comp=Z,4.0nm,1.0s,mb4.4						
ARCES	**ARCESS Array B**	**58.05**	**349**	P	**P**	**05 18 23.4**	**-0.2**
	comp=Z,1.7nm,0.8s,mb4.2,baz=25,slow=8.7,SNR=7.9						
MKAR	**Makanchi Array**	**58.80**	**307**	P	**P**	**05 18 28.6**	**-0.2**
	comp=Z,0.8nm,0.7s,mb3.9,baz=51,slow=5.9,SNR=8.0						
CHKZ	**Chkalovo**	**59.37**	**319**	*e*P	**P**	**05 18 32.5**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
CHKZ	**Chkalovo**	**59.37**	**319**	*e*P	**P**	**05 18 32.5**	**-0.2**
	comp=Z,1.5nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**60.57**	**319**	*e*P	**P**	**05 18 41.0**	**0.0**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.4						
ZRNK	**Zerenda**	**60.57**	**319**	*e*P	**P**	**05 18 41.0**	**+0.1**
	comp=Z,2.2nm,0.7s,mb4.4						
FINES	**FINESS Array B**	**65.65**	**346**	P	**P**	**05 19 14.6**	**-0.1**
	comp=Z,1.1nm,0.7s,mb4.0,baz=18,slow=8.0,SNR=5.2						
FINES	**FINESS Array B**	**65.65**	**346**	P	**P**	**05 19 14.6**	**-0.1**
NOA	**NORSAR Array B**	**67.75**	**353**	P	**P**	**05 19 28.1**	**+0.1**
	comp=Z,0.6nm,0.6s,mb3.8,baz=8.4,slow=6.1,SNR=3.8						
AKASG	**Malin Array Be**	**75.24**	**340**	P	**P**	**05 20 13.5**	**+0.3**
	comp=Z,0.7nm,0.4s,mb4.0,baz=23,slow=5.5,SNR=5.3						
AKASG	**Malin Array Be**	**75.24**	**340**	P	**P**	**05 20 13.5**	**+0.3**
WRA	**Warramunga Arr**	**80.59**	**222**	P	**P**	**05 20 41.8**	**-1.2**
	comp=Z,0.5nm,0.4s,mb3.8,baz=31,slow=5.8,SNR=6.5						
BRTR	**Keskin Array B**	**84.44**	**333**	P	**P**	**05 21 03.8**	**+0.8**
	comp=Z,1.0nm,0.7s,mb4.1,baz=63,slow=3.0,SNR=5.2						

*ISCJB **27** 05:12:18.2±0.6, 149S±01×671E±01, h10km, mb3.9/11, MS3.0/2, Error ellipse: s-maj=18.3km s-min=17.2km az=150.9*

*IDC **27** 05:12:18.8±1.0, 1489S×6709E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/20, mbtmp3.8/7, MS3.0/2, Ms1 3.0/2, ms1mx2.7/31, Error ellipse: s-maj=37.4km s-min=22.7km az=20.0*

*NEIC **27** 05:12:19.9±0.6, 1493S×6701E, h10km, mb4.3/4, Error ellipse: s-maj=21.0km s-min=14.8km az=212.0*

ISC 27 05:12:20.2±0.6, 149S±01×670E±01, h10km, n16, σ0$83/14, mb3.9/11, MS3.0/2, 2D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**32.42**	**292**	LR	LR	05 32 25.0	
	comp=Z,77nm,18.1s,MS3.4,baz=277,slow=37						
LSZ	**Lusaka**	**37.45**	**264**	P	**P**	**05 19 34.5**	**+0.8**
	1.2nm,0.5s,mb4.0,baz=71,slow=0.8,SNR=3.4						
MKAR	**Makanchi Array**	**62.92**	**12**	P	**P**	**05 22 46.8**	**+0.1**
	0.5nm,0.7s,mb3.7,baz=214,slow=8.1,SNR=5.0						
MKAR				LR	LR	05 47 25.2	
	comp=Z,4.6nm,20.9s,MS2.6,baz=316,slow=34						
ASAR	**Alice Springs**	**63.27**	**109**	P	**P**	**05 22 48.9**	**-0.1**
	1.1nm,0.8s,mb4.0,baz=272,slow=6.4,SNR=10						
WRA	**Warramunga Arr**	**64.08**	**105**	P	**P**	**05 22 55.0**	**+0.7**
	1.5nm,0.8s,mb4.1,baz=270,slow=5.9,SNR=11						
WRAB	**Tennant Creek**	**64.09**	**105**	*e*P	**P**	**05 22 54.3**	**-0.1**
	3.4nm,0.8s,mb4.4						
ZRNK	**Zerenda**	**67.59**	**1**	*e*P	**P**	**05 23 16.4**	**-0.5**
	1.9nm,0.9s,mb4.1						
BRVK	**Borovoye**	**67.73**	**2**	*e*P	**P**	**05 23 17.6**	**-0.2**
	1.2nm,0.7s,mb4.0						
CHKZ	**Chkalovo**	**68.36**	**2**	*e*P	**P**	**05 23 21.6**	**-0.3**
	1.0nm,0.5s,mb4.1						
TORD	**Torodi Ar. Bea**	**70.39**	**290**	P	**P**	**05 23 37.8**	**+3.4**
	0.7nm,0.9s,mb3.6,baz=141,slow=5.5,SNR=3.1						
VNA2	**Neumayer--Watz**	**70.93**	**200**	⇓*i*	**P**	**05 23 37.2**	**-0.5**
	baz=60,slow=4.8						
VNA2				*e*		05 23 43.1	
VNA2				*e*		05 23 48.7	
SONM	**Songino Array**	**71.66**	**27**	P	**P**	**05 23 43.4**	**+1.3**
	0.6nm,0.7s,mb3.6,baz=213,slow=4.0,SNR=5.5						
VNA3	**Neumayer Olymp**	**71.71**	**199**	⇓*i*	**P**	**05 23 41.8**	**-0.6**
VNA3				*e*		05 23 47.5	
VNA3				*e*		05 23 52.2	
AKASG	**Malin Array Be**	**73.22**	**336**	P	**P**	**05 23 50.0**	**-1.4**
	0.1nm,0.2s,mb3.3,baz=134,slow=5.4,SNR=5.1						
AKASG	**Malin Array Be**	**73.22**	**336**	P	**P**	**05 23 50.0**	**-1.4**
PDAR	**Pinedale Array**	**152.07**	**355**	PKPbc	PKPbc	05 32 16.1	+0.4
	0.9nm,0.6s,baz=22,slow=1.6,SNR=6.7						

IDC 27 05:28:41.0±42.0, 673S×10847E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/17, mbtmp3.7/3, Error ellipse: s-maj=716.1km s-min=167.7km az=130.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.33**	**120**	P	P	05 34 37.6	+1.2
	0.9nm,0.7s,baz=294,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**29.67**	**127**	P	P	05 34 47.9	-0.4
	0.4nm,0.7s,baz=302,slow=8.3,SNR=5.9						
STKA	**Stephens Creek**	**39.74**	**133**	P	P	05 36 15.4	+0.2
	1.6nm,0.6s,baz=326,slow=7.3,SNR=4.1						

*IDC **27** 05:33:23.4±1.6, 2138S×33.14E, h0km, mb3.7/2, mb1 4.1/8, mb1mx3.7/27, mbtmp4.1/8, ML4.1/5, MS2.8/1, Ms1 2.8/1, ms1mx2.3/26, Error ellipse: s-maj=26.9km s-min=23.5km az=173.0*

*ISCJB **27** 05:33:24.1±1.1, 2128S±006×3289E±009, h10km, mb3.7/2, Error ellipse: s-maj=12.2km s-min=8.6km az=12.4*

*NEIC **27** 05:33:24.4±1.4, 2133S×33.18E, h10km, mb4.3/1, Error ellipse: s-maj=19.8km s-min=16.1km az=82.0*

*PRE **27** 05:33:26.7±1.1, 2094S×32.17E, h5km, ML4.1*

ISC 27 05:33:26.2±1.1, 2130S±006×3295E±009, h10km, n20, σ1$20/36, mb3.7/2, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATP	**Matopo**	**4.25**	**281**	Pn	**Pn**	**05 34 34.1**	**+3.1**
	9.5nm,0.3s,baz=113,slow=13,SNR=168						
MATP				Sn	**Sn**	**05 35 24.0**	**+3.4**
	21nm,0.3s,baz=289,slow=9.4,SNR=8.7						
MATP				Lg		05 35 41.9	
	96nm,0.3s,baz=12,slow=23,SNR=34						
MATP	**Matopo**	**4.25**	**281**	Pn	**Pn**	**05 34 34.1**	**+3.1**
MATP				Sn	**Sn**	**05 35 24.0**	**+3.4**
MATP				Lg		05 35 41.9	
BFT	**Belfast (SA)**	**5.12**	**211**	*e*P	**Pn**	**05 34 44.4**	**+1.6**
BFT				*e*S	**Sn**	**05 35 41.6**	**-0.4**
BFT				AML	AML	05 36 15.4	
	comp=Z,75nm,0.6s						
SLR	**Silverton**	**6.15**	**223**	*e*P	**Pn**	**05 34 57.2**	**+0.1**
SLR				*e*S	**Sn**	**05 36 03.1**	**-4.4**
SLR				AML	AML	05 36 54.8	
	comp=Z,136nm,0.5s						
POGA	**Pongola**	**6.17**	**191**	*e*P	**Pn**	**05 35 02.3**	**+5.0**
POGA				*e*S	**Sn**	**05 36 12.4**	**+4.6**
POGA				AML	AML	05 36 26.9	
	comp=Z,22nm,0.4s						
ERPM	**east rand prop**	**6.54**	**220**	*e*P	**Pn**	**05 35 02.8**	**+0.4**
ERPM				*e*S	**Sn**	**05 36 12.3**	**-4.9**
ERPM				AML	AML	05 36 37.1	
	comp=Z,24nm,0.4s						
LSZ	**Lusaka**	**7.50**	**322**	Pn	**Pn**	**05 35 15.7**	**+0.1**
	comp=Z,3.9nm,0.3s,baz=151,slow=14,SNR=30						
LSZ				Sn	**Sn**	**05 36 36.5**	**-4.3**
	comp=Z,6.0nm,0.3s,baz=217,slow=19,SNR=9.3						
LSZ				Lg		05 37 22.3	
	comp=Z,22nm,0.3s,baz=17,slow=14,SNR=23						
LSZ				LR	LR	05 38 04.8	
	comp=Z,58nm,18.0s,baz=111,slow=37						
LBTB	**Lobatse**	**7.71**	**240**	*e*P	**Pn**	**05 35 14.8**	**-3.7**
LBTB				*e*S	**Sn**	**05 36 33.5**	**-12**
LBTB				AML	AML	05 36 50.5	
	comp=Z,14nm,0.5s						
LBTB	**Lobatse**	**7.71**	**240**	Pn	**Pn**	**05 35 20.1**	**+1.6**
	comp=Z,3.9nm,0.3s,baz=64,slow=14,SNR=42						
LBTB				Sn	**Sn**	**05 36 46.6**	**+0.7**
	comp=Z,4.6nm,0.3s,baz=126,slow=14,SNR=4.6						
LBTB				Lg		05 37 28.5	
	comp=Z,6.0nm,0.3s,baz=169,slow=17,SNR=9.2						
LBTB	**Lobatse**	**7.71**	**240**	Pn	**Pn**	**05 35 20.1**	**+1.6**
LBTB				Sn	**Sn**	**05 36 46.6**	**+0.7**
LBTB				Lg		05 37 28.5	
SWZ	**Schweizer**	**9.09**	**228**	*e*P	**Pn**	**05 35 35.9**	**-1.5**
SWZ				*e*S	**Sn**	**05 37 10.3**	**-9.4**
SWZ				AML	AML	05 38 22.2	
	comp=Z,20nm,0.8s						
BOSA	**Boshof**	**10.09**	**222**	*e*P	**Pn**	**05 35 51.1**	**+0.1**
BOSA				*e*S	**Sn**	**05 37 36.4**	**-7.8**
BOSA				AML	AML	05 38 19.4	
	comp=Z,7.8nm,0.5s						
BOSA	**Boshof**	**10.09**	**222**	Pn	**Pn**	**05 35 50.4**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=55,slow=15,SNR=17						
BOSA				Sn	**Sn**	**05 37 38.6**	**-5.6**
	comp=Z,1.4nm,0.3s,baz=317,slow=15,SNR=4.0						
BOSA				Lg		05 38 42.0	
	comp=Z,0.9nm,0.3s,baz=317,slow=15,SNR=3.8						
BOSA	**Boshof**	**10.09**	**222**	*e*Pn	**Pn**	**05 35 50.0**	**-1.0**
BOSA				Sn	**Sn**	**05 37 38.6**	**-5.6**
BOSA				Lg		05 38 42.0	
TSUM	**Tsumeb**	**14.57**	**276**	Pn	**Pn**	**05 36 52.9**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=97,slow=9.1,SNR=11						
TSUM				Sn	**Sn**	**05 39 32.6**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=133,slow=19,SNR=3.2						
TSUM				Lg		05 41 10.3	
	comp=Z,1.0nm,0.3s,baz=216,slow=19,SNR=3.2						
TSUM	**Tsumeb**	**14.57**	**276**	*e*Pn	**Pn**	**05 36 52.6**	**+0.2**
TSUM				Sn	**Sn**	**05 39 32.6**	**-1.4**
TSUM				Lg		05 41 10.3	
SUR	**Sutherland**	**15.45**	**222**

TCF	Toulx Ste Croi	4.88	54	*e*Pn		Pn	05 35 12.2	0.0
LASF	Ste Croix	5.35	82	*e*Pn		Pn	05 35 19.2	+0.6
EVO	Evora	6.08	216	*e*Pn		Pn	05 35 29.7	+1.0

IDC 27 05:41:42.2±37.0, 737S×10899E, h0^{km}, mb3.9/3, mb1 4.1/3, mb1mx3.6/16, mbtmp3.9/3, Error ellipse: s-maj=634.1km s-min=148.7km az=129.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.57**	**120**	P	P	05 47 31.3	+0.4
	0.7nm,0.7s,baz=293,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**28.88**	**127**	P	P	05 47 43.4	+0.8
	0.4nm,0.6s,baz=304,slow=8.7,SNR=5.5						
STKA	**Stephens Creek**	**38.94**	**133**	P	P	05 49 09.7	-0.1
	5.3nm,0.4s,baz=305,slow=7.7,SNR=20						

IDC 27 05:47:10.8±2.2, 632S×13006E, h0^{km}, mb4.0/1, mb1 3.8/4, mb1mx3.6/14, mbtmp3.6/4, ML3.5/3, Error ellipse: s-maj=99.0km s-min=27.1km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.48**	**200**	Pn	Pn	05 50 11.1	+1.5
	0.2nm,0.3s,baz=305,slow=16,SNR=11						
FITZ				Sn	Sn	05 52 17.7	-12
	0.2nm,0.3s,baz=246,slow=20,SNR=4.3						
WRA	**Warramunga Arr**	**14.16**	**163**	Pn	Pn	05 50 32.3	-0.3
	0.2nm,0.3s,baz=342,slow=13,SNR=9.9						
WRA				Sn	Sn	05 52 55.7	-15
	0.4nm,0.3s,baz=351,slow=24,SNR=7.8						
ASAR	**Alice Springs**	**17.64**	**168**	P	Pn	05 51 17.5	-0.4
	0.2nm,0.3s,baz=354,slow=12,SNR=14						
ASAR				S	Sn	05 54 20.6	-14
	0.1nm,0.3s,baz=343,slow=25,SNR=4.6						
MKAR	**Makanchi Array**	**67.69**	**327**	P	P	05 58 10.0	+0.2
	0.6nm,0.3s,baz=116,slow=7.7,SNR=12						

KRSC 27 05:51:25.4±0.3, 6146N×168.19E, h9^{km}±7^{km}, ML4.0
ISCJB 27 05:51:26.1±1.3, 6146N±004×16828E±009, h18^{km}±10^{km}, mb4.2/18, MS3.3/1, Error ellipse: s-maj=7.6km s-min=5.5km az=52.1
IDC 27 05:51:26.1±1.1, 6165N×168.14E, h0^{km}, mb3.8/11, mb1 4.1/11, mb1mx3.9/23, mbtmp3.9/11, Error ellipse: s-maj=34.2km s-min=17.6km az=170.0
NEIC 27 05:51:26.7±0.5, 6147N×168.25E, h10^{km}, mb4.3/10, Error ellipse: s-maj=15.5km s-min=6.9km az=171.0
MOS 27 05:51:27.3±1.6, 6163N×168.17E, h23^{km}, mb4.5/7, Error ellipse: s-maj=17.8km s-min=11.2km az=93.5
ISC 27 05:51:27.3±2.2, 6151N±005×16828E±009, h15^{km}±14^{km}, n59, σ1^{s}05/64, mb4.2/18, MS3.3/1, 1D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAMR	**Kamenskoye**	**1.37**	**315**	*i* P	Pn	05 51 51.3	-0.6
KAMR				*i* S	Sn	05 52 10.1	+0.4
KAMR				Smax			
	6μm,1.1s						
TILR	**Tilichiki**	**1.53**	**226**	*e*P	Pn	05 51 52.4	-1.7
TILR				*e*S	Sn	05 52 12.4	-1.4
OSSR	**Ossora**	**3.44**	**231**	*e*P	Pn	05 52 18.8	-1.6
KBG	**Krutoberegovo**	**6.01**	**211**	*e*P	Pn	05 52 55.8	+0.1
KBTR	**Krutoberegovo**	**6.02**	**210**	*e*P	Pn	05 52 55.5	-0.4
SMKR	**Semkarok**	**6.06**	**218**	*e*P	Pn	05 52 56.9	+0.5
SRKR	**Sorokina**	**6.09**	**220**	*e*P	Pn	05 52 56.6	-0.2
BDR	**Baidarnaya**	**6.15**	**220**	*e*P	Pn	05 52 58.0	+0.3
BKI	**Bering**	**6.44**	**192**	*e*P	Pn	05 53 02.7	+1.1
BILL	**Bilibino**	**6.62**	**353**	*e*PN	Pn	05 53 04.3	+0.3
BILL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BILL	**Bilibino**	**6.62**	**353**	*e*Pn	Pn	05 53 03.9	-0.1
	comp=Z,17nm,0.6s						
BILL				*e*Sg	Sg	05 54 50.7	-8.9
BILL	**Bilibino**	**6.62**	**353**	*e*P	Pn	05 53 06.0	+2.0
KRSR	**Krestovskiy**	**6.64**	**220**	*e*P	Pn	05 53 04.4	0.0
CIRR	**Tsirk**	**6.67**	**219**	*e*P	Pn	05 53 05.1	+0.3
ZLN	**Zelenaya**	**6.74**	**219**	*e*P	Pn	05 53 07.0	+1.3
KMNR	**Kamenistaya**	**7.13**	**220**	*e*P	Pn	05 53 11.5	+0.4
MA2	**Magadan**	**8.84**	**265**	*e*PN	Pn	05 53 34.3	-0.3
MA2				pmax	pmax		
	comp=Z,20nm,0.8s						
MA2	**Magadan**	**8.84**	**265**	*e*Pn	Pn	05 53 33.4	-1.2
MA2	**Magadan**	**8.84**	**265**	*e*P	Pn	05 53 36.2	+1.6
GNL	**Ganaly**	**9.59**	**220**	*e*P	Pn	05 53 45.6	+0.8
TTA	**Tatalina**	**16.57**	**69**	*e*P	Pn	05 55 19.0	-0.2
TTA				pmax	pmax		
	comp=Z,26nm,1.6s						
TTA	**Tatalina**	**16.57**	**69**	*e*Pn	Pn	05 55 19.0	-0.2
	comp=Z,26nm,1.6s						
TIXI	**Tiksi**	**18.25**	**320**	*e*P	Pn	05 55 35.6	-4.5
TIXI				*e*S	Sn	05 58 57.5	-6.1
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TIXI				MLR	MLR		
	comp=Z,135nm,10.0s						
COLA	**College**	**19.76**	**61**	*e*P	Pn	05 55 56.8	-1.4
COLA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
COLA	**College**	**19.76**	**61**	*e*P	Pn	05 55 56.8	-1.5
	comp=Z,4.9nm,1.0s						
ILAR	**Eielson Array**	**20.18**	**61**	P	P	05 56 02.1	+0.8
	comp=Z,2.9nm,0.7s,baz=268,slow=9.7,SNR=31						
YSS	**Yuzh-Sakhalins**	**20.66**	**237**	*e*P	P	05 56 08.5	+2.0
DAWY	**Dawson**	**23.51**	**61**	*e*P	P	05 56 35.7	-1.2
KLR	**Kul'dur**	**23.76**	**256**	*e*P	P	05 56 35.8	-3.4
INK	**Inuvik**	**24.69**	**49**	P	P	05 56 48.8	+1.1
	comp=Z,6.9nm,0.7s,mb4.3,baz=296,slow=10,SNR=12						
INK	**Inuvik**	**24.69**	**49**	*e*P	P	05 56 48.0	+0.3
INK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
INK	**Inuvik**	**24.69**	**49**	*e*P	P	05 56 48.0	+0.3
	comp=Z,5.5nm,0.6s,mb4.3						
YKA	**Yellowknife Ar**	**34.22**	**54**	P	P	05 58 11.7	-0.7
	comp=Z,0.3nm,0.6s,mb3.4,baz=302,slow=8.1,SNR=3.2						
YKA	**Yellowknife Ar**	**34.22**	**54**	P	P	05 58 11.7	-0.7
TLY	**Talaya**	**35.46**	**284**	*e*P	P	05 58 23.6	+0.5
TLY				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
TLY	**Talaya**	**35.46**	**284**	*e*P	P	05 58 23.6	+0.6
	comp=Z,1.3nm,0.6s,mb4.0						
SONM	**Songino Array**	**36.80**	**277**	P	P	05 58 34.7	+0.1
	comp=Z,0.5nm,0.7s,mb3.4,baz=39,slow=9.6,SNR=4.9						
SONM				PcP	PcP	06 00 58.6	+2.1
	comp=Z,1.1nm,0.9s,baz=34,slow=0.9,SNR=6.5						
SSE	**Sheshan**	**43.03**	**247**	P	P	05 59 23.9	-2.4
	comp=Z,41nm,0.7s,mb5.3						
SSE				LR	LR		
	comp=Z,30nm,15.9s,MS3.3						
HLID	**Hailey**	**47.22**	**75**	*e*P	P	05 59 59.9	+0.3
	comp=Z,1.3nm,0.7s,mb4.0						
KURK	**Kurchatov**	**47.22**	**300**	*e*P	P	05 59 59.6	0.0
KURK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
KURK	**Kurchatov**	**47.22**	**300**	*e*P	P	05 59 59.6	0.0
	comp=Z,4.3nm,0.7s,mb4.5						
GCMT	**Greycliff**	**47.67**	**70**	*e*P	P	06 00 03.8	+0.6
CHKZ	**Chkalovo**	**48.15**	**308**	*e*P	P	06 00 07.3	+0.5
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
CHKZ	**Chkalovo**	**48.15**	**308**	*e*P	P	06 00 07.3	+0.5
	comp=Z,4.6nm,0.8s,mb4.6						
MKAR	**Makanchi Array**	**48.65**	**294**	P	P	06 00 08.9	-1.8
	comp=Z,1.1nm,0.7s,mb4.0,baz=45,slow=6.6,SNR=11						
SVE	**Sverdlovsk**	**49.23**	**316**	*e*P	P	06 00 17.0	+1.9
ZRNK	**Zerenda**	**49.32**	**308**	*e*P	P	06 00 16.7	+0.9
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
ZRNK	**Zerenda**	**49.32**	**308**	*e*P	P	06 00 16.7	+0.9
	comp=Z,3.4nm,0.7s,mb4.5						
PDAR	**Pinedale Array**	**50.07**	**72**	P	P	06 00 21.1	-0.4
	comp=Z,0.8nm,0.7s,mb3.9,baz=345,slow=5.1,SNR=6.8						
ARU	**Arti**	**50.23**	**317**	⇓*i* P	P	06 00 23.5	+0.8
ARU				*e*		06 02 16.7	
ARU				*e*PPP		06 03 11.9	
ARU				*e*S	S	06 07 35.2	+0.8
ARU				*e*SS	SS	06 11 04.5	-3.3
ARU				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
AAK	**Ala-Archa**	**55.33**	**296**	*e*P	P	06 01 01.0	+0.5
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**55.33**	**296**	*e*P	P	06 01 01.0	+0.5
	comp=Z,2.4nm,0.8s,mb4.3						
AKTK	**Aktyubinsk**	**55.36**	**313**	P	P	06 00 59.1	-1.6
AKTO	**Aktyubinsk**	**55.36**	**313**	P	P	06 00 59.1	-1.6
	comp=Z,1.3nm,0.7s,mb4.1,baz=10,slow=8.4,SNR=3.3						
NOA	**NORSAR Array B**	**56.52**	**347**	P	P	06 01 08.0	-1.0
	comp=Z,0.8nm,0.7s,mb3.9,baz=13,slow=7.3,SNR=4.0						
AKASG	**Malin Array Be**	**63.46**	**332**	P	P	06 01 56.4	-0.2
	comp=Z,4.5nm,1.1s,mb4.5,baz=19,slow=5.7,SNR=7.2						
AKASG	**Malin Array Be**	**63.46**	**332**	P	P	06 01 56.4	-0.2
GERES	**GERESS Array B**	**68.12**	**342**	P	P	06 02 27.9	+1.2
	comp=Z,0.9nm,0.6s,mb4.0,baz=305,slow=4.7,SNR=5.5						
WRA	**Warramunga Arr**	**85.60**	**212**	P	P	06 04 06.5	+1.4
	comp=Z,0.9nm,0.7s,mb4.1,baz=18,slow=5.3,SNR=4.9						

IDC 27 05:55:10.2±0.9, 2811S×17643W, h0^{km}, mb4.1/9, mb1 4.4/11, mb1mx4.3/16, mbtmp4.2/11, ML4.2/2, Error ellipse: s-maj=32.3km s-min=17.2km az=143.0
ISCJB 27 05:55:14.0±0.6, 2835S±0.1×1766W±0.1, h33^{km}, mb4.2/11, Error ellipse: s-maj=15.4km s-min=14.3km az=32.6
NEIC 27 05:55:13.6±4.8, 2815S×17646W, h22^{km}±33^{km}, mb4.5/3, Error ellipse: s-maj=17.2km s-min=13.9km az=221.0
ISC 27 05:55:15.5±0.6, 2819S±010×1765W±01, h35^{km}, n26, σ0^{s}80/22, mb4.2/11, 3D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.65**	**230**	Pn	Pn	05 55 43.6	+1.7
	205nm,0.3s,baz=272,slow=20,SNR=6.6						
RAO				Sn	Sn	05 56 07.1	+5.2
	780nm,0.3s,baz=274,slow=23,SNR=14						
RAO	**Raoul Island**	**1.65**	**230**	Pn	Pn	05 55 43.6	+1.7
RAO				Sn	Sn	05 56 07.1	+5.2
URZ	**Urewera**	**11.38**	**206**	Pn	Pn	05 57 54.1	-1.5
	0.9nm,0.3s,baz=73,slow=11,SNR=2.9						
URZ				Sn	Sn	05 59 54.0	-7.5
	2.1nm,0.3s,baz=161,slow=12,SNR=8.0						
DZM	**Mont Dzumac**	**16.61**	**288**	Pn	Pn	05 59 04.4	-1.2
	1.9nm,0.3s,baz=92,slow=18,SNR=7.7						
CTA	**Charters Tower**	**34.84**	**275**	P	P	06 02 04.0	+0.8
	2.0nm,0.5s,mb4.3,baz=58,slow=9.5,SNR=4.1						
CTAO	**Charters Tower**	**34.84**	**275**	*e*P	P	06 02 03.9	+0.7
	2.7nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**36.32**	**254**	P	P	06 02 15.6	-0.3
	1.5nm,0.5s,mb4.2,baz=104,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**44.61**	**264**	P	P	06 03 24.5	+0.2
	1.7nm,0.6s,mb4.0,baz=97,slow=7.0,SNR=30						
WRAB	**Tennant Creek**	**45.39**	**269**	*e*P	P	06 03 30.4	-0.2
	2.8nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**45.40**	**269**	P	P	06 03 30.6	-0.1
	1.7nm,0.6s,mb4.1,baz=105,slow=8.1,SNR=8.3						
FITZ	**Fitzroy Crossi**	**53.74**	**268**	P	P	06 04 34.7	+0.6
	2.0nm,0.8s,mb4.1,baz=167,slow=14,SNR=3.2						
QSPA	**South Pole Qui**	**61.92**	**180**	*e*P	P	06 05 31.4	-0.1
	18nm,1.4s,mb5.0						
MJAR	**Matsushiro Arr**	**77.21**	**324**	P	P	06 07 05.8	0.0
	2.0nm,0.7s,mb4.2,baz=162,slow=7.0,SNR=6.4						
VNA3	**Neumayer Olymp**	**80.41**	**176**	⇓*i*	P	06 07 22.6	-0.8
VNA3				*e*		06 07 38.7	
VNA3				*e*		06 07 46.7	
VNA3				*e*		06 07 54.2	
VNA2	**Neumayer--Watz**	**80.86**	**176**	⇓*i*	P	06 07 27.0	+1.2
VNA2				*e*		06 07 41.5	
VNA2				*e*		06 07 50.9	
VNA2				*e*		06 07 57.5	
VNA1	**Neumayer--Stat**	**81.08**	**176**	⇓*i*	P	06 07 26.9	-0.1
VNA1				*e*		06 07 42.3	
VNA1				*e*		06 07 51.6	
NVAR	**Mina Array Bea**	**85.71**	**42**	P	P	06 07 51.8	+0.9
	0.8nm,0.8s,mb4.0,baz=221,slow=12,SNR=4.1						
PDAR	**Pinedale Array**	**93.62**	**43**	P	P	06 08 27.7	-0.4
	0.4nm,0.9s,mb3.9,baz=216,slow=1.3,SNR=4.0						
ILAR	**Eielson Array**	**95.48**	**12**	P	P	06 08 36.1	-0.5
	0.3nm,0.7s,mb3.8,baz=222,slow=4.0,SNR=4.1						
MKAR	**Makanchi Array**	**117.36**	**311**	PKP	PKPdf	06 13 56.6	-0.6
	0.7nm,0.8s,baz=82,slow=2.4,SNR=4.9						
FINES	**FINESS Array B**	**143.50**	**342**	PKhKP		06 14 42.0	
	0.8nm,0.7s,baz=110,slow=2.8,SNR=4.4						
NB2	**NORSAR Subarra**	**146.75**	**353**	PKPa	PKPbc	06 14 52.9	-0.8
	comp=Z,6.1nm,0.8s,baz=8.9,slow=2.9						
NOA	**NORSAR Array B**	**146.75**	**353**	PKPbc	PKPbc	06 14 53.1	-0.6
	comp=Z,4.9nm,0.9s,baz=13,slow=4.4,SNR=11						
AKASG	**Malin Array Be**	**150.28**	**326**	PKPbc	PKPbc	06 15 02.9	0.0
	comp=Z,3.8nm,0.7s,baz=46,slow=2.5,SNR=11						
BRTR	**Keskin Array B**	**152.62**	**303**	PKPbc	PKPbc	06 15 08.8	+0.5
	comp=Z,0.9nm,0.8s,baz=72,slow=4.0,SNR=4.0						
TORD	**Torodi Ar. Bea**	**164.94**	**173**	PKPab	PKPab	06 16 12.3	0.0
	comp=Z,2.8nm,0.9s,baz=186,slow=4.1,SNR=10						

IDC 27 05:57:37.0±0.5, 2083S×17409W, h0^{km}, mb4.7/22, mb1 4.8/23, mb1mx4.8/24, mbtmp4.7/23, ML4.7/1, MS4.2/9, Ms1 4.1/9, ms1mx3.9/23, Error ellipse: s-maj=17.3km s-min=12.1km az=141.0
BJI 27 05:57:38.8, 2037S×17345W, h16^{km}, mB5.4, mb5.0, Ms5.0, Msz4.5
ISCJB 27 05:57:38.2±0.2, 2092S±005×17406W±005, h17^{km}, mb5.0/75, MS4.5/26, Error ellipse: s-maj=8.5km s-min=5.1km az=114.4
NEIC 27 05:57:39.7±0.1, 2084S×17409W, mb5.2/49, Error ellipse: s-maj=7.6km s-min=3.9km az=144.0
MOS 27 05:57:41.0±1.2, 2089S×174.14W, h33^{km}, mb5.3/33, MS4.4/7, Error ellipse: s-maj=12.0km s-min=9.8km az=140.9
SZGRF 27 05:57:44.3, 2062S×173.16W, h44^{km}, Tonga Islands
ORF 27 05:57:54.5, 1670S×17075W, h30^{km}, mb5.8
ISC 27 05:57:39.5±0.2, 2092S±005×17397W±005, h16^{km}, h16^{km}±1.2^{km}: pP-P, n313, σ1^{s}01/171, mb5.0/75, MS4.5/26, 25C-6D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.28**	**17**	Pn	Pn	05 59 19.8	-5.4
	28nm,0.3s,baz=22,slow=9.9,SNR=18						
AFI				Sn	Sn	06 00 37.0	-11
	41nm,0.3s,baz=126,slow=19,SNR=4.6						
AFI	**Afiamalu**	**7.28**	**17**	*e*Pn	Pn	05 59 19.6	-5.6
	150nm,0.5s						
RAO	**Raoul Island**	**9.03**	**203**	Sn	Sn	06 01 25.7	-5.0
	780nm,0.3s,baz=85,slow=23,SNR=5.7						
RAR	**Rarotonga**	**13.26**	**94**	Pn	Pn	06 00 37.7	-9.4
	4.8nm,0.3s,baz=247,slow=6.7,SNR=17						
RAR				LR	LR	06 04 31.9	
	comp=Z,1μm,21.4s,baz=278,slow=31						
RAR	**Rarotonga**	**13.26**	**94**	Pn	Pn	06 00 37.7	-9.4
RAR				LR	LR	06 04 31.9	
DZM	**Mont Dzumac**	**18.26**	**263**	P	Pn	06 01 54.3	+2.1
	1.6nm,0.3s,baz=79,slow=17,SNR=15						
URZ	**Urewera**	**18.92**	**202**	P	Pn	06 02 01.2	+0.9
	2.1nm,0.3s,baz=7.1,slow=16,SNR=5.4						
URZ				S	Sn	06 05 16.6	-15
	1.0nm,0.3s,baz=248,slow=19,SNR=5.7						
SNZO	**South Karori**	**22.48**	**203**	*e*P	P	06 02 37.8	-0.4
TBI	**Tubuai**	**22.83**	**101**	*e*LR	LR	06 07 41.3	
	1μm,26.8s,baz=276						
PAE	**Paea**	**23.24**	**86**	*e*P	P	06 02 44.1	-2.1
	182nm,1.1s,mb5.4						
PPT	**Papeete**	**23.27**	**86**	*e*P	P	06 02 44.6	-1.8
	110nm,1.2s,mb5.2						
PPT	**Papeete**	**23.27**	**86**	*e*LR	LR	06 07 53.1	
	1μm,23.5s,baz=254						
PPT	**Papeete**	**23.27**	**86**	P	P	06 02 44.2	-2.2
	106nm,1.1s,mb5.2,baz=274,slow=0.6,SNR=6.9						
TVO	**Taravao**	**23.52**	**87**	*e*P	P	06 02 46.7	-2.4
	182nm,0.9s,mb5.5						
PMOR	**Pomariorio Ree**	**25.48**	**81**	*e*P	P	06 03 05.5	-1.4
	90nm,1.0s,mb5.2						
RPZ	**Rata Peaks**	**25.93**	**205**	P	P	06 03 11.2	+0.1
	13nm,0.8s,mb4.5,baz=296,slow=2.9,SNR=4.1						
HNR	**Honiara**	**27.59**	**291**	LR	LR	06 11 43.1	
	comp=Z,137nm,21.3s,MS3.5,baz=179,slow=31						
HNR	**Honiara**	**27.59**	**291**	*e*P	P	06 03 24.5	-1.5
ARMA	**Armidale**	**32.31**	**246**	*e*P	P	06 04 08.1	+0.3
TAOE	**Nuku Hiva Isla**	**34.73**	**75**	*e*LR	LR	06 13 06.1	
	2μm,21.6s						
CNB	**Canberra Magne**	**35.16**	**238**	*e*P	P	06 04 32.7	+0.1
	37nm,1.0s,mb5.3						
RKT	**Rikitea**	**36.15**	**101**	*e*LR	LR	06 13 52.0	
	841nm,26.2s,baz=273						
CTA	**Charters Tower**	**37.20**	**264**	⇑*i* P	P	06 04 48.8	-1.2
	7.4nm,0.7s,mb4.6						
CTA	**Charters Tower**	**37.20**	**264**	P	P	06 04 48.9	-1.1
	8.9nm,0.7s,mb4.7,baz=106,slow=11,SNR=9.8						
CTA	**Charters Tower**	**37.20**	**264**	⇑*i* P	P	06 04 48.8	-1.2
CTA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CTAO	**Charters Tower**	**37.20**	**264**	*e*P	P	06 04 48.5	-1.5
CTAO				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
CTAO	**Charters Tower**	**37.20**	**264**	*e*P	P	06 04 48.5	-1.5
	comp=Z,10.0nm,0.8s,mb4.7						
TOO	**Toolangi**	**38.73**	**236**	*e*P	P	06 05 02.5	-0.5
	comp=Z,8.1nm,0.8s,mb4.5						
TOO	**Toolangi**	**38.73**	**236**	*e*P	P	06 05 02.5	-0.5
TOO				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
PMG	**Port Moresby**	**39.12**	**281**	P	P	06 05 05.0	-1.1
	comp=Z,25nm,0.7s,mb5.0,baz=96,slow=5.9,SNR=10						
PMG				LR	LR	06 18 28.8	
	comp=Z,151nm,21.6s,MS3.8,baz=210,slow=32						
PMG	**Port Moresby**	**39.12**	**281**	*e*P	P	06 05 05.4	-0.8
PMG				pmax	pmax		
	comp=Z,27nm,0.8s						
PMG	**Port Moresby**	**39.12**	**281**	*e*P	P	06 05 05.4	-0.8
	comp=Z,27nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**41.02**	**245**	*e*P	P	06 05 17.9	-4.0
	comp=Z,14nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**41.02**	**245**	P	P	06 05 19.5	-2.4
	comp=Z,16nm,0.8s,mb4.7,baz=84,slow=8.8,SNR=28						
STKA				LR	LR	06 20 35.5	
	comp=Z,443nm,18.4s,MS4.4,baz=285,slow=34						
AS31	**Alice Springs**	**48.09**	**257**	*e*P	P	06 06 17.0	-1.4
ASAR	**Alice Springs**	**48.09**	**257**	P	P	06 06 17.1	-1.3
	comp=Z,17nm,0.8s,mb5.1,baz=89,slow=8.4,SNR=68						
ASAR				PcP	PcP	06 07 47.0	+1.1
	comp=Z,6.1nm,0.9s,baz=97,slow=4.5,SNR=4.5						
ASAR				S	S	06 13 12.2	-4.2
	comp=Z,0.7nm,1.0s,baz=96,slow=16,SNR=4.9						
ASPA	**Alice Springs**	**48.09**	**257**	*e*P	P	06 06 17.0	-1.4
WB2	**Warramunga Arr**	**48.26**	**262**	*e*P	P	06 06 17.6	-2.1
WRAB	**Tennant Creek**	**48.27**	**262**	P	P	06 06 18.0	-1.8
	comp=Z,129nm,0.9s,mb6.0,SNR=7.3						
WRAB	**Tennant Creek**	**48.27**	**262**	*e*P	P	06 06 17.5	-2.3
WRAB				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.2						
WRAB	**Tennant Creek**	**48.27**	**262**	*e*P	P	06 06 17.5	-2.2
	comp=Z,20nm,0.8s,mb5.2						
WRA	**Warramunga Arr**	**48.27**	**262**	P	P	06 06 17.8	-2.0
	comp=Z,12nm,0.8s,mb5.0,baz=96,slow=7.9,SNR=46						
WRA				PcP	PcP	06 07 48.8	+2.2
	comp=Z,5.9nm,1.0s,baz=91,slow=3.4,SNR=4.4						
WRA				S	S	06 13 20.9	+1.9
	comp=Z,1.8nm,1.0s,baz=94,slow=14,SNR=3.9						
KAKA	**Kakadu**	**51.75**	**270**	*e*P	P	06 06 45.1	-1.1
	comp=Z,40nm,1.2s,mb5.2						
KAKA				*e*PCP	PcP	06 08 02.4	+3.0
FORT	**Forrest**	**52.59**	**247**	*e*P	P	06 06 50.9	-1.6
	comp=Z,55nm,0.7s,mb5.6						
FITZ	**Fitzroy Crossi**	**56.70**	**262**	⇑*i* P	P	06 07 21.2	-1.1
	comp=Z,9.7nm,0.8s,mb4.9						
VNDA	**Vanda**	**57.86**	**186**	P	P	06 07 32.0	+1.5
	comp=Z,5.2nm,0.9s,mb4.6,baz=9.6,slow=6.0,SNR=22						
VNDA				LR	LR	06 28 13.4	
	comp=Z,184nm,20.1s,MS4.2,baz=345,slow=32						
KLBR	**Kellerberrin**	**61.29**	**245**	*e*P	P	06 07 53.7	-0.4
	comp=Z,48nm,0.8s,mb5.7						
MBWA	**Marble Bar**	**61.44**	**257**	*e*P	P	06 07 54.5	-0.7
	comp=Z,20nm,0.8s,mb5.3						
NWAO	**Narrogin (SRO)**	**61.55**	**243**	P	P	06 07 56.5	+0.6
	comp=Z,8.0nm,0.7s,mb4.9,baz=91,slow=8.4,SNR=6.6						
MUN	**Mundaring**	**62.54**	**244**	*e*P	P	06 08 02.7	+0.2
CASY	**Casey**	**65.21**	**206**	*e*P	P	06 08 20.9	+0.8
QSPA	**South Pole Qui**	**69.16**	**180**	*e*P	P	06 08 46.2	+1.0
	comp=Z,40nm,1.0s,mb5.3						
MIR	**Mirnyy**	**72.20**	**205**	*e*P	P	06 09 08.0	+4.3
MIR				pmax	pmax		
	comp=Z,150nm,1.5s,mb5.7						
MJAR	**Matsushiro Arr**	**72.83**	**321**	P	P	06 09 07.7	+0.2
	comp=Z,4.7nm,0.7s,mb4.5,baz=154,slow=6.0,SNR=11						
MAJO	**Matsushiro**	**72.84**	**321**	*e*P	P	06 09 07.2	-0.3

SSE LR LR
comp=Z,60nm,20.0s,MS3.9
WVOR Wild Horse Val 81.08 38 *e*P **P 06 09 54.0 +0.1**
WVOR pmax pmax
comp=Z,14nm,1.0s,mb4.8
WVOR Wild Horse Val 81.08 38 *e*P **P 06 09 54.0 +0.1**
comp=Z,14nm,1.0s,mb4.8
ELK Elko 82.07 41 *e*P **P 06 09 59.5 +0.3**
ELK pmax pmax
comp=Z,35nm,1.8s
ELK Elko 82.07 41 *e*P **P 06 09 59.5 +0.4**
comp=Z,35nm,1.8s,mb5.0
MAW Mawson 82.42 199 *e*P **P 06 10 01.9 +0.9**
comp=Z,4.8nm,0.6s,mb4.6
MAW Mawson 82.42 199 P **P 06 10 01.5 +0.5**
comp=Z,8.9nm,0.9s,mb4.7,baz=130,slow=7.8,SNR=5.5
MAW LR LR 06 44 41.7
comp=Z,216nm,18.7s,MS4.5,baz=87,slow=34
MAW Mawson 82.42 199 *e*P **P 06 10 01.9 +0.9**
MAW pmax pmax
comp=Z,5.0nm,0.6s
HABR Khabarovsk 82.72 329 *e*P **P 06 10 03.6 +1.1**
HABR S S 06 20 18.9 -0.8
MSU Marysvale 82.73 44 *e*P **P 06 10 03.0 +0.4**
SVW2 Sparrevohn 83.06 9 *e*P **P 06 10 02.7 -1.6**
MDJ Mudanjiang 83.07 323 P **P 06 10 05.8 +1.5**
MDJ AP pP 06 10 09.0 -0.5
MDJ XP sP 06 10 10.3 -1.1
MDJ PP PP 06 13 16.8 +1.5
MDJ S S 06 20 26.0 +2.7
MDJ XS sS 06 20 32.3 +0.5
MDJ SS SS 06 25 52.0 +4.9
MDJ AMB AMB
comp=Z,13nm,1.0s,mb4.9
MDJ AMB AMB
comp=Z,140nm,4.7s
MDJ LR LR
comp=N,81nm,19.5s,MS4.2
MDJ LR LR
comp=E,48nm,18.0s,MS4.2
MDJ LR LR
comp=Z,134nm,19.5s,MS4.3
MDJ Mudanjiang 83.07 323 *e*P **P 06 10 03.8 -0.5**
comp=Z,31nm,1.3s,mb5.2
NJ2 Nanjing 83.08 308 *e*P **P 06 10 05.5 +1.1**
NJ2 AP pP 06 10 09.5 -0.1
NJ2 XP sP 06 10 12.5 +1.1
NJ2 PP PP 06 13 16.5 +1.2
NJ2 S S 06 20 21.0 -2.4
NJ2 AMB AMB
comp=Z,80nm,1.0s,mb5.7
NJ2 AMB AMB
comp=Z,150nm,4.8s
NJ2 LR LR
comp=N,3μm,25.3s,MS5.6
NJ2 LR LR
comp=E,2μm,24.6s,MS5.6
NJ2 LR LR
comp=Z,330nm,25.8s,MS4.6
HAWA Hanford 83.10 35 *e*P **P 06 10 04.0 -0.5**
BMO Blue Mountains 83.34 37 *e*P **P 06 10 05.6 -0.2**
BMO pmax pmax
comp=Z,12nm,1.1s,mb4.8
BMO Blue Mountains 83.34 37 *e*P **P 06 10 05.5 -0.2**
comp=Z,12nm,1.1s,mb4.8
TMUT Trail Mountain 83.79 44 *e*P **P 06 10 08.5 +0.4**
MNTX Cornudas Mount 83.95 53 *e*P **P 06 10 09.1 +0.2**
comp=Z,29nm,1.6s,mb5.2
SRU San Rafael 84.14 44 *e*P **P 06 10 10.6 +0.8**
SRU pmax pmax
comp=Z,30nm,1.2s,mb5.3
SRU San Rafael 84.14 44 *e*P **P 06 10 10.6 +0.8**
comp=Z,30nm,1.2s,mb5.3
LTX Lajitas 84.14 56 *e*P **P 06 10 10.5 +0.7**
LTX pmax pmax
comp=Z,44nm,1.8s,mb5.3
LTX Lajitas 84.14 56 *e*P **P 06 10 10.5 +0.7**
comp=Z,44nm,1.8s,mb5.3
HLID Hailey 84.23 39 *e*P **P 06 10 10.8 +0.5**
comp=Z,20nm,1.0s,mb5.2
EYAK Cordova Ski Ar 84.35 14 *e*P **P 06 10 10.2 -0.7**
PMR Palmer 84.61 12 *e*P **P 06 10 11.4 -0.8**
PMR pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
PMR Palmer 84.61 12 *e*P **P 06 10 11.4 -0.8**
comp=Z,9.0nm,1.0s,mb4.8
PV10 Paradox Valley 84.73 46 *e*P **P 06 10 13.6 +0.8**
ANMO Albuquerque 84.76 50 *e*P **P 06 10 13.7 +0.7**
ANMO pmax pmax
comp=Z,26nm,1.3s
ANMO Albuquerque 84.76 50 *e*P **P 06 10 13.7 +0.7**
comp=Z,26nm,1.3s,mb5.2
TTA Tatalina 84.76 8 *e*P **P 06 10 12.4 -0.6**
HWUT Hardware Ranch 84.84 42 *e*P **P 06 10 12.3 -1.0**
comp=Z,8.0nm,0.9s,mb4.8
KLR Kul'dur 84.85 328 *e*P **P 06 10 12.6 -0.8**
CN2 Changchun 84.97 321 *e*P **P 06 10 14.3 +0.3**
CN2 *e*XP sP 06 10 23.3 +2.2
CN2 *e*S 06 20 41.8
CN2 AMB AMB
comp=Z,20nm,1.2s,mb5.1
CN2 LR LR
comp=Z,130nm,16.0s,MS4.4
NEW Newport 85.55 34 P **P 06 10 16.5 -0.4**
comp=Z,2.6nm,0.7s,mb4.5,baz=200,slow=6.6,SNR=3.7
NEW Newport 85.55 34 P **P 06 10 16.5 -0.4**
WHN Wuhan 85.75 305 P **P 06 10 20.0 +2.0**
MCMT McKenzie Canyo 85.88 39 *e*P **P 06 10 18.9 +0.4**
SKAG Skagway 86.12 19 *e*P **P 06 10 21.3 +1.6**
comp=Z,41nm,1.8s,mb5.4
SKAG LR LR
comp=Z,100nm,17.0s,MS4.3
PLCA Paso Flores 86.23 132 P **P 06 10 20.6 +0.3**
comp=Z,4.9nm,1.2s,mb4.6,baz=264,slow=2.3,SNR=3.8
PLCA LR LR 06 39 38.7
comp=Z,148nm,20.4s,MS4.4,baz=196,slow=29
TPAW Teton Pass 86.26 41 *e*P **P 06 10 20.8 +0.3**
comp=Z,9.1nm,0.9s,mb5.0
DLMT Dillon 86.33 38 *e*P **P 06 10 20.9 +0.1**
comp=Z,16nm,1.3s,mb5.1
PDAR Pinedale Array 86.72 42 P **P 06 10 22.4 -0.4**
comp=Z,4.7nm,0.8s,mb4.8,baz=212,slow=3.0,SNR=26
CHMT Chamberlain Mo 86.84 37 *e*P **P 06 10 23.0 -0.3**
MENT Mentasta 86.92 13 *e*P **P 06 10 23.6 -0.1**
DLBC Dease Lake 87.01 21 P **P 06 10 24.4 +0.3**
comp=Z,2.0nm,0.7s,mb4.5,baz=208,slow=2.3,SNR=4.9
BOZ Bozeman (W) 87.05 38 *e*P **P 06 10 24.3 0.0**
BOZ pmax pmax
comp=Z,19nm,1.4s,mb5.1
BOZ Bozeman (W) 87.05 38 *e*P **P 06 10 24.2 -0.1**
comp=Z,19nm,1.4s,mb5.1
SYO Syowa Base 87.11 192 ⇓*i*P **P 06 10 24.0 -0.6**
SYO Syowa Base 87.11 192 ⇓*e*P **P 06 10 28.4 +3.8**
VNA3 Neumayer Olymp 87.44 175 ⇑*i*PKPdf **P 06 10 26.2 0.0**
VNA3 *e* 06 10 28.1
VNA3 *e* 06 10 33.4
VNA3 *e* 06 10 39.3
VNA3 *e* 06 10 56.8
VNA3 *e* 06 11 02.7
SNAA Sanae 87.45 177 P **P 06 10 26.2 -0.1**
comp=Z,2.8nm,0.9s,mb4.5,baz=194,slow=4.1,SNR=19
SNAA Sanae 87.45 177 ⇑*i*PKPdf **P 06 10 19.9 -6.4**
SNAA *e* 06 10 21.5
SNAA *e* 06 10 27.0
SNAA *e* 06 10 32.7
SNAA *e* 06 10 57.2
HRY Holter Researc 87.53 38 *e*P **P 06 10 26.6 0.0**
KULM Kulim 87.56 277 *e*P **P 06 10 27.5 +0.7**
WALA Waterton Lakes 87.73 35 *e*P **P 06 10 27.4 -0.2**
comp=Z,15nm,1.1s,mb5.1
COLA College 87.85 11 *e*P **P 06 10 27.4 -0.8**
COLA pmax pmax
comp=Z,19nm,1.0s,mb5.3
COLA College 87.85 11 *e*P **P 06 10 27.4 -0.8**
comp=Z,19nm,1.0s,mb5.3
VNA2 Neumayer--Watz 87.92 176 ⇑*i*PKPdf **P 06 10 28.9 +0.4**
baz=172,slow=3.7
VNA2 *e* 06 10 30.8
VNA2 *e* 06 10 36.0
VNA2 *e* 06 10 41.8
VNA2 *e* 06 11 05.7
ILAR Eielson Array 87.93 11 P **P 06 10 27.4 -1.2**
comp=Z,4.0nm,0.8s,mb4.7,baz=224,slow=5.0,SNR=25
VNA1 Neumayer--Stat 88.13 175 ⇑*i*PKPdf **P 06 10 30.0 +0.5**
VNA1 *e* 06 10 31.7
VNA1 *e* 06 10 37.2
VNA1 *e* 06 10 42.8
VNA1 *e* 06 11 06.4
BJI Beijing 88.87 314 *e*P **P 06 10 36.0 +3.0**
BJI S 06 21 24.5
BJI AMB AMB
comp=Z,9.0nm,1.9s,mb4.8
BJI AMB AMB
comp=Z,196nm,3.8s
BJI LR LR
comp=N,136nm,13.6s,MS4.7
BJI LR LR
comp=E,151nm,13.2s,MS4.7
BJI LR LR
comp=Z,80nm,22.4s
BJI Beijing 88.87 314 *e*P **P 06 10 36.0 +3.0**
comp=Z,9.0nm,1.9s,mb4.8
BJI SKS 06 21 13.5
BJI S 06 21 24.4
BJI LR LR
comp=Z,80nm,22.4s,MS4.1
DAWY Dawson 88.87 14 *e*P **P 06 10 32.9 -0.2**
BILL Bilibino 89.88 353 *e*P **P 06 10 37.9 +0.2**
BILL pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
BILL MLR MLR
comp=Z,200nm,24.0s,MS4.5
BILL pmax pmax
comp=Z,15nm,1.2s,mb5.2
BILL pmax pmax
comp=Z,1.0nm,1.0s,mb4.1
BILL pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
BILL pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
BILL Bilibino 89.88 353 *e*P **P 06 10 37.6 -0.1**
comp=Z,2.9nm,0.7s,mb4.7
GYA Guiyang 90.15 298 P **P 06 10 41.5 +2.5**
GYA AP pP 06 10 46.3 +2.1
GYA XP sP 06 10 48.5 +2.4
GYA SKS 06 21 12.0
GYA AMB AMB
comp=Z,10.0nm,1.3s,mb5.0
GYA AMB AMB
comp=Z,110nm,5.0s
GYA LR LR
comp=N,540nm,20.4s,MS5.1
GYA LR LR
comp=E,410nm,21.0s,MS5.1
GYA LR LR
comp=Z,420nm,20.8s,MS4.8
RSSD Black Hills 90.87 43 *e*P **P 06 10 41.9 -0.5**
RSSD pmax pmax
comp=Z,20nm,1.4s,mb5.2
RSSD Black Hills 90.87 43 *e*P **P 06 10 41.9 -0.5**
comp=Z,20nm,1.4s,mb5.2
XAN Xi'an 91.41 306 P **P 06 10 46.0 +1.2**
XAN AP pP 06 10 51.0 +0.9
XAN AMB AMB
comp=Z,9.0nm,1.8s,mb4.8
HHC Hu-ho-hao-te 92.37 313 *e*P **P 06 10 50.5 +1.2**
HHC AP pP 06 10 55.8 +1.3
HHC XP sP 06 10 57.5 +1.1
HHC PP PP 06 14 34.3 +4.3
HHC SKS 06 21 22.3
HHC S 06 21 51.0
HHC XS sS 06 21 59.0 -1.9
HHC PS PS 06 23 08.5 +3.9
HHC SS SS 06 28 08.5 +5.7
HHC AMB AMB
comp=Z,10.0nm,1.2s,mb5.0
HHC AMB AMB
comp=Z,61nm,4.5s
HHC LR LR
comp=N,127nm,16.7s,MS4.8
HHC LR LR
comp=E,229nm,16.2s,MS4.8
HHC LR LR
comp=Z,134nm,17.2s,MS4.5
JTS JuntasAbangare 92.71 80 *e*P **P 06 10 51.2 +0.3**
JTS pmax pmax
comp=Z,50nm,1.4s
JTS JuntasAbangare 92.71 80 *e*P **P 06 10 51.2 +0.3**
comp=Z,50nm,1.4s,mb5.8
KMI Kunming 92.91 296 P **P 06 10 53.0 +1.2**
KMI AP pP 06 10 57.3 +0.3
KMI XP sP 06 10 59.5 +0.6
KMI SKS 06 21 25.3
KMI S 06 21 55.5
KMI SS SS 06 28 15.0 +4.3
KMI AMB AMB
comp=Z,15nm,0.9s,mb5.4
KMI AMB AMB
comp=Z,117nm,3.7s
KMI LR LR
comp=N,151nm,21.4s,MS4.5
KMI LR LR
comp=E,154nm,25.7s,MS4.5
KMI LR LR
comp=Z,145nm,17.1s
KMI Kunming 92.91 296 P **P 06 10 52.9 +1.1**
KMI *SP sP 06 10 59.6 +0.7
KMI 06 14 33.6
KMI PPP 06 16 36.6
KMI 06 21 25.3
KMI S 06 21 55.5
KMI PS PS 06 23 14.8 +4.2
KMI SS SS 06 28 14.9 +4.2
KMI pmax pmax
comp=Z,15nm,0.9s,mb5.4
KMI MLR MLR
comp=Z,150nm,17.1s,MS4.5
KMI Kunming 92.91 296 P **P 06 10 52.9 +1.1**
comp=Z,15nm,0.9s,mb5.4
KMI pP pP 06 10 57.3 +0.3
KMI sP sP 06 10 59.6 +0.7
KMI PP PP 06 14 33.6 -0.7
KMI PPP 06 16 36.6
KMI SKS 06 21 25.3
KMI S 06 21 55.5
KMI sS sS 06 22 04.4 -1.3
KMI PS PS 06 23 14.8 +4.2
KMI SS SS 06 28 14.9 +4.2
KMI LR LR
comp=Z,150nm,17.1s,MS4.5
INK Inuvik 93.73 14 P **P 06 10 54.7 -0.8**
comp=Z,2.7nm,0.7s,mb4.8,baz=180,slow=3.5,SNR=7.6
INK Inuvik 93.73 14 *e*P **P 06 10 54.6 -1.0**
INK pmax pmax
comp=Z,16nm,1.5s
INK Inuvik 93.73 14 *e*P **P 06 10 54.5 -1.0**
comp=Z,16nm,1.5s,mb5.2
CHTO Chiang Mai 93.94 289 *e*P **P 06 11 00.0 +3.5**
CHTO pmax pmax
comp=Z,19nm,1.1s,mb5.4
CHTO Chiang Mai 93.94 289 *e*P **P 06 10 60.0 +3.4**
comp=Z,19nm,1.1s,mb5.4
YKA Yellowknife Ar 95.35 24 P **P 06 11 02.2 -0.7**
comp=Z,1.9nm,0.7s,mb4.7,baz=238,slow=4.4,SNR=34
YKA Yellowknife Ar 95.35 24 P **P 06 11 02.2 -0.7**
ECSD EROS,Sioux Fal 95.52 45 *e*P **P 06 11 03.0 -0.8**
LZH Lanzhou 96.04 306 *e*P **P 06 11 17.5 +11**
LZH *SP sP 06 11 26.7 +13
LZH MLR MLR
comp=Z,710nm,19.8s,MS5.2
LZH Lanzhou 96.04 306 *e*P **P 06 11 17.5 +11**
LZH pP pP 06 11 23.9 +13
LZH sP sP 06 11 26.7 +13
LZH PP PP 06 15 12.4 +14
LZH SKS 06 21 51.6
LZH *e*S 06 22 31.8
LZH sS sS 06 22 43.5 +10
LZH PS PS 06 24 02.3 +17
LZH SS SS 06 29 07.6 +12
LZH LR LR
comp=Z,710nm,19.8s,MS5.2
LPAZ La Paz 98.40 111 P **P 06 11 18.4 +1.5**
comp=Z,1.2nm,1.0s,mb4.4,baz=308,slow=2.7,SNR=4.2
ULM Lac du Bonnet 98.53 39 LR LR 06 54 09.5
comp=Z,166nm,18.7s,MS4.6,baz=288,slow=34
SONM Songino Array 98.57 318 PP PP 06 15 16.8 -1.3
comp=Z,0.7nm,0.9s,baz=111,slow=7.9,SNR=3.0
SONM LR LR 06 51 39.5
comp=Z,68nm,19.2s,MS4.2,baz=271,slow=33
TIXI Tiksi 100.14 344 *e*P Pdif 06 11 23.9 -0.7
TIXI *e* 06 22 00.9
TIXI *e*SS SS 06 29 46.6 -6.3
TIXI *e*SSS 06 33 39.5
TIXI pmax pmax
comp=Z,2.0nm,1.0s
TIXI MLR MLR
comp=Z,139nm,20.0s,MS4.5
MKAR Makanchi Array 114.23 313 PKP PKiKP 06 16 17.6 -0.7
comp=Z,1.8nm,0.7s,baz=68,slow=2.2,SNR=20
MKAR PKKPbc PKKPbc 06 26 58.7 +0.5
comp=Z,0.5nm,1.0s,baz=270,slow=3.4,SNR=3.8
MKAR Makanchi Array 114.23 313 PKP PKiKP 06 16 17.6 -0.7
MKAR PKKPbc PKKPbc 06 26 58.7 +0.5
KURK Kurchatov 116.86 317 *e*PKIKP PKPdf 06 16 23.0 -0.3
CHKZ Chkalovo 121.60 321 *e*PKIKP PKPdf 06 16 31.5 -0.9
BRVK Borovoye 121.88 320 *e*PKIKP PKPdf 06 16 32.8 -0.2
ZRNK Zerenda 122.66 320 *e*PKIKP PKPdf 06 16 34.2 -0.3
SVE Sverdlovsk 126.45 326 *e*PKIKP PKPdf 06 16 39.0 -2.7
SVE *e* 06 18 44.9
ARU Arti 127.67 326 *i* PKIKP PKPdf 06 16 44.9 +0.8
ARU *e* 06 18 47.6
ARU *e* 06 23 47.5
ARU *e*SS SS 06 35 50.1 -6.0
ARU MLR MLR
comp=Z,100nm,20.0s,MS4.5
ARU MLR MLR
comp=N,90nm,22.0s,MS4.6
ARU MLR MLR
comp=E,100nm,24.0s,MS4.6
ARCES ARCESS Array B 129.96 351 PKP PKPdf 06 16 47.2 -1.2
comp=E,3.9nm,0.7s,baz=270,slow=0.4,SNR=8.7
ARCES ARCESS Array B 129.96 351 PKP PKPdf 06 16 47.2 -1.2
JOF Joensuu 134.63 344 *e*p PKPdf 06 16 55.7 -1.5
comp=E,5.7nm,0.7s
JOF Joensuu 134.63 344 *e*PKIKP PKPdf 06 16 55.7 -1.5
JOF pmax pmax
comp=Z,6.0nm,0.7s
KAF Kangasniemi 136.52 346 *e*p PKPdf 06 16 56.5 -4.3
comp=Z,5.5nm,0.9s
KAF Kangasniemi 136.52 346 *e*PKIKP PKPdf 06 16 56.5 -4.3
KAF pmax pmax
comp=Z,6.0nm,0.9s
FINES FINESS Array B 137.16 346 PKhKP 06 16 56.6
comp=Z,1.1nm,0.8s,baz=330,slow=8.0,SNR=3.7
FINES PKP PKPdf 06 17 02.5 +0.6
comp=Z,1.8nm,0.7s,baz=143,slow=1.0,SNR=6.3
OBN Obninsk 138.86 334 *i* PKIKP PKPdf 06 17 05.8 +0.7
OBN pmax pmax
comp=Z,9.0nm,0.6s
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.6
NOA NORSAR Array B 139.75 356 PKP PKPdf 06 17 06.8 +0.2
comp=Z,1.0nm,0.7s,baz=14,slow=4.0,SNR=4.8
MUD Monsted U'grnd 144.44 357 *i* P PKPdf 06 17 13.4 -1.6
comp=Z,46nm,1.4s
MUD Monsted U'grnd 144.44 357 *e*PKIKP PKPdf 06 17 13.4 -1.6
MUD pmax pmax
comp=Z,46nm,1.4s
SUW Suwalki 144.47 343 *e*PKP PKPdf 06 17 15.1 0.0
ANN Anapa 144.82 320 *e*PKIKP PKPdf 06 17 16.2 +0.5
ANN *i* 06 17 20.7
ANN *e* 06 24 22.6
ANN pmax pmax
comp=Z,68nm,1.3s
AKASG Malin Array Be 145.12 334 PKP PKPdf 06 17 15.4 -0.9
comp=Z,20nm,0.8s,baz=41,slow=4.1,SNR=50
BSD Bornholm Skovb 145.21 351 ⇑*i*P PKPbc 06 17 15.5 -0.5
comp=Z,29nm,1.0s
BSD Bornholm Skovb 145.21 351 ⇑*i*PKIKP PKPdf 06 17 15.5 -0.9
BSD pmax pmax
comp=Z,29nm,1.0s
DCN Croghan 146.06 14 *e*P PKPdf 06 17 18.1 +0.3
DLF Lyons Farm 146.27 14 *e*P PKPdf 06 17 18.7 +0.5
BSEG Bad Segeberg 146.88 355 *e*PKPbc PKPbc 06 17 20.5 -0.6
MALT Malatya 147.15 309 *e*PKPbc PKPbc 06 17 24.1 +2.2
LVV L'vov 147.82 338 *i* PKP2 PKPbc 06 17 23.7 0.0
RUE Ruedersdorf 147.93 351 *e*PKPbc PKPbc 06 17 23.3 -0.7
KIS Kishinev 148.07 330 *c i*PKP2 PKPab 06 17 26.0 -1.2
KWP Kalwaria 148.43 339 *e*PKP PKPbc 06 17 26.0 +0.7
IBBN Ibbenburen 148.64 358 *e*PKPbc PKPbc 06 17 25.4 -0.5
OJC Ojcow 148.80 343 *e*PKP PKPbc 06 17 26.2 -0.1
CLZ Clausthal 148.95 355 *e*PKPbc PKPbc 06 17 26.4 -0.2
KSP Ksiaz 149.06 347 *e*PKP PKPbc 06 17 26.0 -0.9
KSP Ksiaz 149.06 347 *e*PKIKP PKPdf 06 17 23.2 +0.4
KSP *e* 06 17 27.5
KSP Ksiaz 149.06 347 *e*PKP PKPdf 06 17 23.2 +0.4
KSP *e*PKPdf PKPdf 06 17 27.5 +4.7
KSP *e* 06 17 40.8
STHS Stebnicka Huta 149.09 341 *e*PKP PKPbc 06 17 27.6 +0.6
KOLS Kolonicke sedl 149.17 339 *e*PKP PKPbc 06 17 30.4 +3.2
KOLS *e* 06 17 41.5
BURAR Bucovina Array 149.18 334 ⇓*i*P PKPbc 06 17 28.7 +1.5
BURAR Bucovina Array 149.18 334 ⇓P PKPbc 06 17 28.7 +1.5
CLL Collm 149.18 351 *e*PKPbc PKPbc 06 17 26.7 -0.5
CLL Collm 149.18 351 *i* PKPbc PKPbc 06 17 27.6 +0.4
comp=Z,28nm,1.0s
CLL *i* PKPab PKPab 06 17 32.1 +0.5
comp=Z,17nm,0.9s
CLL *i* pPKPab pPKPab 06 17 35.8 -1.1
CLL *i* sPKPab 06 17 40.5
comp=Z,51nm,1.3s
CLL LmV 07 28 00.0
comp=Z,100nm,20.3s
CLL Collm 149.18 351 *i* PKP PKPbc 06 17 27.6 +0.4
CLL *i* 06 17 40.5
NIE Niedzica 149.37 342 *e*PKP PKPbc 06 17 28.7 +1.0
UPC Upice 149.44 347 ⇑*e*PKPB PKPbc 06 17 28.1 +0.2
UPC *ep*PKP pPKPdf 06 17 39.6 +11
BRG Berggiesshubel 149.46 350 *e*PKPbc PKPbc 06 17 27.6 -0.3
BRG Berggiesshubel 149.46 350 *e*PKP PKPbc 06 17 28.5 +0.6
comp=Z,7.2nm,0.9s
BRG *i* 06 17 41.3
comp=Z,14nm,1.0s
CRVS Cervenica-Dubn 149.47 340 *e*PKP PKPbc 06 17 30.0 +2.1
CRVS *e* 06 17 42.5
BUG Bochum--Univer 149.52 358 *e*PKPbc PKPbc 06 17 27.4 -0.7
DPC Dobruska-Polom 149.52 347 ⇑*e*PKPB PKPbc 06 17 28.8 +0.7
DPC *ep*PKP pPKPdf 06 17 40.8 +12
OKC Ostrava-Krasne 149.58 344 ⇑*e*PKPB PKPbc 06 17 28.6 +0.4
OKC *ep*PKP pPKPdf 06 17 42.6 +14
CFR Carcaliu 149.72 328 ⇑*i*P PKPbc 06 17 29.2 +0.6
MORC Moravsky Berou 149.78 345 *e*PKP2 PKPbc 06 17 29.3 +0.6
BR131 Keskin Array S 149.87 315 *e*PKPbc PKPbc 06 17 30.1 +1.2
BRTR Keskin Array B 149.87 315 PKPbc PKPbc 06 17 29.7 +0.8
comp=Z,8.5nm,0.8s,baz=126,slow=3.2,SNR=33
VRI Vrincioaia 149.88 331 ⇑*i*P PKPbc 06 17 29.1 +0.1
VRI Vrincioaia 149.88 331 ⇑P PKPbc 06 17 29.1 +0.1
PLOR Plostina 149.93 331 ⇑*i*P PKPbc 06 17 30.1 +1.0
PLOR Plostina 149.93 331 ⇑PKP2 PKPbc 06 17 30.2 +1.1
UBBA Unterbreizbach 150.00 355 *e*PKPbc PKPbc 06 17 28.6 -0.6
MOX Moxa 150.01 353 *e*PKPbc PKPbc 06 17 28.9 -0.4
MOX Moxa 150.01 353 *e*PKP PKPbc 06 17 29.3 0.0
MOX *e* 06 17 42.5
comp=Z,55nm,1.6s
WERD Werda 150.12 352 *e*PKPbc PKPbc 06 17 29.2 -0.3
KECS Kecovo 150.15 341 *e*PKP PKPbc 06 17 30.2 +0.6
KECS *e* 06 17 38.1
UCC Uccle 150.15 2 PKPbc PKPbc 06 17 29.3 -0.3
UCC APKPab 06 17 42.5
HARR Harsova 150.17 328 ⇑*i*P PKPbc 06 17 30.9 +1.3
HGN Heimansgroeve 150.22 0 *e*PKP PKPdf 06 17 23.9 -0.7
comp=Z,26nm,1.7s
PRU Pruhonice 150.22 349 ⇑*e*PKPB PKPbc 06 17 29.9 +0.1
PRU *ep*PKP pPKPdf 06 17 38.4 +8.4
NKC Novy Kostel 150.31 352 ⇑*e*PKPB PKPbc 06 17 30.4 +0.4
ANTO Ankara 150.35 316 *e*PKPbc PKPbc 06 17 31.2 +1.1
MEM Membach 150.37 0 PKPbc PKPbc 06 17 30.1 0.0
MEM PKPab PKPab 06 17 38.5 +2.0
MEM APKPab 06 17 42.3
SNF Seneffe 150.44 2 PKPbc PKPbc 06 17 30.0 -0.3
MLR Muntele Rosu 150.53 331 ⇓*i*P PKPbc 06 17 31.0 +0.5
BCLA Clavier 150.56 1 PKP PKPdf 06 17 22.6 -2.6
BCLA PKPbc PKPbc 06 17 30.1 -0.5
BCLA E 06 17 38.4
MANZ Manzenberg 150.60 352 *e*PKPbc PKPbc 06 17 30.6 -0.1
VYHS Vyhne 150.63 343 *e*PKP PKPbc 06 17 31.2 +0.5
VYHS *e* 06 17 44.6
TNS Taunus Mts 150.69 357 *e*PKPbc PKPbc 06 17 30.6 -0.3
TREC Trest 150.70 347 ⇑*e*PKPB PKPbc 06 17 31.2 +0.3
TREC *ep*PKP pPKPdf 06 17 44.2 +13
ROTZ Rotzenmuhle 150.80 352 *e*PKPbc PKPbc 06 17 31.0 -0.1
SNX Sinaia 150.82 331 ⇑*i*P PKPbc 06 17 33.0 +1.8
PSZ Piszkesteto 150.83 341 *e*PKPbc PKPbc 06 17 31.8 +0.6

DOU	**Dourbes**	**150.86**	**2**	PKPbc	PKPbc	06 17 31.5	+0.2
DOU				PKPab	PKPab	06 17 38.0	-0.5
DOU				APKPab		06 17 45.0	
GIVF	**Givet**	**150.86**	**2**	*e*PKP1	PKPbc	06 17 31.3	0.0
BAIF	**Baives**	**150.88**	**2**	*e*PKP1	PKPbc	06 17 31.4	0.0
	comp=Z,35nm,0.8s						
GRA1	**Grafenberg Arr**	**150.99**	**353**	*e*PKPbc	PKPbc	06 17 31.5	-0.1
GRA1				*ep*PKPbc	pPKPbc	06 17 44.7	+7.8
GRF	**Grafenberg Arr**	**150.99**	**353**	*e*PKPbc	PKPbc	06 17 31.5	-0.1
GRF				*ep*PKPbc	pPKPbc	06 17 44.7	+7.8
ABH	**Alteburg**	**151.07**	**358**	PKP	PKPbc	06 17 32.2	+0.4
KHC	**Kasperske Hory**	**151.21**	**350**⇓	*e*PKPB	PKPbc	06 17 32.6	+0.5
KHC				*e*PKPAB	PKPab	06 17 42.5	+2.5
RUP	**Ruppelstein**	**151.27**	**359**	PKP	PKPbc	06 17 33.0	+0.8
TOD	**Tromm**	**151.29**	**356**	PKP	PKPbc	06 17 32.6	+0.3
WET	**Wettzell**	**151.31**	**351**	*e*PKPbc	PKPbc	06 17 32.1	-0.2
WLF	**Walferdange**	**151.32**	**360**	*e*PKPbc	PKPbc	06 17 32.4	0.0
WLF	**Walferdange**	**151.32**	**360**	PKPbc	PKPbc	06 17 33.1	+0.7
WLF				PKPab	PKPab	06 17 39.8	-0.6
WLF				APKPab		06 17 46.7	
GEC2	**GERESS Array S**	**151.47**	**349**	*e*PKPbc	PKPbc	06 17 32.3	-0.4
GERES	**GERESS Array B**	**151.47**	**349**	PKPbc	PKPbc	06 17 33.1	+0.4
	comp=Z,4.7nm,0.7s,baz=4.1,slow=1.9,SNR=21						
ROSF	**Rostrenen**	**151.64**	**13**	*e*PKP1	PKPbc	06 17 33.1	0.0
FLN	**La Foliniere**	**151.73**	**9**	*e*PKP1	PKPbc	06 17 32.8	-0.5
	comp=Z,46nm,0.9s						
FLN				*e*R			
	comp=Z,143nm,19.5s						
FLN	**La Foliniere**	**151.73**	**9**	*e*PKP	PKPbc	06 17 32.8	-0.5
FLN				LR	LR		
	comp=Z,140nm,19.5s,MS4.8						
SGMF	**Saint Gilles**	**151.87**	**12**	*e*PKP1	PKPbc	06 17 32.9	-0.7
	comp=Z,71nm,1.2s						
LDF	**La Druitiere**	**151.95**	**9**	*e*PKP1	PKPbc	06 17 33.3	-0.5
	comp=Z,38nm,0.9s						
LANF	**Langenberg**	**151.97**	**358**	PKP	PKPbc	06 17 35.6	+1.8
GRR	**Gorron**	**152.04**	**10**	*e*PKP1	PKPbc	06 17 33.6	-0.4
	comp=Z,29nm,0.8s						
STU	**Stuttgart**	**152.09**	**356**	*e*PKPbc	PKPbc	06 17 33.8	-0.3
STU	**Stuttgart**	**152.09**	**356**	*e*PKPbc	PKPbc	06 17 34.3	+0.2
BZS	**Buzias**	**152.23**	**336**⇓	*i*P	PKPbc	06 17 34.8	+0.3
MEZF	**Maizieres J'vi**	**152.47**	**1**	*e*PKP1	PKPbc	06 17 35.1	+0.1
FUR	**Furstenfeldbru**	**152.49**	**352**	*e*PKPbc	PKPbc	06 17 34.5	-0.5
EIL	**Elat**	**152.50**	**294**	*e*PKPbc	PKPbc	06 17 36.6	+1.5
WLS	**Welschbruch**	**152.55**	**358**	PKP	PKPbc	06 17 35.4	+0.2
CDF	**Champ du Feu**	**152.55**	**358**	*e*PKP1	PKPbc	06 17 35.3	+0.1
	comp=Z,20nm,0.9s						
BFO	**Black Forest**	**152.59**	**357**	*e*PKPbc	PKPbc	06 17 34.6	-0.6
ECH	**Echery**	**152.75**	**358**	PKP	PKPbc	06 17 36.9	+1.3
THEF	**They Montfort**	**152.75**	**0**	PKP	PKPbc	06 17 36.1	+0.5
HAU	**Haudompre**	**152.97**	**360**	*e*PKP1	PKPbc	06 17 36.9	+0.8
	comp=Z,15nm,0.7s						
HAU				*e*R			
	comp=Z,124nm,20.5s						
HAU	**Haudompre**	**152.97**	**360**	*e*PKP	PKPbc	06 17 36.9	+0.8
HAU				LR	LR		
	comp=Z,120nm,20.5s,MS4.7						
HINF	**Hinteralfeld**	**153.16**	**359**	*e*PKP1	PKPbc	06 17 36.1	-0.4
PERS	**Pernice**	**153.30**	**346**	*e*PKPbc	PKPbc	06 17 36.5	-0.3
PERS				*e*PKPab	PKPab	06 17 49.8	+1.1
WTTA	**Wattenberg**	**153.33**	**351**⇑	*i*P	PKPbc	06 17 37.4	+0.5
	comp=Z,9.3nm,0.7s						
LOR	**Lormes**	**153.66**	**3**	*e*PKP1	PKPbc	06 17 37.5	-0.1
	comp=Z,14nm,0.8s						
LOR				*e*R			
	comp=Z,186nm,19.5s						
LOR	**Lormes**	**153.66**	**3**	*e*PKP	PKPbc	06 17 37.5	-0.1
LOR				LR	LR		
	comp=Z,190nm,19.5s,MS4.9						
SSF	**Saint Saulge**	**153.84**	**4**	*e*PKP1	PKPbc	06 17 37.0	-1.0
	comp=Z,13nm,0.8s						
MFF	**Saint Martin d**	**153.89**	**10**	*e*PKP1	PKPbc	06 17 37.7	-0.4
LJU	**Ljubljana**	**153.99**	**346**	*e*PKPbc	PKPbc	06 17 38.6	+0.3
AVF	**Avril sur Loir**	**154.10**	**4**	*e*PKP1	PKPbc	06 17 38.6	+0.1
	comp=Z,13nm,1.0s						
VOJS	**Vojsko**	**154.14**	**347**	*e*PKPbc	PKPbc	06 17 38.0	-0.6
SMF	**Signal de Mont**	**154.28**	**3**	*e*PKP1	PKPbc	06 17 39.2	+0.3
BGF	**Bois d'Agland**	**154.29**	**5**	*e*PKP1	PKPbc	06 17 39.3	+0.3
	comp=Z,15nm,0.8s						
BOJS	**Bojanci**	**154.33**	**345**	*e*PKPdf	PKPdf	06 17 29.8	-1.0
BOJS				*e*PKPbc	PKPbc	06 17 39.7	+0.6
CABF	**La Chapelle**	**154.37**	**360**	*e*PKP1	PKPbc	06 17 39.6	+0.5
PYM	**Petit Puy Mans**	**155.11**	**5**	PKP	PKPdf	06 17 41.4	+10
LPL	**La Plagne**	**155.46**	**359**	*e*PKP1	PKPdf	06 17 41.2	+8.9
LPG	**La Plagne**	**155.48**	**359**	*e*PKP1	PKPdf	06 17 41.5	+9.2
LBL	**Lubilhac**	**155.64**	**5**	PKP	PKPdf	06 17 42.8	+10
ORIF	**Oris-en-Rattie**	**156.06**	**0**	*e*PKP1	PKPdf	06 17 43.0	+10
	comp=Z,3.5nm,0.6s						
ORIF				*e*R			
	comp=Z,165nm,20.5s						
ESDC	**Sonseca Array**	**159.44**	**22**	PKPab	PKPab	06 18 15.0	-0.1
	comp=Z,1.1nm,0.7s,baz=336,slow=3.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**171.23**	**151**	PKPab	PKPab	06 19 07.2	+0.2
	comp=Z,4.4nm,0.9s,baz=211,slow=3.1,SNR=9.3						

*NEIC **27** 06:29:03.6, 1972N×6896W, h52km, MD3.9(RSPR), After RSPR.*

RSPR 27 06:29:03.6, 1972N×6896W, h53km±31km, MD4.0/18, MD4.0/18, 17C-1D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**2.14**	**125**⇑	*e*P	Pn	06 29 36.0	-0.9
AGPR				*e*S	Sn	06 30 01.9	-0.4
MPR	**Mayaguez**	**2.28**	**131**⇑	*e*P	Pn	06 29 37.5	-1.3
MPR				*e*S	Sn	06 30 04.5	-1.2
LSP	**Las Mesas**	**2.34**	**131**⇑	*e*P	Pn	06 29 38.7	-0.9
LSP				*e*S	Sn	06 30 06.3	-0.8
CRPR	**Cabo Rojo, PR**	**2.44**	**134**⇑	*e*P	Pn	06 29 40.0	-0.9
CRPR				*e*S	Sn	06 30 08.6	-0.9
LRS	**Lares**	**2.45**	**125**⇑	*e*P	Pn	06 29 41.3	+0.3
LRS				*e*S	Sn	06 30 08.8	-1.0
MGP	**Maguayo**	**2.45**	**134**⇓	*e*P	Pn	06 29 39.7	-1.4
AOPR	**Arecibo Observ**	**2.49**	**123**⇑	*e*P	Pn	06 29 41.7	0.0
AOPR				*e*S	Sn	06 30 09.6	-1.2
OBIP	**Obispado Ponce**	**2.78**	**126**⇑	*e*P	Pn	06 29 46.0	+0.4
OBIP				*e*S	Sn	06 30 17.8	-0.1
CELP	**Cerrillos**	**2.78**	**126**⇑	*e*P	Pn	06 29 45.8	+0.2
CELP				*e*S	Sn	06 30 17.9	0.0
ICM	**Isla Caja Muer**	**2.94**	**128**⇑	*e*P	Pn	06 29 48.0	+0.3
ICM				*e*S	Sn	06 30 21.2	-0.6
SJG	**San Juan**	**3.10**	**121**⇑	*e*P	Pn	06 29 49.7	-0.2
SJG				*e*S	Sn	06 30 26.3	+0.6
SJG	**San Juan**	**3.10**	**121**⇑	*e*P	Pn	06 29 49.2	-0.7
SJG				*e*S	Sn	06 30 24.8	-1.0
CBYP	**Canovanas**	**3.27**	**116**⇑	*e*P	Pn	06 29 51.2	-1.0
CPD	**Cerro la Pandu**	**3.33**	**120**⇑	*e*P	Pn	06 29 53.0	-0.1
CPD				*e*S	Sn	06 30 31.5	+0.1
HUMP	**Col San Antoni**	**3.33**	**118**⇑	*e*P	Pn	06 29 52.7	-0.5
MTP	**Monte Pirata**	**3.60**	**116**⇑	*e*P	Pn	06 29 56.1	-0.8
STVI	**Saint Thomas**	**4.01**	**109**⇑	*e*P	Pn	06 30 02.4	-0.1
TBVI	**Tortola**	**4.31**	**107**⇑	*e*P	Pn	06 30 05.7	-0.9

CASC 27 06:31:58.3±2.5, 1097N×8682W, h17km±6km, MD3.6, ML3.3, 14C-5D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SSNN	**San Juan del S**	**1.00**	**71**⇑	*e*P	Pb	06 32 19.5	+2.3
SSNN				*e*S	Sb	06 32 33.6	+3.6
APON	**Apoyo**	**1.19**	**38**⇑	*e*P	Pn	06 32 19.2	-1.0
TICN	**Ticuantepe**	**1.20**	**28**⇑	*e*P	Pn	06 32 19.9	-0.4
COPN	**Copaltepe**	**1.22**	**10**⇓	*e*P	Pn	06 32 21.2	+0.6
COPN				*e*S	Sb	06 32 36.0	-0.5
XAVN	**Gruta Xavier**	**1.27**	**22**⇑	*e*P	Pn	06 32 20.6	-0.6
XAVN				*e*S	Sb	06 32 38.5	+0.8
TISN	**Laguna Tiscapa**	**1.28**	**25**⇓	*e*P	Pn	06 32 20.5	-0.9
MGAN	**Managua**	**1.30**	**25**⇑	*e*P	Pn	06 32 20.4	-1.2
MGAN				*e*S	Sn	06 32 38.1	-0.4
	comp=E,560nm,0.4s						
CONN	**Concepcion**	**1.31**	**63**⇑	*e*P	Pn	06 32 19.9	-1.9
MADN	**Villa Maderas**	**1.33**	**71**⇑	*e*P	Pn	06 32 20.5	-1.6
APYN	**Apoyeque**	**1.34**	**20**⇓	*e*P	Pn	06 32 21.0	-1.1
LEON	**Leon**	**1.44**	**357**⇑	*e*P	Pn	06 32 24.2	+0.6
LEON				*e*S	Sn	06 32 44.7	+2.7
MOMJ	**Momotombo**	**1.46**	**11**⇑	*e*P	Pn	06 32 22.5	-1.3
MOMJ				*e*S	Sn	06 32 41.7	-0.7
MIRN	**Miramar**	**1.47**	**4**⇓	*e*P	Pn	06 32 23.6	-0.3
MIRN				*e*S	Sn	06 32 43.5	+0.8
CNGN	**Cerro Negro**	**1.53**	**4**⇑	*e*P	Pn	06 32 23.9	-0.9
CNGN				*e*S	Sn	06 32 44.7	+0.5
LIM1	**Limonal**	**1.56**	**100**	*i*P	Pn	06 32 25.6	+0.4
LIM1				*i*S	Sn	06 32 46.1	+1.1
TEL3	**Telica 3**	**1.59**	**359**⇑	*e*P	Pn	06 32 25.5	-0.2
TEL3				*e*S	Sn	06 32 45.3	-0.5
TELN	**Telica**	**1.62**	**359**⇑	*e*P	Pn	06 32 25.6	-0.6
TELN				*e*S	Sn	06 32 48.1	+1.4
CRIN	**San Cristobal**	**1.74**	**352**⇑	*e*P	Pn	06 32 27.6	0.0
CRIN				*e*S	Sn	06 32 50.8	+1.4
CGA2	**Cerro Gallo 2**	**2.50**	**112**	*e*P	Pn	06 32 37.2	-0.9
PRS1	**Puriscal**	**2.65**	**111**⇑	*e*P	Pn	06 32 39.7	-0.6
LAJ	**Bijagual**	**2.87**	**112**	*e*P	Pn	06 32 39.3	-4.0
LCR2	**La Lucha 2**	**3.02**	**114**	*e*P	Pn	06 32 44.0	-1.4
BUS	**Buena Vista**	**3.32**	**115**⇓	*e*P	Pn	06 32 49.6	+0.1

IDC 27 06:43:13.9±5.5, 2164N×12186E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/18, mbtmp3.3/3, Error ellipse: s-maj=422.0km s-min=29.5km az=60.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**40.61**	**318**	P	P	06 50 55.3	0.0
	0.3nm,0.6s,baz=114,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**43.09**	**163**	P	P	06 51 15.7	+0.1
	0.5nm,0.7s,baz=344,slow=8.9,SNR=4.4						
ASAR	**Alice Springs**	**46.53**	**165**	P	P	06 51 43.3	+0.2
	0.2nm,0.4s,baz=343,slow=6.7,SNR=4.6						

JMA 27 06:57:53.6±0.5, 3333N×14229E, h61km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.71**	**321**	P	Pn	06 58 21.7	+0.6
BSO2	**Boso 2**	**1.91**	**318**	*e*S	Sn	06 58 47.5	+0.8
BSO3	**Boso 3**	**2.08**	**315**	P	Pn	06 58 27.5	+1.3
JHJ2	**Mitsune**	**2.08**	**265**	P	Pn	06 58 27.2	+1.0
BSO4	**Boso 4**	**2.31**	**316**	P	Pn	06 58 31.3	+2.0
JIM2	**Oshima 3**	**2.75**	**301**	P	Pn	06 58 35.8	+0.6
JOD2	**Odawara 2**	**3.28**	**307**	P	Pn	06 58 43.3	+0.8
JYT	**Yasato**	**3.37**	**330**	*e*S	Sn	06 59 23.4	+1.0
JHO	**Hitachi**	**3.56**	**337**	P	Pn	06 58 46.9	+0.5
JHO				*e*S	Sn	06 59 25.8	-1.5
JAG	**Ashikaga**	**3.87**	**324**	P	Pn	06 58 52.1	+1.5
JNY	**Yasuok**	**4.18**	**300**	P	Pn	06 58 57.7	+2.8
JFK	**Kawauchi**	**4.19**	**344**	P	Pn	06 58 55.1	+0.1
JFK				*e*S	Sn	06 59 40.0	-2.6
MAT	**Matsushiro**	**4.64**	**315**	P	Pn	06 59 02.0	+0.9
MAT				*e*S	Sn	06 59 55.6	+2.0
JMM	**Marumori**	**4.69**	**345**	P	Pn	06 59 02.6	+0.8

*ISCJB **27** 07:01:20.6±0.7, 3651N±003×2559E±006, h10km, Error ellipse: s-maj=6.9km s-min=4.8km az=5.4*
*CSEM **27** 07:01:21.7±0.1, 3653N×2549E, h12km, MD3.4, Error ellipse: s-maj=5.9km s-min=1.9km az=97.0*
*NEIC **27** 07:01:21.4, 3657N×2575E, h5km, MD3.4(ATH), After ATH.*
*THE **27** 07:01:21.2, 3651N×2561E, h3km*
*ATH **27** 07:01:21.4, 3657N×2575E, h5km±4km, MD3.4/6*

ISC 27 07:01:20.6±0.7, 3652N±003×2564E±006, h10km, n15, σ1§19/21, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANT	**Santorini**	**0.21**	**223**	*e*Pg	**Pg**	**07 01 25.0**	**0.0**
SANT				*e*Sg	**Sg**	**07 01 27.7**	**-0.3**
SANT	**Santorini**	**0.21**	**223**	*e*Pg	**Pg**	**07 01 24.7**	**-0.3**
SANT				*e*Sg	**Sg**	**07 01 27.7**	**-0.2**
THR1	**Thera Island**	**0.21**	**223**	*e*Pg	**Pg**	**07 01 25.2**	**+0.2**
THR3	**Thira Island,**	**0.22**	**239**	*e*Pg	**Pg**	**07 01 25.0**	**-0.2**
APE	**Apeiranthos**	**0.55**	**351**	*e*Pg	**Pg**	**07 01 32.0**	**+0.7**
APE	**Apeiranthos**	**0.55**	**351**	*e*PB	**Pb**	**07 01 32.1**	**-0.2**
APE				*e*SB	**Sb**	**07 01 39.7**	**-0.6**
APE	**Apeiranthos**	**0.55**	**351**	*e*Pg	**Pg**	**07 01 32.0**	**+0.7**
APE				*e*Sb	**Sb**	**07 01 39.7**	**-0.6**
NPS	**Neapolis**	**1.26**	**181**	*e*PG	**Pg**	**07 01 45.9**	**+1.1**
NPS				*e*SB	**Sb**	**07 02 04.2**	**+3.5**
LAST	**Lasithi**	**1.37**	**185**	*e*Pg	**Pg**	**07 01 45.1**	**-1.7**
KARP	**Karpathos**	**1.57**	**128**	*e*PB	**Pb**	**07 01 50.7**	**+0.9**
VAM	**Vamos**	**1.61**	**227**	*e*PN	**Pg**	**07 01 54.4**	**+2.8**
XRY	**Khrisi**	**1.65**	**178**	*e*PG	**Pg**	**07 01 52.7**	**+0.5**
SIVA	**Sivas**	**1.65**	**204**	*e*Pb	**Pb**	**07 01 49.7**	**-1.4**
KARN	**Karanos**	**1.79**	**232**	*e*Pb	**Pb**	**07 01 51.3**	**-2.2**
VLI	**Veliai**	**2.18**	**276**	*e*PN	**Pg**	**07 02 01.5**	**-0.9**
VLI				*e*SN	**Sg**	**07 02 32.6**	**+1.9**

*ISCJB **27** 07:05:22.6±0.8, 4225S±003×15183E±003, h209km±7km, mb4.8/91, Error ellipse: s-maj=6.0km s-min=5.0km az=77.9*
*MOS **27** 07:05:23.2±0.9, 4.18S×15186E, h215km, mb4.8/36, Error ellipse: s-maj=9.0km s-min=6.6km az=93.8*
*BJI **27** 07:05:24.2, 4.34S×15243E, h256km, mB4.6, mb4.7*
*IDC **27** 07:05:24.2±0.5, 4.28S×15178E, h213km±4km, mb4.7/22, mb1 4.8/25, mb1mx4.8/25, mbtmp5.2/25, Error ellipse: s-maj=9.5km s-min=6.9km az=107.0*
*NEIC **27** 07:05:25.5±0.1, 4.25S×15185E, mb4.9/53, Error ellipse: s-maj=5.2km s-min=4.0km az=109.0*
*HRVD **27** 07:05:25.5±0.2, 4.30S×15187E, h220km±1km, MW5.2/84, Centroid moment Tensor Solution. LP body waves: s58,c77;Mantle waves: s84,c124; Half duration: 1§0 Moment tensor: Scale 10^16 Nm; Mrr=0.56±.17; Mθθ=-0.10±.19; Mϕϕ=-0.45±.20; Mrθ=3.68±.15; Mϕθ=0.40±.18; Mϕr=-6.58±.15; Best double couple: Mw=7.56 ×10^16 NP1: ϕs=151.00000°, δ=88.00000°, λ=90.00000°. Principal axes: T 7.4900, Plg47.0000°, Azm261.0000°; N 0.1520, Plg0.0000°, Azm331.0000°; P -7.6430, Plg43.0000°, Azm240.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 27 07:05:24.9±0.8, 4225S±003×15184E±004, h216km±7km, h227km±1.7km; pP-P, n227, σ1§13/221, mb4.8/90, 6C-18D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.92**	**222**	P	**Pn**	**07 07 04.5**	**+0.3**
	8.0nm,0.3s,baz=29,slow=11,SNR=24						
PMG				S	**S**	**07 08 20.9**	**-2.3**
	41nm,0.3s,baz=108,slow=21,SNR=11						
PMG	**Port Moresby**	**6.92**	**222**	P	**Pn**	**07 07 04.5**	**+0.4**
PMG				S	**S**	**07 08 20.9**	**-2.3**
PMG				pmax	pmax		
	comp=Z,8.0nm,0.3s						
PMG				smax			
	comp=N,41nm,0.3s						
PMG	**Port Moresby**	**6.92**	**222**	*e*Pn	**Pn**	**07 07 04.4**	**+0.2**
	comp=N,250nm,0.4s						
HNR	**Honiara**	**9.55**	**123**	P	**Pn**	**07 07 37.7**	**-0.4**
	comp=N,22nm,0.3s,baz=281,slow=5.2,SNR=3.9						
CTA	**Charters Tower**	**16.66**	**199**⇓	*i*P	**P**	**07 09 06.7**	**+1.8**
	comp=N,111nm,0.9s						
CTA				*e*S	**S**	**07 12 10.1**	**+2.3**
CTA	**Charters Tower**	**16.66**	**199**	P	**P**	**07 09 07.0**	**+2.1**
	comp=N,13nm,0.3s,baz=24,slow=12,SNR=124						
CTA	**Charters Tower**	**16.66**	**199**⇓	*i*P	**P**	**07 09 06.7**	**+1.8**
CTA				*e*S	**S**	**07 12 10.1**	**+2.3**
CTA				pmax	pmax		
	comp=Z,111nm,0.9s						
CTAO	**Charters Tower**	**16.66**	**199**	*e*P	**P**	**07 09 07.1**	**+2.2**
CTAO				pmax	pmax		
	comp=Z,626nm,1.4s						
CTAO	**Charters Tower**	**16.66**	**199**	*e*P	**P**	**07 09 07.1**	**+2.1**
	comp=Z,626nm,1.4s						
GUMO	**Guam**	**19.03**	**339**	P	**P**	**07 09 31.8**	**+1.1**
	comp=Z,5.3nm,0.3s,baz=183,slow=8.0,SNR=13						
GUMO	**Guam**	**19.03**	**339**	P	**P**	**07 09 31.8**	**+1.1**
KAKA	**Kakadu**	**20.93**	**245**	*e*P	**P**	**07 09 49.5**	**-1.5**
	comp=Z,151nm,0.4s						
KAKA				*e*S	**S**	**07 13 26.8**	**-4.4**
DZM	**Mont Dzumac**	**22.68**	**143**	P	**P**	**07 10 08.8**	**+1.0**
	comp=Z,88nm,0.4s,mb5.6,baz=312,slow=6.6,SNR=161						
WRAB	**Tennant Creek**	**23.10**	**226**	*e*P	**P**	**07 10 12.1**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,2μm,0.5s						
WRAB	**Tennant Creek**	**23.10**	**226**	*e*P	**P**	**07 10 12.1**	**+0.4**
	comp=Z,2μm,0.5s						
WB2	**Warramunga Arr**	**23.10**	**226**⇓	*i*P	**P**	**07 10 12.0**	**+0.3**
WB2				*e*S	**S**	**07 14 04.1**	**-2.3**
WRA	**Warramunga Arr**	**23.11**	**226**	P	**P**	**07 10 12.5**	**+0.7**
	comp=Z,762nm,0.5s,baz=42,slow=8.9,SNR=1586						
WRA				S	**S**	**07 14 05.3**	**-1.2**
	comp=Z,14nm,0.8s,baz=48,slow=15,SNR=9.5						
WRA				ScP	ScP	07 17 10.5	-0.5
	comp=Z,11nm,1.0s,baz=42,slow=2.7,SNR=12						
WRA	**Warramunga Arr**	**23.11**	**226**	P	**P**	**07 10 12.5**	**+0.7**
WRA				S	**S**	**07 14 05.3**	**-1.2**
AS31	**Alice Springs**	**25.93**	**220**⇓	*i*P	**P**	**07 10 37.1**	**-0.1**
AS31				*e*S	**S**	**07 14 50.7**	**-0.4**
ASAR	**Alice Springs**	**25.93**	**220**	P	**P**	**07 10 37.1**	**-0.1**
	comp=Z,57nm,0.4s,mb5.6,baz=54,slow=8.3,SNR=702						
ASAR				S	**S**	**07 14 49.2**	**-2.0**
	comp=Z,2.6nm,0.6s,baz=37,slow=14,SNR=3.1						
ASAR				ScP	ScP	07 17 19.1	+0.3
	comp=Z,2.5nm,0.7s,baz=52,slow=2.7,SNR=6.7						
ASAR	**Alice Springs**	**25.93**	**220**	P	**P**	**07 10 37.2**	**-0.1**
ASAR				S	**S**	**07 14 49.2**	**-2.0**
ASPA	**Alice Springs**	**25.93**	**220**⇓	*i*P	**P**	**07 10 37.1**	**-0.2**
ASPA				*e*S	**S**	**07 14 50.7**	**-0.5**
ARMA	**Armidale**	**26.03**	**180**	*e*P	**P**	**07 10 39.2**	**+1.0**
ARMA				*i*S	**S**	**07 14 56.8**	**+4.0**
FITZ	**Fitzroy Crossi**	**29.10**	**240**⇓	*i*P	**P**	**07 11 03.9**	**-1.5**
	comp=Z,117nm,0.4s,mb5.9						
FITZ	**Fitzroy Crossi**	**29.10**	**240**	P	**P**	**07 11 04.1**	**-1.3**
	comp=Z,59nm,0.4s,mb5.6,baz=68,slow=8.3,SNR=339						
STKA	**Stephens Creek**	**29.12**	**198**	*e*P	**P**	**07 11 03.1**	**-2.5**
	comp=Z,15nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**29.12**	**198**	P	**P**	**07 11 03.3**	**-2.3**
	comp=Z,18nm,0.5s,mb4.9,baz=4.2,slow=8.1,SNR=38						
RIV	**Riverview**	**29.44**	**181**	*e*P	**P**	**07 11 09.3**	**+0.9**
CNB	**Canberra Magne**	**31.00**	**184**⇓	*i*P	**P**	**07 11 23.1**	**+1.0**
	comp=Z,60nm,0.6s,mb5.4						
CBIJ	**Chichi jima**	**32.53**	**344**	P	**P**	**07 11 32.6**	**-2.8**
	comp=Z,37nm,0.4s,mb5.3,baz=82,slow=11,SNR=5.6						
TOO	**Toolangi**	**33.67**	**189**⇓	*i*P	**P**	**07 11 46.1**	**+0.8**
	comp=Z,25nm,1.1s,mb4.7						
TOO	**Toolangi**	**33.67**	**189**⇓	*i*P	**P**	**07 11 46.1**	**+0.8**
TOO				pmax	pmax		
	comp=Z,25nm,1.1s,mb4.7						
FORT	**Forrest**	**34.62**	**218**	*e*P	**P**	**07 11 51.9**	**-1.6**
	comp=Z,260nm,0.5s						
TSM	**Tawau**	**34.98**	**284**	P	**P**	**07 11 58.4**	**+1.8**
MBWA	**Marble Bar**	**35.42**	**239**	*e*P	**P**	**07 11 59.2**	**-1.2**
	comp=Z,72nm,0.6s,mb5.4						
KKM	**Kota Kinabalu**	**37.02**	**286**	P	**P**	**07 12 14.8**	**+0.9**
AFI	**Afiamalu**	**37.13**	**107**	P	**P**	**07 12 15.2**	**+0.4**
	comp=Z,52nm,0.8s,mb5.1,baz=66,slow=4.8,SNR=4.6						
JOW	**Kunigami**	**38.39**	**325**	P	**P**	**07 12 26.2**	**+0.9**
	comp=Z,11nm,0.4s,mb4.7,baz=153,slow=9.0,SNR=9.2						
URZ	**Urewera**	**40.94**	**149**	P	**P**	**07 12 46.8**	**+0.4**
	comp=Z,17nm,0.6s,mb4.7,baz=262,slow=3.7,SNR=6.7						
KSM	**Kuching**	**41.89**	**277**	*e*P	**P**	**07 12 55.0**	**+0.9**
KLBR	**Kellerberrin**	**41.99**	**226**⇓	*i*P	**P**	**07 12 53.2**	**-1.7**
	comp=Z,39nm,0.5s,mb5.1						
MJAR	**Matsushiro Arr**	**42.53**	**344**	P	**P**	**07 12 57.3**	**-1.9**
	comp=Z,17nm,0.8s,mb4.5,baz=166,slow=8.3,SNR=26						
MJAR				PcP	PcP	07 14 47.6	+0.1
	comp=Z,3.3nm,0.6s,baz=161,slow=3.1,SNR=4.8						
MAJO	**Matsushiro**	**42.53**	**344**	*e*P	**P**	**07 12 57.1**	**-2.1**
MAJO				pmax	pmax		
	comp=Z,18nm,0.6s,mb4.7						
MAJO	**Matsushiro**	**42.53**	**344**	*e*P	**P**	**07 12 57.1**	**-2.1**
	comp=Z,18nm,0.6s,mb4.7						
**MAT

KMI LR LR
comp=Z,59nm,20.3s
KMI Kunming 55.89 304 P **P** **07 14 42.8 +2.6**
KMI *PP pP 07 15 33.2 +4.7
KMI 07 15 39.5
KMI *SP sP 07 15 58.7 +6.5
KMI 07 16 51.9
KMI S **S** **07 22 12.5 +1.9**
KMI SS SS 07 26 01.9 +2.2
KMI pmax pmax
comp=Z,13nm,1.1s,mb4.4
KMI MLR MLR
comp=Z,60nm,20.3s
KMI Kunming 55.89 304 P **P** **07 14 42.8 +2.6**
comp=Z,13nm,1.1s,mb4.4
KMI pP pP 07 15 33.2 +4.7
KMI PcP PcP 07 15 39.5 +3.3
KMI sP sP 07 15 58.7 +6.5
KMI PP PP 07 16 51.9 +4.7
KMI S **S** **07 22 12.5 +1.9**
KMI sS sS 07 23 44.4 +9.3
KMI SS SS 07 26 01.9 +2.2
KMI SSS 07 28 41.9
KMI LR LR
comp=Z,60nm,20.3s
KLR Kul'dur 56.05 344⇓ *i*P **P** **07 14 37.8 -3.6**
KLR *e* pP 07 15 29.2 -0.5
KLR pmax pmax
comp=E,40nm,1.8s
KLR pmax pmax
comp=Z,90nm,1.8s,mb5.0
CHTO Chiang Mai 56.89 296 *e*P **P** **07 14 48.9 +1.6**
CHTO pmax pmax
comp=Z,24nm,1.3s,mb4.7
CHTO Chiang Mai 56.89 296 *e*P **P** **07 14 48.9 +1.6**
comp=Z,24nm,1.3s,mb4.7
CD2 Chengdu 57.66 311 P **P** **07 14 54.0 +1.4**
CD2 AMB AMB
comp=Z,20nm,0.6s,mb4.9
HHC Hu-ho-hao-te 58.05 325 *e*P **P** **07 14 58.0 +2.7**
HHC PCP PcP 07 15 47.3 +2.6
HHC PP PP 07 17 10.5 +4.1
HHC PCS PcS 07 19 47.8 +1.4
HHC S **S** **07 22 40.0 +1.2**
HHC SCS ScS 07 24 21.0 -1.9
HHC SS SS 07 26 35.8 +2.2
HHC AMB AMB
comp=Z,13nm,1.3s,mb4.4
HHC AMB AMB
comp=Z,81nm,6.5s
HHC LR LR
comp=N,219nm,16.7s
HHC LR LR
comp=E,265nm,18.8s
HHC LR LR
comp=Z,113nm,14.6s
PPT Papeete 58.80 108 *e*P **P** **07 15 03.0 +2.5**
PPT Papeete 58.80 108 P **P** **07 15 00.1 -0.4**
comp=Z,21nm,0.6s,mb5.0,baz=240,slow=8.3,SNR=4.4
PAE Paea 58.81 108 *e*P **P** **07 15 02.9 +2.3**
comp=Z,119nm,1.3s,mb5.3
TVO Taravao 59.13 108 *e*P **P** **07 15 05.3 +2.5**
comp=Z,94nm,0.9s,mb5.4
HIA Hailar 60.15 336 *e*P **P** **07 15 09.4 -0.3**
HIA pmax pmax
comp=Z,16nm,0.8s
HIA Hailar 60.15 336 *e*P **P** **07 15 09.4 -0.3**
comp=Z,16nm,0.8s,mb4.7
LZH Lanzhou 60.17 316 *e*P **P** **07 15 11.0 +1.1**
LZH PP PP 07 17 28.8 +3.6
LZH *eS* **S** **07 23 06.3 +0.2**
LZH SS SS 07 27 08.5 +1.6
LZH AMB AMB
comp=Z,31nm,1.5s,mb4.7
LZH AMB AMB
comp=Z,97nm,6.7s
LZH Lanzhou 60.17 316 *e*P **P** **07 15 11.0 +1.1**
LZH *PP pP 07 16 02.5 +3.6
LZH *SP sP 07 16 27.3 +4.9
LZH 07 17 28.7
LZH *eS* **S** **07 23 06.3 +0.2**
LZH *SS sS 07 24 35.2 +3.4
LZH SS SS 07 27 08.4 +1.5
LZH pmax pmax
comp=Z,31nm,1.5s,mb4.7
LZH Lanzhou 60.17 316 *e*P **P** **07 15 11.0 +1.1**
comp=Z,31nm,1.5s,mb4.7
LZH pP pP 07 16 02.5 +3.6
LZH sP sP 07 16 27.3 +4.9
LZH PP PP 07 17 28.7 +3.5
LZH *eS* **S** **07 23 06.3 +0.2**
LZH sS sS 07 24 35.2 +3.4
LZH SS SS 07 27 08.4 +1.5
PMOR Pomariorio Ree 60.20 105 *e*P **P** **07 15 12.3 +2.2**
comp=Z,44nm,0.9s,mb5.1
MA2 Magadan 63.63 359 *de*P **P** **07 15 32.1 -0.8**
GTA Gaotai 64.61 317 *e*P **P** **07 15 41.0 +1.8**
GTA PP PP 07 18 09.5 +5.4
GTA PCS 07 20 15.0
GTA S **S** **07 24 04.3 +3.0**
GTA SCS ScS 07 25 10.5 -1.9
GTA SS SS 07 28 23.5 +7.4
GTA AMB AMB
comp=Z,5.0nm,1.0s,mb4.1
GTA AMB AMB
comp=Z,54nm,7.2s
GTA LR LR
comp=N,112nm,16.7s
GTA LR LR
comp=E,186nm,17.1s
GTA LR LR
comp=Z,96nm,12.5s
CIT Chita 64.80 335 *e*P **P** **07 15 40.8 +0.3**
CIT *e* pP 07 16 30.8 +0.6
CIT pmax pmax
comp=Z,37nm,1.3s,mb4.8
ULN Ulaanbaatar 65.03 328 *e*P **P** **07 15 42.9 +0.9**
ULN pmax pmax
comp=Z,13nm,1.0s,mb4.5
ULN Ulaanbaatar 65.03 328 *e*P **P** **07 15 42.9 +1.0**
comp=Z,12nm,1.0s,mb4.5
SHL Shillong 65.20 301 *e*P **P** **07 15 42.5 -0.6**
SONM Songino Array 65.35 328 P **P** **07 15 44.8 +0.8**
comp=Z,5.0nm,0.7s,mb4.3,baz=149,slow=5.6,SNR=37
SONM PcP PcP 07 16 14.1 -0.3
comp=Z,2.3nm,0.6s,baz=138,slow=2.8,SNR=5.3
SONM PKP2bc 07 44 28.3
comp=Z,0.7nm,0.9s,baz=262,slow=1.0,SNR=4.7
SONM Songino Array 65.35 328 P **P** **07 15 44.8 +0.8**
SONM 07 16 14.1
SONM Songino Array 65.35 328 P **P** **07 15 44.8 +0.8**
SONM PcP PcP 07 16 14.1 -0.3
SONM ⇑ *e* 07 44 28.3
LSA Lhasa 67.14 305 *e*P **P** **07 15 57.5 +2.1**
LSA pmax pmax
comp=Z,14nm,0.6s,mb4.8
LSA Lhasa 67.14 305 *e*P **P** **07 15 57.5 +2.1**
comp=Z,14nm,0.6s,mb4.8
CASY Casey 68.26 197 *e*P **P** **07 16 01.6 -0.8**
ZAK Zakamensk 68.53 329⇑ *e*P **P** **07 16 04.4 +0.4**
ZAK pmax pmax
comp=Z,19nm,1.3s,mb4.6
ZAK pmax pmax
comp=Z,8.0nm,1.7s,mb4.1
BOD Bodaibo 68.94 339 *e*P **P** **07 16 04.9 -1.7**
BOD pmax pmax
comp=Z,11nm,1.0s,mb4.4
TLY Talaya 69.13 330 *e*P **P** **07 16 07.5 -0.2**
TLY *eS* S 07 24 50.8 -4.6
TLY pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
TLY Talaya 69.13 330 *e*P **P** **07 16 07.0 -0.7**
comp=Z,15nm,1.4s,mb4.4
MOY Mondy 70.45 329 *e*P **P** **07 16 16.0 +0.2**
MOY pmax pmax
comp=Z,28nm,1.3s,mb4.7
JIRN Jiri 70.69 301 *e*P **P** **07 16 18.3 +1.1**
comp=Z,37nm,0.6s,mb5.2
GUN Gumba 71.02 301 *e*P **P** **07 16 20.3 +1.1**
comp=Z,76nm,0.5s,mb5.5
PKI Pulchoki 71.33 301 *e*P **P** **07 16 21.7 +0.6**
comp=Z,30nm,0.6s,mb5.1
PKI Pulchoki 71.33 301 *e*P **P** **07 16 21.7 +0.6**
PKI pmax pmax
comp=Z,30nm,0.6s,mb5.1
KKN Kakani 71.50 301 *e*P **P** **07 16 22.7 +0.6**
comp=Z,54nm,0.5s,mb5.4
KKN Kakani 71.50 301 *e*P **P** **07 16 22.7 +0.6**
KKN pmax pmax
comp=Z,54nm,0.5s,mb5.4
DMN Daman 71.60 301 *e*P **P** **07 16 23.4 +0.7**
comp=Z,76nm,0.7s,mb5.5
GKN Gorkha 72.10 301 *e*P **P** **07 16 26.0 +0.3**
comp=Z,51nm,0.6s,mb5.3
BILL Bilibino 72.84 6 *e*P **P** **07 16 29.0 -1.0**
BILL pmax pmax
comp=Z,17nm,1.2s,mb4.5
BILL Bilibino 72.84 6 *e*P **P** **07 16 29.0 -1.0**
comp=Z,17nm,1.2s,mb4.6
KOLN Koldanda 72.93 301 *e*P **P** **07 16 31.0 +0.4**
comp=Z,60nm,0.7s,mb5.3
VNDA Vanda 73.41 178 P **P** **07 16 32.9 -0.5**
comp=Z,8.9nm,0.8s,mb4.5,baz=330,slow=6.5,SNR=50
MIR Mirnyy 74.09 201 *d i*P **P** **07 16 38.0 +0.7**
MIR pmax pmax
comp=Z,585nm,1.2s
HYB Hyderabad 75.41 289 *i* P **P** **07 16 45.0 +0.1**
KDAK Kodiak Island 76.12 27 P **P** **07 16 48.0 -0.9**
comp=Z,6.4nm,0.6s,mb4.4,baz=228,slow=6.5,SNR=8.9
KDAK Kodiak Island 76.12 27 *e*P **P** **07 16 48.0 -0.9**
comp=Z,13nm,0.9s,mb4.6
TIXI Tiksi 77.23 353⇑ *i*P **P** **07 16 51.6 -3.5**
TIXI *eS* S 07 26 20.4 -6.1
TIXI pmax pmax
comp=Z,8.0nm,1.2s,mb4.2
TIXI smax
comp=N,27nm,9.8s
TIXI smax
comp=E,67nm,16.6s
SLKM Skilak Lake 78.58 25 *e*P **P** **07 17 01.3 -1.2**
MK31 Makanchi Array 79.28 319 P **P** **07 17 06.5 +0.2**
MK31 pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
MKAR Makanchi Array 79.28 319 P **P** **07 17 06.6 +0.3**
comp=Z,5.4nm,0.7s,mb4.3,baz=102,slow=6.2,SNR=29
PMR Palmer 79.58 25 *e*P **P** **07 17 06.4 -1.5**
PMR pmax pmax
comp=Z,27nm,1.2s,mb4.8
PMR Palmer 79.58 25 *e*P **P** **07 17 06.4 -1.5**
comp=Z,27nm,1.2s,mb4.8
EYAK Cordova Ski Ar 80.55 26 *e*P **P** **07 17 12.6 -0.5**
EYAK *ep*P pP 07 18 08.0 +3.1
COLA College 81.70 22 *e*P **P** **07 17 17.2 -2.0**
COLA *e*PP pP 07 18 12.7 +1.5
ILAR Eielson Array 82.01 22 P **P** **07 17 18.6 -2.1**
comp=Z,15nm,0.6s,mb4.8,baz=247,slow=5.1,SNR=188
ILAR pP pP 07 18 11.8 -1.1
comp=Z,2.6nm,0.6s,baz=254,slow=5.3,SNR=3.1
ILAR PKKPbc PKKPbc 07 35 47.0 -1.5
comp=Z,0.5nm,0.6s,baz=357,slow=1.6,SNR=8.7
ILAR Eielson Array 82.01 22 P **P** **07 17 18.7 -2.1**
ILAR *PP pP 07 18 11.8 -1.0
KURK Kurchatov 82.75 322 P **P** **07 17 24.2 -0.4**
KURK pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
KURK Kurchatov 82.75 322 *e*P **P** **07 17 24.2 -0.4**
comp=Z,7.9nm,0.7s,mb4.5
TKM2 Tokmak 2 82.86 314 P **P** **07 17 26.1 +0.9**
TKM2 pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
FRU Bishkek 83.55 314 *e*P **P** **07 17 30.0 +1.3**
FRU *e* pP 07 18 24.0 +3.1
AAK Ala-Archa 83.60 314 *e*P **P** **07 17 28.6 -0.3**
AAK pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
AAK Ala-Archa 83.60 314 *e*P **P** **07 17 28.6 -0.3**
comp=Z,4.5nm,0.7s,mb4.3
DAWY Dawson 84.68 24 *e*P **P** **07 17 33.7 -0.7**
DAWY *ep*P pP 07 18 28.2 +1.4
SKAG Skagway 85.00 29 *e*P **P** **07 17 35.7 -0.3**
MAW Mawson 85.71 203⇓ *i*P **P** **07 17 38.1 -1.4**
comp=Z,19nm,0.6s,mb5.0
MAW Mawson 85.71 203 P **P** **07 17 37.3 -2.2**
comp=Z,22nm,0.6s,mb5.1,baz=91,slow=5.7,SNR=62
MAW Mawson 85.71 203⇓ *i*P **P** **07 17 38.1 -1.4**
MAW pmax pmax
comp=Z,19nm,0.6s
QSPA South Pole Qui 85.71 180⇓ *i*P **P** **07 17 38.8 -0.7**
comp=Z,28nm,0.9s,mb5.0
KKAR Karatay Array 86.56 314 *i* P **P** **07 17 43.5 -0.1**
KKAR pmax pmax
comp=Z,1.0nm,0.6s
DLBC Dease Lake 87.41 31 *e*P **P** **07 17 47.6 -0.1**
DLBC *ep*P pP 07 18 42.6 +2.2
VOSK Vostochnaya 87.83 323 P **P** **07 17 48.4 -1.3**
VOSK pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
CHKZ Chkalovo 88.20 324 *e*P **P** **07 17 50.1 -1.3**
CHKZ pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
CHKZ Chkalovo 88.20 324 *e*P **P** **07 17 50.1 -1.3**
comp=Z,8.3nm,0.7s,mb4.7
BVA0 Borovoye Array 88.23 323 *i* P **P** **07 17 49.9 -1.7**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s,mb3.8
INK Inuvik 88.29 21 P **P** **07 17 50.1 -1.7**
comp=Z,16nm,1.1s,mb4.7,baz=254,slow=6.6,SNR=14
INK pP pP 07 18 44.5 -0.2
comp=Z,4.8nm,1.0s,baz=270,slow=5.7,SNR=2.5
INK Inuvik 88.29 21 P **P** **07 17 50.2 -1.6**
INK *PP pP 07 18 44.5 -0.2
INK pmax pmax
comp=Z,16nm,1.1s
INK pmax pmax
comp=Z,5.0nm,1.0s
INK Inuvik 88.29 21 *e*P **P** **07 17 50.1 -1.7**
comp=Z,19nm,1.2s,mb4.8
INK *ep*P pP 07 18 45.5 +0.8
KHMM Horse Mountain 88.54 49 *e*P **P** **07 17 53.0 0.0**
OTR Olympics--Tyee 89.00 42 P **P** **07 17 55.8 +0.6**
ZRNK Zerenda 89.05 323 *e*P **P** **07 17 54.1 -1.3**
ZRNK pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
ZRNK Zerenda 89.05 323 *e*P **P** **07 17 54.1 -1.3**
comp=Z,3.2nm,0.6s,mb4.3
OOW Octopus West 89.06 42 P **P** **07 17 56.2 +0.7**
OCWA Octopus Mounta 89.07 42 *e*P **P** **07 17 56.1 +0.6**
comp=Z,16nm,0.9s,mb4.8
HUMO Hull Mountain 89.32 47 *e*P **P** **07 17 57.3 +0.6**
comp=Z,42nm,1.0s,mb5.2
YBH Yreka Blue Hor 89.40 48 P **P** **07 17 57.1 +0.1**
comp=Z,12nm,0.8s,mb4.8,baz=216,slow=2.2,SNR=11
YBH Yreka Blue Hor 89.40 48 P **P** **07 17 57.1 0.0**
YBH pmax pmax
comp=Z,12nm,0.8s
YBH Yreka Blue Hor 89.40 48 *e*P **P** **07 17 56.7 -0.3**
comp=Z,25nm,1.2s,mb4.9
WDC Whiskeytown Da 89.41 49 *e*P **P** **07 17 57.5 +0.4**
WDC pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
WDC Whiskeytown Da 89.41 49 *e*P **P** **07 17 57.5 +0.4**
comp=Z,7.0nm,0.6s,mb4.7
BBOR Butler Butte 89.55 47 P **P** **07 17 58.0 +0.3**
BUOR Burton Butte 89.81 48 P **P** **07 17 59.5 +0.5**
HDW Hoodsport 89.81 42 P **P** **07 17 59.3 +0.4**
CMB Columbia Colle 90.83 52 *e*P **P** **07 18 03.7 0.0**
CMB pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
CMB Columbia Colle 90.83 52 *e*P **P** **07 18 03.7 0.0**
comp=Z,5.8nm,0.8s,mb4.6
TBM Table Mountain 91.42 43 P **P** **07 18 06.4 -0.1**
ETW Entiat 91.64 43 P **P** **07 18 07.2 -0.2**
PAHR Pah Rah Range 91.74 50 *e*P **P** **07 18 07.8 -0.1**
comp=Z,16nm,1.3s,mb4.8
NVAR Mina Array Bea 92.50 52 P **P** **07 18 11.8 +0.4**
comp=Z,9.8nm,0.7s,mb4.8,baz=256,slow=4.5,SNR=55
MNV Mina 92.61 52 *e*P **P** **07 18 12.2 +0.3**
MNV pmax pmax
comp=Z,30nm,1.3s,mb5.2
MNV Mina 92.61 52 *e*P **P** **07 18 12.2 +0.2**
comp=Z,30nm,1.3s,mb5.2
OD2 Odessa Site #2 92.72 43 P **P** **07 18 12.1 -0.3**
DAC Darwin (Calif) 92.94 54 *e*P **P** **07 18 13.9 +0.5**
DAC pmax pmax
comp=Z,36nm,1.2s,mb5.3
DAC Darwin (Calif) 92.94 54 *e*P **P** **07 18 13.9 +0.5**
comp=Z,36nm,1.2s,mb5.3
BMO Blue Mountains 93.57 45 *e*P **P** **07 18 15.6 -0.7**
BMO pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
BMO Blue Mountains 93.57 45 *e*P **P** **07 18 15.6 -0.8**
comp=Z,5.3nm,0.9s,mb4.6
PFO Pinyon Flat Ob 93.74 57 *e*P **P** **07 18 17.9 +0.8**
PFO pmax pmax
comp=Z,13nm,0.8s,mb5.0
PFO Pinyon Flat Ob 93.74 57 *e*P **P** **07 18 17.9 +0.7**
comp=Z,13nm,0.8s,mb5.0
NEW Newport 93.83 42 *e*P **P** **07 18 16.7 -0.8**
NEW pmax pmax
comp=Z,7.0nm,1.2s
NEW Newport 93.83 42 *e*P **P** **07 18 16.7 -0.8**
comp=Z,7.1nm,1.2s,mb4.6
SYO Syowa Base 93.86 200⇓ *e*P **P** **07 18 16.0 -1.7**
SYO Syowa Base 93.86 200⇑ *ep*P pP 07 19 11.0 +0.3
TPNV Topopah Spring 94.05 53 *e*P **P** **07 18 19.1 +0.6**
TPNV pmax pmax
comp=Z,21nm,0.9s,mb5.2
TPNV Topopah Spring 94.05 53 *e*P **P** **07 18 19.1 +0.5**
comp=Z,20nm,0.9s,mb5.2
AB31 Akbulak array 94.43 319 P **P** **07 18 18.5 -1.8**
AB31 pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
ELK Elko 94.96 50 *e*P **P** **07 18 22.6 -0.1**
ELK pmax pmax
comp=Z,3.0nm,0.6s
ELK Elko 94.96 50 *e*P **P** **07 18 22.6 -0.1**
comp=Z,3.4nm,0.6s,mb4.7
NEN Nelson 95.15 55 *e*P **P** **07 18 23.9 +0.4**
ARU Arti 95.33 326⇑ *i*P **P** **07 18 22.8 -1.6**
ARU *e* 07 22 17.1
ARU *eS* 07 28 35.6
ARU *ePS* PS 07 31 10.0 +2.7
ARU *eSS* SS 07 35 50.3 -3.1
ARU pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
YKA Yellowknife Ar 95.39 28 P **P** **07 18 23.3 -1.3**
comp=Z,3.0nm,0.6s,mb4.6,baz=271,slow=4.8,SNR=43
YKA pP pP 07 19 16.7 -1.0
comp=Z,0.9nm,0.8s,baz=270,slow=4.7,SNR=1.8
YKA PKKPbc PKKPbc 07 35 14.6 -1.2
comp=Z,0.6nm,0.7s,baz=90,slow=2.8,SNR=11
YKA Yellowknife Ar 95.39 28 P **P** **07 18 23.3 -1.3**
YKA *PP pP 07 19 16.8 -0.9
YKA Yellowknife Ar 95.39 28 P **P** **07 18 23.3 -1.3**
YKA pP pP 07 19 16.8 -1.0
YKA PKKPbc PKKPbc 07 35 14.6 -1.2
BSMT Bassoo Peak 95.39 42 P **P** **07 18 24.4 -0.3**
HLID Hailey 95.62 47 *e*P **P** **07 18 25.6 -0.1**
comp=Z,2.0nm,0.7s,mb4.5
WALA Waterton Lakes 95.97 41 *e*P **P** **07 18 27.3 0.0**
comp=Z,13nm,1.0s,mb5.1
TPAW Teton Pass 98.14 47 *e*P **P** **07 18 37.2 +0.1**
comp=Z,3.5nm,0.9s,mb4.7
PDAR Pinedale Array 99.19 48 P Pdif 07 18 41.1 -0.6
comp=Z,3.8nm,0.6s,baz=225,slow=2.1,SNR=23
VNA3 Neumayer Olymp 103.67 186 *e*Pdiff Pdif 07 19 00.9 -0.8
VNA3 *e* 07 19 10.4
VNA3 *e* 07 19 15.6
VNA3 *e* 07 19 56.9
VNA3 *e* 07 31 40.2
VNA2 Neumayer--Watz 103.71 187 *e*Pdiff Pdif 07 19 01.1 -0.8
VNA2 *e* 07 19 11.0
VNA2 *e* 07 19 16.5
VNA2 *e* 07 19 34.9
VNA2 *e* 07 19 57.4
VNA2 *e* 07 31 40.4
ARCES ARCESS Array B 106.06 343 PKiKP PKiKP 07 23 22.4 -0.8
comp=Z,3.8nm,1.1s,baz=74,slow=1.6,SNR=6.0
JOF Joensuu 107.30 336 *ep* Pdif 07 19 11.4 -6.4
comp=Z,3.2nm,0.8s
JOF Joensuu 107.30 336 *e*P Pdif 07 19 11.4 -6.4
JOF pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 110.16 335 Pdiff Pdif 07 19 27.6 -2.9
comp=Z,0.7nm,0.7s,baz=72,slow=6.2,SNR=4.7
NB2 NORSAR Subarra 116.07 340 PKPd PKPdf 07 23 40.6 -1.5
comp=Z,0.7nm,0.7s,baz=44,slow=1.9
NOA NORSAR Array B 116.07 340 PKP PKPdf 07 23 41.0 -1.1
comp=Z,1.0nm,0.6s,baz=48,slow=1.9,SNR=7.1
NOA NORSAR Array B 116.07 340 PKP PKPdf 07 23 41.0 -1.1
LRAL Lakeview Retre 118.26 55 *e*PKPdf PKPdf 07 23 45.6 -0.7
BOSA Boshof 119.18 234 PKP PKPdf 07 23 49.7 +1.6
comp=Z,2.1nm,0.8s,baz=256,slow=4.6,SNR=3.5
PLCA Paso Flores 120.79 143 PKP PKPdf 07 23 51.8 +0.6
comp=Z,1.1nm,0.6s,baz=244,slow=0.6,SNR=5.4
BRG Berggiesshubel 121.72 330 *e*PKP PKPdf 07 23 48.2 -4.8
comp=Z,1.4nm,0.7s
BRG Berggiesshubel 121.72 330 *e*PKIKP PKPdf 07 23 48.2 -4.8
BRG pmax pmax
comp=Z,1.0nm,0.7s
CLL Collm 121.91 331 *e*PKPdf PKPdf 07 23 54.0 +0.7
comp=Z,4.0nm,0.7s
CLL *e*PP PP 07 25 33.0 +2.9
CLL Collm 121.91 331 *e*PKIKP PKPdf 07 23 54.0 +0.7
CLL pmax pmax
comp=Z,4.0nm,0.7s
GERES GERESS Array B 123.09 328 PKP PKPdf 07 23 54.6 -1.0
comp=Z,1.2nm,0.5s,baz=315,slow=0.4,SNR=6.8
ROSC EI Rosal 133.98 87 PKP PKPdf 07 24 17.9 +1.6
comp=Z,6.2nm,0.5s,baz=315,slow=2.9,SNR=6.7
ROSC SKPbc SKPbc 07 27 28.4 +3.4
comp=Z,5.8nm,0.7s,baz=90,slow=20,SNR=6.0
LPAZ La Paz 135.52 118 PKhKP 07 24 12.9
comp=Z,0.5nm,0.4s,baz=256,slow=5.2,SNR=7.2
LPAZ PKP PKPdf 07 24 21.5 +2.3
comp=Z,1.1nm,0.4s,baz=300,slow=1.7,SNR=9.4
LPAZ SKPbc SKPbc 07 27 33.2 +3.4
comp=Z,2.1nm,0.5s,baz=280,slow=2.0,SNR=13
LPAZ La Paz 135.52 118 PKIKP PKPdf 07 24 13.0 -6.2
LPAZ pmax pmax
comp=Z,1.0nm,0.4s
LPAZ pmax pmax
comp=Z,1.0nm,0.4s
LPAZ pmax pmax
comp=N,2.0nm,0.5s
LPAZ La Paz 135.52 118 *e*PKPdf PKPdf 07 24 21.2 +2.0
SDV Santo Domingo 137.57 82 *e*PKPdf PKPdf 07 24 24.6 +1.6
CPUP Villa Florida 138.51 139 PKhKP 07 24 16.7
comp=N,0.3nm,0.4s,baz=256,slow=4.2,SNR=2.7
CPUP PKP PKPdf 07 24 25.1 +0.4
comp=N,1.3nm,0.6s,baz=98,slow=3.7,SNR=3.3
CPUP SKPbc SKPbc 07 27 39.8 +1.2
comp=N,3.2nm,0.8s,baz=208,slow=0.5,SNR=5.9
CPUP Villa Florida 138.51 139 PKP PKPdf 07 24 25.1 +0.4
CPUP SKPbc SKPbc 07 27 39.8 +1.2
LZG Guadaloupe-1 144.94 68 *e*P PKPdf 07 24 36.2 +0.1
BBL Barber's Block 145.38 69 *e*P PKPdf 07 24 39.6 +2.7
TORD Torodi Ar. Bea 149.23 289 PKPbc PKPbc 07 24 47.9 +0.1
comp=N,6.5nm,0.6s,baz=88,slow=2.2,SNR=60
TORD PKPal PKPab 07 24 53.5 +0.5
comp=N,9.0nm,0.7s,baz=71,slow=3.6,SNR=23
TORD pPKPbc pPKPbc 07 25 42.7 -0.3
comp=N,1.0nm,0.4s,baz=85,slow=2.1,SNR=1.1
BDFB Brasilia 152.13 136 PKP PKPdf 07 24 49.0 +1.3
comp=N,2.6nm,0.7s,baz=177,slow=4.2,SNR=4.7
BDFB PKPbc PKPbc 07 24 55.9 +1.3
comp=N,12nm,0.4s,baz=266,slow=1.4,SNR=28
BDFB PKPab PKPab 07 25 06.0 +0.9
comp=N,11nm,0.7s,baz=244,slow=2.4,SNR=11
BDFB pPKPbc pPKPbc 07 25 50.1 +0.1
comp=N,2.8nm,0.6s,baz=134,slow=1.1,SNR=2.1
BDFB Brasilia 152.13 136 PKIKP PKPdf 07 24 49.0 +1.2
BDFB 07 25 06.0
BDFB pmax pmax
comp=Z,3.0nm,0.7s
BDFB pmax pmax
comp=Z,12nm,0.4s
BDFB pmax pmax
comp=Z,11nm,0.7s
BDFB pmax pmax
comp=Z,3.0nm,0.6s
DBIC Dimbokro 156.68 277 PKPab PKPab 07 25 25.1 +0.6
comp=Z,6.8nm,0.6s,baz=60,slow=4.7,SNR=14
DBIC Dimbokro 156.68 277 PKP2 PKPab 07 25 25.1 +0.6
DBIC pmax pmax
comp=Z,7.0nm,0.6s

IDC 27 07:31:20.3±1.5, 215S×13955E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/11, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=72.3km s-min=25.4km az=96.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.40**	**196**	P		Pn	07 35 35.9	-1.0

0.2nm,0.3s,baz=17,slow=12,SNR=12
ASAR Alice Springs 22.08 194 P P 07 36 17.9 +1.0
0.7nm,0.5s,baz=26,slow=11,SNR=15
MKAR Makanchi Array 69.86 322 P P 07 42 33.1 +0.3
0.5nm,0.6s,baz=107,slow=7.7,SNR=7.5
ILAR Eielson Array 84.98 24 P P 07 43 57.5 0.0
0.5nm,0.9s,baz=263,slow=5.0,SNR=5.3
TORD Torodi Ar. Bea 136.90 287 PKP PKPdf 07 50 45.0 0.0
0.6nm,1.1s,baz=68,slow=3.0,SNR=3.0

BJI **27** *07:35:03.9,701S×13062E,h180km,mB4.8,mb4.7*
ISCJB **27** *07:35:06.6±0.6,6.16S±003×13044E±004,h143km±6km, mb4.7/55, Error ellipse: s-maj=7.5km s-min=5.0km az=152.1*
MOS **27** *07:35:07.1±0.8,608S×13032E,h144km,mb4.7/26, Error ellipse: s-maj=14.3km s-min=6.8km az=118.6*
IDC **27** *07:35:08.9±2.2,6.10S×13035E,h145km±19km,mb4.4/14, mb1 4.4/16,mb1mx4.4/19,mbtmp4.9/16,MS3.1/1, Ms1 3.1/1,ms1mx2.2/24, Error ellipse: s-maj=15.6km s-min=9.6km az=58.0*
NEIC **27** *07:35:12.1±0.2,6.14S×13039E,mb4.9/28, Error ellipse: s-maj=7.4km s-min=4.3km az=65.0*
ISC 27 07:35:08.6±0.6,620S±003×13054E±005,h150km±6km, h182km±3.0km:pP-P,n149,σ1918/149,mb4.7/55,4C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLE	**Tual**	**2.26**	**76**	P	**Pn**	**07 35 47.1**	**+0.4**
	11μm,1.0s						
AAI	**Ambon**	**3.42**	**317**	P	**Pn**	**07 35 59.5**	**-1.8**
	1μm,0.8s						
SWI	**Sorong**	**5.35**	**8**	P	**Pn**	**07 36 22.8**	**-3.8**
	2μm,0.7s						
KAKA	**Kakadu**	**6.74**	**164**	*e*P	**Pn**	**07 36 44.5**	**-0.6**
	492nm,0.2s						
KAKA				*e*S	**Sn**	**07 37 57.5**	**-3.1**
BAKI	**Biak**	**7.46**	**48**	P	**Pn**	**07 36 53.3**	**-1.4**
	2μm,0.8s						
JAY	**Jayapura**	**10.77**	**71**	P	**Pn**	**07 37 40.2**	**+1.4**
	69nm,0.8s						
PCI	**Palu**	**11.90**	**296**	P	**Pn**	**07 37 57.9**	**+4.3**
	118nm,1.3s						
FITZ	**Fitzroy Crossi**	**12.76**	**202**	*e*P	**Pn**	**07 38 00.9**	**-3.8**
	143nm,0.3s						
FITZ				*e*S	**Sn**	**07 40 14.3**	**-11**
FITZ	**Fitzroy Crossi**	**12.76**	**202**	P	**Pn**	**07 38 01.4**	**-3.3**
	22nm,0.3s,baz=37,slow=11,SNR=196						
FITZ				S	**Sn**	**07 40 14.0**	**-12**
	6.9nm,0.3s,baz=102,slow=22,SNR=4.3						
WRAB	**Tennant Creek**	**14.15**	**165**	*e*P	**Pn**	**07 38 19.4**	**-2.9**
WRAB				pmax	pmax		
	comp=Z,239nm,0.6s						
WRAB	**Tennant Creek**	**14.15**	**165**	*e*Pn	**Pn**	**07 38 19.4**	**-2.9**
	comp=Z,239nm,0.6s						
WRAB				*e*Sn	**Sn**	**07 40 46.5**	**-13**
WRA	**Warramunga Arr**	**14.15**	**165**	P	**Pn**	**07 38 19.0**	**-3.4**
	comp=Z,18nm,0.3s,baz=346,slow=13,SNR=151						
WRA				S	**Sn**	**07 40 50.3**	**-8.9**
	comp=Z,28nm,0.3s,baz=349,slow=22,SNR=11						
WB2	**Warramunga Arr**	**14.15**	**165**	*e*P	**Pn**	**07 38 19.0**	**-3.4**
WB2				*e*S	**Sn**	**07 40 50.3**	**-9.0**
TSM	**Tawau**	**16.39**	**309**	P	**Pn**	**07 38 52.3**	**+2.2**
KMMI	**Kalianget**	**16.48**	**266**	P	**Pn**	**07 38 54.5**	**+3.3**
	comp=Z,467nm,0.8s						
PMG	**Port Moresby**	**16.77**	**102**	P	**Pn**	**07 38 57.9**	**+3.2**
	comp=Z,3.6nm,0.3s,baz=288,slow=6.0,SNR=10.0						
PMG				S	**S**	**07 41 57.2**	**-3.9**
	comp=Z,3.0nm,0.3s,baz=200,slow=21,SNR=6.1						
PMG	**Port Moresby**	**16.77**	**102**	*e*P	**Pn**	**07 38 58.0**	**+3.4**
PMG				S	**S**	**07 41 53.4**	**-7.7**
PMG				pmax	pmax		
	comp=Z,54nm,0.8s						
PMG	**Port Moresby**	**16.77**	**102**	*e*P	**Pn**	**07 38 58.0**	**+3.3**
	comp=Z,54nm,0.8s						
PMG				S	**S**	**07 41 53.4**	**-7.7**
AS31	**Alice Springs**	**17.67**	**170**	*e*P	**Pn**	**07 39 05.8**	**+0.4**
ASAR	**Alice Springs**	**17.67**	**170**	P	**Pn**	**07 39 06.6**	**+1.2**
	comp=Z,31nm,0.3s,baz=345,slow=10,SNR=897						
ASAR				S	**S**	**07 42 17.6**	**-2.2**
	comp=Z,7.9nm,0.3s,baz=350,slow=22,SNR=7.7						
ASPA	**Alice Springs**	**17.67**	**170**	*e*P	**Pn**	**07 39 05.8**	**+0.4**
KRKI	**Karangkates**	**18.05**	**263**	P	**P**	**07 39 09.8**	**+1.4**
	comp=Z,452nm,0.6s						
MBWA	**Marble Bar**	**18.19**	**214**	*e*P	**P**	**07 39 11.0**	**+1.2**
	comp=Z,23nm,0.6s						
KKM	**Kota Kinabalu**	**18.77**	**310**	P	**P**	**07 39 16.1**	**-0.2**
KKM	**Kota Kinabalu**	**18.77**	**310**	*e*P	**P**	**07 39 15.9**	**-0.3**
CTA	**Charters Tower**	**20.58**	**134**	*e*P	**P**	**07 39 38.7**	**+3.0**
	comp=Z,13nm,0.6s						
CTA				*e*S	**S**	**07 43 24.0**	**+6.5**
CTA	**Charters Tower**	**20.58**	**134**	P	**P**	**07 39 38.8**	**+3.1**
	comp=Z,11nm,0.7s,baz=315,slow=12,SNR=20						
CTA				S	**S**	**07 43 23.7**	**+6.2**
	comp=Z,4.4nm,0.6s,baz=29,slow=18,SNR=2.9						
CTA	**Charters Tower**	**20.58**	**134**	*e*P	**P**	**07 39 38.7**	**+3.0**
CTA				*e*S	**S**	**07 43 24.0**	**+6.5**
CTA				pmax	pmax		
	comp=Z,13nm,0.6s						
CTAO	**Charters Tower**	**20.58**	**134**	*e*P	**P**	**07 39 38.7**	**+3.0**
CTAO				*e*S	**S**	**07 43 17.5**	**0.0**
CTAO				pmax	pmax		
	comp=Z,18nm,0.8s						
CTAO	**Charters Tower**	**20.58**	**134**	*e*P	**P**	**07 39 38.7**	**+2.9**
	comp=Z,18nm,0.8s						
CTAO				*e*S	**S**	**07 43 17.5**	**0.0**
BJII	**Banjamegara**	**20.72**	**266**	P	**P**	**07 39 37.5**	**+0.3**
	comp=Z,75nm,1.5s						
KSM	**Kuching**	**21.59**	**290**	*e*P	**P**	**07 39 46.0**	**-0.4**
TGY	**Tagaytay City**	**22.31**	**335**	P	**P**	**07 39 54.4**	**+0.5**
	comp=Z,101nm,0.3s,baz=190,slow=6.1,SNR=3.8						
CBJI	**Citeko**	**23.55**	**268**	P	**P**	**07 40 04.3**	**-1.0**
	comp=Z,348nm,0.9s						
GUMO	**Guam**	**24.27**	**36**	P	**P**	**07 40 12.7**	**+0.9**
	comp=Z,50nm,0.8s,mb5.1,baz=184,slow=7.6,SNR=3.7						
GUMO	**Guam**	**24.27**	**36**	P	**P**	**07 40 12.7**	**+0.9**
FORT	**Forrest**	**24.56**	**185**	*e*P	**P**	**07 40 15.1**	**+0.6**
	comp=Z,71nm,0.5s,mb5.5						
FORT				*e*S	S	07 44 54.5	+30
STKA	**Stephens Creek**	**27.56**	**159**	*e*P	**P**	**07 40 41.1**	**-0.4**
	comp=Z,14nm,0.4s,mb5.1						
STKA				*e*S	sS	07 46 07.6	+0.5
STKA	**Stephens Creek**	**27.56**	**159**	P	**P**	**07 40 41.2**	**-0.2**
	comp=Z,16nm,0.4s,mb5.1,baz=337,slow=8.4,SNR=88						
KLBR	**Kellerberrin**	**27.95**	**204**	*e*P	**P**	**07 40 45.9**	**+0.9**
	comp=Z,15nm,0.6s,mb4.9						
KLBR				*e*S	sS	07 46 08.8	-4.6
MUN	**Mundaring**	**28.93**	**206**	*e*P	**P**	**07 40 54.6**	**+0.9**
MUN				*e*S	sS	07 46 32.6	+3.8
NWAO	**Narrogin (SRO)**	**29.34**	**203**	P	**P**	**07 40 58.0**	**+0.8**
	comp=Z,5.2nm,0.6s,mb4.5,baz=57,slow=8.9,SNR=6.8						
PPI	**Padang Panjang**	**30.61**	**280**	P	**P**	**07 41 10.2**	**+1.7**
	comp=Z,46nm,0.9s,mb5.2						
PSI	**Prapat**	**32.81**	**285**	P	**P**	**07 41 25.2**	**-2.5**
	comp=Z,41nm,0.8s,mb5.2,baz=112,slow=4.9,SNR=15						
JOW	**Kunigami**	**32.91**	**356**	P	**P**	**07 41 28.5**	**0.0**
	comp=Z,13nm,0.6s,mb4.8,baz=180,slow=12,SNR=5.0						
JOW				LR	LR	07 53 04.4	
	comp=Z,34nm,21.8s,baz=74,slow=33						
TOO	**Toolangi**	**34.07**	**159**	*e*P	**P**	**07 41 41.9**	**+3.3**
	comp=Z,6.3nm,0.5s,mb4.6						
TOO	**Toolangi**	**34.07**	**159**	*e*P	**P**	**07 41 41.9**	**+3.3**
TOO				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.6						
DZM	**Mont Dzumac**	**38.09**	**118**	P	**P**	**07 42 15.1**	**+2.4**
	comp=Z,3.5nm,0.7s,mb4.1,baz=283,slow=14,SNR=7.3						
SSE	**Sheshan**	**38.15**	**347**	P	**P**	**07 42 15.3**	**+2.0**
SSE				AMB	AMB		
	comp=Z,42nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,119nm,3.8s						
SSE	**Sheshan**	**38.15**	**347**	P	**P**	**07 42 15.2**	**+1.9**
	comp=Z,42nm,0.7s,mb5.2						
NJ2	**Nanjing**	**39.63**	**344**	*e*P	**P**	**07 42 26.3**	**+0.7**
NJ2				AP	pP	07 43 06.3	+7.9
NJ2				XP	sP	07 43 28.5	+13
NJ2				PP	PP	07 44 04.3	+4.6
NJ2				S	**S**	**07 48 14.0**	**-3.5**
NJ2				XS	sS	07 49 26.0	+11
NJ2				AMB	AMB		
	comp=Z,170nm,6.8s						
NJ2				LR	LR		
	comp=N,2μm,28.0s						
NJ2				LR	LR		
	comp=E,1μm,30.0s						
NJ2				LR	LR		
	comp=Z,130nm,20.8s						
WHN	**Wuhan**	**39.69**	**338**	P	**P**	**07 42 26.5**	**+0.4**
CHTO	**Chiang Mai**	**39.84**	**309**	*e*P	**P**	**07 42 27.2**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,41nm,0.8s,mb5.1						
CHTO	**Chiang Mai**	**39.84**	**309**	*e*P	**P**	**07 42 27.2**	**-0.2**
	comp=Z,41nm,0.8s,mb5.1						
GYA	**Guiyang**	**39.87**	**326↑**	*i*P	**P**	**07 42 27.3**	**-0.3**
GYA				S	**S**	**07 48 16.5**	**-4.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
GYA				AMB	AMB		
	comp=Z,50nm,5.0s						
GYA				LR	LR		
	comp=N,340nm,15.9s						
GYA				LR	LR		
	comp=E,410nm,16.4s						
GYA				LR	LR		
	comp=Z,420nm,16.8s						
KMI	**Kunming**	**41.24**	**320**	P	**P**	**07 42 38.5**	**-0.3**
KMI				AP	pP	07 43 19.0	+7.2
KMI				XP	sP	07 43 38.5	+10
KMI				PP	PP	07 44 21.5	+4.4
KMI				S	**S**	**07 48 40.5**	**-0.8**
KMI				XS	sS	07 49 50.8	+12
KMI				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.5						
KMI				AMB	AMB		
	comp=Z,93nm,4.2s						
KMI				LR	LR		
	comp=N,135nm,27.3s						
KMI				LR	LR		
	comp=E,109nm,26.2s						
KMI				LR	LR		
	comp=Z,69nm,21.4s						
KMI	**Kunming**	**41.24**	**320**	P	**P**	**07 42 38.4**	**-0.4**
KMI				AP	pP	07 44 21.4	
KMI				S	**S**	**07 48 40.5**	**-0.8**
KMI				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.5						
KMI				MLR	MLR		
	comp=Z,70nm,21.4s						
KMI	**Kunming**	**41.24**	**320**	P	**P**	**07 42 38.4**	**-0.4**
	comp=Z,11nm,0.9s,mb4.5						
KMI				pP	pP	07 43 19.0	+7.2
KMI				sP	sP	07 43 38.6	+10
KMI				PP	PP	07 44 21.4	+4.3
KMI				S	**S**	**07 48 40.5**	**-0.8**
KMI				sS	sS	07 49 50.7	+12
KMI				LR	LR		
	comp=Z,70nm,21.4s						
MAT	**Matsushiro**	**43.12**	**9**	P	**P**	**07 42 59.8**	**+5.8**
MJAR	**Matsushiro Arr**	**43.12**	**9**	P	**P**	**07 42 53.0**	**-1.0**
	comp=Z,2.0nm,0.6s,mb3.9,baz=182,slow=6.9,SNR=3.7						
BJI	**Beijing**	**47.88**	**345**	*e*P	**P**	**07 43 31.0**	**-0.4**
BJI				AMB	AMB		
	comp=Z,19nm,0.6s,mb4.9						
BJI	**Beijing**	**47.88**	**345**	*e*P	**P**	**07 43 30.9**	**-0.5**
BJI				pmax	pmax		
	comp=Z,19nm,0.6s,mb4.9						
BJI	**Beijing**	**47.88**	**345**	*e*P	**P**	**07 43 30.9**	**-0.5**
	comp=Z,19nm,0.6s,mb4.9						
LZH	**Lanzhou**	**48.96**	**331**	*e*P	**P**	**07 43 39.0**	**-0.7**
LZH				AP	pP	07 44 18.0	+4.4
LZH				XP	sP	07 44 40.5	+10
LZH				PP	PP	07 45 35.3	+0.8
LZH				*e*S	**S**	**07 50 28.0**	**-4.3**
LZH				XS	sS	07 51 40.3	+9.1
LZH				AMB	AMB		
	comp=Z,29nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,102nm,6.3s						
LZH				LR	LR		
	comp=N,153nm,15.2s						
LZH				LR	LR		
	comp=Z,375nm,18.2s						
LZH	**Lanzhou**	**48.96**	**331**	*e*P	**P**	**07 43 39.0**	**-0.7**
LZH						07 45 35.2	
LZH				*e*S	**S**	**07 50 28.1**	**-4.2**
LZH				SS	SS	07 53 57.4	-7.6
LZH				pmax	pmax		
	comp=Z,29nm,1.5s,mb4.7						
LZH				MLR	MLR		
	comp=Z,380nm,18.2s						
LZH	**Lanzhou**	**48.96**	**331**	*e*P	**P**	**07 43 39.0**	**-0.7**
	comp=Z,29nm,1.5s,mb4.7						
LZH				pP	pP	07 44 18.1	+4.5
LZH				sP	sP	07 44 40.5	+10
LZH				PP	PP	07 45 35.2	+0.7
LZH				*e*S	**S**	**07 50 28.1**	**-4.2**
LZH				sS	sS	07 51 40.3	+9.1
LZH				SS	SS	07 53 57.4	-7.6
LZH				LR	LR		
	comp=Z,380nm,18.2s						
SHL	**Shillong**	**49.06**	**312**	*e*P	**P**	**07 43 37.5**	**-3.0**
HHC	**Hu-ho-hao-te**	**49.96**	**341**	*e*P	**P**	**07 43 50.0**	**+2.7**
HHC				AP	pP	07 44 32.8	+11
HHC				PCP	PcP	07 45 07.0	+1.8
HHC				PP	PP	07 45 48.3	+4.8
HHC				SCP	ScP	07 48 43.8	-2.9
HHC				PCS	PcS	07 49 03.0	+0.7
HHC				S	**S**	**07 50 45.3**	**-0.9**
HHC				XS	sS	07 51 59.8	+15
HHC				SCS	ScS	07 53 18.5	-4.7
HHC				SS	SS	07 54 18.5	-2.4
HHC				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.4						
HHC				AMB	AMB		
	comp=Z,122nm,8.1s						
HHC				LR	LR		
	comp=N,118nm,15.0s						
HHC				LR	LR		
	comp=E,321nm,14.4s						
HHC				LR	LR		
	comp=Z,159nm,14.2s						
CN2	**Changchun**	**49.98**	**355**	*e*P	**P**	**07 43 50.3**	**+2.9**
MDJ	**Mudanjiang**	**50.59**	**359**	P	**P**	**07 43 53.5**	**+1.5**
MDJ				AP	pP	07 44 34.0	+7.9
MDJ				XP	sP	07 44 54.0	+11
MDJ				PCP	PcP	07 45 07.8	+0.3
MDJ				PP	PP	07 45 51.5	+2.2
MDJ				SCP	ScP	07 48 46.5	-2.9
MDJ				PCS	PcS	07 49 05.3	+0.3
MDJ				S	**S**	**07 56.0**	**+1.1**
MDJ				XS	sS	07 52 06.8	+13
MDJ				SCS	ScS	07 53 25.5	-2.0
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,33nm,4.3s						
GTA	**Gaotai**	**53.54**	**331**	P	**P**	**07 44 14.0**	**+0.2**
GTA				PCP	PcP	07 45 20.0	+1.4
GTA				PP	PP	07 46 18.3	+2.4
GTA				SCP	ScP	07 48 57.8	-4.4
GTA				PCS	PcS	07 49 18.0	+0.2
GTA				S	**S**	**07 51 28.3**	**-6.9**
GTA				SCS	ScS	07 53 40.5	-7.6
GTA				AMB	AMB		
	comp=Z,17nm,0.9s,mb4.8						
GTA				AMB	AMB		
	comp=Z,103nm,5.3s						
GTA				LR	LR		
	comp=N,99nm,15.6s						
GTA				LR	LR		
	comp=E,197nm,16.3s						
GTA				LR	LR		
	comp=Z,89nm,11.4s						
JIRN	**Jiri**	**54.47**	**310**	*e*P	**P**	**07 44 20.6**	**0.0**
GUN	**Gumba**	**54.84**	**310**	*e*P	**P**	**07 44 23.1**	**-0.1**
	comp=Z,77nm,0.6s,mb5.6						
PKI	**Pulchoki**	**55.02**	**310**	*e*P	**P**	**07 44 23.9**	**-0.6**
KKN	**Kakani**	**55.23**	**310**	*e*P	**P**	**07 44 25.6**	**-0.4**
	comp=Z,51nm,0.7s,mb5.3						
KKN	**Kakani**	**55.23**	**310**	*e*P	**P**	**07 44 25.6**	**-0.4**
KKN				pmax	pmax		
	comp=Z,51nm,0.7s,mb5.4						
DMN	**Daman**	**55.27**	**310**	*e*P	**P**	**07 44 26.1**	**-0.2**
	comp=Z,66nm,0.8s,mb5.4						
GKN	**Gorkha**	**55.83**	**310**	*e*P	**P**	**07 44 29.9**	**-0.4**
	comp=Z,85nm,0.6s,mb5.8						
KOLN	**Koldanda**	**56.51**	**309**	*e*P	**P**	**07 44 35.0**	**-0.1**
	comp=Z,41nm,0.7s,mb5.4						
ULN	**Ulaanbaatar**	**57.67**	**341**	*e*P	**P**	**07 44 43.9**	**+0.6**
ULN				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.9						
ULN	**Ulaanbaatar**	**57.67**	**341**	*e*P	**P**	**07 44 43.9**	**+0.5**
	comp=Z,13nm,0.6s,mb5.0						
SONM	**Songino Array**	**57.86**	**341**	P	**P**	**07 44 45.1**	**+0.5**
	comp=Z,3.4nm,0.3s,mb4.6,baz=161,slow=6.6,SNR=39						
SONM				PcP	PcP	07 45 35.7	+0.3
	comp=Z,2.6nm,0.6s,baz=156,slow=3.8,SNR=5.2						
ZAK	**Zakamensk**	**61.09**	**340**	*e*P	**P**	**07 45 06.9**	**+0.2**
ZAK				*e*	pP	07 45 44.8	+2.7
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.9s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
TLY	**Talaya**	**62.09**	**341**	*e*P	**P**	**07 45 13.5**	**+0.1**
TLY				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.2						
MOY	**Mondy**	**62.95**	**340**	*e*P	**P**	**07 45 20.4**	**+1.3**
MOY				pmax	pmax		
	comp=Z,24nm,2.6s,mb4.6						
BOD	**Bodaibo**	**65.20**	**350**	*e*P	**P**	**07 45 33.1**	**-0.7**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.2						
MK31	**Makanchi Array**	**67.86**	**326**	P	**P**	**07 45 51.0**	**+0.3**
MK31				pmax	pmax		
	comp=Z,11nm,0.4s,mb4.9						
MKAR	**Makanchi Array**	**67.86**	**326**	P	**P**	**07 45 51.0**	**+0.4**
	comp=Z,38nm,0.4s,mb5.5,baz=113,slow=8.3,SNR=590						
TKM2	**Tokmak 2**	**69.71**	**320**	P	**P**	**07 46 02.9**	**+0.7**
TKM2				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.7						
AAK	**Ala-Archa**	**70.28**	**319**	*e*P	**P**	**07 46 05.5**	**-0.1**
AAK				pmax	pmax		
	comp=Z,27nm,1.1s,mb4.9						
AAK	**Ala-Archa**	**70.28**	**319**	*e*P	**P**	**07 46 05.5**	**-0.1**
	comp=Z,27nm,1.1s,mb4.9						
KURK	**Kurchatov**	**72.12**	**328**	*e*P	**P**	**07 46 16.5**	**-0.2**
KURK				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.0						
KURK	**Kurchatov**	**72.12**	**328**	*e*P	**P**	**07 46 16.4**	**-0.2**
	comp=Z,23nm,0.8s,mb5.0						
KURK				*e*pP	pP	07 47 01.0	+7.9
NVS	**Novosibirsk**	**72.39**	**334**	*i* P	**P**	**07 46 16.1**	**-2.2**
NVS				pmax	pmax		
	comp=N,11nm,0.9s						
NVS				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8						
NVS				pmax	pmax		
	comp=E,10.0nm,1.0s						
KKAR	**Karatay Array**	**73.10**	**318**	*i* P	**P**	**07 46 22.5**	**0.0**
KKAR				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.8						
VNDA	**Vanda**	**73.17**	**173**	P	**P**	**07 46 23.3**	**+0.4**
	comp=Z,2.4nm,0.9s,mb4.0,baz=308,slow=5.6,SNR=9.6						
MAW	**Mawson**	**75.89**	**201**	P	**P**	**07 46 39.9**	**+1.4**
	comp=Z,4.6nm,0.5s,mb4.4,baz=65,slow=6.0,SNR=19						
WSAR	**Wadi Sarin**	**76.00**	**296**	P	**P**	**07 46 39.8**	**+0.6**
	comp=Z,8.3nm,0.6s,mb4.6,baz=103,slow=5.5,SNR=20						
VOSK	**Vostochnaya**	**77.22**	**327**	P	**P**	**07 46 45.3**	**-0.7**
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.3						
BVA0	**Borovoye Array**	**77.68**	**328**	*i* P	**P**	**07 46 48.3**	**-0.3**
BVA0				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb3.9						
TIXI	**Tiksi**	**77.70**	**359**	*e*P	**P**	**07 46 45.4**	**-3.3**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.2						
BRVK	**Borovoye**	**77.75**	**328**	*e*P	**P**	**07 46 48.8**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.5						
BRVK	**Borovoye**	**77.75**	**328**	*e*P	**P**	**07 46 48.8**	**-0.2**
	comp=Z,13nm,1.0s,mb4.5						
CHKZ	**Chkalovo**	**77.86**	**328**	*e*P	**P**	**07 46 48.9**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.7						
CHKZ	**Chkalovo**	**77.86**	**328**	*e*P	**P**	**07 46 48.9**	**-0.7**
	comp=Z,16nm,0.9s,mb4.7						
ZRNK	**Zerenda**	**78.39**	**327**	*e*P	**P**	**07 46 51.8**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,16nm,0.7s,mb4.8						
ZRNK	**Zerenda**	**78.39**	**327**	*e*P	**P**	**07 46 51.8**	**-0.7**
	comp=Z,16nm,0.7s,mb4.8						
OPO	**Ambohidratompo**	**81.77**	**252**	P	**P**	**07 47 11.8**	**+1.2**
	comp=Z,3.8nm,0.7s,mb4.2,baz=93,slow=4.2,SNR=7.8						
AB31	**Akbulak array**	**82.22**	**321**	*i* P	**P**	**07 47 12.3**	**-0.7**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKTO	**Aktyubinsk**	**83.77**	**322**	P	**P**	**07 47 20.7**	**-0.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.8s						
QSPA	**South Pole Qui**	**83.77**	**180**	*e*P	**P**	**07 47 21.3**	**+0.3**
	comp=Z,5.8nm,0.8s,mb4.4						
SVE	**Sverdlovsk**	**84.36**	**329**	*e*P	**P**	**07 47 22.9**	**-1.1**
SVE				pmax	pmax		
	comp=Z,40nm,1.3s,mb5.0						
SYO	**Syowa Base**	**84.60**	**201⇑**	*e*P	**P**	**07 47 25.6**	**+0.4**
SYO	**Syowa Base**	**84.60**	**201⇑**	*e*PcP	PcP	07 47 29.5	+1.1
ARU	**Arti**	**85.31**	**328⇓**	*i* P	**P**	**07 47 27.6**	**-1.1**
ARU				*e*		07 50 47.7	
ARU				*e*S		07 57 34.3	
ARU				*e*SS	SS	08 03 20.8	-3.8
ARU				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
ARU	**Arti**	**85.31**	**328**	*e*P	**P**	**07 47 27.2**	**-1.5**
	comp=Z,7.3nm,0.5s,mb4.7						
ORR	**Orenburg**	**86.08**	**323**	*e*P	**P**	**07 47 32.4**	**-0.1**
ORR				pmax	pmax		
	comp=Z,30nm,1.1s,mb4.9						
ILAR	**Eielson Array**	**92.40**	**25**	P	**P**	**07 48 00.2**	**-2.0**
	comp=Z,2.3nm,0.7s,mb4.3,baz=273,slow=4.4,SNR=24						
ILAR				pP	pP	07 48 44.5	+4.3
	comp=Z,0.7nm,0.6s,baz=270,slow=4.5,SNR=3.5						
ILAR				PKKP	PKKPbc	08 05 15.0	-0.2
	comp=Z,0.3nm,0.6s,baz=111,slow=0.7,SNR=5.2						
KIV	**Kislovodsk**	**92.71**	**314**	*e*P	**P**	**07 48 02.8**	**-0.9**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
DAWY	**Dawson**	**95.56**	**26**	*e*P	**P**	**07 48 16.4**	**-0.3**
DAWY				*e*pP	pP	07 49 01.2	+6.6
SNAA	**Sanae**	**96.56**	**193**	*e*P	**P**	**07 48 16.0**	**-5.3**
SNAA				*e*		07 48 20.3	
OBN	**Obninsk**	**97.32**	**325**	*e*P	**P**	**07 48 25.0**	**+0.3**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.7						
VNA2	**Neumayer--Watz**	**98.13**	**193**	*e*P	**P**	**07 48 28.5**	**+0.2**
V

comp=Z,4.9nm,0.7s
MFF Saint Martin d 121.64 322 *e*PKIKP PKPdf 07 53 43.9 -0.6
comp=Z,12nm,0.8s
TORD Torodi Ar. Bea 129.18 282 PKP PKPdf 07 54 00.1 +1.1
comp=Z,3.0nm,0.7s,baz=74,slow=1.7,SNR=18
TORD SKPbc 07 57 07.0
comp=Z,1.7nm,0.8s,baz=68,slow=3.6,SNR=7.9
DBIC Dimbokro 135.69 273 PKP PKPdf 07 54 12.4 +1.2
comp=Z,1.5nm,0.4s,baz=16,slow=4.0,SNR=4.8
LVC Limon Verde 145.62 147 *e*PKPab PKPab 07 54 33.6 +3.6
CPUP Villa Florida 146.78 167 PKPbc PKPbc 07 54 35.1 +2.1
comp=Z,7.1nm,0.9s,baz=191,slow=2.1,SNR=17
CPUP SKPbc SKPbc 07 57 59.5 +2.1
comp=Z,1.0nm,0.7s,baz=245,slow=2.7,SNR=3.3
CPUP Villa Florida 146.78 167 *e*PKPab PKPab 07 54 35.0 +0.5
CAM4 Nova Friburgo 150.83 193 ⇑*i*P PKPbc 07 54 45.9 +2.6
CAM4 *i* 07 54 47.3
LPAZ La Paz 151.01 141 PKPbc PKPbc 07 54 47.3 +3.6
comp=Z,3.5nm,0.4s,baz=30,slow=2.4,SNR=56
LPAZ La Paz 151.01 141 *e*PKPbc PKPbc 07 54 47.2 +3.5
LPAZ *e*PKPab PKPab 07 54 58.0 +6.2

IDC 27 07:48:10.3±44.0, 613S×10904E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/18, mbtmp3.7/3, Error ellipse: s-maj=749.5km s-min=192.7km az=134.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.15**	**122**	P	P	07 54 04.3	+0.1
	1.3nm,0.9s,baz=295,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**29.60**	**129**	P	P	07 54 17.9	+0.9
	0.4nm,0.7s,baz=303,slow=9.4,SNR=4.2						
STKA	**Stephens Creek**	**39.76**	**134**	P	P	07 55 44.6	-0.1
	0.8nm,0.4s,baz=304,slow=9.2,SNR=4.7						

WEL 27 08:06:26.2±0.3, 3757S×17707E, h147km±2km, ML3.6/13, Error ellipse: s-maj=3.3km s-min=3.2km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.69**	**177**	PN	Pn	08 06 48.4	+0.1
URZ				SN	Sn	08 07 05.3	+0.2
MWZ	**Matawai**	**0.84**	**155**	PN	Pn	08 06 49.6	+0.1
MWZ				SN	Sn	08 07 07.8	+0.7
PUZ	**Puketiti**	**1.06**	**118**	PN	Pn	08 06 51.2	-0.1
PUZ				SN	Sn	08 07 09.2	-1.1
KNZ	**Kokohu**	**1.52**	**162**	PN	Pn	08 06 55.9	+0.2
KNZ				SN	Sn	08 07 18.5	+0.1
BKZ	**Black Stump Fm**	**1.66**	**196**	PN	Pn	08 06 57.2	-0.1
BKZ				SN	Sn	08 07 21.1	+0.1
WNVZ	**Wahianoa**	**2.10**	**213**	PN	Pn	08 07 02.6	+0.2
MOVZ	**Moawhango**	**2.10**	**209**	PN	Pn	08 07 02.0	-0.4
MOVZ				SN	Sn	08 07 29.8	-0.3
PXZ	**Pawanui**	**2.46**	**184**	PN	Pn	08 07 05.9	-0.8
TSZ	**Takapari Road**	**2.63**	**199**	PN	Pn	08 07 07.7	-1.1
WAZ	**Wanganui**	**2.72**	**216**	PN	Pn	08 07 09.7	-0.3
BFZ	**Birch Farm**	**3.17**	**191**	PN	Pn	08 07 14.0	-1.6
MRZ	**Mangatainoka R**	**3.30**	**200**	PN	Pn	08 07 15.3	-1.9
KIW	**Kapiti Island**	**3.69**	**206**	PN	Pn	08 07 20.1	-2.3
MTW	**Mount Morrison**	**3.78**	**198**	PN	Pn	08 07 20.9	-2.7
CAW	**Cannon Point**	**3.86**	**203**	PN	Pn	08 07 21.9	-2.6
MRW	**Makara Radio**	**4.09**	**206**	PN	Pn	08 07 24.5	-3.0

*ISCJB **27** 08:11:46.4±1.0, 281N±0.1×1400E±0.4, h440km±14km, mb3.0/4, Error ellipse: s-maj=56.1km s-min=13.6km az=159.5*
*IDC **27** 08:11:47.2±1.9, 2813N×14005E, h433km±23km, mb2.7/4, mb1 2.9/5, mb1mx2.7/20, mbtmp3.5/5, Error ellipse: s-maj=71.2km s-min=19.3km az=96.0*
*JMA **27** 08:11:48.2±0.1, 2829N×14044E, h440km, M3.6*
ISC 27 08:11:47.7±0.9, 281N±01×1402E±04, h439km±14km, n10, σ0§50/12, mb3.0/4, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.03**	**120**	P	**P**	**08 12 47.9**	**+0.5**
	5.2nm,0.3s,baz=270,slow=18,SNR=9.4						
CBIJ				S	**S**	**08 13 35.6**	**-0.1**
	13nm,0.3s,baz=267,slow=21,SNR=7.0						
CBIJ	**Chichi jima**	**2.03**	**120**	P	**P**	**08 12 47.8**	**+0.4**
CBIJ				*e*S	**S**	**08 13 34.8**	**-0.9**
JHHJ	**Haha-jima-NKT**	**2.29**	**130**	*e*S	**S**	**08 13 38.7**	**+0.1**
JRY	**Ryogami san**	**7.96**	**352**	P	**P**	**08 13 43.1**	**+0.7**
JAG	**Ashikaga**	**8.31**	**356**	P	**P**	**08 13 45.6**	**-0.7**
JHO	**Hitachi**	**8.48**	**2**	P	**P**	**08 13 48.4**	**+0.3**
WRA	**Warramunga Arr**	**48.11**	**187**	P	**P**	**08 19 46.3**	**+0.4**
	0.4nm,0.3s,mb3.2,baz=5.9,slow=7.6,SNR=22						
ASAR	**Alice Springs**	**51.84**	**187**	P	**P**	**08 20 13.3**	**-0.2**
	0.3nm,0.3s,mb3.0,baz=3.8,slow=5.8,SNR=13						
YKA	**Yellowknife Ar**	**72.08**	**28**	P	**P**	**08 22 26.3**	**+0.2**
	0.1nm,0.5s,mb2.6,baz=298,slow=6.0,SNR=3.3						
FINES	**FINESS Array B**	**76.25**	**333**	P	**P**	**08 22 49.1**	**-0.7**
	0.5nm,0.7s,mb3.2,baz=62,slow=5.2,SNR=4.3						

*IDC **27** 08:12:28.8±3.1, 3607N×7124E, h0km, mb3.9/5, mb1 4.0/7, mb1mx3.6/23, mbtmp3.9/7, ML3.5/2, Error ellipse: s-maj=64.3km s-min=28.7km az=138.0*
*NEIC **27** 08:12:29.0±1.3, 3573N×7130E, h20km, mb3.2/2, Error ellipse: s-maj=21.3km s-min=14.3km az=6.0*
*MOS **27** 08:12:29.8±1.0, 3585N×7123E, h33km, mb3.7/1, Error ellipse: s-maj=34.3km s-min=13.3km az=90.4*
*ISCJB **27** 08:12:40.5±0.9, 3639N±006×7155E±009, h114km±14km, mb3.9/6, Error ellipse: s-maj=13.1km s-min=7.3km az=120.7*
ISC 27 08:12:41.8±0.8, 3640N±005×7158E±009, h113km±12km, n31, σ1§12/37, mb3.9/6, 1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHCP	**Chirah Chowk**	**3.06**	**153**	P	**Pn**	**08 13 32.1**	**+3.4**
THW	**Thamme Wali**	**3.60**	**178**	P	**Pn**	**08 13 36.8**	**+1.0**
SARP	**Sargodha**	**4.56**	**168**	P	**Pn**	**08 13 48.8**	**+0.2**
SARP				S	**Sn**	**08 14 39.0**	**-1.6**
DLH	**Dalhousie**	**5.29**	**135**	*e*P	**Pn**	**08 14 03.0**	**+4.5**
DLH				*ex*	**Sn**	**08 15 03.0**	**+4.8**
PONG	**Pong**	**5.73**	**139**	*e*S	**Sn**	**08 15 10.0**	**+1.1**
AAK	**Ala-Archa**	**6.62**	**19**	*e*P	**Pn**	**08 14 16.4**	**-0.1**
AAK				pmax	pmax		
	comp=Z,26nm,0.4s						
AAK	**Ala-Archa**	**6.62**	**19**	*e*Pn	**Pn**	**08 14 16.4**	**-0.2**
	comp=Z,26nm,0.4s						
SDNR	**Sundarnagar**	**6.63**	**136**	*e*P	**Pn**	**08 14 20.0**	**+3.4**
SDNR				*e*S	**Sn**	**08 15 30.0**	**-0.7**
SMLA	**Simla**	**7.02**	**137**	⇓*i*P	**Pn**	**08 14 22.7**	**+0.7**
SMLA				*i* S	**Sn**	**08 15 36.9**	**-3.4**
NDI	**New Delhi**	**9.04**	**147**	*e*S	**Sn**	**08 16 18.0**	**-11**
MKAR	**Makanchi Array**	**13.11**	**34**	Pn	**Pn**	**08 15 43.0**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=217,slow=13,SNR=8.3						
KOLN	**Koldanda**	**13.33**	**127**	*e*P	**Pn**	**08 15 46.2**	**-0.2**
	comp=Z,7.1nm,0.4s						
GKN	**Gorkha**	**13.86**	**123**	*e*P	**Pn**	**08 15 53.3**	**0.0**
DMN	**Daman**	**14.43**	**124**	*e*P	**Pn**	**08 16 00.0**	**-0.6**
KKN	**Kakani**	**14.43**	**123**	*e*P	**Pn**	**08 16 00.3**	**-0.3**
PKI	**Pulchoki**	**14.66**	**123**	*e*P	**Pn**	**08 16 03.7**	**+0.2**
GUN	**Gumba**	**14.77**	**121**	*e*P	**Pn**	**08 16 05.1**	**+0.2**
	comp=Z,14nm,0.5s						
JIRN	**Jiri**	**15.14**	**121**	*e*P	**Pn**	**08 16 09.1**	**-0.4**
	comp=Z,10nm,0.3s						
AKTK	**Aktyubinsk**	**17.10**	**329**	P	**Pn**	**08 16 31.8**	**-2.0**
AKTK				S	**S**	**08 19 26.1**	**-18**
AKTO	**Aktyubinsk**	**17.10**	**329**	P	**Pn**	**08 16 31.8**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=137,slow=12,SNR=8.2						
AKTO				S	**S**	**08 19 26.1**	**-18**
	comp=Z,0.1nm,0.3s,baz=90,slow=13,SNR=1.8						
CHKZ	**Chkalovo**	**17.29**	**358**	*e*P	**Pn**	**08 16 36.2**	**+0.1**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CHKZ	**Chkalovo**	**17.29**	**358**	*e*Pn	**Pn**	**08 16 36.1**	**+0.1**
	comp=Z,0.6nm,0.5s						
ZAL	**Zalesovo**	**19.80**	**24**	P	**P**	**08 17 05.2**	**+2.0**
	comp=Z,2.8nm,0.4s,baz=265,slow=7.9,SNR=4.4						
ENH	**Enshi**	**32.11**	**90**	*e*P	**P**	**08 18 56.8**	**-1.4**
	comp=Z,0.3nm,0.5s,mb3.3						
JOF	**Joensuu**	**36.19**	**330**	*e*p	**P**	**08 19 34.8**	**+1.4**
	comp=Z,1.9nm,0.3s,mb4.5						
FINES	**FINESS Array B**	**37.83**	**326**	P	**P**	**08 19 47.8**	**+0.6**
	comp=Z,0.5nm,0.3s,mb3.8,baz=121,slow=9.4,SNR=10						

ARCES	**ARCESS Array B**	**41.41**	**337**	P	**P**	**08 20 18.4**	**+1.4**
	comp=Z,3.4nm,1.0s,mb4.2,baz=118,slow=8.2,SNR=12						
NB2	**NORSAR Subarra**	**44.74**	**323**	P	**P**	**08 20 44.2**	**+0.5**
	comp=Z,1.0nm,0.5s,mb3.8,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.74**	**323**	P	**P**	**08 20 43.4**	**-0.3**
	comp=Z,1.2nm,0.6s,mb3.8,baz=96,slow=7.8,SNR=7.7						
NOA	**NORSAR Array B**	**44.74**	**323**	P	**P**	**08 20 43.4**	**-0.3**
TORD	**Torodi Ar. Bea**	**66.18**	**269**	P	**P**	**08 23 17.0**	**-0.2**
	comp=Z,0.5nm,0.5s,mb3.6,baz=53,slow=5.8,SNR=8.1						

*INMG **27** 08:18:59.4±0.9, 4159N×844W, h0km, ML1.8, Error ellipse: s-maj=2.7km s-min=1.5km az=86.0*
MDD 27 08:18:59.2±0.3, 4159N×845W, h1km±10km, mbLg2.0/15, 1C, Error ellipse: s-maj=3.0km s-min=2.1km az=102.0, PRXIMO, Portugal

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCAB	**Cabril**	**0.34**	**69**	*i* Pg	Pg	08 19 05.8	0.0
PCAB				*e*Sg	Sg	08 19 10.1	-0.1
PCAB							
	76nm,0.1s						
ELOB	**Lobios**	**0.41**	**46**	⇑Pg	Pg	08 19 06.8	-0.2
	12nm,0.1s,SNR=18						
ELOB				Lg		08 19 11.9	
	94nm,0.1s,SNR=7.9						
PTO	**Porto**	**0.46**	**194**	*e*Pg	Pg	08 19 08.2	+0.1
PTO				*e*Sg	Sg	08 19 13.6	-0.5
EZAM	**Zamans**	**0.59**	**342**	Pg	Pg	08 19 09.9	-0.7
	2.7nm,0.1s,SNR=14						
EZAM				Lg		08 19 18.5	
	7.8nm,0.1s,SNR=5.0						
PVRL	**Vila Real**	**0.63**	**119**	*e*Pg	Pg	08 19 10.9	-0.5
PVRL				*e*Sg	Sg	08 19 19.3	-0.3
PVRL							
	54nm,0.2s						
PVIS	**Viseu**	**0.97**	**154**	*e*P	Pg	08 19 17.0	-0.8
PVIS				*e*S	Sg	08 19 29.9	-0.4
PVIS							
	31nm,0.1s						
PBRG	**Braganca**	**1.30**	**80**	*e*P	Pg	08 19 23.1	-1.0
PBRG				*e*S	Sg	08 19 40.5	-0.5
PBRG							
	10nm,0.1s						
STS	**Santiago**	**1.30**	**357**	Pg	Pg	08 19 22.8	-1.4
	5.0nm,0.1s,SNR=7.9						
STS				Lg		08 19 39.2	
	8.4nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**1.33**	**74**	Pg	Pg	08 19 23.8	-0.9
	0.9nm,0.1s,SNR=17						
ECAL				Lg		08 19 41.4	
	7.6nm,0.2s,SNR=5.0						
MTE	**Manteigas**	**1.37**	**150**	*e*P	Pn	08 19 24.4	-1.0
MTE				*e*S	Sg	08 19 42.0	-1.3
MTE							
	10nm,0.4s						
EMAZ	**Mazaricos**	**1.42**	**344**	Pg	Pg	08 19 24.6	-1.8
	2.5nm,0.1s,SNR=9.3						
EMAZ				Lg		08 19 43.3	
	5.6nm,0.2s,SNR=5.0						
PCBR	**Castelo Branco**	**1.90**	**157**	*e*Sg	Sg	08 19 58.1	-2.0
PCBR							
	3.3nm,0.1s						
PCBR	**Castelo Branco**	**1.90**	**157**	Lg		08 19 58.1	
	1.6nm,0.1s						
PTOM	**Tomar**	**1.97**	**179**	*e*Sg	Sg	08 20 02.2	-0.2
PTOM							
	4.8nm,0.1s						
PTOM	**Tomar**	**1.97**	**179**	Lg		08 20 02.2	
	2.4nm,0.1s						
EPON	**Pontenova**	**1.99**	**29**	Pn	Pn	08 19 32.6	-1.3
	3.0nm,0.5s,SNR=7.9						
EPON				Pg	Pg	08 19 35.8	-1.6
	1.5nm,0.2s,SNR=7.9						
EPON				Lg		08 20 00.8	
	4.4nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**2.95**	**53**	Pn	Pn	08 19 46.3	-0.9
	0.8nm,0.3s,SNR=7.9						
EARI				Sn	Sn	08 20 20.3	-2.9
	0.8nm,0.3s,SNR=7.9						
EARI				Lg		08 20 32.7	
	0.9nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**3.03**	**158**	Lg		08 20 34.1	
	1.2nm,0.1s,SNR=7.9						
GUD	**Guadarrama**	**3.38**	**105**	Lg		08 20 45.1	
	1.5nm,0.2s,SNR=7.9						

*ISCJB **27** 08:49:34.8±1.5, 2514S±007×1772W±0.1, h88km±13km, mb4.3/9, Error ellipse: s-maj=17.9km s-min=12.3km az=10.1*
*IDC **27** 08:49:36.2±2.6, 2518S×17722W, h86km±22km, mb3.9/7, mb1 4.2/10, mb1mx4.0/18, mbtmp4.4/10, MS3.2/1, Ms1 3.2/1, ms1mx2.4/24, Error ellipse: s-maj=23.8km s-min=18.3km az=83.0*
*NEIC **27** 08:49:36.5±1.2, 2508S×17721W, h90km±12km, mb4.3/3, Error ellipse: s-maj=15.4km s-min=10.7km az=105.0*
ISC 27 08:49:36.5±1.3, 2517S±007×1771W±0.1, h91km±12km, n27, σ0§85/27, mb4.3/9, 1C-3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.13**	**190**	P	**Pn**	**08 50 37.8**	**+0.5**
	75nm,0.3s,baz=70,slow=18,SNR=3.7						
RAO				S	**Sn**	**08 51 23.3**	**-1.1**
	201nm,0.3s,baz=71,slow=20,SNR=4.6						
RAO	**Raoul Island**	**4.13**	**190**	P	**Pn**	**08 50 37.8**	**+0.5**
RAO				S	**Sn**	**08 51 23.3**	**-1.1**
AFI	**Afiamalu**	**12.28**	**25**	P	**Pn**	**08 52 27.6**	**-0.4**
	12nm,0.3s,baz=325,slow=12,SNR=7.4						
AFI				S	**Sn**	**08 54 31.3**	**-12**
	4.8nm,0.3s,baz=196,slow=18,SNR=3.1						
URZ	**Urewera**	**13.94**	**199**	P	**Pn**	**08 52 51.3**	**+1.4**
	2.5nm,0.3s,baz=14,slow=8.3,SNR=8.8						
URZ				S	**Sn**	**08 55 05.5**	**-18**
	3.4nm,0.3s,baz=303,slow=24,SNR=9.2						
HNR	**Honiara**	**26.84**	**302**	LR	LR	09 04 10.5	
	comp=Z,43nm,18.1s,baz=358,slow=33						
CTA	**Charters Tower**	**34.11**	**271**	⇑*i*P	**P**	**08 56 14.4**	**+2.1**
	1.5nm,0.4s,mb4.2						
CTA	**Charters Tower**	**34.11**	**271**	P	**P**	**08 56 14.0**	**+1.7**
	3.1nm,0.5s,mb4.4,baz=91,slow=9.2,SNR=6.8						
STKA	**Stephens Creek**	**36.71**	**250**	*e*P	**P**	**08 56 33.6**	**-1.1**
	1.7nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**36.71**	**250**	P	**P**	**08 56 33.6**	**-1.0**
	2.4nm,0.5s,mb4.4,baz=97,slow=10,SNR=15						
AS31	**Alice Springs**	**44.42**	**261**	*e*P	**P**	**08 57 38.2**	**+0.1**
ASAR	**Alice Springs**	**44.42**	**261**	P	**P**	**08 57 38.1**	**+0.1**
	2.0nm,0.4s,mb4.2,baz=91,slow=7.2,SNR=55						
ASPA	**Alice Springs**	**44.42**	**261**	*e*P	**P**	**08 57 38.2**	**+0.1**
WB2	**Warramunga Arr**	**44.93**	**266**	*e*P	**P**	**08 57 42.4**	**+0.3**
WRA	**Warramunga Arr**	**44.94**	**266**	P	**P**	**08 57 41.1**	**-1.1**
	0.8nm,0.4s,mb3.8,baz=104,slow=7.9,SNR=22						
FITZ	**Fitzroy Crossi**	**53.34**	**266**	P	**P**	**08 58 45.8**	**-0.5**
	2.3nm,1.0s,mb4.2,baz=8.2,slow=22,SNR=4.0						
VNDA	**Vanda**	**53.36**	**186**	P	**P**	**08 58 46.9**	**+0.5**
	0.7nm,0.7s,mb3.8,baz=18,slow=3.2,SNR=5.5						
QSPA	**South Pole Qui**	**64.92**	**180**	*e*P	**P**	**09 00 06.2**	**0.0**
	3.5nm,0.7s,mb4.3						
PMSA	**Palmer Station**	**76.71**	**156**	*e*P	**P**	**09 01 19.2**	**+1.6**
	110nm,0.6s,mb5.8						
MAW	**Mawson**	**77.47**	**200**	P	**P**	**09 01 21.3**	**-0.5**
	1.8nm,0.4s,mb4.1,baz=149,slow=3.9,SNR=8.8						
KCPM	**Cahto Peak**	**81.57**	**39**	*e*P	**P**	**09 01 37.7**	**-6.4**
KCPM				*e*pP	pP	09 01 50.6	-17
SNAA	**Sanae**	**83.34**	**178**	*e*	**P**	**09 01 45.7**	**-7.6**
SNAA				*e*		09 01 49.3	
VNA3	**Neumayer Olymp**	**83.45**	**176**	⇓*i*	**P**	**09 01 52.8**	**-1.1**
VNA3				*e*		09 01 56.4	
VNA2	**Neumayer--Watz**	**83.90**	**177**	⇓*i*	**P**	**09 01 55.6**	**-0.6**
	baz=199,slow=4.2						
VNA2				*e*		09 01 59.1	
VNA1	**Neumayer--Stat**	**84.13**	**176**	⇓*i*	**P**	**09 01 57.5**	**+0.2**
VNA1				*e*		09 02 01.0	
AKASG	**Malin Array Be**	**147.43**	**328**	PKPbc	PKPbc	09 09 09.6	-0.2
	0.4nm,0.3s,baz=43,slow=4.2,SNR=4.7						
BRTR	**Keskin Array B**	**150.43**	**307**	PKPbc	PKPbc	09 09 17.2	0.0
	0.4nm,0.4s,baz=60,slow=3.5,SNR=3.0						
BRTR				PKPab	PKPab	09 09 24.7	+0.7
	1.3nm,0.8s,baz=98,slow=4.2,SNR=4.3						
TORD	**Torodi Ar. Bea**	**167.99**	**174**	PKP	PKPdf	09 09 32.2	+0.1
	0.6nm,0.7s,baz=19,slow=0.6,SNR=4.1						
TORD				PKPab	PKPab	09 10 40.3	+0.3
	0.4nm,0.5s,baz=174,slow=3.8,SNR=7.0						

*ISCJB **27** 08:54:17.0±0.7, 134N±0.1×8984W±0.09, h65km±6km, mb3.8/7, Error ellipse: s-maj=21.9km s-min=4.0km az=78.9*
*CASC **27** 08:54:17.1±2.2, 1331N×8994W, h56km±26km, MD4.3, ML4.4, mb3.7(NEIC)*
*NEIC **27** 08:54:21.6±2.4, 1342N×8959W, h90km±25km, mb3.7/3, MD3.9(SNET), Error ellipse: s-maj=38.2km s-min=13.5km az=54.0*
NEIC Felt [II] at Juayua.
*IDC **27** 08:54:21.9±10.0, 1354N×8929W, h88km±97km, mb3.6/5, mb1 3.8/5, mb1mx3.5/19, mbtmp3.9/5, MS3.2/1, Ms1 3.1/1, ms1mx2.5/16, Error ellipse: s-maj=44.4km s-min=21.6km az=57.0*
ISC 27 08:54:18.3±0.6, 134N±01×8985W±009, h62km±7km, n46, σ1§24/43, mb3.9/7, 6C-1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**0.50**	**26**	*i* P	Px	08 54 33.1	
SNET	**Serv Nac Est T**	**0.67**	**64**	*e*P	Px	08 54 32.2	
SNET				*e*S	Sx	08 54 44.7	
SNET				*i*		08 54 46.9	
	comp=Z,15μm,0.2s						
RBDL	**Robledal**	**0.74**	**13**	*i* P	Px	08 54 36.6	
LFRS	**El Faro**	**0.80**	**73**	⇑*i*P	Px	08 54 36.5	
LBRS	**Las Brisas**	**0.86**	**66**	⇑*i*P	Px	08 54 37.8	
LCBS	**La Ceiba**	**0.89**	**73**	⇑*i*P	Px	08 54 37.8	
IXG	**Ixpaco**	**0.98**	**323**	⇓*e*P	**Pn**	**08 54 34.7**	**-1.4**
IXG				*e*S	**Sn**	**08 54 48.0**	**-1.2**
MTO2	**Montecristo 2**	**1.11**	**25**	*e*P	Px	08 54 41.9	
MTO2				*e*S	Sx	08 54 59.5	
GCG	**Guatemala City**	**1.36**	**331**	*e*P	**Pn**	**08 54 41.6**	**+0.4**
GCG				*e*S	**Sn**	**08 55 00.4**	**+2.1**
FUG	**Fuego 3**	**1.43**	**318**	⇑*i*P	**Pn**	**08 54 41.6**	**-0.4**
TP2	**Tecpan 2**	**1.79**	**321**	*e*P	**Pn**	**08 54 47.1**	**+0.2**
TP2				*e*S	**Sn**	**08 55 10.2**	**+1.5**
JAT	**Jato**	**1.96**	**298**	*e*P	**Pn**	**08 54 48.0**	**-1.3**
CRIN	**San Cristobal**	**2.82**	**104**	*e*P	**Pn**	**08 55 01.2**	**+0.3**
TEL3	**Telica 3**	**3.04**	**105**	*e*P	**Pn**	**08 55 02.8**	**-1.2**
LEON	**Leon**	**3.04**	**108**	*e*P	**Pn**	**08 55 01.7**	**-2.3**
TELN	**Telica**	**3.05**	**104**	*e*P	**Pn**	**08 55 04.0**	**0.0**
CNGN	**Cerro Negro**	**3.20**	**106**	*e*P	**Pn**	**08 55 05.8**	**-0.3**
MIRN	**Miramar**	**3.21**	**107**	*e*P	**Pn**	**08 55 04.9**	**-1.3**
MOMJ	**Momotombo**	**3.37**	**106**	*e*P	**Pn**	**08 55 08.2**	**-0.3**
COPN	**Copaltepe**	**3.40**	**110**	*e*P	**Pn**	**08 55 08.3**	**-0.5**
APYN	**Apoyeque**	**3.60**	**108**	*e*P	**Pn**	**08 55 11.0**	**-0.6**
XAVN	**Gruta Xavier**	**3.65**	**109**	*e*P	**Pn**	**08 55 12.1**	**-0.3**
TISN	**Laguna Tiscapa**	**3.71**	**109**	*e*P	**Pn**	**08 55 13.1**	**0.0**
MGAN	**Managua**	**3.73**	**109**	⇑*e*P	**Pn**	**08 55 13.1**	**-0.3**
MGAN				*e*S	**Sn**	**08 55 57.5**	**+1.5**
MGAN				*i*		08 56 02.9	
	comp=E,334nm,0.3s						
TICN	**Ticuantepe**	**3.78**	**110**	*e*P	**Pn**	**08 55 13.6**	**-0.5**
APON	**Apoyo**	**3.97**	**111**	*e*P	**Pn**	**08 55 17.3**	**+0.6**
SSNN	**San Juan del S**	**4.43**	**118**	*e*P	**Pn**	**08 55 22.6**	**-0.5**
CONN	**Concepcion**	**4.51**	**113**	*e*P	**Pn**	**08 55 23.4**	**-0.6**
VCR	**Vista de Mar**	**5.25**	**128**	*e*P	**Pn**	**08 55 34.2**	**0.0**
JTS	**Juntas-Bangare**	**5.70**	**122**	*e*Pn	**Pn**	**08 55 40.8**	**+0.4**
	comp=E,42nm,0.6s						
CGA2	**Cerro Gallo 2**	**6.25**	**122**	*e*P	**Pn**	**08 55 50.0**	**+2.1**
PRS1	**Puriscal**	**6.40**	**121**	*e*P	**Pn**	**08 55 51.5**	**+1.7**
LAJ	**Bijagual**	**6.62**	**121**	*e*P	**Pn**	**08 55 50.0**	**-3.0**
LCR2	**La Lucha 2**	**6.78**	**122**	*e*P	**Pn**	**08 55 56.4**	**+1.2**
BUS	**Buena Vista**	**7.08**	**122**	⇑*e*P	**Pn**	**08 56 01.4**	**+2.1**
BUS				*e*S	**Sn**	**08 57 20.6**	**+2.2**
SDV	**Santo Domingo**	**19.38**	**101**	*e*P	**Pn**	**08 58 38.5**	**-2.1**
	comp=E,4.4nm,0.7s						
MIAR	**Mount Ida**	**21.33**	**352**	*e*P	**P**	**08 59 03.0**	**+2.9**
	comp=E,2.1nm,0.6s,mb3.6						
WMOK	**Wichita Mounta**	**22.74**	**341**	*e*P	**P**	**08 59 15.9**	**+0.8**
	comp=E,1.1nm,0.6s,mb3.5						
ECSD	**EROS,Sioux Fal**	**30.79**	**350**	*e*P	**P**	**09 00 27.7**	**-0.3**
NVAR	**Mina Array Bea**	**35.47**	**320**	P	**P**	**09 01 11.9**	**+3.2**
	comp=E,3.2nm,0.7s,mb4.4,baz=127,slow=9.4,SNR=23						
NVAR				PcP	PcP	09 03 39.2	+2.1
	comp=E,1.3nm,0.7s,baz=160,slow=3.4,SNR=6.7						
NVAR	**Mina Array Bea**	**35.47**	**320**	P	**P**	**09 01 11.9**	**+3.2**
NVAR				PcP	PcP	09 03 39.2	+2.1
LPAZ	**La Paz**	**36.48**	**143**	P	**P**	**09 01 17.8**	**+0.5**
	comp=E,1.2nm,0.8s,mb3.9,baz=346,slow=7.1,SNR=5.5						
ULM	**Lac du Bonnet**	**37.09**	**354**	LR	LR	09 17 47.2	
	comp=E,31nm,18.1s,baz=48,slow=38						
SCHQ	**Schefferville**	**45.10**	**19**	P	**P**	**09 02 27.6**	**-0.7**
	comp=E,2.4nm,0.5s,mb4.3,baz=206,sl

BTO					Smax				
	comp=N,36nm,1.4s								
BTO					Smax				
	comp=E,43nm,1.4s								
TLY	**Talaya**	**7.06**	**6**	*e*P		**Pn**	**09 21 53.2**	**+0.4**
TLY				pmax	pmax				
	comp=Z,4.0nm,0.4s								
TLY	**Talaya**	**7.06**	**6**	*e*Pn		**Pn**	**09 21 49.6**	**-3.2**
	comp=Z,9.4nm,0.8s								
MOY	**Mondy**	**7.08**	**352**	*e*P		**Pn**	**09 21 53.7**	**+0.6**
MOY				*e*S		**Sn**	**09 23 12.9**	**-0.7**
MOY				pmax	pmax				
	comp=Z,22nm,0.6s								
MOY				smax					
	comp=N,424nm,1.1s								
LZH	**Lanzhou**	**8.63**	**173**	*e*P		**Pn**	**09 22 23.5**	**+9.2**
LZH				LR	LR				
	comp=N,770nm,9.6s								
LZH				LR	LR				
	comp=Z,480nm,10.5s								
LZH	**Lanzhou**	**8.63**	**173**	*e*P		**Pn**	**09 22 23.4**	**+9.1**
LZH				*e*S		**Sn**	**09 23 52.0**	**+0.3**
LZH				pmax	pmax				
	comp=Z,30nm,1.2s								
LZH	**Lanzhou**	**8.63**	**173**	*e*P		**Pn**	**09 22 23.4**	**+9.1**
	comp=Z,30nm,1.2s								
LZH				pP			09 22 29.7		
LZH				sP			09 22 33.5		
LZH				*e*S		**Sn**	**09 23 52.0**	**+0.3**
LZH				sS			09 24 03.0		
LZH				*e*SS			09 24 04.8		
MKAR	**Makanchi Array**	**14.29**	**286**	Pn		**Pn**	**09 23 34.0**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=91,slow=15,SNR=3.5								
MKAR				Lg			09 27 43.4		
	comp=Z,0.2nm,0.3s,baz=89,slow=32,SNR=7.6								
ZAL	**Zalesovo**	**14.79**	**315**	Pn		**Pn**	**09 23 40.8**	**+2.2**
	comp=Z,0.4nm,0.3s,baz=336,slow=10.0,SNR=2.8								
ZAL				Lg			09 27 53.4		
	comp=Z,0.5nm,0.3s,baz=67,slow=17,SNR=3.2								
ZAL				LR	LR		09 29 39.4		
	comp=Z,38nm,18.5s,baz=260,slow=38								
CHKZ	**Chkalovo**	**22.56**	**305**	*e*P		**P**	**09 25 08.5**	**-1.1**
CHKZ				pmax	pmax				
	comp=Z,3.0nm,1.2s,mb3.6								
CHKZ	**Chkalovo**	**22.56**	**305**	*e*P		**P**	**09 25 08.5**	**-1.2**
	comp=Z,3.4nm,1.2s,mb3.6								
BRVK	**Borovoye**	**22.65**	**303**	*e*P		**P**	**09 25 09.5**	**-1.1**
BRVK				pmax	pmax				
	comp=Z,1.0nm,0.5s,mb3.5								
BRVK	**Borovoye**	**22.65**	**303**	*e*P		**P**	**09 25 09.5**	**-1.1**
	comp=Z,1.3nm,0.5s,mb3.6								
BRTR	**Keskin Array B**	**49.89**	**290**	P		**P**	**09 29 00.7**	**-2.4**
	comp=Z,0.9nm,0.8s,mb3.9,baz=79,slow=8.9,SNR=4.0								
NOA	**NORSAR Array B**	**52.84**	**322**	LR		LR	09 53 36.8		
	comp=Z,46nm,19.0s,MS3.5,baz=290,slow=38								
YKA	**Yellowknife Ar**	**69.13**	**17**	P		**P**	**09 31 13.9**	**-1.9**
	comp=Z,0.4nm,0.7s,mb3.5,baz=337,slow=6.4,SNR=4.3								
YKA	**Yellowknife Ar**	**69.13**	**17**	P		**P**	**09 31 13.9**	**-1.9**
NWAO	**Narrogin (SRO)**	**78.38**	**167**	LR		LR	10 04 58.3		
	comp=Z,52nm,19.8s,MS3.9,baz=287,slow=34								

IDC 27 09:54:18.6±13.0, 674S×10828E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.7/4, Error ellipse: s-maj=221.8km s-min=136.7km az=131.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.35**	**125**	P		P	P	09 58 56.9	+0.4
	1.6nm,0.8s,baz=312,slow=12,SNR=4.1								
WRA	**Warramunga Arr**	**28.50**	**120**	P		P	P	10 00 15.9	+0.4
	1.9nm,0.8s,baz=293,slow=12,SNR=7.9								
ASAR	**Alice Springs**	**29.82**	**127**	P		P	P	10 00 27.9	+0.6
	0.5nm,0.8s,baz=304,slow=8.2,SNR=6.5								
STKA	**Stephens Creek**	**39.88**	**133**	P		P	P	10 01 53.9	-0.1
	1.4nm,0.5s,baz=319,slow=8.4,SNR=6.6								

IDC 27 10:03:20.1±0.9, 3267N×8533E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.7/21, mbtmp3.7/8, ML3.2/1, MS3.4/6, Ms1 3.4/6, ms1mx3.1/25, Error ellipse: s-maj=32.0km s-min=21.1km az=63.0
ISCJB 27 10:03:24.8±1.0, 3285N±005×8550E±0.10, h41km±13km, mb3.6/12, MS3.4/6, Error ellipse: s-maj=14.5km s-min=7.9km az=146.9
MOS 27 10:03:24.0±1.5, 3283N×8541E, h33km, mb3.9/5, Error ellipse: s-maj=18.7km s-min=7.7km az=101.6
NEIC 27 10:03:26.5±0.8, 3284N×8544E, h43km±12km, mb3.9/5, Error ellipse: s-maj=15.5km s-min=7.4km az=76.0
BJI 27 10:03:29.4, 3336N×8596E, h44km, mB4.9, mb4.3, Ms4.4
ISC 27 10:03:26.7±0.6, 3286N±004×8546E±009, h44km±9km, n43, σ1§16/39, mb3.6/12, MS3.4/6, 1D, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GKN	**Gorkha**	**4.90**	**189**	*e*P		**Pn**	**Pn**	**10 04 37.9**	**+0.1**
	43nm,0.7s								
GUN	**Gumba**	**4.95**	**176**	*e*P		**Pn**	**Pn**	**10 04 38.9**	**+0.4**
	68nm,0.6s								
KKN	**Kakani**	**5.06**	**182**	*e*P		**Pn**	**Pn**	**10 04 40.8**	**+0.8**
	28nm,0.6s								
KKN	**Kakani**	**5.06**	**182**	*e*P		**Pn**	**Pn**	**10 04 40.8**	**+0.8**
KKN				pmax	pmax				
	comp=Z,28nm,0.6s								
JIRN	**Jiri**	**5.22**	**173**	*e*P		**Pn**	**Pn**	**10 04 42.7**	**+0.4**
DMN	**Daman**	**5.25**	**183**	*e*P		**Pn**	**Pn**	**10 04 42.8**	**+0.2**
PKI	**Pulchoki**	**5.28**	**180**	*e*P		**Pn**	**Pn**	**10 04 43.3**	**+0.3**
KOLN	**Koldanda**	**5.33**	**198**	*e*P		**Pn**	**Pn**	**10 04 43.5**	**-0.2**
	comp=Z,9.7nm,0.3s								
LSA	**Lhasa**	**5.80**	**121**	*e*P		**Pn**	**Pn**	**10 04 47.6**	**-2.6**
LSA				pmax	pmax				
	comp=Z,10.0nm,0.6s								
LSA	**Lhasa**	**5.80**	**121**	*e*Pn		**Pn**	**Pn**	**10 04 47.6**	**-2.6**
	comp=Z,10nm,0.6s								
WMQ	**Urumqi**	**11.08**	**8**	*e*P		**Pn**	**Pn**	**10 06 01.0**	**-1.5**
AAK	**Ala-Archa**	**13.04**	**322**	*e*P		**Pn**	**Pn**	**10 06 27.5**	**-1.8**
FRU	**Bishkek**	**13.12**	**322**	*e*P		**Pn**	**Pn**	**10 06 32.0**	**+1.6**
MKAR	**Makanchi Array**	**14.12**	**351**	Pn		**Pn**	**Pn**	**10 06 43.6**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=165,slow=14,SNR=15								
KMI	**Kunming**	**16.96**	**113**	P		**Pn**	**Pn**	**10 07 23.5**	**+2.8**
KMI				AMB	AMB				
	comp=Z,12nm,0.8s								
KURK	**Kurchatov**	**18.54**	**346**	*e*P		**Pn**	**Pn**	**10 07 40.6**	**+0.5**
KURK				pmax	pmax				
	comp=Z,21nm,1.5s								
KURK	**Kurchatov**	**18.54**	**346**	*e*P		**Pn**	**Pn**	**10 07 40.6**	**+0.5**
	comp=Z,21nm,1.5s								
GYA	**Guiyang**	**19.49**	**104**	⇓*i*P		**Pn**	**Pn**	**10 07 49.3**	**-2.2**
GYA				AMB	AMB				
	comp=Z,10.0nm,1.0s								
ZAL	**Zalesovo**	**21.07**	**359**	P		**P**	**P**	**10 08 07.2**	**0.0**
	comp=Z,1.4nm,0.3s,mb3.7,baz=106,slow=5.0,SNR=2.5								
ZAL				LR	LR		10 18 16.1		
	comp=Z,103nm,18.3s,MS3.2,baz=86,slow=42								
ZAL	**Zalesovo**	**21.07**	**359**	P		**P**	**P**	**10 08 07.2**	**0.0**
ZAL				LR	LR		10 18 16.1		
SONM	**Songino Array**	**21.77**	**40**	P		**P**	**P**	**10 08 17.3**	**+2.6**
	comp=Z,2.2nm,0.9s,mb3.6,baz=231,slow=9.9,SNR=13								
ZAK	**Zakamensk**	**21.90**	**32**	*e*P		**P**	**P**	**10 08 17.2**	**+1.2**
ZAK				pmax	pmax				
	comp=Z,7.0nm,1.8s,mb3.8								
NVS	**Novosibirsk**	**22.03**	**357**	*e*P		**P**	**P**	**10 08 17.6**	**+0.2**
ULN	**Ulaanbaatar**	**22.15**	**41**	*e*P		**P**	**P**	**10 08 20.5**	**+1.8**
ULN				pmax	pmax				
	comp=Z,1.0nm,0.5s,mb3.5								
ULN	**Ulaanbaatar**	**22.15**	**41**	*e*P		**P**	**P**	**10 08 20.5**	**+1.8**
	comp=Z,0.9nm,0.5s,mb3.5								
BRVK	**Borovoye**	**22.95**	**336**	*e*P		**P**	**P**	**10 08 26.7**	**-0.4**
BRVK				pmax	pmax				
	comp=Z,1.0nm,0.7s,mb3.4								
BRVK	**Borovoye**	**22.95**	**336**	*e*P		**P**	**P**	**10 08 26.6**	**-0.5**
	comp=Z,1.3nm,0.7s,mb3.5								
ZRNK	**Zerenda**	**23.31**	**334**	*e*P		**P**	**P**	**10 08 29.8**	**-1.2**
ZRNK				pmax	pmax				
	comp=Z,7.0nm,1.0s,mb4.0								
ZRNK	**Zerenda**	**23.31**	**334**	*e*P		**P**	**P**	**10 08 29.8**	**-1.2**
	comp=Z,6.5nm,1.0s,mb4.0								
CHKZ	**Chkalovo**	**23.35**	**337**	*e*P		**P**	**P**	**10 08 31.7**	**+0.4**
CHKZ				pmax	pmax				
	comp=Z,5.0nm,0.9s,mb3.9								
CHKZ	**Chkalovo**	**23.35**	**337**	*e*P		**P**	**P**	**10 08 31.7**	**+0.4**
	comp=Z,5.1nm,0.9s,mb4.0								
AKTO	**Aktyubinsk**	**26.77**	**319**	LR		LR	LR	10 20 46.5	
	comp=Z,58nm,19.0s,MS3.1,baz=0.0,slow=39								
FINES	**FINESS Array B**	**47.19**	**326**	LR		LR	LR	10 33 27.4	
	comp=Z,22nm,18.3s,MS3.2,baz=40,slow=38								
ARCES	**ARCESS Array B**	**49.17**	**336**	LR		LR		10 34 23.4	
	comp=Z,46nm,18.6s,MS3.5,baz=95,slow=38								
NB2	**NORSAR Subarra**	**54.34**	**325**	P		**P**		**10 12 49.1**	**+0.3**
	comp=Z,0.2nm,0.7s,mb3.2,baz=86,slow=7.9								
NOA	**NORSAR Array B**	**54.34**	**325**	P		**P**		**10 12 48.4**	**-0.5**
	comp=Z,1.1nm,0.7s,mb3.9,baz=85,slow=7.3,SNR=5.8								
NOA				LR		LR		10 36 53.1	
	comp=Z,18nm,18.1s,MS3.2,baz=180,slow=37								
MBWA	**Marble Bar**	**62.91**	**144**	*e*P		**P**		**10 13 46.4**	**-2.1**
WRA	**Warramunga Arr**	**70.27**	**131**	P		**P**		**10 14 34.7**	**-0.7**
	comp=Z,0.4nm,0.5s,mb3.6,baz=326,slow=6.5,SNR=11								
NWAO	**Narrogin (SRO)**	**71.97**	**152**	LR		LR		10 46 28.7	
	comp=Z,63nm,18.7s,MS3.9,baz=163,slow=36								
ASAR	**Alice Springs**	**72.76**	**134**	P		**P**		**10 14 50.5**	**0.0**
	comp=Z,0.5nm,0.8s,mb3.5,baz=311,slow=6.0,SNR=4.4								
TORD	**Torodi Ar. Bea**	**77.81**	**278**	P		**P**		**10 15 20.1**	**+0.7**
	comp=Z,0.5nm,0.7s,mb3.5,baz=64,slow=3.7,SNR=3.5								
YKA	**Yellowknife Ar**	**83.61**	**9**	P		**P**		**10 15 50.1**	**-0.3**
	comp=Z,0.3nm,0.5s,mb3.6,baz=343,slow=5.3,SNR=5.5								
YKA	**Yellowknife Ar**	**83.61**	**9**	P		**P**		**10 15 50.1**	**-0.3**

IDC 27 10:06:36.1±2.1, 2065S×17403W, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.9/16, mbtmp3.9/6, Error ellipse: s-maj=85.2km s-min=26.4km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.04**	**18**	Pn		Pn	Pn	10 08 13.2	-7.2
	2.2nm,0.3s,baz=29,slow=14,SNR=5.2								
AFI				Sn		Sn	Sn	10 09 26.0	-15
	4.1nm,0.3s,baz=82,slow=19,SNR=3.3								
CTA	**Charters Tower**	**37.18**	**264**	P		P	P	10 13 50.0	+1.1
	1.2nm,0.4s,baz=73,slow=7.5,SNR=3.6								
STKA	**Stephens Creek**	**41.09**	**245**	P		P	P	10 14 20.6	-0.9
	1.7nm,0.9s,baz=79,slow=10,SNR=4.6								
ASAR	**Alice Springs**	**48.10**	**256**	P		P	P	10 15 17.9	+0.3
	1.3nm,0.7s,baz=102,slow=7.5,SNR=20								
WRA	**Warramunga Arr**	**48.26**	**261**	P		P	P	10 15 19.4	+0.6
	0.8nm,0.6s,baz=94,slow=7.5,SNR=21								
MJAR	**Matsushiro Arr**	**72.59**	**321**	P		P	P	10 18 05.5	+0.3
	1.3nm,0.7s,baz=154,slow=6.2,SNR=4.0								
NVAR	**Mina Array Bea**	**78.62**	**41**	P		P	P	10 18 40.2	+0.4
	1.6nm,0.9s,baz=215,slow=7.6,SNR=6.2								

IDC 27 10:21:32.8±3.0, 3198N×115.15W, h0km, mb3.3/2, mb1 3.7/6, mb1mx3.6/23, mbtmp3.4/6, ML3.5/4, MS3.5/10, Ms1 3.4/10, ms1mx3.2/17, Error ellipse: s-maj=36.7km s-min=25.1km az=170.0
BJI 27 10:21:32.9, 3240N×11520W, h6km, mB5.0, mb4.6, Ms4.5, Msz4.2
ISCJB 27 10:21:34.5±1.0, 3242N±003×115.19W±003, h5km±7km, mb3.6/3, MS3.4/7, Error ellipse: s-maj=6.1km s-min=3.3km az=105.4
NEIC 27 10:21:36.9, 3240N×11522W, h6km, mb4.1/1, ML4.2(PAS), ML4.4(ECX), After ECX.
NEIC Felt at Mexicali. Felt [II] at Calexico and El Centro, California. Felt at El Cajon, Escondido, Fallbrook, Holtville, Imperial, Jamul, Landers, North Hills, San Diego and San Miguel, California.
ECX 27 10:21:36.9±0.4, 3240N×11522W, h6km, MD4.2, ML4.4
ISC 27 10:21:36.4±0.6, 3241N±003×11527W±003, h12km±4km, n64, σ1§13/72, mb3.6/3, MS3.4/7, 10C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.46**	**302**	⇓*e*P		**Pg**		**10 21 45.5**	**+0.1**
YUH	**Yuha Desert**	**0.60**	**293**	⇓*e*P		**Pg**		**10 21 48.0**	**-0.2**
RMX	**La Rumorosa**	**0.71**	**286**	⇓*e*P		**Pg**		**10 21 50.3**	**0.0**
RMX				*e*S		**Sg**		**10 22 00.6**	**+1.0**
RMX				*e*				10 22 03.5	
	comp=N,14μm,0.4s								
RMX	**La Rumorosa**	**0.71**	**286**	⇑*e*P		**Pg**		**10 21 50.3**	**0.0**
RMX				*e*S		**Sg**		**10 22 00.6**	**+1.0**
GLA	**Glamis**	**0.74**	**30**	*e*P		**Pg**		**10 21 50.3**	**-0.4**
GLA				*e*S		**Sg**		**10 22 01.1**	**+0.6**
DVTC	**Desert V Tower**	**0.75**	**290**	⇓*e*P		**Pg**		**10 21 50.8**	**-0.1**
RDX	**Rancho Dowling**	**0.75**	**231**	⇓*e*P		**Pg**		**10 21 50.3**	**-0.6**
RDX				*e*S		**Sg**		**10 22 01.3**	**+0.6**
RDX				⇓*e*				10 22 03.4	
	comp=N,13μm,0.6s								
RDX	**Rancho Dowling**	**0.75**	**231**	⇑*e*P		**Pg**		**10 21 50.3**	**-0.6**
RDX				*e*S		**Sg**		**10 22 01.3**	**+0.6**
CRR	**Carrizo Plain**	**0.76**	**309**	⇓*e*P		**Pg**		**10 21 50.7**	**-0.5**
CBX	**Cerro Bola**	**1.19**	**266**	⇓*e*P		**Pb**		**10 21 58.3**	**-0.5**
CBX				*e*S		**Sb**		**10 22 14.8**	**+0.7**
ENX	**Ensenada**	**1.30**	**247**	⇑*e*P		**Pn**		**10 21 59.7**	**-0.7**
ENX				*e*S		**Sb**		**10 22 17.8**	**+0.5**
ECX	**Ensenada**	**1.30**	**246**	⇑*e*P		**Pn**		**10 22 00.6**	**+0.2**
ECX				*e*S		**Sb**		**10 22 19.4**	**+2.0**
CCX	**Cicese**	**1.30**	**246**	⇑*e*P		**Pn**		**10 21 59.8**	**-0.6**
ECNX	**Esteban Cantu**	**1.36**	**237**	⇑*e*P		**Pn**		**10 22 00.6**	**-0.6**
ECNX				⇑*e*P				10 21 59.8	
ECNX				*e*S		**Sb**		**10 22 17.8**	**-1.3**
ECNX				*e*S		**Sb**		**10 22 19.4**	**+0.3**
SPX	**San Pedro Mart**	**1.37**	**187**	*e*P		**Pn**		**10 22 00.6**	**-0.8**
SPX				*e*S		**Sb**		**10 22 19.5**	**0.0**
PBX	**Punta Banda**	**1.41**	**242**	⇓*e*P		**Pn**		**10 22 01.6**	**-0.2**
PBX				*e*S		**Sn**		**10 22 20.7**	**+0.3**
PFO	**Pinyon Flat Ob**	**1.56**	**320**	*e*P		**Pn**		**10 22 02.0**	**-2.0**
NEN	**Nelson**	**3.25**	**6**	*e*Pn		**Pn**		**10 22 26.4**	**-0.8**
NEN				*e*Pg		**Pg**		**10 22 39.9**	**+1.1**
TUC	**Tucson**	**3.79**	**90**	*e*Pn		**Pn**		**10 22 32.3**	**-2.4**
TUC				*e*Sn		**Sn**		**10 23 21.9**	**+2.6**
ISA	**Isabella**	**4.20**	**322**	Pn		**Pg**		**10 22 56.5**	**-0.3**
DAC	**Darwin (Calif)**	**4.31**	**334**	*e*Pn		**Pn**		**10 22 41.5**	**-0.3**
TPNV	**Topopah Spring**	**4.60**	**350**	*e*Pn		**Pn**		**10 22 45.4**	**-0.4**
CCUT	**Cedar City**	**5.36**	**16**	Pn		**Pn**		**10 23 01.4**	**+5.2**
ARUT	**Antelope Range**	**5.57**	**15**	*e*P		**Pn**		**10 22 58.9**	**-0.2**
MTUM	**Tungsten Hills**	**5.63**	**332**	*e*Pn		**Pb**		**10 23 17.2**	**+2.7**
TPH	**Tonopah**	**5.88**	**345**	Pn		**Pn**		**10 23 10.4**	**+7.1**
	comp=N,48nm,0.7s								
MNV	**Mina**	**6.46**	**339**	*e*Pn		**Pb**		**10 23 27.0**	**-1.6**
NVAR	**Mina Array Bea**	**6.50**	**338**	Pn		**Pn**		**10 23 16.1**	**+4.2**
	comp=N,0.2nm,0.3s,baz=154,slow=17,SNR=3.8								
NVAR				Pg		**Pg**		**10 23 41.1**	**+0.3**
	comp=N,0.8nm,0.3s,baz=156,slow=16,SNR=16								
MVU	**Marysvale**	**6.57**	**21**	*e*Pn		**Pb**		**10 23 29.1**	**-1.5**
MSU	**Marysvale**	**6.59**	**22**	*e*Pn		**Pn**		**10 23 23.8**	**+11**
CMB	**Columbia Colle**	**7.00**	**325**	Pn		**Pb**		**10 23 37.0**	**-1.0**
TMUT	**Trail Mountain**	**7.62**	**24**	Pn		**Pb**		**10 23 42.8**	**-5.6**
SRU	**San Rafael**	**7.72**	**29**	*e*Pn		**Pn**		**10 23 31.9**	**+3.3**
	comp=N,44nm,0.8s								
ANMO	**Albuquerque**	**7.76**	**69**	Pn		**Pn**		**10 23 29.1**	**-0.2**
	comp=N,0.1nm,0.3s,baz=248,slow=12,SNR=4.4								
ANMO				Lg				10 25 41.7	
	comp=N,0.2nm,0.3s,baz=234,slow=17,SNR=2.4								
ANMO				LR		LR		10 26 37.6	
	comp=N,478nm,21.6s,baz=0.0,slow=39								
ANMO	**Albuquerque**	**7.76**	**69**	Pn		**Pn**		**10 23 29.4**	**+0.2**
	comp=N,9.5nm,0.8s								
PV10	**Paradox Valley**	**7.83**	**39**	*e*Pn		**Pn**		**10 23 29.6**	**-0.5**
PV01	**Paradox Valley**	**7.91**	**42**	Pn		**Pn**		**10 23 32.4**	**+1.2**
NLU	**North Lily Min**	**7.96**	**18**	*e*Pn		**Pn**		**10 23 41.2**	**+9.3**
MNTX	**Cornudas Mount**	**8.42**	**92**	*e*Pn		**Pn**		**10 23 38.4**	**+0.2**
	comp=N,5.5nm,0.7s								
MNTX				*e*Sn		**Sn**		**10 25 06.0**	**-7.2**
LPIG	**La Paz**	**9.36**	**151**	LR		LR		10 27 17.0	
	comp=N,301nm,20.1s,baz=195,slow=38								
ISCO	**Idaho Springs**	**10.73**	**44**	*e*Pn		**Pn**		**10 24 12.8**	**+2.9**
	comp=N,7.9nm,1.0s								
YBH	**Yreka Blue Hor**	**11.04**	**330**	LR		LR		10 28 50.8	
	comp=N,195nm,19.9s,baz=51,slow=38								
HLID	**Hailey**	**11.16**	**3**	*e*Pn		**Pn**		**10 24 22.3**	**+6.6**
	comp=N,8.0nm,1.3s								
PDAR	**Pinedale Array**	**11.28**	**22**	Pn		**Pn**		**10 24 24.2**	**+6.8**
	comp=N,0.1nm,0.3s,baz=218,slow=5.7,SNR=3.4								
PDAR				Lg				10 27 41.2	
	comp=N,0.1nm,0.3s,baz=171,slow=24,SNR=3.6								
PDAR	**Pinedale Array**	**11.28**	**22**	Pn		**Pn**		**10 24 24.2**	**+6.8**
PDAR				Lg				10 27 41.2	
REDW	**Red Top Meadow**	**11.47**	**16**	Pn		**Pn**		**10 24 25.5**	**+5.5**
	comp=N,11nm,1.3s								
TPAW	**Teton Pass**	**11.57**	**16**	*e*Pn		**Pn**		**10 24 21.1**	**-0.3**
	comp=N,9.6nm,1.1s								
DCID1	**Drake Creek**	**11.62**	**15**	*e*Pn		**Pn**		**10 24 21.1**	**-0.9**
DLMT	**Dillon**	**13.10**	**8**	*e*Pn		**Pn**		**10 24 46.6**	**+4.3**
	comp=N,19nm,1.3s								
CHMT	**Chamberlain Mo**	**14.57**	**5**	*e*Pn		**Pn**		**10 25 11.7**	**+9.4**

NEW	**Newport**	**15.90**	**355**	Pn		**Pn**		**10 25 23.8**	**+3.8**
	comp=N,0.3nm,0.3s,baz=182,slow=14,SNR=9.6								
NEW				Lg				10 30 07.2	
	comp=N,0.1nm,0.3s,baz=116,slow=14,SNR=2.1								
NEW				LR		LR		10 31 46.8	
	comp=N,250nm,20.2s,baz=179,slow=38								
NEW	**Newport**	**15.90**	**355**	*e*P		**Pn**		**10 25 24.6**	**+4.6**
	comp=N,16nm,1.1s								
EDM	**Edmonton**	**20.85**	**3**	*e*P		**P**		**10 26 17.5**	**-0.5**
BBB	**Bella Bella**	**21.87**	**338**	LR		LR		10 35 13.8	
	comp=N,185nm,20.2s,MS3.5,baz=194,slow=37								
ULM	**Lac du Bonnet**	**22.90**	**33**	LR		LR		10 36 56.7	
	comp=N,35nm,19.7s,MS2.8,baz=272,slow=40								
DLBC	**Dease Lake**	**27.89**	**343**	LR		LR		10 38 27.3	
	comp=N,98nm,20.2s,MS3.4,baz=158,slow=36								
YKA	**Yellowknife Ar**	**30.10**	**1**	P		**P**		**10 27 46.6**	**+0.9**
	comp=N,0.2nm,0.8s,mb2.9,baz=182,slow=10,SNR=3.7								
YKA				LR		LR		10 40 09.9	
	comp=N,97nm,20.7s,MS3.4,baz=180,slow=37								
SADO	**Sadowa**	**30.57**	**56**	LR		LR		10 41 57.8	
	comp=N,57nm,20.3s,MS3.2,baz=109,slow=40								
INK	**Inuvik**	**37.46**	**349**	LR		LR		10 46 36.8	
	comp=N,51nm,18.4s,MS3.4,baz=130,slow=40								
ILAR	**Eielson Array**	**37.76**	**338**	P		**P**		**10 28 54.9**	**+2.7**
	comp=N,0.6nm,0.7s,mb3.4,baz=152,slow=7.6,SNR=7.6								
MDJ	**Mudanjiang**	**83.30**	**319**	P		**P**		**10 33 58.8**	**-4.3**
MDJ				AP		pP		10 34 05.3	-1.7
MDJ				XP		sP		10 34 07.8	-0.6
MDJ				AMB		AMB			
	comp=Z,4.0nm,0.7s,mb4.6								
MDJ				AMB		AMB			
	comp=Z,53nm,3.8s								
HHC	**Hu-ho-hao-te**	**95.25**	**326**	*e*P		**P**		**10 34 57.8**	**-2.3**
HHC				AP		pP		10 35 02.8	-1.3
HHC				XP		sP		10 35 04.8	-0.7
HHC				PP		PP		10 38 49.5	-0.5
HHC				SKS				10 45 31.5	
HHC				S				10 46 09.8	
HHC				SS		SS		10 52 40.5	-1.4
HHC				AMB		AMB			
	comp=Z,75nm,5.2s								
HHC				LR		LR			
	comp=N,87nm,15.6s,MS4.5								
HHC				LR		LR			
	comp=E,88nm,16.5s,MS4.5								
HHC				LR		LR			
	comp=Z,77nm,15.5s,MS4.3								
NJ2	**Nanjing**	**98.01**	**316**	*e*P		**P**		**10 35 12.3**	**-0.3**
WMQ	**Urumqi**	**101.29**	**343**	*e*P		Pdif		10 35 25.8	-1.4
WMQ				PP		PP		10 39 38.0	+1.7

NEIC 27 10:24:05.9, 3307S×7057W, h91km, MG2.8(GUC), After GUC.
GUC 27 10:24:05.9±0.7, 3307S×7057W, h91km±2km, MD3.6, ML2.8, 10C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CLCH	**Cerro Calan**	**0.33**	**175**	⇑*i*P		Pn		10 24 20.1	+0.5
CLCH				*i* S		Sn		10 24 30.9	+1.1
CLCH				AML		AML		10 24 32.4	
	comp=N,468nm,0.3s								
DSCH	**Colegio Aleman**	**0.33**	**180**	⇑*i*P		Pn		10 24 19.6	0.0
DSCH				*i* S		Sn		10 24 30.2	+0.5
FCH	**Farellones**	**0.35**	**138

2.3nm,0.1s
MTE Manteigas 3.63 3 eSn Sn 10 31 27.4 -3.2
PVRL Vila Real 4.50 1 eSn Sn 10 31 48.8 -3.2
PVRL
13nm,0.1s
PVRL Vila Real 4.50 1 S Sn 10 31 48.8 -3.2
6.5nm,0.1s

IDC 27 10:37:32.4±8.8, 218N×12473E, h293km±96km, mb3.2/6, mb1 3.2/6, mb1mx3.1/20, mbtmp3.8/6, Error ellipse: s-maj=78.1km s-min=22.5km az=65.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.17**	**177**	P	P	10 41 45.8	+0.4
	0.6nm,0.3s,baz=0.0,slow=15,SNR=7.0						
WRA	**Warramunga Arr**	**23.92**	**157**	P	P	10 42 20.4	+0.1
	1.9nm,0.4s,baz=335,slow=10,SNR=46						
ASAR	**Alice Springs**	**27.20**	**161**	P	P	10 42 49.8	+0.2
	0.2nm,0.3s,baz=335,slow=7.9,SNR=6.7						
SONM	**Songino Array**	**48.16**	**343**	P	P	10 45 43.6	+0.1
	0.4nm,0.6s,baz=156,slow=7.3,SNR=4.2						
MKAR	**Makanchi Array**	**57.71**	**327**	P	P	10 46 52.9	0.0
	1.6nm,0.4s,baz=124,slow=7.9,SNR=31						
MKAR				PcP	PcP	10 47 42.1	0.0
	0.5nm,0.6s,baz=122,slow=4.8,SNR=4.7						
AKTO	**Aktyubinsk**	**73.64**	**322**	P	P	10 48 34.2	+0.1
	0.8nm,0.3s,baz=120,slow=7.3,SNR=5.3						

PGC 27 10:54:21.5±3.7, 416N×12598E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/19, mbtmp3.9/4, Error ellipse: s-maj=114.5km s-min=62.1km az=86.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.12**	**181**	P	P	10 59 18.7	+0.2
	3.5nm,0.5s,baz=16,slow=17,SNR=20						
WRA	**Warramunga Arr**	**25.32**	**161**	P	P	10 59 50.5	+0.6
	1.3nm,0.6s,baz=340,slow=10,SNR=13						
ASAR	**Alice Springs**	**28.71**	**165**	P	P	11 00 21.1	+0.7
	0.4nm,0.4s,baz=340,slow=7.4,SNR=10						
ASAR				PcP	PcP	11 03 31.3	+0.5
	0.2nm,0.4s,baz=358,slow=2.2,SNR=4.9						
STKA	**Stephens Creek**	**38.79**	**159**	P	P	11 01 47.0	-0.9
	1.6nm,0.7s,baz=351,slow=7.5,SNR=4.5						

PGC 27 10:57:41.8, 6616N×14175W, h1km, ML2.4/2, 257km northwest of Dawson, Yt Eastern Alaska., Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAWY	**Dawson**	**2.33**	**154**	Pn	Pn	10 58 21.1	-0.1
DAWY				Sn	Sn	10 58 49.5	-0.9
DAWY				Trac		10 59 03.6	
	comp=Z,7.0nm,0.2s						
INK	**Inuvik**	**3.86**	**52**	Pn	Pn	10 58 41.0	-1.2
INK				Sn	Sn	10 59 25.7	-2.5
INK				Sg	Sg	10 59 41.7	-4.0
INK				Trac		10 59 48.5	
	comp=Z,6.0nm,0.7s						
YKW3	**Yellowknife Ar**	**12.23**	**94**	Pn	Pn	11 00 34.2	-2.9

PGC 27 10:59:34.7, 6615N×14144W, h1km, ML2.3/2, 251km northwest of Dawson, Yt Eastern Alaska., Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAWY	**Dawson**	**2.27**	**157**	Pn	Pn	11 00 13.1	-0.1
DAWY				Sn	Sn	11 00 40.9	-0.9
DAWY				Trac		11 00 52.6	
	comp=Z,8.0nm,0.1s						
INK	**Inuvik**	**3.77**	**51**	Pn	Pn	11 00 32.7	-1.2
INK				Sn	Sn	11 01 16.4	-2.4
INK				Trac		11 01 21.1	
	comp=Z,3.0nm,0.3s						
INK				Sg	Sg	11 01 32.4	-3.2
HYT	**Haines Junctio**	**5.63**	**160**	Pn	Pn	11 00 60.0	+0.5
HYT				Sg	Sg	11 02 36.8	+1.4
HYT				Trac		11 02 40.8	
	comp=Z,8.0nm,0.7s						
YKW3	**Yellowknife Ar**	**12.11**	**95**	Pn	Pn	11 02 25.6	-2.7
YKW3				Trac		11 04 48.4	
	comp=Z,1.0nm,0.4s						

IDC 27 11:57:37.9±3.7, 2142N×12145E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/19, mbtmp3.5/4, Error ellipse: s-maj=295.0km s-min=26.4km az=60.0
MAN 27 11:57:43.9, 2048N×120.11E, h1km, mb2.6, ML4.1, MS8.2
ISCJB 27 11:57:45.0±2.0, 207N±01×1200E±02, h51km±17km, mb3.6/4, Error ellipse: s-maj=37.1km s-min=16.3km az=118.4

ISC 27 11:57:45.8±2.1, 207N±01×1200E±02, h38km±19km, n9, σ0§90/12, mb3.6/4, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**2.41**	**165**	⇑*i*P	**Pn**	**11 58 21.2**	**-1.5**
PIP				*i* S	**Sn**	**11 58 50.2**	**-0.8**
APYP	**Conner**	**3.04**	**156**	*e*P	**Pn**	**11 58 31.4**	**+0.1**
APYP				*e*S	**Sn**	**11 59 07.9**	**+1.4**
ABRA	**Dolores**	**3.08**	**167**	*e*P	**Pn**	**11 58 32.7**	**+0.7**
SGCP	**Mt. Cagua**	**3.11**	**141**	*e*P	**Pn**	**11 58 31.6**	**-0.7**
SGCP				*e*S	**Sn**	**11 59 08.0**	**-0.2**
CAUP	**Cauayan**	**4.10**	**154**	*e*P	**Pn**	**11 58 49.2**	**+3.2**
MKAR	**Makanchi Array**	**40.17**	**319**	P	**P**	**12 05 18.5**	**+0.4**
	0.3nm,0.5s,mb3.2,baz=104,slow=9.1,SNR=5.4						
WRA	**Warramunga Arr**	**42.74**	**160**	P	**P**	**12 05 39.5**	**+0.2**
	0.8nm,0.3s,mb3.9,baz=343,slow=9.2,SNR=6.6						
ASAR	**Alice Springs**	**46.11**	**162**	P	**P**	**12 06 06.0**	**-0.1**
	0.2nm,0.4s,mb3.4,baz=348,slow=6.9,SNR=6.0						
STKA	**Stephens Creek**	**56.21**	**158**	P	**P**	**12 07 21.4**	**-0.5**
	1.4nm,0.7s,mb4.1,baz=0.0,slow=11,SNR=3.2						

IDC 27 12:08:21.7±2.6, 5102N×17329E, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.9/23, mbtmp3.9/10, MS2.9/1, Ms1 2.9/1, ms1mx2.3/32, Error ellipse: s-maj=72.9km s-min=20.2km az=175.0
MOS 27 12:08:21.0±1.0, 5099N×17329E, h10km, mb4.5/1, Error ellipse: s-maj=36.2km s-min=14.4km az=78.2
ISCJB 27 12:08:24.8±0.8, 5101N±009×1734E±0.1, h33km, mb3.9/10, Error ellipse: s-maj=13.8km s-min=12.2km az=122.7
NEIC 27 12:08:27.0, 5106N×17342E, h38km, mb4.4/1, ML3.7(AEIC), After AEIC.

ISC 27 12:08:26.7±0.9, 5106N±010×1735E±01, h35km, n20, σ0§88/19, mb3.9/10, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.72**	**13**	P	**Pn**	**12 08 53.3**	**-0.8**
SMY				S	**Sn**	**12 09 15.2**	**+0.3**
AMKA	**Amchitka**	**3.69**	**83**	P	**Pn**	**12 09 20.5**	**-0.8**
KDAK	**Kodiak Island**	**20.71**	**58**	P	**P**	**12 13 02.9**	**-1.0**
	7.1nm,0.4s,baz=260,slow=4.4,SNR=22						
SLKM	**Skilak Lake**	**22.23**	**51**	*e*P	**P**	**12 13 19.0**	**-1.2**
COLA	**College**	**24.25**	**41**	*e*P	**P**	**12 13 40.0**	**-0.4**
COLA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2						
COLA	**College**	**24.25**	**41**	*e*P	**P**	**12 13 40.0**	**-0.4**
	comp=Z,9.3nm,0.8s,mb4.3						
ILAR	**Eielson Array**	**24.62**	**41**	P	**P**	**12 13 43.6**	**-0.1**
	comp=Z,1.8nm,0.6s,mb3.8,baz=252,slow=8.6,SNR=33						
DAWY	**Dawson**	**27.70**	**44**	*e*P	**P**	**12 14 12.8**	**+1.3**
YKA	**Yellowknife Ar**	**38.94**	**45**	P	**P**	**12 15 50.6**	**+1.4**
	comp=Z,1.4nm,0.7s,mb3.8,baz=287,slow=8.0,SNR=10						
SONM	**Songino Array**	**42.35**	**293**	P	**P**	**12 16 17.0**	**-0.3**
	comp=Z,0.9nm,0.5s,mb3.7,baz=64,slow=8.3,SNR=10						
TCUT	**Toone Canyon**	**50.92**	**70**	P	**P**	**12 17 18.4**	**-6.0**
PDAR	**Pinedale Array**	**50.99**	**67**	P	**P**	**12 17 26.8**	**+1.8**
	comp=Z,1.0nm,0.7s,mb3.8,baz=316,slow=4.1,SNR=6.2						
MKAR	**Makanchi Array**	**56.30**	**304**	P	**P**	**12 18 03.0**	**-0.9**
	comp=Z,0.8nm,0.6s,mb3.9,baz=48,slow=6.5,SNR=12						
MKAR				LR	LR	12 42 30.1	
	comp=Z,12nm,21.9s,baz=45,slow=36						
FINES	**FINESS Array B**	**64.85**	**343**	P	**P**	**12 19 02.2**	**0.0**
	comp=Z,1.5nm,0.7s,mb4.1,baz=103,slow=6.1,SNR=6.6						
FINES	**FINESS Array B**	**64.85**	**343**	P	**P**	**12 19 02.2**	**0.0**
NOA	**NORSAR Array B**	**67.35**	**351**	P	**P**	**12 19 18.5**	**+0.3**
	comp=Z,0.5nm,0.6s,mb3.7,baz=349,slow=4.5,SNR=2.8						
HFS	**Hagfors**	**67.96**	**349**	P	**P**	**12 19 21.8**	**-0.2**
	comp=Z,1.0nm,0.6s,mb4.0,baz=71,slow=6.2						
GERES	**GERESS Array B**	**78.97**	**347**	P	**P**	**12 20 27.6**	**+0.8**
	comp=Z,0.7nm,0.6s,mb3.8,baz=28,slow=6.0,SNR=4.1						
LBTB	**Lobatse**	**144.19**	**304**	PKP	PKPdf	12 27 57.0	-1.8
	comp=Z,1.1nm,0.5s,baz=0.0,slow=1.0,SNR=3.8						
PMSA	**Palmer Station**	**147.80**	**137**	P	PKPdf	12 27 58.9	-6.0

IDC 27 12:11:09.0±0.8, 3747S×5127E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.8/24, mbtmp3.9/11, ML4.2/1, MS3.6/4, Ms1 3.6/4, ms1mx3.2/24, Error ellipse: s-maj=28.5km s-min=20.0km az=37.0
ISCJB 27 12:11:09.1±0.5, 3748S±008×512E±0.1, h10km, mb4.1/17, MS3.6/5, Error ellipse: s-maj=14.4km s-min=10.0km az=116.7
NEIC 27 12:11:09.8±0.5, 3774S×5102E, h10km, mb4.6/10, Error ellipse: s-maj=17.6km s-min=12.1km az=222.0
MOS 27 12:11:09.3±1.0, 3745S×5115E, h10km, mb4.7/6, Error ellipse: s-maj=29.5km s-min=18.9km az=129.1

ISC 27 12:11:10.8±0.5, 3749S±008×511E±01, h10km, (h13km±2.1km:pP-P), n37, σ1§00/33, mb4.1/17, MS3.6/5, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**19.17**	**349**	P	**Pn**	**12 15 35.5**	**+0.2**
	0.7nm,0.3s,baz=138,slow=7.0,SNR=7.4						
BOSA	**Boshof**	**23.38**	**285**	P	**P**	**12 16 18.6**	**-1.1**
LBTB	**Lobatse**	**25.04**	**292**	P	**P**	**12 16 36.0**	**+0.9**
	3.0nm,0.8s,mb3.9,baz=130,slow=14,SNR=4.0						
LBTB				LR	LR	12 24 49.0	
	comp=Z,82nm,18.6s,MS3.3,baz=297,slow=33						
LBTB	**Lobatse**	**25.04**	**292**	*e*P	**P**	**12 16 35.9**	**+0.8**
LBTB				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.2						
LBTB	**Lobatse**	**25.04**	**292**	*e*P	**P**	**12 16 35.9**	**+0.8**
	comp=Z,8.1nm,1.1s,mb4.2						
MATP	**Matopo**	**26.00**	**305**	P	**P**	**12 16 43.2**	**-0.7**
	comp=Z,1.7nm,0.7s,mb3.7,baz=146,slow=14,SNR=3.6						
MATP				LR	LR	12 25 14.3	
	comp=Z,138nm,21.7s,MS3.5,baz=138,slow=32						
MATP	**Matopo**	**26.00**	**305**	P	**P**	**12 16 43.2**	**-0.7**
MATP				LR	LR	12 25 14.3	
LSZ	**Lusaka**	**30.05**	**311**	P	**P**	**12 17 19.6**	**-0.4**
LSZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
LSZ	**Lusaka**	**30.05**	**311**	P	**P**	**12 17 19.6**	**-0.4**
	comp=Z,3.0nm,0.8s,mb4.1						
MAW	**Mawson**	**30.88**	**171**	P	**P**	**12 17 29.0**	**+1.7**
TSUM	**Tsumeb**	**34.46**	**293**	*e*P	**P**	**12 17 58.1**	**-0.5**
	comp=Z,10nm,1.2s,mb4.6						
KMBO	**Kilima Mbogo**	**38.39**	**337**	LR	LR	12 32 16.1	
	comp=Z,123nm,20.3s,MS3.7,baz=89,slow=33						
SNAA	**Sanae**	**43.70**	**202**	P	**P**	**12 19 16.0**	**0.0**
	comp=Z,1.2nm,0.9s,mb3.6,baz=100,slow=6.8,SNR=7.1						
SNAA	**Sanae**	**43.70**	**202**	*e*P	**P**	**12 19 09.7**	**-6.3**
SNAA				pmax	pmax		
	comp=Z,8.0nm,1.2s						
SNAA	**Sanae**	**43.70**	**202**	*e*P	**P**	**12 19 09.7**	**-6.2**
	comp=Z,7.6nm,1.2s,mb4.3						
CASY	**Casey**	**44.10**	**150**	P	**P**	**12 19 16.1**	**-3.1**
	comp=Z,5.4nm,1.1s,mb4.2						
VNA2	**Neumayer--Watz**	**44.85**	**203**	*e*	**P**	**12 19 25.5**	**+0.3**
	baz=58,slow=9.0						
VNA2				*e*	pP	12 19 28.6	+0.3
VNA3	**Neumayer Olymp**	**45.65**	**203**	*e*	**P**	**12 19 31.5**	**-0.1**
VNA3				*e*	pP	12 19 34.7	0.0
ATD	**Arta Tunnel**	**49.38**	**349**	LR	LR	12 38 33.0	
	comp=Z,43nm,19.2s,MS3.5,baz=197,slow=33						
QSPA	**South Pole Qui**	**52.70**	**180**	*e*P	**P**	**12 20 24.9**	**-0.6**
	comp=Z,14nm,1.2s,mb4.8						
DBIC	**Dimbokro**	**68.17**	**297**	P	**P**	**12 22 12.3**	**+1.1**
	comp=Z,1.8nm,0.6s,mb4.3,baz=72,slow=11,SNR=4.0						
DBIC	**Dimbokro**	**68.17**	**297**	*e*P	**P**	**12 22 12.5**	**+1.3**
DBIC				pmax	pmax		
	comp=Z,6.0nm,1.0s						
DBIC	**Dimbokro**	**68.17**	**297**	*e*P	**P**	**12 22 12.5**	**+1.3**
	comp=Z,6.0nm,1.0s,mb4.6						
TORD	**Torodi Ar. Bea**	**68.48**	**307**	P	**P**	**12 22 14.2**	**+1.0**
	comp=Z,1.3nm,0.9s,mb4.0,baz=116,slow=5.3,SNR=7.9						
ASAR	**Alice Springs**	**70.50**	**105**	P	**P**	**12 22 25.6**	**-0.1**
	comp=Z,0.4nm,0.6s,mb3.5,baz=230,slow=4.3,SNR=5.0						
ASF	**Jabal al Asfar**	**70.57**	**347**	P	**P**	**12 22 27.3**	**+1.2**
	comp=Z,1.0nm,0.3s,mb4.2,baz=72,slow=4.8,SNR=4.0						
WRA	**Warramunga Arr**	**72.90**	**102**	P	**P**	**12 22 39.8**	**-0.3**
	comp=Z,0.7nm,0.9s,mb3.6,baz=232,slow=5.1,SNR=4.9						
BRTR	**Keskin Array B**	**78.51**	**346**	P	**P**	**12 23 11.3**	**-0.9**
	comp=Z,0.2nm,0.4s,mb3.4,baz=180,slow=2.9,SNR=3.8						
KMI	**Kunming**	**78.93**	**46**	P	**P**	**12 23 17.1**	**+2.5**
KMI				*PP	pP	12 23 22.1	+4.2
KMI				*SP	sP	12 23 23.7	+4.7
KMI						12 26 16.6	
KMI				S	S	12 33 17.1	+4.0
KMI				*SS	sS	12 33 23.5	+5.0
KMI				SS	SS	12 38 25.3	+7.2
KMI				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
KMI				MLR	MLR		
	comp=Z,70nm,17.0s,MS4.1						
KMI	**Kunming**	**78.93**	**46**	P	**P**	**12 23 17.1**	**+2.5**
	comp=Z,5.0nm,0.7s,mb4.5						
KMI				pP	pP	12 23 22.1	+4.2
KMI				sP	sP	12 23 23.7	+4.7
KMI				PP	PP	12 26 16.6	+3.4
KMI				S	S	12 33 17.1	+4.0
KMI				sS	sS	12 33 23.5	+5.0
KMI				SS	SS	12 38 25.3	+7.2
KMI				LR	LR		
	comp=Z,70nm,17.0s,MS4.1						
AAK	**Ala-Archa**	**82.54**	**17**	*e*P	**P**	**12 23 33.4**	**-0.4**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
AAK	**Ala-Archa**	**82.54**	**17**	*e*P	**P**	**12 23 33.4**	**-0.4**
	comp=Z,5.1nm,1.0s,mb4.5						
MKAR	**Makanchi Array**	**88.43**	**21**	P	**P**	**12 24 01.8**	**-1.4**
	comp=Z,0.3nm,0.7s,mb3.6,baz=115,slow=6.5,SNR=2.5						
PMG	**Port Moresby**	**89.08**	**101**	P	**P**	**12 24 05.9**	**-0.3**
PMG				pmax	pmax		
	comp=Z,14nm,1.0s						
PMG	**Port Moresby**	**89.08**	**101**	P	**P**	**12 24 05.9**	**-0.3**
	comp=Z,14nm,1.0s,mb5.2						
ILAR	**Eielson Array**	**150.66**	**16**	PKPbc	PKPbc	12 31 01.1	-2.1
	comp=Z,1.3nm,0.8s,baz=315,slow=3.1,SNR=12						
YKA	**Yellowknife Ar**	**153.47**	**345**	PKPbc	PKPbc	12 31 07.4	-2.0
	comp=Z,0.6nm,0.8s,baz=30,slow=1.9,SNR=5.6						

ISCJB 27 12:19:39.4±0.4, 3469N±004×2562E±008, h60km±6km, mb3.7/6, Error ellipse: s-maj=10.7km s-min=5.4km az=145.8
HLW 27 12:19:40.7, 3473N×2584E, h20km, Mb3.5
IDC 27 12:19:42.8±1.3, 3498N×2523E, h65km±8km, mb3.5/6, mb1 3.5/8, mb1mx3.3/23, mbtmp3.7/8, Error ellipse: s-maj=23.8km s-min=20.2km az=150.0
ATH 27 12:19:42.2, 3487N×2541E, h35km±2km, MD3.7/7
NEIC 27 12:19:42.2, 3487N×2541E, h36km, MD3.7(ATH), After ATH.
CSEM 27 12:19:43.1±0.2, 3491N×2539E, h25km, MD3.7, Error ellipse: s-maj=9.6km s-min=4.7km az=5.0

ISC 27 12:19:40.9±0.4, 3472N±004×2557E±007, h50km±7km, n29, σ1§02/32, mb3.7/6, 4C-6D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.18**	**34**	*e*PB	**Pn**	**12 19 49.5**	**+0.4**
NPS	**Neapolis**	**0.54**	**4**	⇓*i*PB	**Pn**	**12 19 52.0**	**-0.6**
IDI	**Anoyia**	**0.79**	**315**	P	**Pn**	**12 19 54.8**	**-1.1**
	37nm,0.3s,baz=145,slow=14,SNR=150						
IDI				S	**Sn**	**12 20 05.6**	**-1.1**
	288nm,0.3s,baz=323,slow=13,SNR=57						
GVD	**Gavdhos**	**1.23**	**276**	*e*PN	**Pn**	**12 20 02.7**	**+1.0**
VAM	**Vamos**	**1.32**	**302**	*e*PN	**Pn**	**12 20 03.8**	**+0.9**
KARP	**Karpathos**	**1.54**	**57**	*e*PB	**Pn**	**12 20 10.0**	**+4.1**
SANT	**Santorini**	**1.65**	**357**	*e*Pn	**Pn**	**12 20 07.0**	**-0.4**
SANT	**Santorini**	**1.65**	**357**	*e*Pn	**Pn**	**12 20 07.0**	**-0.4**
APE	**Apeiranthos**	**2.34**	**359**	*e*PN	**Pn**	**12 20 18.2**	**+1.3**
KYTH	**Kithira**	**2.59**	**308**	*e*PN	**Pn**	**12 20 20.5**	**+0.3**
SLUM		**3.24**	**185**	⇓P	**Pn**	**12 20 29.9**	**+0.8**
SLUM				S	**Sn**	**12 21 06.3**	**-0.1**
SWA1		**5.45**	**179**	⇓P	**Pn**	**12 21 00.4**	**+1.0**
SWA1				S	**Sn**	**12 21 58.1**	**-2.6**
SWA2		**5.46**	**181**	⇓P	**Pn**	**12 21 00.4**	**+0.7**
HSAF	**As Saff**	**7.18**	**133**	⇓P	**Pn**	**12 21 22.4**	**-0.9**
GLL	**Jalalah**	**7.30**	**133**	⇑P	**Pn**	**12 21 24.2**	**-0.8**
HFRF	**Wahat Farafira**	**7.91**	**162**	⇑P	**Pn**	**12 21 33.5**	**+0.3**
MMAI	**Mount Meron Ar**	**8.35**	**99**	P	**Pn**	**12 21 46.3**	**+7.1**
	0.6nm,0.3s,baz=297,slow=13,SNR=4.0						
TR2		**9.39**	**130**	⇑P	**Pn**	**12 21 52.8**	**-0.8**
HDK1	**Dakhla**	**9.73**	**159**	⇓P	**Pn**	**12 21 58.7**	**+0.6**
GTR	**Jabal at Tayr**	**10.14**	**154**	⇑P	**Pn**	**12 22 04.1**	**+0.3**
AKASG	**Malin Array Be**	**16.19**	**8**	P	**Pn**	**12 23 25.2**	**+0.3**
	0.8nm,0.3s,baz=201,slow=11,SNR=4.9						
GERES	**GERESS Array B**	**16.63**	**332**	P	**Pn**	**12 23 30.6**	**+0.2**
	0.1nm,0.3s,baz=144,slow=13,SNR=4.1						
FINES	**FINESS Array B**	**26.74**	**1**	P	**P**	**12 25 12.7**	**-2.9**
	0.9nm,0.7s,mb3.4,baz=162,slow=11,SNR=5.9						
FINES	**FINESS Array B**	**26.74**	**1**	P	**P**	**12 25 12.7**	**-3.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**30.47**	**231**	P	**P**	**12 25 49.1**	**+0.2**
	comp=Z,0.9nm,0.4s,mb3.8,baz=34,slow=9.4,SNR=16						
ARCES	**ARCESS Array B**	**34.87**	**360**	P	**P**	**12 26 23.9**	**-3.4**
	comp=Z,0.8nm,0.6s,mb3.8,baz=187,slow=9.5,SNR=6.8						
MKAR	**Makanchi Array**	**43.73**	**56**	P	**P**	**12 27 42.3**	**+1.1**
	comp=Z,0.3nm,0.4s,mb3.3,baz=270,slow=8.1,SNR=6.3						
SONM	**Songino Array**	**59.50**	**51**	P	**P**	**12 29 40.1**	**+1.3**
	comp=Z,0.4nm,0.5s,mb3.7,baz=298,slow=7.8,SNR=6.2						
SCHQ	**Schefferville**	**63.74**	**320**	P	**P**	**12 30 06.0**	**-1.4**
	comp=Z,0.9nm,0.4s,mb4.2,baz=36,slow=19,SNR=5.4						

MOS 27 12:28:14.7±0.8, 1003S×161.1E, h33km, mb5.1/22, Error ellipse: s-maj=13.7km s-min=9.6km az=84.7
ISCJB 27 12:28:19.1±0.3, 1011S±004×161.10E±006, h72km, mb4.7/54, Error ellipse: s-maj=7.8km s-min=5.3km az=14.8
HRVD 27 12:28:20.6±0.3, 1022S×161.3E, h66km±3km, MW4.9/70, Centroid moment Tensor Solution. LP body waves: s27,c30;Mantle waves: s70,c98; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 0.16±.18; Mθθ 1.85±.13; Mϕϕ -2.01±.12; Mrθ -1.22±.09; Mθϕ -0.80±.11; Mϕr 1.83±.08; Best double couple: M0 3.03600×10^16 NP1:ϕ235.00000°, δ43.00000°, λ177.00000°. NP2:ϕ327.00000°, δ88.00000°, λ47.00000°. Principal axes: T 3.0170, Plg33.0000°, Azm202.0000°; N 0.0370, Plg43.0000°, Azm329.0000°; P -3.0540, Plg29.0000°, Azm91.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
IDC 27 12:28:20.2±0.6, 1019S×16125E, h71km±5km, mb4.5/16, mb1 4.7/17, mb1mx4.7/18, mbtmp4.8/17, MS3.7/14, Ms1 3.7/14, ms1mx3.5/29 Error ellipse: s-maj=12.8km s-min=8.1km az=26.0
NEIC 27 12:28:20.6±0.2, 1005S×161.10E, mb5.0/32, Error ellipse: s-maj=8.2km s-min=5.7km az=111.0
BJI 27 12:28:23.9, 938S×16060E, h70km, mB5.0, mb4.9, Ms4.8, Msz4.4

ISC 27 12:28:20.8±0.3, 1011S±004×16120E±005, h74km, h74km±1.0km:pP-P, n135, σ1§01/121, mb4.7/54, 9C-2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.41**	**299**	P	**Pn**	**12 28 45.3**	**+0.6**
	1μm,0.3s,baz=107,slow=2.6,SNR=737						
HNR				S	**Sn**	**12 29 04.2**	**+1.6**
	2μm,0.3s,baz=93,slow=22,SNR=13						
HNR	**Honiara**	**1.41**	**299**	*e*Pn	**Pn**	**12 28 45.1**	**+0.4**
BKM	**Butte a Klehm**	**10.16**	**138**	*i* P	**Pn**	**12 30 49.6**	**+5.9**
DZM	**Mont Dzumac**	**12.91**	**158**	P	**Pn**	**12 31 24.5**	**+3.2**
	6.1nm,0.3s,baz=348,slow=18,SNR=222						
DZM				S	**Sn**	**12 33 42.2**	**-0.8**
	2.9nm,0.3s,baz=343,slow=22,SNR=8.3						
PMG	**Port Moresby**	**13.85**	**272**	P	**Pn**	**12 31 38.8**	**+5.1**
	0.6nm,0.3s,baz=298,slow=5.2,SNR=4.1						
PMG				LR	LR	12 35 01.4	
	comp=Z,147nm,21.8s,baz=125,slow=29						
PMG	**Port Moresby**	**13.85**	**272**	*e*P	**Pn**	**12 31 40.7**	**+7.0**
PMG				pmax	pmax		
	comp=Z,22nm,0.8s						
PMG	**Port Moresby**	**13.85**	**272**	*e*Pn	**Pn**	**12 31 40.7**	**+6.9**
	comp=Z,22nm,0.8s						
CTA	**Charters Tower**	**17.49**	**234**	*e*P	**Pn**	**12 32 22.3**	**+2.5**
	comp=Z,58nm,0.7s						
CTA				*e*S	**S**	**12 35 44.2**	**+6.4**
CTA	**Charters Tower**	**17.49**	**234**	P	**Pn**	**12 32 20.9**	**+1.1**
	comp=Z,5.4nm,0.3s,baz=60,slow=12,SNR=59						
CTA				S	**S**	**12 35 29.2**	**-8.6**
	comp=Z,0.6nm,0.3s,baz=336,slow=20,SNR=2.9						
CTA				LR	LR	12 38 37.7	
	comp=Z,190nm,18.4s,baz=58,slow=35						
CTA	**Charters Tower**	**17.49**	**234**	P	**Pn**	**12 32 20.9**	**+1.1**
CTA				S	**S**	**12 35 29.3**	**-8.5**
CTA				pmax	pmax		
	comp=Z,5.0nm,0.3s						
CTA				smax			
	comp=N,1.0nm,0.3s						
CTA				MLR	MLR		
	comp=Z,190nm,18.4s						
CTAO	**Charters Tower**	**17.49**	**234**	*e*P	**Pn**	**12 32 22.2**	**+2.4**
CTAO				*e*		12 35 27.7	
CTAO				pmax	pmax		
	comp=Z,96nm,0.8s						
CTAO	**Charters Tower**	**17.49**	**234**	*e*Pn	**Pn**	**12 32 22.2**	**+2.5**
	comp=Z,96nm,0.8s						
CTAO				*e*Sn	**Sn**	**12 35 27.6**	**-6.3**
ARMA	**Armidale**	**22.08**	**202**	*e*P	**P**	**12 33 10.5**	**+0.8**
AFI	**Afiamalu**	**26.69**	**101**	LR	LR	12 41 33.8	
	comp=Z,291nm,20.8s,baz=240,slow=30						
WRAB	**Tennant Creek**	**27.67**	**246**	P	**P**	**12 34 01.0**	**-0.7**
	comp=Z,352nm,0.8s,SNR=25						
WRAB	**Tennant Creek**	**27.67**	**246**	⇑*i*P	**P**	**12 34 01.4**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,118nm,1.0s,mb5.4						
WRAB	**Tennant Creek**	**27.67**

CBIJ	**Chichi jima**	**41.33**	**334**	LR	LR	12 50 42.0		
	comp=Z,139nm,20.2s,baz=144,slow=32							
KLBR	**Kellerberrin**	**45.49**	**235**	*e*P	**P**	**12 36 31.8**	**-0.9**	
	comp=Z,8.6nm,0.5s,mb4.7							
NWAO	**Narrogin (SRO)**	**46.33**	**234**	P	**P**	**12 36 39.4**	**0.0**	
	comp=Z,21nm,0.6s,mb5.0,baz=56,slow=8.7,SNR=21							
NWAO				LR	LR	12 56 08.1		
	comp=Z,224nm,19.8s,baz=57,slow=36							
NWAO	**Narrogin (SRO)**	**46.33**	**234**‖	*e*P	**P**	**12 36 39.1**	**-0.2**	
NWAO				pmax	pmax			
	comp=Z,22nm,0.9s							
NWAO	**Narrogin (SRO)**	**46.33**	**234**‖	*e*P	**P**	**12 36 39.1**	**-0.2**	
	comp=Z,22nm,0.9s,mb4.9							
MUN	**Mundaring**	**46.86**	**235**	*e*P	**P**	**12 36 43.5**	**0.0**	
PPT	**Papeete**	**48.26**	**104**	*e*LR	LR	12 50 41.7		
	comp=Z,292nm,30.0s							
PPT	**Papeete**	**48.26**	**104**	LR	LR	12 52 02.3		
	comp=Z,30nm,19.9s,baz=289,slow=30							
MJAR	**Matsushiro Arr**	**51.20**	**336**	P	**P**	**12 37 15.5**	**-1.1**	
	comp=Z,2.8nm,0.7s,mb4.4,baz=159,slow=8.0,SNR=9.4							
MAJO	**Matsushiro**	**51.20**	**336**	*e*P	**P**	**12 37 15.8**	**-0.8**	
MAJO				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.7							
MAJO	**Matsushiro**	**51.20**	**336**	*e*P	**P**	**12 37 15.8**	**-0.9**	
	comp=Z,4.6nm,0.6s,mb4.7							
MAT	**Matsushiro**	**51.20**	**336**	P	**P**	**12 37 16.3**	**-0.3**	
NACB	**Ninganchiao**	**51.55**	**312**	P	**P**	**12 37 17.1**	**-2.1**	
SSE	**Sheshan**	**56.13**	**318**	P	**P**	**12 37 52.8**	**+0.2**	
SSE				AMB	AMB			
	comp=Z,19nm,0.7s,mb5.2							
SSE				AMB	AMB			
	comp=Z,192nm,4.0s							
SSE	**Sheshan**	**56.13**	**318**	P	**P**	**12 37 52.7**	**+0.1**	
	comp=Z,19nm,0.7s,mb5.2							
ASAJ	**Asahikawa**	**56.55**	**344**	LR	LR	12 57 10.1		
	comp=Z,46nm,21.5s,baz=153,slow=30							
NJ2	**Nanjing**	**58.27**	**318**	*e*P	**P**	**12 38 09.5**	**+1.8**	
NJ2				AP	pP	12 38 29.5	+2.9	
NJ2				XP	sP	12 38 37.8	+2.9	
NJ2				PP	PP	12 40 19.0	+1.6	
NJ2				S	**S**	**12 46 03.0**	**-1.2**	
NJ2				AMB	AMB			
	comp=Z,10.0nm,1.0s,mb4.8							
NJ2				AMB	AMB			
	comp=Z,160nm,4.0s							
NJ2				LR	LR			
	comp=N,2μm,29.6s							
NJ2				LR	LR			
	comp=E,2μm,34.0s							
NJ2				LR	LR			
	comp=Z,480nm,32.1s							
YSS	**Yuzh-Sakhalins**	**59.15**	**345**	*e*P	**P**	**12 38 15.0**	**+1.2**	
YSS				*e*		12 38 20.0		
MDJ	**Mudanjiang**	**61.52**	**335**	P	**P**	**12 38 31.5**	**+1.5**	
MDJ				AP	pP	12 38 49.8	+0.7	
MDJ				XP	sP	12 38 57.8	+0.5	
MDJ				PP	PP	12 40 47.8	+1.7	
MDJ				SCP	ScP	12 43 07.5	+1.2	
MDJ				PCS	PcS	12 43 15.3	+1.1	
MDJ				AMB	AMB			
	comp=Z,12nm,0.9s,mb4.9							
MDJ				AMB	AMB			
	comp=Z,49nm,4.9s							
MDJ				LR	LR			
	comp=Z,45nm,23.3s							
RKT	**Rikitea**	**62.10**	**111**	*e*LR	LR	12 57 07.6		
	comp=Z,158nm,30.2s							
CN2	**Changchun**	**62.72**	**332**	*e*P	**P**	**12 38 38.5**	**+0.5**	
CN2				*e*AP	pP	12 38 57.0	-0.2	
CN2				*e*S	**S**	**12 47 00.5**	**-0.6**	
CN2				AMB	AMB			
	comp=Z,30nm,0.6s,mb5.4							
KLR	**Kul'dur**	**64.51**	**339**	*e*P	**P**	**12 38 46.4**	**-3.4**	
CASY	**Casey**	**65.67**	**200**	*e*P	**P**	**12 38 56.6**	**-0.7**	
CASY	**Casey**	**65.67**	**200**	*e*P	**P**	**12 38 56.4**	**-0.9**	
	comp=Z,18nm,0.9s,mb4.9							
XAN	**Xi'an**	**66.23**	**314**	P	**P**	**12 39 00.0**	**-0.9**	
XAN				AMB	AMB			
	comp=Z,8.0nm,1.0s,mb4.5							
KMI	**Kunming**	**66.84**	**303**	P	**P**	**12 39 06.8**	**+2.0**	
KMI				*PP	pP	12 39 25.0	+0.9	
KMI				*SP	sP	12 39 34.9	+2.6	
KMI						12 41 32.2		
KMI				PPP		12 43 13.4		
KMI				S	S	12 47 53.4	+1.7	
KMI				*SS	sS	12 48 25.8	+1.3	
KMI				SS	SS	12 52 09.7	-1.2	
KMI				SSS		12 55 13.3		
KMI				pmax	pmax			
	comp=Z,6.0nm,1.5s,mb4.2							
KMI				MLR	MLR			
	comp=Z,90nm,18.4s							
KMI	**Kunming**	**66.84**	**303**	P	**P**	**12 39 06.8**	**+2.0**	
	comp=Z,6.0nm,1.5s,mb4.2							
KMI				pP	pP	12 39 25.0	+0.9	
KMI				sP	sP	12 39 34.9	+2.6	
KMI				PP	PP	12 41 32.2	-0.6	
KMI				PPP		12 43 13.4		
KMI				S	S	12 47 53.4	+1.7	
KMI				sS	sS	12 48 25.8	+1.3	
KMI				SS	SS	12 52 09.7	-1.2	
KMI				SSS		12 55 13.3		
KMI				LR	LR			
	comp=Z,90nm,18.4s							
VNDA	**Vanda**	**67.39**	**180**	P	**P**	**12 39 08.5**	**+0.2**	
	comp=Z,15nm,0.7s,mb4.9,baz=342,slow=6.7,SNR=53							
VNDA	**Vanda**	**67.39**	**180**	*e*P	**P**	**12 39 08.2**	**-0.1**	
VNDA				pmax	pmax			
	comp=Z,15nm,0.7s							
VNDA	**Vanda**	**67.39**	**180**	*e*P	**P**	**12 39 08.2**	**-0.1**	
	comp=Z,15nm,0.7s,mb4.9							
SBA	**Scott Base**	**67.78**	**179**	*e*P	**P**	**12 39 11.5**	**+0.7**	
SBA				pmax	pmax			
	comp=Z,16nm,1.0s,mb4.8							
SBA	**Scott Base**	**67.78**	**179**	*e*P	**P**	**12 39 11.5**	**+0.7**	
	comp=Z,16nm,1.0s,mb4.8							
HHC	**Hu-ho-hao-te**	**68.28**	**322**	*e*P	**P**	**12 39 14.8**	**+1.0**	
HHC				AP	pP	12 39 34.5	+1.3	
HHC				PCP	PcP	12 39 40.0	+0.9	
HHC				XP	sP	12 39 43.5	+2.1	
HHC				PP	PP	12 41 48.3	+3.1	
HHC				SCP		12 43 35.3		
HHC				PCS		12 43 43.8		
HHC				S	S	12 48 08.5	-0.3	
HHC				SCS	ScS	12 49 02.8	-3.9	
HHC				AMB	AMB			
	comp=Z,10.0nm,1.1s,mb4.6							
HHC				AMB	AMB			
	comp=Z,106nm,6.4s							
HHC				LR	LR			
	comp=N,130nm,15.7s							
HHC				LR	LR			
	comp=E,121nm,14.2s							
HHC				LR	LR			
	comp=Z,107nm,15.3s							
HIA	**Hailar**	**69.41**	**332**	*e*P	**P**	**12 39 20.9**	**0.0**	
HIA				*e*PP	pP	12 39 39.9	-0.4	
HIA				pmax	pmax			
	comp=Z,21nm,0.9s							
HIA	**Hailar**	**69.41**	**332**	*e*P	**P**	**12 39 20.9**	**0.0**	
	comp=Z,21nm,0.9s,mb5.0							
HIA				*e*pP	pP	12 39 39.9	-0.4	
MA2	**Magadan**	**69.96**	**354**	P	**P**	**12 39 23.4**	**-0.9**	
MA2				pmax	pmax			
	comp=Z,16nm,1.2s,mb4.7							
MA2	**Magadan**	**69.96**	**354**	P	**P**	**12 39 23.4**	**-0.9**	
	comp=Z,16nm,1.2s,mb4.7							
LZH	**Lanzhou**	**70.85**	**314**	*e*P	**P**	**12 39 29.8**	**+0.1**	
LZH				AP	pP	12 39 49.3	+0.1	
LZH				XP	sP	12 39 57.5	+0.2	
LZH				PP	PP	12 42 09.8	+2.3	
LZH				SKS		12 49 20.5		
LZH				AMB	AMB			
	comp=Z,30nm,1.4s,mb4.9							
LZH				AMB	AMB			
	comp=Z,137nm,6.8s							
LZH				LR	LR			
	comp=E,432nm,16.3s							
LZH				LR	LR			
	comp=Z,647nm,18.8s							
LZH	**Lanzhou**	**70.85**	**314**	*e*P	**P**	**12 39 29.7**	**0.0**	
LZH				*PP	pP	12 39 49.2	0.0	
LZH						12 42 09.8		
LZH						12 49 20.5		
LZH				SS	SS	12 53 12.6	-0.2	
LZH				pmax	pmax			
	comp=Z,30nm,1.4s,mb4.9							
LZH				MLR	MLR			
	comp=Z,650nm,18.8s							
LZH	**Lanzhou**	**70.85**	**314**	*e*P	**P**	**12 39 29.7**	**0.0**	
	comp=Z,30nm,1.4s,mb4.9							
LZH				pP	pP	12 39 49.2	0.0	
LZH				sP	sP	12 39 57.5	+0.2	
LZH				PP	PP	12 42 09.8	+2.3	
LZH				PS		12 47 15.8		
LZH				*e*S	S	12 48 37.6	-1.5	
LZH				sS	sS	12 49 10.7	-1.5	
LZH				SKS		12 49 20.5		
LZH				SS	SS	12 53 12.6	-0.2	
LZH				LR	LR			
	comp=Z,650nm,18.8s							
MIR	**Mirnyy**	**72.16**	**203**	*c i*P	**P**	**12 39 39.0**	**+1.4**	
MIR				pmax	pmax			
	comp=Z,340nm,1.0s							
CIT	**Chita**	**74.17**	**332**	*e*P	**P**	**12 39 50.2**	**+0.8**	
CIT				*e*	pP	12 40 08.5	-0.5	
CIT				pmax	pmax			
	comp=Z,23nm,1.4s,mb4.7							
ULN	**Ulaanbaatar**	**74.97**	**326**	*e*P	**P**	**12 39 55.1**	**+1.1**	
ULN				*e*PP	pP	12 40 13.6	-0.1	
ULN				pmax	pmax			
	comp=Z,15nm,0.9s,mb4.7							
ULN	**Ulaanbaatar**	**74.97**	**326**	*e*P	**P**	**12 39 55.1**	**+1.1**	
	comp=Z,15nm,0.9s,mb4.7							
ULN				*e*pP	pP	12 40 13.6	-0.1	
GTA	**Gaotai**	**75.22**	**315**	*e*P	**P**	**12 39 56.3**	**+0.8**	
GTA				AP	pP	12 40 16.0	+0.8	
GTA				XP	sP	12 40 24.0	+0.8	
GTA				PP	PP	12 42 46.5	+1.8	
GTA				PPP		12 44 32.0		
GTA				S	S	12 49 27.8	-0.9	
GTA				SCS	ScS	12 49 58.5	-3.4	
GTA				XS	sS	12 50 02.0	-0.1	
GTA				AMB	AMB			
	comp=Z,5.0nm,1.2s,mb4.1							
GTA				AMB	AMB			
	comp=Z,56nm,5.7s							
GTA				LR	LR			
	comp=N,73nm,8.7s							
GTA				LR	LR			
	comp=E,77nm,9.9s							
GTA				LR	LR			
	comp=Z,121nm,8.7s							
SONM	**Songino Array**	**75.31**	**325**	P	**P**	**12 39 56.8**	**+0.7**	
	comp=Z,10nm,0.6s,mb4.8,baz=140,slow=5.7,SNR=80							
SONM				pP	pP	12 40 14.7	-1.0	
	comp=Z,10nm,0.7s,baz=137,slow=5.7,SNR=9.4							
SONM				LR	LR	13 08 41.8		
	comp=Z,39nm,20.2s,baz=242,slow=32							
SONM	**Songino Array**	**75.31**	**325**	P	**P**	**12 39 56.8**	**+0.8**	
SONM				*PP	pP	12 40 14.7	-1.0	
YAK	**Yakutsk**	**76.00**	**345**	*e*P	**P**	**12 39 59.5**	**-0.4**	
YAK				*e*	pP	12 40 19.2	-0.4	
YAK				pmax	pmax			
	comp=Z,18nm,1.2s,mb4.7							
YAK				pmax	pmax			
	comp=N,3.0nm,1.1s							
YAK				pmax	pmax			
	comp=N,2.0nm,0.9s							
YAK	**Yakutsk**	**76.00**	**345**	*e*P	**P**	**12 39 58.9**	**-1.0**	
	comp=N,23nm,0.9s,mb4.9							
YAK				*e*pP	pP	12 40 18.8	-0.8	
KDAK	**Kodiak Island**	**77.43**	**23**	*e*P	**P**	**12 40 08.2**	**+0.2**	
	comp=N,5.0nm,0.6s,mb4.4							
KDAK				*e*pP	pP	12 40 27.3	-0.4	
BOD	**Bodaibo**	**77.83**	**336**	*e*P	**P**	**12 40 08.7**	**-1.6**	
BOD				pmax	pmax			
	comp=Z,5.0nm,1.1s,mb4.2							
BOD				pmax	pmax			
	comp=Z,5.0nm,1.1s,mb4.2							
BILL	**Bilibino**	**78.04**	**2**	*d i*P	**P**	**12 40 11.0**	**-0.4**	
BILL				pmax	pmax			
	comp=Z,14nm,1.0s,mb4.7							
BILL	**Bilibino**	**78.04**	**2**	*e*P	**P**	**12 40 11.0**	**-0.4**	
	comp=Z,22nm,1.0s,mb4.8							
BILL				*e*pP	pP	12 40 30.8	-0.4	
ZAK	**Zakamensk**	**78.41**	**326**	*e*P	**P**	**12 40 13.4**	**-0.1**	
ZAK				*e*	pP	12 40 32.0	-1.2	
ZAK				pmax	pmax			
	comp=Z,8.0nm,1.3s,mb4.3							
ZAK				pmax	pmax			
	comp=Z,10.0nm,1.3s,mb4.4							
TLY	**Talaya**	**78.91**	**328**	*e*P	**P**	**12 40 15.7**	**-0.5**	
TLY				*e*PP	pP	12 40 34.1	-1.9	
TLY				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.2							
TLY	**Talaya**	**78.91**	**328**	*e*P	**P**	**12 40 15.7**	**-0.5**	
	comp=Z,3.4nm,0.8s,mb4.2							
TLY				*e*pP	pP	12 40 34.1	-1.9	
QSPA	**South Pole Qui**	**79.88**	**180**	*i*P	**P**	**12 40 21.4**	**-0.1**	
	comp=Z,22nm,0.8s,mb5.0							
SLKM	**Skilak Lake**	**80.17**	**22**	*e*P	**P**	**12 40 23.3**	**+0.3**	
PMR	**Palmer**	**81.28**	**22**	*e*P	**P**	**12 40 27.8**	**-1.2**	
PMR				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.5							
PMR	**Palmer**	**81.28**	**22**	*e*P	**P**	**12 40 27.8**	**-1.1**	
	comp=Z,9.4nm,1.0s,mb4.6							
COLA	**College**	**83.85**	**19**	*e*P	**P**	**12 40 41.4**	**-0.9**	
COLA				pmax	pmax			
	comp=Z,11nm,0.8s,mb4.7							
COLA	**College**	**83.85**	**19**	*e*P	**P**	**12 40 41.4**	**-0.9**	
	comp=Z,11nm,0.8s,mb4.8							
COLA				*e*pP	pP	12 41 00.7	-1.6	
MAW	**Mawson**	**83.89**	**202**	P	**P**	**12 40 41.8**	**-0.6**	
	comp=Z,3.0nm,0.7s,mb4.2,baz=141,slow=6.6,SNR=6.5							
MAW				LR	LR	13 11 44.9		
	comp=Z,181nm,21.8s,baz=69,slow=31							
MAW	**Mawson**	**83.89**	**202**	*e*P	**P**	**12 40 41.9**	**-0.5**	
MAW				*e*pP	pP	12 40 59.2	-3.3	
ILAR	**Eielson Array**	**84.11**	**20**	P	**P**	**12 40 42.9**	**-0.7**	
	comp=Z,1.4nm,0.4s,mb4.1,baz=242,slow=5.1,SNR=46							
ILAR				pP	pP	12 41 02.9	-0.7	
	comp=Z,4.0nm,0.8s,baz=251,slow=5.1,SNR=5.1							
TIXI	**Tiksi**	**84.37**	**350**	*e*P	**P**	**12 40 42.8**	**-2.1**	
TIXI				*e*		12 43 58.3		
TIXI				*e*PPP		12 45 52.0		
TIXI				*e*S		12 51 00.2		
TIXI				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.2							
WMQ	**Urumqi**	**85.29**	**316**	‖P	**P**	**12 40 54.0**	**+4.4**	
WMQ				AP	pP	12 41 15.5	+5.9	
WMQ				S		12 51 08.8		
WMQ				AMB	AMB			
	comp=Z,8.0nm,0.5s,mb4.9							
WMQ				AMB	AMB			
	comp=Z,122nm,4.2s							
WMQ				LR	LR			
	comp=N,32nm,20.6s							
WMQ				LR	LR			
	comp=Z,24nm,22.6s							
DAWY	**Dawson**	**86.35**	**22**	*e*P	**P**	**12 40 54.9**	**+0.1**	
DAWY				*e*pP	pP	12 41 15.4	+0.5	
YBH	**Yreka Blue Hor**	**86.48**	**47**	LR	LR	13 09 42.7		
	comp=Z,49nm,21.5s,baz=235,slow=29							
HUMO	**Hull Mountain**	**86.56**	**46**	*e*P	**P**	**12 40 56.2**	**+0.4**	
	comp=Z,6.9nm,1.0s,mb4.5							
HUMO				*e*pP	pP	12 41 17.8	+1.9	
NVAR	**Mina Array Bea**	**88.87**	**51**	P	**P**	**12 41 08.8**	**+2.0**	
	comp=Z,1.2nm,0.6s,mb4.1,baz=243,slow=6.0,SNR=9.3							
NVAR				pP	pP	12 41 26.9	-0.1	
	comp=Z,0.5nm,0.6s,baz=282,slow=4.3,SNR=2.2							
WVOR	**Wild Horse Val**	**89.59**	**47**	*e*P	**P**	**12 41 11.0**	**+0.8**	
WVOR				pmax	pmax			
	comp=Z,15nm,1.4s,mb4.9							
WVOR	**Wild Horse Val**	**89.59**	**47**	*e*P	**P**	**12 41 10.9**	**+0.7**	
	comp=Z,15nm,1.4s,mb4.9							
WVOR				*e*pP	pP	12 41 35.5	+5.1	
MKAR	**Makanchi Array**	**89.80**	**318**	P	**P**	**12 41 10.7**	**-0.5**	
	comp=Z,0.6nm,0.4s,mb4.1,baz=92,slow=6.6,SNR=11							
MKAR				pP	pP	12 41 30.5	-0.9	
	comp=Z,4.0nm,0.9s,baz=101,slow=6.3,SNR=11							
ZAL	**Zalesovo**	**90.22**	**325**	P	**P**	**12 41 12.8**	**-0.3**	
	comp=Z,0.8nm,0.3s,mb4.3,baz=27,slow=4.5,SNR=3.3							
ZAL				pP	pP	12 41 31.8	-1.6	
	comp=Z,1.1nm,0.7s,baz=358,slow=20,SNR=2.0							
ZAL	**Zalesovo**	**90.22**	**325**	P	**P**	**12 41 12.8**	**-0.3**	
ZAL				pP	pP	12 41 31.8	-1.6	
LPIG	**La Paz**	**92.71**	**66**	LR	LR	13 13 39.9		
	comp=Z,59nm,20.9s,baz=221,slow=29							
HLID	**Hailey**	**92.86**	**46**	*e*P	**P**	**12 41 27.2**	**+1.8**	
	comp=Z,2.4nm,0.9s,mb4.5							
HLID				*e*pP	pP	12 41 47.8	+2.2	
KURK	**Kurchatov**	**93.08**	**321**	*e*P	**P**	**12 41 25.1**	**-1.3**	
KURK				*e*pP	pP	12 41 44.5	-2.1	
MCMT	**McKenzie Canyo**	**94.19**	**45**	*e*P	**P**	**12 41 32.9**	**+1.4**	
MCMT				*e*pP	pP	12 41 53.8	+2.0	
YKA	**Yellowknife Ar**	**96.22**	**28**	P	**P**	**12 41 40.1**	**-0.7**	
	comp=Z,1.2nm,0.6s,mb4.5,baz=260,slow=4.7,SNR=16							
YKA				pP	pP	12 41 59.7	-1.3	
	comp=Z,1.6nm,0.6s,baz=259,slow=4.7,SNR=4.6							
YKA				LR	LR	13 19 43.0		
	comp=Z,27nm,19.6s,baz=235,slow=32							
YKA	**Yellowknife Ar**	**96.22**	**28**	P	**P**	**12 41 40.1**	**-0.7**	
YKA				pP	pP	12 41 59.7	-1.3	
YKA				LR	LR	13 19 43.0		
PDAR	**Pinedale Array**	**96.23**	**48**	P	**P**	**12 41 41.4**	**+0.6**	
	comp=Z,0.7nm,0.6s,mb4.3,baz=186,slow=2.4,SNR=5.6							
SNAA	**Sanae**	**97.70**	**185**	*e*P	**P**	**12 41 39.2**	**-8.3**	
SNAA				pmax	pmax			
	comp=Z,3.0nm,0.9s							
SNAA	**Sanae**	**97.70**	**185**	*e*P	**P**	**12 41 39.2**	**-8.2**	
	comp=Z,3.0nm,0.9s,mb4.8							
SNAA				*e*pP	pP	12 42 01.5	-6.2	
VNA3	**Neumayer Olymp**	**98.59**	**183**	*e*Pdiff	**P**	**12 41 50.5**	**-1.0**	
VNA3				*e*		12 41 52.2		
VNA3				*e*		12 41 56.6		
VNA3				*e*		12 42 00.3		
VNA3				*e*	pP	12 42 11.3	-0.4	
VNA3				*e*		12 42 19.5		
VNA2	**Neumayer--Watz**	**98.78**	**184**	*e*Pdiff	**P**	**12 41 51.7**	**-0.6**	
	baz=184,slow=6.7							
VNA2				*e*		12 41 53.8		
VNA2				*e*		12 41 55.7		
VNA2				*e*		12 41 57.9		
VNA2				*e*	pP	12 42 12.0	-0.6	
VNA2				*e*		12 42 20.9		
ARCES	**ARCESS Array B**	**114.28**	**344**	PKP	PKiKP	12 46 50.4	-1.4	
	comp=Z,3.0nm,1.0s,baz=83,slow=0.8,SNR=5.4							
ARCES	**ARCESS Array B**	**114.28**	**344**	PKP	PKiKP	12 46 50.4	-1.4	
BOSA	**Boshof**	**122.62**	**227**	PKP	PKPdf	12 47 07.6	-0.3	
	comp=Z,3.2nm,0.9s,baz=291,slow=9.7,SNR=4.6							
BOSA	**Boshof**	**122.62**	**227**	PKP	PKPdf	12 47 07.6	-0.3	
LSZ	**Lusaka**	**127.05**	**242**	*e*PKIKP	PKPdf	12 47 17.0	+0.6	
GERES	**GERESS Array B**	**132.81**	**331**	PKP	PKPdf	12 47 28.5	+1.2	
	comp=Z,0.3nm,0.4s,baz=124,slow=1.9,SNR=3.8							
TSUM	**Tsumeb**	**133.80**	**231**	*e*PKPpre		12 47 20.8		
PVRL	**Vila Real**	**147.46**	**344**	*e*-	pPKPdf	12 48 19.9	+5.2	
PVIS	**Viseu**	**148.03**	**344**	*e*-	pPKPdf	12 48 23.2	+7.6	
PCBR	**Castelo Branco**	**148.73**	**343**	*e*PKPdf	PKPdf	12 47 59.8	+4.0	
PCBR				*e*-	pPKPdf	12 48 21.3	+4.5	
PTOM	**Tomar**	**149.19**	**344**	*e*-	pPKPdf	12 48 25.4	+7.9	
PBEJ	**Beja**	**150.52**	**342**	*e*-	pPKPdf	12 48 27.3	+7.7	
PTEO	**Sao Teotonio**	**151.22**	**343**	*e*-	pPKPdf	12 48 31.4	+11	
TORD	**Torodi Ar. Bea**	**159.70**	**281**	PKP	PKPdf	12 48 11.0	-0.1	
	comp=Z,1.1nm,0.9s,baz=19,slow=1.1,SNR=4.2							

IDC 27 12:36:31.2±11.0, 813S×11026E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.7/17, mbtmp4.0/4, ML3.4/1, Error ellipse: s-maj=185.9km s-min=125.8km az=133.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**17.94**	**125**	P	Pn	12 40 42.1	0.0
	0.2nm,0.3s,baz=341,slow=23,SNR=6.2						
FITZ				S	Sn	12 43 49.9	-13
	0.0nm,0.3s,baz=168,slow=20,SNR=2.8						
WRA	**Warramunga Arr**	**26.10**	**119**	P		12 42 07.3	+0.6
	0.9nm,0.5s,baz=293,slow=11,SNR=8.0						
ASAR	**Alice Springs**	**27.42**	**127**	P	P	12 42 20.1	+1.6
	0.9nm,0.7s,baz=304,slow=9.6,SNR=10						
STKA	**Stephens Creek**	**37.50**	**133**	*e*P	P	12 43 45.5	-1.2
	7.2nm,0.5s						
STKA	**Stephens Creek**	**37.50**	**133**	P	P	12 43 45.8	-0.9
	7.8nm,0.5s,baz=308,slow=7.8,SNR=32						

IDC 27 12:57:37.2±12.0, 812S×11038E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=188.9km s-min=141.5km az=132.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**17.85**	**125**	P	Pn	13 01 47.0	0.0
	0.1nm,0.3s,baz=14,slow=10,SNR=6.9						
WRA	**Warramunga Arr**	**26.00**	**119**	P	P	13 03 12.5	+0.7
	0.4nm,0.5s,baz=293,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**27.33**	**127**	P	P	13 03 24.6	+0.9
	0.2nm,0.5s,baz=304,slow=8.9,SNR=5.1						
STKA	**Stephens Creek**	**37.42**	**133**	P	P	13 04 51.3	-0.7
	1.5nm,0.4s,baz=305,slow=7.2,SNR=3.2						

IDC 27 12:58:11.2±1.8, 4817S×10245E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/13, mbtmp3.8/3, MS3.8/5, Ms1 3.8/5, ms1mx3.5/26, Error ellipse: s-maj=76.2km s-min=26.8km az=117.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**18.87**	**42**	LR	LR	13 07 51.9	
	comp=Z,147nm,21.5s,baz=49,slow=31						
STKA	**Stephens Creek**	**33.68**	**76**	LR	LR	13 16 25.8	
	comp=Z,189nm,20.2s,baz=206,slow=32						
FITZ	**Fitzroy Crossi**	**35.45**	**40**	LR	LR	13 18 56.1	
	comp=Z,83nm,20.1s,baz=64,slow=35						
VNDA	**Vanda**	**36.94**	**162**	P	P	13 05 21.3	-0.6
	1.3nm,0.9s,baz=302,slow=9.5,SNR=2.6						
VNDA				LR	LR	13 19 57.6	
	comp=Z,225nm,21.0s,baz=283,slow=35						
WRA	**Warramunga Arr**	**38.13**	**54**	P	P	13 05 30.9	-1.1
	1.1nm,0.8s,baz=219,slow=8.2,SNR=5.2						
SNAA	**Sanae**	**49.54**	**204**	P	P	13 07 02.5	-1.2
	1.4nm,1.0s,baz=

0.3nm,0.3s,baz=221,slow=23,SNR=6.6
DZM LR LR 13 22 33.1
comp=Z,689nm,21.4s,baz=61,slow=33
AFI Afiamalu 11.88 79 LR LR 13 22 58.5
comp=Z,486nm,18.4s,baz=249,slow=32
RAO Raoul Island 13.69 158 LR LR 13 24 16.1
comp=Z,415nm,19.2s,baz=330,slow=33
HNR Honiara 17.39 292 LR LR 13 25 25.8
comp=Z,77nm,18.6s,baz=176,slow=30
URZ Urewera 21.59 178 LR LR 13 28 29.2
comp=Z,238nm,21.5s,MS3.6,baz=292,slow=33
CTA Charters Tower 28.65 258 LR LR 13 32 04.2
comp=Z,189nm,20.5s,MS3.7,baz=84,slow=32
PMG Port Moresby 29.19 281 LR LR 13 32 59.6
comp=Z,280nm,19.1s,MS3.9,baz=95,slow=34
PPT Papeete 32.67 97 *e*LQ 13 30 30.2
1µm,26.2s
PPT *e*LR LR 13 31 30.7
501nm,29.8s
TBI Tubuai 32.88 107 *e*LQ 13 30 29.5
1µm,26.0s
TBI *e*LR LR 13 31 56.0
512nm,32.2s
STKA Stephens Creek 34.88 238 *e*P **P** **13 23 32.6 -0.7**
13nm,0.7s,mb5.0
STKA Stephens Creek 34.88 238 P **P** **13 23 33.5 +0.3**
16nm,0.7s,mb5.0,baz=74,slow=8.4,SNR=30
STKA LR LR 13 35 57.8
comp=Z,315nm,21.6s,MS4.0,baz=36,slow=33
STKA Stephens Creek 34.88 238 *e*P **P** **13 23 32.5 -0.8**
WB2 Warramunga Arr 39.84 259 *e*P **P** **13 24 14.7 -0.5**
WRAB Tennant Creek 39.84 259 *e*P **P** **13 24 14.0 -1.3**
3.8nm,0.6s,mb4.3
WRA Warramunga Arr 39.85 259 P **P** **13 24 15.2 -0.2**
2.3nm,0.6s,mb4.1,baz=92,slow=8.9,SNR=33
AS31 Alice Springs 40.24 253 *e*P **P** **13 24 19.2 +0.6**
ASAR Alice Springs 40.25 253 P **P** **13 24 19.1 +0.5**
4.6nm,0.7s,mb4.3,baz=82,slow=9.0,SNR=50
ASPA Alice Springs 40.25 253 *e*P **P** **13 24 19.2 +0.5**
RKT Rikitea 46.18 106 *e*LR LR 13 38 05.9
297nm,31.8s
FITZ Fitzroy Crossi 48.19 260 P **P** **13 25 23.2 +1.0**
1.9nm,0.9s,mb4.1,baz=315,slow=23,SNR=3.6
VNDA Vanda 61.37 184 LR LR 13 50 21.4
comp=Z,116nm,20.4s,MS4.0,baz=206,slow=33
SBA Scott Base 61.45 182 *e*P **P** **13 26 59.4 +1.3**
2.6nm,0.8s,mb4.4
CASY Casey 65.21 204 *e*P **P** **13 27 21.6 -1.2**
7.7nm,1.0s,mb4.7
QSPA South Pole Qui 73.44 180 *e*P **P** **13 28 13.2 -0.5**
15nm,1.2s,mb4.8
KDAK Kodiak Island 78.48 16 LR LR 13 55 38.3
comp=Z,89nm,21.2s,MS4.1,baz=234,slow=30
YBH Yreka Blue Hor 80.85 42 LR LR 13 56 33.7
comp=Z,82nm,18.7s,MS4.1,baz=175,slow=30
NVAR Mina Array Bea 82.13 46 P **P** **13 29 01.8 -0.2**
1.0nm,0.9s,mb3.7,baz=219,slow=7.0,SNR=2.5
ILAR Eielson Array 85.86 15 P **P** **13 29 19.9 -1.2**
0.8nm,0.7s,mb4.0,baz=235,slow=5.1,SNR=7.3
LZH Lanzhou 86.08 309 sP sP 13 29 40.2 -3.7
NEW Newport 87.55 38 LR LR 14 03 15.2
comp=Z,80nm,18.8s,MS4.2,baz=230,slow=32
SONM Songino Array 89.27 321 P **P** **13 29 37.9 +0.6**
0.8nm,1.0s,mb4.0,baz=143,slow=3.7,SNR=4.2
SONM LR LR 14 07 32.3
comp=Z,67nm,18.8s,MS4.1,baz=81,slow=34
PDAR Pinedale Array 90.00 45 P **P** **13 29 41.6 +0.8**
0.2nm,0.4s,mb3.8,baz=231,slow=6.4,SNR=2.6
PDAR LR LR 14 02 09.1
comp=Z,74nm,20.3s,MS4.1,baz=154,slow=30
YKA Yellowknife Ar 95.34 26 LR LR 14 10 48.8
comp=Z,56nm,18.0s,MS4.1,baz=285,slow=34
PLCA Paso Flores 95.89 135 LR LR 14 05 31.5
comp=Z,98nm,21.9s,MS4.2,baz=203,slow=30
GERES GERESS Array B 144.82 340 PKP PKPdf 13 36 20.8 +2.9
0.3nm,0.3s,baz=20,slow=4.3,SNR=6.7
GRA1 Grafenberg Arr 144.83 343 *e*PKPbc PKPdf 13 36 20.6 +2.6
GRF Grafenberg Arr 144.83 343 *e*PKP PKPdf 13 36 20.6 +2.6

ATH ***27*** *13:26:10.5,3709N×2836E,h41km,MD3.5/3*
ISK ***27*** *13:26:11.9,3703N×2797E,h18km,MD2.9*
ISCJB ***27*** *13:26:12.5±0.4,3700N±002×2799E±003,h12km±3km, Error ellipse: s-maj=3.9km s-min=3.9km az=24.9*
CSEM ***27*** *13:26:12.0±0.1,3704N×2797E,h10km,MD2.9, Error ellipse: s-maj=1.9km s-min=1.8km az=161.0*

ISC 27 13:26:13.0±0.4,3699N±002×2798E±003,h14km±3km,n22, σ1§01/37,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.28**	**60**	*i* PG	**Pg**	**13 26 18.4**	**-0.5**
YER				*i* SG	**Sg**	**13 26 23.1**	**+0.2**
MLSB	**Milas**	**0.34**	**332**	PG	**Pg**	**13 26 19.7**	**-0.3**
MLSB				SG	**Sg**	**13 26 23.9**	**-0.8**
DAT	**Datca**	**0.42**	**231**	PG	**Pg**	**13 26 21.0**	**-0.3**
DAT				SG	**Sg**	**13 26 28.2**	**+1.3**
BDRM	**Kayabasi**	**0.43**	**280**	*i* P	**Pg**	**13 26 20.6**	**-1.0**
BDRM				*i* S	**Sg**	**13 26 27.7**	**+0.2**
BODT	**Bodrum**	**0.54**	**278**	PG	**Pg**	**13 26 22.6**	**-1.0**
BODT				SG	**Sg**	**13 26 31.1**	**+0.3**
DALT	**Dalyan (Mudla)**	**0.57**	**113**	*e*PG	**Pg**	**13 26 23.6**	**-0.6**
AYDN	**Tasoluk**	**0.67**	**353**	*i* P	**Pg**	**13 26 25.3**	**-0.8**
AYDN				*i* S	**Sg**	**13 26 34.2**	**-0.7**
ARG	**Arkhangelos**	**0.78**	**171**	*e*P	**Pg**	**13 26 28.0**	**-0.2**
ARG				*e*S	**Sg**	**13 26 41.0**	**+2.5**
ARG	**Arkhangelos**	**0.78**	**171**	*e*Pn	**Pn**	**13 26 27.9**	**-1.6**
ARG				*e*Sn	**Sn**	**13 26 40.6**	**-0.4**
FETY	**Fethiye**	**0.95**	**112**	*e*PG	**Pg**	**13 26 31.3**	**-0.1**
DNZL	**Cakiroluk**	**1.10**	**50**	*i* P	**Pb**	**13 26 33.2**	**-0.5**
DNZL				*i* S	**Sb**	**13 26 53.0**	**+5.2**
DENT	**Denizli**	**1.13**	**48**	*e*PN	**Pn**	**13 26 32.6**	**-1.7**
SMG	**Samos**	**1.16**	**308**	*e*P	**Pn**	**13 26 34.5**	**-0.2**
SMG	**Samos**	**1.16**	**308**	*e*Pn	**Pn**	**13 26 34.3**	**-0.4**
SMG				*e*Sn	**Sn**	**13 26 51.7**	**+1.5**
IZM	**Izmir**	**1.51**	**338**	*e*PN	**Pn**	**13 26 39.0**	**-0.6**
KDAG	**Bornova**	**1.52**	**338**	*i* P	**Pn**	**13 26 38.7**	**-0.9**
KDAG				*i* S	**Sn**	**13 26 59.3**	**+0.2**
MANT	**Manisa**	**1.56**	**17**	*i* P	**Pn**	**13 26 40.6**	**+0.4**
MANT				*i* S	**Sn**	**13 27 04.2**	**+3.9**
KARP	**Karpathos**	**1.59**	**205**	*e*P	**Pn**	**13 26 40.5**	**-0.1**
KARP	**Karpathos**	**1.59**	**205**	*e*Pn	**Pn**	**13 26 41.1**	**+0.5**
URLA	**Izmir**	**1.75**	**322**	*i* P	**Pn**	**13 26 43.7**	**+0.8**
URLA				*i* S	**Sg**	**13 27 12.8**	**+3.4**
TKTP	**Tekketepe**	**2.13**	**60**	*i* P	**Pg**	**13 26 55.5**	**+1.6**
TKTP				*i* S	**Sg**	**13 27 27.1**	**+5.5**
GDZ	**Gediz**	**2.41**	**29**	*i* P	**Pn**	**13 26 52.7**	**+0.9**
GDZ				*i* S	**Sg**	**13 27 32.3**	**+2.1**

SZGRF ***27*** *13:45:34.8,5297N×15967E,h33km,mb4.6, Off east coast of Kamchatka Peninsula, Russia*
IDC ***27*** *13:45:36.0±0.6,5480N×161.14E,h0km,mb4.3/20, mb1 4.5/20,mb1mx4.5/22,mbtmp4.3/20,MS3.6/2, Ms1 3.6/2,ms1mx2.8/32,Error ellipse: s-maj=18.3km s-min=13.7km az=150.0*
KRSC ***27*** *13:45:37.4±0.8,5467N×16155E,h9km±1km,ML4.9*
MOS ***27*** *13:45:37.8±0.9,5467N×16149E,h23km,mb4.8/45, Error ellipse: s-maj=10.2km s-min=5.2km az=82.0*
ISCJB ***27*** *13:45:39.6±0.2,5464N±002×16163E±003,h33km, mb4.5/84,MS3.8/9, Error ellipse: s-maj=3.1km s-min=2.0km az=72.1*
BJI ***27*** *13:45:40.8,5469N×16080E,h31km,mB4.8,mb4.2,Ms4.2, Msz3.8*
NEIC ***27*** *13:45:43.0±0.2,5473N×16121E,mb4.6/61, Error ellipse: s-maj=6.2km s-min=4.1km az=166.0*

ISC 27 13:45:41.3±0.2,5467N±002×16151E±004,h35km, (h58km±3.5km:pP-P),n247,σ1§15/281,mb4.5/84,MS3.8/9, 2C,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.17**	**132**	*i* P	**Pn**	**13 45 42.0**	**-5.8**
TUMR	**Tumrok**	**0.99**	**308**	*e*P	**Pn**	**13 45 57.3**	**-1.4**
KMNR	**Kamenistaya**	**1.31**	**327**	*i* P	**Pn**	**13 46 02.9**	**-0.1**
KMNR				*i* S	**Sn**	**13 46 21.4**	**+2.2**
KII	**Karymskiy**	**1.36**	**243**	P	**Pn**	**13 46 03.4**	**-0.4**
KII				S	**Sn**	**13 46 22.3**	**+1.7**
KII	**Karymskiy**	**1.36**	**243**	*i* P	**Pn**	**13 46 03.4**	**-0.4**
ZLN	**Zelenaya**	**1.41**	**344**	*i* P	**Pn**	**13 46 04.3**	**0.0**
LGNR	**Loginova**	**1.49**	**342**	*i* P	**Pn**	**13 46 05.9**	**+0.4**
LGNR				*e*S	**Sn**	**13 46 25.9**	**+2.2**
KPT	**Kopyto**	**1.49**	**331**	*i* P	**Pn**	**13 46 05.6**	**+0.1**
KPT				*i* S	**Sn**	**13 46 25.9**	**+2.2**
CIRR	**Tsirk**	**1.51**	**344**	*i* P	**Pn**	**13 46 05.7**	**-0.1**
KRSR	**Krestovskiy**	**1.64**	**341**	*i* P	**Pn**	**13 46 07.1**	**-0.4**
KRSR				*e*S	**Sn**	**13 46 28.5**	**+1.1**
KOZR	**Kozyr**	**1.67**	**327**	PN	**Pn**	**13 46 08.8**	**+0.8**
KOZR				S	**Sn**	**13 46 31.8**	**+3.6**
KOZ	**Kozyrevsk**	**1.67**	**327**	P	**Pn**	**13 46 08.8**	**+0.8**
KOZ				S	**Sn**	**13 46 31.8**	**+3.6**
KOZ	**Kozyrevsk**	**1.67**	**327**	*i* P	**Pn**	**13 46 08.8**	**+0.8**
KOZ				*e*S	**Sn**	**13 46 30.8**	**+2.6**
KBTR	**Krutoberegovo**	**1.71**	**25**	*i* P	**Pn**	**13 46 08.1**	**-0.4**
KBTR				*i* S	**Sn**	**13 46 30.3**	**+1.2**
KLY	**Klyuchi**	**1.71**	**344**	*i* P	**Pn**	**13 46 08.0**	**-0.6**
KLY				*e*S	**Sn**	**13 46 30.4**	**+1.2**
KBG	**Krutoberegovo**	**1.73**	**23**	*i* P	**Pn**	**13 46 08.6**	**-0.1**
KBG				*e*S	**Sn**	**13 46 31.2**	**+1.7**
KBG				Smax			
13µm,1.0s							
SPN	**Mys Shipunski**	**1.81**	**210**	P	**Pn**	**13 46 08.1**	**-1.8**
SPN				S	**Sn**	**13 46 29.9**	**-1.7**
SPN	**Mys Shipunski**	**1.81**	**210**	*i* P	**Pn**	**13 46 08.9**	**-1.0**
SPN				*e*S	**Sn**	**13 46 32.9**	**+1.3**
BDR	**Baidarnaya**	**1.91**	**355**	*i* P	**Pn**	**13 46 11.3**	**+0.1**
BDR				*i* S	**Sn**	**13 46 36.0**	**+2.0**
SMKR	**Semkarok**	**1.91**	**359**	*i* P	**Pn**	**13 46 11.3**	**0.0**
SMKR				*i* S	**Sn**	**13 46 35.9**	**+1.7**
SRDR	**Sredinnyy**	**1.94**	**329**	*e*P	**Pn**	**13 46 11.6**	**-0.1**
NLC	**Nalytchevo**	**1.98**	**221**	P	**Pn**	**13 46 11.3**	**-0.9**
NLC				S	**Sn**	**13 46 36.1**	**+0.4**
NLC	**Nalytchevo**	**1.98**	**221**	*i* P	**Pn**	**13 46 11.3**	**-0.9**
NLC				*i* S	**Sn**	**13 46 37.6**	**+1.9**
SRKR	**Sorokina**	**1.99**	**355**	*i* P	**Pn**	**13 46 12.2**	**-0.2**
ESO	**Esso**	**2.04**	**309**	*i* P	**Pn**	**13 46 12.9**	**-0.1**
ESO				*i* S	**Sn**	**13 46 38.9**	**+1.7**
ESO				Smax			
2µm,1.0s							
SDLR	**Sedlovina**	**2.09**	**229**	*i* P	**Pn**	**13 46 14.0**	**+0.3**
SDLR				*i* S	**Sn**	**13 46 40.5**	**+2.0**
SMAR	**Somma**	**2.13**	**230**	*i* P	**Pn**	**13 46 14.8**	**+0.4**
AVH	**Avacha**	**2.16**	**230**	*i* P	**Pn**	**13 46 15.6**	**+0.9**
UGLR	**Uglovaya**	**2.16**	**228**	*i* P	**Pn**	**13 46 15.2**	**+0.5**
KOK	**Koryaka**	**2.19**	**232**	*i* P	**Pn**	**13 46 15.7**	**+0.6**
GNL	**Ganaly**	**2.31**	**246**	P	**Pn**	**13 46 17.7**	**+0.9**
GNL				*e*S	**Sn**	**13 46 47.1**	**+3.0**
PET	**Petropavlovsk**	**2.37**	**227**	P	**Pn**	**13 46 17.6**	**+0.1**
PET				S	**Sn**	**13 46 46.5**	**+1.2**
PET	**Petropavlovsk**	**2.37**	**227**	*i*PN	**Pn**	**13 46 17.7**	**+0.2**
PET				*e*S	**Sn**	**13 46 47.7**	**+2.4**
PET				pmax	pmax		
comp=Z,600nm,0.7s							
PET				pmax	pmax		
comp=Z,1µm,0.5s							
PET				smax			
comp=E,2µm,0.6s							
PET				smax			
comp=N,2µm,1.3s							
PET				smax			
comp=E,3µm,1.5s							
PET				smax			
comp=N,4µm,0.6s							
PET				MLR	MLR		
comp=Z,700nm,18.0s							
PET	**Petropavlovsk**	**2.37**	**227**	*e*Pn	**Pn**	**13 46 17.5**	**-0.1**
PET	**Petropavlovsk**	**2.37**	**227**	*i* P	**Pn**	**13 46 17.7**	**+0.2**
PET				*e*S	**Sn**	**13 46 46.9**	**+1.6**
BKI	**Bering**	**2.63**	**77**	*i* P	**Pn**	**13 46 19.2**	**-2.0**
BKI				*e*S	**Sn**	**13 46 49.3**	**-2.6**
BKI				Smax			
comp=Z,270nm,0.9s							
KRMR	**Karymshinskiy**	**2.73**	**229**	*i* P	**Pn**	**13 46 23.5**	**+1.0**
KRMR				*i* S	**Sn**	**13 46 57.0**	**+2.8**
RUS	**Russkaya**	**2.87**	**220**	P	**Pn**	**13 46 23.7**	**-0.8**
RUS				S	**Sn**	**13 46 57.4**	**-0.4**
RUS	**Russkaya**	**2.87**	**220**	*e*P	**Pn**	**13 46 24.4**	**-0.1**
RUS				*e*S	**Sn**	**13 46 59.2**	**+1.4**
GRL	**Gorelyy**	**2.95**	**225**	*e*P	**Pn**	**13 46 26.5**	**+0.9**
GRL				*e*S	**Sn**	**13 47 02.1**	**+2.3**
APC	**Apacha**	**3.12**	**238**	*i* P	**Pn**	**13 46 29.2**	**+1.3**
APC				Smax			
comp=Z,570nm,1.1s							
MIPR	**Malaya Ipel'ka**	**3.72**	**232**	*e*P	**Pn**	**13 46 37.5**	**+1.4**
PAU	**Pauzhetka**	**4.28**	**223**	*e*P	**Pn**	**13 46 45.1**	**+1.2**
PAU				Smax			
comp=Z,400nm,1.0s							
OSSR	**Ossora**	**4.67**	**10**	P	**Pn**	**13 46 48.5**	**-0.7**
OSSR				Smax			
comp=Z,110nm,1.0s							
SKR	**Severo-Kuril's**	**5.17**	**222**	*e*PN	**Pn**	**13 46 56.1**	**0.0**
SKR				pmax	pmax		
comp=Z,160nm,0.9s							
ALID	**Alaid**	**5.25**	**226**	*i* P	**Pn**	**13 46 57.8**	**+0.6**
MA2	**Magadan**	**7.63**	**314**	*e*PN	**Pn**	**13 47 36.1**	**+6.2**
MA2				pmax	pmax		
comp=Z,20nm,0.9s							
MA2	**Magadan**	**7.63**	**314**	*e*Pn	**Pn**	**13 47 35.9**	**+6.0**
comp=Z,21nm,0.9s							
KAMR	**Kamenskoye**	**8.18**	**16**	*e*P	**Pn**	**13 47 39.6**	**+2.2**
BILL	**Bilibino**	**13.60**	**8**	*e*P	**Pn**	**13 48 54.3**	**+2.7**
BILL				pmax	pmax		
comp=Z,4.0nm,0.8s							
BILL	**Bilibino**	**13.60**	**8**	*e*P	**Pn**	**13 48 54.3**	**+2.8**
comp=Z,4.2nm,0.8s							
YSS	**Yuzh-Sakhalins**	**14.12**	**245**	P	**Pn**	**13 49 01.8**	**+3.1**
YSS				pmax	pmax		
comp=Z,26nm,1.0s							
YSS	**Yuzh-Sakhalins**	**14.12**	**245**	P	**Pn**	**13 49 01.8**	**+3.1**
comp=Z,26nm,1.0s							
ASAJ	**Asahikawa**	**16.17**	**237**	Pn	**Pn**	**13 49 25.6**	**-0.1**
comp=Z,1.1nm,0.3s,baz=69,slow=14,SNR=12							
ASAJ				LR	LR	13 55 26.2	
comp=Z,263nm,18.7s,baz=187,slow=37							
ASAJ	**Asahikawa**	**16.17**	**237**	P	**Pn**	**13 49 25.6**	**-0.1**
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
ASAJ				MLR	MLR		
comp=Z,263nm,18.7s							
HABR	**Khabarovsk**	**17.51**	**260**	*e*P	**Pn**	**13 49 41.3**	**-1.3**
HABR				*e*S	**S**	**13 52 56.8**	**-6.8**
YAK	**Yakutsk**	**18.09**	**307**	*e*P	**Pn**	**13 49 50.5**	**+0.8**
YAK				pmax	pmax		
comp=E,7.0nm,1.4s							
YAK				pmax	pmax		
comp=Z,6.0nm,0.8s							
YAK				pmax	pmax		
comp=N,4.0nm,1.6s							
YAK				pmax	pmax		
comp=E,10.0nm,1.4s							
YAK				pmax	pmax		
comp=Z,8.0nm,1.3s							
YAK				pmax	pmax		
comp=N,4.0nm,0.9s							
YAK	**Yakutsk**	**18.09**	**307**	P	**Pn**	**13 49 48.6**	**-1.1**
comp=N,15nm,0.8s							
KLR	**Kul'dur**	**19.05**	**266**	*e*P	**Pn**	**13 49 58.7**	**-2.6**
CLNS	**Chul'man**	**20.56**	**291**	*e*P	**P**	**13 50 16.3**	**-0.6**
CLNS				*e*		13 50 26.8	
CLNS				*e*PPP		13 50 31.9	
CLNS				*e*S	**S**	**13 53 55.7**	**-9.2**
CLNS				*e*		13 54 30.9	
CLNS				pmax	pmax		
comp=Z,6.0nm,0.6s							
CLNS				pmax	pmax		
comp=N,5.0nm,0.8s							
CLNS				pmax	pmax		
comp=E,7.0nm,0.8s							
CLNS				pmax	pmax		
comp=N,15nm,1.0s							
CLNS				pmax	pmax		
comp=Z,8.0nm,1.0s							
CLNS				pmax	pmax		
comp=E,8.0nm,0.9s							
CLNS				smax			
comp=N,7.0nm,0.7s							
CLNS				smax			
comp=Z,8.0nm,0.8s							
CLNS				smax			
comp=E,11nm,0.9s							
CLNS				MLR	MLR		
comp=Z,200nm,13.0s,MS3.7							
CLNS				MLR	MLR		
comp=N,200nm,14.0s,MS3.7							
CLNS				MLR	MLR		
comp=E,100nm,11.0s,MS3.7							
TIXI	**Tiksi**	**22.02**	**333**	*e*P	**P**	**13 50 29.0**	**-3.5**
TIXI				pmax	pmax		
comp=Z,19nm,1.1s,mb4.4							
MDJ	**Mudanjiang**	**22.80**	**257**	P	**P**	**13 50 38.3**	**-2.5**
MDJ				AP		13 50 50.3	
MDJ				XP	sP	13 50 56.5	+2.0
MDJ				S	**S**	**13 54 42.8**	**-4.8**
MDJ				SCP	ScP	13 58 03.5	-2.9
MDJ				PCS	PcS	13 58 09.3	-1.0
MDJ				AMB	AMB		
comp=Z,3.0nm,1.0s,mb3.7							
MDJ				AMB	AMB		
comp=Z,43nm,3.8s							
MDJ				LR	LR		
comp=N,71nm,15.9s,MS3.3							
MDJ				LR	LR		
comp=E,52nm,17.3s,MS3.3							
MDJ				LR	LR		
comp=Z,112nm,18.6s,MS3.3							
TTA	**Tatalina**	**23.10**	**52**	*e*P	**P**	**13 50 44.9**	**+0.9**
MAJO	**Matsushiro**	**24.19**	**231**	*e*P	**P**	**13 50 54.4**	**+0.1**
MAJO				pmax	pmax		
comp=Z,12nm,0.6s,mb4.5							
MAJO	**Matsushiro**	**24.19**	**231**	*e*P	**P**	**13 50 54.4**	**0.0**
comp=Z,12nm,0.6s,mb4.5							
MAT	**Matsushiro**	**24.19**	**231**	P	**P**	**13 50 54.4**	**+0.1**
MJAR	**Matsushiro Arr**	**24.19**	**231**	P	**P**	**13 50 53.9**	**-0.5**
comp=Z,8.3nm,0.7s,mb4.3,baz=25,slow=8.7,SNR=20							
MJAR				LR	LR	14 01 21.7	
comp=Z,92nm,20.6s,MS3.2,baz=50,slow=39							
KDAK	**Kodiak Island**	**25.33**	**64**	P		**13 51 04.5**	**-0.1**
comp=Z,3.7nm,0.6s,mb4.1,baz=313,slow=8.3,SNR=7.1							
CN2	**Changchun**	**25.65**	**260**	*e*P	**P**	**13 51 06.5**	**-1.1**
CN2				*e*S	**S**	**13 55 26.3**	**-7.3**
CN2				LR	LR		
comp=N,220nm,16.0s,MS3.9							
CN2				LR	LR		
comp=E,200nm,16.0s,MS3.9							
CN2				LR	LR		
comp=Z,210nm,16.0s,MS3.8							
BOD	**Bodaibo**	**26.15**	**296**	*e*P	**P**	**13 51 11.9**	**-0.2**
PMR	**Palmer**	**26.39**	**55**	P	**P**	**13 51 14.0**	**-0.3**
COLA	**College**	**26.70**	**47**	*e*P	**P**	**13 51 16.1**	**-1.0**
COLA				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.0							
COLA	**College**	**26.70**	**47**	*e*P	**P**	**13 51 16.1**	**-1.0**
comp=Z,4.8nm,0.9s,mb4.0							
ILAR	**Eielson Array**	**27.12**	**47**	P	**P**	**13 51 19.8**	**-1.0**
comp=Z,2.5nm,0.8s,mb3.8,baz=267,slow=8.2,SNR=36							
MENT	**Mentasta**	**28.70**	**51**	*e*P	**P**	**13 51 38.4**	**+3.4**
SONM	**Songino Array**	**34.38**	**282**	PcP	PcP	13 54 59.4	-0.7
comp=Z,1.0nm,0.7s,baz=82,slow=1.3,SNR=7.1							
HHC	**Hu-ho-hao-te**	**35.52**	**268**	*e*P	**P**	**13 52 33.5**	**-1.2**
HHC				AP	pP	13 52 48.8	+4.0
HHC				PP	PP	13 53 54.0	-1.7
HHC				PCP	PcP	13 55 03.5	+0.1
HHC				S	**S**	**13 58 01.8**	**-6.0**
HHC				SCP	ScP	13 58 43.0	-3.6
HHC				PCS	PcS	13 58 50.0	-0.6
HHC				SCS	ScS	14 02 45.5	-5.7
HHC				AMB	AMB		
comp=Z,13nm,1.4s,mb4.7							
HHC				AMB	AMB		
comp=Z,70nm,4.4s							
HHC				LR	LR		
comp=N,141nm,13.5s,MS4.1							
HHC				LR	LR		
comp=E,184nm,13.9s,MS4.1							
HHC				LR	LR		
comp=Z,220nm,15.4s,MS4.0							
DLBC	**Dease Lake**	**36.44**	**55**	*e*P	**P**	**13 52 43.6**	**+1.0**
SSE	**Sheshan**	**37.04**	**247**	P	**P**	**13 52 45.8**	**-1.9**
SSE				AMB	AMB		
comp=Z,19nm,0.8s,mb5.0							
SSE				AMB	AMB		
comp=Z,98nm,3.8s							
SSE	**Sheshan**	**37.04**	**247**	P	**P**	**13 52 45.7**	**-2.0**
comp=Z,19nm,0.8s,mb5.0							
NJ2	**Nanjing**	**37.57**	**251**	*e*P	**P**	**13 52 51.5**	**-0.7**
NJ2				PP	PP	13 54 22.0	+3.8
NJ2				S	**S**	**13 58 32.0**	**-7.1**
NJ2				XS	sS	13 58 54.0	-1.9
NJ2				AMB	AMB		
comp=Z,100nm,6.3s							
NJ2				LR	LR		
comp=N,1µm,20.0s							
NJ2				LR	LR		
comp=E,960nm,28.0s							
NJ2				LR	LR		
comp=Z,80nm,26.5s							
YKA	**Yellowknife Ar**	**41.44**	**44**	P	**P**	**13 53 24.4**	**0.0**
comp=Z,1.7nm,0.5s,mb3.9,baz=299,slow=8.2,SNR=10							
YKA				PcP	PcP	13 55 22.2	+0.4
comp=Z,1.0nm,0.8s,baz=302,slow=3.6,SNR=6.9							
ZAL	**Zalesovo**	**42.66**	**302**	PcP	PcP	13 55 25.0	-0.9
comp=Z,1.5nm,0.9s,baz=44,slow=4.8,SNR=6.4							
LZH	**Lanzhou**	**43.20**	**269**	*e*P	**P**	**13 53 38.3**	**-0.4**
LZH				PP	PP	13 55 21.5	+2.1
LZH				AMB	AMB		
comp=Z,21nm,1.5s,mb4.7							
LZH				LR	LR		
comp=N,327nm,15.3s							
LZH				LR	LR		
comp=Z,512nm,18.2s,MS4.5							
LZH	**Lanzhou**	**43.20**	**269**	*e*P	**P**	**13 53 38.3**	**-0.4**
comp=Z,21nm,1.5s,mb4.7							
LZH				pP	pP	13 53 53.5	+4.5
LZH				sP	sP	13 54 00.3	+7.1
LZH				PP	PP	13 55 21.6	+2.2
LZH				LR	LR		
comp=Z,510nm,18.2s,MS4.5							
GTA	**Gaotai**	**43.27**	**276**	*e*P	**P**	**13 53 38.5**	**-0.8**
GTA				AP	pP	13 53 53.5	+3.8
GTA				PP	PP	13 55 22.0	+1.8
GTA				PCP	PcP	13 55 29.5	+1.5
GTA				SCP	ScP	13 59 12.5	-4.0
GTA				PCS	PcS	13 59 19.8	-0.7
GTA				S	**S**	**14 00 00.5**	**-3.7**
GTA				SS	SS	14 03 06.0	-12
GTA				SCS	ScS	14 03 31.3	-5.4
GTA				AMB	AMB		
comp=Z,2.0nm,1.2s,mb3.7							
GTA				AMB	AMB		
comp=Z,97nm,4.6s							
GTA				LR	LR		
comp=N,143nm,17.1s,MS4.1							
GTA				LR	LR		
comp=E,136nm,16.0s,MS4.1							
GTA				LR	LR		
comp=Z,124nm,13.3s,MS4.0							
EDM	**Edmonton**	**47.16**	**55**	*e*P	**P**	**13 54 10.1**	**-0.1**
WMQ	**Urumqi**	**47.24**	**289**	P	**P**	**13 54 10.3**	**-0.5**
WMQ				AP	pP	13 54 25.5	+4.2
WMQ				PCP	PcP	13 55 42.3	+0.6
WMQ				PP	PP	13 56 01.5	-0.5
WMQ				S	**S**	**14 00 56.5**	**-5.1**
WMQ				AMB	AMB		
comp

CHKZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
CHKZ Chkalovo 49.54 309 *e*P **P 13 54 25.4 -3.1**
comp=Z,2.1nm,0.6s,mb4.3
YBH Yreka Blue Hor 49.71 72 P **P 13 54 30.8 +1.0**
comp=Z,7.2nm,0.8s,mb4.8,baz=0.1,slow=3.1,SNR=11
YBH Yreka Blue Hor 49.71 72 *e*P **P 13 54 31.7 +1.8**
YBH pmax pmax
comp=Z,4.0nm,0.6s
YBH Yreka Blue Hor 49.71 72 *e*P **P 13 54 31.7 +1.8**
comp=Z,4.4nm,0.6s,mb4.7
BRVK Borovoye 50.09 308 *e*P **P 13 54 31.3 -1.4**
BRVK pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
BRVK Borovoye 50.09 308 *e*P **P 13 54 31.3 -1.5**
comp=Z,1.7nm,0.7s,mb4.2
BMO Blue Mountains 50.55 66 *e*P **P 13 54 36.6 +0.5**
comp=Z,7.8nm,0.9s,mb4.6
MSO Missoula 50.97 62 *e*P **P 13 54 40.0 +0.7**
comp=Z,3.4nm,0.9s,mb4.3
MSO *e*PcP PcP 13 55 55.5 +0.2
CHMT Chamberlain Mo 51.27 61 *e*P **P 13 54 41.6 0.0**
FFC Flin Flon 51.33 48 *e*P **P 13 54 41.4 -0.7**
FCC Fort Churchill 51.73 40 *e*P **P 13 54 44.1 -0.9**
FCC pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
FCC Fort Churchill 51.73 40 *e*P **P 13 54 44.1 -0.9**
comp=Z,3.7nm,0.8s,mb4.4
KMI Kunming 51.92 260 P **P 13 54 46.5 0.0**
KMI AP pP 13 54 58.3 +1.3
KMI XP sP 13 55 04.0 +2.9
KMI AMB AMB
comp=Z,6.0nm,0.7s,mb4.6
KMI AMB AMB
comp=Z,81nm,4.0s
KMI LR LR
comp=N,93nm,22.3s,MS4.0
KMI LR LR
comp=E,104nm,20.2s,MS4.0
KMI LR LR
comp=Z,105nm,18.1s,MS3.9
KMI Kunming 51.92 260 P **P 13 54 46.5 0.0**
comp=Z,6.0nm,0.7s,mb4.6
KMI pP pP 13 54 58.3 +1.3
KMI sP sP 13 55 03.9 +2.8
KMI LR LR
comp=Z,110nm,18.1s,MS3.9
ARCES ARCESS Array B 52.04 342 P **P 13 54 46.3 -1.1**
comp=Z,2.7nm,0.8s,mb4.2,baz=51,slow=9.7,SNR=4.4
ARCES PcP PcP 13 55 58.4 -0.9
comp=Z,1.0nm,0.7s,baz=58,slow=3.4,SNR=4.3
HRY Holter Researc 52.13 60 *e*P **P 13 54 48.9 +0.9**
EGMT Eagleton 52.27 58 *e*P **P 13 54 48.2 -0.8**
comp=Z,6.5nm,1.0s,mb4.5
ARU Arti 52.80 317 ⇑*i*P **P 13 54 52.2 -0.8**
ARU *e* 13 56 50.1
ARU *e*PPP 13 57 55.8
ARU *e*S **S 14 02 17.5 -1.5**
ARU *e*SS SS 14 05 56.9 -1.0
ARU pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ARU Arti 52.80 317 *e*P **P 13 54 50.5 -2.6**
comp=Z,3.4nm,0.6s,mb4.5
MCMT McKenzie Canyo 52.89 63 *e*P **P 13 54 54.0 +0.3**
HLID Hailey 52.95 65 *e*P **P 13 54 54.0 0.0**
comp=Z,4.3nm,1.1s,mb4.3
BOZ Bozeman (W) 52.95 61 *e*P **P 13 54 55.4 +1.3**
BOZ pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
BOZ Bozeman (W) 52.95 61 *e*P **P 13 54 55.4 +1.2**
comp=Z,9.8nm,1.3s,mb4.6
CMB Columbia Colle 53.56 74 *e*P **P 13 55 00.2 +1.6**
CMB pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
CMB Columbia Colle 53.56 74 *e*P **P 13 55 00.2 +1.6**
comp=Z,9.0nm,1.3s,mb4.5
QLMT Earthquake Lak 53.62 62 *e*P **P 13 55 00.2 +1.1**
YMR Madison River 53.97 62 *e*P **P 13 55 03.3 +1.8**
comp=Z,10.0nm,0.9s,mb4.8
NVAR Mina Array Bea 54.44 72 P **P 13 55 06.7 +1.7**
comp=Z,6.0nm,0.7s,mb4.6,baz=308,slow=6.0,SNR=34
FLWY Flagg Ranch 54.52 62 *e*P **P 13 55 07.7 +2.2**
comp=Z,24nm,1.3s,mb5.1
MNV Mina 54.52 72 *e*P **P 13 55 07.3 +1.7**
MNV pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
MNV Mina 54.52 72 *e*P **P 13 55 07.3 +1.7**
comp=Z,9.0nm,1.0s,mb4.8
IMW Indian Meadow 54.52 62 *e*P **P 13 55 07.4 +1.8**
comp=Z,12nm,1.1s,mb4.9
MOOW Moose Ponds 54.73 62 *e*P **P 13 55 08.3 +1.2**
comp=Z,5.6nm,1.1s,mb4.5
TPAW Teton Pass 54.80 63 *e*P **P 13 55 08.8 +1.2**
comp=Z,4.1nm,0.8s,mb4.5
LOHW Long Hollow 54.90 63 *e*P **P 13 55 10.0 +1.7**
comp=Z,10nm,1.1s,mb4.8
AAK Ala-Archa 55.13 296 P **P 13 55 07.5 -2.5**
AAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
AAK Ala-Archa 55.13 296 P **P 13 55 07.5 -2.5**
comp=Z,2.2nm,0.9s,mb4.2
HWUT Hardware Ranch 54.82 65 *e*P **P 13 55 16.1 +1.2**
comp=Z,8.2nm,1.0s,mb4.7
PDAR Pinedale Array 56.03 63 P **P 13 55 17.8 +1.3**
comp=Z,2.6nm,0.7s,mb4.3,baz=316,slow=4.1,SNR=14
DUG Dugway 56.16 67 *e*P **P 13 55 18.5 +1.1**
DUG pmax pmax
comp=Z,25nm,1.4s,mb5.0
DUG Dugway 56.16 67 *e*P **P 13 55 18.5 +1.1**
comp=Z,25nm,1.4s,mb5.1
JOF Joensuu 56.48 335 *e*p **P 13 55 16.2 -3.5**
comp=Z,4.6nm,0.7s,mb4.6
JOF Joensuu 56.48 335 *e*P **P 13 55 16.2 -3.5**
JOF pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
RSSD Black Hills 57.84 58 *e*P **P 13 55 30.3 +1.0**
RSSD pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
RSSD Black Hills 57.84 58 *e*P **P 13 55 30.3 +1.0**
comp=Z,3.7nm,0.6s,mb4.6
KAF Kangasniemi 58.36 337 *e*p **P 13 55 30.9 -2.0**
comp=Z,2.3nm,0.6s,mb4.4
KAF Kangasniemi 58.36 337 *e*P **P 13 55 30.9 -2.0**
KAF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
FINES FINESS Array B 59.00 337 P **P 13 55 35.1 -2.2**
comp=Z,2.9nm,0.7s,mb4.5,baz=38,slow=8.7,SNR=15
NB2 NORSAR Subarra 62.25 344 P **P 13 55 57.6 -1.9**
comp=Z,2.4nm,0.7s,mb4.4,baz=19,slow=6.9
NOA NORSAR Array B 62.25 344 P **P 13 55 57.7 -1.8**
comp=Z,2.6nm,0.7s,mb4.4,baz=20,slow=6.7,SNR=14
SCHQ Scheffervill 63.86 29 P **P 13 56 09.2 -1.0**
comp=Z,2.8nm,0.7s,mb4.4,baz=292,slow=12,SNR=4.6
MNTX Cornudas Mount 66.50 68 *e*P **P 13 56 28.6 +1.3**
comp=Z,6.6nm,1.1s,mb4.6
KSM Kuching 67.38 238 P **P 13 56 33.2 +0.3**
AKASG Malin Array Be 67.68 329 P **P 13 56 32.7 -2.2**
comp=Z,1.8nm,0.6s,mb4.3,baz=28,slow=6.4,SNR=5.6
AKASG Malin Array Be 67.68 329 P **P 13 56 32.7 -2.2**
LTX Lajitas 69.26 68 *e*P **P 13 56 46.0 +1.3**
LTX pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LTX Lajitas 69.26 68 *e*P **P 13 56 46.0 +1.3**
comp=Z,4.8nm,0.7s,mb4.5
ANN Anapa 70.13 321 *e*P **P 13 56 50.7 +0.7**
ANN *i* 13 56 56.5
ANN *e**PP pP 13 57 15.3 +14
ANN pmax pmax
comp=Z,25nm,1.3s,mb5.0
JCT Junction City 70.42 65 *e*P **P 13 56 52.0 +0.2**
JCT pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
JCT Junction City 70.42 65 *e*P **P 13 56 52.0 +0.1**
comp=Z,9.1nm,0.9s,mb4.7
CLL Collm 71.17 340 *i*P **P 13 56 55.4 -1.0**
comp=Z,9.0nm,1.1s,mb4.6
CLL *e*pP pP 13 57 11.0 +3.8
CLL Collm 71.17 340 *i*P **P 13 56 55.4 -1.0**
CLL pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
CLL Collm 71.17 340 *i*P **P 13 56 55.4 -1.0**
comp=Z,9.0nm,1.1s,mb4.6
BRG Berggiesshubel 71.39 339 *e*P **P 13 56 57.6 -0.1**
comp=Z,6.2nm,1.8s,mb4.2
BRG Berggiesshubel 71.39 339 *e*P **P 13 56 57.6 -0.1**
BRG pmax pmax
comp=Z,6.0nm,1.8s,mb4.2
MORC Moravsky Berou 71.62 336 *e*P **P 13 56 57.5 -1.6**
MORC pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
MORC Moravsky Berou 71.62 336 *e*P **P 13 56 57.5 -1.6**
comp=Z,1.7nm,0.7s,mb4.1
GRA1 Grafenberg Arr 73.06 340 *e*P **P 13 57 07.1 -0.6**
comp=Z,8.0nm,1.2s,mb4.5
GRF Grafenberg Arr 73.06 340 *e*P **P 13 57 07.1 -0.6**
comp=Z,8.0nm,1.2s,mb4.5
GRF Grafenberg Arr 73.06 340 *e*P **P 13 57 07.1 -0.6**
GRF pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
GRF Grafenberg Arr 73.06 340 *e*P **P 13 57 07.1 -0.6**
GRF pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
KHC Kasperske Hory 73.11 339 *e*P **P 13 57 07.0 -1.0**
GERES GERESS Array B 73.36 338 P **P 13 57 08.0 -1.4**
comp=Z,0.5nm,0.4s,mb3.8,baz=45,slow=5.8,SNR=8.3
BAIF Baives 73.92 345 *e*P **P 13 57 11.9 -0.8**
comp=Z,6.2nm,0.8s,mb4.3
BAIF Baives 73.92 345 *e*P **P 13 57 11.9 -0.8**
BAIF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BAIF Baives 73.92 345 *e*P **P 13 57 11.9 -0.8**
comp=Z,3.1nm,0.8s,mb4.3
CDF Champ du Feu 75.02 343 *e*P **P 13 57 18.5 -0.6**
comp=Z,17nm,1.0s,mb4.6
CDF Champ du Feu 75.02 343 *e*P **P 13 57 18.5 -0.6**
CDF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CDF Champ du Feu 75.02 343 *e*P **P 13 57 18.5 -0.6**
comp=Z,8.4nm,1.0s,mb4.6
GROS Grobnik 75.21 336 *e*P **P 13 57 19.9 -0.3**
MEZF Maizieres J'vi 75.30 344 *e*P **P 13 57 20.2 -0.6**
comp=Z,10nm,0.7s,mb4.6
MEZF Maizieres J'vi 75.30 344 *e*P **P 13 57 20.2 -0.6**
comp=Z,10nm,0.7s,mb4.9
HAU Haudompre 75.57 343 *e*P **P 13 57 22.0 -0.3**
CTAO Charters Tower 75.60 195 *e*P **P 13 57 22.2 -0.2**
FLN La Foliniere 75.83 348 *e*P **P 13 57 22.6 -1.2**
comp=Z,18nm,0.9s,mb4.7
FLN La Foliniere 75.83 348 *e*P **P 13 57 22.6 -1.2**
FLN pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
FLN La Foliniere 75.83 348 *e*P **P 13 57 22.6 -1.2**
comp=Z,9.0nm,0.9s,mb4.7
BRTR Keskin Array B 75.92 321 P **P 13 57 23.7 -0.6**
comp=Z,1.2nm,0.7s,mb3.9,baz=64,slow=4.5,SNR=5.9
LDF La Druitiere 75.95 348 *e*P **P 13 57 24.3 -0.2**
comp=Z,48nm,1.3s,mb5.0
LDF La Druitiere 75.95 348 *e*P **P 13 57 24.3 -0.2**
LDF pmax pmax
comp=Z,24nm,1.3s,mb5.0
LDF La Druitiere 75.95 348 *e*P **P 13 57 24.3 -0.2**
comp=Z,24nm,1.3s,mb5.0
BOJS Bojanci 76.17 336 *e*P **P 13 57 25.1 -0.6**
GRR Gorron 76.24 348 *e*P **P 13 57 25.0 -1.1**
comp=Z,16nm,0.7s,mb4.7
GRR Gorron 76.24 348 *e*P **P 13 57 25.0 -1.1**
GRR pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
GRR Gorron 76.24 348 *e*P **P 13 57 25.0 -1.1**
comp=Z,7.8nm,0.7s,mb4.8
ROSF Rostrenen 76.56 350 *e*P **P 13 57 27.1 -0.9**
comp=Z,34nm,1.1s,mb4.9
ROSF Rostrenen 76.56 350 *e*P **P 13 57 27.1 -0.9**
ROSF pmax pmax
comp=Z,17nm,1.1s,mb4.9
ROSF Rostrenen 76.56 350 *e*P **P 13 57 27.1 -0.9**
comp=Z,17nm,1.1s,mb4.9
SGMF Saint Gilles 76.57 349 *e*P **P 13 57 27.2 -0.8**
LOR Lormes 76.69 345 *e*P **P 13 57 27.7 -1.0**
comp=Z,14nm,0.8s,mb4.7
LOR Lormes 76.69 345 *e*P **P 13 57 27.7 -1.0**
LOR pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LOR Lormes 76.69 345 *e*P **P 13 57 27.7 -1.0**
comp=Z,6.9nm,0.8s,mb4.6
SSF Saint Saulge 76.94 345 *e*P **P 13 57 29.3 -0.8**
comp=Z,8.4nm,0.8s,mb4.4
SSF Saint Saulge 76.94 345 *e*P **P 13 57 29.3 -0.8**
SSF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
SSF Saint Saulge 76.94 345 *e*P **P 13 57 29.3 -0.8**
comp=Z,4.2nm,0.8s,mb4.4
CABF La Chapelle 76.97 343 *e*P **P 13 57 29.7 -0.5**
comp=Z,14nm,1.0s,mb4.6
CABF La Chapelle 76.97 343 *e*P **P 13 57 29.7 -0.5**
CABF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
CABF La Chapelle 76.97 343 *e*P **P 13 57 29.7 -0.5**
comp=Z,7.2nm,1.0s,mb4.6
QUIF Quistinic 76.97 349 *e*P **P 13 57 29.6 -0.6**
comp=Z,11nm,0.8s,mb4.5
QUIF Quistinic 76.97 349 *e*P **P 13 57 29.6 -0.6**
QUIF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
QUIF Quistinic 76.97 349 *e*P **P 13 57 29.6 -0.6**
comp=Z,5.4nm,0.8s,mb4.5
AVF Avril sur Loir 77.23 345 *e*P **P 13 57 30.6 -1.1**
comp=Z,18nm,1.0s,mb4.6
AVF Avril sur Loir 77.23 345 *e*P **P 13 57 30.6 -1.1**
AVF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
AVF Avril sur Loir 77.23 345 *e*P **P 13 57 30.6 -1.1**
comp=Z,8.9nm,1.0s,mb4.7
SMF Signal de Mont 77.30 344 *e*P **P 13 57 31.8 -0.3**
WRAB Tennant Creek 77.86 206 *e*P **P 13 57 33.7 -1.5**
WRAB pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
WRAB Tennant Creek 77.86 206 *e*P **P 13 57 33.7 -1.5**
comp=Z,7.9nm,1.0s,mb4.6
WRA Warramunga Arr 77.87 206 P **P 13 57 34.2 -1.1**
comp=Z,3.0nm,0.9s,mb4.2,baz=25,slow=6.3,SNR=15
MFF Saint Martin d 77.91 347 *e*P **P 13 57 35.1 -0.4**
LPL La Plagne 77.91 342 *e*P **P 13 57 35.3 -0.2**
LPG La Plagne 77.93 342 *e*P **P 13 57 35.7 +0.1**
comp=Z,20nm,0.9s,mb4.8
LPG La Plagne 77.93 342 *e*P **P 13 57 35.7 +0.1**
LPG pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
LPG La Plagne 77.93 342 *e*P **P 13 57 35.7 +0.1**
comp=Z,10nm,0.9s,mb4.8
VIVF Saint-Julien-l 78.91 343 *e*P **P 13 57 40.6 -0.4**
comp=Z,10nm,0.8s,mb4.5
VIVF Saint-Julien-l 78.91 343 *e*P **P 13 57 40.6 -0.4**
VIVF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
VIVF Saint-Julien-l 78.91 343 *e*P **P 13 57 40.6 -0.4**
comp=Z,5.3nm,0.8s,mb4.5
CAF Calviac 79.25 345 *e*P **P 13 57 42.5 -0.4**
SBF Sospel 79.38 341 *e*P **P 13 57 43.2 -0.4**
comp=Z,25nm,0.9s,mb4.9
SBF Sospel 79.38 341 *e*P **P 13 57 43.2 -0.4**
SBF pmax pmax
comp=Z,12nm,0.9s,mb4.8
SBF Sospel 79.38 341 *e*P **P 13 57 43.2 -0.4**
comp=Z,12nm,0.9s,mb4.8
LFF La Frestale 79.42 346 *e*P **P 13 57 42.9 -0.9**
SMRF Simiane la Rot 79.61 343 *e*P **P 13 57 44.5 -0.3**
LASF Ste Croix 79.80 344 *e*P **P 13 57 45.5 -0.4**
LMR La Mourre 80.06 342 *e*P **P 13 57 46.3 -1.0**
comp=Z,15nm,0.8s,mb4.7
LMR La Mourre 80.06 342 *e*P **P 13 57 46.3 -1.0**
LMR pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
LMR La Mourre 80.06 342 *e*P **P 13 57 46.3 -1.0**
comp=Z,7.7nm,0.8s,mb4.7
PGF Pioggiola 80.35 340 *e*P **P 13 57 48.1 -0.7**
comp=Z,12nm,0.7s,mb4.6
PGF Pioggiola 80.35 340 *e*P **P 13 57 48.1 -0.7**
PGF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
PGF Pioggiola 80.35 340 *e*P **P 13 57 48.1 -0.7**
comp=Z,5.9nm,0.7s,mb4.6
MTLF Montolieu 80.77 345 *e*P **P 13 57 50.7 -0.4**
comp=Z,12nm,0.9s,mb4.5
MTLF Montolieu 80.77 345 *e*P **P 13 57 50.7 -0.4**
MTLF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
MTLF Montolieu 80.77 345 *e*P **P 13 57 50.7 -0.4**
comp=Z,5.8nm,0.9s,mb4.5
EPF Esparros 81.35 346 *e*P **P 13 57 53.8 -0.4**
SJPF Ste Jean 81.48 347 *e*P **P 13 57 54.3 -0.6**
comp=Z,12nm,0.9s,mb4.5
SJPF Ste Jean 81.48 347 *e*P **P 13 57 54.3 -0.6**
SJPF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
SJPF Ste Jean 81.48 347 *e*P **P 13 57 54.3 -0.6**
comp=Z,6.1nm,0.9s,mb4.5
ASAR Alice Springs 81.55 205 P **P 13 57 55.9 +0.6**
comp=Z,2.5nm,0.9s,mb4.2,baz=14,slow=5.2,SNR=21
ESDC Sonseca Array 85.20 349 P **P 13 58 14.4 +0.4**
comp=Z,6.6nm,0.7s,mb4.9,baz=4.6,slow=4.8,SNR=15
ESLA Sonseca Array 85.20 349 *e*P **P 13 58 12.5 -1.5**
comp=Z,14nm,1.4s,mb4.9
STKA Stephens Creek 87.89 197 P **P 13 58 27.2 0.0**
comp=Z,0.9nm,0.7s,mb4.1,baz=129,slow=21,SNR=2.9
TRQA Tornquist 146.34 79 *e*PKPbc PKPbc 14 05 18.1 -0.2

*NEIC **27** 13:45:51.3, 3047S×7144W, h50km, MG3.8(GUC), After GUC.*

GUC 27 13:45:51.3±0.6, 3047S×7144W, h50km±5km, MD4.0, ML3.8, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OVCH	**Ovalle**	**0.25**	**123**	*e*P		Pn	13 46 00.1	+0.1
OVCH				*i* S		Sn	13 46 06.7	+0.5
OVCH				AML		AML	13 46 07.1	
	comp=N,8μm,0.3s							
OVCH	**Ovalle**	**0.25**	**123**	*e*P		Pn	13 46 00.1	+0.1
OVCH				*i* S		Sn	13 46 06.7	+0.5
LSCH	**La Serena**	**0.59**	**17**	*e*P		Pn	13 46 04.0	+0.4
LSCH				*i* S		Sn	13 46 13.4	+0.9
CMCH	**Combarbala**	**0.79**	**152**	AML		AML	13 46 17.5	
	comp=E,8μm,0.4s							
JACH	**Jahuel**	**2.32**	**162**	*e*P		Pn	13 46 27.4	+0.5
JACH				*i* S		Sn	13 46 55.8	+1.5
LCCH	**Las Cruces**	**3.00**	**182**	⇓*i*P		Pn	13 46 36.8	+0.6
LCCH				*i* S		Sn	13 47 11.6	+0.7
CLCH	**Cerro Calan**	**3.01**	**165**	*e*P		Pn	13 46 37.3	+0.8
CLCH				*i* S		Sn	13 47 12.1	+0.7
CLCH				AML		AML	13 47 20.2	
	comp=E,432nm,0.5s							
TACH	**Talagante**	**3.20**	**172**	*e*P		Pn	13 46 39.9	+0.8
TACH				*i* S		Sn	13 47 16.2	+0.3
PCH	**Pirque**	**3.23**	**166**	⇓*i*P		Pn	13 46 40.3	+0.8
PCH				*e*P			13 46 40.4	
PCH				*i* S		Sn	13 47 17.4	+0.6
PCH	**Pirque**	**3.23**	**166**	*e*P		Pn	13 46 40.4	+0.8
PCH				*i* S		Sn	13 47 17.4	+0.6
LNV	**Longovilo**	**3.47**	**180**	*i* P		Pn	13 46 42.8	0.0
LNV				*i* S		Sn	13 47 23.1	+0.4
CHCH	**Chadas Angostu**	**3.51**	**169**	*e*P		Pn	13 46 44.1	+0.7
CHCH				*i* S		Sn	13 47 24.5	+0.9
CACH	**El Canelo**	**3.70**	**169**	*e*P		Pn	13 46 47.0	+1.0
CACH				*i* S		Sn	13 47 30.2	+1.9
SFDO	**San Fernando**	**4.14**	**175**	*e*P		Pn	13 46 52.7	+0.7
SFDO				*i* S		Sn	13 47 39.5	+0.3

KRSC 27 13:47:49.8±0.9, 5459N×16190E, h20km±2km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.10**	**251**	*e*P		Pb	13 47 54.5	+0.7
MKZ				*i* S		Sb	13 47 57.4	+0.9
TUMR	**Tumrok**	**1.23**	**305**	P		Pn	13 48 11.7	-0.1
KMNR	**Kamenistaya**	**1.51**	**321**	P		Pn	13 48 15.2	-0.5
KMNR				*e*S		Sn	13 48 35.7	+1.0
ZLN	**Zelenaya**	**1.56**	**337**	*e*P		Pn	13 48 17.4	+1.0
ZLN				*e*S		Sn	13 48 37.3	+1.3
LGNR	**Loginova**	**1.65**	**336**	*e*P		Pn	13 48 18.5	+0.9
LGNR				*e*S		Sn	13 48 39.6	+1.4
CIRR	**Tsirk**	**1.66**	**337**	P		Pn	13 48 18.6	+0.8
CIRR				*e*S		Sn	13 48 40.0	+1.4
KBTR	**Krutoberegovo**	**1.70**	**18**	P		Pn	13 48 19.6	+1.2
KBTR				*e*S		Sn	13 48 40.7	+1.1
SPN	**Mys Shipunski**	**1.86**	**217**	*e*P		Pn	13 48 20.7	+0.2
SPN				*e*S		Sn	13 48 43.9	+0.4
KLY	**Klyuchi**	**1.87**	**338**	P		Pn	13 48 20.4	-0.2
KLY				*e*S		Sn	13 48 43.1	-0.5
KOZ	**Kozyrevsk**	**1.87**	**323**	P		Pn	13 48 21.1	+0.4
KOZ				*e*S		Sn	13 48 45.3	+1.6
BDR	**Baidarnaya**	**2.02**	**349**	P		Pn	13 48 23.6	+0.9
NLC	**Nalytchevo**	**2.08**	**228**	*e*P		Pn	13 48 24.1	+0.6
NLC				*e*S		Sn	13 48 49.6	+0.9
SDLR	**Sedlovina**	**2.21**	**235**	*e*P		Pn	13 48 27.4	+2.0
SMAR	**Somma**	**2.26**	**235**	*e*P		Pn	13 48 27.6	+1.5
UGLR	**Uglovaya**	**2.29**	**234**	*e*P		Pn	13 48 28.3	+1.9
AVH	**Avacha**	**2.29**	**236**	P		Pn	13 48 28.4	+1.8
BKI	**Bering**	**2.43**	**74**	*e*P		Pn	13 48 27.2	+1.2
PET	**Petropavlovsk**	**2.48**	**232**	*e*S		Sn	13 49 00.0	+1.2
GNL	**Ganaly**	**2.50**	**251**	P		Pn	13 48 30.0	+0.8
KRMR	**Karymshinskiy**	**2.85**	**233**	P		Pn	13 48 34.7	+0.6
RUS	**Russkaya**	**2.96**	**224**	P		Pn	13 48 36.5	+0.9

KRSC 27 14:42:26.0±0.5, 5460N×16191E, h20km±1km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.11**	**247**	*i* P		Pb	14 42 30.7	+0.6
MKZ				*e*S		Sb	14 42 33.7	+0.8
TUMR	**Tumrok**	**1.23**	**305**	*i* P		Pn	14 42 47.6	-0.4
KMNR	**Kamenistaya**	**1.50**	**321**	*i* P		Pn	14 42 52.1	+0.3
KMNR				*e*S		Sn	14 43 11.4	+0.6
KII	**Karymskiy**	**1.55**	**250**	*e*P		Pn	14 42 52.6	+0.2
ZLN	**Zelenaya**	**1.56**	**336**	*i* P		Pn	14 42 53.4	+0.9
ZLN				*i* S		Sn	14 43 13.3	+1.2
LGNR	**Loginova**	**1.64**	**335**	*e*P		Pn	14 42 54.9	+1.2
LGNR				*i* S		Sn	14 43 15.8	+1.6
CIRR	**Tsirk**	**1.66**	**337**	*i* P		Pn	14 42 54.9	+1.0
CIRR				*i* S		Sn	14 43 16.1	+1.5
KPT	**Kopyto**	**1.68**	**325**	*e*P		Pn	14 42 55.1	+0.9
KPT				*e*S		Sn	14 43 18.3	+1.3
KBTR	**Krutoberegovo**	**1.69**	**17**	*e*P		Pn	14 42 55.1	+0.7
KBG	**Krutoberegovo**	**1.72**	**15**	*e*P		Pn	14 42 54.9	+0.1
KBG				*e*S		Sn	14 43 16.5	+0.4
KBG				Smax				
	390nm,0.6s							
KRSR	**Krestovskiy**	**1.79**	**335**	*e*P		Pn	14 42 55.9	+0.1
KRSR				*e*S		Sn	14 43 18.2	+0.3
KLY	**Klyuchi**	**1.86**	**338**	*i* P		Pn	14 42 57.0	+0.3
KLY				*i* S		Sn	14 43 19.8	+0.2
KOZ	**Kozyrevsk**	**1.87**	**322**	*e*P		Pn	14 42 58.0	+1.2
KOZ				*e*S		Sn	14 43 21.7	+1.9
SPN	**Mys Shipunski**	**1.88**	**217**	*e*P		Pn	14 42 57.8	+0.9
SPN				*e*S		Sn	14 43 21.0	+1.0
SMKR	**Semkarok**	**2.00**	**353**	*e*P		Pn	14 43 00.4	+1.7
BDR	**Baidarnaya**	**2.01**	**349**	*e*P		Pn	14 43 00.4	+1.6
BDR				*e*S		Sn	14 43 24.8	+1.4
NLC	**Nalytchevo**	**2.09**	**228**	*i* P		Pn	14 43 00.4	+0.6
NLC				*e*S		Sn	14 43 25.9	+0.7
SRKR	**Sorokina**	**2.10**	**349**	*e*P		Pn	14 43 01.7	+1.7
SRKR				*e*S		Sn	14 43 26.7	+1.1
SRDR	**Sredinnyy**	**2.13**	**325**	*e*P		Pn	14 43 01.0	+0.6
SRDR				*e*S		Sn	14 43 27.0	+0.8
SDLR	**Sedlovina**	**2.23**	**235**	*i* P		Pn	14 43 02.9	+1.2
SDLR				*e*S		Sn	14 43 29.7	+1.1
ESO	**Esso**	**2.27**	**307**	*e*P		Pn	14 43 03.3	+1.0
ESO				*e*S		Sn	14 43 30.3	+0.7
ESO				Smax				
	120nm,0.6s							
SMAR	**Somma**	**2.27**	**235**	*i* P		Pn	14 43 03.6	+1.2
UGLR	**Uglovaya**	**2.30**	**234**	*i* P		Pn	14 43 04.2	+1.5
AVH	**Avacha**	**2.30**	**236**	*e*P		Pn	14 43 04.2	+1.4
KOK	**Koryaka**	**2.34**	**237**	*e*P		Pn	14 43 04.7	+1.4
BKI	**Bering**	**2.42**	**74**	*e*S		Sn	14 43 31.3	-2.2
PET	**Petropavlovsk**	**2.50**	**232**	*e*P		Pn	14 43 06.4	+1.0
PET				*e*S		Sn	14 43 36.3	+1.0
GNL	**Ganaly**	**2.50**	**250**	*e*P		Pn	14 43 06.6	+1.0
KRMR	**Karymshinskiy**	**2.86**	**233**	*e*P		Pn	14 43 12.5	+2.0
RUS	**Russkaya**	**2.97**	**224**	*e*P		Pn	14 43 12.7	+0.7
RUS				*e*S		Sn	14 43 47.4	+0.4
GRL	**Gorelyy**	**3.07**	**230**	*e*P		Pn	14 43 15.3	+1.9
GRL				*e*S		Sn	14 43 51.4	+1.9
APC	**Apacha**	**3.28**	**241**	P		Pn	14 43 18.4	+2.1
MIPR	**Malaya Ipel'ka**	**3.86**	**235**	P		Pn	14 43 25.4	+1.2

KRSC 27 14:56:23.2±0.2, 5463N×16177E, h17km±2km, ML3.8,

Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.08**	**197**	*i* P	Pg	14 56 27.3	+0.8
MKZ				*i* S	Sg	14 56 30.3	+1.6
TUMR	**Tumrok**	**1.14**	**306**	*i* P	Pn	14 56 43.8	-0.6
KMNR	**Kamenistaya**	**1.43**	**323**	*e*P	Pn	14 56 48.6	+0.2
KMNR				*e*S	Sn	14 57 07.3	+0.5
KII	**Karymskiy**	**1.48**	**247**	*i* P	Pn	14 56 49.2	+0.1
ZLN	**Zelenaya**	**1.50**	**339**	*i* P	Pn	14 56 49.9	+0.6
ZLN				*e*S	Sn	14 57 09.4	+1.0
LGNR	**Loginova**	**1.58**	**337**	*i* P	Pn	14 56 51.5	+1.1
LGNR				*i* S	Sn	14 57 12.4	+1.9
CIRR	**Tsirk**	**1.60**	**339**	*i* P	Pn	14 56 51.6	+0.9
CIRR				*i* S	Sn	14 57 12.2	+1.3
KPT	**Kopyto**	**1.60**	**327**	*e*P	Pn	14 56 51.4	+0.6
KPT				*e*S	Sn	14 57 11.9	+0.8
KBTR	**Krutoberegovo**	**1.69**	**20**	*e*P	Pn	14 56 52.8	+0.9
KBTR				*e*S	Sn	14 57 14.2	+1.0
KBG	**Krutoberegovo**	**1.71**	**18**	*e*P	Pn	14 56 53.5	+1.2
KBG				Smax			
	440nm,0.7s						
KRSR	**Krestovskiy**	**1.73**	**337**	*i* P	Pn	14 56 52.8	+0.3
KOZ	**Kozyrevsk**	**1.79**	**324**	*i* P	Pn	14 56 54.4	+1.0
KLY	**Klyuchi**	**1.80**	**340**	*i* P	Pn	14 56 53.5	0.0
KLY				*e*S	Sn	14 57 15.9	-0.1
SPN	**Mys Shipunski**	**1.85**	**215**	*e*P	Pn	14 56 54.0	-0.1
SMKR	**Semkarok**	**1.96**	**355**	*i* P	Pn	14 56 57.0	+1.3
BDR	**Baidarnaya**	**1.97**	**351**	*e*P	Pn	14 56 57.1	+1.3
NLC	**Nalytchevo**	**2.05**	**225**	*e*P	Pn	14 56 57.6	+0.7
NLC				*e*S	Sn	14 57 22.6	+0.6
SRDR	**Sredinnyy**	**2.06**	**326**	*i* P	Pn	14 56 58.1	+1.1
SRDR				*e*S	Sn	14 57 23.6	+1.4
SRKR	**Sorokina**	**2.06**	**351**	*e*P	Pn	14 56 58.3	+1.3
SDLR	**Sedlovina**	**2.18**	**233**	*e*P	Pn	14 56 59.8	+1.2
ESO	**Esso**	**2.18**	**308**	*e*P	Pn	14 57 00.0	+1.3
ESO				Smax			
	90nm,0.6s						
SMAR	**Somma**	**2.23**	**233**	*i* P	Pn	14 57 00.5	+1.2
UGLR	**Uglovaya**	**2.25**	**232**	*i* P	Pn	14 57 01.0	+1.4
AVH	**Avacha**	**2.25**	**234**	*e*P	Pn	14 57 01.1	+1.4
KOK	**Koryaka**	**2.29**	**235**	*e*P	Pn	14 57 01.1	+1.0
GNL	**Ganaly**	**2.44**	**249**	*e*P	Pn	14 57 03.4	+1.2
PET	**Petropavlovsk**	**2.45**	**230**	*e*P	Pn	14 57 03.0	+0.6
KRMR	**Karymshinskiy**	**2.82**	**232**	*e*P	Pn	14 57 08.2	+0.8
RUS	**Russkaya**	**2.94**	**223**	*e*P	Pn	14 57 10.2	+1.1
GRL	**Gorelyy**	**3.03**	**228**	*e*P	Pn	14 57 12.3	+1.9
APC	**Apacha**	**3.23**	**240**	P	Pn	14 57 15.8	+2.8

KRSC 27 14:57:18.4±0.7, 5460N×16172E, h18km±3km, ML3.9,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.04**	**172**	*i* P	Pg	14 57 22.0	+0.4
MKZ				*e*S	Sg	14 57 24.6	+0.8
TUMR	**Tumrok**	**1.14**	**308**	P	Pn	14 57 39.1	-0.3
KMNR	**Kamenistaya**	**1.44**	**324**	P	Pn	14 57 43.2	-0.3
KMNR				*e*S	Sn	14 58 01.8	-0.1
KII	**Karymskiy**	**1.45**	**248**	P	Pn	14 57 44.0	+0.4
KII				*e*S	Sn	14 58 02.9	+0.8
ZLN	**Zelenaya**	**1.51**	**340**	*e*P	Pn	14 57 44.9	+0.3
ZLN				*e*S	Sn	14 58 04.7	+0.9
LGNR	**Loginova**	**1.60**	**339**	*e*P	Pn	14 57 46.7	+1.0
LGNR				*e*S	Sn	14 58 06.9	+1.0
KPT	**Kopyto**	**1.61**	**329**	S	Sn	14 58 06.4	+0.1
KBTR	**Krutoberegovo**	**1.73**	**21**	*i* P	Pn	14 57 48.4	+0.9
KBTR				*e*S	Sn	14 58 10.4	+1.3
KRSR	**Krestovskiy**	**1.75**	**338**	S	Sn	14 58 10.6	+1.0
KBG	**Krutoberegovo**	**1.75**	**18**	*e*S	Sn	14 58 10.5	+0.8
KOZ	**Kozyrevsk**	**1.80**	**325**	*e*S	Sn	14 58 12.4	+1.4
SPN	**Mys Shipunski**	**1.81**	**214**	*e*P	Pn	14 57 49.4	+0.7
SPN				*e*S	Sn	14 58 11.2	+0.1
KLY	**Klyuchi**	**1.82**	**341**	*i* P	Pn	14 57 48.5	-0.3
KLY				*e*S	Sn	14 58 10.9	-0.5
NLC	**Nalytchevo**	**2.01**	**225**	S	Sn	14 58 16.2	+0.2
SRDR	**Sredinnyy**	**2.06**	**327**	*e*S	Sn	14 58 19.0	+1.6
SDLR	**Sedlovina**	**2.14**	**233**	*e*S	Sn	14 58 20.7	+1.5
SMAR	**Somma**	**2.19**	**233**	*e*P	Pn	14 57 55.2	+1.4
UGLR	**Uglovaya**	**2.21**	**232**	*e*P	Pn	14 57 55.8	+1.7
GNL	**Ganaly**	**2.40**	**249**	P	Pn	14 57 57.3	+0.5
PET	**Petropavlovsk**	**2.41**	**230**	*e*S	Sn	14 58 27.4	+1.5
RUS	**Russkaya**	**2.90**	**223**	*e*S	Sn	14 58 38.1	+0.2

*ISCJB **27** 14:59:52.1±0.7, 3189N±004×50.10E±006, h10km, Error ellipse: s-maj=8.3km s-min=5.3km az=68.0*
*THR **27** 14:59:52.9±0.7, 3205N×5016E, h14km±6km, ML3.4*
*CSEM **27** 14:59:53.4±0.1, 3196N×5012E, h30km, ML3.4, Error ellipse: s-maj=5.1km s-min=2.6km az=132.0*
*KISR **27** 14:59:54.1±0.5, 3175N×5002E, h24km±363km, ML3.3*
ISC 27 14:59:54.4±2.0, 3195N±009×501E±01, h19km±15km, n15, σ0§43/27, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shoshtar-Gavs**	**1.08**	**279**	*e*PG	**Pg**	**15 00 14.2**	**-1.1**
SHGR				*e*SG	**Sg**	**15 00 30.2**	**+0.7**
SHGR				AML	AML	15 00 31.9	
	comp=N,858nm,0.2s						
SHGR				AML	AML	15 00 35.2	
	comp=E,800nm,0.5s						
SHGR	**Shooshtar-Gavs** SNR=90	**1.08**	**279**	*e*Pg	**Pg**	**15 00 14.2**	**-1.1**
SHGR				*e*Sg	**Sg**	**15 00 30.2**	**+0.6**
	SNR=90						
NASN	**Na'in**	**2.47**	**69**	*e*PN	**Pn**	**15 00 33.8**	**+0.2**
NASN				*e*SG	**Sg**	**15 01 07.0**	**-6.9**
ASAO	**Ashtian**	**2.59**	**359**	*e*PN	**Pn**	**15 00 35.4**	**+0.2**
ASAO				AML	AML	15 01 20.0	
	comp=N,125nm,0.5s						
UMR	**Umm Al-Rimmam**	**3.13**	**221**	*e*P	**Pn**	**15 00 42.9**	**+0.2**
UMR				*e*S	**Sn**	**15 01 19.3**	**-0.1**
UMR				AML	AML	15 01 23.7	
	comp=Z,107nm,0.3s						
UMR	**Umm Al-Rimmam**	**3.13**	**221**	*e*P	**Pn**	**15 00 42.8**	**+0.2**
UMR				*e*S	**Sn**	**15 01 19.3**	**-0.2**
KBD	**Kabd**	**3.44**	**217**	*e*P	**Pn**	**15 00 47.4**	**+0.5**
KBD				*e*S	**Sn**	**15 01 26.8**	**-0.2**
KBD				AML	AML	15 01 29.3	
	comp=Z,169nm,0.3s						
KBD	**Kabd**	**3.44**	**217**	*e*P	**Pn**	**15 00 47.4**	**+0.5**
KBD				*e*S	**Sn**	**15 01 26.8**	**-0.3**
NAY	**Al-Naaiem**	**3.63**	**223**	*e*P	**Pn**	**15 00 50.0**	**+0.5**
NAY				*e*S	**Sn**	**15 01 31.8**	**0.0**
NAY				AML	AML	15 01 33.0	
	comp=Z,16nm,0.3s						
NAY	**Al-Naaiem**	**3.63**	**223**	*e*P	**Pn**	**15 00 50.0**	**+0.5**
NAY				*e*S	**Sn**	**15 01 31.8**	**+0.1**
QRN	**Al-Qurain**	**3.69**	**211**	*e*P	**Pn**	**15 00 50.5**	**+0.1**
QRN				*e*S	**Sn**	**15 01 33.0**	**-0.4**
QRN				AML	AML	15 01 37.8	
	comp=Z,85nm,0.3s						
RDF	**Al-Radifah**	**3.71**	**216**	*e*P	**Pn**	**15 00 50.7**	**+0.1**
RDF				*e*S	**Sn**	**15 01 33.8**	**-0.1**
RDF				AML	AML	15 01 37.2	
	comp=Z,60nm,0.3s						
RDF	**Al-Radifah**	**3.71**	**216**	*e*P	**Pn**	**15 00 50.7**	**0.0**
RDF				*e*S	**Sn**	**15 01 33.8**	**-0.1**
DAMV	**Damavand**	**4.00**	**23**	*e*PN	**Pn**	**15 00 54.2**	**-0.4**
DAMV	**Damavand** SNR=52	**4.00**	**23**	*e*Pn	**Pn**	**15 00 54.2**	**-0.4**

*NEIC **27** 15:07:04.1±0.5, 748S×12775E, mb4.2/9, Error ellipse: s-maj=16.1km s-min=8.6km az=62.0*
*IDC **27** 15:07:06.8±3.7, 761S×12764E, h118km±33km, mb3.7/7, mb1 3.9/10, mb1mx3.8/17, mbtmp4.2/10, Error ellipse: s-maj=27.2km s-min=18.7km az=63.0*
*ISCJB **27** 15:07:09.0±1.7, 781S±006×12766E±009, h148km±17km, mb4.1/13, Error ellipse: s-maj=15.4km s-min=8.9km az=125.8*
ISC 27 15:07:07.1±2.1, 769S±009×12759E±009, h116km±19km, n32, σ1§41/38, mb4.1/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.52**	**190**	*e*P	**Pn**	**15 09 36.4**	**+1.8**
	15nm,0.4s						
FITZ				*e*S	**Sn**	**15 11 27.5**	**-2.9**
FITZ	**Fitzroy Crossi**	**10.52**	**190**	P	**Pn**	**15 09 36.5**	**+1.9**
	1.9nm,0.3s,baz=32,slow=11,SNR=38						
FITZ				S	**Sn**	**15 11 27.5**	**-2.9**
	9.2nm,0.3s,baz=106,slow=22,SNR=8.4						
WRAB	**Tennant Creek**	**13.82**	**152**	*e*Pn	**Pn**	**15 10 17.3**	**-0.7**
	48nm,0.5s						
WRAB				*e*Sn	**Sn**	**15 12 36.3**	**-14**
WRA	**Warramunga Arr**	**13.82**	**152**	P	**Pn**	**15 10 17.5**	**-0.6**
	5.3nm,0.3s,baz=323,slow=14,SNR=131						
WRA				S	**Sn**	**15 12 41.3**	**-9.1**
	3.4nm,0.3s,baz=325,slow=24,SNR=14						
WB2	**Warramunga Arr**	**13.83**	**152**	*e*P	**Pn**	**15 10 17.5**	**-0.6**
WB2				*e*S	**Sn**	**15 12 41.6**	**-8.9**
MBWA	**Marble Bar**	**15.39**	**209**	*e*Pn	**Pn**	**15 10 43.8**	**+5.9**
MBWA				*e*Sn	**Sn**	**15 13 16.5**	**-12**
AS31	**Alice Springs**	**17.00**	**160**	*e*P	**Pn**	**15 11 00.6**	**+2.9**
AS31				*e*S	**S**	**15 13 58.5**	**-8.7**
ASPA	**Alice Springs**	**17.00**	**160**	*e*P	**Pn**	**15 11 00.6**	**+2.9**
ASPA				*e*S	**S**	**15 13 58.5**	**-8.7**
ASAR	**Alice Springs**	**17.00**	**160**	P	**Pn**	**15 11 00.5**	**+2.7**
	2.9nm,0.3s,baz=339,slow=11,SNR=422						
ASAR				S	**S**	**15 13 57.6**	**-10**
	1.4nm,0.3s,baz=326,slow=17,SNR=5.0						
PMG	**Port Moresby**	**19.43**	**96**	P	**P**	**15 11 24.4**	**+0.1**
	0.8nm,0.3s,baz=284,slow=8.3,SNR=3.8						
PMG	**Port Moresby**	**19.43**	**96**	P	**P**	**15 11 25.9**	**+1.6**
	8.5nm,0.7s						
KSM	**Kuching**	**19.49**	**297**	P	**P**	**15 11 29.5**	**+4.5**
CTA	**Charters Tower**	**21.88**	**126**	P	**P**	**15 11 50.5**	**-0.1**
	5.4nm,0.9s,mb3.9,baz=292,slow=11,SNR=3.8						
FORT	**Forrest**	**22.97**	**179**	*e*P	**P**	**15 12 03.4**	**+1.8**
	9.9nm,0.5s,mb4.4						
FORT				*e*S	**S**	**15 16 20.5**	**+18**
KLBR	**Kellerberrin**	**25.48**	**200**	*e*P	**P**	**15 12 26.9**	**+2.5**
	20nm,1.3s,mb4.4						
NWAO	**Narrogin (SRO)**	**26.88**	**200**	P	**P**	**15 12 37.1**	**+0.1**
	55nm,1.5s,mb4.9						
STKA	**Stephens Creek**	**27.37**	**153**	*e*P	**P**	**15 12 40.1**	**-1.3**
	3.4nm,0.6s,mb4.0						
STKA				*e*S	sS	15 18 01.3	+4.4
STKA	**Stephens Creek**	**27.37**	**153**	P	**P**	**15 12 40.1**	**-1.2**
	4.3nm,0.6s,mb4.2,baz=324,slow=11,SNR=9.6						
KULM	**Kulim**	**29.81**	**295**	*e*P	**P**	**15 13 03.1**	**+0.1**
DZM	**Mont Dzumac**	**40.04**	**115**	P	**P**	**15 14 30.4**	**-0.3**
	3.0nm,0.8s,mb4.2,baz=280,slow=12,SNR=5.4						
SONM	**Songino Array**	**58.38**	**343**	P	**P**	**15 16 49.3**	**-1.0**
	0.3nm,0.5s,mb3.5,baz=197,slow=4.5,SNR=3.8						
SONM				pP	pP	15 17 13.3	-4.8
	0.4nm,0.8s,baz=150,slow=6.3,SNR=4.0						
MKAR	**Makanchi Array**	**67.52**	**328**	P	**P**	**15 17 49.9**	**-0.9**
	0.4nm,0.5s,mb3.5,baz=122,slow=8.0,SNR=7.2						
MKAR				pP	pP	15 18 14.4	-4.9
	0.3nm,0.5s,baz=140,slow=6.6,SNR=5.7						
KURK	**Kurchatov**	**71.88**	**330**	P	**P**	**15 18 15.8**	**-1.7**
	2.2nm,1.0s,mb3.9						
VNDA	**Vanda**	**72.06**	**173**	P	**P**	**15 18 18.5**	**-0.1**
	0.9nm,0.5s,mb3.9,baz=315,slow=7.5,SNR=8.7						
VNDA	**Vanda**	**72.06**	**173**	*e*P	**P**	**15 18 18.4**	**-0.2**
	2.1nm,1.0s,mb3.9						
SBA	**Scott Base**	**72.98**	**172**	*e*P	**P**	**15 18 23.9**	**-0.1**
	2.5nm,0.8s,mb4.1						
MAW	**Mawson**	**73.44**	**201**	P	**P**	**15 18 26.8**	**+0.1**
	2.2nm,0.8s,mb4.0,baz=90,slow=8.1,SNR=2.7						
QSPA	**South Pole Qui**	**82.29**	**180**	*e*P	**P**	**15 19 15.6**	**-0.1**
	6.3nm,0.8s,mb4.5						
CPUP	**Villa Florida**	**145.84**	**172**	PKPbc	PKPbc	15 26 31.2	-1.6
	0.8nm,0.4s,baz=172,slow=4.0,SNR=4.3						
LPAZ	**La Paz**	**151.54**	**147**	PKPbc	PKPbc	15 26 49.0	+1.4
	0.5nm,0.4s,baz=101,slow=5.2,SNR=3.1						
LPAZ				PKPab	PKPab	15 26 58.2	+1.8
	3.6nm,0.6s,baz=216,slow=4.8,SNR=16						
LPAZ	**La Paz**	**151.54**	**147**	PKPbc	PKPbc	15 26 49.0	+1.4
LPAZ				PKPab	PKPab	15 26 58.2	+1.8
BDFB	**Brasilia**	**156.41**	**191**	PKPab	PKPab	15 27 17.3	+0.2
	2.3nm,0.7s,baz=162,slow=6.4,SNR=3.3						

*IDC **27** 15:17:39.5±1.3, 5490N×161.17E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.6/22, mbtmp3.8/6, Error ellipse: s-maj=35.7km s-min=28.7km az=163.0*
*KRSC **27** 15:17:39.7±0.4, 5459N×161.92E, h21km±2km, ML4.4*
*ISCJB **27** 15:17:40.8±0.6, 5459N±002×16180E±007, h22km±4km, mb3.7/6, Error ellipse: s-maj=7.3km s-min=3.1km az=28.1*
*MOS **27** 15:17:40.1±1.5, 5460N×161.76E, h18km, mb4.1/2, Error ellipse: s-maj=22.1km s-min=8.6km az=75.5*
ISC 27 15:17:41.0±0.6, 5460N±002×16188E±007, h20km±4km, n52, σ0§81/75, mb3.7/6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.10**	**246**	*i* P	**Pb**	**15 17 44.6**	**-0.3**
MKZ				*e*S	**Sb**	**15 17 47.7**	**+0.1**
TUMR	**Tumrok**	**1.22**	**305**	*e*P	**Pn**	**15 18 00.9**	**-1.9**
KMNR	**Kamenistaya**	**1.50**	**322**	*i* P	**Pn**	**15 18 05.8**	**-0.8**
KMNR				*e*S	**Sn**	**15 18 25.5**	**-0.1**
KII	**Karymskiy**	**1.53**	**250**	P	**Pn**	**15 18 06.3**	**-0.8**
KII				S	**Sn**	**15 18 25.6**	**-0.8**
KII	**Karymskiy**	**1.53**	**250**	*e*P	**Pn**	**15 18 06.0**	**-1.1**
ZLN	**Zelenaya**	**1.55**	**337**	*i* P	**Pn**	**15 18 07.2**	**-0.2**
ZLN				*e*S	**Sn**	**15 18 27.5**	**+0.6**
LGNR	**Loginova**	**1.64**	**336**	*i* P	**Pn**	**15 18 08.8**	**+0.2**
LGNR				*e*S	**Sn**	**15 18 29.4**	**+0.3**
CIRR	**Tsirk**	**1.66**	**337**	*i* P	**Pn**	**15 18 08.8**	**0.0**
CIRR				*i* S	**Sn**	**15 18 30.2**	**+0.7**
KPT	**Kopyto**	**1.67**	**326**	*i* P	**Pn**	**15 18 08.6**	**-0.4**
KPT				*e*S	**Sn**	**15 18 29.6**	**-0.2**
KBTR	**Krutoberegovo**	**1.70**	**18**	P	**Pn**	**15 18 10.8**	**+1.3**
KBTR				S	**Sn**	**15 18 33.6**	**+3.0**
KBTR	**Krutoberegovo**	**1.70**	**18**	*i* P	**Pn**	**15 18 09.0**	**-0.5**
KBTR				*e*S	**Sn**	**15 18 30.3**	**-0.3**
KBG	**Krutoberegovo**	**1.73**	**15**	P	**Pn**	**15 18 09.7**	**-0.1**
KBG				Smax			
	1μm,0.8s						
KRSR	**Krestovskiy**	**1.79**	**336**	*i* P	**Pn**	**15 18 10.1**	**-0.6**
KRSR				*i* S	**Sn**	**15 18 32.3**	**-0.5**
KLY	**Klyuchi**	**1.86**	**338**	P	**Pn**	**15 18 10.9**	**-0.7**
KLY				S	**Sn**	**15 18 33.6**	**-0.9**
KLY	**Klyuchi**	**1.86**	**338**	*e*P	**Pn**	**15 18 10.9**	**-0.7**
KLY				*e*S	**Sn**	**15 18 33.5**	**-1.0**
KOZR	**Kozyr**	**1.86**	**323**	PN	**Pn**	**15 18 11.9**	**+0.3**
KOZR				S	**Sn**	**15 18 35.0**	**+0.5**
SPN	**Mys Shipunski**	**1.86**	**217**	P	**Pn**	**15 18 11.0**	**-0.6**
SPN				S	**Sn**	**15 18 33.6**	**-0.9**
SPN	**Mys Shipunski**	**1.86**	**217**	*e*P	**Pn**	**15 18 10.3**	**-1.3**
SPN				*e*S	**Sn**	**15 18 33.3**	**-1.2**
KOZ	**Kozyrevsk**	**1.86**	**323**	P	**Pn**	**15 18 11.9**	**+0.3**
KOZ				S	**Sn**	**15 18 35.0**	**+0.5**
KOZ	**Kozyrevsk**	**1.86**	**323**	*i* P	**Pn**	**15 18 11.7**	**+0.1**
KOZ				*e*S	**Sn**	**15 18 35.0**	**+0.5**
SMKR	**Semkarok**	**2.00**	**353**	*i* P	**Pn**	**15 18 14.1**	**+0.5**
BDR	**Baidarnaya**	**2.01**	**349**	*i* P	**Pn**	**15 18 14.0**	**+0.3**
NLC	**Nalytchevo**	**2.07**	**227**	*e*P	**Pn**	**15 18 14.2**	**-0.3**
NLC				*e*S	**Sn**	**15 18 39.6**	**-0.1**
SRKR	**Sorokina**	**2.10**	**349**	*i* P	**Pn**	**15 18 15.2**	**+0.2**
SRDR	**Sredinnyy**	**2.12**	**325**	*e*P	**Pn**	**15 18 15.3**	**+0.1**
SRDR				*e*S	**Sn**	**15 18 41.4**	**+0.5**
SDLR	**Sedlovina**	**2.21**	**235**	*i* P	**Pn**	**15 18 16.7**	**+0.3**
ESO	**Esso**	**2.26**	**308**	*e*P	**Pn**	**15 18 16.6**	**-0.5**
ESO				Smax			
	330nm,0.9s						
SMAR	**Somma**	**2.26**	**235**	*i* P	**Pn**	**15 18 17.5**	**+0.4**
UGLR	**Uglovaya**	**2.28**	**234**	*e*P	**Pn**	**15 18 18.0**	**+0.6**
AVH	**Avacha**	**2.29**	**236**	*i* P	**Pn**	**15 18 18.3**	**+0.8**
KOK	**Koryaka**	**2.32**	**237**	*i* P	**Pn**	**15 18 18.7**	**+0.7**
BKI	**Bering**	**2.44**	**74**	S	**Sn**	**15 18 46.6**	**-2.2**
PET	**Petropavlovsk**	**2.48**	**232**	P	**Pn**	**15 18 20.5**	**+0.4**
PET				S	**Sn**	**15 18 49.9**	**+0.1**
PET	**Petropavlovsk**	**2.48**	**232**	*e*PN	**Pn**	**15 18 20.4**	**+0.3**
PET				*e*S	**Sn**	**15 18 50.8**	**+1.0**
PET				pmax	pmax		
	comp=Z,200nm,0.4s						
PET				pmax	pmax		
	comp=Z,229nm,0.5s						
PET				smax			
	comp=E,500nm,0.3s						
PET				smax			
	comp=E,451nm,0.4s						
PET				smax			
	comp=N,300nm,0.5s						
PET				smax			
	comp=N,414nm,0.6s						
PET				MLR	MLR		
	comp=Z,100nm,16.0s						
PET	**Petropavlovsk**	**2.48**	**232**	*e*P	**Pn**	**15 18 20.6**	**+0.5**
PET				*e*S	**Sn**	**15 18 50.1**	**+0.3**
GNL	**Ganaly**	**2.49**	**250**	*i* P	**Pn**	**15 18 20.6**	**+0.4**
KRMR	**Karymshinskiy**	**2.84**	**233**	*e*P	**Pn**	**15 18 25.7**	**+0.5**
RUS	**Russkaya**	**2.96**	**224**	*i* P	**Pn**	**15 18 26.5**	**-0.2**
RUS				*e*S	**Sn**	**15 19 00.5**	**-1.0**
GRL	**Gorelyy**	**3.06**	**229**	*e*P	**Pn**	**15 18 28.8**	**+0.7**
APC	**Apacha**	**3.26**	**241**	*e*P	**Pn**	**15 18 31.9**	**+1.0**
APC				Smax			
	comp=Z,60nm,1.0s						
MIPR	**Malaya Ipel'ka**	**3.84**	**235**	*e*P	**Pn**	**15 18 39.0**	**+0.1**
PAU	**Pauzhetka**	**4.38**	**226**	P	**Pn**	**15 18 46.9**	**+0.6**
SKR	**Severo-Kuril's**	**5.26**	**224**	*e*PN	**Pn**	**15 19 07.2**	**+8.8**
SKR				pmax	pmax		
	comp=E,50nm,0.5s						
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR	**Severo-Kuril's**	**5.26**	**224**	*e*S	**Sn**	**15 19 58.5**	**+0.1**
KDAK	**Kodiak Island**	**25.17**	**64**	P	**P**	**15 23 08.8**	**+4.0**
	comp=Z,2.2nm,0.6s,mb3.9,baz=270,slow=13,SNR=3.6						
ILAR	**Eielson Array**	**27.01**	**47**	P	**P**	**15 23 22.6**	**+1.1**
	comp=Z,0.9nm,0.8s,mb3.4,baz=261,slow=8.3,SNR=9.2						
ILAR	**Eielson Array**	**27.01**	**47**	P	**P**	**15 23 22.7**	**+1.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NVAR	**Mina Array Bea**	**54.26**	**72**	P	**P**	**15 27 09.6**	**+4.2**
	comp=Z,0.8nm,0.5s,mb3.9,baz=310,slow=6.3,SNR=5.1						
FINES	**FINESS Array B**	**59.16**	**337**	P	**P**	**15 27 38.4**	**-1.8**
	comp=Z,1.7nm,0.9s,mb4.1,baz=27,slow=8.8,SNR=4.5						
FINES	**FINESS Array B**	**59.16**	**337**	P	**P**	**15 27 38.4**	**-1.8**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA	**NORSAR Array B**	**62.39**	**344**	P	**P**	**15 28 00.8**	**-1.4**
	comp=Z,0.4nm,0.6s,mb3.8,baz=20,slow=7.0,SNR=2.8						
ASAR	**Alice Springs**	**81.57**	**206**	P	**P**	**15 29 59.1**	**+2.0**
	comp=Z,0.4nm,0.8s,mb3.4,baz=22,slow=6.5,SNR=4.6						

HLW 27 15:17:48.3, 3421N×2633E, h23km, Mb3.7, 8C-3D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLUM		**2.87**	**199**	↑P	Pn	15 18 31.7	-0.9
SLUM				S	Sn	15 19 03.4	-3.0
HBRG	**Burj al 'Arab**	**4.69**	**140**	↑P	Pn	15 18 57.4	-0.2
HBRG				S	Sn	15 19 47.3	-3.8
SWA1		**4.96**	**186**	↑P	Pn	15 19 01.1	-0.2
SWA1				S	Sn	15 19 53.5	-4.4
SWA2		**5.01**	**189**	↑P	Pn	15 19 01.5	-0.5
KOT	**Kottamia**	**6.33**	**131**	↑P	Pn	15 19 20.0	-0.1
HSAF	**As Saff**	**6.38**	**134**	↓P	Pn	15 19 20.5	-0.3
HHAG	**Hagoal**	**6.48**	**129**	↑P	Pn	15 19 22.2	+0.1
HHAG	**Hagoal**	**6.48**	**129**	P	Pn	15 19 22.2	0.0
GLL	**Jalalah**	**6.50**	**134**	↑P	Pn	15 19 21.7	-0.8
HFRF	**Wahat Farafira**	**7.24**	**166**	↑P	Pn	15 19 32.3	-0.4
HDK1	**Dakhla**	**9.04**	**162**	↓P	Pn	15 19 57.8	+0.4
HHRG	**Al Ghardaqah**	**9.34**	**136**	↓P	Pn	15 20 00.8	-0.7

*IDC **27** 15:39:49.9±0.7, 5481N×16124E, h0km, mb3.9/15, mb1 4.2/15, mb1mx4.1/21, mbtmp3.9/15, MS3.1/3, Ms1 3.1/3, ms1mx2.6/39, Error ellipse: s-maj=23.4km s-min=15.4km az=148.0*
*KRSC **27** 15:39:50.7±0.7, 5463N×161.95E, h20km±1km, ML4.6*
*BJI **27** 15:39:50.3, 5480N×16130E, h10km, mB4.5, mb4.2, Ms4.2, Ms2.3.6*
*MOS **27** 15:39:50.6±1.3, 5470N×16160E, h17km, mb4.4/8, Error ellipse: s-maj=14.2km s-min=6.9km az=80.2*
*NEIC **27** 15:39:51.4±0.4, 5485N×16125E, h10km, mb4.3/9, Error ellipse: s-maj=13.2km s-min=7.4km az=145.0*
*ISCJB **27** 15:39:51.8±0.5, 5462N±002×16185E±005, h24km±4km, mb4.0/26, MS3.1/3, Error ellipse: s-maj=4.8km s-min=2.8km az=35.1*
ISC 27 15:39:52.4±0.6, 5464N±002×16179E±005, h18km±3km, n88, σ1§03/118, mb4.0/26, MS3.1/3, 2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.09**	**203**	P	**Pg**	**15 39 55.8**	**-0.1**
MKZ				S	**Sg**	**15 39 59.2**	**+0.9**
**M

KRMR	Karymshinskiy	2.83 232	*i* P		Pn	15 40 37.6	+0.8
KRMR			*e*S		Sn	15 41 11.9	+1.4
RUS	Russkaya	2.96 223	P		Pn	15 40 38.2	-0.2
RUS			*e*S		Sn	15 41 13.2	-0.2
GRL	Gorelyy	3.05 228	*e*P		Pn	15 40 41.1	+1.4
GRL			*e*S		Sn	15 41 16.5	+0.7
APC	Apacha	3.24 240	P		Pn	15 40 43.7	+1.3
APC			Smax				
	comp=Z,200nm,1.0s						
MIPR	Malaya Ipel'ka	3.83 234	P		Pn	15 40 52.2	+1.7
PAU	Pauzhetka	4.38 225	P		Pn	15 40 59.2	+1.2
PAU			Smax				
	comp=Z,150nm,0.7s						
SKR	Severo-Kuril's	5.26 223	*e*PN		Pn	15 41 11.2	+1.1
SKR			pmax	pmax			
	comp=Z,60nm,0.6s						
MA2	Magadan	7.77 314	*e*PN		Pn	15 41 42.1	-2.5
MA2			pmax	pmax			
	comp=Z,20nm,1.4s						
BILL	Bilibino	13.61 7	*e*P		Pn	15 43 10.1	+5.6
BILL			pmax	pmax			
	comp=Z,6.0nm,1.6s						
ASAJ	Asahikawa	16.29 238	LR	LR		15 49 41.4	
	comp=Z,68nm,21.4s,baz=336,slow=37						
KLR	Kul'dur	19.21 266	*e*P		Pn	15 44 12.8	-3.5
TIXI	Tiksi	22.13 333	*e*P		P	15 44 43.5	-3.4
TIXI			pmax	pmax			
	comp=Z,6.0nm,1.2s,mb3.9						
MDJ	Mudanjiang	22.95 257	P		P	15 44 52.8	-2.9
MDJ			AP			15 45 01.0	
MDJ			XP	sP		15 45 05.0	+2.0
MDJ			S	S		15 48 59.0	-6.1
MDJ			SCP	ScP		15 52 20.5	-2.0
MDJ			PCS	PcS		15 52 24.0	-0.6
MDJ			SCS	ScS		15 56 06.0	-2.3
MDJ			AMB	AMB			
	comp=Z,3.0nm,0.8s,mb3.8						
MDJ			AMB	AMB			
	comp=Z,36nm,3.5s						
MDJ			LR	LR			
	comp=Z,31nm,19.1s,MS2.8						
MAJO	Matsushiro	24.30 232	*e*P		P	15 45 06.3	-2.5
MAJO			pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.0						
MAJO	Matsushiro	24.30 232	*e*P		P	15 45 06.3	-2.5
	comp=Z,5.4nm,0.7s,mb4.1						
MJAR	Matsushiro Arr	24.30 232	P		P	15 45 07.7	-1.0
	comp=Z,2.8nm,0.7s,mb3.8,baz=26,slow=9.2,SNR=8.0						
MJAR			LR	LR		15 54 17.5	
	comp=Z,63nm,19.0s,baz=30,slow=36						
MJAR	Matsushiro Arr	24.30 232	P		P	15 45 07.7	-1.1
MJAR			LR	LR		15 54 17.5	
KDAK	Kodiak Island	25.19 64	P		P	15 45 17.8	+0.9
	comp=Z,2.2nm,0.7s,mb3.8,baz=248,slow=5.4,SNR=3.8						
ILAR	Eielson Array	27.02 47	P		P	15 45 33.7	+0.3
	comp=Z,1.5nm,0.8s,mb3.6,baz=268,slow=8.3,SNR=20						
SONM	Songino Array	34.54 282	PcP		PcP	15 49 13.1	-1.3
	comp=Z,0.6nm,0.8s,baz=38,slow=2.5,SNR=4.8						
YKA	Yellowknife Ar	41.34 44	P		P	15 47 37.8	+0.7
	comp=Z,0.7nm,0.6s,mb3.5,baz=298,slow=8.1,SNR=5.3						
YKA			LR	LR		16 05 46.1	
	comp=Z,21nm,18.1s,MS3.0,baz=270,slow=38						
YKA	Yellowknife Ar	41.34 44	P		P	15 47 37.8	+0.6
YKA			pmax	pmax			
	comp=Z,1.0nm,0.6s						
YKA			MLR	MLR			
	comp=Z,21nm,18.1s						
ENH	Enshi	44.31 259	P		P	15 47 59.9	-1.3
	comp=Z,0.6nm,1.0s,mb3.3						
KURK	Kurchatov	47.77 302	*e*P		P	15 48 24.5	-4.0
KURK			pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3						
KURK	Kurchatov	47.77 302	*e*P		P	15 48 24.5	-4.0
	comp=Z,1.5nm,0.6s,mb4.2						
MKAR	Makanchi Array	48.40 295	P		P	15 48 29.6	-3.8
	comp=Z,0.4nm,0.7s,mb3.6,baz=57,slow=7.8,SNR=6.5						
MKAR			PcP		PcP	15 49 58.0	-1.6
	comp=Z,0.4nm,0.7s,baz=57,slow=5.3,SNR=4.7						
YBH	Yreka Blue Hor	49.57 72	P		P	15 48 42.7	+0.4
	comp=Z,1.9nm,0.6s,mb4.3,baz=9.8,slow=7.2,SNR=4.1						
FCC	Fort Churchill	51.64 40	*e*P		P	15 48 57.9	-0.1
FCC			pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3						
FCC	Fort Churchill	51.64 40	*e*P		P	15 48 57.9	0.0
	comp=Z,2.7nm,0.8s,mb4.2						
KMI	Kunming	52.08 260	P		P	15 49 02.5	+1.3
KMI			AP		pP	15 49 11.5	+4.7
KMI			S		S	15 56 19.5	-4.8
KMI			SS		SS	15 59 55.0	-6.5
KMI			AMB	AMB			
	comp=Z,5.0nm,1.1s,mb4.4						
KMI			AMB	AMB			
	comp=Z,58nm,3.7s						
KMI			LR	LR			
	comp=N,101nm,17.0s,MS4.1						
KMI			LR	LR			
	comp=E,93nm,15.9s,MS4.1						
KMI			LR	LR			
	comp=Z,28nm,22.6s						
KMI	Kunming	52.08 260	P		P	15 49 02.6	+1.4
KMI			*PP		pP	15 49 11.4	+4.6
KMI			S		S	15 56 19.5	-4.8
KMI			*SS		sS	15 56 38.7	+5.2
KMI			SS		SS	15 59 55.0	-6.5
KMI			pmax	pmax			
	comp=Z,5.0nm,1.1s,mb4.4						
KMI			MLR	MLR			
	comp=Z,30nm,22.6s,MS3.3						
KMI	Kunming	52.08 260	P		P	15 49 02.6	+1.4
	comp=Z,5.0nm,1.1s,mb4.4						
KMI			pP		pP	15 49 11.4	+4.6
KMI			sP		sP	15 49 15.7	+6.7
KMI			S		S	15 56 19.5	-4.8
KMI			sS		sS	15 56 38.7	+5.2
KMI			SS		SS	15 59 55.0	-6.5
KMI			LR	LR			
	comp=Z,30nm,22.6s,MS3.3						
BOZ	Bozeman (W)	52.82 62	P		P	15 49 07.8	+1.1
BOZ			pmax	pmax			
	comp=Z,6.0nm,1.4s,mb4.3						
BOZ	Bozeman (W)	52.82 62	P		P	15 49 07.8	+1.0
	comp=Z,5.8nm,1.4s,mb4.3						
ARU	Arti	52.94 317	*e*P		P	15 49 03.1	-4.5
ARU	Arti	52.94 317	P		P	15 49 03.4	-4.2
	comp=Z,3.2nm,0.8s,mb4.3						
NVAR	Mina Array Bea	54.29 72	P		P	15 49 20.9	+3.4
	comp=Z,2.4nm,0.7s,mb4.2,baz=302,slow=5.7,SNR=11						
AHID	Auburn Hatcher	55.10 64	*e*P		P	15 49 23.9	+0.5
	comp=Z,7.8nm,0.6s,mb4.9						
PDAR	Pinedale Array	55.90 63	P		P	15 49 31.5	+2.4
	comp=Z,1.1nm,0.8s,mb4.0,baz=337,slow=3.4,SNR=7.2						
FINES	FINESS Array B	59.09 337	P		P	15 49 49.1	-2.5
	comp=Z,1.4nm,0.7s,mb4.1,baz=33,slow=7.5,SNR=8.2						
NB2	NORSAR Subarra	62.33 344	P		P	15 50 11.8	-1.9
	comp=Z,0.7nm,0.6s,mb4.0,baz=19,slow=6.9						
NOA	NORSAR Array B	62.33 344	P		P	15 50 11.9	-1.8
	comp=Z,1.1nm,0.7s,mb4.1,baz=19,slow=6.7,SNR=6.0						
SCHQ	Schefferville	63.81 29	P		P	15 50 22.3	-1.2
	comp=Z,1.2nm,0.6s,mb4.1,baz=345,slow=12,SNR=2.9						
SCHQ	Schefferville	63.81 29	P		P	15 50 22.3	-1.2
CLL	Collm	71.25 340	*i* P		P	15 51 09.6	-1.0
	comp=Z,9.0nm,1.4s,mb4.5						
CLL	Collm	71.25 340	⇓*i* P		P	15 51 09.6	-1.0
CLL			pmax	pmax			
	comp=Z,9.0nm,1.4s,mb4.5						
GERES	GERESS Array B	73.45 339	P		P	15 51 22.6	-1.0
	comp=Z,0.5nm,0.7s,mb3.5,baz=20,slow=4.3,SNR=4.4						
WRA	Warramunga Arr	77.92 206	P		P	15 51 48.8	-0.4
	comp=Z,0.9nm,0.8s,mb3.8,baz=23,slow=6.1,SNR=7.7						
ASAR	Alice Springs	81.59 206	P		P	15 52 09.8	+0.6
	comp=Z,0.7nm,0.8s,mb3.6,baz=17,slow=5.2,SNR=8.9						
ESDC	Sonseca Array	85.26 349	P		P	15 52 28.1	0.0
	comp=Z,2.3nm,0.7s,mb4.4,baz=5.9,slow=5.5,SNR=9.3						
TRQA	Tornquist	146.19 79	*e*PKPdf		PKPdf	15 59 31.8	+1.2

GUC 27 15:52:38.9±3.0, 1337S×7146W, h0km±999km, 2D, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEN1	Los Morros	10.04	173	*e*P	Pn	15 55 06.8	+2.4
CPN1	Cerro Paranal	11.24	175	*e*P	Pn	15 55 21.6	+0.8
CRCH	Chaqaral	12.94	177	*e*P	Pn	15 55 44.3	+0.3
CDCH	Caldera	13.65	178	*e*P	Pn	15 55 52.9	-0.8
CDCH				*i* P		15 55 53.2	
TLL	Tololo Astrono	16.73	178	⇓*i* P	Pn	15 56 35.5	+0.9
FCH	Farellones	19.90	177	⇓*e*P	Pn	15 57 12.8	-0.6

IDC ***27*** *15:56:10.3±2.7, 1023S×11048E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/17, mbtmp3.7/4, Error ellipse: s-maj=132.1km s-min=23.9km az=46.0*
ISCJB ***27*** *15:56:13.4±2.7, 1015S×1105E±0.5, h33km, mb3.7/4, Error ellipse: s-maj=105.7km s-min=22.2km az=85.7*

ISC 27 15:56:15.9±2.5, 1025±05×1106E±05, h5km, n5, σ0°56/5, mb3.7/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	16.61	120	Pn	Pn	16 00 06.0	0.0
	baz=308,slow=9.3						
KAKA	Kakadu	21.59	99	*e*P	P	16 01 02.4	-0.2
	5.6nm,0.7s,mb4.1						
WRA	Warramunga Arr	24.90	116	P	P	16 01 36.2	+0.7
	0.8nm,0.6s,mb3.4,baz=286,slow=11,SNR=6.6						
ASAR	Alice Springs	26.00	124	P	P	16 01 45.0	-0.5
	0.5nm,0.7s,mb3.1,baz=298,slow=9.0,SNR=11						
MKAR	Makanchi Array	62.07	338	P	P	16 06 33.0	0.0
	0.9nm,0.5s,mb4.1,baz=147,slow=7.9,SNR=14						

IDC 27 16:00:40.9±6.3, 830S×12174E, h48km±70km, mb3.4/2, mb1 3.5/5, mb1mx3.3/18, mbtmp3.5/5, ML3.5/3, Error ellipse: s-maj=142.0km s-min=33.0km az=55.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	10.46	159	P	Pn	16 03 08.8	+0.7
	0.3nm,0.3s,baz=14,slow=12,SNR=5.9						
FITZ				S	Sn	16 05 03.5	-0.3
	0.1nm,0.3s,baz=233,slow=13,SNR=3.1						
WRA	Warramunga Arr	16.82	135	P	Pn	16 04 32.0	-0.9
	0.2nm,0.3s,baz=314,slow=13,SNR=6.6						
WRA				S	S	16 07 29.3	-18
	0.1nm,0.3s,baz=301,slow=23,SNR=5.4						
ASAR	Alice Springs	19.22	144	P	Pn	16 05 02.2	0.0
	0.2nm,0.3s,baz=311,slow=11,SNR=13						
ASAR				S	S	16 08 32.7	-3.4
	0.1nm,0.3s,baz=318,slow=21,SNR=4.4						
STKA	Stephens Creek	29.86	145	P	P	16 06 43.7	0.0
	0.7nm,0.5s,baz=329,slow=11,SNR=5.5						
MKAR	Makanchi Array	65.11	331	P	P	16 11 16.6	0.0
	0.2nm,0.5s,baz=136,slow=7.9,SNR=4.2						
MKAR				pP	pP	16 11 29.4	-0.7
	0.8nm,0.7s,baz=145,slow=7.1,SNR=6.8						

KRSC 27 16:04:13.0±0.6, 5459N×16189E, h18km±1km, ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	Mys Kozlova	0.10	250	*i* P	Pg	16 04 17.6	+1.0
MKZ				*e*S	Sg	16 04 20.2	+1.1
TUMR	Tumrok	1.22	305	*i* P	Pn	16 04 34.6	-0.6
KMNR	Kamenistaya	1.50	322	*i* P	Pn	16 04 39.1	0.0
KMNR				*e*S	Sn	16 04 58.3	+0.1
KII	Karymskiy	1.53	250	*e*P	Pn	16 04 39.5	0.0
ZLN	Zelenaya	1.56	337	*i* P	Pn	16 04 40.5	+0.7
ZLN				*e*S	Sn	16 05 01.0	+1.5
LGNR	Loginova	1.65	336	*i* P	Pn	16 04 42.1	+1.1
LGNR				*i* S	Sn	16 05 03.1	+1.4
CIRR	Tsirk	1.66	337	*i* P	Pn	16 04 42.1	+0.9
CIRR				*e*S	Sn	16 05 03.5	+1.4
KPT	Kopyto	1.68	326	*e*P	Pn	16 04 41.8	+0.4
KBTR	Krutoberegovo	1.71	18	*e*P	Pn	16 04 42.3	+0.5
KBTR				*e*S	Sn	16 05 03.7	+0.5
KBG	Krutoberegovo	1.73	15	*e*P	Pn	16 04 43.8	+1.6
KBG				Smax			
	610nm,0.8s						
KRSR	Krestovskiy	1.80	336	*e*P	Pn	16 04 43.4	+0.3
KRSR				*e*S	Sn	16 05 05.4	0.0
SPN	Mys Shipunski	1.86	217	*e*P	Pn	16 04 43.8	-0.1
SPN				*e*S	Sn	16 05 07.6	+0.6
KLY	Klyuchi	1.86	338	*i* P	Pn	16 04 44.1	+0.1
KLY				*e*S	Sn	16 05 06.8	-0.3
KOZ	Kozyrevsk	1.87	323	*i* P	Pn	16 04 44.9	+0.8
SMKR	Semkarok	2.01	353	*e*P	Pn	16 04 47.5	+1.5
BDR	Baidarnaya	2.02	349	*i* P	Pn	16 04 47.8	+1.7
BDR				*e*S	Sn	16 05 12.7	+1.8
NLC	Nalytchevo	2.07	228	*i* P	Pn	16 04 47.5	+0.6
NLC				*e*S	Sn	16 05 12.4	+0.2
SRKR	Sorokina	2.11	349	*i* P	Pn	16 04 48.5	+1.1
SRDR	Sredinnyy	2.13	325	*e*P	Pn	16 04 48.5	+0.9
SRDR				*e*S	Sn	16 05 14.1	+0.5
SDLR	Sedlovina	2.21	235	*i* P	Pn	16 04 50.0	+1.2
SDLR				*i* S	Sn	16 05 17.2	+1.6
SMAR	Somma	2.26	235	*e*P	Pn	16 04 50.9	+1.5
ESO	Esso	2.26	308	*e*P	Pn	16 04 50.6	+1.1
ESO				*e*S	Sn	16 05 17.7	+0.8
ESO				Smax			
	180nm,0.7s						
UGLR	Uglovaya	2.28	234	*e*P	Pn	16 04 51.1	+1.4
AVH	Avacha	2.29	236	*e*P	Pn	16 04 51.4	+1.6
AVH				*e*S	Sn	16 05 19.1	+1.6
KOK	Koryaka	2.32	237	*e*P	Pn	16 04 51.6	+1.3
BKI	Bering	2.44	74	S	Sn	16 05 20.2	-1.0
PET	Petropavlovsk	2.48	232	*e*P	Pn	16 04 53.7	+1.2
PET				*e*S	Sn	16 05 23.1	+0.8
GNL	Ganaly	2.49	250	*i* P	Pn	16 04 54.0	+1.4
KRMR	Karymshinskiy	2.85	233	*e*P	Pn	16 04 59.6	+2.1
RUS	Russkaya	2.96	224	*e*P	Pn	16 04 59.6	+0.6
RUS				*e*S	Sn	16 05 34.6	+0.6
GRL	Gorelyy	3.06	230	*e*P	Pn	16 05 02.8	+2.4
APC	Apacha	3.27	241	P	Pn	16 05 05.8	+2.5
APC				Smax			
	30nm,1.3s						
MIPR	Malaya Ipel'ka	3.85	235	P	Pn	16 05 13.2	+1.9
PAU	Pauzhetka	4.38	226	P	Pn	16 05 21.1	+2.5

IDC 27 16:10:35.2±2.0, 1495S×17855W, h0km, mb3.9/6, mb1 4.2/6, mb1mx4.0/14, mbtmp3.9/6, Error ellipse: s-maj=127.8km s-min=22.3km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	40.00	238	P	P	16 18 10.4	-1.2
	1.4nm,0.9s,baz=242,slow=4.0,SNR=2.8						
WRA	Warramunga Arr	45.10	257	P	P	16 18 53.9	+0.7
	0.2nm,0.7s,baz=97,slow=6.6,SNR=4.9						
ASAR	Alice Springs	45.53	251	P	P	16 18 57.6	+1.1
	1.6nm,0.3s,baz=85,slow=8.6,SNR=99						
ASPA	Alice Springs	45.53	251	*e*P	P	16 18 57.5	+1.0
NVAR	Mina Array Bea	77.41	44	P	P	16 22 33.8	+1.7
	0.4nm,0.3s,baz=220,slow=7.9,SNR=4.2						
ILAR	Eielson Array	83.05	13	P	P	16 23 01.4	-1.1
	0.7nm,0.5s,baz=232,slow=5.5,SNR=9.3						
PDAR	Pinedale Array	85.31	44	P	P	16 23 14.2	+0.1
	0.5nm,0.5s,baz=202,slow=2.7,SNR=3.7						

ISCJB ***27*** *16:13:37.3±0.4, 5143N×003×16.13E×003, h0km, Error ellipse: s-maj=3.9km s-min=2.3km az=36.2*
NEIC ***27*** *16:13:38.4±0.5, 5157N×1620E, h5km, ML2.9(SZGRF), Error ellipse: s-maj=6.9km s-min=6.1km az=94.0*
IPEC ***27*** *16:13:39.2±0.3, 5149N×1641E, h0km, ML2.3/3, Error ellipse: s-maj=3.7km s-min=2.0km az=85.0*
PRU ***27*** *16:13:40.8, 5139N×1611E, h0km*
WAR ***27*** *16:13:40, 5145N×1610E, ML2.7, Mining Induced*
CSEM ***27*** *16:13:40.2±0.1, 5143N×1606E, h1km, ML3.2/4, Error ellipse: s-maj=2.3km s-min=1.5km az=15.0*
IDC ***27*** *16:13:40.4±0.8, 5144N×1606E, h0km, mb1 3.3/6, mb1mx3.1/22, mbtmp3.2/6, ML2.7/5, Error ellipse: s-maj=14.1km s-min=7.8km az=112.0*

ISC 27 16:13:38.7±0.4, 5146N±002×1613E±003, h0km, n37, σ1°03/72, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.63	170	*e*Pg	Pg	16 13 51.9	+1.2
KSP				*e*Sg	Sg	16 13 59.4	+0.6
KSP	Ksiaz	0.63	170	⇓*i* Pg	Pg	16 13 51.9	+1.2
KSP				*e*Sg	Sg	16 13 59.4	+0.6
UPC	Upice	0.95	184	*e*PG	Pg	16 13 57.9	+0.9
DPC	Dobruska-Polom	1.12	174	*e*PG	Pg	16 14 00.7	+0.6
DPC				*e*SG	Sg	16 14 14.0	-0.6
	43nm,0.4s						
DPC	Dobruska-Polom	1.12	174	*e*Pg	Pg	16 14 00.6	+0.5
DPC				*e*Sg	Sg	16 14 15.1	+0.5
BRG	Berggiesshubel	1.50	248	PN	Pn	16 14 06.2	-0.5
BRG				PG	Pg	16 14 07.7	+0.3
BRG				SG	Sg	16 14 27.6	+0.8
	38nm,0.3s						
BRG	Berggiesshubel	1.50	248	Pn	Pn	16 14 06.2	-0.6
RUE	Ruedersdorf	1.78	306	*e*Pn	Pn	16 14 09.5	-1.1
RUE				*e*Pg	Pg	16 14 13.6	+0.8
RUE				*e*Sn	Sn	16 14 34.1	+0.2
RUE	Ruedersdorf	1.78	306	*e*Pn	Pn	16 14 09.5	-1.2
RUE	Ruedersdorf	1.78	306	*e*Pg	Pg	16 14 13.6	+0.8
PRU	Pruhonice	1.78	215	*e*PG	Pg	16 14 10.6	-2.3
PRU				*e*SG	Sg	16 14 34.9	-1.1
	33nm,0.6s						
RAC	Raciborz	1.90	136	*e*Pg	Pg	16 14 15.1	-0.1
RAC				*e*Sg	Sg	16 14 39.8	-0.1
MORC	Moravsky Berou	1.91	151	*e*Pn	Pn	16 14 12.8	+0.3
MORC				*e*Sn	Sn	16 14 35.5	-1.7
MORC				*e*Sg	Sg	16 14 40.0	-0.1
MORC	Moravsky Berou	1.91	151	*e*Pn	Pn	16 14 12.7	+0.2
MORC				*e*Sn	Sn	16 14 35.5	-1.8
MORC				*e*Sg	Sg	16 14 37.2	-2.9
CLL	Collm	1.96	267	*e*Pn	Pn	16 14 13.0	-0.2
	comp=Z,4.0nm,0.6s						
CLL				*e*Pg	Pg	16 14 16.0	-0.4
CLL				*ex*	x	16 14 19.0	
CLL				*e*Sn	Sn	16 14 32.0	-6.6
CLL				*e*Sg	Sg	16 14 42.0	+0.2
	comp=Z,25nm,0.7s						
CLL	Collm	1.96	267	*e*Pn	Pn	16 14 13.0	-0.2
CLL				*e*Pg	Pg	16 14 16.0	-0.4
CLL				*e*Sg	Sg	16 14 42.0	+0.2
OKC	Ostrava-Krasne	2.07	141	*e*PG	Pg	16 14 18.2	-0.2
OKC				*e*SG	Sg	16 14 44.1	-1.2
	comp=Z,53nm,0.8s						
VRAC	Vranov	2.17	172	Pn	Pn	16 14 17.0	+0.9
	comp=Z,1.9nm,0.3s,baz=329,slow=12,SNR=18						
VRAC				Lg		16 14 48.5	
	comp=Z,3.6nm,0.3s,baz=82,slow=23,SNR=9.6						
VRAC	Vranov	2.17	172	*e*Pn	Pn	16 14 17.0	+0.9
VRAC				*e*Sg	Sg	16 14 48.4	-0.2
	comp=Z,8.3nm,0.2s						
TREC	Trest	2.21	191	*e*PN	Pn	16 14 18.1	+1.5
TREC				*e*PG	Pg	16 14 20.6	-0.4
KRUC	Moravsky	2.41	176	*e*Pn	Pn	16 14 19.9	+0.6
KRUC				*e*Sg	Sg	16 14 54.8	-1.2
	comp=Z,29nm,0.8s						
NKC	Novy Kostel	2.63	244	*e*PG	Pg	16 14 29.0	-0.2
NKC				*e*SG	Sg	16 15 03.4	0.0
OJC	Ojcow	2.64	117	*e*Pn	Pn	16 14 21.1	-1.4
OJC				*e*Pg	Pg	16 14 30.2	+0.9
OJC				*e*Sg	Sg	16 15 04.6	+1.1
KHC	Kasperske Hory	2.85	216	*e*PN	Pn	16 14 25.8	+0.4
KHC				*e*PG	Pg	16 14 32.1	-1.2
KHC				*e*SN	Sn	16 14 59.0	-1.4
KHC				*e*SG	Sg	16 15 11.0	+0.8
	comp=Z,12nm,0.4s						
MOX	Moxa	2.96	256	*e*PN	Pn	16 14 27.9	+0.9
MOX				*e*PG	Pg	16 14 35.4	-0.1
MOX				*e*SG	Sg	16 15 15.5	+1.6
GERES	GERESS Array B	3.05	212	Pn	Pn	16 14 29.4	+1.3
	comp=Z,0.9nm,0.3s,baz=35,slow=13,SNR=15						
GERES				Pg	Pg	16 14 35.3	-1.8
	comp=Z,3.7nm,0.3s,baz=31,slow=17,SNR=38						
GERES				Lg		16 15 16.3	
	comp=Z,3.2nm,0.3s,baz=32,slow=28,SNR=8.9						
GERES	GERESS Array B	3.05	212	Pg	Pg	16 14 35.3	-1.8
WET	Wettzell	3.12	223	*e*Pn	Pn	16 14 29.7	+0.6
NIE	Niedzica	3.37	126	*e*P	Pg	16 14 43.1	-0.1
NIE				*e*S	Sg	16 15 26.5	-0.4
STHS	Stebnicka Huta	3.86	120	*e*PN	Pn	16 14 41.7	+2.4
STHS				*e*PG	Pg	16 14 53.6	+0.9
STHS				*e*SG	Sg	16 15 47.6	+4.9
KECS	Kecovo	4.10	135	*e*PG	Pg	16 14 58.5	+1.3
CRVS	Cervenica-Dubn	4.28	125	*e*PG	Pg	16 15 00.3	-0.4
KOLS	Kolonicke sedl	4.69	120	*e*PG	Pg	16 15 10.2	+1.6
AKASG	Malin Array Be	8.29	90	Pn	Pn	16 15 39.5	-0.6
	comp=Z,0.5nm,0.3s,baz=278,slow=12,SNR=2.9						
HFS	Hagfors	8.80	352	Pn	Pn	16 15 45.7	-1.5
	comp=Z,0.1nm,0.3s,baz=173,slow=14,SNR=3.6						
FINES	FINESS Array B	11.40	25	Pn	Pn	16 16 20.7	-2.2
	comp=Z,0.1nm,0.3s,baz=205,slow=11,SNR=7.3						
ARCES	ARCESS Array B	18.67	10	Pn	Pn	16 17 54.0	-4.6
	comp=Z,0.2nm,0.3s,baz=194,slow=13,SNR=7.8						

IDC 27 16:18:09.6±29.0, 2298S×17446W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.8/15, mbtmp3.9/4, Error ellipse: s-maj=532.8km s-min=157.2km az=78.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	36.59	267	P	P	16 25 17.9	+0.7
	1.4nm,0.3s,baz=102,slow=13,SNR=6.5						
STKA	Stephens Creek	39.78	247	P	P	16 25 44.2	0.0
	0.8nm,0.6s,baz=124,slow=15,SNR=3.2						
ASAR	Alice Springs	47.20	258	P	P	16 26 44.6	+0.6
	0.3nm,0.4s,baz=96,slow=7.3,SNR=22						
WRA	Warramunga Arr	47.56	263	P	P	16 26 46.7	-0.1
	0.5nm,0.3s,baz=102,slow=8.4,SNR=35						

IDC ***27*** *16:32:31.6±2.2, 441N×97.17E, h174km±12km, mb3.3/7, mb1 3.5/8, mb1mx3.2/22, mbtmp3.8/8, Error ellipse: s-maj=75.1km s-min=15.2km az=57.0*
NEIC ***27*** *16:32:32.7±1.4, 451N×9730E, h182km±9km, Error ellipse: s-maj=27.2km s-min=11.3km az=65.0*
ISCJB ***27*** *16:32:33.1±

ISC 27 16:48:25.8±3.0, 141N±01×1457E±05, h150km±15km, n14, σ0°75/15, mb3.8/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.94**	**234**	P	**Pn**	**16 48 51.6**	**+1.5**
	78nm,0.3s,baz=315,slow=1.4,SNR=155						
GUMO				S	**Sn**	**16 49 07.7**	**-1.0**
	243nm,0.3s,baz=302,slow=23,SNR=97						
GUMO	**Guam**	**0.94**	**234**	P	**Pn**	**16 48 51.6**	**+1.5**
GUMO				S	**Sn**	**16 49 07.7**	**-1.0**
MAJO	**Matsushiro**	**23.28**	**345**	P	**P**	**16 53 19.2**	**-0.7**
WRAB	**Tennant Creek**	**35.64**	**198**	*e*P	**P**	**16 55 09.0**	**-0.2**
	3.7nm,0.7s,mb4.1						
WB2	**Warramunga Arr**	**35.65**	**198**	*e*P	**P**	**16 55 09.0**	**-0.3**
WRA	**Warramunga Arr**	**35.66**	**198**	P	**P**	**16 55 09.4**	**+0.1**
	1.0nm,0.6s,mb3.6,baz=26,slow=9.6,SNR=23						
AS31	**Alice Springs**	**39.30**	**197**	*e*P	**P**	**16 55 40.1**	**+0.2**
ASAR	**Alice Springs**	**39.30**	**197**	P	**P**	**16 55 40.9**	**+1.0**
	0.4nm,0.4s,mb3.4,baz=21,slow=13,SNR=16						
ASPA	**Alice Springs**	**39.30**	**197**	*e*P	**P**	**16 55 40.1**	**+0.2**
MBWA	**Marble Bar**	**43.35**	**216**	P	**P**	**16 56 12.9**	**0.0**
	27nm,1.2s,mb4.8						
STKA	**Stephens Creek**	**45.92**	**185**	P	**P**	**16 56 32.0**	**-1.3**
	0.8nm,0.5s,mb3.6,baz=355,slow=8.9,SNR=4.0						
AFI	**Afiamalu**	**50.52**	**122**	LR	LR	17 16 57.7	
	comp=Z,25nm,19.8s,baz=171,slow=33						
MKAR	**Makanchi Array**	**61.63**	**316**	P	**P**	**16 58 27.9**	**+0.5**
	0.3nm,0.4s,mb3.4,baz=94,slow=8.3,SNR=7.0						
MKAR	**Makanchi Array**	**61.63**	**316**	P	**P**	**16 58 27.9**	**+0.5**

*CSEM **27** 16:54:13.7±0.2, 44.92N×14.99E, h12km, ML3.4/3, Error ellipse: s-maj=3.1km s-min=2.4km az=17.0*
*ISCJB **27** 16:54:14.7±0.4, 44.97N±002×14.99E±004, h10km, Error ellipse: s-maj=4.0km s-min=3.3km az=142.9*
*VIE **27** 16:54:14.2±0.5, 45.00N×15.04E, h8km, mb2.6/1, ML3.1/1, Error ellipse: s-maj=3.0km s-min=2.2km az=170.0 63 km SE of Rijeka*
*ROM **27** 16:54:20.4±0.6, 45.01N×14.47E, h10km, Md2.9/7, Ml2.4/5, Error ellipse: s-maj=12.8km s-min=2.2km az=90.0*
*PRU **27** 16:54:20.2, 45.25N×14.51E, h0km*
ISC 27 16:54:15.4±0.4, 44.96N±002×15.01E±004, h10km, n26, σ1°926/44, 1C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NVLJ	**Novalja**	**0.41**	**194**	*i* Pg	**Pg**	**16 54 22.7**	**-0.6**
NVLJ				*i* Sg	**Sg**	**16 54 29.0**	**+0.2**
BOJS	**Bojanci**	**0.57**	**18**	⇓*i* Pg	**Pg**	**16 54 25.4**	**-1.2**
BOJS				*i* Sg	**Sg**	**16 54 33.0**	**-1.1**
BOJS							
	comp=Z,98nm,0.2s						
BOJS	**Bojanci**	**0.57**	**18**	Pg	**Pg**	**16 54 25.4**	**-1.1**
BOJS				*i* Sg	**Sg**	**16 54 33.0**	**-1.1**
	comp=Z,98nm,0.2s						
KNDS	**Knezji Dol**	**0.72**	**323**	*i* Pg	**Pg**	**16 54 28.1**	**-1.2**
KNDS				*i* Sg	**Sg**	**16 54 40.0**	**+1.2**
KNDS							
	comp=Z,104nm,0.3s						
KNDS	**Knezji Dol**	**0.72**	**323**	*i* Pg	**Pg**	**16 54 28.1**	**-1.2**
KNDS				*i* Sg	**Sg**	**16 54 40.0**	**+1.2**
	comp=Z,104nm,0.3s						
SISC	**Sisak**	**1.09**	**62**	*e*Pg	**Pg**	**16 54 36.5**	**+0.1**
SISC				Sg	**Sg**	**16 54 51.9**	**+1.3**
LJU	**Ljubljana**	**1.14**	**343**	*e*Pg	**Pg**	**16 54 37.4**	**+0.1**
LJU				*e*Sg	**Sg**	**16 54 53.2**	**+1.2**
VOY	**Vojsko**	**1.33**	**324**	*e*Pn	**Pn**	**16 54 38.8**	**-1.2**
VOY				*e*		16 54 40.6	
VOY				*e*Sn	**Sn**	**16 54 59.7**	**+2.0**
DRE	**Drenchia**	**1.55**	**322**	*e*Pg	**Pg**	**16 54 43.6**	**-1.5**
DRE				*e*Sg	**Sg**	**16 55 06.3**	**+1.2**
BLY	**Banja Luka**	**1.56**	**97**	P	**Pn**	**16 54 42.1**	**-1.1**
BLY				S	**Sn**	**16 55 04.9**	**+1.4**
OBKA	**Obir**	**1.58**	**349**	*e*Pg	**Pg**	**16 54 44.3**	**-1.5**
	SNR=29						
OBKA				⇓*i* Sg	**Sg**	**16 55 06.0**	**-0.4**
	comp=Z,55nm,0.3s						
COLI	**Coloredo**	**1.64**	**316**	⇓*e*Pg	**Pg**	**16 54 45.0**	**-1.8**
COLI				*e*Sg	**Sg**	**16 55 08.5**	**+0.3**
COLI	**Coloredo**	**1.64**	**316**	*e*Pg	**Pg**	**16 54 45.0**	**-1.9**
COLI				*e*Sg	**Sg**	**16 55 08.5**	**+0.4**
TLI	**Talmassons**	**1.65**	**306**	⇓*i* Pg	**Pg**	**16 54 45.0**	**-2.1**
AOI	**Ancona**	**1.73**	**216**	Pg	**Pg**	**16 54 49.4**	**+0.8**
AOI				Sg	**Sg**	**16 55 09.4**	**-1.6**
	comp=Z,43nm,0.5s						
BAD	**Bernadia**	**1.78**	**317**	*e*Pn	**Pn**	**16 54 47.0**	**+0.8**
BAD				*e*Sn	**Sn**	**16 55 12.3**	**+3.4**
GMNA	**Gemona**	**1.81**	**317**	Pg	**Pg**	**16 54 48.9**	**-1.2**
	comp=Z,247nm,0.7s						
BUA	**Buia**	**1.83**	**314**	*e*Pn	**Pn**	**16 54 48.2**	**+1.3**
BUA				*e*Sn	**Sn**	**16 55 13.6**	**+3.6**
LSR	**Lussari**	**1.84**	**326**	⇑*i* Pn	**Pn**	**16 54 48.3**	**+1.3**
LSR				*i* Sn	**Sn**	**16 55 14.8**	**+4.5**
PTCC	**Patocco-Chiusa**	**1.85**	**322**	Pg	**Pg**	**16 54 49.1**	**-1.9**
	comp=Z,25nm,0.2s						
MLNI	**Malnisio**	**2.06**	**306**	⇓*i* Pn	**Pn**	**16 54 50.4**	**+0.3**
SFI	**Santa Sofia**	**2.50**	**246**	Pg	**Pn**	**16 54 57.1**	**+1.1**
	comp=Z,19nm,1.2s						
CTI	**Castel Tesino**	**2.60**	**296**	Pg	**Pn**	**16 54 58.3**	**+0.8**
	comp=Z,52nm,0.7s						
BRES	**Bressanone**	**2.87**	**308**	Pg	**Pn**	**16 55 02.3**	**+1.1**
	comp=Z,59nm,1.1s						
MABI	**Malga Bissina**	**3.34**	**291**	Pg	**Pn**	**16 55 08.8**	**+1.1**
	comp=Z,6.0nm,0.5s						
KHC	**Kasperske Hory**	**4.29**	**347**	*e*PN	**Pn**	**16 55 21.2**	**+0.5**
KHC				*e*SN	**Sn**	**16 56 08.2**	**-2.6**

*IDC **27** 17:02:53.8±2.1, 0.48S×97.36E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.6/20, mbtmp3.6/6, Error ellipse: s-maj=72.4km s-min=21.1km az=60.0*
*ISCJB **27** 17:02:56.9±1.2, 0.4S±0.1×97.4E±0.2, h33km, mb3.9/7, Error ellipse: s-maj=35.1km s-min=12.7km az=131.4*
*NEIC **27** 17:03:01.6±0.9, 0.29N×98.41E, h30km, mb4.3/2, Error ellipse: s-maj=28.1km s-min=10.1km az=65.0*
ISC 27 17:02:59.7±1.2, 03S±01×975E±02, h35km, n11, σ0°58/11, mb3.9/7, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.42**	**24**	Pn	**Pn**	**17 03 50.1**	**-0.3**
	0.6nm,0.3s,baz=319,slow=19,SNR=3.2						
KULM	**Kulim**	**6.41**	**29**	*e*Pn	**Pn**	**17 04 20.6**	**-11**
KULM				*e*		17 04 31.4	
WRA	**Warramunga Arr**	**40.96**	**121**	P	**P**	**17 10 39.1**	**+0.2**
	1.4nm,0.5s,mb3.9,baz=302,slow=9.0,SNR=21						
WRAB	**Tennant Creek**	**40.97**	**121**	*e*P	**P**	**17 10 38.6**	**-0.3**
	4.0nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**40.98**	**121**	*e*P	**P**	**17 10 38.8**	**-0.2**
ASAR	**Alice Springs**	**42.23**	**126**	P	**P**	**17 10 49.3**	**0.0**
	0.3nm,0.5s,mb3.2,baz=294,slow=7.6,SNR=8.9						
SONM	**Songino Array**	**48.60**	**8**	P	**P**	**17 11 41.3**	**+1.5**
	0.3nm,0.6s,mb3.5,baz=185,slow=10,SNR=3.1						
MKAR	**Makanchi Array**	**48.80**	**346**	P	**P**	**17 11 41.5**	**+0.1**
	0.7nm,0.6s,mb3.9,baz=156,slow=7.7,SNR=10.0						
STKA	**Stephens Creek**	**52.10**	**131**	P	**P**	**17 12 06.5**	**+0.3**
KURK	**Kurchatov**	**53.35**	**345**	P	**P**	**17 12 14.8**	**-0.7**
	4.2nm,1.4s,mb4.2						
ZAL	**Zalesovo**	**55.11**	**351**	P	**P**	**17 12 27.9**	**-0.4**
	1.1nm,0.6s,mb4.1,baz=307,slow=6.3,SNR=4.9						

*NEIC **27** 17:04:01.0, 32.38N×115.26W, h6km, ML3.1(PAS), ML3.5(ECX), After ECX.*
ECX 27 17:04:01.0±0.5, 32.38N×115.26W, h6km, MD3.3, ML3.5, 7C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.47**	**305**	⇑*e*P	Pg	17 04 09.1	-1.0
COA	**Coachella**	**0.50**	**14**	⇓*e*P	Pg	17 04 10.0	-0.7
COK	**Cook Ranch**	**0.61**	**320**	⇑*e*P	Pg	17 04 12.0	-0.7
YUH	**Yuha Desert**	**0.62**	**296**	⇑*e*P	Pg	17 04 11.7	-1.3
RMX	**La Rumorosa**	**0.72**	**288**	⇓*e*P	Pg	17 04 13.7	-1.2
RMX				*e*S	Sg	17 04 23.6	-0.7
RMX				⇑*e*		17 04 26.3	
	comp=N,2μm,0.2s						
RDX	**Rancho Dowling**	**0.73**	**233**	⇑*e*P	Pg	17 04 13.8	-1.3
RDX				*e*S	Sg	17 04 23.8	-0.7
RDX				⇑*e*		17 04 25.2	
	comp=N,2μm,0.4s						
GLA	**Glamis**	**0.77**	**29**	*e*Pg	Pg	17 04 13.6	-2.1
GLA				*e*Sg	Sg	17 04 24.1	-1.6
CBX	**Cerro Bola**	**1.19**	**267**	⇑*e*P	Pg	17 04 21.6	-2.2
CBX				*e*S	Sg	17 04 37.5	-1.6
ENX	**Ensenada**	**1.29**	**248**	⇓*e*P	Pn	17 04 23.4	-2.1
ENX				*e*S	Sg	17 04 40.6	-1.8
SPX	**San Pedro Mart**	**1.34**	**187**	*e*P	Pn	17 04 23.6	-2.6
SPX				*e*S	Sb	17 04 42.6	-1.3
ECNX	**Esteban Cantu**	**1.34**	**238**	*e*P	Pn	17 04 24.4	-1.8
ECNX				*e*S	Sb	17 04 42.3	-1.7
PBX	**Punta Banda**	**1.39**	**243**	*e*P	Pn	17 04 24.8	-2.1
PBX				*e*S	Sb	17 04 43.7	-1.8
PFO	**Pinyon Flat Ob**	**1.58**	**321**	*e*Pn	Pn	17 04 25.1	-4.5
GSC	**Goldstone**	**3.19**	**337**	*e*Pn	Pn	17 05 00.8	+9.1
NEN	**Nelson**	**3.28**	**6**	*e*Pn	Pn	17 05 02.2	+9.2
TUC	**Tucson**	**3.79**	**90**	*e*Pn	Pn	17 05 02.6	+2.7
TUC				*e*Sn	Sn	17 05 56.2	+11
DAC	**Darwin (Calif)**	**4.34**	**334**	Pn	Pn	17 05 12.0	+4.5
TPNV	**Topopah Spring**	**4.63**	**350**	*e*Pg	Pg	17 05 23.6	-6.1
TMUT	**Trail Mountain**	**7.65**	**24**	Pn	Pn	17 05 57.1	+4.2

IDC 27 17:04:59.6±4.8, 1570S×17272W, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.8/17, mbtmp3.7/5, Error ellipse: s-maj=208.6km s-min=22.6km az=134.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.00**	**27**	Pn	Pn	17 05 32.8	-1.9
	18nm,0.3s,baz=137,slow=3.8,SNR=18						
AFI				Sn	Sn	17 05 55.0	-5.4
	62nm,0.3s,baz=243,slow=23,SNR=20						
STKA	**Stephens Creek**	**44.46**	**240**	P	P	17 13 12.4	0.0
	1.5nm,0.8s,baz=90,slow=14,SNR=2.8						
WRA	**Warramunga Arr**	**50.42**	**257**	P	P	17 13 58.6	-0.2
	0.4nm,0.6s,baz=97,slow=6.2,SNR=8.4						
ASAR	**Alice Springs**	**50.64**	**252**	P	P	17 14 00.5	0.0
	1.1nm,0.5s,baz=86,slow=8.0,SNR=31						
ILAR	**Eielson Array**	**82.61**	**11**	P	P	17 17 24.9	+0.3
	0.5nm,0.6s,baz=230,slow=5.8,SNR=7.5						
BRTR	**Keskin Array B**	**146.80**	**321**	PKPbc	PKPbc	17 24 45.4	+1.7
	0.7nm,0.6s,baz=56,slow=4.6,SNR=4.4						

*IDC **27** 17:06:00.7±1.0, 54.37N×164.70E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.6/23, mbtmp3.8/7, ML3.9/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/23, Error ellipse: s-maj=49.3km s-min=18.0km az=147.0*
*ISCJB **27** 17:06:02.9±0.5, 54.40N±003×164.39E±005, h33km, mb3.6/6, Error ellipse: s-maj=4.1km s-min=3.5km az=46.3*
*KRSC **27** 17:06:02.2±0.5, 54.39N×164.39E, h29km±5km, ML4.2*
*MOS **27** 17:06:04.6±1.1, 54.47N×164.21E, h43km, mb4.1/3, Error ellipse: s-maj=15.9km s-min=12.8km az=64.2*
ISC 27 17:06:04.2±0.5, 54.41N±003×164.42E±005, h35km, n57, σ1°902/86, mb3.6/6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.20**	**48**	*i* P	**Pn**	**17 06 23.1**	**-1.3**
BKI				*i* S	**Sn**	**17 06 37.8**	**-1.7**
BKI				Smax			
	2μm,0.5s						
MKZ	**Mys Kozlova**	**1.58**	**277**	P	**Pn**	**17 06 29.1**	**-0.6**
MKZ				S	**Sn**	**17 06 47.9**	**-0.9**
MKZ	**Mys Kozlova**	**1.58**	**277**	*i* P	**Pn**	**17 06 29.1**	**-0.6**
MKZ				*i* S	**Sn**	**17 06 47.8**	**-1.0**
KBTR	**Krutoberegovo**	**2.02**	**334**	P	**Pn**	**17 06 34.1**	**-1.7**
KBTR				S	**Sn**	**17 06 57.5**	**-2.3**
KBTR	**Krutoberegovo**	**2.02**	**334**	*i* P	**Pn**	**17 06 34.2**	**-1.6**
KBG	**Krutoberegovo**	**2.10**	**333**	*i* P	**Pn**	**17 06 35.3**	**-1.5**
KBG				Smax			
	900nm,0.7s						
TUMR	**Tumrok**	**2.62**	**291**	*i* P	**Pn**	**17 06 44.8**	**+0.8**
TUMR				*e*S	**Sn**	**17 07 15.2**	**+0.5**
ZLN	**Zelenaya**	**2.63**	**309**	*i* P	**Pn**	**17 06 44.5**	**+0.4**
ZLN				*i* S	**Sn**	**17 07 15.4**	**+0.7**
CIRR	**Tsirk**	**2.71**	**311**	*i* P	**Pn**	**17 06 45.6**	**+0.4**
CIRR				*e*S	**Sn**	**17 07 17.4**	**+0.6**
LGNR	**Loginova**	**2.72**	**310**	*i* P	**Pn**	**17 06 45.9**	**+0.6**
LGNR				*e*S	**Sn**	**17 07 17.8**	**+0.8**
SMKR	**Semkarok**	**2.75**	**324**	*e*P	**Pn**	**17 06 45.5**	**-0.3**
SMKR				*e*S	**Sn**	**17 07 17.8**	**0.0**
KMNR	**Kamenistaya**	**2.76**	**301**	*i* P	**Pn**	**17 06 46.2**	**+0.3**
KMNR				*e*S	**Sn**	**17 07 18.7**	**+0.7**
BDR	**Baidarnaya**	**2.83**	**321**	*i* P	**Pn**	**17 06 46.9**	**0.0**
BDR				*i* S	**Sn**	**17 07 19.7**	**-0.1**
KRSR	**Krestovskiy**	**2.85**	**311**	*e*P	**Pn**	**17 06 47.0**	**-0.2**
KRSR				*e*S	**Sn**	**17 07 19.7**	**-0.6**
KPT	**Kopyto**	**2.87**	**305**	*i* P	**Pn**	**17 06 48.0**	**+0.6**
KPT				*e*S	**Sn**	**17 07 21.4**	**+0.7**
KLY	**Klyuchi**	**2.88**	**313**	P	**Pn**	**17 06 46.2**	**-1.3**
KLY				S	**Sn**	**17 07 19.2**	**-1.7**
KLY	**Klyuchi**	**2.88**	**313**	*i* P	**Pn**	**17 06 46.2**	**-1.3**
KLY				*i* S	**Sn**	**17 07 18.4**	**-2.5**
SRKR	**Sorokina**	**2.92**	**322**	*e*P	**Pn**	**17 06 47.6**	**-0.4**
SRKR				*e*S	**Sn**	**17 07 21.5**	**-0.3**
SPN	**Mys Shipunski**	**2.92**	**245**	P	**Pn**	**17 06 47.2**	**-0.9**
SPN				S	**Sn**	**17 07 19.5**	**-2.5**
SPN	**Mys Shipunski**	**2.92**	**245**	*e*P	**Pn**	**17 06 47.2**	**-0.9**
SPN				*e*S	**Sn**	**17 07 19.6**	**-2.4**
KII	**Karymskiy**	**2.94**	**265**	*e*P	**Pn**	**17 06 48.3**	**-0.1**
KOZR	**Kozyr**	**3.08**	**305**	PN	**Pn**	**17 06 51.3**	**+1.0**
KOZR				S	**Sn**	**17 07 27.5**	**+1.6**
KOZ	**Kozyrevsk**	**3.09**	**304**	P	**Pn**	**17 06 51.3**	**+0.9**
KOZ				S	**Sn**	**17 07 27.5**	**+1.4**
KOZ	**Kozyrevsk**	**3.09**	**304**	*i* P	**Pn**	**17 06 51.2**	**+0.8**
KOZ				*e*S	**Sn**	**17 07 27.0**	**+0.9**
NLC	**Nalytchevo**	**3.26**	**250**	P	**Pn**	**17 06 52.0**	**-0.7**
NLC				S	**Sn**	**17 07 28.0**	**-2.3**
NLC	**Nalytchevo**	**3.26**	**250**	*i* P	**Pn**	**17 06 52.0**	**-0.7**
SRDR	**Sredinnyy**	**3.30**	**307**	*i* P	**Pn**	**17 06 53.7**	**+0.4**
SRDR				*i* S	**Sn**	**17 07 31.3**	**0.0**
SDLR	**Sedlovina**	**3.47**	**253**	*e*P	**Pn**	**17 06 55.6**	**-0.1**
SMAR	**Somma**	**3.52**	**253**	*e*P	**Pn**	**17 06 56.4**	**0.0**
UGLR	**Uglovaya**	**3.53**	**252**	*i* P	**Pn**	**17 06 56.5**	**0.0**
AVH	**Avacha**	**3.56**	**254**	*i* P	**Pn**	**17 06 57.2**	**+0.3**
AVH				*e*S	**Sn**	**17 07 37.5**	**-0.2**
KOK	**Koryaka**	**3.61**	**254**	*i* P	**Pn**	**17 06 57.5**	**0.0**
ESO	**Esso**	**3.62**	**297**	*i* P	**Pn**	**17 06 57.8**	**+0.1**
ESO				*i* S	**Sn**	**17 07 38.5**	**-0.7**
ESO				Smax			
	60nm,0.5s						
PET	**Petropavlovsk**	**3.70**	**250**	*e*PN	**Pn**	**17 06 58.7**	**-0.1**
PET				*e*S	**Sn**	**17 07 38.6**	**-2.5**
PET				pmax	pmax		
	comp=Z,23nm,0.4s						
PET				smax			
	comp=E,100nm,0.4s						
PET				smax			
	comp=N,100nm,0.6s						
PET				smax			
	comp=N,69nm,0.6s						
PET				smax			
	comp=E,64nm,0.4s						
PET				MLR	MLR		
	comp=Z,100nm,19.0s						
PET	**Petropavlovsk**	**3.70**	**250**	*e*P	**Pn**	**17 06 58.5**	**-0.3**
PET				*e*S	**Sn**	**17 07 40.0**	**-1.1**
GNL	**Ganaly**	**3.89**	**262**	*i* P	**Pn**	**17 07 02.5**	**+1.1**
RUS	**Russkaya**	**4.05**	**243**	P	**Pn**	**17 07 03.3**	**-0.4**
RUS				S	**Sn**	**17 07 47.3**	**-2.6**
RUS	**Russkaya**	**4.05**	**243**	*e*P	**Pn**	**17 07 03.3**	**-0.4**
KRMR	**Karymshinskiy**	**4.07**	**250**	*e*P	**Pn**	**17 07 04.0**	**+0.1**
GRL	**Gorelyy**	**4.22**	**246**	*i* P	**Pn**	**17 07 06.8**	**+0.8**
GRL				*e*S	**Sn**	**17 07 54.0**	**-0.1**
APC	**Apacha**	**4.57**	**254**	*e*P	**Pn**	**17 07 11.7**	**+0.9**
APC				Smax			
	comp=Z,10.0nm,0.7s						
MIPR	**Malaya Ipel'ka**	**5.07**	**248**	*e*P	**Pn**	**17 07 18.4**	**+0.8**
PAU	**Pauzhetka**	**5.46**	**240**	*e*P	**Pn**	**17 07 23.6**	**+0.5**
SKR	**Severo-Kuril's**	**6.29**	**237**	*e*PN	**Pn**	**17 07 30.0**	**-4.4**
SKR				pmax	pmax		
	comp=E,50nm,0.4s						
SKR				pmax	pmax		
	comp=Z,70nm,0.4s						
ALID	**Alaid**	**6.46**	**240**	*e*P	**Pn**	**17 07 37.5**	**+0.8**
KAMR	**Kamenskoye**	**8.13**	**6**	*e*P	**Pn**	**17 08 00.6**	**+1.0**
ASAJ	**Asahikawa**	**17.50**	**243**	P	**Pn**	**17 10 06.7**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=68,slow=10,SNR=7.6						
ASAJ				LR	LR	17 17 28.9	
	comp=Z,27nm,19.4s,baz=161,slow=39						
ASAJ	**Asahikawa**	**17.50**	**243**	P	**Pn**	**17 10 06.7**	**+1.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,27nm,19.5s						
KDAK	**Kodiak Island**	**23.91**	**64**	P	**P**	**17 11 13.4**	**-1.3**
	comp=Z,3.1nm,0.6s,mb4.0,baz=305,slow=7.1,SNR=7.1						
MJAR	**Matsushiro Arr**	**25.40**	**236**	P	**P**	**17 11 31.3**	**+3.1**
	comp=Z,3.0nm,0.7s,mb3.9,baz=18,slow=10,SNR=6.2						
MJAR	**Matsushiro Arr**	**25.40**	**236**	P	**P**	**17 11 31.3**	**+3.1**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ILAR	**Eielson Array**	**26.05**	**47**	P	**P**	**17 11 34.8**	**+0.7**
	comp=Z,2.4nm,0.9s,mb3.7,baz=262,slow=8.5,SNR=20						
ILAR	**Eielson Array**	**26.05**	**47**	P	**P**	**17 11 34.8**	**+0.7**
ILAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
YKA	**Yellowknife Ar**	**40.43**	**45**	P	**P**	**17 13 39.8**	**+0.7**
	comp=Z,0.9nm,0.7s,mb3.6,baz=294,slow=8.2,SNR=3.7						
YKA	**Yellowknife Ar**	**40.43**	**45**	P	**P**	**17 13 39.8**	**+0.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**49.88**	**297**	P	**P**	**17 14 56.2**	**+2.2**
	comp=Z,0.1nm,0.5s,mb3.1,baz=44,slow=6.9,SNR=4.9						
ASAR	**Alice Springs**	**82.07**	**208**	P	**P**	**17 18 22.6**	**+1.7**
	comp=Z,0.4nm,0.8s,mb3.4,baz=23,slow=5.2,SNR=5.2						

CASC 27 17:19:52.4±2.8, 13.47N×90.18W, h64km±76km, MD3.6, 3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**0.66**	**56**	⇓*e*P	Pn	17 20 13.6	+7.2
SBLS				*e*S	Sn	17 20 24.1	+7.6
RTR	**El Retiro**	**0.67**	**51**	*e*P	Pn	17 20 13.8	+7.2
RTR				*e*S	Sn	17 20 24.1	+7.2
SNJE	**San Jose**	**0.69**	**54**	⇓*e*P	Pn	17 20 13.9	+7.2
SNJE				*e*S	Sn	17 20 24.7	+7.5
IXG	**Ixpaco**	**0.75**	**339**	*e*P	Pn	17 20 07.3	-0.2
IXG				*e*S	Sn	17 20 19.4	+0.8
RBDL	**Robledal**	**0.80**	**37**	⇓*e*P	Pn	17 20 16.1	+8.0
BOQS	**Boqueron**	**0.92**	**73**	*e*P	Pn	17 20 16.8	+7.3
BOQS				*e*S	Sn	17 20 29.3	+7.2
LFRS	**El Faro**	**1.10**	**82**	*e*P	Pn	17 20 18.8	+6.9
LFRS				*e*S	Sn	17 20 34.4	+8.1
LBRS	**Las Brisas**	**1.14**	**76**	*e*P	Pn	17 20 19.5	+7.1
LCBS	**La Ceiba**	**1.19**	**81**	*e*P	Pn	17 20 20.0	+7.1
TP2	**Tecpan 2**	**1.54**	**328**	*e*P	Pn	17 20 19.0	+1.3
TP2				*e*S	Sn	17 20 39.5	+2.8

*NEIC **27** 17:46:41.3, 38.42S×176.01E, h166km, MG4.0(WEL), After WEL.*
WEL 27 17:46:41.4±0.2, 38.42S×176.01E, h164km±1km, ML4.0/20, Error ellipse: s-maj=1.4km s-min=1.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PATZ	**Paeroa**	**0.20**	**80**	P	Pn	17 47 03.6	+0.2
WHTZ	**Whakaora**	**0.25**	**190**	P	Pn	17 47 03.7	+0.2
WATZ	**Wairara**	**0.36**	**217**	PN	Pn	17 47 03.9	+0.2
WATZ				SN	Sn	17 47 21.0	0.0
WATZ	**Wairara**	**0.36**	**217**	P	Pn	17 47 03.9	+0.1
TAZ	**Tarawera**	**0.43**	**65**	PN	Pn	17 47 04.3	+0.3
TAZ	**Tarawera**	**0.43**	**65**	P	Pn	17 47 04.3	+0.3
HATZ	**Hinemaiaia**	**0.48**	**172**	PN	Pn	17 47 04.2	0.0
HATZ				SN	Sn	17 47 20.2	-0.9
RATZ	**Rangitukua**	**0.49**	**203**	PN	Pn	17 47 04.3	0.0
RATZ				SN	Sn	17 47 22.8	+0.9
RATZ	**Rangitukua**	**0.49**	**203**	P	Pn	17 47 04.3	0.0
RATZ				S	Sn	17 47 22.8	+1.0
RITZ	**Rihia Road**	**0.57**	**192**	PN	Pn	17 47 05.0	+0.3
RITZ	**Rihia Road**	**0.57**	**192**	P	Pn	17 47 05.0	+0.3
KATZ	**Kakaramea**	**0.61**	**204**	PN	Pn	17 47 05.0	+0.1
KATZ	**Kakaramea**	**0.61**	**204**	P	Pn	17 47 05.0	+0.1
KRVZ	**Karewarewa**	**0.74**	**203**	PN	Pn	17 47 05.6	0.0
WTVZ	**West Tongariro**	**0.77**	**205**	PN	Pn	17 47 05.9	0.0
TWVZ	**Taurewa**	**0.79**	**214**	PN	Pn	17 47 06.0	+0.1
TWVZ				SN	Sn	17 47 24.5	-0.3
TWVZ	**Taurewa**	**0.79

BHW	**Baring Head**	**3.12 196**	PN	Pn	17 47 28.3	-2.4
BHW	**Baring Head**	**3.12 196**	P	Pn	17 47 28.3	-2.4
TUWZ	**Tuamarina**	**3.41 207**	PN	Pn	17 47 31.6	-2.8
NNZ	**Nelson**	**3.46 215**	P	Pn	17 47 32.2	-2.8
QRZ	**Quartz Range**	**3.61 227**	P	Pn	17 47 33.7	-3.2
BSWZ	**Blackbirch Sta**	**3.68 206**	P	Pn	17 47 35.5	-2.3
THZ	**Tophouse**	**4.11 215**	*e*P	Pn	17 47 40.0	-3.3
KHZ	**Kahutara**	**4.42 204**	P	Pn	17 47 44.4	-3.0
DSZ	**Denniston Nort**	**4.63 223**	*e*P	Pn	17 47 46.3	-3.9
LTZ	**Lake Taylor**	**5.21 212**	*e*P	Pn	17 47 53.3	-4.4
CRLZ	**Canterbury Las**	**5.76 205**	*e*P	Pn	17 48 00.4	-4.5
MQZ	**McQueen's Vall**	**5.86 205**	*e*P	Pn	17 48 01.6	-4.7
WVZ	**Waitaha Valley**	**6.14 219**	*e*P	Pn	17 48 05.0	-5.0
RPZ	**Rata Peaks**	**6.49 214**	*e*P	Pn	17 48 10.7	-3.8
FOZ	**Fox Glacier**	**7.02 221**	*e*P	Pn	17 48 15.4	-6.3
LBZ	**Lake Benmore**	**7.40 214**	*e*P	Pn	17 48 21.8	-4.9
ODZ	**Otahua Downs**	**7.74 209**	*e*P	Pn	17 48 26.6	-4.6

*ISCJB **27** 17:50:58.9±0.9, 4394N±006×733E±005, h9km±7km, Error ellipse: s-maj=10.0km s-min=5.3km az=131.7*
*STR **27** 17:50:58.7±0.0, 4397N×732E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **27** 17:51:00.1±0.2, 4385N×739E, h7km, Md1.9/1, Ml1.9/1, Error ellipse: s-maj=11.2km s-min=5.4km az=158.0*

ISC 27 17:50:59.3±0.9, 4394N±005×735E±005, h8km±7km, n7, σ0§46/14, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUCF	**Luceram**	**0.05**	**179**	Pg	**Pg**	**17 51 00.8**	**-0.2**
LUCF				Sg	**Sg**	**17 51 02.4**	**+0.2**
AUTN	**L'Aution**	**0.08**	**49**	Pg	**Pg**	**17 51 01.0**	**-0.4**
AUTN				Sg	**Sg**	**17 51 02.6**	**-0.2**
SBF	**Sospel**	**0.10**	**140**	*e*Pg	**Pg**	**17 51 01.7**	**0.0**
SBF				*e*Sg	**Sg**	**17 51 04.0**	**+0.6**
	27nm,0.3s						
MVIF	**Mont Vial**	**0.15**	**252**	Pg	**Pg**	**17 51 01.8**	**-0.6**
MVIF				Sg	**Sg**	**17 51 04.3**	**-0.2**
SAOF	**Saorge**	**0.16**	**74**	Pg	**Pg**	**17 51 02.5**	**-0.1**
SAOF				Sg	**Sg**	**17 51 05.3**	**+0.4**
LMR	**La Mourre**	**0.86**	**225**	*e*Pg	**Pg**	**17 51 15.3**	**-0.5**
LMR				*e*Sg	**Sg**	**17 51 26.8**	**-0.2**
	3.1nm,0.2s						
SMRF	**Simiane la Rot**	**1.28**	**272**	*e*Pn	**Pn**	**17 51 23.4**	**0.0**
SMRF				*e*Sg	**Sg**	**17 51 41.6**	**+1.2**
	2.3nm,0.2s						

IDC 27 17:53:14.0±1.4, 449S×12646E, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.7/16, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=133.5km s-min=24.6km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.17**	**154**	P	Pn	17 57 16.0	+0.7
	0.1nm,0.3s,baz=333,slow=11,SNR=10						
WB2	**Warramunga Arr**	**17.18**	**154**	*e*P	Pn	17 57 12.8	-2.5
ASPA	**Alice Springs**	**20.37**	**160**	*e*P	P	17 57 52.6	+0.4
ASAR	**Alice Springs**	**20.38**	**160**	P	P	17 57 52.0	-0.2
	3.3nm,0.8s,baz=338,slow=11,SNR=18						
SONM	**Songino Array**	**55.00**	**344**	P	P	18 02 47.3	+0.2
	0.4nm,0.8s,baz=162,slow=11,SNR=2.4						
MKAR	**Makanchi Array**	**64.22**	**328**	P	P	18 03 51.0	+0.3
	0.4nm,0.4s,baz=120,slow=8.5,SNR=13						

*NAO **27** 17:53:09.9±1.5, 7188N×1569E, ML2.4*
*CSEM **27** 17:53:12.5±0.5, 7169N×1513E, h35km, ML1.9, Error ellipse: s-maj=12.8km s-min=9.7km az=73.0*
*BER **27** 17:53:12.9±4.4, 7180N×1513E, h15km±34km, MD2.5, ML1.9, ML2.4(NAO)*
*HEL **27** 17:53:17.1±0.4, 7156N×1603E, h10km, ML2.6, MD2.5(BER), ML1.9(BER)*
*ISCJB **27** 17:53:18.4±0.8, 7106N±004×16.1E±0.1, h10km, Error ellipse: s-maj=6.5km s-min=6.0km az=64.8*

ISC 27 17:53:18.8±1.1, 7119N±006×159E±01, h10km, n35, σ1§10/60, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRO	**Tromso**	**1.87**	**146**	*e*P	**Pn**	**17 53 50.3**	**-0.5**
TRO				*e*S	**Sn**	**17 54 18.0**	**+3.6**
TRO				AML	AML	17 54 20.7	
	comp=Z,8.2nm,0.4s						
TRO	**Tromso**	**1.87**	**146**	*e*P	**Pn**	**17 53 50.3**	**-0.5**
	SNR=55						
TRO				*e*S	**Sn**	**17 54 18.0**	**+3.6**
	comp=Z,8.2nm,0.4s,SNR=55						
KIF	**Kilpisjarvi**	**2.76**	**140**	*e*P	**Pn**	**17 54 04.0**	**+0.9**
KIF				*e*S	**Sn**	**17 54 40.5**	**+4.0**
KIF	**Kilpisjarvi**	**2.76**	**140**	P	**Pn**	**17 54 04.0**	**+0.9**
KIF				S	**Sn**	**17 54 40.4**	**+3.9**
LOF	**Lofoten**	**3.18**	**196**	*e*P	**Pn**	**17 54 08.2**	**-0.7**
LOF				*e*S	**Sn**	**17 54 47.6**	**+0.7**
LOF				AML	AML	17 54 50.9	
	comp=Z,10nm,0.4s						
KTK1	**Kautokeino**	**3.33**	**128**	*e*P	**Pn**	**17 54 13.4**	**+2.5**
KTK1				*e*S	**Sn**	**17 54 56.2**	**+5.7**
BJO	**Bjornoya**	**3.47**	**15**	*e*S	**Pg**	**17 54 30.4**	**+5.1**
ARA0	**ARCESS Array S**	**3.64**	**113**	Pn	**Pn**	**17 54 14.3**	**-0.9**
	baz=304,slow=12						
ARA0				Sn	**Sn**	**17 54 59.4**	**+1.2**
	baz=304,slow=22						
ARA0	**ARCESS Array S**	**3.64**	**113**	*e*P	**Pn**	**17 54 14.3**	**-0.9**
ARA0				*e*S	**Sn**	**17 54 59.4**	**+1.2**
KEV	**Kevo**	**3.99**	**106**	*e*P	**Pn**	**17 54 19.0**	**-1.1**
KEV				*e*S	**Sn**	**17 55 05.7**	**-1.2**
KEV				MSN		17 55 09.0	
	comp=Z,3.4nm,0.2s						
KEV	**Kevo**	**3.99**	**106**	P	**Pn**	**17 54 18.9**	**-1.2**
KEV				S	**Sn**	**17 55 05.7**	**-1.2**
	comp=Z,3.4nm,0.2s						
MOR8	**Moi Rana**	**5.07**	**187**	*e*P	**Pn**	**17 54 33.1**	**-1.7**
MOR8				*e*S	**Sn**	**17 55 33.8**	**+0.4**
MOR8				AML	AML	17 55 36.3	
	comp=Z,4.2nm,0.4s						
SGF	**Sodankyl**	**5.32**	**130**	*e*P	**Pn**	**17 54 39.2**	**+1.0**
SGF				*e*S	**Sn**	**17 55 41.1**	**+1.6**
SGF				MSN		17 55 47.2	
	comp=Z,1.4nm,0.3s						
SGF	**Sodankyl**	**5.32**	**130**	P	**Pn**	**17 54 39.2**	**+1.0**
KU4	**Liikasenvaara**	**6.92**	**128**	*e*P	**Pn**	**17 55 00.8**	**+0.5**
KU4				*e*S	**Sn**	**17 56 18.1**	**-0.9**
KU4				MSN		17 56 21.9	
	comp=Z,1.5nm,0.2s						
KU4	**Liikasenvaara**	**6.92**	**128**	P	**Pn**	**17 55 00.7**	**+0.4**
APA0	**Apatity Array**	**7.00**	**113**	Pn	**Pn**	**17 54 58.8**	**-2.6**
	baz=307,slow=10						
APA0				Sn	**Sn**	**17 56 17.2**	**-3.8**
	baz=318,slow=28						
APA0	**Apatity Array**	**7.00**	**113**	*e*P	**Pn**	**17 54 58.8**	**-2.6**
APA0				*e*S	**Sn**	**17 56 17.2**	**-3.8**
MSF	**Maaselka**	**7.14**	**131**	*e*P	**Pn**	**17 55 04.3**	**+0.9**
MSF				*e*S	**Sn**	**17 56 24.6**	**0.0**
MSF				MSN		17 56 35.3	
	comp=Z,0.9nm,0.2s						
MSF	**Maaselka**	**7.14**	**131**	P	**Pn**	**17 55 04.2**	**+0.9**
OUL	**Oulu**	**7.16**	**144**	*e*P	**Pn**	**17 55 04.9**	**+1.3**
OUL				*e*S	**Sn**	**17 56 25.9**	**+0.9**
OUL				MSN		17 56 26.6	
	comp=Z,0.9nm,0.3s						
KJN	**Kajaani**	**8.41**	**142**	*e*P	**Pn**	**17 55 21.6**	**+0.9**
KJN				*e*S	**Sn**	**17 56 55.6**	**-0.2**
KJN				MSN		17 56 58.2	
	comp=Z,1.3nm,0.2s						
KJN	**Kajaani**	**8.41**	**142**	P	**Pn**	**17 55 21.6**	**+0.8**
VAF	**Ylistaro**	**8.59**	**159**	*e*P	**Pn**	**17 55 23.9**	**+0.8**
VAF				*e*S	**Sn**	**17 57 01.1**	**+1.0**
VAF				MSN		17 57 04.2	
	comp=Z,0.6nm,0.3s						
SUF	**Sumiainen**	**9.39**	**150**	*e*P	**Pn**	**17 55 34.5**	**+0.4**
SUF				*e*S	**Sn**	**17 57 18.9**	**-0.8**
KEF	**Keuruu**	**9.72**	**154**	*e*P	**Pn**	**17 55 39.2**	**+0.6**
KEF				*e*S	**Sn**	**17 57 26.6**	**-1.2**
KAF	**Kangasniemi**	**9.98**	**151**	*e*P	**Pn**	**17 55 42.8**	**+0.5**
KAF				*e*S	**Sn**	**17 57 33.1**	**-1.3**
JOF	**Joensuu**	**10.21**	**137**	*e*P	**Pn**	**17 55 44.5**	**-0.8**
JOF				*e*S	**Sn**	**17 57 36.2**	**-3.7**
NB2	**NORSAR Subarra**	**10.37**	**193**	*e*P	**Pn**	**17 55 47.2**	**-0.3**
NB2	**NORSAR Subarra**	**10.37**	**193**	Pn	**Pn**	**17 55 47.2**	**-0.3**
	SNR=55						
FIA0	**FINESS Array S**	**10.58**	**152**	Pn	**Pn**	**17 55 50.7**	**+0.2**
	baz=345,slow=12						
FIA0				Sn	**Sn**	**17 57 47.5**	**-1.6**
	baz=354,slow=28						
FIA0	**FINESS Array S**	**10.58**	**152**	*e*P	**Pn**	**17 55 50.7**	**+0.2**
FIA0				*e*S	**Sn**	**17 57 47.5**	**-1.6**
HFS	**Hagfors**	**11.14**	**186**	Pn	**Pn**	**17 55 57.4**	**-0.8**
	baz=353,slow=11						
HFS	**Hagfors**	**11.14**	**186**	*e*P	**Pn**	**17 55 57.4**	**-0.8**
HFS	**Hagfors**	**11.14**	**186**	Pn	**Pn**	**17 55 57.3**	**-0.8**
	SNR=55						

*ISCJB **27** 17:56:29.4±0.7, 360N±01×13737E±009, h273km±5km, mb3.2/2, Error ellipse: s-maj=21.4km s-min=8.9km az=128.3*
*JMA **27** 17:56:29.6±0.2, 3608N×13728E, h273km±2km, M2.6*
*IDC **27** 17:56:30.0±2.8, 3575N×13695E, h241km±51km, mb3.1/2, mb1 3.4/2, mb1mx2.8/20, mbtmp3.7/2, MS4.1/1, Ms1 4.1/1, ms1mx2.3/9, Error ellipse: s-maj=113.4km s-min=102.2km az=31.0*

ISC 27 17:56:30.4±0.7, 361N±01×13737E±009, h268km±5km, n21, σ0§70/28, mb3.2/2, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JGN	**Niukaw**	**0.17**	**346**	P	**Pn**	**17 57 04.4**	**-0.3**
JGM	**Miyama**	**0.63**	**236**	P	**Pn**	**17 57 05.5**	**-0.2**
JNG	**Nsakai**	**0.69**	**59**	P	**Pn**	**17 57 06.4**	**+0.5**
JNG				*e*S	**S**	**17 57 34.4**	**+0.5**
MAT	**Matsushiro**	**0.84**	**54**	P	**Pn**	**17 57 06.7**	**+0.2**
MAT				S	**S**	**17 57 35.8**	**+0.8**
MAT	**Matsushiro**	**0.84**	**54**	P	**Pn**	**17 57 06.7**	**+0.2**
MAT				*e*S	**S**	**17 57 34.2**	**-0.8**
MJAR	**Matsushiro Arr**	**0.84**	**54**	P	**Pn**	**17 57 06.7**	**+0.2**
	5.9nm,0.3s,baz=244,slow=6.8,SNR=120						
MJAR				S	**S**	**17 57 34.3**	**-0.7**
	baz=263,slow=9.7,SNR=3.3						
JKG	**Kaga**	**0.87**	**285**	*e*S	**S**	**17 57 36.3**	**+1.1**
JYN	**Shimoda**	**1.11**	**120**	P	**Pn**	**17 57 08.3**	**+0.5**
JRY	**Ryogami san**	**1.24**	**91**	*e*S	**S**	**17 57 39.3**	**+0.4**
JSZ	**Suzu**	**1.39**	**360**	P	**Pn**	**17 57 09.1**	**-0.5**
JAG	**Ashikaga**	**1.73**	**77**	P	**Pn**	**17 57 12.2**	**+0.2**
JAG				*e*S	**S**	**17 57 44.0**	**-1.0**
JWT	**Wachi**	**1.78**	**245**	P	**Pn**	**17 57 11.8**	**-0.6**
JKY	**Yasaka**	**1.89**	**258**	P	**Pn**	**17 57 12.3**	**-1.0**
JSD	**Sado**	**2.11**	**20**	P	**Pn**	**17 57 15.0**	**-0.2**
JFT	**Otama**	**2.80**	**58**	P	**Pn**	**17 57 22.7**	**+0.9**
JFT				*e*S	**S**	**17 58 03.8**	**+1.1**
JFK	**Kawauchi**	**3.11**	**64**	P	**Pn**	**17 57 25.0**	**-0.1**
JFK				*e*S	**S**	**17 58 06.1**	**-2.4**
JMM	**Marumori**	**3.29**	**56**	P	**Pn**	**17 57 27.3**	**+0.3**
JMM				*e*S	**S**	**17 58 12.1**	**+0.1**
JNU	**Nakatsue**	**6.10**	**243**	LR	LR	17 59 26.6	
	comp=Z,2μm,19.5s,baz=110,slow=31						
WB2	**Warramunga Arr**	**55.76**	**183**	*e*P	**P**	**18 05 39.7**	**0.0**
WRA	**Warramunga Arr**	**55.76**	**183**	P	**P**	**18 05 39.7**	**0.0**
	0.8nm,0.3s,mb3.6,baz=360,slow=7.7,SNR=21						
ASAR	**Alice Springs**	**59.48**	**184**	P	**P**	**18 06 05.8**	**+0.3**
	0.2nm,0.4s,mb2.9,baz=359,slow=6.2,SNR=14						

*CSEM **27** 17:56:53.1, 3769N×2090E, h5km, MD3.5/6, After ATH*
*NEIC **27** 17:56:53.1, 3769N×2090E, h5km, MD3.5(ATH), After ATH.*

ATH 27 17:56:53.0, 3768N×2089E, h5km±2km, MD3.5/6, 1D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.55**	**335**	*e*PB	Pg	17 57 04.0	+0.6
VLS				*e*SB	Sg	17 57 12.4	+1.7
RLS	**Riolos of Patr**	**0.59**	**50**	*i*PG	Pg	17 57 04.2	-0.2
RLS				*e*SB	Sg	17 57 12.9	+0.8
ITM	**Ithomi**	**0.96**	**121**	*e*PB	Pb	17 57 11.3	-0.9
ITM				*e*SB	Sb	17 57 25.6	+0.4
EVR	**Evrytania**	**1.43**	**30**	*e*PB	Pb	17 57 20.3	+0.2
VLI	**Velíai**	**1.90**	**120**	*e*PN	Pn	17 57 29.0	+3.0
VLI				*e*SN	Sn	17 57 55.1	+4.9
PTL	**Penteli**	**2.38**	**80**	*e*PN	Pn	17 57 35.0	+2.3

*ISCJB **27** 17:57:14.4±0.8, 375S±02×512E±02, h10km, mb3.9/6, MS3.8/6, Error ellipse: s-maj=24.0km s-min=18.8km az=64.9*
*IDC **27** 17:57:14.5±0.8, 3746S×5123E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.8/20, mbtmp4.0/6, MS3.8/6, Ms1 3.9/6, ms1mx3.4/28, Error ellipse: s-maj=40.7km s-min=21.9km az=18.0*

ISC 27 17:57:16.4±0.8, 376S±02×511E±02, h10km, n14, σ0§77/8, mb3.9/6, MS3.8/6, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**23.38**	**285**	P	**P**	**18 02 23.8**	**-1.5**
	6.4nm,1.1s,mb4.0,baz=131,slow=9.3,SNR=3.1						
MATP	**Matopo**	**26.02**	**305**	LR	LR	18 11 21.1	
	comp=Z,261nm,21.0s,MS3.7,baz=139,slow=32						
LSZ	**Lusaka**	**30.08**	**311**	LR	LR	18 13 28.9	
	comp=Z,160nm,18.6s,MS3.7,baz=344,slow=32						
KMBO	**Kilima Mbogo**	**38.43**	**337**	LR	LR	18 18 49.3	
	comp=Z,147nm,20.8s,MS3.8,baz=93,slow=34						
SNAA	**Sanae**	**43.64**	**202**	P	**P**	**18 05 21.5**	**+0.4**
	0.7nm,1.0s,mb3.3,baz=69,slow=8.8,SNR=5.2						
VNA2	**Neumayer--Watz**	**44.80**	**203**	*e*	**P**	**18 05 29.8**	**-0.5**
	baz=75,slow=6.2						
VNA2				*e*	pP	18 05 32.7	-0.8
VNA2				*e*		18 05 35.0	
VNA3	**Neumayer Olymp**	**45.59**	**203**	*e*	**P**	**18 05 37.2**	**+0.5**
VNA3				*e*	pP	18 05 41.6	+1.8
VNDA	**Vanda**	**57.92**	**166**	LR	LR	18 32 49.5	
	comp=Z,117nm,19.0s,MS4.0,baz=219,slow=37						
DBIC	**Dimbokro**	**68.18**	**298**	P	**P**	**18 08 17.9**	**+1.0**
	2.5nm,0.7s,mb4.3,baz=88,slow=4.7,SNR=3.8						
DBIC				LR	LR	18 36 58.3	
	comp=Z,58nm,19.3s,MS3.8,baz=112,slow=35						
TORD	**Torodi Ar. Bea**	**68.51**	**307**	P	**P**	**18 08 19.7**	**+0.7**
	1.2nm,1.1s,mb3.7,baz=108,slow=4.7,SNR=3.0						
ASAR	**Alice Springs**	**70.50**	**105**	P	**P**	**18 08 30.7**	**-0.6**
	1.5nm,0.8s,mb4.0,baz=228,slow=5.9,SNR=22						
WRA	**Warramunga Arr**	**72.90**	**102**	P	**P**	**18 08 45.6**	**-0.1**
	1.7nm,0.7s,mb4.1,baz=232,slow=5.2,SNR=13						
PMG	**Port Moresby**	**89.08**	**101**	LR	LR	18 44 55.9	
	comp=Z,59nm,21.5s,MS4.0,baz=43,slow=32						
ILAR	**Eielson Array**	**150.72**	**16**	PKPbc	PKPbc	18 17 06.9	-2.0
	0.9nm,0.8s,baz=322,slow=3.3,SNR=8.3						

*MOS **27** 18:04:50.9±0.7, 6357N×15122W, h10km, mb4.7/18, Error ellipse: s-maj=13.2km s-min=5.8km az=92.6*
*BJI **27** 18:04:51.0, 6350N×151.10W, h14km, mB4.8, mb4.7, Ms4.5, Msz4.3*
*ISCJB **27** 18:04:52.3±0.6, 6358N±003×15122W±006, h17km±4km, mb4.4/50, MS3.5/3, Error ellipse: s-maj=5.0km s-min=4.1km az=87.2*
*NEIC **27** 18:04:53.0, 6350N×15108W, h14km, mb4.6/18, ML4.2(AEIC), ML4.5(PMR), After AEIC.*
NEIC Felt at Fairbanks and Nenana.
*IDC **27** 18:04:55.6±2.1, 6360N×151.11W, h25km±14km, mb4.1/20, mb1 4.2/25, mb1mx4.2/27, mbtmp4.2/25, ML3.7/5, MS3.2/6, Ms1 3.2/6, ms1mx2.8/40, Error ellipse: s-maj=12.5km s-min=10.3km az=80.0*

ISC 27 18:04:52.7±0.6, 6358N±003×15121W±006, h10km±3km, h15km±4.4km: pP-P, n136, σ0§87/145, mb4.4/50, MS3.5/3, 3C, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTH	**Kantishna Hill**	**0.13**	**101**	P	**Pg**	**18 04 55.7**	**-0.1**
KTH				S	**Sg**	**18 04 59.0**	**+1.0**
TRF	**Thorofare Moun**	**0.43**	**107**	P	**Pg**	**18 05 01.0**	**-0.3**
TRF				S	**Sg**	**18 05 06.7**	**-0.4**
MCK	**McKinley**	**1.03**	**80**	P	**Pg**	**18 05 12.0**	**-0.5**
MCK				S	**Sg**	**18 05 26.0**	**+0.1**
COLA	**College**	**1.96**	**47**	P	**Pn**	**18 05 25.8**	**-0.2**
COLA				S	**Sn**	**18 05 55.4**	**+4.8**
GHO	**Glory Hole Cre**	**2.10**	**149**	P	**Pn**	**18 05 26.7**	**-1.2**
PMR	**Palmer**	**2.22**	**153**	P	**Pn**	**18 05 28.5**	**-1.0**
PMR				S	**Sn**	**18 05 56.1**	**-0.8**
SML	**Sawmill**	**2.22**	**142**	P	**Pn**	**18 05 28.3**	**-1.2**
ILAR	**Eielson Array**	**2.24**	**56**	Pn	**Pn**	**18 05 29.4**	**-0.4**
	13nm,0.3s,baz=236,slow=14,SNR=952						
ILAR				Pg	**Pg**	**18 05 35.3**	**-0.3**
	77nm,0.3s,baz=229,slow=18,SNR=139						
ILAR				Lg		18 06 04.3	
	378nm,0.3s,baz=247,slow=29,SNR=26						
TTA	**Tatalina**	**2.27**	**255**	*e*P	**Pn**	**18 05 28.9**	**-1.3**
TT01	**Tatalina**	**2.28**	**255**	P	**Pn**	**18 05 29.6**	**-0.7**
FIB	**Fire Island**	**2.47**	**168**	P	**Pn**	**18 05 32.3**	**-0.7**
FIB				S	**Sn**	**18 06 04.3**	**+1.1**
RC01	**Rabbit Creek A**	**2.59**	**164**	P	**Pn**	**18 05 34.2**	**-0.4**
IM3	**Indian Mountai**	**2.65**	**337**	P	**Pn**	**18 05 36.9**	**+1.5**
PAX	**Paxson**	**2.67**	**101**	P	**Pn**	**18 05 36.7**	**+1.0**
PAX				S	**Sn**	**18 06 09.9**	**+1.9**
GCSA	**Galena City Sc**	**2.74**	**298**	P	**Pn**	**18 05 37.2**	**+0.5**
SLKM	**Skilak Lake**	**3.12**	**171**	P	**Pn**	**18 05 41.6**	**-0.3**
DOT	**Dot Lake**	**3.19**	**86**	P	**Pn**	**18 05 43.5**	**+0.5**
SVW2	**Sparrevohn**	**3.22**	**221**	P	**Pn**	**18 05 42.9**	**-0.4**
MENT	**Mentasta**	**3.45**	**97**	*e*P	**Pn**	**18 05 48.6**	**+2.2**
SEW	**Seward**	**3.59**	**166**	P	**Pn**	**18 05 49.4**	**+1.0**
COLD	**Coldfoot**	**3.69**	**6**	P	**Pn**	**18 05 51.3**	**+1.6**
EYAK	**Cordova Ski Ar**	**3.98**	**137**	P	**Pn**	**18 05 54.2**	**+0.4**
MID	**Middleton Isla**	**4.78**	**149**	*e*P	**Pn**	**18 06 06.1**	**+1.4**
DAWY	**Dawson**	**5.26**	**79**	*e*Pn	**Pn**	**18 06 10.6**	**-0.7**
KDAK	**Kodiak Island**	**5.86**	**187**	Pn	**Pn**	**18 06 18.4**	**-1.1**
	1.4nm,0.3s,baz=29,slow=8.5,SNR=15						
KDAK				Sn	**Sn**	**18 07 21.9**	**-4.8**
	2.2nm,0.3s,baz=1.5,slow=15,SNR=1.8						
KDAK	**Kodiak Island**	**5.86**	**187**	P	**Pn**	**18 06 21.0**	**+1.5**
TNA	**Tin City**	**7.46**	**293**	P	**Pn**	**18 06 43.0**	**+1.4**
INK	**Inuvik**	**8.62**	**49**	Pn	**Pn**	**18 06 57.8**	**+0.3**
	4.0nm,0.3s,baz=236,slow=17,SNR=44						
INK				Sn	**Sn**	**18 08 30.0**	**-4.7**
	1.3nm,0.3s,baz=218,slow=13,SNR=3.5						
INK				Lg		18 09 31.4	
	0.8nm,0.3s,baz=325,slow=25,SNR=4.2						
INK				LR	LR	18 10 58.7	
	comp=Z,155nm,19.0s,baz=69,slow=42						
INK	**Inuvik**	**8.62**	**49**	*e*P	**Pn**	**18 06 57.3**	**-0.2**
INK				pmax	pmax		
	comp=Z,29nm,0.7s						
INK	**Inuvik**	**8.62**	**49**	*e*Pn	**Pn**	**18 06 57.3**	**-0.2**
	comp=Z,28nm,0.7s						
SKAG	**Skagway**	**8.63**	**111**	*e*P	**Pn**	**18 06 58.5**	**+0.9**
SIT	**Sitka**	**10.22**	**123**	*e*P	**Pn**	**18 07 18.9**	**-0.4**
SIT				pmax	pmax		
	comp=Z,25nm,0.6s						
SIT	**Sitka**	**10.22**	**123**	*e*P	**Pn**	**18 07 18.9**	**-0.4**
	comp=Z,25nm,0.6s						
DLBC	**Dease Lake**	**11.47**	**107**	Pn	**Pn**	**18 07 37.0**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=274,slow=15,SNR=2.7						
DLBC				Lg		18 10 55.2	
	comp=Z,0.3nm,0.3s,baz=234,slow=26,SNR=4.4						
DLBC				LR	LR	18 12 18.8	
	comp=Z,128nm,18.6s,baz=153,slow=39						
DLBC	**Dease Lake**	**11.47**	**107**	*e*Pn	**Pn**	**18 07 36.3**	**-0.1**
YKW3	**Yellowknife Ar**	**16.47**	**77**	*e*Pn	**Pn**	**18 08 40.8**	**-3.0**
YKA	**Yellowknife Ar**	**16.50**	**77**	Pn	**Pn**	**18 08 41.9**	**-2.2**
	baz=291,slow=12,SNR=5.1						
YKA				LR	LR	18 14 46.8	
	comp=Z,74nm,20.3s,baz=300,slow=36						
BBB	**Bella Bella**	**16.65**	**123**	LR	LR	18 15 46.6	
	comp=Z,66nm,18.3s,baz=21,slow=39						
BILL	**Bilibino**	**17.69**	**303**	*e*P	**Pn**	**18 08 58.9**	**-0.2**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.7s						
RES	**Resolute Bay**	**21.86**	**36**	*e*P	**P**	**18 09 45.6**	**+0.2**
RES				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
RES	**Resolute Bay**	**21.86**	**36**	*e*P	**P**	**18 09 45.6**	**+0.2**
	comp=Z,4.3nm,0.6s,mb4.1						
EDM	**Edmonton**	**22.03**	**100**	*e*P	**P**	**18 09 47.4**	**+0.1**
NEW	**Newport**	**24.09**	**113**	P	**P**	**18 10 07.0**	**-1.3**
	comp=Z,3.6nm,0.8s,mb3.9,baz=329,slow=13,SNR=3.9						
NEW				LR	LR	18 20 15.8	
	comp=Z,135nm,18.4s,MS3.5,baz=176,slow=38						
NEW	**Newport**	**24.09**	**113**	P	**P**	**18 10 07.0**	**-1.3**
NEW				LR	LR	18 20 15.8	
FFC	**Flin Flon**	**26.11**	**87**	*e*P	**P**	**18 10 26.5**	**-0.2**
FFC				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.0						
FFC	**Flin Flon**	**26.11**	**87**	*e*P	**P**	**18 10 26.5**	**-0.1**
	comp=Z,4.9nm,0.9s,mb4.0						
FCC	**Fort Churchill**	**27.15**	**74**	*e*P	**P**	**18 10 34.7**	**-1.3**
FCC				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.9						
FCC	**Fort Churchill**	**27.15**	**74**	*e*P	**P**	**18 10 34.6**	**-1.4**
	comp=Z,2.2nm,0.5s,mb3.9						
YBH	**Yreka Blue Hor**	**27.46**	**129**	P	**P**	**18 10 38.4**	**-0.4**
	comp=Z,1.3nm,0.7s,mb3.6,baz=208,slow=10,SNR=1.7						
YBH				LR	LR	18 20 11.0	
	comp=Z,22nm,18.3

NOA	**NORSAR Array B**	**54.99**	**10**	P	**P**	**18 14 23.2**	**-0.9**
	comp=Z,1.1nm,0.7s,mb4.0,baz=350,slow=7.1,SNR=5.0						
NOA				PcP	PcP	18 15 23.1	-2.7
	comp=Z,0.5nm,0.8s,baz=11,slow=2.9,SNR=3.4						
ZAL	**Zalesovo**	**55.01**	**323**	P	**P**	**18 14 24.2**	**-0.1**
	comp=Z,2.4nm,0.8s,mb4.3,baz=80,slow=7.7,SNR=15						
ZAL	**Zalesovo**	**55.01**	**323**	P	**P**	**18 14 24.2**	**-0.1**
FINES	**FINESS Array B**	**55.28**	**2**	P	**P**	**18 14 25.6**	**-0.6**
	comp=Z,2.9nm,0.7s,mb4.4,baz=15,slow=7.9,SNR=13						
KLMR	**Klimovskoe**	**55.62**	**354**	*eP*	**P**	**18 14 28.8**	**+0.2**
KLMR				pmax	pmax		
	comp=Z,20nm,1.4s,mb5.0						
ARU	**Arti**	**58.13**	**341**	*i*/*P*	**P**	**18 14 46.3**	**-0.2**
ARU				*e*		18 16 52.3	
ARU				*eS*	**S**	**18 22 43.9**	**-3.8**
ARU				*eSS*	SS	18 26 36.3	-2.8
ARU				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.1						
EKA	**Eskdalemuir Ar**	**58.87**	**21**	P	**P**	**18 14 52.0**	**+0.5**
	comp=Z,6.2nm,0.5s,mb4.9,baz=332,slow=5.2,SNR=32						
OBN	**Obninsk**	**61.49**	**355**	*eP*	**P**	**18 15 09.6**	**+0.1**
OBN				*e*	pP	18 15 14.2	+1.4
OBN				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.1						
NJ2	**Nanjing**	**61.79**	**285**	*eP*	**P**	**18 15 14.3**	**+2.8**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.2						
MKAR	**Makanchi Array**	**62.16**	**321**	P	**P**	**18 15 13.2**	**-0.8**
	comp=Z,2.0nm,0.6s,mb4.4,baz=44,slow=6.9,SNR=32						
GTA	**Gaotai**	**63.07**	**305**	*eP*	**P**	**18 15 21.5**	**+1.3**
GTA				AP	pP	18 15 25.5	+2.0
GTA				XP	sP	18 15 29.0	+4.3
GTA				PP	PP	18 17 41.3	+2.5
GTA				PPP		18 19 11.0	
GTA				SCP	ScP	18 19 59.5	-0.7
GTA				PCS	PcS	18 20 03.3	+1.9
GTA				S	**S**	**18 23 52.5**	**+1.6**
GTA				SCS	ScS	18 25 09.0	-4.1
GTA				SS	SS	18 28 02.3	+5.8
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.9						
GTA				AMB	AMB		
	comp=Z,58nm,6.5s						
GTA				LR	LR		
	comp=N,63nm,8.7s						
GTA				LR	LR		
	comp=E,45nm,8.4s						
GTA				LR	LR		
	comp=Z,70nm,9.1s						
ORR	**Orenburg**	**63.35**	**342**	*eP*	**P**	**18 15 21.9**	**-0.1**
ORR				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.8						
AKTK	**Aktyubinsk**	**64.03**	**340**	P	**P**	**18 15 26.6**	**+0.2**
AKTO	**Aktyubinsk**	**64.03**	**340**	P	**P**	**18 15 26.6**	**+0.2**
	comp=Z,8.1nm,0.9s,mb4.8,baz=11,slow=6.1,SNR=19						
LZH	**Lanzhou**	**64.47**	**300**	*eP*	**P**	**18 15 32.5**	**+3.2**
LZH				AP	pP	18 15 37.3	+4.7
LZH				XP	sP	18 15 39.5	+5.6
LZH				*e*PP	PP	18 17 56.0	+4.9
LZH				AMB	AMB		
	comp=Z,18nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,48nm,7.3s						
LZH				LR	LR		
	comp=E,157nm,17.5s						
LZH				LR	LR		
	comp=Z,243nm,18.7s,MS4.4						
LZH	**Lanzhou**	**64.47**	**300**	*eP*	**P**	**18 15 29.5**	**+0.2**
LZH				*PP	pP	18 15 32.7	+0.1
LZH				*SP	sP	18 15 34.1	+0.2
LZH				*e*		18 17 52.5	
LZH				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.9						
LZH	**Lanzhou**	**64.47**	**300**	*eP*	**P**	**18 15 29.5**	**+0.2**
	comp=Z,19nm,1.4s,mb4.9						
LZH				*eP*	pP	18 15 32.5	-0.1
LZH				pP	pP	18 15 32.7	+0.1
LZH				sP	sP	18 15 34.1	+0.2
LZH				pP	pP	18 15 37.2	+4.6
LZH				sP	sP	18 15 39.5	+5.6
LZH				*e*PP	PP	18 17 52.5	+1.4
LZH				*e*PP	PP	18 17 56.1	+5.0
BAIF	**Baives**	**65.07**	**17**	*eP*	**P**	**18 15 33.0**	**-0.2**
	comp=Z,5.1nm,0.6s,mb4.5						
BAIF	**Baives**	**65.07**	**17**	*eP*	**P**	**18 15 33.0**	**-0.2**
BAIF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
BAIF	**Baives**	**65.07**	**17**	*eP*	**P**	**18 15 33.0**	**-0.2**
	comp=Z,2.5nm,0.6s,mb4.4						
DPC	**Dobruska-Polom**	**65.99**	**9**	*eP*	**P**	**18 15 39.0**	**-0.2**
AKASG	**Malin Array Be**	**66.06**	**360**	P	**P**	**18 15 38.8**	**-0.9**
	comp=Z,3.7nm,0.6s,mb4.6,baz=360,slow=6.4,SNR=18						
KHC	**Kasperske Hory**	**67.00**	**11**	*eP*	**P**	**18 15 46.1**	**+0.4**
GERES	**GERESS Array B**	**67.29**	**11**	P	**P**	**18 15 47.3**	**-0.3**
	comp=Z,1.0nm,0.8s,mb3.9,baz=5.6,slow=6.8,SNR=5.0						
HAU	**Haudompre**	**67.36**	**16**	*eP*	**P**	**18 15 47.6**	**-0.3**
LOR	**Lormes**	**67.75**	**18**	*eP*	**P**	**18 15 50.3**	**-0.1**
	comp=Z,12nm,0.9s,mb4.6						
LOR	**Lormes**	**67.75**	**18**	*eP*	**P**	**18 15 50.3**	**-0.1**
LOR				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
LOR	**Lormes**	**67.75**	**18**	*eP*	**P**	**18 15 50.3**	**-0.1**
	comp=Z,5.8nm,0.9s,mb4.6						
MFF	**Saint Martin d**	**67.80**	**21**	*eP*	**P**	**18 15 50.6**	**-0.2**
	comp=Z,5.4nm,0.6s,mb4.5						
MFF	**Saint Martin d**	**67.80**	**21**	*eP*	**P**	**18 15 50.6**	**-0.2**
MFF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
MFF	**Saint Martin d**	**67.80**	**21**	*eP*	**P**	**18 15 50.6**	**-0.2**
	comp=Z,2.7nm,0.6s,mb4.5						
SSF	**Saint Saulge**	**67.91**	**18**	*eP*	**P**	**18 15 51.3**	**-0.1**
	comp=Z,9.3nm,0.8s,mb4.5						
SSF	**Saint Saulge**	**67.91**	**18**	*eP*	**P**	**18 15 51.3**	**-0.1**
SSF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
SSF	**Saint Saulge**	**67.91**	**18**	*eP*	**P**	**18 15 51.3**	**-0.1**
	comp=Z,4.7nm,0.8s,mb4.6						
AVF	**Avril sur Loir**	**68.15**	**19**	*eP*	**P**	**18 15 52.8**	**-0.1**
SMF	**Signal de Mont**	**68.36**	**18**	*eP*	**P**	**18 15 54.0**	**-0.3**
CABF	**La Chapelle**	**68.69**	**17**	*eP*	**P**	**18 15 56.5**	**+0.1**
	comp=Z,6.2nm,0.6s,mb4.4						
CABF	**La Chapelle**	**68.69**	**17**	*eP*	**P**	**18 15 56.5**	**+0.1**
CABF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
CABF	**La Chapelle**	**68.69**	**17**	*eP*	**P**	**18 15 56.5**	**+0.1**
	comp=Z,3.1nm,0.6s,mb4.4						
DAVOX	**Davos**	**68.97**	**14**	P	**P**	**18 15 59.2**	**+1.1**
	comp=Z,1.5nm,0.5s,mb4.2,baz=343,slow=17,SNR=3.0						
LFF	**La Frestale**	**69.56**	**21**	*eP*	**P**	**18 16 01.6**	**-0.1**
CAF	**Calviac**	**69.78**	**20**	*eP*	**P**	**18 16 02.8**	**-0.3**
VIVF	**Saint-Julien-l**	**70.23**	**18**	*eP*	**P**	**18 16 05.8**	**0.0**
ORIF	**Oris-en-Rattie**	**70.33**	**17**	*eP*	**P**	**18 16 06.3**	**-0.2**
	comp=Z,2.3nm,0.4s,mb4.1						
SMRF	**Simiane la Rot**	**71.22**	**17**	*eP*	**P**	**18 16 11.7**	**-0.2**
	comp=Z,24nm,1.2s,mb4.7						
SMRF	**Simiane la Rot**	**71.22**	**17**	*eP*	**P**	**18 16 11.7**	**-0.2**
	comp=Z,24nm,1.2s,mb5.0						
KIV	**Kislovodsk**	**72.24**	**350**	*eP*	**P**	**18 16 17.8**	**-0.2**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
ESDC	**Sonseca Array**	**73.84**	**26**	P	**P**	**18 16 27.5**	**0.0**
	comp=Z,4.3nm,0.7s,mb4.5,baz=342,slow=6.0,SNR=24						
KMI	**Kunming**	**74.60**	**295**	P	**P**	**18 16 35.3**	**+3.4**
KMI				XP	sP	18 16 41.3	+4.8
KMI				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
KMI	**Kunming**	**74.60**	**295**	P	**P**	**18 16 35.3**	**+3.4**
KMI				*SP	sP	18 16 41.2	+4.7
KMI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
KMI	**Kunming**	**74.60**	**295**	P	**P**	**18 16 35.3**	**+3.4**
	comp=Z,4.0nm,0.8s,mb4.4						
KMI				sP	sP	18 16 41.2	+4.7
BRTR	**Keskin Array B**	**76.97**	**356**	P	**P**	**18 16 45.4**	**-0.1**
	comp=Z,0.7nm,0.4s,mb3.9,baz=18,slow=2.0,SNR=5.3						
BOSA	**Boshof**	**144.95**	**5**	PKP	PKPdf	18 24 28.5	-1.5
	comp=Z,5.6nm,0.8s,baz=298,slow=1.7,SNR=6.3						
QSPA	**South Pole Qui**	**153.39**	**180**	*eP*	PKPdf	18 24 48.3	+4.8

IDC 27 18:31:58.5±2.7, 824S×10997E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.6/17, mbtmp3.6/6, ML3.2/1, Error ellipse: s-maj=124.1km s-min=22.4km az=54.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.12**	**124**	P	Pn	18 36 10.8	-0.8
	0.1nm,0.3s,baz=314,slow=16,SNR=3.2						
WRA	**Warramunga Arr**	**26.30**	**119**	P	P	18 37 37.8	+2.1
	0.4nm,0.5s,baz=292,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**27.59**	**127**	P	P	18 37 48.0	+0.7
	0.4nm,0.6s,baz=306,slow=9.2,SNR=7.7						
STKA	**Stephens Creek**	**37.64**	**133**	P	P	18 39 14.2	-0.9
	1.4nm,0.7s,baz=320,slow=9.6,SNR=5.9						
SONM	**Songino Array**	**55.92**	**357**	P	P	18 41 37.8	-0.5
	0.3nm,0.8s,baz=159,slow=9.1,SNR=2.8						
MKAR	**Makanchi Array**	**60.08**	**338**	P	P	18 42 07.9	+0.5
	0.2nm,0.7s,baz=152,slow=6.5,SNR=2.9						

*NEIC **27** 18:35:41.3±4.8, 2339S×17968W, h517km±47km, mb4.6/7, Error ellipse: s-maj=53.0km s-min=19.4km az=222.0*

*IDC **27** 18:35:43.1±8.0, 2351S×17998E, h502km±35km, mb3.6/7, mb1 3.6/8, mb1mx3.4/17, mbtmp4.5/8, Error ellipse: s-maj=121.0km s-min=27.2km az=59.0*

*ISCJB **27** 18:35:44.8±6.0, 237S±04×1799E±05, h534km±55km, mb4.2/12, Error ellipse: s-maj=84.9km s-min=22.1km az=97.8*

ISC 27 18:35:43.1±5.7, 236S±04×1800W±05, h506km±47km, n22, σ0884/21, mb4.1/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.85**	**189**	P	**P**	**18 38 50.9**	**-0.6**
	1.8nm,0.3s,baz=329,slow=2.2,SNR=7.1						
RPZ	**Rata Peaks**	**21.41**	**198**	P	**P**	**18 39 55.3**	**+1.2**
	4.0nm,0.7s,mb4.1,baz=1.8,slow=20,SNR=3.4						
CTA	**Charters Tower**	**31.51**	**270**	*eP*	**P**	**18 41 24.2**	**+1.2**
	11nm,0.3s,mb4.8						
CTA	**Charters Tower**	**31.51**	**270**	P	**P**	**18 41 23.9**	**+1.0**
	15nm,0.3s,mb4.8,baz=94,slow=11,SNR=39						
CTAO	**Charters Tower**	**31.51**	**270**	*eP*	**P**	**18 41 24.1**	**+1.1**
	18nm,0.5s,mb4.8						
TAU	**Tasmania Unive**	**33.18**	**227**	P	**P**	**18 41 40.6**	**+3.4**
	31nm,1.0s,mb4.7						
PMG	**Port Moresby**	**34.43**	**289**	P	**P**	**18 41 48.0**	**+0.3**
	5.9nm,0.7s,mb4.1,baz=102,slow=6.1,SNR=3.8						
STKA	**Stephens Creek**	**34.88**	**248**	P	**P**	**18 41 50.1**	**-1.3**
	0.6nm,0.3s,mb3.5,baz=79,slow=10,SNR=3.4						
STKA	**Stephens Creek**	**34.88**	**248**	*eP*	**P**	**18 41 49.0**	**-2.5**
AS31	**Alice Springs**	**42.12**	**260**	*eP*	**P**	**18 42 50.5**	**+0.1**
ASAR	**Alice Springs**	**42.13**	**260**	P	**P**	**18 42 50.6**	**+0.2**
	3.2nm,0.6s,mb4.0,baz=94,slow=7.4,SNR=94						
ASAR				ScP	ScP	18 47 36.0	+0.6
	0.8nm,0.6s,baz=107,slow=4.2,SNR=14						
ASPA	**Alice Springs**	**42.13**	**260**	*eP*	**P**	**18 42 50.5**	**+0.1**
WB2	**Warramunga Arr**	**42.46**	**266**	*eP*	**P**	**18 42 52.8**	**-0.2**
WRAB	**Tennant Creek**	**42.46**	**266**	*eP*	**P**	**18 42 52.5**	**-0.6**
	8.1nm,0.4s,mb4.5						
WRA	**Warramunga Arr**	**42.47**	**266**	P	**P**	**18 42 52.8**	**-0.2**
	2.8nm,0.3s,mb4.1,baz=95,slow=8.3,SNR=196						
KAKA	**Kakadu**	**46.32**	**275**	*eP*	**P**	**18 43 22.7**	**-0.1**
	5.0nm,0.4s,mb4.3						
FORT	**Forrest**	**46.46**	**249**	*eP*	**P**	**18 43 23.0**	**-0.9**
	6.6nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**50.89**	**265**	*eP*	**P**	**18 43 57.4**	**+0.5**
	4.9nm,1.1s,mb3.8						
FITZ	**Fitzroy Crossi**	**50.89**	**265**	P	**P**	**18 43 57.3**	**+0.4**
	1.3nm,0.5s,mb3.5,baz=98,slow=11,SNR=9.4						
VNDA	**Vanda**	**54.70**	**185**	*eP*	**P**	**18 44 32.5**	**+8.3**
QSPA	**South Pole Qui**	**66.51**	**180**	*eP*	**P**	**18 45 41.9**	**-0.3**
	0.5nm,0.5s,mb3.4						
HFS	**Hagfors**	**142.24**	**349**	PKhKP		18 54 12.6	
	0.7nm,0.3s,baz=101,slow=1.5,SNR=8.8						

IDC 27 18:57:08.7±14.0, 800S×10941E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=231.8km s-min=179.0km az=149.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.71**	**124**	P	Pn	19 01 27.9	-1.1
	0.1nm,0.3s,baz=319,slow=11,SNR=5.1						
WRA	**Warramunga Arr**	**26.90**	**119**	P	P	19 02 53.3	+2.0
	0.5nm,0.5s,baz=295,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**28.17**	**126**	P	P	19 03 03.8	+1.0
	0.3nm,0.6s,baz=306,slow=8.8,SNR=7.3						
STKA	**Stephens Creek**	**38.21**	**133**	P	P	19 04 28.6	-1.5
	0.9nm,0.7s,baz=342,slow=11,SNR=3.0						

*IDC **27** 18:59:11.2±0.7, 2061N×12003E, h0km, mb4.0/14, mb1 4.2/14, mb1mx4.1/21, mbtmp4.0/14, MS3.4/8, Ms1 3.4/8, ms1mx3.0/29, Error ellipse: s-maj=31.7km s-min=15.0km az=67.0*

*ISCJB **27** 18:59:12.6±2.3, 2064N±004×12002E±005, h19km±17km, mb4.2/31, MS3.3/8, Error ellipse: s-maj=8.0km s-min=5.6km az=138.5*

*BJI **27** 18:59:12.3, 2057N×11982E, h16km, mB4.5, mb4.2, ML3.5, Ms4.2, Msz3.9*

*MOS **27** 18:59:14.5±1.1, 2064N×11997E, h33km, mb4.7/12, Error ellipse: s-maj=15.9km s-min=7.7km az=115.5*

*NEIC **27** 18:59:16.6±0.3, 2063N×12002E, h35km, mb4.6/15, Error ellipse: s-maj=9.4km s-min=6.6km az=87.0*

ISC 27 18:59:16.1±2.4, 2069N±004×12007E±005, h30km±17km, n75, σ1905/82, mb4.2/31, MS3.3/8, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**3.74**	**22**	*e*Pn	**Pn**	**19 00 11.8**	**0.0**
NACB				*e*Sn	**Sn**	**19 00 51.2**	**-3.6**
YHNB	**Yeheng**	**4.14**	**17**	*e*P	**Pn**	**19 00 16.8**	**-0.4**
YHNB				*e*Sn	**Sn**	**19 01 03.9**	**-0.6**
PALP	**Palanan**	**4.25**	**148**	*i*/*P*	**Pn**	**19 00 17.9**	**-0.8**
PALP				*i* S	**Sn**	**19 01 07.7**	**+0.5**
QZH	**Quanzhou**	**4.44**	**342**	P	**Pn**	**19 00 18.8**	**-2.6**
QZH				S	**Sn**	**19 01 06.3**	**-5.8**
QZH				Smax			
	comp=N,100nm,1.0s						
QZH				Smax			
	comp=E,140nm,1.0s						
QZH				LR	LR		
	comp=N,1μm,9.6s						
QZH				LR	LR		
	comp=E,1μm,6.2s						
QZH				LR	LR		
	comp=Z,1μm,8.2s						
TATO	**Taipei**	**4.46**	**17**	*e*P	**Pn**	**19 00 24.6**	**+3.0**
JOW	**Kunigami**	**9.69**	**49**	LR	LR	19 06 14.6	
	comp=Z,159nm,18.3s,baz=298,slow=43						
QIZ	**Qiongzhong**	**9.76**	**262**	P	**Pn**	**19 01 29.5**	**-4.9**
QIZ				*e*S	**Sn**	**19 03 24.5**	**+1.6**
QIZ				LR	LR		
	comp=E,501nm,9.8s						
QIZ				LR	LR		
	comp=Z,606nm,9.8s						
NJ2	**Nanjing**	**11.36**	**355**	*e*P	**Pn**	**19 02 02.3**	**+6.0**
NJ2				S	**Sn**	**19 04 08.0**	**+5.8**
NJ2				PCP	PcP	19 07 46.5	-2.4
NJ2				PCS	PcS	19 11 25.0	+2.2
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,40nm,9.8s						
NJ2				LR	LR		
	comp=N,650nm,9.9s						
NJ2				LR	LR		
	comp=E,1μm,11.4s						
NJ2				LR	LR		
	comp=Z,430nm,9.0s						
KMI	**Kunming**	**16.56**	**289**	P	**Pn**	**19 03 07.5**	**+1.5**
KMI				AP	pP	19 03 10.5	-5.8
KMI				XP	sP	19 03 12.5	-7.6
KMI				PP		19 03 18.5	
KMI				PPP		19 03 29.8	
KMI				S	**Sn**	**19 06 07.5**	**-1.4**
KMI				XS	sS	19 06 11.5	-21
KMI				SS		19 06 27.3	
KMI				AMB	AMB		
	comp=Z,81nm,4.4s						
KMI				LR	LR		
	comp=N,124nm,11.3s						
KMI				LR	LR		
	comp=E,203nm,12.0s						
KMI				LR	LR		
	comp=Z,175nm,15.0s						
KMI	**Kunming**	**16.56**	**289**	P	**Pn**	**19 03 07.6**	**+1.6**
KMI				S	**Sn**	**19 06 07.6**	**-1.3**
KMI	**Kunming**	**16.56**	**289**	P	**Pn**	**19 03 07.6**	**+1.6**
	comp=Z,0.1nm,4.4s						
KMI				pP	pP	19 03 10.4	-5.8
KMI				sP	sP	19 03 12.4	-7.7
KMI				PP		19 03 18.5	
KMI				PPP		19 03 29.7	
KMI				S	**Sn**	**19 06 07.6**	**-1.3**
KMI				sS	sS	19 06 11.6	-21
KMI				SS		19 06 27.2	
KS15	**Wonju Array Si**	**18.02**	**20**	*e*P	**Pn**	**19 03 23.9**	**-0.3**
BJT	**Baijiatuau**	**19.55**	**351**	*e*P	**Pn**	**19 03 42.0**	**-0.7**
BJT				pmax	pmax		
	comp=Z,18nm,1.1s						
BJT	**Baijiatuau**	**19.55**	**351**	*e*P	**Pn**	**19 03 42.0**	**-0.7**
	comp=Z,18nm,1.1s						
BJI	**Beijing**	**19.57**	**351**	*e*P	**Pn**	**19 03 42.8**	**-0.1**
BJI				AMB	AMB		
	comp=Z,11nm,0.9s						
BJI				LR	LR		
	comp=N,217nm,11.7s						
BJI				LR	LR		
	comp=E,103nm,14.8s						
BJI				LR	LR		
	comp=Z,43nm,17.9s						
BJI	**Beijing**	**19.57**	**351**	*e*P	**Pn**	**19 03 42.7**	**-0.2**
BJI				pmax	pmax		
	comp=Z,11nm,0.9s						
BJI	**Beijing**	**19.57**	**351**	*e*P	**Pn**	**19 03 42.7**	**-0.2**
	comp=Z,11nm,0.9s						
BJI				S	**Sn**	**19 07 28.4**	**+6.7**
LZH	**Lanzhou**	**20.90**	**321**	*e*P	**P**	**19 03 56.5**	**+0.6**
LZH				AP		19 04 06.5	
LZH				XP	sP	19 04 10.5	+2.7
LZH				AMB	AMB		
	comp=Z,28nm,1.5s						
LZH	**Lanzhou**	**20.90**	**321**	*e*P	**P**	**19 03 56.5**	**+0.6**
	comp=Z,28nm,1.5s						
LZH				pP		19 04 06.5	
LZH				sP	sP	19 04 10.5	+2.7
KSM	**Kuching**	**21.35**	**208**	P	**P**	**19 04 00.0**	**-0.7**
MAJO	**Matsushiro**	**22.37**	**41**	*e*P	**P**	**19 04 14.2**	**+2.6**
MAJO				pmax	pmax		
	comp=Z,27nm,1.4s,mb4.5						
MAJO	**Matsushiro**	**22.37**	**41**	*e*P	**P**	**19 04 14.2**	**+2.6**
	comp=Z,27nm,1.4s,mb4.5						
MJAR	**Matsushiro Arr**	**22.37**	**41**	P	**P**	**19 04 12.1**	**+0.5**
	comp=Z,5.1nm,0.8s,mb4.0,baz=232,slow=9.5,SNR=7.9						
MJAR				LR	LR	19 13 07.0	
	comp=Z,83nm,18.4s,MS3.2,baz=225,slow=37						
GUMO	**Guam**	**24.71**	**103**	LR	LR	19 14 13.6	
	comp=Z,72nm,18.4s,MS3.2,baz=240,slow=36						
MDJ	**Mudanjiang**	**25.13**	**16**	P	**P**	**19 04 39.3**	**+0.9**
MDJ				AP	pP	19 04 42.3	-4.7
MDJ				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,83nm,4.4s						
MDJ				LR	LR		
	comp=N,24nm,18.9s,MS3.2						
MDJ				LR	LR		
	comp=E,61nm,18.9s,MS3.2						
MDJ	**Mudanjiang**	**25.13**	**16**	P	**P**	**19 04 39.7**	**+1.3**
	comp=E,11nm,0.9s,mb4.4						
GTA	**Gaotai**	**25.49**	**321**	*e*P	**P**	**19 04 42.8**	**+1.1**
GTA				AP	pP	19 04 51.0	+0.7
GTA				XP	sP	19 04 54.0	0.0
GTA				AMB	AMB		
	comp=Z,4.0nm,2.0s,mb3.6						
PSI	**Prapat**	**27.22**	**232**	LR	LR	19 14 59.4	
	comp=Z,88nm,18.3s,MS3.4,baz=357,slow=35						
LSA	**Lhasa**	**27.60**	**295**	P	**P**	**19 04 59.3**	**-1.3**
SONM	**Songino Array**	**29.25**	**341**	P	**P**	**19 05 15.6**	**+0.3**
	comp=Z,1.0nm,0.9s,mb3.5,baz=164,slow=11,SNR=9.6						
SONM				LR	LR	19 17 35.2	
	comp=Z,61nm,18.2s,MS3.3,baz=97,slow=38						
ASAJ	**Asahikawa**	**29.94**	**34**	LR	LR	19 17 42.5	
	comp=Z,85nm,18.3s,MS3.4,baz=156,slow=37						
MKAR	**Makanchi Array**	**40.21**	**319**	P	**P**	**19 06 50.1**	**+0.3**
	comp=Z,0.9nm,0.8s,mb3.6,baz=115,slow=9.2,SNR=11						
MBWA	**Marble Bar**	**41.60**	**180**	P	**P**	**19 06 54.1**	**-7.1**
	comp=Z,43nm,1.4s,mb4.9						
ZAL	**Zalesovo**	**42.67**	**330**	P	**P**	**19 07 10.3**	**+0.3**
	comp=Z,1.1nm,0.4s,mb3.9,baz=358,slow=8.0,SNR=8.1						
ZAL				LR	LR	19 25 06.1	
	comp=Z,31nm,21.4s,MS3.2,baz=109,slow=36						
ZAL	**Zalesovo**	**42.67**	**330**	P	**P**	**19 07 10.3**	**+0.3**
ZAL				LR	LR	19 25 06.1	
WRAB	**Tennant Creek**	**42.73**	**160**	*e*P	**P**	**19 07 09.9**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.8						
WRAB	**Tennant Creek**	**42.73**	**160**	*e*P	**P**	**19 07 09.9**	**-0.5**
	comp=Z,22nm,1.0s,mb4.8						
WRA	**Warramunga Arr**	**42.73**	**160**	P	**P**	**19 07 09.9**	**-0.6**
	comp=Z,10nm,1.0s,mb4.5,baz=342,slow=9.0,SNR=23						
WB2	**Warramunga Arr**	**42.74**	**160**	*e*P	**P**	**19 07 10.2**	**-0.3**
NVS	**Novosibirsk**	**43.94**	**330**	*e*P	**P**	**19 07 16.6**	**-3.6**
KURK	**Kurchatov**	**44.16**	**323**	*e*P	**P**	**19 07 22.2**	**+0.2**
KURK				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.4						
KURK	**Kurchatov**	**44.16**	**323**	*e*P	**P**	**19 07 22.2**	**+0.2**
	comp=Z,12nm,1.4s,mb4.4						
ASAR	**Alice Springs**	**46.11**	**162**	P	**P**	**19 07 37.5**	**+0.1**
	comp=Z,0.8nm,0.4s,mb4.0,baz=343,slow=6.9,SNR=19						
CTAO	**Charters Tower**	**47.95**	**146**	*e*P	**P**	**19 07 53.4**	**+1.5**
CTAO				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
CTAO	**Charters Tower**	**47.95**	**146**	*e*P	**P**	**19 07 53.4**	**+1.5**
	comp=Z,8.6nm,0.9s,mb4.8						
BRVK	**Borovoye**	**49.84**	**323**	*e*P	**P**	**19 08 06.7**	**+0.4**
BRVK				pmax	p

comp=Z,34nm,1.1s,mb5.2
HFS Hagfors 80.09 331 P **P 19 11 22.5 -0.5**
comp=Z,2.1nm,0.7s,mb4.2,baz=106,slow=9.4,SNR=6.3
NB2 NORSAR Subarra 80.81 332 P **P 19 11 26.7 -0.2**
comp=Z,0.7nm,0.7s,mb3.7,baz=64,slow=5.3
NOA NORSAR Array B 80.81 332 P **P 19 11 26.6 -0.2**
comp=Z,1.7nm,0.8s,mb4.0,baz=62,slow=5.3,SNR=4.3
NOA LR LR 19 50 59.4
comp=Z,27nm,19.1s,MS3.6,baz=200,slow=38
BRG Berggiesshubel 83.86 322 *eP* **P 19 11 43.9 +1.1**
BRG pmax pmax
comp=Z,5.0nm,1.4s,mb4.5
BRG Berggiesshubel 83.86 322 *eP* **P 19 11 43.9 +1.1**
BRG pmax pmax
comp=Z,5.0nm,1.4s,mb4.5
BRG Berggiesshubel 83.86 322 *eP* **P 19 11 43.9 +1.1**
comp=Z,4.5nm,1.4s,mb4.4
CLL Collm 84.20 323 *i* P **P 19 11 44.9 +0.4**
comp=Z,12nm,1.3s,mb4.9
CLL *es*P sP 19 11 59.0 +1.4
YKA Yellowknife Ar 86.58 22 P **P 19 11 57.0 +0.6**
comp=Z,1.1nm,0.8s,mb4.2,baz=315,slow=5.1,SNR=7.4
YKA Yellowknife Ar 86.58 22 P **P 19 11 57.0 +0.6**
BAIF Baives 89.69 325 *eP* **P 19 12 07.9 -3.3**

MOS ***27*** *19:07:09.8±1.2, 34.04N×25.23E, h10km, mb4.0/10, Error ellipse: s-maj=8.0km s-min=5.2km az=113.1*
BJI ***27*** *19:07:13.2, 34.20N×25.30E, h4.4km, mB4.9, mb4.2, Ms4.7, Msz4.2*
ISCJB ***27*** *19:07:14.1±0.2, 34.18N±0.02×25.28E±0.03, h33km, mb3.8/19, MS3.8/1, Error ellipse: s-maj=3.6km s-min=2.3km az=92.2*
CSEM ***27*** *19:07:15.2±0.0, 34.22N×25.38E, h57km, mb3.8/2, Ms3.6, Error ellipse: s-maj=1.7km s-min=0.8km az=40.0*
THE ***27*** *19:07:15.2, 34.32N×25.30E, h10km*
HLW ***27*** *19:07:16.4, 34.36N×25.51E, h19km, Mb4.0*
NEIC ***27*** *19:07:16.2±0.6, 34.17N×25.30E, h44km±5km, mb3.8/12, MD4.1(ATH), Error ellipse: s-maj=9.5km s-min=3.5km az=191.0*
ATH ***27*** *19:07:16.2, 34.35N×25.19E, h29km±1km, MD4.1/13*
IDC ***27*** *19:07:16.6±2.5, 34.37N×25.30E, h32km±16km, mb3.6/11, mb1 3.7/16, mb1mx3.6/28, mbtmp3.8/16, ML4.0/5, Error ellipse: s-maj=20.8km s-min=15.6km az=178.0*

ISC 27 19:07:16.7±0.2, 34.26N±0.002×25.28E±0.002, h35km, n170, σ1s90/188, mb3.8/19, MS3.8/1, 8C-15D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.71**	**29**	*e*PN	**Pn**	**19 07 29.5**	**-0.7**
SIVA	**Sivas**	**0.85**	**333**	*e*Pg	**Pn**	**19 07 31.4**	**-0.7**
SIVA				*e*Sg	**Sn**	**19 07 42.9**	**-0.6**
SIVA	**Sivas**	**0.85**	**333**	*e*Pg	**Pn**	**19 07 31.5**	**-0.7**
SIVA				*e*Sg	**Sn**	**19 07 42.8**	**-0.6**
LAST	**Lasithi**	**0.92**	**10**	*e*Pg	**Pn**	**19 07 32.5**	**-0.5**
LAST				*e*Sg	**Sn**	**19 07 46.0**	**-0.9**
NPS	**Neapolis**	**1.04**	**15**	*e*PN	**Pn**	**19 07 34.8**	**0.0**
NPS				*e*SN	**Sn**	**19 07 48.5**	**+0.4**
IDI	**Anoyia**	**1.08**	**343**	Pg	**Pn**	**19 07 35.1**	**-0.1**
	132nm,0.3s,baz=161,slow=15,SNR=504						
IDI				Lg		19 07 49.0	
	254nm,0.3s,baz=274,slow=22,SNR=14						
GVD	**Gavdhos**	**1.14**	**301**	*e*Pg	**Pn**	**19 07 37.2**	**+1.1**
GVD				*e*Sg	**Sn**	**19 07 54.0**	**+3.5**
GVD	**Gavdhos**	**1.14**	**301**	*e*Pn	**Pn**	**19 07 36.0**	**-0.1**
GVD	**Gavdhos**	**1.14**	**301**	*e*Pg	**Pn**	**19 07 37.2**	**+1.1**
GVD				*e*Sg	**Sn**	**19 07 54.0**	**+3.4**
VAM	**Vamos**	**1.45**	**323**	*e*PN	**Pn**	**19 07 41.4**	**+1.0**
VAM				*e*SN	**Sn**	**19 07 58.7**	**+0.5**
VAM	**Vamos**	**1.45**	**323**	*e*Pn	**Pn**	**19 07 41.3**	**+0.9**
KARN	**Karanos**	**1.60**	**316**	*e*Pg	**Pn**	**19 07 43.2**	**+0.8**
KARP	**Karpathos**	**2.01**	**50**	*e*PN	**Pn**	**19 07 50.0**	**+1.9**
THR1	**Thera Island**	**2.12**	**4**	*e*Pn	**Pn**	**19 07 50.3**	**+0.7**
SANT	**Santorini**	**2.12**	**4**	*e*Pn	**Pn**	**19 07 50.1**	**+0.5**
SANT	**Santorini**	**2.12**	**4**	*e*Pn	**Pn**	**19 07 52.8**	**+3.3**
SANT				*e*Sn	**Sn**	**19 08 16.0**	**+1.4**
SANT	**Santorini**	**2.12**	**4**	*e*Pn	**Pn**	**19 07 50.1**	**+0.6**
SANT				*e*Sn	**Sn**	**19 08 16.0**	**+1.4**
THR3	**Thira Island,**	**2.15**	**3**	*e*Pn	**Pn**	**19 07 50.1**	**+0.1**
KYTH	**Kithira**	**2.73**	**318**	*e*PN	**Pn**	**19 07 59.0**	**+1.0**
SLUM		**2.76**	**181**	⇓P	**Pn**	**19 08 00.4**	**+2.1**
SLUM				S	**Sn**	**19 08 31.7**	**+1.3**
APE	**Apeiranthos**	**2.82**	**4**	*e*P	**Pn**	**19 07 59.0**	**-0.1**
APE	**Apeiranthos**	**2.82**	**4**	*e*PN	**Pn**	**19 08 00.4**	**+1.3**
APE	**Apeiranthos**	**2.82**	**4**	*e*Pn	**Pn**	**19 07 59.2**	**+0.1**
ARG	**Arkhangelos**	**3.04**	**49**	*e*PN	**Pn**	**19 08 05.5**	**+3.2**
DAT	**Datca**	**3.10**	**37**	*e*P	**Pn**	**19 08 03.2**	**+0.1**
VLI	**Veliai**	**3.11**	**323**	*e*PN	**Pn**	**19 08 04.3**	**+1.1**
BODT	**Bodrum**	**3.25**	**30**	*e*P	**Pn**	**19 08 05.9**	**+0.7**
BDRM	**Kayabasi**	**3.31**	**32**	*i* P	**Pn**	**19 08 06.6**	**+0.6**
MLSB	**Milas**	**3.65**	**33**	*e*P	**Pn**	**19 08 10.6**	**0.0**
DALT	**Dalyan (Mudla)**	**3.71**	**47**	*e*P	**Pn**	**19 08 12.7**	**+1.2**
YER	**Yerkesik**	**3.77**	**40**	*e*P	**Pn**	**19 08 13.2**	**+0.9**
NAIG	**Nisos Aigina**	**3.79**	**338**	*e*PN	**Pn**	**19 08 14.0**	**+1.5**
FETY	**Fethiye**	**3.91**	**52**	*e*P	**Pn**	**19 08 14.1**	**-0.1**
PTL	**Penteli**	**3.96**	**344**	*e*PN	**Pn**	**19 08 16.0**	**+1.2**
AYDN	**Tasoluk**	**4.00**	**31**	*i* P	**Pn**	**19 08 16.7**	**+1.2**
ELL	**Elmali**	**4.52**	**55**	*e*P	**Pn**	**19 08 23.7**	**+1.1**
DNZL	**Cakiroluk**	**4.59**	**41**	*i* P	**Pn**	**19 08 24.0**	**+0.4**
DENT	**Denizli**	**4.63**	**40**	*e*P	**Pn**	**19 08 24.0**	**-0.1**
MANT	**Manisa**	**4.99**	**31**	*i* P	**Pn**	**19 08 29.7**	**+0.7**
SWA1		**4.99**	**176**	⇓P	**Pn**	**19 08 31.0**	**+2.0**
SWA1				S	**Sn**	**19 09 25.2**	**-0.3**
SWA2		**5.00**	**178**	⇑P	**Pn**	**19 08 30.8**	**+1.7**
AGG	**Agios Georgios**	**5.32**	**334**	*e*Pn	**Pn**	**19 08 33.6**	**+0.1**
HBRG	**Burj al 'Arab**	**5.32**	**132**	⇑P	**Pn**	**19 08 33.3**	**-0.3**
HBRG				S	**Sn**	**19 09 29.5**	**-4.2**
XOR	**Xorichti**	**5.37**	**342**	*e*Pn	**Pn**	**19 08 34.5**	**+0.3**
EVR	**Evrytania**	**5.42**	**330**	*e*PN	**Pn**	**19 08 36.5**	**+1.5**
VLS	**Valsamata**	**5.45**	**317**	*e*PN	**Pn**	**19 08 37.2**	**+1.9**
ISP	**Isparta**	**5.55**	**48**	*e*P	**Pn**	**19 08 36.3**	**-0.4**
ISP	**Isparta**	**5.55**	**48**	*e*Pn	**Pn**	**19 08 36.5**	**-0.1**
ISP	**Isparta**	**5.55**	**48**	*e*Pn	**Pn**	**19 08 36.5**	**-0.2**
LKD	**Levkas**	**5.80**	**321**	*e*Pn	**Pn**	**19 08 40.6**	**+0.4**
PPCY	**Paphos**	**5.86**	**82**	P	**Pn**	**19 08 40.7**	**-0.3**
ALFC	**Alevga**	**6.10**	**79**	P	**Pn**	**19 08 43.2**	**-1.0**
HNAT	**Natroun**	**6.47**	**134**	⇑P	**Pn**	**19 08 49.2**	**-0.1**
MAMC	**Mammari**	**6.60**	**80**	P	**Pn**	**19 08 50.8**	**-0.4**
SQR		**6.65**	**129**	P	**Pn**	**19 08 51.4**	**-0.5**
SQR		**6.65**	**129**	P	**Pn**	**19 08 51.3**	**-0.5**
ERMK	**Ermenek**	**6.67**	**67**	*i* P	**Pn**	**19 08 51.3**	**-0.8**
CSS	**Prodhromos**	**6.68**	**82**	P	**Pn**	**19 08 51.1**	**-1.1**
FYM	**Al Fayyum**	**6.68**	**131**	⇓P	**Pn**	**19 08 52.0**	**-0.3**
AYT	**Al 'Ayyat**	**6.74**	**131**	⇓P	**Pn**	**19 08 52.9**	**-0.2**
KONT	**Konya--Tatoy**	**6.81**	**55**	*e*P	**Pn**	**19 08 54.7**	**+0.6**
KOT	**Kottamia**	**7.04**	**126**	⇑P	**Pn**	**19 08 56.6**	**-0.5**
KIZT	**Kizilcal**	**7.04**	**47**	*e*P	**Pn**	**19 08 57.1**	**0.0**
HSAF	**As Saff**	**7.06**	**129**	⇓P	**Pn**	**19 08 57.1**	**-0.3**
KNT	**Kendrikon**	**7.15**	**345**	*e*Pn	**Pn**	**19 09 00.1**	**+1.4**
GLL	**Jalalah**	**7.18**	**129**	⇓P	**Pn**	**19 08 58.9**	**-0.2**
HHAG	**Hagoal**	**7.20**	**125**	⇓P	**Pn**	**19 08 58.9**	**-0.5**
PHNC	**Paralimni**	**7.25**	**82**	P	**Pn**	**19 09 00.3**	**+0.2**
HBNS	**Bani Suwayf**	**7.32**	**135**	⇑P	**Pn**	**19 09 01.4**	**+0.4**
HFRF	**Wahat Farafira**	**7.55**	**159**	⇓P	**Pn**	**19 09 05.1**	**+0.9**
AMAG	**Maghara**	**7.61**	**116**	⇓P	**Pn**	**19 09 04.2**	**-0.8**
SUZ		**7.78**	**122**	⇑P	**Pn**	**19 09 07.0**	**-0.3**
ZAF		**7.93**	**127**	⇓P	**Pn**	**19 09 09.2**	**-0.2**
ANTO	**Ankara**	**8.21**	**45**	*e*P	**Pn**	**19 09 13.7**	**+0.4**
ANTO				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ANTO	**Ankara**	**8.21**	**45**	*e*Pn	**Pn**	**19 09 13.7**	**+0.5**
	comp=Z,6.3nm,0.7s						
ANTO	**Ankara**	**8.21**	**45**	*e*Pn	**Pn**	**19 09 13.7**	**+0.4**
	comp=Z,6.3nm,0.7s						
LCI	**Lecce**	**8.33**	**319**	P	**Pn**	**19 09 13.9**	**-1.0**
LCI				pmax	pmax		
	comp=Z,7.0nm,0.2s						
LCI	**Lecce**	**8.33**	**319**	Pn	**Pn**	**19 09 13.9**	**-1.0**
	comp=Z,7.3nm,0.2s						
SOI	**Samo**	**8.37**	**300**	Pn	**Pn**	**19 09 15.8**	**+0.3**
TIP	**Timpagrande**	**8.42**	**308**	*e*Pn	**Pn**	**19 09 14.8**	**-1.3**
TIP				*e*Sn	**Sn**	**19 10 33.3**	**-17**
TIP	**Timpagrande**	**8.42**	**308**	*e*Pn	**Pn**	**19 09 14.8**	**-1.3**
MMAI	**Mount Meron Ar**	**8.53**	**96**	Pn	**Pn**	**19 09 15.8**	**-1.9**
	comp=Z,2.8nm,0.3s,baz=283,slow=12,SNR=21						
MMAI				Sn	**Sn**	**19 10 48.0**	**-4.7**
	comp=Z,7.0nm,0.3s,baz=249,slow=14,SNR=3.6						
BR131	**Keskin Array S**	**8.63**	**48**	*e*Pn	**Pn**	**19 09 18.9**	**-0.1**
	comp=Z,1.0nm,0.4s						
BRTR	**Keskin Array B**	**8.63**	**48**	Pn	**Pn**	**19 09 17.9**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=220,slow=14,SNR=12						
HAVL	**Avola**	**8.70**	**291**	Pn	**Pn**	**19 09 19.0**	**-0.9**
TR2		**9.29**	**127**	⇑P	**Pn**	**19 09 27.3**	**-0.8**
HKAT	**Jabal Katrina**	**9.38**	**125**	⇑P	**Pn**	**19 09 29.0**	**-0.3**
VAE	**Valguarnera**	**9.39**	**293**	Pn	**Pn**	**19 09 30.0**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=90,slow=5.1,SNR=2.6						
VAE				Sn	**Sn**	**19 11 10.5**	**-3.1**
	comp=Z,1.1nm,0.3s,baz=192,slow=9.3,SNR=3.0						
EIL	**Elat**	**9.40**	**116**	*e*Pn	**Pn**	**19 09 29.2**	**-0.4**
	comp=Z,122nm,0.6s						
EIL				*e*Sn	**Sn**	**19 10 59.4**	**-15**
EIL	**Elat**	**9.40**	**116**	*e*Pn	**Pn**	**19 09 29.2**	**-0.4**
	comp=Z,122nm,0.6s						
CUC	**Castrocucco**	**9.48**	**310**	Pn	**Pn**	**19 09 30.4**	**-0.2**
SLCN	**Sala Consilina**	**9.82**	**311**	Pn	**Pn**	**19 09 35.6**	**+0.3**
ASF	**Jabal al Asfar**	**9.95**	**99**	Pn	**Pn**	**19 09 35.5**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=180,slow=7.0,SNR=3.3						
ASF				Sn	**Sn**	**19 11 23.3**	**-4.2**
	comp=Z,0.9nm,0.3s,baz=266,slow=21,SNR=3.7						
HHRG	**Al Ghardaqah**	**10.00**	**132**	⇓P	**Pn**	**19 09 37.5**	**-0.2**
HSFG		**10.69**	**133**	⇓P	**Pn**	**19 09 47.1**	**-0.1**
ASHG	**Umm Shaghir**	**12.29**	**151**	P	**Pn**	**19 10 11.2**	**+2.1**
EMRS	**Mersa Alam**	**12.40**	**135**	⇓P	**Pn**	**19 10 11.5**	**+0.9**
HMSM	**Jabal Masmas**	**12.73**	**151**	⇓P	**Pn**	**19 10 17.1**	**+2.0**
HMSM	**Jabal Masmas**	**12.73**	**151**	P	**Pn**	**19 10 17.0**	**+1.9**
PGF	**Pioggiola**	**15.20**	**308**	*e*P	**Pn**	**19 10 48.2**	**-0.4**
	comp=Z,49nm,1.5s						
PGF	**Pioggiola**	**15.20**	**308**	*e*P	**Pn**	**19 10 48.2**	**-0.4**
PGF				pmax	pmax		
	comp=Z,24nm,1.5s						
PGF	**Pioggiola**	**15.20**	**308**	*e*P	**Pn**	**19 10 48.2**	**-0.4**
	comp=Z,24nm,1.5s						
KIV	**Kislovodsk**	**16.60**	**49**	*e*P	**Pn**	**19 11 08.5**	**+1.9**
KIV				pmax	pmax		
	comp=Z,12nm,1.1s						
KIV	**Kislovodsk**	**16.60**	**49**	*e*P	**Pn**	**19 11 05.7**	**-0.8**
	comp=Z,8.3nm,0.7s						
KIV	**Kislovodsk**	**16.60**	**49**	*e*P	**Pn**	**19 11 05.7**	**-0.9**
	comp=Z,8.2nm,0.7s						
AKASG	**Malin Array Be**	**16.69**	**9**	Pn	**Pn**	**19 11 06.2**	**-1.5**
	comp=Z,3.3nm,0.3s,baz=199,slow=10,SNR=15						
AKASG	**Malin Array Be**	**16.69**	**9**	Pn	**Pn**	**19 11 06.2**	**-1.5**
SBF	**Sospel**	**16.82**	**310**	*e*P	**Pn**	**19 11 08.8**	**-0.6**
SMRF	**Simiane la Rot**	**18.07**	**308**	*e*P	**Pn**	**19 11 24.9**	**0.0**
LPG	**La Plagne**	**18.07**	**314**	*e*P	**Pn**	**19 11 24.8**	**-0.1**
CABF	**La Chapelle**	**19.06**	**316**	*e*P	**Pn**	**19 11 36.0**	**-0.9**
	comp=Z,6.7nm,0.7s						
CABF	**La Chapelle**	**19.06**	**316**	*e*P	**Pn**	**19 11 36.0**	**-0.9**
CABF				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CABF	**La Chapelle**	**19.06**	**316**	*e*P	**Pn**	**19 11 36.0**	**-0.9**
	comp=Z,3.3nm,0.7s						
LASF	**Ste Croix**	**19.24**	**307**	*e*P	**Pn**	**19 11 38.3**	**-0.7**
HINF	**Hinteralfeld**	**19.34**	**320**	*e*P	**Pn**	**19 11 39.5**	**-0.8**
	comp=Z,2.35nm,0.5s						
HINF	**Hinteralfeld**	**19.34**	**320**	*e*P	**Pn**	**19 11 39.5**	**-0.8**
HINF				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HINF	**Hinteralfeld**	**19.34**	**320**	*e*P	**Pn**	**19 11 39.5**	**-0.8**
	comp=Z,1.8nm,0.5s						
CDF	**Champ du Feu**	**19.50**	**322**	*e*P	**Pn**	**19 11 41.1**	**-1.0**
HAU	**Haudompre**	**19.73**	**320**	*e*P	**Pn**	**19 11 43.0**	**-1.8**
	comp=Z,5.4nm,0.5s						
HAU	**Haudompre**	**19.73**	**320**	*e*P	**Pn**	**19 11 43.0**	**-1.8**
HAU				pmax	pmax		
	comp=Z,3.0nm,0.5s						
HAU	**Haudompre**	**19.73**	**320**	*e*P	**Pn**	**19 11 43.0**	**-1.8**
	comp=Z,2.7nm,0.5s						
SMF	**Signal de Mont**	**20.40**	**314**	*e*P	**P**	**19 11 50.6**	**+0.1**
	comp=Z,2.2nm,0.5s						
SMF	**Signal de Mont**	**20.40**	**314**	*e*P	**P**	**19 11 50.6**	**+0.1**
SMF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SMF	**Signal de Mont**	**20.40**	**314**	*e*P	**P**	**19 11 50.6**	**+0.1**
	comp=Z,1.1nm,0.5s						
LOR	**Lormes**	**20.71**	**315**	*e*P	**P**	**19 11 53.3**	**-0.5**
	comp=Z,2.7nm,0.5s						
LOR	**Lormes**	**20.71**	**315**	*e*P	**P**	**19 11 53.3**	**-0.5**
LOR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
LOR	**Lormes**	**20.71**	**315**	*e*P	**P**	**19 11 53.3**	**-0.5**
	comp=Z,1.4nm,0.5s						
MEZF	**Maizieres J'vi**	**20.72**	**319**	*e*P	**P**	**19 11 54.1**	**+0.1**
CAF	**Calviac**	**20.77**	**308**	*e*P	**P**	**19 11 54.7**	**+0.4**
AVF	**Avril sur Loir**	**20.77**	**314**	*e*P	**P**	**19 11 54.4**	**0.0**
SSF	**Saint Saulge**	**20.81**	**314**	*e*P	**P**	**19 11 55.2**	**+0.3**
	comp=Z,3.1nm,0.6s						
SSF	**Saint Saulge**	**20.81**	**314**	*e*P	**P**	**19 11 55.2**	**+0.3**
SSF				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SSF	**Saint Saulge**	**20.81**	**314**	*e*P	**P**	**19 11 55.2**	**+0.3**
	comp=Z,1.5nm,0.6s						
WLF	**Walferdange**	**20.87**	**323**	*e*P	**P**	**19 12 00.1**	**+4.5**
WLF				*e*		19 12 07.3	
WLF				pmax	pmax		
	comp=Z,7.0nm,0.8s						
WLF	**Walferdange**	**20.87**	**323**	*e*P	**P**	**19 12 00.1**	**+4.5**
	comp=Z,7.4nm,0.8s						
WLF				*e*		19 12 07.3	
BGF	**Bois d'Agland**	**20.96**	**313**	*e*P	**P**	**19 11 56.6**	**+0.1**
TCF	**Toulx Ste Croi**	**21.23**	**311**	*e*P	**P**	**19 11 59.5**	**+0.1**
RJF	**Les Rejaudoux**	**21.26**	**308**	*e*P	**P**	**19 11 59.2**	**-0.6**
	comp=Z,3.0nm,0.4s,mb3.6						
RJF	**Les Rejaudoux**	**21.26**	**308**	*e*P	**P**	**19 11 59.2**	**-0.6**
	comp=Z,1.5nm,0.4s,mb3.6						
MFF	**Saint Martin d**	**22.84**	**310**	*e*P	**P**	**19 12 15.4**	**-1.2**
	comp=Z,7.8nm,0.8s,mb3.9						
MFF	**Saint Martin d**	**22.84**	**310**	*e*P	**P**	**19 12 15.4**	**-1.2**
MFF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
MFF	**Saint Martin d**	**22.84**	**310**	*e*P	**P**	**19 12 15.4**	**-1.2**
	comp=Z,3.9nm,0.8s,mb3.9						
LDF	**La Druitiere**	**23.69**	**315**	*e*P	**P**	**19 12 23.4**	**-1.7**
	comp=Z,4.7nm,0.6s,mb3.8						
LDF	**La Druitiere**	**23.69**	**315**	*e*P	**P**	**19 12 23.4**	**-1.7**
LDF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
ESDC	**Sonseca Array**	**23.92**	**292**	P	**P**	**19 12 26.3**	**-1.0**
	comp=Z,0.9nm,0.7s,mb3.3,baz=76,slow=8.9,SNR=3.3						
FLN	**La Foliniere**	**23.98**	**315**	*e*P	**P**	**19 12 26.3**	**-1.5**
SGMF	**Saint Gilles**	**25.00**	**312**	*e*P	**P**	**19 12 36.2**	**-0.9**
QUIF	**Quistinic**	**25.25**	**311**	*e*P	**P**	**19 12 38.6**	**-0.7**
	comp=Z,5.7nm,0.5s,mb4.1						
QUIF	**Quistinic**	**25.25**	**311**	*e*P	**P**	**19 12 38.6**	**-0.7**
QUIF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.1						
QUIF	**Quistinic**	**25.25**	**311**	*e*P	**P**	**19 12 38.6**	**-0.7**
	comp=Z,2.8nm,0.5s,mb4.0						
HFS	**Hagfors**	**26.98**	**347**	P	**P**	**19 12 53.0**	**-2.0**
	comp=Z,0.6nm,0.5s,mb3.4,baz=134,slow=12,SNR=4.7						
FINES	**FINESS Array B**	**27.21**	**1**	P	**P**	**19 12 54.4**	**-2.7**
	comp=Z,0.5nm,0.7s,mb3.2,baz=163,slow=15,SNR=4.2						
FINES	**FINESS Array B**	**27.21**	**1**	P	**P**	**19 12 54.4**	**-2.7**
NAO01	**NORSAR Array S**	**28.19**	**345**	*e*P	**P**	**19 13 04.3**	**-1.5**
AKTK	**Aktyubinsk**	**28.80**	**46**	P	**P**	**19 13 10.9**	**-0.3**
AKTO	**Aktyubinsk**	**28.80**	**46**	P	**P**	**19 13 10.9**	**-0.3**
	comp=Z,0.4nm,0.3s,mb3.6,baz=243,slow=15,SNR=3.1						
EKA	**Eskdalemuir Ar**	**28.84**	**326**	P	**P**	**19 13 11.6**	**0.0**
	comp=Z,2.0nm,0.8s,mb3.9,baz=114,slow=10,SNR=4.2						
TORD	**Torodi Ar. Bea**	**29.99**	**231**	P	**P**	**19 13 23.6**	**+1.8**
	comp=Z,1.4nm,0.4s,mb4.1,baz=32,slow=8.5,SNR=19						
ARU	**Arti**	**31.73**	**35**	⇓*i*P	**P**	**19 13 39.8**	**+2.6**
ARU				*e*		19 14 40.6	
ARU				*e*S	**S**	**19 18 46.6**	**+2.0**
ARU				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
ARCES	**ARCESS Array B**	**35.33**	**0**	P	**P**	**19 14 06.8**	**-1.7**
	comp=Z,0.7nm,0.7s,mb3.7,baz=185,slow=10,SNR=7.6						
ARCES	**ARCESS Array B**	**35.33**	**0**	P	**P**	**19 14 06.8**	**-1.7**
ZRNK	**Zerenda**	**36.07**	**45**	P	**P**	**19 14 12.2**	**-2.7**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
ZRNK	**Zerenda**	**36.07**	**45**	P	**P**	**19 14 12.2**	**-2.7**
	comp=Z,1.9nm,0.8s,mb4.1						
MKAR	**Makanchi Array**	**44.20**	**56**	P	**P**	**19 15 22.2**	**0.0**
	comp=Z,0.8nm,0.6s,mb3.7,baz=282,slow=6.2,SNR=14						
ZAL	**Zalesovo**	**45.55**	**46**	P	**P**	**19 15 32.6**	**-0.3**
	comp=Z,0.9nm,0.4s,mb4.0,baz=174,slow=3.2,SNR=3.2						
SONM	**Songino Array**	**59.99**	**50**	P	**P**	**19 17 20.3**	**+0.7**
	comp=Z,0.5nm,0.6s,mb3.7,baz=286,slow=6.8,SNR=5.2						
SONM	**Songino Array**	**59.99**	**50**	P	**P**	**19 17 20.3**	**+0.7**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SCHQ	**Schefferville**	**63.94**	**320**	P	**P**	**19 17 45.7**	**-0.5**
	comp=Z,1.1nm,0.5s,mb4.1,baz=104,slow=4.2,SNR=4.0						
KMI	**Kunming**	**66.45**	**75**	P	**P**	**19 18 01.3**	**-1.1**
KMI				AP	pP	**19 18 14.0**	**+0.8**
KMI				XP	sP	**19 18 19.8**	**+2.5**
KMI				AMB	AMB		
	comp=Z,3.0nm,1.6s,mb4.1						
MDJ	**Mudanjiang**	**75.76**	**46**	P	**P**	**19 18 54.5**	**-4.3**
MDJ				AP	pP	19 19 11.0	+1.3
MDJ				XP	sP	19 19 18.0	+4.2
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,79nm,4.7s						
MDJ				LR	LR		
	comp=N,24nm,20.3s,MS3.9						
MDJ				LR	LR		
	comp=E,54nm,18.5s,MS3.9						
MDJ				LR	LR		
	comp=Z,27nm,16.6s,MS3.6						

WEL 27 19:15:47.1±0.3, 38.43S×176.01E, h149km±2km, ML3.6/16, Error ellipse: s-maj=2.3km s-min=1.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTVZ	**Oturere**	**0.78**	**200**	PN	Pn	19 16 10.5	+0.5
TWVZ	**Taurewa**	**0.78**	**215**	PN	Pn	19 16 10.2	+0.2
NGZ	**Ngauruhoe**	**0.81**	**203**	PN	Pn	19 16 10.6	+0.4
BKZ	**Black Stump Fm**	**0.83**	**153**	PN	Pn	19 16 10.7	+0.3
BKZ				SN	Sn	19 16 28.4	+0.3
TUVZ	**Tukino**	**0.88**	**198**	PN	Pn	19 16 11.2	+0.4
TUVZ				SN	Sn	19 16 29.8	+1.0
URZ	**Urewera**	**0.88**	**79**	PN	Pn	19 16 10.5	-0.3
URZ				SN	Sn	19 16 28.4	-0.5
FWVZ	**Far West T-bar**	**0.90**	**203**	PN	Pn	19 16 11.5	+0.6
FWVZ				SN	Sn	19 16 29.4	+0.3
HIZ	**Hauiti**	**0.91**	**264**	PN	Pn	19 16 10.9	-0.1
HIZ				SN	Sn	19 16 29.7	+0.5
TRVZ	**Turoa**	**0.94**	**202**	PN	Pn	19 16 11.6	+0.4
WNVZ	**Wahianoa**	**0.95**	**199**	PN	Pn	19 16 11.6	+0.3
MOVZ	**Moawhango**	**1.00**	**191**	PN	Pn	19 16 11.6	-0.2
MOVZ				*e*SN	Sn	19 16 30.7	+0.2
PKVZ	**Pokaka**	**1.00**	**211**	PN	Pn	19 16 11.8	0.0
MTVZ	**Mangateitei**	**1.04**	**204**	PN	Pn	19 16 12.2	+0.1
VRZ	**Vera Road**	**1.20**	**234**	PN	Pn	19 16 13.5	0.0
VRZ				SN	Sn	19 16 35.4	+1.6
MWZ	**Matawai**	**1.20**	**86**	PN	Pn	19 16 14.0	+0.5
MWZ				SN	Sn	19 16 33.2	-0.6
KNZ	**Kokohu**	**1.43**	**115**	PN	Pn	19 16 16.1	+0.3
WAZ	**Wanganui**	**1.54**	**211**	PN	Pn	19 16 16.6	-0.4
TSZ	**Takapari Road**	**1.63**	**181**	PN	Pn	19 16 17.5	-0.5
PXZ	**Pawanui**	**1

comp=Z,8.7nm,1.5s,mb4.3
ASAR Alice Springs 46.05 162 P **P** **19 31 07.7 +0.6**
comp=Z,0.8nm,0.9s,mb3.6,baz=343,slow=6.9,SNR=6.2
ZRNK Zerenda 50.61 322 P **P** **19 31 42.1 -0.1**
comp=Z,4.0nm,1.1s,mb4.3
ARU Arti 57.38 325 P **P** **19 32 30.4 -1.2**
comp=Z,1.6nm,0.7s,mb4.2
INK Inuvik 76.83 21 *e*P **P** **19 34 34.5 -0.5**
comp=Z,4.2nm,1.1s,mb4.3
SUW Suwalki 77.53 323 P **P** **19 34 39.1 +0.2**
comp=Z,19nm,1.0s,mb5.0
HFS Hagfors 80.17 331 P **P** **19 34 53.3 -0.1**
comp=Z,2.0nm,0.9s,mb4.0,baz=107,slow=4.8,SNR=4.5
CLL Collm 84.29 323 *e*P **P** **19 35 16.0 +1.1**
YKA Yellowknife Ar 86.57 22 P **P** **19 35 26.9 +0.7**
comp=Z,0.8nm,0.7s,mb4.0,baz=315,slow=5.3,SNR=6.2
YKA Yellowknife Ar 86.57 22 P **P** **19 35 26.9 +0.7**

IDC ***27*** *19:40:26.4±0.7, 2024S×174°05W, h0km, mb4.4/13, mb1 4.6/14, mb1mx4.5/20, mbtmp4.4/14, ML4.7/1, MS3.9/20, Ms1 3.9/20, ms1mx3.8/32, Error ellipse: s-maj=27.2km s-min=16.7km az=132.0*

ISCJB ***27*** *19:40:30.3±0.4, 2030S±007°×174°03W±008, h33km, mb4.8/48, MS4.2/24, Error ellipse: s-maj=12.1km s-min=8.0km az=76.1*

NEIC ***27*** *19:40:32.2±0.3, 2025S×174°05W, h35km, mb4.9/33, MS4.4/3, Error ellipse: s-maj=13.5km s-min=7.5km az=136.0*

BJI ***27*** *19:40:33.1, 2020S×174°00W, h35km, mB5.2, mb5.0, Ms4.8, Msz4.6*

MOS ***27*** *19:40:38.0±1.5, 1943S×175°32W, h33km, mb5.1/24, Error ellipse: s-maj=16.8km s-min=12.5km az=5.2*

ISC 27 19:40:32.2±0.4, 2029S±007°×17393W±008, h35km, h35km±3.4km:pP-P,n197,σ1s16/102,mb4.8/48,MS4.2/24, 17C-6D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
AFI	**Afiamalu**	**6.67**	**18**	Pn	**Pn**		**19 42 01.0**	**-6.6**
	23nm,0.3s,baz=210,slow=2.4,SNR=18							
AFI				Sn	**Sn**		**19 43 09.0**	**-13**
	18nm,0.3s,baz=24,slow=22,SNR=3.8							
AFI				LR	LR		19 44 02.3	
	comp=Z,402nm,20.7s,baz=236,slow=32							
AFI				T			19 48 38.9	
	10nm,0.3s,baz=227,slow=22,SNR=5.1							
AFI	**Afiamalu**	**6.67**	**18**	*e*Pn	**Pn**		**19 42 00.3**	**-7.2**
	145nm,0.6s							
AFI				*e*Sn	**Sn**		**19 43 01.1**	**-21**
RAR	**Rarotonga**	**13.27**	**96**	Pn	**Pn**		**19 43 29.8**	**-8.3**
	5.5nm,0.3s,baz=266,slow=8.9,SNR=12							
RAR				LR	LR		19 47 19.0	
	comp=Z,555nm,20.8s,baz=299,slow=31							
DZM	**Mont Dzumac**	**18.39**	**261**	P	**Pn**		**19 44 46.3**	**+1.9**
	0.6nm,0.3s,baz=76,slow=15,SNR=16							
DZM				LR	LR		19 49 26.3	
	comp=Z,66nm,18.5s,baz=87,slow=30							
URZ	**Urewera**	**19.52**	**202**	P	**Pn**		**19 44 56.2**	**-1.7**
	2.0nm,0.3s,baz=26,slow=6.5,SNR=6.9							
URZ				S	**Sn**		**19 48 23.7**	**-12**
	0.2nm,0.3s,baz=16,slow=20,SNR=2.6							
TBI	**Tubuai**	**22.91**	**102**	*e*LR	LR		19 51 01.8	
	561nm,26.8s							
PPT	**Papeete**	**23.19**	**87**	*e*LR	LR		19 51 03.5	
	632nm,26.0s,baz=255							
PPT	**Papeete**	**23.19**	**87**	LR	LR		19 51 40.4	
	comp=Z,486nm,19.9s,MS4.0,baz=207,slow=29							
RPZ	**Rata Peaks**	**26.52**	**205**	P	**P**		**19 46 04.8**	**-1.6**
	2.8nm,0.7s,mb3.9,baz=0.8,slow=18,SNR=2.1							
RPZ				LR	LR		19 55 52.5	
	comp=Z,226nm,20.4s,MS3.7,baz=15,slow=35							
HNR	**Honiara**	**27.42**	**289**	LR	LR		19 55 27.9	
	comp=Z,292nm,20.9s,MS3.8,baz=180,slow=33							
CNB	**Canberra Magne**	**35.53**	**237**	*e*P	**P**		**19 47 25.7**	**-0.1**
	30nm,1.2s,mb5.1							
RKT	**Rikitea**	**36.23**	**102**	*e*LR	LR		19 56 52.6	
	434nm,29.5s							
CTA	**Charters Tower**	**37.31**	**263**	P	**P**		**19 47 40.6**	**-0.3**
	6.7nm,0.5s,mb4.7							
CTA	**Charters Tower**	**37.31**	**263**	P	**P**		**19 47 40.6**	**-0.3**
	6.1nm,0.5s,mb4.7,baz=90,slow=9.3,SNR=15							
CTA	**Charters Tower**	**37.31**	**263**	*e*P	**P**		**19 47 40.6**	**-0.3**
CTA				pmax	pmax			
	comp=Z,7.0nm,0.5s							
CTAO	**Charters Tower**	**37.31**	**263**	*e*P	**P**		**19 47 40.2**	**-0.7**
PMG	**Port Moresby**	**39.04**	**280**	LR	LR		20 02 10.7	
	comp=Z,241nm,19.3s,MS4.0,baz=211,slow=34							
PMG	**Port Moresby**	**39.04**	**280**	*e*P	**P**		**19 47 54.8**	**-0.7**
PMG				pmax	pmax			
	comp=Z,21nm,1.0s							
PMG	**Port Moresby**	**39.04**	**280**	*e*P	**P**		**19 47 54.8**	**-0.8**
	comp=Z,21nm,1.0s,mb4.8							
TOO	**Toolangi**	**39.13**	**235**	*e*P	**P**		**19 47 56.5**	**+0.3**
	comp=Z,6.4nm,0.7s,mb4.5							
TOO	**Toolangi**	**39.13**	**235**	*e*P	**P**		**19 47 56.5**	**+0.3**
TOO				pmax	pmax			
	comp=Z,6.0nm,0.7s,mb4.4							
TAU	**Tasmania Unive**	**39.50**	**226**	*e*P	**P**		**19 48 05.9**	**+6.6**
TAU				pmax	pmax			
	comp=Z,9.0nm,0.7s,mb4.6							
TAU	**Tasmania Unive**	**39.50**	**226**	*e*P	**P**		**19 48 05.9**	**+6.6**
	comp=Z,9.1nm,0.7s,mb4.6							
STKA	**Stephens Creek**	**41.33**	**245**	*e*P	**P**		**19 48 11.5**	**-2.9**
	comp=Z,3.1nm,0.6s,mb4.1							
STKA	**Stephens Creek**	**41.33**	**245**	P	**P**		**19 48 12.1**	**-2.3**
	comp=Z,3.9nm,0.6s,mb4.2,baz=89,slow=9.5,SNR=14							
STKA				LR	LR		20 04 23.3	
	comp=Z,169nm,19.3s,MS3.9,baz=28,slow=35							
AS31	**Alice Springs**	**48.28**	**256**	*e*P	**P**		**19 49 10.1**	**+0.3**
ASAR	**Alice Springs**	**48.28**	**256**	P	**P**		**19 49 08.6**	**-1.2**
	comp=Z,5.4nm,0.6s,mb4.7,baz=100,slow=7.6,SNR=51							
ASAR				PcP	PcP		19 50 37.5	+1.2
	comp=Z,3.5nm,0.8s,baz=100,slow=4.5,SNR=8.0							
ASPA	**Alice Springs**	**48.28**	**256**	*e*P	**P**		**19 49 10.1**	**+0.3**
WB2	**Warramunga Arr**	**48.40**	**261**	*e*P	**P**		**19 49 08.9**	**-1.8**
WRAB	**Tennant Creek**	**48.40**	**261**	*e*P	**P**		**19 49 09.2**	**-1.6**
WRAB				pmax	pmax			
	comp=Z,17nm,1.0s,mb5.0							
WRAB	**Tennant Creek**	**48.40**	**261**	*e*P	**P**		**19 49 09.2**	**-1.5**
	comp=Z,16nm,1.0s,mb5.0							
WRA	**Warramunga Arr**	**48.41**	**261**	P	**P**		**19 49 09.2**	**-1.6**
	comp=Z,6.2nm,0.7s,mb4.7,baz=97,slow=6.1,SNR=38							
KAKA	**Kakadu**	**51.79**	**270**	*e*P	**P**		**19 49 35.0**	**-1.5**
	comp=Z,24nm,1.0s,mb5.1							
GUMO	**Guam**	**52.68**	**306**	LR	LR		20 09 19.2	
	comp=Z,82nm,18.6s,MS3.8,baz=241,slow=33							
FORT	**Forrest**	**52.88**	**246**	*e*P	**P**		**19 49 45.5**	**+1.0**
	comp=Z,16nm,0.7s,mb5.1							
FITZ	**Fitzroy Crossi**	**56.84**	**261**	P	**P**		**19 50 11.2**	**-2.0**
	comp=Z,2.0nm,0.6s,mb4.3,baz=219,slow=7.0,SNR=8.8							
FITZ				LR	LR		20 14 11.3	
	comp=Z,176nm,18.4s,MS4.2,baz=102,slow=36							
SBA	**Scott Base**	**58.37**	**185**	*e*P	**P**		**19 50 27.1**	**+3.2**
SBA				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.7							
SBA	**Scott Base**	**58.37**	**185**	*e*P	**P**		**19 50 27.1**	**+3.2**
	comp=Z,7.0nm,0.9s,mb4.7							
VNDA	**Vanda**	**58.49**	**186**	P	**P**		**19 50 24.6**	**-0.1**
	comp=Z,2.4nm,0.9s,mb4.2,baz=5.0,slow=5.9,SNR=8.7							
VNDA	**Vanda**	**58.49**	**186**	*e*P	**P**		**19 50 26.8**	**+2.0**
VNDA				pmax	pmax			
	comp=Z,5.0nm,1.1s							
VNDA	**Vanda**	**58.49**	**186**	*e*P	**P**		**19 50 26.8**	**+2.0**
	comp=Z,5.1nm,1.1s,mb4.5							
KLBR	**Kellerberrin**	**61.60**	**244**	*e*P	**P**		**19 50 46.3**	**+0.2**
	comp=Z,69nm,1.7s,mb5.5							
MBWA	**Marble Bar**	**61.62**	**256**	*e*P	**P**		**19 50 45.7**	**-0.5**
	comp=Z,28nm,1.2s,mb5.3							
NWAO	**Narrogin (SRO)**	**61.87**	**243**	P	**P**		**19 50 49.1**	**+1.2**
	comp=Z,2.2nm,0.4s,mb4.6,baz=102,slow=11,SNR=3.1							
NWAO				LR	LR		20 17 46.3	
	comp=Z,126nm,20.1s,MS4.1,baz=302,slow=36							
CASY	**Casey**	**65.79**	**205**	*e*P	**P**		**19 51 14.8**	**+1.1**
	comp=Z,7.8nm,1.0s,mb4.7							
QSPA	**South Pole Qui**	**69.78**	**180**	*e*P	**P**		**19 51 44.5**	**+5.6**
	comp=Z,7.8nm,1.0s,mb4.6							
MJAR	**Matsushiro Arr**	**72.37**	**321**	P	**P**		**19 51 54.1**	**-0.4**
	comp=Z,15nm,0.7s,mb5.0,baz=151,slow=5.7,SNR=51							
MJAR				LR	LR		20 18 41.1	
	comp=Z,110nm,19.8s,MS4.1,baz=140,slow=32							
MAJO	**Matsushiro**	**72.37**	**321**	*e*P	**P**		**19 51 54.1**	**-0.4**
MAJO				pmax	pmax			
	comp=Z,16nm,0.7s,mb5.1							
MAJO	**Matsushiro**	**72.37**	**321**	*e*P	**P**		**19 51 54.1**	**-0.5**
	comp=Z,16nm,0.7s,mb5.0							
MAT	**Matsushiro**	**72.37**	**321**	P	**P**		**19 51 53.6**	**-0.9**
JOW	**Kunigami**	**73.01**	**308**	LR	LR		20 22 44.6	
	comp=Z,128nm,18.9s,MS4.2,baz=227,slow=35							
KKM	**Kota Kinabalu**	**73.42**	**283**	*e*P	**P**		**19 52 01.7**	**+0.9**
ASAJ	**Asahikawa**	**75.43**	**329**	LR	LR		20 19 36.4	
	comp=Z,88nm,20.1s,MS4.1,baz=150,slow=31							
KSM	**Kuching**	**77.18**	**276**	*e*P	**P**		**19 52 22.2**	**-0.1**
YSS	**Yuzh-Sakhalins**	**77.48**	**331**	*e*P	**P**		**19 52 24.3**	**+0.3**
YSS				pmax	pmax			
	comp=Z,29nm,0.8s,mb5.3							
YSS	**Yuzh-Sakhalins**	**77.48**	**331**	*e*P	**P**		**19 52 24.3**	**+0.2**
	comp=Z,29nm,0.8s,mb5.3							
NVAR	**Mina Array Bea**	**78.29**	**41**	P	**P**		**19 52 28.4**	**-0.1**
	comp=Z,1.7nm,0.8s,mb4.0,baz=236,slow=13,SNR=4.0							
KS15	**Wonju Array Si**	**79.33**	**317**	P	**P**		**19 52 35.5**	**+1.3**
QZH	**Quanzhou**	**79.53**	**301**	P	**P**		**19 52 36.5**	**+1.2**
TUC	**Tucson**	**79.88**	**50**	*e*P	**P**		**19 52 37.1**	**-0.1**
TUC				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.3							
TUC	**Tucson**	**79.88**	**50**	*e*P	**P**		**19 52 37.0**	**-0.2**
	comp=Z,4.3nm,0.9s,mb4.4							
SSE	**Sheshan**	**80.53**	**308**	P	**P**		**19 52 41.0**	**+0.3**
SSE				AMB	AMB			
	comp=Z,20nm,0.8s,mb5.1							
SSE				AMB	AMB			
	comp=Z,153nm,3.8s							
SSE	**Sheshan**	**80.53**	**308**	P	**P**		**19 52 40.9**	**+0.2**
	comp=Z,20nm,0.8s,mb5.1							
MDJ	**Mudanjiang**	**82.59**	**323**	P	**P**		**19 52 52.8**	**+1.2**
MDJ				AP	pP		19 53 02.3	-0.3
MDJ				XP	sP		19 53 06.0	-0.6
MDJ				AMB	AMB			
	comp=Z,56nm,4.7s							
MDJ	**Mudanjiang**	**82.59**	**323**	P	**P**		**19 52 51.1**	**-0.5**
	comp=Z,9.8nm,0.9s,mb4.8							
NJ2	**Nanjing**	**82.73**	**308**	*e*P	**P**		**19 52 53.8**	**+1.5**
NJ2				PP	PP		19 56 05.0	+2.6
NJ2				S	S		20 03 07.0	-0.7
NJ2				AMB	AMB			
	comp=Z,440nm,9.4s							
NJ2				LR	LR			
	comp=N,230nm,29.9s							
NJ2				LR	LR			
	comp=E,1μm,21.4s							
NJ2				LR	LR			
	comp=Z,2μm,29.0s,MS5.4							
HLID	**Hailey**	**83.71**	**39**	P	**P**		**19 52 56.4**	**-1.0**
	comp=Z,2.9nm,0.8s,mb4.5							
TTA	**Tatalina**	**84.14**	**8**	*e*P	**P**		**19 52 59.7**	**+0.1**
TTA				pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.8							
TTA	**Tatalina**	**84.14**	**8**	*e*P	**P**		**19 52 59.7**	**+0.2**
	comp=Z,8.4nm,1.0s,mb4.8							
ANMO	**Albuquerque**	**84.32**	**50**	*e*P	**P**		**19 53 00.9**	**+0.4**
ANMO				pmax	pmax			
	comp=Z,9.0nm,1.3s							
ANMO	**Albuquerque**	**84.32**	**50**	*e*P	**P**		**19 53 00.8**	**+0.3**
	comp=Z,8.6nm,1.3s,mb4.7							
VHO	**Vista Hermosa**	**84.35**	**70**	*i* S			19 53 11.0	
CN2	**Changchun**	**84.51**	**321**	*e*P	**P**		**19 53 02.0**	**+0.5**
CN2				*e*S			20 03 26.3	
CN2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb5.0							
MCMT	**McKenzie Canyo**	**85.36**	**39**	*e*P	**P**		**19 53 05.8**	**0.0**
WHN	**Wuhan**	**85.43**	**305**	*e*P	**P**		**19 53 08.0**	**+1.9**
PDAR	**Pinedale Array**	**86.22**	**42**	P	**P**		**19 53 09.7**	**-0.4**
	comp=Z,0.9nm,0.9s,mb4.0,baz=224,slow=4.1,SNR=4.8							
PDAR				LR	LR		20 26 07.8	
	comp=Z,63nm,21.4s,MS4.0,baz=64,slow=32							
PLCA	**Paso Flores**	**86.62**	**132**	LR	LR		20 24 40.2	
	comp=Z,156nm,18.6s,MS4.4,baz=82,slow=31							
COLA	**College**	**87.23**	**11**	*e*P	**P**		**19 53 13.3**	**-1.6**
COLA				pmax	pmax			
	comp=Z,22nm,1.1s,mb5.3							
COLA	**College**	**87.23**	**11**	*e*P	**P**		**19 53 13.3**	**-1.7**
	comp=Z,22nm,1.1s,mb5.3							
ILAR	**Eielson Array**	**87.31**	**11**	P	**P**		**19 53 14.4**	**-0.9**
	comp=Z,1.7nm,0.9s,mb4.3,baz=223,slow=5.9,SNR=14							
KULM	**Kulim**	**87.53**	**277**	*e*P	**P**		**19 53 18.0**	**+1.6**
KULM				*e*	pP		19 53 29.5	+2.0
VNA3	**Neumayer Olymp**	**88.06**	**175**	*e*P	**P**		**19 53 19.6**	**+0.7**
VNA3				*e*			19 53 21.6	
VNA3				*e*			19 53 24.9	
VNA3				*e*			19 53 26.3	
VNA3				*e*	pP		19 53 31.3	+1.3
VNA3				*e*			19 53 35.6	
VNA3				*e*			19 53 41.0	
SNAA	**Sanae**	**88.08**	**177**	*e*P	**P**		**19 53 15.1**	**-3.9**
SNAA				*e*			19 53 17.4	
SNAA				*e*			19 53 20.0	
SNAA				*e*			19 53 21.4	
SNAA	**Sanae**	**88.08**	**177**	*e*P	**P**		**19 53 11.2**	**-7.8**
SNAA				pmax	pmax			
	comp=Z,6.0nm,1.1s							
SNAA	**Sanae**	**88.08**	**177**	*e*P	**P**		**19 53 11.2**	**-7.8**
	comp=Z,6.3nm,1.1s,mb4.8							
BJT	**Baijiatuan**	**88.46**	**314**	*e*P	**P**		**19 53 19.5**	**-1.3**
BJT				pmax	pmax			
	comp=Z,24nm,1.4s							
BJT	**Baijiatuan**	**88.46**	**314**	*e*P	**P**		**19 53 19.5**	**-1.3**
	comp=Z,24nm,1.4s,mb5.2							
BJI	**Beijing**	**88.46**	**314**	*e*P	**P**		**19 53 22.0**	**+1.2**
BJI				S			20 04 05.8	
BJI				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb5.1							
BJI				AMB	AMB			
	comp=Z,64nm,3.5s							
BJI				LR	LR			
	comp=Z,58nm,19.4s,MS4.0							
BJI	**Beijing**	**88.46**	**314**	*e*P	**P**		**19 53 21.9**	**+1.1**
BJI				pmax	pmax			
	comp=Z,10.0nm,0.8s,mb5.1							
BJI				MLR	MLR			
	comp=Z,60nm,19.4s,MS4.0							
BJI	**Beijing**	**88.46**	**314**	*e*P	**P**		**19 53 21.9**	**+1.1**
	comp=Z,10.0nm,0.8s,mb5.1							
BJI				S			20 04 05.7	
BJI				LR	LR			
	comp=Z,60nm,19.4s,MS4.0							
VNA2	**Neumayer--Watz**	**88.55**	**176**	*e*P	**P**		**19 53 21.8**	**+0.6**
	baz=218,slow=4.2							
VNA2				*e*			19 53 23.0	
VNA2				*e*			19 53 26.5	
VNA2				*e*			19 53 28.3	
VNA2				*e*	pP		19 53 33.9	+1.6
VNA2				*e*			19 53 37.3	
VNA2				*e*			19 53 38.9	
BILL	**Bilibino**	**89.26**	**353**	*e*P	**P**		**19 53 23.9**	**-0.7**
BILL				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.7							
BILL	**Bilibino**	**89.26**	**353**	*e*P	**P**		**19 53 23.9**	**-0.7**
	comp=Z,3.3nm,0.7s,mb4.8							
GYA	**Guiyang**	**89.89**	**298**	P	**P**		**19 53 29.3**	**+1.8**
GYA				PP	PP		19 57 06.0	+5.7
GYA				SKS			20 04 00.3	
GYA				S			20 04 22.0	
GYA				PS	PS		20 05 34.5	+7.1
GYA				AMB	AMB			
	comp=Z,10.0nm,1.3s,mb5.0							
GYA				AMB	AMB			
	comp=Z,110nm,7.2s							
GYA				LR	LR			
	comp=N,420nm,20.4s,MS5.0							
GYA				LR	LR			
	comp=E,430nm,21.0s,MS5.0							
GYA				LR	LR			
	comp=Z,410nm,20.6s,MS4.8							
XAN	**Xi'an**	**91.07**	**306**	P	**P**		**19 53 34.0**	**+1.0**
XAN				AP	pP		19 53 45.3	+1.2
XAN				AMB	AMB			
	comp=Z,9.0nm,1.2s,mb5.0							
HHC	**Hu-ho-hao-te**	**91.97**	**313**	*e*P	**P**		**19 53 38.0**	**+0.8**
HHC				PP	PP		19 57 21.0	+4.2
HHC				SKS			20 04 08.3	
HHC				S			20 04 36.8	
HHC				SS	SS		20 10 50.0	+4.7
HHC				AMB	AMB			
	comp=Z,19nm,1.1s,mb5.3							
HHC				AMB	AMB			
	comp=Z,76nm,6.4s							
HHC				LR	LR			
	comp=N,124nm,21.8s,MS4.5							
HHC				LR	LR			
	comp=E,121nm,17.3s,MS4.5							
HHC				LR	LR			
	comp=Z,149nm,20.2s,MS4.4							
KMI	**Kunming**	**92.68**	**296**	P	**P**		**19 53 42.5**	**+2.0**
KMI				AP	pP		19 53 49.0	-2.5
KMI				PP	PP		19 57 22.5	+0.1
KMI				S			20 04 43.0	
KMI				SS	SS		20 10 58.8	+3.3
KMI				AMB	AMB			
	comp=Z,6.0nm,1.2s,mb4.9							
KMI				AMB	AMB			
	comp=Z,47nm,4.7s							
KMI				LR	LR			
	comp=N,87nm,20.1s,MS4.4							
KMI				LR	LR			
	comp=E,91nm,17.9s,MS4.4							
KMI				LR	LR			
	comp=Z,116nm,19.4s,MS4.3							
KMI	**Kunming**	**92.68**	**296**	P	**P**		**19 53 42.4**	**+1.9**
KMI				*SP	sP		19 53 52.5	-3.0
KMI							19 57 22.6	
KMI				PPP			19 59 20.5	
KMI				S			20 04 43.1	
KMI				pmax	pmax			
	comp=Z,6.0nm,1.2s,mb4.9							
KMI				MLR	MLR			
	comp=Z,120nm,19.4s,MS4.4							
KMI	**Kunming**	**92.68**	**296**	P	**P**		**19 53 42.4**	**+1.9**
	comp=Z,6.0nm,1.2s,mb4.9							
KMI				pP	pP		19 53 48.9	-2.6
KMI				sP	sP		19 53 52.5	-3.0
KMI				PP	PP		19 57 22.6	+0.2
KMI				PPP			19 59 20.5	
KMI				S			20 04 43.1	
KMI				sS	sS		20 04 55.5	-5.6
KMI				SS	SS		20 10 58.8	+3.3
KMI				SSS			20 14 34.3	
KMI				LR	LR			
	comp=Z,120nm,19.4s,MS4.4							
YAK	**Yakutsk**	**93.38**	**337**	*e*P	**P**		**19 53 42.2**	**-1.5**
YAK				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb5.1							
YAK	**Yakutsk**	**93.38**	**337**	*e*P	**P**		**19 53 42.2**	**-1.5**
	comp=Z,4.7nm,0.6s,mb5.1							
CHTO	**Chiang Mai**	**93.78**	**289**	*e*P	**P**		**19 53 47.3**	**+1.8**
CHTO				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.9							
CHTO	**Chiang Mai**	**93.78**	**289**	*e*P	**P**		**19 53 47.3**	**+1.7**
	comp=Z,4.9nm,0.9s,mb4.9							
YKA	**Yellowknife Ar**	**94.75**	**24**	LR	LR		20 29 32.4	
	comp=Z,55nm,19.1s,MS4.0,baz=245,slow=31							
LVC	**Limon Verde**	**95.33**	**116**	LR	LR		20 27 56.7	
	comp=Z,102nm,18.4s,MS4.3,baz=219,slow=30							
LZH	**Lanzhou**	**95.70**	**306**	*e*P	**P**		**19 53 54.8**	**+0.5**
LZH				PP	PP		19 57 48.3	+2.3
LZH				AMB	AMB			
	comp=Z,25nm,1.5s,mb5.4							
LZH				AMB	AMB			
	comp=Z,82nm,9.3s							
LZH				LR	LR			
	comp=E,357nm,18.5s							
LZH				LR	LR			
	comp=Z,651nm,19.7s,MS5.1							
LZH	**Lanzhou**	**95.70**	**306**	*e*P	**P**		**19 53 54.7**	**+0.4**
LZH				*SP	sP		19 54 01.8	-7.6
LZH							19 57 48.2	
LZH				pmax	pmax			
	comp=Z,25nm,1.5s,mb5.4							
LZH				MLR	MLR			
	comp=Z,650nm,19.7s,MS5.1							
LZH	**Lanzhou**	**95.70**	**306**	*e*P	**P**		**19 53 54.7**	**+0.4**
	comp=Z,25nm,1.5s,mb5.4							
LZH				pP	pP		19 53 59.5	-5.9
LZH				sP	sP		19 54 01.8	-7.6
LZH				PP	PP		19 57 48.2	+2.2
LZH				LR	LR			
	comp=Z,650nm,19.7s,MS5.1							
ULN	**Ulaanbaatar**	**97.73**	**318**	*e*P	**P**		**19 54 03.0**	**-0.5**
ULN				pmax	pmax			
	comp=Z,2.0nm,1.0s,mb4.6							
ULN	**Ulaanbaatar**	**97.73**	**318**	*e*P	**P**		**19 54 03.0**	**-0.5**
	comp=Z,1.9nm,1.0s,mb4.6							
SONM	**Songino Array**	**98.13**	**318**	P	**P**		**19 54 04.8**	**-0.5**
	comp=Z,0.8nm,1.0s,mb4.2,baz=145,slow=4.6,SNR=5.1							
SONM				LR	LR		20 33 45.2	
	comp=Z,59nm,21.5s,MS4.0,baz=86,slow=33							
LPAZ	**La Paz**	**98.59**	**111**	LR	LR		20 30 36.6	
	comp=Z,58nm,20.1s,MS4.1,baz=47,slow=30							
TIXI	**Tiksi**	**99.55**	**344**	*e*P	**P**		**19 54 09.1**	**-2.5**
TIXI				pmax	pmax			
	comp=Z,2.0nm,1.1s,mb4.5							
WMQ	**Urumqi**	**109.68**	**310**	*e*PDIF	Pdif		19 54 55.0	-1.7
WMQ				PP	PP		19 59 32.0	+1.2
WMQ				PP	PP			
	comp=Z,120nm,5.7s							
WMQ				LR	LR			
	comp=N,32nm,22.0s,MS4.2							
WMQ				LR	LR			
	comp=E,58nm,22.0s,MS4.2							
WMQ				LR	LR			
	comp=Z,55nm,24.0s,MS4.0							
MKAR	**Makanchi Array**	**113.83**	**313**	PKiKP	PKiKP		19 59 06.5	-0.7
	comp=Z,0.8nm,0.7s,baz=65,slow=1.3,SNR=9.2							
ZRNK	**Zerenda**	**122.20**	**320**	*e*PKIKP	PKPdf		19 59 22.0	-1.2
ARU	**Arti**	**127.17**	**326**	*e*PKIKP	PKPdf		19 59 31.4	-1.3
ARCES	**ARCESS Array B**	**129.35**	**351**	PKP	PKPdf		19 59 35.4	-1.5
	comp=Z,5.1nm,1.0s,baz=294,slow=1.2,SNR=8.6							
JOF	**Joensuu**	**134.03**	**344**	*e*p			19 59 41.6	
	comp=Z,2.9nm,0.8s							
JOF	**Joensuu**	**134.03**	**344**	*e*PKHKP			19 59 41.6	
JOF				pmax	pmax			

KECS	**Kecovo**	**149.57**	**341**	*e*PKP	PKPbc	20 00 18.6 +0.8
PRU	**Pruhonice**	**149.61**	**349**⇑	*e*PKPB	PKPbc	20 00 18.1 +0.2
HARR	**Harsova**	**149.66**	**328**⇓	*i*P	PKPbc	20 00 19.6 +1.5
HARR	**Harsova**	**149.66**	**328**	⇓P	PKPbc	20 00 19.6 +1.5
NKC	**Novy Kostel**	**149.69**	**352**⇑	*e*PKPB	PKPbc	20 00 18.5 +0.4
ANTO	**Ankara**	**149.93**	**316**	*e*PKIKP	PKPbc	20 00 19.1 +0.4
ANTO				*e*		20 00 25.3
MANZ	**Manzenberg**	**149.98**	**352**	*e*PKPbc	PKPbc	20 00 19.3 +0.5
VYHS	**Vyhne**	**150.04**	**343**	*e*PKP	PKPbc	20 00 19.5 +0.5
VYHS				*e*		20 00 25.0
ROTZ	**Rotzenmuhle**	**150.18**	**352**	*e*PKPbc	PKPbc	20 00 19.6 +0.3
GIVF	**Givet**	**150.23**	**2**	*e*PKIKP	PKPbc	20 00 19.4 -0.1
PSZ	**Piszkesteto**	**150.25**	**341**⇑	*e*	PKPbc	20 00 19.9 +0.4
PSZ	**Piszkesteto**	**150.25**	**341**	*e*PKPbc	PKPbc	20 00 19.1 -0.4
BAIF	**Baives**	**150.26**	**2**	*e*PKIKP	PKPbc	20 00 19.7 +0.2
	comp=Z,24nm,1.1s					
GRA1	**Grafenberg Arr**	**150.37**	**353**	*e*PKPbc	PKPbc	20 00 21.4 +1.6
GRF	**Grafenberg Arr**	**150.37**	**353**	*e*PKPbc	PKPbc	20 00 21.4 +1.6
KHC	**Kasperske Hory**	**150.60**	**350**⇑	*e*PKPB	PKPbc	20 00 20.5 +0.2
KHC				*e*PKPAB	PKPab	20 00 27.4 +0.2
KHC				*ep*PKP	pPKPdf	20 00 33.4 +7.1
KHC	**Kasperske Hory**	**150.60**	**350**	*e*PKHKP		20 00 20.5
KHC				*e*		20 00 27.4
WET	**Wettzell**	**150.70**	**351**	*e*PKPbc	PKPbc	20 00 21.5 +0.9
ZST	**Bratislava**	**150.77**	**345**	*e*PKP	PKPbc	20 00 21.2 +0.5
GEC2	**GERESS Array S**	**150.86**	**350**	*e*PKPbc	PKPbc	20 00 21.1 +0.2
GERES	**GERESS Array B**	**150.86**	**350**	PKPbc	PKPbc	20 00 21.5 +0.6
	comp=Z,2.8nm,0.8s,baz=18,slow=1.7,SNR=16					
FLN	**La Foliniere**	**151.10**	**9**	*e*PKIKP	PKPbc	20 00 21.3 -0.2
	comp=Z,64nm,1.2s					
LDF	**La Druitiere**	**151.32**	**9**	*e*PKIKP	PKPbc	20 00 22.0 0.0
SOP	**Sopron**	**151.38**	**345**⇑	*e*	PKPbc	20 00 22.8 +0.7
GRR	**Gorron**	**151.41**	**10**	*e*PKIKP	PKPbc	20 00 22.0 -0.2
BZS	**Buzias**	**151.68**	**337**⇑	*i*P	PKPbc	20 00 23.0 +0.2
BZS	**Buzias**	**151.68**	**337**⇑	P	PKPbc	20 00 22.9 +0.1
MEZF	**Maizieres J'vi**	**151.84**	**1**	*e*PKIKP	PKPbc	20 00 22.4 -0.8
CSS	**Prodhromos**	**151.89**	**307**	*e*PKPbc	PKPbc	20 00 24.0 +0.7
CSS				*e*PKPab	PKPab	20 00 30.7 -1.8
CDF	**Champ du Feu**	**151.93**	**358**	*e*PKIKP	PKPbc	20 00 22.9 -0.5
	comp=Z,11nm,1.0s					
PKSM	**Moragy**	**152.16**	**341**	⇓P	PKPbc	20 00 24.1 +0.1
HAU	**Haudompre**	**152.35**	**360**	*e*PKIKP	PKPbc	20 00 23.8 -0.6
HINF	**Hinteralfeld**	**152.53**	**359**	*e*PKIKP	PKPbc	20 00 23.3 -1.5
MOTA	**Moosalm**	**152.70**	**353**⇑	*i*P	PKPbc	20 00 25.3 +0.2
	comp=Z,3.8nm,1.0s					
WTTA	**Wattenberg**	**152.71**	**352**⇑	*i*P	PKPbc	20 00 25.3 +0.2
	comp=Z,4.9nm,0.7s					
LOR	**Lormes**	**153.03**	**3**	*e*PKIKP	PKPbc	20 00 24.3 -1.6
SSF	**Saint Saulge**	**153.21**	**4**	*e*PKIKP	PKPbc	20 00 24.7 -1.6
	comp=Z,9.6nm,0.9s					
GCIS	**Gornji Cirnik**	**153.30**	**345**	*e*PKPbc	PKPbc	20 00 26.4 -0.1
GCIS				*e*PKPab	PKPab	20 00 39.3 +0.8
VOJS	**Vojsko**	**153.53**	**348**	*e*PKPbc	PKPbc	20 00 26.5 -0.5
VOJS				*e*		20 00 39.3
SMF	**Signal de Mont**	**153.65**	**3**	*e*PKIKP	PKPbc	20 00 25.3 -1.9
BOJS	**Bojanci**	**153.74**	**345**	*e*PKPbc	PKPbc	20 00 27.8 +0.4
BOJS				*e*PKPab	PKPab	20 00 39.9 -0.4
TCF	**Toulx Ste Croi**	**153.87**	**6**	*e*PKIKP	PKPbc	20 00 24.8 -2.9
	comp=Z,33nm,1.5s					
TORD	**Torodi Ar. Bea**	**171.75**	**149**	PKP	PKPdf	20 00 37.0 0.0
	comp=Z,0.9nm,0.9s,baz=164,slow=0.3,SNR=4.4					

IDC ***27*** *19:47:41.5±2.9, 5336N×15996E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/21, mbtmp3.4/3, Error ellipse: s-maj=102.9km s-min=39.4km az=81.0*
ISCJB ***27*** *19:47:46.9±0.6, 5330N±003×16056E±007, h33km, mb3.5/3, Error ellipse: s-maj=6.9km s-min=2.5km az=77.9*
KRSC ***27*** *19:47:46.6±0.8, 5330N×16052E, h36km±4km, ML3.9*

ISC 27 19:47:47.8±0.6, 5328N±003×16053E±007, h35km, n38, σ0§71/58, mb3.5/3, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
SPN	**Mys Shipunski**	**0.35**	**239**	*i*	P	**Pn**		**19 47 55.8**	**-0.7**
SPN				*i*	S	**Sn**		**19 48 02.3**	**0.0**
NLC	**Nalytchevo**	**0.72**	**262**	*i*	P	**Pn**		**19 48 00.7**	**-0.8**
NLC				*e*	S	**Sn**		**19 48 10.8**	**-0.5**
SDLR	**Sedlovina**	**0.99**	**271**	*i*	P	**Pn**		**19 48 04.8**	**-0.4**
SDLR				*e*	S	**Sn**		**19 48 18.2**	**+0.3**
KII	**Karymskiy**	**0.99**	**320**	*i*	P	**Pn**		**19 48 03.9**	**-1.3**
KII				*e*	S	**Sn**		**19 48 17.0**	**-1.0**
UGLR	**Uglovaya**	**1.03**	**267**	*i*	P	**Pn**		**19 48 05.6**	**-0.1**
UGLR				*i*	S	**Sn**		**19 48 19.6**	**+0.7**
SMAR	**Somma**	**1.04**	**270**	*i*	P	**Pn**		**19 48 05.4**	**-0.5**
AVH	**Avacha**	**1.08**	**270**	*i*	P	**Pn**		**19 48 06.3**	**-0.1**
AVH				*e*	S	**Sn**		**19 48 20.8**	**+0.7**
KOK	**Koryaka**	**1.14**	**271**	*i*	P	**Pn**		**19 48 06.9**	**-0.3**
PET	**Petropavlovsk**	**1.16**	**258**	*e*	P	**Pn**		**19 48 06.5**	**-1.0**
PET				*e*	S	**Sn**		**19 48 21.3**	**-0.8**
MKZ	**Mys Kozlova**	**1.46**	**29**	*i*	P	**Pn**		**19 48 10.7**	**-1.0**
MKZ				*e*	S	**Sn**		**19 48 28.9**	**-0.7**
RUS	**Russkaya**	**1.49**	**236**	*i*	P	**Pn**		**19 48 11.2**	**-0.8**
KRMR	**Karymshinskiy**	**1.52**	**254**	*e*	P	**Pn**		**19 48 12.0**	**-0.4**
GNL	**Ganaly**	**1.60**	**286**	*i*	P	**Pn**		**19 48 13.7**	**+0.1**
GNL				*e*	S	**Sn**		**19 48 33.3**	**+0.3**
GRL	**Gorelyy**	**1.66**	**245**	*e*	P	**Pn**		**19 48 14.6**	**+0.2**
GRL				*e*	S	**Sn**		**19 48 35.1**	**+0.7**
TUMR	**Tumrok**	**2.02**	**354**	*i*	P	**Pn**		**19 48 19.3**	**-0.1**
TUMR				*i*	S	**Sn**		**19 48 44.0**	**+0.6**
APC	**Apacha**	**2.06**	**261**	*e*	P	**Pn**		**19 48 20.6**	**+0.6**
APC				*e*	S	**Sn**		**19 48 44.2**	**-0.2**
APC				Smax					
	80nm,0.8s								
KMNR	**Kamenistaya**	**2.49**	**356**	*e*	P	**Pn**		**19 48 26.0**	**+0.2**
KMNR				*e*	S	**Sn**		**19 48 54.7**	**-0.2**
MIPR	**Malaya Ipel'ka**	**2.50**	**248**	*e*	P	**Pn**		**19 48 27.0**	**+1.0**
KPT	**Kopyto**	**2.70**	**356**	*e*	P	**Pn**		**19 48 28.8**	**+0.1**
ZLN	**Zelenaya**	**2.75**	**3**	*i*	P	**Pn**		**19 48 30.0**	**+0.6**
ZLN				*e*	S	**Sn**		**19 49 01.0**	**-0.3**
KOZ	**Kozyrevsk**	**2.81**	**352**	*i*	P	**Pn**		**19 48 30.3**	**+0.1**
LGNR	**Loginova**	**2.81**	**2**	*e*	P	**Pn**		**19 48 31.3**	**+1.1**
LGNR				*e*	S	**Sn**		**19 49 02.9**	**0.0**
CIRR	**Tsirk**	**2.84**	**2**	*e*	P	**Pn**		**19 48 31.4**	**+0.7**
CIRR				*e*	S	**Sn**		**19 49 04.3**	**+0.6**
ESO	**Esso**	**2.86**	**339**	*i*	P	**Pn**		**19 48 30.7**	**-0.2**
ESO				Smax					
	40nm,0.9s								
PAU	**Pauzhetka**	**2.91**	**233**	*e*	P	**Pn**		**19 48 33.0**	**+1.4**
PAU				*e*	S	**Sn**		**19 49 05.9**	**+0.5**
PAU				Smax					
	90nm,0.5s								
KRSR	**Krestovskiy**	**2.94**	**0**	*e*	P	**Pn**		**19 48 33.1**	**+1.0**
KLY	**Klyuchi**	**3.04**	**1**	*e*	P	**Pn**		**19 48 34.0**	**+0.6**
KLY				*e*	S	**Sn**		**19 49 08.4**	**-0.2**
SRDR	**Sredinnyy**	**3.08**	**352**	*e*	P	**Pn**		**19 48 33.5**	**-0.4**
KBTR	**Krutoberegovo**	**3.22**	**23**	*e*	P	**Pn**		**19 48 36.2**	**+0.3**
KBG	**Krutoberegovo**	**3.24**	**22**	P		**Pn**		**19 48 36.2**	**+0.1**
KBG				Smax					
	300nm,0.7s								
BDR	**Baidarnaya**	**3.32**	**6**	*e*	P	**Pn**		**19 48 38.2**	**+1.0**
BDR				*e*	S	**Sn**		**19 49 15.7**	**+0.3**
SMKR	**Semkarok**	**3.35**	**9**	*i*	P	**Pn**		**19 48 38.0**	**+0.3**
SRKR	**Sorokina**	**3.40**	**6**	*e*	P	**Pn**		**19 48 38.7**	**+0.3**
SRKR				*e*	S	**Sn**		**19 49 16.4**	**-1.1**
BKI	**Bering**	**3.73**	**57**	*e*	S	**Sn**		**19 49 21.3**	**-4.2**
ALID	**Alaid**	**3.91**	**234**	P		**Pn**		**19 48 46.2**	**+0.9**
MKAR	**Makanchi Array**	**48.31**	**296**	P		**P**		**19 56 21.5**	**-4.2**
	0.2nm,0.5s,mb3.4,baz=57,slow=9.0,SNR=4.3								
FINES	**FINESS Array B**	**60.05**	**337**	P		**P**		**19 57 48.0**	**-3.1**
	0.3nm,0.3s,mb3.8,baz=35,slow=6.9,SNR=7.1								
ASAR	**Alice Springs**	**80.04**	**205**	P		**P**		**19 59 52.3**	**-1.4**
	0.2nm,0.5s,mb3.3,baz=16,slow=5.2,SNR=4.7								

IDC 27 19:54:44.0±1.6, 2097N×12057E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/18, mbtmp3.5/5, Error ellipse: s-maj=165.4km s-min=21.6km az=65.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
SONM	**Songino Array**	**29.14**	**340**	P		P		20 00 47.0	+0.3
	0.3nm,0.8s,baz=153,slow=9.7,SNR=3.1								
MKAR	**Makanchi Array**	**40.31**	**319**	P		P		20 02 22.7	-0.3
	0.5nm,0.7s,baz=108,slow=11,SNR=6.2								
WRA	**Warramunga Arr**	**42.83**	**161**	P		P		20 02 43.7	0.0
	2.7nm,0.9s,baz=343,slow=9.4,SNR=8.3								
ASAR	**Alice Springs**	**46.23**	**163**	P		P		20 03 11.2	+0.4
	0.1nm,0.6s,baz=353,slow=6.9,SNR=4.3								

GERES	**GERESS Array B**	**84.96**	**321**	P		P		20 07 21.7	+0.6
	0.5nm,0.7s,baz=23,slow=7.8,SNR=4.1								

NEIC ***27*** *20:06:33.8±8.2, 526N×9406E, h11km±52km, mb4.4/8, Error ellipse: s-maj=25.6km s-min=11.8km az=65.0*
ISCJB ***27*** *20:06:42.2±3.2, 56N±02×946E±02, h82km±25km, mb4.0/15, Error ellipse: s-maj=47.2km s-min=11.7km az=117.0*
IDC ***27*** *20:06:42.5±5.4, 552N×9449E, h72km±46km, mb3.7/8, mb1 3.9/9, mb1mx3.6/22, mbtmp4.0/9, ML3.8/1, MS3.7/2, Ms1 3.7/2, ms1mx2.8/25, Error ellipse: s-maj=65.0km s-min=17.4km az=58.0*

ISC 27 20:06:43.4±3.0, 57N±02×946E±03, h75km±23km, n24, σ0§70/24, mb4.0/15, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PSI	**Prapat**	**5.15**	**123**	P		**Pn**		**20 07 58.4**	**+0.4**
	3.4nm,0.3s,baz=282,slow=12,SNR=6.2								
KULM	**Kulim**	**6.03**	**93**	*e*	P	**Pn**		**20 08 09.2**	**-0.7**
KULM				*e*	Sn	**Sn**		**20 09 10.5**	**-7.0**
COCO	**West Island**	**17.86**	**173**	P		**Pn**		**20 10 36.5**	**-10**
	177nm,1.0s								
LSA	**Lhasa**	**24.14**	**353**	*e*	P	**P**		**20 11 53.9**	**+1.6**
	1.7nm,0.6s,mb3.5								
MKAR	**Makanchi Array**	**42.34**	**347**	P		**P**		**20 14 30.4**	**+0.4**
	2.4nm,0.5s,mb4.2,baz=170,slow=7.3,SNR=46								
MKAR	**Makanchi Array**	**42.34**	**347**	P		**P**		**20 14 30.4**	**+0.4**
SONM	**Songino Array**	**43.23**	**12**	P		**P**		**20 14 37.6**	**+0.5**
	0.6nm,0.5s,mb3.6,baz=193,slow=9.9,SNR=9.7								
ULN	**Ulaanbaatar**	**43.39**	**12**	*e*	P	**P**		**20 14 37.8**	**-0.6**
	0.8nm,0.5s,mb3.7								
WRA	**Warramunga Arr**	**46.62**	**124**	P		**P**		**20 15 04.0**	**-0.1**
	0.9nm,0.4s,mb3.8,baz=304,slow=9.7,SNR=25								
WRAB	**Tennant Creek**	**46.62**	**124**	*e*	P	**P**		**20 15 03.8**	**-0.3**
	3.2nm,0.7s,mb4.2								
WB2	**Warramunga Arr**	**46.63**	**124**	*e*	P	**P**		**20 15 04.3**	**+0.2**
KURK	**Kurchatov**	**46.87**	**346**	*e*	P	**P**		**20 15 06.3**	**+0.4**
	2.1nm,0.5s,mb4.4								
ASPA	**Alice Springs**	**48.15**	**129**	*e*	P	**P**		**20 15 16.2**	**+0.3**
AS31	**Alice Springs**	**48.16**	**129**	*e*	P	**P**		**20 15 16.2**	**+0.3**
ASAR	**Alice Springs**	**48.16**	**129**	P		**P**		**20 15 15.9**	**0.0**
	0.5nm,0.5s,mb3.6,baz=300,slow=7.6,SNR=21								
ZAL	**Zalesovo**	**48.80**	**352**	P		**P**		**20 15 21.4**	**+0.6**
	2.0nm,0.3s,mb4.6,baz=312,slow=4.6,SNR=5.5								
BRVK	**Borovoye**	**51.29**	**341**	*e*	P	**P**		**20 15 38.0**	**-1.7**
	2.3nm,0.6s,mb4.4								
ZRNK	**Zerenda**	**51.62**	**341**	*e*	P	**P**		**20 15 41.9**	**-0.3**
	2.1nm,0.5s,mb4.4								
CHKZ	**Chkalovo**	**51.72**	**342**	*e*	P	**P**		**20 15 43.0**	**+0.1**
	4.3nm,0.4s,mb4.8								
ASAJ	**Asahikawa**	**56.80**	**40**	LR		LR		20 41 00.7	
	comp=Z,43nm,19.9s,baz=152,slow=36								
FINES	**FINESS Array B**	**74.88**	**332**	P		**P**		**20 18 14.4**	**-1.5**
	0.9nm,0.8s,mb3.6,baz=72,slow=6.2,SNR=6.4								
FINES				LR		LR		20 57 22.9	
	comp=Z,68nm,19.0s,baz=158,slow=41								
ARCES	**ARCESS Array B**	**77.50**	**340**	P		**P**		**20 18 30.8**	**-0.1**
	2.5nm,0.9s,mb3.9,baz=101,slow=7.2,SNR=9.0								
ARCES	**ARCESS Array B**	**77.50**	**340**	P		**P**		**20 18 30.8**	**-0.1**
GERES	**GERESS Array B**	**79.78**	**318**	P		**P**		**20 18 43.8**	**+0.4**
	0.6nm,0.5s,mb3.6,baz=130,slow=5.6,SNR=4.1								

IDC ***27*** *20:12:19.9±1.1, 2038N×11958E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.6/18, mbtmp3.6/5, Error ellipse: s-maj=44.6km s-min=21.7km az=70.0*
ISCJB ***27*** *20:12:22.6±0.8, 2064N±007×1201E±01, h33km, mb3.6/6, Error ellipse: s-maj=20.3km s-min=8.5km az=34.3*
NEIC ***27*** *20:12:24.5±0.7, 2061N×12006E, h35km, mb3.9/1, Error ellipse: s-maj=17.0km s-min=10.3km az=95.0*

ISC 27 20:12:24.8±0.8, 2064N±007×1201E±01, h35km, n9, σ0§60/11, mb3.6/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
NACB	**Ninganchiao**	**3.77**	**21**	*e*	Pn	**Pn**		**20 13 21.0**	**+0.6**
NACB				*e*	Sn	**Sn**		**20 14 02.8**	**-0.8**
YHNB	**Yeheng**	**4.17**	**16**	*e*	Pn	**Pn**		**20 13 25.8**	**-0.2**
YHNB				*e*	Sn	**Sn**		**20 14 13.5**	**0.0**
KS15	**Wonju Array Si**	**18.05**	**20**	P		**Pn**		**20 16 33.8**	**+1.1**
MJAR	**Matsushiro Arr**	**22.37**	**41**	P		**P**		**20 17 25.5**	**+5.7**
	2.4nm,1.0s,mb3.6,baz=237,slow=11,SNR=4.1								
LSA	**Lhasa**	**27.66**	**295**	P		**P**		**20 18 09.7**	**+0.5**
	0.9nm,0.3s,mb3.9								
MKAR	**Makanchi Array**	**40.27**	**319**	P		**P**		**20 19 57.4**	**-1.0**
	0.4nm,0.7s,mb3.3,baz=116,slow=9.5,SNR=5.8								
WRA	**Warramunga Arr**	**42.67**	**160**	P		**P**		**20 20 17.6**	**-0.4**
	3.1nm,1.1s,mb3.9,baz=340,slow=9.2,SNR=6.2								
ZAL	**Zalesovo**	**42.73**	**330**	P		**P**		**20 20 18.6**	**+0.1**
	0.4nm,0.5s,mb3.4,baz=151,slow=15,SNR=3.3								
ASAR	**Alice Springs**	**46.05**	**162**	P		**P**		**20 20 45.0**	**0.0**
	1.1nm,1.1s,mb3.7,baz=346,slow=7.0,SNR=8.4								

ISCJB ***27*** *20:37:33.3±0.8, 4020N±004×14402E±008, h33km, mb3.3/2, MS3.4/1, Error ellipse: s-maj=9.3km s-min=4.0km az=61.4*
JMA ***27*** *20:37:34.3±0.2, 4024N×14389E, h40km, M3.1*
IDC ***27*** *20:37:42.0±2.1, 4058N×14248E, h0km, mb3.4/3, mb1 3.4/5, mb1mx3.2/22, mbtmp3.3/5, ML2.8/2, MS3.4/1, Ms1 3.4/1, ms1mx2.4/18, Error ellipse: s-maj=52.5km s-min=23.7km az=89.0*

ISC 27 20:37:34.7±0.8, 4018N±004×14401E±008, h35km, n19, σ1§10/25, mb3.3/2, MS3.4/1, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
JTH	**Tanohata**	**1.67**	**262**	P		**Pn**		**20 38 00.7**	**-0.7**
JTH				S		**Sn**		**20 38 20.1**	**-1.4**
MIYJ	**Miyakonagasawa**	**1.79**	**251**	P		**Pn**		**20 38 03.0**	**-0.1**
JANG	**Nango**	**1.92**	**276**	P		**Pn**		**20 38 04.4**	**-0.4**
JOM	**Ohasama**	**2.21**	**252**	P		**Pn**		**20 38 09.3**	**+0.4**
JCH	**Churui**	**2.48**	**349**	*e*	S	**Sn**		**20 38 41.6**	**+0.1**
JMK	**Ichinoseki**	**2.48**	**241**	P		**Pn**		**20 38 12.9**	**+0.3**
JMK				*e*	S	**Sn**		**20 38 41.8**	**+0.1**
JOT	**Ohata**	**2.55**	**299**	P		**Pn**		**20 38 13.5**	**0.0**
JOT				*e*	S	**Sn**		**20 38 43.1**	**-0.2**
JKB	**Kayabe**	**2.82**	**308**	*e*	S	**Sn**		**20 38 49.8**	**-0.3**
JAK	**Akkeshi**	**2.86**	**10**	P		**Pn**		**20 38 16.4**	**-1.4**
JAK				*e*	S	**Sn**		**20 38 50.1**	**-0.8**
JYK	**Kaneyama**	**3.09**	**247**	P		**Pn**		**20 38 21.7**	**+0.7**
JAR	**Ashorobuto**	**3.12**	**357**	P		**Pn**		**20 38 21.2**	**-0.1**
JAR				*e*	S	**Sn**		**20 38 56.2**	**-1.1**
JMM	**Marumori**	**3.41**	**228**	P		**Pn**		**20 38 24.9**	**-0.5**
JMM				*e*	S	**Sn**		**20 39 02.8**	**-1.8**
NEM2	**Nemuro 2**	**3.43**	**22**	P		**Pn**		**20 38 25.5**	**-0.2**
NEM2				*e*	S	**Sn**		**20 39 03.9**	**-1.2**
ASAJ	**Asahikawa**	**4.07**	**346**	Pn		**Pn**		**20 38 36.8**	**+2.3**
	0.5nm,0.3s,baz=116,slow=30,SNR=4.7								
ASAJ						Sn		**20 39 23.0**	**+2.2**
	0.9nm,0.3s,baz=136,slow=27,SNR=3.0								
MJAR	**Matsushiro Arr**	**5.83**	**233**	Pn		**Pn**		**20 38 59.7**	**+1.1**
	0.5nm,0.3s,baz=42,slow=11,SNR=6.3								
SONM	**Songino Array**	**27.89**	**299**	P		**P**		**20 43 23.5**	**+2.2**
	0.4nm,0.6s,mb3.2,baz=99,slow=9.2,SNR=3.3								
MKAR	**Makanchi Array**	**44.24**	**300**	P		**P**		**20 45 42.9**	**+2.3**
	0.5nm,0.8s,mb3.3,baz=79,slow=6.3,SNR=4.8								
HNR	**Honiara**	**51.52**	**160**	LR		LR		21 07 01.8	
	comp=Z,40nm,19.8s,MS3.4,baz=360,slow=34								
WRA	**Warramunga Arr**	**60.49**	**190**	P		pP		20 47 55.5	+3.7
	0.3nm,0.6s,baz=8.0,slow=6.7,SNR=5.3								

CASC 27 20:39:22.9±2.7, 1304N×8868W, h52km±64km, MD4.2, ML3.4, 5C-7D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
VSM	**San Miguel**	**0.55**	**45**	*e*	P	Pn		20 39 43.1	+8.2
BLLM	**Bellamira**	**0.59**	**47**⇓	*e*	P	Pn		20 39 43.2	+7.9
BLLM				*e*	S	Sn		20 39 53.7	+9.4
SNVI	**San Vicente**	**0.59**	**345**	*e*	P	Pn		20 39 42.7	+7.3
SNVI				*e*	S	Sn		20 39 53.1	+8.7
LCBS	**La Ceiba**	**0.68**	**335**⇓	*e*	P	Pn		20 39 43.2	+6.7
LFRS	**El Faro**	**0.69**	**327**⇓	*e*	P	Pn		20 39 43.0	+6.3
LBRS	**Las Brisas**	**0.79**	**333**⇓	*e*	P	Pn		20 39 44.7	+6.9
SNET	**Serv Nac Est T**	**0.84**	**320**	*e*	P	Pn		20 39 36.6	-2.0
SNET				*e*	S	Sn		20 39 48.5	-1.5
CNCH	**Conchagua**	**0.86**	**74**⇓	*e*	P	Pn		20 39 46.5	+7.8
CNCH				*e*	S	Sn		20 40 00.4	+10

BOQS	**Boqueron**	**0.91**	**320**	*e*	P	Pn		20 39 46.0	+6.6
BOQS				*e*	S	Sn		20 39 59.0	+7.4
SBLS	**San Blas**	**1.22**	**311**	*e*	P	Pn		20 39 49.9	+6.3
SBLS				*e*	S	Sn		20 40 06.1	+7.1
SNJE	**San Jose**	**1.23**	**313**	*e*	P	Pn		20 39 50.0	+6.4
SNJE				*e*	S	Sn		20 40 05.7	+6.5
RTR	**El Retiro**	**1.27**	**312**	*e*	P	Pn		20 39 51.1	+6.7
RTR				*e*	S	Sn		20 40 07.2	+6.9
RBDL	**Robledal**	**1.45**	**318**	*e*	P	Pn		20 39 53.2	+6.4
CRIN	**San Cristobal**	**1.62**	**102**⇓	*e*	P	Pn		20 39 50.1	+1.0
TEL3	**Telica 3**	**1.84**	**104**⇓	*e*	P	Pn		20 39 52.4	+0.2
TEL3				*e*	S	Sn		20 40 13.3	-0.9
LEON	**Leon**	**1.85**	**109**	*e*	P	Pn		20 39 52.8	+0.7
TELN	**Telica**	**1.85**	**103**⇓	*e*	P	Pn		20 39 52.2	0.0
CNGN	**Cerro Negro**	**2.00**	**105**⇓	*e*	P	Pn		20 39 54.7	+0.4
MIRN	**Miramar**	**2.01**	**107**	*e*	P	Pn		20 39 54.3	0.0
MOMJ	**Momotombo**	**2.18**	**106**	*e*	P	Pn		20 39 56.3	-0.3
COPN	**Copaltepe**	**2.21**	**112**⇓	*e*	P	Pn		20 39 57.6	+0.5
APYN	**Apoyeque**	**2.41**	**109**	*e*	P	Pn		20 40 00.5	+0.7
XAVN	**Graita Xavier**	**2.46**	**111**	*e*	P	Pn		20 40 01.0	+0.5
MGAN	**Managua**	**2.53**	**110**	*e*	S	Sn		20 40 30.7	-0.4
	comp=N,275nm,0.4s								
TICN	**Ticuantepe**	**2.59**	**112**	*e*	P	Pn		20 40 03.7	+1.4
PRS1	**Puriscal**	**5.24**	**125**	*e*	P	Pn		20 40 40.6	+1.9
LCR2	**La Lucha 2**	**5.63**	**125**	*e*	P	Pn		20 40 46.5	+2.5
LCR2				*e*	S	Sn		20 41 48.0	+0.7
URSC	**Urasca**	**5.76**	**123**⇑	*e*	P	Pn		20 40 49.2	+3.5
URSC				*e*	S	Sn		20 41 52.7	+2.2
BUS	**Buena Vista**	**5.94**	**125**⇓	*e*	P	Pn		20 40 50.4	+2.2
BUS				*e*	S	Sn		20 41 57.7	+2.9

IDC 27 20:43:13.0±10.0, 1899S×17481W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.7/15, mbtmp3.6/3, Error ellipse: s-maj=447.4km s-min=38.2km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
ASAR	**Alice Springs**	**47.80**	**255**	P		P		20 51 52.9	+0.7
	1.3nm,0.6s,baz=88,slow=7.8,SNR=23								
WRA	**Warramunga Arr**	**47.81**	**260**	P		P		20 51 52.0	-0.2
	0.4nm,0.8s,baz=98,slow=6.6,SNR=4.5								
ILAR	**Eielson Array**	**86.21**	**12**	P		P		20 55 56.0	-0.4
	1.0nm,1.0s,baz=222,slow

ISCJB ***27*** *21:34:53.9±1.6, 176S±06×1788W±05, h557km±46km, mb3.9/5, Error ellipse: s-maj=113.5km s-min=22.7km az=103.2*

IDC ***27*** *21:34:54.3±2.2, 1780S×17867W, h550km±32km, mb3.1/4, mb1 3.3/5, mb1mx3.1/14, mbtmp4.1/5, Error ellipse: s-maj=111.4km s-min=17.6km az=147.0*

NEIC ***27*** *21:34:54.6±1.1, 1759S×17878W, h551km±22km, Error ellipse: s-maj=78.2km s-min=13.0km az=144.0*

ISC 27 21:34:55.4±1.4,**177S**±06×**1786W**±05,**h575**km±41km,**n14,** σ0§52/10,**mb3.9/5,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**7.54**	**61**	P		**P**	**21 36 49.4**	**0.0**
	3.2nm,0.3s,baz=115,slow=19,SNR=3.6							
CNB	**Canberra Magne**	**33.43**	**232**	*e*P		**P**	**21 40 48.2**	**+0.7**
	36nm,1.6s,mb4.8							
STKA	**Stephens Creek**	**38.60**	**241**	*e*P		**P**	**21 41 28.8**	**-1.3**
	1.2nm,0.4s,mb3.8							
STKA	**Stephens Creek**	**38.60**	**241**	P		**P**	**21 41 29.0**	**-1.1**
	1.8nm,0.5s,mb3.9,baz=87,slow=11,SNR=12							
STKA	**Stephens Creek**	**38.60**	**241**	*e*P		**P**	**21 41 28.7**	**-1.4**
WRA	**Warramunga Arr**	**44.53**	**259**	P		**P**	**21 42 16.6**	**-0.1**
	0.7nm,0.7s,mb3.3,baz=91,slow=7.1,SNR=10							
AS31	**Alice Springs**	**44.71**	**254**	*e*P		**P**	**21 42 18.3**	**+0.2**
ASAR	**Alice Springs**	**44.71**	**254**	P		**P**	**21 42 18.4**	**+0.3**
	4.9nm,0.6s,mb4.2,baz=88,slow=8.3,SNR=76							
ASPA	**Alice Springs**	**44.71**	**254**	*e*P		**P**	**21 42 18.3**	**+0.2**
ILAR	**Eielson Array**	**85.73**	**13**	P		**P**	**21 46 34.3**	**0.0**
	0.3nm,0.4s,mb3.3,baz=224,slow=5.5,SNR=5.8							
BRTR	**Keskin Array B**	**144.55**	**315**	PKP		PKPdf	21 53 28.9	+1.9
	0.9nm,0.8s,baz=29,slow=2.8,SNR=4.9							
CLL	**Collm**	**145.25**	**347**	*i* PKPbc		PKPbc	21 53 30.4	+1.1
GERES	**GERESS Array B**	**147.39**	**345**	PKPbc		PKPbc	21 53 36.6	+1.4
	0.5nm,0.4s,baz=34,slow=5.0,SNR=4.6							
DAVOX	**Davos**	**150.19**	**348**	PKPbc		PKPbc	21 53 43.6	+1.7
	1.6nm,0.6s,baz=341,slow=2.5,SNR=3.8							

PRE 27 21:35:31.9±1.1,**2128S×3293E,h5**km,**ML3.5, Mozambique**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BFT	**Belfast (SA)**	**5.13**	**211**	*e*P		Pn	21 36 50.6	+1.3
BFT				*e*S		Sn	21 37 48.0	-0.9
BFT				AML		AML	21 38 18.6	
	comp=Z,12nm,0.4s							
SLR	**Silverton**	**6.16**	**223**	*e*S		Sn	21 38 12.6	-1.6
SLR				AML		AML	21 39 08.9	
	comp=Z,21nm,0.5s							
POGA	**Pongola**	**6.18**	**191**	*e*P		Pn	21 37 04.6	+0.8
POGA				*e*S		Sn	21 38 11.2	-3.8
POGA				AML		AML	21 38 47.2	
	comp=Z,6.8nm,0.5s							
LBTB	**Lobatse**	**7.70**	**240**	*e*P		Pn	21 37 25.6	+0.9
LBTB				*e*S		Sn	21 38 49.2	-3.2
LBTB				AML		AML	21 39 04.9	
	comp=Z,5.0nm,0.8s							
BOSA	**Boshof**	**10.09**	**222**	*e*P		Pn	21 37 58.6	+1.2
BOSA				*e*S		Sn	21 39 45.6	-5.3
BOSA				AML		AML	21 40 05.9	
	comp=Z,3.1nm,0.8s							

IDC ***27*** *21:37:42.4±0.7, 2030S×16875E, h0km, mb4.4/10, mb1 4.5/12, mb1mx4.5/16, mbtmp4.4/12, ML4.0/2, MS3.9/6, Ms1 3.9/6, ms1mx3.6/24, Error ellipse: s-maj=24.0km s-min=18.7km az=133.0*

LDG ***27*** *21:37:44.2±0.1, 2008S×16853E, h10km, Mb5.0/3, Error ellipse: s-maj=12.4km s-min=2.1km az=126.0*

BJI ***27*** *21:37:45.7, 1994S×169.14E, h29km, mB5.0, mb4.8, Ms4.6, Msz4.6*

ISCJB ***27*** *21:37:45.5±0.4, 2041S±006×16874E±007, h33km, mb4.7/36, MS4.4/15, Error ellipse: s-maj=10.3km s-min=6.9km az=85.1*

MOS ***27*** *21:37:46.7±1.9, 2027S×16861E, h33km, mb5.1/16, MS4.3/4, Error ellipse: s-maj=13.6km s-min=11.6km az=29.9*

SZGRF ***27*** *21:37:47.2, 2008S×17023E, h33km, Vanuatu Islands*

NEIC ***27*** *21:37:47.2±0.3, 2038S×16873E, mb5.0/19, MS4.5/12, Error ellipse: s-maj=9.9km s-min=7.3km az=144.0*

HRVD ***27*** *21:37:47.2±0.4, 2037S×16859E, h29km±1km, MW5.0/54, Centroid moment Tensor Solution. LP body waves: s29,c31;Mantle waves: s54,c75; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 3.69±.27; Mθθ-0.47±.17; Mφφ-3.22±.18; Mrθ 0.08±.31; Mrφ 1.74±.10; Mθφ-2.37±.26; Best double couple: M=4.55300×10^16 NP1:φs321.00000°, δ32.00000°, λ67.00000°. NP2: φs167.00000°, δ61.00000°, λ103.00000°. Principal axes: T 4.4660, Plg71.0000°, Azm107.0000°; N 0.1730, Plg12.0000°, Azm340.0000°; P -4.6400, Plg15.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 27 21:37:47.2±0.4,**2041S**±006×**16880E**±007,**h35**km, **(h33**km±4.4km**:pP-P),n178,**σ1§18/70,**mb4.7**/36,**MS4.4**/15, **8C-2D,Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.76**	**233**	Pn		**Pn**	**21 38 26.8**	**-2.1**
	20nm,0.3s,baz=60,slow=17,SNR=544							
DZM				Sn		**Sn**	**21 38 58.7**	**-2.2**
	110nm,0.3s,baz=338,slow=22,SNR=12							
DZM				LR		LR	21 39 06.5	
	comp=Z,2μm,21.2s,baz=46,slow=30							
DZM	**Mont Dzumac**	**2.76**	**233**	Pn		**Pn**	**21 38 26.8**	**-2.1**
DZM				Sn		**Sn**	**21 38 58.7**	**-2.2**
DZM				LR		LR	21 39 06.5	
BKM	**Butte a Klehm**	**2.77**	**349**	*i* P		**Pn**	**21 38 35.3**	**+6.1**
URZ	**Urewera**	**19.19**	**160**	P		**Pn**	**21 42 09.9**	**+0.9**
	0.6nm,0.3s,baz=45,slow=6.7,SNR=4.2							
URZ				LR		LR	21 48 21.0	
	comp=Z,665nm,19.8s,baz=36,slow=33							
AFI	**Afiamalu**	**19.64**	**74**	LR		LR	21 46 58.9	
	comp=Z,153nm,21.5s,baz=184,slow=28							
CTA	**Charters Tower**	**21.16**	**267**	P		**P**	**21 42 29.2**	**0.0**
	2.5nm,0.7s,baz=102,slow=14,SNR=2.4							
CTAO	**Charters Tower**	**21.16**	**267**	*e*P		**P**	**21 42 29.6**	**+0.3**
CTAO				pmax		pmax		
	comp=Z,16nm,1.0s,mb4.3							
CTAO	**Charters Tower**	**21.16**	**267**	*e*P		**P**	**21 42 29.6**	**+0.3**
	comp=Z,16nm,1.0s,mb4.3							
CNB	**Canberra Magne**	**22.66**	**225**	*e*P		**P**	**21 42 49.0**	**+3.8**
	comp=Z,25nm,1.0s,mb4.6							
PMG	**Port Moresby**	**23.57**	**294**	P		**P**	**21 42 53.4**	**-1.2**
	comp=Z,22nm,1.0s,mb4.6,baz=187,slow=3.8,SNR=3.4							
PMG				LR		LR	21 50 29.6	
	comp=Z,244nm,18.2s,MS3.7,baz=107,slow=33							
PMG	**Port Moresby**	**23.57**	**294**	*e*P		**P**	**21 42 55.0**	**+0.4**
PMG				pmax		pmax		
	comp=Z,70nm,1.3s							
PMG	**Port Moresby**	**23.57**	**294**	*e*P		**P**	**21 42 55.0**	**+0.3**
	comp=Z,70nm,1.3s,mb4.9							
PMG				LR		LR	21 50 29.6	
STKA	**Stephens Creek**	**26.89**	**239**	*e*P		**P**	**21 43 24.5**	**-0.3**
	comp=Z,7.7nm,0.8s,mb4.3							
STKA	**Stephens Creek**	**26.89**	**239**	P		**P**	**21 43 24.7**	**-0.1**
	comp=Z,5.0nm,0.6s,mb4.2,baz=76,slow=10.0,SNR=19							
STKA				PcP		PcP	21 46 46.0	-0.5
	comp=Z,1.6nm,0.9s,baz=71,slow=6.2,SNR=3.0							
STKA				LR		LR	21 53 57.4	
	comp=Z,374nm,18.9s,MS4.0,baz=16,slow=36							
STKA	**Stephens Creek**	**26.89**	**239**	*e*P		**P**	**21 43 24.1**	**-0.7**
WB2	**Warramunga Arr**	**32.31**	**265**	*e*P		**P**	**21 44 13.0**	**+0.2**
WRAB	**Tennant Creek**	**32.31**	**265**	*e*P		**P**	**21 44 12.8**	**0.0**
WRAB				pmax		pmax		
	comp=Z,15nm,1.1s,mb4.7							
WRAB				MLR		MLR		
	comp=Z,605nm,20.0s,MS4.3							
WRAB	**Tennant Creek**	**32.31**	**265**	*e*P		**P**	**21 44 12.8**	**0.0**
	comp=Z,15nm,1.1s,mb4.7							
WRAB				LR		LR		
	comp=Z,605nm,20.0s,MS4.3							
WRA	**Warramunga Arr**	**32.32**	**265**	P		**P**	**21 44 13.0**	**+0.1**
	comp=Z,3.0nm,0.8s,mb4.2,baz=94,slow=8.5,SNR=17							
WRA				PcP		PcP	21 47 01.5	+1.2
	comp=Z,2.2nm,1.0s,baz=86,slow=2.7,SNR=5.0							
AS31	**Alice Springs**	**32.47**	**258**	*e*P		**P**	**21 44 14.5**	**+0.3**
ASAR	**Alice Springs**	**32.47**	**258**	P		**P**	**21 44 14.9**	**+0.7**
	comp=Z,6.3nm,0.7s,mb4.6,baz=86,slow=9.2,SNR=57							
ASAR				PcP		PcP	21 47 01.6	+0.9
	comp=Z,2.3nm,0.9s,baz=99,slow=3.4,SNR=5.2							
ASPA	**Alice Springs**	**32.47**	**258**	*e*P		**P**	**21 44 14.5**	**+0.3**
TBI	**Tubuai**	**38.75**	**102**	*e*LQ			21 54 04.7	
	comp=Z,643nm,29.2s							
TBI				*e*LR		LR	21 55 48.0	
	comp=Z,181nm,25.0s							
PPT	**Papeete**	**39.38**	**93**	*e*LQ			21 54 17.7	
	comp=Z,710nm,30.5s							
PPT				*e*LR		LR	21 56 00.1	
	comp=Z,357nm,25.0s							
FITZ	**Fitzroy Crossi**	**40.73**	**266**	*e*P		**P**	**21 45 25.3**	**+0.7**
	comp=Z,22nm,1.2s,mb4.7							
MBWA	**Marble Bar**	**45.74**	**260**	*e*P		**P**	**21 46 06.0**	**+1.0**
	comp=Z,31nm,1.1s,mb5.1							
MBWA				LR		LR		
	comp=Z,837nm,19.0s,MS4.7							
KLBR	**Kellerberrin**	**46.85**	**245**	*e*P		**P**	**21 46 14.8**	**+1.1**
	comp=Z,24nm,1.1s,mb5.0							
NWAO	**Narrogin (SRO)**	**47.33**	**244**	P		**P**	**21 46 17.4**	**0.0**
NWAO				pmax		pmax		
	comp=Z,27nm,1.1s							
NWAO				MLR		MLR		
	comp=Z,600nm,19.0s							
NWAO	**Narrogin (SRO)**	**47.33**	**244**	P		**P**	**21 46 17.4**	**0.0**
	comp=Z,26nm,1.1s,mb5.1							
NWAO				LR		LR		
	comp=Z,600nm,19.0s,MS4.6							
VNDA	**Vanda**	**57.26**	**182**	P		**P**	**21 47 32.1**	**+0.9**
	comp=Z,1.0nm,0.9s,mb3.8,baz=348,slow=5.2,SNR=3.7							
VNDA				LR		LR	22 07 17.5	
	comp=Z,159nm,20.3s,MS4.1,baz=312,slow=31							
VNDA	**Vanda**	**57.26**	**182**	*e*P		**P**	**21 47 32.2**	**+1.0**
VNDA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
VNDA	**Vanda**	**57.26**	**182**	*e*P		**P**	**21 47 32.2**	**+1.0**
	comp=Z,2.4nm,0.9s,mb4.2							
VNDA				LR		LR	22 07 17.5	
SBA	**Scott Base**	**57.50**	**181**	*e*P		**P**	**21 47 33.7**	**+0.8**
SBA				*e**PP		pP	21 47 44.7	+1.2
SBA				pmax		pmax		
	comp=Z,21nm,1.3s,mb5.0							
SBA	**Scott Base**	**57.50**	**181**	*e*P		**P**	**21 47 33.6**	**+0.8**
	comp=Z,21nm,1.3s,mb5.0							
SBA				*e*pP		pP	21 47 44.7	+1.2
CASY	**Casey**	**58.90**	**204**	PFAKE			21 48 00.0	+17
CASY				LR		LR		
	comp=Z,1μm,21.0s,MS4.9							
MJAR	**Matsushiro Arr**	**63.59**	**333**	P		**P**	**21 48 14.0**	**-0.4**
	comp=Z,4.2nm,1.0s,mb4.4,baz=167,slow=7.7,SNR=6.2							
QSPA	**South Pole Qui**	**69.85**	**180**	*e*P		**P**	**21 48 53.0**	**-0.1**
	comp=Z,18nm,1.2s,mb4.9							
QSPA				*e*pP		pP	21 49 03.6	-0.4
QIZ	**Qiongzhong**	**69.81**	**300**	PFAKE			21 49 10.0	+16
QIZ				LR		LR		
	comp=Z,134nm,21.0s,MS4.2							
YSS	**Yuzh-Sakhalins**	**71.05**	**341**	*e*P		**P**	**21 49 02.0**	**+0.4**
YSS				pmax		pmax		
	comp=Z,40nm,1.1s,mb5.3							
MDJ	**Mudanjiang**	**73.95**	**332**	P		**P**	**21 49 20.0**	**+1.1**
MDJ				AMB		AMB		
	comp=Z,13nm,1.1s,mb4.8							
MDJ				AMB		AMB		
	comp=Z,72nm,4.4s							
MDJ	**Mudanjiang**	**73.95**	**332**	*e*P		**P**	**21 49 19.5**	**+0.6**
	comp=Z,16nm,1.3s,mb4.8							
CN2	**Changchun**	**75.24**	**329**	*e*P		**P**	**21 49 27.0**	**+0.6**
CN2				AMB		AMB		
	comp=Z,20nm,0.9s,mb5.0							
ENH	**Enshi**	**76.10**	**310**	PFAKE			21 49 40.0	+8.7
ENH				LR		LR		
	comp=Z,4.0nm,20.0s							
KLR	**Kul'dur**	**76.76**	**336**	*e*P		**P**	**21 49 32.0**	**-3.0**
MAW	**Mawson**	**77.20**	**202**	*e*P		**P**	**21 49 38.2**	**+0.7**
MAW				pmax		pmax		
	comp=Z,6.0nm,0.8s							
MAW	**Mawson**	**77.20**	**202**	*e*P		**P**	**21 49 38.2**	**+0.7**
	comp=Z,6.0nm,0.8s,mb4.6							
BJT	**Baijiatuan**	**77.57**	**321**	PFAKE			21 49 50.0	+10
BJT				LR		LR		
	comp=Z,149nm,20.0s,MS4.3							
KMI	**Kunming**	**78.54**	**302**	P		**P**	**21 49 47.5**	**+2.5**
KMI				AP		pP	21 49 57.5	+1.6
KMI				XP		sP	21 50 02.0	+2.0
KMI				PP		PP	21 52 46.0	+3.2
KMI				S		S	21 59 39.5	+0.6
KMI				XS		sS	21 59 58.8	+1.7
KMI				AMB		AMB		
	comp=Z,7.0nm,1.2s,mb4.5							
KMI				AMB		AMB		
	comp=Z,68nm,3.7s							
KMI				LR		LR		
	comp=N,79nm,22.1s,MS4.2							
KMI				LR		LR		
	comp=E,88nm,24.3s,MS4.2							
KMI				LR		LR		
	comp=Z,58nm,18.8s							
KMI	**Kunming**	**78.54**	**302**	P		**P**	**21 49 47.4**	**+2.4**
KMI				*PP		pP	21 49 57.4	+1.5
KMI				*SP		sP	21 50 02.0	+2.0
KMI							21 52 45.9	
KMI				S		S	21 59 39.6	+0.7
KMI				*SS		sS	21 59 58.8	+1.7
KMI				SS		SS	22 04 45.2	+2.4
KMI				pmax		pmax		
	comp=Z,7.0nm,1.2s,mb4.5							
KMI				MLR		MLR		
	comp=Z,60nm,18.8s,MS4.0							
KMI	**Kunming**	**78.54**	**302**	P		**P**	**21 49 47.4**	**+2.4**
	comp=Z,7.0nm,1.2s,mb4.5							
KMI				pP		pP	21 49 57.4	+1.5
KMI				sP		sP	21 50 02.0	+2.0
KMI				PP		PP	21 52 45.9	+3.1
KMI				S		S	21 59 39.6	+0.7
KMI				sS		sS	21 59 58.8	+1.7
KMI				SS		SS	22 04 45.2	+2.4
KMI				LR		LR		
	comp=Z,60nm,18.8s,MS4.0							
HHC	**Hu-ho-hao-te**	**80.84**	**320**	*e*P		**P**	**21 49 54.3**	**-3.1**
HHC				AMB		AMB		
	comp=Z,12nm,1.3s,mb4.7							
HHC				AMB		AMB		
	comp=Z,77nm,5.0s							
LZH	**Lanzhou**	**83.20**	**312**	*e*P		**P**	**21 50 12.0**	**+2.2**
LZH				AP		pP	21 50 19.0	-1.9
LZH				XP		sP	21 50 22.0	-2.9
LZH				AMB		AMB		
	comp=Z,26nm,1.2s,mb5.1							
LZH	**Lanzhou**	**83.20**	**312**	*e*P		**P**	**21 50 12.0**	**+2.2**
	comp=Z,26nm,1.2s,mb5.1							
LZH				pP		pP	21 50 19.0	-1.9
LZH				sP		sP	21 50 22.1	-2.8
SYO	**Syowa Base**	**83.71**	**196**	*e*P		**P**	**21 50 11.8**	**-0.6**
SYO	**Syowa Base**	**83.71**	**196**	*e*pP		pP	21 50 20.2	-3.3
CLNS	**Chul'man**	**85.31**	**338**	*e*P		**P**	**21 50 17.7**	**-2.8**
CLNS				pmax		pmax		
	comp=N,9.0nm,1.1s							
CLNS				pmax		pmax		
	comp=E,5.0nm,1.1s							
CLNS				pmax		pmax		
	comp=Z,21nm,1.1s,mb5.2							
ULN	**Ulaanbaatar**	**87.55**	**324**	*e*P		**P**	**21 50 32.3**	**+0.8**
ULN				pmax		pmax		
	comp=Z,18nm,1.4s,mb5.1							
ULN				MLR		MLR		
	comp=Z,160nm,21.0s,MS4.4							
ULN	**Ulaanbaatar**	**87.55**	**324**	*e*P		**P**	**21 50 32.3**	**+0.7**
	comp=Z,18nm,1.4s,mb5.1							
ULN				LR		LR		
	comp=Z,160nm,21.0s,MS4.4							
GTA	**Gaotai**	**87.63**	**314**	*e*P		**P**	**21 50 33.3**	**+1.4**
GTA				AP		pP	21 50 40.3	-2.7
GTA				XP		sP	21 50 45.3	-1.7
GTA				AMB		AMB		
	comp=Z,5.0nm,1.1s,mb4.7							
YAK	**Yakutsk**	**87.86**	**343**	*e*P		**P**	**21 50 32.5**	**-0.5**
YAK				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb5.0							
YAK	**Yakutsk**	**87.86**	**343**	*e*P		**P**	**21 50 32.5**	**-0.5**
	comp=Z,6.1nm,0.6s,mb5.0							
SONM	**Songino Array**	**87.90**	**323**	P		**P**	**21 50 34.3**	**+1.1**
	comp=Z,8.8nm,1.3s,mb4.8,baz=136,slow=3.4,SNR=19							
SNAA	**Sanae**	**87.98**	**183**	*e*		**P**	**21 50 26.1**	**-7.5**
BILL	**Bilibino**	**88.20**	**359**	*e*P		**P**	**21 50 33.4**	**-1.2**
BILL				pmax		pmax		
	comp=Z,8.0nm,1.3s,mb4.8							
YBH	**Yreka Blue Hor**	**88.42**	**44**	P		**P**	**21 50 36.3**	**+0.7**
	comp=Z,3.1nm,0.8s,mb4.6,baz=207,slow=1.8,SNR=5.5							
VNA3	**Neumayer Olymp**	**88.59**	**180**	*e*		**P**	**21 50 35.3**	**-1.1**
VNA3				*e*		pP	21 50 45.7	-1.9
VNA3				*e*		pP	21 50 48.1	+0.5
HUMO	**Hull Mountain**	**88.68**	**43**	*e*P		**P**	**21 50 36.8**	**-0.1**
	comp=Z,14nm,1.5s,mb5.1							
VNA2	**Neumayer--Watz**	**88.88**	**181**	*e*		**P**	**21 50 37.0**	**-0.8**
	baz=176,slow=5.1							
VNA2				*e*		pP	21 50 47.3	-1.6
VNA2				*e*		pP	21 50 50.0	+1.1
VNA2				*e*			21 50 57.3	
VNA2				*e*			21 51 00.8	
VNA2				*e*			21 51 03.7	
MTUM	**Tungsten Hills**	**89.21**	**50**	*e*P		**P**	**21 50 39.6**	**+0.2**
LSA	**Lhasa**	**89.79**	**302**	PFAKE			**21 50 50.0**	**+7.9**
LSA				LR		LR		
	comp=Z,78nm,19.0s,MS4.2							
BOD	**Bodaibo**	**90.20**	**334**	*e*P		**P**	**21 50 41.8**	**-2.2**
BOD				pmax		pmax		
	comp=Z,6.0nm,1.5s,mb4.7							
ZAK	**Zakamensk**	**91.00**	**324**	*e*		**P**	**21 50 48.5**	**+0.8**
ZAK				pmax		pmax		
	comp=Z,13nm,1.7s,mb5.0							
WVOR	**Wild Horse Val**	**91.42**	**45**	*e*P		**P**	**21 50 49.1**	**-0.6**
WVOR				pmax		pmax		
	comp=Z,8.0nm,1.1s,mb5.0							
WVOR	**Wild Horse Val**	**91.42**	**45**	*e*P		**P**	**21 50 49.1**	**-0.6**
	comp=Z,8.1nm,1.1s,mb5.0							
ILAR	**Eielson Array**	**91.46**	**17**	P		**P**	**21 50 47.3**	**-2.5**
	comp=Z,1.0nm,0.8s,mb4.2,baz=236,slow=4.8,SNR=11							
DLBC	**Dease Lake**	**93.26**	**27**	P		**P**	**21 50 57.4**	**-0.8**
	comp=Z,2.3nm,0.9s,mb4.6,baz=253,slow=7.2,SNR=3.8							
TIXI	**Tiksi**	**95.79**	**348**	*e*P		**P**	**21 51 06.7**	**-3.1**
TIXI				pmax		pmax		
	comp=Z,2.0nm,1.0s,mb4.5							
MKAR	**Makanchi Array**	**102.28**	**315**	P		Pdif	21 51 39.9	+1.0
	comp=Z,0.5nm,0.8s,baz=110,slow=6.6,SNR=5.9							
KURK	**Kurchatov**	**105.63**	**319**	PFAKE			21 56 20.0	+13
KURK				LR		LR		
	comp=Z,484nm,19.0s,MS5.1							
AAK	**Ala-Archa**	**106.61**	**310**	PFAKE			21 56 20.0	+11
AAK				LR		LR		
	comp=Z,288nm,21.0s,MS4.8							
ARCES	**ARCESS Array B**	**126.08**	**345**	PKP		PKPdf	21 56 44.7	-1.0
	comp=Z,2.8nm,0.8s,baz=90,slow=1.2,SNR=12							
ARCES	**ARCESS Array B**	**126.08**	**345**	PKP		PKPdf	21 56 44.7	-1.0
KMBO	**Kilima Mbogo**	**127.97**	**252**	PFAKE			21 57 00.0	+11
KMBO				LR		LR		
	comp=Z,95nm,19.0s,MS4.5							
FINES	**FINESS Array B**	**131.50**	**337**	PKhKP			21 56 51.8	
	comp=Z,0.7nm,0.8s,baz=93,slow=3.8,SNR=3.8							
FINES				SKPbc		SKPbc	22 00 21.2	+2.7
	comp=Z,2.0nm,0.9s,baz=1.4,slow=5.7,SNR=6.5							
BRTR	**Keskin Array B**	**137.19**	**307**	PKhKP			21 57 03.9	
	comp=Z,0.4nm,0.8s,baz=113,slow=3.3,SNR=2.1							
STHS	**Stebnicka Huta**	**141.21**	**326**	*e*PKSDF			21 57 00.8	
KECS	**Kecovo**	**142.17**	**325**	*e*PKSB		PKPdf	21 57 10.0	-5.7
BSEG	**Bad Segeberg**	**142.70**	**339**	*e*PKPbc		PKPdf	21 57 13.4	-3.3
DPC	**Dobruska-Polom**	**143.04**	**331**	*e*PKP		PKPdf	21 57 16.5	-0.8
DPC				*ex*		x	21 57 23.7	
UPC	**Upice**	**143.07**	**331**	*e*PKP		PKPdf	21 57 16.0	-1.3
UPC				*ep*PKP		pPKPdf	21 57 24.6	-4.2
BRG	**Berggiesshubel**	**143.72**	**333**	*e*PKPbc		PKPdf	21 57 15.6	-2.9
BRG	**Berggiesshubel**	**143.72**	**333**	*e*P		PKPdf	21 57 17.2	-1.2
	comp=Z,4.8nm,1.1s							
BRG				*i*			21 57 27.4	
	comp=Z,4.8nm,1.1s							
BRG	**Berggiesshubel**	**143.72**	**333**	*e*PKIKP		PKPdf	21 57 17.2	-1.3
BRG				*i*			21 57 27.4	
BRG				pmax		pmax		
	comp=Z,5.0nm,1.1s							
BRG				pmax		pmax		
	comp=Z,5.0nm,1.1s							
CLL	**Collm**	**143.79**	**334**	*e*PKPbc		PKPdf	21 57 15.5	-3.1
CLL	**Collm**	**143.79**	**334**	*e*PKPdf		PKPdf	21 57 16.0	-2.6
	comp=Z,19nm,1.7s							
CLL				*e*PKiKP		PKiKP	21 57 25.0	+3.0
CLL	**Collm**	**143.79**	**334**	*e*PKIKP		PKPdf	21 57 16.0	-2.6
CLL				pmax		pmax		
	comp=Z,19nm,1.7s							
PRU	**Pruhonice**	**144.11**	**331**	*e*PKP		PKPdf	21 57 17.2	-1.9
PRU				*ex*		x	21 57 24.4	
CLZ	**Clausthal**	**144.39**	**337**	*e*PKPbc		PKPdf	21 57 18.1	-1.5
PKSM	**Moragy**	**144.53**	**323**	*e*PKIKP		PKPdf	21 57 19.1	-0.8
EKA	**Eskdalemuir Ar**	**144.60**	**352**	PKP		PKPdf	21 57 19.7	-2.1
	comp=Z,2.7nm,0.6s,baz=355,slow=4.1,SNR=14							
VAY	**Valandovo**	**144.62**	**314**	*i* P		PKPdf	21 57 18.2	-1.8
SOP	**Sopron**	**144.73**	**327**	*e*PKP/p		PKiKP	21 57 24.7	+0.8
WERD	**Werda**	**144.73**	**334**	*e*PKPbc		PKPdf	21 57 19.2	-1.0
MOX	**Moxa**	**144.86**	**335**	*e*PKPbc		PKPdf	21 57 19.5	-0.9
MOX	**Moxa**	**144.86**	**335**	*e*P		PKPdf	21 57 19.9	-0.5
	comp=Z,39nm,1.5s							
MOX	**Moxa**	**144.86**	**335**	*e*PKIKP		PKPdf	21 57 19.9	-0.5
MOX				pmax		pmax		
	comp=Z,39nm,1.5s							
IBBN	**Ibbenburen**	**144.91**	**340**	*e*PKPbc		PKPdf	21 57 19.6	-0.9
IDI	**Anoyia**	**145.03**	**303**	PKP		PKPdf	21

ARV	**Arcevia**	**149.39**	**324**	P	PKPbc	21 57 33.5 +1.1
TIP	**Timpagrande**	**149.55**	**314**	*e*PKPbc	PKPbc	21 57 33.8 +1.0
TIP				*ep*PKPdf	pPKPdf	21 57 45.1 +5.3
SFI	**Santa Sofia**	**149.70**	**326**	PKP2	PKPbc	21 57 34.3 +1.1
NRCA	**Norcia**	**149.72**	**323**	P	PKPbc	21 57 33.7 +0.5
SGO	**Sicignano**	**149.77**	**318**	PKP2	PKPbc	21 57 33.8 +0.4
ZCCA	**Zocca**	**149.84**	**327**	P	PKPbc	21 57 35.0 +1.5
AQU	**L'Aquila**	**149.87**	**322**	PKHKP		21 57 30.7
AQU				*e*		21 57 35.1
CABF	**La Chapelle**	**150.29**	**336**	*e*PKP1	PKPbc	21 57 34.7 +0.1
	comp=Z,28nm,1.1s					
FLN	**La Foliniere**	**150.43**	**346**	*e*PKP1	PKPbc	21 57 34.7 -0.2
	comp=Z,27nm,0.7s					
LDF	**La Druitiere**	**150.50**	**345**	*e*PKP1	PKPbc	21 57 34.6 -0.5
LOR	**Lormes**	**150.54**	**339**	*e*PKP1	PKPbc	21 57 34.4 -0.8
	comp=Z,5.1nm,0.6s					
SOI	**Samo**	**150.57**	**313**	P	PKPbc	21 57 35.6 +0.3
SSF	**Saint Saulge**	**150.84**	**339**	*e*PKP1	PKPbc	21 57 35.7 -0.2
	comp=Z,4.3nm,0.5s					
GRR	**Gorron**	**150.87**	**346**	*e*PKP1	PKPbc	21 57 35.8 -0.2
LPL	**La Plagne**	**150.92**	**334**	*e*PKP1	PKPbc	21 57 36.3 +0.2
LPG	**La Plagne**	**150.93**	**334**	*e*PKP1	PKPbc	21 57 36.5 +0.4
	comp=Z,8.2nm,0.7s					
BNI	**Bardonecchia**	**151.32**	**333**	*e*PKPbc	PKPbc	21 57 37.4 +0.3
BNI				*ep*PKPdf	pPKPdf	21 57 49.0 +6.5
BNI				*es*PKPdf		21 57 53.7
SGMF	**Saint Gilles**	**151.35**	**348**	*e*PKP1	PKPbc	21 57 36.7 -0.4
	comp=Z,22nm,0.8s					
BGF	**Bois d'Agland**	**151.50**	**339**	*e*PKP1	PKPbc	21 57 37.3 -0.1
	comp=Z,9.6nm,0.6s					
MBDF	**Montbardon**	**151.54**	**333**	*e*PKP1	PKPbc	21 57 37.6 +0.1
ORIF	**Oris-en-Rattie**	**151.76**	**334**	*e*PKP1	PKPbc	21 57 37.0 -1.0
	comp=Z,7.4nm,0.6s					
TCF	**Toulx Ste Croi**	**151.94**	**340**	*e*PKP1	PKPbc	21 57 38.1 -0.4
	comp=Z,4.3nm,0.7s					
PGF	**Pioggiola**	**152.14**	**327**	*e*PKP1	PKPbc	21 57 38.9 0.0
	comp=Z,24nm,0.8s					
MFF	**Saint Martin d**	**152.35**	**343**	*e*PKP1	PKPbc	21 57 39.0 -0.4
	comp=Z,5.0nm,0.6s					
LMR	**La Mourre**	**152.75**	**331**	*e*PKP1	PKPbc	21 57 40.3 0.0
RJF	**Les Rejaudoux**	**153.04**	**340**	*e*PKP1	PKPbc	21 57 40.8 -0.1
LFF	**La Frestale**	**153.61**	**341**	*e*PKP1	PKPbc	21 57 42.1 -0.1
ESDC	**Sonseca Array**	**159.81**	**344**	PKPab	PKPab	21 58 21.8 +0.3
	comp=Z,1.0nm,0.6s,baz=1.2,slow=3.9,SNR=8.0					
TORD	**Torodi Ar. Bea**	**165.71**	**242**	PKPab	PKPab	21 58 50.5 +3.1
	comp=Z,0.5nm,0.9s,baz=110,slow=4.0,SNR=2.6					

IDC ***27*** *21:50:45.2±1.0, 4361N×128.18W, h0km, mb4.2/13, mb1 4.4/19, mb1mx4.3/29, mbtmp4.2/19, ML4.1/6, MS3.9/14, Ms1 3.9/14, ms1mx3.6/39, Error ellipse: s-maj=23.0km s-min=12.2km az=31.0*

ISCJB ***27*** *21:50:46.9±0.3, 4382N±003×128.10W±004, h10km, mb4.6/61, MS4.2/15, Error ellipse: s-maj=5.0km s-min=2.8km az=75.2*

MOS ***27*** *21:50:46.9±1.0, 4381N×128.10W, h12km, mb4.9/33, Error ellipse: s-maj=6.8km s-min=5.3km az=40.4*

BJI ***27*** *21:50:47.1, 4380N×128.10W, h10km, mB4.9, mb4.8, Ms4.9, Msz4.4*

NEIC ***27*** *21:50:48.2±0.3, 4376N×128.15W, h10km, mb4.8/47, MS4.6/2, Error ellipse: s-maj=5.4km s-min=3.1km az=212.0*

HRVD ***27*** *21:50:48.2±0.3, 4362N×128.37W, h17km±1km, MW5.0/90, Centroid moment Tensor Solution. LP body waves: s24,c28;Mantle waves: s90,c137; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.09±.13; Mθθ-1.84±.10; Mφφ 2.93±.11; Mrθ-0.83±.30; Mrφ-1.92±.08; Mθφ-0.10±.23; Best double couple: M◦3.25000×10^16 NP1:φs23.00000°, δ71.00000°, λ-16.00000°. NP2: φs118.00000°, δ75.00000°, λ-161.00000°. Principal axes: T 3.6140, Plg2.0000°, Azm250.0000°; N -0.7270, Plg65.0000°, Azm155.0000°; P -2.8870, Plg24.0000°, Azm341.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SZGRF ***27*** *21:50:54.9, 4386N×127.73W, h21km, mb4.5, Off coast of Oregon, United States*

ISC 27 21:50:48.1±0.3, 4383N±003×12822W±004, h10km, (h17km±1.5km: pP-P), n253, σ1§02/250, mb4.6/61, MS4.2/15, 5C, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**2.99**	**107**	*e*Pn	**Pn**	**21 51 31.1**	**-4.4**
KEBM				*e*Sn	**Sn**	**21 52 05.7**	**-5.7**
RNO	**Roman Nose**	**3.24**	**87**	P	**Pn**	**21 51 37.2**	**-1.7**
KBO	**Bosley Butte**	**3.34**	**118**	*e*Pn	**Pn**	**21 51 36.4**	**-4.0**
HEBO	**Mount Hebo**	**3.48**	**65**	P	**Pn**	**21 51 41.1**	**-1.2**
COR	**Corvallis**	**3.62**	**76**	*e*Pn	**Pn**	**21 51 42.6**	**-1.5**
HSO	**Harness Mounta**	**3.73**	**93**	P	**Pn**	**21 51 43.8**	**-1.9**
HUMO	**Hull Mountain**	**4.04**	**106**	*e*Pn	**Pn**	**21 51 46.1**	**-3.8**
HUMO				*e*Sn	**Sn**	**21 52 33.4**	**-3.8**
NLO	**Nicolai Mounta**	**4.07**	**55**	P	**Pn**	**21 51 50.1**	**-0.3**
BBOR	**Butler Butte**	**4.15**	**101**	P	**Pn**	**21 51 49.2**	**-2.3**
BROR	**Big Rock Looko**	**4.18**	**82**	⇑P	**Pn**	**21 51 50.6**	**-1.3**
WPO	**West Portland**	**4.25**	**64**	P	**Pn**	**21 51 53.3**	**+0.5**
SSOR	**Sweet Springs**	**4.26**	**74**	P	**Pn**	**21 51 52.4**	**-0.5**
HBO	**Huckleberry Mo**	**4.27**	**88**	P	**Pn**	**21 51 51.8**	**-1.4**
PGO	**Gresham**	**4.43**	**66**	P	**Pn**	**21 51 55.7**	**+0.4**
FRIS	**Frissel Point**	**4.43**	**83**	P	**Pn**	**21 51 54.3**	**-1.0**
KHMM	**Horse Mountain**	**4.45**	**130**	*e*Pn	**Pn**	**21 51 54.5**	**-1.0**
GT2	**Goat Mountain**	**4.46**	**71**	P	**Pn**	**21 51 55.6**	**-0.1**
RVW	**Rose Valley**	**4.53**	**57**	P	**Pn**	**21 51 56.5**	**-0.1**
YBH	**Yreka Blue Hor**	**4.56**	**115**	Pn	**Pn**	**21 51 55.5**	**-1.7**
	5.8nm,0.3s,baz=302,slow=11,SNR=59						
YBH				Sn	**Sn**	**21 52 49.5**	**-0.7**
	1.7nm,0.3s,baz=88,slow=17,SNR=4.3						
YBH				LR	LR	21 52 49.7	
	comp=Z,172nm,20.0s,baz=300,slow=28						
YBH	**Yreka Blue Hor**	**4.56**	**115**	*e*Pn	**Pn**	**21 51 55.0**	**-2.2**
LVP	**Lakeview Peak**	**4.69**	**59**	P	**Pn**	**21 51 59.1**	**+0.1**
VLMM	**Larch Mountain**	**4.73**	**67**	P	**Pn**	**21 51 59.6**	**+0.2**
MTMW	**Mount Mitchell**	**4.80**	**61**	P	**Pn**	**21 52 00.7**	**+0.3**
TDH	**Tom, Dick, Har**	**4.82**	**70**	P	**Pn**	**21 52 00.7**	**0.0**
OCWA	**Octopus Mounta**	**4.83**	**34**	*e*Pn	**Pn**	**21 52 00.9**	**+0.1**
VBEM	**Beaver Butte**	**4.91**	**73**	P	**Pn**	**21 52 02.2**	**+0.4**
VLL	**Laurance Lake**	**4.95**	**68**	P	**Pn**	**21 52 02.8**	**+0.4**
VFP	**Flag Point**	**5.05**	**71**	P	**Pn**	**21 52 03.9**	**+0.1**
WDC	**Whiskeytown Da**	**5.32**	**126**	*e*P	**Pn**	**21 52 07.0**	**-0.6**
WDC				pmax	pmax		
	comp=Z,47nm,1.2s						
WDC	**Whiskeytown Da**	**5.32**	**126**	*e*Pn	**Pn**	**21 52 07.0**	**-0.6**
	comp=Z,47nm,1.2s						
PGC	**Sidney**	**5.85**	**33**	*e*Pn	**Pn**	**21 52 15.0**	**+0.3**
	comp=Z,68nm,0.8s						
PGC				*e*Sn	**Sn**	**21 53 21.1**	**-0.7**
MOD	**Modoc**	**6.13**	**106**	*e*Pn	**Pn**	**21 52 17.6**	**-1.1**
	comp=Z,20nm,0.8s						
MOD				*e*S	**Sn**	**21 53 44.7**	**+16**
HAWA	**Hanford**	**6.66**	**64**	*e*Pn	**Pn**	**21 52 25.9**	**0.0**
	comp=Z,4.5nm,0.8s						
OHCM	**Honcut**	**6.75**	**129**	*e*Pn	**Pn**	**21 52 26.9**	**-0.3**
OHCM				*e*Sn	**Sn**	**21 53 43.3**	**-1.0**
WVOR	**Wild Horse Val**	**7.15**	**98**	*e*P	**Pn**	**21 52 30.2**	**-2.5**
WVOR				pmax	pmax		
	comp=Z,26nm,0.9s						
WVOR	**Wild Horse Val**	**7.15**	**98**	*e*Pn	**Pn**	**21 52 30.2**	**-2.4**
	comp=Z,26nm,0.9s						
BMO	**Blue Mountains**	**7.89**	**79**	*e*P	**Pn**	**21 52 41.3**	**-1.6**
BMO				pmax	pmax		
	comp=Z,86nm,1.5s						
BMO	**Blue Mountains**	**7.89**	**79**	*e*Pn	**Pn**	**21 52 41.3**	**-1.5**
	comp=Z,86nm,1.5s						
CMB	**Columbia Colle**	**8.28**	**132**	*e*P	**Pn**	**21 52 48.9**	**+0.7**
CMB				pmax	pmax		
	comp=Z,147nm,1.4s						
CMB	**Columbia Colle**	**8.28**	**132**	*e*Pn	**Pn**	**21 52 48.9**	**+0.6**
	comp=Z,147nm,1.4s						
BBB	**Bella Bella**	**8.36**	**0**	Pn	**Pn**	**21 52 51.4**	**+2.0**
	comp=Z,2.0nm,0.3s,baz=190,slow=13,SNR=12						
BBB				LR	LR	21 55 56.0	
	comp=Z,119nm,18.3s,baz=175,slow=36						
BBB	**Bella Bella**	**8.36**	**0**	Pn	**Pn**	**21 52 51.4**	**+2.0**
BBB				LR	LR	21 55 56.0	
BMN	**Battle Mountai**	**8.85**	**109**	*e*P	**Pn**	**21 52 56.5**	**+0.5**
BMN				pmax	pmax		
	comp=Z,15nm,1.1s						
BMN	**Battle Mountai**	**8.85**	**109**	*e*Pn	**Pn**	**21 52 56.5**	**+0.5**
	comp=Z,15nm,1.1s						
NEW	**Newport**	**8.90**	**56**	Pn	**Pn**	**21 52 56.9**	**+0.2**
	comp=Z,2.1nm,0.3s,baz=239,slow=10,SNR=12						
NEW				LR	LR	21 56 20.5	
	comp=Z,2μm,20.4s,baz=241,slow=37						
MNV	**Mina**	**9.31**	**122**	*e*P	**Pn**	**21 53 03.5**	**+1.2**
MNV				pmax	pmax		
	comp=Z,29nm,1.0s						
MNV	**Mina**	**9.31**	**122**	*e*Pn	**Pn**	**21 53 03.5**	**+1.2**
	comp=Z,30nm,1.0s						
MTUM	**Tungsten Hills**	**9.78**	**128**	*e*Pn	**Pn**	**21 53 10.7**	**+1.9**
HLID	**Hailey**	**10.01**	**87**	*e*Pn	**Pn**	**21 53 13.1**	**+1.2**
	comp=Z,13nm,0.8s						
ELK	**Elko**	**10.10**	**103**	*e*P	**Pn**	**21 53 14.2**	**+1.1**
ELK				pmax	pmax		
	comp=Z,25nm,1.0s						
ELK	**Elko**	**10.10**	**103**	*e*Pn	**Pn**	**21 53 14.2**	**+1.0**
	comp=Z,25nm,1.0s						
TPH	**Tonopah**	**10.11**	**121**	*e*P	**Pn**	**21 53 13.4**	**+0.2**
TPH				pmax	pmax		
	comp=Z,15nm,0.9s						
TPH	**Tonopah**	**10.11**	**121**	*e*Pn	**Pn**	**21 53 13.4**	**+0.1**
	comp=Z,15nm,0.9s						
MSO	**Missoula**	**10.49**	**68**	*e*Pn	**Pn**	**21 53 18.4**	**-0.2**
	comp=Z,39nm,1.4s						
CHMT	**Chamberlain Mo**	**10.97**	**68**	*e*Pn	**Pn**	**21 53 24.9**	**-0.2**
MCMT	**McKenzie Canyo**	**11.06**	**79**	*e*Pn	**Pn**	**21 53 26.8**	**+0.5**
DAC	**Darwin (Calif)**	**11.09**	**129**	*e*P	**Pn**	**21 53 29.1**	**+2.4**
DAC				pmax	pmax		
	comp=Z,31nm,1.4s						
DAC	**Darwin (Calif)**	**11.09**	**129**	*e*Pn	**Pn**	**21 53 29.1**	**+2.4**
	comp=Z,31nm,1.4s						
WALA	**Waterton Lakes**	**11.17**	**57**	*e*Pn	**Pn**	**21 53 27.9**	**+0.2**
	comp=Z,69nm,1.3s						
DLMT	**Dillon**	**11.25**	**77**	*e*Pn	**Pn**	**21 53 28.3**	**-0.6**
	comp=Z,30nm,1.0s						
TPNV	**Topopah Spring**	**11.42**	**123**	*e*P	**Pn**	**21 53 32.2**	**+1.0**
TPNV				pmax	pmax		
	comp=Z,64nm,1.4s						
TPNV	**Topopah Spring**	**11.42**	**123**	*e*Pn	**Pn**	**21 53 32.2**	**+1.0**
	comp=Z,64nm,1.4s						
HVU	**Hansel Valley**	**11.53**	**95**	*e*P	**Pn**	**21 53 33.1**	**+0.4**
HVU				pmax	pmax		
	comp=Z,35nm,1.4s						
HVU	**Hansel Valley**	**11.53**	**95**	*e*Pn	**Pn**	**21 53 33.1**	**+0.3**
	comp=Z,35nm,1.4s						
BGU	**Big Grassy Mou**	**11.61**	**99**	*e*Pn	**Pn**	**21 53 40.4**	**+6.7**
HRY	**Holter Researc**	**11.90**	**70**	Pn	**Pn**	**21 53 38.5**	**+0.7**
BOZ	**Bozeman (W)**	**11.94**	**75**	*e*P	**Pn**	**21 53 38.4**	**+0.1**
BOZ				pmax	pmax		
	comp=Z,45nm,1.3s						
BOZ	**Bozeman (W)**	**11.94**	**75**	*e*Pn	**Pn**	**21 53 38.4**	**0.0**
	comp=Z,45nm,1.3s						
DUG	**Dugway**	**12.02**	**102**	*e*P	**Pn**	**21 53 39.6**	**+0.2**
DUG				pmax	pmax		
	comp=Z,21nm,1.2s						
DUG	**Dugway**	**12.02**	**102**	*e*Pn	**Pn**	**21 53 39.6**	**+0.2**
	comp=Z,21nm,1.2s						
QLMT	**Earthquake Lak**	**12.07**	**79**	*e*Pn	**Pn**	**21 53 41.8**	**+1.7**
YMR	**Madison River**	**12.41**	**80**	*e*Pn	**Pn**	**21 53 45.7**	**+1.0**
	comp=Z,154nm,1.6s						
HWUT	**Hardware Ranch**	**12.45**	**95**	*e*Pn	**Pn**	**21 53 45.7**	**+0.4**
	comp=Z,20nm,0.9s						
IMW	**Indian Meadow**	**12.48**	**84**	*e*Pn	**Pn**	**21 53 47.8**	**+2.1**
	comp=Z,27nm,1.2s						
YFT	**Old Faithful**	**12.51**	**81**	*e*Pn	**Pn**	**21 53 50.3**	**+4.2**
TPAW	**Teton Pass**	**12.52**	**86**	*e*Pn	**Pn**	**21 53 48.1**	**+1.9**
	comp=Z,34nm,0.9s						
AHID	**Auburn Hatcher**	**12.52**	**89**	*e*Pn	**Pn**	**21 53 46.0**	**-0.2**
	comp=Z,30nm,1.0s						
REDW	**Red Top Meadow**	**12.60**	**86**	*e*Pn	**Pn**	**21 53 48.1**	**+0.7**
	comp=Z,34nm,1.1s						
FLWY	**Flagg Ranch**	**12.63**	**83**	*e*Pn	**Pn**	**21 53 48.8**	**+1.0**
	comp=Z,57nm,1.1s						
MOOW	**Moose Ponds**	**12.63**	**84**	*e*Pn	**Pn**	**21 53 46.7**	**-1.1**
	comp=Z,13nm,1.0s						
TCUT	**Toone Canyon**	**12.71**	**97**	*e*Pn	**Pn**	**21 53 49.1**	**+0.3**
ARUT	**Antelope Range**	**12.71**	**113**	*e*P	**Pn**	**21 53 50.4**	**+1.5**
LOHW	**Long Hollow**	**12.75**	**85**	*e*Pn	**Pn**	**21 53 50.8**	**+1.4**
	comp=Z,30nm,1.1s						
CCUT	**Cedar City**	**12.89**	**114**	*e*Pn	**Pn**	**21 53 49.8**	**-1.6**
CCUT				*e*		21 54 01.1	
NEN	**Nelson**	**13.13**	**124**	*e*Pn	**Pn**	**21 53 56.2**	**+1.7**
MSU	**Marysvale**	**13.20**	**108**	*e*P	**Pn**	**21 53 57.7**	**+2.2**
GCMT	**Greyclift**	**13.32**	**75**	*e*Pn	**Pn**	**21 53 58.3**	**+1.1**
EGMT	**Eagleton**	**13.52**	**65**	*e*Pn	**Pn**	**21 53 59.9**	**+0.1**
	comp=Z,72nm,1.5s						
EGMT				*e*		21 59 00.2	
TMUT	**Trail Mountain**	**13.52**	**104**	*e*Pn	**Pn**	**21 54 01.0**	**+1.2**
TMUT				*e*		21 54 18.7	
EDM	**Edmonton**	**13.59**	**41**	*e*Pn	**Pn**	**21 54 01.1**	**+0.2**
EDM				*e*		21 54 12.1	
PDAR	**Pinedale Array**	**13.64**	**88**	Pn	**Pn**	**21 54 02.5**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=277,slow=12,SNR=29						
PDAR				LR	LR	21 59 30.5	
	comp=Z,2μm,18.9s,baz=287,slow=39						
SRU	**San Rafael**	**14.08**	**104**	*e*P	**Pn**	**21 54 10.8**	**+3.3**
SRU				pmax	pmax		
	comp=Z,31nm,1.0s						
SRU	**San Rafael**	**14.08**	**104**	*e*Pn	**Pn**	**21 54 10.8**	**+3.3**
	comp=Z,31nm,1.0s						
DLBC	**Dease Lake**	**14.67**	**356**	Pn	**Pn**	**21 54 18.9**	**+3.3**
	comp=Z,0.2nm,0.3s,baz=184,slow=12,SNR=14						
DLBC				LR	LR	21 59 15.7	
	comp=Z,674nm,18.6s,baz=175,slow=34						
LAO	**LASA Array**	**15.74**	**72**	*e*Pn	**Pn**	**21 54 30.1**	**+0.2**
	comp=Z,61nm,1.0s						
SKAG	**Skagway**	**16.25**	**347**	*e*P	**Pn**	**21 54 41.5**	**+5.1**
	comp=Z,24nm,1.2s						
MVCO	**Mesa Verde**	**16.37**	**107**	*e*Pn	**Pn**	**21 54 38.3**	**+0.4**
SMCO	**Snowmass**	**16.57**	**99**	*e*Pn	**Pn**	**21 54 40.2**	**-0.3**
PHWY	**Pilot Hill**	**16.95**	**91**	*e*Pn	**Pn**	**21 54 42.5**	**-2.8**
ISCO	**Idaho Springs**	**17.31**	**96**	*e*P	**Pn**	**21 54 48.6**	**-1.2**
ISCO				pmax	pmax		
	comp=Z,36nm,1.2s						
ISCO	**Idaho Springs**	**17.31**	**96**	*e*Pn	**Pn**	**21 54 48.6**	**-1.2**
	comp=Z,36nm,1.2s						
RSSD	**Black Hills**	**17.40**	**81**	*e*P	**Pn**	**21 54 49.7**	**-1.2**
RSSD				pmax	pmax		
	comp=Z,103nm,1.6s						
RSSD	**Black Hills**	**17.40**	**81**	*e*Pn	**Pn**	**21 54 49.7**	**-1.2**
	comp=Z,103nm,1.6s						
TUC	**Tucson**	**17.87**	**124**	*e*P	**Pn**	**21 54 57.2**	**+0.5**
TUC				pmax	pmax		
	comp=Z,14nm,1.0s						
TUC	**Tucson**	**17.87**	**124**	*e*Pn	**Pn**	**21 54 57.2**	**+0.5**
	comp=Z,14nm,1.0s						
SDCO	**Great Sand Dun**	**18.22**	**102**	*e*Pn	**Pn**	**21 55 01.8**	**+0.8**
	comp=Z,63nm,0.6s						
LAZ	**Ladron**	**18.83**	**113**	*e*P	**Pn**	**21 55 10.1**	**+1.6**
ANMO	**Albuquerque**	**18.97**	**110**	P	**Pn**	**21 55 08.6**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=301,slow=12,SNR=14						
ANMO				LR	LR	22 02 24.1	
	comp=Z,327nm,18.4s,baz=152,slow=37						
ANMO	**Albuquerque**	**18.97**	**110**	P	**Pn**	**21 55 08.6**	**-1.6**
ANMO				LR	LR	22 02 24.1	
LENM	**Lemitar**	**19.08**	**113**	*e*P	**Pn**	**21 55 12.4**	**+1.0**
LPM	**Los Pinos Moun**	**19.22**	**112**	*e*P	**Pn**	**21 55 14.0**	**+0.8**
BNM	**Barren Site**	**19.32**	**113**	*e*P	**Pn**	**21 55 15.1**	**+0.7**
EYAK	**Cordova Ski Ar**	**19.78**	**334**	*e*P	**Pn**	**21 55 19.4**	**-0.5**
FFC	**Flin Flon**	**20.17**	**48**	*e*P	**P**	**21 55 23.3**	**+0.7**
FFC				pmax	pmax		
	comp=Z,234nm,1.5s						
FFC	**Flin Flon**	**20.17**	**48**	*e*P	**P**	**21 55 23.3**	**+0.6**
	comp=Z,234nm,1.5s						
YKA	**Yellowknife Ar**	**20.32**	**18**	P	**P**	**21 55 25.1**	**+0.9**
	comp=Z,9.0nm,0.8s,baz=205,slow=10,SNR=16						
YKA				LR	LR	22 01 55.7	
	comp=Z,127nm,19.4s,MS3.3,baz=225,slow=33						
YKW3	**Yellowknife Ar**	**20.38**	**18**	*e*P	**P**	**21 55 24.3**	**-0.5**
KDAK	**Kodiak Island**	**20.63**	**321**	P	**P**	**21 55 28.4**	**+0.9**
	comp=Z,10nm,0.8s,baz=120,slow=8.3,SNR=7.3						
KDAK				LR	LR	22 01 36.0	
	comp=Z,278nm,18.9s,MS3.6,baz=308,slow=31						
KDAK	**Kodiak Island**	**20.63**	**321**	*e*P	**P**	**21 55 29.0**	**+1.5**
	comp=Z,20nm,1.0s						
DAWY	**Dawson**	**21.25**	**346**	*e*P	**P**	**21 55 34.3**	**0.0**
SLKM	**Skilak Lake**	**21.30**	**329**	*e*P	**P**	**21 55 36.7**	**+1.9**
MNTX	**Cornudas Mount**	**21.66**	**116**	*e*P	**P**	**21 55 39.0**	**+0.3**
	comp=Z,72nm,1.6s,mb4.8						
PMR	**Palmer**	**21.66**	**332**	*e*P	**P**	**21 55 40.4**	**+1.6**
PMR				pmax	pmax		
	comp=Z,141nm,1.8s,mb5.1						
PMR	**Palmer**	**21.66**	**332**	*e*P	**P**	**21 55 40.4**	**+1.7**
	comp=Z,141nm,1.8s,mb5.1						
CPRX	**Cap Rock**	**21.84**	**111**	*e*P	**P**	**21 55 41.5**	**+0.8**
GDL2	**Guadalupe Moun**	**22.01**	**114**	*e*P	**P**	**21 55 43.4**	**+0.9**
AMTX	**Amarillo**	**22.30**	**105**	*e*P	**P**	**21 55 45.8**	**+0.2**
	comp=Z,69nm,1.3s,mb4.9						
ECSD	**EROS,Sioux Fal**	**22.75**	**79**	*e*P	**P**	**21 55 49.7**	**-0.7**
ULM	**Lac du Bonnet**	**22.84**	**62**	P	**P**	**21 55 50.8**	**-0.5**
	comp=Z,26nm,0.9s,mb4.7,baz=275,slow=10,SNR=25						
ULM				LR	LR	22 04 56.4	
	comp=Z,858nm,18.5s,MS4.2,baz=10,slow=37						
ULM	**Lac du Bonnet**	**22.84**	**62**	P	**P**	**21 55 50.8**	**-0.5**
ULM				LR	LR	22 04 56.4	
ILAR	**Eielson Array**	**23.46**	**340**	P	**P**	**21 55 58.5**	**+0.7**
	comp=Z,2.5nm,0.8s,mb3.7,baz=152,slow=7.9,SNR=28						
COLA	**College**	**23.79**	**339**	*e*P	**P**	**21 56 01.3**	**+0.4**
COLA				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.0						
COLA	**College**	**23.79**	**339**	*e*P	**P**	**21 56 01.3**	**+0.4**
	comp=Z,7.2nm,1.0s,mb4.1						
KSU1	**Kansas State U**	**24.07**	**90**	*e*P	**P**	**21 56 03.4**	**-0.2**
LTX	**Lajitas**	**24.34**	**118**	*e*P	**P**	**21 56 05.4**	**-0.5**
LTX				pmax	pmax		
	comp=Z,28nm,1.3s,mb4.5						
LTX	**Lajitas**	**24.34**	**118**	*e*P	**P**	**21 56 05.4**	**-0.5**
	comp=Z,28nm,1.3s,mb4.5						
WMOK	**Wichita Mounta**	**24.42**	**102**	*e*P	**P**	**21 56 07.6**	**+0.9**
WMOK				pmax	pmax		
	comp=Z,207nm,1.7s,mb5.3						
WMOK	**Wichita Mounta**	**24.42**	**102**	*e*P	**P**	**21 56 07.6**	**+0.9**
	comp=Z,207nm,1.7s,mb5.3						
LPIG	**La Paz**	**24.56**	**137**	LR	LR	22 04 38.7	
	comp=Z,297nm,20.9s,MS3.8,baz=244,slow=34						
INK	**Inuvik**	**24.70**	**355**	P	**P**	**21 56 09.7**	**+0.5**
	comp=Z,7.8nm,1.1s,mb4.2,baz=173,slow=12,SNR=11						
INK				LR	LR	22 06 23.2	
	comp=Z,8.6nm,19.8s,baz=173,slow=38						
TTA	**Tatalina**	**24.97**	**330**	*e*P	**P**	**21 56 12.6**	**+0.9**
TTA				pmax	pmax		
	comp=Z,53nm,1.4s,mb4.9						
TTA	**Tatalina**	**24.97**	**330**	*e*P	**P**	**21 56 12.6**	**+0.9**
	comp=Z,53nm,1.4s,mb4.9						
FCC	**Fort Churchill**	**25.69**	**42**	*e*P	**P**	**21 56 19.8**	**+1.5**
FCC				pmax	pmax		
	comp=Z,24nm,1.2s,mb4.6						
FCC	**Fort Churchill**	**25.69**	**42**	*e*P	**P**	**21 56 19.8**	**+1.5**
	comp=Z,24nm,1.2s,mb4.6						
EYMN	**Ely**	**25.73**	**68**	*e*P	**P**	**21 56 18.7**	**+0.1**
	comp=Z,110nm,1.8s,mb5.1						
EYMN				*e*		21 56 30.3	
JCT	**Junction City**	**26.13**	**111**	*e*P	**P**	**21 56 22.1**	**-0.1**
JCT				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.5						
JCT	**Junction City**	**26.13**	**111**	*e*P	**P**	**21 56 22.1**	**-0.2**
	comp=Z,16nm,0.9s,mb4.5						
MIAR	**Mount Ida**	**28.24**	**97**	*e*P	**P**	**21 56 41.1**	**-0.1**
MIAR				*e*		21 56 50.2	
MIAR				pmax	pmax		
	comp=Z,31nm,1.1s,mb4.8						
MIAR	**Mount Ida**	**28.24**	**97**	*e*P	**P**	**21 56 41.1**	**0.0**
	comp=Z,31nm,1.1s,mb4.8						
MIAR				*e*		21 56 50.2	
CCM	**Cathedral Cave**	**28.35**	**89**	*e*P	**P**	**21 56 41.4**	**-0.8**
CCM				*e*		21 56 50.9	
CCM				pmax	pmax		
	comp=Z,42nm,1.3s,mb4.9						
CCM	**Cathedral Cave**	**28.35**	**89**	*e*P	**P**	**21 56 41.4**	**-0.8**
	comp=Z,42nm,1.3s,mb4.9						
CCM				*e*		21 56 50.9	
FVM	**French Village**	**28.97**	**89**	*e*P	**P**	**21 56 46.9**	**-0.8**
FVM				*e*		21 56 55.5	
FVM				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4

MDJ				PP	PP	22 04 17.0	-0.7	
MDJ				S	S	22 10 47.0	-0.1	
MDJ				SCS	ScS	22 11 46.3	-0.6	
MDJ				AMB	AMB			
	comp=Z,7.0nm,1.3s,mb4.5							
MDJ				AMB	AMB			
	comp=Z,41nm,5.1s							
MDJ				LR	LR			
	comp=N,70nm,22.3s							
MDJ				LR	LR			
	comp=E,290nm,15.9s							
MDJ				LR	LR			
	comp=Z,375nm,22.3s,MS4.6							
MJAR	**Matsushiro Arr**	**68.11**	**300**	P	**P**	**22 01 47.0**	**-1.1**	
	comp=Z,0.7nm,0.7s,mb3.8,baz=56,slow=8.3,SNR=4.7							
NB2	**NORSAR Subarra**	**70.41**	**20**	P	**P**	**22 02 02.1**	**-0.3**	
	comp=Z,7.8nm,1.1s,mb4.5,baz=330,slow=6.2							
NOA	**NORSAR Array B**	**70.41**	**20**	P	**P**	**22 02 02.5**	**+0.1**	
	comp=Z,3.5nm,0.9s,mb4.3,baz=332,slow=5.8,SNR=7.0							
NOA	**NORSAR Array B**	**70.41**	**20**	P	**P**	**22 02 02.5**	**+0.1**	
FINES	**FINESS Array B**	**73.03**	**13**	P	**P**	**22 02 17.7**	**-0.5**	
	comp=Z,3.1nm,0.9s,mb4.2,baz=29,slow=4.4,SNR=11							
FINES	**FINESS Array B**	**73.03**	**13**	P	**P**	**22 02 17.7**	**-0.5**	
KLMR	**Klimovskoe**	**75.20**	**6**	*e*P	**P**	**22 02 29.4**	**-1.4**	
KLMR				pmax	pmax			
	comp=Z,20nm,1.2s,mb4.9							
SONM	**Songino Array**	**76.85**	**326**	P	**P**	**22 02 40.1**	**-0.1**	
	comp=Z,2.8nm,0.9s,mb4.2,baz=43,slow=2.2,SNR=21							
NVS	**Novosibirsk**	**78.12**	**342**	*e*P	**P**	**22 02 44.8**	**-2.5**	
NVS				pmax	pmax			
	comp=Z,13nm,1.6s,mb4.6							
NVS				pmax	pmax			
	comp=N,7.0nm,1.5s							
GUMO	**Guam**	**78.52**	**278**	LR	LR	22 29 36.7		
	comp=N,154nm,21.1s,MS4.3,baz=77,slow=30							
SVE	**Sverdlovsk**	**79.44**	**355**	*e*P	**P**	**22 02 53.6**	**-1.0**	
CLL	**Collm**	**79.45**	**24**	*i* P	**P**	**22 02 54.5**	**-0.1**	
	comp=Z,7.0nm,1.0s,mb4.5							
CLL				*e*(sP)	sP	22 03 01.0	+1.9	
CLL				*e*PP	PP	22 05 56.0	+1.2	
CLL				*e*PPP		22 07 44.0		
CLL				LmV		22 38 00.0		
	comp=Z,100nm,20.2s							
ARU	**Arti**	**79.95**	**356**⇑	*i*P	**P**	**22 02 55.8**	**-1.5**	
ARU				*e*		22 05 58.7		
ARU				*e*PPP		22 07 45.9		
ARU				*e*S	S	22 12 56.9	-4.2	
ARU				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.4							
HHC	**Hu-ho-hao-te**	**80.02**	**318**	*e*P	**P**	**22 02 57.8**	**+0.1**	
HHC				AP	pP	22 03 02.5	+1.5	
HHC				XP	sP	22 03 05.0	+2.8	
HHC				PP	PP	22 06 00.0	+0.5	
HHC				S	S	22 12 59.3	-2.5	
HHC				SKS		22 13 09.5		
HHC				SCS	ScS	22 13 18.5	-4.2	
HHC				PS		22 13 45.5		
HHC				SS	SS	22 18 10.8	-0.9	
HHC				AMB	AMB			
	comp=Z,14nm,1.2s,mb4.8							
HHC				AMB	AMB			
	comp=Z,75nm,6.4s							
HHC				LR	LR			
	comp=N,235nm,17.6s,MS4.7							
HHC				LR	LR			
	comp=E,240nm,19.0s,MS4.7							
HHC				LR	LR			
	comp=Z,221nm,18.3s,MS4.5							
BRG	**Berggiesshubel**	**80.11**	**23**	*e*P	**P**	**22 02 58.7**	**+0.5**	
	comp=Z,5.2nm,1.2s,mb4.3							
BRG				*i*		22 03 06.1		
	comp=Z,5.7nm,1.1s							
BRG								
	comp=N,70nm,14.3s							
BRG								
	comp=E,53nm,18.6s							
BRG								
	comp=Z,107nm,22.0s							
BRG	**Berggiesshubel**	**80.11**	**23**	*e*P	**P**	**22 02 58.7**	**+0.5**	
BRG				*i*		22 03 06.1		
BRG				pmax	pmax			
	comp=Z,5.0nm,1.2s,mb4.3							
BRG				pmax	pmax			
	comp=Z,6.0nm,1.2s,mb4.4							
BRG				MLR	MLR			
	comp=N,70nm,14.3s,MS4.2							
BRG				MLR	MLR			
	comp=E,53nm,18.6s,MS4.2							
BRG				MLR	MLR			
	comp=Z,107nm,22.0s,MS4.2							
BRG	**Berggiesshubel**	**80.11**	**23**	*e*P	**P**	**22 02 58.7**	**+0.5**	
	comp=Z,5.2nm,1.2s,mb4.3							
BRG				*i*		22 03 06.1		
BRG				LR	LR			
	comp=Z,110nm,22.0s,MS4.2							
GRA1	**Grafenberg Arr**	**80.35**	**25**	*e*P	**P**	**22 03 00.4**	**+0.9**	
	comp=Z,8.0nm,1.3s,mb4.5							
GRA1				*e*pP	pP	22 03 06.3	+3.5	
GRF	**Grafenberg Arr**	**80.35**	**25**	*e*P	**P**	**22 03 00.4**	**+0.9**	
	comp=Z,8.0nm,1.3s,mb4.5							
GRF				*e*pP	pP	22 03 06.3	+3.5	
GRF	**Grafenberg Arr**	**80.35**	**25**	*e*P	**P**	**22 03 00.4**	**+0.9**	
GRF				*e**PP	pP	22 03 06.3	+3.5	
GRF				pmax	pmax			
	comp=Z,8.0nm,1.3s,mb4.5							
GRF	**Grafenberg Arr**	**80.35**	**25**	*e*P	**P**	**22 03 00.4**	**+0.9**	
GRF				*e**PP	pP	22 03 06.3	+3.5	
GRF				pmax	pmax			
	comp=Z,8.0nm,1.3s,mb4.5							
OBN	**Obninsk**	**80.59**	**9**⇑	*e*P	**P**	**22 03 00.0**	**-0.8**	
OBN				pmax	pmax			
	comp=Z,16nm,1.3s,mb4.8							
UPC	**Upice**	**81.02**	**22**	*e*pP	pP	22 03 09.7	+3.3	
UPC				*ex*	x	22 03 17.7		
PRU	**Pruhonice**	**81.08**	**23**	*e*P	**P**	**22 03 03.7**	**+0.3**	
PRU				*e*pP	pP	22 03 09.5	+2.8	
LPAZ	**La Paz**	**81.13**	**123**	P	**P**	**22 03 02.5**	**-1.1**	
	comp=Z,5.8nm,1.0s,mb4.5,baz=5.0,slow=5.4,SNR=10							
DPC	**Dobruska-Polom**	**81.25**	**22**	*e*P	**P**	**22 03 04.4**	**+0.1**	
DPC				*e*pP	pP	22 03 10.4	+2.8	
CHKZ	**Chkalovo**	**81.54**	**349**	*e*P	**P**	**22 03 04.8**	**-1.0**	
CHKZ				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.9							
CHKZ	**Chkalovo**	**81.54**	**349**	*e*P	**P**	**22 03 04.8**	**-1.1**	
	comp=Z,0.6nm,0.6s,mb3.7							
KHC	**Kasperske Hory**	**81.56**	**24**	*e*P	**P**	**22 03 06.6**	**+0.6**	
KHC				*e*pP	pP	22 03 12.3	+3.0	
GERES	**GERESS Array B**	**81.85**	**24**	P	**P**	**22 03 07.4**	**-0.1**	
	comp=Z,0.8nm,0.5s,mb3.9,baz=352,slow=8.5,SNR=3.9							
BRVK	**Borovoye**	**82.19**	**349**	*e*P	**P**	**22 03 09.0**	**-0.3**	
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.3							
BRVK	**Borovoye**	**82.19**	**349**	*e*P	**P**	**22 03 09.0**	**-0.2**	
	comp=Z,1.8nm,0.5s,mb4.3							
OKC	**Ostrava-Krasne**	**82.20**	**21**	*e*P	**P**	**22 03 09.1**	**-0.2**	
OKC				*e*pP	pP	22 03 14.8	+2.2	
ZRNK	**Zerenda**	**82.47**	**350**	*e*P	**P**	**22 03 10.2**	**-0.5**	
ZRNK				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.5							
ZRNK	**Zerenda**	**82.47**	**350**	*e*P	**P**	**22 03 10.2**	**-0.5**	
	comp=Z,5.3nm,0.8s,mb4.5							
NJ2	**Nanjing**	**82.82**	**308**	*e*P	**P**	**22 03 15.0**	**+2.5**	
NJ2				AP	pP	22 03 18.5	+2.6	
NJ2				XP	sP	22 03 22.3	+5.2	
NJ2				PP	PP	22 06 27.3	+4.7	
NJ2				S	S	22 13 33.0	+2.2	
NJ2				XS	sS	22 13 43.0	+6.7	
NJ2				AMB	AMB			
	comp=Z,70nm,8.8s							
NJ2				LR	LR			
	comp=N,360nm,16.6s,MS4.9							
NJ2				LR	LR			
	comp=E,370nm,19.5s,MS4.9							
NJ2				LR	LR			
	comp=Z,200nm,28.4s							
KURK	**Kurchatov**	**82.98**	**343**	*e*P	**P**	**22 03 11.7**	**-1.7**	
KURK				pmax	pmax			
	comp=Z,4.0nm,1.2s,mb4.3							
KURK	**Kurchatov**	**82.98**	**343**	*e*P	**P**	**22 03 11.7**	**-1.7**	
	comp=Z,4.1nm,1.2s,mb4.3							
SMOL	**Smolenice**	**83.22**	**22**	*e*P	**P**	**22 03 15.7**	**+1.1**	
STHS	**Stebnicka Huta**	**83.37**	**20**	*e*P	**P**	**22 03 15.8**	**+0.4**	
STHS				*e*sP	sP	22 03 22.2	+2.3	
STHS	**Stebnicka Huta**	**83.37**	**20**	*e*P	**P**	**22 03 15.8**	**+0.4**	
STHS				*e*		22 03 22.2		
	comp=Z,3.0nm,1.0s,mb4.3							
STHS				pmax	pmax			
VYHS	**Vyhne**	**83.61**	**21**	*e*P	**P**	**22 03 16.7**	**0.0**	
AKASG	**Malin Array Be**	**83.83**	**14**	P	**P**	**22 03 16.5**	**-1.2**	
	comp=Z,1.5nm,0.7s,mb4.2,baz=342,slow=4.7,SNR=7.9							
AKASG	**Malin Array Be**	**83.83**	**14**	P	**P**	**22 03 16.5**	**-1.2**	
KECS	**Kecovo**	**84.05**	**20**	*e*P	**P**	**22 03 18.5**	**-0.4**	
KECS				*e*		22 03 25.8		
KECS				*e*PP	PP	22 06 26.9	-5.8	
KECS	**Kecovo**	**84.05**	**20**	*e*P	**P**	**22 03 18.5**	**-0.4**	
KECS				*e*		22 03 25.8		
KECS				*e*		22 06 26.9		
KECS				pmax	pmax			
	comp=Z,2.0nm,1.0s,mb4.2							
PERS	**Pernice**	**84.26**	**24**	*e*P	**P**	**22 03 20.1**	**+0.2**	
PSZ	**Piszkesteto**	**84.42**	**21**	*e*P	**P**	**22 03 21.5**	**+0.7**	
PSZ				pmax	pmax			
	comp=Z,25nm,1.6s,mb5.1							
PSZ	**Piszkesteto**	**84.42**	**21**	*e*P	**P**	**22 03 21.5**	**+0.7**	
	comp=Z,25nm,1.6s,mb5.1							
CEY	**Cerknica**	**84.86**	**25**	*e*P	**P**	**22 03 23.0**	**+0.1**	
BOJS	**Bojanci**	**85.32**	**25**	*e*P	**P**	**22 03 25.6**	**+0.3**	
MKAR	**Makanchi Array**	**85.81**	**340**	P	**P**	**22 03 26.5**	**-1.3**	
	comp=Z,0.3nm,0.6s,mb3.7,baz=21,slow=3.5,SNR=4.3							
WMQ	**Urumqi**	**87.03**	**335**	P	**P**	**22 03 35.5**	**+1.8**	
WMQ				AP	pP	22 03 40.5	+3.4	
WMQ				XP	sP	22 03 43.0	+4.8	
WMQ				PP	PP	22 07 01.5	+4.6	
WMQ				AMB	AMB			
	comp=Z,3.0nm,0.5s,mb4.8							
WMQ				AMB	AMB			
	comp=Z,56nm,5.0s							
WMQ				LR	LR			
	comp=N,45nm,21.8s							
WMQ				LR	LR			
	comp=Z,36nm,18.9s,MS3.8							
LZH	**Lanzhou**	**87.46**	**320**	*e*P	**P**	**22 03 35.8**	**0.0**	
LZH				AP	pP	22 03 39.0	-0.2	
LZH				AMB	AMB			
	comp=Z,23nm,1.5s,mb5.2							
LZH				AMB	AMB			
	comp=Z,72nm,8.8s							
LZH				LR	LR			
	comp=N,346nm,18.3s							
LZH				LR	LR			
	comp=Z,647nm,19.5s,MS5.0							
LZH	**Lanzhou**	**87.46**	**320**	*e*P	**P**	**22 03 35.7**	**-0.1**	
	comp=Z,23nm,1.5s,mb5.2							
LZH				*e*PP	pP	22 03 38.9	-0.3	
LZH				*e*SP	sP	22 03 40.4	0.0	
LZH				pmax	pmax			
	comp=Z,23nm,1.5s,mb5.2							
LZH				MLR	MLR			
	comp=Z,650nm,19.5s,MS5.0							
LZH	**Lanzhou**	**87.46**	**320**	*e*P	**P**	**22 03 35.7**	**-0.1**	
	comp=Z,23nm,1.5s,mb5.2							
LZH				pP	pP	22 03 38.9	-0.3	
LZH				sP	sP	22 03 40.4	0.0	
LZH				PP	PP	22 07 12.5	+12	
LZH				LR	LR			
	comp=Z,650nm,19.5s,MS5.0							
BDFB	**Brasilia**	**93.80**	**108**	LR	LR	22 45 32.1		
	comp=Z,144nm,19.9s,MS4.4,baz=172,slow=35							
KMI	**Kunming**	**97.00**	**315**	P	**P**	**22 04 23.0**	**+3.0**	
KMI				AMB	AMB			
	comp=Z,3.0nm,0.5s,mb5.0							
KMI	**Kunming**	**97.00**	**315**	P	**P**	**22 04 22.9**	**+2.9**	
KMI				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb5.0							
KMI	**Kunming**	**97.00**	**315**	P	**P**	**22 04 22.9**	**+2.9**	
	comp=Z,3.0nm,0.5s,mb5.0							

MAN 27 22:02:49.6, 1115N×12614E, h1km, mb2.5, ML4.1, MS3.5, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.82**	**304**	*e*P		Pg	22 03 05.5	+0.2
PLP	**Palo**	**1.14**	**271**⇑	*e*P		Pg	22 03 10.4	-1.0
SCPH	**Surigao**	**1.50**	**205**	*e*P		Pn	22 03 17.9	+0.3
SCPH				*e*S		Sb	22 03 37.5	-0.2
OCLP	**Ormoc**	**1.50**	**267**	*e*P		Pn	22 03 17.9	+0.2
OCLP				*e*S		Sb	22 03 38.7	+0.9
MSLP	**Maasin**	**1.61**	**231**	*e*P		Pn	22 03 19.1	0.0
MSLP				*e*S		Sn	22 03 41.2	+0.7

IDC ***27*** *22:09:12.3±1.4, 241N×12684E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.5/16, mbtmp3.4/5, MS4.0/1, Ms1 4.0/1, ms1mx3.0/13, Error ellipse: s-maj=148.9km s-min=21.0km az=69.0*

NEIC 27 22:09:17.7±0.8, 221N×12641E, h35km, mb4.0/1, Error ellipse: s-maj=119.0km s-min=14.4km az=70.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRAB	**Tennant Creek**	**23.34**	**161**	P		P	22 14 23.4	+0.5
	2.7nm,0.5s							
WRA	**Warramunga Arr**	**23.34**	**161**	P		P	22 14 22.7	-0.3
	0.8nm,0.5s,baz=341,slow=10,SNR=11							
ASAR	**Alice Springs**	**26.73**	**165**	P		P	22 14 56.0	+2.1
	0.4nm,0.8s,baz=349,slow=13,SNR=4.9							
STKA	**Stephens Creek**	**36.83**	**158**	P		P	22 16 21.2	-1.2
	1.0nm,0.5s,baz=326,slow=11,SNR=2.9							
DZM	**Mont Dzumac**	**45.94**	**124**	LR		LR	22 33 43.7	
	comp=Z,173nm,19.1s,baz=206,slow=32							
SONM	**Songino Array**	**48.64**	**342**	P		P	22 17 58.8	+0.8
	0.3nm,0.8s,baz=153,slow=9.7,SNR=3.3							
MKAR	**Makanchi Array**	**58.62**	**326**	P		P	22 19 10.7	-0.5
	0.1nm,0.5s,baz=121,slow=8.3,SNR=3.9							
TCUT	**Toone Canyon**	**112.15**	**44**	*e*P		Pdif	22 23 53.2	0.0
USIN	**University of**	**129.11**	**35**	*e*PKPdf		PKPdf	22 28 22.8	+0.8

ISCJB ***27*** *22:12:00.1±0.7, 3448N×004×14001E×005, h100km±5km, mb3.5/2, Error ellipse: s-maj=7.5km s-min=5.5km az=118.4*

JMA ***27*** *22:12:00.4±0.2, 3448N×14001E, h91km±2km, M2.8*

IDC ***27*** *22:12:03.2±2.2, 3434N×13956E, h107km±9km, mb3.1/2, mb1 3.4/3, mb1mx3.0/21, mbtmp3.4/3, MS3.9/1, Ms1 3.9/1, ms1mx2.5/19, Error ellipse: s-maj=97.7km s-min=7.5km az=71.0*

ISC 27 22:12:01.2±0.6, 3448N±004×14000E±005, h93km±5km, n19, σ0s78/30, mb3.5/2, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIM2	**Oshima 3**	**0.53**	**297**	P		**Pn**	**22 12 15.5**	**-0.9**
JIM2				S		**Sn**	**22 12 26.6**	**-1.2**
BSO3	**Boso 3**	**0.53**	**52**	P		**Pn**	**22 12 15.6**	**-0.9**
BSO3				S		**Sn**	**22 12 28.5**	**+0.6**
BSO4	**Boso 4**	**0.58**	**29**	P		**Pn**	**22 12 16.4**	**-0.5**
BSO4				S		**Sn**	**22 12 29.5**	**+0.9**
NJJJ	**Nii jima 2**	**0.60**	**263**	P		**Pn**	**22 12 16.5**	**-0.5**
BSO2	**Boso 2**	**0.68**	**66**	*e*S		**Sn**	**22 12 30.7**	**+0.5**
JKO	**Kozu shima**	**0.77**	**248**	P		**Pn**	**22 12 18.2**	**-0.4**
BSO1	**Boso 1**	**0.83**	**78**	P		**Pn**	**22 12 18.2**	**-1.0**
BSO1				S		**Sn**	**22 12 32.6**	**-0.1**
JIZS	**Izushimoda**	**0.95**	**285**	P		**Pn**	**22 12 20.1**	**-0.5**
JIZS				S		**Sn**	**22 12 34.3**	**-0.8**
JOD2	**Odawara 2**	**1.08**	**317**	P		**Pn**	**22 12 21.4**	**-0.6**
JOD2				S		**Sn**	**22 12 36.6**	**-1.1**
JHJ	**Hachijo jima 2**	**1.37**	**188**	P		**Pn**	**22 12 25.9**	**+0.6**
	143nm,0.3s,baz=272,slow=22,SNR=30							
JHJ				S		**Sn**	**22 12 44.6**	**+0.9**
	68nm,0.3s,baz=235,slow=22,SNR=8.4							
JHJ2	**Mitsune**	**1.37**	**186**	P		**Pn**	**22 12 25.9**	**+0.5**
JHJ2				S		**Sn**	**22 12 44.7**	**+0.9**
JYN	**Shimob**	**1.57**	**311**	P		**Pn**	**22 12 28.1**	**+0.2**
JYN				S		**Sn**	**22 12 49.8**	**+1.6**
SHZ3	**Shizuoka 3**	**1.58**	**292**	P		**Pn**	**22 12 28.6**	**+0.5**
JRY	**Ryogami san**	**1.78**	**330**	P		**Pn**	**22 12 30.5**	**-0.1**
JRY				S		**Sn**	**22 12 52.3**	**-0.6**
MJAR	**Matsushiro Arr**	**2.52**	**325**	P		**Pn**	**22 12 40.7**	**+0.3**
	8.2nm,0.3s,baz=161,slow=11,SNR=83							
MJAR				S		**Sn**	**22 13 11.8**	**+1.4**
	1.9nm,0.3s,baz=103,slow=12,SNR=5.5							
MAT	**Matsushiro**	**2.52**	**325**	P		**Pn**	**22 12 40.9**	**+0.5**
MAT				*e*S		**Sn**	**22 13 11.7**	**+1.2**
PMG	**Port Moresby**	**44.17**	**170**	LR		LR	22 36 28.8	
	comp=Z,168nm,21.8s,baz=239,slow=33							
MKAR	**Makanchi Array**	**44.55**	**304**	P		**P**	**22 20 03.3**	**-0.3**
	0.2nm,0.6s,mb3.0,baz=76,slow=8.2,SNR=2.1							
WRA	**Warramunga Arr**	**54.38**	**187**	P		**P**	**22 21 17.5**	**-0.8**
	0.5nm,0.4s,mb3.9,baz=3.2,slow=7.7,SNR=16							

IDC ***27*** *22:12:54.5±1.3, 6073N×16588E, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.6/23, mbtmp3.7/6, Error ellipse: s-maj=49.0km s-min=20.0km az=158.0*

MOS ***27*** *22:12:54.3±1.7, 6061N×16593E, h16km, mb4.2/1, Error ellipse: s-maj=26.3km s-min=17.4km az=98.4*

KRSC ***27*** *22:12:54.3±0.9, 6076N×16607E, h12km±4km, ML3.9*

ISCJB ***27*** *22:12:55.0±1.2, 6077N±005×1659E±0.2, h14km±10km, mb3.6/7, Error ellipse: s-maj=13.6km s-min=7.0km az=49.0*

NEIC ***27*** *22:12:56.2±1.3, 6078N×16580E, h10km, Error ellipse: s-maj=31.6km s-min=12.2km az=160.0*

ISC 27 22:12:55.8±1.4, 6078N±005×1660E±02, h10km±11km, n25, σ0s95/27, mb3.6/7, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TILR	**Tilichiki**	**0.36**	**174**	*i* P		**Pg**	**22 13 01.9**	**-1.0**
TILR				*i* S		**Sg**	**22 13 07.9**	**+0.3**
TILR				Smax				
	23μm,0.6s							
KAMR	**Kamenskoye**	**1.68**	**4**	*i* P		**Pn**	**22 13 24.4**	**-0.9**
KAMR				*i* S		**Sn**	**22 13 45.9**	**-1.0**
KAMR				Smax				
	2μm,1.1s							
OSSR	**Ossora**	**2.12**	**225**	*e*P		**Pn**	**22 13 30.5**	**-0.9**
OSSR				Smax				
	1μm,0.4s							
SMKR	**Semkarok**	**4.83**	**211**	*e*P		**Pn**	**22 14 09.1**	**+0.6**
SRKR	**Sorokina**	**4.84**	**213**	*e*P		**Pn**	**22 14 08.9**	**+0.1**
KBG	**Krutoberegovo**	**4.86**	**202**	*e*P		**Pn**	**22 14 08.8**	**-0.1**
KBTR	**Krutoberegovo**	**4.88**	**201**	*e*P		**Pn**	**22 14 09.4**	**+0.1**
BDR	**Baidarnaya**	**4.91**	**213**	*e*P		**Pn**	**22 14 09.6**	**0.0**
ZLN	**Zelenaya**	**5.50**	**212**	*e*P		**Pn**	**22 14 17.9**	**+0.1**
KMNR	**Kamenistaya**	**5.88**	**213**	*e*P		**Pn**	**22 14 23.3**	**+0.3**
BILL	**Bilibino**	**7.29**	**1**	*e*PN		**Pn**	**22 14 44.2**	**+1.9**
BILL				pmax	pmax			
	comp=Z,3.0nm,0.6s							
BILL				pmax	pmax			
	comp=Z,6.0nm,0.8s							
BILL	**Bilibino**	**7.29**	**1**	*e*Pn		**Pn**	**22 14 42.9**	**+0.6**
	comp=Z,7.5nm,0.6s							
BILL	**Bilibino**	**7.29**	**1**	*e*P		**Pn**	**22 14 43.5**	**+1.2**
MA2	**Magadan**	**7.68**	**268**	*e*PN		**Pn**	**22 14 46.8**	**-0.9**
MA2				pmax	pmax			
	comp=N,6.0nm,0.5s							
MA2				pmax	pmax			
	comp=E,10.0nm,0.5s							
MA2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
MA2	**Magadan**	**7.68**	**268**	*e*Pn		**Pn**	**22 14 46.7**	**-1.1**
	comp=Z,17nm,0.6s							
MA2	**Magadan**	**7.68**	**268**	*i* P		**Pn**	**22 14 48.8**	**+1.1**
YAK	**Yakutsk**	**17.28**	**290**	*e*P		**Pn**	**22 16 59.5**	**+2.3**
YAK				pmax	pmax			
	comp=Z,8.0nm,0.9s							
YAK				pmax	pmax			
	comp=E,7.0nm,1.3s							
TIXI	**Tiksi**	**18.11**	**322**	*e*P		**Pn**	**22 17 08.6**	**+1.1**
TIXI				pmax	pmax			
	comp=Z,2.0nm,1.4s							
ILAR	**Eielson Array**	**21.51**	**59**	P		**P**	**22 17 47.0**	**+2.0**
	comp=Z,1.4nm,0.6s,mb3.5,baz=268,slow=8.9,SNR=20							
INK	**Inuvik**	**26.01**	**48**	P		**P**	**22 18 28.8**	**-0.1**
	comp=Z,0.9nm,0.5s,mb3.5,baz=270,slow=4.0,SNR=2.3							
BOD	**Bodaibo**	**26.12**	**287**	*e*P		**P**	**22 18 28.9**	**-1.1**
BOD				*e*			22 24 21.0	
BOD				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb3.8							
YKA	**Yellowknife Ar**	**35.55**	**52**	P		**P**	**22 19 52.5**	**-0.6**
	comp=Z,0.5nm,0.8s,mb3.5,baz=307,slow=8.2,SNR=3.5							
SONM	**Songino Array**	**35.78**	**276**	P		**P**	**22 19 55.7**	**+0.6**
	comp=Z,0.8nm,1.0s,mb3.6,baz=56,slow=7.6,SNR=4.8							
MKAR	**Makanchi Array**	**47.92**	**293**	P		**P**	**22 21 32.6**	**-1.7**
	comp=Z,0.8nm,0.7s,mb3.9,baz=45,slow=7.5,SNR=6.8							
WRA	**Warramunga Arr**	**84.40**	**210**	P		**P**	**22 25 28.4**	**-0.1**
	comp=Z,0.5nm,0.9s,mb3.6,baz=11,slow=5.5,SNR=6.8							

MAN 27 22:15:20.6, 963N×12523E, h1km, mb2.2, ML3.9, MS5.2, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.29**	**59**	*e*P		Pg	22 15 25.2	-1.0
SCPH				*e*S		Sg	22 15 39.0	+8.9
MSLP	**Maasin**	**0.62**	**324**	*e*P		Pg	22 15 31.8	-0.7
MSLP				*e*S		Sg	22 15 51.9	+11
BUKP	**Musuan**	**1.75**	**186**	*e*P		Pn	22 15 52.4	+0.4

ISCJB ***27*** *22:18:15.5±0.9, 3428N±007×255E±0.1, h58km±37km, Error ellipse: s-maj=16.8km s-min=11.8km az=25.9*

CSEM ***27*** *22:18:15.5±0.1, 3425N×2552E, h30km, ML3.4, Error ellipse: s-maj=6.9km s-min=3.3km az=81.0*

HLW ***27*** *22:18:15.1, 3428N×2556E, h6km, Mb3.4*

ATH ***27*** *22:18:17.9, 3452N×2528E, h29km±9km, MD3.4/5*

NEIC ***27*** *22:18:17.9, 3452N×2528E, h29km, MD3.4(ATH), After ATH.*

ISC 27 22:18:16.3±1.7, 3430N±006×254E±01, h29km±21km, n12, σ0s57/14, 2C-4D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XRY	**Khrisi**	**0.61**	**20**	*e*PB		**Pb**	**22 18 28.0**	**-0.5**
NPS	**Neapolis**	**0.97**	**8**	*e*PN		**Pn**	**22 18 34.0**	**0.0**
GVD	**Gavdhos**	**1.24**	**296**	*e*PN		**Pn**	**22 18 38.0**	**+0.3**
VAM	**Vamos**	**1.50**	**318**	*e*PN		**Pn

SMY Shemya 3.42 297 *eP* **Pn 22 19 59.8 +1.6**
ATKA Atka Island 4.24 75 P **Pn 22 20 10.9 +1.5**
ATKA S **Sn 22 21 01.6 +3.9**
NIKO Nikolski 7.58 73 P **Pn 22 20 57.6 +2.4**
SPIA Saint Paul Isl 8.56 42 P **Pn 22 21 12.7 +4.0**
UNV Unalaska Valle 9.11 68 P **Pn 22 21 19.1 +2.9**
AKUT Akutan 9.59 67 *e*Pn **Pn 22 21 21.5 -1.3**
AKUT *e*Sn **Sn 22 22 59.1 -10**
PET Petropavlovsk 12.69 286 *eP* **Pn 22 22 04.6 -0.6**
PET *eS* **Sn 22 24 24.1 -1.0**
PET smax
comp=N,400nm,25.8s
PET MLR MLR
comp=Z,600nm,16.0s
KDAK Kodiak Island 17.55 57 P **Pn 22 23 06.9 -2.0**
comp=Z,3.4nm,0.3s,baz=258,slow=6.2,SNR=18
KDAK Kodiak Island 17.55 57 *eP* **Pn 22 23 07.1 -1.8**
comp=Z,14nm,0.6s
TTA Tatalina 17.68 39 *eP* **Pn 22 23 13.5 +3.0**
BILL Bilibino 17.93 344 *c iP* **Pn 22 23 15.2 +1.7**
BILL pmax pmax
comp=Z,31nm,1.2s
BILL Bilibino 17.93 344 *eP* **Pn 22 23 15.2 +1.7**
MA2 Magadan 17.98 308 *eP* **Pn 22 23 15.6 +1.5**
SLKM Skilak Lake 19.32 50 *eP* **Pn 22 23 30.3 -0.1**
PMR Palmer 20.13 47 *eP* **P 22 23 39.4 +1.6**
PMR pmax pmax
comp=Z,8.0nm,0.8s
PMR MLR MLR
comp=Z,800nm,18.0s,MS4.1
PMR Palmer 20.13 47 *eP* **P 22 23 39.4 +1.6**
comp=Z,7.7nm,0.8s
PMR LR LR
comp=Z,800nm,18.0s,MS4.1
EYAK Cordova Ski Ar 21.49 51 *eP* **P 22 23 51.7 -0.8**
COLA College 21.78 39 *eP* **P 22 23 56.6 +1.0**
COLA pmax pmax
comp=Z,23nm,0.9s,mb4.6
COLA College 21.78 39 *eP* **P 22 23 56.5 +0.9**
comp=Z,23nm,0.9s,mb4.6
ILAR Eielson Array 22.12 40 P **P 22 23 57.8 -1.5**
comp=Z,2.7nm,0.6s,mb3.9,baz=243,slow=8.5,SNR=24
ILAR ScP ScP 22 31 31.9 +2.4
comp=Z,0.4nm,0.6s,baz=276,slow=4.0,SNR=4.0
YSS Yuzh-Sakhalins 24.03 274 *eP* **P 22 24 19.0 +0.5**
DAWY Dawson 25.05 43 *eP* **P 22 24 27.9 +0.2**
ASAJ Asahikawa 25.41 268 P **P 22 24 31.1 +0.1**
comp=Z,28nm,0.8s,mb4.8,baz=67,slow=7.6,SNR=13
ASAJ LR LR 22 33 11.3
comp=Z,312nm,20.4s,MS3.8,baz=47,slow=34
ASAJ Asahikawa 25.41 268 P **P 22 24 31.1 +0.1**
ASAJ pmax pmax
comp=Z,28nm,0.8s
ASAJ MLR MLR
comp=Z,312nm,20.4s
INK Inuvik 28.27 35 P **P 22 24 56.5 -0.2**
comp=Z,15nm,1.0s,mb4.6,baz=256,slow=13,SNR=11
INK Inuvik 28.27 35 *eP* **P 22 24 57.0 +0.3**
INK pmax pmax
comp=Z,18nm,1.0s
INK Inuvik 28.27 35 *eP* **P 22 24 57.0 +0.3**
comp=Z,18nm,1.0s,mb4.7
YAK Yakutsk 28.50 311 *eP* **P 22 24 57.5 -1.2**
YAK pmax pmax
comp=Z,11nm,1.2s,mb4.4
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK MLR MLR
comp=Z,317nm,16.0s,MS4.0
YAK MLR MLR
comp=E,332nm,18.0s
KLR Kul'dur 29.95 285 *eP* **P 22 25 08.2 -3.4**
KLR pmax pmax
comp=E,20nm,1.2s
KLR pmax pmax
comp=Z,38nm,1.2s,mb5.0
TIXI Tiksi 30.07 331 *eP* **P 22 25 11.5 -1.2**
TIXI *eS* **S 22 30 05.4 -2.9**
TIXI pmax pmax
comp=Z,3.0nm,1.2s,mb3.9
TIXI smax
comp=N,134nm,20.4s
TIXI smax
comp=E,115nm,19.9s
TIXI MLR MLR
comp=Z,688nm,17.0s,MS4.4
MJAR Matsushiro Arr 32.49 259 LR LR 22 36 52.6
comp=Z,331nm,21.6s,MS4.0,baz=65,slow=33
MDJ Mudanjiang 33.30 278 P **P 22 25 41.0 -0.1**
MDJ AP pP 22 25 49.5 -2.8
MDJ XP sP 22 25 53.5 -3.6
MDJ PP PP 22 26 56.3 -0.6
MDJ S **S 22 30 59.5 +0.7**
MDJ XS sS 22 31 14.5 -2.9
MDJ SCP ScP 22 32 04.8 +1.2
MDJ PCS PcS 22 32 08.5 +0.4
MDJ AMB AMB
comp=Z,5.0nm,0.8s,mb4.5
MDJ AMB AMB
comp=Z,58nm,6.3s
MDJ LR LR
comp=N,57nm,19.1s,MS4.0
MDJ LR LR
comp=E,294nm,20.4s,MS4.0
MDJ LR LR
comp=Z,375nm,17.7s,MS4.2
YKW3 Yellowknife Ar 36.20 46 *eP* **P 22 26 05.2 -0.9**
YKA Yellowknife Ar 36.22 46 P **P 22 26 06.0 -0.3**
comp=Z,5.4nm,0.8s,mb4.5,baz=284,slow=8.6,SNR=26
YKA PcP PcP 22 28 30.2 -0.7
comp=Z,2.4nm,0.9s,baz=299,slow=2.9,SNR=5.0
YKA ScP ScP 22 32 15.7 +1.7
comp=Z,0.4nm,0.6s,baz=286,slow=3.1,SNR=4.4
YKA Yellowknife Ar 36.22 46 P **P 22 26 06.0 -0.3**
YKA 22 28 30.3
YKA Yellowknife Ar 36.22 46 P **P 22 26 06.0 -0.3**
YKA PcP PcP 22 28 30.2 -0.7
YKA ScP ScP 22 32 15.7 +1.7
CN2 Changchun 36.29 280 *eP* **P 22 26 05.8 -1.0**
CN2 *eXP* sP 22 26 19.8 -3.1
CN2 *eS* **S 22 31 45.8 +1.1**
CN2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
CN2 LR LR
comp=N,200nm,19.0s,MS4.3
CN2 LR LR
comp=E,400nm,19.0s,MS4.3
CN2 LR LR
comp=Z,500nm,21.0s,MS4.3
BOD Bodaibo 36.98 306 *eP* **P 22 26 11.3 -1.5**
BOD pmax pmax
comp=Z,14nm,1.2s,mb4.7
EDM Edmonton 39.98 60 *eP* **P 22 26 37.6 -0.3**
NEW Newport 40.12 68 *eP* **P 22 26 38.1 -1.0**
NEW pmax pmax
comp=Z,9.0nm,0.9s
NEW Newport 40.12 68 *eP* **P 22 26 38.0 -1.1**
comp=Z,8.8nm,0.9s,mb4.5
RES Resolute Bay 40.35 24 P **P 22 26 38.7 -2.3**
RES pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
RES Resolute Bay 40.35 24 P **P 22 26 38.7 -2.3**
comp=Z,6.7nm,0.9s,mb4.4
WALA Waterton Lakes 41.59 66 *eP* **P 22 26 51.3 +0.1**
comp=Z,14nm,1.1s,mb4.5
BMO Blue Mountains 41.76 73 *eP* **P 22 26 53.5 +0.9**
comp=Z,5.7nm,1.0s,mb4.2
WVOR Wild Horse Val 42.28 77 *eP* **P 22 26 56.2 -0.7**
WVOR pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
WVOR Wild Horse Val 42.28 77 *eP* **P 22 26 56.2 -0.7**
comp=Z,6.2nm,0.9s,mb4.2
HLID Hailey 44.21 73 *eP* **P 22 27 13.2 +0.8**
comp=Z,15nm,1.0s,mb4.7
MCMT McKenzie Canyo 44.43 70 *eP* **P 22 27 14.3 +0.1**
EGMT Eagleton 44.49 65 *eP* **P 22 27 14.0 -0.6**
comp=Z,4.1nm,0.8s,mb4.2
EGMT *e*PcP PcP 22 28 49.8 -7.7
BOZ Bozeman (W) 44.70 69 *eP* **P 22 27 16.2 -0.1**
BOZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
BOZ Bozeman (W) 44.70 69 *eP* **P 22 27 16.2 -0.1**
comp=Z,6.1nm,0.8s,mb4.5
NVAR Mina Array Bea 44.85 81 P **P 22 27 18.8 +1.3**
comp=Z,2.0nm,0.9s,mb4.0,baz=307,slow=6.4,SNR=4.9
TLY Talaya 45.01 302 *eP* **P 22 27 18.8 0.0**
TLY pmax pmax
comp=Z,6.0nm,1.3s,mb4.3
TLY MLR MLR
comp=Z,827nm,22.0s,MS4.6
ULN Ulaanbaatar 45.13 295 *eP* **P 22 27 19.6 -0.1**
ULN pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
ULN Ulaanbaatar 45.13 295 *eP* **P 22 27 19.6 -0.1**
comp=Z,7.0nm,0.9s,mb4.5
ELK Elko 45.34 77 *eP* **P 22 27 22.3 +0.9**
ELK pmax pmax
comp=Z,5.0nm,0.9s
ELK Elko 45.34 77 *eP* **P 22 27 22.3 +0.9**
comp=Z,4.8nm,0.9s,mb4.3
SONM Songino Array 45.52 296 P **P 22 27 23.0 +0.2**
comp=Z,3.2nm,0.6s,mb4.4,baz=58,slow=10,SNR=29
SONM ScP ScP 22 32 52.7 +2.1
comp=Z,0.4nm,0.9s,baz=82,slow=2.0,SNR=2.6
ZAK Zakamensk 45.88 300⇓ *eP* **P 22 27 25.9 +0.2**
ZAK *e* 22 28 59.7
ZAK pmax pmax
comp=Z,12nm,1.7s,mb4.5
ZAK pmax pmax
comp=Z,12nm,1.8s,mb4.5
HVU Hansel Valley 46.22 74 *eP* **P 22 27 29.6 +1.2**
HVU pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
HVU Hansel Valley 46.22 74 *eP* **P 22 27 29.6 +1.2**
comp=Z,7.0nm,0.8s,mb4.6
REDW Red Top Meadow 46.45 71 *eP* **P 22 27 29.6 -0.6**
comp=Z,4.5nm,0.9s,mb4.4
HHC Hu-ho-hao-te 46.46 285 *eP* **P 22 27 29.8 -0.4**
HHC AP pP 22 27 34.5 -7.3
HHC XP sP 22 27 37.0 -10
HHC PCP PcP 22 29 05.5 +1.1
HHC PP PP 22 29 19.0 -0.7
HHC SCP ScP 22 32 56.0 +1.5
HHC PCS PcS 22 32 58.0 -1.1
HHC S **S 22 34 16.5 +1.1**
HHC XS sS 22 34 24.0 -11
HHC SCS ScS 22 37 22.8 +0.9
HHC SS SS 22 37 34.8 -6.7
HHC AMB AMB
comp=Z,14nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,117nm,4.9s
HHC LR LR
comp=N,235nm,14.3s,MS4.4
HHC LR LR
comp=E,240nm,15.3s,MS4.4
HHC LR LR
comp=Z,221nm,14.9s,MS4.2
SSE Sheshan 46.70 268 P **P 22 27 30.0 -2.1**
SSE S **S 22 34 19.0 +0.1**
SSE AMB AMB
comp=Z,15nm,0.8s,mb5.0
SSE AMB AMB
comp=Z,115nm,3.8s
SSE LR LR
comp=N,38nm,26.2s,MS3.5
SSE LR LR
comp=E,58nm,26.2s,MS3.5
SSE LR LR
comp=Z,71nm,23.4s,MS3.5
SSE Sheshan 46.70 268 P **P 22 27 29.9 -2.2**
comp=Z,15nm,0.8s,mb5.0
SSE pP pP 22 27 33.0 -11
SSE sP sP 22 27 34.3 -14
SSE S **S 22 34 19.1 +0.2**
SSE sS sS 22 34 24.5 -13
SSE SS SS 22 37 46.8 +1.4
SSE LR LR
comp=Z,70nm,23.4s,MS3.5
FCC Fort Churchill 46.95 45 *eP* **P 22 27 32.8 -1.2**
FCC pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
FCC Fort Churchill 46.95 45 *eP* **P 22 27 32.8 -1.2**
comp=Z,2.8nm,0.9s,mb4.2
TPNV Topopah Spring 47.04 81 *eP* **P 22 27 35.4 +0.6**
TPNV pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
TPNV Topopah Spring 47.04 81 *eP* **P 22 27 35.4 +0.6**
comp=Z,8.2nm,0.8s,mb4.7
HWUT Hardware Ranch 47.05 73 *eP* **P 22 27 34.5 -0.3**
comp=Z,3.3nm,0.5s,mb4.5
DUG Dugway 47.15 76 *eP* **P 22 27 34.8 -0.8**
DUG pmax pmax
comp=Z,19nm,1.2s,mb4.9
DUG Dugway 47.15 76 *eP* **P 22 27 34.8 -0.8**
comp=Z,18nm,1.2s,mb4.9
NJ2 Nanjing 47.52 270 *eP* **P 22 27 41.0 +2.5**
NJ2 PP PP 22 29 31.3 +1.2
NJ2 S **S 22 34 33.0 +2.5**
NJ2 AMB AMB
comp=Z,270nm,5.5s
NJ2 LR LR
comp=N,360nm,26.6s,MS4.3
NJ2 LR LR
comp=E,370nm,29.5s,MS4.3
NJ2 LR LR
comp=Z,200nm,25.4s,MS4.0
BTO Baotou 47.54 285 *eP* **P 22 27 38.8 +0.1**
BTO AMB AMB
comp=Z,19nm,1.2s,mb5.0
BW06 Boulder Array 47.56 71 *eP* **P 22 27 39.3 +0.5**
comp=Z,13nm,0.9s,mb5.0
PDAR Pinedale Array 47.56 71 P **P 22 27 39.5 +0.7**
comp=Z,15nm,0.9s,mb5.0,baz=300,slow=3.9,SNR=65
DAU Daniels Canyon 47.96 75 *eP* **P 22 27 43.0 +1.1**
TMUT Trail Mountain 48.68 76 *eP* **P 22 27 48.8 +1.4**
RSSD Black Hills 49.98 66 P **P 22 27 56.3 -1.1**
RSSD pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
RSSD Black Hills 49.98 66 P **P 22 27 56.3 -1.1**
comp=Z,1.3nm,0.6s,mb4.1
SMCO Snowmass 51.31 73 *eP* **P 22 28 04.6 -2.8**
comp=Z,5.9nm,0.7s,mb4.6
DAG Danmarks Havn 51.70 5⇑ *iP* **P 22 28 10.0 -0.3**
comp=Z,2.5nm,0.4s,mb4.5
DAG Danmarks Havn 51.70 5⇑ *iP* **P 22 28 10.0 -0.3**
DAG pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
ISCO Idaho Springs 51.73 72 *eP* **P 22 28 11.5 +0.9**
ISCO pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
ISCO Idaho Springs 51.73 72 *eP* **P 22 28 11.5 +1.0**
comp=Z,5.9nm,1.0s,mb4.5
ZAL Zalesovo 53.15 313 P **P 22 28 20.0 -1.1**
comp=Z,1.6nm,0.5s,mb4.2,baz=70,slow=9.9,SNR=3.3
NVS Novosibirsk 53.30 314 *eP* **P 22 28 20.7 -1.5**
NVS pmax pmax
comp=Z,13nm,0.9s,mb4.9
NVS pmax pmax
comp=E,7.0nm,1.1s
SUMG Summit 53.68 13 *eP* **P 22 28 25.0 0.0**
comp=E,16nm,0.9s,mb4.9
LZH Lanzhou 54.16 285 *eP* **P 22 28 29.5 +1.1**
LZH AP pP 22 28 32.8 -7.4
LZH XP sP 22 28 34.0 -11
LZH PP PP 22 30 32.8 +2.5
LZH S **S 22 36 01.3 -1.1**
LZH *e*SS SS 22 39 43.5 -0.9
LZH AMB AMB
comp=Z,21nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,86nm,7.6s
LZH LR LR
comp=N,386nm,15.7s
LZH LR LR
comp=Z,570nm,18.2s,MS4.7
LZH Lanzhou 54.16 285 *eP* **P 22 28 29.5 +1.1**
LZH *PP pP 22 28 32.7 -7.5
LZH *SP sP 22 28 34.1 -11
LZH 22 30 32.7
LZH S **S 22 36 01.2 -1.2**
LZH *SS sS 22 36 20.3 -1.6
LZH *e*SS SS 22 39 43.5 -0.9
LZH pmax pmax
comp=Z,21nm,1.5s,mb4.8
LZH MLR MLR
comp=Z,570nm,18.2s,MS4.7
LZH Lanzhou 54.16 285 *eP* **P 22 28 29.5 +1.1**
comp=Z,21nm,1.5s,mb4.8
LZH pP pP 22 28 32.7 -7.5
LZH sP sP 22 28 34.1 -11
LZH PP PP 22 30 32.7 +2.4
LZH S **S 22 36 01.2 -1.2**
LZH sS sS 22 36 20.3 -1.6
LZH *e*SS SS 22 39 43.5 -0.9
LZH LR LR
comp=Z,570nm,18.2s,MS4.7
LAZ Ladron 54.32 78 *eP* **P 22 28 31.0 +1.4**
GTA Gaotai 54.39 291 *eP* **P 22 28 30.3 +0.2**
GTA AP pP 22 28 34.8 -7.0
GTA XP sP 22 28 37.5 -9.1
GTA PCP PcP 22 29 34.5 +1.0
GTA PP PP 22 30 33.8 +1.4
GTA PPP 22 31 43.5
GTA SCP ScP 22 33 30.5 +2.0
GTA PCS PcS 22 33 33.0 -0.1
GTA S **S 22 36 05.5 0.0**
GTA XS sS 22 36 13.0 -12
GTA SCS ScS 22 38 15.5 -0.5
GTA SS SS 22 39 46.8 -1.3
GTA AMB AMB
comp=Z,14nm,1.6s,mb4.6
GTA AMB AMB
comp=Z,114nm,7.2s
GTA LR LR
comp=N,188nm,16.3s,MS4.4
GTA LR LR
comp=E,215nm,17.5s,MS4.4
GTA LR LR
comp=Z,248nm,19.4s,MS4.3
MNTX Cornudas Mount 57.24 79 *eP* **P 22 28 51.0 +0.5**
comp=Z,2.5nm,0.8s,mb4.3
ARCES ARCESS Array B 57.94 349 P **P 22 28 52.4 -3.1**
comp=Z,1.2nm,1.0s,mb3.9,baz=9.2,slow=7.3,SNR=9.1
KURK Kurchatov 58.13 313 *eP* **P 22 28 56.5 -0.3**
KURK pmax pmax
comp=Z,11nm,0.5s,mb5.1
KURK Kurchatov 58.13 313 *eP* **P 22 28 56.5 -0.3**
comp=Z,11nm,0.5s,mb5.1
WMQ Urumqi 58.29 302⇓ *iP* **P 22 28 59.0 +1.1**
WMQ AP pP 22 29 09.0 -0.7
WMQ PCP PcP 22 29 50.0 +1.3
WMQ PP PP 22 31 10.0 +2.8
WMQ S **S 22 36 57.5 +0.3**
WMQ AMB AMB
comp=Z,9.0nm,0.7s,mb4.9
WMQ AMB AMB
comp=Z,144nm,5.0s
WMQ LR LR
comp=N,388nm,19.5s,MS4.7
WMQ LR LR
comp=E,438nm,20.8s,MS4.7
WMQ LR LR
comp=Z,663nm,20.8s,MS4.7
MKAR Makanchi Array 59.06 307 P **P 22 29 02.5 -0.7**
comp=Z,2.9nm,0.6s,mb4.5,baz=47,slow=5.9,SNR=45
WMOK Wichita Mounta 59.16 72 *eP* **P 22 29 03.6 -0.3**
WMOK pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
WMOK Wichita Mounta 59.16 72 *eP* **P 22 29 03.6 -0.3**
comp=Z,6.3nm,1.0s,mb4.6
CHKZ Chkalovo 59.53 319 *eP* **P 22 29 05.8 -0.8**
CHKZ pmax pmax
comp=Z,17nm,1.1s,mb5.0
CHKZ Chkalovo 59.53 319 *eP* **P 22 29 05.8 -0.8**
comp=Z,17nm,1.1s,mb5.0
BRVK Borovoye 60.12 319 *eP* **P 22 29 10.7 +0.1**
BRVK pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
BRVK Borovoye 60.12 319 *eP* **P 22 29 10.7 +0.1**
comp=Z,7.0nm,0.6s,mb4.9
ZRNK Zerenda 60.73 319 *eP* **P 22 29 14.8 +0.1**
ZRNK pmax pmax
comp=Z,20nm,0.7s,mb5.4
ZRNK Zerenda 60.73 319 *eP* **P 22 29 14.8 +0.1**
comp=Z,20nm,0.7s,mb5.4
SCHQ Schefferville 60.86 37 P **P 22 29 14.1 -1.6**
comp=Z,8.3nm,1.1s,mb4.8,baz=326,slow=4.9,SNR=5.5
SCHQ Schefferville 60.86 37 P **P 22 29 14.1 -1.6**
SVE Sverdlovsk 60.95 326 *eP* **P 22 29 17.0 +0.7**
SVE *e* 22 31 32.0
SVE *eS* **S 22 37 36.0 +4.4**
SVE MLR MLR
comp=N,200nm,16.0s,MS4.5
SVE MLR MLR
comp=E,200nm,16.0s,MS4.5
SVE MLR MLR
comp=Z,400nm,16.0s,MS4.7
ARU Arti 61.98 327⇑ *iP* **P 22 29 24.0 +0.8**
ARU *e* 22 30 02.9
ARU *e* 22 31 39.7
ARU *e*PPP 22 33 07.2
ARU *eS* **S 22 37 46.9 +2.3**
ARU *e*SS SS 22 41 50.2 +2.9
ARU pmax pmax
comp=Z,19nm,1.3s,mb5.1
ARU Arti 61.98 327 *eP* **P 22 29 23.8 +0.6**
comp=Z,11nm,0.6s,mb5.2
MIAR Mount Ida 62.37 69 *eP* **P 22 29 25.5 -0.3**
MIAR pmax pmax
comp=Z,15nm,1.1s,mb5.0
MIAR Mount Ida 62.37 69 *eP* **P 22 29 25.5 -0.3**
comp=Z,15nm,1.1s,mb5.0
KMI Kunming 62.45 276 P **P 22 29 25.8 -0.5**
KMI AP pP 22 29 31.5 -6.8
KMI XP sP 22 29 33.8 -9.1
KMI AMB AMB
comp=Z,5.0nm,0.9s,mb4.6
KMI Kunming 62.45 276 P **P 22 29 25.7 -0.6**
KMI *PP pP 22 29 31.5 -6.8
KMI pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
KMI Kunming 62.45 276 P **P 22 29 25.7 -0.6**
comp=Z,5.0nm,0.9s,mb4.6
KMI pP pP 22 29 31.5 -6.8
KMI sP sP 22 29 33.8 -9.1
JOF Joensuu 63.33 344 *ep* **P 22 29 30.6 -1.6**
comp=Z,2.3nm,0.5s,mb4.6
JOF Joensuu 63.33 344 *eP* **P 22 29 30.6 -1.6**
JOF pmax pmax
comp=Z,2.0nm,0.5s,mb4.5
KAF Kangasniemi 64.89 346 *ep* **P 22 29 40.6 -1.8**
comp=Z,1.1nm,0.4s,mb4.2
KAF Kangasniemi 64.89 346 *eP* **P 22 29 40.6 -1.8**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
PLAL Pickwick Lake 65.22 65 *eP* **P 22 29 44.5 -0.1**
comp=Z,9.1nm,0.8s,mb4.9
ULHL Ulahol 65.33 307 P **P 22 29 46.9 +1.6**
SNR=6.7
USP Ospenovka 65.44 309 P **P 22 29 46.7 +0.8**
SNR=9.3
FINES FINESS Array B 65.56 346 P **P 22 29 44.9 -1.9**
comp=Z,0.8nm,0.5s,mb4.0,baz=26,slow=5.8,SNR=9.6
FINES FINESS Array B 65.56 346 P **P 22 29 44.9 -1.9**
KBK Karagaybulak 65.67 308 P **P 22 29 48.3 +0.8**
SNR=6.6
AAK Ala-Archa 65.91 309 *eP* **P 22 29 47.8 -1.2**
AAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
AAK Ala-Archa 65.91 309 *eP* **P 22 29 47.8 -1.2**
comp=Z,7.1nm,0.9s,mb4.7
UCH Uchtor 66.20 308 P **P 22 29 52.1 +1.2**
SNR=5.0
EKS2 Erkin-Say 66.24 309 P **P 22 29 52.1 +1.0**
SNR=17
LSA Lhasa 66.24 288 *eP* **P 22 29 52.8 +1.7**
LSA pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
LSA Lhasa 66.24 288 *eP* **P 22 29 52.8 +1.6**
comp=Z,10nm,0.9s,mb4.9
AML Almayashu 66.68 309 P **P 22 29 55.0 +1.1**
SNR=9.0
ORR Orenburg 67.20 326 *eP* **P 22 29 58.8 +1.6**
ORR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ORR MLR MLR
comp=Z,280nm,18.0s,MS4.5
NB2 NORSAR Subarra 67.59 354 P **P 22 29 58.7 -1.0**
comp=Z,5.3nm,0.8s,mb4.6,baz=8.2,slow=6.2
NOA NORSAR Array B 67.59 354 P **P 22 29 58.5 -1.2**
comp=Z,4.6nm,0.9s,mb4.5,baz=8.2,slow=6.2,SNR=11
NOA LR LR 23 01 16.3
comp=Z,67nm,18.3s,MS3.9,baz=35,slow=38
NOA NORSAR Array B 67.59 354 P **P 22 29 58.5 -1.2**

NOA LR LR 23 01 16.3
CHTO Chiang Mai 69.46 275 *e*P **P** **22 30 11.0 -0.4**
CHTO pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
CHTO Chiang Mai 69.46 275 *e*P **P** **22 30 11.0 -0.4**
comp=Z,2.2nm,0.8s,mb4.1
OBN Obninsk 69.47 338 *e*P **P** **22 30 09.9 -1.6**
OBN pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
OBN MLR MLR
comp=Z,600nm,22.0s,MS4.8
GUN Gumba 70.68 291 *e*P **P** **22 30 20.2 +1.3**
comp=Z,63nm,0.8s,mb5.6
JIRN Jiri 70.68 290 *e*P **P** **22 30 20.0 +1.1**
comp=Z,112nm,1.1s,mb5.7
KKN Kakani 71.12 291 *e*P **P** **22 30 22.5 +1.0**
comp=Z,29nm,0.7s,mb5.3
KKN Kakani 71.12 291 *e*P **P** **22 30 22.5 +1.0**
KKN pmax pmax
comp=Z,29nm,0.7s,mb5.3
PKI Pulchoki 71.21 291 *e*P **P** **22 30 22.8 +0.7**
comp=Z,37nm,0.9s,mb5.3
PKI Pulchoki 71.21 291 *e*P **P** **22 30 22.8 +0.7**
PKI pmax pmax
comp=Z,37nm,0.9s,mb5.3
GKN Gorkha 71.34 291 *e*P **P** **22 30 23.4 +0.5**
comp=Z,38nm,0.8s,mb5.4
DMN Daman 71.36 291 *e*P **P** **22 30 23.9 +0.9**
KOLN Koldanda 72.11 292 *e*P **P** **22 30 28.1 +0.6**
comp=Z,24nm,0.9s,mb5.1
PPT Papeete 73.84 149 *e*LR LR 22 53 00.8
comp=Z,311nm,22.8s
AKASG Malin Array Be 75.21 341 P **P** **22 30 44.4 -1.3**
comp=Z,1.7nm,0.3s,mb4.4,baz=22,slow=6.1,SNR=11
CLL Collm 77.09 351 *e*P **P** **22 30 57.0 +0.6**
CLL Collm 77.09 351 *e*P **P** **22 31 00.0 +3.6**
CLL pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
CLL Collm 77.09 351 *e*P **P** **22 31 00.0 +3.6**
comp=Z,2.0nm,0.8s,mb4.1
KWP Kalwaria 77.45 345 *e*P **P** **22 30 58.1 -0.3**
KWP pmax pmax
comp=Z,16nm,1.0s,mb4.9
KWP Kalwaria 77.45 345 *e*P **P** **22 30 58.1 -0.3**
comp=Z,16nm,1.0s,mb4.9
STHS Stebnicka Huta 77.90 345 *e*P **P** **22 31 00.5 -0.4**
STHS pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
KECS Kecovo 78.93 346 *e*P **P** **22 31 06.8 +0.2**
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
BURAR Bucovina Array 78.95 342 ⇓*i*P **P** **22 31 08.0 +1.3**
BURAR Bucovina Array 78.95 342 ⇓P **P** **22 31 08.0 +1.3**
VYHS Vyhne 79.16 347 *e*P **P** **22 31 08.7 +0.8**
KHC Kasperske Hory 79.19 350 *e*P **P** **22 31 08.0 0.0**
WLF Walferdange 79.24 355 *e*P **P** **22 31 08.3 0.0**
WLF pmax pmax
comp=Z,13nm,1.2s,mb4.7
WLF Walferdange 79.24 355 *e*P **P** **22 31 08.3 +0.1**
comp=Z,13nm,1.2s,mb4.7
TBI Tubuai 79.30 151 *e*LR LR 22 55 38.9
comp=Z,380nm,22.5s
GERES GERESS Array B 79.46 350 LR LR 23 08 54.2
comp=Z,160nm,20.7s,MS4.3,baz=0.5,slow=38
WRAB Tennant Creek 81.06 222 *e*P **P** **22 31 16.4 -1.7**
WRAB pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
WRAB Tennant Creek 81.06 222 *e*P **P** **22 31 16.4 -1.6**
comp=Z,5.0nm,0.7s,mb4.5
WRA Warramunga Arr 81.07 222 P **P** **22 31 16.1 -2.1**
comp=Z,2.2nm,0.7s,mb4.2,baz=33,slow=6.2,SNR=14
WRA Warramunga Arr 81.07 222 P **P** **22 31 16.1 -2.0**
WRA pmax pmax
comp=Z,2.0nm,0.7s
PERS Pernice 81.48 349 *e*P **P** **22 31 20.8 +0.5**
PERS *e* 22 32 54.1
BZS Buzias 81.53 344 ⇓*i*P **P** **22 31 21.0 +0.4**
PSI Prapat 81.70 264 P **P** **22 31 20.9 -0.5**
comp=Z,3.6nm,0.4s,mb4.7,baz=39,slow=3.5,SNR=4.4
PSI Prapat 81.70 264 P **P** **22 31 20.9 -0.6**
PSI pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
CEY Cerknica 82.44 349 *e*P **P** **22 31 26.0 +0.6**
BOJS Bojanci 82.58 349 *e*P **P** **22 31 26.0 -0.1**
BOJS *e* 22 32 59.2
HYB Hyderabad 83.02 289 *i*P **P** **22 31 28.0 -0.4**
RKT Rikitea 84.36 138 *e*LR LR 22 57 53.3
comp=Z,204nm,24.8s
BRTR Keskin Array B 84.46 334 P **P** **22 31 36.4 +0.6**
comp=Z,2.4nm,0.7s,mb4.4,baz=33,slow=3.1,SNR=16
BRTR Keskin Array B 84.46 334 P **P** **22 31 36.4 +0.6**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 84.57 221 P **P** **22 31 34.6 -1.7**
comp=Z,1.6nm,0.7s,mb4.2,baz=22,slow=5.1,SNR=13
ASAR Alice Springs 84.57 221 P **P** **22 31 34.6 -1.7**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
TIP Timpagrande 88.59 346 *e*P **P** **22 31 55.1 -0.8**
MIB Mutribah 88.78 320 *e*P **P** **22 31 56.8 -0.1**
MIB AMb AMB 22 31 58.8
comp=Z,39nm,0.8s
NAY Al-Naaiem 89.31 319 *e*P **P** **22 31 59.1 -0.2**
NAY AMb AMB 22 32 00.3
comp=Z,12nm,0.9s,mb5.2
RDF Al-Radifah 89.47 319 *e*P **P** **22 32 00.3 +0.2**
RDF AMb AMB 22 32 01.3
comp=Z,33nm,0.8s,mb5.7
CPD Cerro la Pandu 90.71 60 *e*P **P** **22 32 04.3 -1.5**
RPZ Rata Peaks 94.89 186 LR LR 23 08 59.3
comp=Z,198nm,20.7s,MS4.6,baz=212,slow=32
KMBO Kilima Mbogo 120.60 314 PKP PKPdf 22 37 55.0 +0.4
comp=Z,0.6nm,0.7s,baz=235,slow=22,SNR=4.2
KMBO Kilima Mbogo 120.60 314 PKIKP PKPdf 22 37 55.0 +0.4
KMBO pmax pmax
comp=Z,1.0nm,0.7s
DBIC Dimbokro 122.16 5 PKP PKPdf 22 37 57.5 -0.2
comp=Z,1.4nm,0.4s,baz=65,slow=6.6,SNR=5.3
DBIC Dimbokro 122.16 5 PKIKP PKPdf 22 37 57.5 -0.1
DBIC pmax pmax
comp=Z,1.0nm,0.4s
TSUM Tsumeb 144.81 329 *e*PKPdf PKPdf 22 38 39.7 -0.1
BOSA Boshof 150.04 309 PKPbc PKPbc 22 38 53.0 -0.5
comp=Z,5.0nm,0.6s,baz=50,slow=3.2,SNR=10
BOSA Boshof 150.04 309 PKIKP PKPbc 22 38 53.0 -0.5
BOSA pmax pmax
comp=Z,5.0nm,0.6s
BOSA Boshof 150.04 309 *e*PKPdf PKPbc 22 38 53.7 +0.2

IDC ***27*** *22:20:34.2±0.6,5127N×17909E,h0km,mb4.4/19, mb1 4.6/20,mb1mx4.5/26,mbtmp4.5/20,ML5.1/1,MS4.3/3, Ms1 4.2/3,ms1mx3.5/27,Error ellipse: s-maj=21.6km s-min=12.9km az=157.0*
MOS ***27*** *22:20:34.8±1.1,5134N×179.10E,h10km,mb4.8/19,Error ellipse: s-maj=12.2km s-min=10.0km az=100.1*
BJI ***27*** *22:20:34.5,5131N×17974E,h33km,mB4.9,mb4.9,Ms4.5, Msz4.2*
NEIC ***27*** *22:20:36.9±0.4,5110N×17909E,h15km,mb4.7/20, MS4.2/1,ML4.8(AEIC),Error ellipse: s-maj=11.7km s-min=6.1km az=171.0*
ISCJB ***27*** *22:20:39.4±0.7,5129N±009×17909E±006,h42km±5km, mb4.6/50,MS4.4/5,Error ellipse: s-maj=15.6km s-min=6.3km az=171.4*
ISC 27 22:20:40.5±0.7,5131N±009×17909E±006,h37km±5km, n113,σ1§07/104,mb4.6/50,MS4.4/5,4C-3D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**0.15**	**63**	P	**Pn**	**22 20 45.9**	**-1.1**
AMKA				S	**Sn**	**22 20 51.8**	**+0.3**
SMY	**Shemya**	**3.40**	**297**	P	**Pn**	**22 21 31.6**	**+0.7**
KDAK	**Kodiak Island**	**17.57**	**57**	P	**Pn**	**22 24 38.8**	**-3.7**
	5.8nm,0.3s,baz=275,slow=7.2,SNR=13						
TTA	**Tatalina**	**17.69**	**39**	*e*P	**Pn**	**22 24 46.2**	**+2.3**
BILL	**Bilibino**	**17.91**	**344**	⇓*i*P	**Pn**	**22 24 50.2**	**+3.6**
BILL				pmax	pmax		
	comp=Z,22nm,0.9s						
BILL				MLR	MLR		
	comp=Z,500nm,16.0s						
BILL	**Bilibino**	**17.91**	**344**	*e*Pn	**Pn**	**22 24 49.8**	**+3.1**
COLA	**College**	**21.79**	**39**	*e*P	**P**	**22 25 30.0**	**+0.9**
COLA				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.5						
COLA	**College**	**21.79**	**39**	*e*P	**P**	**22 25 30.0**	**+0.9**
	comp=Z,17nm,0.8s,mb4.5						
ILAR	**Eielson Array**	**22.13**	**40**	P	**P**	**22 25 30.6**	**-2.2**
	comp=Z,2.9nm,0.6s,mb3.9,baz=239,slow=7.7,SNR=7.9						
ILAR				PcP	PcP	22 29 27.7	-1.3
	comp=Z,1.2nm,0.6s,baz=285,slow=3.5,SNR=7.3						
ILAR				ScP	ScP	22 33 03.2	-0.2
	comp=Z,0.6nm,0.7s,baz=270,slow=3.2,SNR=5.1						
ILAR	**Eielson Array**	**22.13**	**40**	P	**P**	**22 25 30.6**	**-2.2**
ILAR						22 29 27.7	
YSS	**Yuzh-Sakhalins**	**24.01**	**274**	*e*P	**P**	**22 25 52.0**	**+0.3**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.7						
YSS	**Yuzh-Sakhalins**	**24.01**	**274**	*e*P	**P**	**22 25 52.1**	**+0.5**
	comp=Z,12nm,0.9s,mb4.3						
DAWY	**Dawson**	**25.06**	**43**	*e*P	**P**	**22 26 04.0**	**+2.7**
ASAJ	**Asahikawa**	**25.38**	**268**	P	**P**	**22 26 03.9**	**-0.3**
	comp=Z,34nm,0.8s,mb4.9,baz=66,slow=5.0,SNR=11						
ASAJ	**Asahikawa**	**25.38**	**268**	P	**P**	**22 26 03.9**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,34nm,0.8s						
INK	**Inuvik**	**28.27**	**35**	P	**P**	**22 26 29.4**	**-0.9**
	comp=Z,2.5nm,0.6s,mb4.1,baz=241,slow=6.0,SNR=5.8						
DLBC	**Dease Lake**	**29.50**	**56**	LR	LR	22 36 56.9	
	comp=Z,474nm,21.0s,MS4.1,baz=262,slow=33						
KLR	**Kul'dur**	**29.92**	**285**	*e*P	**P**	**22 26 41.6**	**-3.3**
KLR				pmax	pmax		
	comp=E,20nm,1.2s						
KLR				pmax	pmax		
	comp=Z,38nm,1.2s,mb5.0						
MJAR	**Matsushiro Arr**	**32.47**	**259**	P	**P**	**22 27 06.5**	**-0.8**
	comp=Z,2.2nm,1.0s,mb3.9,baz=45,slow=8.1,SNR=5.4						
MJAR				PcP	PcP	22 29 53.5	-0.3
	comp=Z,0.7nm,0.7s,baz=61,slow=4.1,SNR=4.2						
YKA	**Yellowknife Ar**	**36.23**	**46**	P	**P**	**22 27 39.2**	**-0.7**
	comp=Z,4.2nm,0.6s,mb4.5,baz=281,slow=8.0,SNR=9.6						
YKA				PcP	PcP	22 30 04.2	-0.3
	comp=Z,2.8nm,0.9s,baz=291,slow=2.9,SNR=8.7						
YKA				ScP	ScP	22 33 48.6	+0.6
	comp=Z,0.9nm,0.7s,baz=296,slow=2.9,SNR=5.6						
YKA				LR	LR	22 42 06.9	
	comp=Z,364nm,18.3s,MS4.2,baz=270,slow=36						
YKA	**Yellowknife Ar**	**36.23**	**46**	P	**P**	**22 27 39.2**	**-0.7**
YKA						22 30 04.2	
YKA	**Yellowknife Ar**	**36.23**	**46**	P	**P**	**22 27 39.2**	**-0.7**
YKA				PcP	PcP	22 30 04.2	-0.3
YKA				ScP	ScP	22 33 48.6	+0.6
YKA				LR	LR	22 42 06.9	
BOD	**Bodaibo**	**36.95**	**306**	*e*P	**P**	**22 27 44.2**	**-1.8**
BOD				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.9						
CIT	**Chita**	**39.41**	**298**	*e*P	**P**	**22 28 07.3**	**+0.6**
CIT				pmax	pmax		
	comp=Z,25nm,1.0s,mb4.9						
NEW	**Newport**	**40.14**	**68**	*e*P	**P**	**22 28 12.2**	**-0.6**
NEW				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NEW	**Newport**	**40.14**	**68**	*e*P	**P**	**22 28 12.2**	**-0.6**
	comp=Z,5.7nm,0.8s,mb4.3						
WALA	**Waterton Lakes**	**41.61**	**66**	*e*P	**P**	**22 28 25.1**	**+0.3**
	comp=Z,10nm,1.1s,mb4.4						
BMO	**Blue Mountains**	**41.78**	**73**	*e*P	**P**	**22 28 26.4**	**+0.1**
BMO				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
BMO	**Blue Mountains**	**41.78**	**73**	*e*P	**P**	**22 28 26.4**	**+0.1**
	comp=Z,2.7nm,0.6s,mb4.0						
WVOR	**Wild Horse Val**	**42.31**	**77**	*e*P	**P**	**22 28 31.3**	**+0.8**
WVOR				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.3						
WVOR	**Wild Horse Val**	**42.31**	**77**	*e*P	**P**	**22 28 31.3**	**+0.8**
	comp=Z,5.6nm,0.7s,mb4.3						
BJI	**Beijing**	**44.09**	**281**	*e*P	**P**	**22 28 45.0**	**0.0**
BJI				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.6						
BJI				AMB	AMB		
	comp=Z,124nm,4.1s						
BJI				LR	LR		
	comp=N,254nm,18.0s,MS4.3						
BJI				LR	LR		
	comp=E,288nm,20.5s,MS4.3						
BJI				LR	LR		
	comp=Z,307nm,20.7s,MS4.2						
BJI	**Beijing**	**44.09**	**281**	*e*P	**P**	**22 28 45.1**	**+0.1**
	comp=Z,13nm,1.0s,mb4.6						
BJI				LR	LR		
	comp=Z,310nm,20.7s,MS4.2						
HLID	**Hailey**	**44.23**	**73**	*e*P	**P**	**22 28 46.6**	**+0.5**
	comp=Z,12nm,1.2s,mb4.5						
MCMT	**McKenzie Canyo**	**44.45**	**70**	*e*P	**P**	**22 28 48.1**	**+0.3**
BOZ	**Bozeman (W)**	**44.72**	**69**	*e*P	**P**	**22 28 49.8**	**-0.1**
NVAR	**Mina Array Bea**	**44.87**	**81**	P	**P**	**22 28 52.2**	**+1.0**
	comp=Z,3.0nm,0.9s,mb4.1,baz=297,slow=8.0,SNR=4.1						
TLY	**Talaya**	**44.98**	**302**	*e*P	**P**	**22 28 52.4**	**+0.4**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
ULN	**Ulaanbaatar**	**45.10**	**295**	*e*P	**P**	**22 28 53.5**	**+0.5**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
ULN	**Ulaanbaatar**	**45.10**	**295**	*e*P	**P**	**22 28 53.5**	**+0.5**
	comp=Z,8.9nm,1.0s,mb4.5						
FFC	**Flin Flon**	**45.25**	**53**	*e*P	**P**	**22 29 00.2**	**+6.0**
	comp=Z,9.2nm,0.9s,mb4.6						
ELK	**Elko**	**45.36**	**77**	*e*P	**P**	**22 28 55.7**	**+0.6**
SONM	**Songino Array**	**45.49**	**296**	P	**P**	**22 28 56.4**	**+0.3**
	comp=Z,5.3nm,0.8s,mb4.4,baz=61,slow=8.2,SNR=12						
SONM				PcP	PcP	22 30 34.0	-0.6
	comp=Z,1.7nm,0.8s,baz=80,slow=2.4,SNR=3.9						
SONM				ScP	ScP	22 34 28.1	+3.7
	comp=Z,0.4nm,0.8s,baz=64,slow=3.4,SNR=2.9						
SONM	**Songino Array**	**45.49**	**296**	P	**P**	**22 28 56.4**	**+0.3**
SONM						22 30 34.0	
FCC	**Fort Churchill**	**46.96**	**45**	*e*P	**P**	**22 29 05.9**	**-1.7**
FCC				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
FCC	**Fort Churchill**	**46.96**	**45**	*e*P	**P**	**22 29 05.8**	**-1.8**
	comp=Z,10nm,1.1s,mb4.7						
HWUT	**Hardware Ranch**	**47.08**	**73**	*e*P	**P**	**22 29 08.9**	**+0.3**
	comp=Z,3.7nm,0.6s,mb4.5						
DUG	**Dugway**	**47.17**	**76**	*e*P	**P**	**22 29 09.0**	**-0.3**
BW06	**Boulder Array**	**47.59**	**71**	*e*P	**P**	**22 29 12.7**	**+0.1**
	comp=Z,8.3nm,0.8s,mb4.8						
PDAR	**Pinedale Array**	**47.59**	**71**	P	**P**	**22 29 12.7**	**+0.1**
	comp=Z,13nm,0.9s,mb5.0,baz=304,slow=3.9,SNR=13						
DAU	**Daniels Canyon**	**47.98**	**74**	*e*P	**P**	**22 29 16.8**	**+1.2**
ISCO	**Idaho Springs**	**51.75**	**72**	*e*P	**P**	**22 29 44.7**	**+0.5**
ISCO				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
ISCO	**Idaho Springs**	**51.75**	**72**	*e*P	**P**	**22 29 44.7**	**+0.5**
	comp=Z,4.8nm,1.0s,mb4.4						
XAN	**Xi'an**	**52.37**	**279**	P	**P**	**22 29 48.5**	**-0.3**
XAN				AP	pP	22 29 54.0	-5.7
XAN				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.7						
ZAL	**Zalesovo**	**53.13**	**313**	P	**P**	**22 29 52.9**	**-1.5**
	comp=Z,1.3nm,0.5s,mb4.1,baz=76,slow=7.3,SNR=3.7						
ZAL				PcP	PcP	22 31 02.3	0.0
	comp=Z,1.6nm,0.7s,baz=111,slow=3.6,SNR=3.5						
ZAL	**Zalesovo**	**53.13**	**313**	P	**P**	**22 29 52.9**	**-1.5**
ZAL				PcP	PcP	22 31 02.3	0.0
NVS	**Novosibirsk**	**53.27**	**314**	*e*P	**P**	**22 29 53.6**	**-1.9**
NVS				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
NVS				pmax	pmax		
	comp=E,13nm,1.1s						
SUMG	**Summit**	**53.67**	**13**	*e*P	**P**	**22 29 58.4**	**-0.1**
	comp=E,18nm,1.0s,mb5.0						
ARCES	**ARCESS Array B**	**57.92**	**349**	P	**P**	**22 30 27.2**	**-1.7**
	comp=E,1.6nm,0.6s,mb4.2,baz=19,slow=8.9,SNR=3.1						
GYA	**Guiyang**	**59.01**	**275**	*e*P	**P**	**22 30 36.5**	**0.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
MKAR	**Makanchi Array**	**59.03**	**307**	P	**P**	**22 30 35.7**	**-0.9**
	comp=Z,3.5nm,0.5s,mb4.6,baz=50,slow=5.5,SNR=12						
MKAR	**Makanchi Array**	**59.03**	**307**	P	**P**	**22 30 35.7**	**-0.9**
SCHQ	**Schefferville**	**60.87**	**37**	P	**P**	**22 30 47.4**	**-1.8**
	comp=Z,2.8nm,0.6s,mb4.6,baz=1.5,slow=8.3,SNR=4.6						
SCHQ	**Schefferville**	**60.87**	**37**	P	**P**	**22 30 47.4**	**-1.8**
ARU	**Arti**	**61.95**	**327**	*e*P	**P**	**22 30 56.6**	**+0.1**
ARU	**Arti**	**61.95**	**327**	*e*P	**P**	**22 30 57.0**	**+0.4**
JOF	**Joensuu**	**63.31**	**344**	*e*p	**P**	**22 31 01.6**	**-4.0**
	comp=Z,3.1nm,0.6s,mb4.6						
JOF	**Joensuu**	**63.31**	**344**	*e*P	**P**	**22 31 01.6**	**-4.0**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
KAF	**Kangasniemi**	**64.87**	**346**	*e*p	**P**	**22 31 13.9**	**-1.9**
	comp=Z,2.9nm,0.7s,mb4.4						
KAF	**Kangasniemi**	**64.87**	**346**	*e*P	**P**	**22 31 13.9**	**-1.9**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
PLAL	**Pickwick Lake**	**65.24**	**65**	*e*P	**P**	**22 31 17.5**	**-0.7**
ULHL	**Ulahol**	**65.30**	**307**	P	**P**	**22 31 19.4**	**+0.8**
	SNR=7.3						
USP	**Ospenovka**	**65.41**	**309**	P	**P**	**22 31 20.3**	**+1.0**
	SNR=8.1						
FINES	**FINESS Array B**	**65.55**	**346**	P	**P**	**22 31 18.1**	**-2.1**
	comp=Z,1.5nm,0.7s,mb4.1,baz=5.7,slow=9.6,SNR=5.3						
KBK	**Karagaybulak**	**65.64**	**308**	P	**P**	**22 31 21.5**	**+0.7**
	SNR=6.0						
EKS2	**Erkin-Say**	**66.21**	**309**	P	**P**	**22 31 25.2**	**+0.7**
	SNR=11						
AML	**Almayashu**	**66.65**	**309**	P	**P**	**22 31 28.7**	**+1.4**
	SNR=7.1						
NB2	**NORSAR Subarra**	**67.58**	**354**	P	**P**	**22 31 32.3**	**-0.9**
	comp=Z,2.6nm,0.7s,mb4.4,baz=8.6,slow=6.5						
NOA	**NORSAR Array B**	**67.58**	**354**	P	**P**	**22 31 32.5**	**-0.7**
	comp=Z,3.8nm,0.7s,mb4.5,baz=9.0,slow=6.3,SNR=9.3						
OBN	**Obninsk**	**69.45**	**338**	*e*P	**P**	**22 31 44.1**	**-0.8**
OBN				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
OBN				MLR	MLR		
	comp=Z,500nm,17.0s,MS4.8						
GUN	**Gumba**	**70.65**	**291**	*e*P	**P**	**22 31 53.4**	**+1.2**
	comp=Z,75nm,0.8s,mb5.7						
JIRN	**Jiri**	**70.65**	**290**	*e*P	**P**	**22 31 53.4**	**+1.2**
	comp=Z,95nm,1.0s,mb5.7						
KKN	**Kakani**	**71.09**	**291**	*e*P	**P**	**22 31 55.7**	**+0.8**
	comp=Z,37nm,0.6s,mb5.5						
KKN	**Kakani**	**71.09**	**291**	*e*P	**P**	**22 31 55.7**	**+0.8**
KKN				pmax	pmax		
	comp=Z,37nm,0.6s,mb5.5						
PKI	**Pulchoki**	**71.18**	**291**	*e*P	**P**	**22 31 56.3**	**+0.9**
GKN	**Gorkha**	**71.31**	**291**	*e*P	**P**	**22 31 56.6**	**+0.4**
	comp=Z,66nm,1.0s,mb5.5						
DMN	**Daman**	**71.33**	**291**	*e*P	**P**	**22 31 57.4**	**+1.1**
	comp=Z,37nm,0.9s,mb5.3						
KOLN	**Koldanda**	**72.09**	**292**	*e*P	**P**	**22 32 01.6**	**+0.7**
	comp=Z,28nm,0.9s,mb5.2						
AKASG	**Malin Array Be**	**75.19**	**341**	P	**P**	**22 32 18.2**	**-0.9**
	comp=Z,2.9nm,0.5s,mb4.5,baz=21,slow=6.1,SNR=9.0						
CLL	**Collm**	**77.08**	**351**	*i*P	**P**	**22 32 30.5**	**+0.6**
STHS	**Stebnicka Huta**	**77.88**	**345**	*e*P	**P**	**22 32 34.5**	**+0.1**
KOLS	**Kolonicke sedl**	**78.19**	**345**	*e*P	**P**	**22 32 39.2**	**+3.2**
BURAR	**Bucovina Array**	**78.93**	**342**	⇓*i*P	**P**	**22 32 40.3**	**+0.2**
BURAR	**Bucovina Array**	**78.93**	**342**	⇓P	**P**	**22 32 40.3**	**+0.2**
ZST	**Bratislava**	**79.68**	**348**	*e*P	**P**	**22 32 42.8**	**-1.4**
MLR	**Muntele Rosu**	**80.83**	**341**	⇑*i*P	**P**	**22 32 51.8**	**+1.4**
MLR	**Muntele Rosu**	**80.83**	**341**	⇑P	**P**	**22 32 51.8**	**+1.4**
WRA	**Warramunga Arr**	**81.06**	**222**	P	**P**	**22 32 49.7**	**-2.0**
	comp=Z,3.9nm,0.8s,mb4.4,baz=31,slow=5.8,SNR=12						
BZS	**Buzias**	**81.51**	**344**	⇑*i*P	**P**	**22 32 55.0**	**+1.0**
BZS	**Buzias**	**81.51**	**344**	⇑P	**P**	**22 32 55.0**	**+0.9**
PSI	**Prapat**	**81.67**	**264**	P	**P**	**22 32 54.8**	**-0.1**
	comp=Z,4.8nm,0.6s,mb4.6,baz=32,slow=18,SNR=3.6						
HYB	**Hyderabad**	**82.99**	**289**	*i*P	**P**	**22 33 02.0**	**+0.2**
BRTR	**Keskin Array B**	**84.44**	**334**	P	**P**	**22 33 09.4**	**+0.2**
	comp=Z,3.4nm,0.8s,mb4.5,baz=50,slow=3.1,SNR=15						
ASAR	**Alice Springs**	**84.56**	**221**	P	**P**	**22 33 08.4**	**-1.3**
	comp=Z,3nm,0.7s,mb4.4,baz=26,slow=5.3,SNR=13						
STKA	**Stephens Creek**	**89.17**	**211**	LR	LR	23 11 27.6	
	comp=Z,178nm,18.9s,MS4.5,baz=10,slow=34						
TORD	**Torodi Ar. Bea**	**115.77**	**357**	PKP	PKPdf	22 39 17.6	-1.4
	comp=Z,0.4nm,0.5s,baz=337,slow=1.8,SNR=7.2						
KMBO	**Kilima Mbogo**	**120.57**	**314**	PKP	PKPdf	22 39 27.5	-0.6
	comp=Z,0.8nm,0.8s,baz=26,slow=23,SNR=4.4						
KMBO	**Kilima Mbogo**	**120.57**	**314**	PKIKP	PKPdf	22 39 27.5	-0.7
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.8s						
DBIC	**Dimbokro**	**122.15**	**5**	PKP	PKPdf	22 39 29.9	-1.3
	comp=Z,1.5nm,0.5s,baz=124,slow=6.6,SNR=4.8						
DBIC	**Dimbokro**	**122.15**	**5**	PKIKP	PKPdf	22 39 29.9	-1.3
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.5s						
PLCA	**Paso Flores**	**132.22**	**106**	PKP	PKPdf	22 39 48.9	-1.5
	comp=Z,2.6nm,1.1s,baz=180,slow=2.0,SNR=2.9						
PLCA	**Paso Flores**	**132.22**	**106**	PKIKP	PKPdf	22 39 48.9	-1.5
PLCA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BOSA	**Boshof**	**150.02**	**309**	PKPbc	PKPbc	22 40 26.9	-0.1
	comp=Z,7.5nm,0.8s,baz=102,slow=5.3,SNR=6.9						

ISCJB ***27*** *22:24:09.6±0.4,3198S±003×6844W±005,h122km±4km, mb4.0/6,Error ellipse: s-maj=6.6km s-min=5.3km az=12.3*
IDC ***27*** *22:24:09.8±0.8,3192S×6859W,h108km±4km,mb3.7/5, mb1 3.8/10,mb1mx3.6/19,mbtmp4.0/10,Error ellipse: s-maj=26.7km s-min=14.6km az=104.0*
NEIC ***27*** *22:24:10.1±0.5,3199S×6839W,h120km±6km,mb4.7/2, Error ellipse: s-maj=9.6km s-min=6.9km az=104.0*
GUC ***27*** *22:24:10.8±0.8,3201S×6865W,h150km,MD4.1,ML4.2*
ISC 27 22:24:10.5±0.4,3198S±003×6843W±005,h118km±4km, n52,σ1§09/60,mb4.0/6,7C-10D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**0.41**	**23**	P	**Pn**	**22 24 27.2**	**-0.5**
	25nm,0.3s,baz=201,slow=5.8,SNR=3524						
CFAA				S	**Sn**	**22 24 40.0**	**-0.6**
	110nm,0.3s,baz=24,slow=19,SNR=192						
CFAA	**Coronel Fontan**	**0.41**	**23**	P	**Pn**	**22 24 27.2**	**-0.5**
CFAA				S	**Sn**	**22 24 40.0**	**-0.6**
MDZ	**Mendoza**	**0.97**	**202**	⇑*i*P	**Pn**	**22 24 31.9**	**-0.1**
MDZ				*i*		22 24 46.8	
MDZ				*i* S	**Sn**	**22 24 49.6**	**+1.3**
JACH	**Jahuel**	**1.96**	**249**	⇓*i*P	**Pn**	**22 24 44.2**	**+0.8**
**F

PLCA	**Paso Flores**		**8.90**	**190**	*e*Pn		**Pn**	**22 26 14.6**	**-1.6**
LVC	**Limon Verde**		**9.34**	**357**	P		**Pn**	**22 26 20.3**	**-1.8**
	comp=N,2.6nm,0.3s,baz=185,slow=8.4,SNR=21								
LVC					S		**Sn**	**22 27 57.4**	**-7.8**
	comp=N,1.2nm,0.3s,baz=129,slow=15,SNR=2.5								
LVC	**Limon Verde**		**9.34**	**357**	*e*Pn		**Pn**	**22 26 20.7**	**-1.5**
LVC					S		**Sn**	**22 27 57.5**	**-7.8**
CPUP	**Villa Florida**		**11.21**	**63**	P		**Pn**	**22 26 48.0**	**+0.7**
	comp=N,0.5nm,0.3s,baz=206,slow=12,SNR=4.2								
CPUP	**Villa Florida**		**11.21**	**63**	*e*Pn		**Pn**	**22 26 45.9**	**-1.4**
LPAZ	**La Paz**		**15.62**	**1**	P		**Pn**	**22 27 45.3**	**+1.1**
	comp=N,0.5nm,0.3s,baz=183,slow=8.5,SNR=18								
LPAZ	**La Paz**		**15.62**	**1**	*e*P		**Pn**	**22 27 46.0**	**+1.9**
SIV	**San Ignacio**		**17.27**	**25**	P		**Pn**	**22 28 03.8**	**-0.5**
	comp=N,0.6nm,0.3s,baz=204,slow=13,SNR=18								
BDFB	**Brasilia**		**24.69**	**54**	P		**Pn**	**22 29 23.1**	**+2.5**
	comp=N,1.9nm,0.5s,mb3.8,baz=205,slow=7.4,SNR=3.2								
OTAV	**Otavalo**		**33.42**	**342**	*e*P		**P**	**22 30 35.8**	**-2.1**
VNA3	**Neumayer Olymp**		**50.11**	**159**	*e*PKPdf		**P**	**22 32 56.0**	**+2.4**
VNA3					*e*			22 32 57.3	
VNA3					*e*			22 33 01.5	
VNA3					*e*			22 33 07.7	
VNA2	**Neumayer--Watz**		**50.72**	**158**	*e*PKPdf		**P**	**22 32 58.4**	**+0.2**
VNA2					*e*			22 33 00.3	
VNA2					*e*			22 33 02.2	
VNA2					*e*			22 33 09.9	
SNAA	**Sanae**		**52.33**	**159**	P		**P**	**22 33 10.1**	**-0.1**
	comp=N,1.0nm,0.5s,mb4.1,baz=283,slow=9.8,SNR=5.6								
SNAA					pP		pP	22 33 37.8	-0.1
	comp=N,1.4nm,0.8s,baz=270,slow=9.1,SNR=4.0								
QSPA	**South Pole Qui**		**58.25**	**180**	*e*P		**P**	**22 34 00.2**	**+7.6**
	comp=N,3.6nm,0.6s,mb4.6								
TORD	**Torodi Ar. Bea**		**80.66**	**68**	P		**P**	**22 36 11.3**	**+1.0**
	comp=N,1.0nm,0.7s,mb3.8,baz=284,slow=5.8,SNR=12								
TORD					pP		pP	22 36 39.9	-0.3
	comp=N,0.9nm,0.7s,baz=280,slow=6.3,SNR=4.8								
TORD					sP		sP	22 36 51.9	-0.8
	comp=N,1.2nm,0.7s,baz=268,slow=4.8,SNR=4.7								
PDAR	**Pinedale Array**		**83.41**	**331**	P		**P**	**22 36 24.6**	**-0.1**
	comp=N,0.9nm,0.7s,mb3.7,baz=151,slow=3.4,SNR=6.1								
ULM	**Lac du Bonnet**		**85.41**	**343**	P		**P**	**22 36 33.3**	**-1.5**
	comp=N,2.5nm,0.8s,mb4.2,baz=201,slow=4.3,SNR=4.6								
WRA	**Warramunga Arr**		**123.95**	**206**	PKP		PKPdf	22 42 55.0	+0.2
	comp=N,0.6nm,0.6s,baz=169,slow=1.6,SNR=5.3								
AAK	**Ala-Archa**		**148.87**	**59**	*e*PKPbc		PKPbc	22 43 41.1	-3.2
ZAL	**Zalesovo**		**150.89**	**33**	PKPbc		PKPbc	22 43 49.4	+0.1
	comp=N,3.4nm,0.7s,baz=140,slow=1.3,SNR=18								
ZAL					pPKPbc		pPKPbc	22 44 19.4	-1.4
	comp=N,2.2nm,0.5s,baz=112,slow=3.2,SNR=4.6								
MKAR	**Makanchi Array**		**153.16**	**48**	PKPbc		PKPbc	22 43 53.9	-0.5
	comp=N,0.5nm,0.7s,baz=310,slow=1.4,SNR=5.6								
MKAR					PKPab		PKPab	22 44 06.8	+0.3
	comp=N,0.5nm,0.7s,baz=306,slow=4.4,SNR=6.2								
MKAR					pPKPbc		pPKPbc	22 44 23.7	-2.4
	comp=N,0.3nm,0.7s,baz=302,slow=3.4,SNR=3.2								
MKAR	**Makanchi Array**		**153.16**	**48**	PKPbc		PKPbc	22 43 53.9	-0.5
MKAR					PKPab		PKPab	22 44 06.8	+0.3
MKAR					pPKPbc		pPKPbc	22 44 23.7	-2.4
SONM	**Songino Array**		**163.68**	**12**	PKPab		PKPab	22 44 52.4	+0.3
	comp=N,0.4nm,0.5s,baz=337,slow=4.5,SNR=3.0								

MOS ***27*** *22:31:25.2±0.3, 5456N×16194E, h19km, mb4.2/1, Error ellipse: s-maj=27.4km s-min=12.8km az=76.8*
KRSC 27 22:31:26.0±0.6, 5460N×16186E, h19km±1km, ML4.1, 1C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.09**	**240**	*i* P	Pg	22 31 30.4	+0.7
MKZ				*e*S	Sg	22 31 33.3	+1.1
TUMR	**Tumrok**	**1.20**	**305**	*i* P	Pn	22 31 47.7	-0.1
ZLN	**Zelenaya**	**1.54**	**337**	*i* P	Pn	22 31 53.1	+0.6
ZLN				*e*S	Sn	22 32 12.8	+0.8
LGNR	**Loginova**	**1.63**	**336**	*i* P	Pn	22 31 54.7	+1.0
LGNR				*i* S	Sn	22 32 15.6	+1.5
CIRR	**Tsirk**	**1.65**	**338**	*i* P	Pn	22 31 54.7	+0.8
CIRR				*i* S	Sn	22 32 15.6	+1.1
KPT	**Kopyto**	**1.66**	**326**	*i* P	Pn	22 31 54.5	+0.4
KPT				*i* S	Sn	22 32 15.0	+0.2
KBTR	**Krutoberegovo**	**1.70**	**18**	P	Pn	22 31 55.0	+0.3
KBTR				S	Sn	22 32 16.2	+0.3
KBTR	**Krutoberegovo**	**1.70**	**18**	*e*P	Pn	22 31 54.9	+0.2
KBG	**Krutoberegovo**	**1.73**	**16**	*e*P	Pn	22 31 56.4	+1.4
KBG				Smax			
	710nm,0.7s						
KRSR	**Krestovskiy**	**1.78**	**336**	*i* P	Pn	22 31 55.9	+0.2
KRSR				*e*S	Sn	22 32 18.9	+1.1
KOZR	**Kozyr**	**1.85**	**323**	PN	Pn	22 31 57.9	+1.2
KOZR				S	Sn	22 32 21.6	+2.1
KLY	**Klyuchi**	**1.85**	**339**	*e*P	Pn	22 31 56.7	0.0
KLY				*e*S	Sn	22 32 19.3	-0.2
KOZ	**Kozyrevsk**	**1.85**	**323**	P	Pn	22 31 57.9	+1.2
KOZ				S	Sn	22 32 21.6	+2.0
KOZ	**Kozyrevsk**	**1.85**	**323**	*i* P	Pn	22 31 57.8	+1.1
KOZ				*e*S	Sn	22 32 21.2	+1.6
SPN	**Mys Shipunski**	**1.86**	**217**	P	Pn	22 31 56.8	0.0
SPN				S	Sn	22 32 18.5	-1.2
SPN	**Mys Shipunski**	**1.86**	**217**	*e*P	Pn	22 31 56.8	0.0
SPN				*e*S	Sn	22 32 20.6	+0.9
SMKR	**Semkarok**	**2.00**	**354**	*i* P	Pn	22 32 00.1	+1.4
BDR	**Baidarnaya**	**2.01**	**350**	*i* P	Pn	22 32 00.3	+1.5
BDR				*e*S	Sn	22 32 25.2	+1.8
NLC	**Nalytchevo**	**2.06**	**227**	*e*P	Pn	22 32 00.0	+0.4
NLC				*e*S	Sn	22 32 25.1	+0.2
SRKR	**Sorokina**	**2.10**	**349**	*e*P	Pn	22 32 01.2	+1.1
SRKR				*e*S	Sn	22 32 26.5	+0.9
SRDR	**Sredinnyy**	**2.11**	**326**	*e*P	Pn	22 32 01.4	+1.1
SRDR				*e*S	Sn	22 32 27.4	+1.4
SDLR	**Sedlovina**	**2.20**	**234**	*i* P	Pn	22 32 02.6	+1.1
SDLR				*e*S	Sn	22 32 28.9	+0.7
ESO	**Esso**	**2.24**	**308**	*e*P	Pn	22 32 03.1	+1.0
ESO				*e*S	Sn	22 32 29.9	+0.6
ESO				Smax			
	220nm,0.8s						
SMAR	**Somma**	**2.25**	**235**	*i* P	Pn	22 32 03.4	+1.2
UGLR	**Uglovaya**	**2.27**	**233**	*i* P	Pn	22 32 03.7	+1.2
AVH	**Avacha**	**2.28**	**235**	*i* P	Pn	22 32 03.9	+1.3
KOK	**Koryaka**	**2.31**	**237**	*i* P	Pn	22 32 04.3	+1.3
BKI	**Bering**	**2.45**	**74**	S	Sn	22 32 33.3	-1.1
PET	**Petropavlovsk**	**2.47**	**232**	P	Pn	22 32 06.3	+1.1
PET				S	Sn	22 32 36.4	+1.5
PET	**Petropavlovsk**	**2.47**	**232**	⇑*i* PN	Pn	22 32 06.4	+1.2
PET				*e*S	Sn	22 32 36.6	+1.7
PET				pmax	pmax		
	comp=Z,100nm,0.9s						
PET				pmax	pmax		
	comp=Z,148nm,0.7s						
PET				smax			
	comp=E,300nm,0.4s						
PET				smax			
	comp=E,231nm,0.3s						
PET				smax			
	comp=N,300nm,0.7s						
PET				smax			
	comp=N,298nm,0.5s						
PET	**Petropavlovsk**	**2.47**	**232**	*e*P	Pn	22 32 06.4	+1.2
PET				*e*S	Sn	22 32 35.8	+0.9
GNL	**Ganaly**	**2.48**	**250**	*e*P	Pn	22 32 06.3	+1.0
KRMR	**Karymshinskiy**	**2.84**	**233**	*i* P	Pn	22 32 12.3	+2.0
RUS	**Russkaya**	**2.95**	**224**	P	Pn	22 32 12.5	+0.7
RUS				S	Sn	22 32 45.8	-0.9
RUS	**Russkaya**	**2.95**	**224**	*i* P	Pn	22 32 12.4	+0.6
RUS				*e*S	Sn	22 32 46.9	+0.2
GRL	**Gorelyy**	**3.05**	**229**	*e*P	Pn	22 32 15.3	+2.1
APC	**Apacha**	**3.26**	**241**	P	Pn	22 32 18.7	+2.7
APC				Smax			
	comp=N,40nm,0.8s						
MIPR	**Malaya Ipel'ka**	**3.84**	**235**	*e*P	Pn	22 32 26.4	+2.4

ISCJB ***27*** *22:32:54.4±3.8, 2045±04×1687E±05, h33km, mb3.9/5, Error ellipse: s-maj=89.5km s-min=17.1km az=70.0*
IDC ***27*** *22:32:54.4±8.3, 2030S×16837E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.9/13, mbtmp3.9/5, Error ellipse: s-maj=159.1km s-min=45.0km az=107.0*
NEIC ***27*** *22:33:15.8±8.1, 2083S×16639E, h35km, mb4.4/1, Error ellipse: s-maj=153.0km s-min=16.7km az=55.0*
ISC 27 22:32:56.4±3.5, 205S±04×1688E±05, h35km, n7, σ0§63/9, mb3.9/5, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**		**2.71**	**234**	Pn	**Pn**	**22 33 36.7**	**-0.6**
	6.5nm,0.3s,baz=14,slow=8.3,SNR=145							
DZM					Sn	**Sn**	**22 34 09.0**	**+0.2**
	12nm,0.3s,baz=134,slow=20,SNR=6.5							
DZM	**Mont Dzumac**		**2.71**	**234**	Pn	**Pn**	**22 33 36.7**	**-0.6**
DZM					Sn	**Sn**	**22 34 09.0**	**+0.2**
STKA	**Stephens Creek**		**26.85**	**240**	P	**P**	**22 38 33.9**	**+0.4**
	1.0nm,0.6s,mb3.5,baz=54,slow=14,SNR=2.5							
WRAB	**Tennant Creek**		**32.31**	**265**	*e*P	**P**	**22 39 21.2**	**-0.8**
	3.5nm,0.5s,mb4.5							
WRA	**Warramunga Arr**		**32.32**	**265**	P	**P**	**22 39 21.5**	**-0.6**
	0.3nm,0.4s,mb3.5,baz=91,slow=8.4,SNR=5.6							
ASAR	**Alice Springs**		**32.45**	**258**	P	**P**	**22 39 23.6**	**+0.3**
	1.3nm,0.7s,mb3.9,baz=80,slow=9.0,SNR=13							
FITZ	**Fitzroy Crossi**		**40.73**	**266**	P	**P**	**22 40 34.8**	**+1.1**
	3.9nm,1.0s,mb4.0,baz=138,slow=16,SNR=4.3							

NEIC ***27*** *22:37:43.9±1.4, 446S×14482E, h35km, mb4.3/2, Error ellipse: s-maj=22.7km s-min=19.2km az=152.0*
ISCJB ***27*** *22:37:46.8±3.6, 475±02×1449E±01, h77km±33km, mb3.7/4, Error ellipse: s-maj=29.1km s-min=19.2km az=9.4*
IDC ***27*** *22:37:50.4±6.5, 478S×14499E, h100km±62km, mb3.5/4, mb1 3.7/6, mb1mx3.5/15, mbtmp3.9/6, ML3.8/2, Error ellipse: s-maj=49.8km s-min=27.7km az=143.0*
ISC 27 22:37:47.6±3.3, 465±02×1449E±01, h74km±30km, n11, σ0§66/13, mb3.7/4, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**		**5.28**	**154**	P	**Pn**	**22 39 03.9**	**0.0**
	4.8nm,0.3s,baz=343,slow=10,SNR=13							
PMG					S	**Sn**	**22 40 02.5**	**-1.0**
	2.3nm,0.3s,baz=143,slow=20,SNR=3.4							
PMG	**Port Moresby**		**5.28**	**154**	*e*Pn	**Pn**	**22 39 03.9**	**-0.1**
	18nm,0.5s							
PMG					*e*Sn	**Sn**	**22 40 04.8**	**+1.4**
KAKA	**Kakadu**		**14.67**	**236**	*e*P	**Pn**	**22 41 10.5**	**-0.7**
	7.9nm,0.4s							
WRAB	**Tennant Creek**		**18.35**	**213**	*e*P	**Pn**	**22 41 57.1**	**+0.2**
	4.8nm,0.3s							
WB2	**Warramunga Arr**		**18.35**	**213**	*e*P	**Pn**	**22 41 57.3**	**+0.3**
WRA	**Warramunga Arr**		**18.36**	**213**	P	**Pn**	**22 41 57.0**	**-0.1**
	1.0nm,0.3s,baz=36,slow=11,SNR=29							
ASAR	**Alice Springs**		**21.69**	**208**	P	**P**	**22 42 32.7**	**+0.4**
	2.1nm,0.7s,mb3.6,baz=37,slow=9.0,SNR=16							
FITZ	**Fitzroy Crossi**		**23.09**	**233**	*e*P	**P**	**22 42 48.1**	**+1.1**
	12nm,0.6s,mb4.4							
FITZ	**Fitzroy Crossi**		**23.09**	**233**	P	**P**	**22 42 47.6**	**+0.5**
	6.3nm,0.7s,mb4.1,baz=46,slow=6.5,SNR=31							
STKA	**Stephens Creek**		**27.29**	**186**	P	**P**	**22 43 23.9**	**-1.3**
	1.1nm,0.6s,mb3.6,baz=6.3,slow=9.2,SNR=2.9							
ILAR	**Eielson Array**		**85.06**	**24**	P	**P**	**22 50 15.3**	**+0.1**
	0.5nm,0.9s,mb3.4,baz=252,slow=5.0,SNR=4.8							

INMG ***27*** *22:43:18.0±1.1, 3954N×794W, h0km, ML1.5, Error ellipse: s-maj=2.3km s-min=1.2km az=102.0*
MDD 27 22:43:18.0±0.3, 3954N×794W, h3km±6km, mbLg1.8/7, 1C, Error ellipse: s-maj=3.2km s-min=2.6km az=142.0, PRXIMO, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTOM	**Tomar**	**0.37**	**283**	*e*Pg	Pg	22 43 24.7	-0.4
PTOM				*e*Sg	Sg	22 43 29.7	-0.2
PTOM							
	33nm,0.1s						
PCBR	**Castelo Branco**	**0.47**	**50**	*e*Pg	Pg	22 43 27.1	+0.1
PCBR				*e*Sg	Sg	22 43 32.9	-0.2
PCBR							
	27nm,0.2s						
MTE	**Manteigas**	**0.91**	**19**	*e*P	Pg	22 43 34.8	-0.7
MTE				*e*S	Sg	22 43 47.4	+0.1
MTE							
	15nm,0.4s						
MOE	**Montemor**	**1.06**	**197**	*e*P	Pg	22 43 37.3	-1.0
MOE				*e*S	Sg	22 43 51.5	-0.6
EBAD	**Badajoz**	**1.06**	**137**	⇑Pg	Pg	22 43 37.5	-0.9
	2.6nm,0.1s,SNR=18						
EBAD				Lg		22 43 51.5	
	9.2nm,0.1s,SNR=35						
PLOU	**Loures**	**1.14**	**236**	*e*P	Pg	22 43 39.1	-0.8
PLOU				*e*S	Sg	22 43 54.3	-0.4
PLOU							
	6.4nm,0.2s						
PVIS	**Viseu**	**1.18**	**2**	*e*P	Pg	22 43 40.1	-0.4
PVIS				*e*S	Sg	22 43 55.6	-0.2
PVIS							
	13nm,0.1s						
PBEJ	**Beja**	**1.51**	**178**	*e*P	Pn	22 43 44.9	-1.0
PBEJ				*e*S	Sn	22 44 04.8	-1.3
PBEJ							
	3.4nm,0.2s						
PVRL	**Vila Real**	**1.75**	**6**	*e*Sn	Sn	22 44 11.8	-0.1
PVRL							
	4.2nm,0.2s						
PVRL	**Vila Real**	**1.75**	**6**	Sn	Sn	22 44 11.8	-0.1
	2.1nm,0.2s						
EMIN	**Mina Concepcio**	**2.03**	**150**	Pg	Pg	22 43 55.2	-1.6
	0.1nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	22 44 17.6	-1.3
	0.2nm,0.1s,SNR=6.8						
EGRO	**El Granado**	**2.03**	**170**	Pg	Pg	22 43 55.0	-1.9
	0.3nm,0.1s,SNR=7.9						
EGRO				Lg		22 44 21.7	
	1.4nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	**2.08**	**197**	*e*Pg	Pg	22 43 56.1	-1.7
PTEO				*e*Sg	Sg	22 44 23.2	-1.6
ELOB	**Lobios**	**2.33**	**358**	Pn	Pn	22 43 55.0	-2.2
	0.1nm,0.1s,SNR=4.0						
ELOB				Pg	Pg	22 43 59.6	-3.0
	0.1nm,0.1s,SNR=4.0						
ELOB				Lg		22 44 31.7	
	0.9nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**2.57**	**21**	Sn	Sn	22 44 29.1	-3.1
	0.2nm,0.1s,SNR=7.9						
ECAL				Lg		22 44 38.6	
	0.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.96**	**116**	Pn	Pn	22 44 04.4	-1.5
	0.4nm,0.1s,SNR=4.0						
EADA				Pg	Pg	22 44 11.7	-3.1
	0.0nm,0.1s,SNR=4.0						
EADA				Sn	Sn	22 44 37.5	-4.5
	0.4nm,0.1s,SNR=7.9						
EADA				Lg		22 44 50.9	
	SNR=4.6						

CSEM ***27*** *22:56:48.3, 1201N×4375E, h8km, ML4.5, After DHMR*
DHMR ***27*** *22:56:48.3±1.8, 1201N×4375E, h9km±12km, ML4.5*
ISCJB ***27*** *22:56:55.5±0.8, 1218N±006×4414E±008, h10km, mb3.8/6, MS3.9/2, Error ellipse: s-maj=11.0km s-min=8.1km az=32.4*
IDC ***27*** *22:56:58.0±2.6, 1252N×4364E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/19, mbtmp3.8/6, MS3.7/3, Ms1 3.7/3, ms1mx3.1/25, Error ellipse: s-maj=65.8km s-min=26.8km az=165.0*
ISC 27 22:56:58.8±0.9, 1227N±006×4397E±006, h10km, n20, σ1§31/27, mb3.8/6, MS3.9/2, 1C-5D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**0.96**	**8**	*i* P	**Pg**	**22 57 12.9**	**-4.4**
TRBA				*i* S	**Sg**	**22 57 29.3**	**-0.6**
TRBA				AML	AML	22 57 35.2	
	comp=E,9μm,0.7s						
ADEN	**Aden**	**1.11**	**63**	⇓*i* P	**Pg**	**22 57 14.9**	**-5.2**
ADEN				*i* S	**Sg**	**22 57 34.5**	**+0.1**
ADEN				AML	AML	22 57 39.9	
	comp=E,21μm,0.6s						
ADEN	**Aden**	**1.11**	**63**	⇓*i* P	**Pg**	**22 57 14.9**	**-5.2**
ADEN				*i* S	**Sg**	**22 57 34.5**	**0.0**
	comp=E,10μm,0.6s						
UDYN	**Al 'Udayn**	**1.68**	**360**	*i* S	**Sn**	**22 57 50.0**	**+0.1**
UDYN				AML	AML	22 58 02.0	
	comp=N,4μm,0.5s						
UDYN	**Al 'Udayn**	**1.68**	**360**	*i* S	**Sn**	**22 57 50.0**	**+0.1**
	comp=N,2μm,0.5s						
LBOS		**2.02**	**38**	⇑*i* P	**Pn**	**22 57 28.9**	**-4.0**
LBOS				*i* S	**Sn**	**22 58 02.0**	**+3.8**
BDHA	**Al Bayda'**	**2.30**	**42**	⇓*i* P	**Pn**	**22 57 33.0**	**-3.7**
BDHA				*i* S	**Sn**	**22 58 09.9**	**+4.9**
BDHA				AML	AML	22 58 15.8	
	comp=N,3μm,0.5s						
BDHA	**Al Bayda'**	**2.30**	**42**	⇓*i* P	**Pn**	**22 57 33.0**	**-3.7**
BDHA				*i* S	**Sn**	**22 58 09.9**	**+4.9**
	comp=N,2μm,0.5s						
DHBB	**Dhamar BB**	**2.32**	**10**	*i* P	**Pn**	**22 57 33.3**	**-3.7**
DHBB				*i* S	**Sn**	**22 58 09.7**	**+4.1**
HAJJ	**Hajjah**	**3.42**	**354**	*i* P	**Pn**	**22 57 48.4**	**-3.8**
HAJJ				*i* S	**Sn**	**22 58 34.4**	**+1.5**
DESE	**Dese**	**4.40**	**255**	*e*PN	**Pn**	**22 58 06.5**	**+0.9**
DESE				*e*S	**Sn**	**22 59 02.8**	**+5.8**
MUKL	**Al Mukalla**	**5.39**	**65**	⇓*i* P	**Pn**	**22 58 14.7**	**-4.6**
KMBO	**Kilima Mbogo**	**14.89**	**207**	LR	LR	23 05 39.8	
	comp=N,124nm,21.7s,baz=80,slow=35						
BRTR	**Keskin Array B**	**28.83**	**343**	P	**P**	**23 02 56.4**	**-0.8**
	comp=N,0.4nm,0.5s,mb3.4,baz=156,slow=8.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	**41.22**	**276**	P	**P**	**23 04 42.5**	**-1.3**
	comp=N,1.8nm,0.9s,mb3.7,baz=90,slow=7.0,SNR=8.8						
GERES	**GERESS Array B**	**44.26**	**331**	P	**P**	**23 05 04.5**	**-4.0**
	comp=N,1.7nm,0.7s,mb3.9,baz=130,slow=4.4,SNR=4.1						
MKAR	**Makanchi Array**	**47.13**	**36**	P	**P**	**23 05 32.3**	**+1.2**
	comp=N,2.3nm,0.8s,mb4.2,baz=227,slow=6.9,SNR=25						
ZAL	**Zalesovo**	**52.58**	**29**	P	**P**	**23 06 13.1**	**+0.5**
	comp=N,0.8nm,0.7s,mb3.8,baz=222,slow=8.5,SNR=6.4						
ZAL				LR	LR	23 32 40.0	
	comp=N,88nm,18.7s,MS3.8,baz=75,slow=41						
SONM	**Songino Array**	**62.55**	**42**	P	**P**	**23 07 23.6**	**+0.7**
	comp=N,1.0nm,0.9s,mb4.0,baz=257,slow=6.1,SNR=7.9						
NWAO	**Narrogin (SRO)**	**82.96**	**126**	LR	LR	23 43 43.8	
	comp=N,64nm,18.2s,MS4.0,baz=160,slow=34						

IDC ***27*** *23:05:45.9±0.9, 2053N×11993E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.7/19, mbtmp3.7/7, MS3.2/1, Ms1 3.2/1, ms1mx2.5/33, Error ellipse: s-maj=41.5km s-min=17.3km az=70.0*
ISCJB ***27*** *23:05:48.9±0.8, 2058N±007×1200E±02, h33km, mb3.6/7, Error ellipse: s-maj=22.8km s-min=9.6km az=10.5*
NEIC ***27*** *23:05:50.6±0.7, 2052N×11995E, h35km, Error ellipse: s-maj=21.3km s-min=11.9km az=83.0*
ISC 27 23:05:51.1±0.8, 2059N±007×1200E±02, h35km, n11, σ0§72/11, mb3.6/7, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YHNB	**Yeheng**	**4.26**	**17**	*e*Pn	**Pn**	**23 06 53.8**	**+0.3**
YHNB				*e*Sn	**Sn**	**23 07 41.3**	**-0.7**
JOW	**Kunigami**	**9.81**	**49**	LR	LR	23 12 07.0	
	comp=Z,125nm,19.1s,baz=172,slow=38						
MJAR	**Matsushiro Arr**	**22.50**	**41**	P	**P**	**23 10 48.3**	**+0.9**
	1.6nm,0.9s,mb3.5,baz=235,slow=5.6,SNR=3.3						
SONM	**Songino Array**	**29.32**	**341**	P	**P**	**23 11 50.0**	**-0.4**
	0.1nm,0.4s,mb2.9,baz=161,slow=9.2,SNR=3.3						
MKAR	**Makanchi Array**	**40.23**	**319**	P	**P**	**23 13 25.0**	**+0.7**
	0.9nm,0.6s,mb3.7,baz=114,slow=9.7,SNR=13						
MKAR	**Makanchi Array**	**40.23**	**319**	P	**P**	**23 13 25.0**	**+0.7**
WRA	**Warramunga Arr**	**42.67**	**160**	P	**P**	**23 13 44.1**	**-0.2**
	1.1nm,0.7s,mb3.7,baz=342,slow=9.0,SNR=4.4						
ZAL	**Zalesovo**	**42.72**	**330**	P	**P**	**23 13 44.4**	**-0.3**
	0.5nm,0.3s,mb3.7,baz=348,slow=15,SNR=3.0						
ZAL	**Zalesovo**	**42.72**	**330**	P	**P**	**23 13 44.4**	**-0.3**
ASAR	**Alice Springs**	**46.03**	**162**	P	**P**	**23 14 09.9**	**-1.3**
	0.4nm,0.6s,mb3.5,baz=347,slow=7.2,SNR=6.5						
STKA	**Stephens Creek**	**56.13**	**158**	P	**P**	**23 15 28.0**	**+0.9**
	0.7nm,0.3s,mb4.1,baz=333,slow=14,SNR=1.9						

ISCJB ***27*** *23:06:41.9±0.9, 2007S±006×688W±0.1, h123km±11km, mb3.7/2, Error ellipse: s-maj=17.3km s-min=8.9km az=38.1*
IDC ***27*** *23:06:42.0±1.1, 2011S×6882W, h114km±10km, mb3.4/3, mb1 3.6/7, mb1mx3.4/19, mbtmp3.8/7, Error ellipse: s-maj=25.4km s-min=8.6km az=101.0*
NEIC ***27*** *23:06:42.4±1.1, 2004S×6888W, h117km±11km, Error ellipse: s-maj=20.4km s-min=10.8km az=98.0*
ISC 27 23:06:42.8±0.9, 2007S±006×688W±01, h118km±11km, n13, σ1§02/16, mb3.7/2, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.54**	**182**	P	**Pn**	**23 07 22.3**	**-0.6**
	12nm,0.3s,baz=352,slow=9.8,SNR=96						
LVC				S	**Sn**	**23 07 52.5**	**-1.3**
	19nm,0.3s,baz=330,slow=8.6,SNR=10						
LVC	**Limon Verde**	**2.54**	**182**	*e*Pn	**Pn**	**23 07 22.4**	**-0.5**
LVC				*e*Sn	**Sn**	**23 07 57.4**	**+3.7**
LPAZ	**La Paz**	**3.82**	**10**	P	**Pn**	**23 07 40.6**	**+0.8**
	1.2nm,0.3s,baz=190,slow=7.0,SNR=35						
LPAZ				S	**Sn**	**23 08 25.7**	**+1.7**

comp=N,6µm,9.3s
QZH LR LR
comp=E,3µm,8.8s
QZH LR LR
comp=E,6µm,8.4s
TATO Taipei 4.40 17 *e*Pn **Pn 23 33 23.9 +1.8**
HKC Hong Kong 5.69 287 *i* Pn **Pn 23 33 36.0 -3.9**
HKC *i* Sn **Sn 23 34 39.0 -5.8**
GZH Guangzhou 6.65 292 P **Pn 23 33 48.0 -5.1**
GZH S **Sn 23 34 56.5 -12**
GZH AMB AMB
comp=Z,151nm,0.6s
GZH Smax
comp=N,708nm,0.6s
GZH Smax
comp=E,652nm,0.8s
GZH LR LR
comp=N,2µm,12.4s
GZH LR LR
comp=E,2µm,13.1s
GZH LR LR
comp=Z,3µm,11.5s
JOW Kunigami 9.64 50 Pn **Pn 23 34 34.8 +0.6**
comp=Z,0.5nm,0.3s,baz=220,slow=13,SNR=2.4
QIZ Qiongzhong 9.77 262 P **Pn 23 34 36.5 +0.7**
QIZ *e*S **Sn 23 36 26.0 +1.0**
QIZ LR LR
comp=E,2µm,11.1s
QIZ LR LR
comp=Z,3µm,10.4s
QIZ Qiongzhong 9.77 262 *e*Pn **Pn 23 34 36.3 +0.5**
comp=Z,42nm,0.8s
QIZ *e*Sn **Sn 23 36 14.6 -10**
SSE Sheshan 10.34 5 P **Pn 23 34 46.5 +2.8**
SSE S **Sn 23 36 42.5 +3.4**
SSE AMB AMB
comp=Z,21nm,0.8s
SSE AMB AMB
comp=Z,137nm,3.8s
SSE LR LR
comp=N,172nm,14.6s
SSE LR LR
comp=E,438nm,14.6s
SSE Sheshan 10.34 5 P **Pn 23 34 46.4 +2.7**
comp=E,21nm,0.8s
SSE S **Sn 23 36 42.6 +3.5**
WHN Wuhan 11.02 333 *e*P **Pn 23 34 57.3 +4.4**
WHN LR LR
comp=Z,3µm,10.2s
NJ2 Nanjing 11.30 355 *e*P **Pn 23 34 58.5 +1.7**
NJ2 AP 23 35 09.5
NJ2 XP 23 35 14.3
NJ2 S **Sn 23 37 08.0 +5.5**
NJ2 AMB AMB
comp=Z,10.0nm,0.9s
NJ2 AMB AMB
comp=Z,180nm,4.7s
NJ2 LR LR
comp=N,3µm,10.5s
NJ2 LR LR
comp=E,4µm,9.7s
NJ2 LR LR
comp=Z,1µm,11.1s
GYA Guiyang 13.52 297 P **Pn 23 35 24.3 -2.9**
GYA AP 23 35 31.5
GYA XP 23 35 36.3
GYA S **Sn 23 37 46.3 -11**
GYA SS 23 38 11.0
GYA AMB AMB
comp=Z,10.0nm,0.8s
GYA AMB AMB
comp=Z,90nm,5.6s
GYA LR LR
comp=N,1µm,11.1s
GYA LR LR
comp=E,1µm,12.0s
GYA LR LR
comp=Z,2µm,12.2s
KKM Kota Kinabalu 15.10 195 *e*P **Pn 23 35 50.2 +1.6**
XAN Xi'an 16.50 326 P **Pn 23 36 03.8 -3.0**
XAN AP pP 23 36 10.5 -4.1
XAN AMB AMB
comp=Z,33nm,1.6s
KMI Kunming 16.53 288 P **Pn 23 36 11.7 +4.5**
KMI S **Sn 23 39 13.9 +3.7**
KMI pmax pmax
comp=Z,18nm,1.5s
KMI Kunming 16.53 288 P **Pn 23 36 11.7 +4.5**
comp=Z,18nm,1.5s
KMI pP pP 23 36 17.2 +2.3
KMI sP sP 23 36 19.0 +1.6
KMI PP 23 36 26.9
KMI PPP 23 36 36.5
KMI S **Sn 23 39 13.9 +3.7**
KMI sS sS 23 39 31.4 +1.3
KMI SS 23 39 35.4
CD2 Chengdu 17.80 308 P **Pn 23 36 22.5 -0.5**
CD2 XP sP 23 36 35.5 +4.1
CD2 PP 23 36 37.8
CD2 PPP 23 36 45.0
CD2 S **Sn 23 39 34.5 -6.4**
CD2 XS sS 23 39 48.0 -7.9
CD2 SS 23 39 57.0
CD2 AMB AMB
comp=Z,20nm,1.2s
CD2 AMB AMB
comp=Z,110nm,2.4s
CD2 LR LR
comp=N,950nm,16.2s
CD2 LR LR
comp=Z,810nm,12.0s
KS15 Wonju Array Si 17.96 21 Pn **Pn 23 36 20.8 -4.2**
DL2 Dalian 18.14 4 P **Pn 23 36 31.5 +4.4**
DL2 AMB AMB
comp=Z,10.0nm,0.8s
DL2 AMB AMB
comp=Z,360nm,7.1s
DL2 LR LR
comp=N,390nm,10.6s
DL2 LR LR
comp=E,770nm,11.5s
DL2 LR LR
comp=Z,480nm,10.1s
CHRT Chiangrai 19.04 271 P **Pn 23 36 39.0 +0.8**
BJT Baijiatuan 19.48 351 *e*P **Pn 23 36 43.7 +0.2**
BJT pmax pmax
comp=Z,24nm,0.8s
BJT Baijiatuan 19.48 351 *e*P **Pn 23 36 43.7 +0.2**
comp=Z,24nm,0.8s
BJI Beijing 19.50 351 *e*P **Pn 23 36 43.5 -0.2**
BJI XP sP 23 36 56.5 +6.4
BJI S **Sn 23 40 18.5 -3.6**
BJI AMB AMB
comp=Z,31nm,0.9s
BJI AMB AMB
comp=Z,177nm,4.5s
BJI LR LR
comp=N,609nm,11.0s
BJI LR LR
comp=E,446nm,11.0s
BJI LR LR
comp=Z,231nm,14.8s
BJI Beijing 19.50 351 *e*P **Pn 23 36 43.6 -0.1**
BJI S **Sn 23 40 18.6 -3.5**
BJI pmax pmax
comp=Z,31nm,0.9s
BJI Beijing 19.50 351 *e*P **Pn 23 36 43.6 -0.1**
comp=Z,31nm,0.9s
BJI sP sP 23 36 56.4 +6.3
BJI S **Sn 23 40 18.6 -3.5**
NST Nakhon Sawan 19.59 258 P **Pn 23 36 45.7 +1.0**
CHTO Chiang Mai 19.97 268 *e*P **Pn 23 36 47.8 -1.4**
CHTO pmax pmax
comp=Z,32nm,1.3s
CHTO Chiang Mai 19.97 268 *e*P **Pn 23 36 47.8 -1.4**
comp=Z,32nm,1.3s
LZH Lanzhou 20.85 321 ⇑P **P 23 36 58.3 +1.3**
LZH AP 23 37 07.3
LZH XP sP 23 37 09.8 +5.0
LZH PP 23 37 22.0
LZH S **S 23 40 47.5 -1.3**
LZH AMB AMB
comp=Z,80nm,1.1s
LZH AMB AMB
comp=Z,440nm,5.6s
LZH LR LR
comp=E,2µm,10.0s
LZH LR LR
comp=Z,3µm,13.4s,MS4.8
LZH Lanzhou 20.85 321 ⇑P **P 23 36 58.2 +1.2**
LZH *SP sP 23 37 09.8 +5.0
LZH 23 37 22.0
LZH S **S 23 40 47.4 -1.4**
LZH *SS sS 23 41 02.0 +4.7
LZH SS 23 41 21.0
LZH pmax pmax
comp=Z,80nm,1.1s
LZH MLR MLR
comp=Z,3µm,13.4s,MS4.8
LZH Lanzhou 20.85 321 ⇑P **P 23 36 58.2 +1.2**
comp=Z,80nm,1.1s
LZH pP 23 37 07.3
LZH sP sP 23 37 09.8 +5.0
LZH PP 23 37 22.0
LZH S **S 23 40 47.4 -1.4**
LZH sS sS 23 41 02.0 +4.7
LZH SS 23 41 21.0
LZH LR LR
comp=Z,3µm,13.4s,MS4.8
CBIJ Chichi jima 21.17 68 P **P 23 37 00.1 -0.4**
comp=Z,100nm,0.9s,mb5.1,baz=270,slow=20,SNR=3.1
SNY Shenyang 21.21 7 PR 23 37 03.3
SNY LR LR
comp=E,1µm,12.0s
SNY LR LR
comp=Z,455nm,11.3s,MS4.1
HHC Hu-ho-hao-te 21.29 342 *e*P **P 23 37 04.0 +2.2**
HHC AP 23 37 13.5
HHC XP sP 23 37 17.3 +7.7
HHC PP 23 37 29.5
HHC S **S 23 40 57.3 -0.2**
HHC PCP PcP 23 41 05.3 -0.7
HHC AMB AMB
comp=Z,18nm,1.1s,mb4.3
HHC AMB AMB
comp=Z,139nm,5.1s
HHC LR LR
comp=N,1µm,12.4s,MS4.5
HHC LR LR
comp=E,806nm,12.9s,MS4.5
HHC LR LR
comp=Z,732nm,11.9s,MS4.3
KSM Kuching 21.40 208 *e*P **P 23 37 01.3 -1.7**
BTO Baotou 21.55 339 *e*P **P 23 37 02.8 -1.8**
MAJO Matsushiro 22.32 41 *e*P **P 23 37 15.4 +2.6**
MAJO pmax pmax
comp=Z,31nm,1.0s,mb4.7
MAJO Matsushiro 22.32 41 *e*P **P 23 37 15.3 +2.5**
comp=Z,31nm,1.0s,mb4.7
MAT Matsushiro 22.32 41 P **P 23 37 12.0 -0.8**
MAT *e*S **S 23 41 16.0 -1.6**
MJAR Matsushiro Arr 22.32 41 P **P 23 37 12.9 +0.1**
comp=Z,18nm,0.9s,mb4.5,baz=237,slow=9.7,SNR=19
MJAR LR LR 23 47 26.4
comp=Z,145nm,18.1s,MS3.4,baz=220,slow=41
KULM Kulim 24.32 233 *e*P **P 23 37 29.1 -3.7**
GUMO Guam 24.73 103 P **P 23 37 37.8 +1.3**
comp=Z,88nm,0.8s,mb5.3,baz=14,slow=22,SNR=5.7
GUMO LR LR 23 47 18.8
comp=Z,172nm,18.0s,MS3.6,baz=289,slow=37
MDJ Mudanjiang 25.07 16 P **P 23 37 41.0 +1.4**
MDJ AP pP 23 37 49.8 +4.5
MDJ XP sP 23 37 53.8 +6.2
MDJ S **S 23 42 06.0 +2.9**
MDJ XS sS 23 42 19.5 +7.1
MDJ SCP ScP 23 44 51.3 -0.7
MDJ PCS PcS 23 44 54.5 +0.4
MDJ SCS ScS 23 48 38.5 -1.9
MDJ AMB AMB
comp=Z,24nm,0.9s,mb4.7
MDJ AMB AMB
comp=Z,52nm,3.5s
MDJ LR LR
comp=N,130nm,20.6s,MS3.8
MDJ LR LR
comp=E,250nm,19.1s,MS3.8
MDJ LR LR
comp=Z,120nm,17.6s,MS3.5
GTA Gaotai 25.44 321 P **P 23 37 42.8 -0.2**
GTA AP pP 23 37 52.8 +4.2
GTA XP sP 23 37 56.8 +5.8
GTA PP 23 38 17.5
GTA S **S 23 42 06.0 -3.0**
GTA XS sS 23 42 21.5 +3.1
GTA AMB AMB
comp=Z,8.0nm,1.0s,mb4.2
GTA AMB AMB
comp=Z,104nm,4.9s
GTA LR LR
comp=N,636nm,12.2s
GTA LR LR
comp=E,454nm,9.9s
GTA LR LR
comp=Z,666nm,10.6s,MS4.4
PSI Prapat 27.26 232 P **P 23 37 58.9 -0.5**
comp=Z,27nm,1.2s,mb4.7,baz=42,slow=5.5,SNR=8.3
PSI LR LR 23 48 30.1
comp=Z,262nm,18.3s,MS3.8,baz=162,slow=36
LSA Lhasa 27.57 295 P **P 23 38 04.0 +1.8**
LSA Lhasa 27.57 295 *e*P **P 23 38 03.3 +1.1**
LSA pmax pmax
comp=Z,22nm,0.7s,mb4.9
LSA Lhasa 27.57 295 *e*P **P 23 38 03.3 +1.1**
comp=Z,22nm,0.7s,mb4.9
ULN Ulaanbaatar 29.01 342 *e*P **P 23 38 14.6 -0.4**
ULN pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
ULN Ulaanbaatar 29.01 342 *e*P **P 23 38 14.6 -0.4**
comp=Z,4.7nm,0.8s,mb4.3
SONM Songino Array 29.18 341 P **P 23 38 16.3 -0.3**
comp=Z,4.9nm,0.9s,mb4.2,baz=159,slow=8.2,SNR=29
SONM LR LR 23 52 10.6
comp=Z,109nm,19.0s,MS3.5,baz=332,slow=41
ASAJ Asahikawa 29.88 34 P **P 23 38 22.2 -0.6**
comp=Z,9.2nm,1.0s,mb4.5,baz=324,slow=17,SNR=3.1
ASAJ LR LR 23 50 56.3
comp=Z,200nm,18.5s,MS3.8,baz=197,slow=38
KLR Kul'dur 29.90 15 *e*P **P 23 38 20.7 -2.2**
KLR MLR MLR
comp=N,700nm,13.0s,MS4.6
KLR MLR MLR
comp=E,500nm,13.0s,MS4.6
KLR MLR MLR
comp=Z,900nm,13.0s,MS4.6
JIRN Jiri 31.58 289 *e*P **P 23 38 38.1 +0.4**
comp=Z,67nm,0.8s,mb5.5
GUN Gumba 31.87 290 *e*P **P 23 38 40.7 +0.4**
comp=Z,115nm,0.9s,mb5.7
PKI Pulchoki 32.26 289 *e*P **P 23 38 43.5 -0.2**
KKN Kakani 32.39 289 *e*P **P 23 38 44.6 -0.3**
comp=Z,71nm,0.9s,mb5.5
ZAK Zakamensk 32.40 340 *e*P **P 23 38 44.1 -0.8**
ZAK pmax pmax
comp=Z,6.0nm,1.8s,mb4.1
DMN Daman 32.53 289 *e*P **P 23 38 46.0 -0.1**
comp=Z,82nm,0.9s,mb5.7
GKN Gorkha 32.98 290 *e*P **P 23 38 49.5 -0.5**
comp=Z,82nm,1.0s,mb5.6
TLY Talaya 33.42 341 *e*P **P 23 38 54.1 +0.2**
TLY pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
TLY MLR MLR
comp=Z,184nm,14.0s,MS4.0
KOLN Koldanda 33.87 289 *e*P **P 23 38 57.5 -0.3**
comp=Z,82nm,0.9s,mb5.7
FITZ Fitzroy Crossi 39.01 172 *e*P **P 23 39 40.0 -1.6**
comp=Z,6.5nm,0.8s,mb4.4
FITZ *e* 23 39 53.8
FITZ Fitzroy Crossi 39.01 172 P **P 23 39 40.0 -1.6**
comp=Z,5.9nm,1.2s,mb4.2,baz=337,slow=9.2,SNR=3.7
PMG Port Moresby 40.10 136 *e*P **P 23 39 52.2 +1.4**
PMG pmax pmax
comp=Z,32nm,1.0s
PMG Port Moresby 40.10 136 *e*P **P 23 39 52.2 +1.4**
comp=Z,32nm,1.0s,mb5.0
MKAR Makanchi Array 40.16 319 P **P 23 39 51.4 +0.2**
comp=Z,8.9nm,0.8s,mb4.5,baz=114,slow=10,SNR=95
MKAR PcP PcP 23 41 55.2 -0.1
comp=Z,2.5nm,0.7s,baz=90,slow=6.2,SNR=5.1
YAK Yakutsk 41.77 7 *e*P **P 23 40 05.5 +1.0**
YAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
YAK pmax pmax
comp=N,5.0nm,1.1s
KSH Kashi 41.99 306 *e*P **P 23 40 08.0 +1.7**
KSH *e*AP pP 23 40 20.0 +7.9
KSH *e*XP sP 23 40 25.3 +11
KSH *e*PP PP 23 41 49.3 +5.8
KSH *e*PCP PcP 23 42 03.0 +1.7
KSH *e*PPP 23 42 20.3
KSH *e*SCP ScP 23 45 48.0 -2.7
KSH *e*PCS PcS 23 45 53.3 +0.4
KSH *e*S **S 23 46 23.3 -0.8**
KSH *e*SS SS 23 49 25.0 -6.2
KSH *e*SCS ScS 23 50 04.0 -4.0
KSH AMB AMB
comp=Z,68nm,1.2s,mb5.2
KSH LR LR
comp=N,410nm,8.3s
KSH LR LR
comp=E,440nm,10.6s
KSH LR LR
comp=Z,295nm,5.9s
ZAL Zalesovo 42.61 330 P **P 23 40 11.1 -0.2**
comp=Z,5.5nm,1.1s,mb4.2,baz=355,slow=8.7,SNR=27
ZAL LR LR 00 00 57.5
comp=Z,79nm,19.0s,MS3.6,baz=127,slow=40
WRAB Tennant Creek 42.79 160 P **P 23 40 08.0 -4.8**
comp=Z,219nm,0.9s,mb5.9,SNR=6.3
WRAB Tennant Creek 42.79 160 *e*P **P 23 40 10.6 -2.2**
WRAB pmax pmax
comp=Z,42nm,0.8s,mb5.2
WRAB Tennant Creek 42.79 160 *e*P **P 23 40 10.6 -2.2**
comp=Z,42nm,0.8s,mb5.2
WRA Warramunga Arr 42.80 160 P **P 23 40 12.2 -0.6**
comp=Z,12nm,0.7s,mb4.7,baz=342,slow=9.0,SNR=36
WRA PcP PcP 23 42 04.2 +0.2
comp=Z,3.3nm,0.8s,baz=347,slow=3.5,SNR=5.0
WB2 Warramunga Arr 42.80 160⇓*i*P **P 23 40 12.1 -0.8**
WB2 *e* 23 40 19.5
WB2 *e*PCP PcP 23 42 03.9 -0.1
WB2 *e*S **S 23 46 37.7 +1.6**
PET Petropavlovsk 43.72 33 *e*P **P 23 40 23.3 +3.0**
PET *e*S **S 23 46 52.0 +2.4**
PET pmax pmax
comp=Z,18nm,1.3s,mb4.6
PET smax
comp=N,100nm,37.2s
FRU Bishkek 43.80 311 *e*P **P 23 40 21.5 +0.5**
FRU pmax pmax
comp=Z,20nm,1.4s,mb4.7
AAK Ala-Archa 43.84 310 *e*P **P 23 40 21.5 +0.2**
AAK pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
AAK Ala-Archa 43.84 310 *e*P **P 23 40 21.5 +0.2**
comp=Z,5.6nm,0.8s,mb4.3
NVS Novosibirsk 43.88 330⇑*i*P **P 23 40 20.4 -1.2**
NVS pmax pmax
comp=Z,24nm,1.7s,mb4.7
NVS pmax pmax
comp=N,14nm,1.6s
NVS pmax pmax
comp=E,28nm,2.1s
KURK Kurchatov 44.11 323 P **P 23 40 23.1 -0.3**
comp=E,96nm,1.1s,mb5.4,SNR=8.2
KURK Kurchatov 44.11 323 *e*P **P 23 40 23.0 -0.4**
KURK pmax pmax
comp=Z,60nm,1.6s,mb5.1
KURK Kurchatov 44.11 323 *e*P **P 23 40 23.0 -0.4**
comp=Z,60nm,1.6s,mb5.1
AS31 Alice Springs 46.17 162 *e*P **P 23 40 39.4 -0.4**
ASPA Alice Springs 46.17 162 *e*P **P 23 40 39.4 -0.4**
ASAR Alice Springs 46.17 162 P **P 23 40 39.5 -0.3**
comp=Z,4.0nm,0.7s,mb4.5,baz=345,slow=6.9,SNR=55
ASAR PcP PcP 23 42 15.4 -0.1
comp=Z,1.8nm,0.8s,baz=333,slow=2.6,SNR=4.0
CTA Charters Tower 48.01 146 *e*P **P 23 40 55.7 +1.5**
comp=Z,15nm,0.9s,mb5.0
CTA *e* pP 23 41 00.3 +0.2
CTA Charters Tower 48.01 146 P **P 23 40 55.5 +1.3**
comp=Z,53nm,0.9s,mb5.5,baz=326,slow=8.4,SNR=8.9
CTA Charters Tower 48.01 146 *e*P **P 23 40 55.7 +1.5**
CTA pmax pmax
comp=Z,15nm,0.9s
CTAO Charters Tower 48.01 146 *e*P **P 23 40 56.2 +2.0**
CTAO pmax pmax
comp=Z,65nm,1.0s,mb5.6
CTAO Charters Tower 48.01 146 *e*P **P 23 40 56.1 +2.0**
comp=Z,65nm,1.0s,mb5.6
BRVK Borovoye 49.78 323 P **P 23 41 08.3 +0.5**
comp=Z,104nm,0.9s,mb5.9,SNR=7.8
BRVK Borovoye 49.78 323 *e*P **P 23 41 08.1 +0.3**
BRVK pmax pmax
comp=Z,12nm,1.0s,mb4.9
BRVK Borovoye 49.78 323 *e*P **P 23 41 08.1 +0.3**
comp=Z,12nm,1.0s,mb4.9
CHKZ Chkalovo 49.82 324 *e*P **P 23 41 07.5 -0.5**
CHKZ *e* 23 42 27.5
CHKZ pmax pmax
comp=Z,20nm,1.1s,mb5.1
CHKZ Chkalovo 49.82 324 *e*P **P 23 41 07.5 -0.6**
comp=Z,20nm,1.1s,mb5.1
CHKZ *e*PcP PcP 23 42 27.5 -1.1
ZRNK Zerenda 50.47 322 *e*P **P 23 41 12.8 -0.2**
ZRNK pmax pmax
comp=Z,24nm,1.0s,mb5.2
ZRNK Zerenda 50.47 322 *e*P **P 23 41 12.8 -0.2**
comp=Z,24nm,1.0s,mb5.2
TIXI Tiksi 51.16 4 *e*P **P 23 41 14.9 -3.3**
TIXI *e*S **S 23 48 32.3 -3.0**
TIXI *e* 23 51 02.1
TIXI *e*SS SS 23 52 08.6 -2.0
TIXI pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
TIXI smax
comp=N,42nm,17.3s
TIXI smax
comp=E,46nm,11.8s
TIXI MLR MLR
comp=Z,195nm,14.0s,MS4.3
FORT Forrest 51.81 171 *e*P **P 23 41 22.2 -0.9**
comp=Z,14nm,0.7s,mb5.0
NWAO Narrogin (SRO) 53.45 183 P **P 23 41 34.2 -0.9**
comp=Z,8.7nm,0.8s,mb4.7,baz=21,slow=8.7,SNR=3.7
BILL Bilibino 55.24 19 *e*P **P 23 41 48.1 -0.1**
BILL pmax pmax
comp=Z,21nm,1.3s,mb5.0
BILL Bilibino 55.24 19 *e*P **P 23 41 48.1 -0.1**
comp=Z,21nm,1.3s,mb5.0
ABKT Ailbek 55.68 302 P **P 23 41 52.7 +1.3**
comp=Z,115nm,1.0s,mb5.9,SNR=18
SVE Sverdlovsk 56.22 325⇓*e*P **P 23 41 54.7 -0.5**
SVE pmax pmax
comp=Z,44nm,1.5s,mb5.3
SVE MLR MLR
comp=N,200nm,10.0s,MS4.7
SVE MLR MLR
comp=E,200nm,10.0s,MS4.7
SVE MLR MLR
comp=Z,300nm,10.0s,MS4.7
STKA Stephens Creek 56.26 158 *e*P **P 23 41 53.5 -2.0**
comp=Z,6.6nm,0.9s,mb4.7
STKA *e* 23 42 03.9
STKA Stephens Creek 56.26 158 P **P 23 41 53.9 -1.7**
comp=Z,5.2nm,0.8s,mb4.6,baz=336,slow=11,SNR=11
AKTO Aktyubinsk 56.53 317 LR LR 00 06 03.8
comp=Z,64nm,20.0s,MS3.7,baz=84,slow=36
ARU Arti 57.24 325 P **P 23 42 02.9 +0.4**
comp=Z,150nm,0.6s,SNR=10
ARU Arti 57.24 325⇓*i*P **P 23 42 02.1 -0.4**
ARU *e* 23 42 51.0
ARU *e* 23 44 08.7
ARU *e*PPP 23 45 25.5
ARU *e*S **S 23 49 58.1 +0.7**
ARU *e*SS SS 23 53 48.2 +1.6
ARU pmax pmax
comp=Z,13nm,0.7s,mb5.1
ARU Arti 57.24 325 *e*P **P 23 42 01.6 -0.9**
comp=Z,9.9nm,0.8s,mb4.9
ORR Orenburg 58.72 318⇓*e*P **P 23 42 13.0 +0.1**
ORR pmax pmax
comp=Z,30nm,0.9s,mb5.3
ORR MLR MLR
comp=Z,100nm,18.0s,MS4.0
DZM Mont Dzumac 62.15 131 P **P 23 42 35.4 -0.9**
comp=Z,7.2nm,0.9s,mb4.8,baz=342,slow=20,SNR=2.8
KBD Kabd 65.24 293 *e*P **P 23 42 56.1 -0.6**

RDF Al-Radifah 65.41 293 *e*P **P** **23 42 57.2 -0.6**
RDF AMb AMB 23 42 58.0
comp=Z,28nm,0.9s,mb5.3
MIB Mutribah 65.43 294 *e*P **P** **23 42 57.2 -0.7**
MIB AMb AMB 23 43 01.4
comp=Z,21nm,0.9s,mb5.2
NAY Al-Naaiem 65.61 294 *e*P **P** **23 42 58.4 -0.7**
NAY AMb AMB 23 43 02.6
comp=Z,14nm,1.0s,mb5.0
GNI Garni 65.91 306 P **P** **23 43 00.7 -0.3**
comp=Z,3.7nm,0.7s,mb4.5,baz=312,slow=16,SNR=4.5
VRHR Novokhopersk 66.94 318 *e*P **P** **23 43 07.1 -0.5**
VRHR pmax pmax
comp=Z,20nm,0.5s,mb5.4
VRHR pmax pmax
comp=N,8.0nm,0.6s
VRHR pmax pmax
comp=E,4.0nm,0.5s
KLMR Klimovskoe 67.51 328 *e*P **P** **23 43 08.5 -2.7**
KLMR pmax pmax
comp=Z,30nm,1.3s,mb5.2
TMCR Tamitsa 68.06 332 *e*P **P** **23 43 13.4 -1.3**
TMCR pmax pmax
comp=N,30nm,1.0s
TMCR pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
TMCR pmax pmax
comp=E,10.0nm,0.9s
TTA Tatalina 68.98 29 *e*P **P** **23 43 22.0 +1.5**
TTA pmax pmax
comp=Z,12nm,1.2s,mb4.7
TTA Tatalina 68.98 29 *e*P **P** **23 43 22.0 +1.5**
comp=Z,12nm,1.2s,mb4.7
SOC Sochi 69.14 310 *e*P **P** **23 43 18.1 -3.3**
SOC *e*PPP 23 47 30.9
SOC *e*S S 23 52 22.7 -3.4
SOC pmax pmax
comp=Z,14nm,0.8s,mb4.9
SOC MLR MLR
comp=Z,124nm,16.0s,MS4.2
OBN Obninsk 69.55 322 ⇑*i*P **P** **23 43 23.1 -0.9**
OBN *e* 23 45 54.5
OBN pmax pmax
comp=Z,33nm,1.2s,mb5.1
OBN Obninsk 69.55 322 *e*P **P** **23 43 23.4 -0.6**
comp=Z,44nm,1.3s,mb5.2
JOF Joensuu 71.18 331 *e*p **P** **23 43 32.9 -1.0**
comp=Z,11nm,0.8s,mb4.8
JOF Joensuu 71.18 331 *e*P **P** **23 43 32.9 -1.0**
JOF pmax pmax
comp=Z,11nm,0.8s,mb4.8
ARCES ARCESS Array B 72.32 338 P **P** **23 43 39.4 -1.4**
comp=Z,5.7nm,0.8s,mb4.6,baz=81,slow=7.6,SNR=14
PMR Palmer 72.35 30 *e*P **P** **23 43 41.2 +0.2**
PMR *e**PP pP 23 43 50.1 +3.0
PMR pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
PMR Palmer 72.35 30 *e*P **P** **23 43 41.2 +0.2**
comp=Z,8.7nm,0.9s,mb4.7
PMR *e*pP pP 23 43 50.1 +3.0
ILAR Eielson Array 72.72 27 P **P** **23 43 43.0 -0.2**
comp=Z,1.3nm,0.6s,mb4.0,baz=292,slow=6.4,SNR=17
KAF Kangasniemi 73.61 331 *e*p **P** **23 43 46.9 -1.5**
comp=Z,12nm,1.0s,mb4.8
KAF Kangasniemi 73.61 331 *e*P **P** **23 43 46.9 -1.5**
KAF pmax pmax
comp=Z,12nm,1.0s,mb4.8
FINES FINESS Array B 73.87 330 P **P** **23 43 49.5 -0.4**
comp=Z,6.8nm,0.8s,mb4.6,baz=75,slow=8.1,SNR=26
BRTR Keskin Array B 74.38 307 P **P** **23 43 53.0 +0.1**
comp=Z,0.8nm,0.5s,mb3.9,baz=102,slow=4.7,SNR=8.9
BRTR PP PP 23 46 43.0 +3.9
comp=Z,1.0nm,1.0s,baz=98,slow=9.3,SNR=4.3
AKASG Malin Array Be 74.74 319 P **P** **23 43 54.1 -0.9**
comp=Z,4.4nm,0.8s,mb4.5,baz=63,slow=5.7,SNR=22
CSS Prodhromos 75.83 302 *e*P **P** **23 44 01.3 +0.1**
comp=Z,13nm,0.8s,mb4.9
EIL Elat 75.94 297 *e*P **P** **23 44 02.1 +0.2**
comp=Z,108nm,1.1s,mb5.7
INK Inuvik 76.78 21 *e*P **P** **23 44 06.4 -0.3**
INK *e**PP pP 23 44 17.1 +4.3
INK pmax pmax
comp=Z,7.0nm,1.2s
INK Inuvik 76.78 21 *e*P **P** **23 44 06.4 -0.3**
comp=Z,7.1nm,1.2s,mb4.5
INK *e*pP pP 23 44 17.1 +4.3
SUW Suwalki 77.39 323 *e*P **P** **23 44 10.2 +0.1**
VRI Vrincioaia 77.64 314 ⇓*i*P **P** **23 44 12.6 +1.1**
VRI Vrincioaia 77.64 314 ⇓⇓P **P** **23 44 12.6 +1.1**
PLOR Plostina 77.70 314 ⇑*i*P **P** **23 44 13.2 +1.4**
BURAR Bucovina Array 78.11 316 ⇓*i*P **P** **23 44 14.9 +0.8**
BURAR Bucovina Array 78.11 316 ⇓⇓P **P** **23 44 14.9 +0.8**
MLR Muntele Rosu 78.28 314 ⇑*i*P **P** **23 44 16.2 +1.2**
MLR Muntele Rosu 78.28 314 ⇑⇑P **P** **23 44 16.2 +1.2**
KWP Kalwaria 79.06 319 *e*P **P** **23 44 19.9 +0.6**
STHS Stebnicka Huta 80.03 319 *e*P **P** **23 44 25.3 +0.7**
STHS *e* 00 08 43.7
STHS Stebnicka Huta 80.03 319 *e*P **P** **23 44 25.3 +0.7**
STHS pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
CRVS Cervenica-Dubn 80.07 319 *e* **P** **23 44 28.1 +3.2**
NIE Niedzica 80.60 319 *e*P **P** **23 44 28.4 +0.7**
OJC Ojcow 80.62 320 *e*P **P** **23 44 28.1 +0.3**
NB2 NORSAR Subarra 80.75 332 P **P** **23 44 27.6 -0.9**
comp=Z,12nm,1.2s,mb4.7,baz=61,slow=5.1
NOA NORSAR Array B 80.75 332 P **P** **23 44 27.2 -1.4**
comp=Z,5.1nm,0.8s,mb4.5,baz=64,slow=5.3,SNR=15
NOA NORSAR Array B 80.75 332 P **P** **23 44 27.2 -1.4**
KECS Kecovo 80.82 318 *e*P **P** **23 44 29.0 +0.1**
KECS *e* 00 08 42.5
KECS Kecovo 80.82 318 *e*P **P** **23 44 29.0 +0.1**
KECS pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
GKP Gorka Klasztor 80.97 324 *e*P **P** **23 44 29.6 -0.1**
VTS Vitosha 81.08 312 ⇑⇑P **P** **23 44 31.3 +1.1**
BZS Buzias 81.11 315 ⇑*i*P **P** **23 44 30.5 +0.1**
BZS Buzias 81.11 315 ⇑⇑P **P** **23 44 30.5 0.0**
PSZ Piszkesteto 81.40 318 *e*P **P** **23 44 32.3 +0.4**
PSZ pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
PSZ Piszkesteto 81.40 318 *e*P **P** **23 44 32.3 +0.4**
comp=Z,8.6nm,1.2s,mb4.6
OKC Ostrava-Krasne 81.75 320 *e*P **P** **23 44 32.7 -1.1**
VYHS Vyhne 81.84 319 *e*P **P** **23 44 34.8 +0.5**
VYHS pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
VAY Valandovo 81.96 311 *i*P **P** **23 44 33.4 -1.5**
MORC Moravsky Berou 82.14 320 *e*P **P** **23 44 36.2 +0.3**
MORC pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MORC Moravsky Berou 82.14 320 *e*P **P** **23 44 36.2 +0.4**
comp=Z,6.6nm,0.9s,mb4.6
GRUS Gruza 82.33 314 *i*P **P** **23 44 36.6 -0.3**
DLBC Dease Lake 82.41 30 *e*P **P** **23 44 37.8 +0.5**
KSP Ksiaz 82.46 322 *e*P **P** **23 44 38.2 +0.7**
SKO Skopje 82.52 312 *e*P **P** **23 44 37.2 -0.6**
DPC Dobruska-Polom 82.64 321 *e*P **P** **23 44 39.1 +0.6**
DPC *e*pP pP 23 44 47.2 +2.5
DIVS Divcibare 82.73 314 *i*P **P** **23 44 39.4 +0.4**
UPC Upice 82.75 321 *e*P **P** **23 44 39.9 +0.8**
PKSM Moragy 82.83 317 ⇓⇓P **P** **23 44 40.0 +0.6**
RUE Ruedersdorf 83.21 324 *e*P **P** **23 44 42.0 +0.6**
comp=Z,51nm,1.2s,mb5.4
RUE Ruedersdorf 83.21 324 *e*P **P** **23 44 41.3 -0.1**
comp=Z,31nm,0.9s,mb5.3
TREC Trest 83.56 320 *e*P **P** **23 44 43.8 +0.6**
KMBO Kilima Mbogo 83.67 266 P **P** **23 44 44.6 +0.8**
comp=Z,5.6nm,0.8s,mb4.8,baz=58,slow=7.6,SNR=16
BRG Berggiesshubel 83.80 322 *e*P **P** **23 44 44.9 +0.4**
comp=Z,19nm,1.1s,mb5.1
BRG Berggiesshubel 83.80 322 *i*P **P** **23 44 44.8 +0.4**
comp=Z,12nm,1.1s,mb4.9
BRG *e* 23 44 53.2
comp=Z,3.3nm,0.9s
BRG Berggiesshubel 83.80 322 *i*P **P** **23 44 44.8 +0.3**
BRG *e* 23 44 53.2
BRG pmax pmax
comp=Z,12nm,1.2s,mb4.9
BRG pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
PRU Pruhonice 83.83 321 *e*P **P** **23 44 44.9 +0.3**
PRU *e*pP pP 23 44 53.6 +2.8
CLL Collm 84.15 323 *e*P **P** **23 44 46.3 +0.1**
comp=Z,30nm,1.2s,mb5.3
CLL Collm 84.15 323 ⇓*i*P **P** **23 44 46.3 +0.1**
comp=Z,30nm,1.2s,mb5.3
CLL *e*PcP PcP 23 44 50.0 -0.1
CLL *e*PP PP 23 48 01.0 +0.5
CLL Collm 84.15 323 ⇓*i*P **P** **23 44 46.3 +0.1**
CLL pmax pmax
comp=Z,30nm,1.2s,mb5.3
BSEG Bad Segeberg 84.42 326 *e*P **P** **23 44 48.0 +0.4**
comp=Z,22nm,1.0s,mb5.2
BSEG Bad Segeberg 84.42 326 *e*P **P** **23 44 48.0 +0.4**
BSEG pmax pmax
comp=Z,22nm,1.0s,mb5.2
KHC Kasperske Hory 84.76 321 *e*P **P** **23 44 49.8 +0.4**
KHC *es*P sP 23 45 06.2 +8.4
GEC2 GERESS Array S 84.81 320 *e*P **P** **23 44 50.1 +0.5**
comp=Z,17nm,1.1s,mb5.1
GEC2 GERESS Array S 84.81 320 *e*P **P** **23 44 50.1 +0.5**
GEC2 pmax pmax
comp=Z,17nm,1.1s,mb5.1
GERES GERESS Array B 84.81 320 P **P** **23 44 49.5 -0.1**
comp=Z,6.1nm,0.8s,mb4.8,baz=104,slow=5.6,SNR=15
GOLS Golise 84.83 317 *e*P **P** **23 44 50.3 +0.6**
PERS Pernice 84.89 318 *e*P **P** **23 44 50.5 +0.5**
WERD Werda 84.92 322 *e*P **P** **23 44 50.5 +0.3**
comp=Z,23nm,1.5s,mb5.1
WET Wettzell 85.17 321 *e*P **P** **23 44 52.1 +0.7**
comp=Z,16nm,1.4s,mb5.0
WET Wettzell 85.17 321 *e*P **P** **23 44 52.1 +0.7**
WET pmax pmax
comp=Z,16nm,1.4s,mb5.0
MOX Moxa 85.23 323 *e*P **P** **23 44 52.0 +0.3**
comp=Z,25nm,1.4s,mb5.2
MOX Moxa 85.23 323 *e*P **P** **23 44 52.2 +0.5**
comp=Z,20nm,1.3s,mb5.1
MOX Moxa 85.23 323 *e*P **P** **23 44 52.2 +0.5**
MOX pmax pmax
comp=Z,20nm,1.3s,mb5.1
MANZ Manzenberg 85.24 322 *e*P **P** **23 44 52.6 +0.8**
comp=Z,13nm,1.2s,mb4.9
BOJS Bojanci 85.28 317 *e*P **P** **23 44 52.5 +0.5**
ROTZ Rotzenmuhle 85.28 322 *e*P **P** **23 44 52.8 +0.8**
comp=Z,21nm,1.1s,mb5.2
CLZ Clausthal 85.37 324 *e*P **P** **23 44 53.1 +0.7**
comp=Z,35nm,1.3s,mb5.3
CLZ Clausthal 85.37 324 *e*P **P** **23 44 53.1 +0.7**
CLZ pmax pmax
comp=Z,35nm,1.3s,mb5.3
LJU Ljubljana 85.51 318 *e*P **P** **23 44 53.5 +0.4**
GRA1 Grafenberg Arr 85.89 322 *e*P **P** **23 44 55.6 +0.6**
comp=Z,23nm,1.4s,mb5.2
GRF Grafenberg Arr 85.89 322 *e*P **P** **23 44 55.6 +0.6**
comp=Z,23nm,1.4s,mb5.2
GRF Grafenberg Arr 85.89 322 *e*P **P** **23 44 55.6 +0.6**
GRF pmax pmax
comp=Z,23nm,1.4s,mb5.2
GRF Grafenberg Arr 85.89 322 *e*P **P** **23 44 55.6 +0.6**
GRF pmax pmax
comp=Z,23nm,1.4s,mb5.2
CADS Cadrg 85.93 318 *e*P **P** **23 44 54.9 -0.3**
UBBA Unterbreizbach 86.06 323 *e*P **P** **23 44 56.2 +0.4**
comp=Z,12nm,1.3s,mb5.0
YKW3 Yellowknife Ar 86.47 22 *e*P **P** **23 44 57.5 -0.4**
YKW3 *e*pP pP 23 45 08.4 +4.3
YKA Yellowknife Ar 86.52 22 P **P** **23 44 57.8 -0.2**
comp=Z,6.0nm,1.0s,mb4.8,baz=313,slow=4.6,SNR=20
IBBN Ibbenburen 86.56 325 *e*P **P** **23 44 58.6 +0.3**
comp=Z,22nm,1.3s,mb5.2
TIP Timpagrande 86.89 311 *e*P **P** **23 45 00.1 +0.3**
CASY Casey 87.07 184 *e*P **P** **23 44 59.2 -1.6**
TNS Taunus Mts 87.21 323 *e*P **P** **23 45 02.2 +0.7**
comp=Z,6.0nm,1.3s,mb4.7
TNS Taunus Mts 87.21 323 *e*P **P** **23 45 02.2 +0.7**
TNS pmax pmax
comp=Z,6.0nm,1.3s,mb4.7
BUG Bochum--Univer 87.25 325 *e*P **P** **23 45 02.0 +0.3**
comp=Z,39nm,1.7s,mb5.4
AQU L'Aquila 87.84 315 *e*P **P** **23 45 05.4 +0.9**
AQU pmax pmax
comp=Z,13nm,1.0s,mb5.1
AQU L'Aquila 87.84 315 *e*P **P** **23 45 05.4 +0.9**
comp=Z,13nm,1.0s,mb5.1
WLF Walferdange 88.78 324 *e*P **P** **23 45 09.8 +0.9**
comp=Z,14nm,1.0s,mb5.2
WLF Walferdange 88.78 324 ⇑P **P** **23 45 09.6 +0.6**
comp=Z,6.9nm,0.8s,mb5.0
WLF Walferdange 88.78 324 *e*P **P** **23 45 08.8 -0.1**
WLF pmax pmax
comp=Z,11nm,0.8s,mb5.2
WLF Walferdange 88.78 324 *e*P **P** **23 45 08.8 -0.1**
comp=Z,11nm,0.8s,mb5.2
SNF Seneffe 89.35 325 P **P** **23 45 08.2 -3.4**
HAU Haudompre 89.52 322 *e*P **P** **23 45 12.6 +0.2**
LPG La Plagne 90.57 320 *e*P **P** **23 45 18.1 +0.8**
comp=Z,27nm,0.8s,mb5.3
LPG La Plagne 90.57 320 *e*P **P** **23 45 18.1 +0.8**
LPG pmax pmax
comp=Z,14nm,0.8s,mb5.3
LPG La Plagne 90.57 320 *e*P **P** **23 45 18.1 +0.8**
comp=Z,14nm,0.8s,mb5.3
LPL La Plagne 90.57 320 *e*P **P** **23 45 18.2 +0.9**
comp=Z,27nm,0.8s,mb5.3
LPL La Plagne 90.57 320 *e*P **P** **23 45 18.2 +0.9**
LPL pmax pmax
comp=Z,14nm,0.8s,mb5.3
LPL La Plagne 90.57 320 *e*P **P** **23 45 18.2 +0.9**
comp=Z,14nm,0.8s,mb5.3
PGF Pioggiola 90.64 316 *e*P **P** **23 45 17.9 +0.3**
comp=Z,21nm,0.8s,mb5.2
PGF Pioggiola 90.64 316 *e*P **P** **23 45 17.9 +0.3**
PGF pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
PGF Pioggiola 90.64 316 *e*P **P** **23 45 17.9 +0.3**
comp=Z,10nm,0.8s,mb5.2
BNI Bardonecchia 90.84 319 *e*P **P** **23 45 18.7 +0.1**
BNI pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
BNI Bardonecchia 90.84 319 *e*P **P** **23 45 18.7 +0.1**
comp=Z,6.0nm,0.8s,mb5.0
MBDF Montbardon 90.95 319 *e*P **P** **23 45 19.2 +0.1**
SBF Sospel 90.98 318 *e*P **P** **23 45 19.0 -0.2**
comp=Z,22nm,0.7s,mb5.3
SBF Sospel 90.98 318 *e*P **P** **23 45 19.0 -0.2**
SBF pmax pmax
comp=Z,11nm,0.7s,mb5.3
SBF Sospel 90.98 318 *e*P **P** **23 45 19.0 -0.2**
comp=Z,11nm,0.7s,mb5.3
LOR Lormes 91.34 322 *e*P **P** **23 45 20.5 -0.4**
comp=Z,22nm,1.3s,mb5.0
LOR Lormes 91.34 322 *e*P **P** **23 45 20.5 -0.4**
LOR pmax pmax
comp=Z,11nm,1.3s,mb5.0
LOR Lormes 91.34 322 *e*P **P** **23 45 20.5 -0.4**
comp=Z,11nm,1.3s,mb5.0
ORIF Oris-en-Rattie 91.40 320 *e*P **P** **23 45 21.7 +0.5**
comp=Z,14nm,0.8s,mb5.0
ORIF Oris-en-Rattie 91.40 320 *e*P **P** **23 45 21.7 +0.5**
ORIF pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
ORIF Oris-en-Rattie 91.40 320 *e*P **P** **23 45 21.7 +0.5**
comp=Z,6.8nm,0.8s,mb5.0
SSF Saint Saulge 91.66 322 *e*P **P** **23 45 21.9 -0.4**
SMF Signal de Mont 91.69 322 *e*P **P** **23 45 22.3 -0.2**
comp=Z,7.3nm,0.9s,mb4.7
SMF Signal de Mont 91.69 322 *e*P **P** **23 45 22.3 -0.2**
SMF pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
SMF Signal de Mont 91.69 322 *e*P **P** **23 45 22.3 -0.2**
comp=Z,3.7nm,0.9s,mb4.7
LMR La Mourre 91.83 318 *e*P **P** **23 45 23.2 +0.1**
comp=Z,23nm,1.1s,mb5.1
LMR La Mourre 91.83 318 *e*P **P** **23 45 23.2 +0.1**
LMR pmax pmax
comp=Z,12nm,1.0s,mb5.2
LMR La Mourre 91.83 318 *e*P **P** **23 45 23.2 +0.1**
comp=Z,12nm,1.0s,mb5.2
AVF Avril sur Loir 91.89 322 *e*P **P** **23 45 23.5 +0.1**
comp=Z,4.9nm,0.7s,mb4.6
AVF Avril sur Loir 91.89 322 *e*P **P** **23 45 23.5 +0.1**
AVF pmax pmax
comp=Z,2.0nm,0.7s,mb4.6
AVF Avril sur Loir 91.89 322 *e*P **P** **23 45 23.5 +0.1**
comp=Z,2.5nm,0.7s,mb4.7
SMRF Simiane la Rot 92.08 319 *e*P **P** **23 45 24.4 +0.1**
comp=Z,23nm,1.1s,mb5.1
SMRF Simiane la Rot 92.08 319 *e*P **P** **23 45 24.4 +0.1**
comp=Z,23nm,1.1s,mb5.4
VIVF Saint-Julien-l 92.16 320 *e*P **P** **23 45 24.3 -0.4**
comp=Z,11nm,1.0s,mb4.8
VIVF Saint-Julien-l 92.16 320 *e*P **P** **23 45 24.3 -0.4**
VIVF pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
VIVF Saint-Julien-l 92.16 320 *e*P **P** **23 45 24.3 -0.4**
comp=Z,5.6nm,1.0s,mb4.8
LDF La Druitiere 92.80 325 *e*P **P** **23 45 26.9 -0.7**
comp=Z,41nm,1.2s,mb5.4
LDF La Druitiere 92.80 325 *e*P **P** **23 45 26.9 -0.7**
LDF pmax pmax
comp=Z,21nm,1.2s,mb5.4
LDF La Druitiere 92.80 325 *e*P **P** **23 45 26.9 -0.7**
comp=Z,21nm,1.2s,mb5.4
TCF Toulx Ste Croi 92.83 322 *e*P **P** **23 45 27.3 -0.5**
comp=Z,9.3nm,0.9s,mb4.9
TCF Toulx Ste Croi 92.83 322 *e*P **P** **23 45 27.3 -0.5**
TCF pmax pmax
comp=Z,5.0nm,0.9s,mb4.9
TCF Toulx Ste Croi 92.83 322 *e*P **P** **23 45 27.3 -0.5**
comp=Z,4.7nm,0.9s,mb4.9
FLN La Foliniere 92.89 325 *e*P **P** **23 45 27.7 -0.4**
RJF Les Rejaudoux 93.78 322 *e*P **P** **23 45 32.3 +0.1**
comp=Z,64nm,1.7s,mb5.5
RJF Les Rejaudoux 93.78 322 *e*P **P** **23 45 32.3 +0.1**
RJF pmax pmax
comp=Z,32nm,1.7s,mb5.5
RJF Les Rejaudoux 93.78 322 *e*P **P** **23 45 32.3 +0.1**
comp=Z,32nm,1.7s,mb5.5
MFF Saint Martin d 93.98 323 *e*P **P** **23 45 32.0 -1.1**
comp=Z,53nm,1.6s,mb5.4
MFF Saint Martin d 93.98 323 *e*P **P** **23 45 32.0 -1.1**
MFF pmax pmax
comp=Z,26nm,1.6s,mb5.4
MFF Saint Martin d 93.98 323 *e*P **P** **23 45 32.0 -1.1**
comp=Z,26nm,1.6s,mb5.4
MTLF Montolieu 94.47 320 *e*P **P** **23 45 35.2 -0.1**
comp=Z,13nm,1.3s,mb4.9
MTLF Montolieu 94.47 320 *e*P **P** **23 45 35.2 -0.1**
MTLF pmax pmax
comp=Z,7.0nm,1.3s,mb4.9
MTLF Montolieu 94.47 320 *e*P **P** **23 45 35.2 -0.1**
comp=Z,6.5nm,1.3s,mb4.9
TORD Torodi Ar. Bea 110.70 294 PP PP 23 51 26.5 +1.9
comp=Z,0.7nm,0.9s,baz=57,slow=5.5,SNR=3.7
SDV Santo Domingo 148.72 21 *e*PKPbc PKPbc 23 52 02.4 0.0
LPAZ La Paz 171.05 62 PKP PKPdf 23 52 25.2 +1.8
comp=Z,2.0nm,1.0s,baz=17,slow=1.5,SNR=7.4
LPAZ La Paz 171.05 62 PKP PKPdf 23 52 25.2 +1.8

IDC ***27*** *23:49:32.7±0.5, 4993N×178.41E, h0km, mb4.6/25, mb1 4.7/25, mb1mx4.7/27, mbtmp4.6/25, MS3.8/7, Ms1 3.7/7, ms1mx3.4/30, Error ellipse: s-maj=18.1km s-min=11.6km az=146.0*

ISCJB ***27*** *23:49:33.5±0.2, 4997N±004×178.44E±004, h10km, mb4.8/138, MS4.1/13, Error ellipse: s-maj=6.2km s-min=3.4km az=169.4*

MOS ***27*** *23:49:33.1±0.9, 4991N×178.42E, h10km, mb5.0/83, Error ellipse: s-maj=8.3km s-min=4.8km az=96.1*

HRVD ***27*** *23:49:34.8±0.6, 50.11N×178.37E, h15km±1km, MW4.7/57, Centroid moment Tensor Solution. LP body waves: s9,c10;Mantle waves: s57,c71; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.42±.15; Mθθ1.39±.11; Mϕϕ0.02±.08; Mr0.11±.17; Mθϕ-0.21±.06; Mϕr0.03±.23; Best double couple: M₀1.42600×10¹⁶ NP1:ϕ₁101.00000°, δ43.00000°, λ-87.00000°. NP2:ϕ₂277.00000°, δ47.00000°, λ-93.00000°. Principal axes: T 1.4260, Plg2.0000°, Azm9.0000°; N -0.0050, Plg2.0000°, Azm278.0000°; P -1.4250, Plg87.0000°, Azm144.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***27*** *23:49:34.0, 5028N×178.05E, h10km, mB5.1, mb4.9, Ms4.8, Msz4.4*

NEIC ***27*** *23:49:34.9±0.2, 4993N×178.44E, h10km, mb4.9/99, MS4.6/1, ML4.7(AEIC), Error ellipse: s-maj=5.2km s-min=2.7km az=175.0*

SZGRF ***27*** *23:49:40.7, 5027N×178.66W, h30km, mb4.7, Andreanof Islands, Aleutian Islands, United States*

ISC 27 23:49:34.4±1.9, 5006N±005×17839E±004, h5km±11km, h18km±3.3km: pP-P, n340, σ0s80/333, mb4.8/138, MS4.1/13, 15C-18D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**1.44**	**23**	P	**Pn**	**23 50 00.6**	**-0.5**
AMKA				S	**Sb**	**23 50 18.2**	**-2.1**
SMY	**Shemya**	**3.79**	**316**	P	**Pn**	**23 50 34.5**	**+1.1**
ATKA	**Atka Island**	**5.13**	**62**	P	**Pn**	**23 50 51.8**	**-0.1**
NIKO	**Nikolski**	**8.47**	**65**	P	**Pn**	**23 51 37.7**	**0.0**
OKCD	**Okmok Cone D**	**9.03**	**63**	P	**Pn**	**23 51 45.2**	**-0.1**
SPIA	**Saint Paul Isl**	**9.81**	**39**	P	**Pn**	**23 51 56.3**	**+0.3**
AKUT	**Akutan**	**10.56**	**61**	*e*Pn	**Pn**	**23 52 06.0**	**-0.2**
PET	**Petropavlovsk**	**12.64**	**291**	*e*P	**Pn**	**23 52 36.6**	**+1.9**
PET				*e*S	**Sn**	**23 54 53.9**	**-1.9**
PET				pmax	pmax		
	comp=Z,20nm,0.8s						
PET				smax			
	comp=E,100nm,11.4s						
PET				MLR	MLR		
	comp=Z,200nm,16.0s						
PET	**Petropavlovsk**	**12.64**	**291**	*e*Pn	**Pn**	**23 52 35.7**	**+1.0**
	comp=Z,11nm,0.6s						
SKR	**Severo-Kuril's**	**14.22**	**281**	*e*P	**Pn**	**23 52 50.4**	**-6.0**
MA2	**Magadan**	**18.42**	**312**	*d*P	**Pn**	**23 53 52.2**	**+1.8**
MA2				*e*S	**Sn**	**23 57 13.6**	**-2.8**
MA2				pmax	pmax		
	comp=Z,40nm,1.1s						
MA2				pmax	pmax		
	comp=N,20nm,1.0s						
MA2	**Magadan**	**18.42**	**312**	*e*P	**Pn**	**23 53 51.9**	**+1.6**
	comp=N,15nm,0.8s						
KDAK	**Kodiak Island**	**18.64**	**54**	P	**Pn**	**23 53 49.5**	**-3.6**
	comp=N,0.8nm,0.3s,baz=170,slow=4.9,SNR=6.4						
KDAK				S	**Sn**	**23 57 07.6**	**-14**
	comp=N,0.3nm,0.3s,baz=360,slow=19,SNR=2.5						
KDAK	**Kodiak Island**	**18.64**	**54**	*e*P	**Pn**	**23 53 51.5**	**-1.7**
	comp=N,16nm,0.9s						
TTA	**Tatalina**	**18.95**	**37**	*e*P	**Pn**	**23 53 56.5**	**-0.3**
TTA				pmax	pmax		
	comp=Z,22nm,1.1s						
TTA	**Tatalina**	**18.95**	**37**	*e*P	**Pn**	**23 53 56.5**	**-0.3**
	comp=Z,22nm,1.1s						
BILL	**Bilibino**	**19.01**	**346**	*e*P	**Pn**	**23 53 58.4**	**+0.8**
BILL				pmax	pmax		
	comp=Z,22nm,0.8s						
BILL	**Bilibino**	**19.01**	**346**	*e*P	**Pn**	**23 53 58.2**	**+0.6**
	comp=Z,26nm,0.7s						
PMR	**Palmer**	**21.33**	**45**	*e*P	**P**	**23 54 22.1**	**0.0**
PMR				pmax	pmax		
	comp=Z,9.0nm,0.3s,mb4.6						
PMR	**Palmer**	**21.33**	**45**	*e*P	**P**	**23 54 22.1**	**0.0**
	comp=Z,8.8nm,0.3s,mb4.6						
EYAK	**Cordova Ski Ar**	**22.65**	**49**	*e*P	**P**	**23 54 35.3**	**-1.0**
COLA	**College**	**23.05**	**37**	*e*P	**P**	**23 54 39.8**	**-0.7**
COLA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.1						
COLA	**College**	**23.05**	**37**	*e*P	**P**	**23 54 39.8**	**-0.7**
	comp=Z,6.8nm,0.8s,mb4.1						
ILAR	**Eielson Array**	**23.39**	**38**	P	**P**	**23 54 42.0**	**-2.1**
	comp=Z,2.8nm,0.6s,mb3.9,baz=245,slow=9.2,SNR=23						
YSS	**Yuzh-Sakhalins**	**23.68**	**276**	*e*P	**P**	**23 54 47.2**	**+0.3**
YSS				*e*		23 55 15.5	
YSS				pmax	pmax		
	comp=Z,30nm,0.9s,mb4.7						
YSS	**Yuzh-Sakhalins**	**23.68**	**276**	*e*P	**P**	**23 54 47.7**	**+0.8**
	comp=Z,15nm,0.7s,mb4.5						
ASAJ	**Asahikawa**	**24.92**	**270**	P	**P**	**23 54 57.0**	**-1.2**
	comp=Z,33nm,0.8s,mb4.9,baz=95,slow=4.7,SNR=15						
ASAJ	**Asahikawa**	**24.92**	**270**	P	**P**	**23 54 57.1**	**-1.2**
ASAJ				pmax	pmax		
	comp=Z,33nm,0.8s						
DAWY	**Dawson**	**26.28**	**42**	*e*P	**P**	**23 55 10.0**	**-0.6**
SKAG	**Skagway**	**27.76**	**52**	*e*P	**P**	**23 55 24.2**	**+0.3**
YAK	**Yakutsk**	**28.98**	**313**	*e*P	**P**	**23 55 33.9**	**-0.9**
YAK				pmax	pmax		
	comp=Z,50nm,1.1s,mb5.2						
YAK	**Yakutsk**	**28.98**	**313**	*e*P	**P**	**23 55 33.9**	**-0.9**
	comp=Z,50nm,1.1s,mb5.2						
INK	**Inuvik**	**29.56**	**34**	P	**P**	**23 55 38.5**	**-1.4**
	comp=Z,1.3nm,0.4s,mb4.0,baz=239,slow=7.9,SNR=7.9						
INK				LR	LR	00 10 13.5	
	comp=Z,190nm,18.5s,MS3.8,baz=76,slow=42						

KLR **Kul'dur** **29.84** **287** *e*P **P** **23 55 39.6 -2.8**
KLR pmax pmax
comp=E,30nm,1.6s
KLR pmax pmax
comp=E,74nm,1.6s,mb5.2
DLBC **Dease Lake** **30.58** **54** *e*P **P** **23 55 50.9 +2.0**
TIXI **Tiksi** **30.94** **332** *e*P **P** **23 55 50.4 -1.7**
TIXI pmax pmax
comp=E,4.0nm,0.7s,mb4.4
TIXI MLR MLR
comp=E,278nm,11.0s,MS4.2
MJAR **Matsushiro Arr** **31.81** **260** P **P** **23 55 59.7 -0.1**
comp=E,3.5nm,0.8s,mb4.3,baz=54,slow=7.1,SNR=11
MAJO **Matsushiro** **31.81** **260** *e*P **P** **23 55 59.9 +0.1**
MAJO pmax pmax
comp=E,13nm,0.9s,mb4.8
MAJO **Matsushiro** **31.81** **260** *e*P **P** **23 55 59.9 +0.1**
comp=E,13nm,0.9s,mb4.8
MDJ **Mudanjiang** **33.03** **280** P **P** **23 56 09.3 -1.2**
MDJ AP pP 23 56 12.5 +0.4
MDJ XP sP 23 56 13.8 +1.1
MDJ AMB AMB
comp=E,10.0nm,0.8s,mb4.8
MDJ AMB AMB
comp=E,188nm,7.4s
CN2 **Changchun** **36.04** **281** *e*P **P** **23 56 36.5 -0.1**
CN2 AMB AMB
comp=E,10.0nm,1.0s,mb4.7
BOD **Bodaibo** **37.35** **307** ⇓ *i*P **P** **23 56 46.7 -1.0**
BOD pmax pmax
comp=E,17nm,0.8s,mb4.9
YKW3 **Yellowknife Ar** **37.41** **45** *e*P **P** **23 56 48.2 -0.1**
YKA **Yellowknife Ar** **37.43** **45** P **P** **23 56 48.7 +0.3**
comp=Z,4.9nm,0.6s,mb4.5,baz=282,slow=8.3,SNR=35
YKA PcP PcP 23 59 05.3 -1.8
comp=Z,1.0nm,0.6s,baz=284,slow=3.2,SNR=5.7
YKA LR LR 00 14 28.8
comp=Z,167nm,18.1s,MS3.9,baz=275,slow=40
YKA **Yellowknife Ar** **37.43** **45** P **P** **23 56 48.7 +0.3**
YKA 23 59 05.3
YKA **Yellowknife Ar** **37.43** **45** P **P** **23 56 48.7 +0.3**
YKA PcP PcP 23 59 05.3 -1.8
YKA LR LR 00 14 28.8
KS15 **Wonju Array Si** **37.90** **270** *e*P **P** **23 56 52.3 -0.1**
CIT **Chita** **39.60** **299** *e*P **P** **23 57 07.6 +0.9**
CIT *e* 23 59 10.4
CIT pmax pmax
comp=Z,36nm,1.5s,mb4.9
EDM **Edmonton** **41.02** **58** *e*P **P** **23 57 18.7 +0.3**
NEW **Newport** **41.03** **67** *e*P **P** **23 57 17.9 -0.6**
NEW pmax pmax
comp=Z,9.0nm,0.7s
NEW **Newport** **41.03** **67** *e*P **P** **23 57 17.9 -0.6**
comp=Z,8.5nm,0.7s,mb4.5
RES **Resolute Bay** **41.67** **24** *e*P **P** **23 57 24.1 +0.3**
RES *e* 23 59 18.9
WALA **Waterton Lakes** **42.54** **64** *e*P **P** **23 57 30.5 -0.4**
comp=Z,10nm,0.8s,mb4.6
WVOR **Wild Horse Val** **43.04** **75** *e*P **P** **23 57 35.3 +0.3**
WVOR pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
WVOR **Wild Horse Val** **43.04** **75** *e*P **P** **23 57 35.2 +0.3**
comp=Z,7.4nm,1.0s,mb4.4
MSO **Missoula** **43.61** **67** *e*P **P** **23 57 38.6 -1.0**
comp=Z,3.6nm,0.8s,mb4.2
MSO *e*PcP PcP 23 59 26.3 -0.7
CHMT **Chamberlain Mo** **43.98** **67** *e*P **P** **23 57 42.4 -0.1**
CMB **Columbia Colle** **44.43** **81** *e*P **P** **23 57 46.9 +0.8**
CMB pmax pmax
comp=Z,17nm,1.3s,mb4.6
CMB **Columbia Colle** **44.43** **81** *e*P **P** **23 57 46.9 +0.8**
comp=Z,17nm,1.3s,mb4.6
HRY **Holter Researc** **44.92** **66** *e*P **P** **23 57 49.8 -0.3**
HLID **Hailey** **45.04** **71** *e*P **P** **23 57 50.6 -0.4**
comp=Z,5.4nm,1.1s,mb4.3
ULN **Ulaanbaatar** **45.24** **296** *e*P **P** **23 57 52.8 +0.2**
ULN pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
ULN **Ulaanbaatar** **45.24** **296** *e*P **P** **23 57 52.8 +0.2**
comp=Z,10nm,0.9s,mb4.7
TLY **Talaya** **45.26** **302** *e*P **P** **23 57 53.0 +0.2**
TLY *e*S **S** **00 04 44.9 +11**
TLY pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
TLY MLR MLR
comp=Z,344nm,16.0s,MS4.4
TLY **Talaya** **45.26** **302** *e*P **P** **23 57 53.0 +0.3**
comp=Z,4.8nm,0.8s,mb4.4
MCMT **McKenzie Canyo** **45.30** **69** *e*P **P** **23 57 52.7 -0.3**
EGMT **Eagleton** **45.45** **64** *e*P **P** **23 57 54.1 -0.2**
comp=Z,5.3nm,0.8s,mb4.4
NVAR **Mina Array Bea** **45.52** **80** P **P** **23 57 55.2 +0.4**
comp=Z,4.6nm,0.8s,mb4.4,baz=288,slow=7.9,SNR=8.7
BOZ **Bozeman (W)** **45.59** **67** *e*P **P** **23 57 55.1 -0.3**
BOZ pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
BOZ **Bozeman (W)** **45.59** **67** *e*P **P** **23 57 55.1 -0.3**
comp=Z,10nm,0.6s,mb4.9
MNV **Mina** **45.61** **79** *e*P **P** **23 57 56.2 +0.7**
MNV pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
MNV **Mina** **45.61** **79** *e*P **P** **23 57 56.1 +0.6**
comp=Z,9.2nm,1.1s,mb4.6
SONM **Songino Array** **45.64** **296** P **P** **23 57 56.6 +0.9**
comp=Z,4.7nm,0.7s,mb4.5,baz=63,slow=7.9,SNR=42
SONM PcP PcP 23 59 33.4 -0.6
comp=Z,3.4nm,0.7s,baz=68,slow=2.0,SNR=9.9
MTUM **Tungsten Hills** **45.99** **81** *e*P **P** **23 57 59.6 +1.0**
ELK **Elko** **46.10** **75** *e*P **P** **23 57 59.8 +0.4**
ELK *e* 23 58 08.3
ELK pmax pmax
comp=Z,6.0nm,0.9s
ELK **Elko** **46.10** **75** *e*P **P** **23 57 59.8 +0.4**
comp=Z,6.1nm,0.9s,mb4.5
ELK *e* 23 58 08.3
ZAK **Zakamensk** **46.10** **301** *e*P **P** **23 58 00.2 +0.8**
ZAK *e* 23 59 34.3
ZAK pmax pmax
comp=Z,19nm,1.5s,mb4.8
ZAK pmax pmax
comp=Z,7.0nm,2.1s,mb4.2
HHC **Hu-ho-hao-te** **46.33** **285** *e*P **P** **23 58 01.5 +0.3**
HHC AP pP 23 58 06.0 +3.2
HHC XP sP 23 58 09.3 +5.9
HHC PCP PcP 23 59 37.8 +1.4
HHC PP PP 23 59 50.5 +0.7
HHC AMB AMB
comp=Z,19nm,1.0s,mb5.0
HHC AMB AMB
comp=Z,176nm,6.2s
HHC LR LR
comp=N,401nm,14.3s,MS4.6
HHC LR LR
comp=E,260nm,15.3s,MS4.6
HHC LR LR
comp=Z,362nm,13.0s,MS4.5
FFC **Flin Flon** **46.36** **52** *e*P **P** **23 58 01.0 -0.4**
FFC pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
FFC **Flin Flon** **46.36** **52** *e*P **P** **23 58 01.0 -0.5**
comp=Z,3.0nm,0.6s,mb4.4
GCMT **Greycliff** **46.68** **66** *e*P **P** **23 58 03.5 -0.4**
IMW **Indian Meadow** **46.96** **69** *e*P **P** **23 58 07.3 +1.2**
comp=Z,7.3nm,1.0s,mb4.6
TPNV **Topopah Spring** **47.71** **80** *e*P **P** **23 58 11.8 -0.2**
TPNV pmax pmax
comp=Z,12nm,0.9s,mb4.9
TPNV **Topopah Spring** **47.71** **80** *e*P **P** **23 58 11.8 -0.1**
comp=Z,12nm,0.9s,mb4.9
HWUT **Hardware Ranch** **47.87** **72** *e*P **P** **23 58 13.8 +0.6**
comp=Z,1.8nm,0.5s,mb4.4
DUG **Dugway** **47.92** **74** *e*P **P** **23 58 13.8 +0.2**
DUG pmax pmax
comp=Z,15nm,1.2s,mb4.9
DUG **Dugway** **47.92** **74** *e*P **P** **23 58 13.8 +0.1**
comp=Z,15nm,1.2s,mb4.9
FCC **Fort Churchill** **48.16** **44** *e*P **P** **23 58 15.3 -0.1**
FCC pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
FCC **Fort Churchill** **48.16** **44** *e*P **P** **23 58 15.3 -0.1**
comp=Z,8.3nm,0.8s,mb4.8
BW06 **Boulder Array** **48.43** **69** *e*P **P** **23 58 17.0 -0.5**
comp=Z,5.7nm,0.8s,mb4.7
PDAR **Pinedale Array** **48.43** **69** P **P** **23 58 17.7 +0.2**
comp=Z,7.6nm,0.8s,mb4.8,baz=308,slow=4.9,SNR=26
DAU **Daniels Canyon** **48.76** **73** *e*P **P** **23 58 21.2 +1.1**

PFO **Pinyon Flat Ob** **49.66** **83** *e*P **P** **23 58 26.9 -0.1**
PFO pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
PFO **Pinyon Flat Ob** **49.66** **83** *e*P **P** **23 58 26.9 -0.1**
comp=Z,5.0nm,0.8s,mb4.6
RSSD **Black Hills** **50.92** **65** *e*P **P** **23 58 36.1 -0.4**
WHN **Wuhan** **50.95** **273** P **P** **23 58 36.3 -0.4**
GLA **Glamis** **51.06** **83** *e*P **P** **23 58 37.5 -0.1**
ULM **Lac du Bonnet** **51.90** **54** P **P** **23 58 43.4 -0.5**
comp=Z,4.2nm,0.6s,mb4.5,baz=306,slow=7.7,SNR=8.7
ULM PcP PcP 23 59 55.4 -1.2
comp=Z,2.3nm,0.4s,baz=300,slow=6.4,SNR=5.9
ULM LR LR 00 18 18.5
comp=Z,51nm,20.4s,MS3.5,baz=340,slow=33
ULM **Lac du Bonnet** **51.90** **54** P **P** **23 58 43.4 -0.5**
ULM PcP PcP 23 59 55.4 -1.2
ULM LR LR 00 18 18.5
ZAL **Zalesovo** **53.65** **313** P **P** **23 58 56.1 -0.7**
comp=Z,0.9nm,0.7s,mb3.8,baz=69,slow=6.9,SNR=6.3
ZAL PcP PcP 00 00 02.4 -0.8
comp=Z,1.6nm,0.8s,baz=91,slow=4.5,SNR=5.9
NVS **Novosibirsk** **53.83** **314** ⇓ *i*P **P** **23 58 56.5 -1.6**
NVS pmax pmax
comp=Z,26nm,1.6s,mb4.9
NVS pmax pmax
comp=N,12nm,1.7s
NVS pmax pmax
comp=E,17nm,1.5s
LZH **Lanzhou** **54.02** **285** *e*P **P** **23 58 59.5 0.0**
LZH AP pP 23 59 02.8 +1.6
LZH XP sP 23 59 04.8 +3.0
LZH AMB AMB
comp=Z,23nm,1.2s,mb5.0
LZH AMB AMB
comp=Z,52nm,5.7s
LZH LR LR
comp=N,376nm,16.2s
LZH LR LR
comp=Z,512nm,18.4s,MS4.6
LZH **Lanzhou** **54.02** **285** *e*P **P** **23 58 59.5 0.0**
LZH *PP pP 23 59 02.8 +1.6
LZH *SP sP 23 59 04.7 +2.9
LZH 00 01 02.6
LZH pmax pmax
comp=Z,23nm,1.2s,mb5.0
LZH MLR MLR
comp=Z,510nm,18.4s,MS4.6
LZH **Lanzhou** **54.02** **285** *e*P **P** **23 58 59.5 0.0**
comp=Z,23nm,1.2s,mb5.0
LZH pP pP 23 59 02.8 +1.6
LZH sP sP 23 59 04.7 +2.9
LZH PP PP 00 01 02.6 +1.7
LZH LR LR
comp=Z,510nm,18.4s,MS4.6
TUC **Tucson** **54.13** **81** *e*P **P** **23 58 59.2 -1.1**
TUC pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
TUC **Tucson** **54.13** **81** *e*P **P** **23 58 59.2 -1.1**
comp=Z,6.2nm,1.0s,mb4.5
GTA **Gaotai** **54.38** **291** *e*P **P** **23 59 02.5 +0.3**
GTA AP pP 23 59 07.0 +3.2
GTA XP sP 23 59 10.3 +5.9
GTA AMB AMB
comp=Z,14nm,1.0s,mb4.8
GTA AMB AMB
comp=Z,123nm,6.8s
GTA LR LR
comp=N,276nm,19.4s,MS4.5
GTA LR LR
comp=E,245nm,18.6s,MS4.5
GTA LR LR
comp=Z,237nm,14.8s,MS4.4
SUMG **Summit** **54.99** **13** *e*P **P** **23 59 06.9 +0.4**
comp=Z,17nm,1.0s,mb5.0
ANMO **Albuquerque** **55.13** **75** *e*P **P** **23 59 07.7 +0.1**
ANMO *e* 00 00 07.4
ANMO pmax pmax
comp=Z,3.0nm,0.9s
ANMO **Albuquerque** **55.13** **75** *e*P **P** **23 59 07.7 +0.2**
comp=Z,3.0nm,0.9s,mb4.3
ANMO *e*PcP PcP 00 00 07.4 -1.4
BNM **Barren Site** **55.54** **76** *e*P **P** **23 59 11.1 +0.5**
EYMN **Ely** **55.59** **55** *e*P **P** **23 59 10.4 -0.5**
comp=Z,18nm,1.1s,mb5.0
WMQ **Urumqi** **58.54** **302** ⇓ *i*P **P** **23 59 32.5 +0.7**
WMQ AP pP 23 59 37.0 +3.6
WMQ XP sP 23 59 39.5 +5.5
WMQ AMB AMB
comp=Z,19nm,0.9s,mb5.1
WMQ AMB AMB
comp=Z,133nm,5.5s
WMQ LR LR
comp=N,164nm,16.3s,MS4.3
WMQ LR LR
comp=E,82nm,15.3s,MS4.3
WMQ LR LR
comp=Z,119nm,20.5s
KURK **Kurchatov** **58.62** **313** *e*P **P** **23 59 31.9 -0.5**
KURK pmax pmax
comp=Z,25nm,1.0s,mb5.2
KURK **Kurchatov** **58.62** **313** *e*P **P** **23 59 31.9 -0.4**
comp=Z,26nm,1.0s,mb5.2
GYA **Guiyang** **58.67** **275** P **P** **23 59 32.0 -0.7**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
KEV **Kevo** **58.68** **349** *e*p **P** **23 59 31.1 -1.6**
comp=Z,0.4nm,0.3s,mb3.9
ARCES **ARCESS Array B** **59.07** **349** P **P** **23 59 35.1 -0.4**
comp=Z,7.9nm,0.7s,mb4.9,baz=30,slow=9.1,SNR=27
ARCES PcP PcP 00 00 23.3 -1.0
comp=Z,6.9nm,0.9s,baz=0.0,slow=6.4,SNR=4.3
ARCES LR LR 00 29 42.2
comp=Z,68nm,19.3s,MS3.8,baz=166,slow=41
ARCES **ARCESS Array B** **59.07** **349** P **P** **23 59 35.1 -0.4**
ARCES 00 00 23.3
ARCES **ARCESS Array B** **59.07** **349** P **P** **23 59 35.1 -0.4**
ARCES PcP PcP 00 00 23.3 -1.0
ARCES LR LR 00 29 42.2
ARE0 **ARCESS Array S** **59.07** **349** *e*P **P** **23 59 34.6 -0.8**
MKAR **Makanchi Array** **59.44** **307** P **P** **23 59 37.2 -0.8**
comp=Z,3.8nm,0.8s,mb4.5,baz=56,slow=6.8,SNR=38
WMOK **Wichita Mounta** **60.00** **71** *e*P **P** **23 59 41.7 -0.2**
WMOK pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
WMOK **Wichita Mounta** **60.00** **71** *e*P **P** **23 59 41.7 -0.2**
comp=Z,5.9nm,1.0s,mb4.6
CHKZ **Chkalovo** **60.17** **319** *e*P **P** **23 59 42.5 -0.5**
CHKZ pmax pmax
comp=Z,30nm,0.7s,mb5.4
CHKZ **Chkalovo** **60.17** **319** *e*P **P** **23 59 42.5 -0.5**
comp=Z,30nm,0.7s,mb5.4
BRVK **Borovoye** **60.75** **319** *e*P **P** **23 59 47.3 +0.3**
BRVK pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
BRVK **Borovoye** **60.75** **319** *e*P **P** **23 59 47.3 +0.3**
comp=Z,6.9nm,0.6s,mb5.0
ZRNK **Zerenda** **61.36** **319** *e*P **P** **23 59 51.3 +0.1**
ZRNK pmax pmax
comp=Z,13nm,0.7s,mb5.2
ZRNK **Zerenda** **61.36** **319** *e*P **P** **23 59 51.3 +0.1**
comp=Z,13nm,0.7s,mb5.2
TMCR **Tamitsa** **61.98** **342** *e*P **P** **23 59 54.8 -0.5**
TMCR pmax pmax
comp=Z,20nm,0.9s,mb5.2
TMCR pmax pmax
comp=N,20nm,0.7s
TMCR pmax pmax
comp=E,20nm,0.8s
KMI **Kunming** **62.12** **277** P **P** **23 59 56.1 -0.2**
KMI *PP pP 00 00 00.6 +2.7
KMI *SP sP 00 00 01.9 +3.4
KMI 00 02 16.1
KMI S **S** **00 08 20.3 -1.6**
KMI SS SS 00 12 24.2 -0.4
KMI pmax pmax
comp=Z,11nm,0.6s,mb5.2
KMI **Kunming** **62.12** **277** P **P** **23 59 56.1 -0.2**
comp=Z,11nm,0.6s,mb5.2
KMI pP pP 00 00 00.6 +2.7
KMI sP sP 00 00 01.9 +3.4
KMI PP PP 00 02 16.1 +3.2
KMI S **S** **00 08 20.3 -1.6**
KMI sS sS 00 08 25.4 +0.8
KMI SS SS 00 12 24.2 -0.4
SCHQ **Schefferville** **62.13** **36** P **P** **23 59 56.3 -0.1**
comp=Z,3.8nm,0.5s,mb4.8,baz=291,slow=4.2,SNR=11
SCHQ LR LR 00 29 24.2
comp=Z,85nm,19.5s,MS3.9,baz=19,slow=38
JCT **Junction City** **62.28** **75** *e*P **P** **23 59 56.4 -0.9**
JCT pmax pmax
comp=Z,14nm,1.3s,mb4.9
JCT **Junction City** **62.28** **75** *e*P **P** **23 59 56.4 -0.9**
comp=Z,14nm,1.3s,mb4.9
ARU **Arti** **62.77** **327** ⇑ *i*P **P** **00 00 00.4 -0.2**
ARU *e* 00 00 36.1
ARU *e* 00 02 17.0
ARU *e*S **S** **00 08 30.3 +0.3**
ARU *e*SS SS 00 12 41.1 +6.4
ARU pmax pmax
comp=Z,12nm,0.8s,mb5.1
ARU **Arti** **62.77** **327** *e*P **P** **00 00 00.6 0.0**
comp=Z,8.9nm,0.5s,mb5.2
MIAR **Mount Ida** **63.27** **67** *e*P **P** **00 00 03.2 -0.7**
MIAR pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
MIAR **Mount Ida** **63.27** **67** *e*P **P** **00 00 03.2 -0.7**
comp=Z,7.9nm,0.8s,mb4.9
JOF **Joensuu** **64.39** **344** *e*p **P** **00 00 10.6 -0.8**
comp=Z,11nm,0.5s,mb5.1
JOF **Joensuu** **64.39** **344** *e*P **P** **00 00 10.6 -0.8**
JOF pmax pmax
comp=Z,11nm,0.5s,mb5.1
KLMR **Klimovskoe** **64.59** **339** *d i*P **P** **00 00 12.6 -0.1**
KLMR pmax pmax
comp=Z,30nm,1.2s,mb5.2
WCI **Wyandotte Cave** **64.90** **60** *e*P **P** **00 00 14.2 -0.5**
WCI pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
WCI **Wyandotte Cave** **64.90** **60** *e*P **P** **00 00 14.2 -0.5**
comp=Z,7.8nm,0.9s,mb4.7
HKT **Hockley** **65.10** **73** *e*P **P** **00 00 16.4 +0.4**
HKT pmax pmax
comp=Z,15nm,1.4s,mb4.8
HKT **Hockley** **65.10** **73** *e*P **P** **00 00 16.4 +0.4**
comp=Z,15nm,1.4s,mb4.8
WVT **Waverly** **65.51** **63** *e*P **P** **00 00 18.3 -0.3**
WVT pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
WVT **Waverly** **65.51** **63** *e*P **P** **00 00 18.3 -0.3**
comp=Z,3.8nm,0.8s,mb4.5
KAF **Kangasniemi** **65.98** **346** *e*p **P** **00 00 20.6 -1.1**
comp=Z,6.8nm,0.6s,mb4.8,baz=16,slow=5.7
KAF **Kangasniemi** **65.98** **346** *e*P **P** **00 00 20.6 -1.1**
KAF pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
FRU **Bishkek** **66.11** **309** ⇓ *i*P **P** **00 00 23.0 +0.5**
FRU pmax pmax
comp=Z,20nm,1.4s,mb5.0
AAK **Ala-Archa** **66.31** **309** *e*P **P** **00 00 23.3 -0.5**
AAK pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
AAK **Ala-Archa** **66.31** **309** *e*P **P** **00 00 23.3 -0.5**
comp=Z,5.4nm,0.6s,mb4.8
FINES **FINESS Array B** **66.65** **346** P **P** **00 00 25.1 -0.8**
comp=Z,6.0nm,0.7s,mb4.7,baz=27,slow=7.9,SNR=34
FINES LR LR 00 33 53.1
comp=Z,65nm,18.6s,MS3.9,baz=284,slow=40
KKM **Kota Kinabalu** **67.72** **252** P **P** **00 00 32.7 0.0**
NB2 **NORSAR Subarra** **68.77** **353** P **P** **00 00 39.2 -0.1**
comp=Z,22nm,0.8s,mb5.2,baz=6.9,slow=6.5
NOA **NORSAR Array B** **68.77** **353** P **P** **00 00 39.3 0.0**
comp=Z,19nm,0.7s,mb5.1,baz=9.1,slow=6.3,SNR=85
NOA LR LR 00 33 21.3
comp=Z,42nm,19.3s,MS3.7,baz=5.0,slow=38
MOS **Moscow** **69.62** **338** *e*P **P** **00 00 45.1 +0.5**
MOS pmax pmax
comp=Z,50nm,0.9s,mb5.4
OBN **Obninsk** **70.44** **338** ⇑ *e*P **P** **00 00 49.7 0.0**
OBN pmax pmax
comp=Z,30nm,1.2s,mb5.1
JIRN **Jiri** **70.67** **290** *e*P **P** **00 00 51.9 +0.9**
comp=Z,46nm,0.7s,mb5.5
GUN **Gumba** **70.67** **290** *e*P **P** **00 00 51.8 +0.8**
comp=Z,44nm,0.7s,mb5.5
KKN **Kakani** **71.12** **291** *e*P **P** **00 00 54.2 +0.4**
comp=Z,50nm,1.1s,mb5.4
KKN **Kakani** **71.12** **291** *e*P **P** **00 00 54.2 +0.4**
KKN pmax pmax
comp=Z,50nm,1.1s,mb5.4
PKI **Pulchoki** **71.20** **291** *e*P **P** **00 00 54.7 +0.4**
GKN **Gorkha** **71.35** **291** *e*P **P** **00 00 55.5 +0.3**
comp=Z,36nm,1.0s,mb5.3
DMN **Daman** **71.36** **291** *e*P **P** **00 00 55.8 +0.6**
KOLN **Koldanda** **72.14** **292** *e*P **P** **00 01 00.2 +0.3**
comp=Z,24nm,1.1s,mb5.0
VRHR **Novokhopersk** **72.70** **333** *e*P **P** **00 01 02.6 -0.7**
VRHR pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,1.1s
VRSR **Storozhevoye** **73.29** **335** *e*P **P** **00 01 06.8 0.0**
VRSR pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
VRSR pmax pmax
comp=N,4.0nm,1.0s
VRSR pmax pmax
comp=E,1.0nm,0.9s
SUW **Suwalki** **74.22** **345** *e*P **P** **00 01 11.7 -0.5**
CTA **Charters Tower** **75.41** **211** P **P** **00 01 18.1 -1.0**
comp=E,5.9nm,0.8s,mb4.6,baz=15,slow=8.1,SNR=4.9
AKASG **Malin Array Be** **76.22** **340** P **P** **00 01 23.1 -0.7**
comp=E,10.0nm,0.6s,mb4.9,baz=22,slow=5.6,SNR=32
DCN **Croghan** **76.86** **3** *e*P **P** **00 01 28.0 +0.6**
DLF **Lyons Farm** **76.93** **3** *e*P **P** **00 01 28.0 +0.2**
CLL **Collm** **78.25** **351** *e*pP pP 00 01 39.0 +2.2
OJC **Ojcow** **78.43** **346** *e*P **P** **00 01 36.6 +0.5**
KWP **Kalwaria** **78.52** **344** *e*P **P** **00 01 37.9 +1.3**
BRG **Berggiesshubel** **78.57** **350** *e*(P) **P** **00 01 36.5 -0.5**
comp=E,3.6nm,1.0s,mb4.2
BRG **Berggiesshubel** **78.57** **350** *e*P **P** **00 01 36.5 -0.4**
BRG pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
UPC **Upice** **78.69** **349** *e*P **P** **00 01 37.8 +0.3**
DPC **Dobruska-Polom** **78.80** **348** *e*P **P** **00 01 37.9 -0.3**
MOX **Moxa** **79.04** **351** *e*P **P** **00 01 39.8 +0.3**
MOX pmax pmax
comp=Z,12nm,1.3s,mb4.7
MOX **Moxa** **79.04** **351** *e*P **P** **00 01 39.8 +0.3**
comp=Z,12nm,1.3s,mb4.7
OKC **Ostrava-Krasne** **79.05** **347** *e*P **P** **00 01 39.8 +0.3**
NIE **Niedzica** **79.13** **346** *e*P **P** **00 01 41.4 +1.4**
MORC **Moravsky Berou** **79.20** **347** *e*P **P** **00 01 40.3 0.0**
MORC 00 01 47.8
MORC pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
MORC **Moravsky Berou** **79.20** **347** *e*P **P** **00 01 40.3 -0.1**
comp=Z,8.1nm,1.4s,mb4.5
MORC PcP PcP 00 01 47.8 -0.9
ZEI **Tsey** **79.36** **328** *e*P **P** **00 01 41.6 +0.4**
ZEI pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
PRU **Pruhonice** **79.38** **349** *e*P **P** **00 01 41.3 0.0**
WRAB **Tennant Creek** **79.82** **222** *e*P **P** **00 01 41.6 -2.1**
WRAB *e* 00 01 50.5
WRAB pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
WRAB **Tennant Creek** **79.82** **222** *e*P **P** **00 01 41.6 -2.2**
comp=Z,7.9nm,0.8s,mb4.7
WRAB *e*PcP PcP 00 01 50.5 -0.9
WRA **Warramunga Arr** **79.83** **222** P **P** **00 01 41.9 -1.9**
comp=Z,4.2nm,0.6s,mb4.5,baz=33,slow=6.2,SNR=18
TREC **Trest** **79.94** **349** *e*P **P** **00 01 45.0 +0.6**
BURAR **Bucovina Array** **79.99** **342** ⇑ *i*P **P** **00 01 45.7 +1.1**
BURAR **Bucovina Array** **79.99** **342** ⇑ P **P** **00 01 45.7 +1.1**
GRA1 **Grafenberg Arr** **80.02** **352** *e*P **P** **00 01 45.4 +0.6**
comp=Z,12nm,1.2s,mb4.7
GRA1 *e*pP pP 00 01 54.0 +7.5
GRF **Grafenberg Arr** **80.02** **352** *e*P **P** **00 01 45.4 +0.6**
comp=Z,12nm,1.2s,mb4.7
GRF *e*pP pP 00 01 54.0 +7.5
GRF **Grafenberg Arr** **80.02** **352** *e*P **P** **00 01 45.4 +0.6**
GRF *e*PP pP 00 01 54.0 +7.5
GRF pmax pmax
comp=Z,12nm,1.2s,mb4.7
GRF **Grafenberg Arr** **80.02** **352** *e*P **P** **00 01 45.4 +0.6**
GRF *e*PP pP 00 01 54.0 +7.5
GRF pmax pmax
comp=Z,12nm,1.2s,mb4.7

GRF	**Grafenberg Arr**	**80.02**	**352**	*e*P		**P**	**00 01 45.4**	**+0.6**
	comp=Z,12nm,1.2s,mb4.7								
GRF				*e*pP		pP	00 01 54.0	+7.5	
BAIF	**Baives**	**80.14**	**356**	*e*P		**P**	**00 01 45.5**	**+0.1**
	comp=Z,17nm,0.9s,mb4.7								
BAIF	**Baives**	**80.14**	**356**	*e*P		**P**	**00 01 45.5**	**+0.1**
BAIF				pmax	pmax				
	comp=Z,9.0nm,0.9s,mb4.7								
BAIF	**Baives**	**80.14**	**356**	*e*P		**P**	**00 01 45.5**	**+0.1**
	comp=Z,8.6nm,0.9s,mb4.7								
KHC	**Kasperske Hory**	**80.33**	**350**	*e*P		**P**	**00 01 46.7**	**+0.2**
GERES	**GERESS Array B**	**80.60**	**350**	P		**P**	**00 01 47.7**	**-0.3**
	comp=Z,2.7nm,0.8s,mb4.2,baz=64,slow=6.1,SNR=6.5								
PSZ	**Piszkesteto**	**80.66**	**346**	*e*P		**P**	**00 01 49.5**	**+1.3**
PSZ				pmax	pmax				
	comp=Z,28nm,1.3s,mb5.0								
PSZ	**Piszkesteto**	**80.66**	**346**	*e*P		**P**	**00 01 49.5**	**+1.3**
	comp=Z,28nm,1.3s,mb5.0								
PSI	**Prapat**	**81.10**	**264**	P		**P**	**00 01 49.8**	**-0.8**
	comp=Z,7.5nm,0.8s,mb4.7,baz=214,slow=3.7,SNR=6.2								
VRI	**Vrincioaia**	**81.34**	**340**	⇓*i*P		**P**	**00 01 52.8**	**+0.9**
VRI	**Vrincioaia**	**81.34**	**340**	⇓P		**P**	**00 01 52.8**	**+0.9**
GNI	**Garni**	**81.37**	**326**	P		**P**	**00 01 52.3**	**+0.2**
GNI				pmax	pmax				
	comp=Z,4.0nm,0.6s								
GNI	**Garni**	**81.37**	**326**	P		**P**	**00 01 52.3**	**+0.2**
	comp=Z,3.7nm,0.6s,mb4.5								
PLOR	**Plostina**	**81.37**	**340**	⇑*i*P		**P**	**00 01 52.8**	**+0.7**
FLN	**La Foliniere**	**81.55**	**359**	*e*P		**P**	**00 01 52.7**	**-0.3**
CDF	**Champ du Feu**	**81.61**	**354**	*e*P		**P**	**00 01 53.4**	**+0.1**
MEZF	**Maizieres J'vi**	**81.65**	**356**	*e*P		**P**	**00 01 53.7**	**+0.2**
CFR	**Carcaliu**	**81.68**	**339**	⇑*i*P		**P**	**00 01 55.9**	**+2.2**
LDF	**La Druitiere**	**81.72**	**359**	*e*P		**P**	**00 01 53.5**	**-0.4**
	comp=Z,7.9nm,0.7s,mb4.5								
LDF	**La Druitiere**	**81.72**	**359**	*e*P		**P**	**00 01 53.5**	**-0.4**
LDF				pmax	pmax				
	comp=Z,4.0nm,0.6s,mb4.5								
LDF	**La Druitiere**	**81.72**	**359**	*e*P		**P**	**00 01 53.5**	**-0.4**
	comp=Z,4.0nm,0.6s,mb4.5								
MLR	**Muntele Rosu**	**81.86**	**341**	⇓*i*P		**P**	**00 01 56.5**	**+1.8**
MLR	**Muntele Rosu**	**81.86**	**341**	⇓P		**P**	**00 01 56.5**	**+1.9**
GRR	**Gorron**	**81.93**	**359**	*e*P		**P**	**00 01 54.9**	**-0.1**
	comp=Z,16nm,0.8s,mb4.7								
GRR	**Gorron**	**81.93**	**359**	*e*P		**P**	**00 01 54.9**	**-0.1**
GRR				pmax	pmax				
	comp=Z,8.0nm,0.8s,mb4.7								
GRR	**Gorron**	**81.93**	**359**	*e*P		**P**	**00 01 54.9**	**-0.1**
	comp=Z,8.3nm,0.8s,mb4.7								
ARSA	**Arzberg**	**81.94**	**348**	⇓*i*P		**P**	**00 01 56.3**	**+1.2**
	comp=Z,5.7nm,0.8s,mb4.5,SNR=6.8								
ARSA	**Arzberg**	**81.94**	**348**	⇓*i*P		**P**	**00 01 56.3**	**+1.2**
	comp=Z,5.7nm,0.8s,mb4.5								
ROSF	**Rostrenen**	**81.97**	**1**	*e*P		**P**	**00 01 55.2**	**0.0**
	comp=Z,19nm,0.9s,mb4.7								
ROSF	**Rostrenen**	**81.97**	**1**	*e*P		**P**	**00 01 55.2**	**0.0**
ROSF				pmax	pmax				
	comp=Z,10.0nm,0.9s,mb4.8								
ROSF	**Rostrenen**	**81.97**	**1**	*e*P		**P**	**00 01 55.2**	**0.0**
	comp=Z,9.6nm,0.9s,mb4.7								
SGMF	**Saint Gilles**	**82.06**	**1**	*e*P		**P**	**00 01 55.7**	**0.0**
	comp=Z,41nm,0.9s,mb5.0								
SGMF	**Saint Gilles**	**82.06**	**1**	*e*P		**P**	**00 01 55.7**	**0.0**
SGMF				pmax	pmax				
	comp=Z,20nm,0.9s,mb5.0								
SGMF	**Saint Gilles**	**82.06**	**1**	*e*P		**P**	**00 01 55.7**	**0.0**
	comp=Z,20nm,0.9s,mb5.1								
HAU	**Haudompre**	**82.07**	**355**	*e*P		**P**	**00 01 55.7**	**-0.1**
HINF	**Hinteralfeld**	**82.23**	**354**	*e*P		**P**	**00 01 56.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**82.25**	**230**	*e*P		**P**	**00 01 55.8**	**-0.9**
	comp=Z,11nm,0.6s,mb5.0								
FITZ	**Fitzroy Crossi**	**82.25**	**230**	P		**P**	**00 01 55.9**	**-0.8**
	comp=Z,5.6nm,0.6s,mb4.7,baz=39,slow=5.8,SNR=16								
WATA	**Walderalm**	**82.32**	**351**	⇓*i*P		**P**	**00 01 57.7**	**+0.7**
	comp=Z,12nm,1.2s,mb4.7,SNR=9.6								
WATA	**Walderalm**	**82.32**	**351**	⇓*i*P		**P**	**00 01 57.7**	**+0.7**
WATA				pmax	pmax				
	comp=Z,12nm,1.2s,mb4.7								
MOTA	**Moosalm**	**82.36**	**351**	⇑*i*P		**P**	**00 01 58.1**	**+0.8**
	comp=Z,14nm,1.2s,mb4.8								
MOTA	**Moosalm**	**82.36**	**351**	⇑*i*P		**P**	**00 01 58.1**	**+0.9**
MOTA				pmax	pmax				
	comp=Z,14nm,1.2s,mb4.8								
KBA	**Koelnbreinsper**	**82.38**	**350**	⇓*e*P		**P**	**00 01 58.8**	**+1.4**
	comp=Z,18nm,0.7s,mb5.1,SNR=11								
KBA	**Koelnbreinsper**	**82.38**	**350**	⇓*e*P		**P**	**00 01 58.8**	**+1.4**
KBA				pmax	pmax				
	comp=Z,18nm,0.7s,mb5.1								
WTTA	**Wattenberg**	**82.38**	**351**	⇑*i*P		**P**	**00 01 57.3**	**-0.1**
	comp=Z,14nm,1.2s,mb4.8								
WTTA	**Wattenberg**	**82.38**	**351**	⇑*i*P		**P**	**00 01 57.3**	**-0.1**
WTTA				pmax	pmax				
	comp=Z,14nm,1.2s,mb4.8								
QUIF	**Quistinic**	**82.39**	**1**	*e*P		**P**	**00 01 57.4**	**0.0**
SQTA	**Sankt Quirin**	**82.47**	**351**	⇓*i*P		**P**	**00 01 58.6**	**+0.7**
	comp=Z,11nm,1.2s,mb4.7								
SQTA	**Sankt Quirin**	**82.47**	**351**	⇓*i*P		**P**	**00 01 58.6**	**+0.8**
SQTA				pmax	pmax				
	comp=Z,11nm,1.2s,mb4.7								
PKSM	**Moragy**	**82.51**	**346**	⇑P		**P**	**00 01 58.6**	**+0.5**
BZS	**Buzias**	**82.59**	**344**	⇑*i*P		**P**	**00 01 59.0**	**+0.5**
BZS	**Buzias**	**82.59**	**344**	⇑P		**P**	**00 01 59.0**	**+0.5**
LOR	**Lormes**	**82.94**	**356**	*e*P		**P**	**00 02 00.1**	**-0.2**
	comp=Z,11nm,1.0s,mb4.6								
LOR	**Lormes**	**82.94**	**356**	*e*P		**P**	**00 02 00.1**	**-0.2**
LOR				pmax	pmax				
	comp=Z,6.0nm,1.0s,mb4.6								
LOR	**Lormes**	**82.94**	**356**	*e*P		**P**	**00 02 00.1**	**-0.2**
	comp=Z,5.7nm,1.0s,mb4.6								
HYB	**Hyderabad**	**82.97**	**289**	*e*P		**P**	**00 02 00.0**	**-0.5**
PTCC	**Patocco-Chiusa**	**83.04**	**350**	P		**P**	**00 02 01.1**	**+0.3**
SSF	**Saint Saulge**	**83.16**	**356**	*e*P		**P**	**00 02 01.7**	**+0.3**
	comp=Z,11nm,0.7s,mb4.7								
SSF	**Saint Saulge**	**83.16**	**356**	*e*P		**P**	**00 02 01.7**	**+0.3**
SSF				pmax	pmax				
	comp=Z,6.0nm,0.7s,mb4.7								
SSF	**Saint Saulge**	**83.16**	**356**	*e*P		**P**	**00 02 01.7**	**+0.3**
	comp=Z,5.5nm,0.7s,mb4.7								
ASAR	**Alice Springs**	**83.32**	**220**	P		**P**	**00 02 00.8**	**-1.4**
	comp=Z,2.7nm,0.8s,mb4.3,baz=26,slow=5.5,SNR=19								
AVF	**Avril sur Loir**	**83.44**	**357**	*e*P		**P**	**00 02 02.5**	**-0.3**
	comp=Z,14nm,0.9s,mb4.7								
AVF	**Avril sur Loir**	**83.44**	**357**	*e*P		**P**	**00 02 02.5**	**-0.3**
AVF				pmax	pmax				
	comp=Z,7.0nm,0.9s,mb4.7								
AVF	**Avril sur Loir**	**83.44**	**357**	*e*P		**P**	**00 02 02.5**	**-0.3**
	comp=Z,6.8nm,0.9s,mb4.7								
CABF	**La Chapelle**	**83.48**	**355**	*e*P		**P**	**00 02 03.4**	**+0.3**
	comp=Z,14nm,0.8s,mb4.7								
CABF	**La Chapelle**	**83.48**	**355**	*e*P		**P**	**00 02 03.4**	**+0.3**
CABF				pmax	pmax				
	comp=Z,7.0nm,0.8s,mb4.7								
CABF	**La Chapelle**	**83.48**	**355**	*e*P		**P**	**00 02 03.4**	**+0.3**
	comp=Z,6.8nm,0.8s,mb4.7								
SMF	**Signal de Mont**	**83.56**	**356**	*e*P		**P**	**00 02 03.2**	**-0.3**
	comp=Z,13nm,0.7s,mb4.9								
SMF	**Signal de Mont**	**83.56**	**356**	*e*P		**P**	**00 02 03.2**	**-0.3**
SMF				pmax	pmax				
	comp=Z,6.0nm,0.7s,mb4.8								
SMF	**Signal de Mont**	**83.56**	**356**	*e*P		**P**	**00 02 03.2**	**-0.3**
	comp=Z,6.4nm,0.7s,mb4.9								
BGF	**Bois d'Agland**	**83.69**	**357**	*e*P		**P**	**00 02 04.0**	**-0.1**
	comp=Z,8.4nm,0.7s,mb4.7								
BGF	**Bois d'Agland**	**83.69**	**357**	*e*P		**P**	**00 02 04.0**	**-0.1**
BGF				pmax	pmax				
	comp=Z,4.0nm,0.7s,mb4.7								
BGF	**Bois d'Agland**	**83.69**	**357**	*e*P		**P**	**00 02 04.0**	**-0.1**
	comp=Z,4.2nm,0.7s,mb4.7								
MFF	**Saint Martin d**	**83.71**	**359**	*e*P		**P**	**00 02 04.0**	**-0.3**
	comp=Z,46nm,1.3s,mb5.1								
MFF	**Saint Martin d**	**83.71**	**359**	*e*P		**P**	**00 02 04.0**	**-0.3**
MFF				pmax	pmax				
	comp=Z,23nm,1.3s,mb5.2								
MFF	**Saint Martin d**	**83.71**	**359**	*e*P		**P**	**00 02 04.0**	**-0.3**
	comp=Z,23nm,1.3s,mb5.2								
TCF	**Toulx Ste Croi**	**83.98**	**357**	*e*P		**P**	**00 02 05.6**	**0.0**
	comp=Z,21nm,1.4s,mb4.8								
TCF	**Toulx Ste Croi**	**83.98**	**357**	*e*P		**P**	**00 02 05.6**	**0.0**
TCF				pmax	pmax				
	comp=Z,11nm,1.4s,mb4.8								
TCF	**Toulx Ste Croi**	**83.98**	**357**	*e*P		**P**	**00 02 05.6**	**0.0**
	comp=Z,11nm,1.4s,mb4.8								
LPG	**La Plagne**	**84.55**	**354**	*e*P		**P**	**00 02 09.4**	**+0.9**
	comp=Z,17nm,0.8s,mb4.9								
LPG	**La Plagne**	**84.55**	**354**	*e*P		**P**	**00 02 09.4**	**+0.9**
LPG				pmax	pmax				
	comp=Z,9.0nm,0.8s,mb5.0								
LPG	**La Plagne**	**84.55**	**354**	*e*P		**P**	**00 02 09.4**	**+0.9**
	comp=Z,8.6nm,0.8s,mb4.9								
RJF	**Les Rejaudoux**	**84.98**	**358**	*e*P		**P**	**00 02 10.3**	**-0.4**
	comp=Z,7.6nm,0.8s,mb4.6								
RJF	**Les Rejaudoux**	**84.98**	**358**	*e*P		**P**	**00 02 10.3**	**-0.4**
RJF				pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.6								
RJF	**Les Rejaudoux**	**84.98**	**358**	*e*P		**P**	**00 02 10.3**	**-0.4**
	comp=Z,3.8nm,0.8s,mb4.6								
BOB	**Bobbio (Coli)**	**85.06**	**352**	P		**P**	**00 02 11.5**	**+0.4**
ORIF	**Oris-en-Rattie**	**85.18**	**355**	*e*P		**P**	**00 02 12.4**	**+0.7**
	comp=Z,20nm,0.8s,mb5.0								
ORIF	**Oris-en-Rattie**	**85.18**	**355**	*e*P		**P**	**00 02 12.4**	**+0.7**
ORIF				pmax	pmax				
	comp=Z,10.0nm,0.8s,mb5.0								
ORIF	**Oris-en-Rattie**	**85.18**	**355**	*e*P		**P**	**00 02 12.4**	**+0.7**
	comp=Z,9.9nm,0.8s,mb5.0								
VTS	**Vitosha**	**85.21**	**342**	⇑P		**P**	**00 02 12.4**	**+0.6**
VIVF	**Saint-Julien-l**	**85.31**	**356**	*e*P		**P**	**00 02 12.2**	**-0.1**
	comp=Z,16nm,0.9s,mb4.8								
VIVF	**Saint-Julien-l**	**85.31**	**356**	*e*P		**P**	**00 02 12.2**	**-0.1**
VIVF				pmax	pmax				
	comp=Z,8.0nm,0.9s,mb4.8								
VIVF	**Saint-Julien-l**	**85.31**	**356**	*e*P		**P**	**00 02 12.2**	**-0.1**
	comp=Z,7.8nm,0.9s,mb4.8								
MBDF	**Montbardon**	**85.31**	**354**	*e*P		**P**	**00 02 13.2**	**+0.8**
	comp=Z,21nm,0.7s,mb5.1								
MBDF	**Montbardon**	**85.31**	**354**	*e*P		**P**	**00 02 13.2**	**+0.8**
MBDF				pmax	pmax				
	comp=Z,10.0nm,0.7s,mb5.0								
MBDF	**Montbardon**	**85.31**	**354**	*e*P		**P**	**00 02 13.2**	**+0.8**
	comp=Z,10nm,0.7s,mb5.1								
ZCCA	**Zocca**	**85.33**	**351**	P		**P**	**00 02 14.8**	**+2.3**
	comp=Z,26nm,0.7s,mb5.5								
CAF	**Calviac**	**85.34**	**357**	*e*P		**P**	**00 02 12.5**	**0.0**
LFF	**La Frestale**	**85.36**	**358**	*e*P		**P**	**00 02 12.2**	**-0.4**
	comp=Z,9.5nm,0.8s,mb4.7								
LFF	**La Frestale**	**85.36**	**358**	*e*P		**P**	**00 02 12.2**	**-0.4**
LFF				pmax	pmax				
	comp=Z,5.0nm,0.8s,mb4.7								
LFF	**La Frestale**	**85.36**	**358**	*e*P		**P**	**00 02 12.2**	**-0.4**
	comp=Z,4.8nm,0.8s,mb4.7								
BRTR	**Keskin Array B**	**85.37**	**333**	P		**P**	**00 02 12.3**	**-0.3**
	comp=Z,5.5nm,0.8s,mb4.8,baz=49,slow=3.1,SNR=39								
FNVD	**Fontana Vidola**	**85.50**	**351**	P		**P**	**00 02 15.0**	**+1.7**
	comp=Z,180nm,2.5s								
VMG	**Vicchio**	**85.66**	**351**	P		**P**	**00 02 16.2**	**+2.1**
	comp=Z,70nm,0.9s								
SFI	**Santa Sofia**	**85.68**	**350**	P		**P**	**00 02 15.3**	**+1.1**
SFI				pmax	pmax				
	comp=Z,15nm,0.7s,mb5.3								
SFI	**Santa Sofia**	**85.68**	**350**	P		**P**	**00 02 15.3**	**+1.1**
	comp=Z,15nm,0.7s,mb5.3								
SBF	**Sospel**	**86.13**	**353**	*e*P		**P**	**00 02 16.4**	**0.0**
	comp=Z,27nm,0.9s,mb5.2								
SBF	**Sospel**	**86.13**	**353**	*e*P		**P**	**00 02 16.4**	**0.0**
SBF				pmax	pmax				
	comp=Z,13nm,0.9s,mb5.2								
SBF	**Sospel**	**86.13**	**353**	*e*P		**P**	**00 02 16.4**	**0.0**
	comp=Z,13nm,0.9s,mb5.2								
SMRF	**Simiane la Rot**	**86.14**	**355**	*e*P		**P**	**00 02 17.5**	**+1.0**
	comp=Z,37nm,1.3s,mb5.2								
SMRF	**Simiane la Rot**	**86.14**	**355**	*e*P		**P**	**00 02 17.5**	**+1.0**
	comp=Z,37nm,1.3s,mb5.5								
GRFL	**Gerfalco**	**86.52**	**351**	P		**P**	**00 02 18.9**	**+0.5**
	comp=Z,17nm,1.1s,mb5.2								
NRCA	**Norcia**	**86.59**	**349**	P		**P**	**00 02 19.6**	**+0.9**
	comp=Z,7.1nm,0.6s,mb5.1								
LMR	**La Mourre**	**86.72**	**354**	*e*P		**P**	**00 02 19.7**	**+0.4**
	comp=Z,12nm,0.9s,mb4.8								
LMR	**La Mourre**	**86.72**	**354**	*e*P		**P**	**00 02 19.7**	**+0.4**
LMR				pmax	pmax				
	comp=Z,6.0nm,0.9s,mb4.8								
LMR	**La Mourre**	**86.72**	**354**	*e*P		**P**	**00 02 19.7**	**+0.4**
	comp=Z,6.3nm,0.9s,mb4.8								
MTLF	**Montolieu**	**86.92**	**357**	*e*P		**P**	**00 02 20.0**	**-0.3**
	comp=Z,3.4nm,0.6s,mb4.5								
MTLF	**Montolieu**	**86.92**	**357**	*e*P		**P**	**00 02 20.0**	**-0.3**
MTLF				pmax	pmax				
	comp=Z,2.0nm,0.6s,mb4.5								
MTLF	**Montolieu**	**86.92**	**357**	*e*P		**P**	**00 02 20.0**	**-0.3**
	comp=Z,1.7nm,0.6s,mb4.5								
FIAM	**Fiamignano**	**87.15**	**349**	P		**P**	**00 02 22.0**	**+0.6**
	comp=Z,7.8nm,0.7s,mb5.0								
SJPF	**Ste Jean**	**87.21**	**360**	*e*P		**P**	**00 02 21.6**	**-0.1**
PGF	**Pioggiola**	**87.31**	**352**	*e*P		**P**	**00 02 22.0**	**-0.2**
	comp=Z,27nm,1.1s,mb5.1								
PGF	**Pioggiola**	**87.31**	**352**	*e*P		**P**	**00 02 22.0**	**-0.2**
PGF				pmax	pmax				
	comp=Z,14nm,1.1s,mb5.1								
PGF	**Pioggiola**	**87.31**	**352**	*e*P		**P**	**00 02 22.0**	**-0.2**
	comp=Z,14nm,1.1s,mb5.1								
STKA	**Stephens Creek**	**87.86**	**211**	P		**P**	**00 02 21.4**	**-3.5**
	comp=Z,2.0nm,0.7s,mb4.4,baz=9.2,slow=8.8,SNR=5.1								
ESDC	**Sonseca Array**	**90.62**	**2**	P		**P**	**00 02 36.6**	**-1.2**
	comp=Z,1.5nm,0.7s,mb4.4,baz=353,slow=4.7,SNR=10								
TORD	**Torodi_Bea**	**117.00**	**356**	PKP		PKPdf	00 08 18.8	-1.5	
	comp=Z,0.4nm,0.5s,baz=350,slow=2.1,SNR=21								
KMBO	**Kilima Mbogo**	**121.11**	**313**	PKP		PKPdf	00 08 27.1	-1.0	
	comp=Z,0.6nm,0.6s,baz=320,slow=11,SNR=3.8								
KMBO	**Kilima Mbogo**	**121.11**	**313**	PKIKP		PKPdf	00 08 27.1	-1.1	
KMBO				pmax	pmax				
	comp=Z,1.0nm,0.6s								
DBIC	**Dimbokro**	**123.43**	**4**	PKP		PKPdf	00 08 31.1	-1.6	
	comp=Z,2.7nm,0.9s,baz=87,slow=0.2,SNR=6.3								
DBIC	**Dimbokro**	**123.43**	**4**	PKIKP		PKPdf	00 08 31.1	-1.5	
DBIC				pmax	pmax				
	comp=Z,3.0nm,1.0s								
CPUP	**Villa Florida**	**131.53**	**82**	PKP		PKPdf	00 08 46.5	-1.5	
	comp=Z,0.5nm,0.5s,baz=13,slow=1.5,SNR=4.1								
CPUP	**Villa Florida**	**131.53**	**82**	PKIKP		PKPdf	00 08 46.5	-1.6	
CPUP				pmax	pmax				
	comp=Z,1.0nm,0.5s								
MAW	**Mawson**	**144.36**	**216**	*e*P		PKPdf	00 09 07.1	-4.5	
	comp=Z,13nm,0.6s								
MAW				*e*			00 09 16.0		
MAW	**Mawson**	**144.36**	**216**	PKP		PKPdf	00 09 07.3	-4.3	
	comp=Z,16nm,0.7s,baz=89,slow=4.0,SNR=14								
TSUM	**Tsumeb**	**145.61**	**327**	*e*PKPbc		PKPbc	00 09 13.7	-0.2	
LBTB	**Lobatse**	**147.31**	**310**	*e*PKP2		PKPab	00 09 18.8	-2.0	
BOSA	**Boshof**	**150.43**	**306**	PKPbc		PKPbc	00 09 26.9	-0.1	
	comp=Z,8.1nm,0.7s,baz=138,slow=3.2,SNR=12								
BOSA	**Boshof**	**150.43**	**306**	PKIKP		PKPbc	00 09 26.9	0.0	
BOSA				pmax	pmax				
	comp=Z,8.0nm,0.7s								
SYO	**Syowa Base**	**152.62**	**211**	⇑*e*P		PKPbc	00 09 29.5	-2.5	

IDC ***27*** *23:56:57.0±0.5,2070N×12001E,h0km,mb4.5/23, mb1 4.5/24,mb1mx4.5/28,mbtmp4.5/24,ML3.6/1,MS3.9/8, Ms1 3.9/8,ms1mx3.5/32,Error ellipse: s-maj=17.7km s-min=11.1km az=68.0*

ISCJB ***27*** *23:56:59.5±1.3,2077N±002×120.15E±003,h25km±9km, mb4.7/63,MS4.0/11,Error ellipse: s-maj=5.5km s-min=3.6km az=37.1*

NIED ***27*** *23:57:00,2100N×120.10E,h32km,Mw4.6 Best double couple: M0 9.15000×10¹⁵ NP1:φ±218.00000°,δ50.00000°, λ72.00000°. NP2:φ±65.00000°,δ43.00000°,λ111.00000°.*

BJI ***27*** *23:57:01.4,2083N×11995E,h30km,mB4.6,mb4.5,ML4.4, Ms4.5,Msz4.3*

MOS ***27*** *23:57:01.1±0.9,2073N×12003E,h33km,mb5.1/29,Error ellipse: s-maj=13.5km s-min=6.0km az=121.3*

HRVD ***27*** *23:57:02.5±0.7,2107N×11977E,h18km±1km,MW4.8/51, Centroid moment Tensor Solution. LP body waves: s9,c9;Mantle waves: s51,c62; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.63±.15; Mθθ0.11±.07; Mφφ1.52±.10; Mrθ1.11±.21; Mθφ-0.41±.05; Mφr0.07±.18; Best double couple: M0 1.91900×10¹⁶ NP1:φ±187.00000°, δ46.00000°,λ-52.00000°. NP2:φ±319.00000°,δ55.00000°, λ-122.00000°. Principal axes: T 1.6500, Plg5.0000°, Azm72.0000°; N 0.5340, Plg26.0000°, Azm339.0000°; P -2.1870, Plg63.0000°, Azm172.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***27*** *23:57:02.5±0.2,2069N×12004E,h35km,mb4.9/36 Error ellipse: s-maj=5.9km s-min=4.5km az=84.0*

MAN ***27*** *23:57:02.7,2043N×12008E,h9km,mb3.8,ML4.8,MS7.6*

SZGRF ***27*** *23:57:14.2,2195N×11765E,h33km,mb5.0,Taiwan region*

ISC 27 23:57:02.3±1.3,2077N±002×12014E±003,h32km±9km, n185,σ0.94/191,mb4.7/63,MS4.0/11,7C-6D,Philippine

Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APYP	**Conner**	**3.07**	**160**	*e*P	**Pn**	**23 57 47.7**	**-0.9**
SGCP	**Mt. Cagua**	**3.09**	**144**	*e*P	**Pn**	**23 57 48.1**	**-0.7**
CVP	**Callao Caves**	**3.44**	**152**	⇓*e*P	**Pn**	**23 57 54.0**	**+0.4**
CVP				*e*S	**Sn**	**23 58 33.0**	**-0.2**
NACB	**Ninganchiao**	**3.65**	**21**	*e*Pn	**Pn**	**23 57 54.6**	**-1.9**
NACB				*e*Sn	**Sn**	**23 58 37.3**	**-1.1**
YHNB	**Yeheng**	**4.05**	**16**	*e*Pn	**Pn**	**23 58 01.8**	**-0.2**
YHNB				*e*Sn	**Sn**	**23 58 50.8**	**+2.5**
CAUP	**Cauayan**	**4.12**	**157**	*e*P	**Pn**	**23 58 05.0**	**+2.0**
PALP	**Palanan**	**4.27**	**149**	*e*P	**Pn**	**23 58 06.7**	**+1.6**
BOLP	**Bolinao**	**4.37**	**183**	*e*P	**Pn**	**23 58 05.9**	**-0.5**
TATO	**Taipei**	**4.37**	**16**	*e*Pn	**Pn**	**23 58 08.5**	**+2.1**
TATO				*e*Sn	**Sn**	**23 59 00.2**	**+4.0**
QZH	**Quanzhou**	**4.40**	**341**	P	**Pn**	**23 58 03.3**	**-3.5**
QZH				S	**Sn**	**23 58 50.0**	**-6.9**
QZH				Smax			
	comp=N,320nm,1.1s						
QZH				Smax			
	comp=E,350nm,1.1s						
QZH				LR	LR		
	comp=N,4μm,9.4s						
QZH				LR	LR		
	comp=E,3μm,11.4s						
QZH				LR	LR		
	comp=Z,4μm,9.1s						
YOJ	**Yonaguni jima**	**4.54**	**35**	P	**Pn**	**23 58 08.4**	**-0.3**
YOJ				*e*S	**Sn**	**23 58 59.1**	**-1.2**
HATJ	**Hateruma jima**	**4.71**	**45**	P	**Pn**	**23 58 11.4**	**+0.2**
HATJ				*e*S	**Sn**	**23 59 03.6**	**-1.1**
IRIF	**Iriomote-Funau**	**4.86**	**42**	P	**Pn**	**23 58 13.7**	**+0.5**
IRIF				*e*S	**Sn**	**23 59 07.2**	**-1.1**
JKRS	**Kuro-shima**	**4.97**	**45**	P	**Pn**	**23 58 15.2**	**+0.5**
JKRS				*e*S	**Sn**	**23 59 10.7**	**-0.4**
JIJ	**Ishigaki jima**	**5.15**	**45**	P	**Pn**	**23 58 17.1**	**0.0**
JIJ				S	**Sn**	**23 59 13.8**	**-1.6**
BALP	**Baler**	**5.18**	**164**	*e*P	**Pn**	**23 58 17.3**	**-0.2**
JTJ	**Tarama**	**5.71**	**47**	P	**Pn**	**23 58 25.2**	**+0.3**
JTJ				*e*S	**Sn**	**23 59 28.6**	**-0.7**
GZH	**Guangzhou**	**6.72**	**291**	P	**Pn**	**23 58 33.5**	**-5.2**
GZH				Smax			
	comp=N,277nm,0.9s						
GZH				Smax			
	comp=E,415nm,0.9s						
GZH				LR	LR		
	comp=N,2μm,11.7s						
GZH				LR	LR		
	comp=E,2μm,11.7s						
GZH				LR	LR		
	comp=Z,3μm,12.6s						
LUBP	**Lubang**	**6.99**	**179**	*e*P	**Pn**	**23 58 43.4**	**+0.9**
JOW	**Kunigami**	**9.59**	**49**	Pn	**Pn**	**23 59 18.2**	**+0.2**
	comp=Z,1.3nm,0.3s,baz=221,slow=12,SNR=4.8						
QIZ	**Qiongzhong**	**9.84**	**262**	P	**Pn**	**23 59 19.5**	**-2.0**
QIZ				LR	LR		
	comp=E,2μm,11.0s						
JNU	**Nakatsue**	**15.58**	**36**	P	**Pn**	**00 00 45.2**	**+

MAT Matsushiro 22.27 41 P **P** **00 01 56.0 -0.6**
comp=Z,36nm,1.2s,mb4.7

MJAR Matsushiro Arr 22.27 41 P **P** **00 01 56.7 +0.1**
comp=Z,17nm,0.8s,mb4.5,baz=237,slow=11,SNR=25

MJAR LR LR 00 10 54.6
comp=Z,295nm,18.8s,MS3.7,baz=220,slow=37

JRY Ryogami san 22.37 43 P **P** **00 02 00.4 +2.7**
GUMO Guam 24.66 103 LR LR 00 10 30.7
comp=Z,118nm,19.5s,MS3.4,baz=38,slow=33

MDJ Mudanjiang 25.04 16 *eP* **P** **00 02 24.3 +0.8**
comp=Z,27nm,0.9s,mb4.8

GTA Gaotai 25.48 321 *eP* **P** **00 02 26.8 -0.7**
GTA AMB AMB
comp=Z,8.0nm,1.1s,mb4.2

GTA AMB AMB
comp=Z,83nm,5.7s

GTA LR LR
comp=N,505nm,11.0s

GTA LR LR
comp=E,421nm,9.9s

GTA LR LR
comp=Z,514nm,11.4s,MS4.3

JOM Ohasama 26.01 40 P **P** **00 02 30.7 -1.6**
PSI Prapat 27.32 232 P **P** **00 02 41.9 -2.2**
comp=Z,18nm,1.2s,mb4.5,baz=48,slow=3.5,SNR=5.9

PSI LR LR 00 13 22.9
comp=Z,298nm,18.1s,MS3.9,baz=355,slow=36

LSA Lhasa 27.63 295 *eP* **P** **00 02 47.5 +0.6**
LSA pmax pmax
comp=Z,9.0nm,0.7s,mb4.5

LSA Lhasa 27.63 295 *eP* **P** **00 02 47.5 +0.6**
comp=Z,9.2nm,0.7s,mb4.5

SONM Songino Array 29.20 341 P **P** **00 03 00.9 0.0**
comp=Z,2.1nm,0.9s,mb3.8,baz=164,slow=8.5,SNR=7.0

ASAJ Asahikawa 29.84 34 P **P** **00 03 05.3 -1.2**
comp=Z,6.4nm,0.7s,mb4.4,baz=340,slow=11,SNR=3.8

ASAJ LR LR 00 15 11.5
comp=Z,326nm,18.6s,MS4.0,baz=180,slow=36

JIRN Jiri 31.64 289 *eP* **P** **00 03 22.6 +0.2**
comp=Z,40nm,0.9s,mb5.3

GUN Gumba 31.94 290 *eP* **P** **00 03 24.7 -0.4**
comp=Z,74nm,1.0s,mb5.5

PKI Pulchoki 32.33 289 *eP* **P** **00 03 27.7 -0.8**
comp=Z,38nm,0.9s,mb5.2

ZAK Zakamensk 32.42 340 *eP* **P** **00 03 38.3 +9.0**
ZAK *e* 00 04 48.0
ZAK pmax pmax
comp=Z,5.0nm,1.6s,mb4.1

ZAK pmax pmax
comp=Z,4.0nm,1.9s,mb3.9

ZAK pmax pmax
comp=Z,5.0nm,1.7s,mb4.1

ZAK pmax pmax
comp=Z,7.0nm,2.1s,mb4.1

KKN Kakani 32.46 289 *eP* **P** **00 03 28.9 -0.7**
DMN Daman 32.60 289 *eP* **P** **00 03 30.3 -0.5**
comp=Z,39nm,0.9s,mb5.3

GKN Gorkha 33.04 290 *eP* **P** **00 03 33.8 -0.9**
comp=Z,56nm,1.0s,mb5.4

KOLN Koldanda 33.94 289 *eP* **P** **00 03 41.9 -0.6**
comp=Z,50nm,1.0s,mb5.4

FITZ Fitzroy Crossi 39.00 172 *eP* **P** **00 04 23.9 -1.8**
comp=Z,9.2nm,0.9s,mb4.5

FITZ Fitzroy Crossi 39.00 172 P **P** **00 04 23.9 -1.8**
comp=Z,5.5nm,0.9s,mb4.3,baz=330,slow=4.4,SNR=4.9

PMG Port Moresby 40.06 136 P **P** **00 04 35.5 +1.0**
comp=Z,11nm,0.8s,mb4.7,baz=329,slow=5.9,SNR=3.7

MKAR Makanchi Array 40.20 319 P **P** **00 04 35.6 -0.1**
comp=Z,4.7nm,0.8s,mb4.2,baz=114,slow=10,SNR=27

ZAL Zalesovo 42.64 330 P **P** **00 04 55.0 -0.7**
comp=Z,1.9nm,0.7s,mb3.9,baz=354,slow=8.8,SNR=14

ZAL LR LR 00 23 20.7
comp=Z,92nm,18.1s,MS3.7,baz=117,slow=37

ZAL Zalesovo 42.64 330 P **P** **00 04 55.0 -0.7**
ZAL LR LR 00 23 20.7
WRAB Tennant Creek 42.77 160 *eP* **P** **00 04 56.1 -0.7**
WRAB pmax pmax
comp=Z,64nm,1.3s,mb5.2

WRAB Tennant Creek 42.77 160 *eP* **P** **00 04 56.1 -0.6**
comp=Z,64nm,1.3s,mb5.2

WRA Warramunga Arr 42.78 160 P **P** **00 04 56.3 -0.5**
comp=Z,14nm,0.7s,mb4.8,baz=342,slow=9.0,SNR=40

WB2 Warramunga Arr 42.78 160 *eP* **P** **00 04 55.8 -1.0**
KURK Kurchatov 44.15 323 *eP* **P** **00 05 07.8 -0.1**
KURK pmax pmax
comp=Z,21nm,1.4s,mb4.7

KURK Kurchatov 44.15 323 *eP* **P** **00 05 07.8 -0.1**
comp=Z,21nm,1.4s,mb4.7

ASAR Alice Springs 46.15 162 P **P** **00 05 23.3 -0.5**
comp=Z,4.7nm,0.6s,mb4.6,baz=345,slow=6.8,SNR=47

ASAR PcP PcP 00 06 59.6 +0.2
comp=Z,2.2nm,0.7s,baz=352,slow=3.4,SNR=4.5

ASAR ScP ScP 00 10 51.2 +1.0
comp=Z,0.5nm,0.7s,baz=350,slow=4.2,SNR=3.9

ASAR Alice Springs 46.15 162 P **P** **00 05 23.3 -0.5**
ASAR 00 06 59.6
CTA Charters Tower 47.97 146 *eP* **P** **00 05 40.0 +2.0**
comp=Z,15nm,0.8s,mb5.1

CTA Charters Tower 47.97 146 P **P** **00 05 39.6 +1.7**
comp=Z,18nm,0.9s,mb5.1,baz=326,slow=12,SNR=11

CTA Charters Tower 47.97 146 *eP* **P** **00 05 40.0 +2.0**
CTA pmax pmax
comp=Z,15nm,0.8s

CTAO Charters Tower 47.97 146 *eP* **P** **00 05 40.0 +2.0**
CTAO pmax pmax
comp=Z,12nm,0.6s,mb5.1

CTAO Charters Tower 47.97 146 *eP* **P** **00 05 40.0 +2.1**
comp=Z,12nm,0.6s,mb5.1

BRVK Borovoye 49.82 323 *eP* **P** **00 05 52.2 +0.1**
BRVK pmax pmax
comp=Z,10.0nm,1.2s,mb4.7

BRVK Borovoye 49.82 323 *eP* **P** **00 05 52.1 0.0**
comp=Z,10.0nm,1.2s,mb4.7

CHKZ Chkalovo 49.86 324 *eP* **P** **00 05 52.3 -0.1**
CHKZ pmax pmax
comp=Z,9.0nm,0.9s,mb4.8

CHKZ Chkalovo 49.86 324 *eP* **P** **00 05 52.3 -0.1**
comp=Z,9.0nm,0.9s,mb4.8

ZRNK Zerenda 50.51 322 *eP* **P** **00 05 57.3 -0.1**
ZRNK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8

ZRNK Zerenda 50.51 322 *eP* **P** **00 05 57.3 0.0**
comp=Z,9.6nm,0.9s,mb4.7

FORT Forrest 51.81 171 *eP* **P** **00 06 06.7 -0.4**
comp=Z,17nm,0.8s,mb5.0

STKA Stephens Creek 56.23 158 *eP* **P** **00 06 37.8 -1.6**
comp=Z,4.6nm,0.8s,mb4.6

STKA Stephens Creek 56.23 158 P **P** **00 06 38.0 -1.4**
comp=Z,4.9nm,0.7s,mb4.6,baz=331,slow=5.6,SNR=11

AKTK Aktyubinsk 56.58 317 P **P** **00 06 41.4 -0.4**
AKTO Aktyubinsk 56.58 317 P **P** **00 06 41.4 -0.4**
comp=Z,6.1nm,0.9s,mb4.6,baz=92,slow=7.5,SNR=12

ORR Orenburg 58.76 318 *eP* **P** **00 06 57.8 +0.6**
ORR pmax pmax
comp=Z,120nm,19.6s

TOO Toolangi 62.74 157 *eP* **P** **00 07 24.9 +0.6**
comp=Z,5.3nm,0.6s,mb4.8

TOO Toolangi 62.74 157 *eP* **P** **00 07 24.9 +0.6**
TOO pmax pmax
comp=Z,5.0nm,0.6s,mb4.8

GNI Garni 65.97 306 P **P** **00 07 45.2 -0.2**
comp=Z,2.8nm,0.7s,mb4.4,baz=247,slow=24,SNR=3.4

TTA Tatalina 68.94 29 *eP* **P** **00 08 05.6 +1.4**
TTA pmax pmax
comp=Z,11nm,1.1s,mb4.7

TTA Tatalina 68.94 29 *eP* **P** **00 08 05.6 +1.4**
comp=Z,11nm,1.1s,mb4.7

KDAK Kodiak Island 71.25 34 P **P** **00 08 18.3 -0.1**
comp=Z,5.5nm,0.8s,mb4.5,baz=277,slow=14,SNR=4.7

KDAK Kodiak Island 71.25 34 P **P** **00 08 18.3 -0.1**
ILAR Eielson Array 72.69 27 P **P** **00 08 27.0 +0.1**
comp=Z,1.4nm,0.7s,mb4.0,baz=289,slow=7.1,SNR=11

FINES FINESS Array B 73.91 330 P **P** **00 08 33.4 -0.7**
comp=Z,1.3nm,0.6s,mb4.0,baz=63,slow=8.8,SNR=7.2

FINES FINESS Array B 73.91 330 P **P** **00 08 33.4 -0.7**
BRTR Keskin Array B 74.43 307 P **P** **00 08 36.4 -0.8**
comp=Z,0.6nm,0.6s,mb3.7,baz=119,slow=3.2,SNR=4.7

AKASG Malin Array Be 74.78 319 P **P** **00 08 38.7 -0.5**
comp=Z,4.6nm,1.0s,mb4.4,baz=59,slow=5.5,SNR=13

SUW Suwalki 77.43 323 *eP* **P** **00 08 53.4 -0.9**
SUW pmax pmax
comp=Z,21nm,1.0s,mb5.0

SUW Suwalki 77.43 323 *eP* **P** **00 08 53.4 -0.9**
comp=Z,21nm,1.0s,mb5.0

VRI Vrincioaia 77.69 314⇑ *iP* **P** **00 08 57.0 +1.2**
PLOR Plostina 77.75 314⇑ *iP* **P** **00 08 57.4 +1.3**
MLR Muntele Rosu 78.33 314⇓ *iP* **P** **00 09 03.2 +3.9**

MLR Muntele Rosu 78.33 314⇓ P **P** **00 09 03.2 +3.9**
KWP Kalwaria 79.10 319 *eP* **P** **00 09 03.8 +0.2**
NIE Niedzica 80.64 319 *eP* **P** **00 09 13.1 +1.2**
OJC Ojcow 80.67 320 *eP* **P** **00 09 11.9 -0.1**
NB2 NORSAR Subarra 80.78 332 P **P** **00 09 11.7 -0.9**
comp=Z,2.2nm,1.0s,mb4.0,baz=65,slow=5.6

NOA NORSAR Array B 80.78 332 P **P** **00 09 11.7 -1.0**
comp=Z,3.1nm,0.8s,mb4.3,baz=64,slow=5.3,SNR=7.5

NOA LR LR 00 50 05.8
comp=Z,112nm,18.2s,MS4.2,baz=35,slow=40

GKP Gorka Klasztor 81.01 324 *eP* **P** **00 09 14.5 +0.7**
VTS Vitosha 81.13 312⇓ P **P** **00 09 15.3 +0.8**
JMIC Jan Mayen 81.87 345 LR LR 00 50 19.5
comp=Z,42nm,20.3s,MS3.8,baz=68,slow=39

VAY Valandovo 82.01 311 *eP* **P** **00 09 18.5 -0.7**
STIP Stip 82.15 312 *eP* **P** **00 09 19.3 -0.6**
SKO Skopje 82.57 312 *eP* **P** **00 09 22.7 +0.6**
PKSM Moragy 82.87 317⇑ P **P** **00 09 23.9 +0.3**
RUE Ruedersdorf 83.25 324 *eP* **P** **00 09 26.4 +0.8**
comp=Z,24nm,1.0s,mb5.2

KMBO Kilima Mbogo 83.74 266 P **P** **00 09 29.1 +0.9**
comp=Z,3.9nm,0.8s,mb4.6,baz=33,slow=7.8,SNR=8.8

KMBO LR LR 00 44 08.8
comp=Z,82nm,19.5s,MS4.1,baz=358,slow=34

KMBO Kilima Mbogo 83.74 266 *eP* **P** **00 09 30.2 +2.0**
BRG Berggiesshubel 83.84 322 *eP* **P** **00 09 28.1 -0.5**
comp=Z,14nm,1.2s,mb5.0

BRG Berggiesshubel 83.84 322 *eP* **P** **00 09 29.3 +0.7**
BRG pmax pmax
comp=Z,8.0nm,1.2s,mb4.7

BRG Berggiesshubel 83.84 322 *eP* **P** **00 09 29.3 +0.7**
comp=Z,7.7nm,1.1s,mb4.8

CLL Collm 84.19 323 *eP* **P** **00 09 30.5 +0.1**
comp=Z,18nm,1.2s,mb5.1

CLL Collm 84.19 323⇓ *iP* **P** **00 09 30.5 +0.1**
comp=Z,18nm,1.2s,mb5.1

CLL *e*PcP PcP 00 09 35.0 +0.8
CLL Collm 84.19 323⇓ *iP* **P** **00 09 30.5 +0.1**
CLL pmax pmax
comp=Z,18nm,1.2s,mb5.1

BSEG Bad Segeberg 84.46 326 *eP* **P** **00 09 32.4 +0.6**
comp=Z,11nm,1.0s,mb4.9

BSEG Bad Segeberg 84.46 326 *eP* **P** **00 09 32.4 +0.6**
BSEG pmax pmax
comp=Z,11nm,1.0s,mb4.9

GEC2 GERESS Array S 84.86 320 *eP* **P** **00 09 33.9 +0.1**
comp=Z,8.0nm,1.1s,mb4.8

GEC2 GERESS Array S 84.86 320 *eP* **P** **00 09 33.9 +0.1**
GEC2 pmax pmax
comp=Z,8.0nm,1.1s,mb4.8

GEC2 GERESS Array S 84.86 320 *eP* **P** **00 09 33.9 +0.1**
comp=Z,8.0nm,1.1s,mb4.8

GERES GERESS Array B 84.86 320 P **P** **00 09 34.1 +0.3**
comp=Z,3.2nm,0.9s,mb4.5,baz=39,slow=5.1,SNR=7.4

MOA Molln 84.95 319⇑ *iP* **P** **00 09 34.8 +0.6**
comp=Z,8.9nm,1.2s,mb4.8

WERD Werda 84.96 322 *eP* **P** **00 09 34.4 +0.1**
comp=Z,15nm,1.5s,mb4.9

WET Wettzell 85.21 321 *eP* **P** **00 09 36.0 +0.4**
comp=Z,10.0nm,1.5s,mb4.7

WET Wettzell 85.21 321 *eP* **P** **00 09 36.0 +0.4**
WET pmax pmax
comp=Z,10.0nm,1.5s,mb4.7

WET Wettzell 85.21 321 *eP* **P** **00 09 36.0 +0.4**
comp=Z,10.0nm,1.5s,mb4.7

MOX Moxa 85.27 323 *eP* **P** **00 09 36.1 +0.3**
comp=Z,11nm,1.2s,mb4.9

MOX Moxa 85.27 323 *eP* **P** **00 09 36.1 +0.3**
comp=Z,16nm,1.6s,mb4.9

MOX Moxa 85.27 323 *eP* **P** **00 09 36.1 +0.3**
MOX pmax pmax
comp=Z,16nm,1.6s,mb4.9

MANZ Manzenberg 85.28 322 *eP* **P** **00 09 36.8 +0.9**
comp=Z,9.0nm,1.3s,mb4.7

ROTZ Rotzenmuhle 85.33 322 *eP* **P** **00 09 36.5 +0.4**
comp=Z,14nm,1.2s,mb5.0

CLZ Clausthal 85.41 324 *eP* **P** **00 09 37.2 +0.7**
comp=Z,20nm,1.4s,mb5.0

CLZ Clausthal 85.41 324 *eP* **P** **00 09 37.2 +0.7**
CLZ pmax pmax
comp=Z,20nm,1.4s,mb5.0

CLZ Clausthal 85.41 324 *eP* **P** **00 09 37.2 +0.7**
comp=Z,20nm,1.4s,mb5.0

GRA1 Grafenberg Arr 85.93 322 *eP* **P** **00 09 38.4 -0.7**
comp=Z,14nm,1.3s,mb5.0

GRF Grafenberg Arr 85.93 322 *eP* **P** **00 09 38.4 -0.7**
comp=Z,14nm,1.3s,mb5.0

GRF Grafenberg Arr 85.93 322 *eP* **P** **00 09 38.4 -0.7**
GRF pmax pmax
comp=Z,14nm,1.3s,mb5.0

GRF Grafenberg Arr 85.93 322 *eP* **P** **00 09 38.4 -0.7**
GRF pmax pmax
comp=Z,14nm,1.3s,mb5.0

GRF Grafenberg Arr 85.93 322 *eP* **P** **00 09 38.4 -0.7**
comp=Z,14nm,1.3s,mb5.0

YKA Yellowknife Ar 86.48 22 P **P** **00 09 42.3 +0.5**
comp=Z,4.5nm,0.9s,mb4.7,baz=314,slow=4.7,SNR=21

CDF Champ du Feu 88.82 322 *eP* **P** **00 09 53.4 +0.3**
LPG La Plagne 90.61 320 *eP* **P** **00 10 02.1 +0.6**
comp=Z,14nm,0.8s,mb5.0

LPG La Plagne 90.61 320 *eP* **P** **00 10 02.1 +0.6**
LPG pmax pmax
comp=Z,7.0nm,0.8s,mb5.0

LPG La Plagne 90.61 320 *eP* **P** **00 10 02.1 +0.6**
comp=Z,6.9nm,0.8s,mb5.0

LPL La Plagne 90.62 320 *eP* **P** **00 10 02.3 +0.8**
comp=Z,14nm,0.8s,mb5.0

LPL La Plagne 90.62 320 *eP* **P** **00 10 02.3 +0.8**
LPL pmax pmax
comp=Z,7.0nm,0.8s,mb5.0

LPL La Plagne 90.62 320 *eP* **P** **00 10 02.3 +0.8**
comp=Z,6.8nm,0.8s,mb5.0

PGF Pioggiola 90.69 316 *eP* **P** **00 10 02.0 +0.2**
comp=Z,82nm,1.6s,mb5.5

PGF Pioggiola 90.69 316 *eP* **P** **00 10 02.0 +0.2**
PGF pmax pmax
comp=Z,41nm,1.6s,mb5.5

PGF Pioggiola 90.69 316 *eP* **P** **00 10 02.0 +0.2**
comp=Z,41nm,1.6s,mb5.5

SBF Sospel 91.03 318 *eP* **P** **00 10 03.5 +0.1**
comp=Z,18nm,0.8s,mb5.1

SBF Sospel 91.03 318 *eP* **P** **00 10 03.5 +0.1**
SBF pmax pmax
comp=Z,9.0nm,0.8s,mb5.2

SBF Sospel 91.03 318 *eP* **P** **00 10 03.5 +0.1**
comp=Z,8.8nm,0.8s,mb5.1

LOR Lormes 91.38 322 *eP* **P** **00 10 05.1 +0.1**
ORIF Oris-en-Rattie 91.44 320 *eP* **P** **00 10 05.7 +0.4**
comp=Z,16nm,1.1s,mb5.0

ORIF Oris-en-Rattie 91.44 320 *eP* **P** **00 10 05.7 +0.4**
ORIF pmax pmax
comp=Z,8.0nm,1.1s,mb5.0

ORIF Oris-en-Rattie 91.44 320 *eP* **P** **00 10 05.7 +0.4**
comp=Z,8.3nm,1.1s,mb5.0

SSF Saint Saulge 91.70 322 *eP* **P** **00 10 05.8 -0.7**
VIVF Saint-Julien-l 92.20 320 *eP* **P** **00 10 09.1 +0.3**
MTLF Montolieu 94.51 320 *eP* **P** **00 10 19.2 -0.2**
comp=Z,5.1nm,0.8s,mb4.7

MTLF Montolieu 94.51 320 *eP* **P** **00 10 19.2 -0.2**
MTLF pmax pmax
comp=Z,3.0nm,0.8s,mb4.8

MTLF Montolieu 94.51 320 *eP* **P** **00 10 19.2 -0.2**
comp=Z,5.2nm,0.8s,mb4.7

VNA2 Neumayer--Watz 121.35 198⇑ *i* PKPdf 00 15 51.4 -0.8
baz=87,slow=0.5

VNA2 *e* 00 16 00.6
VNA1 Neumayer--Stat 121.74 198⇑ *i* PKPdf 00 15 57.6 +4.7
VNA1 *e* 00 16 08.1
VNA3 Neumayer Olymp 121.83 197⇑ *i* PKPdf 00 15 59.5 +6.4
SDV Santo Domingo 148.69 21 *e*PKPbc PKPbc 00 16 47.0 +0.8
LPAZ La Paz 170.98 62 PKP PKPdf 00 17 09.2 +2.0
comp=Z,1.3nm,1.1s,baz=27,slow=4.5,SNR=3.8

MOS ***27*** *23:57:50.8±1.3, 6090N×1656.5E, h11km, mb4.7/19, Error ellipse: s-maj=14.4km s-min=6.5km az=84.1*
BJI ***27*** *23:57:51.5, 61.10N×1656.0E, h10km, mB4.9, mb4.7, Ms4.5, Msz4.3*
ISCJB ***27*** *23:57:51.1±0.2, 6087N±002×1656.7E±006, h10km, mb4.4/51, MS4.2/7, Error ellipse: s-maj=4.4km s-min=3.0km az=71.6*
KRSC ***27*** *23:57:52.6±0.5, 6076N×1659.9E, h17km±3km, ML4.7*
IDC ***27*** *23:57:53.5±0.8, 61.36N×1655.2E, h0km, mb4.1/18, mb1 4.3/18, mb1mx4.2/23, mbtmp4.1/18, Error ellipse: s-maj=22.8km s-min=13.9km az=168.0*
NEIC ***27*** *23:57:53.5±0.3, 61.15N×1655.7E, h10km, mb4.5/22, MS4.4/1, Error ellipse: s-maj=10.3km s-min=5.3km az=167.0*

ISC 27 23:57:52.8±0.2, 6094N±003×16564E±006, h10km, (h15km±1.1km: pP-P), n126, σ1s01/139, mb4.4/51, MS4.2/7, 4C-3D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TILR	**Tilichiki**	**0.55**	**158**	*i* P	**Pg**	**23 58 00.0**	**-3.5**
TILR				*i* S	**Sg**	**23 58 05.7**	**-5.0**
KAMR	**Kamenskoye**	**1.54**	**10**	*i* P	**Pn**	**23 58 21.9**	**+1.5**
KAMR				*i* S	**Sn**	**23 58 43.2**	**+2.7**
KAMR				Smax			
	23μm,1.0s						
OSSR	**Ossora**	**2.13**	**218**	*e*P	**Pn**	**23 58 26.9**	**-1.6**
SMKR	**Semkarok**	**4.88**	**208**	*i* P	**Pn**	**23 59 06.3**	**0.0**
SRKR	**Sorokina**	**4.89**	**210**	*e*P	**Pn**	**23 59 06.0**	**-0.3**
KBG	**Krutoberegovo**	**4.94**	**199**	*e*P	**Pn**	**23 59 06.4**	**-0.7**
BDR	**Baidarnaya**	**4.96**	**210**	*e*P	**Pn**	**23 59 07.0**	**-0.3**
KBTR	**Krutoberegovo**	**4.97**	**199**	P	**Pn**	**23 59 06.2**	**-1.3**
KBTR				S	**Sn**	**00 00 02.0**	**-3.0**
KBTR	**Krutoberegovo**	**4.97**	**199**	*i* P	**Pn**	**23 59 06.9**	**-0.6**
KBTR				*e*S	**Sn**	**00 00 00.7**	**-4.3**
KRSR	**Krestovskiy**	**5.43**	**212**	*e*P	**Pn**	**23 59 13.8**	**0.0**
CIRR	**Tsirk**	**5.48**	**210**	*e*P	**Pn**	**23 59 15.2**	**+0.8**
ZLN	**Zelenaya**	**5.55**	**209**	*e*P	**Pn**	**23 59 15.9**	**+0.4**
SRDR	**Sredinnyy**	**5.57**	**216**	*e*P	**Pn**	**23 59 16.0**	**+0.2**
KOZR	**Kozyr**	**5.74**	**214**	PN	**Pn**	**23 59 18.9**	**+0.8**
KPT	**Kopyto**	**5.74**	**212**	*e*P	**Pn**	**23 59 19.0**	**+0.9**
KOZ	**Kozyrevsk**	**5.75**	**214**	P	**Pn**	**23 59 18.9**	**+0.7**
KOZ	**Kozyrevsk**	**5.75**	**214**	*e*P	**Pn**	**23 59 17.8**	**-0.4**
BKI	**Bering**	**5.76**	**178**	*e*P	**Pn**	**23 59 17.8**	**-0.5**
KMNR	**Kamenistaya**	**5.93**	**211**	*e*P	**Pn**	**23 59 21.4**	**+0.8**
ESO	**Esso**	**6.21**	**219**	*e*P	**Pn**	**23 59 25.2**	**+0.7**
TUMR	**Tumrok**	**6.38**	**210**	*e*P	**Pn**	**23 59 26.8**	**0.0**
MKZ	**Mys Kozlova**	**6.74**	**200**	P	**Pn**	**23 59 31.0**	**-0.7**
MKZ	**Mys Kozlova**	**6.74**	**200**	*i* P	**Pn**	**23 59 32.3**	**+0.6**
BILL	**Bilibino**	**7.13**	**2**	*i* PN	**Pn**	**23 59 40.0**	**+2.8**
BILL				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BILL	**Bilibino**	**7.13**	**2**	*e*Pn	**Pn**	**23 59 32.9**	**-4.3**
	comp=Z,58nm,0.6s						
BILL	**Bilibino**	**7.13**	**2**	*e*P	**Pn**	**23 59 40.9**	**+3.7**
BILL				Smax			
	comp=Z,850nm,0.9s						
MA2	**Magadan**	**7.53**	**266**	*c i*PN	**Pn**	**23 59 42.8**	**+0.2**
MA2				pmax	pmax		
	comp=N,100nm,0.5s						
MA2				pmax	pmax		
	comp=E,50nm,0.5s						
MA2				pmax	pmax		
	comp=Z,100nm,0.5s						
MA2	**Magadan**	**7.53**	**266**	*e*Pn	**Pn**	**23 59 42.6**	**0.0**
	comp=Z,118nm,0.5s						
MA2				*e*Sn	**Sn**	**00 01 08.0**	**+0.1**
MA2	**Magadan**	**7.53**	**266**	*i* P	**Pn**	**23 59 45.0**	**+2.4**
MA2				Smax			
	comp=Z,210nm,1.2s						
GNL	**Ganaly**	**8.37**	**213**	*e*P	**Pn**	**23 59 55.2**	**+1.1**
SPN	**Mys Shipunski**	**8.44**	**204**	P	**Pn**	**23 59 54.2**	**-0.9**
SPN				S	**Sn**	**00 01 25.3**	**-5.0**
SPN	**Mys Shipunski**	**8.44**	**204**	*e*P	**Pn**	**23 59 54.9**	**-0.2**
NLC	**Nalytchevo**	**8.51**	**207**	P	**Pn**	**23 59 57.2**	**+1.2**
NLC	**Nalytchevo**	**8.51**	**207**	*e*P	**Pn**	**23 59 56.9**	**+0.9**
AVH	**Avacha**	**8.56**	**209**	*i* P	**Pn**	**23 59 57.5**	**+0.8**
PET	**Petropavlovsk**	**8.80**	**209**	*e*PN	**Pn**	**00 00 01.5**	**+1.4**
PET				pmax	pmax		
	comp=Z,52nm,1.6s						
PET				MLR	MLR		
	comp=Z,700nm,21.0s						
PET	**Petropavlovsk**	**8.80**	**209**	*e*Pn	**Pn**	**00 00 01.2**	**+1.1**
APC	**Apacha**	**9.27**	**214**	*e*P	**Pn**	**00 00 07.5**	**+1.0**
SKR	**Severo-Kuril's**	**11.58**	**212**	*e*PN	**Pn**	**00 00 35.5**	**-2.6**
SKR				MLR	MLR		
	comp=Z,2μm,16.0s						
YAK	**Yakutsk**	**17.07**	**289**	*c i*P	**Pn**	**00 01 54.5**	**+3.0**
YAK				*e*S	**Sn**	**00 04 51.5**	**-10**
YAK				pmax	pmax		
	comp=N,3.0nm,0.8s						
YAK				pmax	pmax		
	comp=Z,54nm,0.8s						
YAK				pmax	pmax		
	comp=E,18nm,1.0s						
YAK				smax			
	comp=N,7.0nm,1.2s						
YAK				smax			
	comp=Z,11nm,1.2s						
YAK				smax			
	comp=E,6.0nm,1.3s						
YAK				MLR	MLR		
	comp=Z,201nm,14.0s						
TIXI	**Tiksi**	**17.89**	**322**	*e*P	**Pn**	**00 02 01.4**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TIXI				MLR	MLR		
	comp=Z,278nm,11.0s						
YSS	**Yuzh-Sakhalins**	**19.28**	**234**	*e*P	**Pn**	**00 02 21.5**	**+2.8**
YSS				MLR	MLR		
	comp=Z,500nm,14.0s						
YSS				MLR	MLR		
	comp=E,700nm,13.0s						
COLA	**College**	**21.15**	**59**	*e*P	**P**	**00 02 37.7**	**-0.2**
COLA				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.3						
COLA	**College**	**21.15**	**59**	*e*P	**P**	**00 02 37.7**	**-0.3**
	comp=Z,14nm,0.9s,mb4.3						
KDAK	**Kodiak Island**	**21.25**	**80**	P	**P**	**00 02 39.7**	**+0.6**
	comp=Z,3.9nm,0.6s,mb4.0,baz=325,slow=16,SNR=4.8						
KDAK	**Kodiak Island**	**21.25**	**80**	P	**P**	**00 02 39.7**	**+0.6**
ILAR	**Eielson Array**	**21.57**	**59**	P	**P**	**00 02 43.2**	**+0.7**
	comp=Z,12nm,0.8s,mb4.4,baz=276,slow=10,SNR=60						
KLR	**Kul'dur**	**22.38**	**254**	*e*P	**P**	**00 02 47.7**	**-3.4**
DAWY	**Dawson**	**24.90**	**59**	*e*P	**P**	**00 03 15.7**	**-0.1**
BOD	**Bodaibo**	**25.92**	**286**	⇓ *i*P	**P**	**00 03 24.9**	**-0.2**
BOD				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.7						
INK	**Inuvik**	**26.02**	**48**	P	**P**	**00 03 26.4**	**+0.4**
	comp=Z,7.3nm,0.8s,mb4.3,baz=279,slow=9.5,SNR=16						
INK	**Inuvik**	**26.02**	**48**	*e*P	**P**	**00 03 25.9**	**-0.1**
INK				pmax	pmax		
	comp=Z,14nm,0.9s						
INK	**Inuvik**	**26.02**	**48**	*e*P	**P**	**00 03 25.9**	**-0.1**
	comp=Z,14nm,0.9s,mb4.5						
MDJ	**Mudanjiang**	**26.78**	**249**	P	**P**	**00 03 32.3**	**-0.5**
MDJ				AP	pP	00 03 35.3	-0.6
MDJ				S	**S**	**00 08 08.8**	**+0.1**
MDJ				XS	sS	00 08 13.3	-0.4
MDJ				SCP	ScP	00 10 35.5	-0.3
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.5s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,49nm,5.5s						
MDJ				LR	LR		
	comp=N,768nm,14.3s,MS4.4						
MDJ				LR	LR		
	comp=E,283nm,16.1s,MS4.4						
MDJ				LR	LR		
	comp=Z,432nm,14.3s,MS4.2						
CN2	**Changchun**	**29.31**	**253**	*e*P	**P**	**00 03 56.3**	**+0.8**
CN2				*e*XP	sP	00 04 03.0	+3.2
CN2				*e*S	**S**	**00 08 47.0**	**-1.6**
CN2				LR	LR		
	comp=N,750nm,12.0s,MS4.7						
CN2				LR	LR		
	comp=E,700nm,12.0s,MS4.7						
CN2				LR	LR		
	comp=Z,440nm,12.0s,MS4.3						
MJAR	**Matsushiro Arr**	**29.96**	**228**	P	**P**	**00 04 06.5**	**+5.2**
	comp=Z,2.2nm,1.0s,mb3.8,baz=29,slow=6.6,SNR=4.7						
ULN	**Ulaanbaatar**	**35.26**	**275**	*e*P	**P**	**00 04 46.2**	**-1.4**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
ULN	**Ulaanbaatar**	**35.26**	**275**	*e*P	**P**	**00 04 46.2**	**-1.3**
	comp=Z,3.4nm,0.8s,mb4.3						
YKW3	**Yellowknife Ar**	**35.54**	**52**	*e*P	**P**	**00 04 49.6**	**-0.4**
YKA	**Yellowknife Ar**	**35.58**	**52**	P	**P**	**00 04 50.0**	**-0.3**
	comp=Z,1.4nm,0.5s,mb4.2,baz=306,slow=8.0,SNR=14						
YKA				PcP	PcP	00 07 22.5	+3.3
	comp=Z,0.6nm,0.7s,baz=299,slow=3.7,SNR=4.1						
YKA	**Yellowknife Ar**	**35.58**	**52**	P	**P**	**00 04 50.0**	**-0.3**
YKA				PcP	PcP	00 07 22.5	+3.4
SONM	**Songino Array**	**35.60**	**276**	P	**P**	**00 04 50.9**	**+0.4**

comp=Z,2.2nm,0.9s,mb4.1,baz=52,slow=6.3,SNR=6.2
BJI Beijing 36.60 258 *e*P P **00 04 59.3 +0.2**
BJI AMB AMB
comp=Z,9.0nm,1.0s,mb4.5
BJI AMB AMB
comp=Z,329nm,7.2s
BJI LR LR
comp=N,296nm,13.5s,MS4.4
BJI LR LR
comp=E,302nm,14.4s,MS4.4
BJI LR LR
comp=Z,71nm,16.9s,MS3.5
BJI Beijing 36.60 258 *e*P P **00 04 59.3 +0.2**
comp=Z,9.0nm,1.0s,mb4.5
BJI LR LR
comp=Z,70nm,16.9s,MS3.5
HHC Hu-ho-hao-te 38.20 263 *e*P P **00 05 12.3 -0.3**
HHC AP pP 00 05 16.8 +1.1
HHC XP sP 00 05 19.3 +2.4
HHC PP PP 00 06 42.5 +2.6
HHC PCP PcP 00 07 28.5 +1.5
HHC S S **00 11 04.3 -1.7**
HHC SCP ScP 00 11 14.0 -0.9
HHC PCS PcS 00 11 16.5 +0.5
HHC SS SS 00 13 40.5 -13
HHC SCS ScS 00 15 22.0 -2.4
HHC AMB AMB
comp=Z,14nm,1.1s,mb4.6
HHC AMB AMB
comp=Z,112nm,5.7s
HHC LR LR
comp=N,270nm,13.5s,MS4.4
HHC LR LR
comp=E,302nm,12.4s,MS4.4
HHC LR LR
comp=Z,198nm,13.5s,MS4.1
NVS Novosibirsk 41.48 300 *e*P P **00 05 38.3 -1.6**
NVS pmax pmax
comp=Z,19nm,1.6s,mb4.5
NVS pmax pmax
comp=N,15nm,1.9s
NVS pmax pmax
comp=E,11nm,1.2s
EDM Edmonton 41.99 63 *e*P P **00 05 42.2 -1.9**
WALA Waterton Lakes 44.71 67 *e*P P **00 06 05.5 -0.5**
comp=E,6.6nm,0.9s,mb4.5
GTA Gaotai 45.03 273 *e*P P **00 06 09.0 +0.4**
GTA AP pP 00 06 13.5 +1.8
GTA XP sP 00 06 16.8 +3.8
GTA PCP PcP 00 07 53.0 +3.5
GTA PP PP 00 07 54.0 +0.2
GTA PPP 00 08 32.0
GTA SCP ScP 00 11 43.0 +1.0
GTA PCS PcS 00 11 45.8 +2.6
GTA S S **00 12 45.3 -2.0**
GTA SCS ScS 00 16 04.3 -1.7
GTA AMB AMB
comp=Z,5.0nm,1.2s,mb4.2
GTA AMB AMB
comp=Z,94nm,7.2s
GTA LR LR
comp=N,276nm,20.1s,MS4.3
GTA LR LR
comp=E,242nm,18.2s,MS4.3
GTA LR LR
comp=Z,228nm,14.1s,MS4.2
BSMT Bassoo Peak 45.20 69 *e*P P **00 06 11.6 +1.6**
FCC Fort Churchill 45.62 46 *e*P P **00 06 12.3 -0.9**
FCC pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
FCC Fort Churchill 45.62 46 *e*P P **00 06 12.3 -1.0**
comp=Z,6.6nm,0.8s,mb4.6
FFC Flin Flon 45.64 54 *e*P P **00 06 13.1 -0.4**
FFC pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
FFC Flin Flon 45.64 54 *e*P P **00 06 13.1 -0.4**
comp=Z,2.9nm,1.0s,mb4.2
LZH Lanzhou 45.68 266 *e*P P **00 06 13.5 -0.3**
LZH AP pP 00 06 17.8 +0.9
LZH PP PP 00 08 00.5 -0.2
LZH AMB AMB
comp=Z,24nm,1.5s,mb4.9
LZH AMB AMB
comp=Z,65nm,6.6s
LZH LR LR
comp=E,317nm,15.3s
LZH LR LR
comp=Z,405nm,18.5s,MS4.4
LZH Lanzhou 45.68 266 *e*P P **00 06 13.5 -0.3**
LZH *PP pP 00 06 17.8 +0.9
LZH *SP sP 00 06 18.2 +0.1
LZH 00 08 00.6
LZH pmax pmax
comp=Z,24nm,1.5s,mb4.9
LZH MLR MLR
comp=Z,410nm,18.5s,MS4.4
LZH Lanzhou 45.68 266 *e*P P **00 06 13.5 -0.3**
comp=Z,24nm,1.5s,mb4.9
LZH pP pP 00 06 17.8 +0.9
LZH sP sP 00 06 18.2 +0.1
LZH PP PP 00 08 00.6 -0.1
LZH LR LR
comp=Z,410nm,18.5s,MS4.4
KURK Kurchatov 46.39 299 *e*P P **00 06 19.5 +0.2**
KURK pmax pmax
comp=Z,29nm,1.0s,mb5.2
KURK Kurchatov 46.39 299 *e*P P **00 06 19.4 +0.1**
comp=Z,29nm,1.0s,mb5.2
ARCES ARCESS Array B 46.75 342 P P **00 06 18.6 -3.6**
comp=Z,3.8nm,0.9s,mb4.3,baz=32,slow=7.8,SNR=6.9
HRY Holter Researc 47.40 68 *e*P P **00 06 27.1 -0.1**
WMQ Urumqi 47.47 286 P P **00 06 29.3 +1.5**
WMQ PCP PcP 00 08 01.3 +3.3
WMQ PP PP 00 08 20.5 +1.4
WMQ S S **00 13 15.5 -6.8**
WMQ AMB AMB
comp=Z,7.0nm,0.6s,mb4.8
WMQ LR LR
comp=N,129nm,18.7s,MS4.1
WMQ LR LR
comp=E,153nm,18.2s,MS4.1
WMQ LR LR
comp=Z,94nm,18.8s,MS3.8
MKAR Makanchi Array 47.71 293 P P **00 06 28.4 -1.2**
comp=Z,2.4nm,0.6s,mb4.4,baz=36,slow=6.5,SNR=15
DLMT Dillon 48.07 70 P P **00 06 32.4 0.0**
comp=Z,6.3nm,1.1s,mb4.6
MCMT McKenzie Canyo 48.36 70 *e*P P **00 06 33.3 -1.4**
HLID Hailey 48.60 73 *e*P P **00 06 37.1 +0.5**
comp=Z,1.5nm,0.6s,mb4.2
SVE Sverdlovsk 48.74 315 *e*P P **00 06 38.2 +0.6**
SVE pmax pmax
comp=Z,40nm,1.4s,mb5.3
GCMT Greycliff 49.07 67 *e*P P **00 06 40.5 +0.3**
ARU Arti 49.76 316 ⇑*i*P P **00 06 45.6 +0.2**
ARU *e* 00 08 41.5
ARU *e*PPP 00 09 35.4
ARU *e*S S **00 13 53.0 -1.6**
ARU *e*SS SS 00 17 25.6 -1.4
ARU pmax pmax
comp=Z,15nm,1.4s,mb4.8
FLWY Flagg Ranch 49.92 69 *e*P P **00 06 47.8 +1.2**
comp=Z,16nm,1.0s,mb5.0
MOOW Moose Ponds 50.15 70 P P **00 06 47.9 -0.5**
comp=Z,2.7nm,1.0s,mb4.2
LOHW Long Hollow 50.32 70 *e*P P **00 06 50.7 +1.0**
comp=Z,8.9nm,1.2s,mb4.7
NVAR Mina Array Bea 50.76 80 P P **00 06 53.8 +0.9**
comp=Z,0.7nm,0.4s,mb3.9,baz=327,slow=6.5,SNR=2.5
HWUT Hardware Ranch 51.45 72 *e*P P **00 06 58.8 +0.6**
comp=Z,2.1nm,0.6s,mb4.2
BW06 Boulder Array 51.46 70 *e*P P **00 06 58.5 +0.2**
comp=Z,4.0nm,0.8s,mb4.4
PDAR Pinedale Array 51.46 70 P P **00 06 58.7 +0.5**
comp=Z,4.0nm,0.8s,mb4.4,baz=330,slow=5.2,SNR=20
ULM Lac du Bonnet 51.47 54 P P **00 06 58.2 -0.1**
comp=Z,1.4nm,0.5s,mb4.1,baz=342,slow=8.3,SNR=3.7
KLMR Klimovskoe 51.68 330 *e*P P **00 06 59.1 -0.8**
KLMR pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
DUG Dugway 51.97 74 *e*P P **00 07 02.4 +0.3**
DUG pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
DUG Dugway 51.97 74 *e*P P **00 07 02.4 +0.3**
comp=Z,4.1nm,1.1s,mb4.3

RSSD Black Hills 52.88 65 *e*P P **00 07 09.2 +0.4**
RSSD pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
RSSD Black Hills 52.88 65 *e*P P **00 07 09.2 +0.4**
comp=Z,3.8nm,0.8s,mb4.4
RWWY Rawlins 53.38 69 *e*P P **00 07 13.7 +1.1**
comp=Z,89nm,1.0s,mb5.7
FINES FINESS Array B 54.07 337 P P **00 07 16.9 -0.6**
comp=Z,0.8nm,0.6s,mb3.8,baz=30,slow=8.5,SNR=9.0
KMI Kunming 55.24 259 P P **00 07 29.0 +2.9**
KMI AMB AMB
comp=Z,8.0nm,0.9s,mb4.8
KMI Kunming 55.24 259 P P **00 07 28.9 +2.8**
KMI pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
KMI Kunming 55.24 259 P P **00 07 28.9 +2.8**
comp=Z,8.0nm,0.9s,mb4.8
NB2 NORSAR Subarra 56.77 345 P P **00 07 36.5 -0.5**
comp=Z,3.1nm,0.7s,mb4.5,baz=14,slow=7.4
NOA NORSAR Array B 56.77 345 P P **00 07 36.1 -0.9**
comp=Z,1.3nm,0.5s,mb4.2,baz=14,slow=7.3,SNR=5.5
SCHQ Schefferville 57.33 33 P P **00 07 40.4 -0.5**
comp=Z,3.0nm,0.7s,mb4.4,baz=5.6,slow=9.3,SNR=6.2
SCHQ Schefferville 57.33 33 P P **00 07 40.4 -0.5**
OBN Obninsk 57.49 328 *e*P P **00 07 41.9 -0.2**
OBN pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
KSU1 Kansas State U 60.20 63 *e*P P **00 08 00.6 -0.4**
VRSR Storozhevoye 60.26 324 *e*P P **00 08 00.7 -0.7**
VRSR pmax pmax
comp=E,2.0nm,1.0s
VRSR pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
VRSR pmax pmax
comp=N,1.0nm,0.6s
AKASG Malin Array Be 63.35 331 P P **00 08 21.8 -0.3**
comp=N,0.4nm,0.4s,mb3.9,baz=25,slow=6.9,SNR=5.5
CCM Cathedral Cave 63.37 59 *e*P P **00 08 20.3 -1.9**
CCM pmax pmax
comp=Z,10.0nm,1.4s,mb4.8
CCM Cathedral Cave 63.37 59 *e*P P **00 08 20.3 -1.9**
comp=Z,9.9nm,1.4s,mb4.8
WVT Waverly 66.43 58 *e*P P **00 08 41.3 -0.9**
WVT pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
WVT Waverly 66.43 58 *e*P P **00 08 41.3 -0.9**
comp=Z,7.0nm,0.8s,mb4.7
BURAR Bucovina Array 67.17 332 ⇓*i*P P **00 08 47.3 +0.4**
BURAR Bucovina Array 67.17 332 ⇓P P **00 08 47.3 +0.4**
TZTN Tazewell 67.81 54 *e*P P **00 08 50.9 -0.1**
LRAL Lakeview Retre 69.44 59 *e*P P **00 08 59.4 -1.8**
comp=Z,5.7nm,0.8s,mb4.5
BRTR Keskin Array B 72.33 323 P P **00 09 18.9 +0.3**
comp=Z,1.5nm,1.0s,mb3.9,baz=20,slow=1.9,SNR=5.2
ESDC Sonseca Array 79.38 352 P P **00 09 58.1 -0.8**
comp=Z,0.4nm,0.6s,mb3.5,baz=4.6,slow=5.0,SNR=4.5
WRA Warramunga Arr 84.46 209 P P **00 10 29.1 +3.4**
comp=Z,1.6nm,0.9s,mb4.1,baz=15,slow=5.5,SNR=4.2

CASC 28 00:03:23.0±2.6,**1449N**×**9027W,h10**km±13km,**MD3.7, ML4.3,4C-1D,Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GCG	**Guatemala City**	**0.27**	**290**	*e*P		P	Pg	00 03 28.6	+0.2
GCG				*e*S		Sg		00 03 33.0	+0.9
GCG				AML		AML		00 03 34.1	
	comp=N,36μm,0.2s								
PCG	**Pacaya**	**0.34**	**253**	⇑*e*P		Pg		00 03 31.4	+1.6
PCG				*e*S		Sg		00 03 36.3	+2.0
IXG	**Ixpaco**	**0.36**	**209**	⇑*e*P		Pg		00 03 30.8	+0.6
IXG				*e*S		Sg		00 03 37.1	+2.1
FUG	**Fuego 3**	**0.55**	**265**	⇑*i*P		Pg		00 03 34.8	+1.0
RBDL	**Robledal**	**0.68**	**124**	*e*P		Pg		00 03 45.2	+9.0
RBDL				*e*S		Sg		00 03 54.8	+10
TP2	**Tecpan 2**	**0.78**	**292**	⇑*e*P		Pg		00 03 37.9	-0.2
TP2				*e*S		Sg		00 03 49.0	+0.8
MTO2	**Montecristo 2**	**0.89**	**96**	*e*P		Pg		00 03 48.2	+8.2
SNJE	**San Jose**	**0.90**	**134**	*e*P		Pg		00 03 49.2	+8.9
JAT	**Jato**	**1.33**	**263**	⇓*e*P		Pn		00 03 49.6	+1.9
LFRS	**El Faro**	**1.46**	**126**	*e*P		Pn		00 03 58.4	+9.0
LFRS				*e*S		Sn		00 04 17.9	+9.4

NIED ***28*** *00:03:00,29.10N×130.10E,h47km,Mw4.6 Best double couple: M0 7.52000×10*^{15} *NP1:*ϕ_s*32.00000°,*δ*74.00000°,* λ*85.00000°. NP2:*ϕ_s*228.00000°,*δ*17.00000°,*λ*105.00000°.*
MOS ***28*** *00:03:33.8*±*0.9,29.10N×130.16E,h33km,mb4.8/9, Error ellipse: s-maj=16.8km s-min=10.4km az=108.5*
NEIC ***28*** *00:03:35.6*±*0.4,2909N×130.18E,mb4.6/15,MW4.5(NIED), Error ellipse: s-maj=8.7km s-min=7.0km az=118.0*
JMA ***28*** *00:03:36.2*±*0.2,2906N×130.14E,h61km*±*4km, M4.2*
IDC ***28*** *00:03:36.9*±*2.6,29.15N×130.03E,h40km*±*25km,mb3.7/13, mb1 3.9/15,mb1mx3.8/23,mbtmp3.9/15,ML3.3/2, MS3.6/2, Ms1 3.6/2,ms1mx3.0/31, Error ellipse: s-maj=21.4km s-min=14.8km az=104.0*
ISCJB ***28*** *00:03:36.3*±*0.5,2904N×003×13021E*±*007,h54km*±*4km, mb4.2/24, Error ellipse: s-maj=10.5km s-min=4.1km az=46.7*

ISC 28 00:03:37.3±0.5,**2905N**±003×**13021E**±007,**h46**km±4km, **n60,**σ**0**§**82/68,mb4.2/24,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.76**	**196**	P		P	**Pn**	**00 03 51.3**	**-0.4**
JAM	**Amami Oshima**	**0.82**	**220**	P		P	**Pn**	**00 03 51.7**	**-0.8**
JAM				S		S	**Sn**	**00 04 03.4**	**-0.2**
JNN	**Nakanoshima**	**0.84**	**340**	P		P	**Pn**	**00 03 51.8**	**-1.0**
JNN				*e*S		S	**Sn**	**00 04 04.7**	**+0.6**
JKC	**Kuchinoerabu**	**1.41**	**360**	P		P	**Pn**	**00 04 00.0**	**-0.5**
JKC				S		S	**Sn**	**00 04 19.0**	**+1.1**
JTK	**Tokunoshima**	**1.67**	**222**	P		P	**Pn**	**00 04 04.3**	**+0.2**
JTK				*e*S		S	**Sn**	**00 04 25.5**	**+1.1**
JTN	**Tanegashima 3**	**1.74**	**23**	P		P	**Pn**	**00 04 04.6**	**-0.4**
JTN				*e*S		S	**Sn**	**00 04 26.7**	**+0.8**
JOW	**Kunigami**	**2.79**	**218**	P		P	**Pn**	**00 04 19.1**	**-0.3**
	6.2nm,0.3s,baz=65,slow=13,SNR=29								
JOW				S		S	**Sn**	**00 04 51.8**	**-0.1**
	20nm,0.3s,baz=76,slow=27,SNR=4.2								
JOW				LR		LR		00 05 19.2	
	comp=Z,447nm,19.7s,baz=18,slow=37								
JOW	**Kunigami**	**2.79**	**218**	P		P	**Pn**	**00 04 19.0**	**-0.4**
JIH	**Iheya**	**2.82**	**225**	P		P	**Pn**	**00 04 19.5**	**-0.3**
JIH				*e*S		S	**Sn**	**00 04 52.8**	**+0.3**
JAGN	**Aguni-jima**	**3.59**	**228**	P		P	**Pn**	**00 04 30.7**	**+0.3**
JAGN				*e*S		S	**Sn**	**00 05 11.2**	**-0.3**
JKE	**Kume jima 2**	**4.07**	**229**	P		P	**Pn**	**00 04 36.8**	**-0.2**
NACB	**Ninganchiao**	**9.11**	**240**	*e*Pn		P	**Pn**	**00 05 45.3**	**-0.7**
MJAR	**Matsushiro Arr**	**10.06**	**40**	P		P	**Pn**	**00 05 58.7**	**-0.4**
	0.4nm,0.3s,baz=232,slow=13,SNR=5.1								
BJT	**Baijiatuao**	**15.90**	**317**	*e*P		P	**Pn**	**00 07 19.5**	**+1.7**
BJT				pmax		pmax			
	comp=Z,19nm,0.9s								
BJT	**Baijiatuao**	**15.90**	**317**	*e*Pn		P	**Pn**	**00 07 19.5**	**+1.7**
	comp=Z,19nm,0.9s								
YSS	**Yuzh-Sakhalins**	**20.38**	**25**	*e*P		P	**P**	**00 08 10.6**	**+0.5**
YSS				pmax		pmax			
	comp=Z,5.0nm,0.4s								
YSS	**Yuzh-Sakhalins**	**20.38**	**25**	*e*P		P	**P**	**00 08 10.6**	**+0.5**
	comp=Z,5.0nm,0.4s								
ULN	**Ulaanbaatar**	**25.95**	**323**	*e*P		P	**P**	**00 09 04.5**	**-0.7**
ULN				pmax		pmax			
	comp=Z,2.0nm,0.6s,mb3.8								
ULN	**Ulaanbaatar**	**25.95**	**323**	*e*P		P	**P**	**00 09 04.5**	**-0.8**
	comp=Z,1.9nm,0.6s,mb3.8								
SONM	**Songino Array**	**26.28**	**322**	P		P	**P**	**00 09 07.5**	**-0.8**
	comp=Z,1.9nm,0.6s,mb3.8,baz=140,slow=9.4,SNR=6.5								
JIRN	**Jiri**	**38.59**	**279**	*e*P		P	**P**	**00 10 57.0**	**+1.3**
GUN	**Gumba**	**38.81**	**279**	*e*P		P	**P**	**00 10 58.8**	**+1.3**
	comp=Z,14nm,0.4s,mb5.0								
PKI	**Pulchoki**	**39.29**	**279**	*e*P		P	**P**	**00 11 02.2**	**+0.6**
	comp=Z,11nm,0.5s,mb4.8								
PKI	**Pulchoki**	**39.29**	**279**	*e*P		P	**P**	**00 11 02.2**	**+0.6**
PKI				pmax		pmax			
	comp=Z,11nm,0.5s,mb4.8								
KKN	**Kakani**	**39.35**	**279**	*e*P		P	**P**	**00 11 02.6**	**+0.5**
	comp=Z,13nm,0.6s,mb4.8								
KKN	**Kakani**	**39.35**	**279**	*e*P		P	**P**	**00 11 02.6**	**+0.5**
KKN				pmax		pmax			
	comp=Z,13nm,0.6s,mb4.8								
DMN	**Daman**	**39.54**	**279**	*e*P		P	**P**	**00 11 04.4**	**+0.7**
GKN	**Gorkha**	**39.86**	**280**	*e*P		P	**P**	**00 11 06.5**	**+0.2**

comp=Z,8.3nm,0.4s,mb4.8
KOLN Koldanda 40.81 280 *e*P P **00 11 14.6 +0.5**
comp=Z,11nm,0.9s,mb4.5
MKAR Makanchi Array 41.05 309 P P **00 11 14.5 -1.7**
comp=Z,0.2nm,0.4s,baz=102,slow=9.7,SNR=4.8
MKAR PcP PcP 00 13 14.7 -0.5
comp=Z,0.5nm,0.9s,baz=114,slow=3.1,SNR=4.3
KURK Kurchatov 44.05 314 *e*P P **00 11 40.6 +0.1**
KURK *e*PP pP 00 11 49.7 -3.4
KURK pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
KURK Kurchatov 44.05 314 *e*P P **00 11 40.6 +0.1**
comp=Z,3.1nm,0.9s,mb4.0
KURK *e*pP pP 00 11 49.7 -3.5
WRAB Tennant Creek 48.86 175 *e*P P **00 12 18.0 -0.2**
WRAB pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
WRAB Tennant Creek 48.86 175 *e*P P **00 12 18.0 -0.2**
comp=Z,8.5nm,0.9s,mb4.8
WRA Warramunga Arr 48.87 175 P P **00 12 18.6 +0.4**
comp=Z,0.6nm,0.7s,mb3.7,baz=349,slow=8.2,SNR=6.5
CHKZ Chkalovo 49.31 317 *e*P P **00 12 21.1 -0.6**
CHKZ *e* 00 13 43.5
CHKZ pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
CHKZ Chkalovo 49.31 317 *e*P P **00 12 21.1 -0.6**
comp=Z,2.2nm,0.5s,mb4.4
CHKZ *e*PcP PcP 00 13 43.5 -0.3
ZRNK Zerenda 50.22 316 *e*P P **00 12 28.4 -0.2**
ZRNK *e* 00 13 46.6
ZRNK pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
ZRNK Zerenda 50.22 316 *e*P P **00 12 28.4 -0.2**
comp=Z,7.2nm,0.8s,mb4.8
ZRNK *e*PcP PcP 00 13 46.6 -0.5
ASAR Alice Springs 52.53 176 P P **00 12 47.5 +1.6**
comp=Z,0.8nm,0.6s,mb3.8,baz=6.8,slow=14,SNR=9.4
ARU Arti 56.30 321 *e*P P **00 13 12.4 -0.8**
ARU *e*PP pP 00 13 21.5 -4.7
ARU pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ARU Arti 56.30 321 *e*P P **00 13 12.4 -0.8**
comp=Z,5.1nm,0.8s,mb4.6
ARU *e*pP pP 00 13 21.5 -4.8
AKTK Aktyubinsk 57.14 314 P P **00 13 18.6 -0.5**
AKTO Aktyubinsk 57.14 314 P P **00 13 18.6 -0.5**
comp=Z,1.4nm,0.5s,mb4.3,baz=104,slow=5.6,SNR=5.9
ILAR Eielson Array 61.13 29 P P **00 13 46.1 -0.7**
comp=Z,0.4nm,0.6s,mb3.7,baz=281,slow=7.3,SNR=7.0
FINES FINESS Array B 71.28 331 P P **00 14 49.9 -1.9**
comp=Z,1.0nm,0.5s,mb4.0,baz=73,slow=6.3,SNR=23
RES Resolute Bay 72.46 11 *e*P P **00 14 58.3 -0.6**
RES pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
RES Resolute Bay 72.46 11 *e*P P **00 14 58.3 -0.6**
comp=Z,6.0nm,0.9s,mb4.5
TAU Tasmania Unive 73.31 167 *e*P P **00 15 04.3 +0.4**
TAU pmax pmax
comp=Z,173nm,1.8s
TAU Tasmania Unive 73.31 167 *e*P P **00 15 04.3 +0.4**
comp=Z,173nm,1.8s
AKASG Malin Array Be 74.53 320 P P **00 15 10.1 -1.0**
comp=Z,1.0nm,0.5s,mb4.0,baz=58,slow=6.6,SNR=4.0
YKA Yellowknife Ar 75.24 26 P P **00 15 15.7 +0.5**
comp=Z,1.4nm,0.8s,mb3.9,baz=301,slow=5.5,SNR=9.4
YKA Yellowknife Ar 75.24 26 P P **00 15 15.7 +0.5**
BR131 Keskin Array S 76.69 308 *e*P P **00 15 24.1 +0.7**
comp=Z,1.2nm,0.8s,mb3.9
BRTR Keskin Array B 76.69 308 P P **00 15 23.5 +0.1**
comp=Z,2.4nm,1.0s,mb4.1,baz=96,slow=4.2,SNR=11
NB2 NORSAR Subarra 77.56 334 P P **00 15 26.5 -1.8**
comp=Z,1.1nm,0.9s,mb3.8,baz=48,slow=5.6
NOA NORSAR Array B 77.56 334 P P **00 15 27.0 -1.3**
comp=Z,0.7nm,0.7s,mb3.7,baz=50,slow=5.5,SNR=3.0
CLL Collm 82.83 326 *e*P P **00 15 58.0 +1.3**
GERES GERESS Array B 84.00 324 P P **00 16 02.1 -0.6**
comp=Z,0.6nm,0.7s,mb3.8,baz=57,slow=7.2,SNR=2.0
PDAR Pinedale Array 89.88 40 P P **00 16 32.8 +1.6**
comp=Z,0.3nm,0.5s,mb3.9,baz=330,slow=2.4,SNR=3.7

NEIC ***28*** *00:12:04.6,3258S×7172W,h28km,ML2.6(GUC), After GUC.*

GUC 28 00:12:04.6±0.8,**3258S**×**7172W,h28**km±6km,**MD3.6, ML2.6,1C-6D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.24**	**81**	⇓*i*P		P	Pb	00 12 11.3	+0.2
PACH				*i* S		Sb		00 12 16.2	+0.8
LCCH	**Las Cruces**	**0.91**	**172**	*i* S		Sb		00 12 32.5	-0.9
JACH	**Jahuel**	**0.96**	**97**	*i* S		Sb		00 12 34.7	-0.1
TACH	**Talagante**	**1.26**	**149**	*e*P		Pn		00 12 26.3	0.0
TACH				*i* S		Sn		00 12 42.7	+0.4
FCH	**Farellones**	**1.42**	**122**	⇓*i*P		Pn		00 12 29.3	+0.8
FCH				*i* S		Sn		00 12 48.6	+2.3
PCH	**Pirque**	**1.45**	**136**	⇑*i*P		Pn		00 12 29.9	+0.9
CMCH	**Combarbala**	**1.53**	**24**	⇓*i*P		Pn		00 12 30.4	+0.5
CMCH				*i* S		Sn		00 12 50.9	+2.0
CMCH				AML		AML		00 12 55.5	
	comp=E,236nm,0.5s								
CMCH	**Combarbala**	**1.53**	**24**	⇓*i*P		Pn		00 12 30.4	+0.5
CMCH				*i* S		Sn		00 12 50.9	+2.0
CHCH	**Chadas Angostu**	**1.62**	**147**	*e*P		Pn		00 12 33.0	+1.7
CHCH				*i* S		Sn		00 12 53.4	+2.1
LMEL	**Las Melosas**	**1.80**	**135**	⇓*i*P		Pn		00 12 35.4	+1.7
LMEL				*i* S		Sn		00 12 59.0	+3.4
LMEL				AML		AML		00 13 00.3	
	comp=N,70nm,0.2s								
LMEL	**Las Melosas**	**1.80**	**135**	⇓*i*P		Pn		00 12 35.4	+1.7
LMEL				*i* S		Sn		00 12 59.0	+3.4
CACH	**El Canelo**	**1.80**	**149**	*e*P		Pn		00 12 36.4	+2.6

IDC ***28*** *00:15:38.6*±*2.5,16.35S×17285W,h0km,mb4.0/5, mb1 4.2/5,mb1mx4.0/16,mbtmp4.0/5,MS4.3/2,Ms1 4.3/2, ms1mx3.1/24, Error ellipse: s-maj=141.5km s-min=24.3km az=143.0*
ISCJB ***28*** *00:15:42.8*±*2.0, 156S*±*05×1733W*±*0.5,h33km,mb4.0/5, MS4.3/2, Error ellipse: s-maj=100.6km s-min=9.5km az=94.2*

ISC 28 00:15:44.7±2.0,**156S**±05×**1732W**±05,**h35**km,**n13,**σ**1**§**15/7, mb4.0/5,MS4.3/2,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.18**	**39**	Pn		Pn	**Pn**	**00 16 17.0**	**-1.4**
	9.9nm,0.3s,baz=195,slow=22,SNR=7.3								
AFI						Sn	**Sn**	**00 16 44.2**	**-0.1**
	62nm,0.3s,baz=224,slow=23,SNR=10								
PPT	**Papeete**	**22.73**	**98**	*e*LR		LR		00 25 15.0	
	146nm,21.5s								
TBI	**Tubuai**	**23.65**	**113**	*e*LR		LR		00 25 43.0	
	270nm,24.5s								
HNR	**Honiara**	**26.90**	**280**	LR		LR		00 30 49.6	
	comp=Z,268nm,18.7s,MS3.8,baz=178,slow=33								
STKA	**Stephens Creek**	**44.09**	**240**	P		P	**P**	**00 23 47.3**	**-2.1**
	1.0nm,0.4s,mb3.9,baz=118,slow=12,SNR=3.6								
WRA	**Warramunga Arr**	**49.98**	**257**	P		P	**P**	**00 24 35.5**	**+0.3**
	1.3nm,0.6s,mb4.1,baz=89,slow=6.7,SNR=6.1								
ASAR	**Alice Springs**	**50.22**	**252**	P		P	**P**	**00 24 37.6**	**+0.5**
	4.3nm,0.9s,mb4.5,baz=88,slow=8.2,SNR=50								
PDAR	**Pinedale Array**	**82.30**	**42**	P		P	**P**	**00 28 04.0**	**+1.4**
	0.5nm,0.8s,mb3.5,baz=207,slow=5.0,SNR=3.6								
ILAR	**Eielson Array**	**82.61**	**11**	P		P	**P**	**00 28 05.3**	**+1.0**
	0.7nm,0.6s,mb3.9,baz=212,slow=4.1,SNR=12								
JTS	**JuntasAbangare**	**91.06**	**80**	LR		LR		00 58 22.7	
	comp=Z,400nm,20.9s,MS4.8,baz=327,slow=28								
KHC	**Kasperske Hory**	**146.11**	**352**	*e*P		PKPdf		00 35 24.0	+4.0
GERES	**GERESS Array B**	**146.38**	**352**	PKPbc		PKPbc		00 35 24.3	+2.5
	0.4nm,0.4s,baz=26,slow=5.4,SNR=3.2								
BRTR	**Keskin Array B**	**146.44**	**321**	PKPbc		PKPbc		00 35 25.8	+3.8
	2.5nm,0.8s,baz=88,slow=2.5,SNR=17								

ISCJB ***28*** *00:33:43.1*±*0.7,3445N*±*005×4964E*±*005,h10km, Error ellipse: s-maj=7.6km s-min=5.0km az=136.6*
CSEM ***28*** *00:33:43.7*±*0.1,3451N×4968E,h8km,ML3.3, Error ellipse: s-maj=2.5km s-min=1.5km az=163.0*
THR ***28*** *00:33:44.2*±*0.7,3442N×4975E,h14km*±*5km,ML3.3*
KISR ***28*** *00:33:48.8*±*0.8,3356N×5084E,h33km,ML2.3*

ISC 28 00:33:44.5±0.6,**3447N**±005×**4968E**±005,**h10**km,**n9,** σ**1**§**31/16,Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAO	**Ashtian**	**0.29**	**75**	*e*PG	**Pg**	**00 33 49.9**	**-0.5**
ASAO				*e*SG	**Sg**	**00 33 54.4**	**+0.1**
ASAO				AML	AML	00 33 54.8	
	comp=N,5μm,0.3s						
ASAO				AML	AML	00 33 55.0	
	comp=E,6μm,0.4s						
ASAO	**Ashtian**	**0.29**	**75**	*e*Pg	**Pg**	**00 33 49.9**	**-0.5**
	SNR=105						
ASAO				*e*Sg	**Sg**	**00 33 54.4**	**+0.1**
	comp=E,6μm,0.4s,SNR=105						
CHTH	**Charan**	**1.86**	**39**	*e*PG	**Pg**	**00 34 18.7**	**-1.5**
SNGE	**Sanandaj**	**2.02**	**289**	*e*PG	**Pg**	**00 34 22.4**	**-0.9**
SNGE				*e*SG	**Sg**	**00 34 49.9**	**+0.4**
SNGE				AML	AML	00 34 55.7	
	comp=N,147nm,0.6s						
SNGE	**Sanandaj**	**2.02**	**289**	*e*Pg	**Pg**	**00 34 22.4**	**-0.9**
	SNR=90						
SNGE				*e*Sg	**Sg**	**00 34 49.9**	**+0.4**
	SNR=90						
DAMV	**Damavand**	**2.20**	**58**	*e*PN	**Pn**	**00 34 22.6**	**+1.4**
DAMV				AML	AML	00 34 54.7	
	comp=N,173nm,0.4s						
MIB	**Mutribah**	**5.06**	**204**	*e*P	**Pn**	**00 35 02.2**	**+1.8**
MIB				*e*S	**Sn**	**00 35 58.3**	**-0.7**
MIB				AML	AML	00 36 02.1	
	comp=Z,3.0nm,0.3s						
MIB	**Mutribah**	**5.06**	**204**	*e*P	**Pn**	**00 35 02.2**	**+1.8**
MIB				*e*S	**Sn**	**00 35 58.3**	**-0.7**
NAY	**Al-Naaiem**	**5.61**	**202**	*e*P	**Pn**	**00 35 10.1**	**+2.2**
NAY				*e*S	**Sn**	**00 36 10.2**	**-2.2**
NAY				AML	AML	00 36 13.7	
	comp=Z,1.4nm,0.3s						

IDC ***28*** *00:38:17.7±1.0,2038S×16895E,h0km,mb4.4/11, mb1 4.5/12,mb1mx4.4/17,mbtmp4.4/12,ML4.2/1,MS4.1/10, Ms1 4.1/10,ms1mx3.8/20,Error ellipse: s-maj=29.6km s-min=20.1km az=147.0*

SZGRF ***28*** *00:38:21.7,2066S×16983E,h33km, Vanuatu Islands*

LDG ***28*** *00:38:22.2±0.5, 1944S×16744E,h10km,Mb4.9/1,Error ellipse: s-maj=74.5km s-min=3.5km az=105.0*

MOS ***28*** *00:38:23.2±1.5,2064S×16865E,h33km,mb4.9/8,Error ellipse: s-maj=16.4km s-min=12.7km az=14.8*

HRVD ***28*** *00:38:24.5±0.4,2044S×16868E,h30km±1km, MW5.0/56, Centroid moment Tensor Solution. LP body waves: s34,c40;Mantle waves: s56,c79; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.19±.21; Mθθ0.28±.15; Mφφ-3.47±.14; Mrθ-0.18±.26; Mθφ1.13±.11; Mφr-2.23±.21; Best double couple: M04.15700×10^16 NP1:φs331.00000°, δ31.00000°,λ67.00000°. NP2:φs176.00000°,δ62.00000°, λ103.00000°. Principal axes: T 3.9380, Plg70.0000°, Azm115.0000°; N 0.4360, Plg11.0000°, Azm350.0000°; P -4.3770, Plg16.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***28*** *00:38:24.5±0.4,2047S×16867E,h35km,mb4.8/12 Error ellipse: s-maj=17.1km s-min=11.3km az=154.0*

ISCJB ***28*** *00:38:25.2±1.3,2056S±006×16871E±007,h60km±10km, mb4.5/17,MS4.0/5,Error ellipse: s-maj=12.1km s-min=9.2km az=91.3*

ISC 28 00:38:26.5±1.1,2056S±007×16874E±006,h57km±10km, h50km±4.9km:pP-P,n107,σ0s88/54,mb4.5/17,MS4.0/5, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.62**	**234**	Pn	**Pn**	**00 39 04.2**	**-2.1**
	37nm,0.3s,baz=43,slow=18,SNR=716						
DZM				Sn	**Sn**	**00 39 36.5**	**-0.3**
	82nm,0.3s,baz=98,slow=18,SNR=5.0						
DZM				LR	LR	00 39 44.2	
	comp=Z,2μm,19.1s,baz=189,slow=30						
BKM	**Butte a Klehm**	**2.91**	**351**	*i* P	**Pn**	**00 39 10.8**	**+0.4**
HNR	**Honiara**	**13.94**	**321**	LR	LR	00 46 14.0	
	comp=Z,423nm,19.2s,baz=177,slow=34						
HNR	**Honiara**	**13.94**	**321**	P	**Pn**	**00 41 41.1**	**+0.1**
HNR				pmax	pmax		
	comp=Z,36nm,0.7s						
HNR	**Honiara**	**13.94**	**321**	Pn	**Pn**	**00 41 41.1**	**0.0**
	comp=Z,36nm,0.7s						
RAO	**Raoul Island**	**14.87**	**128**	LR	LR	00 46 12.2	
	comp=Z,1μm,18.1s,baz=321,slow=32						
URZ	**Urewera**	**19.07**	**159**	LR	LR	00 48 51.4	
	comp=Z,773nm,18.4s,baz=308,slow=33						
AFI	**Afiamalu**	**19.74**	**74**	LR	LR	00 48 56.4	
	comp=Z,753nm,20.6s,baz=237,slow=33						
AFI	**Afiamalu**	**19.74**	**74**	P	**Pn**	**00 42 53.8**	**+0.4**
AFI				pmax	pmax		
	comp=Z,42nm,0.8s						
AFI	**Afiamalu**	**19.74**	**74**	P	**Pn**	**00 42 53.8**	**+0.4**
	comp=Z,42nm,0.8s						
CTA	**Charters Tower**	**21.09**	**267**	*e*P	**P**	**00 43 08.7**	**+2.6**
	comp=Z,22nm,1.6s,mb4.2						
CTA				*e*S	**S**	**00 46 55.7**	**-1.9**
CTA	**Charters Tower**	**21.09**	**267**	P	**P**	**00 43 08.0**	**+1.9**
	comp=Z,10.0nm,0.7s,mb4.2,baz=81,slow=12,SNR=9.5						
CTA	**Charters Tower**	**21.09**	**267**	*e*P	**P**	**00 43 08.7**	**+2.6**
CTA				*e*S	**S**	**00 46 55.7**	**-1.9**
CTA				pmax	pmax		
	comp=Z,22nm,1.6s						
CTAO	**Charters Tower**	**21.09**	**267**	*e*P	**P**	**00 43 06.7**	**+0.6**
	comp=Z,38nm,1.3s,mb4.6						
PMG	**Port Moresby**	**23.57**	**295**	P	**P**	**00 43 32.4**	**+0.5**
	comp=Z,18nm,1.0s,mb4.5,baz=233,slow=11,SNR=4.8						
PMG				LR	LR	00 51 15.5	
	comp=Z,444nm,18.2s,MS4.0,baz=7.0,slow=33						
STKA	**Stephens Creek**	**26.76**	**240**	*e*P	**P**	**00 44 01.2**	**+0.4**
	comp=Z,4.4nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**26.76**	**240**	P	**P**	**00 44 01.0**	**+0.2**
	comp=Z,5.2nm,0.6s,mb4.2,baz=71,slow=8.7,SNR=12						
STKA				LR	LR	00 54 45.2	
	comp=Z,488nm,18.0s,MS4.1,baz=33,slow=36						
STKA	**Stephens Creek**	**26.76**	**240**	*e*P	**P**	**00 44 01.0**	**+0.2**
WB2	**Warramunga Arr**	**32.23**	**265**	*e*P	**P**	**00 44 49.4**	**+0.1**
WRAB	**Tennant Creek**	**32.23**	**265**	*e*P	**P**	**00 44 49.2**	**-0.1**
WRA	**Warramunga Arr**	**32.24**	**265**	P	**P**	**00 44 49.0**	**-0.4**
	comp=Z,3.8nm,0.5s,mb4.5,baz=91,slow=8.2,SNR=16						
AS31	**Alice Springs**	**32.37**	**258**	*e*P	**P**	**00 44 50.7**	**+0.2**
ASAR	**Alice Springs**	**32.37**	**258**	P	**P**	**00 44 50.7**	**+0.2**
	comp=Z,13nm,0.8s,mb4.8,baz=82,slow=9.1,SNR=103						
ASPA	**Alice Springs**	**32.38**	**258**	*e*P	**P**	**00 44 50.7**	**+0.1**
TBI	**Tubuai**	**38.78**	**102**	*e*S	**S**	**00 51 38.4**	**-0.3**
	comp=Z,166nm,31.5s						
TBI				*e*LQ		00 54 31.8	
	comp=Z,690nm,30.2s						
TBI				*e*LR	LR	00 56 10.6	
	comp=Z,372nm,27.8s						
PPT	**Papeete**	**39.44**	**93**	*e*S	**S**	**00 51 47.3**	**-1.4**
	comp=Z,205nm,28.0s						
PPT				*e*LQ		00 54 49.4	
	comp=Z,529nm,28.5s						
PPT				*e*LR	LR	00 56 26.3	
	comp=Z,616nm,25.8s,baz=254						
PPT	**Papeete**	**39.44**	**93**	LR	LR	00 58 05.2	
	comp=Z,471nm,21.4s,MS4.3,baz=280,slow=30						
FITZ	**Fitzroy Crossi**	**40.66**	**266**	*e*P	**P**	**00 46 01.7**	**+0.6**
	comp=Z,14nm,0.9s,mb4.6						
FITZ	**Fitzroy Crossi**	**40.66**	**266**	P	**P**	**00 46 02.0**	**+1.0**
	comp=Z,4.8nm,0.5s,mb4.3,baz=131,slow=21,SNR=21						
MBWA	**Marble Bar**	**45.65**	**260**	*e*P	**P**	**00 46 42.3**	**+1.0**
NWAO	**Narrogin (SRO)**	**47.20**	**244**	P	**P**	**00 46 53.7**	**+0.2**
	comp=Z,14nm,1.1s,mb4.8,baz=113,slow=4.5,SNR=3.6						
NWAO	**Narrogin (SRO)**	**47.20**	**244**	*e*P	**P**	**00 46 53.3**	**-0.2**
NWAO				pmax	pmax		
	comp=Z,37nm,1.4s						
NWAO	**Narrogin (SRO)**	**47.20**	**244**	*e*P	**P**	**00 46 53.3**	**-0.2**
	comp=Z,37nm,1.4s,mb5.1						
RKT	**Rikitea**	**52.04**	**104**	*e*S	**S**	**00 54 49.7**	**-0.1**
	comp=Z,278nm,29.0s						
RKT				*e*LR	LR	01 02 18.1	
	comp=Z,240nm,27.0s						
VNDA	**Vanda**	**57.11**	**182**	P	**P**	**00 48 07.6**	**+0.6**
	comp=Z,0.5nm,0.5s,mb3.8,baz=349,slow=8.6,SNR=3.7						
VNDA				LR	LR	01 10 16.9	
	comp=Z,80nm,19.3s,MS3.8,baz=53,slow=34						
VNDA	**Vanda**	**57.11**	**182**	*e*P	**P**	**00 48 06.9**	**-0.1**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
VNDA	**Vanda**	**57.11**	**182**	*e*P	**P**	**00 48 06.9**	**-0.1**
	comp=Z,0.5nm,0.4s,mb3.9						
VNDA				LR	LR	01 10 16.9	
SBA	**Scott Base**	**57.35**	**180**	*e*P	**P**	**00 48 09.9**	**+1.2**
SBA				pmax	pmax		
	comp=Z,19nm,1.6s,mb4.9						
SBA	**Scott Base**	**57.35**	**180**	*e*P	**P**	**00 48 09.9**	**+1.2**
	comp=Z,19nm,1.6s,mb4.9						
CASY	**Casey**	**58.73**	**204**	*e*P	**P**	**00 48 12.5**	**-6.0**
QSPA	**South Pole Qui**	**69.50**	**180**	*e*P	**P**	**00 49 29.6**	**+0.6**
	comp=Z,11nm,1.2s,mb4.7						
KLR	**Kul'dur**	**76.87**	**336**	*e*P	**P**	**00 50 08.8**	**-3.6**
MAW	**Mawson**	**77.04**	**202**	P	**P**	**00 50 13.8**	**+0.4**
MAW				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MAW	**Mawson**	**77.04**	**202**	P	**P**	**00 50 13.8**	**+0.4**
	comp=Z,2.5nm,0.5s,mb4.4						
MA2	**Magadan**	**81.19**	**351**	*e*P	**P**	**00 50 36.6**	**+0.6**
MA2				pmax	pmax		
	comp=Z,2.0nm,0.2s,mb4.7						
MA2	**Magadan**	**81.19**	**351**	*e*P	**P**	**00 50 36.6**	**+0.6**
	comp=Z,2.4nm,0.2s,mb4.8						
PMSA	**Palmer Station**	**85.84**	**160**	*e*P	**P**	**00 50 59.8**	**-0.1**
	comp=Z,21nm,1.0s,mb5.3						
ULN	**Ulaanbaatar**	**87.64**	**324**	*e*P	**P**	**00 51 06.8**	**-1.8**
ULN				*e**PP	pP	00 51 22.1	-2.8
ULN				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.9						
ULN	**Ulaanbaatar**	**87.64**	**324**	*e*P	**P**	**00 51 06.8**	**-1.9**
	comp=Z,13nm,1.5s,mb4.9						
ULN				*e*pP	pP	00 51 22.1	-2.8
SNAA	**Sanae**	**87.83**	**183**	*e*	**P**	**00 51 06.1**	**-3.5**
SNAA				*e*		00 51 09.8	
SNAA				*e*		00 51 13.0	
SNAA				*e*	pP	00 51 18.8	-7.0
SONM	**Songino Array**	**87.99**	**323**	P	**P**	**00 51 09.8**	**-0.5**
	comp=Z,1.6nm,0.8s,mb4.3,baz=151,slow=5.4,SNR=14						
VNA3	**Neumayer Olymp**	**88.44**	**181**	*e*	**P**	**00 51 12.7**	**+0.3**
VNA3				*e*		00 51 16.0	
VNA3				*e*		00 51 19.6	
VNA3				*e*	pP	00 51 25.6	-3.1
VNA3				*e*	pP	00 51 29.3	+0.6
VNA3				*e*		00 51 33.8	
VNA2	**Neumayer--Watz**	**88.72**	**181**	*e*	**P**	**00 51 14.2**	**+0.4**
	baz=183,slow=4.6						
VNA2				*e*		00 51 17.4	
VNA2				*e*		00 51 21.0	
VNA2				*e*	pP	00 51 26.7	-3.4
VNA2				*e*	pP	00 51 30.7	+0.6
VNA2				*e*		00 51 35.2	
NVAR	**Mina Array Bea**	**90.02**	**49**	P	**P**	**00 51 18.9**	**-1.0**
	comp=Z,0.5nm,0.5s,mb4.1,baz=225,slow=11,SNR=2.9						
BOD	**Bodaibo**	**90.30**	**334**	*e*P	**P**	**00 51 14.2**	**-7.0**
ILAR	**Eielson Array**	**91.62**	**17**	P	**P**	**00 51 23.1**	**-4.2**
	comp=Z,0.8nm,0.8s,mb4.1,baz=224,slow=7.1,SNR=4.9						
PDAR	**Pinedale Array**	**97.85**	**47**	LR	LR	01 24 29.7	
	comp=Z,44nm,21.8s,MS3.9,baz=18,slow=28						
ARCES	**ARCESS Array B**	**126.21**	**345**	PKP	PKPdf	00 57 21.4	-1.1
	comp=Z,1.3nm,0.8s,baz=60,slow=2.4,SNR=9.7						
BRG	**Berggiesshubel**	**143.83**	**333**	*e*P	PKPdf	00 57 52.9	-2.4
	comp=Z,6.4nm,1.6s						
BRG				*e*		00 58 03.0	
	comp=Z,8.7nm,1.9s						
BRG	**Berggiesshubel**	**143.83**	**333**	*e*PKIKP	PKPdf	00 57 52.9	-2.3
BRG				*e*		00 58 03.0	
BRG				pmax	pmax		
	comp=Z,6.0nm,1.6s						
BRG				pmax	pmax		
	comp=Z,9.0nm,1.9s						
PRU	**Pruhonice**	**144.21**	**331**	*e*PKP	PKPdf	00 57 54.2	-1.7
PRU				*ep*PKP	pPKPdf	00 58 05.2	-7.6
CLZ	**Clausthal**	**144.51**	**337**	*e*PKPbc	PKPdf	00 57 54.2	-2.2
WERD	**Werda**	**144.84**	**334**	*e*PKPbc	PKPdf	00 57 55.5	-1.5
MOX	**Moxa**	**144.97**	**334**	*e*PKPbc	PKPdf	00 57 55.3	-1.9
MOX	**Moxa**	**144.97**	**334**	*e*P	PKPdf	00 57 55.9	-1.3
	comp=Z,30nm,1.7s						
MOX	**Moxa**	**144.97**	**334**	*e*PKP2	PKPdf	00 57 55.9	-1.3
MOX				pmax	pmax		
	comp=Z,30nm,1.7s						
IBBN	**Ibbenburen**	**145.03**	**340**	*e*PKPbc	PKPbc	00 57 55.7	-1.1
KHC	**Kasperske Hory**	**145.26**	**331**	*e*PKP	PKPdf	00 57 56.9	-0.8
KHC				*ep*PKP	pPKPdf	00 58 08.3	-6.3
MANZ	**Manzenberg**	**145.27**	**333**	*e*PKPbc	PKPbc	00 57 56.9	-0.7
ROTZ	**Rotzenmuhle**	**145.40**	**333**	*e*PKPbc	PKPbc	00 57 57.6	-0.4
GEC2	**GERESS Array S**	**145.41**	**331**	*e*PKPbc	PKPbc	00 57 57.3	-0.7
GERES	**GERESS Array B**	**145.41**	**331**	PKPbc	PKPbc	00 57 57.1	-0.9
	comp=Z,1.3nm,0.6s,baz=46,slow=3.9,SNR=4.3						
WET	**Wettzell**	**145.57**	**332**	*e*PKPbc	PKPbc	00 57 58.0	-0.5
GRA1	**Grafenberg Arr**	**145.87**	**334**	*e*PKPbc	PKPbc	00 57 59.1	-0.3
GRF	**Grafenberg Arr**	**145.87**	**334**	*e*PKPbc	PKPbc	00 57 59.1	-0.3
BUG	**Bochum--Üniver**	**145.93**	**339**	*e*PKPbc	PKPbc	00 57 58.5	-1.1
TNS	**Taunus Mts**	**146.53**	**337**	*e*PKPbc	PKPbc	00 58 00.5	-0.9
STU	**Stuttgart**	**147.42**	**335**	*e*PKPbc	PKPbc	00 58 04.1	+0.2
WLF	**Walferdange**	**147.81**	**339**	*e*PKPbc	PKPbc	00 58 04.8	-0.2
WLF	**Walferdange**	**147.81**	**339**	*e*PKPdf	PKPdf	00 58 04.6	+2.6
WLF				*ep*PKPdf	pPKPdf	00 58 16.8	-2.1
BFO	**Black Forest**	**148.12**	**335**	*e*PKPbc	PKPbc	00 58 04.8	-1.0
BFO	**Black Forest**	**148.12**	**335**	*e*PKPdf	PKPdf	00 58 04.3	+1.8
BFO				*e*PKPbc	PKPbc	00 58 04.8	-1.0
CDF	**Champ du Feu**	**148.46**	**336**	*e*PKP1	PKPdf	00 58 04.4	+1.3
BRMO	**Bormio**	**148.68**	**331**	P	PKPbc	00 58 07.1	-0.1
RGNG	**Rignano Grg**	**149.04**	**319**	P	PKPbc	00 58 07.7	-0.5
HINF	**Hinteralfeld**	**149.11**	**336**	*e*PKP1	PKPdf	00 58 06.2	+2.1
HAU	**Haudompre**	**149.14**	**337**	*e*PKP1	PKPdf	00 58 06.3	+2.1
MEZF	**Maizieres J'vi**	**149.19**	**339**	*e*PKP1	PKPdf	00 58 06.2	+2.0
	comp=Z,16nm,1.1s						
ARV	**Arcevia**	**149.47**	**324**	P	PKPbc	00 58 09.4	+0.2
NRCA	**Norcia**	**149.81**	**323**	P	PKPbc	00 58 09.9	-0.1
CABF	**La Chapelle**	**150.40**	**335**	*e*PKP1	PKPdf	00 58 09.1	+2.9
	comp=Z,30nm,1.3s						
FLN	**La Foliniere**	**150.56**	**345**	*e*PKP1	PKPbc	00 58 10.7	-1.1
LOR	**Lormes**	**150.66**	**339**	*e*PKP1	PKPbc	00 58 10.4	-1.7
	comp=Z,3.3nm,0.6s						
SSF	**Saint Saulge**	**150.96**	**339**	*e*PKP1	PKPbc	00 58 11.5	-1.3
LPG	**La Plagne**	**151.04**	**333**	*e*PKP1	PKPbc	00 58 11.6	-1.4
	comp=Z,4.2nm,0.6s						
SMF	**Signal de Mont**	**151.20**	**338**	*e*PKP1	PKPbc	00 58 12.2	-1.2
AVF	**Avril sur Loir**	**151.24**	**339**	*e*PKP1	PKPbc	00 58 11.9	-1.5
BNI	**Bardonecchia**	**151.42**	**333**	*e*PKPdf	PKPdf	00 58 10.0	+2.3
BGF	**Bois d'Agland**	**151.62**	**339**	*e*PKP1	PKPbc	00 58 13.2	-1.1
	comp=Z,3.9nm,0.5s						
MBDF	**Montbardon**	**151.64**	**332**	*e*PKP1	PKPbc	00 58 13.2	-1.2
ORIF	**Oris-en-Rattie**	**151.87**	**334**	*e*PKP1	PKPbc	00 58 13.5	-1.4
	comp=Z,5.9nm,0.8s						
SBF	**Sospel**	**152.02**	**330**	*e*PKP1	PKPbc	00 58 14.2	-1.0
TCF	**Toulx Ste Croi**	**152.06**	**340**	*e*PKP1	PKPbc	00 58 14.1	-1.2
PGF	**Pioggiola**	**152.23**	**327**	*e*PKP1	PKPbc	00 58 14.0	-1.7
	comp=Z,5.1nm,0.6s						
MFF	**Saint Martin d**	**152.48**	**343**	*e*PKP1	PKPbc	00 58 15.2	-1.1
SMRF	**Simiane la Rot**	**152.76**	**333**	*e*PKP1	PKPbc	00 58 15.1	-1.8
LMR	**La Mourre**	**152.85**	**331**	*e*PKP1	PKPbc	00 58 15.2	-1.9
	comp=Z,3.5nm,0.7s						

IDC ***28*** *00:50:04.8±1.8,2059S×16893E,h0km,mb4.3/5, mb1 4.5/6,mb1mx4.3/13,mbtmp4.3/6,ML4.0/1,MS3.7/4, Ms1 3.7/4,ms1mx3.3/21,Error ellipse: s-maj=84.2km s-min=22.1km az=142.0*

LDG ***28*** *00:50:05.4±0.5, 1986S×16863E,h10km,Error ellipse: s-maj=44.1km s-min=2.4km az=121.0*

NEIC ***28*** *00:50:07.4±0.5,2025S×169.10E,h35km,mb4.5/14,Error ellipse: s-maj=16.4km s-min=11.5km az=117.0*

MOS ***28*** *00:50:10.4±2.1,2076S×16874E,h33km,mb4.5/8,Error ellipse: s-maj=20.1km s-min=14.7km az=179.6*

ISCJB ***28*** *00:50:11.2±1.5,2065S±007×16876E±0.10,h49km±12km, mb4.3/18,MS3.8/2,Error ellipse: s-maj=15.6km s-min=10.5km az=41.0*

ISC 28 00:50:12.0±1.5,2064S±007×16882E±010,h43km±13km, n68,σ0s83/39,mb4.3/18,MS3.8/2,2C,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.63**	**237**	Pn	**Pn**	**00 50 51.1**	**-0.9**
	24nm,0.3s,baz=64,slow=17,SNR=157						
DZM				Sn	**Sn**	**00 51 23.7**	**+1.1**
	25nm,0.3s,baz=88,slow=20,SNR=3.7						
BKM	**Butte a Klehm**	**3.01**	**349**	*i* P	**Pn**	**00 50 57.4**	**+0.3**
HNR	**Honiara**	**14.05**	**321**	LR	LR	00 57 37.8	
	comp=Z,239nm,20.4s,baz=179,slow=32						
URZ	**Urewera**	**18.96**	**160**	LR	LR	01 00 09.8	
	comp=Z,117nm,19.9s,baz=344,slow=32						
CTA	**Charters Tower**	**21.17**	**268**	*e*P	**P**	**00 54 57.1**	**+3.6**
	8.8nm,0.7s,mb4.2						
CTA	**Charters Tower**	**21.17**	**268**	P	**P**	**00 54 55.8**	**+2.2**
	11nm,0.7s,mb4.3,baz=91,slow=9.5,SNR=14						
CTA				LR	LR	01 02 35.8	
	comp=Z,360nm,18.8s,MS3.8,baz=81,slow=35						
CTA	**Charters Tower**	**21.17**	**268**	*e*P	**P**	**00 54 57.1**	**+3.6**
CTA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CTAO	**Charters Tower**	**21.17**	**268**	*e*P	**P**	**00 54 57.1**	**+3.6**
CTAO				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.4						
CTAO	**Charters Tower**	**21.17**	**268**	*e*P	**P**	**00 54 57.1**	**+3.6**
	comp=Z,17nm,0.8s,mb4.4						
SNZO	**South Karori**	**21.20**	**168**	P	**P**	**00 54 53.2**	**-0.6**
	comp=Z,47nm,1.1s,mb4.7						
PMG	**Port Moresby**	**23.68**	**295**	P	**P**	**00 55 19.8**	**+0.1**
PMG				pmax	pmax		
	comp=Z,13nm,0.9s						
PMG	**Port Moresby**	**23.68**	**295**	P	**P**	**00 55 19.8**	**0.0**
	comp=Z,13nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**26.79**	**240**	P	**P**	**00 55 48.5**	**+0.7**
	comp=Z,3.1nm,0.7s,mb4.0,baz=90,slow=12,SNR=3.6						
STKA				LR	LR	01 05 00.7	
	comp=Z,231nm,18.9s,MS3.8,baz=27,slow=33						
STKA	**Stephens Creek**	**26.79**	**240**	P	**P**	**00 55 47.3**	**-0.6**
STKA				LR	LR	01 05 00.7	
TAU	**Tasmania Unive**	**28.60**	**214**	*e*P	**P**	**00 56 02.9**	**-1.2**
TAU				pmax	pmax		
	comp=Z,25nm,1.0s,mb4.9						
TAU	**Tasmania Unive**	**28.60**	**214**	*e*P	**P**	**00 56 02.9**	**-1.2**
	comp=Z,25nm,1.0s,mb4.9						
WB2	**Warramunga Arr**	**32.31**	**265**	*e*P	**P**	**00 56 35.7**	**-1.1**
WRAB	**Tennant Creek**	**32.31**	**265**	*e*P	**P**	**00 56 35.9**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**32.31**	**265**	*e*P	**P**	**00 56 35.9**	**-0.9**
	comp=Z,4.9nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**32.32**	**265**	P	**P**	**00 56 36.1**	**-0.8**
	comp=Z,2.7nm,0.5s,mb4.3,baz=92,slow=8.1,SNR=15						
WRA				PcP	PcP	00 59 24.1	-0.1
	comp=Z,0.5nm,0.6s,baz=97,slow=3.1,SNR=3.3						
AS31	**Alice Springs**	**32.43**	**258**	*i* P	**P**	**00 56 37.9**	**0.0**
ASAR	**Alice Springs**	**32.43**	**258**	P	**P**	**00 56 38.0**	**+0.1**
	comp=Z,9.5nm,0.7s,mb4.7,baz=82,slow=9.1,SNR=121						
ASAR				PcP	PcP	00 59 24.6	+0.2
	comp=Z,0.8nm,0.8s,baz=111,slow=2.6,SNR=4.1						
ASPA	**Alice Springs**	**32.44**	**258**	*i* P	**P**	**00 56 37.9**	**-0.1**
TBI	**Tubuai**	**38.68**	**102**	*e*LR	LR	01 08 17.3	
	comp=Z,243nm,25.5s						
PPT	**Papeete**	**39.35**	**93**	*e*LR	LR	01 08 33.2	
	comp=Z,295nm,24.2s						
FITZ	**Fitzroy Crossi**	**40.73**	**266**	*e*P	**P**	**00 57 49.0**	**+0.4**
	comp=Z,11nm,0.6s,mb4.7						
RKT	**Rikitea**	**51.94**	**104**	*e*LR	LR	01 14 25.0	
	comp=Z,80nm,23.8s						
VNDA	**Vanda**	**57.02**	**182**	P	**P**	**00 59 52.8**	**-0.6**
VNDA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
VNDA	**Vanda**	**57.02**	**182**	P	**P**	**00 59 52.8**	**-0.7**
	comp=Z,1.8nm,1.2s,mb4.0						
SBA	**Scott Base**	**57.26**	**181**	*e*P	**P**	**00 59 57.6**	**+2.5**
SBA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
SBA	**Scott Base**	**57.26**	**181**	*e*P	**P**	**00 59 57.6**	**+2.5**
	comp=Z,1.6nm,0.6s,mb4.2						
QSPA	**South Pole Qui**	**69.42**	**180**	*e*P	**P**	**01 01 16.0**	**+0.5**
	comp=Z,3.8nm,0.8s,mb4.4						
MDJ	**Mudanjiang**	**74.17**	**332**	P	**P**	**01 01 44.0**	**-0.1**
	comp=Z,2.9nm,0.4s,mb4.6						
ENH	**Enshi**	**76.26**	**310**	*e*P	**P**	**01 01 57.3**	**+1.2**
	comp=Z,0.2nm,0.3s,mb3.5						
MA2	**Magadan**	**81.28**	**351**	*e*P	**P**	**01 02 24.3**	**+0.6**
MA2				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
MA2	**Magadan**	**81.28**	**351**	*e*P	**P**	**01 02 24.3**	**+0.6**
	comp=Z,4.0nm,0.6s,mb4.5						
ULN	**Ulaanbaatar**	**87.75**	**324**	*e*P	**P**	**01 02 55.7**	**-0.7**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.4						
ULN	**Ulaanbaatar**	**87.75**	**324**	*e*P	**P**	**01 02 55.7**	**-0.6**
	comp=Z,1.8nm,0.8s,mb4.3						
**

CTAO	Charters Tower	37.42	263	*e*P		P		01 06 30.4	+0.6
	2.2nm,0.3s,mb4.5								
ASAR	Alice Springs	48.45	256	P		P		01 07 58.4	-0.6
	0.8nm,0.5s,mb4.0,baz=98,slow=7.7,SNR=13								
WRAB	Tennant Creek	48.53	261	*e*P		P		01 07 59.4	-0.2
	1.7nm,0.4s,mb4.4								
WRA	Warramunga Arr	48.54	261	P		P		01 07 59.3	-0.4
	1.2nm,0.5s,mb4.2,baz=98,slow=7.7,SNR=7.7								
SBA	Scott Base	58.84	185	*e*P		P		01 09 16.1	+1.1
	1.7nm,1.0s,mb4.0								
VNDA	Vanda	58.97	186	P		P		01 09 16.4	+0.5
	1.0nm,1.0s,mb3.8,baz=358,slow=7.3,SNR=3.7								
MJAR	Matsushiro Arr	72.03	321	P		P		01 10 42.1	+1.8
	5.4nm,0.7s,mb4.6,baz=159,slow=5.8,SNR=13								
MAJO	Matsushiro	72.04	321	*e*P		P		01 10 40.6	+0.2
	9.5nm,1.0s,mb4.7								
NVAR	Mina Array Bea	77.90	41	P		P		01 11 16.5	+2.2
	0.7nm,0.5s,mb3.9,baz=221,slow=9.5,SNR=3.5								
ILAR	Eielson Array	86.84	11	P		P		01 12 01.5	+0.6
	0.6nm,0.7s,mb3.9,baz=232,slow=5.7,SNR=11								
AKASG	Malin Array Be	144.17	335	PKP		PKPdf		01 18 50.8	-1.3
	2.2nm,0.6s,baz=41,slow=4.3,SNR=16								
STHS	Stebnicka Huta	148.08	341	*e*PKP		PKPbc		01 19 07.6	+5.7
CLL	Collm	148.11	352	*i* PKPbc		PKPbc		01 19 03.5	+1.5
	comp=Z,8.0nm,1.0s								
BURAR	Bucovina Array	148.22	335	⇑*i*P		PKPbc		01 19 04.2	+1.9
UPC	Upice	148.38	348	*e*PKPbc		PKPbc		01 19 04.8	+2.1
BRG	Berggiesshubel	148.40	351	*e*P		PKPbc		01 19 04.3	+1.5
	comp=Z,1.6nm,0.8s								
DPC	Dobruska-Polom	148.47	347	*e*PKPbc		PKPbc		01 19 05.0	+2.1
BRTR	Keskin Array B	149.15	316	PKPbc		PKPbc		01 19 06.4	+1.7
	comp=Z,0.6nm,0.7s,baz=149,slow=2.9,SNR=5.8								
PRU	Pruhonice	149.15	349	*e*PKPbc		PKPbc		01 19 06.1	+1.4
PRU				*ep*PKP		pPKPdf		01 19 14.8	+2.9
TREC	Trest	149.64	348	*e*PKPbc		PKPbc		01 19 07.5	+1.6
KHC	Kasperske Hory	150.14	350	*e*PKPbc		PKPbc		01 19 08.5	+1.4
KHC				*e*PKPab		PKPab		01 19 15.0	+1.9
BZS	Buzias	151.26	337	⇓*i*P		PKPbc		01 19 11.0	+1.3

CASC 28 01:03:25.7±2.5, 1262N×9029W, h17km±36km, MD3.9, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJE	**San Jose**	**1.41**	**28**	*e*P	Pn	01 03 58.1	+7.6
SNJE				*e*S	Sn	01 04 17.8	+9.2
BOQS	**Boqueron**	**1.48**	**41**	*e*P	Pn	01 03 58.5	+7.0
BOQS				*e*S	Sn	01 04 19.4	+8.9
IXG	**Ixpaco**	**1.55**	**354**	*e*P	Pn	01 03 52.5	0.0
IXG				*e*S	Sn	01 04 12.7	+0.4
LFRS	**El Faro**	**1.55**	**50**	*e*P	Pn	01 03 59.2	+6.6
RBDL	**Robledal**	**1.59**	**21**	*e*P	Pn	01 04 01.7	+8.6
LCBS	**La Ceiba**	**1.64**	**51**	*e*P	Pn	01 03 59.9	+6.2
LBRS	**Las Brisas**	**1.64**	**47**	*e*P	Pn	01 04 00.9	+7.1
LBRS				*e*S	Sn	01 04 22.0	+7.5
VSM	**San Miguel**	**2.12**	**68**	*e*P	Pn	01 04 07.5	+7.2
TP2	**Tecpan 2**	**2.27**	**342**	*e*P	Pn	01 04 04.0	+1.6

IDC ***28*** *01:16:56.2±1.4, 1232N×12562E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/19, mbtmp3.8/7, Error ellipse: s-maj=135.2km s-min=17.5km az=72.0*

ISCJB ***28*** *01:16:59.0±0.7, 1242N±006×12578E±007, h33km, mb3.9/8, Error ellipse: s-maj=10.3km s-min=7.9km az=28.0*

NEIC ***28*** *01:17:01.5±0.8, 1227N×12554E, h35km, mb4.4/1, Error ellipse: s-maj=78.2km s-min=10.3km az=72.0*

ISC 28 01:17:01.2±0.7, 1240N±006×12569E±008, h35km, n17, σ0≥96/22, mb3.9/8, 3C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.41**	**210**	*e*P	**Pn**	**01 17 23.2**	**-1.1**
PLP				*e*S	**Sn**	**01 17 42.0**	**+0.3**
PVCP	**Virac**	**1.92**	**309**	⇑*i*P	**Pn**	**01 17 29.0**	**-2.3**
PVCP				*i* S	**Sn**	**01 18 04.5**	**+10**
PVCP	**Virac**	**1.92**	**309**	*e*P	**Pn**	**01 17 29.6**	**-1.7**
PVCP				*e*S	**Sn**	**01 18 01.6**	**+7.4**
SCPH	**Surigao**	**2.60**	**184**	⇑*e*P	**Pn**	**01 17 41.5**	**+0.8**
LLP	**Lapu-Lapu**	**2.67**	**220**	*e*P	**Pn**	**01 17 41.2**	**-0.4**
LLP				*e*S	**Sn**	**01 18 07.2**	**-5.6**
RCP	**Roxas**	**3.00**	**254**	⇑*e*P	**Pn**	**01 17 46.1**	**-0.1**
RCP				*e*S	**Sn**	**01 18 24.0**	**+3.1**
OTRP	**Odiongan**	**3.59**	**270**	*e*P	**Pn**	**01 17 53.7**	**-0.5**
LUBP	**Lubang**	**5.47**	**285**	*e*P	**Pn**	**01 18 16.7**	**-3.4**
FITZ	**Fitzroy Crossi**	**30.30**	**180**	P	**P**	**01 23 08.3**	**-0.8**
	1.1nm,0.5s,mb3.8,baz=316,slow=19,SNR=7.1						
WRA	**Warramunga Arr**	**33.24**	**165**	P	**P**	**01 23 34.6**	**-0.3**
	0.3nm,0.3s,mb3.6,baz=348,slow=8.8,SNR=4.9						
ASAR	**Alice Springs**	**36.73**	**167**	P	**P**	**01 24 05.3**	**+0.3**
	0.4nm,0.3s,mb3.7,baz=346,slow=6.7,SNR=17						
SONM	**Songino Array**	**38.84**	**339**	P	**P**	**01 24 23.6**	**+0.8**
	0.5nm,0.7s,mb3.4,baz=161,slow=7.3,SNR=4.5						
MKAR	**Makanchi Array**	**50.01**	**322**	P	**P**	**01 25 52.9**	**+0.9**
	1.0nm,0.7s,mb3.9,baz=120,slow=8.5,SNR=10						
KURK	**Kurchatov**	**54.01**	**325**	*e*P	**P**	**01 26 22.1**	**+0.3**
	3.4nm,0.9s,mb4.3						
ARCES	**ARCESS Array B**	**82.02**	**340**	P	**P**	**01 29 18.3**	**+0.7**
	3.1nm,1.0s,mb4.2,baz=73,slow=9.4,SNR=3.6						
FINES	**FINESS Array B**	**83.76**	**332**	P	**P**	**01 29 26.7**	**0.0**
	0.4nm,0.4s,mb3.9,baz=94,slow=5.6,SNR=11						
FINES	**FINESS Array B**	**83.76**	**332**	P	**P**	**01 29 26.7**	**0.0**

ISCJB ***28*** *01:19:31.9±1.2, 2074N±003×12001E±003, h2km±8km, mb4.7/85, MS3.9/14, Error ellipse: s-maj=5.5km s-min=4.5km az=25.3*

IDC ***28*** *01:19:32.8±0.5, 2072N×12001E, h0km, mb4.4/18, mb1 4.6/19, mb1mx4.5/22, mbtmp4.4/19, MS3.7/5, Ms1 3.7/5, ms1mx3.3/24, Error ellipse: s-maj=20.4km s-min=13.0km az=70.0*

HRVD ***28*** *01:19:35.3±0.8, 2077N×11984E, h14km±1km, MW4.7/51, Centroid moment Tensor Solution. LP body waves: s11,c11;Mantle waves: s51,c61; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=1.30±.13; Mθθ=0.17±.06; Mϕϕ=1.13±.09; Mrθ=-0.01±.20; Mrϕ=-0.26±.04; Mθϕ=0.03±.17; Best double couple: M=0.1*24900×10^16 NP1:ϕs=346.00000°,δ44.00000°,λ=-90.00000°. NP2: ϕs=165.00000°,δ46.00000°,λ=-90.00000°. Principal axes: T 1.1980, Plg1.0000°, Azm256.0000°; N 0.1040, Plg0.0000°, Azm166.0000°; P -1.3000, Plg89.0000°, Azm57.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***28*** *01:19:35.3±1.6, 2070N×12004E, h16km±10km, mb4.9/54 Error ellipse: s-maj=4.5km s-min=3.9km az=109.0*

BJI ***28*** *01:19:36.1, 2087N×11973E, h15km, mB4.6, mb4.6, ML4.5, Ms4.4, Msz4.1*

MOS ***28*** *01:19:37.3±0.9, 2087N×11996E, h33km, mb5.0/45, Error ellipse: s-maj=10.0km s-min=5.5km az=120.6*

SZGRF ***28*** *01:19:37.4, 1998N×11957E, h33km, mb5.0, Philippine Islands region*

MAN ***28*** *01:19:38.7, 2038N×12018E, h4km, mb4.7, ML5.5, MS7.2*

ISC 28 01:19:35.9±1.4, 2074N±003×12006E±003, h17km±9km, n230, σ0≥93/242, mb4.7/85, MS3.9/14, 4C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**3.07**	**158**	*e*P	**Pn**	**01 20 23.2**	**-0.3**
SGCP	**Mt. Cagua**	**3.11**	**143**	*e*P	**Pn**	**01 20 23.4**	**-0.6**
CVP	**Callao Caves**	**3.45**	**151**	*e*P	**Pn**	**01 20 29.0**	**+0.3**
NACB	**Ninganchiao**	**3.70**	**22**	*e*Pn	**Pn**	**01 20 30.4**	**-1.7**
NACB				*e*Sn	**Sn**	**01 21 14.3**	**-1.1**
YHNB	**Yeheng**	**4.10**	**17**	*e*Pn	**Pn**	**01 20 37.0**	**-0.6**
YHNB				*e*Sn	**Sn**	**01 21 25.6**	**+0.5**
CAUP	**Cauayan**	**4.13**	**156**	*e*P	**Pn**	**01 20 40.3**	**+2.3**
QZH	**Quanzhou**	**4.40**	**342**	P	**Pn**	**01 20 40.5**	**-1.3**
QZH				S	**Sn**	**01 21 27.3**	**-5.3**
QZH				Smax			
	comp=N,340nm,0.8s						
QZH				Smax			
	comp=E,280nm,0.8s						
QZH				LR	LR		
	comp=N,4μm,9.3s						
QZH				LR	LR		
	comp=E,2μm,8.0s						
QZH				LR	LR		
	comp=Z,3μm,8.4s						
TATO	**Taipei**	**4.42**	**17**	*e*Pn	**Pn**	**01 20 43.2**	**+1.2**
BALP	**Baler**	**5.17**	**164**	*e*P	**Pn**	**01 20 53.8**	**+1.4**
GZH	**Guangzhou**	**6.66**	**292**	P	**Pn**	**01 21 08.5**	**-4.3**
GZH				S	**Sn**	**01 22 16.5**	**-12**
GZH				Smax			
	comp=N,332nm,0.6s						
GZH				Smax			
	comp=E,387nm,0.8s						
GZH				LR	LR		
	comp=N,1μm,11.7s						
GZH				LR	LR		
	comp=E,1μm,12.0s						
GZH				LR	LR		
	comp=Z,2μm,9.4s						
JOW	**Kunigami**	**9.66**	**50**	Pn	**Pn**	**01 21 53.2**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=233,slow=13,SNR=3.4						
QIZ	**Qiongzhong**	**9.76**	**262**	P	**Pn**	**01 21 53.5**	**-1.9**
QIZ				*e*S	**Sn**	**01 23 47.0**	**+2.4**
QIZ				LR	LR		
	comp=E,1μm,10.2s						
QIZ				LR	LR		
	comp=Z,2μm,10.1s						
QIZ	**Qiongzhong**	**9.76**	**262**	*e*Pn	**Pn**	**01 21 55.4**	**0.0**
SSE	**Sheshan**	**10.36**	**5**	P	**Pn**	**01 22 05.0**	**+1.4**
SSE				S	**Sn**	**01 24 04.3**	**+5.0**
SSE				AMB	AMB		
	comp=Z,16nm,0.6s						
SSE				AMB	AMB		
	comp=Z,113nm,5.0s						
SSE				LR	LR		
	comp=N,329nm,12.5s						
SSE				LR	LR		
	comp=E,975nm,12.5s						
SSE				LR	LR		
	comp=Z,501nm,9.7s						
SSE	**Sheshan**	**10.36**	**5**	P	**Pn**	**01 22 05.1**	**+1.5**
	comp=Z,16nm,0.6s						
SSE				S	**Sn**	**01 24 04.2**	**+4.9**
GYA	**Guiyang**	**13.53**	**297**	⇑*i*P	**Pn**	**01 22 45.0**	**-2.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s						
GYA				AMB	AMB		
	comp=Z,160nm,4.2s						
GYA				LR	LR		
	comp=N,890nm,12.0s						
GYA				LR	LR		
	comp=E,630nm,12.9s						
GYA				LR	LR		
	comp=Z,1μm,12.3s						
KKM	**Kota Kinabalu**	**15.07**	**195**	*e*P	**Pn**	**01 23 07.1**	**-0.9**
XAN	**Xi'an**	**16.52**	**326**	P	**Pn**	**01 23 29.3**	**+2.7**
XAN				AMB	AMB		
	comp=Z,20nm,1.4s						
KMI	**Kunming**	**16.54**	**289**	P	**Pn**	**01 23 28.0**	**+1.1**
KMI				AP	pP	01 23 30.0	-4.3
KMI				XP	sP	01 23 31.0	-5.6
KMI				PP		01 23 41.0	
KMI				S	**Sn**	**01 26 31.5**	**+1.4**
KMI				XS	sS	01 26 34.0	-15
KMI				AMB	AMB		
	comp=Z,6.0nm,0.9s						
KMI				LR	LR		
	comp=N,524nm,17.3s						
KMI				LR	LR		
	comp=E,476nm,13.0s						
KMI				LR	LR		
	comp=Z,501nm,9.5s						
KMI	**Kunming**	**16.54**	**289**	P	**Pn**	**01 23 27.9**	**+1.0**
KMI				S	**Sn**	**01 26 31.5**	**+1.4**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KMI	**Kunming**	**16.54**	**289**	P	**Pn**	**01 23 27.9**	**+1.0**
	comp=Z,6.0nm,0.9s						
KMI				pP	pP	01 23 29.9	-4.4
KMI				sP	sP	01 23 31.1	-5.5
KMI				PP		01 23 40.9	
KMI				S	**Sn**	**01 26 31.5**	**+1.4**
KMI				sS	sS	01 26 34.0	-15
KMI				SS		01 26 50.1	
CD2	**Chengdu**	**17.81**	**308**	P	**Pn**	**01 23 43.5**	**+0.7**
CD2				XP	sP	01 23 49.8	-0.9
CD2				PP		01 23 58.3	
CD2				PPP		01 24 07.3	
CD2				S	**Sn**	**01 26 58.5**	**-2.4**
CD2				XS	sS	01 27 02.5	-13
CD2				SS		01 27 16.8	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
CD2				AMB	AMB		
	comp=Z,70nm,3.6s						
CD2				LR	LR		
	comp=N,480nm,9.0s						
CD2				LR	LR		
	comp=Z,320nm,12.0s						
DL2	**Dalian**	**18.16**	**4**	P	**Pn**	**01 23 52.3**	**+5.2**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
DL2				LR	LR		
	comp=N,390nm,12.2s						
DL2				LR	LR		
	comp=E,470nm,10.8s						
DL2				LR	LR		
	comp=Z,280nm,11.6s						
BJT	**Baijiatuan**	**19.50**	**351**	*e*P	**Pn**	**01 24 02.8**	**-0.6**
BJT				pmax	pmax		
	comp=Z,18nm,0.9s						
BJT	**Baijiatuan**	**19.50**	**351**	*e*P	**Pn**	**01 24 02.8**	**-0.6**
	comp=Z,18nm,0.9s						
BJI	**Beijing**	**19.52**	**351**	P	**Pn**	**01 24 03.0**	**-0.6**
BJI				S	**Sn**	**01 27 35.8**	**-6.5**
BJI				AMB	AMB		
	comp=Z,18nm,1.0s						
BJI				AMB	AMB		
	comp=Z,163nm,5.3s						
BJI				LR	LR		
	comp=N,507nm,15.3s						
BJI				LR	LR		
	comp=E,135nm,15.3s						
BJI				LR	LR		
	comp=Z,71nm,16.9s						
BJI	**Beijing**	**19.52**	**351**	P	**Pn**	**01 24 02.9**	**-0.7**
BJI				S	**Sn**	**01 27 35.7**	**-6.6**
BJI				pmax	pmax		
	comp=Z,18nm,1.0s						
BJI	**Beijing**	**19.52**	**351**	P	**Pn**	**01 24 02.9**	**-0.7**
	comp=Z,18nm,1.0s						
BJI				S	**Sn**	**01 27 35.7**	**-6.6**
CHTO	**Chiang Mai**	**19.96**	**268**	*e*P	**Pn**	**01 24 07.5**	**-1.3**
CHTO				pmax	pmax		
	comp=Z,22nm,1.3s						
CHTO	**Chiang Mai**	**19.96**	**268**	*e*P	**Pn**	**01 24 07.5**	**-1.4**
	comp=Z,22nm,1.3s						
LZH	**Lanzhou**	**20.86**	**321**	*e*P	**P**	**01 24 17.0**	**+0.1**
LZH				AP		01 24 19.8	
LZH				XP	sP	01 24 24.3	+0.2
LZH				PP		01 24 39.0	
LZH				*e*S	**S**	**01 28 05.3**	**-3.6**
LZH				XS	sS	01 28 11.0	-5.8
LZH				SS		01 28 36.8	
LZH				AMB	AMB		
	comp=Z,35nm,1.2s						
LZH				AMB	AMB		
	comp=Z,168nm,4.3s						
LZH				LR	LR		
	comp=E,991nm,11.4s						
LZH				LR	LR		
	comp=Z,1μm,13.6s,MS4.5						
LZH	**Lanzhou**	**20.86**	**321**	*e*P	**P**	**01 24 17.0**	**+0.1**
	comp=Z,35nm,1.2s						
LZH				pP		01 24 19.8	
LZH				sP	sP	01 24 24.2	+0.1
LZH				PP		01 24 39.1	
LZH				*e*S	**S**	**01 28 05.3**	**-3.6**
LZH				sS	sS	01 28 11.0	-5.8
LZH				SS		01 28 36.8	
LZH				LR	LR		
	comp=Z,1μm,13.6s,MS4.5						
SNY	**Shenyang**	**21.23**	**7**	*e*P	**P**	**01 24 24.5**	**+3.6**
SNY				AP		01 24 29.5	
SNY				XP	sP	01 24 31.3	+3.2
SNY				PP		01 24 41.5	
SNY				S	**S**	**01 28 19.5**	**+3.3**
SNY				XS	sS	01 28 24.5	+0.4
SNY				SS		01 28 48.0	
SNY				LR	LR		
	comp=N,246nm,10.2s,MS4.3						
SNY				LR	LR		
	comp=E,690nm,13.3s,MS4.3						
SNY				LR	LR		
	comp=Z,314nm,12.2s,MS3.9						
HHC	**Hu-ho-hao-te**	**21.31**	**342**	⇑P	**P**	**01 24 23.5**	**+1.8**
HHC				AP		01 24 27.5	
HHC				XP	sP	01 24 30.5	+1.6
HHC				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.3						
HHC				LR	LR		
	comp=N,586nm,11.4s,MS4.3						
HHC				LR	LR		
	comp=E,434nm,12.9s,MS4.3						
HHC				LR	LR		
	comp=Z,399nm,11.8s,MS4.0						
KSM	**Kuching**	**21.38**	**208**	*e*P	**P**	**01 24 22.2**	**-0.3**
MAJO	**Matsushiro**	**22.34**	**41**	*e*P	**P**	**01 24 35.0**	**+2.4**
MAJO				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.5						
MAJO	**Matsushiro**	**22.34**	**41**	*e*P	**P**	**01 24 35.0**	**+2.4**
	comp=Z,18nm,0.9s,mb4.5						
MAT	**Matsushiro**	**22.34**	**41**	P	**P**	**01 24 32.0**	**-0.6**
MAT				S	**S**	**01 28 44.6**	**+7.0**
MAT	**Matsushiro**	**22.34**	**41**	*e*P	**P**	**01 24 32.0**	**-0.6**
MAT				pmax	pmax		
	comp=Z,37nm,1.3s,mb4.7						
MAT	**Matsushiro**	**22.34**	**41**	*e*P	**P**	**01 24 32.0**	**-0.6**
	comp=Z,36nm,1.3s,mb4.7						
MJAR	**Matsushiro Arr**	**22.34**	**41**	P	**P**	**01 24 32.8**	**+0.2**
	comp=Z,12nm,0.8s,mb4.4,baz=238,slow=11,SNR=16						
MJAR				LR	LR	01 35 05.4	
	comp=Z,103nm,18.4s,MS3.3,baz=230,slow=42						
CN2	**Changchun**	**23.43**	**10**	*e*P	**P**	**01 24 45.8**	**+1.6**
CN2				*e*XP	sP	01 24 51.0	-0.5
CN2				*e*S	**S**	**01 28 55.0**	**-1.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
CN2				LR	LR		
	comp=N,320nm,12.0s,MS4.2						
CN2				LR	LR		
	comp=E,410nm,12.0s,MS4.2						
CN2				LR	LR		
	comp=Z,300nm,12.0s,MS4.0						
KULM	**Kulim**	**24.31**	**234**	*e*P	**P**	**01 24 51.5**	**-0.8**
GUMO	**Guam**	**24.72**	**103**	LR	LR	01 34 37.5	
	comp=Z,106nm,19.2s,MS3.4,baz=32,slow=36						
MDJ	**Mudanjiang**	**25.09**	**16**	P	**P**	**01 25 00.8**	**+1.3**
MDJ				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,95nm,5.7s						
MDJ				LR	LR		
	comp=N,79nm,26.6s						
MDJ				LR	LR		
	comp=E,162nm,21.5s						
MDJ				LR	LR		
	comp=Z,78nm,14.9s						
GTA	**Gaotai**	**25.46**	**321**	*e*P	**P**	**01 24 59.3**	**-3.5**
GTA				XP	sP	01 25 07.0	-3.3
GTA				PP		01 25 36.5	
GTA				PPP		01 25 47.8	
GTA				PCP	PcP	01 28 35.5	+1.1
GTA				S	**S**	**01 29 22.5**	**-6.5**
GTA				SCP	ScP	01 32 12.5	-0.4
GTA				PCS	PcS	01 32 13.5	-1.4
GTA				SCS	ScS	01 35 59.8	-2.0
GTA				AMB	AMB		
	comp=Z,2.0nm,0.6s,mb3.8						
GTA				AMB	AMB		
	comp=Z,115nm,4.6s						
GTA				LR	LR		
	comp=N,399nm,11.0s,MS4.3						
GTA				LR	LR		
	comp=E,302nm,11.4s,MS4.3						
GTA				LR	LR		
	comp=Z,401nm,11.0s,MS4.2						
PSI	**Prapat**	**27.24**	**232**	P	**P**	**01 25 18.8**	**-0.2**
	comp=Z,9.4nm,0.9s,mb4.3,baz=24,slow=5.7,SNR=6.0						
PSI				LR	LR	01 35 39.8	
	comp=Z,186nm,18.8s,MS3.7,baz=353,slow=36						
LSA	**Lhasa**	**27.58**	**295**	*e*P	**P**	**01 25 23.2**	**+1.3**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.7						
LSA	**Lhasa**	**27.58**	**295**	*e*P	**P**	**01 25 23.2**	**+1.3**
	comp=Z,9.6nm,0.5s,mb4.7						
ULN	**Ulaanbaatar**	**29.03**	**342**	*e*P	**P**	**01 25 34.7**	**-0.2**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
ULN	**Ulaanbaatar**	**29.03**	**342**	*e*P	**P**	**01 25 34.7**	**-0.2**
	comp=Z,1.8nm,0.7s,mb3.9						
SONM	**Songino Array**	**29.20**	**341**	P	**P**	**01 25 36.0**	**-0.4**
	comp=Z,2.9nm,0.9s,mb4.0,baz=160,slow=8.8,SNR=14						
JIRN	**Jiri**	**31.58**	**289**	*e*P	**P**	**01 25 58.2**	**+0.8**
	comp=Z,43nm,0.8s,mb5.3						
GUN	**Gumba**	**31.88**	**290**	*e*P	**P**	**01 26 00.6**	**+0.6**
	comp=Z,66nm,0.9s,mb5.5						
YSS	**Yuzh-Sakhalins**	**32.01**	**30**	*e*P	**P**	**01 26 01.3**	**+0.2**
YSS				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.8						
YSS	**Yuzh-Sakhalins**	**32.01**	**30**	*e*P	**P**	**01 26 01.3**	**+0.1**
	comp=Z,7.4nm,0.4s,mb4.9						
PKI	**Pulchoki**	**32.27**	**289**	*e*P	**P**	**01 26 03.6**	**+0.2**
KKN	**Kakani**	**32.40**	**289**	*e*P	**P**	**01 26 04.6**	**0.0**
	comp=Z,43nm,0.9s,mb5.3						
KKN	**Kakani**	**32.40**	**289**	*e*P	**P**	**01 26 04.6**	**0.0**
KKN				pmax	pmax		
	comp=Z,43nm,0.9s,mb5.3						
ZAK	**Zakamensk**	**32.42**	**340**	*e*P	**P**	**01 25 54.9**	**-10**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.9s,mb4.1						
DMN	**Daman**	**32.54**	**289**	*e*P	**P**	**01 26 05.8**	**0.0**
	comp=Z,49nm,0.9s,mb5.4						
GKN	**Gorkha**	**32.98**	**290**	*e*P	**P**	**01 26 09.3**	**-0.4**
	comp=Z,49nm,1.0s,mb5.4						
TLY	**Talaya**	**33.44**	**341**	*e*P	**P**	**01 26 13.9**	**+0.2**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
TLY				MLR	MLR		
	comp=Z,102nm,13.0s,MS3.7						
KOLN	**Koldanda**	**33.88**	**289**	*e*P	**P**	**01 26 17.6**	**+0.1**
	comp=Z,46nm,0.9s,mb5.4						
WMQ	**Urumqi**	**35.40**	**318**	P	**P**	**01 26 31.5**	**+0.8**
WMQ				AP	pP	01 26 36.0	-0.1
WMQ				XP	sP	01 26 38.5	+0.3
WMQ				PP	PP	01 27 51.5	+0.4
WMQ				S	**S**	**01 32 05.0**	**+0.5**
WMQ				XS	sS	01 32 12.3	-1.1
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,62nm,4.5s						
WMQ				LR	LR		
	comp=N,112nm,16.3s,MS3.8						
WMQ				LR	LR		
	comp=E,83nm,17.0s,MS3.8						
WMQ				LR	LR		
	comp=Z,97nm,20.5s,MS3.5						
MKAR	**Makanchi Array**	**40.17**	**319**	P	**P**	**01 27 11.3**	**+0.3**
	comp=Z,4.9nm,0.8s,mb4.3,baz=113,slow=10,SNR=28						
MKAR				PcP	PcP	01 29 15.4	+0.3
	comp=Z,1.3nm,0.7s,baz=93,slow=5.3,SNR=3.8						
MKAR	**Makanchi Array**	**40.17**	**319**	P	**P**	**01 27 11.3**	**+0.3**
MKAR				PcP	PcP	01 29 15.4	+0.3
WRAB	**Tennant Creek**	**42.77**	**160**	*e*P	**P**	**01 27 31.5**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.0						
WRAB	**Tennant Creek**	**42.77**	**160**	*e*P	**P**	**01 27 31.5**	**-0.8**
	comp=Z,32nm,0.9s,mb5.0						
WRA	**Warramunga Arr**	**42.78**	**160**	P	**P**	**01 27 31.7**	**-0.7**
	comp=Z,14nm,1.0s,mb4.6,baz=343,slow=8.8,SNR=26						
WB2	**Warramunga Arr**	**42.78**	**160**	*e*P	**P**	**01 27 31.5**	**-0.9**
AAK	**Ala-Archa**	**43.85**	**310**	*e*P	**P**	**01 27 40.8**	**-0.2**
A

comp=N,12nm,1.5s
NVS pmax pmax
comp=Z,14nm,1.5s,mb4.5
NVS pmax pmax
comp=E,14nm,1.6s
KURK Kurchatov 44.13 323 *e*P **P 01 27 43.2 -0.1**
KURK pmax pmax
comp=Z,13nm,1.0s,mb4.6
KURK Kurchatov 44.13 323 *e*P **P 01 27 43.2 -0.1**
comp=Z,13nm,1.0s,mb4.6
AS31 Alice Springs 46.15 162 *e*P **P 01 27 58.9 -0.4**
ASPA Alice Springs 46.15 162 *e*P **P 01 27 58.9 -0.4**
ASAR Alice Springs 46.15 162 P **P 01 27 59.1 -0.2**
comp=Z,3.1nm,0.8s,mb4.3,baz=345,slow=6.7,SNR=27
CTA Charters Tower 47.99 146 *e*P **P 01 28 15.4 +1.7**
comp=Z,9.8nm,0.6s,mb5.0
CTA Charters Tower 47.99 146 P **P 01 28 15.6 +1.8**
comp=Z,18nm,0.9s,mb5.1,baz=332,slow=9.3,SNR=11
CTA Charters Tower 47.99 146 *e*P **P 01 28 15.4 +1.7**
CTA pmax pmax
comp=Z,10.0nm,0.6s
CTAO Charters Tower 47.99 146 *e*P **P 01 28 15.6 +1.9**
CTAO pmax pmax
comp=Z,45nm,1.3s,mb5.3
CTAO Charters Tower 47.99 146 *e*P **P 01 28 15.6 +1.9**
comp=Z,45nm,1.3s,mb5.3
HNR Honiara 49.36 124 LR LR 01 46 41.8
comp=Z,85nm,20.5s,MS3.7,baz=357,slow=33
BRVK Borovoye 49.80 323 *e*P **P 01 28 27.7 +0.1**
BRVK pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
BRVK Borovoye 49.80 323 *e*P **P 01 28 27.7 +0.2**
comp=Z,7.2nm,0.9s,mb4.7
CHKZ Chkalovo 49.84 324 *e*P **P 01 28 27.5 -0.3**
CHKZ *e* 01 29 47.5
CHKZ pmax pmax
comp=Z,12nm,1.1s,mb4.8
CHKZ Chkalovo 49.84 324 *e*P **P 01 28 27.5 -0.4**
comp=Z,12nm,1.1s,mb4.8
CHKZ *e*PcP PcP 01 29 47.5 -0.8
ZRNK Zerenda 50.49 322 *e*P **P 01 28 32.9 +0.1**
ZRNK *e* 01 29 49.6
ZRNK pmax pmax
comp=Z,14nm,1.1s,mb4.9
ZRNK Zerenda 50.49 322 *e*P **P 01 28 32.9 +0.1**
comp=Z,14nm,1.1s,mb4.9
ZRNK *e*PcP PcP 01 29 49.6 -1.1
TIXI Tiksi 51.18 4 *e*P **P 01 28 36.2 -1.8**
TIXI *e* 01 29 49.7
TIXI *e* 01 38 20.5
TIXI pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
TIXI MLR MLR
comp=Z,63nm,15.0s,MS3.8
BILL Bilibino 55.26 19 *e*P **P 01 29 07.5 -0.6**
BILL pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
BILL MLR MLR
comp=Z,100nm,19.0s,MS3.9
BILL Bilibino 55.26 19 *e*P **P 01 29 07.8 -0.3**
comp=Z,3.9nm,0.7s,mb4.5
SVE Sverdlovsk 56.23 325 *e*P **P 01 29 14.6 -0.4**
SVE pmax pmax
comp=Z,36nm,1.2s,mb5.3
STKA Stephens Creek 56.24 158 *e*P **P 01 29 13.2 -1.8**
comp=Z,4.1nm,0.8s,mb4.5
STKA Stephens Creek 56.24 158 P **P 01 29 13.6 -1.5**
comp=Z,2.5nm,0.6s,mb4.4,baz=344,slow=7.4,SNR=7.5
STKA Stephens Creek 56.24 158 *e*P **P 01 29 13.1 -2.0**
AKTK Aktyubinsk 56.55 317 P **P 01 29 17.5 +0.2**
AKTO Aktyubinsk 56.55 317 P **P 01 29 17.5 +0.2**
comp=Z,7.5nm,0.9s,mb4.7,baz=94,slow=7.1,SNR=18
ARU Arti 57.26 325 *i*P **P 01 29 21.9 -0.4**
ARU *e* 01 31 27.1
ARU *e*PPP 01 32 44.8
ARU *e*S **S 01 37 17.6 +0.1**
ARU *e*SS SS 01 41 07.5 +0.8
ARU pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ARU Arti 57.26 325 *e*P **P 01 29 21.7 -0.6**
comp=Z,7.3nm,0.8s,mb4.8
ORR Orenburg 58.73 318 *e*P **P 01 29 33.1 +0.5**
ORR pmax pmax
comp=Z,20nm,1.0s,mb5.1
KLMR Klimovskoe 67.53 328 *e*P **P 01 30 29.4 -1.6**
KLMR pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
TTA Tatalina 69.00 29 *e*P **P 01 30 41.7 +1.4**
TTA pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
TTA Tatalina 69.00 29 *e*P **P 01 30 41.7 +1.5**
comp=Z,5.4nm,1.0s,mb4.4
OBN Obninsk 69.57 322 *e*P **P 01 30 42.8 -1.0**
OBN *e*S S 01 39 46.6 -4.4
OBN pmax pmax
comp=Z,15nm,0.9s,mb4.9
JOF Joensuu 71.20 331 *e*p **P 01 30 52.3 -1.4**
comp=Z,2.9nm,0.6s,mb4.4
JOF Joensuu 71.20 331 *e*P **P 01 30 52.3 -1.4**
JOF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
COLA College 72.32 27 *e*P **P 01 31 00.7 +0.3**
COLA pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
COLA College 72.32 27 *e*P **P 01 31 00.7 +0.2**
comp=Z,2.6nm,0.6s,mb4.3
ARCES ARCESS Array B 72.34 338 P **P 01 31 00.7 +0.1**
comp=Z,3.9nm,0.8s,mb4.4,baz=89,slow=9.1,SNR=8.0
ILAR Eielson Array 72.74 27 P **P 01 31 02.6 -0.3**
comp=Z,0.9nm,0.6s,mb3.9,baz=290,slow=6.3,SNR=12
KAF Kangasniemi 73.63 331 *e*p **P 01 31 07.2 -1.0**
comp=Z,2.2nm,0.5s,mb4.3,baz=73,slow=5.5
KAF Kangasniemi 73.63 331 *e*P **P 01 31 07.2 -1.0**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
FINES FINESS Array B 73.89 330 P **P 01 31 09.0 -0.8**
comp=Z,4.2nm,0.8s,mb4.4,baz=76,slow=8.0,SNR=14
BRTR Keskin Array B 74.39 307 P **P 01 31 12.4 -0.3**
comp=Z,0.8nm,0.7s,mb3.8,baz=108,slow=4.4,SNR=4.9
AKASG Malin Array Be 74.75 319 P **P 01 31 13.6 -1.2**
comp=Z,3.1nm,0.8s,mb4.3,baz=65,slow=5.5,SNR=6.1
DAWY Dawson 76.07 26 *e*P **P 01 31 22.2 -0.1**
INK Inuvik 76.80 21 *e*P **P 01 31 24.9 -1.6**
INK pmax pmax
comp=Z,3.0nm,1.0s
INK Inuvik 76.80 21 *e*P **P 01 31 24.9 -1.6**
comp=Z,2.9nm,1.0s,mb4.2
SUW Suwalki 77.41 323 *e*P **P 01 31 29.2 -0.7**
SUW pmax pmax
comp=Z,53nm,1.0s,mb5.4
SUW Suwalki 77.41 323 *e*P **P 01 31 29.2 -0.7**
comp=Z,54nm,1.0s,mb5.4
LVV L'vov 78.20 319 *e*P **P 01 31 34.9 +0.6**
KWP Kalwaria 79.08 319 *e*P **P 01 31 38.5 -0.6**
KWP pmax pmax
comp=Z,34nm,1.1s,mb5.2
KWP Kalwaria 79.08 319 *e*P **P 01 31 38.5 -0.6**
comp=Z,34nm,1.1s,mb5.2
SKAG Skagway 79.51 30 *e*P **P 01 31 43.9 +2.4**
SKAG *e*PcP PcP 01 31 50.4 +0.9
STHS Stebnicka Huta 80.05 319 *e*P **P 01 31 45.0 +0.6**
STHS *e* 01 32 05.7
STHS Stebnicka Huta 80.05 319 *e*P **P 01 31 45.0 +0.6**
STHS pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
CRVS Cervenica-Dubn 80.09 319 *e* **P 01 31 47.8 +3.2**
NIE Niedzica 80.61 319 *e*P **P 01 31 48.5 +1.0**
OJC Ojcow 80.64 320 *e*P **P 01 31 47.9 +0.3**
NB2 NORSAR Subarra 80.77 332 P **P 01 31 47.2 -1.1**
comp=Z,9.5nm,1.1s,mb4.6,baz=63,slow=5.6
NOA NORSAR Array B 80.77 332 P **P 01 31 47.3 -1.0**
comp=Z,4.2nm,0.8s,mb4.4,baz=64,slow=5.3,SNR=11
KECS Kecovo 80.84 318 *e*P **P 01 31 48.9 +0.2**
KECS *e* 01 32 01.0
KECS Kecovo 80.84 318 *e*P **P 01 31 48.9 +0.2**
KECS *e* 01 32 01.0
KECS pmax pmax
comp=Z,5.0nm,1.5s,mb4.2
PSZ Piszkesteto 81.41 318 *e*P **P 01 31 52.1 +0.4**
PSZ pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
PSZ Piszkesteto 81.41 318 *e*P **P 01 31 52.0 +0.3**
comp=Z,5.7nm,1.2s,mb4.4
OKC Ostrava-Krasne 81.77 320 *e*P **P 01 31 54.0 +0.4**
MORC Moravsky Berou 82.16 320 *e*P **P 01 31 55.6 0.0**
MORC pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
MORC Moravsky Berou 82.16 320 *e*P **P 01 31 55.6 0.0**
comp=Z,2.4nm,0.9s,mb4.1
KSP Ksiaz 82.47 322 *e*P **P 01 31 57.8 +0.5**
DPC Dobruska-Polom 82.65 321 *e*P **P 01 31 58.7 +0.5**
UPC Upice 82.77 321 *e*P **P 01 31 59.3 +0.5**
RUE Ruedersdorf 83.22 324 *e*P **P 01 32 01.8 +0.6**
comp=Z,24nm,1.1s,mb5.1
KMBO Kilima Mbogo 83.67 266 P **P 01 32 04.5 +1.0**
comp=Z,4.1nm,0.8s,mb4.6,baz=52,slow=7.7,SNR=11
KMBO LR LR 02 06 43.0
comp=Z,87nm,20.4s,MS4.1,baz=276,slow=34
KMBO Kilima Mbogo 83.67 266 *e*P **P 01 32 05.3 +1.8**
KMBO pmax pmax
comp=Z,11nm,1.5s
KMBO Kilima Mbogo 83.67 266 *e*P **P 01 32 05.3 +1.9**
comp=Z,11nm,1.5s,mb4.8
BRG Berggiesshubel 83.82 322 *e*P **P 01 32 03.9 -0.3**
comp=Z,16nm,1.4s,mb5.0
BRG Berggiesshubel 83.82 322 *e*P **P 01 32 04.5 +0.3**
comp=Z,8.8nm,1.3s,mb4.7
BRG Berggiesshubel 83.82 322 *e*P **P 01 32 04.5 +0.3**
BRG pmax pmax
comp=Z,9.0nm,1.3s,mb4.7
PRU Pruhonice 83.85 321 *e*P **P 01 32 04.2 -0.2**
CLL Collm 84.17 323 *e*P **P 01 32 05.5 -0.5**
comp=Z,17nm,1.1s,mb5.1
CLL Collm 84.17 323 *i*P **P 01 32 05.4 -0.6**
comp=Z,17nm,1.1s,mb5.1
CLL *e*PcP PcP 01 32 09.0 -0.8
CLL LmV 02 06 00.0
comp=Z,100nm,18.3s
BSEG Bad Segeberg 84.44 326 *e*P **P 01 32 07.8 +0.4**
comp=Z,11nm,0.8s,mb5.0
BSEG Bad Segeberg 84.44 326 *e*P **P 01 32 07.8 +0.4**
BSEG pmax pmax
comp=Z,11nm,0.8s,mb5.0
KHC Kasperske Hory 84.78 321 *e*P **P 01 32 09.7 +0.6**
GEC2 GERESS Array S 84.83 320 *e*P **P 01 32 09.6 +0.2**
comp=Z,8.0nm,1.1s,mb4.8
GEC2 GERESS Array S 84.83 320 *e*P **P 01 32 09.6 +0.2**
GEC2 pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
GERES GERESS Array B 84.83 320 P **P 01 32 09.6 +0.3**
comp=Z,3.4nm,0.8s,mb4.5,baz=90,slow=5.3,SNR=11
WERD Werda 84.94 322 *e*P **P 01 32 09.8 -0.1**
comp=Z,5.0nm,0.8s,mb4.7
WET Wettzell 85.19 321 *e*P **P 01 32 10.8 -0.4**
comp=Z,12nm,1.5s,mb4.8
WET Wettzell 85.19 321 *e*P **P 01 32 10.8 -0.4**
WET pmax pmax
comp=Z,12nm,1.5s,mb4.8
MOX Moxa 85.25 323 *e*P **P 01 32 11.5 0.0**
MOX Moxa 85.25 323 *e*P **P 01 32 11.8 +0.3**
comp=Z,18nm,1.5s,mb5.0
MOX Moxa 85.25 323 *e*P **P 01 32 11.8 +0.3**
MOX pmax pmax
comp=Z,18nm,1.5s,mb5.0
MANZ Manzenberg 85.26 322 *e*P **P 01 32 12.0 +0.5**
comp=Z,8.0nm,1.2s,mb4.7
ROTZ Rotzenmuhle 85.30 322 *e*P **P 01 32 12.4 +0.7**
comp=Z,14nm,1.1s,mb5.0
CLZ Clausthal 85.39 324 *e*P **P 01 32 12.3 +0.1**
comp=Z,17nm,1.2s,mb5.0
CLZ Clausthal 85.39 324 *e*P **P 01 32 12.3 +0.1**
CLZ pmax pmax
comp=Z,17nm,1.2s,mb5.0
GRA1 Grafenberg Arr 85.91 322 *e*P **P 01 32 15.1 +0.3**
comp=Z,10.0nm,0.5s,mb5.3
GRF Grafenberg Arr 85.91 322 *e*P **P 01 32 15.1 +0.3**
comp=Z,10.0nm,0.5s,mb5.3
GRF Grafenberg Arr 85.91 322 *e*P **P 01 32 15.1 +0.3**
GRF pmax pmax
comp=Z,10.0nm,0.5s,mb5.3
GRF Grafenberg Arr 85.91 322 *e*P **P 01 32 15.1 +0.3**
GRF pmax pmax
comp=Z,10.0nm,0.5s,mb5.3
YKW3 Yellowknife Ar 86.49 22 *e*P **P 01 32 18.0 +0.4**
YKA Yellowknife Ar 86.54 22 P **P 01 32 17.9 0.0**
comp=Z,5.5nm,0.8s,mb4.5,baz=312,slow=4.6,SNR=15
IBBN Ibbenburen 86.58 325 *e*P **P 01 32 18.6 +0.6**
comp=Z,10.0nm,0.9s,mb5.0
TIP Timpagrande 86.90 311 *e*P **P 01 32 19.4 -0.3**
CASY Casey 87.05 184 *e*P **P 01 32 19.5 -0.8**
comp=Z,8.4nm,1.2s,mb4.8
TNS Taunus Mts 87.23 323 *e*P **P 01 32 20.5 -0.7**
comp=Z,4.0nm,0.9s,mb4.7
TNS Taunus Mts 87.23 323 *e*P **P 01 32 20.5 -0.7**
TNS pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
WLF Walferdange 88.79 324 P **P 01 32 29.4 +0.7**
comp=Z,5.7nm,1.0s,mb4.9
WLF Walferdange 88.79 324 *e*P **P 01 32 28.8 +0.1**
WLF pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
WLF Walferdange 88.79 324 *e*P **P 01 32 28.8 +0.1**
comp=Z,8.3nm,0.8s,mb5.1
CDF Champ du Feu 88.80 322 *e*P **P 01 32 28.9 +0.2**
BCLA Clavier 88.87 324 P **P 01 32 28.9 -0.1**
MEZF Maizieres J'vi 90.02 323 *e*P **P 01 32 34.4 0.0**
LPG La Plagne 90.59 320 *e*P **P 01 32 37.4 +0.3**
comp=Z,20nm,0.8s,mb5.2
LPG La Plagne 90.59 320 *e*P **P 01 32 37.4 +0.3**
LPG pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
LPG La Plagne 90.59 320 *e*P **P 01 32 37.4 +0.3**
comp=Z,10nm,0.8s,mb5.2
LPL La Plagne 90.59 320 *e*P **P 01 32 37.2 +0.1**
comp=Z,22nm,0.8s,mb5.2
LPL La Plagne 90.59 320 *e*P **P 01 32 37.2 +0.1**
LPL pmax pmax
comp=Z,11nm,0.8s,mb5.2
LPL La Plagne 90.59 320 *e*P **P 01 32 37.2 +0.1**
comp=Z,11nm,0.8s,mb5.2
PGF Pioggiola 90.65 316 *e*P **P 01 32 37.2 -0.2**
comp=Z,43nm,1.1s,mb5.4
PGF Pioggiola 90.65 316 *e*P **P 01 32 37.2 -0.2**
PGF pmax pmax
comp=Z,21nm,1.1s,mb5.4
PGF Pioggiola 90.65 316 *e*P **P 01 32 37.2 -0.2**
comp=Z,22nm,1.1s,mb5.4
SBF Sospel 91.00 318 *e*P **P 01 32 39.0 0.0**
comp=Z,25nm,0.8s,mb5.3
SBF Sospel 91.00 318 *e*P **P 01 32 39.0 0.0**
SBF pmax pmax
comp=Z,12nm,0.8s,mb5.3
SBF Sospel 91.00 318 *e*P **P 01 32 39.0 0.0**
comp=Z,12nm,0.8s,mb5.3
LOR Lormes 91.36 322 *e*P **P 01 32 40.5 -0.1**
ORIF Oris-en-Rattie 91.42 320 *e*P **P 01 32 41.3 +0.4**
comp=Z,8.4nm,0.7s,mb4.9
ORIF Oris-en-Rattie 91.42 320 *e*P **P 01 32 41.3 +0.4**
ORIF pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
ORIF Oris-en-Rattie 91.42 320 *e*P **P 01 32 41.3 +0.4**
comp=Z,4.2nm,0.7s,mb4.9
SMF Signal de Mont 91.71 322 *e*P **P 01 32 41.2 -1.1**
LMR La Mourre 91.84 318 *e*P **P 01 32 42.9 0.0**
comp=Z,38nm,1.4s,mb5.2
LMR La Mourre 91.84 318 *e*P **P 01 32 42.9 0.0**
LMR pmax pmax
comp=Z,19nm,1.4s,mb5.2
LMR La Mourre 91.84 318 *e*P **P 01 32 42.9 0.0**
comp=Z,19nm,1.4s,mb5.2
AVF Avril sur Loir 91.91 322 *e*P **P 01 32 42.4 -0.8**
SMRF Simiane la Rot 92.09 319 *e*P **P 01 32 44.2 +0.1**
VIVF Saint-Julien-l 92.18 320 *e*P **P 01 32 43.6 -0.8**
BGF Bois d'Agland 92.33 322 *e*P **P 01 32 44.7 -0.4**
TCF Toulx Ste Croi 92.84 322 *e*P **P 01 32 47.6 +0.1**
comp=Z,7.0nm,1.0s,mb4.8
TCF Toulx Ste Croi 92.84 322 *e*P **P 01 32 47.6 +0.1**
TCF pmax pmax
comp=Z,4.0nm,1.0s,mb4.8
TCF Toulx Ste Croi 92.84 322 *e*P **P 01 32 47.6 +0.1**
comp=Z,3.5nm,1.0s,mb4.7
EDM Edmonton 93.11 29 *e*P **P 01 32 49.5 +0.8**
NEW Newport 94.42 34 *e*P **P 01 32 56.8 +2.0**
NEW pmax pmax
comp=Z,4.0nm,1.0s
NEW Newport 94.42 34 *e*P **P 01 32 56.8 +2.0**
comp=Z,4.2nm,1.0s,mb4.8
MTLF Montolieu 94.49 320 *e*P **P 01 32 54.9 -0.2**
comp=Z,5.9nm,1.0s,mb4.7
MTLF Montolieu 94.49 320 *e*P **P 01 32 54.9 -0.2**
MTLF pmax pmax
comp=Z,3.0nm,1.0s,mb4.7
MTLF Montolieu 94.49 320 *e*P **P 01 32 54.9 -0.2**
comp=Z,3.0nm,1.0s,mb4.7
EVO Evora 103.55 321 *e*P Pdif 01 33 35.7 -0.1
comp=Z,14nm,0.9s
VNA2 Neumayer--Watz 121.30 198 ⇑*i*PKPdf PKPdf 01 38 27.1 -0.8
VNA2 *e* 01 38 36.0
VNA1 Neumayer--Stat 121.69 198 ⇑*i*PKPdf PKPdf 01 38 28.2 -0.4
VNA1 *e* 01 38 37.7
VNA3 Neumayer Olymp 121.78 197 *e*PKPdf PKPdf 01 38 27.4 -1.4
VNA3 *e* 01 38 36.6
JTS JuntasAbangare 140.56 41 *e*PKIKP PKPdf 01 39 04.7 +0.5
SDV Santo Domingo 148.74 21 *e*PKPbc PKPbc 01 39 22.7 +0.6
TRQA Tornquist 162.65 175 *e*PKPdf PKPdf 01 39 36.6 -0.1
LPAZ La Paz 171.06 62 PKP PKPdf 01 39 45.3 +2.2
comp=Z,1.1nm,1.0s,baz=58,slow=2.8,SNR=4.6
LPAZ La Paz 171.06 62 *e*PKPdf PKPdf 01 39 45.0 +2.0

ISCJB ***28*** *01:23:35.2±0.6, 2291S±007×638W±0.1, h540km±12km, mb3.7/3, Error ellipse: s-maj=14.5km s-min=10.5km az=169.0*
IDC ***28*** *01:23:35.4±0.8, 2286S×6390W, h534km±15km, mb3.4/3, mb1 3.3/9, mb1mx3.1/21, mbtmp4.1/9, Error ellipse: s-maj=22.0km s-min=18.9km az=86.0*
NEIC ***28*** *01:23:36.0±0.6, 2286S×6383W, h539km±10km, mb4.4/3, Error ellipse: s-maj=16.2km s-min=13.1km az=213.0*
ISC 28 01:23:35.8±0.6, 2293S±007×639W±01, h538km±11km, n17, σ1s01/21, mb3.7/3, 2C-1D, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
LVC	**Limon Verde**	**4.64**	**273**	P		**P**	**01 25 02.6**	**+0.8**
	17nm,0.3s,baz=102,slow=5.6,SNR=167							
LVC				S		**S**	**01 26 10.7**	**-1.5**
	7.9nm,0.3s,baz=148,slow=4.5,SNR=6.0							
LVC	**Limon Verde**	**4.64**	**273**	⇓*i*P		**P**	**01 25 02.6**	**+0.8**
LVC				*e*S		**S**	**01 26 11.2**	**-0.9**
CPUP	**Villa Florida**	**6.87**	**121**	P		**P**	**01 25 22.2**	**+0.2**
	5.6nm,0.3s,baz=298,slow=9.1,SNR=62							
CPUP	**Villa Florida**	**6.87**	**121**	⇑*i*P		**P**	**01 25 22.1**	**+0.2**
	68nm,0.5s							
SIV	**San Ignacio**	**7.39**	**22**	P		**P**	**01 25 26.9**	**-0.1**
	0.5nm,0.3s,baz=225,slow=10,SNR=11							
LPAZ	**La Paz**	**7.72**	**328**	P		**P**	**01 25 31.7**	**+1.4**
	1.0nm,0.3s,baz=94,slow=8.6,SNR=31							
LPAZ				S		**S**	**01 27 02.4**	**-1.8**
	0.4nm,0.3s,baz=73,slow=23,SNR=9.2							
LPAZ	**La Paz**	**7.72**	**328**	⇑*e*P		**P**	**01 25 31.6**	**+1.3**
	3.2nm,0.2s							
LPAZ				*e*S		**S**	**01 27 04.4**	**+0.2**
CFAA	**Coronel Fontan**	**9.47**	**203**	P		**P**	**01 25 49.2**	**+1.2**
	0.3nm,0.3s,baz=22,slow=11,SNR=40							
CFAA				S		**S**	**01 27 35.9**	**-0.8**
	0.1nm,0.3s,baz=251,slow=20,SNR=22							
CFAA	**Coronel Fontan**	**9.47**	**203**	P		**P**	**01 25 49.2**	**+1.2**
CFAA				S		**S**	**01 27 35.9**	**-0.8**
ARE	**Arequipa**	**9.62**	**311**	*e*P		**P**	**01 25 51.0**	**+1.4**
NNA	**Nana**	**16.45**	**309**	P		**P**	**01 26 58.8**	**-1.1**
	4.7nm,0.6s							
BDFB	**Brasilia**	**16.64**	**67**	P		**P**	**01 26 59.8**	**-1.8**
	0.6nm,0.3s,baz=241,slow=12,SNR=7.0							
DBIC	**Dimbokro**	**64.75**	**70**	P		**P**	**01 33 21.4**	**+0.2**
	1.6nm,0.4s,mb3.9,baz=223,slow=6.7,SNR=12							
TORD	**Torodi Ar. Bea**	**73.52**	**68**	P		**P**	**01 34 13.8**	**-0.1**
	3.7nm,0.5s,mb4.0,baz=260,slow=5.9,SNR=134							
ESDC	**Sonseca Array**	**83.67**	**42**	P		**P**	**01 35 08.6**	**+0.7**
	0.6nm,0.7s,mb3.2,baz=226,slow=5.6,SNR=5.9							
ASAR	**Alice Springs**	**130.56**	**202**	SKPbc		SKPbc	01 44 21.4	+2.4
	0.6nm,0.7s,baz=149,slow=4.2,SNR=8.3							
MKAR	**Makanchi Array**	**143.87**	**40**	PKP		PKPdf	01 42 09.6	-0.2
	1.0nm,0.5s,baz=306,slow=3.9,SNR=15							

IDC 28 01:25:56.6±6.5, 3159S×17789W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.7/13, mbtmp3.7/2, Error ellipse: s-maj=284.4km s-min=56.4km az=158.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
ASAR	**Alice Springs**	**43.15**	**268**	P		P	01 34 00.2	+1.3
	0.9nm,0.9s,baz=99,slow=7.7,SNR=5.3							
WRA	**Warramunga Arr**	**44.25**	**273**	P		P	01 34 06.9	-0.8
	0.6nm,0.4s,baz=115,slow=7.5,SNR=3.5							
FINES	**FINESS Array B**	**146.29**	**339**	PKPbc		PKPbc	01 45 37.7	-1.5
	0.6nm,0.5s,baz=41,slow=3.1,SNR=8.8							

IDC ***28*** *01:44:09.1±4.2, 2032S×16863E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.8/13, mbtmp3.9/4, ML3.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/17, Error ellipse: s-maj=128.8km s-min=29.7km az=131.0*
ISCJB ***28*** *01:44:11.8±4.8, 208S±03×1690E±04, h58km±21km, mb4.2/5, MS2.9/1, Error ellipse: s-maj=81.2km s-min=14.8km az=71.2*
NEIC ***28*** *01:44:13.2±2.0, 2053S×16876E, h35km, mb4.6/2, Error ellipse: s-maj=56.2km s-min=18.7km az=134.0*
ISC 28 01:44:12.2±4.8, 209S±03×1691E±04, h47km±22km, n10, σ0s70/9, mb4.2/5, MS2.9/1, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
DZM	**Mont Dzumac**	**2.76**	**243**	Pn		**Pn**	**01 44 53.4**	**-0.5**
	3.5nm,0.3s,baz=68,slow=20,SNR=92							
DZM				Sn		**Sn**	**01 45 26.7**	**+0.6**
	25nm,0.3s,baz=328,slow=22,SNR=11							
BKM	**Butte a Klehm**	**3.27**	**345**	⇑*i*P		**Pn**	**01 45 01.1**	**+0.2**
CTA	**Charters Tower**	**21.42**	**268**	LR		LR	01 55 56.7	
	comp=Z,54nm,20.4s,MS2.9,baz=75,slow=34							
CTAO	**Charters Tower**	**21.42**	**268**	P		**P**	**01 48 55.2**	**-0.9**
	94nm,1.8s,mb4.8							
WRAB	**Tennant Creek**	**32.55**	**265**	P		**P**	**01 50 37.9**	**-0.8**
	3.2nm,0.6s,mb4.4							
WRA	**Warramunga Arr**	**32.56**	**265**	P		**P**	**01 50 38.6**	**-0.2**
	0.4nm,0.3s,mb3.8,baz=91,slow=8.4,SNR=3.3							
WRA	**Warramunga Arr**	**32.56**	**265**	P		**P**	**01 50 38.6**	**-0.2**
ASAR	**Alice Springs**	**32.65**	**258**	P		**P**	**01 50 40.8**	**+1.2**
	1.8nm,0.7s,mb4.1,baz=86,slow=9.1,SNR=15							
SONM	**Songino Array**	**88.43**	**323**	P		**P**	**01 56 59.8**	**+0.6**
	0.8nm,0.9s,mb4.0,baz=128,slow=7.0,SNR=3.5							
GERES	**GERESS Array B**	**145.84**	**331**	PKPbc		PKPbc	02 03 47.4	+1.2
	0.3nm,0.2s,baz=14,slow=8.3,SNR=2.8							

BJI ***28*** *02:43:25.9, 5124N×17945E, h40km, mB5.0, mb4.8, Ms4.8, Msz4.3*
MOS ***28*** *02:43:28.4±1.2, 5119N×17905E, h33km, mb4.6/26, Error ellipse: s-maj=11.1km s-min=7.9km az=99.7*
ISCJB ***28*** *02:43:30.0±0.7, 5124N±008×17909E±004, h47km±4km, mb4.5/65, MS4.1/8, Error ellipse: s-maj=12.9km s-min=4.6km az=174.3*
IDC ***28*** *02:43:29.9±3.8, 5127N×17919E, h31km±26km, mb4.1/18, mb1 4.2/19, mb1mx4.1/26, mbtmp4.3/19, ML4.7/1, MS3.7/2, Ms1 3.7/2, ms1mx3.0/44, Error ellipse: s-maj=21.8km s-min=11.6km az=159.0*
NEIC ***28*** *02:43:29.8±1.1, 5115N×17909E, h31km±7km, mb4.6/39, ML4.6(AEIC), Error ellipse: s-maj=10.8km s-min=5.1km az=175.0*
ISC 28 02:43:31.0±0.8, 5120N±008×17907E±005, h42km±5km, h48km±5.0km: pP-P, n125, σ1s07/127, mb4.5/65, MS4.1/8, 1D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
AMKA	**Amchitka**	**0.23**	**40**	P		**Pn**	**02 43 36.5**	**-2.2**
AMKA				S		**Sn**	**02 43 42.6**	**-1.6**
SMY	**Shemya**	**3.43**	**298**	P		**Pn**	**02 44 23.1**	**+1.2**
SMY				S		**Sn**	**02 45 03.5**	**+2.2**
ATKA	**Atka Island**	**4.31**	**74**	P		**Pn**	**02 44 35.8**	**+1.8**
ATKA				S		**Sn**	**02 45 25.4**	**+2.4**
SPIA	**Saint Paul Isl**	**8.66**	**42**	P		**Pn**	**02 45 33.9**	**+0.2**
SDPT	**Sand Point**	**12.91**	**63**	*e*Pn		**Pn**	**02 46 30.7**	**-1.2**
KDAK	**Kodiak Island**	**17.64**	**57**	P		**Pn**	**02 47 30.0**	**-3.6**
	2.5nm,0.3s,baz=256,slow=7.1,SNR=14							
KDAK				S		**S**	**02 50 43.9**	**-11**
	0.3nm,0.3s,baz=332,slow=21,SNR=2.5							
KDAK	**Kodiak Island**	**17.64**	**57**	*e*P		**Pn**	**02 47 30.3**	**-3.2**
	10nm,0.6s							
TTA	**Tatalina**	**17.78**	**39**	*e*P		**Pn**	**02 47 37.0**	**+1.7**
TTA				pmax		pmax		
	comp=Z,9.0nm,0.9s							

TTA	**Tatalina**	**17.78**	**39**	*e*P		**Pn**	**02 47 37.0**	**+1.6**
	comp=Z,8.5nm,0.9s								
BILL	**Bilibino**	**18.01**	**344**	*e*P		**Pn**	**02 47 40.4**	**+2.3**
BILL				pmax	pmax				
	comp=Z,13nm,0.8s								
BILL	**Bilibino**	**18.01**	**344**	*e*P		**Pn**	**02 47 40.4**	**+2.3**
	comp=Z,13nm,0.8s								
SLKM	**Skilak Lake**	**19.42**	**49**	*e*P		**Pn**	**02 47 55.8**	**+0.7**
COLA	**College**	**21.88**	**39**	*e*P		**P**	**02 48 19.9**	**-0.3**
COLA				pmax	pmax				
	comp=Z,6.0nm,0.6s,mb4.2								
COLA	**College**	**21.88**	**39**	*e*P		**P**	**02 48 19.9**	**-0.4**
	comp=Z,5.7nm,0.6s,mb4.2								
ILAR	**Eielson Array**	**22.22**	**39**	P		**P**	**02 48 21.4**	**-2.5**
	comp=Z,1.4nm,0.5s,mb3.6,baz=246,slow=8.5,SNR=22								
MENT	**Mentasta**	**23.02**	**45**	*e*P		**P**	**02 48 36.3**	**+4.0**
YSS	**Yuzh-Sakhalins**	**24.00**	**274**	*e*P		**P**	**02 48 40.9**	**-0.8**
YSS				pmax	pmax				
	comp=Z,12nm,0.7s,mb4.4								
YSS	**Yuzh-Sakhalins**	**24.00**	**274**	*e*P		**P**	**02 48 40.9**	**-0.8**
	comp=Z,12nm,0.7s,mb4.4								
DAWY	**Dawson**	**25.15**	**43**	*e*P		**P**	**02 48 52.9**	**+0.8**
ASAJ	**Asahikawa**	**25.36**	**268**	P		**P**	**02 48 55.4**	**+1.3**
	comp=Z,26nm,0.8s,mb4.8,baz=52,slow=6.7,SNR=13								
ASAJ				LR	LR		02 57 26.6		
	comp=Z,129nm,20.6s,MS3.4,baz=28,slow=33								
ASAJ	**Asahikawa**	**25.36**	**268**	P		**P**	**02 48 55.4**	**+1.3**
ASAJ				pmax	pmax				
	comp=Z,26nm,0.8s								
ASAJ				MLR	MLR				
	comp=Z,129nm,20.6s								
INK	**Inuvik**	**28.37**	**35**	P		**P**	**02 49 20.6**	**-0.6**
	comp=Z,3.1nm,0.5s,mb4.2,baz=256,slow=7.6,SNR=7.5								
INK	**Inuvik**	**28.37**	**35**	*e*P		**P**	**02 49 21.3**	**+0.1**
INK				pmax	pmax				
	comp=Z,13nm,1.3s								
INK	**Inuvik**	**28.37**	**35**	*e*P		**P**	**02 49 21.3**	**+0.2**
	comp=Z,13nm,1.3s,mb4.4								
KLR	**Kul'dur**	**29.93**	**285**	*e*P		**P**	**02 49 31.8**	**-3.2**
TIXI	**Tiksi**	**30.13**	**331**	*e*P		**P**	**02 49 37.1**	**+0.3**
TIXI				pmax	pmax				
	comp=Z,1.0nm,0.8s,mb3.6								
TIXI				MLR	MLR				
	comp=Z,226nm,15.0s,MS3.9								
MJAR	**Matsushiro Arr**	**32.43**	**259**	P		**P**	**02 49 57.7**	**+0.7**
	comp=Z,1.3nm,0.8s,mb3.8,baz=49,slow=8.1,SNR=6.2								
MDJ	**Mudanjiang**	**33.27**	**278**	P		**P**	**02 50 03.8**	**-0.6**
MDJ				AP	pP		02 50 14.8	-1.1	
MDJ				PP	PP		02 51 19.3	-0.8	
MDJ				S	**S**		**02 55 21.5**	**-0.2**	
MDJ				SCP	ScP		02 56 26.0	-0.8	
MDJ				PCS	PcS		02 56 30.8	-0.7	
MDJ				SCS	ScS		03 00 26.5	-1.0	
MDJ				AMB	AMB				
	comp=Z,4.0nm,0.8s,mb4.4								
MDJ				LR	LR				
	comp=N,27nm,25.5s								
MDJ				LR	LR				
	comp=E,163nm,19.7s								
MDJ				LR	LR				
	comp=Z,167nm,20.9s,MS3.7								
CN2	**Changchun**	**36.26**	**280**	*e*P		**P**	**02 50 29.3**	**-0.8**
CN2				*e*S		**S**	**02 56 05.5**	**-2.2**	
CN2				LR	LR				
	comp=N,550nm,12.0s,MS4.7								
CN2				LR	LR				
	comp=E,440nm,12.0s,MS4.7								
CN2				LR	LR				
	comp=Z,330nm,15.0s,MS4.2								
YKW3	**Yellowknife Ar**	**36.30**	**46**	*e*P		**P**	**02 50 29.7**	**-0.8**
YKA	**Yellowknife Ar**	**36.32**	**46**	P		**P**	**02 50 29.9**	**-0.7**
	comp=Z,1.6nm,0.5s,mb4.2,baz=281,slow=8.1,SNR=17								
YKA				PcP	PcP		02 52 54.4	-0.3	
	comp=Z,0.9nm,0.7s,baz=298,slow=3.0,SNR=5.3								
YKA				ScP	ScP		02 56 37.2	-0.6	
	comp=Z,0.9nm,0.7s,baz=299,slow=3.4,SNR=7.6								
YKA				LR	LR		03 07 35.4		
	comp=Z,171nm,19.8s,MS3.8,baz=275,slow=40								
YKA	**Yellowknife Ar**	**36.32**	**46**	P		**P**	**02 50 29.9**	**-0.7**
YKA							02 52 54.4		
YKA	**Yellowknife Ar**	**36.32**	**46**	P		**P**	**02 50 29.9**	**-0.7**
YKA				PcP	PcP		02 52 54.4	-0.3	
YKA				ScP	ScP		02 56 37.2	-0.6	
YKA				LR	LR		03 07 35.4		
BOD	**Bodaibo**	**37.00**	**306**	⇓*i*P		**P**	**02 50 35.5**	**-1.0**
BOD				pmax	pmax				
	comp=Z,10.0nm,0.8s,mb4.7								
NEW	**Newport**	**40.20**	**68**	*e*P		**P**	**02 51 02.3**	**-1.0**
NEW				pmax	pmax				
	comp=Z,2.0nm,0.6s								
NEW	**Newport**	**40.20**	**68**	*e*P		**P**	**02 51 02.3**	**-1.0**
	comp=Z,2.0nm,0.6s,mb4.0								
RES	**Resolute Bay**	**40.45**	**24**	P		**P**	**02 51 05.1**	**-0.3**
RES				pmax	pmax				
	comp=Z,7.0nm,1.2s,mb4.3								
RES	**Resolute Bay**	**40.45**	**24**	P		**P**	**02 51 05.1**	**-0.3**
	comp=Z,7.3nm,1.2s,mb4.3								
WVOR	**Wild Horse Val**	**42.35**	**77**	*e*P		**P**	**02 51 21.0**	**+0.1**
WVOR				pmax	pmax				
	comp=Z,3.0nm,0.7s,mb4.0								
WVOR	**Wild Horse Val**	**42.35**	**77**	*e*P		**P**	**02 51 21.0**	**+0.1**
	comp=Z,3.1nm,0.7s,mb4.0								
HLID	**Hailey**	**44.28**	**73**	*e*P		**P**	**02 51 36.7**	**+0.3**
	comp=Z,3.6nm,1.0s,mb4.1								
MCMT	**McKenzie Canyo**	**44.50**	**70**	*e*P		**P**	**02 51 38.1**	**-0.2**
BOZ	**Bozeman (W)**	**44.77**	**69**	*e*P		**P**	**02 51 40.2**	**-0.2**
BOZ				pmax	pmax				
	comp=Z,3.0nm,0.7s,mb4.2								
BOZ	**Bozeman (W)**	**44.77**	**69**	*e*P		**P**	**02 51 40.2**	**-0.2**
	comp=Z,3.0nm,0.7s,mb4.2								
NVAR	**Mina Array Bea**	**44.90**	**81**	P		**P**	**02 51 42.5**	**+1.1**
	comp=Z,1.2nm,0.6s,mb3.9,baz=294,slow=6.6,SNR=5.4								
NVAR	**Mina Array Bea**	**44.90**	**81**	P		**P**	**02 51 42.5**	**+1.1**
ULN	**Ulaanbaatar**	**45.13**	**295**	*e*P		**P**	**02 51 43.8**	**+0.5**
ULN				pmax	pmax				
	comp=Z,6.0nm,0.9s,mb4.4								
ULN	**Ulaanbaatar**	**45.13**	**295**	*e*P		**P**	**02 51 43.8**	**+0.5**
	comp=Z,5.8nm,0.9s,mb4.4								
ELK	**Elko**	**45.40**	**77**	*e*P		**P**	**02 51 46.5**	**+1.1**
ELK				pmax	pmax				
	comp=Z,2.0nm,0.7s								
ELK	**Elko**	**45.40**	**77**	*e*P		**P**	**02 51 46.5**	**+1.1**
	comp=Z,2.0nm,0.7s,mb4.1								
SONM	**Songino Array**	**45.52**	**296**	P		**P**	**02 51 47.3**	**+1.0**
	comp=Z,3.1nm,0.8s,mb4.3,baz=57,slow=9.1,SNR=25								
SONM				PcP	PcP		02 53 24.5	0.0	
	comp=Z,1.1nm,0.7s,baz=51,slow=3.1,SNR=4.0								
ZAK	**Zakamensk**	**45.89**	**300**	*e*P		**P**	**02 51 47.7**	**-1.6**
ZAK				pmax	pmax				
	comp=Z,6.0nm,2.0s,mb4.2								
TPAW	**Teton Pass**	**46.39**	**71**	*e*P		**P**	**02 51 54.0**	**+0.8**
	comp=Z,2.3nm,0.6s,mb4.3								
DUG	**Dugway**	**47.21**	**76**	*e*P		**P**	**02 52 00.6**	**+1.0**
DUG				pmax	pmax				
	comp=Z,8.0nm,1.1s,mb4.6								
DUG	**Dugway**	**47.21**	**76**	*e*P		**P**	**02 52 00.6**	**+0.9**
	comp=Z,7.9nm,1.1s,mb4.6								
NJ2	**Nanjing**	**47.48**	**270**	*e*P		**P**	**02 52 01.3**	**-0.4**
NJ2				AP	pP		02 52 13.5	0.0	
NJ2				XP	sP		02 52 17.3	-1.2	
NJ2				PP	PP		02 53 53.0	-0.2	
NJ2				S	**S**		**02 58 51.0**	**-2.3**	
NJ2				XS	sS		02 59 09.0	-4.0	
NJ2				AMB	AMB				
	comp=Z,30nm,1.2s,mb5.1								
NJ2				AMB	AMB				
	comp=Z,80nm,10.0s								
NJ2				LR	LR				
	comp=N,910nm,18.4s,MS5.0								
NJ2				LR	LR				
	comp=E,1μm,18.9s,MS5.0								
NJ2				LR	LR				
	comp=Z,290nm,18.8s,MS4.3								
BW06	**Boulder Array**	**47.64**	**71**	*e*P		**P**	**02 52 02.6**	**-0.3**
	comp=Z,5.1nm,0.9s,mb4.5								
PDAR	**Pinedale Array**	**47.64**	**71**	P		**P**	**02 52 03.2**	**+0.3**
	comp=Z,3.2nm,0.6s,mb4.5,baz=299,slow=3.4,SNR=34								
MSU	**Marysvale**	**48.64**	**77**	*e*P		**P**	**02 52 11.5**	**+0.9**
SMCO	**Snowmass**	**51.38**	**73**	*e*P		**P**	**02 52 30.5**	**-0.9**
	comp=Z,2.4nm,0.7s,mb4.2								
ZAL	**Zalesovo**	**53.19**	**313**	P		**P**	**02 52 44.2**	**-0.6**
	comp=Z,1.7nm,0.3s,mb4.4,baz=34,slow=10,SNR=4.7								
NVS	**Novosibirsk**	**53.34**	**314**	*e*P		**P**	**02 52 44.4**	**-1.6**
SUMG	**Summit**	**53.78**	**13**	*e*P		**P**	**02 52 48.9**	**-0.4**
	comp=Z,15nm,1.1s,mb4.8								
LZH	**Lanzhou**	**54.14**	**285**	*e*P		**P**	**02 52 47.5**	**-4.3**
LZH				AP	pP		02 53 02.3	-1.6	
LZH				XP	sP		02 53 08.5	-0.3	
LZH				AMB	AMB				
	comp=Z,25nm,1.5s,mb4.9								
LZH				AMB	AMB				
	comp=Z,73nm,6.7s								
LZH				LR	LR				
	comp=E,307nm,15.7s								
LZH				LR	LR				
	comp=Z,389nm,18.2s,MS4.5								
LZH	**Lanzhou**	**54.14**	**285**	*e*P		**P**	**02 52 47.5**	**-4.3**
	comp=Z,25nm,1.5s,mb4.9								
LZH				pP	pP		02 53 02.3	-1.6	
LZH				sP	sP		02 53 08.4	-0.4	
LZH				PP	PP		02 54 52.1	-1.6	
LZH				LR	LR				
	comp=Z,390nm,18.2s,MS4.5								
GTA	**Gaotai**	**54.38**	**291**	*e*P		**P**	**02 52 54.3**	**+0.7**
GTA				PCP	PcP		02 53 58.5	+1.5	
GTA				PP	PP		02 54 58.0	+2.2	
GTA				PPP			02 56 09.0		
GTA				SCP	ScP		02 57 51.3	-0.5	
GTA				PCS	PcS		02 57 55.5	-1.0	
GTA				SCS	ScS		03 02 36.5	-2.8	
GTA				SS	SS		03 04 08.0	-3.4	
GTA				AMB	AMB				
	comp=Z,8.0nm,1.0s,mb4.6								
GTA				AMB	AMB				
	comp=Z,80nm,5.3s								
GTA				LR	LR				
	comp=N,159nm,10.3s								
GTA				LR	LR				
	comp=E,105nm,9.5s								
GTA				LR	LR				
	comp=Z,141nm,9.9s								
MNTX	**Cornudas Mount**	**57.30**	**79**	*e*P		**P**	**02 53 14.9**	**+0.4**
	comp=Z,2.8nm,1.1s,mb4.2								
ARCES	**ARCESS Array B**	**58.03**	**349**	P		**P**	**02 53 17.7**	**-1.9**
	comp=Z,2.1nm,0.9s,mb4.2,baz=35,slow=4.1,SNR=5.1								
KURK	**Kurchatov**	**58.16**	**313**	*e*P		**P**	**02 53 20.3**	**-0.2**
KURK				pmax	pmax				
	comp=Z,7.0nm,0.6s,mb4.9								
KURK	**Kurchatov**	**58.16**	**313**	*e*P		**P**	**02 53 20.3**	**-0.3**
	comp=Z,6.8nm,0.6s,mb4.8								
MK31	**Makanchi Array**	**59.08**	**307**	P		**P**	**02 53 26.3**	**-0.6**
MK31				pmax	pmax				
	comp=Z,1.0nm,0.6s,mb4.0								
MKAR	**Makanchi Array**	**59.08**	**307**	P		**P**	**02 53 26.5**	**-0.5**
	comp=Z,3.1nm,0.7s,mb4.5,baz=52,slow=7.3,SNR=34								
CHKZ	**Chkalovo**	**59.58**	**319**	*e*P		**P**	**02 53 30.1**	**-0.3**
CHKZ				pmax	pmax				
	comp=Z,3.0nm,0.6s,mb4.5								
CHKZ	**Chkalovo**	**59.58**	**319**	*e*P		**P**	**02 53 30.1**	**-0.3**
	comp=Z,3.1nm,0.6s,mb4.5								
VOSK	**Vostochnaya**	**60.12**	**318**	P		**P**	**02 53 33.7**	**-0.4**
VOSK				pmax	pmax				
	comp=Z,3.0nm,0.9s,mb4.3								
BVA0	**Borovoye Array**	**60.15**	**319**	*i* P		**P**	**02 53 34.5**	**+0.2**
BVA0				pmax	pmax				
	comp=Z,1.0nm,0.7s,mb4.0								
BRVK	**Borovoye**	**60.17**	**319**	*e*P		**P**	**02 53 34.3**	**-0.1**
BRVK				pmax	pmax				
	comp=Z,5.0nm,0.7s,mb4.7								
BRVK	**Borovoye**	**60.17**	**319**	*e*P		**P**	**02 53 34.3**	**-0.1**
	comp=Z,4.6nm,0.7s,mb4.6								
ZRNK	**Zerenda**	**60.77**	**319**	*e*P		**P**	**02 53 38.7**	**+0.2**
ZRNK				pmax	pmax				
	comp=Z,14nm,0.7s,mb5.2								
ZRNK	**Zerenda**	**60.77**	**319**	*e*P		**P**	**02 53 38.7**	**+0.2**
	comp=Z,14nm,0.7s,mb5.2								
ARU	**Arti**	**62.03**	**327**	*e*P		**P**	**02 53 47.0**	**-0.1**
ARU				pmax	pmax				
	comp=Z,5.0nm,0.6s,mb4.8								
ARU	**Arti**	**62.03**	**327**	*e*P		**P**	**02 53 47.0**	**0.0**
	comp=Z,4.6nm,0.6s,mb4.8								
KMI	**Kunming**	**62.42**	**276**	P		**P**	**02 53 47.5**	**-2.1**
KMI				S	**S**		**03 02 09.8**	**-3.7**	
KMI				AMB	AMB				
	comp=Z,15nm,0.7s,mb5.2								
KMI				LR	LR				
	comp=N,134nm,7.3s								
KMI				LR	LR				
	comp=E,237nm,11.3s								
KMI				LR	LR				
	comp=Z,135nm,11.3s,MS4.4								
KMI	**Kunming**	**62.42**	**276**	P		**P**	**02 53 47.5**	**-2.1**
	comp=Z,15nm,0.7s,mb5.2								
KMI				S	**S**		**03 02 09.8**	**-3.7**	
KMI				LR	LR				
	comp=Z,140nm,11.3s,MS4.4								
HKT	**Hockley**	**64.36**	**74**	*e*P		**P**	**02 54 02.4**	**-0.1**
HKT				pmax	pmax				
	comp=Z,8.0nm,1.2s,mb4.6								
HKT	**Hockley**	**64.36**	**74**	*e*P		**P**	**02 54 02.4**	**-0.1**
	comp=Z,7.8nm,1.2s,mb4.6								
WVT	**Waverly**	**64.61**	**63**	*e*P		**P**	**02 54 04.1**	**0.0**
WVT				pmax	pmax				
	comp=Z,2.0nm,0.6s,mb4.3								
WVT	**Waverly**	**64.61**	**63**	*e*P		**P**	**02 54 04.1**	**0.0**
	comp=Z,1.6nm,0.6s,mb4.2								
OXF	**Oxford**	**64.88**	**66**	*e*P		**P**	**02 54 05.2**	**-0.6**
OXF				pmax	pmax				
	comp=Z,8.0nm,0.5s,mb5.0								
OXF	**Oxford**	**64.88**	**66**	*e*P		**P**	**02 54 05.2**	**-0.6**
	comp=Z,8.4nm,0.5s,mb5.0								
PLAL	**Pickwick Lake**	**65.30**	**65**	*e*P		**P**	**02 54 07.7**	**-0.9**
	comp=Z,6.1nm,0.6s,mb4.8								
FINES	**FINESS Array B**	**65.65**	**346**	P		**P**	**02 54 08.9**	**-1.9**
	comp=Z,1.2nm,0.8s,mb4.0,baz=18,slow=6.8,SNR=5.4								
AAK	**Ala-Archa**	**65.94**	**309**	*e*P		**P**	**02 54 12.3**	**-0.4**
AAK				pmax	pmax				
	comp=Z,4.0nm,0.7s,mb4.6								
AAK	**Ala-Archa**	**65.94**	**309**	*e*P		**P**	**02 54 12.3**	**-0.4**
	comp=Z,4.1nm,0.7s,mb4.6								
AKTK	**Aktyubinsk**	**67.04**	**323**	P		**P**	**02 54 20.6**	**+0.8**
AKTO	**Aktyubinsk**	**67.04**	**323**	P		**P**	**02 54 20.6**	**+0.8**
	comp=Z,17nm,0.8s,mb5.1,baz=52,slow=7.1,SNR=82								
ORR	**Orenburg**	**67.25**	**326**	*e*P		**P**	**02 54 21.9**	**+0.8**
ORR				pmax	pmax				
	comp=Z,10.0nm,1.0s,mb4.8								
AB31	**Akbulak array**	**67.26**	**322**	P		**P**	**02 54 21.6**	**+0.5**
AB31				pmax	pmax				
	comp=Z,2.0nm,0.5s,mb4.4								
KKAR	**Karatay Array**	**67.50**	**311**	*i* P		**P**	**02 54 22.8**	**+0.1**
KKAR				pmax	pmax				
	comp=Z,3.0nm,0.7s,mb4.4								
NB2	**NORSAR Subarra**	**67.69**	**354**	P		**P**	**02 54 22.7**	**-1.1**
	comp=Z,1.9nm,0.7s,mb4.2,baz=9.2,slow=6.5								
NOA	**NORSAR Array B**	**67.69**	**354**	P		**P**	**02 54 22.8**	**-1.0**
	comp=Z,2.0nm,0.6s,mb4.3,baz=8.4,slow=6.3,SNR=15								
GUN	**Gumba**	**70.67**	**291**	*e*P		**P**	**02 54 43.9**	**+1.6**
	comp=Z,45nm,0.8s,mb5.5								
JIRN	**Jiri**	**70.67**	**290**	*e*P		**P**	**02 54 43.9**	**+1.6**
	comp=Z,40nm,0.8s,mb5.4								
KKN	**Kakani**	**71.11**	**291**	*e*P		**P**	**02 54 46.4**	**+1.4**
	comp=Z,26nm,0.6s,mb5.3								
KKN	**Kakani**	**71.11**	**291**	*e*P		**P**	**02 54 46.4**	**+1.4**
KKN				pmax	pmax				
	comp=Z,26nm,0.6s,mb5.3								
PKI	**Pulchoki**	**71.20**	**291**	*e*P		**P**	**02 54 46.8**	**+1.3**
	comp=Z,27nm,0.8s,mb5.2								
PKI	**Pulchoki**	**71.20**	**291**	*e*P		**P**	**02 54 46.8**	**+1.3**
PKI				pmax	pmax				
	comp=Z,27nm,0.8s,mb5.2								
GKN	**Gorkha**	**71.33**	**291**	*e*P		**P**	**02 54 47.4**	**+1.1**
	comp=Z,32nm,0.8s,mb5.3								
DMN	**Daman**	**71.35**	**291**	*e*P		**P**	**02 54 47.9**	**+1.5**
	comp=Z,20nm,0.8s,mb5.1								
KOLN	**Koldanda**	**72.11**	**292**	*e*P		**P**	**02 54 52.0**	**+1.0**
	comp=Z,17nm,0.8s,mb5.0								
AKASG	**Malin Array Be**	**75.29**	**341**	P		**P**	**02 55 08.6**	**-1.1**
	comp=Z,1.3nm,0.4s,mb4.2,baz=22,slow=6.3,SNR=8.7								
AKASG	**Malin Array Be**	**75.29**	**341**	P		**P**	**02 55 08.6**	**-1.1**
WRA	**Warramunga Arr**	**80.97**	**222**	P		**P**	**02 55 40.1**	**-1.0**
	comp=Z,1.3nm,0.6s,mb4.0,baz=33,slow=6.2,SNR=8.4								
ASAR	**Alice Springs**	**84.46**	**221**	P		**P**	**02 55 59.0**	**-0.2**
	comp=Z,1.0nm,0.7s,mb4.1,baz=23,slow=5.6,SNR=18								
BR131	**Keskin Array S**	**84.53**	**334**	*e*P		**P**	**02 55 59.5**	**-0.1**
	comp=Z,1.5nm,0.7s,mb4.2								
BRTR	**Keskin Array B**	**84.53**	**334**	P		**P**	**02 56 00.2**	**+0.7**
	comp=Z,2.4nm,0.7s,mb4.4,baz=54,slow=2.8,SNR=16								
AQU	**L'Aquila**	**85.99**	**349**	*e*P		**P**	**02 56 07.4**	**+0.5**
AQU				pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.7								
AQU	**L'Aquila**	**85.99**	**349**	*e*P		**P**	**02 56 07.4**	**+0.6**
	comp=Z,4.4nm,0.8s,mb4.7								
TORD	**Torodi Ar. Bea**	**115.88**	**357**	PKP		PKPdf	03 02 08.1	-0.9	
	comp=Z,0.3nm,0.6s,baz=336,slow=3.1,SNR=10								
VNDA	**Vanda**	**128.90**	**185**	*e*PKIKP		PKPdf	03 02 33.3	-0.7	
SBA	**Scott Base**	**129.01**	**183**	*e*PKIKP		PKPdf	03 02 32.3	-1.9	
TSUM	**Tsumeb**	**144.87**	**329**	*e*PKPdf		PKPdf	03 03 03.4	0.0	
LBTB	**Lobatse**	**146.88**	**312**	*e*PKP2		PKPab	03 03 09.3	-0.8	
BOSA	**Boshof**	**150.07**	**309**	PKPbc		PKPbc	03 03 17.5	+0.5	
	comp=Z,2.6nm,0.7s,baz=120,slow=1.2,SNR=7.7								
BOSA	**Boshof**	**150.07**	**309**	*e*PKPbc		PKPbc	03 03 17.1	0.0	

ISCJB ***28*** *02:47:26.7±0.4, 45.17N±002×333E±003, h5km, Error ellipse: s-maj=3.4km s-min=2.8km az=21.6*
STR ***28*** *02:47:28.6±0.3, 4520N×3.36E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***28*** *02:47:28.5±0.1, 45.18N×3.35E, h5km, Md1.7/1, Ml1.7/12, Error ellipse: s-maj=1.1km s-min=0.9km az=98.0*

ISC 28 02:47:27.7±0.5, 4518N±002×334E±004, h13km±7km, n15, σ0§41/28, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBL	**Lubilhac**	**0.09**	**312**	Pg	**Pg**	**02 47 31.0**	**+0.5**
LBL				Sg	**Sg**	**02 47 32.4**	**-0.1**
COLF	**Collangettes**	**0.42**	**36**	Pg	**Pg**	**02 47 36.3**	**+0.2**
COLF				Sg	**Sg**	**02 47 41.9**	**+0.1**
PYM	**Petit Puy Mans**	**0.62**	**338**	Pg	**Pg**	**02 47 40.3**	**+0.5**
AGO	**Saint Agoulin**	**0.89**	**351**	Pg	**Pg**	**02 47 45.7**	**+0.8**
AGO				Sg	**Sg**	**02 47 57.1**	**+0.6**
CAF	**Calviac**	**0.94**	**255**	*e*Pg	**Pg**	**02 47 46.2**	**+0.4**
CAF				*e*Sg	**Sg**	**02 47 58.0**	**0.0**
	2.4nm,0.2s						
VIVF	**Saint-Julien-l**	**1.00**	**108**	*e*Pg	**Pg**	**02 47 47.3**	**+0.3**
VIVF				*e*Sg	**Sg**	**02 48 00.0**	**0.0**
	2.2nm,0.3s						
LASF	**Ste Croix**	**1.16**	**161**	*e*Pn	**Pn**	**02 47 50.3**	**+0.6**
LASF				*e*Sg	**Sg**	**02 48 05.0**	**-0.2**
	1.2nm,0.3s						
RJF	**Les Rejaudoux**	**1.29**	**276**	*e*Pg	**Pg**	**02 47 52.7**	**+0.1**
RJF				*e*Sg	**Sg**	**02 48 09.5**	**+0.1**
	1.6nm,0.2s						
TCF	**Toulx Ste Croi**	**1.36**	**325**	*e*Pg	**Pg**	**02 47 54.0**	**+0.1**
TCF				*e*Sg	**Sg**	**02 48 11.5**	**-0.2**
	0.9nm,0.3s						
BGF	**Bois d'Agland**	**1.42**	**346**	*e*Pg	**Pg**	**02 47 55.1**	**0.0**
BGF				*e*Sg	**Sg**	**02 48 13.4**	**-0.2**
	4.4nm,0.3s						
SMF	**Signal de Mont**	**1.51**	**13**	*e*Pg	**Pg**	**02 47 56.3**	**-0.4**
SMF				*e*Sg	**Sg**	**02 48 15.6**	**-0.8**
	0.7nm,0.2s						
AVF	**Avril sur Loir**	**1.62**	**0**	*e*Pg	**Pg**	**02 47 58.4**	**-0.3**
AVF				*e*Sg	**Sg**	**02 48 19.5**	**-0.2**
	0.7nm,0.2s						
LFF	**La Frestale**	**1.86**	**264**	*e*Pg	**Pg**	**02 48 03.5**	**+0.2**
LFF				*e*Sg	**Sg**	**02 48 27.0**	**-0.4**
	1.4nm,0.3s						
SSF	**Saint Saulge**	**1.89**	**4**	*e*Sg	**Sg**	**02 48 27.9**	**-0.6**
	0.5nm,0.2s						
MTLF	**Montolieu**	**2.00**	**204**	*e*Pg	**Pg**	**02 48 05.9**	**-0.2**
MTLF				*e*Sg	**Sg**	**02 48 31.2**	**-0.9**
	0.5nm,0.2s						

ISCJB ***28*** *02:49:21.3±1.7, 2068N±004×11991E±006, h26km±12km, mb4.5/37, MS3.7/5, Error ellipse: s-maj=9.9km s-min=5.7km az=120.9*
BJI ***28*** *02:49:22.8, 2087N×11985E, h24km, mB4.6, mb4.4, ML3.9, Ms4.4, Msz4.1*
MOS ***28*** *02:49:22.6±1.7, 2073N×11984E, h33km, mb5.0/16, Error ellipse: s-maj=17.5km s-min=6.7km az=119.6*
NEIC ***28*** *02:49:23.3±0.3, 2069N×11989E, mb4.7/21, Error ellipse: s-maj=10.6km s-min=6.9km az=72.0*
MAN ***28*** *02:49:26.4, 2046N×12062E, h6km, mb3.9, ML4.9, MS4.3*
IDC ***28*** *02:49:27.6±6.6, 2067N×11987E, h62km±61km, mb3.8/15, mb1 4.0/15, mb1mx3.9/20, mbtmp4.1/15, MS3.7/4, Ms1 3.7/4, ms1mx3.2/38, Error ellipse: s-maj=28.5km s-min=13.9km az=67.0*
SZGRF ***28*** *02:49:33.5, 2261N×11995E, h33km, mb5.0, Taiwan region*

**ISC 28

comp=Z,30nm,1.7s
CHTO Chiang Mai 19.89 268 *e*P P **02 53 53.4 -0.9**
comp=Z,30nm,1.7s
LZH Lanzhou 20.86 321 *e*P P **02 54 02.8 -0.1**
LZH AP 02 54 11.3
LZH XP sP 02 54 16.0 +1.5
LZH AMB AMB
comp=Z,25nm,1.5s
LZH AMB AMB
comp=Z,127nm,7.3s
LZH LR LR
comp=E,463nm,16.8s
LZH LR LR
comp=Z,612nm,18.7s,MS4.0
LZH Lanzhou 20.86 321 *e*P P **02 54 02.7 -0.2**
LZH *SP sP 02 54 16.0 +1.5
LZH pmax pmax
comp=Z,25nm,1.5s
LZH MLR MLR
comp=Z,610nm,18.7s,MS4.0
KSM Kuching 21.31 208 *e*P P **02 54 07.0 -0.9**
HHC Hu-ho-hao-te 21.33 342 *e*P P **02 54 09.0 +0.9**
HHC AP 02 54 13.3
HHC XP sP 02 54 16.0 -3.7
HHC AMB AMB
comp=Z,19nm,1.2s,mb4.3
HHC AMB AMB
comp=Z,154nm,4.9s
HHC LR LR
comp=N,512nm,10.4s,MS4.2
HHC LR LR
comp=E,399nm,14.5s,MS4.2
HHC LR LR
comp=Z,322nm,10.4s,MS4.0
MJAR Matsushiro Arr 22.42 41 P P **02 54 23.6 +4.0**
comp=Z,1.1nm,0.3s,mb3.8,baz=207,slow=7.5,SNR=9.5
GUMO Guam 24.78 103 LR LR 03 04 01.6
comp=Z,144nm,18.7s,MS3.5,baz=287,slow=35
PSI Prapat 27.16 232 LR LR 03 04 37.2
comp=Z,110nm,19.8s,MS3.4,baz=166,slow=34
ULN Ulaanbaatar 29.05 342 *e*P P **02 55 21.1 0.0**
ULN pmax pmax
comp=Z,1.0nm,0.7s,mb3.6
ULN Ulaanbaatar 29.05 342 *e*P P **02 55 21.1 -0.1**
comp=Z,1.5nm,0.7s,mb3.8
SONM Songino Array 29.22 341 P P **02 55 22.6 0.0**
comp=Z,1.6nm,0.9s,mb3.8,baz=160,slow=12,SNR=5.0
ASAJ Asahikawa 29.98 34 LR LR 03 07 58.0
comp=Z,128nm,18.3s,MS3.6,baz=347,slow=37
WMQ Urumqi 35.39 318 *e*P P **02 56 17.5 +0.9**
MKAR Makanchi Array 40.16 319 P P **02 56 57.7 +0.8**
comp=Z,2.4nm,0.7s,mb4.1,baz=113,slow=10,SNR=16
MKAR PcP PcP 02 59 01.9 +1.0
comp=Z,1.7nm,1.1s,baz=103,slow=5.4,SNR=4.0
ZAL Zalesovo 42.63 330 P P **02 57 17.1 0.0**
comp=Z,1.2nm,0.3s,mb4.1,baz=352,slow=8.1,SNR=6.2
WRAB Tennant Creek 42.75 160 *e*P P **02 57 17.3 -0.8**
WRAB pmax pmax
comp=Z,39nm,1.1s,mb5.0
WRAB Tennant Creek 42.75 160 *e*P P **02 57 17.3 -0.8**
comp=Z,39nm,1.1s,mb5.0
WRA Warramunga Arr 42.76 160 P P **02 57 18.4 +0.2**
comp=Z,8.5nm,1.1s,mb4.4,baz=341,slow=8.8,SNR=11
AAK Ala-Archa 43.83 311 *e*P P **02 57 27.0 +0.2**
AAK pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
AAK Ala-Archa 43.83 311 *e*P P **02 57 27.0 +0.2**
comp=Z,1.8nm,0.7s,mb3.9
NVS Novosibirsk 43.91 330 *e*P P **02 57 26.4 -1.0**
NVS pmax pmax
comp=Z,24nm,1.7s,mb4.7
NVS pmax pmax
comp=N,23nm,1.9s
KURK Kurchatov 44.12 323 *e*P P **02 57 29.2 0.0**
KURK pmax pmax
comp=Z,19nm,1.3s,mb4.7
KURK Kurchatov 44.12 323 *e*P P **02 57 29.2 0.0**
comp=Z,19nm,1.3s,mb4.7
ASAR Alice Springs 46.13 162 P P **02 57 45.0 -0.1**
comp=Z,0.6nm,0.5s,mb3.8,baz=345,slow=6.8,SNR=14
CTA Charters Tower 47.99 146 P P **02 58 02.6 +2.9**
comp=Z,8.4nm,0.9s,mb4.8,baz=343,slow=8.5,SNR=5.8
CTAO Charters Tower 47.99 146 *e*P P **02 58 02.4 +2.7**
CTAO pmax pmax
comp=Z,20nm,1.0s,mb5.1
CTAO Charters Tower 47.99 146 *e*P P **02 58 02.4 +2.7**
comp=Z,20nm,1.0s,mb5.1
BRVK Borovoye 49.79 323 *e*P P **02 58 13.6 +0.1**
BRVK *e*PP pP 02 58 21.1 -1.2
BRVK pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
BRVK Borovoye 49.79 323 *e*P P **02 58 13.6 +0.1**
comp=Z,2.9nm,0.7s,mb4.4
BRVK *e*pP pP 02 58 21.1 -1.2
CHKZ Chkalovo 49.83 324 *e*P P **02 58 13.9 +0.2**
CHKZ *e*PP pP 02 58 21.1 -1.5
CHKZ pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
CHKZ Chkalovo 49.83 324 *e*P P **02 58 13.8 +0.1**
comp=Z,9.5nm,1.2s,mb4.7
CHKZ *e*pP pP 02 58 21.1 -1.5
ZRNK Zerenda 50.48 322 *e*P P **02 58 19.0 +0.3**
ZRNK *e*PP pP 02 58 26.3 -1.2
ZRNK pmax pmax
comp=Z,15nm,1.3s,mb4.9
ZRNK Zerenda 50.48 322 *e*P P **02 58 19.0 +0.3**
comp=Z,14nm,1.3s,mb4.8
ZRNK *e*pP pP 02 58 26.2 -1.3
TIXI Tiksi 51.23 4 *e*P P **02 58 21.5 -2.8**
TIXI pmax pmax
comp=Z,3.0nm,1.4s,mb4.0
SVE Sverdlovsk 56.23 325 *e*P P **02 59 00.0 -0.9**
SVE pmax pmax
comp=Z,40nm,2.0s,mb5.1
AKTK Aktyubinsk 56.53 317 P P **02 59 03.6 +0.5**
AKTO Aktyubinsk 56.53 317 P P **02 59 03.6 +0.5**
comp=Z,2.6nm,1.0s,mb4.2,baz=97,slow=13,SNR=7.5
ARU Arti 57.26 325 *e*P P **02 59 08.0 -0.2**
ARU *e*PP pP 02 59 14.9 -2.3
ARU pmax pmax
comp=Z,20nm,1.4s,mb5.0
ARU Arti 57.26 325 *e*P P **02 59 08.0 -0.2**
comp=Z,20nm,1.4s,mb5.0
ARU *e*pP pP 02 59 14.9 -2.3
ORR Orenburg 58.72 319 *e*P P **02 59 19.2 +0.7**
ORR pmax pmax
comp=Z,20nm,1.7s,mb4.9
MOS Moscow 68.89 323 *e*P P **03 00 23.4 -2.1**
MOS pmax pmax
comp=Z,42nm,1.3s,mb5.2
ARCES ARCESS Array B 72.36 338 P P **03 00 47.1 +0.6**
comp=Z,2.6nm,0.9s,mb4.2,baz=17,slow=17,SNR=5.2
ILAR Eielson Array 72.81 27 P P **03 00 49.1 -0.2**
comp=Z,0.2nm,0.5s,mb3.3,baz=280,slow=4.6,SNR=4.9
ILAR Eielson Array 72.81 27 P P **03 00 49.1 -0.2**
FINES FINESS Array B 73.89 330 P P **03 00 54.5 -1.1**
comp=Z,2.5nm,0.9s,mb4.2,baz=90,slow=4.0,SNR=9.5
NB2 NORSAR Subarra 80.78 332 P P **03 01 33.2 -1.0**
comp=Z,15nm,1.4s,mb4.7,baz=63,slow=5.6
NOA NORSAR Array B 80.78 332 P P **03 01 33.0 -1.2**
comp=Z,3.3nm,1.1s,mb4.2,baz=64,slow=5.5,SNR=3.6
NOA NORSAR Array B 80.78 332 P P **03 01 33.0 -1.2**
MORC Moravsky Berou 82.14 320 *e*P P **03 01 42.1 +0.7**
MORC *e*PP pP 03 01 49.0 -1.7
MORC pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
MORC Moravsky Berou 82.14 320 *e*P P **03 01 42.1 +0.6**
comp=Z,3.5nm,1.2s,mb4.2
MORC *e*pP pP 03 01 49.0 -1.7
DPC Dobruska-Polom 82.64 321 *e*P P **03 01 45.2 +1.2**
TREC Trest 83.57 320 *e*P P **03 01 49.9 +1.1**
KMBO Kilima Mbogo 83.60 266 P P **03 01 50.6 +1.7**
comp=Z,0.7nm,0.5s,mb4.0,baz=22,slow=5.4,SNR=3.3
BRG Berggiesshubel 83.81 322 *e*P P **03 01 51.2 +1.2**
comp=Z,9.1nm,1.5s,mb4.7
BRG Berggiesshubel 83.81 322 *e*P P **03 01 51.2 +1.2**
BRG pmax pmax
comp=Z,9.0nm,1.5s,mb4.7
PRU Pruhonice 83.84 321 *e*P P **03 01 51.4 +1.2**
CLL Collm 84.16 323 *i* P P **03 01 52.2 +0.4**
comp=Z,23nm,1.6s,mb5.1
CLL *e*pP pP 03 01 59.0 -2.2
CLL Collm 84.16 323 *i* P P **03 01 52.2 +0.4**
CLL pmax pmax
comp=Z,23nm,1.6s,mb5.1
KHC Kasperske Hory 84.77 321 *e*P P **03 01 55.7 +0.8**

GERES GERESS Array B 84.82 320 P P **03 01 56.2 +1.0**
comp=Z,0.5nm,0.4s,mb4.0,baz=54,slow=7.4,SNR=3.0
GRA1 Grafenberg Arr 85.90 322 *e*P P **03 02 01.8 +1.2**
comp=Z,13nm,1.4s,mb5.0
GRF Grafenberg Arr 85.90 322 *e*P P **03 02 01.8 +1.2**
comp=Z,13nm,1.4s,mb5.0
GRF Grafenberg Arr 85.90 322 *e*P P **03 02 01.8 +1.2**
GRF pmax pmax
comp=Z,13nm,1.4s,mb5.0
GRF Grafenberg Arr 85.90 322 *e*P P **03 02 01.8 +1.2**
GRF pmax pmax
comp=Z,13nm,1.4s,mb5.0
YKW3 Yellowknife Ar 86.56 22 *e*P P **03 02 04.8 +1.0**
YKW3 *e*pP pP 03 02 10.9 -2.2
YKA Yellowknife Ar 86.60 22 P P **03 02 03.9 -0.2**
comp=Z,1.5nm,0.8s,mb4.3,baz=316,slow=4.8,SNR=14
TIP Timpagrande 86.88 311 *e*P P **03 02 06.3 +0.9**
AQU L'Aquila 87.84 315 *e*P P **03 02 11.4 +1.4**
AQU pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
AQU L'Aquila 87.84 315 *e*P P **03 02 11.4 +1.4**
comp=Z,4.7nm,0.9s,mb4.7
CDF Champ du Feu 88.79 322 *e*P P **03 02 11.1 -3.4**
LPG La Plagne 90.58 320 *e*P P **03 02 20.6 -2.3**
comp=Z,7.7nm,0.8s,mb4.8
LPG La Plagne 90.58 320 *e*P P **03 02 20.6 -2.3**
LPG pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
LPG La Plagne 90.58 320 *e*P P **03 02 20.6 -2.3**
comp=Z,3.8nm,0.8s,mb4.8
LPL La Plagne 90.58 320 *e*P P **03 02 20.5 -2.4**
LOR Lormes 91.35 322 *e*P P **03 02 23.1 -3.3**
ORIF Oris-en-Rattie 91.40 320 *e*P P **03 02 23.6 -3.1**
SSF Saint Saulge 91.67 322 *e*P P **03 02 25.0 -2.9**
MTLF Montolieu 94.47 320 *e*P P **03 02 37.3 -3.6**
comp=Z,24nm,1.6s,mb5.1
MTLF Montolieu 94.47 320 *e*P P **03 02 37.3 -3.6**
MTLF pmax pmax
comp=Z,12nm,1.6s,mb5.1
MTLF Montolieu 94.47 320 *e*P P **03 02 37.3 -3.6**
comp=Z,12nm,1.6s,mb5.1
SJPF Ste Jean 96.67 321 *e*P P **03 02 47.2 -3.6**
comp=Z,30nm,1.3s,mb5.2
SJPF Ste Jean 96.67 321 *e*P P **03 02 47.2 -3.6**
SJPF pmax pmax
comp=Z,15nm,1.3s,mb5.3
SJPF Ste Jean 96.67 321 *e*P P **03 02 47.2 -3.6**
comp=Z,15nm,1.3s,mb5.3
SDV Santo Domingo 148.81 21 *e*PKPbc PKPbc 03 09 09.1 +1.0
OTAV Otavalo 152.47 43 *e*PKPbc PKPbc 03 09 19.4 +2.6
PLCA Paso Flores 158.10 158 *e*PKIKP PKPdf 03 09 19.1 +1.6

STR ***28*** *02:49:53.8±2.0, 44.11N×2.96E, h2km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 28 02:49:50.1±0.1, 4393N×305E, h3km, Md2.0/1, Ml1.8/5, Error ellipse: s-maj=2.3km s-min=1.3km az=149.0, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LASF	**Ste Croix**	**0.60**	**76**	*e*Pg	Pg	02 50 01.4	-0.3
LASF				*e*Sg	Sg	02 50 09.7	+0.2
	6.3nm,0.2s						
MTLF	**Montolieu**	**0.84**	**226**	*e*Pg	Pg	02 50 05.9	-0.4
MTLF				*e*Sg	Sg	02 50 16.8	-0.4
	3.0nm,0.2s						
CAF	**Calviac**	**1.22**	**325**	*e*Pn	Pn	02 50 12.7	-1.3
CAF				*e*Sg	Sg	02 50 28.9	-0.3
	1.3nm,0.1s						
LBL	**Lubilhac**	**1.31**	**6**	Pg	Pg	02 50 14.6	-0.5
LBL				Sg	Sg	02 50 31.4	-0.7
VIVF	**Saint-Julien-l**	**1.49**	**51**	*e*Pg	Pg	02 50 17.7	-0.9
VIVF				*e*Sg	Sg	02 50 37.3	-0.6
	0.9nm,0.2s						
LFF	**La Frestale**	**1.93**	**302**	*e*Sg	Sg	02 50 51.0	-1.2
	2.9nm,0.4s						
EPF	**Esparros**	**2.17**	**246**	*e*Pn	Pn	02 50 25.0	-2.1
EPF	**Esparros**	**2.17**	**246**	*e*Pg	Pg	02 50 30.5	-1.1
EPF				*e*Sg	Sg	02 50 58.5	-1.2
	1.3nm,0.3s						

ORF ***28*** *03:11:49.1, 1443S×1583E, h30km, mb6.1*
IDC ***28*** *03:12:05.3±1.6, 59S×151.24E, h12km±9km, mb5.3/14, mb1 5.4/16, mb1mx5.4/16, mbtmp5.3/16, ML5.0/2, MS6.3/14, Ms1 6.3/14, ms1mx6.1/20, Error ellipse: s-maj=16.8km s-min=12.3km az=68.0*
BJI ***28*** *03:12:06.7, 570S×151.10E, h34km, mB6.4, mb5.6, Ms6.5, Msz6.4*
ISCJB ***28*** *03:12:08.6±0.1, 571S×003×151.17E±0.02, h42km, mb5.8/148, MS6.5/222, Error ellipse: s-maj=3.8km s-min=3.2km az=54.6*
MOS ***28*** *03:12:08.2±1.0, 548S×151.05E, h34km, mb6.0/66, MS6.5/67, Error ellipse: s-maj=7.8km s-min=5.7km az=84.7*
NEIC ***28*** *03:12:08.8±0.1, 572S×151.13E, h34km, mb5.9/108, ME5.8, MS6.6/164, MW6.4, Error ellipse: s-maj=4.2km s-min=3.6km az=143.0, Moment Tensor Solution. s51 Moment tensor: Scale 10^18Nm; Mrr=4.06; Mθθ=4.34; Mφφ=0.28; Mrθ=1.74; Mθφ=0.06; Mφr=0.69; Best double couple: M=4.60000×10^18 NP1:φs=99.00000°, δ57.00000°, λ100.00000°. NP2:φs=262.00000°, δ34.00000°, λ75.00000°. Principal axes: T 4.5100, Plg76.0000°, Azm40.0000°; N 0.1800, Plg8.0000°, Azm274.0000°; P -4.6900, Plg11.0000°, Azm182.0000°; Broadband fault plane solution: P waves. NP1:φs257.00000°, δ27.00000°, λ70.00000°. NP2:φs100.00000°, δ65.00000°, λ100.00000°. Principal axes: T Plg68.0000°, Azm30.0000°; N Plg0.0000°, Azm0.0000°; P Plg19.0000°, Azm183.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Kimbe.
HRVD ***28*** *03:12:08.8±0.0, 599S×151.36E, h38km, MW6.5/119, Centroid moment Tensor Solution. LP body waves: s116,c298;Mantle waves: s119,c512; Half duration: 4±1 Moment tensor: Scale 10^18Nm; Mrr=5.04±.03; Mθθ=-5.44±.02; Mφφ=0.41±.02; Mrθ=2.57±.03; Mθφ=-1.84±.02; Mφr=0.18±.03; Best double couple: M=6.09400×10^18 NP1:φs=243.00000°, δ34.00000°, λ72.00000°. NP2: φs=84.00000°, δ58.00000°, λ102.00000°. Principal axes: T 5.7050, Plg74.0000°, Azm26.0000°; N 0.7890, Plg10.0000°, Azm257.0000°; P -6.4840, Plg12.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
CRAAG ***28*** *03:12:09.1, 566S×151.07E, Mw6.4*
SZGRF ***28*** *03:12:10.8, 459S×150.65E, h33km, mb6.7, New Britain, Papua New Guinea, region*
ISC 28 03:12:10.7±0.1, 571S±002×15120E±002, h44km, h44km±3.0km, pP-P, n1080, c1s12/415, mb5.8/142, MS6.5/222, 135C-25D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.44**	**227**	Pn	**Pn**	**03 13 30.0**	**+0.8**
	88nm,0.3s,baz=56,slow=7.0,SNR=109						
PMG				Sn	**Sn**	**03 14 32.3**	**+1.9**
	346nm,0.3s,baz=133,slow=18,SNR=18						
PMG	**Port Moresby**	**5.44**	**227**	*e*P	**Pn**	**03 13 30.0**	**+0.8**
PMG				*e*		03 14 34.2	
PMG				smax			
	comp=N,3μm,0.9s						
PMG	**Port Moresby**	**5.44**	**227**	*e*Pn	**Pn**	**03 13 30.0**	**+0.8**
	comp=N,3μm,0.8s						
PMG				*e*Sn	**Sn**	**03 14 34.2**	**+3.8**
HNR	**Honiara**	**9.43**	**114**	Pn	**Pn**	**03 14 22.6**	**-1.3**
	comp=N,89nm,0.3s,baz=71,slow=1.5,SNR=11						
HNR				Sn	**Sn**	**03 16 08.8**	**+0.3**
	comp=N,26nm,0.3s,baz=90,slow=19,SNR=1.4						
HNR				LR	LR	03 17 29.1	
	comp=N,154μm,21.8s,baz=341,slow=34						
HNR	**Honiara**	**9.43**	**114**	P	**Pn**	**03 14 22.6**	**-1.3**
HNR						03 16 08.8	
HNR				pmax	pmax		
	comp=Z,89nm,0.3s						
HNR				smax			
	comp=N,26nm,0.3s						
HNR				MLR	MLR		

comp=Z,154μm,21.8s
HNR Honiara 9.43 114 *e*Pn P **03 14 23.0 -0.9**
comp=Z,2μm,0.9s
CTAO Charters Tower 15.08 198 *e*P **Pn** **03 15 39.4 -1.4**
CTAO pmax pmax
comp=Z,280nm,1.1s
CTAO Charters Tower 15.08 198 *e*Pn **Pn** **03 15 39.4 -1.4**
comp=Z,277nm,1.1s
KAKA Kakadu 19.77 248↑ *i*P P **03 16 37.1 -1.8**
comp=Z,2μm,1.4s
GUMO Guam 20.18 342 P P **03 16 43.4 +1.9**
comp=Z,3μm,1.2s,baz=182,slow=5.7,SNR=42
GUMO S **S** **03 20 26.7 +1.2**
comp=Z,16nm,0.3s,baz=9.7,slow=22,SNR=1.9
GUMO LR LR 03 22 59.2
comp=Z,85μm,21.6s,MS6.1,baz=326,slow=33
GUMO Guam 20.18 342 P P **03 16 43.4 +1.9**
GUMO S **S** **03 20 26.7 +1.2**
GUMO Guam 20.18 342 P P **03 16 43.4 +1.9**
GUMO S **S** **03 20 26.7 +1.2**
GUMO LR LR 03 22 59.2
BKM Butte a Klehm 20.46 127↑ *i*P P **03 16 44.5 -0.1**
WRAB Tennant Creek 21.64 228 P P **03 16 57.0 -0.3**
comp=Z,3μm,0.9s,mb6.7,SNR=39
WRAB Tennant Creek 21.64 228 *e*P P **03 16 57.0 -0.2**
comp=Z,617nm,0.9s,mb6.0
WRAB *e*S **S** **03 20 53.2 -1.1**
WRAB LR LR
comp=Z,79μm,22.0s,MS6.1
WRA Warramunga Arr 21.66 228 P P **03 16 57.4 0.0**
comp=Z,62nm,0.6s,mb5.2,baz=52,slow=11,SNR=64
WRA S **S** **03 20 53.4 -1.3**
WRA comp=Z,240nm,1.3s,baz=54,slow=18,SNR=14 ScP ScP 03 24 33.3 +2.4
WRA comp=Z,32nm,1.0s,baz=51,slow=2.5,SNR=8.6 ScS ScS 03 28 17.1 +1.8
WRA comp=Z,4.6nm,1.2s,baz=290,slow=34,SNR=3.5 PKiKP PKiKP 03 28 44.3 +0.3
comp=Z,1.5nm,0.6s,baz=309,slow=1.1,SNR=6.9
WRA Warramunga Arr 21.66 228 P P **03 16 57.4 0.0**
WRA S **S** **03 20 53.4 -1.3**
WRA 03 28 17.1
WRA Warramunga Arr 21.66 228 P P **03 16 57.4 0.0**
WRA S **S** **03 20 53.4 -1.3**
WRA ScP ScP 03 24 33.3 +2.4
WRA ScS ScS 03 28 17.1 +1.8
DZM Mont Dzumac 21.95 139 P P **03 16 59.3 -1.3**
comp=Z,35nm,0.5s,mb5.0,baz=358,slow=8.4,SNR=34
DZM S **S** **03 21 03.2 +2.8**
comp=Z,7.5nm,0.7s,baz=211,slow=19,SNR=2.3
DZM LR LR 03 22 59.6
comp=Z,33μm,20.2s,MS5.7,baz=314,slow=30
DZM ScP ScP 03 24 34.4 +2.7
comp=Z,6.8nm,1.0s,baz=97,slow=23,SNR=2.3
DZM ScS ScS 03 28 20.4 +4.1
comp=Z,1.7nm,0.6s,baz=119,slow=19,SNR=1.9
AS31 Alice Springs 24.41 221↑ *i*P P **03 17 25.1 +0.1**
AS31 *e*ScS ScS 03 28 28.6 +2.7
ASAR Alice Springs 24.41 221 P P **03 17 25.1 +0.1**
comp=Z,129nm,0.9s,mb5.3,baz=57,slow=9.0,SNR=486
ASAR S **S** **03 21 46.5 +4.7**
comp=Z,5.3nm,0.8s,baz=253,slow=42,SNR=2.6
ASAR ScP ScP 03 24 40.6 +2.4
comp=Z,14nm,1.0s,baz=48,slow=2.3,SNR=5.7
ASAR ScS ScS 03 28 27.9 +2.0
comp=Z,2.8nm,1.1s,baz=327,slow=34,SNR=2.9
ASAR Alice Springs 24.41 221 P P **03 17 25.1 +0.1**
ASAR S **S** **03 21 46.6 +4.7**
ASAR 03 28 27.9
ASPA Alice Springs 24.42 221↑ *i*P P **03 17 25.1 +0.1**
ASPA *e*SCS ScS 03 28 28.6 +2.7
ARMA Armidale 24.58 179 *e*P P **03 17 25.3 -1.3**
ARMA *i* S **S** **03 21 47.0 +2.4**
STKA Stephens Creek 27.54 198↓ *i*P P **03 17 49.8 -3.5**
comp=Z,106nm,1.0s,mb5.4
STKA *i* S **S** **03 22 24.6 -6.8**
STKA *e*SCP ScP 03 24 48.9 +1.5
STKA Stephens Creek 27.54 198 P P **03 17 50.1 -3.2**
comp=Z,151nm,1.1s,mb5.6,baz=4.3,slow=8.1,SNR=35
STKA S **S** **03 22 29.6 -1.9**
comp=Z,9.5nm,1.0s,baz=288,slow=21,SNR=1.3
STKA ScP ScP 03 24 49.0 +1.7
comp=Z,16nm,1.1s,baz=292,slow=3.9,SNR=3.9
STKA ScS ScS 03 28 34.6 -4.5
comp=Z,3.9nm,1.0s,baz=206,slow=16,SNR=2.1
STKA LR LR 03 29 26.7
comp=Z,71μm,18.4s,MS6.3,baz=284,slow=38
RIV Riverview 27.98 180 *e*P P **03 18 00.9 +3.7**
DAV Davao City (W) 28.55 296 PFAKE 03 18 10.0 +7.8
DAV LR LR
comp=Z,40μm,19.0s,MS6.0
WAKE Wake Island 29.13 31 PFAKE 03 18 20.0 +13
WAKE LR LR
comp=Z,70μm,20.0s,MS6.3
BUKP Musuan 29.36 297 *e*P P **03 18 10.3 +0.9**
CNB Canberra Mgne 29.51 183 *e*P P **03 18 13.3 +2.5**
comp=Z,29nm,1.0s,mb5.0
SCPH Surigao 29.88 301↓ *e*P P **03 18 17.3 +3.2**
CGP Cagayan de Oro 29.94 298↓ *e*P P **03 18 15.2 +0.6**
comp=Z,1585μm,0.5s
MSLP Maasin 30.60 301 *e*P P **03 18 21.4 +0.9**
PLP Palo 31.02 303 *e*P P **03 18 24.4 +0.3**
TOO Toolangi 32.14 189 *e*P P **03 18 34.6 +0.6**
comp=Z,57nm,1.2s,mb5.3
TOO *e*S **S** **03 23 44.2 +0.7**
TOO Toolangi 32.14 189 *e*P P **03 18 34.6 +0.6**
TOO *e*S **S** **03 23 44.2 +0.7**
TOO pmax pmax
comp=Z,57nm,1.2s,mb5.3
GUIM Jordan 32.78 300 *e*P P **03 18 40.3 +0.7**
PVCP Virac 33.00 306 *e*P P **03 18 42.3 +0.8**
FORT Forrest 33.09 218 *e*P P **03 18 41.5 -0.8**
comp=Z,197nm,0.7s,mb6.2
FORT *e*S **S** **03 23 51.0 -7.2**
RCP Roxas 33.10 301↓ *e*P P **03 18 43.7 +1.3**
CBIJ Chichi jima 33.76 345 S **S** **03 24 07.1 -1.5**
comp=Z,57nm,0.8s,baz=302,slow=18,SNR=1.7
AUQP San Andres 34.06 304 *e*P P **03 18 53.8 +3.0**
OTRP Odiongan 34.11 302 *e*P P **03 18 51.7 +0.5**
MBWA Marble Bar 34.14 240↑ *i*P P **03 18 51.1 -0.4**
comp=Z,139nm,0.8s,mb5.9
MBWA LR LR
comp=Z,60μm,19.0s,MS6.3
CUYO Cuyo Island 34.26 299 *e*P P **03 18 53.2 +0.7**
TSM Tawau 34.73 286 P P **03 18 57.9 +1.3**
TSM Tawau 34.73 286 P P **03 18 57.9 +1.3**
TSM Tawau 34.73 286 P P **03 18 57.9 +1.3**
TSM Tawau 34.73 286 P P **03 18 57.9 +1.3**
POLP Polillo Island 35.41 305 *e*P P **03 19 03.3 +0.9**
ENPP El Nido 35.81 298 *e*P P **03 19 07.9 +2.1**
PPR Puerto Princes 35.82 295↑ *i*P P **03 19 07.7 +1.8**
TGY Tagaytay City 35.91 304 LR LR 03 31 17.7
comp=Z,282nm,20.7s,baz=88,slow=32
BALP Baler 36.26 306 *e*P P **03 19 09.9 +0.2**
BATP Bataraza 36.28 293 *e*P P **03 19 11.8 +1.9**
LUBP Lubang 36.30 302 *e*P P **03 19 08.9 -1.1**
CAUP Cauayan 36.74 308 *e*P P **03 19 14.4 +0.6**
KKM Kota Kinabalu 36.82 288 P P **03 19 14.9 +0.4**
KKM Kota Kinabalu 36.82 288 P P **03 19 14.9 +0.4**
KKM Kota Kinabalu 36.82 288 P P **03 19 14.9 +0.4**
KKM Kota Kinabalu 36.82 288 P P **03 19 14.9 +0.4**
KKM Kota Kinabalu 36.82 288 *e*P P **03 19 14.4 0.0**
CVP Callao Caves 37.18 309↑ *e*P P **03 19 19.0 +1.5**
TAU Tasmania Unive 37.21 185 P P **03 19 17.6 -0.1**
comp=Z,662nm,1.1s,mb6.4,SNR=7.0
TAU Tasmania Unive 37.21 185 *e*P P **03 19 17.0 -0.7**
TAU pmax pmax
comp=Z,157nm,1.1s,mb5.8
TAU MLR MLR
comp=Z,72μm,22.0s,MS6.4
TAU Tasmania Unive 37.21 185 *e*P P **03 19 17.0 -0.7**
comp=Z,157nm,1.1s,mb5.8
TAU LR LR
comp=Z,72μm,22.0s,MS6.4
AFI Afiamalu 37.34 105 S **S** **03 25 03.9 +0.4**
comp=Z,8.9nm,0.3s,baz=205,slow=23,SNR=1.7
AFI SS SS 03 27 46.9 -1.4
comp=Z,16nm,0.7s,baz=244,slow=20,SNR=1.8
AFI Afiamalu 37.34 105 PFAKE 03 19 30.0 +11
AFI LR LR
comp=Z,30μm,20.0s,MS6.1
RAO Raoul Island 37.41 132 S **S** **03 25 05.6 +1.0**
comp=Z,403nm,0.7s,baz=69,slow=22,SNR=1.5
RAO SS SS 03 27 49.8 +0.1
comp=Z,176nm,0.3s,baz=262,slow=23,SNR=2.0

RAO LR LR 03 32 44.2
comp=Z,51μm,19.0s,MS6.3,baz=325,slow=33
RAO Raoul Island 37.41 132 PFAKE 03 19 30.0 +11
RAO LR LR
comp=Z,52μm,20.0s,MS6.3
BCPH Baguio City Da 37.41 306⇑ *i*P **P** **03 19 19.3 -0.2**
SCZP Santa Cruz 37.62 305 *e*P **P** **03 19 21.5 +0.2**
APYP Conner 37.72 309 *e*P **P** **03 19 22.7 +0.6**
ABRA Dolores 38.01 308 *e*P **P** **03 19 29.3 +4.8**
URZ Urewera 40.04 148 P **P** **03 19 41.0 -0.6**
comp=Z,14nm,0.5s,mb5.0,baz=288,slow=0.8,SNR=12
URZ PcP PcP 03 21 43.7 -2.1
comp=Z,71nm,0.8s,baz=336,slow=3.1,SNR=5.8
URZ ScP ScP 03 25 31.7 +0.5
comp=Z,8.7nm,0.9s,baz=135,slow=18,SNR=2.6
URZ S **S** **03 25 45.6 +1.3**
comp=Z,14nm,0.9s,baz=131,slow=19,SNR=4.2
URZ SS SS 03 28 49.4 +6.7
comp=Z,2.4nm,0.5s,baz=354,slow=18,SNR=2.2
URZ LR LR 03 33 49.4
comp=Z,41μm,20.5s,MS6.3,baz=121,slow=32
KLBR Kellerberrin 40.53 226⇑ *i*P **P** **03 19 44.5 -1.0**
comp=Z,377nm,1.4s,mb5.8
KLBR *e*SCP ScP 03 25 35.9 +2.8
KLBR *e*S **S** **03 25 50.2 -1.3**
SNZO South Karori 41.20 153 PFAKE 03 20 00.0 +9.0
SNZO LR LR
comp=Z,73μm,20.0s,MS6.5
NACB Ninganchiao 41.41 317⇑ *i*P **P** **03 19 53.8 +1.0**
NACB *e*S **S** **03 26 11.6 +6.9**
KSM Kuching 41.45 279 *e*P **P** **03 19 53.1 0.0**
KSM *e*ScP ScP 03 25 37.8 +1.0
NWAO Narrogin (SRO) 41.62 225 *e*P **P** **03 19 53.6 -0.9**
NWAO pmax pmax
comp=Z,83nm,1.0s
NWAO MLR MLR
comp=Z,47μm,20.0s
NWAO Narrogin (SRO) 41.62 225 *e*P **P** **03 19 53.6 -0.9**
comp=Z,83nm,1.0s,mb5.3
NWAO LR LR
comp=Z,47μm,20.0s,MS6.4
RPZ Rata Peaks 41.69 158 P **P** **03 19 53.9 -1.2**
comp=Z,22nm,0.5s,mb5.1,baz=117,slow=1.9,SNR=18
RPZ S **S** **03 26 10.3 +1.5**
comp=Z,5.4nm,0.9s,baz=27,slow=22,SNR=2.3
RPZ SS SS 03 29 19.3 +3.9
comp=Z,3.8nm,0.6s,baz=357,slow=20,SNR=3.2
RPZ LR LR 03 34 45.1
comp=Z,86μm,21.9s,MS6.6,baz=310,slow=32
MUN Mundaring 41.85 227⇑ *i*P **P** **03 19 56.0 -0.4**
MUN *e*S **S** **03 26 01.3 -10**
YHNB Yeheng 41.89 317⇑ *i*P **P** **03 19 58.3 +1.6**
TATO Taipei 42.02 318 P **P** **03 19 59.0 +1.3**
TATO Taipei 42.02 318⇑ *i*P **P** **03 19 58.9 +1.2**
comp=Z,579nm,1.4s,mb6.0
TATO LR LR
comp=Z,68μm,22.0s,MS6.5
MJAR Matsushiro Arr 43.75 345 P **P** **03 20 09.2 -2.6**
comp=Z,26nm,1.2s,mb4.8,baz=163,slow=9.3,SNR=18
MJAR ScP ScP 03 25 49.7 +3.7
comp=Z,6.9nm,1.1s,baz=173,slow=5.5,SNR=5.0
MJAR S **S** **03 26 41.4 +2.3**
comp=Z,1.8nm,1.0s,baz=102,slow=32,SNR=2.4
MJAR Matsushiro Arr 43.75 345 P **P** **03 20 09.2 -2.6**
MJAR ScP ScP 03 25 49.7 +3.7
MJAR S **S** **03 26 41.4 +2.3**
MAJO Matsushiro 43.76 345 *e*P **P** **03 20 10.1 -1.7**
MAJO pmax pmax
comp=Z,147nm,1.3s,mb5.5
MAJO MLR MLR
comp=Z,48μm,19.0s,MS6.4
MAJO Matsushiro 43.76 345 *e*P **P** **03 20 10.1 -1.7**
comp=Z,147nm,1.3s,mb5.5
MAJO *e*ScP ScP 03 25 48.9 +2.9
MAJO LR LR
comp=Z,48μm,19.0s,MS6.4
MAT Matsushiro 43.76 345 P **P** **03 20 09.0 -2.8**
MAT S **S** **03 26 37.0 -2.1**
MAT Matsushiro 43.76 345 *e*P **P** **03 20 09.0 -2.8**
MAT *e*S **S** **03 26 37.0 -2.1**
MAT pmax pmax
comp=Z,97nm,1.5s,mb5.3
MAT Matsushiro 43.76 345 *e*P **P** **03 20 09.0 -2.8**
comp=Z,97nm,1.5s,mb5.3
MAT *e*S **S** **03 26 37.0 -2.1**
QZH Quanzhou 43.98 315⇑ *i*P **P** **03 20 15.0 +1.3**
QZH S **S** **03 26 44.3 +1.8**
QZH SS SS 03 29 55.0 -5.3
QZH AMB AMB
comp=Z,780nm,1.0s,mb6.4
QZH LR LR
comp=N,58μm,21.0s,MS6.7
QZH LR LR
comp=E,64μm,19.2s,MS6.7
QZH LR LR
comp=Z,83μm,21.2s,MS6.6
MIDW Midway 45.34 40 PFAKE 03 20 40.0 +16
MIDW LR LR
comp=Z,35μm,22.0s,MS6.2
HKC Hong Kong 45.70 309⇑ *i*P **P** **03 20 34.0 +6.7**
HKC *i* S **S** **03 27 09.0 +1.7**
SSE Sheshan 46.50 324 P **P** **03 20 34.8 +1.2**
SSE S **S** **03 27 22.0 +3.3**
SSE AMB AMB
comp=Z,133nm,1.2s,mb5.7
SSE AMB AMB
comp=Z,7μm,12.0s
SSE LR LR
comp=N,23μm,24.5s,MS6.3
SSE LR LR
comp=E,32μm,24.5s,MS6.3
SSE LR LR
comp=Z,45μm,24.2s,MS6.3
GZH Guangzhou 46.77 309 P **P** **03 20 36.0 +0.3**
GZH S **S** **03 27 23.0 +0.4**
GZH SS SS 03 30 37.8 -11
GZH LR LR
comp=N,19μm,19.7s,MS6.4
GZH LR LR
comp=E,43μm,20.1s,MS6.4
GZH LR LR
comp=Z,82μm,21.9s,MS6.7
QIZ Qiongzhong 47.58 302 P **P** **03 20 42.5 +0.5**
QIZ PP PP 03 22 32.8 -0.9
QIZ S **S** **03 27 35.5 +1.3**
QIZ XS sS 03 27 52.5 -2.0
QIZ LR LR
comp=E,29μm,23.7s
QIZ LR LR
comp=Z,63μm,23.2s,MS6.5
QIZ Qiongzhong 47.58 302 PFAKE 03 20 50.0 +8.0
QIZ LR LR
comp=Z,58μm,21.0s,MS6.5
KS15 Wonju Array Si 48.12 335 *e*P **P** **03 20 46.2 0.0**
KGM Kluang 48.43 278 P **P** **03 20 49.6 +1.0**
KGM Kluang 48.43 278 P **P** **03 20 49.6 +1.0**
KGM Kluang 48.43 278 P **P** **03 20 49.6 +1.0**
KGM Kluang 48.43 278 P **P** **03 20 49.6 +1.0**
NJ2 Nanjing 48.57 323 *e*P **P** **03 20 51.3 +1.6**
NJ2 AP pP 03 21 02.0 +0.1
NJ2 XP sP 03 21 08.0 +1.0
NJ2 PP PP 03 22 44.0 +1.3
NJ2 S **S** **03 27 49.0 +0.8**
NJ2 XS sS 03 28 07.0 -1.6
NJ2 AMB AMB
comp=Z,250nm,1.0s,mb6.2
NJ2 AMB AMB
comp=Z,6μm,9.7s
NJ2 LR LR
comp=N,89μm,22.1s,MS6.8
NJ2 LR LR
comp=E,63μm,18.1s,MS6.8
NJ2 LR LR
comp=Z,40μm,19.9s,MS6.4
INCN Inchon 48.69 334 *e*P **P** **03 20 51.2 +0.6**
comp=Z,590nm,1.5s,mb6.4
INCN LR LR
comp=Z,29μm,21.0s,MS6.2
YUK Yuzh-Kuril'sk 49.75 355 *e*P **P** **03 20 57.0 -1.7**
YUK *e* 03 22 18.0
YUK *e* 03 22 47.0
YUK *e*PPP 03 23 50.0
YUK *i* S **S** **03 28 21.0 +16**
YUK *e*SS SS 03 31 36.0 -1.4
YUK pmax pmax
comp=Z,5μm,8.0s
YUK MLR MLR
comp=N,34μm,20.0s,MS6.4
YUK MLR MLR
comp=Z,34μm,20.0s,MS6.3
YUK MLR MLR
comp=E,9μm,15.0s,MS6.4
RAR Rarotonga 49.88 113 S **S** **03 28 09.6 +3.0**
comp=E,27nm,1.2s,baz=191,slow=9.5,SNR=1.7
WHN Wuhan 50.43 318 P **P** **03 21 06.0 +2.2**
WHN LR LR
comp=Z,88μm,20.8s,MS6.8
IPM Ipoh 51.12 280 P **P** **03 21 10.3 +1.3**
IPM Ipoh 51.12 280 P **P** **03 21 10.3 +1.3**
IPM Ipoh 51.12 280 P **P** **03 21 10.3 +1.3**
IPM Ipoh 51.12 280 P **P** **03 21 10.3 +1.3**
KULM Kulim 51.64 281 *e*P **P** **03 21 12.6 -0.3**
VLA Vladivostok 51.66 342 *i* P **P** **03 21 12.0 -1.1**
VLA Vladivostok 51.66 342 *i* Pr 03 21 12.0
DL2 Dalian 52.16 331⇑ *i*P **P** **03 21 17.5 +0.7**
DL2 XP sP 03 21 31.0 -3.2
DL2 S **S** **03 28 39.5 +1.5**
DL2 XS sS 03 28 54.3 -4.3
DL2 AMB AMB
comp=Z,50nm,1.1s,mb5.4
DL2 AMB AMB
comp=Z,3μm,9.6s
DL2 LR LR
comp=N,10μm,17.8s,MS6.0
DL2 LR LR
comp=E,9μm,18.9s,MS6.0
DL2 LR LR
comp=Z,15μm,19.7s,MS6.0
TIA Tai'an 52.52 325⇑ *i*P **P** **03 21 19.3 -0.2**
TIA AMB AMB
comp=Z,288nm,2.0s,mb5.9
TIA AMB AMB
comp=Z,3μm,9.0s
TIA LR LR
comp=N,21μm,19.0s,MS6.4
TIA LR LR
comp=E,28μm,18.0s,MS6.4
PSI Prapat 52.89 278 ScP ScP 03 26 25.2 +0.6
comp=E,4.1nm,0.7s,baz=192,slow=5.5,SNR=4.4
PSI S **S** **03 28 49.3 +1.3**
comp=E,1.0nm,0.3s,baz=180,slow=17,SNR=2.2
YSS Yuzh-Sakhalins 52.96 353*α**e*P **P** **03 21 20.8 -1.9**
YSS *e**SP sP 03 21 40.0 -0.2
YSS *e* 03 22 32.8
YSS *e* 03 23 29.0
YSS *e*S **S** **03 28 50.0 +1.0**
YSS *i* PS 03 29 02.0
YSS pmax pmax
comp=Z,70nm,1.0s,mb5.5
YSS pmax pmax
comp=N,2μm,16.0s
YSS pmax pmax
comp=Z,4μm,16.0s
YSS MLR MLR
comp=N,28μm,19.0s,MS6.4
YSS MLR MLR
comp=E,19μm,19.0s,MS6.4
YSS MLR MLR
comp=Z,22μm,19.0s,MS6.2
YSS Yuzh-Sakhalins 52.96 353 *e*P **P** **03 21 20.9 -1.8**
comp=Z,44nm,0.9s,mb5.4
YSS LR LR
comp=Z,31μm,22.0s,MS6.3
SNY Shenyang 53.61 335⇑ P **P** **03 21 27.0 -0.5**
SNY AP pP 03 21 37.0 -2.9
SNY XP sP 03 21 41.0 -4.0
SNY PP PP 03 23 25.0 -3.4
SNY S **S** **03 29 04.0 +6.2**
SNY XS sS 03 29 16.0 -2.4
SNY SS SS 03 32 39.8 +1.2
SNY LR LR
comp=N,16μm,20.4s,MS6.4
SNY LR LR
comp=E,26μm,18.4s,MS6.4
SNY LR LR
comp=Z,32μm,19.8s,MS6.4
GYA Guiyang 53.70 309⇑ *i*P **P** **03 21 28.5 +0.4**
GYA PCP PcP 03 22 31.8 -2.1
GYA PP PP 03 23 30.5 +1.3
GYA SCP ScP 03 26 26.5 -1.7
GYA S **S** **03 29 01.0 +2.0**
GYA SS SS 03 32 32.5 -7.5
GYA AMB AMB
comp=Z,150nm,1.6s,mb5.7
GYA LR LR
comp=N,12μm,21.2s,MS6.1
GYA LR LR
comp=E,14μm,18.8s,MS6.1
GYA LR LR
comp=Z,20μm,20.3s,MS6.2
MDJ Mudanjiang 53.73 341 P **P** **03 21 28.3 -0.1**
MDJ AP pP 03 21 37.3 -3.5
MDJ XP sP 03 21 41.0 -4.9
MDJ PP PP 03 23 29.3 -0.2
MDJ SCP ScP 03 26 29.3 +1.0
MDJ PCS PcS 03 26 33.0 -0.2
MDJ S **S** **03 29 03.5 +4.1**
MDJ XS sS 03 29 16.5 -3.6
MDJ SCS ScS 03 31 15.0 +0.9
MDJ AMB AMB
comp=Z,35nm,1.2s,mb5.2
MDJ LR LR
comp=N,21μm,27.5s
MDJ LR LR
comp=E,10μm,21.0s
MDJ LR LR
comp=Z,28μm,24.3s,MS6.2
MDJ Mudanjiang 53.73 341⇑ *i*P **P** **03 21 27.7 -0.7**
comp=Z,328nm,1.8s,mb6.0
MDJ LR LR
comp=Z,28μm,21.0s,MS6.3
COCO West Island 54.01 259 P **P** **03 21 32.5 +2.1**
comp=Z,2μm,1.5s,mb6.9,SNR=5.4
COCO West Island 54.01 259 *e*P **P** **03 21 31.8 +1.4**
comp=Z,833nm,1.4s,mb6.5
COCO LR LR
comp=Z,10μm,21.0s,MS5.9
CN2 Changchun 54.49 337⇑ P **P** **03 21 33.3 -0.6**
CN2 *e*XP sP 03 21 51.0 -0.4
CN2 PCP PcP 03 22 35.8 -1.1
CN2 PP PP 03 23 37.5 +1.1
CN2 *e*S **S** **03 29 07.8 -1.9**
CN2 AMB AMB
comp=Z,70nm,1.1s,mb5.5
CN2 AMB AMB
comp=Z,5μm,12.0s
CN2 LR LR
comp=N,22μm,19.0s,MS6.3
CN2 LR LR
comp=E,17μm,19.0s,MS6.3
CN2 LR LR
comp=Z,30μm,20.0s,MS6.4
NST Nakhon Sawan 54.84 294 P **P** **03 21 37.0 +0.6**
BJT Baijiatuau 55.77 328⇑ *i*P **P** **03 21 42.9 -0.3**
BJT pmax pmax
comp=Z,237nm,1.5s
BJT MLR MLR
comp=Z,44μm,21.0s
BJT Baijiatuau 55.77 328⇑ *i*P **P** **03 21 42.9 -0.3**
comp=Z,238nm,1.5s,mb6.0
BJT LR LR
comp=Z,44μm,21.0s,MS6.5
HABR Khabarovsk 55.78 347⇑ *i*P **P** **03 21 42.6 -0.6**
HABR *e*S **S** **03 29 27.7 +0.7**
HABR pmax pmax
comp=Z,189nm,1.6s,mb5.9
HABR MLR MLR
comp=Z,21μm,17.7s,MS6.3
BJI Beijing 55.78 328 P **P** **03 21 43.0 -0.2**
BJI AP pP 03 21 57.0 +1.3
BJI PP PP 03 23 52.5 +4.5
BJI S **S** **03 29 31.0 +4.0**
BJI AMB AMB
comp=Z,45nm,1.2s,mb5.4
BJI AMB AMB
comp=Z,7μm,6.0s
BJI LR LR
comp=N,10μm,20.8s,MS6.3
BJI LR LR
comp=E,27μm,20.8s,MS6.3
BJI LR LR
comp=Z,34μm,21.6s,MS6.4
BJI Beijing 55.78 328 P **P** **03 21 43.1 -0.1**
comp=Z,45nm,1.2s,mb5.4
BJI pP pP 03 21 56.9 +1.2
BJI sP sP 03 22 02.9 +2.1
BJI PP PP 03 23 52.6 +4.6
BJI S **S** **03 29 31.0 +4.0**
BJI SS SS 03 33 19.8 +6.9
BJI LR LR
comp=Z,34μm,21.6s,MS6.4
KMI Kunming 56.19 305⇑ P **P** **03 21 48.0 +1.9**
KMI PCP PcP 03 22 45.5 +2.0
KMI PP PP 03 23 53.8 +2.2
KMI S **S** **03 29 32.5 +0.1**
KMI PS 03 29 50.8
KMI SCS ScS 03 31 29.3 -2.3
KMI SS SS 03 33 20.3 +1.0
KMI AMB AMB
comp=Z,100nm,1.6s,mb5.6
KMI AMB AMB
comp=Z,4μm,11.7s
KMI LR LR
comp=N,15μm,20.5s,MS6.3
KMI LR LR
comp=E,20μm,23.5s,MS6.3
KMI LR LR
comp=Z,30μm,22.5s,MS6.3
KMI Kunming 56.19 305⇑ P **P** **03 21 47.9 +1.8**
KMI *PP pP 03 22 02.7 +4.1
KMI 03 22 45.4
KMI 03 23 53.8
KMI PPP 03 25 12.9
KMI S **S** **03 29 32.5 +0.1**
KMI PS 03 29 50.7
KMI 03 31 29.3
KMI SS SS 03 33 20.3 +1.0
KMI SSS 03 35 29.7
KMI pmax pmax
comp=Z,100nm,1.6s,mb5.6
KMI MLR MLR
comp=Z,30μm,22.5s,MS6.3
KMI Kunming 56.19 305⇑ P **P** **03 21 47.9 +1.8**
comp=Z,100nm,1.6s,mb5.6
KMI pP pP 03 22 02.7 +4.1
KMI sP sP 03 22 08.4 +4.7
KMI PcP PcP 03 22 45.4 +1.9
KMI PP PP 03 23 53.8 +2.2
KMI PPP 03 25 12.9
KMI S **S** **03 29 32.5 +0.1**
KMI PS 03 29 50.7
KMI sS sS 03 29 57.6 +4.4
KMI ScS ScS 03 31 29.3 -2.3
KMI SS SS 03 33 20.3 +1.0
KMI SSS 03 35 29.7
KMI LR LR
comp=Z,30μm,22.5s,MS6.3
XAN Xi'an 56.20 318 P **P** **03 21 46.0 -0.2**
XAN AP pP 03 21 58.0 -0.7
XAN PP PP 03 23 51.0 -0.7
XAN S **S** **03 29 31.5 -1.0**
XAN SS SS 03 33 19.3 -0.1
XAN AMB AMB
comp=Z,56nm,1.0s,mb5.5
XAN LR LR
comp=N,12μm,20.9s,MS6.2
XAN LR LR
comp=E,16μm,19.5s,MS6.2
XAN LR LR
comp=Z,38μm,20.4s,MS6.5
SKR Severo-Kuril's 56.32 4 *e*P **P** **03 21 40.0 -7.1**
SKR *e* 03 22 38.0
SKR *e* 03 23 58.0
SKR *e*S **S** **03 29 28.0 -6.2**
SKR pmax pmax
comp=N,3μm,16.0s
SKR pmax pmax
comp=E,3μm,16.0s
SKR pmax pmax
comp=Z,6μm,16.0s
SKR MLR MLR
comp=N,27μm,18.0s,MS6.4
SKR MLR MLR
comp=E,14μm,18.0s,MS6.4
SKR MLR MLR
comp=Z,39μm,18.0s,MS6.5
HON Honolulu 56.59 60 P **P** **03 21 49.9 +0.9**
HON Honolulu 56.59 60 *e*P **P** **03 21 49.8 +0.8**
KIP Kipapa 56.61 60 *e*P **P** **03 21 50.3 +1.2**
KIP pmax pmax
comp=Z,593nm,1.1s,mb6.5
KIP MLR MLR
comp=Z,33μm,21.0s,MS6.4
KIP Kipapa 56.61 60 *e*P **P** **03 21 50.3 +1.1**
comp=Z,593nm,1.1s,mb6.5
KIP LR LR
comp=Z,33μm,21.0s,MS6.4
CHG Chiang Mai 56.95 297⇓ P **P** **03 21 52.8 +1.2**
comp=Z,54nm,0.9s,mb5.6
CHTO Chiang Mai 56.95 297⇑ *i*P **P** **03 21 51.5 -0.1**
CHTO pmax pmax
comp=Z,118nm,1.5s,mb5.7
CHTO MLR MLR
comp=Z,14μm,19.0s,MS6.1
CHTO Chiang Mai 56.95 297⇑ *i*P **P** **03 21 51.5 -0.1**
comp=Z,118nm,1.5s,mb5.7
CHTO LR LR
comp=Z,14μm,19.0s,MS6.1
KLR Kul'dur 57.28 345⇓ *i*P **P** **03 21 49.6 -4.3**
KLR *e*S sS 03 30 03.5 -4.2
KLR pmax pmax
comp=Z,230nm,2.0s,mb5.9
KLR pmax pmax
comp=N,2μm,10.0s
KLR pmax pmax
comp=E,1μm,10.0s
KLR pmax pmax
comp=Z,5μm,10.0s
KLR MLR MLR
comp=E,12μm,18.0s
HKL Haleakala 57.87 61 *e*P **P** **03 21 59.9 +1.9**
CD2 Chengdu 58.13 312 P **P** **03 22 00.5 +0.6**
CD2 AP pP 03 22 11.8 -0.6
CD2 PP PP 03 24 11.0 +2.1
CD2 PPP 03 25 32.3
CD2 S **S** **03 29 57.0 -1.0**
CD2 XS sS 03 30 15.8 -3.0
CD2 SS SS 03 33 50.3 +0.4
CD2 AMB AMB
comp=Z,50nm,1.3s,mb5.4
CD2 LR LR
comp=N,23μm,21.6s
CD2 LR LR
comp=Z,32μm,22.2s,MS6.4
POHA Pohakuloa 58.17 63 PFAKE 03 22 10.0 +10
POHA LR LR
comp=Z,38μm,20.0s,MS6.5
PET Petropavlovsk 58.85 5*c i*P **P** **03 22 02.4 -2.4**
PET *e* 03 24 14.3
PET *e*S **S** **03 29 58.9 -8.4**
PET *e*SS SS 03 33 57.8 -3.3
PET *e*SSS 03 36 21.4
PET pmax pmax
comp=Z,45nm,1.5s,mb5.3
PET pmax pmax
comp=E,400nm,11.0s
PET pmax pmax
comp=Z,6μm,18.9s
PET pmax pmax
comp=N,3μm,18.7s
PET pmax pmax
comp=E,500nm,8.4s
PET pmax pmax
comp=N,2μm,18.1s
PET pmax pmax
comp=Z,2μm,16.0s
PET smax
comp=E,1μm,12.8s
PET Petropavlovsk 58.85 5 *e*P **P** **03 22 04.6 -0.2**
comp=E,29nm,0.7s,mb5.4
PET LR LR
comp=Z,24μm,21.0s,MS6.3
HHC Hu-ho-hao-te 58.87 326⇑ *i*P **P** **03 22 05.5 +0.5**
HHC AP pP 03 22 16.0 -1.5
HHC XP sP 03 22 19.8 -2.8

HHC PCP PcP 03 22 54.5 +0.5
HHC PP PP 03 24 18.3 +2.9
HHC SCP ScP 03 26 50.5 -0.4
HHC PCS PcS 03 26 53.0 -2.8
HHC S **S** **03 30 08.3 +0.7**
HHC XS sS 03 30 25.0 -3.5
HHC PS 03 30 27.5
HHC SS SS 03 34 03.5 +2.1
HHC AMB AMB
comp=Z,102nm,1.4s,mb5.7
HHC LR LR
comp=N,27µm,18.4s,MS6.5
HHC LR LR
comp=E,25µm,18.6s,MS6.5
HHC LR LR
comp=Z,47µm,19.2s,MS6.6
PPT Papeete 58.98 107 *e*P **P** **03 22 07.2 +1.5**
comp=Z,112nm,1.3s,mb5.7
PPT Papeete 58.98 107 *e*LQ 03 36 57.6
comp=Z,66µm,30.5s
PPT Papeete 58.98 107 *e*PP PP 03 24 09.5 -6.9
comp=Z,3µm,24.0s
PPT Papeete 58.98 107 *e*S **S** **03 30 08.9 -0.1**
PPT *e*SS SS 03 34 07.4 +4.3
comp=Z,9µm,28.8s
PPT *e*LR LR 03 39 26.9
comp=Z,15µm,25.2s
PPT Papeete 58.98 107 S **S** **03 30 14.7 +5.7**
comp=Z,15nm,0.5s,baz=15,slow=18,SNR=2.3
PAE Paea 58.98 107 *e*P **P** **03 22 07.0 +1.2**
comp=Z,178nm,1.1s,mb6.0
TVO Taravao 59.30 107 *e*P **P** **03 22 09.6 +1.6**
comp=Z,337nm,1.3s,mb6.2
BTO Baotou 59.59 324 *e*P **P** **03 22 09.5 -0.5**
BTO AMB AMB
comp=Z,119nm,2.4s,mb5.5
TBI Tubuai 59.65 114 *e*LQ 03 37 27.7
comp=Z,80µm,33.2s
TBI Tubuai 59.65 114 *e*P **P** **03 22 11.0 +0.6**
comp=Z,280nm,1.2s,mb6.2
TBI Tubuai 59.65 114 *e*PP PP 03 24 19.8 -2.5
comp=Z,2µm,26.2s
TBI Tubuai 59.65 114 *e*S **S** **03 30 17.0 -0.6**
comp=Z,24µm,28.5s
TBI *e*SS SS 03 34 16.4 +2.8
comp=Z,11µm,26.5s
TBI *e*LR LR 03 39 57.2
comp=Z,19µm,33.2s,baz=280
PMOR Pomariorio Ree 60.46 104 *e*P **P** **03 22 17.6 +1.7**
comp=Z,259nm,1.2s,mb6.1
PBA Port Blair 60.65 287 *ex* x 03 21 53.5
PBA *ex* x 03 21 54.6
comp=Z,127nm,1.3s
LZH Lanzhou 60.78 317 ⇑P **P** **03 22 19.3 +1.2**
LZH PP PP 03 24 37.0 +4.7
LZH S **S** **03 30 31.0 -1.2**
LZH SS SS 03 34 33.0 +1.5
LZH AMB AMB
comp=Z,275nm,1.3s,mb6.2
LZH AMB AMB
comp=Z,2µm,7.5s
LZH LR LR
comp=E,15µm,16.6s
LZH LR LR
comp=Z,36µm,20.1s,MS6.5
LZH Lanzhou 60.78 317 ⇑P **P** **03 22 19.2 +1.1**
LZH *PP pP 03 22 34.2 +3.5
LZH 03 24 37.0
LZH S **S** **03 30 31.0 -1.2**
LZH PS 03 30 56.0
LZH *SS sS 03 30 58.0 +4.8
LZH SS SS 03 34 33.0 +1.5
LZH pmax pmax
comp=Z,275nm,1.3s,mb6.2
LZH MLR MLR
comp=Z,36µm,20.1s,MS6.5
LZH Lanzhou 60.78 317 ⇑P **P** **03 22 19.2 +1.1**
comp=Z,275nm,1.3s,mb6.2
LZH pP pP 03 22 34.2 +3.5
LZH sP sP 03 22 41.4 +5.6
LZH PP PP 03 24 37.0 +4.7
LZH S **S** **03 30 31.0 -1.2**
LZH PS 03 30 56.0
LZH sS sS 03 30 58.0 +4.8
LZH SS SS 03 34 33.0 +1.5
LZH LR LR
comp=Z,36µm,20.1s,MS6.5
HIA Hailar 61.22 337 ⇑*i*P **P** **03 22 20.8 -0.3**
HIA pmax pmax
comp=Z,81nm,0.8s
HIA MLR MLR
comp=Z,26µm,20.0s
HIA Hailar 61.22 337 ⇑*i*P **P** **03 22 20.8 -0.4**
comp=Z,81nm,0.8s,mb5.9
HIA LR LR
comp=Z,26µm,20.0s,MS6.4
DRV Dumont d'Urvil 61.35 185 P pP 03 22 32.0 -2.6
DRV S **S** **03 30 35.0 -4.4**
DRV L 03 37 00.0
DRV R 03 42 00.0
SMY Shemya 61.38 16 PFAKE 03 22 30.0 +7.8
SMY LR LR
comp=Z,73µm,22.0s,MS6.8
MA2 Magadan 65.08 360*c i*P **P** **03 22 44.4 -2.3**
MA2 *e* 03 25 04.5
MA2 *e*S S 03 31 22.4 -3.5
MA2 *e*SS SS 03 35 42.7 +4.1
MA2 pmax pmax
comp=Z,100nm,0.9s,mb5.8
MA2 MLR MLR
comp=Z,44µm,19.8s,MS6.7
MA2 Magadan 65.08 360 ⇑*i*P **P** **03 22 44.5 -2.1**
comp=Z,47nm,0.7s,mb5.6
MA2 LR LR
comp=Z,28µm,20.0s,MS6.5
GTA Gaotai 65.25 318 *e*P **P** **03 22 48.3 +0.5**
GTA AP pP 03 23 00.5 0.0
GTA XP sP 03 23 04.5 -1.0
GTA PP PP 03 25 11.0 -0.7
GTA S S 03 31 26.5 -1.5
GTA XS sS 03 31 43.3 -5.9
GTA PS 03 31 51.8
GTA SCS ScS 03 32 38.5 -0.9
GTA SS SS 03 35 40.3 -1.0
GTA AMB AMB
comp=Z,28nm,1.7s,mb5.0
GTA LR LR
comp=N,10µm,20.9s,MS6.3
GTA LR LR
comp=E,18µm,19.8s,MS6.3
GTA LR LR
comp=Z,24µm,20.9s,MS6.4
SHL Shillong 65.40 301 *e*P **P** **03 22 48.5 -0.3**
NRGR Nerungri 65.83 344 *e*P **P** **03 22 51.3 -0.2**
NRGR S sS 03 31 56.4 +0.2
NRGR pmax pmax
comp=Z,40nm,0.4s,mb5.8
CIT Chita 65.85 336 *e*P **P** **03 22 51.5 -0.1**
CIT *e* 03 23 07.2
CIT *e* 03 23 23.7
CIT pmax pmax
comp=Z,232nm,2.1s,mb5.8
ULN Ulaanbaatar 65.94 329 ⇑*i*P **P** **03 22 52.7 +0.5**
ULN pmax pmax
comp=Z,89nm,1.0s,mb5.8
ULN MLR MLR
comp=Z,29µm,20.0s,MS6.5
ULN Ulaanbaatar 65.94 329 ⇑*i*P **P** **03 22 52.7 +0.4**
comp=Z,89nm,1.0s,mb5.8
ULN LR LR
comp=Z,29µm,20.0s,MS6.5
CLNS Chul'man 65.94 345 *e*P **P** **03 22 51.2 -1.0**
CLNS *e**PP pP 03 22 58.2 -6.7
CLNS *e* 03 23 22.7
CLNS *e* 03 25 11.8
CLNS *e*S S 03 31 30.6 -5.8
CLNS *e* 03 32 42.5
CLNS pmax pmax
comp=Z,100nm,0.9s,mb5.8
CLNS pmax pmax
comp=N,65nm,1.1s
CLNS pmax pmax
comp=E,28nm,0.6s
CLNS pmax pmax
comp=Z,22nm,1.0s,mb5.1
CLNS pmax pmax
comp=N,13nm,1.1s
CLNS pmax pmax
comp=E,15nm,0.9s
CLNS smax
comp=E,2µm,11.7s
CLNS smax
comp=Z,3µm,11.2s
CLNS smax
comp=N,1µm,11.4s
CLNS MLR MLR
comp=E,5µm,17.0s,MS5.9
CLNS MLR MLR
comp=Z,15µm,17.0s,MS6.3
CLNS MLR MLR
comp=N,3µm,16.0s,MS5.9
SONM Songino Array 66.25 329 P **P** **03 22 54.3 0.0**
comp=N,74nm,0.9s,mb5.7,baz=137,slow=5.7,SNR=153
SONM S S 03 31 40.7 +0.5
comp=N,0.3nm,0.3s,baz=288,slow=18,SNR=3.0
SONM PKPPKP 03 51 24.9
comp=N,0.8nm,0.9s,baz=298,slow=3.2,SNR=3.0
SONM PKP2bc 03 51 30.8
comp=N,5.4nm,0.9s,baz=316,slow=3.1,SNR=14
SONM LR LR 03 51 32.3
comp=N,43µm,20.8s,MS6.6,baz=135,slow=36
SONM Songino Array 66.25 329 P **P** **03 22 54.3 0.0**
SONM S S 03 31 40.7 +0.4
SONM Songino Array 66.25 329 P **P** **03 22 54.3 0.0**
SONM S S 03 31 40.7 +0.5
SONM P'P' 03 51 24.9
SONM ⇑*e* 03 51 30.8
SONM LR LR 03 51 32.2
CASY Casey 66.69 197 ⇑*i*P **P** **03 22 56.1 -0.9**
CASY *i* S S 03 31 43.4 -2.1
LSA Lhasa 67.45 305 P **P** **03 23 03.0 +1.2**
LSA Lhasa 67.45 305 ⇑*i*P **P** **03 23 02.9 +1.1**
LSA pmax pmax
comp=Z,301nm,1.4s,mb6.1
LSA MLR MLR
comp=Z,19µm,22.0s,MS6.3
LSA Lhasa 67.45 305 ⇑*i*P **P** **03 23 02.9 +1.1**
comp=Z,301nm,1.4s,mb6.1
LSA LR LR
comp=Z,19µm,22.0s,MS6.3
CAL Calcutta 67.55 297 *e*P **P** **03 23 00.3 -2.2**
CAL *ex* x 03 27 11.1
CAL *e*S S 03 31 55.5 -0.4
CAL AMP 03 49 09.9
comp=Z,10µm,24.6s
ZAK Zakamensk 69.45 330 *e*P **P** **03 23 14.0 -0.3**
ZAK pmax pmax
comp=Z,187nm,1.9s,mb5.7
YAK Yakutsk 69.55 349 *e*P **P** **03 23 13.7 -1.3**
YAK pmax pmax
comp=Z,226nm,1.1s,mb6.0
YAK MLR MLR
comp=Z,26µm,22.0s,MS6.4
YAK Yakutsk 69.55 349 *e*P **P** **03 23 13.7 -1.3**
comp=Z,226nm,1.1s,mb6.0
YAK LR LR
comp=Z,26µm,22.0s,MS6.4
AKUT Akutan 69.62 25 *e*P **P** **03 23 15.0 -0.5**
BOK Bokaro 70.06 298 *e*P **P** **03 23 18.1 0.0**
BOK *ex* x 03 23 25.7
BOK AMb AMB 03 23 25.9
comp=Z,78nm,1.3s,mb5.5
BOK AMS AMS 03 52 57.2
comp=Z,13µm,24.1s,MS6.1
TLY Talaya 70.07 331 P **P** **03 23 18.2 0.0**
comp=Z,252nm,1.1s,mb6.1,SNR=17
TLY Talaya 70.07 331 *e*P **P** **03 23 17.2 -1.0**
TLY *e*PPP 03 27 31.4
TLY *e*S S 03 32 15.5 -10
TLY *e*PS 03 32 48.7
TLY *e* 03 33 06.9
TLY *e*SSS 03 40 02.1
TLY pmax pmax
comp=Z,54nm,1.1s,mb5.4
TLY Talaya 70.07 331 ⇑*i*P **P** **03 23 17.9 -0.3**
comp=Z,49nm,1.0s,mb5.4
TLY LR LR
comp=Z,33µm,22.0s,MS6.5
BOD Bodaibo 70.08 340 ⇓*i*P **P** **03 23 16.3 -1.9**
BOD pmax pmax
comp=Z,69nm,1.3s,mb5.4
IRK Irkutsk 70.13 331 ⇑*i*P **P** **03 23 17.7 -0.8**
IRK *e* 03 23 35.4
IRK *e* 03 25 48.6
IRK pmax pmax
comp=Z,171nm,3.9s
VIS Vishakhapatnam 70.89 291 *e*P **P** **03 23 21.6 -1.6**
VIS *ex* x 03 23 28.4
VIS AMS AMS 03 58 10.4
comp=Z,7µm,23.5s,MS5.9
JIRN Jiri 70.90 302 *e*P **P** **03 23 22.6 -0.6**
comp=Z,637nm,1.7s,mb6.3
GUN Gumba 71.23 302 *e*P **P** **03 23 25.1 -0.2**
comp=Z,212nm,0.8s,mb6.1
MOY Mondy 71.38 330 *e*P **P** **03 23 26.4 +0.3**
MOY pmax pmax
comp=Z,294nm,3.6s
PALK Pallekele 71.51 280 *e*P **P** **03 23 29.6 +2.7**
comp=Z,52nm,1.0s,mb5.4
PALK LR LR
comp=Z,6µm,22.0s,MS5.8
PKI Pulchoki 71.53 301 *e*P **P** **03 23 26.8 -0.3**
comp=Z,434nm,1.4s,mb6.2
PKI Pulchoki 71.53 301 *e*P **P** **03 23 26.8 -0.3**
PKI pmax pmax
comp=Z,434nm,1.4s,mb6.2
KKN Kakani 71.71 302 *e*P **P** **03 23 27.9 -0.2**
comp=Z,376nm,1.3s,mb6.2
KKN Kakani 71.71 302 *e*P **P** **03 23 27.9 -0.2**
KKN pmax pmax
comp=Z,376nm,1.3s,mb6.2
DMN Daman 71.80 301 *e*P **P** **03 23 28.8 +0.1**
comp=Z,670nm,1.3s,mb6.4
VNDA Vanda 71.99 178 P **P** **03 23 29.2 -0.6**
comp=Z,26nm,0.9s,mb5.2,baz=332,slow=6.4,SNR=115
VNDA S S 03 32 50.9 +2.9
comp=Z,0.6nm,0.9s,baz=248,slow=18,SNR=2.9
VNDA SS SS 03 37 32.5 +7.1
comp=Z,0.3nm,0.8s,baz=238,slow=14,SNR=1.6
VNDA SSS 03 40 53.6
comp=Z,0.6nm,1.0s,baz=14,slow=2.3,SNR=2.0
VNDA Vanda 71.99 178 P **P** **03 23 29.2 -0.6**
VNDA S S 03 32 50.9 +2.9
VNDA SS SS 03 37 32.5 +7.2
VNDA pmax pmax
comp=Z,26nm,0.9s
VNDA smax
comp=N,1.0nm,0.9s
VNDA Vanda 71.99 178 *e*P **P** **03 23 29.1 -0.7**
comp=N,74nm,1.3s,mb5.5
VNDA LR LR
comp=Z,15µm,19.0s,MS6.3
GKN Gorkha 72.31 302 *e*P **P** **03 23 31.3 -0.4**
comp=Z,655nm,1.2s,mb6.4
MIR Mirnyy 72.51 201*c i*P **P** **03 23 34.0 +1.1**
MIR *e* 03 26 12.0
MIR *e*PS 03 32 54.0
MIR pmax pmax
comp=Z,6µm,16.0s
SBA Scott Base 72.56 177 *e*P **P** **03 23 33.3 +0.1**
SBA pmax pmax
comp=Z,154nm,1.6s,mb5.7
SBA MLR MLR
comp=Z,8µm,20.0s,MS6.0
SBA Scott Base 72.56 177 *e*P **P** **03 23 33.3 0.0**
comp=Z,154nm,1.6s,mb5.7
SBA LR LR
comp=Z,8µm,20.0s,MS6.0
SDPT Sand Point 72.73 27 *e*P **P** **03 23 33.3 -1.0**
RKT Rikitea 72.92 112 *e*P **P** **03 23 35.6 +0.3**
comp=Z,153nm,1.1s,mb5.8
RKT Rikitea 72.92 112 *e*LQ 03 43 00.3
comp=Z,27µm,37.0s
RKT Rikitea 72.92 112 *e*PP PP 03 26 13.8 -4.1
comp=Z,2µm,26.8s
RKT Rikitea 72.92 112 *e*S S 03 32 58.4 -0.2
comp=Z,9µm,30.0s
RKT *e*SS SS 03 37 40.2 +0.7
comp=Z,8µm,33.2s
RKT *e*LR LR 03 46 10.2
comp=Z,20µm,28.2s,baz=279
BLSP Bilaspur 72.98 295 *e*P **P** **03 23 37.2 +1.5**
KOLN Koldanda 73.13 301 *e*P **P** **03 23 36.1 -0.5**
comp=Z,341nm,1.1s,mb6.2
BILL Bilibino 74.34 6*c i*P **P** **03 23 41.5 -2.2**
BILL *e* pP 03 23 56.5 -0.1
BILL *e* 03 26 31.7
BILL *i* S S 03 33 12.5 -2.2
BILL pmax pmax
comp=Z,107nm,2.5s,mb5.3
BILL Bilibino 74.34 6⇑*i*P **P** **03 23 41.9 -1.8**
comp=Z,49nm,0.8s,mb5.5
BILL LR LR
comp=Z,14µm,19.0s,MS6.3
JBP Jabalpur 75.15 296⇑*e*P **P** **03 23 48.0 -0.3**
JBP *ex* x 03 23 53.0
comp=Z,125nm,1.7s
JBP *i* S S 03 33 20.6 -3.1
HYB Hyderabad 75.29 290 *i* P **P** **03 23 48.0 -1.1**
HYB *e*S S 03 33 22.0 -3.2
HYB LR LR 04 01 08.0
comp=Z,13nm,20.0s
HYB Hyderabad 75.29 290 *e*P **P** **03 23 48.0 -1.1**
HYB *e*S S 03 33 20.0 -5.2
WMQ Urumqi 75.34 318 ⇑*i*P **P** **03 23 49.5 +0.1**
WMQ AP pP 03 24 01.3 -1.1
WMQ PCP PcP 03 24 03.0 +0.5
WMQ XP sP 03 24 06.3 -1.0
WMQ PP PP 03 26 40.5 +2.0
WMQ S S 03 33 24.3 -1.4
WMQ XS sS 03 33 43.0 -4.3
WMQ AMB AMB
comp=Z,48nm,1.5s,mb5.2
WMQ AMB AMB
comp=Z,3µm,8.9s
WMQ LR LR
comp=N,11µm,18.0s,MS6.3
WMQ LR LR
comp=E,9µm,20.6s,MS6.3
WMQ LR LR
comp=Z,13µm,22.9s,MS6.2
TRD Trivandrum 75.36 280 AMS AMS 03 59 26.5
comp=Z,7µm,26.9s,MS5.8
NGP Nagpur 75.56 293 *e*P **P** **03 23 50.0 -0.8**
NGP *e*S S 03 33 27.9 -0.4
NGP *ex* x 03 56 41.8
comp=Z,10µm,22.2s
LGTI Lohaghat 76.42 302 *i* P **P** **03 23 55.0 -0.6**
AKL Akola 77.34 293 *i* x x 03 23 30.7
AKL *i* x x 03 32 35.8
PTCN Pitcairn Islan 77.39 114 PFAKE 03 24 10.0 +9.0
PTCN LR LR
comp=Z,9µm,22.0s,MS6.1
KDAK Kodiak Island 77.70 27 P **P** **03 24 02.3 -0.5**
comp=Z,305nm,1.3s,mb6.1,SNR=9.0
KDAK Kodiak Island 77.70 27 LR LR 03 54 42.1
comp=Z,17µm,21.6s,MS6.3,baz=235,slow=33
KDAK Kodiak Island 77.70 27⇑*i*P **P** **03 24 01.5 -1.3**
comp=Z,43nm,0.8s,mb5.4
KDAK LR LR
comp=Z,5µm,19.0s,MS5.8
DGAR Diego Garcia 78.16 264 PFAKE 03 24 20.0 +15
DGAR LR LR
comp=Z,9µm,22.0s,MS6.1
SVW2 Sparrevohn 78.28 23 *e*P **P** **03 24 05.8 -0.2**
TIXI Tiksi 78.59 353 *e*P **P** **03 24 02.1 -5.6**
TIXI *e*S S 03 33 54.0 -7.2
TIXI *e*SS SS 03 39 02.5 -2.9
TIXI *e*SSS 03 42 23.3
TIXI pmax pmax
comp=N,9.0nm,1.1s
TIXI pmax pmax
comp=Z,45nm,1.1s,mb5.3
TIXI pmax pmax
comp=E,14nm,1.2s
TIXI pmax pmax
comp=Z,2µm,5.6s
TIXI smax
comp=N,6µm,14.5s
TIXI smax
comp=E,2µm,20.8s
TIXI Tiksi 78.59 353⇑*i*P **P** **03 24 05.0 -2.7**
TIXI LR LR
comp=Z,14µm,19.0s,MS6.3
NDI New Delhi 78.81 301⇑*i*P **P** **03 24 06.0 -2.9**
NDI *ex* x 03 33 58.5
TTA Tatalina 79.19 22 *e*P **P** **03 24 10.0 -1.0**
TTA pmax pmax
comp=Z,80nm,0.9s,mb5.7
TTA Tatalina 79.19 22 *e*P **P** **03 24 10.0 -1.0**
comp=Z,80nm,0.9s,mb5.7
KAD Karad 79.38 289 *e*P **P** **03 24 12.1 0.0**
KAD *ex* x 03 24 16.8
KAD AMb AMB 03 24 17.1
comp=Z,150nm,0.9s,mb5.9
KAD AMS AMS 04 03 30.6
comp=Z,5µm,18.3s,MS5.9
POO Poona 79.89 290⇓*i*P **P** **03 24 13.0 -1.8**
comp=Z,109nm,1.1s,mb5.7
POO AMb AMB 03 24 53.7
comp=Z,103nm,1.4s,mb5.6
POO *ex* x 03 27 11.5
POO *ex* x 03 34 08.0
POO *e*SKS 03 34 23.5
POO *i* PS 03 34 49.0
POO *i* PPS 03 35 08.5
POO *i* SSS 03 42 30.0
MK31 Makanchi Array 79.97 319 P **P** **03 24 14.2 -1.0**
MK31 S PP 03 27 13.7 -3.6
MK31 pmax pmax
comp=Z,55nm,1.1s,mb5.4
MKAR Makanchi Array 79.97 319 P **P** **03 24 14.6 -0.7**
comp=Z,17nm,0.9s,mb5.0,baz=100,slow=6.7,SNR=53
MKAR PP PP 03 27 16.0 -1.3
comp=Z,4.4nm,0.9s,baz=110,slow=11,SNR=2.1
MKAR S S 03 34 17.9 +2.2
comp=Z,0.2nm,0.3s,baz=119,slow=46,SNR=2.9
MKAR SS SS 03 39 25.8 -0.3
comp=Z,0.3nm,0.6s,baz=323,slow=1.8,SNR=2.9
MKAR PKKPbc PKKPbc 03 42 59.5 -0.4
comp=Z,2.1nm,0.8s,baz=298,slow=2.6,SNR=12
MKAR Makanchi Array 79.97 319 P **P** **03 24 14.6 -0.6**
MKAR 03 27 16.0
MKAR S S 03 34 18.0 +2.2
MKAR SS SS 03 39 25.8 -0.3
MKAR Makanchi Array 79.97 319 P **P** **03 24 14.6 -0.7**
MKAR PP PP 03 27 16.0 -1.3
MKAR S S 03 34 17.9 +2.2
MKAR SS SS 03 39 25.8 -0.3
MKAR PKKPbc PKKPbc 03 42 59.5 -0.4
SLKM Skilak Lake 80.16 25 P **P** **03 24 14.8 -1.5**
SLKM Skilak Lake 80.16 25 *e*P **P** **03 24 14.6 -1.7**
AJM Ajmer 80.59 298 *e*P **P** **03 24 17.9 -0.7**
AJM AMb AMB 03 24 23.5
comp=Z,212nm,1.1s,mb6.0
AJM AMS AMS 03 58 11.4
comp=Z,9µm,23.0s,MS6.0
BOM Bombay 80.92 290 *e*P **P** **03 24 18.7 -1.7**
BOM *ex* x 03 24 26.0
comp=Z,118nm,1.5s
ZAL Zalesovo 81.03 327 P **P** **03 24 19.2 -1.7**
comp=Z,22nm,0.8s,mb5.1,baz=4.4,slow=6.3,SNR=42
ZAL PP PP 03 27 22.4 -3.8
comp=Z,3.7nm,0.8s,baz=280,slow=6.7,SNR=2.3
ZAL S S 03 34 24.2 -2.7
comp=Z,1.0nm,0.3s,baz=296,slow=7.7,SNR=1.7
ZAL PKKPbc PKKPbc 03 42 57.0 -0.4
comp=Z,1.2nm,0.4s,baz=139,slow=7.7,SNR=4.5
PMR Palmer 81.17 25 *e*P **P** **03 24 19.5 -2.2**
PMR pmax pmax
comp=Z,52nm,1.4s,mb5.3
PMR MLR MLR
comp=Z,16µm,20.0s,MS6.4
PMR Palmer 81.17 25 *e*P **P** **03 24 19.5 -2.2**
comp=Z,52nm,1.4s,mb5.3
PMR LR LR
comp=Z,16µm,20.0s,MS6.4
EYAK Cordova Ski Ar 82.13 26 *e*P **P** **03 24 25.2 -1.5**
NVS Novosibirsk 82.22 327⇑*i*P **P** **03 24 24.2 -3.0**
NVS *e*S S 03 34 37.3 -1.9
NVS pmax pmax
comp=Z,456nm,2.3s,mb6.0
NVS pmax pmax
comp=N,48nm,1.5s
NVS pmax pmax

comp=E,91nm,1.4s
NVS smax
comp=E,294nm,3.4s
KSH Kashi 82.32 311 ⇑*i*P **P** 03 24 28.0 **+0.3**
KSH *e*AP pP 03 24 41.3 +0.5
KSH *e*XP sP 03 24 46.3 +0.6
KSH *e*PP PP 03 27 38.3 +1.6
KSH *e*PPP 03 29 29.8
KSH *e*S S 03 34 36.0 -4.2
KSH *e*SKS 03 34 40.5
KSH XS sS 03 35 00.3 -1.8
KSH *e*PS 03 35 34.0
KSH *e*SS SS 03 40 02.3 +1.1
KSH AMB AMB
comp=Z,648nm,2.4s,mb6.1
KSH LR LR
comp=N,12µm,17.4s,MS6.6
KSH LR LR
comp=E,19µm,19.6s,MS6.6
KSH LR LR
comp=Z,19µm,23.4s,MS6.4
COLA College 83.28 22 *e*P **P** **03 24 29.7 -3.0**
comp=Z,54nm,0.7s,mb5.7
COLA LR LR
comp=Z,21µm,20.0s,MS6.5
KURK Kurchatov 83.50 322 P **P** **03 24 32.4 -1.5**
comp=Z,514nm,1.2s,mb6.5,SNR=56
KURK Kurchatov 83.50 322 ⇑*i*P **P** **03 24 32.4 -1.5**
comp=Z,158nm,1.3s,mb6.0
KURK LR LR
comp=Z,26µm,20.0s,MS6.6
ILAR Eielson Array 83.60 22 P **P** **03 24 31.4 -2.9**
comp=Z,42nm,0.6s,mb5.7,baz=250,slow=5.4,SNR=138
ILAR PKKPbc PKKPbc 03 42 51.5 -0.1
comp=Z,1.0nm,0.6s,baz=346,slow=1.3,SNR=16
MENT Mentasta 84.03 25 *e*P **P** **03 24 36.2 -0.4**
FRU Bishkek 84.09 314 *i* P **P** **03 24 37.0 +0.1**
FRU *e* 03 27 54.0
FRU *e*S 03 34 55.0
FRU *e*PS 03 35 50.0
FRU pmax pmax
comp=Z,510nm,2.1s,mb6.3
FRU MLR MLR
comp=N,14µm,21.0s,MS6.5
FRU MLR MLR
comp=E,14µm,21.0s,MS6.5
FRU MLR MLR
comp=Z,12µm,21.0s,MS6.2
AAK Ala-Archa 84.14 314 PFAKE 03 24 50.0 +13
AAK LR LR
comp=Z,21µm,21.0s,MS6.5
QSPA South Pole Qui 84.26 180 ⇑*i*P **P** **03 24 37.0 -0.7**
comp=Z,180nm,1.1s,mb6.1
QSPA LR LR
comp=Z,12µm,20.0s,MS6.3
BHJ Bhuj 84.50 294 *e*P **P** **03 24 39.5 +0.5**
BHJ *ex* x 03 24 44.5
BHJ AMb AMB 03 24 44.8
comp=Z,222nm,1.3s,mb6.1
SIT Sitka 85.88 32 *e*P **P** **03 24 45.5 -0.3**
SIT pmax pmax
comp=Z,147nm,1.6s,mb6.0
SIT MLR MLR
comp=Z,40µm,21.0s,MS6.8
SIT Sitka 85.88 32 *e*P **P** **03 24 45.5 -0.3**
comp=Z,147nm,1.6s,mb6.0
SIT LR LR
comp=Z,40µm,21.0s,MS6.8
DAWY Dawson 86.26 24 ⇑*i*P **P** **03 24 47.3 -0.5**
SKAG Skagway 86.58 29 *e*P **P** **03 24 48.3 -1.0**
comp=Z,211nm,1.6s,mb6.1
SKAG LR LR
comp=Z,24µm,18.0s,MS6.6
CRAG Craig 86.62 34 *e*P **P** **03 24 49.0 -0.5**
comp=Z,621nm,2.4s,mb6.4
CRAG LR LR
comp=Z,40µm,20.0s,MS6.8
VOSK Vostochnaya 88.60 323 P **P** **03 24 53.1 -5.9**
VOSK pmax pmax
comp=Z,36nm,1.2s,mb5.6
DLBC Dease Lake 88.97 31 ⇑*i*P **P** **03 25 00.7 0.0**
CHKZ Chkalovo 89.00 324 P **P** **03 24 55.9 -5.0**
CHKZ S 03 28 23.5
CHKZ pmax pmax
comp=Z,51nm,1.2s,mb5.7
CHKZ Chkalovo 89.00 324 ⇑*i*P **P** **03 24 58.0 -2.8**
comp=Z,52nm,1.1s,mb5.8
BVA0 Borovoye Array 89.01 323 *i* P **P** **03 24 58.4 -2.5**
BVA0 S 03 28 28.0
BVA0 pmax pmax
comp=Z,18nm,1.5s,mb5.2
BRVK Borovoye 89.08 323 P **P** **03 24 59.4 -1.8**
comp=Z,201nm,1.3s,mb6.3,SNR=21
BRVK Borovoye 89.08 323 *e*P **P** **03 24 58.7 -2.5**
BRVK pmax pmax
comp=Z,29nm,1.1s,mb5.5
BRVK MLR MLR
comp=Z,15µm,20.0s,MS6.4
BRVK Borovoye 89.08 323 *e*P **P** **03 24 58.7 -2.6**
comp=Z,29nm,1.1s,mb5.5
BRVK LR LR
comp=Z,15µm,20.0s,MS6.4
KBO Bosley Butte 89.78 48 *e*P **P** **03 25 05.4 +0.8**
ZRNK Zerenda 89.82 323 P **P** **03 25 00.9 -3.8**
ZRNK pmax pmax
comp=Z,34nm,1.2s,mb5.5
ZRNK Zerenda 89.82 323 ⇑*i*P **P** **03 25 01.8 -2.9**
comp=Z,16nm,0.7s,mb5.5
INK Inuvik 89.87 21 ⇑*i*P **P** **03 25 02.8 -2.1**
INK pmax pmax
comp=Z,50nm,1.1s
INK Inuvik 89.87 21 ⇑*i*P **P** **03 25 02.8 -2.1**
comp=Z,50nm,1.1s,mb5.8
KHMM Horse Mountain 89.97 49 *e*P **P** **03 25 06.3 +0.9**
KIPM Iron Peak 90.03 50 *e*P **P** **03 25 07.1 +1.4**
HOPS Hopland 90.24 51 *e*P **P** **03 25 10.5 +3.9**
comp=Z,102nm,1.3s,mb6.0
HOPS LR LR
comp=Z,49µm,20.0s,MS6.9
NSHM Saint Helena R 90.54 52 ⇑*i*P **P** **03 25 10.0 +2.0**
OOW Octopus West 90.56 42 P **P** **03 25 09.3 +1.2**
OCWA Octopus Mounta 90.57 42 *e*P **P** **03 25 08.9 +0.7**
comp=Z,136nm,1.0s,mb6.2
OCWA LR LR
comp=Z,26µm,20.0s,MS6.7
COR Corvallis 90.76 45 *e*P **P** **03 25 10.7 +1.6**
COR pmax pmax
comp=Z,207nm,1.3s,mb6.3
COR MLR MLR
comp=Z,38µm,22.0s,MS6.8
COR Corvallis 90.76 45 *e*P **P** **03 25 10.7 +1.6**
comp=Z,207nm,1.3s,mb6.3
COR LR LR
comp=Z,38µm,22.0s,MS6.8
HUMO Hull Mountain 90.77 47 ⇑*i*P **P** **03 25 09.8 +0.7**
comp=Z,227nm,1.0s,mb6.5
HUMO LR LR
comp=Z,39µm,19.0s,MS6.9
WDC Whiskeytown Da 90.83 49 ⇑*i*P **P** **03 25 09.6 +0.2**
WDC pmax pmax
comp=Z,225nm,1.8s,mb6.2
WDC MLR MLR
comp=Z,42µm,22.0s,MS6.8
WDC Whiskeytown Da 90.83 49 ⇑*i*P **P** **03 25 09.6 +0.2**
comp=Z,225nm,1.8s,mb6.2
WDC LR LR
comp=Z,42µm,22.0s,MS6.8
YBH Yreka Blue Hor 90.84 48 S 03 35 38.8
comp=Z,1.0nm,0.3s,baz=96,slow=13,SNR=1.7
YBH SS SS 03 42 13.0 +7.0
comp=Z,1.7nm,0.7s,baz=143,slow=17,SNR=2.0
YBH LR LR 04 02 00.9
comp=Z,25µm,19.7s,MS6.7,baz=247,slow=33
YBH Yreka Blue Hor 90.84 48 ⇑*i*P **P** **03 25 10.1 +0.6**
YBH pmax pmax
comp=Z,168nm,1.1s
YBH MLR MLR
comp=Z,23µm,20.0s
YBH Yreka Blue Hor 90.84 48 ⇑*i*P **P** **03 25 10.1 +0.6**
comp=Z,168nm,1.1s,mb6.3
YBH LR LR
comp=Z,23µm,20.0s,MS6.6
PGC Sidney 91.17 41 *e*P **P** **03 25 10.7 -0.3**
comp=Z,112nm,1.0s,mb6.2
SAO San Andreas Ge 91.26 53 *e*P **P** **03 25 12.7 +1.3**
SAO pmax pmax
comp=Z,272nm,1.9s,mb6.3
SAO MLR MLR
comp=Z,44µm,20.0s,MS6.9
SAO San Andreas Ge 91.26 53 *e*P **P** **03 25 12.7 +1.3**
comp=Z,272nm,1.9s,mb6.3
SAO LR LR
comp=Z,44µm,20.0s,MS6.9
IRO Indian Ridge 91.44 46 P **P** **03 25 12.3 +0.1**
OHCM Honcut 91.50 51 *e*P **P** **03 25 12.8 +0.3**
TDH Tom, Dick, Har 91.91 45 P **P** **03 25 15.0 +0.6**
CMW Cultus Mountai 92.02 42 P **P** **03 25 15.0 +0.1**
LON Longmire 92.05 43 P **P** **03 25 14.3 -0.8**
PTRM Twissleman Ran 92.14 55 *e*P **P** **03 25 16.8 +1.3**
CMB Columbia Colle 92.23 52 ⇑*i*P **P** **03 25 16.1 +0.2**
comp=Z,108nm,1.2s,mb6.1
CMB LR LR
comp=Z,62µm,21.0s,MS7.0
SYO Syowa Base 92.29 200 ⇓*e*P **P** **03 25 14.2 -1.9**
SYO Syowa Base 92.29 200 ⇓*e*PcP PcP 03 25 16.8 -0.1
SNCC San Nicolas Is 92.49 57 PFAKE 03 25 30.0 +13
SNCC LR LR
comp=Z,33µm,21.0s,MS6.8
MOD Modoc 92.65 48 ⇑*i*P **P** **03 25 18.1 +0.3**
comp=Z,177nm,1.1s,mb6.4
MOD LR LR
comp=Z,29µm,22.0s,MS6.7
EBG Ellensburg 92.92 43 P **P** **03 25 19.2 +0.2**
TBM Table Mountain 92.92 43 P **P** **03 25 19.4 +0.4**
WTV Waterville 93.40 43 P **P** **03 25 21.3 0.0**
ISA Isabella 93.55 55 PFAKE 03 25 30.0 +8.0
ISA LR LR
comp=Z,10µm,21.0s,MS6.2
HAWA Hanford 93.58 44 ⇑*i*P **P** **03 25 22.0 -0.1**
comp=Z,6.4nm,1.3s,mb4.9
HAWA LR LR
comp=Z,2µm,22.0s,MS5.5
MTUM Tungsten Hills 93.61 53 *e*P **P** **03 25 23.7 +1.5**
PNT Penticton 93.75 41 P **P** **03 25 22.5 -0.4**
NVAR Mina Array Bea 93.89 52 P **P** **03 25 24.3 +0.7**
NVAR PP PP 03 29 08.3 -1.2
comp=Z,0.5nm,0.4s,baz=243,slow=8.6,SNR=2.9
NVAR S 03 35 59.0
comp=Z,0.4nm,0.5s,baz=302,slow=38,SNR=3.2
NVAR Mina Array Bea 93.89 52 P **P** **03 25 24.3 +0.7**
NVAR PP PP 03 29 08.3 -1.2
NVAR S 03 35 59.0
WVOR Wild Horse Val 93.93 48 ⇑*i*P **P** **03 25 23.9 +0.2**
WVOR pmax pmax
comp=Z,504nm,1.8s,mb6.7
WVOR MLR MLR
comp=Z,29µm,22.0s,MS6.7
WVOR Wild Horse Val 93.93 48 ⇑*i*P **P** **03 25 23.9 +0.2**
comp=Z,504nm,1.8s,mb6.7
WVOR LR LR
comp=Z,29µm,22.0s,MS6.7
MNV Mina 94.01 52 ⇑*i*P **P** **03 25 24.6 +0.5**
comp=Z,143nm,1.1s,mb6.3
MNV LR LR
comp=Z,48µm,21.0s,MS6.9
DAC Darwin (Calif) 94.31 54 ⇑*i*P **P** **03 25 26.1 +0.6**
comp=Z,162nm,1.2s,mb6.3
DAC *e*PP PP 03 29 08.8 -3.9
DAC LR LR
comp=Z,55µm,20.0s,MS7.0
WSAR Wadi Sarin 94.58 293 P **P** **03 25 26.1 -0.6**
comp=Z,24nm,1.1s,mb5.5,baz=90,slow=4.1,SNR=3.8
WSAR PP PP 03 29 14.6 -0.3
comp=Z,5.6nm,1.1s,baz=260,slow=17,SNR=1.9
WSAR S 03 36 01.7
comp=Z,3.1nm,0.8s,baz=303,slow=2.8,SNR=2.2
WSAR PKKPbc PKKPbc 03 42 25.1 +0.5
comp=Z,8.2nm,0.7s,baz=240,slow=2.9,SNR=6.8
WSAR LR LR 04 13 02.0
comp=Z,6µm,20.0s,MS6.0,baz=64,slow=39
WSAR Wadi Sarin 94.58 293 P **P** **03 25 26.1 -0.6**
WSAR PP PP 03 29 14.6 -0.3
WSAR S 03 36 01.7
WSAR PKKPbc PKKPbc 03 42 25.1 +0.5
WSAR LR LR 04 13 02.0
TPH Tonopah 94.72 52 ⇑*i*P **P** **03 25 28.0 +0.7**
TPH *e* 03 29 15.9
TPH pmax pmax
comp=Z,91nm,1.1s,mb6.1
TPH MLR MLR
comp=Z,41µm,20.0s,MS6.9
TPH Tonopah 94.72 52 ⇑*i*P **P** **03 25 28.0 +0.7**
comp=Z,91nm,1.1s,mb6.1
TPH *e*PP PP 03 29 15.9 -0.1
TPH LR LR
comp=Z,41µm,20.0s,MS6.9
BMN Battle Mountai 94.86 50 ⇑*i*P **P** **03 25 28.4 +0.4**
BMN pmax pmax
comp=Z,72nm,1.3s,mb5.9
BMN MLR MLR
comp=Z,42µm,21.0s,MS6.9
BMN Battle Mountai 94.86 50 ⇑*i*P **P** **03 25 28.4 +0.4**
comp=Z,72nm,1.3s,mb5.9
BMN LR LR
comp=Z,42µm,21.0s,MS6.9
BMO Blue Mountains 95.04 46 ⇓*i*P **P** **03 25 28.3 -0.5**
BMO pmax pmax
comp=Z,179nm,1.6s,mb6.2
BMO MLR MLR
comp=Z,33µm,21.0s,MS6.8
BMO Blue Mountains 95.04 46 ⇓*i*P **P** **03 25 28.2 -0.6**
comp=Z,179nm,1.6s,mb6.2
BMO LR LR
comp=Z,33µm,21.0s,MS6.8
SVE Sverdlovsk 95.04 327 ⇑*e*P **P** **03 25 25.3 -3.5**
SVE *e* 03 29 18.2
SVE *e*PPP 03 31 20.0
SVE *e*S 03 36 00.0
SVE pmax pmax
comp=Z,60nm,1.5s,mb5.8
SVE MLR MLR
comp=N,11µm,19.0s
SVE MLR MLR
comp=Z,33µm,19.0s,MS6.8
PFO Pinyon Flat Ob 95.07 57 P **P** **03 25 30.6 +1.6**
comp=Z,286nm,1.0s,mb6.7,SNR=9.2
PFO Pinyon Flat Ob 95.07 57 ⇑*i*P **P** **03 25 29.4 +0.4**
PFO pmax pmax
comp=Z,88nm,1.3s,mb6.0
PFO MLR MLR
comp=Z,35µm,21.0s,MS6.8
PFO Pinyon Flat Ob 95.07 57 ⇑*i*P **P** **03 25 29.4 +0.4**
comp=Z,88nm,1.3s,mb6.0
PFO LR LR
comp=Z,35µm,21.0s,MS6.8
AB31 Akbulak array 95.10 319 *i* P **P** **03 25 25.0 -4.1**
NEW Newport 95.33 42 S 03 36 04.0
comp=Z,0.8nm,0.4s,baz=82,slow=21,SNR=3.1
NEW SP SP 03 38 01.5 +1.6
comp=Z,0.5nm,0.3s,baz=114,slow=22,SNR=1.7
NEW Newport 95.33 42 ⇑*i*P **P** **03 25 29.6 -0.5**
NEW pmax pmax
comp=Z,79nm,1.2s
NEW MLR MLR
comp=Z,36µm,20.0s
NEW Newport 95.33 42 ⇑*i*P **P** **03 25 29.6 -0.5**
comp=Z,79nm,1.2s,mb6.0
NEW LR LR
comp=Z,36µm,20.0s,MS6.8
TPNV Topopah Spring 95.43 54 ⇑*i*P **P** **03 25 31.3 +0.7**
TPNV *e* 03 29 21.4
TPNV pmax pmax
comp=Z,176nm,1.2s,mb6.4
TPNV MLR MLR
comp=Z,52µm,22.0s,MS7.0
TPNV Topopah Spring 95.43 54 ⇑*i*P **P** **03 25 31.3 +0.7**
comp=Z,176nm,1.2s,mb6.4
TPNV *e*PP PP 03 29 21.4 -0.1
TPNV LR LR
comp=Z,52µm,22.0s,MS7.0
ABKT Ailbek 95.90 307 P **P** **03 25 31.6 -1.1**
comp=Z,120nm,1.1s,mb6.2,SNR=5.9
ARU Arti 96.18 326 P **P** **03 25 30.2 -3.8**
comp=Z,146nm,1.4s,mb6.2,SNR=8.3
ARU Arti 96.18 326 ⇑*i*P **P** **03 25 30.9 -3.1**
ARU *e* 03 29 23.8
ARU *e*S 03 36 04.5
ARU *e*SP SP 03 38 07.7 -1.4
ARU *e*PS PS 03 38 17.8 +3.1
ARU *e*SS SS 03 43 20.9 -1.3
ARU *e*SSS 03 47 06.3
ARU pmax pmax
comp=Z,36nm,1.3s,mb5.6
ARU MLR MLR
comp=E,29µm,21.0s,MS6.8
ARU MLR MLR
comp=Z,40µm,21.0s,MS6.9
ARU MLR MLR
comp=N,5µm,20.5s,MS6.8
ARU Arti 96.18 326 ⇑*i*P **P** **03 25 30.6 -3.4**
comp=N,42nm,1.3s,mb5.7
ARU *e*PP PP 03 29 25.8 -1.5
ARU LR LR
comp=Z,40µm,21.0s,MS6.9
ELK Elko 96.38 50 ⇑*i*P **P** **03 25 35.1 +0.2**
comp=Z,50nm,1.1s,mb5.9
ELK *e*PP PP 03 29 28.2 -0.7
ELK LR LR
comp=Z,40µm,21.0s,MS6.9
AKTK Aktyubinsk 96.39 320 P **P** **03 25 32.4 -2.5**
AKTK PP PP 03 29 26.6 -2.3
AKTK S 03 36 08.2
AKTK SP SP 03 38 15.5 +4.0
AKTK PKKPbc PKKPbc 03 42 19.7 0.0
AKTK SS SS 03 43 30.3 +5.0
AKTK LR LR 04 09 52.5
AKTO Aktyubinsk 96.39 320 P **P** **03 25 32.4 -2.5**
comp=Z,3.4nm,0.6s,mb4.9,baz=83,slow=7.2,SNR=9.7
AKTO PP PP 03 29 26.6 -2.3
comp=Z,0.8nm,0.4s,baz=97,slow=6.9,SNR=2.7
AKTO S 03 36 08.2
comp=Z,0.3nm,0.3s,baz=28,slow=22,SNR=4.1
AKTO SP SP 03 38 15.5 +4.0
comp=Z,0.3nm,0.4s,baz=34,slow=20,SNR=1.5
AKTO PKKPbc PKKPbc 03 42 19.7 0.0
comp=Z,2.0nm,0.7s,baz=242,slow=2.8,SNR=7.0
AKTO SS SS 03 43 30.3 +5.0
comp=Z,0.3nm,0.3s,baz=330,slow=22,SNR=1.6
AKTO LR LR 04 09 52.5
comp=Z,20µm,19.9s,MS6.6,baz=270,slow=36
AKTO Aktyubinsk 96.39 320 P **P** **03 25 32.4 -2.6**
AKTO 03 29 26.7
AKTO S 03 36 08.3
AKTO SP SP 03 38 15.5 +4.0
AKTO SS SS 03 43 30.3 +5.0
NEN Nelson 96.50 55 *e*P **P** **03 25 36.6 +1.1**
NEN *e*PP PP 03 29 28.2 -1.6
YKW3 Yellowknife Ar 96.96 28 ⇑*i*P **P** **03 25 36.2 -1.4**
YKA Yellowknife Ar 96.97 28 P **P** **03 25 36.0 -1.5**
comp=Z,5.2nm,0.7s,mb5.1,baz=269,slow=4.4,SNR=34
YKA PP PP 03 29 27.3 -6.1
comp=Z,0.8nm,0.8s,baz=292,slow=5.7,SNR=2.6
YKA PKiKP PKiKP 03 30 12.4 -1.1
comp=Z,1.8nm,0.8s,baz=295,slow=2.4,SNR=5.1
YKA S 03 36 09.8
comp=Z,0.3nm,0.6s,baz=305,slow=44,SNR=2.5
YKA SP SP 03 38 14.7 -3.1
comp=Z,0.4nm,0.8s,baz=273,slow=33,SNR=2.8
YKA PKKPbc PKKPbc 03 42 17.1 -1.0
comp=Z,1.2nm,0.7s,baz=87,slow=2.9,SNR=14
YKA SS SS 03 43 38.7 +5.3
comp=Z,0.1nm,0.3s,baz=208,slow=28,SNR=2.9
YKA LR LR 04 07 59.2
comp=Z,20µm,19.6s,MS6.6,baz=270,slow=35
YKA Yellowknife Ar 96.97 28 P **P** **03 25 36.0 -1.5**
YKA PP PP 03 29 27.3 -6.1
HLID Hailey 97.08 47 ⇑*i*P **P** **03 25 38.2 +0.2**
comp=Z,201nm,2.0s,mb6.2
HLID LR LR
comp=Z,26µm,20.0s,MS6.7
SOKR Solikamsk 97.12 329 ⇑*i*P **P** **03 25 34.8 -3.5**
SOKR 03 29 35.2
SOKR S 03 36 11.8
SOKR pmax pmax
comp=Z,40nm,1.2s,mb5.7
SOKR MLR MLR
comp=Z,12µm,21.0s,MS6.4
MSO Missoula 97.45 44 *e*P **P** **03 25 39.4 -0.4**
comp=Z,6.6nm,1.0s,mb5.0
MSO LR LR
comp=Z,11µm,19.0s,MS6.4
WALA Waterton Lakes 97.48 41 ⇑*i*P **P** **03 25 40.1 +0.2**
comp=Z,76nm,1.1s,mb6.0
ARUT Antelope Range 97.70 53 *e*P **P** **03 25 41.5 +0.6**
EDM Edmonton 97.80 37 ⇑*i*P **P** **03 25 40.8 -0.5**
CHMT Chamberlain Mo 97.92 44 *e*P **P** **03 25 41.5 -0.4**
MCMT McKenzie Canyo 98.21 46 *e*P **P** **03 25 43.0 -0.2**
DUG Dugway 98.22 50 ⇑*i*P **P** **03 25 43.3 +0.1**
DUG pmax pmax
comp=Z,41nm,1.4s,mb5.8
DUG MLR MLR
comp=Z,28µm,20.0s,MS6.8
DUG Dugway 98.22 50 ⇑*i*P **P** **03 25 43.3 +0.1**
comp=Z,40nm,1.4s,mb5.8
DUG LR LR
comp=Z,28µm,20.0s,MS6.8
HVU Hansel Valley 98.26 49 ⇑*i*P **P** **03 25 43.5 +0.1**
HVU pmax pmax
comp=Z,99nm,1.2s,mb6.2
HVU Hansel Valley 98.26 49 ⇑*i*P **P** **03 25 43.5 +0.1**
comp=Z,99nm,1.2s,mb6.2
DLMT Dillon 98.39 45 ⇑*i*P **P** **03 25 43.6 -0.3**
comp=Z,34nm,1.0s,mb5.8
ORR Orenburg 98.45 321 *i* P **P** **03 25 41.3 -2.9**
ORR 03 29 42.7
ORR pmax pmax
comp=Z,40nm,1.5s,mb5.7
ORR MLR MLR
comp=Z,14µm,19.0s,MS6.5
SPUT South Promonto 98.50 49 *e*P **P** **03 25 44.6 +0.1**
MVU Marysvale 98.67 52 PFAKE 03 26 00.0 +15
MVU LR LR
comp=Z,53µm,22.0s,MS7.0
MSU Marysvale 98.70 52 *e*P **P** **03 25 46.2 +0.8**
MSU *e* 03 29 44.2
HRY Holter Researc 98.90 44 *e*P **P** **03 25 46.4 +0.1**
BOZ Bozeman (W) 99.06 45 *e*P **P** **03 25 46.6 -0.4**
BOZ pmax pmax
comp=Z,22nm,1.1s,mb5.6
BOZ MLR MLR
comp=Z,22µm,22.0s,MS6.6
BOZ Bozeman (W) 99.06 45 *e*Pdif **P** **03 25 46.6 -0.4**
comp=Z,22nm,1.1s,mb5.6
BOZ LR LR
comp=Z,22µm,22.0s,MS6.6
MPU Maple Canyon 99.13 51 *e*Pdif **P** **03 25 47.8 +0.6**
comp=Z,22nm,1.1s,mb5.6
MPU LR LR
comp=Z,36µm,20.0s,MS6.9
HWUT Hardware Ranch 99.17 49 *e*Pdif **P** **03 25 47.0 -0.5**
comp=Z,18nm,1.0s,mb5.6
HWUT LR LR
comp=Z,35µm,20.0s,MS6.9
QLMT Earthquake Lak 99.22 46 *e*Pdif **P** **03 25 48.6 +1.0**
TCUT Toone Canyon 99.29 49 *e*Pdif **P** **03 25 48.3 +0.3**
DAU Daniels Canyon 99.41 50 *e*P **P** **03 25 48.7 +0.2**
DCID1 Drake Creek 99.42 47 *e*Pdif **P** **03 25 49.9 +1.3**
TMUT Trail Mountain 99.46 51 *e*Pdif **P** **03 25 49.7 +1.0**
AHID Auburn Hatcher 99.50 48 *e*Pdif **P** **03 25 49.0 +0.1**
comp=Z,42nm,1.0s,mb5.9
AHID LR LR
comp=Z,30µm,20.0s,MS6.8
YMR Madison River 99.56 46 *e*Pdif Pdif 03 25 50.0 +0.8
comp=Z,51nm,1.2s
YMR LR LR
comp=Z,38µm,20.0s,MS6.9
IMW Indian Meadow 99.59 47 *e*Pdif Pdif 03 25 49.8 +0.4
comp=Z,31nm,1.0s
TPAW Teton Pass 99.59 47 *e*Pdif Pdif 03 25 49.5 +0.1
comp=Z,37nm,1.1s
YFT Old Faithful 99.65 46 *e*Pdif Pdif 03 25 51.2 +1.5
REDW Red Top Meadow 99.67 47 *e*Pdif Pdif 03 25 49.7 +0.1
comp=Z,48nm,1.3s
MOOW Moose Ponds 99.74 47 *e*Pdif Pdif 03 25 49.9 -0.1
comp=Z,26nm,1.0s
FLWY Flagg Ranch 99.76 46 *e*Pdif Pdif 03 25 50.6 +0.5
comp=Z,31nm,0.9s
TUC Tucson 99.79 58 *e*P Pdif 03 25 51.7 +1.5
TUC *e* 03 29 54.3
TUC pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
TUC MLR MLR
comp=Z,22µm,19.0s,MS6.7
TUC Tucson 99.79 58 *e*Pdif Pdif 03 25 51.7 +1.4
comp=Z,10nm,1.0s
TUC *e*PP PP 03 29 54.2 -0.7
TUC LR LR
comp=Z,22µm,19.0s,MS6.7

LOHW **Long Hollow** **99.84** **47** *e*Pdif Pdif 03 25 50.3 -0.2
comp=Z,23nm,1.2s
LKWY **Lake** **99.96** **46** PFAKE 03 26 00.0 +9.0
LKWY LR LR
comp=Z,42μm,20.0s,MS6.9
SRU **San Rafael** **99.99** **51** *e*P Pdif 03 25 51.8 +0.7
SRU pmax pmax
comp=Z,19nm,0.8s,mb5.6
SRU **San Rafael** **99.99** **51** *e*Pdif Pdif 03 25 51.8 +0.7
comp=Z,19nm,0.8s
LPIG **La Paz** **100.04** **67** PP PP 03 29 54.2 -2.7
comp=Z,12nm,0.4s,baz=143,slow=8.4,SNR=1.4
LPIG S SKSac 03 36 34.5 +8.0
comp=Z,25nm,1.0s,baz=42,slow=3.9,SNR=2.1
LPIG SS SS 03 44 24.6 +8.1
comp=Z,22nm,0.7s,baz=345,slow=2.5,SNR=3.0
LPIG LR LR 04 03 10.7
comp=Z,25μm,21.5s,MS6.7,baz=92,slow=31
EGMT **Eagleton** **100.27** **42** *e*Pdif Pdif 03 25 51.9 -0.4
comp=Z,55nm,1.4s
EGMT LR LR
comp=Z,15μm,20.0s,MS6.5
GCMT **Greycliff** **100.43** **45** *e*Pdif Pdif 03 25 53.7 +0.6
BW06 **Boulder Array** **100.63** **48** *e*Pdif Pdif 03 25 53.1 -0.8
comp=Z,38nm,1.1s
BW06 LR LR
comp=Z,32μm,20.0s,MS6.8
PDAR **Pinedale Array** **100.63** **48** P Pdif 03 25 53.5 -0.5
comp=Z,31nm,1.1s,baz=254,slow=2.8,SNR=61
PDAR PP PP 03 29 58.4 -3.0
comp=Z,2.6nm,1.1s,baz=256,slow=6.0,SNR=3.6
PDAR PKKPbc PKKPbc 03 42 08.7 +0.8
comp=Z,1.0nm,0.7s,baz=106,slow=3.2,SNR=4.4
SNAA **Sanae** **100.92** **188** *e*Pdiff Pdif 03 25 46.9 -8.3
SNAA *e* 03 25 57.9
SNAA *e* 03 26 01.9
SNAA *e* 03 26 07.1
SNAA *e* 03 26 10.8
SNAA *e* 03 26 28.6
SNAA **Sanae** **100.92** **188** *e*P Pdif 03 25 46.8 -8.4
SNAA pmax pmax
comp=Z,11nm,1.1s
SNAA **Sanae** **100.92** **188** *e*Pdif Pdif 03 25 46.8 -8.4
comp=Z,11nm,1.1s
PV01 **Paradox Valley** **101.54** **52** *e*Pdif Pdif 03 25 59.1 +1.1
MVCO **Mesa Verde** **101.63** **53** *e*Pdif Pdif 03 25 59.5 +1.1
RES **Resolute Bay** **101.68** **14** *e*P Pdif 03 25 57.1 -1.5
RES pmax pmax
comp=Z,17nm,1.2s
RES **Resolute Bay** **101.68** **14** *e*Pdif Pdif 03 25 57.1 -1.5
comp=Z,17nm,1.2s
VNA3 **Neumayer Olymp** **102.16** **186** *e*Pdiff Pdif 03 25 59.6 -1.2
VNA3 *e* 03 26 06.1
VNA3 *e* 03 26 14.1
VNA3 *e* 03 26 20.0
VNA3 *e* 03 26 23.8
VNA3 *e* 03 26 49.6
VNA3 *e* 03 30 11.8
VNA3 *e* 03 30 23.4
VNA3 *e* 03 30 35.5
VNA3 *e* 03 30 43.1
VNA2 **Neumayer--Watz** **102.20** **187** *e*Pdiff Pdif 03 26 00.2 -0.7
VNA2 *e* 03 26 06.8
VNA2 *e* 03 26 11.6
VNA2 *e* 03 26 14.9
VNA2 *e* 03 26 20.3
VNA2 *e* 03 26 24.0
VNA2 *e* 03 26 45.3
VNA2 *e* 03 26 50.8
VNA2 *e* 03 30 11.8
VNA2 *e* 03 30 23.5
VNA2 *e* 03 30 34.8
VNA2 *e* 03 30 41.5
VNA2 *e* 03 30 45.7
VNA2 *e* 03 30 49.2
VNA2 *e* 03 31 14.8
RWWY **Rawlins** **102.43** **49** *e*Pdif Pdif 03 26 02.1 +0.1
comp=Z,72nm,1.2s
VNA1 **Neumayer--Stat** **102.56** **187** *e*Pdiff Pdif 03 26 01.3 -1.2
VNA1 *e* 03 26 13.1
VNA1 *e* 03 26 16.3
VNA1 *e* 03 26 21.8
VNA1 *e* 03 26 25.9
SMCO **Snowmass** **102.75** **51** *e*Pdif Pdif 03 26 04.1 +0.8
comp=Z,38nm,1.0s
LAO **LASA Array** **102.76** **44** *e*Pdif Pdif 03 26 03.9 +0.5
comp=Z,70nm,1.4s
LAO LR LR
comp=Z,16μm,19.0s,MS6.6
LENM **Lemitar** **102.96** **56** *e*Pdif Pdif 03 26 04.7 +0.4
LPM **Los Pinos Moun** **103.24** **56** *e*Pdif Pdif 03 26 05.5 -0.1
BNM **Barren Site** **103.25** **56** *e*Pdif Pdif 03 26 06.9 +1.3
BNM *e*PP PP 03 30 21.4 +0.3
ANMO **Albuquerque** **103.36** **56** PP PP 03 30 20.8 -1.1
comp=Z,2.4nm,1.0s,baz=245,slow=6.3,SNR=4.3
ANMO SP SP 03 39 29.0 +2.7
comp=Z,0.2nm,0.3s,baz=36,slow=12,SNR=2.0
ANMO PKKPab 03 42 20.4
comp=Z,4.9nm,1.0s,baz=130,slow=8.1,SNR=9.2
ANMO **Albuquerque** **103.36** **56** *e*P Pdif 03 26 07.0 +0.9
ANMO *e* 03 30 21.5
ANMO pmax pmax
comp=Z,30nm,1.6s
ANMO MLR MLR
comp=Z,15μm,22.0s
ANMO **Albuquerque** **103.36** **56** *e*Pdif Pdif 03 26 07.0 +0.9
comp=Z,30nm,1.6s
ANMO *e*PP PP 03 30 21.5 -0.4
ANMO LR LR
comp=Z,15μm,22.0s,MS6.5
ISCO **Idaho Springs** **103.76** **51** *e*P Pdif 03 26 08.2 +0.3
ISCO pmax pmax
comp=Z,10.0nm,1.0s
ISCO MLR MLR
comp=Z,40μm,19.0s,MS7.0
ISCO **Idaho Springs** **103.76** **51** *e*Pdif Pdif 03 26 08.2 +0.4
comp=Z,10.0nm,1.0s
ISCO LR LR
comp=Z,40μm,19.0s,MS7.0
MAK **Makhachkala** **103.89** **313** *i* P Pdif 03 26 02.7 -5.7
MAK *i* 03 30 20.3
MAK *e*S SKSac 03 36 42.7 -2.1
MAK *i* SP SP 03 39 40.0 +8.2
MAK *e*SS SS 03 45 26.9 +17
SDCO **Great Sand Dun** **103.99** **53** PFAKE 03 26 20.0 +11
SDCO LR LR
comp=Z,56μm,21.0s,MS7.1
KBS **Kingsbay** **104.05** **353** *e*P Pdif 03 26 08.5 -0.7
KBS *e*PP PP 03 30 26.3 -0.7
KBS AMS AMS 04 09 08.7
comp=Z,4μm,20.1s,MS5.9
PECR **Pechory** **104.20** **327** *e*P Pdif 03 26 08.0 -1.8
PECR *e* 03 30 26.6
PECR *e* 03 36 44.5
PECR *e*PS PS 03 39 30.0 -11
PECR pmax pmax
comp=Z,2μm,11.0s
PECR pmax pmax
comp=E,1μm,9.0s
PECR MLR MLR
comp=E,16μm,21.0s,MS6.5
PECR MLR MLR
comp=Z,35μm,21.0s,MS6.9
PECR MLR MLR
comp=N,6μm,24.0s,MS6.5
FFC **Flin Flon** **104.33** **35** *e*P Pdif 03 26 10.0 -0.4
FFC pmax pmax
comp=Z,25nm,1.4s
FFC MLR MLR
comp=Z,30μm,20.0s,MS6.8
FFC **Flin Flon** **104.33** **35** *e*Pdif Pdif 03 26 10.0 -0.4
comp=Z,25nm,1.4s
FFC LR LR
comp=Z,30μm,20.0s,MS6.8
MNTX **Cornudas Mount** **104.39** **59** *e*Pdif Pdif 03 26 13.0 +2.3
comp=Z,8.5nm,1.1s
MNTX *e*PP PP 03 30 28.6 -0.9
MNTX LR LR
comp=Z,20μm,19.0s,MS6.7
RSSD **Black Hills** **104.55** **46** *e*P Pdif 03 26 11.2 -0.2
RSSD *e* 03 30 30.6
RSSD pmax pmax
comp=Z,22nm,0.9s
RSSD MLR MLR
comp=Z,13μm,21.0s,MS6.5
RSSD **Black Hills** **104.55** **46** *e*Pdif Pdif 03 26 11.2 -0.1
comp=Z,22nm,0.9s
RSSD *e*PP PP 03 30 30.6 -0.2
RSSD LR LR
comp=Z,13μm,21.0s,MS6.5
PMSA **Palmer Station** **105.01** **165** PFAKE 03 30 40.0 +12
PMSA LR LR
comp=Z,7μm,20.0s,MS6.2
LVZ **Lovozero** **105.06** **339** PFAKE 03 30 40.0 +12
LVZ LR LR
comp=Z,12μm,22.0s,MS6.4
TMCR **Tamitsa** **105.09** **335** *e*P Pdif 03 26 10.4 -3.4
TMCR pmax pmax
comp=Z,30nm,1.1s
TMCR pmax pmax
comp=N,50nm,1.2s
TMCR pmax pmax
comp=E,50nm,1.2s
KLMR **Klimovskoe** **105.43** **332** *d* iP Pdif 03 26 09.8 -5.5
KLMR *e*SP SP 03 39 44.7 -3.3
KLMR *e*PS PS 03 39 47.6 -5.8
KLMR *e*SS SS 03 45 25.1 -5.8
KLMR *e*SSS 03 49 27.3
KLMR pmax pmax
comp=Z,20nm,1.8s
KLMR MLR MLR
comp=Z,33μm,22.0s,MS6.8
CPRX **Cap Rock** **105.61** **57** *e*Pdif Pdif 03 26 17.0 +0.9
APA **Apatity** **105.62** **339** *e*P Pdif 03 26 12.0 -4.2
APA *e* 03 30 37.0
APA *i* PPP 03 32 48.0
APA *i* PS PS 03 39 47.0 -8.4
APA *i* 03 45 50.0
APA MLR MLR
comp=Z,14μm,22.0s,MS6.5
BJO **Bjornoya** **105.92** **348** *e*P Pdif 03 26 19.8 +2.4
BJO *e*PP PP 03 30 39.0 -1.8
BJO AMS AMS 04 14 22.1
comp=Z,17μm,21.2s,MS6.6
BJO1 **Bjornoya** **105.96** **348** *e*P Pdif 03 26 19.8 +2.2
BJO1 LR LR
comp=Z,17187μm,21.2s
LTX **Lajitas** **105.96** **61** *e*PKP PKiKP 03 30 30.8 +1.0
LTX LR LR
comp=Z,47μm,20.0s,MS7.0
GNI **Garni** **106.23** **310** PP PP 03 30 42.8 -0.4
comp=Z,4.4nm,0.5s,baz=72,slow=8.0,SNR=3.3
GNI SP SP 03 39 50.8 -5.5
comp=Z,2.1nm,0.3s,baz=16,slow=22,SNR=1.8
GNI SS SS 03 45 45.7 +3.9
comp=Z,1.8nm,0.3s,baz=159,slow=16,SNR=2.8
GNI **Garni** **106.23** **310** *e*PKP PKiKP 03 30 29.9 -0.4
GNI LR LR
comp=Z,9μm,22.0s,MS6.2
ZEI **Tsey** **106.55** **313** *e*P Pdif 03 26 18.8 -1.5
ZEI *e* 03 30 41.1
KEV **Kevo** **106.70** **343** *e*PKP PKiKP 03 30 25.1 -6.0
KEV LR LR
comp=Z,15μm,20.0s,MS6.5
BHD **Baghdad** **107.17** **303** *ex* x 03 30 44.0
KIV **Kislovodsk** **107.25** **314** *e*P Pdif 03 26 18.7 -4.7
KIV *e* 03 30 46.5
KIV *e*PPP 03 33 04.8
KIV *e*SP SP 03 40 02.5 -4.2
KIV *e*PS PS 03 40 07.8 -4.4
KIV *e*SS SS 03 45 52.0 -3.6
KIV pmax pmax
comp=Z,17nm,1.2s
KIV MLR MLR
comp=Z,14μm,22.0s,MS6.5
KIV **Kislovodsk** **107.25** **314** *e*PKP PKiKP 03 30 31.8 -0.3
KIV *e*PP PP 03 30 51.3 +0.6
KIV LR LR
comp=Z,13μm,20.0s,MS6.5
ARCES **ARCESS Array B** **107.26** **343** Pdiff Pdif 03 26 21.6 -1.9
comp=Z,2.0nm,0.9s,baz=57,slow=7.4,SNR=3.4
ARCES PKiKP PKiKP 03 30 30.3 -1.9
comp=Z,3.1nm,0.5s,baz=102,slow=1.9,SNR=31
ARCES PP PP 03 30 47.3 -3.5
comp=Z,7.9nm,1.0s,baz=53,slow=0.6,SNR=4.8
ARCES Sdiff SKSac 03 36 59.4 -0.5
comp=Z,2.4nm,0.9s,baz=20,slow=14,SNR=2.0
ARCES SP SP 03 40 09.0 +2.2
comp=Z,1.4nm,0.9s,baz=85,slow=28,SNR=2.5
ARCES PKKPbc PKKPbc 03 41 47.0 -1.0
comp=Z,1.2nm,0.5s,baz=248,slow=1.3,SNR=11
ARCES SS SS 03 46 01.3 +5.6
comp=Z,1.5nm,0.7s,baz=58,slow=26,SNR=2.2
ARCES **ARCESS Array B** **107.26** **343** P Pdif 03 26 21.6 -1.8
ARCES 03 30 47.3
ARCES S SKSac 03 36 59.4 -0.5
ARCES SP SP 03 40 09.0 +2.2
ARCES SS SS 03 46 01.3 +5.5
ARCES pmax pmax
comp=Z,2.0nm,0.9s
ARCES pmax pmax
comp=Z,8.0nm,1.0s
ARE0 **ARCESS Array S** **107.26** **343** *e*PKP PKiKP 03 30 30.7 -1.5
AMTX **Amarillo** **107.28** **55** PFAKE 03 30 40.0 +7.8
AMTX LR LR
comp=Z,18μm,21.0s,MS6.6
CUKT **Cukurca** **107.43** **307** *e*P PP 03 30 57.8 +5.8
FCC **Fort Churchill** **107.53** **30** *e*PKP PKiKP 03 30 30.7 -2.0
MOS **Moscow** **107.85** **327** *i* P Pdif 03 26 21.6 -4.5
MOS *e* 03 30 54.0
MOS *e*PS PS 03 40 12.1 -6.2
MOS *e*PPS 03 41 16.8
MOS *e*SS SS 03 46 15.0 +11
MOS MLR MLR
comp=N,11μm,21.0s,MS6.8
MOS MLR MLR
comp=E,24μm,21.0s,MS6.8
MOS MLR MLR
comp=Z,32μm,21.0s,MS6.8
MSL **Mosul** **107.95** **306** *ex* x 03 30 36.0
MSL *ex* x 03 40 09.0
ARTV **Artvin** **108.22** **311** *i* P PP 03 30 57.1 -0.7
JOF **Joensuu** **108.35** **335** *e*PKP Pdif 03 26 22.3 -6.0
JOF *e*PKP PKiKP 03 30 30.3 -3.9
CBKS **Cedar Bluff** **108.40** **51** PFAKE 03 30 50.0 +16
CBKS LR LR
comp=Z,54μm,21.0s,MS7.1
OBN **Obninsk** **108.61** **327** *e*P Pdif 03 26 29.8 +0.4
OBN *e* 03 30 55.7
OBN *e*S SKSac 03 37 06.7 +1.0
OBN *i*PS PS 03 40 27.9 +1.8
OBN *i*SS SS 03 46 21.1 +7.0
OBN pmax pmax
comp=Z,11nm,1.2s
OBN MLR MLR
comp=Z,29μm,21.0s,MS6.8
OBN **Obninsk** **108.61** **327** PFAKE 03 30 50.0 +15
OBN LR LR
comp=Z,31μm,22.0s,MS6.8
ULM **Lac du Bonnet** **108.94** **39** Pdiff Pdif 03 26 29.9 -1.1
comp=Z,6.0nm,1.0s,baz=320,slow=4.2,SNR=3.2
ULM PKiKP PKiKP 03 30 34.0 -1.4
comp=Z,4.0nm,0.7s,baz=335,slow=6.0,SNR=5.8
ULM PP PP 03 31 00.3 -2.7
comp=Z,3.5nm,1.0s,baz=326,slow=6.0,SNR=1.8
ULM SP SP 03 40 24.2 +0.3
comp=Z,0.7nm,0.4s,baz=116,slow=6.0,SNR=1.9
ULM PKKPab PKKPab 03 41 54.5 -1.0
comp=Z,1.3nm,0.4s,baz=160,slow=5.7,SNR=3.6
ULM SS SS 03 46 12.1 -6.4
comp=Z,1.0nm,0.4s,baz=199,slow=3.2,SNR=2.6
ATD **Arta Tunnel** **109.07** **280** Pdiff Pdif 03 26 31.2 -0.2
comp=Z,3.3nm,0.3s,baz=276,slow=23,SNR=1.9
ATD PP PP 03 31 03.5 -0.5
comp=Z,3.6nm,0.4s,baz=117,slow=21,SNR=2.2
TRO **Tromso** **109.08** **344** *e*P Pdif 03 26 30.8 -0.8
TRO *e*PP PP 03 30 57.5 -6.6
TRO AMS AMS 04 15 52.1
comp=Z,12μm,21.8s,MS6.4
JCT **Junction City** **109.24** **60** *e*P Pdif 03 26 32.5 +0.3
JCT MLR MLR
comp=Z,38μm,20.0s,MS7.0
SOC **Sochi** **109.43** **314** *i* P Pdif 03 26 32.4 -0.7
SOC *e* 03 31 05.9
SOC *e*PS PS 03 40 27.2 -7.2
SOC *e* 03 41 42.3
SOC pmax pmax
comp=Z,33nm,1.3s
SOC pmax pmax
comp=Z,134nm,2.7s
SOC MLR MLR
comp=Z,17μm,22.0s,MS6.6
MARD **Mardin** **109.66** **307** *i* P PP 03 31 04.2 -4.0
WMOK **Wichita Mounta** **109.67** **55** *e*PKP PKiKP 03 30 36.5 -0.2
WMOK LR LR
comp=Z,15μm,21.0s,MS6.5
PUL **Pulkovo** **110.10** **332** *i* PP 03 31 08.1 -3.3
PUL *i* SP SP 03 40 33.2 -2.4
KAF **Kangasniemi** **110.79** **336** *e*PKP Pdif 03 26 35.1 -4.0
KAF *e*PKP PKiKP 03 30 36.1 -2.7
ANN **Anapa** **110.79** **316** *i* PKIKP PKiKP 03 30 33.6 -5.2
ANN *e* 03 31 14.1
ANN *e*SP SP 03 40 36.2 -5.7
ANN *e*SS SS 03 47 00.6 +17
ANN pmax pmax
comp=Z,33nm,0.9s
ANN MLR MLR
comp=N,6μm,19.0s,MS6.5
ANN MLR MLR
comp=E,9μm,19.0s,MS6.5
ANN MLR MLR
comp=Z,3μm,19.0s,MS5.8
URFA **Urfa** **111.19** **308** *e*P PKiKP 03 30 42.2 +2.6
FINES **FINESS Array B** **111.21** **335** Pdiff Pdif 03 26 38.2 -2.7
comp=Z,2.1nm,0.6s,baz=68,slow=4.0,SNR=14
FINES PKiKP PKiKP 03 30 38.6 -1.0
comp=Z,2.7nm,0.5s,baz=68,slow=2.6,SNR=16
FINES PP PP 03 31 14.2 -5.1
comp=Z,2.4nm,0.6s,baz=102,slow=3.0,SNR=3.3
FINES SP SP 03 40 48.0 +2.2
comp=Z,0.7nm,0.9s,baz=343,slow=38,SNR=2.4
FINES PKKPbc PKKPbc 03 41 34.1 -1.3
comp=Z,1.7nm,0.9s,baz=164,slow=2.7,SNR=6.8
FINES SS SS 03 46 47.3 -1.6
comp=Z,1.1nm,0.7s,baz=144,slow=33,SNR=3.0
FINES **FINESS Array B** **111.21** **335** P Pdif 03 26 38.3 -2.7
FINES *i* 03 30 38.6
FINES 03 31 14.3
FINES SP SP 03 40 48.1 +2.3
FINES SS SS 03 46 47.3 -1.6
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES pmax pmax
comp=Z,2.0nm,0.6s
USHA **Ushuaia** **111.27** **157** SP SP 03 40 46.9 +0.5
comp=Z,5.0nm,1.0s,baz=82,slow=3.4,SNR=1.7
USHA SS SS 03 46 53.2 +3.4
comp=Z,3.3nm,0.9s,baz=26,slow=9.7,SNR=2.0
LOF **Lofoten** **111.54** **344** *e* PKiKP 03 30 42.1 +1.9
SVSK **Karacayir** **112.14** **311** *e*P PKiKP 03 30 42.7 +1.3
GZT **Gaziantep** **112.19** **308** *i* P PKiKP 03 30 39.7 -1.8
EYMN **Ely** **112.34** **40** *e*PKP PKiKP 03 30 41.3 -0.4
EYMN LR LR
comp=Z,26μm,21.0s,MS6.8
HKT **Hockley** **112.71** **60** *e*PKIKP PKiKP 03 30 43.7 +1.2
HKT MLR MLR
comp=Z,51μm,20.0s,MS7.1
SUMG **Summit** **112.94** **3** *e*PKP PKiKP 03 30 43.0 +0.1
SIM **Simferopol'** **113.04** **317** *i* P Pdif 03 26 54.0 +4.9
SIM *i* 03 30 42.0
SIM *e* 03 31 33.0
SIM *e*PS PS 03 41 04.0 -3.9
SIM *e*SS SS 03 47 24.0 +11
SIM pmax pmax
comp=Z,2μm,15.5s
BNN **Bunyan** **113.23** **310** *e*P PKiKP 03 30 43.7 +0.3
COBT **Iskenderun** **113.37** **307** *i* P PKiKP 03 30 39.0 -4.7
NATX **Nacogdoches** **113.48** **58** PFAKE 03 31 00.0 +16
NATX LR LR
comp=Z,24μm,21.0s,MS6.8
KOZT **Kozan** **113.52** **308** *e*P PKiKP 03 30 44.6 +0.6
JMIC **Jan Mayen** **113.53** **353** *e*P Pdif 03 26 52.6 +1.3
JMIC *e*PP PP 03 31 34.6 -1.3
JMIC AMS AMS 04 17 32.6
comp=Z,5μm,21.6s,MS6.0
JMIC **Jan Mayen** **113.53** **353** SP SP 03 41 08.0 +0.8
comp=Z,15nm,0.4s,baz=136,slow=6.5,SNR=2.2
JMIC SS SS 03 47 26.1 +6.4
comp=Z,17nm,0.5s,baz=141,slow=8.0,SNR=2.1
MNK **Minsk** **113.55** **328** *e*PKIKP PKiKP 03 30 41.0 -3.0
MNK *e* 03 31 37.0
MNK *e* 03 37 22.0
MNK *e*PS PS 03 41 08.0 -4.6
MNK *e*SS SS 03 47 37.0 +17
MNK MLR MLR
comp=Z,57μm,20.0s,MS7.2
MNK MLR MLR
comp=E,29μm,20.0s
ASF **Jabal al Asfar** **113.56** **303** PKiKP PKiKP 03 30 44.7 +0.6
comp=E,12nm,1.1s,baz=248,slow=1.9,SNR=11
ASF PP PP 03 31 31.1 -5.0
comp=E,1.7nm,0.7s,baz=77,slow=2.9,SNR=3.5
ASF PKKPbc PKKPbc 03 41 26.6 -1.1
comp=E,1.0nm,0.3s,baz=303,slow=14,SNR=3.2
ASF SS SS 03 47 17.1 -3.0
comp=E,0.7nm,0.3s,baz=240,slow=7.9,SNR=2.5
ASF **Jabal al Asfar** **113.56** **303** PKIKP PKiKP 03 30 44.7 +0.6
ASF 03 31 31.1
ASF SS SS 03 47 17.1 -3.0
CTKT **Corum** **113.64** **312** *i* P PKiKP 03 30 42.0 -2.2
CEYT **Ceyhan** **113.67** **308** *e*P PKiKP 03 30 44.3 0.0
KMBO **Kilima Mbogo** **113.70** **266** PKiKP PKiKP 03 30 45.5 +1.2
comp=E,7.9nm,1.2s,baz=52,slow=5.1,SNR=5.0
KMBO PP PP 03 31 34.7 -2.4
comp=E,0.6nm,0.5s,baz=59,slow=8.9,SNR=2.3
KMBO SP SP 03 41 09.8 +1.0
comp=E,0.4nm,0.4s,baz=51,slow=22,SNR=2.6
KMBO SS SS 03 47 30.2 +8.2
comp=E,0.8nm,0.6s,baz=17,slow=18,SNR=2.0
KMBO **Kilima Mbogo** **113.70** **266** *i* PKIKP PKiKP 03 30 45.6 +1.3
KMBO 03 31 34.7
KMBO SP SP 03 41 09.8 +1.1
KMBO SS SS 03 47 30.2 +8.3
KMBO pmax pmax
comp=Z,8.0nm,1.2s
KMBO pmax pmax
comp=Z,1.0nm,0.5s
KMBO **Kilima Mbogo** **113.70** **266** *e*PKP PKiKP 03 30 46.6 +2.3
KMBO LR LR
comp=Z,3μm,22.0s,MS5.8
CORM **Corum** **113.86** **311** *e*P PP 03 31 23.7 -15
MIAR **Mount Ida** **113.94** **55** *e*PKIKP PKiKP 03 30 45.9 +1.1
MIAR MLR MLR
comp=Z,26μm,20.0s,MS6.8
KRTS **Karatas** **114.05** **307** *e*P PKiKP 03 30 44.6 -0.4
TOS **Tosya** **114.11** **313** *e*P PKiKP 03 30 43.9 -1.2
KARA **Karaisali** **114.17** **308** *e*P PKiKP 03 30 48.5 +3.3
AKASG **Malin Array Be** **114.29** **324** PKP PKiKP 03 30 44.1 -1.3
comp=Z,5.6nm,0.5s,baz=52,slow=2.6,SNR=21
AKASG PP PP 03 31 39.5 -1.9
comp=Z,1.9nm,0.7s,baz=50,slow=1.5,SNR=2.3
AKASG SP SP 03 41 14.7 +0.6
comp=Z,0.2nm,0.3s,baz=184,slow=12,SNR=3.4
AKASG PKKPbc PKKPbc 03 41 24.8 -0.4
comp=Z,6.8nm,0.8s,baz=261,slow=4.0,SNR=23
AKASG SS SS 03 47 33.2 +3.4
comp=Z,0.1nm,0.2s,baz=174,slow=27,SNR=2.3
AKASG **Malin Array Be** **114.29** **324** PKIKP PKiKP 03 30 44.1 -1.4
AKASG 03 31 39.5
AKASG SP SP 03 41 14.7 +0.6
AKASG SS SS 03 47 33.2 +3.4
AKASG **Malin Array Be** **114.29** **324** PKP PKiKP 03 30 44.1 -1.3
AKASG PP PP 03 31 39.5 -1.9
AKASG SP SP 03 41 14.7 +0.6
AKASG PKKPbc PKKPbc 03 41 24.8 -0.4
AKASG SS SS 03 47 33.2 +3.4
BHL **Bhannes** **114.32** **305** *e*P PP 03 31 42.2 +0.7
CMIG **Matias Romero** **114.50** **74** PP PP 03 31 43.0 +0.2
comp=Z,2.7nm,0.9s,baz=289,slow=9.8,SNR=5.8
CMIG SP SP 03 41 22.1 +6.0
comp=Z,1.6nm,0.9s,baz=186,slow=23,SNR=2.2
CMIG SS SS 03 47 39.0 +6.6
comp=Z,1.3nm,0.7s,baz=102,slow=20,SNR=3.8
CANT **Cankiri** **114.51** **312** *e*P PKiKP 03 30 46.0 +0.1
NSS **Namsos** **114.52** **342** *e*PP PP 03 31 45.2 +2.2
NSS AMS AMS 04 19 56.6
comp=Z,17μm,17.7s,MS6.7
MERS **Mersin** **114.67** **308** *e*P PKiKP 03 30 47.6 +1.4
MMAI **Mount Meron Ar** **114.67** **304** PKP PKiKP 03 30 46.0 -0.3
comp=Z,2.8nm,0.5s,baz=46,slow=2.4,SNR=13
MMAI SP SP 03 41 18.3 +0.6
comp=Z,0.9nm,0.5s,baz=323,slow=50,SNR=2.8
MMAI SS SS 03 47 28.9 -5.9

comp=Z,0.4nm,0.3s,baz=21,slow=24,SNR=1.9
ELDT Eldivan 114.68 312 *i* P PKiKP 03 30 44.4 -1.9
BR131 Keskin Array S 114.71 311 *e*PKP PKiKP 03 30 45.3 -1.0
BR131 LR LR
comp=Z,5μm,20.0s,MS6.1
BRTR Keskin Array B 114.71 311 PKP PKiKP 03 30 45.4 -0.9
comp=Z,9.7nm,1.0s,baz=98,slow=1.2,SNR=30
BRTR PP PP 03 31 44.0 -0.4
comp=Z,3.8nm,1.0s,baz=77,slow=2.8,SNR=2.2
BRTR PKKPbc PKKPbc 03 41 22.1 -1.7
comp=Z,1.7nm,0.9s,baz=222,slow=1.7,SNR=7.4
KAMT Kaman 114.74 311 *e*P PKiKP 03 30 45.9 -0.4
UALR University of 114.90 54 *e*PKP PKiKP 03 30 47.0 +0.4
SAFT Safranbolu 115.03 313 *e*P PKiKP 03 30 46.7 -0.2
CCM Cathedral Cave 115.09 51 *e*PKIKP PKiKP 03 30 46.5 -0.5
CCM MLR MLR
comp=Z,50μm,21.0s,MS7.1
ANTO Ankara 115.31 312 *e*P PKiKP 03 30 46.6 -0.8
ANTO Ankara 115.31 312 ⇑PKIKP PKPdf 03 30 47.9 +0.5
ANTO Ankara 115.31 312 *e*PKPdf PKPdf 03 30 47.3 -0.1
ANTO LR LR
comp=Z,6μm,22.0s,MS6.1
LOD Lodumlu 115.32 312 *e*P PKPdf 03 30 47.4 -0.1
IKL Isikli 115.46 307 *e*P PKPdf 03 30 47.4 -0.4
EIL Elat 115.58 300 *e*PKPdf PKPdf 03 30 47.9 0.0
SGKT Sivrigoynuk 115.67 312 *i*P PKPdf 03 30 46.9 -1.2
FVM French Village 115.74 51 *e*PKIKP PKPdf 03 30 46.9 -1.3
KIS Kishinev 115.90 320 *e*P Pdif 03 26 56.0 -5.8
KIS *e* 03 31 52.0
KIS *e* 03 34 24.0
KIS *e* 03 37 28.0
KIS *e*PS PS 03 41 28.0 -6.1
KIS *e*PPS 03 42 48.0
KIS pmax pmax
comp=Z,500nm,12.0s
KIS pmax pmax
comp=Z,900nm,20.0s
ERMK Ermenek 115.98 308 *i*P PKPdf 03 30 46.6 -2.1
CSS Prodhromos 116.00 306 *e*P PKPdf 03 30 49.5 +0.8
CSS Prodhromos 116.00 306 *e*PKPdf PKPdf 03 30 48.6 -0.2
KONT Konya--Tatoy 116.10 310 *e*P PKPdf 03 30 48.5 -0.4
SUW Suwalki 116.20 329 *e*Pdiff Pdif 03 27 06.4 +3.2
SUW *e*PKP PKPdf 03 30 47.9 -1.2
SUW *e*PP PP 03 31 51.7 -3.1
SUW Suwalki 116.20 329 *e*PS PS 03 41 38.0 +1.2
SUW *e*SP SP 03 41 41.8 +10
SUW *e*SS SS 03 48 15.9 +21
KIZT Kizilcal 116.24 311 *e*P PKPdf 03 30 48.5 -0.7
MDU Mudurnu 116.32 313 *e*P PKPdf 03 30 49.3 -0.1
ESKT Eskisehir 116.84 312 *i*P PKPdf 03 30 49.4 -1.0
HFS Hagfors 116.92 338 PKKPbc PKKPbc 03 41 14.7 -1.3
comp=Z,2.4nm,0.7s,baz=151,slow=3.4,SNR=6.3
CFR Carcaliu 116.99 318 ⇑*i*P PKPdf 03 30 51.8 +1.1
SFJD Kangerlussuaq 117.00 9 *i*P Pdif 03 27 08.8 +2.1
SFJD *i* 03 31 55.6
SFJD *i*S SP 03 41 40.4 +1.6
SFJD *e* 03 42 43.6
SFJD *i*S tx 03 42 57.7
SFJD
comp=Z,12μm,21.0s
SFJD Kangerlussuaq 117.00 9 *i*P Pdif 03 27 08.8 +2.1
SFJD *i* 03 31 55.6
SFJD *i*S SP 03 41 40.4 +1.6
SFJD *i*S tx 03 42 57.7
SFJD MLR MLR
comp=Z,12μm,21.0s,MS6.5
TIRR Tirgusor 117.06 317 *e*PKIKP PKPdf 03 30 50.8 0.0
NB2 NORSAR Subarra117.21 339 PKPd PKPdf 03 30 49.6 -1.5
comp=Z,12nm,0.8s,baz=45,slow=1.9
NB2 NORSAR Subarra117.21 339 PKPd PKPdf 03 30 49.6 -1.5
baz=45,slow=1.9
NOA NORSAR Array B117.21 339 PKP PKPdf 03 30 49.0 -2.1
comp=Z,15nm,1.0s,baz=47,slow=2.0,SNR=18
NOA PKKPbc PKKPbc 03 41 15.0 0.0
comp=Z,2.8nm,0.9s,baz=43,slow=3.5,SNR=5.5
NOA SS SS 03 47 51.0 -17
comp=Z,0.7nm,0.9s,baz=156,slow=15,SNR=2.3
NOA NORSAR Array B117.21 339 PKP PKPdf 03 30 49.0 -2.1
NOA PKKPbc PKKPbc 03 41 15.0 0.0
NOA SS SS 03 47 51.0 -17
MOL Molde 117.31 342 *e*PP PP 03 32 01.5 -1.0
MOL *e* 03 41 56.7
MOL *e*SS SS 03 48 09.0 -0.3
MOL AMS AMS 04 24 38.8
comp=Z,11μm,15.2s,MS6.6
OXF Oxford 117.32 54 *e*PKIKP PKPdf 03 30 50.3 -1.0
OXF MLR MLR
comp=Z,14μm,21.0s,MS6.6
HRT Hereke 117.34 313 *e*P PKPdf 03 30 50.2 -1.1
ADVT Abdulvahap 117.41 313 *e*P PKPdf 03 30 51.0 -0.5
NAO01 NORSAR Array S117.46 339 *e*PKPdf PKPdf 03 30 51.3 -0.3
NAO01 LR LR
comp=Z,16μm,20.0s,MS6.6
ISP Isparta 117.55 310 *e*P PKPdf 03 30 51.5 -0.3
BCK Bucak 117.58 309 *e*P PKPdf 03 30 50.8 -1.0
EFI East Falkland 117.60 160 PFAKE 03 31 00.0 +8.2
EFI LR LR
comp=Z,7μm,21.0s,MS6.3
YLV Yalova 117.63 313 *e*P PKPdf 03 30 57.8 +5.9
VRI Vrincioaia 117.66 319 ⇓*i*P PKPdf 03 30 52.3 +0.3
VRI Vrincioaia 117.66 319 ⇓P PKPdf 03 30 52.3 +0.4
LVV L'vov 117.69 324 *i*PKIKP PKPdf 03 30 50.9 -1.1
LVV *i* 03 32 08.5
LVV *e*PPP 03 34 34.7
LVV *e* 03 37 36.1
LVV *e* 03 41 36.5
LVV *e*PS PS 03 41 47.7 -2.6
LVV *e*SS SS 03 48 15.3 +1.1
LVV MLR MLR
comp=Z,15μm,24.0s,MS6.5
LVV MLR MLR
comp=N,9μm,22.0s,MS6.6
LVV MLR MLR
comp=E,14μm,23.0s,MS6.6
PLOR Plostina 117.72 319 ⇓*i*P PKPdf 03 30 56.0 +3.9
BOSA Boshof 117.81 234 PKP PKPdf 03 30 52.6 +0.4
comp=E,6.8nm,0.5s,baz=120,slow=0.6,SNR=23
BOSA PKKPbc PKKPbc 03 41 12.8 -0.1
comp=E,12nm,1.0s,baz=104,slow=2.6,SNR=5.8
BOSA Boshof 117.81 234 *e*PKPdf PKPdf 03 30 52.7 +0.4
BOSA LR LR
comp=Z,14μm,22.0s,MS6.6
USIN University of 117.85 50 *e*PKPdf PKPdf 03 30 51.9 -0.5
BURAR Bucovina Array 117.93 322 ⇑*i*P PKPdf 03 30 54.9 +2.4
BURAR Bucovina Array 117.93 322 ⇑P PKPdf 03 30 54.9 +2.5
GDZ Gediz 117.98 311 *i*P PP 03 31 48.0 -19
WVT Waverly 118.20 52 *e*PKIKP PKPdf 03 30 51.8 -1.2
WVT MLR MLR
comp=Z,26μm,21.0s,MS6.8
PAYG Puerto Ayora 118.28 94 PFAKE 03 31 10.0 +17
PAYG LR LR
comp=Z,5μm,19.0s,MS6.1
PLAL Pickwick Lake 118.28 53 *e*PKPdf PKPdf 03 30 51.2 -2.0
PLAL LR LR
comp=Z,12μm,20.0s,MS6.5
ELL Elmali 118.29 309 *e*P PKPdf 03 30 53.3 +0.2
MLR Muntele Rosu 118.31 319 ⇓*i*P PKPdf 03 30 53.3 +0.1
MLR Muntele Rosu 118.31 319 ⇓P PKPdf 03 30 53.3 +0.1
BLO Bloomington 118.38 48 *e*PKIKP PKPdf 03 30 52.6 -0.7
KWP Kalwaria 118.54 325 *e*PKP PKPdf 03 30 55.3 +1.7
KWP *e*PP PP 03 32 13.7 +2.6
KWP *e*SP SP 03 42 03.9 +11
KWP *e*PS PS 03 42 04.7 +6.7
KWP *e*SS SS 03 49 04.0 +39
KWP Kalwaria 118.54 325 *e*PKIKP PKPdf 03 30 55.3 +1.7
KWP *e* 03 32 13.7
DENT Denizli 118.70 310 *e*P PKPdf 03 30 54.1 +0.1
DNZL Cakiroluk 118.70 310 *i*P PKPdf 03 30 54.2 +0.2
BNT Bandirma 118.75 313 *e*P PKPdf 03 30 53.2 -0.8
KONO Kongsberg 118.76 339 *e*P Pdif 03 27 16.3 +1.8
KONO *e*PP PP 03 32 11.4 -1.2
KONO *e*SS SS 03 48 33.5 +5.4
KONO Kongsberg 118.76 339 *e*P Pdif 03 27 16.3 +1.8
KONO LR LR
comp=Z,15μm,21.0s,MS6.6
FOO Floro 118.81 342 *e* PKPdf 03 30 54.5 +0.3
WCI Wyandotte Cave 118.82 49 *e*PKIKP PKPdf 03 30 53.4 -0.8
WCI MLR MLR
comp=Z,29μm,20.0s,MS6.9
LBTB Lobatse 118.95 237 *e*PKIKP PKPdf 03 30 54.8 +0.4
LBTB MLR MLR
comp=Z,7μm,19.0s,MS6.3
FETY Fethiye 118.96 309 *e*P PKPdf 03 30 53.5 -0.9

BALB Balikesir 119.00 312 *e*P PKPdf 03 30 53.9 -0.6
SZH Strazhica 119.16 317 P PKPdf 03 30 55.4 +0.6
UZH Uzhgorod 119.25 324 *i*PKIKP PKPdf 03 30 54.0 -1.0
YER Yerkesik 119.44 310 *e*P PKPdf 03 30 55.9 +0.5
CANB Canakkale 119.48 313 *e*P PKPdf 03 30 52.2 -3.3
STHS Stebnicka Huta 119.48 325 *i*PKP PKPdf 03 30 55.1 -0.4
SUR Sutherland 119.53 228 PFAKE 03 31 10.0 +14
SUR LR LR
comp=Z,12μm,20.0s,MS6.5
PVL Pavlikeni 119.58 317 P PKPdf 03 30 55.0 -0.6
GKP Gorka Klasztor 119.60 330 *e*PKP PKPdf 03 30 55.4 -0.3
GKP *e*PP PP 03 32 21.3 +2.9
GKP *e*SP SP 03 42 10.2 +7.9
GKP *e*SS SS 03 49 01.6 +23
BSD Bornholm Skovb 119.61 333 *i*P Pdif 03 27 16.1 -2.2
BSD Bornholm Skovb 119.61 333 *i*P PKPdf 03 30 57.0 +1.3
comp=Z,30nm,1.2s
BSD *i* 03 32 21.6
BSD *i* 03 41 50.2
BSD Bornholm Skovb 119.61 333 *i*PKIKP PKPdf 03 30 57.0 +1.3
BSD *i* 03 32 21.6
BSD pmax pmax
comp=Z,30nm,1.2s
LRAL Lakeview Retre 119.61 55 *e*PKPdf PKPdf 03 30 55.4 -0.3
LRAL *e*PP PP 03 32 19.2 +0.7
LRAL LR LR
comp=Z,17μm,19.0s,MS6.7
BER Bergen 119.66 341 *e*P Pdif 03 27 23.5 +4.9
BER *e*PP PP 03 32 16.9 -1.9
BER AMS AMS 04 25 51.1
comp=Z,14μm,19.1s,MS6.6
LSZ Lusaka 119.83 249 *e*PKIKP PKPdf 03 30 57.3 +1.2
LSZ MLR MLR
comp=Z,7μm,22.0s,MS6.2
IZM Izmir 119.84 311 *e*P PKPdf 03 30 56.0 -0.1
DIM Dimitrovgrad 119.87 316 *e*P PKPdf 03 30 55.9 -0.3
HOPE Hope Point 119.88 175 *e*PKPdf PKPdf 03 30 55.4 -0.9
HOPE LR LR
comp=Z,8μm,21.0s,MS6.3
OJC Ojcow 119.90 326 *e*Pdiff Pdif 03 27 25.1 +5.5
OJC *e*PKPdf PKPdf 03 30 55.7 -0.6
OJC *e*PP PP 03 32 21.8 +1.4
OJC *e*SKSdf SKSdf 03 38 08.7 +4.0
OJC *e*SP SP 03 42 06.1 +1.1
OJC L 04 23 35.6
comp=Z,121nm,21.8s
SWET Sewanee 119.93 53 *e*PKPdf PKPdf 03 30 55.1 -1.2
SWET *e*PP PP 03 32 17.8 -2.8
PLCA Paso Flores 120.00 144 PKP PKPdf 03 30 56.1 -0.3
comp=Z,7.1nm,0.8s,baz=171,slow=2.3,SNR=14
PLCA PKKPbc PKKPbc 03 41 05.3 +0.4
comp=Z,2.0nm,0.8s,baz=75,slow=5.0,SNR=4.1
PLCA Paso Flores 120.00 144 *e*PKPdf PKPdf 03 30 56.8 +0.4
PLCA LR LR
comp=Z,5μm,22.0s,MS6.1
BLCB Balcova 120.01 311 *e*P PKPdf 03 30 59.1 +2.6
NIE Niedzica 120.01 325 *e*PKPdf PKPdf 03 30 56.6 +0.1
KDZ Kurdzhali 120.10 315 P PKPdf 03 30 55.0 -1.6
DAT Datca 120.10 309 *e*P PKPdf 03 30 55.4 -1.3
COP Copenhagen 120.35 334 *i*P PKPdf 03 30 55.4 -1.7
comp=Z,16nm,0.9s
COP *i* 03 32 25.6
COP *i* 03 42 04.3
COP *i* 03 49 09.9
COP
comp=Z,5μm,20.0s
COP Copenhagen 120.35 334 *e*PKIKP PKPdf 03 30 55.4 -1.7
COP *i* 03 32 25.6
COP *i* 03 42 04.3
COP *i* 03 49 09.9
COP pmax pmax
comp=Z,16nm,0.9s
COP MLR MLR
comp=Z,5μm,20.0s,MS6.2
COP Copenhagen 120.35 334 *e*P PKPdf 03 30 55.4 -1.7
COP *i* 03 32 25.6
COP *i* 03 42 04.3
COP *i* 03 49 09.9
COP LR LR
comp=Z,5μm,20.0s,MS6.2
URLA Izmir 120.36 311 *i*P PKPdf 03 30 53.2 -4.0
KECS Kecovo 120.37 324 *e*PKP PKPdf 03 30 56.2 -1.0
KECS *e* 03 31 09.9
KECS *e*PP PP 03 32 24.8 +1.1
SMG Samos 120.38 311 *e*P PKPdf 03 30 58.1 +0.9
RZN Rozhen 120.57 316 *e*P PKPdf 03 30 55.9 -1.7
ACSO Alum Creek Sta 120.62 46 *e*PKPdf PKPdf 03 30 57.0 -0.6
ACSO LR LR
comp=Z,10μm,20.0s,MS6.5
CHOS Chios island 120.75 312 *e*P PKPdf 03 30 56.7 -1.2
BORG Borgarnes 120.83 356 PFAKE 03 31 10.0 +12
BORG LR LR
comp=Z,7μm,20.0s,MS6.3
PSZ Piszkesteto 121.00 324 *e*PKP/D PKPdf 03 30 57.9 -0.5
PSZ *e*PP PP 03 32 32.6 +4.7
OKC Ostrava-Krasne 121.01 326 *e*PKPDF PKPdf 03 30 57.7 -0.7
OKC *e*PP PP 03 32 27.3 -0.7
OKC *e*PKKP PKKPbc 03 41 00.4 -0.7
OKC *e*SP SP 03 42 15.9 +1.0
OKC AMS AMS 04 24 40.0
comp=Z,15μm,21.0s
BZS Buzias 121.03 321 ⇑*i*P PKPdf 03 30 57.8 -0.6
BZS Buzias 121.03 321 ⇑P PKPdf 03 30 57.8 -0.6
MUD Monsted U'grnd 121.18 336 *i*P Pdif 03 27 24.1 -1.2
MUD Monsted U'grnd 121.18 336 *i*P PKPdf 03 30 58.4 -0.3
comp=Z,34nm,1.3s
MUD *i* 03 32 24.1
MUD *i* 03 32 30.8
MUD *i* 03 42 09.1
MUD *e* 03 49 11.7
MUD Monsted U'grnd 121.18 336 *i*PKIKP PKPdf 03 30 58.4 -0.3
MUD *i* 03 32 30.8
MUD pmax pmax
comp=Z,34nm,1.3s
VTS Vitosha 121.26 317 P PKPdf 03 30 57.3 -1.6
VTS Vitosha 121.26 317 ⇑P PKPdf 03 30 59.2 +0.3
MMB Musomiste 121.30 316 P PKPdf 03 30 56.8 -2.1
VYHS Vyhne 121.32 325 *i*PKP PKPdf 03 30 57.9 -1.1
VYHS *e*PP PP 03 32 31.5 +1.3
VYHS Vyhne 121.32 325 *i*PKIKP PKPdf 03 30 57.9 -1.1
VYHS *e* 03 32 31.5
VYHS MLR MLR
comp=Z,12μm,19.8s,MS6.5
MORC Moravsky Berou 121.37 327 *e*PKIKP PKPdf 03 30 58.5 -0.6
TZTN Tazewell 121.41 50 *e*PKPdf PKPdf 03 30 58.9 -0.2
TZTN *e*PP PP 03 32 28.9 -1.8
KSP Ksiaz 121.45 328 *e*PKP PKPdf 03 30 54.8 -4.4
KSP *e*PP PP 03 32 35.1 +4.0
KSP *e*SKS SKSdf 03 37 56.5 -11
KSP *e*SP SP 03 42 21.4 +2.6
KSP *e*PS PS 03 42 25.9 +1.8
KSP *e*PS PS 03 42 26.5 +2.4
KSP *e*SS tx 03 49 55.5
KSP Ksiaz 121.45 328 *e*PKP PKPdf 03 30 58.8 -0.4
KSP *e*PP PP 03 32 31.0 -0.1
KSP *e*PPP 03 35 08.0
KSP *e*SP SP 03 42 14.5 -4.3
KSP *e*PPS 03 43 43.0
KSP *e*SS SS 03 49 06.0 +3.3
KSP LR LR
comp=Z,43μm,22.4s,MS7.0
APE Apeiranthos 121.56 310 *e*P PKPdf 03 30 57.9 -1.6
KKB Krupnik 121.64 316 *e*P PKPdf 03 30 57.8 -1.8
DPC Dobruska-Polom 121.72 328 *e*PKPDF PKPdf 03 30 59.4 -0.3
DPC *e*PP PP 03 32 32.9 +0.1
DPC *e*PKKP PKKPbc 03 40 58.8 +0.3
DPC *e*SP SP 03 42 22.6 +1.5
DPC *ex* x 03 49 33.4
DPC AMS AMS 04 23 40.0
comp=Z,21μm,22.1s
DPC Dobruska-Polom 121.72 328 *e*PKIKP PKPdf 03 30 59.4 -0.3
DPC *e* 03 32 32.9
DPC *e* 03 42 22.6
DPC MLR MLR
comp=Z,21μm,22.1s,MS6.7
BUD Budapest 121.72 324 *e*PKP/D PKPdf 03 30 59.2 -0.6
BUD *e*PP PP 03 32 33.2 +0.3
RUE Ruedersdorf 121.76 331 *e*PKPdf PKPdf 03 30 59.1 -0.7
RUE *e*SKPdf SKPdf 03 34 31.0 -0.7
RUE *e*SP SP 03 42 19.5 -2.0
RUE Ruedersdorf 121.76 331 *e*PKPdf PKPdf 03 30 59.4 -0.4
LRW Lerwick 121.79 344 *e*P PKPdf 03 30 58.8 -1.1

LRW *e*P 03 30 59.1
LRW Lerwick 121.79 344 P PKPdf 03 30 59.1 -0.8
UPC Upice 121.79 328 *e*PKPDF PKPdf 03 30 59.3 -0.6
UPC *e*PP PP 03 32 34.6 +1.2
UPC *e*PKKP PKKPbc 03 40 57.4 -0.8
UPC Upice 121.79 328 *e*PKIKP PKPdf 03 30 59.3 -0.6
UPC *e* 03 32 34.6
SANT Santorini 121.83 310 *e*PKPdf PKPdf 03 30 58.6 -1.4
SVIS Svilajnac 121.86 320 ⇓*i*P PKPdf 03 30 59.2 -0.8
PAIG Paliouri 121.95 314 *e*P PKPdf 03 30 57.7 -2.5
PLG Polygyros 121.95 315 *e*P PKPdf 03 30 58.5 -1.7
SRO Srobarova 121.97 324 *e*PKP PKPdf 03 30 59.7 -0.5
ERPA Erie 122.01 43 PFAKE 03 31 10.0 +10
ERPA LR LR
comp=Z,22μm,19.0s,MS6.8
NPS Neapolis 122.05 308 *e*P PKPdf 03 31 00.9 +0.5
SMOL Smolenice 122.11 325 *e*PKP PKPdf 03 30 59.6 -0.9
SMOL Smolenice 122.11 325 *e*PKIKP PKPdf 03 30 59.7 -0.8
VAY Valandovo 122.20 316 ⇑*i*PKP PKPdf 03 30 58.5 -2.2
SCHQ Schefferville 122.28 25 PKP PKPdf 03 30 59.5 -1.4
comp=Z,22nm,1.2s,baz=53,slow=0.7,SNR=8.8
SCHQ PP PP 03 32 33.5 -3.2
comp=Z,2.1nm,0.7s,baz=260,slow=11,SNR=1.4
SCHQ PKKPbc PKKPbc 03 40 56.9 +0.5
comp=Z,6.5nm,0.9s,baz=134,slow=2.4,SNR=6.8
SCHQ Schefferville 122.28 25 *e*PKPdf PKPdf 03 30 59.4 -1.4
SCHQ LR LR
comp=Z,35μm,20.0s,MS7.0
STIP Stip 122.32 316 ⇑*i*PKP PKPdf 03 31 00.1 -0.8
GRUS Gruza 122.37 319 *i*P PKPdf 03 30 59.5 -1.5
BSEG Bad Segeberg 122.42 334 *e*PKPdf PKPdf 03 31 00.6 -0.5
BSEG *e*PP PP 03 32 33.2 -4.5
BSEG *e*SP SP 03 42 18.4 -9.0
BSEG Bad Segeberg 122.42 334 *e*PKPdf PKPdf 03 31 00.6 -0.5
BSEG *e*PP PP 03 32 33.2 -4.5
BSEG *e*SP SP 03 42 18.4 -9.0
ZST Bratislava 122.46 325 *e*PKP PKPdf 03 31 00.7 -0.5
ZST *e* 03 31 11.1
ZST Bratislava 122.46 325 *e*PKIKP PKPdf 03 31 00.7 -0.5
ZST *e* 03 31 11.2
NEO Neokhori 122.51 314 *e*P PKPdf 03 31 00.0 -1.3
XOR Xorichti 122.51 314 *e*P PKPdf 03 30 59.0 -2.3
PKSM Moragy 122.58 323 *e*P PKPdf 03 31 00.8 -0.6
IDI Anoyia 122.61 309 PKP PKPdf 03 31 01.4 -0.1
comp=Z,73nm,0.9s,baz=116,slow=3.6,SNR=28
IDI PP PP 03 32 37.6 -1.3
comp=Z,6.1nm,0.8s,baz=92,slow=15,SNR=1.4
IDI PKKPbc PKKPbc 03 40 54.7 -0.3
comp=Z,11nm,0.9s,baz=102,slow=4.2,SNR=4.5
ATH Athens Observa 122.62 312 *e*P PKPdf 03 31 00.8 -0.7
BRG Berggiesshubel 122.65 329 *e*PKPdf PKPdf 03 31 00.9 -0.6
BRG *e*PP PP 03 32 35.2 -4.0
BRG *e*SKPdf SKPdf 03 34 33.9 +0.5
BRG Berggiesshubel 122.65 329 *e*PKP PKPdf 03 31 01.3 -0.2
comp=Z,38nm,1.2s
BRG PP PP 03 32 44.0 +4.8
BRG *e* 03 34 29.0
comp=Z,25nm,2.1s
BRG *e* 03 42 36.0
BRG SS SS 03 49 44.0 +26
BRG Berggiesshubel 122.65 329 *e*PKIKP PKPdf 03 31 01.3 -0.2
BRG 03 32 44.0
BRG *e* 03 42 36.0
BRG SS SS 03 49 44.0 +26
BRG pmax pmax
comp=Z,38nm,1.3s
BRG pmax pmax
comp=Z,25nm,2.1s
SKO Skopje 122.71 317 ⇑*i*PKP PKPdf 03 31 01.3 -0.3
LIT Litokhoron 122.73 315 *e*P PKPdf 03 31 00.2 -1.5
DIVS Divcibare 122.74 320 *i*P PKPdf 03 31 01.7 0.0
TREC Trest 122.76 327 *e*PKPDF PKPdf 03 31 00.7 -1.0
TREC *e*PKKP PKKPbc 03 40 57.4 +2.9
TREC *e*SP SP 03 42 33.0 +2.6
TREC *ex* x 03 49 52.7
TREC Trest 122.76 327 *e*PKIKP PKPdf 03 31 00.7 -1.0
TREC *e* 03 42 33.0
CLL Collm 122.86 330 *e*Pdiff Pdif 03 27 34.2 +1.4
CLL *e*PKPdf PKPdf 03 31 01.1 -0.8
comp=Z,48nm,1.2s
CLL *ep*PKPdf pPKPdf 03 31 16.3 +0.7
CLL *e*PP PP 03 32 38.8 -1.8
CLL *ep*PP 03 32 53.8
CLL *e*PKSdf 03 34 37.7
CLL *e*PS PS 03 42 34.1 -2.4
CLL *e*PPS 03 44 02.6
CLL *e*SS SS 03 49 23.3 +2.8
CLL *e*SSS 03 54 11.2
CLL Collm 122.86 330 *e*Pdif Pdif 03 27 34.0 +1.2
CLL L 03 24 00.0
comp=Z,23μm,21.8s
CLL ⇑*i*PKPdf PKPdf 03 31 01.1 -0.8
comp=Z,27nm,1.1s
CLL *ex* x 03 31 03.0
comp=Z,48nm,1.2s
CLL *e*PP PP 03 32 42.0 +1.4
comp=N,2μm,23.6s
CLL *e*PP PP 03 32 42.0 +1.4
comp=E,2μm,20.7s
CLL *e*PP PP 03 32 42.0 +1.4
comp=Z,4μm,24.7s
CLL *ep*PP 03 32 52.0
CLL *e*PKSdf 03 34 37.0
CLL *e*PPP 03 35 15.0
CLL *e*PKKPbc PKKPbc 03 40 54.0 -0.1
comp=Z,12nm,1.2s
CLL *e*PS PS 03 42 32.0 -4.5
CLL *e*PPS 03 43 54.0
CLL *e*SS SS 03 49 12.0 -8.5
CLL *e*SSS 03 54 18.0
CLL Collm 122.86 330 ⇑*i*PKIKP PKPdf 03 31 01.1 -0.8
CLL *e* 03 32 42.0
CLL *e*PS PS 03 42 32.0 -4.5
CLL pmax pmax
comp=Z,27nm,1.1s
CLL pmax pmax
comp=Z,12nm,1.2s
CLL MLR MLR
comp=Z,23μm,21.8s,MS6.8
CLL Collm 122.86 330 *e*Pdif Pdif 03 27 34.0 +1.2
CLL ⇑*i*PKP PKPdf 03 31 01.1 -0.8
CLL *e*PP PP 03 32 42.0 +1.4
CLL *e*PKKP PKKPbc 03 40 54.0 -0.1
CLL *e*PS PS 03 42 32.0 -4.5
CLL LR LR
comp=Z,23μm,21.8s,MS6.8
PRU Pruhonice 122.86 328 *e*PKPDF PKPdf 03 31 01.0 -0.9
PRU *e*PP PP 03 32 41.6 +1.0
PRU *e*PKKP PKKPbc 03 40 54.5 +0.4
PRU *e*SP SP 03 42 31.9 +0.6
PRU *ex* x 03 49 53.1
PRU AMS AMS 04 24 00.0
comp=Z,23μm,22.4s
PRU Pruhonice 122.86 328 *e*PKIKP PKPdf 03 31 01.0 -0.9
PRU *e* 03 32 41.6
PRU *e* 03 42 31.9
PRU MLR MLR
comp=Z,23μm,22.4s,MS6.8
LKR Lokris 122.91 313 *e*P PKPdf 03 31 00.6 -1.4
RHK1 Bakonya 122.98 323 ⇓*e*P PKPdf 03 31 01.7 -0.5
SOP Sopron 123.05 325 *e*PKP/D PKPdf 03 31 01.6 -0.7
SOP *e*PP PP 03 32 42.5 +0.6
MCWV Mont Chateau 123.08 46 *e*PKPdf PKPdf 03 31 01.9 -0.4
MCWV LR LR
comp=Z,23μm,21.0s,MS6.8
VAM Vamos 123.11 309 *e*P PKPdf 03 31 02.5 +0.1
FWV Forest Hill 123.13 48 *e*PKPdf PKPdf 03 31 01.6 -0.9
FWV *e*PP PP 03 32 38.9 -3.6
KZN Kozani 123.16 315 *e*P PKPdf 03 31 01.2 -1.3
BIA Bitola 123.19 316 ⇓*i*PKP PKPdf 03 31 01.3 -1.2
BBLS Bajina Basta - 123.22 320 *i*P PKPdf 03 31 02.4 -0.2
AGG Agios Georgios 123.26 314 *e*P PKPdf 03 31 00.5 -2.2
ELN Prospectdale 123.30 49 *e*PKPdf PKPdf 03 31 02.2 -0.6
IVA Berane 123.36 319 ⇑*i*PKP PKPdf 03 31 02.1 -0.8
GVD Gavdhos 123.37 308 *e*PKPdf PKPdf 03 31 01.9 -1.0
PVY Plav 123.43 318 ⇑*i*PKP PKPdf 03 31 02.2 -0.8
PLE Pljevlja 123.48 319 ⇑*i*PKP PKPdf 03 31 03.0 -0.2
BLA Blacksburg 123.56 49 *e*PKPdf PKPdf 03 31 03.1 -0.2
BLA LR LR
comp=Z,3μm,20.0s,MS6.0
OBR Brabster 123.62 344 *e*P PKPdf 03 31 02.6 -0.8
VLI Veliai 123.64 311 *e*P PKPdf 03 31 01.9 -1.5

EVR	**Evrytania**	**123.67**	**314**	*e*P	PKPdf	03 31 03.2	-0.3
WERD	**Werda**	**123.73**	**330**	*e*PKPdf	PKPdf	03 31 02.9	-0.7
CLZ	**Clausthal**	**123.79**	**332**	*e*PKPdf	PKPdf	03 31 03.4	-0.3
CLZ				*e*PP	PP	03 32 40.3	-6.6
CLZ				*e*SKPdf	SKPdf	03 34 35.1	-0.4
CLZ				*e*SP	SP	03 42 28.0	-11
ORE	**Reay**	**123.84**	**345**	*e*P	PKPdf	03 31 02.9	-1.0
UPM	**Unac-Piva**	**123.85**	**319**	⇑ *i* PKP	PKPdf	03 31 03.1	-0.7
ARSA	**Arzberg**	**123.87**	**325**	⇑ *i* P	PKPdf	03 31 03.0	-0.8
	comp=Z,284nm,3.2s,SNR=10						
KHC	**Kasperske Hory**	**123.87**	**328**	*e*PKPDF	PKPdf	03 31 03.3	-0.6
KHC				*e*PP	PP	03 32 46.6	-0.8
KHC				*e*PKKP	PKKPbc	03 40 50.5	+0.4
KHC				*e*SP	SP	03 42 42.5	+2.2
KHC				*ex*	x	03 49 54.4	
KHC				AMS	AMS	04 24 30.0	
	comp=Z,25µm,21.4s						
KHC	**Kasperske Hory**	**123.87**	**328**	⇑ *e*PKP	PKPdf	03 31 03.1	-0.8
JSC	**Jenkinsville**	**123.88**	**52**	*e*PKPdf	PKPdf	03 31 04.1	+0.2
JSC				*e*PP	PP	03 32 43.9	-3.6
MOX	**Moxa**	**123.96**	**330**	*e*PKPdf	PKPdf	03 31 03.3	-0.7
MOX				*e*PP	PP	03 32 41.7	-6.3
MOX				*e*SKPdf	SKPdf	03 34 36.7	+0.8
MOX	**Moxa**	**123.96**	**330**	*e*P	PKPdf	03 31 03.7	-0.3
	comp=Z,71nm,1.6s						
MOX				*e*		03 33 05.5	
MOX							
	comp=Z,15µm,22.0s						
NKY	**Niksic**	**123.97**	**319**	⇑ *i* PKP	PKPdf	03 31 03.1	-0.9
TTG	**Podgorica**	**123.97**	**318**	⇑ *i* PKP	PKPdf	03 31 03.0	-1.1
GEC2	**GERESS Array S**	**123.98**	**327**	*e*PKPdf	PKPdf	03 31 03.4	-0.7
GERES	**GERESS Array B**	**123.98**	**327**	PKP	PKPdf	03 31 03.6	-0.5
	comp=Z,7.7nm,0.5s,baz=85,slow=1.6,SNR=44						
GERES				PP	PP	03 32 47.3	-0.9
	comp=Z,0.8nm,0.4s,baz=242,slow=39,SNR=8.5						
GERES				PKKPbc	PKKPbc	03 40 50.5	+0.8
	comp=Z,0.6nm,0.4s,baz=204,slow=2.9,SNR=3.5						
GERES	**GERESS Array B**	**123.98**	**327**	PKIKP	PKPdf	03 31 03.6	-0.5
GERES						03 32 47.3	
MSNY	**Massena**	**124.02**	**38**	*e*PKPdf	PKPdf	03 31 03.2	-1.0
OTO	**Tongue**	**124.05**	**345**	*e*P	PKPdf	03 31 02.9	-1.3
SSPA	**Standing Stone**	**124.06**	**44**	*e*PKPdf	PKPdf	03 31 03.6	-0.7
SSPA				LR	LR		
	comp=Z,20µm,20.0s,MS6.8						
JAN	**Janina**	**124.07**	**315**	*e*P	PKPdf	03 31 04.1	-0.2
MANZ	**Manzenberg**	**124.12**	**329**	*e*PKPdf	PKPdf	03 31 03.6	-0.8
MANZ				*e*PP	PP	03 32 42.8	-6.3
MANZ				*e*SKPdf	SKPdf	03 34 37.5	+1.3
MANZ				*e*SP	SP	03 42 28.3	-14
ULC	**Ulcinj**	**124.19**	**318**	⇑ *i* PKP	PKPdf	03 31 04.0	-0.5
ROTZ	**Rotzenmuhle**	**124.20**	**329**	*e*PKPdf	PKPdf	03 31 04.0	-0.5
ROTZ				*e*PP	PP	03 32 42.9	-6.8
BRY	**Bratogost**	**124.23**	**319**	⇑ *i* PKP	PKPdf	03 31 03.8	-0.8
ITM	**Ithomi**	**124.23**	**312**	*e*P	PKPdf	03 31 03.7	-0.9
WET	**Wettzell**	**124.23**	**328**	*e*PKPdf	PKPdf	03 31 04.0	-0.6
WET				*e*PP	PP	03 32 42.8	-7.1
WET				*e*SKPdf	SKPdf	03 34 37.6	+1.2
MOA	**Molln**	**124.24**	**326**	⇑ *i* P	PKPdf	03 31 03.6	-1.0
	comp=Z,298nm,3.6s,SNR=7.3						
RLS	**Riolos of Patr**	**124.25**	**313**	*e*P	PKPdf	03 31 04.6	0.0
JTS	**JuntasAbangare**	**124.26**	**81**	PKP	PKPdf	03 31 04.1	-0.5
	comp=Z,26nm,1.1s,baz=292,slow=4.5,SNR=7.0						
JTS				PP	PP	03 32 49.5	-0.5
	comp=Z,4.0nm,0.8s,baz=60,slow=24,SNR=2.3						
JTS	**JuntasAbangare**	**124.26**	**81**	PKIKP	PKPdf	03 31 04.1	-0.5
JTS						03 32 49.5	
JTS				pmax	pmax		
	comp=Z,26nm,1.1s						
JTS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
JTS	**JuntasAbangare**	**124.26**	**81**	*e*PKPdf	PKPdf	03 31 04.8	+0.2
JTS				LR	LR		
	comp=Z,9µm,22.0s,MS6.4						
BUM	**Brajici-Budva**	**124.27**	**318**	⇑ *i* PKP	PKPdf	03 31 03.9	-0.8
SISC	**Sisak**	**124.32**	**323**	*i*P	PKPdf	03 31 04.4	-0.3
LONY	**Lake Ozonia**	**124.39**	**38**	*e*PKPdf	PKPdf	03 31 04.3	-0.5
HCY	**Herceg Novi**	**124.47**	**319**	⇑ *i* PKP	PKPdf	03 31 04.0	-1.1
COW	**Cow Castle Cre**	**124.60**	**53**	*e*PKPdf	PKPdf	03 31 06.5	+1.2
UBBA	**Unterbreizbach**	**124.63**	**331**	*e*PKPdf	PKPdf	03 31 04.6	-0.7
UBBA				*e*PP	PP	03 32 47.7	-4.8
UBBA				*e*SKPdf	SKPdf	03 34 38.2	+1.1
UBBA				*e*SP	SP	03 42 41.4	-5.6
BINY	**Binghamton**	**124.66**	**42**	*e*PKPdf	PKPdf	03 31 05.0	-0.4
BINY				LR	LR		
	comp=Z,40µm,21.0s,MS7.1						
IBBN	**Ibbenburen**	**124.67**	**334**	*e*PKPdf	PKPdf	03 31 04.8	-0.6
IBBN				*e*PP	PP	03 32 48.7	-4.1
IBBN				*e*SKPdf	SKPdf	03 34 38.9	+1.7
GRA1	**Grafenberg Arr**	**124.75**	**329**	*e*PKPdf	PKPdf	03 31 04.9	-0.7
GRA1				*e*PP	PP	03 32 45.7	-7.6
GRA1				*e*SP	SP	03 42 43.0	-5.0
GRA1				LR	LR		
	comp=Z,19µm,21.6s,MS6.7						
GRF	**Grafenberg Arr**	**124.75**	**329**	*e*PKPdf	PKPdf	03 31 04.9	-0.7
GRF				*e*PP	PP	03 32 45.7	-7.6
GRF				*e*SP	SP	03 42 43.0	-5.0
GRF				*e*L		04 25 39.1	
	comp=Z,19µm,21.6s						
KEK	**Kerkira**	**124.79**	**315**	*e*P	PKPdf	03 31 04.9	-0.7
STON	**Ston**	**124.79**	**320**	*i* P	PKPdf	03 31 03.7	-2.0
OBKA	**Obir**	**124.84**	**325**	⇑ *i* P	PKPdf	03 31 04.8	-0.9
	comp=Z,255nm,3.3s,SNR=9.9						
VLS	**Valsamata**	**124.84**	**313**	*e*P	PKPdf	03 31 04.8	-0.9
FRNY	**Flat Rock**	**124.88**	**38**	*e*PKPdf	PKPdf	03 31 04.8	-1.0
NCB	**Newcomb**	**124.93**	**39**	*e*PKPdf	PKPdf	03 31 05.3	-0.6
NCB				LR	LR		
	comp=Z,24µm,19.0s,MS6.9						
BOJS	**Bojanci**	**124.97**	**323**	*i* Pdiff	Pdif	03 27 48.9	+6.7
BOJS				*e*PKPdf	PKPdf	03 31 05.5	-0.4
BOJS				*e*PP	PP	03 32 46.5	-8.4
NHSC	**New Hope**	**125.10**	**53**	*e*PKPdf	PKPdf	03 31 06.5	+0.3
NHSC				LR	LR		
	comp=Z,15µm,20.0s,MS6.7						
LJU	**Ljubljana**	**125.11**	**324**	*e*Pdiff	Pdif	03 27 51.9	+9.1
LJU				*i* PKP	PKPdf	03 31 05.7	-0.6
LJU				*i*		03 31 08.0	
LJU				*e*PP	PP	03 32 52.7	-3.0
LJU				*e*		03 34 18.5	
LJU				*e*		03 34 45.1	
LJU				*e*SP	SP	03 42 51.3	+0.2
LJU				*e*		03 50 10.8	
SOR	**Soroa**	**125.11**	**66**	*e*P	PKPdf	03 31 06.1	-0.1
KBA	**Koelnbreinsper**	**125.20**	**326**	⇑ *i* P	PKPdf	03 31 05.4	-1.0
	comp=Z,100nm,1.6s,SNR=14						
SDMD	**Soldier's Deli**	**125.30**	**45**	*e*PKPdf	PKPdf	03 31 05.3	-1.3
MIV	**Mineville/With**	**125.31**	**38**	*e*PKPdf	PKPdf	03 31 06.4	-0.2
WTSB	**Winterswijk**	**125.33**	**334**	⇑ *i* PKiKP	PKiKP	03 31 06.1	-0.9
	comp=Z,63nm,2.1s						
MVL	**Millersville**	**125.39**	**44**	*e*PKPdf	PKPdf	03 31 06.8	+0.1
CBN	**Corbin**	**125.42**	**46**	*e*PKPdf	PKPdf	03 31 07.0	+0.2
CBN				LR	LR		
	comp=Z,27µm,19.0s,MS6.9						
DWPF	**Disney**	**125.44**	**60**	*e*PKPdf	PKPdf	03 31 07.1	+0.3
DWPF				LR	LR		
	comp=Z,18µm,21.0s,MS6.7						
VOY	**Vojsko**	**125.48**	**325**	*e*PKPdf	PKPdf	03 31 06.1	-0.9
BUG	**Bochum--Univer**	**125.49**	**333**	*e*PKPdf	PKPdf	03 31 06.2	-0.8
BUG				*e*PP	PP	03 32 51.8	-6.4
BUG				*e*SKPdf	SKPdf	03 34 40.5	+1.7
ACCN	**Adirondack Com**	**125.58**	**39**	*e*PKPdf	PKPdf	03 31 06.6	-0.5
PTCC	**Patocco-Chiusa**	**125.58**	**325**	PKP	PKPdf	03 31 06.6	-0.6
FUR	**Furstenfeldbru**	**125.67**	**328**	*e*PKPdf	PKPdf	03 31 06.6	-0.7
FUR				*e*PP	PP	03 32 52.1	-7.4
LCI	**Lecce**	**125.69**	**317**	PKP	PKPdf	03 31 07.5	+0.1
NVLJ	**Novalja**	**125.71**	**323**	*i* P	PKPdf	03 31 05.9	-1.5
GMNA	**Gemona**	**125.72**	**325**	PKP	PKPdf	03 31 06.8	-0.6
ESY	**Stoneypath**	**125.76**	**342**	*e*P	PKPdf	03 31 06.5	-1.0
ESY				AMb	AMB	03 31 10.8	
	comp=Z,104nm,1.3s						
TNS	**Taunus Mts**	**125.77**	**331**	*e*PKPdf	PKPdf	03 31 07.0	-0.5
TNS				*e*PP	PP	03 32 52.1	-8.0
TNS				*e*SKPdf	SKPdf	03 34 41.4	+2.1
TOD	**Tromm**	**126.01**	**331**	PKP	PKPdf	03 31 07.2	-0.8
EBL	**Broad Law**	**126.01**	**342**	*e*P	PKPdf	03 31 06.9	-1.1
EBL				AMb	AMB	03 31 10.8	
	comp=Z,95nm,1.6s						
WATA	**Walderalm**	**126.02**	**327**	⇑ *i* P	PKPdf	03 31 07.2	-0.8
	comp=Z,47nm,1.4s,SNR=20						
WTTA	**Wattenberg**	**126.03**	**327**	*i* P	PKPdf	03 31 07.4	-0.6
	comp=Z,829nm,3.6s,SNR=33						
EAB	**Aberfoyle**	**126.04**	**343**	*e*P	PKPdf	03 31 07.2	-0.8
EAB				AMb	AMB	03 31 10.8	
	comp=Z,73nm,1.3s						
EAU	**Auchinoon**	**126.07**	**343**	*e*P	PKPdf	03 31 07.4	-0.7
EAU				AMb	AMB	03 31 12.9	
	comp=Z,104nm,1.3s						
LBNH	**Lisbon**	**126.21**	**38**	*e*PKIKP	PKPdf	03 31 08.0	-0.4
LBNH				MLR	MLR		
	comp=Z,26µm,21.0s,MS6.9						
MOTA	**Moosalm**	**126.27**	**327**	⇓ *i* P	PKPdf	03 31 07.5	-1.0
	comp=Z,42nm,1.2s,SNR=25						
HNH	**Hanover**	**126.27**	**38**	*e*PKPdf	PKPdf	03 31 08.4	-0.1
SQTA	**Sankt Quirin**	**126.29**	**327**	⇑ *i* P	PKPdf	03 31 07.9	-0.6
	comp=Z,46nm,1.3s,SNR=17						
STU	**Stuttgart**	**126.36**	**330**	*e*PKPdf	PKPdf	03 31 08.0	-0.7
STU				*e*PP	PP	03 32 56.5	-7.6
STU				*e*SKPdf	SKPdf	03 34 41.8	+1.4
STU	**Stuttgart**	**126.36**	**330**	*e*PKPdf	PKPdf	03 31 08.5	-0.1
ABH	**Alteburg**	**126.43**	**332**	PKP	PKPdf	03 31 08.1	-0.7
ESK	**Eskdalemuir**	**126.45**	**342**	*e*P	PKPdf	03 31 07.5	-1.3
ESK				AMb	AMB	03 31 09.2	
	comp=Z,55nm,1.7s						
ESK	**Eskdalemuir**	**126.45**	**342**	*e*PKPdf	PKPdf	03 31 08.2	-0.7
ESK				LR	LR		
	comp=Z,7µm,20.0s,MS6.4						
FGMS	**Monte Sant'Ang**	**126.49**	**319**	PKP	PKPdf	03 31 08.4	-0.5
ECK	**Cauldkaine Hil**	**126.54**	**342**	*e*P	PKPdf	03 31 07.5	-1.5
ECK				AMb	AMB	03 31 14.4	
	comp=Z,67nm,1.8s						
HGN	**Heimansgroeve**	**126.56**	**333**	⇑ *i* PKiKP	PKiKP	03 31 08.5	-1.0
	comp=Z,47nm,1.2s						
HGN				*e*PP	PP	03 32 32.5	-33
HGN				PKS		03 34 35.5	
HGN				*e*PPP		03 35 55.8	
HGN				*e*SKSP		03 43 01.3	
HGN				*e*PPS		03 44 37.0	
HGN				*e*SS	SS	03 50 51.3	+44
HGN				*e*SSS		03 55 21.3	
PAL	**Palisades**	**126.59**	**42**	*e*PKPdf	PKPdf	03 31 09.1	0.0
MEM	**Membach**	**126.64**	**333**	PKP	PKPdf	03 31 08.1	-1.1
MEM				APKP		03 31 20.3	
TRQA	**Tornquist**	**126.64**	**147**	*e*PKPdf	PKPdf	03 31 09.2	0.0
TRQA				LR	LR		
	comp=Z,7µm,20.0s,MS6.3						
BEBN	**Eben Emael**	**126.65**	**333**	PKP	PKPdf	03 31 08.6	-0.6
CPNY	**Central Park**	**126.66**	**42**	*e*PKPdf	PKPdf	03 31 09.5	+0.2
BWH	**Wardlaw**	**126.70**	**342**	*e*P	PKPdf	03 31 08.4	-0.9
CTI	**Castel Tesino**	**126.75**	**326**	PKP	PKPdf	03 31 08.5	-0.9
RUP	**Ruppelstein**	**126.78**	**332**	PKP	PKPdf	03 31 06.2	-3.3
LANF	**Langenberg**	**126.92**	**331**	PKP	PKPdf	03 31 09.5	-0.2
BBO1	**Bothel**	**126.95**	**342**	*e*P	PKPdf	03 31 09.0	-0.8
DAVA	**Damuels**	**126.96**	**328**	⇑ *i* P	PKPdf	03 31 09.4	-0.4
	comp=Z,478nm,3.8s,SNR=10.0						
QUA2	**Belchertown**	**126.97**	**40**	*e*PKPdf	PKPdf	03 31 09.8	0.0
CKE	**Keswick**	**127.03**	**342**	*e*P	PKPdf	03 31 09.3	-0.6
BFO	**Black Forest**	**127.09**	**330**	*e*PKPdf	PKPdf	03 31 09.0	-1.0
BFO				*e*PP	PP	03 33 03.8	-5.1
BFO				*e*SKPdf	SKPdf	03 34 43.4	+1.6
BFO	**Black Forest**	**127.09**	**330**	*e*PKIKP	PKPdf	03 31 08.6	-1.4
BFO				*e*		03 33 03.8	
BFO	**Black Forest**	**127.09**	**330**	*e*PKPdf	PKPdf	03 31 08.6	-1.4
BFO				*e*PKPdf	PKPdf	03 31 09.0	-1.0
BFO				*e*PP	PP	03 33 03.8	-5.1
BFO				*e*SKPdf	SKPdf	03 34 43.4	+1.6
BCLA	**Clavier**	**127.09**	**333**	PKP	PKPdf	03 31 09.8	-0.2
BCLA				APKP		03 31 30.9	
TIP	**Timpagrande**	**127.14**	**316**	*e*PKPdf	PKPdf	03 31 10.0	-0.1
CFAA	**Coronel Fontan**	**127.17**	**137**	PKP	PKPdf	03 31 10.1	-0.2
	comp=Z,3.1nm,0.8s						
CFAA				PP	PP	03 33 09.6	+0.2
	comp=Z,0.2nm,0.6s,baz=253,slow=13,SNR=1.7						
BRMO	**Bormio**	**127.20**	**327**	PKP	PKPdf	03 31 09.8	-0.4
STR	**Strasbourg**	**127.20**	**330**	PKP	PKPdf	03 31 09.3	-1.0
XDE	**Dent Fell**	**127.22**	**342**	*e*P	PKPdf	03 31 09.6	-0.7
XDE				AMb	AMB	03 31 15.8	
	comp=Z,151nm,1.2s						
UCC	**Uccle**	**127.23**	**334**	PKP	PKPdf	03 31 09.8	-0.5
WLF	**Walferdange**	**127.23**	**332**	*e*PKPdf	PKPdf	03 31 10.4	+0.1
WLF				*e*PP	PP	03 33 04.2	+5.6
WLF				*e*SKPdf	SKPdf	03 34 43.9	+1.8
WLF	**Walferdange**	**127.23**	**332**	PKP	PKPdf	03 31 09.7	-0.6
WLF	**Walferdange**	**127.23**	**332**	*e*PKPdf	PKPdf	03 31 10.8	+0.5
HRV	**Harvard--Oak R**	**127.36**	**39**	*e*PKPdf	PKPdf	03 31 10.4	-0.2
HRV				LR	LR		
	comp=Z,19µm,20.0s,MS6.8						
CING	**Cingoli**	**127.36**	**322**	PKP	PKPdf	03 31 10.6	0.0
SNF	**Seneffe**	**127.48**	**334**	PKP	PKPdf	03 31 10.3	-0.4
LHO	**Holmfirth**	**127.49**	**340**	*e*P	PKPdf	03 31 10.2	-0.6
WLS	**Welschbruch**	**127.52**	**330**	PKP	PKPdf	03 31 10.2	-0.7
GIVF	**Givet**	**127.53**	**333**	*e*PKIKP	PKPdf	03 31 10.1	-0.8
	comp=Z,93nm,1.0s						
CII	**Carovilli**	**127.55**	**320**	PKP	PKPdf	03 31 11.1	+0.2
FELD	**Feldberg im Sc**	**127.55**	**329**	PKP	PKPdf	03 31 09.9	-1.0
CDF	**Champ du Feu**	**127.56**	**330**	*e*PKIKP	PKPdf	03 31 09.9	-1.0
	comp=Z,95nm,1.4s						
WES	**Weston**	**127.57**	**39**	*e*PKPdf	PKPdf	03 31 11.0	+0.1
WES				LR	LR		
	comp=Z,14µm,20.0s,MS6.7						
KBI1	**Birley Grange**	**127.62**	**340**	*e*P	PKPdf	03 31 10.3	-0.8
DOU	**Dourbes**	**127.64**	**333**	PKP	PKPdf	03 31 11.2	+0.1
DOU				APKP		03 31 20.6	
ECH	**Echery**	**127.75**	**330**	PKP	PKPdf	03 31 09.9	-1.4
TUE	**Stuetta**	**127.75**	**327**	PKP	PKPdf	03 31 11.0	-0.3
AQU	**L'Aquila**	**127.79**	**321**	*e*PKPdf	PKPdf	03 31 11.3	-0.1
MURB	**Monte Urbino**	**127.84**	**322**	PKP	PKPdf	03 31 10.8	-0.7
BAIF	**Baives**	**127.84**	**334**	*e*PKIKP	PKPdf	03 31 11.2	-0.3
	comp=Z,75nm,1.2s						
KWE	**Weaver Farm**	**127.92**	**340**	*e*P	PKPdf	03 31 10.7	-0.9
RFI	**Roccamonfina**	**127.97**	**320**	PKP	PKPdf	03 31 11.7	0.0
MOF	**Molkenrain**	**128.00**	**330**	PKP	PKPdf	03 31 11.1	-0.7
TSUM	**Tsumeb**	**128.06**	**240**	*e*PKPdf	PKPdf	03 31 12.7	+0.8
TSUM				LR	LR		
	comp=Z,8µm,19.0s,MS6.4						
BBS	**Basel-Blauen**	**128.07**	**329**	PKP	PKPdf	03 31 10.2	-1.7
FNVD	**Fontana Vidola**	**128.16**	**324**	PKP	PKPdf	03 31 12.3	+0.2
HINF	**Hinteralfeld**	**128.17**	**330**	*e*PKIKP	PKPdf	03 31 11.2	-0.9
	comp=Z,160nm,1.3s						
CERT	**Cerreto**	**128.27**	**321**	PKP	PKPdf	03 31 11.4	-0.9
SCLL	**Scilla**	**128.28**	**315**	PKP	PKPdf	03 31 11.7	-0.6
HAU	**Haulompre**	**128.29**	**330**	*e*PKIKP	PKPdf	03 31 12.1	-0.2
	comp=Z,179nm,1.4s						
HAU				*e*R			
	comp=Z,20µm,21.5s						
HAU	**Haudompre**	**128.29**	**330**	*e*PKPdf	PKPdf	03 31 12.1	-0.2
HAU				LR	LR		
	comp=Z,20µm,21.5s,MS6.8						
THEF	**They Montfort**	**128.31**	**331**	PKP	PKPdf	03 31 11.8	-0.6
CSNT	**Castellina Chi**	**128.46**	**323**	PKP	PKPdf	03 31 11.1	-1.6
SBD1	**Bryn Du**	**128.50**	**341**	*e*P	PKPdf	03 31 12.3	-0.4
MEZF	**Maizieres J'vi**	**128.57**	**332**	*e*PKIKP	PKPdf	03 31 12.6	-0.3
	comp=Z,288nm,1.5s						
VLC	**Villacollemand**	**128.59**	**324**	*e*PKPdf	PKPdf	03 31 11.5	-1.4
HLM1	**Long Mynd**	**128.69**	**340**	*e*P	PKPdf	03 31 12.4	-0.7
BOB	**Bobbio (Coli)**	**128.76**	**326**	PKP	PKPdf	03 31 11.9	-1.3
TOLF	**Tolfa**	**128.82**	**321**	PKP	PKPdf	03 31 12.6	-0.7
SSP1	**Stoney Pound**	**128.85**	**340**	*e*P	PKPdf	03 31 12.5	-0.9
SSP1				AMb	AMB	03 31 17.3	
	comp=Z,101nm,1.4s						
ATAH	**Atahualpa**	**128.93**	**104**	PKP	PKPdf	03 31 16.4	+2.8
	comp=Z,63nm,0.9s,baz=235,slow=0.8,SNR=25						
ATAH				PP	PP	03 33 21.1	+0.1
	comp=Z,3.5nm,0.7s,baz=167,slow=21,SNR=1.4						
ATAH				SKPbc		03 34 35.7	
	comp=Z,13nm,1.0s,baz=124,slow=4.8,SNR=3.8						
NNA	**Nana**	**129.09**	**110**	*e*PKPdf	PKPdf	03 31 14.3	+0.4
NNA				*e*SKP		03 34 39.5	
NNA				LR	LR		
	comp=Z,4µm,19.0s,MS6.1						
SWN1	**Swindon**	**129.14**	**339**	*e*P	PKPdf	03 31 13.3	-0.7
MCH1	**Michaelchurch**	**129.17**	**340**	*e*P	PKPdf	03 31 12.1	-1.9
MCH1				*e*P		03 31 12.5	
MCH1	**Michaelchurch**	**129.17**	**340**	P	PKPdf	03 31 12.5	-1.5
DLF	**Lyons Farm**	**129.18**	**343**	⇑ *i* P	PKPdf	03 31 11.0	-3.0
DCN	**Croghan**	**129.36**	**343**	⇑ *i* P	PKPdf	03 31 13.9	-0.5
CABF	**La Chapelle**	**129.37**	**329**	*e*PKIKP	PKPdf	03 31 14.2	-0.2
	comp=Z,149nm,1.2s						
HGH	**Gray Hill**	**129.40**	**339**	*e*P	PKPdf	03 31 13.4	-1.0
HGH				AMb	AMB	03 31 18.1	
	comp=Z,236nm,1.2s						
VAE	**Valguarnera**	**129.56**	**315**	PKP	PKPdf	03 31 15.9	+1.1
	comp=Z,24nm,1.1s,baz=104,slow=15,SNR=6.8						
VAE				PP	PP	03 33 25.5	+0.4
	comp=Z,2.6nm,0.3s,baz=68,slow=23,SNR=2.5						
VAE				SKPbc		03 34 36.1	
	comp=Z,19nm,0.9s,baz=311,slow=17,SNR=3.6						
LPL	**La Plagne**	**129.76**	**328**	*e*PKIKP	PKPdf	03 31 15.0	-0.1
	comp=Z,47nm,0.8s						
LPG	**La Plagne**	**129.77**	**328**	*e*PKIKP	PKPdf	03 31 15.3	+0.2
	comp=Z,63nm,1.0s						
HSA	**Swansea**	**129.77**	**340**	*e*P	PKPdf	03 31 13.3	-1.8
FIN	**Finale Ligure**	**129.80**	**326**	PKP	PKPdf	03 31 14.4	-0.8
LOR	**Lormes**	**130.01**	**331**	*e*PKIKP	PKPdf	03 31 15.2	-0.4
	comp=Z,189nm,1.5s						
LOR				*e*R			
	comp=Z,20µm,19.8s						
LOR	**Lormes**	**130.01**	**331**	*e*PKPdf	PKPdf	03 31 15.2	-0.4
LOR				LR	LR		
	comp=Z,20µm,19.8s,MS6.8						
BNI	**Bardonecchia**	**130.10**	**327**	*e*PKPdf	PKPdf	03 31 15.6	-0.2
BNI				*e*SKP		03 34 37.1	
OTAV	**Otavalo**	**130.14**	**94**	*e*PKPdf	PKPdf	03 31 17.2	+1.3
OTAV				LR	LR		
	comp=Z,6µm,20.0s,MS6.3						
IMI	**Imperia**	**130.17**	**326**	PKP	PKPdf	03 31 15.4	-0.5
CCCC	**Cccc**	**130.18**	**67**	*e*P	PKPdf	03 31 15.3	-0.6
HEX	**Exmoor**	**130.22**	**340**	*e*P	PKPdf	03 31 15.3	-0.7
MBDF	**Montbardon**	**130.26**	**327**	*e*PKIKP	PKPdf	03 31 15.5	-0.6
SSF	**Saint Saulge**	**130.32**	**331**	*e*PKIKP	PKPdf	03 31 15.9	-0.3
	comp=Z,252nm,1.6s						
PGF	**Pioggiola**	**130.36**	**324**	*e*PKIKP	PKPdf	03 31 15.7	-0.6
	comp=Z,277nm,1.3s						
AUTN	**L'Aution**	**130.37**	**326**	PKP	PKPdf	03 31 15.7	-0.6
SURF	**Saint Ours**	**130.40**	**327**	PKP	PKPdf	03 31 16.7	+0.4
CORF	**Corte**	**130.42**	**323**	PKP	PKPdf	03 31 15.7	-0.7
SBF	**Sospel**	**130.45**	**326**	*e*PKIKP	PKPdf	03 31 15.6	-0.8
	comp=Z,230nm,1.3s						
SMF	**Signal de Mont**	**130.46**	**331**	*e*PKIKP	PKPdf	03 31 15.8	-0.7
	comp=Z,110nm,1.3s						
GRN	**Grenoble**	**130.47**	**328**	PKP	PKPdf	03 31 16.2	-0.3
LUCF	**Luceram**	**130.48**	**326**	PKP	PKPdf	03 31 15.7	-0.8
REVF	**Revere**	**130.57**	**326**	PKP	PKPdf	03 31 15.7	-1.0
HYF	**Humbligny**	**130.58**	**332**	*e*PKIKP	PKPdf	03 31 16.3	-0.4
MVIF	**Mont Vial**	**130.59**	**326**	PKP	PKPdf	03 31 15.7	-1.0
AVF	**Avril sur Loir**	**130.59**	**331**	*e*PKIKP	PKPdf	03 31 16.1	-0.6
	comp=Z,38nm,1.2s						
ORIF	**Oris-en-Rattie**	**130.61**	**328**	*e*PKIKP	PKPdf	03 31 16.3	-0.4
	comp=Z,43nm,0.7s						
LDF	**La Druitiere**	**130.81**	**335**	*e*PKIKP	PKPdf	03 31 16.4	-0.7
	comp=Z,25nm,0.7s						
FLN	**La Foliniere**	**130.82**	**335**	*e*PKIKP	PKPdf	03 31 16.8	-0.3
	comp=Z,128nm,1.1s						
FLN				*e*R			
	comp=

ESAC PKP PKPdf 03 31 26.8 -0.4
ERTA Horta de San J 136.29 328 PKP PKPdf 03 31 25.2 -2.2
EBR Ebro Roquetas 136.30 327 *e*PKIKP PKPdf 03 31 27.5 +0.1
EBR *e*Ts 03 56 22.0
SET Setif 136.37 319 P PKPdf 03 31 30.0 +2.4
CMER Merouana 136.37 318 P PKPdf 03 31 30.0 +2.4
ECRI Cripan 136.50 332 PKP PKPdf 03 31 28.3 +0.5
EIBI Ibiza 137.08 325 PKP PKPdf 03 31 28.4 -0.4
EMOS Mosqueruela 137.14 328 PKP PKPdf 03 31 28.4 -0.5
EARI Arriondas 137.16 335 PKP PKPdf 03 31 30.1 +1.1
BBSR BB Station 137.29 47 PFAKE 03 31 40.0 +11
BBSR LR LR
comp=Z,27µm,21.0s,MS7.0
ABA Alger-Bouzarea 137.52 321 P PKPdf 03 31 30.0 +0.3
CPUP Villa Florida 137.82 140 PKhKP 03 31 17.9
comp=Z,2.9nm,0.7s,baz=217,slow=3.4,SNR=12
CPUP PKP PKPdf 03 31 31.0 +0.7
comp=Z,15nm,0.9s,baz=222,slow=2.7,SNR=16
CPUP PP PP 03 34 14.8 -2.9
comp=Z,0.8nm,0.5s,baz=220,slow=8.6,SNR=1.8
CPUP SKPbc SKPbc 03 35 04.2 +3.7
comp=Z,2.7nm,0.9s,baz=334,slow=14,SNR=1.9
CPUP Villa Florida 137.82 140 PKP 03 31 17.9
CPUP *e*PKPdf PKPdf 03 31 31.1 +0.9
CPUP LR LR
comp=Z,897nm,20.0s,MS5.5
EPON Pontenova 137.95 336 PKP PKPdf 03 31 27.9 -2.6
ECHE Chera 137.96 327 PKP PKPdf 03 31 30.1 -0.4
EBEN Beniarda 138.19 326 PKP PKPdf 03 31 30.9 0.0
SDV Santo Domingo 138.40 83 PKhKP 03 31 20.9
comp=Z,14nm,1.1s,baz=4.0,slow=4.7,SNR=6.5
SDV PKP PKPdf 03 31 32.5 +1.2
comp=Z,64nm,0.9s,baz=300,slow=3.0,SNR=32
SDV PP PP 03 34 22.0 +0.7
comp=Z,4.3nm,0.8s,baz=59,slow=16,SNR=1.8
SDV SKPbc SKPbc 03 35 07.0 +4.8
comp=Z,10nm,0.8s,baz=349,slow=20,SNR=9.1
SDV Santo Domingo 138.40 83 PKP 03 31 20.9
SDV *e*PKPdf PKPdf 03 31 32.2 +0.9
SDV *e*SKP 03 35 04.3
SDV LR LR
comp=Z,6µm,20.0s,MS6.3
ERUA La Rua 138.72 336 PKP PKPdf 03 31 30.8 -1.1
EBNR Beni Rached 138.78 322 P PKPdf 03 31 30.0 -2.0
GUD Guadarrama 138.79 331 PKP PKPdf 03 31 25.4 -6.6
STS Santiago 138.87 337 PKP PKPdf 03 31 31.0 -1.2
ECAL Calabor 138.93 335 PKP PKPdf 03 31 31.9 -0.3
ETOB Tobarra 138.96 327 PKP PKPdf 03 31 30.6 -1.8
PBRG Braganca 139.04 335 *e*PKPdf PKPdf 03 31 30.8 -1.7
EANR 'Ain N'Sour 139.26 322 P PKPdf 03 31 33.0 +0.1
ESDC Sonseca Array 139.45 330 PKhKP 03 31 24.3
comp=Z,0.5nm,0.5s,baz=6.4,slow=3.1,SNR=6.9
ESDC PKP PKPdf 03 31 33.8 +0.5
comp=Z,7.9nm,1.0s,baz=2.1,slow=2.8,SNR=12
ESDC PP PP 03 34 26.1 -1.7
comp=Z,10nm,1.1s,baz=26,slow=6.6,SNR=8.8
ESDC Sonseca Array 139.45 330 PKP 03 31 24.3
ESDC PKP PKPdf 03 31 32.7 -0.5
ESLA Sonseca Array 139.45 330 PFAKE 03 31 40.0 +6.8
ESLA LR LR
comp=Z,64µm,22.0s,MS7.3
EVIA Vianos 139.47 328 PKP PKPdf 03 31 32.5 -0.7
ETRT Tiaret 139.50 321 P PKPdf 03 31 34.0 +0.7
PVRL Vila Real 139.89 335 *e*PKPdf PKPdf 03 31 31.3 -2.7
EHUE Huescar 140.12 327 PKP PKPdf 03 31 34.6 +0.1
EQES Quesada 140.39 327 PKP PKPdf 03 31 35.0 0.0
PVIS Viseu 140.43 335 *e*PKPdf PKPdf 03 31 32.5 -2.5
ENIJ Nijar 140.52 326 PKP PKPdf 03 31 33.7 -1.5
MTE Manteigas 140.54 334 *e*PKPdf PKPdf 03 31 35.9 +0.7
MTE Manteigas 140.54 334 *e*PP PP 03 34 43.2 +8.8
MTE Manteigas 140.54 334 *e*PKPdf PKPdf 03 31 35.3 +0.1
MTE *e*SKP 03 35 09.8
EADA Adamuz 140.91 329 PKP PKPdf 03 31 34.0 -1.8
PCBR Castelo Branco 140.97 334 *e*PKPdf PKPdf 03 31 33.4 -2.6
ECOG Cogollos-Vega 141.04 327 PKP PKPdf 03 31 30.7 -5.4
ECOG PKP PKPdf 03 31 34.1 -2.0
ELUQ Luque 141.21 328 PKP PKPdf 03 31 31.2 -5.2
ERON Agron 141.36 327 PKP PKPdf 03 31 35.5 -1.2
EGUA Guajares 141.37 327 PKP PKPdf 03 31 34.9 -1.8
ELOJ Sierra Loja 141.45 328 PKP PKPdf 03 31 34.9 -1.9
SIV San Ignacio 141.46 124 PKhKP 03 31 30.7
comp=Z,20nm,0.9s,baz=240,slow=4.1,SNR=88
SIV PP PP 03 34 39.9 -0.2
comp=Z,3.9nm,0.9s,baz=289,slow=24,SNR=2.2
SJG San Juan 141.52 68 PKhKP 03 31 30.9
comp=Z,46nm,1.0s,baz=250,slow=2.8,SNR=7.6
SJG PKP PKPdf 03 31 37.2 +0.3
comp=Z,40nm,0.9s,baz=357,slow=3.5,SNR=9.3
SJG PP PP 03 34 36.6 -3.9
comp=Z,7.2nm,0.8s,baz=317,slow=13,SNR=1.5
SJG SKP 03 35 12.9
comp=Z,12nm,0.9s,baz=110,slow=7.9,SNR=2.4
SJG San Juan 141.52 68 *e*PKHKP 03 31 30.8
SJG 03 31 37.3
SJG 03 34 36.6
SJG MLR MLR
comp=Z,11µm,21.0s
SJG San Juan 141.52 68 *e*PKPpre 03 31 30.8
SJG PKP PKPdf 03 31 37.2 +0.3
SJG PP PP 03 34 36.6 -3.9
SJG SKP 03 35 12.9
SJG LR LR
comp=Z,11µm,21.0s,MS6.6
PTOM Tomar 141.56 334 *e*PKPdf PKPdf 03 31 36.9 -0.1
EBAD Badajoz 141.64 332 PKP PKPdf 03 31 37.1 -0.1
CPD Cerro la Pandu 141.76 68 *e*PKPpre 03 31 30.6
CPD *e*PKPdf PKPdf 03 31 37.0 -0.4
MTP Monte Pirata 142.07 68 *e*PKPpre 03 31 33.3
MTP *e*PKPdf PKPdf 03 31 39.2 +1.2
MTP *e*PP PP 03 34 43.7 -0.1
EMIN Mina Concepcio 142.26 331 PKP PKPdf 03 31 36.5 -1.8
EVO Evora 142.28 333 *e*PKIKP PKPdf 03 31 37.2 -1.1
comp=Z,164nm,1.5s
EVO *e*R
comp=Z,22µm,22.5s
MOE Montemor 142.44 333 *e*PKPdf PKPdf 03 31 37.1 -1.5
ESPR Espera 142.55 329 PKP PKPdf 03 31 37.7 -1.2
PBEJ Beja 142.62 332 *e*PKPdf PKPdf 03 31 37.2 -1.7
LIS Lisbon 142.62 334 *e*P PKPdf 03 31 35.8 -3.2
EJIF Jimena Fronter 142.67 328 PKP PKPdf 03 31 38.5 -0.6
EGRO El Granado 142.84 331 PKP PKPdf 03 31 37.9 -1.4
PTEO Sao Teotonio 143.40 333 *e*PKPdf PKPdf 03 31 39.7 -0.6
MORF Marmelete 143.57 332 *e*P PKPdf 03 31 40.7 +0.1
PCRV Puerto La Cruz 144.25 81 PKP PKPdf 03 31 39.4 -2.4
comp=Z,44nm,0.7s,baz=46,slow=0.3,SNR=22
PCRV PP PP 03 34 58.0 +1.1
comp=Z,8.0nm,0.9s,baz=175,slow=7.2,SNR=2.1
CPB Codrington 145.62 67 *e*P PKPdf 03 31 45.4 +1.3
BPA Boggy Peak 145.75 68 *e*P PKPdf 03 31 45.3 +0.9
PHG Guadaloupe-2 146.21 70 *e*P PKPdf 03 31 45.7 +0.5
SEG Port Louis 146.25 69 *e*P PKPdf 03 31 46.4 +1.2
TBG Guadaloupe-3 146.25 70 *e*P PKPdf 03 31 45.5 +0.2
BBL Barber's Block 146.49 70 *e*P PKPdf 03 31 46.4 +0.7
MGG Marie-Galante 146.54 70 *e*P PKPdf 03 31 47.5 +1.8
MDN Morne-Daniel 146.61 71 *e*P PKPdf 03 31 45.9 0.0
DWS Wesley 146.63 70 *e*P PKPdf 03 31 46.8 +0.9
DSHT Scott's Head 146.65 71 *e*P PKPdf 03 31 49.1 +3.1
DEG La Desirade 146.68 69 *e*P PKPdf 03 31 48.8 +2.8
STGR Santa Cruz 146.77 359 *e*PKP PKPdf 03 31 48.5 +2.4
PVIA Vitoria 146.78 359 *e*PKP PKPdf 03 31 49.4 +3.3
SRBC Serra Branca 146.82 359 *e*PKP PKPdf 03 31 50.2 +4.0
PGRA Graciosa 146.82 359 *e*PKP PKPdf 03 31 48.7 +2.5
PLUZ Luz 146.84 0 *e*PKP PKPdf 03 31 50.0 +3.8
PVNV Vila Nova 147.06 358 *e*PKP PKPdf 03 31 49.7 +3.1
PSBA Serra de Santa 147.06 358 *e*PKP PKPdf 03 31 49.3 +2.7
PBIS Biscoitos 147.07 358 *e*PKP PKPdf 03 31 50.1 +3.5
ASBA Santa Barbara 147.11 358 *e*PKP PKPdf 03 31 50.1 +3.4
PFAV Pico das Favas 147.11 358 *e*PKP PKPdf 03 31 49.9 +3.2
PPAD Pico dos Padre 147.13 358 *e*PKP PKPdf 03 31 50.2 +3.5
ROSA Rosais 147.13 359 *e*PKP PKPdf 03 31 51.0 +4.3
SVB Belmont 147.15 74 *e*P PKPdf 03 31 43.1 -3.6
RIB2 Ribeirinha 147.15 358 *e*PKP PKPdf 03 31 49.8 +3.0
ADH Angra Heroismo 147.17 358 *i* PKP PKPab 03 32 05.0 +14
ADH Angra Heroismo 147.17 358 *e*PP PP 03 35 27.5 +13
PAMA Santo Amaro 147.17 359 *e*PKP PKPdf 03 31 50.9 +4.1
FCV Fort Charlotte 147.18 75 *e*P PKPdf 03 31 43.0 -3.8
SSV Crater Summit 147.20 74 *e*P PKPdf 03 31 43.8 -3.0
PMAN Manadas 147.22 359 *e*PKP PKPdf 03 31 49.8 +2.9
PCED Cedros 147.23 360 *e*PKP PKPdf 03 31 49.4 +2.5
CALA Caldeira 147.28 360 *e*PKP PKPdf 03 31 48.2 +1.2
PICO Pico 147.36 359 *e*PKP PKPdf 03 31 50.4 +3.3
PTEI Pico do Teixo 147.36 359 *e*PKP PKPdf 03 31 51.5 +4.4
PCND Candelaria 147.39 360 *e*PKP PKPdf 03 31 51.5 +4.4
PID Ribeirinha 147.41 359 *e*PKP PKPdf 03 31 50.1 +2.9
PBOI Pico dos Bois 147.42 359 *e*PKP PKPdf 03 31 51.5 +4.3
PFAD Fenais da Ajud 147.86 355 *e*PKP PKPdf 03 31 56.5 +8.6
PMAT Coroa da Mata 147.90 355 *e*PKP PKPdf 03 31 55.1 +7.1
MIRA Miradouro 147.91 355 *e*PKP PKPab 03 31 59.2 +5.5
PVER Pico Vermelho 147.92 355 *e*PKP PKPdf 03 31 52.7 +4.7
LFA Lagoa do Fogo 147.94 355 *e*PKP PKPdf 03 31 53.8 +5.7
CML Cha da Macela 147.95 355 *e*PKP PKPdf 03 31 53.2 +5.1
PRCH Ribeira Ch 147.99 355 *e*PKP PKPdf 03 31 53.8 +5.7
PSMN Pico do Norte, 148.67 354 *e*PKP PKPdf 03 31 53.3 +4.1
CAM4 Nova Friburgo 149.02 155 *i* PKP PKPdf 03 31 51.8 +1.9
CAM4 *i* 03 31 54.2
CAM4 *i* 03 31 57.6
CAM4 *i* 03 32 08.5
CAM4 *i* 03 32 18.9
CAM4 *i* 03 32 29.6
TORD Torodi Ar. Bea 149.05 286 PKP PKPdf 03 31 49.1 -0.8
comp=Z,102nm,1.3s,baz=18,slow=0.4,SNR=149
TORD PKPbc PKPbc 03 31 54.1 +0.1
comp=Z,155nm,0.8s,baz=70,slow=0.4,SNR=261
TORD PP PP 03 35 25.4 +0.2
comp=Z,3.0nm,0.7s,baz=322,slow=34,SNR=1.8
CAM3 Guarapari 151.32 157 *i* PKP PKPdf 03 31 49.1 -4.3
CAM3 *i* 03 31 59.9
CAM3 *i* 03 32 08.4
CAM3 *i* 03 32 14.8
CAM3 *i* 03 32 35.8
BDFB Brasilia 151.50 138 PKP PKPdf 03 31 53.9 +0.2
comp=Z,33nm,1.1s,baz=129,slow=3.0,SNR=16
BDFB PKPbc PKPbc 03 32 00.7 +0.8
comp=Z,80nm,0.7s,baz=217,slow=0.8,SNR=66
BDFB PP PP 03 35 30.2 -9.2
comp=Z,11nm,1.0s,baz=210,slow=18,SNR=1.9
BDFB Brasilia 151.50 138 PKIKP PKPdf 03 31 53.9 +0.2
BDFB 03 32 00.7
CFTV Fuerteventura 153.45 330 PKP PKPdf 03 31 56.9 +0.3
EOSO Osorio 154.45 332 PKP PKPdf 03 31 58.4 +0.4
CCAN Las Canadas 154.80 334 PKP PKPdf 03 31 58.6 +0.1
DBIC Dimbokro 156.18 274 PKP PKPdf 03 32 00.5 +0.1
comp=Z,36nm,1.1s,baz=125,slow=1.5,SNR=9.2
DBIC PKPab PKPab 03 32 28.7 +0.5
comp=Z,45nm,0.8s,baz=75,slow=5.4,SNR=8.5
DBIC PP PP 03 35 57.8 -7.9
comp=Z,3.5nm,0.6s,baz=256,slow=8.7,SNR=1.8
DBIC Dimbokro 156.18 274 *e*PKPdf PKPdf 03 32 00.7 +0.4
DBIC LR LR
comp=Z,13µm,20.0s,MS6.8
ASCN Ascension 160.22 227 PFAKE 03 32 20.0 +15
ASCN LR LR
comp=Z,7µm,22.0s

*ISCJB **28** 03:23:56.0±0.8, 4218N±004×7363E±005, h10km, Error ellipse: s-maj=6.0km s-min=5.6km az=42.1*
*KNET **28** 03:23:55.7±0.3, 4221N×7370E, h0km, ml3.0, Error ellipse: s-maj=2.4km s-min=1.4km az=104.0*
*NNC **28** 03:23:56.9±5.0, 4241N×7352E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=117.0km s-min=16.0km az=175.0*
ISC 28 03:23:56.2±0.8, 4218N±004×7365E±005, h10km, n12, σ0§86/21, 14C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.06**	**145**	⇑P		**Pg**	**03 23 57.2**	**-1.1**
	9µm,0.2s							
AML				⇓S		**Sg**	**03 23 58.9**	**-0.9**
	24µm,0.2s							
EKS2	**Erkin-Say**	**0.49**	**11**	P		**Pg**	**03 24 04.9**	**-0.9**
	63nm,0.1s,SNR=98							
EKS2				⇑S		**Sg**	**03 24 11.9**	**-0.4**
	258nm,0.1s							
UCH	**Uchtor**	**0.64**	**85**	⇑P		**Pg**	**03 24 08.3**	**-0.4**
	96nm,0.2s,SNR=228							
UCH				⇑S		**Sg**	**03 24 17.7**	**+0.6**
	268nm,0.1s							
AAK	**Ala-Archa**	**0.77**	**54**	⇑P		**Pg**	**03 24 10.6**	**-0.6**
	44nm,0.2s,SNR=33							
AAK				⇑S		**Sg**	**03 24 21.4**	**+0.1**
	166nm,0.2s							
KBK	**Karagaybulak**	**1.07**	**63**	⇑P		**Pg**	**03 24 16.1**	**-0.8**
	77nm,0.2s,SNR=61							
KBK				⇑S		**Sg**	**03 24 31.0**	**+0.1**
	274nm,0.3s							
CHMS	**Chumysh**	**1.16**	**44**	⇑P		**Pb**	**03 24 17.4**	**-0.8**
	40nm,0.2s,SNR=18							
CHMS				⇓S		**Sb**	**03 24 33.2**	**-0.1**
	107nm,0.2s							
KZA	**Kyzart**	**1.20**	**94**	⇑P		**Pb**	**03 24 18.4**	**-0.6**
	92nm,0.2s,SNR=84							
KZA				⇑S		**Sb**	**03 24 35.5**	**+1.0**
	208nm,0.2s							
USP	**Ospenovka**	**1.25**	**30**	⇓P		**Pn**	**03 24 19.0**	**-0.8**
	64nm,0.2s,SNR=62							
USP				⇓S		**Sb**	**03 24 36.1**	**-0.1**
	162nm,0.2s							
TKM2	**Tokmak 2**	**1.62**	**62**	⇑P		**Pn**	**03 24 25.6**	**+0.8**
	2.9nm,0.5s							
TKM2				⇓S		**Sn**	**03 24 48.1**	**+2.3**
	14nm,0.6s							
KK31	**Karatay Array**	**2.49**	**293**	⇓Pn		**Pn**	**03 24 38.1**	**+1.3**
	9.1nm,0.2s,baz=119,slow=12,SNR=613							
KK31				Lg			03 25 11.7	
	53nm,0.5s,baz=114,slow=27,SNR=11							
KKAR	**Karatay Array**	**2.49**	**293**	*e*P		**Pn**	**03 24 38.1**	**+1.3**
KKAR				pmax	pmax			
	comp=Z,6.0nm,0.2s							
KNDC	**Almaty**	**2.66**	**66**	⇑Pn		**Pb**	**03 24 44.5**	**+0.6**
	comp=Z,56nm,0.5s							
KNDC				⇑Lg			03 25 20.9	
	comp=Z,310nm,0.7s							

*MOS **28** 03:36:16.4±1.0, 1973S×17453W, h33km, mb6.0/50, Error ellipse: s-maj=10.0km s-min=7.0km az=68.3*
*CRAAG **28** 03:36:16.8, 1976S×17452W, Mb5.4*
*ISCJB **28** 03:36:16.7±0.1, 2006S±003×17452W±004, h47km, mb5.7/138, MS5.8/23, Error ellipse: s-maj=5.7km s-min=3.1km az=69.7*
*SZGRF **28** 03:36:17.0, 2099S×17327W, h54km, Tonga Islands BJI **28** 03:36:17.4, 1925S×17464W, h24km, mB6.1, mb5.5, Ms6.1, Msz5.7*
*HRVD **28** 03:36:18.6±0.3, 1995S×17399W, h44km±1km, MW5.7/76, Centroid moment Tensor Solution. LP body waves: s29,c34;Mantle waves: s76,c120; Half duration: 1s6 Moment tensor: Scale 10^17^Nm; Mrr=3.24±.22; Mθθ=1.08±.13; Mϕϕ=2.16±.14; Mre=1.83±.10; Mrθ=1.49±.07; Mrϕ=0.94±.10; Best double couple: M=3.81900×10^17^ NP1:ϕs=337.00000°, δ31.00000°, λ113.00000°. NP2: ϕs=131.00000°, δ61.00000°, λ77.00000°. Principal axes: T 3.9360, Plg71.0000°, Azm122.0000°; N -0.2340, Plg12.0000°, Azm138.0000°; P -3.7020, Plg15.0000°, Azm231.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **28** 03:36:18.6±0.1, 1991S×17454W, mb5.8/105 Error ellipse: s-maj=5.7km s-min=3.3km az=148.0*
NEIC Felt at Nuku'alofa.
*IDC **28** 03:36:19.1±0.6, 1988S×17463W, h54km±5km, mb5.1/23, mb1 5.2/24, mb1mx5.2/24, mbtmp5.3/24, MS5.2/4, Ms1 5.2/4, ms1mx4.8/22, Error ellipse: s-maj=14.2km s-min=11.7km az=139.0*
ISC 28 03:36:18.5±0.1, 2008S±003×17446W±004, h49km, h49km±1.6km:pP-P, n775, σ1§00/360, mb5.7/138, MS5.8/23, 168C-21D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.65**	**23**	P		**Pn**	**03 37 47.0**	**-6.6**
	167nm,0.3s,baz=128,slow=1.6,SNR=102							
AFI				S		**Sn**	**03 38 50.8**	**-17**
	98nm,0.3s,baz=228,slow=22,SNR=10.0							
AFI				LR	LR		03 39 49.3	
	comp=Z,12µm,19.3s,baz=211,slow=32							
AFI	**Afiamalu**	**6.65**	**23**	*e*Pn		**Pn**	**03 37 47.1**	**-6.4**
	503nm,0.3s							
AFI				*e*Sn		**Sn**	**03 38 52.7**	**-15**
RAO	**Raoul Island**	**9.66**	**198**	S		**Sn**	**03 40 20.6**	**-1.2**
	89nm,0.3s,baz=74,slow=23,SNR=4.5							
RAO				LR	LR		03 41 52.7	
	comp=Z,14µm,19.4s,baz=223,slow=34							
RAR	**Rarotonga**	**13.80**	**97**	P		**Pn**	**03 39 23.1**	**-8.2**
	22nm,0.3s,baz=263,slow=7.9,SNR=34							
RAR				S		Sn	03 41 39.4	-24
	40nm,0.3s,baz=109,slow=17,SNR=7.3							
RAR				T			03 53 41.1	
	229nm,0.3s,baz=98,slow=16,SNR=13							
RAR	**Rarotonga**	**13.80**	**97**	P		**Pn**	**03 39 23.1**	**-8.2**
RAR				S		Sn	03 41 39.4	-24
BKM	**Butte a Klehm**	**16.54**	**275**	⇑*i*P		**Pn**	**03 40 13.7**	**+6.7**
DZM	**Mont Dzumac**	**17.93**	**260**	P		**Pn**	**03 40 28.1**	**+4.0**
	3.7nm,0.3s,baz=75,slow=16,SNR=47							
WCZ	**Waipu Caves**	**18.61**	**210**	PN		**Pn**	**03 40 33.3**	**+0.8**
PUZ	**Puketiti**	**19.01**	**198**	PN		**Pn**	**03 40 35.9**	**-1.4**
URZ	**Urewera**	**19.54**	**200**	P		**Pn**	**03 40 43.8**	**+0.3**
	22nm,0.3s,baz=12,slow=3.6,SNR=57							
URZ				S		**S**	**03 44 08.6**	**-11**
	1.7nm,0.3s,baz=41,slow=22,SNR=4.8							
URZ	**Urewera**	**19.54**	**200**	PN		**Pn**	**03 40 41.6**	**-1.8**
TAZ	**Tarawera**	**19.71**	**201**	PN		**Pn**	**03 40 45.7**	**+0.1**
PATZ	**Paeroa**	**19.93**	**202**	PN		**Pn**	**03 40 48.3**	**+0.1**
KNZ	**Kokohu**	**20.06**	**198**	PN		**P**	**03 40 50.0**	**+2.5**
RATZ	**Rangitukua**	**20.54**	**202**	PN		**P**	**03 40 53.3**	**+0.6**
BKZ	**Black Stump Fm**	**20.56**	**200**	PN		**P**	**03 40 52.6**	**-0.3**
HIZ	**Hauiti**	**20.57**	**204**	PN		**P**	**03 40 54.5**	**+1.5**
WNVZ	**Wahianoa**	**21.01**	**202**	PN		**P**	**03 40 57.9**	**+0.2**
BFZ	**Birch Farm**	**22.02**	**199**	PN		**P**	**03 41 07.9**	**-0.6**
MRZ	**Mangatainoka R**	**22.21**	**200**	PN		**P**	**03 41 08.8**	**-1.8**
KIW	**Kapiti Island**	**22.61**	**201**	PN		**P**	**03 41 13.5**	**-1.4**
CAW	**Cannon Point**	**22.78**	**201**	PN		**P**	**03 41 14.8**	**-1.8**
MRW	**Makara Radio**	**23.01**	**201**	PN		**P**	**03 41 17.5**	**-1.6**
SNZO	**South Karori**	**23.08**	**201**	*e*P		**P**	**03 41 18.3**	**-1.6**
	167nm,0.8s,mb5.5							
TCW	**Tory Channel**	**23.15**	**202**	PN		**P**	**03 41 18.1**	**-2.5**
TBI	**Tubuai**	**23.45**	**103**	*e*P		**P**	**03 41 20.2**	**-3.2**
	558nm,1.4s,mb5.8							
TUWZ	**Tuamarina**	**23.46**	**202**	PN		**P**	**03 41 22.1**	**-1.5**
QRZ	**Quartz Range**	**23.47**	**205**	PN		**P**	**03 41 22.6**	**-1.1**
NNZ	**Nelson**	**23.48**	**204**	PN		**P**	**03 41 21.2**	**-2.5**
PAE	**Paea**	**23.66**	**88**	*e*P		**P**	**03 41 21.8**	**-3.6**
	287nm,1.2s,mb5.6							
PPT	**Papeete**	**23.68**	**88**	*e*P		**P**	**03 41 22.2**	**-3.4**
	148nm,1.3s,mb5.3							
PPT	**Papeete**	**23.68**	**88**	*e*LQ			03 45 54.6	
	10µm,25.0s							
PPT				*e*LR	LR		03 46 52.9	
	13µm,23.5s							
PPT	**Papeete**	**23.68**	**88**	P		**P**	**03 41 23.8**	**-1.8**
	119nm,1.1s,mb5.2,baz=205,slow=7.8,SNR=5.1							
PPT				LR	LR		03 49 05.7	
	comp=Z,4µm,18.7s,MS4.9,baz=262,slow=32							
PPT				T			04 06 01.4	
	76nm,0.4s,baz=323,slow=11,SNR=6.4							
PPT	**Papeete**	**23.68**	**88**	P		**P**	**03 41 23.8**	**-1.8**
PPT				LR	LR		03 49 05.8	
THZ	**Tophouse**	**24.13**	**204**	PN		**P**	**03 41 28.6**	**-1.1**
KHZ	**Kahutara**	**24.47**	**202**	PN		**P**	**03 41 32.5**	**-0.2**
DSZ	**Denniston Nort**	**24.54**	**205**	PN		**P**	**03 41 33.3**	**-0.1**
LTZ	**Lake Taylor**	**25.24**	**203**	PN		**P**	**03 41 39.2**	**-0.6**
PMOR	**Pomariono Ree**	**25.82**	**83**	*e*P		**P**	**03 41 42.4**	**-2.6**
	229nm,1.3s,mb5.5							
WVZ	**Waitaha Valley**	**26.09**	**205**	PN		**P**	**03 41 46.7**	**-0.7**
RPZ	**Rata Peaks**	**26.50**	**204**	P		**P**	**03 41 52.9**	**+1.8**
	67nm,0.6s,mb5.4,baz=341,slow=2.2,SNR=24							
RPZ				S		**S**	**03 46 28.6**	**+6.8**
	5.2nm,0.7s,baz=328,slow=3.6,SNR=2.9							
RPZ	**Rata Peaks**	**26.50**	**204**	PN		**P**	**03 41 50.5**	**-0.7**
FOZ	**Fox Glacier**	**26.92**	**206**	PN		**P**	**03 41 53.5**	**-1.4**
LBZ	**Lake Benmore**	**27.40**	**204**	PN		**P**	**03 41 59.2**	**0.0**
JCZ	**Jackson Bay**	**27.72**	**207**	PN		**P**	**03 42 01.6**	**-0.6**
ODZ	**Otahua Downs**	**27.79**	**203**	PN		**P**	**03 42 04.4**	**+1.7**
WKZ	**Wanaka**	**28.23**	**205**	PN		**P**	**03 42 08.2**	**+1.5**
MLZ	**Mavora Lakes**	**29.00**	**206**	PN		**P**	**03 42 14.7**	**+1.2**
WHZ	**Wether Hill Ro**	**29.54**	**205**	PN		**P**	**03 42 19.1**	**+0.8**
ARMA	**Armidale**	**32.24**	**245**	*e*P		**P**	**03 42 43.4**	**+1.3**
CNB	**Canberra Magne**	**35.22**	**237**	*e*P		**P**	**03 43 09.2**	**+1.2**
	50nm,0.7s,mb5.5							
CNB				*e*			03 45 55.7	
RKT	**Rikitea**	**36.77**	**102**	*e*P		**P**	**03 43 20.0**	**-1.2**
	241nm,1.3s,mb5.9							
CTAO	**Charters Tower**	**36.84**	**263**	*e*P		**P**	**03 43 22.1**	**+0.3**
CTAO				pmax	pmax			
	comp=Z,32nm,0.5s,mb5.4							
CTAO	**Charters Tower**	**36.84**	**263**	*e*P		**P**	**03 43 22.1**	**+0.3**
	comp=Z,32nm,0.4s,mb5.5							
PMG	**Port Moresby**	**38.51**	**280**	P		**P**	**03 43 35.8**	**-0.1**
	comp=Z,44nm,0.8s,mb5.2,baz=75,slow=6.0,SNR=12							
PMG	**Port Moresby**	**38.51**	**280**	*e*P		**P**	**03 43 36.0**	**+0.1**
PMG				pmax	pmax			
	comp=Z,78nm,1.0s							
PMG	**Port Moresby**	**38.51**	**280**	*e*P		**P**	**03 43 36.0**	**+0.1**
	comp=Z,78nm,1.0s,mb5.4							
TOO	**Toolangi**	**38.84**	**235**	*e*P		**P**	**03 43 39.1**	**+0.4**
	comp=Z,19nm,0.6s,mb5.0							
TOO	**Toolangi**	**38.84**	**235**	*e*P		**P**	**03 43 39.1**	**+0.4**
TOO				pmax	pmax			
	comp=Z,19nm,0.6s,mb5.0							
STKA	**Stephens Creek**	**40.96**	**244**	*e*P		**P**	**03 43 54.1**	**-2.2**
	comp=Z,23nm,0.9s,mb4.8							
STKA				*e*			03 46 10.8	
STKA	**Stephens Creek**	**40.96**	**244**	P		**P**	**03 43 54.8**	**-1.5**
	comp=Z,30nm,0.9s,mb4.9,baz=93,slow=9.5,SNR=45							
STKA				S		**S**	**03 50 01.6**	**-3.1**
	comp=Z,1.0nm,0.3s,baz=330,slow=22,SNR=2.5							
STKA				LR	LR		03 59 48.0	
	comp=Z,6µm,18.5s,MS5.5,baz=338,slow=34							
WAKE	**Wake Island**	**43.28**	**334**	*e*P		**P**	**03 44 13.7**	**-1.5**
	comp=Z,792nm,1.3s,mb6.3							
KIP	**Kipapa**	**44.27**	**22**	P		**P**	**03 44 23.1**	**-0.1**
KIP				pmax	pmax			
	comp=Z,570nm,1.2s,mb6.2							
KIP	**Kipapa**	**44.27**	**22**	⇑*e*P		**P**	**03 44 22.3**	**-0.9**
	comp=Z,566nm,1.2s,mb6.2							
AS31	**Alice Springs**	**47.84**	**256**	⇑*i*P		**P**	**03 44 51.1**	**-0.1**
AS31				*e*S		**S**	**03 51 40.7**	**-4.0**
AS31				*e*ScS		ScS	03 54 43.0	+2.8
ASAR	**Alice Springs**	**47.84**	**256**	P		**P**	**03 44 50.3**	**-1.0**
	comp=Z,24nm,0.7s,mb5.3,baz=95,slow=8.3,SNR=136							
ASAR				PcP		PcP	03 46 20.5	+1.2
	comp=Z,12nm,0.8s,baz=104,slow=4.4,SNR=5.3							
ASAR				pPcP			03 46 33.8	
	comp=Z,20nm,0.7s,baz=101,slow=3.7,SNR=8.6							
ASAR				ScP		ScP	03 50 08.6	-0.9
	comp=

comp=Z,41nm,0.9s,mb5.5
VNDA Vanda 58.64 186 P **P** **03 46 13.1 +2.5**
comp=Z,16nm,0.8s,mb5.1,baz=5.6,slow=7.7,SNR=33
VNDA PKP2bc 04 15 57.1
comp=Z,7.9nm,1.4s,baz=259,slow=4.2,SNR=6.6
VNDA Vanda 58.64 186 P **P** **03 46 13.1 +2.5**
VNDA pmax pmax
comp=Z,16nm,0.8s
VNDA pmax pmax
comp=Z,8.0nm,1.4s
VNDA Vanda 58.64 186 *e*P **P** **03 46 13.5 +2.9**
comp=Z,16nm,0.9s,mb5.0
MBWA Marble Bar 61.18 256 *e*P **P** **03 46 28.0 0.0**
comp=Z,23nm,0.7s,mb5.4
KLBR Kellerberrin 61.24 244 *e*P **P** **03 46 28.7 +0.3**
comp=Z,38nm,0.8s,mb5.6
MUN Mundaring 62.49 244 *e*P **P** **03 46 38.1 +1.3**
CASY Casey 65.76 205 *e*P **P** **03 47 00.2 +2.0**
QSPA South Pole Qui 69.99 180 *e*P **P** **03 47 26.6 +1.8**
comp=Z,94nm,0.9s,mb5.7
MJAR Matsushiro Arr 71.89 321 P **P** **03 47 36.0 -0.4**
comp=Z,40nm,0.7s,mb5.5,baz=153,slow=6.0,SNR=193
MAJO Matsushiro 71.90 321 *e*P **P** **03 47 35.9 -0.5**
MAJO pmax pmax
comp=Z,40nm,0.6s,mb5.5
MAJO Matsushiro 71.90 321 *e*P **P** **03 47 35.9 -0.5**
comp=Z,40nm,0.6s,mb5.5
MAT Matsushiro 71.90 321 P **P** **03 47 36.1 -0.3**
MAT Matsushiro 71.90 321 *e*P **P** **03 47 36.0 -0.4**
MAT pmax pmax
comp=Z,41nm,0.8s,mb5.4
MAT Matsushiro 71.90 321 *e*P **P** **03 47 36.0 -0.4**
comp=Z,41nm,0.8s,mb5.4
MIR Mirnyy 72.77 205 *e*P **P** **03 47 44.5 +2.9**
MIR *e* pP 03 47 59.5 +3.8
MIR pmax pmax
comp=Z,290nm,2.0s,mb5.9
KKM Kota Kinabalu 72.88 283 *e*P **P** **03 47 42.6 +0.4**
SMY Shemya 73.18 353 *e*P **P** **03 47 42.5 -1.5**
SMY pmax pmax
comp=Z,114nm,1.1s,mb5.7
SMY MLR MLR
comp=Z,3µm,18.0s,MS5.7
SMY Shemya 73.18 353 *e*P **P** **03 47 42.5 -1.5**
comp=Z,114nm,1.1s,mb5.7
SMY LR LR
comp=Z,3µm,18.0s,MS5.7
SAO San Andreas Ge 75.48 42⇑*i*P **P** **03 47 57.5 +0.1**
SAO pmax pmax
comp=Z,212nm,1.4s,mb5.9
SAO San Andreas Ge 75.48 42⇑*i*P **P** **03 47 57.5 +0.1**
comp=Z,212nm,1.4s,mb5.9
PTRM Twissleman Ran 75.57 43 *e*P **P** **03 47 58.2 +0.3**
NSHM Saint Helena R 75.89 40 *e*P **P** **03 47 59.5 -0.2**
HOPS Hopland 75.92 39⇑*i*P **P** **03 47 59.8 -0.1**
comp=Z,270nm,1.3s,mb6.0
SDPT Sand Point 76.06 8 *e*P **P** **03 47 58.8 -1.9**
comp=Z,326nm,1.4s,mb6.1
KIPM Iron Peak 76.22 38 *e*P **P** **03 48 01.7 +0.1**
NACB Ninganchiao 76.22 302 *e*P **P** **03 48 00.9 -0.7**
PET Petropavlovsk 76.44 344 *e*P **P** **03 48 01.2 -1.6**
YHNB Yeheng 76.64 303 *e*P **P** **03 48 04.6 +0.6**
KSM Kuching 76.65 277 *e*P **P** **03 48 04.7 +0.6**
KHMM Horse Mountain 76.78 37⇑*i*P **P** **03 48 05.3 +0.5**
PFO Pinyon Flat Ob 76.84 47 P **P** **03 48 05.0 -0.1**
comp=Z,365nm,1.2s,mb6.2,SNR=14
PFO Pinyon Flat Ob 76.84 47⇑*i*P **P** **03 48 04.8 -0.3**
PFO pmax pmax
comp=Z,110nm,1.3s,mb5.6
PFO Pinyon Flat Ob 76.84 47⇑*i*P **P** **03 48 04.8 -0.3**
comp=Z,111nm,1.3s,mb5.6
CMB Columbia Colle 76.93 41⇑*i*P **P** **03 48 05.5 -0.1**
CMB pmax pmax
comp=Z,119nm,1.1s,mb5.7
CMB Columbia Colle 76.93 41⇑*i*P **P** **03 48 05.5 -0.1**
comp=Z,119nm,1.1s,mb5.7
YSS Yuzh-Sakhalins 77.06 331⇑*i*P **P** **03 48 06.0 -0.3**
YSS *e* pP 03 48 21.2 +0.7
YSS pmax pmax
comp=Z,140nm,1.1s,mb5.8
YSS Yuzh-Sakhalins 77.06 331⇑*e*P **P** **03 48 06.7 +0.4**
comp=Z,183nm,1.4s,mb5.8
OHCM Honcut 77.09 39 *e*P **P** **03 48 05.5 -0.9**
WDC Whiskeytown Da 77.27 38⇑*i*P **P** **03 48 07.4 -0.1**
WDC pmax pmax
comp=Z,203nm,1.4s,mb5.9
WDC Whiskeytown Da 77.27 38⇑*i*P **P** **03 48 07.4 -0.1**
comp=Z,203nm,1.4s,mb5.9
DAC Darwin (Calif) 77.64 44 P **P** **03 48 09.8 +0.2**
DAC pmax pmax
comp=Z,180nm,1.5s,mb5.8
DAC Darwin (Calif) 77.64 44⇑*i*P **P** **03 48 09.8 +0.2**
comp=Z,184nm,1.5s,mb5.8
MTUM Tungsten Hills 77.66 42 *e*P **P** **03 48 10.3 +0.6**
KEBM Edson Butte 77.78 35 *e*P **P** **03 48 11.2 +0.9**
YBH Yreka Blue Hor 77.92 37 P **P** **03 48 11.7 +0.5**
comp=Z,73nm,1.0s,mb5.6,baz=196,slow=2.1,SNR=50
YBH Yreka Blue Hor 77.92 37 P **P** **03 48 11.8 +0.6**
YBH pmax pmax
comp=Z,140nm,1.2s
YBH Yreka Blue Hor 77.92 37⇑*i*P **P** **03 48 11.6 +0.4**
comp=Z,144nm,1.2s,mb5.8
LHEM Herd Peak 78.13 37 P **P** **03 48 12.6 +0.2**
HUMO Hull Mountain 78.36 36⇑*i*P **P** **03 48 13.9 +0.3**
comp=Z,398nm,1.8s,mb6.0
NVAR Mina Array Bea 78.47 42 P **P** **03 48 14.7 +0.5**
comp=Z,91nm,0.9s,mb5.7,baz=221,slow=8.0,SNR=308
NVAR PP PP 03 51 08.8 -3.3
comp=Z,1.1nm,0.8s,baz=226,slow=9.7,SNR=2.6
BUOR Burton Butte 78.54 37 P **P** **03 48 15.0 +0.4**
MNV Mina 78.56 42 P **P** **03 48 15.0 +0.3**
MNV pmax pmax
comp=Z,210nm,1.1s,mb6.0
MNV Mina 78.56 42⇑*i*P **P** **03 48 14.9 +0.2**
comp=Z,213nm,1.1s,mb6.0
HOG Hogback Mounta 78.82 37 P **P** **03 48 16.5 +0.4**
KS15 Wonju Array Si 78.83 317 *e*P **P** **03 48 16.8 +0.6**
TPNV Topopah Spring 78.91 44 P **P** **03 48 17.3 +0.7**
TPNV pmax pmax
comp=Z,140nm,1.0s,mb5.8
TPNV Topopah Spring 78.91 44⇑*i*P **P** **03 48 17.1 +0.5**
comp=Z,136nm,1.1s,mb5.8
TPH Tonopah 78.94 43 P **P** **03 48 17.3 +0.5**
TPH pmax pmax
comp=Z,200nm,1.0s,mb6.0
TPH Tonopah 78.94 43⇑*i*P **P** **03 48 17.2 +0.5**
comp=Z,198nm,1.1s,mb6.0
TPH *e*pP pP 03 48 27.4 -3.6
QZH Quanzhou 78.99 302 P **P** **03 48 18.0 +1.0**
QZH AMB AMB
comp=Z,70nm,0.6s,mb5.8
NEN Nelson 79.10 46⇑*e*P **P** **03 48 17.9 +0.2**
MOD Modoc 79.41 38⇑*i*P **P** **03 48 19.4 0.0**
comp=Z,182nm,1.3s,mb5.8
KDAK Kodiak Island 79.68 12 P **P** **03 48 20.0 -0.8**
comp=Z,506nm,1.4s,mb6.3,SNR=24
KDAK Kodiak Island 79.68 12 P **P** **03 48 20.2 -0.6**
comp=Z,27nm,0.8s,mb5.2,baz=194,slow=3.8,SNR=26
KDAK Kodiak Island 79.68 12⇑*e*P **P** **03 48 20.1 -0.8**
comp=Z,293nm,1.6s,mb6.0
VLA Vladivostok 79.89 323 *e*P **P** **03 48 21.6 -0.3**
SSE Sheshan 80.00 308 P **P** **03 48 23.0 +0.5**
SSE AP pP 03 48 37.5 +0.7
SSE PP PP 03 51 24.0 -0.8
SSE S S 03 58 22.3 -0.5
SSE SS SS 04 03 32.5 -0.9
SSE AMB AMB
comp=Z,29nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,6µm,12.0s
SSE LR LR
comp=N,2µm,16.0s,MS5.7
SSE LR LR
comp=E,1µm,16.0s,MS5.7
SSE LR LR
comp=Z,2µm,15.4s,MS5.6
SSE Sheshan 80.00 308 P **P** **03 48 23.1 +0.6**
comp=Z,29nm,0.8s,mb5.3
SSE pP pP 03 48 37.5 +0.7
SSE sP sP 03 48 43.4 +1.1
SSE PP PP 03 51 24.1 -0.7
SSE S S 03 58 22.2 -0.6
SSE sS sS 03 58 47.0 +0.3
SSE SS SS 04 03 32.5 -0.9
SSE LR LR
comp=Z,2µm,15.4s,MS5.6

TUC Tucson 80.13 50⇑*i*P **P** **03 48 24.1 +0.9**
TUC pmax pmax
comp=Z,230nm,1.5s,mb5.9
TUC Tucson 80.13 50⇑*i*P **P** **03 48 24.1 +0.8**
comp=Z,228nm,1.5s,mb5.9
BMN Battle Mountai 80.34 41⇑*i*P **P** **03 48 24.3 -0.1**
BMN pmax pmax
comp=Z,130nm,1.1s,mb5.8
BMN Battle Mountai 80.34 41⇑*i*P **P** **03 48 24.3 0.0**
comp=Z,132nm,1.2s,mb5.7
WVOR Wild Horse Val 80.71 38 *e*P **P** **03 48 26.6 +0.3**
WVOR pmax pmax
comp=Z,150nm,1.1s,mb5.8
WVOR Wild Horse Val 80.71 38⇑*i*P **P** **03 48 26.3 0.0**
comp=Z,155nm,1.2s,mb5.8
TDH Tom, Dick, Har 80.76 35 P **P** **03 48 26.3 -0.3**
OOW Octopus West 81.16 32 P **P** **03 48 29.4 +0.7**
ARUT Antelope Range 81.22 45 P **P** **03 48 30.1 +1.0**
ARUT Antelope Range 81.22 45 *e*P **P** **03 48 29.8 +0.7**
LON Longmire 81.70 34 P **P** **03 48 31.2 -0.4**
ELK Elko 81.75 41 *e*P **P** **03 48 31.9 +0.1**
ELK Elko 81.75 41⇑*i*P **P** **03 48 31.7 -0.1**
HABR Khabarovsk 81.76 329⇑*i*P **P** **03 48 32.7 +0.8**
HABR S S 03 58 40.7 -0.5
HABR pmax pmax
comp=Z,244nm,1.6s,mb5.9
HABR MLR MLR
comp=Z,2µm,16.3s,MS5.5
MDJ Mudanjiang 82.12 323 P **P** **03 48 34.8 +1.0**
MDJ AMB AMB
comp=Z,73nm,1.4s,mb5.4
PGC Sidney 82.14 31⇑*i*P **P** **03 48 33.6 -0.3**
comp=Z,283nm,1.3s,mb6.0
RMW Rattlesnake Mo 82.17 33 P **P** **03 48 34.2 +0.1**
NJ2 Nanjing 82.20 308 *e*P **P** **03 48 35.3 +1.1**
NJ2 AP pP 03 48 48.0 -0.6
NJ2 PP PP 03 51 44.5 +1.5
NJ2 S S 03 58 44.0 -1.7
NJ2 XS sS 03 59 04.0 -5.7
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
NJ2 AMB AMB
comp=Z,300nm,7.5s
NJ2 LR LR
comp=N,3µm,19.2s,MS6.1
NJ2 LR LR
comp=E,6µm,15.8s,MS6.1
NJ2 LR LR
comp=Z,2µm,16.4s,MS5.5
SVW2 Sparrevohn 82.31 9 *e*P **P** **03 48 33.2 -1.6**
SNB Saturna Island 82.36 31 P **P** **03 48 34.1 -0.9**
GZH Guangzhou 82.44 298 P **P** **03 48 36.3 +0.8**
GZH S S 03 58 50.8 +2.7
GZH LR LR
comp=N,2µm,18.3s,MS5.6
GZH LR LR
comp=E,2µm,17.4s,MS5.6
GZH LR LR
comp=Z,2µm,17.4s,MS5.6
MSU Marysvale 82.45 44 P **P** **03 48 36.9 +1.3**
MSU Marysvale 82.45 44 *e*P **P** **03 48 36.7 +1.1**
EBG Ellensburg 82.45 34 P **P** **03 48 35.7 +0.1**
USHA Ushuaia 82.63 146 P **P** **03 48 37.3 +0.8**
SLKM Skilak Lake 82.67 12 P **P** **03 48 36.0 -0.7**
SLKM Skilak Lake 82.67 12 *e*P **P** **03 48 35.6 -1.1**
HAWA Hanford 82.67 35⇑*i*P **P** **03 48 36.6 -0.1**
comp=Z,26nm,1.5s,mb5.0
WAH2 Wahiawa Slope 82.89 35 P **P** **03 48 37.8 0.0**
BMO Blue Mountains 82.95 37 P **P** **03 48 37.7 -0.4**
BMO pmax pmax
comp=Z,150nm,1.4s,mb5.8
BMO Blue Mountains 82.95 37⇓*i*P **P** **03 48 37.7 -0.4**
comp=Z,149nm,1.4s,mb5.8
BMO *e*PP PP 03 51 46.2 -2.9
DUG Dugway 82.96 43 *e*P **P** **03 48 38.2 0.0**
DUG pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
DUG Dugway 82.96 43⇑*i*P **P** **03 48 38.1 -0.1**
comp=Z,10nm,0.9s,mb4.8
CRAG Craig 83.03 22 *e*P **P** **03 48 38.6 +0.1**
comp=Z,164nm,1.5s,mb5.8
CRAG LR LR
comp=Z,6µm,17.0s,MS6.1
EPH Ephrata 83.25 34 P **P** **03 48 39.4 -0.3**
WTV Waterville 83.28 34 P **P** **03 48 39.6 -0.2**
TMUT Trail Mountain 83.51 44⇑*i*P **P** **03 48 42.2 +1.2**
SIT Sitka 83.54 20 P **P** **03 48 41.2 0.0**
SIT pmax pmax
comp=Z,130nm,1.4s,mb5.9
SIT Sitka 83.54 20 *e*P **P** **03 48 40.0 -1.2**
comp=Z,136nm,1.5s,mb5.9
MPU Maple Canyon 83.62 43 *e*P **P** **03 48 41.6 0.0**
comp=Z,380nm,2.0s,mb6.2
EYAK Cordova Ski Ar 83.64 14⇑*i*P **P** **03 48 40.5 -1.2**
NOQ North Oquirrh 83.66 43⇑*i*P **P** **03 48 41.6 -0.2**
comp=Z,242nm,1.6s,mb6.1
DL2 Dalian 83.74 315 P **P** **03 48 42.0 -0.2**
DL2 *e*S S 03 59 02.0 +0.7
DL2 AMB AMB
comp=Z,40nm,1.2s,mb5.4
DL2 LR LR
comp=N,780nm,15.9s,MS5.4
DL2 LR LR
comp=E,900nm,16.7s,MS5.4
DL2 LR LR
comp=Z,1µm,17.5s,MS5.3
OD2 Odessa Site #2 83.74 34 P **P** **03 48 42.1 -0.1**
SPUT South Promonto 83.81 42⇑*i*P **P** **03 48 42.3 -0.2**
LAZ Ladron 83.82 50 *e*P **P** **03 48 43.6 +1.0**
LENM Lemitar 83.82 50 *e*P **P** **03 48 43.6 +1.0**
MNTX Cornudas Mount 83.82 53⇑*i*P **P** **03 48 43.1 +0.5**
comp=Z,150nm,1.4s,mb5.9
MNTX *e*pP pP 03 48 58.1 +1.1
HVU Hansel Valley 83.86 41 *e*P **P** **03 48 43.0 +0.2**
HVU pmax pmax
comp=Z,170nm,1.3s,mb6.0
HVU Hansel Valley 83.86 41⇑*i*P **P** **03 48 42.8 -0.1**
comp=Z,170nm,1.3s,mb6.0
HVU *e*PP PP 03 51 55.0 -1.6
SRU San Rafael 83.86 45⇑*i*P **P** **03 48 43.3 +0.5**
SRU pmax pmax
comp=Z,390nm,1.3s,mb6.4
SRU San Rafael 83.86 45⇑*i*P **P** **03 48 43.3 +0.5**
comp=Z,386nm,1.4s,mb6.3
HLID Hailey 83.87 39⇑*i*P **P** **03 48 43.1 +0.3**
comp=Z,154nm,1.1s,mb6.0
PMR Palmer 83.88 12 *e*P **P** **03 48 41.6 -1.3**
PMR *e**PP pP 03 48 56.6 -0.7
PMR pmax pmax
comp=Z,180nm,1.4s,mb6.0
PMR Palmer 83.88 12 *e*P **P** **03 48 41.4 -1.5**
comp=Z,213nm,1.4s,mb6.1
PMR LR LR
comp=Z,4µm,18.0s,MS5.8
KLR Kul'dur 83.90 328⇓*i*P **P** **03 48 40.0 -3.0**
KLR pmax pmax
comp=E,30nm,1.6s
KLR pmax pmax
comp=Z,100nm,1.6s,mb5.7
TTA Tatalina 84.00 8⇑*e*P **P** **03 48 43.4 -0.1**
TTA pmax pmax
comp=Z,241nm,1.4s,mb6.1
TTA Tatalina 84.00 8⇑*e*P **P** **03 48 43.4 -0.2**
comp=Z,241nm,1.4s,mb6.1
CN2 Changchun 84.03 321 ⇑P **P** **03 48 44.5 +0.8**
CN2 *e*S 03 59 03.8
CN2 AMB AMB
comp=Z,60nm,1.4s,mb5.5
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,3µm,16.0s,MS5.9
CN2 LR LR
comp=E,3µm,16.0s,MS5.9
CN2 LR LR
comp=Z,4µm,16.0s,MS5.8
LTX Lajitas 84.05 56 P **P** **03 48 44.6 +0.8**
LTX pmax pmax
comp=Z,140nm,1.5s,mb5.9
LTX Lajitas 84.05 56⇑*i*P **P** **03 48 44.4 +0.7**
comp=Z,142nm,1.5s,mb5.9
LTX pP pP 03 48 56.4 -1.8
LTX *e*sP sP 03 49 00.6 -3.1
SNY Shenyang 84.06 318 ⇑P **P** **03 48 44.5 +0.7**
SNY AP pP 03 48 57.5 -0.7
SNY AMB AMB
comp=Z,41nm,1.9s,mb5.2
BNM Barren Site 84.06 51⇑*e*P **P** **03 48 45.0 +1.1**
DAU Daniels Canyon 84.08 43 P **P** **03 48 44.5 +0.6**
DAU Daniels Canyon 84.08 43 *e*P **P** **03 48 44.4 +0.4**
LPM Los Pinos Moun 84.14 50 *e*P **P** **03 48 44.8 +0.6**
MVCO Mesa Verde 84.25 47 *e*P **P** **03 48 44.6 -0.2**
MA2 Magadan 84.31 343 *e*P **P** **03 48 43.6 -1.5**
MA2 pmax pmax
comp=Z,130nm,1.9s,mb5.7
MA2 Magadan 84.31 343 *e*P **P** **03 48 43.2 -1.9**
comp=Z,202nm,2.0s,mb5.9
TCUT Toone Canyon 84.36 43⇑*i*P **P** **03 48 45.9 +0.5**
PV10 Paradox Valley 84.47 46 *e*P **P** **03 48 46.5 +0.5**
PNT Penticton 84.48 33 P **P** **03 48 45.8 -0.2**
HWUT Hardware Ranch 84.53 42⇑*i*P **P** **03 48 45.8 -0.4**
comp=Z,121nm,1.4s,mb5.8
HWUT *e*pP pP 03 48 56.1 -4.5
HWUT *e*sP sP 03 49 01.0 -5.0
HWUT *e*PP PP 03 51 59.9 -2.1
ANMO Albuquerque 84.57 50⇑*i*P **P** **03 48 47.3 +0.9**
ANMO *e**PP pP 03 49 00.7 -0.1
ANMO pmax pmax
comp=Z,350nm,1.4s
ANMO Albuquerque 84.57 50⇑*i*P **P** **03 48 47.3 +0.9**
comp=Z,350nm,1.4s,mb6.3
ANMO *e*pP pP 03 49 00.7 -0.1
PV01 Paradox Valley 84.67 46 *e*P **P** **03 48 47.2 +0.3**
GDL2 Guadalupe Moun 84.82 53 *e*P **P** **03 48 48.5 +0.8**
WHN Wuhan 84.90 305⇑P **P** **03 48 49.3 +1.2**
NEW Newport 85.12 34 P **P** **03 48 48.5 -0.7**
comp=Z,24nm,1.0s,mb5.3,baz=225,slow=4.4,SNR=28
NEW Newport 85.12 34⇑*i*P **P** **03 48 48.2 -1.0**
NEW pmax pmax
comp=Z,71nm,1.3s
NEW Newport 85.12 34⇑*i*P **P** **03 48 48.2 -0.9**
comp=Z,71nm,1.3s,mb5.6
CLNB Carlsbad 85.21 53 *e*P **P** **03 48 49.8 +0.2**
AHID Auburn Hatcher 85.44 41⇑*i*P **P** **03 48 50.8 0.0**
comp=Z,177nm,1.2s,mb6.1
TIA Tai'an 85.47 311 *e*P **P** **03 48 52.0 +1.1**
SKAG Skagway 85.47 19 *e*P **P** **03 48 50.7 -0.2**
comp=Z,346nm,1.4s,mb6.3
SKAG LR LR
comp=Z,4µm,17.0s,MS5.8
MCMT McKenzie Canyo 85.51 39 *e*P **P** **03 48 51.4 +0.2**
CPRX Cap Rock 85.57 53 *e*P **P** **03 48 51.8 +0.3**
DCID1 Drake Creek 85.84 41 *e*P **P** **03 48 54.1 +1.4**
REDW Red Top Meadow 85.92 41⇑*i*P **P** **03 48 53.1 0.0**
comp=Z,223nm,1.4s,mb6.2
TPAW Teton Pass 85.92 41⇑*i*P **P** **03 48 53.3 +0.1**
comp=Z,181nm,1.4s,mb6.1
DLMT Dillon 85.96 39⇑*i*P **P** **03 48 53.4 0.0**
comp=Z,154nm,1.2s,mb6.1
MSO Missoula 86.02 37⇑*i*P **P** **03 48 52.6 -1.0**
comp=Z,79nm,1.6s,mb5.7
MSO *e*PP PP 03 52 10.0 -4.1
IMW Indian Meadow 86.15 40⇑*i*P **P** **03 48 54.3 0.0**
comp=Z,157nm,1.3s,mb6.1
IMW *e*PP PP 03 52 11.1 -4.1
MOOW Moose Ponds 86.19 41⇑*i*P **P** **03 48 54.4 -0.1**
comp=Z,104nm,1.6s,mb5.8
MOOW *e*PP PP 03 52 11.8 -3.7
LOHW Long Hollow 86.20 41⇑*i*P **P** **03 48 54.5 0.0**
comp=Z,112nm,1.4s,mb5.9
LOHW *e*PP PP 03 52 10.9 -4.7
MENT Mentasta 86.21 14 *e*P **P** **03 48 54.0 -0.6**
SMCO Snowmass 86.27 46⇑*i*P **P** **03 48 55.2 +0.3**
comp=Z,54nm,1.0s,mb5.7
SMCO *e*PP PP 03 52 12.1 -4.1
QLMT Earthquake Lak 86.36 39 *e*P **P** **03 48 56.1 +0.8**
IPM Ipoh 86.38 276 P **P** **03 48 57.1 +1.7**
CMIG Matias Romero 86.39 70 P **P** **03 48 55.7 +0.2**
comp=Z,12nm,0.9s,mb5.1,baz=252,slow=5.4,SNR=15
CMIG Matias Romero 86.39 70 P **P** **03 48 55.7 +0.2**
FLWY Flagg Ranch 86.39 40⇑*i*P **P** **03 48 56.0 +0.5**
comp=Z,187nm,1.3s,mb6.2
FLWY *e*PP PP 03 52 12.9 -4.2
DLBC Dease Lake 86.40 22⇑*i*P **P** **03 48 55.3 -0.2**
BW06 Boulder Array 86.41 42⇑*i*P **P** **03 48 54.9 -0.7**
comp=Z,77nm,1.4s,mb5.7
PDAR Pinedale Array 86.41 42 P **P** **03 48 55.0 -0.5**
comp=Z,24nm,1.0s,mb5.4,baz=207,slow=3.0,SNR=91
PDAR PP PP 03 52 09.8 -7.4
comp=Z,2.6nm,1.1s,baz=216,slow=4.8,SNR=3.6
CHMT Chamberlain Mo 86.45 37 *e*P **P** **03 48 55.0 -0.8**
CHMT *e*PP PP 03 52 12.7 -4.9
YFT Old Faithful 86.51 40⇑*i*P **P** **03 48 57.4 +1.3**
YMR Madison River 86.55 40⇑*e*P **P** **03 48 57.0 +0.7**
comp=Z,230nm,1.5s,mb6.2
YMR *e*PP PP 03 52 14.5 -3.9
SDCO Great Sand Dun 86.59 48 *e*P **P** **03 48 56.5 +0.1**
comp=Z,71nm,0.4s,mb6.2
SDCO *e*pP pP 03 49 07.8 -3.0
BOZ Bozeman (W) 86.68 39⇑*i*P **P** **03 48 56.7 -0.2**
BOZ pmax pmax
comp=Z,155nm,1.4s,mb6.0
BOZ Bozeman (W) 86.68 39⇑*i*P **P** **03 48 56.6 -0.3**
comp=Z,155nm,1.4s,mb6.0
KULM Kulim 87.01 277 *e*P **P** **03 48 60.0 +1.5**
COLA College 87.12 11 *e*P **P** **03 48 57.8 -1.2**
COLA pmax pmax
comp=Z,260nm,1.2s,mb6.3
COLA College 87.12 11⇑*i*P **P** **03 48 57.7 -1.3**
comp=Z,262nm,1.2s,mb6.3
PLCA Paso Flores 87.13 132 P **P** **03 49 00.4 +1.3**
comp=Z,23nm,1.4s,mb5.2,baz=251,slow=7.0,SNR=8.6
PLCA pP pP 03 49 16.2 +2.7
comp=Z,15nm,1.0s,baz=252,slow=4.1,SNR=13
PLCA Paso Flores 87.13 132 P **P** **03 49 00.4 +1.3**
PLCA *PP pP 03 49 16.2 +2.7
PLCA pmax pmax
comp=Z,23nm,1.4s
PLCA pmax pmax
comp=Z,15nm,1.0s
PLCA Paso Flores 87.13 132 *e*P **P** **03 48 60.0 +0.9**
comp=Z,79nm,1.7s,mb5.7
PLCA *e*pP pP 03 49 15.1 +1.6
HRY Holter Researc 87.15 38 *e*P **P** **03 48 58.9 -0.3**
ILAR Eielson Array 87.21 11 P **P** **03 48 58.1 -1.3**
comp=Z,95nm,1.2s,mb5.9,baz=215,slow=4.6,SNR=179
ILAR PP PP 03 52 17.9 -5.8
comp=Z,7.8nm,1.2s,baz=224,slow=7.1,SNR=4.0
WALA Waterton Lakes 87.31 35⇑*i*P **P** **03 48 59.5 -0.5**
comp=Z,108nm,1.3s,mb5.9
RWWY Rawlins 87.36 44⇑*i*P **P** **03 48 59.6 -0.6**
comp=Z,97nm,1.1s,mb6.0
ISCO Idaho Springs 87.50 46 P **P** **03 49 01.1 +0.3**
ISCO pmax pmax
comp=Z,24nm,1.2s,mb5.3
ISCO Idaho Springs 87.50 46⇑*i*P **P** **03 49 00.9 +0.1**
comp=Z,24nm,1.2s,mb5.3
ISCO *e*PP PP 03 52 23.2 -2.9
JCT Junction City 87.57 56 P **P** **03 49 01.3 +0.1**
JCT pmax pmax
comp=Z,130nm,1.7s,mb5.9
JCT Junction City 87.57 56⇑*i*P **P** **03 49 00.7 -0.5**
comp=Z,128nm,1.8s,mb5.8
PSI Prapat 87.77 274 P **P** **03 49 01.6 -0.6**
comp=Z,6.7nm,0.7s,mb5.0,baz=291,slow=2.3,SNR=8.3
SYO Syowa Base 87.84 192⇑*e*P **P** **03 49 01.4 -1.1**
SYO Syowa Base 87.84 192⇑*e*PcP PcP 03 49 03.3 -1.0
SYO Syowa Base 87.84 192⇓*e*sP sP 03 49 20.2 -2.2
GCMT Greycliff 87.92 39 *e*P **P** **03 49 02.9 0.0**
GCMT *e*pP pP 03 49 17.8 +0.5
BJT Baijiatuau 87.95 314 *e*P **P** **03 49 03.9 +0.9**
BJT pmax pmax
comp=Z,235nm,1.8s
BJT Baijiatuau 87.95 314 *e*P **P** **03 49 03.9 +0.9**
comp=Z,235nm,1.8s,mb6.1
BJI Beijing 87.96 314 P **P** **03 49 03.8 +0.8**
BJI AMB AMB
comp=Z,72nm,1.9s,mb5.6
BJI Beijing 87.96 314 P **P** **03 49 03.8 +0.8**
comp=Z,72nm,1.9s,mb5.6
AMTX Amarillo 88.03 52⇑*i*P **P** **03 49 03.1 -0.3**
comp=Z,244nm,1.6s,mb6.2
AMTX *e*pP pP 03 49 17.0 -0.9
DAWY Dawson 88.18 15⇑*i*P **P** **03 49 03.9 -0.2**
SNAA Sanae 88.31 177⇑*i*P **P** **03 48 58.1 -6.6**
SNAA *e* 03 48 59.6
SNAA *e* pP 03 49 09.7 -9.5
SNAA *e* pP 03 49 14.9 -4.3
SNAA Sanae 88.31 177 *e*P **P** **03 48 57.8 -6.9**
SNAA *e**SP sP 03 49 14.2 -10

SNAA pmax pmax
comp=Z,49nm,1.4s
SNAA Sanae 88.31 177 *e*P **P 03 48 57.8 -6.9**
comp=Z,49nm,1.4s,mb5.5
SNAA *es*P sP 03 49 14.2 -10
VNA3 Neumayer Olymp 88.31 175⇑ *i*P **P 03 49 05.3 +0.6**
VNA3 *e* 03 49 07.1
VNA3 *e* pP 03 49 18.2 -1.0
VNA3 *e* pP 03 49 22.0 +2.8
VNA3 *e* 03 49 41.9
VNA3 *e* 03 50 00.3
PHWY Pilot Hill 88.32 45⇑ *i*P **P 03 49 04.2 -0.5**
VNA2 Neumayer--Watz 88.79 176⇑ *i*P **P 03 49 08.0 +1.0**
baz=203,slow=3.7
VNA2 *e* 03 49 09.6
VNA2 *e* pP 03 49 20.7 -0.7
VNA2 *e* pP 03 49 24.8 +3.4
VNA2 *e* 03 49 45.1
VNA2 *e* 03 50 03.7
BILL Bilibino 88.99 353 *c i*P **P 03 49 06.7 -1.2**
BILL *e* pP 03 49 22.0 -0.4
BILL *e* 03 52 37.1
BILL pmax pmax
comp=Z,49nm,1.6s,mb5.6
BILL Bilibino 88.99 353⇑ *i*P **P 03 49 06.8 -1.1**
comp=Z,65nm,1.5s,mb5.7
VNA1 Neumayer--Stat 89.00 175⇓ *i*P **P 03 49 09.5 +1.6**
VNA1 *e* 03 49 11.1
VNA1 *e* pP 03 49 21.9 -0.5
VNA1 *e* pP 03 49 25.6 +3.2
VNA1 *e* 03 49 44.4
EGMT Eagleton 89.05 37 *e*P **P 03 49 07.7 -0.5**
comp=Z,15nm,0.4s,mb5.7
EGMT *e*PP PP 03 52 32.8 -5.6
GYA Guiyang 89.35 298⇑ *i*P **P 03 49 11.0 +1.4**
GYA AP pP 03 49 24.5 +0.4
GYA PP PP 03 52 45.5 +4.6
GYA SKS 03 59 37.0
GYA S 03 59 56.5
GYA AMB AMB
comp=Z,20nm,1.3s,mb5.3
GYA LR LR
comp=N,2μm,19.1s,MS5.7
GYA LR LR
comp=E,2μm,18.8s,MS5.7
GYA LR LR
comp=Z,2μm,18.6s,MS5.6
EDM Edmonton 89.98 32⇑ *i*P **P 03 49 11.8 -0.7**
EDM *e* 03 52 40.8
WMOK Wichita Mounta 90.12 53 P **P 03 49 12.9 -0.3**
WMOK pmax pmax
comp=Z,51nm,1.5s,mb5.6
WMOK Wichita Mounta 90.12 53 *e*P **P 03 49 12.1 -1.1**
comp=Z,41nm,1.4s,mb5.6
HIA Hailar 90.31 323 *e*P **P 03 49 13.4 -0.7**
LAO LASA Array 90.44 40⇑ *i*P **P 03 49 15.1 +0.4**
comp=Z,363nm,1.8s,mb6.4
HKT Hockley 90.50 58 *e*P **P 03 49 15.0 0.0**
HKT pmax pmax
comp=Z,100nm,1.6s,mb5.9
HKT Hockley 90.50 58 *e*P **P 03 49 15.0 +0.1**
comp=Z,104nm,1.6s,mb5.9
HKT *e*PP PP 03 52 47.7 -2.3
XAN Xi'an 90.54 306 P **P 03 49 16.0 +0.8**
XAN AP pP 03 49 29.5 -0.2
XAN AMB AMB
comp=Z,58nm,1.7s,mb5.6
RSSD Black Hills 90.57 43⇑ *i*P **P 03 49 14.8 -0.5**
RSSD *e* 03 52 46.5
RSSD pmax pmax
comp=Z,96nm,1.2s,mb6.0
RSSD Black Hills 90.57 43⇑ *i*P **P 03 49 14.8 -0.5**
comp=Z,96nm,1.2s,mb6.0
RSSD *e*PP PP 03 52 46.5 -4.0
NST Nakhon Sawan 91.09 286 P **P 03 49 20.0 +2.3**
CBKS Cedar Bluff 91.12 49 *e*P **P 03 49 17.3 -0.6**
CBKS pmax pmax
comp=Z,200nm,1.5s,mb6.2
CBKS Cedar Bluff 91.12 49 *e*P **P 03 49 17.3 -0.6**
comp=Z,196nm,1.6s,mb6.2
HHC Hu-ho-hao-te 91.46 313 *e*P **P 03 49 21.3 +1.9**
HHC AP pP 03 49 35.3 +1.4
HHC PP PP 03 53 02.3 +4.7
HHC SKS 03 59 48.5
HHC S 04 00 14.3
HHC AMB AMB
comp=Z,74nm,1.4s,mb5.8
HHC LR LR
comp=N,2μm,22.1s,MS5.8
HHC LR LR
comp=E,2μm,20.6s,MS5.8
HHC LR LR
comp=Z,4μm,18.8s,MS5.8
NATX Nacogdoches 92.12 57 *e*P **P 03 49 22.6 +0.1**
KMI Kunming 92.14 296⇑ P **P 03 49 25.0 +2.4**
KMI AP pP 03 49 37.0 0.0
KMI XP sP 03 49 42.0 -0.5
KMI PP PP 03 53 04.3 +1.3
KMI SKS 03 59 52.0
KMI S 04 00 20.3
KMI XS sS 04 00 40.0 -5.6
KMI SS SS 04 06 33.8 +2.4
KMI SSS 04 10 14.3
KMI AMB AMB
comp=Z,34nm,1.2s,mb5.5
KMI LR LR
comp=N,2μm,16.7s,MS5.7
KMI LR LR
comp=E,2μm,20.6s,MS5.7
KMI LR LR
comp=Z,2μm,22.1s,MS5.6
KMI Kunming 92.14 296⇑ P **P 03 49 24.9 +2.3**
KMI *PP pP 03 49 37.1 +0.1
KMI 03 53 04.3
KMI PPP 03 55 06.3
KMI 03 59 51.9
KMI S 04 00 20.2
KMI SS SS 04 06 33.7 +2.3
KMI SSS 04 10 14.3
KMI pmax pmax
comp=Z,34nm,1.2s,mb5.5
KMI MLR MLR
comp=Z,2μm,22.1s,MS5.6
KMI Kunming 92.14 296⇑ P **P 03 49 24.9 +2.3**
comp=Z,34nm,1.2s,mb5.5
KMI pP pP 03 49 37.1 +0.1
KMI sP sP 03 49 42.0 -0.5
KMI PP PP 03 53 04.3 +1.3
KMI PPP 03 55 06.3
KMI SKS 03 59 51.9
KMI S 04 00 20.2
KMI sS sS 04 00 40.1 -5.5
KMI SS SS 04 06 33.7 +2.3
KMI SSS 04 10 14.3
KMI LR LR
comp=Z,2μm,22.1s,MS5.6
CFAA Coronel Fontan 92.64 125 P **P 03 49 25.8 +0.9**
comp=Z,1.2nm,0.9s,mb4.3,baz=254,slow=3.6,SNR=10
CFAA pP pP 03 49 41.1 +1.7
comp=Z,1.5nm,0.8s,baz=242,slow=3.9,SNR=10
NNA Nana 92.95 104 *e*P **P 03 49 27.2 +0.8**
comp=Z,16nm,1.0s,mb5.4
YAK Yakutsk 92.99 337 *e*P **P 03 49 24.8 -1.7**
JTS JuntasAbangare 93.02 80 P **P 03 49 27.2 +0.6**
comp=Z,376nm,1.1s,mb6.7,SNR=8.9
JTS JuntasAbangare 93.02 80 P **P 03 49 27.8 +1.2**
JTS pmax pmax
comp=Z,48nm,1.0s
JTS JuntasAbangare 93.02 80⇑ *i*P **P 03 49 27.8 +1.1**
comp=Z,48nm,0.9s,mb5.9
JTS *e*pP pP 03 49 44.2 +3.1
INK Inuvik 93.03 14⇑ *i*P **P 03 49 25.7 -1.0**
INK pmax pmax
comp=Z,160nm,1.3s
INK Inuvik 93.03 14⇑ *i*P **P 03 49 25.7 -1.0**
comp=Z,158nm,1.4s,mb6.2
ATAH Atahualpa 93.28 99 P **P 03 49 30.9 +3.1**
comp=Z,5.6nm,0.9s,mb5.0,baz=238,slow=6.4,SNR=9.4
TEIG Tepich 93.36 70 *e*P **P 03 49 28.3 +0.1**
comp=Z,6.8nm,1.5s,mb4.9
CD2 Chengdu 93.38 302 P **P 03 49 29.8 +1.5**
CD2 S 04 00 31.8
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.5
CD2 LR LR
comp=N,7μm,15.6s
CD2 LR LR
comp=Z,1μm,18.0s,MS5.4
KSU1 Kansas State U 93.47 50⇑ *i*P **P 03 49 28.3 -0.4**
MIAR Mount Ida 94.00 55 *e*P **P 03 49 30.9 -0.3**
MIAR pmax pmax
comp=Z,50nm,1.5s,mb5.7
MIAR Mount Ida 94.00 55 *e*P **P 03 49 30.9 -0.3**
comp=Z,50nm,1.5s,mb5.7
YKA Yellowknife Ar 94.77 24 P **P 03 49 33.8 -0.8**
comp=Z,14nm,0.9s,mb5.4,baz=235,slow=4.1,SNR=92
YKA pP pP 03 49 50.1 +0.9
comp=Z,4.6nm,0.7s,baz=243,slow=4.6,SNR=5.8
YKA PP PP 03 53 19.4 -4.1
comp=Z,2.2nm,1.1s,baz=243,slow=7.5,SNR=4.4
YKW3 Yellowknife Ar 94.80 24⇑ *i*P **P 03 49 33.7 -1.1**
YKW3 *e*PP PP 03 53 18.7 -5.1
CIT Chita 95.09 324 *e*P **P 03 49 35.5 -0.6**
CZH Lanzhou 95.17 306⇑ P **P 03 49 38.0 +1.5**
LZH AP pP 03 49 51.5 +0.5
LZH XP sP 03 49 55.3 -1.2
LZH SKS 04 00 10.3
LZH S 04 00 48.5
LZH AMB AMB
comp=Z,58nm,1.5s,mb5.8
LZH AMB AMB
comp=Z,373nm,8.5s
LZH LR LR
comp=N,3μm,17.9s
LZH LR LR
comp=Z,6μm,19.3s,MS6.1
LZH Lanzhou 95.17 306⇑ P **P 03 49 38.0 +1.5**
LZH *PP pP 03 49 51.4 +0.4
LZH 04 00 10.2
LZH S 04 00 48.5
LZH SS SS 04 07 20.3 +5.6
LZH pmax pmax
comp=Z,58nm,1.5s,mb5.8
LZH MLR MLR
comp=Z,6μm,19.3s,MS6.1
ECSD EROS,Sioux Fal 95.26 45⇑ *i*P **P 03 49 36.2 -0.7**
OTAV Otavalo 95.73 92 *e*P **P 03 49 41.5 +2.5**
comp=Z,6.3nm,1.3s,mb4.9
LVC Limon Verde 95.88 117 P **P 03 49 42.6 +2.9**
comp=Z,6.2nm,1.0s,mb5.0,baz=128,slow=1.4,SNR=6.8
LVC pP pP 03 49 58.8 +4.6
comp=Z,7.2nm,0.9s,baz=215,slow=5.2,SNR=6.3
LVC Limon Verde 95.88 117 *e*P **P 03 49 42.5 +2.8**
comp=Z,57nm,1.8s,mb5.7
LVC *e*pP pP 03 49 57.9 +3.7
FFC Flin Flon 96.54 34 P **P 03 49 42.5 -0.2**
comp=Z,87nm,1.9s,mb5.9,SNR=9.7
FFC Flin Flon 96.54 34 P **P 03 49 41.5 -1.2**
FFC pmax pmax
comp=Z,94nm,1.9s,mb5.9
FFC Flin Flon 96.54 34 *e*P **P 03 49 41.3 -1.5**
comp=Z,94nm,1.9s,mb5.9
ULN Ulaanbaatar 97.24 318 P **P 03 49 47.7 +1.8**
ULN pmax pmax
comp=Z,10.0nm,1.3s,mb5.1
ULN Ulaanbaatar 97.24 318 *e*P **P 03 49 46.3 +0.4**
comp=Z,9.7nm,1.3s,mb5.1
BOD Bodaibo 97.41 329 *e*P **P 03 49 44.0 -2.7**
BOD pmax pmax
comp=Z,7.0nm,1.6s,mb4.8
FVM French Village 97.58 52 P **P 03 49 47.2 -0.3**
FVM pmax pmax
comp=Z,62nm,1.5s,mb5.9
FVM French Village 97.58 52 *e*P **P 03 49 46.9 -0.5**
comp=Z,62nm,1.5s,mb5.9
SONM Songino Array 97.64 318 P **P 03 49 47.4 -0.3**
comp=Z,13nm,1.4s,mb5.2,baz=140,slow=4.0,SNR=13
SONM PP PP 03 53 41.6 -4.1
comp=Z,1.3nm,0.9s,baz=114,slow=7.7,SNR=3.0
ULM Lac du Bonnet 98.18 39 P **P 03 49 48.4 -1.8**
comp=Z,27nm,1.3s,mb5.6,baz=244,slow=5.5,SNR=17
ULM PP PP 03 53 44.6 -5.2
comp=Z,5.8nm,1.1s,baz=260,slow=7.5,SNR=7.2
WVT Waverly 98.95 55 *e*P **P 03 49 51.9 -1.7**
WVT pmax pmax
comp=Z,10.0nm,1.4s,mb5.2
WVT Waverly 98.95 55 *e*P **P 03 49 51.9 -1.7**
comp=Z,9.5nm,1.4s,mb5.1
LPAZ La Paz 99.13 111 P **P 03 49 56.7 +2.3**
comp=Z,3.4nm,1.1s,mb4.8,baz=293,slow=3.4,SNR=8.2
LPAZ PP PP 03 53 57.1 0.0
comp=Z,1.4nm,1.1s,baz=198,slow=6.8,SNR=3.6
LPAZ La Paz 99.13 111 P **P 03 49 56.7 +2.3**
LPAZ 03 53 57.2
LPAZ pmax pmax
comp=Z,3.0nm,1.1s
LPAZ pmax pmax
comp=Z,1.0nm,1.1s
LPAZ La Paz 99.13 111 *e*P **P 03 49 56.4 +2.0**
comp=Z,14nm,1.5s,mb5.3
TIXI Tiksi 99.21 344⇑ *e*P **P 03 49 52.8 -2.0**
GTA Gaotai 99.29 308 *e*P **P 03 49 56.5 +1.4**
GTA AP pP 03 50 09.8 +0.1
GTA PP PP 03 54 02.5 +4.1
GTA SKS 04 00 29.5
GTA S 04 01 19.5
GTA AMB AMB
comp=Z,7.0nm,1.6s,mb4.9
GTA LR LR
comp=N,2μm,17.1s,MS5.9
GTA LR LR
comp=E,2μm,16.0s,MS5.9
GTA LR LR
comp=Z,2μm,19.8s,MS5.7
EYMN Ely 100.09 43 *e*Pdif Pdif 03 49 58.0 -0.7
comp=Z,38nm,1.3s
ZAK Zakamensk 100.43 320 *e*P Pdif 03 49 59.6 -0.6
ZAK *e* 03 54 06.1
ZAK pmax pmax
comp=Z,7.0nm,1.8s
ZAK pmax pmax
comp=Z,22nm,1.9s
ZAK pmax pmax
comp=Z,14nm,1.9s
ZAK pmax pmax
comp=Z,12nm,1.8s
ROSC El Rosal 101.16 89 PP PP 03 54 12.8 +0.3
comp=Z,1.4nm,0.3s,baz=93,slow=19,SNR=4.2
FCC Fort Churchill 102.08 32 *e*P Pdif 03 50 06.4 -1.1
FCC pmax pmax
comp=Z,19nm,1.3s
FCC Fort Churchill 102.08 32 *e*Pdif Pdif 03 50 06.4 -1.1
comp=Z,19nm,1.3s
JIRN Jiri 107.04 294 *e*P PKiKP 03 54 41.5 +2.7
WMQ Urumqi 109.17 311 PDIF Pdif 03 50 39.0 0.0
WMQ PP PP 03 55 15.8 +4.0
WMQ LR LR
comp=N,2μm,20.3s,MS5.7
WMQ LR LR
comp=E,2μm,24.8s,MS5.7
WMQ LR LR
comp=Z,1μm,19.6s
ZAL Zalesovo 112.26 321 PKiKP PKiKP 03 54 47.5 -1.2
comp=Z,3.1nm,0.6s,baz=339,slow=1.7,SNR=11
MK31 Makanchi Array 113.33 313 PKIKP PKiKP 03 54 49.7 -1.0
MK31 pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 113.33 313 PKiKP PKiKP 03 54 49.9 -0.8
comp=Z,3.1nm,0.6s,baz=231,slow=0.7,SNR=25
MKAR PKKPbc PKKPbc 04 05 36.4 +0.8
comp=Z,0.6nm,0.7s,baz=278,slow=3.6,SNR=5.0
KURK Kurchatov 115.93 317 *e*PKIKP PKPdf 03 54 54.3 -1.4
SCHQ Schefferville 116.30 38 PP PP 03 55 56.0 -6.6
comp=Z,4.3nm,1.0s,baz=270,slow=12,SNR=3.3
VOSK Vostochnaya 120.56 320 PKIKP PKPdf 03 55 03.5 -1.1
VOSK pmax pmax
comp=Z,6.0nm,0.8s
CHKZ Chkalovo 120.66 321 PKIKP PKPdf 03 55 03.5 -1.3
CHKZ pmax pmax
comp=Z,3.0nm,0.6s
CHKZ Chkalovo 120.66 321 *e*PKPdf PKPdf 03 55 03.2 -1.6
BVA0 Borovoye Array 120.88 320 *i* PKIKP PKPdf 03 55 04.2 -1.0
BVA0 pmax pmax
comp=Z,1.0nm,0.7s
BRVK Borovoye 120.94 320 *e*PKIKP PKPdf 03 55 03.6 -1.7
ZRNK Zerenda 121.72 320 *e*PKIKP PKPdf 03 55 05.4 -1.4
ZRNK *e* 03 55 21.3
SUMG Summit 121.95 14 *e*PKPdf PKPdf 03 55 06.6 -0.6
SUMG *ep*PKPdf pPKPdf 03 55 21.6 -0.6
DAG Danmarks Havn 121.98 6 *i* P PKPdf 03 55 05.0 -2.3
comp=Z,3.7nm,0.8s
DAG Danmarks Havn 121.98 6 *e*PKIKP PKPdf 03 55 05.0 -2.3
DAG pmax pmax
comp=Z,4.0nm,0.8s
SVE Sverdlovsk 125.50 326 *e*PKIKP PKPdf 03 55 12.6 -1.5
SVE *e* 03 57 01.0
SVE pmax pmax
comp=Z,40nm,1.7s
SOKR Solikamsk 126.39 330 *c i*PKIKP PKPdf 03 55 14.9 -0.9
SOKR pmax pmax
comp=Z,40nm,1.5s
ARU Arti 126.72 326 *i* PKIKP PKPdf 03 55 16.0 -0.4
ARU *e* 04 02 16.2
ARU Arti 126.72 326 *e*PKPdf PKPdf 03 55 15.4 -1.0
ARU *e*PP PP 03 57 09.3 -4.3
BOSA Boshof 127.98 202 PKP PKPdf 03 55 20.6 +1.8
comp=Z,2.1nm,0.5s,baz=163,slow=3.2,SNR=8.7
BOSA pPKP pPKPdf 03 55 36.4 +2.6
comp=Z,5.2nm,0.7s,baz=118,slow=4.2,SNR=4.0
BOSA Boshof 127.98 202 PKIKP PKPdf 03 55 20.6 +1.8
BOSA 03 55 36.4
BOSA pmax pmax
comp=Z,2.0nm,0.5s
BOSA pmax pmax
comp=Z,5.0nm,0.7s
BOSA Boshof 127.98 202 *e*PKPdf PKPdf 03 55 20.8 +2.0
AB31 Akbulak array 128.04 317 *i* PKIKP PKPdf 03 55 17.6 -1.3
AB31 pmax pmax
comp=Z,2.0nm,0.7s
KEV Kevo 128.64 351 *ep* PKPdf 03 55 13.9 -6.2
LVZ Lovozero 128.81 346 *e*PKIKP PKPdf 03 55 19.9 -0.5
AKTO Aktyubinsk 128.94 319 PKIKP PKPdf 03 55 20.6 0.0
AKTO pmax pmax
comp=Z,7.0nm,1.8s
ARCES ARCESS Array B 129.06 351 PKP PKPdf 03 55 18.4 -2.5
comp=Z,9.0nm,0.5s,baz=16,slow=1.2,SNR=76
ARCES ARCESS Array B 129.06 351 PKP PKPdf 03 55 18.4 -2.5
ARE0 ARCESS Array S 129.06 351 *e*PKPdf PKPdf 03 55 19.8 -1.1
KLMR Klimovskoe 132.78 338 *e*PKIKP PKPdf 03 55 28.6 +0.7
KLMR pmax pmax
comp=Z,40nm,1.8s
JOF Joensuu 133.70 344 *ep* PKPdf 03 55 24.7 -4.9
KAF Kangasniemi 135.60 346 *ep* 03 55 22.5
FINES FINESS Array B 136.24 346 PKhKP 03 55 21.1
comp=Z,0.5nm,0.5s,baz=48,slow=2.8,SNR=5.8
FINES PKP PKPdf 03 55 33.3 -1.1
comp=Z,8.4nm,0.8s,baz=92,slow=0.8,SNR=23
FINES PP PP 03 58 10.6 -4.3
comp=Z,1.2nm,0.9s,baz=32,slow=11,SNR=5.4
OBN Obninsk 137.91 334 *i* PKIKP PKPdf 03 55 37.6 +0.1
OBN pmax pmax
comp=Z,28nm,1.2s
OBN Obninsk 137.91 334⇑ *e*PKP PKPdf 03 55 37.6 +0.1
OBN LR LR
comp=Z,1μm,20.0s,MS5.6
LSZ Lusaka 138.40 214 *e*PKIKP PKPdf 03 55 40.0 +1.6
NB2 NORSAR Subarra 138.88 356 PKPd 03 55 29.2
comp=Z,26nm,1.4s,baz=14,slow=1.8
NB2 NORSAR Subarra 138.88 356 PKPd 03 55 29.2
baz=14,slow=1.8
NOA NORSAR Array B 138.88 356 PKP PKPdf 03 55 38.4 -0.8
comp=Z,3.9nm,0.8s,baz=14,slow=3.9,SNR=7.8
VOR Voronezh 138.92 328 PKIKP PKPdf 03 55 38.0 -1.3
VOR pmax pmax
comp=Z,40nm,1.6s
NAO01 NORSAR Array S 139.10 356 *e*PKPdf PKPdf 03 55 39.5 -0.2
TSUM Tsumeb 139.22 198 *e*PKPdf PKPdf 03 55 41.9 +2.0
KIV Kislovodsk 141.00 316 *e*PKIKP PKPdf 03 55 43.7 +0.6
KIV pmax pmax
comp=Z,9.0nm,1.2s
GNI Garni 141.03 310⇑ *e*PKIKP PKPdf 03 55 42.2 -1.0
KMBO Kilima Mbogo 142.45 240 PKhKP 03 55 43.8
comp=Z,2.5nm,0.7s,baz=57,slow=15,SNR=5.2
KMBO Kilima Mbogo 142.45 240 PKP PKPdf 03 55 43.8 -1.9
KMBO *e*PKPdf PKPdf 03 55 47.7 +2.0
EAB Aberfoyle 143.19 9 *e*P PKPdf 03 55 42.9 -4.1
EAB AMb AMB 03 55 45.9
comp=Z,100nm,1.6s
SUW Suwalki 143.53 342 *e*PKP PKPdf 03 55 45.0 -2.6
SUW L 04 17 25.4
comp=Z,24nm,26.3s
EZM Erzurum 143.54 311 *e*P PKPdf 03 55 46.5 -1.1
MUD Monsted U'grnd 143.58 357 *i* P PKPdf 03 55 44.8 -2.9
comp=Z,33nm,1.2s
MUD
comp=Z,8μm,19.0s
MUD Monsted U'grnd 143.58 357 *e*PKIKP PKPdf 03 55 44.8 -2.9
MUD pmax pmax
comp=Z,33nm,1.2s
MUD MLR MLR
comp=Z,8μm,19.0s,MS6.5
EAU Auchinoon 143.66 9⇑ *e*P PKPdf 03 55 44.4 -3.5
EAU AMb AMB 03 55 47.6
comp=Z,204nm,1.6s
ESY Stoneypath 143.70 8 *e*P PKPdf 03 55 44.7 -3.2
ESY AMb AMB 03 55 46.8
comp=Z,81nm,1.6s
EBL Broad Law 143.78 8 *e*P PKPdf 03 55 44.2 -3.9
EBL AMb AMB 03 55 49.7
comp=Z,104nm,1.8s
ANN Anapa 143.88 320 *i* PKHKP 03 55 44.8
ANN pmax pmax
comp=Z,66nm,1.5s
BNGL BINGOL 144.05 309 *i* P PKPdf 03 55 49.6 +1.1
BTMT Batman 144.07 308 *e*P PKPdf 03 55 47.6 -0.9
AKASG Malin Array Be 144.17 334 PKhKP 03 55 45.2
comp=Z,2.2nm,0.3s,baz=34,slow=3.6,SNR=58
AKASG PP PP 03 58 55.0 -8.6
comp=Z,0.2nm,0.2s,baz=37,slow=5.1,SNR=3.9
AKASG Malin Array Be 144.17 334 PKP PKPdf 03 55 45.2 -3.6
AKASG PP PP 03 58 55.0 -8.6
ESK Eskdalemuir 144.20 9 *e*P PKPdf 03 55 45.4 -3.3
ESK AMb AMB 03 55 48.1
comp=Z,81nm,1.6s
ESK Eskdalemuir 144.20 9 *e*PKPdf PKPdf 03 55 46.1 -2.7
BSD Bornholm Skovb 144.31 351 *i* P PKPdf 03 55 46.7 -2.3
comp=Z,15nm,0.7s
BSD
comp=Z,18μm,20.0s
BSD Bornholm Skovb 144.31 351 *i* PKIKP PKPdf 03 55 46.7 -2.3
BSD pmax pmax
comp=Z,15nm,0.7s
BSD MLR MLR
comp=Z,18μm,20.0s,MS6.8
ECK Cauldkaine Hil 144.35 9 *e*P PKPdf 03 55 46.1 -2.9
ECK AMb AMB 03 55 48.6
comp=Z,72nm,1.6s
BDL Dobcross Hall 144.74 9⇑ *e*P PKPdf 03 55 48.0 -1.7
PLUZ Luz 144.82 50 *e*PKP PKPdf 03 55 48.6 -1.3
CKE Keswick 144.93 9⇑ *e*P PKPdf 03 55 48.5 -1.6
XDE Dent Fell 144.95 9⇑ *e*P PKPdf 03 55 48.3 -1.8
XDE AMb AMB 03 55 50.8
comp=Z,204nm,1.8s
PTCA Ponta do Capel 145.11 51 *e*PKP PKPdf 03 55 54.1 +3.7
GRSN GIRESUNGRSN 145.27 314 *i* P PKPbc 03 55 48.2 -2.2
DCN Croghan 145.35 14⇑ *i*P PKPbc 03 55 50.3 -0.4
PCND Candelaria 145.40 51 *e*PKP PKPdf 03 55 52.0 +1.1
PVIA Vitoria 145.47 49 *e*PKP PKPdf 03 55 49.0 -2.0
PTEI Pico do Teixo 145.47 51 *e*PKP PKPdf 03 55 52.3 +1.3
PBOI Pico dos Bois 145.48 51 *e*PKP PKPdf 03 55 52.4 +1.4
LWH Whinny Nab 145.48 6 *e*P PKPdf 03 55 50.9 -0.1
STGR Santa Cruz 145.49 49 *e*PKP PKPdf 03 55 48.4 -2.6
PAMA Santo Amaro 145.52 50 *e*PKP PKPdf 03 55 52.5 +1.4
DLF Lyons Farm 145.56 13⇑ *i*P PKPdf 03 55 51.0 -0.1
DSB Dublin 145.64 13 *e*PKPdf PKPdf 03 55 51.1 -0.1
GKP Gorka Klasztor 145.66 348 *e*PKP PKPdf 03 55 51.4 +0.1
GKP L 04 21 56.1
comp=Z,22nm,23.0s
WAR Warsaw 145.70 343 *e*PKP PKPdf 03 55 52.5 +1.1
SIM Simferopol' 145.74 323 *c i*PKIKP PKPdf 03 55 52.0 +0.6
SIM *e* 03 56 05.0
SIM pmax pmax
comp=Z,70nm,1.5s
ELZG Elazig 145.79 310 *i* P PKPdf 03 55 53.2 +1.6
WCB1 Church Bay 145.86 11⇑ *e*P PKPdf 03 55 51.6 -0.1
WCB1 AMb AMB 03 55 53.1
comp=Z,13nm,0.9s
WME Myndd Eilian 145.89 11⇑ *e*P PKPdf 03 55 51.8 +0.1
WME AMb AMB 03 55 54.1
comp=Z,248nm,1.6s
WLF1 Llynfaes 145.97 11⇑ *e*P PKPdf 03 55 52.2 +0.3
WLF1 AMb AMB 03 55 54.3
comp=Z,405nm,1.5s
YRC Rhoscolyn 145.98 11⇑ *e*P PKPdf 03 55 52.0 +0.1

YRC AMb AMB 03 55 53.6
comp=Z,335nm,1.3s
BSEG Bad Segeberg 146.00 355 *e*PKPbc PKPbc 03 55 52.3 -0.4
BSEG Bad Segeberg 146.00 355 *e*PKPbc PKPbc 03 55 52.3 -0.4
WPM1 Penmaenmawr 146.09 10⇑*e*P PKPdf 03 55 52.5 +0.5
WPM1 AMb AMB 03 55 54.9
comp=Z,613nm,1.4s
LHO Holmfirth 146.11 8 *e*P PKPdf 03 55 52.6 +0.5
ASBA Santa Barbara 146.12 50 *e*PKP PKPdf 03 55 48.5 -3.6
PPAD Pico dos Padre 146.16 50 *e*PKP PKPdf 03 55 55.0 +2.9
VLL Llanberis 146.16 11⇑*e*P PKPdf 03 55 52.6 +0.5
PBIS Biscoitos 146.16 49 *e*PKP PKPdf 03 55 55.0 +2.9
PVNV Vila Nova 146.23 49 *e*PKP PKPdf 03 55 54.9 +2.6
RIB2 Ribeirinha 146.25 50 *e*PKP PKPdf 03 55 54.9 +2.6
YRE Yr Eifl 146.26 11⇑*e*P PKPdf 03 55 52.7 +0.4
YRE AMb AMB 03 55 56.2
comp=Z,196nm,1.4s
PFAV Pico das Favas 146.30 49 *e*PKP PKPdf 03 55 54.8 +2.4
URFA Urfa 146.31 308 *e*P PKPdf 03 55 51.5 -0.9
KBI1 Birley Grange 146.44 8 *e*P PKPdf 03 55 52.8 +0.2
SBD1 Bryn Du 146.53 10⇑*e*P PKPdf 03 55 53.6 +0.8
SVSK Karacayir 146.59 313 *e*P PKPdf 03 55 52.2 -0.7
KWE Weaver Farm 146.63 8 *e*P PKPdf 03 55 53.8 +0.9
KVT Kavak 146.68 316 *e*P PKPdf 03 55 51.5 -1.5
SVST Sivas 146.69 313 *i*P PKPdf 03 55 54.2 +1.1
LVV L'vov 146.87 338 *e*PKIKP PKPdf 03 55 52.5 -0.8
LVV *i* 03 55 56.9
HLM1 Long Mynd 146.97 9⇑*e*P PKPdf 03 55 55.2 +1.7
HLM1 AMb AMB 03 55 56.8
comp=Z,308nm,1.3s
SSP1 Stoney Pound 147.03 10⇑*e*P PKPdf 03 55 55.4 +1.8
SSP1 AMb AMB 03 55 57.7
comp=Z,358nm,1.3s
RUE Ruedersdorf 147.03 351 *e*PKPbc PKPbc 03 55 55.5 -0.2
RUE Ruedersdorf 147.03 351 *e*PKPdf PKPdf 03 55 54.0 +0.4
KIS Kishinev 147.12 330*c i*PKIKP PKPdf 03 55 54.0 +0.2
KIS *i* 03 56 08.0
BOYT Boyabat 147.25 317 *i*P PKPdf 03 55 56.1 +2.2
GZT Gaziantep 147.27 309 *i*P PKPdf 03 55 54.5 +0.4
BYBT Boyabat 147.31 317 *e*P PKPdf 03 55 57.4 +3.3
WIT Witteveen 147.32 359⇑*i*PKiKP PKiKP 03 55 57.3 -1.4
comp=Z,800nm,1.8s
MCH1 Michaelchurch 147.45 10⇑*e*P PKPdf 03 55 56.1 +1.8
KWP Kalwaria 147.48 339 *e*PKP PKPbc 03 55 57.0 0.0
KWP L 04 18 57.6
comp=Z,28nm,26.5s
KWP Kalwaria 147.48 339 *e*PKPbc PKPbc 03 55 56.9 -0.1
HSA Swansea 147.50 11 *e*P PKPbc 03 55 56.6 -0.4
GAZ Gaziantep 147.60 308 *e*P PKPbc 03 55 57.9 +0.6
CTKT Corum 147.73 316 *i*P PKPbc 03 55 58.1 +0.4
CML Cha da Macela 147.79 50 *e*PKP PKPbc 03 55 59.1 +1.3
IBBN Ibbenburen 147.79 357 *e*PKPbc PKPbc 03 55 57.6 -0.2
PMAT Coroa da Mata 147.82 50 *e*PKP PKPbc 03 56 00.6 +2.7
HGH Gray Hill 147.83 10⇑*e*P PKPbc 03 55 57.4 -0.6
HGH AMb AMB 03 55 58.3
comp=Z,164nm,1.5s
LFA Lagoa do Fogo 147.83 50 *e*PKP PKPbc 03 55 59.6 +1.7
MESC Monte Escuro 147.85 50 *e*PKP PKPdf 03 55 52.6 -2.4
PRCH Ribeira Ch 147.85 50 *e*PKP PKPbc 03 56 00.2 +2.2
OJC Ojcow 147.86 343 *e*PKP PKPdf 03 55 55.0 0.0
BNN Bunyan 147.87 312 *e*P PKPdf 03 55 50.2 -4.9
PFAD Fenais da Ajud 147.92 50 *e*PKP PKPbc 03 55 57.6 -0.6
TOS Tosya 148.01 317 *e*P PKPbc 03 55 59.4 +0.9
CLZ Clausthal 148.08 354 *e*PKPdf PKPdf 03 55 55.3 -0.1
CLZ *e*PKPbc PKPbc 03 55 58.8 +0.2
CLZ Clausthal 148.08 354 *e*PKP2 PKPab 03 55 58.8 -2.6
KSP Ksiaz 148.15 347 *e*PKP PKPdf 03 55 59.2 +3.7
KSP L 04 23 16.3
comp=Z,38nm,22.4s
KSP Ksiaz 148.15 347 *e*PKP PKPdf 03 55 55.8 +0.3
KSP *e*PKPdf PKPdf 03 55 59.2 +3.7
KSP *ep*PKP pPKPdf 03 56 12.6 +2.1
STHS Stebnicka Huta 148.15 340 *e*PKP PKPbc 03 55 58.9 +0.1
BALT Daday 148.15 318 *i*P PKPdf 03 55 55.6 +0.1
WTSB Winterswijk 148.16 359⇑*i*PKiKP PKiKP 03 55 58.6 -1.9
comp=Z,181nm,1.5s
HEX Exmoor 148.21 11 *e*P PKPbc 03 55 58.6 -0.3
BURAR Bucovina Array 148.23 334⇑*i*P PKPbc 03 55 59.8 +0.8
CLL Collm 148.29 351 *e*PKPdf PKPdf 03 55 55.4 -0.3
CLL *e*PKPbc PKPbc 03 55 59.0 -0.1
CLL Collm 148.29 351⇑*i*PKPdf PKPdf 03 55 55.6 -0.1
comp=Z,49nm,1.5s
CLL *i* PKPbc PKPbc 03 55 59.2 +0.1
comp=Z,196nm,1.3s
CLL *e*PKPab PKPab 03 56 02.0 -0.3
CLL *i* pPKPbc pPKPbc 03 56 14.9 +0.9
CLL *ex* x 03 56 39.0
CLL *ex* x 03 57 08.0
CLL Collm 148.29 351⇑*i*PKIKP PKPdf 03 55 55.6 -0.1
CLL *i* 03 55 59.2
CLL pmax pmax
comp=Z,49nm,1.5s
CLL pmax pmax
comp=Z,196nm,1.3s
CLL Collm 148.29 351⇑*i*PKP PKPdf 03 55 55.6 -0.1
CLL *i* PKP PKPdf 03 55 59.2 +3.5
CLL *i* pPKP pPKPdf 03 56 14.9 +4.2
NIE Niedzica 148.43 341 *e*PKP PKPdf 03 55 57.1 +1.2
PSMN Pico do Norte, 148.45 51 *e*PKP PKPdf 03 55 55.5 -0.5
KOZT Kozan 148.48 310 *e*P PKPdf 03 55 59.1 +3.1
CANT Cankiri 148.50 317 *e*P PKPdf 03 56 00.0 +4.0
UPC Upice 148.52 347 *e*PKPdf PKPdf 03 55 56.6 +0.5
UPC *e*PKPbc PKPbc 03 56 00.3 +0.6
COBT Iskenderun 148.56 308 *i*P PKPbc 03 56 00.6 +0.7
BRG Berggiesshubel 148.56 350 *e*PKPdf PKPdf 03 55 55.9 -0.2
BRG *e*PKPbc PKPbc 03 56 00.0 +0.2
BRG *ep*PKPbc pPKPbc 03 56 15.9 +1.2
BRG Berggiesshubel 148.56 350 *i*PKP PKPdf 03 55 56.3 +0.2
comp=Z,31nm,1.5s
BRG *i* 03 56 00.2
comp=Z,116nm,1.6s
BRG *i* 03 56 14.7
comp=Z,32nm,1.3s
BRG *e* 03 59 24.1
comp=Z,11nm,1.6s
BRG
comp=N,64μm,20.8s
BRG
comp=E,7μm,19.9s
BRG
comp=Z,12μm,20.4s
BRG Berggiesshubel 148.56 350 *i*PKIKP PKPdf 03 55 56.3 +0.2
BRG *i* 03 56 00.2
BRG *e* 03 59 24.1
BRG pmax pmax
comp=Z,31nm,1.5s
BRG MLR MLR
comp=N,64μm,20.8s,MS7.4
BRG MLR MLR
comp=E,7μm,19.9s,MS7.4
BRG MLR MLR
comp=Z,12μm,20.4s,MS6.7
BRG Berggiesshubel 148.56 350 *i*PKP PKPdf 03 55 56.3 +0.2
BRG *i* 03 56 00.2
BRG *i* 03 56 14.7
BRG *e* 03 59 24.1
BRG LR LR
comp=Z,12μm,20.4s,MS6.7
AVNT Avonos 148.59 313 *i*P PKPdf 03 55 54.8 -1.4
AVNT Avonos 148.59 313 *i*P PKPab 03 56 06.9 +3.3
DPC Dobruska-Polom 148.60 347 *e*PKPdf PKPdf 03 55 56.3 +0.1
DPC *e*PKPbc PKPbc 03 56 00.5 +0.6
OKC Ostrava-Krasne 148.65 344 *e*PKPdf PKPdf 03 55 56.9 +0.2
OKC *e*PKPbc PKPbc 03 56 00.3 +0.2
BUG Bochum--Univer 148.67 358 *e*PKPdf PKPdf 03 55 56.1 -0.2
BUG *e*PKPbc PKPbc 03 55 59.8 -0.3
CSA1 St Austell 148.68 13⇑*e*P PKPbc 03 55 59.5 -0.6
ELDT Eldivan 148.69 317 *i*P PKPbc 03 56 00.8 +0.6
CEYT Ceyhan 148.74 309 *e*P PKPbc 03 55 60.0 -0.3
SAFT Safranbolu 148.75 318 *e*P PKPbc 03 56 00.6 +0.3
CFR Carcaliu 148.76 328⇓*i*P PKPbc 03 56 00.4 0.0
CFR Carcaliu 148.76 328⇓P PKPbc 03 56 00.4 0.0
CRQ2 Rosemanowes 2 148.79 13⇑*e*P PKPbc 03 55 59.8 -0.7
CRQ2 AMb AMB 03 56 04.2
comp=Z,229nm,1.8s
HTY Hatay 148.80 307 *e*P PKPbc 03 56 01.1 +0.7
MORC Moravsky Berou 148.86 345 PKIKP PKPdf 03 55 56.7 +0.1
MORC Moravsky Berou 148.86 345 *e*PKPdf PKPdf 03 55 56.6 -0.1
MORC *e*PKPbc PKPbc 03 56 00.7 +0.1
CMA1 Manaccan 148.88 13⇑*e*P PKPbc 03 55 59.9 -0.8
VRI Vrincioaia 148.93 331⇓*i*P PKPbc 03 56 01.0 +0.2
VRI Vrincioaia 148.93 331⇓P PKPbc 03 56 01.1 +0.3

BR131 Keskin Array S 148.95 315 *e*PKPdf PKPdf 03 55 56.5 -0.3
BR131 *e*PKPbc PKPbc 03 56 01.1 +0.2
BRTR Keskin Array B 148.95 315 PKP PKPdf 03 55 56.2 -0.6
comp=Z,17nm,0.9s,baz=90,slow=1.2,SNR=24
BRTR PKPbc PKPbc 03 56 01.1 +0.3
comp=Z,16nm,0.8s,baz=132,slow=3.3,SNR=48
BRTR PP PP 03 59 30.1 -1.6
comp=Z,1.3nm,0.9s,baz=101,slow=1.5,SNR=3.1
PLOR Plostina 148.98 331⇓*i*P PKPbc 03 56 01.4 +0.5
KAMT Kaman 149.08 315 *e*P PKPbc 03 56 01.4 +0.2
MOX Moxa 149.12 352 *e*PKPdf PKPdf 03 55 56.2 -0.9
MOX *e*PKPbc PKPbc 03 56 01.3 0.0
MOX Moxa 149.12 352 *e*PKP PKPdf 03 55 57.2 +0.1
MOX *e* 03 56 01.3
comp=Z,248nm,1.9s
MOX Moxa 149.12 352 *e*PKIKP PKPdf 03 55 57.2 +0.1
MOX *e* 03 56 01.3
MOX pmax pmax
comp=Z,248nm,1.9s
UBBA Unterbreizbach 149.12 354 *e*PKPdf PKPdf 03 55 56.6 -0.5
UBBA *e*PKPbc PKPbc 03 56 01.0 -0.3
KARA Karaisali 149.13 310 *e*P PKPbc 03 56 01.2 -0.1
KECS Kecovo 149.21 340 *i*PKP PKPbc 03 56 01.8 +0.3
HARR Harsova 149.22 328⇓*i*P PKPbc 03 56 02.3 +0.8
HARR Harsova 149.22 328⇓P PKPbc 03 56 02.3 +0.8
WERD Werda 149.22 352 *e*PKPdf PKPdf 03 55 57.0 -0.2
WERD *e*PKPbc PKPbc 03 56 01.7 +0.2
WERD *ep*PKPbc pPKPbc 03 56 17.6 +1.2
PRA Prague 149.25 349 PKPbc PKPbc 03 56 02.0 +0.4
PRU Pruhonice 149.31 349 *e*PKPdf PKPdf 03 55 56.9 -0.5
PRU *e*PKPbc PKPbc 03 56 01.8 +0.1
UCC Uccle 149.33 1 PKP PKPdf 03 55 57.7 +0.3
UCC PKPbc PKPbc 03 56 01.8 0.0
BEBN Eben Emael 149.35 360 PKPbc PKPbc 03 56 01.7 -0.1
BEBN APKPbc 03 56 17.3
HGN Heimansgroeve 149.38 360⇑*i*PKiKP PKPbc 03 56 01.8 -0.1
comp=Z,128nm,2.0s
ANTO Ankara 149.43 316 *e*P PKPbc 03 56 01.6 -0.4
ANTO Ankara 149.43 316 ⇑PKP2 PKPbc 03 56 03.2 +1.2
ANTO Ankara 149.43 316 *e*PKPdf PKPbc 03 55 58.0 +0.5
ANTO *e*PKPbc PKPbc 03 56 02.7 +0.6
LOD Lodumlu 149.44 316 *e*P PKPbc 03 56 01.9 -0.2
MENF Mencas 149.47 4 PKP PKPdf 03 55 57.4 -0.2
SGKT Sivrigoynuk 149.52 318 *i*P PKPbc 03 56 02.2 -0.1
MLR Muntele Rosu 149.57 331⇓*i*P PKPdf 03 55 57.9 +0.1
MLR Muntele Rosu 149.57 331⇓P PKPdf 03 55 57.9 +0.1
SNF Seneffe 149.62 2 PKP PKPdf 03 55 58.4 +0.5
SNF PKPbc PKPbc 03 56 02.5 0.0
MERS Mersin 149.69 310 *e*P PKPbc 03 56 03.2 +0.5
VYHS Vyhne 149.69 342 *e*PKP PKPdf 03 55 58.2 +0.2
VYHS *e* 03 56 03.0
MANZ Manzenberg 149.70 352 *e*PKPdf PKPdf 03 55 57.9 -0.1
MANZ *e*PKPbc PKPbc 03 56 03.1 +0.4
BCLA Clavier 149.72 0 PKPbc PKPbc 03 56 01.0 -1.8
BCLA APKPab 03 56 23.3
TREC Trest 149.78 347 *e*PKPdf PKPdf 03 55 57.8 -0.3
TREC *e*PKPbc PKPbc 03 56 03.0 +0.1
TNS Taunus Mts 149.83 356 *e*PKPbc PKPbc 03 56 03.1 +0.1
PSZ Piszkesteto 149.89 341 *i*PKP/F PKPbc 03 56 03.4 +0.2
PSZ Piszkesteto 149.89 341 PKHKP 03 55 58.7
PSZ Piszkesteto 149.89 341 *e*PKPdf PKPdf 03 55 58.4 +0.1
PSZ *e*PKPbc PKPbc 03 56 03.3 +0.2
ROTZ Rotzenmuhle 149.90 351 *e*PKPdf PKPdf 03 55 57.9 -0.4
ROTZ *e*PKPbc PKPbc 03 56 03.5 +0.3
ROTZ *ep*PKPbc pPKPbc 03 56 19.1 +1.0
BHL Bhannes 149.97 304 *e*P PKPbc 03 56 04.4 +1.1
DOU Dourbes 150.04 1 PKPbc PKPbc 03 56 03.7 +0.2
DOU APKPbc 03 56 19.5
SMOL Smolenice 150.06 344 *e*PKP PKPdf 03 55 59.6 +1.1
SMOL *e* 03 56 04.4
BAIF Baives 150.07 2 *e*PKP1 PKPdf 03 55 56.7 -1.9
comp=Z,74nm,1.4s
MEST Erdemli 150.08 309 *i*P PKPbc 03 56 03.6 0.0
HENT Hendek 150.09 319 *i*P PKPdf 03 56 00.0 +1.4
MDU Mudurnu 150.11 318 *e*P PKPbc 03 56 04.1 +0.4
GRA1 Grafenberg Arr 150.11 353 *e*PKPdf PKPdf 03 55 58.8 +0.2
GRA1 *e*PKPbc PKPbc 03 56 04.1 +0.4
GRF Grafenberg Arr 150.11 353 *e*PKPdf PKPdf 03 55 58.8 +0.2
GRF *e*PKPbc PKPbc 03 56 04.1 +0.4
GRF Grafenberg Arr 150.11 353 *e*PKP2 PKPbc 03 56 04.1 +0.4
GRF Grafenberg Arr 150.11 353 *e*PKHKP 03 55 58.8
ABH Alteburg 150.22 357 PKP PKPdf 03 56 02.2 +3.4
KHC Kasperske Hory 150.31 349 *e*PKPdf PKPdf 03 55 58.9 0.0
KHC *e*PKPbc PKPbc 03 56 04.6 +0.4
KHC *ep*PKP pPKPdf 03 56 20.0 +6.1
WET Wettzell 150.41 350 *e*PKPdf PKPdf 03 55 59.1 0.0
WET *e*PKPbc PKPbc 03 56 04.7 +0.3
WET *ep*PKPbc pPKPbc 03 56 21.1 +1.8
WET Wettzell 150.41 350 *e*PKIKP PKPbc 03 56 04.7 +0.3
WET *e* 03 56 21.1
RUP Ruppelstein 150.42 358 PKIKP PKPdf 03 55 59.4 +0.3
TOD Tromm 150.42 356 PKIKP PKPdf 03 56 00.1 +1.0
ZST Bratislava 150.43 344 *e*PKP PKPdf 03 55 59.9 +0.8
ZST *e* 03 56 05.2
SRO Srobarova 150.46 342 *e*PKP PKPbc 03 56 05.9 +1.4
WLF Walferdange 150.48 359 *e*PKPdf PKPdf 03 55 58.3 -0.9
WLF *e*PKPbc PKPbc 03 56 05.0 +0.4
WLF Walferdange 150.48 359 PKP PKPdf 03 56 00.2 +1.0
WLF PKPbc PKPbc 03 56 05.2 +0.6
WLF APKPbc 03 56 21.1
WLF Walferdange 150.48 359 PKIKP PKPdf 03 56 00.1 +0.9
WLF Walferdange 150.48 359 *e*PKPdf PKPdf 03 55 59.9 +0.7
WLF *e*PKPbc PKPbc 03 56 05.0 +0.4
SRO2 Moca 150.48 342 *e*PKP PKPbc 03 56 06.3 +1.7
SRO1 Iza 150.53 342 *e*PKP PKPbc 03 56 05.0 +0.3
BUD Budapest 150.55 341 *i*PKP/F PKPbc 03 56 05.0 +0.3
KIZI Kizilcal 150.55 315 *e*P PKPbc 03 56 04.8 +0.1
GEC2 GERESS Array S 150.56 349 *e*PKPdf PKPdf 03 55 59.1 -0.2
GEC2 *e*PKPbc PKPbc 03 56 04.8 0.0
GERES GERESS Array B 150.56 349 PKP PKPdf 03 55 59.0 -0.3
comp=Z,9.6nm,1.1s,baz=192,slow=1.2,SNR=8.5
GERES PKPbc PKPbc 03 56 05.0 +0.2
comp=Z,45nm,1.1s,baz=48,slow=2.0,SNR=47
IKL Isikli 150.56 309 *e*P PKPbc 03 56 05.1 +0.3
KONT Konya--Tatoy 150.71 313 *e*P PKPbc 03 56 05.2 +0.1
GPA Golpazari 150.77 319 *e*P PKPbc 03 56 05.3 +0.1
HRT Hereke 150.84 320 *e*P PKPbc 03 56 03.3 -2.1
ESKT Eskisehir 150.88 317 *i*P PKPbc 03 56 04.8 -0.7
ERMK Ermenek 150.94 310 *i*P PKPbc 03 56 04.6 -1.1
FLN La Foliniere 150.98 8 *e*PKP1 PKPbc 03 55 59.0 -6.7
comp=Z,154nm,1.4s
ADVT Abdulvahap 151.03 320 *e*P PKPbc 03 56 04.5 -1.4
SOP Sopron 151.05 345 *i*PKP/F PKPbc 03 56 06.3 +0.4
LANF Langenberg 151.11 357 PKP PKPdf 03 56 01.5 +1.3
LDF La Druitiere 151.19 8 *e*PKP1 PKPdf 03 55 59.5 -0.8
comp=Z,90nm,1.4s
STU Stuttgart 151.22 355 *e*PKPdf PKPdf 03 56 00.5 +0.1
STU *e*PKPbc PKPbc 03 56 06.4 +0.1
STU *ep*PKPbc pPKPbc 03 56 22.3 +1.0
STU Stuttgart 151.22 355 *e*PKPdf PKPdf 03 56 00.6 +0.3
STU *e*PKPbc PKPbc 03 56 06.3 -0.1
SZH Strazhica 151.24 328 P PKPbc 03 56 06.7 +0.3
BZS Buzias 151.28 336⇓*i*P PKPbc 03 56 06.5 0.0
CSS Prodhromos 151.36 307 *e*P PKPdf 03 56 03.3 +2.7
CSS Prodhromos 151.36 307 *e*PKPdf PKPdf 03 56 01.4 +0.8
CSS *e*PKPbc PKPbc 03 56 06.6 0.0
MOA Molln 151.41 348⇑*i* PKPbc 03 56 06.9 +0.2
comp=Z,44nm,1.3s
MOA Molln 151.41 348⇑*i*PKPdf PKPdf 03 56 01.4 +0.8
comp=Z,12nm,1.6s,SNR=8.1
MOA ⇑*i*PKiKP PKiKP 03 56 06.9 -0.3
comp=Z,44nm,1.3s
JMB Yambol 151.48 326 *e*P PKPbc 03 56 06.7 -0.2
PVL Pavlikeni 151.57 329 P PKPbc 03 56 07.0 -0.1
FUR Furstenfeldbru 151.60 352 *e*PKPdf PKPdf 03 56 00.7 -0.2
FUR *e*PKPbc PKPbc 03 56 07.1 -0.1
FUR *e*PKPab PKPab 03 56 16.0 +0.1
FUR Furstenfeldbru 151.60 352 *e*PKIKP PKPbc 03 56 07.1 -0.1
MEZF Maizieres J'vi 151.64 1 *e*PKP1 PKPdf 03 56 00.6 -0.4
comp=Z,72nm,1.3s
WLS Welschbruch 151.69 357 PKP PKPdf 03 56 01.7 +0.6
CDF Champ du Feu 151.70 358 *e*PKP1 PKPdf 03 56 00.8 -0.3
ARSA Arzberg 151.70 346⇑*i* PKPbc 03 56 07.2 -0.2
comp=Z,39nm,1.4s
ARSA Arzberg 151.70 346⇑*i*PKPdf PKPdf 03 56 00.4 -0.7
comp=Z,8.5nm,1.3s,SNR=8.8
ARSA ⇑*i*PKiKP PKiKP 03 56 07.2 -0.6
comp=Z,39nm,1.4s
ARSA ⇑*i*PKPab PKPab 03 56 17.5 +1.2
comp=Z,32nm,1.6s
ARSA Arzberg 151.70 346⇑*i*P PKPdf 03 56 00.4 -0.7

ARSA *i* 03 56 07.2
EIL Elat 151.73 296 *e*PKPbc PKPbc 03 56 08.1 +0.6
BFO Black Forest 151.73 356 *e*PKPdf PKPdf 03 56 00.5 -0.6
BFO *e*PKPbc PKPbc 03 56 07.2 -0.3
BFO *e*PKPab PKPab 03 56 16.1 -0.3
BFO *ep*PKPbc pPKPbc 03 56 23.6 +1.2
BFO Black Forest 151.73 356 PKIKP PKPdf 03 56 01.2 +0.1
PKSM Moragy 151.80 341⇓PKIKP PKPbc 03 56 07.8 +0.2
PKSM Moragy 151.80 341 *i*P PKPbc 03 56 07.5 -0.1
ECH Echery 151.90 358 PKP PKPdf 03 56 02.4 +1.0
THEF They Montfort 151.92 359 PKP PKPdf 03 56 02.2 +0.8
ISP Isparta 152.02 315 *e*P PKPdf 03 56 05.3 +3.8
ISP Isparta 152.02 315 *e*PKPdf PKPdf 03 56 01.3 -0.2
ISP *e*PKPbc PKPbc 03 56 07.8 -0.3
TKTP Tekketepe 152.04 315 *i*P PKPbc 03 56 07.7 -0.5
RHK1 Bakonya 152.08 341⇓*i*P PKPbc 03 56 08.3 0.0
HAU Haudompre 152.13 359 *e*PKP1 PKPdf 03 56 01.7 0.0
BNT Bandirma 152.17 321 *e*P PKPbc 03 56 08.4 -0.1
FELD Feldberg im Sc 152.20 356 PKP PKPdf 03 56 01.5 -0.3
MOF Molkenrain 152.26 358 PKP PKPdf 03 56 01.0 -0.9
HINF Hinteralfeld 152.31 358 *e*PKP1 PKPdf 03 56 01.8 -0.2
comp=Z,26nm,1.2s
KBA Koelnbreinsper 152.32 348⇑*i* PKPbc 03 56 08.3 -0.5
comp=Z,35nm,1.1s
KBA Koelnbreinsper 152.32 348 *i*PKPdf PKPdf 03 56 01.9 -0.1
comp=Z,17nm,1.4s,SNR=6.4
KBA ⇑*i*PKPbc PKPbc 03 56 08.3 -0.5
comp=Z,35nm,1.1s
DIM Dimitrovgrad 152.33 327 P PKPbc 03 56 06.7 -2.1
WATA Walderalm 152.37 351⇑*i* PKPbc 03 56 08.8 -0.1
comp=Z,65nm,1.3s
WATA Walderalm 152.37 351⇑*i*PKPdf PKPdf 03 56 01.9 -0.2
comp=Z,30nm,1.6s,SNR=15
WATA ⇑*i*PKiKP PKiKP 03 56 08.8 -0.4
comp=Z,65nm,1.3s
MOTA Moosalm 152.43 352⇑*i* PKPbc 03 56 09.0 -0.1
comp=Z,90nm,1.4s
MOTA Moosalm 152.43 352⇑*i*PKPdf PKPdf 03 56 01.9 -0.3
comp=Z,14nm,1.3s,SNR=11
MOTA ⇑*i*PKiKP PKiKP 03 56 09.0 -0.3
comp=Z,60nm,1.2s
MOTA ⇓*i*PKPab PKPab 03 56 17.8 -1.6
comp=Z,24nm,1.1s
MOTA Moosalm 152.43 352⇑*i*P PKPdf 03 56 01.9 -0.3
MOTA *i* 03 56 09.0
WTTA Wattenberg 152.43 351⇑*i* PKPbc 03 56 09.5 +0.4
comp=Z,85nm,1.2s
WTTA Wattenberg 152.43 351⇓*i*PKPdf PKPdf 03 56 02.2 0.0
comp=Z,19nm,1.5s,SNR=22
WTTA ⇑*i*PKiKP PKiKP 03 56 09.5 +0.2
comp=Z,85nm,1.2s
BTOK Tokmak 152.48 320 *i*P PKPbc 03 56 08.7 -0.5
SQTA Sankt Quirin 152.53 352⇑*i* PKPbc 03 56 09.4 +0.1
comp=Z,64nm,1.3s
SQTA Sankt Quirin 152.53 352⇑*i*PKPdf PKPdf 03 56 02.2 -0.1
comp=Z,26nm,1.5s,SNR=11
SQTA ⇑*i*PKiKP PKiKP 03 56 09.4 -0.1
comp=Z,64nm,1.3s
SVIS Svilajnac 152.54 335⇑*i*P PKPbc 03 56 09.4 +0.1
OBKA Obir 152.62 346⇑*i* PKPbc 03 56 09.0 -0.5
comp=Z,36nm,1.3s
OBKA Obir 152.62 346⇑*i*PKPdf PKPdf 03 56 03.0 +0.5
comp=Z,8.5nm,1.4s,SNR=9.1
OBKA ⇑*i*PKPbc PKPbc 03 56 09.0 -0.5
comp=Z,36nm,1.3s
DAVA Damuels 152.63 354⇓*i* PKPbc 03 56 10.4 +0.9
comp=Z,93nm,1.4s
DAVA Damuels 152.63 354⇑*i*PKPdf PKPdf 03 56 03.4 +0.9
comp=Z,11nm,1.4s,SNR=11
DAVA ⇓*i*PKiKP PKiKP 03 56 10.4 +0.7
comp=Z,86nm,1.3s
DAVA ⇑*i*PKPab PKPab 03 56 18.4 -1.8
comp=Z,42nm,1.1s
DAVA Damuels 152.63 354⇑*i*P PKPdf 03 56 03.4 +0.9
DAVA *i* 03 56 10.4
BBS Basel-Blauen 152.64 357 PKIKP PKPdf 03 56 03.2 +0.7
BALB Balikesir 152.65 320 *e*P PKPdf 03 56 02.6 +0.1
KDZ Kurdzhali 152.68 326 P PKPbc 03 56 08.5 -1.1
LOMF Lomont 152.78 358 PKP PKPdf 03 56 01.9 -0.8
LOR Lormes 152.84 3 *e*PKP1 PKPdf 03 56 02.9 +0.1
comp=Z,74nm,1.4s
FVI Forni Avoltri 152.89 349 PKIKP PKPbc 03 56 09.3 -0.8
BRES Bressanone 152.97 351 PKP PKPdf 03 56 03.2 +0.2
PTCC Patocco-Chiusa 152.97 348 PKP PKPdf 03 56 02.2 -0.8
ELL Elmali 153.00 313 *e*P PKPbc 03 56 10.2 -0.1
SSF Saint Saulge 153.03 3 *e*PKP1 PKPdf 03 56 03.1 0.0
comp=Z,82nm,1.5s
VTS Vitosha 153.06 330 P PKPbc 03 56 10.0 -0.5
LJU Ljubljana 153.07 346 *i*PKPdf PKPdf 03 56 02.9 -0.2
LJU *i*PKPbc PKPbc 03 56 10.2 -0.3
LJU *i*PKPab PKPab 03 56 26.7 +4.7
LJU Ljubljana 153.07 346 *i*PKIKP PKPdf 03 56 02.9 -0.2
LJU *i* 03 56 10.2
GRUS Gruza 153.08 335 *i*P PKPdf 03 56 02.1 -1.0
DIVS Divcibare 153.18 337 *i*P PKPdf 03 56 01.7 -1.6
VOY Vojsko 153.22 347 *e*PKPdf PKPdf 03 56 02.8 -0.5
VOY *e*PKPbc PKPbc 03 56 10.3 -0.5
VOY *e*PKPab PKPab 03 56 27.2 +4.5
VOY *e* 03 56 40.6
APPI Appiano 153.26 351 PKP PKPbc 03 56 10.1 -0.8
AVF Avril sur Loir 153.30 3 *e*PKP1 PKPdf 03 56 03.2 -0.2
BRMO Bormio 153.38 353 PKP PKPdf 03 56 04.4 +0.9
BOJS Bojanci 153.40 345 *e*PKPdf PKPdf 03 56 03.6 0.0
BOJS *i*PKPbc PKPbc 03 56 11.6 +0.3
BOJS *e*PKPab PKPab 03 56 23.6 +0.1
SMF Signal de Mont 153.47 3 *e*PKP1 PKPdf 03 56 03.3 -0.4
CABF La Chapelle 153.53 359 *e*PKP1 PKPdf 03 56 04.3 +0.5
comp=Z,68nm,1.4s
MMB Musomiste 153.58 328 P PKPbc 03 56 10.0 -1.6
BBLS Bajina Basta - 153.60 337 *i*P PKPdf 03 56 05.4 +1.5
CTI Castel Tesino 153.62 350 PKIKP PKPdf 03 56 03.3 -0.6
TCF Toulx Ste Croi 153.72 5 *e*PKP1 PKPdf 03 56 03.9 -0.1
comp=Z,40nm,1.4s
IZM Izmir 153.79 319 *e*P PKPbc 03 56 10.2 -1.9
OG01 Vacheresse 153.80 358 PKP PKPdf 03 56 03.9 -0.3
BLCB Balcova 153.94 319 *e*P PKPdf 03 56 03.3 -1.1
AGO Saint Agoulin 154.02 4 PKP PKPbc 03 56 12.6 +0.1
MCGN Macugnaga 154.11 356 PKP PKPdf 03 56 05.4 +0.8
STIP Stip 154.24 330⇓*i*PKP PKPdf 03 56 04.4 -0.4
PYM Petit Puy Mans 154.31 4 PKP PKPdf 03 56 04.8 -0.1
VAY Valandovo 154.35 329 *i* PKPab 03 56 26.8 -0.7
SKO Skopje 154.36 332 *i*PKP PKPdf 03 56 05.3 -0.1
LPL La Plagne 154.61 358 *e*PKP1 PKPdf 03 56 06.3 +1.0
LPG La Plagne 154.63 358 *e*PKP1 PKPdf 03 56 06.2 +0.9
comp=Z,41nm,1.6s
LBL Lubilhac 154.84 4 PKP PKPbc 03 56 15.2 +0.9
BNI Bardonecchia 155.08 358 *e*PKIKP PKPdf 03 56 05.8 -0.1
BNI *e* 03 56 15.1
EARI Arriondas 155.15 19 PKP PKPdf 03 56 08.4 +2.4
BIA Bitola 155.17 331 *i*PKP PKPdf 03 56 05.6 -0.4
VIVF Saint-Julien-l 155.28 1 *e*PKP1 PKPdf 03 56 07.4 +1.2
comp=Z,57nm,1.5s
ZCCA Zocca 155.38 351 PKP PKPdf 03 56 08.0 +1.7
ERBM Eremo 155.39 352 PKP PKPdf 03 56 07.1 +0.7
MBDF Montbardon 155.40 358 *e*PKP1 PKPdf 03 56 07.0 +0.8
ELOB Lobios 155.41 25 PKP PKPdf 03 56 09.4 +3.0
RSM Repubblica di 155.53 348 PKIKP PKPdf 03 56 07.1 +0.6
PCAB Cabril 155.56 25 *e*PKPdf PKPdf 03 56 07.5 +0.9
PCAB Cabril 155.56 25 *e*PKPab PKPab 03 56 32.9 +0.2
SEI Scarperia 155.60 350 PKP PKPdf 03 56 06.7 +0.1
VMG Vicchio 155.66 349 PKP PKPdf 03 56 07.0 +0.3
SFI Santa Sofia 155.66 349 PKIKP PKPdf 03 56 06.9 +0.2
PTO Porto 155.80 27 *e*PKPab PKPab 03 56 32.9 -0.8
ARV Arcevia 155.84 347 PKP2 PKPdf 03 56 07.1 +0.1
PBRG Braganca 155.97 23 *e*PKPdf PKPdf 03 56 05.2 -1.9
PBRG Braganca 155.97 23 *e*PKPab PKPab 03 56 34.5 +0.1
LASF Ste Croix 156.03 3 *e*PKP1 PKPdf 03 56 07.9 +0.7
comp=Z,58nm,1.5s
PVRL Vila Real 156.05 25 *e*PKPab PKPab 03 56 35.2 +0.4
AUTN L'Aution 156.10 357 PKP PKPdf 03 56 17.6 +10
AUTN L'Aution 156.10 357 PKIKP PKPdf 03 56 17.4 +0.1
AUTN 03 56 17.6
STOF St-Etienne Org 156.15 359 PKP PKPdf 03 56 07.1 -0.3
LUCF Luceram 156.21 357 PKP PKPdf 03 56 16.9 +9.5
MVIF Mont Vial 156.21 357 PKP PKPd

AQU				*e*PKPab	PKPab	03 56 38.6	+0.5
MTE	**Manteigas**	**156.86**	**26**	*e*PKPdf	PKPdf	03 56 09.1	+0.8
MTE	**Manteigas**	**156.86**	**26**	*e*PKPab	PKPab	03 56 38.4	+0.2
MTE	**Manteigas**	**156.86**	**26**	*e*PKPdf	PKPdf	03 56 08.3	0.0
MTE				*e*PKPab	PKPab	03 56 38.2	0.0
EBIE	**Bielsa**	**157.01**	**10**	PKP	PKPdf	03 56 09.6	+1.1
PTOM	**Tomar**	**157.13**	**29**	*e*PKPdf	PKPdf	03 56 09.2	+0.6
PTOM	**Tomar**	**157.13**	**29**	*e*PKPab	PKPab	03 56 39.8	+0.4
CII	**Carovilli**	**157.18**	**343**	PKP	PKPdf	03 56 09.5	+0.8
PCBR	**Castelo Branco**	**157.35**	**27**	*e*PKPdf	PKPdf	03 56 09.8	+0.9
PCBR	**Castelo Branco**	**157.35**	**27**	*e*PKPab	PKPab	03 56 39.8	-0.6
PLOU	**Loures**	**157.37**	**31**	*e*PKPab	PKPab	03 56 41.4	+1.0
EGRA	**Graus**	**157.51**	**10**	PKP	PKPdf	03 56 09.3	+0.2
ESAC	**San Caprasio**	**157.83**	**12**	PKP	PKPdf	03 56 09.1	-0.4
GUD	**Guadarrama**	**157.89**	**20**	PKIKP	PKPdf	03 56 10.3	+0.7
GVD	**Gavdhos**	**157.99**	**316**	*e*PKPab	PKPab	03 56 43.5	+0.4
MOE	**Montemor**	**158.04**	**30**	*e*PKPab	PKPab	03 56 43.9	+0.6
EVO	**Evora**	**158.19**	**30**	*e*PKIKP	PKPdf	03 56 03.5	-6.4
	comp=Z,155nm,1.8s						
EPOB	**Poblet**	**158.46**	**9**	PKP	PKPdf	03 56 08.2	-2.1
PTEO	**Sao Teotonio**	**158.62**	**32**	*e*PKPab	PKPab	03 56 46.1	+0.2
TIP	**Timpagrande**	**158.65**	**335**	*e*PKPdf	PKPdf	03 56 09.6	-0.9
TIP				*e*PKPab	PKPab	03 56 46.4	+0.4
PBEJ	**Beja**	**158.66**	**30**	*e*PKPdf	PKPdf	03 56 09.3	-1.2
PBEJ	**Beja**	**158.66**	**30**	*e*PKPab	PKPab	03 56 46.0	0.0
ERTA	**Horta de San J**	**158.72**	**11**	PKP	PKPdf	03 56 10.9	+0.4
ESDC	**Sonseca Array**	**158.83**	**21**	PKP	PKPdf	03 56 11.3	+0.6
	comp=Z,4.6nm,1.1s,baz=348,slow=3.1,SNR=17						
ESDC				PKPab	PKPab	03 56 46.4	-0.3
	comp=Z,4.0nm,0.6s,baz=328,slow=3.9,SNR=24						
ESDC				PP	PP	04 00 20.9	-6.5
	comp=Z,0.2nm,0.3s,baz=333,slow=5.5,SNR=3.7						
ESDC	**Sonseca Array**	**158.83**	**21**	PKP	PKPdf	03 56 09.8	-0.9
ESLA	**Sonseca Array**	**158.83**	**21**	*e*PKPdf	PKPdf	03 56 11.7	+1.0
ESLA				*e*PKPab	PKPab	03 56 46.9	+0.2
EMOS	**Mosqueruela**	**159.14**	**13**	PKP	PKPdf	03 56 11.7	+0.6
EMIN	**Mina Concepcio**	**159.42**	**28**	PKP	PKPdf	03 56 12.3	+0.9
ECHE	**Chera**	**159.76**	**15**	PKIKP	PKPdf	03 56 13.3	+1.5
EADA	**Adamuz**	**159.95**	**24**	PKP	PKPdf	03 56 12.7	+0.7
ETOS	**Mallorca**	**160.24**	**6**	PKP	PKPdf	03 56 10.8	-1.5
EVIA	**Vianos**	**160.24**	**19**	PKIKP	PKPdf	03 56 13.8	+1.5
ETOB	**Tobarra**	**160.51**	**17**	PKP	PKPdf	03 56 13.4	+0.8
ELUQ	**Luque**	**160.60**	**24**	PKIKP	PKPdf	03 56 13.4	+0.7
EQES	**Quesada**	**160.82**	**21**	PKP	PKPdf	03 56 13.2	+0.2
DBIC	**Dimbokro**	**163.28**	**141**	PKP	PKPdf	03 56 15.4	0.0
	comp=Z,13nm,1.3s,baz=224,slow=11,SNR=4.4						
DBIC				pPKPab	pPKPab	03 57 23.2	+2.4
	comp=Z,11nm,1.0s,baz=176,slow=4.5,SNR=4.8						
DBIC	**Dimbokro**	**163.28**	**141**	PKIKP	PKPdf	03 56 15.4	-0.1
DBIC				pmax	pmax		
	comp=Z,13nm,1.3s						
DBIC				pmax	pmax		
	comp=Z,11nm,1.0s						
DBIC	**Dimbokro**	**163.28**	**141**	*e*PKPdf	PKPdf	03 56 15.6	+0.1
EBNR	**Beni Rached**	**163.47**	**11**	P	PKPab	03 57 06.0	-1.0
EANR	**'Ain N'Sour**	**163.71**	**13**	P	PKPab	03 57 09.0	+0.9
EMHD	**Djebel Mahouad**	**163.78**	**8**	P	PKPab	03 57 04.0	-4.4
ETRT	**Tiaret**	**164.30**	**13**	P	PKPab	03 57 12.0	+1.3
TORD	**Torodi Ar. Bea**	**172.19**	**151**	PKP	PKPdf	03 56 21.1	-0.6
	comp=Z,8.9nm,1.2s,baz=318,slow=1.2,SNR=24						
TORD				pPKP	pPKPdf	03 56 37.3	+0.5
	comp=Z,5.0nm,0.8s,baz=0.5,slow=0.7,SNR=12						
TORD				PKPab	PKPab	03 57 46.9	+1.3
	comp=Z,7.5nm,1.1s,baz=223,slow=3.4,SNR=10						
TORD				pPKPab	pPKPab	03 58 02.8	+2.7
	comp=Z,7.2nm,0.9s,baz=205,slow=4.5,SNR=6.7						
TORD				PP	PP	04 01 40.1	+3.4
	comp=Z,1.6nm,0.8s,baz=82,slow=2.0,SNR=16						

*KNET **28** 03:42:35.4±0.3, 4221N×7369E, h0km, ml1.9, Error ellipse: s-maj=2.2km s-min=1.2km az=88.0*
*ISCJB **28** 03:42:36.1±0.8, 4218N±004×7365E±005, h10km, Error ellipse: s-maj=5.8km s-min=5.4km az=32.8*
*NNC **28** 03:42:36.4±3.1, 4355N×7358E, h0km, mb2.4, mpv2.1, Error ellipse: s-maj=80.9km s-min=7.1km az=6.0*

ISC 28 03:42:35.8±0.9, 4218N±004×7363E±006, h10km, n11, σ0§99/21, 11C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.07**	**135**	⇑P	**Pg**	**03 42 37.1**	**-0.9**
	798nm,0.1s,SNR=1969						
AML				⇑S	**Sg**	**03 42 38.3**	**-1.3**
	1μm,0.2s						
EKS2	**Erkin-Say**	**0.49**	**13**	⇑P	**Pg**	**03 42 44.6**	**-0.8**
	7.0nm,0.2s,SNR=7.4						
EKS2				⇓S	**Sg**	**03 42 51.5**	**-0.4**
	28nm,0.1s						
UCH	**Uchtor**	**0.66**	**86**	⇑P	**Pg**	**03 42 48.0**	**-0.6**
	6.3nm,0.1s,SNR=41						
UCH				⇑S	**Sg**	**03 42 57.7**	**+0.5**
	26nm,0.1s						
AAK	**Ala-Archa**	**0.79**	**55**	⇑P	**Pg**	**03 42 50.3**	**-0.7**
	3.1nm,0.1s,SNR=7.9						
AAK				⇓S	**Sg**	**03 43 01.3**	**+0.1**
	17nm,0.2s						
KBK	**Karagaybulak**	**1.09**	**64**	⇑P	**Pb**	**03 42 55.8**	**-0.9**
	6.6nm,0.1s,SNR=14						
KBK				⇑S	**Sg**	**03 43 10.8**	**0.0**
	26nm,0.2s						
CHMS	**Chumysh**	**1.16**	**45**	⇓P	**Pb**	**03 42 57.2**	**-0.8**
	2.7nm,0.1s,SNR=6.8						
CHMS				⇑S	**Sb**	**03 43 13.0**	**-0.2**
	11nm,0.2s						
KZA	**Kyzart**	**1.21**	**94**	⇓P	**Pn**	**03 42 58.3**	**-0.5**
	7.2nm,0.1s,SNR=34						
KZA				⇓S	**Sb**	**03 43 15.4**	**+0.9**
	24nm,0.2s						
USP	**Ospenovka**	**1.26**	**30**	⇓P	**Pn**	**03 42 58.8**	**-0.7**
	2.9nm,0.1s,SNR=9.6						
USP				⇓S	**Sb**	**03 43 15.9**	**0.0**
	13nm,0.1s						
TKM2	**Tokmak 2**	**1.63**	**62**	⇑P	**Pn**	**03 43 05.4**	**+0.8**
	0.2nm,0.3s						
TKM2				⇑S	**Sn**	**03 43 27.7**	**+2.1**
	1.0nm,0.6s						
ULHL	**Ulahol**	**1.94**	**87**	⇓P	**Pn**	**03 43 10.9**	**+2.0**
	8.6nm,0.2s,SNR=27						
KK31	**Karatay Array**	**2.48**	**293**	Pn	**Pn**	**03 43 18.1**	**+1.9**
	4.1nm,0.8s,baz=116,slow=12,SNR=23						
KK31				⇓Sn	**Sn**	**03 43 50.6**	**+4.2**
	1.7nm,0.3s,baz=112,slow=27,SNR=6.4						

NNC 28 03:51:22.7±11.0, 3840N×7368E, h116km±255km, mb2.2, mpv2.8, 3C, Error ellipse: s-maj=105.0km s-min=59.8km az=175.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**4.75**	**17**	⇑P	Pn	03 52 32.7	+0.6
	0.2nm,0.6s						
TKM2				⇑S	Sn	03 53 25.8	-0.3
	2.6nm,0.7s						
KK31	**Karatay Array**	**5.28**	**334**	P	Pn	03 52 40.1	+0.8
	1.0nm,0.2s,baz=156,slow=13,SNR=96						
KK31				⇑S	Sn	03 53 40.3	+1.3
	19nm,0.4s,baz=156,slow=24,SNR=25						
AB31	**Akbulak array**	**14.68**	**322**	P	Pn	03 54 43.4	-1.1
	0.2nm,0.5s,baz=140,slow=11,SNR=6.2						

*ISCJB **28** 03:57:07.9±1.8, 3311S±007×1796E±03, h250km, mb3.3/2, Error ellipse: s-maj=30.1km s-min=9.4km az=13.0*
*IDC **28** 03:57:07.2±9.0, 3294S×17974E, h236km±62km, mb3.1/2, mb1 3.3/3, mb1mx3.2/11, mbtmp3.7/3, Error ellipse: s-maj=93.5km s-min=32.5km az=46.0*

ISC 28 03:57:10.9±1.7, 3326S±007×1794E±03, h250km, n16, σ1§11/18, mb3.3/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**4.89**	**190**	PN	**Pn**	**03 58 23.9**	**-1.4**
PUZ				SN	**S**	**03 59 27.1**	**+2.5**
URZ	**Urewera**	**5.32**	**200**	P	**Pn**	**03 58 32.4**	**+1.8**
	1.2nm,0.3s,baz=31,slow=23,SNR=5.6						
URZ				S	**S**	**03 59 38.4**	**+4.2**
	1.9nm,0.3s,baz=106,slow=21,SNR=8.3						
BFZ	**Birch Farm**	**7.82**	**198**	SN	**S**	**04 00 30.1**	**-1.2**
MRZ	**Mangatainoka R**	**7.99**	**201**	SN	**S**	**04 00 34.0**	**-1.2**
TIWZ	**Tintock**	**8.01**	**199**	SN	**S**	**04 00 36.3**	**+0.8**
KIW	**Kapiti Island**	**8.39**	**204**	SN	**S**	**04 00 44.6**	**+0.2**
TCW	**Tory Channel**	**8.92**	**206**	SN	**S**	**04 00 57.4**	**+0.7**
TUWZ	**Tuamarina**	**9.23**	**206**	SN	**S**	**04 01 03.8**	**-0.1**
NNZ	**Nelson**	**9.27**	**209**	SN	**S**	**04 01 05.9**	**+1.1**
QRZ	**Quartz Range**	**9.33**	**214**	SN	**S**	**04 01 10.7**	**+4.6**
KHZ	**Kahutara**	**10.24**	**205**	*e*PN	**Pn**	**03 59 32.1**	**-0.3**
LTZ	**Lake Taylor**	**11.03**	**208**	PN	**Pn**	**03 59 41.8**	**-0.6**
LTZ				SN	**S**	**04 01 44.1**	**-1.7**
MQZ	**McQueen's Vall**	**11.68**	**205**	SN	**S**	**04 01 56.1**	**-4.8**
ASAR	**Alice Springs**	**40.83**	**271**	P	**P**	**04 04 28.9**	**+0.6**
	0.4nm,0.4s,mb3.2,baz=106,slow=7.5,SNR=6.5						
WRA	**Warramunga Arr**	**42.09**	**277**	P	**P**	**04 04 38.2**	**-0.3**
	0.7nm,0.4s,mb3.4,baz=113,slow=7.8,SNR=8.3						
TORD	**Torodi Ar. Bea**	**159.87**	**187**	PKPab	PKPab	04 17 19.9	-0.7
	0.5nm,0.9s,baz=166,slow=5.0,SNR=7.2						

*ISCJB **28** 03:59:46.2±0.8, 1828N±007×7656W±006, h25km±8km, Error ellipse: s-maj=12.9km s-min=7.8km az=122.4*
*JSN **28** 03:59:48.1±1.1, 1820N×7659W, h15km±6km, MD2.6*
*SSNC **28** 03:59:52.8, 1895N×7641W, h5km, MD3.0, ML1.7*

ISC 28 03:59:46.4±0.7, 1825N±009×7657W±005, h27km±13km, n8, σ0§92/13, 2C-4D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJ	**Castle Mountai**	**0.21**	**121**	⇓*i*P	**Pb**	**03 59 53.4**	**+0.9**
GWJ	**Greenwich**	**0.23**	**222**	⇓*e*P	**Pb**	**03 59 52.1**	**-0.5**
STH	**Stony Hill**	**0.29**	**234**	⇑*i*P	**Pb**	**03 59 52.9**	**-0.5**
STH				*e*S	**Sb**	**03 59 56.8**	**-1.3**
HOJ	**Hope**	**0.30**	**216**	⇓*e*P	**Pb**	**03 59 53.0**	**-0.6**
BBJ	**Bamboo Saint A**	**0.68**	**282**	⇓*e*P	**Pb**	**04 00 00.1**	**+0.4**
BBJ				*e*S	**Sb**	**04 00 09.3**	**+0.6**
MCJ	**Malvern**	**1.11**	**253**	⇓*e*P	**Pn**	**04 00 06.1**	**-0.1**
MCJ				*e*S	**Sb**	**04 00 21.9**	**+0.8**
LMGC	**Las Mercedes**	**1.85**	**347**	*e*PG	**Pn**	**04 00 18.1**	**+1.7**
	baz=127						
LMGC				*e*SG	**Sn**	**04 00 37.4**	**-1.6**
	comp=N,299nm,0.1s						
LMGC				*e*			
	comp=E,132nm,0.1s						
RCC	**Rio Carpintero**	**1.92**	**25**	*e*PG	**Pn**	**04 00 18.1**	**+0.7**
	baz=218						
RCC				*e*SG	**Sn**	**04 00 39.8**	**-0.9**
	comp=N,0.9nm,0.1s						
RCC				*e*			
	comp=E,0.9nm,0.0s						

*MOS **28** 04:10:41.4±1.1, 092N×12698E, h33km, mb4.7/15, Error ellipse: s-maj=22.9km s-min=7.4km az=105.5*
*ISCJB **28** 04:10:45.4±1.1, 083N±004×12686E±009, h70km±10km, mb4.6/40, Error ellipse: s-maj=14.7km s-min=5.7km az=148.3*
*IDC **28** 04:10:45.6±2.3, 078N×12695E, h54km±19km, mb4.4/12, mb1 4.6/12, mb1mx4.3/17, mbtmp4.7/12, Error ellipse: s-maj=35.0km s-min=10.8km az=74.0*
*NEIC **28** 04:10:45.4±1.8, 081N×12696E, h54km±17km, mb4.8/17, Error ellipse: s-maj=12.6km s-min=5.4km az=75.0*
*BJI **28** 04:10:45.4, 037N×12607E, h79km, mB5.8, mb4.9, Ms5.5, Msz5.0*

ISC 28 04:10:48.0±1.0, 080N±004×12692E±008, h78km±9km, n84, σ1§02/82, mb4.6/40, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**4.64**	**164**	P	**Pn**	**04 11 55.7**	**+0.1**
	332nm,0.7s						
SWI	**Sorong**	**4.64**	**111**	P	**Pn**	**04 11 56.4**	**+0.8**
	90nm,0.8s						
BAKI	**Biak**	**9.39**	**102**	P	**Pn**	**04 13 04.8**	**+4.3**
	279nm,1.4s						
JAY	**Jayapura**	**14.17**	**103**	P	**Pn**	**04 14 11.8**	**+7.0**
	25nm,0.7s						
KAKA	**Kakadu**	**14.50**	**158**	*e*P	**Pn**	**04 14 14.3**	**+5.2**
	86nm,0.7s						
KSM	**Kuching**	**16.63**	**272**	*e*P	**Pn**	**04 14 37.3**	**+1.3**
WRAB	**Tennant Creek**	**21.86**	**161**	*e*P	**P**	**04 15 33.7**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,88nm,0.7s,mb5.2						
WRAB	**Tennant Creek**	**21.86**	**161**	*e*P	**P**	**04 15 33.7**	**-0.4**
	comp=Z,88nm,0.7s,mb5.2						
WRA	**Warramunga Arr**	**21.86**	**161**	P	**P**	**04 15 33.7**	**-0.5**
	comp=Z,36nm,0.5s,mb5.0,baz=339,slow=11,SNR=196						
WRA				S	**S**	**04 19 26.3**	**-4.9**
	comp=Z,2.9nm,1.2s,baz=341,slow=18,SNR=3.3						
WRA				ScP	ScP	04 23 04.5	+3.3
	comp=Z,1.4nm,0.7s,baz=337,slow=3.1,SNR=6.8						
WRA	**Warramunga Arr**	**21.86**	**161**	P	**P**	**04 15 33.7**	**-0.5**
WRA				S	**S**	**04 19 26.3**	**-4.9**
MBWA	**Marble Bar**	**22.93**	**197**	*e*P	**P**	**04 15 43.5**	**-2.0**
	comp=Z,11nm,0.6s,mb4.4						
YHNB	**Yeheng**	**24.32**	**348**	*e*P	**P**	**04 15 57.0**	**-1.3**
AS31	**Alice Springs**	**25.25**	**165**	*e*P	**P**	**04 16 06.7**	**0.0**
AS31				*e*S	**S**	**04 20 27.1**	**+0.5**
ASAR	**Alice Springs**	**25.25**	**165**	P	**P**	**04 16 06.8**	**+0.1**
	comp=Z,54nm,0.9s,mb5.0,baz=349,slow=7.1,SNR=107						
ASAR				PcP	PcP	04 19 39.1	+1.0
	comp=Z,1.7nm,0.6s,baz=3.0,slow=2.0,SNR=5.1						
ASAR				S	**S**	**04 20 27.7**	**+1.1**
	comp=Z,4.5nm,0.7s,baz=340,slow=18,SNR=4.6						
ASAR				ScP	ScP	04 23 14.0	+3.7
	comp=Z,0.8nm,0.7s,baz=333,slow=2.3,SNR=5.0						
ASAR	**Alice Springs**	**25.25**	**165**	P	**P**	**04 16 06.9**	**+0.2**
ASAR						04 19 39.1	
ASAR				S	**S**	**04 20 27.7**	**+1.0**
ASPA	**Alice Springs**	**25.25**	**165**	*e*P	**P**	**04 16 06.7**	**0.0**
ASPA				*e*S	**S**	**04 20 27.1**	**+0.5**
JOW	**Kunigami**	**25.91**	**3**	P	**P**	**04 16 13.2**	**+0.5**
	comp=Z,24nm,0.8s,mb4.7,baz=180,slow=7.3,SNR=6.3						
CTAO	**Charters Tower**	**28.11**	**139**	*e*P	**P**	**04 16 33.6**	**+1.2**
CTAO				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.3						
CTAO	**Charters Tower**	**28.11**	**139**	*e*P	**P**	**04 16 33.6**	**+1.2**
	comp=Z,11nm,1.0s,mb4.3						
SSE	**Sheshan**	**30.61**	**350**	P	**P**	**04 16 54.5**	**-0.1**
SSE				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
SSE				AMB	AMB		
	comp=Z,2μm,12.0s						
SSE	**Sheshan**	**30.61**	**350**	P	**P**	**04 16 54.6**	**0.0**
	comp=Z,20nm,0.9s,mb4.8						
NJ2	**Nanjing**	**32.00**	**347**	*e*P	**P**	**04 17 08.0**	**+1.2**
NJ2				AP	pP	04 17 29.0	+3.9
NJ2				XP	sP	04 17 41.8	+7.6
NJ2				PP	PP	04 18 20.0	-0.3
NJ2				S	**S**	**04 22 13.0**	**+0.3**
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,670nm,9.0s						
NJ2				LR	LR		
	comp=N,3μm,18.8s						
NJ2				LR	LR		
	comp=E,3μm,17.6s						
NJ2				LR	LR		
	comp=Z,1μm,18.6s						
KLBR	**Kellerberrin**	**33.37**	**194**	*e*P	**P**	**04 17 18.5**	**-0.2**
	comp=Z,31nm,1.3s,mb5.0						
MUN	**Mundaring**	**34.15**	**196**	*e*P	**P**	**04 17 25.6**	**+0.1**
STKA	**Stephens Creek**	**35.35**	**158**	*e*P	**P**	**04 17 34.0**	**-1.8**
	comp=Z,14nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**35.35**	**158**	P	**P**	**04 17 34.1**	**-1.7**
	comp=Z,19nm,0.8s,mb5.0,baz=330,slow=8.7,SNR=44						
STKA	**Stephens Creek**	**35.35**	**158**	*e*P	**P**	**04 17 33.8**	**-2.0**
MJAR	**Matsushiro Arr**	**37.06**	**15**	P	**P**	**04 17 49.6**	**-0.9**
	comp=Z,3.1nm,0.5s,mb4.5,baz=188,slow=8.9,SNR=19						
MAJO	**Matsushiro**	**37.07**	**15**	*e*P	**P**	**04 17 49.6**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
MAJO	**Matsushiro**	**37.07**	**15**	*e*P	**P**	**04 17 49.6**	**-0.8**
	comp=Z,4.4nm,0.5s,mb4.6						
BJT	**Baijiatuao**	**40.24**	**347**	*e*P	**P**	**04 18 17.2**	**+0.2**
BJT				pmax	pmax		
	comp=Z,45nm,1.0s						
BJT	**Baijiatuao**	**40.24**	**347**	*e*P	**P**	**04 18 17.2**	**+0.2**
	comp=Z,45nm,1.0s,mb5.2						
BJI	**Beijing**	**40.26**	**347**	P	**P**	**04 18 16.0**	**-1.2**
BJI				AMB	AMB		
	comp=Z,39nm,1.0s,mb5.2						
BJI	**Beijing**	**40.26**	**347**	P	**P**	**04 18 16.0**	**-1.2**
	comp=Z,39nm,1.0s,mb5.2						
LZH	**Lanzhou**	**41.13**	**331**	*e*P	**P**	**04 18 24.8**	**+0.5**
LZH				AMB	AMB		
	comp=Z,24nm,1.2s,mb4.9						
LZH	**Lanzhou**	**41.13**	**331**	*e*P	**P**	**04 18 24.7**	**+0.4**
LZH				*pP	pP	04 18 34.5	-8.6
LZH				pmax	pmax		
	comp=Z,24nm,1.2s,mb4.9						
HHC	**Hu-ho-hao-te**	**42.23**	**343**	*e*P	**P**	**04 18 34.5**	**+1.2**
HHC				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.5						
DZM	**Mont Dzumac**	**44.74**	**123**	P	**P**	**04 18 55.2**	**+1.7**
	comp=Z,8.3nm,0.8s,mb4.5,baz=316,slow=6.5,SNR=7.3						
GTA	**Gaotai**	**45.71**	**330**	*e*P	**P**	**04 19 01.5**	**+0.4**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.0						
HABR	**Khabarovsk**	**48.00**	**7**	*e*P	**P**	**04 19 16.7**	**-2.3**
HABR				S	**S**	**04 26 13.8**	**+2.6**
KLR	**Kul'dur**	**48.42**	**4**	*e*P	**P**	**04 19 19.2**	**-3.0**
ULN	**Ulaanbaatar**	**49.95**	**343**	*e*P	**P**	**04 19 34.9**	**+1.0**
ULN				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
ULN	**Ulaanbaatar**	**49.95**	**343**	*e*P	**P**	**04 19 34.9**	**+1.0**
	comp=Z,15nm,0.9s,mb4.9						
SONM	**Songino Array**	**50.12**	**342**	P	**P**	**04 19 35.9**	**+0.7**
	comp=Z,7.1nm,0.7s,mb4.7,baz=160,slow=8.7,SNR=37						
ZAK	**Zakamensk**	**53.34**	**341**	*e*P	**P**	**04 19 59.4**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb4.4						
BOD	**Bodaibo**	**57.77**	**352**	*e*P	**P**	**04 20 30.1**	**-0.8**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
MK31	**Makanchi Array**	**60.07**	**326**	P	**P**	**04 20 47.4**	**+0.6**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
MKAR	**Makanchi Array**	**60.07**	**326**	P	**P**	**04 20 47.3**	**+0.5**
	comp=Z,4.2nm,0.5s,mb4.7,baz=117,slow=7.7,SNR=42						
MA2	**Magadan**	**61.48**	**14**	*e*P	**P**	**04 20 56.6**	**+0.2**
MA2				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
MA2	**Magadan**	**61.48**	**14**	*e*P	**P**	**04 20 56.6**	**+0.1**
	comp=Z,7.8nm,0.7s,mb4.8						
ZAL	**Zalesovo**	**63.27**	**334**	P	**P**	**04 21 09.0**	**+0.6**
	comp=Z,1.9nm,0.3s,mb4.5,baz=7.4,slow=5.4,SNR=7.0						
ZAL	**Zalesovo**	**63.27**	**334**	P	**P**	**04 21 09.0**	**+0.6**
KURK	**Kurchatov**	**64.31**	**328**	*e*P	**P**	**04 21 15.2**	**0.0**
KURK				pmax	pmax		
	comp=Z,25nm,0.6s,mb5.2						
KURK	**Kurchatov**	**64.31**	**328**	*e*P	**P**	**04 21 15.2**	**0.0**
	comp=Z,24nm,0.6s,mb5.2						
NVS	**Novosibirsk**	**64.56**	**334**	*e*P	**P**	**04 21 15.5**	**-1.3**
NVS				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.7						
NVS				pmax	pmax		
	comp=E,6.0nm,0.6s						
KKAR	**Karatay Array**	**65.50**	**318**	*i*P	**P**	**04 21 23.2**	**+0.3**
CASY	**Casey**	**67.95**	**187**	*e*P	**P**	**04 21 38.2**	**-0.4**
	comp=E,9.2nm,0.9s,mb4.6						
VOSK	**Vostochnaya**	**69.41**	**327**	P	**P**	**04 21 47.3**	**-0.3**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
BVA0	**Borovoye Array**	**69.87**	**328**	P	**P**	**04 21 52.1**	**+1.7**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.5						
BRVK	**Borovoye**	**69.94**	**328**	*e*P	**P**	**04 21 50.3**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
BRVK	**Borovoye**	**69.94**	**328**	*e*P	**P**	**04 21 50.3**	**-0.5**
	comp=Z,2.2nm,0.6s,mb4.2						
CHKZ	**Chkalovo**	**70.05**	**328**	*e*P	**P**	**04 21 51.2**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
CHKZ	**Chkalovo**	**70.05**	**328**	*e*P	**P**	**04 21 51.2**	**-0.3**
	comp=Z,4.0nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**70.58**	**327**	P	**P**	**04 21 54.9**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
ZRNK	**Zerenda**	**70.58**	**327**	*e*P	**P**	**04 21 54.5**	**-0.2**
	comp=Z,6.4nm,0.6s,mb4.6						
TIXI	**Tiksi**	**70.75**	**1**	*e*P	**P**	**04 21 53.3**	**-2.4**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.1						
SVE	**Sverdlovsk**	**76.54**	**329**	*e*P	**P**	**04 22 31.7**	**+2.0**
ARU	**Arti**	**77.50**	**328**	⇑*i*P	**P**	**04 22 34.2**	**-0.9**
ARU				*e*		04 25 28.9	
ARU				*e*S	S	04 32 23.5	+3.6
ARU				*e*SS	SS	04 37 23.0	+2.7
ARU				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
VNDA	**Vanda**	**80.52**	**173**	P	**P**	**04 22 51.5**	**-0.1**
	comp=Z,5.4nm,0.7s,mb4.5,baz=318,slow=5.9,SNR=32						
**VN

σ0$80/16, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.81**	**351**	*e*PG	**Pg**	**05 02 29.6**	**-1.2**
VLS				*e*SB	**Sg**	**05 02 42.4**	**+0.9**
RLS	**Riolos of Patr**	**0.89**	**40**	*e*PB	**Pg**	**05 02 31.4**	**-0.9**
RLS				*e*SB	**Sg**	**05 02 44.0**	**+0.1**
ITM	**Ithomi**	**0.96**	**101**	*e*PB	**Pg**	**05 02 32.5**	**-1.1**
LKD	**Levkas**	**1.33**	**357**	*e*P	**Pn**	**05 02 38.8**	**-1.1**
EVR	**Evrytania**	**1.75**	**28**	*e*PG	**Pg**	**05 02 48.2**	**-0.6**
VLI	**Veliai**	**1.87**	**110**	*e*PN	**Pn**	**05 02 48.3**	**+1.1**
AGG	**Agios Georgios**	**2.07**	**37**	*e*P	**Pn**	**05 02 50.8**	**+0.9**
IGT	**Igoumenitsa**	**2.18**	**352**	*e*P	**Pn**	**05 02 51.2**	**-0.2**
IGT	**Igoumenitsa**	**2.18**	**352**	*e*P	**Pn**	**05 02 51.2**	**-0.3**
LKR	**Lokris**	**2.19**	**54**	*e*PN	**Pn**	**05 02 52.3**	**+0.7**
XOR	**Xorichti**	**2.77**	**43**	*e*P	**Pn**	**05 02 59.9**	**+0.4**
FNA	**Florina**	**3.44**	**8**	*e*P	**Pn**	**05 03 09.6**	**+0.8**
OUR	**Ouranopolis**	**3.89**	**39**	*e*P	**Pn**	**05 03 15.0**	**0.0**
KNT	**Kendrikon**	**4.14**	**23**	*e*P	**Pn**	**05 03 18.7**	**+0.3**

*ISCJB **28** 05:09:15.7±1.5, 3752N×008×208E±0.1, h10km, Error ellipse: s-maj=16.0km s-min=7.9km az=104.1*
*ATH **28** 05:09:16.6, 3760N×2091E, h10km±7km, MD3.7/6*
*CSEM **28** 05:09:17.3±0.3, 3763N×2094E, h2km, MD3.7, Error ellipse: s-maj=7.6km s-min=2.8km az=48.0*
*NEIC **28** 05:09:17.1, 3763N×2096E, h9km, MD3.7(ATH), After ATH.*

ISC 28 05:09:17.2±1.6, 3759N±009×208E±01, h10km, n11,
σ1$19/13, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.61**	**343**	*e*PG	**Pg**	**05 09 28.6**	**-0.5**
VLS				*e*SB	**Sb**	**05 09 38.3**	**-0.4**
RLS	**Riolos of Patr**	**0.69**	**47**	*e*PB	**Pg**	**05 09 28.0**	**-2.6**
ITM	**Ithomi**	**0.97**	**115**	*e*PG	**Pg**	**05 09 33.9**	**-2.0**
LKD	**Levkas**	**1.12**	**353**	*e*P	**Pb**	**05 09 37.3**	**-1.4**
EVR	**Evrytania**	**1.54**	**30**	*e*PB	**Pn**	**05 09 45.7**	**+1.1**
EVR				*e*SB	**Sn**	**05 10 05.9**	**+1.3**
AGG	**Agios Georgios**	**1.86**	**39**	*e*P	**Pn**	**05 09 49.7**	**+0.6**
VLI	**Veliai**	**1.90**	**117**	*e*PG	**Pn**	**05 09 51.5**	**+1.8**
IGT	**Igoumenitsa**	**1.98**	**349**	*e*P	**Pn**	**05 09 52.0**	**+1.3**
LKR	**Lokris**	**2.02**	**58**	*e*PN	**Pn**	**05 09 51.2**	**-0.1**
FNA	**Florina**	**3.22**	**8**	*e*P	**Pn**	**05 10 07.8**	**0.0**
KNT	**Kendrikon**	**3.91**	**24**	*e*P	**Pn**	**05 10 17.2**	**-0.1**

*NNC **28** 05:11:45.5±7.9, 4407N×8498E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=70.4km s-min=34.6km az=128.0*

BJI 28 05:11:35.1, 4321N×8389E, h8km, ML3.5, 1C-5D,
Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.83**	**76**	*e*P	Pn	05 12 23.0	+2.4
WMQ				SG	Sg	05 12 58.8	-7.4
WMQ				Smax			
	comp=N,19nm,0.6s						
WMQ				Smax			
	comp=E,29nm,0.4s						
MK05	**Makanchi Array**	**3.76**	**343**	⇓Pn	Pn	05 12 37.0	+3.6
	comp=E,1.4nm,0.3s,baz=159,slow=14						
MK05				⇑Pg	Pg	05 12 45.8	-1.4
	comp=E,2.0nm,0.3s,baz=150,slow=17						
MK05				⇓Lg		05 13 34.1	
	comp=E,13nm,0.5s,baz=146,slow=26						
TKM2	**Tokmak 2**	**6.08**	**270**	⇓Pn	Pn	05 13 31.8	+27
	comp=E,0.3nm,0.7s						
TKM2				⇓Sn	Sn	05 14 49.1	+34
	comp=E,0.5nm,0.6s						
KURK	**Kurchatov**	**8.33**	**336**	⇓Lg		05 15 59.3	
	comp=E,2.4nm,0.6s						

IDC 28 05:11:57.9±2.4, 506N×12640E, h0km, mb3.6/3, mb1 3.8/3,
mb1mx3.5/15, mbtmp3.6/3, Error ellipse:
s-maj=205.4km s-min=25.6km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.04**	**163**	P	P	05 17 32.8	0.0
	0.4nm,0.4s,baz=342,slow=9.5,SNR=5.3						
ASAR	**Alice Springs**	**29.47**	**166**	P	P	05 18 04.2	+0.7
	0.2nm,0.6s,baz=339,slow=9.9,SNR=3.7						
MKAR	**Makanchi Array**	**56.29**	**325**	P	P	05 21 40.4	+0.2
	1.2nm,0.7s,baz=122,slow=8.1,SNR=12						
FINES	**FINESS Array B**	**90.52**	**332**	pP		05 25 13.1	
	1.7nm,1.0s,baz=77,slow=3.4,SNR=2.3						

MAN 28 05:12:43.6, 1176N×12568E, h18km, mb3.6, ML4.8, MS2.0,
1C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.29**	**236**	*e*P	Pg	05 12 51.3	+1.4
BESP				*e*S	Sg	05 12 56.4	+2.2
PLP	**Palo**	**0.91**	**229**	*i*P	Pb	05 12 59.7	-1.1
PLP				*e*S	Sb	05 13 09.2	-3.4
OCLP	**Ormoc**	**1.27**	**236**	*e*P	Pn	05 13 05.8	-0.5
MSLP	**Maasin**	**1.81**	**207**	*e*P	Pn	05 13 14.9	+1.1
SCPH	**Surigao**	**1.98**	**186**	⇑*e*P	Pn	05 13 16.1	0.0
PVCP	**Virac**	**2.36**	**321**	⇓*i*P	Pn	05 13 25.1	+3.8
PVCP				*i* S	Sn	05 14 01.3	+12
PVCP	**Virac**	**2.36**	**321**	*e*P	Pn	05 13 21.7	+0.4
TBP	**Tagbilaran**	**2.73**	**221**	*e*P	Pn	05 13 36.6	+10
GUIM	**Jordan**	**3.24**	**250**	*e*P	Pn	05 13 34.8	+1.3
AUQP	**San Andres**	**3.32**	**298**	*e*P	Pn	05 13 48.3	+14
OTRP	**Odiongan**	**3.63**	**280**	*e*P	Pn	05 13 40.2	+1.3

CASC 28 05:24:39.4±2.7, 1419N×8931W, h154km±27km, MD3.9,
ML3.1, 1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJE	**San Jose**	**0.43**	**222**	*e*P	Pn	05 25 12.5	+12
SNJE				*e*S	Sn	05 25 30.6	+13
BOQS	**Boqueron**	**0.45**	**176**	*e*P	Pn	05 25 13.1	+12
BOQS				*e*S	Sn	05 25 30.5	+13
LFU	**La Fuente**	**0.48**	**156**	*e*P	Pn	05 25 14.5	+13
LFU				*e*S	Sn	05 25 32.3	+15
SNET	**Serv Nac Est T**	**0.51**	**171**	*e*P	Pn	05 25 01.8	+0.5
IXG	**Ixpaco**	**1.11**	**269**	⇓*e*P	Pn	05 25 05.2	-0.3
IXG				*e*S	Sn	05 25 29.0	+3.5
FUG	**Fuego 3**	**1.50**	**280**	*e*P	Pn	05 25 10.1	+0.8
TP2	**Tecpan 2**	**1.76**	**290**	*e*P	Pn	05 25 14.0	+2.0
TP2				*e*S	Sn	05 25 38.4	+1.4
CRIN	**San Cristobal**	**2.65**	**124**	*e*P	Pn	05 25 24.2	+1.6
MIRN	**Miramar**	**3.07**	**124**	*e*P	Pn	05 25 29.4	+1.6
MIRN				*e*S	Sn	05 26 06.9	+1.6
COPN	**Copaltepe**	**3.32**	**127**	*e*P	Pn	05 25 31.3	+0.3
MGAN	**Managua**	**3.61**	**124**	*e*S	Sn	05 26 18.1	+0.5
	comp=E,63nm,0.3s						
PRS1	**Puriscal**	**6.43**	**130**	*e*P	Pn	05 26 13.8	+2.0
LCR2	**La Lucha 2**	**6.82**	**130**	*e*P	Pn	05 26 18.4	+1.4
BUS	**Buena Vista**	**7.12**	**130**	*e*P	Pn	05 26 24.0	+2.9

*NEIC **28** 05:32:16.9, 1936N×6921W, h25km, MD3.6(RSPR), After RSPR.*

RSPR 28 05:32:16.9, 1936N×6921W, h25km±42km, MD3.6/13,
MD3.6/13, 12C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**2.18**	**114**	⇑*e*P	Pn	05 32 50.2	-1.3
AGPR				*e*S	Sn	05 33 15.6	-2.1
LSP	**Las Mesas**	**2.33**	**120**	⇑*e*P	Pn	05 32 51.4	-2.2
LSP				*e*S	Sn	05 33 18.5	-3.0
CRPR	**Cabo Rojo, PR**	**2.41**	**124**	⇑*e*P	Pn	05 32 52.6	-2.1
CRPR				*e*S	Sn	05 33 21.6	-1.7
MGP	**Maguayo**	**2.42**	**123**	⇑*e*P	Pn	05 32 53.6	-1.2
MGP				*e*S	Sn	05 33 20.7	-3.0
LRS	**Lares**	**2.48**	**115**	⇑*e*P	Pn	05 32 54.0	-1.7
LRS				*e*S	Sn	05 33 22.9	-2.2
OBIP	**Obispado Ponce**	**2.80**	**118**	⇑*e*P	Pn	05 32 59.3	-0.7
OBIP				*e*S	Sn	05 33 31.1	-1.8
CELP	**Cerrillos**	**2.80**	**117**	⇑*e*P	Pn	05 32 59.0	-1.2
CELP				*e*S	Sn	05 33 31.7	-1.4
ICM	**Isla Caja Muer**	**2.94**	**119**	*e*S	Sn	05 33 34.7	-1.8
SJG	**San Juan**	**3.16**	**113**	⇑*e*P	Pn	05 33 03.2	-1.8
SJG				*e*S	Sn	05 33 39.3	-2.5
SJG	**San Juan**	**3.16**	**113**	⇓*e*P	Pn	05 33 03.1	-1.9
SJG				*e*S	Sn	05 33 39.1	-2.7
CBYP	**Canovanas**	**3.36**	**108**	⇑*e*P	Pn	05 33 06.5	-1.2
CBYP				*e*S	Sn	05 33 45.9	-1.0
CPD	**Cerro la Pandu**	**3.39**	**112**	⇑*e*P	Pn	05 33 07.1	-1.1
CPD				*e*S	Sn	05 33 45.5	-2.0
HUMP	**Col San Antoni**	**3.41**	**110**	⇑*e*P	Pn	05 33 06.4	-2.1
HUMP				*e*S	Sn	05 33 45.7	-2.3
MTP	**Monte Pirata**	**3.69**	**109**	*e*S	Sn	05 33 53.7	-1.1
MTP	**Monte Pirata**	**3.69**	**109**	⇑*e*P	Pn	05 33 10.7	-1.5
MTP				*e*S	Sn	05 33 43.7	-11

IDC 28 05:42:17.4±2.6, 802S×11019E, h0km, mb3.7/4, mb1 3.9/4,
mb1mx3.6/15, mbtmp3.7/4, Error ellipse:
s-maj=153.9km s-min=24.4km az=51.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.22**	**119**	P	P	05 47 55.1	+1.2
	2.3nm,0.8s,baz=294,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**27.54**	**127**	P	P	05 48 06.2	+0.4
	0.3nm,0.4s,baz=302,slow=8.4,SNR=8.1						
STKA	**Stephens Creek**	**37.63**	**133**	P	P	05 49 33.5	-0.4
	2.7nm,0.6s,baz=312,slow=8.7,SNR=8.0						
MKAR	**Makanchi Array**	**59.95**	**338**	P	P	05 52 25.5	+0.1
	0.2nm,0.6s,baz=157,slow=9.3,SNR=2.4						

*MOS **28** 06:06:37.7±2.8, 1899S×17589W, h101km, mb4.9/20, Error ellipse: s-maj=10.7km s-min=8.1km az=141.2*
*ISCJB **28** 06:06:37.4±1.5, 1950S±006×17570W±005, h130km±13km, mb4.7/53, Error ellipse: s-maj=10.7km s-min=6.4km az=103.5*
*SZGRF **28** 06:06:38.7, 1909S×17502W, h121km, Tonga Islands*
*IDC **28** 06:06:38.5±2.2, 1950S×17554W, h132km±19km, mb4.5/14, mb1 4.6/16, mb1mx4.6/19, mbtmp4.9/16, Error ellipse: s-maj=18.3km s-min=11.9km az=128.0*
*BJI **28** 06:06:38.7, 1940S×17570W, h130km, mB5.2, mb5.0*
*NEIC **28** 06:06:38.8±0.2, 1944S×17569W, mb4.8/35, Error ellipse: s-maj=8.7km s-min=4.7km az=142.0*

ISC 28 06:06:38.5±1.5, 1950S±006×17562W±005, h126km±13km,
h131km±1.7km; pP-P, n241, σ1$00/141, mb4.8/53, 8C-19D,
Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.67**	**34**	P	**Pn**	**06 08 12.6**	**-1.4**
	22nm,0.3s,baz=74,slow=5.8,SNR=22						
AFI				S	**Sn**	**06 09 18.6**	**-10**
	83nm,0.3s,baz=39,slow=22,SNR=9.9						
AFI	**Afiamalu**	**6.67**	**34**	P	**Pn**	**06 08 12.6**	**-1.4**
AFI				S	**Sn**	**06 09 18.6**	**-10**
AFI				pmax	pmax		
	comp=Z,22nm,0.3s						
AFI				smax			
	comp=N,83nm,0.3s						
AFI	**Afiamalu**	**6.67**	**34**	*e*Pn	**Pn**	**06 08 12.9**	**-1.0**
	comp=N,93nm,0.3s						
RAR	**Rarotonga**	**14.96**	**99**	P	**Pn**	**06 10 06.0**	**+2.6**
	comp=N,1.8nm,0.3s,baz=212,slow=3.8,SNR=3.1						
RAR				S	**Sn**	**06 12 39.5**	**-9.5**
	comp=N,1.6nm,0.3s,baz=39,slow=19,SNR=1.8						
BKM	**Butte a Klehm**	**15.41**	**274**	⇑*i*P	**Pn**	**06 10 17.4**	**+8.4**
DZM	**Mont Dzumac**	**16.96**	**258**	P	**Pn**	**06 10 34.8**	**+6.7**
	comp=N,9.2nm,0.3s,baz=69,slow=17,SNR=37						
URZ	**Urewera**	**19.73**	**197**	P	**P**	**06 10 57.8**	**-0.4**
	comp=N,1.1nm,0.3s,baz=329,slow=3.8,SNR=22						
SNZO	**South Karori**	**23.25**	**199**	*e*P	**P**	**06 11 35.0**	**+0.4**
	comp=N,21nm,0.8s,mb4.5						
RPZ	**Rata Peaks**	**26.61**	**202**	P	**P**	**06 12 06.6**	**+1.6**
	comp=N,14nm,0.5s,mb4.7,baz=320,slow=3.6,SNR=7.4						
CNB	**Canberra Magne**	**34.63**	**236**	*e*P	**P**	**06 13 15.8**	**+0.2**
	comp=N,32nm,1.1s,mb5.1						
CTAO	**Charters Tower**	**35.83**	**262**	*e*P	**P**	**06 13 27.2**	**+1.4**
CTAO				pmax	pmax		
	comp=Z,83nm,0.6s,mb5.8						
CTAO	**Charters Tower**	**35.83**	**262**	*e*P	**P**	**06 13 27.2**	**+1.4**
	comp=Z,83nm,0.6s,mb5.8						
PMG	**Port Moresby**	**37.34**	**280**	P	**P**	**06 13 39.9**	**+1.4**
	comp=Z,58nm,0.9s,mb5.5,baz=107,slow=4.4,SNR=16						
PMG	**Port Moresby**	**37.34**	**280**	*e*P	**P**	**06 13 40.5**	**+1.9**
PMG				pmax	pmax		
	comp=Z,52nm,0.9s						
PMG	**Port Moresby**	**37.34**	**280**	*e*P	**P**	**06 13 40.5**	**+1.9**
	comp=Z,52nm,0.9s,mb5.5						
TOO	**Toolangi**	**38.29**	**234**	*e*P	**P**	**06 13 47.5**	**+0.9**
	comp=Z,5.3nm,0.7s,mb4.5						
TOO	**Toolangi**	**38.29**	**234**	*e*P	**P**	**06 13 47.5**	**+0.9**
TOO				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
TAU	**Tasmania Unive**	**38.90**	**225**	*e*P	**P**	**06 13 51.8**	**+0.1**
TAU				pmax	pmax		
	comp=Z,3μm,4.3s						
TAU	**Tasmania Unive**	**38.90**	**225**	*e*P	**P**	**06 13 51.8**	**+0.1**
	comp=Z,3μm,4.3s						
STKA	**Stephens Creek**	**40.23**	**243**	*e*P	**P**	**06 14 01.3**	**-1.4**
	comp=Z,5.8nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**40.23**	**243**	P	**P**	**06 14 01.1**	**-1.7**
	comp=Z,7.2nm,0.9s,mb4.5,baz=107,slow=8.7,SNR=10						
STKA				PcP	PcP	06 16 02.4	-1.8
	comp=Z,1.7nm,0.5s,baz=67,slow=7.1,SNR=3.7						
AS31	**Alice Springs**	**46.93**	**256**	*e*P	**P**	**06 14 56.4**	**+0.1**
AS31				*e*S	**S**	**06 21 32.6**	**-5.2**
ASAR	**Alice Springs**	**46.93**	**256**	P	**P**	**06 14 56.8**	**+0.5**
	comp=Z,42nm,0.6s,mb5.4,baz=93,slow=8.4,SNR=256						
ASAR				PcP	PcP	06 16 26.6	-0.2
	comp=Z,5.5nm,0.8s,baz=106,slow=4.2,SNR=10						
ASAR				ScP	ScP	06 20 08.6	-0.3
	comp=Z,0.2nm,0.5s,baz=149,slow=2.6,SNR=4.4						
ASAR				S	**S**	**06 21 32.9**	**-4.9**
	comp=Z,1.6nm,1.0s,baz=92,slow=15,SNR=7.9						
ASAR	**Alice Springs**	**46.93**	**256**	P	**P**	**06 14 56.8**	**+0.5**
ASAR						06 16 26.7	
ASAR				S	**S**	**06 21 32.9**	**-4.9**
ASPA	**Alice Springs**	**46.93**	**256**	*e*P	**P**	**06 14 56.4**	**0.0**
ASPA				*e*S	**S**	**06 21 32.6**	**-5.2**
WRAB	**Tennant Creek**	**46.95**	**261**	*e*P	**P**	**06 14 55.7**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,29nm,0.6s,mb5.2						
WRAB	**Tennant Creek**	**46.95**	**261**	*e*P	**P**	**06 14 55.7**	**-0.9**
	comp=Z,29nm,0.6s,mb5.2						
WRA	**Warramunga Arr**	**46.96**	**261**	P	**P**	**06 14 56.5**	**-0.1**
	comp=Z,16nm,0.3s,mb5.2,baz=93,slow=5.8,SNR=390						
WRA				PcP	PcP	06 16 27.0	0.0
	comp=Z,6.0nm,1.0s,baz=96,slow=4.0,SNR=5.6						
KAKA	**Kakadu**	**50.20**	**270**	*e*P	**P**	**06 15 20.7**	**-0.7**
	comp=Z,38nm,0.4s,mb5.7						
FORT	**Forrest**	**51.74**	**246**	*e*P	**P**	**06 15 32.2**	**-0.7**
	comp=Z,20nm,1.2s,mb5.0						
SBA	**Scott Base**	**59.02**	**184**	*e*P	**P**	**06 16 24.6**	**-0.4**
SBA				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
SBA	**Scott Base**	**59.02**	**184**	*e*P	**P**	**06 16 24.6**	**-0.4**
	comp=Z,7.1nm,1.0s,mb4.7						
SBA				*e*P		06 16 26.7	
VNDA	**Vanda**	**59.11**	**186**	P	**P**	**06 16 25.6**	**0.0**
	comp=Z,1.6nm,0.7s,mb4.2,baz=356,slow=6.6,SNR=7.3						
VNDA	**Vanda**	**59.11**	**186**	*e*P	**P**	**06 16 24.2**	**-1.4**
VNDA				*e*P		06 16 26.7	
VNDA				*e*pP	pP	06 16 56.2	+0.5
MBWA	**Marble Bar**	**60.26**	**256**	*e*P	**P**	**06 16 32.2**	**-1.3**
	comp=Z,20nm,0.8s,mb5.2						
KLBR	**Kellerberrin**	**60.50**	**244**	*e*P	**P**	**06 16 34.3**	**-0.8**
	comp=Z,26nm,1.0s,mb5.2						
NWAO	**Narrogin (SRO)**	**60.81**	**243**	*e*P	**P**	**06 16 37.1**	**-0.1**
CASY	**Casey**	**65.82**	**205**	*e*P	**P**	**06 17 09.8**	**-0.4**
QSPA	**South Pole Qui**	**70.56**	**180**	*e*P	**P**	**06 17 39.9**	**+0.1**
	comp=Z,19nm,1.1s,mb4.8						
MJAR	**Matsushiro Arr**	**70.77**	**322**	P	**P**	**06 17 41.0**	**0.0**
	comp=Z,34nm,0.8s,mb5.2,baz=158,slow=5.9,SNR=89						
MAJO	**Matsushiro**	**70.77**	**322**	*e*P	**P**	**06 17 39.8**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,39nm,0.8s,mb5.3						
MAJO	**Matsushiro**	**70.77**	**322**	*e*P	**P**	**06 17 39.8**	**-1.2**
	comp=Z,39nm,0.8s,mb5.3						
MAT	**Matsushiro**	**70.77**	**322**	P	**P**	**06 17 40.9**	**-0.2**
MAT	**Matsushiro**	**70.77**	**322**	*e*P	**P**	**06 17 41.0**	**-0.1**
MAT				pmax	pmax		
	comp=Z,41nm,1.0s,mb5.2						
MAT	**Matsushiro**	**70.77**	**322**	*e*P	**P**	**06 17 41.0**	**-0.1**
	comp=Z,41nm,1.0s,mb5.2						
ASAJ	**Asahikawa**	**73.95**	**330**	P	**P**	**06 18 01.1**	**+1.2**
	comp=Z,15nm,0.8s,mb4.8,baz=153,slow=1.4,SNR=8.0						
ASAJ	**Asahikawa**	**73.95**	**330**	P	**P**	**06 18 01.1**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,15nm,0.8s						
KSM	**Kuching**	**75.50**	**277**	*e*P	**P**	**06 18 09.3**	**+0.5**
YSS	**Yuzh-Sakhalins**	**76.04**	**332**	*e*P	**P**	**06 18 12.0**	**+0.1**
ISA	**Isabella**	**77.05**	**45**	*e*P	**P**	**06 18 18.4**	**+0.8**
ISA				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.7						
ISA	**Isabella**	**77.05**	**45**	*e*P	**P**	**06 18 18.4**	**+0.8**
	comp=Z,18nm,1.1s,mb4.7						
CMB	**Columbia Colle**	**77.22**	**42**	*e*P	**P**	**06 18 18.5**	**-0.1**
CMB				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
CMB	**Columbia Colle**	**77.22**	**42**	*e*P	**P**	**06 18 18.5**	**-0.1**
	comp=Z,2.6nm,0.8s,mb4.0						
MTUM	**Tungsten Hills**	**77.98**	**43**	*e*P	**P**	**06 18 23.3**	**+0.5**
WAKR	**Walker**	**78.10**	**42**	*e*P	**P**	**06 18 24.2**	**+0.8**
NVAR	**Mina Array Bea**	**78.77**	**42**	P	**P**	**06 18 27.3**	**+0.1**
	comp=Z,8.2nm,0.8s,mb4.6,baz=230,slow=12,SNR=53						
SSE	**Sheshan**	**78.79**	**309**	P	**P**	**06 18 28.0**	**+0.8**
SSE				AMB	AMB		
	comp=Z,15nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,582nm,12.0s						
SSE	**Sheshan**	**78.79**	**309**	P	**P**	**06 18 28.0**	**+0.8**
	comp=Z,15nm,0.7s,mb4.9						
MNV	**Mina**	**78.87**	**42**	*e*P	**P**	**06 18 27.7**	**0.0**
MNV				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.7						
MNV	**Mina**	**78.87**	**42**	*e*P	**P**	**06 18 27.7**	**+0.1**
	comp=Z,10.0nm,0.9s,mb4.7						
TPNV	**Topopah Spring**	**79.26**	**45**	*e*P	**P**	**06 18 30.2**	**+0.4**
TPNV				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
TPNV	**Topopah Spring**	**79.26**	**45**	*e*P	**P**	**06 18 30.2**	**+0.4**
	comp=Z,9.8nm,0.8s,mb4.7						
SHPR	**Sheep Range**	**79.74**	**45**	*e*P	**P**	**06 18 33.2**	**+0.8**
TUC	**Tucson**	**80.61**	**51**	*e*P	**P**	**06 18 37.8**	**+0.7**
BMN	**Battle Mountai**	**80.62**	**41**	*e*P	**P**	**06 18 37.2**	**+0.1**
HABR	**Khabarovsk**	**80.71**	**329**	*e*P	**P**	**06 18 39.7**	**+2.1**
HABR				S	S	06 28 43.0	+8.2
WVOR	**Wild Horse Val**	**80.94**	**39**	*e*P	**P**	**06 18 37.2**	**-1.6**
WVOR				*e**PP	pP	06 19 10.5	-0.2
WVOR				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
WVOR	**Wild Horse Val**	**80.94**	**39**	*e*P	**P**	**06 18 37.2**	**-1.6**
	comp=Z,6.6nm,0.9s,mb4.5						
WVOR				*e*pP	pP	06 19 10.5	-0.2
NJ2	**Nanjing**	**80.99**	**309**	*e*P	**P**	**06 18 40.0**	**+0.9**
NJ2				AP	pP	06 19 12.3	+1.4
NJ2				XP	sP	06 19 24.5	+0.2
NJ2				PP	PP	06 21 49.5	+4.1
NJ2				S	S	06 28 39.0	+1.3
NJ2				XS	sS	06 29 33.0	+0.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,90nm,7.0s						
NJ2				LR	LR		
	comp=N,610nm,16.4s						
NJ2				LR	LR		
	comp=E,710nm,17.8s						
NJ2				LR	LR		
	comp=Z,230nm,16.6s						
MDJ	**Mudanjiang**	**81.01**	**324**	P	**P**	**06 18 40.0**	**+0.8**
MDJ				AP	pP	06 19 12.8	+1.7
MDJ				XP	sP	06 19 27.0	+2.5
MDJ				AMB	AMB		
	comp=Z,38nm,1.0s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,180nm,5.5s						
ELK	**Elko**	**82.04**	**42**	*e*P	**P**	**06 18 44.7**	**+0.1**
ELK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ELK	**Elko**	**82.04**	**42**	*e*P	**P**	**06 18 44.7**	**+0.1**
	comp=Z,6.9nm,1.0s,mb4.4						
MSU	**Marysvale**	**82.81**	**45**	*e*P	**P**	**06 18 49.9**	**+1.3**
KLR	**Kul'dur**	**82.83**	**328**	*e*P	**P**	**06 18 45.7**	**-3.0**
KLR				*e*		06 28 51.7	
CN2	**Changchun**	**82.90**	**321**	*e*P	**P**	**06 18 50.0**	**+0.9**
CN2				*e*S	S	06 28 57.0	-0.3
CN2				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.0						
CN2				LR	LR		
	comp=Z,340nm,19.0s						
SNY	**Shenyang**	**82.91**	**319**	*e*P	**P**	**06 18 48.0**	**-1.1**
SNY				AMB	AMB		
	comp=Z,9.0nm,1.7s,mb4.3						
SNY				AMB	AMB		
	comp=Z,282nm,20.4s						
PMR	**Palmer**	**83.55**	**12**	*e*P	**P**	**06 18 51.1**	**-1.3**
PMR				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.6						
PMR	**Palmer**	**83.55**	**12**	*e*P	**P**	**06 18 51.1**	**-1.3**
	comp=Z,10nm,1.1s,mb4.6						
TTA	**Tatalina**	**83.60**	**9**	*e*P	**P**	**06 18 52.1**	**-0.5**
TMUT

VNA3					*e*			06 19 30.6			
VNA2	**Neumayer--Watz**	**89.44**	**176**	⇓	*iP*		**P**	**06 19 20.0**	**-1.1**
	baz=181,slow=3.5										
VNA2					*e*			06 19 21.6			
VNA2					*e*		pP	06 19 53.6	+0.1		
VNA1	**Neumayer--Stat**	**89.65**	**176**	⇓	*iP*		**P**	**06 19 21.3**	**-0.8**		
VNA1					*e*			06 19 22.7			
VNA1					*e*			06 19 33.5			
EDM	**Edmonton**	**90.07**	**32**		*eP*		**P**	**06 19 23.5**	**-0.5**		
HHC	**Hu-ho-hao-te**	**90.27**	**314**		*eP*		**P**	**06 19 25.8**	**+0.8**		
HHC						AP	pP	06 19 58.8	+1.4		
HHC						XP	sP	06 20 11.5	+0.8		
HHC						PP	PP	06 23 03.5	+3.0		
HHC						SKS		06 29 43.0			
HHC						S		06 30 07.5			
HHC						XS	sS	06 31 04.5	0.0		
HHC						PS	PS	06 31 34.0	+2.6		
HHC						SS	SS	06 36 14.8	+4.0		
HHC						AMB	AMB				
	comp=Z,18nm,1.2s,mb5.1										
HHC						AMB	AMB				
	comp=Z,142nm,4.7s										
HHC						LR	LR				
	comp=N,184nm,21.0s										
HHC						LR	LR				
	comp=E,223nm,24.5s										
HHC						LR	LR				
	comp=Z,239nm,20.6s										
RSSD	**Black Hills**	**90.89**	**43**		*eP*		**P**	**06 19 27.5**	**-0.3**		
RSSD						pmax	pmax				
	comp=Z,7.0nm,1.1s,mb4.7										
RSSD	**Black Hills**	**90.89**	**43**		*eP*		**P**	**06 19 27.5**	**-0.3**		
	comp=Z,6.9nm,1.1s,mb4.7										
KMI	**Kunming**	**90.90**	**296**		P		**P**	**06 19 29.8**	**+1.9**		
KMI						AP	pP	06 20 04.0	+3.7		
KMI						XP	sP	06 20 16.3	+2.7		
KMI						PP	PP	06 23 09.0	+3.5		
KMI						S		06 30 13.5			
KMI						SS	SS	06 36 21.5	+1.6		
KMI						AMB	AMB				
	comp=Z,14nm,1.0s,mb5.0										
KMI						LR	LR				
	comp=N,287nm,18.2s										
KMI						LR	LR				
	comp=E,219nm,17.1s										
KMI						LR	LR				
	comp=Z,246nm,23.3s										
KMI	**Kunming**	**90.90**	**296**		P		**P**	**06 19 29.8**	**+1.9**		
KMI					*PP		pP	06 20 04.1	+3.8		
KMI								06 23 08.9			
KMI					S			06 30 13.4			
KMI						SS	SS	06 36 21.5	+1.6		
KMI						pmax	pmax				
	comp=Z,14nm,1.0s,mb5.0										
KMI						MLR	MLR				
	comp=Z,250nm,23.3s										
KMI	**Kunming**	**90.90**	**296**		P		**P**	**06 19 29.8**	**+1.9**		
	comp=Z,14nm,1.0s,mb5.0										
KMI						pP	pP	06 20 04.1	+3.8		
KMI						sP	sP	06 20 16.2	+2.6		
KMI						PP	PP	06 23 08.9	+3.4		
KMI					S			06 30 13.4			
KMI						SS	SS	06 36 21.5	+1.6		
KMI						LR	LR				
	comp=Z,250nm,23.3s										
CHTO	**Chiang Mai**	**92.02**	**289**		*eP*		**P**	**06 19 34.0**	**+0.9**		
CHTO						pmax	pmax				
	comp=Z,3.0nm,0.5s,mb4.8										
CHTO	**Chiang Mai**	**92.02**	**289**		*eP*		**P**	**06 19 34.0**	**+1.0**		
	comp=Z,3.1nm,0.5s,mb4.8										
INK	**Inuvik**	**92.74**	**14**		*eP*		**P**	**06 19 34.5**	**-1.9**		
INK						pmax	pmax				
	comp=Z,8.0nm,0.9s										
INK	**Inuvik**	**92.74**	**14**		*eP*		**P**	**06 19 34.5**	**-1.9**		
	comp=Z,8.3nm,0.9s,mb5.1										
LZH	**Lanzhou**	**93.95**	**307**		*eP*		**P**	**06 19 43.5**	**+1.5**		
LZH						AP	pP	06 20 15.5	+1.1		
LZH						XP	sP	06 20 29.8	+2.1		
LZH						PP	PP	06 23 33.8	+4.4		
LZH						AMB	AMB				
	comp=Z,26nm,1.2s,mb5.4										
LZH						AMB	AMB				
	comp=Z,75nm,8.9s										
LZH	**Lanzhou**	**93.95**	**307**		*eP*		**P**	**06 19 43.5**	**+1.5**		
LZH					*PP		pP	06 20 15.6	+1.2		
LZH								06 23 33.8			
LZH						pmax	pmax				
	comp=Z,26nm,1.2s,mb5.4										
LZH	**Lanzhou**	**93.95**	**307**		*eP*		**P**	**06 19 43.5**	**+1.5**		
	comp=Z,26nm,1.2s,mb5.4										
LZH						pP	pP	06 20 15.6	+1.2		
LZH						sP	sP	06 20 29.7	+2.0		
LZH						PP	PP	06 23 33.8	+4.4		
YKA	**Yellowknife Ar**	**94.68**	**24**		P		**P**	**06 19 43.7**	**-1.6**		
	comp=Z,2.5nm,0.8s,mb4.7,baz=237,slow=4.2,SNR=23										
YKA	**Yellowknife Ar**	**94.68**	**24**		P		**P**	**06 19 43.7**	**-1.6**		
YKW3	**Yellowknife Ar**	**94.72**	**24**		*eP*		**P**	**06 19 44.0**	**-1.5**		
ECSD	**EROS,Sioux Fal**	**95.64**	**46**		*eP*		**P**	**06 19 48.8**	**-0.9**		
SONM	**Songino Array**	**96.48**	**318**		P		**P**	**06 19 53.5**	**0.0**		
	comp=Z,1.8nm,0.9s,mb4.5,baz=116,slow=3.4,SNR=8.7										
TIXI	**Tiksi**	**98.37**	**345**		*eP*		**P**	**06 19 59.2**	**-2.8**		
TIXI						pmax	pmax				
	comp=Z,1.0nm,0.8s,mb4.4										
WMQ	**Urumqi**	**107.97**	**311**		PDIF		Pdif	06 20 43.3	-1.4		
WMQ						PP	PP	06 25 16.3	+1.3		
WMQ						PP	PP				
	comp=Z,195nm,7.6s										
WMQ						LR	LR				
	comp=N,124nm,20.8s										
WMQ						LR	LR				
	comp=E,149nm,22.4s										
WMQ						LR	LR				
	comp=Z,126nm,24.6s										
MKAR	**Makanchi Array**	**112.14**	**314**		PKiKP		PKiKP	06 24 57.1	-1.9		
	comp=Z,0.6nm,0.4s,baz=190,slow=0.8,SNR=18										
ZRNK	**Zerenda**	**120.58**	**321**		*e*PKIKP		PKPdf	06 25 13.3	-1.9		
ARU	**Arti**	**125.63**	**326**		*i* PKIKP		PKPdf	06 25 22.7	-2.2		
ARU					*e*			06 27 16.7			
ARU					*e*			06 32 17.9			
ARU					*e*SP		SP	06 37 09.2	+2.8		
ARU					*e*PS		PS	06 37 15.5	-5.4		
ARU	**Arti**	**125.63**	**326**		*e*PKPdf		PKPdf	06 25 23.4	-1.5		
ARCES	**ARCESS Array B**	**128.32**	**351**		PKP		PKPdf	06 25 28.0	-2.0		
	comp=Z,2.1nm,0.4s,baz=328,slow=0.5,SNR=35										
ARCES	**ARCESS Array B**	**128.32**	**351**		PKP		PKPdf	06 25 28.0	-2.0		
FINES	**FINESS Array B**	**135.41**	**345**		PKP		PKPdf	06 25 42.8	-0.7		
	comp=Z,1.6nm,0.5s,baz=28,slow=3.9,SNR=11										
NB2	**NORSAR Subarra**	**138.22**	**355**		PKPa		PKPdf	06 25 46.4	-2.2		
	comp=Z,1.0nm,0.7s,baz=11,slow=2.6										
NOA	**NORSAR Array B**	**138.22**	**355**		PKP		PKPdf	06 25 46.9	-1.7		
	comp=Z,1.7nm,0.8s,baz=14,slow=4.0,SNR=6.5										
ANN	**Anapa**	**142.74**	**320**		*i* PKHKP			06 25 51.8			
ANN						pmax	pmax				
	comp=Z,39nm,0.9s										
AKASG	**Malin Array Be**	**143.18**	**334**		PKhKP			06 25 52.5			
	comp=Z,4.4nm,0.7s,baz=42,slow=4.0,SNR=28										
AKASG	**Malin Array Be**	**143.18**	**334**		PKP		PKPdf	06 25 52.5	-5.1		
SIM	**Simferopol'**	**144.62**	**323**	*d*	PKIKP		PKPdf	06 25 59.0	-1.1		
SIM						pmax	pmax				
	comp=Z,24nm,0.8s										
BSEG	**Bad Segeberg**	**145.33**	**354**		*e*PKPbc		PKPbc	06 26 00.5	-0.9		
OJC	**Ojcow**	**146.98**	**342**		*e*PKP		PKPdf	06 26 05.4	+1.3		
IBBN	**Ibbenburen**	**147.15**	**356**		*e*PKPbc		PKPbc	06 26 06.1	-0.7		
BURAR	**Bucovina Array**	**147.23**	**334**	⇓	*i*P		PKPbc	06 26 07.6	+0.6		
BURAR	**Bucovina Array**	**147.23**	**334**	⇓	P		PKPbc	06 26 07.6	+0.7		
STHS	**Stebnicka Huta**	**147.23**	**340**		*e*PKP		PKPdf	06 26 06.6	+2.1		
KSP	**Ksiaz**	**147.33**	**346**		*e*PKIKP		PKPdf	06 26 06.3	+1.6		
NIE	**Niedzica**	**147.53**	**340**		*e*PKP		PKPbc	06 26 07.6	-0.2		
CLL	**Collm**	**147.54**	**350**		*e*PKPdf		PKPdf	06 26 04.1	-0.9		
CLL					*e*PKPbc		PKPbc	06 26 07.0	-0.8		
CLL	**Collm**	**147.54**	**350**	⇓	*i*PKPbc		PKPbc	06 26 06.8	-1.0		
	comp=Z,33nm,0.9s										
CLL					*e*PKPab		PKPab	06 26 09.0	-1.2		
CLL					*es*PKPbc			06 26 56.0			
CLL	**Collm**	**147.54**	**350**	⇓	*i*PKIKP		PKPdf	06 26 06.8	+1.8		
CLL					pmax		pmax				
	comp=Z,33nm,0.9s										
CRVS	**Cervenica-Dubn**	**147.60**	**339**		*e*PKP		PKPbc	06 26 11.2	+3.2		
UPC	**Upice**	**147.71**	**346**		*e*PKPbc		PKPbc	06 26 07.8	-0.5		
BRTR	**Keskin Array B**	**147.77**	**315**		PKPbc		PKPbc	06 26 07.2	-1.3		
	comp=Z,5.5nm,0.8s,baz=124,slow=1.8,SNR=26										
DPC	**Dobruska-Polom**	**147.79**	**346**		*e*PKPdf		PKPdf	06 26 04.9	-0.5		
DPC					*e*PKPbc		PKPbc	06 26 08.1	-0.4		
BRG	**Berggiesshubel**	**147.79**	**349**		*e*PKPdf		PKPdf	06 26 04.7	-0.7		
BRG						*e*PKPbc	PKPbc	06 26 07.3	-1.2		
BRG	**Berggiesshubel**	**147.79**	**349**		*e*PKP		PKPdf	06 26 04.7	-0.8		
	comp=Z,3.4nm,1.3s										
BRG					*i*			06 26 07.4			
	comp=Z,8.0nm,0.9s										
BRG	**Berggiesshubel**	**147.79**	**349**		*e*PKHKP			06 26 04.7			
BRG					*i*			06 26 07.4			
BRG					pmax		pmax				
	comp=Z,3.0nm,1.3s										
BRG					pmax		pmax				
	comp=Z,8.0nm,0.9s										
OKC	**Ostrava-Krasne**	**147.79**	**343**		*e*PKPbc		PKPdf	06 26 06.0	+0.6		
MORC	**Moravsky Berou**	**148.01**	**344**		*e*PKIKP		PKPbc	06 26 08.6	-0.5		
BUG	**Bochum--Univer**	**148.05**	**357**		*e*PKPbc		PKPbc	06 26 08.2	-1.0		
ANTO	**Ankara**	**148.26**	**316**		*e*PKHKP			06 26 05.4			
ANTO					*e*			06 26 09.9			
ANTO					*e*			06 26 14.5			
KECS	**Kecovo**	**148.29**	**339**		*e*PKP		PKPbc	06 26 09.6	-0.2		
KECS					*e*			06 26 13.0			
MOX	**Moxa**	**148.40**	**351**		*e*PKPbc		PKPbc	06 26 09.0	-1.1		
MOX	**Moxa**	**148.40**	**351**		*e*PKP		PKPbc	06 26 09.4	-0.7		
UBBA	**Unterbreizbach**	**148.44**	**353**		*e*PKPbc		PKPbc	06 26 08.8	-1.4		
WERD	**Werda**	**148.49**	**350**		*e*PKPdf		PKPdf	06 26 05.8	-0.8		
WERD					*e*PKPbc		PKPbc	06 26 09.4	-0.9		
PRU	**Pruhonice**	**148.52**	**347**		*e*PKPbc		PKPbc	06 26 09.6	-0.8		
MLR	**Muntele Rosu**	**148.54**	**330**	⇓	*i*P		PKPbc	06 26 10.3	-0.1		
MLR	**Muntele Rosu**	**148.54**	**330**	⇓	P		PKPbc	06 26 10.3	-0.1		
VYHS	**Vyhne**	**148.81**	**341**		*i* PKP		PKPbc	06 26 10.0	-1.1		
MEM	**Membach**	**148.93**	**358**		PKPbc		PKPbc	06 26 10.7	-0.8		
MANZ	**Manzenberg**	**148.97**	**350**		*e*PKPdf		PKPdf	06 26 06.2	-1.2		
MANZ					*e*PKPbc		PKPbc	06 26 11.0	-0.5		
MANZ					*ep*PKPbc		pPKPbc	06 26 42.7	-2.5		
PSZ	**Piszkesteto**	**148.98**	**340**	⇓	*e*PKP/p		PKPbc	06 26 10.9	-0.6		
ROTZ	**Rotzenmuhle**	**149.16**	**350**		*e*PKPbc		PKPbc	06 26 11.4	-0.6		
TNS	**Taunus Mts**	**149.18**	**355**		*e*PKPbc		PKPbc	06 26 11.4	-0.6		
SMOL	**Smolenice**	**149.19**	**343**		*e*PKP		PKPbc	06 26 12.1	0.0		
SMOL					*e*			06 26 16.8			
GRA1	**Grafenberg Arr**	**149.38**	**351**		*e*PKP		PKPbc	06 26 11.8	-0.8		
GRF	**Grafenberg Arr**	**149.38**	**351**		*e*PKP		PKPbc	06 26 11.8	-0.8		
GIVF	**Givet**	**149.47**	**359**		*e*PKP1		PKPbc	06 26 11.7	-1.1		
DOU	**Dourbes**	**149.47**	**360**		PKPbc		PKPbc	06 26 11.9	-0.9		
BAIF	**Baives**	**149.51**	**0**		*e*PKP1		PKPbc	06 26 12.0	-0.9		
	comp=Z,53nm,1.1s										
KHC	**Kasperske Hory**	**149.53**	**348**		*e*PKPdf		PKPdf	06 26 07.4	-0.9		
KHC					*e*PKPbc		PKPbc	06 26 12.2	-0.7		
ZST	**Bratislava**	**149.57**	**343**		*e*PKP		PKPbc	06 26 12.8	-0.2		
BUD	**Budapest**	**149.64**	**340**		*e*PKP/p		PKPbc	06 26 13.0	-0.2		
WET	**Wettzell**	**149.65**	**349**		*e*PKPdf		PKPdf	06 26 07.3	-1.1		
WET					*e*PKPbc		PKPbc	06 26 12.3	-0.9		
WET					*ep*PKPbc		pPKPbc	06 26 45.8	-1.1		
WET	**Wettzell**	**149.65**	**349**		*e*PKIKP		PKPbc	06 26 12.3	-0.9		
WET					*e*			06 26 45.8			
GEC2	**GERESS Array S**	**149.78**	**348**		*e*PKPbc		PKPbc	06 26 12.7	-0.8		
GERES	**GERESS Array B**	**149.78**	**348**		PKPbc		PKPbc	06 26 12.5	-1.0		
	comp=Z,9.2nm,0.9s,baz=40,slow=2.3,SNR=21										
GERES	**GERESS Array B**	**149.78**	**348**		PKHKP			06 26 12.5			
GERES						pmax	pmax				
	comp=Z,9.0nm,0.9s										
WLF	**Walferdange**	**149.87**	**358**		*e*PKPbc		PKPbc	06 26 13.3	-0.4		
WLF					*ep*PKPbc		pPKPbc	06 26 45.4	-2.0		
WLF	**Walferdange**	**149.87**	**358**		PKPbc		PKPbc	06 26 13.4	-0.3		
WLF	**Walferdange**	**149.87**	**358**		*e*PKPbc		PKPbc	06 26 13.6	-0.2		
SOP	**Sopron**	**150.19**	**343**	⇓	*e*PKP/p		PKPbc	06 26 13.9	-0.6		
BZS	**Buzias**	**150.31**	**335**	⇓	*i*P		PKPbc	06 26 14.1	-0.7		
BZS	**Buzias**	**150.31**	**335**	⇓	P		PKPbc	06 26 14.1	-0.7		
EIL	**Elat**	**150.49**	**296**		*e*PKPbc		PKPbc	06 26 14.4	-0.8		
EIL					*e*PKPab		PKPab	06 26 23.5	+1.3		
STU	**Stuttgart**	**150.54**	**354**		*e*PKPdf		PKPdf	06 26 09.5	-0.3		
STU					*e*PKPbc		PKPbc	06 26 14.8	-0.5		
FLN	**La Foliniere**	**150.55**	**7**		*e*PKP1		PKPbc	06 26 13.7	-1.7		
	comp=Z,96nm,1.1s										
MOA	**Molln**	**150.60**	**346**	⇑	*i*P		PKPbc	06 26 13.9	-1.5		
	comp=Z,10nm,1.0s										
LDF	**La Druitiere**	**150.75**	**6**		*e*PKP1		PKPbc	06 26 14.5	-1.3		
	comp=Z,69nm,1.2s										
SGMF	**Saint Gilles**	**150.77**	**10**		*e*PKP1		PKPbc	06 26 14.5	-1.4		
	comp=Z,28nm,1.0s										
ARSA	**Arzberg**	**150.86**	**344**	⇑	*i*P		PKPbc	06 26 15.3	-0.8		
	comp=Z,6.7nm,1.2s										
FUR	**Furstenfeldbru**	**150.87**	**350**		*e*PKPbc		PKPbc	06 26 15.7	-0.4		
GRR	**Gorron**	**150.87**	**7**		*e*PKP1		PKPbc	06 26 14.9	-1.2		
	comp=Z,50nm,0.9s										
PKSM	**Moragy**	**150.89**	**339**	⇓	*e*PKIKP		PKPbc	06 26 15.0	-1.2		
BFO	**Black Forest**	**151.06**	**355**		*e*PKPbc		PKPbc	06 26 15.5	-1.1		
BFO					*e*PKPab		PKPab	06 26 23.6	-1.0		
BFO					*ep*PKPbc		pPKPbc	06 26 49.0	-1.3		
CDF	**Champ du Feu**	**151.06**	**356**		*e*PKP1		PKPbc	06 26 15.6	-1.0		
	comp=Z,41nm,1.0s										
MEZF	**Maizieres J'vi**	**151.07**	**359**		*e*PKP1		PKPbc	06 26 15.8	-0.8		
	comp=Z,65nm,1.1s										
HAU	**Haudompre**	**151.52**	**357**		*e*PKP1		PKPbc	06 26 17.4	-0.2		
	comp=Z,27nm,0.8s										
KBA	**Koelnbreinsper**	**151.53**	**347**	⇑	*i*P		PKPbc	06 26 16.0	-1.6		
	comp=Z,8.3nm,0.6s										
WATA	**Walderalm**	**151.62**	**350**	⇑	*i*P		PKPbc	06 26 16.1	-1.8		
	comp=Z,14nm,1.1s										
WTTA	**Wattenberg**	**151.68**	**350**	⇓	*i*P		PKPbc	06 26 17.3	-0.7		
	comp=Z,22nm,0.5s										
HINF	**Hinteralfeld**	**151.69**	**356**		*e*PKP1		PKPbc	06 26 16.6	-1.4		
	comp=Z,14nm,0.8s										
MOTA	**Moosalm**	**151.69**	**350**	⇓	*i*P		PKPbc	06 26 16.9	-1.1		
	comp=Z,14nm,1.0s										
SQTA	**Sankt Quirin**	**151.79**	**350**	⇓	*i*P		PKPbc	06 26 17.4	-0.8		
	comp=Z,8.1nm,0.9s										
DAVA	**Damuels**	**151.93**	**352**	⇑	*i*P		PKPbc	06 26 17.6	-0.9		
	comp=Z,21nm,0.9s										
VTS	**Vitosha**	**152.02**	**329**	⇑	PKIKP		PKPbc	06 26 18.3	-0.5		
DIVS	**Divcibare**	**152.22**	**335**		*i* P		PKPbc	06 26 18.3	-0.9		
LJU	**Ljubljana**	**152.24**	**345**		*e*PKPdf		PKPdf	06 26 10.9	-1.6		
LJU					*i* PKPbc		PKPbc	06 26 18.2	-1.1		
LOR	**Lormes**	**152.30**	**1**		*e*PKP1		PKPbc	06 26 18.3	-1.1		
SSF	**Saint Saulge**	**152.50**	**1**		*e*PKP1		PKPbc	06 26 18.9	-0.9		
	comp=Z,24nm,0.9s										
BOJS	**Bojanci**	**152.55**	**343**		*e*PKPdf		PKPdf	06 26 11.8	-1.1		
BOJS					*e*PKPbc		PKPbc	06 26 19.2	-0.7		
MFF	**Saint Martin d**	**152.72**	**7**		*e*PKP1		PKPbc	06 26 18.6	-1.7		
	comp=Z,38nm,1.2s										
AVF	**Avril sur Loir**	**152.77**	**2**		*e*PKP1		PKPbc	06 26 19.3	-1.1		
CABF	**La Chapelle**	**152.93**	**357**		*e*PKP1		PKPbc	06 26 20.3	-0.5		
	comp=Z,22nm,0.9s										
BGF	**Bois d'Agland**	**152.99**	**2**		*e*PKP1		PKPbc	06 26 20.0	-0.9		
	comp=Z,33nm,1.0s										
TCF	**Toulx Ste Croi**	**153.23**	**3**		*e*PKP1		PKPbc	06 26 20.1	-1.3		
	comp=Z,9.0nm,0.8s										
RJF	**Les Rejaudoux**	**154.16**	**5**		*e*PKP1		PKPbc	06 26 22.6	-0.8		
VIVF	**Saint-Julien-l**	**154.72**	**360**		*e*PKP1		PKPbc	06 26 23.9	-0.7		
MBDF	**Montbardon**	**154.77**	**356**		*e*PKP1		PKPbc	06 26 24.1	-0.6		
	comp=Z,8.4nm,0.8s										
ESDC	**Sonseca Array**	**158.65**	**18**		PKPab		PKPab	06 26 56.5	-0.4		
	comp=Z,2.6nm,0.8s,baz=320,slow=3.7,SNR=11										
TORD	**Torodi Ar. Bea**	**173.18**	**157**		PKP		PKPdf	06 26 30.6	-2.0		
	comp=Z,2.2nm,1.0s,baz=351,slow=2.6,SNR=8.9										
TORD					PKPab		PKPab	06 28 00.5	-0.5		
	comp=Z,1.2nm,1.0s,baz=217,slow=3.2,SNR=4.3										

ML4.2(PAS),After ECX.
NEIC Felt at Mexicali. Felt [III] at Calexico and [II] at El Centro and Imperial, California. Also felt [II] at Yuma, Arizona.
ECX ***28*** *07:40:21.7±0.5,3244N×11522W,h6km,MD4.3,ML4.4*

ISC 28 07:40:20.3±0.5,3238N±002×11522W±003,h3km±4km,n68,σ1°§03/76,mb4.0/2,MS3.8/4,3C-11D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EMSC	**East Mesa**	**0.41**	**28**	⇓	*e*P		**Pg**	**07 40 28.5**	**+0.4**
SGL	**Mount Signal**	**0.51**	**302**	⇓	*e*P		**Pg**	**07 40 29.8**	**-0.1**
ERPC	**Ernies Place**	**0.52**	**314**	⇓	*e*P		**Pg**	**07 40 30.6**	**+0.3**
WESC	**Westside Schoo**	**0.57**	**311**		*e*P		**Pg**	**07 40 31.4**	**+0.1**
COK	**Cook Ranch**	**0.64**	**317**	⇓	*e*P		**Pg**	**07 40 32.2**	**-0.2**
YUH	**Yuha Desert**	**0.65**	**294**	⇓	*e*P		**Pg**	**07 40 32.4**	**-0.4**
GLA	**Glamis**	**0.74**	**26**	⇓	*e*P		**Pg**	**07 40 33.5**	**-1.0**
RMX	**La Rumorosa**	**0.76**	**287**	⇑	*e*P		**Pg**	**07 40 34.7**	**-0.1**
RMX					*e*S		**Sg**	**07 40 45.3**	**+0.6**
RMX				⇑	*e*			07 40 47.9	
	comp=N,9μm,0.5s								
RMX	**La Rumorosa**	**0.76**	**287**		*e*P		**Pg**	**07 40 34.7**	**-0.1**
RMX					*e*S		**Sg**	**07 40 45.3**	**+0.6**
RDX	**Rancho Dowling**	**0.77**	**234**	⇓	*e*P		**Pg**	**07 40 35.8**	**+0.8**
RDX					*e*S		**Sg**	**07 40 46.7**	**+1.8**
RDX				⇓	*e*			07 40 49.3	
	comp=E,14μm,0.6s								
DVTC	**Desert V Tower**	**0.80**	**291**	⇓	*e*P		**Pg**	**07 40 35.1**	**-0.4**
CRR	**Carrizo Plain**	**0.81**	**309**	⇓	*e*P		**Pg**	**07 40 34.8**	**-1.0**
CBX	**Cerro Bola**	**1.23**	**267**		*e*P		**Pg**	**07 40 43.1**	**-0.7**
CBX					*e*S		**Sg**	**07 40 59.7**	**0.0**
ENX	**Ensenada**	**1.33**	**248**	⇓	*e*P		**Pn**	**07 40 44.5**	**-1.2**
ENX					*e*S		**Sg**	**07 41 02.9**	**0.0**
ECX	**Ensenada**	**1.33**	**248**		*e*P		**Pn**	**07 40 45.7**	**0.0**
CCX	**Cicese**	**1.33**	**248**		*e*P		**Pn**	**07 40 44.9**	**-0.9**
SPX	**San Pedro Mart**	**1.35**	**189**		*e*P		**Pn**	**07 40 44.8**	**-1.2**
SPX					*e*S		**Sg**	**07 41 05.4**	**+1.8**
ECNX	**Esteban Cantu**	**1.38**	**239**	⇑	*e*P		**Pn**	**07 40 45.7**	**-0.7**
ECNX					*e*P			07 40 44.9	
ECNX					*e*S		**Sg**	**07 41 02.9**	**-1.6**
ECNX					*e*S		**Sg**	**07 41 04.9**	**+0.4**
PBX	**Punta Banda**	**1.43**	**244**		*e*P		**Pn**	**07 40 46.4**	**-0.8**
PBX					*e*S		**Sb**	**07 41 06.2**	**0.0**
PFO	**Pinyon Flat Ob**	**1.61**	**320**		*e*Pn		**Pn**	**07 40 49.7**	**+0.1**
GSC	**Goldstone**	**3.20**	**336**		*e*Pn		**Pn**	**07 41 11.7**	**+0.2**
TUC	**Tucson**	**3.75**	**90**		*e*Pn		**Pn**	**07 41 17.4**	**-1.7**
TUC					*e*Sg		**Sg**	**07 42 19.9**	**-0.8**
DAC	**Darwin (Calif)**	**4.36**	**334**		*e*Pn		**Pn**	**07 41 26.1**	**-1.2**
TPNV	**Topopah Spring**	**4.63**	**350**		*e*Pn		**Pn**	**07 41 31.2**	**0.0**
PTRM	**Twissleman Ran**	**5.28**	**310**		Pn		**Pn**	**07 41 40.6**	**+0.6**
CCUT	**Cedar City**	**5.38**	**16**		*e*Pn		**Pn**	**07 41 42.0**	**+0.6**
ARUT	**Antelope Range**	**5.59**	**15**		*e*Pn		**Pn**	**07 41 43.2**	**-1.1**
MNV	**Mina**	**6.50**	**339**		Pn		**Pb**	**07 42 10.8**	**-3.1**
NVAR	**Mina Array Bea**	**6.54**	**338**		Pn		**Pn**	**07 42 04.2**	**+6.8**
	comp=E,0.3nm,0.3s,baz=164,slow=13,SN

MTAZ Motutapu 16.19 198 PN **P** 07 54 31.9 +3.0
KAAZ Kauri Point 16.29 198 PN **P** 07 54 32.3 +2.5
OTAZ Otara 16.34 198 PN **P** 07 54 32.9 +2.6
WTAZ Waiatarua 16.43 199 PN **P** 07 54 33.6 +2.5
PUZ Puketiti 16.75 188 PN **P** 07 54 33.5 -0.5
TGRZ Tauranga 16.75 193 PN **P** 07 54 36.3 +2.3
URZ Urewera 17.10 191 P **P** 07 54 36.0 -1.3
comp=Z,12nm,0.3s,baz=19,slow=4.0,SNR=62
URZ S **S** 07 57 20.9 -6.9
comp=Z,1.9nm,0.3s,baz=255,slow=20,SNR=6.7
MWZ Matawai 17.11 189 PN **P** 07 54 36.1 -1.3
RAR Rarotonga 17.89 93 P **P** 07 54 43.8 -0.7
comp=Z,0.9nm,0.3s,baz=190,slow=8.7,SNR=3.7
BKZ Black Stump Fm 18.09 191 PN **P** 07 54 43.8 -2.5
TSZ Takapari Road 19.06 192 PN **P** 07 54 54.7 -0.4
BFZ Birch Farm 19.61 191 PN **P** 07 54 59.1 -1.1
MRZ Mangatainoka R 19.71 192 PN **P** 07 54 59.8 -1.3
KIW Kapiti Island 20.05 194 PN **P** 07 55 03.6 -0.5
CAW Cannon Point 20.25 193 PN **P** 07 55 05.2 -0.7
MRW Makara Radio 20.44 194 PN **P** 07 55 07.6 -0.1
SNZO South Karori 20.52 194 PN **P** 07 55 07.9 -0.5
SNZO South Karori 20.52 194 *e*P **P** 07 55 07.6 -0.8
comp=Z,66nm,0.6s
SNZO *e*S **S** 07 58 29.0 +6.1
TCW Tory Channel 20.52 195 PN **P** 07 55 07.9 -0.5
QRZ Quartz Range 20.63 199 PN **P** 07 55 09.6 +0.3
QRZ *e*SN **S** 07 58 20.7 -3.9
NNZ Nelson 20.75 196 PN **P** 07 55 09.5 -1.0
TUWZ Tuamarina 20.81 195 PN **P** 07 55 10.6 -0.4
THZ Tophouse 21.39 197 PN **P** 07 55 15.5 -0.7
DSZ Denniston Nort 21.69 199 PN **P** 07 55 18.4 -0.5
KHZ Kahutara 21.84 195 PN **P** 07 55 19.5 -0.8
LTZ Lake Taylor 22.51 197 PN **P** 07 55 25.1 -1.2
WVZ Waitaha Valley 23.23 199 PN **P** 07 55 32.4 -0.3
RPZ Rata Peaks 23.71 198 P **P** 07 55 37.0 +0.1
comp=Z,24nm,0.6s,mb5.0,baz=314,slow=2.5,SNR=30
FOZ Fox Glacier 24.00 201 PN **P** 07 55 38.6 -0.9
LBZ Lake Benmore 24.58 199 PN **P** 07 55 43.7 -1.0
JCZ Jackson Bay 24.76 201 PN **P** 07 55 46.7 +0.5
WHZ Wether Hill Ro 25.64 201 PN **P** 07 56 03.3 +0.5
ARMA Armidale 27.84 245 *e*P **P** 07 56 15.7 +2.4
CNB Canberra Magne 30.95 237 *e*P **P** 07 56 42.2 +2.0
comp=Z,35nm,0.6s,mb5.1
CTAO Charters Tower 32.50 266 *e*P **P** 07 56 54.1 +0.7
CTAO *i* 07 59 23.1
CTAO pmax pmax
comp=Z,32nm,0.4s,mb5.2
CTAO Charters Tower 32.50 266 *e*P **P** 07 56 54.1 +0.7
comp=Z,32nm,0.4s,mb5.2
CTAO *i* PcP PcP 07 59 23.1 -0.2
TOO Toolangi 34.61 234 *e*P **P** 07 57 12.6 +1.5
comp=Z,15nm,0.7s,mb4.6
TOO Toolangi 34.61 234 *e*P **P** 07 57 12.6 +1.5
TOO pmax pmax
comp=Z,15nm,0.7s,mb4.6
PMG Port Moresby 34.68 285 P **P** 07 57 12.4 +0.7
comp=Z,21nm,0.7s,mb4.8,baz=47,slow=6.5,SNR=7.5
PMG Port Moresby 34.68 285 *e*P **P** 07 57 12.1 +0.4
TAU Tasmania Unive 35.32 225 *e*P **P** 07 57 17.7 +0.7
TAU pmax pmax
comp=Z,4μm,5.0s
TAU Tasmania Unive 35.32 225 *e*P **P** 07 57 17.7 +0.7
comp=Z,4μm,5.0s
STKA Stephens Creek 36.56 245 ⇓*i*P **P** 07 57 26.5 -0.8
comp=Z,16nm,0.6s,mb4.7
STKA Stephens Creek 36.56 245 P **P** 07 57 26.7 -0.6
comp=Z,24nm,0.7s,mb4.8,baz=91,slow=9.5,SNR=56
STKA ScP ScP 08 02 26.6 -2.8
comp=Z,4.7nm,0.8s,baz=137,slow=2.3,SNR=6.5
STKA Stephens Creek 36.56 245 *e*P **P** 07 57 26.6 -0.7
AS31 Alice Springs 43.42 258 ⇓*i*P **P** 07 58 22.5 +0.4
AS31 *e*PcP PcP 07 59 57.6 -0.2
ASP1 *i* S **S** 08 04 06.5 -3.7
ASAR Alice Springs 43.42 258 P **P** 07 58 22.6 +0.5
comp=Z,34nm,0.6s,mb5.1,baz=98,slow=7.7,SNR=401
ASAR PcP PcP 07 59 57.5 -0.3
comp=Z,4.8nm,0.6s,baz=105,slow=4.3,SNR=7.5
ASAR ScP ScP 08 02 56.1 -0.2
comp=Z,2.3nm,0.8s,baz=100,slow=4.4,SNR=5.1
ASAR S **S** 08 04 07.8 -2.4
comp=Z,8.7nm,0.9s,baz=96,slow=16,SNR=34
ASAR Alice Springs 43.42 258 P **P** 07 58 22.6 +0.5
ASAR 07 59 57.5
ASPA Alice Springs 43.43 258 ⇓*i*P **P** 07 58 22.5 +0.4
ASPA *e*PCP PcP 07 59 57.6 -0.2
ASPA *i* S **S** 08 04 06.5 -3.7
WRAB Tennant Creek 43.57 263 *e*P **P** 07 58 22.9 -0.3
WRAB pmax pmax
comp=Z,25nm,0.6s,mb4.9
WRAB Tennant Creek 43.57 263 *e*P **P** 07 58 22.9 -0.3
comp=Z,25nm,0.6s,mb4.9
WRA Warramunga Arr 43.58 263 P **P** 07 58 23.2 0.0
comp=Z,17nm,0.5s,mb4.8,baz=94,slow=5.6,SNR=171
WRA S **S** 08 04 07.6 -4.8
comp=Z,2.7nm,0.9s,baz=98,slow=13,SNR=6.8
KAKA Kakadu 47.09 272 *e*P **P** 07 58 49.0 -1.1
comp=Z,31nm,0.6s,mb5.0
FORT Forrest 48.09 247 *e*P **P** 07 58 57.5 0.0
comp=Z,47nm,0.6s,mb5.2
MBWA Marble Bar 56.77 258 *e*P **P** 07 59 59.4 -0.1
comp=Z,24nm,0.6s,mb4.6
SBA Scott Base 56.88 184 *e*P **P** 08 00 01.4 +1.1
SBA pmax pmax
comp=Z,24nm,0.9s,mb4.4
SBA Scott Base 56.88 184 *e*P **P** 08 00 01.4 +1.2
comp=Z,24nm,0.9s,mb4.4
VNDA Vanda 56.90 185 P **P** 08 00 01.7 +1.3
comp=Z,4.0nm,0.5s,mb3.9,baz=357,slow=7.3,SNR=22
VNDA Vanda 56.90 185 *e*P **P** 08 00 01.9 +1.5
VNDA pmax pmax
comp=Z,5.0nm,0.8s
VNDA Vanda 56.90 185 *e*P **P** 08 00 01.9 +1.4
comp=Z,5.2nm,0.8s,mb3.8
NWAO Narrogin (SRO) 57.14 244 *e*P **P** 08 00 02.5 +0.4
MUN Mundaring 58.10 245 ⇓*i*P **P** 08 00 08.6 0.0
CASY Casey 62.73 205 ⇑*i*P **P** 08 00 39.2 +0.1
QSPA South Pole Qui 68.63 180 ⇑*i*P **P** 08 01 16.7 +0.8
comp=Z,26nm,0.6s,mb4.9
MIR Mirnyy 69.76 205 *d i*P **P** 08 01 24.0 +1.4
MIR pmax pmax
comp=Z,110nm,1.0s,mb5.3
JOW Kunigami 70.08 311 P **P** 08 01 24.8 +0.2
comp=Z,13nm,0.8s,mb4.5,baz=143,slow=5.1,SNR=3.7
MJAR Matsushiro Arr 70.43 324 P **P** 08 01 25.5 -1.2
comp=Z,12nm,0.7s,mb4.5,baz=153,slow=5.6,SNR=33
MAJO Matsushiro 70.43 324 *e*P **P** 08 01 25.7 -1.0
MAJO pmax pmax
comp=Z,760nm,5.0s
MAJO Matsushiro 70.43 324 *e*P **P** 08 01 25.7 -1.0
comp=Z,760nm,5.0s
MAJO *e*pP pP 08 03 21.3 +0.4
MAT Matsushiro 70.43 324 P **P** 08 01 25.8 -0.9
MAT Matsushiro 70.43 324 *e*P **P** 08 01 26.0 -0.7
MAT pmax pmax
comp=Z,14nm,0.9s,mb4.5
MAT Matsushiro 70.43 324 *e*P **P** 08 01 26.0 -0.7
comp=Z,14nm,0.9s,mb4.5
KSM Kuching 72.65 279 *e*P **P** 08 01 39.2 -0.3
SSE Sheshan 77.60 311 P **P** 08 02 05.8 -1.3
SSE AP pP 08 04 02.0 -2.4
SSE XP sP 08 04 58.5 -2.9
SSE PP PP 08 05 10.8 -1.4
SSE S S 08 11 14.0 +0.4
SSE ScS ScS 08 11 33.8 -0.8
SSE sS sS 08 14 42.0 -0.7
SSE AMB AMB
comp=Z,33nm,0.8s,mb4.7
SSE AMB AMB
comp=Z,103nm,3.8s
SSE Sheshan 77.60 311 P **P** 08 02 05.7 -1.4
comp=Z,33nm,0.8s,mb4.7
SSE pP pP 08 04 02.0 -2.4
SSE sP sP 08 04 58.6 -2.8
SSE PP PP 08 05 10.8 -1.4
SSE S S 08 11 14.0 +0.4
SSE ScS ScS 08 11 33.8 -0.8
SSE sS sS 08 14 41.9 -0.8
SSE LR LR
comp=Z,130nm,19.4s
NJ2 Nanjing 79.78 310 *e*P **P** 08 02 19.3 +0.6
NJ2 AP pP 08 04 15.3 -1.6
NJ2 XP sP 08 05 09.8 -3.9
NJ2 PP PP 08 05 31.5 +1.4
NJ2 S S 08 11 37.0 +0.7
NJ2 XS sS 08 15 01.0 -5.8
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb4.5
NJ2 AMB AMB
comp=Z,100nm,11.6s
KHMM Horse Mountain 80.45 39 *e*P **P** 08 02 22.5 +0.2
ISA Isabella 80.64 46 *e*P **P** 08 02 24.2 +1.0
ISA pmax pmax
comp=Z,24nm,1.1s,mb4.5
ISA Isabella 80.64 46 *e*P **P** 08 02 24.2 +1.0
comp=Z,24nm,1.1s,mb4.5
CMB Columbia Colle 80.77 43 *e*P **P** 08 02 24.0 +0.1
CMB pmax pmax
comp=Z,18nm,1.3s,mb4.3
CMB Columbia Colle 80.77 43 *e*P **P** 08 02 24.0 +0.1
comp=Z,18nm,1.3s,mb4.3
MDJ Mudanjiang 80.77 326 P **P** 08 02 24.0 +0.1
MDJ AMB AMB
comp=Z,20nm,1.3s,mb4.4
MDJ AMB AMB
comp=Z,53nm,5.3s
MDJ Mudanjiang 80.77 326 *e*P **P** 08 02 22.7 -1.2
comp=Z,26nm,1.3s,mb4.5
HABR Khabarovsk 80.82 331 *e*P **P** 08 02 24.2 +0.1
HABR *e*S S 08 11 50.6 +3.8
HABR pmax pmax
comp=Z,61nm,1.4s,mb4.8
OHCM Honcut 80.86 41 *e*P **P** 08 02 24.5 +0.2
WDC Whiskeytown Da 80.98 40 *e*P **P** 08 02 25.9 +1.0
WDC pmax pmax
comp=Z,24nm,1.1s,mb4.5
WDC Whiskeytown Da 80.98 40 *e*P **P** 08 02 25.9 +0.9
comp=Z,24nm,1.1s,mb4.5
MTUM Tungsten Hills 81.55 44 *e*P **P** 08 02 28.2 +0.3
DAC Darwin (Calif) 81.58 46 *e*P **P** 08 02 28.0 0.0
YBH Yreka Blue Hor 81.59 39 P **P** 08 02 28.9 +0.8
comp=Z,12nm,0.8s,mb4.4,baz=111,slow=1.9,SNR=24
YBH Yreka Blue Hor 81.59 39 *e*P **P** 08 02 28.2 +0.1
YBH pmax pmax
comp=Z,14nm,0.9s
YBH Yreka Blue Hor 81.59 39 *e*P **P** 08 02 28.2 +0.1
comp=Z,14nm,0.9s,mb4.4
WAKR Walker 81.65 43 *e*P **P** 08 02 29.2 +0.8
KDAK Kodiak Island 81.94 14 P **P** 08 02 29.0 -0.9
comp=Z,7.0nm,0.7s,mb4.2,baz=250,slow=8.3,SNR=5.7
HUMO Hull Mountain 81.99 38 *e*P **P** 08 02 31.0 +0.9
comp=Z,24nm,1.0s,mb4.6
NVAR Mina Array Bea 82.33 44 P **P** 08 02 32.2 +0.4
comp=Z,5.4nm,0.6s,mb4.2,baz=231,slow=9.5,SNR=39
NVAR Mina Array Bea 82.33 44 P **P** 08 02 32.2 +0.4
SNY Shenyang 82.34 321 *e*P **P** 08 02 33.5 +1.6
SNY AMB AMB
comp=Z,19nm,3.6s
MNV Mina 82.43 44 *e*P **P** 08 02 32.6 +0.3
CN2 Changchun 82.49 323 *e*P **P** 08 02 34.8 +2.1
CN2 *e*AP pP 08 04 33.0 +1.2
CN2 *e*S S 08 12 06.8 +3.2
CN2 AMB AMB
comp=Z,20nm,1.4s,mb4.3
CN2 AMB AMB
comp=Z,300nm,6.0s
TPH Tonopah 82.83 44 *e*P **P** 08 02 34.7 +0.3
TPH pmax pmax
comp=Z,13nm,0.9s,mb4.5
TPH Tonopah 82.83 44 *e*P **P** 08 02 34.7 +0.3
comp=Z,13nm,0.9s,mb4.5
TPNV Topopah Spring 82.85 46 *e*P **P** 08 02 34.9 +0.4
TPNV pmax pmax
comp=Z,9.0nm,0.8s,mb4.3
TPNV Topopah Spring 82.85 46 *e*P **P** 08 02 34.9 +0.4
comp=Z,9.0nm,0.8s,mb4.3
SHPR Sheep Range 83.34 47 *e*P **P** 08 02 36.6 -0.3
PSI Prapat 83.67 275 P **P** 08 02 37.8 -0.8
comp=Z,6.1nm,0.5s,mb4.4,baz=156,slow=6.6,SNR=5.8
BMN Battle Mountai 84.16 43 *e*P **P** 08 02 40.7 -0.3
BMN pmax pmax
comp=Z,17nm,1.3s,mb4.4
BMN Battle Mountai 84.16 43 *e*P **P** 08 02 40.7 -0.2
comp=Z,17nm,1.3s,mb4.4
TUC Tucson 84.27 52 *e*P **P** 08 02 42.1 +0.6
WVOR Wild Horse Val 84.43 40 *e*P **P** 08 02 42.4 +0.1
WVOR pmax pmax
comp=Z,5.0nm,0.8s,mb4.1
WVOR Wild Horse Val 84.43 40 *e*P **P** 08 02 42.4 +0.1
comp=Z,4.6nm,0.8s,mb4.1
MA2 Magadan 84.45 345 *c i*P **P** 08 02 40.8 -1.6
MA2 pmax pmax
comp=Z,60nm,1.4s,mb4.9
MA2 Magadan 84.45 345 *e*P **P** 08 02 41.5 -0.9
comp=Z,9.7nm,0.8s,mb4.4
OCWA Octopus Mounta 84.59 34 *e*P **P** 08 02 42.0 -1.1
OTR Olympics--Tyee 84.72 33 P **P** 08 02 44.5 +0.8
FMW Mount Fremont 85.40 35 P **P** 08 02 47.4 +0.4
ELK Elko 85.59 43 *e*P **P** 08 02 48.2 +0.3
SYO Syowa Base 85.61 193 ⇓*e*P **P** 08 02 46.4 -1.6
SYO Syowa Base 85.61 193 ⇑*e*PcP PcP 08 02 59.8 +0.9
BJI Beijing 85.92 316 P **P** 08 02 49.3 -0.2
BJI S 08 08 10.9
BJI pmax pmax
comp=Z,13nm,0.8s,mb4.6
BJI MLR MLR
comp=Z,270nm,17.0s
BJI Beijing 85.92 316 P **P** 08 02 49.3 -0.2
comp=Z,13nm,0.8s,mb4.6
BJI S 08 08 10.9
BJI LR LR
comp=Z,270nm,17.0s
EBG Ellensburg 85.98 36 P **P** 08 02 50.2 +0.4
TTA Tatalina 86.03 10 *e*P **P** 08 02 48.9 -1.1
PMR Palmer 86.14 14 *e*P **P** 08 02 48.8 -1.7
HAWA Hanford 86.24 37 *e*P **P** 08 02 51.0 0.0
WRW Wenatchee Ridg 86.39 35 P **P** 08 02 51.5 -0.2
GBL Gable Mountain 86.40 37 P **P** 08 02 52.2 +0.4
MSU Marysvale 86.41 46 *e*P **P** 08 02 52.3 +0.5
WTV Waterville 86.79 35 P **P** 08 02 53.5 -0.1
SAW Saint Andrews 87.09 36 P **P** 08 02 54.9 -0.1
SNAA Sanae 87.10 179 *e*P **P** 08 02 47.9 -7.1
SNAA *e* 08 02 49.5
SNAA *e* 08 02 53.8
VNA3 Neumayer Olymp 87.27 177 ⇓*i*P **P** 08 02 55.0 -0.8
VNA3 *e* 08 02 56.4
VNA3 *e* 08 03 00.8
VNA3 *e* 08 03 07.6
ODD2 Odessa Site #2 87.29 36 P **P** 08 02 48.9 -0.2
TMUT Trail Mountain 87.46 46 *e*P **P** 08 02 57.6 +0.9
HLID Hailey 87.63 41 *e*P **P** 08 02 58.0 +0.5
comp=Z,9.5nm,0.9s,mb4.5
VNA2 Neumayer--Watz 87.70 177 ⇓*i*P **P** 08 02 57.3 -0.5
baz=193,slow=4.1
VNA2 *e* 08 02 58.9
VNA2 *e* 08 03 03.3
VNA2 *e* 08 03 10.2
VNA2 *e* 08 03 22.7
HVU Hansel Valley 87.71 43 *e*P **P** 08 02 59.6 +1.7
SRU San Rafael 87.83 46 *e*P **P** 08 02 58.6 +0.2
VNA1 Neumayer--Stat 87.93 177 ⇓*i*P **P** 08 02 58.7 -0.2
VNA1 *e* 08 02 59.9
PNT Penticton 87.94 34 P **P** 08 02 58.9 -0.1
MNTX Cornudas Mount 88.03 55 *e*P **P** 08 02 59.9 +0.5
SKAG Skagway 88.18 21 *e*P **P** 08 02 59.5 -0.5
TCUT Toone Canyon 88.25 44 *e*P **P** 08 03 01.0 +0.6
LTX Lajitas 88.33 58 *e*P **P** 08 03 01.6 +0.8
ANMO Albuquerque 88.70 52 *e*P **P** 08 03 02.7 +0.2
ANMO pmax pmax
comp=Z,7.0nm,1.1s
ANMO Albuquerque 88.70 52 *e*P **P** 08 03 02.6 +0.1
comp=Z,6.7nm,1.1s,mb4.4
HIA Hailar 88.93 325 *e*P **P** 08 03 02.9 -0.7
HIA pmax pmax
comp=Z,4.0nm,0.5s
HIA Hailar 88.93 325 *e*P **P** 08 03 02.9 -0.7
comp=Z,4.4nm,0.5s,mb4.5
KMI Kunming 88.97 297 P **P** 08 03 05.5 +1.7
KMI AP pP 08 05 08.0 +2.8
KMI XP sP 08 06 00.0 -1.1
KMI SKS 08 12 41.0
KMI S 08 13 07.0
KMI AMB AMB
comp=Z,11nm,0.7s,mb4.8
KMI Kunming 88.97 297 P **P** 08 03 05.5 +1.7
KMI S 08 13 06.9
KMI pmax pmax
comp=Z,11nm,0.7s,mb4.8
KMI MLR MLR
comp=Z,30nm,48.5s
KMI Kunming 88.97 297 P **P** 08 03 05.5 +1.7
comp=Z,11nm,0.7s,mb4.8
KMI pP pP 08 05 07.9 +2.7
KMI sP sP 08 06 00.1 -1.0
KMI SKS 08 12 41.0
KMI S 08 13 06.9
KMI LR LR
comp=Z,30nm,48.5s
GDL2 Guadalupe Moun 89.03 55 *e*P **P** 08 03 05.2 +1.1
MCMT McKenzie Canyo 89.25 41 *e*P **P** 08 03 05.3 +0.2
DLBC Dease Lake 89.27 23 P **P** 08 03 04.3 -0.8
comp=Z,2.6nm,0.7s,mb4.2,baz=230,slow=12,SNR=5.3
DLBC Dease Lake 89.27 23 P **P** 08 03 04.3 -0.8
AHID Auburn Hatcher 89.28 43 *e*P **P** 08 03 05.5 +0.3
PLCA Paso Flores 89.28 134 P **P** 08 03 05.1 -0.1
comp=Z,1.2nm,0.9s,mb3.7,baz=223,slow=17,SNR=5.7
PLCA Paso Flores 89.28 134 *e*P **P** 08 03 06.6 +1.4
PLCA pmax pmax
comp=Z,913nm,5.0s
PLCA Paso Flores 89.28 134 *e*P **P** 08 03 06.6 +1.4
comp=Z,913nm,5.0s
COLA College 89.32 13 *e*P **P** 08 03 03.1 -2.3
COLA pmax pmax
comp=Z,28nm,1.1s,mb5.0
COLA College 89.32 13 *e*P **P** 08 03 03.1 -2.3
comp=Z,28nm,1.1s,mb5.0
HHC Hu-ho-hao-te 89.36 315 *e*P **P** 08 03 06.5 +0.9
HHC AP pP 08 05 06.8 -0.3
HHC XP sP 08 05 59.3 -3.7
HHC PP PP 08 06 49.0 +2.4
HHC SKS 08 12 45.8
HHC S 08 13 09.0
HHC XS sS 08 16 41.8 -3.8
HHC SS SS 08 19 26.5 +6.1
HHC AMB AMB
comp=Z,12nm,1.2s,mb4.6
HHC AMB AMB
comp=Z,62nm,6.3s
ILAR Eielson Array 89.43 13 P **P** 08 03 03.5 -2.4
comp=Z,5.1nm,0.8s,mb4.4,baz=218,slow=5.2,SNR=87
DLMT Dillon 89.69 40 *e*P **P** 08 03 07.4 +0.3
comp=Z,9.0nm,1.2s,mb4.5
REDW Red Top Meadow 89.74 43 *e*P **P** 08 03 07.5 +0.2
comp=Z,9.8nm,0.8s,mb4.7
TPAW Teton Pass 89.74 42 *e*P **P** 08 03 07.7 +0.4
comp=Z,9.2nm,1.0s,mb4.6
BILL Bilibino 89.88 355 *e*P **P** 08 03 06.2 -1.8
BILL pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
BILL Bilibino 89.88 355 *e*P **P** 08 03 06.6 -1.3
comp=Z,4.4nm,0.6s,mb4.5
IMW Indian Meadow 89.95 42 *e*P **P** 08 03 08.8 +0.4
comp=Z,12nm,1.0s,mb4.7
MOOW Moose Ponds 90.00 42 *e*P **P** 08 03 08.6 +0.1
LOHW Long Hollow 90.02 42 *e*P **P** 08 03 08.7 +0.1
comp=Z,5.1nm,0.7s,mb4.5
LOHW *e*pP pP 08 05 09.3 -1.0
QLMT Earthquake Lak 90.12 41 *e*P **P** 08 03 09.6 +0.5
FLWY Flagg Ranch 90.20 42 *e*P **P** 08 03 10.4 +0.9
comp=Z,10nm,1.0s,mb4.6
BW06 Boulder Array 90.27 44 *e*P **P** 08 03 09.3 -0.4
comp=Z,6.4nm,0.9s,mb4.5
PDAR Pinedale Array 90.27 44 P **P** 08 03 09.3 -0.5
comp=Z,4.9nm,0.8s,mb4.4,baz=208,slow=2.7,SNR=31
SMCO Snowmass 90.28 48 *e*P **P** 08 03 10.2 +0.4
BOZ Bozeman (W) 90.42 40 *e*P **P** 08 03 10.3 -0.2
BOZ pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
BOZ Bozeman (W) 90.42 40 *e*P **P** 08 03 10.3 -0.1
comp=Z,2.6nm,0.7s,mb4.2
DAWY Dawson 90.61 16 *e*P **P** 08 03 10.5 -0.9
LZH Lanzhou 92.62 308 ⇓P **P** 08 03 19.8 -0.8
LZH AP pP 08 05 20.3 -2.2
LZH XP sP 08 06 14.5 -3.7
LZH PP PP 08 07 14.0 +2.0
LZH AMB AMB
comp=Z,18nm,1.3s,mb4.9
LZH AMB AMB
comp=Z,62nm,8.6s
LZH Lanzhou 92.62 308 ⇓P **P** 08 03 19.8 -0.8
comp=Z,18nm,1.3s,mb4.9
LZH pP pP 08 05 20.3 -2.2
LZH sP sP 08 06 14.5 -3.7
LZH PP PP 08 07 13.9 +1.9
RSSD Black Hills 94.46 44 *e*P **P** 08 03 28.6 -0.4
RSSD pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
RSSD Black Hills 94.46 44 *e*P **P** 08 03 28.6 -0.4
comp=Z,2.6nm,0.9s,mb4.4
INK Inuvik 95.42 15 *e*P **P** 08 03 31.0 -2.3
INK pmax pmax
comp=Z,2.0nm,0.5s
INK Inuvik 95.42 15 *e*P **P** 08 03 31.0 -2.3
comp=Z,2.4nm,0.5s,mb4.6
GTA Gaotai 96.86 310 *e*P **P** 08 03 38.5 -1.3
GTA XP sP 08 06 36.5 -1.3
GTA AMB AMB
comp=Z,2.0nm,1.1s,mb4.3
YKA Yellowknife Ar 97.74 25 P Pdif 08 03 41.9 -1.8
comp=Z,0.7nm,0.8s,baz=243,slow=4.1,SNR=6.1
WMQ Urumqi 106.85 311 PDIF Pdif 08 04 23.5 -0.7
WMQ PP PP 08 08 59.0 +0.9
RES Resolute Bay 108.95 16 *e*PKPdf PKiKP 08 08 31.9 -2.6
ZRNK Zerenda 120.05 320 *e*PKIKP PKPdf 08 08 53.4 -2.4
SUMG Summit 124.28 13 *e*PKPdf PKPdf 08 09 02.6 -1.3
ARU Arti 125.45 325 *i* PKIKP PKPdf 08 09 03.8 -2.3
ARU *e* 08 11 11.7
ARU Arti 125.45 325 *e*PKPdf PKPdf 08 09 04.2 -2.0
AKTK Aktyubinsk 127.15 318 PKP PKPdf 08 09 08.1 -1.3
AKTO Aktyubinsk 127.15 318 PKP PKPdf 08 09 08.1 -1.3
comp=Z,3.4nm,0.8s,baz=94,slow=3.0,SNR=7.6
ARCES ARCESS Array B 129.67 349 PKP PKPdf 08 09 11.6 -2.6
comp=Z,8.6nm,0.7s,baz=19,slow=1.4,SNR=40
ARCES SKPbc SKPbc 08 11 41.7 -3.0
comp=Z,14nm,0.9s,baz=33,slow=4.6,SNR=23
JOF Joensuu 133.74 341 *e*p PKPdf 08 09 17.2 -4.6
KAF Kangasniemi 135.79 343 *e*p PKPdf 08 09 21.3 -4.4
FINES FINESS Array B 136.41 343 PKP PKPdf 08 09 23.9 -2.9
comp=Z,2.7nm,0.6s,baz=71,slow=3.8,SNR=12
FINES SKPbc SKPbc 08 12 03.3 -3.8
comp=Z,1.2nm,0.5s,baz=58,slow=4.7,SNR=5.8
FINES FINESS Array B 136.41 343 PKP PKPdf 08 09 23.9 -2.9
FINES SKPbc SKPbc 08 12 03.3 -3.8
KMBO Kilima Mbogo 138.10 242 SKPbc SKPbc 08 12 10.9 -1.0
comp=Z,4.3nm,1.0s,baz=46,slow=22,SNR=6.8
NB2 NORSAR Subarra1 139.79 352 PKPa 08 09 24.0
comp=Z,1.4nm,0.6s,baz=10,slow=3.2
NOA NORSAR Array B 139.79 352 PKhKP 08 09 24.1
comp=Z,2.2nm,0.6s,baz=12,slow=2.4,SNR=14
NOA SKPbc SKPbc 08 12 12.4 -4.2
comp=Z,3.2nm,1.0s,baz=13,slow=4.5,SNR=4.2
AKASG Malin Array Be 143.38 330 PKP PKPdf 08 09 35.7 -3.7
comp=Z,32nm,0.7s,baz=42,slow=4.2,SNR=101
AKASG SKPbc SKPbc 08 12 21.7 -3.8
comp=Z,0.3nm,0.3s,baz=46,slow=2.4,SNR=4.3
AKASG Malin Array Be 143.38 330 PKP PKPdf 08 09 35.7 -3.7
AKASG SKPbc SKPbc 08 12 21.7 -3.8
SUW Suwalki 143.38 338 *e*PKP PKPdf 08 09 36.1 -3.3
SIM Simferopol' 144.11 319 *e*PKHKP PKPdf 08 09 39.0 -1.7
SIM pmax pmax
comp=Z,33nm,0.8s
MUD Monsted U'grnd 144.51 352 *i* P PKPdf 08 09 40.0 -1.4
comp=Z,35nm,0.8s
MUD Monsted U'grnd 144.51 352 *i* PKHKP PKPdf 08 09 40.0 -1.4
MUD pmax pmax
comp=Z,35nm,0.8s
BSD Bornholm Skovb 144.79 346 ⇓*i*P PKPdf 08 09 40.3 -1.5
comp=Z,27nm,0.6s
BSD Bornholm Skovb 144.79 346 ⇓*i*PKHKP PKPdf 08 09 40.3 -1.5
BSD pmax pmax
comp=Z,27nm,0.6s
GKP Gorka Klasztor 145.88 343 *e*PKP PKPdf 08 09 44.3 +0.6
KIS Kishinev 146.00 325 *e*PKHKP PKPdf 08 09 43.0 -0.9
LVV L'vov 146.34 333 *e*PKHKP PKPdf 08 09 44.9 +0.4
ASF Jabal al Asfar 146.39 296 PKPbc PKPbc 08 09 46.5 -0.4
comp=Z,5.8nm,0.6s,baz=330,slow=1.5,SNR=13
BR131 Keskin Array S 146.78 311 *e*PKPdf PKPdf 08 09 45.6 +0.5
BRTR Keskin Array B 146.78 311 PKPbc PKPbc 08 09 47.0 -1.0
comp=Z,7.4nm,0.7s,baz=145,slow=3.7,SNR=39
BSEG Bad Segeberg 146.79 350 *e*PKPbc PKPbc 08 09 46.6 -1.4
ANTO Ankara 147.31 311 *e*PKIKP PKPbc 08 09 49.0 -0.4
BURAR Bucovina Array 147.41 329 ⇑*i*P PKPbc 08 09 49.2 -0.4
BURAR Bucovina Array 147.41 329 ⇑P PKPbc 08 09 49.2 -0.4
MMAI Mount Meron Ar 147.47 298 PKPbc PKPbc 08 09 49.8 0.0

comp=Z,13nm,0.6s,baz=56,slow=4.4,SNR=12
MMAI PKPab PKPab 08 09 54.3 +0.5
comp=Z,5.6nm,0.6s,baz=88,slow=5.9,SNR=5.5
CFR Carcaliu 147.50 323 ⇑*i*P PKPbc 08 09 48.8 -1.1
DCN Croghan 147.52 9 *e*P PKPdf 08 09 48.1 +1.7
OJC Ojcow 147.69 337 *e*PKP PKPbc 08 09 49.0 -1.4
STHS Stebnicka Huta 147.79 335 *e*PKP PKPbc 08 09 49.6 -1.0
VRI Vrincioaia 147.84 325 ⇑*i*P PKPbc 08 09 49.8 -0.9
PLOR Plostina 147.89 325 ⇑*i*P PKPbc 08 09 50.3 -0.6
HARR Harsova 147.92 323 ⇓*i*P PKPbc 08 09 50.5 -0.4
CRVS Cervenica-Dubn 148.12 334 *e*PKP PKPbc 08 09 50.7 -0.7
NIE Niedzica 148.15 336 *e*PKPd PKPbc 08 09 50.9 -0.6
KSP Ksiaz 148.30 341 *e*PKP PKPbc 08 09 51.2 -0.7
KSP Ksiaz 148.30 341 *e*PKP PKPbc 08 09 50.9 -1.0
KSP *e* 08 09 56.4
EIL Elat 148.40 292 *e*PKPbc PKPbc 08 09 51.9 -0.2
EIL *e*PKPab PKPab 08 09 56.9 -0.7
MLR Muntele Rosu 148.50 325 ⇓*i*P PKPbc 08 09 51.2 -1.2
OKC Ostrava-Krasne 148.59 339 ⇑*e*PKPB PKPbc 08 09 51.6 -1.0
OKC *e*PKPAB PKPab 08 09 57.5 -0.9
CSS Prodhromos 148.66 302 *e*PKPbc PKPbc 08 09 51.8 -1.0
UPC Upice 148.69 341 ⇑*e*PKPB PKPbc 08 09 51.7 -1.1
UPC *e*PKPAB PKPab 08 09 58.2 -0.6
DPC Dobruska-Polom 148.73 341 ⇑*e*PKPB PKPbc 08 09 52.1 -0.9
DPC *e*PKPAB PKPab 08 09 58.4 -0.6
IBBN Ibbenburen 148.75 352 *e*PKPbc PKPbc 08 09 51.7 -1.3
IBBN *e*PKPab PKPab 08 09 57.8 -1.2
CLL Collm 148.75 345 *e*PKPdf PKPdf 08 09 47.1 -1.3
CLL *e*PKPbc PKPbc 08 09 51.7 -1.3
CLL *e*PKPab PKPab 08 09 57.7 -1.4
CLL Collm 148.75 345 *e*PKPdf PKPdf 08 09 47.0 -1.4
comp=Z,5.0nm,1.1s
CLL ⇓*i*PKPbc PKPbc 08 09 51.7 -1.3
comp=Z,38nm,1.0s
CLL *i* PKPab PKPab 08 09 57.8 -1.3
comp=Z,13nm,0.8s
CLL *e*pPKPbc pPKPbc 08 12 11.0 +9.5
CLL Collm 148.75 345 ⇓*i*PKHKP PKPbc 08 09 51.7 -1.3
CLL pmax PKPab
comp=Z,38nm,1.0s
CLL Collm 148.75 345 ⇓*i*PKP PKPbc 08 09 51.7 -1.3
CLL *e*pPKP pPKPbc 08 12 11.0 +9.5
CLZ Clausthal 148.80 349 *e*PKPbc PKPbc 08 09 52.0 -1.1
KECS Kecovo 148.84 335 *e*PKP PKPdf 08 09 52.3 +3.7
KECS *e* 08 09 58.9
MORC Moravsky Berou 148.84 339 *e*PKHKP PKPdf 08 09 52.3 +3.7
MORC *e* 08 09 58.9
BRG Berggiesshubel 148.93 344 *e*PKPbc PKPbc 08 09 52.2 -1.2
BRG Berggiesshubel 148.93 344 *i* PKP PKPdf 08 09 52.5 +3.8
comp=Z,14nm,0.9s
BRG *e* 10 09 58.6
comp=Z,7.9nm,1.0s
WTSB Winterswijk 149.20 353 *e*PKP PKPdf 08 09 52.7 +3.6
comp=Z,42nm,0.9s
VYHS Vyhne 149.47 336 *i* PKP PKPdf 08 09 53.8 +4.3
VYHS *e* 08 10 01.3
PSZ Piszkesteto 149.53 335 ⇓*e*PKP/F PKPbc 08 09 53.7 -1.2
PRU Pruhonice 149.57 343 ⇑*e*PKPB PKPbc 08 09 53.7 -1.3
PRU *e*PKPAB PKPab 08 10 01.6 -0.8
BUG Bochum--Univer 149.66 352 *e*PKPbc PKPbc 08 09 53.7 -1.5
MOX Moxa 149.69 347 *e*PKPdf PKPdf 08 09 47.4 -2.5
MOX *e*PKPbc PKPbc 08 09 53.8 -1.5
MOX *e*PKPab PKPab 08 10 01.6 -1.3
MOX Moxa 149.69 347 *e*PKP PKPbc 08 09 54.0 -1.3
comp=Z,40nm,1.4s
MOX Moxa 149.69 347 *e*PKHKP PKPbc 08 09 54.0 -1.3
MOX pmax PKPab
comp=Z,40nm,1.4s
WERD Werda 149.72 346 *e*PKPbc PKPbc 08 09 54.1 -1.2
WERD *e*PKPab PKPab 08 10 01.9 -1.2
UBBA Unterbreizbach 149.84 349 *e*PKPbc PKPbc 08 09 53.8 -1.8
TREC Trest 149.92 341 ⇑*e*PKPB PKPbc 08 09 54.6 -1.2
MANZ Manzenberg 150.19 346 *e*PKPdf PKPdf 08 09 49.3 -1.4
MANZ *e*PKPbc PKPbc 08 09 55.6 -0.8
ZST Bratislava 150.35 338 *e*PKP PKPbc 08 09 55.6 -1.2
ZST *e* 08 10 05.3
ZST Bratislava 150.35 338 *e*PKHKP PKPbc 08 09 55.7 -1.1
ZST *e* PKPab 08 10 05.3 -0.4
ROTZ Rotzenmuhle 150.38 345 *e*PKPbc PKPbc 08 09 55.8 -1.1
HGN Heimansgroeve 150.48 354 *e*PKP PKPdf 08 09 55.4 +4.3
comp=Z,13nm,1.4s
BZS Buzias 150.57 330 ⇑*i*P PKPbc 08 09 56.0 -1.3
UCC Uccle 150.58 356 PKPbc PKPbc 08 09 55.9 -1.4
KHC Kasperske Hory 150.61 343 ⇑*e*PKPB PKPbc 08 09 56.4 -1.0
KHC *e*PKPAB PKPab 08 10 06.2 -0.6
MEM Membach 150.63 354 PKPbc PKPbc 08 09 56.1 -1.3
MEM PKPab PKPab 08 10 05.4 -1.4
GRA1 Grafenberg Arr 150.67 346 *e*PKP PKPbc 08 09 56.2 -1.3
GRF Grafenberg Arr 150.67 346 *e*PKP PKPbc 08 09 56.2 -1.3
TNS Taunus Mts 150.69 350 *e*PKPdf PKPdf 08 09 49.5 -1.9
TNS *e*PKPbc PKPbc 08 09 56.4 -1.2
TNS *e*PKPab PKPab 08 10 05.8 -1.3
TNS Taunus Mts 150.69 350 *e*PKIKP PKPbc 08 09 56.4 -1.2
WET Wettzell 150.79 344 *e*PKPbc PKPbc 08 09 56.1 -1.7
WET *e*PKPab PKPab 08 10 06.8 -0.7
GEC2 GERESS Array S 150.84 343 *e*PKPdf PKPdf 08 09 50.3 -1.4
GEC2 *e*PKPbc PKPbc 08 09 56.6 -1.3
GEC2 *e*PKPab PKPab 08 10 06.9 -0.9
GEC2 GERESS Array S 150.84 343 *e*PKIKP PKPbc 08 09 56.6 -1.3
GERES GERESS Array B 150.84 343 PKPbc PKPbc 08 09 56.5 -1.4
comp=Z,10.0nm,0.8s,baz=48,slow=2.0,SNR=36
GERES PKPab PKPab 08 10 06.7 -1.0
comp=Z,1.5nm,0.7s,baz=217,slow=0.7,SNR=4.2
SNF Seneffe 150.88 356 PKPbc PKPbc 08 09 56.5 -1.5
SOP Sopron 150.98 338 ⇓*e*PKP/F PKPbc 08 09 57.2 -1.0
GIVF Givet 151.24 355 *e*PKIKP PKPbc 08 09 57.3 -1.5
comp=Z,50nm,0.8s
DOU Dourbes 151.26 355 PKPbc PKPbc 08 09 57.7 -1.2
BAIF Baives 151.33 356 *e*PKIKP PKPbc 08 09 57.6 -1.4
comp=Z,42nm,1.0s
PKSM Moragy 151.41 334 ⇑PKIKP PKPbc 08 09 58.0 -1.2
PKSM Moragy 151.41 334 ⇓*e*P PKPbc 08 09 57.8 -1.4
WLF Walferdange 151.54 353 *e*PKPbc PKPbc 08 09 58.5 -1.0
WLF *e*PKPab PKPab 08 10 09.7 -1.0
WLF Walferdange 151.54 353 PKPbc PKPbc 08 09 58.6 -1.0
WLF PKPab PKPab 08 10 09.7 -1.0
WLF Walferdange 151.54 353 *e*PKPbc PKPbc 08 09 58.6 -0.9
MOA Molln 151.57 341 ⇑*i* PKPab 08 10 10.6 -0.3
comp=Z,10nm,1.1s
MOA Molln 151.57 341 ⇑*i*PKPbc PKPbc 08 09 57.9 -1.7
comp=Z,7.1nm,0.8s
MOA ⇑*i*PKPab PKPab 08 10 10.6 -0.3
comp=Z,10nm,1.1s
STU Stuttgart 151.96 348 *e*PKPbc PKPbc 08 09 59.1 -1.3
STU *e*PKPab PKPab 08 10 11.3 -1.2
STU Stuttgart 151.96 348 *e*PKPdf PKPbc 08 09 59.6 -0.8
FUR Furstenfeldbru 152.09 345 *e*PKPab PKPab 08 10 12.2 -0.9
GRUS Gruza 152.28 328 *i* P PKPdf 08 09 59.8 +5.9
DIVS Divcibare 152.47 330 *i* P PKPdf 08 10 00.6 +6.5
BFO Black Forest 152.54 349 *e*PKPbc PKPbc 08 09 59.6 -2.1
BFO *e*PKPab PKPab 08 10 13.5 -1.4
KBA Koelnbreinsper 152.54 342 ⇑*i*P PKPbc 08 09 59.6 -2.1
comp=Z,4.3nm,0.5s
CDF Champ du Feu 152.63 351 *e*PKIKP PKPbc 08 10 00.4 -1.5
comp=Z,19nm,0.9s
FLN La Foliniere 152.71 2 *e*PKIKP PKPbc 08 10 00.2 -1.9
comp=Z,29nm,0.9s
MEZF Maizieres J'vi 152.81 354 *e*PKIKP PKPbc 08 10 00.6 -1.7
comp=Z,53nm,1.1s
WTTA Wattenberg 152.84 344 ⇓*i* PKPab 08 10 15.6 -0.7
comp=Z,11nm,0.7s
WTTA Wattenberg 152.84 344 ⇑*i*PKPbc PKPbc 08 10 00.9 -1.5
comp=Z,19nm,1.0s
WTTA ⇓*i*PKPab PKPab 08 10 15.6 -0.7
comp=Z,11nm,0.7s
LDF La Druitiere 152.89 2 *e*PKIKP PKPbc 08 09 59.8 -2.7
comp=Z,22nm,0.9s
GRR Gorron 153.07 3 *e*PKIKP PKPbc 08 10 00.9 -2.0
comp=Z,14nm,0.7s
SGMF Saint Gilles 153.09 5 *e*PKIKP PKPbc 08 10 00.7 -2.2
comp=Z,22nm,0.8s
HAU Haudompre 153.15 352 *e*PKIKP PKPbc 08 10 01.3 -1.7
DAVA Damuels 153.24 347 ⇓*i* PKPab 08 10 15.4 -2.6
comp=Z,9.9nm,0.8s
DAVA Damuels 153.24 347 ⇓*i*PKiKP PKiKP 08 10 03.2 0.0
comp=Z,7.7nm,0.9s
DAVA ⇓*i*PKPab PKPab 08 10 15.4 -2.6
comp=Z,9.9nm,0.8s
HINF Hinteralfeld 153.27 351 *e*PKIKP PKPbc 08 10 01.2 -2.1
BOJS Bojanci 153.31 337 *e*PKPdf PKPdf 08 09 53.7 -1.6
BOJS *i* PKPbc PKPbc 08 10 02.2 -1.1
BOJS *i* PKPab PKPab 08 10 17.0 -1.2
LOR Lormes 154.13 356 *e*PKIKP PKPbc 08 10 02.4 -2.7
comp=Z,5.9nm,0.6s
SSF Saint Saulge 154.36 356 *e*PKIKP PKPbc 08 10 03.1 -2.5
CABF La Chapelle 154.56 352 *e*PKIKP PKPbc 08 10 02.8 -3.2
AVF Avril sur Loir 154.64 356 *e*PKIKP PKPdf 08 10 03.1 +6.0
MFF Saint Martin d 154.88 2 *e*PKIKP PKPdf 08 10 03.5 +6.0
comp=Z,11nm,0.8s
BNI Bardonecchia 155.99 350 *e*PKP2 PKPab 08 10 28.6 -1.2
AQU L'Aquila 156.70 336 *e*PKP2 PKPab 08 10 33.1 +0.2
TIP Timpagrande 157.76 326 *e*PKPab PKPab 08 10 37.2 -0.3
ESDC Sonseca Array 161.33 12 PKPab PKPab 08 10 51.9 -1.2
comp=Z,1.0nm,0.6s,baz=348,slow=4.0,SNR=15
DBIC Dimbokro 164.25 158 PKP PKPdf 08 10 06.5 -1.5
comp=Z,4.2nm,0.9s,baz=355,slow=12,SNR=6.0
DBIC Dimbokro 164.25 158 PKP PKPdf 08 10 06.5 -1.5
TORD Torodi Ar. Bea 171.73 185 PKP PKPdf 08 10 11.7 -1.3
comp=Z,1.8nm,0.8s,baz=311,slow=1.4,SNR=9.3
TORD PKPab PKPab 08 11 38.1 -0.9
comp=Z,1.8nm,0.8s,baz=171,slow=4.0,SNR=8.3

IDC ***28*** *07:52:13.3±0.6,3639N×6731E,h0km,mb4.1/18, mb1 4.2/21,mb1mx4.2/25,mbtmp4.1/21,ML4.0/2,MS3.9/9, Ms1 3.9/9,ms1mx3.6/21,Error ellipse: s-maj=16.4km s-min=13.7km az=26.0*
ISCJB ***28*** *07:52:15.9±1.2,3664N±003×6730E±003,h24km±9km, mb4.3/45,MS3.9/15,Error ellipse: s-maj=5.2km s-min=4.0km az=75.0*
BJI ***28*** *07:52:15.8,3650N×6726E,h20km,mB4.7,mb4.7,Ms4.5, Msz4.1*
NEIC ***28*** *07:52:16.5±0.2,3656N×6734E,mb4.7/23,Error ellipse: s-maj=5.5km s-min=3.3km az=27.0*
MOS ***28*** *07:52:16.7±1.0,3657N×6733E,h33km,mb4.8/23,Error ellipse: s-maj=6.8km s-min=4.8km az=111.6*
NNC ***28*** *07:52:22.0±1.6,3731N×6705E,h0km,mb4.5,mpv4.2, Error ellipse: s-maj=13.6km s-min=11.3km az=141.0*
ISC 28 07:52:18.0±1.2,3664N±003×6729E±003,h27km±9km, h25km±3.5km:pP-P,n165,σ1919/178,mb4.3/45,MS3.9/15, 15C-11D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**4.71**	**125**	⇓P	**Pn**	**07 53 29.8**	**+2.5**
SBDP	**Sheikh Budin**	**5.21**	**145**	⇑P	**Pn**	**07 53 36.5**	**+2.3**
THW	**Thamme Wali**	**5.30**	**135**	P	**Pn**	**07 53 37.0**	**+1.5**
CHCP	**Chirah Chowk**	**5.73**	**119**	P	**Pn**	**07 53 43.2**	**+1.9**
KK31	**Karatay Array**	**6.92**	**20**	⇑Pn	**Pn**	**07 53 60.0**	**+2.4**
	23nm,0.5s,baz=209,slow=14,SNR=458						
KK31				⇓Sn	**Sn**	**07 55 16.7**	**+1.2**
	63nm,0.7s						
KK31				⇑Lg		07 55 40.7	
	125nm,0.7s,baz=204,slow=27,SNR=6.6						
KKAR	**Karatay Array**	**6.92**	**20**	PN	**Pn**	**07 53 59.9**	**+2.3**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.2s						
ASH	**Ashkhabad**	**7.24**	**283**	*i* P	**Pn**	**07 54 01.0**	**-1.1**
VAN	**Vannovskaya**	**7.43**	**283**	*e*P	**Pn**	**07 54 01.8**	**-2.9**
VAN				*e*S	**Sn**	**07 55 22.9**	**-5.2**
AAK	**Ala-Archa**	**8.17**	**41**	*e*P	**Pn**	**07 54 15.1**	**+0.3**
AAK				pmax	pmax		
	comp=Z,50nm,0.6s						
AAK	**Ala-Archa**	**8.17**	**41**	*e*Pn	**Pn**	**07 54 15.1**	**+0.3**
	comp=Z,50nm,0.6s						
DLH	**Dalhousie**	**8.24**	**117**	*e*P	**Pn**	**07 54 18.0**	**+2.3**
DLH				*e*x	x	07 55 53.0	
FRU	**Bishkek**	**8.38**	**40**	*i* P	**Pn**	**07 54 21.0**	**+3.4**
FRU				pmax	pmax		
	comp=Z,100nm,1.8s						
FRU				pmax	pmax		
	comp=E,900nm,1.9s						
PONG	**Pong**	**8.55**	**121**	*e*P	**Pn**	**07 54 21.0**	**+0.9**
TKM2	**Tokmak 2**	**8.96**	**43**	⇓Pn	**Pn**	**07 54 27.7**	**+2.0**
	comp=E,3.2nm,0.6s						
TKM2				⇑Sn	**Sn**	**07 56 09.1**	**+3.5**
	comp=E,7.5nm,0.8s						
TKM2	**Tokmak 2**	**8.96**	**43**	P	**Pn**	**07 54 27.6**	**+2.0**
TKM2						07 56 09.1	
TKM2				pmax	pmax		
	comp=Z,18nm,0.6s						
TKM2				smax			
	comp=N,47nm,0.8s						
BHK	**Bhakra**	**9.19**	**122**	*ex*	x	07 55 08.8	
SDNR	**Sundarnagar**	**9.52**	**120**	*e*P	**Pn**	**07 54 35.0**	**+1.6**
SDNR				*e*S	**Sn**	**07 56 13.0**	**-6.5**
SMLA	**Simla**	**9.88**	**121**	*i* P	**Pn**	**07 54 37.6**	**-0.6**
SMLA				*i* x	x	07 56 38.1	
JASL	**Jaisalmer**	**10.16**	**161**	*e*P	**Pn**	**07 54 38.6**	**-3.4**
KLP	**Kalpa**	**10.42**	**116**	*e*P	**Pn**	**07 54 49.1**	**+3.5**
KLP				AMb	AMB	07 54 50.6	
	comp=Z,28nm,0.4s						
RTK	**Rohtak**	**10.78**	**132**	*ex*	**Pn**	**07 54 59.1**	**+8.5**
RTK				*ex*	x	07 55 01.5	
RTK				AMb	AMB	07 55 01.7	
	comp=Z,35nm,0.7s						
KHET	**Khetri**	**11.16**	**137**	*ex*	x	07 54 44.2	
KHET				*ex*	x	07 54 50.1	
KHET				AMb	AMB	07 54 50.5	
	comp=Z,6.0nm,1.8s						
BHGR	**Bahadurgarh**	**11.35**	**132**	*ex*	**Pn**	**07 55 01.7**	**+3.3**
BHGR				*ex*	x	07 55 04.2	
KUDL	**Kundal**	**11.49**	**135**	*e*P	**Pn**	**07 54 57.2**	**-3.0**
KUDL				AMb	AMB	07 55 08.1	
	comp=Z,20nm,0.8s						
KUDL				*ex*	x	07 55 08.2	
NDI	**New Delhi**	**11.52**	**131**	*e*P	**Pn**	**07 54 57.5**	**-3.2**
NDI				*ex*	x	07 57 07.5	
SONA	**Sohna**	**11.76**	**133**	*e*P	**Pn**	**07 55 02.1**	**-1.8**
SONA				*ex*	x	07 55 09.4	
SONA				AMb	AMB	07 55 09.6	
	comp=Z,28nm,0.6s						
AJM	**Ajmer**	**11.90**	**146**	*e*P	**Pn**	**07 55 01.8**	**-4.1**
AJM				AMb	AMB	07 55 11.6	
	comp=Z,18nm,0.7s						
PTH	**Pithoragarh**	**12.93**	**119**	*ex*	**Pn**	**07 55 24.4**	**+4.4**
LGTI	**Lohaghat**	**13.01**	**120**	*ex*	**Pn**	**07 55 25.0**	**+3.9**
LGTI				*ex*	x	07 58 02.0	
AB31	**Akbulak array**	**13.70**	**339**	⇑Pn	**Pn**	**07 55 29.1**	**-1.4**
	comp=Z,7.0nm,0.5s						
AB31				⇑Sn	**Sn**	**07 57 54.4**	**-7.4**
	comp=Z,15nm,0.6s						
AB31	**Akbulak array**	**13.70**	**339**	P	**Pn**	**07 55 29.0**	**-1.5**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MK01	**Makanchi Array**	**15.09**	**43**	⇓Pn	**Pn**	**07 55 48.9**	**-0.3**
	comp=Z,11nm,0.8s						
MKAR	**Makanchi Array**	**15.09**	**43**	Pn	**Pn**	**07 55 48.2**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=234,slow=12,SNR=20						
MKAR				Lg		08 00 22.7	
	comp=Z,0.1nm,0.3s,baz=246,slow=27,SNR=3.4						
MKAR	**Makanchi Array**	**15.09**	**43**	Pn	**Pn**	**07 55 48.2**	**-1.1**
MKAR				Lg		08 00 22.7	
AKTK	**Aktyubinsk**	**15.33**	**337**	Pn	**Pn**	**07 55 51.6**	**-0.8**
AKTK				Sn	**Sn**	**07 58 36.2**	**-5.2**
AKTK				Lg		08 00 31.3	
AKTK				LR	LR	08 02 23.4	
AKTO	**Aktyubinsk**	**15.33**	**337**	⇑Pn	**Pn**	**07 55 50.3**	**-2.1**
	comp=Z,1.2nm,1.4s						
AKTO				⇑Sn	**Sn**	**07 58 32.4**	**-8.9**
	comp=Z,0.3nm,0.8s						
AKTO	**Aktyubinsk**	**15.33**	**337**	Pn	**Pn**	**07 55 51.6**	**-0.8**
	comp=Z,1.2nm,0.3s,baz=154,slow=14,SNR=21						
AKTO				Sn	**Sn**	**07 58 36.2**	**-5.2**
	comp=Z,0.9nm,0.3s,baz=338,slow=19,SNR=2.7						
AKTO				Lg		08 00 31.3	
	comp=Z,0.2nm,0.3s,baz=294,slow=13,SNR=3.7						
AKTO				LR	LR	08 02 23.4	
	comp=Z,376nm,19.4s,baz=0.0,slow=39						
AKTO	**Aktyubinsk**	**15.33**	**337**	P	**Pn**	**07 55 51.7**	**-0.7**
AKTO						07 58 36.2	
BHPL	**Bhopal**	**15.96**	**144**	*ex*	**Pn**	**07 56 04.1**	**+3.4**
BHPL				AMb	AMB	07 56 09.0	
	comp=Z,2.6nm,0.4s						
KURK	**Kurchatov**	**16.26**	**27**	⇓Pn	**Pn**	**07 56 03.0**	**-1.5**
	comp=Z,12nm,0.9s						
KURK	**Kurchatov**	**16.26**	**27**	*e*P	**Pn**	**07 56 03.4**	**-1.1**
VOSK	**Vostochnaya**	**16.30**	**8**	⇑Pn	**Pn**	**07 56 03.3**	**-1.6**
	comp=Z,13nm,0.9s						
VOSK				⇑Sn	**Sn**	**07 58 59.4**	**-5.5**
	comp=Z,19nm,1.2s						
ZRNK	**Zerenda**	**16.36**	**4**	⇓Pn	**Pn**	**07 56 04.5**	**-1.2**
	comp=Z,31nm,1.1s						
ZRNK				⇓Sn	**Sn**	**07 59 01.1**	**-5.3**
	comp=Z,28nm,1.0s						
ZRNK	**Zerenda**	**16.36**	**4**	*e*P	**Pn**	**07 56 04.6**	**-1.2**
ZRNK				pmax	pmax		
	comp=Z,597nm,0.5s						
ZRNK	**Zerenda**	**16.36**	**4**	*e*P	**Pn**	**07 56 04.6**	**-1.1**
	comp=Z,597nm,0.5s						
KOLN	**Koldanda**	**16.38**	**118**	*e*P	**Pn**	**07 56 02.9**	**-3.1**
	comp=Z,43nm,0.5s						
KOLN				*e*S	**Sn**	**07 59 00.1**	**-6.8**
BVA0	**Borovoye Array**	**16.53**	**7**	⇑Pn	**Pn**	**07 56 07.7**	**-0.3**
	comp=Z,6.8nm,1.3s						
BVA0				⇓Sn	**Sn**	**07 59 02.5**	**-8.1**
	comp=Z,7.4nm,1.6s,baz=178,slow=24,SNR=3.7						
BVA0	**Borovoye Array**	**16.53**	**7**	P	**Pn**	**07 56 07.6**	**-0.4**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**16.56**	**6**	*e*P	**Pn**	**07 56 07.4**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,10.0nm,4.0s						
BRVK	**Borovoye**	**16.56**	**6**	*e*P	**Pn**	**07 56 07.4**	**-0.8**
	comp=Z,9.6nm,4.0s						
GKN	**Gorkha**	**16.99**	**115**	*e*P	**Pn**	**07 56 11.9**	**-1.8**
	comp=Z,231nm,0.7s						
CHKZ	**Chkalovo**	**17.20**	**7**	⇑Pn	**Pn**	**07 56 15.9**	**-0.4**
	comp=Z,19nm,0.8s						
CHKZ				⇓Sn	**Sn**	**07 59 24.1**	**-2.7**
	comp=Z,35nm,1.5s						
CHKZ	**Chkalovo**	**17.20**	**7**	*e*P	**Pn**	**07 56 15.9**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,24nm,0.8s						
CHKZ	**Chkalovo**	**17.20**	**7**	*e*P	**Pn**	**07 56 15.9**	**-0.5**
	comp=Z,24nm,0.8s						
JBP	**Jabalpur**	**17.34**	**137**	⇑*i*x	x	07 58 14.8	
JBP				*i* x	x	08 01 25.7	
ORR	**Orenburg**	**17.43**	**333**	*e*P	**Pn**	**07 56 17.7**	**-1.5**
ORR				*i*		07 59 29.8	
ORR				pmax	pmax		
	comp=Z,70nm,1.3s						
DMN	**Daman**	**17.55**	**116**	*e*P	**Pn**	**07 56 19.4**	**-1.3**
	comp=Z,93nm,0.6s						
KKN	**Kakani**	**17.57**	**115**	*e*P	**Pn**	**07 56 19.5**	**-1.5**
	comp=Z,113nm,0.7s						
KKN	**Kakani**	**17.57**	**115**	*e*P	**Pn**	**07 56 19.5**	**-1.5**
KKN				pmax	pmax		
	comp=Z,113nm,0.7s						
PKI	**Pulchoki**	**17.79**	**115**	*e*P	**Pn**	**07 56 21.5**	**-2.2**
	comp=Z,102nm,0.6s						
PKI	**Pulchoki**	**17.79**	**115**	*e*P	**Pn**	**07 56 21.5**	**-2.2**
PKI				pmax	pmax		
	comp=Z,102nm,0.6s						
GUN	**Gumba**	**17.95**	**114**	*e*P	**Pn**	**07 56 25.1**	**-0.5**
	comp=Z,217nm,0.8s						
GNI	**Garni**	**18.01**	**288**	P	**Pn**	**07 56 27.2**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=22,slow=14,SNR=4.7						
GNI				LR	LR	08 05 37.2	
	comp=Z,270nm,19.5s,baz=177,slow=44						
GNI	**Garni**	**18.01**	**288**	*e*P	**Pn**	**07 56 26.3**	**0.0**
GNI				P		07 56 27.2	
GNI				LR	LR	08 05 37.2	
JIRN	**Jiri**	**18.32**	**114**	*e*P	**Pn**	**07 56 29.6**	**-0.5**
	comp=Z,144nm,0.6s						
JIRN				*e*S	**Sn**	**07 59 46.3**	**-7.5**
ZEI	**Tsey**	**18.98**	**296**	*e*P	**Pn**	**07 56 39.3**	**+1.1**
ZEI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BLSP	**Bilaspur**	**19.36**	**134**	*ex*	x	07 59 01.5	
BLSP				AMb	AMB	07 59 04.2	
	comp=Z,71nm,0.6s						
KIV	**Kislovodsk**	**20.09**	**299**	*e*P	**P**	**07 56 50.6**	**+1.1**
KIV				*e*		07 57 04.7	
KIV				*e*S	**S**	**08 00 33.0**	**-0.9**
KIV				pmax	pmax		
	comp=Z,18nm,0.7s						
KIV				MLR	MLR		
	comp=Z,256nm,12.0s,MS3.8						
KIV	**Kislovodsk**	**20.09**	**299**	*e*P	**P**	**07 56 47.8**	**-1.7**
	comp=Z,25nm,0.8s						
GOF	**Gofitskoye**	**20.13**	**302**	*e*P	**P**	**07 56 48.7**	**-1.2**
BOK	**Bokaro**	**20.50**	**123**	*e*P	**P**	**07 56 53.9**	**0.0**
BOK				AMb	AMB	07 57 02.0	
	comp=Z,25nm,1.0s						
ARU	**Arti**	**20.66**	**346**	⇓*i*P	**P**	**07 56 57.1**	**+1.5**
ARU				*e*		07 57 15.0	
ARU				*e*PPP		07 57 24.7	
ARU				*e*S	**S**	**08 00 44.9**	**-0.2**
ARU				*e*SS		08 01 03.8	
ARU				*e*SSS		08 01 14.0	
ARU				pmax	pmax		
	comp=Z,22nm,0.9s						
ARU				MLR	MLR		
	comp=Z,300nm,17.0s,MS3.7						
ARU				MLR	MLR		
	comp=N,200nm,16.0s,MS3.7						
ARU				MLR	MLR		
	comp=E,200nm,20.0s,MS3.7						
ARU	**Arti**	**20.66**	**346**	*e*P	**P**	**07 56 56.6**	**+0.9**
	comp=E,18nm,0.6s						
SVE	**Sverdlovsk**	**20.69**	**350**	*e*P	**P**	**07 57 02.0**	**+6.1**
SVE				*e*		08 01 27.8	
SVE				pmax	pmax		
	comp=Z,40nm,1.9s						
SVE				MLR	MLR		
	comp=N,400nm,13.0s,MS4.1						
SVE				MLR	MLR		
	comp=E,400nm,13.0s,MS4.1						
SVE				MLR	MLR		
	comp=Z,500nm,13.0s,MS4.1						
LSA	**Lhasa**	**21.11**	**102**	P	**P**	**07 57 03.0**	**+2.5**
LSA	**Lhasa**	**21.11**	**102**	*e*P	**P**	**07 56 59.2**	**-1.3**
LSA				pmax	pmax		
	comp=Z,18nm,0.6s,mb4.6						
LSA	**Lhasa**	**21.11**	**102**	*e*P	**P**	**07 56 59.2**	**-1.3**
	comp=Z,18nm,0.6s,mb4.6						
ZAL	**Zalesovo**	**21.14**	**30**	LR	LR	08 06 54.6	
	comp=Z,448nm,20.0s,MS3.9,baz=267,slow=41						
NVS	**Novosibirsk**	**21.25**	**26**	*i* P	**P**	**07 57 01.8**	**-0.2**
NVS				*e*S	**S**	**08 01 01.8**	**+5.0**
NVS				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.5						
NVS				pmax	pmax		
	comp=N,20nm,1.1s						
NVS				pmax	pmax		
	comp=E,11nm,0.9s						
NVS				smax			
	comp=N,23nm,1.6s						
HYB	**Hyderabad**	**21.58**	**150**	*i* P	**P**	**07 57 06.0**	**+0.4**
	comp=N,50nm,1.0s,mb4.9						
HYB				*e*pP		07 57 13.5	
HYB	**Hyderabad**	**21.58**	**150**	*e*P	**P**	**07 57 06.0**	**+0.4**
HYB				pmax	pmax		
	comp=Z,50nm,1.0s,mb4.9						
HYB	**Hyderabad**	**21.58**	**150**	*e*P	**P**

comp=Z,4.8nm,1.0s,mb4.0,baz=93,slow=8.7,SNR=17
BRTR Keskin Array B 26.54 287 P **P** **07 57 54.3 +0.8**
OBN Obninsk 27.92 321 ⇑*iP* **P** **07 58 06.8 +0.9**
OBN *e* 07 58 52.0
OBN pmax pmax
comp=Z,21nm,1.1s,mb4.7
OBN MLR MLR
comp=Z,400nm,16.0s,MS4.1
LZH Lanzhou 29.34 80 *eP* **P** **07 58 18.5 0.0**
LZH *PP pP 07 58 28.1 +1.8
LZH *SP sP 07 58 32.2 +2.6
LZH 07 59 13.5
LZH *eS* **S** **08 03 07.6 -2.6**
LZH SS SS 08 04 38.4 -37
LZH pmax pmax
comp=Z,16nm,1.2s,mb4.6
LZH MLR MLR
comp=Z,850nm,15.6s,MS4.5
LZH Lanzhou 29.34 80 *eP* **P** **07 58 18.5 0.0**
comp=Z,16nm,1.2s,mb4.6
LZH pP pP 07 58 28.1 +1.8
LZH sP sP 07 58 32.2 +2.6
LZH PP PP 07 59 13.5 -11
LZH *eS* **S** **08 03 07.6 -2.6**
LZH sS sS 08 03 30.5 +7.3
LZH SS SS 08 04 38.4 -37
LZH LR LR
comp=Z,850nm,15.6s,MS4.5
AKASG Malin Array Be 30.54 310 P **P** **07 58 28.8 -0.4**
comp=Z,1.1nm,0.5s,mb3.9,baz=87,slow=7.3,SNR=8.1
SONM Songino Array 30.73 56 P **P** **07 58 31.6 +0.8**
comp=Z,3.0nm,0.7s,mb4.2,baz=271,slow=9.5,SNR=13
SONM LR LR 08 13 06.9
comp=Z,253nm,19.2s,MS3.9,baz=256,slow=41
ULN Ulaanbaatar 31.18 56 *eP* **P** **07 58 34.6 -0.1**
ULN *e**PP pP 07 58 41.0 -1.6
ULN pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
ULN Ulaanbaatar 31.18 56 *eP* **P** **07 58 34.6 -0.2**
comp=Z,1.9nm,0.5s,mb4.2
ULN *epP pP 07 58 41.0 -1.6
JOF Joensuu 34.29 331 *ep* **P** **07 59 02.8 +0.8**
comp=Z,2.6nm,0.4s,mb4.5
JOF Joensuu 34.29 331 *eP* **P** **07 59 02.8 +0.8**
JOF pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
GYA Guiyang 34.85 96 ⇓*iP* **P** **07 59 06.8 0.0**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
FINES FINESS Array B 35.73 327 P **P** **07 59 14.9 +0.5**
comp=Z,2.0nm,0.6s,mb4.2,baz=120,slow=11,SNR=16
FINES LR LR 08 15 30.1
comp=Z,196nm,18.5s,MS3.9,baz=120,slow=39
KAF Kangasniemi 35.92 328 *ep* **P** **07 59 16.8 +0.8**
comp=Z,0.6nm,0.3s,mb4.0,baz=115,slow=8.6
KAF Kangasniemi 35.92 328 *eP* **P** **07 59 16.8 +0.8**
KAF pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
OJC Ojcow 36.44 307 *eP* **P** **07 59 21.0 +0.6**
BOD Bodaibo 37.16 40 *eP* **P** **07 59 27.8 +1.3**
BOD *e* 07 59 37.9
BOD pmax pmax
comp=Z,6.0nm,1.1s,mb4.3
BOD pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
DPC Dobruska-Polom 38.67 307 *eP* **P** **07 59 40.8 +1.5**
DPC *ex* x 07 59 48.9
UPC Upice 38.87 307 *eP* **P** **07 59 41.8 +0.8**
UPC *ex* x 07 59 50.9
PRU Pruhonice 39.82 307 *eP* **P** **07 59 49.7 +0.8**
PRU *ex* x 07 59 58.4
ARCES ARCESS Array B 39.90 339 P **P** **07 59 50.3 +0.6**
comp=Z,2.8nm,0.9s,mb4.0,baz=121,slow=8.7,SNR=7.5
ARCES LR LR 08 17 29.6
comp=Z,137nm,18.1s,MS3.8,baz=107,slow=38
BRG Berggiesshubel 40.19 308 *eP* **P** **07 59 53.2 +1.2**
comp=Z,2.2nm,1.0s,mb3.9
BRG *e* pP 08 00 01.4 +1.5
comp=Z,4.0nm,1.1s
BRG *e* 08 01 29.0
comp=Z,3.4nm,1.1s
GERES GERESS Array B 40.41 305 P **P** **07 59 53.7 -0.1**
comp=Z,0.7nm,0.7s,mb3.5,baz=117,slow=7.6,SNR=4.2
CLL Collm 40.78 309 *eP* **P** **07 59 58.0 +1.1**
GRF Grafenberg Arr 41.98 306 *eP* **P** **08 00 08.1 +1.4**
NB2 NORSAR Subarra 42.48 323 P **P** **08 00 10.5 -0.3**
comp=Z,3.7nm,0.7s,mb4.1,baz=100,slow=8.6
NOA NORSAR Array B 42.48 323 P **P** **08 00 10.8 0.0**
comp=Z,2.9nm,0.7s,mb4.0,baz=101,slow=8.1,SNR=14
NOA LR LR 08 21 06.2
comp=Z,202nm,18.6s,MS4.0,baz=95,slow=41
NOA NORSAR Array B 42.48 323 P **P** **08 00 10.8 0.0**
NOA LR LR 08 21 06.2
PSI Prapat 44.53 132 P **P** **08 00 26.4 -0.9**
comp=Z,5.0nm,0.6s,mb4.5,baz=346,slow=5.1,SNR=8.9
PGF Pioggiola 44.54 296 *eP* **P** **08 00 27.0 -0.4**
comp=Z,41nm,1.4s,mb4.8
PGF Pioggiola 44.54 296 *eP* **P** **08 00 27.0 -0.4**
PGF pmax pmax
comp=Z,20nm,1.4s,mb4.8
PGF Pioggiola 44.54 296 *eP* **P** **08 00 27.0 -0.4**
comp=Z,20nm,1.4s,mb4.8
CDF Champ du Feu 44.69 305 *eP* **P** **08 00 28.6 0.0**
LPG La Plagne 45.52 301 *eP* **P** **08 00 35.8 +0.6**
LPL La Plagne 45.53 301 *eP* **P** **08 00 35.2 -0.1**
YAK Yakutsk 45.60 36 *eP* **P** **08 00 35.7 -0.1**
YAK *e**PP pP 08 00 41.2 -2.7
MBDF Montbardon 45.66 300 *eP* **P** **08 00 36.1 -0.2**
BAIF Baives 46.45 308 *eP* **P** **08 00 42.4 -0.1**
comp=Z,19nm,1.1s,mb4.6
BAIF Baives 46.45 308 *eP* **P** **08 00 42.4 -0.1**
BAIF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
BAIF Baives 46.45 308 *eP* **P** **08 00 42.4 -0.1**
comp=Z,9.4nm,1.1s,mb4.6
TIXI Tiksi 46.78 22 *eP* **P** **08 00 45.5 +0.4**
TIXI *eS* **S** **08 07 33.6 0.0**
TIXI pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
KMBO Kilima Mbogo 46.79 223 P **P** **08 00 44.8 -0.4**
comp=Z,0.4nm,0.3s,mb3.8,baz=38,slow=13,SNR=4.1
VIVF Saint-Julien-l 47.09 300 *eP* **P** **08 00 47.4 -0.2**
LOR Lormes 47.15 304 *eP* **P** **08 00 47.8 -0.2**
comp=Z,42nm,1.7s,mb4.8
LOR Lormes 47.15 304 *eP* **P** **08 00 47.8 -0.2**
LOR pmax pmax
comp=Z,21nm,1.7s,mb4.8
LOR Lormes 47.15 304 *eP* **P** **08 00 47.8 -0.2**
comp=Z,21nm,1.7s,mb4.8
SMF Signal de Mont 47.28 303 *eP* **P** **08 00 48.6 -0.4**
comp=Z,5.8nm,0.7s,mb4.3
SMF Signal de Mont 47.28 303 *eP* **P** **08 00 48.6 -0.4**
SMF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
SMF Signal de Mont 47.28 303 *eP* **P** **08 00 48.6 -0.4**
comp=Z,2.9nm,0.7s,mb4.3
KLR Kul'dur 47.47 53 *eP* **P** **08 00 48.6 -1.9**
KLR pmax pmax
comp=Z,34nm,1.6s,mb5.0
AVF Avril sur Loir 47.58 303 *eP* **P** **08 00 51.0 -0.4**
comp=Z,11nm,1.1s,mb4.5
AVF Avril sur Loir 47.58 303 *eP* **P** **08 00 51.0 -0.4**
AVF pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
AVF Avril sur Loir 47.58 303 *eP* **P** **08 00 51.0 -0.4**
comp=Z,5.6nm,1.1s,mb4.5
LASF Ste Croix 47.84 300 *eP* **P** **08 00 53.3 -0.1**
comp=Z,13nm,1.1s,mb4.6
TCF Toulx Ste Croi 48.46 303 *eP* **P** **08 00 57.7 -0.5**
MTLF Montolieu 49.18 299 *eP* **P** **08 01 03.3 -0.4**
LDF La Druitiere 49.50 306 *eP* **P** **08 01 06.2 +0.1**
comp=Z,20nm,1.1s,mb4.8
LDF La Druitiere 49.50 306 *eP* **P** **08 01 06.2 +0.1**
LDF pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
LDF La Druitiere 49.50 306 *eP* **P** **08 01 06.2 +0.1**
comp=Z,10.0nm,1.1s,mb4.8
FLN La Foliniere 49.70 307 *eP* **P** **08 01 07.9 +0.3**
JOW Kunigami 52.02 82 LR LR 08 25 47.8
comp=Z,78nm,20.0s,MS3.7,baz=318,slow=39
ESDC Sonseca Array 54.74 296 P **P** **08 01 45.0 0.0**
comp=Z,0.2nm,0.5s,mb3.4,baz=54,slow=7.5,SNR=4.9
BILL Bilibino 59.79 25 *iP* **P** **08 02 22.6 +1.9**
BILL pmax pmax
comp=Z,8.0nm,1.8s,mb4.5
BILL MLR MLR
comp=Z,100nm,15.0s,MS4.1
TORD Torodi Ar. Bea 62.74 266 P **P** **08 02 39.6 -1.1**
comp=Z,1.9nm,0.7s,mb4.4,baz=51,slow=6.0,SNR=16
INK Inuvik 74.22 8 *eP* **P** **08 03 51.8 -0.6**
INK *e**PP pP 08 03 57.9 -3.0
INK pmax pmax
comp=Z,2.0nm,0.5s
INK Inuvik 74.22 8 *eP* **P** **08 03 51.8 -0.7**
comp=Z,2.4nm,0.5s,mb4.4
INK *epP pP 08 03 57.9 -3.0
ILAR Eielson Array 75.43 14 P **P** **08 04 00.1 +0.6**
comp=Z,0.7nm,0.8s,mb3.6,baz=286,slow=4.4,SNR=4.4
KDAK Kodiak Island 80.16 20 P **P** **08 04 26.1 +0.3**
comp=Z,5.0nm,0.9s,mb4.4,baz=191,slow=16,SNR=2.3
SCHQ Schefferville 80.76 335 P **P** **08 04 29.4 +0.4**
comp=Z,1.6nm,0.8s,mb4.0,baz=273,slow=19,SNR=3.0
YKA Yellowknife Ar 81.20 1 P **P** **08 04 31.6 +0.2**
comp=Z,0.8nm,0.7s,mb3.8,baz=355,slow=5.5,SNR=7.9
YKA LR LR 08 44 22.5
comp=Z,76nm,18.5s,MS4.1,baz=285,slow=38
YKA Yellowknife Ar 81.20 1 P **P** **08 04 31.6 +0.2**
YKA LR LR 08 44 22.5
WRA Warramunga Arr 84.63 120 P **P** **08 04 47.4 -1.7**
comp=Z,1.2nm,0.8s,mb4.1,baz=326,slow=4.9,SNR=3.5
ASAR Alice Springs 86.82 123 P **P** **08 04 58.5 -1.5**
comp=Z,1.6nm,0.6s,mb4.4,baz=314,slow=5.0,SNR=12
PLCA Paso Flores 147.06 250 PKPbc PKPbc 08 11 58.7 +0.4
comp=Z,2.1nm,1.0s,baz=72,slow=11,SNR=3.8
PLCA Paso Flores 147.06 250 PKPbc PKPbc 08 11 58.7 +0.4

*ISCJB **28** 08:21:37.2±1.4,350.5±0.1×178.5E±0.2,h183km±11km, mb3.8/2, Error ellipse: s-maj=22.5km s-min=18.0km az=25.0*
*NEIC **28** 08:21:37.0, 35.11S×178.74E, h221km, MG4.4(WEL), After WEL.*
*IDC **28** 08:21:40.0±3.9, 3537S×17899E, h220km±40km, mb3.4/2, mb1 3.7/4, mb1mx3.4/12, mbtmp4.0/4, Error ellipse: s-maj=57.3km s-min=41.5km az=162.0*

ISC 28 08:21:39.1±1.5, 351S±01×1785E±02, h185km±12km, n17, σ1♀23/20, mb3.8/2, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.50**	**183**	P	**Pn**	**08 22 21.6**	**-0.5**
MXZ				S	**Sn**	**08 22 56.3**	**+0.8**
PUZ	**Puketiti**	**3.01**	**183**	P	**Pn**	**08 22 27.5**	**-0.6**
PUZ				S	**Sn**	**08 23 07.1**	**+0.8**
MWZ	**Matawai**	**3.36**	**193**	P	**Pn**	**08 22 32.6**	**+0.3**
URZ	**Urewera**	**3.38**	**198**	P	**Pn**	**08 22 33.1**	**+0.6**
	14nm,0.3s,baz=333,slow=2.7,SNR=93						
URZ				S	**Sn**	**08 23 16.7**	**+2.5**
	14nm,0.3s,baz=106,slow=22,SNR=12						
URZ	**Urewera**	**3.38**	**198**	*eP*	**Pn**	**08 22 33.0**	**+0.5**
KNZ	**Kokohu**	**4.01**	**189**	P	**Pn**	**08 22 39.1**	**-1.3**
BKZ	**Black Stump Fm**	**4.39**	**200**	P	**Pn**	**08 22 45.2**	**-0.1**
SNZO	**South Karori**	**6.91**	**204**	*ePn*	**Pn**	**08 23 16.0**	**-2.0**
RPZ	**Rata Peaks**	**10.37**	**211**	P	**Pn**	**08 24 01.2**	**-2.0**
	0.5nm,0.3s,baz=63,slow=21,SNR=4.4						
RPZ				S	**Sn**	**08 25 57.5**	**-1.2**
	1.0nm,0.3s,baz=115,slow=22,SNR=5.8						
ASAR	**Alice Springs**	**40.16**	**274**	P	**P**	**08 28 59.0**	**+1.9**
	1.3nm,0.6s,mb3.7,baz=114,slow=7.9,SNR=27						
WRAB	**Tennant Creek**	**41.59**	**279**	*eP*	**P**	**08 29 08.9**	**+0.3**
WRA	**Warramunga Arr**	**41.59**	**279**	P	**P**	**08 29 10.1**	**+1.4**
	1.1nm,0.4s,mb3.8,baz=117,slow=7.8,SNR=31						
QSPA	**South Pole Qui**	**55.06**	**180**	*eP*	**P**	**08 30 51.8**	**+0.2**
VNA3	**Neumayer Olymp**	**73.84**	**177**	*e*	**P**	**08 32 53.7**	**+0.4**
VNA2	**Neumayer--Watz**	**74.23**	**178**	*e*	**P**	**08 32 56.3**	**+0.7**
	baz=181,slow=5.3						
MAJO	**Matsushiro**	**80.49**	**328**	*eP*	**P**	**08 33 27.8**	**-2.6**
FINES	**FINESS Array B**	**148.29**	**335**	PKPbc	PKPbc	08 41 00.1	-3.2
	0.4nm,0.4s,baz=46,slow=8.2,SNR=5.2						

IDC 28 08:27:54.5±7.2, 3183S×17954E, h504km±96km, mb2.9/3, mb1 3.1/4, mb1mx3.0/12, mbtmp3.9/4, Error ellipse: s-maj=114.5km s-min=39.4km az=3.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.72**	**197**	P	P	08 29 39.0	+1.1
	1.7nm,0.3s,baz=145,slow=23,SNR=6.9						
URZ				S	S	08 31 01.4	-1.3
	1.7nm,0.3s,baz=17,slow=22,SNR=7.9						
STKA	**Stephens Creek**	**32.13**	**260**	P	P	08 33 40.2	+0.5
	1.3nm,0.7s,baz=108,slow=16,SNR=3.3						
ASAR	**Alice Springs**	**40.96**	**270**	P	P	08 34 53.0	+0.4
	0.4nm,0.5s,baz=105,slow=7.4,SNR=8.2						
WRA	**Warramunga Arr**	**42.08**	**275**	P	P	08 35 01.5	-0.1
	1.1nm,0.3s,baz=111,slow=8.1,SNR=18						
FINES	**FINESS Array B**	**145.71**	**338**	PKPbc	PKPbc	08 46 35.0	-1.7
	0.3nm,0.4s,baz=49,slow=3.7,SNR=5.8						

IDC 28 08:33:08.5±2.1, 029N×12489E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.3/15, mbtmp3.2/3, Error ellipse: s-maj=229.4km s-min=27.9km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.14**	**156**	P	P	08 38 04.1	-1.5
	0.5nm,0.9s,baz=333,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**25.37**	**160**	P	P	08 38 39.4	+2.0
	0.1nm,0.3s,baz=345,slow=8.0,SNR=4.2						
MKAR	**Makanchi Array**	**59.38**	**327**	P	P	08 43 12.6	0.0
	0.3nm,0.4s,baz=116,slow=8.4,SNR=3.5						

*ISCJB **28** 08:33:37.9±1.0, 555S±0.1×297W±0.5, h10km, mb3.7/3, MS3.8/1, Error ellipse: s-maj=42.9km s-min=15.2km az=135.1*
*IDC **28** 08:33:37.1±1.2, 5561S×2954W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/13, mbtmp3.7/3, MS3.8/1, Ms1 3.8/1, ms1mx3.1/11, Error ellipse: s-maj=48.7km s-min=32.5km az=89.0*

ISC 28 08:33:39.5±1.0, 555S±02×297W±0.5, h10km, n8, σ0♀96/7, mb3.7/3, MS3.8/1, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**17.82**	**157**	*eP*	**Pn**	**08 37 48.0**	**+0.4**
VNA3	**Neumayer Olymp**	**17.97**	**159**	*eP*	**Pn**	**08 37 49.8**	**+0.4**
VNA2	**Neumayer--Watz**	**18.22**	**157**	*eP*	**Pn**	**08 37 53.0**	**+0.5**
	baz=310,slow=17						
SNAA	**Sanae**	**19.80**	**155**	*eP*	**Pn**	**08 38 02.2**	**-9.4**
VNDA	**Vanda**	**47.03**	**183**	P	**P**	**08 42 08.9**	**-2.1**
	0.8nm,0.8s,mb3.7,baz=176,slow=5.0,SNR=6.6						
VNDA				LR	LR	09 00 04.0	
	comp=Z,90nm,18.0s,MS3.8,baz=260,slow=34						
LPAZ	**La Paz**	**48.94**	**308**	P	**P**	**08 42 26.8**	**+0.9**
	1.0nm,0.7s,mb3.9,baz=153,slow=6.8,SNR=6.4						
TORD	**Torodi Ar. Bea**	**73.31**	**32**	P	**P**	**08 45 10.7**	**-0.5**
	0.5nm,0.9s,mb3.4,baz=199,slow=6.4,SNR=2.6						
ILAR	**Eielson Array**	**148.73**	**313**	PKPbc	PKPbc	08 53 23.6	-3.4
	1.6nm,0.9s,baz=131,slow=1.7,SNR=14						

IDC 28 08:39:39.0±9.5, 2009S×173♦1W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/15, mbtmp4.0/4, ML2.5/1, Error ellipse: s-maj=271.4km s-min=35.6km az=124.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.34**	**14**	Pn	Pn	08 41 13.8	+0.1
	5.8nm,0.3s,baz=63,slow=20,SNR=6.6						
AFI				Sn	Sn	08 42 21.0	-5.8
	1.5nm,0.3s,baz=52,slow=23,SNR=2.9						
STKA	**Stephens Creek**	**41.85**	**244**	P	P	08 47 29.9	-0.8
	1.7nm,0.9s,baz=104,slow=11,SNR=4.4						
ASAR	**Alice Springs**	**48.80**	**256**	P	P	08 48 26.6	+0.8
	1.1nm,0.6s,baz=98,slow=7.9,SNR=12						
WRA	**Warramunga Arr**	**48.92**	**261**	P	P	08 48 27.4	+0.6
	0.8nm,0.6s,baz=97,slow=7.2,SNR=15						

*NEIC **28** 08:44:09.3, 1743N×9472W, h143km, MD3.9(MEX), After MEX.*
MEX 28 08:44:09.3±0.9, 1744N×9471W, h142km±11km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.39**	**205**	*iP*	Pn	08 44 27.9	-1.3
CMIG				*iS*	Sn	08 44 42.4	-1.9
OXX	**Oaxaca**	**1.96**	**260**	*iP*	Pn	08 44 42.3	-1.1
OXX				*iS*	Sn	08 45 08.0	-1.6
VHO	**Vista Hermosa**	**1.97**	**260**	*eP*	Pn	08 44 42.0	-1.5
VHO				*iS*	Sn	08 45 08.5	-1.3
CCIG	**Comitan**	**2.72**	**115**	*iP*	Pn	08 44 52.5	-0.2
CCIG				*iS*	Sn	08 45 23.8	-2.5
UTMO	**Huajuapan**	**2.98**	**278**	*eP*	Pn	08 44 54.0	-2.0
UTMO				*iS*	Sn	08 45 28.9	-3.1

MEX 28 08:48:53.4±0.7, 1681N×9975W, h8km±4km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.17**	**289**	*iP*	Pg	08 48 56.6	-0.4
ACX				*iS*	Sg	08 48 59.3	-0.1
CAIG	**El Cayaco**	**0.55**	**296**	*iP*	Pg	08 49 03.0	-1.0
CAIG				*iS*	Sg	08 49 11.4	+0.2
MEIG	**Mezcala**	**1.12**	**6**	*iP*	Pg	08 49 11.3	-3.6
MEIG				*iS*	Sg	08 49 25.6	-3.8
PLIG	**Platanillo**	**1.59**	**8**	*iP*	Pn	08 49 18.7	-3.1
PLIG				*iS*	Sn	08 49 38.1	-4.4
UTMO	**Huajupan**	**2.12**	**61**	*iP*	Pn	08 49 26.9	-2.1
UTMO				*iS*	Sn	08 49 50.8	-4.7

*BJI **28** 09:00:09.7, 1941N×12105E, h4km, mB5.5, mb4.9, ML4.8, Ms5.3, Msz5.2*
*MAN **28** 09:00:10.6, 1957N×121.10E, h35km, mb5.3, ML5.7, MS4.1*
MAN F SANCHEZ MIRA CAGAYAN - INTENSITY IV CALLAO TUGUEGARAO - INTENSITY III LAOAG CITY - INTENSITY II.
*ISCJB **28** 09:00:11.6±0.1, 1932N±002×121.14E±003, h23km, mb5.2/176, MS5.2/69, Error ellipse: s-maj=3.6km s-min=2.3km az=151.8*
*IDC **28** 09:00:12.5±3.1, 19.16N×121.16E, h24km±20km, mb4.9/23, mb1 5.0/25, mb1mx5.0/26, mbtmp5.1/25, ML4.9/2, MS5.1/19, Ms1 5.1/19, ms1mx4.9/27, Error ellipse: s-maj=14.7km s-min=10.8km az=65.0*
*NEIC **28** 09:00:12.4±0.1, 19.16N×121.18E, mb5.3/105, MS5.3/7, MW5.5, Error ellipse: s-maj=3.5km s-min=3.1km az=76.0, Moment Tensor Solution. s33 Moment tensor: Scale 10^{17}Nm; M_{rr}1.75; $M_{\theta\theta}$-0.25; $M_{\phi\phi}$-1.49; $M_{r\theta}$-0.31; $M_{\theta\phi}$-0.83; $M_{\phi r}$-0.79; Best double couple: M_o2.00000×10^{17} NP1:ϕ_s204.00000°, δ57.00000°, λ87.00000°. NP2: ϕ_s29.00000°, δ33.00000°, λ94.00000°. Principal axes: T 1.9400, Plg77.0000°, Azm105.0000°; N 0.1600, Plg2.0000°, Azm206.0000°; P -2.1000, Plg12.0000°, Azm296.0000°;*
NEIC Felt [IV PIVS] at Sanchez Mira, [III PIVS] at Callao and [II PIVS] at Laoag, Luzon. Felt at Tuguegarao City, Luzon.
*HRVD **28** 09:00:12.4±0.1, 1932N×12094E, h35km, MW5.7/100, Centroid moment Tensor Solution. LP body waves: s100,c181;Mantle waves: s99,c230; Half duration: 1♀6 Moment tensor: Scale 10^{17}Nm; M_{rr}3.04±.05; $M_{\theta\theta}$-0.42±.03; $M_{\phi\phi}$-2.62±.04; $M_{r\theta}$-0.76±.04; $M_{\theta\phi}$-1.64±.03; $M_{\phi r}$-1.85±.05; Best double couple: M_o3.83200×10^{17} NP1:ϕ_s32.00000°, δ29.00000°, λ97.00000°. NP2: ϕ_s205.00000°, δ61.00000°, λ86.00000°. Principal axes: T 3.6100, Plg74.0000°, Azm105.0000°; N 0.4430, Plg3.0000°, Azm206.0000°; P -4.0530, Plg16.0000°, Azm297.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*MOS **28** 09:00:13.0±1.0, 1930N×121.18E, h35km, mb5.4/100, MS5.3/41 Error ellipse: s-maj=7.6km s-min=3.9km az=117.3*
*SZGRF **28** 09:00:14.1, 19.19N×121.30E, h33km, mb5.0, MS5.3, Philippine Islands region*

ISC 28 09:00:13.6±0.1, 1934N±002×12115E±002, h25km, h25km±.8km:pP-P, n530, σ1♀08/524, mb5.2/175, MS5.2/69, 43C-36D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGCP	**Mt. Cagua**	**1.38**	**142**	*eP*	**Pn**	**09 00 36.8**	**-0.5**
APYP	**Conner**	**1.47**	**176**	*eP*	**Pn**	**09 00 37.9**	**-0.6**
ABRA	**Dolores**	**1.73**	**194**	*eP*	**Pn**	**09 00 41.7**	**-0.3**
CVP	**Callao Caves**	**1.75**	**158**	⇓*iP*	**Pn**	**09 00 45.0**	**+2.7**
CAUP	**Cauayan**	**2.46**	**165**	*eP*	**Pn**	**09 00 54.4**	**+2.3**
PALP	**Palanan**	**2.57**	**152**	⇑*iP*	**Pn**	**09 00 54.8**	**+1.3**
PALP				*iS*	**Sn**	**09 01 31.6**	**+7.6**
PALP	**Palanan**	**2.57**	**152**	*eP*	**Pn**	**09 00 54.9**	**+1.4**
BCPH	**Baguio City Da**	**2.99**	**190**	⇑*iP*	**Pn**	**09 01 02.8**	**+3.5**
BCPH				*iS*	**Sn**	**09 01 39.0**	**+4.6**
BOLP	**Bolinao**	**3.16**	**202**	*eP*	**Pn**	**09 01 02.4**	**+0.6**
BALP	**Baler**	**3.60**	**173**	*eP*	**Pn**	**09 01 08.3**	**+0.5**
SCZP	**Santa Cruz**	**3.73**	**199**	*eP*	**Pn**	**09 01 10.7**	**+1.1**
PCPH	**Palayan**	**3.75**	**181**	⇓*eP*	**Pn**	**09 01 11.3**	**+1.5**
PCPH				*eS*	**Sn**	**09 01 57.3**	**+4.1**
POLP	**Polilio Island**	**4.64**	**170**	*eP*	**Pn**	**09 01 23.1**	**+1.0**
NACB	**Ninganchiao**	**4.83**	**5**	*ePn*	**Pn**	**09 01 25.7**	**+1.0**
LQP	**Lukban**	**5.21**	**176**	*eP*	**Pn**	**09 01 37.0**	**+7.1**
TGY	**Tagaytay City**	**5.21**	**182**	Pn	**Pn**	**09 01 32.2**	**+2.4**
	144nm,0.3s,baz=176,slow=2.9,SNR=14						
TGY	**Tagaytay City**	**5.21**	**182**	⇑*eP*	**Pn**	**09 01 32.9**	**+3.0**
TGY				*eS*	**Sn**	**09 02 45.1**	**+16**
YHNB	**Yeheng**	**5.31**	**2**	*ePn*	**Pn**	**09 01 33.5**	**+2.2**
YHNB				*eSn*	**Sn**	**09 02 34.4**	**+2.7**
GQP	**Guinayangan**	**5.54**	**167**	⇑*eP*	**Pn**	**09 01 35.5**	**+1.0**
GQP				*eS*	**Sn**	**09 02 38.5**	**+1.1**
TATO	**Taipei**	**5.62**	**3**	*ePn*	**Pn**	**09 01 38.3**	**+2.8**
	660nm,0.6s						
LUBP	**Lubang**	**5.64**	**189**	*eP*	**Pn**	**09 01 35.3**	**-0.4**
BOAC	**Boac**	**5.88**	**173**	*eP*	**Pn**	**09 01 39.5**	**+0.4**
QZH	**Quanzhou**	**6.06**	**337**	P	**Pn**	**09 01 40.5**	**-1.1**
QZH				S	**Sn**	**09 02 48.0**	**-2.2**
QZH				Smax			
	comp=N,470nm,0.8s						
QZH				Smax			
	comp=E,480nm,0.8s						
QZH				LR	LR		
	comp=N,12μm,10.5s						
QZH				LR	LR		
	comp=E,15μm,12.3s						
QZH				LR	LR		
	comp=Z,39μm,22.4s						
AUQP	**San Andres**	**6.16**	**166**	*eP*	**Pn**	**09 01 45.4**	**+2.5**
PVCP	**Virac**	**6.39**	**153**	⇑*iP*	**Pn**	**09 01 45.1**	**-1.1**
PVCP				*iS*	**Sn**	**09 02 59.0**	**+0.6**
PVCP	**Virac**	**6.39**	**153**	*eP*	**Pn**	**09 01 46.0**	**-0.2**
OTRP	**Odiongan**	**6.98**	**173**	*eP*	**Pn**	**09 01 55.0**	**+0.7**
HKC	**Hong Kong**	**7.16**	**296**	⇓*iP*	**Pn**	**09 01 56.0**	**-0.7**
HKC				S	**Sn**	**09 03 16.0**	**-1.2**
BUSP	**Coron**	**7.35**	**187**	*eP*	**Pn**	**09 01 58.5**	**-0.7**
GZH	**Guangzhou**	**8.18**	**299**	P	**Pn**	**09 02 07.5**	**-3.1**
GZH				S	**Sn**	**09 03 33.8**	**-8.5**
GZH				AMB	AMB		
	comp=Z,88nm,0.4s						
GZH				Smax			
	comp=N,330nm,0.7s						
GZH				Smax			
	comp=E,363nm,0.9s						
GZH				LR	LR		
	comp=N,12μm,17.0s						
GZH				LR	LR		
	comp=E,16μm,15.1s						
GZH				LR	LR		
	comp=Z,29μm,16.3s						
ENPP	**El Nido**	**8.25**	**192**	*eP*	**Pn**	**09 02 11.1**	**-0.6**
CUYO	**Cuyo Island**	**8.44**	**181**	*eP*	**Pn**	**09 02 16.4**	**+2.2**
GUIM	**Jordan**	**8.77**	**171**	*eP*	**Pn**	**09 02 21.7**	**+2.9**
LLP	**Lapu-Lapu**	**9.37**	**163**	*eP*	**Pn**	**09 02 27.3**	**+0.3**
PPR	**Puerto Princes**	**9.79**	**194**	⇑*iP*	**Pn**	**09 02 43.6**	**+11**
JOW	**Kunigami**	**9.93**	**40**	Pn	**Pn**	**09 02 36.0**	**+1.3**
	comp=Z,20nm,0.3s,baz=239,slow=11,SNR=53						
JOW				LR	LR	09 06 35.4	
	comp=Z,13μm,20.8s,baz=229,sl

QIZ	**Qiongzhong**	**10.69**	**270**	P	**Pn**	**09 02 42.8**	**-2.2**
QIZ				S	**Sn**	**09 04 37.3**	**-6.5**
QIZ				LR	LR		
	comp=E,10μm,14.7s						
QIZ				LR	LR		
	comp=Z,14μm,17.9s						
QIZ	**Qiongzhong**	**10.69**	**270**	*e*Pn	**Pn**	**09 02 42.5**	**-2.5**
PAGZ	**Pagadian**	**11.62**	**169**	*e*P	**Pn**	**09 03 02.1**	**+4.3**
SSE	**Sheshan**	**11.71**	**0**	P	**Pn**	**09 03 01.0**	**+2.0**
SSE				S	**Sn**	**09 05 14.8**	**+5.9**
SSE				AMB	AMB		
	comp=Z,31nm,0.9s						
SSE				AMB	AMB		
	comp=Z,140nm,3.8s						
SSE				LR	LR		
	comp=N,5μm,23.0s						
SSE				LR	LR		
	comp=E,2μm,23.0s						
SSE				LR	LR		
	comp=Z,7μm,12.7s						
SSE	**Sheshan**	**11.71**	**0**	P	**Pn**	**09 03 01.0**	**+2.0**
	comp=Z,31nm,0.9s						
SSE				S	**Sn**	**09 05 14.8**	**+5.9**
BUKP	**Musuan**	**12.01**	**161**	*e*P	**Pn**	**09 03 05.6**	**+2.6**
WHN	**Wuhan**	**12.74**	**332**	⇑P	**Pn**	**09 03 12.3**	**-0.8**
WHN				S	**Sn**	**09 05 35.8**	**+1.6**
WHN				LR	LR		
	comp=Z,26μm,18.5s						
NJ2	**Nanjing**	**12.83**	**351**	*e*P	**Pn**	**09 03 16.3**	**+2.0**
NJ2				AP		09 03 21.3	
NJ2				XP		09 03 25.8	
NJ2				S	**Sn**	**09 05 44.0**	**+7.7**
NJ2				AMB	AMB		
	comp=Z,40nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,190nm,9.8s						
NJ2				LR	LR		
	comp=N,13μm,18.5s						
NJ2				LR	LR		
	comp=E,17μm,16.6s						
NJ2				LR	LR		
	comp=Z,6μm,16.1s						
GYA	**Guiyang**	**15.10**	**301**	⇓*i*P	**Pn**	**09 03 45.3**	**+0.1**
GYA				AP	pP	09 03 49.8	-7.2
GYA				XP	sP	09 03 53.8	-6.4
GYA				PP		09 03 59.0	
GYA				S	**Sn**	**09 06 36.0**	**+4.3**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s						
GYA				AMB	AMB		
	comp=Z,1μm,8.7s						
GYA				LR	LR		
	comp=N,6μm,15.2s						
GYA				LR	LR		
	comp=E,8μm,13.8s						
GYA				LR	LR		
	comp=Z,13μm,13.8s						
JNU	**Nakatsue**	**16.26**	**30**	Pn	**Pn**	**09 04 01.9**	**+1.7**
	comp=Z,3.6nm,0.3s,baz=198,slow=15,SNR=13						
JNU				LR	LR	09 10 06.8	
	comp=Z,3μm,19.7s,baz=224,slow=36						
TIA	**Tai'an**	**17.18**	**349**	*e*P	**Pn**	**09 04 14.0**	**+2.1**
TIA				S	**Sn**	**09 07 29.0**	**+6.8**
TIA				AMB	AMB		
	comp=Z,54nm,0.8s						
TIA				LR	LR		
	comp=N,8μm,15.0s						
TIA				LR	LR		
	comp=E,2μm,15.0s						
KKTK	**Khon Kaen**	**17.70**	**263**	P	**Pn**	**09 04 20.5**	**+2.2**
	comp=E,494nm,0.9s						
KMI	**Kunming**	**17.98**	**292**	⇓P	**Pn**	**09 04 23.0**	**+1.3**
KMI				AP	pP	09 04 29.8	+0.9
KMI				XP	sP	09 04 33.0	+0.9
KMI				PP		09 04 39.8	
KMI				PPP		09 04 48.3	
KMI				S	**Sn**	**09 07 41.3**	**-0.2**
KMI				XS	sS	09 07 50.0	-7.9
KMI				SS		09 08 05.8	
KMI				SSS		09 08 17.5	
KMI				AMB	AMB		
	comp=Z,16nm,1.7s						
KMI				AMB	AMB		
	comp=Z,2μm,6.7s						
KMI				LR	LR		
	comp=N,8μm,14.9s						
KMI				LR	LR		
	comp=E,11μm,16.0s						
KMI				LR	LR		
	comp=Z,14μm,12.9s						
KMI	**Kunming**	**17.98**	**292**	⇓P	**Pn**	**09 04 22.9**	**+1.2**
KMI				S	**Sn**	**09 07 41.3**	**-0.2**
KMI				pmax	pmax		
	comp=Z,16nm,1.7s						
XAN	**Xi'an**	**18.24**	**326**	P	**Pn**	**09 04 25.8**	**+0.8**
XAN				AP	pP	09 04 32.5	+0.7
XAN				S	**Sn**	**09 07 51.5**	**+3.6**
XAN				AMB	AMB		
	comp=Z,2μm,9.2s						
XAN				LR	LR		
	comp=N,5μm,15.2s						
XAN				LR	LR		
	comp=E,4μm,19.1s						
XAN				LR	LR		
	comp=Z,7μm,16.0s						
INCN	**Inchon**	**18.71**	**14**	*e*P	**Pn**	**09 04 30.8**	**+0.2**
	comp=Z,45nm,0.8s						
KS15	**Wonju Array Si**	**18.98**	**17**	*e*P	**Pn**	**09 04 33.6**	**-0.3**
CD2	**Chengdu**	**19.48**	**310**	⇓*i*P	**Pn**	**09 04 40.3**	**+0.4**
CD2				XP	sP	09 04 51.5	+2.9
CD2				PP		09 04 58.0	
CD2				PPP		09 05 06.5	
CD2				S	**Sn**	**09 08 12.8**	**-5.0**
CD2				XS	sS	09 08 21.5	-6.6
CD2				SS		09 08 38.8	
CD2				AMB	AMB		
	comp=Z,80nm,0.6s						
CD2				AMB	AMB		
	comp=Z,2μm,8.7s						
CD2				LR	LR		
	comp=N,5μm,17.4s						
CD2				LR	LR		
	comp=Z,6μm,16.2s						
DL2	**Dalian**	**19.51**	**1**	P	**Pn**	**09 04 40.5**	**+0.3**
DL2				S	**Sn**	**09 08 18.0**	**-0.4**
DL2				AMB	AMB		
	comp=Z,20nm,0.8s						
DL2				AMB	AMB		
	comp=Z,410nm,8.2s						
DL2				LR	LR		
	comp=N,2μm,15.8s						
DL2				LR	LR		
	comp=E,3μm,15.4s						
DL2				LR	LR		
	comp=Z,2μm,15.2s						
NST	**Nakhon Sawan**	**20.37**	**263**	P	**P**	**09 04 49.0**	**+0.8**
KSM	**Kuching**	**20.68**	**212**	*e*P	**P**	**09 04 51.2**	**-0.5**
CBIJ	**Chichi jima**	**20.80**	**64**	P	**P**	**09 04 52.6**	**-0.4**
	comp=Z,247nm,0.9s,baz=252,slow=9.6,SNR=11						
CBIJ				LR	LR	09 11 08.0	
	comp=Z,5μm,21.4s,MS4.8,baz=276,slow=31						
CHG	**Chiang Mai**	**20.99**	**272**	P	**P**	**09 04 55.9**	**+0.9**
CHTO	**Chiang Mai**	**20.99**	**272**	*e*P	**P**	**09 04 55.9**	**+0.9**
CHTO				pmax	pmax		
	comp=Z,120nm,1.3s						
CHTO	**Chiang Mai**	**20.99**	**272**	*e*P	**P**	**09 04 55.9**	**+0.9**
	comp=Z,121nm,1.3s						
BJT	**Baijiatuau**	**21.05**	**349**	*e*P	**P**	**09 04 57.3**	**+1.6**
BJT				pmax	pmax		
	comp=Z,139nm,0.8s						
BJT	**Baijiatuau**	**21.05**	**349**	*e*P	**P**	**09 04 57.3**	**+1.6**
	comp=Z,139nm,0.8s,mb5.3						
BJI	**Beijing**	**21.07**	**349**	P	**P**	**09 04 57.3**	**+1.4**
BJI				S	**S**	**09 08 50.8**	**+1.6**
BJI				AMB	AMB		
	comp=Z,69nm,0.8s,mb5.0						
BJI				LR	LR		
	comp=N,2μm,15.5s,MS5.1						
BJI				LR	LR		
	comp=E,5μm,15.5s,MS5.1						
BJI				LR	LR		
	comp=Z,4μm,16.6s,MS4.9						
BJI	**Beijing**	**21.07**	**349**	P	**P**	**09 04 57.2**	**+1.3**
BJI				S	**S**	**09 08 50.7**	**+1.5**
BJI				pmax	pmax		

	comp=Z,69nm,0.8s,mb5.0						
BJI				MLR	MLR		
	comp=Z,4μm,16.6s,MS4.9						
BJI	**Beijing**	**21.07**	**349**	P	**P**	**09 04 57.2**	**+1.3**
	comp=Z,69nm,0.8s,mb5.0						
BJI				S	**S**	**09 08 50.7**	**+1.5**
BJI				LR	LR		
	comp=Z,4μm,16.6s,MS4.9						
JHJ	**Hachijo jima 2**	**21.58**	**47**	P	**P**	**09 05 02.6**	**+1.3**
	comp=Z,208nm,0.6s,mb5.8,baz=270,slow=17,SNR=4.6						
JHJ				LR	LR	09 11 55.6	
	comp=Z,5μm,20.8s,MS4.9,baz=265,slow=32						
SNY	**Shenyang**	**22.52**	**5**	⇑P	**P**	**09 05 11.0**	**-0.3**
SNY				AP		09 05 16.5	
SNY				XP	sP	09 05 19.8	-1.6
SNY				PP		09 05 38.3	
SNY				S	**S**	**09 09 15.0**	**-2.4**
SNY				AMB	AMB		
	comp=Z,36nm,0.7s,mb4.9						
SNY				AMB	AMB		
	comp=Z,605nm,9.8s						
SNY				LR	LR		
	comp=E,4μm,17.1s						
SNY				LR	LR		
	comp=Z,3μm,16.2s,MS4.8						
LZH	**Lanzhou**	**22.59**	**321**	⇓P	**P**	**09 05 14.0**	**+1.9**
LZH				AP		09 05 20.8	
LZH				PP		09 05 44.0	
LZH				S	**S**	**09 09 18.0**	**-0.8**
LZH				AMB	AMB		
	comp=Z,250nm,1.4s,mb5.5						
LZH				AMB	AMB		
	comp=Z,1μm,5.1s						
LZH				LR	LR		
	comp=N,9μm,14.1s						
LZH				LR	LR		
	comp=Z,16μm,16.8s,MS5.5						
LZH	**Lanzhou**	**22.59**	**321**	⇓P	**P**	**09 05 13.9**	**+1.8**
LZH				*SP	sP	09 05 25.2	+3.0
LZH						09 05 44.0	
LZH				S	**S**	**09 09 18.0**	**-0.8**
LZH				*SS	sS	09 09 30.0	+0.2
LZH				SS		09 10 05.0	
LZH				pmax	pmax		
	comp=Z,250nm,1.4s,mb5.5						
LZH				MLR	MLR		
	comp=Z,16μm,16.8s,MS5.5						
LZH	**Lanzhou**	**22.59**	**321**	⇓P	**P**	**09 05 13.9**	**+1.8**
	comp=Z,250nm,1.4s,mb5.5						
LZH				pP		09 05 20.7	
LZH				sP	sP	09 05 25.2	+3.0
LZH				PP		09 05 44.0	
LZH				S	**S**	**09 09 18.0**	**-0.8**
LZH				sS	sS	09 09 30.0	+0.2
LZH				SS		09 10 05.0	
LZH				LR	LR		
	comp=Z,16μm,16.8s,MS5.5						
MAJO	**Matsushiro**	**22.76**	**38**	*e*P	**P**	**09 05 13.7**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,110nm,1.2s,mb5.2						
MAJO	**Matsushiro**	**22.76**	**38**	*e*P	**P**	**09 05 13.7**	**-0.3**
	comp=Z,106nm,1.3s,mb5.1						
MAT	**Matsushiro**	**22.76**	**38**	P	**P**	**09 05 13.1**	**-0.9**
MAT				S	**S**	**09 09 21.0**	**-0.6**
MAT	**Matsushiro**	**22.76**	**38**	*e*P	**P**	**09 05 13.0**	**-1.0**
MAT				*e*S	**S**	**09 09 22.0**	**+0.4**
MAT				pmax	pmax		
	comp=Z,65nm,1.3s,mb4.9						
MAT				MLR	MLR		
	comp=Z,3μm,22.0s,MS4.7						
MAT	**Matsushiro**	**22.76**	**38**	*e*P	**P**	**09 05 13.0**	**-1.0**
	comp=Z,65nm,1.3s,mb4.9						
MAT				*e*S	**S**	**09 09 22.0**	**+0.4**
MAT				LR	LR		
	comp=Z,3μm,22.0s,MS4.7						
MJAR	**Matsushiro Arr**	**22.77**	**38**	P	**P**	**09 05 14.4**	**+0.4**
	comp=Z,34nm,1.0s,mb4.7,baz=216,slow=8.9,SNR=28						
MJAR				PcP	PcP	09 09 05.5	+0.3
	comp=Z,2.7nm,0.7s,baz=168,slow=1.9,SNR=5.7						
MJAR				LR	LR	09 13 22.7	
	comp=Z,3μm,21.5s,MS4.7,baz=230,slow=34						
MJAR	**Matsushiro Arr**	**22.77**	**38**	P	**P**	**09 05 14.4**	**+0.4**
MJAR						09 09 05.5	
HHC	**Hu-ho-hao-te**	**22.96**	**341**	⇓*i*P	**P**	**09 05 17.5**	**+1.5**
HHC				AP		09 05 24.8	
HHC				XP	sP	09 05 28.0	+1.9
HHC				PP		09 05 48.5	
HHC				PCP	PcP	09 09 07.5	+1.9
HHC				S	**S**	**09 09 26.5**	**+1.7**
HHC				SCP	ScP	09 12 42.5	+0.7
HHC				PCS	PcS	09 12 45.3	+0.7
HHC				AMB	AMB		
	comp=Z,58nm,1.5s,mb4.8						
HHC				AMB	AMB		
	comp=Z,1μm,8.7s						
HHC				LR	LR		
	comp=N,9μm,15.9s,MS5.3						
HHC				LR	LR		
	comp=E,4μm,15.3s,MS5.3						
HHC				LR	LR		
	comp=Z,9μm,15.9s,MS5.3						
BTO	**Baotou**	**23.25**	**338**	*e*P	**P**	**09 05 19.0**	**-0.1**
BTO				S	**S**	**09 09 19.8**	**-10**
BTO				LR	LR		
	comp=N,6μm,17.8s,MS5.2						
BTO				LR	LR		
	comp=E,3μm,15.9s,MS5.2						
GUMO	**Guam**	**23.44**	**101**	P	**P**	**09 05 20.8**	**-0.3**
	comp=E,36nm,0.8s,mb4.9,baz=333,slow=9.0,SNR=3.4						
GUMO				LR	LR	09 13 04.9	
	comp=E,5μm,18.9s,MS5.0,baz=289,slow=33						
GUMO	**Guam**	**23.44**	**101**	P	**P**	**09 05 20.8**	**-0.3**
GUMO				LR	LR	09 13 04.9	
KULM	**Kulim**	**24.36**	**238**	*e*P	**P**	**09 05 29.2**	**-0.3**
KULM				*e*PcP	PcP	09 09 08.7	+0.1
IPM	**Ipoh**	**24.56**	**236**	P	**P**	**09 05 30.7**	**-0.6**
CN2	**Changchun**	**24.66**	**7**	⇑P	**P**	**09 05 32.5**	**+0.3**
CN2				*e*XP	sP	09 05 42.8	+0.2
CN2				PP		09 06 09.5	
CN2				*e*S	**S**	**09 09 52.0**	**-0.3**
CN2				SS		09 10 50.5	
CN2				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.9						
CN2				AMB	AMB		
	comp=Z,800nm,10.0s						
CN2				LR	LR		
	comp=N,3μm,15.0s,MS5.1						
CN2				LR	LR		
	comp=E,4μm,15.0s,MS5.1						
CN2				LR	LR		
	comp=Z,4μm,18.0s,MS4.9						
MDJ	**Mudanjiang**	**26.18**	**14**	P	**P**	**09 05 46.3**	**+0.3**
MDJ				AP	pP	09 05 52.3	-1.0
MDJ				XP	sP	09 05 55.0	-1.4
MDJ				PCP	PcP	09 09 13.0	+0.4
MDJ				SCP	ScP	09 12 49.5	-1.2
MDJ				PCS	PcS	09 12 52.5	-1.1
MDJ				AMB	AMB		
	comp=Z,36nm,0.9s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,455nm,8.8s						
MDJ				LR	LR		
	comp=N,978nm,21.3s,MS5.0						
MDJ				LR	LR		
	comp=E,4μm,20.4s,MS5.0						
MDJ				LR	LR		
	comp=Z,3μm,21.3s,MS4.8						
MDJ	**Mudanjiang**	**26.18**	**14**	*e*P	**P**	**09 05 46.4**	**+0.4**
	comp=Z,47nm,1.1s,mb4.9						
GTA	**Gaotai**	**27.18**	**322**	*e*P	**P**	**09 05 56.5**	**+1.4**
GTA				AP	pP	09 06 03.3	+0.9
GTA				XP	sP	09 06 06.8	+1.3
GTA				S	**S**	**09 10 34.3**	**+2.0**
GTA				XS	sS	09 10 44.5	0.0
GTA				AMB	AMB		
	comp=Z,15nm,2.0s,mb4.2						
GTA				AMB	AMB		
	comp=Z,155nm,5.3s						
GTA				LR	LR		
	comp=N,3μm,17.5s,MS5.1						
GTA				LR	LR		
	comp=E,3μm,16.3s,MS5.1						
GTA				LR	LR		
	comp=Z,4μm,16.7s,MS5.0						
PSI	**Prapat**	**27.24**	**236**	P	**P**	**09 05 55.5**	**-0.1**

	comp=Z,10nm,0.8s,mb4.4,baz=18,slow=6.1,SNR=14						
PSI				PcP	PcP	09 09 15.3	+0.2
	comp=Z,14nm,0.8s,baz=312,slow=3.6,SNR=7.0						
PSI				LR	LR	09 16 47.9	
	comp=Z,4μm,18.0s,MS5.0,baz=232,slow=37						
PSI	**Prapat**	**27.24**	**236**	P	**P**	**09 05 55.5**	**-0.1**
PSI						09 09 15.4	
SHL	**Shillong**	**27.71**	**288**	*ex*	sP	09 06 14.0	+3.8
SHL				*e*S	**S**	**09 10 41.0**	**+0.4**
PBA	**Port Blair**	**28.38**	**259**	*ex*	x	09 10 24.4	
LSA	**Lhasa**	**29.10**	**297**	P	**P**	**09 06 11.8**	**-0.4**
LSA				AP	pP	09 06 20.3	+0.8
LSA				XP	sP	09 06 24.0	+1.4
LSA				PCP	PcP	09 09 20.0	+0.3
LSA				S	**S**	**09 10 56.0**	**-6.5**
LSA				XS	sS	09 11 15.8	+1.2
LSA				SCP	ScP	09 12 59.3	-0.3
LSA				LR	LR		
	comp=N,1μm,21.5s,MS4.9						
LSA				LR	LR		
	comp=E,3μm,18.3s,MS4.9						
LSA				LR	LR		
	comp=Z,3μm,19.2s,MS4.9						
LSA	**Lhasa**	**29.10**	**297**	*e*P	**P**	**09 06 14.1**	**+1.9**
LSA				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.9						
LSA	**Lhasa**	**29.10**	**297**	*e*P	**P**	**09 06 14.1**	**+1.9**
	comp=Z,21nm,0.9s,mb4.9						
HIA	**Hailar**	**29.88**	**358**	*e*P	**P**	**09 06 18.7**	**-0.4**
HIA				pmax	pmax		
	comp=Z,24nm,0.8s						
HIA	**Hailar**	**29.88**	**358**	*e*P	**P**	**09 06 18.7**	**-0.4**
	comp=Z,24nm,0.8s,mb5.0						
ULN	**Ulaanbaatar**	**30.68**	**341**	⇑*e*P	**P**	**09 06 26.6**	**+0.4**
ULN	**Ulaanbaatar**	**30.68**	**341**	*e*P	**P**	**09 06 27.4**	**+1.2**
CAL	**Calcutta**	**30.78**	**282**	*ex*	x	09 09 16.4	
SONM	**Songino Array**	**30.86**	**340**	P	**P**	**09 06 28.9**	**+1.2**
	comp=Z,9.9nm,0.8s,mb4.7,baz=159,slow=9.6,SNR=46						
SONM				LR	LR	09 20 13.9	
	comp=Z,7μm,18.3s,MS5.3,baz=153,slow=39						
KLR	**Kul'dur**	**31.02**	**14**	*e*P	**P**	**09 06 26.0**	**-3.2**
KLR				*e*S	**S**	**09 11 27.5**	**-5.1**
KLR				smax			
	comp=N,600nm,9.0s						
KLR				smax			
	comp=E,600nm,9.0s						
KLR				MLR	MLR		
	comp=N,1μm,17.0s						
KLR				MLR	MLR		
	comp=Z,3μm,17.0s,MS5.0						
HABR	**Khabarovsk**	**31.17**	**18**	*e*P	**P**	**09 06 29.4**	**-1.1**
HABR				*e*S	**S**	**09 11 34.3**	**-0.6**
YSS	**Yuzh-Sakhalins**	**32.74**	**28**	*oe*P	**P**	**09 06 44.0**	**-0.2**
YSS				*e*	pP	09 06 50.0	-1.6
YSS				S	**S**	**09 11 54.0**	**-5.4**
YSS				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.5						
YSS				MLR	MLR		
	comp=N,2μm,18.0s						
YSS				MLR	MLR		
	comp=Z,1μm,18.0s,MS4.6						
YSS	**Yuzh-Sakhalins**	**32.74**	**28**	*e*P	**P**	**09 06 44.5**	**+0.2**
	comp=Z,67nm,1.1s,mb5.5						
JIRN	**Jiri**	**33.02**	**291**	*e*P	**P**	**09 06 48.0**	**+1.3**
	comp=Z,217nm,1.6s,mb5.8						
BOK	**Bokaro**	**33.04**	**284**	*ex*	x	09 08 53.5	
CIT	**Chita**	**33.16**	**351**	*e*P	**P**	**09 06 48.4**	**+0.5**
CIT				*e*		09 09 31.0	
CIT				pmax	pmax		
	comp=Z,74nm,2.3s,mb5.2						
GUN	**Gumba**	**33.33**	**292**	*e*P	**P**	**09 06 50.7**	**+1.3**
	comp=Z,101nm,0.8s,mb5.8						
PKI	**Pulchoki**	**33.70**	**291**	*e*P	**P**	**09 06 53.3**	**+0.6**
KAKA	**Kakadu**	**33.73**	**160**	⇑*i*P	**P**	**09 06 49.2**	**-3.7**
	comp=Z,22nm,0.6s,mb5.3						
KKN	**Kakani**	**33.84**	**291**	*e*P	**P**	**09 06 54.4**	**+0.5**
	comp=Z,89nm,1.1s,mb5.6						
KKN	**Kakani**	**33.84**	**291**	*e*P	**P**	**09 06 54.4**	**+0.5**
KKN				pmax	pmax		
	comp=Z,89nm,1.1s,mb5.6						
DMN	**Daman**	**33.97**	**291**	*e*P	**P**	**09 06 55.7**	**+0.7**
	comp=Z,64nm,0.9s,mb5.6						
GKN	**Gorkha**	**34.43**	**291**	*e*P	**P**	**09 06 59.2**	**+0.2**
	comp=Z,45nm,0.7s,mb5.5						
TLY	**Talaya**	**35.09**	**341**	*e*P	**P**	**09 07 05.9**	**+1.2**
TLY				*e*		09 08 24.0	
TLY				*e*S	**S**	**09 12 35.2**	**-0.6**
TLY				*e*SS	SS	09 15 14.1	+5.5
TLY				*e*		09 17 19.1	
TLY				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
TLY				MLR	MLR		
	comp=Z,4μm,18.0s,MS5.2						
TLY	**Talaya**	**35.09**	**341**	*e*P	**P**	**09 07 06.3**	**+1.6**
	comp=Z,15nm,0.8s,mb5.0						
KOLN	**Koldanda**	**35.32**	**291**	*e*P	**P**	**09 07 07.2**	**+0.6**
	comp=Z,53nm,0.9s,mb5.5						
IRK	**Irkutsk**	**35.40**	**342**	*e*P	**P**	**09 07 05.4**	**-1.9**
IRK				*e*		09 07 14.8	
IRK				*e*		09 15 33.0	
IRK				pmax	pmax		
	comp=Z,73nm,2.4s,mb5.2						
WMQ	**Urumqi**	**37.12**	**319**	⇑*i*P	**P**	**09 07 24.0**	**+1.9**
WMQ				AP	pP	09 07 31.5	+2.0
WMQ				XP	sP	09 07 35.0	+2.5
WMQ				PP	PP	09 08 51.5	+4.7
WMQ				PPP		09 09 12.0	
WMQ				PCP	PcP	09 09 44.3	+2.2
WMQ				S	**S**	**09 13 09.0**	**+2.1**
WMQ				XS	sS	09 13 21.3	+2.2
WMQ				SCP	ScP	09 13 28.3	+0.8
WMQ				PCS	PcS	09 13 31.3	+1.0
WMQ				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,226nm,5.2s						
WMQ				LR	LR		
	comp=N,5μm,15.2s,MS5.5						
WMQ				LR	LR		
	comp=E,5μm,16.0s,MS5.5						
WMQ				LR	LR		
	comp=Z,4μm,18.0s,MS5.2						
CLNS	**Chul'man**	**37.55**	**3**	*e*P	**P**	**09 07 23.5**	**-2.2**
CLNS				*e**PP	pP	09 07 29.9	-3.2
CLNS				*e*PPP		09 08 56.6	
CLNS				*e*		09 09 48.6	
CLNS				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.8						
CLNS				pmax	pmax		
	comp=N,15nm,1.0s						
CLNS				pmax	pmax		
	comp=E,12nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.6						
CLNS				pmax	pmax		
	comp=N,17nm,0.9s						
CLNS				pmax	pmax		
	comp=E,10.0nm,0.8s						
CLNS				MLR	MLR		
	comp=Z,1μm,12.0s,MS4.9						
CLNS				MLR	MLR		
	comp=N,300nm,13.0s,MS4.9						
CLNS				MLR	MLR		
	comp=E,1μm,13.0s,MS4.9						
PMG	**Port Moresby**	**38.38**	**136**	LR	LR	09 22 40.9	
	comp=E,1μm,18.0s,MS4.8,baz=137,slow=35						
PMG	**Port Moresby**	**38.38**	**136**	*e*P	**P**	**09 07 30.9**	**-1.8**
JBP	**Jabalpur**	**38.46**	**283**	⇓*i*P	**P**	**09 07 34.2**	**+0.8**
JBP				*i* x	x	09 13 16.1	
BOD	**Bodaibo**	**38.79**	**354**	*e*P	**P**	**09 07 35.0**	**-1.1**
BOD				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.7						
MBWA	**Marble Bar**	**40.27**	**182**	*e*P	**P**	**09 07 46.2**	**-2.3**
	comp=Z,12nm,0.5s,mb4.9						
AGRA	**Agra**	**40.30**	**290**	*e*P	**P**	**09 07 46.7**	**-2.0**
KLP	**Kalpa**	**40.36**	**296**	*e*P	**P**	**09 07 49.4**	**+0.1**
KLP				AMb	AMB	09 08 07.2	
	comp=Z,96nm,1.0s,mb5.5						
HYB	**Hyderabad**	**40.39**	**274**	*i* P	**P**	**09 07 49.0**	**-0.5**
HYB				*e*pP	pP	09 07 57.0	0.0
HYB	**Hyderabad**	**40.39**	**274**	*e*P	**P**	**09 07 49.0**	**-0.5**
BHPL	**Bhopal**	**40.81**	**283**	*e*P	**P**	**09 07 52.1**	**-0.8**
BHPL				AMb	AMB	09 08 22.4	
	comp=Z,40nm,1.3s,mb4.9						
SONA	**Sohna**	**41.10**	**291**	*e*P	**P**	**09 07 53.6**	**-1.7**

SONA AMb AMB 09 08 09.2
comp=Z,21nm,0.8s,mb4.8
WRAB Tennant Creek 41.12 161 P **P** **09 07 51.0 -4.5**
comp=Z,236nm,0.5s,mb6.1,SNR=59
WRAB Tennant Creek 41.12 161 *e*P **P** **09 07 52.9 -2.6**
WRAB pmax pmax
comp=Z,28nm,0.4s,mb5.2
WRAB Tennant Creek 41.12 161 *e*P **P** **09 07 52.9 -2.6**
comp=Z,28nm,0.4s,mb5.2
WRA Warramunga Arr 41.12 161 P **P** **09 07 51.4 -4.1**
comp=Z,21nm,0.5s,mb5.1,baz=342,slow=9.2,SNR=174
WRA PcP PcP 09 09 54.0 -0.7
comp=Z,11nm,0.7s,baz=340,slow=3.7,SNR=8.4
WRA ScP ScP 09 13 40.9 -2.0
comp=Z,2.7nm,1.0s,baz=331,slow=4.1,SNR=4.8
WRA S **S** **09 13 57.8 -9.2**
comp=Z,5.2nm,0.8s,baz=339,slow=15,SNR=6.2
WRA Warramunga Arr 41.12 161 P **P** **09 07 51.4 -4.1**
WRA 09 09 54.0
WRA S **S** **09 13 57.8 -9.2**
SMLA Simla 41.24 295 *i* P **P** **09 07 55.3 -1.1**
comp=Z,28nm,0.3s,mb5.4
SMLA *i* x x 09 14 06.9
KUDL Kundal 41.62 291 *e*P **P** **09 07 56.3 -3.3**
SKR Severo-Kuril's 41.74 33 *e*P **P** **09 07 56.2 -4.4**
SKR *e* 09 14 13.0
SKR pmax pmax
comp=Z,90nm,0.7s,mb5.5
SKR MLR MLR
comp=N,3μm,20.0s,MS5.3
SKR MLR MLR
comp=E,2μm,20.0s,MS5.3
SKR MLR MLR
comp=Z,4μm,20.0s,MS5.3
MK31 Makanchi Array 41.90 320 P **P** **09 08 03.0 +1.2**
MK31 pmax pmax
comp=Z,39nm,0.9s,mb5.0
MKAR Makanchi Array 41.90 320 P **P** **09 08 03.2 +1.4**
comp=Z,25nm,0.7s,mb4.9,baz=116,slow=9.2,SNR=197
MKAR PcP PcP
comp=Z,7.8nm,0.8s,baz=123,slow=5.3,SNR=3.0
KHET Khetri 42.22 291 *e*P **P** **09 08 03.7 -0.8**
WAKE Wake Island 42.85 82 *e*P **P** **09 08 09.5 -0.2**
comp=Z,127nm,1.0s,mb5.6
YAK Yakutsk 43.07 6 *e*P **P** **09 08 06.6 -4.8**
YAK *e**PP pP 09 08 14.1 -4.8
YAK *i* 09 10 00.6
YAK *e*S **S** **09 14 30.3 -5.5**
YAK *e*SS SS 09 17 39.3 -9.2
YAK *e* 09 18 04.4
YAK pmax pmax
comp=Z,11nm,0.7s,mb4.7
YAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
YAK smax
comp=N,196nm,11.9s
YAK smax
comp=Z,269nm,20.0s
YAK smax
comp=E,369nm,17.7s
YAK MLR MLR
comp=Z,1μm,15.0s,MS4.9
YAK MLR MLR
comp=N,849nm,13.0s,MS4.9
YAK MLR MLR
comp=E,573nm,16.0s,MS4.9
YAK Yakutsk 43.07 6 *i* P **P** **09 08 10.7 -0.7**
AJM Ajmer 43.24 288 *e*P **P** **09 08 10.8 -1.9**
AJM AMb AMB 09 08 28.8
comp=Z,52nm,1.2s,mb5.1
KSH Kashi 43.65 307 *e*P **P** **09 08 19.3 +3.2**
KSH *e*AP pP 09 08 25.5 +1.8
KSH *e*XP sP 09 08 29.0 +2.3
KSH *e*PP PP 09 10 01.0 +3.2
KSH *e*PCP PcP 09 10 04.5 +1.4
KSH *e*PPP 09 10 39.0
KSH *e*SCP ScP 09 13 53.0 0.0
KSH *e*PCS PcS 09 13 56.0 +0.1
KSH *e*S **S** **09 14 48.0 +3.6**
KSH *e*XS sS 09 14 59.5 +2.7
KSH *e*SS SS 09 17 55.0 -4.9
KSH *e*SCS ScS 09 18 13.3 -0.7
KSH LR LR
comp=N,3μm,15.0s,MS5.5
KSH LR LR
comp=E,4μm,14.3s,MS5.5
KSH LR LR
comp=Z,4μm,16.4s,MS5.4
ZAL Zalesovo 44.35 330 P **P** **09 08 21.7 0.0**
comp=Z,8.5nm,0.8s,mb4.5,baz=0.0,slow=8.7,SNR=43
ZAL LR LR 09 28 45.0
comp=Z,6μm,18.1s,MS5.6,baz=340,slow=38
ZAL Zalesovo 44.35 330 P **P** **09 08 21.7 0.0**
ZAL LR LR 09 28 45.0
PET Petropavlovsk 44.38 32*c* *i*P **P** **09 08 21.5 -0.4**
PET *e* 09 10 03.4
PET *e*S **S** **09 14 52.1 -2.8**
PET *e*SS SS 09 18 03.4 -11
PET pmax pmax
comp=Z,600nm,3.6s
PET pmax pmax
comp=Z,500nm,11.8s
PET pmax pmax
comp=N,200nm,15.5s
PET pmax pmax
comp=E,200nm,15.2s
PET pmax pmax
comp=Z,46nm,0.8s,mb5.3
PET pmax pmax
comp=Z,200nm,10.1s
PET smax
comp=N,200nm,7.3s
PET smax
comp=E,600nm,14.8s
PET MLR MLR
comp=Z,1μm,20.0s,MS4.9
PET MLR MLR
comp=Z,1μm,18.0s
PET Petropavlovsk 44.38 32 *e*P **P** **09 08 22.0 +0.1**
comp=Z,130nm,1.5s,mb5.4
AS31 Alice Springs 44.51 163 *e*P **P** **09 08 19.5 -3.5**
AS31 *e*S **S** **09 14 50.9 -6.0**
ASPA Alice Springs 44.51 163 *e*P **P** **09 08 19.5 -3.5**
ASPA *e*S **S** **09 14 50.9 -6.0**
ASAR Alice Springs 44.52 163 P **P** **09 08 20.1 -3.0**
comp=Z,21nm,0.5s,mb5.2,baz=344,slow=6.9,SNR=171
ASAR ScP ScP 09 13 54.2 -2.3
comp=Z,1.7nm,1.0s,baz=339,slow=2.5,SNR=5.1
ASAR S **S** **09 14 52.1 -4.8**
comp=Z,4.7nm,1.0s,baz=352,slow=21,SNR=12
KAD Karad 44.52 275 *e*P **P** **09 08 21.7 -1.4**
POO Poona 44.64 277⇑ *i*P **P** **09 08 22.0 -2.0**
comp=Z,20nm,1.0s,mb4.9
MA2 Magadan 45.49 21 *e*P **P** **09 08 30.0 -0.7**
MA2 *e* 09 10 04.1
MA2 *e*S **S** **09 15 08.5 -2.5**
MA2 *e* 09 18 19.8
MA2 pmax pmax
comp=Z,30nm,1.0s,mb5.1
MA2 MLR MLR
comp=Z,3μm,16.5s,MS5.3
MA2 Magadan 45.49 21 *e*P **P** **09 08 30.7 -0.1**
comp=Z,22nm,0.9s,mb5.0
FRU Bishkek 45.51 312 *e*P **P** **09 08 32.5 +1.6**
FRU *e* 09 15 15.0
FRU pmax pmax
comp=Z,70nm,2.1s,mb5.2
FRU MLR MLR
comp=Z,4μm,18.0s,MS5.4
AAK Ala-Archa 45.54 311 P **P** **09 08 32.3 +1.2**
AAK pmax pmax
comp=Z,12nm,1.0s,mb4.8
AAK Ala-Archa 45.54 311 *e*P **P** **09 08 32.3 +1.2**
comp=Z,12nm,1.0s,mb4.8
NVS Novosibirsk 45.62 330⇓ *i*P **P** **09 08 31.2 -0.6**
NVS pmax pmax
comp=Z,61nm,2.0s,mb5.2
NVS pmax pmax
comp=N,62nm,2.2s
NVS pmax pmax
comp=E,35nm,2.2s
KURK Kurchatov 45.86 323 P **P** **09 08 34.7 +1.0**
comp=E,249nm,1.0s,mb6.1,SNR=44
KURK Kurchatov 45.86 323 *e*P **P** **09 08 34.7 +1.0**
KURK pmax pmax
comp=Z,41nm,0.9s,mb5.4
KURK Kurchatov 45.86 323 *e*P **P** **09 08 34.6 +1.0**
comp=Z,41nm,0.9s,mb5.4
CTAO Charters Tower 46.27 146 *e*P **P** **09 08 34.9 -2.0**
CTAO pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CTAO Charters Tower 46.27 146 *e*P **P** **09 08 34.9 -2.0**
comp=Z,9.1nm,0.8s,mb4.8
HNR Honiara 47.74 123 LR LR 09 28 21.9
comp=Z,2μm,18.8s,MS5.1,baz=3.1,slow=36
KK31 Karatay Array 48.49 311 *i* P **P** **09 08 55.1 +0.9**
KKAR Karatay Array 48.49 311 *i* P **P** **09 08 55.0 +0.8**
KKAR pmax pmax
comp=Z,15nm,0.8s,mb5.1
FORT Forrest 50.27 172 *e*P **P** **09 09 05.8 -2.0**
comp=Z,70nm,0.6s,mb5.9
FORT *e*PCP PcP 09 10 26.6 +0.1
KLBR Kellerberrin 50.74 184 *e*P **P** **09 09 09.0 -2.3**
comp=Z,55nm,0.5s,mb5.7
VOSK Vostochnaya 51.01 323 P **P** **09 09 13.7 +0.3**
VOSK pmax pmax
comp=Z,14nm,1.1s,mb4.8
MUN Mundaring 51.24 185 *e*P **P** **09 09 13.3 -1.8**
MUN *e*PCP PcP 09 10 29.1 -1.0
BVA0 Borovoye Array 51.45 323 *i* P **P** **09 09 17.3 +0.6**
BVA0 pmax pmax
comp=Z,15nm,2.0s,mb4.6
BRVK Borovoye 51.53 323 P **P** **09 09 18.2 +1.0**
comp=Z,150nm,0.9s,mb5.9,SNR=8.1
BRVK Borovoye 51.53 323 *e*P **P** **09 09 17.8 +0.6**
BRVK pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
BRVK Borovoye 51.53 323 *e*P **P** **09 09 17.8 +0.5**
comp=Z,8.9nm,0.6s,mb4.9
CHKZ Chkalovo 51.56 324 *e*P **P** **09 09 18.1 +0.6**
CHKZ pmax pmax
comp=Z,37nm,1.0s,mb5.3
CHKZ Chkalovo 51.56 324 *e*P **P** **09 09 18.1 +0.6**
comp=Z,37nm,1.0s,mb5.3
NWAO Narrogin (SRO) 52.10 184 *e*P **P** **09 09 19.4 -2.1**
NWAO pmax pmax
comp=Z,44nm,0.6s
NWAO Narrogin (SRO) 52.10 184 *e*P **P** **09 09 19.4 -2.1**
comp=Z,44nm,0.6s,mb5.6
ZRNK Zerenda 52.22 323 *e*P **P** **09 09 22.9 +0.5**
ZRNK *e**SP sP 09 09 34.9 +1.9
ZRNK pmax pmax
comp=Z,37nm,1.0s,mb5.3
ZRNK Zerenda 52.22 323 *e*P **P** **09 09 22.9 +0.5**
comp=Z,37nm,1.0s,mb5.3
ZRNK *e*pP pP 09 09 30.2 +0.2
ZRNK *e*SP sP 09 09 34.9 +1.9
TIXI Tiksi 52.51 3 *e*P **P** **09 09 17.1 -7.5**
TIXI *e*S **S** **09 16 41.4 -8.3**
TIXI pmax pmax
comp=Z,34nm,0.9s,mb5.3
TIXI pmax pmax
comp=Z,84nm,12.8s
TIXI pmax pmax
comp=N,43nm,10.9s
TIXI pmax pmax
comp=E,13nm,10.7s
TIXI smax
comp=N,151nm,17.2s
TIXI smax
comp=E,213nm,9.5s
TIXI MLR MLR
comp=Z,1μm,15.0s,MS5.1
TIXI Tiksi 52.51 3⇑ *e*P **P** **09 09 23.6 -1.0**
STKA Stephens Creek 54.56 159 *e*P **P** **09 09 35.5 -4.1**
comp=Z,15nm,0.6s,mb5.2
STKA Stephens Creek 54.56 159 P **P** **09 09 35.8 -3.8**
comp=Z,17nm,0.6s,mb5.2,baz=333,slow=6.9,SNR=49
STKA LR LR 09 34 28.6
comp=Z,877nm,19.6s,MS4.8,baz=340,slow=38
BILL Bilibino 56.25 19*c* *i*P **P** **09 09 51.4 -0.4**
BILL *e* 09 10 48.3
BILL *e*S **S** **09 17 37.1 -3.0**
BILL pmax pmax
comp=Z,26nm,0.7s,mb5.4
BILL MLR MLR
comp=Z,700nm,17.0s,MS4.8
BILL Bilibino 56.25 19 *e*P **P** **09 09 51.5 -0.3**
comp=Z,220nm,0.6s,mb5.3
MIDW Midway 56.45 68 *e*P **P** **09 09 53.1 -0.1**
comp=Z,85nm,1.0s,mb5.7
AB31 Akbulak array 56.86 317 *i* P **P** **09 09 56.8 +0.7**
AB31 pmax pmax
comp=Z,13nm,0.6s,mb5.1
ARMA Armidale 57.51 149 *e*P **P** **09 10 00.8 +0.1**
SVE Sverdlovsk 57.96 326⇓ *i*P **P** **09 10 03.5 -0.4**
SVE *e* 09 13 35.0
SVE *i* S **S** **09 18 02.0 -0.6**
SVE *e* 09 19 44.0
SVE pmax pmax
comp=Z,144nm,2.4s,mb5.6
SVE smax
comp=N,700nm,9.0s
SVE smax
comp=E,600nm,9.0s
SVE MLR MLR
comp=N,700nm,18.0s,MS5.1
SVE MLR MLR
comp=E,1μm,18.0s,MS5.1
SVE MLR MLR
comp=Z,2μm,18.0s,MS5.2
ARU Arti 58.99 325 P **P** **09 10 11.5 +0.5**
comp=Z,363nm,0.6s,mb6.6,SNR=17
ARU Arti 58.99 325⇓ *i*P **P** **09 10 11.1 +0.1**
ARU *e* 09 10 58.9
ARU *e* 09 12 17.1
ARU *e*S **S** **09 18 17.2 +1.2**
ARU *e* 09 19 54.6
ARU *e*SS SS 09 22 11.6 +1.7
ARU pmax pmax
comp=Z,36nm,0.7s,mb5.5
ARU MLR MLR
comp=Z,2μm,17.0s,MS5.4
ARU MLR MLR
comp=N,200nm,16.0s,MS5.4
ARU MLR MLR
comp=E,2μm,17.0s,MS5.4
ARU Arti 58.99 325 *e*P **P** **09 10 11.1 0.0**
comp=E,39nm,0.7s,mb5.5
DZM Mont Dzumac 60.45 131 P **P** **09 10 20.4 -0.7**
comp=E,12nm,0.8s,mb5.0,baz=345,slow=11,SNR=14
SOKR Solikamsk 60.57 328*d* *i*P **P** **09 10 22.0 +0.1**
SOKR S **S** **09 18 36.8 +0.4**
SOKR pmax pmax
comp=Z,50nm,1.2s,mb5.5
SOKR MLR MLR
comp=Z,5μm,17.0s,MS5.7
CNB Canberra Magne 60.59 154 *e*P **P** **09 10 20.9 -1.1**
comp=Z,25nm,0.7s,mb5.5
TOO Toolangi 61.07 158 *e*P **P** **09 10 24.3 -1.0**
comp=Z,19nm,0.5s,mb5.5
TOO Toolangi 61.07 158 *e*P **P** **09 10 24.3 -1.0**
TOO pmax pmax
comp=Z,19nm,0.5s,mb5.5
MAK Makhachkala 65.25 309 *e*P **P** **09 10 52.1 -0.9**
MAK *i* 09 11 23.6
MAK *e*S S 09 19 34.9 0.0
MAK *e* 09 20 41.6
MAK pmax pmax
comp=Z,223nm,1.4s,mb6.0
MAK MLR MLR
comp=Z,2μm,17.0s,MS5.3
PECR Pechory 66.98 324 *e*P **P** **09 11 03.3 -0.8**
PECR pmax pmax
comp=Z,1μm,18.0s
GNI Garni 67.57 306 *e*P **P** **09 11 09.1 +1.2**
GNI pmax pmax
comp=Z,33nm,1.1s
GNI Garni 67.57 306 *e*P **P** **09 11 09.1 +1.2**
comp=Z,33nm,1.1s,mb5.3
ZEI Tsey 67.90 309 *e*P **P** **09 11 10.1 +0.1**
ZEI *e**PP pP 09 11 17.7 -0.2
ZEI *e* 09 11 31.4
ZEI pmax pmax
comp=Z,15nm,0.8s,mb5.1
KIV Kislovodsk 68.65 311 *e*P **P** **09 11 15.1 +0.4**
KIV *e*S S 09 20 17.1 +1.1
KIV *e*SS SS 09 24 44.8 +4.2
KIV pmax pmax
comp=Z,35nm,0.9s,mb5.3
KIV MLR MLR
comp=Z,2μm,17.0s,MS5.4
KIV Kislovodsk 68.65 311 *e*P **P** **09 11 15.4 +0.8**
comp=Z,30nm,0.8s,mb5.3
KIV *e*pP pP 09 11 22.8 +0.3
KIV *e*sP sP 09 11 29.2 +3.7
VRHR Novokhopersk 68.67 318 *e*P **P** **09 11 14.7 -0.1**
VRHR pmax pmax
comp=Z,20nm,0.5s,mb5.3
VRHR pmax pmax
comp=N,30nm,1.0s
VRHR pmax pmax
comp=E,2.0nm,0.2s
CHGN Chignik 68.86 36 *e*P **P** **09 11 13.8 -2.2**
KLMR Klimovskoe 69.25 329*d* *i*P **P** **09 11 17.5 -0.9**
KLMR *e* 09 13 47.6
KLMR *e*S S 09 20 17.3 -5.8
KLMR pmax pmax
comp=Z,50nm,1.1s,mb5.4
KLMR pmax pmax
comp=Z,210nm,10.6s
KLMR MLR MLR
comp=Z,4μm,16.0s,MS5.7
TTA Tatalina 69.73 29 *e*P **P** **09 11 21.6 +0.3**
TTA pmax pmax
comp=Z,50nm,1.1s,mb5.4
TTA Tatalina 69.73 29 *e*P **P** **09 11 21.6 +0.3**
comp=Z,50nm,1.1s,mb5.3
TMCR Tamitsa 69.79 332 *e*P **P** **09 11 21.5 -0.2**
TMCR pmax pmax
comp=Z,60nm,1.2s,mb5.4
TMCR pmax pmax
comp=N,50nm,0.7s
TMCR pmax pmax
comp=E,30nm,0.8s
SVW2 Sparrevohn 70.04 31 *e*P **P** **09 11 22.6 -0.7**
VOR Voronezh 70.12 319 P **P** **09 11 22.0 -1.8**
VOR pmax pmax
comp=Z,60nm,2.0s,mb5.2
MOS Moscow 70.63 323 *e*P **P** **09 11 24.4 -2.5**
MOS *i* 09 11 43.2
MOS pmax pmax
comp=Z,46nm,0.7s,mb5.5
MOS MLR MLR
comp=Z,1μm,19.0s,MS5.2
SOC Sochi 70.83 310*c* *i*P **P** **09 11 23.7 -4.4**
SOC *e**PP pP 09 11 34.1 -1.9
SOC *e* 09 11 54.5
SOC *e* 09 14 00.1
SOC *i* S S 09 20 40.1 -1.5
SOC *e* 09 21 18.6
SOC *e*SS SS 09 25 19.6 +5.4
SOC pmax pmax
comp=Z,15nm,0.8s,mb5.0
SOC MLR MLR
comp=Z,1μm,18.0s,MS5.2
LVZ Lovozero 70.94 336 *e*P **P** **09 11 28.6 -0.2**
LVZ *e*S S 09 20 38.2 -4.8
LVZ pmax pmax
comp=Z,20nm,0.9s,mb5.0
LVZ pmax pmax
comp=N,6.0nm,1.0s
LVZ pmax pmax
comp=E,6.0nm,1.0s
LVZ MLR MLR
comp=Z,1μm,18.0s,MS5.2
LVZ MLR MLR
comp=N,332nm,15.0s,MS5.0
LVZ MLR MLR
comp=E,706nm,18.0s,MS5.0
OBN Obninsk 71.30 323⇑ *i*P **P** **09 11 30.2 -0.7**
OBN *e* 09 11 50.3
OBN *e*S S 09 20 49.3 +2.2
OBN pmax pmax
comp=Z,48nm,1.7s,mb5.2
OBN MLR MLR
comp=Z,1μm,15.0s,MS5.2
OBN Obninsk 71.30 323 *e*P **P** **09 11 30.6 -0.3**
APA Apatity 71.45 336⇓ *i*P **P** **09 11 31.0 -0.8**
APA *i* pP 09 11 38.0 -1.7
APA *i* S S 09 20 44.0 -4.8
APA pmax pmax
comp=Z,44nm,1.0s,mb5.3
KDAK Kodiak Island 71.89 34 P **P** **09 11 34.0 -0.5**
comp=Z,306nm,0.7s,mb6.3,SNR=10
KDAK Kodiak Island 71.89 34 *e*P **P** **09 11 34.1 -0.4**
comp=Z,36nm,0.8s,mb5.3
ANN Anapa 72.26 312 *e*P **P** **09 11 34.6 -2.1**
ANN *e*S S 09 20 54.1 -4.0
ANN pmax pmax
comp=Z,54nm,1.4s,mb5.3
JOF Joensuu 72.91 331 *e*p **P** **09 11 39.5 -1.1**
comp=Z,6.8nm,0.7s,mb4.7
JOF Joensuu 72.91 331 *e*P **P** **09 11 39.5 -1.1**
JOF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
PMR Palmer 73.07 30 *e*P **P** **09 11 40.3 -1.2**
PMR pmax pmax
comp=Z,22nm,0.6s,mb5.3
PMR MLR MLR
comp=Z,500nm,23.0s,MS4.7
PMR Palmer 73.07 30 *e*P **P** **09 11 40.3 -1.2**
comp=Z,22nm,0.6s,mb5.3
PMR LR LR
comp=Z,500nm,23.0s,MS4.7
COLA College 73.11 26⇓ *i*P **P** **09 11 40.6 -1.2**
COLA College 73.11 26 *e*P **P** **09 11 41.4 -0.4**
comp=Z,17nm,1.1s,mb4.9
KEV Kevo 73.45 339 *e*p **P** **09 11 42.4 -1.4**
comp=Z,12nm,0.7s,mb4.9
KEV Kevo 73.45 339 *e*P **P** **09 11 43.8 0.0**
KEV pmax pmax
comp=Z,22nm,0.9s,mb5.1
ILAR Eielson Array 73.53 27 P **P** **09 11 42.5 -1.8**
comp=Z,4.3nm,0.7s,mb4.5,baz=268,slow=4.8,SNR=49
ARCES ARCESS Array B 74.01 339 P **P** **09 11 47.0 -0.1**
comp=Z,16nm,0.8s,mb5.0,baz=80,slow=6.7,SNR=37
ARCES LR LR 09 48 13.4
comp=Z,2μm,20.1s,MS5.3,baz=75,slow=39
ARCES ARCESS Array B 74.01 339 P **P** **09 11 47.0 -0.1**
ARCES LR LR 09 48 13.4
ARE0 ARCESS Array S 74.01 339 *e*P **P** **09 11 46.8 -0.2**
SIM Simferopol' 74.55 313 *e*P **P** **09 11 50.0 -0.2**
SIM *i* S S 09 21 22.0 -2.0
SIM pmax pmax
comp=Z,24nm,0.9s,mb5.1
BJO Bjornoya 74.67 344 AMS AMS 09 51 09.3
comp=Z,2μm,21.3s,MS5.4
KBS Kingsbay 74.76 349 *e*P **P** **09 11 48.7 -2.8**
KBS *e*P pP 09 11 54.3 -5.1
KBS *e*S S 09 21 27.4 +1.0
KBS AMS AMS 09 48 10.9
comp=Z,964nm,21.4s,MS5.1
KBS Kingsbay 74.76 349 *e*P **P** **09 11 51.1 -0.3**
EYAK Cordova Ski Ar 74.88 31 *e*P **P** **09 11 51.4 -0.7**
EYAK *e*pP pP 09 11 57.9 -2.2
EYAK *e*sP sP 09 12 01.3 -1.7
KAF Kangasniemi 75.34 331 *e*p **P** **09 11 52.6 -2.2**
comp=Z,8.9nm,0.8s,mb4.8,baz=74,slow=5.3
KAF Kangasniemi 75.34 331 *e*P **P** **09 11 52.6 -2.2**
KAF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
FINES FINESS Array B 75.61 330 P **P** **09 11 55.6 -0.7**
comp=Z,11nm,0.8s,mb4.8,baz=74,slow=6.8,SNR=37
FINES LR LR 09 48 15.9
comp=Z,1μm,18.2s,MS5.3,baz=188,slow=38
VSU Vasula 76.01 327⇓ *i*P **P** **09 11 58.1 -0.5**
BR131 Keskin Array S 76.04 307 *e*P **P** **09 11 59.2 +0.5**
comp=Z,4.3nm,0.8s,mb4.4
BRTR Keskin Array B 76.04 307 P **P** **09 11 58.6 -0.2**
comp=Z,2.0nm,0.6s,mb4.3,baz=134,slow=8.7,SNR=12
TRO Tromso 76.21 339 *e*P **P** **09 11 58.2 -1.5**
TRO *e*S S 09 21 39.0 -3.5
TRO AMS AMS 09 52 32.4
comp=Z,1μm,19.3s,MS5.2
TRO Tromso 76.21 339 *e*P **P** **09 11 58.2 -1.5**
TRO *e* 09 21 40.4
MNK Minsk 76.38 323 *e*P **P** **09 11 58.0 -2.7**
AKASG Malin Array Be 76.48 319 P **P** **09 12 00.1 -1.1**
comp=Z,9.7nm,0.8s,mb4.8,baz=63,slow=5.8,SNR=29
ANTO Ankara 76.64 308 P **P** **09 12 02.5 +0.3**
ANTO pmax pmax
comp=Z,12nm,0.8s,mb4.9
ANTO Ankara 76.64 308 *e*P **P** **09 12 02.4 +0.2**
comp=Z,12nm,0.8s,mb4.9
DAWY Dawson 76.86 26 *e*P **P** **09 12 03.3 -0.2**
DAWY *e*pP pP 09 12 10.4 -1.0

CSS Prodhromos 77.45 303 *e*P P **09 12 07.0 +0.2**
comp=Z,23nm,0.8s,mb5.2
EIL Elat 77.49 297 *e*P P **09 12 07.3 +0.4**
comp=Z,399nm,1.3s,mb6.2
KIS Kishinev 77.66 316 *e*P P **09 12 06.0 -1.9**
KIS *e*S S 09 21 54.0 -4.3
KIS *e*PS 09 22 24.0
KIS MLR MLR
comp=Z,1μm,20.0s,MS5.3
KIS MLR MLR
comp=N,500nm,19.0s,MS5.1
KIS MLR MLR
comp=E,700nm,19.0s,MS5.1
KIS MLR MLR
comp=Z,2μm,20.0s
URZ Urewera 77.69 138 P P **09 12 07.0 -1.1**
comp=Z,14nm,0.6s,mb5.1,baz=213,slow=0.5,SNR=8.7
INK Inuvik 77.72 22 P P **09 12 07.5 -0.7**
INK pmax pmax
comp=Z,30nm,1.2s
INK Inuvik 77.72 22 *e*P P **09 12 07.4 -0.8**
comp=Z,30nm,1.2s,mb5.1
ALE Alert 78.32 0 P P **09 12 11.1 -0.5**
comp=Z,47nm,1.0s,mb5.4,SNR=6.1
CFR Carcaliu 78.60 314⇑*i*P P **09 12 12.8 -0.3**
CFR Carcaliu 78.60 314 ⇑P P **09 12 12.8 -0.4**
HARR Harsova 78.88 313⇓*i*P P **09 12 14.9 +0.3**
HARR Harsova 78.88 313 ⇓P P **09 12 14.9 +0.3**
ISP Isparta 78.89 306⇑*i*P P **09 12 14.1 -0.6**
SUW Suwalki 79.14 323 *e*P P **09 12 15.7 -0.4**
VRI Vrincioaia 79.36 315⇑P P **09 12 18.1 +0.8**
VRI Vrincioaia 79.36 315 ⇑P P **09 12 18.1 +0.8**
PLOR Plostina 79.42 315⇓*i*P P **09 12 18.6 +1.0**
BURAR Bucovina Array 79.84 317⇑*i*P P **09 12 20.1 +0.2**
BURAR Bucovina Array 79.84 317 ⇑P P **09 12 20.1 +0.2**
LVV L'vov 79.92 319 *e*P P **09 12 19.9 -0.4**
LVV *e* 09 23 04.5
MLR Muntele Rosu 80.00 315⇑*i*P P **09 12 21.4 +0.7**
MLR Muntele Rosu 80.00 315 ⇑P P **09 12 21.4 +0.6**
SKAG Skagway 80.20 30 *e*P P **09 12 21.8 0.0**
comp=Z,26nm,1.0s,mb5.1
SKAG LR LR
comp=Z,500nm,22.0s,MS4.8
NSS Namsos 80.64 336 AMS AMS 09 52 21.6
comp=Z,2μm,17.4s,MS5.5
KWP Kalwaria 80.80 319 *e*P P **09 12 25.2 +0.2**
SIT Sitka 81.09 33 *e*P P **09 12 25.9 -0.7**
SIT pmax pmax
comp=Z,54nm,1.0s,mb5.4
SIT Sitka 81.09 33 *e*P P **09 12 25.9 -0.7**
comp=Z,54nm,1.0s,mb5.4
DAG Danmarks Havn 81.13 351⇓*i*P P **09 12 25.8 -1.0**
comp=Z,16nm,0.9s,mb5.0
DAG Danmarks Havn 81.13 351⇓*i*P P **09 12 25.8 -1.0**
DAG pmax pmax
comp=Z,16nm,0.9s,mb5.0
UZH Uzhgorod 81.38 318 *e*P P **09 12 25.0 -3.1**
UZH *e*S S 09 22 31.0 -6.7
STHS Stebnicka Huta 81.77 319 *e*P P **09 12 30.1 -0.1**
STHS *e* 09 12 43.3
STHS Stebnicka Huta 81.77 319 *e*P P **09 12 30.1 -0.1**
STHS *e* 09 12 43.3
STHS pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
CRVS Cervenica-Dubn 81.81 319 *e*P P **09 12 32.4 +2.0**
CRVS pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
NIE Niedzica 82.34 320 *e*P P **09 12 33.9 +0.7**
OJC Ojcow 82.36 321 *e*P P **09 12 33.1 -0.2**
OJC *e*pP pP 09 12 39.7 -1.6
OJC *e*S S 09 22 44.6 -3.2
OJC L 09 58 17.6
comp=Z,3.5nm,17.8s
NB2 NORSAR Subarra 82.48 333 P P **09 12 32.5 -1.4**
comp=Z,12nm,0.9s,mb4.8,baz=64,slow=5.3
NOA NORSAR Array B 82.48 333 P P **09 12 32.8 -1.1**
comp=Z,8.2nm,0.8s,mb4.7,baz=64,slow=5.0,SNR=34
NOA LR LR 09 52 25.5
comp=Z,3μm,19.4s,MS5.7,baz=50,slow=38
KECS Kecovo 82.56 319 *e*P P **09 12 34.2 -0.1**
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
NAO01 NORSAR Array S 82.71 332 *e*P P **09 12 35.2 0.0**
VTS Vitosha 82.78 313 ⇓P P **09 12 35.9 +0.4**
BZS Buzias 82.84 316⇑*i*P P **09 12 35.0 -0.8**
BZS Buzias 82.84 316 ⇑P P **09 12 35.0 -0.8**
DLBC Dease Lake 83.13 30 *e*P P **09 12 37.6 +0.3**
BSD Bornholm Skovb 83.24 326 *i*P P **09 12 37.2 -0.7**
comp=Z,37nm,1.1s,mb5.3
BSD *i* 09 22 59.6
BSD
comp=Z,3μm,18.0s
BSD Bornholm Skovb 83.24 326 *i*P P **09 12 37.2 -0.7**
BSD *i* 09 22 59.6
BSD pmax pmax
comp=Z,37nm,1.1s,mb5.3
BSD MLR MLR
comp=Z,3μm,18.0s,MS5.7
BSD Bornholm Skovb 83.24 326 *i*P P **09 12 37.2 -0.7**
comp=Z,37nm,1.1s,mb5.3
BSD *i* 09 22 59.6
RES Resolute Bay 83.43 9 *e*P P **09 12 38.5 -0.4**
RES pmax pmax
comp=Z,53nm,0.9s,mb5.6
RES Resolute Bay 83.43 9 *e*P P **09 12 38.5 -0.4**
comp=Z,53nm,0.9s,mb5.6
JMIC Jan Mayen 83.49 345 *e* P **09 12 29.0 -10**
JMIC *e*SKSa SKSac 09 22 59.2 -0.8
JMIC *e*SS SS 09 28 28.1 +2.9
JMIC AMS AMS 09 56 23.4
comp=Z,824nm,17.7s,MS5.2
OKC Ostrava-Krasne 83.50 321 *e*P P **09 12 39.1 -0.1**
OKC *e*SKS SKSac 09 23 00.8 +0.7
OKC *e*SS SS 09 28 37.6 +12
OKC AMS AMS 09 55 00.0
comp=Z,900nm,18.7s
OKC Ostrava-Krasne 83.50 321 *e*P P **09 12 39.1 -0.1**
OKC *e*S S 09 23 00.8 +1.5
OKC MLR MLR
comp=Z,900nm,18.7s,MS5.2
VYHS Vyhne 83.58 319 *e*S S 09 22 58.4 -1.8
VYHS Vyhne 83.58 319 *i*P P **09 12 40.1 +0.5**
VYHS pmax pmax
comp=Z,7.0nm,1.2s,mb4.7
STIP Stip 83.80 312⇑*i*P P **09 12 39.7 -1.1**
KONO Kongsberg 83.83 332 *e*P P **09 12 37.4 -3.5**
KONO *e*SKSa SKSac 09 22 60.0 -2.3
KONO *e*SS SS 09 28 33.5 +3.2
MORC Moravsky Berou 83.88 321 *e*P P **09 12 41.5 +0.3**
MORC pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
MORC Moravsky Berou 83.88 321 *e*P P **09 12 41.5 +0.3**
comp=Z,8.5nm,1.0s,mb4.8
GRUS Gruza 84.05 314 *i*P P **09 12 41.4 -0.5**
KSP Ksiaz 84.20 322 *e*P P **09 12 42.9 +0.1**
KSP Ksiaz 84.20 322⇓*e*P P **09 12 42.8 0.0**
KSP *e*pP pP 09 12 50.9 +0.1
KSP *e*SKS SKSac 09 23 03.5 -1.2
KSP *e*SS SS 09 28 39.0 +3.3
KSP LR LR
comp=Z,2μm,22.1s,MS5.4
SKO Skopje 84.23 312⇑*i*P P **09 12 43.5 +0.5**
COP Copenhagen 84.28 327 *i*P P **09 12 44.7 +1.5**
COP *i*S 09 23 04.0
COP pmax pmax
comp=Z,33nm,1.1s,mb5.4
COP MLR MLR
comp=Z,1μm,17.0s,MS5.4
COP Copenhagen 84.28 327 *i*P P **09 12 44.7 +1.5**
comp=Z,33nm,1.1s,mb5.4
COP *i*S 09 23 04.0
COP LR LR
comp=Z,1μm,17.0s,MS5.4
DPC Dobruska-Polom 84.38 322 *e*P P **09 12 44.0 +0.3**
DPC *e*SKS SKSac 09 23 05.0 -0.8
DPC *e*SS SS 09 28 45.6 +7.2
DPC AMS AMS 09 53 50.0
comp=Z,2μm,17.3s
DIVS Divcibare 84.46 315 *i*P P **09 12 43.5 -0.5**
UPC Upice 84.50 322 *e*P P **09 12 44.5 +0.2**
PKSM Moragy 84.56 317 ⇓P P **09 12 44.3 -0.3**
PKSM Moragy 84.56 317⇓*e*P P **09 12 44.6 0.0**
KMBO Kilima Mbogo 84.61 267 P P **09 12 45.7 +0.9**
comp=Z,8.3nm,0.8s,mb4.9,baz=49,slow=7.7,SNR=26
KMBO LR LR 09 48 43.4
comp=Z,905nm,19.9s,MS5.2,baz=92,slow=34
KMBO Kilima Mbogo 84.61 267 *e*P P **09 12 46.7 +1.8**
comp=Z,6.3nm,0.8s,mb4.8
RUE Ruedersdorf 84.95 324 *e*P P **09 12 46.8 +0.2**
comp=Z,34nm,0.9s,mb5.5
RUE *e*S 09 23 08.1
RHK1 Bakonya 84.97 317⇓*e*P P **09 12 46.5 -0.2**
OHR Ohrid 84.98 312⇑*i*P P **09 12 45.1 -1.6**
TREC Trest 85.30 321 *e*P P **09 12 48.6 +0.3**
TREC AMS AMS 09 55 50.0
comp=Z,1μm,19.2s
BER Bergen 85.33 333 *e*SKSa SKSac 09 23 11.2 -0.7
BER AMS AMS 09 54 49.3
comp=Z,4μm,19.4s,MS5.8
PVCC Panska Ves 85.33 322 *e*P P **09 12 48.8 +0.3**
PVCC *e*SKS SKSac 09 23 06.8 -5.1
PVCC AMS AMS 09 55 30.0
comp=Z,2μm,13.9s
BRG Berggiesshubel 85.55 323 *e*P P **09 12 49.3 -0.2**
comp=Z,14nm,1.0s,mb5.2
BRG *e*S 09 23 17.1
BRG Berggiesshubel 85.55 323 *e*P P **09 12 49.3 -0.3**
comp=Z,8.3nm,1.0s,mb4.9
BRG *e* pP 09 12 56.3 -1.3
comp=Z,6.6nm,1.1s
BRG S 09 23 12.0
BRG
comp=N,522nm,17.7s
BRG
comp=E,394nm,16.3s
BRG
comp=Z,463nm,16.3s
BRG Berggiesshubel 85.55 323 *e*P P **09 12 49.3 -0.2**
BRG *e* pP 09 12 56.3 -1.3
BRG S 09 23 12.0
BRG pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
BRG pmax pmax
comp=Z,7.0nm,1.1s,mb4.8
BRG MLR MLR
comp=N,522nm,17.7s,MS5.1
BRG MLR MLR
comp=E,394nm,16.3s,MS5.1
BRG MLR MLR
comp=Z,463nm,16.3s,MS5.0
BRG Berggiesshubel 85.55 323 *e*P P **09 12 49.3 -0.3**
comp=Z,8.3nm,1.0s,mb4.9
BRG *e* pP 09 12 56.3 -1.3
BRG S 09 23 12.0
BRG LR LR
comp=Z,460nm,16.3s,MS5.0
MUD Monsted U'grnd 85.55 329 *i*P P **09 12 50.8 +1.2**
comp=Z,45nm,1.0s,mb5.7
MUD *e* 09 23 07.9
MUD *i* 09 23 23.9
MUD
comp=Z,3μm,18.0s
MUD Monsted U'grnd 85.55 329 *i*P P **09 12 50.8 +1.2**
MUD *e* 09 23 07.9
MUD *i* 09 23 23.9
MUD pmax pmax
comp=Z,45nm,1.0s,mb5.7
MUD MLR MLR
comp=Z,3μm,18.0s,MS5.7
MUD Monsted U'grnd 85.55 329 *i*P P **09 12 50.8 +1.2**
comp=Z,45nm,1.0s,mb5.7
MUD *e* 09 23 07.9
MUD *i* 09 23 23.9
PRU Pruhonice 85.57 322 *e*P P **09 12 49.7 0.0**
PRU *e*SKS SKSac 09 23 11.9 -1.5
PRU *e*SS SS 09 29 01.3 +5.4
PRU AMS AMS 09 56 30.0
comp=Z,1μm,19.0s
CASY Casey 85.73 184 *e*P P **09 12 49.0 -1.4**
CLL Collm 85.89 323 *e*P P **09 12 51.0 -0.3**
comp=Z,8.0nm,0.8s,mb5.0
CLL *e*S 09 23 20.1
CLL Collm 85.89 323 *e*P P **09 12 51.0 -0.3**
comp=Z,8.0nm,0.8s,mb5.0
CLL *e*sPP 09 16 20.0
CLL *e*SKSac SKSac 09 23 12.0 -3.4
comp=E,800nm,20.1s
CLL *e*x x 09 24 15.0
CLL *e*SS SS 09 29 18.0 +17
CLL LmV 09 56 00.0
comp=Z,2μm,19.4s
CLL Collm 85.89 323 *e*P P **09 12 51.0 -0.3**
CLL *e*S 09 23 12.0
CLL pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
CLL MLR MLR
comp=Z,2μm,19.4s,MS5.5
CLL Collm 85.89 323 *e*P P **09 12 51.0 -0.3**
comp=Z,8.0nm,0.8s,mb5.0
CLL *e*S 09 23 12.0
CLL LR LR
comp=Z,2μm,19.4s,MS5.5
ARSA Arzberg 86.12 319⇑*i*P P **09 12 52.4 0.0**
comp=Z,5.3nm,0.8s,mb4.8
BSEG Bad Segeberg 86.17 326 *e*P P **09 12 52.6 0.0**
comp=Z,21nm,1.1s,mb5.3
BSEG Bad Segeberg 86.17 326 *e*P P **09 12 52.6 0.0**
BSEG pmax pmax
comp=Z,21nm,1.1s,mb5.3
KHC Kasperske Hory 86.51 321 *e*P P **09 12 54.5 +0.2**
KHC *e*SKS 09 23 17.4
KHC *e*SS SS 09 29 14.1 +4.5
KHC AMS AMS 09 55 20.0
comp=Z,1μm,18.4s
GEC2 GERESS Array S 86.56 321 *e*P P **09 12 54.5 0.0**
comp=Z,9.0nm,1.3s,mb4.8
GEC2 *e*S 09 23 29.4
GEC2 GERESS Array S 86.56 321 *e*P P **09 12 54.5 0.0**
GEC2 *e*S 09 23 29.4
GEC2 pmax pmax
comp=Z,9.0nm,1.3s,mb4.8
GERES GERESS Array B 86.56 321 P P **09 12 54.3 -0.3**
comp=Z,2.7nm,0.8s,mb4.5,baz=67,slow=4.5,SNR=10
GERES LR LR 09 57 28.6
comp=Z,1μm,19.2s,MS5.3,baz=180,slow=40
MOA Molln 86.64 320⇑*i*P P **09 12 55.1 +0.2**
comp=Z,11nm,1.4s,mb4.9
WERD Werda 86.67 323 *e*P P **09 12 55.7 +0.6**
comp=Z,6.0nm,1.1s,mb4.7
WET Wettzell 86.91 321 *e*P P **09 12 56.3 0.0**
comp=Z,23nm,2.0s,mb5.1
WET pmax pmax
comp=Z,23nm,2.0s,mb5.1
MOX Moxa 86.97 323 *e*P P **09 12 55.9 -0.7**
comp=Z,34nm,2.2s,mb5.2
MOX *e*S 09 23 31.4
MOX Moxa 86.97 323 *e*P P **09 12 56.1 -0.5**
MOX
comp=Z,1μm,21.0s
MANZ Manzenberg 86.99 322 *e*P P **09 12 56.4 -0.2**
comp=Z,8.0nm,1.3s,mb4.8
BOJS Bojanci 87.01 317 *e*P P **09 12 57.1 +0.3**
BOJS *e* 09 13 02.4
ROTZ Rotzenmuhle 87.03 322 *e*P P **09 12 56.9 +0.1**
comp=Z,6.0nm,1.0s,mb4.8
ROTZ *e*S 09 23 34.0
OBKA Obir 87.04 318⇑*i*P P **09 12 56.7 -0.2**
comp=Z,4.8nm,0.8s,mb4.8
CLZ Clausthal 87.11 324 *e*P P **09 12 58.2 +0.9**
comp=Z,12nm,1.5s,mb4.9
CLZ Clausthal 87.11 324 *e*P P **09 12 58.2 +0.9**
CLZ pmax pmax
comp=Z,12nm,1.5s,mb4.9
LJU Ljubljana 87.25 318 *e*P P **09 12 57.6 -0.3**
SUMG Summit 87.30 354 *e*P P **09 12 58.1 -0.1**
comp=Z,23nm,1.0s,mb5.4
YKW3 Yellowknife Ar 87.39 23 *e*P P **09 12 58.4 -0.2**
YKA Yellowknife Ar 87.44 23 P P **09 12 58.3 -0.5**
comp=Z,41nm,0.8s,mb5.7,baz=314,slow=4.7,SNR=264
YKA PKKP PKKPbc 09 30 45.5 -2.5
comp=Z,1.2nm,0.6s,baz=129,slow=2.5,SNR=13
YKA Yellowknife Ar 87.44 23 P P **09 12 58.3 -0.5**
YKA pmax pmax
comp=Z,41nm,0.8s
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 87.44 23 P P **09 12 58.4 -0.5**
YKA PKKP PKKPbc 09 30 45.5 -2.5
GRA1 Grafenberg Arr 87.63 322 *e*P P **09 12 59.6 -0.2**
comp=Z,5.0nm,0.8s,mb4.8
GRA1 *e*S 09 23 39.1
GRA1 LR LR
comp=Z,1μm,18.5s,MS5.3
GRF Grafenberg Arr 87.63 322 *e*P P **09 12 59.6 -0.2**
comp=Z,5.0nm,0.8s,mb4.8
GRF *e*S 09 23 39.1
GRF *e*L 09 55 50.8
comp=Z,1μm,18.5s
GRF Grafenberg Arr 87.63 322 *e*P P **09 12 59.6 -0.2**
GRF *e*S 09 23 39.1
GRF pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
GRF MLR MLR
comp=Z,1μm,18.5s,MS5.3
GRF Grafenberg Arr 87.63 322 *e*P P **09 12 59.6 -0.2**
GRF *e*S 09 23 39.1
GRF pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
GRF MLR MLR
comp=Z,1μm,18.5s,MS5.3
UBBA Unterbreizbach 87.80 324 *e*P P **09 13 00.8 +0.2**
comp=Z,16nm,1.6s,mb5.0
MIR Mirnyy 88.19 191*d i*P P **09 13 02.0 -0.4**
MIR pmax pmax
comp=Z,200nm,2.0s,mb6.0
FUR Furstenfeldbru 88.30 321 *e*P P **09 13 03.0 +0.1**
FUR *e*S 09 23 43.9
IBBN Ibbenburen 88.30 326 *e*P P **09 13 02.3 -0.7**
comp=Z,46nm,1.4s,mb5.5
WTTA Wattenberg 88.50 320⇑*i*P P **09 13 02.8 -1.1**
comp=Z,9.0nm,0.8s,mb5.0
WTTA Wattenberg 88.50 320⇑*i*P P **09 13 02.8 -1.1**
WTTA pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
TIP Timpagrande 88.58 311 *e*P P **09 13 04.3 0.0**
ARV Arcevia 89.37 316 P P **09 13 08.5 +0.5**
SOI Samo 89.54 310 P P **09 13 08.9 +0.1**
SOI pmax pmax
comp=Z,22nm,1.3s,mb5.3
SOI Samo 89.54 310 P P **09 13 08.9 +0.1**
comp=Z,22nm,1.3s,mb5.3
AQU L'Aquila 89.56 315 P P **09 13 09.2 +0.3**
AQU pmax pmax
comp=Z,23nm,1.0s,mb5.5
AQU L'Aquila 89.56 315 *e*P P **09 13 09.1 +0.2**
comp=Z,16nm,0.9s,mb5.4
SFI Santa Sofia 89.89 317 P P **09 13 11.7 +1.3**
SFI pmax pmax
comp=Z,25nm,1.1s,mb5.5
SFI Santa Sofia 89.89 317 P P **09 13 11.7 +1.3**
comp=Z,25nm,1.1s,mb5.5
VMG Vicchio 90.06 317 P P **09 13 12.9 +1.7**
comp=Z,60nm,0.9s,mb5.9
MEM Membach 90.11 325 P P **09 13 11.1 -0.4**
SEI Scarperia 90.14 317 P P **09 13 13.2 +1.6**
comp=Z,72nm,0.8s,mb6.0
ZCCA Zocca 90.25 318 P P **09 13 14.1 +2.0**
comp=Z,37nm,0.9s,mb5.7
GSCL Gusciola 90.49 318 P P **09 13 14.6 +1.4**
WLF Walferdange 90.52 324 *e*P P **09 13 13.5 +0.2**
comp=Z,2.2nm,1.1s,mb5.2
WLF Walferdange 90.52 324 P P **09 13 13.5 +0.2**
WLF AP pP 09 13 20.4 -1.0
WLF XP sP 09 13 23.4 -0.9
WLF Walferdange 90.52 324 *e*P P **09 13 13.5 +0.2**
WLF *e**PP pP 09 13 20.3 -1.1
WLF pmax pmax
comp=Z,18nm,1.0s,mb5.4
WLF Walferdange 90.52 324 *e*P P **09 13 13.5 +0.1**
comp=Z,18nm,0.9s,mb5.4
WLF *e*pP pP 09 13 20.3 -1.1
CDF Champ du Feu 90.53 322 *e*P P **09 13 13.0 -0.4**
comp=Z,6.8nm,0.8s,mb4.7
CDF Champ du Feu 90.53 322 *e*P P **09 13 13.0 -0.4**
CDF pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
CDF Champ du Feu 90.53 322 *e*P P **09 13 13.0 -0.4**
comp=Z,3.4nm,0.8s,mb4.7
SNF Seneffe 91.10 325 P P **09 13 15.7 -0.3**
SNF XP sP 09 13 25.2 -1.8
DOU Dourbes 91.15 325⇑P P **09 13 15.7 -0.6**
DOU XP sP 09 13 26.3 -1.0
comp=Z,4.2nm,1.0s
MCGN Macugnaga 91.33 320 P P **09 13 17.6 +0.5**
comp=Z,13nm,0.9s,mb5.2
BAIF Baives 91.38 325 *e*P P **09 13 16.9 -0.4**
CMW Cultus Mountai 92.15 37 P P **09 13 22.4 +1.5**
LPG La Plagne 92.31 320 *e*P P **09 13 21.7 +0.1**
comp=Z,17nm,0.8s,mb5.1
LPG La Plagne 92.31 320 *e*P P **09 13 21.7 +0.1**
LPG pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
LPG La Plagne 92.31 320 *e*P P **09 13 21.7 +0.1**
comp=Z,8.4nm,0.8s,mb5.1
LPL La Plagne 92.31 320 *e*P P **09 13 21.9 +0.2**
comp=Z,23nm,1.0s,mb5.2
LPL La Plagne 92.31 320 *e*P P **09 13 21.9 +0.2**
LPL pmax pmax
comp=Z,12nm,1.0s,mb5.2
LPL La Plagne 92.31 320 *e*P P **09 13 21.9 +0.2**
comp=Z,12nm,1.0s,mb5.2
PGF Pioggiola 92.37 317 *e*P P **09 13 21.5 -0.4**
comp=Z,32nm,0.9s,mb5.4
PGF Pioggiola 92.37 317 *e*P P **09 13 21.5 -0.4**
PGF pmax pmax
comp=Z,16nm,0.9s,mb5.3
PGF Pioggiola 92.37 317 *e*P P **09 13 21.5 -0.4**
comp=Z,16nm,0.9s,mb5.3
JCW Jim Creek 92.38 37 P P **09 13 23.3 +1.3**
BNI Bardonecchia 92.58 320 *e*P P **09 13 22.7 -0.2**
BNI pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
BNI Bardonecchia 92.58 320 *e*P P **09 13 22.7 -0.2**
comp=Z,9.4nm,0.9s,mb5.2
MBDF Montbardon 92.69 319 *e*P P **09 13 23.2 -0.2**
SBF Sospel 92.72 318 *e*P P **09 13 23.2 -0.3**
comp=Z,24nm,0.8s,mb5.4
SBF Sospel 92.72 318 *e*P P **09 13 23.2 -0.3**
SBF pmax pmax
comp=Z,12nm,0.8s,mb5.4
SBF Sospel 92.72 318 *e*P P **09 13 23.2 -0.3**
comp=Z,12nm,0.8s,mb5.4
LOR Lormes 93.09 323 *e*P P **09 13 24.3 -0.9**
LOR *e*R
comp=Z,2μm,19.0s
LOR Lormes 93.09 323 *e*P P **09 13 24.3 -0.9**
LOR LR LR
comp=Z,2μm,19.0s,MS5.6
ORIF Oris-en-Rattie 93.14 320 *e*P P **09 13 25.1 -0.4**
ORIF *e*R
comp=Z,1μm,20.5s
SSF Saint Saulge 93.40 323 *e*P P **09 13 25.5 -1.2**
comp=Z,9.1nm,0.9s,mb4.9
SSF Saint Saulge 93.40 323 *e*P P **09 13 25.5 -1.2**
SSF pmax pmax
comp=Z,5.0nm,0.9s,mb4.9
SSF Saint Saulge 93.40 323 *e*P P **09 13 25.5 -1.2**
comp=Z,4.6nm,0.9s,mb4.9
SMF Signal de Mont 93.43 322 *e*P P **09 13 26.4 -0.4**
LMR La Mourre 93.56 318 *e*P P **09 13 27.0 -0.4**
comp=Z,27nm,1.1s,mb5.3
LMR La Mourre 93.56 318 *e*P P **09 13 27.0 -0.4**
LMR pmax pmax
comp=Z,13nm,1.1s,mb5.3
LMR La Mourre 93.56 318 *e*P P **09 13 27.0 -0.4**
comp=Z,13nm,1.1s,mb5.3
AVF Avril sur Loir 93.64 322 *e*P P **09 13 26.9 -0.9**
comp=Z,13nm,1.0s,mb5.0
AVF Avril sur Loir 93.64 322 *e*P P **09 13 26.9 -0.9**
AVF pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
AVF Avril sur Loir 93.64 322 *e*P P **09 13 26.9 -0.9**
comp=Z,6.5nm,1.0s,mb5.0
SFJD Kangerlussuaq 93.71 357⇑*i*P P **09 13 27.7 -0.4**
comp=Z,13nm,0.8s,mb5.4
SFJD *i* 09 24 36.0
SFJD *i* 09 25 59.0
SFJD Kangerlussuaq 93.71 357⇑*i*P P **09 13 27.7 -0.4**
SFJD *i* 09 24 36.0
SFJD *i* 09 25 59.0
SFJD pmax pmax
comp=Z,13nm,0.8s,mb5.4
EDM Edmonton 93.83 29 *e*P P **09 13 29.2 +0.6**
VIVF Saint-Julien-l 93.90 320 *e*P P **09 13 28.3 -0.7**

	comp=Z,7.5nm,1.0s,mb4.8								
VIVF	**Saint-Julien-I**	**93.90**	**320**	*e*P		**P**	**09 13 28.3**	**-0.7**	
VIVF				pmax		pmax			
	comp=Z,4.0nm,1.0s,mb4.8								
VIVF	**Saint-Julien-I**	**93.90**	**320**	*e*P		**P**	**09 13 28.3**	**-0.7**	
	comp=Z,3.8nm,1.0s,mb4.8								
TDH	**Tom, Dick, Har**	**94.02**	**39**	P		**P**	**09 13 30.9**	**+1.4**	
IRO	**Indian Ridge**	**94.43**	**40**	P		**P**	**09 13 32.4**	**+1.0**	
LDF	**La Druitiere**	**94.55**	**325**	*e*P		**P**	**09 13 31.0**	**-0.9**	
	comp=Z,75nm,1.7s,mb5.5								
LDF	**La Druitiere**	**94.55**	**325**	*e*P		**P**	**09 13 31.0**	**-0.9**	
LDF				pmax		pmax			
	comp=Z,37nm,1.7s,mb5.5								
LDF	**La Druitiere**	**94.55**	**325**	*e*P		**P**	**09 13 31.0**	**-0.9**	
	comp=Z,37nm,1.7s,mb5.5								
TCF	**Toulx Ste Croi**	**94.57**	**322**	*e*P		**P**	**09 13 31.4**	**-0.6**	
	comp=Z,18nm,1.2s,mb5.1								
TCF	**Toulx Ste Croi**	**94.57**	**322**	*e*P		**P**	**09 13 31.4**	**-0.6**	
TCF				pmax		pmax			
	comp=Z,9.0nm,1.2s,mb5.1								
TCF	**Toulx Ste Croi**	**94.57**	**322**	*e*P		**P**	**09 13 31.4**	**-0.6**	
	comp=Z,9.1nm,1.2s,mb5.1								
FLN	**La Foliniere**	**94.64**	**326**	*e*P		**P**	**09 13 31.7**	**-0.7**	
	comp=Z,32nm,1.2s,mb5.3								
FLN				*e*R					
	comp=Z,2µm,17.5s								
FLN	**La Foliniere**	**94.64**	**326**	*e*P		**P**	**09 13 31.7**	**-0.7**	
FLN				pmax		pmax			
	comp=Z,16nm,1.2s,mb5.3								
FLN				MLR		MLR			
	comp=Z,2µm,17.5s,MS5.7								
FLN	**La Foliniere**	**94.64**	**326**	*e*P		**P**	**09 13 31.7**	**-0.7**	
	comp=Z,16nm,1.2s,mb5.3								
FLN				LR		LR			
	comp=Z,2µm,17.5s,MS5.7								
LASF	**Ste Croix**	**94.81**	**320**	*e*P		**P**	**09 13 32.7**	**-0.5**	
NEW	**Newport**	**94.99**	**35**	*e*P		**P**	**09 13 34.7**	**+0.7**	
NEW				*e**PP		pP	09 13 42.9	+0.8	
NEW				pmax		pmax			
	comp=Z,13nm,0.9s								
NEW	**Newport**	**94.99**	**35**	*e*P		**P**	**09 13 34.7**	**+0.7**	
	comp=Z,13nm,0.8s,mb5.4								
NEW				*e*pP		pP	09 13 42.9	+0.8	
PPT	**Papeete**	**95.01**	**107**	*e*PS		PS	09 26 05.5	-1.1	
	comp=Z,651nm,28.2s								
PPT	**Papeete**	**95.01**	**107**	*e*SS		SS	09 31 09.3	-3.2	
	comp=Z,564nm,30.5s								
PPT				*e*LR		LR	09 43 50.9		
	comp=Z,2µm,25.8s,baz=294								
PPT	**Papeete**	**95.01**	**107**	LR		LR	09 46 13.3		
	comp=Z,1µm,21.5s,MS5.3,baz=280,slow=29								
YBH	**Yreka Blue Hor**	**95.35**	**42**	P		**P**	**09 13 36.7**	**+1.1**	
YBH				pmax		pmax			
	comp=Z,100nm,2.2s								
YBH	**Yreka Blue Hor**	**95.35**	**42**	*e*P		**P**	**09 13 35.6**	**0.0**	
	comp=Z,104nm,2.3s,mb5.9								
BUOR	**Burton Butte**	**95.35**	**42**	P		**P**	**09 13 36.7**	**+1.1**	
LHEM	**Herd Peak**	**95.71**	**42**	P		**P**	**09 13 38.2**	**+0.9**	
WALA	**Waterton Lakes**	**96.19**	**33**	*e*P		**P**	**09 13 40.2**	**+0.8**	
	comp=Z,14nm,1.0s,mb5.3								
MTLF	**Montolieu**	**96.21**	**320**	*e*P		**P**	**09 13 38.9**	**-0.6**	
BSMT	**Bassoo Peak**	**96.49**	**34**	P		**P**	**09 13 42.1**	**+1.3**	
MOD	**Modoc**	**96.77**	**41**	*e*P		**P**	**09 13 42.6**	**+0.5**	
	comp=Z,15nm,0.9s,mb5.4								
TBI	**Tubuai**	**96.92**	**112**	*e*PP		PP	09 17 31.8	-6.4	
	comp=Z,141nm,29.8s								
TBI	**Tubuai**	**96.92**	**112**	*e*PS		PS	09 26 24.9	-2.6	
	comp=Z,402nm,32.5s								
TBI	**Tubuai**	**96.92**	**112**	*e*SS		SS	09 31 38.6	-0.9	
	comp=Z,313nm,32.8s								
TBI				*e*LR		LR	09 44 26.3		
	comp=Z,1µm,25.5s,baz=297								
FCC	**Fort Churchill**	**96.95**	**18**	P		**P**	**09 13 41.9**	**-1.0**	
FCC				pmax		pmax			
	comp=Z,9.0nm,0.9s,mb5.2								
FCC	**Fort Churchill**	**96.95**	**18**	*e*P		**P**	**09 13 41.9**	**-1.1**	
	comp=Z,9.0nm,0.9s,mb5.2								
WVOR	**Wild Horse Val**	**97.50**	**40**	*e*P		**P**	**09 13 46.0**	**+0.6**	
WVOR				pmax		pmax			
	comp=Z,11nm,1.3s,mb5.2								
WVOR	**Wild Horse Val**	**97.50**	**40**	*e*P		**P**	**09 13 46.0**	**+0.6**	
	comp=Z,10nm,1.3s,mb5.2								
FFC	**Flin Flon**	**97.57**	**24**	P		**P**	**09 13 45.7**	**0.0**	
	comp=Z,59nm,0.9s,mb6.1,SNR=8.2								
FFC	**Flin Flon**	**97.57**	**24**	*e*P		**P**	**09 13 45.4**	**-0.3**	
FFC				pmax		pmax			
	comp=Z,8.0nm,0.8s,mb5.3								
FFC	**Flin Flon**	**97.57**	**24**	*e*P		**P**	**09 13 45.4**	**-0.3**	
	comp=Z,7.6nm,0.8s,mb5.3								
CMB	**Columbia Colle**	**98.83**	**45**	P		**P**	**09 13 51.7**	**+0.4**	
CMB				pmax		pmax			
	comp=Z,6.0nm,1.0s,mb5.1								
CMB	**Columbia Colle**	**98.83**	**45**	*e*P		**P**	**09 13 51.6**	**+0.3**	
	comp=Z,5.9nm,1.0s,mb5.1								
DLMT	**Dillon**	**99.23**	**35**	*e*P		**P**	**09 13 53.5**	**+0.4**	
	comp=Z,8.6nm,0.9s,mb5.3								
HLID	**Hailey**	**99.33**	**37**	*e*P		**P**	**09 13 54.9**	**+1.3**	
	comp=Z,4.9nm,1.0s,mb5.0								
VNDA	**Vanda**	**99.53**	**172**	P		**P**	**09 13 53.6**	**-0.8**	
	comp=Z,3.1nm,0.7s,mb4.8,baz=310,slow=5.8,SNR=22								
VNDA				PKKPbc		PKKPbc	09 30 16.9	+0.4	
	comp=Z,1.0nm,0.8s,baz=205,slow=3.3,SNR=5.7								
VNDA				LR		LR	10 02 38.3		
	comp=Z,482nm,18.3s,MS5.0,baz=326,slow=38								
NVAR	**Mina Array Bea**	**99.98**	**43**	P		Pdif	09 13 56.9	+0.4	
	comp=Z,4.8nm,1.0s,baz=280,slow=3.7,SNR=19								
SBA	**Scott Base**	**100.47**	**171**	*e*P		Pdif	09 13 56.3	-2.3	
ELK	**Elko**	**100.56**	**40**	*e*P		Pdif	09 14 00.2	+1.2	
ELK				pmax		pmax			
	comp=Z,3.0nm,0.9s								
ELK	**Elko**	**100.56**	**40**	*e*PKPdf		Pdif	09 14 00.2	+1.2	
	comp=Z,2.8nm,0.9s								
PDAR	**Pinedale Array**	**102.58**	**36**	P		Pdif	09 14 07.1	-0.9	
	comp=Z,0.8nm,0.9s,baz=90,slow=1.5,SNR=4.2								
PDAR				PKKPbc		PKKPbc	09 30 06.9	-0.8	
	comp=Z,0.8nm,0.7s,baz=145,slow=5.2,SNR=5.9								
SYO	**Syowa Base**	**104.89**	**202**	*e*pPdiff			09 14 26.2		
SYO	**Syowa Base**	**104.89**	**202**	*e*PP		PP	09 18 37.5	-1.0	
SCHQ	**Schefferville**	**105.82**	**5**	PKKPbc		PKKPbc	09 29 55.4	-2.6	
	comp=Z,1.8nm,1.0s,baz=225,slow=1.4,SNR=3.6								
QSPA	**South Pole Qui**	**109.15**	**180**	*e*PKPdf		PKiKP	09 18 39.5	-1.7	
ANMO	**Albuquerque**	**109.59**	**40**	*e*PKPdf		PKiKP	09 18 43.1	+1.1	
RKT	**Rikitea**	**109.70**	**108**	*e*PP		PP	09 19 08.0	-5.7	
	comp=Z,137nm,32.0s								
RKT	**Rikitea**	**109.70**	**108**	*e*SS		SS	09 34 30.4	-5.1	
	comp=Z,457nm,29.8s								
RKT				*e*LR		LR	09 50 10.7		
	comp=Z,1µm,27.2s,baz=292								
TORD	**Torodi Ar. Bea**	**112.20**	**294**	PKiKP		PKiKP	09 18 46.7	-0.3	
	comp=Z,2.0nm,0.8s,baz=12,slow=1.6,SNR=13								
TORD				PKKPbc		PKKPbc	09 29 38.7	+1.1	
	comp=Z,0.6nm,0.5s,baz=262,slow=2.5,SNR=9.1								
MNTX	**Cornudas Mount**	**112.44**	**42**	*e*PKPdf		PKiKP	09 18 47.4	-0.1	
LTX	**Lajitas**	**115.12**	**43**	*e*PKiKP		PKiKP	09 18 52.9	+0.3	
ACSO	**Alum Creek Sta**	**116.62**	**20**	*e*PKPdf		PKPdf	09 18 54.8	-0.6	
JCT	**Junction City**	**116.72**	**39**	*e*PKiKP		PKPdf	09 18 55.8	+0.2	
WCI	**Wyandotte Cave**	**117.21**	**24**	*e*PKiKP		PKPdf	09 18 56.5	-0.1	
UALR	**University of**	**117.48**	**31**	*e*PKPdf		PKPdf	09 18 57.0	-0.1	
WVT	**Waverly**	**118.40**	**26**	*e*PKiKP		PKPdf	09 18 58.4	-0.5	
SNAA	**Sanae**	**118.63**	**197**	||*i*PKPdf		PKPdf	09 18 49.5	-10
SNAA				*e*			09 18 50.4		
SNAA				*e*			09 19 01.1		
OXF	**Oxford**	**119.07**	**29**	*e*PKiKP		PKPdf	09 18 59.8	-0.3	
PLAL	**Pickwick Lake**	**119.27**	**27**	*e*PKPdf		PKPdf	09 18 59.5	-1.0	
SWET	**Sewanee**	**119.97**	**25**	*e*PKPdf		PKPdf	09 19 01.4	-0.4	
VNA2	**Neumayer--Watz**	**120.28**	**197**	||*i*PKPdf		PKPdf	09 19 01.0	-1.5
	baz=52,slow=0.7								
VNA2				*e*			09 19 02.0		
VNA2				*e*			09 19 11.1		
VNA1	**Neumayer--Stat**	**120.67**	**197**	*e*PKPdf		PKPdf	09 19 01.7	-1.5	
VNA1				*e*			09 19 02.8		
VNA1				*e*			09 19 11.7		
VNA3	**Neumayer Olymp**	**120.74**	**197**	||*i*PKPdf		PKPdf	09 19 01.4	-2.0
VNA3				*e*			09 19 02.5		
VNA3				*e*			09 19 11.6		
DBIC	**Dimbokro**	**120.89**	**291**	PKP		PKPdf	09 19 03.6	0.0	
	comp=Z,5.9nm,0.8s,baz=36,slow=6.1,SNR=5.2								
LRAL	**Lakeview Retre**	**121.39**	**28**	*e*PKPdf		PKPdf	09 19 04.2	-0.4	
CPD	**Cerro la Pandu**	**142.22**	**11**	*e*PKiKP		PKPdf	09 19 44.3	+0.6	
DEG	**La Desirade**	**144.51**	**4**	*e*P		PKPdf	09 19 46.2	-1.5	
MGG	**Marie-Galante**	**144.88**	**4**	*e*P		PKPdf	09 19 47.1	-1.3	
TBG	**Guadaloupe-3**	**144.93**	**5**	*e*P		PKPdf	09 19 47.8	-0.7	
BBL	**Barber's Block**	**145.26**	**4**	*e*P		PKPbc	09 19 49.0	+0.2	
CRM	**Caravelle**	**146.07**	**4**	*e*P		PKPdf	09 19 51.2	+0.8	
FDF	**Fort de France**	**146.07**	**4**	*e*P		PKPdf	09 19 51.8	+1.4	
MVM	**Montagne Vaucl**	**146.26**	**4**	*e*P		PKPdf	09 19 52.2	+1.4	
BIM	**Bigot**	**146.29**	**4**	*e*P		PKPdf	09 19 53.4	+2.6	
SDV	**Santo Domingo**	**149.65**	**24**	*e*PKPdf		PKPdf	09 19 57.8	+1.5	
SDV				*e*PKPbc		PKPbc	09 20 02.1	+1.1	
ROSC	**El Rosal**	**151.54**	**34**	PKP		PKPdf	09 20 01.3	+2.0	
	comp=Z,14nm,0.9s,baz=106,slow=22,SNR=8.3								
ROSC				PKPbc		PKPbc	09 20 07.4	+2.0	
	comp=Z,42nm,0.9s,baz=111,slow=2.2,SNR=19								
OTAV	**Otavalo**	**152.65**	**47**	*e*PKPdf		PKPdf	09 20 02.1	+1.2	
OTAV				*e*PKPbc		PKPbc	09 20 08.6	+0.6	
BDFB	**Brasilia**	**169.03**	**288**	PKP		PKPdf	09 20 18.6	+0.2	
	comp=Z,5.0nm,0.8s,baz=96,slow=1.8,SNR=9.5								
BDFB				PKPab		PKPab	09 21 29.1	-0.7	
	comp=Z,4.2nm,1.0s,baz=29,slow=6.8,SNR=3.0								
LPAZ	**La Paz**	**170.66**	**73**	PKP		PKPdf	09 20 21.3	+1.9	
	comp=Z,1.8nm,0.8s,baz=12,slow=3.6,SNR=11								
LPAZ				PKPab		PKPab	09 21 38.3	+1.2	
	comp=Z,2.1nm,0.8s,baz=27,slow=2.3,SNR=2.6								
LPAZ	**La Paz**	**170.66**	**73**	PKIKP		PKPdf	09 20 21.3	+1.9	
LPAZ				pmax		pmax			
	comp=Z,2.0nm,0.8s								
LPAZ				pmax		pmax			
	comp=Z,2.0nm,0.8s								
LPAZ	**La Paz**	**170.66**	**73**	*e*PKPdf		PKPdf	09 20 21.4	+2.0	
CPUP	**Villa Florida**	**172.90**	**191**	PKPab		PKPab	09 21 46.8	-0.2	
	comp=Z,4.0nm,0.7s,baz=121,slow=3.3,SNR=12								
CPUP	**Villa Florida**	**172.90**	**191**	PKP2		PKPab	09 21 46.8	-0.2	
CPUP				pmax		pmax			
	comp=Z,4.0nm,0.7s								

IDC 28 09:44:47.1±58.0, 2314S×17820W, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.6/12, mbtmp3.7/3, Error ellipse: s-maj=1062.0km s-min=160.1km az=87.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.54**	**247**	P		P	09 51 52.9	-1.5
	0.5nm,0.4s,baz=68,slow=9.7,SNR=5.2							
ASAR	**Alice Springs**	**43.79**	**259**	P		P	09 52 55.2	+0.6
	0.3nm,0.3s,baz=85,slow=6.8,SNR=12							
WRA	**Warramunga Arr**	**44.11**	**265**	P		P	09 52 58.4	+1.2
	0.6nm,0.4s,baz=99,slow=7.4,SNR=26							

MAN 28 09:58:56.4, 1899N×12122E, h14km, mb1.8, ML3.6, MS2.0, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SGCP	**Mt. Cagua**	**1.08**	**134**	*e*P		Pb	09 59 15.8	-1.1
APYP	**Conner**	**1.13**	**179**	*e*P		Pb	09 59 16.4	-1.2
CVP	**Callao Caves**	**1.41**	**156**	*e*P		Pn	09 59 21.0	-0.5
CVP				*e*S		Sn	09 59 41.0	+1.2
ABRA	**Dolores**	**1.42**	**200**	*e*P		Pn	09 59 13.2	-8.5
BALP	**Baler**	**3.25**	**174**	*e*P		Pn	09 59 48.0	+1.0

*MOS **28** 10:06:03.4±0.8, 5609N×16426E, h16km, mb4.3/1, Error ellipse: s-maj=31.8km s-min=18.6km az=51.6*

KRSC 28 10:06:04.4±0.8, 5618N×16419E, h19km±2km, ML4.3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.77**	**273**	P		Pb	10 06 18.5	-0.6
KBTR				S		Sb	10 06 28.6	-0.6
KBTR	**Krutoberegovo**	**0.77**	**273**	*i* P		Pb	10 06 18.5	-0.6
KBTR				*e*S		Sb	10 06 29.3	+0.1
KBG	**Krutoberegovo**	**0.83**	**276**	*i* P		Pb	10 06 19.6	-0.6
KBG				*e*S		Sb	10 06 31.1	0.0
KBG				Smax				
	14µm,0.6s							
BKI	**Bering**	**1.41**	**133**	*i* P		Pn	10 06 28.3	-0.7
BKI				*i* S		Sn	10 06 45.9	-1.1
BKI				Smax				
	740nm,0.5s							
SMKR	**Semkarok**	**1.57**	**286**	*i* P		Pn	10 06 31.6	+0.4
SMKR				*i* S		Sn	10 06 51.8	+0.9
BDR	**Baidarnaya**	**1.70**	**284**	*i* P		Pn	10 06 34.4	+1.3
BDR				*e*S		Sn	10 06 56.0	+1.7
SRKR	**Sorokina**	**1.75**	**287**	*i* P		Pn	10 06 34.4	+0.8
SRKR				*e*S		Sn	10 06 55.4	0.0
ZLN	**Zelenaya**	**1.90**	**266**	*i* P		Pn	10 06 37.6	+1.8
ZLN				*e*S		Sn	10 07 01.4	+2.1
CIRR	**Tsirk**	**1.93**	**269**	*i* P		Pn	10 06 37.7	+1.6
CIRR				*i* S		Sn	10 07 02.4	+2.6
LGNR	**Loginova**	**1.96**	**269**	*i* P		Pn	10 06 38.5	+1.9
LGNR				*e*S		Sn	10 07 01.9	+1.2
KLY	**Klyuchi**	**1.98**	**275**	P		Pn	10 06 36.5	-0.4
KLY				S		Sn	10 06 59.5	-1.6
KLY	**Klyuchi**	**1.98**	**275**	*i* P		Pn	10 06 36.5	-0.4
KLY				*i* S		Sn	10 06 59.8	-1.3
KRSR	**Krestovskiy**	**2.03**	**273**	*i* P		Pn	10 06 38.6	+1.1
KRSR				*e*S		Sn	10 07 03.5	+1.2
MKZ	**Mys Kozlova**	**2.15**	**222**	P		Pn	10 06 39.4	+0.2
MKZ				S		Sn	10 07 04.3	-1.0
MKZ	**Mys Kozlova**	**2.15**	**222**	*i* P		Pn	10 06 39.3	+0.1
MKZ				*i* S		Sn	10 07 05.1	-0.2
KPT	**Kopyto**	**2.23**	**266**	*i* P		Pn	10 06 42.7	+2.3
KPT				*e*S		Sn	10 07 09.9	+2.5
KMNR	**Kamenistaya**	**2.26**	**261**	*i* P		Pn	10 06 42.9	+2.1
KMNR				*e*S		Sn	10 07 09.9	+1.8
KOZR	**Kozyr**	**2.41**	**269**	PN		Pn	10 06 45.1	+2.4
KOZR				S		Sn	10 07 13.8	+2.1
KOZ	**Kozyrevsk**	**2.42**	**269**	P		Pn	10 06 45.1	+2.2
KOZ				S		Sn	10 07 13.8	+1.8
KOZ	**Kozyrevsk**	**2.42**	**269**	*e*P		Pn	10 06 45.1	+2.2
KOZ				*e*S		Sn	10 07 14.4	+2.4
TUMR	**Tumrok**	**2.46**	**250**	*i* P		Pn	10 06 45.6	+2.2
TUMR				*e*S		Sn	10 07 14.2	+1.3
SRDR	**Sredinnyy**	**2.50**	**275**	*i* P		Pn	10 06 46.0	+2.0
SRDR				*i* S		Sn	10 07 16.7	+2.7
ESO	**Esso**	**3.09**	**268**	*e*P		Pn	10 06 54.0	+1.9
ESO				*e*S		Sn	10 07 30.8	+2.3
OSSR	**Ossora**	**3.14**	**349**	*i* P		Pn	10 06 54.4	+1.6
OSSR				*e*S		Sn	10 07 29.3	-0.4
OSSR				Smax				
	230nm,0.5s							
SPN	**Mys Shipunski**	**3.92**	**220**	P		Pn	10 07 03.5	-0.1
SPN				S		Sn	10 07 46.3	-2.8
SPN	**Mys Shipunski**	**3.92**	**220**	*e*P		Pn	10 07 04.2	+0.6
SPN				*e*S		Sn	10 07 47.2	-1.9
NLC	**Nalytchevo**	**4.12**	**225**	P		Pn	10 07 07.3	+1.0
NLC				S		Sn	10 07 52.6	-1.4
NLC	**Nalytchevo**	**4.12**	**225**	*i* P		Pn	10 07 07.4	+1.1
NLC				*e*S		Sn	10 07 54.2	+0.2
SDLR	**Sedlovina**	**4.23**	**229**	*i* P		Pn	10 07 09.8	+2.0
SDLR				*e*S		Sn	10 07 56.6	-0.1
SMAR	**Somma**	**4.28**	**229**	*i* P		Pn	10 07 10.5	+2.0
AVH	**Avacha**	**4.30**	**230**	*e*P		Pn	10 07 11.0	+2.2
AVH				*e*S		Sn	10 08 00.2	+1.7
UGLR	**Uglovaya**	**4.31**	**229**	*e*P		Pn	10 07 11.0	+2.1
KOK	**Koryaka**	**4.33**	**230**	*i* P		Pn	10 07 11.4	+2.2
GNL	**Ganaly**	**4.38**	**238**	*e*P		Pn	10 07 12.4	+2.5
PET	**Petropavlovsk**	**4.51**	**228**	*e*P		Pn	10 07 13.2	+1.5
KRMR	**Karymshinskiy**	**4.87**	**229**	*e*P		Pn	10 07 18.6	+2.0
RUS	**Russkaya**	**5.01**	**224**	*e*P		Pn	10 07 20.0	+1.4
RUS				*e*S		Sn	10 08 15.0	-1.0
GRL	**Gorelyy**	**5.10**	**227**	*e*P		Pn	10 07 22.9	+3.2
KAMR	**Kamenskoye**	**6.38**	**8**	*i* P		Pn	10 07 38.5	+1.1
KAMR				*e*S		Sn	10 08 47.2	-2.5
KAMR				Smax				
	60nm,0.9s							

IDC 28 10:22:22.6±0.7, 2307S×6876W, h83km±11km, mb3.4/3, mb1 3.5/6, mb1mx3.4/16, mbtmp3.7/6, Error ellipse: s-maj=38.3km s-min=16.2km az=100.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.48**	**343**	P		Pn	10 22 38.0	+1.5
	195nm,0.3s,baz=159,slow=4.4,SNR=6175							
LVC				S		Sn	10 22 49.4	+2.6
	242nm,0.3s,baz=294,slow=20,SNR=73							
LPAZ	**La Paz**	**6.78**	**5**	P		Pn	10 24 03.0	+3.6
	0.5nm,0.3s,baz=208,slow=5.8,SNR=25							
CFAA	**Coronel Fontan**	**8.51**	**177**	P		Pn	10 24 21.6	-1.4
	0.1nm,0.3s,baz=356,slow=14,SNR=17							
CFAA				S		Sn	10 25 58.7	+1.3
	0.1nm,0.3s,baz=255,slow=19,SNR=4.0							

SIV	**San Ignacio**	**10.10**	**47**	P		Pn	10 24 43.8	-0.9	
	2.1nm,0.3s,baz=262,slow=11,SNR=38								
PLCA	**Paso Flores**	**17.67**	**184**	P		Pn	10 26 23.7	+0.5	
	0.1nm,0.3s,baz=18,slow=6.4,SNR=3.0								
BDFB	**Brasilia**	**20.91**	**73**	P		P	10 27 00.2	+2.0	
	1.0nm,0.4s,baz=248,slow=9.9,SNR=3.1								
SNAA	**Sanae**	**60.76**	**161**	P		P	10 32 25.2	-0.3	
	0.5nm,0.8s,baz=291,slow=10.0,SNR=8.9								
TORD	**Torodi Ar. Bea**	**77.75**	**70**	P		P	10 34 10.7	+0.2	
	1.1nm,0.7s,baz=255,slow=5.0,SNR=18								
TORD				pP		pP	10 34 35.0	+2.6	
	0.6nm,0.6s,baz=252,slow=4.9,SNR=2.9								
MKAR	**Makanchi Array**	**146.81**	**37**	PKPbc		PKPbc	10 41 54.8	-0.3	
	0.1nm,0.4s,baz=325,slow=1.5,SNR=4.7								
MKAR				pPKPbc		pPKPbc	10 42 19.9	+1.8	
	0.7nm,0.7s,baz=11,slow=2.9,SNR=5.9								

IDC 28 10:36:19.4±36.0, 414N×12227E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/16, mbtmp4.1/3, Error ellipse: s-maj=600.4km s-min=290.4km az=152.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.71**	**154**	P		P	10 42 00.4	+0.1
	3.0nm,0.4s,baz=337,slow=9.4,SNR=55							
ASAR	**Alice Springs**	**29.87**	**158**	P		P	10 42 28.8	+0.2
	1.7nm,0.6s,baz=342,slow=16,SNR=19							
STKA	**Stephens Creek**	**40.26**	**154**	P		P	10 43 58.6	+0.6
	1.3nm,0.5s,baz=328,slow=12,SNR=4.5							

*NIED **28** 10:41:00, 26.10N×124.60E, h140km, Mw4.8 Best double couple: M0 1.52000×10^16 NP1:φ=54.00000°, δ=85.00000°, λ=128.00000°. NP2:φ=151.00000°, δ=39.00000°, λ=9.00000°.*
*ISCJB **28** 10:41:54.1±0.3, 2596N×006×12478E×005, h163km±5km, mb3.6/9, Error ellipse: s-maj=11.6km s-min=3.8km az=120.2*
*NEIC **28** 10:41:55.4±0.7, 2602N×124.75E, h158km±7km, mb3.8/4, Error ellipse: s-maj=11.8km s-min=10.3km az=171.0*
*JMA **28** 10:41:55.7±0.2, 2605N×124.64E, h144km, M4.2*
*IDC **28** 10:41:57.1±4.4, 2618N×125.07E, h180km±52km, mb3.2/5, mb1 3.3/6, mb1mx3.1/21, mbtmp3.7/6, Error ellipse: s-maj=64.2km s-min=15.0km az=64.0*

ISC 28 10:41:55.2±0.3, 2598N±006×12477E±005, h156km±6km, n33, σ=99/51, mb3.6/9, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JMJ	**Miyako jima 2**	**1.26**	**158**	P		**Pn**	**10 42 23.8**	**+1.0**
JMJ				S		**Sn**	**10 42 44.1**	**+0.2**
JTJ	**Tarama**	**1.34**	**183**	P		**Pn**	**10 42 24.2**	**+0.7**
JTJ				S		**Sn**	**10 42 44.6**	**-0.7**
JOGS	**Gusukube**	**1.35**	**155**	P		**Pn**	**10 42 25.0**	**+1.4**
JOGS				S		**Sn**	**10 42 46.0**	**+0.5**
JIJ	**Ishigaki jima**	**1.71**	**199**	P		**Pn**	**10 42 27.2**	**-0.2**
JIJ				S		**Sn**	**10 42 50.2**	**-1.9**
JKE	**Kume jima 2**	**1.84**	**79**	P		**Pn**	**10 42 30.1**	**+1.2**
JKE				S		**Sn**	**10 42 55.8**	**+1.0**
JKRS	**Kuro-shima**	**1.87**	**202**	P		**Pn**	**10 42 29.1**	**-0.1**
JKRS				S		**Sn**	**10 42 53.8**	**-1.5**
IRIF	**Iriomote-Funau**	**1.89**	**210**	P		**Pn**	**10 42 29.

BATG			SN	**Sn**	**11 21 51.1**	**+1.4**
BATG			Trac		11 22 11.5	
	comp=Z,19nm,0.0s					
BATG	**Bathurst New B**	**2.23 176**	Pn	**Pn**	**11 21 23.8**	**+1.6**
BATG			Sn	**Sn**	**11 21 51.1**	**+1.4**
NATG	**Natashquan Que**	**2.38 69**	PN	**Pn**	**11 21 24.8**	**+0.5**
NATG			SN	**Sn**	**11 21 53.4**	**-0.1**
NATG			Trac		11 22 09.2	
	comp=Z,126nm,0.1s					
NATG	**Natashquan Que**	**2.38 69**	Pn	**Pn**	**11 21 24.8**	**+0.5**
NATG			Sn	**Sn**	**11 21 53.4**	**-0.1**
A21	**Saint Andre**	**2.89 233**	PN	**Pn**	**11 21 32.3**	**+1.0**
A21			SN	**Sn**	**11 22 06.6**	**+0.5**
A21			Trac		11 22 22.3	
	comp=Z,255nm,0.3s					
A21	**Saint Andre**	**2.89 233**	Pn	**Pn**	**11 21 32.3**	**+1.0**
A21			Sn	**Sn**	**11 22 06.6**	**+0.5**
A64	**Saint Simeon**	**2.92 236**	PN	**Pn**	**11 21 33.0**	**+1.3**
A64			SN	**Sn**	**11 22 08.2**	**+1.3**
A64			Trac		11 22 21.1	
	comp=Z,42nm,0.1s					
A64	**Saint Simeon**	**2.92 236**	Pn	**Pn**	**11 21 33.0**	**+1.3**
A64			Sn	**Sn**	**11 22 08.2**	**+1.3**
A61	**Sainte Mathild**	**3.11 236**	PN	**Pn**	**11 21 34.7**	**+0.3**
A61			SN	**Sn**	**11 22 10.1**	**-1.4**
A61			Trac		11 22 28.3	
	comp=Z,66nm,0.2s					
A61	**Sainte Mathild**	**3.11 236**	Pn	**Pn**	**11 21 34.7**	**+0.3**
A61			Sn	**Sn**	**11 22 10.1**	**-1.4**
A16	**Riviere Ouelle**	**3.20 232**	PN	**Pn**	**11 21 36.6**	**+1.0**
A16			SN	**Sn**	**11 22 13.6**	**-0.2**
A16			Trac		11 22 33.3	
	comp=Z,43nm,0.2s					
A16	**Riviere Ouelle**	**3.20 232**	Pn	**Pn**	**11 21 36.6**	**+1.0**
A16			Sn	**Sn**	**11 22 13.6**	**-0.2**
TIGG	**Tignish, PEI**	**3.32 138**	PN	**Pn**	**11 21 33.2**	**-4.0**
TIGG			SN	**Sn**	**11 22 07.5**	**-9.1**
TIGG			Trac		11 22 24.1	
	comp=Z,11nm,0.1s					
TIGG	**Tignish, PEI**	**3.32 138**	Pn	**Pn**	**11 21 33.2**	**-4.0**
TIGG			Sn	**Sn**	**11 22 07.5**	**-9.1**
LMQ	**La Malbaie**	**3.32 236**	PN	**Pn**	**11 21 37.9**	**+0.6**
LMQ			SN	**Sn**	**11 22 17.1**	**+0.2**
LMQ			Trac		11 22 32.4	
	comp=Z,97nm,0.2s					
LMQ	**La Malbaie**	**3.32 236**	Pn	**Pn**	**11 21 37.9**	**+0.6**
LMQ			Sn	**Sn**	**11 22 17.1**	**+0.2**
A54	**Misere**	**3.42 235**	PN	**Pn**	**11 21 39.5**	**+0.8**
A54			SN	**Sn**	**11 22 18.7**	**-0.6**
A54			Trac		11 22 34.3	
	comp=Z,76nm,0.2s					
A54	**Misere**	**3.42 235**	Pn	**Pn**	**11 21 39.5**	**+0.8**
A54			Sn	**Sn**	**11 22 18.7**	**-0.6**
A11	**Saint Roch-des**	**3.45 231**	PN	**Pn**	**11 21 40.1**	**+1.1**
A11			SN	**Sn**	**11 22 19.3**	**-0.6**
A11			Trac		11 22 39.0	
	comp=Z,93nm,0.4s					
A11	**Saint Roch-des**	**3.45 231**	Pn	**Pn**	**11 21 40.1**	**+1.1**
A11			Sn	**Sn**	**11 22 19.3**	**-0.6**
DAQ	**Lac Daran**	**3.63 247**	PN	**Pn**	**11 21 41.3**	**-0.2**
DAQ			SN	**Sn**	**11 22 22.9**	**-1.4**
DAQ			Trac		11 22 41.1	
	comp=Z,78nm,0.2s					
DAQ	**Lac Daran**	**3.63 247**	Pn	**Pn**	**11 21 41.3**	**-0.2**
DAQ			Sn	**Sn**	**11 22 22.9**	**-1.4**
LMN	**Caledonia Moun**	**3.78 164**	PN	**Pn**	**11 21 44.3**	**+0.7**
LMN			SN	**Sn**	**11 22 27.3**	**-0.7**
LMN			Trac		11 22 58.5	
	comp=Z,16nm,0.3s					
LMN	**Caledonia Moun**	**3.78 164**	Pn	**Pn**	**11 21 44.3**	**+0.7**
LMN			Sn	**Sn**	**11 22 27.3**	**-0.7**
MADG	**Magdalen Islan**	**3.78 124**	PN	**Pn**	**11 21 45.5**	**+1.9**
MADG			Trac		11 22 54.1	
	comp=Z,24nm,0.1s					
MALG	**Malagash, Nova**	**4.21 151**	PN	**Pn**	**11 21 48.2**	**-1.3**
MALG			Sn	**Sn**	**11 22 38.6**	**-0.1**
GGN	**Saint George**	**4.40 185**	PN	**Pn**	**11 21 52.9**	**+0.8**
GGN			SN	**Sn**	**11 22 42.8**	**-0.5**
GGN			Trac		11 23 25.9	
	comp=Z,11nm,0.2s					
GGN	**Saint George**	**4.40 185**	Pn	**Pn**	**11 21 52.9**	**+0.8**
GGN			Sn	**Sn**	**11 22 42.8**	**-0.5**
CHEG	**Cheticamp, Nov**	**4.61 124**	PN	**Pn**	**11 21 56.1**	**+1.1**
CHEG			SN	**Sn**	**11 22 46.9**	**-1.8**
CHEG			Trac		11 22 50.6	
	comp=Z,14nm,0.1s					
CHEG	**Cheticamp, Nov**	**4.61 124**	Pn	**Pn**	**11 21 56.1**	**+1.1**
CHEG			Sn	**Sn**	**11 22 46.9**	**-1.8**
DPQ	**Saint Jean**	**5.19 240**	PN	**Pn**	**11 22 03.0**	**+0.1**
DPQ			SN	**Sn**	**11 23 00.8**	**-2.0**
DPQ			Trac		11 23 38.1	
	comp=Z,28nm,0.2s					
DPQ	**Saint Jean**	**5.19 240**	Pn	**Pn**	**11 22 03.0**	**+0.1**
DPQ			Sn	**Sn**	**11 23 00.8**	**-2.0**
HAL	**Halifax**	**5.20 158**	PN	**Pn**	**11 22 04.6**	**+1.6**
HAL			Trac		11 23 18.9	
	comp=Z,7.9nm,0.2s					
GBN	**Guysborough**	**5.21 140**	PN	**Pn**	**11 22 03.8**	**+0.6**
GBN			SN	**Sn**	**11 23 01.9**	**-1.5**
GBN			Trac		11 23 07.2	
	comp=Z,6.7nm,0.2s					
GBN	**Guysborough**	**5.21 140**	Pn	**Pn**	**11 22 03.8**	**+0.6**
GBN			Sn	**Sn**	**11 23 01.9**	**-1.5**
SCHQ	**Schefferville**	**5.36 357**	Pn	**Pn**	**11 22 03.5**	**-1.7**
	1.5nm,0.3s,baz=183,slow=14,SNR=25					
SCHQ			Sn	**Sn**	**11 23 01.1**	**-5.9**
	4.0nm,0.3s,baz=336,slow=19,SNR=5.9					
SCHQ			Lg		11 23 26.7	
	6.9nm,0.3s,baz=248,slow=17,SNR=7.8					
SCHQ	**Schefferville**	**5.36 357**	Pn	**Pn**	**11 22 03.5**	**-1.7**
SCHQ			Sn	**Sn**	**11 23 01.1**	**-5.9**
SCHQ			Lg		11 23 26.7	
DRLN	**Deer Lake**	**5.74 89**	PN	**Pn**	**11 22 10.2**	**-0.2**
DRLN			SN	**Sn**	**11 23 11.2**	**-5.1**
DRLN			Trac		11 23 14.1	
	comp=Z,14nm,0.1s					
DRLN	**Deer Lake**	**5.74 89**	Pn	**Pn**	**11 22 10.2**	**-0.2**
DRLN			Sn	**Sn**	**11 23 11.2**	**-5.1**
MOQ	**Mont Orford**	**5.83 226**	PN	**Pn**	**11 22 11.6**	**-0.1**
MOQ			SN	**Sn**	**11 23 16.1**	**-2.5**
MOQ			Trac		11 24 01.8	
	comp=Z,7.0nm,0.2s					
MOQ	**Mont Orford**	**5.83 226**	Pn	**Pn**	**11 22 11.6**	**-0.1**
MOQ			Sn	**Sn**	**11 23 16.1**	**-2.5**
TRQ	**Mont Tremblant**	**6.46 243**	PN	**Pn**	**11 22 19.6**	**-0.8**
TRQ			SN	**Sn**	**11 23 30.6**	**-3.6**
TRQ			Trac		11 24 12.6	
	comp=Z,14nm,0.2s					
TRQ	**Mont Tremblant**	**6.46 243**	Pn	**Pn**	**11 22 19.6**	**-0.8**
TRQ			Sn	**Sn**	**11 23 30.6**	**-3.6**
LBNH	**Lisbon**	**6.53 218**	*e*Pn	**Pn**	**11 22 21.8**	**+0.5**
LBNH			*e*Sn	**Sn**	**11 23 33.8**	**-2.1**
GRQ	**Grand Remous**	**7.04 249**	PN	**Pn**	**11 22 27.2**	**-1.2**
GRQ			SN	**Sn**	**11 23 44.1**	**-4.4**
GRQ			Trac		11 24 40.6	
	comp=Z,36nm,0.5s					
GRQ	**Grand Remous**	**7.04 249**	Pn	**Pn**	**11 22 27.2**	**-1.2**
GRQ			Sn	**Sn**	**11 23 44.1**	**-4.4**
GAC	**Glen Almond**	**7.28 242**	PN	**Pn**	**11 22 30.8**	**-0.9**
GAC			SN	**Sn**	**11 23 50.2**	**-4.2**
GAC			Trac		11 24 43.6	
	comp=Z,19nm,0.3s					
GAC	**Glen Almond**	**7.28 242**	Pn	**Pn**	**11 22 30.8**	**-0.9**
GAC			Sn	**Sn**	**11 23 50.2**	**-4.2**
VLDQ	**Val d'Or**	**7.51 264**	PN	**Pn**	**11 22 34.4**	**-0.5**
VLDQ			Trac		11 24 48.0	
	comp=Z,8.8nm,0.2s					
WBO	**Williamsburg**	**7.59 237**	PN	**Pn**	**11 22 36.6**	**+0.7**
WBO			SN	**Sn**	**11 23 57.0**	**-5.0**
WBO			Trac		11 24 49.7	
	comp=Z,15nm,0.3s					
WBO	**Williamsburg**	**7.59 237**	Pn	**Pn**	**11 22 36.6**	**+0.7**
WBO			Sn	**Sn**	**11 23 57.0**	**-5.0**
CRLO	**Chalk River**	**8.24 249**	PN	**Pn**	**11 22 41.6**	**-3.2**
CRLO			SN	**Sn**	**11 24 09.9**	**-8.0**
CRLO			Trac		11 25 11.9	
	comp=Z,13nm,0.3s					
CRLO	**Chalk River**	**8.24 249**	Pn	**Pn**	**11 22 41.6**	**-3.2**
CRLO			Sn	**Sn**	**11 24 09.9**	**-8.0**
EEO	**Eldee**	**9.03 256**	PN	**Pn**	**11 22 54.9**	**-0.8**
EEO			SN	**Sn**	**11 24 31.1**	**-6.4**
SADO	**Sadowa**	**9.96 247**	Pn	**Pn**	**11 23 06.1**	**-2.3**
	0.2nm,0.3s,baz=90,slow=12,SNR=2.8					
SADO			Sn	**Sn**	**11 24 51.2**	**-8.9**
	0.7nm,0.3s,baz=67,slow=7.7,SNR=4.1					
SADO			Lg		11 25 47.6	
	1.1nm,0.3s,baz=335,slow=23,SNR=3.7					
SADO	**Sadowa**	**9.96 247**	Pn	**Pn**	**11 23 06.1**	**-2.3**
SADO			Sn	**Sn**	**11 24 51.2**	**-8.9**
SADO			Lg		11 25 47.6	
FRB	**Frobisher Bay**	**14.34 356**	Pn	**Pn**	**11 24 01.4**	**-6.9**
	0.3nm,0.3s,baz=167,slow=13,SNR=5.7					
FRB			Sn	**Sn**	**11 26 30.4**	**-17**
	0.1nm,0.3s,baz=180,slow=20,SNR=3.9					
FRB			Lg		11 28 04.5	
	0.2nm,0.3s,baz=156,slow=18,SNR=2.6					
ARCES	**ARCESS Array B**	**45.36 30**	P	**P**	**11 29 02.7**	**-1.0**
	1.6nm,0.9s,mb3.9,baz=286,slow=6.5,SNR=6.6					
ARCES	**ARCESS Array B**	**45.36 30**	P	**P**	**11 29 02.7**	**-1.0**
WRA	**Warramunga Arr**	**146.22 323**	PKPbc	PKPbc	11 40 25.4	-0.4
	0.3nm,0.6s,baz=25,slow=3.4,SNR=5.1					
WRA			pPKPbc	pPKPbc	11 40 33.3	+4.0
	0.6nm,1.1s,baz=32,slow=4.3,SNR=1.9					
ASAR	**Alice Springs**	**149.74 321**	PKPbc	PKPbc	11 40 34.5	-0.9
	0.2nm,0.4s,baz=30,slow=2.0,SNR=14					
ASAR			pPKPbc	pPKPbc	11 40 42.5	+3.8
	0.2nm,0.4s,baz=47,slow=1.7,SNR=2.4					

*ISCJB **28** 11:27:00.6±1.3, 4077N±005×4482E±006, h1km±5km, Error ellipse: s-maj=9.5km s-min=7.8km az=126.5*
*TIF **28** 11:27:00.4, 4079N×4468E, h10km±2km*
*MOS **28** 11:27:01.1±0.2, 4087N×4529E, h11km, mb4.1/1, Error ellipse: s-maj=78.5km s-min=8.5km az=104.1*

ISC 28 11:27:00.7±1.3, 4074N±006×4479E±006, h0km±4km, n16, σ0s82/32, 4C-5D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KZR	**Kazreti**	**0.70**	**336**	P		**Pg**	**11 27 13.3**	**-0.9**
KZR				S		**Sg**	**11 27 22.3**	**-1.0**
DGRG	**David-gareji**	**0.84**	**31**	P		**Pg**	**11 27 18.1**	**+1.3**
DGRG				S		**Sg**	**11 27 28.3**	**+0.6**
MTA	**Mtatsminda**	**0.96**	**0**	P		**Pg**	**11 27 19.0**	**0.0**
MTA				S		**Sg**	**11 27 31.5**	**+0.1**
TBLG	**Delisi**	**0.99**	**358**	PG		**Pg**	**11 27 19.6**	**-0.2**
TBLG				S		**Sg**	**11 27 32.7**	**0.0**
AKH	**Akhalkalaki**	**1.19**	**305**	P		**Pg**	**11 27 23.5**	**0.0**
AKH				S		**Sg**	**11 27 38.9**	**0.0**
GOR	**Gori**	**1.35**	**338**	P		**Pg**	**11 27 26.2**	**-0.4**
GOR				S		**Sg**	**11 27 44.5**	**+0.4**
BKR	**Bakuriani**	**1.39**	**316**	P		**Pn**	**11 27 27.0**	**-0.3**
BKR				S		**Sg**	**11 27 45.9**	**+0.4**
ZEI	**Tsey**	**2.14**	**342**	↓*e*P		**Pn**	**11 27 38.8**	**+1.2**
ZEI				*e*S		**Sn**	**11 28 07.5**	**+2.6**
VLKR	**Vladikavkaz**	**2.31**	**358**	↑*e*P		**Pn**	**11 27 39.5**	**-0.5**
VLKR				*e*S		**Sn**	**11 28 08.7**	**-0.4**
SNJR	**Sundja**	**2.33**	**0**	↓*e*P		**Pn**	**11 27 39.6**	**-0.7**
SNJR				*e*S		**Sn**	**11 28 09.0**	**-0.6**
DIGR	**Digorskoe uzhe**	**2.34**	**338**	↑*e*P		**Pn**	**11 27 41.7**	**+1.3**
DIGR				*e*S		**Sn**	**11 28 13.2**	**+3.3**
KORR	**Kora**	**2.41**	**347**	↓*e*P		**Pn**	**11 27 41.7**	**+0.3**
KORR				*e*S		**Sn**	**11 28 12.4**	**+0.9**
ARNR	**Ardon**	**2.48**	**351**	↓*e*P		**Pn**	**11 27 42.3**	**0.0**
ARNR				*e*S		**Sn**	**11 28 13.6**	**+0.3**
BTKR	**Batakoyurt**	**2.64**	**356**	↑*e*P		**Pn**	**11 27 44.0**	**-0.5**
BTKR				*e*S		**Sn**	**11 28 16.6**	**-0.6**
KMSR	**Komsomolskaya**	**2.66**	**352**	↓*e*P		**Pn**	**11 27 44.6**	**-0.2**
KMSR				*e*S		**Sn**	**11 28 17.5**	**-0.2**
TRKR	**Terskaya**	**2.99**	**359**	↓*e*P		**Pn**	**11 27 48.3**	**-1.0**
TRKR				*e*S		**Sn**	**11 28 24.1**	**-1.7**

*NIED **28** 11:36:00, 3330N×13180E, h77km, Mw4.3 Best double couple: M0 2.85000×10^15 NP1:φs336.00000°, δ62.00000°, λ43.00000°. NP2:φ222.00000°, δ53.00000°, λ144.00000°.*
*MOS **28** 11:36:25.6±1.4, 3308N×13146E, h33km, mb4.4/6, Error ellipse: s-maj=15.3km s-min=10.9km az=84.5*
*ISCJB **28** 11:36:31.5±0.3, 3329N±004×13183E±003, h91km±2km, mb4.2/18, Error ellipse: s-maj=6.2km s-min=4.2km az=124.7*
*IDC **28** 11:36:32.5±0.6, 3326N×13171E, h83km±6km, mb3.8/7, mb1 4.0/10, mb1mx3.8/18, mbtmp4.3/10, MS2.7/1, Ms1 2.7/1, ms1mx2.0/29, Error ellipse: s-maj=14.5km s-min=11.4km az=138.0*
*NEIC **28** 11:36:32.6±0.3, 3325N×13170E, mb4.5/8, MW4.2(NIED), Error ellipse: s-maj=7.4km s-min=6.2km az=104.0*
NEIC Recorded [3 JMA] in Oita, [2 JMA] in Kumamoto and [1 JMA] in Fukuoka and Miyazaki Prefectures. Recorded [2 JMA] in Ehime and Kochi; [1 JMA] in Kagawa Prefectures, Shikoku. Also recorded [2 JMA] in Hiroshima and Yamaguchi; [1 JMA] in Okayama and Shimane Prefectures, Honshu.
*BJI **28** 11:36:32.9, 33.1N×132.07E, h114km, mB4.6, mb4.2*
*JMA **28** 11:36:33.0, 3334N×13180E, h80km±1km, M4.3 Broadband fault plane solution: P waves. NP1: φs240.00000°, δ27.00000°, λ-130.00000°. NP2: φs104.00000°, δ70.00000°, λ-72.00000°. Principal axes: T Plg23.0000°, Azm180.0000°; N Plg17.0000°, Azm277.0000°; P Plg61.0000°, Azm41.0000°;*
JMA Felt III J1.

ISC 28 11:36:32.7±0.3, 3330N±003×13180E±003, h84km±2km, h83km±.9km: pP-P, n60, σ0s76/65, mb4.2/18, 3C-7D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JUS	**Usuki**	**0.24**	**190**	↓P		**Pn**	**11 36 45.4**	**+0.3**
JUS				S		**Sn**	**11 36 54.2**	**-0.1**
OIT2	**Oita 2**	**0.29**	**265**	↓P		**Pn**	**11 36 45.5**	**+4.5**
JKI	**Kunimi**	**0.38**	**330**	↑P		**Pn**	**11 36 45.8**	**+3.5**
JKI				S		**Sn**	**11 36 55.1**	**-0.6**
JNA	**Nagahama**	**0.62**	**66**	↑P		**Pn**	**11 36 47.8**	**+2.3**
JNA				S		**Sn**	**11 36 58.9**	**-0.3**
UWA2	**Uwa jima 2**	**0.70**	**97**	↓P		**Pn**	**11 36 48.4**	**+1.8**
UWA2				S		**Sn**	**11 37 00.0**	**-0.5**
JNU	**Nakatsue**	**0.79**	**257**	P		**Pn**	**11 36 50.0**	**+2.2**
	369nm,0.3s,baz=61,slow=10,SNR=2726							
JNU				S		**Sn**	**11 37 01.9**	**-0.3**
	412nm,0.3s,baz=228,slow=33,SNR=30							
JTO	**Tosashimizu**	**0.95**	**117**	↓P		**Pn**	**11 36 51.1**	**+1.1**
JTO				S		**Sn**	**11 37 04.8**	**-0.6**
JHM	**Kurahashi**	**1.03**	**36**	↑P		**Pn**	**11 36 52.3**	**+1.2**
JHM				S		**Sn**	**11 37 06.8**	**-0.3**
JKU	**Kubokawa**	**1.06**	**89**	↓P		**Pn**	**11 36 52.4**	**+0.9**
JKU				S		**Sn**	**11 37 07.3**	**-0.3**
JIU2	**Izumi 2**	**1.12**	**228**	↓P		**Pn**	**11 36 53.8**	**+1.5**
JIU2				S		**Sn**	**11 37 09.0**	**0.0**
JTZ	**Takazaki**	**1.52**	**203**	P		**Pn**	**11 36 59.6**	**+1.8**
JTZ				S		**Sn**	**11 37 19.3**	**+1.4**
KS15	**Wonju Array Si**	**5.22**	**323**	*e*Pn		**Pn**	**11 37 48.5**	**+0.2**
KS15				*e*Sn		**Sn**	**11 38 56.8**	**+10**
MAJO	**Matsushiro**	**6.18**	**57**	*e*P		**Pn**	**11 38 02.5**	**+1.2**
MAJO				*e*			11 39 10.0	
MAJO				pmax	pmax			
	comp=Z,34nm,0.4s							
MAJO	**Matsushiro**	**6.18**	**57**	*e*Pn		**Pn**	**11 38 02.5**	**+1.3**
MAJO	comp=Z,34nm,0.4s			*e*Sn		**Sn**	**11 39 10.0**	**-0.5**
MAT	**Matsushiro**	**6.18**	**57**	P		**Pn**	**11 38 02.5**	**+1.2**
MAT				*e*S		**Sn**	**11 39 10.6**	**+0.1**
MAT	**Matsushiro**	**6.18**	**57**	*e*P		**Pn**	**11 38 03.0**	**+1.7**
MAT				S		**Sn**	**11 39 11.0**	**+0.5**
MAT				pmax	pmax			
	comp=Z,25nm,0.9s							
MAT	**Matsushiro**	**6.18**	**57**	*e*P		**Pn**	**11 38 03.0**	**+1.7**
	comp=Z,25nm,0.9s							
MAT				S		**Sn**	**11 39 11.0**	**+0.5**
MJAR	**Matsushiro Arr**	**6.18**	**57**	P		**Pn**	**11 38 03.2**	**+1.9**
	comp=Z,14nm,0.3s,baz=152,slow=27,SNR=135							
JHJ	**Hachijo jima 2**	**6.69**	**89**	P		**Pn**	**11 38 08.9**	**+0.5**
	comp=Z,35nm,0.3s,baz=28,slow=18,SNR=9.9							
JHJ				S		**Sn**	**11 39 22.6**	**-0.5**
	comp=Z,13nm,0.3s,baz=59,slow=18,SNR=2.7							
JOW	**Kunigami**	**7.13**	**206**	P		**Pn**	**11 38 12.9**	**-1.4**
	comp=Z,1.6nm,0.3s,baz=136,slow=24,SNR=8.8							
JOW				S		**Sn**	**11 39 27.9**	**-6.0**
	comp=Z,2.6nm,0.3s,baz=99,slow=26,SNR=4.8							
CBIJ	**Chichi jima**	**10.90**	**122**	LR		LR	11 42 03.4	
	comp=Z,41nm,19.2s,baz=120,slow=30							

KLR	**Kul'dur**	**15.91**	**360**	↓*i*P	**Pn**	**11 40 12.8**	**+1.2**
KLR				pmax	pmax		
	comp=Z,48nm,1.4s						
CIT	**Chita**	**22.91**	**330**	*e*P	pP	11 41 47.1	+0.5
ULN	**Ulaanbaatar**	**23.63**	**315**	*e*P	**P**	**11 41 36.1**	**0.0**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb3.9						
ULN	**Ulaanbaatar**	**23.63**	**315**	*e*P	**P**	**11 41 36.1**	**0.0**
	comp=Z,3.9nm,0.6s,mb3.9						
ULN				*e*pP		11 41 54.6	
CD2	**Chengdu**	**23.85**	**272**	*e*P	**P**	**11 41 39.0**	**+0.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.4						
SONM	**Songino Array**	**24.00**	**315**	P	**P**	**11 41 39.9**	**+0.3**
	comp=Z,4.9nm,0.7s,mb3.9,baz=124,slow=10,SNR=26						
SONM				pP		11 41 59.5	
	comp=Z,2.8nm,0.9s,baz=121,slow=8.6,SNR=4.7						
ZAK	**Zakamensk**	**27.01**	**318**	*e*P	**P**	**11 42 05.5**	**-1.3**
ZAK				pmax	pmax		
	comp=Z,5.0nm,2.0s,mb3.7						
TIXI	**Tiksi**	**38.44**	**359**	*e*P	pP	11 44 04.2	-1.8
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.5s,mb3.9						
MKAR	**Makanchi Array**	**39.58**	**305**	pP	pP	11 44 16.2	+0.6
	comp=Z,0.8nm,0.8s,baz=91,slow=11,SNR=4.4						
BILL	**Bilibino**	**40.00**	**19**	*e*P	**P**	**11 43 59.2**	**0.0**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.2						
BILL	**Bilibino**	**40.00**	**19**	*e*P	**P**	**11 43 59.2**	**0.0**
	comp=Z,4.4nm,1.1s,mb4.2						
BILL				*e*pP	pP	11 44 19.2	+0.1
CHKZ	**Chkalovo**	**47.20**	**315**	*e*P	**P**	**11 44 56.3**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
CHKZ	**Chkalovo**	**47.20**	**315**	*e*P	**P**	**11 44 56.3**	**-0.7**
	comp=Z,2.2nm,0.5s,mb4.1						
CHKZ				*e*pP	pP	11 45 16.0	-1.3
BRVK	**Borovoye**	**47.41**	**314**	P	**P**	**11 44 59.1**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
BRVK	**Borovoye**	**47.41**	**314**	P	**P**	**11 44 59.0**	**+0.5**
	comp=Z,1.3nm,0.4s,mb4.0						
BRVK				*e*pP	pP	11 45 18.5	-0.5
ZRNK	**Zerenda**	**48.18**	**314**	*e*P	**P**	**11 45 03.5**	**-1.1**
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
ZRNK	**Zerenda**	**48.18**	**314**	*e*P	**P**	**11 45 03.5**	**-1.1**
	comp=Z,6.9nm,0.9s,mb4.5						
ZRNK				*e*pP	pP	11 45 24.4	-0.6
WRAB	**Tennant Creek**	**52.99**	**177**	*e*P	**P**	**11 45 40.4**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
WRAB	**Tennant Creek**	**52.99**	**177**	*e*P	**P**	**11 45 40.4**	**-0.4**
	comp=Z,9.8nm,0.9s,mb4.8						
WRA	**Warramunga Arr**	**53.00**	**177**	P	**P**	**11 45 40.5**	**-0.3**
	comp=Z,3.5nm,0.8s,mb4.5,baz=352,slow=7.8,SNR=19						
ARU	**Arti**	**53.94**	**319**	*e*P	pP	11 46 07.7	-0.8
CTAO	**Charters Tower**	**54.85**	**163**	*e*P	**P**	**11 45 54.6**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
CTAO	**Charters Tower**	**54.85**	**163**	*e*P	**P**	**11 45 54.6**	**+0.3**
	comp=Z,12nm,1.0s,mb4.9						
AKTO	**Aktyubink**	**55.27**	**312**	pP	pP	11 46 18.3	+0.1
	comp=Z,1.6nm,0.7s,baz=88,slow=14,SNR=3.8						
MBWA	**Marble Bar**	**55.37**	**194**	*e*P	**P**	**11 45 57.2**	**-0.8**
	comp=Z,4.8nm,0.6s,mb4.7						
AS31	**Alice Springs**	**56.69**	**178**	*e*P	**P**	**11 46 07.5**	**+0.1**
ASAR	**Alice Springs**	**56.69**	**178**	P	**P**	**11 46 07.5**	**+0.1**
	comp=Z,1.7nm,0.6s,mb4.2,baz=9.5,slow=13,SNR=37						
ASAR				pP	pP	11 46 27.8	-0.6
	comp=Z,1.0nm,0.7s,baz=9.0,slow=9.8,SNR=3.9						
ASPA	**Alice Springs**	**56.69**	**178**	*e*P	**P**	**11 46 07.5**	**+0.1**
ILAR	**Eielson Array**	**56.77**	**30**	P	**P**	**11 46 08.1**	**+0.1**
	comp=Z,0.5nm,0.6s,mb3.7,baz=269,slow=6.5,SNR=14						
ILAR				pP	pP	11 46 28.8	-0.3
	comp=Z,1.0nm,0.6s,baz=276,slow=6.3,SNR=7.3						
DZM	**Mont Dzumac**	**64.22**	**144**	P	**P**	**11 47 00.3**	**+1.6**
	comp=Z,3.7nm,0.7s,mb4.3,baz=338,slow=19,SNR=4.4						
ARCES	**ARCESS Array B**	**64.60**	**338**	pP	pP	11 47 20.9	-1.8
	comp=Z,1.3nm,0.7s,baz=54,slow=9.1,SNR=2.0						
STKA	**Stephens Creek**	**65.49**	**171**	P	**P**	**11 47 05.5**	**-1.4**
	comp=Z,2.3nm,0.4s,mb4.3,baz=347,slow=7.9,SNR=14						
STKA	**Stephens Creek**	**65.49**	**171**	*e*P	**P**	**11 47 05.0**	**-1.9**
FINES	**FINESS Array B**	**68.27**	**330**	P	**P**	**11 47 23.1**	**-1.5**
	comp=Z,0.4nm,0.5s,mb3.5,baz=70,slow=6.3,SNR=4.9						
FINES				pP	pP	11 47 44.3	-1.9
	comp=Z,0.7nm,0.5s,baz=76,slow=5.6,SNR=3.0						
AKASG	**Malin Array Be**	**72.19**	**319**	pP	pP	11 48 08.5	-1.8
	comp=Z,0.5nm,0.5s,baz=52,slow=5.7,SNR=3.5						
NB2	**NORSAR Subarra**	**74.34**	**334**	P	pP	11 48 21.6	-1.4
	comp=Z,0.5nm,0.5

ASAJ	**Asahikawa**	**50.56**	**351**	LR	LR	12 14 40.7			
	comp=Z,46nm,18.6s,MS3.5,baz=159,slow=36								
SONM	**Songino Array**	**66.88**	**328**	P	**P**	**11 55 17.4**	**0.0**		
	2.9nm,1.0s,mb4.2,baz=127,slow=3.9,SNR=9.9								
SONM				LR	LR	12 24 04.3			
	comp=Z,133nm,20.2s,MS4.2,baz=274,slow=36								
DUT	**Dutch Harbor**	**69.04**	**25**	*e*P	**P**	**11 55 38.1**	**+7.2**		
MKAR	**Makanchi Array**	**80.67**	**319**	P	**P**	**11 56 37.2**	**-0.9**		
	0.3nm,0.3s,mb3.6,baz=98,slow=8.7,SNR=4.4								
MKAR	**Makanchi Array**	**80.67**	**319**	P	**P**	**11 56 37.2**	**-0.9**		
ILAR	**Eielson Array**	**83.54**	**22**	P	**P**	**11 56 53.0**	**-0.2**		
	1.0nm,0.8s,mb4.0,baz=247,slow=5.6,SNR=9.3								
YKA	**Yellowknife Ar**	**96.83**	**28**	LR	LR	12 38 13.2			
	comp=Z,64nm,19.9s,MS4.1,baz=270,slow=33								
TORD	**Torodi Ar. Bea**	**149.86**	**286**	PKPbc	PKPbc	12 04 17.4	+2.3		
	4.8nm,0.6s,baz=88,slow=2.1,SNR=45								

*BJI **28** 11:55:20.8, 3240N×11520W, h6km, mB5.1, mb4.8, Ms4.7, Msz4.5*
*ISCJB **28** 11:55:22.7±0.3, 3235N±003×115.19W±002, h6km, mb4.1/14, MS3.9/7, Error ellipse: s-maj=4.1km s-min=2.3km az=129.2*
*IDC **28** 11:55:22.7±2.2, 3223N×11469W, h0km, mb4.0/7, mb1 4.2/10, mb1mx4.0/23, mbtmp4.0/10, ML3.9/3, MS3.8/9, Ms1 3.8/9, ms1mx3.3/31, Error ellipse: s-maj=36.9km s-min=27.3km az=35.0*
*NEIC **28** 11:55:24.8, 3243N×11523W, h6km, mb4.4/14, ML4.4(PAS), ML4.5(ECX), After ECX.*
NEIC Felt [III] at El Centro and Imperial; [II] at Calexico, California. Felt [III] at Yuma, Arizona. Also felt at Carlsbad, Palm Springs, Redondo Beach, Riverside, San Diego and Visalia, California.
*ECX **28** 11:55:24.8±0.6, 3243N×11523W, h6km, MD4.3, ML4.5*

ISC 28 11:55:24.3±0.3, 3230N±003×11525W±002, h6km, n103, σ1§41/107, mb4.1/15, MS3.9/7, 3C-9D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.53**	**311**	⇓*e*P	**Pg**	**11 55 32.9**	**-1.7**
YUH	**Yuha Desert**	**0.67**	**302**	⇓*e*P	**Pg**	**11 55 35.4**	**-1.7**
RDX	**Rancho Dowling**	**0.69**	**238**	⇓*e*P	**Pg**	**11 55 38.7**	**+1.0**
RDX				*e*S	**Sg**	**11 55 49.4**	**+2.7**
RDX				⇓*e*		11 56 20.7	
	comp=N,12μm,1.0s						
RDX				⇑*e*		11 56 20.8	
	comp=E,18μm,1.2s						
RMX	**La Rumorosa**	**0.76**	**294**	⇑*e*P	**Pg**	**11 55 37.7**	**-1.2**
RMX				*e*S	**Sg**	**11 55 48.2**	**-0.7**
RMX				⇓*e*		11 55 48.8	
	comp=E,12μm,0.2s						
RMX				*e*		11 55 49.2	
	comp=N,16μm,0.2s						
GLA	**Glamis**	**0.83**	**25**	*e*P	**Pg**	**11 55 36.8**	**-3.5**
GLA				*e*S	**Sg**	**11 55 46.5**	**-4.7**
CBX	**Cerro Bola**	**1.20**	**271**	⇓*e*P	**Pg**	**11 55 45.5**	**-1.8**
CBX				*e*S	**Sg**	**11 56 02.5**	**-0.3**
SPX	**San Pedro Mart**	**1.26**	**188**	⇓*e*P	**Pn**	**11 55 47.9**	**-0.6**
SPX				*e*S	**Sg**	**11 56 07.6**	**+2.7**
ENX	**Ensenada**	**1.27**	**251**	⇓*e*P	**Pg**	**11 55 47.6**	**-1.1**
ENX				*e*S	**Sg**	**11 56 05.6**	**+0.5**
ECX	**Ensenada**	**1.27**	**251**	*e*P	**Pn**	**11 55 48.8**	**+0.2**
CCX	**Cicese**	**1.27**	**251**	*e*P	**Pn**	**11 55 47.7**	**-0.9**
ECNX	**Esteban Cantu**	**1.31**	**241**	⇓*e*P	**Pn**	**11 55 48.8**	**-0.4**
ECNX				⇓*e*P		11 55 47.7	
ECNX				*e*S	**Sb**	**11 56 05.2**	**-1.2**
ECNX				*e*S	**Sb**	**11 56 07.8**	**+1.4**
PBX	**Punta Banda**	**1.37**	**246**	*e*P	**Pn**	**11 55 49.4**	**-0.5**
PBX				*e*S	**Sb**	**11 56 09.2**	**+1.1**
PFO	**Pinyon Flat Ob**	**1.65**	**323**	*e*P	**Pn**	**11 55 49.1**	**-4.8**
GSC	**Goldstone**	**3.26**	**337**	*e*Pn	**Pn**	**11 56 12.5**	**-3.5**
TUC	**Tucson**	**3.78**	**89**	*e*Pn	**Pn**	**11 56 19.6**	**-3.6**
TUC				*e*Sg	**Sg**	**11 57 19.3**	**-6.5**
DAC	**Darwin (Calif)**	**4.42**	**335**	*e*Pn	**Pn**	**11 56 28.9**	**-3.0**
TPNV	**Topopah Spring**	**4.71**	**350**	*e*Pn	**Pn**	**11 56 33.4**	**-2.5**
CCUT	**Cedar City**	**5.46**	**16**	*e*Pn	**Pn**	**11 56 53.7**	**+7.5**
ARUT	**Antelope Range**	**5.67**	**15**	*e*Pn	**Pn**	**11 56 47.2**	**-1.9**
MTUM	**Tungsten Hills**	**5.73**	**333**	*e*Pn	**Pn**	**11 56 50.4**	**+0.4**
TPH	**Tonopah**	**5.99**	**345**	*e*Pn	**Pn**	**11 56 57.8**	**+4.4**
	comp=N,169nm,0.8s						
MNV	**Mina**	**6.56**	**340**	*e*Pn	**Pn**	**11 57 05.5**	**+4.1**
	comp=N,64nm,0.8s						
NVAR	**Mina Array Bea**	**6.61**	**339**	Pn	**Pn**	**11 57 05.0**	**+3.1**
	comp=N,0.5nm,0.3s,baz=158,slow=15,SNR=13						
NVAR				Lg		11 59 05.4	
	baz=185,slow=34,SNR=2.0						
MSU	**Marysvale**	**6.69**	**21**	Pn	**Pn**	**11 57 01.1**	**-2.0**
CMB	**Columbia Colle**	**7.10**	**325**	Pn	**Pb**	**11 57 29.3**	**+1.3**
LAZ	**Ladron**	**7.11**	**71**	*e*Pn	**Pn**	**11 57 08.6**	**-0.2**
LENM	**Lemitar**	**7.18**	**73**	*e*Pn	**Pn**	**11 57 08.2**	**-1.6**
MVCO	**Mesa Verde**	**7.41**	**47**	*e*Pn	**Pn**	**11 57 12.9**	**0.0**
MVCO				*e*Sg	**Sg**	**11 59 15.8**	**-6.4**
BNM	**Barren Site**	**7.46**	**73**	*e*Pn	**Pn**	**11 57 12.6**	**-1.1**
LPM	**Los Pinos Moun**	**7.49**	**72**	*e*Pn	**Pn**	**11 57 12.3**	**-1.8**
TMUT	**Trail Mountain**	**7.72**	**24**	*e*Pn	**Pn**	**11 57 17.5**	**+0.3**
ANMO	**Albuquerque**	**7.79**	**68**	Pn	**Pn**	**11 57 17.9**	**-0.3**
	comp=N,0.3nm,0.3s,baz=257,slow=9.2,SNR=13						
ANMO				Lg		11 59 23.8	
	comp=N,0.3nm,0.3s,baz=162,slow=20,SNR=2.0						
ANMO	**Albuquerque**	**7.79**	**68**	*e*Pn	**Pn**	**11 57 18.1**	**-0.1**
	comp=N,20nm,0.7s						
SRU	**San Rafael**	**7.81**	**28**	*e*Pn	**Pn**	**11 57 18.1**	**-0.3**
	comp=N,245nm,0.8s						
SRU				*e*Sg	**Sg**	**11 59 28.4**	**-6.5**
PV10	**Paradox Valley**	**7.91**	**38**	*e*Pn	**Pn**	**11 57 19.9**	**0.0**
PV01	**Paradox Valley**	**7.99**	**41**	*e*Pn	**Pn**	**11 57 23.7**	**+2.8**
DUG	**Dugway**	**8.12**	**13**	*e*Pn	**Pn**	**11 57 27.2**	**+4.4**
	comp=N,34nm,0.7s						
MPU	**Maple Canyon**	**8.24**	**20**	*e*Pn	**Pn**	**11 57 26.7**	**+2.3**
	comp=N,74nm,1.1s						
MNTX	**Cornudas Mount**	**8.40**	**91**	*e*Pn	**Pn**	**11 57 25.1**	**-1.6**
	comp=N,14nm,0.8s						
DAU	**Daniels Canyon**	**8.71**	**21**	*e*Pn	**Pn**	**11 57 32.7**	**+1.8**
GDL2	**Guadalupe Moun**	**9.22**	**88**	*e*Pn	**Pn**	**11 57 38.0**	**+0.1**
LPIG	**La Paz**	**9.26**	**151**	LR	LR	12 01 04.1	
	comp=N,559nm,18.8s,baz=104,slow=38						
TCUT	**Toone Canyon**	**9.33**	**18**	Pn	**Pn**	**11 57 40.6**	**+1.3**
CPRX	**Cap Rock**	**9.63**	**83**	*e*Pn	**Pn**	**11 57 43.8**	**+0.4**
HWUT	**Hardware Ranch**	**9.75**	**17**	*e*Pn	**Pn**	**11 57 39.5**	**-5.6**
	comp=N,18nm,1.0s						
LTX	**Lajitas**	**10.39**	**103**	*e*Pn	**Pn**	**11 57 52.5**	**-1.4**
	comp=N,5.9nm,0.7s						
ISCO	**Idaho Springs**	**10.81**	**43**	*e*Pn	**Pn**	**11 58 01.2**	**+1.7**
	comp=N,28nm,1.0s						
YBH	**Yreka Blue Hor**	**11.14**	**330**	LR	LR	12 02 45.4	
	comp=N,264nm,21.5s,baz=150,slow=39						
HLID	**Hailey**	**11.27**	**3**	*e*Pn	**Pn**	**11 58 00.2**	**-5.6**
	comp=N,38nm,1.3s						
PDAR	**Pinedale Array**	**11.38**	**22**	Pn	**Pn**	**11 58 09.2**	**+1.7**
	comp=N,0.1nm,0.3s,baz=192,slow=8.3,SNR=9.3						
PDAR				Lg		12 01 25.0	
	comp=N,0.1nm,0.3s,baz=191,slow=18,SNR=2.1						
PDAR	**Pinedale Array**	**11.38**	**22**	Pn	**Pn**	**11 58 09.2**	**+1.7**
PDAR				Lg		12 01 25.0	
REDW	**Red Top Meadow**	**11.58**	**16**	*e*Pn	**Pn**	**11 58 11.4**	**+1.3**
	comp=N,33nm,1.3s						
AMTX	**Amarillo**	**11.61**	**73**	Pn	**Pn**	**11 58 08.9**	**-1.7**
	comp=N,31nm,1.3s						
TPAW	**Teton Pass**	**11.68**	**16**	*e*Pn	**Pn**	**11 58 12.2**	**+0.8**
	comp=N,26nm,1.3s						
LOHW	**Long Hollow**	**11.87**	**17**	*e*Pn	**Pn**	**11 58 15.8**	**+1.6**
	comp=N,13nm,1.1s						
MOOW	**Moose Ponds**	**11.97**	**16**	*e*Pn	**Pn**	**11 58 16.8**	**+1.4**
	comp=N,12nm,1.1s						
IMW	**Indian Meadow**	**12.06**	**15**	*e*Pn	**Pn**	**11 58 18.5**	**+1.8**
	comp=N,12nm,0.9s						
FLWY	**Flagg Ranch**	**12.29**	**16**	*e*Pn	**Pn**	**11 58 22.3**	**+2.4**
	comp=N,25nm,1.1s						
MCMT	**McKenzie Canyo**	**12.65**	**8**	*e*Pn	**Pn**	**11 58 28.2**	**+3.4**
DLMT	**Dillon**	**13.21**	**8**	*e*Pn	**Pn**	**11 58 35.3**	**+2.9**
	comp=N,41nm,1.3s						
JCT	**Junction City**	**13.32**	**94**	*e*Pn	**Pn**	**11 58 36.2**	**+2.2**
	comp=N,8.6nm,0.8s						
BOZ	**Bozeman (W)**	**13.62**	**11**	*e*Pn	**Pn**	**11 58 37.4**	**-0.6**
	comp=N,8.5nm,1.3s						
GCMT	**Greycliff**	**14.15**	**16**	*e*Pn	**Pn**	**11 58 47.5**	**+2.3**
MSO	**Missoula**	**14.55**	**4**	*e*Pn	**Pn**	**11 58 48.8**	**-1.9**
	comp=N,11nm,1.4s						
HRY	**Holter Researc**	**14.63**	**9**	*e*Pn	**Pn**	**11 58 56.8**	**+4.9**
CHMT	**Chamberlain Mo**	**14.68**	**5**	*e*Pn	**Pn**	**11 58 53.3**	**+0.8**
RSSD	**Black Hills**	**14.71**	**33**	*e*Pn	**Pn**	**11 58 55.5**	**+2.6**
	comp=N,14nm,1.0s						
LAO	**LASA Array**	**15.95**	**23**	*e*P	**Pn**	**11 59 13.6**	**+4.3**
	comp=N,36nm,1.1s						
NEW	**Newport**	**16.01**	**355**	Pn	**Pn**	**11 59 11.6**	**+1.5**
	comp=N,0.4nm,0.3s,baz=176,slow=12,SNR=17						
NEW				Lg		12 03 49.4	
	comp=N,0.1nm,0.3s,baz=96,slow=9.2,SNR=3.4						
NEW				LR	LR	12 05 22.2	
	comp=N,232nm,18.6s,baz=177,slow=37						
NEW	**Newport**	**16.01**	**355**	*e*P	**Pn**	**11 59 11.4**	**+1.3**
	comp=N,23nm,0.9s						
KSU1	**Kansas State U**	**16.58**	**61**	*e*P	**Pn**	**11 59 19.2**	**+1.8**
WALA	**Waterton Lakes**	**16.77**	**3**	*e*P	**Pn**	**11 59 20.6**	**+0.7**
	comp=N,29nm,1.3s						
HKT	**Hockley**	**16.79**	**93**	*e*P	**Pn**	**11 59 21.0**	**+0.9**
	comp=N,56nm,1.6s						
PGC	**Sidney**	**17.47**	**342**	P	**Pn**	**11 59 30.9**	**+2.4**
	comp=N,173nm,1.7s						
MIAR	**Mount Ida**	**18.23**	**77**	*e*P	**Pn**	**11 59 37.4**	**-0.6**
	comp=N,14nm,1.0s						
UALR	**University of**	**19.25**	**76**	*e*P	**Pn**	**11 59 49.2**	**-1.1**
	comp=N,3.8nm,0.4s						
CCM	**Cathedral Cave**	**20.42**	**67**	*e*P	**P**	**12 00 01.7**	**-0.5**
	comp=N,28nm,1.5s						
EDM	**Edmonton**	**20.96**	**3**	*e*P	**P**	**12 00 06.1**	**-1.9**
FVM	**French Village**	**21.05**	**67**	*e*P	**P**	**12 00 08.5**	**-0.5**
	comp=N,40nm,1.4s,mb4.6						
BBB	**Bella Bella**	**21.97**	**339**	LR	LR	12 09 10.4	
	comp=N,193nm,20.2s,MS3.5,baz=20,slow=37						
PLAL	**Pickwick Lake**	**22.76**	**76**	*e*P	**P**	**12 00 26.9**	**-0.4**
	comp=N,11nm,1.1s,mb4.2						
WVT	**Waverly**	**22.97**	**73**	*e*P	**P**	**12 00 29.6**	**+0.1**
	comp=N,6.4nm,0.9s,mb4.0						
ULM	**Lac du Bonnet**	**22.98**	**33**	P	**P**	**12 00 25.8**	**-3.8**
	comp=N,3.9nm,1.0s,mb3.8,baz=208,slow=11,SNR=3.3						
LRAL	**Lakeview Retre**	**23.77**	**81**	*e*P	**P**	**12 00 36.9**	**-0.8**
	comp=N,24nm,1.5s,mb4.4						
CMIG	**Matias Romero**	**23.84**	**125**	LR	LR	12 10 43.9	
	comp=N,404nm,18.7s,MS3.9,baz=22,slow=39						
DLBC	**Dease Lake**	**28.00**	**343**	P	**P**	**12 01 17.1**	**+1.3**
DLBC				LR	LR	12 13 12.5	
	comp=N,312nm,19.2s,MS3.9,baz=155,slow=38						
DLBC	**Dease Lake**	**28.00**	**343**	*e*P	**P**	**12 01 16.9**	**+1.0**
YKA	**Yellowknife Ar**	**30.21**	**1**	P	**P**	**12 01 35.8**	**+0.2**
	comp=N,0.3nm,0.7s,mb3.1,baz=175,slow=9.2,SNR=4.2						
YKA				LR	LR	12 15 41.5	
	comp=N,167nm,20.2s,MS3.7,baz=170,slow=40						
YKA	**Yellowknife Ar**	**30.21**	**1**	P	**P**	**12 01 35.8**	**+0.2**
YKA				LR	LR	12 15 41.5	
DAWY	**Dawson**	**35.17**	**342**	*e*P	**P**	**12 02 19.5**	**+0.5**
PMR	**Palmer**	**36.56**	**333**	*e*P	**P**	**12 02 30.1**	**-0.7**
	comp=N,7.5nm,0.7s,mb4.6						
INK	**Inuvik**	**37.57**	**349**	LR	LR	12 20 38.5	
	comp=N,73nm,19.2s,MS3.5,baz=307,slow=40						
INK	**Inuvik**	**37.57**	**349**	*e*P	**P**	**12 02 38.9**	**-0.5**
	comp=N,5.6nm,1.0s,mb4.2						
ILAR	**Eielson Array**	**37.86**	**339**	P	**P**	**12 02 42.6**	**+0.7**
	comp=N,1.4nm,0.8s,mb3.7,baz=150,slow=6.8,SNR=18						
ARCES	**ARCESS Array B**	**74.51**	**13**	P	**P**	**12 07 02.0**	**-1.7**
	comp=N,2.5nm,0.8s,mb4.2,baz=348,slow=5.1,SNR=6.5						
FINES	**FINESS Array B**	**81.45**	**18**	P	**P**	**12 07 41.2**	**-1.1**
	comp=N,1.5nm,0.7s,mb4.0,baz=1.4,slow=7.6,SNR=6.3						
MDJ	**Mudanjiang**	**83.39**	**319**	P	**P**	**12 07 50.8**	**-1.6**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.6						
PLCA	**Paso Flores**	**83.58**	**147**	LR	LR	12 37 02.7	
	comp=Z,156nm,18.4s,MS4.4,baz=60,slow=30						
CN2	**Changchun**	**86.18**	**321**	*e*P	**P**	**12 08 07.0**	**+0.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.9						
AKASG	**Malin Array Be**	**91.60**	**22**	P	**P**	**12 08 31.0**	**-1.1**
	comp=Z,0.1nm,0.3s,mb3.6,baz=327,slow=4.5,SNR=6.6						
AKASG	**Malin Array Be**	**91.60**	**22**	P	**P**	**12 08 31.0**	**-1.2**
LZH	**Lanzhou**	**102.74**	**328**	*e*P	Pdif	12 09 17.5	-5.1
LZH				*e*PP	PP	12 13 32.8	-3.3
LZH				AMB	AMB		
	comp=Z,22nm,1.5s						
LZH				LR	LR		
	comp=N,164nm,18.5s						
LZH				LR	LR		
	comp=Z,219nm,19.7s,MS4.7						
KMI	**Kunming**	**112.36**	**323**	PKP	PKiKP	12 13 58.3	-2.9
KMI				XPKP		12 14 03.5	
KMI				PP	PP		
	comp=Z,58nm,4.4s						

*NEIC **28** 12:06:38.5, 3243N×11523W, h6km, ML3.4(PAS), ML3.6(ECX), After ECX.*

ECX 28 12:06:38.5±0.4, 3243N×11523W, h6km, MD3.5, ML3.6, 5C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.47**	**298**	⇓*e*P	Pg	12 06 46.5	-1.1
GLA	**Glamis**	**0.71**	**29**	*e*Pn	Pn	12 06 50.2	-4.9
RMX	**La Rumorosa**	**0.73**	**284**	⇑*e*P	Pg	12 06 51.2	-1.4
RMX				*e*S	Sg	12 07 01.6	-0.6
RMX				⇓*e*		12 07 02.1	
	comp=E,2μm,0.4s						
RMX	**La Rumorosa**	**0.73**	**284**	⇑*e*P	Pg	12 06 51.2	-1.4
RMX				*e*S	Sg	12 07 01.6	-0.6
RDX	**Rancho Dowling**	**0.78**	**231**	⇓*e*P	Pg	12 06 52.2	-1.3
RDX				*e*S	Sg	12 07 02.7	-0.9
RDX				⇑*e*		12 07 06.0	
	comp=E,2μm,0.5s						
RDX	**Rancho Dowling**	**0.78**	**231**	⇓*e*P	Pg	12 06 52.2	-1.3
RDX				*e*S	Sg	12 07 02.7	-0.9
CBX	**Cerro Bola**	**1.21**	**265**	*e*P	Pg	12 06 59.5	-2.3
CBX				*e*S	Sg	12 07 16.0	-1.5
ENX	**Ensenada**	**1.33**	**246**	⇑*e*P	Pn	12 07 01.3	-2.3
ENX				*e*S	Sb	12 07 19.1	-2.0
SPX	**San Pedro Mart**	**1.39**	**188**	*e*P	Pn	12 07 02.6	-1.8
SPX				*e*S	Sb	12 07 21.4	-1.4
PBX	**Punta Banda**	**1.44**	**242**	⇑*e*P	Pn	12 07 03.0	-2.0
PBX				*e*S	Sb	12 07 22.5	-1.7
PFO	**Pinyon Flat Ob**	**1.56**	**319**	*e*Pn	Pn	12 07 02.6	-4.3
TUC	**Tucson**	**3.77**	**91**	Pn	Pn	12 07 35.3	-1.8
TUC				*e*Pg	Pg	12 07 48.9	-1.8
DAC	**Darwin (Calif)**	**4.31**	**334**	Pn	Pn	12 07 43.2	-1.4
TPNV	**Topopah Spring**	**4.59**	**350**	Pn	Pn	12 07 47.8	-0.6
TPNV				*e*Pg	Pg	12 08 05.7	-0.7

*MOS **28** 12:09:45.9±0.4, 6053N×16554E, h11km, mb4.2/2, Error ellipse: s-maj=48.3km s-min=28.4km az=82.6*
*ISCJB **28** 12:09:47.7±1.3, 6072N±004×1656E±01, h13km±9km, mb3.7/5, Error ellipse: s-maj=11.8km s-min=5.6km az=57.1*
*KRSC **28** 12:09:47.3±0.4, 6072N×16577E, h11km±3km, ML3.8*
*NEIC **28** 12:09:48.5±0.8, 6067N×16550E, h10km, mb4.0/2, Error ellipse: s-maj=20.3km s-min=10.2km az=170.0*
*IDC **28** 12:09:49.6±10.0, 6052N×16629E, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.5/22, mbtmp3.6/4, MS3.6/1, Ms1 3.5/1, ms1mx2.5/19, Error ellipse: s-maj=208.0km s-min=91.1km az=92.0*

ISC 28 12:09:47.8±1.9, 6077N±005×1656E±01, h2km±14km, n31, σ0§94/35, mb3.7/5, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TILR	**Tilichiki**	**0.40**	**148**	*i*P	**Pg**	**12 09 54.7**	**-0.9**
TILR				*i*S	**Sg**	**12 10 00.3**	**-0.5**
KAMR	**Kamenskoye**	**1.71**	**9**	*i*P	**Pn**	**12 10 18.2**	**-0.5**
KAMR				*i*S	**Sn**	**12 10 40.7**	**-0.5**
KAMR				Smax			
	2μm,0.9s						
OSSR	**Ossora**	**2.00**	**221**	*e*P	**Pn**	**12 10 20.7**	**-1.9**
SMKR	**Semkarok**	**4.73**	**209**	*e*P	**Pn**	**12 11 00.4**	**+0.3**
SRKR	**Sorokina**	**4.74**	**211**	*e*P	**Pn**	**12 11 00.4**	**+0.1**
KBG	**Krutoberegovo**	**4.78**	**200**	*e*P	**Pn**	**12 11 01.5**	**+0.6**
BDR	**Baidarnaya**	**4.80**	**211**	*e*P	**Pn**	**12 11 01.3**	**+0.1**
KBTR	**Krutoberegovo**	**4.81**	**199**	*e*P	**Pn**	**12 11 01.0**	**-0.2**
KBTR				*e*S	**Sn**	**12 11 54.4**	**-3.1**
KLY	**Klyuchi**	**5.17**	**212**	*e*P	**Pn**	**12 11 05.3**	**-0.9**
ZLN	**Zelenaya**	**5.40**	**210**	*e*P	**Pn**	**12 11 09.8**	**+0.5**
SRDR	**Sredinnyy**	**5.43**	**217**	*e*P	**Pn**	**12 11 10.2**	**+0.4**
BKI	**Bering**	**5.59**	**178**	*e*P	**Pn**	**12 11 11.8**	**-0.1**
KOZ	**Kozyrevsk**	**5.61**	**215**	*e*P	**Pn**	**12 11 13.8**	**+1.6**
KMNR	**Kamenistaya**	**5.78**	**212**	*e*P	**Pn**	**12 11 15.7**	**+1.2**
ESO	**Esso**	**6.07**	**220**	*e*P	**Pn**	**12 11 18.3**	**-0.3**
BILL	**Bilibino**	**7.30**	**2**	*e*PN	**Pn**	**12 11 38.5**	**+3.0**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BILL				pmax	pmax		
	comp=Z,48nm,0.9s						
BILL	**Bilibino**	**7.30**	**2**	*e*Pn	**Pn**	**12 11 36.6**	**+1.1**
	comp=Z,4.6nm,0.6s						
BILL	**Bilibino**	**7.30**	**2**	*e*P	**Pn**	**12 11 37.8**	**+2.3**
BILL				Smax			
	comp=Z,10.0nm,0.5s						
MA2	**Magadan**	**7.50**	**267**	*e*Pn	**Pn**	**12 11 37.0**	**-1.3**
MA2				*e*S	**Sn**	**12 13 00.6**	**-3.3**
MA2	**Magadan**	**7.50**	**267**	*e*P	**Pn**	**12 11 38.9**	**+0.6**
GNL	**Ganaly**	**8.22**	**214**	*e*P	**Pn**	**12 11 48.4**	**+0.3**
SPN	**Mys Shipunski**	**8.28**	**204**	*e*P	**Pn**	**12 11 50.1**	**+1.2**
AVH	**Avacha**	**8.40**	**210**	*e*P	**Pn**	**12 11 51.6**	**+1.0**
ILAR	**Eielson Array**	**21.67**	**59**	P	**P**	**12 14 40.1**	**+0.4**
	comp=Z,1.4nm,0.6s,mb3.5,baz=276,slow=7.4,SNR=15						
INK	**Inuvik**	**26.15**	**47**	P	**P**	**12 15 23.8**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=270,slow=4.0,SNR=3.1						
INK	**Inuvik**	**26.15**	**47**	P	**P**	**12 15 22.9**	**-0.5**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**26.15**	**47**	P	**P**	**12 15 22.9**	**-0.5**
	comp=Z,1.1nm,0.6s,mb3.6						
KURK	**Kurchatov**	**46.46**	**299**	*e*P	**P**	**12 18 15.0**	**-1.2**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
KURK	**Kurchatov**	**46.46**	**299**	*e*P	**P**	**12 18 15.0**	**-1.2**
	comp=Z,1.6nm,0.6s,mb4.1						
NVAR	**Mina Array Bea**	**50.80**	**80**	P	**P**	**12 18 49.6**	**0.0**
	comp=Z,0.4nm,0.7s,mb3.5,baz=305,slow=7.7,SNR=3.8						
PDAR	**Pinedale Array**	**51.53**	**70**	P	**P**	**12 18 55.3**	**+0.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=328,slow=5.3,SNR=5.6						

*ISCJB **28** 12:10:55.3±0.5, 4023N±003×2252E±005, h4km±8km, Error ellipse: s-maj=6.8km s-min=4.5km az=20.6*
*NEIC **28** 12:10:55.5, 4022N×2250E, h3km, MD3.2(ATH), After ATH.*
*ATH **28** 12:10:55.6, 4022N×2250E, h5km, MD3.2/4*
*CSEM **28** 12:10:56.0±0.1, 4022N×2250E, h10km, ML2.5, Error ellipse: s-maj=1.6km s-min=1.2km az=103.0*
*THE **28** 12:10:56.1, 4022N×2254E, h8km, ML2.5*

ISC 28 12:10:55.7±0.6, 4022N±003×2251E±005, h10km±7km, n14, σ0§50/20, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIT	**Litokhoron**	**0.12**	**188**	*e*Pg	**Pg**	**12 10 58.8**	**+0.1**
LIT				*e*Sg	**Sg**	**12 11 01.0**	**+0.4**
THE	**Thessaloniki**	**0.54**	**40**	*e*Pg	**Pg**	**12 11 06.3**	**+0.1**
KZN	**Kozani**	**0.57**	**279**	*e*PB	**Pg**	**12 11 06.4**	**-0.5**
PLG	**Polygyros**	**0.73**	**78**	*e*PB	**Pg**	**12 11 09.0**	**-0.8**
SOH	**Sokhos**	**0.88**	**47**	*e*Pg	**Pg**	**12 11 12.4**	**-0.3**
PAIG	**Paliouri**	**0.94**	**108**	*e*Pg	**Pg**	**12 11 13.7**	**-0.2**
PAIG				*e*Sg	**Sg**	**12 11 26.4**	**+0.2**
PAIG	**Paliouri**	**0.94**	**108**	*e*Pg	**Pg**	**12 11 13.6**	**-0.3**
PAIG				*e*Sg	**Sg**	**12 11 26.4**	**+0.2**
KNT	**Kendrikon**	**0.98**	**17**	*e*Pg	**Pg**	**12 11 14.6**	**-0.1**
KNT				*e*Sg	**Sg**	**12 11 28.4**	**+0.9**
XOR	**Xorichti**	**1.00**	**148**	*e*Pg	**Pg**	**12 11 15.0**	**-0.1**
FNA	**Florina**	**1.03**	**303**	*e*Pg	**Pg**	**12 11 15.5**	**-0.1**
NEO	**Neokhori**	**1.06**	**149**	*e*PG	**Pg**	**12 11 15.2**	**-1.0**
NEO				*e*SB	**Sb**	**12 11 30.6**	**+0.4**
AGG	**Agios Georgios**	**1.21**	**187**	*e*Pg	**Pg**	**12 11 18.6**	**-0.3**
AGG				*e*Sg	**Sg**	**12 11 35.5**	**+0.9**
EVR	**Evr

LBRS eS Sb 12 50 23.2 +15

IDC 28 12:58:02.7±1.2, 547S×15121E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/11, mbtmp3.3/3, Error ellipse: s-maj=79.0km s-min=12.1km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.82**	**227**	P	P	13 02 56.8	+0.2
	0.6nm,0.6s,baz=53,slow=11,SNR=6.8						
ASAR	**Alice Springs**	**24.60**	**221**	P	P	13 03 24.9	+0.4
	0.3nm,0.6s,baz=54,slow=8.7,SNR=8.4						
ILAR	**Eielson Array**	**83.37**	**22**	P	P	13 10 31.4	-0.4
	0.3nm,0.6s,baz=254,slow=5.5,SNR=5.4						
TORD	**Torodi Ar. Bea**	**148.99**	**286**	PKPbc	PKPbc	13 17 53.4	+0.8
	1.3nm,0.6s,baz=98,slow=2.5,SNR=9.4						

IDC 28 13:04:43.2±4.2, 2215S×17953W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.8/12, mbtmp4.0/2, Error ellipse: s-maj=284.3km s-min=47.8km az=158.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.78**	**259**	P	P	13 12 42.0	-0.5
	0.5nm,0.3s,baz=96,slow=7.1,SNR=30						
WRA	**Warramunga Arr**	**42.99**	**264**	P	P	13 12 45.2	+1.0
	1.2nm,0.3s,baz=100,slow=6.9,SNR=55						
ARCES	**ARCESS Array B**	**130.27**	**349**	PKP	PKPdf	13 23 55.4	-0.1
	0.6nm,0.6s,baz=62,slow=2.1,SNR=5.6						
NB2	**NORSAR Subarra**	**140.43**	**352**	PKPa	PKPdf	13 24 11.7	-2.6
	comp=Z,0.3nm,0.6s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**140.43**	**352**	PKP	PKPdf	13 24 11.3	-3.0
	comp=Z,1.0nm,0.7s,baz=21,slow=3.9,SNR=4.3						
HFS	**Hagfors**	**140.92**	**350**	PKP	PKPdf	13 24 12.8	-2.4
	comp=Z,2.7nm,0.4s,baz=36,slow=5.4,SNR=22						

*ISCJB **28** 13:09:17.5±3.0, 125N±0.1×1426E±0.4, h163km±32km, mb3.7/7, Error ellipse: s-maj=59.8km s-min=18.9km az=18.8*
*IDC **28** 13:09:18.1±4.4, 1255N×14254E, h151km±42km, mb3.4/6, mb1 3.6/7, mb1mx3.4/19, mbtmp3.8/7, Error ellipse: s-maj=69.8km s-min=16.1km az=107.0*
*NEIC **28** 13:09:18.6±2.6, 1253N×14256E, h158km±28km, mb4.4/1, Error ellipse: s-maj=51.7km s-min=15.0km az=97.0*

ISC 28 13:09:18.9±2.9, 126N±01×1426E±04, h161km±32km, n10, σ0§71/12, mb3.7/7, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.43**	**65**	P	**Pn**	**13 09 59.8**	**+0.1**
	4.0nm,0.3s,baz=19,slow=15,SNR=6.4						
GUMO				S	**Sn**	**13 10 31.2**	**-0.1**
	22nm,0.3s,baz=186,slow=23,SNR=13						
GUMO	**Guam**	**2.43**	**65**	P	**Pn**	**13 09 59.8**	**+0.1**
GUMO				S	**Sn**	**13 10 31.2**	**-0.1**
WRA	**Warramunga Arr**	**33.30**	**194**	P	**P**	**13 15 41.8**	**+0.6**
	0.7nm,0.9s,mb3.4,baz=16,slow=9.6,SNR=6.7						
ASAR	**Alice Springs**	**36.99**	**193**	P	**P**	**13 16 13.4**	**+0.7**
	0.2nm,0.4s,mb3.1,baz=19,slow=9.9,SNR=7.1						
STKA	**Stephens Creek**	**44.19**	**181**	P	**P**	**13 17 10.4**	**-1.3**
	1.0nm,0.7s,mb3.6,baz=354,slow=9.2,SNR=3.4						
KURK	**Kurchatov**	**63.96**	**321**	*eP*	**P**	**13 19 35.0**	**+0.1**
	2.5nm,0.5s,mb4.3						
ILAR	**Eielson Array**	**70.44**	**25**	P	**P**	**13 20 16.5**	**+0.9**
	0.5nm,0.5s,mb3.5,baz=251,slow=6.1,SNR=10						
ARCES	**ARCESS Array B**	**87.38**	**342**	P	**P**	**13 21 47.8**	**0.0**
	3.2nm,1.0s,mb4.1,baz=68,slow=6.7,SNR=3.9						
FINES	**FINESS Array B**	**91.15**	**335**	P	**P**	**13 22 04.3**	**-1.1**
	0.9nm,0.6s,mb4.0,baz=116,slow=8.7,SNR=5.5						
FINES	**FINESS Array B**	**91.15**	**335**	P	**P**	**13 22 04.3**	**-1.1**

MAN 28 13:14:49.1, 858N×12478E, h13km, mb3.5, ML4.7, MS3.8, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**0.15**	**214**⇑	*iP*	Pg	13 14 53.0	+0.2
CGP				*i* S	Sg	13 14 55.8	+0.4
BUKP	**Musuan**	**0.75**	**158**	*eP*	Pg	13 15 03.5	-0.2
BUTP	**Butuan**	**0.92**	**65**	*eP*	Pg	13 15 07.0	+0.1
SCPH	**Surigao**	**1.39**	**30**⇑	*eP*	Pn	13 15 12.2	-2.0
DCPH	**Dipolog City**	**1.41**	**270**⇑	*eP*	Pn	13 15 13.4	-1.1
DCPH				*e*S	Sn	13 15 34.5	+1.5
TBP	**Tagbilaran**	**1.43**	**321**	*eP*	Pn	13 15 21.4	+6.7
TBP				*e*S	Sn	13 15 39.3	+6.0
MSLP	**Maasin**	**1.55**	**3**	*eP*	Pn	13 15 15.8	-0.5
PAGZ	**Pagadian**	**1.56**	**242**	*eP*	Pn	13 15 16.1	-0.5
SNPH	**Sibulan**	**1.70**	**297**	*eP*	Pn	13 15 22.0	+3.5
LLP	**Lapu-Lapu**	**1.90**	**335**	*eP*	Pn	13 15 20.9	-0.4
LLP				*e*S	Sn	13 15 46.8	+1.7
IPIL	**Ipil**	**2.32**	**250**	*eP*	Pn	13 15 28.5	+1.4
GUIM	**Jordan**	**2.97**	**313**	*eP*	Pn	13 15 35.5	-0.4
CUYO	**Cuyo Island**	**4.34**	**302**	*eP*	Pn	13 15 59.0	+4.3

*BJI **28** 13:23:26.2, 74.10N×1360E, h10km, mB5.1, mb5.1, Ms5.0, Msz4.6*
*ISCJB **28** 13:23:27.3±0.1, 74.11N±001×1369E±006, h10km, mb5.0/249, MS4.2/55, Error ellipse: s-maj=2.4km s-min=1.9km az=150.9*
*CSEM **28** 13:23:27.0, 7408N×1345E, h10km, mb5.1*
*IDC **28** 13:23:27.4±0.4, 7405N×1378E, h0km, mb4.7/24, mb1 4.8/30, mb1mx4.8/31, mbtmp4.7/30, ML4.1/6, MS4.1/19, Ms1 4.1/19, ms1mx3.9/34, Error ellipse: s-maj=12.7km s-min=7.9km az=63.0*
*MOS **28** 13:23:28.1±0.9, 7407N×1344E, h15km, mb5.2/116, MS4.0/38, Error ellipse: s-maj=15.9km s-min=2.6km az=91.4*
*HEL **28** 13:23:28.0±0.4, 7408N×1417E, h10km, ML4.7, mb5.1(NEIC), MS4.1(NEIC)*
*BER **28** 13:23:29.1±4.3, 74.11N×1412E, h7km±22km, MD3.9, ML3.7, ML3.9(NAO)*
*NEIC **28** 13:23:29.3±0.1, 7408N×1356E, h10km, mb5.1/172, MS4.1/14, Error ellipse: s-maj=3.2km s-min=1.8km az=72.0*
*HRVD **28** 13:23:29.3±0.2, 7403N×1363E, h12km, MW5.0/88, Centroid moment Tensor Solution. LP body waves: s49,c66;Mantle waves: s88,c162; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.22±.09; $M_{\theta\theta}$0.87±.10; $M_{\phi\phi}$-4.09±.07; $M_{r\theta}$1.98±.29; $M_{\theta\phi}$0.60±.07; $M_{r\phi}$0.07±.21; Best double couple: M_o4.26400×10^{16} NP1:ϕ_s20.00000°, δ51.00000°, λ130.00000°. NP2:ϕ_s147.00000°, δ54.00000°, λ52.00000°. Principal axes: T 4.3620, Plg60.0000°, Azm355.0000°; N -0.1960, Plg30.0000°, Azm172.0000°; P -4.1660, Plg1.0000°, Azm263.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NAO **28** 13:23:30.7±1.2, 7408N×1426E, h41km±91km, ML3.9*
*SZGRF **28** 13:23:34.9, 7371N×1311E, h33km, mb5.1, MS4.1, Norwegian Sea*

ISC 28 13:23:28.7±0.1, 7409N±001×1378E±006, h10km, (h17km±1.8km:pP-P), n870, σ1§10/954, mb5.0/249, MS4.2/55, 32C-27D, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJO1	**Bjornoya**	**1.48**	**71**⇓	*eP*	**Pn**	**13 23 54.2**	**-1.1**
BJO1				*e*S	**Sn**	**13 24 11.7**	**-3.1**
BJO1				AML	AML	13 24 20.3	
	comp=Z,4μm,0.5s						
BJO1	**Bjornoya**	**1.48**	**71**⇓	*i*P	**Pn**	**13 23 54.2**	**-1.1**
BJO1				*e*S	**Sn**	**13 24 11.7**	**-3.1**
BJO1	**Bjornoya**	**1.48**	**71**⇓	*i*P	**Pn**	**13 23 54.2**	**-1.2**
BJO1				*e*S	**Sn**	**13 24 11.7**	**-3.1**
BJO	**Bjornoya**	**1.53**	**72**⇓	*i*P	**Pn**	**13 23 54.2**	**-1.8**
BJO				*e*S	**Sn**	**13 24 11.7**	**-4.3**
BJO				AML	AML	13 24 20.3	
	comp=Z,4μm,0.5s						
HSP	**Hornsund**	**2.97**	**8**	*eP*	**Pn**	**13 24 13.8**	**-2.1**
HSP				*e*S	**Sn**	**13 24 45.3**	**-6.2**
HOPEN	**Hopen**	**3.75**	**44**	*eP*	**Pn**	**13 24 25.9**	**-0.7**
HOPEN				*e*S	**Sn**	**13 25 07.2**	**-3.6**
SPA0	**Spitsbergen Ar**	**4.16**	**7**	Pn	**Pn**	**13 24 31.5**	**-0.7**
	baz=174,slow=18						
SPA0				Sn	**Sn**	**13 25 15.2**	**-5.6**
	baz=192,slow=28						
SPA0	**Spitsbergen Ar**	**4.16**	**7**	*eP*	**Pn**	**13 24 31.5**	**-0.7**
SPA0				*e*S	**Sn**	**13 25 15.2**	**-5.6**
TRO	**Tromso**	**4.76**	**158**	*eP*	**Pn**	**13 24 37.7**	**-2.8**
TRO				*e*S	**Sn**	**13 25 28.1**	**-7.5**
TRO				AML	AML	13 25 43.0	
	comp=Z,156nm,0.6s						
TRO	**Tromso**	**4.76**	**158**	*eP*	**Pn**	**13 24 37.7**	**-2.8**
TRO				*e*S	**Sn**	**13 25 28.1**	**-7.5**
KBS	**Kingsbay**	**4.88**	**356**	*eP*	**Pn**	**13 24 40.5**	**-1.7**
KBS				*e*S	**Sn**	**13 25 32.9**	**-5.9**
KBS	**Kingsbay**	**4.88**	**356**	Pn	**Pn**	**13 24 40.4**	**-1.7**
KBS				*e*P		13 24 40.5	
KBS				Sn	**Sn**	**13 25 31.9**	**-6.9**
KBS				*e*S	**Sn**	**13 25 32.9**	**-5.9**
KBS	**Kingsbay**	**4.88**	**356**	Pn	**Pn**	**13 24 40.4**	**-1.8**
	SNR=50						
KBS				Sn	**Sn**	**13 25 31.9**	**-6.8**
	SNR=50						
KIF	**Kilpisjarvi**	**5.57**	**153**	*eP*	**Pn**	**13 24 49.4**	**-2.2**
KIF				MPN		13 24 53.1	
	comp=Z,157nm,0.6s						
KIF				*e*S	**Sn**	**13 25 48.2**	**-7.5**
KIF	**Kilpisjarvi**	**5.57**	**153**	P	**Pn**	**13 24 49.4**	**-2.2**
	comp=Z,157nm,0.6s						
KIF				S	**Sn**	**13 25 48.1**	**-7.6**
ARA0	**ARCESS Array S**	**5.86**	**136**	Pn	**Pn**	**13 24 52.8**	**-2.8**
	baz=332,slow=8.6						
ARA0				Sn	**Sn**	**13 25 56.7**	**-6.0**
	baz=331,slow=22						
ARA0	**ARCESS Array S**	**5.86**	**136**	*eP*	**Pn**	**13 24 52.8**	**-2.8**
ARA0				*e*S	**Sn**	**13 25 56.7**	**-6.0**
ARCES	**ARCESS Array B**	**5.86**	**136**	Pn	**Pn**	**13 24 52.8**	**-2.8**
	comp=Z,16nm,0.3s,baz=328,slow=12,SNR=558						
ARCES				Sn	**Sn**	**13 25 56.7**	**-6.0**
	comp=Z,109nm,0.3s,baz=332,slow=21,SNR=16						
ARE0	**ARCESS Array S**	**5.86**	**136**	*e*Pn	**Pn**	**13 24 52.8**	**-2.7**
ARE0				*e*Sn	**Sn**	**13 25 55.9**	**-6.8**
ARE0	**ARCESS Array S**	**5.86**	**136**	*e*Pn	**Pn**	**13 24 52.8**	**-2.7**
ARE0				*e*Sn	**Sn**	**13 25 55.9**	**-6.8**
KTK1	**Kautokeino**	**5.91**	**145**	*eP*	**Pn**	**13 24 55.5**	**-0.9**
KTK1				*e*S	**Sn**	**13 25 59.9**	**-4.2**
KTK1				AML	AML	13 26 03.9	
	comp=Z,562nm,0.5s						
KTK1	**Kautokeino**	**5.91**	**145**	*eP*	**Pn**	**13 24 55.5**	**-0.9**
KTK1				*e*S	**Sn**	**13 25 59.9**	**-4.2**
KEV	**Kevo**	**5.98**	**130**	*eP*	**Pn**	**13 24 54.5**	**-2.7**
KEV				*e*S	**Sn**	**13 25 56.9**	**-8.9**
KEV	**Kevo**	**5.98**	**130**	*eP*	**Pn**	**13 24 54.6**	**-2.6**
KEV				pmax	pmax		
	comp=Z,192nm,0.6s						
KEV	**Kevo**	**5.98**	**130**	*e*Pn	**Pn**	**13 24 54.6**	**-2.6**
	comp=Z,192nm,0.6s						
KEV	**Kevo**	**5.98**	**130**	*e*Pn	**Pn**	**13 24 54.6**	**-2.6**
	comp=Z,192nm,0.6s						
KEV				S	**Sn**	**13 25 56.8**	**-8.9**
JNW	**Jan Mayen West**	**7.31**	**256**	*eP*	**Pn**	**13 25 13.7**	**-1.8**
JMIC	**Jan Mayen**	**7.36**	**256**	*eP*	**Pn**	**13 25 15.6**	**-0.6**
JMIC	**Jan Mayen**	**7.36**	**256**	Pn	**Pn**	**13 25 15.1**	**-1.1**
	comp=Z,7.1nm,0.3s,baz=12,slow=5.2,SNR=8.4						
JMIC				LR	LR	13 27 11.8	
	comp=Z,2μm,21.7s,baz=58,slow=30						
JMI	**Jan Mayen**	**7.45**	**256**	*eP*	**Pn**	**13 25 18.2**	**+0.7**
STOK	**Stokkvaagen**	**7.80**	**182**	*eP*	**Pn**	**13 25 19.2**	**-3.0**
STOK				*e*S	**Sn**	**13 26 40.4**	**-10**
STOK				AML	AML	13 26 51.0	
	comp=Z,81nm,0.7s						
STOK	**Stokkvaagen**	**7.80**	**182**	*eP*	**Pn**	**13 25 19.2**	**-3.0**
STOK				*e*S	**Sn**	**13 26 40.4**	**-10**
SGF	**Sodankyl**	**7.87**	**142**	*eP*	**Pn**	**13 25 20.3**	**-2.9**
SGF				*e*S	**Sn**	**13 26 42.9**	**-9.4**
SGF	**Sodankyl**	**7.87**	**142**	P	**Pn**	**13 25 20.2**	**-3.0**
SGF				S	**Sn**	**13 26 42.8**	**-9.5**
MOR8	**Moi Rana**	**7.96**	**178**	*eP*	**Pn**	**13 25 20.9**	**-3.6**
MOR8				*e*S	**Sn**	**13 26 44.9**	**-10**
MOR8				AML	AML	13 26 50.3	
	comp=Z,77nm,0.8s						
MOR8	**Moi Rana**	**7.96**	**178**	*eP*	**Pn**	**13 25 20.9**	**-3.6**
MOR8				*e*S	**Sn**	**13 26 44.9**	**-10**
DAG	**Danmarks Havn**	**8.51**	**303**⇑	*iP*	**Pn**	**13 25 30.6**	**-1.4**
	comp=Z,2.1nm,0.5s						
DAG	**Danmarks Havn**	**8.51**	**303**⇑	*iP*	**Pn**	**13 25 30.6**	**-1.4**
DAG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
APA0	**Apatity Array**	**9.02**	**126**	Pn	**Pn**	**13 25 35.2**	**-3.6**
	baz=325,slow=16						
APA0				Sn	**Sn**	**13 27 10.9**	**-10**
	baz=324,slow=22						
APA0	**Apatity Array**	**9.02**	**126**	*eP*	**Pn**	**13 25 35.2**	**-3.6**
APA0				*e*S	**Sn**	**13 27 10.9**	**-10**
APA0	**Apatity Array**	**9.02**	**126**	Pn	**Pn**	**13 25 35.2**	**-3.7**
	SNR=50						
APA0				Sn	**Sn**	**13 27 10.9**	**-10**
	SNR=50						
APA	**Apatity**	**9.14**	**126**⇑	*iP*	**Pn**	**13 25 36.0**	**-4.6**
APA				pmax	pmax		
	comp=Z,130nm,0.7s						
APA				MLR	MLR		
	comp=Z,2μm,9.0s						
LVZ	**Lovozero**	**9.16**	**122**	Pn	**Pn**	**13 25 36.5**	**-4.3**
	comp=Z,2μm,0.6s,SNR=56						
LVZ	**Lovozero**	**9.16**	**122**	*i*P	**Pn**	**13 25 35.6**	**-5.2**
LVZ				pmax	pmax		
	comp=N,59nm,1.1s						
LVZ				pmax	pmax		
	comp=E,49nm,1.1s						
LVZ				pmax	pmax		
	comp=Z,102nm,1.1s						
LVZ				pmax	pmax		
	comp=N,73nm,1.1s						
LVZ				pmax	pmax		
	comp=Z,149nm,1.1s						
LVZ				pmax	pmax		
	comp=E,92nm,1.2s						
LVZ				MLR	MLR		
	comp=Z,842nm,12.0s						
LVZ				MLR	MLR		
	comp=N,284nm,11.0s						
LVZ				MLR	MLR		
	comp=E,673nm,14.0s						
KU4	**Liikasenvaara**	**9.38**	**138**	*eP*	**Pn**	**13 25 40.6**	**-3.3**
KU4				MPN		13 25 42.5	
	comp=Z,71nm,0.5s						
KU4				*e*S	**Sn**	**13 27 19.6**	**-10**
KU4	**Liikasenvaara**	**9.38**	**138**	P	**Pn**	**13 25 40.5**	**-3.4**
	comp=Z,71nm,0.5s						
KU4				S	**Sn**	**13 27 19.6**	**-10**
NSS	**Namsos**	**9.63**	**185**	*eP*	**Pn**	**13 25 44.8**	**-2.5**
NSS				AML	AML	13 27 33.5	
	comp=Z,24nm,0.6s						
MSF	**Maaselka**	**9.69**	**140**	*eP*	**Pn**	**13 25 44.5**	**-3.6**
MSF				MPN		13 25 45.8	
	comp=Z,28nm,0.4s						
MSF				*e*S	**Sn**	**13 27 25.4**	**-12**
MSF	**Maaselka**	**9.69**	**140**	P	**Pn**	**13 25 44.5**	**-3.6**
	comp=Z,28nm,0.4s						
MSF				S	**Sn**	**13 27 25.4**	**-12**
OUL	**Oulu**	**9.95**	**149**	*eP*	**Pn**	**13 25 48.7**	**-3.0**
OUL				*e*S	**Sn**	**13 27 31.4**	**-12**
KJN	**Kajaani**	**11.16**	**147**	*eP*	**Pn**	**13 26 05.2**	**-3.2**
KJN				MPN		13 26 06.1	
	comp=Z,53nm,0.5s						
KJN				*e*S	**Sn**	**13 27 59.6**	**-14**
VAF	**Ylistaro**	**11.54**	**159**	*eP*	**Pn**	**13 26 11.6**	**-1.9**
VAF				*e*S	**Sn**	**13 28 11.1**	**-11**
DOMB	**Dombas**	**12.22**	**191**	*eP*	**Pn**	**13 26 19.1**	**-3.8**
DOMB				AML	AML	13 28 42.8	
	comp=Z,21nm,0.8s						
FOO	**Floro**	**12.95**	**199**	*eP*	**Pn**	**13 26 30.0**	**-2.7**
FOO				*e*S	**Sn**	**13 28 42.4**	**-14**
FOO				AML	AML	13 28 54.1	
	comp=Z,17nm,0.7s						
FOO	**Floro**	**12.95**	**199**	*eP*	**Pn**	**13 26 30.0**	**-2.7**
FOO				*e*S	**Sn**	**13 28 42.4**	**-14**
TMCR	**Tamitsa**	**13.04**	**127**	*eP*	**Pn**	**13 26 28.7**	**-5.3**
TMCR				pmax	pmax		
	comp=Z,100nm,0.7s						
NB2	**NORSAR Subarra**	**13.15**	**185**	Pn	**Pn**	**13 26 31.6**	**-3.8**
	comp=Z,17nm,1.0s,baz=3.7,slow=14						
NB2	**NORSAR Subarra**	**13.15**	**185**	*eP*	**Pn**	**13 26 32.2**	**-3.2**
NB2	**NORSAR Subarra**	**13.15**	**185**	Pn	**Pn**	**13 26 32.2**	**-3.2**
	baz=355,slow=14						
NOA	**NORSAR Array B**	**13.15**	**185**	Pn	**Pn**	**13 26 32.4**	**-3.1**
	comp=Z,0.7nm,0.3s,baz=358,slow=13,SNR=8.3						
NOA				LR	LR	13 31 54.3	
	comp=Z,514nm,18.8s,baz=350,slow=39						
NOA	**NORSAR Array B**	**13.15**	**185**	Pn	**Pn**	**13 26 32.3**	**-3.1**
HYA	**Hoyanger**	**13.28**	**196**	*eP*	**Pn**	**13 26 36.9**	**-0.4**
NAO01	**NORSAR Array S**	**13.35**	**186**	Pn	**Pn**	**13 26 30.3**	**-7.9**
	comp=Z,76nm,1.1s						
NAO01	**NORSAR Array S**	**13.35**	**186**	Pn	**Pn**	**13 26 30.3**	**-7.9**
	comp=Z,76nm,1.1s						
FIA0	**FINESS Array S**	**13.48**	**154**	Pn	**Pn**	**13 26 36.5**	**-3.4**
	baz=351,slow=12						
FIA0				Sn	**Sn**	**13 28 58.2**	**-12**
	baz=359,slow=22						
FIA0	**FINESS Array S**	**13.48**	**154**	*eP*	**Pn**	**13 26 36.5**	**-3.4**
FIA0				*e*S	**Sn**	**13 28 58.2**	**-12**
FINES	**FINESS Array B**	**13.48**	**154**	Pn	**Pn**	**13 26 36.1**	**-3.8**
	comp=Z,1.5nm,0.3s,baz=352,slow=12,SNR=105						
FINES				Sn	**Sn**	**13 28 58.8**	**-11**
	comp=Z,2.6nm,0.3s,baz=357,slow=21,SNR=5.2						
FINES				LR	LR	13 32 24.2	
	comp=Z,760nm,19.1s,baz=348,slow=40						
FINES	**FINESS Array B**	**13.48**	**154**	Pn	**Pn**	**13 26 36.1**	**-3.8**
FINES				Sn	**Sn**	**13 28 58.8**	**-11**
SUE	**Sulen**	**13.51**	**199**	*eP*	**Pn**	**13 26 37.2**	**-3.1**
HFA0	**Hagfors New Ar**	**14.01**	**180**	Pn	**Pn**	**13 26 45.8**	**-1.5**
HFS	**Hagfors**	**14.02**	**180**	Pn	**Pn**	**13 26 44.7**	**-2.7**
	baz=17,slow=14						
HFS				Sn	**Sn**	**13 29 13.9**	**-9.1**
	baz=22,slow=22						
HFS	**Hagfors**	**14.02**	**180**	*eP*	**Pn**	**13 26 44.7**	**-2.7**
HFS				*e*S	**Sn**	**13 29 13.9**	**-9.1**
HFS	**Hagfors**	**14.02**	**180**	Pn	**Pn**	**13 26 45.8**	**-1.5**
	comp=Z,0.7nm,0.3s,baz=7.8,slow=12,SNR=13						
KONO	**Kongsberg**	**14.59**	**188**	*eP*	**Pn**	**13 26 50.7**	**-4.5**
SUMG	**Summit**	**14.66**	**290**	P	**Pn**	**13 26 57.5**	**+1.4**
BORG	**Borgarnes**	**15.19**	**250**	Pn	**Pn**	**13 27 06.7**	**+3.5**
	comp=Z,0.9nm,0.3s,baz=75,slow=9.6,SNR=6.7						
BORG				LR	LR	13 31 20.6	
	comp=Z,970nm,20.8s,baz=207,slow=31						
ALE	**Alert**	**15.94**	**332**	Pn	**Pn**	**13 27 11.2**	**-1.8**
	comp=Z,220nm,1.0s,SNR=18						
KLMR	**Klimovskoe**	**16.30**	**131**	*d iP*	**Pn**	**13 27 10.3**	**-7.4**
KLMR				pmax	pmax		
	comp=Z,50nm,1.1s						
MUD	**Monsted U'grnd**	**17.80**	**188**	*i* P	**Pn**	**13 27 37.8**	**+1.3**
	comp=Z,66nm,1.1s						
MUD							
	comp=Z,180nm,17.0s						
MUD	**Monsted U'grnd**	**17.80**	**188**	*i* P	**Pn**	**13 27 37.8**	**+1.3**
MUD				pmax	pmax		
	comp=Z,66nm,1.1s						
MUD				MLR	MLR		
	comp=Z,190nm,17.0s						
COP	**Copenhagen**	**18.49**	**182**	*i* P	**Pn**	**13 27 53.0**	**+8.0**
COP				*i*	**Sn**	**13 31 14.5**	**+2.9**
COP							
	comp=Z,340nm,18.0s						
COP	**Copenhagen**	**18.49**	**182**	*eP*	**Pn**	**13 27 53.0**	**+8.0**
COP				*i*	**Sn**	**13 31 14.5**	**+2.9**
COP				MLR	MLR		
	comp=Z,340nm,18.0s						
COP	**Copenhagen**	**18.49**	**182**	*eP*	**Pn**	**13 27 53.0**	**+8.0**
COP				*i*	**Sn**	**13 31 14.5**	**+2.9**
BSD	**Bornholm Skovb**	**19.06**	**178**	*i* P	**Pn**	**13 27 58.8**	**+6.9**
	comp=Z,70nm,0.8s						
BSD				*i*	**Sn**	**13 31 25.6**	**+0.2**
BSD							
	comp=Z,260nm,16.0s						
BSD	**Bornholm Skovb**	**19.06**	**178**	*i* P	**Pn**	**13 27 58.8**	**+6.9**
BSD				*i*		13 31 25.6	
BSD				pmax	pmax		
	comp=Z,70nm,0.8s						
BSD				MLR	MLR		
	comp=Z,270nm,16.0s						
BSD	**Bornholm Skovb**	**19.06**	**178**	*i* P	**Pn**	**13 27 58.8**	**+6.9**
	comp=Z,70nm,0.8s						
BSD				*i*	**Sn**	**13 31 25.6**	**+0.2**
IZAR	**Zarasai**	**19.07**	**158**	*eP*	**Pn**	**13 27 50.2**	**-1.9**
IZAR				AMb	AMB	13 27 58.5	
	comp=Z,982nm,0.6s						
IZAR	**Zarasai**	**19.07**	**158**	*eP*	**Pn**	**13 27 50.2**	**-1.8**
	comp=Z,982nm,0.6s,SNR=40						
IIGN	**Ignalina**	**19.46**	**158**	*eP*	**Pn**	**13 27 54.3**	**-2.4**
IIGN				AMb	AMB	13 28 02.5	
	comp=Z,1μm,0.7s						
IIGN	**Ignalina**	**19.46**	**158**	*eP*	**Pn**	**13 27 54.3**	**-2.4**
	comp=Z,1μm,0.7s,SNR=40						
IDID	**Didziasalis**	**19.55**	**157**	*eP*	**Pn**	**13 27 56.0**	**-1.8**
IDID				AMb	AMB	13 28 01.1	
	comp=Z,1μm,0.9s						
IDID	**Didziasalis**	**19.55**	**157**	*eP*	**Pn**	**13 27 56.0**	**-1.8**
	comp=Z,1μm,0.9s,SNR=35						
EKA	**Eskdalemuir Ar**	**20.01**	**209**	P	**P**	**13 28 01.6**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=12,slow=12,SNR=8.8						
BSEG	**Bad Segeberg**	**20.29**	**186**	*eP*	**P**	**13 28 05.3**	**+0.8**
	comp=Z,99nm,1.2s						
BSEG	**Bad Segeberg**	**20.29**	**186**	*eP*	**P**	**13 28 05.3**	**+0.8**
BSEG				pmax	pmax		
	comp=Z,99nm,1.2s						
MNK	**Minsk**	**20.48**	**156**	*eP*	**P**	**13 28 05.0**	**-1.5**
MNK				*e*S	**S**	**13 31 58.0**	**+2.3**
SUW	**Suwalki**	**20.52**	**164**	*eP*	**P**	**13 28 05.8**	**-1.2**
SUW				pmax	pmax		
	comp=Z,188nm,0.9s						
SUW	**Suwalki**	**20.52**	**164**	*eP*	**P**	**13 28 05.8**	**-1.3**
	comp=Z,188nm,0.9s						
SUW	**Suwalki**	**20.52**	**164**	*eP*	**P**	**13 28 05.8**	**-1.2**
	comp=Z,188nm,0.9s						
MOS	**Moscow**	**20.71**	**140**	*eP*	**P**	**13 28 07.2**	**-1.9**
MOS				*e*SS		13 31 54.5	
MOS				pmax	pmax		
	comp=Z,68

comp=Z,270nm,1.3s,mb5.5
RUE Ruedersdorf 21.70 180 *e*P **P 13 28 19.6 -0.1**
comp=Z,248nm,1.8s,mb5.3
RUE Ruedersdorf 21.70 180 *e*P **P 13 28 18.3 -1.4**
comp=Z,74nm,1.0s,mb5.1
WTSB Winterswijk 22.40 191⇑ *e*P **P 13 28 28.0 +0.8**
comp=Z,48nm,1.9s,mb4.6
DLF Lyons Farm 22.47 213 *e*P **P 13 28 30.0 +2.0**
DSB Dublin 22.50 213 *e*P **P 13 28 29.1 +0.8**
comp=Z,40nm,0.9s,mb4.8
DSB Dublin 22.50 213 *e*P **P 13 28 29.1 +0.8**
comp=Z,40nm,0.9s,mb4.8
DCN Croghan 22.54 214 *e*P **P 13 28 27.9 -0.8**
CLL Collm 22.87 181 *e*P **P 13 28 31.4 -0.8**
CLL Collm 22.87 181 *e*P **P 13 28 32.0 -0.2**
comp=Z,18nm,1.2s,mb4.4
CLL *e*Plp 13 28 40.0
CLL *e*S **S 13 32 41.0 -1.0**
comp=N,300nm,12.9s
CLL LmV 13 38 00.0
comp=Z,700nm,19.1s
CLL Collm 22.87 181 *e*P **P 13 28 32.0 -0.2**
comp=Z,18nm,1.2s,mb4.4
CLL *e*S **S 13 32 41.0 -1.0**
BUG Bochum--Univer 22.90 191 *e*P **P 13 28 31.2 -1.3**
comp=Z,75nm,1.3s,mb5.0
BUG Bochum--Univer 22.90 191 P **P 13 28 32.3 -0.2**
BRG Berggiesshubel 23.30 180 *e*P **P 13 28 36.0 -0.8**
comp=Z,52nm,1.3s,mb4.8
BRG Berggiesshubel 23.30 180 *e*P **P 13 28 36.5 -0.3**
comp=Z,29nm,1.8s,mb4.4
BRG *i* 13 28 44.2
comp=Z,32nm,1.3s
BRG *i* 13 29 27.5
comp=Z,21nm,1.0s
BRG S **S 13 32 54.0 +5.0**
BRG
comp=N,515nm,22.4s
BRG
comp=E,248nm,19.1s
BRG
comp=Z,337nm,14.0s
BRG Berggiesshubel 23.30 180 *e*P **P 13 28 36.5 -0.3**
comp=Z,29nm,1.8s,mb4.4
BRG *i* 13 28 44.2
BRG *i* 13 29 27.5
BRG S **S 13 32 54.0 +5.0**
BRG LR LR
comp=Z,340nm,14.0s,MS4.0
KSP Ksiaz 23.36 176 *e*P **P 13 28 38.0 +0.6**
KSP *e**PP 13 28 46.0
KSP *e*S **S 13 32 48.0 -1.9**
UBBA Unterbreizbach 23.41 186 *e*P **P 13 28 37.4 -0.6**
comp=Z,135nm,2.0s,mb5.0
MOX Moxa 23.55 183 *e*P **P 13 28 39.3 -0.1**
comp=Z,90nm,1.4s,mb5.0
MOX Moxa 23.55 183 *e*P **P 13 28 38.6 -0.8**
comp=Z,112nm,1.7s,mb5.0
MOX
comp=Z,700nm,19.0s
MOX Moxa 23.55 183 *e*P **P 13 28 38.6 -0.8**
MOX pmax pmax
comp=Z,112nm,1.7s,mb5.0
MOX MLR MLR
comp=Z,700nm,19.0s,MS4.1
HGN Heimansgroeve 23.65 192 *e*P **P 13 28 39.9 -0.4**
comp=Z,38nm,1.8s,mb4.5
HGN *e*S **S 13 33 03.1 +8.5**
PVCC Panska Ves 23.65 179 *e*P **P 13 28 39.7 -0.6**
PVCC *e*S **S 13 32 54.2 -0.5**
PVCC MLR MLR
comp=Z,1µm,10.6s,MS4.7
PVCC Panska Ves 23.65 179 P **P 13 28 39.1 -1.2**
UPC Upice 23.69 176 *e*P **P 13 28 42.7 +2.1**
UCC Uccle 23.72 195 P **P 13 28 40.5 -0.4**
WERD Werda 23.74 182 *e*P **P 13 28 40.7 -0.4**
comp=Z,48nm,1.6s,mb4.7
MEM Membach 23.80 192 P **P 13 28 41.4 -0.2**
MEM AP 13 28 45.0
DPC Dobruska-Polom 23.85 176 *e*P **P 13 28 41.7 -0.4**
DPC *e*S **S 13 33 01.2 +3.2**
DPC AMS AMS 13 41 00.0
comp=Z,500nm,10.7s
DPC Dobruska-Polom 23.85 176 P **P 13 28 41.4 -0.7**
SNF Seneffe 24.01 195 P **P 13 28 43.3 -0.3**
SNF E 13 28 49.8
BCLA Clavier 24.03 193 P **P 13 28 43.4 -0.3**
BCLA E 13 28 48.2
BCLA E 13 28 57.4
TNS Taunus Mts 24.06 188 *e*P **P 13 28 43.8 -0.3**
comp=Z,139nm,2.1s,mb5.0
TNS Taunus Mts 24.06 188 *e*P **P 13 28 43.8 -0.3**
TNS pmax pmax
comp=Z,139nm,2.1s,mb5.0
OJC Ojcow 24.10 171 *i* Pc **P 13 28 44.0 -0.4**
OJC *e*S **S 13 33 06.4 +4.5**
OJC L 13 39 00.2
comp=Z,3.9nm,16.8s
OJC Ojcow 24.10 171⇑ *i*P **P 13 28 44.0 -0.4**
OJC *e*S **S 13 33 06.4 +4.5**
MENF Mencas 24.13 198 *e*P **P 13 28 42.2 -2.5**
PRU Pruhonice 24.19 179 *e*P **P 13 28 45.4 +0.2**
PRU *e*S **S 13 33 12.1 +8.7**
PRU AMS AMS 13 38 30.0
comp=Z,500nm,20.7s
PRU Pruhonice 24.19 179 P **P 13 28 45.1 -0.1**
MANZ Manzenberg 24.20 183 *e*P **P 13 28 45.1 -0.2**
comp=Z,103nm,1.7s,mb5.0
AKASG Malin Array Be 24.37 156 P **P 13 28 45.2 -1.7**
comp=Z,42nm,0.7s,mb5.0,baz=347,slow=9.4,SNR=40
AKASG PcP PcP 13 32 24.9 -1.2
comp=Z,2.9nm,0.6s,baz=355,slow=2.7,SNR=4.8
AKASG Malin Array Be 24.37 156 P **P 13 28 45.2 -1.7**
AKASG PcP PcP 13 32 24.9 -1.2
KIEV Kiev 24.38 156 P **P 13 28 47.0 +0.1**
GIVF Givet 24.38 194 *e*P **P 13 28 44.9 -2.0**
DOU Dourbes 24.40 194 P **P 13 28 46.6 -0.6**
DOU XP sP 13 28 52.6 +1.2
OKC Ostrava-Krasne 24.41 173 *e*P **P 13 28 47.1 -0.2**
OKC *e*S **S 13 33 11.6 +4.6**
OKC AMS AMS 13 40 10.0
comp=Z,800nm,17.7s
OKC Ostrava-Krasne 24.41 173 P **P 13 28 46.3 -1.0**
ROTZ Rotzenmuhle 24.42 182 *e*P **P 13 28 47.4 +0.1**
comp=Z,175nm,1.9s,mb5.2
ABH Alteburg 24.44 190 *e*P **P 13 28 47.5 0.0**
MORC Moravsky Berou 24.45 174 *e*P **P 13 28 47.3 -0.3**
MORC pmax pmax
comp=Z,83nm,1.3s,mb5.0
MORC Moravsky Berou 24.45 174 *e*P **P 13 28 47.3 -0.4**
comp=Z,83nm,1.3s,mb5.0
MORC Moravsky Berou 24.45 174 *e*P **P 13 28 47.6 0.0**
BAIF Baives 24.46 195 *e*P **P 13 28 45.4 -2.3**
comp=Z,116nm,1.6s,mb4.8
BAIF Baives 24.46 195 *e*P **P 13 28 45.4 -2.3**
BAIF pmax pmax
comp=Z,58nm,1.5s,mb4.8
BAIF Baives 24.46 195 *e*P **P 13 28 45.4 -2.3**
comp=Z,58nm,1.6s,mb4.8
GRA1 Grafenberg Arr 24.51 184 *e*P **P 13 28 47.6 -0.6**
comp=Z,255nm,2.2s,mb5.4
GRA1 *e* 13 28 55.5
GRA1 LR LR
comp=Z,600nm,18.1s,MS4.1
GRF Grafenberg Arr 24.51 184 *e*P **P 13 28 47.6 -0.6**
comp=Z,255nm,2.2s,mb5.4
GRF *e* 13 28 55.5
GRF *e*L 13 40 18.1
comp=Z,641nm,18.1s
GRF Grafenberg Arr 24.51 184 *e*P **P 13 28 47.6 -0.6**
GRF *e* 13 28 55.5
GRF pmax pmax
comp=Z,255nm,2.2s,mb5.4
GRF MLR MLR
comp=Z,600nm,18.1s,MS4.1
GRF Grafenberg Arr 24.51 184 *e*P **P 13 28 47.6 -0.6**
GRF *e* 13 28 55.5
comp=Z,255nm,2.2s,mb5.4
GRF pmax pmax
comp=Z,600nm,18.1s,MS4.1
RUP Ruppelstein 24.65 190 *e*P **P 13 28 49.7 +0.3**
TOD Tromm 24.67 188 *e*P **P 13 28 51.2 +1.6**
WLF Walferdange 24.73 192 XP sP 13 28 54.8 +0.3
LVV L'vov 24.75 164 *e*P **P 13 28 49.6 -0.8**
LVV *e* 13 29 26.3
LVV *e*PPP 13 29 35.7
LVV *e*S **S 13 33 10.5 -2.0**
LVV *i* SS 13 34 03.9
LVV MLR MLR
comp=N,400nm,13.0s,MS4.1
LVV MLR MLR
comp=Z,400nm,13.0s,MS4.1
LVV MLR MLR
comp=E,200nm,16.0s,MS4.1
ARU Arti 24.77 111 P **P 13 28 51.8 +1.3**
comp=E,635nm,1.1s,SNR=26
ARU Arti 24.77 111⇓ *i*P **P 13 28 51.4 +0.9**
ARU *e*PPP 13 29 32.8
ARU *e* 13 32 26.1
ARU *e*S **S 13 33 15.8 +3.0**
ARU *e*SS 13 34 05.4
ARU pmax pmax
comp=Z,141nm,0.9s,mb5.5
ARU MLR MLR
comp=N,300nm,22.0s,MS3.8
ARU MLR MLR
comp=Z,500nm,22.0s,MS4.0
ARU MLR MLR
comp=E,200nm,25.0s,MS3.8
ARU Arti 24.77 111 *e*P **P 13 28 51.3 +0.8**
comp=E,113nm,0.6s,mb5.6
VOR Voronezh 24.82 141 P **P 13 28 51.0 0.0**
VOR *e* 13 29 23.5
VOR *e* 13 33 18.0
VOR *e* 13 33 29.0
VOR pmax pmax
comp=N,300nm,1.4s
VOR pmax pmax
comp=Z,200nm,1.4s,mb5.5
KWP Kalwaria 24.84 166 *e*P **P 13 28 46.9 -4.3**
KWP pmax pmax
comp=Z,131nm,1.0s,mb5.4
KWP Kalwaria 24.84 166 *e*P **P 13 28 46.9 -4.3**
comp=Z,132nm,1.0s,mb5.4
KWP Kalwaria 24.84 166 *e*P **P 13 28 46.9 -4.3**
comp=Z,132nm,1.0s,mb5.4
TREC Trest 24.89 177 AMS AMS 13 41 30.0
comp=Z,700nm,12.3s
VRAC Vranov 24.90 176 P **P 13 28 52.3 +0.6**
comp=Z,24nm,0.9s,mb4.7,baz=1.2,slow=12,SNR=21
NIE Niedzica 24.92 170 *e*Pc **P 13 28 52.5 +0.6**
SVE Sverdlovsk 24.96 108⇓ *e*P **P 13 28 53.0 +0.8**
SVE *e* 13 29 31.0
SVE *e* 13 33 16.0
SVE pmax pmax
comp=Z,80nm,1.3s,mb5.1
SVE MLR MLR
comp=N,400nm,17.0s,MS4.1
SVE MLR MLR
comp=E,400nm,17.0s,MS4.1
SVE MLR MLR
comp=Z,500nm,17.0s,MS4.1
STHS Stebnicka Huta 24.97 168 *i* P **P 13 28 53.1 +0.8**
STHS *e* 13 29 01.1
STHS Stebnicka Huta 24.97 168 *i* P **P 13 28 53.1 +0.8**
STHS *e* 13 29 01.1
STHS pmax pmax
comp=Z,85nm,1.0s,mb5.2
STHS Stebnicka Huta 24.97 168 P **P 13 28 53.3 +1.0**
WET Wettzell 25.04 181 *e*P **P 13 28 53.3 +0.3**
comp=Z,42nm,1.5s,mb4.8
WET Wettzell 25.04 181 *e*P **P 13 28 53.3 +0.3**
WET pmax pmax
comp=Z,42nm,1.5s,mb4.8
KHC Kasperske Hory 25.05 180 *e*P **P 13 28 53.8 +0.8**
KHC x x 13 29 15.5
KHC *e*S **S 13 33 27.3 +10**
KHC AMS AMS 13 39 20.0
comp=Z,500nm,18.4s
KHC Kasperske Hory 25.05 180 P **P 13 28 53.5 +0.5**
KRUC Moravsky 25.14 176 P **P 13 28 53.6 -0.3**
LIKS Likavka 25.23 172 *e*P **P 13 28 54.0 -0.7**
LIKS Likavka 25.23 172 *e*P **P 13 28 54.1 -0.6**
LIKS pmax pmax
comp=Z,78nm,1.1s,mb5.2
VRSR Storozhevoye 25.31 141 *e*P **P 13 28 54.5 -1.0**
VRSR *e* 13 29 32.7
VRSR *e*S **S 13 33 13.0 -8.5**
VRSR pmax pmax
comp=Z,3.0nm,0.7s,mb3.9
VRSR pmax pmax
comp=N,9.0nm,0.9s
VRSR pmax pmax
comp=E,1.0nm,0.6s
VRSR smax
comp=N,10.0nm,3.2s
VRSR smax
comp=Z,10.0nm,4.0s
VRSR smax
comp=E,5.0nm,3.4s
LANF Langenberg 25.33 189 *e*P **P 13 28 55.3 -0.3**
GEC2 GERESS Array S 25.33 180 *e*P **P 13 28 55.8 +0.2**
comp=Z,66nm,1.2s,mb5.0
GEC2 GERESS Array S 25.33 180 *e*P **P 13 28 55.8 +0.2**
GEC2 pmax pmax
comp=Z,66nm,1.2s,mb5.0
GERES GERESS Array B 25.33 180 P **P 13 28 56.4 +0.8**
comp=Z,8.1nm,0.8s,mb4.3,baz=10,slow=8.4,SNR=23
GERES LR LR 13 40 14.9
comp=Z,451nm,18.9s,MS4.0,baz=336,slow=40
JAVC Velka Javorina 25.38 174 P **P 13 28 57.4 +1.4**
RES Resolute Bay 25.42 324 *e*P **P 13 28 56.4 -0.1**
RES pmax pmax
comp=Z,37nm,1.1s,mb4.8
RES Resolute Bay 25.42 324 *e*P **P 13 28 56.4 -0.1**
comp=Z,37nm,1.1s,mb4.8
RES Resolute Bay 25.42 324 *e*P **P 13 28 56.3 -0.1**
comp=Z,37nm,1.1s,mb4.8
STU Stuttgart 25.48 187 *e*P **P 13 28 57.1 +0.1**
comp=Z,13nm,0.7s,mb4.6
CRVS Cervenica-Dubn 25.50 168 *e*P **P 13 28 58.8 +1.7**
CRVS *e* 13 29 07.7
CRVS Cervenica-Dubn 25.50 168 *e*P **P 13 28 58.8 +1.7**
CRVS *e* 13 29 07.7
CRVS pmax pmax
comp=Z,42nm,1.2s,mb4.8
SMOL Smolenice 25.71 174 *e*P **P 13 28 59.8 +0.7**
VYHS Vyhne 25.78 172 *e*P **P 13 28 59.7 0.0**
VYHS pmax pmax
comp=Z,44nm,1.1s,mb4.9
KECS Kecovo 25.86 170 *e*P **P 13 29 00.3 -0.1**
KECS pmax pmax
comp=Z,20nm,1.1s,mb4.6
KECS Kecovo 25.86 170 P **P 13 29 01.4 +1.0**
VRHR Novokhopersk 25.87 138 *e*P **P 13 29 00.4 -0.1**
VRHR *e**PP pP 13 29 01.7 -1.8
VRHR *e*S **S 13 33 24.6 -5.6**
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=Z,30nm,0.8s,mb4.9
VRHR pmax pmax
comp=E,5.0nm,0.4s
VRHR smax
comp=N,10.0nm,0.5s
VRHR smax
comp=Z,10.0nm,0.8s
VRHR smax
comp=E,80nm,1.3s
CDF Champ du Feu 25.92 190 *e*P **P 13 29 00.0 -1.0**
MEZF Maizieres J'vi 25.96 193 *e*P **P 13 29 00.6 -0.7**
BFO Black Forest 25.96 188 *e*P **P 13 29 01.0 -0.3**
comp=Z,38nm,1.0s,mb4.9
BFO Black Forest 25.96 188 P **P 13 29 01.2 -0.1**
comp=Z,179nm,0.9s,mb5.6,SNR=11
BFO Black Forest 25.96 188 *e*P **P 13 29 01.0 -0.3**
BFO pmax pmax
comp=Z,38nm,1.0s,mb4.9
ZST Bratislava 26.02 175 *e*P **P 13 29 02.7 +0.8**
ZST *e*sP sP 13 29 10.3 +4.1
ZST Bratislava 26.02 175 *e*P **P 13 29 02.7 +0.8**
ZST *e* 13 29 10.3
ZST pmax pmax
comp=Z,70nm,1.5s,mb5.0
ZST Bratislava 26.02 175 P **P 13 29 02.6 +0.7**
FUR Furstenfeldbru 26.04 184 *e*P **P 13 29 02.1 +0.1**
comp=Z,61nm,1.2s,mb5.0
FUR Furstenfeldbru 26.04 184 *e*P **P 13 29 02.1 +0.1**
FUR pmax pmax
comp=Z,61nm,1.2s,mb5.0
ECH Echery 26.12 190 *e*P **P 13 29 02.5 -0.3**
FLN La Foliniere 26.16 202 *e*P **P 13 29 01.0 -2.1**
FLN *e*R
comp=Z,435nm,20.5s
FLN La Foliniere 26.16 202 *e*P **P 13 29 01.0 -2.1**
FLN LR LR
comp=Z,430nm,20.5s,MS4.0
KMPD K-Podol'skiy 26.20 161 P **P 13 29 02.0 -1.5**
LDF La Druitiere 26.29 201 *e*P **P 13 29 02.3 -2.0**
MOA Molln 26.33 179 *i* P **P 13 29 05.2 +0.5**
comp=Z,48nm,1.4s,mb4.8,SNR=8.8
HAU Haudompre 26.38 191 *e*P **P 13 29 06.0 +0.9**
HAU *e*R
comp=Z,458nm,18.2s
HAU Haudompre 26.38 191 *e*P **P 13 29 06.0 +0.9**
HAU LR LR
comp=Z,460nm,18.3s,MS4.1
PSZ Piszkesteto 26.40 171⇑ *i*P **P 13 29 05.8 +0.5**
PSZ Piszkesteto 26.40 171⇑ *i*P **P 13 29 05.9 +0.6**
FELD Feldberg im Sc 26.43 189 *e*P **P 13 29 05.7 +0.2**
MOF Molkenrain 26.49 190 *e*P **P 13 29 05.9 -0.2**
SRO1 Iza 26.49 173 *e*P **P 13 29 06.7 +0.6**
SRO1 *e*sP sP 13 29 14.6 +4.2
SRO1 Iza 26.49 173 *e*P **P 13 29 06.7 +0.6**
SRO1 *e* 13 29 14.6
SRO1 pmax pmax
comp=Z,80nm,1.0s,mb5.2
SOP Sopron 26.52 176⇓ *i*P **P 13 29 07.4 +1.0**
HINF Hinteralfeld 26.54 190 *e*P **P 13 29 06.6 +0.1**
GRR Gorron 26.57 202 *e*P **P 13 29 04.6 -2.2**
BUD Budapest 26.80 172⇑ *i*pP pP 13 29 17.0 +5.1
SGMF Saint Gilles 26.89 205 *e*P **P 13 29 07.3 -2.4**
comp=Z,29nm,1.1s,mb4.4
SGMF Saint Gilles 26.89 205 *e*P **P 13 29 07.3 -2.4**
SGMF pmax pmax
comp=Z,14nm,1.1s,mb4.4
SGMF Saint Gilles 26.89 205 *e*P **P 13 29 07.3 -2.4**
comp=Z,14nm,1.1s,mb4.4
ROSF Rostrenen 26.89 206 *e*P **P 13 29 06.9 -2.8**
WTTA Wattenberg 26.93 183⇓ *i*P **P 13 29 11.4 +1.3**
comp=Z,27nm,1.4s,mb4.6,SNR=8.9
WTTA Wattenberg 26.93 183⇓ *i*P **P 13 29 11.4 +1.3**
WTTA pmax pmax
comp=Z,27nm,1.4s,mb4.6
ARSA Arzberg 26.94 177 *i* P **P 13 29 11.0 +0.8**
comp=Z,17nm,1.1s,mb4.5,SNR=12
DAVA Damuels 26.95 186 P **P 13 29 12.7 +2.5**
LOMF Lomont 27.00 190 *e*P **P 13 29 10.7 0.0**
BURAR Bucovina Array 27.04 163⇑ *i*P **P 13 29 10.9 -0.1**
BURAR Bucovina Array 27.04 163⇑ P **P 13 29 10.8 -0.2**
KBA Koelnbreinsper 27.10 181⇑ *i*P **P 13 29 13.1 +1.5**
comp=Z,31nm,1.2s,mb4.7
KBA Koelnbreinsper 27.10 181⇑ *i*P **P 13 29 13.1 +1.5**
KBA pmax pmax
comp=Z,31nm,1.2s,mb4.7
LOR Lormes 27.27 195 *e*P **P 13 29 12.4 -0.7**
comp=Z,32nm,0.9s,mb4.5
LOR *e*R
comp=Z,477nm,21.8s
LOR Lormes 27.27 195 *e*P **P 13 29 12.4 -0.7**
LOR pmax pmax
comp=Z,16nm,0.9s,mb4.5
LOR MLR MLR
comp=Z,480nm,21.8s,MS4.0
LOR Lormes 27.27 195 *e*P **P 13 29 12.4 -0.7**
comp=Z,16nm,0.9s,mb4.5
LOR LR LR
comp=Z,480nm,21.8s,MS4.0
DAVOX Davos 27.45 186 P **P 13 29 15.6 +0.8**
comp=Z,1.8nm,0.7s,baz=358,slow=7.9,SNR=3.8
DAVOX PcP PcP 13 32 32.7 -0.5
comp=Z,2.8nm,0.7s,baz=346,slow=4.6,SNR=3.9
DAVOX LR LR 13 42 32.2
comp=Z,412nm,18.7s,MS4.0,baz=340,slow=42
DAVOX Davos 27.45 186 P **P 13 29 15.6 +0.8**
DAVOX PcP PcP 13 32 32.7 -0.5
DAVOX LR LR 13 42 32.2
SSF Saint Saulge 27.50 195 *e*P **P 13 29 14.4 -0.8**
comp=Z,26nm,1.1s,mb4.4
SSF Saint Saulge 27.50 195 *e*P **P 13 29 14.4 -0.8**
SSF pmax pmax
comp=Z,13nm,1.1s,mb4.4
SSF Saint Saulge 27.50 195 *e*P **P 13 29 14.4 -0.8**
comp=Z,13nm,1.1s,mb4.4
PERS Pernice 27.55 178 *e*P **P 13 29 15.9 +0.2**
PERS *e* 13 29 20.9
OBKA Obir 27.67 179⇓ *i*P **P 13 29 18.1 +1.3**
comp=Z,43nm,1.1s,mb5.0
AVF Avril sur Loir 27.78 195 *e*P **P 13 29 17.0 -0.7**
comp=Z,21nm,1.1s,mb4.4
AVF Avril sur Loir 27.78 195 *e*P **P 13 29 17.0 -0.7**
AVF pmax pmax
comp=Z,11nm,1.1s,mb4.4
AVF Avril sur Loir 27.78 195 *e*P **P 13 29 17.0 -0.7**
comp=Z,11nm,1.1s,mb4.4
TUE Stuetta 27.78 187 P **P 13 29 17.6 -0.1**
CABF La Chapelle 27.78 191 *e*P **P 13 29 17.6 -0.1**
comp=Z,35nm,1.0s,mb4.7
CABF La Chapelle 27.78 191 *e*P **P 13 29 17.6 -0.1**
CABF pmax pmax
comp=Z,18nm,1.0s,mb4.7
CABF La Chapelle 27.78 191 *e*P **P 13 29 17.6 -0.1**
comp=Z,18nm,1.0s,mb4.7
SMF Signal de Mont 27.89 195 *e*P **P 13 29 17.8 -0.9**
comp=Z,18nm,0.9s,mb4.4
SMF Signal de Mont 27.89 195 *e*P **P 13 29 17.8 -0.9**
SMF pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
SMF Signal de Mont 27.89 195 *e*P **P 13 29 17.8 -0.9**
comp=Z,8.8nm,0.9s,mb4.4
KIS Kishinev 27.98 158 *e*P **P 13 29 24.0 +4.5**
KIS *e* 13 30 13.0
KIS *e*PPP 13 30 26.0
KIS *e*S **S 13 34 04.0 +0.4**
KIS *e*SS 13 35 35.0
KIS MLR MLR
comp=N,1µm,15.0s,MS4.7
KIS MLR MLR
comp=Z,2µm,15.0s,MS4.7
KIS MLR MLR
comp=E,700nm,16.0s,MS4.7
KIS MLR MLR
comp=Z,2µm,16.0s
BGF Bois d'Agland 28.05 196 *e*P **P 13 29 19.4 -0.7**
comp=Z,43nm,0.9s,mb4.8
BGF Bois d'Agland 28.05 196 *e*P **P 13 29 19.4 -0.7**
BGF pmax pmax
comp=Z,21nm,0.9s,mb4.8
BGF Bois d'Agland 28.05 196 *e*P **P 13 29 19.4 -0.7**
comp=Z,21nm,0.9s,mb4.8
PKSM Moragy 28.05 173⇑ P **P 13 29 20.8 +0.7**
PKSM Moragy 28.05 173⇓ *i*P **P 13 29 20.8 +0.7**
LJU Ljubljana 28.14 179 P **P 13 29 22.6 +1.7**
VOY Vojsko 28.15 180 *e*P **P 13 29 20.8 -0.2**
VOY *e* 13 29 28.0
RHK1 Bakonya 28.15 174⇑ *e*P **P 13 29 21.6 +0.6**
ORR Orenburg 28.19 120 P **P 13 29 21.0 -0.4**
ORR MLR MLR
comp=Z,300nm,14.0s,MS4.0
MFF Saint Martin d 28.26 201 *e*P **P 13 29 20.9 -1.1**
comp=Z,31nm,1.3s,mb4.5
MFF Saint Martin d 28.26 201 *e*P **P 13 29 20.9 -1.1**
MFF pmax pmax
comp=Z,16nm,1.3s,mb4.5
MFF Saint Martin d 28.26 201 *e*P **P 13 29 20.9 -1.1**
comp=Z,16nm,1.3s,mb4.5
TCF Toulx Ste Croi 28.36 197 *e*P **P 13 29 22.4 -0.5**
comp=Z,41nm,0.9s,mb4.7
TCF Toulx Ste Croi 28.36 197 *e*P **P 13 29 22.4 -0.5**
TCF pmax pmax

comp=Z,20nm,0.9s,mb4.8
TCF Toulx Ste Croi 28.36 197 *e*P P **13 29 22.4 -0.5**
comp=Z,20nm,0.9s,mb4.8
CEY Cerknica 28.44 179 P P **13 29 24.5 +0.9**
AGO Saint Agoulin 28.53 196 *e*P P **13 29 24.3 -0.1**
PLDF La Plantade 28.57 195 *e*P P **13 29 24.3 -0.5**
FRB Frobisher Bay 28.68 293 P P **13 29 24.1 -1.7**
comp=Z,6.8nm,1.0s,mb4.3,baz=31,slow=12,SNR=5.9
FRB PcP PcP
FRB 13 32 34.5 -1.7
comp=Z,6.0nm,0.9s,baz=338,slow=5.4,SNR=4.1
FRB LR LR 13 39 52.4
comp=Z,439nm,21.8s,MS4.0,baz=318,slow=34
FRB Frobisher Bay 28.68 293 P P **13 29 24.1 -1.6**
FRB 13 32 34.5
BOJS Bojanci 28.68 178 *e*P P **13 29 25.4 -0.3**
BOJS *i* 13 29 32.2
BZS Buzias 28.78 169⇑ *i*P P **13 29 27.0 +0.4**
BZS Buzias 28.78 169⇑ P P **13 29 27.0 +0.4**
PYM Petit Puy Mans 28.84 196 *e*P P **13 29 27.6 +0.5**
LPL La Plagne 28.84 190 *e*P P **13 29 27.9 +0.8**
LPG La Plagne 28.86 190 *e*P P **13 29 28.4 +1.1**
comp=Z,58nm,1.3s,mb4.5
LPG La Plagne 28.86 190 *e*P P **13 29 28.4 +1.1**
LPG pmax pmax
comp=Z,29nm,1.3s,mb4.8
LPG La Plagne 28.86 190 *e*P P **13 29 28.4 +1.1**
comp=Z,29nm,1.3s,mb4.8
VRI Vrincioaia 28.90 161⇓ *i*P P **13 29 28.0 +0.3**
VRI Vrincioaia 28.90 161 ⇓P P **13 29 27.9 +0.3**
PLOR Plostina 28.91 161⇓ *i*P P **13 29 27.9 +0.1**
TIXI Tiksi 29.00 36⇑ *i*P P **13 29 28.6 +0.1**
TIXI *e*S S **13 34 17.6 -1.9**
TIXI pmax pmax
comp=Z,29nm,1.1s,mb4.9
TIXI smax
comp=N,256nm,20.9s
TIXI smax
comp=E,132nm,15.8s
TIXI MLR MLR
comp=Z,216nm,16.0s,MS3.9
COLF Collangettes 29.02 195 *e*P P **13 29 28.6 -0.1**
MLR Muntele Rosu 29.21 162 P P **13 29 30.8 +0.4**
comp=Z,21nm,0.9s,mb4.9,baz=177,slow=14,SNR=11
MLR LR LR 13 43 32.5
comp=Z,763nm,18.6s,MS4.3,baz=5.4,slow=41
MLR Muntele Rosu 29.21 162⇓ P P **13 29 31.3 +0.9**
MLR Muntele Rosu 29.21 162⇓ *i*P P **13 29 31.3 +0.9**
BNI Bardonecchia 29.30 190 *e*P P **13 29 30.9 -0.4**
BNI pmax pmax
comp=Z,57nm,1.6s,mb5.0
BNI Bardonecchia 29.30 190 *e*P P **13 29 30.9 -0.4**
comp=Z,57nm,1.6s,mb5.0
LBL Lubilhac 29.34 195 *e*P P **13 29 32.2 +0.7**
MTUR Matau 29.40 164⇓ *i*P P **13 29 34.1 +2.0**
RJF Les Rejaudoux 29.40 198 *e*P P **13 29 31.3 -0.8**
RJF *e*R
comp=Z,366nm,20.8s
RJF Les Rejaudoux 29.40 198 *e*P P **13 29 31.3 -0.8**
RJF LR LR
comp=Z,370nm,20.8s,MS4.0
RRL Cesana Torines 29.43 190 P P **13 29 32.8 +0.4**
ORIF Oris-en-Rattie 29.48 191 *e*P P **13 29 33.1 +0.3**
comp=Z,18nm,0.9s,mb4.5
ORIF *e*R
comp=Z,512nm,17.8s
ORIF Oris-en-Rattie 29.48 191 *e*P P **13 29 33.1 +0.3**
ORIF pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
ORIF Oris-en-Rattie 29.48 191 *e*P P **13 29 33.1 +0.3**
comp=Z,9.0nm,0.9s,mb4.5
VIVF Saint-Julien-l 29.61 193 *e*P P **13 29 33.8 -0.2**
comp=Z,18nm,1.0s,mb4.5
VIVF Saint-Julien-l 29.61 193 *e*P P **13 29 33.8 -0.2**
VIVF pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
VIVF Saint-Julien-l 29.61 193 *e*P P **13 29 33.8 -0.2**
comp=Z,9.1nm,1.0s,mb4.5
MBDF Montbardon 29.62 190 *e*P P **13 29 35.0 +0.9**
CFR Carcaliu 29.71 159⇓ *i*P P **13 29 35.3 +0.4**
CFR Carcaliu 29.71 159 ⇓P P **13 29 35.3 +0.3**
SC2M Scurtabr 29.84 186 P P **13 29 36.1 +0.1**
ZCCA Zocca 29.86 184 P P **13 29 38.2 +2.0**
GSCL Gusciola 29.87 185 P P **13 29 37.7 +1.4**
ROB Roburent 30.01 188 P P **13 29 36.8 -0.7**
OG25 Le Caire 30.02 191 *e*P P **13 29 37.4 -0.2**
VLC Villacollemand 30.06 185 *e*P P **13 29 38.4 +0.4**
comp=Z,104nm,1.5s,mb5.3
FIN Finale Ligure 30.08 188 P P **13 29 37.7 -0.4**
FIN Finale Ligure 30.08 188 P P **13 29 36.8 -1.3**
SEI Scarperia 30.15 183 P P **13 29 40.3 +1.6**
HARR Harsova 30.18 160⇓ *i*P P **13 29 38.7 -0.3**
HARR Harsova 30.18 160⇓ P P **13 29 38.7 -0.3**
RORO 30.18 188 P P **13 29 38.1 -0.9**
DIVS Divcibare 30.22 171 *i*P P **13 29 39.3 -0.1**
MONE Monesi 30.23 189 P P **13 29 37.4 -2.0**
VMG Vicchio 30.24 183 P P **13 29 41.1 +1.6**
SFI Santa Sofia 30.29 183 P P **13 29 41.4 +1.4**
AUTN L'Aution 30.32 189 *e*P P **13 29 41.2 +0.9**
SAOF Saorge 30.33 189 *e*P P **13 29 40.9 +0.6**
IMI Imperia 30.39 188 P P **13 29 40.9 0.0**
CHKZ Chkalovo 30.42 100 *e*P P **13 29 42.0 +0.9**
CHKZ *e* 13 32 40.7
CHKZ pmax pmax
comp=Z,30nm,0.7s,mb5.1
CHKZ Chkalovo 30.42 100 *e*P P **13 29 42.0 +0.8**
comp=Z,30nm,0.7s,mb5.1
CHKZ *e*PcP PcP 13 32 40.7 0.0
BBLS Bajina Basta - 30.42 172 *i*P P **13 29 42.4 +1.2**
BBLS Bajina Basta - 30.42 172 P P **13 29 42.3 +1.1**
LUCF Luceram 30.43 189 *e*P P **13 29 41.2 0.0**
MVIF Mont Vial 30.44 189 *e*P P **13 29 41.2 -0.1**
SMRF Simiane la Rot 30.44 192 *e*P P **13 29 41.4 +0.1**
comp=Z,51nm,1.2s,mb4.8
SMRF Simiane la Rot 30.44 192 *e*P P **13 29 41.4 +0.1**
comp=Z,25nm,1.2s,mb4.8
LASF Ste Croix 30.44 194 *e*P P **13 29 42.1 +0.7**
comp=Z,26nm,0.9s,mb4.7
LASF Ste Croix 30.44 194 *e*P P **13 29 42.1 +0.7**
comp=Z,13nm,0.9s,mb4.7
SBF Sospel 30.46 189 *e*P P **13 29 41.5 0.0**
comp=Z,155nm,1.1s,mb5.4
SBF Sospel 30.46 189 *e*P P **13 29 41.5 0.0**
SBF pmax pmax
comp=Z,78nm,1.1s,mb5.3
SBF Sospel 30.46 189 *e*P P **13 29 41.5 0.0**
comp=Z,78nm,1.1s,mb5.4
GRUS Gruza 30.46 170 *i*P P **13 29 41.3 -0.2**
GRUS Gruza 30.46 170 P P **13 29 41.6 +0.1**
CRE Caprese Michel 30.57 183 P P **13 29 43.8 +1.3**
ZRNK Zerenda 30.63 103 P P **13 29 43.3 +0.3**
ZRNK pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
ZRNK Zerenda 30.63 103 *e*P P **13 29 43.8 +0.7**
comp=Z,12nm,0.6s,mb4.9
SIM Simferopol' 30.63 151 *e*P P **13 29 46.0 +3.0**
SIM *e*S S **13 34 45.0 -0.3**
SIM *e*SS ScP 13 36 23.0 -0.8
SIM pmax pmax
comp=Z,25nm,0.8s,mb5.1
SIM MLR MLR
comp=Z,310nm,16.3s,MS4.0
ARV Arcevia 30.69 181 P P **13 29 43.7 +0.2**
CSNT Castellina Chi 30.73 184 P P **13 29 44.2 +0.3**
BRVK Borovoye 30.88 101 P P **13 29 46.8 +1.6**
comp=Z,140nm,0.7s,mb5.9,SNR=7.8
BRVK Borovoye 30.88 101 *e*P P **13 29 46.3 +1.1**
BRVK pmax pmax
comp=Z,13nm,0.8s,mb4.8
BRVK MLR MLR
comp=Z,318nm,19.0s,MS4.0
BRVK Borovoye 30.88 101 *e*P P **13 29 46.3 +1.1**
comp=Z,13nm,0.8s,mb4.8
BRVK LR LR
comp=Z,318nm,19.0s,MS4.0
MURB Monte Urbino 30.92 182 P P **13 29 47.3 +1.7**
BVA0 Borovoye Array 30.94 101 *i*P P **13 29 46.7 +1.0**
BVA0 pmax pmax
comp=Z,8.0nm,1.3s,mb4.4
GRFL Gerfalco 31.06 184 P P **13 29 47.4 +0.6**
ANN Anapa 31.25 147 *e*P P **13 29 46.5 -2.0**
ANN *e*PP pP 13 29 49.3 -2.3
ANN *e*S S **13 34 52.6 -2.4**
ANN pmax pmax
comp=Z,60nm,1.0s,mb5.4
ANN MLR MLR
comp=N,229nm,11.0s
ANN MLR MLR
comp=Z,132nm,11.0s,MS3.9
MTLF Montolieu 31.29 196 *e*P P **13 29 48.8 -0.1**
NRCA Norcia 31.35 181 P P **13 29 49.9 +0.6**
VOSK Vostochnaya 31.37 101 P P **13 29 50.5 +1.0**
VOSK pmax pmax
comp=Z,33nm,1.2s,mb5.0
PVL Pavlikeni 31.42 164 *e*P P **13 29 49.0 -0.9**
TERO Teramo 31.56 180 P P **13 29 51.2 0.0**
PGF Pioggiola 31.71 187 *e*P P **13 29 52.6 +0.1**
comp=Z,121nm,1.6s,mb5.2
PGF Pioggiola 31.71 187 *e*P P **13 29 52.6 +0.1**
PGF pmax pmax
comp=Z,61nm,1.6s,mb5.2
PGF Pioggiola 31.71 187 *e*P P **13 29 52.6 +0.1**
comp=Z,61nm,1.6s,mb5.2
EALK Alkurruntz 31.75 201 P P **13 29 53.4 +0.5**
comp=Z,4.8nm,0.7s,mb4.4
EPF Esparros 31.76 199 *e*P P **13 29 52.6 -0.3**
comp=Z,21nm,1.1s,mb4.6
EPF Esparros 31.76 199 *e*P P **13 29 52.6 -0.3**
EPF pmax pmax
comp=Z,11nm,1.0s,mb4.6
EPF Esparros 31.76 199 *e*P P **13 29 52.6 -0.3**
comp=Z,11nm,1.1s,mb4.6
ELIZ Elizondo 31.80 202 P P **13 29 54.7 +1.3**
ELIZ pmax pmax
comp=Z,2.0nm,0.3s,mb4.4
ELIZ Elizondo 31.80 202 P P **13 29 54.7 +1.4**
comp=Z,1.9nm,0.3s,mb4.4
SJPF Ste Jean 31.82 201 *e*P P **13 29 52.9 -0.6**
AQU L'Aquila 31.83 181 *e*P P **13 29 53.9 +0.3**
AQU pmax pmax
comp=Z,44nm,1.1s,mb5.2
AQU L'Aquila 31.83 181 *e*P P **13 29 53.9 +0.3**
comp=Z,44nm,1.1s,mb5.2
VTS Vitosha 31.89 167 *e*P P **13 29 53.5 -0.6**
VTS Vitosha 31.89 167⇑ P P **13 29 53.2 -0.9**
FIAM Fiamignano 31.91 181 P P **13 29 55.3 +1.0**
GOF Golfitskoye 31.94 139 *e*P P **13 29 54.1 -0.4**
EARI Arriondas 32.08 207 P P **13 29 57.1 +1.3**
comp=Z,9.8nm,0.8s,mb4.7
EBIE Bielsa 32.12 199 P P **13 29 57.8 +1.6**
comp=Z,6.7nm,0.7s,mb4.6
CERT Certeto 32.23 181 P P **13 29 57.0 -0.1**
JMB Yambol 32.26 162 P P **13 29 57.8 +0.4**
EPON Pontenova 32.31 209 P P **13 30 01.5 +3.7**
comp=Z,14nm,1.0s,mb4.8
VVLD Villa Vallelon 32.31 180 P P **13 29 58.4 +0.6**
SKO Skopje 32.41 169 *i*P P **13 29 59.0 +0.4**
SKO *i* 13 30 06.3
SKO Skopje 32.41 169 P P **13 29 59.0 +0.4**
RDP Rocca di Papa 32.42 181 P P **13 29 59.1 +0.3**
CII Carovilli 32.46 179 P P **13 30 01.4 +2.3**
SDI San Donato 32.47 180 P P **13 29 59.8 +0.6**
EGRA Graus 32.59 199 P P **13 30 02.4 +2.2**
comp=Z,7.6nm,1.0s,mb4.6
STIP Stip 32.72 168 *i*P P **13 29 58.8 -2.7**
STIP *i* 13 30 07.3
EMIR Miracle 32.77 197 P P **13 30 04.8 +3.0**
comp=Z,3.5nm,0.6s,mb4.5
SOC Sochi 32.80 144 *e*P P **13 30 05.5 +3.4**
SOC *e* 13 31 06.0
SOC *e* 13 32 52.7
SOC *e*S S **13 35 22.6 +3.5**
SOC MLR MLR
comp=Z,510nm,17.0s,MS4.3
NVS Novosibirsk 32.85 87 *e*P P **13 30 02.8 +0.2**
NVS pmax pmax
comp=N,46nm,1.8s
NVS pmax pmax
comp=Z,57nm,1.8s,mb5.2
NVS pmax pmax
comp=E,11nm,1.3s
RFI Roccamonfina 32.88 180 P P **13 30 03.9 +1.1**
RZN Rozhen 32.89 165 *e*P P **13 30 02.2 -0.7**
MMB Musomiste 32.92 166 P P **13 30 03.0 -0.1**
EMAZ Mazaricos 32.93 211 P P **13 30 05.6 +2.4**
comp=E,19nm,0.7s,mb5.1
STS Santiago 32.93 211 P P **13 30 06.8 +3.5**
STS pmax pmax
comp=Z,20nm,0.8s,mb5.1
STS Santiago 32.93 211 P P **13 30 06.8 +3.6**
comp=Z,20nm,0.8s,mb5.1
KIV Kislovodsk 32.94 140 *e*P P **13 30 04.3 +1.0**
KIV *e* 13 32 45.0
KIV *e*S S **13 35 23.1 +1.8**
KIV pmax pmax
comp=Z,34nm,1.1s,mb5.2
KIV MLR MLR
comp=Z,378nm,15.0s,MS4.2
KIV Kislovodsk 32.94 140 *e*P P **13 30 04.3 +1.0**
comp=Z,22nm,0.8s,mb5.1
KIV LR LR
comp=Z,461nm,19.0s,MS4.2
PSB1 Pescosannita 32.96 179 P P **13 30 03.9 +0.4**
KDZ Kurdzhali 32.98 164 *e*P P **13 30 03.5 -0.2**
KNT Kendrikon 33.29 167 *e*P P **13 30 06.2 -0.2**
BIA Bitola 33.35 170 *i*P P **13 30 12.5 +5.6**
EPOB Poblet 33.36 198 P P **13 30 07.6 +0.6**
comp=Z,8.7nm,1.0s,mb4.6
MRLC Muro Lucano 33.43 178 P P **13 30 07.7 +0.1**
FNA Florina 33.59 170 *e*P P **13 30 08.5 -0.5**
ECAL Calabor 33.61 208 P P **13 30 12.6 +3.4**
comp=Z,8.9nm,0.8s,mb4.8
SGO Sicignano 33.63 178 P P **13 30 09.6 +0.3**
SOH Sokhos 33.66 167 *e*P P **13 30 09.7 +0.1**
PBRG Braganca 33.75 208 *e*P P **13 30 11.5 +1.1**
comp=Z,12nm,1.5s,mb4.6
ALN Alexandroupoli 33.78 163 *e*P P **13 30 10.4 -0.2**
SLCN Sala Consilina 33.80 177 P P **13 30 11.2 +0.4**
ERTA Horta de San J 33.82 198 P P **13 30 16.3 +5.3**
comp=Z,6.9nm,0.9s,mb4.6
ELOB Lobios 33.86 210 P P **13 30 15.8 +4.4**
comp=Z,6.4nm,0.9s,mb4.5
ZAL Zalesovo 34.08 86 LR LR 13 48 18.9
comp=Z,757nm,19.3s,MS4.4,baz=141,slow=44
ORI Oriolo Calabro 34.14 176 P P **13 30 14.8 +1.0**
CUC Castrocucco 34.20 177 P P **13 30 14.4 +0.1**
ZEI Tsey 34.31 139 *e*P P **13 30 22.3 +7.1**
ZEI *e*PP pP 13 30 27.5 +9.2
ZEI pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
HENT Hendek 34.31 157 *i*P P **13 30 12.8 -2.4**
LIT Litokhoron 34.33 168 *e*P P **13 30 16.1 +0.8**
PVRL Vila Real 34.40 209 *e*P P **13 30 17.6 +1.6**
EMOS Mosqueruela 34.48 199 P P **13 30 24.9 +8.2**
comp=Z,5.2nm,1.0s,mb4.4
GUD Guadarrama 34.58 204 P P **13 30 18.7 +1.1**
GUD pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
GUD Guadarrama 34.58 204 P P **13 30 18.6 +1.1**
comp=Z,3.7nm,0.6s,mb4.5
SGKT Sivrigoynuk 34.69 155 *i*P P **13 30 19.7 +1.2**
IGT Igoumenitsa 34.78 171 *e*P P **13 30 18.7 -0.6**
ETOS Mallorca 34.80 195 P P **13 30 27.0 +7.5**
comp=Z,9.4nm,1.0s,mb4.7
PVIS Viseu 34.97 209 *e*P P **13 30 22.5 +1.5**
comp=Z,16nm,1.5s,mb4.7
TIP Timpagrande 35.03 176 *e*P P **13 30 21.6 +0.2**
BTOK Tokmak 35.07 161 *i*P P **13 30 22.3 +0.4**
GRSN GIRESUNGRSN 35.17 147 *i*P P **13 30 22.7 0.0**
MTE Manteigas 35.24 209 *e*P P **13 30 24.0 +0.7**
MTE Manteigas 35.24 209 P P **13 30 18.1 -5.2**
KURK Kurchatov 35.26 95 P P **13 30 24.8 +1.3**
comp=Z,225nm,0.8s,mb6.2,SNR=18
KURK Kurchatov 35.26 95 P P **13 30 24.2 +0.7**
KURK pmax pmax
comp=Z,36nm,1.3s,mb5.1
KURK Kurchatov 35.26 95 *e*P P **13 30 24.2 +0.7**
comp=Z,34nm,0.9s,mb5.3
ECHE Chera 35.29 200 P P **13 30 29.5 +5.8**
ECHE pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
ECHE Chera 35.29 200 P P **13 30 29.5 +5.8**
comp=Z,1.1nm,0.4s,mb4.1
GRI Girifalco 35.38 176 P P **13 30 24.5 0.0**
AGG Agios Georgios 35.39 168 *e*P P **13 30 24.5 -0.1**
ANTO Ankara 35.47 154 *e*P P **13 30 26.6 +1.3**
ANTO pmax pmax
comp=Z,64nm,1.1s,mb5.5
ANTO Ankara 35.47 154 *e*P P **13 30 26.6 +1.3**
comp=Z,64nm,1.1s,mb5.5
ESDC Sonseca Array 35.52 204 P P **13 30 25.8 +0.2**
comp=Z,3.0nm,0.8s,mb4.3,baz=6.0,slow=8.6,SNR=23
ESDC PcP PcP 13 32 54.6 -0.3
comp=Z,0.6nm,0.7s,baz=353,slow=3.3,SNR=4.5
ESDC Sonseca Array 35.52 204 P P **13 30 26.1 +0.5**
comp=Z,5.1nm,1.6s,mb4.2
ESLA Sonseca Array 35.52 204 *e*P P **13 30 25.8 +0.2**
comp=Z,2.0nm,1.3s,mb4.9
ESKT Eskisehir 35.59 157 *i*P P **13 30 26.7 +0.3**
SEYT Eskypehyr 35.59 157 *i*P P **13 30 26.7 +0.4**
SLNA Salina 35.62 179 P P **13 30 26.7 +0.2**
LKD Levkas 35.62 171 *e*P P **13 30 25.1 -1.5**
BR131 Keskin Array S 35.71 153 *e*P P **13 30 26.9 -0.4**
comp=Z,29nm,0.8s,mb5.3
BRTR Keskin Array B 35.71 153 P P **13 30 27.6 +0.2**
comp=Z,13nm,0.6s,mb5.0,baz=348,slow=6.5,SNR=53
PCBR Castelo Branco 35.78 209 *e*P P **13 30 29.8 +1.9**
comp=Z,15nm,1.3s,mb4.8
SCHQ Schefferville 35.90 283 P P **13 30 27.7 -1.2**
comp=Z,3.1nm,0.7s,mb4.4,baz=38,slow=10,SNR=6.8
SCHQ LR LR 13 43 40.0
comp=Z,471nm,18.7s,MS4.3,baz=286,slow=34
SCHQ Schefferville 35.90 283 *e*P P **13 30 27.7 -1.3**
comp=Z,12nm,0.9s,mb4.8
SCHQ LR LR
comp=Z,904nm,22.0s,MS4.5
PTOM Tomar 36.12 210 *e*P P **13 30 31.7 +0.8**
comp=Z,21nm,1.4s,mb4.9
VLS Valsamata 36.15 171 *e*P P **13 30 30.0 -1.1**
MTTG Motta San Giov 36.19 177 P P **13 30 30.3 -1.1**
GIB Gibilmanna 36.19 180 P P **13 30 31.4 0.0**
ETOB Tobarra 36.28 200 P P **13 30 33.8 +1.6**
comp=Z,3.9nm,1.0s,mb4.3
INK Inuvik 36.29 340 LR LR 13 46 38.9
comp=Z,73nm,18.8s,MS3.5,baz=204,slow=38
INK Inuvik 36.29 340 *e*P P **13 30 32.2 -0.1**
INK *e* 13 32 56.8
INK pmax pmax
comp=Z,73nm,1.0s
INK Inuvik 36.29 340 *e*P P **13 30 32.1 -0.2**
comp=Z,73nm,1.0s,mb5.6
INK *e*PcP PcP 13 32 56.8 -0.4
URLA Izmir 36.34 163 *i*P P **13 30 31.5 -1.2**
EBAD Badajoz 36.79 208 P P **13 30 37.1 +0.6**
comp=Z,4.7nm,1.2s,mb4.2
AVNT Avonos 36.80 152 *i*P P **13 30 32.1 -4.6**
PLOU Loures 36.95 210 *e*P P **13 30 43.6 +5.7**
comp=Z,51nm,1.1s,mb5.3
GNI Garni 37.00 139 *e*P P **13 30 40.0 +1.6**
GNI pmax pmax
comp=Z,31nm,1.0s
GNI Garni 37.00 139 *e*P P **13 30 40.0 +1.6**
comp=Z,31nm,1.0s,mb5.1
BILL Bilibino 37.01 17*c i*P P **13 30 39.4 +1.0**
BILL *e* 13 30 47.5
BILL *e* 13 32 01.9
BILL *e*S S **13 36 32.7 +8.9**
BILL pmax pmax
comp=Z,101nm,1.1s,mb5.6
BILL Bilibino 37.01 17 *e*P P **13 30 39.1 +0.7**
comp=Z,109nm,1.2s,mb5.6
EADA Adamuz 37.07 204 P P **13 30 40.5 +1.5**
comp=Z,9.1nm,1.0s,mb4.6
ITM Ithomi 37.20 169 *e*P P **13 30 40.2 +0.1**
ISP Isparta 37.22 158 *e*P P **13 30 39.1 -1.1**
ISP pmax pmax
comp=Z,12nm,0.9s,mb4.7
ISP Isparta 37.22 158 *e*P P **13 30 39.1 -1.1**
comp=Z,12nm,0.9s,mb4.7
DNZL Cakiroluk 37.22 160 *i*P P **13 30 40.0 -0.2**
DNZL Cakiroluk 37.22 160 *i*P P **13 30 40.0 -0.2**
EQES Quesada 37.27 202 P P **13 30 42.6 +2.0**
comp=Z,6.1nm,0.9s,mb4.4
APE Apeiranthos 37.54 164 *e*P P **13 30 40.0 -2.9**
PBEJ Beja 37.62 209 *e*P P **13 30 43.9 +0.3**
comp=Z,21nm,1.4s,mb4.7
ELUQ Luque 37.64 204 P P **13 30 52.1 +8.3**
ELUQ pmax pmax
comp=Z,27nm,1.4s,mb4.8
ELUQ Luque 37.64 204 P P **13 30 52.1 +8.3**
comp=Z,27nm,1.4s,mb4.8
YAK Yakutsk 37.73 44 *e*P P **13 30 45.4 +0.8**
YAK pmax pmax
comp=Z,11nm,1.3s,mb4.4
YAK pmax pmax
comp=N,13nm,1.7s
YAK pmax pmax
comp=E,4.0nm,1.3s
EBER Berja 38.15 202 P P **13 30 49.7 +1.6**
comp=E,10nm,0.9s,mb4.5
KYTH Kithira 38.16 168 *e*P P **13 30 47.0 -1.2**
BOD Bodaibo 38.21 58 *e*P P **13 30 47.7 -0.9**
BOD pmax pmax
comp=Z,26nm,1.4s,mb4.8
ESPR Espera 38.50 206 P P **13 30 59.3 +8.3**
comp=Z,6.0nm,0.6s,mb4.5
GZT Gaziantep 38.57 149 *i*P P **13 30 52.4 +0.8**
EMIJ Mijas 38.68 204 P P **13 30 54.3 +1.7**
comp=Z,15nm,1.0s,mb4.7
MEST Erdemli 38.87 153 *i*P P **13 30 52.6 -1.5**
FCC Fort Churchill 39.08 308 *e*P P **13 30 54.8 -1.1**
FCC pmax pmax
comp=Z,16nm,0.8s,mb4.8
FCC Fort Churchill 39.08 308 *e*P P **13 30 54.8 -1.1**
comp=Z,16nm,0.8s,mb4.8
MARD Mardin 39.09 145 *i*P P **13 30 56.4 +0.4**
VAM Vamos 39.10 166 *e*P P **13 30 54.5 -1.6**
YKW3 Yellowknife Ar 39.42 325 *e*P P **13 30 57.0 -1.8**
YKW3 *e*PcP PcP 13 33 05.8 -1.0
YKA Yellowknife Ar 39.48 325 P P **13 30 58.3 -1.0**
comp=Z,20nm,0.7s,mb5.0,baz=12,slow=8.2,SNR=87
YKA PcP PcP 13 33 06.0 -1.0
comp=Z,4.3nm,0.9s,baz=12,slow=3.2,SNR=9.6
YKA LR LR 13 46 30.2
comp=Z,169nm,18.5s,MS3.9,baz=35,slow=35
YKA Yellowknife Ar 39.48 325 P P **13 30 58.3 -1.0**
YKA 13 33 06.0
YKA Yellowknife Ar 39.48 325 P P **13 30 58.3 -1.0**
YKA PcP PcP 13 33 06.0 -1.0
YKA LR LR 13 46 30.2
GVD Gavdhos 39.66 167 P P **13 31 01.6 +0.8**
comp=Z,38nm,0.9s,mb5.1
MK31 Makanchi Array 39.84 94 P P **13 31 03.2 +1.0**
MK31 pmax pmax
comp=Z,12nm,0.7s,mb4.7
MKAR Makanchi Array 39.84 94 P P **13 31 02.8 +0.6**
comp=Z,3.0nm,0.5s,mb4.3,baz=9.3,slow=6.2,SNR=35
KKAR Karatay Array 40.07 108 *i*P P **13 31 05.7 +1.6**
KKAR pmax pmax
comp=Z,27nm,1.0s,mb4.9
CSS Prodhromos 40.38 155 *e*P P **13 31 06.3 -0.4**
comp=Z,34nm,0.8s,mb5.1
CSS Prodhromos 40.38 155 *e*P P **13 31 06.3 -0.4**
comp=Z,34nm,0.8s,mb5.1
MOY Mondy 40.50 73 *e*P P **13 31 10.1 +2.4**
MOY pmax pmax
comp=Z,50nm,2.0s,mb4.8
COLA College 40.76 348 *e*P P **13 31 09.8 -0.1**
COLA pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
COLA MLR MLR
comp=Z,150nm,19.0s,MS3.9
COLA College 40.76 348 *e*P P **13 31 09.8 -0.1**
comp=Z,9.6nm,0.9s,mb4.4
COLA LR LR
comp=Z,150nm,19.0s,MS3.9
COLA College 40.76 348 *e*P P **13 31 09.8 -0.1**
comp=Z,9.6nm,0.9s,mb4.4
ILAR Eielson Array 40.81 347 P P **13 31 11.2 +0.9**
comp=Z,20nm,0.8s,mb4.8,baz=360,slow=6.8,SNR=228
ILAR PcP PcP 13 33 09.2 -2.1
comp=Z,7.2nm,0.9s,baz=339,slow=4.2,SNR=13
ILAR Eielson Array 40.81 347 P P **13 31 11.1 +0.8**
ILAR Eielson Array 40.81 347 PcP PcP 13 33 09.1 -2.1
IRK Irkutsk 40.84 70 *e*P P **13 31 07.0 -3.5**
IRK *e* 13 32 43.7
IRK pmax pmax
comp=Z,64nm,0.7s,mb5.4
DAWY Dawson 40.97 342 *e*P P **13 31 11.7 +0.1**
DAWY Dawson 40.97 342 *e*P P **13 31 11.7 +0.1**
TLY Talaya 41.19 71 *e*P P **13 31 14.2 +0.8**
TLY *e*PPP 13 33 09.7
TLY *e*S S **13 37 26.0 -0.8**
TLY *e*SS SS 13 40 30.8 +1.2
TLY pmax pmax

comp=Z,8.0nm,1.2s,mb4.2
TLY MLR MLR
comp=Z,335nm,16.0s,MS4.3
TLY Talaya 41.19 71 *e*P **P 13 31 13.1 -0.2**
comp=Z,8.5nm,1.0s,mb4.3
TLY Talaya 41.19 71 *e*P **P 13 31 13.1 -0.3**
comp=Z,8.5nm,1.0s,mb4.3
FRU Bishkek 41.41 104 *e*P **P 13 31 16.0 +0.8**
FRU *e* 13 31 27.0
CLNS Chul'man 41.55 51 *e*P **P 13 31 13.2 -3.1**
CLNS pmax pmax
comp=Z,48nm,1.0s,mb5.1
CLNS pmax pmax
comp=N,26nm,1.1s
CLNS pmax pmax
comp=E,13nm,0.9s
AAK Ala-Archa 41.56 104 P **P 13 31 17.0 +0.5**
comp=E,65nm,1.0s,mb5.2,SNR=5.4
AAK Ala-Archa 41.56 104 *e*P **P 13 31 15.7 -0.8**
AAK pmax pmax
comp=Z,19nm,1.0s,mb4.7
AAK Ala-Archa 41.56 104 *e*P **P 13 31 15.7 -0.7**
comp=Z,19nm,1.0s,mb4.7
AAK Ala-Archa 41.56 104 *e*P **P 13 31 15.7 -0.8**
comp=Z,19nm,1.0s,mb4.7
TKM2 Tokmak 2 41.59 103 P **P 13 31 18.8 +2.1**
TKM2 pmax pmax
comp=Z,19nm,1.0s,mb4.7
ABKT Ailbek 41.90 124 P **P 13 31 20.4 +1.2**
comp=Z,221nm,0.9s,mb5.8,SNR=9.4
ZAK Zakamensk 42.27 72 *e*P **P 13 31 22.9 +0.6**
ZAK *e* 13 33 12.4
ZAK pmax pmax
comp=Z,18nm,1.9s,mb4.4
ZAK pmax pmax
comp=Z,21nm,2.0s,mb4.4
MENT Mentasta 42.42 345 *e*P **P 13 31 25.3 +1.8**
TTA Tatalina 43.07 353 *e*P **P 13 31 30.7 +1.9**
CIT Chita 43.38 62 *e*P **P 13 31 32.2 +0.9**
CIT *e* 13 33 13.6
CIT pmax pmax
comp=Z,53nm,2.2s,mb4.9
MA2 Magadan 43.55 30 *e*P **P 13 31 33.3 +0.7**
MA2 *e* 13 33 23.9
MA2 *e*S **S 13 38 00.7 -0.9**
MA2 *e*SS SS 13 41 25.5 +9.2
MA2 pmax pmax
comp=Z,50nm,0.9s,mb5.2
MA2 pmax pmax
comp=N,20nm,0.7s
MA2 MLR MLR
comp=Z,400nm,17.6s,MS4.4
MA2 Magadan 43.55 30 *e*P **P 13 31 33.0 +0.4**
comp=Z,26nm,0.8s,mb5.0
MA2 Magadan 43.55 30 *e*P **P 13 31 33.0 +0.4**
comp=Z,26nm,0.8s,mb5.0
WMQ Urumqi 44.07 90 ⇑P **P 13 31 39.0 +2.2**
WMQ AP pP 13 31 46.5 +6.6
WMQ XP sP 13 31 50.0 +8.9
WMQ PCP PcP 13 33 24.0 +2.0
WMQ PPP 13 34 01.5
WMQ S **S 13 38 10.5 +1.3**
WMQ XS sS 13 38 22.8 +8.5
WMQ AMB AMB
comp=Z,23nm,0.8s,mb5.0
WMQ AMB AMB
comp=Z,101nm,3.6s
WMQ LR LR
comp=N,511nm,21.7s,MS4.6
WMQ LR LR
comp=E,653nm,20.9s,MS4.6
WMQ LR LR
comp=Z,500nm,21.7s,MS4.4
FFC Flin Flon 44.49 312 P **P 13 31 39.1 -1.0**
comp=Z,496nm,0.7s,SNR=29
FFC Flin Flon 44.49 312 *e*P **P 13 31 39.6 -0.5**
FFC pmax pmax
comp=Z,72nm,0.9s,mb5.4
FFC Flin Flon 44.49 312 *e*P **P 13 31 39.6 -0.5**
comp=Z,72nm,0.9s,mb5.4
FFC Flin Flon 44.49 312 *e*P **P 13 31 39.6 -0.5**
comp=Z,72nm,0.9s,mb5.4
KSH Kashi 44.87 104 *e*P **P 13 31 42.0 -1.2**
KSH *e*AP pP 13 31 49.5 +3.2
KSH *e*XP sP 13 31 52.0 +4.4
KSH *e*PCP PcP 13 33 25.3 +0.5
KSH *e*PP PP 13 33 27.0 -1.0
KSH *e*PPP 13 34 06.0
KSH *e*SCP ScP 13 37 14.3 -2.9
KSH *e*PCS PcS 13 37 17.0 -1.4
KSH *e*S **S 13 38 15.0 -5.9**
KSH *e*XS sS 13 38 28.3 +2.3
KSH *e*SCS ScS 13 41 35.3 -5.5
KSH LR LR
comp=N,288nm,5.4s
KSH LR LR
comp=E,354nm,5.4s
KSH LR LR
comp=Z,277nm,6.5s
SVW2 Sparrevohn 44.89 353 *e*P **P 13 31 44.6 +1.2**
SONM Songino Array 45.43 71 P **P 13 31 49.2 +1.5**
comp=Z,5.5nm,0.7s,mb4.5,baz=330,slow=9.1,SNR=14
SONM LR LR 13 53 43.8
comp=Z,286nm,19.1s,MS4.2,baz=182,slow=40
DLBC Dease Lake 45.54 334 *e*P **P 13 31 48.1 -0.4**
DLBC Dease Lake 45.54 334 *e*P **P 13 31 48.1 -0.4**
ULN Ulaanbaatar 45.57 70 *e*P **P 13 31 50.5 +1.7**
ULN pmax pmax
comp=Z,26nm,1.2s,mb5.0
ULN Ulaanbaatar 45.57 70 *e*P **P 13 31 50.5 +1.7**
comp=Z,26nm,1.2s,mb5.0
ULN Ulaanbaatar 45.57 70 *e*P **P 13 31 50.5 +1.7**
comp=Z,26nm,1.2s,mb5.0
EIL Elat 45.79 154 *e*P **P 13 31 49.8 -0.7**
comp=Z,1μm,1.1s
EIL Elat 45.79 154 *e*P **P 13 31 49.8 -0.7**
comp=Z,1μm,1.1s
FRNY Flat Rock 46.81 283 *e*P **P 13 31 58.1 -0.4**
FRNY Flat Rock 46.81 283 *e*P **P 13 31 58.1 -0.4**
LBNH Lisbon 46.91 281 *e*P **P 13 31 59.1 -0.2**
LBNH pmax pmax
comp=Z,20nm,1.0s,mb5.0
LBNH Lisbon 46.91 281 *e*P **P 13 31 59.1 -0.2**
comp=Z,20nm,1.0s,mb5.0
LBNH Lisbon 46.91 281 *e*P **P 13 31 59.1 -0.2**
comp=Z,20nm,1.0s,mb5.0
MSNY Massena 47.00 284 *e*P **P 13 31 59.8 -0.2**
MSNY Massena 47.00 284 *e*P **P 13 31 59.8 -0.2**
LONY Lake Ozonia 47.28 284 *e*P **P 13 32 01.1 -1.0**
LONY Lake Ozonia 47.28 284 *e*P **P 13 32 01.1 -1.1**
ULM Lac du Bonnet 47.36 305 P **P 13 32 02.1 -0.6**
comp=Z,32nm,0.9s,mb5.3,baz=22,slow=7.5,SNR=35
ULM LR LR 13 51 07.4
comp=Z,150nm,21.4s,MS3.9,baz=55,slow=35
HIA Hailar 47.42 59 *e*P **P 13 32 04.3 +1.0**
HIA pmax pmax
comp=Z,35nm,1.1s
HIA Hailar 47.42 59 *e*P **P 13 32 04.3 +1.0**
comp=Z,35nm,1.1s,mb5.2
HIA Hailar 47.42 59 *e*P **P 13 32 04.3 +1.0**
comp=Z,35nm,1.1s,mb5.2
MIV Mineville/With 47.50 282 *e*P **P 13 32 03.6 -0.3**
MIV Mineville/With 47.50 282 *e*P **P 13 32 03.6 -0.3**
MIB Mutribah 47.54 139 *e*P **P 13 32 04.4 +0.2**
MIB AMb AMB 13 32 13.1
comp=Z,98nm,1.0s,mb5.8
UMR Umm Al-Rimmam 47.85 139 *e*P **P 13 32 06.8 +0.2**
UMR AMb AMB 13 32 15.6
comp=Z,117nm,0.8s,mb5.9
NAY Al-Naaiem 48.06 140 *e*P **P 13 32 08.2 -0.1**
NAY AMb AMB 13 32 16.9
comp=Z,26nm,1.1s,mb5.2
NAY Al-Naaiem 48.06 140 *e*P **P 13 32 08.1 -0.1**
KDAK Kodiak Island 48.08 350 P **P 13 32 08.2 -0.2**
comp=Z,31nm,1.0s,mb5.3,baz=22,slow=8.0,SNR=13
KDAK Kodiak Island 48.08 350 *e*P **P 13 32 08.5 +0.1**
comp=Z,54nm,1.1s,mb5.5
KDAK Kodiak Island 48.08 350 *e*P **P 13 32 08.5 +0.1**
comp=Z,54nm,1.1s,mb5.5
EDM Edmonton 48.09 320 *e*P **P 13 32 08.3 -0.2**
ACCN Adirondack Com 48.18 282 *e*P **P 13 32 08.9 -0.2**
HRV Harvard--Oak R 48.42 280 *e*P **P 13 32 10.5 -0.5**
HRV pmax pmax
comp=Z,21nm,1.3s,mb5.0
HRV Harvard--Oak R 48.42 280 *e*P **P 13 32 10.5 -0.6**
comp=Z,21nm,1.3s,mb5.0
HRV Harvard--Oak R 48.42 280 *e*P **P 13 32 10.5 -0.5**
comp=Z,21nm,1.3s,mb5.0
RDF Al-Radifah 48.43 139 *e*P **P 13 32 10.6 -0.5**
RDF AMb AMB 13 32 20.1
comp=Z,76nm,0.9s,mb5.7
EYMN Ely 48.49 300 *e*P **P 13 32 11.1 -0.5**
comp=Z,51nm,1.0s,mb5.5
EYMN Ely 48.49 300 *e*P **P 13 32 11.1 -0.5**
comp=Z,51nm,1.0s,mb5.5
BINY Binghamton 49.90 284 P **P 13 32 21.8 -0.5**
comp=Z,22nm,0.9s,mb5.2
BINY Binghamton 49.90 284 P **P 13 32 21.8 -0.6**
comp=Z,22nm,0.9s,mb5.2
KLR Kul'dur 50.13 49 *e*P **P 13 32 21.2 -2.9**
KLR MLR MLR
comp=N,500nm,15.0s
KLR MLR MLR
comp=Z,700nm,15.0s,MS4.8
PET Petropavlovsk 50.97 27 *e*P **P 13 32 23.0 -7.4**
PET MLR MLR
comp=Z,200nm,17.0s,MS4.2
ERPA Erie 51.04 287 *e*P **P 13 32 30.1 -0.9**
comp=Z,11nm,0.8s,mb4.8
ERPA Erie 51.04 287 *e*P **P 13 32 30.1 -0.9**
comp=Z,11nm,0.8s,mb4.8
GTA Gaotai 51.50 81 ⇑P **P 13 32 35.8 +1.4**
GTA AP pP 13 32 43.5 +5.9
GTA XP sP 13 32 47.8 +9.0
GTA PP PP 13 34 36.5 +4.9
GTA S **S 13 39 59.3 +4.7**
GTA XS sS 13 40 08.8 +9.0
GTA AMB AMB
comp=Z,21nm,0.9s,mb5.1
GTA AMB AMB
comp=Z,131nm,4.6s
GTA LR LR
comp=N,430nm,16.7s,MS4.6
GTA LR LR
comp=E,348nm,19.4s,MS4.6
GTA LR LR
comp=Z,495nm,20.5s,MS4.5
ALLY Alegheny Colle 51.52 287 *e*P **P 13 32 34.3 -0.3**
ALLY Alegheny Colle 51.52 287 *e*P **P 13 32 34.3 -0.3**
HABR Khabarovsk 51.52 47 *e*P **P 13 32 35.7 +1.1**
HABR S **S 13 39 56.7 +1.7**
HABR pmax pmax
comp=Z,33nm,1.2s,mb5.1
HABR MLR MLR
comp=Z,255nm,17.1s,MS4.3
SSPA Standing Stone 51.87 285 *e*P **P 13 32 36.8 -0.4**
comp=Z,14nm,1.0s,mb4.8
SSPA Standing Stone 51.87 285 *e*P **P 13 32 36.8 -0.4**
comp=Z,14nm,1.0s,mb4.8
WALA Waterton Lakes 52.19 319 *e*P **P 13 32 39.2 -0.4**
comp=Z,75nm,1.2s,mb5.5
WALA Waterton Lakes 52.19 319 *e*P **P 13 32 39.2 -0.4**
comp=Z,75nm,1.2s,mb5.5
EGMT Eagleton 52.40 315 *e*P **P 13 32 39.9 -1.2**
comp=Z,48nm,1.4s,mb5.2
EGMT Eagleton 52.40 315 *e*P **P 13 32 39.9 -1.2**
comp=Z,48nm,1.4s,mb5.2
SDMD Soldier's Deli 52.74 283 *e*P **P 13 32 42.0 -1.7**
SDMD Soldier's Deli 52.74 283 *e*P **P 13 32 42.0 -1.6**
PNT Penticton 52.93 323 P **P 13 32 45.5 +0.5**
LAO LASA Array 52.97 312 *e*P **P 13 32 45.4 0.0**
comp=Z,167nm,1.9s,mb5.6
LAO LASA Array 52.97 312 *e*P **P 13 32 45.4 +0.1**
comp=Z,167nm,1.9s,mb5.6
KLP Kalpa 53.01 105 *e*P **P 13 32 46.7 +1.1**
KLP AMb AMB 13 32 58.8
comp=Z,65nm,1.0s,mb5.5
HHC Hu-ho-hao-te 53.28 70 *e*P **P 13 32 48.3 +0.7**
HHC AP pP 13 32 53.3 +2.5
HHC XP sP 13 32 55.3 +3.3
HHC PCP PcP 13 33 56.3 +1.0
HHC PP PP 13 34 50.0 +2.3
HHC SCP ScP 13 37 51.3 -1.7
HHC PCS PcS 13 37 53.8 -0.3
HHC S **S 13 40 16.8 -2.2**
HHC XS sS 13 40 24.8 +0.6
HHC PS 13 40 28.8
HHC SCS ScS 13 42 34.3 -3.0
HHC SS SS 13 43 56.5 -2.2
HHC AMB AMB
comp=Z,13nm,1.2s,mb4.7
HHC AMB AMB
comp=Z,171nm,7.9s
HHC LR LR
comp=N,428nm,16.5s,MS4.8
HHC LR LR
comp=E,663nm,16.1s,MS4.8
HHC LR LR
comp=Z,404nm,16.1s,MS4.6
MCWV Mont Chateau 53.31 286 *e*P **P 13 32 47.2 -0.6**
comp=Z,28nm,0.9s,mb5.2
MCWV Mont Chateau 53.31 286 *e*P **P 13 32 47.2 -0.6**
comp=Z,28nm,0.9s,mb5.2
BSMT Bassoo Peak 53.51 319 P **P 13 32 49.7 +0.4**
BSMT Bassoo Peak 53.51 319 P **P 13 32 49.7 +0.4**
NEW Newport 53.53 321 *e*P **P 13 32 49.6 +0.2**
NEW pmax pmax
comp=Z,33nm,1.1s
NEW Newport 53.53 321 *e*P **P 13 32 49.6 +0.2**
comp=Z,33nm,1.1s,mb5.2
NEW Newport 53.53 321 *e*P **P 13 32 49.6 +0.2**
comp=Z,33nm,1.1s,mb5.2
ACSO Alum Creek Sta 53.59 289 *e*P **P 13 32 49.1 -0.8**
comp=Z,27nm,1.1s,mb5.1
ACSO Alum Creek Sta 53.59 289 *e*P **P 13 32 49.1 -0.8**
comp=Z,27nm,1.1s,mb5.1
CN2 Changchun 53.90 56 *e*P **P 13 32 53.0 +0.8**
CN2 *e*AP pP 13 32 57.5 +2.1
CN2 *e*XP sP 13 33 00.0 +3.4
CN2 *e*S **S 13 40 25.0 -2.4**
CN2 SS SS 13 44 04.5 -3.9
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
CN2 AMB AMB
comp=Z,300nm,4.0s
CN2 LR LR
comp=N,300nm,19.0s,MS5.0
CN2 LR LR
comp=E,1μm,19.0s,MS5.0
CN2 LR LR
comp=Z,300nm,21.0s,MS4.3
MDJ Mudanjiang 54.05 53 P **P 13 32 52.5 -0.8**
MDJ AP pP 13 32 55.8 -0.7
MDJ AMB AMB
comp=Z,9.0nm,1.1s,mb4.6
MDJ AMB AMB
comp=Z,95nm,3.7s
MDJ LR LR
comp=N,87nm,19.0s,MS4.5
MDJ LR LR
comp=E,418nm,22.1s,MS4.5
MDJ LR LR
comp=Z,236nm,20.6s,MS4.2
HRY Holter Researc 54.06 316 *e*P **P 13 32 52.8 -0.6**
HRY Holter Researc 54.06 316 *e*P **P 13 32 52.8 -0.6**
CHMT Chamberlain Mo 54.13 318 *e*P **P 13 32 53.5 -0.4**
CHMT Chamberlain Mo 54.13 318 *e*P **P 13 32 53.5 -0.4**
PGC Sidney 54.19 326 *e*P **P 13 32 53.1 -1.2**
comp=Z,61nm,1.1s,mb5.4
PGC Sidney 54.19 326 *e*P **P 13 32 53.1 -1.2**
comp=Z,61nm,1.1s,mb5.4
ASHO Ashiyiah 54.21 131 ⇑P **P 13 32 54.5 0.0**
MSO Missoula 54.34 318 *e*P **P 13 32 55.3 -0.1**
comp=Z,61nm,1.3s,mb5.4
MSO Missoula 54.34 318 *e*P **P 13 32 55.3 -0.1**
comp=Z,61nm,1.3s,mb5.4
YSS Yuzh-Sakhalins 54.45 41 ⇑*i*P **P 13 32 57.0 +0.8**
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.7
YSS MLR MLR
comp=Z,200nm,15.0s,MS4.3
YSS Yuzh-Sakhalins 54.45 41 *e*P **P 13 32 56.7 +0.5**
comp=Z,80nm,1.0s,mb5.6
YSS Yuzh-Sakhalins 54.45 41 *e*P **P 13 32 56.7 +0.5**
comp=Z,80nm,1.0s,mb5.6
GCMT Greycliff 54.52 314 *e*P **P 13 32 56.8 +0.1**
GCMT Greycliff 54.52 314 *e*P **P 13 32 56.8 +0.1**
OBC Olympics--Boni 54.88 327 P **P 13 33 01.2 +1.9**
OBC Olympics--Boni 54.88 327 P **P 13 33 01.2 +1.9**
RTK Rohtak 54.89 108 *ex* **P 13 33 04.0 +4.6**
RTK AMb AMB 13 33 13.5
comp=Z,34nm,0.8s,mb5.5
RSSD Black Hills 54.96 309 *e*P **P 13 32 59.8 -0.1**
RSSD pmax pmax
comp=Z,12nm,0.9s,mb4.9
RSSD Black Hills 54.96 309 *e*P **P 13 32 59.8 -0.1**
comp=Z,12nm,0.9s,mb4.9
RSSD Black Hills 54.96 309 *e*P **P 13 32 59.8 -0.1**
comp=Z,12nm,0.9s,mb4.9
BOZ Bozeman (W) 55.05 316 *e*P **P 13 33 00.5 0.0**
BOZ pmax pmax
comp=Z,12nm,1.0s,mb4.9
BOZ Bozeman (W) 55.05 316 *e*P **P 13 33 00.5 0.0**
comp=Z,12nm,1.0s,mb4.9
BOZ Bozeman (W) 55.05 316 *e*P **P 13 33 00.5 0.0**
comp=Z,12nm,1.0s,mb4.9
OCWA Octopus Mounta 55.17 327 *e*P **P 13 33 02.6 +1.2**
comp=Z,34nm,1.0s,mb5.3
OCWA Octopus Mounta 55.17 327 *e*P **P 13 33 02.6 +1.2**
comp=Z,34nm,1.0s,mb5.3
BJI Beijing 55.22 66 P **P 13 33 02.8 +1.0**
BJI AMB AMB
comp=Z,18nm,1.1s,mb5.0
BJI AMB AMB
comp=Z,124nm,5.8s
BJI LR LR
comp=N,835nm,18.9s,MS4.8
BJI LR LR
comp=E,227nm,20.4s,MS4.8
BJI LR LR
comp=Z,218nm,25.8s
BJI Beijing 55.22 66 P **P 13 33 02.8 +1.0**
comp=Z,18nm,1.1s,mb5.0
BJI S **S 13 40 56.1 +11**
BJI LR LR
comp=Z,220nm,25.8s,MS4.1
BJT Baijiatuau 55.24 66 *e*P **P 13 33 03.2 +1.3**
BJT pmax pmax
comp=Z,8.0nm,0.6s
BJT Baijiatuau 55.24 66 *e*P **P 13 33 03.2 +1.3**
comp=Z,8.0nm,0.6s,mb4.9
SNY Shenyang 55.34 59 ⇑P **P 13 33 00.8 -1.8**
SNY AP pP 13 33 08.5 +2.7
SNY XP sP 13 33 11.5 +4.5
SNY S **S 13 40 52.0 +5.3**
SNY XS sS 13 40 57.0 +5.0
SNY AMB AMB
comp=Z,16nm,3.9s
SNY LR LR
comp=N,386nm,15.3s
SNY LR LR
comp=Z,361nm,20.4s
NDI New Delhi 55.44 107 *e*P **P 13 33 03.0 -0.3**
JASL Jaisalmer 55.49 114 *e*P **P 13 33 03.1 -0.5**
DLMT Dillon 55.50 316 *e*P **P 13 33 03.4 -0.5**
comp=Z,11nm,0.8s,mb5.0
DLMT Dillon 55.50 316 *e*P **P 13 33 03.4 -0.4**
comp=Z,11nm,0.8s,mb5.0
BLO Bloomington 55.51 292 *e*P **P 13 33 02.9 -0.9**
BLO pmax pmax
comp=Z,17nm,0.8s,mb5.1
BLO Bloomington 55.51 292 *e*P **P 13 33 02.9 -0.9**
comp=Z,17nm,0.8s,mb5.1
BLO Bloomington 55.51 292 *e*P **P 13 33 02.9 -0.9**
comp=Z,17nm,0.8s,mb5.1
FWV Forest Hill 55.51 286 *e*P **P 13 33 02.6 -1.2**
FWV Forest Hill 55.51 286 *e*P **P 13 33 02.6 -1.3**
FMW Mount Fremont 55.58 324 P **P 13 33 04.2 -0.1**
FMW Mount Fremont 55.58 324 P **P 13 33 04.2 -0.2**
KHET Khetri 55.65 109 *e*P **P 13 33 05.1 +0.3**
KHET AMb AMB 13 33 13.7
comp=Z,50nm,0.8s,mb5.6
LZH Lanzhou 55.71 79 *e*P **P 13 33 06.5 +1.2**
LZH AP pP 13 33 10.3 +1.8
LZH XP sP 13 33 11.5 +1.8
LZH PP PP 13 35 13.0 +3.4
LZH *e*S **S 13 40 50.5 -1.2**
LZH XS sS 13 40 56.8 -0.2
LZH PS 13 41 03.8
LZH *e*SS SS 13 44 34.5 -2.5
LZH AMB AMB
comp=Z,31nm,1.2s,mb5.2
LZH AMB AMB
comp=Z,142nm,5.6s
LZH LR LR
comp=N,987nm,17.5s
LZH LR LR
comp=Z,2μm,18.9s,MS5.2
LZH Lanzhou 55.71 79 *e*P **P 13 33 06.5 +1.2**
LZH *PP pP 13 33 10.2 +1.7
LZH *SP sP 13 33 11.5 +1.8
LZH 13 35 13.0
LZH *e*S **S 13 40 50.6 -1.1**
LZH PS 13 41 03.8
LZH *e*SS SS 13 44 34.5 -2.5
LZH pmax pmax
comp=Z,31nm,1.2s,mb5.2
LZH MLR MLR
comp=Z,2μm,18.9s,MS5.2
LZH Lanzhou 55.71 79 *e*P **P 13 33 06.5 +1.2**
comp=Z,31nm,1.2s,mb5.2
LZH pP pP 13 33 10.2 +1.7
LZH sP sP 13 33 11.5 +1.8
LZH PP PP 13 35 13.0 +3.4
LZH *e*S **S 13 40 50.6 -1.1**
LZH sS sS 13 40 56.7 -0.3
LZH PS 13 41 03.8
LZH *e*SS SS 13 44 34.5 -2.5
LZH LR LR
comp=Z,2μm,18.9s,MS5.2
LZH Lanzhou 55.71 79 *e*P **P 13 33 06.5 +1.2**
comp=Z,31nm,1.2s,mb5.2
LZH pP pP 13 33 10.2 +1.7
LZH *e*S **S 13 40 50.6 -1.1**
LZH *e*SS SS 13 44 34.5 -2.5
HAWA Hanford 55.75 322 *e*P **P 13 33 05.9 +0.3**
comp=Z,4.1nm,1.2s,mb4.3
HAWA Hanford 55.75 322 *e*P **P 13 33 05.9 +0.3**
comp=Z,4.1nm,1.2s,mb4.3
KUDL Kundal 55.76 108 *e*P **P 13 33 06.4 +0.8**
KUDL AMb AMB 13 33 14.5
comp=Z,40nm,0.7s,mb5.6
BLA Blacksburg 55.76 286 *e*P **P 13 33 05.2 -0.4**
BLA pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
BLA Blacksburg 55.76 286 *e*P **P 13 33 05.2 -0.5**
comp=Z,1.2nm,0.8s,mb4.0
BLA Blacksburg 55.76 286 *e*P **P 13 33 05.2 -0.4**
comp=Z,1.2nm,0.8s,mb4.0
LON Longmire 55.78 324 P **P 13 33 06.0 +0.2**
QLMT Earthquake Lak 55.79 315 *e*P **P 13 33 05.9 0.0**
SONA Sohna 55.81 108 *e*P **P 13 33 05.9 -0.1**
ELN Prospectdale 55.83 286 *e*P **P 13 33 05.5 -0.6**
ELN Prospectdale 55.83 286 *e*P **P 13 33 05.5 -0.7**
YFT Old Faithful 56.04 315 *e*P **P 13 33 09.1 +1.4**
YFT Old Faithful 56.04 315 *e*P **P 13 33 09.1 +1.4**
MCMT McKenzie Canyo 56.07 317 *e*P **P 13 33 08.3 +0.5**
MCMT McKenzie Canyo 56.07 317 *e*P **P 13 33 08.3 +0.4**
SMDO Samad 56.20 129 ⇑P **P 13 33 09.0 +0.2**
BSY Bisya 56.33 130 P **P 13 33 10.1 +0.4**
SNR=6.6
WCI Wyandotte Cave 56.34 291 *e*P **P 13 33 08.5 -1.3**
WCI pmax pmax
comp=Z,18nm,1.0s,mb5.1
WCI Wyandotte Cave 56.34 291 *e*P **P 13 33 08.4 -1.3**
comp=Z,18nm,1.0s,mb5.1
WCI Wyandotte Cave 56.34 291 *e*P **P 13 33 08.4 -1.4**
comp=Z,18nm,1.0s,mb5.1
FLWY Flagg Ranch 56.37 314 *e*P **P 13 33 09.0 -1.0**
comp=Z,27nm,1.0s,mb5.2
FLWY Flagg Ranch 56.37 314 *e*P **P 13 33 09.0 -1.0**
comp=Z,27nm,1.0s,mb5.2
IMW Indian Meadow 56.59 315 *e*P **P 13 33 12.9 +1.3**
comp=Z,69nm,0.9s,mb5.7
IMW Indian Meadow 56.59 315 *e*P **P 13 33 12.9 +1.3**
comp=Z,69nm,0.9s,mb5.7
MOOW Moose Ponds 56.70 314 *e*P **P 13 33 12.9 +0.6**
comp=Z,26nm,1.1s,mb5.2
MOOW Moose Ponds 56.70 314 *e*P **P 13 33 12.9 +0.5**
comp=Z,26nm,1.1s,mb5.2
LOHW Long Hollow 56.80 314 *e*P **P 13 33 13.7 +0.6**
comp=Z,41nm,1.4s,mb5.3
LOHW Long Hollow 56.80 314 *e*P **P 13 33 13.7 +0.6**
comp=Z,41nm,1.4s,mb5.3
WBK Wadi Bani Khal 56.84 128 ⇓P **P 13 33 14.4 +1.1**
BMO Blue Mountains 56.86 320 *e*P **P 13 33 13.3 -0.2**

comp=Z,30nm,1.1s,mb5.2
BMO Blue Mountains 56.86 320 *e*P P **13 33 13.3 -0.2**
comp=Z,30nm,1.1s,mb5.2
JMDO Jabal Madar 56.88 129 ⇓P P **13 33 13.6 0.0**
USIN University of 56.94 292 *e*P P **13 33 13.3 -0.7**
comp=Z,16nm,0.4s,mb5.4
USIN University of 56.94 292 *e*P P **13 33 13.3 -0.7**
comp=Z,16nm,0.4s,mb5.4
TPAW Teton Pass 56.99 314 *e*P P **13 33 15.4 +0.9**
comp=Z,29nm,1.1s,mb5.2
TPAW Teton Pass 56.99 314 *e*P P **13 33 15.4 +1.0**
comp=Z,29nm,1.1s,mb5.2
REDW Red Top Meadow 57.09 314 *e*P P **13 33 15.7 +0.6**
comp=Z,37nm,1.3s,mb5.3
REDW Red Top Meadow 57.09 314 *e*P P **13 33 15.7 +0.6**
comp=Z,37nm,1.3s,mb5.3
ASAJ Asahikawa 57.16 42 LR LR 14 01 48.2
comp=Z,220nm,18.3s,MS4.3,baz=19,slow=40
TZTN Tazewell 57.21 288 *e*P P **13 33 15.9 -0.1**
TZTN *e*pP pP 13 33 23.1 +3.9
TZTN Tazewell 57.21 288 *e*P P **13 33 15.9 -0.1**
TZTN *e*pP pP 13 33 23.1 +3.9
PDAR Pinedale Array 57.41 313 P P **13 33 17.1 -0.3**
comp=Z,16nm,1.1s,mb5.0,baz=29,slow=3.4,SNR=70
PDAR Pinedale Array 57.41 313 P P **13 33 17.0 -0.4**
HLID Hailey 57.58 317 *e*P P **13 33 18.5 -0.1**
comp=Z,30nm,0.9s,mb5.3
HLID Hailey 57.58 317 *e*P P **13 33 18.5 -0.1**
comp=Z,30nm,0.9s,mb5.3
FVM French Village 57.62 295 *e*P P **13 33 17.4 -1.4**
FVM pmax pmax
comp=Z,32nm,1.3s,mb5.2
FVM French Village 57.62 295 *e*P P **13 33 17.4 -1.4**
comp=Z,32nm,1.3s,mb5.2
FVM French Village 57.62 295 *e*P P **13 33 17.4 -1.4**
comp=Z,32nm,1.3s,mb5.2
AHID Auburn Hatcher 57.72 314 *e*P P **13 33 19.9 +0.4**
comp=Z,18nm,1.2s,mb5.0
AHID Auburn Hatcher 57.72 314 *e*P P **13 33 20.0 +0.5**
comp=Z,18nm,1.2s,mb5.0
CCM Cathedral Cave 57.75 296 *e*P P **13 33 18.0 -1.8**
CCM pmax pmax
comp=Z,16nm,0.8s,mb5.1
CCM Cathedral Cave 57.75 296 *e*P P **13 33 18.0 -1.8**
comp=Z,16nm,0.8s,mb5.1
RWWY Rawlins 57.96 311 *e*P P **13 33 20.8 -0.5**
comp=Z,190nm,1.8s,mb5.8
RWWY Rawlins 57.96 311 *e*P P **13 33 20.8 -0.5**
comp=Z,190nm,1.8s,mb5.8
PHWY Pilot Hill 57.96 309 *e*P P **13 33 21.1 -0.2**
PHWY Pilot Hill 57.96 309 *e*P P **13 33 21.1 -0.2**
KOLN Koldanda 58.01 101 *e*P P **13 33 22.2 +0.6**
comp=Z,59nm,1.2s,mb5.5
KSU1 Kansas State U 58.06 301 *e*P P **13 33 20.2 -1.8**
KSU1 Kansas State U 58.06 301 *e*P P **13 33 20.2 -1.8**
GKN Gorkha 58.07 100 *e*P P **13 33 22.8 +0.8**
comp=Z,25nm,0.6s,mb5.5
LSA Lhasa 58.24 93 *e*P P **13 33 25.7 +2.4**
LSA pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LSA Lhasa 58.24 93 *e*P P **13 33 25.6 +2.4**
comp=Z,9.1nm,0.8s,mb4.9
LSA Lhasa 58.24 93 *e*P P **13 33 25.6 +2.3**
comp=Z,9.1nm,0.8s,mb4.9
KKN Kakani 58.45 100 *e*P P **13 33 25.8 +1.1**
comp=Z,47nm,0.7s,mb5.6
KKN Kakani 58.45 100 *e*P P **13 33 25.8 +1.1**
KKN pmax pmax
comp=Z,47nm,0.7s,mb5.6
GUN Gumba 58.49 99 *e*P P **13 33 26.4 +1.4**
comp=Z,75nm,0.8s,mb5.8
DMN Daman 58.57 100 *e*P P **13 33 26.8 +1.3**
comp=Z,55nm,1.1s,mb5.5
PKI Pulchoki 58.69 100 *e*P P **13 33 27.4 +1.0**
comp=Z,18nm,0.7s,mb5.2
PKI Pulchoki 58.69 100 *e*P P **13 33 27.4 +1.0**
PKI pmax pmax
comp=Z,18nm,0.7s,mb5.2
WVT Waverly 58.71 292 *e*P P **13 33 23.8 -2.7**
WVT pmax pmax
comp=Z,25nm,1.7s,mb5.0
WVT Waverly 58.71 292 *e*P P **13 33 23.8 -2.8**
comp=Z,25nm,1.7s,mb5.0
WVT Waverly 58.71 292 *e*P P **13 33 23.8 -2.7**
comp=Z,25nm,1.7s,mb5.0
JSC Jenkinsville 58.74 285 *e*P P **13 33 26.3 -0.4**
JIRN Jiri 58.82 99 *e*P P **13 33 28.9 +1.7**
comp=Z,40nm,0.7s,mb5.5
HVU Hansel Valley 58.99 315 P P **13 33 26.0 -2.5**
HVU pmax pmax
comp=Z,18nm,1.3s,mb4.9
HVU Hansel Valley 58.99 315 P P **13 33 26.0 -2.4**
comp=Z,18nm,1.3s,mb4.9
HVU Hansel Valley 58.99 315 P P **13 33 26.0 -2.5**
comp=Z,18nm,1.3s,mb4.9
XAN Xi'an 59.00 75 P P **13 33 29.3 +0.8**
XAN AP pP 13 33 32.0 +0.3
XAN AMB AMB
comp=Z,34nm,1.1s,mb5.3
CBKS Cedar Bluff 59.07 303 *e*P P **13 33 26.9 -2.1**
CBKS pmax pmax
comp=Z,84nm,1.1s,mb5.7
CBKS Cedar Bluff 59.07 303 *e*P P **13 33 26.9 -2.1**
comp=Z,84nm,1.1s,mb5.7
CBKS Cedar Bluff 59.07 303 *e*P P **13 33 26.9 -2.1**
comp=Z,84nm,1.1s,mb5.7
ISCO Idaho Springs 59.43 309 *e*P P **13 33 31.7 +0.2**
ISCO pmax pmax
comp=Z,16nm,1.1s,mb5.0
ISCO Idaho Springs 59.43 309 *e*P P **13 33 31.7 +0.2**
comp=Z,16nm,1.1s,mb5.0
PLAL Pickwick Lake 59.86 292 *e*P P **13 33 32.1 -2.4**
comp=Z,30nm,1.6s,mb5.1
PLAL Pickwick Lake 59.86 292 *e*P P **13 33 32.1 -2.4**
comp=Z,30nm,1.6s,mb5.1
DAU Daniels Canyon 60.01 314 *e*P P **13 33 36.1 +0.6**
BUOR Burton Butte 60.20 324 P P **13 33 37.8 +1.0**
BUOR Burton Butte 60.20 324 P P **13 33 37.8 +1.0**
MOD Modoc 60.24 322 *e*P P **13 33 38.0 +0.9**
comp=Z,30nm,1.0s,mb5.3
MOD Modoc 60.24 322 *e*P P **13 33 38.0 +0.9**
comp=Z,30nm,1.0s,mb5.3
WHFO Wadi Hawf 60.32 135 P P **13 33 37.1 -0.5**
SNR=8.4
MPU Maple Canyon 60.47 314 *e*P P **13 33 39.2 +0.6**
comp=Z,14nm,1.1s,mb4.9
MPU Maple Canyon 60.47 314 *e*P P **13 33 39.2 +0.5**
comp=Z,14nm,1.1s,mb4.9
DUG Dugway 60.53 315 *e*P P **13 33 39.2 +0.1**
DUG pmax pmax
comp=Z,13nm,0.9s,mb5.1
DUG Dugway 60.53 315 *e*P P **13 33 39.2 +0.1**
comp=Z,13nm,0.9s,mb5.1
CD2 Chengdu 60.57 81 ⇑*i*P P **13 33 40.5 +1.2**
CD2 AP pP 13 33 44.5 +2.0
CD2 PP PP 13 35 56.0 +3.3
CD2 S **S** **13 41 55.3 +0.1**
CD2 XS sS 13 42 04.0 +3.5
CD2 SS SS 13 45 56.5 +3.1
CD2 AMB AMB
comp=Z,20nm,0.7s,mb5.4
CD2 LR LR
comp=N,210nm,20.4s
CD2 LR LR
comp=Z,120nm,6.3s
ABTO Aybut 60.78 136 P P **13 33 40.5 -0.2**
SNR=10
YBH Yreka Blue Hor 60.81 324 *e*P P **13 33 40.8 -0.2**
YBH pmax pmax
comp=Z,6.0nm,1.0s
YBH Yreka Blue Hor 60.81 324 *e*P P **13 33 40.8 -0.1**
comp=Z,5.8nm,1.0s,mb4.7
YBH Yreka Blue Hor 60.81 324 *e*P P **13 33 40.8 -0.2**
comp=Z,5.8nm,1.0s,mb4.7
LHEM Herd Peak 60.83 323 P P **13 33 42.3 +1.2**
LHEM Herd Peak 60.83 323 P P **13 33 42.3 +1.2**
TMUT Trail Mountain 61.08 313 *e*P P **13 33 43.8 +1.0**
TMUT Trail Mountain 61.08 313 *e*P P **13 33 43.8 +1.0**
SRU San Rafael 61.12 313 *e*P P **13 33 43.1 0.0**
SRU pmax pmax
comp=Z,22nm,1.1s,mb5.2
SRU San Rafael 61.12 313 *e*P P **13 33 43.1 0.0**
comp=Z,22nm,1.1s,mb5.2
SRU San Rafael 61.12 313 *e*P P **13 33 43.1 0.0**
comp=Z,22nm,1.1s,mb5.2
BMN Battle Mountai 61.13 319 *e*P P **13 33 43.5 +0.4**
BMN pmax pmax
comp=Z,21nm,1.2s,mb5.1
BMN Battle Mountai 61.13 319 *e*P P **13 33 43.5 +0.4**
comp=Z,21nm,1.2s,mb5.1
UALR University of 61.14 295 *e*P P **13 33 41.6 -1.6**
comp=Z,19nm,0.9s,mb5.2
UALR University of 61.14 295 *e*P P **13 33 41.6 -1.6**
comp=Z,19nm,0.9s,mb5.2
TORD Torodi Ar. Bea 61.31 193 P P **13 33 44.2 -0.2**
comp=Z,13nm,0.9s,mb5.1,baz=0,1,slow=6.6,SNR=74
PV10 Paradox Valley 61.53 311 *e*P P **13 33 46.6 +0.8**
PV10 Paradox Valley 61.53 311 *e*P P **13 33 46.6 +0.8**
MIAR Mount Ida 61.66 296 *e*P P **13 33 45.2 -1.5**
MIAR pmax pmax
comp=Z,54nm,1.3s,mb5.5
MIAR Mount Ida 61.66 296 *e*P P **13 33 45.2 -1.5**
comp=Z,54nm,1.3s,mb5.5
MIAR Mount Ida 61.66 296 *e*P P **13 33 45.2 -1.5**
comp=Z,54nm,1.3s,mb5.5
WDC Whiskeytown Da 61.91 323 *e*P P **13 33 48.4 0.0**
WDC pmax pmax
comp=Z,14nm,1.2s,mb5.0
WDC Whiskeytown Da 61.91 323 *e*P P **13 33 48.4 0.0**
comp=Z,14nm,1.2s,mb5.0
WDC Whiskeytown Da 61.91 323 *e*P P **13 33 48.4 0.0**
comp=Z,14nm,1.2s,mb5.0
MSU Marysvale 62.03 314 *e*P P **13 33 50.5 +1.3**
SHL Shillong 62.36 94 *e*P P **13 33 52.0 +0.6**
MVCO Mesa Verde 62.54 310 *e*P P **13 33 53.1 +0.5**
WMOK Wichita Mounta 62.74 301 *e*P P **13 33 53.7 -0.2**
WMOK pmax pmax
comp=Z,36nm,1.0s,mb5.5
WMOK Wichita Mounta 62.74 301 *e*P P **13 33 53.7 -0.2**
comp=Z,36nm,1.0s,mb5.5
OHCM Honcut 62.94 322 *e*P P **13 33 51.5 -3.8**
MNV Mina 63.24 319 *e*P P **13 33 57.3 0.0**
MNV pmax pmax
comp=Z,13nm,1.1s,mb5.0
MNV Mina 63.24 319 *e*P P **13 33 57.3 0.0**
comp=Z,14nm,1.1s,mb5.0
NVAR Mina Array Bea 63.27 319 P P **13 33 57.9 +0.4**
comp=Z,6.5nm,0.8s,mb4.8,baz=32,slow=5.5,SNR=42
TPH Tonopah 63.42 318 *e*P P **13 33 59.1 +0.6**
TPH pmax pmax
comp=Z,14nm,0.9s,mb5.1
TPH Tonopah 63.42 318 *e*P P **13 33 59.1 +0.6**
comp=Z,14nm,0.9s,mb5.1
NJ2 Nanjing 63.47 66 *e*P P **13 33 59.0 +0.2**
NJ2 AP pP 13 34 02.5 +0.5
NJ2 XP sP 13 34 05.5 +2.3
NJ2 PP PP 13 36 22.0 +3.7
NJ2 S **S** **13 42 32.0 +0.1**
NJ2 XS sS 13 42 40.0 +2.8
NJ2 AMB AMB
comp=Z,30nm,0.9s,mb5.4
NJ2 AMB AMB
comp=Z,110nm,7.4s
NJ2 LR LR
comp=N,320nm,23.7s,MS4.5
NJ2 LR LR
comp=E,210nm,21.6s,MS4.5
NJ2 LR LR
comp=Z,140nm,27.9s
MAT Matsushiro 63.63 48 P P **13 33 59.8 0.0**
MAT Matsushiro 63.63 48 *e*P P **13 34 00.0 +0.2**
MAT pmax pmax
comp=Z,27nm,1.2s,mb5.2
MAT Matsushiro 63.63 48 *e*P P **13 34 00.0 +0.2**
comp=Z,27nm,1.2s,mb5.2
MJAR Matsushiro Arr 63.63 48 P P **13 34 00.2 +0.4**
comp=Z,17nm,1.0s,mb5.1,baz=343,slow=6.7,SNR=36
MJAR LR LR 14 00 27.5
comp=Z,175nm,22.0s,MS4.2,baz=25,slow=35
WHN Wuhan 63.74 71 *e*P P **13 34 01.0 +0.4**
POO Poona 64.27 114 *e*P P **13 34 03.5 -0.6**
ANMO Albuquerque 64.28 308 *e*P P **13 34 04.3 +0.2**
ANMO pmax pmax
comp=Z,12nm,1.0s
ANMO Albuquerque 64.28 308 *e*P P **13 34 04.3 +0.1**
comp=Z,12nm,1.0s,mb4.9
TPNV Topopah Spring 64.33 317 *e*P P **13 34 04.3 -0.2**
TPNV pmax pmax
comp=Z,21nm,0.9s,mb5.2
TPNV Topopah Spring 64.33 317 *e*P P **13 34 04.3 -0.2**
comp=Z,20nm,0.9s,mb5.2
MTUM Tungsten Hills 64.36 319 *e*P P **13 34 06.5 +1.8**
LPM Los Pinos Moun 64.93 308 *e*P P **13 34 08.6 +0.2**
LAZ Ladron 64.95 308 *e*P P **13 34 08.5 0.0**
SSE Sheshan 64.97 65 P P **13 34 08.0 -0.6**
SSE AP pP 13 34 11.3 -0.6
SSE S **S** **13 42 49.0 -1.4**
SSE SS SS 13 47 01.0 -1.1
SSE AMB AMB
comp=Z,32nm,0.9s,mb5.3
SSE AMB AMB
comp=Z,82nm,3.8s
SSE LR LR
comp=N,80nm,18.9s,MS4.5
SSE LR LR
comp=E,279nm,18.9s,MS4.5
SSE LR LR
comp=Z,223nm,21.3s,MS4.3
SSE Sheshan 64.97 65 P P **13 34 08.0 -0.6**
comp=Z,32nm,0.9s,mb5.3
SSE pP pP 13 34 11.3 -0.6
SSE sP sP 13 34 12.5 -0.6
SSE S **S** **13 42 48.9 -1.5**
SSE sS sS 13 42 54.3 -1.4
SSE SS SS 13 47 01.0 -1.1
SSE LR LR
comp=Z,220nm,21.3s,MS4.3
BNM Barren Site 65.08 308 *e*P P **13 34 09.6 +0.3**
LENM Lemitar 65.14 308 *e*P P **13 34 09.9 +0.1**
DAC Darwin (Calif) 65.23 318 *e*P P **13 34 11.2 +0.8**
DAC pmax pmax
comp=Z,20nm,1.1s,mb5.1
DAC Darwin (Calif) 65.23 318 *e*P P **13 34 11.2 +0.8**
comp=Z,20nm,1.1s,mb5.1
CPRX Cap Rock 65.55 305 *e*P P **13 34 12.8 +0.5**
GYA Guiyang 65.58 80 ⇑*i*P P **13 34 13.5 +0.9**
GYA AP pP 13 34 18.3 +2.5
GYA XP sP 13 34 20.5 +3.5
GYA PP PP 13 36 38.5 +1.7
GYA PPP 13 38 15.8
GYA SCP 13 38 45.8
GYA S S 13 42 58.8 +0.9
GYA PS 13 43 21.3
GYA SS SS 13 47 13.5 +1.9
GYA AMB AMB
comp=Z,40nm,0.9s,mb5.5
GYA AMB AMB
comp=Z,490nm,5.7s
GYA LR LR
comp=N,480nm,18.7s,MS4.9
GYA LR LR
comp=E,490nm,18.4s,MS4.9
GYA LR LR
comp=Z,410nm,19.0s,MS4.7
KMI Kunming 65.77 84 P P **13 34 13.8 0.0**
KMI AP pP 13 34 18.8 +1.7
KMI XP sP 13 34 20.0 +1.7
KMI PCP PcP 13 34 48.0 +3.0
KMI PP PP 13 36 42.5 +4.0
KMI PPP 13 38 16.5
KMI SCP 13 38 49.8
KMI PCS 13 38 51.0
KMI S S 13 42 59.8 -0.5
KMI SKS 13 44 07.8
KMI SS SS 13 47 15.5 +0.8
KMI AMB AMB
comp=Z,11nm,1.2s,mb4.8
KMI LR LR
comp=N,240nm,22.0s,MS4.6
KMI LR LR
comp=E,404nm,22.9s,MS4.6
KMI LR LR
comp=Z,318nm,19.9s,MS4.5
KMI Kunming 65.77 84 P P **13 34 13.8 0.0**
KMI *PP pP 13 34 18.7 +1.6
KMI *SP sP 13 34 20.1 +1.8
KMI 13 34 48.0
KMI 13 36 42.5
KMI PPP 13 38 16.5
KMI S S 13 42 59.8 -0.5
KMI PS 13 43 22.7
KMI 13 44 07.8
KMI SS SS 13 47 15.5 +0.8
KMI SSS 13 50 08.8
KMI pmax pmax
comp=Z,11nm,1.2s,mb4.8
KMI MLR MLR
comp=Z,320nm,19.9s,MS4.5
KMI Kunming 65.77 84 P P **13 34 13.8 0.0**
comp=Z,11nm,1.2s,mb4.8
KMI pP pP 13 34 18.7 +1.6
KMI sP sP 13 34 20.1 +1.8
KMI PcP PcP 13 34 48.0 +3.0
KMI PP PP 13 36 42.5 +4.0
KMI PPP 13 38 16.5
KMI ScP 13 38 49.8
KMI PcS 13 38 51.0
KMI S S 13 42 59.8 -0.5
KMI sS sS 13 43 05.1 -0.5
KMI PS 13 43 22.7
KMI SKS 13 44 07.8
KMI ScS ScS 13 44 08.8 -1.0
KMI SS SS 13 47 15.5 +0.8
KMI SSS 13 50 08.8
KMI LR LR
comp=Z,320nm,19.9s,MS4.5
CLNB Carlsbad 66.29 305 *e*P P **13 34 17.8 +0.7**
GDL2 Guadalupe Moun 66.46 305 *e*P P **13 34 18.2 0.0**
HYB Hyderabad 66.54 110 *i*P P **13 34 19.0 +0.2**
comp=Z,40nm,1.0s,mb5.4
HYB *es*P sP 13 34 26.0 +2.8
HYB Hyderabad 66.54 110 *e*P P **13 34 19.0 +0.2**
HYB pmax pmax
comp=Z,40nm,1.0s,mb5.4
HYB Hyderabad 66.54 110 *e*P P **13 34 19.0 +0.2**
comp=Z,40nm,1.0s,mb5.4
JCT Junction City 67.06 301 *e*P P **13 34 21.6 -0.5**
JCT pmax pmax
comp=Z,46nm,1.4s,mb5.3
JCT Junction City 67.06 301 *e*P P **13 34 21.6 -0.4**
comp=Z,46nm,1.4s,mb5.3
MNTX Cornudas Mount 67.17 306 *e*P P **13 34 21.9 -0.8**
comp=Z,3.8nm,0.8s,mb4.5
TUC Tucson 67.74 311 *e*P P **13 34 26.9 +0.5**
TUC pmax pmax
comp=Z,34nm,1.4s,mb5.2
TUC Tucson 67.74 311 *e*P P **13 34 26.9 +0.5**
comp=Z,34nm,1.4s,mb5.2
DBIC Dimbokro 68.25 200 P P **13 34 28.8 -0.9**
comp=Z,13nm,1.0s,mb4.9,baz=332,slow=7.0,SNR=8.7
DBIC LR LR 14 04 47.1
comp=Z,139nm,19.1s,MS4.2,baz=350,slow=36
DBIC Dimbokro 68.25 200 P P **13 34 28.8 -0.8**
DBIC pmax pmax
comp=Z,13nm,1.0s
DBIC MLR MLR
comp=Z,139nm,19.2s
DBIC Dimbokro 68.25 200 *e*P P **13 34 28.4 -1.2**
comp=Z,21nm,1.1s,mb5.1
LTX Lajitas 69.06 304 *e*P P **13 34 34.1 -0.5**
LTX pmax pmax
comp=Z,18nm,1.4s,mb4.8
LTX Lajitas 69.06 304 *e*P P **13 34 34.1 -0.6**
comp=Z,18nm,1.4s,mb4.8
CHTO Chiang Mai 70.72 89 *e*P P **13 34 45.1 +0.2**
CHTO *e* 13 34 52.4
CHTO pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CHTO Chiang Mai 70.72 89 *e*P P **13 34 45.1 +0.2**
comp=Z,9.9nm,0.9s,mb4.7
CHTO *e* 13 34 52.4
KMBO Kilima Mbogo 76.46 156 P P **13 35 18.4 -0.1**
comp=Z,0.6nm,0.3s,mb4.0,baz=297,slow=2.3,SNR=3.0
SDV Santo Domingo 79.98 267 P P **13 35 38.5 +0.4**
comp=Z,15nm,0.8s,mb5.0,baz=41,slow=4.0,SNR=20
SDV Santo Domingo 79.98 267 *e*P P **13 35 38.4 +0.3**
comp=Z,14nm,0.8s,mb5.0
ROSC El Rosal 84.84 270 P P **13 36 04.5 +1.0**
comp=Z,9.5nm,0.7s,mb5.0,baz=80,slow=14,SNR=7.6
GUMO Guam 87.24 47 LR LR 14 16 47.5
comp=Z,63nm,20.9s,MS4.0,baz=60,slow=37
LSZ Lusaka 89.65 166 *e*P P **13 36 26.9 +0.1**
LSZ pmax pmax
comp=Z,11nm,1.0s,mb5.1
LSZ Lusaka 89.65 166 *e*P P **13 36 26.9 +0.1**
comp=Z,11nm,1.0s,mb5.1
SIV San Ignacio 101.18 251 P Pdif 13 37 19.6 +0.4
comp=Z,0.5nm,0.5s,baz=315,slow=5.7,SNR=5.5
WRA Warramunga Arr 117.25 66 PKP PKPdf 13 42 12.9 -1.4
comp=Z,2.4nm,1.1s,baz=337,slow=1.9,SNR=6.2
ASAR Alice Springs 120.70 67 PKP PKPdf 13 42 19.2 -1.6
comp=Z,2.7nm,0.8s,baz=2.9,slow=1.7,SNR=23
PLCA Paso Flores 127.16 252 PKP PKPdf 13 42 32.5 -0.7
comp=Z,4.0nm,0.9s,baz=20,slow=4.0,SNR=9.3
SYO Syowa Base 143.82 165 ⇑*e*X PKPdf 13 43 00.0 -4.1
NVL N'lazarevskaya 144.64 181 ⇓*i*PKIKP PKPdf 13 43 02.6 -2.9
NVL pmax pmax
comp=Z,26nm,1.1s
VNA1 Neumayer--Stat 145.19 193 ⇑*i*PKPdf PKPdf 13 43 04.6 -1.9
VNA1 *e* 13 43 06.8
VNA1 *e* 13 43 12.3
VNA1 *e* 13 43 14.0
VNA1 *e* 13 43 19.9
VNA2 Neumayer--Watz 145.41 192 ⇑*i*PKPdf PKPdf 13 43 05.0 -1.9
baz=7.1,slow=4.5
VNA2 *e* 13 43 06.4
VNA2 *e* 13 43 09.0
VNA2 *e* 13 43 11.1
VNA2 *e* 13 43 12.6
VNA2 *e* 13 43 14.1
VNA2 *e* 13 43 18.3
VNA2 *e* 13 43 23.4
VNA2 *e* 13 43 30.9
VNA2 *e* 13 43 48.1
VNA2 *e* 13 43 52.9
VNA3 Neumayer Olymp 145.86 193 ⇑*i*PKPdf PKPdf 13 43 06.1 -1.5
VNA3 *e* 13 43 10.7
VNA3 *e* 13 43 14.0
VNA3 *e* 13 43 15.1
VNA3 *e* 13 43 21.7
VNA3 *e* 13 43 46.2
SNAA Sanae 145.91 189 PKPbc PKPbc 13 43 06.2 -2.2
comp=Z,14nm,1.0s,baz=20,slow=2.3,SNR=60
SNAA Sanae 145.91 189 ⇑*i*PKPdf PKPdf 13 42 59.3 -8.4
SNAA *e* 13 43 01.4
SNAA *e* 13 43 03.8
SNAA *e* 13 43 06.3
SNAA *e* 13 43 08.6
SNAA *e* 13 43 23.1
MIR Mirnyy 149.35 130 *e*PKIKP PKPdf 13 43 12.5 -0.9
MIR pmax pmax
comp=Z,210nm,1.0s

MEX 28 13:24:50.8±1.2, 1711N×10056W, h10km±7km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.29**	**103**	*i* P	Pg	13 24 56.3	-0.3
CAIG				*i* S	Sg	13 25 00.4	0.0
ACX	**Acapulco**	**0.66**	**111**	*i* P	Pg	13 25 02.2	-1.4
ACX				*i* S	Sg	13 25 11.2	-1.1
MEIG	**Mezcala**	**1.21**	**48**	*e*P	Pn	13 25 09.7	-4.1
MEIG				*i* S	Sb	13 25 24.0	-5.5
PLIG	**Platanillo**	**1.63**	**38**	*e*P	Pn	13 25 16.4	-3.1
PLIG				*i* S	Sn	13 25 37.1	-3.4
UTMO	**Huajuapan**	**2.73**	**74**	*i* P	Pn	13 25 30.5	-4.1
UTMO				*i* S	Sn	13 26 05.0	-2.7

MAN 28 13:59:02.1, 775N×12494E, h34km, mb4.2, ML5.1, MS4.3, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**0.18**	**44**	*e*P	Pb	13 59 09.9	+1.3
CGP	**Cagayan de Oro**	**0.74**	**341**	⇑*i*P	Pn	13 59 17.3	+1.1
CGP				*i* S	Sn	13 59 26.8	+0.6
CTBH	**Cotabato--PC H**	**0.86**	**233**	⇑*i*P	Pn	13 59 18.1	+0.3
CTBH				*i* S	Sn	13 59 29.7	+0.4
PAGZ	**Pagadian**	**1.54**	**274**	*e*P	Pn	13 59 29.3	+2.1

*ISCJB **28** 14:00:56.7±0.5, 2686N±004×111.17W±004, h10km,*

mb4.6/31,MS4.5/10, Error ellipse: s-maj=7.1km s-min=4.4km az=80.9

IDC ***28*** *14:00:56.0±0.9, 2685N×11141W, h0km, mb4.3/8, mb1 4.4/11, mb1mx4.2/25, mbtmp4.3/11, MS4.3/5, Ms1 4.3/5, ms1mx4.0/36, Error ellipse: s-maj=30.3km s-min=12.0km az=67.0*

MOS ***28*** *14:00:56.7±1.3, 2688N×111.12W, h10km, mb4.9/15, Error ellipse: s-maj=8.9km s-min=4.7km az=90.9*

NEIC ***28*** *14:00:57.6±0.4, 2675N×11121W, h10km, mb4.6/41, Error ellipse: s-maj=6.6km s-min=4.3km az=43.0*

NEIC Felt at Mulege, Baja California Sur.

BJI ***28*** *14:00:57.5, 2680N×11120W, h10km, mB5.6, mb5.0, Ms4.9, Msz4.5*

ISC 28 14:01:02.0±0.8, 2687N±005×11116W±005, h36km±6km, h14km±5.5km: pP-P, n164, σ1§10/151, mb4.6/31, MS4.5/10, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LPIG	**La Paz**	**2.87**	**164**	Pn		**Pn**	**14 01 42.9**	**-2.3**
	80nm,0.3s,baz=326,slow=2.0,SNR=43							
LPIG				Lg			14 02 28.6	
	83nm,0.3s,baz=180,slow=23,SNR=4.0							
LPIG	**La Paz**	**2.87**	**164**	*i* P		**Pn**	**14 01 42.4**	**-2.8**
LPIG				*i* S			14 02 28.9	
TUC	**Tucson**	**5.43**	**3**	*e*P		**Pn**	**14 02 17.1**	**-3.3**
GLA	**Glamis**	**6.93**	**334**	*e*P		**Pn**	**14 02 36.7**	**-4.3**
MNTX	**Cornudas Mount**	**6.97**	**45**	*e*Pn		**Pn**	**14 02 40.7**	**-0.9**
	35nm,0.8s							
LTX	**Lajitas**	**7.06**	**68**	P		**Pn**	**14 02 39.5**	**-3.3**
GDL2	**Guadalupe Moun**	**7.95**	**47**	*e*Pn		**Pn**	**14 02 55.3**	**+0.3**
LENM	**Lemitar**	**8.12**	**25**	*e*Pn		**Pn**	**14 02 55.7**	**-1.6**
BNM	**Barren Site**	**8.24**	**27**	*e*Pn		**Pn**	**14 02 54.5**	**-4.5**
LAZ	**Ladron**	**8.27**	**24**	*e*Pn		**Pn**	**14 02 57.2**	**-2.1**
CLNB	**Carlsbad**	**8.31**	**48**	Pn		**Pn**	**14 02 59.9**	**0.0**
LPM	**Los Pinos Moun**	**8.38**	**27**	P		**Pn**	**14 03 01.4**	**+0.5**
ZAIG	**Zacatecas**	**8.81**	**116**	*i* P		**Pn**	**14 03 05.2**	**-1.6**
CPRX	**Cap Rock**	**8.81**	**44**	P		**Pn**	**14 03 07.8**	**+0.9**
ANMO	**Albuquerque**	**9.01**	**25**	Pn		**Pn**	**14 03 09.4**	**-0.1**
	0.1nm,0.3s,baz=213,slow=12,SNR=14							
ANMO				Lg			14 05 42.1	
	0.3nm,0.3s,baz=3.4,slow=23,SNR=3.6							
ANMO	**Albuquerque**	**9.01**	**25**	*e*P		**Pn**	**14 03 07.7**	**-1.8**
ANMO				pmax	pmax			
	comp=Z,2.0nm,1.0s							
ANMO	**Albuquerque**	**9.01**	**25**	*e*Pn		**Pn**	**14 03 07.7**	**-1.8**
	comp=Z,2.4nm,1.0s							
MVCO	**Mesa Verde**	**10.55**	**12**	*e*P		**Pn**	**14 03 31.7**	**+1.0**
JCT	**Junction City**	**10.60**	**68**	*e*P		**Pn**	**14 03 30.7**	**-0.7**
JCT				pmax	pmax			
	comp=Z,32nm,1.0s							
JCT	**Junction City**	**10.60**	**68**	*e*Pn		**Pn**	**14 03 30.7**	**-0.7**
	comp=Z,32nm,1.0s							
ISA	**Isabella**	**10.76**	**326**	P		**Pn**	**14 03 32.5**	**-1.1**
DAC	**Darwin (Calif)**	**10.86**	**331**	*e*P		**Pn**	**14 03 35.7**	**+0.8**
DAC				pmax	pmax			
	comp=Z,11nm,1.0s							
DAC	**Darwin (Calif)**	**10.86**	**331**	*e*P		**Pn**	**14 03 35.7**	**+0.8**
	comp=Z,11nm,1.0s							
TPNV	**Topopah Spring**	**10.93**	**338**	*e*P		**Pn**	**14 03 37.7**	**+1.8**
ARUT	**Antelope Range**	**11.05**	**351**	*e*P		**Pn**	**14 03 38.1**	**+0.6**
PV10	**Paradox Valley**	**11.61**	**8**	*e*P		**Pn**	**14 03 44.3**	**-0.9**
MSU	**Marysvale**	**11.64**	**356**	*e*P		**Pn**	**14 03 47.5**	**+2.0**
PTRM	**Twissleman Ran**	**11.68**	**321**	*e*P		**Pn**	**14 03 46.1**	**0.0**
MTUM	**Tungsten Hills**	**12.18**	**331**	*e*Pn		**Pn**	**14 03 54.2**	**+1.2**
SRU	**San Rafael**	**12.22**	**2**	*e*P		**Pn**	**14 03 54.5**	**+1.1**
SRU				pmax	pmax			
	comp=Z,14nm,1.4s							
SRU	**San Rafael**	**12.22**	**2**	*e*P		**Pn**	**14 03 54.5**	**+1.0**
	comp=Z,14nm,1.4s							
TPH	**Tonopah**	**12.28**	**337**	*e*P		**Pn**	**14 03 55.4**	**+1.1**
TPH				pmax	pmax			
	comp=Z,78nm,1.4s							
TPH	**Tonopah**	**12.28**	**337**	*e*P		**Pn**	**14 03 55.4**	**+1.1**
	comp=Z,78nm,1.4s							
TMUT	**Trail Mountain**	**12.39**	**360**	*e*P		**Pn**	**14 03 57.0**	**+1.2**
SMCO	**Snowmass**	**12.76**	**15**	*e*P		**Pn**	**14 03 59.7**	**-1.2**
	comp=Z,9.9nm,1.4s							
MNV	**Mina**	**12.94**	**335**	*e*P		**Pn**	**14 04 03.2**	**-0.1**
MNV				pmax	pmax			
	comp=Z,67nm,1.6s							
MNV	**Mina**	**12.94**	**335**	*e*P		**Pn**	**14 04 03.2**	**-0.1**
	comp=Z,67nm,1.6s							
NVAR	**Mina Array Bea**	**12.99**	**334**	Pn		**Pn**	**14 04 04.8**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=150,slow=15,SNR=15							
MPU	**Maple Canyon**	**13.11**	**358**	*e*P		**Pn**	**14 04 06.4**	**+0.7**
	comp=Z,38nm,1.3s							
WMOK	**Wichita Mounta**	**13.21**	**51**	*e*P		**Pn**	**14 04 06.6**	**-0.4**
DUG	**Dugway**	**13.36**	**355**	*e*P		**Pn**	**14 04 10.8**	**+1.8**
DUG				pmax	pmax			
	comp=Z,133nm,1.6s							
DUG	**Dugway**	**13.36**	**355**	*e*P		**Pn**	**14 04 10.8**	**+1.8**
	comp=Z,133nm,1.6s							
DAU	**Daniels Canyon**	**13.51**	**360**	*e*P		**Pn**	**14 04 11.0**	**0.0**
CMB	**Columbia Colle**	**13.57**	**327**	*e*P		**Pn**	**14 04 11.3**	**-0.7**
CMB				pmax	pmax			
	comp=Z,23nm,1.4s							
CMB	**Columbia Colle**	**13.57**	**327**	*e*P		**Pn**	**14 04 11.3**	**-0.7**
	comp=Z,24nm,1.4s							
ISCO	**Idaho Springs**	**13.70**	**18**	*e*P		**Pn**	**14 04 14.9**	**+1.2**
ISCO				pmax	pmax			
	comp=Z,11nm,1.0s							
ISCO	**Idaho Springs**	**13.70**	**18**	*e*P		**Pn**	**14 04 14.9**	**+1.2**
	comp=Z,11nm,1.0s							
NOQ	**North Oquirrh**	**13.77**	**357**	*e*P		**Pn**	**14 04 15.9**	**+1.3**
	comp=Z,204nm,1.7s							
HKT	**Hockley**	**13.84**	**74**	P		**Pn**	**14 04 14.8**	**-0.7**
HKT				pmax	pmax			
	comp=Z,45nm,1.8s							
HKT	**Hockley**	**13.84**	**74**	P		**Pn**	**14 04 14.8**	**-0.8**
	comp=Z,45nm,1.8s							
TCUT	**Toone Canyon**	**14.21**	**359**	*e*P		**Pn**	**14 04 21.2**	**+0.5**
BMN	**Battle Mountai**	**14.43**	**341**	*e*P		**Pn**	**14 04 24.0**	**+0.4**
BMN				pmax	pmax			
	comp=Z,25nm,1.1s							
BMN	**Battle Mountai**	**14.43**	**341**	*e*P		**Pn**	**14 04 24.0**	**+0.4**
	comp=Z,25nm,1.1s							
HVU	**Hansel Valley**	**14.93**	**355**	*e*P		**Pn**	**14 04 30.7**	**+0.3**
HVU				pmax	pmax			
	comp=Z,85nm,1.6s							
HVU	**Hansel Valley**	**14.93**	**355**	*e*P		**Pn**	**14 04 30.7**	**+0.4**
	comp=Z,85nm,1.6s							
RWWY	**Rawlins**	**15.13**	**11**	*e*Pn		**Pn**	**14 04 33.3**	**+0.3**
	comp=Z,34nm,1.4s							
PHWY	**Pilot Hill**	**15.14**	**17**	*e*P		**Pn**	**14 04 33.2**	**+0.1**
PDAR	**Pinedale Array**	**15.91**	**4**	Pn		**Pn**	**14 04 41.6**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=193,slow=12,SNR=19							
PDAR				Lg			14 08 57.6	
	comp=Z,0.1nm,0.3s,baz=213,slow=28,SNR=2.9							
REDW	**Red Top Meadow**	**16.45**	**1**	*e*P		**Pn**	**14 04 49.1**	**-0.9**
	comp=Z,33nm,1.4s							
TPAW	**Teton Pass**	**16.58**	**1**	*e*P		**Pn**	**14 04 52.5**	**+0.9**
	comp=Z,48nm,1.3s							
WVOR	**Wild Horse Val**	**16.68**	**340**	P		**Pn**	**14 04 52.9**	**-0.1**
WVOR				pmax	pmax			
	comp=Z,55nm,1.4s							
WVOR	**Wild Horse Val**	**16.68**	**340**	P		**Pn**	**14 04 52.9**	**0.0**
	comp=Z,55nm,1.4s							
LOHW	**Long Hollow**	**16.71**	**1**	*e*P		**Pn**	**14 04 54.0**	**+0.7**
	comp=Z,34nm,1.3s							
MOD	**Modoc**	**16.77**	**336**	*e*P		**Pn**	**14 04 53.2**	**-0.8**
	comp=Z,173nm,1.7s							
MOOW	**Moose Ponds**	**16.84**	**1**	*e*P		**Pn**	**14 04 55.5**	**+0.6**
	comp=Z,41nm,1.3s							
HLID	**Hailey**	**16.86**	**352**	*e*P		**Pn**	**14 04 55.9**	**+0.7**
	comp=Z,15nm,1.2s							
MIAR	**Mount Ida**	**16.94**	**59**	*e*P		**Pn**	**14 04 54.8**	**-1.3**
MIAR				pmax	pmax			
	comp=Z,18nm,1.1s							
MIAR	**Mount Ida**	**16.94**	**59**	*e*P		**Pn**	**14 04 54.8**	**-1.3**
	comp=Z,18nm,1.1s							
IMW	**Indian Meadow**	**16.99**	**1**	*e*P		**Pn**	**14 04 57.4**	**+0.7**
	comp=Z,82nm,1.3s							
FLWY	**Flagg Ranch**	**17.18**	**1**	P		**Pn**	**14 04 57.9**	**-1.2**
	comp=Z,191nm,1.6s							
YFT	**Old Faithful**	**17.54**	**1**	P		**Pn**	**14 05 03.7**	**+0.1**
CMIG	**Matias Romero**	**17.95**	**120**	P		**Pn**	**14 05 10.6**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=307,slow=9.9,SNR=12							
UALR	**University of**	**17.96**	**59**	*e*P		**Pn**	**14 05 08.2**	**-0.6**
	comp=Z,12nm,0.8s							
MCMT	**McKenzie Canyo**	**17.97**	**356**	*e*P		**Pn**	**14 05 10.2**	**+1.3**
RSSD	**Black Hills**	**18.15**	**17**	*e*P		**Pn**	**14 05 10.7**	**-0.4**
RSSD				pmax	pmax			
	comp=Z,14nm,0.8s							
RSSD	**Black Hills**	**18.15**	**17**	*e*P		**Pn**	**14 05 10.7**	**-0.4**
	comp=Z,14nm,0.8s							
DLMT	**Dillon**	**18.49**	**357**	*e*P		**Pn**	**14 05 15.8**	**+0.6**
	comp=Z,39nm,1.4s							
BMO	**Blue Mountains**	**18.61**	**346**	*e*P		**Pn**	**14 05 15.6**	**-1.1**
	comp=Z,21nm,1.4s							
BOZ	**Bozeman (W)**	**18.74**	**359**	*e*P		**Pn**	**14 05 17.7**	**-0.6**
BOZ				pmax	pmax			
	comp=Z,94nm,1.9s							
BOZ	**Bozeman (W)**	**18.74**	**359**	*e*P		**Pn**	**14 05 17.6**	**-0.6**
	comp=Z,94nm,1.9s							
GCMT	**Greycliff**	**18.92**	**3**	*e*P		**Pn**	**14 05 20.1**	**-0.3**
HRY	**Holter Researc**	**19.81**	**359**	*e*P		**Pn**	**14 05 29.8**	**-1.2**
MSO	**Missoula**	**20.04**	**354**	*e*P		**P**	**14 05 31.8**	**-0.1**
	comp=Z,23nm,1.2s							
CHMT	**Chamberlain Mo**	**20.07**	**356**	*e*P		**P**	**14 05 32.3**	**+0.1**
LAO	**LASA Array**	**20.16**	**10**	*e*P		**P**	**14 05 33.2**	**0.0**
	comp=Z,113nm,1.5s							
FVM	**French Village**	**20.67**	**52**	*e*P		**P**	**14 05 39.0**	**+0.3**
FVM				*e*			14 05 44.5	
FVM				pmax	pmax			
	comp=Z,9.0nm,1.0s							
FVM	**French Village**	**20.67**	**52**	*e*P		**P**	**14 05 39.0**	**+0.3**
	comp=Z,8.8nm,1.0s							
FVM				*e*			14 05 44.5	
EGMT	**Eagleton**	**21.14**	**3**	*e*P		**P**	**14 05 41.6**	**-2.1**
	comp=Z,23nm,0.3s,mb5.0							
PLAL	**Pickwick Lake**	**21.36**	**62**	*e*P		**P**	**14 05 45.8**	**-0.3**
	comp=Z,21nm,0.9s,mb4.5							
LRAL	**Lakeview Retre**	**21.80**	**68**	*e*P		**P**	**14 05 49.8**	**-1.0**
	comp=Z,17nm,0.9s,mb4.5							
NEW	**Newport**	**21.86**	**349**	P		**P**	**14 05 48.8**	**-2.6**
	comp=Z,12nm,0.8s,mb4.4,baz=167,slow=12,SNR=16							
NEW	**Newport**	**21.86**	**349**	*e*P		**P**	**14 05 49.3**	**-2.1**
NEW				pmax	pmax			
	comp=Z,15nm,0.8s							
NEW	**Newport**	**21.86**	**349**	*e*P		**P**	**14 05 49.3**	**-2.2**
	comp=Z,15nm,0.8s,mb4.5							
WVT	**Waverly**	**21.89**	**59**	*e*P		**P**	**14 05 52.6**	**+0.8**
WVT				pmax	pmax			
	comp=Z,31nm,0.8s,mb4.8							
WVT	**Waverly**	**21.89**	**59**	*e*P		**P**	**14 05 52.6**	**+0.9**
	comp=Z,31nm,0.8s,mb4.8							
WALA	**Waterton Lakes**	**22.25**	**355**	*e*P		**P**	**14 05 54.5**	**-1.1**
	comp=Z,20nm,1.3s,mb4.4							
USIN	**University of**	**22.65**	**55**	P		**P**	**14 06 01.4**	**+1.5**
	comp=Z,35nm,1.0s,mb4.8							
SWET	**Sewanee**	**23.12**	**63**	*e*P		**P**	**14 06 05.3**	**+0.5**
WCI	**Wyandotte Cave**	**23.75**	**55**	*e*P		**P**	**14 06 12.3**	**+1.3**
WCI				pmax	pmax			
	comp=Z,23nm,0.9s,mb4.6							
WCI	**Wyandotte Cave**	**23.75**	**55**	*e*P		**P**	**14 06 12.3**	**+1.3**
	comp=Z,23nm,0.9s,mb4.6							
BLO	**Bloomington**	**23.94**	**53**	*e*P		**P**	**14 06 14.1**	**+1.4**
BLO				pmax	pmax			
	comp=Z,13nm,0.6s,mb4.5							
BLO	**Bloomington**	**23.94**	**53**	*e*P		**P**	**14 06 14.1**	**+1.3**
	comp=Z,13nm,0.6s,mb4.5							
TZTN	**Tazewell**	**25.32**	**61**	P		**P**	**14 06 26.2**	**+1.0**
EYMN	**Ely**	**26.06**	**31**	*e*P		**P**	**14 06 35.9**	**+3.9**
	comp=Z,16nm,1.0s,mb4.5							
ULM	**Lac du Bonnet**	**26.12**	**23**	P		**P**	**14 06 31.1**	**-1.4**
	comp=Z,1.8nm,0.7s,mb3.7,baz=208,slow=9.9,SNR=3.8							
EDM	**Edmonton**	**26.37**	**357**	*e*P		**P**	**14 06 33.2**	**-1.5**
ELN	**Prospectdale**	**27.66**	**60**	*e*P		**P**	**14 06 47.4**	**+1.0**
FWV	**Forest Hill**	**27.70**	**60**	*e*P		**P**	**14 06 47.2**	**+0.6**
FCC	**Fort Churchill**	**34.03**	**16**	*e*P		**P**	**14 07 41.2**	**-1.3**
FCC				*e**PP		pP	14 07 46.5	-6.4
FCC				pmax	pmax			
	comp=Z,17nm,0.9s,mb5.0							
FCC	**Fort Churchill**	**34.03**	**16**	*e*P		**P**	**14 07 41.2**	**-1.3**
	comp=Z,17nm,0.9s,mb5.0							
FCC				*e*pP		pP	14 07 46.5	-6.4
DLBC	**Dease Lake**	**34.21**	**342**	*e*P		**P**	**14 07 44.0**	**-0.1**
NCB	**Newcomb**	**34.26**	**50**	P		**P**	**14 07 47.1**	**+2.7**
	comp=Z,8.2nm,0.8s,mb4.7							
YKA	**Yellowknife Ar**	**35.69**	**357**	P		**P**	**14 07 54.9**	**-1.9**
	comp=Z,2.2nm,0.7s,mb4.2,baz=180,slow=8.7,SNR=18							
OTAV	**Otavalo**	**41.11**	**125**	*e*pP		pP	14 08 50.4	-2.5
DAWY	**Dawson**	**41.42**	**342**	*e*P		**P**	**14 08 44.9**	**0.0**
SDV	**Santo Domingo**	**42.28**	**107**	P		**P**	**14 08 53.5**	**+1.5**
	comp=Z,8.5nm,0.8s,mb4.4,baz=300,slow=3.3,SNR=8.3							
SDV	**Santo Domingo**	**42.28**	**107**	*e*P		**P**	**14 08 53.2**	**+1.3**
	comp=Z,18nm,0.6s,mb4.9							
SDV				*e*pP		pP	14 08 59.3	-3.2
KDAK	**Kodiak Island**	**42.40**	**328**	LR		LR	14 25 52.9	
	comp=Z,745nm,18.5s,MS4.6,baz=130,slow=35							
SCHQ	**Schefferville**	**42.58**	**37**	P		**P**	**14 08 54.9**	**+0.6**
	comp=Z,9.5nm,1.0s,mb4.5,baz=273,slow=5.9,SNR=7.6							
SCHQ	**Schefferville**	**42.58**	**37**	*e*P		**P**	**14 08 54.5**	**+0.2**
	comp=Z,30nm,1.2s,mb4.9							
INK	**Inuvik**	**43.57**	**348**	*e*P		**P**	**14 09 01.5**	**-0.9**
INK				*e*			14 09 06.9	
INK				pmax	pmax			
	comp=Z,27nm,1.5s							
INK	**Inuvik**	**43.57**	**348**	*e*P		**P**	**14 09 01.5**	**-0.9**
	comp=Z,27nm,1.5s,mb4.8							
INK				*e*			14 09 06.9	
ILAR	**Eielson Array**	**44.19**	**339**	P		**P**	**14 09 06.5**	**-0.9**
	comp=Z,1.4nm,0.9s,mb3.7,baz=152,slow=7.0,SNR=16							
COLA	**College**	**44.57**	**339**	*e*P		**P**	**14 09 10.6**	**+0.2**
COLA				*e**PP		pP	14 09 16.0	-5.0
COLA				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.5							
COLA	**College**	**44.57**	**339**	*e*P		**P**	**14 09 10.6**	**+0.2**
	comp=Z,6.1nm,0.8s,mb4.5							
COLA				*e*pP		pP	14 09 15.9	-5.1
SVW2	**Sparrevohn**	**45.34**	**331**	*e*P		**P**	**14 09 15.7**	**-0.8**
TTA	**Tatalina**	**46.41**	**334**	*e*P		**P**	**14 09 24.8**	**-0.1**
TTA				*e*			14 09 29.8	
LPAZ	**La Paz**	**59.88**	**131**	*e*P		**P**	**14 11 05.7**	**+1.6**
LPAZ				pmax	pmax			
	comp=Z,16nm,1.5s							
LPAZ	**La Paz**	**59.88**	**131**	*e*P		**P**	**14 11 05.7**	**+1.6**
	comp=Z,16nm,1.5s,mb4.8							
BILL	**Bilibino**	**62.61**	**335**	*e*P		**P**	**14 11 25.7**	**+3.2**
BILL				*e*			14 12 01.6	
BILL				pmax	pmax			
	comp=Z,18nm,1.3s,mb5.0							
BILL	**Bilibino**	**62.61**	**335**	P		**P**	**14 11 21.1**	**-1.5**
	comp=Z,14nm,1.1s,mb5.0							
SIV	**San Ignacio**	**64.65**	**125**	P		**P**	**14 11 37.8**	**+1.8**
	comp=Z,13nm,0.9s,mb4.9,baz=306,slow=7.3,SNR=18							
TIXI	**Tiksi**	**73.44**	**343**	*e*P		**P**	**14 12 26.9**	**-3.6**
TIXI				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.4							
TIXI				MLR		MLR		
	comp=Z,255nm,18.0s,MS4.5							
CPUP	**Villa Florida**	**74.05**	**131**	LR		LR	14 46 08.5	
	comp=Z,176nm,21.2s,MS4.3,baz=55,slow=37							
NOA	**NORSAR Array B**	**80.80**	**25**	LR		LR	14 51 27.2	
	comp=Z,239nm,18.6s,MS4.6,baz=300,slow=38							
HFS	**Hagfors**	**82.32**	**24**	LR		LR	14 46 54.3	
	comp=Z,115nm,20.9s,MS4.2,baz=310,slow=34							
ASAJ	**Asahikawa**	**82.42**	**316**	LR		LR	14 45 50.6	
	comp=Z,85nm,19.9s,MS4.1,baz=353,slow=33							
MFF	**Saint Martin d**	**83.99**	**40**	*e*P		**P**	**14 13 34.5**	**+6.0**
FINES	**FINESS Array B**	**85.46**	**19**	P		**P**	**14 13 35.6**	**-0.3**
	comp=Z,1.0nm,0.6s,mb4.2,baz=319,slow=6.1,SNR=3.1							
TCF	**Toulx Ste Croi**	**85.52**	**40**	*e*P		**P**	**14 13 43.8**	**+7.6**
	comp=Z,12nm,1.1s,mb4.7							
TCF	**Toulx Ste Croi**	**85.52**	**40**	*e*P		**P**	**14 13 43.8**	**+7.6**
TCF				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.7							
TCF	**Toulx Ste Croi**	**85.52**	**40**	*e*P		**P**	**14 13 43.8**	**+7.6**
	comp=Z,6.1nm,1.1s,mb4.7							
RJF	**Les Rejaudoux**	**85.67**	**41**	*e*P		**P**	**14 13 43.1**	**+6.1**
SSF	**Saint Saulge**	**85.80**	**39**	*e*P		**P**	**14 13 44.6**	**+7.0**
	comp=Z,8.2nm,0.9s,mb4.7							
SSF	**Saint Saulge**	**85.80**	**39**	*e*P		**P**	**14 13 44.6**	**+7.0**
SSF				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.7							
SSF	**Saint Saulge**	**85.80**	**39**	*e*P		**P**	**14 13 44.6**	**+7.0**
	comp=Z,4.1nm,0.9s,mb4.7							
AVF	**Avril sur Loir**	**85.87**	**39**	*e*P		**P**	**14 13 43.9**	**+5.9**
LOR	**Lormes**	**85.88**	**38**	*e*P		**P**	**14 13 44.1**	**+6.1**
	comp=Z,5.7nm,0.8s,mb4.5							
LOR	**Lormes**	**85.88**	**38**	*e*P		**P**	**14 13 44.1**	**+6.1**
LOR				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.6							
LOR	**Lormes**	**85.88**	**38**	*e*P		**P**	**14 13 44.1**	**+6.1**
	comp=Z,2.8nm,0.8s,mb4.5							
CDF	**Champ du Feu**	**87.03**	**36**	*e*P		**P**	**14 13 49.6**	**+6.0**
BOD	**Bodaibo**	**87.55**	**338**	*e*P		**P**	**14 13 47.1**	**+0.9**
BOD				pmax	pmax			
	comp=Z,6.0nm,1.2s,mb4.7							
MBDF	**Montbardon**	**89.02**	**39**	*e*P		**P**	**14 13 59.5**	**+6.4**
MDJ	**Mudanjiang**	**89.83**	**321**	P		**P**	**14 13 56.0**	**-0.9**
MDJ				AMB	AMB			
	comp=Z,10.0nm,0.9s,mb5.2							
MDJ				AMB	AMB			
	comp=Z,129nm,3.5s							
CN2	**Changchun**	**92.63**	**323**	*e*P		**P**	**14 14 10.0**	**+0.1**
CN2				AMB	AMB			
	comp=Z,10.0nm,1.2s,mb5.1							
CN2				LR	LR			
	comp=N,200nm,13.0s,MS4.9							
CN2				LR	LR			
	comp=E,200nm,13.0s,MS4.9							
CN2				LR	LR			
	comp=Z,200nm,13.0s,MS4.8							
SNY	**Shenyang**	**94.97**	**322**	*e*P		**P**	**14 14 20.3**	**-0.4**
SNY				AMB	AMB			
	comp=Z,12nm,3.6s							
TLY	**Talaya**	**96.02**	**339**	*e*P		**P**	**14 14 31.0**	**+5.6**
TLY				pmax	pmax			
	comp=Z,8.0nm,2.1s,mb4.8							
HHC	**Hu-ho-hao-te**	**101.82**	**328**	*e*P		Pdif	14 14 51.5	+0.1
HHC				AP			14 14 56.5	
HHC				AMB	AMB			
	comp=Z,11nm,1.3s							
HHC				AMB	AMB			
	comp=Z,122nm,8.6s							
HHC				LR	LR			
	comp=N,176nm,19.6s,MS4.7							
HHC				LR	LR			
	comp=E,219nm,24.1s,MS4.7							
HHC				LR	LR			
	comp=Z,179nm,23.8s,MS4.5							
SSE	**Sheshan**	**103.71**	**316**	P		Pdif	14 14 59.5	-0.3
	comp=Z,17nm,0.8s							
SSE				LR	LR			
	comp=Z,70nm,24.4s,MS4.1							
WMQ	**Urumqi**	**107.56**	**346**	PDIF		Pdif	14 15 16.3	-0.6
WMQ				PP	PP			
	comp=Z,103nm,6.3s							
WMQ				LR	LR			
	comp=N,285nm,28.3s,MS4.8							
WMQ				LR	LR			
	comp=E,221nm,28.3s,MS4.8							
WMQ				LR	LR			
	comp=Z,272nm,31.8s,MS4.6							
KMI	**Kunming**	**118.83**	**325**	PKP		PKPdf	14 19 46.3	-0.1
KMI	**Kunming**	**118.83**	**325**	P		PKPdf	14 19 46.2	-0.2
WRA	**Warramunga Arr**	**120.06**	**262**	PKP		PKPdf	14 19 48.4	-0.4
	comp=Z,0.4nm,0.8s,baz=56,slow=1.8,SNR=4.4							
ASAR	**Alice Springs**	**121.65**	**258**	PKP		PKPdf	14 19 50.9	-1.0
	comp=Z,0.3nm,0.8s,baz=73,slow=2.3,SNR=3.7							

IDC ***28*** *14:02:52.5±1.0, 2679N×11145W, h0km, mb4.2/6, mb1 4.4/9, mb1mx4.1/25, mbtmp4.3/9, ML3.4/1, MS4.6/15, Ms1 4.6/15, ms1mx4.4/35, Error ellipse: s-maj=35.4km s-min=12.6km az=65.0*

ISCJB ***28*** *14:02:53.0±3.1, 2687N±005×11100W±0.08, h6km±20km, mb4.7/17, MS4.6/16, Error ellipse: s-maj=12.2km s-min=7.4km az=127.4*

MOS ***28*** *14:02:53.5±1.6, 2692N×11098W, h10km, mb4.8/6, Error ellipse: s-maj=16.1km s-min=7.3km az=99.7*

NEIC ***28*** *14:02:54.5±0.6, 2678N×11109W, h10km, mb4.7/18, Error ellipse: s-maj=12.3km s-min=7.0km az=61.0*

HRVD ***28*** *14:02:54.5±0.2, 2696N×11134W, h19km±1km, MW5.2/88, Centroid moment Tensor Solution. LP body waves: s58,c77;Mantle waves: s88,c166; Half duration: 1§0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.04±.02; $M_{\theta\theta}$-0.83±.02; $M_{\phi\phi}$0.79±.02; $M_{r\theta}$-0.20±.04; $M_{\theta\phi}$-0.16±.01; $M_{\phi r}$-0.08±.04; Best double couple: $M_0$0.85400×10^{17} NP1:ϕs130.00000°,δ78.00000°,λ-174.00000°. NP2: ϕs39.00000°,δ85.00000°,λ-12.00000°. Principal axes: T 0.8160, Plg5.0000°, Azm85.0000°; N 0.0760, Plg76.0000°, Azm195.0000

FVM pmax pmax
comp=Z,24nm,1.1s
FVM French Village 20.58 52 *e*P **P 14 07 35.6 +1.4**
comp=Z,24nm,1.1s
EGMT Eagleton 21.18 2 *e*P **P 14 07 39.9 -0.8**
LRAL Lakeview Retre 21.68 68 *e*P **P 14 07 44.5 -1.6**
WVT Waverly 21.78 59 *e*P **P 14 07 46.4 -0.8**
NEW Newport 21.92 349 P **P 14 07 47.2 -1.5**
comp=Z,4.8nm,1.0s,mb3.9,baz=166,slow=14,SNR=3.4
NEW LR LR 14 16 40.2
comp=Z,3µm,20.5s,MS4.6,baz=182,slow=38
NEW Newport 21.92 349 *e*P **P 14 07 45.8 -2.9**
NEW pmax pmax
comp=Z,8.0nm,1.1s
NEW Newport 21.92 349 *e*P **P 14 07 45.8 -2.9**
comp=Z,7.9nm,1.1s,mb4.1
WALA Waterton Lakes 22.30 355 P **P 14 07 51.2 -1.6**
comp=Z,25nm,1.5s,mb4.4
EYMN Ely 26.02 31 *e*P **P 14 08 31.2 +2.7**
comp=Z,27nm,1.4s,mb4.6
ULM Lac du Bonnet 26.10 22 LR LR 14 20 10.4
comp=Z,461nm,18.7s,MS4.0,baz=23,slow=40
EDM Edmonton 26.41 357 *e*P **P 14 08 30.7 -1.4**
FWV Forest Hill 27.59 60 P **P 14 08 41.6 -1.1**
BBB Bella Bella 28.41 338 LR LR 14 20 02.2
comp=Z,2µm,19.8s,MS4.6,baz=167,slow=36
JTS JuntasAbangare 29.58 119 LR LR 14 20 40.2
comp=Z,973nm,20.6s,MS4.4,baz=314,slow=36
SADO Sadowa 31.16 47 LR LR 14 23 16.7
comp=Z,308nm,20.4s,MS4.0,baz=258,slow=39
FCC Fort Churchill 34.03 16 *e*P **P 14 09 37.7 -1.8**
FCC *e**PP pP 14 09 42.6 +2.1
YKA Yellowknife Ar 35.74 357 P **P 14 09 52.0 -2.1**
comp=Z,2.4nm,0.8s,mb4.2,baz=179,slow=8.4,SNR=4.5
YKA LR LR 14 25 11.5
comp=Z,2µm,18.6s,MS5.0,baz=195,slow=37
YKA Yellowknife Ar 35.74 357 P **P 14 09 52.0 -2.1**
YKA LR LR 14 25 11.5
SKAG Skagway 36.70 339 *e*Sg **P 14 10 02.6 +0.2**
OTAV Otavalo 40.97 125 P **P 14 10 41.9 +3.6**
comp=Z,55nm,1.1s,mb5.1
OTAV *e* 14 10 46.0
SDV Santo Domingo 42.13 107 P **P 14 10 50.8 +3.0**
comp=Z,19nm,0.9s,mb4.7,baz=324,slow=5.2,SNR=9.7
SDV Santo Domingo 42.13 107 *e*P **P 14 10 49.8 +2.0**
comp=Z,48nm,1.6s,mb4.9
SDV *e*pP pP 14 10 54.8 +6.0
SJG San Juan 42.17 92 LR LR 14 30 54.5
comp=Z,765nm,21.3s,MS4.5,baz=270,slow=40
SCHQ Schefferville 42.52 37 P **P 14 10 51.0 +0.1**
comp=Z,5.6nm,1.1s,mb4.2,baz=58,slow=7.4,SNR=3.4
SCHQ LR LR 14 30 09.3
comp=Z,630nm,18.4s,MS4.5,baz=66,slow=38
ILAR Eielson Array 44.28 339 P **P 14 11 04.0 -1.1**
comp=Z,0.9nm,0.8s,mb3.5,baz=152,slow=6.3,SNR=4.9
SVW2 Sparrevohn 45.44 331 *e*P **P 14 11 12.5 -1.9**
TTA Tatalina 46.51 334 *e*P **P 14 11 21.6 -1.2**
TTA *e* 14 11 25.9
RKT Rikitea 54.80 207 *e*LR LR 14 28 01.0
comp=Z,280nm,31.5s
PPT Papeete 57.88 225 *e*LR LR 14 29 33.9
comp=Z,530nm,23.2s,baz=42
PPT Papeete 57.88 225 LR LR 14 33 26.5
comp=Z,448nm,18.9s,MS4.6,baz=30,slow=32
LPAZ La Paz 59.75 131 P **P 14 13 02.9 +2.5**
LPAZ pmax pmax
comp=Z,15nm,1.3s
LPAZ La Paz 59.75 131 P **P 14 13 02.9 +2.5**
comp=Z,14nm,1.3s,mb4.8
TBI Tubuai 62.22 220 *e*LR LR 14 31 32.8
comp=Z,316nm,24.0s
BILL Bilibino 62.70 335 *e*P **P 14 13 22.3 +1.9**
BILL pmax pmax
comp=Z,9.0nm,1.2s,mb4.8
BILL Bilibino 62.70 335 *e*P **P 14 13 22.3 +1.9**
comp=Z,8.7nm,1.2s,mb4.8
SIV San Ignacio 64.52 125 P **P 14 13 33.5 +1.1**
comp=Z,19nm,1.1s,mb5.0,baz=317,slow=8.3,SNR=15
TIXI Tiksi 73.51 343 *e*P **P 14 14 29.2 +0.9**
TIXI pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
CPUP Villa Florida 73.92 131 *e*P **P 14 14 31.0 +0.3**
CPUP pmax pmax
comp=Z,66nm,1.2s
CPUP Villa Florida 73.92 131 *e*P **P 14 14 31.0 +0.3**
comp=Z,66nm,1.2s,mb5.4
PLCA Paso Flores 77.00 150 LR LR 14 42 01.5
comp=Z,535nm,19.6s,MS4.9,baz=328,slow=30
BOD Bodaibo 87.64 338 *e*P **P 14 15 45.6 +1.6**
BOD pmax pmax
comp=Z,5.0nm,1.4s,mb4.5
USHA Ushuaia 89.17 157 LR LR 14 47 34.8
comp=Z,444nm,20.2s,MS4.9,baz=70,slow=30
PRU Pruhonice 89.56 32 AMS AMS 14 54 00.0
comp=Z,500nm,17.8s
KHC Kasperske Hory 89.69 33 AMS AMS 14 55 00.0
comp=Z,500nm,19.7s
MDJ Mudanjiang 89.95 322 P **P 14 15 53.8 -1.1**
MDJ AMB AMB
comp=Z,7.0nm,0.9s,mb5.0
MDJ AMB AMB
comp=Z,112nm,4.3s
DPC Dobruska-Polom 90.13 31 AMS AMS 14 55 20.0
comp=Z,500nm,16.2s
TREC Trest 90.49 32 AMS AMS 14 58 10.0
comp=Z,500nm,17.0s
OKC Ostrava-Krasne 91.33 30 AMS AMS 14 58 10.0
comp=Z,400nm,17.3s
CN2 Changchun 92.74 323 *e*P **P 14 16 09.3 +1.4**
CN2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.5
CN2 LR LR
comp=N,200nm,13.0s,MS4.9
CN2 LR LR
comp=E,200nm,13.0s,MS4.9
CN2 LR LR
comp=Z,200nm,16.0s,MS4.7
TLY Talaya 96.10 339 *e*P **P 14 16 28.4 +5.1**
TLY pmax pmax
comp=Z,6.0nm,1.6s,mb4.8
VAE Valguarnera 98.04 41 LR LR 15 01 20.8
comp=Z,346nm,18.1s,MS4.9,baz=107,slow=36
HHC Hu-ho-hao-te 101.93 328 *e*P Pdif 14 16 49.5 +0.1
HHC AP 14 16 53.8
HHC PP PP 14 21 03.0 +2.6
HHC SKS 14 27 27.0
HHC S Sdif 14 28 26.3 -6.0
HHC AMB AMB
comp=Z,13nm,1.1s
HHC AMB AMB
comp=Z,84nm,8.2s
HHC LR LR
comp=N,176nm,23.3s,MS4.8
HHC LR LR
comp=E,231nm,19.0s,MS4.8
HHC LR LR
comp=Z,179nm,17.3s,MS4.7
WMQ Urumqi 107.63 346 PDIF Pdif 14 17 17.8 +3.1
WMQ PP PP 14 21 48.8 +6.1
WMQ PP PP
comp=Z,239nm,4.9s
WMQ LR LR
comp=N,188nm,22.5s,MS4.7
WMQ LR LR
comp=E,122nm,21.5s,MS4.7
WMQ LR LR
comp=Z,267nm,23.5s,MS4.7
KMI Kunming 118.94 325 PKP PKPdf 14 21 47.8 +3.6
KMI PP PP 14 23 05.5 +2.3
KMI PP PP
comp=Z,78nm,6.8s
KMI LR LR
comp=N,178nm,22.8s,MS4.9
KMI LR LR
comp=E,216nm,20.3s,MS4.9
KMI LR LR
comp=Z,188nm,22.8s,MS4.7
KMI Kunming 118.94 325 PKP PKPdf 14 21 47.8 +3.6
KMI PP PP 14 23 05.4 +2.2
KMI SKKS SKKSac 14 30 01.9 -2.6
KMI SS SS 14 39 20.1 -3.5
KMI SSS 14 43 46.0
KMI LR LR
comp=Z,190nm,22.8s,MS4.7
WRA Warramunga Arr 120.19 262 PKP PKPdf 14 21 44.5 -2.1
comp=Z,0.6nm,0.8s,baz=74,slow=2.6,SNR=4.0

ASAR Alice Springs 121.78 258 PKP PKPdf 14 21 47.1 -2.6
comp=Z,0.5nm,1.0s,baz=82,slow=2.3,SNR=3.4

*ISCJB **28** 14:07:03.3±1.9, 58S±0.1×1502E±0.1, h109km±15km, mb3.8/3, Error ellipse: s-maj=29.0km s-min=15.9km az=80.7*
*NEIC **28** 14:07:06.2±2.1, 593S×150.12E, h122km±19km, mb4.3/1, Error ellipse: s-maj=19.6km s-min=18.1km az=136.0*
*IDC **28** 14:07:07.0±2.0, 592S×150.08E, h136km±16km, mb3.6/4, mb1 3.8/5, mb1mx3.5/14, mbtmp4.1/5, Error ellipse: s-maj=26.8km s-min=13.3km az=127.0*

ISC 28 14:07:06.8±1.8, 59S±0.1×1501E±0.1, h127km±14km, n10, σ0≥57/13, mb3.8/3, 2D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.55**	**220**	P		**Pn**		**14 08 13.4**	**-0.3**
	15nm,0.3s,baz=35,slow=5.9,SNR=46								
PMG				S		**Sn**		**14 09 06.0**	**+0.2**
	13nm,0.3s,baz=17,slow=8.5,SNR=3.6								
PMG	**Port Moresby**	**4.55**	**220**	*e*Pn		**Pn**		**14 08 13.1**	**-0.7**
PMG				*e*S		**Sn**		**14 09 09.1**	**+3.3**
WRAB	**Tennant Creek**	**20.72**	**226**	*e*P		**P**		**14 11 36.5**	**-0.5**
	5.5nm,0.4s								
WRA	**Warramunga Arr**	**20.73**	**226**	P		**P**		**14 11 36.5**	**-0.7**
	3.3nm,0.5s,baz=52,slow=11,SNR=49								
WRA				S		**S**		**14 15 21.2**	**-0.4**
	0.6nm,0.8s,baz=52,slow=20,SNR=2.7								
DZM	**Mont Dzumac**	**22.51**	**137**	P		**P**		**14 11 55.9**	**-0.1**
	2.7nm,0.5s,mb3.9,baz=327,slow=13,SNR=7.8								
AS31	**Alice Springs**	**23.56**	**220**	‖ *i* P		**P**		**14 12 06.0**	**+0.4**
ASAR	**Alice Springs**	**23.56**	**220**	P		**P**		**14 12 06.2**	**+0.5**
	2.8nm,0.6s,mb3.8,baz=54,slow=8.6,SNR=120								
ASAR				S		**S**		**14 16 10.2**	**-0.1**
	0.3nm,0.7s,baz=53,slow=13,SNR=4.8								
ASPA	**Alice Springs**	**23.57**	**220**	‖ *i* P		**P**		**14 12 06.0**	**+0.4**
MJAR	**Matsushiro Arr**	**43.69**	**346**	P		**P**		**14 14 59.1**	**+0.2**
	2.1nm,1.1s,mb3.8,baz=139,slow=12,SNR=4.8								
TORD	**Torodi Ar. Bea**	**148.08**	**285**	PKPbc	PKPbc			14 26 35.5	-1.9
	0.2nm,0.3s,baz=92,slow=2.7,SNR=13								

*ISCJB **28** 14:09:58.6±1.1, 212S±0.1×684W±0.2, h117km±19km, mb3.9/1, Error ellipse: s-maj=31.3km s-min=16.7km az=11.3*
*IDC **28** 14:09:59.2±1.3, 211.4S×683.4W, h103km±16km, mb3.9/1, mb1 3.7/4, mb1mx3.4/15, mbtmp4.0/4, MS4.0/1, Ms1 4.0/1, ms1mx3.2/22, Error ellipse: s-maj=37.1km s-min=16.4km az=112.0*
*NEIC **28** 14:10:00.0±1.0, 212.3S×683.2W, h109km±15km, Error ellipse: s-maj=21.4km s-min=14.4km az=98.0*

ISC 28 14:09:59.9±1.1, 211.9S±0.1×683W±0.2, h109km±18km, n9, σ0≥93/8, mb3.9/1, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.52**	**201**	P		**Pn**		**14 10 26.6**	**-0.2**
	65nm,0.3s,baz=9.6,slow=8.3,SNR=598								
LVC				S		**Sn**		**14 10 47.3**	**0.0**
	14nm,0.3s,baz=278,slow=23,SNR=31								
LPAZ	**La Paz**	**4.88**	**2**	P		**Pn**		**14 11 10.1**	**-1.0**
	1.0nm,0.3s,baz=184,slow=7.6,SNR=20								
LPAZ	**La Paz**	**4.88**	**2**	*e*P		**Pn**		**14 11 13.0**	**+2.0**
SIV	**San Ignacio**	**8.61**	**54**	P		**Pn**		**14 12 01.2**	**-0.4**
	1.1nm,0.3s,baz=251,slow=13,SNR=17								
CPUP	**Villa Florida**	**11.30**	**119**	P		**Pn**		**14 12 38.2**	**+0.3**
	0.3nm,0.3s,baz=302,slow=7.0,SNR=9.5								
CPUP	**Villa Florida**	**11.30**	**119**	*e*P		**Pn**		**14 12 38.5**	**+0.5**
ROSC	**El Rosal**	**26.54**	**347**	LR		LR		14 28 01.3	
	comp=Z,331nm,18.6s,baz=191,slow=41								
TORD	**Torodi Ar. Bea**	**76.75**	**70**	P		**P**		**14 21 39.1**	**-0.1**
	1.3nm,0.5s,mb3.9,baz=254,slow=5.3,SNR=16								
MKAR	**Makanchi Array**	**145.07**	**36**	PKPbc	PKPbc			14 29 24.1	+0.1
	0.9nm,0.7s,baz=316,slow=3.5,SNR=11								

*BJI **28** 14:17:58.7, 26.70N×111.20W, h10km, mB5.5, mb5.0, Ms5.0, Msz4.8*
*IDC **28** 14:18:01.2±1.3, 26.77N×111.49W, h0km, mb4.4/6, mb1 4.5/9, mb1mx4.2/23, mbtmp4.3/9, ML2.9/2, MS4.6/17, Ms1 4.6/17, ms1mx4.4/34, Error ellipse: s-maj=38.5km s-min=13.7km az=67.0*
*NEIC **28** 14:18:02.7±0.6, 26.70N×111.23W, h10km, mb4.7/42, Error ellipse: s-maj=8.1km s-min=5.3km az=200.0*
NEIC Felt at Mulege, Baja California Sur.
*HRVD **28** 14:18:02.7±0.3, 27.00N×111.32W, h17km±1km, MW5.2/86, Centroid moment Tensor Solution. LP body waves: s39,c52;Mantle waves: s86,c154; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.86±.18; Mθθ-6.60±.16; Mϕϕ5.74±.16; Mrθ-1.95±.37; Mrϕ-1.32±.12; Mθϕ-0.82±.40; Best double couple: M=6.60300×10^16 NP1:ϕs130.00000°, δ75.00000°, λ-175.00000°. NP2: ϕs39.00000°, δ85.00000°, λ-15.00000°. Principal axes: T 5.9580, Plg7.0000°, Azm85.0000°; N 1.2940, Plg74.0000°, Azm202.0000°; P -7.2470, Plg14.0000°, Azm353.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **28** 14:18:03.9±0.4, 26.98N±0.04×111.18W±0.04, h10km, mb4.7/36, MS4.6/19 Error ellipse: s-maj=6.6km s-min=4.6km az=87.8*
*MOS **28** 14:18:04.8±1.7, 27.07N×111.16W, h10km, mb5.0/25, Error ellipse: s-maj=9.2km s-min=4.8km az=89.6*
*SZGRF **28** 14:18:15.6, 27.66N×111.57W, h33km, mb4.6, Gulf of California, Mexico*

ISC 28 14:18:04.5±0.5, 26.84N±0.005×111.24W±0.004, h10km, n188, σ1≥38/172, mb4.7/36, MS4.6/19, 1C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**2.85**	**163**	Pn		**Pn**		**14 18 47.6**	**-2.4**
	23nm,0.3s,baz=240,slow=1.7,SNR=11								
LPIG				Lg				14 19 31.3	
	12nm,0.3s,baz=162,slow=20,SNR=5.0								
LPIG	**La Paz**	**2.85**	**163**	*i* P		**Pn**		**14 18 47.4**	**-2.6**
LPIG				*i* S		**Sn**		**14 19 27.5**	**+3.1**
TUC	**Tucson**	**5.47**	**4**	*e*P		**Pn**		**14 19 22.9**	**-3.1**
TUC				pmax	pmax				
	comp=Z,38nm,0.7s								
TUC	**Tucson**	**5.47**	**4**	*e*Pn		**Pn**		**14 19 22.9**	**-3.1**
	comp=Z,38nm,0.7s								
TUC				*e*Sg		**Sg**		**14 20 55.8**	**-4.3**
MNTX	**Cornudas Mount**	**7.04**	**45**	*e*P		**Pn**		**14 19 46.5**	**-1.2**
	comp=Z,27nm,0.8s								
MNTX				*e*S		**Sg**		**14 21 44.6**	**-5.9**
LTX	**Lajitas**	**7.13**	**68**	*e*P		**Pn**		**14 19 48.4**	**-0.5**
LTX				pmax	pmax				
	comp=Z,45nm,0.9s								
LTX	**Lajitas**	**7.13**	**68**	*e*P		**Pn**		**14 19 48.4**	**-0.5**
	comp=Z,45nm,0.9s								
GDL2	**Guadalupe Moun**	**8.02**	**47**	*e*P		**Pn**		**14 20 01.9**	**+0.8**
GDL2				*e*S		Sn		14 22 16.4	+44
PFO	**Pinyon Flat Ob**	**8.12**	**327**	P		**Pn**		**14 20 03.3**	**+0.9**
PFO				pmax	pmax				
	comp=Z,23nm,1.2s								
PFO	**Pinyon Flat Ob**	**8.12**	**327**	P		**Pn**		**14 20 03.2**	**+0.9**
	comp=Z,23nm,1.2s								
LENM	**Lemitar**	**8.18**	**26**	*e*P		**Pn**		**14 20 01.6**	**-1.5**
LENM				*e*S		Sn		14 22 25.6	+50
BNM	**Barren Site**	**8.30**	**27**	*e*P		**Pn**		**14 20 04.1**	**-0.8**
BNM				*e*S		Sn		14 22 21.9	+43
LAZ	**Ladron**	**8.32**	**24**	*e*P		**Pn**		**14 20 05.1**	**-0.1**
LAZ				*e*S		Sn		14 22 27.8	+49
LPM	**Los Pinos Moun**	**8.44**	**27**	*e*P		**Pn**		**14 20 07.2**	**+0.4**
CPRX	**Cap Rock**	**8.88**	**44**	*e*P		**Pn**		**14 20 14.6**	**+1.7**
ANMO	**Albuquerque**	**9.07**	**26**	Pn		**Pn**		**14 20 15.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=214,slow=12,SNR=14								
ANMO				Lg				14 22 47.7	
	comp=Z,0.3nm,0.3s,baz=71,slow=23,SNR=3.6								
ANMO				LR	LR			14 23 17.8	
	comp=Z,3µm,20.4s,baz=334,slow=34								
ANMO	**Albuquerque**	**9.07**	**26**	*e*P		**Pn**		**14 20 16.4**	**+1.0**
ANMO				pmax	pmax				
	comp=Z,27nm,1.3s								
ANMO	**Albuquerque**	**9.07**	**26**	*e*P		**Pn**		**14 20 16.4**	**+1.0**
	comp=Z,27nm,1.3s								
MVCO	**Mesa Verde**	**10.60**	**12**	*e*P		**Pn**		**14 20 37.2**	**+0.8**
JCT	**Junction City**	**10.68**	**67**	*e*P		**Pn**		**14 20 37.6**	**+0.1**
JCT				pmax	pmax				
	comp=Z,16nm,0.9s								

JCT Junction City 10.68 67 *e*P **Pn 14 20 37.6 +0.1**
comp=Z,16nm,0.9s
TPNV Topopah Spring 10.94 338 *e*P **Pn 14 20 42.8 +1.7**
TPNV pmax pmax
comp=Z,44nm,1.4s
TPNV Topopah Spring 10.94 338 *e*P **Pn 14 20 42.8 +1.7**
comp=Z,44nm,1.4s
ARUT Antelope Range 11.08 351 *e*P **Pn 14 20 43.4 +0.5**
PV01 Paradox Valley 11.49 11 *e*P **Pn 14 20 48.1 -0.4**
PV10 Paradox Valley 11.65 9 *e*P **Pn 14 20 50.1 -0.7**
PTRM Twissleman Ran 11.66 321 *e*P **Pn 14 20 51.7 +0.8**
MSU Marysvale 11.67 356 *e*P **Pn 14 20 53.7 +2.7**
TPH Tonopah 12.29 337 *e*P **Pn 14 21 01.3 +1.8**
TPH pmax pmax
comp=Z,97nm,1.6s
TPH Tonopah 12.29 337 *e*P **Pn 14 21 01.3 +1.8**
comp=Z,97nm,1.6s
TMUT Trail Mountain 12.43 0 *e*P **Pn 14 21 03.2 +1.8**
MNV Mina 12.94 335 *e*P **Pn 14 21 10.1 +1.7**
MNV pmax pmax
comp=Z,43nm,1.3s
MNV Mina 12.94 335 *e*P **Pn 14 21 10.1 +1.6**
comp=Z,43nm,1.3s
NVAR Mina Array Bea 13.00 335 Pn **Pn 14 21 08.0 -1.1**
comp=Z,0.1nm,0.3s,baz=30,slow=40,SNR=20
NVAR Mina Array Bea 13.00 335 Pn **Pn 14 21 08.0 -1.2**
WMOK Wichita Mounta 13.28 51 *e*P **Pn 14 21 12.0 -1.1**
WMOK pmax pmax
comp=Z,28nm,1.2s
WMOK Wichita Mounta 13.28 51 *e*P **Pn 14 21 12.0 -1.0**
comp=Z,28nm,1.2s
DUG Dugway 13.39 355 *e*P **Pn 14 21 16.7 +2.2**
DUG pmax pmax
comp=Z,51nm,1.2s
DUG Dugway 13.39 355 *e*P **Pn 14 21 16.7 +2.2**
comp=Z,51nm,1.2s
DAU Daniels Canyon 13.54 360 *e*P **Pn 14 21 18.2 +1.6**
CMB Columbia Colle 13.57 328 *e*P **Pn 14 21 17.3 +0.3**
CMB pmax pmax
comp=Z,30nm,1.3s
CMB Columbia Colle 13.57 328 *e*P **Pn 14 21 17.3 +0.3**
comp=Z,30nm,1.3s
ISCO Idaho Springs 13.75 19 P **Pn 14 21 19.2 -0.3**
ISCO pmax pmax
comp=Z,16nm,1.2s
ISCO Idaho Springs 13.75 19 P **Pn 14 21 19.2 -0.3**
comp=Z,16nm,1.2s
NOQ North Oquirrh 13.80 357 P **Pn 14 21 19.6 -0.6**
comp=Z,72nm,1.2s
BMN Battle Mountai 14.44 341 *e*P **Pn 14 21 30.0 +1.1**
BMN pmax pmax
comp=Z,21nm,1.0s
BMN Battle Mountai 14.44 341 *e*P **Pn 14 21 30.0 +1.2**
comp=Z,21nm,1.0s
HVU Hansel Valley 14.96 356 *e*P **Pn 14 21 37.5 +1.5**
HVU pmax pmax
comp=Z,46nm,1.2s
HVU Hansel Valley 14.96 356 *e*P **Pn 14 21 37.5 +1.5**
comp=Z,46nm,1.2s
HVU *e* 14 21 42.2
OHCM Honcut 15.12 328 *e*P **Pn 14 21 37.0 -1.1**
PHWY Pilot Hill 15.19 17 *e*P **Pn 14 21 39.0 -0.1**
PDAR Pinedale Array 15.95 5 Pn **Pn 14 21 47.9 -1.1**
comp=Z,0.1nm,0.3s,baz=171,slow=9.1,SNR=20
KIPM Iron Peak 16.47 325 P **Pn 14 21 56.2 +0.6**
REDW Red Top Meadow 16.49 1 *e*P **Pn 14 21 53.7 -2.2**
comp=Z,54nm,1.4s
WDC Whiskeytown Da 16.60 328 *e*P **Pn 14 21 56.2 -1.1**
WDC pmax pmax
comp=Z,56nm,1.5s
WDC Whiskeytown Da 16.60 328 *e*P **Pn 14 21 56.2 -1.1**
comp=Z,56nm,1.5s
TPAW Teton Pass 16.62 1 *e*P **Pn 14 21 58.3 +0.8**
comp=Z,41nm,1.2s
LOHW Long Hollow 16.75 2 *e*P **Pn 14 21 58.4 -0.7**
comp=Z,41nm,1.4s
MOD Modoc 16.77 336 *e*P **Pn 14 22 00.6 +1.2**
comp=Z,137nm,1.7s
MOOW Moose Ponds 16.88 1 *e*P **Pn 14 22 01.2 +0.4**
comp=Z,30nm,1.1s
HLID Hailey 16.89 352 *e*P **Pn 14 22 02.0 +1.1**
comp=Z,17nm,1.1s
MIAR Mount Ida 17.01 59 *e*P **Pn 14 22 00.7 -1.8**
MIAR pmax pmax
comp=Z,19nm,1.2s
MIAR Mount Ida 17.01 59 *e*P **Pn 14 22 00.7 -1.8**
comp=Z,19nm,1.2s
IMW Indian Meadow 17.02 1 *e*P **Pn 14 22 03.2 +0.5**
comp=Z,46nm,1.1s
FLWY Flagg Ranch 17.21 1 *e*P **Pn 14 22 03.8 -1.2**
comp=Z,58nm,1.3s
KSU1 Kansas State U 17.30 41 *e*P **Pn 14 22 07.8 +1.8**
KHMM Horse Mountain 17.40 327 *e*P **Pn 14 22 08.7 +1.4**
YFT Old Faithful 17.58 1 *e*P **Pn 14 22 10.2 +0.7**
YBH Yreka Blue Hor 17.60 330 LR LR 14 28 32.2
comp=Z,2µm,20.8s,baz=147,slow=36
QLMT Earthquake Lak 17.96 360 *e*P **Pn 14 22 15.6 +1.4**
CMIG Matias Romero 17.98 119 P **Pn 14 22 15.9 +1.3**
comp=Z,0.3nm,0.3s,baz=293,slow=9.4,SNR=6.4
MCMT McKenzie Canyo 18.00 356 *e*P **Pn 14 22 15.7 +1.0**
RSSD Black Hills 18.20 17 *e*P **Pn 14 22 16.4 -0.8**
RSSD pmax pmax
comp=Z,23nm,1.1s
RSSD Black Hills 18.20 17 *e*P **Pn 14 22 16.4 -0.8**
comp=Z,23nm,1.1s
DLMT Dillon 18.52 357 *e*P **Pn 14 22 21.2 +0.1**
comp=Z,62nm,1.6s
BMO Blue Mountains 18.63 346 *e*P **Pn 14 22 22.2 -0.2**
comp=Z,26nm,1.4s
GCMT Greycliff 18.96 3 *e*P **Pn 14 22 25.6 -0.8**
HRY Holter Researc 19.84 359 *e*P **Pn 14 22 34.8 -2.2**
MSO Missoula 20.07 355 *e*P **P 14 22 37.4 -0.6**
comp=Z,26nm,1.2s
CHMT Chamberlain Mo 20.10 356 *e*P **P 14 22 38.1 -0.2**
LAO LASA Array 20.21 10 *e*P **P 14 22 38.8 -0.7**
comp=Z,49nm,1.1s
FVM French Village 20.74 52 *e*P **P 14 22 44.1 -1.1**
FVM pmax pmax
comp=Z,28nm,1.0s
FVM French Village 20.74 52 *e*P **P 14 22 44.1 -1.1**
comp=Z,28nm,1.0s
EGMT Eagleton 21.18 3 *e*P **P 14 22 49.1 -0.9**
comp=Z,26nm,1.1s,mb4.5
LON Longmire 21.56 340 P **P 14 22 53.3 -0.8**
FMW Mount Fremont 21.68 340 P **P 14 22 55.6 +0.2**
LRAL Lakeview Retre 21.87 68 *e*P **P 14 22 56.9 -0.5**
comp=Z,16nm,1.1s,mb4.4
NEW Newport 21.88 349 P **P 14 22 56.0 -1.5**
comp=Z,18nm,1.0s,mb4.5,baz=164,slow=13,SNR=15
NEW LR LR 14 31 50.1
comp=Z,2µm,20.6s,MS4.5,baz=181,slow=38
NEW Newport 21.88 349 *e*P **P 14 22 55.7 -1.8**
NEW pmax pmax
comp=Z,34nm,1.1s
NEW Newport 21.88 349 *e*P **P 14 22 55.7 -1.7**
comp=Z,34nm,1.1s,mb4.7
WTV Waterville 21.92 344 P **P 14 22 56.6 -1.3**
WVT Waverly 21.96 59 *e*P **P 14 22 57.9 -0.5**
WVT pmax pmax
comp=Z,55nm,1.3s,mb4.8
WVT Waverly 21.96 59 *e*P **P 14 22 57.9 -0.4**
comp=Z,55nm,1.3s,mb4.8
WALA Waterton Lakes 22.28 355 *e*P **P 14 22 58.6 -3.2**
comp=Z,10nm,0.9s,mb4.3
USIN University of 22.72 55 P **P 14 23 06.5 +0.1**
comp=Z,40nm,1.3s,mb4.7
JCW Jim Creek 22.90 341 P **P 14 23 08.0 -0.4**
CMW Cultus Mountai 23.16 341 P **P 14 23 10.6 -0.5**
SWET Sewanee 23.19 63 *e*P **P 14 23 09.3 -2.1**
WCI Wyandotte Cave 23.82 55 *e*P **P 14 23 17.6 -0.1**
WCI pmax pmax
comp=Z,25nm,1.1s,mb4.6
WCI Wyandotte Cave 23.82 55 *e*P **P 14 23 17.6 -0.1**
comp=Z,25nm,1.1s,mb4.6
ULM Lac du Bonnet 26.18 23 P **P 14 23 39.5 +0.4**
comp=Z,4.6nm,0.9s,mb4.0,baz=215,slow=10,SNR=4.8
ULM LR LR 14 34 55.6
comp=Z,518nm,21.8s,MS4.0,baz=27,slow=38
EDM Edmonton 26.40 357 *e*P **P 14 23 38.7 -2.4**
BBB Bella Bella 28.32 338 LR LR 14 35 01.4
comp=Z,2µm,20.5s,MS4.6,baz=163,slow=36
FCC Fort Churchill 34.09 16 *e*P **P 14 24 47.0 -2.1**
FCC *e* 14 24 52.0
FCC pmax pmax
comp=Z,23nm,1.0s,mb5.1
FCC Fort Churchill 34.09 16 *e*P **P 14 24 47.0 -2.1**

comp=Z,23nm,1.0s,mb5.1
FCC e 14 24 52.0
DLBC Dease Lake 34.22 342 eP **P** **14 24 49.9 -0.4**
YKA Yellowknife Ar 35.72 357 P **P** **14 25 00.9 -2.3**
comp=Z,2.8nm,0.8s,mb4.2,baz=181,slow=8.3,SNR=17
YKA LR LR 14 40 20.7
comp=Z,3μm,18.4s,MS5.0,baz=160,slow=37
YKA Yellowknife Ar 35.72 357 P **P** **14 25 00.9 -2.3**
YKA LR LR 14 40 20.7
DAWY Dawson 41.43 342 eP **P** **14 25 50.0 -1.2**
ROSC El Rosal 41.44 115 LR LR 14 45 20.6
comp=Z,295nm,18.5s,MS4.2,baz=198,slow=39
SCHQ Schefferville 42.64 37 P **P** **14 26 00.1 -1.0**
comp=Z,24nm,1.0s,mb4.9,baz=252,slow=4.4,SNR=9.5
SCHQ LR LR 14 43 57.5
comp=Z,563nm,20.7s,MS4.4,baz=63,slow=36
SCHQ Schefferville 42.64 37 eP **P** **14 25 59.9 -1.2**
comp=Z,34nm,1.1s,mb5.0
PMR Palmer 42.98 334 eP **P** **14 26 03.1 -0.7**
PMR pmax pmax
comp=Z,34nm,1.5s,mb4.9
PMR Palmer 42.98 334 eP **P** **14 26 03.1 -0.7**
comp=Z,34nm,1.5s,mb4.9
INK Inuvik 43.59 348 eP **P** **14 26 07.4 -1.4**
INK pmax pmax
comp=Z,20nm,1.3s
INK Inuvik 43.59 348 eP **P** **14 26 07.4 -1.4**
comp=Z,20nm,1.3s,mb4.7
ILAR Eielson Array 44.20 339 P **P** **14 26 12.2 -1.5**
comp=Z,2.3nm,0.8s,mb3.9,baz=150,slow=6.7,SNR=28
SVW2 Sparrevohn 45.34 331 eP **P** **14 26 21.6 -1.1**
TTA Tatalina 46.41 334 eP **P** **14 26 30.5 -0.7**
comp=Z,0.2nm,1.8s
RES Resolute Bay 48.64 6 P **P** **14 26 46.1 -2.4**
RES pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
RES Resolute Bay 48.64 6 P **P** **14 26 46.1 -2.4**
comp=Z,9.3nm,1.2s,mb4.7
RKT Rikitea 54.71 207 eLR LR 14 43 14.8
comp=Z,195nm,34.2s
PPT Papeete 57.74 224 eLR LR 14 44 40.1
comp=Z,552nm,24.0s
PPT Papeete 57.74 224 LR LR 14 46 19.4
comp=Z,679nm,19.0s,MS4.8,baz=132,slow=30
SUMG Summit 59.48 20 P **P** **14 28 04.2 -3.5**
comp=Z,11nm,1.0s,mb4.8
LPAZ La Paz 59.91 131 LR LR 14 52 32.0
comp=Z,202nm,20.2s,MS4.2,baz=134,slow=34
TBI Tubuai 62.08 220 eLQ 14 43 57.8
comp=Z,583nm,35.8s
TBI eLR LR 14 46 40.6
comp=Z,245nm,24.2s
BILL Bilibino 62.61 335⇓*i*P **P** **14 28 27.7 -1.2**
BILL pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
BILL MLR MLR
comp=Z,300nm,16.0s,MS4.6
BILL Bilibino 62.61 335 eP **P** **14 28 27.4 -1.6**
comp=Z,19nm,1.4s,mb5.0
LVC Limon Verde 63.98 136 LR LR 14 51 14.2
comp=Z,195nm,21.8s,MS4.2,baz=309,slow=31
RAR Rarotonga 67.01 229 LR LR 14 49 30.4
comp=Z,3μm,20.4s,MS5.5,baz=286,slow=28
TIXI Tiksi 73.45 343 eP **P** **14 29 33.2 -3.8**
TIXI pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
CPUP Villa Florida 74.08 131 LR LR 15 00 46.0
comp=Z,101nm,20.3s,MS4.1,baz=317,slow=35
PLCA Paso Flores 77.11 149 LR LR 14 56 50.8
comp=Z,350nm,19.6s,MS4.7,baz=327,slow=30
YAK Yakutsk 78.97 335 eP **P** **14 30 12.1 +3.7**
YAK pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
YAK pmax pmax
comp=E,7.0nm,1.5s
ROSF Rostrenen 81.34 40 eP **P** **14 30 23.4 +2.2**
comp=E,92nm,1.6s,mb5.2
ROSF Rostrenen 81.34 40 eP **P** **14 30 23.4 +2.2**
ROSF pmax pmax
comp=Z,46nm,1.6s,mb5.2
ROSF Rostrenen 81.34 40 eP **P** **14 30 23.4 +2.2**
comp=Z,46nm,1.6s,mb5.2
QUIF Quistinic 81.62 40 eP **P** **14 30 25.1 +2.4**
comp=Z,50nm,1.3s,mb5.0
QUIF Quistinic 81.62 40 eP **P** **14 30 25.1 +2.4**
QUIF pmax pmax
comp=Z,25nm,1.3s,mb5.0
QUIF Quistinic 81.62 40 eP **P** **14 30 25.1 +2.4**
comp=Z,25nm,1.3s,mb5.0
SGMF Saint Gilles 81.79 40 eP **P** **14 30 25.8 +2.2**
APA Apatity 82.24 13⇑*i*P **P** **14 30 30.0 +4.0**
APA pmax pmax
comp=Z,25nm,1.2s,mb5.0
GRR Gorron 82.68 39 eP **P** **14 30 30.4 +2.1**
LDF La Druitiere 82.99 39 eP **P** **14 30 32.0 +2.2**
comp=Z,106nm,1.8s,mb5.3
LDF La Druitiere 82.99 39 eP **P** **14 30 32.0 +2.2**
LDF pmax pmax
comp=Z,53nm,1.8s,mb5.3
LDF La Druitiere 82.99 39 eP **P** **14 30 32.0 +2.2**
comp=Z,53nm,1.8s,mb5.3
MFF Saint Martin d 84.06 40 eP **P** **14 30 37.4 +2.1**
comp=Z,37nm,1.5s,mb5.0
MFF Saint Martin d 84.06 40 eP **P** **14 30 37.4 +2.1**
MFF pmax pmax
comp=Z,18nm,1.5s,mb5.0
MFF Saint Martin d 84.06 40 eP **P** **14 30 37.4 +2.1**
comp=Z,18nm,1.5s,mb5.0
BAIF Baives 84.50 36 eP **P** **14 30 39.6 +2.0**
comp=Z,38nm,1.4s,mb5.0
BAIF Baives 84.50 36 eP **P** **14 30 39.6 +2.0**
BAIF pmax pmax
comp=Z,19nm,1.4s,mb5.0
BAIF Baives 84.50 36 eP **P** **14 30 39.6 +2.0**
comp=Z,19nm,1.4s,mb5.0
FINES FINESS Array B 85.51 19 LR LR 15 09 27.6
comp=Z,444nm,18.3s,MS4.9,baz=191,slow=36
TCF Toulx Ste Croi 85.58 40 eP **P** **14 30 45.0 +2.0**
comp=Z,21nm,1.2s,mb5.0
TCF Toulx Ste Croi 85.58 40 eP **P** **14 30 45.0 +2.0**
TCF pmax pmax
comp=Z,11nm,1.2s,mb5.0
TCF Toulx Ste Croi 85.58 40 eP **P** **14 30 45.0 +2.0**
comp=Z,10nm,1.2s,mb4.9
RJF Les Rejaudoux 85.74 41 eP **P** **14 30 45.8 +2.0**
BGF Bois d'Agland 85.79 39 eP **P** **14 30 46.0 +1.9**
KLR Kul'dur 85.81 324 eP **P** **14 30 44.2 0.0**
SSF Saint Saulge 85.87 39 eP **P** **14 30 46.2 +1.8**
comp=Z,9.0nm,0.9s,mb4.7
SSF Saint Saulge 85.87 39 eP **P** **14 30 46.2 +1.8**
SSF pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
SSF Saint Saulge 85.87 39 eP **P** **14 30 46.2 +1.8**
comp=Z,4.5nm,0.9s,mb4.7
AVF Avril sur Loir 85.94 39 eP **P** **14 30 47.7 +2.9**
comp=Z,12nm,1.0s,mb4.8
AVF Avril sur Loir 85.94 39 eP **P** **14 30 47.7 +2.9**
AVF pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
AVF Avril sur Loir 85.94 39 eP **P** **14 30 47.7 +2.9**
comp=Z,6.2nm,1.0s,mb4.8
LOR Lormes 85.94 38 eP **P** **14 30 46.8 +2.0**
comp=Z,17nm,1.2s,mb4.8
LOR Lormes 85.94 38 eP **P** **14 30 46.8 +2.0**
LOR pmax pmax
comp=Z,8.0nm,1.2s,mb4.8
LOR Lormes 85.94 38 eP **P** **14 30 46.8 +2.0**
comp=Z,8.4nm,1.2s,mb4.8
BOD Bodaibo 87.56 338 eP **P** **14 30 49.5 -3.2**
BOD pmax pmax
comp=Z,7.0nm,1.7s,mb4.6
GRA1 Grafenberg Arr 88.28 33 eP **P** **14 31 00.4 +4.3**
comp=Z,3.0nm,1.1s,mb4.4
GRF Grafenberg Arr 88.28 33 eP **P** **14 31 00.4 +4.3**
comp=Z,3.0nm,1.1s,mb4.4
GRF Grafenberg Arr 88.28 33 eP **P** **14 31 00.4 +4.3**
GRF pmax pmax
comp=Z,3.0nm,1.1s,mb4.4
GRF Grafenberg Arr 88.28 33 eP **P** **14 31 00.4 +4.3**
GRF pmax pmax
comp=Z,3.0nm,1.1s,mb4.4
MJAR Matsushiro Arr 89.22 311 LR LR 15 03 28.0
comp=Z,293nm,19.6s,MS4.7,baz=90,slow=31
USHA Ushuaia 89.25 157 LR LR 15 02 33.3
comp=Z,396nm,19.3s,MS4.8,baz=305,slow=30
MDJ Mudanjiang 89.81 321 P **P** **14 31 00.5 -2.9**
MDJ AMB AMB
comp=Z,10.0nm,1.9s,mb4.8
MDJ AMB AMB
comp=Z,147nm,4.3s
CN2 Changchun 92.61 323 eP **P** **14 31 16.5 +0.1**
CN2 LR LR
comp=N,300nm,15.0s,MS5.0
CN2 LR LR
comp=E,200nm,15.0s,MS5.0
CN2 LR LR
comp=Z,200nm,16.0s,MS4.7
OBN Obninsk 93.84 18 eP **P** **14 31 13.9 -8.1**
OBN pmax pmax
comp=Z,7.0nm,0.8s,mb5.1
SNY Shenyang 94.96 322 eP **P** **14 31 21.5 -5.6**
TLY Talaya 96.03 339 eP **P** **14 31 36.4 +4.4**
TLY pmax pmax
comp=Z,5.0nm,2.0s,mb4.6
ARU Arti 96.61 6 eP **P** **14 31 30.8 -3.9**
ARU *e* 14 35 26.4
ARU eS 14 42 04.6
ARU eSS SS 14 49 27.1 -2.7
ZAK Zakamensk 97.26 339 eP **P** **14 31 42.7 +5.1**
ZAK pmax pmax
comp=Z,7.0nm,1.9s,mb4.8
SONM Songino Array 98.33 335 P **P** **14 31 42.0 -0.5**
comp=Z,0.9nm,0.6s,mb4.5,baz=54,slow=2.5,SNR=2.8
HHC Hu-ho-hao-te 101.82 328 eP Pdif 14 31 56.0 -1.9
HHC AP 14 32 00.8
HHC PP PP 14 36 09.5 +0.9
HHC SKS 14 42 33.5
HHC S Sdif 14 43 33.8 -5.9
HHC XS 14 43 42.0
HHC PS PS 14 45 11.5 -1.6
HHC SS SS 14 50 43.3 +0.7
HHC AMB AMB
comp=Z,11nm,1.1s
HHC AMB AMB
comp=Z,63nm,5.5s
HHC LR LR
comp=N,231nm,21.2s,MS4.8
HHC LR LR
comp=E,216nm,23.7s,MS4.8
HHC LR LR
comp=Z,301nm,21.4s,MS4.8
WMQ Urumqi 107.57 346 PDIF Pdif 14 32 22.0 -1.5
WMQ PP PP 14 36 54.0 +2.6
WMQ PP PP
comp=Z,64nm,4.3s
WMQ LR LR
comp=N,245nm,22.5s,MS4.8
WMQ LR LR
comp=E,119nm,22.5s,MS4.8
WMQ LR LR
comp=Z,305nm,21.3s,MS4.8
KMI Kunming 118.82 325 PKP PKPdf 14 36 51.5 -1.5
KMI Kunming 118.82 325 P PKPdf 14 36 51.4 -1.6

*ISCJB **28** 14:40:46.9±1.2,2743N±008×1403E±05,h323km±22km, mb3.3/4, Error ellipse: s-maj=72.4km s-min=8.5km az=165.1*
*IDC **28** 14:40:47.9±0.7,2746N×14083E,h335km±16km,mb3.1/4, mb1 3.3/4,mb1mx2.9/19,mbtmp3.8/4, Error ellipse: s-maj=55.5km s-min=18.9km az=85.0*
*JMA **28** 14:40:50.3±0.1,2757N×14101E,h331km,M3.7*
ISC 28 14:40:47.6±1.2,2755N±008×1404E±05,h318km±22km, n12,σ1°14/17,mb3.3/4,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.67**	**105**	P		**Pn**	**Pn**	**14 41 35.0**	**+1.3**
	60nm,0.3s,baz=114,slow=23,SNR=72								
CBIJ				S		**S**	**S**	**14 42 09.6**	**-0.8**
	73nm,0.3s,baz=292,slow=22,SNR=20								
CBIJ	**Chichi jima**	**1.67**	**105**	P		**Pn**	**Pn**	**14 41 34.9**	**+1.2**
CBIJ				*e*S		**S**	**S**	**14 42 09.7**	**-0.7**
JHHJ	**Haha-jima-NKT**	**1.85**	**119**	P		**Pn**	**Pn**	**14 41 36.0**	**+1.1**
JHHJ				*e*S		**S**	**S**	**14 42 12.2**	**-0.5**
BSO3	**Boso 3**	**7.23**	**1**	*e*S		**S**	**S**	**14 43 56.7**	**0.0**
JYT	**Yasato**	**8.65**	**359**	*e*S		**S**	**S**	**14 44 24.8**	**-3.4**
JAG	**Ashikaga**	**8.88**	**355**	P		**Pn**	**Pn**	**14 42 56.7**	**+4.7**
JAG				*e*S		**S**	**S**	**14 44 31.7**	**-1.7**
JHO	**Hitachi**	**9.03**	**1**	P		**Pn**	**Pn**	**14 42 57.8**	**+3.9**
JHO				*e*S		**S**	**S**	**14 44 36.5**	**-0.3**
JMM	**Marumori**	**10.29**	**2**	*e*S		**S**	**S**	**14 45 06.5**	**+1.5**
WRA	**Warramunga Arr**	**47.57**	**188**	P		**P**	**P**	**14 48 50.2**	**-1.8**
	0.2nm,0.3s,mb2.8,baz=6.9,slow=7.8,SNR=9.6								
MKAR	**Makanchi Array**	**48.95**	**309**	P		**P**	**P**	**14 49 03.5**	**+1.1**
	0.2nm,0.5s,mb2.6,baz=94,slow=7.4,SNR=2.7								
FINES	**FINESS Array B**	**76.83**	**333**	P		**P**	**P**	**14 52 04.8**	**0.0**
	1.8nm,0.3s,mb4.2,baz=72,slow=5.3,SNR=40								
NOA	**NORSAR Array B**	**82.59**	**338**	P		**P**	**P**	**14 52 35.6**	**+0.1**
	0.7nm,0.8s,mb3.6,baz=43,slow=5.5,SNR=3.3								

*ISCJB **28** 14:45:21.0±0.8,2438S±004×670W±0.1,h155km±13km, mb3.8/4, Error ellipse: s-maj=16.1km s-min=6.7km az=20.1*
*IDC **28** 14:45:22.5±1.4,2425S×6703W,h158km±18km,mb3.6/3, mb1 3.7/7,mb1mx3.5/17,mbtmp4.2/7, Error ellipse: s-maj=22.8km s-min=18.0km az=99.0*
*NEIC **28** 14:45:22.8±0.8,2425S×67.11W,h162km±12km,mb4.0/1, Error ellipse: s-maj=18.3km s-min=9.9km az=104.0*
*GUC **28** 14:45:23.0±0.7,2448S×6749W,h210km,ML4.5*
ISC 28 14:45:22.1±0.8,2439S±004×670W±01,h146km±12km,n22, σ0°99/32,mb3.8/4,4C-1D,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.50**	**315**	P		**Pn**	**Pn**	**14 46 04.2**	**+1.2**
	50nm,0.3s,baz=140,slow=5.6,SNR=568								
LVC				S		**Sn**	**Sn**	**14 46 34.1**	**-0.4**
	59nm,0.3s,baz=358,slow=19,SNR=25								
LVC	**Limon Verde**	**2.50**	**315**	⇑*i*Pn		**Pn**	**Pn**	**14 46 04.2**	**+1.1**
LVC				S		**Sn**	**Sn**	**14 46 34.1**	**-0.4**
LVC				*e*Sn		**Sn**	**Sn**	**14 46 34.4**	**-0.2**
CEN1	**Los Morros**	**3.10**	**288**	⇓*i*P		**Pn**	**Pn**	**14 46 12.8**	**+2.2**
CEN1				*e*S		**Sn**	**Sn**	**14 46 49.2**	**+1.1**
CEN1				AML	AML	14 46 51.3			
	comp=N,644nm,0.4s								
ANCH	**Antofagasta**	**3.21**	**282**	⇑*i*P		**Pn**	**Pn**	**14 46 12.2**	**+0.3**
ANCH				*i* S		**Sn**	**Sn**	**14 46 49.5**	**-1.0**
ANCH				AML	AML	14 46 52.7			
	comp=N,1μm,0.1s								
ANCH	**Antofagasta**	**3.21**	**282**	⇑*i*P		**Pn**	**Pn**	**14 46 12.2**	**+0.3**
ANCH				*i* S		**Sn**	**Sn**	**14 46 49.5**	**-1.0**
CPCH	**Copiapo**	**4.23**	**225**	⇑*i*P		**Pn**	**Pn**	**14 46 25.3**	**+0.1**
CPCH				*i* S		**Sn**	**Sn**	**14 47 13.8**	**-0.6**
CDCH	**Caldera**	**4.37**	**232**	*e*P		**Pn**	**Pn**	**14 46 26.9**	**-0.2**
CDCH				*i* S		**Sn**	**Sn**	**14 47 15.8**	**-1.9**
CFAA	**Coronel Fontan**	**7.27**	**188**	P		**Pn**	**Pn**	**14 47 07.5**	**+1.8**
	comp=N,0.1nm,0.3s,baz=8.6,slow=14,SNR=12								
CFAA				S		**Sn**	**Sn**	**14 48 26.7**	**-0.2**
	comp=N,0.1nm,0.3s,baz=270,slow=19,SNR=7.3								
CFAA	**Coronel Fontan**	**7.27**	**188**	P		**Pn**	**Pn**	**14 47 07.5**	**+1.8**
CFAA				S		**Sn**	**Sn**	**14 48 26.7**	**-0.2**
LPAZ	**La Paz**	**8.13**	**352**	P		**Pn**	**Pn**	**14 47 17.0**	**-0.2**
	comp=N,1.3nm,0.3s,baz=169,slow=11,SNR=38								
LPAZ				S		**Sn**	**Sn**	**14 48 44.0**	**-3.8**
	comp=N,0.1nm,0.3s,baz=348,slow=19,SNR=3.4								
LPAZ	**La Paz**	**8.13**	**352**	*e*P		**Pn**	**Pn**	**14 47 17.1**	**-0.2**
LPAZ				S		**Sn**	**Sn**	**14 48 44.0**	**-3.8**
SIV	**San Ignacio**	**10.04**	**35**	P		**Pn**	**Pn**	**14 47 40.8**	**-1.7**
	comp=N,2.0nm,0.3s,baz=220,slow=14,SNR=25								
TRQA	**Tornquist**	**14.27**	**164**	*e*P		**Pn**	**Pn**	**14 48 42.3**	**+4.8**
BDFB	**Brasilia**	**19.82**	**67**	P		**P**	**P**	**14 49 41.5**	**+0.2**
	comp=N,0.9nm,0.3s,baz=245,slow=11,SNR=18								
VNA3	**Neumayer Olymp**	**56.78**	**161**	*e*		**P**	**P**	**14 54 50.7**	**-0.1**
VNA3				*e*				14 54 56.6	
VNA2	**Neumayer--Watz**	**57.35**	**160**	*e*		**P**	**P**	**14 54 54.8**	**0.0**
	baz=289,slow=7.8								
VNA2				*e*				14 55 00.3	
SNAA	**Sanae**	**58.98**	**161**	P		**P**	**P**	**14 55 06.3**	**+0.1**
	comp=N,0.4nm,0.8s,mb3.3,baz=314,slow=4.7,SNR=6.0								
TORD	**Tordi Ar. Bea**	**76.70**	**69**	P		**P**	**P**	**14 56 55.8**	**-1.2**
	comp=N,1.3nm,0.6s,mb3.8,baz=262,slow=5.8,SNR=17								
BOSA	**Boshof**	**80.55**	**117**	P		**P**	**P**	**14 57 18.6**	**+0.5**
	comp=N,4.0nm,0.9s,mb4.0,baz=259,slow=3.9,SNR=6.6								
LBTB	**Lobatse**	**82.22**	**114**	*e*P		**P**	**P**	**14 57 27.6**	**+0.7**
	comp=N,1.4nm,0.4s,mb3.9								
ASAR	**Alice Springs**	**128.10**	**205**	PKP		PKPdf	PKPdf	15 04 09.9	-0.9
	comp=N,0.1nm,0.5s,baz=126,slow=2.4,SNR=5.1								
MKAR	**Makanchi Array**	**146.82**	**40**	PKPbc		PKPbc	PKPbc	15 04 45.6	-1.3
	comp=N,1.4nm,0.6s,baz=305,slow=3.3,SNR=18								

MAN 28 14:55:32.0,1642N×12077E,h6km,mb3.4,ML4.6,MS2.1, 1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.19**	**259**	⇑*i*P		Pg	Pg	14 55 36.5	+0.8
BCPH				*i* S		Sg	Sg	14 55 39.0	+0.8
BOLP	**Bolinao**	**0.82**	**268**	*e*P		Pg	Pg	14 55 47.7	-0.1
PCPH	**Palayan**	**0.91**	**160**	⇓*e*P		Pg	Pg	14 55 49.3	-0.1
PCPH				*e*S		Sg	Sg	14 56 01.4	+0.2
BALP	**Baler**	**1.02**	**131**	*e*P		Pg	Pg	14 55 51.3	-0.4
BALP								14 56 06.5	
SCZP	**Santa Cruz**	**1.04**	**232**	*e*P		Pg	Pg	14 55 51.9	-0.2
CAUP	**Cauayan**	**1.14**	**62**	*e*P		Pg	Pg	14 55 53.6	-0.2
ABRA	**Dolores**	**1.23**	**357**	*e*P		Pg	Pg	14 55 52.8	-2.7
APYP	**Conner**	**1.51**	**17**	*e*P		Pn	Pn	14 55 58.0	-1.6
CVP	**Callao Caves**	**1.63**	**38**	*e*P		Pn	Pn	14 56 00.0	-1.2
POLP	**Polilio Island**	**2.02**	**146**	*e*P		Pn	Pn	14 56 09.6	+3.0
LUBP	**Lubang**	**2.71**	**191**	*e*P		Pn	Pn	14 56 19.0	+2.8

*IDC **28** 15:03:02.6±0.5, 1539S×169.18W, h0km, mb4.4/12, mb1 4.7/14,mb1mx4.6/17,mbtmp4.5/14, ML4.1/2, MS4.0/8, Ms1 4.0/8, ms1mx3.7/23, Error ellipse: s-maj=22.4km s-min=16.3km az=150.0*
*ISCJB **28** 15:03:06.4±0.3, 1538S±007×169.31W±007, h32km, mb4.6/37, MS4.3/9, Error ellipse: s-maj=10.5km s-min=9.1km az=153.9*
*SZGRF **28** 15:03:07.6, 1570S×169.42W, h24km, Samoa Islands region*
*HRVD **28** 15:03:08.7±0.5, 1559S×168.97W, h39km±1km, MW4.9/37, Centroid moment Tensor Solution. LP body waves: s15,c17;Mantle waves: s37,c41; Half duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-2.50±.34; $M_{\theta\theta}$0.00±.21; $M_{\phi\phi}$2.50±.22; $M_{r\theta}$0.69±.17; $M_{\theta\phi}$-1.39±.20; $M_{\phi r}$-0.12±.18; Best double couple: M_o2.92000×10^16^ NP1:ϕ_s172.00000°,δ43.00000°,λ-67.00000°. NP2: ϕ_s321.00000°,δ51.00000°,λ-110.00000°. Principal axes: T 3.1470, Plg4.0000°, Azm65.0000°; N -0.4540, Plg16.0000°, Azm334.0000°; P -2.6920, Plg74.0000°, Azm169.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 15:03:08.7±1.4, 1532S×169.32W, h38km±11km, mb4.8/20, MS4.7/1 Error ellipse: s-maj=9.8km s-min=6.5km az=134.0*
NEIC Felt at Apia.
*BJI **28** 15:03:08.7, 1530S×169.30W, h37km, mB5.4, mb4.9, Ms5.0, Msz4.5*
*MOS **28** 15:03:09.5±1.8, 1477S×169.41W, h33km, mb4.9/12, Error ellipse: s-maj=13.7km s-min=12.5km az=74.4*
ISC 28 15:03:08.4±0.3,1537S±007×16931W±007,h34km, h34km±1.2km:pP-P,n194,σ0°95/80,mb4.6/37,MS4.3/9, 6C-7D,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.80**	**301**	Pn		**Pn**	**Pn**	**15 03 50.4**	**-0.3**
	626nm,0.3s,baz=283,slow=2.4,SNR=531								
AFI				Sn		**Sn**	**Sn**	**15 04 20.4**	**-2.9**
	4μm,0.3s,baz=210,slow=21,SNR=56								
AFI				LR		LR	LR	15 04 54.8	
	comp=Z,1μm,19.4s,baz=109,slow=38								
AFI	**Afiamalu**	**2.80**	**301**	⇑*i*Pn		**Pn**	**Pn**	**15 03 50.4**	**-0.3**
AFI				*e*S		**Sn**	**Sn**	**15 04 20.0**	**-3.2**
RAR	**Rarotonga**	**10.76**	**124**	Pn		**Pn**	**Pn**	**15 05 34.4**	**-5.5**
	3.5nm,0.3s,baz=153,slow=4.5,SNR=5.5								
RAR				Sn		**Sn**	**Sn**	**15 07 20.6**	**-18**
	1.5nm,0.3s,baz=150,slow=14,SNR=3.8								
RAR				LR		LR	LR	15 08 27.0	
	comp=Z,591nm,19.3s,baz=287,slow=30								
RAR				T				15 16 28.0	
	13nm,0.3s,baz=118,slow=10,SNR=5.3								
RAR	**Rarotonga**	**10.76**	**124**	Pn		**Pn**	**Pn**	**15 05 34.4**	**-5.5**
RAR				Sn		**Sn**	**Sn**	**15 07 20.6**	**-18**
RAR				LR		LR	LR	15 08 27.0	
RAO	**Raoul Island**	**15.93**	**208**	LR		LR	LR	15 11 22.3	
	comp=Z,413nm,21.4s,baz=0.7,slow=31								
PPT	**Papeete**	**19.05**	**99**	*e*LQ				15 11 02.2	
	678nm,28.5s								
PPT				*e*LR		LR	LR	15 11 40.3	
	428nm,25.5s								
TBI	**Tubuai**	**20.32**	**116**	*e*LQ				15 11 34.9	
	865nm,30.5s								
TBI				*e*LR		LR	LR	15 12 13.1	
	495nm,25.2s								
DZM	**Mont Dzumac**	**23.89**	**250**	P		**P**	**P**	**15 08 23.1**	**+4.2**
	6.5nm,0.7s,mb4.1,baz=91,slow=17,SNR=5.8								
DZM				LR		LR	LR	15 15 55.6	
	comp=Z,487nm,19.6s,MS4.0,baz=24,slow=32								
HNR	**Honiara**	**30.58**	**277**	*e*P		**P**	**P**	**15 09 11.7**	**-7.2**
RPZ	**Rata Peaks**	**32.84**	**207**	LR		LR	LR	15 20 56.1	
	comp=Z,432nm,20.8s,MS4.1,baz=182,slow=33								
RKT	**Rikitea**	**33.26**	**109**	*e*LR		LR	LR	15 18 19.9	
	242nm,24.0s								
STKA	**Stephens Creek**	**47.48**	**241**	*e*P		**P**	**P**	**15 11 39.5**	**-0.4**
	4.5nm,0.9s,mb4.4								
STKA	**Stephens Creek**	**47.48**	**241**	P		**P**	**P**	**15 11 39.6**	**-0.3**
	5.9nm,0.9s,mb4.5,baz=82,slow=8.1,SNR=9.4								
WRA	**Warramunga Arr**	**53.69**	**256**	P		**P**	**P**	**15 12 27.6**	**+0.8**
	6.5nm,0.9s,mb4.6,baz=93,slow=7.2,SNR=9.8								
WRA				PcP		PcP	PcP	15 13 33.5	+0.8
	5.2nm,1.1s,baz=87,slow=3.7,SNR=4.9								
ASAR	**Alice Springs**	**53.87**	**252**	P		**P**	**P**	**15 12 29.2**	**+1.2**
	6.1nm,0.8s,mb4.6,baz=90,slow=7.8,SNR=18								
SBA	**Scott Base**	**63.62**	**186**	*e*P		**P**	**P**	**15 13 36.5**	**+0.6**
SBA				pmax	pmax				
	comp=Z,25nm,1.7s,mb5.0								
SBA	**Scott Base**	**63.62**	**186**	*e*P		**P**	**P**	**15 13 36.5**	**+0.6**
	comp=Z,25nm,1.7s,mb5.0								
VNDA	**Vanda**	**63.83**	**187**	P		**P**	**P**	**15 13 37.3**	**+0.1**
	comp=Z,1.3nm,0.9s,mb3.9,baz=5.7,slow=5.4,SNR=5.9								
VNDA	**Vanda**	**63.83**	**187**	*e*P		**P**	**P**	**15 13 37.4**	**+0.1**
VNDA				pmax	pmax				
	comp=Z,1.0nm,1.0s								
VNDA	**Vanda**	**63.83**	**187**	*e*P		**P**	**P**	**15 13 37.4**	**+0.1**
	comp=Z,1.4nm,1.0s,mb4.0								
CMB	**Columbia Colle**	**70.19**	**39**	*e*P		**P**	**P**	**15 14 17.7**	**+0.1**
CMB				pmax	pmax				
	comp=Z,5.0nm,1.1s,mb4.4								
CMB	**Columbia Colle**	**70.19**	**39**	*e*P		**P**	**P**	**15 14 17.7**	**+0.1**
	comp=Z,5.3nm,1.1s,mb4.4								
YBH	**Yreka Blue Hor**	**71.25**	**35**	P		**P**	**P**	**15 14 25.0**	**+0.9**
	comp=Z,3.2nm,0.8s,mb4.3,baz=102,slow=2.5,SNR=5.5								
MJAR	**Matsushiro Arr**	**71.52**	**318**	P		**P**	**P**	**15 14 25.9**	**+0.2**
	comp=Z,3.8nm,0.8s,mb4.4,baz=157,slow=5.2,SNR=12								
MJAR				LR		LR	LR	15 44 54.5	
	comp=Z,78nm,18.9s,MS4.0,baz=15,slow=35								
MJAR	**Matsushiro Arr**	**71.52**	**318**	P		**P**	**P**	**15 14 25.9**	**+0.2**
MJAR				LR		LR	LR	15 44 54.5	
MAT	**Matsushiro**	**71.53**	**318**	P		**P**	**P**	**15 14 26.1**	**+0.3**
MAT	**Matsushiro**	**71.53**	**318**	*e*P		**P**	**P**	**15 14 26.0**	**+0.2**
NVAR	**Mina Array Bea**	**71.72**	**40**	P		**P**	**P**	**15 14 27.2**	**+0.3**
	comp=Z,3.7nm,0.9s,mb4.3,baz=218,slow=7.9,SNR=20								
WVOR	**Wild Horse Val**	**74.01**	**37**	*e*P		**P**	**P**	**15 14 40.2**	**-0.3**
WVOR				pmax	pmax				
	comp=Z,11nm,1.2s,mb4.7								
WVOR	**Wild Horse Val**	**74.01**	**37**	*e*P		**P**	**P**	**15 14 40.2**	**-0.3**
	comp=Z,11nm,1.2s,mb4.7								
QSPA	**South Pole Qui**	**74.67**	**180**	⇓*i*P		**P**	**P**	**15 14 43.7**	**-0.7**
	comp=Z,30nm,1.1s,mb5.1								
**MSU

comp=Z,1.5nm,0.7s,mb4.0,baz=211,slow=1.7,SNR=11
PDAR LR LR 15 45 29.0
comp=Z,115nm,19.7s,MS4.2,baz=128,slow=32
BOZ Bozeman (W) 79.98 37 *e*P **P 15 15 13.7 -0.4**
BOZ pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
BOZ Bozeman (W) 79.98 37 *e*P **P 15 15 13.7 -0.3**
comp=Z,2.8nm,0.7s,mb4.3
HRY Holter Researc 80.46 36 *e*P **P 15 15 16.5 -0.1**
ISCO Idaho Springs 80.71 44 *e*P **P 15 15 18.8 +0.8**
ISCO pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
ISCO Idaho Springs 80.71 44 *e*P **P 15 15 18.8 +0.8**
comp=Z,1.6nm,0.7s,mb4.1
SSE Sheshan 81.12 306 P **P 15 15 21.3 +1.1**
SSE AMB AMB
comp=Z,23nm,0.9s,mb5.1
SSE AMB AMB
comp=Z,133nm,3.9s
SSE Sheshan 81.12 306 P **P 15 15 21.2 +1.0**
comp=Z,23nm,0.9s,mb5.1
MDJ Mudanjiang 81.46 321 P **P 15 15 23.8 +1.8**
MDJ AP pP 15 15 33.3 +0.5
MDJ XP sP 15 15 37.0 +0.3
MDJ AMB AMB
comp=Z,9.0nm,1.7s,mb4.4
COLA College 81.66 9 *e*P **P 15 15 21.6 -1.4**
COLA pmax pmax
comp=Z,26nm,1.1s,mb5.1
COLA College 81.66 9 *e*P **P 15 15 21.6 -1.4**
comp=Z,26nm,1.1s,mb5.1
ILAR Eielson Array 81.71 10 P **P 15 15 21.9 -1.4**
comp=Z,3.9nm,0.7s,mb4.5,baz=234,slow=5.6,SNR=66
DAWY Dawson 82.47 13 *e*P **P 15 15 27.1 -0.2**
NJ2 Nanjing 83.33 306 *e*P **P 15 15 34.0 +2.3**
NJ2 AP pP 15 15 43.8 +1.2
NJ2 XP sP 15 15 47.0 +0.5
NJ2 PP pP 15 18 48.0 +4.4
NJ2 S S 15 25 50.0 -0.1
NJ2 XS sS 15 26 08.0 0.0
NJ2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
NJ2 AMB AMB
comp=Z,90nm,4.2s
NJ2 LR LR
comp=N,340nm,24.4s,MS4.9
NJ2 LR LR
comp=E,450nm,22.2s,MS4.9
NJ2 LR LR
comp=Z,160nm,24.5s,MS4.3
CN2 Changchun 83.64 319 *e*P **P 15 15 33.0 -0.3**
CN2 *e*XP sP 15 15 47.0 -1.1
CN2 *e*S S 15 25 52.8 -0.5
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
CN2 LR LR
comp=N,200nm,10.0s,MS4.9
CN2 LR LR
comp=E,200nm,10.0s,MS4.9
CN2 LR LR
comp=Z,100nm,11.0s,MS4.5
RSSD Black Hills 83.81 41 *e*P **P 15 15 33.7 -0.5**
RSSD pmax pmax
comp=Z,14nm,1.1s,mb5.0
RSSD Black Hills 83.81 41 *e*P **P 15 15 33.7 -0.5**
comp=Z,14nm,1.1s,mb5.0
SNY Shenyang 83.95 316 ⇓P **P 15 15 35.8 +0.9**
SNY AP pP 15 15 46.0 +0.2
SNY XP sP 15 15 50.3 +0.6
SNY AMB AMB
comp=Z,16nm,1.1s,mb5.1
BILL Bilibino 85.05 351 *e*P **P 15 15 39.8 -0.7**
BILL pmax pmax
comp=Z,8.0nm,1.3s,mb4.7
BILL Bilibino 85.05 351 P **P 15 15 39.7 -0.8**
comp=Z,8.5nm,1.2s,mb4.8
INK Inuvik 87.34 13 *e*P **P 15 15 50.5 -1.3**
INK pmax pmax
comp=Z,11nm,0.5s
INK Inuvik 87.34 13 *e*P **P 15 15 50.5 -1.3**
comp=Z,11nm,0.5s,mb5.3
BJI Beijing 88.34 312 P **P 15 15 58.5 +1.9**
BJI AMB AMB
comp=Z,17nm,0.8s,mb5.3
BJI Beijing 88.34 312 P **P 15 15 58.4 +1.8**
BJI pmax pmax
comp=Z,17nm,0.8s,mb5.3
BJI Beijing 88.34 312 P **P 15 15 58.4 +1.8**
comp=Z,17nm,0.8s,mb5.3
YKA Yellowknife Ar 88.54 22 P **P 15 15 56.4 -1.0**
comp=Z,3.1nm,0.8s,mb4.7,baz=234,slow=4.4,SNR=14
YKA LR LR 15 47 51.9
comp=Z,118nm,20.2s,MS4.3,baz=245,slow=30
YKA Yellowknife Ar 88.54 22 P **P 15 15 56.4 -1.0**
YKA LR LR 15 47 51.9
HHC Hu-ho-hao-te 91.93 312 *e*P **P 15 16 12.8 -0.5**
HHC AP pP 15 16 23.8 -0.4
HHC XP sP 15 16 27.5 -0.6
HHC PP PP 15 19 55.5 +2.7
HHC SKS 15 26 40.8
HHC S 15 27 09.5
HHC XS sS 15 27 26.8 -3.7
HHC PS PS 15 28 30.0 +3.7
HHC SS SS 15 33 21.8 +0.7
HHC AMB AMB
comp=Z,13nm,1.3s,mb5.1
HHC AMB AMB
comp=Z,85nm,9.2s
HHC LR LR
comp=N,137nm,22.5s,MS4.6
HHC LR LR
comp=E,211nm,19.0s,MS4.6
HHC LR LR
comp=Z,117nm,18.2s,MS4.4
VNA3 Neumayer Olymp 92.48 174 *e*P **P 15 16 14.6 -1.2**
VNA3 *e* 15 16 15.8
SNAA Sanae 92.68 176 *e*P **P 15 16 08.9 -7.9**
SNAA *e* 15 16 10.4
VNA2 Neumayer--Watz 93.02 174 *e*P **P 15 16 17.4 -0.9**
VNA2 *e* 15 16 18.6
VNA2 *e* 15 16 19.5
VNA2 *e* pP 15 16 28.7 -0.5
VNA2 *e* 15 16 33.0
VNA2 *e* 15 16 39.0
SYO Syowa Base 93.36 190⇑ *e*P **P 15 16 18.0 -1.9**
SYO Syowa Base 93.36 190⇑ *ep*P pP 15 16 26.4 -4.4
KMI Kunming 94.59 295 P **P 15 16 25.3 -0.2**
KMI AMB AMB
comp=Z,4.0nm,1.1s,mb4.8
KMI Kunming 94.59 295 P **P 15 16 25.2 -0.3**
KMI pmax pmax
comp=Z,4.0nm,1.1s,mb4.8
KMI Kunming 94.59 295 P **P 15 16 25.2 -0.3**
comp=Z,4.0nm,1.1s,mb4.8
TIXI Tiksi 96.06 344 *e*P **P 15 16 30.3 -2.0**
TIXI pmax pmax
comp=Z,2.0nm,0.9s,mb4.5
LPAZ La Paz 96.09 109 P **P 15 16 34.0 +1.6**
comp=Z,0.6nm,0.5s,mb4.2,baz=214,slow=1.4,SNR=5.0
LZH Lanzhou 96.40 306 *e*P **P 15 16 33.5 -0.3**
LZH AMB AMB
comp=Z,23nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,62nm,9.4s
LZH LR LR
comp=N,148nm,18.5s
LZH LR LR
comp=Z,233nm,19.6s,MS4.7
LZH Lanzhou 96.40 306 *e*P **P 15 16 33.5 -0.3**
comp=Z,23nm,1.5s,mb5.4
LZH pP pP 15 16 36.7 -8.0
LZH sP sP 15 16 38.2 -10
LZH PP PP 15 20 29.5 +1.8
LZH LR LR
comp=Z,230nm,19.6s,MS4.7
SONM Songino Array 97.48 317 P **P 15 16 38.1 -0.6**
comp=Z,0.7nm,0.7s,mb4.2,baz=66,slow=8.3,SNR=2.7
ZRNK Zerenda 121.09 323 *e*PKIKP PKPdf 15 21 56.7 -0.7
ARCES ARCESS Array B 125.07 354 PKP PKPdf 15 22 03.3 -1.7
comp=Z,1.8nm,0.8s,baz=25,slow=3.2,SNR=4.3
ARU Arti 125.35 330 *i* PKIKP PKPdf 15 22 04.9 -0.7
ARU *e* 15 24 01.5
ARU *e* 15 29 06.7
ARU *e*SP SP 15 33 56.9 +4.0
ARU *e*SS SS 15 41 03.9 +12

AKASG Malin Array Be 141.72 341 PKP PKPdf 15 22 34.1 -2.1
comp=Z,0.4nm,0.4s,baz=28,slow=3.7,SNR=4.7
CLL Collm 144.11 358 *e*PKiKP PKiKP 15 22 45.0 +1.0
comp=Z,5.0nm,0.8s
CLL Collm 144.11 358 *e*PKIKP PKPdf 15 22 45.0 +4.6
CLL pmax pmax
comp=Z,5.0nm,0.8s
OJC Ojcow 144.47 350 *e*PKP PKPdf 15 22 40.0 -1.0
SNF Seneffe 144.57 7 PKP PKPdf 15 22 40.5 -0.7
MEM Membach 144.65 5 PKP PKPdf 15 22 39.9 -1.5
UPC Upice 144.69 354 *e*PKP PKPdf 15 22 40.5 -0.9
BCLA Clavier 144.77 6 PKP PKPdf 15 22 40.8 -0.8
PVCC Panska Ves 144.80 356 *e*PKP PKPdf 15 22 41.2 -0.4
MOX Moxa 144.81 359 *e*PKPbc PKPdf 15 22 40.0 -1.6
MOX *ep*PKPbc 15 22 47.5
MOX Moxa 144.81 359 *e*PKP PKPdf 15 22 40.5 -1.1
comp=Z,25nm,1.6s
MOX Moxa 144.81 359 *e*PKIKP PKPdf 15 22 40.5 -1.1
MOX pmax pmax
comp=Z,25nm,1.6s
DPC Dobruska-Polom 144.82 354 *e*PKP PKPdf 15 22 41.1 -0.5
DPC *ep*PKP pPKPdf 15 22 55.9 +3.0
TSUM Tsumeb 144.98 191 *e*PKP PKPdf 15 22 42.6 +0.7
LSZ Lusaka 144.98 210 *e*PKHKP PKPdf 15 22 42.4 +0.5
WERD Werda 144.99 358 *e*PKPbc PKPbc 15 22 40.6 -0.7
BAIF Baives 145.01 7 *e*PKP1 PKPbc 15 22 41.0 -0.3
comp=Z,38nm,0.9s
DOU Dourbes 145.02 7 PKP PKPdf 15 22 41.3 -0.7
DOU APKP 15 22 48.4
GIVF Givet 145.04 7 *e*PKP1 PKPbc 15 22 41.3 -0.1
OKC Ostrava-Krasne 145.10 352 *e*PKP PKPdf 15 22 41.5 -0.6
OKC *ep*PKP pPKPdf 15 22 49.1 -4.2
OKC *ex* x 15 22 56.1
NIE Niedzica 145.15 349 *e*PKP PKPdf 15 22 42.3 +0.1
ROSF Rostrenen 145.17 16 *e*PKP1 PKPbc 15 22 41.8 -0.1
TNS Taunus Mts 145.19 3 *e*PKPbc PKPbc 15 22 41.8 -0.2
PRU Pruhonice 145.34 356 *e*PKP PKPdf 15 22 42.6 +0.1
PRU *ep*PKP pPKPdf 15 22 50.1 -3.7
PRU *es*PKP 15 22 57.0
SGMF Saint Gilles 145.44 16 *e*PKP1 PKPbc 15 22 42.2 -0.5
comp=Z,89nm,1.3s
MANZ Manzenberg 145.46 358 *e*PKPbc PKPbc 15 22 42.7 -0.1
MANZ *ep*PKPbc pPKPbc 15 22 49.8 -4.1
FLN La Foliniere 145.46 13 *e*PKP1 PKPbc 15 22 42.1 -0.7
comp=Z,64nm,1.1s
QUIF Quistinic 145.59 17 *e*PKP1 PKPbc 15 22 42.5 -0.7
comp=Z,95nm,1.3s
WLF Walferdange 145.60 5 *e*PKPbc PKPbc 15 22 43.5 +0.2
WLF Walferdange 145.60 5 PKP PKPdf 15 22 43.6 +0.6
WLF Walferdange 145.60 5 *e*PKP PKPdf 15 22 43.4 +0.4
BURAR Bucovina Array 145.67 342 ⇓*i*P PKPdf 15 22 43.7 +0.6
BURAR Bucovina Array 145.67 342 ⇓P PKPdf 15 22 43.7 +0.6
ROTZ Rotzenmuhle 145.68 358 *e*PKPbc PKPbc 15 22 43.3 -0.2
ROTZ *ep*PKPbc pPKPbc 15 22 50.5 -4.1
LDF La Druitiere 145.70 13 *e*PKP1 PKPbc 15 22 42.9 -0.7
comp=Z,82nm,1.3s
GRR Gorron 145.73 14 *e*PKP1 PKPbc 15 22 43.3 -0.4
comp=Z,92nm,1.3s
GRA1 Grafenberg Arr 145.77 359 *e*PKPbc PKPbc 15 22 43.4 -0.4
GRF Grafenberg Arr 145.77 359 *e*PKPbc PKPbc 15 22 43.4 -0.4
KHC Kasperske Hory 146.25 357 *e*PKP PKPdf 15 22 45.5 +1.4
KHC *ep*PKP pPKPdf 15 22 52.9 -2.4
KHC *es*PKP 15 22 59.7
WET Wettzell 146.28 357 *e*PKPbc PKPbc 15 22 45.1 -0.2
WET *ep*PKPbc pPKPbc 15 22 52.8 -3.6
GEC2 GERESS Array S 146.53 356 *e*PKPbc PKPbc 15 22 45.9 -0.2
GERES GERESS Array B 146.53 356 PKPbc PKPbc 15 22 45.0 -1.0
comp=Z,3.3nm,0.7s,baz=29,slow=3.0,SNR=17
MEZF Maizieres J'vi 146.64 7 *e*PKP1 PKPbc 15 22 46.2 -0.2
comp=Z,20nm,0.9s
STU Stuttgart 146.67 2 *e*PKPbc PKPbc 15 22 46.5 0.0
CDF Champ du Feu 146.94 4 *e*PKP1 PKPbc 15 22 47.2 0.0
comp=Z,37nm,1.1s
BFO Black Forest 147.08 3 *e*PKPbc PKPbc 15 22 47.4 -0.2
BFO *ep*PKPbc pPKPbc 15 22 54.8 -4.0
FUR Furstenfeldbru 147.30 359 *e*PKPbc PKPbc 15 22 48.6 +0.4
FUR *ep*PKPbc pPKPbc 15 22 55.6 -3.8
HINF Hinteralfeld 147.50 5 *e*PKP1 PKPbc 15 22 48.7 -0.1
comp=Z,12nm,0.9s
MFF Saint Martin d 147.57 14 *e*PKP1 PKPbc 15 22 48.6 -0.4
comp=Z,19nm,1.0s
LOR Lormes 147.70 9 *e*PKP1 PKPbc 15 22 49.3 0.0
comp=Z,42nm,0.8s
SSF Saint Saulge 147.84 9 *e*PKP1 PKPbc 15 22 49.7 0.0
comp=Z,54nm,1.1s
ARSA Arzberg 147.97 354⇑ *i*P PKPbc 15 22 50.6 +0.6
comp=Z,43nm,0.8s
STS Santiago 148.00 27 PKP2 PKPab 15 22 50.7 -2.2
AVF Avril sur Loir 148.08 10 *e*PKP1 PKPbc 15 22 50.0 -0.4
comp=Z,23nm,0.9s
MOTA Moosalm 148.12 359⇑ *i*P PKPbc 15 22 50.6 +0.2
comp=Z,8.2nm,1.0s
DAVA Damuels 148.17 1⇓ *i*P PKPbc 15 22 50.7 +0.1
comp=Z,12nm,0.9s
WTTA Wattenberg 148.19 359⇑ *i*P PKPbc 15 22 50.8 +0.2
comp=Z,10nm,0.7s
BGF Bois d'Agland 148.23 10 *e*PKP1 PKPbc 15 22 50.4 -0.3
comp=Z,26nm,1.1s
EPON Pontenova 148.24 25 PKP PKPbc 15 22 53.4 +2.7
SMF Signal de Mont 148.30 9 *e*PKP1 PKPbc 15 22 50.7 -0.2
comp=Z,26nm,1.0s
TCF Toulx Ste Croi 148.37 11 *e*PKP1 PKPbc 15 22 50.6 -0.5
comp=Z,25nm,1.0s
BZS Buzias 148.48 345⇓ *i*P PKPbc 15 22 51.3 -0.1
BZS Buzias 148.48 345 ⇓P PKPbc 15 22 51.4 0.0
BR131 Keskin Array S 148.52 325 *e*PKPbc PKPbc 15 22 52.2 +0.7
BRTR Keskin Array B 148.52 325 PKPbc PKPbc 15 22 52.1 +0.6
comp=Z,8.7nm,0.9s,baz=128,slow=2.0,SNR=27
CABF La Chapelle 148.62 6 *e*PKP1 PKPbc 15 22 51.8 0.0
comp=Z,40nm,0.9s
EARI Arriondas 149.02 23 PKP PKPbc 15 22 53.2 +0.5
ELOB Lobios 149.03 28 PKP PKPbc 15 22 53.3 +0.5
KMBO Kilima Mbogo 149.04 240 PKPbc PKPbc 15 22 53.7 +0.9
comp=Z,6.9nm,1.0s,baz=15,slow=0.4,SNR=8.8
KMBO Kilima Mbogo 149.04 240 *e*PKPbc PKPbc 15 22 55.2 +2.4
RJF Les Rejaudoux 149.18 13 *e*PKP1 PKPbc 15 22 53.3 +0.1
comp=Z,36nm,1.1s
LFF La Frestale 149.35 14 *e*PKP1 PKPbc 15 22 53.5 -0.1
ECAL Calabor 149.55 26 PKP PKPbc 15 22 54.7 +0.6
CAF Calviac 149.65 12 *e*PKP1 PKPbc 15 22 54.4 +0.1
PVRL Vila Real 149.66 28 *e*PKPbc PKPbc 15 22 54.8 +0.4
PBRG Braganca 149.66 26 *e*PKPbc PKPbc 15 22 54.7 +0.3
LPL La Plagne 149.77 6 *e*PKP1 PKPbc 15 22 55.2 +0.6
LPG La Plagne 149.79 6 *e*PKP1 PKPbc 15 22 55.4 +0.7
comp=Z,22nm,0.9s
PVIS Viseu 150.02 29 *e*PKPbc PKPbc 15 22 55.7 +0.5
VIVF Saint-Julien-l 150.17 9 *e*PKP1 PKPbc 15 22 56.2 +0.6
comp=Z,24nm,1.0s
ORIF Oris-en-Rattie 150.27 7 *e*PKP1 PKPbc 15 22 56.6 +0.8
comp=Z,16nm,0.9s
DIVS Divcibare 150.30 346 *i* P PKPbc 15 22 56.5 +0.6
GRUS Gruza 150.32 345 *i* P PKPbc 15 22 55.8 -0.2
EALK Alkurruntz 150.35 18 PKP PKPbc 15 22 56.5 +0.4
ELIZ Elizondo 150.39 18 PKP2 PKPbc 15 22 56.9 +0.8
MTE Manteigas 150.43 29 *e*PKPbc PKPbc 15 22 56.8 +0.6
MBDF Montbardon 150.55 6 *e*PKP1 PKPbc 15 22 57.2 +0.7
PTOM Tomar 150.62 31 *e*PKPbc PKPbc 15 22 57.4 +0.7
BBLS Bajina Basta - 150.64 347 *i* P PKPbc 15 22 57.7 +1.0
LASF Ste Croix 150.81 10 *e*PKP1 PKPbc 15 22 57.6 +0.5
PCBR Castelo Branco 150.91 30 *e*PKPbc PKPbc 15 22 57.6 +0.2
SMRF Simiane la Rot 151.16 8 *e*PKP1 PKPbc 15 22 58.8 +0.9
comp=Z,26nm,1.0s
MTLF Montolieu 151.20 13 *e*PKP1 PKPbc 15 22 58.5 +0.5
EBIE Bielsa 151.31 16 PKP PKPbc 15 22 59.3 +1.0
GUD Guadarrama 151.70 24 PKIKP PKPbc 15 23 00.4 +1.2
GUD 15 23 00.1
EBAD Badajoz 151.98 30 PKP PKPbc 15 23 00.3 +0.5
ESAC San Caprasio 152.03 18 PKP PKPbc 15 23 00.7 +0.8
ESAC PKPab PKPab 15 23 10.3 +0.9
PBEJ Beja 152.11 33 *e*PKPdf PKPdf 15 22 57.1 +3.6
PBEJ Beja 152.11 33 *e*PKPbc PKPbc 15 23 00.9 +0.8
ESDC Sonseca Array 152.60 25 PKP PKPdf 15 22 54.8 +0.6
comp=Z,0.1nm,0.4s,baz=177,slow=36,SNR=3.5
ESDC PKPbc PKPbc 15 23 00.8 -0.4
comp=Z,2.9nm,0.7s,baz=328,slow=2.6,SNR=26
ESDC Sonseca Array 152.60 25 PKP PKPdf 15 22 54.8 +0.6
ESDC PKPbc PKPbc 15 23 00.8 -0.4
ESDC PKP PKPdf 15 23 01.6 +7.4
ESDC PKPab PKPab 15 23 12.8 +1.0
EMIN Mina Concepcio 152.91 31 PKP PKPbc 15 23 02.5 +0.6
ERTA Horta de San J 152.97 17 PKP PKPbc 15 23 02.6 +0.5
EMOS Mosqueruela 153.27 19 PKP PKPbc 15 23 02.3 -0.4
ECHE Chera 153.80 21 PKIKP PKPbc 15 23 05.0 +1.1

EVIA Vianos 154.07 24 PKIKP PKPbc 15 23 04.9 +0.5
ELUQ Luque 154.23 28 PKIKP PKPbc 15 23 05.4 +0.6
ELUQ 15 23 20.6
ENIJ Nijar 155.62 26 PKIKP PKPdf 15 23 06.8 +8.3
TORD Torodi Ar. Bea 171.00 103 PKP PKPdf 15 23 12.1 -0.9
comp=Z,2.4nm,1.0s,baz=214,slow=0.5,SNR=7.7
TORD PKPab PKPab 15 24 30.7 -1.3
comp=Z,1.0nm,0.8s,baz=245,slow=6.0,SNR=3.6

*ISCJB **28** 15:06:33.7±2.9, 58S±02×1513E±01, h43km±28km, mb3.9/6, Error ellipse: s-maj=33.8km s-min=13.1km az=134.7*
*NEIC **28** 15:06:36.5±1.6, 581S×15130E, h56km±15km, mb4.3/1, Error ellipse: s-maj=20.6km s-min=9.9km az=158.0*
*IDC **28** 15:06:38.2±5.6, 577S×151.14E, h67km±46km, mb3.6/5, mb1 3.9/6, mb1mx3.7/13, mbtmp3.9/6, ML3.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/18, Error ellipse: s-maj=44.6km s-min=28.8km az=104.0*

ISC 28 15:06:36.6±2.3, 58S±02×1513E±01, h54km±24km, n13, σ0§48/12, mb3.9/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.45**	**229**	P	**Pn**	**15 07 55.9**	**+0.7**
	6.3nm,0.3s,baz=44,slow=9.1,SNR=24						
PMG				S	**Sn**	**15 08 56.6**	**+0.1**
	10nm,0.3s,baz=168,slow=20,SNR=10						
PMG				LR	LR	15 09 52.9	
	comp=Z,330nm,19.2s,baz=242,slow=36						
PMG	**Port Moresby**	**5.45**	**229**	*e*P	**Pn**	**15 07 55.6**	**+0.4**
	46nm,0.8s						
HNR	**Honiara**	**9.30**	**113**	*e*P	**Pn**	**15 08 47.6**	**-0.3**
WRAB	**Tennant Creek**	**21.65**	**228**	*e*P	**P**	**15 11 22.0**	**-0.5**
	8.3nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**21.67**	**228**	P	**P**	**15 11 22.2**	**-0.5**
	3.1nm,0.6s,mb3.9,baz=52,slow=10,SNR=30						
WRA				PcP	PcP	15 15 23.0	+0.9
	0.7nm,0.6s,baz=47,slow=1.9,SNR=4.8						
AS31	**Alice Springs**	**24.41**	**222**	*e*P	**P**	**15 11 50.4**	**+0.5**
ASAR	**Alice Springs**	**24.41**	**222**	P	**P**	**15 11 49.9**	**0.0**
	1.4nm,0.6s,mb3.6,baz=52,slow=9.1,SNR=43						
SONM	**Songino Array**	**66.39**	**329**	P	**P**	**15 17 19.6**	**-0.3**
	0.5nm,0.4s,mb3.9,baz=123,slow=5.3,SNR=2.5						
MKAR	**Makanchi Array**	**80.10**	**319**	P	**P**	**15 18 40.4**	**-0.3**
	0.2nm,0.4s,mb3.4,baz=107,slow=5.2,SNR=4.6						
MKAR	**Makanchi Array**	**80.10**	**319**	P	**P**	**15 18 40.4**	**-0.3**
NVAR	**Mina Array Bea**	**93.88**	**52**	P	**P**	**15 19 49.1**	**+1.0**
	1.1nm,0.8s,mb4.3,baz=250,slow=9.8,SNR=9.0						
TORD	**Torodi Ar. Bea**	**149.17**	**286**	PKPbc	PKPbc	15 26 18.7	-0.2
	4.9nm,0.6s,baz=83,slow=2.0,SNR=45						
BDFB	**Brasilia**	**151.37**	**138**	PKPbc	PKPbc	15 26 25.3	+1.1
	1.8nm,0.5s,baz=194,slow=12,SNR=3.5						

KRSC 28 15:07:03.6±1.2, 5460N×16186E, h20km±1km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.09**	**240**	*i* P	Pb	15 07 08.3	+0.8
MKZ				*e*S	Sb	15 07 10.8	+0.7
TUMR	**Tumrok**	**1.20**	**305**	*e*P	Pn	15 07 24.3	-1.0
KMNR	**Kamenistaya**	**1.49**	**322**	*i* P	Pn	15 07 29.4	+0.2
KMNR				*e*S	Sn	15 07 47.9	-0.1
KII	**Karymskiy**	**1.52**	**249**	*e*P	Pn	15 07 29.8	+0.2
KII				*e*S	Sn	15 07 48.8	0.0
ZLN	**Zelenaya**	**1.54**	**337**	*i* P	Pn	15 07 30.8	+0.9
ZLN				*i* S	Sn	15 07 51.1	+1.7
LGNR	**Loginova**	**1.63**	**336**	*i* P	Pn	15 07 32.4	+1.3
LGNR				*e*S	Sn	15 07 54.1	+2.6
CIRR	**Tsirk**	**1.65**	**338**	*e*P	Pn	15 07 32.4	+1.0
CIRR				*e*S	Sn	15 07 54.2	+2.3
KPT	**Kopyto**	**1.66**	**326**	*e*P	Pn	15 07 32.0	+0.5
KPT				*e*S	Sn	15 07 52.4	+0.2
KBTR	**Krutoberegovo**	**1.70**	**18**	*e*P	Pn	15 07 32.6	+0.5
KBTR				*e*S	Sn	15 07 53.5	+0.2
KBG	**Krutoberegovo**	**1.73**	**16**	*e*P	Pn	15 07 34.6	+2.1
KBG				*e*S	Sn	15 07 55.5	+1.6
KBG				Smax			
	450nm,0.9s						
KRSR	**Krestovskiy**	**1.78**	**336**	*i* P	Pn	15 07 33.8	+0.6
KRSR				*e*S	Sn	15 07 54.8	-0.5
KLY	**Klyuchi**	**1.85**	**339**	*i* P	Pn	15 07 34.4	+0.2
KLY				*e*S	Sn	15 07 57.2	+0.3
KOZ	**Kozyrevsk**	**1.85**	**323**	*i* P	Pn	15 07 35.2	+1.0
KOZ				*e*S	Sn	15 07 58.1	+1.1
SPN	**Mys Shipunski**	**1.86**	**217**	*e*P	Pn	15 07 33.8	-0.5
SPN				*e*S	Sn	15 07 56.6	-0.5
SMKR	**Semkarok**	**2.00**	**354**	*i* P	Pn	15 07 38.0	+1.8
SMKR				*e*S	Sn	15 08 02.7	+2.1
BDR	**Baidarnaya**	**2.01**	**350**	*i* P	Pn	15 07 38.1	+1.8
NLC	**Nalytchevo**	**2.06**	**227**	*e*P	Pn	15 07 37.6	+0.5
NLC				*e*S	Sn	15 08 03.0	+0.7
SRKR	**Sorokina**	**2.10**	**349**	*i* P	Pn	15 07 39.1	+1.6
SRDR	**Sredinnyy**	**2.11**	**326**	*i* P	Pn	15 07 38.3	+0.6
SRDR				*e*S	Sn	15 08 03.2	-0.2
SDLR	**Sedlovina**	**2.20**	**234**	*i* P	Pn	15 07 40.4	+1.4
SDLR				*i* S	Sn	15 08 08.0	+2.4
ESO	**Esso**	**2.24**	**308**	*e*P	Pn	15 07 39.6	0.0
ESO				*e*S	Sn	15 08 07.8	+1.1
ESO				Smax			
	120nm,0.6s						
SMAR	**Somma**	**2.25**	**235**	*i* P	Pn	15 07 41.3	+1.6
SMAR				*e*S	Sn	15 08 06.8	0.0
UGLR	**Uglovaya**	**2.27**	**233**	*i* P	Pn	15 07 41.7	+1.7
UGLR				*e*S	Sn	15 08 07.8	+0.4
AVH	**Avacha**	**2.28**	**235**	*e*P	Pn	15 07 41.9	+1.8
AVH				*e*S	Sn	15 08 09.5	+1.9
KOK	**Koryaka**	**2.31**	**237**	*e*P	Pn	15 07 42.0	+1.5
KOK				*e*S	Sn	15 08 10.1	+1.7
PET	**Petropavlovsk**	**2.47**	**232**	*e*P	Pn	15 07 44.0	+1.3
PET				*e*S	Sn	15 08 13.0	+0.7
GNL	**Ganaly**	**2.48**	**250**	*e*P	Pn	15 07 44.2	+1.4
KRMR	**Karymshinskiy**	**2.84**	**233**	*e*P	Pn	15 07 49.9	+2.1
RUS	**Russkaya**	**2.95**	**224**	*e*P	Pn	15 07 50.2	+0.9
RUS				*e*S	Sn	15 08 25.6	+1.5
GRL	**Gorelyy**	**3.05**	**229**	*e*P	Pn	15 07 53.3	+2.6
APC	**Apacha**	**3.26**	**241**	*e*P	Pn	15 07 55.3	+1.8
MIPR	**Malaya Ipel'ka**	**3.84**	**235**	*e*P	Pn	15 08 04.8	+3.3

*IDC **28** 15:34:18.2±1.5, 1849N×12222E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/20, mbtmp3.8/5, ML4.2/1, Error ellipse: s-maj=81.1km s-min=24.1km az=65.0*
*MAN **28** 15:34:18.2, 1821N×11955E, h39km, mb3.8, ML4.9, MS5.2*
*ISCJB **28** 15:34:20.0±1.7, 182N±01×1197E±01, h57km±12km, mb3.7/3, Error ellipse: s-maj=21.2km s-min=11.5km az=96.9*

ISC 28 15:34:21.3±1.7, 182N±01×1197E±01, h47km±12km, n20, σ0§97/21, mb3.7/3, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**1.06**	**118**	*e*P	**Pn**	**15 34 38.1**	**-1.6**
APYP	**Conner**	**1.47**	**101**	*e*P	**Pn**	**15 34 44.7**	**-0.6**
BOLP	**Bolinao**	**1.78**	**174**	*e*P	**Pn**	**15 34 48.4**	**-1.1**
BCPH	**Baguio City Da**	**1.94**	**155**⇑	*i*P	**Pn**	**15 34 51.5**	**-0.4**
BCPH				*i* S	**Sn**	**15 35 15.4**	**+0.4**
CVP	**Callao Caves**	**2.04**	**103**	*e*P	**Pn**	**15 34 53.0**	**-0.2**
SGCP	**Mt. Cagua**	**2.20**	**87**	*e*P	**Pn**	**15 34 56.0**	**+0.6**
CAUP	**Cauayan**	**2.33**	**121**	*e*P	**Pn**	**15 34 58.5**	**+1.3**
SCZP	**Santa Cruz**	**2.38**	**176**	*e*P	**Pn**	**15 34 57.2**	**-0.6**
PALP	**Palanan**	**2.79**	**113**⇑	*i*P	**Pn**	**15 35 05.1**	**+1.6**
PALP				*i* S	**Sn**	**15 35 35.0**	**-0.8**
PALP	**Palanan**	**2.79**	**113**	*e*P	**Pn**	**15 35 04.2**	**+0.7**
BALP	**Baler**	**2.98**	**143**	*e*P	**Pn**	**15 35 07.2**	**+1.1**
TGY	**Tagaytay City**	**4.20**	**164**	Pn	**Pn**	**15 35 28.5**	**+5.7**
	12nm,0.3s,baz=187,slow=8.1,SNR=2.6						
LUBP	**Lubang**	**4.43**	**174**	*e*P	**Pn**	**15 35 27.7**	**+1.8**
BUSP	**Coron**	**6.14**	**176**	*e*P	**Pn**	**15 35 49.0**	**-0.4**
ENPP	**El Nido**	**6.92**	**183**	*e*P	**Pn**	**15 35 59.8**	**-0.2**
WRA	**Warramunga Arr**	**40.49**	**159**	P	**P**	**15 41 54.9**	**-0.5**
	0.7nm,0.8s,mb3.4,baz=341,slow=9.0,SNR=10						
MKAR	**Makanchi Array**	**41.95**	**321**	P	pP	15 42 21.0	+0.9
	0.3nm,0.6s,baz=107,slow=4.8,SNR=3.3						
ASAR	**Alice Springs**	**43.81**	**161**	P	**P**	**15 42 23.4**	**+0.9**
	0.6nm,0.4s,mb3.7,baz=340,slow=6.9,SNR=17						
ASAR				PcP	PcP	15 44 10.6	+2.2
	0.2n

STKA	**Stephens Creek**	**53.99**	**157**	P		**P**	**15 43 38.9**	**-1.6**
	1.2nm,0.8s,mb3.9,baz=354,slow=9.0,SNR=3.0							

CSEM ***28*** *15:36:51.9±0.1,3783N×2762E,h10km,MD3.3,Error ellipse: s-maj=1.8km s-min=1.3km az=69.0*
ATH ***28*** *15:36:51.3,3779N×2770E,h14km±9km,MD3.6/5*
NEIC ***28*** *15:36:51.3,3779N×2770E,h14km,MD3.3(ISK), MD3.6(ATH),After ATH.*
ISCJB ***28*** *15:36:52.1±0.5,3782N±002×2760E±003,h4km±5km, Error ellipse: s-maj=4.8km s-min=3.2km az=107.6*
ISK ***28*** *15:36:52.3,3782N×2752E,h21km,MD3.3*

ISC 28 15:36:52.8±0.4,3781N±002×2761E±003,h8km±4km,n38, σ1§01/48,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AYDN	**Tasoluk**	**0.26**	**124**	*i* P		**Pg**	**15 36 58.1**	**+0.2**
AYDN				*i* S		**Sg**	**15 37 01.8**	**+0.3**
MLSB	**Milas**	**0.53**	**165**	*i* PG		**Pg**	**15 37 03.2**	**+0.1**
MLSB				*i* SG		**Sg**	**15 37 13.4**	**+3.4**
SMG	**Samos**	**0.62**	**261**	*e*PB		**Pg**	**15 37 04.5**	**-0.2**
IZM	**Izmir**	**0.65**	**335**	*i* PG		**Pg**	**15 37 04.9**	**-0.3**
KDAG	**Bornova**	**0.65**	**336**	*i* P		**Pg**	**15 37 04.8**	**-0.4**
KDAG				*i* S		**Sg**	**15 37 16.5**	**+2.7**
BLCB	**Balcova**	**0.73**	**322**	*i* PG		**Pg**	**15 37 06.4**	**-0.4**
BLCB				*i* SG		**Sg**	**15 37 15.9**	**-0.3**
BDRM	**Kayabasi**	**0.76**	**190**	*i* P		**Pg**	**15 37 06.8**	**-0.5**
BDRM				*i* S		**Sg**	**15 37 18.8**	**+1.7**
BODT	**Bodrum**	**0.78**	**198**	PG		**Pg**	**15 37 07.8**	**0.0**
YER	**Yerkesik**	**0.86**	**141**	PG		**Pg**	**15 37 09.5**	**+0.1**
URLA	**Izmir**	**0.97**	**305**	*i* P		**Pg**	**15 37 11.8**	**+0.4**
URLA				*i* S		**Sg**	**15 37 24.0**	**0.0**
MANT	**Manisa**	**1.01**	**48**	*i* P		**Pg**	**15 37 11.2**	**-1.0**
MANT				*i* S		**Sg**	**15 37 24.6**	**-0.7**
AKS	**Akhisar**	**1.08**	**9**	PG		**Pg**	**15 37 12.7**	**-0.8**
DAT	**Datca**	**1.08**	**181**	PN		**Pn**	**15 37 13.2**	**-1.0**
DENT	**Denizli**	**1.13**	**92**	PN		**Pn**	**15 37 14.0**	**-0.9**
DNZL	**Cakiroluk**	**1.15**	**96**	*i* P		**Pg**	**15 37 15.1**	**+0.3**
DNZL				*i* S		**Sg**	**15 37 31.3**	**+1.6**
DALT	**Dalyan (Mudla)**	**1.32**	**141**	PN		**Pn**	**15 37 17.1**	**-0.5**
CHOS	**Chios island**	**1.35**	**296**	*e*P		**Pn**	**15 37 17.1**	**-0.9**
CHOS	**Chios island**	**1.35**	**296**	*e*P		**Pn**	**15 37 17.0**	**-0.9**
KHL	**Karahalli**	**1.60**	**71**	PN		**Pn**	**15 37 20.8**	**-0.5**
ARG	**Arkhangelos**	**1.65**	**165**	*e*PB		**Pb**	**15 37 21.8**	**-1.5**
AYVA	**Ayvalik**	**1.66**	**335**	*i* P		**Pn**	**15 37 23.8**	**+1.6**
AYVA				*i* S		**Sn**	**15 37 44.1**	**+0.5**
FETY	**Fethiye**	**1.66**	**134**	*e*PN		**Pn**	**15 37 22.7**	**+0.5**
PRK	**Paraskevi**	**1.77**	**324**	*e*PN		**Pn**	**15 37 24.6**	**+0.9**
PRK				*e*SN		**Sn**	**15 37 48.7**	**+2.2**
APE	**Apeiranthos**	**1.81**	**246**	*e*PN		**Pn**	**15 37 22.9**	**-1.3**
APE	**Apeiranthos**	**1.81**	**246**	*e*P		**Pn**	**15 37 25.5**	**+1.3**
APE	**Apeiranthos**	**1.81**	**246**	*e*Pg		**Pg**	**15 37 26.0**	**-1.5**
BALB	**Balikesir**	**1.84**	**7**	PN		**Pn**	**15 37 24.0**	**-0.6**
DST	**Dursunbey**	**1.96**	**24**	*e*PN		**Pn**	**15 37 26.3**	**0.0**
CANB	**Canakkale**	**2.24**	**349**	*e*PN		**Pn**	**15 37 29.0**	**-1.2**
THR3	**Thira Island,**	**2.25**	**232**	*e*P		**Pn**	**15 37 33.9**	**+3.7**
KARP	**Karpathos**	**2.29**	**189**	*e*PB		**Pn**	**15 37 29.9**	**-0.9**
ISP	**Isparta**	**2.30**	**88**	*e*Pg		**Pn**	**15 37 34.1**	**+3.2**
ISP	**Isparta**	**2.30**	**88**	*e*Pg		**Pn**	**15 37 34.1**	**+3.2**
BNT	**Bandirma**	**2.55**	**5**	*e*PN		**Pn**	**15 37 33.1**	**-1.4**
RKY	**Sarkoy-Tekirda**	**2.89**	**354**	*e*PN		**Pn**	**15 37 39.2**	**+0.1**
ADVT	**Abdulvahap**	**3.10**	**32**	*e*PN		**Pn**	**15 37 41.9**	**-0.1**
ALN	**Alexandroupoli**	**3.31**	**339**	*e*P		**Pn**	**15 37 45.9**	**+1.1**
HRT	**Hereke**	**3.41**	**27**	*e*PN		**Pn**	**15 37 46.7**	**+0.5**

CASC 28 15:41:33.1±2.6,835N×8278W,h6km±8km,MD3.9,ML3.1, 2C-5D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVD	**David**	**0.34**	**75**	⇓*i*P		Pg	15 41 40.4	+0.6
BRU	**Baru**	**0.51**	**25**	*e*P		Pg	15 41 43.5	+0.7
BRU				*e*S		Sg	15 41 52.0	+2.4
CTCR	**Cotoan**	**0.55**	**2**	⇑*e*P		Pg	15 41 45.0	+1.3
CTCR				*e*S		Sg	15 41 54.0	+3.2
CNI	**Changuinola**	**1.10**	**14**	⇓*i*P		Pg	15 41 52.5	-1.6
BUS	**Buena Vista**	**1.54**	**321**	*e*P		Pn	15 41 59.8	-1.3
BUS				*e*S		Sn	15 42 23.3	+1.9
URSC	**Urasca**	**1.78**	**326**	⇓*e*P		Pn	15 42 03.5	-0.9
URSC				*e*S		Sn	15 42 27.4	+0.1
LCR2	**La Lucha 2**	**1.84**	**319**	*e*P		Pn	15 42 04.9	-0.3
LCR2				*e*S		Sn	15 42 29.5	+0.8
OCM	**Ochomogo**	**1.93**	**323**	*i* P		Pn	15 42 05.9	-0.6
OCM				*e*S		Sn	15 42 33.6	+2.6
OCM				AML		AML	15 42 34.4	
	comp=N,253nm,0.4s							
IRZ2	**Volcan Irazu 2**	**1.95**	**326**	*i* P		Pn	15 42 08.3	+1.5
IRZ2				*e*S		Sn	15 42 34.5	+2.9
LAJ	**Bijagual**	**2.01**	**319**	*e*P		Pn	15 42 11.2	+3.7
PRS1	**Puriscal**	**2.22**	**317**	⇓*e*P		Pn	15 42 10.6	+0.2
PRS1				*e*S		Sn	15 42 38.0	-0.1
POA2	**Poas 2**	**2.33**	**322**	*i* P		Pn	15 42 14.3	+2.4
CGA2	**Cerro Gallo 2**	**2.35**	**315**	*e*P		Pn	15 42 13.2	+1.0
CGA2				*e*S		Sn	15 42 42.8	+1.5
EPA	**Esparza**	**2.42**	**312**	⇓*i*P		Pn	15 42 14.5	+1.2
JTS	**JuntasAbangare**	**2.89**	**312**	⇑*i*P		Pn	15 42 20.5	+0.9
JTS				*e*S		Sn	15 42 57.0	+2.4
JTS				AML		AML	15 43 01.4	
	comp=N,28nm,1.8s							

ISCJB ***28*** *15:47:08.6±2.9,48N±03×769W±0.2,h83km±46km,mb3.4/3, Error ellipse: s-maj=58.4km s-min=15.4km az=103.9*
NEIC ***28*** *15:47:11.7±1.8,451N×7655W,h119km±28km,mb4.4/1, Error ellipse: s-maj=59.3km s-min=13.8km az=130.0*
IDC ***28*** *15:47:16.5±4.2,445N×7610W,h166km±48km,mb3.1/3, mb1 3.5/3,mb1mx3.1/19,mbtmp3.5/3,Error ellipse: s-maj=75.8km s-min=40.9km az=79.0*

ISC 28 15:47:10.6±2.3,48N±03×768W±02,h89km±41km,n8, σ0§45/9,mb3.4/3,1C,Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**2.45**	**88**	P		**Pn**	**15 47 49.6**	**+0.8**
	42nm,0.3s,baz=59,slow=2.5,SNR=108							
ROSC				S		**Sn**	**15 48 18.1**	**+0.1**
	54nm,0.3s,baz=86,slow=20,SNR=25							
ROSC	**El Rosal**	**2.45**	**88**	⇑*i*Pn		**Pn**	**15 47 49.5**	**+0.8**
ROSC				*e*Sn		**Sn**	**15 48 17.3**	**-0.8**
OTAV	**Otavalo**	**4.79**	**200**	*e*P		**Pn**	**15 48 20.2**	**-0.2**
SDV	**Santo Domingo**	**7.36**	**56**	*e*P		**Pn**	**15 48 55.0**	**-0.3**
	6.3nm,0.5s							
NVAR	**Mina Array Bea**	**50.42**	**318**	P		**P**	**15 56 03.6**	**+4.6**
	0.5nm,0.7s,mb3.6,baz=141,slow=7.6,SNR=4.1							
YKA	**Yellowknife Ar**	**63.98**	**342**	P		**P**	**15 57 34.4**	**-0.1**
	0.4nm,0.5s,mb3.5,baz=136,slow=6.1,SNR=4.6							
ILAR	**Eielson Array**	**77.29**	**336**	P		**P**	**15 58 55.4**	**+0.1**
	0.3nm,0.7s,mb3.1,baz=119,slow=3.8,SNR=5.6							
ASAR	**Alice Springs**	**144.95**	**235**	PKPbc		PKPdf	16 06 35.0	-2.4
	0.3nm,0.5s,baz=122,slow=3.6,SNR=16							

IDC 28 16:00:30.0±39.0,558S×10704E,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.6/16,mbtmp3.9/3,Error ellipse: s-maj=664.5km s-min=179.1km az=134.0,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**30.14**	**121**	P		P	16 06 42.6	+1.1
	2.1nm,0.8s,baz=295,slow=11,SNR=7.8							
ASAR	**Alice Springs**	**31.50**	**128**	P		P	16 06 53.3	-0.2
	0.5nm,0.6s,baz=302,slow=8.5,SNR=13							
STKA	**Stephens Creek**	**41.57**	**133**	P		P	16 08 19.6	+0.2
	2.2nm,0.6s,baz=320,slow=9.9,SNR=8.6							

ISCJB ***28*** *16:07:53.6±0.7,2005S±005×689W±0.1,h125km±9km, mb4.0/2,Error ellipse: s-maj=18.6km s-min=7.8km az=10.9*
IDC ***28*** *16:07:54.9±1.1,2008S×6873W,h115km±10km,mb3.7/4, mb1 3.8/8,mb1mx3.5/18,mbtmp4.2/8,Error ellipse: s-maj=24.8km s-min=8.5km az=103.0*
NEIC ***28*** *16:07:54.0±0.7,2001S×6890W,h112km±8km,mb3.8/2, Error ellipse: s-maj=12.1km s-min=8.8km az=88.0*

ISC 28 16:07:54.7±0.8,2002S±005×6880W±009,h110km±9km, n17,σ0§99/19,mb4.0/2,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.58**	**182**	P		**Pn**	**16 08 34.9**	**-0.2**
	28nm,0.3s,baz=346,slow=9.4,SNR=152							
LVC				S		**Sn**	**16 09 06.4**	**+0.3**
	51nm,0.3s,baz=252,slow=20,SNR=20							
LVC	**Limon Verde**	**2.58**	**182**	*e*Pn		**Pn**	**16 08 35.0**	**-0.2**
LVC				S		**Sn**	**16 09 06.5**	**+0.3**
LPAZ	**La Paz**	**3.77**	**10**	P		**Pn**	**16 08 52.6**	**+1.7**
	5.2nm,0.3s,baz=212,slow=6.6,SNR=146							
LPAZ				S		**Sn**	**16 09 37.9**	**+3.5**
	0.7nm,0.3s,baz=292,slow=17,SNR=4.4							
ARE	**Arequipa**	**4.37**	**324**	*e*P		**Pn**	**16 08 57.0**	**-1.9**
SIV	**San Ignacio**	**8.37**	**63**	P		**Pn**	**16 09 53.0**	**-0.2**
	6.7nm,0.3s,baz=260,slow=10,SNR=211							
SIV				S		**Sn**	**16 11 23.8**	**-2.1**
	0.1nm,0.3s,baz=288,slow=20,SNR=2.4							
CPUP	**Villa Florida**	**12.27**	**123**	P		**Pn**	**16 10 46.2**	**+0.6**
	0.5nm,0.3s,baz=297,slow=12,SNR=9.0							
CPUP	**Villa Florida**	**12.27**	**123**	*e*P		**Pn**	**16 10 45.7**	**+0.1**
TRQA	**Tornquist**	**18.92**	**163**	*e*P		**P**	**16 12 06.9**	**+0.1**
	2.5nm,0.7s							
BDFB	**Brasilia**	**20.26**	**81**	P		**P**	**16 12 22.3**	**+1.1**
	1.8nm,0.4s,baz=242,slow=13,SNR=5.5							
PLCA	**Paso Flores**	**20.70**	**184**	P		**P**	**16 12 25.9**	**-0.1**
	3.4nm,0.6s,baz=351,slow=11,SNR=14							
PLCA	**Paso Flores**	**20.70**	**184**	*e*P		**P**	**16 12 25.7**	**-0.3**
	3.8nm,0.6s							
VNA3	**Neumayer Olymp**	**61.44**	**162**	*e*		**P**	**16 17 59.4**	**+0.1**
VNA3				*e*			16 18 01.6	
VNA2	**Neumayer--Watz**	**62.01**	**161**	*e*		**P**	**16 18 02.1**	**-0.3**
VNA2				*e*			16 18 05.1	
DBIC	**Dimbokro**	**68.22**	**74**	P		**P**	**16 18 43.3**	**0.0**
	2.4nm,0.8s,mb4.1,baz=243,slow=14,SNR=4.5							
TORD	**Torodi Ar. Bea**	**76.77**	**71**	P		**P**	**16 19 33.8**	**-0.2**
	1.1nm,0.5s,mb3.8,baz=255,slow=5.3,SNR=15							
ASAR	**Alice Springs**	**131.26**	**208**	PKP		PKPdf	16 26 53.4	-0.4
	0.2nm,0.7s,baz=122,slow=1.5,SNR=5.9							
WRA	**Warramunga Arr**	**134.27**	**211**	PKP		PKPdf	16 26 59.5	+0.1
	0.3nm,0.8s,baz=148,slow=1.7,SNR=4.7							

IDC 28 16:15:18.9±2.9,2899N×13859E,h394km±82km,mb2.6/2, mb1 2.8/5,mb1mx2.6/22,mbtmp3.6/5,Error ellipse: s-maj=171.6km s-min=18.6km az=69.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.70**	**120**	P		Pn	16 16 28.3	+0.6
	5.7nm,0.3s,baz=295,slow=22,SNR=17							
CBIJ				S		S	16 17 23.6	+0.1
	20nm,0.3s,baz=281,slow=22,SNR=22							
JHJ	**Hachijo jima 2**	**4.24**	**14**	P		Pn	16 16 33.8	+0.9
	6.1nm,0.3s,baz=233,slow=23,SNR=2.6							
MJAR	**Matsushiro Arr**	**7.54**	**358**	P		Pn	16 17 07.0	-1.4
	0.5nm,0.3s,baz=169,slow=10.0,SNR=5.4							
MJAR				S		S	16 18 32.1	-5.8
	0.1nm,0.3s,baz=120,slow=15,SNR=4.2							
WRA	**Warramunga Arr**	**48.82**	**185**	P		P	16 23 26.1	0.0
	0.3nm,0.4s,baz=4.2,slow=7.9,SNR=9.1							
ASAR	**Alice Springs**	**52.55**	**185**	P		P	16 23 53.9	+0.3
	0.5nm,1.1s,baz=10,slow=5.7,SNR=5.1							

IDC 28 16:22:41.0±21.0,081N×9640E,h0km,mb3.6/3,mb1 3.7/3, mb1mx3.4/18,mbtmp3.6/3,ML2.2/1,Error ellipse: s-maj=416.8km s-min=48.5km az=111.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.21**	**52**	Pn		16 23 31.9	-0.7
	0.3nm,0.3s,baz=306,slow=8.7,SNR=2.0						
WRA	**Warramunga Arr**	**42.52**	**121**	P		P	16 30 38.2	+0.1
	0.5nm,0.5s,baz=295,slow=7.9,SNR=8.1						
ASAR	**Alice Springs**	**43.81**	**126**	P		P	16 30 49.4	+0.8
	0.3nm,0.8s,baz=297,slow=9.1,SNR=5.4						
STKA	**Stephens Creek**	**53.70**	**131**	P		P	16 32 04.7	+0.2
	1.1nm,0.6s,baz=305,slow=14,SNR=4.0						

NEIC ***28*** *16:23:33.5,3977S×17701E,h20km,ML3.9(WEL),After WEL.*
NEIC Felt in the Hawke's Bay area.

WEL 28 16:23:34.0±0.2,3977S×17703E,h29km,ML4.0/40,1D, Error ellipse: s-maj=2.0km s-min=1.1km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKZ	**Black Stump Fm**	**0.74**	**325**	PN		Pn	16 23 46.8	-1.6
BKZ				SN		Sn	16 23 56.4	-2.3
BKZ	**Black Stump Fm**	**0.74**	**325**	P		Pb	16 23 46.8	-1.5
BKZ				S		Sb	16 23 56.4	-1.6
TSZ	**Takapari Road**	**0.87**	**251**	PN		Pn	16 23 49.2	-1.1
TSZ				SN		Sn	16 24 01.3	-0.7
TSZ	**Takapari Road**	**0.87**	**251**	P		Pn	16 23 49.2	-1.1
TSZ				S		Sb	16 24 01.3	-0.6
KNZ	**Kokohu**	**0.90**	**34**	PN		Pn	16 23 50.7	+0.1
KNZ	**Kokohu**	**0.90**	**34**	*e*P		Pn	16 23 50.7	0.0
MOVZ	**Moawhango**	**1.05**	**290**	PN		Pn	16 23 51.7	-1.1
MOVZ				SN		Sn	16 24 04.1	-2.4
MOVZ	**Moawhango**	**1.05**	**290**	P		Pn	16 23 51.7	-1.1
BFZ	**Birch Farm**	**1.09**	**213**	PN		Pn	16 23 53.2	0.0
BFZ				SN		Sn	16 24 08.5	+1.2
BFZ	**Birch Farm**	**1.09**	**213**	*e*P		Pn	16 23 53.2	-0.1
HATZ	**Hinemaiaia**	**1.14**	**320**	PN		Pn	16 23 53.1	-0.9
HATZ				SN		Sn	16 24 07.6	-1.1
HATZ	**Hinemaiaia**	**1.14**	**320**	P		Pn	16 23 53.1	-0.9
TUVZ	**Tukino**	**1.18**	**295**	PN		Pn	16 23 54.2	-0.3
TUVZ	**Tukino**	**1.18**	**295**	P		Pn	16 23 54.2	-0.3
WNVZ	**Wahianoa**	**1.20**	**291**	PN		Pn	16 23 54.5	-0.3
WNVZ	**Wahianoa**	**1.20**	**291**	P		Pn	16 23 54.5	-0.2
RITZ	**Rihia Road**	**1.21**	**311**	PN		Pn	16 23 54.4	-0.5
RITZ	**Rihia Road**	**1.21**	**311**	P		Pn	16 23 54.4	-0.5
OTVZ	**Oturere**	**1.22**	**299**	PN		Pn	16 23 54.8	-0.3
DRZ	**Dome Shelter**	**1.24**	**293**	PN		Pn	16 23 55.1	-0.3
DRZ	**Dome Shelter**	**1.24**	**293**	P		Pn	16 23 55.3	0.0
TRVZ	**Turoa**	**1.24**	**292**	PN		Pn	16 23 55.1	-0.2
TRVZ				SN		Sn	16 24 10.0	-1.1
FWVZ	**Far West T-bar**	**1.26**	**294**	PN		Pn	16 23 55.0	-0.6
FWVZ	**Far West T-bar**	**1.26**	**294**	P		Pn	16 23 55.2	-0.4
NGZ	**Ngauruhoe**	**1.26**	**298**	PN		Pn	16 23 55.1	-0.5
NGZ	**Ngauruhoe**	**1.26**	**298**	P		Pn	16 23 55.1	-0.5
MTVZ	**Mangateitei**	**1.27**	**287**	PN		Pn	16 23 55.7	0.0
KRVZ	**Karewarewa**	**1.27**	**302**	PN		Pn	16 23 55.1	-0.7
WPVZ	**Whakapapa**	**1.28**	**296**	PN		Pn	16 23 55.7	-0.2
WPVZ	**Whakapapa**	**1.28**	**296**	P		Pn	16 23 55.7	-0.2
WTVZ	**West Tongariro**	**1.30**	**300**	PN		Pn	16 23 56.0	-0.1
WTVZ	**West Tongariro**	**1.30**	**300**	P		Pn	16 23 56.0	-0.1
KATZ	**Kakaramea**	**1.31**	**307**	PN		Pn	16 23 56.1	-0.2
KATZ	**Kakaramea**	**1.31**	**307**	P		Pn	16 23 56.1	-0.2
RATZ	**Rangitukua**	**1.33**	**312**	PN		Pn	16 23 56.7	+0.1
RATZ	**Rangitukua**	**1.33**	**312**	P		Pn	16 23 56.9	+0.3
TIWZ	**Tintock**	**1.33**	**221**	PN		Pn	16 23 56.3	-0.3
WHTZ	**Whakaora**	**1.39**	**323**	PN		Pn	16 23 57.2	-0.1
WHTZ	**Whakaora**	**1.39**	**323**	P		Pn	16 23 57.2	-0.1
PKVZ	**Pokaka**	**1.39**	**290**	PN		Pn	16 23 57.4	0.0
TWVZ	**Taurewa**	**1.42**	**299**	PN		Pn	16 23 57.7	-0.1
TWVZ	**Taurewa**	**1.42**	**299**	P		Pn	16 23 57.7	-0.1
MRZ	**Mangatainoka R**	**1.42**	**231**	⇓PN		Pn	16 23 56.9	-1.0
MRZ	**Mangatainoka R**	**1.42**	**231**	P		Pn	16 23 56.9	-1.0
WATZ	**Wairara**	**1.47**	**316**	PN		Pn	16 23 58.5	0.0
WATZ	**Wairara**	**1.47**	**316**	P		Pn	16 23 58.5	0.0
MWZ	**Matawai**	**1.49**	**15**	PN		Pn	16 23 58.0	-0.7
MWZ	**Matawai**	**1.49**	**15**	P		Pn	16 23 58.0	-0.7
URZ	**Urewera**	**1.51**	**2**	PN		Pn	16 23 58.2	-0.9
URZ	**Urewera**	**1.51**	**2**	P		Pn	16 23 58.2	-0.9
PATZ	**Paeroa**	**1.52**	**336**	P		Pn	16 24 01.4	+2.3
WAZ	**Wanganui**	**1.58**	**270**	PN		Pn	16 24 00.3	+0.3
WAZ	**Wanganui**	**1.58**	**270**	P		Pn	16 24 00.3	+0.3
TAZ	**Tarawera**	**1.59**	**345**	PN		Pn	16 23 59.6	-0.6
MTW	**Mount Morrison**	**1.81**	**220**	P		Pn	16 24 01.6	-1.6
VRZ	**Vera Road**	**1.88**	**289**	PN		Pn	16 24 03.3	-0.8
VRZ	**Vera Road**	**1.88**	**289**	P		Pn	16 24 04.3	+0.2
PUZ	**Puketiti**	**1.95**	**30**	*e*P		Pn	16 24 04.4	-0.7
KIW	**Kapiti Island**	**1.96**	**236**	P		Pn	16 24 04.1	-1.1
CAW	**Cannon Point**	**2.01**	**228**	P		Pn	16 24 04.2	-1.7
PAWZ	**Paruwai Farm**	**2.02**	**217**	P		Pn	16 24 04.5	-1.6
RAEZ	**Rainy Point**	**2.10**	**283**	P		Pn	16 24 10.0	+2.8
HIZ	**Hauiti**	**2.11**	**306**	*e*P		Pn	16 24 06.1	-1.2
MSWZ	**Moikau Station**	**2.13**	**219**	P		Pn	16 24 05.7	-1.9
WIZ	**White Island**	**2.25**	**3**	P		Pn	16 23 58.3	-11
WEL	**Wellington**	**2.29**	**228**	P		Pn	16 24 08.2	-1.6
MRW	**Makara Radio**	**2.30**	**230**	P		Pn	16 24 08.2	-1.7
BHW	**Baring Head**	**2.32**	**225**	P		Pn	16 24 08.2	-2.0
NEZ	**North Egmont**	**2.33**	**282**	P		Pn	16 24 13.6	+3.3
SNZO	**South Karori**	**2.35**	**228**	P		Pn	16 24 08.5	-2.1
PKE	**Pukeiti**	**2.43**	**283**	P		Pn	16 24 13.4	+1.7
NRZ	**Ngariki Road**	**2.44**	**279**	P		Pn	16 24 14.7	+2.9
TCW	**Tory Channel**	**2.55**	**235**	P		Pn	16 24 11.5	-1.8
BSWZ	**Blackbirch Sta**	**3.08**	**230**	P		Pn	16 24 18.4	-2.3
NNZ	**Nelson**	**3.14**	**241**	*e*P		Pn	16 24 19.9	-1.5
QRZ	**Quartz Range**	**3.60**	**252**	*e*P		Pn	16 24 25.2	-2.6
THZ	**Tophouse**	**3.71**	**236**	*e*P		Pn	16 24 26.6	-2.7
KHZ	**Kahutara**	**3.73**	**224**	*e*P		Pn	16 24 26.5	-3.1
LTZ	**Lake Taylor**	**4.68**	**229**	*e*P		Pn	16 24 39.4	-3.3
CRLZ	**Canterbury Las**	**5.04**	**220**	*e*P		Pn	16 24 45.1	-2.4
MQZ	**McQueen's Vall**	**5.12**	**218**	*e*P		Pn	16 24 45.8	-2.9
RPZ	**Rata Peaks**	**5.96**	**227**	*e*P		Pn	16 24 57.9	-2.3
ODZ	**Otahua Downs**	**7.08**	**220**	*e*P		Pn	16 25 12.5	-3.1
AS31	**Alice Springs**	**39.64**	**281**	*e*P		P	16 31 01.8	-1.3
ASPA	**Alice Springs**	**39.64**	**281**	*e*P		P	16 31 01.8	-1.3

MOS ***28*** *16:30:48.5±1.2,5740N×12080E,h13km,mb4.3/1,Error ellipse: s-maj=27.3km s-min=18.7km az=135.4*

BYKL 28 16:30:47.3±0.5,5743N×12085E,2D,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNR	**Khani**	**0.70**	**223**	⇓*i*Pg		Pg	16 31 00.4	-0.3
KHNR				*e*Sg		Sg	16 31 09.0	-0.7
CRS	**Chara**	**1.50**	**250**	⇓*i*Pg		Pg	16 31 15.0	-1.1
CRS				*e*			16 31 17.6	
CRS				*e*Sg		Sg	16 31 33.6	-2.0
CRS				max				
	58nm,0.8s							
CRS				Smax				
	192nm,1.0s							
CRS	**Chara**	**1.50**	**250**	*e*P		Pn	16 31 14.9	-0.6
CRS				*e*			16 31 32.9	
CRS				pmax		pmax		
	comp=Z,57nm,0.5s							
CRS				smax				
	comp=E,192nm,0.9s							
NRGR	**Nerungri**	**2.25**	**108**	*i* P		Pn	16 31 27.8	+2.0
NRGR				S		Sn	16 31 57.1	+2.8
NRGR				smax				
	comp=E,13nm,0.1s							
CLNS	**Chul'man**	**2.28**	**103**	*e*Pn		Pn	16 31 27.5	+1.3
CLNS				*e*Pg		Pg	16 31 29.2	-1.9
CLNS				*e*			16 31 57.2	
CLNS				*e*Sg		Sg	16 31 59.3	-1.4
CLNS	**Chul'man**	**2.28**	**103**	*e*P		Pn	16 31 27.6	+1.4
CLNS				*e*S		Sn	16 31 56.9	+1.9
CLNS				pmax		pmax		
	comp=Z,7.0nm,0.2s							
CLNS				pmax		pmax		
	comp=N,2.0nm,0.3s							
CLNS				pmax		pmax		
	comp=E,3.0nm,0.2s							
CLNS				pmax		pmax		
	comp=Z,23nm,0.3s							
CLNS				pmax		pmax		
	comp=N,6.0nm,0.2s							
CLNS				pmax		pmax		
	comp=E,8.0nm,0.3s							
CLNS				smax				
	comp=N,11nm,0.2s							
CLNS				smax				
	comp=Z,5.0nm,0.2s							
CLNS				smax				
	comp=E,16nm,0.3s							
CLNS				smax		

YAK	comp=Z,7.0nm,0.8s			smax			
YAK	comp=E,6.0nm,0.7s			smax			
YAK	comp=N,51nm,0.7s			smax			
YAK	comp=E,36nm,1.1s			smax			
YAK	comp=Z,33nm,1.1s			smax			
YAK	comp=Z,13nm,6.8s			pmax	pmax		
NIZ	**Nizh Angarsk**	**6.46**	**260**	*e*	Pn	16 32 36.7	+13
NIZ				*e*Sg	Sg	16 34 05.3	-10
NIZ	comp=Z,35nm,1.1s			Smax			
CIT	**Chita**	**6.87**	**221**	*e*Pg	Pg	16 32 50.1	-8.8
CIT				*e*Sg	Sg	16 34 17.8	-10
CIT	comp=Z,25nm,1.7s			Pmax			
CIT	comp=Z,80nm,1.7s			Smax			
SYVR	**Suvo**	**7.22**	**243**	*e*Sg	Sg	16 34 32.7	-6.5
SYVR	comp=Z,63nm,1.9s			Smax			
OGRR	**Ongureny**	**8.42**	**249**	*e*Sg	Sg	16 35 09.4	-8.2
OGRR	comp=Z,13nm,2.5s			Smax			
KPC	**Khapcheranga**	**9.23**	**217**	*e*	Sn	16 34 43.2	-3.0
KPC				*e*Sg	Sn	16 35 31.6	+45
KPC	comp=Z,31nm,2.2s			Smax			
TRG	**Tyrgan**	**9.53**	**247**	*e*Sg	Sn	16 35 42.2	+49
TRG	comp=Z,18nm,1.7s			Smax			

*ISCJB **28** 16:43:38.1±6.0, 375N±04×282E±04, h33km, Error ellipse: s-maj=71.0km s-min=14.9km az=89.8*
*ATH **28** 16:43:53.9, 3698N×2646E, h10km, MD3.6/5*
*HLW **28** 16:43:57.7, 3626N×2744E, h22km, Mb3.1*

ISC 28 16:43:43.0±5.8, 374N±04×279E±04, h35km, n9, σ0°87/9, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**1.93**	**198**	*e*PB	**Pn**	**16 44 22.8**	**+9.5**
NPS	**Neapolis**	**2.82**	**222**	*e*PN	**Pn**	**16 44 27.4**	**+1.9**
VAM	**Vamos**	**3.58**	**238**	*e*PN	**Pn**	**16 44 35.8**	**-0.3**
VLI	**Veliai**	**4.03**	**262**	*e*PN	**Pn**	**16 44 42.1**	**-0.1**
ITM	**Ithomi**	**4.77**	**269**	*e*PN	**Pn**	**16 44 52.3**	**-0.1**
SLUM		**6.29**	**202**	⇑P	**Pn**	**16 45 12.3**	**-0.9**
SLUM				S	Sx	16 46 06.8	
SWA1		**8.31**	**193**	P	**Pn**	**16 45 40.4**	**-0.5**
SWA1				S	Sx	16 46 55.5	
SWA2		**8.38**	**195**	P	**Pn**	**16 45 41.1**	**-0.8**
HFRF	**Wahat Farafira**	**10.21**	**178**	P	**Pn**	**16 46 08.1**	**+1.0**

*BJI **28** 16:44:13.3, 1415N×12104E, h51km, mB4.9, mb4.5, Ms4.0*
*MAN **28** 16:44:15.8, 1373N×12037E, h68km, mb3.9, ML4.9, MS2.7*
*MOS **28** 16:44:15.4±0.5, 1369N×12068E, h97km, mb4.9/8, Error ellipse: s-maj=30.4km s-min=10.3km az=117.5*
*ISCJB **28** 16:44:15.9±0.3, 1370N±003×12045E±005, h91km±4km, mb4.7/24, Error ellipse: s-maj=8.0km s-min=5.4km az=155.6*
*NEIC **28** 16:44:16.3±0.3, 1367N×12062E, mb5.0/14, Error ellipse: s-maj=11.6km s-min=5.9km az=56.0*
*IDC **28** 16:44:17.0±1.1, 1376N×12084E, h93km±9km, mb3.8/8, mb1 3.9/8, mb1mx3.6/18, mbtmp4.1/8, MS3.0/2, Ms1 3.0/2, ms1mx2.5/31, Error ellipse: s-maj=57.4km s-min=14.3km az=69.0*

ISC 28 16:44:17.0±0.3, 1370N±003×12046E±005, h84km±4km, n71, σ1°09/73, mb4.7/24, 5C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.21**	**280**	*e*P	**Pn**	**16 44 28.0**	**-1.4**
PGP	**Puerto Galera**	**0.51**	**112**	*e*P	**Pn**	**16 44 30.7**	**-0.6**
TGY	**Tagaytay City**	**0.61**	**49**	P	**Pn**	**16 44 32.2**	**0.0**
TGY	2μm,0.3s,baz=121,slow=0.5,SNR=79			S	**Sn**	**16 44 43.6**	**+0.2**
TGY	**Tagaytay City**	**0.61**	**49**	⇑*e*P	**Pn**	**16 44 32.3**	**+0.1**
TGY	8μm,0.3s,baz=120,slow=20,SNR=129			*e*S	**Sn**	**16 44 43.5**	**+0.1**
LQP	**Lukban**	**1.12**	**68**	⇓*e*P	**Pn**	**16 44 39.0**	**+1.2**
BOAC	**Boac**	**1.36**	**100**	*e*P	**Pn**	**16 44 39.5**	**-1.2**
BUSP	**Coron**	**1.70**	**189**	*e*P	**Pn**	**16 44 45.0**	**-0.1**
POLP	**Polilio Island**	**1.76**	**54**	*e*P	**Pn**	**16 44 46.3**	**+0.5**
GQP	**Guinayangan**	**1.94**	**84**	⇓*e*P	**Pn**	**16 44 49.1**	**+0.9**
GQP				*e*S	**Sn**	**16 45 14.1**	**+2.2**
PCPH	**Palayan**	**1.95**	**18**	⇓*e*P	**Pn**	**16 44 46.7**	**-1.7**
OTRP	**Odiongan**	**2.02**	**131**	*e*P	**Pn**	**16 44 49.5**	**+0.3**
SCZP	**Santa Cruz**	**2.14**	**346**	*e*P	**Pn**	**16 44 50.1**	**-0.7**
AUQP	**San Andres**	**2.18**	**100**	*e*P	**Pn**	**16 44 53.6**	**+2.2**
BALP	**Baler**	**2.30**	**28**	*e*P	**Pn**	**16 44 53.1**	**+0.1**
BCPH	**Baguio City Da**	**2.67**	**2**	⇑*i*P	**Pn**	**16 44 56.8**	**-1.2**
BCPH				*i*S	**Sn**	**16 45 26.1**	**-3.4**
ENPP	**El Nido**	**2.67**	**202**	*e*P	**Pn**	**16 44 58.0**	**0.0**
BOLP	**Bolinao**	**2.72**	**349**	*e*P	**Pn**	**16 44 58.2**	**-0.5**
CUYO	**Cuyo Island**	**2.88**	**169**	*e*P	**Pn**	**16 45 00.4**	**-0.4**
CAUP	**Cauayan**	**3.48**	**22**	*e*P	**Pn**	**16 45 09.8**	**+0.9**
PVCP	**Virac**	**3.59**	**91**	⇓*i*P	**Pn**	**16 45 11.6**	**+1.2**
PVCP				*i*S	rx	16 45 28.2	
PVCP	**Virac**	**3.59**	**91**	*e*P	**Pn**	**16 45 11.2**	**+0.8**
GUIM	**Jordan**	**3.69**	**146**	*e*P	**Pn**	**16 45 13.4**	**+1.6**
PALP	**Palanan**	**3.84**	**29**	⇑*i*P	**Pn**	**16 45 11.5**	**-2.4**
PALP				*i*S	rx	16 45 18.5	
PALP	**Palanan**	**3.84**	**29**	*e*P	**Pn**	**16 45 11.0**	**-2.8**
ABRA	**Dolores**	**3.94**	**3**	*e*P	**Pn**	**16 45 14.3**	**-0.8**
APYP	**Conner**	**4.21**	**10**	*e*P	**Pn**	**16 45 19.2**	**+0.5**
BATP	**Bataraza**	**5.53**	**208**	*e*P	**Pn**	**16 45 36.5**	**-0.2**
QIZ	**Qiongzhong**	**11.49**	**299**	*e*P	**Pn**	**16 46 58.6**	**+0.7**
JOW	**Kunigami**	**14.97**	**28**	LR	LR	16 53 36.7	
	comp=Z,23nm,21.9s,baz=14,slow=38						
SSE	**Sheshan**	**17.33**	**2**	P	**Pn**	**16 48 06.0**	**-7.4**
SSE	comp=Z,15nm,0.8s			AMB	AMB		
SSE	comp=Z,81nm,3.8s			AMB	AMB		
SSE	**Sheshan**	**17.33**	**2**	P	**Pn**	**16 48 06.0**	**-7.4**
	comp=Z,15nm,0.8s						
NJ2	**Nanjing**	**18.33**	**356**	*e*P	**Pn**	**16 48 20.0**	**-5.5**
NJ2				AP	pP	16 48 28.5	-13
NJ2				XP	sP	16 48 32.0	-20
NJ2				PP		16 48 35.5	
NJ2	comp=Z,130nm,1.0s			AMB	AMB		
NJ2	comp=Z,160nm,4.3s			AMB	AMB		
NJ2	comp=N,340nm,14.1s			LR	LR		
NJ2	comp=E,250nm,16.0s			LR	LR		
CD2	**Chengdu**	**23.02**	**321**	*e*P	**P**	**16 49 16.0**	**+1.2**
CD2	comp=Z,20nm,0.8s,mb4.5			AMB	AMB		
JIRN	**Jiri**	**34.81**	**299**	*e*P	**P**	**16 51 01.6**	**+2.0**
	comp=Z,37nm,0.4s,mb5.5						
GUN	**Gumba**	**35.15**	**299**	*e*P	**P**	**16 51 04.4**	**+1.9**
	comp=Z,40nm,0.4s,mb5.6						
PKI	**Pulchoki**	**35.45**	**298**	*e*P	**P**	**16 51 06.4**	**+1.3**
KKN	**Kakani**	**35.62**	**299**	*e*P	**P**	**16 51 07.7**	**+1.1**
	comp=Z,37nm,0.8s,mb5.4						
KKN	**Kakani**	**35.62**	**299**	*e*P	**P**	**16 51 07.7**	**+1.1**
KKN	comp=Z,37nm,0.8s,mb5.4			pmax	pmax		
DMN	**Daman**	**35.72**	**298**	*e*P	**P**	**16 51 08.7**	**+1.3**
	comp=Z,28nm,0.7s,mb5.3						
ULN	**Ulaanbaatar**	**35.85**	**345**	*e*P	**P**	**16 51 08.5**	**0.0**
ULN	comp=Z,5.0nm,0.6s,mb4.6			pmax	pmax		
ULN	**Ulaanbaatar**	**35.85**	**345**	*e*P	**P**	**16 51 08.5**	**0.0**
	comp=Z,4.6nm,0.6s,mb4.6						
SONM	**Songino Array**	**36.00**	**344**	P	**P**	**16 51 09.6**	**-0.1**
	comp=Z,6.2nm,0.6s,mb4.8,baz=166,slow=9.8,SNR=28						
WRAB	**Tennant Creek**	**36.10**	**157**	*e*P	**P**	**16 51 08.7**	**-2.0**
WRAB	comp=Z,3.0nm,0.4s,mb4.6			pmax	pmax		
WRAB	**Tennant Creek**	**36.10**	**157**	*e*P	**P**	**16 51 08.7**	**-2.0**
	comp=Z,3.2nm,0.4s,mb4.6						
WRA	**Warramunga Arr**	**36.11**	**157**	P	**P**	**16 51 09.1**	**-1.6**
	comp=Z,1.6nm,0.5s,mb4.2,baz=332,slow=10,SNR=40						
WRA				pP	pP	16 51 29.3	-1.2
	comp=Z,2.6nm,0.9s,baz=339,slow=9.8,SNR=7.1						
GKN	**Gorkha**	**36.23**	**299**	*e*P	**P**	**16 51 12.5**	**+0.8**
	comp=Z,22nm,0.7s,mb5.2						
KOLN	**Koldanda**	**37.05**	**298**	*e*P	**P**	**16 51 20.0**	**+1.3**
	comp=Z,17nm,0.9s,mb5.0						
ZAK	**Zakamensk**	**39.18**	**343**	*e*P	**P**	**16 51 36.3**	**-0.3**
ZAK	comp=Z,4.0nm,1.4s,mb4.1			pmax	pmax		
AS31	**Alice Springs**	**39.39**	**160**	*e*P	**P**	**16 51 37.4**	**-1.0**
ASAR	**Alice Springs**	**39.39**	**160**	*e*P	**P**	**16 51 37.5**	**-0.9**
	comp=Z,2.2nm,0.6s,mb4.2,baz=339,slow=7.0,SNR=41						
ASAR				pP	pP	16 51 58.0	-0.3
	comp=Z,2.7nm,0.9s,baz=320,slow=6.8,SNR=7.6						
ASPA	**Alice Springs**	**39.39**	**160**	*e*P	**P**	**16 51 37.4**	**-1.0**
FORT	**Forrest**	**44.82**	**171**	*e*P	**P**	**16 52 22.4**	**-0.1**
	comp=Z,12nm,0.7s,mb4.7						
MKAR	**Makanchi Array**	**45.90**	**324**	P	**P**	**16 52 31.9**	**+0.8**
	comp=Z,1.4nm,0.5s,mb3.9,baz=124,slow=9.1,SNR=22						
ZAL	**Zalesovo**	**48.96**	**333**	P	**P**	**16 52 54.0**	**-0.7**
	comp=Z,1.5nm,0.5s,mb4.2,baz=352,slow=7.3,SNR=6.8						
KURK	**Kurchatov**	**50.06**	**326**	P	**P**	**16 53 03.9**	**+0.7**
	comp=Z,152nm,0.6s,SNR=18						
KURK	**Kurchatov**	**50.06**	**326**	*e*P	**P**	**16 53 03.7**	**+0.5**
KURK	comp=Z,13nm,0.6s,mb5.0			pmax	pmax		
KURK	**Kurchatov**	**50.06**	**326**	*e*P	**P**	**16 53 03.7**	**+0.5**
	comp=Z,13nm,0.6s,mb5.0						
BRVK	**Borovoye**	**55.72**	**326**	P	**P**	**16 53 45.9**	**+1.1**
	comp=Z,80nm,0.7s,SNR=9.2						
BRVK	**Borovoye**	**55.72**	**326**	*e*P	**P**	**16 53 45.1**	**+0.3**
BRVK	comp=Z,8.0nm,0.9s,mb4.8			pmax	pmax		
BRVK	**Borovoye**	**55.72**	**326**	*e*P	**P**	**16 53 45.1**	**+0.3**
	comp=Z,8.4nm,0.9s,mb4.8						
CHKZ	**Chkalovo**	**55.81**	**327**	*e*P	**P**	**16 53 44.9**	**-0.5**
CHKZ	comp=Z,4.0nm,0.7s,mb4.6			pmax	pmax		
CHKZ	**Chkalovo**	**55.81**	**327**	*e*P	**P**	**16 53 44.9**	**-0.5**
	comp=Z,4.1nm,0.7s,mb4.6						
ZRNK	**Zerenda**	**56.38**	**325**	*e*P	**P**	**16 53 49.6**	**+0.2**
ZRNK	comp=Z,9.0nm,0.8s,mb4.8			pmax	pmax		
ZRNK	**Zerenda**	**56.38**	**325**	*e*P	**P**	**16 53 49.6**	**+0.2**
	comp=Z,8.8nm,0.8s,mb4.8						
TIXI	**Tiksi**	**58.15**	**3**	*e*P	**P**	**16 53 56.4**	**-5.5**
TIXI	comp=Z,1.0nm,1.0s,mb3.8			pmax	pmax		
SVE	**Sverdlovsk**	**62.28**	**328**	*e*P	**P**	**16 54 29.5**	**-0.6**
GNI	**Garni**	**70.44**	**308**	LR	LR	17 33 19.6	
	comp=Z,24nm,19.8s,baz=348,slow=42						
SOC	**Sochi**	**74.03**	**312**	*e*P	**P**	**16 55 43.3**	**-0.3**
SOC				*e*		16 55 57.4	
SOC				*e*		16 58 34.9	
SOC				*e*S	S	17 05 14.8	+5.4
SOC				*e*		17 05 49.2	
SOC	comp=Z,57nm,1.2s,mb5.2			pmax	pmax		
ILAR	**Eielson Array**	**78.85**	**26**	P	**P**	**16 56 08.7**	**-2.1**
	comp=Z,0.3nm,0.7s,baz=283,slow=4.2,SNR=4.5						
ARCES	**ARCESS Array B**	**79.01**	**339**	P	**P**	**16 56 10.7**	**-0.9**
	comp=Z,2.8nm,0.9s,mb4.1,baz=75,slow=9.3,SNR=4.3						
FINES	**FINESS Array B**	**80.18**	**331**	P	**P**	**16 56 16.8**	**-1.3**
	comp=Z,1.1nm,0.7s,mb3.8,baz=84,slow=14,SNR=2.8						

*IDC **28** 17:14:16.7±1.2, 1480S×16686E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.7/14, mbtmp3.6/4, ML3.4/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/17, Error ellipse: s-maj=54.0km s-min=29.8km az=103.0*
*ISCJB **28** 17:14:20.0±1.0, 1501S±007×1667E±02, h33km, mb3.8/4, Error ellipse: s-maj=27.3km s-min=10.0km az=162.7*
*NEIC **28** 17:14:21.1±5.2, 1488S×16685E, h26km±36km, mb4.5/1, Error ellipse: s-maj=31.4km s-min=13.1km az=72.0*

ISC 28 17:14:21.7±1.0, 1493S±007×1669E±02, h35km, n8, σ0°73/7, mb3.8/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.11**	**183**	Pn	**Pn**	**17 16 04.3**	**+1.0**
	0.6nm,0.3s,baz=8.8,slow=20,SNR=20						
DZM				Sn	**Sn**	**17 17 21.8**	**-1.0**
	0.5nm,0.3s,baz=324,slow=19,SNR=3.3						
HNR	**Honiara**	**8.70**	**308**	LR	LR	17 19 23.9	
	comp=Z,103nm,18.3s,baz=177,slow=36						
HNR	**Honiara**	**8.70**	**308**	*e*Pn	**Pn**	**17 16 24.7**	**-0.4**
ASAR	**Alice Springs**	**32.25**	**249**	P	**P**	**17 20 47.2**	**+0.4**
	0.2nm,0.7s,mb3.1,baz=75,slow=9.7,SNR=3.7						
VNDA	**Vanda**	**62.65**	**181**	P	**P**	**17 24 43.2**	**+0.6**
	0.4nm,0.5s,mb3.8,baz=17,slow=6.2,SNR=6.8						
BILL	**Bilibino**	**82.74**	**360**	*e*P	**P**	**17 26 42.4**	**+0.4**
	1.9nm,0.4s,mb4.5						
ILAR	**Eielson Array**	**86.83**	**18**	P	**P**	**17 27 01.6**	**-1.0**
	0.4nm,0.7s,mb3.8,baz=237,slow=4.3,SNR=6.7						
ARCES	**ARCESS Array B**	**120.35**	**345**	PKP	PKPdf	17 33 09.9	+0.6
	1.1nm,0.7s,baz=73,slow=2.7,SNR=7.7						

*HLW **28** 17:21:34.0, 3468N×2512E, h25km, Mb3.2*
*CSEM **28** 17:21:37.0±0.1, 3416N×2558E, h8km, MD4.0, Error ellipse: s-maj=4.7km s-min=2.0km az=82.0*
*IDC **28** 17:21:37.3±1.5, 3424N×2553E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.6/21, mbtmp3.7/5, ML4.1/1, MS2.6/1, Ms1 2.6/1, ms1mx2.1/28, Error ellipse: s-maj=25.9km s-min=23.4km az=92.0*
*ISCJB **28** 17:21:37.1±0.5, 3417N±003×2565E±007, h10km, mb3.5/4, Error ellipse: s-maj=9.0km s-min=4.3km az=163.8*
*ATH **28** 17:21:37.3, 3416N×2546E, h6km±3km, MD4.0/5*
*NEIC **28** 17:21:37.0, 3415N×2548E, h4km, MD4.0(ATH), After ATH.*

ISC 28 17:21:38.5±0.5, 3422N±003×2558E±007, h10km, n24, σ0°89/26, mb3.5/4, 2C, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
XRY	**Khrisi**	**0.66**	**8**	*e*PG	**Pg**	**17 21 51.0**	**-0.2**
XRY	**Khrisi**	**0.66**	**8**	*e*Pg	**Pg**	**17 21 50.2**	**-1.0**
NPS	**Neapolis**	**1.04**	**2**	*e*PB	**Pb**	**17 21 57.7**	**-0.9**
NPS				*e*SB	**Sb**	**17 22 12.8**	**+0.6**
IDI	**Anoyia**	**1.21**	**332**	Pn	**Pn**	**17 22 01.1**	**-0.3**
	3.3nm,0.3s,baz=331,slow=23,SNR=29						
IDI				Sn	**Sn**	**17 22 19.5**	**+1.7**
	13nm,0.3s,baz=180,slow=20,SNR=10						
GVD	**Gavdhos**	**1.38**	**297**	*e*Pn	**Pn**	**17 22 02.5**	**-1.2**
GVD	**Gavdhos**	**1.38**	**297**	*e*Pn	**Pn**	**17 22 02.5**	**-1.2**
VAM	**Vamos**	**1.64**	**317**	*e*PB	**Pb**	**17 22 08.0**	**-0.8**
KARP	**Karpathos**	**1.86**	**44**	*e*PG	**Pg**	**17 22 13.5**	**-0.6**
SANT	**Santorini**	**2.15**	**357**	*e*Pn	**Pn**	**17 22 14.1**	**-0.2**
SANT	**Santorini**	**2.15**	**357**	*e*Pn	**Pn**	**17 22 14.1**	**-0.2**
SLUM		**2.74**	**187**	⇑P	**Pn**	**17 22 21.7**	**-0.8**
VLI	**Veliai**	**3.29**	**320**	*e*PN	**Pn**	**17 22 31.4**	**+1.3**
SWA1		**4.94**	**179**	P	**Pn**	**17 22 52.5**	**-0.3**
SWA1				S	**Sn**	**17 23 50.3**	**+0.2**
SWA2		**4.96**	**181**	⇑P	**Pn**	**17 22 52.8**	**-0.3**
HFRF	**Wahat Farafira**	**7.43**	**161**	P	**Pn**	**17 23 28.4**	**+1.5**
EIL	**Elat**	**9.16**	**117**	*e*Pn	**Pn**	**17 23 50.8**	**+0.1**
VAE	**Valguarnera**	**9.63**	**293**	LR	LR	17 27 01.8	
	comp=Z,35nm,20.4s,baz=302,slow=34						
AKASG	**Malin Array Be**	**16.68**	**8**	Pn	**Pn**	**17 25 33.8**	**+1.4**
	0.7nm,0.3s,baz=202,slow=11,SNR=4.9						
ESDC	**Sonseca Array**	**24.17**	**292**	P	**P**	**17 26 53.9**	**-0.9**
	1.1nm,0.7s,mb3.4,baz=82,slow=10,SNR=2.8						
FINES	**FINESS Array B**	**27.24**	**1**	P	**P**	**17 27 21.6**	**-1.0**
	0.8nm,0.7s,mb3.4,baz=158,slow=12,SNR=3.5						
FINES	**FINESS Array B**	**27.24**	**1**	P	**P**	**17 27 21.6**	**-1.1**
TORD	**Torodi Ar. Bea**	**30.16**	**232**	P	**P**	**17 27 49.8**	**+1.1**
	0.3nm,0.4s,mb3.3,baz=29,slow=8.7,SNR=4.8						
MKAR	**Makanchi Array**	**44.01**	**56**	P	**P**	**17 29 46.4**	**+0.3**
	1.7nm,0.7s,mb3.9,baz=279,slow=6.6,SNR=17						
MKAR	**Makanchi Array**	**44.01**	**56**	P	**P**	**17 29 46.4**	**+0.3**

*ISCJB **28** 17:59:10.5±1.2, 2415S±007×669W±02, h142km±35km, Error ellipse: s-maj=34.0km s-min=10.6km az=12.1*
*IDC **28** 17:59:11.2±1.9, 2414S×6691W, h131km±61km, mb1 3.4/5, mb1mx3.2/17, mbtmp3.8/5, Error ellipse: s-maj=45.9km s-min=18.3km az=100.0*
*NEIC **28** 17:59:11.1±0.9, 2420S×6680W, h117km±33km, Error ellipse: s-maj=28.1km s-min=9.6km az=105.0*

ISC 28 17:59:11.4±1.1, 2417S±007×669W±02, h124km±37km, n9, σ0°63/15, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.45**	**309**	P	**Pn**	**17 59 51.2**	**+0.6**
	7.2nm,0.3s,baz=147,slow=6.3,SNR=82						
LVC				S	**Sn**	**18 00 20.7**	**-0.1**
	19nm,0.3s,baz=325,slow=23,SNR=50						
LVC	**Limon Verde**	**2.45**	**309**	*e*Pn	**Pn**	**17 59 51.0**	**+0.4**
LVC				*e*Sn	**Sn**	**18 00 20.6**	**-0.2**
CFAA	**Coronel Fontan**	**7.50**	**189**	P	**Pn**	**18 00 57.5**	**-0.6**
	0.0nm,0.3s,baz=10,slow=11,SNR=3.7						
CFAA				S	**Sn**	**18 02 16.8**	**-4.8**
	0.1nm,0.3s,baz=120,slow=20,SNR=6.8						
CFAA	**Coronel Fontan**	**7.50**	**189**	P	**Pn**	**18 00 57.5**	**-0.6**
CFAA				S	**Sn**	**18 02 16.8**	**-4.8**
LPAZ	**La Paz**	**7.94**	**351**	P	**Pn**	**18 01 04.8**	**+0.8**
	0.3nm,0.3s,baz=178,slow=8.0,SNR=8.1						
LPAZ				S	**Sn**	**18 02 31.2**	**-0.9**
	baz=338,slow=19,SNR=2.7						
LPAZ	**La Paz**	**7.94**	**351**	*e*Pn	**Pn**	**18 01 04.7**	**+0.8**
LPAZ				S	**Sn**	**18 02 31.2**	**-0.9**
SIV	**San Ignacio**	**9.78**	**35**	P	**Pn**	**18 01 29.3**	**+0.4**
	0.7nm,0.3s,baz=221,slow=14,SNR=15						
PLCA	**Paso Flores**	**16.80**	**190**	P	**Pn**	**18 02 59.6**	**+0.4**
	0.1nm,0.3s,baz=22,slow=12,SNR=4.0						
BDFB	**Brasilia**	**19.62**	**68**	P	**P**	**18 03 29.8**	**-0.3**
	0.5nm,0.3s,baz=245,slow=11,SNR=11						

MOS 28 18:34:10.8±2.0, 5087N×9643E, h15km, mb4.4/1, Error ellipse: s-maj=20.8km s-min=12.9km az=172.5, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ORL	**Orlik**	**2.69**	**50**	*e*PN	Pn	18 34 53.8	+0.3
ORL				*e*		18 35 29.1	
ORL	comp=Z,67nm,0.5s			pmax	pmax		
ORL	comp=N,152nm,1.0s			smax			
MOY	**Mondy**	**2.98**	**73**	*e*PN	Pn	18 34 56.8	-0.6
MOY				*e*		18 35 33.0	
MOY	comp=Z,62nm,0.4s			pmax	pmax		
MOY	comp=N,473nm,1.6s			smax			
ARS	**Arshan**	**3.90**	**72**	*e*PN	Pn	18 35 15.2	+5.1
ARS				*e*		18 36 01.1	
ARS	comp=Z,47nm,0.8s			pmax	pmax		
ARS	comp=E,359nm,1.0s			smax			
ZAK	**Zakamensk**	**4.39**	**94**	*e*PN	Pn	18 35 19.8	+2.9
ZAK				*e*		18 36 15.7	
ZAK	comp=Z,39nm,0.9s			pmax	pmax		
ZAK	comp=N,236nm,1.3s			smax			
TLY	**Talaya**	**4.60**	**77**	*e*PN	Pn	18 35 25.5	+5.7
TLY				*e*		18 36 23.3	
TLY	comp=Z,5.0nm,0.3s			pmax	pmax		
TLY	comp=N,104nm,1.1s			smax			
IRK	**Irkutsk**	**5.08**	**71**	*e*PN	Pn	18 35 35.5	+9.1
IRK	comp=Z,40nm,0.2s			pmax	pmax		
LSTR	**Listvyanka**	**5.36**	**76**	*e*PN	Pn	18 35 40.4	+10
LSTR				*e*		18 36 46.7	
LSTR	comp=Z,12nm,1.1s			pmax	pmax		
LSTR	comp=N,89nm,1.5s			smax			
TASR	**Tashtagol**	**5.63**	**293**	*e*PN	Pn	18 35 35.8	+1.9
TASR				*e*		18 35 51.8	
TASR				*e*		18 37 02.3	
AKAR	**Aktash**	**5.64**	**268**	*e*PN	Pn	18 35 37.5	+3.5
AKAR				*e*		18 37 06.0	
ELT	**Yel'tsovka**	**6.72**	**295**	*e*PN	Pn	18 36 13.0	+24
OGRR	**Ongureny**	**7.39**	**64**	*e*P	Pn	18 36 17.4	+19
OGRR	comp=Z,3.0nm,1.4s			pmax	pmax		

MAN 28 18:34:57.9, 975N×12481E, h22km, mb4.0, ML5.0, MS2.7, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**0.39**	**7**	*e*P	Pb	18 35 06.5	+0.4
SCPH	**Surigao**	**0.67**	**87**	⇑*e*P	Pb	18 35 10.1	-0.8
TBP	**Tagbilaran**	**0.94**	**267**	*i*P	Pb	18 35 23.4	+8.0
TBP				*i*S	Sb	18 35 37.3	+10
LLP	**Lapu-Lapu**	**1.01**	**304**	⇑*i*P	Pb	18 35 15.7	-0.9
LLP				*i*S	Sb	18 35 30.2	+0.8
BUTP	**Butuan**	**1.11**	**134**	*e*P	Pn	18 35 17.4	-0.7
CGP	**Cagayan de Oro**	**1.29**	**185**	⇓*e*P	Pn	18 35 20.7	+0.2
CGP				*i*S	Sn	18 35 37.9	+0.7
OCLP	**Ormoc**	**1.31**	**351**	*e*P	Pn	18 35 21.0	+0.2
PLP	**Palo**	**1.42**	**7**	*e*P	Pn	18 35 22.9	+0.6
PLP				*i*S	Sn	18 35 42.2	+1.9
SNPH	**Sibulan**	**1.60**	**256**	⇓*e*P	Pn	18 35 25.8	+0.9
SNPH				*i*S	Sn	18 35 56.8	+12
BUKP	**Musuan**	**1.87**	**172**	*e*P	Pn	18 35 29.7	+1.1
GUIM	**Jordan**	**2.35**	**292**	*e*P	Pn	18 35 35.8	+0.6
RCP	**Roxas**	**2.71**	**312**	*e*P	Pn	18 35 41.8	+1.7
RCP				*i*S	Sn	18 36 17.7	+5.4
IPIL	**Ipil**	**2.95**	**229**	*e*P	Pn	18 35 43.7	+0.3
MATI	**Mati**	**3.13**	**153**	*e*P	Pn	18 35 46.3	+0.4
PVCP	**Virac**	**3.88**	**351**	*e*P	Pn	18 36 00.5	+4.3
CUYO	**Cuyo Island**	**3.89**	**287**	*e*P	Pn	18 35 57.2	+0.9
BUSP	**Coron**	**5.05**	**297**	*e*P	Pn	18 36 13.9	+1.6
ENPP	**El Nido**	**5.49**	**286**	*e*P	Pn	18 36 19.4	+1.1
LUBP	**Lubang**	**5.97**	**312**	*e*P	Pn	18 36 27.9	+3.0

*IDC **28** 18:47:28.6±3.3, 1362S×17263E, h598km±36km, mb3.2/7, mb1 3.5/9, mb1mx3.4/14, mbtmp

ILAR	**Eielson Array**	**83.98**	**16**	P	**P**	**18 58 55.1**	**-1.7**
	0.8nm,0.6s,mb3.5,baz=231,slow=5.4,SNR=13						
SONM	**Songino Array**	**84.73**	**322**	P	**P**	**18 59 01.3**	**+0.9**
	0.6nm,0.5s,mb3.5,baz=132,slow=6.2,SNR=4.4						
ARCES	**ARCESS Array B**	**120.41**	**347**	PKP	PKPdf	19 05 12.2	-0.2
	1.0nm,0.6s,baz=90,slow=2.4,SNR=12						
FINES	**FINESS Array B**	**126.50**	**341**	PKP	PKPdf	19 05 24.6	+0.6
	2.1nm,1.1s,baz=58,slow=3.4,SNR=4.6						
CDF	**Champ du Feu**	**143.24**	**344**	*e*PKIKP	PKPdf	19 05 55.0	0.0
	11nm,0.9s						
MEZF	**Maizieres J'vi**	**143.72**	**346**	*e*PKIKP	PKPdf	19 05 56.8	+1.0
HAU	**Haudompre**	**143.86**	**344**	*e*PKIKP	PKPdf	19 05 57.9	+1.8
	10nm,0.7s						
HINF	**Hinteralfeld**	**143.90**	**344**	*e*PKIKP	PKPdf	19 05 56.9	+0.8
FLN	**La Foliniere**	**144.50**	**352**	*e*PKIKP	PKPdf	19 05 58.0	+0.8
	5.6nm,0.5s						
LDF	**La Druitiere**	**144.62**	**352**	*e*PKIKP	PKPdf	19 05 58.2	+0.8
	4.3nm,0.5s						
GRR	**Gorron**	**144.92**	**352**	*e*PKIKP	PKPdf	19 05 58.9	+1.0
LOR	**Lormes**	**145.16**	**346**	*e*PKIKP	PKPdf	19 05 59.4	+1.1
CABF	**La Chapelle**	**145.21**	**344**	*e*PKIKP	PKPdf	19 05 59.4	+1.0
SSF	**Saint Saulge**	**145.43**	**347**	*e*PKIKP	PKPdf	19 05 59.7	+0.9
AVF	**Avril sur Loir**	**145.72**	**347**	*e*PKIKP	PKPdf	19 06 00.4	+1.1
SMF	**Signal de Mont**	**145.75**	**346**	*e*PKIKP	PKPdf	19 06 00.3	+1.0
TCF	**Toulx Ste Croi**	**146.45**	**348**	*e*PKIKP	PKPdf	19 06 01.6	+1.1
SBF	**Sospel**	**147.28**	**340**	*e*PKIKP	PKPdf	19 06 03.1	+1.2
	8.5nm,0.8s						

*ISCJB **28** 18:51:53.2±0.5, 51.61**N**±0.03×7.17E±0.03, h0km, Error ellipse: s-maj=4.0km s-min=2.8km az=11.3*
*BUG **28** 18:51:55.5, 51.62**N**×6.99E, h1km, ML1.5*
*CSEM **28** 18:51:55.9±0.1, 51.66**N**×6.89E, h1km, ML2.7/3, Error ellipse: s-maj=3.3km s-min=1.3km az=94.0*
*BNS **28** 18:51:55.8±0.6, 51.65**N**×7.00E, h1km, ML2.0, GESPUERT IN DORSTEN-ALTENDORF I=IV*
*LDG **28** 18:51:56.7±0.3, 51.60**N**×6.91E, h1km, Ml2.7/3, Error ellipse: s-maj=5.4km s-min=2.6km az=26.0, Suspected Mining induced.*
*BGR **28** 18:51:57.0±0.6, 51.56**N**×7.13E, h1km, ML2.1/3, Error ellipse: s-maj=6.7km s-min=4.4km az=122.0*

ISC 28 18:51:54.6±0.4, 51.62N±002×707E±003, h0km, n40, σ1♀33/56, 2C-2D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BZER	**Hlnxe**	**0.12**	**271**		Pg	**Pg**	**18 51 57.7**	**+0.7**
BZER					Sg	**Sg**	**18 51 59.8**	**+1.2**
BUG	**Bochum--Univer**	**0.22**	**145**	⇓*i*Pg	Pg	**Pg**	**18 52 01.2**	**+2.4**
LAUG	**Laupendahl**	**0.28**	**196**	*e*Pg	Pg	**Pg**	**18 52 01.5**	**+1.6**
WTSB	**Winterswijk**	**0.39**	**334**	⇑*i*Pg	Pg	**Pg**	**18 52 02.7**	**+0.7**
	16nm,0.5s							
WTSB				*i* Sg		**Sg**	**18 52 07.8**	**+0.8**
WTSB	**Winterswijk**	**0.39**	**334**	⇑*i*Pg	Pg	**Pg**	**18 52 02.7**	**+0.7**
	16nm,0.5s							
WTSB				*i* Sg		**Sg**	**18 52 07.8**	**+0.7**
HOBG	**Hohbusch**	**0.66**	**165**	*e*Pg		**Pg**	**18 52 09.1**	**+1.9**
HOBG				*i* Sg		**Sg**	**18 52 18.7**	**+3.0**
	62nm,0.2s							
BNS	**Bensberg**	**0.66**	**174**	*e*Pg		**Pg**	**18 52 09.3**	**+2.0**
IBBN	**Ibbenburen**	**0.81**	**31**	*e*Sg		**Sg**	**18 52 23.9**	**+3.2**
	SNR=3.1							
STB	**Steinbach**	**1.03**	**188**	*e*Pg		**Pg**	**18 52 15.8**	**+1.3**
STB				*e*Sg		**Sg**	**18 52 30.7**	**+2.8**
	41nm,0.4s							
KLL	**Kalltalsperre**	**1.08**	**206**	*e*Pg		**Pg**	**18 52 16.0**	**+0.7**
HGN	**Heimansgroeve**	**1.11**	**220**	*e*Pn		**Pn**	**18 52 16.4**	**-1.1**
	12nm,0.3s							
HGN				⇓*i*Pg		**Pg**	**18 52 17.1**	**+1.2**
	18nm,0.2s							
HGN				*e*Sg		**Sg**	**18 52 31.9**	**+1.5**
BEBN	**Eben Emael**	**1.20**	**227**	P		**Pg**	**18 52 17.9**	**+0.3**
BEBN				S		**Sg**	**18 52 34.8**	**+1.6**
	comp=Z,32nm,0.0s							
MEM	**Membach**	**1.21**	**214**	P		**Pg**	**18 52 17.9**	**+0.1**
MEM				S		**Sg**	**18 52 35.9**	**+2.3**
BGG	**Burgeitz**	**1.42**	**173**	*e*Pg		**Pg**	**18 52 21.7**	**-0.2**
BCLA	**Clavier**	**1.64**	**224**	P		**Pn**	**18 52 24.5**	**-0.1**
TNS	**Taunus Mts**	**1.65**	**147**	*e*Pg		**Pg**	**18 52 26.6**	**+0.4**
	SNR=2.3							
TNS				*e*Sg		**Sg**	**18 52 47.5**	**-0.1**
	SNR=2.4							
UBBA	**Unterbreizbach**	**2.01**	**112**	*e*Sg		**Sg**	**18 52 58.4**	**-0.8**
	SNR=3.6							
WLF	**Walferdange**	**2.04**	**197**	*e*Sg		**Sg**	**18 52 59.5**	**-0.7**
	SNR=4.9							
CLZ	**Clausthal**	**2.07**	**82**	*e*Sg		**Sg**	**18 53 01.2**	**+0.1**
	SNR=2.2							
SNF	**Seneffe**	**2.08**	**239**	P		**Pn**	**18 52 30.1**	**-0.6**
SNF				S		**Sn**	**18 53 00.0**	**+2.7**
	comp=Z,8.0nm,0.0s							
GIVF	**Givet**	**2.08**	**224**	*e*Pn		**Pn**	**18 52 29.0**	**-1.8**
GIVF				*e*Sg		**Sg**	**18 53 00.0**	**-1.5**
	comp=Z,15nm,0.2s							
DOU	**Dourbes**	**2.19**	**227**	P		**Pn**	**18 52 32.1**	**-0.1**
DOU				S		**Sn**	**18 53 02.3**	**+2.3**
	comp=N,6.1nm,0.0s							
BAIF	**Baives**	**2.39**	**230**	*e*Pn		**Pn**	**18 52 33.7**	**-1.3**
BAIF	**Baives**	**2.39**	**230**	*e*Pg		**Pg**	**18 52 39.7**	**-0.8**
BAIF				*e*Sg		**Sg**	**18 53 09.1**	**-2.4**
	comp=N,6.9nm,0.3s							
BAIF	**Baives**	**2.39**	**230**	*e*Pg		**Pg**	**18 52 39.7**	**-0.8**
BAIF				*e*Sg		**Sg**	**18 53 09.1**	**-2.4**
MOX	**Moxa**	**3.03**	**107**	*e*Sg		**Sg**	**18 53 31.0**	**-0.8**
	SNR=2.8							
CDF	**Champ du Feu**	**3.21**	**178**	*e*Pn		**Pn**	**18 52 46.3**	**0.0**
CDF				*e*Sg		**Sg**	**18 53 36.1**	**-1.7**
	comp=N,4.9nm,0.5s							
BFO	**Black Forest**	**3.39**	**166**	*e*Pn		**Pn**	**18 52 49.1**	**+0.3**
	SNR=3.7							
WERD	**Werda**	**3.51**	**107**	*e*Sg		**Sg**	**18 53 47.1**	**-0.2**
	SNR=1.8							
LOR	**Lormes**	**4.83**	**207**	*e*Pn		**Pn**	**18 53 07.7**	**-0.9**
CABF	**La Chapelle**	**5.05**	**188**	*e*Pn		**Pn**	**18 53 11.4**	**-0.2**
SSF	**Saint Saulge**	**5.12**	**208**	*e*Pn		**Pn**	**18 53 11.5**	**-1.0**
SMF	**Signal de Mont**	**5.41**	**204**	*e*Pn		**Pn**	**18 53 15.3**	**-1.2**
AVF	**Avril sur Loir**	**5.41**	**208**	*e*Pn		**Pn**	**18 53 14.8**	**-1.7**
FLN	**La Foliniere**	**5.63**	**242**	*e*Pn		**Pn**	**18 53 18.6**	**-0.9**
BGF	**Bois d'Agland**	**5.77**	**210**	*e*Pn		**Pn**	**18 53 20.3**	**-1.2**
GRR	**Gorron**	**6.05**	**241**	*e*Pn		**Pn**	**18 53 24.0**	**-1.3**
TCF	**Toulx Ste Croi**	**6.22**	**213**	*e*Pn		**Pn**	**18 53 26.0**	**-1.6**
MFF	**Saint Martin d**	**6.90**	**226**	*e*Pn		**Pn**	**18 53 35.7**	**-1.3**
QUIF	**Quistinic**	**7.59**	**245**	*e*Pn		**Pn**	**18 53 44.0**	**-2.5**

IDC 28 19:59:54.5±1.7, 003S×12283E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.4/16, mbtmp3.3/3, Error ellipse: s-maj=200.9km s-min=26.6km az=61.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.77**	**151**	P		P	20 04 58.1	-0.4
	0.7nm,0.8s,baz=328,slow=11,SNR=5.4							
ASAR	**Alice Springs**	**25.84**	**156**	P		P	20 05 28.4	+0.8
	0.3nm,0.6s,baz=342,slow=15,SNR=6.1							
MKAR	**Makanchi Array**	**58.55**	**328**	P		P	20 09 53.0	+0.1
	0.2nm,0.3s,baz=131,slow=8.1,SNR=4.6							

*IDC **28** 20:10:31.5±2.2, 6.63S×129.24E, h0km, mb3.7/1, mb1 3.7/3, mb1mx3.6/13, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=145.2km s-min=31.1km az=68.0*
*ISCJB **28** 20:10:34.5±5.1, 67.5S±02×129.2E±0.1, h37km±51km, mb3.9/4, Error ellipse: s-maj=29.4km s-min=17.8km az=44.8*
*NEIC **28** 20:10:36.3±0.4, 670S×129.20E, h35km, mb3.9/3, Error ellipse: s-maj=11.6km s-min=6.2km az=64.0*

ISC 28 20:10:36.6±3.0, 67S±01×1292E±01, h35km±31km, n14, σ0♀40/16, mb3.9/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.08**	**160**	Pn		**Pn**	**20 13 53.1**	**-0.4**
	0.1nm,0.3s,baz=342,slow=13,SNR=10							
WRA				Sn		**Sn**	**20 16 17.3**	**-11**
	0.5nm,0.3s,baz=337,slow=23,SNR=8.1							
WB2	**Warramunga Arr**	**14.09**	**160**	*e*P		**Pn**	**20 13 54.1**	**+0.5**
MBWA	**Marble Bar**	**17.05**	**212**	*e*Pn		**Pn**	**20 14 32.0**	**-0.2**
ASAR	**Alice Springs**	**17.47**	**166**	P		**Pn**	**20 14 37.3**	**-0.1**
	0.1nm,0.3s,baz=339,slow=11,SNR=11							
ASAR				S		**S**	**20 17 37.6**	**-20**
	0.1nm,0.3s,baz=334,slow=23,SNR=4.4							
CTAO	**Charters Tower**	**21.24**	**130**	*e*P		**P**	**20 15 19.2**	**-0.2**
	0.3nm,0.2s,mb3.3							
STKA	**Stephens Creek**	**27.60**	**157**	*e*P		**P**	**20 16 20.7**	**+0.2**
NWAO	**Narrogin (SRO)**	**28.38**	**202**	P		**P**	**20 16 27.6**	**+0.3**
HNR	**Honiara**	**30.56**	**97**	*e*P		**P**	**20 16 46.7**	**0.0**
KULM	**Kulim**	**30.89**	**292**	P		**P**	**20 16 49.5**	**-0.1**
LSA	**Lhasa**	**51.43**	**317**	P		**P**	**20 19 38.7**	**+0.6**
MKAR	**Makanchi Array**	**67.54**	**327**	P		**P**	**20 21 29.5**	**+0.3**
	0.5nm,0.5s,mb3.6,baz=122,slow=7.9,SNR=7.7							
YAK	**Yakutsk**	**68.52**	**0**	*e*P		**P**	**20 21 35.9**	**+0.5**
	3.5nm,0.4s,mb4.6							
KURK	**Kurchatov**	**71.85**	**329**	*e*P		**P**	**20 21 55.0**	**-0.8**
	0.4nm,0.3s,mb3.8							
ZRNK	**Zerenda**	**78.08**	**328**	*e*P		**P**	**20 22 31.2**	**-0.6**

*NIED **28** 20:18:00, 41.80N×144.40E, h20km, Mw4.7 Best double couple: M0 1.30000×10^16 NP1:φs 14.00000°, δ 75.00000°, λ 55.00000°. NP2:φs 265.00000°, δ 38.00000°, λ 156.00000°.*
*IDC **28** 20:18:40.7±0.6, 41.81N×144.38E, h0km, mb4.5/18, mb1 4.6/20, mb1mx4.5/26, mbtmp4.5/20, ML3.7/3, MS4.1/13, Ms1 4.1/13, ms1mx3.7/32, Error ellipse: s-maj=18.4km s-min=13.6km az=104.0*
*ISCJB **28** 20:18:43.2±1.2, 41.78N±0.04×144.35E±0.05, h28km±8km, mb4.8/105, MS4.2/29, Error ellipse: s-maj=7.4km s-min=4.3km az=89.9*
*BJI **28** 20:18:43.5, 41.93N×144.31E, h30km, mB5.0, mb4.8, Ms4.4, Msz4.1*
*MOS **28** 20:18:44.7±0.9, 41.87N×144.17E, h33km, mb5.1/50, MS4.4/20, Error ellipse: s-maj=7.9km s-min=4.7km az=112.0*
*JMA **28** 20:18:44.4±0.2, 41.81N×144.41E, h36km±3km, M4.6*
JMA Felt I J1.
*NEIC **28** 20:18:45.6±0.3, 41.89N×144.29E, mb5.0/51, MS4.7/4, MW4.7(NIED), Error ellipse: s-maj=8.3km s-min=4.3km az=142.0*
NEIC Recorded [1 JMA] in south-central Hokkaido.
*SZGRF **28** 20:18:50.2, 42.88N×144.60E, h33km, mb4.9, MS4.7, Hokkaido, Japan, region*

ISC 28 20:18:45.3±1.2, 41.87N±0.04×144.36E±0.05, h30km±8km, h25km±2.1km: pP-P, n254, σ0♀93/261, mb4.8/105, MS4.2/29, 17C-11D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.91**	**280**	P		**Pn**	**20 19 02.3**	**+0.3**
JCH	**Churui**	**1.05**	**316**	⇑P		**Pn**	**20 19 04.1**	**+0.1**
JCH				*e*S		**Sn**	**20 19 19.5**	**+1.9**
JOB	**Onbets**	**1.10**	**340**	⇑P		**Pn**	**20 19 05.1**	**+0.4**
JAK	**Akkeshi**	**1.15**	**12**	⇑P		**Pn**	**20 19 04.9**	**-0.5**
JAK				*e*S		**Sn**	**20 19 20.6**	**+0.4**
JNBK	**Urakawa-nobuka**	**1.26**	**290**	⇑P		**Pn**	**20 19 08.0**	**+1.1**
YUK	**Yuzh-Kuril'sk**	**2.43**	**27**	P		**Pn**	**20 19 25.1**	**+2.1**
YUK				*i* S		**Sn**	**20 19 54.9**	**+3.2**
YUK				pmax	pmax			
	comp=N,270nm,0.5s							
YUK				pmax	pmax			
	comp=E,210nm,0.5s							
YUK				pmax	pmax			
	comp=Z,390nm,0.5s							
YUK				pmax	pmax			
	comp=E,3μm,2.0s							
YUK				pmax	pmax			
	comp=Z,3μm,2.0s							
YUK				smax				
	comp=N,5μm,1.0s							
YUK				smax				
	comp=E,2μm,1.0s							
YUK				smax				
	comp=N,2μm,0.4s							
YUK				smax				
	comp=E,2μm,0.6s							
ASAJ	**Asahikawa**	**2.59**	**331**	Pn		**Pn**	**20 19 25.8**	**+0.6**
	comp=E,5.0nm,0.3s,baz=201,slow=16,SNR=43							
ASAJ	**Asahikawa**	**2.59**	**331**	P		**Pn**	**20 19 25.8**	**+0.6**
ASAJ				pmax	pmax			
	comp=Z,5.0nm,0.3s							
KUR	**Kuril'sk**	**4.22**	**36**	*e*P		**Pn**	**20 19 43.5**	**-4.1**
KUR				*e*S		**Sn**	**20 20 48.0**	**+12**
KUR				pmax	pmax			
	comp=N,80nm,0.6s							
KUR				pmax	pmax			
	comp=E,80nm,0.6s							
KUR				pmax	pmax			
	comp=Z,160nm,0.6s							
KUR				smax				
	comp=N,940nm,1.0s							
KUR				smax				
	comp=E,530nm,1.0s							
KUR				smax				
	comp=N,4μm,3.0s							
KUR				smax				
	comp=E,2μm,3.0s							
YSS	**Yuzh-Sakhalins**	**5.21**	**348**	*e*P		**Pn**	**20 20 02.8**	**+1.6**
YSS				*e*S		**Sn**	**20 20 55.0**	**-5.3**
YSS				MLR	MLR			
	comp=N,1μm,14.0s							
YSS				MLR	MLR			
	comp=Z,1μm,14.0s							
YSS				MLR	MLR			
	comp=E,500nm,13.0s							
MAJO	**Matsushiro**	**7.15**	**224**	*e*P		**Pn**	**20 20 27.3**	**-0.5**
MAJO				pmax	pmax			
	comp=Z,36nm,0.6s							
MAJO	**Matsushiro**	**7.15**	**224**	*e*Pn		**Pn**	**20 20 27.3**	**-0.5**
	comp=Z,36nm,0.6s							
MAT	**Matsushiro**	**7.15**	**224**	P		**Pn**	**20 20 27.4**	**-0.4**
MAT				S		**Sn**	**20 21 50.2**	**+2.3**
MAT	**Matsushiro**	**7.15**	**224**	*e*P		**Pn**	**20 20 27.0**	**-0.8**
MAT				*e*S		**Sn**	**20 21 50.0**	**+2.1**
MAT				pmax	pmax			
	comp=Z,24nm,0.9s							
MAT	**Matsushiro**	**7.15**	**224**	*e*P		**Pn**	**20 20 27.0**	**-0.8**
	comp=Z,24nm,0.9s							
MAT				*e*S		**Sn**	**20 21 50.0**	**+2.1**
MJAR	**Matsushiro Arr**	**7.15**	**224**	Pn		**Pn**	**20 20 27.6**	**-0.2**
	comp=Z,2.3nm,0.3s,baz=30,slow=14,SNR=41							
MJAR				LR	LR		20 23 29.6	
	comp=Z,734nm,21.9s,baz=55,slow=41							
UGL	**Uglegorsk**	**7.39**	**348**	*e*P		**Pn**	**20 20 38.0**	**+6.9**
UGL				pmax	pmax			
	comp=Z,29nm,0.7s							
HABR	**Khabarovsk**	**9.31**	**318**	*e*P		**Pn**	**20 20 56.0**	**-1.5**
HABR				*e*			20 22 33.4	
JHJ	**Hachijo jima 2**	**9.46**	**204**	Pn		**Pn**	**20 20 56.8**	**-2.7**
	comp=Z,8.5nm,0.3s,baz=64,slow=15,SNR=2.7							
JHJ				Sn		**Sn**	**20 22 34.8**	**-10**
	comp=Z,28nm,0.3s,baz=63,slow=20,SNR=6.8							
MDJ	**Mudanjiang**	**11.12**	**289**	P		**Pn**	**20 21 27.8**	**+5.6**
MDJ				AMB	AMB			
	comp=Z,22nm,0.9s							
MDJ				AMB	AMB			
	comp=Z,128nm,5.2s							
MDJ	**Mudanjiang**	**11.12**	**289**	*e*Pn		**Pn**	**20 21 21.6**	**-0.6**
	comp=Z,19nm,0.9s							
KLR	**Kul'dur**	**11.49**	**314**	*e*P		**Pn**	**20 21 27.4**	**+0.1**
KLR				MLR	MLR			
	comp=N,900nm,13.0s							
KLR				MLR	MLR			
	comp=E,700nm,13.0s							
KLR				MLR	MLR			
	comp=Z,2μm,13.0s							
SKR	**Severo-Kuril's**	**11.98**	**39**	*e*		**Sn**	**20 23 46.0**	**-0.6**
SKR				MLR	MLR			
	comp=E,3μm,14.0s							
SKR				MLR	MLR			
	comp=Z,2μm,14.0s							
KS15	**Wonju Array Si**	**13.44**	**256**	*e*Pn		**Pn**	**20 21 54.1**	**+0.2**
JNU	**Nakatsue**	**13.80**	**235**	LR		LR	20 28 00.2	
	comp=Z,1μm,18.9s,baz=215,slow=41							
CN2	**Changchun**	**14.01**	**284**	*e*P		**Pn**	**20 22 01.5**	**-0.2**
CN2				*e*S		**Sn**	**20 24 42.8**	**+6.6**
CN2				AMB	AMB			
	comp=Z,20nm,0.8s							
CN2				LR	LR			
	comp=N,680nm,14.0s							
CN2				LR	LR			
	comp=E,1μm,14.0s							
CN2				LR	LR			
	comp=Z,1μm,14.0s							
PET	**Petropavlovsk**	**14.73**	**36**	*e*P		**Pn**	**20 22 13.3**	**+1.7**
PET				MLR	MLR			
	comp=Z,500nm,15.0s							
SNY	**Shenyang**	**15.49**	**277**	⇑P		**Pn**	**20 22 20.5**	**-1.0**
SNY				AP	pP		20 22 32.0	-1.5
SNY				PP			20 22 34.8	
SNY				AMB	AMB			
	comp=Z,10.0nm,0.6s							
SNY				LR	LR			
	comp=N,360nm,14.4s							
SNY				LR	LR			
	comp=E,469nm,15.6s							
SNY				LR	LR			
	comp=Z,631nm,16.3s							
DL2	**Dalian**	**17.56**	**268**	P		**Pn**	**20 22 47.8**	**0.0**
DL2				*e*S		**Sn**	**20 26 01.5**	**-0.9**
DL2				AMB	AMB			
	comp=Z,20nm,0.7s							
DL2				LR	LR			
	comp=N,190nm,14.5s							
DL2				LR	LR			
	comp=E,110nm,17.1s							
DL2				LR	LR			
	comp=Z,290nm,13.8s							
HIA	**Hailar**	**18.70**	**302**	*e*P		**Pn**	**20 23 00.1**	**-1.6**
HIA				pmax	pmax			
	comp=Z,33nm,0.6s							
HIA	**Hailar**	**18.70**	**302**	*e*P		**Pn**	**20 23 00.1**	**-1.6**
	comp=Z,33nm,0.6s							
NRGR	**Nerungri**	**19.47**	**326**	*e*P		**Pn**	**20 23 08.6**	**-2.4**
NRGR				pmax	pmax			
	comp=Z,130nm,0.5s							
CLNS	**Chul'man**	**19.52**	**327**	*e*P		**Pn**	**20 23 02.6**	**-8.9**
CLNS				pmax	pmax			
	comp=Z,10.0nm,1.0s							
CLNS				pmax	pmax			
	comp=N,8.0nm,0.8s							
CLNS				pmax	pmax			
	comp=E,12nm,0.9s							
CLNS				pmax	pmax			
	comp=N,32nm,0.8s							
CLNS				pmax	pmax			
	comp=E,27nm,0.8s							
CLNS				pmax	pmax			
	comp=Z,85nm,0.8s							
BJI	**Beijing**	**21.33**	**275**	P		**P**	**20 23 27.8**	**-2.0**
BJI				AMB	AMB			
	comp=Z,10.0nm,1.0s,mb4.1							
BJI				LR	LR			
	comp=N,818nm,16.5s,MS4.3							
BJI				LR	LR			
	comp=E,437nm,16.5s,MS4.3							
BJI				LR	LR			
	comp=Z,479nm,16.5s,MS4.0							
BJT	**Baijiatuao**	**21.34**	**274**	*e*P		**P**	**20 23 28.2**	**-1.7**
BJT				pmax	pmax			
	comp=Z,16nm,0.8s							
BJT	**Baijiatuao**	**21.34**	**274**	*e*P		**P**	**20 23 28.1**	**-1.7**
	comp=Z,16nm,0.8s,mb4.4							
SSE	**Sheshan**	**21.45**	**247**	P		**P**	**20 23 32.8**	**+1.7**
SSE				AP			20 23 40.8	
SSE				XP	sP		20 23 45.0	+2.2
SSE				S		**S**	**20 27 29.5**	**+2.2**
SSE				AMB	AMB			
	comp=Z,19nm,0.7s,mb4.5							
SSE				AMB	AMB			
	comp=Z,154nm,3.8s							
SSE				LR	LR			
	comp=N,130nm,20.0s,MS3.6							
SSE				LR	LR			
	comp=E,196nm,20.0s,MS3.6							
SSE				LR	LR			
	comp=Z,179nm,16.7s,MS3.5							
SSE	**Sheshan**	**21.45**	**247**	P		**P**	**20 23 32.8**	**+1.7**
	comp=Z,19nm,0.7s,mb4.5							
SSE				pP			20 23 40.8	
SSE				sP	sP		20 23 44.9	+2.1
SSE				S		**S**	**20 27 29.4**	**+2.1**
SSE				sS	sS		20 27 43.2	+3.1
SSE				LR	LR			
	comp=Z,180nm,16.7s,MS3.5							
YAK	**Yakutsk**	**22.02**	**341**	*e*P		**P**	**20 23 32.7**	**-4.5**
YAK				pmax	pmax			
	comp=Z,52nm,0.8s,mb5.0							
YAK	**Yakutsk**	**22.02**	**341**	*e*P		**P**	**20 23 32.7**	**-4.5**
	comp=Z,52nm,0.8s,mb5.0							
CIT	**Chita**	**23.19**	**307**	*e*P		**P**	**20 23 49.9**	**+0.3**
CIT				*e*			20 23 54.1	
CIT				pmax	pmax			
	comp=Z,120nm,1.1s,mb5.2							
HHC	**Hu-ho-hao-te**	**24.56**	**279**	*e*P		**P**	**20 23 59.0**	**-3.4**
HHC				AMB	AMB			
	comp=Z,8.0nm,1.4s,mb4.1							
HHC				AMB	AMB			
	comp=Z,134nm,6.8s							
WHN	**Wuhan**	**26.59**	**255**	⇓P		**P**	**20 24 21.5**	**+0.7**
ULN	**Ulaanbaatar**	**26.92**	**296**	*e*P		**P**	**20 24 24.1**	**+0.3**
ULN				pmax	pmax			
	comp=Z,48nm,1.1s,mb4.9							
ULN	**Ulaanbaatar**	**26.92**	**296**	*e*P		**P**	**20 24 24.1**	**+0.3**
	comp=Z,48nm,1.1s,mb4.9							
SONM	**Songino Array**	**27.36**	**296**	P		**P**	**20 24 28.0**	**+0.3**
	comp=Z,22nm,0.9s,mb4.7,baz=90,slow=5.4,SNR=53							
GUMO	**Guam**	**28.18**	**179**	LR		LR	20 33 55.0	
	comp=Z,73nm,18.9s,MS3.3,baz=107,slow=32							
BILL	**Bilibino**	**28.75**	**17**	*e*P		**P**	**20 24 39.5**	**-0.6**
BILL				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.3							
BILL				MLR	MLR			
	comp=Z,200nm,16.0s,MS3.8							
XAN	**Xi'an**	**28.86**	**266**	P		**P**	**20 24 41.3**	**+0.2**
XAN				AP	pP		20 24 48.5	-1.2
XAN				AMB	AMB			
	comp=Z,10.0nm,1.3s,mb4.4							
IRK	**Irkutsk**	**28.87**	**305**	*e*P		**P**	**20 24 41.8**	**+0.6**
IRK				*e*			20 24 54.1	
IRK				*e*			20 25 28.7	
IRK				pmax	pmax			
	comp=Z,61nm,0.9s,mb5.3							
TLY	**Talaya**	**29.21**	**304**	*e*P		**P**	**20 24 44.2**	**-0.1**
TLY				*e*S		**S**	**20 29 38.2**	**+3.3**
TLY				*e*SS		SS	20 31 00.6	-39
TLY				pmax	pmax			
	comp=Z,25nm,1.0s,mb4.9							
TLY				MLR	MLR			
	comp=Z,272nm,16.0s,MS4.0							
ZAK	**Zakamensk**	**29.39**	**301**	*e*P		**P**	**20 24 45.9**	**0.0**
ZAK				pmax	pmax			
	comp=Z,21nm,1.4s,mb4.7							
ZAK				pmax	pmax			
	comp=Z,7.0nm,2.0s,mb4

LZH pP pP 20 25 17.5 +1.7
LZH sP sP 20 25 21.7 +2.3
LZH PP PP 20 26 13.2 -6.0
LZH S **S** **20 30 14.3 -1.2**
LZH sS sS 20 30 30.1 +0.3
LZH SS SS 20 32 05.4 -27
LZH LR LR
comp=Z,1μm,15.3s,MS4.8
GTA Gaotai 33.61 281 *e*P **P** **20 25 23.8 +0.9**
GTA AP pP 20 25 35.0 +3.4
GTA XP sP 20 25 39.3 +4.1
GTA AMB AMB
comp=Z,12nm,0.8s,mb4.9
GTA AMB AMB
comp=Z,153nm,5.3s
GTA LR LR
comp=N,445nm,16.0s,MS4.4
GTA LR LR
comp=E,451nm,16.7s,MS4.4
GTA LR LR
comp=Z,672nm,16.7s,MS4.4
CD2 Chengdu 34.18 265 ⇓*i*P **P** **20 25 28.5 +0.6**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 LR LR
comp=N,190nm,13.2s
CD2 LR LR
comp=Z,150nm,10.2s,MS4.0
KMI Kunming 38.10 257 ⇑P **P** **20 26 02.5 +1.1**
KMI PP PP 20 27 28.5 -0.3
KMI AMB AMB
comp=Z,14nm,0.9s,mb4.7
KMI LR LR
comp=N,286nm,17.6s,MS4.3
KMI LR LR
comp=E,312nm,15.5s,MS4.3
KMI LR LR
comp=Z,368nm,13.6s,MS4.4
KMI Kunming 38.10 257 ⇑P **P** **20 26 02.4 +1.0**
KMI 20 27 28.4
KMI 20 28 17.7
KMI S **S** **20 31 54.5 +2.1**
KMI SS SS 20 34 29.6 -11
KMI 20 36 12.6
KMI pmax pmax
comp=Z,14nm,0.9s,mb4.7
KMI MLR MLR
comp=Z,370nm,13.6s,MS4.4
KMI Kunming 38.10 257 ⇑P **P** **20 26 02.4 +1.0**
comp=Z,14nm,0.9s,mb4.7
KMI pP pP 20 26 05.5 -4.7
KMI sP sP 20 26 06.9 -6.9
KMI PP PP 20 27 28.4 -0.4
KMI PcP PcP 20 28 17.7 +1.6
KMI S **S** **20 31 54.5 +2.1**
KMI SS SS 20 34 29.6 -11
KMI ScS ScS 20 36 12.6 +1.5
KMI LR LR
comp=Z,370nm,13.6s,MS4.4
TTA Tatalina 40.18 38 *e*P **P** **20 26 19.1 +0.3**
TTA pmax pmax
comp=Z,13nm,1.2s,mb4.5
TTA Tatalina 40.18 38 *e*P **P** **20 26 19.1 +0.3**
comp=Z,13nm,1.2s,mb4.5
SVW2 Sparrevohn 40.33 41 *e*P **P** **20 26 19.6 -0.4**
ZAL Zalesovo 40.54 308 P **P** **20 26 21.6 -0.1**
comp=Z,12nm,0.8s,mb4.6,baz=23,slow=9.0,SNR=67
ZAL LR LR 20 45 00.2
comp=Z,260nm,18.4s,MS4.1,baz=35,slow=39
WMQ Urumqi 40.90 293 *e*P **P** **20 26 25.0 +0.3**
NVS Novosibirsk 41.32 310 *e*P **P** **20 26 26.4 -1.8**
NVS pmax pmax
comp=N,7.0nm,1.4s
NVS pmax pmax
comp=E,21nm,1.4s
NVS pmax pmax
comp=Z,19nm,1.4s,mb4.5
KDAK Kodiak Island 42.03 46 P **P** **20 26 33.5 -0.5**
comp=Z,3.8nm,0.8s,mb4.1,baz=186,slow=8.8,SNR=6.8
KDAK Kodiak Island 42.03 46 *e*P **P** **20 26 34.1 0.0**
comp=Z,19nm,1.3s,mb4.6
SLKM Skilak Lake 42.98 41 *e*P **P** **20 26 42.2 +0.4**
SLKM *e**PP pP 20 26 51.5 +0.9
MK31 Makanchi Array 43.65 298 P **P** **20 26 46.8 -0.4**
MK31 pmax pmax
comp=Z,16nm,0.8s,mb4.8
MKAR Makanchi Array 43.65 298 P **P** **20 26 46.9 -0.3**
comp=Z,4.5nm,0.8s,mb4.3,baz=82,slow=8.7,SNR=31
COLA College 43.80 35 *e*P **P** **20 26 48.7 +0.4**
COLA pmax pmax
comp=Z,11nm,0.8s,mb4.6
COLA College 43.80 35 *e*P **P** **20 26 48.7 +0.3**
comp=Z,11nm,0.8s,mb4.7
LSA Lhasa 44.19 272 P **P** **20 26 54.0 +2.5**
LSA Lhasa 44.19 272 *e*P **P** **20 26 53.3 +1.8**
LSA pmax pmax
comp=Z,13nm,1.0s,mb4.6
LSA Lhasa 44.19 272 *e*P **P** **20 26 53.3 +1.8**
comp=Z,13nm,1.0s,mb4.6
ILAR Eielson Array 44.21 35 P **P** **20 26 51.6 0.0**
comp=Z,3.9nm,0.9s,mb4.1,baz=255,slow=4.8,SNR=10
CHTO Chiang Mai 44.78 253 *e*P **P** **20 26 57.2 +1.0**
CHTO pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
CHTO Chiang Mai 44.78 253 *e*P **P** **20 26 57.2 +1.0**
comp=Z,8.1nm,0.8s,mb4.6
KURK Kurchatov 44.90 305 P **P** **20 26 56.4 -0.7**
comp=Z,193nm,0.7s,SNR=5.8
DAWY Dawson 47.53 35 *e*P **P** **20 27 17.8 0.0**
CHKZ Chkalovo 48.79 311 P **P** **20 27 26.3 -1.2**
CHKZ pmax pmax
comp=Z,23nm,0.9s,mb5.2
VOSK Vostochnaya 48.87 309 P **P** **20 27 28.2 0.0**
VOSK pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
JIRN Jiri 48.97 273 *e*P **P** **20 27 30.0 +1.1**
comp=Z,34nm,1.1s,mb5.3
INK Inuvik 49.06 29 P **P** **20 27 28.9 -0.8**
comp=Z,7.0nm,0.8s,mb4.7,baz=282,slow=6.3,SNR=9.0
INK Inuvik 49.06 29 *e*P **P** **20 27 29.9 +0.3**
GUN Gumba 49.06 273 *e*P **P** **20 27 30.5 +0.8**
comp=Z,72nm,0.7s,mb5.8
BVA0 Borovoye Array 49.12 310 *i* P **P** **20 27 29.9 -0.2**
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
BRVK Borovoye 49.17 310 P **P** **20 27 30.8 +0.3**
comp=Z,116nm,0.8s,SNR=9.3
BRVK Borovoye 49.17 310 *e*P **P** **20 27 30.2 -0.3**
BRVK pmax pmax
comp=Z,13nm,1.0s,mb4.9
BRVK Borovoye 49.17 310 *e*P **P** **20 27 30.2 -0.3**
comp=Z,13nm,1.0s,mb4.9
TKM2 Tokmak 2 49.46 296 P **P** **20 27 33.0 +0.3**
TKM2 pmax pmax
comp=Z,11nm,0.7s,mb5.0
KKN Kakani 49.58 273 *e*P **P** **20 27 33.7 +0.1**
comp=Z,40nm,0.8s,mb5.5
KKN Kakani 49.58 273 *e*P **P** **20 27 33.7 +0.1**
KKN pmax pmax
comp=Z,40nm,0.8s,mb5.5
PKI Pulchoki 49.60 273 *e*P **P** **20 27 34.1 +0.4**
comp=Z,35nm,1.0s,mb5.3
PKI Pulchoki 49.60 273 *e*P **P** **20 27 34.1 +0.4**
PKI pmax pmax
comp=Z,35nm,1.0s,mb5.3
DMN Daman 49.80 273 *e*P **P** **20 27 36.1 +0.8**
comp=Z,17nm,0.7s,mb5.2
ZRNK Zerenda 49.93 310 P **P** **20 27 36.0 -0.3**
ZRNK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
GKN Gorkha 49.94 274 *e*P **P** **20 27 36.6 +0.2**
comp=Z,16nm,0.6s,mb5.2
FRU Bishkek 50.16 296 *e*P **P** **20 27 38.0 0.0**
FRU *e* 20 29 36.0
AAK Ala-Archa 50.32 296 *e*P **P** **20 27 38.6 -0.6**
AAK pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
KOLN Koldanda 50.84 274 *e*P **P** **20 27 43.9 +0.8**
comp=Z,39nm,1.0s,mb5.3
KKAR Karatay Array 52.78 298 *i* P **P** **20 27 56.5 -1.1**
KKAR pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
SOKR Solikamsk 53.95 321 *d*↓P **P** **20 28 06.0 -0.2**
SOKR pmax pmax
comp=Z,30nm,1.3s,mb5.1
SOKR MLR MLR
comp=Z,250nm,15.0s,MS4.4
ARU Arti 54.32 317 P **P** **20 28 08.8 -0.1**
comp=Z,265nm,1.1s,SNR=14
ARU Arti 54.32 317 ⇑*i*P **P** **20 28 08.4 -0.5**
ARU *e* 20 30 05.5
ARU *e*PPP 20 31 17.8
ARU *e*S **S** **20 35 41.9 -2.9**
ARU *e*SS SS 20 39 19.5 -7.5
ARU pmax pmax
comp=Z,37nm,0.8s,mb5.4
ARU MLR MLR
comp=N,100nm,19.0s,MS4.2
ARU MLR MLR
comp=E,200nm,19.0s,MS4.2
ARU MLR MLR
comp=Z,200nm,19.0s,MS4.2
ARU Arti 54.32 317 *e*P **P** **20 28 08.2 -0.7**
comp=Z,44nm,0.9s,mb5.4
ARU *e*pP pP 20 28 16.7 -1.2
PSI Prapat 56.23 239 P **P** **20 28 23.8 +1.1**
comp=Z,2.1nm,0.4s,mb4.5,baz=356,slow=9.6,SNR=3.8
PSI LR LR 20 52 48.0
comp=Z,139nm,18.6s,MS4.1,baz=169,slow=36
PSI Prapat 56.23 239 P **P** **20 28 23.8 +1.1**
PSI LR LR 20 52 48.0
AB31 Akbulak array 56.64 309 *i* P **P** **20 28 25.5 -0.1**
AB31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
AKTK Aktyubinsk 57.20 311 P **P** **20 28 31.5 +1.9**
AKTK LR LR 20 55 20.6
AKTO Aktyubinsk 57.20 311 P **P** **20 28 31.5 +1.9**
comp=Z,7.6nm,0.9s,mb4.7,baz=58,slow=12,SNR=14
AKTO LR LR 20 55 20.6
comp=Z,127nm,19.0s,MS4.0,baz=100,slow=38
YKA Yellowknife Ar 58.50 32 P **P** **20 28 40.1 +1.4**
comp=Z,0.8nm,0.7s,mb3.8,baz=296,slow=5.8,SNR=3.7
KEV Kevo 59.74 339 *ep* **P** **20 28 44.0 -3.3**
comp=Z,0.5nm,0.3s,mb4.0
KEV Kevo 59.74 339 *e*P **P** **20 28 44.0 -3.3**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
ARCES ARCESS Array B 60.28 339 P **P** **20 28 50.5 -0.5**
comp=Z,2.7nm,0.8s,mb4.3,baz=51,slow=7.1,SNR=10
KLMR Klimovskoe 60.91 327 *c i*P **P** **20 28 54.3 -1.0**
KLMR *e* 20 31 09.8
KLMR pmax pmax
comp=Z,20nm,1.5s,mb5.0
KLMR MLR MLR
comp=Z,390nm,18.0s,MS4.6
DAG Danmarks Havn 61.15 356 ⇑*i*P **P** **20 28 56.2 -0.7**
comp=Z,5.2nm,0.8s,mb4.7
DAG Danmarks Havn 61.15 356 ⇑*i*P **P** **20 28 56.2 -0.7**
DAG pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
WRA Warramunga Arr 62.19 191 P **P** **20 29 02.6 -1.3**
comp=Z,2.7nm,0.6s,mb4.6,baz=7.4,slow=6.7,SNR=38
JOF Joensuu 62.78 332 *ep* **P** **20 29 06.4 -1.5**
comp=Z,1.0nm,0.3s,mb4.4
JOF Joensuu 62.78 332 *e*P **P** **20 29 06.4 -1.5**
JOF pmax pmax
comp=Z,1.0nm,0.3s,mb4.4
ABKT Ailbek 63.53 298 P **P** **20 29 12.1 -0.7**
comp=Z,85nm,0.7s,mb5.9,SNR=7.3
MOS Moscow 64.74 323 *e*P **P** **20 29 18.1 -2.6**
MOS pmax pmax
comp=Z,35nm,1.3s,mb5.2
KAF Kangasniemi 65.06 333 *ep* **P** **20 29 21.1 -1.7**
comp=Z,0.7nm,0.3s,mb4.2,baz=46,slow=6.2
KAF Kangasniemi 65.06 333 *e*P **P** **20 29 21.1 -1.7**
KAF pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
OBN Obninsk 65.60 323 *e*P **P** **20 29 25.7 -0.6**
OBN *e* 20 30 04.5
OBN pmax pmax
comp=Z,32nm,1.2s,mb5.2
OBN MLR MLR
comp=Z,300nm,16.0s,MS4.6
FINES FINESS Array B 65.60 332 P **P** **20 29 25.7 -0.6**
comp=Z,14nm,0.8s,mb5.0,baz=53,slow=7.6,SNR=30
FINES LR LR 21 01 11.4
comp=Z,345nm,19.4s,MS4.6,baz=49,slow=39
JMIC Jan Mayen 65.77 351 LR LR 21 00 48.2
comp=Z,48nm,19.7s,MS3.7,baz=48,slow=38
SUMG Summit 65.84 1 *e*P **P** **20 29 28.4 +0.5**
comp=Z,26nm,0.8s,mb5.3
ASAR Alice Springs 65.92 190 P **P** **20 29 28.6 +0.2**
comp=Z,0.9nm,0.6s,mb4.0,baz=354,slow=4.9,SNR=22
VRSR Storozhevoye 66.79 319 *e*P **P** **20 29 33.9 -0.1**
VRSR pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
VRSR pmax pmax
comp=N,2.0nm,0.8s
VRSR pmax pmax
comp=E,1.0nm,0.9s
OHCM Honcut 67.81 57 P **P** **20 29 41.8 +1.4**
KIV Kislovodsk 69.46 311 *e*P **P** **20 29 51.3 +0.5**
KIV *e* 20 30 14.3
KIV *e*S S 20 38 52.8 -3.4
KIV *e*SS SS 20 43 18.6 -5.2
KIV pmax pmax
comp=Z,47nm,1.1s,mb5.3
KIV MLR MLR
comp=Z,187nm,16.0s,MS4.4
BOZ Bozeman (W) 69.69 47 *e*P **P** **20 29 53.5 +1.3**
BOZ pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
BOZ Bozeman (W) 69.69 47 *e*P **P** **20 29 53.5 +1.4**
comp=Z,6.8nm,0.7s,mb4.7
NB2 NORSAR Subarra 70.59 338 P **P** **20 29 57.0 -0.7**
comp=Z,8.1nm,0.8s,mb4.7,baz=32,slow=6.9
NOA NORSAR Array B 70.59 338 P **P** **20 29 56.9 -0.8**
comp=Z,8.1nm,0.8s,mb4.7,baz=35,slow=6.1,SNR=18
HFS Hagfors 70.61 336 LR LR 21 04 27.0
comp=Z,213nm,19.3s,MS4.4,baz=32,slow=39
FRB Frobisher Bay 71.54 15 LR LR 21 06 16.2
comp=Z,128nm,19.1s,MS4.2,baz=307,slow=40
AKASG Malin Array Be 71.85 323 P **P** **20 30 04.8 -0.5**
comp=Z,9.6nm,0.6s,mb4.9,baz=43,slow=5.9,SNR=40
KWP Kalwaria 75.50 325 *e*P **P** **20 30 27.5 +0.8**
OJC Ojcow 76.27 327 *e*Pc **P** **20 30 31.5 +0.4**
NIE Niedzica 76.67 326 *e*P **P** **20 30 34.7 +1.3**
BSEG Bad Segeberg 76.75 334 *e*P **P** **20 30 33.8 0.0**
comp=Z,14nm,1.0s,mb4.8
BSEG Bad Segeberg 76.75 334 *e*P **P** **20 30 33.8 0.0**
BSEG pmax pmax
comp=Z,14nm,1.0s,mb4.8
RUE Ruedersdorf 76.77 331 *e*P **P** **20 30 34.3 +0.4**
comp=Z,15nm,0.9s,mb4.9
OKC Ostrava-Krasne 77.23 328 ⇓*i*P **P** **20 30 37.3 +0.8**
OKC *e*pP pP 20 30 43.1 -2.8
OKC AMS AMS 21 06 10.0
comp=Z,100nm,11.3s
BRTR Keskin Array B 77.32 312 P **P** **20 30 37.3 +0.3**
comp=Z,2.4nm,0.7s,mb4.2,baz=68,slow=3.5,SNR=10.0
MORC Moravsky Berou 77.52 328 *e*P **P** **20 30 39.0 +0.9**
MORC *e* pP 20 30 46.0 -1.5
MORC pmax pmax
comp=Z,12nm,0.9s,mb4.8
MORC Moravsky Berou 77.52 328 *e*P **P** **20 30 39.0 +0.8**
comp=Z,12nm,0.9s,mb4.8
MORC *e* pP 20 30 46.0 -1.6
UPC Upice 77.53 329 ⇓*i*P **P** **20 30 39.1 +0.9**
UPC *e*pP pP 20 30 44.0 -3.6
DPC Dobruska-Polom 77.54 329 ⇓*i*P **P** **20 30 39.4 +1.1**
DPC *e*pP pP 20 30 45.0 -2.6
ANTO Ankara 77.69 313 *e*P **P** **20 30 40.2 +1.1**
ANTO pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
ANTO Ankara 77.69 313 *e*P **P** **20 30 40.2 +1.2**
comp=Z,7.5nm,0.7s,mb4.7
CLL Collm 78.00 331 *e*P **P** **20 30 40.5 -0.3**
comp=Z,26nm,0.9s,mb5.2
CLL Collm 78.00 331 ⇑*i*P **P** **20 30 40.6 -0.2**
comp=Z,26nm,0.9s,mb5.2
CLL *es*P sP 20 30 56.0 +2.3
CLL LmV 21 08 00.0
comp=Z,400nm,19.5s
CLL Collm 78.00 331 ⇑*i*P **P** **20 30 40.6 -0.2**
comp=Z,26nm,0.9s,mb5.2
CLL *e* 20 30 56.0
BRG Berggiesshubel 78.02 330 *e*P **P** **20 30 40.9 0.0**
comp=Z,9.0nm,1.0s,mb4.7
BRG Berggiesshubel 78.02 330 *e*P **P** **20 30 40.9 0.0**
BRG pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
PVCC Panska Ves 78.06 330 ⇓*i*P **P** **20 30 42.1 +0.9**
PVCC *e*pP pP 20 30 50.0 -0.6
PVCC AMS AMS 21 08 00.0
comp=Z,800nm,20.6s
VRAC Vranov 78.27 328 LR LR 21 08 40.6
comp=Z,194nm,19.3s,MS4.5,baz=309,slow=38
CLZ Clausthal 78.48 333 *e*P **P** **20 30 43.9 +0.4**
comp=Z,20nm,1.0s,mb5.0
CLZ Clausthal 78.48 333 *e*P **P** **20 30 43.9 +0.4**
CLZ pmax pmax
comp=Z,20nm,1.0s,mb5.0
PRU Pruhonice 78.51 330 ⇓*i*P **P** **20 30 44.5 +0.9**
PRU *e*pP pP 20 30 51.6 -1.4
PRU AMS AMS 21 08 40.0
comp=Z,200nm,19.9s
TREC Trest 78.71 329 ⇓AMS AMS 21 07 50.0
comp=Z,200nm,20.5s
IBBN Ibbenburen 78.95 335 *e*P **P** **20 30 46.1 0.0**
comp=Z,13nm,0.8s,mb4.9
WERD Werda 78.96 331 *e*P **P** **20 30 46.3 +0.2**
comp=Z,7.0nm,1.0s,mb4.5
MOX Moxa 79.05 332 *e*P **P** **20 30 46.5 -0.1**
comp=Z,13nm,1.2s,mb4.7
NKC Novy Kostel 79.09 331 ⇓*i*P **P** **20 30 47.2 +0.4**
NKC *e*pP pP 20 30 53.5 -2.7
NKC AMS AMS 21 09 00.0
comp=Z,300nm,18.1s
MANZ Manzenberg 79.42 331 *e*P **P** **20 30 48.7 +0.1**
comp=Z,6.0nm,1.0s,mb4.5
ROTZ Rotzenmuhle 79.56 331 *e*P **P** **20 30 50.0 +0.6**
comp=Z,10.0nm,1.0s,mb4.7
KHC Kasperske Hory 79.58 330 ⇓*i*P **P** **20 30 50.2 +0.7**
KHC *e*pP pP 20 30 57.5 -1.4
KHC AMS AMS 21 10 20.0
comp=Z,300nm,14.3s
GEC2 GERESS Array S 79.76 329 *e*P **P** **20 30 50.9 +0.4**
comp=Z,7.0nm,1.1s,mb4.5
GEC2 GERESS Array S 79.76 329 *e*P **P** **20 30 50.9 +0.4**
GEC2 pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
GERES GERESS Array B 79.76 329 P **P** **20 30 50.6 +0.1**
comp=Z,3.4nm,0.8s,mb4.3,baz=33,slow=5.4,SNR=17
GERES GERESS Array B 79.76 329 P **P** **20 30 50.6 +0.1**
GERES pmax pmax
comp=Z,3.0nm,0.8s
WET Wettzell 79.83 330 *e*P **P** **20 30 51.3 +0.5**
comp=Z,16nm,1.0s,mb4.9
WET Wettzell 79.83 330 *e*P **P** **20 30 51.3 +0.5**
WET pmax pmax
comp=Z,16nm,1.0s,mb4.9
GRA1 Grafenberg Arr 79.98 331 *e*P **P** **20 30 52.5 +0.8**
comp=Z,26nm,1.0s,mb5.1
GRA1 LR LR
comp=Z,400nm,18.4s,MS4.8
GRF Grafenberg Arr 79.98 331 *e*P **P** **20 30 52.5 +0.8**
comp=Z,26nm,1.0s,mb5.1
GRF *e*L 21 10 04.5
comp=Z,358nm,18.4s
GRF Grafenberg Arr 79.98 331 *e*P **P** **20 30 52.5 +0.8**
GRF pmax pmax
comp=Z,26nm,1.0s,mb5.1
GRF MLR MLR
comp=Z,400nm,18.4s,MS4.8
GRF Grafenberg Arr 79.98 331 *e*P **P** **20 30 52.5 +0.8**
GRF pmax pmax
comp=Z,26nm,1.0s,mb5.1
GRF MLR MLR
comp=Z,400nm,18.4s,MS4.8
SCHQ Schefferville 80.06 18 P **P** **20 30 52.1 +0.1**
comp=Z,1.9nm,0.6s,mb4.2,baz=336,slow=9.9,SNR=4.0
SCHQ LR LR 21 07 16.1
comp=Z,77nm,21.1s,MS4.0,baz=107,slow=36
TNS Taunus Mts 80.50 333 *e*P **P** **20 30 54.6 +0.1**
comp=Z,6.0nm,1.0s,mb4.5
TNS Taunus Mts 80.50 333 *e*P **P** **20 30 54.6 +0.1**
TNS pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
PERS Pernice 81.01 327 *i* P **P** **20 30 57.5 +0.3**
FUR Furstenfeldbru 81.23 330 *e*P **P** **20 30 59.2 +0.8**
comp=Z,23nm,0.9s,mb5.1
FUR Furstenfeldbru 81.23 330 *e*P **P** **20 30 59.2 +0.8**
FUR pmax pmax
comp=Z,23nm,0.9s,mb5.1
STU Stuttgart 81.47 332 *e*P **P** **20 31 00.1 +0.4**
comp=Z,16nm,0.9s,mb5.0
WLF Walferdange 81.74 334 *e*P **P** **20 31 01.4 +0.3**
comp=Z,10.0nm,1.1s,mb4.7
BOJS Bojanci 81.87 327 *e*P **P** **20 31 01.5 -0.2**
BOJS *i* pP 20 31 10.9 -0.3
ROBS Robic 81.97 328 *e*P **P** **20 31 01.6 -0.7**
BAIF Baives 82.02 335 *e*P **P** **20 31 02.2 -0.3**
BFO Black Forest 82.16 332 *e*P **P** **20 31 03.3 +0.1**
comp=Z,6.0nm,1.0s,mb4.5
BFO Black Forest 82.16 332 *e*P **P** **20 31 03.3 +0.1**
BFO pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
CDF Champ du Feu 82.45 333 *e*P **P** **20 31 04.0 -0.8**
comp=Z,45nm,1.4s,mb4.9
CDF Champ du Feu 82.45 333 *e*P **P** **20 31 04.0 -0.8**
CDF pmax pmax
comp=Z,23nm,1.4s,mb4.9
CDF Champ du Feu 82.45 333 *e*P **P** **20 31 04.0 -0.8**
comp=Z,22nm,1.4s,mb4.9
HINF Hinteralfeld 83.11 333 *e*P **P** **20 31 07.6 -0.6**
HAU Haudompre 83.11 333 *e*P **P** **20 31 07.8 -0.4**
HAU *e*R
comp=Z,168nm,21.8s
HAU Haudompre 83.11 333 *e*P **P** **20 31 07.8 -0.4**
HAU LR LR
comp=Z,170nm,21.8s,MS4.4
MEZF Maizieres J'vi 83.11 334 *e*P **P** **20 31 07.7 -0.5**
comp=Z,32nm,1.1s,mb5.0
MEZF Maizieres J'vi 83.11 334 *e*P **P** **20 31 07.7 -0.5**
comp=Z,32nm,1.1s,mb5.3
CABF La Chapelle 84.41 333 *e*P **P** **20 31 14.1 -0.8**
LOR Lormes 84.58 334 *e*P **P** **20 31 14.7 -1.0**
comp=Z,18nm,0.9s,mb4.9
LOR *e*R
comp=Z,200nm,18.8s
LOR Lormes 84.58 334 *e*P **P** **20 31 14.7 -1.0**
LOR pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
LOR MLR MLR
comp=Z,200nm,18.8s,MS4.5
LOR Lormes 84.58 334 *e*P **P** **20 31 14.7 -1.0**
comp=Z,9.1nm,0.9s,mb4.9
LOR LR LR
comp=Z,200nm,18.8s,MS4.5
PPT Papeete 84.86 119 LR LR 21 00 28.8
comp=Z,253nm,22.0s,MS4.6,baz=346,slow=30
SSF Saint Saulge 84.88 334 *e*P **P** **20 31 16.5 -0.7**
comp=Z,6.7nm,0.8s,mb4.5
SSF Saint Saulge 84.88 334 *e*P **P** **20 31 16.5 -0.7**
SSF pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
SSF Saint Saulge 84.88 334 *e*P **P** **20 31 16.5 -0.7**
comp=Z,3.3nm,0.8s,mb4.5
GRR Gorron 85.02 338 *e*P **P** **20 31 17.4 -0.5**
comp=Z,22nm,0.8s,mb5.0
GRR Gorron 85.02 338 *e*P **P** **20 31 17.4 -0.5**
GRR pmax pmax
comp=Z,11nm,0.8s,mb5.0
GRR Gorron 85.02 338 *e*P **P** **20 31 17.4 -0.5**
comp=Z,11nm,0.8s,mb5.0
LPL La Plagne 85.13 332 *e*P **P** **20 31 17.9 -0.6**
SMF Signal de Mont 85.14 334 *e*P **P** **20 31 17.9 -0.6**
comp=Z,23nm,1.0s,mb5.0
SMF Signal de Mont 85.14 334 *e*P **P** **20 31 17.9 -0.6**
SMF pmax pmax
comp=Z,11nm,1.0s,mb4.9
SMF Signal de Mont 85.14 334 *e*P **P** **20 31 17.9 -0.6**
comp=Z,11nm,1.0s,mb5.0
LPG La Plagne 85.14 332 *e*P **P** **20 31 17.9 -0.6**
comp=Z,27nm,1.0s,mb5.0
LPG La Plagne 85.14 332 *e*P **P** **20 31 17.9 -0.6**
LPG pmax pmax
comp=Z,14nm,1.0s,mb5.0
LPG La Plagne 85.14 332 *e*P **P** **20 31 17.9 -0.6**
comp=Z,14nm,1.0s,mb5.0
AVF Avril sur Loir 85.17 334 *e*P **P** **20 31 18.0 -0.7**
comp=Z,30nm,1.0s,mb5.1
AVF Avril sur Loir 85.17 334 *e*P **P** **20 31 18.0 -0.7**
AVF pmax pmax
comp=Z,15nm,1.0s,mb5.1
AVF Avril sur Loir 85.17 334 *e*P **P** **20 31 18.0 -0.7**
comp=Z,15nm,1.0s,mb5.1

MBDF	**Montbardon**	**85.80**	**331**	*e*P		**P**	**20 31 21.0**	**-0.8**
ORIF	**Oris-en-Rattie**	**85.95**	**332**	*e*P		**P**	**20 31 21.7**	**-0.9**
	comp=Z,17nm,1.0s,mb4.9							
ORIF				*e*R				
	comp=Z,121nm,19.0s							
ORIF	**Oris-en-Rattie**	**85.95**	**332**	*e*P		**P**	**20 31 21.7**	**-0.9**
ORIF				pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.9							
ORIF	**Oris-en-Rattie**	**85.95**	**332**	*e*P		**P**	**20 31 21.7**	**-0.9**
	comp=Z,8.3nm,1.0s,mb4.9							
TCF	**Toulx Ste Croi**	**85.98**	**335**	*e*P		**P**	**20 31 21.9**	**-0.8**
VIVF	**Saint-Julien-l**	**86.43**	**333**	*e*P		**P**	**20 31 23.9**	**-1.0**
	comp=Z,21nm,1.0s,mb5.0							
VIVF	**Saint-Julien-l**	**86.43**	**333**	*e*P		**P**	**20 31 23.9**	**-1.0**
VIVF				pmax	pmax			
	comp=Z,10.0nm,1.0s,mb5.0							
VIVF	**Saint-Julien-l**	**86.43**	**333**	*e*P		**P**	**20 31 23.9**	**-1.0**
	comp=Z,10nm,1.0s,mb5.0							
MFF	**Saint Martin d**	**86.43**	**336**	*e*P		**P**	**20 31 24.2**	**-0.7**
	comp=Z,36nm,1.1s,mb5.2							
MFF	**Saint Martin d**	**86.43**	**336**	*e*P		**P**	**20 31 24.2**	**-0.7**
MFF				pmax	pmax			
	comp=Z,18nm,1.1s,mb5.2							
MFF	**Saint Martin d**	**86.43**	**336**	*e*P		**P**	**20 31 24.2**	**-0.7**
	comp=Z,18nm,1.1s,mb5.2							
PGF	**Pioggiola**	**86.83**	**329**	*e*P		**P**	**20 31 25.9**	**-1.0**
RJF	**Les Rejaudoux**	**87.08**	**335**	*e*P		**P**	**20 31 27.5**	**-0.6**
RJF				*e*R				
	comp=Z,143nm,22.2s							
RJF	**Les Rejaudoux**	**87.08**	**335**	*e*P		**P**	**20 31 27.5**	**-0.6**
RJF				LR	LR			
	comp=Z,140nm,22.3s,MS4.3							
LMR	**La Mourre**	**87.10**	**331**	*e*P		**P**	**20 31 26.7**	**-1.5**
	comp=Z,42nm,1.2s,mb5.2							
LMR	**La Mourre**	**87.10**	**331**	*e*P		**P**	**20 31 26.7**	**-1.5**
LMR				pmax	pmax			
	comp=Z,21nm,1.2s,mb5.2							
LMR	**La Mourre**	**87.10**	**331**	*e*P		**P**	**20 31 26.7**	**-1.5**
	comp=Z,21nm,1.2s,mb5.2							
CAF	**Calviac**	**87.24**	**334**	*e*P		**P**	**20 31 28.0**	**-0.9**
	comp=Z,28nm,1.1s,mb5.1							
CAF	**Calviac**	**87.24**	**334**	*e*P		**P**	**20 31 28.0**	**-0.9**
CAF				pmax	pmax			
	comp=Z,14nm,1.1s,mb5.1							
CAF	**Calviac**	**87.24**	**334**	*e*P		**P**	**20 31 28.0**	**-0.9**
	comp=Z,14nm,1.1s,mb5.1							
LASF	**Ste Croix**	**87.39**	**333**	*e*P		**P**	**20 31 28.9**	**-0.7**
	comp=Z,18nm,1.2s,mb4.9							
LFF	**La Frestale**	**87.65**	**335**	*e*P		**P**	**20 31 30.1**	**-0.7**
SNAA	**Sanae**	**146.04**	**198**	PKPbc	PKPbc		20 38 20.8	-1.4
	comp=Z,1.0nm,0.8s,baz=79,slow=6.2,SNR=9.5							
SNAA	**Sanae**	**146.04**	**198**	*e*PKPdf	PKPdf		20 38 16.8	-4.5
SNAA				*e*			20 38 19.9	
SNAA				*e*			20 38 20.8	
SNAA				*e*			20 38 22.5	
SNAA				*e*			20 38 28.1	
SNAA	**Sanae**	**146.04**	**198**	PKP2	PKPab		20 38 20.8	-2.0
SNAA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
VNA2	**Neumayer--Watz**	**147.59**	**197**	*e*PKPdf	PKPdf		20 38 26.2	+2.2
VNA2				*e*			20 38 28.0	
VNA2				*e*			20 38 30.5	
VNA2				*e*			20 38 32.0	
VNA2				*e*			20 38 36.4	
VNA2				*e*			20 38 42.2	
VNA2				*e*			20 38 51.7	
VNA3	**Neumayer Olymp**	**147.82**	**195**	*e*PKPdf	PKPdf		20 38 26.7	+2.4
VNA3				*e*			20 38 29.3	
VNA3				*e*			20 38 31.0	
VNA3				*e*			20 38 33.3	
VNA3				*e*			20 38 36.5	
VNA3				*e*			20 38 41.5	

*IDC **28** 20:19:08.9±0.7,5823N×148.15E,h0km,mb4.1/14, mb1 4.4/14,mb1mx4.2/24,mbtmp4.1/14,MS3.7/4, Ms1 3.7/4,ms1mx3.1/35,Error ellipse: s-maj=21.1km s-min=17.7km az=12.0*

*NERS **28** 20:19:08.8,5838N×14830E,h6km,MSH4.7,Felt I=II MSK at Magadan)*

*MOS **28** 20:19:09.4±1.4,5829N×14852E,h10km,mb4.7/13,Error ellipse: s-maj=12.5km s-min=7.0km az=94.8*

MOS Felt (II) at Magadan.

*ISCJB **28** 20:19:09.8±0.3,5837N±003×14847E±007,h10km, mb4.4/31,MS3.7/4,Error ellipse: s-maj=6.0km s-min=3.3km az=76.5*

*BJI **28** 20:19:12.9,5830N×14850E,h17km,mB4.5,mb4.6,Ms4.4, Msz4.1*

*NEIC **28** 20:19:12.5±4.5,5829N×14850E,h18km±28km,mb4.7/14, Error ellipse: s-maj=11.7km s-min=6.7km az=146.0*

NEIC Felt [II] at Magadan.

ISC 28 20:19:11.5±0.3,5844N±003×14836E±006,h10km,n89, σ1ᵍ24/103,mb4.4/31,MS3.7/4,3C-1D,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MA2	**Magadan**	**1.69**	**47**	*i*P	**Pn**	**20 19 39.9**	**-1.1**
MA2				⇓*i*Pg	**Pg**	**20 19 42.5**	**-1.4**
MA2				Pgmax		20 19 45.7	
	4μm,0.5s						
MA2				Pgmax		20 19 45.7	
	4μm,0.5s						
MA2				Pgmax		20 19 45.7	
	5μm,0.5s						
MA2				*i* Sg	**Sg**	**20 20 06.2**	**+0.5**
MA2				Sgmax		20 20 07.6	
	6μm,0.5s						
MA2				Sgmax		20 20 07.6	
	6μm,0.5s						
MA2	**Magadan**	**1.69**	**47**	*c i*P	**Pn**	**20 19 39.9**	**-1.1**
MA2				*i*		20 20 06.2	
MA2				pmax	pmax		
	comp=N,4μm,0.6s						
MA2				pmax	pmax		
	comp=E,4μm,0.6s						
MA2				pmax	pmax		
	comp=Z,5μm,0.6s						
MA2				smax			
	comp=N,6μm,0.6s						
MA2				smax			
	comp=E,6μm,0.6s						
MA2	**Magadan**	**1.69**	**47**	*e*Pn	**Pn**	**20 19 39.8**	**-1.3**
MA2				*e*Sn	**Sn**	**20 20 03.1**	**+0.5**
OCHR	**Omchak**	**3.24**	**356**	*e*P	**Pn**	**20 20 02.9**	**+0.5**
OCHR				*e*Pg	**Pg**	**20 20 09.0**	**-4.6**
OCHR				Pgmax		20 20 15.8	
	comp=E,170nm,0.4s						
OCHR				Pgmax		20 20 15.8	
	comp=E,210nm,0.4s						
OCHR				Pgmax		20 20 15.8	
	comp=E,540nm,0.4s						
OCHR				*e*S	**Sn**	**20 20 41.9**	**+0.8**
OCHR				*e*Sg	**Sg**	**20 20 54.4**	**-1.2**
OCHR				Sgmax		20 20 59.9	
	comp=E,2μm,0.4s						
OCHR				Sgmax		20 20 59.9	
	comp=E,550nm,0.4s						
SUUS	**Susuman**	**4.35**	**359**	*e*P	**Pn**	**20 20 18.2**	**+0.5**
SUUS				*e*Pb	**Pb**	**20 20 28.0**	**0.0**
SUUS				*e*Pg	**Pg**	**20 20 31.2**	**-3.7**
SUUS				*e*Sb	**Sb**	**20 21 19.6**	**-1.0**
SUUS				*e*Sg	**Sg**	**20 21 29.9**	**-1.3**
SUUS				Sgmax		20 21 37.3	
	comp=E,2μm,0.6s						
SUUS				Sgmax		20 21 37.3	
	comp=E,1μm,0.6s						
SUUS	**Susuman**	**4.35**	**359**	*e*P	**Pn**	**20 20 18.2**	**+0.5**
SUUS				*e*S	**Sb**	**20 21 19.6**	**-1.0**
SUUS				smax			
	comp=N,2μm,0.6s						
SUUS				smax			
	comp=E,1μm,0.6s						
SEY	**Seymchan**	**4.92**	**22**	*e*P	**Pn**	**20 20 26.7**	**+1.2**
SEY				*e*		20 20 29.4	
SEY				*e*Pb	**Pb**	**20 20 38.6**	**+0.9**
SEY				*e*Pg	**Pg**	**20 20 42.3**	**-3.4**
SEY				Pgmax		20 20 45.8	
	comp=E,50nm,0.5s						
SEY				*e*Sb	**Sb**	**20 21 36.0**	**-0.9**
SEY				*e*Sg	**Sg**	**20 21 48.2**	**-1.2**
SEY				Sgmax		20 21 50.5	
	comp=E,990nm,0.6s						
SEY				Sgmax		20 21 50.5	
	comp=E,770nm,0.8s						
OMS	**Omsukchan**	**5.49**	**39**	*e*P	**Pn**	**20 20 33.0**	**-0.3**
OMS				*e*Pg	**Pg**	**20 20 51.5**	**-5.1**
OMS				Pgmax		20 20 53.0	
	comp=E,120nm,1.0s						
OMS				*e*S	**Sn**	**20 21 38.0**	**+1.6**
OMS				*e*Sb	**Sb**	**20 21 57.0**	**+3.7**
OMS				*e*Sg	**Sg**	**20 22 04.0**	**-3.7**
OMS				Sgmax		20 22 16.0	
	comp=E,1μm,1.2s						
OMS				Sgmax		20 22 16.0	
	comp=E,300nm,1.2s						
OKH	**Okha**	**5.77**	**214**	*e*P	**Pn**	**20 20 27.0**	**-10**
UNR	**Ust'-Nera**	**6.62**	**340**	*e*P	**Pb**	**20 21 05.4**	**-1.3**
UNR				*e*		20 21 51.0	
SKR	**Severo-Kuril's**	**8.98**	**147**	*e*P	**Pn**	**20 21 19.9**	**-1.3**
SKR				pmax	pmax		
	comp=Z,70nm,0.7s						
SKR				MLR	MLR		
	comp=E,3μm,14.0s						
SKR				MLR	MLR		
	comp=Z,2μm,14.0s						
SKR				pmax	pmax		
	comp=Z,70nm,0.7s						
SKR	**Severo-Kuril's**	**8.98**	**147**	*e*P	**Pn**	**20 21 19.9**	**-1.3**
YAK	**Yakutsk**	**9.95**	**299**	*e*P	**Pn**	**20 21 41.4**	**+6.9**
YAK				*e*		20 23 33.3	
YAK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
YAK				smax			
	comp=Z,61nm,1.0s						
YAK				smax			
	comp=N,22nm,1.1s						
YAK				smax			
	comp=E,12nm,0.9s						
BILL	**Bilibino**	**12.50**	**32**	*e*P	**Pn**	**20 22 12.4**	**+3.0**
BILL				*e*	**Sn**	**20 24 24.7**	**-3.9**
BILL				*e*		20 24 51.3	
BILL				Sgmax		20 26 10.4	
	comp=E,130nm,1.6s						
BILL				Sgmax		20 26 10.4	
	comp=E,10.0nm,1.6s						
BILL	**Bilibino**	**12.50**	**32**	*e*P	**Pn**	**20 22 11.6**	**+2.2**
BILL				*e*		20 24 31.9	
BILL	**Bilibino**	**12.50**	**32**	*e*Pn	**Pn**	**20 22 11.6**	**+2.2**
BILL				*e*Sn	**Sn**	**20 24 31.9**	**+3.3**
TIXI	**Tiksi**	**15.47**	**337**	*e*P	**Pn**	**20 22 48.3**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TIXI				MLR	MLR		
	comp=Z,203nm,10.0s						
MDJ	**Mudanjiang**	**18.02**	**228**	P	**Pn**	**20 23 20.0**	**-2.0**
MDJ				S	**Sn**	**20 26 42.3**	**-0.6**
MDJ				XS	sS	20 26 52.0	-1.5
MDJ				SCP	ScP	20 31 31.5	-0.6
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,92nm,4.8s						
MDJ				LR	LR		
	comp=N,128nm,19.1s						
MDJ				LR	LR		
	comp=E,73nm,15.6s						
MDJ				LR	LR		
	comp=Z,186nm,14.3s						
MDJ	**Mudanjiang**	**18.02**	**228**	*e*Pn	**Pn**	**20 23 21.3**	**-0.6**
BOD	**Bodaibo**	**18.04**	**283**	*e*P	**Pn**	**20 23 22.0**	**-0.3**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HIA	**Hailar**	**19.08**	**254**	*e*P	**Pn**	**20 23 35.1**	**+0.2**
MAJO	**Matsushiro**	**22.91**	**201**	P	**P**	**20 24 10.7**	**-4.8**
MJAR	**Matsushiro Arr**	**22.91**	**201**	LR	LR	20 32 39.0	
	comp=Z,261nm,20.0s,MS3.7,baz=75,slow=36						
KS15	**Wonju Array Si**	**24.90**	**221**	P	**P**	**20 24 32.4**	**-2.2**
INCN	**Inchon**	**25.31**	**224**	*e*P	**P**	**20 24 36.9**	**-1.4**
TLY	**Talaya**	**26.07**	**275**	*e*P	**P**	**20 24 44.6**	**-0.6**
	comp=Z,22nm,0.9s,mb4.7						
BJT	**Baijiatuan**	**27.56**	**242**	P	**P**	**20 24 58.6**	**+0.1**
ILAR	**Eielson Array**	**30.16**	**50**	P	**P**	**20 25 21.1**	**-0.6**
	comp=Z,3.7nm,0.8s,mb4.2,baz=282,slow=9.3,SNR=58						
INK	**Inuvik**	**33.92**	**41**	*e*P	**P**	**20 25 54.5**	**-0.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**33.92**	**41**	*e*P	**P**	**20 25 54.5**	**-0.2**
	comp=Z,1.0nm,0.5s,mb4.0						
NVS	**Novosibirsk**	**34.74**	**293**	*e*P	**P**	**20 26 02.4**	**+0.6**
NVS				pmax	pmax		
	comp=N,2.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
KURK	**Kurchatov**	**39.44**	**290**	*e*P	**P**	**20 26 43.2**	**+1.5**
KURK				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.0						
KURK	**Kurchatov**	**39.44**	**290**	*e*P	**P**	**20 26 43.2**	**+1.5**
	comp=Z,20nm,0.8s,mb4.0						
DLBC	**Dease Lake**	**40.21**	**54**	P	**P**	**20 26 49.7**	**+1.6**
	comp=Z,2.6nm,0.8s,mb4.0,baz=335,slow=14,SNR=5.0						
DLBC	**Dease Lake**	**40.21**	**54**	P	**P**	**20 26 49.7**	**+1.6**
RES	**Resolute Bay**	**40.79**	**21**	*e*P	**P**	**20 26 52.9**	**0.0**
CHKZ	**Chkalovo**	**41.40**	**298**	*e*P	**P**	**20 26 59.2**	**+1.2**
CHKZ				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.0						
CHKZ	**Chkalovo**	**41.40**	**298**	*e*P	**P**	**20 26 59.2**	**+1.3**
	comp=Z,32nm,0.9s,mb5.0						
BRVK	**Borovoye**	**41.95**	**298**	*e*P	**P**	**20 27 04.1**	**+1.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
BRVK	**Borovoye**	**41.95**	**298**	*e*P	**P**	**20 27 04.0**	**+1.6**
	comp=Z,1.9nm,0.8s,mb3.8						
ZRNK	**Zerenda**	**42.61**	**299**	*e*P	**P**	**20 27 09.9**	**+2.1**
ZRNK				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.1						
ZRNK	**Zerenda**	**42.61**	**299**	*e*P	**P**	**20 27 09.8**	**+2.0**
	comp=Z,29nm,0.8s,mb5.1						
YKA	**Yellowknife Ar**	**43.66**	**42**	LR	LR	20 49 32.4	
	comp=Z,60nm,18.1s,MS3.5,baz=300,slow=42						
SVE	**Sverdlovsk**	**43.78**	**307**	*e*P	**P**	**20 27 19.0**	**+1.7**
ARU	**Arti**	**44.91**	**308**	⇑*i*P	**P**	**20 27 28.6**	**+2.3**
ARU				*e*		20 29 12.1	
ARU				*e*PPP		20 29 47.9	
ARU				*e*S	**S**	**20 34 09.0**	**+4.8**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.2						
ARU	**Arti**	**44.91**	**308**	*e*P	**P**	**20 27 28.1**	**+1.8**
	comp=Z,3.9nm,0.9s,mb4.2						
KEV	**Kevo**	**45.40**	**335**	*e*P	**P**	**20 27 31.1**	**+0.8**
ARCES	**ARCESS Array B**	**45.90**	**336**	P	**P**	**20 27 32.7**	**-1.5**
	comp=Z,0.8nm,0.6s,mb3.9,baz=64,slow=6.9,SNR=7.0						
KMI	**Kunming**	**46.17**	**244**	P	**P**	**20 27 37.0**	**+0.7**
KMI				*PP	pP	20 27 40.6	+1.2
KMI				*SP	sP	20 27 42.0	+1.3
KMI				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
KMI	**Kunming**	**46.17**	**244**	P	**P**	**20 27 37.0**	**+0.7**
	comp=Z,6.0nm,1.1s,mb4.4						
KMI				pP	pP	20 27 40.6	+1.2
KMI				sP	sP	20 27 42.0	+1.3
LSA	**Lhasa**	**48.16**	**259**	*e*P	**P**	**20 27 52.8**	**+1.0**
AKTK	**Aktyubinsk**	**49.32**	**303**	P	**P**	**20 27 59.6**	**-1.1**
AKTO	**Aktyubinsk**	**49.32**	**303**	P	**P**	**20 27 59.6**	**-1.1**
	comp=Z,1.8nm,0.7s,mb4.2,baz=65,slow=11,SNR=7.6						
ORR	**Orenburg**	**49.88**	**306**	*e*P	**P**	**20 28 06.2**	**+1.2**
ORR				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
FINES	**FINESS Array B**	**52.34**	**329**	P	**P**	**20 28 22.9**	**-0.6**
	comp=Z,2.2nm,0.8s,mb4.2,baz=59,slow=9.2,SNR=8.5						
OBN	**Obninsk**	**54.27**	**319**	*e*P	**P**	**20 28 37.6**	**-0.1**
OBN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
YBH	**Yreka Blue Hor**	**55.15**	**66**	P	**P**	**20 28 44.1**	**0.0**
	comp=Z,1.5nm,0.7s,mb4.1,baz=13,slow=2.9,SNR=5.3						
HRY	**Holter Researc**	**56.26**	**55**	*e*P	**P**	**20 28 52.5**	**+0.5**
NB2	**NORSAR Subarra**	**56.26**	**337**	P	**P**	**20 28 50.9**	**-1.2**
	comp=Z,1.2nm,0.6s,mb4.1,baz=25,slow=7.4						
NOA	**NORSAR Array B**	**56.26**	**337**	P	**P**	**20 28 50.9**	**-1.2**
	comp=Z,2.3nm,0.8s,mb4.3,baz=26,slow=7.2,SNR=5.6						
VRSR	**Storozhevoye**	**56.45**	**315**	*e*P	**P**	**20 28 55.6**	**+2.2**
VRSR				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
VRSR				pmax	pmax		
	comp=N,4.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,2.0nm,1.0s						
GCMT	**Greycliff**	**57.90**	**54**	*e*P	**P**	**20 29 03.4**	**-0.3**
ULM	**Lac du Bonnet**	**59.65**	**42**	LR	LR	20 57 42.4	
	comp=E,73nm,19.6s,MS3.8,baz=54,slow=39						
NVAR	**Mina Array Bea**	**59.84**	**65**	P	**P**	**20 29 17.9**	**+0.7**
	comp=E,1.6nm,0.7s,mb4.2,baz=324,slow=5.6,SNR=11						
PDAR	**Pinedale Array**	**60.37**	**56**	P	**P**	**20 29 21.0**	**+0.2**
	comp=E,2.0nm,0.6s,mb4.3,baz=5.1,slow=2.4,SNR=15						
HWUT	**Hardware Ranch**	**60.42**	**58**	*e*P	**P**	**20 29 22.3**	**+1.2**
	comp=E,12nm,1.1s,mb4.8						
AKASG	**Malin Array Be**	**60.42**	**320**	P	**P**	**20 29 20.2**	**-0.9**
	comp=E,4.8nm,0.7s,mb4.6,baz=31,slow=7.1,SNR=15						
KIV	**Kislovodsk**	**60.94**	**307**	*e*P	**P**	**20 29 26.4**	**+1.7**
KIV				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.9						
KIV	**Kislovodsk**	**60.94**	**307**	*e*P	**P**	**20 29 22.8**	**-1.9**
	comp=Z,8.5nm,0.8s,mb4.9						
MSU	**Marysvale**	**62.64**	**61**	*e*P	**P**	**20 29 36.8**	**+0.7**
GNI	**Garni**	**63.17**	**303**	LR	LR	21 00 15.1	
	comp=E,58nm,21.7s,MS3.7,baz=339,slow=39						
GNI	**Garni**	**63.17**	**303**	*e*P	**P**	**20 29 43.7**	**+4.1**
GNI				pmax	pmax		
	comp=E,31nm,1.5s						
GNI	**Garni**	**63.17**	**303**	*e*P	**P**	**20 29 43.7**	**+4.1**
	comp=Z,31nm,1.5s,mb5.2						
CLL	**Collm**	**64.71**	**331**	*e*P	**P**	**20 29 52.0**	**+2.2**
MORC	**Moravsky Berou**	**64.87**	**327**	*e*P	**P**	**20 29 52.8**	**+2.0**
MORC				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
MORC	**Moravsky Berou**	**64.87**	**327**	*e*P	**P**	**20 29 52.8**	**+2.0**
	comp=Z,2.0nm,0.9s,mb4.2						
GERES	**GERESS Array B**	**66.78**	**329**	P	**P**	**20 30 02.7**	**-0.4**
	comp=Z,0.5nm,0.6s,mb3.7,baz=353,slow=7.3,SNR=4.3						
WVT	**Waverly**	**74.79**	**44**	*e*P	**P**	**20 30 50.9**	**-1.0**
WVT				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
WVT	**Waverly**	**74.79**	**44**	*e*P	**P**	**20 30 50.9**	**-1.0**
	comp=Z,4.2nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**78.95**	**193**	P	**P**	**20 31 12.9**	**-2.4**
	comp=Z,2.0nm,0.6s,mb4.2,baz=8.6,slow=5.9,SNR=69						
ESDC	**Sonseca Array**	**79.55**	**339**	P	**P**	**20 31 19.1**	**+0.5**
	comp=Z,1.5nm,0.7s,mb4.0,baz=11,slow=5.7,SNR=8.1						
ASAR	**Alice Springs**	**82.68**	**193**	P	**P**	**20 31 32.7**	**-2.6**
	comp=Z,1.0nm,0.7s,mb4.0,baz=5.2,slow=5.4,SNR=4.5						
MBWA	**Marble Bar**	**82.78**	**207**	*e*P	**P**	**20 31 35.4**	**-0.4**
STKA	**Stephens Creek**	**90.15**	**186**	*e*P	**P**	**20 32 08.6**	**-3.4**
LPAZ	**La Paz**	**130.03**	**48**	PKP	PKPdf	20 38 20.5	-1.0
	comp=Z,1.0nm,0.8s,baz=21,slow=5.2,SNR=5.2						
LVC	**Limon Verde**	**135.39**	**53**	*e*PKPdf	PKPdf	20 38 35.3	+3.7
QSPA	**South Pole Qui**	**148.20**	**180**	*e*P	PKPdf	20 38 53.8	-0.6
QSPA				*e*PKPdf	PKPdf	20 38 54.1	-0.3
PLCA	**Paso Flores**	**149.75**	**71**	PKP	PKPdf	20 38 53.2	-3.7
	comp=Z,1.1nm,0.7s,baz=309,slow=1.9,SNR=4.1						
PLCA				PKPbc	PKPbc	20 38 59.6	-2.0
	comp=Z,1.8nm,0.8s,baz=335,slow=6.9,SNR=4.9						
PLCA	**Paso Flores**	**149.75**	**71**	PKP	PKPdf	20 38 53.2	-3.7
PLCA				PKPbc	PKPbc	20 38 59.6	-2.0

*NEIC **28** 20:20:17.8, 17.14N×94.06W,h185km,MD3.8(MEX),After MEX.*

MEX 28 20:20:18.4±1.7,1713N×9406W,h181km±16km,MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.79**	**268**	*i* P	Pn	20 20 43.1	-1.7
CMIG				*i* S	Sn	20 21 02.3	-2.7
CCIG	**Comitan**	**2.03**	**114**	*e*P	Pn	20 20 54.6	-1.2
CCIG				*e*S	Sn	20 21 24.0	-0.8
HUIG	**Huatulco**	**2.38**	**236**	*e*P	Pn	20 20 56.9	-2.8
HUIG				*i* S	Sn	20 21 30.8	-1.1
OXX	**Oaxaca**	**2.55**	**269**	*i* P	Pn	20 21 01.7	0.0
OXX				*i* S	Sn	20 21 33.5	-1.8
VHO	**Vista Hermosa**	**2.56**	**269**	*e*P	Pn	20 21 00.9	-0.9
VHO				*e*S	Sn	20 21 34.8	-0.6
UTMO	**Huajuapan**	**3.64**	**282**	*i* P	Pn	20 21 14.4	-0.6
UTMO				*i* S	Sn	20 21 56.6	-2.5

*CSEM **28** 20:30:32.7±0.2,3910N×21.14E,h8km,MD3.3,Error ellipse: s-maj=4.0km s-min=3.3km az=26.0*

*THE **28** 20:30:32.7,3912N×21.15E,h10km*

*ATH **28** 20:30:32.2,3910N×21.13E,h25km±3km,MD3.3/6*

*NEIC **28** 20:30:32.6,3912N×21.16E,h24km,MD3.3(ATH),After ATH.*

*ISCJB **28** 20:30:33.0±0.6,3911N±004×21.16E±004,h25km±7km, Error ellipse: s-maj=6.8km s-min=5.4km az=61.4*

ISC 28 20:30:32.8±0.5,3909N±004×2114E±004,h16km±6km,n14, σ0ᵍ89/21,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKD	**Levkas**	**0.54**	**225**	*e*Pg	**Pg**	**20 30 43.7**	**+0.2**
EVR	**Evrytania**	**0.55**	**108**	*e*PN	**Pg**	**20 30 43.3**	**-0.4**
EVR				*e*SN	**Sg**	**20 30 52.2**	**+1.1**
JAN	**Janina**	**0.60**	**339**	*e*PB	**Pg**	**20 30 43.8**	**-0.9**
JAN				*e*SN	**Sg**	**20 30 52.8**	**0.0**
IGT	**Igoumenitsa**	**0.76**	**305**	*e*Pg	**Pg**	**20 30 46.4**	**-1.2**
IGT				*e*Sg	**Sg**	**20 30 58.6**	**+0.9**
AGG	**Agios Georgios**	**0.93**	**94**	*e*Pg	**Pg**	**20 30 50.0**	**-0.9**
AGG				*e*Sg	**Sg**	**20 31 03.9**	**+0.7**
VLS	**Valsamata**	**1.01**	**205**	*e*PN	**Pn**	**20 30 51.2**	**-1.2**
VLS				*e*SN	**Sn**	**20 31 06.4**	**+0.2**
VLS	**Valsamata**	**1.01**	**205**	*e*Pb	**Pb**	**20 30 51.1**	**-0.8**
VLS				*e*Sn	**Sn**	**20 31 07.7**	**+1.5**
RLS	**Riolos of Patr**	**1.06**	**166**	*e*PN	**Pn**	**20 30 53.2**	**+0.1**
RLS	**Riolos of Patr**	**1.06**	**166**	*e*Pn	**Pn**	**20 30 53.9**	**+0.8**
SRN	**Sarande**	**1.18**	**312**	*e*Pg	**Pg**	**20 30 54.9**	**-0.7**
SRN				*i* Sg	**Sg**	**20 31 12.9**	**+1.9**
KEK	**Kerkira**	**1.21**	**301**	*e*PN	**Pn**	**20 30 56.0**	**+0.9**
**LIT

ms1mx2.5/26, Error ellipse: s-maj=46.7km s-min=16.1km az=76.0

ISC 28 20:51:33.2±0.7, **1327N**×004×**12013E**±008, **h40**km±9km, **n32**, σ0§87/33, **mb4.0**/11, **MS3.1**/1, **1D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.47**	**14**	*eP*	**Pn**	**20 51 40.0**	**-3.5**
PGP	**Puerto Galera**	**0.83**	**74**	*eP*	**Pn**	**20 51 46.9**	**-1.6**
TGY	**Tagaytay City**	**1.14**	**44**	P	**Pn**	**20 51 52.6**	**0.0**
	1μm,0.3s,baz=236,slow=3.0,SNR=61						
TGY				S	**Sn**	**20 52 08.5**	**+1.5**
	3μm,0.3s,baz=209,slow=19,SNR=37						
TGY	**Tagaytay City**	**1.14**	**44**	*i*P	**Pn**	**20 51 53.8**	**+1.2**
TGY				*i* S	**Sn**	**20 52 08.5**	**+1.5**
BUSP	**Coron**	**1.26**	**177**	*eP*	**Pn**	**20 51 54.8**	**+0.5**
BOAC	**Boac**	**1.68**	**83**	*eP*	**Pn**	**20 51 58.8**	**-1.2**
OTRP	**Odiongan**	**2.06**	**116**	*eP*	**Pn**	**20 52 06.7**	**+1.4**
ENPP	**El Nido**	**2.17**	**199**	*eP*	**Pn**	**20 52 07.1**	**+0.4**
POLP	**Polillo Island**	**2.28**	**50**	*eP*	**Pn**	**20 52 08.2**	**-0.1**
PCPH	**Palayan**	**2.46**	**22**	*eP*	**Pn**	**20 52 09.5**	**-1.3**
CUYO	**Cuyo Island**	**2.56**	**160**	*eP*	**Pn**	**20 52 11.9**	**-0.3**
BALP	**Baler**	**2.83**	**30**	*eP*	**Pn**	**20 52 16.3**	**+0.5**
BOLP	**Bolinao**	**3.10**	**356**	*eP*	**Pn**	**20 52 18.6**	**-0.9**
GUIM	**Jordan**	**3.57**	**137**	*eP*	**Pn**	**20 52 26.1**	**+0.1**
CAUP	**Cauayan**	**4.00**	**24**	*eP*	**Pn**	**20 52 33.0**	**+1.0**
NACB	**Ninganchiao**	**10.93**	**7**	*e*Pn	**Pn**	**20 54 06.9**	**-0.1**
LSA	**Lhasa**	**31.40**	**306**	P	**P**	**20 57 51.4**	**+1.0**
MBWA	**Marble Bar**	**34.22**	**181**	P	**P**	**20 58 14.0**	**-1.0**
PMG	**Port Moresby**	**35.04**	**129**	LR	LR	21 12 22.7	
	comp=Z,38nm,21.9s,MS3.1,baz=29,slow=36						
WRAB	**Tennant Creek**	**35.84**	**157**	*eP*	**P**	**20 58 29.2**	**+0.3**
	1.0nm,0.3s,mb4.2						
WRA	**Warramunga Arr**	**35.85**	**157**	P	**P**	**20 58 28.8**	**-0.2**
	0.7nm,0.4s,mb4.0,baz=341,slow=9.3,SNR=19						
SONM	**Songino Array**	**36.31**	**344**	P	**P**	**20 58 33.3**	**+0.3**
	1.9nm,0.6s,mb4.2,baz=164,slow=9.6,SNR=19						
ASAR	**Alice Springs**	**39.11**	**160**	P	**P**	**20 58 57.4**	**+0.8**
	0.7nm,0.6s,mb3.6,baz=337,slow=6.8,SNR=12						
CTAO	**Charters Tower**	**41.95**	**142**	*eP*	**P**	**20 59 19.5**	**-0.6**
	3.9nm,0.2s,mb4.7						
MKAR	**Makanchi Array**	**46.05**	**324**	P	**P**	**20 59 54.3**	**+1.4**
	0.4nm,0.6s,mb3.5,baz=117,slow=8.9,SNR=5.0						
KURK	**Kurchatov**	**50.24**	**327**	*eP*	**P**	**21 00 26.1**	**+0.9**
	1.9nm,0.4s,mb4.5						
BRVK	**Borovoye**	**55.88**	**326**	*eP*	**P**	**21 01 06.9**	**0.0**
	0.5nm,0.6s,mb3.7						
CHKZ	**Chkalovo**	**55.98**	**327**	P	**P**	**21 01 07.1**	**-0.5**
ZRNK	**Zerenda**	**56.54**	**326**	*eP*	**P**	**21 01 10.9**	**-0.6**
	0.6nm,0.3s,mb4.1						
ARCES	**ARCESS Array B**	**79.28**	**339**	P	**P**	**21 03 33.9**	**-0.6**
	1.1nm,0.8s,mb3.9,baz=74,slow=8.9,SNR=9.5						
FINES	**FINESS Array B**	**80.39**	**331**	P	**P**	**21 03 39.4**	**-1.0**
	1.3nm,1.0s,mb3.8,baz=57,slow=5.1,SNR=3.9						
INK	**Inuvik**	**83.69**	**21**	P	**P**	**21 03 57.7**	**-0.1**

*NIED **28** 21:07:00, 32.80N×141.00E, h5km, Mw3.6 Best double couple: M0 3.28000×10^14 NP1: φ 328.00000°, δ 77.00000°, λ -35.00000°. NP2: φ 67.00000°, δ 56.00000°, λ -165.00000°.*

*ISCJB **28** 21:07:14.9±0.9, 3290N±0.005×14103E±0.007, h10km, mb3.7/9, Error ellipse: s-maj=8.5km s-min=6.5km az=174.0*

*IDC **28** 21:07:16.9±2.2, 3237N×14009E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/20, mbtmp3.5/4, ML3.2/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/18, Error ellipse: s-maj=100.5km s-min=16.9km az=79.0*

*JMA **28** 21:07:16.8±0.3, 3282N×14098E, h47km, M3.6*

*MOS **28** 21:07:18.7±0.8, 3252N×140.34E, h33km, mb3.9/4, Error ellipse: s-maj=36.2km s-min=11.3km az=113.4*

*NEIC **28** 21:07:19.3±1.1, 3250N×14027E, h20km, mb3.6/5, Error ellipse: s-maj=36.0km s-min=10.5km az=80.0*

ISC 28 21:07:15.9±0.8, **3288N**±004×**14101E**±007, **h10**km, **n28**, σ1§**40**/37, **mb3.7**/9, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.02**	**283**	P	**Pg**	**21 07 35.2**	**-0.4**
JHJ2				S	**Sg**	**21 07 48.1**	**-0.9**
JHJ	**Hachijo jima 2**	**1.05**	**284**	Pn	**Pn**	**21 07 35.3**	**-1.4**
	73nm,0.3s,baz=5.1,slow=18,SNR=16						
BSO1	**Boso 1**	**1.77**	**359**	P	**Pn**	**21 07 45.9**	**-0.7**
BSO1				S	**Sn**	**21 08 08.1**	**-1.1**
BSO2	**Boso 2**	**1.88**	**354**	S	**Sn**	**21 08 10.8**	**-1.0**
BSO3	**Boso 3**	**1.96**	**348**	P	**Pn**	**21 07 48.6**	**-0.6**
BSO3				S	**Sn**	**21 08 12.5**	**-1.4**
JIM2	**Oshima 3**	**2.25**	**325**	*e*S	**Sn**	**21 08 19.1**	**-2.0**
JIZS	**Izushimoda**	**2.55**	**317**	P	**Pn**	**21 07 58.0**	**+0.7**
JIZS				*e*S	**Sn**	**21 08 27.3**	**-1.1**
JOD2	**Odawara 2**	**2.86**	**327**	P	**Pn**	**21 08 02.4**	**+0.8**
JYN	**Shimob**	**3.31**	**323**	P	**Pn**	**21 08 10.4**	**+2.6**
JYN				S	**Sn**	**21 08 48.6**	**+1.4**
JRY	**Ryogami san**	**3.58**	**332**	S	**Sn**	**21 08 52.7**	**-1.1**
JAG	**Ashikaga**	**3.76**	**341**	P	**Pn**	**21 08 13.7**	**-0.3**
JAG				*e*S	**Sn**	**21 08 55.5**	**-2.8**
MJAR	**Matsushiro Arr**	**4.32**	**329**	Pn	**Pn**	**21 08 24.1**	**+2.5**
	1.1nm,0.3s,baz=171,slow=15,SNR=13						
MJAR				Sn	**Sn**	**21 09 13.1**	**+1.1**
	2.3nm,0.3s,baz=166,slow=20,SNR=7.9						
MAJO	**Matsushiro**	**4.32**	**329**	*e*Pn	**Pn**	**21 08 23.9**	**+2.2**
MAJO				*e*Sn	**Sn**	**21 09 14.0**	**+1.9**
MAT	**Matsushiro**	**4.32**	**329**	P	**Pn**	**21 08 23.8**	**+2.2**
MAT				S	**Sn**	**21 09 12.5**	**+0.4**
MAT	**Matsushiro**	**4.32**	**329**	*e*P	**Pn**	**21 08 24.0**	**+2.4**
MAT				*e*S	**Sn**	**21 09 13.0**	**+0.9**
CBIJ	**Chichi jima**	**5.85**	**170**	LR	LR	21 10 08.8	
	comp=Z,155nm,19.7s,baz=119,slow=31						
ULN	**Ulaanbaatar**	**29.61**	**310**	*e*P	**P**	**21 13 21.2**	**+0.1**
	0.2nm,0.4s,mb3.2						
YAK	**Yakutsk**	**30.06**	**349**	*e*P	**P**	**21 13 29.7**	**+4.5**
YAK				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.8						
YAK	**Yakutsk**	**30.06**	**349**	*e*P	**P**	**21 13 29.6**	**+4.4**
	comp=Z,13nm,0.7s,mb4.8						
LSA	**Lhasa**	**42.41**	**280**	*e*P	**P**	**21 15 07.9**	**-2.7**
LSA				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.9						
LSA	**Lhasa**	**42.41**	**280**	*e*P	**P**	**21 15 07.9**	**-2.7**
	comp=Z,0.6nm,0.3s,mb3.7						
MKAR	**Makanchi Array**	**46.15**	**305**	P	**P**	**21 15 40.9**	**+0.3**
	comp=Z,0.3nm,0.7s,mb3.3,baz=79,slow=9.6,SNR=3.0						
WRA	**Warramunga Arr**	**52.91**	**188**	P	**P**	**21 16 29.4**	**-2.7**
	comp=Z,1.5nm,0.8s,mb4.0,baz=3.2,slow=7.6,SNR=20						
CHKZ	**Chkalovo**	**52.97**	**315**	*e*P	**P**	**21 16 34.2**	**+1.7**
	comp=Z,0.2nm,0.3s,mb3.5						
BRVK	**Borovoye**	**53.24**	**315**	*e*P	**P**	**21 16 35.6**	**+1.0**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
BRVK	**Borovoye**	**53.24**	**315**	*e*P	**P**	**21 16 35.6**	**+1.0**
	comp=Z,0.6nm,0.7s,mb3.6						
ZRNK	**Zerenda**	**54.02**	**315**	*e*P	**P**	**21 16 40.7**	**+0.4**
	comp=Z,0.3nm,0.5s,mb3.5						
ASAR	**Alice Springs**	**56.63**	**188**	P	**P**	**21 16 58.4**	**-0.8**
	comp=Z,0.3nm,0.6s,mb3.5,baz=15,slow=13,SNR=6.1						

*ISCJB **28** 21:15:21.9±4.2, 21 S±1×1773W±0.9, h300km, mb3.7/4, Error ellipse: s-maj=180.9km s-min=16.4km az=102.6*

*NEIC **28** 21:15:22.9±5.1, 2129S×177.13W, h309km±31km, mb4.3/1, Error ellipse: s-maj=161.5km s-min=18.2km az=147.0*

*IDC **28** 21:15:23.5±30.0, 2126S×177.15W, h312km±259km, mb3.5/3, mb1 3.6/3, mb1mx3.3/12, mbtmp4.2/3, Error ellipse: s-maj=145.0km s-min=102.1km az=109.0*

ISC 28 21:15:22.7±4.5, **21S**±1×**1771W**±09, **h300**km, **n10**, σ0§**60**/6, **mb3.7**/4, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.98**	**36**	Pn	**Pn**	**21 17 28.2**	**0.0**
STKA	**Stephens Creek**	**38.16**	**245**	P	**P**	**21 22 13.6**	**-0.2**
	2.2nm,0.5s,mb3.8,baz=90,slow=10,SNR=9.9						
STKA	**Stephens Creek**	**38.16**	**245**	P	**P**	**21 22 13.6**	**-0.2**
ASAR	**Alice Springs**	**45.11**	**257**	P	**P**	**21 23 10.6**	**+0.8**
	2.6nm,0.5s,mb3.7,baz=95,slow=8.1,SNR=45						
ASAR				PcP	PcP	21 24 44.5	-0.2
	0.5nm,0.5s,baz=102,slow=4.3,SNR=6.3						
WRA	**Warramunga Arr**	**45.28**	**263**	P	**P**	**21 23 10.6**	**-0.5**
	0.5nm,0.3s,mb3.2,baz=98,slow=7.9,SNR=23						
MBWA	**Marble Bar**	**58.46**	**258**	*e*P	**P**	**21 24 47.7**	**0.0**
	4.8nm,0.5s,mb4.2						
ARCES	**ARCESS Array B**	**129.87**	**350**	PKP	PKPdf	21 33 55.4	-1.2
	1.8nm,1.0s,baz=29,slow=2.8,SNR=6.7						
FINES	**FINESS Array B**	**136.78**	**344**	PKP	PKPdf	21 34 09.6	0.0
	1.8nm,1.1s,baz=64,slow=3.2,SNR=3.3						
AKASG	**Malin Array Be**	**144.12**	**331**	PKP	PKPdf	21 34 19.9	-2.9
	1.6nm,0.5s,baz=42,slow=4.0,SNR=13						
GERES	**GERESS Array B**	**151.21**	**345**	PKPbc	PKPbc	21 34 40.0	-0.6
	0.3nm,0.5s,baz=300,slow=1.1,SNR=4.6						

*IDC **28** 21:24:01.8±2.0, 2387N×12250E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/20, mbtmp3.9/5, Error ellipse: s-maj=134.2km s-min=24.3km az=65.0*

*ISCJB **28** 21:24:06.8±1.0, 2377N±0.010×12224E±0.004, h47km±7km, mb3.8/9, Error ellipse: s-maj=16.6km s-min=4.8km az=23.1*

*JMA **28** 21:24:07.8±0.4, 2396N×12235E, h17km, M3.3*

*NEIC **28** 21:24:07.4±1.6, 2381N×12224E, h35km, mb4.0/4, Error ellipse: s-maj=27.2km s-min=24.3km az=202.0*

ISC 28 21:24:07.6±1.2, **2377N**±0.010×**12224E**±0.004, **h36**km±10km, **n21**, σ0§**79**/30, **mb3.8**/9, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**0.71**	**304**	*e*Pg	**Pn**	**21 24 20.4**	**-0.7**
NACB				*e*Sg	**Sn**	**21 24 30.8**	**0.0**
YOJ	**Yonaguni jima**	**0.99**	**46**	P	**Pn**	**21 24 22.7**	**-2.2**
YOJ				S	**Sn**	**21 24 32.8**	**-4.8**
YHNB	**Yeheng**	**1.19**	**319**	*e*Pg	**Pn**	**21 24 27.2**	**-0.4**
YHNB				*e*Sg	**Sn**	**21 24 44.8**	**+2.1**
TATO	**Taipei**	**1.38**	**331**	*e*Pn	**Pn**	**21 24 30.4**	**+0.2**
TATO				*e*Sn	**Sn**	**21 24 46.7**	**-0.6**
HATJ	**Hateruma jima**	**1.46**	**79**	P	**Pn**	**21 24 31.5**	**0.0**
HATJ				*e*S	**Sn**	**21 24 49.1**	**-0.3**
IRIF	**Iriomote-Funau**	**1.48**	**67**	P	**Pn**	**21 24 31.3**	**-0.3**
IRIF				*e*S	**Sn**	**21 24 49.4**	**-0.3**
JKRS	**Kuro-shima**	**1.69**	**74**	P	**Pn**	**21 24 35.1**	**+0.6**
JKRS				*e*S	**Sn**	**21 24 55.2**	**+0.3**
JIJ	**Ishigaki jima**	**1.84**	**71**	P	**Pn**	**21 24 36.0**	**-0.6**
JIJ				*e*S	**Sn**	**21 24 59.2**	**+0.5**
JTJ	**Tarama**	**2.41**	**68**	P	**Pn**	**21 24 44.8**	**+0.3**
JTJ				*e*S	**Sn**	**21 25 13.6**	**+0.8**
JOGS	**Gusukube**	**3.06**	**71**	P	**Pn**	**21 24 54.3**	**+0.9**
ULN	**Ulaanbaatar**	**26.91**	**337**	*e*P	**P**	**21 29 44.5**	**-0.7**
	4.5nm,1.0s,mb4.0						
SONM	**Songino Array**	**27.12**	**336**	P	**P**	**21 29 46.9**	**-0.2**
	3.3nm,0.7s,mb4.0,baz=143,slow=9.8,SNR=5.8						
LSA	**Lhasa**	**28.33**	**289**	P	**P**	**21 29 58.7**	**+0.8**
MKAR	**Makanchi Array**	**39.30**	**316**	P	**P**	**21 31 33.4**	**+0.4**
	0.4nm,0.4s,mb3.5,baz=102,slow=9.5,SNR=9.4						
ZAL	**Zalesovo**	**41.12**	**327**	P	**P**	**21 31 46.7**	**-1.3**
	0.8nm,0.3s,mb3.8,baz=337,slow=12,SNR=5.0						
KURK	**Kurchatov**	**43.02**	**320**	P	**P**	**21 32 03.8**	**+0.2**
WRA	**Warramunga Arr**	**45.02**	**164**	P	**P**	**21 32 19.3**	**-0.3**
	0.7nm,0.8s,mb3.5,baz=344,slow=8.8,SNR=3.8						
CHKZ	**Chkalovo**	**48.66**	**322**	*e*P	**P**	**21 32 47.3**	**-0.8**
	1.1nm,0.9s,mb3.9						
BRVK	**Borovoye**	**48.67**	**321**	*e*P	**P**	**21 32 48.2**	**+0.1**
	0.4nm,0.4s,mb3.8						
ZRNK	**Zerenda**	**49.39**	**320**	*e*P	**P**	**21 32 53.7**	**+0.1**
	0.5nm,0.3s,mb4.0						
BRTR	**Keskin Array B**	**74.19**	**307**	P	**P**	**21 35 42.2**	**+1.6**
	0.8nm,0.8s,mb3.7,baz=85,slow=8.8,SNR=4.3						

*CSEM **28** 21:24:37.6±0.9, 3732N×1307W, h2km, ML2.9/3, Error ellipse: s-maj=18.8km s-min=12.8km az=36.0*

MDD 28 21:24:35.7±4.5, **3720N**×**1318W**, **h0**km, **mb3.6**/3, **Error ellipse: s-maj=42.0km s-min=31.5km az=40.0, PRXIMO SIN SOLUCIN, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	**3.56**	**83**	*e*Pn	Pn	21 25 30.8	-1.5
PTEO				*e*Sn	Sn	21 26 10.8	-4.3
PTEO							
	3.7nm,0.5s						
PTEO	**Sao Teotonio**	**3.56**	**83**	*e*Pn	Pn	21 25 30.8	-1.5
PTEO				*e*Sn	Sn	21 26 10.8	-4.3
	3.7nm,0.5s						
PBEJ	**Beja**	**4.30**	**77**	*e*Sn	Sn	21 26 28.7	-4.4
PBEJ							
	1.6nm,0.1s						
PBEJ	**Beja**	**4.30**	**77**	*e*Sn	Sn	21 26 28.7	-4.4
	1.6nm,0.1s						
EGRO	**El Granado**	**4.55**	**84**	P	Pn	21 25 44.5	-1.3
EGRO	0.2nm,0.1s,SNR=7.9			S	Sn	21 26 33.9	-5.4
	2.3nm,0.3s,SNR=8.4						
EGRO	**El Granado**	**4.55**	**84**	Pn	Pn	21 25 44.5	-1.3
	0.2nm,0.1s,SNR=7.9						
EGRO				Sn	Sn	21 26 33.9	-5.4
	1.5nm,0.4s,SNR=8.4						
EBAD	**Badajoz**	**5.11**	**70**	P	Pn	21 25 53.1	-0.4
	0.4nm,0.1s,SNR=4.0						
EBAD				S	Sn	21 26 48.4	-4.8
	2.3nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**5.11**	**70**	Pn	Pn	21 25 53.1	-0.4
	0.4nm,0.1s,SNR=4.0						
EBAD				Sn	Sn	21 26 48.4	-4.8
	SNR=7.9						
PCBR	**Castelo Branco**	**5.19**	**58**	*e*Sn	Sn	21 26 51.4	-3.8
EMIN	**Mina Concepcio**	**5.20**	**82**	S	Sn	21 26 51.0	-4.6
	0.6nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.20**	**82**	Sn	Sn	21 26 51.0	-4.5
	SNR=7.9						
PVIS	**Viseu**	**5.41**	**48**	*e*Sn	Sn	21 26 56.6	-4.0
PVIS							
	1.2nm,0.1s						
PVIS	**Viseu**	**5.41**	**48**	*e*Sn	Sn	21 26 56.6	-4.0
	1.2nm,0.1s						
ESPR	**Espera**	**5.87**	**91**	S	Sn	21 27 08.1	-3.7
	1.1nm,0.2s,SNR=7.9						
ESPR	**Espera**	**5.87**	**91**	Sn	Sn	21 27 08.1	-3.7
	SNR=7.9						
ELOB	**Lobios**	**6.11**	**39**	P	Pn	21 26 05.9	-1.4
	0.1nm,0.0s,SNR=4.0						
ELOB				S	Sn	21 27 12.9	-5.0
	0.3nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.11**	**39**	Pn	Pn	21 26 05.9	-1.4
	0.1nm,0.0s,SNR=4.0						
ELOB				Sn	Sn	21 27 12.9	-5.0
	SNR=7.9						

*BJI **28** 21:25:33.8, 5390N×16130E, h10km, mB4.9, mb4.7, Ms4.5, Msz4.0*

*IDC **28** 21:25:35.1±0.7, 5382N×16129E, h0km, mb4.1/17, mb1 4.3/18, mb1mx4.2/24, mbtmp4.1/18, ML4.0/1, MS3.3/3, Ms1 3.3/3, ms1mx2.8/19, Error ellipse: s-maj=21.0km s-min=14.8km az=148.0*

*NEIC **28** 21:25:36.9±0.3, 5386N×16129E, h10km, mb4.5/23, Error ellipse: s-maj=9.6km s-min=5.9km az=148.0*

*ISCJB **28** 21:25:37.7±0.3, 5356N±0.002×16180E±0.004, h33km, mb4.4/49, MS3.6/3, Error ellipse: s-maj=4.2km s-min=2.4km az=93.9*

*MOS **28** 21:25:38.6±1.2, 5394N×16124E, h29km, mb4.7/19, Error ellipse: s-maj=13.4km s-min=7.2km az=89.3*

*KRSC **28** 21:25:39.4±1.0, 5362N×16164E, h38km±6km, ML4.7*

ISC 28 21:25:39.3±0.3, **5357N**±002×**16176E**±004, **h35**km, **n150**, σ1§**13**/181, **mb4.4**/49, **MS3.6**/3, **1C, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.99**	**359**	*i* P	**Pn**	**21 25 56.2**	**-0.4**
MKZ				*i* S	**Sn**	**21 26 07.0**	**-2.3**
SPN	**Mys Shipunski**	**1.14**	**246**	P	**Pn**	**21 25 58.5**	**-0.3**
SPN				S	**Sn**	**21 26 12.1**	**-1.1**
SPN	**Mys Shipunski**	**1.14**	**246**	*i* P	**Pn**	**21 25 58.5**	**-0.3**
SPN				*i* S	**Sn**	**21 26 12.5**	**-0.7**
KII	**Karymskiy**	**1.45**	**290**	P	**Pn**	**21 26 02.6**	**-0.3**
KII				S	**Sn**	**21 26 19.2**	**-1.5**
KII	**Karymskiy**	**1.45**	**290**	*e*P	**Pn**	**21 26 02.6**	**-0.3**
KII				*e*S	**Sn**	**21 26 18.9**	**-1.8**
NLC	**Nalytchevo**	**1.50**	**255**	P	**Pn**	**21 26 03.5**	**-0.2**
NLC				S	**Sn**	**21 26 20.7**	**-1.3**
NLC	**Nalytchevo**	**1.50**	**255**	*i* P	**Pn**	**21 26 03.4**	**-0.3**
NLC				*i* S	**Sn**	**21 26 21.5**	**-0.5**
SDLR	**Sedlovina**	**1.75**	**261**	*i* P	**Pn**	**21 26 07.3**	**+0.3**
SDLR				*i* S	**Sn**	**21 26 27.9**	**-0.1**
UGLR	**Uglovaya**	**1.79**	**259**	*i* P	**Pn**	**21 26 08.3**	**+0.6**
UGLR				*i* S	**Sn**	**21 26 29.8**	**+0.5**
SMAR	**Somma**	**1.80**	**261**	*i* P	**Pn**	**21 26 08.1**	**+0.4**
SMAR				*i* S	**Sn**	**21 26 29.3**	**0.0**
AVH	**Avacha**	**1.83**	**262**	*i* P	**Pn**	**21 26 08.9**	**+0.7**
AVH				*e*S	**Sn**	**21 26 30.9**	**+0.7**
KOK	**Koryaka**	**1.89**	**263**	*i* P	**Pn**	**21 26 09.5**	**+0.5**
KOK				*i* S	**Sn**	**21 26 31.9**	**+0.3**
PET	**Petropavlovsk**	**1.94**	**255**	P	**Pn**	**21 26 10.1**	**+0.4**
PET				S	**Sn**	**21 26 31.8**	**-1.1**
PET	**Petropavlovsk**	**1.94**	**255**	*e*Pn	**Pn**	**21 26 10.1**	**+0.3**
PET				*e*S	**Sn**	**21 26 33.6**	**+0.7**
PET	**Petropavlovsk**	**1.94**	**255**	*i* P	**Pn**	**21 26 10.1**	**+0.4**
PET				*e*S	**Sn**	**21 26 33.1**	**+0.2**
TUMR	**Tumrok**	**1.96**	**332**	*e*P	**Pn**	**21 26 10.5**	**+0.6**
TUMR				*e*S	**Sn**	**21 26 32.1**	**-1.2**
RUS	**Russkaya**	**2.27**	**241**	P	**Pn**	**21 26 14.5**	**+0.3**
RUS				S	**Sn**	**21 26 39.9**	**-1.1**
RUS	**Russkaya**	**2.27**	**241**	*i* P	**Pn**	**21 26 14.6**	**+0.4**
RUS				*e*S	**Sn**	**21 26 40.5**	**-0.5**
GNL	**Ganaly**	**2.28**	**275**	*e*P	**Pn**	**21 26 15.6**	**+1.3**
GNL				*e*S	**Sn**	**21 26 41.3**	**+0.2**
KRMR	**Karymshinskiy**	**2.31**	**253**	*e*P	**Pn**	**21 26 15.6**	**+0.9**
KRMR				*e*S	**Sn**	**21 26 42.2**	**+0.3**
KMNR	**Kamenistaya**	**2.36**	**339**	*i* P	**Pn**	**21 26 17.2**	**+1.7**
KMNR				*e*S	**Sn**	**21 26 44.1**	**+0.9**
GRL	**Gorelyy**	**2.45**	**247**	*e*P	**Pn**	**21 26 17.8**	**+1.1**
ZLN	**Zelenaya**	**2.51**	**348**	*i* P	**Pn**	**21 26 19.1**	**+1.5**
KPT	**Kopyto**	**2.56**	**340**	*e*P	**Pn**	**21 26 19.7**	**+1.5**
LGNR	**Loginova**	**2.59**	**347**	*e*P	**Pn**	**21 26 20.3**	**+1.6**
CIRR	**Tsirk**	**2.62**	**348**	*i* P	**Pn**	**21 26 20.6**	**+1.6**
KBTR	**Krutoberegovo**	**2.71**	**13**	P	**Pn**	**21 26 21.0**	**+0.7**
KBTR				S	**Sn**	**21 26 50.5**	**-1.4**
KBTR	**Krutoberegovo**	**2.71**	**13**	*i* P	**Pn**	**21 26 21.0**	**+0.7**
KBTR				*e*S	**Sn**	**21 26 51.6**	**-0.3**
KOZ	**Kozyrevsk**	**2.72**	**337**	P	**Pn**	**21 26 21.7**	**+1.3**
KOZ				S	**Sn**	**21 26 52.0**	**-0.1**
KOZ	**Kozyrevsk**	**2.72**	**337**	*e*P	**Pn**	**21 26 21.7**	**+1.3**
KOZR	**Kozyr**	**2.72**	**337**	PN	**Pn**	**21 26 21.7**	**+1.2**
KRSR	**Krestovskiy**	**2.74**	**346**	*i* P	**Pn**	**21 26 21.8**	**+1.1**
KRSR				*e*S	**Sn**	**21 26 51.6**	**-1.0**
KBG	**Krutoberegovo**	**2.74**	**11**	*e*P	**Pn**	**21 26 21.5**	**+0.7**
KBG				*e*S	**Sn**	**21 26 53.2**	**+0.5**
KBG				Smax			
	2μm,0.8s						
KLY	**Klyuchi**	**2.82**	**347**	P	**Pn**	**21 26 24.8**	**+3.0**
KLY				S	**Sn**	**21 26 56.5**	**+1.9**
KLY	**Klyuchi**	**2.82**	**347**	*e*P	**Pn**	**21 26 22.6**	**+0.8**
KLY				*e*S	**Sn**	**21 26 54.4**	**-0.2**
APC	**Apacha**	**2.84**	**259**	*e*P	**Pn**	**21 26 24.0**	**+1.9**
APC				*e*S	**Sn**	**21 26 55.1**	**+0.1**
APC				Smax			
	390nm,0.7s						
ESO	**Esso**	**2.95**	**324**	*e*P	**Pn**	**21 26 23.9**	**+0.3**
ESO				*e*S	**Sn**	**21 26 57.8**	**0.0**
ESO				Smax			
	460nm,0.8s						
BKI	**Bering**	**2.96**	**55**	*e*P	**Pn**	**21 26 24.6**	**+0.9**
BKI				*e*S	**Sn**	**21 26 56.1**	**-1.8**
BKI				Smax			
	1μm,0.3s						
SRDR	**Snednnyy**	**2.99**	**338**	*i* P	**Pn**	**21 26 24.9**	**+0.7**
BDR	**Baidarnaya**	**3.02**	**354**	*i* P	**Pn**	**21 26 26.5**	**+1.9**
SMKR	**Semkarok**	**3.02**	**357**	*e*P	**Pn**	**21 26 26.2**	**+1.6**
SRKR	**Sorokina**	**3.11**	**354**	*i* P	**Pn**	**21 26 27.5**	**+1.7**
MIPR	**Malaya Ipel'ka**	**3.29**	**249**	*e*P	**Pn**	**21 26 30.5**	**+2.2**
PAU	**Pauzhetka**	**3.68**	**237**	*e*P	**Pn**	**21 26 35.1**	**+1.4**
SKR	**Severo-Kuril's**	**4.52**	**232**	*e*PN	**Pn**	**21 26 43.0**	**-2.2**
SKR				pmax	pmax		
	comp=E,50nm,0.4s						
SKR				pmax	pmax		
	comp=Z,70nm,0.4s						
ALID	**Alaid**	**4.68**	**237**	*e*P	**Pn**	**21 26 49.1**	**+1.7**
KAMR	**Kamenskoye**	**9.21**	**13**	*e*P	**Pn**	**21 27 52.2**	**+2.6**
BILL	**Bilibino**	**14.68**	**7**	*e*P	**Pn**	**21 29 12.5**

comp=Z,1.2nm,0.6s,mb4.1,baz=314,slow=3.0,SNR=9.9
KLMR Klimovskoe 57.03 330 *e*P **P** **21 35 20.2 -1.4**
KLMR pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
JOF Joensuu 57.55 336 *ep* **P** **21 35 19.9 -5.3**
KAF Kangasniemi 59.43 337 *ep* **P** **21 35 35.2 -3.2**
GUN Gumba 59.83 277 *eP* **P** **21 35 41.2 +0.1**
JIRN Jiri 59.84 277 *eP* **P** **21 35 40.6 -0.5**
FINES FINESS Array B 60.07 337 P **P** **21 35 41.6 -1.1**
comp=Z,3.6nm,0.7s,mb4.5,baz=42,slow=8.0,SNR=29
FINES LR LR 22 06 07.1
comp=Z,20nm,19.4s,MS3.3,baz=332,slow=41
KKN Kakani 60.28 277 *eP* **P** **21 35 43.9 -0.3**
comp=Z,4.4nm,0.3s,mb4.9
PKI Pulchoki 60.36 277 *eP* **P** **21 35 44.4 -0.4**
GKN Gorkha 60.50 278 *eP* **P** **21 35 45.1 -0.6**
comp=Z,5.8nm,0.6s,mb4.8
DMN Daman 60.51 277 *eP* **P** **21 35 45.4 -0.4**
comp=Z,11nm,0.8s,mb5.0
KOLN Koldanda 61.28 279 *eP* **P** **21 35 50.5 -0.5**
comp=Z,9.2nm,0.8s,mb5.0
OBN Obninsk 62.65 328 *eP* **P** **21 35 57.8 -2.4**
OBN pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
NB2 NORSAR Subarra 63.36 344 P **P** **21 36 03.7 -1.2**
comp=Z,6.1nm,0.8s,mb4.8,baz=20,slow=6.9
NOA NORSAR Array B 63.36 344 P **P** **21 36 03.9 -1.0**
comp=Z,5.0nm,0.8s,mb4.7,baz=20,slow=6.6,SNR=15
NOA NORSAR Array B 63.36 344 P **P** **21 36 03.9 -1.0**
AKASG Malin Array Be 68.71 330 P **P** **21 36 36.9 -2.4**
comp=Z,0.8nm,0.3s,mb4.1,baz=29,slow=6.5,SNR=7.3
KIV Kislovodsk 69.76 318 *e*P **P** **21 36 44.6 -1.2**
KIV *e*S S 21 45 39.6 -13
KIV pmax pmax
comp=Z,11nm,1.2s,mb4.7
KWP Kalwaria 71.52 333 *e*P **P** **21 36 56.2 -0.3**
KWP pmax pmax
comp=Z,11nm,0.9s,mb4.8
KWP Kalwaria 71.52 333 *e*P **P** **21 36 56.2 -0.3**
comp=Z,11nm,0.9s,mb4.8
OJC Ojcow 71.73 335 *e*P **P** **21 36 58.0 +0.2**
CLL Collm 72.25 340 *e*P **P** **21 37 00.0 -0.9**
comp=Z,9.0nm,1.2s,mb4.6
DPC Dobruska-Polom 72.44 338 *e*P **P** **21 37 02.8 +0.8**
PRU Pruhonice 73.18 339 *e*P **P** **21 37 07.1 +0.7**
KHC Kasperske Hory 74.19 339 *e*P **P** **21 37 13.7 +1.3**
GERES GERESS Array B 74.44 339 P **P** **21 37 12.9 -0.9**
comp=Z,1.2nm,0.5s,mb4.0,baz=41,slow=5.5,SNR=16
BAIF Baives 75.02 345 *e*P **P** **21 37 16.4 -0.8**
comp=Z,8.4nm,0.9s,mb4.3
BAIF Baives 75.02 345 *e*P **P** **21 37 16.4 -0.8**
BAIF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BAIF Baives 75.02 345 *e*P **P** **21 37 16.4 -0.8**
comp=Z,4.2nm,0.9s,mb4.4
CDF Champ du Feu 76.12 343 *e*P **P** **21 37 22.9 -0.5**
comp=Z,6.0nm,0.8s,mb4.3
CDF Champ du Feu 76.12 343 *e*P **P** **21 37 22.9 -0.5**
CDF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
CDF Champ du Feu 76.12 343 *e*P **P** **21 37 22.9 -0.5**
comp=Z,3.0nm,0.8s,mb4.6
MEZF Maizieres J'vi 76.41 344 *e*P **P** **21 37 24.4 -0.7**
HAU Haudompre 76.67 343 *e*P **P** **21 37 25.9 -0.7**
comp=Z,3.6nm,0.5s,mb4.2
HAU Haudompre 76.67 343 *e*P **P** **21 37 25.9 -0.7**
HAU pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
HAU Haudompre 76.67 343 *e*P **P** **21 37 25.9 -0.7**
comp=Z,1.8nm,0.5s,mb4.3
HINF Hinteralfeld 76.77 343 *e*P **P** **21 37 26.2 -0.9**
BRTR Keskin Array B 76.88 321 P **P** **21 37 27.0 -0.7**
comp=Z,1.3nm,0.9s,mb3.9,baz=10,slow=4.4,SNR=5.6
FLN La Foliniere 76.94 348 *e*P **P** **21 37 27.1 -1.0**
comp=Z,16nm,0.9s,mb4.7
FLN La Foliniere 76.94 348 *e*P **P** **21 37 27.1 -1.0**
FLN pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
FLN La Foliniere 76.94 348 *e*P **P** **21 37 27.1 -1.0**
comp=Z,7.9nm,0.9s,mb4.6
WRA Warramunga Arr 76.94 206 P **P** **21 37 28.9 +0.8**
comp=Z,0.7nm,0.9s,mb3.6,baz=23,slow=6.0,SNR=6.1
GRR Gorron 77.35 348 *e*P **P** **21 37 29.5 -0.9**
comp=Z,11nm,0.7s,mb4.6
GRR Gorron 77.35 348 *e*P **P** **21 37 29.5 -0.9**
GRR pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
GRR Gorron 77.35 348 *e*P **P** **21 37 29.5 -0.9**
comp=Z,5.3nm,0.7s,mb4.6
SGMF Saint Gilles 77.68 349 *e*P **P** **21 37 31.6 -0.6**
comp=Z,3.5nm,0.5s,mb4.2
SGMF Saint Gilles 77.68 349 *e*P **P** **21 37 31.6 -0.6**
SGMF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
SGMF Saint Gilles 77.68 349 *e*P **P** **21 37 31.6 -0.6**
comp=Z,1.8nm,0.5s,mb4.3
LOR Lormes 77.79 345 *e*P **P** **21 37 32.0 -0.9**
comp=Z,4.1nm,0.7s,mb4.2
LOR Lormes 77.79 345 *e*P **P** **21 37 32.0 -0.9**
LOR pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
LOR Lormes 77.79 345 *e*P **P** **21 37 32.0 -0.9**
comp=Z,2.0nm,0.7s,mb4.2
SSF Saint Saulge 78.05 345 *e*P **P** **21 37 33.5 -0.8**
comp=Z,7.4nm,0.9s,mb4.3
SSF Saint Saulge 78.05 345 *e*P **P** **21 37 33.5 -0.8**
SSF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
SSF Saint Saulge 78.05 345 *e*P **P** **21 37 33.5 -0.8**
comp=Z,3.7nm,0.9s,mb4.3
AVF Avril sur Loir 78.34 345 *e*P **P** **21 37 35.1 -0.8**
comp=Z,4.9nm,0.7s,mb4.3
AVF Avril sur Loir 78.34 345 *e*P **P** **21 37 35.1 -0.8**
AVF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
AVF Avril sur Loir 78.34 345 *e*P **P** **21 37 35.1 -0.8**
comp=Z,2.5nm,0.6s,mb4.3
TCF Toulx Ste Croi 79.00 346 *e*P **P** **21 37 38.9 -0.6**
comp=Z,8.4nm,1.1s,mb4.3
TCF Toulx Ste Croi 79.00 346 *e*P **P** **21 37 38.9 -0.6**
TCF pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
TCF Toulx Ste Croi 79.00 346 *e*P **P** **21 37 38.9 -0.6**
comp=Z,4.2nm,1.1s,mb4.3
LPL La Plagne 79.01 342 *e*P **P** **21 37 39.0 -0.6**
LPG La Plagne 79.02 342 *e*P **P** **21 37 39.3 -0.3**
comp=Z,12nm,0.8s,mb4.5
LPG La Plagne 79.02 342 *e*P **P** **21 37 39.3 -0.3**
LPG pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
LPG La Plagne 79.02 342 *e*P **P** **21 37 39.3 -0.3**
comp=Z,5.8nm,0.8s,mb4.6
MIB Mutribah 79.48 306 *e*P **P** **21 37 41.3 -0.8**
MIB AMb AMB 21 37 41.9
comp=Z,21nm,0.6s,mb5.3
NAY Al-Naaiem 79.98 306 *e*P **P** **21 37 44.0 -0.9**
NAY AMb AMB 21 37 44.6
comp=Z,10nm,0.6s,mb4.9
RDF Al-Radifah 80.11 306 *e*P **P** **21 37 44.9 -0.7**
RDF AMb AMB 21 37 45.6
comp=Z,30nm,0.8s,mb5.3
ASAR Alice Springs 80.61 206 P **P** **21 37 50.0 +1.7**
comp=Z,0.7nm,0.7s,mb3.7,baz=17,slow=6.1,SNR=7.5
SMRF Simiane la Rot 80.71 343 *e*P **P** **21 37 47.7 -1.1**
MBWA Marble Bar 82.79 219 P **P** **21 37 59.8 0.0**
ESDC Sonseca Array 86.31 349 P **P** **21 38 17.6 +0.1**
comp=Z,0.9nm,0.7s,mb4.1,baz=3.7,slow=4.9,SNR=8.5

NNC 28 21:43:32.6±1.3, 3719N×7115E, h172km±29km, mb2.4, mpv3.2, 2C-2D, Error ellipse: s-maj=15.3km s-min=10.8km az=11.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.93**	**355**	P	Pn	21 44 58.6	0.0
	1.6nm,0.3s,baz=180,slow=13,SNR=116						
KK31				⇓S	Sn	21 46 06.6	+0.4
	1.0nm,0.3s,baz=180,slow=20,SNR=4.2						
TKM2	**Tokmak 2**	**6.67**	**29**	⇓P	Pn	21 45 08.0	-0.2
TKM2	1.0nm,1.1s			⇑S	Sn	21 46 24.6	+1.1
	0.4nm,0.8s						
AB31	**Akbulak array**	**14.55**	**330**	⇑P	Pn	21 46 50.3	-0.1
	0.3nm,0.3s,baz=141,slow=14,SNR=18						

CASC 28 21:45:00.0±1.9, 1457N×9026W, h14km±31km, MD3.7, ML4.9, 1C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GCG	**Guatemala City**	**0.27**	**274**	*e*P	Pg	21 45 04.5	-1.2
GCG				*e*P		21 45 06.5	
GCG				*e*P		21 45 06.6	
GCG				*e*S	Sg	21 45 11.0	+1.6
GCG				*e*S	Sg	21 45 11.4	+2.0
PCG	**Pacaya**	**0.38**	**243**↑	*e*P	Pg	21 45 09.7	+2.1
PCG				*e*S	Sg	21 45 14.6	+1.8
IXG	**Ixpaco**	**0.43**	**206**↓	*e*P	Pg	21 45 09.3	+0.7
IXG				*e*S	Sg	21 45 15.3	+0.9
IXG				AML	AML	21 45 20.2	
	comp=E,111μm,0.5s						
FUG	**Fuego 3**	**0.58**	**258**	*e*P	Pg	21 45 10.8	-0.5
RBDL	**Robledal**	**0.71**	**129**	*e*P	Pg	21 45 19.0	+5.1
TP2	**Tecpan 2**	**0.77**	**286**	*e*P	Pg	21 45 14.2	-0.8
TP2				*e*S	Sg	21 45 27.0	+2.0
SNJE	**San Jose**	**0.94**	**138**	*e*P	Pb	21 45 23.2	+5.1
SNJE				*e*S	Sb	21 45 36.2	+5.8
LFU	**La Fuente**	**1.38**	**126**	*e*P	Pn	21 45 30.8	+6.0
LFU				*e*S	Sn	21 45 49.2	+6.4
LBRS	**Las Brisas**	**1.44**	**125**	*e*P	Pn	21 45 31.5	+5.8
LBRS				*e*S	Sn	21 45 50.9	+6.5
LFRS	**El Faro**	**1.49**	**129**	*e*P	Pn	21 45 32.4	+6.0
LFRS				*e*S	Sn	21 45 53.2	+7.5
LCBS	**La Ceiba**	**1.54**	**126**	*e*P	Pn	21 45 32.9	+5.9
LCBS				*e*S	Sn	21 45 53.9	+7.1

*IDC **28** 22:14:41.2±1.1, 2839N×14157E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/20, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=44.8km s-min=17.5km az=71.0*
*ISCJB **28** 22:14:44.2±0.6, 2849N±006×1416E±01, h33km, mb3.9/11, Error ellipse: s-maj=18.6km s-min=7.3km az=140.7*
*NEIC **28** 22:14:46.6±0.7, 2840N×14140E, h35km, mb3.9/7, Error ellipse: s-maj=24.4km s-min=13.2km az=80.0*

ISC 28 22:14:46.3±0.6, 2846N±006×1417E±01, h35km, n19, σ1§13/20, mb3.9/11, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.43**	**162**	Pn	**Pn**	**22 15 08.2**	**-1.5**
	10nm,0.3s,baz=277,slow=23,SNR=5.8						
CBIJ				Sn	**Sn**	**22 15 27.4**	**+0.3**
	34nm,0.3s,baz=289,slow=23,SNR=14						
MJAR	**Matsushiro Arr**	**8.58**	**341**	Pn	**Pn**	**22 16 46.2**	**-1.7**
	0.6nm,0.3s,baz=154,slow=12,SNR=6.1						
PALP	**Palanan**	**21.04**	**242**	*e*P	**P**	**22 19 28.6**	**+1.6**
CAUP	**Cauayan**	**21.57**	**242**	*e*P	**P**	**22 19 27.0**	**-5.7**
PVCP	**Virac**	**22.01**	**231**	*e*P	**P**	**22 19 38.4**	**+1.0**
ENH	**Enshi**	**28.07**	**282**	*e*P	**P**	**22 20 28.4**	**-5.9**
	1.1nm,0.8s,mb3.5						
ULN	**Ulaanbaatar**	**33.04**	**315**	*e*P	**P**	**22 21 17.4**	**-0.8**
	0.7nm,0.6s,mb3.8						
YAK	**Yakutsk**	**34.50**	**350**	P	**P**	**22 21 31.3**	**+0.3**
WRAB	**Tennant Creek**	**48.62**	**189**	*e*P	**P**	**22 23 25.2**	**-1.3**
	2.7nm,0.4s,mb4.6						
WRA	**Warramunga Arr**	**48.64**	**189**	P	**P**	**22 23 26.3**	**-0.3**
	1.6nm,0.7s,mb4.2,baz=11,slow=8.3,SNR=7.6						
MKAR	**Makanchi Array**	**49.27**	**309**	P	**P**	**22 23 31.9**	**+0.4**
	0.6nm,0.8s,mb3.7,baz=99,slow=7.6,SNR=4.3						
MKAR	**Makanchi Array**	**49.27**	**309**	P	**P**	**22 23 31.9**	**+0.4**
KURK	**Kurchatov**	**51.72**	**314**	*e*P	**P**	**22 23 48.2**	**-1.7**
	0.9nm,0.4s,mb4.0						
CHKZ	**Chkalovo**	**56.57**	**318**	*e*P	**P**	**22 24 25.4**	**+0.1**
	0.6nm,0.5s,mb3.9						
ILAR	**Eielson Array**	**56.74**	**29**	P	**P**	**22 24 27.5**	**+1.0**
	0.2nm,0.8s,mb3.2,baz=252,slow=6.0,SNR=4.4						
BRVK	**Borovoye**	**56.81**	**317**	*e*P	**P**	**22 24 27.4**	**+0.4**
	0.7nm,0.5s,mb4.0						
ZRNK	**Zerenda**	**57.59**	**317**	*e*P	**P**	**22 24 32.8**	**+0.3**
	0.7nm,0.5s,mb4.0						
LAO	**LASA Array**	**83.35**	**40**	P	**P**	**22 27 12.5**	**+2.9**
	15nm,0.5s						
BRTR	**Keskin Array B**	**84.75**	**313**	P	**P**	**22 27 16.8**	**0.0**
	0.5nm,0.8s,mb3.7,baz=32,slow=11,SNR=3.6						

*ISCJB **28** 22:18:55.4±0.8, 1513N±003×12222E±005, h17km±6km, mb4.0/14, MS3.4/5, Error ellipse: s-maj=8.2km s-min=4.8km az=140.3*
*BJI **28** 22:18:55.7, 1491N×12224E, h23km, mb4.1, Ms3.8*
*IDC **28** 22:18:56.3±0.9, 1501N×12226E, h20km±5km, mb3.8/8, mb1 4.0/8, mb1mx3.7/19, mbtmp3.9/8, MS3.5/4, Ms1 3.5/4, ms1mx3.0/40, Error ellipse: s-maj=20.3km s-min=12.7km az=127.0*
*NEIC **28** 22:18:56.6±0.4, 1496N×12232E, mb4.1/7, Error ellipse: s-maj=12.9km s-min=8.4km az=72.0*
*MAN **28** 22:18:56.5, 1515N×12209E, h9km, mb3.9, ML4.9, MS2.1*

ISC 28 22:18:54.7±0.9, 1512N±003×12220E±005, h2km±5km, h22km±1.0km:pP-P, n47, σ1§19/51, mb4.0/14, MS3.4/5, 2C-5D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
POLP	**Polillo Island**	**0.46**	**213**	*e*P	**Pg**	**22 19 03.6**	**+0.1**
BALP	**Baler**	**0.86**	**316**	*e*P	**Pg**	**22 19 11.3**	**+0.2**
PCPH	**Palayan**	**1.15**	**293**↓	*e*P	**Pg**	**22 19 14.7**	**-2.0**
PCPH				*e*S	**Sg**	**22 19 31.6**	**-0.1**
LQP	**Lukban**	**1.19**	**213**↓	*e*P	**Pg**	**22 19 17.1**	**-0.3**
GQP	**Guinayangan**	**1.23**	**169**↓	*e*P	**Pg**	**22 19 17.8**	**-0.5**
GQP				*e*S	**Sg**	**22 19 34.6**	**+0.4**
TGY	**Tagaytay City**	**1.58**	**231**	Pn	**Pn**	**22 19 23.8**	**+0.1**
	824nm,0.3s,baz=47,slow=1.8,SNR=138						
TGY				Lg		22 19 46.0	
	628nm,0.3s,baz=312,slow=19,SNR=17						
TGY	**Tagaytay City**	**1.58**	**231**	↓P	**Pn**	**22 19 24.6**	**+1.0**
TGY				*i* S	**Sn**	**22 19 44.2**	**-0.5**
BOAC	**Boac**	**1.69**	**192**	*e*P	**Pn**	**22 19 24.2**	**-0.8**
AUQP	**San Andres**	**1.84**	**165**	*e*P	**Pn**	**22 19 29.5**	**+2.2**
PALP	**Palanan**	**1.94**	**6**↑	*i*P	**Pn**	**22 19 32.4**	**+3.8**
PALP				*i* S	**Sn**	**22 19 52.0**	**-1.7**
BCPH	**Baguio City Da**	**2.00**	**309**↑	*i*P	**Pn**	**22 19 28.9**	**-0.5**
BCPH				*i* S	**Sn**	**22 19 55.2**	**+0.2**
SCZP	**Santa Cruz**	**2.30**	**287**	*e*P	**Pn**	**22 19 33.8**	**+0.3**
LUBP	**Lubang**	**2.34**	**234**	*e*P	**Pn**	**22 19 33.8**	**-0.3**
PVCP	**Virac**	**2.43**	**128**↓	*i*P	**Pn**	**22 19 37.8**	**+2.5**
PVCP				*i* S	**Sn**	**22 20 12.7**	**+7.2**
BOLP	**Bolinao**	**2.53**	**300**	*e*P	**Pn**	**22 19 37.1**	**+0.4**
CVP	**Callao Caves**	**2.59**	**352**	*e*P	**Pn**	**22 19 38.0**	**+0.4**
OTRP	**Odiongan**	**2.75**	**184**	*e*P	**Pn**	**22 19 42.0**	**+2.3**
APYP	**Conner**	**2.88**	**342**	*e*P	**Pn**	**22 19 41.7**	**+0.3**
ABRA	**Dolores**	**2.89**	**331**	*e*P	**Pn**	**22 19 41.3**	**-0.3**
KMI	**Kunming**	**20.78**	**302**	P	**P**	**22 23 39.8**	**+2.9**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.4s						
KMI	**Kunming**	**20.78**	**302**	P	**P**	**22 23 39.7**	**+2.8**
	comp=Z,7.0nm,1.4s						
GUMO	**Guam**	**22.02**	**91**	LR	LR	22 31 46.9	
	comp=Z,73nm,20.7s,MS3.1,baz=256,slow=35						
BJI	**Beijing**	**25.38**	**349**	P	**P**	**22 24 25.5**	**+2.3**
BJI				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb3.8						
BJI				LR	LR		
	comp=N,164nm,16.8s,MS3.7						
BJI				LR	LR		
	comp=E,118nm,16.8s,MS3.7						
BJI	**Beijing**	**25.38**	**349**	P	**P**	**22 24 25.5**	**+2.3**
	comp=E,3.0nm,1.0s,mb3.8						
BJI				LR	LR		
	comp=Z,80nm,22.3s,MS3.2						
PSI	**Prapat**	**26.00**	**244**	P	**P**	**22 24 29.0**	**+0.2**
	comp=Z,5.5nm,0.8s,mb4.1,baz=62,slow=3.8,SNR=7.4						
PSI	**Prapat**	**26.00**	**244**	P	**P**	**22 24 29.0**	**+0.2**
LSA	**Lhasa**	**32.04**	**302**	*e*P	**P**	**22 25 23.5**	**+1.0**
	comp=Z,1.2nm,0.5s,mb4.0						
ULN	**Ulaanbaatar**	**34.98**	**342**	*e*P	**P**	**22 25 48.5**	**+0.4**
	comp=Z,0.4nm,0.3s,mb3.8						
SONM	**Songino Array**	**35.15**	**341**	LR	LR	22 42 01.0	
	comp=Z,65nm,19.2s,MS3.4,baz=265,slow=39						
WRA	**Warramunga Arr**	**36.83**	**161**	P	**P**	**22 26 02.0**	**-2.0**
	comp=Z,0.8nm,0.7s,mb3.6,baz=342,slow=9.1,SNR=6.5						
TLY	**Talaya**	**39.38**	**342**	P	**P**	**22 26 26.1**	**+0.6**
ASAR	**Alice Springs**	**40.21**	**163**	P	**P**	**22 26 30.6**	**-1.8**
	comp=Z,0.3nm,0.3s,mb3.5,baz=343,slow=7.5,SNR=5.8						
CTAO	**Charters Tower**	**42.23**	**145**	*e*P	**P**	**22 26 47.1**	**-2.0**
MKAR	**Makanchi Array**	**45.78**	**322**	P	**P**	**22 27 18.4**	**+0.8**
	comp=Z,3.6nm,0.8s,mb4.3,baz=124,slow=8.8,SNR=17						
MKAR	**Makanchi Array**	**45.78**	**322**	P	**P**	**22 27 18.4**	**+0.8**
ZAL	**Zalesovo**	**48.49**	**331**	P	**P**	**22 27 38.2**	**-0.6**
	comp=Z,1.6nm,0.8s,mb4.1,baz=350,slow=4.8,SNR=11						
ZAL				LR	LR	22 51 00.8	
	comp=Z,38nm,18.7s,MS3.4,baz=100,slow=40						
ZAL	**Zalesovo**	**48.49**	**331**	P	**P**	**22 27 38.2**	**-0.6**
ZAL				LR	LR	22 51 00.8	
KURK	**Kurchatov**	**49.84**	**325**	*e*P	**P**	**22 27 49.4**	**+0.3**
	comp=Z,15nm,1.0s,mb5.0						
STKA	**Stephens Creek**	**50.29**	**158**	*e*P	**P**	**22 27 49.8**	**-2.7**
CHKZ	**Chkalovo**	**55.57**	**326**	*e*P	**P**	**22 28 31.6**	**+0.1**
	comp=Z,4.5nm,1.4s,mb4.3						
ZRNK	**Zerenda**	**56.19**	**324**	*e*P	**P**	**22 28 35.9**	**0.0**
	comp=Z,5.0nm,1.2s,mb4.4						
ZRNK				*e*pP	pP	22 28 41.6	+5.0
ILAR	**Eielson Array**	**76.85**	**26**	P	**P**	**22 30 47.0**	**-1.0**
	comp=Z,0.2nm,0.6s,mb3.2,baz=265,slow=4.5,SNR=4.0						
ILAR				pP	pP	22 30 54.5	+5.6
	comp=Z,0.4nm,0.7s,baz=242,slow=5.8,SNR=4.7						
KAF	**Kangasniemi**	**79.51**	**332**	*e*P	**P**	**22 31 05.3**	**+2.5**
FINES	**FINESS Array B**	**79.76**	**331**	P	**P**	**22 31 03.3**	**-0.8**
	comp=Z,0.7nm,0.5s,mb3.9,baz=67,slow=8.0,SNR=11						
FINES				pP	pP	22 31 09.6	+4.7
	comp=Z,1.0nm,0.4s,baz=55,slow=5.3,SNR=4.7						
INK	**Inuvik**	**81.26**	**21**	*e*P	**P**	**22 31 11.7**	**-0.5**
NB2	**NORSAR Subarra**	**86.67**	**333**	P	**P**	**22 31 38.8**	**-1.0**
	comp=Z,0.9nm,0.6s,mb4.2,baz=65,slow=5.3						
NOA	**NORSAR Array B**	**86.67**	**333**	P	**P**	**22 31 38.5**	**-1.3**
	comp=Z,1.3nm,0.6s,mb4.3,baz=66,slow=5.0,SNR=5.1						
NOA				pP	pP	22 31 45.0	+4.4
	comp=Z,0.8nm,0.9s,baz=62,slow=2.5,SNR=1.5						
NOA				LR	LR	23 14 08.5	
	comp=Z,44nm,18.9s,MS3.9,baz=80,slow=38						

MEX 28 22:24:06.1±1.0, 1695N×10065W, h5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.38**	**75**	*i*P	Pg	22 24 12.5	-1.0
CAIG				*i* S	Sg	22 24 18.8	+0.3
ACX	**Acapulco**	**0.71**	**96**	*i*P	Pg	22 24 19.6	-0.1
ACX				*i* S	Sg	22 24 28.5	-0.4
MEIG	**Mezcala**	**1.39**	**45**	*i*P	Pn	22 24 27.7	-4.3
MEIG				*i* S	Sb	22 24 46.5	-4.0

*IDC **28** 22:28:29.3±0.7, 097S×12344E, h0km, mb4.3/14, mb1 4.4/14, mb1mx4.4/17, mbtmp4.3/14, MS3.5/2, Ms1 3.5/2, ms1mx2.6/29, Error ellipse: s-maj=29.2km s-min=15.7km az=66.0*
*ISCJB **28** 22:28:31.6±0.3, 093S±006×12367E±009, h26km, mb4.6/36, MS3.3/3, Error ellipse: s-maj=14.1km s-min=6.1km az=117.1*
*MOS **28** 22:28:32.6±1.6, 091S×12361E, h33km, mb4.9/14, Error ellipse: s-maj=21.0km s-min=8.6km az=122.0*
*NEIC **28** 22:28:33.1±0.3, 093S×12365E, mb4.9/18, Error ellipse: s-maj=14.9km s-min=6.6km az=59.0*
*BJI **28** 22:28:33.1, 090S×12360E, h24km, mB5.2, mb4.8, Ms4.7, Ms2.4.5*

ISC 28 22:28:33.8±0.3, 091S±006×12370E±009, h27km, h27km±3.0km:pP-P, n71, σ1§21/73, mb4.6/36, MS3.3/3, 2D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**14.58**	**144**	*e*P	**Pn**	**22 32 06.2**	**+7.9**
	11nm,0.6s						
MBWA	**Marble Bar**	**20.50**	**191**	*e*P	**P**	**22 33 08.9**	**-0.7**
WRAB	**Tennant Creek**	**21.59**	**152**	*e*P	**P**	**22 33 22.1**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.3						
WRAB	**Tennant Creek**	**21.59**	**152**	*e*P	**P**	**22 33 22.1**	**+0.7**
	comp=Z,8.3nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**21.60**	**152**	P	**P**	**22 33 22.0**	**+0.6**
	comp=Z,5.2nm,0.8s,mb4.0,baz=331,slow=11,SNR=13						
WB2	**Warramunga Arr**	**21.60**	**152**	*e*P	**P**	**22 33 22.1**	**+0.6**
KULM	**Kulim**	**23.83**	**285**	*e*P	**P**	**22 33 44.3**	**-0.3**
QIZ	**Qiongzhong**	**24.03**	**326**	*e*P	**P**	**22 33 47.4**	**+0.9**
AS31	**Alice Springs**	**24.70**	**157**	*e*P	**P**	**22 33 53.3**	**+0.8**
ASPA	**Alice Springs**	**24.70**	**157**	*e*P	**P**	**22 33 53.3**	**+0.8**
ASAR	**Alice Springs**	**24.70**	**157**	P	**P**	**22 33 53.0**	**+0.5**
	comp=Z,2.1nm,0.5s,mb4.0,baz=342,slow=13,SNR=36						
ASAR				PcP	PcP	22 37 30.7	+1.5
	comp=Z,0.9nm,0.7s,baz=333,slow=2.1,SNR=5.3						
PSI	**Prapat**	**25.04**	**279**	P	**P**	**22 33 54.5**	**-1.1**
	comp=Z,10.0nm,0.9s,mb4.3,baz=101,slow=9.0,SNR=9.6						
PSI				LR	LR	22 44 55.3	
	comp=Z,105nm,18.4s,MS3.4,baz=347,slow=40						
KKTK	**Khon Kaen**	**26.80**	**311**	↓P	**P**	**22 34 15.0**	**+3.5**
	comp=Z,648nm,0.8s						
CHG	**Chiang Mai**	**31.23**	**310**	P	**P**	**22 34 52.8**	**+1.9**
SSE	**Sheshan**	**31.91**	**356**	P	**P**	**22 34 55.8**	**-1.1**
SSE				AMB	AMB		
	comp=Z,24nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,100nm,3.9s						
SSE	**Sheshan**	**31.91**	**356**	P	**P**	**22 34 55.8**	**-1.1**
	comp=Z,24nm,0.8s,mb5.1						
KMI	**Kunming**	**32.88**	**323**	P	**P**	**22 35 08.3**	**+2.9**
KMI				AP	pP	22 35 15.0	+1.5
KMI				XP	sP	22 35 17.8	+1.0
KMI				PP	PP	22 36 19.0	-0.9
KMI				S	**S**	**22 40 24.8**	**+3.5**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.6						
KMI				AMB	AMB		
	comp=Z,116nm,5.8s						
KMI	**Kunming**	**32.88**	**323**	P	**P**	**22 35 08.3**	**+2.9**
KMI				*SP	sP	22 35 17.7	+0.9
KMI						22 36 19.1	
KMI				S	**S**	**22 40 24.8**	**+3.5**
KMI				*SS	sS	22 40 37.0	+2.3
KMI				SS	SS	22 42 26.1	-17
KMI				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
KMI				MLR	MLR		
	comp=Z,40nm,23.0s,MS3.1						
KMI	**Kunming**	**32.88**	**323**	P	**P**	**22 35 08.3**	**+2.9**
	comp=Z,6.0nm,0.7s,mb4.6						
KMI				pP	pP	22 35 15.1	+1.6
K

comp=Z,7.0nm,0.4s,mb4.7
LSA Lhasa 43.48 317 *e*P **P 22 36 37.0 +2.4**
comp=Z,6.9nm,0.4s,mb4.7
GTA Gaotai 45.70 334 *e*P **P 22 36 54.5 +2.1**
GTA AP pP 22 37 05.5 +4.8
GTA XP sP 22 37 10.3 +6.3
GTA AMB AMB
comp=Z,18nm,1.0s,mb5.0
JIRN Jiri 45.87 311 *e*P **P 22 36 54.4 +0.7**
comp=Z,15nm,0.5s,mb5.2
GUN Gumba 46.23 311 *e*P **P 22 36 57.0 +0.5**
comp=Z,35nm,0.6s,mb5.4
PKI Pulchoki 46.41 311 *e*P **P 22 36 58.1 +0.2**
comp=Z,5.3nm,0.5s,mb4.8
PKI Pulchoki 46.41 311 *e*P **P 22 36 58.1 +0.2**
PKI pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
KKN Kakani 46.62 311 *e*P **P 22 36 59.8 +0.2**
comp=Z,11nm,0.6s,mb5.0
KKN Kakani 46.62 311 *e*P **P 22 36 59.8 +0.2**
KKN pmax pmax
comp=Z,11nm,0.6s,mb5.0
DMN Daman 46.66 310 *e*P **P 22 37 00.4 +0.5**
comp=Z,18nm,0.7s,mb5.1
GKN Gorkha 47.22 311 *e*P **P 22 37 04.2 -0.1**
comp=Z,14nm,0.6s,mb5.1
KOLN Koldanda 47.90 310 *e*P **P 22 37 09.8 +0.3**
comp=Z,19nm,0.7s,mb5.2
ULN Ulaanbaatar 50.69 346 *e*P **P 22 37 31.4 +0.5**
ULN pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
ULN Ulaanbaatar 50.69 346 *e*P **P 22 37 31.4 +0.5**
comp=Z,6.2nm,0.6s,mb4.7
SONM Songino Array 50.83 345 P **P 22 37 32.5 +0.6**
comp=Z,5.9nm,0.6s,mb4.7,baz=162,slow=7.5,SNR=12
MKAR Makanchi Array 59.74 328 P **P 22 38 35.3 -0.9**
comp=Z,1.9nm,0.5s,mb4.4,baz=124,slow=8.5,SNR=21
AAK Ala-Archa 61.87 321 *e*P **P 22 38 50.1 -0.5**
AAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
AAK Ala-Archa 61.87 321 *e*P **P 22 38 50.1 -0.5**
comp=Z,4.0nm,0.8s,mb4.6
ZAL Zalesovo 63.42 335 P **P 22 38 59.6 -1.3**
comp=Z,1.0nm,0.4s,mb4.3,baz=316,slow=6.3,SNR=7.3
KURK Kurchatov 64.10 330 *e*P **P 22 39 04.6 -0.8**
KURK pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
KURK Kurchatov 64.10 330 *e*P **P 22 39 04.6 -0.8**
comp=Z,4.7nm,0.6s,mb4.7
NVS Novosibirsk 64.71 335 *e*P **P 22 39 06.2 -3.2**
BRVK Borovoye 69.68 329 *e*P **P 22 39 41.1 +0.1**
CHKZ Chkalovo 69.83 330 *e*P **P 22 39 41.4 -0.5**
CHKZ *e**PP pP 22 39 47.6 -2.9
ZRNK Zerenda 70.29 328 *e*P **P 22 39 43.2 -1.5**
ZRNK pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
ZRNK Zerenda 70.29 328 *e*P **P 22 39 43.2 -1.5**
comp=Z,4.2nm,0.5s,mb4.6
TIXI Tiksi 72.51 2 ⇓*i*P **P 22 39 56.5 -1.6**
TIXI pmax pmax
comp=Z,11nm,0.8s,mb4.8
ARU Arti 77.26 329 *e*P **P 22 40 24.2 -1.3**
ARU *e**PP pP 22 40 31.2 -3.1
ARU Arti 77.26 329 *e*P **P 22 40 24.2 -1.4**
ARU *ep*P pP 22 40 31.2 -3.0
ORR Orenburg 77.78 323 *e*P **P 22 40 24.8 -3.6**
ORR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SOC Sochi 86.25 314 *e*P **P 22 41 11.3 -1.6**
SOC *e*S 22 51 33.1
SOC *e*SSS 23 00 54.7
KMBO Kilima Mbogo 86.43 269 P **P 22 41 13.3 -0.4**
comp=Z,3.6nm,1.0s,mb4.6,baz=59,slow=9.1,SNR=6.3
KMBO Kilima Mbogo 86.43 269 *e*P **P 22 41 15.3 +1.5**
ILAR Eielson Array 90.56 25 P **P 22 41 33.2 -0.2**
comp=Z,0.4nm,0.6s,mb4.0,baz=242,slow=5.3,SNR=11
BRTR Keskin Array B 90.62 310 P **P 22 41 31.4 -2.3**
comp=Z,0.8nm,0.8s,mb4.1,baz=142,slow=5.8,SNR=5.8
AKASG Malin Array Be 93.54 321 P **P 22 41 44.8 -2.4**
comp=Z,1.3nm,0.7s,mb4.5,baz=78,slow=4.2,SNR=4.0
ARCES ARCESS Array B 93.71 340 P **P 22 41 47.9 -0.1**
comp=Z,1.6nm,0.8s,mb4.5,baz=85,slow=5.5,SNR=4.0
FINES FINESS Array B 94.44 331 P **P 22 41 51.9 +0.5**
comp=Z,1.0nm,0.6s,mb4.4,baz=62,slow=4.5,SNR=5.5
INK Inuvik 95.56 21 *e*P **P 22 41 57.2 +0.8**
INK pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 95.56 21 *e*P **P 22 41 57.2 +0.8**
comp=Z,1.0nm,0.5s,mb4.5
TORD Torodi Ar. Bea 121.31 285 PKP PKPdf 22 47 25.4 +1.0
comp=Z,1.0nm,0.8s,baz=180,slow=3.7,SNR=7.5

BJI ***28*** *22:30:05.9,2380S×17770W,h49km,mB5.3,mb4.7,Ms5.2, Msz4.8*
MOS ***28*** *22:30:07.2±3.0,2360S×17728W,h33km,mb5.1/9,Error ellipse: s-maj=12.3km s-min=11.1km az=51.8*
NEIC ***28*** *22:30:11.0±0.6,2379S×17767W,mb5.0/20,Error ellipse: s-maj=19.2km s-min=15.3km az=137.0*
IDC ***28*** *22:30:12.4±2.4,2381S×177.12W,h103km±20km,mb4.3/12, mb1 4.5/14,mb1mx4.5/17,mbtmp4.7/14,MS3.6/5, Ms1 3.6/5,ms1mx3.2/27,Error ellipse: s-maj=16.2km s-min=15.4km az=149.0*
ISCJB ***28*** *22:30:13.8±0.3,2396S±005×17721W±007,h124km, mb4.8/31,Error ellipse: s-maj=8.5km s-min=6.9km az=27.9*
SZGRF ***28*** *22:30:19.0,2010S×17664W,h33km,Fiji Islands region*
ISC 28 22:30:15.4±0.3,2399S±005×17713W±006,h126km, h126km±7km:pP-P,n171,σ1s12/75,mb4.8/31,12C-5D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.29**	**187**	P	**Pn**	**22 31 34.8**	**+2.5**
	77nm,0.3s,baz=107,slow=19,SNR=2.6						
RAO				S	**Sn**	**22 32 31.4**	**-0.8**
	92nm,0.3s,baz=287,slow=19,SNR=4.1						
RAO	**Raoul Island**	**5.29**	**187**	P	**Pn**	**22 31 34.8**	**+2.5**
RAO				S	**Sn**	**22 32 31.4**	**-0.8**
AFI	**Afiamalu**	**11.23**	**28**	P	**Pn**	**22 32 41.8**	**-10**
	5.3nm,0.3s,baz=232,slow=21,SNR=6.8						
AFI				S	**Sn**	**22 34 34.8**	**-21**
	8.7nm,0.3s,baz=112,slow=19,SNR=3.6						
AFI	**Afiamalu**	**11.23**	**28**	*e*Pn	**Pn**	**22 32 42.0**	**-10**
AFI				S	**Sn**	**22 34 46.2**	**-10**
URZ	**Urewera**	**15.05**	**198**	P	**Pn**	**22 33 41.3**	**-0.2**
	5.0nm,0.3s,baz=354,slow=4.9,SNR=13						
URZ				S	S	22 36 14.4	-22
	1.4nm,0.3s,baz=134,slow=22,SNR=6.0						
DZM	**Mont Dzumac**	**15.24**	**274**	P	**Pn**	**22 33 47.9**	**+4.1**
	2.2nm,0.3s,baz=89,slow=17,SNR=27						
DZM				LR	LR	22 37 57.8	
	comp=Z,191nm,20.3s,baz=6.7,slow=30						
RAR	**Rarotonga**	**16.27**	**84**	P	**Pn**	**22 33 54.9**	**-1.6**
	7.0nm,0.3s,baz=226,slow=6.4,SNR=5.3						
RAR				S	**S**	**22 36 37.3**	**-21**
	5.4nm,0.3s,baz=94,slow=18,SNR=6.1						
RAR				LR	LR	22 39 00.9	
	comp=Z,277nm,20.9s,baz=278,slow=33						
SNZO	**South Karori**	**18.57**	**200**	*e*P	**P**	**22 34 21.8**	**-0.8**
RPZ	**Rata Peaks**	**21.95**	**203**	P	**P**	**22 34 58.1**	**-0.7**
	14nm,0.5s,mb4.6,baz=284,slow=3.5,SNR=13						
RPZ				LR	LR	22 42 45.1	
	comp=Z,284nm,18.4s,baz=121,slow=34						
TBI	**Tubuai**	**25.34**	**94**	*e*LR	LR	22 41 16.2	
	222nm,36.0s						
HNR	**Honiara**	**26.23**	**300**	LR	LR	22 44 08.8	
	comp=Z,121nm,19.4s,baz=180,slow=32						
PPT	**Papeete**	**26.52**	**81**	*e*LQ		22 40 42.3	
	372nm,25.2s						
PPT				*e*LR	LR	22 41 46.4	
	242nm,27.0s						
PPT	**Papeete**	**26.52**	**81**	LR	LR	22 43 54.1	
	comp=Z,102nm,19.5s,baz=129,slow=31						
CTAO	**Charters Tower**	**34.10**	**269**	*e*P	**P**	**22 36 49.5**	**+1.6**
CTAO				pmax	pmax		
	comp=Z,43nm,0.4s,mb5.6						
CTAO	**Charters Tower**	**34.10**	**269**	*e*P	**P**	**22 36 49.5**	**+1.6**
	comp=Z,43nm,0.4s,mb5.6						
PMG	**Port Moresby**	**37.02**	**287**	P	**P**	**22 37 12.7**	**-0.1**
	comp=Z,46nm,0.8s,mb5.5,baz=91,slow=5.8,SNR=12						
PMG	**Port Moresby**	**37.02**	**287**	*e*P	**P**	**22 37 13.3**	**+0.5**
PMG				pmax	pmax		
	comp=Z,101nm,1.1s						
PMG	**Port Moresby**	**37.02**	**287**	*e*P	**P**	**22 37 13.3**	**+0.5**
	comp=Z,101nm,1.1s,mb5.7						
STKA	**Stephens Creek**	**37.13**	**248**	*e*P	**P**	**22 37 12.3**	**-1.5**
	comp=Z,3.6nm,0.3s,mb4.8						
STKA	**Stephens Creek**	**37.13**	**248**	P	**P**	**22 37 13.2**	**-0.5**
	comp=Z,4.7nm,0.3s,mb4.9,baz=95,slow=11,SNR=21						
STKA				PcP	PcP	22 39 30.7	-0.7
	comp=Z,2.7nm,0.7s,baz=127,slow=6.0,SNR=3.7						
RKT	**Rikitea**	**38.55**	**97**	*e*LR	LR	22 47 22.9	
	comp=Z,128nm,35.5s						
AS31	**Alice Springs**	**44.60**	**260**	*e*P	**P**	**22 38 14.6**	**-0.4**
ASAR	**Alice Springs**	**44.61**	**260**	P	**P**	**22 38 15.1**	**0.0**
	comp=Z,2.9nm,0.3s,mb4.4,baz=91,slow=6.3,SNR=31						
ASAR				pP	pP	22 38 43.8	+0.1
	comp=Z,6.9nm,0.8s,baz=93,slow=6.8,SNR=5.8						
ASAR				ScP	ScP	22 43 38.0	+1.8
	comp=Z,1.2nm,0.7s,baz=113,slow=4.2,SNR=6.2						
ASAR				S	**S**	**22 44 40.8**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=97,slow=15,SNR=3.2						
ASPA	**Alice Springs**	**44.61**	**260**	*e*P	**P**	**22 38 14.6**	**-0.5**
WB2	**Warramunga Arr**	**45.01**	**265**	*e*P	**P**	**22 38 17.7**	**-0.5**
WRAB	**Tennant Creek**	**45.01**	**265**	*e*P	**P**	**22 38 18.1**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**45.01**	**265**	*e*P	**P**	**22 38 18.1**	**-0.1**
	comp=Z,16nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**45.02**	**265**	P	**P**	**22 38 18.1**	**-0.2**
	comp=Z,9.0nm,0.6s,mb4.7,baz=104,slow=8.0,SNR=37						
WRA				pP	pP	22 38 46.1	-0.8
	comp=Z,5.6nm,0.7s,baz=98,slow=7.7,SNR=4.3						
WRA				ScP	ScP	22 43 40.7	+2.8
	comp=Z,1.2nm,0.6s,baz=97,slow=3.7,SNR=6.6						
FORT	**Forrest**	**48.74**	**249**	*e*P	**P**	**22 38 46.8**	**-0.4**
	comp=Z,60nm,0.6s,mb5.7						
KAKA	**Kakadu**	**48.93**	**274**	⇑*i*P	**P**	**22 38 48.1**	**-0.6**
	comp=Z,7.0nm,0.3s,mb5.1						
GUMO	**Guam**	**52.66**	**311**	P	**P**	**22 39 15.9**	**-0.8**
	comp=Z,28nm,0.5s,mb5.6,baz=174,slow=9.2,SNR=4.9						
SBA	**Scott Base**	**54.47**	**184**	*e*P	**P**	**22 39 32.3**	**+2.5**
SBA				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.2						
SBA	**Scott Base**	**54.47**	**184**	*e*P	**P**	**22 39 32.3**	**+2.5**
	comp=Z,21nm,0.8s,mb5.2						
VNDA	**Vanda**	**54.53**	**185**	P	**P**	**22 39 31.4**	**+1.2**
	comp=Z,5.3nm,0.8s,mb4.6,baz=3.7,slow=8.1,SNR=29						
VNDA	**Vanda**	**54.53**	**185**	*e*P	**P**	**22 39 31.5**	**+1.2**
VNDA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
VNDA	**Vanda**	**54.53**	**185**	*e*P	**P**	**22 39 31.5**	**+1.3**
	comp=Z,7.2nm,1.0s,mb4.7						
KLBR	**Kellerberrin**	**57.37**	**247**	*e*P	**P**	**22 39 49.6**	**-0.9**
	comp=Z,35nm,0.7s,mb5.5						
NWAO	**Narrogin (SRO)**	**57.58**	**245**	*e*P	**P**	**22 39 53.6**	**+1.6**
NWAO				*e**PP	pP	22 40 06.9	-15
MBWA	**Marble Bar**	**57.94**	**259**	*e*P	**P**	**22 39 54.4**	**-0.1**
	comp=Z,2.8nm,0.3s,mb4.8						
CASY	**Casey**	**61.18**	**206**	*e*P	**P**	**22 40 16.4**	**-0.3**
CASY	**Casey**	**61.18**	**206**	*e*P	**P**	**22 40 16.4**	**-0.3**
	comp=Z,18nm,0.6s,mb5.3						
QSPA	**South Pole Qui**	**66.10**	**180**	*e*P	**P**	**22 40 49.8**	**+0.8**
	comp=Z,24nm,0.5s,mb5.3						
MJAR	**Matsushiro Arr**	**73.48**	**324**	P	**P**	**22 41 32.0**	**-2.2**
	comp=Z,2.1nm,0.6s,mb4.1,baz=154,slow=4.8,SNR=5.3						
PMSA	**Palmer Station**	**77.79**	**156**	*e*P	**P**	**22 41 59.6**	**+0.9**
NJ2	**Nanjing**	**82.71**	**310**	*e*P	**P**	**22 42 25.5**	**+0.4**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,30nm,7.7s						
NJ2				LR	LR		
	comp=N,150nm,27.8s						
NJ2				LR	LR		
	comp=E,280nm,30.1s						
NJ2				LR	LR		
	comp=Z,140nm,29.9s						
NVAR	**Mina Array Bea**	**83.02**	**43**	P	**P**	**22 42 26.3**	**-0.3**
	comp=Z,1.4nm,0.7s,mb3.9,baz=215,slow=5.2,SNR=7.9						
NVAR	**Mina Array Bea**	**83.02**	**43**	P	**P**	**22 42 26.3**	**-0.3**
SYO	**Syowa Base**	**83.52**	**193**	‖*e*P	**P**	**22 42 28.0**	**-1.2**
SYO	**Syowa Base**	**83.52**	**193**	‖*e*PcP	PcP	22 42 35.0	+1.8
MDJ	**Mudanjiang**	**83.82**	**325**	P	**P**	**22 42 32.8**	**+2.1**
MDJ				AP	pP	22 42 45.0	-18
MDJ				XP	sP	22 42 50.0	-26
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,123nm,3.7s						
TUC	**Tucson**	**84.51**	**51**	*e*P	**P**	**22 42 35.2**	**+1.0**
TUC				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
TUC	**Tucson**	**84.51**	**51**	*e*P	**P**	**22 42 35.2**	**+1.0**
	comp=Z,4.8nm,0.9s,mb4.4						
SNAA	**Sanae**	**84.52**	**178**	⇑*i*Pdiff	**P**	**22 42 26.1**	**-8.2**
SNAA				*e*		22 42 28.2	
VNA3	**Neumayer Olymp**	**84.63**	**176**	⇑*i*Pdiff	**P**	**22 42 33.4**	**-1.4**
VNA3				*e*		22 42 36.1	
VNA3				*e*		22 42 41.2	
VNA3				*e*	pP	22 43 05.4	-1.4
VNA2	**Neumayer--Watz**	**85.08**	**177**	⇑*i*Pdiff	**P**	**22 42 36.6**	**-0.5**
	baz=177,slow=4.0						
VNA2				*e*		22 42 39.0	
VNA2				*e*	pP	22 43 08.4	-0.7
VNA1	**Neumayer--Stat**	**85.30**	**176**	⇑Pdiff	**P**	**22 42 38.0**	**-0.2**
VNA1				*e*		22 42 40.7	
VNA1				*e*		22 42 45.1	
PLCA	**Paso Flores**	**86.31**	**133**	P	**P**	**22 42 43.8**	**+0.7**
	comp=Z,7.4nm,1.1s,mb4.5,baz=239,slow=8.8,SNR=6.8						
MNTX	**Cornudas Mount**	**88.12**	**54**	*e*P	**P**	**22 42 52.1**	**+0.3**
	comp=Z,5.6nm,1.0s,mb4.5						
PMR	**Palmer**	**88.21**	**13**	*e*P	**P**	**22 42 54.1**	**+1.8**
PMR				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
PMR	**Palmer**	**88.21**	**13**	*e*P	**P**	**22 42 54.1**	**+1.8**
	comp=Z,1.8nm,0.4s,mb4.5						
TTA	**Tatalina**	**88.23**	**9**	*e*P	**P**	**22 42 51.5**	**-0.9**
TTA				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
TTA	**Tatalina**	**88.23**	**9**	*e*P	**P**	**22 42 51.5**	**-0.8**
	comp=Z,6.0nm,1.0s,mb4.6						
ENH	**Enshi**	**88.65**	**304**	P	**P**	**22 42 54.7**	**+0.4**
ANMO	**Albuquerque**	**88.96**	**51**	*e*P	**P**	**22 42 56.2**	**+0.4**
ANMO				*e**PP	pP	22 43 10.1	-18
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ANMO	**Albuquerque**	**88.96**	**51**	*e*P	**P**	**22 42 56.2**	**+0.4**
	comp=Z,2.4nm,0.9s,mb4.2						
ANMO				*ep*P	pP	22 43 10.1	-18
NEW	**Newport**	**89.73**	**35**	P	**P**	**22 43 02.2**	**+2.8**
PDAR	**Pinedale Array**	**90.95**	**43**	P	**P**	**22 43 04.2**	**-0.9**
	comp=Z,1.2nm,0.8s,mb4.1,baz=236,slow=1.6,SNR=8.0						
ILAR	**Eielson Array**	**91.52**	**12**	P	**P**	**22 43 05.3**	**-2.4**
	comp=Z,0.9nm,0.7s,mb4.1,baz=230,slow=6.4,SNR=9.7						
KMI	**Kunming**	**91.63**	**297**	P	**P**	**22 43 09.8**	**+1.6**
KMI				AP	pP	22 43 25.5	-15
KMI				XP	sP	22 43 29.8	-24
KMI				PP	PP	22 46 46.5	-1.7
KMI				S		22 54 05.0	
KMI				XS	sS	22 54 26.5	-27
KMI				AMB	AMB		
	comp=Z,4.0nm,1.6s,mb4.4						
KMI	**Kunming**	**91.63**	**297**	P	**P**	**22 43 09.8**	**+1.6**
KMI				**PP	pP	22 43 25.6	-15
KMI						22 46 46.4	
KMI				S		22 54 05.0	
KMI				SS	SS	23 00 15.7	+8.3
KMI				pmax	pmax		
	comp=Z,4.0nm,1.6s,mb4.4						
KMI				MLR	MLR		
	comp=Z,30nm,27.0s						
KMI	**Kunming**	**91.63**	**297**	P	**P**	**22 43 09.8**	**+1.6**
	comp=Z,4.0nm,1.6s,mb4.4						
KMI				pP	pP	22 43 25.6	-15
KMI				sP	sP	22 43 29.8	-24
KMI				PP	PP	22 46 46.4	-1.8
KMI				S		22 54 05.0	
KMI				sS	sS	22 54 26.6	-27
KMI				SS	SS	23 00 15.7	+8.3
KMI				LR	LR		
	comp=Z,30nm,27.0s						
CHTO	**Chiang Mai**	**92.17**	**290**	P	**P**	**22 43 12.0**	**+1.3**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.9						
CHTO	**Chiang Mai**	**92.17**	**290**	P	**P**	**22 43 12.0**	**+1.3**
	comp=Z,6.2nm,0.8s,mb4.9						
BILL	**Bilibino**	**92.57**	**354**	*e*P	**P**	**22 43 11.4**	**-1.2**
BILL				pmax	pmax		
	comp=Z,11nm,1.0s,mb5.1						
BILL	**Bilibino**	**92.57**	**354**	*e*P	**P**	**22 43 11.4**	**-1.2**
	comp=Z,11nm,1.0s,mb5.1						
TIXI	**Tiksi**	**102.31**	**345**	*e*P	Pdif	22 43 53.4	-3.1
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MKAR	**Makanchi Array**	**114.15**	**312**	PKP	PKiKP	22 48 37.7	-2.1
	comp=Z,0.4nm,0.4s,baz=62,slow=3.7,SNR=9.2						
MKAR				PKKPbc	PKKPbc	22 59 18.3	-2.2
	comp=Z,0.9nm,0.9s,baz=261,slow=3.2,SNR=5.5						
MKAR	**Makanchi Array**	**114.15**	**312**	PKP	PKiKP	22 48 37.7	-2.1
MKAR				PKKPbc	PKKPbc	22 59 18.3	-2.2
ZRNK	**Zerenda**	**123.07**	**319**	*e*PKPdf	PKPdf	22 48 55.0	-2.0
AKTK	**Aktyubinsk**	**130.17**	**317**	PKP	PKPdf	22 49 09.9	-0.6
AKTO	**Aktyubinsk**	**130.17**	**317**	PKP	PKPdf	22 49 09.9	-0.6
	comp=Z,1.0nm,0.6s,baz=72,slow=12,SNR=3.6						
JOF	**Joensuu**	**136.68**	**341**	*ep*	PKPdf	22 49 16.9	-5.8
KAF	**Kangasniemi**	**138.71**	**344**	*ep*	PKPdf	22 49 18.0	-8.5
FINES	**FINESS Array B**	**139.33**	**343**	PKhKP		22 49 16.4	
	comp=Z,0.7nm,0.4s,baz=47,slow=3.4,SNR=12						
NB2	**NORSAR Subarra**	**142.52**	**353**	PKPa		22 49 27.8	
	comp=Z,1.2nm,0.7s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**142.52**	**353**	PKhKP		22 49 27.7	
	comp=Z,0.7nm,0.5s,baz=5.6,slow=3.7,SNR=4.3						
NOA	**NORSAR Array B**	**142.52**	**353**	PKP	PKPdf	22 49 27.7	-5.7
HFS	**Hagfors**	**143.09**	**351**	PKhKP		22 49 29.6	
	comp=Z,5.4nm,0.4s,baz=70,slow=4.9,SNR=55						
SOC	**Sochi**	**144.05**	**312**	*i* PKIKP	PKPdf	22 49 36.3	+0.2
SOC				*e*SSS		23 17 03.5	
SOC				pmax	pmax		
	comp=Z,123nm,1.2s						
ELZG	**Elazig**	**146.13**	**304**	*i* P	PKPdf	22 49 41.6	+2.0
SUW	**Suwalki**	**146.36**	**338**	*e*PKP	PKPdf	22 49 41.4	+1.4
AKASG	**Malin Array Be**	**146.42**	**329**	PKPbc	PKPbc	22 49 40.0	-1.7
	comp=Z,14nm,0.4s,baz=41,slow=4.0,SNR=97						
AKASG	**Malin Array Be**	**146.42**	**329**	PKPbc	PKPbc	22 49 40.0	-1.7
SIM	**Simferopol'**	**147.13**	**317**	*i* PKIKP	PKPdf	22 49 44.0	+2.7
SIM				*e*		22 50 00.0	
SIM				pmax	pmax		
	comp=Z,15nm,1.0s						
GZT	**Gaziantep**	**147.51**	**302**	*i* P	PKPdf	22 49 42.2	+0.2
BOYT	**Boyatat**	**148.16**	**311**	*i* P	PKPdf	22 49 46.5	+3.5
EKA	**Eskdalemuir Ar**	**148.37**	**7**	PKPbc	PKPbc	22 49 45.5	-1.5
	comp=Z,2.9nm,0.9s,baz=343,slow=3.0,SNR=5.9						
COBT	**Iskenderun**	**148.73**	**301**	*i* P	PKPdf	22 49 48.0	+4.0
ASF	**Jabal al Asfar**	**148.99**	**293**	PKPbc	PKPbc	22 49 48.8	+0.3
	comp=Z,3.1nm,0.6s,baz=314,slow=1.7,SNR=6.3						
AVNT	**Avonos**	**149.15**	**306**	*i* P	PKPdf	22 49 49.6	+5.0
BSEG	**Bad Segeberg**	**149.57**	**351**	*e*PKPbc	PKPbc	22 49 56.0	+6.0
BRTR	**Keskin Array B**	**149.70**	**309**	PKPbc	PKPbc	22 49 49.5	-0.8
	comp=Z,2.1nm,0.7s,baz=145,slow=4.9,SNR=13						
KWP	**Kalwaria**	**150.06**	**334**	*e*PKHKP		22 49 50.2	
MMAI	**Mount Meron Ar**	**150.12**	**295**	PKPbc	PKPbc	22 49 51.4	+0.1
	comp=Z,4.9nm,0.4s,baz=76,slow=8.2,SNR=48						
ANTO	**Ankara**	**150.25**	**309**	⇑PKHKP		22 49 51.6	
BURAR	**Bucovina Array**	**150.46**	**329**	‖*i*P	PKPdf	22 49 52.6	+5.9
SGKT	**Sivrigoynuk**	**150.48**	**311**	*i* P	PKPdf	22 49 48.2	+1.4
CFR	**Carcaliu**	**150.55**	**322**	⇑*i*P	PKPdf	22 49 51.9	+5.1
CFR	**Carcaliu**	**150.55**	**322**	⇑P	PKPdf	22 49 51.9	+5.0
OJC	**Ojcow**	**150.68**	**338**	*e*PKP	PKPdf	22 49 52.1	+5.1
EIL	**Elat**	**150.87**	**288**	*e*PKPdf	PKPdf	22 49 53.9	+6.5
KSP	**Ksiaz**	**151.24**	**342**	*e*PKIKP	PKPdf	22 49 53.7	+5.8
KSP				*e*		22 49 59.6	
ERMK	**Ermenek**	**151.28**	**303**	*i* P	PKPdf	22 49 51.3	+3.3
CSS	**Prodhromos**	**151.42**	**299**	*e*PKPdf	PKPdf	22 49 53.9	+5.8
OKC	**Ostrava-Krasne**	**151.56**	**339**	*e*PKPdf	PKPdf	22 49 55.1	+6.7
OKC				*e*PKPbc	PKPbc	22 50 00.6	+5.9
UPC	**Upice**	**151.62**	**342**	*e*PKPdf	PKPdf	22 49 54.1	+5.6
UPC				*e*PKPbc	PKPbc	22 50 01.2	+6.4
UPC				*e*PKPab	PKPab	22 50 03.8	-0.1
CLL	**Collm**	**151.62**	**347**	*e*PKPbc	PKPbc	22 50 00.5	+5.7
CLL	**Collm**	**151.62**	**347**	*i* PKPdf	PKPdf	22 49 54.0	+5.5
	comp=Z,8.0nm,0.7s						
CLL				⇑*i*PKPbc	PKPbc	22 50 00.3	+5.5
	comp=Z,32nm,0.8s						
CLL				*i* pPKPbc	pPKPbc	22 50 13.2	-15
CLL				*i* sPKPab		22 50 28.7	
CLL	**Collm**	**151.62**	**347**	⇑*i*PKIKP	PKPdf	22 49 54.0	+5.5
CLL				*i*		22 50 00.3	
CLL				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CLL				pmax	pmax		
	comp=Z,32nm,0.8s						
CLL	**Collm**	**151.62**	**347**	*i* PKP	PKPdf	22 49 54.0	+5.5
CLL				⇑*i*PKP	PKPdf	22 50 00.3	+12
DPC	**Dobruska-Polom**	**151.68**	**342**	*e*PKPdf	PKPdf	22 49 54.5	+6.0
DPC				*e*PKPbc	PKPbc	22 50 01.0	+6.1
DPC				*e*PKPab	PKPab	22 50 07.5	+3.4
MORC	**Moravsky Berou**	**151.81**	**340**	*e*PKIKP	PKPdf	22 49 53.7	+4.9
BRG	**Berggiesshubel**	**151.82**	**345**	*e*PKPbc	PKPbc	22 50 00.9	+5.6
BRG				*e*PKPab	PKPab	22 50 03.9	-0.8
BRG	**Berggiesshubel**	**151.82**	**345**	*i* PKP	PKPdf	22 49 54.8	+6.0
	comp=Z,3.5nm,0.6s						
BRG				*i*		22 50 01.6	
	comp=Z,11n

comp=Z,4.3nm,0.5s,baz=310,slow=6.1,SNR=7.9
DAVOX **Davos** 156.57 348 PKPab PKPab 22 50 24.2 -0.8
LOR **Lormes** 156.75 358 *e*PKIKP PKPdf 22 50 10.9 +15
comp=Z,3.2nm,0.5s
SSF **Saint Saulge** 156.97 359 *e*PKIKP PKPdf 22 50 11.2 +15
MFF **Saint Martin d** 157.30 5 *e*PKIKP PKPdf 22 50 12.0 +16
comp=Z,4.1nm,0.6s
BGF **Bois d'Agland** 157.48 0 *e*PKIKP PKPdf 22 50 11.9 +15
TCF **Toulx Ste Croi** 157.74 1 *e*PKIKP PKPdf 22 50 12.5 +16
PGF **Pioggiola** 160.80 346 *e*PKIKP PKPdf 22 50 16.0 +16
DBIC **Dimbokro** 161.25 155 PKPab PKPab 22 50 45.8 +0.5
comp=Z,4.5nm,0.8s,baz=167,slow=6.8,SNR=7.1
TORD **Torodi Ar. Bea** 169.16 174 PKP PKPdf 22 50 07.2 -0.4
comp=Z,1.5nm,0.9s,baz=310,slow=0.8,SNR=6.3
TORD PKPab PKPab 22 51 20.5 +0.4
comp=Z,4.1nm,1.0s,baz=202,slow=3.9,SNR=10

MOS ***28*** *22:48:26.2≈1.2,3211S×17977E,h299km,mb4.8/8,Error ellipse: s-maj=16.3km s-min=11.3km az=57.0*
ISCJB ***28*** *22:48:29.5≈0.5,3255S≈005×17989E≈007,h346km≈6km, mb4.6/28,Error ellipse: s-maj=10.5km s-min=6.6km az=80.1*
IDC ***28*** *22:48:31.1≈1.4,3199S×17978E,h338km≈13km,mb4.2/11, mb1 4.5/12,mb1mx4.4/14,mbtmp4.9/12,Error ellipse: s-maj=12.4km s-min=9.3km az=146.0*
NEIC ***28*** *22:48:33.1≈0.8,3297S×17984W,h378km≈9km,mb4.5/17, Error ellipse: s-maj=14.6km s-min=9.9km az=167.0*
BJI ***28*** *22:48:33.0,3300S×17980W,h377km,mB5.1,mb4.6*
ISC 28 22:48:33.0≈0.5,**3298S**≈005×**17977W**≈007,**h384**km≈5km, **n259,**σ1°**35**/216,**mb4.6**/27,**7C-3D,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.04**	**24**	P	**Pn**	**22 49 28.6**	**-16**
	229nm,0.3s,baz=103,slow=22,SNR=6.5						
RAO				S	**S**	**22 50 16.5**	**-26**
	909nm,0.3s,baz=70,slow=22,SNR=9.8						
MXZ	**Matakaoa Point**	**4.83**	**198**	PN	**Pn**	**22 49 52.1**	**-0.4**
MXZ				SN	**S**	**22 50 58.2**	**+1.4**
MXZ	**Matakaoa Point**	**4.83**	**198**	P	**Pn**	**22 49 52.1**	**-0.3**
MXZ				S	**S**	**22 51 00.0**	**+3.1**
WIZ	**White Island**	**5.17**	**208**	PN	**Pn**	**22 49 56.2**	**+0.2**
WIZ	**White Island**	**5.17**	**208**	P	**Pn**	**22 49 57.0**	**+1.0**
KUZ	**Kuaotunu**	**5.28**	**223**	PN	**Pn**	**22 49 59.1**	**+2.0**
KUZ	**Kuaotunu**	**5.28**	**223**	*e*P	**Pn**	**22 49 59.1**	**+2.0**
PUZ	**Puketiti**	**5.33**	**197**	PN	**Pn**	**22 49 57.5**	**-0.1**
PUZ				SN	**S**	**22 51 09.2**	**+2.7**
PUZ	**Puketiti**	**5.33**	**197**	P	**Pn**	**22 49 57.5**	**-0.1**
PUZ				S	**S**	**22 51 09.7**	**+3.3**
WCZ	**Waipu Caves**	**5.69**	**237**	PN	**Pn**	**22 50 02.4**	**+0.9**
WCZ	**Waipu Caves**	**5.69**	**237**	P	**Pn**	**22 50 02.4**	**+0.9**
TGRZ	**Tauranga**	**5.74**	**213**	PN	**Pn**	**22 50 03.0**	**+0.9**
TGRZ	**Tauranga**	**5.74**	**213**	P	**Pn**	**22 50 03.0**	**+0.9**
MWZ	**Matawai**	**5.78**	**202**	PN	**Pn**	**22 50 02.0**	**-0.5**
MWZ				SN	**S**	**22 51 18.2**	**+2.9**
MWZ	**Matawai**	**5.78**	**202**	P	**Pn**	**22 50 02.2**	**-0.3**
MTAZ	**Motutapu**	**5.79**	**228**	⇑PN	**Pn**	**22 50 05.4**	**+2.8**
MTAZ	**Motutapu**	**5.79**	**228**	P	**Pn**	**22 50 05.4**	**+2.8**
URZ	**Urewera**	**5.85**	**205**	P	**Pn**	**22 50 02.7**	**-0.5**
	230nm,0.3s,baz=299,slow=1.8,SNR=191						
URZ				S	**S**	**22 51 18.9**	**+2.2**
	122nm,0.3s,baz=245,slow=24,SNR=14						
URZ	**Urewera**	**5.85**	**205**	PN	**Pn**	**22 50 02.5**	**-0.8**
URZ				SN	**S**	**22 51 18.4**	**+1.7**
URZ	**Urewera**	**5.85**	**205**	P	**Pn**	**22 50 02.5**	**-0.8**
MKAZ	**Moumakai**	**5.85**	**224**	PN	**Pn**	**22 50 05.9**	**+2.7**
MKAZ	**Moumakai**	**5.85**	**224**	P	**Pn**	**22 50 05.9**	**+2.6**
EDRZ	**Edgecumbe**	**5.85**	**208**	PN	**Pn**	**22 50 03.3**	**0.0**
OTAZ	**Otara**	**5.88**	**226**	PN	**Pn**	**22 50 06.9**	**+3.2**
OTAZ	**Otara**	**5.88**	**226**	P	**Pn**	**22 50 06.9**	**+3.2**
OUZ	**Omahuta**	**5.94**	**246**	PN	**Pn**	**22 50 03.3**	**-0.9**
OUZ	**Omahuta**	**5.94**	**246**	*e*P	**Pn**	**22 50 03.3**	**-0.9**
KAAZ	**Kauri Point**	**5.94**	**228**	PN	**Pn**	**22 50 07.1**	**+2.8**
KAAZ	**Kauri Point**	**5.94**	**228**	*e*P	**Pn**	**22 50 07.1**	**+2.8**
MKRZ	**Makatiti**	**5.99**	**210**	P	**Pn**	**22 50 09.8**	**+5.0**
TAZ	**Tarawera**	**6.05**	**209**	PN	**Pn**	**22 50 06.4**	**+0.9**
TAZ	**Tarawera**	**6.05**	**209**	P	**Pn**	**22 50 06.4**	**+0.9**
WTAZ	**Waiatarua**	**6.09**	**228**	PN	**Pn**	**22 50 08.7**	**+2.8**
WTAZ	**Waiatarua**	**6.09**	**228**	*e*P	**Pn**	**22 50 08.7**	**+2.8**
TOZ	**Tahuroa Road**	**6.11**	**218**	PN	**Pn**	**22 50 08.6**	**+2.4**
TOZ	**Tahuroa Road**	**6.11**	**218**	P	**Pn**	**22 50 08.6**	**+2.4**
PATZ	**Paeroa**	**6.28**	**210**	PN	**Pn**	**22 50 08.7**	**+0.7**
PATZ	**Paeroa**	**6.28**	**210**	P	**Pn**	**22 50 08.7**	**+0.6**
KNZ	**Kokohu**	**6.37**	**198**	PN	**Pn**	**22 50 08.7**	**-0.4**
KNZ	**Kokohu**	**6.37**	**198**	P	**Pn**	**22 50 08.7**	**-0.4**
WHTZ	**Whakaora**	**6.65**	**210**	PN	**Pn**	**22 50 13.2**	**+1.1**
WHTZ	**Whakaora**	**6.65**	**210**	P	**Pn**	**22 50 13.2**	**+1.0**
WATZ	**Wairara**	**6.78**	**211**	PN	**Pn**	**22 50 14.6**	**+0.9**
WATZ	**Wairara**	**6.78**	**211**	P	**Pn**	**22 50 14.6**	**+0.9**
HATZ	**Hinemaiaia**	**6.78**	**208**	PN	**Pn**	**22 50 13.1**	**-0.6**
HATZ	**Hinemaiaia**	**6.78**	**208**	P	**Pn**	**22 50 13.1**	**-0.6**
BKZ	**Black Stump Fm**	**6.87**	**205**	PN	**Pn**	**22 50 13.5**	**-1.2**
BKZ	**Black Stump Fm**	**6.87**	**205**	P	**Pn**	**22 50 13.6**	**-1.1**
RATZ	**Rangitukua**	**6.90**	**210**	PN	**Pn**	**22 50 15.1**	**+0.1**
RITZ	**Rihia Road**	**6.95**	**209**	PN	**Pn**	**22 50 15.7**	**-0.1**
KATZ	**Kakaramea**	**7.02**	**210**	PN	**Pn**	**22 50 16.7**	**+0.4**
KATZ	**Kakaramea**	**7.02**	**210**	P	**Pn**	**22 50 16.7**	**+0.3**
HIZ	**Hauiti**	**7.04**	**217**	PN	**Pn**	**22 50 18.7**	**+2.1**
HIZ				SN	**S**	**22 51 50.6**	**+10**
HIZ	**Hauiti**	**7.04**	**217**	P	**Pn**	**22 50 18.7**	**+2.1**
OTVZ	**Oturere**	**7.19**	**210**	PN	**Pn**	**22 50 17.9**	**-0.4**
TWVZ	**Taurewa**	**7.21**	**211**	PN	**Pn**	**22 50 18.0**	**-0.5**
TWVZ	**Taurewa**	**7.21**	**211**	P	**Pn**	**22 50 18.0**	**-0.5**
NGZ	**Ngauruhoe**	**7.23**	**210**	P	**Pn**	**22 50 18.5**	**-0.2**
WPVZ	**Whakapapa**	**7.28**	**210**	P	**Pn**	**22 50 19.0**	**-0.3**
TUVZ	**Tukino**	**7.28**	**209**	PN	**Pn**	**22 50 18.8**	**-0.6**
TUVZ	**Tukino**	**7.28**	**209**	P	**Pn**	**22 50 18.8**	**-0.6**
FWVZ	**Far West T-bar**	**7.32**	**210**	P	**Pn**	**22 50 19.2**	**-0.5**
WNVZ	**Wahianoa**	**7.36**	**209**	P	**Pn**	**22 50 19.5**	**-0.7**
MOVZ	**Moawhango**	**7.36**	**208**	PN	**Pn**	**22 50 18.9**	**-1.4**
MOVZ	**Moawhango**	**7.36**	**208**	P	**Pn**	**22 50 18.9**	**-1.4**
MTVZ	**Mangateitei**	**7.46**	**210**	PN	**Pn**	**22 50 21.0**	**-0.4**
PXZ	**Pawanui**	**7.54**	**200**	PN	**Pn**	**22 50 21.6**	**-0.7**
VRZ	**Vera Road**	**7.56**	**214**	P	**Pn**	**22 50 23.2**	**+0.6**
TSZ	**Takapari Road**	**7.85**	**205**	PN	**Pn**	**22 50 24.4**	**-1.5**
TSZ	**Takapari Road**	**7.85**	**205**	P	**Pn**	**22 50 24.4**	**-1.5**
RAEZ	**Rainy Point**	**7.87**	**215**	P	**Pn**	**22 50 28.4**	**+2.4**
WAZ	**Wanganui**	**7.97**	**211**	*e*P	**Pn**	**22 50 26.6**	**-0.7**
PKE	**Pukeiti**	**8.00**	**217**	PN	**Pn**	**22 50 29.4**	**+1.9**
NEZ	**North Egmont**	**8.00**	**217**	PN	**Pn**	**22 50 29.4**	**+1.8**
NEZ	**North Egmont**	**8.00**	**217**	P	**Pn**	**22 50 29.4**	**+1.8**
BFZ	**Birch Farm**	**8.32**	**201**	PN	**Pn**	**22 50 30.4**	**-0.9**
BFZ	**Birch Farm**	**8.32**	**201**	P	**Pn**	**22 50 30.4**	**-0.9**
MRZ	**Mangatainoka R**	**8.52**	**205**	PN	**Pn**	**22 50 31.5**	**-2.1**
MRZ				*e*SN	**S**	**22 52 12.3**	**-0.2**
MRZ	**Mangatainoka R**	**8.52**	**205**	*e*P	**Pn**	**22 50 32.1**	**-1.5**
TIWZ	**Tintock**	**8.52**	**203**	PN	**Pn**	**22 50 32.6**	**-1.0**
KIW	**Kapiti Island**	**8.94**	**207**	PN	**Pn**	**22 50 36.7**	**-1.8**
KIW	**Kapiti Island**	**8.94**	**207**	P	**Pn**	**22 50 36.7**	**-1.8**
MTW	**Mount Morrison**	**8.99**	**203**	P	**Pn**	**22 50 37.9**	**-1.2**
CAW	**Cannon Point**	**9.10**	**205**	PN	**Pn**	**22 50 38.6**	**-1.8**
CAW	**Cannon Point**	**9.10**	**205**	P	**Pn**	**22 50 38.6**	**-1.7**
PAWZ	**Paruwai Farm**	**9.22**	**203**	P	**Pn**	**22 50 40.6**	**-1.1**
DUWZ	**D'Urville Isla**	**9.29**	**211**	PN	**Pn**	**22 50 40.9**	**-1.8**
MSWZ	**Moikau Station**	**9.31**	**204**	PN	**Pn**	**22 50 41.3**	**-1.5**
MSWZ	**Moikau Station**	**9.31**	**204**	P	**Pn**	**22 50 41.5**	**-1.3**
MRW	**Makara Radio**	**9.34**	**207**	PN	**Pn**	**22 50 41.7**	**-1.5**
MRW				*e*SN	**S**	**22 52 30.5**	**+0.5**
MRW	**Makara Radio**	**9.34**	**207**	P	**Pn**	**22 50 41.7**	**-1.5**
WEL	**Wellington**	**9.36**	**206**	PN	**Pn**	**22 50 42.0**	**-1.5**
WEL	**Wellington**	**9.36**	**206**	P	**Pn**	**22 50 42.3**	**-1.1**
SNZO	**South Karori**	**9.41**	**206**	PN	**Pn**	**22 50 41.6**	**-2.3**
SNZO	**South Karori**	**9.41**	**206**	*e*Pn	**Pn**	**22 50 44.0**	**+0.1**
SNZO				*e*Sn	**S**	**22 52 33.0**	**+1.6**
BHW	**Baring Head**	**9.43**	**205**	*e*PN	**Pn**	**22 50 42.1**	**-2.1**
BHW	**Baring Head**	**9.43**	**205**	P	**Pn**	**22 50 42.3**	**-1.9**
TCW	**Tory Channel**	**9.49**	**208**	*e*PN	**Pn**	**22 50 42.6**	**-2.3**
TCW	**Tory Channel**	**9.49**	**208**	P	**Pn**	**22 50 42.7**	**-2.2**
TUWZ	**Tuamarina**	**9.81**	**209**	PN	**Pn**	**22 50 46.6**	**-2.0**
NNZ	**Nelson**	**9.87**	**212**	PN	**Pn**	**22 50 46.5**	**-2.8**
NNZ				*e*SN	**S**	**22 52 40.4**	**-1.1**
NNZ	**Nelson**	**9.87**	**212**	*e*P	**Pn**	**22 50 47.5**	**-1.9**
QRZ	**Quartz Range**	**9.96**	**216**	PN	**Pn**	**22 50 48.0**	**-2.4**
QRZ				*e*SN	**S**	**22 52 44.6**	**+1.2**
QRZ	**Quartz Range**	**9.96**	**216**	*e*P	**Pn**	**22 50 48.0**	**-2.4**
CMWZ	**Cape Campbell**	**9.97**	**207**	PN	**Pn**	**22 50 50.9**	**+0.3**
CMWZ	**Cape Campbell**	**9.97**	**207**	P	**Pn**	**22 50 50.9**	**+0.4**
BSWZ	**Blackbirch Sta**	**10.07**	**208**	PN	**Pn**	**22 50 50.8**	**-1.0**
BSWZ	**Blackbirch Sta**	**10.07**	**208**	P	**Pn**	**22 50 50.8**	**-0.9**
THZ	**Tophouse**	**10.52**	**211**	PN	**Pn**	**22 50 54.5**	**-2.5**
THZ	**Tophouse**	**10.52**	**211**	*e*P	**Pn**	**22 50 54.3**	**-2.7**
KHZ	**Kahutara**	**10.80**	**207**	PN	**Pn**	**22 50 59.3**	**-1.0**
LTZ	**Lake Taylor**	**11.62**	**210**	PN	**Pn**	**22 51 08.1**	**-1.7**
LTZ	**Lake Taylor**	**11.62**	**210**	*e*P	**Pn**	**22 51 08.2**	**-1.6**
MQZ	**McQueen's Vall**	**12.24**	**207**	PN	**Pn**	**22 51 15.6**	**-1.5**
MQZ				*e*SN	**S**	**22 53 31.1**	**+0.6**
MQZ	**McQueen's Vall**	**12.24**	**207**	*e*P	**P**	**22 51 15.8**	**0.0**
WVZ	**Waitaha Valley**	**12.54**	**214**	PN	**Pn**	**22 51 18.8**	**-1.7**
RPZ	**Rata Peaks**	**12.90**	**211**	P	**P**	**22 51 24.5**	**+1.4**
	14nm,0.3s,baz=318,slow=1.1,SNR=42						
RPZ				S	**S**	**22 53 45.2**	**+1.4**
	35nm,0.3s,baz=133,slow=21,SNR=14						
LBZ	**Lake Benmore**	**13.81**	**212**	PN	**P**	**22 51 34.5**	**+1.5**
ODZ	**Otahua Downs**	**14.15**	**209**	PN	**P**	**22 51 40.2**	**+3.5**
JCZ	**Jackson Bay**	**14.24**	**216**	PN	**P**	**22 51 39.6**	**+1.9**
WKZ	**Wanaka**	**14.68**	**213**	PN	**P**	**22 51 44.6**	**+2.1**
EAZ	**Earnscleugh**	**14.86**	**211**	PN	**P**	**22 51 47.3**	**+2.8**
MLZ	**Mavora Lakes**	**15.47**	**214**	PN	**P**	**22 51 55.4**	**+4.4**
SYZ	**Scrubby Hill**	**15.98**	**209**	PN	**P**	**22 52 04.9**	**+8.3**
WHZ	**Wether Hill Ro**	**15.98**	**213**	PN	**P**	**22 52 00.9**	**+4.3**
DZM	**Mont Dzumac**	**16.34**	**308**	P	**P**	**22 51 55.2**	**-5.2**
	2.2nm,0.3s,baz=121,slow=16,SNR=36						
APZ	**The Paps**	**16.69**	**210**	PN	**P**	**22 52 11.0**	**+6.8**
BKM	**Butte a Klehm**	**18.68**	**322**	*i* P	**P**	**22 52 17.7**	**-7.6**
AFI	**Afiamalu**	**20.34**	**23**	P	**P**	**22 52 34.0**	**-7.5**
	14nm,0.3s,baz=26,slow=10,SNR=14						
AFI				S	**S**	**22 55 58.3**	**-6.2**
	4.7nm,0.3s,baz=18,slow=19,SNR=4.6						
AFI	**Afiamalu**	**20.34**	**23**	*e*P	**P**	**22 52 34.3**	**-7.2**
AFI				*e*S	**S**	**22 55 54.3**	**-10**
AFI				pmax	pmax		
	comp=Z,240nm,0.8s						
AFI	**Afiamalu**	**20.34**	**23**	*e*P	**P**	**22 52 34.3**	**-7.2**
	comp=Z,240nm,0.8s						
AFI				*e*S	**S**	**22 55 54.3**	**-10**
RAR	**Rarotonga**	**21.28**	**62**	P	**P**	**22 52 50.2**	**+0.1**
	comp=Z,40nm,0.6s,mb5.0,baz=218,slow=6.7,SNR=3.6						
ARMA	**Armidale**	**24.44**	**268**	*e*P	**P**	**22 53 20.3**	**+1.7**
CNB	**Canberra Magne**	**25.60**	**256**	*e*P	**P**	**22 53 32.1**	**+3.1**
	comp=Z,11nm,0.6s,mb4.5						
TOO	**Toolangi**	**28.62**	**251**	*e*P	**P**	**22 53 58.9**	**+3.2**
	comp=Z,13nm,0.7s,mb4.4						
TOO	**Toolangi**	**28.62**	**251**	*e*P	**P**	**22 53 58.9**	**+3.2**
TOO				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.4						
HNR	**Honiara**	**29.99**	**317**	P	**P**	**22 53 58.3**	**-9.4**
STKA	**Stephens Creek**	**32.51**	**261**	*e*P	**P**	**22 54 29.2**	**-0.2**
	comp=Z,21nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**32.51**	**261**	P	**P**	**22 54 29.5**	**+0.1**
	comp=Z,32nm,0.8s,mb4.7,baz=97,slow=9.5,SNR=65						
CTAO	**Charters Tower**	**32.84**	**284**	*e*P	**P**	**22 54 32.5**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.4						
CTAO	**Charters Tower**	**32.84**	**284**	*e*P	**P**	**22 54 32.5**	**+0.2**
	comp=Z,17nm,0.8s,mb4.4						
PMG	**Port Moresby**	**38.46**	**300**	*e*P	**P**	**22 55 14.0**	**-5.5**
AS31	**Alice Springs**	**41.54**	**271**	*e*P	**P**	**22 55 44.0**	**-0.5**
AS31				*e*S	**S**	**23 01 30.5**	**-0.5**
ASAR	**Alice Springs**	**41.54**	**271**	P	**P**	**22 55 44.1**	**-0.4**
	comp=Z,20nm,0.6s,mb4.7,baz=106,slow=7.4,SNR=106						
ASAR				ScP	ScP	23 00 51.1	+4.9
	comp=Z,1.3nm,0.6s,baz=120,slow=3.9,SNR=4.3						
ASAR				S	**S**	**23 01 30.8**	**-0.2**
	comp=Z,2.1nm,0.9s,baz=119,slow=16,SNR=7.9						
ASPA	**Alice Springs**	**41.54**	**271**	*e*P	**P**	**22 55 44.0**	**-0.5**
ASPA				*e*S	**S**	**23 01 30.5**	**-0.6**
WB2	**Warramunga Arr**	**42.76**	**276**	⇑*i* P	**P**	**22 55 53.1**	**-1.1**
WB2				*e*S	**S**	**23 01 48.2**	**-0.5**
WRAB	**Tennant Creek**	**42.76**	**276**	*e*P	**P**	**22 55 53.0**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,43nm,0.6s,mb5.0						
WRAB	**Tennant Creek**	**42.76**	**276**	*e*P	**P**	**22 55 53.0**	**-1.3**
	comp=Z,43nm,0.6s,mb5.0						
WRA	**Warramunga Arr**	**42.77**	**276**	P	**P**	**22 55 53.2**	**-1.1**
	comp=Z,23nm,0.3s,mb5.0,baz=112,slow=8.0,SNR=124						
WRA				ScP	ScP	23 00 56.5	+5.4
	comp=Z,2.2nm,0.7s,baz=113,slow=3.7,SNR=7.0						
WRA				S	**S**	**23 01 48.0**	**-0.8**
	comp=Z,3.4nm,0.9s,baz=116,slow=15,SNR=5.6						
FORT	**Forrest**	**43.98**	**258**	*e*P	**P**	**22 56 04.3**	**+0.4**
	comp=Z,36nm,0.8s,mb4.8						
SBA	**Scott Base**	**45.36**	**184**	*e*P	**P**	**22 56 24.7**	**+10**
SBA				pmax	pmax		
	comp=Z,55nm,1.2s,mb4.8						
SBA	**Scott Base**	**45.36**	**184**	*e*P	**P**	**22 56 24.7**	**+10**
	comp=Z,55nm,1.2s,mb4.8						
VNDA	**Vanda**	**45.39**	**186**	P	**P**	**22 56 23.7**	**+8.9**
	comp=Z,3.2nm,0.6s,mb3.9,baz=1.7,slow=8.0,SNR=43						
VNDA	**Vanda**	**45.39**	**186**	*e*P	**P**	**22 56 23.7**	**+8.9**
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
VNDA	**Vanda**	**45.39**	**186**	*e*P	**P**	**22 56 23.7**	**+8.9**
	comp=Z,3.0nm,0.6s,mb3.8						
KAKA	**Kakadu**	**47.97**	**283**	*e*P	**P**	**22 56 32.7**	**-1.9**
	comp=Z,8.2nm,0.6s,mb4.2						
NWAO	**Narrogin (SRO)**	**52.11**	**252**	*e*P	**P**	**22 57 06.5**	**+1.2**
NWAO				pmax	pmax		
	comp=Z,8.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**52.11**	**252**	*e*P	**P**	**22 57 06.5**	**+1.2**
	comp=Z,7.7nm,0.6s,mb4.1						
KLBR	**Kellerberrin**	**52.12**	**253**	*e*P	**P**	**22 57 06.1**	**+0.7**
	comp=Z,13nm,0.5s,mb4.4						
CASY	**Casey**	**52.16**	**209**	*e*P	**P**	**22 57 10.4**	**+4.8**
CASY	**Casey**	**52.16**	**209**	*e*P	**P**	**22 57 10.8**	**+5.2**
MUN	**Mundaring**	**53.24**	**252**	*e*P	**P**	**22 57 14.7**	**+1.2**
MBWA	**Marble Bar**	**54.49**	**266**	*e*P	**P**	**22 57 21.6**	**-0.8**
QSPA	**South Pole Qui**	**57.14**	**180**	⇑*i* P	**P**	**22 57 50.5**	**+10**
	comp=Z,208nm,0.8s,mb5.5						
SYO	**Syowa Base**	**74.26**	**194**	⇓*i* P	**P**	**22 59 33.8**	**+4.7**
SYO	**Syowa Base**	**74.26**	**194**	⇓*i* PcP	PcP	22 59 38.6	-3.2
SNAA	**Sanae**	**75.62**	**179**	⇑*i*	**P**	**22 59 36.6**	**-0.1**
SNAA				*e*		22 59 37.0	
SNAA				*e*		22 59 37.6	
SNAA				*e*		22 59 55.8	
SNAA	**Sanae**	**75.62**	**179**	*e*P	**P**	**22 59 36.7**	**0.0**
SNAA				pmax	pmax		
	comp=Z,101nm,0.9s						
SNAA	**Sanae**	**75.62**	**179**	*e*P	**P**	**22 59 36.7**	**-0.1**
	comp=Z,101nm,0.9s,mb5.5						
VNA3	**Neumayer Olymp**	**75.83**	**177**	⇑*i*	**P**	**22 59 45.4**	**+7.5**
VNA3				*e*		22 59 45.7	
VNA3				*e*		22 59 46.9	
VNA3				*e*		23 00 01.5	
VNA3				*e*		23 00 10.6	
VNA3				*e*		23 01 02.2	
VNA3				*e*	pP	23 01 06.8	+3.0
VNA3				*e*	pP	23 01 12.3	+8.5
NVL	**N'lazarevskaya**	**76.21**	**184**	⇓*i* P	**P**	**22 59 46.6**	**+6.5**
NVL				pmax	pmax		
	comp=Z,32nm,0.7s,mb5.1						
VNA2	**Neumayer--Watz**	**76.25**	**177**	⇑*i*	**P**	**22 59 48.0**	**+7.8**
VNA2				*e*		22 59 48.4	
VNA2				*e*		22 59 48.7	
VNA2				*e*		23 00 02.6	
VNA2				*e*		23 00 06.4	
VNA2				*e*		23 00 11.4	
VNA2				*e*		23 00 21.3	
VNA2				*e*		23 00 54.4	
VNA2				*e*		23 01 00.2	
VNA2				*e*	pP	23 01 10.0	+3.8
VNA2				*e*		23 01 23.1	
VNA1	**Neumayer--Stat**	**76.49**	**177**	⇑*i*	**P**	**22 59 49.6**	**+8.0**
VNA1				*e*		22 59 50.0	
VNA1				*e*		22 59 50.8	
VNA1				*e*		22 59 56.8	
VNA1				*e*		23 00 00.7	
MJAR	**Matsushiro Arr**	**79.53**	**327**	P	**P**	**22 59 54.9**	**-3.2**
	comp=Z,1.6nm,0.5s,mb3.9,baz=144,slow=4.0,SNR=6.1						
MAJO	**Matsushiro**	**79.53**	**327**	P	**P**	**22 59 56.8**	**-1.3**
PLCA	**Paso Flores**	**81.84**	**134**	P	**P**	**23 00 18.3**	**+8.0**
	comp=Z,15nm,0.6s,mb4.9,baz=228,slow=5.2,SNR=39						
PLCA	**Paso Flores**	**81.84**	**134**	*e*P	**P**	**23 00 18.6**	**+8.3**
PLCA				pmax	pmax		
	comp=Z,33nm,1.0s						
PLCA	**Paso Flores**	**81.84**	**134**	*e*P	**P**	**23 00 18.6**	**+8.3**
	comp=Z,33nm,1.0s,mb5.0						
KS15	**Wonju Array Si**	**85.37**	**321**	*e*P	**P**	**23 00 26.1**	**-1.8**
TRQA	**Tornquist**	**88.67**	**136**	*e*P	**P**	**23 00 51.4**	**+7.7**
	comp=Z,97nm,1.1s,mb5.4						
ISA	**Isabella**	**89.18**	**46**	P	**P**	**23 00 46.5**	**+0.5**
CMB	**Columbia Colle**	**89.68**	**43**	*e*P	**P**	**23 00 49.4**	**+1.1**
CMB				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
CMB	**Columbia Colle**	**89.68**	**43**	*e*P	**P**	**23 00 49.4**	**+1.1**
	comp=Z,4.2nm,0.8s,mb4.3						
MDJ	**Mudanjiang**	**89.91**	**326**	P	**P**	**23 00 50.3**	**+0.9**
MDJ				AP	pP	23 02 25.0	+6.5
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,102nm,4.6s						
YBH	**Yreka Blue Hor**	**90.99**	**39**	P	**P**	**23 00 55.8**	**+1.4**
	comp=Z,1.9nm,0.4s,mb4.3,baz=330,slow=1.8,SNR=6.3						
NVAR	**Mina Array Bea**	**91.15**	**44**	P	**P**	**23 00 57.3**	**+2.2**
	comp=Z,3.0nm,0.7s,mb4.2,baz=231,slow=9.9,SNR=15						
CN2	**Changchun**	**91.30**	**324**	*e*P	**P**	**23 00 55.8**	**0.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
TPH	**Tonopah**	**91.54**	**44**	P	**P**	**23 00 57.5**	**+0.6**
MOD	**Modoc**	**92.39**	**40**	*e*P	**P**	**23 01 02.2**	**+1.3**
	comp=Z,3.1nm,0.6s,mb4.4						
KMI	**Kunming**	**93.65**	**298**	P	**P**	**23 01 09.5**	**+2.9**
KMI				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb4.2						
KMI	**Kunming**	**93.65**	**298**	P	**P**	**23 01 09.4**	**+2.8**
KMI				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
KMI	**Kunming**	**93.65**	**298**	P	**P**	**23 01 09.4**	**+2.8**
	comp=Z,3.0nm,1.1s,mb4.2						
NEW	**Newport**	**98.34**	**37**	P	**P**	**23 01 28.0**	**+0.2**
PDAR	**Pinedale Array**	**99.03**	**45**	P	Pdif	23 01 32.2	+1.3
	comp=Z,0.4nm,0.5s,baz=267,slow=5.3,SNR=4.2						
ILAR	**Eielson Array**	**100.78**	**14**	P	Pdif	23 01 38.1	-0.5
	comp=Z,0.5nm,0.6s,baz=222,slow=5.9,SNR=6.0						
BOSA	**Boshof**	**114.30**	**204**	PKP	PKiKP	23 06 31.6	+4.1
	comp=Z,2.6nm,0.8s,baz=225,slow=6.1,SNR=5.4						
MKAR	**Makanchi Array**	**118.25**	**309**	PKP	PKPdf	23 06 34.7	-0.4
	comp=Z,1.0nm,0.8s,baz=98,slow=1.9,SNR=7.0						
MKAR				PKKPbc	PKKPbc	23 17 00.9	+6.5
	comp=Z,1.2nm,0.4s,baz=282,slow=3.2,SNR=26						
MKAR	**Makanchi Array**	**118.25**	**309**	PKP	PKPdf	23 06 34.7	-0.4
MKAR				PKK

SMRF	**Simiane la Rot**	**168.25**	**341**	*e*PKP2	PKPab	23 09 03.0	-2.1
	comp=Z,20nm,1.1s						
MTLF	**Montolieu**	**169.54**	**352**	*e*PKP2	PKPab	23 09 08.8	-1.9
	comp=Z,13nm,0.8s						
ESDC	**Sonseca Array**	**172.51**	**26**	PKP	PKPdf	23 07 59.2	+2.8
	comp=Z,0.1nm,0.3s,baz=338,slow=6.7,SNR=4.6						
ESDC				PKPab	PKPab	23 09 23.8	-0.2
	comp=Z,0.4nm,0.6s,baz=342,slow=4.7,SNR=5.1						

MOS ***28*** *22:58:21.1±1.9, 45.17N×150.17E, h33km, mb4.4/4, Error ellipse: s-maj=45.4km s-min=34.9km az=6.8*
NEIC ***28*** *22:58:26.8±1.1, 4477N×14906E, h35km, mb4.2/4, Error ellipse: s-maj=27.6km s-min=21.1km az=120.0*
ISCJB ***28*** *22:58:33.6±1.2, 447N±0.1×1488E±02, h100km, mb4.1/4, Error ellipse: s-maj=23.0km s-min=9.5km az=93.4*
JMA ***28*** *22:58:39.2±0.6, 4463N×14838E, h128km, M4.1*

ISC 28 22:58:36.3±1.1, 447N±01×1486E±02, h100km, n21, σ1º44/28, mb4.1/4, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**2.08**	**252**	*i* PN	**Pn**	**22 59 12.5**	**+2.6**
YUK				pmax	pmax		
	comp=N,350nm,0.4s						
YUK				pmax	pmax		
	comp=Z,350nm,0.4s						
YUK				pmax	pmax		
	comp=E,380nm,0.5s						
NEM2	**Nemuro 2**	**2.46**	**238**	P	**Pn**	**22 59 16.8**	**+1.9**
NEM2				*e*S	**Sn**	**22 59 46.1**	**+1.6**
JRA	**Rausu**	**2.62**	**254**	P	**Pn**	**22 59 18.8**	**+1.8**
JNK	**Nakash**	**3.02**	**250**	P	**Pn**	**22 59 24.1**	**+1.8**
JAK	**Akkeshi**	**3.31**	**240**	P	**Pn**	**22 59 27.5**	**+1.4**
JAK				*e*S	**Sn**	**23 00 04.9**	**+0.3**
JAR	**Ashorobuto**	**3.77**	**250**	P	**Pn**	**22 59 34.0**	**+1.7**
JCH	**Churui**	**4.34**	**243**	P	**Pn**	**22 59 40.7**	**+0.6**
JCH				*e*S	**Sn**	**23 00 28.3**	**-1.3**
JNBK	**Urakawa-nobuka**	**4.90**	**242**	P	**Pn**	**22 59 47.3**	**-0.4**
JNBK				*e*S	**Sn**	**23 00 40.6**	**-2.6**
JKB	**Kayabe**	**6.21**	**246**	P	**Pn**	**23 00 04.5**	**-0.8**
JKB				*e*S	**Sn**	**23 01 10.1**	**-4.8**
JOT	**Ohata**	**6.46**	**242**	P	**Pn**	**23 00 08.2**	**-0.6**
JOT				*e*S	**Sn**	**23 01 14.8**	**-6.2**
JMK	**Ichinoseki**	**7.96**	**226**	P	**Pn**	**23 00 29.5**	**+0.3**
JMK				*e*S	**Sn**	**23 01 54.2**	**-3.5**
ULN	**Ulaanbaatar**	**28.65**	**291**	*e*P	**P**	**23 04 23.2**	**-0.3**
	comp=E,0.5nm,0.3s,mb3.6						
NACB	**Ninganchiao**	**30.04**	**236**	*e*P	**P**	**23 04 34.2**	**-1.5**
INK	**Inuvik**	**45.05**	**31**	*e*P	**P**	**23 06 36.3**	**-5.7**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	**Inuvik**	**45.05**	**31**	*e*P	**P**	**23 06 36.3**	**-5.7**
	comp=Z,1.4nm,0.4s,mb4.0						
LSA	**Lhasa**	**47.22**	**272**	P	**P**	**23 06 58.3**	**-0.7**
BRVK	**Borovoye**	**49.76**	**309**	*e*P	**P**	**23 07 16.3**	**-2.2**
ZRNK	**Zerenda**	**50.51**	**310**	*e*P	**P**	**23 07 24.0**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
ZRNK	**Zerenda**	**50.51**	**310**	*e*P	**P**	**23 07 24.0**	**-0.2**
	comp=Z,1.4nm,0.5s,mb4.2						
WRAB	**Tennant Creek**	**65.62**	**195**	*e*P	**P**	**23 09 09.1**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
WRAB	**Tennant Creek**	**65.62**	**195**	*e*P	**P**	**23 09 09.1**	**-0.5**
	comp=Z,6.0nm,0.8s,mb4.5						

ISCJB ***28*** *23:10:22.7±0.6, 8042N±009×27W±0.3, h10km, mb3.8/7, MS3.1/3, Error ellipse: s-maj=12.9km s-min=7.2km az=31.5*
IDC ***28*** *23:10:24.2±1.1, 8047N×301W, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.6/24, mbtmp3.8/9, ML3.8/2, MS3.2/3, Ms1 3.2/3, ms1mx2.5/32, Error ellipse: s-maj=28.1km s-min=19.4km az=38.0*
NEIC ***28*** *23:10:24.8±0.7, 8046N×272W, h10km, mb3.7/2, Error ellipse: s-maj=14.2km s-min=8.0km az=199.0*
BER ***28*** *23:10:26.8±3.0, 8058N×128W, h10km, MD2.8, ML3.1*
NAO ***28*** *23:10:27.4±7.5, 8078N×111E*

ISC 28 23:10:24.3±0.6, 8049N±008×26W±03, h10km, n30, σ1º22/34, mb3.8/7, MS3.1/3, 1C, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**3.04**	**114**	Pn	**Pn**	**23 11 10.3**	**-2.2**
KBS				Sn	**Sn**	**23 11 41.6**	**-7.3**
KBS	**Kingsbay**	**3.04**	**114**	*i* P	**Pn**	**23 11 10.2**	**-2.3**
KBS				*e*S	**Sn**	**23 11 42.4**	**-6.5**
SPA0	**Spitsbergen Ar**	**4.20**	**114**	Pn	**Pn**	**23 11 27.1**	**-1.3**
	baz=324,slow=7.9						
SPA0				Sn	**Sn**	**23 12 10.8**	**-6.8**
DAG	**Danmarks Havn**	**4.87**	**228**	*i* P	**Pn**	**23 11 37.0**	**-0.7**
	16nm,0.3s						
DAG	**Danmarks Havn**	**4.87**	**228**	*e*P	**Pn**	**23 11 37.0**	**-0.7**
HOPEN	**Hopen**	**6.73**	**112**	*e*P	**Pn**	**23 12 01.2**	**-1.9**
HOPEN				*e*S	**Sn**	**23 13 12.2**	**-7.7**
HOPEN				AML	AML	23 13 15.1	
	comp=N,35nm,0.3s						
JMIC	**Jan Mayen**	**9.65**	**192**	Pn	**Pn**	**23 12 43.3**	**+0.1**
	comp=N,7.7nm,0.3s,baz=6.0,slow=1.1,SNR=5.8						
JMIC				Sn	**Sn**	**23 14 25.3**	**-6.4**
	comp=N,1.8nm,0.3s,baz=171,slow=11,SNR=2.4						
SUMG	**Summit**	**11.22**	**245**	*e*Pn	**Pn**	**23 13 04.0**	**-0.7**
	comp=N,12nm,0.4s						
SUMG				*e*Sn	**Sn**	**23 15 02.3**	**-7.9**
KEV	**Kevo**	**12.91**	**130**	*e*Pn	**Pn**	**23 13 29.0**	**+1.2**
ARA0	**ARCESS Array S**	**12.92**	**132**	Pn	**Pn**	**23 13 27.2**	**-0.8**
	baz=340,slow=11						
ARCES	**ARCESS Array B**	**12.92**	**132**	Pn	**Pn**	**23 13 27.2**	**-0.8**
	comp=N,0.2nm,0.3s,baz=344,slow=12,SNR=9.8						
SFJD	**Kangerlussuaq**	**18.11**	**250**	P	**Pn**	**23 14 31.7**	**-4.2**
	comp=N,0.5nm,0.3s,baz=15,slow=14,SNR=3.0						
RES	**Resolute Bay**	**18.41**	**303**	*e*Pn	**Pn**	**23 14 38.4**	**-1.2**
	comp=N,1.4nm,0.5s						
NB2	**NORSAR Subarra**	**19.95**	**160**	P	**Pn**	**23 15 02.5**	**+4.4**
	comp=Z,1.2nm,0.8s,baz=336,slow=6.2						
NB2	**NORSAR Subarra**	**19.95**	**160**	P	**Pn**	**23 15 02.6**	**+4.5**
	baz=341,slow=8.6						
FIA0	**FINESS Array S**	**20.79**	**139**	P	**P**	**23 15 04.8**	**-0.7**
FINES	**FINESS Array B**	**20.79**	**139**	P	**P**	**23 15 06.4**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=355,slow=12,SNR=6.3						
FINES				LR	LR	23 22 51.2	
	comp=Z,30nm,18.8s,MS2.7,baz=344,slow=36						
HFS	**Hagfors**	**21.00**	**157**	P	**P**	**23 15 08.9**	**+1.1**
	comp=Z,2.8nm,0.8s,baz=12,slow=8.2,SNR=5.4						
KONO	**Kongsberg**	**21.25**	**163**	*e*P	**P**	**23 15 10.6**	**0.0**
FRB	**Frobisher Bay**	**24.03**	**266**	P	**P**	**23 15 40.5**	**+1.2**
	comp=Z,4.0nm,0.7s,mb3.9,baz=42,slow=12,SNR=6.3						
SCHQ	**Schefferville**	**32.20**	**258**	*e*P	**P**	**23 16 52.3**	**-0.2**
YKA	**Yellowknife Ar**	**32.39**	**307**	LR	LR	23 30 04.6	
	comp=Z,48nm,20.6s,MS3.2,baz=300,slow=36						
ILAR	**Eielson Array**	**33.59**	**333**	P	**P**	**23 17 04.0**	**-0.6**
	comp=Z,0.6nm,0.9s,mb3.5,baz=13,slow=7.0,SNR=5.6						
PSZ	**Piszkesteto**	**33.59**	**152**	*e*P	**P**	**23 17 04.5**	**-0.2**
	comp=Z,1.3nm,0.6s,mb4.0						
AKTK	**Aktyubinsk**	**35.88**	**108**	P	**P**	**23 17 26.7**	**+2.3**
AKTO	**Aktyubinsk**	**35.88**	**108**	P	**P**	**23 17 26.7**	**+2.3**
	comp=Z,0.5nm,0.5s,mb3.7,baz=0.0,slow=11,SNR=4.4						
ULM	**Lac du Bonnet**	**41.41**	**284**	LR	LR	23 35 52.2	
	comp=Z,46nm,19.5s,MS3.4,baz=173,slow=37						
MKAR	**Makanchi Array**	**43.40**	**85**	P	**P**	**23 18 29.0**	**+2.0**
	comp=Z,0.4nm,0.7s,mb3.2,baz=348,slow=8.1,SNR=2.1						
TORD	**Torodi Ar. Bea**	**67.39**	**175**	P	**P**	**23 21 21.2**	**+1.4**
	comp=Z,0.4nm,0.8s,mb3.5,baz=353,slow=6.2,SNR=4.6						
DBIC	**Dimbokro**	**73.80**	**182**	P	**P**	**23 21 59.2**	**+0.3**
	comp=Z,4.8nm,1.1s,mb4.3,baz=0.0,slow=8.1,SNR=3.0						

IDC ***28*** *23:53:19.9±5.1, 1185N×8701W, h34km±46km, mb3.6/7, mb1 3.8/9, mb1mx3.6/21, mbtmp3.8/9, ML3.4/2, MS3.4/3, Ms1 3.4/3, ms1mx2.9/27, Error ellipse: s-maj=55.6km s-min=18.0km az=44.0*
NEIC ***28*** *23:53:19.4±2.9, 1181N×8704W, h31km±23km, mb4.1/7, Error ellipse: s-maj=11.6km s-min=7.6km az=218.0*
CASC ***28*** *23:53:19.1±2.3, 1170N×8728W, h35km±999km, MD4.1, ML4.5, mb4.1(NEIC)*
ISCJB ***28*** *23:53:22.0±0.5, 1168N±008×8708W±007, h83km±6km, mb3.9/13, Error ellipse: s-maj=16.7km s-min=3.4km az=78.6*

ISC 28 23:53:23.2±0.4, 1169N±008×8707W±007, h77km±6km, n36, σ0º95/48, mb3.9/13, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIM1	**Limonal**	**2.04**	**119**	*i* S	**Sn**	**23 54 21.1**	**+0.9**
JTS	**JuntasAbangare**	**2.50**	**124**	Pn	**Pn**	**23 53 59.5**	**-2.3**
	2.8nm,0.3s,baz=325,slow=15,SNR=15						
JTS				Sn	**Sn**	**23 54 30.4**	**-1.0**
	40nm,0.3s,baz=286,slow=22,SNR=15						
SNVI	**San Vicente**	**2.57**	**318**	*e*P	**Pn**	**23 54 03.0**	**+0.3**
SNVI				*e*S	**Sn**	**23 54 33.4**	**+0.4**
SNVI				*e*S	**Sn**	**23 54 34.1**	**+1.2**
LFRS	**El Faro**	**2.73**	**315**	*e*P	**Pn**	**23 54 04.6**	**-0.2**
LFRS				*e*S	**Sn**	**23 54 36.1**	**-0.7**
LBRS	**Las Brisas**	**2.80**	**317**	*e*P	**Pn**	**23 54 05.8**	**+0.1**
LBRS				*e*S	**Sn**	**23 54 39.1**	**+0.6**
LFU	**La Fuente**	**2.85**	**316**	*e*P	**Pn**	**23 54 07.4**	**+0.8**
LFU				*e*S	**Sn**	**23 54 39.1**	**-0.7**
BOQS	**Boqueron**	**2.96**	**314**	*e*P	**Pn**	**23 54 08.4**	**+0.5**
BOQS				*e*S	**Sn**	**23 54 42.0**	**-0.4**
CGA2	**Cerro Gallo 2**	**3.06**	**123**	*e*P	**Pn**	**23 54 08.2**	**-1.1**
CGA2				*e*S	**Sn**	**23 54 44.5**	**-0.2**
PRS1	**Puriscal**	**3.20**	**122**	*e*P	**Pn**	**23 54 11.4**	**+0.2**
PRS1				*e*S	**Sn**	**23 54 51.0**	**+2.7**
LAJ	**Bijagual**	**3.42**	**122**	*e*P	**Pn**	**23 54 09.5**	**-4.8**
LAJ				*e*S	**Sn**	**23 54 47.9**	**-5.8**
LCR2	**La Lucha 2**	**3.59**	**122**	*e*P	**Pn**	**23 54 16.1**	**-0.3**
LCR2				*e*S	**Sn**	**23 54 58.7**	**+1.1**
URSC	**Urasca**	**3.73**	**119**	*e*P	**Pn**	**23 54 19.5**	**+1.1**
BUS	**Buena Vista**	**3.89**	**123**	*e*P	**Pn**	**23 54 20.0**	**-0.6**
BUS				*e*S	**Sn**	**23 55 05.9**	**-0.9**
IXG	**Ixpaco**	**4.12**	**307**	*e*P	**Pn**	**23 54 17.9**	**-5.8**
IXG				*e*S	**Sn**	**23 55 01.6**	**-9.0**
IXG				AML	AML	23 55 06.0	
	comp=E,2μm,0.4s						
TP2	**Tecpan 2**	**4.92**	**309**	*e*P	**Pn**	**23 54 29.7**	**-5.0**
TP2				*e*S	**Sn**	**23 55 24.4**	**-5.9**
CMIG	**Matias Romero**	**9.28**	**306**	Pn	**Pn**	**23 55 29.6**	**-4.5**
	comp=E,1.0nm,0.3s,baz=128,slow=7.6,SNR=6.8						
PAYG	**Puerto Ayora**	**12.69**	**195**	Pn	**Pn**	**23 56 19.8**	**-0.9**
SDV	**Santo Domingo**	**16.41**	**98**	*e*Pn	**Pn**	**23 57 07.3**	**-1.5**
	comp=E,1.3nm,0.4s						
SJG	**San Juan**	**21.19**	**70**	*e*P	**P**	**23 58 01.8**	**-0.6**
	comp=E,3.8nm,0.3s,mb4.2						
LRAL	**Lakeview Retre**	**21.24**	**0**	*e*P	**P**	**23 58 02.6**	**-0.3**
	comp=E,5.6nm,0.8s,mb4.0						
MTP	**Monte Pirata**	**21.73**	**70**	*e*P	**P**	**23 58 06.3**	**-1.9**
LTX	**Lajitas**	**23.39**	**321**	*e*P	**P**	**23 58 25.2**	**0.0**
	comp=E,3.4nm,0.6s,mb3.9						
MIAR	**Mount Ida**	**23.51**	**346**	*e*P	**P**	**23 58 26.2**	**0.0**
	comp=E,7.1nm,0.9s,mb4.0						
WMOK	**Wichita Mounta**	**25.29**	**337**	*e*P	**P**	**23 58 42.1**	**-0.4**
	comp=E,5.5nm,1.0s,mb3.9						
SSPA	**Standing Stone**	**29.95**	**14**	*e*P	**P**	**23 59 26.2**	**+2.1**
	comp=E,13nm,1.5s,mb4.3						
PDAR	**Pinedale Array**	**36.61**	**332**	P	**P**	**00 00 22.4**	**+0.4**
	comp=E,0.9nm,0.5s,mb3.9,baz=130,slow=9.0,SNR=7.0						
NVAR	**Mina Array Bea**	**38.51**	**319**	P	**P**	**00 00 39.1**	**+1.1**
	comp=E,0.4nm,0.5s,mb3.5,baz=132,slow=8.7,SNR=3.9						
ULM	**Lac du Bonnet**	**39.12**	**351**	P	**P**	**00 00 41.9**	**-1.2**
	comp=E,1.5nm,0.6s,mb4.0,baz=174,slow=9.2,SNR=2.7						
ULM				LR	LR	00 17 47.2	
	comp=E,35nm,21.7s,baz=238,slow=38						
ULM	**Lac du Bonnet**	**39.12**	**351**	P	**P**	**00 00 41.9**	**-1.2**
ULM				LR	LR	00 17 47.2	
SCHQ	**Schefferville**	**45.90**	**16**	P	**P**	**00 01 37.7**	**-0.3**
	comp=E,1.6nm,0.4s,mb4.1,baz=216,slow=9.4,SNR=8.3						
SCHQ				LR	LR	00 21 42.2	
	comp=E,79nm,19.6s,baz=256,slow=37						
SCHQ	**Schefferville**	**45.90**	**16**	P	**P**	**00 01 37.7**	**-0.3**
SCHQ				LR	LR	00 21 42.1	
BDFB	**Brasilia**	**47.25**	**124**	P	**P**	**00 01 49.7**	**+1.1**
	comp=E,2.8nm,0.8s,mb4.0,baz=303,slow=5.9,SNR=4.7						
YKA	**Yellowknife Ar**	**54.44**	**345**	P	**P**	**00 02 42.7**	**+0.2**
	comp=E,0.8nm,0.8s,mb3.8,baz=140,slow=7.7,SNR=3.5						
ILAR	**Eielson Array**	**66.86**	**336**	P	**P**	**00 04 07.5**	**+0.6**
	comp=E,0.3nm,0.5s,mb3.4,baz=151,slow=4.7,SNR=9.9						
HFS	**Hagfors**	**85.25**	**30**	LR	LR	00 43 54.2	
	comp=E,22nm,18.8s,baz=270,slow=36						
ASAR	**Alice Springs**	**139.32**	**247**	PKP	PKPdf	00 12 44.9	+3.4
	comp=E,0.4nm,0.6s,baz=83,slow=1.2,SNR=4.3						

JMA 28 23:53:36.0±0.1, 2748N×14104E, h399km, M3.9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.09**	**110**	P	Pn	23 54 27.5	+0.2
CBIJ				S	S	23 55 07.8	-0.8
JHHJ	**Haha-jima-NKT**	**1.32**	**130**	P	Pn	23 54 28.6	+0.4
JHHJ				S	S	23 55 10.4	0.0
BSO1	**Boso 1**	**7.15**	**360**	P	Pn	23 55 23.1	+1.8
BSO3	**Boso 3**	**7.31**	**357**	P	Pn	23 55 24.3	+1.2
BSO4	**Boso 4**	**7.51**	**356**	P	Pn	23 55 27.1	+1.8
JRY	**Ryogami san**	**8.70**	**348**	P	Pn	23 55 39.5	+0.5
JAG	**Ashikaga**	**9.02**	**352**	P	Pn	23 55 42.5	-0.1
JHO	**Hitachi**	**9.11**	**358**	P	Pn	23 55 45.2	+1.5

CASC ***28*** *23:54:47.0±2.0, 1144N×8744W, h46km±394km, MD4.4, ML4.1, mb4.2(NEIC)*
IDC ***28*** *23:54:48.7±2.3, 1179N×8709W, h44km±24km, mb3.7/6, mb1 4.0/8, mb1mx3.6/21, mbtmp4.0/8, ML3.9/1, MS3.7/1, Ms1 3.7/1, ms1mx2.8/28, Error ellipse: s-maj=54.7km s-min=15.2km az=43.0*
NEIC ***28*** *23:54:48.5±0.9, 1174N×8713W, h47km±11km, mb4.2/3, Error ellipse: s-maj=12.2km s-min=7.7km az=222.0*
ISCJB ***28*** *23:54:50.1±0.5, 1164N±006×8710W±005, h86km±5km, mb4.0/9, Error ellipse: s-maj=12.1km s-min=3.2km az=85.6*

ISC 28 23:54:51.3±0.5, 1167N±005×8707W±005, h78km±5km, n49, σ0º87/59, mb4.0/9, 5C-7D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**0.69**	**43**	*i* P	**Pn**	**23 55 06.5**	**-0.2**
LEON	**Leon**	**0.76**	**13**	*i* P	**Pn**	**23 55 06.5**	**-1.0**
MIRN	**Miramar**	**0.84**	**25**	*i* P	**Pn**	**23 55 08.0**	**-0.4**
XAVN	**Gruta Xavier**	**0.87**	**57**	*e*P	**Pn**	**23 55 08.7**	**-0.0**
TICN	**Ticuantepe**	**0.90**	**66**	*i* P	**Pn**	**23 55 09.5**	**+0.5**
MOMJ	**Momotombo**	**0.90**	**35**	*e*P	**Pn**	**23 55 08.8**	**-0.3**
APYN	**Apoyeque**	**0.90**	**52**	*i* P	**Pn**	**23 55 09.2**	**+0.2**
CNGN	**Cerro Negro**	**0.90**	**24**	*i* P	**Pn**	**23 55 08.6**	**-0.4**
TISN	**Laguna Tiscapa**	**0.92**	**59**	*e*P	**Pn**	**23 55 09.3**	**+0.1**
TEL3	**Telica 3**	**0.92**	**14**	*e*P	**Pn**	**23 55 08.7**	**-0.6**
MGAN	**Managua**	**0.94**	**60**	*i* P	**Pn**	**23 55 09.6**	**+0.1**
MGAN				*i*		23 55 32.4	
	comp=N,1μm,0.5s						
TELN	**Telica**	**0.96**	**14**	*e*P	**Pn**	**23 55 08.6**	**-1.1**
APON	**Apoyo**	**1.01**	**76**	*i* P	**Pn**	**23 55 10.7**	**+0.3**
CRIN	**San Cristobal**	**1.02**	**1**	*i* P	**Pn**	**23 55 09.3**	**-1.2**
SSNN	**San Juan del S**	**1.26**	**108**	*e*P	**Pn**	**23 55 12.2**	**-1.2**
CONN	**Concepcion**	**1.42**	**94**	*i* P	**Pn**	**23 55 15.1**	**-0.5**
MADN	**Villa Maderas**	**1.53**	**100**	*i* P	**Pn**	**23 55 16.4**	**-0.6**
CNCH	**Conchagua**	**1.76**	**335**	*e*P	**Pn**	**23 55 21.3**	**+1.4**
CNCH				*e*S	**Sn**	**23 55 44.0**	**+2.3**
LIM1	**Limonal**	**2.03**	**118**	*i* P	**Pn**	**23 55 23.1**	**-0.4**
LIM1				*i* S	**Sn**	**23 55 48.6**	**+0.5**
BLLM	**Bellamira**	**2.10**	**327**	*e*P	**Pn**	**23 55 25.2**	**+0.8**
BLLM				*e*S	**Sn**	**23 55 49.9**	**+0.2**
JTS	**JuntasAbangare**	**2.49**	**123**	P	**Pn**	**23 55 27.9**	**-1.8**
	baz=359,slow=22,SNR=3.9						
JTS				S	**Sn**	**23 55 58.6**	**-0.6**
	comp=N,68nm,0.3s,baz=289,slow=19,SNR=4.0						
SNVI	**San Vicente**	**2.59**	**318**	*e*P	**Pn**	**23 55 31.8**	**+0.7**
SNVI				*e*S	**Sn**	**23 56 02.2**	**+0.7**
LCBS	**La Ceiba**	**2.71**	**317**	*e*P	**Pn**	**23 55 33.1**	**+0.4**
LCBS				*e*S	**Sn**	**23 56 04.4**	**0.0**
LFRS	**El Faro**	**2.74**	**315**	*e*P	**Pn**	**23 55 33.8**	**+0.6**
LFRS				*e*S	**Sn**	**23 56 05.5**	**+0.2**
CGA2	**Cerro Gallo 2**	**3.04**	**122**	*e*P	**Pn**	**23 55 37.3**	**+0.1**
CGA2				*e*S	**Sn**	**23 56 13.0**	**+0.4**
PRS1	**Puriscal**	**3.19**	**121**	*e*P	**Pn**	**23 55 38.5**	**-0.7**
PRS1				*e*S	**Sn**	**23 56 16.7**	**+0.6**
LAJ	**Bijagual**	**3.41**	**121**	*e*P	**Pn**	**23 55 38.0**	**-4.2**
LAJ				*e*S	**Sn**	**23 56 15.6**	**-5.9**
LCR2	**La Lucha 2**	**3.57**	**122**	*e*P	**Pn**	**23 55 44.9**	**+0.5**
LCR2				*e*S	**Sn**	**23 56 26.1**	**+0.6**
URSC	**Urasca**	**3.72**	**119**	*e*P	**Pn**	**23 55 46.7**	**+0.4**
URSC				*e*S	**Sn**	**23 56 30.5**	**+1.5**
BUS	**Buena Vista**	**3.88**	**123**	*e*P	**Pn**	**23 55 48.3**	**-0.2**
BUS				*e*S	**Sn**	**23 56 34.6**	**+1.7**
IXG	**Ixpaco**	**4.13**	**307**	*e*P	**Pn**	**23 55 46.4**	**-5.6**
IXG				*e*S	**Sn**	**23 56 32.7**	**-6.3**
IXG				AML	AML	23 56 32.8	
	comp=N,1μm,0.5s						
TP2	**Tecpan 2**	**4.93**	**309**	*e*S	**Sn**	**23 56 52.9**	**-5.8**
CMIG	**Matias Romero**	**9.29**	**306**	P	**Pn**	**23 56 58.6**	**-3.7**
	comp=N,1.1nm,0.3s,baz=125,slow=11,SNR=6.3						
PAYG	**Puerto Ayora**	**12.67**	**195**	*e*Pn	**Pn**	**23 57 47.1**	**-1.4**
SDV	**Santo Domingo**	**16.41**	**98**	P	**Pn**	**23 58 36.7**	**0.0**
NATX	**Nacogdoches**	**21.18**	**342**	*e*P	**P**	**23 59 28.5**	**-1.8**
	comp=N,8.3nm,0.3s,mb4.5						
LRAL	**Lakeview Retre**	**21.26**	**0**	*e*P	**P**	**23 59 32.2**	**+1.1**
	comp=N,11nm,0.8s,mb4.2						
MTP	**Monte Pirata**	**21.74**	**70**	*e*P	**P**	**23 59 35.4**	**-0.9**
TUC	**Tucson**	**29.96**	**317**	*e*P	**P**	**00 00 51.0**	**-1.1**
	comp=N,0.8nm,0.6s,mb3.5						
PDAR	**Pinedale Array**	**36.63**	**332**	P	**P**	**00 01 50.8**	**+0.7**
	comp=N,0.8nm,0.6s,mb3.8,baz=128,slow=9.4,SNR=6.2						
ULM	**Lac du Bonnet**	**39.14**	**351**	P	**P**	**00 02 10.3**	**-0.9**
	comp=N,3.6nm,0.8s,mb4.2,baz=148,slow=9.0,SNR=3.2						
NEW	**Newport**	**44.27**	**331**	LR	LR	00 25 29.9	
	comp=N,87nm,19.4s,baz=125,slow=42						
SCHQ	**Schefferville**	**45.92**	**16**	P	**P**	**00 03 06.1**	**0.0**
	comp=N,3.1nm,0.7s,mb4.2,baz=192,slow=6.1,SNR=6.9						
BDFB	**Brasilia**	**47.23**	**124**	P	**P**	**00 03 18.6**	**+2.1**
	comp=N,3.8nm,0.6s,mb4.3,baz=285,slow=7.6,SNR=7.2						
YKA	**Yellowknife Ar**	**54.45**	**345**	P	**P**	**00 04 10.5**	**-0.2**
	comp=N,0.3nm,0.4s,mb3.6,baz=132,slow=7.6,SNR=3.4						
ILAR	**Eielson Array**	**66.88**	**336**	P	**P**	**00 05 35.3**	**+0.2**
	comp=N,0.4nm,0.6s,mb3.4,baz=148,slow=4.7,SNR=8.3						
MKAR	**Makanchi Array**	**121.03**	**9**	PKP	PKPdf	00 13 36.0	+1.1
	comp=N,0.2nm,0.3s,baz=325,slow=3.2,SNR=4.4						
MKAR	**Makanchi Array**	**121.03**	**9**	PKP	PKPdf	00 13 36.0	+1.1
ASAR	**Alice Springs**	**139.32**	**247**	PKP	PKPdf	00 14 11.6	+2.2
	comp=N,0.3nm,0.5s,baz=104,slow=3.9,SNR=3.1						

ISCJB ***29*** *00:15:10.0±0.3, 6236N±003×14760W±007, h73km±5km, mb3.5/8, Error ellipse: s-maj=5.6km s-min=4.6km az=78.1*
IDC ***29*** *00:15:10.6±0.8, 6240N×14822W, h64km±7km, mb3.4/7, mb1 3.7/11, mb1mx3.5/23, mbtmp3.7/11, MS2.8/3, Ms1 2.8/3, ms1mx2.5/21, Error ellipse: s-maj=20.0km s-min=8.9km az=102.0*
NEIC ***29*** *00:15:12.0, 6235N×14748W, h43km, mb3.3/1, ML3.8(AEIC), ML3.9(PMR), After AEIC.*
NEIC Felt at Palmer.

ISC 29 00:15:11.1±0.3, 6235N±003×14761W±007, h67km±5km, h69km±3.2km: pP-P, n47, σ0º85/54, mb3.5/8, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SML	**Sawmill**	**0.64**	**212**	P	**Pn**	**00 15 24.2**	**+0.2**
SML				S	**Sn**	**00 15 34.5**	**-0.9**
GHO	**Glory Hole Cre**	**0.85**	**227**	P	**Pn**	**00 15 27.2**	**+0.3**
GHO				S	**Sn**	**00 15 39.8**	**+0.1**
KNK	**Knik Glacier**	**1.02**	**203**	P	**Pn**	**00 15 29.7**	**+0.5**
PMR	**Palmer**	**1.05**	**224**	P	**Pn**	**00 15 29.7**	**+0.1**
PMR				S	**Sn**	**00 15 43.5**	**-0.6**
PAX	**Paxson**	**1.17**	**57**	P	**Pn**	**00 15 31.2**	**+0.1**
PAX				S	**Sn**	**00 15 46.6**	**-0.3**
MCK	**McKinley**	**1.51**	**337**	P	**Pn**	**00 15 36.8**	**+0.9**
RC01	**Rabbit Creek A**	**1.62**	**220**	P	**Pn**	**00 15 38.2**	**+0.9**
TRF	**Thorofare

LCR2	**La Lucha 2**	**3.85**	**115**	*e*P	Pn	00 19 16.3 +1.3
LCR2				*e*S	Sn	00 20 03.0 +2.0
URSC	**Urasca**	**4.02**	**112**	*e*P	Pn	00 19 19.1 +1.9
URSC				*e*S	Sn	00 20 06.4 +1.4
BUS	**Buena Vista**	**4.15**	**116**	*e*P	Pn	00 19 19.1 0.0

NNC 29 00:35:13.0±0.8, 4767N×8281E, h1km±9km, mb3.5, mpv3.2, 11C-5D, Error ellipse: s-maj=13.2km s-min=4.4km az=105.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK09	**Makanchi Array**	**0.97**	**202**	⇑P	Pg	00 35 31.4	-0.1
	52nm,0.4s,baz=54,slow=17						
MK09				⇑S	Sg	00 35 45.3	+1.1
	273nm,0.6s,baz=58,slow=28						
TKM2	**Tokmak 2**	**6.96**	**230**	⇑Pn	Pn	00 36 57.0	+1.0
	0.3nm,0.7s						
TKM2				⇓Lg		00 38 52.7	
	1.4nm,0.7s						
VOSK	**Vostochnaya**	**9.11**	**308**	⇑Pn	Pn	00 37 26.8	+1.2
	1.6nm,0.8s						
VOSK				⇑Lg		00 40 03.9	
	11nm,0.9s						
BVA0	**Borovoye Array**	**9.57**	**309**	⇑Pn	Pn	00 37 32.4	+0.6
	0.7nm,1.4s,baz=126,slow=13,SNR=4.5						
BVA0				⇓Sn	Sn	00 39 20.9	+0.9
	0.3nm,0.5s,baz=114,slow=23,SNR=3.8						
BVA0				⇓Lg		00 40 17.8	
	2.0nm,1.1s,baz=135,slow=30,SNR=3.5						
KK31	**Karatay Array**	**9.78**	**247**	Pn	Pn	00 37 34.3	-0.4
	0.4nm,0.3s,baz=59,slow=12,SNR=36						
KK31				Sn	Sn	00 39 24.6	-0.6
KK31				⇑Lg		00 40 23.6	
	4.8nm,0.5s,baz=59,slow=28,SNR=6.1						
CHKZ	**Chkalovo**	**9.79**	**312**	⇓Pn	Pn	00 37 35.3	+0.4
	3.2nm,1.4s						
CHKZ				⇑Sn	Sn	00 39 25.6	+0.2
	2.9nm,0.7s						
CHKZ				⇓Lg		00 40 22.7	
	12nm,1.2s						
ZRNK	**Zerenda**	**10.28**	**306**	⇑Pn	Pn	00 37 41.7	+0.1
	0.8nm,0.5s						
ZRNK				⇑Sn	Sn	00 39 38.9	+1.4
	1.8nm,0.7s						
ZRNK				⇑Lg		00 40 40.1	
	5.7nm,0.8s						

CSEM ***29*** *01:37:01.6±0.9, 3904N×2865W, h5km±14km, ML1.7, Error ellipse: s-maj=8.2km s-min=4.0km az=135.0, After PDA*
PDA ***29*** *01:37:01.6±0.9, 3904N×2865W, h5km±14km, MD2.9, ML1.7, Error ellipse: s-maj=8.2km s-min=4.0km az=135.0*

SVSA 29 01:37:01.6±0.9, 3904N×2865W, h5km±14km, MD2.9, ML1.7, Error ellipse: s-maj=8.2km s-min=4.0km az=135.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLUZ	**Luz**	**0.25**	**265**	*e*P	Pg	01 37 10.7	+4.2
PLUZ				*e*S	Sg	01 37 17.5	+7.6
PLUZ							
	17nm,0.2s						
PCED	**Cedros**	**0.41**	**185**	*i* P	Pg	01 37 08.4	-1.2
ROSA	**Rosais**	**0.45**	**135**	*e*P	Pg	01 37 14.9	+4.6
ROSA				*e*S	Sg	01 37 20.7	+4.5
CALA	**Caldeira**	**0.46**	**185**	*e*P	Pg	01 37 16.4	+6.0
CALA				*e*S	Sg	01 37 22.3	+5.9
PTCA	**Ponta do Capel**	**0.47**	**194**	*e*S	Sg	01 37 15.9	-0.8
PTCA							
	25nm,0.2s						
PVIA	**Vitoria**	**0.47**	**86**	*erx*		01 37 13.9	
SRBC	**Serra Branca**	**0.48**	**90**	*e*P	Pg	01 37 17.4	+6.6
STGR	**Santa Cruz**	**0.51**	**85**	*e*P	Pg	01 37 10.2	-1.1
HOR	**Horta**	**0.51**	**178**	*e*P	Pg	01 37 16.7	+5.2
HOR				*e*S	Sg	01 37 23.1	+5.0
PAMA	**Santo Amaro**	**0.52**	**134**	*e*P	Pg	01 37 10.3	-1.2
PAMA				*e*S	Sg	01 37 17.1	-1.1
PAMA							
	18nm,0.1s						
PGRA	**Graciosa**	**0.52**	**91**	*e*P	Pg	01 37 07.2	-4.4
PGRA				*e*S	Sg	01 37 13.9	-4.5
PGRA							
	47nm,0.4s						
PGRA	**Graciosa**	**0.52**	**91**	*e*P	Pg	01 37 07.2	-4.4
PGRA				*e*S	Sg	01 37 13.9	-4.5
PICO	**Pico**	**0.57**	**162**	*e*P	Pg	01 37 17.4	+4.9
PICO				*e*S	Sg	01 37 24.4	+4.5
PCND	**Candelaria**	**0.59**	**165**	*i* P	Pg	01 37 11.6	-1.3
PCND				*e*S	Sg	01 37 19.4	-1.2
PCND							
	20nm,0.1s						
PTEI	**Pico do Teixo**	**0.59**	**157**	*e*S	Sg	01 37 19.5	-1.1
PTEI							
	38nm,0.3s						
PMAN	**Manadas**	**0.60**	**133**	*i* P	Pg	01 37 09.8	-3.3
PMAN				*e*S	Sg	01 37 17.6	-3.3
PMAN							
	67nm,0.1s						
PMAN	**Manadas**	**0.60**	**133**	*e*S	Sg	01 37 17.6	-3.3
PBOI	**Pico dos Bois**	**0.64**	**160**	*e*S	Sg	01 37 20.5	-1.7
PBOI							
	19nm,0.3s						
PID	**Ribeirinha**	**0.73**	**145**	*e*P	Pg	01 37 21.4	+5.8

STR ***29*** *02:19:57.0±9.2, 4168N×1675E, h10km±1km, Ml4.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
THE ***29*** *02:20:01.3, 4156N×1556E, h7km*
IDC ***29*** *02:20:02.1±0.5, 4179N×1567E, h0km, mb4.4/18, mb1 4.4/28, mb1mx4.4/31, mbtmp4.3/28, ML4.1/11, MS3.7/11, Ms1 3.7/11, ms1mx3.4/49, Error ellipse: s-maj=12.2km s-min=9.5km az=117.0*
LDG ***29*** *02:20:02.7±0.1, 4190N×1602E, h10km, Ml4.7/28, ms3.6/7, Error ellipse: s-maj=2.7km s-min=1.8km az=38.0*
MOS ***29*** *02:20:03.4±1.3, 4188N×1579E, h16km, mb5.1/28, Error ellipse: s-maj=3.5km s-min=2.2km az=114.6*
CSEM ***29*** *02:20:04.1, 4190N×1595E, h20km, mb4.8*
CRAAG ***29*** *02:20:04.3, 4187N×1594E, Mb4.8*
SZGRF ***29*** *02:20:05.7, 4192N×1604E, h10km, mb3.6, Southern Italy*
ISCJB ***29*** *02:20:05.1±0.1, 41899N±0.0009×1590E±0.001, h25km, mb4.8/77, MS4.1/17, Error ellipse: s-maj=1.3km s-min=1.1km az=49.6*
ROM ***29*** *02:20:06.2±0.1, 4180N×1590E, h31km, Ml4.8/80, Error ellipse: s-maj=1.9km s-min=1.2km az=130.0*
NEIC ***29*** *02:20:06.2, 4180N×1590E, h31km, mb5.0/55, MS4.7/1, ML4.9(ROM), MW4.6(ROM), After ROM.*
NEIC Felt [V] at Foggia and on the Gargano Peninsula; [IV] at Bari, Campobasso, Pescara, Potenza and Taranto; [III] at Brindisi and Naples. Felt in Abruzzo, Basilicata, Campania, Molise and Puglia.
SFS ***29*** *02:20:06.0, 4177N×1586E, h25km, ML5.0*
HRVD ***29*** *02:20:06.2±1.2, 4156N×1570E, h34km±1km, MW4.7/26, Centroid moment Tensor Solution. LP body waves: s7,c7;Mantle waves: s26,c35; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.09±.18; Mθθ -0.93±.10; Mφφ -0.16±.11; Mrθ 0.36±.09; Mθφ -0.51±.06; Mφr 0.45±.12; Best double couple: M0 1.27900×10^16 NP1: φ=255.00000°, δ=34.00000°, λ=110.00000°. NP2: φ=52.00000°, δ=58.00000°, λ=77.00000°. Principal axes: T 1.2530, Plg73.0000°, Azm289.0000°; N 0.0490, Plg11.0000°, Azm59.0000°; P -1.3050, Plg13.0000°, Azm151.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
PDG ***29*** *02:20:06.0±0.7, 4184N×1588E, h33km±1km*
PRU ***29*** *02:20:07.5, 4209N×1438E, h0km, M5.0*
BJI ***29*** *02:20:07.7, 4180N×1590E, h31km, mB5.0, mb5.0, Ms5.1, Msz4.7*

ISC 29 02:20:06.9±0.1, 41851N±0.0009×1589E±0.001, h26km, h26km±.5km: pP-P, n888, σ1≧14/1038, mb4.8/77, MS4.1/17, 82C-66D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAG	**Monte S. Angel**	**0.14**	**173**	⇑*i*Pg	**Pb**	**02 20 12.0**	**-0.1**
MSAG				Sg	**Sb**	**02 20 15.4**	**-0.1**
SGRT	**San Giovanni R**	**0.14**	**228**	⇑*i*Pg	**Pb**	**02 20 12.0**	**-0.1**
SGRT				Sg	**Sb**	**02 20 15.6**	**0.0**
FGMS	**Monte Sant'Ang**	**0.15**	**160**	⇓*i*Pg	**Pb**	**02 20 12.1**	**-0.1**
FGMS	**Monte Sant'Ang**	**0.15**	**160**	P	**Pb**	**02 20 12.0**	**-0.2**
MS1	**Monte Sant'Ang**	**0.15**	**164**	⇑*i*Pg	**Pb**	**02 20 12.2**	**0.0**
RGNG	**Rignano Grg**	**0.28**	**232**	⇑*i*Pg	**Pb**	**02 20 13.4**	**-0.4**
FG2	**Serracapriola**	**0.54**	**265**	⇑*i*Pg	**Pb**	**02 20 17.9**	**0.0**
FG2	**Serracapriola**	**0.54**	**265**	P	**Pb**	**02 20 17.7**	**-0.2**
FG2				⇑*i*Pg	**Pb**	**02 20 17.9**	**0.0**
FG5	**Orsara di Pugl**	**0.73**	**219**	⇑*i*Pg	**Pb**	**02 20 20.9**	**-0.1**
FG5	**Orsara di Pugl**	**0.73**	**219**	P	**Pb**	**02 20 20.8**	**-0.2**
CIGN	**Sant'Elia a Pi**	**0.76**	**255**	⇑*i*Pg	**Pb**	**02 20 21.3**	**-0.2**
CIGN				Sg	**Sb**	**02 20 30.9**	**-0.5**
	23μm,0.5s						
CIGN	**Sant'Elia a Pi**	**0.76**	**255**	P	**Pb**	**02 20 21.2**	**-0.3**
CIGN				Sg	**Sb**	**02 20 30.9**	**-0.5**
SGTA	**Sant Agata di**	**0.81**	**209**	⇑*e*Pg	**Pb**	**02 20 21.6**	**-0.8**
SGTA				Sg	**Sb**	**02 20 32.7**	**-0.3**
	198μm,0.5s						
CDT	**Castel del Mon**	**0.82**	**159**	⇓*i*Pg	**Pb**	**02 20 21.1**	**-1.4**
CDT				*e*Sg	**Sb**	**02 20 33.9**	**+0.7**
FRES	**Fresagrandinar**	**0.92**	**278**	⇑*e*Pg	**Pn**	**02 20 24.0**	**0.0**
FRES				Sg	**Sb**	**02 20 37.1**	**+1.2**
	87μm,0.7s						
VULT	**Monte Vulture**	**0.92**	**193**	Pg	**Pn**	**02 20 22.9**	**-1.1**
VULT				Sg	**Sb**	**02 20 36.7**	**+0.8**
	100μm,0.3s						
CAFE	**Carife**	**0.96**	**211**	⇑*e*Pg	**Pn**	**02 20 23.7**	**-0.9**
CAFE				Sg	**Sb**	**02 20 38.3**	**+1.3**
	79μm,0.4s						
SACR	**S. Croce Del S**	**0.99**	**243**	⇑*i*Pg	**Pn**	**02 20 24.2**	**-0.9**
SACR				Sg	**Sb**	**02 20 38.4**	**+0.3**
	16μm,0.7s						
TRIV	**Trivento**	**1.00**	**266**	⇑*i*Pg	**Pn**	**02 20 25.0**	**-0.2**
	18μm,0.7s						
BSSO	**Busso**	**1.01**	**253**	⇑*i*Pg	**Pn**	**02 20 24.7**	**-0.7**
	14μm,0.7s						
PSB1	**Pescosannita**	**1.02**	**233**	⇑*i*Pg	**Pn**	**02 20 24.6**	**-0.9**
PSB1				Sg	**Sn**	**02 20 37.8**	**-1.1**
	18μm,0.7s						
PSB1	**Pescosannita**	**1.02**	**233**	P	**Pn**	**02 20 24.5**	**-1.0**
PSB1				Sg	**Sn**	**02 20 37.8**	**-1.1**
BAI	**Bari**	**1.05**	**135**	⇓*i*Pg	**Pn**	**02 20 24.8**	**-1.1**
BAI				*e*Sg	**Sn**	**02 20 42.0**	**+2.3**
SNAL	**S. Angelo Dei**	**1.05**	**209**	Pg	**Pn**	**02 20 24.7**	**-1.2**
SNAL				Sg	**Sn**	**02 20 40.0**	**+0.2**
	48μm,0.3s						
AMUR	**Altamura**	**1.09**	**150**	⇓*i*Pg	**Pn**	**02 20 25.4**	**-1.0**
	11μm,0.3s						
MRLC	**Muro Lucano**	**1.13**	**195**	Pg	**Pn**	**02 20 25.5**	**-1.5**
	35μm,0.3s						
SG1	**Sgolgore (BA)**	**1.17**	**149**	⇓*i*Pg	**Pn**	**02 20 26.5**	**-1.1**
SG1				*e*Sg	**Sn**	**02 20 43.0**	**+0.3**
CII	**Carovilli**	**1.19**	**264**	⇑*i*Pg	**Pn**	**02 20 27.6**	**-0.2**
CII	**Carovilli**	**1.19**	**264**	P	**Pn**	**02 20 27.5**	**-0.3**
MCRV	**Calabrutti - M**	**1.20**	**207**	Pg	**Pn**	**02 20 26.2**	**-1.7**
	48μm,0.7s						
MIDA	**Miranda**	**1.24**	**261**	⇑*e*Pg	**Pn**	**02 20 27.9**	**-0.6**
	16μm,1.0s						
MIDA	**Miranda**	**1.24**	**261**	P	**Pn**	**02 20 27.8**	**-0.7**
RNI2	**Rionero Sannit**	**1.30**	**264**	⇑*e*Pg	**Pn**	**02 20 29.1**	**-0.3**
	12μm,0.6s						
VAGA	**Valle Agricola**	**1.31**	**251**	⇑*e*Pg	**Pn**	**02 20 29.0**	**-0.5**
	15μm,0.6s						
SGO	**Sicignano**	**1.36**	**199**	⇑*e*Pg	**Pn**	**02 20 28.4**	**-1.7**
MOCO	**Biccari - m.te**	**1.38**	**250**	Sg	**Pn**	**02 20 29.6**	**-0.8**
	59μm,0.6s						
NOCI	**Noci**	**1.38**	**140**	⇓*e*Pg	**Pn**	**02 20 29.5**	**-0.9**
	27μm,0.5s						
CDRU	**Civita di Ruta**	**1.43**	**198**	Pg	**Pn**	**02 20 29.5**	**-1.6**
	11μm,0.4s						
SLCN	**Sala Consilina**	**1.47**	**188**	Pg	**Pn**	**02 20 30.2**	**-1.5**
	27μm,0.4s						
SLCN	**Sala Consilina**	**1.47**	**188**	P	**Pn**	**02 20 30.1**	**-1.6**
INTR	**Introdacqua**	**1.49**	**277**	Pg	**Pn**	**02 20 30.9**	**-1.0**
	29μm,0.7s						
INTR	**Introdacqua**	**1.49**	**277**	P	**Pn**	**02 20 30.7**	**-1.2**
INTR				Pg	**Pn**	**02 20 30.9**	**-1.0**
RFI	**Roccamonfina**	**1.53**	**250**	⇓*i*Pg	**Pn**	**02 20 32.9**	**+0.5**
	260nm,0.3s						
RFI	**Roccamonfina**	**1.53**	**250**	P	**Pn**	**02 20 32.8**	**+0.4**
PE1	**Pezze di Greco**	**1.56**	**132**	⇓*i*Pg	**Pn**	**02 20 32.0**	**-0.9**
PE1				*e*Sg	**Sn**	**02 20 56.0**	**+3.8**
SDI	**San Donato**	**1.56**	**265**	⇑*i*Pg	**Pn**	**02 20 32.8**	**-0.1**
SDI	**San Donato**	**1.56**	**265**	P	**Pn**	**02 20 32.7**	**-0.2**
CMPR	**Campora**	**1.59**	**196**	Pg	**Pn**	**02 20 32.1**	**-1.2**
	12μm,0.5s						
VCEL	**Villa Celiera**	**1.62**	**290**	Pg	**Pn**	**02 20 34.1**	**+0.5**
	22μm,0.9s						
SCHR	**S. Chirico Rap**	**1.66**	**175**	Pg	**Pn**	**02 20 32.8**	**-1.4**
	6μm,0.4s						
STON	**Ston**	**1.69**	**52**	*i* Pn	**Pn**	**02 20 34.5**	**-0.1**
STON				*i* Sn	**Sn**	**02 20 57.6**	**+2.2**
STON	**Ston**	**1.69**	**52**	*i* Pn	**Pn**	**02 20 34.5**	**-0.1**
STON				*i* Sn	**Sn**	**02 20 57.5**	**+2.1**
VVLD	**Villa Vallelon**	**1.69**	**271**	Pg	**Pn**	**02 20 34.6**	**-0.1**
	20μm,0.7s						
VVLD	**Villa Vallelon**	**1.69**	**271**	P	**Pn**	**02 20 34.3**	**-0.4**
VVLD				Pg	**Pn**	**02 20 34.6**	**-0.1**
MGR	**Morigerati**	**1.73**	**188**	Pg	**Pn**	**02 20 33.9**	**-1.3**
	11μm,0.5s						
MGR	**Morigerati**	**1.73**	**188**	P	**Pn**	**02 20 33.8**	**-1.4**
FAGN	**Fagnano**	**1.76**	**284**	Pg	**Pn**	**02 20 35.9**	**+0.2**
	25μm,0.5s						
ORI	**Oriolo Calabro**	**1.84**	**166**	Pg	**Pn**	**02 20 36.6**	**-0.1**
	22μm,0.4s						
ORI	**Oriolo Calabro**	**1.84**	**166**	P	**Pn**	**02 20 36.3**	**-0.4**
ORI				Pg	**Pn**	**02 20 36.6**	**-0.1**
CUC	**Castrocucco**	**1.86**	**182**	Pg	**Pn**	**02 20 36.0**	**-1.0**
	14μm,0.6s						
CUC	**Castrocucco**	**1.86**	**182**	P	**Pn**	**02 20 35.2**	**-1.8**
CUC				Pg	**Pn**	**02 20 36.0**	**-1.0**
TERO	**Teramo**	**1.86**	**295**	⇑*e*Pg	**Pn**	**02 20 37.1**	**+0.1**
	7μm,0.5s						
TERO	**Teramo**	**1.86**	**295**	⇑*e*Pg	**Pn**	**02 20 37.1**	**+0.1**
TERO				P		02 20 37.3	
TERO	**Teramo**	**1.86**	**295**	P	**Pn**	**02 20 37.3**	**+0.3**
AQU	**L'Aquila**	**1.92**	**286**	⇑*e*Pg	**Pn**	**02 20 38.1**	**+0.3**
	14μm,0.9s						
AQU	**L'Aquila**	**1.92**	**286**	⇑*e*Pg	**Pn**	**02 20 38.1**	**+0.3**
AQU				*e*Pn	**Pn**	**02 20 38.6**	**+0.8**
AQU				*e*Sn	**Sn**	**02 21 11.2**	**+10**
AQU	**L'Aquila**	**1.92**	**286**	*e*Pn	**Pn**	**02 20 38.6**	**+0.8**
GUAR	**Guarcino**	**1.92**	**269**	Pg	**Pn**	**02 20 38.5**	**+0.6**
	3μm,0.7s						
GUAR	**Guarcino**	**1.92**	**269**	P	**Pn**	**02 20 38.6**	**+0.7**
CAMP	**Campotosto**	**1.96**	**291**	Pg	**Pn**	**02 20 38.9**	**+0.5**
	7μm,0.7s						
GIUL	**Giuliano Di Ro**	**1.99**	**262**	⇑*e*Pg	**Pn**	**02 20 38.5**	**-0.3**
	4μm,0.7s						
TREB	**Trebinje**	**2.02**	**64**	P	**Pn**	**02 20 37.9**	**-1.3**
TREB				S	**Sn**	**02 21 02.7**	**-1.0**
HCY	**Herceg Novi**	**2.03**	**72**	⇑*i*Pn	**Pn**	**02 20 39.4**	**0.0**
HCY				*e*Sn	**Sn**	**02 21 04.9**	**+1.0**
FIAM	**Fiamignano**	**2.10**	**282**	⇑*e*Pg	**Pn**	**02 20 41.3**	**+0.9**
	7μm,0.7s						
FIAM	**Fiamignano**	**2.10**	**282**	P	**Pn**	**02 20 41.1**	**+0.7**
FIAM				⇑*e*Pg	**Pn**	**02 20 41.3**	**+0.9**
VENT	**Ventotene**	**2.13**	**241**	Pg	**Pn**	**02 20 39.5**	**-1.3**
	4μm,0.8s						
VENT	**Ventotene**	**2.13**	**241**	P	**Pn**	**02 20 39.4**	**-1.4**
CERT	**Cerreto**	**2.17**	**274**	⇑*e*Pg	**Pn**	**02 20 41.7**	**+0.4**
	3μm,0.6s						
CERT	**Cerreto**	**2.17**	**274**	P	**Pn**	**02 20 41.4**	**+0.1**
CERT				⇑*e*Pg	**Pn**	**02 20 41.7**	**+0.4**
BRY	**Bratogost**	**2.23**	**61**	⇓*i*Pn	**Pn**	**02 20 42.4**	**+0.3**
BRY				*e*Sn	**Sn**	**02 21 09.4**	**+0.6**
LNSS	**Leonessa**	**2.24**	**291**	⇑*e*Pg	**Pn**	**02 20 43.4**	**+1.1**
	15μm,0.5s						
LCI	**Lecce**	**2.26**	**131**	⇓*e*Pg	**Pn**	**02 20 42.0**	**-0.6**
LCI	**Lecce**	**2.26**	**131**	P	**Pn**	**02 20 41.9**	**-0.7**
BUM	**Brajici-Budva**	**2.29**	**78**	⇓*i*Pn	**Pn**	**02 20 43.0**	**+0.1**
BUM				*e*Sn	**Sn**	**02 21 10.5**	**+0.3**
RDP	**Rocca di Papa**	**2.37**	**269**	⇑*e*Pg	**Pn**	**02 20 44.0**	**0.0**
	5μm,0.6s						
RDP	**Rocca di Papa**	**2.37**	**269**	P	**Pn**	**02 20 43.9**	**-0.1**
LAV9	**Lanuvio**	**2.39**	**267**	Pg	**Pn**	**02 20 44.0**	**-0.3**
	2μm,0.3s						
LAV9	**Lanuvio**	**2.39**	**267**	P	**Pn**	**02 20 44.1**	**-0.2**
AOI	**Ancona**	**2.39**	**316**	Pg	**Pn**	**02 20 44.1**	**-0.2**
	5μm,0.9s						
MA9	**Marino**	**2.41**	**269**	Pg	**Pn**	**02 20 44.5**	**-0.1**
MA9	**Marino**	**2.41**	**269**	P	**Pn**	**02 20 44.6**	**0.0**
MNS	**Montasola**	**2.44**	**284**	⇑*e*Pg	**Pn**	**02 20 45.6**	**+0.6**
	4μm,0.8s						
MNS	**Montasola**	**2.44**	**284**	P	**Pn**	**02 20 43.6**	**-1.4**
MNS				⇑*e*Pg	**Pn**	**02 20 45.6**	**+0.6**
NKY	**Niksic**	**2.50**	**66**	⇑*i*Pn	**Pn**	**02 20 46.0**	**+0.2**
NKY				*e*Sn	**Sn**	**02 21 15.9**	**+0.4**
CING	**Cingoli**	**2.50**	**308**	Pg	**Pn**	**02 20 46.0**	**+0.1**
	4μm,0.8s						
CING	**Cingoli**	**2.50**	**308**	P	**Pn**	**02 20 46.1**	**+0.2**
ULC	**Ulcinj**	**2.51**	**86**	⇓*i*Pn	**Pn**	**02 20 45.6**	**-0.3**
ULC				*e*Sn	**Sn**	**02 21 16.4**	**+0.7**
ROM9	**Roma**	**2.52**	**271**	Pg	**Pn**	**02 20 46.2**	**+0.1**
	5μm,1.0s						
ROM9	**Roma**	**2.52**	**271**	Pg	**Pn**	**02 20 46.2**	**+0.1**
ROM9				P		02 20 46.4	
ROM9	**Roma**	**2.52**	**271**	P	**Pn**	**02 20 46.4**	**+0.3**
TTG	**Podgorica**	**2.58**	**76**	⇓*i*Pn	**Pn**	**02 20 47.4**	**+0.6**
TTG				*e*Sn	**Sn**	**02 21 17.7**	**+0.4**
SCTE	**Santa Cesarea**	**2.64**	**131**	Pg	**Pn**	**02 20 47.1**	**-0.7**
	15μm,1.0s						
ARV	**Arcevia**	**2.73**	**308**	Pg	**Pn**	**02 20 49.1**	**+0.2**
ARVD	**Arcevia**	**2.73**	**308**	⇑*e*Pg	**Pn**	**02 20 49.1**	**+0.2**
	2μm,0.8s						
TIP	**Timpagrande**	**2.75**	**166**	⇓*e*Pg	**Pn**	**02 20 49.4**	**+0.1**
	6μm,1.6s						
TIP	**Timpagrande**	**2.75**	**166**	*e*Pn	**Pn**	**02 20 49.5**	**+0.2**
TIP	**Timpagrande**	**2.75**	**166**	*e*Pn	**Pn**	**02 20 49.5**	**+0.2**
NVLJ	**Novalja**	**2.81**	**345**	*i* Pn	**Pn**	**02 20 50.0**	**-0.1**
NVLJ				*i* Sn	**Sn**	**02 21 22.8**	**-0.3**
NVLJ	**Novalja**	**2.81**	**345**	*i* Pn	**Pn**	**02 20 50.0**	**-0.1**
NVLJ				*i* Sn	**Sn**	**02 21 22.7**	**-0.4**
MURB	**Monte Urbino**	**2.86**	**301**	⇑*e*Pg	**Pn**	**02 20 51.9**	**+1.2**
	8μm,1.0s						
SERS	**Sersale**	**2.88**	**167**	Pg	**Pn**	**02 20 51.0**	**0.0**
	4μm,1.3s						
TOLF	**Tolfa**	**2.91**	**276**	Pg	**Pn**	**02 20 51.4**	**0.0**
	2μm,1.0s						
PLE	**Pljevlja**	**2.98**	**59**	⇑*i*Pn	**Pn**	**02 20 52.9**	**+0.5**
PLE				*e*Sn	**Sn**	**02 21 27.6**	**+0.3**
TIR	**Tirane**	**3.03**	**98**	⇓*i*Pg	**Pn**	**02 20 53.3**	**+0.3**
	2μm,0.9s						
TIR	**Tirane**	**3.03**	**98**	P	**Pn**	**02 20 52.5**	**-0.5**
BLY	**Banja Luka**	**3.05**	**18**	P	**Pn**	**02 20 52.4**	**-0.9**
BLY				S	**Sn**	**02 21 27.9**	**-1.0**
GRI	**Girifalco**	**3.05**	**172**	Pg	**Pn**	**02 20 52.8**	**-0.6**
GRI	**Girifalco**	**3.05**	**172**	P	**Pn**	**02 20 52.7**	**-0.7**
PESA	**Pesaro**	**3.06**	**314**	Pg	**Pn**	**02 20 53.8**	**+0.3**
	3μm,0.8s						
PESA	**Pesaro**	**3.06**	**314**	Pg	**Pn**	**02 20 53.8**	**+0.3**
PESA				P		02 20 53.9	
PESA	**Pesaro**	**3.06**	**314**	P	**Pn**	**02 20 53.9**	**+0.4**
SACS	**San Casciano d**	**3.11**	**290**	Pg	**Pn**	**02 20 54.4**	**+0.2**
	5μm,1.4s						
LATE	**Laterza**	**3.13**	**285**	Pg	**Pn**	**02 20 54.9**	**+0.5**
	3μm,0.9s						
PVY	**Plav**	**3.13**	**75**	⇓*i*Pn	**Pn**	**02 20 55.0**	**+0.5**
PVY				*e*Sn	**Sn**	**02 21 31.1**	**+0.3**
IVA	**Berane**	**3.14**	**70**	⇓*i*Pn	**Pn**	**02 20 55.5**	**+0.8**
IVA				*e*Sn	**Sn**	**02 21 31.1**	**-0.2**
BCI	**Bajram Curri**	**3.15**	**79**	*i* Pn	**Pn**	**02 20 56.5**	**+1.7**
BCI				*i* Sn	**Sn**	**02 21 32.8**	**+1.2**
BADI	**Badiali**	**3.16**	**303**	Pg	**Pn**	**02 20 56.1**	**+1.3**
	3μm,0.9s						
BADI	**Badiali**	**3.16**	**303**	P	**Pn**	**02 20 56.0**	**+1.2**
RSM	**Repubblica di**	**3.27**	**311**	Pg	**Pn**	**02 20 57.1**	**+0.7**
	5μm,1.2s						
BBLS	**Bajina Basta -**	**3.28**	**51**	*i* Pn	**Pn**	**02 20 59.9**	**+3.4**
SLNA	**Salina**	**3.38**	**194**	Pg	**Pn**	**02 20 57.0**	**-0.9**
	729nm,0.4s						
KKS	**Kukesi**	**3.38**	**85**	*i* Pn	**Pn**	**02 21 00.4**	**+2.5**
KKS				*i* Sn	**Sn**	**02 21 35.0**	**-2.2**
CRE	**Caprese Michel**	**3.40**	**303**	Pg	**Pn**	**02 20 58.7**	**+0.6**
	470nm,0.4s						
ARCI	**Arcidosso**	**3.42**	**288**	Pg	**Pn**	**02 20 59.9**	**+1.5**
	1μm,1.5s						
PLAC	**Placanica**	**3.42**	**173**	Pg	**Pn**	**02 20 58.7**	**+0.2**
	932nm,1.1s						
IFIL	**Filicudi I Eol**	**3.44**	**198**	Pg	**Pn**	**02 20 57.3**	**-1.4**
	2μm,0.5s						
TPE	**Tepelena**	**3.48**	**115**	*i* Pn	**Pn**	**02 20 59.3**	**0.0**
TPE	**Tepelena**	**3.48**	**115**	*e*Pn	**Pn**	**02 20 59.3**	**0.0**
VPL	**Vulcano Piano**	**3.54**	**192**	Pg	**Pn**	**02 20 59.7**	**-0.3**
	1μm,0.6s						
MAON	**Monte Argentar**	**3.58

FNVD Fontana Vidola 4.19 305 P Pn 02 21 10.3 +1.2
ESLN Serra La Nave 4.21 190 Pg Pn 02 21 12.2 +2.9
FIU Minerbio Fiu 4.25 312 Pg Pn 02 21 10.7 +0.8
comp=Z,2µm,1.2s
JAVS Javornik 4.25 343 ⇓*i* Pn Pn 02 21 09.3 -0.6
FNA Florina 4.27 103 *e*Pn Pn 02 21 10.8 +0.7
LJU Ljubljana 4.30 347 *i* Pn Pn 02 21 10.9 +0.3
LJU *e*Sn Sn 02 21 55.5 -4.4
LJU
comp=Z,4µm,1.4s
LJU Ljubljana 4.30 347 *i* Pn Pn 02 21 10.9 +0.3
LJU *e*Sn Sn 02 21 55.5 -4.4
LJU Ljubljana 4.30 347 *i* Pn Pn 02 21 10.9 +0.3
LJU *e*Sn Sn 02 21 55.5 -4.5
DOBS Dobrina 4.31 356 *i* Pn Pn 02 21 10.7 +0.1
PZZT Monte Pizzetto 4.33 303 Pg Pn 02 21 11.0 0.0
comp=Z,679nm,0.7s
PII Pisa 4.37 297 Pg Pn 02 21 11.8 +0.3
comp=Z,136nm,0.2s
ZCCA Zocca 4.38 306 Pg Pn 02 21 14.0 +2.4
comp=Z,890nm,1.1s
ZCCA Zocca 4.38 306 P Pn 02 21 13.8 +2.2
ZCCA Pg Pn 02 21 14.0 +2.4
RHK3 Tenkes 4.38 22⇑ *e*P Pn 02 21 11.2 -0.5
VOY Vojsko 4.42 342⇓ *e*Pn Pn 02 21 11.6 -0.6
VOY *e*Sn Sn 02 22 04.2 +1.4
CORL Corleone 4.42 208 Pg Pn 02 21 12.8 +0.6
comp=Z,357nm,0.8s
BEO Belgrade 4.46 47 *i* Pn Pn 02 21 16.7 +3.9
BDI Bagni Di Lucca 4.47 301 Pg Pn 02 21 12.8 0.0
comp=Z,447nm,0.5s
BDI Bagni Di Lucca 4.47 301 P Pn 02 21 12.6 -0.2
BDI Pg Pn 02 21 12.8 0.0
MAIM 4.47 299 P Pn 02 21 12.8 -0.1
VAE Valguarnera 4.51 195 Pn Pn 02 21 16.1 +2.7
comp=Z,5.2nm,0.3s,baz=325,slow=1.1,SNR=20
RHK1 Bakonya 4.53 20⇓ *e*P Pn 02 21 13.3 -0.4
RAVA Ravarino 4.53 311 Pg Pn 02 21 14.8 +1.1
comp=Z,6µm,1.6s
RAVA Ravarino 4.53 311 P Pn 02 21 14.9 +1.2
TLI Talmassons 4.54 335 ⇓*i* P Pn 02 21 13.0 -0.8
ERC Erice 4.57 215 Pg Pn 02 21 14.9 +0.6
comp=Z,843nm,0.8s
HAGA Augusta 4.59 187 Pg Pn 02 21 14.2 -0.4
KOGS Kog 4.60 3 *i* Pn Pn 02 21 14.6 -0.1
SVIS Svilajnac 4.61 56⇑ *i* Pn Pn 02 21 16.1 +1.3
SVIS Sn Sn 02 22 09.2 +1.8
DRE Drenchia 4.61 340⇑ *i* P Pn 02 21 14.0 -0.9
GSCL Gusciola 4.61 305 Pg Pn 02 21 16.2 +1.3
comp=Z,454nm,0.5s
GSCL Gusciola 4.61 305 P Pn 02 21 16.1 +1.2
AGST Augusta-Monte 4.62 187 Pg Pn 02 21 14.4 -0.5
comp=Z,230nm,0.4s
GROS Grobnik 4.62 357 *i* Pn Pn 02 21 14.6 -0.4
VLC Villacollemand 4.65 302 Pg Pn 02 21 15.5 +0.2
comp=Z,349nm,0.8s
VLC Villacollemand 4.65 302 *e*Pn Pn 02 21 15.3 0.0
VLC Pg Pn 02 21 15.5 +0.2
VLC *e*Sn Sn 02 22 09.2 +0.9
VLC Villacollemand 4.65 302 *e*Pn Pn 02 21 15.3 0.0
COLI Coloredo 4.65 308 ⇓ *e*P Pn 02 21 14.3 -1.3
GORS Gorjuse 4.67 344 ⇓ *i* Pn Pn 02 21 16.1 +0.5
GROG Isola di Gorgo 4.69 292 Pg Pn 02 21 17.7 +1.7
comp=Z,149nm,0.6s
STIP Stip 4.71 90⇑ *i* Pn Pn 02 21 16.8 +0.6
SSY Sortino 4.73 188 Pg Pn 02 21 16.6 +0.1
comp=Z,669nm,0.7s
SSY Sortino 4.73 188 Pg Pn 02 21 16.6 +0.1
SSY P 02 21 17.4
SSY Sortino 4.73 188 P Pn 02 21 17.4 +0.9
CLTB Caltabellotta 4.74 207 Pg Pn 02 21 18.3 +1.7
comp=Z,254nm,0.4s
CLTB Caltabellotta 4.74 207 P Pn 02 21 17.6 +1.0
CLTB Pg Pn 02 21 18.3 +1.7
HVZN Vizzini 4.75 191 Pg Pn 02 21 18.1 +1.3
OBKA Obir 4.76 349⇑ *i* Sn Sn 02 22 10.5 -0.5
OBKA Obir 4.76 349 *i* Pn Pn 02 21 16.8 0.0
SNR=22
OBKA ⇑*i* Sn Sn 02 22 10.5 -0.5
OBKA Obir 4.76 349⇑ *i* Pn Pn 02 21 16.6 -0.2
OBKA *i* Sn Sn 02 22 10.5 -0.5
OBKA Obir 4.76 349 Pn Pn 02 21 16.6 -0.2
comp=Z,22nm,1.0s
ERBM Eremo 4.76 304 Pg Pn 02 21 18.7 +1.9
comp=Z,363nm,0.7s
BAD Bernadia 4.78 337 ⇓ *i* P Pn 02 21 16.0 -1.2
NOVE Novellara 4.79 310 Pg Pn 02 21 18.2 +1.0
comp=Z,1µm,0.9s
VINC Vinca 4.79 300 P Pn 02 21 17.4 +0.1
PKSM Moragy 4.79 24⇑ *i* P Pn 02 21 17.6 +0.3
PKSM Moragy 4.79 24⇑ *e*Pn Pn 02 21 16.8 -0.5
PKSM P 02 21 20.7
PKSM *e*Sn Sn 02 22 48.6 +37
BUA Buia 4.80 336 ⇓ *i* P Pn 02 21 17.0 -0.4
LKD Levkas 4.81 129 *e*Pn Pn 02 21 17.5 0.0
PERS Pernice 4.82 354 *i* Pn Pn 02 21 17.4 -0.3
GMNA Gemona 4.82 338 Pg Pn 02 21 17.0 -0.7
GMNA Gemona 4.82 338 P Pn 02 21 17.1 -0.6
VALM 4.83 303 P Pn 02 21 18.6 +0.8
SBPO S.Benedetto Po 4.83 313 Pg Pn 02 21 18.3 +0.5
comp=Z,2µm,1.1s
CAE Caneva 4.84 330 ⇓ *i* P Pn 02 21 17.0 -1.0
MPRI Monte Prat 4.86 336 ⇓ *i* P Pn 02 21 17.0 -1.3
FAVR Favara 4.89 201 Pg Pn 02 21 18.8 +0.2
BACM 4.90 302 P Pn 02 21 19.2 +0.4
MLNI Malnisio 4.91 332 ⇓ *i* P Pn 02 21 18.0 -0.9
PTCC Patocco-Chiusa 4.91 339 Pg Pn 02 21 17.9 -1.0
comp=Z,704nm,1.0s
HAVL Avola 4.92 187 Pg Pn 02 21 18.8 -0.3
comp=Z,321nm,0.3s
LSR Lussari 4.92 341⇑ *i* P Pn 02 21 19.0 -0.1
HMDC Modica 4.96 190 Pg Pn 02 21 20.2 +0.6
comp=Z,386nm,1.0s
GRG Griva 4.98 98 *e*Pn Pn 02 21 20.0 +0.1
DGI Dorgali Grotta 4.99 254 Pg Pn 02 21 18.9 -1.1
GRAM 5.01 304 P Pn 02 21 21.3 +1.0
OSPF L'Ospedale 5.01 270 P Pn 02 21 19.3 -1.0
CORF Corte 5.03 277 P Pn 02 21 20.3 -0.3
PLRO Paularo 5.09 338 ⇓ *i* P Pn 02 21 20.0 -1.5
CODM 5.09 302 P Pn 02 21 21.8 +0.3
ZOU Zoufplan 5.15 337 ⇓ *e*P Pn 02 21 21.0 -1.2
PGF Pioggiola 5.16 280 *e*P Pn 02 21 23.2 +0.8
CTI Castel Tesino 5.19 325 Pg Pn 02 21 21.8 -1.0
comp=Z,954nm,0.5s
CTI Castel Tesino 5.19 325 P Pn 02 21 21.7 -1.1
FVI Forni Avoltri 5.24 336 Pg Pn 02 21 22.5 -1.0
comp=Z,678nm,0.9s
LIT Litokhoron 5.29 107 *e*Pn Pn 02 21 24.0 -0.2
SC2M Scurtabr 5.30 301 P Pn 02 21 25.1 +0.8
KNT Kendrikon 5.31 95 *e*Pn Pn 02 21 24.4 0.0
EVR Evrytania 5.39 121 *e*P Pn 02 21 26.9 +1.4
SAL Salo 5.40 316 Pg Pn 02 21 25.1 -0.6
comp=Z,763nm,0.4s
ARSA Arzberg 5.41 357 ⇓ *i* Sn Sn 02 22 26.1 -0.9
ARSA Arzberg 5.41 357 *i* Pn Pn 02 21 25.4 -0.3
SNR=49
ARSA ⇓*i* Sn Sn 02 22 26.1 -0.9
ARSA Arzberg 5.41 357 Pn Pn 02 21 25.4 -0.3
comp=Z,49nm,4.0s
PKS8 Sarbogard 5.41 21⇑ *e*P Pn 02 21 25.2 -0.6
SALO Salr 5.41 316 Pg Pn 02 21 25.0 -0.8
comp=Z,941nm,0.7s
THE Thessaloniki 5.47 101 *e*Pn Pn 02 21 26.2 -0.5
VSL Villasalto 5.48 247 Pg Pn 02 21 25.3 -1.4
comp=Z,121nm,0.8s
VSL Villasalto 5.48 247 *e*Pn Pn 02 21 25.1 -1.6
VSL Pg Pn 02 21 25.3 -1.4
VSL *e*Sn Sn 02 22 25.5 -3.3
VSL Villasalto 5.48 247 *e*Pn Pn 02 21 25.1 -1.6
VTS Vitosha 5.49 80 *e*Pn Pn 02 21 28.6 +1.7
VTS Vitosha 5.49 80⇑ *i* P Pn 02 21 28.4 +1.5
VTS Vitosha 5.49 80⇑ *e*P Pn 02 21 28.4 +1.5
BOB Bobbio (Coli) 5.53 304 Pg Pn 02 21 27.4 0.0
KBA Koelnbreinsper 5.53 342 *i* Pn Pn 02 21 27.4 -0.1
SNR=29
KBA ⇑*i* Sn Sn 02 22 30.2 -0.1
SEST Monte Rota 5.56 333 Pg Pn 02 21 27.7 -0.2
comp=Z,745nm,1.4s
SEST Monte Rota 5.56 333 P Pn 02 21 27.1 -0.8
SEST Pg Pn 02 21 27.7 -0.2
BZS Buzias 5.60 46⇑ *i* P Pn 02 21 29.7 +1.2
BZS Buzias 5.60 46 ⇑P Pn 02 21 29.7 +1.2
AGG Agios Georgios 5.67 118 *e*Pn Pn 02 21 30.3 +0.9

BRES Bressanone 5.69 330 Pg Pn 02 21 29.4 -0.2
comp=Z,274nm,0.4s
BRES P 02 21 29.9
BRES Bressanone 5.69 330 P Pn 02 21 29.9 +0.3
APPI Appiano 5.71 326 Pg Pn 02 21 29.2 -0.7
APPI Appiano 5.71 326 P Pn 02 21 29.1 -0.8
SOH Sokhos 5.71 98 *e*Pn Pn 02 21 29.9 -0.1
MABI Malga Bissina 5.72 319 Pg Pn 02 21 29.5 -0.5
comp=Z,147nm,0.5s
MABI Malga Bissina 5.72 319 P Pn 02 21 29.4 -0.6
RLS Riolos of Patr 5.72 130 *e*P Pn 02 21 30.3 +0.2
PKSG 5.82 17⇑ *e*P Pn 02 21 31.3 -0.2
SOP Sopron 5.85 4 *e*P Pn 02 21 32.3 +0.4
SOP *e*Sn Sn 02 22 33.9 -4.2
PLG Polygyros 5.90 102 *e*P Pn 02 21 32.0 -0.5
MDI Monti di Nese 5.95 313 Pg Pn 02 21 31.8 -1.4
comp=Z,181nm,0.3s
SCE Schlegeis 5.99 331 ⇓ *i* Pn Pn 02 21 33.5 -0.2
NVR Nevrokopi 6.00 92 *e*P Pn 02 21 34.4 +0.5
PCP Pian Castagno 6.00 299 P Pn 02 21 32.9 -1.0
QLNO Quiliano 6.05 297 Pg Pn 02 21 34.4 -0.2
comp=Z,133nm,1.0s
QLNO P 02 21 35.8
QLNO Quiliano 6.05 297 P Pn 02 21 35.8 +1.2
BUD Budapest 6.06 21 *e*Pn Pn 02 21 44.7 +10
BUD *e*Sn Sn 02 23 05.7 +22
WDD Wield Dalam 6.07 191 Pg Pn 02 21 36.2 +1.3
XOR Xorichti 6.09 112 *e*Pn Pn 02 21 34.8 -0.3
BRMO Bormio 6.09 321 Pg Pn 02 21 35.5 +0.3
comp=Z,90nm,0.4s
FIN Finale Ligure 6.10 295 Pg Pn 02 21 35.4 +0.1
comp=Z,63nm,0.5s
FIN Finale Ligure 6.10 295 P Pn 02 21 35.5 +0.2
MOA Molln 6.11 350 ⇓ *i* Sn Sn 02 22 41.6 -2.8
MOA Molln 6.11 350 *i* Pn Pn 02 21 35.5 +0.1
SNR=58
MOA ⇓*i* Sn Sn 02 22 41.6 -2.8
MOA Molln 6.11 350 Pn Pn 02 21 35.5 +0.1
comp=Z,58nm,4.0s
NEO Neokhori 6.14 112 *e*P Pn 02 21 35.2 -0.6
WTTA Wattenberg 6.21 332 ⇓ *i* Sn Sn 02 22 46.5 -0.3
WTTA Wattenberg 6.21 332 *i* Pn Pn 02 21 37.1 +0.4
SNR=34
WTTA ⇓*i* Sn Sn 02 22 46.5 -0.3
WTTA Wattenberg 6.21 332 Pn Pn 02 21 37.1 +0.4
comp=Z,34nm,4.0s
WTTA *i* S Sn 02 22 46.5 -0.3
PAIG Paliouri 6.21 105 *e*Pn Pn 02 21 36.0 -0.8
IMI Imperia 6.22 292 Pg Pn 02 21 38.2 +1.2
comp=Z,46nm,0.5s
IMI Imperia 6.22 292 P Pn 02 21 38.3 +1.3
WATA Walderalm 6.29 332 ⇑ *i* Sn Sn 02 22 48.4 -0.4
WATA Walderalm 6.29 332 *i* Pn Pn 02 21 38.5 +0.6
SNR=63
WATA ⇑*i* Sn Sn 02 22 48.4 -0.4
WATA Walderalm 6.29 332 Pn Pn 02 21 38.5 +0.6
comp=Z,62nm,6.0s
WATA *i* S Sn 02 22 48.4 -0.4
OUR Ouranopolis 6.30 101 *e*Pn Pn 02 21 37.6 -0.4
LKR Lokris 6.31 118 *e*P Pn 02 21 38.0 -0.2
SQTA Sankt Quirin 6.32 330 ⇓ *i* Sn Sn 02 22 49.8 +0.1
SQTA Sankt Quirin 6.32 330 *i* Pn Pn 02 21 38.6 +0.3
SNR=35
SQTA ⇓*i* Sn Sn 02 22 49.8 +0.1
SQTA Sankt Quirin 6.32 330 ⇑ *i* Pn Pn 02 21 38.5 +0.2
SQTA *i* Sn Sn 02 22 49.8 +0.1
SQTA Sankt Quirin 6.32 330 Pn Pn 02 21 38.5 +0.1
comp=Z,35nm,1.0s
SQTA *i* S Sn 02 22 49.8 +0.1
NEGI Negi 6.34 291 P Pn 02 21 38.4 -0.1
ROB Roburent 6.36 295 P Pn 02 21 38.4 -0.4
MONE Monesi 6.37 293 P Pn 02 21 39.2 +0.2
MUGIO Muggio 6.40 312 Pg Pn 02 21 37.8 -1.7
MOTA Moosalm 6.47 330 *i* Pn Pn 02 21 40.4 0.0
SNR=24
MOTA ⇓*i* Sn Sn 02 22 53.7 +0.5
MOTA Moosalm 6.47 330 *i* Pn Pn 02 21 40.4 0.0
MOTA *i* Sn Sn 02 22 53.7 +0.5
MOTA Moosalm 6.47 330 *i* Pn Pn 02 21 40.3 0.0
MOTA *i* S Sn 02 22 53.7 +0.5
SBF Sospel 6.53 291 *e*Pn Pn 02 21 42.0 +0.8
SBF *e*Sn Sn 02 22 48.7 -6.0
comp=Z,124nm,0.5s
SBF Sospel 6.53 291 *e*Pn Pn 02 21 42.0 +0.8
SBF *e*Sn Sn 02 22 48.7 -6.0
comp=Z,62nm,0.5s
VDL Val di Lei 6.54 317 P Pn 02 21 41.8 +0.5
DAVOX Davos 6.54 321 Pg Pn 02 21 42.6 +1.2
DAVOX Davos 6.54 321 Pn Pn 02 21 42.3 +0.9
comp=Z,8.7nm,0.3s,baz=136,slow=13,SNR=33
DAVOX Sn Sn 02 22 47.4 -7.8
comp=Z,7.3nm,0.3s,baz=356,slow=20,SNR=2.0
DAVOX Davos 6.54 321 Pn Pn 02 21 42.3 +0.9
DAVOX Sn Sn 02 22 47.3 -7.8
AUTN L'Aution 6.57 292 P Pn 02 21 43.2 +1.5
TUE Stuetta 6.59 317 Pg Pn 02 21 42.2 +0.2
comp=Z,252nm,0.5s
TUE P 02 21 42.4
TUE Stuetta 6.59 317 P Pn 02 21 42.4 +0.4
LUCF Luceram 6.60 291 P Pn 02 21 44.4 +2.3
ITM Ithomi 6.60 133 *e*P Pn 02 21 41.6 -0.5
ITM Ithomi 6.60 133 P Pn 02 21 40.9 -1.2
ENR Entracque 6.64 294 P Pn 02 21 43.2 +0.5
PSZ Piszkesteto 6.70 24⇑ *e*Pn Pn 02 21 46.5 +3.0
PSZ *e*Pg Pn 02 22 13.5 +30
PSZ *e*SB Sb 02 23 19.4 -2.8
STV Sta Anna Valdi 6.71 294 P Pn 02 21 43.9 +0.2
MVIF Mont Vial 6.73 291 P Pn 02 21 45.9 +1.9
DOI San Damiano 6.85 296 P Pn 02 21 45.1 -0.5
DOI pmax pmax
comp=Z,203nm,1.2s
DOI San Damiano 6.85 296 Pg Pn 02 21 45.1 -0.5
comp=Z,203nm,1.2s
DOI P 02 21 45.3
DOI San Damiano 6.85 296 P Pn 02 21 45.3 -0.3
ORO Oropa 6.86 306 Pg Pn 02 21 43.8 -1.9
CALN Calern 6.88 289 P Pn 02 21 48.3 +2.2
DAVA Damuels 6.92 324 ⇑ *i* Sn Sn 02 23 05.4 +1.0
DAVA Damuels 6.92 324 *i* Pn Pn 02 21 48.0 +1.4
SNR=22
DAVA ⇑*i* Sn Sn 02 23 05.4 +1.0
DAVA Damuels 6.92 324 ⇓ *i* Pn Pn 02 21 46.8 +0.3
DAVA *i* Sn Sn 02 23 05.4 +1.0
DAVA Damuels 6.92 324 Pn Pn 02 21 46.8 +0.2
comp=Z,21nm,6.0s
PZZ Prazzo 6.95 295 P Pn 02 21 46.3 -0.6
LLS Linth-Limmern 7.02 318 ⇑P Pn 02 21 49.4 +1.5
MCGN Macugnaga 7.03 308 Pg Pn 02 21 48.1 +0.1
comp=Z,96nm,0.4s
MCGN P 02 21 48.4
MCGN Macugnaga 7.03 308 P Pn 02 21 48.4 +0.4
LMR La Mourre 7.08 285 *e*P Pn 02 21 48.7 0.0
MMK Mattmark 7.09 309 Pg Pn 02 21 46.8 -2.1
FUR Furstenfeldbru 7.11 334 *e*Pn Pn 02 21 48.0 -1.1
JAVC Velka Javorina 7.12 10 P Pn 02 21 51.5 +2.2
SURF Saint Ours 7.13 295 P Pn 02 21 49.8 +0.3
ATH Athens Observa 7.16 120 *e*P Pn 02 21 49.1 -0.7
GEC2 GERESS Array S 7.16 348 *e*Pn Pn 02 21 48.4 -1.5
GEC2 *e*Sn Sn 02 23 06.8 -3.5
GERES GERESS Array B 7.16 348 Pn Pn 02 21 49.1 -0.8
comp=Z,6.0nm,0.3s,baz=166,slow=13,SNR=52
GERES Sn Sn 02 23 02.6 -7.7
comp=Z,29nm,0.3s,baz=162,slow=23,SNR=12
GERES LR LR 02 25 23.2
comp=Z,972nm,18.4s,baz=167,slow=45
GERES GERESS Array B 7.16 348 P Pn 02 21 49.1 -0.8
GERES Sn Sn 02 23 02.6 -7.7
KRUC Moravsky 7.22 3 P Pn 02 21 53.1 +2.4
MBDF Montbardon 7.25 296 *e*Pn Pn 02 21 48.6 -2.4
MBDF *e*Sn Sn 02 23 03.2 -9.2
comp=Z,113nm,0.6s
RDO Rodhopi 7.28 92 *e*P Pn 02 21 51.5 0.0
RDO Rodhopi 7.28 92 P Pn 02 21 49.7 -1.8
MUO Muotathal 7.29 317 ⇓P Pn 02 21 52.7 +1.1
RRL Cesana Torines 7.30 298 P Pn 02 21 50.9 -0.9
BNI Bardonecchia 7.42 299 Pg Pn 02 21 52.6 -0.9
BNI Bardonecchia 7.42 299 *e*Pn Pn 02 21 51.8 -1.7
BNI Pg Pn 02 21 52.6 -0.9
BNI *e*Sn Sn 02 23 15.6 -1.2
BNI Bardonecchia 7.42 299 *e*Pn Pn 02 21 51.8 -1.7
DIX Grande Dixence 7.43 308 Pg Pn 02 21 52.5 -1.1
DIX Grande Dixence 7.43 308 P Pn 02 21 53.1 -0.5

TAVF Tavernes 7.45 287 P Pn 02 21 55.5 +1.7
TREC Trest 7.45 358 *e*PN Pn 02 21 53.2 -0.6
KHC Kasperske Hory 7.46 348 *e*PN Pn 02 21 53.2 -0.7
KHC *ex* x 02 21 59.0
KHC *ex* x 02 22 04.5
KHC *ex* x 02 22 17.5
WILA Wila 7.46 321 ⇓P Pn 02 21 53.8 -0.2
LKBD Leukerbad 7.47 310 ⇑P Pn 02 21 53.0 -1.1
LKBD ⇓P 02 21 53.7
LKBD Leukerbad 7.47 310 ⇓P Pn 02 21 53.7 -0.4
VRAC Vranov 7.47 4 Pn Pn 02 21 54.5 +0.3
comp=Z,1.8nm,0.3s,baz=178,slow=14,SNR=8.1
VRAC Sn Sn 02 23 14.1 -4.0
comp=Z,1.9nm,0.3s,baz=297,slow=22,SNR=1.9
VRAC LR LR 02 24 50.9
comp=Z,480nm,19.5s,baz=198,slow=38
VRAC Vranov 7.47 4 P Pn 02 21 54.5 +0.3
VRAC 02 23 14.1
MRGE Morge 7.49 305 Pg Pn 02 21 52.8 -1.5
VLI Veliai 7.49 131 *e*P Pn 02 21 53.9 -0.5
LPG La Plagne 7.56 302 *e*Pn Pn 02 21 53.0 -2.3
LPG *e*Sn Sn 02 23 14.3 -5.8
comp=Z,215nm,0.6s
LPG La Plagne 7.56 302 *e*Pn Pn 02 21 53.0 -2.3
LPG *e*Sn Sn 02 23 14.3 -5.8
comp=Z,108nm,0.6s
LPL La Plagne 7.58 302 *e*Pn Pn 02 21 53.5 -2.1
LPL *e*Sn Sn 02 23 13.0 -7.6
comp=Z,165nm,0.5s
LPL La Plagne 7.58 302 *e*Pn Pn 02 21 53.5 -2.1
LPL *e*Sn Sn 02 23 13.0 -7.6
comp=Z,83nm,0.5s
ZUR Zurich 7.59 319 P Pn 02 21 56.4 +0.7
WET Wettzell 7.59 345 *e*Pn Pn 02 21 54.5 -1.3
OG25 Le Caire 7.61 293 *e*P Pn 02 21 57.4 +1.4
STOF St-Etienne Org 7.63 290 P Pn 02 22 00.1 +3.8
SISB Singen-Schiene 7.63 322 P Pn 02 21 56.7 +0.4
PUYF Puyloubier 7.69 286 P Pn 02 22 00.1 +3.0
ALN Alexandroupoli 7.70 94 *e*Pn Pn 02 21 57.4 +0.1
RSL Roselend 7.72 303 P Pn 02 21 57.2 -0.3
EMV Vieux Emosson 7.73 306 Pg Pn 02 21 57.9 +0.2
EMV Vieux Emosson 7.73 306 ⇓P Pn 02 21 57.6 -0.1
VILF Villemus 7.74 288 P Pn 02 22 01.2 +3.4
HDH Heidenheim-Cha 7.83 331 P Pn 02 21 58.4 -0.7
GDM Grand'Maison 7.85 299 P Pn 02 21 59.9 +0.6
GUT Gutenstein 7.85 325 P Pn 02 21 59.3 -0.1
SMRF Simiane la Rot 7.86 289 *e*Pn Pn 02 22 01.5 +2.0
ORIF Oris-en-Rattie 7.91 296 *e*Pn Pn 02 21 56.5 -3.6
ORIF *e*Sn Sn 02 23 21.3 -7.4
comp=Z,91nm,0.6s
ORIF *e*R
comp=Z,1µm,16.8s
SLE Schleitheim 7.91 321 P Pn 02 21 58.9 -1.2
SULZ Sulz-Cheisache 7.93 318 ⇓P Pn 02 22 00.0 -0.4
OG01 Vacheresse 7.99 307 P Pn 02 22 02.0 +0.7
MORC Moravsky Berou 8.01 8 *e*Pn Pn 02 22 03.2 +1.7
MORC *e*Sn Sn 02 23 35.0 +3.7
MORC Moravsky Berou 8.01 8 *e*P Pn 02 22 03.2 +1.7
MORC *e*S Sn 02 23 35.0 +3.8
BUCH Bad Urach 8.05 327 P Pn 02 22 01.8 -0.3
EDRB Edirne 8.11 86 *e*P Pn 02 22 02.7 -0.2
GRN Grenoble 8.11 298 P Pn 02 22 02.7 -0.1
OKC Ostrava-Krasne 8.14 10 *e*PN Pn 02 22 05.3 +2.0
OKC *e*SN Sn 02 23 29.4 -5.1
MLR Muntele Rosu 8.15 60 Pn Pn 02 22 07.0 +3.6
comp=Z,0.9nm,0.3s,baz=179,slow=7.2,SNR=13
MLR Muntele Rosu 8.15 60⇑ *i* P Pn 02 22 07.2 +3.8
MLR Muntele Rosu 8.15 60⇑ P Pn 02 22 07.2 +3.8
BBS Basel-Blauen 8.19 316 P Pn 02 22 04.3 +0.3
PRU Pruhonice 8.19 354 *e*PN Pn 02 22 02.7 -1.3
PRU *e*SN Sn 02 23 30.7 -5.0
TUBL Tuebingen-Lenn 8.22 327 P Pn 02 22 04.0 -0.4
FELD Feldberg im Sc 8.22 320 P Pn 02 22 03.4 -1.0
PRA Prague 8.28 353 SN Sn 02 23 30.0 -7.9
KIZ Kirchzarten 8.32 320 P Pn 02 22 04.9 -0.8
ROTZ Rotzenmuhle 8.32 343 *e*Pn Pn 02 22 03.8 -2.0
PRK Paraskevi 8.32 105 *e*P Pn 02 22 05.6 -0.2
STU Stuttgart 8.37 328 *e*P Pn 02 22 05.2 -1.3
STU pmax pmax
comp=Z,65nm,0.6s
STU Stuttgart 8.37 328 *e*Pn Pn 02 22 05.2 -1.3
comp=Z,64nm,0.6s
STU Stuttgart 8.37 328 *e*P Pn 02 22 05.2 -1.3
comp=Z,65nm,0.6s
CMAH Djebel Manchou 8.39 234 P Pn 02 22 09.0 +2.3
RAC Raciborz 8.39 10 *e*P Pn 02 22 07.4 +0.7
BFO Black Forest 8.40 323 Pn Pn 02 22 05.6 -1.2
comp=Z,353nm,0.5s,SNR=16
BFO Black Forest 8.40 323 *e*Pn Pn 02 22 04.5 -2.3
LBG Lerchenberg 8.45 326 P Pn 02 22 07.1 -0.4
LOMF Lomont 8.48 313 P Pn 02 22 06.8 -1.2
CABF La Chapelle 8.49 307 *e*Pn Pn 02 22 06.5 -1.6
CABF *e*Sn Sn 02 23 35.4 -7.6
comp=Z,172nm,0.6s
GRA1 Grafenberg Arr 8.49 339 *e*Pn Pn 02 22 10.0 +1.9
GRF Grafenberg Arr 8.49 339 *e*Pn Pn 02 22 10.0 +1.9
GRF *e*L 02 25 58.9
comp=Z,907nm,16.0s
DPC Dobruska-Polom 8.51 2 *e*PN Pn 02 22 09.5 +1.2
CHOS Chios island 8.52 111 *e*Pn Pn 02 22 08.5 -0.1
MANZ Manzenberg 8.55 343 *e*Pn Pn 02 22 07.6 -1.3
ABSA Djebel Ababsia 8.59 232 P Pn 02 22 10.0 +0.6
AYVA Ayvalik 8.61 104 *i* P Pn 02 22 09.5 -0.2
OG05 Jujurieux 8.61 303 P Pn 02 22 09.6 -0.1
MOF Molkenrain 8.64 317 P Pn 02 22 08.5 -1.6
CAEH 'Ain El Ouahch 8.64 237 P Pn 02 22 12.5 +2.4
CANB Canakkale 8.66 99 *e*P Pn 02 22 16.0 +5.6
VIVF Saint-Julien-l 8.71 294 *e*Pn Pn 02 22 08.7 -2.3
VIVF *e*Sn Sn 02 23 40.1 -8.2
comp=Z,13nm,0.4s
VIVF Saint-Julien-l 8.71 294 *e*Pn Pn 02 22 08.7 -2.3
VIVF *e*Sn Sn 02 23 40.1 -8.2
comp=Z,6.6nm,0.4s
NKC Novy Kostel 8.72 345 *e*PN Pn 02 22 09.8 -1.4
PVCC Panska Ves 8.73 354 *e*PN Pn 02 22 11.7 +0.4
PLOR Plostina 8.74 59⇑ *i* P Pn 02 22 06.6 -5.0
HINF Hinteralfeld 8.76 316 *e*Pn Pn 02 22 09.8 -2.0
HINF *e*Sn Sn 02 23 40.4 -9.2
comp=Z,270nm,0.6s
BURAR Bucovina Array 8.79 46 ⇓ *i* P Pn 02 22 16.2 +4.0
BURAR Bucovina Array 8.79 46 ⇓P Pn 02 22 16.2 +4.0
OJC Ojcow 8.80 17 *e*P Pn 02 22 20.3 +8.0
OJC *e*S Sn 02 24 01.5 +11
OJC L 02 26 15.6
comp=Z,5.3nm,15.7s
OJC Ojcow 8.80 17 *e*P Pn 02 22 20.3 +8.0
OJC *e*S Sn 02 24 01.5 +11
VRI Vrincioaia 8.80 59 ⇓ *i* P Pn 02 22 15.6 +3.3
VRI Vrincioaia 8.80 59 ⇓P Pn 02 22 15.7 +3.3
APE Apeiranthos 8.86 119 *e*P Pn 02 22 11.2 -1.8
APE Apeiranthos 8.86 119⇑ *i* P Pn 02 22 12.1 -1.0
APE Apeiranthos 8.86 119 *e*P Pn 02 22 11.7 -1.4
APE Apeiranthos 8.86 119 ⇑P Pn 02 22 12.1 -1.0
APE Apeiranthos 8.86 119 *e*Pn Pn 02 22 11.9 -1.2
ECH Echery 8.87 319 P Pn 02 22 12.3 -1.0
WLS Welschbruch 8.91 320 P Pn 02 22 12.5 -1.3
URLA Izmir 8.91 109 *i* P Pn 02 22 12.8 -1.1
SSB Saint Sauveur 8.92 296 P Pn 02 22 12.3 -1.7
CDF Champ du Feu 8.94 320 *e*Pn Pn 02 22 12.0 -2.3
CDF *e*Sn Sn 02 23 45.9 -8.3
comp=Z,104nm,0.5s
WERD Werda 8.95 345 *e*Pn Pn 02 22 13.0 -1.4
CKFL Kef-Lekhel 8.96 236 P Pn 02 22 16.0 +1.5
KSP Ksiaz 9.00 2 *e*P Pn 02 22 25.9 +11
KSP *e*S Sn 02 24 03.9 +8.4
LASF Ste Croix 9.10 288 *e*Pn Pn 02 22 15.3 -1.1
LANF Langenberg 9.11 324 P Pn 02 22 18.0 +1.4
BRG Berggiesshubel 9.12 352 PN Pn 02 22 22.7 +5.9
BRG PG Pn 02 23 10.9 +54
BRG *e* 02 23 56.9
BRG Berggiesshubel 9.12 352 SN Sn 02 24 06.5 +7.9
BRG SG Sn 02 24 53.0 +54
comp=Z,70nm,1.4s
BRG
comp=N,815nm,11.6s
BRG
comp=E,764nm,9.2s
BRG
comp=Z,1µm,15.0s
BRG Berggiesshubel 9.12 352 P Pn 02 22 22.7 +5.9
BRG *e* 02 23 56.9
BRG smax

comp=N,71nm,1.4s
BRG MLR MLR
comp=N,815nm,11.6s
BRG MLR MLR
comp=E,764nm,9.2s
BRG MLR MLR
comp=Z,1µm,15.0s
SWS Schriesheim-Wi 9.14 329 P **Pn 02 22 19.9 +2.9**
HAU Haudompre 9.14 316 *e*Pn **Pn 02 22 14.9 -2.1**
HAU *e*Sn **Sn 02 23 49.3 -10**
comp=Z,480nm,0.5s
HAU *e*R
comp=Z,960nm,15.2s
VAM Vamos 9.15 132 *e*P **Pn 02 22 15.0 -2.1**
CASM Ain Smara 9.19 236 P **Pn 02 22 19.0 +1.3**
BNT Bandirma 9.21 95 *e*P **Pn 02 22 17.6 -0.3**
BLCB Balcova 9.22 108 *e*P **Pn 02 22 16.5 -1.6**
SANT Santorini 9.23 123 *e*Pn **Pn 02 22 15.8 -2.5**
SANT Santorini 9.23 123 *e*Pn **Pn 02 22 15.8 -2.5**
HARR Harsova 9.23 68⇓ *i*P **Pn 02 22 19.7 +1.4**
HARR Harsova 9.23 68 ⇓P **Pn 02 22 19.7 +1.4**
MOX Moxa 9.28 343 *e*Pn **Pn 02 22 17.8 -1.1**
MOX Moxa 9.28 343 *e*PN **Pn 02 22 15.8 -3.1**
MOX *e*SN **Sn 02 23 54.5 -7.9**
MOX
comp=Z,1µm,15.0s
MOX Moxa 9.28 343 *e*Pn **Pn 02 22 15.8 -3.1**
MOX *e*Sn **Sn 02 23 54.5 -7.9**
IZM Izmir 9.37 108 *e*P **Pn 02 22 20.4 +0.2**
KDAG Bornova 9.37 108 *i*P **Pn 02 22 20.2 0.0**
DFRA Djebel Bou Aff 9.40 239 P **Pn 02 22 23.0 +2.4**
THEF They Montfort 9.47 316 P **Pn 02 22 20.7 -0.8**
CFR Carcaliu 9.50 65⇑ *i*P **Pn 02 22 23.2 +1.3**
CFR Carcaliu 9.50 65 ⇑P **Pn 02 22 23.2 +1.3**
GVD Gavdhos 9.51 135 *e*Pn **Pn 02 22 19.6 -2.5**
comp=Z,50nm,0.4s
GVD *e*Sn **Sn 02 24 00.3 -7.8**
GVD Gavdhos 9.51 135 *e*Pn **Pn 02 22 19.6 -2.5**
comp=Z,50nm,0.4s
GVD *e*Sn **Sn 02 24 00.3 -7.7**
COLF Collangettes 9.56 297 P **Pn 02 22 21.6 -1.2**
AKS Akhisar 9.57 104 *e*P **Pn 02 22 23.7 +0.7**
IDI Anoyia 9.62 130 Pn **Pn 02 22 21.3 -2.3**
comp=Z,6.2nm,0.3s,baz=312,slow=16,SNR=4.5
IDI Sn **Sn 02 24 00.8 -10**
comp=Z,4.4nm,0.3s,baz=297,slow=19,SNR=2.9
IDI LR LR 02 26 18.1
comp=Z,235nm,21.2s,baz=127,slow=39
CLL Collm 9.66 349 *e*Pn **Pn 02 22 23.2 -1.0**
CLL Collm 9.66 349 *i*Pn **Pn 02 22 23.3 -0.9**
comp=Z,5.0nm,0.6s
CLL *e*Sn **Sn 02 23 55.0 -17**
CLL Collm 9.66 349 *i*P **Pn 02 22 23.3 -0.9**
CLL pmax pmax
comp=Z,5.0nm,0.6s
CLL MLR MLR
comp=Z,2µm,13.4s
PLDF La Plantade 9.76 299 P **Pn 02 22 22.9 -2.6**
LBL Lubilhac 9.78 294 P **Pn 02 22 26.3 +0.5**
SMF Signal de Mont 9.88 303 *e*Pn **Pn 02 22 24.4 -2.7**
SMF *e*Sn **Sn 02 24 07.1 -10**
comp=Z,127nm,0.6s
SMF Signal de Mont 9.88 303 *e*Pn **Pn 02 22 24.4 -2.7**
SMF *e*Sn **Sn 02 24 07.1 -10**
comp=Z,64nm,0.6s
ABH Alteburg 9.91 327 P **Pn 02 22 30.1 +2.5**
SET Setif 9.92 239 P **Pn 02 22 32.0 +4.4**
SFTF Sexfontaines 9.96 313 *e*Pn **Pn 02 22 25.5 -2.8**
baz=134
SFTF *e*Sn **Sn 02 24 10.5 -8.6**
comp=Z,62nm,0.5s
RUP Ruppelstein 9.98 325 P **Pn 02 22 28.6 +0.1**
RFYF Reffroy 9.99 316 *e*Pn **Pn 02 22 27.4 -1.2**
baz=138
RFYF *e*Sn **Sn 02 24 10.7 -9.1**
comp=Z,105nm,0.5s
BODT Bodrum 10.04 115 *e*P **Pn 02 22 30.7 +1.4**
NPS Neapolis 10.06 128 *e*P **Pn 02 22 27.4 -2.2**
AGO Saint Agoulin 10.11 299 P **Pn 02 22 29.9 -0.4**
MEZF Maizieres J'vi 10.13 315 *e*Pn **Pn 02 22 28.4 -2.2**
baz=135
MEZF *e*Sn **Sn 02 24 12.9 -10**
comp=Z,110nm,0.6s
AYDN Tasoluk 10.14 110 *i*P **Pn 02 22 25.8 -4.8**
LOR Lormes 10.14 306 *e*Pn **Pn 02 22 28.0 -2.8**
baz=129
LOR *e*Sn **Sn 02 24 12.6 -11**
comp=Z,66nm,0.3s
LOR *e*R
comp=Z,622nm,16.5s
LOR Lormes 10.14 306 *e*Pn **Pn 02 22 28.0 -2.8**
LOR *e*Sn **Sn 02 24 12.6 -11**
comp=Z,33nm,0.3s
MTLF Montolieu 10.19 283 *e*Pn **Pn 02 22 29.6 -1.8**
AVF Avril sur Loir 10.25 303 *e*Pn **Pn 02 22 29.4 -2.8**
AVF *e*Sn **Sn 02 24 16.5 -10**
comp=Z,52nm,0.8s
AVF Avril sur Loir 10.25 303 *e*Pn **Pn 02 22 29.4 -2.8**
AVF *e*Sn **Sn 02 24 16.5 -10**
comp=Z,26nm,0.8s
YLV Yalova 10.25 93 *e*P **Pn 02 22 38.7 +6.6**
MANT Manisa 10.26 105 *i*P **Pn 02 22 32.6 +0.2**
SSF Saint Saulge 10.27 305 *e*Pn **Pn 02 22 29.4 -3.0**
SSF *e*Sn **Sn 02 24 16.4 -10**
comp=Z,38nm,0.4s
SSF Saint Saulge 10.27 305 *e*Pn **Pn 02 22 29.4 -3.0**
SSF *e*Sn **Sn 02 24 16.4 -10**
comp=Z,19nm,0.4s
WLF Walferdange 10.35 322 *e*Pn **Pn 02 22 34.3 +0.7**
WLF Walferdange 10.35 322 P **Pn 02 22 34.4 +0.8**
WLF Walferdange 10.35 322 *e*Pn **Pn 02 22 34.8 +1.1**
WLF *e*Sn **Sn 02 24 30.3 +1.6**
WLF Walferdange 10.35 322 *e*P **Pn 02 22 34.8 +1.2**
WLF *e*S **Sn 02 24 30.3 +1.6**
DAT Datca 10.40 116 *e*P **Pn 02 22 38.5 +4.2**
HRT Hereke 10.42 91 *e*P **Pn 02 22 38.5 +4.0**
BGF Bois d'Agland 10.47 301 *e*Pn **Pn 02 22 32.4 -2.9**
BGF *e*Sn **Sn 02 24 21.3 -10**
comp=Z,51nm,0.3s
BGF Bois d'Agland 10.47 301 *e*Pn **Pn 02 22 32.4 -2.9**
BGF *e*Sn **Sn 02 24 21.3 -10**
comp=Z,26nm,0.3s
CAF Calviac 10.52 292 *e*Pn **Pn 02 22 33.1 -2.8**
CAF *e*Sn **Sn 02 24 23.1 -10**
comp=Z,7.4nm,0.5s
CAF Calviac 10.52 292 *e*Pn **Pn 02 22 33.1 -2.8**
CAF *e*Sn **Sn 02 24 23.1 -10**
comp=Z,3.7nm,0.5s
YER Yerkesik 10.67 112 *e*P **Pn 02 22 39.8 +1.8**
EMIR Miracle 10.71 275 ⇑P **Pn 02 22 47.6 +9.1**
comp=Z,35nm,1.3s
TCF Toulx Ste Croi 10.79 299 *e*Pn **Pn 02 22 37.2 -2.4**
TCF *e*Sn **Sn 02 24 30.8 -8.7**
comp=Z,18nm,0.4s
HYF Humbligny 10.89 304 *e*Pn **Pn 02 22 37.9 -3.1**
HYF *e*Sn **Sn 02 24 32.6 -9.3**
DENT Denizli 10.91 108 *e*P **Pn 02 22 42.9 +1.7**
DNZL Cakiroluk 10.95 108 *i*P **Pn 02 22 42.8 +1.0**
RJF Les Rejaudoux 10.98 293 *e*Pn **Pn 02 22 37.8 -4.4**
RJF *e*R
comp=Z,1µm,17.0s
RJF Les Rejaudoux 10.98 293 *e*P **Pn 02 22 44.1 +1.9**
RJF Les Rejaudoux 10.98 293 *e*P **Pn 02 22 44.1 +1.9**
ARG Arkhangelos 11.05 117 *e*P **Pn 02 22 44.1 +0.9**
ARG Arkhangelos 11.05 117 P **Pn 02 22 43.4 +0.2**
DALT Dalyan (Mudla) 11.10 113 *e*P **Pn 02 22 48.9 +5.1**
MEM Membach 11.11 325 P **Pn 02 22 44.0 +0.1**
HGN Heimansgroeve 11.25 326 *e*P **Pn 02 22 47.0 +1.1**
comp=Z,12nm,1.1s
HGN *e*S Sn 02 25 13.5 +23
GIVF Givet 11.27 321 *e*P **Pn 02 22 46.6 +0.4**
BCLA Clavier 11.28 323 P **Pn 02 22 46.9 +0.7**
BCLA AP 02 22 53.2
BCLA XP 02 22 56.5
BCLA Clavier 11.28 323 P **Pn 02 22 46.8 +0.6**
HENT Hendek 11.34 90 *i*P **Pn 02 22 46.2 -0.9**
DOU Dourbes 11.38 320 P **Pn 02 22 48.5 +0.8**
EIBI Ibiza 11.44 261 P **Pn 02 22 51.1 +2.7**
comp=Z,4.1nm,0.4s
EIBI Ibiza 11.44 261 P **Pn 02 22 51.1 +2.6**
comp=Z,4.1nm,0.4s
LFF La Frestale 11.45 291 *e*P **Pn 02 22 50.7 +2.1**
LFF La Frestale 11.45 291 *e*Pn **Pn 02 22 44.5 -4.1**
LFF *e*P 02 22 50.7
LFF La Frestale 11.45 291 *e*P **Pn 02 22 50.7 +2.1**
FETY Fethiye 11.48 113 *e*P **Pn 02 22 49.5 +0.5**
BAIF Baives 11.54 319 *e*P **Pn 02 22 51.4 +1.5**
EPF Esparros 11.55 281 *e*Pn **Pn 02 22 46.6 -3.4**
EGRA Graus 11.59 277 ⇑P **Pn 02 22 51.2 +0.7**
comp=Z,13nm,1.2s
EGRA Graus 11.59 277 ⇑P **Pn 02 22 51.2 +0.6**
comp=Z,13nm,1.2s
ESKT Eskisehir 11.60 97 *i*P **Pn 02 22 51.8 +1.2**
SEYT Eskypehyr 11.60 97 *i*P **Pn 02 22 51.8 +1.1**
EBR Ebro Roquetas 11.62 270 *e*Rs 02 23 14.0
EBIE Bielsa 11.70 279 P **Pn 02 22 58.1 +6.0**
comp=Z,3.3nm,0.7s
TKTP Tekketepe 11.71 104 *i*P **Pn 02 22 54.7 +2.4**
SNF Seneffe 11.80 321 AP **Pn 02 22 58.9 +5.4**
ISP Isparta 11.93 105 *e*P **Pn 02 22 57.0 +1.8**
UCC Uccle 11.97 322 AP **Pn 02 23 02.3 +6.5**
UCC XP 02 23 06.0
ELL Elmali 11.99 111 *e*P **Pn 02 22 58.5 +2.4**
BCK Bucak 12.15 106 *e*P **Pn 02 22 59.1 +0.9**
SGKT Sivrigoynuk 12.25 91 *i*P **Pn 02 22 54.9 -4.7**
EMOS Mosqueruela 12.43 269 P **Pn 02 23 03.9 +1.9**
comp=Z,9.8nm,0.9s
EMOS Mosqueruela 12.43 269 P **Pn 02 23 03.9 +1.9**
comp=Z,9.8nm,0.9s
MFF Saint Martin d 12.44 298 *e*Pn **Pn 02 22 59.0 -3.1**
MFF *e*Sn **Sn 02 25 10.6 -9.2**
comp=Z,15nm,0.6s
KIZT Kizilcal 12.56 98 *e*P **Pn 02 23 03.3 -0.4**
SJPF Ste Jean 12.70 281 *e*Pn **Pn 02 23 01.7 -4.0**
AKASG Malin Array Be 12.77 42 Pn **Pn 02 23 07.2 +0.5**
comp=Z,0.3nm,0.3s,baz=238,slow=9.8,SNR=3.7
BALT Daday 13.09 86 *i*P **Pn 02 23 15.9 +4.9**
SUW Suwalki 13.11 19 *e*P **Pn 02 23 11.8 +0.6**
SUW pmax pmax
comp=Z,49nm,0.9s
SUW Suwalki 13.11 19 *e*Pn **Pn 02 23 11.8 +0.6**
comp=Z,49nm,0.9s
SUW Suwalki 13.11 19 *e*P **Pn 02 23 11.8 +0.6**
comp=Z,49nm,0.9s
LDF La Druitiere 13.13 306 *e*P **Pn 02 23 12.4 +0.8**
LDF *e*Sn **Sn 02 25 24.7 -12**
comp=Z,34nm,0.9s
LDF La Druitiere 13.13 306 *e*Pn **Pn 02 23 07.0 -4.6**
LDF *e*P 02 23 12.4
LDF *e*Sn **Sn 02 25 24.7 -12**
LDF La Druitiere 13.13 306 *e*P **Pn 02 23 12.4 +0.8**
LDF *e*Sn **Sn 02 25 24.7 -12**
comp=Z,17nm,0.9s
ELDT Eldivan 13.29 90 *i*P **Pn 02 23 12.1 -1.6**
FLN La Foliniere 13.42 307 *e*Pn **Pn 02 23 10.9 -4.6**
FLN *e*R
comp=Z,346nm,22.0s
FLN La Foliniere 13.42 307 *e*P **Pn 02 23 15.3 -0.2**
baz=122
FLN *e*Sn **Sn 02 25 33.9 -10**
comp=Z,29nm,0.7s
FLN La Foliniere 13.42 307 *e*Pn **Pn 02 23 10.9 -4.6**
FLN *e*P 02 23 15.3
FLN *e*Sn **Sn 02 25 33.9 -10**
FLN La Foliniere 13.42 307 *e*P **Pn 02 23 15.3 -0.2**
GRR Gorron 13.50 305 *e*Pn **Pn 02 23 11.7 -4.9**
GRR *e*Sn **Sn 02 25 32.4 -13**
comp=Z,27nm,0.7s
GRR Gorron 13.50 305 *e*Pn **Pn 02 23 11.7 -4.9**
GRR *e*Sn **Sn 02 25 32.4 -13**
comp=Z,14nm,0.7s
BRTR Keskin Array B 13.62 93 Pn **Pn 02 23 18.9 +0.6**
comp=Z,0.0nm,0.3s,baz=283,slow=11,SNR=9.5
ETOB Tobarra 13.70 262 P **Pn 02 23 29.2 +10**
EMUR La Murta 13.75 259 P **Pn 02 23 28.8 +8.7**
comp=Z,60nm,1.3s
EVIA Vianos 14.41 263 P **Pn 02 23 36.9 +7.9**
EVIA pmax pmax
comp=Z,16nm,0.8s
EVIA Vianos 14.41 263 P **Pn 02 23 36.9 +7.9**
comp=Z,16nm,0.8s
SGMF Saint Gilles 14.51 302 *e*Pn **Pn 02 23 26.5 -3.9**
SGMF *e*Sn **Sn 02 25 58.3 -12**
comp=Z,14nm,0.8s
SGMF Saint Gilles 14.51 302 *e*Pn **Pn 02 23 26.5 -3.9**
SGMF *e*Sn **Sn 02 25 58.3 -12**
comp=Z,7.1nm,0.8s
EHUE Huescar 14.76 260 P **Pn 02 23 40.6 +6.8**
QUIF Quistinic 14.79 301 *e*Pn **Pn 02 23 30.5 -3.7**
QUIF *e*Sn **Sn 02 26 05.6 -12**
comp=Z,44nm,1.1s
QUIF Quistinic 14.79 301 *e*Pn **Pn 02 23 30.5 -3.7**
QUIF *e*Sn **Sn 02 26 05.6 -12**
comp=Z,22nm,1.1s
MNK Minsk 14.93 28 *e*P **Pn 02 23 38.0 +1.9**
ROSF Rostrenen 14.99 302 *e*Pn **Pn 02 23 33.2 -3.7**
MEST Erdemli 15.09 104 *i*P **Pn 02 23 38.2 0.0**
MEST Erdemli 15.09 104 *i*P **Pn 02 23 38.2 0.0**
EQES Quesada 15.11 261 ⇑P **Pn 02 23 44.9 +6.4**
comp=Z,169nm,1.2s
GUD Guadarrama 15.12 272 P **Pn 02 23 43.6 +4.9**
ESDC Sonseca Array 15.20 268 Pn **Pn 02 23 34.9 -4.7**
comp=Z,0.1nm,0.3s,baz=72,slow=11,SNR=3.0
ESDC Sonseca Array 15.20 268 Pn **Pn 02 23 34.9 -4.7**
ESDC P 02 23 42.7
ESLA Sonseca Array 15.20 268 *e*P **Pn 02 23 44.1 +4.5**
MUD Monsted U'grnd 15.25 346 *i*P **Pn 02 23 41.7 +1.4**
MUD *e* 02 26 49.5
MUD
comp=Z,390nm,17.0s
MUD Monsted U'grnd 15.25 346 *e*P **Pn 02 23 41.7 +1.4**
MUD MLR MLR
comp=Z,400nm,17.0s
MUD Monsted U'grnd 15.25 346 *e*P **Pn 02 23 41.7 +1.4**
MUD *e* 02 26 49.5
MUD Monsted U'grnd 15.25 346 *e*P **Pn 02 23 41.7 +1.4**
comp=Z,400nm,17.0s
EBER Berja 15.33 257 ⇑P **Pn 02 23 47.6 +6.2**
comp=Z,40nm,0.7s
ECOG Cogollos-Vega 15.68 259 P **Pn 02 23 48.2 +2.3**
ECOG pmax pmax
comp=Z,30nm,1.0s
ECOG Cogollos-Vega 15.68 259 P **Pn 02 23 48.2 +2.4**
comp=Z,30nm,1.0s
ECOG Cogollos-Vega 15.68 259 P **Pn 02 23 48.2 +2.3**
comp=Z,30nm,1.0s
EGUA Guajares 15.85 258 ⇑P **Pn 02 23 52.9 +4.7**
EGUA pmax pmax
comp=Z,4.0nm,0.8s
EGUA Guajares 15.85 258 ⇑P **Pn 02 23 52.9 +4.8**
comp=Z,4.0nm,0.8s
ANN Anapa 15.95 72 *e*P **Pn 02 23 47.1 -2.3**
ANN *e*S **Sn 02 26 44.4 -1.0**
ANN pmax pmax
comp=Z,55nm,0.9s
ANN Anapa 15.95 72 *e*P **Pn 02 23 47.1 -2.3**
comp=Z,55nm,0.9s
ERON Agron 15.95 259 P **Pn 02 23 53.9 +4.5**
comp=Z,9.5nm,0.7s
ELUQ Luque 16.08 261 ⇓P **Pn 02 23 55.7 +4.6**
ELUQ pmax pmax
comp=Z,26nm,0.8s
ELUQ Luque 16.08 261 ⇓P **Pn 02 23 55.7 +4.6**
comp=Z,26nm,0.8s
EADA Adamuz 16.10 264 P **Pn 02 23 54.4 +3.1**
comp=Z,54nm,1.5s
ELOJ Sierra Loja 16.16 260 ⇓P **Pn 02 23 55.9 +3.8**
ELOJ pmax pmax
comp=Z,46nm,1.0s
ELOJ Sierra Loja 16.16 260 ⇓P **Pn 02 23 55.9 +3.8**
comp=Z,46nm,1.0s
COBT Iskenderun 16.66 102 *i*P **Pn 02 23 57.4 -1.0**
COBT Iskenderun 16.66 102 *i*P **Pn 02 23 57.3 -1.1**
ECAL Calabor 16.84 278 P **Pn 02 24 03.4 +2.6**
comp=Z,60nm,1.3s
ECAL Calabor 16.84 278 P **Pn 02 24 03.4 +2.6**
comp=Z,60nm,1.3s
EMIJ Mijas 16.85 259 ⇓P **Pn 02 24 03.5 +2.6**
comp=Z,85nm,1.0s
EMIJ Mijas 16.85 259 ⇓P **Pn 02 24 03.5 +2.7**
comp=Z,85nm,1.0s
PBRG Braganca 16.86 277 *e*P **Pn 02 24 00.6 -0.4**
comp=Z,9.5nm,1.4s
PBRG Braganca 16.86 277 *e*P **Pn 02 24 03.2 +2.2**
EPON Pontenova 17.02 283 P **Pn 02 24 05.5 +2.5**
comp=Z,15nm,0.8s
ERUA La Rua 17.09 280 P **Pn 02 24 03.3 -0.6**
LIJA Lijar 17.17 260 *e*P **Pn 02 24 05.0 +0.1**
GZT Gaziantep 17.29 98 *i*P **Pn 02 24 05.2 -1.2**
EJIF Jimena Fronter 17.40 259 ⇑P **Pn 02 24 10.1 +2.3**
EJIF pmax pmax
comp=Z,10.0nm,0.7s
EJIF Jimena Fronter 17.40 259 ⇑P **Pn 02 24 10.1 +2.3**
comp=Z,9.7nm,0.7s
MDAL Dalia 17.65 257 *i*P **Pn 02 24 13.0 +2.2**
PVRL Vila Real 17.67 276 *e*P **Pn 02 24 13.4 +2.4**
comp=Z,29nm,1.4s
MTE Manteigas 17.70 273 *e*P **Pn 02 24 11.2 -0.3**
comp=Z,19nm,1.3s
MTE *e*S **Sn 02 27 29.8 +1.8**
MTE *e*LQ 02 30 31.4
MTE
comp=Z,223nm,18.5s
MTE Manteigas 17.70 273 *e*Pn **Pn 02 24 10.9 -0.6**
comp=Z,25nm,1.1s
EBAD Badajoz 17.73 268 P **Pn 02 24 13.4 +1.6**
comp=Z,4.9nm,0.7s
EBAD Badajoz 17.73 268 P **Pn 02 24 13.4 +1.6**
comp=Z,4.9nm,0.7s
PCBR Castelo Branco 17.78 271 *e*P **Pn 02 24 13.0 +0.5**
comp=Z,11nm,1.6s
PCBR Castelo Branco 17.78 271 *e*P **Pn 02 24 12.9 +0.4**
EMIN Mina Concepcio 17.79 264 P **Pn 02 24 16.5 +3.9**
comp=Z,5.5nm,0.6s
MMAI Mount Meron Ar 17.80 113 P **Pn 02 24 09.7 -3.0**
comp=Z,0.9nm,0.3s,baz=304,slow=9.0,SNR=4.5
MMAI S **Sn 02 27 18.1 -12**
comp=Z,0.5nm,0.3s,baz=304,slow=49,SNR=2.9
ELOB Lobios 17.83 278 P **Pn 02 24 15.2 +2.2**
ELOB Lobios 17.83 278 P **Pn 02 24 15.2 +2.1**
PVIS Viseu 17.90 274 *e*P **Pn 02 24 14.3 +0.4**
comp=Z,24nm,1.7s
PVIS Viseu 17.90 274 *e*P **Pn 02 24 14.5 +0.6**
HFS Hagfors 18.36 357 P **Pn 02 24 17.3 -2.2**
comp=Z,0.7nm,0.3s,baz=172,slow=12,SNR=23
HFS LR LR 02 31 57.8
comp=Z,236nm,18.2s,baz=178,slow=39
HFA0 Hagfors New Ar 18.37 357 P **Pn 02 24 18.4 -1.2**
HFA0 Pn **Pn 02 24 20.7 +1.1**
HFA0 Hagfors New Ar 18.37 357 Pn **Pn 02 24 20.7 +1.1**
RSA Sarsar 18.37 255 *i*P **Pn 02 24 20.0 +0.3**
EKA Eskdalemuir Ar 18.37 324 P **Pn 02 24 20.0 +0.3**
comp=Z,0.6nm,0.3s,baz=137,slow=12,SNR=17
EGRO El Granado 18.48 264 P **Pn 02 24 21.6 +0.7**
comp=Z,19nm,0.9s
EGRO El Granado 18.48 264 P **Pn 02 24 21.6 +0.6**
comp=Z,19nm,0.9s
PTOM Tomar 18.54 271 *e*P **Pn 02 24 21.9 +0.2**
comp=Z,72nm,1.3s
PTOM Tomar 18.54 271 *e*P **Pn 02 24 22.0 +0.3**
EVO Evora 18.54 268 *e*P **Pn 02 24 22.5 +0.7**
comp=Z,9.0nm,0.7s
EVO *e*R
comp=Z,341nm,15.0s
MDT Midelt 18.59 248 P **Pn 02 24 20.5 -1.9**
comp=Z,0.5nm,0.3s,baz=54,slow=9.6,SNR=22
MDT LR LR 02 30 55.2
comp=Z,152nm,19.9s,baz=128,slow=36
PBEJ Beja 18.59 266 *e*P **Pn 02 24 22.6 +0.2**
comp=Z,13nm,1.1s
PBEJ Beja 18.59 266 *e*P **Pn 02 24 22.4 0.0**
VOR Voronezh 18.70 50 P **Pn 02 24 25.0 +1.3**
VOR pmax pmax
comp=Z,50nm,1.5s
VOR Voronezh 18.70 50 P **Pn 02 24 25.0 +1.3**
comp=Z,50nm,1.5s
CZD Col de Zad 18.77 249 *i*P **Pn 02 24 27.0 +2.5**
ZFT Errachidia 18.87 245 *i*P **Pn 02 24 26.5 +0.7**
DLF Lyons Farm 18.88 315 *e*P **Pn 02 24 28.1 +2.3**
OBN Obninsk 18.98 39 *e*P **Pn 02 24 27.4 +0.3**
OBN pmax pmax
comp=Z,18nm,1.3s
OBN MLR MLR
comp=Z,300nm,19.0s
OBN Obninsk 18.98 39 *e*P **Pn 02 24 27.1 +0.1**
comp=Z,24nm,0.7s
OBN Obninsk 18.98 39 *e*P **Pn 02 24 27.1 0.0**
comp=Z,24nm,0.7s
NAO01 NORSAR Array S 19.26 353 *e*P **Pn 02 24 28.6 -1.9**
NAO01 NORSAR Array S 19.26 353 *e*P **Pn 02 24 28.6 -1.9**
DCN Croghan 19.30 314 *e*P **Pn 02 24 30.6 -0.3**
ASF Jabal al Asfar 19.32 113 P **Pn 02 24 30.1 -1.0**
comp=Z,0.2nm,0.3s,baz=105,slow=0.7,SNR=2.9
PTEO Sao Teotonio 19.40 265 *e*P **Pn 02 24 31.6 -0.5**
comp=Z,65nm,1.6s
PTEO Sao Teotonio 19.40 265 *e*P **Pn 02 24 32.0 -0.1**
NB2 NORSAR Subarra 19.43 353 P **Pn 02 24 30.2 -2.2**
comp=Z,12nm,1.0s,baz=171,slow=10
NOA NORSAR Array B 19.43 353 P **Pn 02 24 30.1 -2.3**
comp=Z,0.6nm,0.3s,baz=168,slow=11,SNR=8.4
NOA LR LR 02 33 35.4
comp=Z,185nm,19.1s,baz=170,slow=42
EIL Elat 19.62 122 *e*Pn **Pn 02 24 35.0 +0.3**
EIL Elat 19.62 122 *e*Pn **Pn 02 24 35.0 +0.2**
KIV Kislovodsk 19.72 75 *e*P **Pn 02 24 34.5 -1.4**
KIV *e*S **Sn 02 28 15.7 -0.9**
KIV pmax pmax
comp=Z,4.0nm,0.6s
KIV MLR MLR
comp=Z,53nm,9.0s
KIV Kislovodsk 19.72 75 *e*P **Pn 02 24 34.5 -1.4**
comp=Z,53nm,9.0s
KIB El Ksiba 19.72 249 *i*P **Pn 02 24 34.0 -1.9**
MOS Moscow 19.84 38 *e*P **Pn 02 24 42.7 +5.4**
MOS pmax pmax
comp=Z,38nm,1.3s
GOF Gofitskoye 19.93 72 *e*P **Pn 02 24 41.9 +3.5**
GOF pmax pmax
comp=Z,40nm,0.6s
VAL Valentia 20.41 309 *e*P **P 02 24 39.4 -2.4**
FINES FINESS Array B 20.57 14 P **P 02 24 42.4 -1.2**
comp=Z,3.4nm,0.5s,baz=191,slow=9.3,SNR=16
FINES PcP PcP 02 28 52.7 -1.2
comp=Z,2.0nm,0.7s,baz=124,slow=3.4,SNR=4.2
FINES FINESS Array B 20.57 14 P **P 02 24 42.4 -1.2**
FINES PcP PcP 02 28 52.7 -1.2
ZEI Tsey 20.70 78 *e*P **P 02 24 45.5 +0.5**
ZEI pmax pmax
comp=Z,5.0nm,0.5s
ZEI Tsey 20.70 78 *e*P **P 02 24 45.5 +0.5**
comp=Z,5.0nm,0.5s
KAF Kangasniemi 21.23 14 *e*p **P 02 24 42.2 -8.5**
OUK Oukaimeden 21.78 248 *i*P **P 02 24 57.0 +0.4**
GNI Garni 21.80 85 *e*P **P 02 24 56.6 -0.3**
JOF Joensuu 22.98 18 *e*p **P 02 25 07.7 -1.7**
KLMR Klimovskoe 23.84 29*d* *i*P **P 02 25 17.1 -0.8**
KLMR pmax pmax
comp=Z,20nm,1.1s,mb4.5
KLMR MLR MLR
comp=Z,620nm,14.0s,MS4.2
KLMR Klimovskoe 23.84 29 *i*P **P 02 25 17.1 -0.8**
comp=Z,620nm,14.0s
TMCR Tamitsa 25.75 22 *e*P **P 02 25 40.4 +5.1**
TMCR pmax pmax
comp=Z,20nm,1.1s,mb4.6
TMCR pmax pmax
comp=N,50nm,1.2s
TMCR pmax pmax
comp=E,30nm,1.2s
ORR Orenburg 28.07 56 *i*P **P 02 25 54.2 -1.9**
ORR pmax pmax
comp=Z,20nm,1.3s,mb4.6
ORR Orenburg 28.07 56 *i*P **P 02 25 54.2 -1.9**
comp=Z,20nm,1.3s,mb4.6
ARCES ARCESS Array B 28.20 7 P **P 02 25 54.9 -2.4**
comp=Z,1.2nm,0.5s,mb3.8,baz=192,slow=8.8,SNR=21
ARCES PcP PcP 02 29 08.3 -2.2
comp=Z,0.9nm,0.6s,baz=243,slow=5.3,SNR=3.6
ARE0 ARCESS Array S 28.20 7 *e*P **P 02 25 55.0 -2.3**
AKTO Aktyubinsk 30.08 59 LR LR 02 40 13.5
comp=Z,52nm,18.8s,MS3.2,baz=0.0,slow=40
ARU Arti 30.93 47⇓ *i*P **P 02 26 19.9 -1.5**
ARU *e* 02 27 19.1
ARU *e* 02 29 14.0
ARU *e*S **S 02 31 25.3 +1.2**
ARU *e*SS SS 02 33 05.2 -31
ARU *e* 02 36 51.4
ARU pmax pmax
comp=Z,18nm,0.9s,mb4.9
ARU MLR MLR
comp=Z,200nm,17.0s,MS3.8
ARU Arti 30.93 47 *e*P **P 02 26 20.4 -1.1**
comp=Z,12nm,0.6s,mb4.9
ARU *e*pP pP 02 26 27.3 -1.9
ARU Arti 30.93 47 *e*P **P 02 26 20.4 -1.0**

comp=Z,12nm,0.6s,mb4.9
ARU ePP PP 02 26 27.3 -2.0
TORD Torodi Ar. Bea 31.15 207 P P 02 26 21.9 -1.6
comp=Z,5.1nm,0.6s,mb4.5,baz=14,slow=9.5,SNR=160
AB31 Akbulak array 31.36 61 *i* P **P 02 26 25.1 -0.1**
AB31 pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
AB31 Akbulak array 31.36 61 *i* P **P 02 26 25.1 -0.1**
comp=Z,1.0nm,0.6s,mb3.8
SVE Sverdlovsk 32.12 47 *eP* **P 02 26 30.2 -1.8**
SVE *e* pP 02 26 38.2 -1.6
SVE pmax pmax
comp=Z,20nm,1.4s,mb4.8
SVE MLR MLR
comp=N,100nm,13.0s,MS4.0
SVE MLR MLR
comp=E,200nm,13.0s,MS4.0
SVE MLR MLR
comp=Z,300nm,13.0s,MS4.2
SVE Sverdlovsk 32.12 47 *eP* **P 02 26 30.2 -1.8**
comp=Z,20nm,1.4s,mb4.8
ZRNK Zerenda 36.82 54 *eP* **P 02 27 12.0 -0.6**
ZRNK *e**PP pP 02 27 19.6 -0.9
ZRNK pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
ZRNK Zerenda 36.82 54 *eP* **P 02 27 12.0 -0.6**
comp=Z,6.3nm,0.9s,mb4.5
ZRNK epP pP 02 27 19.6 -0.9
ZRNK *es*P sP 02 27 22.4 -1.3
BRVK Borovoye 37.58 54 P **P 02 27 15.2 -3.9**
comp=Z,117nm,0.5s,SNR=5.8
BRVK Borovoye 37.58 54 *eP* **P 02 27 19.1 0.0**
BRVK *e**PP pP 02 27 25.7 -1.3
BRVK Borovoye 37.58 54 *eP* **P 02 27 19.1 0.0**
BRVK epP pP 02 27 25.7 -1.3
BRVK *es*P sP 02 27 30.1 -0.1
BVA0 Borovoye Array 37.65 54 *i* P **P 02 27 19.6 0.0**
BVA0 pmax pmax
comp=Z,1.0nm,0.9s
CHKZ Chkalovo 37.73 53 *eP* **P 02 27 19.9 -0.4**
CHKZ *e**PP pP 02 27 27.3 -0.9
DBIC Dimbokro 39.58 214 P **P 02 27 34.0 -1.8**
comp=Z,2.5nm,0.3s,mb4.4,baz=78,slow=18,SNR=21
DBIC LR LR 02 44 33.1
comp=Z,79nm,19.3s,MS3.6,baz=11,slow=37
KKAR Karatay Array 39.70 69 P **P 02 27 37.6 +0.7**
KKAR pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
SUMG Summit 40.09 338 *eP* **P 02 27 40.6 +0.5**
comp=Z,8.8nm,1.0s,mb4.4
SUMG epP pP 02 27 48.0 0.0
AAK Ala-Archa 42.63 68 *eP* **P 02 28 03.2 +2.3**
FRU Bishkek 42.65 68 *eP* **P 02 28 02.5 +1.4**
FRU *e* pP 02 28 09.5 +0.4
FRU pmax pmax
comp=Z,50nm,1.7s,mb5.0
KURK Kurchatov 43.06 56 *eP* **P 02 28 04.2 -0.2**
KURK *e**PP pP 02 28 11.2 -1.2
KURK Kurchatov 43.06 56 *eP* **P 02 28 04.2 -0.2**
KURK epP pP 02 28 11.2 -1.2
KURK *es*P sP 02 28 15.3 -0.3
NVS Novosibirsk 44.88 49 *eP* **P 02 28 18.1 -0.9**
NVS pmax pmax
comp=Z,16nm,0.9s,mb4.8
NVS pmax pmax
comp=N,3.0nm,0.8s
NVS pmax pmax
comp=E,10.0nm,0.9s
ZAL Zalesovo 45.97 50 P **P 02 28 27.2 -0.5**
comp=E,1.5nm,0.4s,mb4.2
ZAL LR LR 02 50 19.5
comp=E,184nm,18.1s,MS4.1,baz=324,slow=39
ZAL Zalesovo 45.97 50 P **P 02 28 27.2 -0.5**
ZAL LR LR 02 50 19.5
MK31 Makanchi Array 46.49 60 P **P 02 28 31.4 -0.4**
MK31 pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
MKAR Makanchi Array 46.49 60 P **P 02 28 31.5 -0.3**
comp=Z,3.6nm,0.7s,mb4.4,baz=288,slow=6.7,SNR=28
MKAR Makanchi Array 46.49 60 P **P 02 28 31.5 -0.3**
WMQ Urumqi 51.14 62 ⇑P **P 02 29 08.3 +0.9**
WMQ AP pP 02 29 15.8 +0.3
WMQ XP sP 02 29 19.3 +0.6
WMQ PCP PcP 02 30 23.5 +0.7
WMQ PP PP 02 31 05.8 +1.6
WMQ PPP 02 32 06.5
WMQ S **S 02 36 23.8 0.0**
WMQ XS sS 02 36 36.5 -0.6
WMQ AMB AMB
comp=Z,13nm,0.7s,mb5.0
SCHQ Schefferville 53.35 314 P **P 02 29 22.6 -1.3**
comp=Z,3.0nm,0.4s,mb4.5,baz=76,slow=7.1,SNR=17
KOLN Koldanda 56.01 81 *eP* **P 02 29 43.1 0.0**
comp=Z,62nm,0.9s,mb5.6
GKN Gorkha 56.64 81 *eP* **P 02 29 47.4 -0.2**
DMN Daman 57.20 81 *eP* **P 02 29 52.2 +0.6**
comp=Z,32nm,0.7s,mb5.5
TLY Talaya 57.43 48 *eP* **P 02 29 54.1 +0.9**
TLY *e* 02 32 09.6
TLY *eS* **S 02 37 59.3 +11**
TLY pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
TLY MLR MLR
comp=Z,134nm,17.0s,MS4.1
TIXI Tiksi 57.45 20 ⇓*i*P **P 02 29 52.4 -0.9**
TIXI *eS* **S 02 37 47.3 -1.5**
TIXI pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
TIXI MLR MLR
comp=Z,209nm,17.0s,MS4.3
PKI Pulchoki 57.45 81 *eP* **P 02 29 53.1 -0.3**
comp=Z,23nm,0.7s,mb5.3
PKI Pulchoki 57.45 81 *eP* **P 02 29 53.1 -0.3**
PKI pmax pmax
comp=Z,23nm,0.7s,mb5.3
GUN Gumba 57.61 80 *eP* **P 02 29 53.8 -0.7**
comp=Z,57nm,0.9s,mb5.6
JIRN Jiri 57.98 80 *eP* **P 02 29 57.2 +0.1**
comp=Z,51nm,1.0s,mb5.5
SONM Songino Array 60.88 50 P **P 02 30 17.2 +0.1**
comp=Z,3.8nm,0.9s,mb4.5,baz=293,slow=7.9,SNR=14
LBNH Lisbon 61.14 305 *eP* **P 02 30 19.3 +0.4**
LBNH pmax pmax
comp=Z,16nm,1.0s,mb5.1
LBNH Lisbon 61.14 305 *eP* **P 02 30 19.3 +0.4**
comp=Z,16nm,1.0s,mb5.1
GTA Gaotai 61.22 62 *eP* **P 02 30 27.8 +8.4**
GTA AP pP 02 30 34.3 +6.6
GTA XP sP 02 30 37.0 +6.2
GTA AMB AMB
comp=Z,4.0nm,0.6s,mb4.7
ULN Ulaanbaatar 61.24 50 *eP* **P 02 30 20.2 +0.7**
ULN *e**PP pP 02 30 28.6 +0.8
WES Weston 61.75 303 *eP* **P 02 30 23.1 +0.1**
HRV Harvard--Oak R 61.83 303 *eP* **P 02 30 23.6 +0.1**
HRV *e**PP pP 02 30 31.2 -0.6
FRNY Flat Rock 61.84 306 *eP* **P 02 30 23.2 -0.4**
MSNY Massena 62.52 307 *eP* **P 02 30 28.0 -0.1**
LONY Lake Ozonia 62.55 306 *eP* **P 02 30 28.3 -0.1**
ACCN Adirondack Com 62.67 305 *eP* **P 02 30 29.7 +0.6**
YAK Yakutsk 63.64 29 *eP* **P 02 30 34.3 -1.3**
YAK *e* pP 02 30 42.4 -1.5
YAK pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,12nm,0.9s,mb4.9
YAK pmax pmax
comp=N,5.0nm,1.5s
YAK pmax pmax
comp=E,5.0nm,1.1s
PAL Palisades 64.12 303 *eP* **P 02 30 38.6 -0.2**
PAL pmax pmax
comp=Z,13nm,0.8s,mb5.0
PAL Palisades 64.12 303 *eP* **P 02 30 38.6 -0.2**
comp=Z,13nm,0.8s,mb5.0
FCC Fort Churchill 64.26 327 *eP* **P 02 30 38.5 -1.2**
FCC *e**PP pP 02 30 46.7 -1.3
CPNY Central Park 64.27 303 *eP* **P 02 30 39.9 +0.2**
BINY Binghamton 64.74 305 *eP* **P 02 30 43.2 +0.4**
comp=Z,16nm,1.0s,mb5.0
LZH Lanzhou 65.71 63 *eP* **P 02 30 47.5 -1.6**
LZH PP PP 02 33 14.5 +0.7
LZH AMB AMB
comp=Z,27nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,65nm,7.6s
LZH LR LR
comp=E,359nm,17.8s
LZH LR LR
comp=Z,507nm,19.2s,MS4.7
LZH Lanzhou 65.71 63 *eP* **P 02 30 47.5 -1.6**
comp=Z,27nm,1.5s,mb5.1
LZH pP pP 02 30 55.4 -2.0
LZH sP sP 02 30 58.7 -1.9
LZH PP PP 02 33 14.5 +0.7
LZH LR LR
comp=Z,510nm,19.2s,MS4.7
SSPA Standing Stone 66.81 304 *eP* **P 02 30 55.5 -0.7**
ERPA Erie 67.22 307 *eP* **P 02 30 59.1 +0.4**
INK Inuvik 67.79 348 *eP* **P 02 31 02.9 +0.5**
INK *e**PP pP 02 31 09.9 -0.8
INK Inuvik 67.79 348 *eP* **P 02 31 02.9 +0.5**
INK epP pP 02 31 09.9 -0.8
INK *es*PP PP 02 33 14.7 -17
HHC Hu-ho-hao-te 67.85 55 *eP* **P 02 31 03.3 +0.6**
HHC AP pP 02 31 11.0 -0.1
HHC XP sP 02 31 14.5 +0.3
HHC PCP PcP 02 31 30.8 +1.6
HHC PP PP 02 33 34.5 +2.0
HHC SCP 02 35 33.0
HHC PCS 02 35 34.3
HHC S S 02 39 58.0 -1.4
HHC SCS ScS 02 40 56.3 -3.5
HHC SS SS 02 44 28.3 +7.1
HHC AMB AMB
comp=Z,9.0nm,1.2s,mb4.7
HHC AMB AMB
comp=Z,86nm,4.8s
HHC LR LR
comp=N,115nm,15.1s,MS4.5
HHC LR LR
comp=E,162nm,13.5s,MS4.5
HHC LR LR
comp=Z,149nm,14.5s,MS4.3
BILL Bilibino 68.19 12 *eP* **P 02 31 04.3 -0.6**
BILL *e**PP pP 02 31 12.5 -0.7
BILL *e* 02 31 31.9
BILL pmax pmax
comp=Z,4.0nm,1.2s,mb4.3
BILL MLR MLR
comp=Z,100nm,18.0s,MS4.1
MCWV Mont Chateau 68.60 304 *eP* **P 02 31 08.2 +0.7**
YKA Yellowknife Ar 68.69 338 P **P 02 31 07.6 -0.4**
comp=Z,1.7nm,0.8s,mb4.0,baz=38,slow=5.7,SNR=5.8
YKA LR LR 03 00 41.9
comp=Z,77nm,20.6s,MS3.9,baz=270,slow=36
YKA Yellowknife Ar 68.69 338 P **P 02 31 07.6 -0.4**
YKA LR LR 03 00 41.9
ACSO Alum Creek Sta 70.16 306 *eP* **P 02 31 17.1 0.0**
comp=Z,15nm,1.0s,mb4.9
FFC Flin Flon 70.19 327 *eP* **P 02 31 17.5 +0.2**
FFC *e**PP pP 02 31 25.2 -0.5
FFC pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
FFC Flin Flon 70.19 327 *eP* **P 02 31 17.5 +0.2**
comp=Z,8.4nm,0.9s,mb4.7
FFC epP pP 02 31 25.2 -0.5
FWV Forest Hill 70.46 303 *eP* **P 02 31 18.7 -0.3**
ULM Lac du Bonnet 70.62 321 P **P 02 31 19.7 -0.2**
comp=Z,9.4nm,0.7s,mb4.8,baz=51,slow=7.1,SNR=10
ULM LR LR 03 01 35.9
comp=Z,57nm,18.4s,MS3.9,baz=124,slow=35
BOSA Boshof 70.64 171 P **P 02 31 19.2 -0.8**
comp=Z,6.4nm,0.5s,mb4.8,baz=348,slow=5.4,SNR=26
BOSA Boshof 70.64 171 *eP* **P 02 31 19.6 -0.5**
BOSA epP pP 02 31 28.2 -0.2
KMI Kunming 71.47 73 P **P 02 31 26.3 +1.3**
KMI S S 02 40 42.3 +0.3
KMI AMB AMB
comp=Z,6.0nm,0.8s,mb4.6
KMI LR LR
comp=N,74nm,13.1s,MS4.3
KMI LR LR
comp=E,71nm,13.6s,MS4.3
KMI LR LR
comp=Z,71nm,16.5s,MS4.0
KMI Kunming 71.47 73 P **P 02 31 26.3 +1.3**
comp=Z,6.0nm,0.8s,mb4.6
KMI S S 02 40 42.3 +0.3
KMI LR LR
comp=Z,70nm,16.5s,MS4.0
CHTO Chiang Mai 72.63 80 *eP* **P 02 31 31.1 -0.9**
CHTO *e**PP pP 02 31 38.6 -1.8
CHTO pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
CHTO Chiang Mai 72.63 80 *eP* **P 02 31 31.1 -0.9**
comp=Z,8.9nm,1.0s,mb4.7
CHTO epP pP 02 31 38.6 -1.8
DAWY Dawson 72.63 349 *eP* **P 02 31 32.4 +0.4**
ILAR Eielson Array 72.86 352 P **P 02 31 33.7 +0.3**
comp=Z,1.1nm,0.8s,mb3.8,baz=0.4,slow=6.5,SNR=20
BLO Bloomington 72.94 307 *eP* **P 02 31 33.3 -0.5**
BLO pmax pmax
comp=Z,18nm,0.9s,mb5.0
BLO Bloomington 72.94 307 *eP* **P 02 31 33.3 -0.6**
comp=Z,18nm,0.9s,mb5.0
KLR Kul'dur 73.25 38 *eP* **P 02 31 32.2 -3.4**
WCI Wyandotte Cave 73.41 307 *eP* **P 02 31 35.9 -0.7**
WCI pmax pmax
comp=Z,18nm,0.9s,mb5.0
WCI Wyandotte Cave 73.41 307 *eP* **P 02 31 35.9 -0.7**
comp=Z,18nm,0.9s,mb5.0
CN2 Changchun 73.90 45 *eP* **P 02 31 40.0 +0.5**
CN2 *eA*P pP 02 31 47.5 -0.4
CN2 *eX*P sP 02 31 51.0 0.0
CN2 *eS* S 02 41 07.5 -2.2
CN2 AMB AMB
comp=Z,20nm,0.7s,mb5.2
CN2 AMB AMB
comp=Z,80nm,4.0s
CN2 LR LR
comp=N,200nm,13.0s,MS4.8
CN2 LR LR
comp=E,300nm,13.0s,MS4.8
CN2 LR LR
comp=Z,160nm,14.0s,MS4.5
USIN University of 74.41 307 *eP* **P 02 31 42.6 +0.1**
SWET Sewanee 75.15 304 *eP* **P 02 31 45.6 -1.1**
SWET *ep*P pP 02 31 54.0 -1.2
MDJ Mudanjiang 75.48 42 P **P 02 31 48.8 +0.2**
MDJ AMB AMB
comp=Z,8.0nm,1.2s,mb4.5
MDJ AMB AMB
comp=Z,83nm,4.0s
MDJ LR LR
comp=N,61nm,18.1s,MS4.0
MDJ LR LR
comp=E,36nm,18.9s,MS4.0
MDJ LR LR
comp=Z,94nm,17.3s,MS4.2
SIUC Southern Illin 75.49 308 *eP* **P 02 31 48.2 -0.5**
comp=Z,18nm,0.8s,mb5.0
WVT Waverly 75.71 306 *eP* **P 02 31 49.0 -1.0**
WVT *e**PP pP 02 31 59.2 +0.8
WVT pmax pmax
comp=Z,19nm,1.1s,mb4.9
WVT Waverly 75.71 306 *eP* **P 02 31 49.0 -1.0**
comp=Z,19nm,1.1s,mb4.9
WVT epP pP 02 31 59.1 +0.7
FVM French Village 76.02 309 *eP* **P 02 31 51.4 -0.3**
FVM pmax pmax
comp=Z,18nm,0.8s,mb5.0
FVM French Village 76.02 309 *eP* **P 02 31 51.4 -0.3**
comp=Z,18nm,0.8s,mb5.1
CCM Cathedral Cave 76.45 309 *eP* **P 02 31 53.8 -0.4**
CCM pmax pmax
comp=Z,18nm,0.8s,mb5.0
CCM Cathedral Cave 76.45 309 *eP* **P 02 31 53.8 -0.4**
comp=Z,18nm,0.8s,mb5.1
PLAL Pickwick Lake 76.62 305 *eP* **P 02 31 54.1 -1.0**
comp=Z,18nm,0.9s,mb5.0
LRAL Lakeview Retre 77.25 303 *eP* **P 02 31 58.5 -0.2**
LRAL *ep*P pP 02 32 06.2 -1.0
LAO LASA Array 77.95 323 *eP* **P 02 32 04.4 +1.8**
NJ2 Nanjing 77.96 58 *eP* **P 02 32 05.5 +2.9**
NJ2 AP pP 02 32 14.3 +3.2
NJ2 XP sP 02 32 17.0 +2.8
NJ2 PP PP 02 35 03.8 +5.1
NJ2 S S 02 41 54.0 -0.4
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
NJ2 AMB AMB
comp=Z,70nm,6.7s
NJ2 LR LR
comp=N,570nm,24.0s
NJ2 LR LR
comp=E,530nm,29.3s
NJ2 LR LR
comp=Z,130nm,24.9s,MS4.2
EGMT Eagleton 78.44 326 *eP* **P 02 32 06.5 +1.1**
WALA Waterton Lakes 79.28 329 *eP* **P 02 32 10.2 +0.3**
comp=Z,13nm,1.3s,mb4.7
UALR University of 79.34 307 *eP* **P 02 32 10.3 +0.1**
comp=Z,16nm,0.8s,mb5.0
SSE Sheshan 80.07 57 *eP* **P 02 32 13.8 -0.4**
SSE AMB AMB
comp=Z,23nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,12nm,3.5s
SSE Sheshan 80.07 57 *eP* **P 02 32 13.8 -0.4**
comp=Z,23nm,0.7s,mb5.2
GCMT Greycliff 80.16 325 *eP* **P 02 32 15.8 +1.2**
GCMT *ep*P pP 02 32 23.2 0.0
MIAR Mount Ida 80.23 308 *eP* **P 02 32 15.7 +0.7**
MIAR pmax pmax
comp=Z,22nm,1.0s,mb5.0
MIAR Mount Ida 80.23 308 *eP* **P 02 32 15.7 +0.6**
comp=Z,22nm,1.0s,mb5.0
HRY Holter Researc 80.34 326 *eP* **P 02 32 16.7 +1.1**
CHMT Chamberlain Mo 80.76 327 *eP* **P 02 32 18.6 +0.7**
BOZ Bozeman (W) 81.11 326 *eP* **P 02 32 21.0 +1.2**
BOZ *e**PP pP 02 32 28.9 +0.6
LRM Limekiln Ridge 81.31 326 *eP* **P 02 32 21.9 +1.1**
SDV Santo Domingo 81.56 274 *eP* **P 02 32 22.1 -0.1**
comp=Z,17nm,0.7s,mb5.1
PHWY Pilot Hill 81.71 319 *eP* **P 02 32 24.4 +1.5**
DLMT Dillon 81.74 326 *eP* **P 02 32 24.5 +1.4**
comp=Z,16nm,1.3s,mb4.8
DLMT *ep*P pP 02 32 32.2 +0.5
FLWY Flagg Ranch 81.96 324 *eP* **P 02 32 26.9 +2.7**
comp=Z,24nm,1.2s,mb5.0
BDFB Brasilia 82.03 241 P **P 02 32 23.5 -1.2**
comp=Z,2.7nm,0.5s,mb4.4,baz=49,slow=7.5,SNR=6.6
IMW Indian Meadow 82.21 324 *eP* **P 02 32 27.8 +2.2**
comp=Z,13nm,0.9s,mb4.8
MOOW Moose Ponds 82.24 324 *eP* **P 02 32 27.6 +1.8**
comp=Z,9.9nm,1.0s,mb4.7
LOHW Long Hollow 82.29 324 *eP* **P 02 32 27.7 +1.7**
BW06 Boulder Array 82.49 323 *eP* **P 02 32 27.7 +0.6**
comp=Z,8.4nm,1.0s,mb4.6
PDAR Pinedale Array 82.49 323 P **P 02 32 27.2 +0.1**
comp=Z,4.6nm,0.8s,mb4.5,baz=57,slow=5.5,SNR=33
TPAW Teton Pass 82.54 324 *eP* **P 02 32 29.5 +2.2**
REDW Red Top Meadow 82.60 324 *eP* **P 02 32 29.2 +1.6**
comp=Z,19nm,1.2s,mb5.0
ISCO Idaho Springs 82.93 319 *eP* **P 02 32 31.0 +1.7**
ISCO pmax pmax
comp=Z,16nm,0.9s,mb5.0
ISCO Idaho Springs 82.93 319 *eP* **P 02 32 31.0 +1.7**
comp=Z,16nm,0.9s,mb5.0
WMOK Wichita Mounta 83.09 311 *eP* **P 02 32 31.1 +0.9**
WMOK pmax pmax
comp=Z,12nm,0.9s,mb4.9
WMOK Wichita Mounta 83.09 311 *eP* **P 02 32 31.1 +1.0**
comp=Z,12nm,0.9s,mb4.9
BMO Blue Mountains 84.06 329 *eP* **P 02 32 35.4 +0.3**
BMO *e**PP pP 02 32 43.3 -0.4
SMCO Snowmass 84.08 319 *eP* **P 02 32 36.8 +1.5**
comp=Z,12nm,1.3s,mb4.8
SMCO *ep*P pP 02 32 44.2 +0.5
HWUT Hardware Ranch 84.32 323 *eP* **P 02 32 37.5 +1.1**
comp=Z,10nm,0.9s,mb5.0
HKT Hockley 84.83 306 *eP* **P 02 32 40.4 +1.4**
HKT pmax pmax
comp=Z,14nm,1.2s,mb5.0
HKT Hockley 84.83 306 *eP* **P 02 32 40.4 +1.4**
comp=Z,14nm,1.2s,mb5.0
PV10 Paradox Valley 85.71 320 *eP* **P 02 32 44.4 +1.0**
MJAR Matsushiro Arr 85.85 43 P **P 02 32 43.5 -0.6**
comp=Z,0.9nm,0.5s,mb4.3,baz=309,slow=5.3,SNR=6.3
ELK Elko 86.63 325 *eP* **P 02 32 49.7 +1.7**
JCT Junction City 86.80 309 *eP* **P 02 32 50.2 +1.4**
MSU Marysvale 87.09 322 *eP* **P 02 32 51.2 +1.0**
ANMO Albuquerque 87.09 316 *eP* **P 02 32 51.3 +1.1**
MOD Modoc 87.72 329 *eP* **P 02 32 54.9 +1.6**
comp=Z,9.0nm,1.2s,mb4.9
MNTX Cornudas Mount 89.03 313 *eP* **P 02 33 00.0 +0.6**
comp=Z,4.8nm,1.0s,mb4.8
NVAR Mina Array Bea 89.86 326 P **P 02 33 04.0 +0.6**
comp=Z,3nm,0.8s,mb4.5,baz=48,slow=4.9,SNR=14
NVAR Mina Array Bea 89.86 326 P **P 02 33 04.0 +0.6**
LTX Lajitas 89.87 311 *eP* **P 02 33 05.2 +1.8**
SIV San Ignacio 91.14 250 P **P 02 33 08.1 -1.2**
comp=Z,2.7nm,1.0s,mb4.5,baz=58,slow=8.0,SNR=9.6
TUC Tucson 91.39 317 *eP* **P 02 33 11.2 +0.7**
LPAZ La Paz 96.34 254 P **P 02 33 32.5 -0.7**
comp=Z,0.5nm,0.8s,mb4.0,baz=342,slow=4.6,SNR=3.1
LPAZ La Paz 96.34 254 P **P 02 33 32.5 -0.7**
WRA Warramunga Arr 124.07 87 PKP PKPdf 02 39 02.0 -0.9
comp=Z,0.5nm,0.3s,baz=323,slow=1.8,SNR=5.4
ASAR Alice Springs 125.95 91 PKP PKPdf 02 39 05.5 -0.9
comp=Z,1.2nm,0.4s,baz=312,slow=1.6,SNR=15
STKA Stephens Creek 136.08 95 PKP PKPdf 02 39 23.1 -2.5
comp=Z,0.6nm,0.3s,baz=288,slow=6.4,SNR=3.3

*CSEM **29** 02:34:02.8, 3754N×2093E, h14km, MD3.6/10, After ATH*
*NEIC **29** 02:34:02.8, 3754N×2093E, h14km, MD3.6(ATH), After ATH.*

ATH 29 02:34:02.8, 3754N×2093E, h14km±2km, MD3.6/10, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.67**	**39**	*e*PG		Pg	02 34 15.3	-0.6
RLS				*e*SB		Sb	02 34 25.2	-0.2
VLS	**Valsamata**	**0.69**	**337**	*e*PG		Pg	02 34 15.9	-0.4
VLS				*e*SB		Sb	02 34 26.7	+0.7
ITM	**Ithomi**	**0.87**	**114**	*e*PB		Pb	02 34 19.3	-0.4
EVR	**Evrytania**	**1.54**	**26**	*e*PB		Pb	02 34 31.8	+0.7
EVR				*e*SB		Sb	02 34 53.5	+3.1
VLI	**Veliai**	**1.80**	**116**	*e*PN		Pn	02 34 35.9	+2.5
MGER	**Gerania Oros**	**1.90**	**76**	*e*PN		Pn	02 34 37.5	+2.7
LKR	**Lokris**	**1.97**	**55**	*e*PN		Pn	02 34 38.1	+2.3
KYTH	**Kithira**	**2.10**	**126**	*e*PG		Pg	02 34 41.0	-2.2
KVR	**Kavouri**	**2.27**	**82**	*e*PB		Pb	02 34 41.5	-2.1
KEK	**Kerkira**	**2.34**	**338**	*e*PN		Pn	02 34 43.1	+2.2
NEO	**Neokhori**	**2.52**	**45**	*e*PB		Pb	02 34 45.3	-2.5
PLG	**Polygyros**	**3.44**	**34**	*e*PN		Pn	02 34 57.2	+1.2

ROM 29 02:34:28.8±0.2, 4186N×1585E, h20km±2km, Md2.2/4, Ml1.8/1,1C, Error ellipse: s-maj=2.9km s-min=1.4km az=160.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SGRT	**San Giovanni R**	**0.13**	**216**	⇑*i*Pg		Pg	02 34 33.5	+0.5
SGRT				Sg		Sg	02 34 36.9	+1.0
MSAG	**Monte S. Angel**	**0.16**	**163**	Pg		Pg	02 34 33.4	+0.1
MSAG				Sg		Sg	02 34 37.0	+0.6
FGMS	**Monte Sant'Ang**	**0.17**	**153**	Pg		Pg	02 34 33.6	+0.1
FGMS				Sg		Sg	02 34 36.9	+0.2
	47nm,0.2s							
RGNG	**Rignano Grg**	**0.27**	**226**	Pg		Pg	02 34 35.0	0.0
RGNG				Sg		Sg	02 34 39.6	+0.4
FG2	**Serracapriola**	**0.52**	**264**	Pg		Pg	02 34 39.2	-0.1
FG2				Sg		Sg	02 34 46.5	+0.2
	47nm,0.2s							
VULT	**Monte Vulture**	**0.92**	**191**	Pg		Pg	02 34 46.4	-0.4
VULT				Sg		Sg	02 34 58.9	-0.1
	24nm,0.5s							

*ISCJB **29** 02:37:52.4±0.9, 3879N×003×26.10E×006, h12km±4km, Error ellipse: s-maj=8.4km s-min=4.2km az=148.1*
*ATH **29** 02:37:52.1, 3878N×26.12E, h23km±21km, MD3.3/3*
*ISK **29** 02:37:52.7, 3878N×2605E, h26km, MD3.0*
*CSEM **29** 02:37:52.6±0.1, 3881N×26.15E, h15km, MD3.0, Error*

ellipse: s-maj=2.1km s-min=1.3km az=85.0
ISC 29 02:37:52.7±0.9,3879N±003×2607E±007,h15km±4km,n16,σ0§70/27,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.48	19	*e*PB	Pg	02 38 02.6	+0.3
PRK				*e*SB	Sg	02 38 08.9	+0.1
URLA	Izmir	0.60	136	*i* P	Pg	02 38 04.8	+0.4
URLA				*i* S	Sg	02 38 13.4	+1.0
AYVA	Ayvalik	0.71	43	*i* P	Pg	02 38 07.1	+0.5
AYVA				*i* S	Sg	02 38 16.2	+0.3
BLCB	Balcova	0.86	118	*i* PG	Pg	02 38 09.7	+0.2
BLCB				*i* SG	Sg	02 38 22.2	+1.4
IZM	Izmir	1.01	112	PG	Pg	02 38 11.8	-0.5
IZM				SG	Sg	02 38 25.7	+0.1
KDAG	Bornova	1.01	112	*i* P	Pb	02 38 11.8	-0.1
KDAG				*i* S	Sb	02 38 25.8	+0.7
EZN	Ezine	1.05	11	PG	Pg	02 38 12.5	-0.6
SMG	Samos	1.24	151	*e*PN	Pn	02 38 15.3	-0.2
SMG				*e*SN	Sn	02 38 31.9	0.0
AKS	Akhisar	1.36	86	PN	Pn	02 38 17.0	-0.2
AKS				SN	Sn	02 38 34.6	-0.4
CANB	Canakkale	1.45	32	*e*PN	Pn	02 38 18.3	0.0
CANB				*e*SN	Sn	02 38 37.4	+0.4
BALB	Balikesir	1.64	58	*e*PN	Pn	02 38 20.9	-0.1
APE	Apeiranthos	1.77	194	*e*PN	Pn	02 38 23.3	+0.5
AYDN	Tasoluk	1.82	128	*i* P	Pg	02 38 24.6	-3.0
AYDN				*i* S	Sg	02 38 50.4	-0.8
MANT	Manisa	1.97	98	*i* P	Pg	02 38 28.8	-1.8
MANT				*i* S	Sg	02 38 55.9	-0.3
MRMT	Marmara Adasi	2.16	33	*e*PN	Pn	02 38 28.7	+0.6
KCT	Karacabey	2.30	49	*e*PN	Pn	02 38 30.0	-0.1

IDC 29 03:00:26.8±1.2, 1536N×145.10E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.4/19, mbtmp3.3/4, MS3.3/2, Ms1 3.3/2, ms1mx2.6/11, Error ellipse: s-maj=55.7km s-min=20.0km az=97.0
ISCJB 29 03:00:29.8±1.1, 1532N±008×145.1E±04, h33km, mb3.3/4, MS3.3/1, Error ellipse: s-maj=54.3km s-min=11.1km az=5.8
NEIC 29 03:00:31.9±1.0, 1529N×145.10E, h35km, Error ellipse: s-maj=49.0km s-min=15.1km az=95.0
ISC 29 03:00:30.5±7.4,153N±01×1451E±04,h24km±54km,n8,σ0§94/8,mb3.3/4,MS3.3/1,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.69	189	Pn	Pn	03 00 58.4	-0.2
	43nm,0.3s,baz=310,slow=5.7,SNR=26						
GUMO				Sn	Sn	03 01 18.8	-0.7
	70nm,0.3s,baz=124,slow=19,SNR=20						
GUMO	Guam	1.69	189	Pn	Pn	03 00 58.4	-0.2
GUMO				Sn	Sn	03 01 18.8	-0.7
JOW	Kunigami	19.46	309	LR	LR	03 10 41.4	
	comp=Z,65nm,20.9s,baz=312,slow=32						
ASAJ	Asahikawa	28.83	355	LR	LR	03 18 25.0	
	comp=Z,65nm,18.4s,MS3.3,baz=59,slow=38						
WRA	Warramunga Arr	36.57	197	P	P	03 07 35.2	+0.8
	0.8nm,0.7s,mb3.6,baz=21,slow=9.8,SNR=3.6						
ASAR	Alice Springs	40.23	196	P	P	03 08 06.1	+1.0
	0.2nm,0.5s,mb3.1,baz=24,slow=9.2,SNR=3.0						
MKAR	Makanchi Array	60.47	315	P	P	03 10 37.8	-0.5
	0.2nm,0.5s,mb3.4,baz=107,slow=9.3,SNR=2.6						
ILAR	Eielson Array	66.94	26	P	P	03 11 20.5	-0.4
	0.3nm,1.0s,mb3.3,baz=248,slow=6.6,SNR=3.2						

ISCJB 29 03:02:42.6±0.3, 1141N±003×8748W±003, h18km, mb4.2/37, MS3.5/8, Error ellipse: s-maj=5.4km s-min=3.1km az=68.5
NEIC 29 03:02:44.8±0.4, 1168N×87.11W, mb4.3/27, Error ellipse: s-maj=11.4km s-min=5.9km az=48.0
IDC 29 03:02:48.1±2.0, 1187N×8693W, h43km±19km, mb3.9/10, mb1 4.0/13, mb1mx3.8/25, mbtmp4.1/13, ML3.3/3, MS3.5/8, Ms1 3.5/8, ms1mx3.3/24, Error ellipse: s-maj=29.1km s-min=11.4km az=52.0
CASC 29 03:02:49.1±2.5, 1153N×87.14W, h26km±7km, MD4.3, ML3.7, mb4.3(NEIC)
ISC 29 03:02:44.9±0.3,1150N±003×8740W±003,h20km,h20km±1.1km:pP-P,n96,σ1§25/101,mb4.2/37,MS3.5/8,11C-9D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	Leon	1.03	28	*i*P	Pb	03 03 05.2	+1.2
COPN	Copaltepe	1.03	49	*i*P	Pb	03 03 05.1	+1.0
COPN				*e*S	Sb	03 03 16.9	-0.3
MIRN	Miramar	1.15	36	*i*P	Pn	03 03 06.7	+0.9
TEL3	Telica 3	1.19	27	*e*P	Pn	03 03 07.2	+0.8
CNGN	Cerro Negro	1.20	34	*e*P	Pn	03 03 07.3	+0.7
TELN	Telica	1.23	27	*e*P	Pn	03 03 07.7	+0.9
XAVN	Gruta Xavier	1.23	58	*e*P	Pn	03 03 07.4	+0.5
MOMJ	Momotombo	1.23	43	*e*P	Pn	03 03 07.4	+0.5
CRIN	San Cristobal	1.24	16	*e*P	Pn	03 03 08.0	+1.0
APYN	Apoyeque	1.25	55	*e*P	Pn	03 03 07.9	+0.6
TICN	Ticuantepe	1.25	65	*e*P	Pn	03 03 08.1	+0.8
TISN	Laguna Tiscapa	1.27	60	*e*P	Pn	03 03 07.9	+0.4
MGAN	Managua	1.29	60	*e*P	Pn	03 03 08.2	+0.4
MGAN				*e*S	Sn	03 03 25.6	+1.1
MGAN				*i*		03 03 33.0	
	comp=N,2μm,0.4s						
MASN	Masaya	1.31	68	*e*P	Pn	03 03 08.7	+0.7
APON	Apoyo	1.36	72	*e*P	Pn	03 03 09.3	+0.5
SSNN	San Juan del S	1.53	98	*e*P	Pn	03 03 11.0	-0.1
SSNN				*e*S	Sn	03 03 29.6	-0.8
CONN	Concepcion	1.73	88	*e*P	Pn	03 03 13.6	-0.3
CNCH	Conchagua	1.81	346	*e*P	Pn	03 03 21.6	+6.6
CNCH				*e*S	Sn	03 03 43.6	+6.2
BLLM	Bellamira	2.10	337	*e*P	Pn	03 03 23.0	+4.2
VSM	San Miguel	2.10	336	*e*P	Pn	03 03 25.8	+7.0
VSM				*e*S	Sn	03 03 51.2	+6.9
VCR	Vista de Mar	2.21	128	*e*P	Pn	03 03 19.3	-1.0
LIM1	Limonal	2.25	111	*i* P	Pn	03 03 20.7	-0.2
LCBS	La Ceiba	2.64	324	*e*P	Pn	03 03 32.6	+6.3
LCBS				*e*S	Sn	03 04 04.3	+6.5
LFRS	El Faro	2.66	322	*e*P	Pn	03 03 33.3	+6.6
LFRS				*e*S	Sn	03 04 05.6	+7.3
JTS	JuntasAbangare	2.69	116	P	Pn	03 03 26.8	-0.1
	comp=N,4.3nm,0.3s,baz=324,slow=19,SNR=39						
JTS				S	Sn	03 03 56.4	-2.5
	comp=N,24nm,0.3s,baz=294,slow=20,SNR=7.3						
LBRS	Las Brisas	2.74	324	*e*P	Pn	03 03 34.8	+7.1
LFU	La Fuente	2.79	323	*e*P	Pn	03 03 35.3	+6.9
BOQS	Boqueron	2.88	321	*e*P	Pn	03 03 37.5	+7.8
BOQS				*e*S	Sn	03 04 11.0	+8.5
SNJE	San Jose	3.19	318	*e*P	Pn	03 03 41.0	+7.1
SNJE				*e*S	Sn	03 04 19.8	+8.4
CGA2	Cerro Gallo 2	3.24	117	*e*P	Pn	03 03 36.5	+2.0
CGA2				*e*S	Sn	03 04 11.9	-0.6
PRS1	Puriscal	3.39	116	*e*P	Pn	03 03 37.4	+0.8
PRS1				*e*S	Sn	03 04 17.9	+1.7
RBDL	Robledal	3.42	319	*e*P	Pn	03 03 44.2	+7.1
LAJ	Bijagual	3.61	117	*e*P	Pn	03 03 36.9	-2.8
LCR2	La Lucha 2	3.77	117	*e*P	Pn	03 03 43.2	+1.4
LCR2				*e*S	Sn	03 04 24.8	-0.7
ICR	Volcan Irazu	3.81	113	*e*P	Pn	03 03 45.9	+3.4
URSC	Urasca	3.92	115	*e*P	Pn	03 03 46.0	+2.1
URSC				*e*S	Sn	03 04 29.6	+0.2
BUS	Buena Vista	4.07	118	*e*P	Pn	03 03 47.4	+1.4
BUS				*e*S	Sn	03 04 33.1	+0.1
CMIG	Matias Romero	9.14	308	P	Pn	03 04 57.5	+2.0
	comp=N,0.8nm,0.3s,baz=144,slow=6.9,SNR=11						
SDV	Santo Domingo	16.70	97	P	Pn	03 06 34.4	-3.3
	comp=N,0.1nm,0.3s,baz=325,slow=15,SNR=2.0						
ATAH	Atahualpa	20.45	154	LR	LR	03 14 23.2	
	comp=N,175nm,21.0s,MS3.4,baz=159,slow=34						
NATX	Nacogdoches	21.25	343	*e*P	P	03 07 30.6	+0.9
	comp=N,22nm,0.6s,mb4.7						
LRAL	Lakeview Retre	21.43	1	*e*P	P	03 07 32.1	+0.4
	comp=N,14nm,0.8s,mb4.3						
SJG	San Juan	21.55	70	P	P	03 07 30.6	-2.3
	comp=N,14nm,1.1s,mb4.3						
PCRV	Puerto La Cruz	22.39	91	P	P	03 07 37.3	-4.7
	comp=N,6.6nm,0.8s,mb4.1,baz=257,slow=24,SNR=2.0						
OXF	Oxford	22.98	356	*e*P	P	03 07 46.7	-1.4
	comp=N,32nm,0.9s,mb4.8						
LTX	Lajitas	23.34	322	*e*P	P	03 07 52.2	+0.3
	comp=N,5.7nm,0.8s,mb4.0						
JSC	Jenkinsville	23.36	13	*e*P	P	03 07 51.2	-0.9
MIAR	Mount Ida	23.62	347	*e*P	P	03 07 53.4	-1.3
	comp=N,111nm,0.7s,mb4.4						
SWET	Sewanee	23.64	3	*e*P	P	03 07 53.8	-1.1
WVT	Waverly	24.52	359	*e*P	P	03 08 00.2	-2.7
	comp=N,4.3nm,1.1s,mb3.9						
TZTN	Tazewell	25.17	7	*e*P	P	03 08 08.0	-0.9
WMOK	Wichita Mounta	25.35	338	*e*P	P	03 08 10.1	-0.3
	comp=N,9.1nm,1.0s,mb4.3						
MNTX	Cornudas Mount	26.07	323	*e*P	P	03 08 19.3	+2.3
	comp=N,1.5nm,0.7s,mb3.6						
ELN	Prospectdale	26.30	12	*e*P	P	03 08 18.2	-0.9
WCI	Wyandotte Cave	26.63	2	*e*P	P	03 08 20.4	-1.7
	comp=N,8.0nm,0.8s,mb4.3						
CCM	Cathedral Cave	26.66	353	*e*P	P	03 08 20.3	-2.0
	comp=N,5.0nm,0.7s,mb4.2						
CCM				*e*PcP	PcP	03 11 45.6	-0.3
ACSO	Alum Creek Sta	28.88	7	*e*P	P	03 08 40.8	-1.4
	comp=N,3.3nm,0.6s,mb4.2						
SSPA	Standing Stone	30.20	14	*e*P	P	03 08 53.5	-0.5
	comp=N,5.4nm,0.8s,mb4.3						
ERPA	Erie	31.18	11	*e*P	P	03 09 01.4	-1.2
	comp=N,8.5nm,0.8s,mb4.6						
SAML	Samuel	31.50	129	*e*P	P	03 09 04.5	-0.9
	comp=N,2.1nm,0.6s,mb4.1						
SAML				pP	pP	03 09 11.7	+0.3
BINY	Binghamton	32.16	16	*e*P	P	03 09 09.6	-1.6
	comp=N,12nm,0.8s,mb4.8						
ECSD	EROS,Sioux Fal	33.09	348	*e*P	P	03 09 16.6	-2.8
LPAZ	La Paz	33.55	145	*e*P	P	03 09 25.6	+2.3
	comp=N,0.2nm,0.5s,mb3.3						
SADO	Sadowa	33.90	11	P	P	03 09 23.3	-3.1
	comp=N,6.9nm,0.7s,mb4.7,baz=209,slow=8.0,SNR=17						
SADO	Sadowa	33.90	11	P	P	03 09 23.3	-3.1
LONY	Lake Ozonia	34.79	16	*e*P	P	03 09 32.4	-1.7
MSU	Marysvale	34.81	325	*e*P	P	03 09 38.0	+3.7
MSNY	Massena	35.06	16	*e*P	P	03 09 34.8	-1.7
DAU	Daniels Canyon	35.67	328	*e*P	P	03 09 42.8	+1.1
PDAR	Pinedale Array	36.63	332	P	P	03 09 49.6	-0.2
	comp=N,1.6nm,0.8s,mb3.9,baz=108,slow=9.5,SNR=8.0						
PDAR				PcP	PcP	03 12 13.6	+0.9
	comp=N,0.8nm,0.7s,baz=124,slow=8.8,SNR=5.3						
HWUT	Hardware Ranch	36.71	329	*e*P	P	03 09 50.8	+0.3
	comp=N,7.0nm,0.8s,mb4.5						
HWUT				*e*pP	pP	03 09 56.0	-0.6
REDW	Red Top Meadow	37.69	332	*e*P	P	03 09 59.0	+0.2
	comp=N,7.6nm,0.6s,mb4.6						
REDW				*e*pP	pP	03 10 04.1	-0.8
SIV	San Ignacio	37.75	136	P	P	03 09 59.9	+0.5
	comp=N,5.8nm,0.6s,mb4.5,baz=315,slow=8.8,SNR=53						
SIV				PcP	PcP	03 12 16.4	+0.4
	comp=N,1.5nm,0.7s,baz=280,slow=2.2,SNR=6.4						
LOHW	Long Hollow	37.77	332	*e*P	P	03 09 58.8	-0.7
	comp=N,4.3nm,0.9s,mb4.2						
LOHW				*e*pP	pP	03 10 05.5	-0.1
TPAW	Teton Pass	37.83	332	*e*P	P	03 10 00.4	+0.4
	comp=N,4.0nm,0.7s,mb4.3						
TPAW				*e*pP	pP	03 10 04.9	-1.2
MOOW	Moose Ponds	37.94	332	*e*P	P	03 10 01.5	+0.6
	comp=N,4.6nm,0.8s,mb4.3						
MOOW				*e*pP	pP	03 10 06.4	-0.6
ELK	Elko	38.06	325	*e*P	P	03 10 03.0	+1.0
	comp=N,1.9nm,0.8s,mb3.9						
ELK				*e*pP	pP	03 10 08.4	+0.3
NVAR	Mina Array Bea	38.45	320	P	P	03 10 07.0	+1.7
	comp=N,0.6nm,0.7s,mb3.4,baz=122,slow=8.2,SNR=4.7						
NVAR				PcP	PcP	03 12 18.6	+0.4
	comp=N,1.2nm,0.8s,baz=121,slow=3.6,SNR=7.9						
ULM	Lac du Bonnet	39.26	351	P	P	03 10 09.3	-2.7
	comp=N,5.3nm,0.7s,mb4.4,baz=168,slow=9.9,SNR=5.8						
ULM				LR	LR	03 28 17.6	
	comp=N,49nm,19.8s,MS3.3,baz=151,slow=39						
HLID	Hailey	39.57	329	*e*P	P	03 10 15.2	+0.5
	comp=N,1.5nm,0.8s,mb3.8						
DLMT	Dillon	40.02	332	*e*P	P	03 10 18.9	+0.5
	comp=N,2.7nm,0.9s,mb4.0						
WVOR	Wild Horse Val	41.10	324	*e*P	P	03 10 27.7	+0.4
	comp=N,2.6nm,0.8s,mb3.9						
WVOR				*e*pP	pP	03 10 33.0	-0.4
BMO	Blue Mountains	41.96	328	*e*P	P	03 10 32.8	-1.6
	comp=N,2.0nm,0.8s,mb3.8						
BMO				*e*pP	pP	03 10 38.4	-2.1
SCHQ	Schefferville	46.16	16	P	P	03 11 04.4	-3.7
	comp=N,3.2nm,0.7s,mb4.3,baz=184,slow=6.8,SNR=7.8						
SCHQ				LR	LR	03 30 36.3	
	comp=N,83nm,21.9s,MS3.6,baz=277,slow=36						
BDFB	Brasilia	47.40	124	P	P	03 11 16.8	-1.0
	comp=N,3.2nm,0.6s,mb4.4,baz=300,slow=11,SNR=12						
PLCA	Paso Flores	54.26	164	P	P	03 12 10.1	+0.6
	comp=N,1.4nm,0.9s,mb3.9,baz=5.8,slow=8.8,SNR=3.0						
YKA	Yellowknife Ar	54.53	345	LR	LR	03 35 49.2	
	comp=N,42nm,20.0s,MS3.5,baz=125,slow=36						
ILAR	Eielson Array	66.90	336	P	P	03 13 35.0	-0.7
	comp=N,0.5nm,0.7s,mb3.6,baz=149,slow=4.3,SNR=7.2						
JMIC	Jan Mayen	75.57	19	LR	LR	03 47 04.1	
	comp=N,14nm,20.5s,MS3.3,baz=278,slow=35						
NOA	NORSAR Array B	84.17	29	LR	LR	03 50 03.1	
	comp=N,21nm,18.9s,MS3.5,baz=240,slow=34						
DAVOX	Davos	86.64	43	LR	LR	03 52 27.0	
	comp=N,38nm,19.3s,MS3.8,baz=266,slow=35						
ARCES	ARCESS Array B	87.06	19	LR	LR	03 54 11.9	
	comp=N,28nm,19.8s,MS3.7,baz=200,slow=36						
MKAR	Makanchi Array	121.24	8	PKP	PKPdf	03 21 34.9	-1.5
	comp=N,0.3nm,0.4s,baz=11,slow=2.9,SNR=4.2						
MKAR	Makanchi Array	121.24	8	PKP	PKPdf	03 21 34.9	-1.5
ASAR	Alice Springs	138.96	247	PKP	PKPdf	03 22 11.7	+1.8
	comp=N,1.0nm,0.7s,baz=112,slow=1.8,SNR=9.1						
WRA	Warramunga Arr	139.05	253	PKP	PKPdf	03 22 11.7	+1.7
	comp=N,1.0nm,0.4s,baz=88,slow=1.6,SNR=6.9						

ISCJB 29 03:22:45.9±2.7, 1831S±005×6328W±005, h30km±20km, mb4.2/14, Error ellipse: s-maj=9.0km s-min=6.8km az=87.2
IDC 29 03:22:47.1±5.3, 1837S×6325W, h29km±40km, mb4.0/7, mb1 4.0/12, mb1mx3.9/22, mbtmp4.0/12, ML3.9/5, MS3.6/3, Ms1 3.6/3, ms1mx2.9/24, Error ellipse: s-maj=20.2km s-min=18.1km az=159.0
NEIC 29 03:22:47.0±0.5, 1841S×6325W, h35km, mb4.4/9, Error ellipse: s-maj=12.0km s-min=9.5km az=91.0
ISC 29 03:22:43.4±3.0,1832S±004×6325W±005,h0km±19km,n29,σ1§09/33,mb4.3/14,Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	San Ignacio	3.11	42	Pn	Pn	03 23 34.8	+1.1
	16nm,0.3s,baz=226,slow=13,SNR=253						
SIV				Sn	Sn	03 24 12.3	+0.7
	49nm,0.3s,baz=230,slow=14,SNR=12						
LPAZ	La Paz	5.08	293	Pn	Pn	03 24 02.4	+1.6
	11nm,0.3s,baz=113,slow=7.0,SNR=214						
LPAZ				Sn	Sn	03 25 00.6	+0.4
	3.0nm,0.3s,baz=354,slow=20,SNR=3.9						
LPAZ				Lg		03 25 26.3	
	2.1nm,0.3s,baz=224,slow=24,SNR=1.9						
LPAZ				LR	LR	03 26 29.0	
	comp=Z,216nm,19.6s,baz=119,slow=44						
LVC	Limon Verde	6.82	230	Pn	Pn	03 24 24.5	-0.1
	0.9nm,0.3s,baz=358,slow=6.6,SNR=15						
LVC				Sn	Sn	03 25 44.0	+1.1
	baz=211,slow=8.0,SNR=1.8						
SAML	Samuel	9.31	0	*e*Pn	Pn	03 24 57.4	-1.5
	7.1nm,0.7s						
SAML				*e*Sn	Sn	03 26 44.3	-0.1
CPUP	Villa Florida	9.67	147	Pn	Pn	03 25 02.4	-1.4
	0.4nm,0.3s,baz=315,slow=12,SNR=3.9						
CPUP				Lg		03 28 00.6	
	1.1nm,0.3s,baz=36,slow=20,SNR=2.8						
CPUP	Villa Florida	9.67	147	Pn	Pn	03 25 02.4	-1.4
CPUP				Lg		03 28 00.6	
CFAA	Coronel Fontan	13.98	198	Pn	Pn	03 25 58.9	-3.8
	0.0nm,0.3s,baz=359,slow=5.7,SNR=2.5						
BDFB	Brasilia	14.81	82	Pn	Pn	03 26 15.9	+1.9
	0.1nm,0.3s,baz=235,slow=13,SNR=2.2						
BDFB				Lg		03 30 35.4	
	0.2nm,0.3s,baz=164,slow=16,SNR=4.0						
BDFB				LR	LR	03 32 14.7	
	comp=Z,271nm,18.5s,baz=299,slow=38						
PLCA	Paso Flores	23.21	194	P	P	03 27 51.4	-0.6
	1.5nm,0.9s,mb3.5,baz=27,slow=14,SNR=2.9						
PLCA	Paso Flores	23.21	194	*e*P	P	03 27 50.6	-1.3
	11nm,1.4s,mb4.2						
OTAV	Otavalo	23.73	319	*e*P	P	03 27 58.0	+0.7
	4.8nm,1.1s,mb3.9						
ROSC	El Rosal	25.49	334	P	P	03 28 14.1	+0.8
	1.8nm,0.4s,mb4.2,baz=102,slow=20,SNR=4.3						
SDV	Santo Domingo	28.00	344	P	P	03 28 36.3	+0.4
	1.3nm,0.3s,mb4.3,baz=84,slow=5.6,SNR=3.1						
SDV	Santo Domingo	28.00	344	P	P	03 28 34.9	-1.0
	1.7nm,0.2s,mb4.5						
JTS	JuntasAbangare	35.59	321	*e*P	P	03 29 43.3	+0.7
	3.4nm,0.6s,mb4.3						
WVT	Waverly	58.94	337	*e*P	P	03 32 41.7	-2.7
	3.8nm,0.9s,mb4.4						
VNA3	Neumayer Olymp	61.44	163	*e*	P	03 33 02.0	+0.4
VNA1	Neumayer--Stat	61.56	162	*e*	P	03 33 04.0	+1.6
CCM	Cathedral Cave	61.94	335	*e*P	P	03 33 01.6	-3.3
	2.3nm,0.6s,mb4.6						
VNA2	Neumayer--Watz	61.95	162	*e*	P	03 33 04.7	-0.3
	baz=297,slow=7.4						
ERPA	Erie	62.09	346	*e*P	P	03 33 05.2	-0.7
	9.6nm,0.9s,mb5.0						
MVCO	Mesa Verde	69.77	323	*e*P	P	03 33 54.9	-0.4
PV01	Paradox Valley	70.45	323	*e*P	P	03 33 58.9	-0.7
TORD	Torodi Ar. Bea	71.26	69	P	P	03 34 04.6	+0.2
	3.1nm,0.8s,mb4.5,baz=249,slow=5.0,SNR=30						
ULM	Lac du Bonnet	74.09	339	P	P	03 34 19.2	-2.1
	4.8nm,0.8s,mb4.6,baz=70,slow=1.8,SNR=4.7						
PDAR	Pinedale Array	74.22	326	P	P	03 34 21.4	-0.7
	1.0nm,0.8s,mb3.9,baz=155,slow=4.9,SNR=6.9						
IMW	Indian Meadow	75.73	327	*e*P	P	03 34 31.0	+0.1
	4.6nm,0.8s,mb4.7						
NVAR	Mina Array Bea	76.47	319	P	P	03 34 35.6	+0.6
	0.1nm,0.3s,mb3.4,baz=148,slow=7.0,SNR=4.6						
HLID	Hailey	77.38	325	*e*P	P	03 34 39.9	-0.3
	1.2nm,0.8s,mb4.1						

ATH 29 03:30:35.8, 3952N×2626E, h5km±5km, MD3.4/3
ISCJB 29 03:30:36.7±1.1, 3943N±003×2606E±009, h10km±5km, Error ellipse: s-maj=11.3km s-min=4.5km az=163.9
ISK 29 03:30:37.1, 3943N×26.10E, h19km, MD3.1
CSEM 29 03:30:37.3±0.1, 3941N×26.18E, h15km, MD3.1, Error ellipse: s-maj=4.2km s-min=1.6km az=81.0
ISC 29 03:30:36.7±1.3,3941N±003×2603E±009,h11km±6km,n22,σ0§81/32,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.25	131	*e*PG	Pg	03 30 41.3	-0.5
PRK				*e*SG	Sg	03 30 45.0	-0.2
EZN	Ezine	0.48	28	*i* PG	Pg	03 30 46.4	+0.3
EZN				*i* SG	Sg	03 30 52.7	+0.3
AYVA	Ayvalik	0.52	101	*i* P	Pg	03 30 46.7	-0.2
AYVA				*i* S	Sg	03 30 54.2	+0.4
CANB	Canakkale	1.00	52	*i* PG	Pg	03 30 55.3	-0.7
CANB				*i* SG	Sg	03 31 09.8	+0.7
URLA	Izmir	1.13	157	*i* P	Pb	03 30 57.0	-1.3
URLA				*i* S	Sb	03 31 12.6	-0.5
URLA	Izmir	1.13	157	*i* P	Pb	03 30 57.0	-1.4
URLA				*i* S	Sb	03 31 12.6	-0.5
BLCB	Balcova	1.29	142	PN	Pn	03 31 00.8	+0.1
BLCB				SN	Sn	03 31 17.3	-0.7
KDAG	Bornova	1.39	136	*i* P	Pn	03 31 03.9	+1.7
KDAG				*i* S	Sb	03 31 22.1	+1.6
KDAG	Bornova	1.39	136	*i* P	Pn	03 31 03.8	+1.7
KDAG				*i* S	Sb	03 31 22.1	+1.6
IZM	Izmir	1.39	136	*e*PN	Pn	03 31 02.7	+0.6
BALB	Balikesir	1.45	80	*e*PN	Pn	03 31 02.4	-0.5
AKS	Akhisar	1.48	110	PN	Pn	03 31 02.4	-1.0
RKY	Sarkoy-Tekirda	1.55	34	*e*PN	Pn	03 31 04.4	0.0
MFT	Murefte	1.68	34	*e*PN	Pn	03 31 06.3	+0.2
MRMT	Marmara Adasi	1.69	45	*e*PN	Pn	03 31 05.7	-0.6
BNT	Bandirma	1.74	56	*e*PN	Pn	03 31 06.3	-0.6
RDO	Rodhopi	1.78	348	*e*PN	Pn	03 31 08.0	+0.5
SMG	Samos	1.81	159	*e*PN	Pn	03 31 10.2	+2.3
SMG				*e*SN	Sn	03 31 35.7	+4.9
KCT	Karacabey	1.99	64	*e*PN	Pn	03 31 10.2	-0.1
DST	Dursunbey	2.02	84	*e*PN	Pn	03 31 09.5	-1.3
EDRB	Edirne	2.50	12	*e*PN	Pn	03 31 17.2	-0.1
YLV	Yalova	2.82	65	*e*PN	Pn	03 31 21.9	+0.2

ISCJB 29 03:48:46.0±1.3, 529S±008×14723E±007, h183km±11km, mb4.2/11, Error ellipse: s-maj=15.7km s-min=9.4km az=108.2
NEIC 29 03:48:46.9±1.5, 526S×14720E, h181km±13km, mb4.7/8, Error ellipse: s-maj=13.9km s-min=9.4km az=155.0
IDC 29 03:48:48.5±1.7, 554S×147.16E, h193km±14km, mb3.9/7, mb1 4.2/10, mb1mx4.0/14, mbtmp4.5/10, MS2.9/1, Ms1 2.9/1, ms1mx2.4/21, Error ellipse: s-maj=21.3km s-min=10.7km az=121.0
**ISC 29 03:48:48.9±1.2,546

*ISCJB **29** 03:53:23.4±2.1, 26°90'S×004°×714'W±0.1, h18km±14km, mb3.9/4, MS3.5/1, Error ellipse: s-maj=18.0km s-min=5.9km az=6.6*

*IDC **29** 03:53:24.4±1.5, 26°97'S×7106W, h0km, mb3.9/4, mb1 4.0/6, mb1mx3.8/16, mbtmp3.9/6, ML3.8/3, MS3.7/1, Ms1 3.6/1, ms1mx2.5/20, Error ellipse: s-maj=50.9km s-min=19.5km az=105.0*

*NEIC **29** 03:53:26.1, 26°94'S×71.18W, h45km, mb3.8/1, After GUC.*

*GUC **29** 03:53:26.1±0.5, 26°94'S×71.18W, h45km±2km, ML4.5*

ISC 29 03:53:27.3±1.2, 26°91'S×003°×7118'W±010, h31km±7km, n24, σ1§48/35, mb3.9/4, MS3.5/1, 1C-3D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.35**	**117**	⇓*i* P	**Pb**	**03 53 35.1**	**-0.5**
CDCH				*i* S	**Sb**	**03 53 42.4**	**+1.1**
CPCH	**Copiapo**	**0.86**	**121**	⇓*i* P	**Pn**	**03 53 42.0**	**-1.3**
CPCH				*i* S	**Sn**	**03 53 54.5**	**-0.3**
CPCH				AML	AML	03 53 56.6	
	comp=E,33µm,0.1s						
CPCH	**Copiapo**	**0.86**	**121**	⇓*i* P	**Pn**	**03 53 42.0**	**-1.3**
CPCH				*i* S	**Sn**	**03 53 54.5**	**-0.3**
TLL	**Tololo Astrono**	**3.26**	**174**	*i* P	**Pn**	**03 54 15.9**	**-0.4**
TLL				*i* S	**Sn**	**03 54 53.4**	**-0.6**
TLL				AML	AML	03 55 08.1	
	comp=N,1µm,0.5s						
TLL	**Tololo Astrono**	**3.26**	**174**	*i* P	**Pn**	**03 54 15.9**	**-0.4**
TLL				*i* S	**Sn**	**03 54 53.4**	**-0.6**
ANCH	**Antofagasta**	**3.29**	**12**	*e*P	**Pn**	**03 54 16.2**	**-0.5**
ANCH				*i* S	**Sn**	**03 54 54.2**	**-0.6**
ANCH				AML	AML	03 55 23.0	
	comp=N,2µm,0.5s						
ANCH	**Antofagasta**	**3.29**	**12**	*e*P	**Pn**	**03 54 16.2**	**-0.5**
ANCH				*i* S	**Sn**	**03 54 54.2**	**-0.6**
CEN1	**Los Morros**	**3.62**	**14**	⇑*i* P	**Pn**	**03 54 19.3**	**-1.9**
CEN1				*i* S	**Sn**	**03 54 58.5**	**-4.3**
CEN1				AML	AML	03 55 31.4	
	comp=E,339nm,0.5s						
CMCH	**Combarbala**	**4.25**	**178**	*i* P	**Pn**	**03 54 27.1**	**-2.8**
CMCH				*i* S	**Sn**	**03 55 14.5**	**-3.8**
LVC	**Limon Verde**	**4.75**	**26**	Pn	**Pn**	**03 54 38.9**	**+2.1**
	comp=E,3.9nm,0.3s,baz=217,slow=11,SNR=39						
LVC				Sn	**Sn**	**03 55 33.9**	**+3.1**
	comp=E,14nm,0.3s,baz=243,slow=4.9,SNR=4.4						
LVC				Lg		03 55 50.4	
	comp=E,17nm,0.3s,baz=125,slow=22,SNR=5.4						
LVC	**Limon Verde**	**4.75**	**26**	*e*Pn	**Pn**	**03 54 38.9**	**+2.1**
LVC				*e*Sn	**Sn**	**03 55 30.2**	**-0.6**
LVC				Sn	**Sn**	**03 55 33.9**	**+3.1**
CFAA	**Coronel Fontan**	**5.34**	**152**	Pn	**Pn**	**03 54 46.1**	**+1.3**
	comp=E,0.2nm,0.3s,baz=346,slow=9.9,SNR=12						
CFAA				Lg		03 55 57.7	
	comp=E,0.5nm,0.3s,baz=213,slow=18,SNR=5.2						
CFAA	**Coronel Fontan**	**5.34**	**152**	Pn	**Pn**	**03 54 46.1**	**+1.3**
CFAA				Lg		03 55 57.7	
LPAZ	**La Paz**	**10.95**	**16**	Pn	**Pn**	**03 56 03.4**	**+1.6**
	comp=E,0.3nm,0.3s,baz=201,slow=6.2,SNR=17						
LPAZ	**La Paz**	**10.95**	**16**	*e*Pn	**Pn**	**03 56 00.9**	**-0.8**
	comp=E,2.0nm,0.7s						
CPUP	**Villa Florida**	**12.41**	**90**	Pn	**Pn**	**03 56 18.9**	**-2.8**
	comp=E,6.6nm,0.7s						
TRQA	**Tornquist**	**13.55**	**147**	*e*Pn	**Pn**	**03 56 39.6**	**+2.3**
	comp=E,2.3nm,0.6s						
SIV	**San Ignacio**	**14.37**	**43**	Pn	**Pn**	**03 56 45.9**	**-2.5**
	comp=E,0.3nm,0.3s,baz=284,slow=8.1,SNR=7.4						
SAML	**Samuel**	**19.41**	**24**	*e*P	**Pn**	**03 57 52.7**	**+0.6**
	comp=E,4.2nm,0.8s						
BDFB	**Brasilia**	**24.29**	**67**	P	**P**	**03 58 42.5**	**+0.7**
	comp=E,2.1nm,0.6s,mb3.8,baz=306,slow=5.0,SNR=6.9						
BDFB				LR	LR	04 09 31.1	
	comp=E,158nm,18.6s,MS3.5,baz=224,slow=40						
SNAA	**Sanae**	**57.91**	**160**	P	**P**	**04 03 16.2**	**-0.1**
	comp=E,0.3nm,0.7s,mb3.4,baz=294,slow=10.0,SNR=4.0						
VNDA	**Vanda**	**71.18**	**191**	P	**P**	**04 04 44.6**	**+1.6**
	comp=E,0.4nm,0.5s,mb3.6,baz=80,slow=6.1,SNR=7.0						
TORD	**Torodi Ar. Bea**	**81.12**	**70**	P	**P**	**04 05 42.0**	**+2.4**
	comp=E,5.1nm,0.6s,mb4.6,baz=257,slow=5.0,SNR=106						
MKAR	**Makanchi Array**	**151.17**	**40**	PKPbc	PKPbc	04 13 19.2	+1.8
	comp=E,2.2nm,0.7s,baz=320,slow=2.4,SNR=10						

MAN 29 04:05:14.1, 938N×12523E, h12km, mb2.0, ML3.8, MS0.4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.47**	**32**	⇑*e*P	Pg	04 05 24.0	+0.6
SCPH				*e*S	Sg	04 05 35.6	+5.9
BUTP	**Butuan**	**0.56**	**137**	*e*P	Pg	04 05 25.4	+0.3
MSLP	**Maasin**	**0.83**	**334**	*e*P	Pg	04 05 29.9	-0.4

*IDC **29** 04:28:08.5±0.9, 004°S×9671E, h0km, mb4.0/8, mb1 4.0/9, mb1mx3.9/18, mbtmp3.9/9, ML3.4/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/20, Error ellipse: s-maj=42.7km s-min=17.8km az=47.0*

*ISCJB **29** 04:28:12.7±0.7, 0.12N±008°×970E±0.1, h33km, mb4.1/15, MS4.0/1, Error ellipse: s-maj=16.3km s-min=10.1km az=118.7*

*NEIC **29** 04:28:13.7±0.6, 005N×9691E, h30km, mb4.4/9, Error ellipse: s-maj=15.9km s-min=10.6km az=58.0*

ISC 29 04:28:14.9±0.7, 012N±009°×969E±01, h35km, n22, σ1§17/21, mb4.1/15, MS4.0/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.33**	**37**	Pn	**Pn**	**04 29 02.3**	**-2.2**
	3.5nm,0.3s,baz=243,slow=8.2,SNR=13						
PSI				LR	LR	04 29 50.8	
	comp=Z,254nm,21.1s,baz=172,slow=29						
KULM	**Kulim**	**6.34**	**36**	*e*Pn	**Pn**	**04 29 44.1**	**-1.8**
CHTO	**Chiang Mai**	**18.69**	**6**	*e*P	**Pn**	**04 32 31.2**	**+0.6**
	9.0nm,1.1s						
KKM	**Kota Kinabalu**	**20.13**	**73**	*e*P	**P**	**04 32 46.3**	**+0.4**
KMI	**Kunming**	**25.49**	**12**	P	**P**	**04 33 41.3**	**+1.5**
	6.0nm,1.0s,mb4.1						
KMI				pP	pP	04 33 45.0	-4.8
KMI				sP	sP	04 33 46.8	-7.2
KMI				PP		04 34 02.3	
KMI				PPP		04 34 13.5	
KMI				S	S	04 37 31.7	-33
KMI				sS	sS	04 37 37.5	-44
KMI				SS		04 38 04.6	
KMI				LR	LR		
	comp=Z,270nm,12.5s,MS4.0						
LSA	**Lhasa**	**29.93**	**350**	*e*P	**P**	**04 34 20.6**	**+1.1**
	comp=Z,7.6nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**41.71**	**121**	P	**P**	**04 36 00.0**	**-0.3**
	comp=Z,0.4nm,0.3s,mb3.5,baz=301,slow=9.0,SNR=5.0						
WRAB	**Tennant Creek**	**41.71**	**121**	*e*P	**P**	**04 36 00.8**	**+0.5**
	comp=Z,8.1nm,0.7s,mb4.5						
WB2	**Warramunga Arr**	**41.72**	**121**	*e*P	**P**	**04 36 00.7**	**+0.3**
ASAR	**Alice Springs**	**42.97**	**126**	P	**P**	**04 36 10.8**	**+0.2**
	comp=Z,1.3nm,0.5s,mb3.9,baz=297,slow=8.1,SNR=12						
BJI	**Beijing**	**43.44**	**22**	*e*P	**P**	**04 36 16.5**	**+2.1**
	comp=Z,7.0nm,0.9s,mb4.4						
MKAR	**Makanchi Array**	**48.22**	**347**	P	**P**	**04 36 53.0**	**+1.0**
	comp=Z,2.4nm,0.7s,mb4.3,baz=158,slow=8.0,SNR=16						
PMG	**Port Moresby**	**50.89**	**102**	*e*P	**P**	**04 37 13.2**	**+0.8**
	comp=Z,11nm,0.8s,mb4.8						
KURK	**Kurchatov**	**52.76**	**345**	*e*P	**P**	**04 37 26.1**	**-0.2**
	comp=Z,4.4nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**52.84**	**131**	*e*P	**P**	**04 37 24.6**	**-2.4**
	comp=Z,5.5nm,2.0s,mb4.1						
STKA	**Stephens Creek**	**52.84**	**131**	P	**P**	**04 37 26.3**	**-0.6**
	comp=Z,2.5nm,0.8s,mb4.2,baz=339,slow=8.7,SNR=5.6						
CHKZ	**Chkalovo**	**57.66**	**342**	*e*P	**P**	**04 38 01.6**	**0.0**
	comp=Z,4.3nm,1.1s,mb4.4						
BRTR	**Keskin Array B**	**69.64**	**313**	P	**P**	**04 39 18.4**	**-2.2**
	comp=Z,0.5nm,0.6s,mb3.6,baz=103,slow=6.5,SNR=2.7						
AKASG	**Malin Array Be**	**75.95**	**323**	P	**P**	**04 39 56.2**	**-1.8**
	comp=Z,0.4nm,0.5s,mb3.6,baz=93,slow=5.2,SNR=3.0						
FINES	**FINESS Array B**	**80.83**	**333**	P	**P**	**04 40 25.5**	**+0.4**
	comp=Z,0.6nm,0.7s,mb3.6,baz=82,slow=10,SNR=3.1						
ARCES	**ARCESS Array B**	**83.46**	**340**	P	**P**	**04 40 39.0**	**+0.1**
	comp=Z,1.6nm,0.9s,mb4.0,baz=117,slow=4.2,SNR=4.2						
CPUP	**Villa Florida**	**144.02**	**222**	PKP	PKPdf	04 47 47.1	+0.5
	comp=Z,0.5nm,0.6s,baz=57,slow=4.5,SNR=3.3						

*IDC **29** 04:30:14.0±1.4, 064N×96.93E, h0km, mb4.1/5, mb1 4.2/6, mb1mx3.9/18, mbtmp4.1/6, ML3.6/1, Error ellipse: s-maj=47.6km s-min=22.1km az=58.0*

*ISCJB **29** 04:30:17.3±0.9, 0.75N±009°×97.1E±0.1, h33km, mb4.2/8, MS3.8/1, Error ellipse: s-maj=18.8km s-min=12.3km az=134.7*

*BJI **29** 04:30:17.4, 0.70N×97.00E, h30km, mB4.6, mb4.4, Ms4.1, Msz3.7*

*NEIC **29** 04:30:18.4±0.6, 0.75N×97.00E, h30km, mb4.3/4, Error ellipse: s-maj=13.7km s-min=9.7km az=68.0*

ISC 29 04:30:19.8±0.9, 079N±010°×971E±01, h35km, n17, σ0§68/14, mb4.2/8, MS3.8/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.71**	**42**	Pn	**Pn**	**04 31 00.9**	**+0.1**
	8.2nm,0.3s,baz=136,slow=17,SNR=11						
KULM	**Kulim**	**5.71**	**38**	*e*P	**Pn**	**04 31 42.2**	**+0.1**
KKM	**Kota Kinabalu**	**19.78**	**74**	*e*P	**Pn**	**04 34 47.5**	**-1.1**
KMI	**Kunming**	**24.80**	**12**	P	**P**	**04 35 40.0**	**+1.5**
KMI				AP		04 35 45.5	
KMI				XP	sP	04 35 48.5	-4.2
KMI				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.3						
KMI				AMB	AMB		
	comp=Z,75nm,4.1s						
KMI				LR	LR		
	comp=N,241nm,12.7s,MS4.0						
KMI				LR	LR		
	comp=E,168nm,12.7s,MS4.0						
KMI				LR	LR		
	comp=Z,182nm,14.9s,MS3.7						
KMI	**Kunming**	**24.80**	**12**	P	**P**	**04 35 40.0**	**+1.5**
	comp=Z,13nm,1.3s,mb4.3						
KMI				pP		04 35 45.6	
KMI				sP	sP	04 35 48.5	-4.2
KMI				PP		04 36 03.0	
KMI				PPP		04 36 14.5	
KMI				S	S	04 39 33.9	-25
KMI				SS		04 40 05.3	
KMI				LR	LR		
	comp=Z,180nm,14.9s,MS3.7						
LSA	**Lhasa**	**29.31**	**349**	*e*P	**P**	**04 36 18.7**	**-0.2**
	comp=Z,5.3nm,0.4s,mb4.6						
WRA	**Warramunga Arr**	**41.90**	**122**	P	**P**	**04 38 07.2**	**+0.4**
	comp=Z,1.1nm,0.3s,mb3.9,baz=302,slow=9.1,SNR=6.7						
WB2	**Warramunga Arr**	**41.91**	**122**	*e*P	**P**	**04 38 07.3**	**+0.4**
ASAR	**Alice Springs**	**43.23**	**127**	P	**P**	**04 38 17.9**	**+0.4**
	comp=Z,1.6nm,0.8s,mb3.8,baz=300,slow=7.5,SNR=8.4						
MKAR	**Makanchi Array**	**47.62**	**346**	P	**P**	**04 38 52.6**	**+0.3**
	comp=Z,2.2nm,0.5s,mb4.5,baz=161,slow=9.1,SNR=14						
KURK	**Kurchatov**	**52.16**	**345**	*e*P	**P**	**04 39 25.8**	**-1.0**
	comp=Z,3.5nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**53.16**	**132**	*e*P	**P**	**04 39 33.8**	**-0.4**
	comp=Z,1.8nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**53.16**	**132**	P	**P**	**04 39 33.5**	**-0.6**
	comp=Z,1.5nm,0.6s,mb4.1,baz=301,slow=11,SNR=3.3						
ARCES	**ARCESS Array B**	**82.89**	**340**	P	**P**	**04 42 40.5**	**-0.4**
	comp=Z,1.5nm,0.9s,mb4.0,baz=104,slow=4.0,SNR=4.9						
CPUP	**Villa Florida**	**144.63**	**222**	PKP	PKPdf	04 49 53.0	+0.3
	comp=Z,0.7nm,0.6s,baz=113,slow=3.1,SNR=4.2						
CPUP	**Villa Florida**	**144.63**	**222**	PKP	PKPdf	04 49 53.0	+0.3
CPUP				*e*PKPdf	PKPdf	04 49 53.0	+0.3
JCT	**Junction City**	**144.99**	**26**	*e*PKPdf	PKPdf	04 49 53.9	+0.7

*NIED **29** 04:33:00, 29.00N×128.70E, h135km, Mw4.5 Best double couple: M0 7.34000×10^15 NP1:φ0±13.00000°, δ70.00000°, λ137.00000°. NP2:φ0±121.00000°, δ50.00000°, λ27.00000°.*

*SZGRF **29** 04:33:14.5, 28.11N×130.74E, h33km, mb4.8, Ryukyu Islands, Japan*

*ISCJB **29** 04:33:33.2±0.2, 28°88'N±003°×128.79E±003, h149km±2km, mb4.4/59, Error ellipse: s-maj=5.5km s-min=3.4km az=76.5*

*IDC **29** 04:33:33.2±0.7, 2891N×12866E, h142km±7km, mb4.0/18, mb1 4.2/23, mb1mx4.2/27, mbtmp4.5/23, MS3.0/1, Ms1 3.0/1, ms1mx2.1/29, Error ellipse: s-maj=13.4km s-min=7.9km az=109.0*

*MOS **29** 04:33:33.3±1.4, 2904N×12874E, h147km, mb4.7/24, Error ellipse: s-maj=11.5km s-min=7.8km az=100.7*

*NEIC **29** 04:33:34.3±0.6, 2889N×12881E, h148km±5km, mb4.7/40, MW4.5(NIED), Error ellipse: s-maj=8.1km s-min=6.0km az=140.0*

NEIC Recorded [1 JMA] on Amami-oshima.

*BJI **29** 04:33:34.2, 2879N×12887E, h171km, mB4.6, mb4.7*

*JMA **29** 04:33:34.4±0.2, 2897N×128.70E, h133km±5km, M4.4*

JMA Felt I J1.

ISC 29 04:33:34.2±0.2, 2887N±003°×12882E±003, h146km±2km, n155, σ1§15/172, mb4.4/59, 4C, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAM	**Amami Oshima**	**0.83**	**124**	P	**Pn**	**04 33 57.2**	**+0.1**
JAM				S	**Sn**	**04 34 13.5**	**-1.1**
JTK	**Tokunoshima**	**1.09**	**174**	P	**Pn**	**04 34 00.0**	**+0.7**
JTK				S	**Sn**	**04 34 18.9**	**+0.4**
JZK	**Kikaishima**	**1.16**	**119**	P	**Pn**	**04 34 01.2**	**+1.3**
JZK				S	**Sn**	**04 34 21.4**	**+1.8**
JNN	**Nakanoshima**	**1.33**	**43**	P	**Pn**	**04 34 01.4**	**-0.3**
JNN				S	**Sn**	**04 34 21.8**	**-0.9**
JIH	**Iheya**	**1.98**	**203**	P	**Pn**	**04 34 09.3**	**+0.5**
JIH				S	**Sn**	**04 34 35.1**	**-0.3**
JKC	**Kuchinoerabu**	**1.98**	**37**	P	**Pn**	**04 34 08.6**	**-0.3**
JKC				S	**Sn**	**04 34 34.5**	**-1.0**
JOW	**Kunigami**	**2.09**	**194**	P	**Pn**	**04 34 10.4**	**+0.3**
	386nm,0.3s,baz=7.5,slow=8.4,SNR=902						
JOW				S	**Sn**	**04 34 36.3**	**-1.4**
	678nm,0.3s,baz=134,slow=28,SNR=63						
JOW	**Kunigami**	**2.09**	**194**	P	**Pn**	**04 34 10.2**	**+0.1**
JOW				S	**Sn**	**04 34 37.0**	**-0.7**
JTN	**Tanegashima 3**	**2.58**	**46**	P	**Pn**	**04 34 14.8**	**-1.3**
JAGN	**Aguni-jima**	**2.67**	**212**	P	**Pn**	**04 34 17.4**	**+0.2**
JAGN				S	**Sn**	**04 34 49.7**	**-0.7**
NAH1	**Naha**	**2.84**	**201**	P	**Pn**	**04 34 19.7**	**+0.3**
NAH1				S	**Sn**	**04 34 53.4**	**-0.9**
JJT2	**Tamagusuku 2**	**2.89**	**200**	P	**Pn**	**04 34 20.6**	**+0.7**
JJT2				S	**Sn**	**04 34 55.1**	**-0.1**
JSJ	**Shimokoshiki**	**2.90**	**15**	P	**Pn**	**04 34 20.5**	**+0.4**
JTSR	**Tashiro 2**	**2.92**	**38**	P	**Pn**	**04 34 19.4**	**-1.0**
JTSR				S	**Sn**	**04 34 52.6**	**-3.4**
JSU	**Suzuyama**	**2.98**	**28**	P	**Pn**	**04 34 21.3**	**+0.2**
JKE	**Kume jima 2**	**3.12**	**216**	P	**Pn**	**04 34 22.7**	**-0.1**
JKE				S	**Sn**	**04 34 58.7**	**-1.7**
JNAR	**Kushima--Naru**	**3.39**	**38**	P	**Pn**	**04 34 26.2**	**-0.2**
JNU	**Nakatsue**	**4.59**	**22**	P	**Pn**	**04 34 43.0**	**+1.0**
	25nm,0.3s,baz=13,slow=1.6,SNR=54						
JNU				S	**Sn**	**04 35 34.6**	**-0.2**
	12nm,0.3s,baz=286,slow=19,SNR=8.3						
SSE	**Sheshan**	**6.98**	**290**	*e*P	**Pn**	**04 35 14.8**	**+0.8**
SSE				S	**Sn**	**04 36 33.0**	**+0.9**
SSE				AMB	AMB		
	comp=Z,54nm,1.3s						
SSE				AMB	AMB		
	comp=Z,103nm,4.0s						
SSE				LR	LR		
	comp=N,170nm,8.1s						
SSE				LR	LR		
	comp=E,62nm,8.1s						
SSE				LR	LR		
	comp=Z,104nm,22.2s						
SSE	**Sheshan**	**6.98**	**290**	*e*P	**Pn**	**04 35 14.7**	**+0.7**
SSE				S	**Sn**	**04 36 32.9**	**+0.8**
SSE				LR	LR		
	comp=Z,100nm,22.2s						
TATO	**Taipei**	**7.61**	**241**	*e*Pn	**Pn**	**04 35 22.0**	**-0.4**
	comp=Z,71nm,0.8s						
YHNB	**Yeheng**	**7.86**	**240**	*e*Pn	**Pn**	**04 35 26.7**	**+1.0**
NACB	**Ninganchiao**	**7.99**	**236**	*e*Pn	**Pn**	**04 35 25.0**	**-2.4**
KS15	**Wonju Array Si**	**8.58**	**355**	*e*Pn	**Pn**	**04 35 35.8**	**+0.5**
NJ2	**Nanjing**	**9.17**	**293**	*e*P	**Pn**	**04 35 44.3**	**+1.2**
NJ2				S	**Sn**	**04 37 29.0**	**+4.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,80nm,8.4s						
NJ2				LR	LR		
	comp=N,590nm,19.4s						
NJ2				LR	LR		
	comp=E,440nm,24.0s						
NJ2				LR	LR		
	comp=Z,260nm,28.0s						
JHJ	**Hachijo jima 2**	**10.31**	**63**	P	**Pn**	**04 36 01.1**	**+2.7**
	comp=Z,96nm,0.3s,baz=228,slow=17,SNR=21						
JHJ				S	**Sn**	**04 37 55.3**	**+2.9**
	comp=Z,15nm,0.3s,baz=83,slow=18,SNR=4.4						
MAJO	**Matsushiro**	**10.99**	**44**	*e*P	**Pn**	**04 36 07.2**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.4s						
MAJO	**Matsushiro**	**10.99**	**44**	*e*Pn	**Pn**	**04 36 07.2**	**-0.1**
	comp=Z,9.0nm,0.4s						
MJAR	**Matsushiro Arr**	**10.99**	**44**	P	**Pn**	**04 36 06.5**	**-0.8**
	comp=Z,2.6nm,0.3s,baz=240,slow=13,SNR=17						
MJAR				LR	LR	04 40 40.7	
	comp=Z,72nm,20.2s,baz=225,slow=39						
CBIJ	**Chichi jima**	**11.94**	**95**	P	**Pn**	**04 36 22.6**	**+2.8**
	comp=Z,21nm,0.3s,baz=304,slow=11,SNR=7.4						
SNY	**Shenyang**	**13.61**	**343**	⇑P	**Pn**	**04 36 44.0**	**+2.7**
SNY				AMB	AMB		
	comp=Z,33nm,1.1s						
SNY				AMB	AMB		
	comp=Z,148nm,3.9s						
CN2	**Changchun**	**15.14**	**351**	*e*P	**Pn**	**04 37 03.5**	**+3.0**
CN2				AMB	AMB		
	comp=Z,30nm,1.0s						
BJT	**Baijiatuau**	**15.23**	**320**	*e*P	**Pn**	**04 37 02.7**	**+1.1**
BJT				pmax	pmax		
	comp=Z,73nm,1.0s						
BJT	**Baijiatuau**	**15.23**	**320**	*e*Pn	**Pn**	**04 37 02.7**	**+1.1**
	comp=Z,73nm,1.0s						
BJI	**Beijing**	**15.24**	**320**	*e*P	**Pn**	**04 37 03.3**	**+1.6**
BJI				AMB	AMB		
	comp=Z,64nm,1.0s						
BJI	**Beijing**	**15.24**	**320**	*e*P	**Pn**	**04 37 03.3**	**+1.6**
	comp=Z,64nm,1.0s						
MDJ	**Mudanjiang**	**15.72**	**2**	P	**Pn**	**04 37 09.0**	**+1.3**
MDJ				AMB	AMB		
	comp=Z,12nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,77nm,3.7s						
MDJ				LR	LR		
	comp=N,47nm,25.8s						
MDJ				LR	LR		
	comp=E,59nm,25.8s						
MDJ				LR	LR		
	comp=E,66nm,17.2s						
MDJ	**Mudanjiang**	**15.72**	**2**	*e*Pn	**Pn**	**04 37 08.4**	**+0.7**
	comp=Z,6.7nm,0.6s						
XAN	**Xi'an**	**17.73**	**292**	P	**Pn**	**04 37 32.3**	**+0.3**
XAN				AMB	AMB		
	comp=Z,52nm,0.9s						
HHC	**Hu-ho-hao-te**	**18.49**	**315**	⇑P	**P**	**04 37 40.3**	**+1.3**
HHC				AMB	AMB		
	comp=Z,28nm,1.1s						
HHC				AMB	AMB		
	comp=Z,58nm,5.3s						
HHC				LR	LR		
	comp=N,123nm,18.6s						
HHC				LR	LR		
	comp=E,292nm,18.6s						
HHC				LR	LR		
	comp=Z,102nm,17.5s						
BTO	**Baotou**	**19.34**	**312**	*e*P	**P**	**04 37 47.8**	**-0.4**
KLR	**Kul'dur**	**20.45**	**6**	*e*P	**P**	**04 37 54.2**	**-6.0**
CD2	**Chengdu**	**21.82**	**282**	P	**P**	**04 38 14.5**	**-0.2**
CD2				S	**S**	**04 41 59.0**	**-7.2**
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.7						
CD2				LR	LR		
	comp=N,100nm,10.2s						
CD2				LR	LR		
	comp=Z,120nm,10.8s						
LZH	**Lanzhou**	**22.23**	**295**	*e*P	**P**	**04 38 18.0**	**-1.0**
LZH				AP		04 38 49.3	
LZH				PP		04 38 53.0	
LZH				S	**S**	**04 42 05.5**	**-7.5**
LZH				SS		04 43 04.3	
LZH				AMB	AMB		
	comp=Z,38nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,152nm,4.2s						
LZH				LR	LR		
	comp=N,457nm,10.7s						
LZH				LR	LR		
	comp=Z,877nm,13.8s						
LZH	**Lanzhou**	**22.23**	**295**	*e*P	**P**	**04 38 18.0**	**-1.0**
LZH				*PP		04 38 49.2	
LZH				*SP	sP	04 39 08.7	+5.1
LZH				S	**S**	**04 42 05.6**	**-7.4**
LZH				*SS	sS	04 43 03.5	+3.6
LZH				pmax	pmax		
	comp=Z,38nm,1.3s,mb4.7						
LZH				MLR	MLR		
	comp=Z,880nm,13.8s						
LZH	**Lanzhou**	**22.23**	**295**	*e*P	**P**	**04 38 18.0**	**-1.0**
	comp=Z,38nm,1.3s,mb4.7						
LZH				pP		04 38 49.2	
LZH				PP		04 38 53.1	
LZH				sP	sP	04 39 08.7	+5.1
LZH				S	**S**	**04 42 05.6**	**-7.4**
LZH				sS	sS	04 43 03.5	+3.6
LZH				SS		04 43 04.3	
LZH				LR	LR		
	comp=Z,880nm,13.8s						
ULN	**Ulaanbaatar**	**25.36**	**324**	*e*P	**P**	**04 38 49.2**	**+1.5**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
ULN	**Ulaanbaatar**	**25.36**	**324**	*e*P	**P**	**04 38 49.2**	**+1.5**
	comp=Z,6.6nm,1.0s,mb4.1						
SONM	**Songino Array**	**25.68**	**324**	P	**P**	**04 38 49.8**	**-0.8**
	comp=Z,3.3nm,0.4s,mb4.3,baz=139,slow=10,SNR=6.2						
SONM	**Songino Array**	**25.68**	**324**	P	**P**	**04 38 49.8**	**-0.8**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.4s						
GTA	**Gaotai**	**26.11**	**301**	*e*P	**P**	**04 38 53.8**	**-0.6**
GTA				PP		04 39 41.5	
GTA				PCP	PcP	04 42 19.3	+1.3
GTA				S	**S**	**04 43 18.0**	**+3.1**
GTA				AMB	AMB		
	comp=Z,16nm,0.7s,mb4.8						
GTA				AMB	AMB		
	comp=Z,52nm,4.6s						
GTA				LR	LR		
	comp=N,112nm,16.3s						
GTA				LR	LR		
	comp=E,119nm,15.6s						
GTA				LR	LR		
	comp=Z,111nm,14.1s						

CHKZ Chkalovo 48.62 318 *e*P P 04 42 02.4 -0.7
CHKZ pmax pmax
comp=Z,5.0nm,1.6s,mb3.9
CHKZ Chkalovo 48.62 318 *e*P P 04 42 02.4 -0.7
comp=Z,4.8nm,1.6s,mb3.9
BRVK Borovoye 48.75 317 *e*P P 04 42 02.7 -1.4
BRVK *e* 04 43 26.3
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
BRVK Borovoye 48.75 317 *e*P P 04 42 02.6 -1.4
comp=Z,3.5nm,0.8s,mb4.0
BRVK *e*PcP PcP 04 43 26.3 -0.5
WRA Warramunga Arr 48.82 173 P P 04 42 05.1 +0.5
comp=Z,1.1nm,0.4s,mb3.8,baz=354,slow=8.2,SNR=5.5
WRA pP pP 04 42 37.7 0.0
comp=Z,1.8nm,0.6s,baz=353,slow=8.2,SNR=4.2
ZRNK Zerenda 49.51 317 *e*P P 04 42 06.6 -3.3
ZRNK pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
ZRNK Zerenda 49.51 317 *e*P P 04 42 06.6 -3.3
comp=Z,2.8nm,0.8s,mb3.9
ASAR Alice Springs 52.46 174 P P 04 42 33.1 +1.2
comp=Z,0.9nm,0.8s,mb3.4,baz=8.1,slow=5.8,SNR=5.7
ASAR pP pP 04 43 07.0 +1.5
comp=Z,0.8nm,0.6s,baz=5.6,slow=14,SNR=4.3
ASAR PcP PcP 04 43 41.2 +0.6
comp=Z,0.5nm,0.6s,baz=352,slow=4.2,SNR=4.3
ARU Arti 55.67 321 *e*P P 04 42 53.8 -1.3
AKTK Aktyubinsk 56.38 314 P P 04 43 00.4 +0.2
AKTK PcP PcP 04 43 54.4 -1.2
AKTO Aktyubinsk 56.38 314 P P 04 43 00.4 +0.2
comp=Z,0.9nm,0.5s,mb3.8,baz=80,slow=9.3,SNR=2.7
AKTO PcP PcP 04 43 54.4 -1.2
comp=Z,3.2nm,0.8s,baz=94,slow=4.7,SNR=6.8
TTA Tatalina 58.00 31 *e*P P 04 43 11.4 -0.2
TTA pmax pmax
comp=Z,21nm,1.4s,mb4.8
TTA Tatalina 58.00 31 *e*P P 04 43 11.4 -0.2
comp=Z,20nm,1.4s,mb4.8
KDAK Kodiak Island 60.10 37 *e*P P 04 43 25.3 -0.7
comp=Z,7.4nm,0.4s,mb4.9
COLA College 61.45 29 *e*P P 04 43 34.7 -0.5
COLA pmax pmax
comp=Z,13nm,0.6s,mb4.9
COLA College 61.45 29 *e*P P 04 43 34.7 -0.4
comp=Z,13nm,0.6s,mb4.9
STKA Stephens Creek 61.62 168 P P 04 43 34.5 -1.8
comp=Z,1.1nm,0.6s,mb3.9,baz=331,slow=12,SNR=2.9
STKA Stephens Creek 61.62 168 *e*P P 04 43 35.1 -1.2
ILAR Eielson Array 61.87 29 P P 04 43 36.5 -1.5
comp=Z,3.9nm,0.7s,mb4.4,baz=270,slow=4.8,SNR=74
DAWY Dawson 65.20 29 *e*P P 04 43 59.5 -0.3
INK Inuvik 66.27 24 P P 04 44 06.0 -0.6
comp=Z,6.6nm,0.5s,mb4.7,baz=295,slow=7.0,SNR=46
INK Inuvik 66.27 24 P P 04 44 06.1 -0.5
INK pmax pmax
comp=Z,7.0nm,0.5s
INK Inuvik 66.27 24 *e*P P 04 44 05.8 -0.9
comp=Z,6.3nm,0.4s,mb4.8
ARCES ARCESS Array B 67.75 338 P P 04 44 14.3 -1.7
comp=Z,1.5nm,0.8s,mb3.8,baz=68,slow=8.1,SNR=5.9
ARCES PcP PcP 04 44 40.4 -1.3
comp=Z,2.8nm,0.7s,baz=68,slow=6.7,SNR=7.8
ARCES ARCESS Array B 67.75 338 P P 04 44 14.3 -1.7
ARCES PcP PcP 04 44 40.4 -1.3
JOF Joensuu 68.00 331 *e*p P 04 44 15.2 -2.4
comp=Z,6.3nm,0.6s,mb4.5
JOF Joensuu 68.00 331 *e*P P 04 44 15.2 -2.4
JOF pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
OBN Obninsk 68.08 322 *e*P P 04 44 11.5 -6.6
OBN pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
KAF Kangasniemi 70.45 331 *e*p P 04 44 30.9 -1.8
comp=Z,2.4nm,0.5s,mb4.2,baz=62,slow=5.6
KAF Kangasniemi 70.45 331 *e*P P 04 44 30.9 -1.8
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
FINES FINESS Array B 70.83 330 P P 04 44 32.6 -2.4
comp=Z,2.6nm,0.6s,mb4.2,baz=71,slow=6.3,SNR=17
FINES PcP PcP 04 44 53.1 -1.6
comp=Z,2.3nm,0.7s,baz=77,slow=6.3,SNR=5.4
ANN Anapa 71.20 311 *e*P PcP 04 44 56.2 -0.1
ANN pmax pmax
comp=Z,110nm,1.3s,mb5.4
DLBC Dease Lake 71.38 33 P P 04 44 37.4 -0.9
comp=Z,3.7nm,0.9s,mb4.1,baz=303,slow=6.2,SNR=4.7
RES Resolute Bay 72.86 11 *e*P P 04 44 45.9 -1.2
RES pmax pmax
comp=Z,14nm,0.8s,mb4.7
RES Resolute Bay 72.86 11 *e*P P 04 44 45.9 -1.2
comp=Z,14nm,0.8s,mb4.8
AKASG Malin Array Be 73.87 319 P P 04 44 49.1 -3.9
comp=Z,0.6nm,0.3s,mb3.8,baz=63,slow=5.7,SNR=8.1
BRTR Keskin Array B 75.84 308 P P 04 45 03.5 -0.8
comp=Z,6.5nm,1.0s,mb4.2,baz=90,slow=5.2,SNR=18
YKA Yellowknife Ar 75.92 25 P P 04 45 04.4 -0.4
comp=Z,7.1nm,0.7s,mb4.4,baz=306,slow=5.8,SNR=32
YKA Yellowknife Ar 75.92 25 P P 04 45 04.4 -0.3
YKA pmax pmax
comp=Z,7.0nm,0.7s
YKA Yellowknife Ar 75.92 25 P P 04 45 04.4 -0.4
NB2 NORSAR Subarra 77.18 334 P P 04 45 09.7 -2.2
comp=Z,6.9nm,0.9s,mb4.3,baz=48,slow=5.6
NOA NORSAR Array B 77.18 334 P P 04 45 09.7 -2.1
comp=Z,4.0nm,0.7s,mb4.2,baz=50,slow=5.3,SNR=17
SUMG Summit 78.44 356 *e*P P 04 45 18.2 -0.6
comp=Z,15nm,1.0s,mb4.6
OJC Ojcow 79.37 322 *e*P P 04 45 24.4 +0.5
RZN Rozhen 80.90 313 *e*P P 04 45 32.7 +0.6
VTS Vitosha 81.40 314 *e*P PcP 04 45 46.0 +5.6
MMB Musonmiste 81.58 313 *e*P P 04 45 35.5 -0.2
BRG Berggiesshubel 82.08 325 *e*P P 04 45 38.1 -0.2
comp=Z,4.1nm,1.2s,mb3.9
BRG Berggiesshubel 82.08 325 *e*P P 04 45 38.1 -0.2
BRG pmax pmax
comp=Z,4.0nm,1.2s,mb3.9
EDM Edmonton 82.09 32 *e*P P 04 45 38.1 -0.2
CLL Collm 82.29 325⇑*i*P P 04 45 39.2 -0.2
comp=Z,9.0nm,0.7s,mb4.5
CLL Collm 82.29 325⇑*i*P P 04 45 39.2 -0.2
CLL pmax pmax
comp=Z,9.0nm,0.7s,mb4.5
KHC Kasperske Hory 83.31 323 *e*P P 04 45 45.0 +0.4
GERES GERESS Array B 83.42 323 P P 04 45 44.9 -0.3
comp=Z,3.9nm,0.7s,mb4.2,baz=50,slow=4.2,SNR=29
GRA1 Grafenberg Arr 84.18 325 *e*P P 04 45 49.5 +0.4
comp=Z,11nm,1.2s,mb4.5
GRF Grafenberg Arr 84.18 325 *e*P P 04 45 49.5 +0.4
comp=Z,11nm,1.2s,mb4.5
GRF Grafenberg Arr 84.18 325 *e*P P 04 45 49.5 +0.4
GRF pmax pmax
comp=Z,11nm,1.2s,mb4.5
GRF Grafenberg Arr 84.18 325 *e*P P 04 45 49.5 +0.4
GRF pmax pmax
comp=Z,11nm,1.2s,mb4.5
WALA Waterton Lakes 84.41 36 *e*P P 04 45 50.6 +0.5
comp=Z,2.9nm,0.5s,mb4.3
GVD Gavdhos 84.85 307 *e*P P 04 45 52.2 -0.3
comp=Z,28nm,1.0s,mb4.9
BMO Blue Mountains 85.11 41 *e*P P 04 45 53.8 +0.1
BMO pmax pmax
comp=Z,11nm,1.4s,mb4.4
BMO Blue Mountains 85.11 41 *e*P P 04 45 53.8 +0.1
comp=Z,11nm,1.4s,mb4.4
FCC Fort Churchill 85.69 21 *e*P P 04 45 55.5 -1.1
FCC pmax pmax
comp=Z,14nm,0.8s,mb4.7
FCC Fort Churchill 85.69 21 *e*P P 04 45 55.5 -1.1
comp=Z,14nm,0.8s,mb4.7
FFC Flin Flon 86.00 27 *e*P P 04 45 57.5 -0.6
FFC pmax pmax
comp=Z,17nm,0.9s,mb4.8
FFC Flin Flon 86.00 27 *e*P P 04 45 57.5 -0.6
comp=Z,17nm,0.9s,mb4.8
CHMT Chamberlain Mo 86.09 37 *e*P P 04 45 58.6 0.0
HRY Holter Researc 86.97 37 *e*P P 04 46 03.5 +0.6
DLMT Dillon 87.43 38 *e*P P 04 46 05.8 +0.7
comp=Z,8.2nm,0.6s,mb4.7
HLID Hailey 87.55 41 *e*P P 04 46 06.7 +1.1
comp=Z,14nm,1.2s,mb4.7
BOZ Bozeman (W) 87.77 38 *e*P P 04 46 07.4 +0.7
BOZ pmax pmax
comp=Z,8.0nm,1.3s,mb4.4
BOZ Bozeman (W) 87.77 38 *e*P P 04 46 07.4 +0.7
comp=Z,7.8nm,1.3s,mb4.4

NVAR Mina Array Bea 88.31 46 P P 04 46 10.8 +1.7
comp=Z,0.7nm,0.5s,mb3.7,baz=281,slow=7.8,SNR=9.3
IMW Indian Meadow 89.28 39 *e*P P 04 46 15.3 +1.6
comp=Z,3.1nm,0.8s,mb4.3
HWUT Hardware Ranch 90.42 41 *e*P P 04 46 20.0 +1.0
comp=Z,9.7nm,1.1s,mb4.7
DUG Dugway 90.59 42 *e*P P 04 46 21.4 +1.5
DUG pmax pmax
comp=Z,15nm,1.5s,mb4.8
DUG Dugway 90.59 42 *e*P P 04 46 21.4 +1.5
comp=Z,15nm,1.5s,mb4.8
PDAR Pinedale Array 90.78 39 P P 04 46 20.4 -0.4
comp=Z,1.7nm,0.8s,mb4.1,baz=342,slow=1.1,SNR=15
DAU Daniels Canyon 91.37 41 *e*P P 04 46 24.2 +0.7
ULM Lac du Bonnet 91.83 27 P P 04 46 25.1 -0.5
comp=Z,5.8nm,0.6s,mb4.8,baz=322,slow=7.3,SNR=8.3
MSU Marysvale 92.05 43 *e*P P 04 46 28.5 +1.9
RSSD Black Hills 92.76 35 *e*P P 04 46 30.4 +0.5
RSSD pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
RSSD Black Hills 92.76 35 *e*P P 04 46 30.4 +0.5
comp=Z,4.5nm,0.6s,mb4.8
PV10 Paradox Valley 94.00 42 *e*P P 04 46 37.4 +1.8
SDV Santo Domingo 138.03 29 *e*P PKPdf 04 52 42.4 +0.8
LPAZ La Paz 159.98 55 PKP PKPdf 04 53 17.1 +1.3
comp=Z,0.5nm,0.8s,baz=323,slow=2.8,SNR=4.8
LPAZ PKPab PKPab 04 53 55.6 -0.6
comp=Z,1.6nm,1.0s,baz=352,slow=7.1,SNR=5.0
BDFB Brasilia 166.51 347 PKPab PKPab 04 54 23.7 -1.1
comp=Z,2.8nm,0.9s,baz=238,slow=6.3,SNR=3.6
BDFB Brasilia 166.51 347 PKP2 PKPab 04 54 23.7 -1.2
BDFB pmax pmax
comp=Z,3.0nm,0.9s

*CSEM **29** 04:33:56.8±0.5, 3881N×2891W, h0km±13km, ML1.7, Error ellipse: s-maj=11.8km s-min=4.7km az=117.0, After PDA*
*PDA **29** 04:33:56.8±0.5, 3881N×2891W, h0km±13km, MD2.9, ML1.7, Error ellipse: s-maj=11.8km s-min=4.7km az=117.0*
SVSA 29 04:33:56.8±0.5, 3881N×2891W, h0km±13km, MD2.9, ML1.7, Error ellipse: s-maj=11.8km s-min=4.7km az=117.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTCA	**Ponta do Capel**	**0.24**	**157**	*e*P	Pg	04 34 01.4	0.0
PTCA				*e*S	Sg	04 34 04.8	+0.3
PTCA	18nm,0.1s						
PTCA	**Ponta do Capel**	**0.24**	**157**	*e*P	Pg	04 34 01.4	0.0
PTCA				*e*S	Sg	04 34 04.8	+0.3
PCED	**Cedros**	**0.24**	**137**	*e*P	Pg	04 34 01.4	0.0
PCED				*e*S	Sg	04 34 05.0	+0.4
PCED	37nm,0.3s						
PCED	**Cedros**	**0.24**	**137**	*e*P	Pg	04 34 01.4	0.0
PCED				*e*S	Sg	04 34 05.0	+0.4
CALA	**Caldeira**	**0.28**	**143**	*e*P	Pg	04 34 08.2	+6.1
CALA				*e*S	Sg	04 34 12.1	+6.4
PICO	**Pico**	**0.49**	**128**	*e*P	Pg	04 34 12.7	+6.5
PICO				*e*S	Sg	04 34 19.6	+7.1
ROSA	**Rosais**	**0.53**	**99**	*e*P	Pg	04 34 14.4	+7.4
ROSA				*e*S	Sg	04 34 21.5	+7.6

MAN 29 04:38:23.3, 1525N×11993E, h29km, mb2.1, ML3.8, MS1.0, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCZP	**Santa Cruz**	**0.53**	**358**	*e*P	Pb	04 38 35.0	+0.8
SCZP				*e*S	Sb	04 38 44.3	+2.7
BOLP	**Bolinao**	**1.13**	**359**	*e*P	Pn	04 38 42.9	-0.3
PCPH	**Palayan**	**1.17**	**74**	*e*P	Pn	04 38 43.2	-0.5
PCPH				*e*S	Sn	04 38 58.8	+0.2
LUBP	**Lubang**	**1.53**	**169**	*e*P	Pn	04 38 48.9	+0.2
BALP	**Baler**	**1.66**	**73**	*e*P	Pn	04 38 51.8	+1.4
BUSP	**Coron**	**3.23**	**175**	*e*P	Pn	04 39 13.2	+1.1

*BJI **29** 05:00:29.7, 3300S×17841W, h32km, mB5.4, mb5.2, Ms5.2, Msz4.9*
*NEIC **29** 05:00:30.7±0.4, 3340S×17876W, mb5.0/21, MS5.1/1, Error ellipse: s-maj=13.4km s-min=8.1km az=125.0*
*ISCJB **29** 05:00:31.5±0.4, 3353S×003×179.19W±007, h33km, mb5.0/29, MS4.7/14, Error ellipse: s-maj=8.4km s-min=3.9km az=38.1*
*MOS **29** 05:00:31.0±1.4, 3307S×17879W, h33km, mb5.2/13, MS5.0/6, Error ellipse: s-maj=16.2km s-min=11.7km az=94.8*
*IDC **29** 05:00:35.2±2.2, 3294S×17896W, h65km±19km, mb4.4/8, mb1 4.6/8, mb1mx4.5/12, mbtmp4.7/8, MS4.1/4, Ms1 4.1/4, ms1mx3.8/21, Error ellipse: s-maj=16.0km s-min=14.4km az=32.0*
ISC 29 05:00:32.7±0.4, 3352S×003×17905W±007, h35km, (h38km±3.8km:pP-P), n275, σ1°49/183, mb5.0/29, MS4.7/14, 9C-3D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.36**	**13**	P	**Pn**	**05 01 29.5**	**-6.9**
RAO	533nm,0.3s,baz=30,slow=22,SNR=15			S	**Sn**	**05 02 13.8**	**-12**
	848nm,0.3s,baz=45,slow=23,SNR=8.2						
RAO	**Raoul Island**	**4.36**	**13**	*e*Pn	**Pn**	**05 01 29.4**	**-7.0**
MXZ	**Matakaoa Point**	**4.58**	**207**	PN	**Pn**	**05 01 42.2**	**+2.8**
MXZ				SN	**Sn**	**05 02 40.2**	**+8.8**
MXZ	**Matakaoa Point**	**4.58**	**207**	P	**Pn**	**05 01 42.2**	**+2.8**
MXZ				S	**Sn**	**05 02 40.2**	**+8.9**
WIZ	**White Island**	**5.04**	**216**	*e*PN	**Pn**	**05 01 49.9**	**+4.1**
WIZ	**White Island**	**5.04**	**216**	P	**Pn**	**05 01 50.5**	**+4.7**
PUZ	**Puketiti**	**5.05**	**205**	PN	**Pn**	**05 01 48.4**	**+2.5**
PUZ				SN	**Sn**	**05 02 50.2**	**+7.3**
PUZ	**Puketiti**	**5.05**	**205**	P	**Pn**	**05 01 48.4**	**+2.5**
KUZ	**Kuaotunu**	**5.36**	**232**	PN	**Pn**	**05 01 57.4**	**+7.2**
KUZ	**Kuaotunu**	**5.36**	**232**	*e*P	**Pn**	**05 01 57.2**	**+7.0**
MWZ	**Matawai**	**5.55**	**209**	*e*PN	**Pn**	**05 01 55.3**	**+2.5**
MWZ	**Matawai**	**5.55**	**209**	*e*P	**Pn**	**05 01 55.3**	**+2.5**
URZ	**Urewera**	**5.67**	**212**	P	**Pn**	**05 01 57.1**	**+2.7**
URZ	76nm,0.3s,baz=278,slow=2.3,SNR=197			S	**Sn**	**05 03 05.0**	**+6.8**
	78nm,0.3s,baz=158,slow=22,SNR=11						
URZ	**Urewera**	**5.67**	**212**	*e*PN	**Pn**	**05 01 56.8**	**+2.4**
URZ				*e*SN	**Sn**	**05 03 05.5**	**+7.3**
URZ	**Urewera**	**5.67**	**212**	*e*P	**Pn**	**05 01 57.1**	**+2.7**
TAZ	**Tarawera**	**5.93**	**216**	PN	**Pn**	**05 02 02.7**	**+4.7**
TAZ	**Tarawera**	**5.93**	**216**	P	**Pn**	**05 02 02.7**	**+4.7**
WCZ	**Waipu Caves**	**5.95**	**244**	*e*PN	**Pn**	**05 02 06.5**	**+8.2**
KNZ	**Kokohu**	**6.10**	**205**	PN	**Pn**	**05 02 01.2**	**+0.9**
KNZ	**Kokohu**	**6.10**	**205**	P	**Pn**	**05 02 01.2**	**+0.9**
OUZ	**Omahuta**	**6.31**	**252**	PN	**Pn**	**05 02 11.1**	**+7.8**
OUZ	**Omahuta**	**6.31**	**252**	*e*P	**Pn**	**05 02 11.1**	**+7.9**
BKZ	**Black Stump Fm**	**6.69**	**211**	*e*PN	**Pn**	**05 02 09.7**	**+1.3**
BKZ	**Black Stump Fm**	**6.69**	**211**	*e*P	**Pn**	**05 02 09.7**	**+1.3**
HIZ	**Hauiti**	**7.02**	**223**	*e*PN	**Pn**	**05 02 18.0**	**+5.1**
HIZ	**Hauiti**	**7.02**	**223**	*e*P	**Pn**	**05 02 18.8**	**+5.9**
KRVZ	**Karewarewa**	**7.03**	**216**	*e*PN	**Pn**	**05 02 16.0**	**+3.0**
NGZ	**Ngauruhoe**	**7.11**	**216**	P	**Pn**	**05 02 18.1**	**+3.9**
TWVZ	**Taurewa**	**7.11**	**217**	P	**Pn**	**05 02 17.6**	**+3.4**
TUVZ	**Tukino**	**7.15**	**215**	*e*PN	**Pn**	**05 02 17.2**	**+2.4**
TUVZ	**Tukino**	**7.15**	**215**	P	**Pn**	**05 02 17.5**	**+2.7**
FWVZ	**Far West T-bar**	**7.19**	**216**	*e*PN	**Pn**	**05 02 18.9**	**+3.6**
FWVZ	**Far West T-bar**	**7.19**	**216**	P	**Pn**	**05 02 19.1**	**+3.8**
MOVZ	**Moawhango**	**7.22**	**214**	PN	**Pn**	**05 02 16.9**	**+1.3**
MOVZ	**Moawhango**	**7.22**	**214**	P	**Pn**	**05 02 17.0**	**+1.3**
PXZ	**Pawanui**	**7.28**	**206**	*e*PN	**Pn**	**05 02 14.5**	**-2.1**
MTVZ	**Mangateitei**	**7.33**	**215**	*e*PN	**Pn**	**05 02 19.2**	**+2.0**
TSZ	**Takapari Road**	**7.66**	**210**	*e*PN	**Pn**	**05 02 21.7**	**0.0**
TSZ				*e*SN	**Sn**	**05 03 49.8**	**+2.6**
TSZ	**Takapari Road**	**7.66**	**210**	*e*P	**Pn**	**05 02 22.3**	**+0.6**
WAZ	**Wanganui**	**7.86**	**216**	*e*PN	**Pn**	**05 02 26.1**	**+1.7**
WAZ	**Wanganui**	**7.86**	**216**	P	**Pn**	**05 02 26.6**	**+2.2**
BFZ	**Birch Farm**	**8.08**	**206**	*e*PN	**Pn**	**05 02 26.6**	**-0.9**
BFZ				SN	**Sn**	**05 03 59.4**	**+1.9**
BFZ	**Birch Farm**	**8.08**	**206**	*e*P	**Pn**	**05 02 26.6**	**-0.9**
TIWZ	**Tintock**	**8.30**	**208**	PN	**Pn**	**05 02 29.8**	**-0.7**
TIWZ				*e*SN	**Sn**	**05 04 04.9**	**+1.9**
MRZ	**Mangatainoka R**	**8.32**	**209**	*e*PN	**Pn**	**05 02 29.5**	**-1.3**
MRZ				SN	**Sn**	**05 04 03.9**	**+0.3**
MRZ	**Mangatainoka R**	**8.32**	**209**	*e*P	**Pn**	**05 02 30.3**	**-0.5**
KIW	**Kapiti Island**	**8.77**	**212**	*e*PN	**Pn**	**05 02 35.6**	**-1.4**

KIW Kapiti Island 8.77 212 P Pn 05 02 36.0 -1.0
MTW Mount Morrison 8.77 208 *e*PN Pn 05 02 35.7 -1.4
MTW Mount Morrison 8.77 208 P Pn 05 02 35.7 -1.3
CAW Cannon Point 8.91 210 P Pn 05 02 39.0 +0.2
PAWZ Paruwai Farm 8.99 208 *e*PN Pn 05 02 38.1 -2.0
PAWZ Paruwai Farm 8.99 208 P Pn 05 02 38.1 -1.9
MSWZ Moikau Station 9.09 208 P Pn 05 02 39.8 -1.6
MRW Makara Radio 9.16 211 P Pn 05 02 41.6 -0.8
SNZO South Karori 9.23 211 *e*PN Pn 05 02 40.6 -2.6
SNZO SN **Sn 05 04 24.3 -1.4**
SNZO South Karori 9.23 211 *e*Pn Pn 05 02 42.9 -0.4
224nm,0.6s
SNZO *e*Sn **Sn 05 04 25.1 -0.7**
TCW Tory Channel 9.34 213 *e*PN Pn 05 02 42.3 -2.4
TCW Tory Channel 9.34 213 P Pn 05 02 42.7 -2.0
NNZ Nelson 9.76 216 *e*PN Pn 05 02 49.0 -1.6
NNZ Nelson 9.76 216 *e*P Pn 05 02 50.1 -0.5
QRZ Quartz Range 9.91 220 *e*PN Pn 05 02 51.7 -0.9
QRZ Quartz Range 9.91 220 *e*P Pn 05 02 51.8 -0.8
BSWZ Blackbirch Sta 9.92 212 P Pn 05 02 52.0 -0.7
THZ Tophouse 10.41 215 *e*PN Pn 05 02 56.4 -3.0
THZ SN **Sn 05 04 55.4 +0.6**
THZ Tophouse 10.41 215 *e*P Pn 05 02 57.4 -2.0
KHZ Kahutara 10.63 211 *e*PN Pn 05 02 59.5 -3.0
KHZ Kahutara 10.63 211 P Pn 05 03 01.7 -0.8
DSZ Denniston Nort 10.95 219 *e*PN Pn 05 03 04.2 -2.6
DSZ *e*SN **Sn 05 05 06.8 -1.3**
LTZ Lake Taylor 11.49 214 *e*PN Pn 05 03 10.4 -3.9
LTZ Lake Taylor 11.49 214 *e*P Pn 05 03 11.2 -3.1
MQZ McQueen's Vall 12.06 210 *e*PN Pn 05 03 18.2 -3.8
MQZ *e*SN **Sn 05 05 27.5 -7.7**
MQZ McQueen's Vall 12.06 210 *e*P Pn 05 03 18.6 -3.4
WVZ Waitaha Valley 12.46 217 PN Pn 05 03 27.5 0.0
WVZ Waitaha Valley 12.46 217 *e*P Pn 05 03 27.5 +0.1
RPZ Rata Peaks 12.78 214 P Pn 05 03 32.6 +0.8
7.7nm,0.3s,baz=332,slow=2.8,SNR=24
RPZ S **Sn 05 05 47.7 -5.0**
11nm,0.3s,baz=336,slow=22,SNR=18
RPZ Rata Peaks 12.78 214 PN Pn 05 03 29.2 -2.6
RPZ Rata Peaks 12.78 214 *e*P Pn 05 03 29.3 -2.5
FOZ Fox Glacier 13.34 218 *e*PN Pn 05 03 36.9 -2.6
FOZ Fox Glacier 13.34 218 *e*P Pn 05 03 37.3 -2.2
LBZ Lake Benmore 13.70 214 *e*P Pn 05 03 42.2 -2.2
ODZ Otahua Downs 13.99 212 *e*PN Pn 05 03 43.1 -5.3
ODZ Otahua Downs 13.99 212 *e*P Pn 05 03 44.6 -3.8
JCZ Jackson Bay 14.18 218 *e*PN Pn 05 03 47.3 -3.6
JCZ Jackson Bay 14.18 218 *e*P Pn 05 03 49.4 -1.5
WKZ Wanaka 14.58 216 PN Pn 05 03 55.2 -1.3
WKZ Wanaka 14.58 216 *e*P Pn 05 03 55.3 -1.2
MSZ Milford Sound 15.02 218 PN Pn 05 04 01.4 -1.0
MSZ Milford Sound 15.02 218 *e*P Pn 05 04 01.3 -1.0
TUZ Tuapeka 15.15 212 *e*P Pn 05 04 01.8 -2.2
MLZ Mavora Lakes 15.37 216 *e*PN Pn 05 04 06.3 -0.6
MLZ Mavora Lakes 15.37 216 *e*P Pn 05 04 06.3 -0.6
SYZ Scrubby Hill 15.82 211 PN Pn 05 04 12.8 +0.2
WHZ Wether Hill Ro 15.88 215 PN Pn 05 04 12.4 -1.1
WHZ Wether Hill Ro 15.88 215 *e*P Pn 05 04 12.4 -1.0
APZ The Paps 16.55 213 *e*PN Pn 05 04 21.3 -0.8
DZM Mont Dzumac 17.14 308 P Pn 05 04 33.7 +4.3
0.4nm,0.3s,baz=119,slow=17,SNR=12
DZM LR LR 05 09 03.8
comp=Z,314nm,20.8s,baz=190,slow=30
AFI Afiamalu 20.61 20 P P 05 04 58.8 -10
27nm,0.9s,baz=3.6,slow=16,SNR=2.6
AFI Afiamalu 20.61 20 *e*P P 05 05 05.1 -3.7
AFI pmax pmax
comp=Z,103nm,1.2s
AFI Afiamalu 20.61 20 *e*P P 05 05 05.1 -3.7
comp=Z,103nm,1.2s
RAR Rarotonga 21.01 59 LR LR 05 10 17.1
comp=Z,792nm,21.2s,MS4.0,baz=230,slow=28
ARMA Armidale 25.03 269 *e*P P 05 05 58.4 +5.0
TBI Tubuai 27.84 76 *e*S S 05 11 03.5 +3.9
comp=Z,187nm,33.0s
TBI *e*LR LR 05 13 21.9
comp=Z,806nm,27.0s,baz=237
TAU Tasmania Unive 27.88 240 *e*P P 05 06 19.0 -0.1
TAU pmax pmax
comp=Z,24nm,0.8s,mb4.9
TAU Tasmania Unive 27.88 240 *e*P P 05 06 19.0 -0.1
comp=Z,24nm,0.8s,mb4.9
HNR Honiara 30.79 316 *e*P P 05 06 45.7 +0.7
HNR pmax pmax
comp=Z,25nm,0.5s,mb5.3
HNR Honiara 30.79 316 *e*P P 05 06 45.7 +0.8
comp=Z,25nm,0.5s,mb5.3
PPT Papeete 30.83 66 *e*S S 05 11 49.6 +3.0
comp=Z,224nm,28.5s
PPT *e*LR LR 05 14 37.9
comp=Z,919nm,25.5s,baz=228
PPT Papeete 30.83 66 LR LR 05 15 16.1
comp=Z,617nm,20.8s,MS4.2,baz=310,slow=29
STKA Stephens Creek 33.02 262 *e*P P 05 07 05.5 +0.9
comp=Z,5.5nm,0.9s,mb4.5
STKA Stephens Creek 33.02 262 P P 05 07 04.9 +0.3
comp=Z,6.1nm,0.8s,mb4.6,baz=120,slow=8.9,SNR=9.6
STKA LR LR 05 19 48.1
comp=Z,393nm,19.0s,MS4.1,baz=52,slow=35
CTAO Charters Tower 33.56 285 *e*P P 05 07 11.7 +2.5
CTAO pmax pmax
comp=Z,44nm,0.9s,mb5.4
CTAO Charters Tower 33.56 285 *e*P P 05 07 11.7 +2.5
comp=Z,44nm,0.9s,mb5.4
PMG Port Moresby 39.25 300 P P 05 07 57.6 -0.1
comp=Z,20nm,0.8s,mb4.9,baz=122,slow=7.2,SNR=7.4
PMG Port Moresby 39.25 300 *e*P P 05 07 58.5 +0.7
PMG pmax pmax
comp=Z,13nm,0.9s
PMG Port Moresby 39.25 300 *e*P P 05 07 58.5 +0.7
comp=Z,13nm,0.9s,mb4.7
RKT Rikitea 39.91 87 *e*S S 05 14 10.5 +4.7
comp=Z,168nm,29.2s
RKT *e*LR LR 05 18 55.7
comp=Z,820nm,26.8s,baz=246
AS31 Alice Springs 42.15 271⇑*i*P P 05 08 23.0 +1.3
AS31 *i* S **S 05 14 37.3 -1.9**
ASAR Alice Springs 42.15 271 P P 05 08 22.9 +1.1
comp=Z,59nm,0.7s,mb5.3,baz=111,slow=7.5,SNR=448
ASAR PcP PcP 05 10 14.6 -1.1
comp=Z,2.9nm,0.7s,baz=124,slow=3.8,SNR=4.3
ASAR S S **05 14 37.1 -2.1**
comp=Z,7.4nm,0.9s,baz=115,slow=16,SNR=17
ASPA Alice Springs 42.16 271⇑*i*P P 05 08 23.0 +1.3
ASPA *i* S **S 05 14 37.3 -1.9**
TAOE Nuku Hiva Isla 43.40 65 *e*S S 05 15 01.7 +4.1
comp=Z,475nm,26.8s
TAOE *e*LR LR 05 20 10.8
comp=Z,1μm,28.6s
WB2 Warramunga Arr 43.41 276⇑*i*P P 05 08 32.7 +0.8
WB2 *e*S **S 05 14 53.7 -4.0**
WRAB Tennant Creek 43.42 276 P P 05 08 32.2 +0.2
comp=Z,432nm,0.7s,mb6.3,SNR=11
WRAB Tennant Creek 43.42 276 *e*P P 05 08 32.8 +0.8
WRAB pmax pmax
comp=Z,53nm,0.6s,mb5.5
WRAB Tennant Creek 43.42 276 *e*P P 05 08 32.8 +0.8
comp=Z,53nm,0.6s,mb5.5
WRA Warramunga Arr 43.42 276 P P 05 08 32.6 +0.6
comp=Z,38nm,0.7s,mb5.2,baz=117,slow=7.5,SNR=72
WRA S **S 05 14 54.7 -3.2**
comp=Z,1.4nm,0.8s,baz=114,slow=14,SNR=4.5
FORT Forrest 44.46 258 *e*P P 05 08 41.0 +0.6
comp=Z,26nm,0.6s,mb5.2
SBA Scott Base 44.87 184 *e*P P 05 08 48.3 +4.7
SBA *e* pP 05 08 56.5 +2.5
SBA pmax pmax
comp=Z,23nm,0.9s,mb5.0
SBA Scott Base 44.87 184 *e*P P 05 08 48.3 +4.7
comp=Z,23nm,0.9s,mb5.0
SBA *e* pP 05 08 56.5 +2.5
VNDA Vanda 44.91 186 P P 05 08 47.2 +3.2
comp=Z,1.4nm,0.8s,mb3.9,baz=4.9,slow=9.1,SNR=11
VNDA Vanda 44.91 186 *e*P P 05 08 47.1 +3.1
VNDA *e* 05 10 25.5
VNDA *e* 05 10 32.2
VNDA pmax pmax
comp=Z,3.0nm,0.8s
**VNDA Vanda 44.91 186 *e*P P 05

KLBR Kellerberrin 52.55 254 eP P 05 09 42.8 +0.2
comp=Z,43nm,1.4s,mb5.2
MBWA Marble Bar 55.06 266 eP P 05 10 01.0 +0.1
comp=Z,8.5nm,0.7s,mb4.9
MBWA ePcP PcP 05 11 01.1 -1.0
MBWA e 05 11 09.8
QSPA South Pole Qui 56.60 180 eP P 05 10 14.2 +2.2
comp=Z,59nm,0.8s,mb5.7
QSPA epP pP 05 10 23.1 +0.5
MIR Mirnyy 58.95 208 eP P 05 10 31.0 +2.5
MIR pmax pmax
comp=Z,240nm,1.2s,mb6.1
SYO Syowa Base 73.89 194‖ eP P 05 12 04.0 0.0
SYO Syowa Base 73.89 194‖ iP P 05 12 10.0 +6.0
SYO Syowa Base 73.89 194‖ esP sP 05 12 22.0 +3.1
SNAA Sanae 75.07 179 ⇑ iP P 05 12 04.3 -6.6
SNAA e pP 05 12 12.6 -9.2
SNAA e pP 05 12 17.2 -4.6
SNAA e 05 12 23.2
SNAA Sanae 75.07 179 eP P 05 12 04.0 -6.9
SNAA e pP 05 12 12.3 -10
SNAA pmax pmax
comp=Z,32nm,1.1s
SNAA Sanae 75.07 179 eP P 05 12 04.0 -6.9
comp=Z,32nm,1.1s,mb5.2
SNAA e pP 05 12 12.3 -9.5
VNA3 Neumayer Olymp 75.26 176 ⇑ iP P 05 12 12.6 +0.6
VNA3 e pP 05 12 21.6 -1.3
VNA3 e pP 05 12 25.0 +2.1
VNA3 e pP 05 12 25.8 +2.9
VNA3 e 05 12 32.3
VNA2 Neumayer--Watz 75.69 177 ⇑ iP P 05 12 15.3 +0.9
baz=177,slow=5.1
VNA2 e pP 05 12 24.3 -1.0
VNA2 e pP 05 12 27.1 +1.8
VNA2 e 05 12 29.0
VNA2 e 05 12 34.6
VNA1 Neumayer--Stat 75.92 177 ⇑ iP P 05 12 16.9 +1.1
VNA1 e pP 05 12 25.6 -1.1
VNA1 e pP 05 12 28.6 +1.9
VNA1 e pP 05 12 30.2 +3.5
VNA1 e 05 12 35.2
MJAR Matsushiro Arr 80.31 326 P P 05 12 35.8 -4.2
comp=Z,2.6nm,0.8s,mb4.2,baz=138,slow=4.0,SNR=5.1
PLCA Paso Flores 81.04 133 P P 05 12 43.9 -0.1
comp=Z,4.4nm,1.0s,mb4.3,baz=271,slow=5.5,SNR=5.5
PLCA Paso Flores 81.04 133 eP P 05 12 42.1 -1.9
PLCA pmax pmax
comp=Z,7.0nm,1.0s
PLCA Paso Flores 81.04 133 eP P 05 12 42.1 -1.9
comp=Z,7.5nm,1.0s,mb4.6
SSE Sheshan 85.50 312 eP P 05 13 06.8 -0.1
SSE AMB AMB
comp=Z,21nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,30nm,8.7s
SSE Sheshan 85.50 312 eP P 05 13 06.8 -0.1
comp=Z,21nm,0.8s,mb5.3
NJ2 Nanjing 87.60 311 eP P 05 13 17.0 -0.3
NJ2 AP pP 05 13 29.5 +1.1
NJ2 XP sP 05 13 33.3 +0.9
NJ2 PP PP 05 16 45.5 +2.9
NJ2 S 05 23 52.0
NJ2 XS sS 05 24 14.0 -0.7
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.2
NJ2 AMB AMB
comp=Z,60nm,7.8s
NJ2 LR LR
comp=N,550nm,30.6s,MS4.9
NJ2 LR LR
comp=E,420nm,30.0s,MS4.9
NJ2 LR LR
comp=Z,530nm,21.0s
CMB Columbia Colle 89.66 42 eP P 05 13 25.2 -1.8
CMB pmax pmax
comp=Z,4.0nm,1.2s,mb4.6
CMB Columbia Colle 89.66 42 eP P 05 13 25.2 -1.8
comp=Z,3.8nm,1.2s,mb4.6
CMB e 05 13 44.8
MDJ Mudanjiang 90.69 326 P P 05 13 31.5 -0.3
MDJ AP pP 05 13 43.5 +0.6
MDJ XP sP 05 13 48.5 +1.6
MDJ PP PP 05 17 06.5 -0.7
MDJ S 05 24 24.5
MDJ AMB AMB
comp=Z,9.0nm,1.2s,mb5.0
MDJ AMB AMB
comp=Z,116nm,3.6s
MDJ LR LR
comp=N,240nm,30.1s
MDJ LR LR
comp=E,276nm,37.1s
MDJ LR LR
comp=Z,190nm,33.6s,MS4.3
NVAR Mina Array Bea 91.12 43 P P 05 13 31.7 -2.0
comp=Z,2.5nm,0.9s,mb4.5,baz=206,slow=6.4,SNR=15
TPNV Topopah Spring 91.32 45 eP P 05 13 33.2 -1.5
TPNV pmax pmax
comp=Z,2.0nm,0.7s,mb4.6
TPNV Topopah Spring 91.32 45 eP P 05 13 33.2 -1.5
comp=Z,1.9nm,0.7s,mb4.5
TPNV e 05 13 53.1
CN2 Changchun 92.09 323 eP P 05 13 37.0 -1.2
CN2 eXP sP 05 13 56.0 +2.6
CN2 eS 05 24 33.0
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb5.1
CN2 LR LR
comp=N,300nm,19.0s,MS5.0
CN2 LR LR
comp=E,400nm,19.0s,MS5.0
CN2 LR LR
comp=Z,500nm,21.0s,MS4.9
KMI Kunming 94.43 297 P P 05 13 50.5 +1.5
KMI AP pP 05 14 02.3 +2.1
KMI XP sP 05 14 07.0 +2.8
KMI PP PP 05 17 41.3 +4.7
KMI PPP 05 19 43.5
KMI SKS 05 24 20.0
KMI S 05 24 55.5
KMI XS sS 05 25 18.3 +1.1
KMI PS PS 05 26 22.0 +3.8
KMI SS SS 05 31 23.0 +2.0
KMI SSS 05 35 02.5
KMI AMB AMB
comp=Z,3.0nm,1.1s,mb4.6
KMI AMB AMB
comp=Z,73nm,4.4s
KMI LR LR
comp=N,129nm,19.0s,MS4.6
KMI LR LR
comp=E,106nm,15.8s,MS4.6
KMI LR LR
comp=Z,111nm,25.2s
KMI Kunming 94.43 297 P P 05 13 50.6 +1.6
KMI *PP pP 05 14 02.2 +2.0
KMI *SP sP 05 14 07.1 +2.9
KMI 05 17 41.3
KMI PPP 05 19 43.5
KMI 05 24 19.9
KMI S 05 24 55.6
KMI PS PS 05 26 22.1 +3.9
KMI SS SS 05 31 23.0 +2.0
KMI SSS 05 35 02.4
KMI pmax pmax
comp=Z,3.0nm,1.1s,mb4.6
KMI MLR MLR
comp=Z,110nm,25.2s,MS4.2
KMI Kunming 94.43 297 P P 05 13 50.6 +1.6
comp=Z,3.0nm,1.1s,mb4.6
KMI pP pP 05 14 02.2 +2.0
KMI sP sP 05 14 07.1 +2.9
KMI PP PP 05 17 41.3 +4.7
KMI PPP 05 19 43.5
KMI SKS 05 24 19.9
KMI S 05 24 55.6
KMI sS sS 05 25 18.3 +1.1
KMI PS PS 05 26 22.1 +3.9
KMI SS SS 05 31 23.0 +2.0
KMI SSS 05 35 02.4
KMI LR LR
comp=Z,110nm,25.2s,MS4.2
HHC Hu-ho-hao-te 97.75 314 eP P 05 14 04.8 +0.7

HHC AP pP 05 14 18.5 +3.2
HHC XP sP 05 14 23.5 +4.2
HHC PP PP 05 18 06.0 +3.7
HHC SKS 05 24 37.5
HHC S 05 25 23.5
HHC XS sS 05 25 46.0 +0.1
HHC PS PS 05 26 57.5 +3.0
HHC SS SS 05 32 09.5 +1.4
HHC AMB AMB
comp=Z,10.0nm,1.2s,mb5.2
HHC AMB AMB
comp=Z,63nm,1.9s,mb5.8
HHC LR LR
comp=N,141nm,17.5s
HHC LR LR
comp=E,482nm,23.1s
HHC LR LR
comp=Z,249nm,19.1s,MS4.7
LZH Lanzhou 99.86 307 eP Pdif 05 14 14.5 +1.0
LZH AP 05 14 28.0
LZH XP 05 14 33.3
LZH PP PP 05 18 21.8 +3.4
LZH AMB AMB
comp=Z,24nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,67nm,9.5s
LZH LR LR
comp=N,413nm,18.9s
LZH LR LR
comp=Z,597nm,20.0s,MS5.1
LZH Lanzhou 99.86 307 eP Pdif 05 14 14.5 +1.0
comp=Z,24nm,1.5s
LZH pP 05 14 28.1
LZH sP 05 14 33.2
LZH PP PP 05 18 21.8 +3.4
LZH LR LR
comp=Z,600nm,20.0s,MS5.1
ILAR Eielson Array 101.15 13 P Pdif 05 14 15.6 -3.7
comp=Z,0.6nm,0.8s,baz=213,slow=7.5,SNR=4.2
ILAR PP PP 05 18 21.6 -6.6
comp=Z,0.3nm,0.9s,baz=223,slow=7.4,SNR=4.5
ILAR PKKPbc PKKPbc 05 30 34.5 +5.1
comp=Z,0.4nm,0.6s,baz=19,slow=2.4,SNR=6.5
ILAR Eielson Array 101.15 13 P Pdif 05 14 15.6 -3.7
ILAR 05 18 21.6
BILL Bilibino 101.84 354 eP Pdif 05 14 16.8 -5.6
BILL pmax pmax
comp=Z,2.0nm,1.1s
BILL MLR MLR
comp=Z,200nm,18.0s,MS4.7
BOSA Boshof 114.05 203 PKP PKiKP 05 19 08.8 +0.7
comp=Z,4.6nm,1.1s,baz=218,slow=3.4,SNR=2.9
BOSA Boshof 114.05 203 PKP PKiKP 05 19 08.8 +0.7
WMQ Urumqi 114.42 307 ePKP PKiKP 05 19 06.8 -2.0
WMQ XPKP 05 19 24.5
WMQ PP PP 05 20 07.0 +1.8
WMQ LR LR
comp=N,246nm,29.2s
WMQ LR LR
comp=Z,105nm,24.2s,MS4.3
RES Resolute Bay 120.48 18 ePKIKP PKPdf 05 19 16.3 -4.1
KURK Kurchatov 122.52 313 iPKIKP PKPdf 05 19 19.1 -5.3
FRU Bishkek 123.03 303 ePKIKP PKPdf 05 19 16.0 -9.3
FRU e 05 19 21.0
FRU pmax pmax
comp=Z,40nm,1.7s
FRU pmax pmax
comp=E,250nm,1.9s
AAK Ala-Archa 123.06 302 iPKIKP PKPdf 05 19 19.5 -5.9
LSZ Lusaka 124.96 213 ePKIKP PKPdf 05 19 30.6 +1.6
BRVK Borovoye 128.03 314 ePKIKP PKPdf 05 19 30.7 -4.2
KMBO Kilima Mbogo 131.48 232 PKP PKPdf 05 19 42.1 +0.7
comp=E,3.0nm,0.9s,baz=216,slow=24,SNR=5.2
SVE Sverdlovsk 133.70 319 ePKIKP PKPdf 05 19 43.4 -2.2
SVE pmax pmax
comp=Z,32nm,1.7s
ARU Arti 134.87 319 iPKIKP PKPdf 05 19 45.2 -2.6
ARU Arti 134.87 319 ePKPdf PKPdf 05 19 44.9 -2.9
AKTK Aktyubinsk 135.47 310 PKP PKPdf 05 19 46.6 -2.3
AKTO Aktyubinsk 135.47 310 PKP PKPdf 05 19 46.6 -2.3
comp=Z,5.1nm,0.8s,baz=138,slow=1.3,SNR=13
ARCES ARCESS Array B 141.42 346 PKhKP 05 19 51.3
comp=Z,2.7nm,0.6s,baz=43,slow=2.4,SNR=20
ARE0 ARCESS Array S 141.42 346 ePKPdf PKPdf 05 19 53.0 -6.8
GNI Garni 144.61 294 PKP PKPdf 05 20 03.6 -1.8
comp=Z,3.7nm,0.3s,baz=27,slow=16,SNR=4.8
JOF Joensuu 144.94 336 epkp PKPdf 05 20 02.2 -3.9
ZEI Tsey 145.30 298 ePKIKP PKPdf 05 20 05.5 -1.2
ZEI e 05 23 27.0
VRHR Novokhopersk 145.70 313 ePKP2 PKPab 05 20 05.6 -2.5
VRHR pmax pmax
comp=Z,30nm,0.4s
VRHR pmax pmax
comp=N,20nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.4s
GOF Gofitskoye 145.81 302 ePKP2 PKPab 05 20 06.9 -1.6
GOF pmax pmax
comp=Z,50nm,0.6s
KIV Kislovodsk 146.13 300 ePKHKP 05 20 02.4
KIV i 05 20 07.3
KIV e 05 23 29.1
KIV eSS SS 05 42 19.8 -4.5
KIV pmax pmax
comp=Z,22nm,1.2s
KIV MLR MLR
comp=Z,446nm,21.0s,MS5.2
KIV Kislovodsk 146.13 300 ePKP PKPdf 05 20 07.3 -0.8
MOS Moscow 146.32 322 ePKIKP PKPdf 05 20 06.6 -1.8
MOS pmax pmax
comp=Z,200nm,1.1s
MOS pmax pmax
comp=Z,184nm,1.0s
MOS Moscow 146.32 322 ePKP PKPdf 05 20 04.9 -3.5
VRSR Storozhevoye 147.13 314 ePKP2 PKPab 05 20 09.8 -3.8
VRSR pmax pmax
comp=Z,10.0nm,1.0s
VRSR pmax pmax
comp=N,2.0nm,0.7s
VRSR pmax pmax
comp=E,6.0nm,1.0s
OBN Obninsk 147.14 322 iPKIKP PKPdf 05 20 07.7 -2.1
OBN pmax pmax
comp=Z,48nm,1.3s
OBN MLR MLR
comp=Z,400nm,23.0s,MS5.1
OBN Obninsk 147.14 322 ePKPdf PKPdf 05 20 07.7 -2.1
KAF Kangasniemi 147.14 338 epkp PKPdf 05 20 08.7 -1.1
MARD Mardin 147.48 288 iP PKPdf 05 20 09.9 -0.5
FINES FINESS Array B 147.72 338 PKPbc PKPbc 05 20 10.2 -3.4
comp=Z,31nm,0.8s,baz=76,slow=16,SNR=81
SOC Sochi 148.31 300 iPKP2 PKPab 05 20 14.6 -3.7
SOC pmax pmax
comp=Z,80nm,1.0s
SOC MLR MLR
comp=Z,379nm,19.0s,MS5.2
ELZG Elazig 148.98 290 iP PKPdf 05 20 17.0 +4.2
ANN Anapa 149.78 303 iPKHKP 05 20 15.4
ANN pmax pmax
comp=Z,85nm,1.4s
ASF Jabal al Asfar 149.86 277 PKPbc PKPbc 05 20 19.1 0.0
comp=Z,11nm,0.9s,baz=283,slow=0.4,SNR=15
GZT Gaziantep 150.04 288 iP PKPdf 05 20 18.8 +4.3
EIL Elat 150.86 272 ePKPbc PKPbc 05 20 21.1 -0.4
COBT Iskenderun 151.03 286 iP PKPbc 05 20 21.2 -0.7
NB2 NORSAR Subarra 151.66 349 PKPa PKPbc 05 20 20.3 -3.0
comp=Z,16nm,0.8s,baz=17,slow=2.6
NOA NORSAR Array B 151.66 349 PKPbc PKPbc 05 20 20.4 -2.9
comp=Z,15nm,0.8s,baz=20,slow=4.7,SNR=80
MNK Minsk 151.77 326 ePKIKP PKPdf 05 20 20.0 +2.8
MNK pmax pmax
comp=Z,390nm,1.0s
NA001 NORSAR Array S 151.90 350 ePKPbc PKPbc 05 20 21.2 -2.7
BOYT Boyabat 152.05 296 iP PKPdf 05 20 22.9 +5.3
SIM Simferopol' 152.07 304 iPKIKP PKPdf 05 20 23.1 +5.5
SIM pmax pmax
comp=Z,22nm,0.7s
HFS Hagfors 152.08 346 PKPbc PKPbc 05 20 21.2 -3.1
comp=Z,42nm,0.8s,baz=166,slow=1.2,SNR=60
CTKT Corum 152.20 295 iP PKPdf 05 20 23.1 +5.3
AVNT Avonos 152.22 291 iP PKPbc 05 20 28.0 +3.4
DBIC Dimbokro 152.75 167 PKPbc PKPbc 05 20 25.9 +0.2
comp=Z,14nm,0.8s,baz=143,slow=2.7,SNR=12
DBIC Dimbokro 152.75 167 ePKPbc PKPbc 05 20 26.0 +0.3
AKASG Malin Array Be 153.13 318 PKPbc PKPbc 05 20 24.0 -2.6
comp=Z,17nm,0.8s,baz=68,slow=2.0,SNR=52
BRTR Keskin Array B 153.14 293 PKPbc PKPbc 05 20 25.1 -1.5
comp=Z,7.9nm,0.8s,baz=152,slow=2.2,SNR=30
ELDT Eldivan 153.25 295 iP PKPdf 05 20 24.8 +5.4
ANTO Ankara 153.78 293 ePKIKP PKPdf 05 20 18.9 -1.2
SUW Suwalki 154.17 329 ePKP PKPbc 05 20 27.3 -1.5
SGKT Sivrigoynuk 154.28 295 iP PKPdf 05 20 18.1 -2.7
KIS Kishinev 154.98 311 ePKIKP PKPdf 05 20 26.0 +4.2
ESKT Eskisehir 155.30 293 iP PKPdf 05 20 20.0 -2.2
BSEG Bad Segeberg 158.53 345 ePKPab PKPab 05 20 58.7 -2.7
OKC Ostrava-Krasne 159.32 327 AMS AMS 06 23 30.0
comp=Z,400nm,20.1s
TORD Torodi Ar. Bea 159.71 182 PKP PKPdf 05 20 27.9 +0.2
comp=Z,4.5nm,1.1s,baz=298,slow=0.6,SNR=11
TORD PKPab PKPab 05 21 06.5 -0.1
comp=Z,9.4nm,0.8s,baz=177,slow=3.7,SNR=12
DPC Dobruska-Polom 159.73 331 AMS AMS 06 20 40.0
comp=Z,500nm,25.1s
CLL Collm 160.16 337 ePKPab PKPab 05 21 05.7 -2.8
CLL Collm 160.16 337 iPKPab PKPab 05 21 06.0 -2.5
comp=Z,15nm,0.8s
CLL epPKPab pPKPab 05 21 11.0 -8.7
CLL ePP PP 05 24 47.0 -3.5
BRG Berggiesshubel 160.21 335 eP PKPab 05 21 06.1 -2.6
comp=Z,5.6nm,1.1s
BRG comp=N,324nm,30.3s
BRG comp=E,194nm,26.5s
BRG
CLZ Clausthal 160.45 342 ePKPab PKPab 05 21 06.9 -2.8
IBBN Ibbenburen 160.58 347 ePKPab PKPab 05 21 07.2 -3.1
PRU Pruhonice 160.72 333 AMS AMS 06 21 40.0
comp=E,500nm,22.1s
WERD Werda 161.13 337 ePKPab PKPab 05 21 10.1 -2.6
MOX Moxa 161.18 339 ePKPab PKPab 05 21 10.3 -2.6
MOX Moxa 161.18 339 ePKP PKPab 05 21 10.2 -2.7
comp=E,6.0nm,0.7s
NKC Novy Kostel 161.27 337 AMS AMS 06 18 30.0
comp=E,700nm,26.3s
ROTZ Rotzenmuhle 161.75 336 ePKPab PKPab 05 21 13.0 -2.4
KHC Kasperske Hory 161.78 333 ePKPdf PKPdf 05 20 27.0 -3.0
KHC AMS AMS 06 20 50.0
comp=E,500nm,21.4s
GERES GERESS Array B 161.96 332 PKP PKPdf 05 20 27.9 -2.3
comp=E,0.4nm,0.4s,baz=180,slow=1.1,SNR=8.5
GERES PKPab PKPab 05 21 09.8 -6.6
comp=E,0.6nm,0.2s,baz=90,slow=5.3,SNR=4.0
WET Wettzell 162.03 334 ePKPdf PKPdf 05 20 28.6 -1.6
GRF Grafenberg Arr 162.13 338 ePKPab PKPab 05 21 14.8 -2.3
HGN Heimansgroeve 162.38 349 ePKP PKPab 05 21 15.2 -3.0
comp=E,22nm,0.9s
TNS Taunus Mts 162.41 344 ePKPab PKPab 05 21 15.4 -2.9
BAIF Baives 163.29 353 ePKP2 PKPab 05 21 18.2 -4.0
WLF Walferdange 163.41 348 ePKPab PKPab 05 21 20.7 -2.0
BFO Black Forest 164.20 342 ePKPab PKPab 05 21 23.3 -2.9
CDF Champ du Feu 164.38 344 ePKP2 PKPab 05 21 23.5 -3.5
comp=E,11nm,0.8s
MEZF Maizieres J'vi 164.71 350 ePKP2 PKPab 05 21 24.7 -3.7
HAU Haudompre 164.96 346 ePKP2 PKPab 05 21 26.0 -3.5
comp=E,15nm,0.8s
HINF Hinteralfeld 165.03 344 ePKP2 PKPab 05 21 26.4 -3.4
SGMF Saint Gilles 165.04 9 ePKP2 PKPab 05 21 26.4 -3.5
comp=E,24nm,1.0s
LOR Lormes 166.09 352 ePKP2 PKPab 05 21 30.7 -3.8
comp=E,22nm,1.1s
SSF Saint Saulge 166.33 353 ePKP2 PKPab 05 21 31.8 -3.8
comp=E,32nm,0.9s
CABF La Chapelle 166.34 345 ePKP2 PKPab 05 21 32.0 -3.6
AVF Avril sur Loir 166.61 353 ePKP2 PKPab 05 21 32.9 -3.9
comp=E,26nm,1.0s
SMF Signal de Mont 166.70 351 ePKP2 PKPab 05 21 33.3 -3.9
comp=E,54nm,1.0s
BGF Bois d'Agland 166.89 354 ePKP2 PKPab 05 21 34.2 -3.8
comp=E,17nm,0.9s
TCF Toulx Ste Croi 167.21 356 ePKP2 PKPab 05 21 35.7 -3.7
comp=E,15nm,1.0s
LPL La Plagne 167.22 341 ePKP2 PKPab 05 21 36.6 -2.9
LPG La Plagne 167.23 341 ePKP2 PKPab 05 21 36.8 -2.7
comp=E,33nm,1.2s
MBDF Montbardon 167.93 340 ePKP2 PKPab 05 21 39.1 -3.5
ORIF Oris-en-Rattie 167.99 343 ePKP2 PKPab 05 21 39.8 -3.1
comp=E,24nm,0.9s
VIVF Saint-Julien-l 168.31 347 ePKP2 PKPab 05 21 40.9 -3.4
comp=E,33nm,1.3s
CAF Calviac 168.57 356 ePKP2 PKPab 05 21 41.8 -3.7
SMRF Simiane la Rot 168.95 342 ePKP2 PKPab 05 21 43.7 -3.4
comp=E,9.8nm,1.0s
PGF Pioggiola 168.98 327 ePKP2 PKPab 05 21 43.9 -3.4
comp=E,35nm,1.2s
LMR La Mourre 169.27 338 ePKP2 PKPab 05 21 45.1 -3.5
comp=E,10.0nm,0.8s
MTLF Montolieu 170.14 355 ePKP2 PKPab 05 21 48.8 -3.6
comp=E,4.2nm,0.5s
ESDC Sonseca Array 172.69 31 PKPab PKPab 05 21 57.1 -6.6
comp=E,0.9nm,0.7s,baz=322,slow=4.5,SNR=5.1

CSEM ***29*** *05:13:47.0±0.9, 3878N×2898W, h5km, ML1.8, Error ellipse: s-maj=11.2km s-min=5.0km az=41.0, After PDA*
PDA ***29*** *05:13:47.0±0.9, 3878N×2898W, h5km, MD3.0, ML1.8, Error ellipse: s-maj=11.2km s-min=5.0km az=41.0*

SVSA 29 05:13:47.0±0.9, 3878N×2898W, h5km, MD3.0, ML1.8, Error ellipse: s-maj=11.2km s-min=5.0km az=41.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
PTCA	**Ponta do Capel**	**0.24**	**143**	***e***P	Pg	05 13 51.7	0.0
PTCA				e**S**	Sg	05 13 54.9	0.0
PTCA	28nm,0.2s						
PTCA	**Ponta do Capel**	**0.24**	**143**	***e***P	Pg	05 13 51.7	0.0
PTCA				e**S**	Sg	05 13 54.9	0.0
PCED	**Cedros**	**0.26**	**124**	***e***P	Pg	05 13 51.6	-0.5
PCED				e**S**	Sg	05 13 55.5	-0.1
PCED	49nm,0.1s						
PCED	**Cedros**	**0.26**	**124**	***e***P	Pg	05 13 51.6	-0.5
PCED				e**S**	Sg	05 13 55.5	-0.1
CALA	**Caldeira**	**0.29**	**132**	***e***P	Pg	05 13 59.5	+6.8
CALA				e**S**	Sg	05 14 03.3	+6.8
PICO	**Pico**	**0.52**	**122**	***e***P	Pg	05 14 02.9	+6.0
PICO				e**S**	Sg	05 14 09.7	+6.1
ROSA	**Rosais**	**0.58**	**96**	***e***P	Pg	05 14 04.3	+6.1
ROSA				e**S**	Sg	05 14 12.0	+6.3

IDC ***29*** *05:16:08.8±1.0, 4995N×8828E, h0km, mb3.7/7, mb1 4.0/11, mb1mx3.8/27, mbtmp3.9/11, ML4.0/4, Error ellipse: s-maj=15.1km s-min=10.2km az=118.0*
MOS ***29*** *05:16:09.1±1.6, 4987N×8810E, h13km, mb4.5/1, Error ellipse: s-maj=11.2km s-min=8.0km az=132.0*
BJI ***29*** *05:16:13.0, 4994N×8834E, h32km, mB4.4, mb4.1, ML4.7, Ms4.2*
NEIC ***29*** *05:16:13.7±0.5, 4994N×8816E, h35km, mb4.1/1, Error ellipse: s-maj=11.0km s-min=7.3km az=185.0*
ISCJB ***29*** *05:16:13.1±0.7, 4993N±004×8798E±005, h44km±8km, mb3.8/8, Error ellipse: s-maj=7.5km s-min=5.0km az=117.0*
NNC ***29*** *05:16:16.4±1.5, 5002N×8747E, h11km±8km, mb4.2, mpv4.6, Error ellipse: s-maj=10.9km s-min=6.0km az=86.0*

ISC 29 05:16:15.1±1.1, 5008N±004×8786E±005, h30km±8km, n50, σ1§35/69, mb3.8/8, 17C-9D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
AKAR	**Aktash**	**0.29**	**327**	*i* P**G**	**Pb**	**05 16 21.0**	**-1.4**
AKAR				*i*		05 16 28.6	
UKR	**Ust'-Kan**	**2.15**	**295**	*i* P**N**	**Pn**	**05 16 54.0**	**+5.1**
UKR				*i*		05 17 25.2	
TASR	**Tashtagol**	**2.69**	**0**	*e*P**N**	**Pn**	**05 17 04.2**	**+7.9**
ZAL	**Zalesovo**	**4.30**	**335**	P**n**	**Pn**	**05 17 20.4**	**+1.9**
ZAL	12nm,0.3s,baz=325,slow=10.0,SNR=41			S**n**	**Sn**	**05 18 13.7**	**+6.1**
ZAL	42nm,0.3s,baz=280,slow=13,SNR=4.1			L**g**		05 18 32.2	
ZAL	**Zalesovo**	**4.30**	**335**	P**n**	**Pn**	**05 17 20.4**	**+1.9**
ZAL	73nm,0.3s,baz=261,slow=19,SNR=8.7			S**n**	**Sn**	**05 18 13.7**	**+6.1**
ZAL				L**g**		05 18 32.2	
MK31	**Makanchi Array**	**4.96**	**231**	P**N**	**Pn**	**05 17 27.8**	**+0.3**

MK31 pmax pmax
comp=Z,36nm,0.6s
MKAR Makanchi Array 4.96 231 Pn **Pn 05 17 27.9 +0.5**
comp=Z,47nm,0.3s,baz=56,slow=14,SNR=908
MKAR Sn **Sn 05 18 26.0 +2.3**
comp=Z,54nm,0.3s,baz=65,slow=30,SNR=8.9
MKAR Lg 05 18 48.6
comp=Z,117nm,0.3s,baz=54,slow=32,SNR=9.0
MKAR Makanchi Array 4.96 231 Pn **Pn 05 17 27.9 +0.5**
MKAR Sn **Sn 05 18 26.0 +2.3**
MKAR Lg 05 18 48.6
MK09 Makanchi Array 4.97 230 ↑Pn **Pn 05 17 28.2 +0.5**
comp=Z,37nm,0.3s,baz=58,slow=15
MK09 ↓Sn **Sn 05 18 24.1 -0.1**
comp=Z,238nm,0.7s
MK09 ↑Lg 05 18 46.6
comp=Z,282nm,0.7s,baz=52,slow=32
NVS Novosibirsk 5.54 331 *e*PN **Pn 05 17 38.3 +2.7**
NVS *e* 05 17 55.5
NVS *e* 05 18 42.9
KURK Kurchatov 5.95 280 ↑Pn **Pn 05 17 42.2 +1.2**
comp=Z,36nm,0.6s
KURK ↑Sn **Sn 05 18 48.2 0.0**
comp=Z,137nm,0.8s
KURK ↓Lg 05 19 16.7
comp=Z,252nm,0.7s
KURK Kurchatov 5.95 280 ↑*i*PN **Pn 05 17 42.3 +1.2**
KURK *e* 05 18 51.5
KURK pmax pmax
comp=Z,100nm,0.8s
KURK Kurchatov 5.95 280 ↑*i*Pn **Pn 05 17 42.3 +1.2**
comp=Z,100nm,0.8s
KURK *e*Sn **Sn 05 18 51.5 +3.4**
MOY Mondy 8.46 74 *e*P **Pn 05 18 16.2 +0.7**
MOY *e*S **Sn 05 19 50.6 +0.7**
MOY pmax pmax
comp=Z,41nm,1.0s
MOY smax
comp=N,264nm,1.4s
VOSK Vostochnaya 10.88 291 ↑Pn **Pn 05 18 49.7 +1.0**
comp=N,16nm,0.9s
VOSK ↑Sn **Sn 05 20 47.7 -1.5**
comp=N,24nm,0.7s
VOSK ↓Lg 05 21 55.1
comp=N,39nm,0.8s
VOSK Vostochnaya 10.88 291 P **Pn 05 18 51.3 +2.6**
VOSK 05 20 47.7
VOSK pmax pmax
comp=Z,2.0nm,0.6s
VOSK smax
comp=N,14nm,0.8s
TKM2 Tokmak 2 11.07 234 ↑Pn **Pn 05 18 51.0 -0.3**
comp=N,0.8nm,0.7s
TKM2 ↑Sn **Sn 05 20 53.4 -0.6**
comp=N,4.1nm,1.0s
TKM2 ↓Lg 05 22 01.3
comp=N,24nm,1.6s
CHKZ Chkalovo 11.25 295 ↓Pn **Pn 05 18 54.4 +0.6**
comp=N,16nm,1.1s
CHKZ ↑Sn **Sn 05 20 58.1 -0.3**
comp=N,23nm,0.8s
CHKZ ↓Lg 05 22 09.1
comp=N,42nm,1.1s
CHKZ Chkalovo 11.25 295 *e*P **Pn 05 18 52.9 -0.9**
CHKZ *e* 05 20 55.8
CHKZ pmax pmax
comp=Z,6.0nm,0.2s
CHKZ Chkalovo 11.25 295 *e*Pn **Pn 05 18 52.9 -0.9**
comp=Z,6.0nm,0.2s
CHKZ *e*Sn **Sn 05 20 55.8 -2.7**
BVA0 Borovoye Array 11.27 292 Pn **Pn 05 18 53.8 -0.3**
comp=Z,3.8nm,1.1s,baz=104,slow=15,SNR=40
BVA0 Borovoye Array 11.27 292 P **Pn 05 18 53.8 -0.3**
BVA0 *i* 05 20 58.2
BVA0 pmax pmax
comp=Z,1.0nm,0.5s
BVA0 smax
comp=Z,1.0nm,0.4s
BRVK Borovoye 11.34 292 *e*P **Pn 05 18 56.7 +1.7**
BRVK *e* 05 20 59.5
BRVK pmax pmax
comp=Z,14nm,1.0s
BRVK Borovoye 11.34 292 *e*Pn **Pn 05 18 56.7 +1.6**
comp=Z,14nm,1.0s
BRVK *e*Sn **Sn 05 20 59.5 -1.1**
AAK Ala-Archa 11.85 236 ↑*e*P **Pn 05 19 01.2 -0.8**
AAK *e* 05 21 14.8
AAK pmax pmax
comp=Z,9.0nm,0.4s
AAK Ala-Archa 11.85 236 ↑*e*Pn **Pn 05 19 01.2 -0.8**
comp=Z,9.3nm,0.4s
AAK *e*Sn **Sn 05 21 14.8 +1.6**
ZRNK Zerenda 12.09 291 ↑Pn **Pn 05 19 06.0 +0.7**
comp=Z,13nm,0.9s
ZRNK ↑Sn **Sn 05 21 18.8 -0.3**
comp=Z,19nm,0.7s
ZRNK ↓Lg 05 22 34.9
comp=Z,47nm,1.1s
ZRNK Zerenda 12.09 291 *e*P **Pn 05 19 06.5 +1.2**
ZRNK *e* 05 21 17.9
ZRNK pmax pmax
comp=Z,14nm,0.6s
ZRNK Zerenda 12.09 291 *e*Pn **Pn 05 19 06.5 +1.2**
comp=Z,14nm,0.6s
ZRNK *e*Sn **Sn 05 21 17.9 -1.2**
SONM Songino Array 12.39 93 Pn **Pn 05 19 04.6 -4.7**
comp=Z,0.4nm,0.3s,baz=264,slow=14,SNR=2.6
SONM Lg 05 22 31.1
comp=Z,0.7nm,0.3s,baz=294,slow=26,SNR=5.5
KK31 Karatay Array 13.80 246 ↓Pn **Pn 05 19 25.8 -2.9**
comp=Z,3.3nm,0.5s,baz=51,slow=12,SNR=54
KK31 ↑Sn **Sn 05 21 59.9 -1.0**
comp=Z,9.6nm,0.7s
KK31 ↑Lg 05 23 28.7
comp=Z,16nm,0.7s,baz=51,slow=30,SNR=4.1
KKAR Karatay Array 13.80 246 *e*P **Pn 05 19 25.0 -3.7**
KKAR 05 21 54.1
KKAR pmax pmax
comp=Z,1.0nm,0.4s
KKAR smax
comp=N,12nm,0.7s
AB31 Akbulak array 18.05 278 P **Pn 05 20 23.9 +0.3**
comp=N,1.9nm,0.6s,baz=79,slow=11,SNR=22
ARU Arti 18.55 301 *e*P **Pn 05 20 31.9 +2.2**
ARU *e*S **Sn 05 24 05.9 +10**
ARU Arti 18.55 301 *e*P **Pn 05 20 29.5 -0.2**
comp=N,6.6nm,0.5s
AKTK Aktyubinsk 19.03 283 Pn **Pn 05 20 34.6 -0.9**
AKTK Sn **Sn 05 24 03.1 -4.6**
AKTK Lg 05 26 20.1
AKTO Aktyubinsk 19.03 283 ↓P **Pn 05 20 34.9 -0.6**
comp=N,0.1nm,0.7s
AKTO Aktyubinsk 19.03 283 Pn **Pn 05 20 34.6 -0.9**
comp=N,0.4nm,0.3s,baz=85,slow=12,SNR=11
AKTO Sn **Sn 05 24 03.1 -4.6**
comp=N,0.1nm,0.3s,baz=3.4,slow=19,SNR=2.5
AKTO Lg 05 26 20.1
comp=N,0.1nm,0.3s,baz=208,slow=22,SNR=4.2
AKTO Aktyubinsk 19.03 283 P **Pn 05 20 34.6 -0.9**
AKTO 05 24 03.2
SSE Sheshan 31.26 115 *e*P **P 05 22 27.5 -4.6**
SSE AMB AMB
comp=Z,20nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,32nm,5.9s
SSE Sheshan 31.26 115 *e*P **P 05 22 27.6 -4.5**
comp=Z,20nm,0.7s,mb5.1
FINES FINESS Array B 35.21 313 P **P 05 23 06.6 +0.1**
comp=Z,2.3nm,1.0s,mb4.0,baz=74,slow=10,SNR=3.1
BRTR Keskin Array B 38.98 276 P **P 05 23 38.5 -0.1**
comp=Z,0.6nm,0.5s,mb3.6,baz=81,slow=7.8,SNR=3.9
HFS Hagfors 41.40 313 P **P 05 23 59.1 +0.4**
comp=Z,1.6nm,0.7s,mb3.8,baz=60,slow=8.7,SNR=4.2
NB2 NORSAR Subarra 42.23 315 P **P 05 24 05.6 +0.2**
comp=Z,2.8nm,0.8s,mb3.9,baz=65,slow=7.9
NOA NORSAR Array B 42.23 315 P **P 05 24 05.0 -0.4**
comp=Z,0.8nm,0.6s,mb3.5,baz=64,slow=7.8,SNR=3.4
ILAR Eielson Array 57.89 24 P **P 05 26 02.3 -1.8**
comp=Z,0.3nm,0.6s,mb3.5,baz=320,slow=5.5,SNR=8.9
INK Inuvik 57.98 17 P **P 05 26 02.3 -2.5**
comp=Z,0.6nm,0.6s,mb3.8,baz=45,slow=4.3,SNR=3.5
TORD Torodi Ar. Bea 77.60 276 P **P 05 28 08.3 0.0**
comp=Z,0.1nm,0.4s,mb3.1,baz=43,slow=6.3,SNR=3.8
CPUP Villa Florida 144.31 299 PKP PKPdf 05 35 44.9 -3.2
comp=Z,0.4nm,0.5s,baz=80,slow=6.1,SNR=2.6

GUC ***29*** *05:19:57.1±2.6, 61.11S×1790W, h0km±999km, MW5.5(NEIC)*
BJI ***29*** *05:20:36.2, 5960S×2620W, h44km, mB5.4, Ms5.5, Msz5.3*
ISCJB ***29*** *05:20:37.5±1.8, 5958S±005×2625W±0.10, h39km±16km, mb5.5/39, MS5.2/156, Error ellipse: s-maj=10.1km s-min=6.1km az=85.3*
NEIC ***29*** *05:20:39.2±0.1, 5959S×2624W, mb5.6/25, MS5.2/127, MW5.5, Error ellipse: s-maj=7.6km s-min=5.2km az=205.0, Moment Tensor Solution. s12 Moment tensor: Scale 10^17Nm; Mrr2.48; Mθθ-0.93; Mϕϕ-1.55; Mrθ-0.53; Mθϕ-0.77; Mϕr0.63; Best double couple: M₀2.40000×10^17 NP1:ϕs19.00000°, δ50.00000°, λ71.00000°. NP2: ϕs227.00000°, δ44.00000°, λ111.00000°. Principal axes: T 2.6900, Plg75.0000°, Azm224.0000°; N -0.6100, Plg14.0000°, Azm32.0000°; P -2.0800, Plg3.0000°, Azm123.0000°;*
HRVD ***29*** *05:20:39.2±0.1, 5997S×2579W, h48km, MW5.7/100, Centroid moment Tensor Solution. LP body waves: s100,c200;Mantle waves: s100,c270; Half duration: 1s7 Moment tensor; Scale 10^17Nm; Mrr3.25±.05; Mθθ0.12±.04; Mϕϕ-3.37±.04; Mrθ-0.92±.04; Mθϕ-1.74±.03; Mrr0.83±.04; Best double couple: M₀3.92900×10^17 NP1:ϕ223.00000°, δ46.00000°, λ121.00000°. NP2:ϕ2.00000°, δ52.00000°, λ62.00000°. Principal axes: T 3.7440, Plg68.0000°, Azm210.0000°; N 0.3690, Plg22.0000°, Azm20.0000°; P -4.1140, Plg3.0000°, Azm112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
MOS ***29*** *05:20:48.0±1.4, 5956S×2648W, h127km, mb5.3/10 Error ellipse: s-maj=24.3km s-min=11.8km az=102.5*
IDC ***29*** *05:20:48.5±1.7, 5950S×2660W, h121km±14km, mb5.1/21, mb1 5.1/21,mb1mx5.1/22,mbtmp5.4/21,MS5.1/15, Ms1 5.1/15,ms1mx5.1/15,Error ellipse: s-maj=12.1km s-min=8.4km az=15.0*

ISC 29 05:20:38.8±1.1, 5965S±005×2630W±009, h37km±10km, h44km±3.4km:pP-P, n408, σ0s94/118, mb5.5/39, MS5.2/156, 27C-17D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
HOPE	**Hope Point**	**7.74**	**310**	Pn	**Pn**	**05 22 36.0**	**+7.2**
	21μm,1.3s						
HOPE	**Hope Point**	**7.74**	**310**	*e*Pn	**Pn**	**05 22 36.3**	**+7.5**
	7μm,1.3s						
VNA1	**Neumayer--Stat**	**13.31**	**153**	↓*i*Pn	**Pn**	**05 23 44.2**	**-0.9**
VNA1				*e*		05 23 46.2	
VNA1				*e*		05 23 49.2	
VNA1				*e*		05 23 55.9	
VNA1				*e*		05 24 13.8	
VNA1				*e*		05 26 06.8	
VNA1				*e*		05 26 11.3	
VNA1				*e*		05 26 25.6	
VNA1				*e*		05 26 35.7	
VNA1				*e*S	Sn	05 26 40.3	+29
VNA1				*e*		05 29 13.9	
VNA1				*e*		05 32 42.9	
VNA1				*e*		05 32 52.3	
VNA3	**Neumayer Olymp**	**13.45**	**157**	↓*i*Pn	**Pn**	**05 23 46.0**	**-1.1**
VNA3				*e*		05 23 48.2	
VNA3				*e*		05 23 50.7	
VNA3				*e*		05 23 57.3	
VNA3				*e*		05 24 16.0	
VNA3				*e*		05 26 08.7	
VNA3				*e*		05 26 13.1	
VNA3				*e*		05 26 26.0	
VNA3				*e*		05 26 36.7	
VNA3				*e*S	Sn	05 26 40.9	+26
VNA3				*e*		05 29 13.0	
VNA3				*e*		05 32 41.8	
VNA3				*e*		05 32 51.9	
VNA2	**Neumayer--Watz**	**13.71**	**153**	↓*i*Pn	**Pn**	**05 23 49.1**	**-1.4**
VNA2				*e*		05 23 51.2	
VNA2				*e*		05 23 53.7	
VNA2				*e*		05 24 01.2	
VNA2				*e*		05 24 19.0	
VNA2				*e*		05 26 12.2	
VNA2				*e*		05 26 15.9	
VNA2				*e*		05 26 29.8	
VNA2				*e*		05 26 41.0	
VNA2				*e*S	Sn	05 26 44.7	+23
VNA2				*e*		05 29 13.5	
VNA2				*e*		05 32 43.0	
VNA2				*e*		05 32 52.6	
SNAA	**Sanae**	**15.29**	**151**	P	**Pn**	**05 24 10.9**	**-0.9**
	4.8nm,0.3s,baz=322,slow=13,SNR=387						
SNAA				S	S	05 26 47.8	-28
	3.6nm,0.3s,baz=322,slow=19,SNR=5.8						
SNAA				LR	LR	05 28 57.8	
	comp=Z,4μm,20.1s,baz=308,slow=32						
SNAA				T		05 38 28.4	
	0.3nm,0.3s,baz=317,slow=20,SNR=3.6						
SNAA	**Sanae**	**15.29**	**151**	↓*i*Pn	**Pn**	**05 24 03.4**	**-8.4**
SNAA				*e*		05 24 05.5	
SNAA				*e*		05 24 07.8	
SNAA				*e*		05 24 15.8	
SNAA				*e*		05 24 32.0	
SNAA				*e*		05 26 44.2	
SNAA				*e*		05 26 48.8	
SNAA				*e*		05 27 00.4	
SNAA				*e*		05 27 10.9	
SNAA				*e*S	**S**	**05 27 16.4**	**+1.0**
SNAA				*e*		05 29 08.1	
SNAA				*e*		05 32 37.8	
SNAA				*e*		05 32 47.2	
SNAA	**Sanae**	**15.29**	**151**	*e*P	**Pn**	**05 24 03.2**	**-8.5**
	174nm,0.6s						
SNAA				S	S	05 26 47.8	-28
SNAA				LR	LR	05 28 57.8	
PMSA	**Palmer Station**	**18.11**	**238**	*e*P	**Pn**	**05 24 49.6**	**+2.3**
	255nm,1.3s						
NVL	**N'lazarevskaya**	**19.06**	**141**	*e*↓*i*P	**Pn**	**05 24 59.5**	**+0.6**
NVL				*i* S	**S**	**05 28 32.6**	**+0.5**
NVL				pmax	pmax		
	comp=N,102nm,1.3s						
NVL				pmax	pmax		
	comp=E,216nm,1.3s						
NVL				pmax	pmax		
	comp=Z,236nm,1.3s						
NVL				MLR	MLR		
	comp=Z,5μm,18.0s						
USHA	**Ushuaia**	**23.00**	**263**	P	**P**	**05 25 40.9**	**+0.7**
	comp=Z,486nm,1.1s,mb5.9,baz=94,slow=9.7,SNR=92						
USHA				PcP	PcP	05 29 28.5	-0.5
	comp=Z,6.6nm,0.8s,baz=51,slow=6.5,SNR=3.9						
USHA				LR	LR	05 32 44.4	
	comp=Z,8μm,20.2s,MS5.2,baz=92,slow=31						
TRIS	**Tristan da Cun**	**24.33**	**28**	*e*P	**P**	**05 25 54.7**	**+1.8**
	comp=Z,526nm,1.0s,mb5.9						
TRIS				LR	LR		
	comp=Z,7μm,20.0s,MS5.1						
SYO	**Syowa Base**	**28.56**	**137**	↓*e*P	**P**	**05 26 29.6**	**-1.4**
QSPA	**South Pole Qui**	**30.59**	**180**	↑*i*P	**P**	**05 26 50.7**	**+1.7**
	comp=Z,280nm,1.1s,mb6.0						
TRQA	**Tornquist**	**31.30**	**298**	*e*P	**P**	**05 26 56.1**	**+0.9**
	comp=Z,118nm,0.9s,mb5.7						
TRQA				*e*pP	pP	05 27 06.0	+0.2
TRQA				*e*PcP	PcP	05 29 47.6	-1.2
TRQA				*e*ScP	ScP	05 33 26.4	-2.5
TRQA				LR	LR		
	comp=Z,4μm,22.0s,MS5.1						
PLCA	**Paso Flores**	**33.24**	**285**	P	**P**	**05 27 12.0**	**-0.2**
	comp=Z,106nm,1.1s,mb5.7,baz=147,slow=8.3,SNR=78						
PLCA				PcP	PcP	05 29 52.8	-1.3
	comp=Z,8.3nm,0.9s,baz=314,slow=2.5,SNR=2.6						
PLCA	**Paso Flores**	**33.24**	**285**	↑*e*P	**P**	**05 27 12.0**	**-0.2**
	comp=Z,118nm,1.1s,mb5.7						
PLCA				LR	LR		
	comp=Z,5μm,22.0s,MS5.2						
SFDO	**San Fernando**	**38.30**	**291**	↑*i*P	**P**	**05 27 55.3**	**-0.4**
CACH	**El Canelo**	**38.51**	**291**	↓*i*P	**P**	**05 27 57.1**	**-0.3**
LMEL	**Las Melosas**	**38.55**	**292**	*e*P	**P**	**05 27 57.7**	**0.0**
LMEL	**Las Melosas**	**38.55**	**292**	↑*i*P	**P**	**05 27 57.7**	**0.0**
CHCH	**Chadas Angostu**	**38.69**	**292**	*e*P	**P**	**05 27 58.2**	**-0.6**
CHCH	**Chadas Angostu**	**38.69**	**292**	↑*i*P	**P**	**05 27 58.6**	**-0.2**
MDZ	**Mendoza**	**38.71**	**295**	*e*P	**P**	**05 28 01.3**	**+2.2**
MDZ				*i*	pP	05 28 10.4	+0.6
PCH	**Pirque**	**38.88**	**292**	↑*i*P	**P**	**05 28 00.9**	**+0.4**
ANTU	**Antumapu**	**38.98**	**292**	↓*i*P	**P**	**05 28 02.5**	**+1.2**
LNV	**Longovilo**	**39.03**	**291**	↑*i*P	**P**	**05 28 01.3**	**-0.5**
TACH	**Talagante**	**39.05**	**292**	↓*e*P	**P**	**05 28 02.0**	**+0.1**
TACH	**Talagante**	**39.05**	**292**	↓*i*P	**P**	**05 28 02.1**	**+0.2**
CLCH	**Cerro Calan**	**39.08**	**292**	↑*i*P	**P**	**05 28 02.4**	**+0.2**
SCR	**San Cristobal**	**39.21**	**292**	↑*i*P	**P**	**05 28 02.4**	**-0.9**
PEL	**Peldehue**	**39.35**	**292**	↓*i*P	**P**	**05 28 05.0**	**+0.5**
PEL	**Peldehue**	**39.35**	**292**	↓*i*P	**P**	**05 28 04.9**	**+0.5**
LCCH	**Las Cruces**	**39.50**	**291**	*e*P	**P**	**05 28 05.2**	**-0.4**
LCCH	**Las Cruces**	**39.50**	**291**	↓*i*P	**P**	**05 28 05.7**	**+0.1**
CFAA	**Coronel Fontan**	**39.51**	**296**	P	**P**	**05 28 05.2**	**-0.5**
	comp=Z,4.4nm,0.3s,mb4.6,baz=146,slow=8.6,SNR=148						
CFAA				PcP	PcP	05 30 11.8	-1.1
	comp=Z,1.4nm,0.4s,baz=141,slow=6.5,SNR=6.5						
CFAA				S	**S**	**05 33 54.5**	**-11**
	comp=Z,0.7nm,0.9s,baz=144,slow=5.3,SNR=4.0						
CFAA	**Coronel Fontan**	**39.51**	**296**	P	**P**	**05 28 05.2**	**-0.5**
CFAA				PcP	PcP	05 30 11.8	-1.1
CFAA				S	**S**	**05 33 54.5**	**-11**
CPUP	**Villa Florida**	**39.60**	**313**	P	**P**	**05 28 05.7**	**-0.8**
	comp=Z,8.2nm,0.4s,mb4.8,baz=137,slow=7.4,SNR=91						
CPUP				S	**S**	**05 33 56.1**	**-11**
	comp=Z,9.5nm,1.0s,baz=104,slow=3.9,SNR=3.7						
CPUP				LR	LR	05 43 55.6	
	comp=Z,2μm,20.0s,MS4.8,baz=148,slow=35						
CPUP	**Villa Florida**	**39.60**	**313**	P	**P**	**05 28 05.7**	**-0.8**
CPUP				S	**S**	**05 33 56.2**	**-11**
ROCH	**El Roble**	**39.65**	**292**	↓*i*P	**P**	**05 28 07.5**	**+0.6**
JACH	**Jahuel**	**39.69**	**293**	*e*P	**P**	**05 28 07.0**	**-0.3**
JACH	**Jahuel**	**39.69**	**293**	↓*i*P	**P**	**05 28 07.6**	**+0.3**
CMCH	**Combarbala**	**41.14**	**294**	↓*i*P	**P**	**05 28 19.2**	**-0.1**
SUR	**Sutherland**	**41.28**	**70**	P	**P**	**05 28 21.8**	**+1.4**
	comp=Z,20nm,0.8s,mb4.8,baz=215,slow=7.2,SNR=16						
SUR				PcP	PcP	05 30 20.0	+1.4
	comp=Z,35nm,1.1s,baz=217,slow=4.3,SNR=5.4						
SUR	**Sutherland**	**41.28**	**70**	*e*P	**P**	**05 28 21.5**	**+1.1**
	comp=Z,54nm,1.4s,mb5.0						
SUR				*e*pP	pP	05 28 34.4	+3.3
SUR				*i* PcP	PcP	05 30 20.1	+1.5
SUR				LR	LR		
	comp=Z,3μm,19.0s,MS5.2						
TLL	**Tololo Astrono**	**41.89**	**295**	↑*e*P	**P**	**05 28 25.8**	**+0.3**
TLL	**Tololo Astrono**	**41.89**	**295**	↑*i*P	**P**	**05 28 26.0**	**+0.6**
SBA	**Scott Base**	**42.51**	**184**	*e*P	**P**	**05 28 32.1**	**+1.7**
SBA				pmax	pmax		
	comp=Z,380nm,1.6s,mb5.9						
SBA				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.1						
SBA	**Scott Base**	**42.51**	**184**	*e*P	**P**	**05 28 32.1**	**+1.6**
	comp=Z,380nm,1.6s,mb5.9						
SBA				LR	LR		
	comp=Z,2μm,19.0s,MS5.1						
VNDA	**Vanda**	**42.99**	**183**	P	**P**	**05 28 35.9**	**+1.6**
	comp=Z,54nm,0.8s,mb5.3,baz=187,slow=7.0,SNR=235						
VNDA				PcP	PcP	05 30 24.8	+0.6
	comp=Z,15nm,0.9s,baz=248,slow=3.9,SNR=4.8						
VNDA				ScP	ScP	05 34 11.3	-1.0
	comp=Z,3.7nm,1.1s,baz=232,slow=5.0,SNR=4.1						
VNDA				LR	LR	05 45 15.8	
	comp=Z,2μm,19.5s,MS5.0,baz=181,slow=34						
VNDA	**Vanda**	**42.99**	**183**	P	**P**	**05 28 35.9**	**+1.6**
VNDA						05 30 24.8	
MIR	**Mirnyy**	**46.37**	**151**	*c* *i*P	**P**	**05 29 01.5**	**+0.2**
MIR				pmax	pmax		
	comp=Z,754nm,1.8s,mb6.3						
BOSA	**Boshof**	**46.53**	**72**	P	**P**	**05 29 03.0**	**+0.5**
	comp=Z,46nm,0.9s,mb5.4,baz=212,slow=7.8,SNR=45						
BOSA				PcP	PcP	05 30 37.4	+1.0
	comp=Z,24nm,0.9s,baz=233,slow=3.1,SNR=4.2						
BOSA				LR	LR	05 45 09.8	
	comp=Z,2μm,19.1s,MS5.2,baz=197,slow=31						
BOSA	**Boshof**	**46.53**	**72**	*e*P	**P**	**05 29 02.8**	**+0.3**
BOSA				*e*		05 30 37.0	
BOSA				pmax	pmax		
	comp=Z,56nm,1.0s,mb5.5						
BOSA	**Boshof**	**46.53**	**72**	*e*P	**P**	**05 29 02.8**	**+0.3**
	comp=Z,56nm,1.0s,mb5.5						
BOSA				*e*pP	pP	05 29 16.9	+3.5
BOSA				*i* PcP	PcP	05 30 37.2	+0.8
BOSA				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
BDFB	**Brasilia**	**46.74**	**331**	P	**P**	**05 29 04.0**	**-0.1**
	comp=Z,30nm,0.7s,mb5.3,baz=154,slow=4.8,SNR=69						
BDFB				LR	LR	05 45 38.4	
	comp=Z,3μm,21.8s,MS5.2,baz=164,slow=32						
CEN1	**Los Morros**	**47.45**	**300**	*e*P	**P**	**05 29 06.0**	**-3.8**
LVC	**Limon Verde**	**47.57**	**302**	P	**P**	**05 29 11.6**	**+0.9**
	comp=Z,33nm,0.3s,mb5.8,baz=154,slow=5.0,SNR=123						
LVC	**Limon Verde**	**47.57**	**302**	*e*P	**P**	**05 29 11.6**	**+1.0**
	comp=Z,108nm,0.9s,mb5.9						
LVC				*e*pP	pP	05 29 23.0	+1.4
LVC				*e*sP	sP	05 29 28.3	+2.3
LVC				*e*PcP	PcP	05 30 39.2	-0.9
LVC				LR	LR		
	comp=Z,3μm,22.0s,MS5.2						
LBTB	**Lobatse**	**49.72**	**69**	P	**P**	**05 29 27.6**	**+0.4**
	comp=Z,60nm,0.8s,mb5.7,baz=219,slow=8.4,SNR=76						
LBTB				ScP	ScP	05 34 37.2	-3.2
	comp=Z,8.6nm,0.9s,baz=224,slow=4.2,SNR=5.7						
LBTB	**Lobatse**	**49.72**	**69**	P	**P**	**05 29 27.6**	**+0.4**
LBTB				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.6						
LBTB				pmax	pmax		
	comp=N,9.0nm,0.9s						
LBTB	**Lobatse**	**49.72**	**69**	*e*P	**P**	**05 29 27.2**	**+0.1**
	comp=N,77nm,0.9s,mb5.7						
LBTB				pP	pP	05 29 39.8	+1.7
LBTB				*e*sP	sP	05 29 46.9	+4.4
LBTB				LR	LR		
	comp=Z,4μm,20.0s,MS5.4						
CASY	**Casey**	**50.36**	**159**	*e*P	**P**	**05 29 32.8**	**+0.8**
	comp=Z,129nm,1.3s,mb5.8						
CASY				LR	LR		
	comp=Z,6μm,21.0s,MS5.6						
TSUM	**Tsumeb**	**51.13**	**57**	P	**P**	**05 29 38.8**	**+0.9**
	comp=Z,25nm,1.0s,mb5.1,baz=187,slow=6.3,SNR=22						
TSUM	**Tsumeb**	**51.13**	**57**	P	**P**	**05 29 38.8**	**+0.9**
TSUM				LR	LR		
	comp=Z,3μm,22.0s,MS5.3						
LPAZ	**La Paz**	**52.88**	**307**	P	**P**	**05 29 51.7**	**+0.9**
	comp=Z,32nm,0.3s,mb5.7,baz=144,slow=6.0,SNR=201						
LPAZ				S	**S**	**05 37 21.1**	**+4.0**
	comp=Z,2.0nm,0.8s,baz=26,slow=16,SNR=5.8						
LPAZ				LR	LR	05 52 01.2	
	comp=Z,1μm,21.8s,MS4.8,baz=154,slow=36						
DRV	**Dumont d'Urvil**	**53.58**	**173**	P	**P**	**05 29 56.0**	**0.0**
DRV				S	**S**	**05 37 27.0**	**+0.3**
DRV				SS	SS	05 41 07.0	-0.4
DRV				L		05 43 00.0	
DRV				R		05 46 00.0	
ARE	**Arequipa**	**54.13**	**303**	*e*P	**P**	**05 30 00.0**	**0.0**
MATP	**Matopo**	**55.01**	**69**	P	**P**	**05 30 06.6**	**+0.2**
	comp=Z,57nm,0.8s,mb5.6,baz=212,slow=7.7,SNR=48						
MATP	**Matopo**	**55.01**	**69**	P	**P**	**05 30 06.6**	**+0.2**
LSZ	**Lusaka**	**59.32**	**66**	*e*P	**P**	**05 30 37.3**	**+0.4**
	comp=Z,60nm,0.8s,mb5.7						
LSZ				LR	LR		
	comp=Z,4μm,22.0s,MS5.5						
NNA	**Nana**	**60.43**	**300**	*e*P	**P**	**05 30 44.0**	**-0.5**
	comp=Z,24nm,0.5s,mb5.5						
NNA				*e*PP	PP	05 32 58.8	+1.0
NNA				LR	LR		
	comp=Z,2μm,22.0s,MS5.1						
DBIC	**Dimbokro**	**68.28**	**23**	P	**P**	**05 31 35.8**	**0.0**
	comp=Z,25nm,0.8s,mb5.3,baz=174,slow=7.1,SNR=33						
DBIC				LR	LR	05 54 49.3	
	comp=Z,570nm,22.0s,MS4.8,baz=155,slow=30						
DBIC	**Dimbokro**	**68.28**	**23**	P	**P**	**05 31 36.4**	**+0.6**
DBIC				pmax	pmax		
	comp=Z,28nm,0.8s						
OTAV	**Otavalo**	**72.06**	**304**	*e*P	**P**	**05 31 59.2**	**+0.2**
	comp=Z,97nm,1.3s,mb5.6						
OTAV				*e*PP	PP	05 34 42.5	+3.2
OTAV				LR	LR		
	comp=Z,607nm,21.0s,MS4.8						
ROSC	**El Rosal**	**74.58**	**310**	P	**P**	**05 32 13.6**	**-0.2**
	comp=Z,25nm,0.7s,mb5.2,baz=131,slow=2.6,SNR=41						
ROSC				LR	LR	06 05 09.9	
	comp=Z,2μm,21.7s,MS5.3,baz=187,slow=36						
KMBO	**Kilima Mbogo**	**75.94**	**67**	P	**P**	**05 32 24.2**	**+2.5**
	comp=Z,16nm,1.1

TORD Torodi Ar. Bea 75.99 28 P **P** 05 32 22.4 +0.5
comp=Z,66nm,0.6s,mb5.7,baz=198,slow=6.4,SNR=409
RPZ Rata Peaks 76.00 193 P **P** 05 32 22.0 0.0
comp=Z,43nm,0.9s,mb5.4,baz=185,slow=5.1,SNR=9.8
RPZ LR LR 06 03 22.0
comp=Z,863nm,18.8s,MS5.1,baz=302,slow=34
PAYG Puerto Ayora 76.54 292 PFAKE 05 32 40.0 +15
PAYG LR LR
comp=Z,2µm,19.0s,MS5.4
SDV Santo Domingo 76.90 315⇑ *iP* **P** 05 32 25.9 -1.2
comp=Z,53nm,0.8s,mb5.5
SDV LR LR
comp=Z,2µm,22.0s,MS5.5
TAU Tasmania Unive 77.66 175 P **P** 05 32 31.5 +0.1
TAU pmax pmax
comp=Z,190nm,1.4s,mb5.8
TAU Tasmania Unive 77.66 175 *e*P **P** 05 32 31.2 -0.2
comp=Z,187nm,1.4s,mb5.8
TAU LR LR
comp=Z,3µm,20.0s,MS5.6
RKT Rikitea 79.24 243 *e*LQ 05 54 07.9
comp=Z,1µm,32.5s
RKT *e*LR LR 05 57 39.8
comp=Z,4µm,29.5s,baz=148
BBL Barber's Block 80.16 326 *e*P **P** 05 32 44.2 -0.8
TBG Guadaloupe-3 80.52 326 *e*P **P** 05 32 46.3 -0.6
URZ Urewera 80.54 198 LR LR 06 03 22.5
comp=Z,1µm,21.7s,MS5.2,baz=348,slow=32
SCG Saint Claude 80.69 326 *e*P **P** 05 32 47.7 -0.2
LZG Guadaloupe-1 80.83 326 *e*P **P** 05 32 47.7 -0.9
SEG Port Louis 81.00 326 *e*P **P** 05 32 49.4 -0.1
TOO Toolangi 82.89 173⇑ *iP* **P** 05 32 59.4 -0.1
comp=Z,24nm,0.9s,mb5.2
TOO Toolangi 82.89 173⇑ *iP* **P** 05 32 59.4 -0.1
TOO pmax pmax
comp=Z,25nm,0.9s,mb5.2
NWAO Narrogin (SRO) 82.96 150 PFAKE 05 33 10.0 +10
NWAO LR LR
comp=Z,1µm,20.0s,MS5.3
MUN Mundaring 83.59 149 *e*P **P** 05 33 02.2 -0.9
MTP Monte Petrata 83.80 323 *e*P **P** 05 33 01.7 -2.5
JTS JuntasAbangare 83.85 302 P **P** 05 33 01.3 -3.1
comp=Z,199nm,1.1s,mb6.2,SNR=6.0
JTS JuntasAbangare 83.85 302 P **P** 05 33 01.8 -2.6
JTS pmax pmax
comp=Z,79nm,1.3s
JTS JuntasAbangare 83.85 302 *e*PP PP 05 36 16.2 -1.8
comp=Z,79nm,1.4s
JTS LR LR
comp=Z,717nm,21.0s,MS5.0
SJG San Juan 84.00 322 *e*P **P** 05 33 01.8 -3.4
comp=Z,13nm,0.8s,mb5.1
SJG LR LR
comp=Z,842nm,22.0s,MS5.1
KLBR Kellerberrin 84.36 150 *e*P **P** 05 33 06.7 -0.3
comp=Z,76nm,1.0s,mb5.8
TBI Tubuai 85.17 231 *e*LQ 05 56 18.3
comp=Z,1µm,38.8s
TBI *e*LR LR 06 00 14.8
comp=Z,845nm,22.5s,baz=149
CNB Canberra Magne 85.31 176 *e*P **P** 05 33 12.1 +0.3
comp=Z,50nm,1.2s,mb5.5
FORT Forrest 87.44 158 *e*P **P** 05 33 22.6 +0.3
comp=Z,97nm,0.7s,mb6.1
FORT *e*S 05 42 51.9
DESE Dese 87.81 64 *i* P **P** 05 33 28.8 +4.8
DGAR Diego Garcia 88.07 101 PFAKE 05 33 40.0 +15
DGAR LR LR
comp=Z,2µm,20.0s,MS5.5
STKA Stephens Creek 88.26 170⇑ *iP* **P** 05 33 24.2 -2.0
comp=Z,30nm,0.9s,mb5.5
STKA Stephens Creek 88.26 170 P **P** 05 33 24.4 -1.8
comp=Z,39nm,0.9s,mb5.6,baz=163,slow=5.2,SNR=44
STKA PKKP PKKPbc 05 51 04.2 -5.2
comp=Z,2.6nm,1.0s,baz=98,slow=3.1,SNR=3.8
STKA LR LR 06 13 13.0
comp=Z,1µm,18.1s,MS5.4,baz=86,slow=36
ARMA Armidale 90.25 178 *e*P **P** 05 33 35.6 +0.1
PPT Papeete 90.42 233 *e*LQ 05 58 50.0
comp=Z,651nm,24.5s
PPT Papeete 90.42 233 *e*PS PS 05 46 01.7 +22
comp=Z,844nm,28.5s
PPT Papeete 90.42 233 *e*LR LR 06 02 40.8
comp=Z,2µm,24.2s,baz=157
PPT Papeete 90.42 233 LR LR 06 06 39.2
comp=Z,1µm,20.9s,MS5.4,baz=161,slow=30
TAOE Nuku Hiva Isla 94.08 245 *e*PP PP 05 37 38.2 -1.5
comp=Z,496nm,26.0s
TAOE Nuku Hiva Isla 94.08 245 *e*PS PS 05 46 30.3 +10
comp=Z,639nm,34.4s
TAOE Nuku Hiva Isla 94.08 245 *e*SS SS 05 51 32.1 +10
comp=Z,2µm,31.2s
TAOE *e*LR LR 06 04 25.2
comp=Z,9µm,28.1s,baz=170
MBWA Marble Bar 94.82 148 PFAKE 05 34 10.0 +13
MBWA LR LR
comp=Z,1µm,20.0s,MS5.4
COCO West Island 95.20 125 PFAKE 05 34 10.0 +12
COCO LR LR
comp=Z,2µm,21.0s,MS5.4
ASPA Alice Springs 95.41 162 *e*P **P** 05 33 58.7 -0.6
ASAR Alice Springs 95.41 162 P **P** 05 33 58.8 -0.5
comp=Z,19nm,0.8s,mb5.6,baz=189,slow=4.2,SNR=110
ASAR PP PP 05 37 49.1 -0.9
comp=Z,3.9nm,1.0s,baz=189,slow=8.8,SNR=6.5
ASAR PKKP PKKPbc 05 50 41.9 -9.3
comp=Z,0.6nm,0.9s,baz=357,slow=2.8,SNR=4.1
ASAR PKPPKP 05 58 58.5
comp=Z,0.5nm,0.8s,baz=28,slow=3.4,SNR=4.5
ASAR Alice Springs 95.41 162 P **P** 05 33 58.8 -0.5
ASAR 05 37 49.2
AS31 Alice Springs 95.41 162 *e*P **P** 05 33 58.7 -0.6
BBSR BB Station 97.02 328 PFAKE 05 34 20.0 +13
BBSR LR LR
comp=Z,596nm,21.0s,MS5.0
DZM Mont Dzumac 97.91 192 P **P** 05 34 10.0 -0.6
comp=Z,17nm,1.2s,mb5.4,baz=187,slow=22,SNR=5.0
DZM LR LR 06 13 57.7
comp=Z,589nm,20.4s,MS5.1,baz=320,slow=32
DWPF Disney 98.47 313 PFAKE 05 34 20.0 +6.9
DWPF LR LR
comp=Z,1µm,22.0s,MS5.3
WRA Warramunga Arr 99.13 162 P **P** 05 34 14.6 -1.5
comp=Z,7.2nm,1.1s,mb5.1,baz=194,slow=4.2,SNR=20
WRA PP PP 05 38 17.1 -1.6
comp=Z,3.4nm,1.0s,baz=194,slow=6.9,SNR=5.1
WRA PKKPbc PKKPbc 05 50 38.5 -2.4
comp=Z,0.9nm,0.4s,baz=356,slow=2.9,SNR=18
WRA Warramunga Arr 99.13 162 P **P** 05 34 14.6 -1.5
WRA 05 38 17.1
WB2 Warramunga Arr 99.13 162 *e*PDIF **P** 05 34 14.6 -1.5
WRAB Tennant Creek 99.14 162 PFAKE 05 34 30.0 +14
WRAB LR LR
comp=Z,4µm,20.0s,MS5.9
CTAO Charters Tower 100.32 173 PFAKE 05 34 30.0 +8.6
CTAO LR LR
comp=Z,2µm,19.0s,MS5.7
ESDC Sonseca Array 100.68 17 P Pdif 05 34 22.6 -0.3
comp=Z,1.6nm,0.7s,baz=186,slow=3.9,SNR=4.2
ESLA Sonseca Array 100.68 17 PFAKE 05 34 30.0 +7.0
ESLA LR LR
comp=Z,3µm,22.0s,MS5.8
NHSC New Hope 102.54 316 PFAKE 05 34 40.0 +8.8
NHSC LR LR
comp=Z,880nm,22.0s,MS5.2
GOGA Godfrey 104.00 314 PFAKE 05 34 50.0 +12
GOGA LR LR
comp=Z,5.0nm,19.0s
PALK Pallekele 104.81 101 PFAKE 05 34 50.0 +8.7
PALK LR LR
comp=Z,980nm,20.0s,MS5.3
LRAL Lakeview Retre 104.99 311 PFAKE 05 34 50.0 +7.9
LRAL LR LR
comp=Z,970nm,20.0s,MS5.3
HKT Hockley 105.89 302 PFAKE 05 39 10.0 +12
HKT LR LR
comp=Z,482nm,21.0s,MS5.0
CBN Corbin 106.21 320 PFAKE 05 39 10.0 +11
CBN LR LR
comp=Z,634nm,22.0s,MS5.1
BLA Blacksburg 106.33 318 PFAKE 05 39 10.0 +11
BLA LR LR
comp=Z,35nm,22.0s
NATX Nacogdoches 106.96 304 PFAKE 05 39 10.0 +10
NATX LR LR
comp=Z,360nm,20.0s,MS4.9
PLAL Pickwick Lake 107.12 311 PFAKE 05 39 10.0 +9.2
PLAL LR LR
comp=Z,1µm,22.0s,MS5.4
OXF Oxford 107.23 310 PFAKE 05 39 10.0 +9.0
OXF LR LR
comp=Z,556nm,21.0s,MS5.1
WVT Waverly 108.04 312 PFAKE 05 39 10.0 +7.5
WVT LR LR
comp=Z,526nm,21.0s,MS5.1
JCT Junction City 108.08 299 PFAKE 05 39 10.0 +7.5
JCT LR LR
comp=Z,279nm,19.0s,MS4.8
WES Weston 108.22 327 PFAKE 05 39 10.0 +7.2
WES LR LR
comp=Z,535nm,19.0s,MS5.1
MCWV Mont Chateau 108.34 319 PFAKE 05 39 10.0 +7.0
MCWV LR LR
comp=Z,618nm,22.0s,MS5.1
HRV Harvard--Oak R 108.40 326 PFAKE 05 39 10.0 +6.9
HRV LR LR
comp=Z,730nm,21.0s,MS5.2
SSPA Standing Stone 108.59 321 PFAKE 05 39 10.0 +6.5
SSPA LR LR
comp=Z,688nm,22.0s,MS5.2
LTX Lajitas 108.84 296 PFAKE 05 39 10.0 +6.0
LTX LR LR
comp=Z,456nm,21.0s,MS5.0
MIAR Mount Ida 108.92 306 PFAKE 05 39 10.0 +5.9
MIAR LR LR
comp=Z,274nm,19.0s,MS4.8
WCI Wyandotte Cave 109.32 314 PFAKE 05 39 20.0 +15
WCI LR LR
comp=Z,582nm,20.0s,MS5.2
BINY Binghamton 109.41 323 PFAKE 05 39 20.0 +15
BINY LR LR
comp=Z,726nm,21.0s,MS5.2
ACSO Alum Creek Sta 109.92 317 PFAKE 05 39 20.0 +14
ACSO LR LR
comp=Z,355nm,22.0s,MS4.9
LBNH Lisbon 110.10 327 PFAKE 05 39 20.0 +14
LBNH LR LR
comp=Z,783nm,21.0s,MS5.3
ANTO Ankara 110.45 45 PFAKE 05 39 20.0 +13
ANTO LR LR
comp=Z,524nm,21.0s,MS5.1
NCB Newcomb 110.51 325 PFAKE 05 39 20.0 +13
NCB LR LR
comp=Z,642nm,21.0s,MS5.2
ERPA Erie 110.60 320 PFAKE 05 39 20.0 +13
ERPA LR LR
comp=Z,713nm,22.0s,MS5.2
BRTR Keskin Array B 110.62 45 PP PP 05 39 44.7 +0.8
comp=Z,3.0nm,1.0s,baz=199,slow=6.5,SNR=8.6
BRTR PKKPbc PKKPbc 05 50 03.8 -2.4
comp=Z,1.0nm,0.6s,baz=128,slow=2.3,SNR=6.2
HNR Honiara 110.96 187 PFAKE 05 39 20.0 +12
HNR LR LR
comp=Z,821nm,21.0s,MS5.3
PMG Port Moresby 110.97 173 PP PP 05 39 45.3 -1.1
comp=Z,7.8nm,0.7s,baz=254,slow=15,SNR=3.5
PMG Port Moresby 110.97 173 PFAKE 05 39 20.0 +12
PMG LR LR
comp=Z,1µm,19.0s,MS5.4
CCM Cathedral Cave 111.04 310 PFAKE 05 39 20.0 +12
CCM LR LR
comp=Z,993nm,22.0s,MS5.3
WMOK Wichita Mounta 111.27 303 PFAKE 05 39 20.0 +11
WMOK LR LR
comp=Z,340nm,22.0s,MS4.9
MNTX Cornudas Mount 111.62 296 PFAKE 05 39 20.0 +11
MNTX LR LR
comp=Z,614nm,21.0s,MS5.2
AMTX Amarillo 112.65 300 PFAKE 05 39 20.0 +8.8
AMTX LR LR
comp=Z,539nm,21.0s,MS5.1
GERES GERESS Array B 112.94 27 PKiKP PKiKP 05 39 08.5 -3.2
comp=Z,0.6nm,0.4s,baz=225,slow=5.5,SNR=8.0
GERES PP PP 05 39 57.5 -3.0
comp=Z,1.3nm,0.7s,baz=214,slow=4.3,SNR=3.7
GRF Grafenberg Arr 113.17 25 *e*PP PP 05 39 59.3 -2.9
GRF *e*SP SP 05 49 37.5 +4.2
KHC Kasperske Hory 113.18 27 *e*PKiKP PKiKP 05 39 09.9 -2.3
TUC Tucson 114.64 292 PFAKE 05 39 30.0 +15
TUC LR LR
comp=Z,624nm,22.0s,MS5.2
ANMO Albuquerque 114.83 297 PFAKE 05 39 30.0 +15
ANMO LR LR
comp=Z,612nm,19.0s,MS5.2
BRG Berggiesshubel 114.89 27 *i* PDIF Pdif 05 35 28.3 +2.2
comp=Z,1.7nm,1.2s
BRG Berggiesshubel 114.89 27 *e*PKP PKiKP 05 39 14.0 -1.5
comp=Z,4.1nm,1.0s
BRG Berggiesshubel 114.89 27 *i* P Pdif 05 35 28.3 +2.1
BRG *e* 05 39 14.0
BRG pmax pmax
comp=Z,2.0nm,1.2s
BRG *i* 05 56 11.0
BRG SS SS 05 56 14.0 +7.1
BRG Berggiesshubel 114.89 27 *i* SP 05 49 47.0 -2.0
CLL Collm 115.09 26 *e*Pdiff Pdif 05 35 30.0 +3.0
CLL *e*PKiKP PKiKP 05 39 13.8 -2.0
CLL *e*PP PP 05 40 13.9 -1.8
CLL *e*PS PS 05 50 00.1 +4.8
CLL *e*SS SS 05 56 30.0 +21
CLL *e*LR LR 06 15 45.4
CLL *e*L 06 21 24.3
comp=Z,675nm,22.0s
CLL Collm 115.09 26 *e*Pdif Pdif 05 35 28.0 +1.0
CLL *e*PKiKP PKiKP 05 39 14.0 -1.8
CLL *e*PKP PKiKP 05 39 14.0 -1.8
CLL *e*PS PS 05 49 57.0 +1.7
CLL LR LR
comp=Z,1µm,25.2s,MS5.3
CBKS Cedar Bluff 115.13 304 PFAKE 05 39 30.0 +14
CBKS LR LR
comp=Z,364nm,21.0s,MS5.0
GNI Garni 115.27 53 PFAKE 05 39 30.0 +14
GNI LR LR
comp=Z,693nm,21.0s,MS5.2
ESK Eskdalemuir 116.09 14 PFAKE 05 39 30.0 +12
ESK LR LR
comp=Z,760nm,22.0s,MS5.3
SOC Sochi 116.22 48 *i* PKIKP PKPdf 05 39 16.3 -1.7
SOC *e* 05 40 30.9
SOC *e* 05 46 07.2
SOC MLR MLR
comp=Z,497nm,22.0s,MS5.1
ANN Anapa 116.42 45 *i* PKIKP PKPdf 05 39 21.4 +3.0
ANN pmax pmax
comp=Z,89nm,1.1s
MVCO Mesa Verde 117.63 297 *e*PKPdf PKPdf 05 39 19.1 -1.7
KIV Kislovodsk 117.67 50 *i* PKIKP PKPdf 05 39 17.8 -3.0
KIV *e* 05 40 33.5
KIV *e*SP SP 05 50 20.0 +5.7
KIV *e*SS SS 05 56 56.7 +14
KIV pmax pmax
comp=Z,12nm,1.0s
PFO Pinyon Flat Ob 118.41 288 PFAKE 05 39 30.0 +7.8
PFO LR LR
comp=Z,547nm,19.0s,MS5.2
PV01 Paradox Valley 118.42 297 *e*PKPdf PKPdf 05 39 20.4 -1.9
ISCO Idaho Springs 118.47 301 PFAKE 05 39 30.0 +7.7
ISCO LR LR
comp=Z,740nm,22.0s,MS5.3
SMCO Snowmass 118.56 299 *e*PKPdf PKPdf 05 39 21.8 -0.7
SCHQ Schefferville 118.64 335 PKP PKPdf 05 39 20.1 -2.6
comp=Z,5.9nm,0.3s,baz=108,slow=1.6,SNR=36
SCHQ SKP 05 42 50.1
comp=Z,4.1nm,0.8s,baz=198,slow=18,SNR=4.7
AKASG Malin Array Be 118.82 37 PKP PKPdf 05 39 20.6 -2.4
comp=Z,3.3nm,0.5s,baz=233,slow=2.0,SNR=17
AKASG PP PP 05 40 37.4 -4.4
comp=Z,6.7nm,1.1s,baz=211,slow=7.5,SNR=10.0
AKASG SKP 05 42 51.8
comp=Z,2.1nm,0.7s,baz=238,slow=1.5,SNR=5.0
PV10 Paradox Valley 118.83 297 *e*PKPdf PKPdf 05 39 21.7 -1.3
SNCC San Nicolas Is 119.60 286 PFAKE 05 39 40.0 +15
SNCC LR LR
comp=Z,791nm,22.0s,MS5.3
EYMN Ely 119.64 315 PFAKE 05 39 30.0 +5.4
EYMN LR LR
comp=Z,618nm,20.0s,MS5.2
MSU Marysvale 120.37 295 *e*PKIKP PKPdf 05 39 25.3 -0.7
MVU Marysvale 120.38 295 PFAKE 05 39 40.0 +14
MVU LR LR
comp=Z,704nm,22.0s,MS5.3
TMUT Trail Mountain 120.56 296 *e*PKPdf PKPdf 05 39 25.3 -1.1
RWWY Rawlins 120.71 301 *e*PKPdf PKPdf 05 39 25.0 -1.7
TPNV Topopah Spring 121.01 291 *e*PKIKP PKPdf 05 39 26.6 -0.6
TPNV MLR MLR
comp=Z,631nm,20.0s,MS5.3
ISA Isabella 121.04 288 PFAKE 05 39 40.0 +13
ISA LR LR
comp=Z,135nm,22.0s,MS4.5
DAC Darwin (Calif) 121.11 289 PFAKE 05 39 40.0 +13
DAC LR LR
comp=Z,531nm,22.0s,MS5.1
RSSD Black Hills 121.33 305 PKIKP PKPdf 05 39 25.0 -2.8
RSSD Black Hills 121.33 305 *e*PKPdf PKPdf 05 39 24.8 -3.1
RSSD LR LR
comp=Z,798nm,20.0s,MS5.4
MPU Maple Canyon 121.33 296 PFAKE 05 39 40.0 +12
MPU LR LR
comp=Z,1µm,21.0s,MS5.5
NST Nakhon Sawan 121.45 115 P PKPdf 05 39 27.0 -1.1
NLU North Lily Min 121.48 296 *e*PKPdf PKPdf 05 39 27.3 -0.8
DUG Dugway 122.01 296 *e*PKIKP PKPdf 05 39 28.0 -1.2
DUG *e* 05 41 02.6
DUG MLR MLR
comp=Z,531nm,21.0s,MS5.2
DUG Dugway 122.01 296 *e*PKPdf PKPdf 05 39 28.0 -1.2
DUG *e*PP PP 05 41 02.6 -1.0
DUG *e*SKPdf SKPdf 05 42 57.8 -3.8
DUG LR LR
comp=Z,531nm,21.0s,MS5.2
TCUT Toone Canyon 122.11 297 *e*PKPdf PKPdf 05 39 28.5 -0.9
TCUT *e*PP PP 05 41 05.3 +1.0
BER Bergen 122.20 18 AMS AMS 06 25 44.4
comp=Z,352nm,20.8s,MS5.0
KONO Kongsberg 122.22 21 *e*P PKPdf 05 39 32.6 +3.1
KONO *e*PP PP 05 41 04.1 -1.0
KONO Kongsberg 122.22 21 *e*PKP PKPdf 05 39 27.4 -2.2
KONO LR LR
comp=Z,310nm,20.0s,MS5.0
TPH Tonopah 122.38 291 PFAKE 05 39 40.0 +10
TPH LR LR
comp=Z,388nm,21.0s,MS5.0
HWUT Hardware Ranch 122.58 298 *e*PKPdf PKPdf 05 39 28.7 -1.5
HWUT *e*PP PP 05 41 07.1 -0.3
HWUT *e*SKPdf SKPdf 05 43 00.0 -2.7
HWUT LR LR
comp=Z,730nm,21.0s,MS5.3
BW06 Boulder Array 122.61 300 PFAKE 05 39 40.0 +10
BW06 LR LR
comp=Z,548nm,21.0s,MS5.2
PDAR Pinedale Array 122.61 300 PKP PKPdf 05 39 28.1 -2.2
comp=Z,1.9nm,0.4s,baz=130,slow=4.9,SNR=25
PDAR PKKPbc PKKPbc 05 49 21.6 -2.3
comp=Z,0.7nm,0.9s,baz=82,slow=3.1,SNR=3.7
BGU Big Grassy Mou 122.70 296 *e*PKPdf PKPdf 05 39 36.7 +6.3
MNV Mina 123.10 290 *e*PKIKP PKPdf 05 39 30.2 -1.0
MNV *e* 05 41 09.5
MNV MLR MLR
comp=Z,453nm,22.0s,MS5.1
ULM Lac du Bonnet 123.14 314 PKP PKPdf 05 39 28.4 -2.9
comp=Z,7.2nm,0.5s,baz=157,slow=0.8,SNR=18
ULM PKKPbc PKKPbc 05 49 21.1 -0.7
comp=Z,7.8nm,1.0s,baz=344,slow=3.4,SNR=4.3
NVAR Mina Array Bea 123.17 290 PKP PKPdf 05 39 30.6 -0.8
comp=Z,2.4nm,0.6s,baz=123,slow=3.3,SNR=22
NVAR PP PP 05 41 09.4 -2.1
comp=Z,2.2nm,1.0s,baz=137,slow=6.2,SNR=6.1
NVAR PKKPbc PKKPbc 05 49 21.9 +0.3
comp=Z,1.1nm,0.9s,baz=298,slow=2.4,SNR=6.6
NVAR Mina Array Bea 123.17 290 PKP PKPdf 05 39 30.6 -0.8
NVAR PP PP 05 41 09.4 -2.1
NVAR PKKPbc PKKPbc 05 49 21.9 +0.3
AHID Auburn Hatcher 123.29 299 PFAKE 05 39 40.0 +8.4
AHID LR LR
comp=Z,542nm,22.0s,MS5.2
DAV Davao City (W) 123.36 146 PFAKE 05 39 40.0 +8.3
DAV LR LR
comp=Z,1µm,19.0s,MS5.5
SAO San Andreas Ge 123.36 287 PFAKE 05 39 40.0 +8.3
SAO LR LR
comp=Z,535nm,20.0s,MS5.2
HFS Hagfors 123.44 23 PKP PKPdf 05 39 29.0 -2.9
comp=Z,8.6nm,0.6s,baz=151,slow=3.4,SNR=37
KOLN Koldanda 123.53 92 *e*P PKPdf 05 39 30.7 -1.4
comp=Z,147nm,1.1s
ELK Elko 123.57 294 *e*PKIKP PKPdf 05 39 31.0 -1.1
ELK *e* 05 41 11.9
ELK MLR MLR
comp=Z,735nm,21.0s
NAO01 NORSAR Array S 123.58 21 *e*PKPdf PKPdf 05 39 30.3 -1.9
CHG Chiang Mai 123.62 112⇑P PKPdf 05 39 31.7 -0.5
comp=Z,27nm,0.8s
CHTO Chiang Mai 123.62 112 PFAKE 05 39 40.0 +7.8
CHTO LR LR
comp=Z,528nm,22.0s,MS5.2
REDW Red Top Meadow 123.66 299 *e*PKPdf PKPdf 05 39 30.3 -2.0
REDW *e*PP PP 05 41 12.6 -2.1
LOHW Long Hollow 123.75 300 *e*PKPdf PKPdf 05 39 31.0 -1.5
LOHW *e*PP PP 05 41 16.9 +1.6
LOHW *e*SKPdf SKPdf 05 43 03.5 -1.5
TPAW Teton Pass 123.80 299 *e*PKPdf PKPdf 05 39 31.4 -1.2
NB2 NORSAR Subarra 123.82 21 PKPd PKPdf 05 39 30.3 -2.3
comp=Z,23nm,1.0s,baz=202,slow=1.9
NB2 NORSAR Subarra 123.82 21 PKPd PKPdf 05 39 30.3 -2.3
baz=202,slow=1.9
NOA NORSAR Array B 123.82 21 PKP PKPdf 05 39 30.8 -1.8
comp=Z,20nm,0.9s,baz=198,slow=1.6,SNR=34
CMB Columbia Colle 123.86 288 *e*PKIKP PKPdf 05 39 31.7 -1.0
CMB MLR MLR
comp=Z,508nm,20.0s,MS5.2
MOOW Moose Ponds 123.92 300 *e*PKPdf PKPdf 05 39 31.5 -1.3
IMW Indian Meadow 124.12 300 *e*PKPdf PKPdf 05 39 32.1 -1.0
BORG Borgarnes 124.14 3 PFAKE 05 39 40.0 +6.8
BORG LR LR
comp=Z,746nm,19.0s,MS5.4
FLWY Flagg Ranch 124.16 300 *e*PKPdf PKPdf 05 39 32.4 -0.9
DMN Daman 124.17 93 *e*P PKPdf 05 39 32.3 -1.0
comp=Z,109nm,1.0s
BMN Battle Mountai 124.25 293 *e*PKPdf PKPdf 05 39 32.2 -1.2
BMN *ep*PKPdf pPKPdf 05 39 47.2 +1.8
BMN LR LR
comp=Z,379nm,21.0s,MS5.0
GKN Gorkha 124.25 92 *e*P PKPdf 05 39 32.2 -1.2
comp=Z,138nm,1.1s
PKI Pulchoki 124.29 93 *e*P PKPdf 05 39 32.5 -1.0
comp=Z,138nm,1.1s
LAO LASA Array 124.31 305 *e*PKPdf PKPdf 05 39 31.5 -2.0
LAO *e*SKPdf SKPdf 05 43 04.2 -1.8
LAO LR LR
comp=Z,1µm,22.0s,MS5.4
KKN Kakani 124.40 93 *e*P PKPdf 05 39 32.9 -0.8
comp=Z,93nm,1.0s
LKWY Lake 124.41 300 PFAKE 05 39 40.0 +6.3
LKWY LR LR
comp=Z,1µm,21.0s,MS5.6
YMR Madison River 124.74 300 PFAKE 05 39 40.0 +5.6
YMR LR LR
comp=Z,1µm,22.0s,MS5.5
JIRN Jiri 124.76 94 *e*P PKPdf 05 39 33.5 -0.9
comp=Z,204nm,1.0s
GUN Gumba 124.81 94 *e*P PKPdf 05 39 33.6 -0.9
comp=Z,221nm,1.2s
OBN Obninsk 124.89 39 *i* PKIKP PKPdf 05 39 31.9 -2.8
OBN *e* 05 46 32.0
OBN *e*SS SS 05 58 28.7 +13
OBN pmax pmax
comp=Z,12nm,0.7s
OBN MLR MLR
comp=Z,400nm,21.0s,MS5.1
OBN Obninsk 124.89 39 *e*PKP PKPdf 05 39 32.7 -2.0
OBN LR LR
comp=Z,469nm,21.0s,MS5.1
VSU Vasula 124.92 31 *e*PKIKP PKPdf 05 39 32.8 -1.9
HLID Hailey 125.41 297 *e*PKPdf PKPdf 05 39 33.9 -1.8
HLID *e*PP PP 05 41 23.5 -3.0
HLID LR LR
comp=Z,457nm,20.0s,MS5.1
OHCM Honcut 125.41 289 *e*PKPdf PKPdf 05 39 35.0 -0.7
MOS Moscow 125.75 39 *e*PKIKP PKPdf 05 39 32.1 -4.2
BOZ Bozeman (W) 125.80 300 *e*PKPdf PKPdf 05 39 34.8 -1.6
BOZ LR LR

comp=Z,723nm,22.0s,MS5.3
HOPS Hopland 125.91 287 PFAKE 05 39 50.0 +13
HOPS LR LR
comp=Z,524nm,19.0s,MS5.2
DLMT Dillon 126.00 300 *e*PKPdf PKPdf 05 39 35.7 -1.1
DLMT *e*SKPdf SKPdf 05 43 09.7 +0.5
WVOR Wild Horse Val 126.47 293 *e*PKIKP PKPdf 05 39 36.8 -0.9
WVOR MLR MLR
comp=Z,698nm,21.0s,MS5.3
HRY Holter Researc 126.72 301 *e*PKPdf PKPdf 05 39 37.1 -1.1
HRY *ep*PKPdf pPKPdf 05 39 51.8 +1.6
EGMT Eagleton 126.84 304 *e*PKPdf PKPdf 05 39 36.6 -1.8
EGMT LR LR
comp=Z,577nm,22.0s,MS5.2
MOD Modoc 126.84 291 PFAKE 05 39 50.0 +12
MOD LR LR
comp=Z,368nm,21.0s,MS5.0
WDC Whiskeytown Da 126.89 289 PFAKE 05 39 50.0 +12
WDC LR LR
comp=Z,314nm,20.0s,MS5.0
FINES FINESS Array B 127.34 29 PKP PKPdf 05 39 37.2 -2.2
comp=Z,6.8nm,0.4s,baz=141,slow=2.9,SNR=72
FINES SKP 05 42 48.7
comp=Z,2.2nm,0.8s,baz=160,slow=4.4,SNR=4.9
FINES FINESS Array B 127.34 29 PKP PKPdf 05 39 37.2 -2.2
FINES SKP 05 42 48.7
CHMT Chamberlain Mo 127.49 300 *e*PKPdf PKPdf 05 39 38.3 -1.3
SFJD Kangerlussuaq 127.61 348 *i* P PKPdf 05 39 38.0 -1.9
comp=Z,48nm,0.9s
SFJD Kangerlussuaq 127.61 348 *i* PKIKP PKPdf 05 39 38.0 -1.9
SFJD pmax pmax
comp=Z,48nm,0.9s
BMO Blue Mountains 127.72 296 *e*PKIKP PKPdf 05 39 38.2 -1.9
BMO MLR MLR
comp=Z,741nm,21.0s,MS5.3
MSO Missoula 127.73 300 *e*PKPdf PKPdf 05 39 37.9 -2.2
MSO LR LR
comp=Z,516nm,19.0s,MS5.2
YBH Yreka Blue Hor 127.86 290 PFAKE 05 39 50.0 +10
YBH LR LR
comp=Z,233nm,19.0s,MS4.9
KAF Kangasniemi 127.97 28 *e*pkp PKPdf 05 39 37.5 -3.1
ORR Orenburg 128.63 52⇑ *i*PKIKP PKPdf 05 39 39.8 -2.0
ORR pmax pmax
comp=Z,130nm,1.6s
HUMO Hull Mountain 128.65 290 *e*PKPdf PKPdf 05 39 40.9 -1.0
HUMO *e*SKPdf SKPdf 05 43 12.7 -1.5
HUMO LR LR
comp=Z,518nm,22.0s,MS5.2
QIZ Qiongzhong 128.73 123 PKP PKPdf 05 39 44.5 +2.5
QIZ LR LR
comp=N,521nm,21.5s
QIZ LR LR
comp=Z,647nm,23.1s,MS5.2
QIZ Qiongzhong 128.73 123 PFAKE 05 39 50.0 +8.0
QIZ LR LR
comp=Z,663nm,20.0s,MS5.3
LSA Lhasa 128.93 97 PKP PKPdf 05 39 42.5 +0.1
LSA Lhasa 128.93 97 *e*PKPdf PKPdf 05 39 42.7 +0.3
LSA LR LR
comp=Z,748nm,21.0s,MS5.3
FFC Flin Flon 128.97 314 *e*PKIKP PKPdf 05 39 39.9 -2.5
FFC MLR MLR
comp=Z,417nm,21.0s,MS5.1
AB31 Akbulak array 128.98 57 *i* PKIKP PKPdf 05 39 39.8 -2.7
AB31 pmax pmax
comp=Z,43nm,0.9s
KSH Kashi 129.01 77 *e*PKP PKPdf 05 39 42.0 -0.5
KSH *e*XPKP 05 39 56.3
KSH *e*PKS 05 43 17.0
KSH *e*SKS SKSdf 05 46 48.3 -2.9
KSH *e*SKKS SKKSac 05 48 35.0 -9.5
KSH LR LR
comp=N,263nm,5.5s
KSH LR LR
comp=E,237nm,5.1s
KSH LR LR
comp=Z,270nm,5.3s
STOK Stokkvaagen 129.02 19 *e*P PKPdf 05 39 40.9 -1.7
AKTK Aktyubinsk 129.06 55 PKP PKPdf 05 39 40.8 -1.8
AKTK SKP 05 42 55.1
AKTO Aktyubinsk 129.06 55 PKP PKPdf 05 39 40.8 -1.8
comp=Z,35nm,1.0s,baz=184,slow=2.2,SNR=78
AKTO SKP 05 42 55.1
comp=Z,3.5nm,0.8s,baz=312,slow=5.9,SNR=3.6
KKAR Karatay Array 129.10 70 *i* PKIKP PKPdf 05 39 40.7 -2.0
KKAR pmax pmax
comp=Z,4.0nm,0.7s
MOR8 Moi Rana 129.11 20 *e*P PKPdf 05 39 41.2 -1.5
MOR8 AMb AMB 05 39 42.9
comp=Z,46nm,1.8s
WALA Waterton Lakes 129.41 302 *e*PKPdf PKPdf 05 39 41.0 -2.3
WALA *e*SKPdf SKPdf 05 42 59.3 -16
JOF Joensuu 129.90 30 *e*pkp PKPdf 05 39 41.3 -2.9
HAWA Hanford 129.91 296 PFAKE 05 39 50.0 +5.8
HAWA LR LR
comp=Z,46nm,21.0s,MS4.2
NEW Newport 130.22 299 *e*SKPdf SKPdf 05 43 08.4 -8.7
NEW LR LR
comp=Z,829nm,21.0s,MS5.4
COR Corvallis 130.31 292 PFAKE 05 40 00.0 +15
COR LR LR
comp=Z,607nm,20.0s,MS5.3
KLMR Klimovskoe 130.50 36*c* *i*PKIKP PKPdf 05 39 42.9 -2.5
KLMR pmax pmax
comp=Z,100nm,1.4s
AAK Ala-Archa 130.66 73⇑ *i*PKIKP PKPdf 05 39 43.5 -2.2
KMI Kunming 130.82 112 PKP PKPdf 05 39 45.3 -0.7
KMI PP PP 05 42 08.0 +6.0
KMI PKS 05 43 21.8
KMI SS SS 05 59 27.0 -2.1
KMI SSS 06 04 23.0
KMI PP PP
comp=Z,114nm,5.0s
KMI LR LR
comp=N,440nm,20.8s,MS5.2
KMI LR LR
comp=E,339nm,22.4s,MS5.2
KMI LR LR
comp=Z,676nm,21.7s,MS5.3
KMI Kunming 130.82 112 PKIKP PKPdf 05 39 45.2 -0.8
KMI 05 42 08.1
KMI PPP 05 44 58.1
KMI 05 46 44.6
KMI SS SS 05 59 27.1 -2.0
KMI SSS 06 04 22.9
KMI MLR MLR
comp=Z,680nm,21.7s,MS5.3
KMI Kunming 130.82 112 PKP PKPdf 05 39 45.2 -0.8
KMI sPKP 05 40 27.1
KMI PP PP 05 42 08.1 +6.1
KMI PKS 05 43 21.8
KMI PPP 05 44 58.1
KMI SKS SKSdf 05 46 44.6 -10
KMI SKKS SKKSac 05 48 45.5 -10
KMI SS SS 05 59 27.1 -2.0
KMI SSS 06 04 22.9
KMI LR LR
comp=Z,680nm,21.7s,MS5.3
FRU Bishkek 130.87 73 *e*PKIKP PKPdf 05 39 44.0 -2.1
FRU *e* 05 42 02.0
FRU pmax pmax
comp=Z,90nm,2.1s
FRU MLR MLR
comp=E,1μm,20.0s
FRU MLR MLR
comp=Z,1μm,20.0s,MS5.5
SUMG Summit 132.21 355 *e*PKPdf PKPdf 05 39 47.4 -1.2
SUMG *e*SKPdf SKPdf 05 43 08.8 -12
EDM Edmonton 132.27 306 *e*PKIKP PKPdf 05 39 46.1 -2.6
TMCR Tamitsa 132.69 33 *e*PKIKP PKPdf 05 39 47.0 -2.5
TMCR pmax pmax
comp=Z,20nm,1.0s
TMCR pmax pmax
comp=N,30nm,0.8s
TMCR pmax pmax
comp=E,30nm,0.9s
TRO Tromso 132.98 20 *e*P PKPdf 05 39 43.9 -6.2
TRO *e*PP PP 05 42 08.4 -7.5
TRO AMS AMS 06 35 44.1
comp=Z,450nm,15.3s,MS5.3
OCWA Octopus Mounta 133.05 294 PFAKE 05 40 00.0 +10
OCWA LR LR
comp=Z,508nm,20.0s,MS5.2
KTK1 Kautokeino 133.23 22 *e*P PKPdf 05 39 49.7 -0.9
ARU Arti 133.71 50 *i* PKIKP PKPdf 05 39 48.3 -3.1
ARU *e*SS SS 05 59 55.9 -8.4
ARU MLR MLR
comp=N,300nm,22.0s,MS5.2
ARU MLR MLR
comp=Z,800nm,22.0s,MS5.4
ARU MLR MLR
comp=E,300nm,19.0s,MS5.2
ARU Arti 133.71 50⇑ *i*PKP PKPdf 05 39 49.6 -1.8
GYA Guiyang 133.79 115⇑ *i*PKP PKPdf 05 39 50.8 -0.8
GYA PP PP
comp=Z,180nm,8.7s
GYA LR LR
comp=N,480nm,20.7s,MS5.3
GYA LR LR
comp=E,340nm,18.7s,MS5.3
GYA LR LR
comp=Z,580nm,18.9s,MS5.3
ARCES ARCESS Array B 134.11 23 PKhKP 05 39 35.4
comp=Z,1.0nm,0.4s,baz=222,slow=1.7,SNR=12
ARCES PKP PKPdf 05 39 50.4 -1.8
comp=Z,9.1nm,0.5s,baz=205,slow=2.3,SNR=6.2
ARCES SKP 05 43 14.3
comp=Z,8.1nm,0.8s,baz=226,slow=3.2,SNR=8.4
ARCES ARCESS Array B 134.11 23 PKP PKPdf 05 39 50.4 -1.8
ARCES SKP 05 43 14.3
ARE0 ARCESS Array S 134.11 23 *e*PKPdf PKPdf 05 39 49.0 -3.1
ARE0 *e*SKPbc SKPbc 05 43 14.7 -3.8
KEV Kevo 134.59 23 *e*PKP PKPdf 05 39 49.6 -3.5
KEV LR LR
comp=Z,502nm,21.0s,MS5.2
LVZ Lovozero 134.76 28 *i* PKIKP PKPdf 05 39 49.3 -4.1
LVZ pmax pmax
comp=Z,44nm,1.3s
LVZ Lovozero 134.76 28 PFAKE 05 40 00.0 +6.6
LVZ LR LR
comp=Z,489nm,22.0s,MS5.2
SVE Sverdlovsk 134.81 51⇓ *i*PKIKP PKPdf 05 39 51.7 -1.8
SVE *e* 06 00 11.0
SVE pmax pmax
comp=Z,90nm,2.7s
SVE MLR MLR
comp=N,400nm,24.0s,MS5.1
SVE MLR MLR
comp=E,200nm,24.0s,MS5.1
SVE MLR MLR
comp=Z,500nm,24.0s,MS5.2
ZRNK Zerenda 135.59 59 *e*PKHKP 05 39 39.4
ZRNK *e* 05 39 52.8
ZRNK Zerenda 135.59 59 *e*PKPpre 05 39 39.4
ZRNK *e*PKPdf PKPdf 05 39 52.8 -2.2
ZRNK *e*SKPbc SKPbc 05 43 19.5 -3.7
CD2 Chengdu 136.16 108 PKP PKPdf 05 39 55.5 -0.5
CD2 PKS 05 43 25.0
CD2 SKS SKSdf 05 46 55.5 -8.5
CD2 LR LR
comp=N,260nm,20.4s
CD2 LR LR
comp=Z,310nm,19.2s,MS5.0
BRVK Borovoye 136.22 60 *e*PKHKP 05 39 42.1
BRVK *e* 05 39 53.5
BRVK MLR MLR
comp=Z,414nm,20.0s,MS5.2
BRVK Borovoye 136.22 60 *e*PKPpre 05 39 42.1
BRVK *e*PKPdf PKPdf 05 39 53.5 -2.6
BRVK *i* PKP PKPdf 05 39 56.0 -0.1
BRVK *ep*PKPdf pPKPdf 05 40 06.5 -1.7
BRVK *e*SKPbc SKPbc 05 43 21.1 -4.1
BRVK LR LR
comp=Z,414nm,20.0s,MS5.2
BVA0 Borovoye Array 136.24 60 *i* PKIKP PKPdf 05 39 53.4 -2.8
BVA0 pmax pmax
comp=Z,6.0nm,1.0s
DAG Danmarks Havn 136.25 3 *i* P 05 39 42.0
DAG *i* pP 05 39 54.2
DAG Danmarks Havn 136.25 3 *e*PKHKP 05 39 42.0
DAG *i* *PP 05 39 54.2
VOSK Vostochnaya 136.30 61 PKIKP PKPdf 05 39 52.5 -3.8
VOSK pmax pmax
comp=Z,20nm,1.2s
CHKZ Chkalovo 136.79 60 *e*PKHKP 05 39 42.7
CHKZ *e* 05 39 55.2
CHKZ Chkalovo 136.79 60 *e*PKPpre 05 39 42.7
CHKZ *e*PKPdf PKPdf 05 39 55.2 -1.9
CHKZ *i* SKPbc SKPbc 05 43 23.4 -3.6
CHKZ *e*SKPab 05 43 29.6
MK31 Makanchi Array 137.49 75 PKHKP 05 39 46.2
MK31 pmax pmax
comp=Z,25nm,1.1s
MKAR Makanchi Array 137.49 75 PKhKP 05 39 46.0
comp=Z,1.8nm,0.8s,baz=224,slow=3.3,SNR=15
MKAR PKP PKPdf 05 39 55.6 -2.8
comp=Z,12nm,0.9s,baz=254,slow=3.0,SNR=25
MKAR SKP 05 43 24.9
comp=Z,6.1nm,1.0s,baz=255,slow=4.8,SNR=7.3
MKAR Makanchi Array 137.49 75 PKHKP 05 39 46.0
MKAR 05 39 55.6
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR pmax pmax
comp=Z,12nm,0.9s
MKAR pmax pmax
comp=N,6.0nm,1.0s
MKAR Makanchi Array 137.49 75 PKP PKPdf 05 39 55.6 -2.8
MKAR SKP 05 43 24.9
QZH Quanzhou 137.60 129 PKP PKPdf 05 39 58.0 -0.7
QZH LR LR
comp=N,2μm,23.1s
QZH LR LR
comp=Z,1μm,20.2s,MS5.5
WMQ Urumqi 138.06 82 *e*PKP PKPdf 05 39 58.5 -1.0
WMQ XPKP 05 40 17.3
WMQ PP PP 05 42 51.5 +3.6
WMQ PP PP
comp=Z,101nm,8.9s
WMQ LR LR
comp=N,361nm,26.2s,MS5.3
WMQ LR LR
comp=E,582nm,26.9s,MS5.3
WMQ LR LR
comp=Z,655nm,26.8s,MS5.2
KURK Kurchatov 138.43 68 *e*PKHKP 05 39 50.1
KURK *e* 05 40 00.4
KURK MLR MLR
comp=Z,605nm,21.0s,MS5.3
TATO Taipei 138.73 133 PFAKE 05 40 10.0 +9.2
TATO LR LR
comp=Z,483nm,22.0s,MS5.2
YKA Yellowknife Ar 139.11 315 PKhKP 05 39 50.8
comp=Z,1.2nm,0.6s,baz=128,slow=2.9,SNR=6.9
YKA PKP PKPdf 05 39 58.7 -2.8
comp=Z,5.7nm,0.4s,baz=122,slow=2.6,SNR=26
YKA PP PP 05 42 47.9 -6.5
comp=Z,2.5nm,0.9s,baz=124,slow=6.4,SNR=5.1
YKA SKP 05 43 27.5
comp=Z,8.9nm,0.8s,baz=123,slow=2.2,SNR=16
YKA Yellowknife Ar 139.11 315 PKHKP 05 39 50.8
YKA 05 39 58.7
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA pmax pmax
comp=Z,6.0nm,0.4s
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKA pmax pmax
comp=N,9.0nm,0.8s
YKA Yellowknife Ar 139.11 315 PKP PKPdf 05 39 58.7 -2.8
YKA PP PP 05 42 47.9 -6.5
YKA SKP 05 43 27.6
YKW3 Yellowknife Ar 139.16 315 *e*PKPdf PKPdf 05 39 58.9 -2.7
YKW3 *e*PP PP 05 42 49.1 -5.6
YKW3 *e*SKPdf SKPdf 05 43 28.8 -4.6
KBS Kingsbay 140.19 11 *e*P PKPdf 05 39 56.7 -6.7
KBS *e*PP PP 05 42 56.0 -5.0
KBS AMS AMS 06 36 42.9
comp=Z,178nm,20.3s,MS4.8
LZH Lanzhou 140.39 104 *e*PKP PKPdf 05 39 59.0 -4.8
LZH XPKP 05 40 18.5
LZH PP PP 05 43 02.5 +0.2
LZH PKS 05 43 33.5
LZH SKS SKSdf 05 47 02.5 -8.6
LZH SKKS SKKSac 05 49 47.3 -5.8
LZH *e*SS SS 06 01 21.0 -2.7
LZH PP PP
comp=Z,310nm,7.4s
LZH LR LR
comp=N,765nm,19.0s
LZH LR LR
comp=Z,860nm,20.0s,MS5.5
LZH Lanzhou 140.39 104 *e*PKIKP PKPdf 05 39 59.1 -4.7
LZH 05 43 02.5
LZH 05 47 02.4
LZH *e*SS SS 06 01 20.9 -2.8
LZH MLR MLR
comp=Z,860nm,20.0s,MS5.5
LZH Lanzhou 140.39 104 *e*PKP PKPdf 05 39 59.1 -4.7
LZH pPKP pPKPdf 05 40 03.5 -12
LZH sPKP 05 40 18.6
LZH PP PP 05 43 02.5 +0.2
LZH PKS 05 43 33.6
LZH SKS SKSdf 05 47 02.4 -8.7
LZH SKKS SKKSac 05 49 47.2 -5.9
LZH *e*SS SS 06 01 20.9 -2.8
LZH LR LR
comp=Z,860nm,20.0s,MS5.5
WHN Wuhan 140.75 120 *e*PKP PKPdf 05 40 02.5 -1.9
GTA Gaotai 140.95 97 PKP PKPdf 05 39 57.8 -7.0
GTA SKS SKSdf 05 47 06.0 -6.0
GTA PP PP
comp=Z,223nm,8.0s
GTA LR LR
comp=N,398nm,22.9s,MS5.2
GTA LR LR
comp=E,400nm,23.7s,MS5.2
GTA LR LR
comp=Z,563nm,22.5s,MS5.3
XAN Xi'an 141.20 111 PKP PKPdf 05 39 57.0 -8.2
RES Resolute Bay 141.38 337 *e*PKPdf PKPdf 05 39 56.0 -10
RES *e*SKPdf SKPdf 05 43 31.1 -6.1
DLBC Dease Lake 142.75 302 PKhKP 05 40 01.8
comp=Z,2.7nm,0.4s,baz=199,slow=5.7,SNR=8.3
DLBC SKPbc SKPbc 05 43 38.7 -4.4
comp=Z,3.8nm,0.8s,baz=99,slow=1.9,SNR=4.6
NVS Novosibirsk 143.22 66 *e*PKIKP PKPdf 05 40 02.8 -6.0
NVS *e* 05 43 18.0
NVS pmax pmax
comp=N,90nm,1.4s
NVS pmax pmax
comp=E,80nm,1.4s
NVS pmax pmax
comp=Z,256nm,1.4s
ZAL Zalesovo 143.40 68 PKhKP 05 40 04.2
comp=Z,8.1nm,0.3s,baz=244,slow=2.6,SNR=36
NJ2 Nanjing 143.98 124 *e*PKP PKPdf 05 40 08.5 -1.7
NJ2 PP PP 05 43 30.0 +5.9
NJ2 PKS 05 43 42.0
NJ2 PP PP
comp=Z,70nm,10.0s
NJ2 LR LR
comp=N,450nm,32.0s,MS5.2
NJ2 LR LR
comp=E,400nm,29.6s,MS5.2
NJ2 LR LR
comp=Z,260nm,28.4s,MS4.8
SSE Sheshan 144.10 128⇑ PKP PKPdf 05 40 07.8 -2.6
SSE PP PP 05 43 24.5 -0.3
SSE SS SS 06 02 02.3 -4.4
SSE PP PP
comp=Z,102nm,6.8s
SSE LR LR
comp=N,317nm,21.8s,MS5.2
SSE LR LR
comp=E,355nm,21.8s,MS5.2
SSE LR LR
comp=Z,568nm,22.4s,MS5.3
SIT Sitka 144.29 298 PFAKE 05 40 20.0 +9.3
SIT LR LR
comp=Z,926nm,20.0s,MS5.5
SKAG Skagway 145.61 301 *e*P PKPdf 05 40 10.6 -2.4
SKAG LR LR
comp=Z,300nm,20.0s,MS5.1
CBIJ Chichi jima 146.50 161 PKPbc PKPbc 05 40 13.9 -2.0
comp=Z,206nm,1.0s,baz=315,slow=3.2,SNR=4.4
TIA Tai'an 146.77 118 *e*PKP PKPdf 05 40 13.0 -1.9
BTO Baotou 146.94 105 *e*PKP PKPdf 05 40 16.5 +1.3
HHC Hu-ho-hao-te 147.88 107 *e*PKP PKPdf 05 40 15.0 -1.8
HHC PKP2 PKPab 05 40 23.3 +0.9
HHC PKS 05 43 48.5
HHC PP PP 05 43 50.5 +3.3
HHC SKS SKSdf 05 47 11.5 -11
HHC SKKS SKKSac 05 50 29.0 -6.9
HHC SS SS 06 02 46.8 -2.9
HHC LR LR
comp=N,423nm,22.6s,MS5.3
HHC LR LR
comp=E,408nm,19.0s,MS5.3
HHC LR LR
comp=Z,433nm,21.6s,MS5.2
INK Inuvik 148.83 317 PKP PKPdf 05 40 12.7 -5.6
comp=Z,7.6nm,1.1s,baz=88,slow=2.8,SNR=13
INK PKPbc PKPbc 05 40 19.2 -3.1
comp=Z,42nm,0.8s,baz=102,slow=3.4,SNR=78
INK Inuvik 148.83 317 PKHKP 05 40 12.7
INK 05 40 19.2
INK pmax pmax
comp=Z,8.0nm,1.1s
INK pmax pmax
comp=Z,42nm,0.8s
INK Inuvik 148.83 317 *e*PKPdf PKPdf 05 40 13.1 -5.3
INK *e*PKPbc PKPbc 05 40 18.9 -3.4
BJT Baijiatuau 149.43 113 PFAKE 05 40 30.0 +11
BJT LR LR
comp=Z,680nm,22.0s,MS5.4
BJI Beijing 149.45 113 PKP PKPdf 05 40 18.3 -1.0
BJI PKP2 PKPab 05 40 23.3 -5.4
BJI PP PP 05 43 51.8 -4.5
BJI PP PP
comp=Z,317nm,4.4s
BJI LR LR
comp=N,283nm,25.6s,MS5.0
BJI LR LR
comp=E,124nm,25.0s,MS5.0
BJI LR LR
comp=Z,480nm,30.8s
BJI Beijing 149.45 113 PKHKP 05 40 18.2
BJI 05 40 23.3
BJI 05 43 51.8
BJI *e* 06 08 41.6
BJI MLR MLR
comp=Z,480nm,30.8s,MS5.1
BJI Beijing 149.45 113 PKP PKPdf 05 40 18.2 -1.1
BJI PKP PKPdf 05 40 23.3 +4.0
BJI PP PP 05 43 51.8 -4.5
BJI SS SS 06 03 16.0 +8.7
BJI *e* 06 08 41.6
BJI LR LR
comp=Z,480nm,30.8s,MS5.1
DAWY Dawson 149.46 307 *e*PKPdf PKPdf 05 40 14.6 -4.8
DAWY *e*PKPbc PKPbc 05 40 20.9 -3.0
DAWY *e*PKPab PKPab 05 40 26.9 -1.9
JNU Nakatsue 149.46 140 PKPbc PKPbc 05 40 23.6 -0.2
comp=Z,22nm,0.5s,baz=82,slow=3.0,SNR=6.2
MOY Mondy 149.96 82 *e*PKIKP PKPdf 05 40 18.5 -1.6
MOY pmax pmax
comp=Z,378nm,2.7s
SONM Songino Array 150.30 92 PKP PKPdf 05 40 18.5 -2.2
comp=Z,17nm,1.3s,baz=318,slow=2.0,SNR=6.5
SONM PKPbc PKPbc 05 40 25.1 -0.7
comp=Z,117nm,0.9s,baz=222,slow=2.2,SNR=109
ZAK Zakamensk 150.34 86⇑ *e*PKIKP PKPdf 05 40 19.1 -1.6
ZAK pmax pmax
comp=Z,287nm,1.6s
ZAK pmax pmax
comp=Z,8.0nm,1.7s
ULN Ulaanbaatar 150.65 93 PKPdf PKPdf 05 40 19.4 -1.9
ULN PKPdf PKPdf 05 40 25.6 +4.4
ULN Ulaanbaatar 150.65 93 PFAKE 05 40 30.0 +8.8
ULN LR LR
comp=Z,558nm,20.0s,MS5.4
EYAK Cordova Ski Ar 150.73 298 *e*PKPbc PKPbc 05 40 25.0 -1.9
DL2 Dalian 151.00 121⇑ PKP PKPdf 05 40 19.5 -2.3
DL2 PKP2 PKPab 05 40 34.3 -0.8
DL2 PP PP 05 44 09.0 +3.8
DL2 SS SS 06 03 25.0 +0.5
DL2 PP PP
comp=Z,170nm,7.3s
TLY Talaya 151.30 84 *i* PKIKP PKPdf 05 40 20.1 -2.1

TLY				*e*			05 40 34.3		
TLY				*e*			05 44 06.4		
TLY				pmax	pmax				
	comp=Z,135nm,1.2s								
TLY	**Talaya**	**151.30**	**84**	*e*PKPdf	PKPdf		05 40 20.6	-1.7	
TLY				*e*PKPbc	PKPbc		05 40 27.1	-1.1	
TLY				LR	LR				
	comp=Z,493nm,20.0s,MS5.3								
INCN	**Inchon**	**151.85**	**130**	*e*PKPbc	PKPbc		05 40 28.6	-0.9	
INCN				LR	LR				
	comp=Z,558nm,20.0s,MS5.4								
JHJ	**Hachijo jima 2**	**151.90**	**155**	PKPbc	PKPbc		05 40 29.4	-0.3	
	comp=Z,156nm,0.6s,baz=237,slow=21,SNR=3.7								
IRK	**Irkutsk**	**151.94**	**83**	*e*PKIKP	PKPdf		05 40 20.6	-2.6	
IRK				*e*			05 40 37.7		
IRK				*e*			05 44 18.6		
IRK				pmax	pmax				
	comp=Z,184nm,2.3s								
KS15	**Wonju Array Si**	**152.30**	**132**	*e*PKPbc	PKPbc		05 40 29.1	-1.4	
PMR	**Palmer**	**152.65**	**299**	*e*PKIKP	PKPdf		05 40 19.1	-5.2	
PMR				MLR	MLR				
	comp=Z,500nm,21.0s,MS5.3								
KDAK	**Kodiak Island**	**152.67**	**290**	*e*PKPdf	PKPdf		05 40 23.1	-1.2	
KDAK				*e*PKPbc	PKPbc		05 40 29.2	-2.1	
KDAK				LR	LR				
	comp=Z,121nm,19.0s,MS4.7								
SLKM	**Skilak Lake**	**152.73**	**296**	*e*PKIKP	PKPdf		05 40 29.3	+4.9	
SLKM				*e*			05 40 40.4		
ILAR	**Eielson Array**	**152.76**	**306**	PKP	PKPdf		05 40 17.8	-6.6	
	comp=Z,2.7nm,1.0s,baz=314,slow=2.0,SNR=21								
ILAR				PKPbc	PKPbc		05 40 28.7	-2.8	
	comp=Z,14nm,0.3s,baz=159,slow=2.4,SNR=192								
COLA	**College**	**153.18**	**306**	*e*PKPdf	PKPdf		05 40 20.6	-4.4	
COLA				*e*PKPbc	PKPbc		05 40 29.4	-3.0	
COLA				LR	LR				
	comp=Z,302nm,19.0s,MS5.1								
SNY	**Shenyang**	**154.24**	**120**	⇑PKP	PKPdf		05 40 22.3	-4.2	
SNY				SKKS	SKKSac		05 51 00.3	-10	
SNY				PP	PP				
	comp=Z,210nm,12.0s								
SNY				LR	LR				
	comp=N,271nm,21.0s,MS5.3								
SNY				LR	LR				
	comp=E,414nm,21.0s,MS5.3								
SNY				LR	LR				
	comp=Z,405nm,20.4s,MS5.2								
MAJO	**Matsushiro**	**154.79**	**150**	PFAKE			05 40 40.0	+13	
MAJO				LR	LR				
	comp=Z,583nm,22.0s,MS5.4								
MAT	**Matsushiro**	**154.79**	**150**	PKP	PKPdf		05 40 25.6	-1.7	
MJAR	**Matsushiro Arr**	**154.79**	**150**	PKP	PKPdf		05 40 25.8	-1.5	
	comp=Z,4.2nm,0.9s,baz=130,slow=1.9,SNR=9.9								
MJAR				PKPbc	PKPbc		05 40 34.9	-1.1	
	comp=Z,17nm,1.1s,baz=199,slow=2.5,SNR=16								
MJAR				PKPab	PKPab		05 40 50.5	-0.5	
	comp=Z,16nm,1.0s,baz=189,slow=4.4,SNR=11								
MJAR				PP	PP		05 44 23.4	-3.3	
	comp=Z,1.2nm,0.6s,baz=181,slow=8.8,SNR=4.3								
TTA	**Tatalina**	**156.13**	**300**	*e*P	PKPdf		05 40 23.8	-5.3	
TTA				*e*PKPdif			05 40 35.2		
CIT	**Chita**	**156.52**	**91**	*e*PKIKP	PKPdf		05 40 28.1	-1.5	
CIT				*e*			05 44 42.3		
CIT				pmax	pmax				
	comp=Z,75nm,1.8s								
CN2	**Changchun**	**156.65**	**120**	*e*PKP	PKPdf		05 40 28.0	-1.8	
CN2				PKP2	PKPab		05 40 58.5	-0.5	
CN2				*e*PP	PP		05 44 38.8	+1.8	
CN2				*e*SS	SS		06 04 22.0	-4.1	
CN2				PP	PP				
	comp=Z,400nm,12.0s								
HIA	**Hailar**	**157.94**	**103**	PKPdf	PKPdf		05 40 29.2	-2.2	
HIA				PKPab	PKPab		05 41 04.0	-0.7	
HIA	**Hailar**	**157.94**	**103**	PFAKE			05 40 40.0	+8.6	
HIA				LR	LR				
	comp=Z,666nm,21.0s,MS5.5								
MDJ	**Mudanjiang**	**159.07**	**125**	PKP	PKPdf		05 40 33.3	+0.5	
MDJ				PP	PP		05 44 52.5	+2.2	
MDJ				LR	LR				
	comp=N,354nm,21.5s,MS5.2								
MDJ				LR	LR				
	comp=E,209nm,23.4s,MS5.2								
MDJ				LR	LR				
	comp=Z,533nm,21.5s,MS5.3								
MDJ	**Mudanjiang**	**159.07**	**125**	PFAKE			05 40 40.0	+7.2	
MDJ				LR	LR				
	comp=Z,601nm,21.0s,MS5.4								
BOD	**Bodaibo**	**159.53**	**78**	*e*PKIKP	PKPdf		05 40 27.4	-5.9	
BOD				*e*			05 41 09.8		
BOD				pmax	pmax				
	comp=Z,14nm,1.0s								
BOD				pmax	pmax				
	comp=Z,33nm,1.2s								
KLR	**Kul'dur**	**163.60**	**120**	⇓*i*PKIKP	PKPdf		05 40 32.3	-5.2	
KLR				*e*			05 41 24.6		
KLR				pmax	pmax				
	comp=Z,130nm,1.8s								
TIXI	**Tiksi**	**164.39**	**30**	*e*PKIKP	PKPdf		05 40 31.3	-7.0	
TIXI				*e*			05 41 29.7		
TIXI				*e*			05 45 16.4		
TIXI				pmax	pmax				
	comp=Z,7.0nm,1.4s								
TIXI	**Tiksi**	**164.39**	**30**	PFAKE			05 40 50.0	+12	
TIXI				LR	LR				
	comp=Z,342nm,20.0s								
CLNS	**Chul'man**	**164.63**	**88**	*e*PKIKP	PKPdf		05 40 34.0	-4.5	
CLNS				pmax	pmax				
	comp=N,13nm,1.1s								
CLNS				pmax	pmax				
	comp=Z,27nm,1.1s								
CLNS				pmax	pmax				
	comp=E,5.0nm,0.8s								
YSS	**Yuzh-Sakhalins**	**165.72**	**148**	PKIKP	PKPdf		05 40 37.0	-2.4	
YSS	**Yuzh-Sakhalins**	**165.72**	**148**	PFAKE			05 40 50.0	+11	
YSS				LR	LR				
	comp=Z,649nm,21.0s								
SMY	**Shemya**	**166.73**	**247**	PFAKE			05 40 50.0	+10	
SMY				LR	LR				
	comp=Z,1μm,22.0s								
YAK	**Yakutsk**	**168.07**	**68**	PFAKE			05 40 50.0	+8.9	
YAK				LR	LR				
	comp=Z,562nm,22.0s								
BILL	**Bilibino**	**169.94**	**332**	*e*PKIKP	PKPdf		05 40 35.5	-6.8	
BILL	**Bilibino**	**169.94**	**332**	*e*PKPdf	PKPdf		05 40 35.5	-6.8	
BILL				LR	LR				
	comp=Z,813nm,22.0s								
PET	**Petropavlovsk**	**172.81**	**205**	*c i*PKIKP	PKPdf		05 40 40.3	-3.5	
PET				*i*			05 42 07.9		
PET				*i*			05 45 59.1		
PET				pmax	pmax				
	comp=Z,400nm,9.9s								
PET				pmax	pmax				
	comp=Z,300nm,14.0s								
PET				pmax	pmax				
	comp=Z,200nm,16.0s								
PET				pmax	pmax				
	comp=Z,300nm,20.0s								
PET				pmax	pmax				
	comp=Z,300nm,23.8s								
PET				pmax	pmax				
	comp=Z,400nm,18.3s								
PET				pmax	pmax				
	comp=Z,400nm,22.1s								
PET	**Petropavlovsk**	**172.81**	**205**	PKPdf	PKPdf		05 40 40.8	-2.9	
PET				PKPab	PKPab		05 42 04.7	-5.3	
PET				PP	PP		05 46 00.6	-0.9	
PET				SKKP			05 49 54.0		
PET				LR	LR				
	comp=Z,582nm,21.0s								
MA2	**Magadan**	**178.51**	**92**	PFAKE			05 40 50.0	+4.8	
MA2				LR	LR				
	comp=Z,442nm,22.0s								

*ISCJB **29** 05:36:21.2±1.7, 147S±02×1777W±02, h340km±18km, mb3.7/7, Error ellipse: s-maj=34.5km s-min=18.2km az=105.0*
*IDC **29** 05:36:22.9±2.4, 1504S×17746W, h354km±30km, mb3.5/7, mb1 3.7/8, mb1mx3.5/16, mbtmp4.3/8, Error ellipse: s-maj=67.6km s-min=13.7km az=145.0*
*NEIC **29** 05:36:24.9±1.5, 1547S×17706W, h390km±26km, Error ellipse: s-maj=91.5km s-min=14.5km az=147.0*
ISC 29 05:36:23.1±1.6, 148S±02×1775W±02, h350km±18km, n17, σ1§22/14, mb3.7/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.64**	**82**	P	**Pn**	**05 37 49.6**	**-0.2**
	10nm,0.3s,baz=101,slow=2.7,SNR=15						
DZM	**Mont Dzumac**	**16.83**	**242**	P	**P**	**05 40 01.0**	**+3.4**
	0.7nm,0.3s,baz=97,slow=18,SNR=7.1						
STKA	**Stephens Creek**	**40.92**	**238**	P	**P**	**05 43 30.3**	**-2.3**
	1.4nm,0.6s,mb3.4,baz=78,slow=9.1,SNR=5.6						
STKA	**Stephens Creek**	**40.92**	**238**	P	**P**	**05 43 30.3**	**-2.3**
WRA	**Warramunga Arr**	**46.10**	**256**	P	**P**	**05 44 13.4**	**-0.1**
	0.9nm,0.4s,mb3.3,baz=90,slow=6.8,SNR=7.7						
WRA				PcP	PcP	05 45 43.1	0.0
	1.1nm,1.0s,baz=91,slow=4.1,SNR=4.6						
ASAR	**Alice Springs**	**46.52**	**251**	P	**P**	**05 44 17.2**	**+0.5**
	13nm,0.7s,mb4.3,baz=84,slow=8.2,SNR=112						
ASAR				PcP	PcP	05 45 44.4	-0.2
	0.9nm,0.4s,baz=101,slow=3.7,SNR=5.7						
KDAK	**Kodiak Island**	**75.19**	**14**	P	**P**	**05 47 28.3**	**+0.3**
	2.7nm,0.5s,mb4.3,baz=263,slow=5.2,SNR=6.1						
KDAK	**Kodiak Island**	**75.19**	**14**	P	**P**	**05 47 28.3**	**+0.3**
NVAR	**Mina Array Bea**	**76.60**	**44**	P	**P**	**05 47 37.3**	**+1.5**
	0.3nm,0.5s,mb3.3,baz=218,slow=6.8,SNR=3.0						
ILAR	**Eielson Array**	**82.68**	**13**	P	**P**	**05 48 07.8**	**-0.5**
	1.6nm,0.6s,mb4.0,baz=223,slow=5.5,SNR=19						
INK	**Inuvik**	**88.67**	**15**	P	**P**	**05 48 36.5**	**-1.0**
	1.1nm,0.9s,mb3.7,baz=207,slow=2.3,SNR=2.9						
SNAA	**Sanae**	**93.67**	**178**	*e*	**P**	**05 49 03.3**	**+2.8**
VNA3	**Neumayer Olymp**	**93.78**	**176**	*e*	**P**	**05 49 00.5**	**-0.5**
VNA2	**Neumayer--Watz**	**94.23**	**177**	*e*	**P**	**05 49 02.4**	**-0.7**
	baz=214,slow=4.7						
ARCES	**ARCESS Array B**	**123.41**	**351**	PKP	PKPdf	05 54 37.5	-1.6
	1.4nm,0.7s,baz=48,slow=1.8,SNR=6.2						
BRTR	**Keskin Array B**	**143.11**	**318**	PKP	PKPdf	05 55 14.4	-1.4
	2.2nm,0.8s,baz=44,slow=1.4,SNR=10						
GERES	**GERESS Array B**	**144.81**	**347**	PKPbc	PKPdf	05 55 18.8	+0.1
	0.9nm,0.6s,baz=2.5,slow=3.1,SNR=6.2						

*BJI **29** 06:14:52.7, 3883S×17674E, h129km, mB5.1, mb4.9*
*NEIC **29** 06:14:58.0, 3839S×17590E, h145km, MG4.0(WEL), After WEL.*
WEL 29 06:14:57.9±0.3, 3840S×17591E, h145km±3km, ML3.8/8, 2C-1D, Error ellipse: s-maj=1.9km s-min=1.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWVZ	**Taurewa**	**0.77**	**209**	PN	Pn	06 15 20.5	+0.2
TWVZ	**Taurewa**	**0.77**	**209**	P	Pn	06 15 20.5	+0.2
NGZ	**Ngauruhoe**	**0.81**	**197**	PN	Pn	06 15 21.1	+0.5
NGZ	**Ngauruhoe**	**0.81**	**197**	P	Pn	06 15 21.1	+0.5
HIZ	**Hauiti**	**0.84**	**262**	PN	Pn	06 15 20.7	-0.2
HIZ	**Hauiti**	**0.84**	**262**	*e*P	Pn	06 15 20.6	-0.2
BKZ	**Black Stump Fm**	**0.89**	**150**	⇑PN	Pn	06 15 21.5	+0.3
BKZ				SN	Sn	06 15 39.4	+0.4
BKZ	**Black Stump Fm**	**0.89**	**150**	P	Pn	06 15 21.6	+0.3
BKZ				S	Sn	06 15 39.6	+0.6
TUVZ	**Tukino**	**0.89**	**193**	PN	Pn	06 15 21.7	+0.4
TUVZ	**Tukino**	**0.89**	**193**	P	Pn	06 15 21.7	+0.4
FWVZ	**Far West T-bar**	**0.90**	**198**	PN	Pn	06 15 21.9	+0.5
FWVZ	**Far West T-bar**	**0.90**	**198**	P	Pn	06 15 21.9	+0.6
TRVZ	**Turoa**	**0.94**	**197**	PN	Pn	06 15 22.1	+0.4
URZ	**Urewera**	**0.95**	**82**	PN	Pn	06 15 21.4	-0.4
URZ				SN	Sn	06 15 39.6	-0.4
URZ	**Urewera**	**0.95**	**82**	*e*P	Pn	06 15 21.7	-0.1
PKVZ	**Pokaka**	**0.99**	**206**	PN	Pn	06 15 22.3	+0.2
MOVZ	**Moawhango**	**1.01**	**187**	PN	Pn	06 15 22.2	-0.1
MOVZ				SN	Sn	06 15 40.3	-0.6
MOVZ	**Moawhango**	**1.01**	**187**	P	Pn	06 15 22.2	-0.1
MOVZ				S	Sn	06 15 40.3	-0.6
VRZ	**Vera Road**	**1.16**	**231**	PN	Pn	06 15 23.7	+0.1
VRZ	**Vera Road**	**1.16**	**231**	P	Pn	06 15 23.7	+0.1
MWZ	**Matawai**	**1.27**	**88**	PN	Pn	06 15 24.7	0.0
MWZ				SN	Sn	06 15 44.7	-0.5
MWZ	**Matawai**	**1.27**	**88**	*e*P	Pn	06 15 24.8	+0.1
MWZ				S	Sn	06 15 44.7	-0.5
KNZ	**Kokohu**	**1.51**	**115**	PN	Pn	06 15 27.6	+0.4
KNZ				SN	Sn	06 15 49.7	+0.1
KNZ	**Kokohu**	**1.51**	**115**	*e*P	Pn	06 15 27.8	+0.6
WAZ	**Wanganui**	**1.53**	**208**	PN	Pn	06 15 27.2	-0.2
WAZ	**Wanganui**	**1.53**	**208**	*e*P	Pn	06 15 27.3	-0.1
TSZ	**Takapari Road**	**1.66**	**179**	PN	Pn	06 15 28.4	-0.4
TSZ				SN	Sn	06 15 50.7	-1.7
PXZ	**Pawanui**	**1.79**	**156**	PN	Pn	06 15 30.0	-0.3
PUZ	**Puketiti**	**1.88**	**81**	⇓PN	Pn	06 15 30.9	-0.4
PUZ				SN	Sn	06 15 55.9	-0.9
PUZ	**Puketiti**	**1.88**	**81**	P	Pn	06 15 30.9	-0.3
PUZ				S	Sn	06 15 55.9	-0.9
MXZ	**Matakaoa Point**	**2.07**	**67**	PN	Pn	06 15 32.8	-0.7
MXZ	**Matakaoa Point**	**2.07**	**67**	*e*P	Pn	06 15 32.9	-0.6
MRZ	**Mangatainoka R**	**2.27**	**186**	⇑PN	Pn	06 15 34.4	-1.6
MRZ				SN	Sn	06 16 01.7	-3.5
MRZ	**Mangatainoka R**	**2.27**	**186**	P	Pn	06 15 34.4	-1.6
BFZ	**Birch Farm**	**2.29**	**174**	P	Pn	06 15 34.9	-1.3
TIWZ	**Tintock**	**2.37**	**180**	PN	Pn	06 15 35.7	-1.5
KIW	**Kapiti Island**	**2.58**	**197**	PN	Pn	06 15 37.4	-2.3
KIW	**Kapiti Island**	**2.58**	**197**	P	Pn	06 15 37.5	-2.2
MTW	**Mount Morrison**	**2.77**	**186**	PN	Pn	06 15 39.7	-2.5
MTW	**Mount Morrison**	**2.77**	**186**	P	Pn	06 15 39.7	-2.4
CAW	**Cannon Point**	**2.78**	**193**	PN	Pn	06 15 39.9	-2.3
CAW	**Cannon Point**	**2.78**	**193**	P	Pn	06 15 40.0	-2.3
DUWZ	**D'Urville Isla**	**2.85**	**212**	PN	Pn	06 15 40.5	-2.6
MRW	**Makara Radio**	**2.98**	**198**	PN	Pn	06 15 42.0	-2.7
MRW	**Makara Radio**	**2.98**	**198**	P	Pn	06 15 42.1	-2.6
TRWZ	**Traveller**	**3.00**	**183**	PN	Pn	06 15 42.5	-2.5
PAWZ	**Paruwai Farm**	**3.00**	**187**	PN	Pn	06 15 42.3	-2.7
PAWZ	**Paruwai Farm**	**3.00**	**187**	P	Pn	06 15 42.4	-2.6
SNZO	**South Karori**	**3.05**	**197**	PN	Pn	06 15 42.6	-3.0
SNZO	**South Karori**	**3.05**	**197**	P	Pn	06 15 42.7	-3.0
MSWZ	**Moikau Station**	**3.05**	**189**	P	Pn	06 15 42.9	-2.8
TCW	**Tory Channel**	**3.08**	**204**	P	Pn	06 15 43.2	-2.8
NNZ	**Nelson**	**3.42**	**214**	*e*P	Pn	06 15 47.5	-3.0
THZ	**Tophouse**	**4.07**	**214**	*e*P	Pn	06 15 55.2	-3.8
KHZ	**Kahutara**	**4.40**	**204**	*e*P	Pn	06 15 59.5	-3.8
LTZ	**Lake Taylor**	**5.18**	**211**	*e*P	Pn	06 16 08.9	-4.7
MDJ	**Mudanjiang**	**92.61**	**329**	P	P	06 27 55.0	+2.1
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,113nm,3.8s						
MDJ				LR	LR		
	comp=N,354nm,22.8s						
MDJ				LR	LR		
	comp=E,209nm,22.8s						
MDJ				LR	LR		
	comp=Z,537nm,22.8s						
CN2	**Changchun**	**93.70**	**326**	*e*P	P	06 28 01.0	+3.0
HHC	**Hu-ho-hao-te**	**98.34**	**316**	*e*P	P	06 28 22.0	+3.0
HHC				AP	pP	06 28 58.0	+2.0
HHC				XP	sP	06 29 13.0	+1.8
HHC				PP	PP	06 32 27.3	+6.6
HHC				SKS		06 38 45.5	
HHC				S		06 39 35.0	
HHC				XS	sS	06 40 37.8	-1.3
HHC				PS	PS	06 41 24.0	+6.3
HHC				SS	SS	06 46 25.5	+4.1
HHC				AMB	AMB		
	comp=Z,7.0nm,1.1s						
HHC				AMB	AMB		
	comp=Z,107nm,5.8s						
HHC				LR	LR		
	comp=N,81nm,19.8s						
HHC				LR	LR		
	comp=E,82nm,21.0s						
HHC				LR	LR		
	comp=Z,88nm,23.8s						
LZH	**Lanzhou**	**99.60**	**309**	*e*P	Pdif	06 28 27.8	+3.1
LZH				AP	pP	06 29 04.3	+2.6
LZH				XP	sP	06 29 18.5	+1.6
LZH				*e*PP	PP	06 32 36.8	+6.5
LZH				AMB	AMB		
	comp=Z,23nm,1.5s						
LZH				AMB	AMB		
	comp=Z,51nm,9.9s						
WMQ	**Urumqi**	**114.15**	**308**	*e*PKP	PKiKP	06 33 19.5	-0.4
WMQ				PP	PP	06 34 19.5	+2.7
WMQ				LR	LR		
	comp=N,106nm,22.1s						
WMQ				LR	LR		
	comp=Z,134nm,20.9s						

*ISCJB **29** 06:27:18.7±1.1, 183S±0.1×17784W±009, h612km±15km, mb4.3/19, Error ellipse: s-maj=20.8km s-min=10.0km az=121.3*
*NEIC **29** 06:27:19.1±0.8, 1834S×17774W, h602km±10km, mb4.6/11, Error ellipse: s-maj=15.0km s-min=7.7km az=148.0*
*MOS **29** 06:27:19.3±1.2, 1807S×17790W, h604km, mb4.7/4, Error ellipse: s-maj=26.8km s-min=16.4km az=171.3*
*IDC **29** 06:27:21.0±2.0, 1848S×17779W, h631km±25km, mb3.6/9, mb1 3.8/10, mb1mx3.6/16, mbtmp4.6/10, Error ellipse: s-maj=22.3km s-min=11.7km az=151.0*
ISC 29 06:27:19.6±1.1, 184S±01×17776W±009, h606km±14km, n44, σ0§88/37, mb4.3/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.25**	**53**	P	**P**	**06 29 11.1**	**-0.9**
	3.0nm,0.3s,baz=277,slow=19,SNR=4.4						
DZM	**Mont Dzumac**	**15.28**	**253**	P	**P**	**06 30 31.4**	**+1.4**
	0.5nm,0.3s,baz=285,slow=21,SNR=6.0						
URZ	**Urewera**	**20.33**	**192**	P	**P**	**06 31 14.3**	**-1.7**
	6.3nm,0.4s,baz=236,slow=12,SNR=10.0						
CNB	**Canberra Magne**	**33.65**	**233**	*e*P	**P**	**06 33 13.1**	**+1.3**
	18nm,0.7s,mb4.8						
CTAO	**Charters Tower**	**33.99**	**261**	*e*P	**P**	**06 33 15.0**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,16nm,0.6s,mb4.8						
CTAO	**Charters Tower**	**33.99**	**261**	*e*P	**P**	**06 33 15.0**	**+0.4**
	comp=Z,16nm,0.6s,mb4.8						
PMG	**Port Moresby**	**35.15**	**280**	*e*P	**P**	**06 33 25.2**	**+1.0**
PMG				pmax	pmax		
	comp=Z,31nm,0.9s						
PMG	**Port Moresby**	**35.15**	**280**	*e*P	**P**	**06 33 25.2**	**+1.0**
	comp=Z,31nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**38.96**	**242**	*e*P	**P**	**06 33 54.4**	**-0.9**
	comp=Z,6.8nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**38.96**	**242**	P	**P**	**06 33 54.6**	**-0.7**
	comp=Z,8.2nm,0.7s,mb4.4,baz=91,slow=9.4,SNR=17						
STKA	**Stephens Creek**	**38.96**	**242**	*e*P	**P**	**06 33 54.3**	**-0.9**
WB2	**Warramunga Arr**	**45.15**	**260**	*e*P	**P**	**06 34 43.4**	**-0.2**
WB2				*e*S	**S**	**06 40 35.6**	**-4.6**
WRAB	**Tennant Creek**	**45.16**	**260**	*e*P	**P**	**06 34 43.6**	**0.0**
WRAB				pmax	pmax		
	comp=Z,16nm,0.4s,mb4.9						
WRAB	**Tennant Creek**	**45.16**	**260**	*e*P	**P**	**06 34 43.6**	**0.0**
	comp=Z,16nm,0.4s,mb4.9						
WRA	**Warramunga Arr**	**45.16**	**260**	P	**P**	**06 34 43.8**	**+0.1**
	comp=Z,13nm,0.4s,mb4.8,baz=96,slow=7.7,SNR=150						
WRA				PcP	PcP	06 36 10.5	-0.2
	comp=Z,2.2nm,0.8s,baz=85,slow=4.0,SNR=4.7						
WRA				S	**S**	**06 40 37.5**	**-2.9**
	comp=Z,0.5nm,0.6s,baz=94,slow=13,SNR=5.4						
ASAR	**Alice Springs**	**45.27**	**255**	P	**P**	**06 34 45.0**	**+0.5**
	comp=Z,24nm,0.7s,mb4.8,baz=90,slow=8.0,SNR=201						
ASAR				PcP	PcP	06 36 11.1	0.0
	comp=Z,2.3nm,0.5s,baz=103,slow=3.9,SNR=7.5						
ASAR				S	**S**	**06 40 40.8**	**-1.1**
	comp=Z,2.2nm,0.7s,baz=90,slow=16,SNR=14						
KAKA	**Kakadu**	**48.20**	**269**	*e*P	**P**	**06 35 06.4**	**-0.1**
	comp=Z,23nm,0.4s,mb5.1						
GUMO	**Guam**	**48.64**	**308**	P	**P**	**06 35 10.1**	**+0.3**
	comp=Z,34nm,0.6s,mb5.0,baz=183,slow=18,SNR=3.4						
FORT	**Forrest**	**50.38**	**245**	*e*P	**P**	**06 35 22.1**	**-0.4**
	comp=Z,19nm,0.6s,mb4.7						
KLBR	**Kellerberrin**	**59.19**	**244**	*e*P	**P**	**06 36 23.6**	**-0.1**
	comp=Z,11nm,0.6s,mb4.2						
MJAR	**Matsushiro Arr**	**68.64**	**323**	P	**P**	**06 37 22.8**	**-0.7**
	comp=Z,6.0nm,0.6s,mb4.2,baz=156,slow=6.2,SNR=8.5						
MJAR	**Matsushiro Arr**	**68.64**	**323**	P	**P**	**06 37 22.8**	**-0.7**
MAJO	**Matsushiro**	**68.64**	**323**	P	**P**	**06 37 23.2**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.4						
MAJO	**Matsushiro**	**68.64**	**323**	P	**P**	**06 37 23.2**	**-0.3**
	comp=Z,7.0nm,0.4s,mb4.4						
QSPA	**South Pole Qui**	**71.70**	**180**	*e*P	**P**	**06 37 42.3**	**+0.8**
	comp=Z,1.5nm,0.6s,mb3.7						
CMB	**Columbia Colle**	**77.74**	**43**	*e*P	**P**	**06 38 15.4**	**+0.2**
CMB				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
CMB	**Columbia Colle**	**77.74**	**43**	*e*P	**P**	**06 38 15.4**	**+0.2**
	comp=Z,1.5nm,0.6s,mb3.6						
NVAR	**Mina Array Bea**	**79.32**	**43**	P	**P**	**06 38 24.2**	**+0.6**
	comp=Z,1.9nm,0.7s,mb3.5,baz=232,slow=12,SNR=15						
PV10	**Paradox Valley**	**85.56**	**47**	P	**P**	**06 38 55.4**	**+0.5**
ANMO	**Albuquerque**	**85.89**	**51**	*e*P	**P**	**06 38 57.1**	**+0.6**
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.3s						
ANMO	**Albuquerque**	**85.89**	**51**	*e*P	**P**	**06 38 57.1**	**+0.6**
	comp=Z,2.1nm,1.3s,mb3.6						
MCMT	**McKenzie Canyo**	**86.18**	**40**	*e*P	**P**	**06 38 58.5**	**+0.7**
ILAR	**Eielson Array**	**86.18**	**13**	P	**P**	**06 38 55.7**	**-2.2**
	comp=Z,0.2nm,0.4s,mb3.1,baz=222,slow=4.4,SNR=8.4						
PDAR	**Pinedale Array**	**87.25**	**43**	P	**P**	**06 39 02.8**	**-0.1**
	comp=Z,1.0nm,0.8s,mb3.6,baz=240,slow=1.9,SNR=8.4						
ARCES	**ARCESS Array B**	**126.86**	**350**	PKP	PKPdf	06 45 13.4	-2.1
	comp=Z,0.6nm,0.4s,baz=11,slow=2.5,SNR=8.2						
AKASG	**Malin Array Be**	**141.25**	**333**	PKhKP		06 45 35.0	
	comp=Z,0.4nm,0.3s,baz

IDC ***29*** *06:44:43.7±1.1, 1181N×9236E, h0km, mb3.8/10, mb1 3.9/10, mb1mx3.9/19, mbtmp3.8/10, Error ellipse: s-maj=43.3km s-min=18.3km az=63.0*
ISCJB ***29*** *06:44:45.7±0.8, 118N±0.1×92.1E±0.2, h33km, mb3.8/11, Error ellipse: s-maj=27.6km s-min=9.4km az=103.3*

ISC 29 06:44:48.5±0.8, 119N±01×922E±02, h35km, n22, σ0°93/22, mb3.8/11, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**0.61**	**111**	*eP*	Px	06 44 32.4	
PBA				*eS*	Sx	06 44 42.5	
VIS	**Vishakhapatnam**	**10.32**	**305**	*eP*	**Pn**	**06 47 14.4**	**+0.4**
VIS				*eS*	**Sn**	**06 49 00.8**	**-7.7**
VIS				AML	AML	06 49 02.6	
	comp=N,22nm,0.3s						
VIS				AML	AML	06 49 03.5	
	comp=E,19nm,0.2s						
PSI	**Prapat**	**11.24**	**143**	Pn	**Pn**	**06 47 33.6**	**+7.0**
	comp=E,0.4nm,0.3s,baz=330,slow=13,SNR=6.2						
BOK	**Bokaro**	**13.26**	**334**	*eP*	**Pn**	**06 47 53.5**	**-0.7**
BOK				*eS*	**Sn**	**06 50 04.9**	**-15**
BOK				AML	AML	06 50 27.0	
	comp=E,11nm,0.8s						
BOK				AML	AML	06 50 29.7	
	comp=N,11nm,0.3s						
JIRN	**Jiri**	**16.66**	**341**	*eP*	**Pn**	**06 48 37.7**	**-1.5**
PKI	**Pulchoki**	**16.84**	**339**	*eP*	**Pn**	**06 48 40.6**	**-0.9**
DMN	**Daman**	**16.99**	**338**	*eP*	**Pn**	**06 48 43.3**	**0.0**
	comp=N,32nm,0.8s						
KKN	**Kakani**	**17.09**	**339**	*eP*	**Pn**	**06 48 44.4**	**-0.2**
GKN	**Gorkha**	**17.52**	**337**	*eP*	**Pn**	**06 48 49.8**	**-0.1**
	comp=N,15nm,0.3s						
KOLN	**Koldanda**	**17.72**	**334**	*eP*	**Pn**	**06 48 52.1**	**-0.4**
MKAR	**Makanchi Array**	**35.78**	**348**	P	**P**	**06 51 45.2**	**+0.9**
	comp=N,1.7nm,0.9s,mb4.0,baz=152,slow=8.4,SNR=7.2						
SONM	**Songino Array**	**37.77**	**16**	P	**P**	**06 52 01.6**	**+0.4**
	comp=N,0.7nm,0.3s,mb3.8,baz=193,slow=12,SNR=2.1						
ZAL	**Zalesovo**	**42.35**	**354**	P	**P**	**06 52 41.4**	**+2.2**
	comp=N,0.9nm,0.4s,mb3.8,baz=296,slow=10,SNR=2.4						
MJAR	**Matsushiro Arr**	**48.06**	**51**	P	**P**	**06 53 24.8**	**+0.4**
	comp=N,1.0nm,0.3s,mb4.3,baz=280,slow=7.2,SNR=4.1						
WRA	**Warramunga Arr**	**52.19**	**127**	P	**P**	**06 53 55.5**	**-0.2**
	comp=N,0.6nm,0.5s,mb3.8,baz=301,slow=10,SNR=5.8						
ASAR	**Alice Springs**	**53.99**	**131**	P	**P**	**06 54 09.2**	**+0.2**
	comp=N,0.8nm,0.9s,mb3.6,baz=331,slow=10.0,SNR=5.0						
BRTR	**Keskin Array B**	**58.37**	**309**	P	**P**	**06 54 46.0**	**+5.8**
	comp=N,0.9nm,0.9s,mb3.8,baz=51,slow=7.6,SNR=2.9						
STKA	**Stephens Creek**	**64.28**	**134**	P	**P**	**06 55 18.7**	**-1.5**
	comp=N,1.4nm,0.7s,mb4.1,baz=271,slow=15,SNR=3.2						
FINES	**FINESS Array B**	**68.28**	**332**	P	**P**	**06 55 47.8**	**+2.0**
	comp=N,0.6nm,0.8s,mb3.7,baz=130,slow=4.3,SNR=2.2						
ARCES	**ARCESS Array B**	**70.86**	**340**	P	**P**	**06 56 01.8**	**0.0**
	comp=N,1.6nm,0.9s,mb4.0,baz=77,slow=5.5,SNR=3.6						
ILAR	**Eielson Array**	**91.77**	**22**	P	**P**	**06 57 52.0**	**-0.6**
	comp=N,0.2nm,0.8s,mb3.5,baz=288,slow=3.8,SNR=2.9						
PLCA	**Paso Flores**	**147.48**	**205**	PKPbc	PKPbc	07 04 29.9	+1.1
	comp=N,3.3nm,1.2s,baz=40,slow=12,SNR=3.3						

IDC 29 06:49:20.6±1.6, 1958N×12183E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/19, mbtmp3.7/3, MS4.1/1, Ms1 4.1/1, ms1mx2.7/20, Error ellipse: s-maj=328.8km s-min=25.8km az=71.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CVP	**Callao Caves**	**1.86**	**180**	*eP*	Pn	06 50 05.0	+11
SONM	**Songino Array**	**30.85**	**340**	P	P	06 55 38.6	+0.2
	1.1nm,0.6s,baz=128,slow=9.3,SNR=2.3						
SONM				LR	LR	07 08 56.1	
	comp=Z,369nm,21.1s,baz=50,slow=38						
WRA	**Warramunga Arr**	**41.14**	**162**	P	P	06 57 06.6	+0.1
	0.7nm,0.5s,baz=343,slow=8.9,SNR=7.8						
ASAR	**Alice Springs**	**44.56**	**164**	P	P	06 57 34.5	+0.2
	0.3nm,0.4s,baz=342,slow=7.0,SNR=4.6						

NEIC ***29*** *06:57:38.7, 3691N×1087W, h0km, MN2.6(MDD), After MDD.*
MDD ***29*** *06:57:39.5±1.8, 3701N×1087W, h0km, mb3.7/9, Error ellipse: s-maj=16.1km s-min=11.3km az=58.0, PRXIMO*
ISCJB ***29*** *06:57:39.1±1.1, 3719N±004×1084W±007, h10km, Error ellipse: s-maj=8.5km s-min=5.5km az=131.9*
IGIL ***29*** *06:57:39.9, 3690N×1110W, h31km, ML3.2*
INMG ***29*** *06:57:40.2±1.0, 3695N×1097W, h10km, ML2.3, Error ellipse: s-maj=5.9km s-min=3.4km az=75.0*
CSEM ***29*** *06:57:40.8±0.4, 3729N×1070W, h10km, ML2.3, Error ellipse: s-maj=7.3km s-min=3.9km az=59.0*

ISC 29 06:57:40.8±1.0, 3712N±004×1076W±007, h10km, n43, σ1°12/78, 1C-1D, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	**1.67**	**75**	*ePn*	**Pn**	**06 58 10.5**	**+0.3**
PTEO				*eSn*	**Sn**	**06 58 33.2**	**+1.5**
PTEO							
	15nm,0.2s						
PTEO	**Sao Teotonio**	**1.67**	**75**	*eP*	**Pn**	**06 58 10.5**	**+0.3**
PTEO				*eS*	**Sn**	**06 58 33.2**	**+1.5**
	15nm,0.2s						
MORF	**Marmelete**	**1.69**	**83**	*eP*	**Pn**	**06 58 10.3**	**-0.1**
MORF				*eS*	**Sn**	**06 58 32.5**	**+0.5**
MORF				*eS*	**Sn**	**06 58 32.6**	**+0.5**
MORF				AML	AML	06 58 35.1	
	comp=N,180nm,0.3s						
MORF	**Marmelete**	**1.69**	**83**	*eP*	**Pn**	**06 58 10.3**	**-0.1**
MORF				*eS*	**Sn**	**06 58 32.5**	**+0.4**
PLOU	**Loures**	**2.17**	**35**	*ePn*	**Pn**	**06 58 17.4**	**+0.4**
PLOU				*eSn*	**Sn**	**06 58 45.9**	**+2.0**
PLOU							
	comp=N,20nm,0.4s						
PLOU	**Loures**	**2.17**	**35**	*eP*	**Pn**	**06 58 17.4**	**+0.4**
PLOU				*eS*	**Sn**	**06 58 45.9**	**+2.0**
	comp=N,20nm,0.4s						
MOE	**Montemor**	**2.36**	**53**	*ePn*	**Pn**	**06 58 20.5**	**+0.9**
MOE				*eSn*	**Sn**	**06 58 50.7**	**+2.0**
PBEJ	**Beja**	**2.47**	**68**	*ePn*	**Pn**	**06 58 22.1**	**+1.0**
PBEJ				*eSn*	**Sn**	**06 58 52.5**	**+1.3**
PBEJ							
	comp=N,5.5nm,0.1s						
EGRO	**El Granado**	**2.64**	**80**	⇓P	**Pn**	**06 58 23.5**	**0.0**
	comp=N,1.4nm,0.2s,SNR=18						
EGRO				S	**Sn**	**06 58 55.9**	**+0.4**
	comp=N,17nm,0.2s						
EGRO	**El Granado**	**2.64**	**80**	P	**Pn**	**06 58 23.5**	**0.0**
	comp=N,1.4nm,0.2s,SNR=18						
EGRO				S	**Sn**	**06 58 55.9**	**+0.4**
	comp=N,17nm,0.2s						
PTOM	**Tomar**	**3.10**	**36**	*ePn*	**Pn**	**06 58 31.0**	**+1.2**
PTOM				*eSn*	**Sn**	**06 59 08.3**	**+1.4**
PTOM							
	comp=N,8.4nm,0.1s						
EMIN	**Mina Concepcio**	**3.31**	**78**	⇑P	**Pn**	**06 58 32.6**	**-0.1**
	comp=N,1.9nm,0.2s,SNR=18						
EMIN				S	**Sn**	**06 59 12.5**	**+0.4**
	comp=N,11nm,0.3s,SNR=19						
EMIN	**Mina Concepcio**	**3.31**	**78**	P	**Pn**	**06 58 32.6**	**-0.1**
	comp=N,1.9nm,0.2s,SNR=18						
EMIN				S	**Sn**	**06 59 12.5**	**+0.4**
	comp=N,11nm,0.3s,SNR=19						
EBAD	**Badajoz**	**3.38**	**60**	P	**Pn**	**06 58 34.4**	**+0.8**
	comp=N,1.0nm,0.4s,SNR=9.4						
EBAD				S	**Sn**	**06 59 15.3**	**+1.6**
	comp=N,2.7nm,0.3s,SNR=8.1						
EBAD	**Badajoz**	**3.38**	**60**	P	**Pn**	**06 58 34.4**	**+0.8**
	comp=N,1.0nm,0.4s,SNR=9.4						
EBAD				S	**Sn**	**06 59 15.4**	**+1.7**
	comp=N,2.7nm,0.3s,SNR=8.1						
PCBR	**Castelo Branco**	**3.74**	**42**	*ePn*	**Pn**	**06 58 39.6**	**+1.0**
PCBR				*eSn*	**Sn**	**06 59 23.8**	**+1.1**
PCBR							
	comp=N,2.4nm,0.3s						
ESPR	**Espera**	**3.93**	**92**	P	**Pn**	**06 58 41.2**	**0.0**
	comp=N,2.7nm,0.4s,SNR=6.8						
ESPR				S	**Sn**	**06 59 25.7**	**-1.6**
	comp=N,4.8nm,0.3s,SNR=4.9						
ESPR	**Espera**	**3.93**	**92**	P	**Pn**	**06 58 41.2**	**0.0**
	comp=N,2.7nm,0.4s,SNR=6.8						
ESPR				S	**Sn**	**06 59 25.7**	**-1.6**
	comp=N,4.8nm,0.3s,SNR=4.9						
MTE	**Manteigas**	**4.13**	**36**	*eSn*	**Sn**	**06 59 32.6**	**+0.4**
MTE							
	comp=N,3.8nm,0.3s						
MTE	**Manteigas**	**4.13**	**36**	S	**Sn**	**06 59 32.6**	**+0.4**
	comp=N,1.9nm,0.3s						
EJIF	**Jimena Fronter**	**4.30**	**97**	P	**Pn**	**06 58 45.6**	**-0.6**
EJIF				S	**Sn**	**06 59 33.7**	**-2.6**
EJIF	**Jimena Fronter**	**4.30**	**97**	P	**Pn**	**06 58 45.6**	**-0.6**
EJIF				S	**Sn**	**06 59 33.7**	**-2.7**
PVRL	**Vila Real**	**4.77**	**29**	*e*Sn	**Sn**	**06 59 47.3**	**-0.8**
PVRL							
	comp=N,4.3nm,0.1s						
PVRL	**Vila Real**	**4.77**	**29**	S	**Sn**	**06 59 47.3**	**-0.8**
	comp=N,2.2nm,0.1s						
EMIJ	**Mijas**	**4.83**	**95**	P	**Pn**	**06 58 53.3**	**-0.2**
EMIJ				S	**Sn**	**06 59 47.3**	**-2.3**
EMIJ	**Mijas**	**4.83**	**95**	P	**Pn**	**06 58 53.3**	**-0.3**
EMIJ				S	**Sn**	**06 59 47.3**	**-2.2**
EADA	**Adamuz**	**5.01**	**76**	P	**Pn**	**06 58 56.3**	**+0.2**
	comp=N,1.0nm,0.3s,SNR=11						
EADA				S	**Sn**	**06 59 53.0**	**-1.0**
	comp=N,5.7nm,0.3s,SNR=11						
EADA	**Adamuz**	**5.01**	**76**	P	**Pn**	**06 58 56.3**	**+0.2**
	comp=N,1.0nm,0.3s,SNR=11						
EADA				S	**Sn**	**06 59 53.0**	**-1.1**
	comp=N,5.7nm,0.3s,SNR=11						
PCAB	**Cabril**	**5.05**	**24**	*e*Pn	**Pn**	**06 58 56.4**	**-0.1**
PCAB				*e*Sn	**Sn**	**06 59 53.5**	**-1.4**
PCAB							
	comp=N,2.2nm,0.1s						
ELOB	**Lobios**	**5.18**	**23**	P	**Pn**	**06 58 58.5**	**+0.2**
	comp=N,1.5nm,0.5s,SNR=5.8						
ELOB				S	**Sn**	**06 59 57.2**	**-1.0**
	comp=N,2.4nm,0.3s,SNR=4.9						
ELOB	**Lobios**	**5.18**	**23**	P	**Pn**	**06 58 58.5**	**+0.2**
	comp=N,1.5nm,0.5s,SNR=5.8						
ELOB				S	**Sn**	**06 59 57.2**	**-0.9**
	comp=N,2.4nm,0.3s,SNR=4.9						
EZAM	**Zamans**	**5.27**	**17**	S	**Sn**	**06 59 58.8**	**-1.5**
	comp=N,13nm,0.6s,SNR=7.9						
PBRG	**Braganca**	**5.62**	**32**	*e*Sn	**Sn**	**07 00 07.7**	**-1.2**
PBRG							
	comp=N,2.3nm,0.1s						
ECAL	**Calabor**	**5.73**	**32**	P	**Pn**	**06 59 06.1**	**+0.2**
	comp=N,0.6nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**07 00 11.1**	**-0.6**
	comp=N,8.7nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**5.73**	**32**	P	**Pn**	**06 59 06.1**	**+0.2**
	comp=N,0.6nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**07 00 11.1**	**-0.6**
	comp=N,8.7nm,0.4s,SNR=7.9						
ESDC	**Sonseca Array**	**5.91**	**62**	P	**Pn**	**06 59 08.9**	**+0.4**
	comp=N,3.2nm,0.2s,baz=246,slow=13,SNR=4.6						
ESDC				S	**Sn**	**07 00 16.2**	**0.0**
	comp=N,2.6nm,0.2s,baz=245,slow=23,SNR=5.6						
ESDC	**Sonseca Array**	**5.91**	**62**	P	**Pn**	**06 59 08.9**	**+0.5**
	comp=N,3.2nm,0.2s,SNR=4.6						
ESDC				S	**Sn**	**07 00 16.2**	**0.0**
	comp=N,2.6nm,0.2s,SNR=5.6						
EPON	**Pontenova**	**6.79**	**23**	P	**Pn**	**06 59 19.7**	**-0.7**
	comp=N,2.6nm,0.3s,SNR=7.9						
EPON				S	**Sn**	**07 00 34.7**	**-3.0**
	SNR=7.9						
EPON	**Pontenova**	**6.79**	**23**	P	**Pn**	**06 59 19.7**	**-0.7**
	comp=N,2.6nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**7.44**	**75**	P	**Pn**	**06 59 29.1**	**-0.3**
ETOB				S	**Sn**	**07 00 50.9**	**-2.9**
ETOB	**Tobarra**	**7.44**	**75**	P	**Pn**	**06 59 29.1**	**-0.3**
EARI	**Arriondas**	**7.49**	**33**	P	**Pn**	**06 59 30.3**	**+0.2**
EARI				S	**Sn**	**07 00 52.9**	**-2.2**
EARI	**Arriondas**	**7.49**	**33**	P	**Pn**	**06 59 30.3**	**+0.2**

IDC 29 07:49:18.8±6.4, 2231S×17704W, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.9/12, mbtmp4.0/3, MS3.5/2, Ms1 3.5/2, ms1mx2.9/21, Error ellipse: s-maj=293.1km s-min=34.9km az=147.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**6.95**	**186**	LR	LR	07 52 47.9	
	comp=Z,235nm,20.1s,baz=54,slow=30						
URZ	**Urewera**	**16.67**	**196**	Pn	Pn	07 52 57.2	-17
	0.7nm,0.3s,baz=94,slow=13,SNR=3.6						
STKA	**Stephens Creek**	**37.84**	**246**	LR	LR	08 10 40.3	
	comp=Z,116nm,18.7s,baz=26,slow=34						
ASAR	**Alice Springs**	**45.00**	**258**	P	P	07 57 35.6	-0.2
	0.7nm,0.3s,baz=95,slow=7.2,SNR=14						
WRA	**Warramunga Arr**	**45.26**	**264**	P	P	07 57 38.2	+0.3
	1.0nm,0.3s,baz=90,slow=6.0,SNR=59						
ILAR	**Eielson Array**	**89.88**	**12**	P	P	08 02 19.9	+0.3
	0.4nm,0.7s,baz=224,slow=5.0,SNR=6.6						
AKASG	**Malin Array Be**	**145.03**	**331**	PKPbc	PKPbc	08 08 57.0	-0.3
	1.3nm,0.4s,baz=44,slow=3.4,SNR=6.5						
BRTR	**Keskin Array B**	**148.71**	**31**	PKPbc	PKPbc	08 09 07.5	-0.5
	0.7nm,0.7s,baz=96,slow=2.9,SNR=4.1						

SZGRF ***29*** *07:53:12.5, 2453S×17998E, h33km, South of Fiji Islands*
IDC ***29*** *07:54:10.1±1.8, 2370S×17981E, h516km±18km, mb3.7/8, mb1 3.9/9, mb1mx3.8/13, mbtmp4.6/9, Error ellipse: s-maj=28.7km s-min=12.9km az=157.0*
NEIC ***29*** *07:54:12.1±1.3, 2393S×17987E, h545km±16km, mb4.3/16, Error ellipse: s-maj=17.4km s-min=10.1km az=175.0*
ISCJB ***29*** *07:54:13.5±1.7, 2365S±009×17970E±008, h563km±22km, mb4.2/24, Error ellipse: s-maj=13.9km s-min=11.0km az=118.4*

ISC 29 07:54:11.8±1.5, 2382S±009×17986E±008, h535km±18km, n74, σ0°97/38, mb4.2/24, 3C-5D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.48**	**275**	P	**P**	**07 56 56.4**	**+1.2**
	1.2nm,0.3s,baz=79,slow=16,SNR=13						
URZ	**Urewera**	**14.58**	**189**	P	**P**	**07 57 15.2**	**-1.9**
	3.2nm,0.3s,baz=57,slow=2.0,SNR=13						
URZ				S	**S**	**07 59 48.9**	**-0.7**
	1.8nm,0.3s,baz=188,slow=20,SNR=13						
CTAO	**Charters Tower**	**31.34**	**270**	*eP*	**P**	**07 59 49.7**	**+1.3**
	37nm,0.4s,mb5.3						
PMG	**Port Moresby**	**34.34**	**289**	P	**P**	**08 00 13.9**	**+0.1**
	20nm,0.7s,mb4.8,baz=115,slow=6.1,SNR=8.4						
PMG	**Port Moresby**	**34.34**	**289**	*eP*	**P**	**08 00 14.0**	**+0.1**
	16nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**34.63**	**248**	P	**P**	**08 00 15.5**	**-0.7**
	2.0nm,0.4s,mb4.0,baz=129,slow=14,SNR=3.6						
ASAR	**Alice Springs**	**41.92**	**261**	P	**P**	**08 01 16.0**	**+0.6**
	5.6nm,0.6s,mb4.3,baz=97,slow=7.9,SNR=54						
ASAR				ScP	ScP	08 06 02.2	+4.5
	3.9nm,0.8s,baz=110,slow=4.3,SNR=18						
ASAR				S	**S**	**08 06 55.1**	**+0.2**
	1.0nm,0.9s,baz=91,slow=16,SNR=4.8						
WRAB	**Tennant Creek**	**42.27**	**266**	*eP*	**P**	**08 01 18.1**	**-0.1**
	7.6nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**42.28**	**266**	P	**P**	**08 01 18.4**	**+0.2**
	3.8nm,0.4s,mb4.3,baz=90,slow=5.9,SNR=258						
WRA				ScP	ScP	08 06 03.7	+4.5
	3.0nm,0.9s,baz=100,slow=4.1,SNR=10.0						
WRA				S	**S**	**08 06 59.3**	**-0.9**
	2.5nm,1.1s,baz=96,slow=15,SNR=4.8						
SBA	**Scott Base**	**54.45**	**183**	*eP*	**P**	**08 02 51.8**	**+3.0**
QSPA	**South Pole Qui**	**66.26**	**180**	*eP*	**P**	**08 04 08.6**	**+1.8**
	2.6nm,0.6s,mb3.9						
MJAR	**Matsushiro Arr**	**71.76**	**326**	P	**P**	**08 04 38.6**	**-1.3**
	3.2nm,0.8s,mb3.8,baz=164,slow=5.8,SNR=6.0						
CMB	**Columbia Colle**	**83.23**	**43**	*eP*	**P**	**08 05 42.0**	**0.0**
	7.6nm,0.9s,mb4.2						
HUMO	**Hull Mountain**	**84.52**	**39**	*eP*	**P**	**08 05 49.0**	**+0.7**
	8.5nm,1.1s,mb4.2						
SNAA	**Sanae**	**84.75**	**179**	*eP*	**P**	**08 05 41.4**	**-8.0**
	3.1nm,1.0s,mb3.8						
NVAR	**Mina Array Bea**	**84.79**	**44**	P	**P**	**08 05 50.0**	**+0.4**
	2.2nm,0.8s,mb3.7,baz=209,slow=6.2,SNR=16						
TPNV	**Topopah Spring**	**85.27**	**46**	*eP*	**P**	**08 05 51.8**	**-0.2**
	1.7nm,0.6s,mb3.8						
TPH	**Tonopah**	**85.28**	**45**	*eP*	**P**	**08 05 52.2**	**+0.1**
	8.7nm,0.9s,mb4.3						
TUC	**Tucson**	**86.58**	**53**	*eP*	**P**	**08 05 59.3**	**+1.1**
	6.6nm,0.9s,mb4.3						
WVOR	**Wild Horse Val**	**86.94**	**41**	*eP*	**P**	**08 05 59.9**	**-0.1**
	12nm,1.4s,mb4.3						
CCUT	**Cedar City**	**87.52**	**47**	*eP*	**P**	**08 06 12.7**	**+10**
MSU	**Marysvale**	**88.83**	**47**	*eP*	**P**	**08 06 09.6**	**+0.8**
TMUT	**Trail Mountain**	**89.88**	**46**	*eP*	**P**	**08 06 14.8**	**+1.2**
HLID	**Hailey**	**90.12**	**42**	*eP*	**P**	**08 06 15.0**	**+0.2**
	4.5nm,1.0s,mb4.2						
SRU	**San Rafael**	**90.24**	**47**	*eP*	**P**	**08 06 15.3**	**+0.1**
	12nm,0.9s,mb4.7						
TCUT	**Toone Canyon**	**90.70**	**45**	*eP*	**P**	**08 06 17.7**	**+0.3**
HWUT	**Hardware Ranch**	**90.85**	**44**	*eP*	**P**	**08 06 17.5**	**-0.6**
	3.6nm,0.5s,mb4.6						
PV10	**Paradox Valley**	**90.87**	**48**	*eP*	**P**	**08 06 18.2**	**0.0**
ANMO	**Albuquerque**	**91.01**	**52**	*eP*	**P**	**08 06 19.1**	**+0.2**
	5.7nm,1.3s,mb4.3						
PV01	**Paradox Valley**	**91.07**	**48**	*eP*	**P**	**08 06 19.1**	**0.0**
MCMT	**McKenzie Canyo**	**91.76**	**41**	*eP*	**P**	**08 06 22.3**	**+0.1**
COLA	**College**	**91.87**	**13**	*eP*	**P**	**08 06 20.3**	**-2.5**
	1.2nm,0.6s,mb4.1						
ILAR	**Eielson Array**	**91.99**	**14**	P	**P**	**08 06 20.9**	**-2.4**
	0.7nm,0.5s,mb3.9,baz=212,slow=5.7,SNR=18						
BILL	**Bilibino**	**92.14**	**355**	*eP*	**P**	**08 06 22.5**	**-1.5**
	1.8nm,0.6s,mb4.3						
PDAR	**Pinedale Array**	**92.73**	**44**	P	**P**	**08 06 26.4**	**-0.4**
	2.0nm,0.7s,mb4.2,baz=226,slow=3.3,SNR=16						
CHKZ	**Chkalovo**	**120.16**	**319**	*e*PKPdf	PKPdf	08 12 00.0	-1.8
ZRNK	**Zerenda**	**121.13**	**319**	*e*PKPdf	PKPdf	08 12 02.4	-1.3
ARCES	**ARCESS Array B**	**131.78**	**348**	PKP	PKPdf	08 12 22.2	-1.8
	2.0nm,0.5s,baz=30,slow=1.2,SNR=18						
JOF	**Joensuu**	**135.62**	**340**	*ep*		08 12 20.7	
KAF	**Kangasniemi**	**137.73**	**342**	*ep*		08 12 24.5	
FINES	**FINESS Array B**	**138.33**	**341**	PKhKP		08 12 25.2	
	0.4nm,0.4s,baz=33,slow=4.5,SNR=5.1						
FINES				PKP	PKPdf	08 12 35.6	-0.5
	0.8nm,0.3s,baz=97,slow=3.7,SNR=11						
NB2	**NORSAR Subarra**	**141.99**	**351**	PKPa	PKPdf	08 12 37.3	-5.5
	comp=Z,2.7nm,0.5s,baz=11,slow=3.5						
NOA	**NORSAR Array B**	**141.99**	**351**	PKhKP		08 12 37.5	
	comp=Z,2.8nm,0.7s,baz=15,slow=4.8,SNR=10						
AKASG	**Malin Array Be**	**144.84**	**327**	PKPbc	PKPdf	08 12 46.1	-1.6
	comp=Z,9.0nm,0.5s,baz=44,slow=3.9,SNR=30						
BRTR	**Keskin Array B**	**147.43**	**307**	PKPbc	PKPbc	08 12 55.0	-0.5
	comp=Z,2.7nm,0.8s,baz=145,slow=4.9,SNR=11						
GKP	**Gorka Klasztor**	**147.79**	**340**	*e*PX	PKPbc	08 12 56.1	-0.3
ANTO	**Ankara**	**147.99**	**308**	⇓*i*P	PKPbc	08 12 57.3	+0.4
EIL	**Elat**	**148.21**	**288**	*e*PKPbc	PKPbc	08 12 58.5	+1.0
KWP	**Kalwaria**	**148.64**	**331**	*e*PX	PKPbc	08 12 58.5	0.0
CFR	**Carcaliu**	**148.69**	**320**	⇓*i*P	PKPbc	08 12 59.5	+0.8
BURAR	**Bucovina Array**	**148.83**	**326**	⇑*i*P	PKPbc	08 13 00.3	+1.3
CSS	**Prodhromos**	**148.93**	**299**	*e*PKPbc	PKPbc	08 12 59.5	+0.3
HARR	**Harsova**	**149.08**	**319**	⇓*i*P	PKPbc	08 13 00.0	+0.4
OJC	**Ojcow**	**149.41**	**334**	*e*PX	PKPbc	08 13 00.1	-0.3
STHS	**Stebnicka Huta**	**149.44**	**332**	*e*PKP	PKPbc	08 13 00.9	+0.4
MLR	**Muntele Rosu**	**149.77**	**322**	⇓*i*P	PKPbc	08 13 01.2	-0.1
NIE	**Niedzica**	**149.83**	**333**	*e*PX	PKPbc	08 13 01.9	+0.5
KSP	**Ksiaz**	**150.17**	**339**	*e*PX	PKPbc	08 13 02.4	+0.2
OKC	**Ostrava-Krasne**	**150.35**	**336**	*e*PKPbc	PKPbc	08 13 02.1	-0.5
UPC	**Upice**	**150.55**	**339**	*e*PKPbc	PKPbc	08 13 02.9	-0.2
DPC	**Dobruska-Polom**	**150.58**	**338**	*e*PKPbc	PKPbc	08 13 03.2	+0.1
DPC				*e*PKPab	PKPab	08 13 12.2	-0.1
CLL	**Collm**	**150.74**	**343**	⇑*i*PKPbc	PKPbc	08 13 03.1	-0.4
CLL	**Collm**	**150.74**	**343**	⇑*i*PKPbc	PKPbc	08 13 03.2	-0.3
	comp=Z,25nm,0.8s						
CLL				*e*PKPab	PKPab	08 13 12.0	-1.0
BRG	**Berggiesshubel**	**150.87**	**342**	*e*PKPbc	PKPbc	08 13 03.5	-0.3
BRG	**Berggiesshubel**	**150.87**	**342**	*i* PKP	PKPbc	08 13 03.6	-0.2
	comp=Z,9.4nm,1.0s						
CLZ	**Clausthal**	**150.88**	**347**	*e*PKPbc	PKPbc	08 13 03.5	-0.3
PVCC	**Panska Ves**	**150.99**	**340**	*e*PKPbc	PKPbc	08 13 04.2	+0.1
PRU	**Pruhonice**	**151.47**	**340**	*e*PKPbc	PKPbc	08 13 04.3	-0.9
PRU				*e*PKPab	PKPab	08 13 15.3	-0.8
MOX	**Moxa**	**151.71**	**344**	*e*PKPbc	PKPbc	08 13 05.4	-0.3
MOX	**Moxa**	**151.71**	**344**	*e*PKP	PKPbc	08 13 05.8	+0.1
WERD	**Werda**	**151.71**	**343**	*e*PKPbc	PKPbc	08 13 05.2	-0.5
BZS	**Buzias**	**152.01**	**326**	⇓*i*P	PKPbc	08 13 06.1	-0.3
KHC	**Kasperske Hory**	**152.53**	**340**	*e*PKPbc	PKP

1.0nm,0.5s,mb4.1,baz=201,slow=8.6,SNR=3.4
ILAR Eielson Array 81.75 337 P **P** **08 48 02.0 -1.6**
0.4nm,0.9s,mb3.4,baz=169,slow=3.5,SNR=4.5
TORD Torodi Ar. Bea 82.87 77 P **P** **08 48 10.8 +1.2**
0.2nm,0.4s,mb3.5,baz=290,slow=6.0,SNR=5.3
SBA Scott Base 92.91 191 *e*P **P** **08 48 57.7 -0.3**
6.5nm,0.8s,mb5.1
MDJ Mudanjiang 129.74 332 PKP PKPdf 08 54 53.0 -1.0
MDJ PP PP
comp=Z,119nm,3.6s
MDJ LR LR
comp=N,19nm,24.6s,MS4.7
MDJ LR LR
comp=E,181nm,23.4s,MS4.7
MDJ LR LR
comp=Z,131nm,16.0s
WRA Warramunga Arr 139.51 236 PKP PKPdf 08 55 14.8 +2.5
comp=Z,0.5nm,0.9s,baz=111,slow=2.2,SNR=5.4
HHC Hu-ho-hao-te 139.63 346 *e*PKP PKPdf 08 55 10.5 -2.0
HHC PP PP 08 58 09.0 +1.2
HHC PKS 08 58 45.5
HHC SKS SKSdf 09 02 14.5 -4.6
HHC SKKS SKKSac 09 04 55.5 -2.4
HHC PP PP
comp=Z,53nm,6.4s
HHC LR LR
comp=N,52nm,18.0s
HHC LR LR
comp=E,77nm,23.5s
HHC LR LR
comp=Z,89nm,23.9s
LZH Lanzhou 145.66 354 *e*PKP PKPdf 08 55 22.5 -0.6

IDC 29 08:42:16.1±9.2, 505S×15007E, h88km±63km, mb2.7/2, mb1 3.0/3, mb1mx2.9/13, mbtmp3.2/3, ML2.7/1, Error ellipse: s-maj=128.6km s-min=71.5km az=110.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.21**	**214**	P		Pn	08 43 31.7	+0.2
	1.7nm,0.3s,baz=30,slow=13,SNR=4.4						
WRA	**Warramunga Arr**	**21.30**	**225**	P		P	08 46 56.2	+0.6
	0.2nm,0.5s,baz=50,slow=10,SNR=7.0						
ASAR	**Alice Springs**	**24.20**	**219**	P		P	08 47 24.2	-0.2
	0.2nm,0.3s,baz=57,slow=9.4,SNR=6.6						
TORD	**Torodi Ar. Bea**	**147.78**	**287**	PKPbc		PKPbc	09 01 51.4	+0.7
	0.9nm,0.7s,baz=98,slow=2.0,SNR=5.9						

*NEIC **29** 08:52:56.9, 1939N×6908W, h79km, MD3.8(RSPR), After RSPR.*
RSPR 29 08:52:56.9, 1939N×6908W, h79km±14km, MD3.8/10, MD3.8/10, 10C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**2.08**	**116**	↑*e*P		Pn	08 53 29.6	-0.2
AGPR				*e*S		Sn	08 53 54.9	-0.1
LSP	**Las Mesas**	**2.24**	**122**	↑*e*P		Pn	08 53 32.0	0.0
LSP				*e*S		Sn	08 53 59.0	+0.1
CRPR	**Cabo Rojo, PR**	**2.32**	**126**	↑*e*P		Pn	08 53 32.0	-1.1
CRPR				*e*S		Sn	08 54 00.2	-0.5
MGP	**Maguayo**	**2.34**	**126**	↑*e*P		Pn	08 53 33.0	-0.3
MGP				*e*S		Sn	08 54 00.3	-0.8
AOPR	**Arecibo Observ**	**2.44**	**115**	↑*e*P		Pn	08 53 34.0	-0.7
AOPR				*e*S		Sn	08 54 02.7	-0.9
OBIP	**Obispado Ponce**	**2.70**	**119**	↑*e*P		Pn	08 53 38.5	+0.3
OBIP				*e*S		Sn	08 54 10.2	+0.3
CELP	**Cerrillos**	**2.71**	**119**	↑*e*P		Pn	08 53 38.5	+0.2
CELP				*e*S		Sn	08 54 10.2	+0.1
ICM	**Isla Caja Muer**	**2.85**	**121**	↓*e*P		Pn	08 53 39.8	-0.4
ICM				*e*S		Sn	08 54 13.8	+0.3
SJG	**San Juan**	**3.06**	**114**	*e*S		Sn	08 54 17.9	-0.6
CBYP	**Canovanas**	**3.25**	**110**	↑*e*P		Pn	08 53 44.8	-0.8
CBYP				*e*S		Sn	08 54 23.3	0.0
HUMP	**Col San Antoni**	**3.31**	**112**	↑*e*P		Pn	08 53 46.4	0.0
HUMP				*e*S		Sn	08 54 25.1	+0.5
MTP	**Monte Pirata**	**3.58**	**111**	↑*e*P		Pn	08 53 49.6	-0.5
MTP				*e*S		Sn	08 54 31.7	+0.4
TBVI	**Tortola**	**4.34**	**102**	*e*S		Sn	08 54 50.4	+0.5

IDC 29 09:16:39.0±2.9, 1212S×17054E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/13, mbtmp3.8/4, Error ellipse: s-maj=136.8km s-min=30.3km az=136.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**33.09**	**229**	P		P	09 23 16.6	+0.1
	1.1nm,0.9s,baz=86,slow=13,SNR=2.7						
WRA	**Warramunga Arr**	**35.59**	**253**	P		P	09 23 38.6	+0.5
	0.5nm,0.4s,baz=84,slow=8.6,SNR=12						
ASAR	**Alice Springs**	**36.60**	**247**	P		P	09 23 47.0	+0.3
	1.0nm,0.4s,baz=74,slow=9.5,SNR=20						
ILAR	**Eielson Array**	**83.10**	**17**	P		P	09 29 06.3	-0.3
	0.5nm,0.6s,baz=241,slow=4.8,SNR=6.6						

*PDA **29** 09:27:28.2±1.4, 3670N×2393W, h5km, MD3.5, ML3.5, Error ellipse: s-maj=15.3km s-min=5.5km az=49.0*
*CSEM **29** 09:27:28.2±1.4, 3670N×2393W, h5km, ML3.5, Error ellipse: s-maj=15.3km s-min=5.5km az=49.0, After PDA*
SVSA 29 09:27:28.2±1.4, 3670N×2393W, h5km, MD3.5, ML3.5, Error ellipse: s-maj=15.3km s-min=5.5km az=49.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSMN	**Pico do Norte,**	**0.96**	**289**	*e*P		Pg	09 27 43.0	-3.7
PSMN				*i* S		Sg	09 27 54.9	-4.3
MIRA	**Miradouro**	**1.53**	**316**	*e*P		Pn	09 27 51.2	-5.0
MIRA				*i* S		Sn	09 28 08.9	-7.6
FRA1	**Furnas**	**1.55**	**313**	*e*P		Pn	09 27 51.6	-4.8
FRA1				*i* S		Sn	09 28 08.7	-8.2
PCNG	**Congro**	**1.59**	**313**	*e*P		Pn	09 27 52.2	-4.8
PCNG				*e*S		Sn	09 28 10.2	-7.7
PCNG								
	186nm,0.2s						
PCNG	**Congro**	**1.59**	**313**	*e*P		Pn	09 27 52.2	-4.8
PCNG				*e*S		Sn	09 28 10.2	-7.7
PFAD	**Fenais da Ajud**	**1.60**	**316**	*e*P		Pn	09 27 52.3	-4.8
PFAD				*i* S		Sn	09 28 10.0	-8.1
VIF	**Vila Franca**	**1.60**	**311**	*e*P		Pn	09 27 52.0	-5.1
VIF				*e*S		Sn	09 28 10.2	-8.0
VIF								
	108nm,0.1s						
VIF	**Vila Franca**	**1.60**	**311**	*e*P		Pn	09 27 52.0	-5.1
VIF				*e*S		Sn	09 28 10.2	-8.0
PRCH	**Ribeira Ch**	**1.61**	**310**	*e*P		Pn	09 27 52.5	-4.8
PRCH				*e*S		Sn	09 28 10.6	-7.9
PRCH								
	295nm,0.3s						
PRCH	**Ribeira Ch**	**1.61**	**310**	*e*P		Pn	09 27 52.5	-4.8
PRCH				*e*S		Sn	09 28 10.6	-7.9
MESC	**Monte Escuro**	**1.64**	**313**	*e*P		Pn	09 27 52.7	-4.9
MESC				*e*S		Sn	09 28 11.5	-7.5
LFA	**Lagoa do Fogo**	**1.64**	**311**	*e*P		Pn	09 27 53.0	-4.7
PMAT	**Coroa da Mata**	**1.67**	**313**	*e*P		Pn	09 27 52.9	-5.1
PMAT				*e*S		Sn	09 28 11.8	-8.0
PMAT								
	126nm,0.2s						
PMAT	**Coroa da Mata**	**1.67**	**313**	*e*P		Pn	09 27 52.9	-5.1
PMAT				*e*S		Sn	09 28 11.8	-8.0
PVER	**Pico Vermelho**	**1.68**	**311**	*e*S		Sn	09 28 12.2	-7.9
PVER								
	128nm,0.4s						
CML	**Cha da Macela**	**1.68**	**310**	*e*P		Pn	09 27 53.3	-4.9
CML				*e*S		Sn	09 28 12.1	-8.1
PDA	**Ponta Delgada**	**1.74**	**308**	*e*S		Sn	09 28 19.4	-2.2
FAC	**Faja de Cima**	**1.75**	**309**	*e*P		Pn	09 27 54.0	-5.2
FAC				*e*S		Sn	09 28 13.8	-8.0
PSAN	**Santo Antonio**	**1.84**	**309**	*e*S		Sn	09 28 16.0	-8.1
PFET	**Feteiras**	**1.86**	**308**	*e*P		Pn	09 27 56.0	-4.7
SET2	**Ginetes**	**1.89**	**308**	*e*P		Pn	09 27 56.1	-5.0
SET2				*e*S		Sn	09 28 17.5	-7.8
SET4	**Mosteiros**	**1.90**	**309**	*e*S		Sn	09 28 18.0	-7.6
PFAV	**Pico das Favas**	**3.21**	**310**	*e*P		Pn	09 28 15.2	-4.1
PFAV				*e*S		Sn	09 28 50.1	-7.9
PFAV								
	54nm,0.2s						
PFAV	**Pico das Favas**	**3.21**	**310**	*e*P		Pn	09 28 15.2	-4.1
PFAV				*e*S		Sn	09 28 50.1	-7.9
RIB2	**Ribeirinha**	**3.25**	**308**	*e*S		Sn	09 28 50.0	-8.8
RIB2								
	48nm,0.1s						
PVNV	**Vila Nova**	**3.29**	**310**	*e*P		Pn	09 28 16.5	-3.9
PVNV				*e*S		Sn	09 28 52.2	-7.6
PVNV								
	38nm,0.3s						
PVNV	**Vila Nova**	**3.29**	**310**	*e*P		Pn	09 28 16.5	-3.9
PVNV				*e*S		Sn	09 28 52.2	-7.6
PPAD	**Pico dos Padre**	**3.33**	**308**	*e*S		Sn	09 28 54.4	-6.6
PPAD								
	25nm,0.2s						
PBIS	**Biscoitos**	**3.35**	**309**	*e*S		Sn	09 28 53.4	-7.9
PBIS								
	13nm,0.2s						
ASBA	**Santa Barbara**	**3.37**	**308**	*e*P		Pn	09 28 17.6	-3.9
ASBA				*e*S		Sn	09 28 54.0	-7.8
ASBA								
	35nm,0.1s						
ASBA	**Santa Barbara**	**3.37**	**308**	*e*P		Pn	09 28 17.6	-3.9
ASBA				*e*S		Sn	09 28 54.0	-7.8
PID	**Ribeirinha**	**3.76**	**299**	*e*P		Pn	09 28 29.2	+2.4
PID				*e*S		Sn	09 29 09.3	-2.2
PBOI	**Pico dos Bois**	**3.94**	**298**	*e*rx			09 29 10.0	
PTEI	**Pico do Teixo**	**3.95**	**298**	*e*rx			09 29 11.6	
ROSA	**Rosais**	**3.98**	**302**	*e*P		Pn	09 28 31.4	+1.6
ROSA				*e*S		Sn	09 29 11.7	-5.1
PICO	**Pico**	**4.00**	**298**	*e*P		Pn	09 28 32.7	+2.5
PICO				*e*S		Sn	09 29 14.5	-2.9
SRBC	**Serra Branca**	**4.01**	**307**	*e*P		Pn	09 28 29.7	-0.5
PCND	**Candelaria**	**4.02**	**298**	*e*rx			09 29 09.2	
PVIA	**Vitoria**	**4.03**	**307**	*e*rx			09 29 08.2	
HOR	**Horta**	**4.16**	**297**	*e*rx			09 29 52.7	
CALA	**Caldeira**	**4.23**	**298**	*e*P		Pn	09 28 36.1	+2.8
CALA				*e*S		Sn	09 29 19.9	-3.2

*NIED **29** 09:28:00, 2040N×12070E, h8km, Mw4.6 Best double couple: M₀8.43000×10¹⁵ NP1:φs312.00000°, δ65.00000°, λ-97.00000°. NP2:φs148.00000°, δ26.00000°, λ-75.00000°.*
*IDC **29** 09:28:03.1±0.6, 2054N×120.16E, h0km, mb4.2/16, mb1 4.4/16, mb1mx4.3/20, mbtmp4.2/16, MS3.8/12, Ms1 3.8/12, ms1mx3.6/23, Error ellipse: s-maj=24.3km s-min=13.6km az=67.0*
*BJI **29** 09:28:04.1, 2074N×12008E, h11km, mB4.8, mb4.4, ML4.3, Ms4.6, Msz4.4*
*ISCJB **29** 09:28:05.3±1.3, 2065N±003×12025E±006, h20km±9km, mb4.5/49, MS3.9/18, Error ellipse: s-maj=9.6km s-min=3.9km az=152.0*
*NEIC **29** 09:28:07.2±0.3, 2059N×12022E, mb4.7/24, Error ellipse: s-maj=8.8km s-min=5.7km az=82.0*
*MOS **29** 09:28:07.7±1.2, 2058N×120.18E, h36km, mb4.9/19, MS4.0/4, Error ellipse: s-maj=12.3km s-min=6.7km az=108.3*
*HRVD **29** 09:28:07.2±0.8, 2059N×11980E, h19km±1km, MW4.8/41, Centroid moment Tensor Solution. LP body waves: s4,c4;Mantle waves: s41,c48; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.82±.20; Mθθ-0.19±.10; Mφφ2.00±.15; Mrθ-0.68±.27; Mθφ0.09±.07; Mφr1.05±.26; Best double couple: M₀2.29000×10¹⁶ NP1:φs20.00000°, δ34.00000°, λ-59.00000°. NP2:φs164.00000°, δ62.00000°, λ-109.00000°. Principal axes: T 2.2720, Plg15.0000°, Azm268.0000°; N 0.0290, Plg17.0000°, Azm173.0000°; P -2.3070, Plg67.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MAN **29** 09:28:08.1, 2034N×12028E, h1km, mb3.5, ML4.7, MS7.5*
ISC 29 09:28:07.5±1.4, 2063N±003×12020E±006, h23km±10km, h23km±1.1km: pP-P, n128, σ1§16/138, mb4.5/49, MS3.9/18, 3C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**2.33**	**170**	↑*i*P		**Pn**	**09 28 42.1**	**-2.2**
PIP				*e*S		**Sn**	**09 29 12.4**	**+0.2**
APYP	**Conner**	**2.93**	**160**	*e*P		**Pn**	**09 28 52.1**	**-0.5**
APYP				*e*S		**Sn**	**09 29 25.5**	**-1.5**
SGCP	**Mt. Cagua**	**2.95**	**143**	*e*P		**Pn**	**09 28 52.8**	**0.0**
CVP	**Callao Caves**	**3.29**	**152**	*e*P		**Pn**	**09 28 58.0**	**+0.4**
NACB	**Ninganchiao**	**3.75**	**20**	*e*Pn		**Pn**	**09 29 03.4**	**-0.5**
CAUP	**Cauayan**	**3.98**	**157**	*e*P		**Pn**	**09 29 10.5**	**+3.4**
PALP	**Palanan**	**4.13**	**149**	↑*i*P		**Pn**	**09 29 14.7**	**+5.6**
PALP				*i* S		**Sn**	**09 29 57.1**	**+0.5**
PALP	**Palanan**	**4.13**	**149**	*e*P		**Pn**	**09 29 10.5**	**+1.4**
YHNB	**Yeheng**	**4.16**	**15**	*e*Pn		**Pn**	**09 29 09.0**	**-0.6**
BOLP	**Bolinao**	**4.24**	**184**	*e*P		**Pn**	**09 29 11.8**	**+1.2**
QZH	**Quanzhou**	**4.54**	**341**	P		**Pn**	**09 29 10.5**	**-4.3**
QZH				S		**Sn**	**09 29 59.0**	**-7.8**
QZH					LR	LR		
	comp=N,35μm,9.0s						
QZH					LR	LR		
	comp=E,46μm,11.0s						
QZH					LR	LR		
	comp=Z,6μm,8.0s						
TGY	**Tagaytay City**	**6.53**	**174**		Pn	**Pn**	**09 29 44.0**	**+1.8**
	comp=Z,27nm,0.3s,baz=158,slow=8.9,SNR=1.6						
GZH	**Guangzhou**	**6.82**	**292**		P	**Pn**	**09 29 40.0**	**-6.1**
GZH					Smax			
	comp=N,115nm,0.9s						
GZH					Smax			
	comp=E,116nm,1.0s						
JOW	**Kunigami**	**9.63**	**49**		LR	LR	09 34 54.2	
	comp=E,731nm,18.5s,baz=244,slow=42						
QIZ	**Qiongzhong**	**9.88**	**262**		P	**Pn**	**09 30 24.3**	**-3.7**
QIZ					S	**Sn**	**09 32 13.5**	**-4.7**
QIZ					LR	LR		
	comp=E,2μm,10.2s						
QIZ					LR	LR		
	comp=Z,2μm,9.8s						
SSE	**Sheshan**	**10.46**	**5**	*e*P		**Pn**	**09 30 35.0**	**-1.0**
SSE					AP		09 30 43.0	
SSE					XP		09 30 46.0	
SSE					S	**Sn**	**09 32 33.0**	**+0.6**
SSE					XS		09 32 44.5	
SSE					AMB	AMB		
	comp=Z,12nm,0.8s						
SSE					AMB	AMB		
	comp=Z,23nm,3.5s						
SSE					LR	LR		
	comp=N,376nm,14.4s						
SSE					LR	LR		
	comp=E,885nm,14.4s						
SSE					LR	LR		
	comp=Z,746nm,11.1s						
SSE	**Sheshan**	**10.46**	**5**	*e*P		**Pn**	**09 30 35.0**	**-1.0**
	comp=Z,12nm,0.8s						
SSE					pP		09 30 43.1	
SSE					sP		09 30 46.1	
SSE					S	**Sn**	**09 32 33.0**	**+0.6**
SSE					sS		09 32 44.5	
WHN	**Wuhan**	**11.19**	**333**	*e*P		**Pn**	**09 30 44.3**	**-1.7**
NJ2	**Nanjing**	**11.44**	**354**	*e*P		**Pn**	**09 30 52.5**	**+3.1**
NJ2					PP		09 31 02.3	
NJ2					S	**Sn**	**09 33 02.0**	**+5.6**
NJ2					AMB	AMB		
	comp=Z,170nm,4.8s						
NJ2					LR	LR		
	comp=N,3μm,8.8s						
NJ2					LR	LR		
	comp=E,4μm,11.7s						
NJ2					LR	LR		
	comp=Z,1μm,9.7s						
XAN	**Xi'an**	**16.68**	**326**		P	**Pn**	**09 32 00.8**	**+1.2**
XAN					AP	pP	09 32 07.0	-1.2
XAN					AMB	AMB		
	comp=Z,14nm,1.5s						
XAN					AMB	AMB		
	comp=Z,106nm,9.8s						
XAN					LR	LR		
	comp=N,520nm,11.0s						
XAN					LR	LR		
	comp=E,586nm,11.0s						
XAN					LR	LR		
	comp=Z,886nm,9.6s						
KMI	**Kunming**	**16.70**	**289**		P	**Pn**	**09 32 02.8**	**+2.9**
KMI					AP	pP	09 32 06.0	-2.4
KMI					XP	sP	09 32 09.8	-1.5
KMI					PP		09 32 16.3	
KMI					AMB	AMB		
	comp=Z,8.0nm,0.9s						
KMI					LR	LR		
	comp=N,723nm,11.0s						
KMI					LR	LR		
	comp=E,629nm,13.5s						
KMI					LR	LR		
	comp=Z,521nm,14.5s						
KMI	**Kunming**	**16.70**	**289**		P	**Pn**	**09 32 02.7**	**+2.8**
KMI					S	**Sn**	**09 35 13.1**	**+8.5**
KMI					pmax	pmax		
	comp=Z,8.0nm,0.9s						
KMI	**Kunming**	**16.70**	**289**		P	**Pn**	**09 32 02.7**	**+2.8**
	comp=Z,8.0nm,0.9s						
KMI					pP	pP	09 32 05.9	-2.5
KMI					sP	sP	09 32 09.7	-1.6
KMI					PP		09 32 16.3	
KMI					PPP		09 32 26.3	
KMI					S	**Sn**	**09 35 13.1**	**+8.5**
KMI					sS	sS	09 35 22.4	-3.0
KMI					SS		09 35 37.1	
CD2	**Chengdu**	**17.98**	**308**		P	**Pn**	**09 32 13.3**	**-2.6**
CD2					AP	pP	09 32 18.5	-4.1
CD2					XP	sP	09 32 23.8	-1.7
CD2					PP		09 32 29.8	
CD2					PPP		09 32 40.0	
CD2					S	**Sn**	**09 35 40.0**	**+4.3**
CD2					AMB	AMB		
	comp=Z,20nm,1.2s						
CD2					AMB	AMB		
	comp=Z,140nm,9.8s						
CD2					LR	LR		
	comp=N,770nm,10.2s						
CD2					LR	LR		
	comp=Z,550nm,15.0s						
DL2	**Dalian**	**18.25**	**4**	*e*P		**Pn**	**09 32 19.3**	**+0.1**
DL2					AMB	AMB		
	comp=Z,10.0nm,0.8s						
DL2					AMB	AMB		
	comp=Z,250nm,5.5s						
DL2					LR	LR		
	comp=N,260nm,11.8s						
DL2					LR	LR		
	comp=E,570nm,10.7s						
DL2					LR	LR		
	comp=Z,320nm,10.8s						
BJT	**Baijiatuao**	**19.63**	**351**	*e*P		**Pn**	**09 32 35.3**	**-0.5**
BJT					pmax	pmax		
	comp=Z,19nm,0.8s						
BJT	**Baijiatuao**	**19.63**	**351**	*e*P		**Pn**	**09 32 35.3**	**-0.5**
	comp=Z,19nm,0.8s						
BJI	**Beijing**	**19.65**	**351**	*e*P		**Pn**	**09 32 35.5**	**-0.5**
BJI					AP	pP	09 32 44.5	+3.6
BJI					XP	sP	09 32 48.3	+4.4
BJI					S	**Sn**	**09 36 09.0**	**-7.0**
BJI					AMB	AMB		
	comp=Z,29nm,1.1s						
BJI					LR	LR		
	comp=N,393nm,11.8s						
BJI					LR	LR		
	comp=E,773nm,12.7s						
BJI					LR	LR		
	comp=Z,189nm,20.0s						
BJI	**Beijing**	**19.65**	**351**	*e*P		**Pn**	**09 32 35.4**	**-0.6**
BJI					S	**Sn**	**09 36 09.0**	**-7.0**
BJI					pmax	pmax		
	comp=Z,21nm,0.9s						
BJI	**Beijing**	**19.65**	**351**	*e*P		**Pn**	**09 32 35.4**	**-0.6**
	comp=Z,21nm,0.9s						
BJI					pP	pP	09 32 44.5	+3.6
BJI					sP	sP	09 32 48.2	+4.3
BJI					S	**Sn**	**09 36 09.0**	**-7.0**
BJI					sS	sS	09 36 29.4	+4.1
BJI					SP		09 36 35.2	
LZH	**Lanzhou**	**21.03**	**321**	*e*P		**P**	**09 32 49.5**	**0.0**
LZH					AP		09 32 56.5	
LZH					XP	sP	09 33 01.3	+2.4
LZH					PP		09 33 11.5	
LZH					S	**S**	**09 36 40.3**	**-2.3**
LZH					AMB	AMB		
	comp=Z,53nm,1.0s,mb4.8						
LZH					AMB	AMB		
	comp=Z,185nm,4.1s						
LZH					LR	LR		
	comp=E,1μm,10.0s						
LZH					LR	LR		
	comp=Z,1μm,13.2s,MS4.5						
LZH	**Lanzhou**	**21.03**	**321**	*e*P		**P**	**09 32 49.6**	**+0.1**
LZH					*SP	sP	09 33 01.3	+2.4
LZH							09 33 11.4	
LZH					S	**S**	**09 36 40.3**	**-2.3**
LZH					*SS	sS	09 36 53.0	+0.2
LZH					eSS		09 37 16.0	
LZH					pmax	pmax		
	comp=Z,53nm,1.0s,mb4.8						
LZH	**Lanzhou**	**21.03**	**321**	*e*P		**P**	**09 32 49.6**	**+0.1**
	comp=Z,53nm,1.0s,mb4.8						
LZH					pP		09 32 56.4	
LZH					sP	sP	09 33 01.3	+2.4
LZH					PP		09 33 11.4	
LZH					S	**S**	**09 36 40.3**	**-2.3**
LZH					sS	sS	09 36 53.0	+0.2
LZH					eSS		09 37 16.0	
CBIJ	**Chichi jima**	**21.09**	**68**		LR	LR	09 39 10.2	
	comp=Z,362nm,21.8s,MS3.7,baz=109,slow=32						
JHJ	**Hachijo jima 2**	**21.40**	**50**		LR	LR	09 40 20.6	
	comp=Z,316nm,20.2s,MS3.7,baz=102,slow=34						
HHC	**Hu-ho-hao-te**	**21.45**	**342**	*e*P		**P**	**09 32 53.5**	**-0.6**
HHC					AP		09 32 59.3	
HHC					XP	sP	09 33 02.3	-1.2
HHC					PP		09 33 18.5	
HHC					S	**S**	**09 36 46.8**	**-4.1**
HHC					XS	sS	09 36 56.0	-5.2
HHC					SS		09 37 22.5	
HHC					SCP	ScP	09 40 31.0	-1.3
HHC					AMB	AMB		
	comp=Z,17nm,1.1s,mb4.3						
HHC					AMB	AMB		
	comp=Z,179nm,6.9s						
HHC					LR	LR		
	comp=N,734nm,12.5s,MS4.5						
HHC					LR	LR		
	comp=E,934nm,14.6s,MS4.5						
HHC					LR	LR		
	comp=Z,627nm,14.6s,MS4.1						
BTO	**Baotou**	**21.72**	**339**	*e*P		**P**	**09 32 54.5**	**-2.5**
MAJO	**Matsushiro**	**22.33**	**41**	*e*P		**P**	**09 33 06.2**	**+2.7**
MAJO					pmax	pmax		
	comp=Z,29nm,1.3s,mb4.5						
MAJO	**Matsushiro**	**22.33**	**41**	*e*P		**P**	**09 33 06.2**	**+2.7**
	comp=Z,29nm,1.3s,mb4.5						
MAT	**Matsushiro**	**22.33**	**41**	P		**P**	**09 33 05.9**	**+2.4**
MAT	**Matsushiro**	**22.33**	**41**	*e*P		**P**	**09 33 06.0**	**+2.5**
MAT					pmax	pmax		
	comp=Z,39nm,1.5s,mb4.6						
MJAR	**Matsushiro Arr**	**22.33**	**41**	P		**P**	**09 33 04.3**	**+0.8**
	comp=Z,9.3nm,1.0s,mb4.2,baz=240,slow=10,SNR=18						
MJAR					LR	LR	09 41 45.8	
	comp=Z,150nm,21.1s,MS3.4,baz=240,slow=37						
GUMO	**Guam**	**24.57**	**103**		LR	LR	09 42 34.4	
	comp=Z,210nm,18.0s,MS3.7,baz=249,slow=35						
MDJ	**Mudanjiang**	**25.16**	**16**		P	**P**	**09 33 31.5**	**+0.6**
MDJ					AMB	AMB		
	comp=Z,21nm,0.9s,mb4.7						
MDJ					AMB	AMB		
	comp=Z,59nm,5.1s						
MDJ					LR	LR		
	comp=N,96nm,15.2s,MS3.6						
MDJ					LR	LR		
	comp=E,141nm,16.8s,MS3.6						
MDJ					LR	LR		
	comp=Z,131nm,13.7s,MS3.6						
MDJ	**Mudanjiang**	**25.16**	**16**	*e*P		**P**	**09 33 30.8**	**-0.1**
	comp=Z,20nm,0.9s,mb4.6						
GTA	**Gaotai**	**25.62**	**321**	*e*P		**P**	**09 33 34.5**	**-0.6**
GTA					AP	pP	09 33 42.5	+0.5
GTA					XP	sP	09 33 45.8	+1.0
GTA					AMB	AMB		
	comp=Z,7.0nm,2.2s,mb3.8						
GTA					AMB	AMB		
	comp=Z,123nm,4.2s						
GTA					LR	LR		
	comp=N,453nm,10.3s						

GTA				LR	LR			
	comp=E,445nm,8.8s							
GTA				LR	LR			
	comp=Z,471nm,9.2s							
PSI	**Prapat**	**27.28**	**232**	P	**P**	**09**	**33**	**50.3 +0.2**
	comp=Z,2.2nm,0.4s,mb4.1,baz=122,slow=22,SNR=4.4							
PSI				LR	LR	09	43	32.3
	comp=Z,122nm,20.0s,MS3.5,baz=172,slow=34							
ULN	**Ulaanbaatar**	**29.18**	**342**	*e*P	**P**	**09**	**34**	**07.7 +0.7**
ULN				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.0							
ULN	**Ulaanbaatar**	**29.18**	**342**	*e*P	**P**	**09**	**34**	**07.7 +0.7**
	comp=Z,2.4nm,0.6s,mb4.1							
ULN				*e*pP	pP	09	34	13.1 -0.7
SONM	**Songino Array**	**29.34**	**341**	LR	LR	09	46	49.9
	comp=Z,161nm,18.4s,MS3.7,baz=257,slow=38							
ZAK	**Zakamensk**	**32.56**	**340**	*e*P	**P**	**09**	**34**	**36.9 0.0**
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.6s,mb4.1							
TLY	**Talaya**	**33.58**	**341**	*e*P	**P**	**09**	**34**	**51.7 +5.9**
TLY				*e*		09	35	54.1
TLY				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.1							
TLY				MLR	MLR			
	comp=Z,145nm,12.0s,MS3.9							
KAKA	**Kakadu**	**35.25**	**159**	*e*P	**P**	**09**	**34**	**58.6 -1.6**
	comp=Z,10nm,0.6s,mb4.9							
PMG	**Port Moresby**	**39.92**	**136**	P	**P**	**09**	**35**	**38.3 -1.4**
	comp=Z,7.6nm,0.7s,mb4.5,baz=218,slow=16,SNR=3.3							
MKAR	**Makanchi Array**	**40.34**	**319**	P	**P**	**09**	**35**	**42.5 -0.7**
	comp=Z,1.1nm,0.5s,mb3.8,baz=113,slow=9.5,SNR=11							
AJM	**Ajmer**	**42.00**	**287**	*e*P	**P**	**09**	**35**	**59.2 +2.3**
AJM				AMb	AMB	09	36	03.6
	comp=Z,15nm,0.7s,mb4.8							
WRAB	**Tennant Creek**	**42.63**	**160**	*e*P	**P**	**09**	**36**	**01.4 -0.6**
WRAB				*e**PP	pP	09	36	08.2 -0.8
WRAB				pmax	pmax			
	comp=Z,123nm,1.4s,mb5.4							
WRAB	**Tennant Creek**	**42.63**	**160**	*e*P	**P**	**09**	**36**	**01.4 -0.6**
	comp=Z,123nm,1.4s,mb5.4							
WRAB				*e*pP	pP	09	36	08.2 -0.8
WRA	**Warramunga Arr**	**42.63**	**160**	P	**P**	**09**	**36**	**01.6 -0.4**
	comp=Z,14nm,0.7s,mb4.8,baz=342,slow=9.0,SNR=86							
WB2	**Warramunga Arr**	**42.64**	**160**	⇓*i*P	**P**	**09**	**36**	**01.6 -0.4**
ZAL	**Zalesovo**	**42.78**	**330**	P	**P**	**09**	**36**	**03.1 -0.1**
	comp=Z,1.7nm,0.3s,mb4.2,baz=3.7,slow=8.2,SNR=11							
ZAL				LR	LR	09	55	01.4
	comp=Z,139nm,18.0s,MS3.9,baz=113,slow=38							
AAK	**Ala-Archa**	**44.02**	**311**	*e*P	**P**	**09**	**36**	**14.0 +0.8**
AAK				pmax	pmax			
	comp=Z,12nm,1.6s,mb4.4							
AAK	**Ala-Archa**	**44.02**	**311**	*e*P	**P**	**09**	**36**	**14.0 +0.7**
	comp=Z,12nm,1.6s,mb4.4							
NVS	**Novosibirsk**	**44.06**	**330**	*e*P	**P**	**09**	**36**	**12.5 -1.0**
NVS				pmax	pmax			
	comp=Z,37nm,2.4s,mb4.7							
NVS				pmax	pmax			
	comp=N,16nm,1.6s							
NVS				pmax	pmax			
	comp=E,15nm,1.5s							
ASAR	**Alice Springs**	**46.01**	**162**	P	**P**	**09**	**36**	**28.1 -0.9**
	comp=E,2.8nm,0.5s,mb4.5,baz=343,slow=6.8,SNR=109							
CTAO	**Charters Tower**	**47.83**	**146**	*e*P	**P**	**09**	**36**	**44.6 +1.3**
CTAO				*e**SP	sP	09	36	52.6 -0.6
CTAO				pmax	pmax			
	comp=Z,48nm,1.2s,mb5.4							
CTAO	**Charters Tower**	**47.83**	**146**	*e*P	**P**	**09**	**36**	**44.6 +1.3**
	comp=Z,48nm,1.2s,mb5.4							
CTAO				*e*pP	pP	09	36	50.5 +0.1
CTAO				*e*sP	sP	09	36	52.6 -0.6
TIXI	**Tiksi**	**51.28**	**4**	*e*P	**P**	**09**	**37**	**06.8 -2.7**
TIXI				*e*S	**S**	**09**	**44**	**26.1 -1.0**
TIXI				pmax	pmax			
	comp=Z,6.0nm,1.2s,mb4.4							
TIXI				smax				
	comp=N,23nm,10.9s							
TIXI				smax				
	comp=E,17nm,9.6s							
BILL	**Bilibino**	**55.32**	**19**	⇑*i*P	**P**	**09**	**37**	**39.2 -0.1**
BILL				pmax	pmax			
	comp=Z,12nm,2.0s,mb4.6							
BILL				MLR	MLR			
	comp=Z,100nm,18.0s,MS3.9							
BILL	**Bilibino**	**55.32**	**19**	*e*P	**P**	**09**	**37**	**38.7 -0.5**
	comp=Z,1.5nm,0.3s,mb4.5							
STKA	**Stephens Creek**	**56.09**	**158**	*e*P	**P**	**09**	**37**	**42.7 -2.1**
	comp=Z,3.7nm,0.9s,mb4.4							
STKA	**Stephens Creek**	**56.09**	**158**	P	**P**	**09**	**37**	**42.5 -2.3**
	comp=Z,2.4nm,0.6s,mb4.4,baz=359,slow=7.7,SNR=12							
STKA	**Stephens Creek**	**56.09**	**158**	*e*P	**P**	**09**	**37**	**42.9 -1.9**
AKTK	**Aktyubinsk**	**56.72**	**317**	P	**P**	**09**	**37**	**48.9 -0.3**
AKTO	**Aktyubinsk**	**56.72**	**317**	P	**P**	**09**	**37**	**48.9 -0.3**
	comp=Z,2.9nm,1.0s,mb4.3,baz=72,slow=5.5,SNR=9.0							
GNI	**Garni**	**66.09**	**306**	LR	LR	10	12	02.0
	comp=Z,61nm,18.2s,MS3.9,baz=343,slow=40							
KIV	**Kislovodsk**	**67.14**	**310**	*e*P	**P**	**09**	**38**	**59.7 +0.4**
KIV				pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.8							
KIV				MLR	MLR			
	comp=Z,163nm,20.0s,MS4.2							
TTA	**Tatalina**	**69.03**	**29**	*e*P	**P**	**09**	**39**	**12.6 +1.4**
TTA				*e**PP	pP	09	39	19.6 +1.0
TTA				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.5							
TTA	**Tatalina**	**69.03**	**29**	*e*P	**P**	**09**	**39**	**12.6 +1.4**
	comp=Z,5.5nm,0.9s,mb4.5							
TTA				*e*pP	pP	09	39	19.6 +1.0
MOS	**Moscow**	**69.06**	**323**	*e*P	**P**	**09**	**39**	**17.1 +5.7**
MOS				*e*		09	41	54.5
MOS				pmax	pmax			
	comp=Z,59nm,0.6s,mb5.7							
OBN	**Obninsk**	**69.73**	**323**	*e*P	**P**	**09**	**39**	**16.4 +0.8**
OBN				*e*		09	39	37.9
OBN				pmax	pmax			
	comp=Z,11nm,1.2s,mb4.7							
OBN				MLR	MLR			
	comp=Z,100nm,16.0s,MS4.2							
ANN	**Anapa**	**70.74**	**312**	*e*P	**P**	**09**	**39**	**24.4 +2.7**
ANN				pmax	pmax			
	comp=Z,106nm,1.1s,mb5.7							
JOF	**Joensuu**	**71.35**	**331**	*e*p	**P**	**09**	**39**	**21.4 -4.0**
COLA	**College**	**72.35**	**27**	*e*P	**P**	**09**	**39**	**30.7 -0.7**
COLA				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.3							
COLA	**College**	**72.35**	**27**	*e*P	**P**	**09**	**39**	**30.7 -0.8**
	comp=Z,3.8nm,1.0s,mb4.3							
PMR	**Palmer**	**72.40**	**30**	*e*P	**P**	**09**	**39**	**31.7 0.0**
PMR				*e**PP	pP	09	39	37.9 -1.2
PMR				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.4							
PMR	**Palmer**	**72.40**	**30**	*e*P	**P**	**09**	**39**	**31.7 0.0**
	comp=Z,4.7nm,0.9s,mb4.4							
PMR				*e*pP	pP	09	39	37.9 -1.2
ARCES	**ARCESS Array B**	**72.49**	**338**	P	**P**	**09**	**39**	**31.6 -0.6**
	comp=Z,1.7nm,0.6s,mb4.2,baz=69,slow=13,SNR=3.9							
ILAR	**Eielson Array**	**72.78**	**27**	P	**P**	**09**	**39**	**34.1 +0.2**
	comp=Z,0.7nm,0.9s,mb3.6,baz=286,slow=7.2,SNR=10.0							
KAF	**Kangasniemi**	**73.79**	**331**	*e*p	**P**	**09**	**39**	**39.4 -0.5**
FINES	**FINESS Array B**	**74.05**	**330**	P	**P**	**09**	**39**	**41.1 -0.4**
	comp=Z,2.8nm,0.7s,mb4.3,baz=45,slow=5.7,SNR=7.1							
FINES				LR	LR	10	14	16.0
	comp=Z,60nm,18.1s,MS3.9,baz=166,slow=37							
AKASG	**Malin Array Be**	**74.92**	**319**	P	**P**	**09**	**39**	**45.7 -0.8**
	comp=Z,0.4nm,0.4s,mb3.7,baz=64,slow=5.5,SNR=8.0							
AKASG	**Malin Array Be**	**74.92**	**319**	P	**P**	**09**	**39**	**45.7 -0.8**
DAWY	**Dawson**	**76.10**	**26**	*e*P	**P**	**09**	**39**	**53.3 0.0**
INK	**Inuvik**	**76.85**	**22**	*e*P	**P**	**09**	**39**	**57.6 +0.1**
INK				pmax	pmax			
	comp=Z,5.0nm,1.0s							
INK	**Inuvik**	**76.85**	**22**	*e*P	**P**	**09**	**39**	**57.6 +0.1**
	comp=Z,5.1nm,1.0s,mb4.4							
NB2	**NORSAR Subarra**	**80.93**	**332**	P	**P**	**09**	**40**	**18.5 -1.4**
	comp=Z,3.0nm,0.6s,mb4.4,baz=62,slow=5.6							
NOA	**NORSAR Array B**	**80.93**	**332**	P	**P**	**09**	**40**	**19.5 -0.4**
	comp=Z,1.3nm,0.8s,mb3.9,baz=64,slow=5.6,SNR=4.2							
NOA				LR	LR	10	19	44.6
	comp=Z,89nm,18.1s,MS4.2,baz=55,slow=38							
RES	**Resolute Bay**	**82.30**	**9**	*e*P	**P**	**09**	**40**	**25.6 -1.5**
RES				*e**PP	pP	09	40	33.0 -1.6
RES				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.4							
RES	**Resolute Bay**	**82.30**	**9**	*e*P	**P**	**09**	**40**	**25.6 -1.6**
	comp=Z,5.2nm,0.9s,mb4.5							
RES				*e*pP	pP	09	40	33.0 -1.7
BRG	**Berggiesshubel**	**83.98**	**322**	*e*P	**P**	**09**	**40**	**36.1 +0.3**
	comp=Z,6.3nm,1.3s,mb4.6							
BRG	**Berggiesshubel**	**83.98**	**322**	*e*P	**P**	**09**	**40**	**36.1 +0.3**
BRG				pmax	pmax			
	comp=Z,6.0nm,1.3s,mb4.6							
CLL	**Collm**	**84.33**	**323**	*e*P	**P**	**09**	**40**	**38.0 +0.4**
	comp=Z,11nm,1.1s,mb4.9							
CLL				*e*pP	pP	09	40	45.0 -0.1
CLL				*e*S		09	51	00.0
CLL				*e*SS	SS	09	56	36.0 +4.1
CLL				LmV		10	25	00.0
	comp=Z,100nm,19.0s							
GERES	**GERESS Array B**	**85.00**	**321**	P	**P**	**09**	**40**	**40.8 -0.2**
	comp=Z,0.7nm,0.7s,mb3.9,baz=83,slow=4.4,SNR=6.9							
GERES				LR	LR	10	22	15.9
	comp=Z,41nm,20.6s,MS3.8,baz=255,slow=38							
YKA	**Yellowknife Ar**	**86.58**	**22**	P	**P**	**09**	**40**	**48.3 -0.6**
	comp=Z,5.3nm,1.0s,mb4.7,baz=310,slow=5.0,SNR=12							
YKA	**Yellowknife Ar**	**86.58**	**22**	P	**P**	**09**	**40**	**48.3 -0.6**
HAU	**Haudompre**	**89.70**	**322**	*e*P	**P**	**09**	**41**	**04.7 +1.0**
	comp=Z,6.0nm,0.5s,mb4.9							
HAU	**Haudompre**	**89.70**	**322**	*e*P	**P**	**09**	**41**	**04.7 +1.0**
HAU				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.9							
HAU	**Haudompre**	**89.70**	**322**	*e*P	**P**	**09**	**41**	**04.7 +1.0**
	comp=Z,3.0nm,0.5s,mb4.9							
BAIF	**Baives**	**89.81**	**325**	*e*P	**P**	**09**	**41**	**06.1 +1.9**
	comp=Z,5.1nm,0.6s,mb4.7							
BAIF	**Baives**	**89.81**	**325**	*e*P	**P**	**09**	**41**	**06.1 +1.9**
BAIF				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.8							
BAIF	**Baives**	**89.81**	**325**	*e*P	**P**	**09**	**41**	**06.1 +1.9**
	comp=Z,2.5nm,0.6s,mb4.7							
LPG	**La Plagne**	**90.75**	**320**	*e*P	**P**	**09**	**41**	**10.2 +1.6**
	comp=Z,8.3nm,0.6s,mb4.9							
LPG	**La Plagne**	**90.75**	**320**	*e*P	**P**	**09**	**41**	**10.2 +1.6**
LPG				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.9							
LPG	**La Plagne**	**90.75**	**320**	*e*P	**P**	**09**	**41**	**10.2 +1.6**
	comp=Z,4.2nm,0.6s,mb5.0							
LPL	**La Plagne**	**90.76**	**320**	*e*P	**P**	**09**	**41**	**10.0 +1.4**
	comp=Z,8.9nm,0.6s,mb5.0							
LPL	**La Plagne**	**90.76**	**320**	*e*P	**P**	**09**	**41**	**10.0 +1.4**
LPL				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.9							
LPL	**La Plagne**	**90.76**	**320**	*e*P	**P**	**09**	**41**	**10.0 +1.4**
	comp=Z,4.4nm,0.6s,mb5.0							
PGF	**Pioggiola**	**90.82**	**316**	*e*P	**P**	**09**	**41**	**10.4 +1.5**
	comp=Z,92nm,1.5s,mb5.6							
PGF	**Pioggiola**	**90.82**	**316**	*e*P	**P**	**09**	**41**	**10.4 +1.5**
PGF				pmax	pmax			
	comp=Z,46nm,1.5s,mb5.6							
PGF	**Pioggiola**	**90.82**	**316**	*e*P	**P**	**09**	**41**	**10.4 +1.5**
	comp=Z,46nm,1.5s,mb5.6							
ORIF	**Oris-en-Rattie**	**91.58**	**320**	*e*P	**P**	**09**	**41**	**12.8 +0.4**
TCF	**Toulx Ste Croi**	**93.01**	**322**	*e*P	**P**	**09**	**41**	**19.4 +0.4**
CAF	**Calviac**	**93.86**	**321**	*e*P	**P**	**09**	**41**	**23.5 +0.6**
MFF	**Saint Martin d**	**94.16**	**323**	*e*P	**P**	**09**	**41**	**25.3 +0.9**
PPT	**Papeete**	**96.23**	**106**	*e*LR	LR	10	12	45.7
	comp=Z,119nm,23.2s							
TBI	**Tubuai**	**98.23**	**112**	*e*LR	LR	10	13	41.0
	comp=Z,133nm,26.5s							
SDV	**Santo Domingo**	**148.79**	**21**	*e*PKPbc	PKPbc	09	47	53.2 +0.2

*IDC **29** 09:34:51.5±5.0, 174S×1334W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.6/21, mbtmp3.9/3, ML3.3/1, MS3.4/5, Ms1 3.4/5, ms1mx3.1/23, Error ellipse: s-maj=157.4km s-min=72.5km az=142.0*

*ISCJB **29** 09:34:55.5±1.6, 10S±03×134W±04, h10km, mb4.2/1, MS3.5/4, Error ellipse: s-maj=69.7km s-min=16.4km az=56.7*

ISC 29 09:34:57.5±1.6, 10S±03×135W±04, h10km, n10, σ0§65/6, mb4.2/1, MS3.5/4, 2C, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
DBIC	**Dimbokro**	**11.55**	**48**	Pn		**Pn**		**09 37 42.5**	**+0.1**
	0.2nm,0.3s,baz=239,slow=12,SNR=3.0								
DBIC				Sn		**Sn**		**09 39 44.6**	**-6.7**
	0.3nm,0.3s,baz=151,slow=4.5,SNR=3.4								
DBIC				LR		LR		09 41 24.4	
	comp=Z,97nm,19.0s,baz=108,slow=33								
TORD	**Torodi Ar. Bea**	**20.64**	**46**	P		**P**		**09 39 37.0**	**-0.2**
	3.4nm,0.9s,baz=228,slow=10,SNR=16								
TSUM	**Tsumeb**	**35.42**	**123**	LR		LR		09 53 02.2	
	comp=Z,67nm,20.1s,MS3.4,baz=172,slow=31								
LBTB	**Lobatse**	**44.65**	**125**	LR		LR		10 00 10.0	
	comp=Z,71nm,19.6s,MS3.6,baz=120,slow=34								
MATP	**Matopo**	**45.34**	**118**	LR		LR		10 00 48.9	
	comp=Z,62nm,18.1s,MS3.6,baz=82,slow=35								
CPUP	**Villa Florida**	**49.05**	**235**	LR		LR		10 03 37.3	
	comp=Z,42nm,18.6s,MS3.5,baz=155,slow=35								
GERES	**GERESS Array B**	**54.98**	**22**	P		**P**		**09 44 28.8**	**0.0**
	0.6nm,0.2s,mb4.2,baz=200,slow=7.1,SNR=4.0								
VNA2	**Neumayer--Watz**	**69.89**	**178**	⇑*i*PKPdf		**P**		**09 46 08.2**	**-0.4**
	baz=351,slow=7.7								
VNA2				*e*		pP		09 46 11.9	+0.1
VNA2				*e*				09 46 18.3	
VNA2				*e*				09 46 23.8	
VNA3	**Neumayer Olymp**	**70.14**	**179**	⇑*i*PKPdf		**P**		**09 46 10.5**	**+0.4**
VNA3				*e*		pP		09 46 14.0	+0.6
VNA3				*e*				09 46 21.6	
VNA3				*e*				09 46 27.1	
WRA	**Warramunga Arr**	**142.22**	**125**	PKP	PKPdf			09 54 25.4	-4.6
	0.5nm,0.9s,baz=243,slow=2.3,SNR=5.3								

IDC 29 09:49:40.2±43.0, 553S×10858E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.5/16, mbtmp3.4/3, Error ellipse: s-maj=742.8km s-min=196.9km az=136.0, Java Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
WRA	**Warramunga Arr**	**28.85**	**122**	P		P		09 55 41.5	+1.2
	0.6nm,0.9s,baz=297,slow=11,SNR=3.8								
ASAR	**Alice Springs**	**30.32**	**129**	P		P		09 55 52.8	-0.6
	0.2nm,0.5s,baz=305,slow=7.9,SNR=3.3								
STKA	**Stephens Creek**	**40.49**	**134**	P		P		09 57 21.1	+0.4
	0.8nm,0.6s,baz=290,slow=12,SNR=3.1								

IDC 29 10:03:05.6±2.1, 162N×12639E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/14, mbtmp3.6/3, Error ellipse: s-maj=179.0km s-min=26.3km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
WRA	**Warramunga Arr**	**22.80**	**160**	P		P		10 08 10.3	+0.4
	1.2nm,0.4s,baz=339,slow=10,SNR=15								
ASAR	**Alice Springs**	**26.17**	**164**	P		P		10 08 41.8	+0.1
	0.4nm,0.6s,baz=0,slow=8.3,SNR=20								
MKAR	**Makanchi Array**	**59.09**	**326**	P		P		10 13 08.0	+0.3
	0.2nm,0.4s,baz=117,slow=7.8,SNR=4.4								

IDC 29 10:17:46.7±2.1, 246N×12793E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/13, mbtmp3.6/3, Error ellipse: s-maj=142.0km s-min=25.1km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
WRA	**Warramunga Arr**	**23.13**	**164**	P		P		10 22 55.1	+0.7
	0.9nm,0.3s,baz=344,slow=10,SNR=9.3								
ASAR	**Alice Springs**	**26.61**	**168**	P		P		10 23 26.2	-0.5
	0.2nm,0.4s,baz=358,slow=7.8,SNR=4.8								
MKAR	**Makanchi Array**	**59.28**	**325**	P		P		10 27 50.5	+0.4
	0.3nm,0.4s,baz=111,slow=8.0,SNR=3.4								

*IDC **29** 10:19:23.2±1.3, 2967S×17640W, h0km, mb4.3/4, mb1 4.4/7, mb1mx4.2/15, mbtmp4.3/7, ML3.8/3, MS3.2/2, Ms1 3.2/2, ms1mx2.8/23, Error ellipse: s-maj=27.4km s-min=23.9km az=28.0*

*ISCJB **29** 10:19:24.9±4.1, 2978S±007×1763W±01, h30km±30km, mb4.3/6, MS3.2/2, Error ellipse: s-maj=20.2km s-min=11.6km az=146.9*

*NEIC **29** 10:19:28.9±2.7, 2973S×17650W, h36km±18km, mb4.6/2, Error ellipse: s-maj=30.5km s-min=12.1km az=76.0*

ISC 29 10:19:25.3±4.1, 2968S±008×1763W±01, h19km±28km, n18, σ0§50/15, mb4.3/6, MS3.2/2, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
RAO	**Raoul Island**	**1.50**	**286**	Pn		**Pn**		**10 19 50.7**	**-0.5**
	218nm,0.3s,baz=73,slow=19,SNR=6.0								
RAO				Sn		**Sn**		**10 20 10.2**	**0.0**
	585nm,0.3s,baz=66,slow=23,SNR=7.7								
URZ	**Urewera**	**10.17**	**211**	Pn		**Pn**		**10 21 49.8**	**-0.5**
	0.7nm,0.3s,baz=263,slow=22,SNR=3.6								
URZ				Sn		**Sn**		**10 23 43.8**	**+0.1**
	1.7nm,0.3s,baz=177,slow=23,SNR=8.0								
RPZ	**Rata Peaks**	**17.28**	**212**	P		**Pn**		**10 23 25.9**	**+0.4**
	0.9nm,0.3s,baz=55,slow=7.8,SNR=5.2								
DZM	**Mont Dzumac**	**17.29**	**292**	P		**Pn**		**10 23 26.7**	**+1.1**
	0.1nm,0.3s,baz=104,slow=19,SNR=2.5								
HNR	**Honiara**	**30.01**	**307**	LR		LR		10 36 12.5	
	comp=Z,35nm,18.5s,MS3.0,baz=357,slow=34								
STKA	**Stephens Creek**	**36.10**	**256**	P		**P**		**10 26 26.3**	**+0.4**
	3.1nm,0.5s,mb4.5,baz=90,slow=10,SNR=9.9								
STKA	**Stephens Creek**	**36.10**	**256**	*e*P		**P**		**10 26 25.4**	**-0.6**
ASAR	**Alice Springs**	**44.65**	**265**	P		**P**		**10 27 36.5**	**-0.2**
	2.2nm,0.7s,mb4.1,baz=101,slow=7.7,SNR=37								
WRA	**Warramunga Arr**	**45.58**	**271**	P		**P**		**10 27 43.4**	**-0.6**
	1.4nm,0.5s,mb4.2,baz=110,slow=6.1,SNR=25								
CASY	**Casey**	**56.47**	**208**	*e*P		**P**		**10 29 06.4**	**+0.4**
	4.9nm,0.5s,mb4.8								
QSPA	**South Pole Qui**	**60.43**	**180**	*e*P		**P**		**10 29 40.5**	**+6.9**
	2.5nm,0.7s,mb4.3								
MJAR	**Matsushiro Arr**	**78.52**	**324**	P		**P**		**10 31 25.2**	**-0.1**
	2.4nm,0.8s,mb4.2,baz=161,slow=5.5,SNR=5.7								
VNA3	**Neumayer Olymp**	**78.92**	**176**	*e*		**P**		**10 31 33.4**	**+5.9**
VNA3				*e*				10 31 43.1	
VNA3				*e*				10 31 53.0	
VNA2	**Neumayer--Watz**	**79.37**	**176**	*e*		**P**		**10 31 36.5**	**+6.5**
VNA2				*e*				10 31 46.3	
VNA2				*e*				10 31 55.8	
CFAA	**Coronel Fontan**	**88.45**	**126**	LR		LR		11 02 51.3	
	comp=Z,14nm,19.6s,MS3.4,baz=276,slow=30								
FINES	**FINESS Array B**	**144.96**	**341**	PKP		PKPdf		10 39 00.6	-0.6
	2.5nm,1.0s,baz=101,slow=4.4,SNR=4.5								
AKASG	**Malin Array Be**	**151.60**	**325**	PKPbc		PKPbc		10 39 19.4	+1.1
	0.4nm,0.6s,baz=45,slow=3.1,SNR=8.4								
TORD	**Torodi Ar. Bea**	**163.44**	**173**	PKPab		PKPab		10 40 19.7	+1.8
	0.9nm,0.9s,baz=204,slow=1.9,SNR=2.4								

MEX 29 10:26:23.8±0.6, 1615N×9831W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PNIG	**Pinotepa**	**0.30**	**35**	*i*P		Pg		10 26 29.1	-0.5
PNIG				*i*S		Sg		10 26 33.7	+0.2
ACX	**Acapulco**	**1.70**	**295**	*e*P		Pn		10 26 51.5	-2.7
ACX				*e*S		Sn		10 27 11.0	-5.3
UTMO	**Huajuapan**	**1.74**	**16**	*e*P		Pn		10 26 51.8	-2.9
UTMO				*i*S		Sn		10 27 13.6	-3.7
VHO	**Vista Hermosa**	**1.77**	**58**	*i*P		Pn		10 26 52.4	-2.6
VHO				*i*S		Sn		10 27 14.2	-3.6
OXX	**Oaxaca**	**1.78**	**58**	*e*P		Pn		10 26 54.5	-0.7
MEIG	**Mezcala**	**2.17**	**325**	*i*P		Pn		10 26 57.5	-3.1
MEIG				*i*S		Sn		10 27 22.1	-5.8
PLIG	**Platanillo**	**2.51**	**333**	*i*P		Pn		10 27 05.8	+0.5
PLIG				*i*S		Sn		10 27 34.3	-1.9

NEIC 29 10:38:43.6, 3937N×12047W, h10km, ML3.8(REN), 1C, After REN., Northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
OHCM	**Honcut**	**0.79**	**268**	⇑*i*P		Pg		10 38 58.4	-0.5
CMB	**Columbia Colle**	**1.33**	**177**	*e*Pn		Pn		10 39 07.7	-0.6
CMB				*e*S		Sb		10 39 24.1	-1.8
NSHM	**Saint Helena R**	**1.87**	**244**	*e*Pn		Pn		10 39 16.4	+0.6
WDC	**Whiskeytown Da**	**2.00**	**308**	*e*Pn		Pn		10 39 18.0	+0.5
WDC				*e*Sg		Sg		10 39 47.9	-0.1
MNV	**Mina**	**2.03**	**117**	*e*Pn		Pn		10 39 17.8	-0.2
MNV				*e*Pg		Pg		10 39 22.3	-0.2
MNV				*e*Sg		Sg		10 39 47.7	-1.1
HOPS	**Hopland**	**2.06**	**260**	*e*Pn		Pn		10 39 19.3	+0.9
MCCM	**Marconi Confer**	**2.25**	**238**	*e*Pn		Pn		10 39 21.4	+0.5
MCCM				*e*Sn		Sn		10 39 48.1	-0.6
SAC	**San Andreas**	**2.35**	**221**	*e*Pn		Pn		10 39 22.6	+0.3
KIPM	**Iron Peak**	**2.37**	**282**	*e*P

KK31	**Karatay Array**	**3.51**	**313**	Pn		**Pn**		**10 39 58.4**	**+0.5**
	0.7nm,0.3s,baz=126,slow=13,SNR=73								
KK31				⇓Pg		**Pg**		**10 40 05.6**	**-4.0**
	2.8nm,0.3s,baz=137,slow=17								
KK31				⇓Lg				10 40 52.8	
	57nm,0.5s,baz=129,slow=28,SNR=17								
VOSK	**Vostochnaya**	**12.13**	**351**	⇑Lg				10 45 23.4	
	6.6nm,1.4s								
BVA0	**Borovoye Array**	**12.50**	**350**	Lg				10 45 39.0	
	1.2nm,1.2s,baz=159,slow=26,SNR=3.6								
ZRNK	**Zerenda**	**12.64**	**346**	⇓Lg				10 45 40.8	
	6.0nm,1.1s								
CHKZ	**Chkalovo**	**13.11**	**351**	⇓Lg				10 45 55.2	
	5.3nm,1.1s								

NEIC ***29*** *10:53:30.6±0.6, 12.15N×89.06W, mb4.3/11, Error ellipse: s-maj=17.5km s-min=7.8km az=46.0*
ISCJB ***29*** *10:53:31.1±0.6, 12.22N±0.07×88.98W±0.05, h46km±6km, mb4.1/16, MS3.1/3, Error ellipse: s-maj=12.8km s-min=3.8km az=66.9*
CASC ***29*** *10:53:31.6±1.6, 12.41N×88.89W, h20km±12km, MD4.3, ML3.9, mb4.3(NEIC)*
IDC ***29*** *10:53:32.6±2.6, 12.20N×88.96W, h42km±26km, mb3.7/6, mb1 3.9/9, mb1mx3.7/23, mbtmp3.9/9, ML3.8/3, MS3.2/5, Ms1 3.1/5, ms1mx2.9/22, Error ellipse: s-maj=35.2km s-min=14.6km az=39.0*

ISC 29 10:53:32.8±0.6, 12.27N±0.07×88.95W±0.05, h41km±6km, h28km±1.8km; pP-P, n56, σ0=91/58, mb4.1/16, MS3.1/3, 8C-3D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LCBS	**La Ceiba**	**1.38**	**359**	*e*P		Px	10 54 04.5	
LCBS				*e*S		Sx	10 54 21.3	
BOQS	**Boqueron**	**1.49**	**348**	*e*P		Px	10 54 06.7	
BOQS				*e*S		Sx	10 54 26.2	
SBLS	**San Blas**	**1.69**	**337**	*e*P		Px	10 54 08.8	
SBLS				*e*S		Sx	10 54 31.4	
SNJE	**San Jose**	**1.71**	**338**	*e*P		Px	10 54 09.4	
SNJE				*e*S		Sx	10 54 31.0	
CRIN	**San Cristobal**	**1.91**	**77**	⇓*e*P		**Pn**	**10 54 03.3**	**+0.5**
TEL3	**Telica 3**	**2.08**	**81**	⇑*e*P		**Pn**	**10 54 04.6**	**-0.6**
MIRN	**Miramar**	**2.19**	**85**	⇑*e*P		**Pn**	**10 54 06.1**	**-0.6**
CNGN	**Cerro Negro**	**2.21**	**84**	*e*P		**Pn**	**10 54 05.8**	**-1.2**
COPN	**Copaltepe**	**2.31**	**92**	⇑*e*P		**Pn**	**10 54 07.6**	**-0.7**
MOMJ	**Momotombo**	**2.36**	**86**	⇓*e*P		**Pn**	**10 54 08.1**	**-0.9**
IXG	**Ixpaco**	**2.39**	**322**	*e*P		**Pn**	**10 54 08.8**	**-0.7**
IXG				*e*S		**Sn**	**10 54 37.4**	**-0.2**
APYN	**Apoyeque**	**2.54**	**91**	⇑*e*P		**Pn**	**10 54 11.1**	**-0.4**
APYN				*e*S		**Sn**	**10 54 42.0**	**+0.8**
XAVN	**Gruta Xavier**	**2.57**	**92**	*e*P		**Pn**	**10 54 11.7**	**-0.2**
TISN	**Laguna Tiscapa**	**2.62**	**92**	⇑*e*P		**Pn**	**10 54 12.4**	**-0.3**
MGAN	**Managua**	**2.65**	**92**	⇑*e*P		**Pn**	**10 54 12.4**	**-0.5**
MGAN				*e*S		**Sn**	**10 54 44.2**	**+0.4**
MGAN				*i*			10 54 47.0	
	comp=E,721nm,0.3s							
MGAN				*i*			10 54 52.3	
	comp=N,830nm,0.4s							
TICN	**Ticuantepe**	**2.67**	**95**	⇑*e*P		**Pn**	**10 54 13.0**	**-0.3**
TICN				*e*S		**Sn**	**10 54 45.1**	**+0.7**
FUG	**Fuego 3**	**2.84**	**320**	*e*P		**Pn**	**10 54 15.3**	**-0.4**
FUG				*e*S		**Sn**	**10 54 49.7**	**+1.1**
APON	**Apoyo**	**2.84**	**97**	⇑*e*P		**Pn**	**10 54 15.3**	**-0.4**
SSNN	**San Juan del S**	**3.19**	**107**	*e*P		**Pn**	**10 54 20.2**	**-0.2**
TP2	**Tecpan 2**	**3.21**	**321**	*e*P		**Pn**	**10 54 21.6**	**+0.9**
TP2				*e*S		**Sn**	**10 54 57.7**	**0.0**
JAT	**Jato**	**3.31**	**308**	*e*P		**Pn**	**10 54 21.9**	**-0.3**
CONN	**Concepcion**	**3.33**	**102**	⇓*e*P		**Pn**	**10 54 21.5**	**-0.8**
VCR	**Vista de Mar**	**3.89**	**123**	*e*P		**Pn**	**10 54 30.0**	**-0.1**
JTS	**JuntasAbangare**	**4.39**	**116**	P		**Pn**	**10 54 37.7**	**+0.8**
	comp=N,5.6nm,0.3s,baz=316,slow=19,SNR=27							
JTS				S		**Sn**	**10 55 26.1**	**-0.6**
	comp=N,20nm,0.3s,baz=289,slow=17,SNR=9.5							
JTS				LR		LR	10 56 56.5	
	comp=N,121nm,18.0s,baz=223,slow=47							
JTS	**JuntasAbangare**	**4.39**	**116**	P		**Pn**	**10 54 37.7**	**+0.8**
JTS				S		**Sn**	**10 55 26.1**	**-0.6**
JTS				LR		LR	10 56 56.5	
CGA2	**Cerro Gallo 2**	**4.94**	**117**	*e*P		**Pn**	**10 54 46.1**	**+1.7**
PRS1	**Puriscal**	**5.09**	**116**	*e*P		**Pn**	**10 54 48.0**	**+1.5**
LAJ	**Bijagual**	**5.31**	**116**	*e*P		**Pn**	**10 54 47.4**	**-2.1**
LCR2	**La Lucha 2**	**5.47**	**117**	*e*P		**Pn**	**10 54 53.1**	**+1.3**
BUS	**Buena Vista**	**5.77**	**117**	*e*P		**Pn**	**10 54 57.7**	**+1.9**
CMIG	**Matias Romero**	**7.48**	**311**	P		**Pn**	**10 55 19.4**	**+0.1**
	comp=N,1.1nm,0.3s,baz=136,slow=7.7,SNR=26							
CMIG				S		**Sn**	**10 56 39.6**	**-3.2**
	comp=N,0.8nm,0.3s,baz=275,slow=21,SNR=2.7							
TEIG	**Tepich**	**7.94**	**5**	*e*Pn		**Pn**	**10 55 26.3**	**+0.7**
SDV	**Santo Domingo**	**18.32**	**99**	P		**Pn**	**10 57 43.7**	**0.0**
	comp=N,0.4nm,0.3s,baz=340,slow=12,SNR=4.2							
SDV				LR		LR	11 04 25.8	
	comp=N,64nm,18.2s,baz=245,slow=36							
JCT	**Junction City**	**20.72**	**333**	*e*P		**P**	**10 58 09.7**	**0.0**
	comp=N,10nm,0.7s							
LTX	**Lajitas**	**21.81**	**323**	*e*P		**P**	**10 58 22.0**	**+0.6**
	comp=N,4.1nm,0.8s,mb3.9							
MIAR	**Mount Ida**	**22.57**	**350**	*e*P		**P**	**10 58 29.6**	**+0.1**
	comp=N,15nm,1.0s,mb4.4							
LPIG	**La Paz**	**23.42**	**303**	LR		LR	11 07 39.2	
	comp=N,84nm,18.4s,MS3.2,baz=192,slow=36							
WVT	**Waverly**	**23.78**	**2**	*e*P		**P**	**10 58 41.4**	**-0.2**
	comp=N,2.2nm,0.6s,mb3.8							
PCRV	**Puerto La Cruz**	**23.94**	**93**	P		**P**	**10 58 45.1**	**+2.1**
	comp=N,4.7nm,0.6s,mb4.1,baz=230,slow=7.9,SNR=3.0							
PCRV				LR		LR	11 09 11.5	
	comp=N,58nm,20.0s,MS3.0,baz=249,slow=39							
WMOK	**Wichita Mounta**	**24.09**	**340**	*e*P		**P**	**10 58 45.3**	**+0.9**
	comp=N,7.3nm,1.2s,mb4.0							
MNTX	**Cornudas Mount**	**24.55**	**325**	*e*P		**P**	**10 58 48.6**	**0.0**
	comp=N,3.0nm,1.0s,mb3.8							
CCM	**Cathedral Cave**	**25.76**	**356**	*e*P		**P**	**10 58 59.2**	**-0.4**
	comp=N,13nm,0.8s,mb4.5							
CCM				*e*pP		pP	10 59 07.8	-2.9
WCI	**Wyandotte Cave**	**25.96**	**5**	*e*P		**P**	**10 59 01.1**	**-0.4**
	comp=N,7.3nm,0.6s,mb4.4							
SAML	**Samuel**	**33.17**	**128**	*e*P		**P**	**11 00 04.8**	**-0.5**
	comp=N,7.6nm,1.1s,mb4.5							
SAML				*e*pP		pP	11 00 13.2	-3.4
REDW	**Red Top Meadow**	**36.30**	**333**	*e*P		**P**	**11 00 35.7**	**+3.3**
	comp=N,4.1nm,0.8s,mb4.4							
REDW				*e*pP		pP	11 00 43.5	-0.3
NVAR	**Mina Array Bea**	**36.89**	**320**	P		**P**	**11 00 38.7**	**+1.3**
	comp=N,0.9nm,0.8s,mb3.6,baz=165,slow=5.6,SNR=6.3							
NVAR				PcP		PcP	11 03 00.3	+2.0
	comp=N,0.6nm,0.7s,baz=125,slow=4.4,SNR=4.9							
NVAR	**Mina Array Bea**	**36.89**	**320**	P		**P**	**11 00 38.7**	**+1.3**
NVAR				PcP		PcP	11 03 00.3	+2.0
ULM	**Lac du Bonnet**	**38.30**	**353**	LR		LR	11 18 05.0	
	comp=N,30nm,20.0s,MS3.1,baz=30,slow=38							
MCMT	**McKenzie Canyo**	**38.35**	**332**	*e*P		**P**	**11 00 50.7**	**+1.0**
SCHQ	**Schefferville**	**45.88**	**18**	P		**P**	**11 01 50.1**	**-1.0**
	comp=N,3.2nm,0.7s,mb4.4,baz=260,slow=4.7,SNR=4.8							
YKA	**Yellowknife Ar**	**53.41**	**346**	P		**P**	**11 02 47.3**	**-1.1**
	comp=N,1.2nm,0.8s,mb3.9,baz=142,slow=8.1,SNR=4.2							
YKA	**Yellowknife Ar**	**53.41**	**346**	P		**P**	**11 02 47.3**	**-1.1**
PLCA	**Paso Flores**	**55.42**	**163**	P		**P**	**11 03 01.6**	**-1.4**
	comp=N,1.4nm,0.7s,mb4.1,baz=43,slow=18,SNR=4.9							
INK	**Inuvik**	**62.94**	**343**	*e*P		**P**	**11 03 54.2**	**-0.8**
	comp=N,0.8nm,0.6s,mb4.0							
ILAR	**Eielson Array**	**65.60**	**336**	P		**P**	**11 04 11.8**	**-0.6**
	comp=N,0.6nm,1.0s,mb3.6,baz=158,slow=4.5,SNR=5.4							
WRA	**Warramunga Arr**	**137.81**	**254**	PKP		PKPdf	11 12 50.6	-2.1
	comp=N,0.4nm,0.9s,baz=90,slow=2.2,SNR=3.0							

ISCJB ***29*** *10:54:00.9±0.8, 39N±0.02×124.1E±0.05, h350km, mb3.7/7, Error ellipse: s-maj=71.5km s-min=14.0km az=135.5*
IDC ***29*** *10:54:02.5±7.5, 399N×124.34E, h351km±80km, mb3.4/7, mb1 3.6/7, mb1mx3.4/16, mbtmp4.1/7, Error ellipse: s-maj=72.0km s-min=19.4km az=62.0*

ISC 29 10:54:02.2±0.8, 40N±0.02×123.6E±0.05, h350km, n9, σ0=71/8, mb3.7/7, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAKA	**Kakadu**	**18.48**	**154**	*e*P		**P**	**10 57 54.1**	**-0.1**
	17nm,0.7s							
WRA	**Warramunga Arr**	**25.77**	**158**	P		**P**	**10 59 02.4**	**+0.1**
	3.0nm,0.3s,mb4.0,baz=333,slow=11,SNR=96							
ASAR	**Alice Springs**	**29.06**	**162**	P		**P**	**10 59 31.9**	**+0.5**
	0.9nm,0.3s,mb3.4,baz=341,slow=7.7,SNR=44							
STKA	**Stephens Creek**	**39.30**	**156**	P		**P**	**11 00 58.0**	**-0.5**
	3.0nm,0.4s,mb3.9,baz=338,slow=9.1,SNR=17							
MKAR	**Makanchi Array**	**55.96**	**326**	P		**P**	**11 03 05.6**	**+0.4**
	1.5nm,0.3s,mb3.8,baz=121,slow=7.5,SNR=36							
MKAR				PcP		PcP	11 03 60.0	+1.0
	0.4nm,0.4s,baz=126,slow=3.2,SNR=3.8							
ILAR	**Eielson Array**	**85.87**	**25**	P		**P**	**11 06 03.2**	**0.0**
	0.2nm,0.5s,mb3.2,baz=253,slow=4.7,SNR=4.6							
ARCES	**ARCESS Array B**	**89.34**	**340**	P		**P**	**11 06 20.6**	**+1.0**
	1.0nm,0.8s,mb3.7,baz=43,slow=5.5,SNR=4.0							
FINES	**FINESS Array B**	**90.44**	**332**	P		**P**	**11 06 23.1**	**-1.6**
	0.5nm,0.4s,mb3.8,baz=108,slow=4.8,SNR=3.7							
TORD	**Torodi Ar. Bea**	**120.55**	**288**	PKP		PKPdf	11 12 13.6	+1.1
	0.2nm,0.4s,baz=116,slow=2.0,SNR=4.6							

GRAL ***29*** *11:09:45.5±1.4, 3430N×3682E, h0km±289km, MD3.0*
CSEM ***29*** *11:09:45.7±0.1, 3445N×3667E, h8km, Mc1.5, Error ellipse: s-maj=3.5km s-min=2.5km az=114.0*
ISCJB ***29*** *11:09:46.8±0.6, 3438N±0.004×3663E±0.004, h15km±8km, Error ellipse: s-maj=8.0km s-min=5.6km az=56.8*
NSSC ***29*** *11:09:46.9, 3441N×3662E, h14km±2km*

ISC 29 11:09:46.9±0.6, 3440N±0.005×3664E±0.004, h17km±6km, n17, σ0=83/30, 3D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HAWK	**Haweek**	**0.22**	**302**	⇓P		**Pg**	**11 09 51.9**	**-0.2**
HAWK				⇓S		**Sg**	**11 09 55.7**	**+0.1**
HAWK	**Haweek**	**0.22**	**302**	⇓*i*P		**Pg**	**11 09 51.9**	**-0.2**
FKH	**Fakeheh**	**0.25**	**230**	*e*Pg		**Pg**	**11 09 50.8**	**-1.8**
FKH				*e*Sg		**Sg**	**11 09 56.0**	**-0.4**
FKH	**Fakeheh**	**0.25**	**230**	*e*Pg		**Pg**	**11 09 50.8**	**-1.8**
FKH				*e*Sg		**Sg**	**11 09 56.0**	**-0.4**
HWQ	**Hawqa**	**0.58**	**258**	*e*Pg		**Pg**	**11 09 59.1**	**+0.7**
HWQ				*e*Sg		**Sg**	**11 10 08.2**	**+1.9**
HWQ	**Hawqa**	**0.58**	**258**	*e*Pg		**Pg**	**11 09 59.1**	**+0.7**
HWQ				*e*Sg		**Sg**	**11 10 08.1**	**+1.8**
ROOS	**tl_alroos**	**0.59**	**113**	⇑P		**Pg**	**11 09 58.1**	**-0.5**
ROOS				⇑S		**Sg**	**11 10 07.8**	**+1.4**
ROOS	**tl_alroos**	**0.59**	**113**	⇑*i*P		**Pg**	**11 09 58.1**	**-0.5**
BIDA	**Aïbida**	**0.66**	**337**	⇑P		**Pb**	**11 09 59.5**	**-0.6**
BIDA				⇑S		**Sb**	**11 10 09.9**	**+0.9**
BIDA	**Albida**	**0.66**	**337**	⇑*i*P		**Pb**	**11 09 59.5**	**-0.5**
BIDA				⇑*i*S		**Sb**	**11 10 09.9**	**+0.9**
BHL	**Bhannes**	**0.95**	**239**	*e*Pg		**Pg**	**11 10 04.5**	**-1.0**
BHL				*e*Sg		**Sg**	**11 10 18.3**	**+0.4**
WRDH	**Warideh**	**1.12**	**351**	⇑P		**Pn**	**11 10 07.3**	**-0.5**
WRDH				⇑S		**Sb**	**11 10 21.9**	**-0.1**
WRDH	**Warideh**	**1.12**	**351**	⇑*i*P		**Pn**	**11 10 07.3**	**-0.5**
WRDH				⇑*i*S		**Sb**	**11 10 22.0**	**-0.1**
SLNF	**Slenfeh**	**1.24**	**344**	⇑P		**Pn**	**11 10 09.0**	**-0.4**
SLNF				⇑S		**Sb**	**11 10 25.3**	**-0.2**
SLNF	**Slenfeh**	**1.24**	**344**	⇑*i*P		**Pn**	**11 10 09.0**	**-0.5**
SLNF				⇑*i*S		**Sb**	**11 10 25.3**	**-0.2**
BTCH	**Batrach**	**1.64**	**355**	⇑P		**Pn**	**11 10 15.4**	**+0.4**
BTCH	**Batrach**	**1.64**	**355**	⇑*i*P		**Pn**	**11 10 15.4**	**+0.4**

IDC ***29*** *11:40:56.4±1.4, 4762N×15677E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/21, mbtmp3.7/5, MS2.8/1, Ms1 2.8/1, ms1mx2.2/39, Error ellipse: s-maj=101.0km s-min=24.0km az=134.0*
ISCJB ***29*** *11:40:58.2±6.8, 478N±0.02×1566E±0.03, h24km±50km, mb3.7/5, Error ellipse: s-maj=42.2km s-min=15.5km az=71.6*
MOS ***29*** *11:40:59.1±0.9, 4782N×15666E, h33km, mb3.9/3, Error ellipse: s-maj=54.3km s-min=16.6km az=82.1*

ISC 29 11:41:01.5±7.2, 479N±0.02×1565E±0.03, h34km±54km, n11, σ0=94/10, mb3.7/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.82**	**355**	*e*PN		**Pn**	**11 41 43.0**	**-1.1**
SKR				pmax		pmax		
	comp=N,30nm,0.5s							
SKR				pmax		pmax		
	comp=E,30nm,0.5s							
SKR				pmax		pmax		
	comp=Z,40nm,0.5s							
PET	**Petropavlovsk**	**5.34**	**14**	*e*PN		**Pn**	**11 42 18.5**	**-0.2**
ASAJ	**Asahikawa**	**10.36**	**254**	LR		LR	11 46 49.7	
	comp=Z,45nm,19.0s,baz=170,slow=34							
MJAR	**Matsushiro Arr**	**17.60**	**237**	P		**Pn**	**11 45 04.8**	**+0.8**
	baz=40,slow=9.9,SNR=4.3							
BILL	**Bilibino**	**20.82**	**10**	*e*P		**P**	**11 45 41.8**	**+1.8**
BILL				pmax		pmax		
	comp=Z,3.0nm,1.0s							
TIXI	**Tiksi**	**27.08**	**341**	*e*P		**P**	**11 46 40.8**	**-0.1**
TIXI				*e**SS			11 52 25.3	
TIXI				pmax		pmax		
	comp=Z,2.0nm,1.2s,mb3.5							
ILAR	**Eielson Array**	**34.23**	**40**	P		**P**	**11 47 43.2**	**-0.7**
	comp=Z,0.4nm,0.5s,mb3.6,baz=252,slow=7.9,SNR=13							
NVAR	**Mina Array Bea**	**59.88**	**65**	P		**P**	**11 51 04.2**	**+0.4**
	comp=Z,1.2nm,0.9s,mb3.9,baz=295,slow=6.6,SNR=5.4							
PDAR	**Pinedale Array**	**62.23**	**56**	P		**P**	**11 51 20.2**	**+0.5**
	comp=Z,0.4nm,0.8s,mb3.6,baz=306,slow=5.0,SNR=4.4							
ASAR	**Alice Springs**	**74.05**	**201**	P		**P**	**11 52 32.4**	**-1.5**
	comp=Z,1.0nm,1.0s,mb3.7,baz=3.3,slow=5.3,SNR=6.2							
ASAR	**Alice Springs**	**74.05**	**201**	P		**P**	**11 52 32.4**	**-1.4**
ASAR				pmax		pmax		
	comp=Z,1.0nm,1.0s							

IDC ***29*** *11:56:39.8±0.6, 1928S×17358W, h0km, mb4.7/10, mb1 4.9/10, mb1mx4.8/15, mbtmp4.7/10, MS4.9/10, Ms1 4.9/10, ms1mx4.4/28, Error ellipse: s-maj=23.6km s-min=13.8km az=159.0*
ISCJB ***29*** *11:56:44.0±0.2, 1926S±0.05×17346W±0.05, h32km, mb5.0/78, MS5.0/32, Error ellipse: s-maj=8.5km s-min=4.9km az=100.5*
SZGRF ***29*** *11:56:44.3, 1882S×17406W, h38km, mb5.2, Tonga Islands*
MOS ***29*** *11:56:44.9±1.5, 1921S×17351W, h33km, mb5.4/34, MS5.1/21, Error ellipse: s-maj=11.9km s-min=8.3km az=54.2*
NEIC ***29*** *11:56:45.7±0.1, 1919S×17346W, mb5.2/58, MS5.1/9, Error ellipse: s-maj=7.8km s-min=4.0km az=139.0*
HRVD ***29*** *11:56:45.7±0.2, 1938S×17265W, h12km, MW5.3/84, Centroid moment Tensor Solution. LP body waves: s50,c74;Mantle waves: s84,c142; Half duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr 0.75±.02; Mθθ 0.03±.02; Mφφ -0.77±.02; Mrθ 0.25±.05; Mθφ -0.15±.02; Mφr 0.52±.04; Best double couple: M0 0.96500×10^17 NP1:δs 181.00000°, δ28.00000°, λ73.00000°. NP2:δs 20.00000°, δ63.00000°, λ99.00000°. Principal axes: T 0.9480, Plg70.0000°, Azm309.0000°; N 0.0350, Plg8.0000°, Azm196.0000°; P -0.9830, Plg18.0000°, Azm103.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***29*** *11:56:51.2, 1828S×17449W, h33km, mB5.4, mb4.9, Ms5.3, Msz4.9*

ISC 29 11:56:46.0±0.2, 1925S±0.05×17341W±0.05, h34km, h34km±.6km; pP-P, n322, σ0=92/174, mb5.0/78, MS5.0/32, 20C-15D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**5.54**	**17**	Pn		**Pn**	**11 57 55.5**	**-10**
	3.1nm,0.3s,baz=355,slow=14,SNR=5.8							
AFI				Sn		**Sn**	**11 58 55.8**	**-13**
	19nm,0.3s,baz=54,slow=20,SNR=4.5							
AFI	**Afiamalu**	**5.54**	**17**	*e*Pn		**Pn**	**11 58 04.9**	**-1.0**
	127nm,0.6s							
RAO	**Raoul Island**	**10.77**	**202**	*e*P		**Pn**	**11 59 18.3**	**+0.6**
RAO				pmax		pmax		
	comp=Z,722nm,0.4s							
RAO	**Raoul Island**	**10.77**	**202**	*e*Pn		**Pn**	**11 59 18.3**	**+0.6**
	comp=Z,722nm,0.4s							
RAR	**Rarotonga**	**12.95**	**101**	Pn		**Pn**	**11 59 34.1**	**-13**
	comp=Z,12nm,0.3s,baz=244,slow=7.1,SNR=12							
RAR				LR		LR	12 03 41.3	
	comp=Z,3μm,21.1s,baz=226,slow=32							
RAR	**Rarotonga**	**12.95**	**101**	P		**Pn**	**11 59 34.1**	**-13**
RAR				pmax		pmax		
	comp=Z,12nm,0.3s							
RAR				MLR		MLR		
	comp=Z,3μm,21.1s							
DZM	**Mont Dzumac**	**19.06**	**258**	P		**Pn**	**12 01 04.6**	**-1.6**
	comp=Z,1.3nm,0.3s,baz=96,slow=13,SNR=18							
URZ	**Urewera**	**20.66**	**202**	P		**P**	**12 01 23.3**	**+0.6**
	comp=Z,19nm,0.6s,baz=33,slow=3.5,SNR=16							
PPT	**Papeete**	**22.67**	**90**	*e*LR		LR	12 06 49.4	
	comp=Z,6μm,26.5s,baz=259							
PPT	**Papeete**	**22.67**	**90**	LR		LR	12 08 25.8	
	comp=Z,3μm,19.5s,MS4.7,baz=326,slow=31							
TBI	**Tubuai**	**22.67**	**105**	*e*LQ			12 05 56.3	
	comp=Z,3μm,24.8s							
TBI				*e*LR		LR	12 06 39.9	
	comp=Z,4μm,30.0s,baz=271							
SNZO	**South Karori**	**24.22**	**202**	*e*P		**P**	**12 02 00.3**	**+1.0**
HNR	**Honiara**	**27.56**	**287**	*e*P		**P**	**12 02 31.4**	**+1.8**
HNR				pmax		pmax		
	comp=Z,32nm,0.9s,mb5.0							
HNR	**Honiara**	**27.56**	**287**	*e*P		**P**	**12 02 31.4**	**+1.8**
	comp=Z,32nm,0.9s,mb5.0							
RPZ	**Rata Peaks**	**27.66**	**205**	P		**P**	**12 02 34.7**	**+4.1**
	comp=Z,30nm,0.6s,mb5.1,baz=210,slow=1.7,SNR=19							
RPZ	**Rata Peaks**	**27.66**	**205**	P		**P**	**12 02 34.6**	**+4.1**
ARMA	**Armidale**	**33.50**	**244**	*e*P		**P**	**12 03 23.0**	**+1.0**
TAOE	**Nuku Hiva Isla**	**33.81**	**77**	*e*LR		LR	12 11 52.9	
	comp=Z,8μm,26.6s,baz=252							
RKT	**Rikitea**	**35.98**	**103**	*e*S		**S**	**12 09 16.4**	**-3.3**
	comp=Z,350nm,26.0s							
RKT				*e*LQ			12 11 44.4	
	comp=Z,535nm,26.2s							
RKT				*e*LR		LR	12 12 47.6	
	comp=Z,3μm,29.2s,baz=274							
CNB	**Canberra Magne**	**36.51**	**236**	*e*P		**P**	**12 03 47.1**	**-0.8**
	comp=Z,57nm,1.2s,mb5.3							
CTAO	**Charters Tower**	**37.93**	**262**	*e*P		**P**	**12 03 59.0**	**-1.0**
CTAO				*e**PP		pP	12 04 09.7	-0.4
CTAO				pmax		pmax		
	comp=Z,24nm,0.6s,mb5.1							
CTAO	**Charters Tower**	**37.93**	**262**	*e*P		**P**	**12 03 59.0**	**-1.0**
	comp=Z,24nm,0.6s,mb5.1							
CTAO				*e*pP		pP	12 04 09.7	-0.3
PMG	**Port Moresby**	**39.35**	**279**	P		**P**	**12 04 11.6**	**-0.3**
	comp=Z,27nm,0.9s,mb5.0,baz=83,slow=1.7,SNR=6.2							
PMG	**Port Moresby**	**39.35**	**279**	*e*P		**P**	**12 04 10.9**	**-1.0**
TOO	**Toolangi**	**40.12**	**234**	*e*P		**P**	**12 04 17.3**	**-1.1**
	comp=Z,12nm,1.3s,mb4.5							
TOO	**Toolangi**	**40.12**	**234**	*e*P		**P**	**12 04 17.3**	**-1.1**
TOO				pmax		pmax		
	comp=Z,12nm,1.3s,mb4.5							
TAU	**Tasmania Unive**	**40.56**	**226**	*e*P		**P**	**12 04 21.9**	**-0.1**
TAU				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.1							
TAU	**Tasmania Unive**	**40.56**	**226**	*e*P		**P**	**12 04 21.9**	**-0.1**
	comp=Z,3.5nm,0.6s,mb4.2							
STKA	**Stephens Creek**	**42.22**	**244**	*e*P		**P**	**12 04 32.1**	**-3.5**
	comp=Z,8.4nm,1.5s,mb4.2							
STKA	**Stephens Creek**	**42.22**	**244**	P		**P**	**12 04 32.1**	**-3.5**
	comp=Z,3.5nm,0.6s,mb4.1,baz=78,slow=9.1,SNR=9.2							
ASAR	**Alice Springs**	**49.01**	**255**	P		**P**	**12 05 27.2**	**-2.0**
	comp=Z,45nm,1.0s,mb5.5,baz=88,slow=8.4,SNR=133							
ASAR				S		**S**	**12 12 30.6**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=95,slow=16,SNR=5.8							
WRAB	**Tennant Creek**	**49.05**	**260**	*e*P		**P**	**12 05 28.6**	**-1.0**
WRAB				pmax		pmax		
	comp=Z,31nm,1.0s,mb5.3							
WRAB	**Tennant Creek**	**49.05**	**260**	*e*P		**P**	**12 05 28.6**	**-1.0**
	comp=Z,32nm,1.0s,mb5.3							
WRA	**Warramunga Arr**	**49.06**	**260**	P		**P**	**12 05 27.5**	**-2.2**
	comp=Z,9.4nm,0.6s,mb5.0,baz=96,slow=5.4,SNR=147							
WRA				S		**S**	**12 12 34.0**	**+1.9**
	comp=Z,0.8nm,0.9s,baz=96,slow=14,SNR=3.4							
KAKA	**Kakadu**	**52.30**	**269**	*e*P		**P**	**12 05 52.6**	**-1.5**
	comp=Z,31nm,0.6s,mb5.4							
FORT	**Forrest**	**53.75**	**246**	*e*P		**P**	**12 06 03.5**	**-1.3**
	comp=Z,18nm,1.0s,mb4.9							
SBA	**Scott Base**	**59

SSE PCP PcP 12 09 00.8 +0.5
SSE AP pP 12 09 02.5 -1.6
SSE XP sP 12 09 06.3 -1.7
SSE PP PP 12 11 52.8 -3.3
SSE S S 12 18 52.5 -3.7
SSE XS sS 12 19 08.5 -5.6
SSE SCS ScS 12 19 13.8 -2.5
SSE AMB AMB
comp=Z,14nm,0.9s,mb4.9
SSE AMB AMB
comp=Z,117nm,6.5s
SSE LR LR
comp=N,494nm,24.4s,MS5.1
SSE LR LR
comp=E,881nm,24.5s,MS5.1
SSE LR LR
comp=Z,548nm,19.1s
SSE Sheshan 80.28 308 *eP* **P 12 08 53.2 0.0**
comp=Z,14nm,0.9s,mb4.9
SSE PcP PcP 12 09 00.8 +0.5
SSE pP pP 12 09 02.5 -1.6
SSE sP sP 12 09 06.2 -1.8
SSE PP PP 12 11 52.7 -3.4
SSE S S 12 18 52.5 -3.7
SSE sS sS 12 19 08.6 -5.5
SSE ScS ScS 12 19 13.8 -2.5
SSE LR LR
comp=Z,550nm,19.1s,MS4.9
ELK Elko 80.47 41 *eP* **P 12 08 54.4 +0.1**
ELK *e**PP pP 12 09 04.3 -0.8
ELK pmax pmax
comp=Z,39nm,1.9s
ELK Elko 80.47 41 *eP* **P 12 08 54.4 +0.1**
comp=Z,39nm,1.9s,mb5.0
ELK *ep*P pP 12 09 04.3 -0.8
MSU Marysvale 81.17 44 *eP* **P 12 08 58.6 +0.6**
BBB Bella Bella 81.32 26 LR LR 12 41 33.1
comp=Z,420nm,18.5s,MS4.8,baz=252,slow=33
SVW2 Sparrevohn 81.34 9 *eP* **P 12 08 57.5 -1.4**
HABR Khabarovsk 81.58 328 *eP* **P 12 09 01.5 +1.3**
HABR *eS* S 12 19 11.6 +1.8
HABR pmax pmax
comp=Z,70nm,1.7s,mb5.3
BMO Blue Mountains 81.69 37 *eP* **P 12 09 00.4 -0.4**
BMO pmax pmax
comp=Z,25nm,1.8s,mb4.8
BMO Blue Mountains 81.69 37 *eP* **P 12 09 00.4 -0.4**
comp=Z,25nm,1.8s,mb4.8
MDJ Mudanjiang 82.06 323 P **P 12 09 04.0 +1.3**
MDJ AP pP 12 09 13.5 -0.1
MDJ XP sP 12 09 17.3 -0.2
MDJ PP PP 12 12 12.3 +1.5
MDJ AMB AMB
comp=Z,16nm,1.8s,mb4.7
MDJ AMB AMB
comp=Z,232nm,4.8s
MDJ LR LR
comp=N,312nm,24.1s,MS4.9
MDJ LR LR
comp=E,447nm,21.1s,MS4.9
MDJ LR LR
comp=Z,695nm,22.6s,MS5.0
MDJ Mudanjiang 82.06 323 *eP* **P 12 09 03.6 +0.9**
comp=Z,43nm,1.5s,mb5.2
TMUT Trail Mountain 82.23 44 *eP* **P 12 09 04.0 +0.4**
NJ2 Nanjing 82.48 308 *eP* **P 12 09 06.0 +1.1**
NJ2 AP pP 12 09 16.0 +0.2
NJ2 XP sP 12 09 19.3 -0.4
NJ2 PP PP 12 12 17.0 +2.7
NJ2 S S 12 19 19.0 0.0
NJ2 XS sS 12 19 34.0 -3.0
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
NJ2 AMB AMB
comp=Z,160nm,8.7s
NJ2 LR LR
comp=N,2µm,27.7s
NJ2 LR LR
comp=E,2µm,19.2s
NJ2 LR LR
comp=Z,530nm,22.1s
LAZ Ladron 82.53 50 *eP* **P 12 09 05.5 +0.4**
MNTX Cornudas Mount 82.53 53 *eP* **P 12 09 04.8 -0.4**
comp=Z,31nm,1.5s,mb5.1
SRU San Rafael 82.58 44 *eP* **P 12 09 06.0 +0.6**
SRU *e**PP pP 12 09 16.2 -0.1
SRU pmax pmax
comp=Z,29nm,1.8s,mb5.0
SRU San Rafael 82.58 44 *eP* **P 12 09 06.0 +0.5**
comp=Z,29nm,1.8s,mb5.0
SRU *ep*P pP 12 09 16.2 -0.1
HLID Hailey 82.60 39 *eP* **P 12 09 06.1 +0.6**
comp=Z,28nm,1.7s,mb5.0
LTX Lajitas 82.77 56 *eP* **P 12 09 07.0 +0.6**
LTX pmax pmax
comp=Z,60nm,1.7s,mb5.3
LTX Lajitas 82.77 56 *eP* **P 12 09 07.0 +0.6**
comp=Z,60nm,1.7s,mb5.3
BNM Barren Site 82.77 50 *eP* **P 12 09 06.8 +0.4**
DAU Daniels Canyon 82.80 43 *eP* **P 12 09 07.1 +0.5**
LPM Los Pinos Moun 82.85 50 *eP* **P 12 09 07.7 +0.8**
PMR Palmer 82.87 11 *eP* **P 12 09 05.3 -1.7**
PMR pmax pmax
comp=Z,41nm,1.4s,mb5.3
PMR MLR MLR
comp=Z,500nm,18.0s,MS4.9
PMR Palmer 82.87 11 *eP* **P 12 09 05.3 -1.7**
comp=Z,40nm,1.4s,mb5.3
PMR LR LR
comp=Z,500nm,18.0s,MS4.9
TTA Tatalina 83.05 8 *eP* **P 12 09 07.6 -0.2**
TCUT Toone Canyon 83.08 42 *eP* **P 12 09 08.3 +0.3**
PV10 Paradox Valley 83.19 46 *eP* **P 12 09 09.1 +0.5**
HWUT Hardware Ranch 83.25 42 *eP* **P 12 09 09.2 +0.3**
comp=Z,7.2nm,1.4s,mb4.5
ANMO Albuquerque 83.28 50 *eP* **P 12 09 09.5 +0.4**
ANMO pmax pmax
comp=Z,40nm,1.7s
ANMO Albuquerque 83.28 50 *eP* **P 12 09 09.4 +0.4**
comp=Z,40nm,1.7s,mb5.2
PV01 Paradox Valley 83.38 46 *eP* **P 12 09 09.6 0.0**
PV01 *ep*P pP 12 09 20.4 0.0
KLR Kul'dur 83.73 327 *eP* **P 12 09 06.7 -4.7**
KLR *eS* S 12 19 32.5 +0.7
DL2 Dalian 83.86 315 P **P 12 09 13.3 +1.3**
DL2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.1
DL2 AMB AMB
comp=Z,390nm,6.6s
DL2 LR LR
comp=N,160nm,14.2s,MS4.6
DL2 LR LR
comp=E,100nm,14.2s,MS4.6
DL2 LR LR
comp=Z,350nm,17.7s,MS4.8
NEW Newport 83.88 34 LR LR 12 42 22.6
comp=Z,2µm,18.3s,MS5.5,baz=258,slow=33
NEW Newport 83.88 34 *eP* **P 12 09 11.6 -0.5**
CN2 Changchun 84.02 320 ⇑P **P 12 09 13.3 +0.4**
CN2 *e*XP sP 12 09 27.0 -0.7
CN2 *eS* 12 19 34.5
CN2 AMB AMB
comp=Z,20nm,1.5s,mb5.0
CN2 AMB AMB
comp=Z,300nm,7.0s
CN2 LR LR
comp=N,600nm,20.0s,MS5.1
CN2 LR LR
comp=E,500nm,20.0s,MS5.1
CN2 LR LR
comp=Z,800nm,23.0s,MS5.0
SNY Shenyang 84.11 318 ⇓P **P 12 09 15.0 +1.7**
SNY AP pP 12 09 25.3 +1.1
SNY XP sP 12 09 28.8 +0.7
SNY PP PP 12 12 28.8 +1.2
SNY AMB AMB
comp=Z,26nm,2.0s,mb5.0
SNY AMB AMB
comp=Z,179nm,7.5s
SNY LR LR
comp=N,365nm,17.4s
SNY LR LR
comp=Z,495nm,20.7s,MS4.9
MCMT McKenzie Canyo 84.25 39 *eP* **P 12 09 14.1 +0.1**
QIZ Qiongzhong 84.34 292 P **P 12 09 15.3 +0.8**
QIZ S 12 19 35.0
QIZ XS sS 12 19 52.3 -3.5
QIZ AMB AMB
comp=Z,153nm,8.1s
QIZ LR LR
comp=N,610nm,25.6s
QIZ LR LR
comp=Z,632nm,24.9s,MS4.9
SKAG Skagway 84.37 18 *eP* **P 12 09 15.0 +0.4**
comp=Z,45nm,1.6s,mb5.3
SKAG LR LR
comp=Z,400nm,19.0s,MS4.8
REDW Red Top Meadow 84.64 41 *eP* **P 12 09 16.1 +0.1**
comp=Z,40nm,1.7s,mb5.3
REDW *ep*P pP 12 09 26.1 -0.8
TPAW Teton Pass 84.65 40 *eP* **P 12 09 16.4 +0.3**
comp=Z,23nm,1.6s,mb5.0
DLMT Dillon 84.70 38 *eP* **P 12 09 16.5 +0.3**
comp=Z,26nm,1.4s,mb5.2
MSO Missoula 84.76 36 *eP* **P 12 09 15.7 -0.9**
comp=Z,2.1nm,1.2s,mb4.1
MSO *ep*P pP 12 09 27.6 +0.1
IMW Indian Meadow 84.88 40 *eP* **P 12 09 17.6 +0.4**
comp=Z,23nm,1.4s,mb5.1
MOOW Moose Ponds 84.92 40 *eP* **P 12 09 17.3 -0.1**
comp=Z,23nm,1.9s,mb5.0
SMCO Snowmass 84.98 46 *eP* **P 12 09 18.5 +0.7**
comp=Z,35nm,1.6s,mb5.2
QLMT Earthquake Lak 85.09 39 *eP* **P 12 09 19.1 +0.9**
PDAR Pinedale Array 85.13 42 P **P 12 09 17.5 -0.9**
comp=Z,1.5nm,0.7s,mb4.2,baz=209,slow=3.3,SNR=16
PDAR LR LR 12 42 41.9
comp=Z,432nm,18.0s,MS4.9,baz=262,slow=32
MENT Mentasta 85.18 13 *eP* **P 12 09 17.6 -1.1**
CHMT Chamberlain Mo 85.20 37 *eP* **P 12 09 18.4 -0.4**
WHN Wuhan 85.25 304 *eP* **P 12 09 18.5 -0.5**
DLBC Dease Lake 85.27 21 LR LR 12 43 07.8
comp=Z,406nm,18.3s,MS4.8,baz=251,slow=33
BOZ Bozeman (W) 85.42 38 *eP* **P 12 09 19.9 0.0**
BOZ pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
BOZ Bozeman (W) 85.42 38 *eP* **P 12 09 19.9 0.0**
comp=Z,3.2nm,0.9s,mb4.5
HRY Holter Researc 85.89 37 *eP* **P 12 09 22.2 -0.1**
WALA Waterton Lakes 86.06 35 *eP* **P 12 09 22.9 -0.2**
RWWY Rawlins 86.08 43 *eP* **P 12 09 22.7 -0.4**
comp=Z,40nm,1.7s,mb5.4
RWWY *ep*P pP 12 09 32.9 -1.2
COLA College 86.12 11 *eP* **P 12 09 21.6 -1.8**
COLA pmax pmax
comp=Z,43nm,1.2s,mb5.5
COLA College 86.12 11 *eP* **P 12 09 21.6 -1.8**
comp=Z,43nm,1.2s,mb5.5
ILAR Eielson Array 86.20 11 P **P 12 09 22.0 -1.8**
comp=Z,5.7nm,1.0s,mb4.8,baz=215,slow=5.0,SNR=44
ISCO Idaho Springs 86.21 46 *eP* **P 12 09 24.6 +0.8**
ISCO pmax pmax
comp=Z,21nm,1.8s,mb5.1
ISCO Idaho Springs 86.21 46 *eP* **P 12 09 24.6 +0.8**
comp=Z,21nm,1.8s,mb5.1
AMTX Amarillo 86.73 51 *eP* **P 12 09 26.1 -0.3**
comp=Z,12nm,0.9s,mb5.1
AMTX *ep*P pP 12 09 36.6 -0.7
PLCA Paso Flores 86.95 132 P **P 12 09 27.9 +0.4**
comp=Z,7.3nm,1.1s,mb4.8,baz=265,slow=5.1,SNR=7.2
PLCA LR LR 12 42 18.5
comp=Z,466nm,18.3s,MS4.9,baz=219,slow=32
PLCA Paso Flores 86.95 132 *eP* **P 12 09 28.2 +0.8**
PLCA pmax pmax
comp=Z,40nm,1.6s
PLCA Paso Flores 86.95 132 *eP* **P 12 09 28.2 +0.7**
comp=Z,40nm,1.6s,mb5.4
DAWY Dawson 87.13 14 *eP* **P 12 09 27.6 -0.7**
BJI Beijing 88.10 314 P **P 12 09 34.8 +1.8**
BJI AMB AMB
comp=Z,20nm,1.5s,mb5.1
BJI LR LR
comp=N,348nm,18.8s,MS4.9
BJI LR LR
comp=E,322nm,18.3s,MS4.9
BJI LR LR
comp=Z,608nm,24.6s
BJI Beijing 88.10 314 P **P 12 09 34.8 +1.8**
comp=Z,20nm,1.5s,mb5.1
BJI PP PP 12 13 08.0 +8.1
BJI SKS 12 20 03.2
BJI S 12 20 26.1
BJI sS sS 12 20 37.9 +5.3
BJI SS SS 12 26 19.3 +16
BJI LR LR
comp=Z,610nm,24.6s,MS4.9
BILL Bilibino 88.30 352 *d* iP **P 12 09 33.4 -0.5**
BILL *e**PP pP 12 09 44.8 -0.1
BILL *e* 12 13 00.0
BILL pmax pmax
comp=Z,18nm,1.2s,mb5.2
BILL MLR MLR
comp=Z,600nm,19.0s,MS5.0
BILL Bilibino 88.30 352 *eP* **P 12 09 33.4 -0.5**
comp=Z,19nm,1.3s,mb5.2
WMOK Wichita Mounta 88.83 53 *eP* **P 12 09 36.0 -0.4**
WMOK pmax pmax
comp=Z,35nm,2.0s,mb5.3
WMOK Wichita Mounta 88.83 53 *eP* **P 12 09 36.0 -0.5**
comp=Z,35nm,2.0s,mb5.3
SYO Syowa Base 88.84 191 ⇑*eP* **P 12 09 35.0 -1.5**
VNA3 Neumayer Olymp 89.05 175 *eP* **P 12 09 36.4 -1.0**
VNA3 *e* 12 09 38.2
VNA3 *e* pP 12 09 46.5 -1.9
VNA3 *e* 12 09 50.3
SNAA Sanae 89.08 177 *eP* **P 12 09 29.4 -8.2**
SNAA *e* 12 09 31.6
SNAA *e* pP 12 09 40.6 -7.9
SNAA *e* 12 09 45.0
HKT Hockley 89.22 58 *eP* **P 12 09 38.6 +0.4**
HKT pmax pmax
comp=Z,24nm,1.5s,mb5.3
HKT Hockley 89.22 58 *eP* **P 12 09 38.6 +0.4**
comp=Z,24nm,1.5s,mb5.3
RSSD Black Hills 89.29 42 *eP* **P 12 09 38.3 -0.3**
RSSD pmax pmax
comp=Z,9.0nm,1.6s,mb4.8
RSSD Black Hills 89.29 42 *eP* **P 12 09 38.3 -0.3**
comp=Z,9.3nm,1.6s,mb4.9
VNA2 Neumayer--Watz 89.54 175 *eP* **P 12 09 39.0 -0.7**
VNA2 *e* 12 09 41.2
VNA2 *e* pP 12 09 49.9 -0.8
VNA2 *e* 12 09 54.5
VNA2 *e* 12 09 57.4
VNA1 Neumayer--Stat 89.74 175 *eP* **P 12 09 40.7 0.0**
VNA1 *e* 12 09 42.0
VNA1 *e* pP 12 09 51.4 -0.2
VNA1 *e* 12 09 55.0
VNA1 *e* 12 09 58.3
VNA1 *e* 12 10 08.1
GYA Guiyang 89.83 298 P **P 12 09 43.5 +2.4**
GYA AP pP 12 09 53.8 +1.7
GYA XP sP 12 09 58.0 +2.0
GYA SKS 12 20 09.5
GYA S 12 20 31.5
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.5
GYA AMB AMB
comp=Z,120nm,4.8s
GYA LR LR
comp=N,440nm,19.8s,MS5.1
GYA LR LR
comp=E,460nm,18.8s,MS5.1
GYA LR LR
comp=Z,430nm,19.2s,MS4.9
HIA Hailar 90.25 323 *eP* **P 12 09 43.0 0.0**
HIA pmax pmax
comp=Z,29nm,1.4s
HIA Hailar 90.25 323 *eP* **P 12 09 43.0 -0.1**
comp=Z,29nm,1.4s,mb5.4
XAN Xi'an 90.86 306 P **P 12 09 47.5 +1.6**
XAN AMB AMB
comp=Z,10.0nm,1.9s,mb4.8
CLNS Chul'man 91.58 331 *eP* **P 12 09 46.4 -2.8**
CLNS *e**PP pP 12 09 55.5 -4.7
CLNS *eS* 12 20 40.9
CLNS *e*PS PS 12 21 52.9 -7.1
CLNS pmax pmax
comp=Z,28nm,1.1s,mb5.5
CLNS pmax pmax
comp=N,9.0nm,1.0s
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS pmax pmax
comp=N,5.0nm,0.8s
CLNS pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
CLNS pmax pmax
comp=E,6.0nm,0.7s
CLNS smax
comp=E,153nm,12.1s
CLNS smax
comp=Z,74nm,11.7s
CLNS smax
comp=N,118nm,12.5s
HHC Hu-ho-hao-te 91.62 313 *eP* **P 12 09 50.0 +0.6**
HHC AP pP 12 10 00.5 +0.1
HHC XP sP 12 10 04.5 +0.2
HHC PP PP 12 13 31.0 +3.0
HHC SKS 12 20 18.3
HHC S 12 20 45.5
HHC XS sS 12 21 02.3 -3.1
HHC AMB AMB
comp=Z,17nm,1.2s,mb5.2
HHC AMB AMB
comp=Z,157nm,6.2s
HHC LR LR
comp=N,409nm,20.4s,MS5.0
HHC LR LR
comp=E,461nm,21.4s,MS5.0
HHC LR LR
comp=Z,580nm,22.1s,MS5.0
INK Inuvik 91.99 14 *eP* **P 12 09 50.5 -0.6**
INK pmax pmax
comp=Z,50nm,1.9s
INK Inuvik 91.99 14 *eP* **P 12 09 50.5 -0.7**
comp=Z,50nm,1.9s,mb5.5
BTO Baotou 92.60 312 *eP* **P 12 09 55.0 +1.0**
KMI Kunming 92.67 296 P **P 12 09 55.5 +1.2**
KMI AP pP 12 10 06.3 +1.1
KMI XP sP 12 10 10.5 +1.3
KMI PP PP 12 13 36.8 +0.6
KMI PPP 12 15 42.0
KMI SKS 12 20 25.8
KMI S 12 20 54.8
KMI XS sS 12 21 11.3 -3.5
KMI AMB AMB
comp=Z,8.0nm,1.1s,mb5.1
KMI AMB AMB
comp=Z,151nm,4.6s
KMI LR LR
comp=N,567nm,19.3s,MS5.1
KMI LR LR
comp=E,428nm,22.2s,MS5.1
KMI LR LR
comp=Z,620nm,20.6s,MS5.0
KMI Kunming 92.67 296 P **P 12 09 55.5 +1.2**
KMI *PP pP 12 10 06.3 +1.1
KMI *SP sP 12 10 10.5 +1.3
KMI 12 13 36.7
KMI PPP 12 15 41.9
KMI 12 20 25.8
KMI S 12 20 54.8
KMI PS PS 12 22 14.7 +2.6
KMI SS SS 12 27 11.8 +2.5
KMI SSS 12 30 49.9
KMI pmax pmax
comp=Z,8.0nm,1.1s,mb5.1
KMI MLR MLR
comp=Z,620nm,20.6s,MS5.0
KMI Kunming 92.67 296 P **P 12 09 55.5 +1.2**
comp=Z,8.0nm,1.1s,mb5.1
KMI pP pP 12 10 06.3 +1.1
KMI sP sP 12 10 10.5 +1.3
KMI PP PP 12 13 36.7 +0.5
KMI PPP 12 15 41.9
KMI SKS 12 20 25.8
KMI S 12 20 54.8
KMI sS sS 12 22 11.2 -3.6
KMI PS PS 12 22 14.7 +2.6
KMI SS SS 12 27 11.8 +2.5
KMI SSS 12 30 49.9
KMI LR LR
comp=Z,620nm,20.6s,MS5.0
ECSD EROS,Sioux Fal 93.97 45 *eP* **P 12 09 59.8 -0.5**
CIT Chita 95.01 324 *eP* **P 12 10 03.8 -1.2**
LZH Lanzhou 95.48 306 ⇑P **P 12 10 08.5 +1.3**
LZH AP pP 12 10 19.3 +1.1
LZH XP sP 12 10 23.0 +0.9
LZH SKS 12 20 40.5
LZH *eS* 12 21 19.5
LZH XS sS 12 21 37.3 -2.2
LZH AMB AMB
comp=Z,18nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,105nm,9.4s
LZH LR LR
comp=N,654nm,18.3s
LZH LR LR
comp=Z,883nm,19.7s,MS5.2
LZH Lanzhou 95.48 306 ⇑P **P 12 10 08.5 +1.3**
LZH *PP pP 12 10 19.2 +1.0
LZH *SP sP 12 10 23.1 +1.0
LZH 12 14 02.6
LZH 12 20 40.5
LZH *eS* 12 21 19.4
LZH PS PS 12 22 46.5 +3.4
LZH SS SS 12 27 51.7 +2.3
LZH pmax pmax
comp=Z,18nm,1.5s,mb5.3
LZH MLR MLR
comp=Z,880nm,19.7s,MS5.2
LZH Lanzhou 95.48 306 ⇑P **P 12 10 08.5 +1.3**
comp=Z,18nm,1.5s,mb5.3
LZH pP pP 12 10 19.2 +1.0
LZH sP sP 12 10 23.1 +1.0
LZH PP PP 12 14 02.6 +4.4
LZH SKS 12 20 40.5
LZH *eS* 12 21 19.4
LZH sS sS 12 21 37.3 -2.2
LZH PS PS 12 22 46.5 +3.4
LZH SS SS 12 27 51.7 +2.3
LZH LR LR
comp=Z,880nm,19.7s,MS5.2
LPAZ La Paz 98.50 110 LR LR 12 46 02.9
comp=Z,614nm,18.7s,MS5.1,baz=57,slow=30
TIXI Tiksi 98.69 344 *eP* **P 12 10 15.6 -6.1**
TIXI *eS* 12 20 51.9
TIXI pmax pmax
comp=Z,5.0nm,1.4s,mb4.8
TIXI smax
comp=N,30nm,7.9s
TIXI smax
comp=E,14nm,6.5s
TIXI MLR MLR
comp=Z,350nm,20.0s,MS4.8
WMQ Urumqi 109.38 311 PDIF Pdif 12 11 06.5 -2.7
WMQ PP PP 12 15 43.3 +0.8
WMQ PP PP
comp=Z,90nm,3.9s
WMQ LR LR
comp=N,800nm,25.6s,MS5.2
WMQ LR LR
comp=E,288nm,23.2s,MS5.2
WMQ LR LR
comp=Z,357nm,21.4s,MS4.9
TRD Trivandrum 111.23 272 *ex* x 12 11 51.4
MKAR Makanchi Array 113.48 313 PKiKP PKiKP 12 15 19.5 -0.8
comp=Z,0.6nm,0.6s,baz=59,slow=3.1,SNR=7.6
KURK Kurchatov 116.00 318 *e*PKiKP PKPdf 12 15 24.8 -0.4
CHKZ Chkalovo 120.64 322 *e*PKiKP PKPdf 12 15 33.0 -1.1
BRVK Borovoye 120.93 321 *e*PKiKP PKPdf 12 15 34.7 0.0
ZRNK Zerenda 121.71 321 *e*PKiKP PKPdf 12 15 36.0 -0.2
ARU Arti 126.57 327 *i* PKiKP PKPdf 12 15 45.1 -0.4
ARU *e* 12 17 45.4
ARU *e* 12 22 47.8
ARU MLR MLR
comp=Z,500nm,21.0s,MS5.2
ARU MLR MLR
comp=N,80nm,16.0s,MS5.2
ARU MLR MLR
comp=E,400nm,20.0s,MS5.2
ARCES ARCESS Array B 128.40 352 PKP PKPdf 12 15 46.6 -2.4
comp=E,4.7nm,1.1s,baz=343,slow=1.6,SNR=6.1

FINES FINESS Array B 135.67 347 PKP PKPdf 12 16 01.2 -1.4
comp=E,3.8nm,1.1s,baz=90,slow=3.8,SNR=6.2
OBN Obninsk 137.60 335 *i* PKIKP PKPdf 12 16 06.3 +0.1
OBN pmax pmax
comp=Z,14nm,1.5s
OBN MLR MLR
comp=Z,200nm,22.0s,MS4.8
NOA NORSAR Array B 138.13 357 PKP PKPdf 12 16 06.2 -1.0
comp=Z,1.1nm,0.9s,baz=13,slow=4.1,SNR=2.4
KMBO Kilima Mbogo 143.72 240 *e*PKPdf PKPdf 12 16 17.1 -0.2
AKASG Malin Array Be 143.85 335 PKhKP 12 16 13.4
comp=Z,1.9nm,0.7s,baz=31,slow=2.5,SNR=17
MARD Mardin 145.18 308 *i* P PKPbc 12 16 17.6 -1.8
BSEG Bad Segeberg 145.26 356 *e*PKPbc PKPbc 12 16 18.8 -0.9
SIM Simferopol' 145.66 324 *d i* PKP2 PKPab 12 16 22.6 +1.3
SIM pmax pmax
comp=Z,29nm,1.1s
ELZG Elazig 146.01 311 *i* P PKPdf 12 16 20.5 -0.7
RUE Ruedersdorf 146.36 352 *e*PKPbc PKPbc 12 16 22.2 -0.9
LVV L'vov 146.46 339 *e*PKP2 PKPab 12 16 23.1 -1.3
KIS Kishinev 146.88 332 *e*PKP2 PKPab 12 16 27.0 +1.0
KIS MLR MLR
comp=Z,600nm,20.0s,MS5.4
KIS MLR MLR
comp=Z,700nm,20.0s
IBBN Ibbenburen 147.00 359 *e*PKPbc PKPbc 12 16 24.3 -0.6
KWP Kalwaria 147.05 341 *e*PKP2 PKPab 12 16 24.8 -1.9
BOYT Boyabat 147.30 319 *i* P PKPdf 12 16 23.4 0.0
CLZ Clausthal 147.34 356 *e*PKPbc PKPbc 12 16 25.5 -0.4
WTSB Winterswijk 147.35 360 *e*PKP PKPdf 12 16 25.9 +2.4
comp=Z,39nm,1.3s
WTSB *ex* x 12 16 36.8
OJC Ojcow 147.35 344 *e*PKP PKPdf 12 16 25.1 +1.6
KSP Ksiaz 147.55 349 *e*PKP PKPdf 12 16 25.4 +1.6
KSP *e* 12 16 27.4
KSP LR LR
comp=Z,1μm,23.8s,MS5.6
CLL Collm 147.61 352 *e*PKPbc PKPbc 12 16 25.9 -0.8
CLL Collm 147.61 352 *i* PKPbc PKPbc 12 16 26.2 -0.5
comp=Z,59nm,1.2s
CLL *ep*PKPbc pPKPbc 12 16 38.0 +0.1
CLL LmV 12 26 00.0
comp=Z,500nm,20.0s
STHS Stebnicka Huta 147.69 342 *e*PKP PKPab 12 16 28.2 -1.0
STHS Stebnicka Huta 147.69 342 *e*PKP2 PKPab 12 16 28.3 -0.9
CTKT Corum 147.81 318 *i* P PKPdf 12 16 22.4 -1.8
BUG Bochum--Univer 147.87 359 *e*PKPbc PKPbc 12 16 26.6 -0.8
BURAR Bucovina Array 147.89 336 ⇓ *i* P PKPab 12 16 29.9 -0.1
BRG Berggiesshubel 147.91 351 *e*PKPbc PKPbc 12 16 27.1 -0.4
BRG Berggiesshubel 147.91 351 *e*PKP PKPdf 12 16 26.5 +2.0
comp=Z,22nm,1.4s
BRG *i* 12 16 42.0
comp=Z,21nm,1.2s
BRG *e* 12 31 20.4
comp=Z,1.5nm,0.5s
BRG
comp=N,191nm,17.4s
BRG
comp=E,99nm,16.3s
BRG
comp=Z,262nm,20.4s
UPC Upice 147.92 349 *e*PKPDF PKPdf 12 16 25.5 +1.1
UPC ⇑ *e*PKPB 12 16 28.6
UPC *ep*PKP pPKPdf 12 16 39.4 +3.7
DPC Dobruska-Polom 148.01 348 *e*PKPDF PKPdf 12 16 25.7 +1.1
DPC ⇑ *e*PKPB 12 16 29.2
DPC *ep*PKP pPKPdf 12 16 39.5 +3.6
OKC Ostrava-Krasne 148.11 346 ⇑ *e*PKPB PKPbc 12 16 28.9 +0.9
OKC *ep*PKP pPKPdf 12 16 41.5 +5.5
OKC AMS AMS 13 30 40.0
comp=Z,400nm,21.3s
OKC Ostrava-Krasne 148.11 346 *e*PKP PKPdf 12 16 28.9 +4.1
OKC *e* 12 16 41.5
PVCC Panska Ves 148.15 350 *e*PKIKP PKPdf 12 16 25.6 +0.8
PVCC *e* 12 16 29.3
PVCC MLR MLR
comp=Z,800nm,18.0s,MS5.5
BALT Daday 148.17 320 *i* P PKPbc 12 16 27.2 -0.9
MORC Moravsky Berou 148.31 346 ⇓ *i* P PKPbc 12 16 29.5 +1.0
MORC Moravsky Berou 148.31 346 PKP2 PKPab 12 16 30.1 -1.6
MORC Moravsky Berou 148.31 346 *e*PKPbc PKPbc 12 16 29.6 +1.1
UBBA Unterbreizbach 148.38 356 *e*PKPbc PKPbc 12 16 28.8 +0.1
MOX Moxa 148.42 354 *e*PKPbc PKPbc 12 16 28.2 -0.6
MOX *ep*PKPbc pPKPbc 12 16 39.5 -0.5
MOX Moxa 148.42 354 *e*PKP PKPdf 12 16 28.5 +3.2
MOX *e* 12 16 39.7
MOX
comp=Z,300nm,21.0s
UCC Uccle 148.47 3 APKPbc 12 16 39.7
WERD Werda 148.54 353 *e*PKPbc PKPbc 12 16 28.7 -0.4
WERD *ep*PKPbc pPKPbc 12 16 40.1 -0.2
HGN Heimansgroeve 148.55 1 *e*PKP PKPbc 12 16 29.8 +0.6
comp=Z,31nm,1.8s
HGN *ex* x 12 16 40.4
CFR Carcaliu 148.56 330 ⇓ *i* P PKPbc 12 16 29.6 +0.4
CFR Carcaliu 148.56 330 ⇓ P PKPbc 12 16 29.6 +0.5
PRA Prague 148.62 350 ⇑ *e*PKPB PKPbc 12 16 29.0 -0.3
VRI Vrincioaia 148.68 332 ⇓ *i* P PKPbc 12 16 29.9 +0.4
VRI Vrincioaia 148.68 332 ⇓ P PKPbc 12 16 29.9 +0.5
PRU Pruhonice 148.68 350 ⇑ *e*PKPB PKPbc 12 16 29.8 +0.3
PRU *ep*PKP pPKPdf 12 16 40.7 +3.7
PRU AMS AMS 13 28 10.0
comp=Z,300nm,17.7s
MEM Membach 148.71 1 PKPbc PKPbc 12 16 30.4 +0.8
MEM PKPab PKPab 12 16 33.4 +0.2
MEM APKPab 12 16 43.5
NKC Novy Kostel 148.74 353 ⇑ *e*PKPB PKPbc 12 16 30.6 +1.0
NKC *ep*PKP pPKPdf 12 16 40.9 +3.8
NKC AMS AMS 13 26 30.0
comp=Z,400nm,20.1s
NKC Novy Kostel 148.74 353 *e*PKP PKPbc 12 16 30.6 +1.0
NKC *e* 12 16 40.9
AVNT Avonos 148.74 314 *i* P PKPbc 12 16 33.0 +3.3
KECS Kecovo 148.74 342 *e*PKP PKPbc 12 16 30.9 +1.3
ELDT Eldivan 148.75 318 *i* P PKPdf 12 16 26.3 +0.5
SNF Seneffe 148.76 3 APKPab 12 16 42.7
COBT Iskenderun 148.82 310 *i* P PKPdf 12 16 27.2 +1.3
BCLA Clavier 148.88 2 APKPab 12 16 44.6
VRAC Vranov 148.95 347 PKP2 PKPbc 12 16 31.2 +1.0
MANZ Manzenberg 149.02 353 *e*PKPbc PKPbc 12 16 30.2 -0.1
HARR Harsova 149.02 330 ⇑ *i* P PKPbc 12 16 30.6 +0.3
HARR Harsova 149.02 330 ⇑ P PKPbc 12 16 30.6 +0.3
BRTR Keskin Array B 149.04 317 PKP PKPdf 12 16 26.2 0.0
comp=Z,12nm,1.2s,baz=123,slow=2.4,SNR=20
BRTR PKPbc PKPbc 12 16 31.4 +1.0
comp=Z,12nm,1.2s,baz=101,slow=2.9,SNR=27
TNS Taunus Mts 149.06 358 *e*PKPbc PKPbc 12 16 33.1 +2.7
DOU Dourbes 149.18 3 PKP PKPdf 12 16 26.1 -0.4
DOU PKPbc PKPbc 12 16 31.3 +0.6
DOU APKPbc 12 16 40.3
DOU APKPab 12 16 46.6
TREC Trest 149.18 349 ⇑ *e*PKPB PKPbc 12 16 31.8 +1.1
TREC *ep*PKP pPKPdf 12 16 42.5 +4.7
TREC AMS AMS 13 27 10.0
comp=Z,500nm,18.9s
VYHS Vyhne 149.19 344 *e*PKP PKPbc 12 16 31.1 +0.3
VYHS Vyhne 149.19 344 *e*PKP2 PKPbc 12 16 31.2 +0.4
BAIF Baives 149.20 3 *e*PKIKP PKPdf 12 16 27.5 +1.0
ROTZ Rotzenmuhle 149.22 353 *e*PKPbc PKPbc 12 16 30.7 -0.1
MLR Muntele Rosu 149.31 333 PKPbc PKPbc 12 16 31.4 +0.3
comp=Z,21nm,1.2s,baz=347,slow=6.6,SNR=3.4
MLR Muntele Rosu 149.31 333 ⇓ *i* P PKPbc 12 16 32.2 +1.1
MLR Muntele Rosu 149.31 333 ⇑ PKP2 PKPab 12 16 34.1 -1.6
GRF Grafenberg Arr 149.40 354 *e*PKPbc PKPbc 12 16 29.9 -1.4
GRF *eL* 13 23 54.0
comp=Z,373nm,21.3s
GRF Grafenberg Arr 149.40 354 *e*PKP PKPdf 12 16 29.9 +3.0
GRF LR LR
comp=Z,400nm,21.3s,MS5.2
PSZ Piszkesteto 149.43 342 *e*PKP/F PKPbc 12 16 30.9 -0.4
ABH Alteburg 149.43 359 PKP PKPbc 12 16 31.5 +0.1
ANTO Ankara 149.50 318 ⇓ *i* P PKPbc 12 16 33.3 +1.8
ANTO Ankara 149.50 318 *e*PKPbc PKPbc 12 16 32.0 +0.5
SGKT Sivrigoynuk 149.55 320 *i* P PKPdf 12 16 26.3 -0.8
RUP Ruppelstein 149.62 359 PKP2 PKPbc 12 16 31.9 +0.1
WLF Walferdange 149.65 1 *e*PKPbc PKPbc 12 16 31.8 -0.1
WLF Walferdange 149.65 1 PKPbc PKPbc 12 16 33.3 +1.4
WLF APKPbc 12 16 43.5
KHC Kasperske Hory 149.66 351 *e*PKPDF PKPdf 12 16 27.9 +0.6
KHC ⇑ *e*PKPB 12 16 32.4
KHC *ep*PKP pPKPdf 12 16 44.0 +5.4
KHC AMS AMS 13 30 40.0
comp=Z,400nm,22.1s
KHC Kasperske Hory 149.66 351 *e*PKHKP 12 16 27.9
KHC *e* 12 16 32.4
KHC MLR MLR
comp=Z,400nm,22.1s,MS5.2
TOD Tromm 149.66 357 PKP2 PKPbc 12 16 31.7 -0.2
WET Wettzell 149.75 352 *e*PKP2 PKPbc 12 16 31.9 -0.2
ZST Bratislava 149.89 346 *e*PKP PKPbc 12 16 34.8 +2.3
ROSR Rostrenen 149.90 13 *e*PKIKP PKPdf 12 16 28.5 +0.9
GEC2 GERESS Array S 149.92 351 *e*PKPbc PKPbc 12 16 32.2 -0.4
GERES GERESS Array B 149.92 351 PKP PKPdf 12 16 27.6 0.0
comp=Z,7.5nm,1.1s,baz=245,slow=11,SNR=4.9
GERES PKPbc PKPbc 12 16 32.7 +0.2
comp=Z,7.4nm,1.0s,baz=54,slow=1.7,SNR=28
ASF Jabal al Asfar 149.93 301 PKPbc PKPbc 12 16 33.8 +1.2
comp=Z,4.4nm,0.7s,baz=202,slow=2.0,SNR=12
ASF Jabal al Asfar 149.93 301 PKP2 PKPbc 12 16 33.8 +1.2
ASF pmax pmax
comp=Z,4.0nm,0.7s
MEST Erdemli 150.30 311 *i* P PKPdf 12 16 30.1 +1.8
QUIF Quistinic 150.32 13 *e*PKIKP PKPdf 12 16 29.2 +0.9
comp=Z,29nm,1.0s
LANF Langenberg 150.32 358 PKP PKPbc 12 16 34.9 +1.4
STU Stuttgart 150.47 357 *e*PKPbc PKPbc 12 16 33.5 -0.4
SOP Sopron 150.50 346 ⇑ *ep*PKP/F PKPbc 12 16 35.6 +1.7
MOA Molln 150.80 349 ⇑ *i*PKiKP PKiKP 12 16 35.5 +0.2
comp=Z,30nm,1.6s
WLS Welschbruch 150.90 359 PKP PKPbc 12 16 34.7 -0.2
FUR Furstenfeldbru 150.91 354 *e*PKPbc PKPbc 12 16 34.2 -0.7
BZS Buzias 150.91 338 ⇓ *i* P PKPbc 12 16 35.9 +1.0
ESKT Eskisehir 150.92 319 *i* P PKPdf 12 16 32.0 +2.8
BORA Eskisehir 150.95 320 *i* P PKPdf 12 16 23.4 -5.9
BFO Black Forest 150.96 358 *e*PKPbc PKPbc 12 16 34.2 -0.8
THEF They Montfort 151.09 1 PKP PKPbc 12 16 36.3 +1.0
ERMK Ermenek 151.15 312 *i* P PKPdf 12 16 31.1 +1.5
PKSM Mamagy 151.33 342 ⇑ *i* P PKPdf 12 16 36.8 +0.9
MOF Molkenrain 151.47 359 PKP PKPbc 12 16 36.3 +0.1
CSS Prodhromos 151.64 309 *e*PKPbc PKPbc 12 16 36.8 +0.2
MOTA Moosalm 151.74 354 ⇓ *i* P PKPbc 12 16 37.3 +0.5
comp=Z,34nm,1.4s
WTTA Wattenberg 151.75 353 ⇓ *i* P PKPbc 12 16 36.8 0.0
comp=Z,76nm,2.1s
DAVA Damuels 151.91 355 ⇑ *i* P PKPbc 12 16 38.5 +1.2
comp=Z,29nm,1.4s
LOR Lormes 151.97 4 *e*PKIKP PKPdf 12 16 31.6 +0.8
comp=Z,40nm,1.4s
SSF Saint Saulge 152.15 5 *e*PKIKP PKPdf 12 16 31.8 +0.7
MFF Saint Martin d 152.16 10 *e*PKIKP PKPdf 12 16 31.5 +0.4
EIL Elat 152.25 297 *e*PKPbc PKPbc 12 16 39.1 +1.1
LEGS Legarje 152.41 347 *e*PKPbc PKPbc 12 16 38.8 +0.4
SMF Signal de Mont 152.58 4 *e*PKIKP PKPdf 12 16 32.3 +0.6
GRUS Gruza 152.73 337 *i* P PKPbc 12 16 39.0 0.0
TCF Toulx Ste Croi 152.79 7 *e*PKIKP PKPdf 12 16 32.4 +0.4
comp=Z,6.6nm,0.7s
DIVS Divcibare 152.80 339 *i* P PKPbc 12 16 37.2 -2.0
BOJS Bojanci 152.85 347 *e*PKPbc PKPbc 12 16 40.4 +1.0
PLDF La Plantade 153.24 5 PKP PKPbc 12 16 40.3 +0.1
PYM Petit Puy Mans 153.41 6 PKP PKPbc 12 16 41.5 +0.9
LPL La Plagne 153.81 360 *e*PKIKP PKPdf 12 16 33.7 +0.2
LPL La Plagne 153.82 360 *e*PKIKP PKPdf 12 16 33.6 +0.1
LBL Labillhac 153.94 5 PKP PKPbc 12 16 41.5 -0.2
BNI Bardonecchia 154.27 360 *e*PKP2 PKPab 12 16 57.7 +1.3
SJPF Ste Jean 155.31 14 *e*PKIKP PKPdf 12 16 36.0 +0.4
SBF Sospel 155.45 359 *e*PKIKP PKPdf 12 16 36.4 +0.6
TORD Torodi Ar. Bea 172.32 141 PKP PKPdf 12 16 49.1 -2.0
comp=Z,4.4nm,1.2s,baz=312,slow=1.1,SNR=9.4
TORD PKPab PKPab 12 18 14.3 -1.1
comp=Z,3.0nm,1.2s,baz=207,slow=1.6,SNR=3.4

IDC ***29*** *12:12:09.9±0.4, 791S×154.59E, h0km, mb5.1/16, mb1 5.1/19, mb1mx5.1/20, mbtmp5.1/19, ML4.4/3, MS4.7/14, Ms1 4.7/14, ms1mx4.4/20, Error ellipse: s-maj=17.2km s-min=13.2km az=61.0*

CSEM ***29*** *12:12:10.8, 739S×154.54E, h2km, mb5.5*

ISCJB ***29*** *12:12:12.1±0.2, 795S±004×154.60E±004, h26km, mb5.3/101, MS4.8/39, Error ellipse: s-maj=5.5km s-min=5.2km az=81.2*

BJI ***29*** *12:12:12.2, 765S×155.09E, h30km, mB5.4, mb5.2, Ms5.1, Msz4.7*

HRVD ***29*** *12:12:13.8±0.1, 797S×154.71E, h18km, MW5.5/103, Centroid moment Tensor Solution. LP body waves: s83,c143;Mantle waves: s103,c197; Half duration: 1s3 Moment tensor: Scale 10^17Nm; Mrr=0.28±.03; Mθθ 1.85±.03; Mϕϕ-1.57±.03; Mrθ 0.26±.05; Mϕθ 0.24±.02; Mrϕ-0.64±.06; Best double couple: M0 1.87600×10^17 NP1:ϕs43.00000°, δ70.00000°, λ-168.00000°. NP2: ϕs309.00000°, δ78.00000°, λ-21.00000°. Principal axes: T 1.8890, Plg6.0000°, Azm357.0000°; N -0.0220, Plg66.0000°, Azm101.0000°; P -1.8630, Plg23.0000°, Azm265.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***29*** *12:12:13.8±0.2, 794S×154.63E, mb5.4/59, MS4.9/12 Error ellipse: s-maj=5.3km s-min=4.9km az=135.0*

MOS ***29*** *12:12:14.3±1.1, 774S×154.53E, h33km, mb5.5/41, MS4.7/12, Error ellipse: s-maj=9.6km s-min=7.2km az=110.0*

ISC 29 12:12:14.1±0.2, 796S±004×15466E±004, h28km, h28km±.9km:pP-P, n291, σ1s16/220, mb5.3/100, MS4.8/39, 17C-3D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.42**	**106**	Pn	**Pn**	**Pn**	**12 13 31.5**	**-1.6**
	28nm,0.3s,baz=193,slow=0.9,SNR=39							
HNR				Sn	**Sn**	**Sn**	**12 14 44.3**	**+10**
	58nm,0.3s,baz=112,slow=2.9,SNR=7.2							
HNR				LR	LR	LR	12 15 11.5	
	comp=Z,9μm,20.0s,baz=350,slow=33							
HNR	**Honiara**	**5.42**	**106**	*e*P	**Pn**	**Pn**	**12 13 31.2**	**-1.9**
HNR				pmax	pmax			
	comp=Z,1μm,0.8s							
HNR	**Honiara**	**5.42**	**106**	*e*Pn	**Pn**	**Pn**	**12 13 31.2**	**-2.0**
	comp=Z,1μm,0.8s							
PMG	**Port Moresby**	**7.55**	**259**	Pn	**Pn**	**Pn**	**12 14 02.3**	**-0.1**
	comp=Z,24nm,0.3s,baz=92,slow=7.8,SNR=37							
PMG				Lg			12 16 00.7	
	comp=Z,2.8nm,0.3s,baz=81,slow=4.7,SNR=1.9							
PMG	**Port Moresby**	**7.55**	**259**	*e*P	**Pn**	**Pn**	**12 14 03.4**	**+1.0**
PMG				pmax	pmax			
	comp=Z,223nm,0.6s							
PMG	**Port Moresby**	**7.55**	**259**	*e*Pn	**Pn**	**Pn**	**12 14 03.4**	**+1.1**
	comp=Z,223nm,0.6s							
CTAO	**Charters Tower**	**14.54**	**213**	*e*P	**Pn**	**Pn**	**12 15 37.5**	**-0.5**
CTAO				pmax	pmax			
	comp=Z,86nm,1.4s							
CTAO	**Charters Tower**	**14.54**	**213**	*e*P	**Pn**	**Pn**	**12 15 37.5**	**-0.6**
	comp=Z,86nm,1.4s							
DZM	**Mont Dzumac**	**18.04**	**142**	P	**Pn**	**Pn**	**12 16 25.0**	**+2.3**
	comp=Z,0.9nm,0.3s,baz=328,slow=7.5,SNR=11							
DZM				LR	LR	LR	12 21 22.7	
	comp=Z,4μm,20.6s,baz=326,slow=30							
KAKA	**Kakadu**	**22.36**	**256**	*e*P	**P**	**P**	**12 17 08.9**	**-1.0**
	comp=Z,125nm,0.9s,mb5.3							
ARMA	**Armidale**	**22.52**	**187**	*e*P	**P**	**P**	**12 17 11.9**	**+0.3**
WRAB	**Tennant Creek**	**22.99**	**237**	P	**P**	**P**	**12 17 15.5**	**-1.1**
	comp=Z,455nm,1.3s,mb5.7,SNR=15							
WRAB	**Tennant Creek**	**22.99**	**237**	*e*P	**P**	**P**	**12 17 15.4**	**-1.2**
WRAB				pmax	pmax			
	comp=Z,137nm,1.1s,mb5.3							
WRAB	**Tennant Creek**	**22.99**	**237**	*e*P	**P**	**P**	**12 17 15.4**	**-1.2**
	comp=Z,137nm,1.1s,mb5.3							
WB2	**Warramunga Arr**	**23.00**	**237**	*e*P	**P**	**P**	**12 17 16.0**	**-0.6**
WRA	**Warramunga Arr**	**23.00**	**237**	P	**P**	**P**	**12 17 15.5**	**-1.2**
	comp=Z,42nm,0.9s,mb4.9,baz=61,slow=9.5,SNR=85							
GUMO	**Guam**	**23.52**	**336**	P	**P**	**P**	**12 17 20.3**	**-1.7**
	comp=Z,250nm,0.8s,mb5.7,baz=181,slow=8.1,SNR=23							
GUMO				LR	LR	LR	12 25 54.6	
	comp=Z,393nm,18.5s,MS3.9,baz=151,slow=35							
ASAR	**Alice Springs**	**25.29**	**230**	P	**P**	**P**	**12 17 37.6**	**-0.6**
	comp=Z,9.6nm,0.5s,mb4.6,baz=60,slow=10,SNR=71							
STKA	**Stephens Creek**	**26.72**	**205**	*e*P	**P**	**P**	**12 17 48.6**	**-2.5**
	comp=Z,18nm,0.6s,mb4.8							
STKA	**Stephens Creek**	**26.72**	**205**	P	**P**	**P**	**12 17 48.6**	**-2.5**
	comp=Z,5.0nm,0.6s,mb4.2,baz=12,slow=9.1,SNR=10							
STKA				LR	LR	LR	12 27 43.7	
	comp=Z,3μm,19.8s,MS4.8,baz=22,slow=35							
WAKE	**Wake Island**	**29.54**	**23**	*e*P	**P**	**P**	**12 18 14.8**	**-1.5**
	comp=Z,57nm,0.7s,mb5.4							
AFI	**Afiamalu**	**33.45**	**103**	P	**P**	**P**	**12 18 52.6**	**+2.0**
	comp=Z,27nm,0.8s,mb5.2,baz=67,slow=18,SNR=1.7							
FORT	**Forrest**	**33.66**	**224**	*e*P	**P**	**P**	**12 18 57.0**	**+4.5**
	comp=Z,27nm,0.8s,mb5.2							
KAPI	**Kappang**	**34.80**	**273**	P	**P**	**P**	**12 19 02.3**	**-0.1**
	comp=Z,487nm,1.3s,mb6.3,SNR=7.5							
MBWA	**Marble Bar**	**36.16**	**245**	*e*P	**P**	**P**	**12 19 13.0**	**-1.1**
	comp=Z,21nm,0.8s,mb5.1							
URZ	**Urewera**	**36.34**	**150**	P	**P**	**P**	**12 19 16.4**	**+0.8**
	comp=Z,14nm,1.0s,mb4.9,baz=294,slow=4.9,SNR=3.7							
RPZ	**Rata Peaks**	**38.39**	**161**	P	**P**	**P**	**12 19 33.3**	**+0.3**
	comp=Z,8.1nm,0.6s,mb4.6,baz=294,slow=23,SNR=2.6							
KLBR	**Kellerberrin**	**41.62**	**231**	*e*P	**P**	**P**	**12 19 57.4**	**-2.3**
	comp=Z,30nm,1.0s,mb4.9							
JOW	**Kunigami**	**43.03**	**324**	P	**P**	**P**	**12 20 11.8**	**+0.6**
	comp=Z,117nm,1.0s,mb5.5,baz=148,slow=9.0,SNR=13							
JHJ	**Hachijo jima 2**	**43.24**	**342**	LR	LR		12 36 34.4	
	comp=Z,566nm,19.6s,MS4.5,baz=259,slow=34							
KSM	**Kuching**	**45.21**	**280**	*e*P	**P**	**P**	**12 20 29.4**	**+0.7**
KSM				*ep*P	pP	P	12 20 38.1	+0.9
NACB	**Ninganchiao**	**45.41**	**316**	*e*P	**P**	**P**	**12 20 30.3**	**+0.1**
YHNB	**Yeheng**	**45.88**	**316**	*e*P	**P**	**P**	**12 20 34.7**	**+0.7**
MJAR	**Matsushiro Arr**	**46.89**	**342**	P	**P**	**P**	**12 20 39.9**	**-2.0**
	comp=Z,27nm,0.8s,mb5.2,baz=166,slow=7.6,SNR=65							
MJAR				LR	LR		12 37 46.8	
	comp=Z,543nm,22.0s,MS4.5,baz=160,slow=33							
MAJO	**Matsushiro**	**46.89**	**342**	*e*P	**P**	**P**	**12 20 40.3**	**-1.6**
MAJO				pmax	pmax			
	comp=Z,48nm,0.7s,mb5.5							
MAJO	**Matsushiro**	**46.89**	**342**	*e*P	**P**	**P**	**12 20 40.3**	**-1.6**
	comp=Z,48nm,0.7s,mb5.5							
MAT	**Matsushiro**	**46.89**	**342**	P	**P**	**P**	**12 20 39.7**	**-2.2**
MAT	**Matsushiro**	**46.89**	**342**	*e*P	**P**	**P**	**12 20 40.0**	**-1.9**
MAT				pmax	pmax			
	comp=Z,37nm,1.0s,mb5.3							
MAT				MLR	MLR			
	comp=Z,1μm,20.0s,MS4.8							
MAT	**Matsushiro**	**46.89**	**342**	*e*P	**P**	**P**	**12 20 40.0**	**-1.9**
	comp=Z,37nm,1.0s,mb5.3							
MAT				LR	LR			
	comp=Z,1μm,20.0s,MS4.8							
QZH	**Quanzhou**	**48.01**	**314**	P	**P**	**P**	**12 20 53.5**	**+2.9**
QZH				S	**S**		**12 27 49.5**	**+2.7**
QZH				LR	LR			
	comp=Z,800nm,18.0s,MS4.7							
SSE	**Sheshan**	**50.36**	**322**	*e*P	**P**	**P**	**12 21 09.5**	**+0.9**
SSE				AP	pP		12 21 19.0	+1.9
SSE				XP	sP		12 21 22.5	+2.0
SSE				PcP	PcP		12 22 28.0	+1.1
SSE				PP	PP		12 23 05.3	+1.1
SSE				S	**S**		**12 28 21.3**	**+1.5**
SSE				XS	sS		12 28 35.8	+1.9
SSE				AMB	AMB			
	comp=Z,23nm,1.0s,mb5.2							
SSE				AMB	AMB			
	comp=Z,105nm,4.8s							
SSE				LR	LR			
	comp=N,494nm,24.4s,MS4.7							
SSE				LR	LR			
	comp=E,881nm,24.5s,MS4.7							
SSE				LR	LR			
	comp=Z,548nm,19.1s							
SSE	**Sheshan**	**50.36**	**322**	*e*P	**P**	**P**	**12 21 09.6**	**+1.0**
	comp=Z,23nm,1.0s,mb5.2							
SSE				pP	pP		12 21 19.1	+2.0
SSE				sP	sP		12 21 22.5	+2.0
SSE				PcP	PcP		12 22 27.9	+1.0
SSE				PP	PP		12 23 05.3	+1.1
SSE				S	**S**		**12 28 21.3**	**+1.5**
SSE				sS	sS		12 28 35.8	+1.9
SSE				ScS	ScS		12 30 59.8	+2.1
SSE				LR	LR			
	comp=Z,550nm,19.1s,MS4.6							
KS15	**Wonju Array Si**	**51.65**	**333**	*e*P	**P**	**P**	**12 21 17.3**	**-1.0**
QIZ	**Qiongzhong**	**51.68**	**302**	P	**P**	**P**	**12 21 17.5**	**-1.0**
QIZ				S	**S**		**12 28 38.3**	**+0.2**
QIZ				AMB	AMB			
	comp=Z,165nm,9.0s							
QIZ				LR	LR			
	comp=Z,632nm,22.6s,MS4.6							
INCN	**Inchon**	**52.26**	**332**	*e*P	**P**	**P**	**12 21 22.9**	**+0.1**
	comp=Z,112nm,1.0s,mb5.8							
NJ2	**Nanjing**	**52.45**	**321**	*e*P	**P**	**P**	**12 21 26.5**	**+2.2**
NJ2				AP	pP		12 21 34.3	+1.4
NJ2				XP	sP		12 21 36.3	+0.1
NJ2				PP	PP		12 23 27.3	+4.1
NJ2				S	**S**		**12 28 51.0**	**+2.3**
NJ2				AMB	AMB			
	comp=Z,70nm,1.0s,mb5.5							
NJ2				AMB	AMB			
	comp=Z,280nm,6.4s							
NJ2				LR	LR			
	comp=N,1μm,16.4s,MS5.1							
NJ2				LR	LR			
	comp=E,800nm,13.1s,MS5.1							
NJ2				LR	LR			
	comp=Z,430nm,20.2s							
ASAJ	**Asahikawa**	**52.97**	**349**	LR	LR		12 41 44.0	
	comp=Z,1μm,19.8s,MS4.9,baz=168,slow=34							
VLA	**Vladivostok**	**54.90**	**340**	*e*P	**P**	**P**	**12 21 42.2**	**0.0**
PPT	**Papeete**	**55.05**	**106**	*e*S	**S**	**S**	**12 29 25.4**	**+1.5**
	comp=Z,670nm,25.5s							
PPT				*e*LQ			12 35 28.3	
	comp=Z,915nm,22.8s							
PPT				*e*LR	LR	LR	12 37 45.2	
	comp=Z,1μm,23.5s							
PPT	**Papeete**	**55.05**	**106**	LR	LR	LR	12 39 11.0	
	comp=Z,779nm,19.6s,MS4.8,baz=165,slow=29							
KULM	**Kulim**	**55.46**	**282**	*e*P	**P**	**P**	**12 21 46.2**	**-0.1**
KULM				*ep*P	pP	P	12 21 54.8	-0.1
TBI	**Tubuai**	**55.60**	**113**	*e*S	**S**	**S**	**12 29 33.3**	**+2.0**
	comp=Z,453nm,28.0s							
TBI				*e*LQ			12 35 42.9	
	comp=Z,2μm,36.2s							
TBI				*e*LR	LR	LR	12 38 04.4	
	comp=Z,2μm,33.0s							
YSS	**Yuzh-Sakhalins**	**55.69**	**350**	*e*P	**P**	**P**	**12 21 47.1**	**-0.8**
YSS				S	**S**		**12 29 33.0**	**+0.5**
YSS				MLR	MLR			
	comp=Z,500nm,16.0s,MS4.7							
YSS				MLR	MLR			
	comp=N,500nm,17.0s,MS4.8							
YSS				MLR	MLR			
	comp=E,500nm,18.0s,MS4.8							
YSS	**Yuzh-Sakhalins**	**55.69**	**350**	*e*P	**P**	**P**	**12 21 47.3**	**-0.6**
	comp=E,34nm,0.8s,mb5.4							
DL2	**Dalian**	**55.82**	**329**	P	**P**	**P**	**12 21 49.3**	**+0.5**
DL2				S	**S**		**12 29 34.8**	**+0.6**
DL2				AMB	AMB			
	comp=Z,40nm,0.9s,mb5.5							
DL2				AMB	AMB			
	comp=Z,220nm,4.8s							
DL2				LR	LR			
	comp=N,320nm,19.3s,MS4.6							
DL2				LR	LR			
	comp=E,380nm,19.6s,MS4.6							
DL2				LR	LR			
	comp=Z,550nm,19.8s,MS

GYA SCP ScP 12 26 53.3 0.0
GYA S **S** **12 30 00.3 +0.2**
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.4
GYA AMB AMB
comp=Z,180nm,4.9s
GYA LR LR
comp=N,1μm,23.3s,MS5.0
GYA LR LR
comp=E,390nm,18.5s,MS5.0
GYA LR LR
comp=Z,480nm,18.1s,MS4.7
CN2 Changchun 57.93 335 ⇑P **P** **12 22 03.5 -0.3**
CN2 *e*AP pP 12 22 11.0 -1.4
CN2 *e*S **S** **12 30 01.8 -0.2**
CN2 AMB AMB
comp=Z,40nm,1.3s,mb5.3
CN2 AMB AMB
comp=Z,300nm,5.0s
CN2 LR LR
comp=N,400nm,12.0s,MS5.0
CN2 LR LR
comp=E,500nm,12.0s,MS5.0
CN2 LR LR
comp=Z,400nm,15.0s,MS4.7
HABR Khabarovsk 58.79 345 ⇑*i*P **P** **12 22 09.4 -0.4**
HABR *e*S **S** **12 30 14.8 +1.5**
HABR pmax pmax
comp=Z,65nm,1.4s,mb5.5
NST Nakhon Sawan 58.89 294 P **P** **12 22 11.0 +0.5**
DRV Dumont d'Urvil 59.47 187 PP PP 12 24 20.0 -5.9
DRV S **S** **12 30 29.0 +6.9**
DRV SS SS 12 34 19.0 +1.7
DRV R 12 41 00.0
BJT Baijiatuau 59.52 326 *e*P **P** **12 22 14.8 -0.1**
BJT pmax pmax
comp=Z,14nm,0.5s
BJT Baijiatuau 59.52 326 *e*P **P** **12 22 14.8 -0.1**
comp=Z,14nm,0.5s,mb5.2
BJI Beijing 59.53 326 P **P** **12 22 15.5 +0.6**
BJI S **S** **12 30 24.0 +1.1**
BJI SS SS 12 34 15.0 -3.3
BJI AMB AMB
comp=Z,21nm,1.2s,mb5.0
BJI LR LR
comp=N,284nm,17.4s,MS4.6
BJI LR LR
comp=E,234nm,17.4s,MS4.6
BJI LR LR
comp=Z,373nm,22.0s,MS4.5
BJI Beijing 59.53 326 P **P** **12 22 15.4 +0.5**
BJI S **S** **12 30 24.0 +1.1**
BJI SS SS 12 34 15.1 -3.2
BJI pmax pmax
comp=Z,21nm,1.2s,mb5.0
BJI MLR MLR
comp=Z,370nm,22.0s,MS4.5
BJI Beijing 59.53 326 P **P** **12 22 15.4 +0.5**
comp=Z,21nm,1.2s,mb5.0
BJI S **S** **12 30 24.0 +1.1**
BJI SS SS 12 34 15.1 -3.2
BJI LR LR
comp=Z,370nm,22.0s,MS4.5
KMI Kunming 60.29 305 ⇑P **P** **12 22 22.3 +2.2**
KMI AP pP 12 22 31.5 +2.7
KMI XP sP 12 22 34.5 +2.4
KMI PCP PcP 12 23 08.0 +2.8
KMI PP PP 12 24 38.8 +5.7
KMI S **S** **12 30 36.5 +3.9**
KMI SCS ScS 12 32 08.5 -0.3
KMI SS SS 12 34 34.5 +4.3
KMI AMB AMB
comp=Z,21nm,1.2s,mb5.0
KMI LR LR
comp=N,567nm,19.3s,MS4.8
KMI LR LR
comp=E,428nm,22.2s,MS4.8
KMI LR LR
comp=Z,620nm,20.6s,MS4.7
KMI Kunming 60.29 305 ⇑P **P** **12 22 22.3 +2.2**
KMI *PP pP 12 22 31.5 +2.7
KMI *SP sP 12 22 34.6 +2.5
KMI 12 23 08.1
KMI 12 24 38.8
KMI PPP 12 26 04.6
KMI S **S** **12 30 36.4 +3.8**
KMI *SS sS 12 30 47.1 +0.2
KMI PS 12 30 53.7
KMI 12 32 08.5
KMI SS SS 12 34 34.4 +4.2
KMI pmax pmax
comp=Z,21nm,1.2s,mb5.0
KMI MLR MLR
comp=Z,620nm,20.6s,MS4.7
KMI Kunming 60.29 305 ⇑P **P** **12 22 22.3 +2.2**
comp=Z,21nm,1.2s,mb5.0
KMI pP pP 12 22 31.5 +2.7
KMI sP sP 12 22 34.6 +2.5
KMI PcP PcP 12 23 08.1 +2.9
KMI PP PP 12 24 38.8 +5.7
KMI PPP 12 26 04.6
KMI S **S** **12 30 36.4 +3.8**
KMI sS sS 12 30 47.1 +0.2
KMI PS 12 30 53.7
KMI ScS ScS 12 32 08.5 -0.3
KMI SS SS 12 34 34.4 +4.2
KMI SSS 12 37 08.4
KMI LR LR
comp=Z,620nm,20.6s,MS4.7
KLR Kul'dur 60.39 343 ⇓*i*P **P** **12 22 17.3 -3.5**
KLR *e*S **S** **12 30 28.0 -5.8**
KLR pmax pmax
comp=E,34nm,1.6s
KLR pmax pmax
comp=Z,120nm,1.6s,mb5.7
PET Petropavlovsk 60.84 3 *e*P **P** **12 22 22.8 -1.1**
PET pmax pmax
comp=Z,29nm,0.8s,mb5.5
PET Petropavlovsk 60.84 3 *e*P **P** **12 22 22.8 -1.1**
comp=Z,29nm,0.8s,mb5.5
CHG Chiang Mai 61.03 297 ⇓P **P** **12 22 26.0 +0.8**
comp=Z,27nm,1.4s,mb5.2
CHTO Chiang Mai 61.03 297 *e*P **P** **12 22 26.3 +1.1**
CHTO pmax pmax
comp=Z,21nm,0.9s,mb5.3
CHTO Chiang Mai 61.03 297 *e*P **P** **12 22 26.3 +1.1**
comp=Z,21nm,0.9s,mb5.3
CD2 Chengdu 62.19 311 P **P** **12 22 34.8 +1.8**
CD2 AP pP 12 22 42.3 +0.6
CD2 XP sP 12 22 47.3 +2.3
CD2 PP PP 12 24 49.3 -0.7
CD2 S **S** **12 30 58.5 +1.7**
CD2 AMB AMB
comp=Z,30nm,1.0s,mb5.4
CD2 LR LR
comp=N,250nm,20.4s
CD2 LR LR
comp=Z,450nm,17.4s,MS4.7
HHC Hu-ho-hao-te 62.68 324 *e*P **P** **12 22 36.5 +0.2**
HHC AP pP 12 22 44.3 -0.7
HHC PCP PcP 12 23 14.3 -0.6
HHC PP PP 12 24 56.0 +1.8
HHC SCP ScP 12 27 14.5 -0.5
HHC PCS PcS 12 27 17.0 -1.2
HHC S **S** **12 31 03.0 +0.1**
HHC SCS ScS 12 32 23.8 -3.0
HHC AMB AMB
comp=Z,28nm,1.2s,mb5.3
HHC AMB AMB
comp=Z,303nm,6.1s
HHC LR LR
comp=N,409nm,17.8s,MS4.9
HHC LR LR
comp=E,605nm,18.6s,MS4.9
HHC LR LR
comp=Z,580nm,19.6s,MS4.8
BTO Baotou 63.43 323 *e*P **P** **12 22 41.5 +0.3**
TAOE Nuku Hiva Isla 64.42 96 *e*LR LR 12 42 05.3
comp=Z,1μm,21.9s
HIA Hailar 64.66 335 *e*P **P** **12 22 49.3 0.0**
HIA pmax pmax
comp=Z,41nm,1.1s
HIA Hailar 64.66 335 *e*P **P** **12 22 49.3 0.0**
comp=Z,41nm,1.1s,mb5.4

LZH Lanzhou 64.78 316 *e*P **P** **12 22 55.0 +4.9**
LZH AP pP 12 23 02.8 +4.0
LZH XP sP 12 23 06.3 +4.2
LZH PP PP 12 25 20.0 +7.3
LZH S **S** **12 31 30.5 +1.5**
LZH SS SS 12 35 43.3 +3.0
LZH AMB AMB
comp=Z,53nm,1.4s,mb5.4
LZH AMB AMB
comp=Z,174nm,6.2s
LZH LR LR
comp=E,637nm,15.5s
LZH LR LR
comp=Z,1μm,18.6s,MS5.1
LZH Lanzhou 64.78 316 *e*P **P** **12 22 55.0 +4.9**
LZH *SP sP 12 23 06.3 +4.2
LZH 12 25 20.0
LZH S **S** **12 31 30.4 +1.4**
LZH *SS sS 12 31 42.0 -1.4
LZH PS 12 31 54.1
LZH SS SS 12 35 43.2 +2.9
LZH pmax pmax
comp=Z,53nm,1.4s,mb5.4
LZH MLR MLR
comp=Z,1μm,18.6s,MS5.1
LZH Lanzhou 64.78 316 *e*P **P** **12 22 55.0 +4.9**
comp=Z,53nm,1.4s,mb5.4
LZH pP pP 12 23 02.8 +4.0
LZH sP sP 12 23 06.3 +4.2
LZH PP PP 12 25 20.0 +7.3
LZH S **S** **12 31 30.4 +1.4**
LZH sS sS 12 31 42.0 -1.4
LZH PS 12 31 54.1
LZH SS SS 12 35 43.2 +2.9
LZH LR LR
comp=Z,1μm,18.6s,MS5.1
MA2 Magadan 67.39 358 *e*P **P** **12 23 05.6 -1.3**
MA2 pmax pmax
comp=Z,35nm,0.9s,mb5.4
MA2 Magadan 67.39 358 *e*P **P** **12 23 05.6 -1.3**
comp=Z,35nm,0.9s,mb5.4
RKT Rikitea 68.89 112 *e*SS SS 12 36 43.7 -0.4
comp=Z,212nm,32.5s
RKT *e*LQ 12 41 17.4
comp=Z,789nm,40.5s
RKT *e*LR LR 12 44 12.3
comp=Z,972nm,26.0s
CLNS Chul'man 69.05 343 *e*P **P** **12 23 14.9 -2.4**
CLNS *e*PP pP 12 23 21.8 -4.3
CLNS *e* 12 23 41.3
CLNS *e*S S 12 32 11.8 -8.8
CLNS *e*SSS 12 39 43.3
CLNS pmax pmax
comp=N,24nm,1.0s
CLNS pmax pmax
comp=Z,51nm,1.0s,mb5.4
CLNS pmax pmax
comp=E,10.0nm,0.8s
CLNS pmax pmax
comp=N,8.0nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,0.9s
CLNS pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
CLNS smax
comp=E,181nm,10.8s
CLNS smax
comp=Z,164nm,12.7s
CLNS smax
comp=N,93nm,11.5s
CLNS MLR MLR
comp=Z,300nm,16.0s,MS4.6
CLNS MLR MLR
comp=N,100nm,13.0s,MS4.8
CLNS MLR MLR
comp=E,400nm,15.0s,MS4.8
GTA Gaotai 69.22 317 *e*P **P** **12 23 19.0 +0.7**
GTA AP pP 12 23 28.3 +1.1
GTA XP sP 12 23 31.0 +0.6
GTA PP PP 12 25 55.8 +4.4
GTA S S 12 32 23.3 +0.7
GTA XS sS 12 32 41.5 +4.4
GTA SS SS 12 36 53.8 +4.5
GTA AMB AMB
comp=Z,4.0nm,1.2s,mb4.2
GTA AMB AMB
comp=Z,161nm,5.3s
GTA LR LR
comp=N,260nm,19.1s,MS4.7
GTA LR LR
comp=E,384nm,19.1s,MS4.7
GTA LR LR
comp=Z,329nm,19.9s,MS4.6
CIT Chita 69.33 334 *e*P **P** **12 23 20.1 +1.1**
CIT pmax pmax
comp=Z,91nm,2.0s,mb5.4
SHL Shillong 69.50 301 *e*P **P** **12 23 20.5 +0.4**
VNDA Vanda 69.63 178 P **P** **12 23 20.9 0.0**
comp=Z,4.2nm,1.0s,mb4.3,baz=330,slow=7.2,SNR=10
VNDA LR LR 12 50 42.7
comp=Z,254nm,18.5s,MS4.5,baz=359,slow=33
ULN Ulaanbaatar 69.64 328 ⇑*i*P **P** **12 23 22.1 +1.2**
ULN Ulaanbaatar 69.64 328 *e*P **P** **12 23 21.8 +0.9**
comp=Z,76nm,1.3s,mb5.5
SONM Songino Array 69.97 328 P **P** **12 23 23.7 +0.7**
comp=Z,44nm,0.9s,mb5.4,baz=134,slow=5.7,SNR=15
SONM LR LR 12 49 52.6
comp=Z,501nm,21.8s,MS4.7,baz=60,slow=32
AKUT Akutan 70.24 23 *e*P **P** **12 23 23.2 -1.4**
comp=Z,277nm,1.6s,mb5.9
AKUT LR LR
comp=Z,800nm,22.0s,MS4.9
LSA Lhasa 71.55 305 P **P** **12 23 31.5 -1.1**
LSA Lhasa 71.55 305 *e*P **P** **12 23 34.3 +1.7**
LSA pmax pmax
comp=Z,55nm,1.1s,mb5.4
LSA Lhasa 71.55 305 *e*P **P** **12 23 34.3 +1.8**
comp=Z,55nm,1.1s,mb5.4
MIR Mirnyy 71.68 202 *e*P **P** **12 23 35.0 +1.7**
MIR pmax pmax
comp=Z,290nm,1.8s,mb5.9
YAK Yakutsk 72.43 348 *c i*P **P** **12 23 37.3 -0.5**
YAK *e*PP pP 12 23 47.4 +0.7
YAK *e* 12 23 54.5
YAK *e* 12 26 18.1
YAK *e*PPP 12 28 01.1
YAK *e*S S 12 33 00.0 +0.1
YAK *e* 12 33 40.4
YAK *e*SS SS 12 37 39.3 +0.8
YAK pmax pmax
comp=Z,58nm,1.2s,mb5.4
YAK pmax pmax
comp=N,11nm,1.3s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK smax
comp=E,124nm,9.2s
YAK smax
comp=N,115nm,11.0s
YAK MLR MLR
comp=Z,195nm,19.0s,MS4.4
YAK MLR MLR
comp=N,92nm,15.0s
YAK MLR MLR
comp=E,190nm,22.0s
YAK Yakutsk 72.43 348 *e*P **P** **12 23 36.9 -0.9**
comp=E,82nm,0.8s,mb5.7
ZAK Zakamensk 73.14 328 ⇑*i*P **P** **12 23 42.7 +0.6**
ZAK pmax pmax
comp=Z,57nm,1.8s,mb5.2
ZAK pmax pmax
comp=Z,14nm,1.8s,mb4.6
SDPT Sand Point 73.26 25 *e*P **P** **12 23 40.7 -2.1**
comp=Z,123nm,0.8s,mb5.9
SDPT LR LR
comp=Z,400nm,19.0s,MS4.7
TLY Talaya 73.73 330 *e*P **P** **12 23 46.1 +0.6**
TLY *e*S S 12 33 15.8 +1.2
TLY *e*SS SS 12 37 52.1 -6.2
TLY pmax pmax
comp=Z,21nm,1.1s,mb5.0

TLY Talaya 73.73 330 *e*P **P** **12 23 46.2 +0.7**
comp=Z,8.8nm,0.8s,mb4.7
IRK Irkutsk 73.75 330 *e*P **P** **12 23 45.2 -0.5**
IRK pmax pmax
comp=Z,51nm,1.6s,mb5.2
CHGN Chignik 74.76 25 *e*P **P** **12 23 49.5 -2.1**
JIRN Jiri 75.00 301 *e*P **P** **12 23 54.2 +1.3**
comp=Z,108nm,0.8s,mb5.8
MOY Mondy 75.06 329 *e*P **P** **12 23 53.9 +0.6**
MOY pmax pmax
comp=Z,42nm,1.3s,mb5.2
GUN Gumba 75.34 301 *e*P **P** **12 23 55.9 +1.0**
comp=Z,204nm,0.7s,mb6.1
PKI Pulchoki 75.64 301 *e*P **P** **12 23 57.6 +1.0**
comp=Z,142nm,1.1s,mb5.8
PKI Pulchoki 75.64 301 *e*P **P** **12 23 57.6 +1.0**
PKI pmax pmax
comp=Z,142nm,1.1s,mb5.8
KKN Kakani 75.81 301 *e*P **P** **12 23 58.5 +0.9**
comp=Z,103nm,0.8s,mb5.8
KKN Kakani 75.81 301 *e*P **P** **12 23 58.5 +0.9**
KKN pmax pmax
comp=Z,103nm,0.8s,mb5.8
DMN Daman 75.90 301 *e*P **P** **12 23 59.4 +1.3**
comp=Z,271nm,0.9s,mb6.2
BILL Bilibino 76.27 4 *c i*P **P** **12 23 59.4 -0.8**
BILL *e**PP pP 12 24 07.9 -1.2
BILL *e* 12 24 15.0
BILL pmax pmax
comp=Z,85nm,1.0s,mb5.6
BILL Bilibino 76.27 4 *e*P **P** **12 23 58.9 -1.3**
comp=Z,81nm,1.0s,mb5.6
GKN Gorkha 76.42 301 *e*P **P** **12 24 01.5 +0.5**
comp=Z,171nm,0.9s,mb6.0
KOLN Koldanda 77.23 301 *e*P **P** **12 24 05.7 +0.1**
comp=Z,98nm,0.9s,mb5.8
KDAK Kodiak Island 78.17 26 P **P** **12 24 10.6 -0.3**
comp=Z,455nm,0.8s,mb6.5,SNR=9.5
KDAK Kodiak Island 78.17 26 P **P** **12 24 10.7 -0.1**
comp=Z,14nm,0.6s,mb5.1,baz=211,slow=8.9,SNR=14
KDAK Kodiak Island 78.17 26 *e*P **P** **12 24 10.0 -0.9**
comp=Z,68nm,0.8s,mb5.6
SVW2 Sparrevohn 79.01 22 *e*P **P** **12 24 14.7 -0.8**
WMQ Urumqi 79.31 317 ⇑*i*P **P** **12 24 16.5 -0.6**
WMQ AP pP 12 24 24.8 -1.2
WMQ PCP PcP 12 24 25.3 +0.1
WMQ PP PP 12 27 18.0 +0.9
WMQ S S 12 34 14.8 -0.9
WMQ AMB AMB
comp=Z,13nm,0.5s,mb5.1
WMQ LR LR
comp=N,273nm,20.9s,MS4.6
WMQ LR LR
comp=E,174nm,23.5s,MS4.6
WMQ LR LR
comp=Z,266nm,22.8s,MS4.5
TTA Tatalina 80.04 21 *e*P **P** **12 24 20.2 -0.9**
LGTI Lohaghat 80.52 302 *e*P **P** **12 24 30.7 +7.1**
SLKM Skilak Lake 80.75 24 *e*P **P** **12 24 24.2 -0.7**
TIXI Tiksi 81.26 352 *e*P **P** **12 24 23.9 -3.7**
TIXI *e*S S 12 34 32.6 -3.6
TIXI *e*SS SS 12 39 49.2 -2.8
TIXI pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
TIXI smax
comp=N,332nm,21.3s
TIXI smax
comp=E,143nm,13.1s
TIXI MLR MLR
comp=Z,337nm,19.0s,MS4.7
TIXI Tiksi 81.26 352 *e*P **P** **12 24 24.9 -2.7**
PMR Palmer 81.80 24 *e*P **P** **12 24 28.9 -1.6**
PMR pmax pmax
comp=Z,85nm,0.9s,mb5.7
PMR MLR MLR
comp=Z,500nm,18.0s,MS4.9
PMR Palmer 81.80 24 *e*P **P** **12 24 28.9 -1.6**
comp=Z,85nm,0.9s,mb5.7
PMR LR LR
comp=Z,500nm,18.0s,MS4.9
QSPA South Pole Qui 82.02 180 *e*P **P** **12 24 30.9 -0.7**
comp=Z,19nm,1.0s,mb5.0
EYAK Cordova Ski Ar 82.64 25 *e*P **P** **12 24 34.4 -0.5**
NDI New Delhi 82.91 300 *e*P **P** **12 24 34.0 -2.3**
MK31 Makanchi Array 83.91 319 P **P** **12 24 41.9 +0.5**
MK31 pmax pmax
comp=Z,38nm,0.8s,mb5.6
MKAR Makanchi Array 83.91 319 P **P** **12 24 41.9 +0.5**
comp=Z,11nm,0.8s,mb5.1,baz=104,slow=5.2,SNR=89
COLA College 84.10 21 ⇑*i*P **P** **12 24 40.1 -2.3**
COLA College 84.10 21 *e*P **P** **12 24 40.3 -2.1**
comp=Z,61nm,0.8s,mb5.8
ILAR Eielson Array 84.39 22 P **P** **12 24 41.5 -2.3**
comp=Z,16nm,0.8s,mb5.2,baz=253,slow=5.1,SNR=133
MENT Mentasta 84.67 24 *e*P **P** **12 24 44.5 -0.7**
ZAL Zalesovo 84.80 326 P **P** **12 24 45.2 -0.8**
comp=Z,6.8nm,0.7s,mb4.9,baz=4.2,slow=6.2,SNR=44
ZAL LR LR 13 00 35.5
comp=Z,528nm,20.3s,MS4.9,baz=0.1,slow=34
ZAL Zalesovo 84.80 326 P **P** **12 24 45.2 -0.8**
ZAL LR LR 13 00 35.5
NVS Novosibirsk 85.97 327 *i* P **P** **12 24 50.0 -1.8**
NVS *e*S 12 35 12.0
NVS pmax pmax
comp=N,15nm,1.4s
NVS pmax pmax
comp=E,39nm,1.4s
NVS pmax pmax
comp=Z,38nm,1.4s,mb5.4
NVS smax
comp=N,28nm,1.9s
NVS smax
comp=E,35nm,1.9s
KSH Kashi 86.39 311 *e*P **P** **12 24 57.0 +3.2**
KSH *e*XP sP 12 25 08.5 +2.4
KSH *e*PP PP 12 28 22.0 +6.9
KSH *e*PPP 12 30 16.0
KSH *e*SKS 12 35 17.0
KSH *e*S 12 35 30.8
KSH *e*SS SS 12 41 12.5 +4.8
KSH LR LR
comp=N,180nm,5.5s
KSH LR LR
comp=E,191nm,4.3s
KSH LR LR
comp=Z,167nm,6.0s
SKAG Skagway 86.87 29 *e*P **P** **12 24 55.0 -1.2**
comp=Z,26nm,1.4s,mb5.3
SKAG LR LR
comp=Z,400nm,19.0s,MS4.8
DAWY Dawson 86.91 24 *e*P **P** **12 24 56.2 -0.1**
KURK Kurchatov 87.38 322 *e*P **P** **12 24 58.9 +0.2**
KURK pmax pmax
comp=Z,25nm,1.3s,mb5.3
KURK Kurchatov 87.38 322 *e*P **P** **12 24 58.9 +0.2**
comp=Z,25nm,1.3s,mb5.3
FRU Bishkek 88.13 314 *e*P **P** **12 25 08.0 +5.8**
FRU pmax pmax
comp=Z,80nm,2.1s,mb5.6
AAK Ala-Archa 88.17 313 *e*P **P** **12 25 02.5 +0.1**
AAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
AAK Ala-Archa 88.17 313 *e*P **P** **12 25 02.5 +0.1**
comp=Z,7.2nm,0.8s,mb5.0
DLBC Dease Lake 89.14 31 *e*P **P** **12 25 07.0 0.0**
HUMO Hull Mountain 89.76 47 *e*P **P** **12 25 10.2 +0.2**
comp=Z,15nm,1.3s,mb5.2
YBH Yreka Blue Hor 89.78 48 LR LR 12 56 55.9
comp=Z,438nm,21.1s,MS4.9,baz=254,slow=30
YBH Yreka Blue Hor 89.78 48 *e*P **P** **12 25 10.2 +0.2**
YBH pmax pmax
comp=Z,12nm,1.2s
YBH Yreka Blue Hor 89.78 48 *e*P **P** **12 25 10.2 +0.3**
comp=Z,12nm,1.2s,mb5.1
PTRM Twissleman Ran 90.65 54 *e*P **P** **12 25 16.1 +2.0**
PTRM *e*pP pP 12 25 23.0 -0.1
INK Inuvik 90.74 21 *e*P **P** **12 25 13.2 -1.3**
INK pmax pmax
comp=Z,38nm,1.4s
INK Inuvik 90.74 21 *e*P **P** **12 25 13.2 -1.2**
comp=Z,38nm,1.4s,mb5.5
CMB Columbia Colle 90.89 52 *e*P **P** **12 25 15.9 +0.7**
CMB pmax pmax
comp=Z,18nm,1.3s,mb5.2
CMB Columbia Colle 90.89 52 *e*P **P** **12 25 15.9 +0.7**
comp=Z,18nm,1.3s,mb5.2

KK31	**Karatay Array**	**91.13**	**313**	*i* P		**P**		**12 25 16.4**	**+0.1**
KKAR	**Karatay Array**	**91.13**	**313**	*i* P		**P**		**12 25 16.4**	**+0.1**
KKAR					pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.6								
SYO	**Syowa Base**	**91.31**	**199**	*e*P		**P**		**12 25 15.8**	**-1.3**
SYO	**Syowa Base**	**91.31**	**199**	*e*pP		pP		12 25 25.0	-1.2
SYO	**Syowa Base**	**91.31**	**199**	*e*sP		sP		12 25 27.6	-1.8
MTUM	**Tungsten Hills**	**92.22**	**53**	*e*P		**P**		**12 25 22.7**	**+1.4**
MTUM					epP	pP		12 25 31.3	+1.0
VOSK	**Vostochnaya**	**92.46**	**323**		P	**P**		**12 25 21.5**	**-0.9**
VOSK					pmax	pmax			
	comp=Z,7.0nm,1.1s,mb4.9								
NVAR	**Mina Array Bea**	**92.58**	**52**		P	**P**		**12 25 24.4**	**+1.4**
	comp=Z,11nm,1.0s,mb5.2,baz=247,slow=4.8,SNR=51								
MNV	**Mina**	**92.69**	**52**	*e*P		**P**		**12 25 24.1**	**+0.6**
MNV				e*PP		pP		12 25 31.8	-0.8
MNV					pmax	pmax			
	comp=Z,55nm,1.3s,mb5.8								
MNV	**Mina**	**92.69**	**52**	*e*P		**P**		**12 25 24.1**	**+0.5**
	comp=Z,55nm,1.3s,mb5.8								
MNV					epP	pP		12 25 31.8	-0.8
CHKZ	**Chkalovo**	**92.84**	**324**	*e*P		**P**		**12 25 22.7**	**-1.5**
CHKZ					pmax	pmax			
	comp=Z,9.0nm,0.8s,mb5.2								
CHKZ	**Chkalovo**	**92.84**	**324**	*e*P		**P**		**12 25 22.7**	**-1.5**
	comp=Z,9.3nm,0.8s,mb5.3								
DAC	**Darwin (Calif)**	**92.84**	**54**	*e*P		**P**		**12 25 24.7**	**+0.5**
DAC					pmax	pmax			
	comp=Z,22nm,1.0s,mb5.5								
DAC	**Darwin (Calif)**	**92.84**	**54**	*e*P		**P**		**12 25 24.7**	**+0.5**
	comp=Z,22nm,1.0s,mb5.5								
BVA0	**Borovoye Array**	**92.87**	**323**	*i* P		**P**		**12 25 22.7**	**-1.6**
BVA0					pmax	pmax			
	comp=Z,28nm,2.5s,mb5.2								
WVOR	**Wild Horse Val**	**92.89**	**48**	*e*P		**P**		**12 25 24.9**	**+0.5**
WVOR					pmax	pmax			
	comp=Z,10.0nm,0.9s,mb5.2								
WVOR	**Wild Horse Val**	**92.89**	**48**	*e*P		**P**		**12 25 24.9**	**+0.5**
	comp=Z,10nm,0.9s,mb5.3								
BRVK	**Borovoye**	**92.93**	**323**	*e*P		**P**		**12 25 22.7**	**-1.9**
BRVK					pmax	pmax			
	comp=Z,7.0nm,1.0s,mb5.0								
BRVK	**Borovoye**	**92.93**	**323**	*e*P		**P**		**12 25 22.7**	**-1.9**
	comp=Z,7.2nm,1.0s,mb5.1								
TPH	**Tonopah**	**93.37**	**52**	*e*P		**P**		**12 25 28.1**	**+1.5**
TPH					pmax	pmax			
	comp=Z,26nm,1.2s,mb5.5								
TPH	**Tonopah**	**93.37**	**52**	*e*P		**P**		**12 25 28.1**	**+1.5**
	comp=Z,26nm,1.2s,mb5.5								
BMN	**Battle Mountai**	**93.67**	**50**	*e*P		**P**		**12 25 28.7**	**+0.7**
BMN					pmax	pmax			
	comp=Z,30nm,1.1s,mb5.6								
BMN	**Battle Mountai**	**93.67**	**50**	*e*P		**P**		**12 25 28.6**	**+0.6**
	comp=Z,30nm,1.1s,mb5.6								
ZRNK	**Zerenda**	**93.68**	**323**	*e*P		**P**		**12 25 27.5**	**-0.6**
ZRNK					pmax	pmax			
	comp=Z,6.0nm,0.8s,mb5.1								
ZRNK	**Zerenda**	**93.68**	**323**	*e*P		**P**		**12 25 27.5**	**-0.6**
	comp=Z,6.1nm,0.8s,mb5.1								
TPNV	**Topopah Spring**	**94.00**	**53**	*e*P		**P**		**12 25 30.1**	**+0.6**
TPNV					pmax	pmax			
	comp=Z,15nm,0.9s,mb5.4								
TPNV	**Topopah Spring**	**94.00**	**53**	*e*P		**P**		**12 25 30.1**	**+0.5**
	comp=Z,15nm,0.9s,mb5.4								
ELK	**Elko**	**95.21**	**50**	*e*P		**P**		**12 25 36.0**	**+0.9**
ELK					pmax	pmax			
	comp=Z,25nm,1.4s								
ELK	**Elko**	**95.21**	**50**	*e*P		**P**		**12 25 36.0**	**+1.0**
	comp=Z,25nm,1.4s,mb5.5								
HLID	**Hailey**	**96.09**	**47**	*e*P		**P**		**12 25 41.0**	**+1.9**
	comp=Z,8.4nm,1.4s,mb5.0								
HVU	**Hansel Valley**	**97.15**	**49**	*e*P		**P**		**12 25 45.0**	**+1.1**
HVU					pmax	pmax			
	comp=Z,7.0nm,0.8s,mb5.1								
HVU	**Hansel Valley**	**97.15**	**49**	*e*P		**P**		**12 25 45.0**	**+1.1**
	comp=Z,6.7nm,0.8s,mb5.1								
MCMT	**McKenzie Canyo**	**97.31**	**46**		P	**P**		**12 25 44.1**	**-0.5**
YKA	**Yellowknife Ar**	**97.34**	**28**		P	**P**		**12 25 44.2**	**-0.5**
	comp=Z,3.8nm,0.8s,mb4.9,baz=269,slow=4.7,SNR=13								
YKA					LR	LR		13 04 36.3	
	comp=Z,369nm,20.7s,MS4.8,baz=295,slow=32								
YKA	**Yellowknife Ar**	**97.34**	**28**		P	**P**		**12 25 44.2**	**-0.5**
YKA					LR	LR		13 04 36.3	
MSU	**Marysvale**	**97.36**	**52**	*e*P		**P**		**12 25 46.8**	**+1.9**
TMUT	**Trail Mountain**	**98.17**	**51**	*e*P		**P**		**12 25 49.1**	**+0.7**
DAU	**Daniels Canyon**	**98.20**	**50**		P	**P**		**12 25 50.2**	**+1.6**
AB31	**Akbulak array**	**99.06**	**319**	*i* P		**P**		**12 25 57.4**	**+5.0**
AB31					pmax	pmax			
	comp=Z,1.0nm,0.6s,mb4.5								
PDAR	**Pinedale Array**	**99.59**	**48**		P	Pdif		12 25 54.9	0.0
	comp=Z,3.3nm,0.8s,baz=259,slow=2.4,SNR=11								
PDAR					PP	PP		12 29 56.5	-2.3
	comp=Z,0.7nm,1.0s,baz=275,slow=7.0,SNR=3.6								
PDAR					LR	LR		13 08 25.7	
	comp=Z,402nm,18.2s,MS5.0,baz=265,slow=34								
AKTK	**Aktyubinsk**	**100.32**	**320**		P	Pdif		12 25 57.8	-0.3
AKTO	**Aktyubinsk**	**100.32**	**320**		P	Pdif		12 25 57.8	-0.3
	comp=Z,0.7nm,0.6s,baz=84,slow=10,SNR=1.6								
SMCO	**Snowmass**	**101.45**	**52**	*e*Pdif		Pdif		12 26 05.0	+1.9
	comp=Z,3.8nm,1.2s								
KIV	**Kislovodsk**	**111.28**	**314**	*i* PKIKP		PKiKP		12 30 42.1	-3.2
KIV					pmax	pmax			
	comp=Z,7.0nm,0.8s								
AKASG	**Malin Array Be**	**118.13**	**324**		PKP	PKPdf		12 30 58.2	-0.2
	comp=Z,0.3nm,0.3s,baz=62,slow=2.6,SNR=3.5								
AKASG					PP	PP		12 32 18.9	+5.3
	comp=Z,1.1nm,0.6s,baz=60,slow=6.1,SNR=5.1								
BRTR	**Keskin Array B**	**118.77**	**311**		PKP	PKPdf		12 31 01.3	+1.6
	comp=Z,0.4nm,0.4s,baz=29,slow=6.6,SNR=2.8								
BRTR					PP	PP		12 32 20.1	+2.1
	comp=Z,2.1nm,1.0s,baz=107,slow=4.3,SNR=4.7								
BOSA	**Boshof**	**119.16**	**231**		PKP	PKPdf		12 31 02.0	+1.6
	comp=Z,1.7nm,0.8s,baz=50,slow=1.0,SNR=2.1								
KIS	**Kishinev**	**119.83**	**320**	*e*PKIKP		PKPdf		12 31 02.0	+0.3
NB2	**NORSAR Subarra**	**120.50**	**340**		PKPd	PKPdf		12 31 07.2	+4.2
	comp=Z,1.7nm,0.8s,baz=44,slow=1.9								
NOA	**NORSAR Array B**	**120.50**	**340**		PKP	PKPdf		12 31 02.7	-0.3
	comp=Z,0.4nm,0.5s,baz=60,slow=1.8,SNR=2.2								
NOA	**NORSAR Array B**	**120.50**	**340**		PKP	PKPdf		12 31 02.7	-0.3
MLR	**Muntele Rosu**	**122.25**	**320**		PKP	PKPdf		12 31 06.9	+0.5
	comp=Z,1.5nm,0.6s,baz=270,slow=12,SNR=3.0								
SSPA	**Standing Stone**	**123.20**	**46**	*e*PKPdf		PKPdf		12 31 08.3	+0.1
OKC	**Ostrava-Krasne**	**124.77**	**327**	*e*pPKP		pPKPdf		12 31 22.7	+2.2
OKC					AMS	AMS		13 30 30.0	
	comp=Z,400nm,21.3s								
DPC	**Dobruska-Polom**	**125.43**	**328**	*e*PKP		PKPdf		12 31 25.3	+13
DPC					AMS	AMS		13 23 10.0	
	comp=Z,400nm,21.3s								
UPC	**Upice**	**125.50**	**329**	*e*pPKP		pPKPdf		12 31 23.6	+1.7
BSEG	**Bad Segeberg**	**125.94**	**335**	*e*SP				12 44 35.8	
PVCC	**Panska Ves**	**126.22**	**330**	*e*PKIKP		PKPdf		12 31 20.5	+6.5
PVCC					MLR	MLR			
	comp=Z,800nm,18.0s,MS5.4								
GRUS	**Gruza**	**126.31**	**320**	*i* P		PKPdf		12 31 15.5	+1.4
TREC	**Trest**	**126.49**	**328**		AMS	AMS		13 27 00.0	
	comp=Z,500nm,18.9s								
CLL	**Collm**	**126.50**	**331**	*e*pPKPdf		pPKPdf		12 31 22.0	-1.8
	comp=Z,7.0nm,0.9s								
CLL	**Collm**	**126.50**	**331**	*e*PKIKP		PKPdf		12 31 18.0	+3.5
PRU	**Pruhonice**	**126.57**	**329**		AMS	AMS		13 28 00.0	
	comp=Z,300nm,17.7s								
DIVS	**Divcibare**	**126.67**	**320**	*i* P		PKPdf		12 31 15.7	+0.9
CLZ	**Clausthal**	**127.37**	**333**	*e*SP				12 44 51.5	
NKC	**Novy Kostel**	**127.46**	**330**	*e*PKP		PKPdf		12 31 20.8	+4.5
NKC					AMS	AMS		13 26 20.0	
	comp=Z,400nm,20.1s								
KHC	**Kasperske Hory**	**127.59**	**329**	*e*PKP		PKPdf		12 31 22.5	+5.9
KHC					AMS	AMS		13 30 30.0	
	comp=Z,400nm,22.1s								
KHC	**Kasperske Hory**	**127.59**	**329**	*e*PKP		PKPdf		12 31 15.6	-1.0
KHC				*e*PKP		PKPdf		12 31 22.5	+5.9
KHC					LR	LR			
	comp=Z,400nm,22.1s,MS5.0								
GERES	**GERESS Array B**	**127.70**	**328**		PKP	PKPdf		12 31 17.0	+0.2
	comp=Z,1.0nm,0.7s,baz=64,slow=3.1,SNR=3.7								
MANZ	**Manzenberg**	**127.79**	**330**	*e*SP				12 44 52.7	
ROTZ	**Rotzenmuhle**	**127.88**	**330**	*e*SP				12 44 51.6	
WET	**Wettzell**	**127.94**	**329**	*e*SP				12 44 57.4	
GRF	**Grafenberg Arr**	**128.41**	**330**	*e*SP				12 44 59.6	
BUG	**Bochum--Univer**	**129.02**	**334**	*e*SP				12 45 11.9	
TNS	**Taunus Mts**	**129.37**	**332**	*e*SP				12 45 09.2	
EKA	**Eskdalemuir Ar**	**129.57**	**344**		PKP	PKPdf		12 31 21.1	+0.8
	comp=Z,1.6nm,0.9s,baz=43,slow=26,SNR=2.9								
MOTA	**Moosalm**	**130.00**	**328**	*i* P		PKPdf		12 31 26.9	+5.7
	comp=Z,12nm,1.5s								
BFO	**Black Forest**	**130.74**	**331**	*e*SP				12 45 09.4	
WLF	**Walferdange**	**130.80**	**333**	*e*SP				12 45 17.5	
LPAZ	**La Paz**	**131.27**	**120**		PKP	PKPdf		12 31 26.9	+3.3
	comp=Z,1.0nm,0.9s,baz=288,slow=5.1,SNR=5.1								
LPAZ	**La Paz**	**131.27**	**120**	*e*PKPdf		PKPdf		12 31 25.6	+2.0
LPG	**La Plagne**	**133.48**	**329**	*e*PKIKP		PKPdf		12 31 28.7	+1.0
	comp=Z,12nm,0.8s								
CPUP	**Villa Florida**	**133.88**	**139**		PKP	PKPdf		12 31 31.1	+2.6
	comp=Z,0.4nm,0.4s,baz=256,slow=1.1,SNR=2.1								
SSF	**Saint Sauige**	**133.92**	**333**	*e*PKIKP		PKPdf		12 31 29.4	+0.8
	comp=Z,11nm,0.9s								
PGF	**Pioggiola**	**134.20**	**324**	*e*PKIKP		PKPdf		12 31 29.4	+0.3
	comp=Z,48nm,1.2s								
FLN	**La Foliniere**	**134.26**	**337**	*e*PKIKP		PKPdf		12 31 29.9	+0.7
FLN					eR				
	comp=Z,343nm,20.2s								
FLN	**La Foliniere**	**134.26**	**337**	*e*PKPdf		PKPdf		12 31 29.9	+0.7
FLN					LR	LR			
	comp=Z,340nm,20.3s,MS5.1								
ORIF	**Oris-en-Rattie**	**134.32**	**329**	*e*PKIKP		PKPdf		12 31 30.1	+0.8
	comp=Z,5.3nm,0.6s								
ORIF					eR				
	comp=Z,567nm,23.0s								
VIVF	**Saint-Julien-l**	**134.97**	**330**	*e*PKIKP		PKPdf		12 31 31.5	+1.0
TCF	**Toulx Ste Croi**	**135.09**	**333**	*e*PKIKP		PKPdf		12 31 31.9	+1.2
SDV	**Santo Domingo**	**135.20**	**85**	*e*PKPdf		PKPdf		12 31 32.5	+1.5
SGMF	**Saint Gilles**	**135.46**	**338**	*e*PKIKP		PKPdf		12 31 31.9	+0.5
	comp=Z,49nm,1.1s								
ROSF	**Rostrenen**	**135.65**	**339**	*e*PKIKP		PKPdf		12 31 32.2	+0.4
SJPF	**Ste Jean**	**139.09**	**333**	*e*PKIKP		PKPdf		12 31 39.0	+0.8
	comp=Z,11nm,0.8s								
EMOS	**Mosqueruela**	**140.85**	**329**		PKP	PKPdf		12 31 43.5	+2.2
ESDC	**Sonseca Array**	**143.07**	**332**		PKP	PKPdf		12 31 45.6	+0.3
	comp=Z,0.2nm,0.4s,baz=48,slow=1.9,SNR=2.9								
ESDC	**Sonseca Array**	**143.07**	**332**		PKP	PKPdf		12 31 48.0	+2.7
PVIS	**Viseu**	**143.87**	**337**	*e*PKPdf		PKPdf		12 31 50.2	+3.5
MTE	**Manteigas**	**144.01**	**337**	*e*PKPdf		PKPdf		12 31 48.4	+1.4
MTE	**Manteigas**	**144.01**	**337**	*e*LR		LR		13 21 10.1	
	comp=Z,336nm,12.1s								
EQES	**Quesada**	**144.10**	**329**		PKP	PKPdf		12 31 47.2	0.0
ENIJ	**Nijar**	**144.28**	**327**		PKIKP	PKPdf		12 31 47.1	-0.3
PCBR	**Castelo Branco**	**144.46**	**336**	*e*PKPdf		PKPdf		12 31 47.3	-0.4
PCBR	**Castelo Branco**	**144.46**	**336**	*e*PKPab		PKPdf		12 31 54.2	+6.5
EADA	**Adamuz**	**144.56**	**331**		PKP	PKPdf		12 31 48.4	+0.5
EBER	**Berja**	**144.70**	**328**		PKP	PKPdf		12 31 49.2	+1.0
ECOG	**Cogollos-Vega**	**144.76**	**329**		PKIKP	PKPdf		12 31 47.7	-0.6
ELUQ	**Luque**	**144.89**	**330**		PKIKP	PKPdf		12 31 49.0	+0.5
ERON	**Agron**	**145.08**	**329**		PKP	PKPdf		12 31 49.2	+0.3
EGUA	**Guajares**	**145.10**	**329**		PKIKP	PKPdf		12 31 48.4	-0.4
ELOJ	**Sierra Loja**	**145.16**	**330**		PKIKP	PKPdf		12 31 48.2	-0.7
EBAD	**Badajoz**	**145.18**	**334**		PKP	PKPdf		12 31 50.0	+1.0
EMIN	**Mina Concepcio**	**145.85**	**333**		PKP	PKPdf		12 31 50.9	+0.8
EMIJ	**Mijas**	**145.92**	**330**		PKP	PKPdf		12 31 49.1	-1.2
MOE	**Montemor**	**145.94**	**336**	*e*PKPdf		PKPdf		12 31 52.1	+1.8
PBEJ	**Beja**	**146.16**	**335**	*e*PKPdf		PKPdf		12 31 54.0	+3.3
PBEJ	**Beja**	**146.16**	**335**	*e*PKPab		PKPab		12 32 00.9	+8.6
ESPR	**Espera**	**146.21**	**331**		PKP	PKPdf		12 31 50.9	+0.1
EJIF	**Jimena Fronter**	**146.35**	**330**		PKIKP	PKPdf		12 31 50.5	-0.5
EGRO	**El Granado**	**146.41**	**334**		PKP	PKPdf		12 31 51.2	+0.1
PTEO	**Sao Teotonio**	**146.92**	**335**	*e*PKPdf		PKPdf		12 31 51.0	-0.9
PTEO	**Sao Teotonio**	**146.92**	**335**	*e*PKPbc		PKPbc		12 31 56.7	+2.8
PTEO	**Sao Teotonio**	**146.92**	**335**	*e*PKPab		PKPab		12 32 02.2	+6.9
BDFB	**Brasilia**	**147.52**	**136**		PKPbc	PKPbc		12 31 56.0	+0.5
	comp=Z,9.1nm,0.9s,baz=213,slow=4.7,SNR=5.1								
TORD	**Torodi Ar. Bea**	**152.94**	**283**		PKPbc	PKPbc		12 32 09.6	+0.9
	comp=Z,6.8nm,0.8s,baz=58,slow=1.9,SNR=32								
DBIC	**Dimbokro**	**159.65**	**268**		PKPab	PKPab		12 32 49.9	+1.2
	comp=Z,12nm,1.1s,baz=94,slow=9.1,SNR=3.4								

*NAO **29** 12:25:17.0±3.0, 6071N×2934E, ML2.1*
*ISCJB **29** 12:25:23.5±0.9, 6099N±004×2898E±009, h0km, Error ellipse: s-maj=7.1km s-min=4.6km az=78.7*
*HEL **29** 12:25:24.7±0.3, 6096N×2906E, h0km, ML1.6, ML2.1(NAO), Explosion*
*IDC **29** 12:25:26.9±1.8, 6089N×2884E, h0km, mb1 3.2/3, mb1mx3.0/21, mbtmp3.2/3, ML2.9/3, Error ellipse: s-maj=17.4km s-min=12.4km az=177.0*
*BER **29** 12:25:26.2±1.3, 6087N×2886E, h0km, ML2.1(NAO), Suspected explosion*

ISC 29 12:25:24.7±0.8**, 6099N**±004×**2893E**±009**, h0**km**, n18,** σ0**86/24, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.81**	**237**	*e*P		**Pg**	**12 25 40.0**	**-0.2**
VJF				*e*S		**Sg**	**12 25 51.4**	**+0.7**
FIA0	**FINESS Array S**	**1.45**	**289**	*e*P		**Pn**	**12 25 51.4**	**-0.7**
FIA0				*e*S		**Sg**	**12 26 10.9**	**-0.4**
FIA0	**FINESS Array S**	**1.45**	**289**	Pn		**Pn**	**12 25 51.6**	**-0.5**
	baz=110,slow=18							
FIA0				Lg			12 26 12.5	
	baz=109,slow=37							
FIA0				Rg			12 26 19.7	
	baz=116,slow=37							
FINES	**FINESS Array B**	**1.45**	**289**	Pg		**Pg**	**12 25 51.6**	**-0.9**
	2.5nm,0.3s,baz=114,slow=16,SNR=63							
FINES				Lg			12 26 12.5	
	3.0nm,0.3s,baz=108,slow=30,SNR=25							
FINES				Rg			12 26 20.3	
	24nm,0.7s,baz=118,slow=39,SNR=38							
PVF	**Pernaja**	**1.57**	**255**	*e*P		**Pn**	**12 25 53.1**	**-0.6**
PVF				*e*S		**Sn**	**12 26 14.1**	**-0.7**
KAF	**Kangasniemi**	**1.69**	**313**	*e*P		**Pn**	**12 25 55.2**	**-0.2**
KAF				*e*S		**Sn**	**12 26 17.6**	**0.0**
SUIF	**Sumiainen**	**2.18**	**324**	*e*PB		**Pb**	**12 26 04.2**	**-0.7**
SUIF				*e*SG		**Sg**	**12 26 34.5**	**-0.1**
SUIF				MSG			12 26 35.3	
	comp=Z,2.2nm,0.1s							
JOF	**Joensuu**	**2.24**	**29**	*e*P		**Pn**	**12 26 02.5**	**-0.5**
JOF				*e*S		**Sn**	**12 26 30.3**	**-1.0**
KEF	**Keuruu**	**2.27**	**303**	*e*P		**Pn**	**12 26 05.3**	**+1.9**
KEF				*e*SB		**Sb**	**12 26 35.6**	**+0.5**
KEF				MSG			12 26 38.6	
	comp=Z,1.6nm,0.1s							
MEF	**Metsahovi**	**2.37**	**253**	*e*P		**Pn**	**12 26 05.6**	**+0.9**
KJN	**Kajaani**	**3.16**	**350**	*e*P		**Pn**	**12 26 16.8**	**+1.2**
KJN				*e*S		**Sn**	**12 26 54.7**	**+0.7**
VAF	**Ylistaro**	**3.59**	**308**	*e*PG		**Pg**	**12 26 30.8**	**-2.8**
VAF				*e*SB		**Sb**	**12 27 13.8**	**+0.5**
VAF				MSG			12 27 23.7	
	comp=Z,0.9nm,0.2s							
HFS	**Hagfors**	**7.56**	**270**	Lg			12 29 18.1	
	baz=78,slow=28							
HFS	**Hagfors**	**7.56**	**270**	*e*SG			12 29 18.1	
HFS	**Hagfors**	**7.56**	**270**	Lg			12 29 18.1	
	baz=78,slow=28							
HFS	**Hagfors**	**7.56**	**270**	Pn		**Pn**	**12 27 16.3**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=78,slow=14,SNR=5.7							
NOA	**NORSAR Array B**	**8.60**	**278**	Pn		**Pn**	**12 27 30.1**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=214,slow=23,SNR=2.2							
ARCES	**ARCESS Array B**	**8.70**	**352**	Pn		**Pn**	**12 27 33.0**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=174,slow=12,SNR=10							

*IDC **29** 12:27:18.8±1.4, 4884N×15659E, h0km, mb4.2/9, mb1 4.3/11, mb1mx4.1/24, mbtmp4.2/11, ML4.2/2, Error ellipse: s-maj=46.3km s-min=21.0km az=95.0*
*MOS **29** 12:27:20.5±1.3, 4889N×15627E, h18km, mb4.7/7, Error ellipse: s-maj=14.8km s-min=7.0km az=83.5*
*KRSC **29** 12:27:20.4±0.6, 4857N×15693E, h39km±9km, ML4.4*
*ISCJB **29** 12:27:22.7±0.9, 4882N±006×1565E±01, h40km±7km, mb4.5/18, Error ellipse: s-maj=14.3km s-min=6.3km az=71.9*
*BJI **29** 12:27:22.4, 4920N×15633E, h41km, mB4.7, mb4.5*
*NEIC **29** 12:27:25.0±1.7, 4886N×15634E, h41km±13km, mb4.7/10, Error ellipse: s-maj=22.4km s-min=10.6km az=119.0*

ISC 29 12:27:25.1±0.8**, 4884N**±006×**1564E**±01**, h43**km±7km**, n84,** σ1§**10/98, mb4.5/18, 1C, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.86**	**354**	*e*PN		**Pn**	**12 27 50.0**	**-4.4**
SKR				*i* S		**Sn**	**12 28 13.8**	**-2.9**
SKR				pmax		pmax		
	comp=N,60nm,0.6s							
SKR				pmax		pmax		
	comp=E,70nm,0.6s							
SKR				pmax		pmax		
	comp=Z,180nm,0.6s							
SKR				smax				
	comp=N,1μm,0.8s							
SKR				smax				
	comp=E,460nm,0.5s							
ALID	**Alaid**	**2.11**	**345**		P	**Pn**	**12 27 58.8**	**+0.9**
PAU	**Pauzhetka**	**2.64**	**5**	*e*P		**Pn**	**12 28 05.3**	**+0.1**
PAU				*e*S		**Sn**	**12 28 37.3**	**+1.3**
PAU				Smax				
	comp=E,820nm,0.9s							
MIPR	**Malaya Ipel'ka**	**3.45**	**3**	*e*P		**Pn**	**12 28 16.3**	**0.0**
RUS	**Russkaya**	**3.84**	**20**		P	**Pn**	**12 28 20.3**	**-1.3**
RUS					S	**Sn**	**12 29 03.3**	**-2.2**
RUS	**Russkaya**	**3.84**	**20**	*e*P		**Pn**	**12 28 20.3**	**-1.3**
RUS				*e*S		**Sn**	**12 29 03.4**	**-2.1**
GRL	**Gorelyy**	**3.86**	**15**	*e*P		**Pn**	**12 28 22.0**	**0.0**
GRL				*e*S		**Sn**	**12 29 07.6**	**+1.5**
APC	**Apacha**	**4.12**	**6**	*i* P		**Pn**	**12 28 26.7**	**+1.2**
APC				Smax				
	comp=E,70nm,0.8s							
KRMR	**Karymshinskiy**	**4.14**	**15**	*i* P		**Pn**	**12 28 26.4**	**+0.6**
PET	**Petropavlovsk**	**4.42**	**18**		P	**Pn**	**12 28 29.3**	**-0.4**
PET					S	**Sn**	**12 29 19.0**	**-0.9**
PET	**Petropavlovsk**	**4.42**	**18**↑	*e*Pn		**Pn**	**12 28 28.8**	**-0.8**
PET	**Petropavlovsk**	**4.42**	**18**	*i* P		**Pn**	**12 28 29.4**	**-0.3**
PET				*e*S		**Sn**	**12 29 20.2**	**+0.3**
UGLR	**Uglovaya**	**4.63**	**18**	*i* P		**Pn**	**12 28 32.8**	**+0.2**
AVH	**Avacha**	**4.67**	**17**	*e*P		**Pn**	**12 28 33.7**	**+0.7**
KOK	**Koryaka**	**4.67**	**17**	*i* P		**Pn**	**12 28 34.1**	**+1.0**
SMAR	**Somma**	**4.68**	**18**	*e*P		**Pn**	**12 28 33.3**	**+0.1**
SDLR	**Sedlovina**	**4.71**	**18**	*i* P		**Pn**	**12 28 33.3**	**-0.3**
SDLR				*e*S		**Sn**	**12 29 26.7**	**-0.2**
NLC	**Nalytchevo**	**4.71**	**22**	*e*P		**Pn**	**12 28 31.8**	**-1.9**
NLC				*e*S		**Sn**	**12 29 23.6**	**-3.5**
SPN	**Mys Shipunski**	**4.83**	**27**		P	**Pn**	**12 28 34.4**	**-0.9**
SPN					S	**Sn**	**12 29 27.7**	**-2.3**
SPN	**Mys Shipunski**	**4.83**	**27**	*e*P		**Pn**	**12 28 34.4**	**-0.9**
SPN				*e*S		**Sn**	**12 29 28.0**	**-2.0**
GNL	**Ganaly**	**4.96**	**11**	*i* P		**Pn**	**12 28 38.0**	**+1.0**
MKZ	**Mys Kozlova**	**6.61**	**28**		P	**Pn**	**12 28 57.9**	**-1.8**
MKZ					S	**Sn**	**12 30 09.1**	**-4.6**
MKZ	**Mys Kozlova**	**6.61**	**28**	*e*P		**Pn**	**12 28 58.0**	**-1.7**
MKZ				*e*S		**Sn**	**12 30 09.7**	**-4.0**
TUMR	**Tumrok**	**6.85**	**18**	*i* P		**Pn**	**12 29 03.7**	**+0.7**
ESO	**Esso**	**7.23**	**10**	*e*P		**Pn**	**12 29 08.9**	**+0.6**
KMNR	**Kamenistaya**	**7.31**	**17**	*e*P		**Pn**	**12 29 09.7**	**+0.4**
KPT	**Kopyto**	**7.51**	**17**	*e*P		**Pn**	**12 29 12.5**	**+0.5**
KOZ	**Kozyrevsk**	**7.53**	**15**		P	**Pn**	**12 29 13.2**	**+0.9**

h86km±1.4km**:pP-P,n126,**σ0**88**/135**,mb4.5**/55**,7C,Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**0.41**	**223**	P	**Pn**	**12 27 52.5**	**-0.3**
FALS				S	**Sn**	**12 28 03.2**	**+0.3**
SDPT	**Sand Point**	**1.42**	**81**	P	**Pn**	**12 28 03.4**	**-0.3**
SDPT				S	**Sn**	**12 28 20.9**	**-1.4**
AKA	**Akutan**	**1.94**	**239**	P	**Pn**	**12 28 10.7**	**+0.3**
AKA				S	**Sn**	**12 28 34.2**	**0.0**
AKUT	**Akutan**	**1.94**	**239**	P	**Pn**	**12 28 10.5**	**+0.1**
AKUT				S	**Sn**	**12 28 34.1**	**0.0**
AKLV	**Akutan Long Va**	**2.02**	**242**	P	**Pn**	**12 28 11.5**	**0.0**
AKLV				S	**Sn**	**12 28 37.7**	**+1.7**
UNV	**Unalaska Valle**	**2.46**	**239**	P	**Pn**	**12 28 16.9**	**-0.4**
UNV				S	**Sn**	**12 28 45.3**	**-1.3**
CHGN	**Chignik**	**2.81**	**64**	P	**Pn**	**12 28 23.1**	**+1.2**
OKCD	**Okmok Cone D**	**3.49**	**242**	P	**Pn**	**12 28 32.1**	**+0.9**
OKCE	**Okmok Cone E**	**3.52**	**243**	P	**Pn**	**12 28 31.6**	**0.0**
SPIA	**Saint Paul Isl**	**4.56**	**299**	P	**Pn**	**12 28 50.5**	**+4.7**
KDAK	**Kodiak Island**	**6.31**	**61**	P	**Pn**	**12 29 08.9**	**-0.7**
	9.7nm,0.3s,baz=241,slow=6.1,SNR=90						
KDAK				S	**Sn**	**12 30 16.5**	**-3.8**
	5.0nm,0.3s,baz=328,slow=21,SNR=5.4						
KDAK	**Kodiak Island**	**6.31**	**61**	P	**Pn**	**12 29 09.1**	**-0.6**
SVW2	**Sparrevohn**	**7.12**	**30**	P	**Pn**	**12 29 23.6**	**+3.1**
ATKA	**Atka Island**	**7.31**	**251**	P	**Pn**	**12 29 23.1**	**-0.1**
TT01	**Tatalina**	**8.55**	**22**	P	**Pn**	**12 29 44.3**	**+4.2**
TTA	**Tatalina**	**8.57**	**22**	*eP*	**Pn**	**12 29 43.9**	**+3.5**
SLKM	**Skilak Lake**	**8.64**	**46**	P	**Pn**	**12 29 42.5**	**+1.1**
SEW	**Seward**	**8.77**	**50**	P	**Pn**	**12 29 43.7**	**+0.6**
RC01	**Rabbit Creek A**	**9.16**	**44**	P	**Pn**	**12 29 49.7**	**+1.2**
PMR	**Palmer**	**9.69**	**43**	P	**Pn**	**12 29 57.7**	**+2.0**
MID	**Middleton Isla**	**9.94**	**58**	*eP*	**Pn**	**12 29 59.0**	**-0.1**
EYAK	**Cordova Ski Ar**	**10.62**	**52**	*eP*n	**Pn**	**12 30 06.8**	**-1.5**
COLA	**College**	**12.29**	**31**	*eP*	**Pn**	**12 30 31.6**	**+0.7**
ILAR	**Eielson Array**	**12.51**	**33**	P	**Pn**	**12 30 33.2**	**-0.7**
	0.5nm,0.3s,baz=227,slow=12,SNR=23						
ILAR				ScP	ScP	12 39 30.5	-0.9
	0.1nm,0.3s,baz=272,slow=3.2,SNR=14						
MENT	**Mentasta**	**12.55**	**44**	*eP*	**Pn**	**12 30 35.0**	**+0.5**
DAWY	**Dawson**	**14.80**	**43**	*e*Pn	**Pn**	**12 31 03.8**	**0.0**
SKAG	**Skagway**	**15.47**	**63**	*eP*	**Pn**	**12 31 12.6**	**+0.3**
	4.5nm,0.7s						
DLBC	**Dease Lake**	**18.21**	**66**	P	**Pn**	**12 31 46.4**	**+0.2**
	0.3nm,0.3s,baz=285,slow=12,SNR=5.6						
DLBC	**Dease Lake**	**18.21**	**66**	*eP*	**Pn**	**12 31 47.2**	**+1.0**
INK	**Inuvik**	**18.91**	**34**	P	**Pn**	**12 31 52.0**	**-2.4**
	1.1nm,0.3s,baz=228,slow=15,SNR=55						
INK	**Inuvik**	**18.91**	**34**	*eP*	**Pn**	**12 31 51.7**	**-2.7**
INK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
INK	**Inuvik**	**18.91**	**34**	*eP*	**Pn**	**12 31 51.7**	**-2.7**
	comp=Z,7.1nm,0.7s						
BILL	**Bilibino**	**19.23**	**324**	*c iP*	**Pn**	**12 31 58.7**	**+0.5**
BILL				*e*S	**S**	**12 35 35.8**	**+6.2**
BILL				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BILL				MLR	MLR		
	comp=Z,300nm,19.0s						
BILL	**Bilibino**	**19.23**	**324**	*eP*	**Pn**	**12 31 53.6**	**-4.7**
	comp=Z,10nm,0.4s						
YKA	**Yellowknife Ar**	**25.52**	**54**	P	**P**	**12 32 59.5**	**-0.1**
	comp=Z,6.2nm,0.8s,mb4.1,baz=274,slow=8.8,SNR=23						
YKA	**Yellowknife Ar**	**25.52**	**54**	P	**P**	**12 32 59.5**	**-0.1**
NEW	**Newport**	**28.77**	**85**	P	**P**	**12 33 29.4**	**+0.8**
	comp=Z,3.3nm,0.9s,mb4.0,baz=316,slow=12,SNR=3.3						
YBH	**Yreka Blue Hor**	**29.42**	**100**	P	**P**	**12 33 35.6**	**+1.2**
	comp=Z,6.6nm,1.0s,mb4.2,baz=259,slow=1.7,SNR=6.5						
WVOR	**Wild Horse Val**	**31.28**	**95**	*eP*	**P**	**12 33 51.2**	**+0.4**
WVOR				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
WVOR	**Wild Horse Val**	**31.28**	**95**	*eP*	**P**	**12 33 51.2**	**+0.4**
	comp=Z,6.6nm,1.1s,mb4.3						
WVOR				*ep*P	pP	12 34 10.4	-0.3
RES	**Resolute Bay**	**32.17**	**28**	*eP*	**P**	**12 33 58.5**	**-0.1**
RES				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
RES	**Resolute Bay**	**32.17**	**28**	*eP*	**P**	**12 33 58.5**	**-0.1**
	comp=Z,1.8nm,0.6s,mb4.0						
TIXI	**Tiksi**	**32.41**	**327**	*eP*	**P**	**12 34 00.9**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.6						
MCMT	**McKenzie Canyo**	**33.13**	**87**	*eP*	**P**	**12 34 07.3**	**+0.2**
MCMT				*ep*P	pP	12 34 26.4	-0.6
NVAR	**Mina Array Bea**	**34.14**	**101**	P	**P**	**12 34 16.3**	**+0.5**
	comp=Z,4.9nm,0.9s,mb4.3,baz=300,slow=8.6,SNR=15						
NVAR				pP	pP	12 34 35.9	+0.1
	comp=Z,3.3nm,0.6s,baz=308,slow=7.8,SNR=7.8						
NVAR				ScP	ScP	12 40 26.7	-1.5
	comp=Z,0.9nm,0.9s,baz=298,slow=2.3,SNR=3.8						
YAK	**Yakutsk**	**34.29**	**309**	*eP*	**P**	**12 34 17.1**	**+0.1**
YAK				*e*		12 35 34.3	
YAK				*e*		12 36 50.5	
YAK				*e*S	**S**	**12 39 36.3**	**-1.6**
YAK				*e*SS	SS	12 41 55.5	-14
YAK				*e*		12 44 28.2	
YAK				pmax	pmax		
	comp=N,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.8						
YAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
YAK				pmax	pmax		
	comp=N,3.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.6s						
YAK				smax			
	comp=N,4.0nm,1.8s						
YAK				smax			
	comp=E,2.0nm,1.2s						
YAK	**Yakutsk**	**34.29**	**309**	*eP*	**P**	**12 34 16.8**	**-0.3**
	comp=E,21nm,0.8s,mb5.0						
ELK	**Elko**	**34.32**	**95**	*eP*	**P**	**12 34 17.3**	**0.0**
ELK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
ELK	**Elko**	**34.32**	**95**	*eP*	**P**	**12 34 17.3**	**0.0**
	comp=Z,6.1nm,1.3s,mb4.3						
ELK				*ep*P	pP	12 34 36.9	-0.5
DAC	**Darwin (Calif)**	**36.06**	**102**	*eP*	**P**	**12 34 31.8**	**-0.5**
DAC				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
DAC	**Darwin (Calif)**	**36.06**	**102**	*eP*	**P**	**12 34 31.8**	**-0.4**
	comp=Z,6.3nm,1.2s,mb4.4						
DAC				*ep*P	pP	12 34 51.7	-0.7
FCC	**Fort Churchill**	**36.22**	**55**	*eP*	**P**	**12 34 34.1**	**+0.5**
FCC				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.8						
FCC	**Fort Churchill**	**36.22**	**55**	*eP*	**P**	**12 34 34.1**	**+0.5**
	comp=Z,5.1nm,0.4s,mb4.8						
PDAR	**Pinedale Array**	**36.28**	**87**	P	**P**	**12 34 34.2**	**+0.1**
	comp=Z,0.5nm,0.4s,mb3.8,baz=299,slow=1.6,SNR=6.6						
PDAR				pP	pP	12 34 54.9	+0.6
	comp=Z,0.6nm,0.5s,baz=286,slow=4.8,SNR=3.9						
TPNV	**Topopah Spring**	**36.34**	**100**	*eP*	**P**	**12 34 34.8**	**+0.2**
TPNV				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
TPNV	**Topopah Spring**	**36.34**	**100**	*eP*	**P**	**12 34 34.8**	**+0.2**
	comp=Z,11nm,1.1s,mb4.7						
TPNV				*ep*P	pP	12 34 54.5	-0.3
RSSD	**Black Hills**	**38.59**	**81**	*eP*	**P**	**12 34 53.9**	**+0.2**
RSSD				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
RSSD	**Black Hills**	**38.59**	**81**	*eP*	**P**	**12 34 53.9**	**+0.2**
	comp=Z,4.2nm,0.6s,mb4.5						
ULM	**Lac du Bonnet**	**39.52**	**68**	P	**P**	**12 35 03.0**	**+1.6**
	comp=Z,1.9nm,0.5s,mb4.2,baz=304,slow=7.9,SNR=3.1						
ULM				pP	pP	12 35 21.6	-0.1
	comp=Z,3.4nm,0.4s,baz=298,slow=7.9,SNR=4.9						
PV01	**Paradox Valley**	**39.89**	**92**	*eP*	**P**	**12 35 04.5**	**0.0**
PV01				*ep*P	pP	12 35 24.0	-0.9
SMCO	**Snowmass**	**40.10**	**90**	*eP*	**P**	**12 35 05.6**	**-0.6**
MDJ	**Mudanjiang**	**43.09**	**285**	P	**P**	**12 35 28.5**	**-2.1**
MDJ				AP	pP	12 35 48.0	-3.3
MDJ				XP	sP	12 35 57.5	-3.6
MDJ				PP	PP	12 37 09.8	-2.4
MDJ				SCP	ScP	12 41 01.5	-0.9
MDJ				PCS	PcS	12 41 10.3	-1.3
MDJ				S	**S**	**12 41 48.5**	**-1.8**
MDJ				XS	sS	12 42 22.0	-3.6
MDJ				SCS	ScS	12 45 21.3	-1.1
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,96nm,4.3s						
MDJ				LR	LR		
	comp=N,81nm,19.0s						
MDJ				LR	LR		
	comp=E,164nm,13.4s						
MDJ				LR	LR		
	comp=Z,193nm,18.4s						
CN2	**Changchun**	**45.90**	**287**	*eP*	**P**	**12 35 52.3**	**-0.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
WMOK	**Wichita Mounta**	**47.89**	**88**	*eP*	**P**	**12 36 07.9**	**-0.6**
WMOK				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.8						
WMOK	**Wichita Mounta**	**47.89**	**88**	*eP*	**P**	**12 36 07.9**	**-0.6**
	comp=Z,12nm,0.8s,mb4.8						
WMOK				*ep*P	pP	12 36 28.3	-1.1
JCT	**Junction City**	**50.42**	**92**	*eP*	**P**	**12 36 26.7**	**-1.1**
JCT				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
JCT	**Junction City**	**50.42**	**92**	*eP*	**P**	**12 36 26.7**	**-1.1**
	comp=Z,20nm,0.8s,mb5.1						
SCHQ	**Schefferville**	**50.76**	**48**	P	**P**	**12 36 30.2**	**-0.2**
	comp=Z,2.0nm,0.4s,mb4.5,baz=203,slow=19,SNR=11						
SCHQ				pP	pP	12 36 51.4	-0.1
	comp=Z,2.9nm,0.6s,baz=0.5,slow=7.3,SNR=3.3						
SCHQ	**Schefferville**	**50.76**	**48**	P	**P**	**12 36 30.2**	**-0.2**
SCHQ				pP	pP	12 36 51.4	-0.1
MIAR	**Mount Ida**	**51.01**	**84**	*eP*	**P**	**12 36 31.0**	**-1.2**
MIAR				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
MIAR	**Mount Ida**	**51.01**	**84**	*eP*	**P**	**12 36 31.0**	**-1.2**
	comp=Z,4.8nm,1.0s,mb4.5						
MIAR				*ep*P	pP	12 36 51.4	-1.9
ZAK	**Zakamensk**	**52.78**	**307**	*eP*	**P**	**12 37 04.4**	**-2.3**
ZAK				*e*		12 37 53.8	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.3						
WVT	**Waverly**	**53.12**	**78**	P	**P**	**12 36 46.2**	**-1.7**
WVT				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
WVT	**Waverly**	**53.12**	**78**	P	**P**	**12 36 46.2**	**-1.7**
	comp=Z,3.4nm,0.8s,mb4.4						
WVT				*ep*P	pP	12 37 08.0	-1.2
OXF	**Oxford**	**53.40**	**81**	P	**P**	**12 36 48.2**	**-1.7**
OXF				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.1						
OXF	**Oxford**	**53.40**	**81**	P	**P**	**12 36 48.2**	**-1.7**
	comp=Z,20nm,1.1s,mb5.0						
OXF				*ep*P	pP	12 37 09.3	-1.9
HHC	**Hu-ho-hao-te**	**55.41**	**293**	*eP*	**P**	**12 37 05.5**	**+1.0**
HHC				AP	pP	12 37 24.8	-1.1
HHC				XP	sP	12 37 33.8	-1.8
HHC				PCP	PcP	12 38 05.5	+1.7
HHC				PP	PP	12 39 10.8	+1.8
HHC				SCP	ScP	12 41 55.5	+0.7
HHC				PCS	PcS	12 42 04.5	+0.5
HHC				S	**S**	**12 44 41.0**	**-1.5**
HHC				PS		12 45 04.0	
HHC				XS	sS	12 45 14.0	-5.1
HHC				SCS	ScS	12 46 43.8	-1.6
HHC				SS	SS	12 48 26.3	-1.9
HHC				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.6						
HHC				AMB	AMB		
	comp=Z,148nm,5.5s						
HHC				LR	LR		
	comp=N,294nm,19.6s						
HHC				LR	LR		
	comp=E,334nm,22.6s						
HHC				LR	LR		
	comp=Z,241nm,17.8s						
ARCES	**ARCESS Array B**	**55.47**	**356**	P	**P**	**12 37 03.9**	**-1.0**
	comp=Z,1.4nm,0.6s,mb4.2,baz=18,slow=8.8,SNR=8.9						
ARCES				PcP	PcP	12 38 03.8	-0.3
	comp=Z,5.1nm,0.7s,baz=12,slow=6.2,SNR=11						
SSE	**Sheshan**	**57.25**	**278**	*eP*	**P**	**12 37 12.8**	**-4.7**
SSE				AMB	AMB		
	comp=Z,11nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,33nm,3.5s						
SSE	**Sheshan**	**57.25**	**278**	*eP*	**P**	**12 37 12.7**	**-4.8**
	comp=Z,11nm,0.7s,mb5.0						
NJ2	**Nanjing**	**57.85**	**281**	*eP*	**P**	**12 37 22.5**	**+0.7**
NJ2				PP	PP	12 39 34.3	+3.5
NJ2				S	**S**	**12 45 14.0**	**-0.8**
NJ2				XS	sS	12 45 43.0	-8.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,100nm,10.0s						
NJ2				LR	LR		
	comp=N,300nm,19.7s						
NJ2				LR	LR		
	comp=E,300nm,20.0s						
NJ2				LR	LR		
	comp=Z,240nm,19.3s						
JOF	**Joensuu**	**61.74**	**353**	*ep*	**P**	**12 37 47.2**	**-1.2**
	comp=Z,3.3nm,0.5s,mb4.6						
JOF	**Joensuu**	**61.74**	**353**	*eP*	**P**	**12 37 47.2**	**-1.2**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
JOF	**Joensuu**	**61.74**	**353**	*eP*	**P**	**12 37 47.2**	**-1.2**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
GTA	**Gaotai**	**62.50**	**300**	P	**P**	**12 37 54.0**	**+0.5**
GTA				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.7						
KAF	**Kangasniemi**	**62.85**	**355**	*ep*	**P**	**12 37 54.7**	**-1.1**
	comp=Z,6.3nm,0.5s,mb4.8,baz=2.4,slow=6.3						
KAF	**Kangasniemi**	**62.85**	**355**	*eP*	**P**	**12 37 54.7**	**-1.1**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.8						
KAF	**Kangasniemi**	**62.85**	**355**	*eP*	**P**	**12 37 54.7**	**-1.1**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.8						
CHKZ	**Chkalovo**	**62.91**	**327**	*eP*	**P**	**12 37 56.1**	**-0.2**
CHKZ				*e*		12 38 32.6	
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
CHKZ	**Chkalovo**	**62.91**	**327**	*eP*	**P**	**12 37 56.1**	**-0.2**
	comp=Z,2.0nm,0.7s,mb4.2						
CHKZ				*e*PcP	PcP	12 38 32.6	-1.1
LZH	**Lanzhou**	**62.99**	**295**	*eP*	**P**	**12 37 57.0**	**+0.2**
	comp=Z,28nm,1.2s,mb5.1						
LZH				pP	pP	12 38 02.5	-16
LZH				sP	sP	12 38 06.7	-22
FINES	**FINESS Array B**	**63.53**	**355**	P	**P**	**12 37 59.6**	**-0.7**
	comp=Z,1.4nm,0.4s,mb4.1,baz=30,slow=6.7,SNR=11						
FINES				pP	pP	12 38 23.8	+1.6
	comp=Z,1.4nm,0.6s,baz=22,slow=6.9,SNR=2.9						
NOA	**NORSAR Array B**	**64.06**	**3**	P	**P**	**12 38 03.9**	**+0.1**
	comp=Z,1.8nm,0.7s,mb4.0,baz=357,slow=6.5,SNR=4.6						
NOA	**NORSAR Array B**	**64.06**	**3**	P	**P**	**12 38 03.9**	**+0.1**
MKAR	**Makanchi Array**	**64.55**	**316**	P	**P**	**12 38 07.4**	**+0.4**
	comp=Z,1.1nm,0.4s,mb4.1,baz=39,slow=6.3,SNR=20						
MKAR				pP	pP	12 38 30.4	+1.4
	comp=Z,0.7nm,0.5s,baz=52,slow=6.5,SNR=3.1						
WMQ	**Urumqi**	**64.71**	**311**	*i*↑*iP*	**P**	**12 38 08.0**	**0.0**
WMQ				AP	pP	12 38 30.3	+0.3
WMQ				XP	sP	12 38 39.5	-0.1
WMQ				PP	PP	12 40 33.5	+2.2
WMQ				S	**S**	**12 46 41.0**	**-0.6**
WMQ				PS		12 47 12.0	
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.5s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,99nm,4.9s						
WMQ				LR	LR		
	comp=N,133nm,19.4s						
WMQ				LR	LR		
	comp=E,126nm,19.5s						
WMQ				LR	LR		
	comp=Z,132nm,19.3s						
CD2	**Chengdu**	**67.04**	**291**	P	**P**	**12 38 23.3**	**+0.3**
CD2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
EKA	**Eskdalemuir Ar**	**68.64**	**12**	P	**P**	**12 38 33.3**	**+0.3**
	comp=Z,2.0nm,0.7s,mb4.0,baz=342,slow=4.2,SNR=5.4						
OBN	**Obninsk**	**68.94**	**348**	*i*↑*iP*	**P**	**12 38 33.8**	**-1.1**
OBN				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.7						
OBN				MLR	MLR		
	comp=Z,200nm,24.0s						
GYA	**Guiyang**	**68.94**	**286**	*i*↑*iP*	**P**	**12 38 35.5**	**+0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
AKTK	**Aktyubinsk**	**69.37**	**333**	P	**P**	**12 38 37.7**	**+0.1**
AKTO	**Aktyubinsk**	**69.37**	**333**	P	**P**	**12 38 37.7**	**+0.1**
	comp=Z,2.9nm,0.4s,mb4.4,baz=32,slow=6.7,SNR=12						
TGY	**Tagaytay City**	**70.62**	**267**	P	**P**	**12 38 46.6**	**+1.3**
	comp=Z,126nm,0.7s,baz=301,slow=18,SNR=4.9						
KMI	**Kunming**	**72.15**	**288**	P	**P**	**12 38 55.0**	**+0.6**
KMI				S	S	12 48 08.5	-1.4
KMI				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.7						
KMI				LR	LR		
	comp=N,193nm,17.5s						
KMI				LR	LR		
	comp=E,270nm,17.5s						
KMI				LR	LR		
	comp=Z,202nm,18.6s						
KMI	**Kunming**	**72.15**	**288**	P	**P**	**12 38 54.9**	**+0.5**
KMI				*PP	pP	12 39 19.9	+3.1
KMI				S	S	12 48 08.5	-1.4
KMI				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.7						
KMI				MLR	MLR		
	comp=Z,200nm,18.6s						
KMI	**Kunming**	**72.15**	**288**	P	**P**	**12 38 54.9**	**+0.5**
	comp=Z,7.0nm,0.6s,mb4.7						
KMI				pP	pP	12 39 19.9	+3.1
KMI				sP	sP	12 39 31.5	+5.3
KMI				S	S	12 48 08.5	-1.4
KMI				LR	LR		
	comp=Z,200nm,18.6s						
CLL	**Collm**	**73.86**		3↑*iP*	**P**	**12 39 04.9**	**+0.4**
	comp=Z,9.0nm,0.8s,mb4.5						
CLL	**Collm**	**73.86**		3↑*iP*	**P**	**12 39 04.9**	**+0.4**
CLL				*e*S	S	12 48 27.0	-2.2
CLL				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
CLL	**Collm**	**73.86**		3↑*iP*	**P**	**12 39 04.9**	**+0.4**
	comp=Z,9.0nm,0.8s,mb4.5						
CLL				*e*S	S	12 48 27.0	-2.2
AKASG	**Malin Array Be**	**74.03**	**352**	P	**P**	**12 39 04.7**	**-0.8**
	comp=Z,1.7nm,0.3s,mb4.2,baz=10.0,slow=5.9,SNR=9.1						
AKASG	**Malin Array Be**	**74.03**	**352**	P	**P**	**12 39 04.7**	**-0.8**
GERES	**GERESS Array B**	**76.34**	**2**	P	**P**	**12 39 17.3**	**-1.4**
	comp=Z,1.6nm,0.7s,mb3.9,baz=338,slow=3.2,SNR=9.8						
GUN	**Gumba**	**78.59**	**303**	*eP*	**P**	**12 39 31.9**	**+0.6**
	comp=Z,20nm,0.5s,mb5.2						
JIRN	**Jiri**	**78.65**	**302**	*eP*	**P**	**12 39 32.2**	**+0.5**
	comp=Z,46nm,0.4s						
KIV	**Kislovodsk**	**78.89**	**341**	*eP*	**P**	**12 39 33.4**	**+0.4**
KIV				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.7						
ANN	**Anapa**	**78.93**	**345**	*eP*	PcP	12 39 45.0	+3.5
ANN				*e*S	ScS	12 49 48.6	+1.0
ANN				pmax	pmax		
	comp=Z,100nm,1.4s,mb5.5						
KKN	**Kakani**	**78.98**	**303**	*eP*	**P**	**12 39 34.1**	**+0.6**
PKI	**Pulchoki**	**79.11**	**303**	*eP*	**P**	**12 39 34.3**	**+0.2**
GKN	**Gorkha**	**79.11**	**304**	*eP*	**P**	**12 39 34.4**	**+0.2**
	comp=Z,32nm,0.9s,mb5.2						
DMN	**Daman**	**79.22**	**303**	*eP*	**P**	**12 39 34.7**	**-0.1**
	comp=Z,21nm,0.7s,mb5.1						
KOLN	**Koldanda**	**79.80**	**304**	*eP*	**P**	**12 39 38.2**	**+0.3**
	comp=Z,26nm,1.0s,mb5.0						
ESDC	**Sonseca Array**	**83.85**	**16**	P	**P**	**12 40 00.1**	**+0.9**
	comp=Z,2.8nm,0.5s,mb4.3,baz=343,slow=4.8,SNR=19						
BRTR	**Keskin Array B**	**84.44**	**347**	P	**P**	**12 40 02.5**	**+0.4**
	comp=Z,1.2nm,0.5s,mb4.0,baz=49,slow=2.3,SNR=6.4						
WRA	**Warramunga Arr**	**91.73**	**237**	P	**P**	**12 40 35.9**	**-1.1**
	comp=Z,0.8nm,0.7s,mb4.0,baz=32,slow=5.5,SNR=8.2						
QSPA	**South Pole Qui**	**144.93**	**180**	*eP*	PKPdf	12 47 02.8	-3.4
LBTB	**Lobatse**	**149.24**	**345**	*e*PKP2	PKPbc	12 47 16.6	-1.1

NNC 29 12:42:38.9±5.8,3778N×7166E,h166km±100km,mb2.0, mpv2.9,3C,Error ellipse: s-maj=82.1km s-min=30.6km az=33.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.39**	**351**	↑P	Pn	12 43 57.8	+0.1
	0.9nm,0.3s,baz=171,slow=11,SNR=16						
KK31				↑S	Sn	12 44 59.9	+0.5
	1.7nm,0.3s,baz=176,slow=21,SNR=14						
TKM2	**Tokmak 2**	**5.95**	**29**	↑P	Pn	12 44 05.1	+0.1
	0.3nm,0.5s						
AB31	**Akbulak array**	**14.26**	**327**	P	Pn	12 45 53.2	-0.1
	0.1nm,0.3s,baz=6.0,slow=16,SNR=6.0						

NEIC ***29*** *12:58:04.9, 1620N×9765W, h9km, MD3.6(MEX), After MEX.*

MEX 29 12:58:05.1±0.9,1620N×9766W,h10km±11km,MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.49**	**293**	*i* P	Pg	12 58 13.5	-1.2
PNIG				*i* S	Sg	12 58 21.2	+0.1
VHO	**Vista Hermosa**	**1.24**	**45**	*i* P	Pn	12 58 24.6	-3.8
VHO				*i* S	Sb	12 58 39.8	-4.8
OXX	**Oaxaca**	**1.25**	**45**	*i* P	Pn	12 58 24.8	-3.8
OXX				*i* S	Sb	12 58 40.5	-4.5
HUIG	**Huatulco**	**1.55**	**106**	*i* P	Pn	12 58 29.6	-3.1
HUIG				*i* S	Sn	12 58 47.8	-5.0
UTMO	**Huajuapan**	**1.63**	**355**	*i* P	Pn	12 58 32.3	-1.4
UTMO				*i* S	Sn	12 58 51.6	-3.2
MEIG	**

CIRR				*e*S		Sn	13 28 29.5	+2.7
KLY	**Klyuchi**	**1.86**	**261**	P		Pn	13 28 03.0	-1.0
KLY				S		Sn	13 28 25.4	-1.4
KLY	**Klyuchi**	**1.86**	**261**	*e*P		Pn	13 28 02.9	-1.1
KLY				*e*S		Sn	13 28 24.7	-2.1
ZLN	**Zelenaya**	**1.86**	**252**	*i* P		Pn	13 28 05.8	+1.8
ZLN				*e*S		Sn	13 28 30.2	+3.3
LGNR	**Loginova**	**1.90**	**254**	*e*P		Pn	13 28 06.2	+1.7
LGNR				*e*S		Sn	13 28 30.6	+2.8
KRSR	**Krestovskiy**	**1.93**	**259**	*e*P		Pn	13 28 05.9	+1.0
KRSR				*e*S		Sn	13 28 29.3	+0.8
KPT	**Kopyto**	**2.19**	**254**	*e*P		Pn	13 28 10.3	+1.8
KPT				*e*S		Sn	13 28 36.5	+1.6
KMNR	**Kamenistaya**	**2.26**	**248**	*e*P		Pn	13 28 11.5	+2.0
KMNR				*e*S		Sn	13 28 40.4	+3.8
KOZR	**Kozyr**	**2.33**	**257**	PN		Pn	13 28 13.3	+2.8
KOZR				S		Sn	13 28 42.8	+4.4
KOZ	**Kozyrevsk**	**2.34**	**257**	P		Pn	13 28 13.3	+2.6
KOZ				S		Sn	13 28 42.8	+4.0
KOZ	**Kozyrevsk**	**2.34**	**257**	*e*P		Pn	13 28 12.9	+2.2
KOZ				*e*S		Sn	13 28 42.0	+3.2
SRDR	**Sredinnyy**	**2.37**	**264**	*i* P		Pn	13 28 12.3	+1.3
SRDR				*e*S		Sn	13 28 41.7	+2.2
MKZ	**Mys Kozlova**	**2.44**	**212**	P		Pn	13 28 12.0	0.0
MKZ				S		Sn	13 28 40.3	-0.9
MKZ	**Mys Kozlova**	**2.44**	**212**	*e*P		Pn	13 28 11.8	-0.2
MKZ				*e*S		Sn	13 28 40.8	-0.4
TUMR	**Tumrok**	**2.54**	**239**	*e*P		Pn	13 28 15.5	+2.2
OSSR	**Ossora**	**2.66**	**350**	*i* P		Pn	13 28 16.3	+1.3
OSSR				*i* S		Sn	13 28 45.0	-1.6
OSSR				Smax				
	200nm,0.2s							
ESO	**Esso**	**3.01**	**258**	*e*P		Pn	13 28 21.9	+2.0
ESO				*e*S		Sn	13 28 57.2	+1.9
ESO				Smax				
	100nm,1.4s							
SPN	**Mys Shipunski**	**4.21**	**214**	P		Pn	13 28 36.4	0.0
SPN				S		Sn	13 29 22.5	-2.4
NLC	**Nalytchevo**	**4.38**	**219**	P		Pn	13 28 39.7	+1.1
NLC				S		Sn	13 29 29.7	+0.8
NLC	**Nalytchevo**	**4.38**	**219**	*e*P		Pn	13 28 39.1	+0.5
NLC				*e*S		Sn	13 29 29.7	+0.8
SDLR	**Sedlovina**	**4.46**	**223**	*e*P		Pn	13 28 41.2	+1.5
SMAR	**Somma**	**4.50**	**223**	*e*P		Pn	13 28 42.0	+1.7
AVH	**Avacha**	**4.52**	**224**	*e*P		Pn	13 28 42.7	+2.1
UGLR	**Uglovaya**	**4.53**	**223**	*e*P		Pn	13 28 42.5	+1.7
GNL	**Ganaly**	**4.54**	**232**	*e*P		Pn	13 28 42.5	+1.7
KOK	**Koryaka**	**4.54**	**225**	*e*P		Pn	13 28 42.9	+2.0
PET	**Petropavlovsk**	**4.74**	**222**	P		Pn	13 28 45.5	+1.8
PET	**Petropavlovsk**	**4.74**	**222**	*e*P		Pn	13 28 45.3	+1.6
KRMR	**Karymshinskiy**	**5.09**	**224**	*e*P		Pn	13 28 51.4	+2.9
RUS	**Russkaya**	**5.27**	**219**	P		Pn	13 28 52.0	+1.1
RUS	**Russkaya**	**5.27**	**219**	*e*P		Pn	13 28 51.9	+1.0
GRL	**Gorelyy**	**5.33**	**222**	*e*P		Pn	13 28 53.6	+1.8
APC	**Apacha**	**5.41**	**229**	P		Pn	13 28 56.0	+3.2
KAMR	**Kamenskoye**	**5.95**	**10**	*i* P		Pn	13 29 01.2	+1.0
KAMR				*e*S		Sn	13 30 05.0	-2.7
KAMR				Smax				
	20nm,1.2s							

CASC 29 13:38:20.1±1.4, 1166W×8721W, h68km±39km, MD3.9, ML3.0, 4C-4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.79**	**49**⇓	*e*P	Pn	13 38 36.1	+0.1
COPN				*e*S	Sn	13 38 48.5	+0.9
LEON	**Leon**	**0.81**	**22**⇑	*e*P	Pn	13 38 35.8	-0.4
MIRN	**Miramar**	**0.92**	**32**⇓	*e*P	Pn	13 38 37.4	0.0
CNGN	**Cerro Negro**	**0.97**	**31**⇓	*e*P	Pn	13 38 38.1	0.0
TEL3	**Telica 3**	**0.97**	**21**⇑	*e*P	Pn	13 38 37.9	-0.3
MOMJ	**Momotombo**	**0.99**	**41**⇑	*e*P	Pn	13 38 38.4	+0.1
XAVN	**Gruta Xavier**	**0.99**	**60**	*e*P	Pn	13 38 39.1	+0.8
TELN	**Telica**	**1.01**	**21**⇓	*e*P	Pn	13 38 38.8	+0.2
APYN	**Apoyeque**	**1.01**	**56**⇑	*e*P	Pn	13 38 39.0	+0.4
TICN	**Ticuantepe**	**1.02**	**69**	*e*P	Pn	13 38 39.3	+0.5
CRIN	**San Cristobal**	**1.05**	**8**	*e*P	Pn	13 38 38.6	-0.4
JTS	**JuntasAbangare**	**2.60**	**121**	*e*S	Sn	13 39 30.8	+0.6
JTS				AML	AML	13 39 31.3	
	comp=Z,35nm,0.5s						
CAO	**Cobano**	**2.84**	**133**	*e*S	Sn	13 39 37.3	+1.2
CGA2	**Cerro Gallo 2**	**3.15**	**121**	*e*S	Sn	13 39 44.9	+1.2
PRS1	**Puriscal**	**3.29**	**120**	*e*P	Pn	13 39 10.5	+1.2
PRS1				*e*S	Sn	13 39 48.3	+1.0
LCR2	**La Lucha 2**	**3.68**	**121**	*e*P	Pn	13 39 16.0	+1.5
LCR2				*e*S	Sn	13 39 58.4	+1.7
BUS	**Buena Vista**	**3.98**	**121**	*e*P	Pn	13 39 20.6	+2.0
BUS				*e*S	Sn	13 40 05.5	+1.4

*IDC **29** 13:39:40.7±1.9, 4605S×7625W, h0km, mb4.1/3, mb1 3.9/5, ms1mx3.7/16, mbtmp3.7/5, ML3.0/2, MS3.3/2, Ms1 3.3/2, ms1mx3.1/25, Error ellipse: s-maj=61.7km s-min=27.0km az=105.0*

*NEIC **29** 13:39:42.1±1.5, 4602S×7617W, h10km, mb4.4/2, Error ellipse: s-maj=49.2km s-min=19.4km az=106.0*

*ISCJB **29** 13:39:45.2±1.8, 4605S±01×7577W±03, h33km, mb4.0/4, Error ellipse: s-maj=31.2km s-min=17.1km az=8.9*

ISC 29 13:39:46.8±1.8, 4615S±01×7577W±03, h35km, n10, σ1§16/9, mb4.0/4, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COYC	**Coyhaique**	**2.58**	**80**	*e*P	**Pn**	**13 40 25.6**	**-0.5**
PLCA	**Paso Flores**	**6.53**	**37**	Pn	**Pn**	**13 41 20.7**	**+0.5**
	0.1nm,0.3s,baz=212,slow=15,SNR=2.5						
PLCA				LR	LR	13 43 51.9	
	comp=Z,871nm,20.9s,baz=215,slow=37						
PLCA	**Paso Flores**	**6.53**	**37**	P	**Pn**	**13 41 19.1**	**-1.1**
PLCA				LR	LR	13 43 51.9	
CFAA	**Coronel Fontan**	**15.56**	**24**	Pn	**Pn**	**13 43 24.2**	**+0.8**
	0.0nm,0.3s,baz=186,slow=10,SNR=2.5						
CFAA				LR	LR	13 49 37.6	
	comp=Z,33nm,21.4s,baz=199,slow=38						
CPUP	**Villa Florida**	**24.55**	**43**	P	**P**	**13 45 03.2**	**0.0**
	5.0nm,0.8s,mb4.1,baz=207,slow=9.5,SNR=9.4						
CPUP	**Villa Florida**	**24.55**	**43**	*e*P	**P**	**13 45 02.8**	**-0.3**
	28nm,1.0s,mb4.8						
BDFB	**Brasilia**	**38.16**	**46**	P	**P**	**13 47 05.3**	**+2.6**
	3.4nm,0.8s,mb4.2,baz=206,slow=3.0,SNR=3.3						
SAML	**Samuel**	**38.52**	**20**	*e*P	**P**	**13 47 03.9**	**-1.8**
	3.6nm,1.1s,mb4.0						
SNAA	**Sanae**	**41.76**	**153**	P	**P**	**13 47 32.7**	**+0.1**
	1.4nm,0.9s,mb3.6,baz=281,slow=8.4,SNR=8.1						
ILAR	**Eielson Array**	**123.53**	**331**	PKP	PKPdf	13 58 38.0	-2.4
	0.3nm,0.9s,baz=108,slow=1.1,SNR=3.4						

*ISCJB **29** 14:10:48.6±0.2, 4200S±004×8847E±007, h10km, mb5.1/58, MS5.3/118, Error ellipse: s-maj=7.5km s-min=6.2km az=16.6*

*IDC **29** 14:10:48.8±0.5, 4195S×8854E, h0km, mb4.7/21, mb1 4.7/21, mb1mx4.7/25, mbtmp4.7/21, MS5.1/21, Ms1 5.1/21, ms1mx4.9/27, Error ellipse: s-maj=19.1km s-min=12.9km az=175.0*

*BJI **29** 14:10:48.5, 4190S×8779E, h14km, mB5.4, mb5.1, Ms5.6, Msz5.4*

*MOS **29** 14:10:48.5±0.9, 4195S×8839E, h10km, mb5.4/16, MS5.4/10, Error ellipse: s-maj=18.2km s-min=9.8km az=85.3*

*CSEM **29** 14:10:50.8, 42.13S×88.56E, h33km, ML5.6*

*HRVD **29** 14:10:50.3±0.1, 4181S×8842E, h12km, MW5.6/105, Centroid moment Tensor Solution. LP body waves: s88,c158;Mantle waves: s105,c285; Half duration: 1§5 Moment tensor: Scale 10^17^Nm; Mrr~0.31±.03; Mθθ~3.24±.03; Mϕϕ~2.93±.03; Mrθ~0.02±.08; Mrϕ~0.19±.03; Mθϕ~0.11±.09; Best double couple: Ms3.09300×10^17^ NP1:ϕs43.00000°,δ88.00000°,λ-178.00000°. NP2: ϕs313.00000°,δ88.00000°,λ-2.00000°. Principal axes: T 3.2460, Plg0.0000°, Azm358.0000°; N -0.3090, Plg88.0000°, Azm93.0000°; P -2.9400, Plg2.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **29** 14:10:50.3±0.2, 4195S×8846E, h10km, mb5.4/27, MS5.4/95, MW5.6 Error ellipse: s-maj=6.6km s-min=6.4km az=144.0, Moment Tensor Solution. s6 Moment tensor: Scale 10^17^Nm; Mrr=0.47; Mθθ=3.38; Mϕϕ=-2.91; Mrθ=0.90; Mrϕ=-1.03; Mθϕ=0.22; Best double couple: Ms=3.40000×10^17^ NP1:ϕs54.00000°,δ88.00000°,λ166.00000°. NP2: ϕs145.00000°,δ76.00000°,λ2.00000°. Principal axes: T 3.7100, Plg12.0000°, Azm8.0000°; N -0.5900, Plg76.0000°, Azm224.0000°; P -3.1300, Plg8.0000°, Azm100.0000°;*

ISC 29 14:10:50.1±0.2, 4202S±004×8849E±007, h10km, (h17km±2.5km:pP-P), n289, σ1§00/118, mb5.1/58, MS5.3/118, 11C-4D, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUN	**Mundaring**	**24.21**	**75**	*e*P	**P**	**14 16 03.1**	**-3.7**
MUN				*e*S	**S**	**14 20 33.9**	**+8.7**
NWAO	**Narrogin (SRO)**	**24.46**	**78**	PFAKE		14 16 20.0	+11
NWAO				LR	LR		
	comp=Z,8μm,21.0s,MS5.2						
MIR	**Mirnyy**	**24.71**	**176**	*i* P	**P**	**14 16 13.0**	**+1.6**
MIR				*i*		14 17 04.0	
MIR				pmax	pmax		
	comp=Z,700nm,2.0s,mb5.8						
CASY	**Casey**	**27.22**	**161**	*e*P	**P**	**14 16 35.1**	**+1.0**
COCO	**West Island**	**30.59**	**16**	*e*P	**P**	**14 17 04.3**	**+0.2**
	comp=Z,104nm,0.4s,mb6.0						
COCO				LR	LR		
	comp=Z,5μm,22.0s,MS5.1						
MBWA	**Marble Bar**	**33.49**	**61**	PFAKE		14 17 40.0	+10
MBWA				LR	LR		
	comp=Z,4μm,20.0s,MS5.1						
SYO	**Syowa Base**	**37.00**	**207**⇑	*e*P	**P**	**14 17 58.0**	**-1.8**
SYO	**Syowa Base**	**37.00**	**207**⇓	*e*pP	pP	14 18 00.6	-2.3
SYO	**Syowa Base**	**37.00**	**207**⇑	*e*sP	sP	14 18 06.8	+2.6
DRV	**Dumont d'Urvil**	**37.22**	**149**	P	**P**	**14 18 01.0**	**-0.6**
DRV				S	**S**	**14 23 49.0**	**+0.5**
DRV				L		14 26 00.0	
DRV				R		14 28 00.0	
DGAR	**Diego Garcia**	**37.27**	**333**	PFAKE		14 18 10.0	+7.9
DGAR				LR	LR		
	comp=Z,7μm,21.0s,MS5.5						
ASAR	**Alice Springs**	**41.77**	**79**	P	**P**	**14 18 39.4**	**-0.3**
	comp=Z,22nm,1.0s,mb4.8,baz=231,slow=7.5,SNR=67						
OPO	**Ambohidratompo**	**42.09**	**291**	P	**P**	**14 18 42.8**	**+0.6**
	comp=Z,9.3nm,1.2s,mb4.3,baz=126,slow=2.7,SNR=3.4						
TAU	**Tasmania Unive**	**42.63**	**112**	PFAKE		14 19 00.0	+13
TAU				LR	LR		
	comp=Z,4μm,20.0s,MS5.3						
STKA	**Stephens Creek**	**43.03**	**94**	*e*P	**P**	**14 18 48.1**	**-1.7**
	comp=Z,13nm,0.9s,mb4.7						
STKA				*i* S	**S**	**14 25 14.0**	**-1.4**
STKA	**Stephens Creek**	**43.03**	**94**	P	**P**	**14 18 48.9**	**-0.9**
	comp=Z,3.9nm,0.8s,mb4.2,baz=221,slow=8.9,SNR=7.0						
STKA				LR	LR	14 34 45.3	
	comp=Z,5μm,18.2s,MS5.5,baz=249,slow=33						
WRA	**Warramunga Arr**	**44.41**	**75**	P	**P**	**14 19 00.9**	**-0.1**
	comp=Z,46nm,1.0s,mb5.2,baz=229,slow=8.1,SNR=79						
WB2	**Warramunga Arr**	**44.41**	**75**⇓	*i* P	**P**	**14 19 00.7**	**-0.3**
WRAB	**Tennant Creek**	**44.42**	**75**	P	**P**	**14 18 57.0**	**-4.1**
	comp=Z,357nm,1.0s,mb6.0,SNR=5.6						
WRAB	**Tennant Creek**	**44.42**	**75**	*e*P	**P**	**14 19 01.0**	**-0.1**
	comp=Z,166nm,1.3s,mb5.6						
WRAB				LR	LR		
	comp=Z,6μm,20.0s,MS5.5						
PSI	**Prapat**	**45.60**	**15**	P	**P**	**14 19 10.5**	**0.0**
	comp=Z,10nm,1.0s,mb4.7,baz=160,slow=8.3,SNR=10.0						
VNDA	**Vanda**	**45.79**	**163**	P	**P**	**14 19 12.1**	**+0.2**
	comp=Z,4.0nm,0.7s,mb4.5,baz=284,slow=8.8,SNR=31						
VNDA				LR	LR	14 36 12.6	
	comp=Z,4μm,20.9s,MS5.3,baz=272,slow=33						
VNDA	**Vanda**	**45.79**	**163**	*e*P	**P**	**14 19 11.4**	**-0.5**
	comp=Z,13nm,1.0s,mb4.8						
VNDA				LR	LR		
	comp=Z,4μm,21.0s,MS5.3						
NVL	**N'lazarevskaya**	**46.67**	**206**⇓	*i* P	**P**	**14 19 18.0**	**-0.9**
NVL				*i* S	**S**	**14 26 14.8**	**+6.6**
NVL				pmax	pmax		
	comp=Z,115nm,2.0s,mb5.5						
NVL				MLR	MLR		
	comp=Z,3μm,15.8s,MS5.4						
NVL				MLR	MLR		
	comp=N,2μm,15.9s,MS5.4						
NVL				MLR	MLR		
	comp=E,2μm,15.8s,MS5.4						
SBA	**Scott Base**	**46.86**	**163**	*e*P	**P**	**14 19 20.4**	**0.0**
	comp=E,29nm,1.1s,mb5.1						
SBA				LR	LR		
	comp=Z,2μm,22.0s,MS5.1						
KSM	**Kuching**	**47.58**	**30**	*e*P	**P**	**14 19 26.5**	**+0.6**
KAKA	**Kakadu**	**47.99**	**66**	*e*P	**P**	**14 19 30.4**	**+1.3**
	comp=Z,43nm,1.4s,mb5.3						
QSPA	**South Pole Qui**	**48.13**	**180**⇑	*i* P	**P**	**14 19 30.5**	**+0.2**
	comp=Z,320nm,1.8s,mb6.0						
PALK	**Pallekele**	**49.56**	**350**	PFAKE		14 19 50.0	+8.7
PALK				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
SNAA	**Sanae**	**51.16**	**204**	P	**P**	**14 19 53.0**	**-0.3**
	comp=Z,7.8nm,1.0s,mb4.6,baz=106,slow=7.7,SNR=16						
SNAA				LR	LR	14 39 48.4	
	comp=Z,682nm,18.0s,MS4.7,baz=105,slow=34						
SNAA	**Sanae**	**51.16**	**204**⇑	*i* P	**P**	**14 19 45.3**	**-8.0**
SNAA				*e*		14 19 51.8	
SNAA				*e*		14 20 18.9	
SNAA				*e*		14 20 41.4	
ARMA	**Armidale**	**51.19**	**98**	*e*P	**P**	**14 19 55.3**	**+1.8**
BOSA	**Boshof**	**52.21**	**263**	P	**P**	**14 20 02.4**	**+1.2**
	comp=Z,12nm,1.0s,mb4.8,baz=121,slow=7.7,SNR=11						
BOSA				LR	LR	14 37 19.9	
	comp=Z,6μm,21.0s,MS5.6,baz=142,slow=30						
BOSA	**Boshof**	**52.21**	**263**	*e*P	**P**	**14 20 01.1**	**-0.1**
	comp=Z,140nm,2.0s,mb5.5						
BOSA				LR	LR		
	comp=Z,6μm,22.0s,MS5.6						
VNA2	**Neumayer--Watz**	**52.79**	**204**⇑	*i* P	**P**	**14 20 05.3**	**-0.2**
	baz=102,slow=7.9						
VNA2				*e*	pP	14 20 08.7	0.0
VNA2				*e*		14 20 11.5	
VNA2				*e*		14 20 12.8	
VNA2				*e*		14 20 22.6	
VNA2				*e*		14 20 40.6	
VNA2				*e*		14 20 46.4	
VNA2				*e*		14 21 14.2	
CTAO	**Charters Tower**	**53.04**	**84**	PFAKE		14 20 20.0	+13
CTAO				LR	LR		
	comp=Z,2μm,22.0s,MS5.2						
VNA1	**Neumayer--Stat**	**53.16**	**204**⇑	*i* P	**P**	**14 20 08.4**	**+0.2**
VNA1				*e*	pP	14 20 11.4	0.0
VNA1				*e*		14 20 14.9	
VNA1				*e*		14 20 38.4	
VNA1				*e*		14 21 14.8	
VNA3	**Neumayer Olymp**	**53.36**	**204**⇑	*i* P	**P**	**14 20 09.6**	**-0.1**
VNA3				*e*		14 20 15.7	
VNA3				*e*		14 20 17.3	
VNA3				*e*		14 20 21.4	
VNA3				*e*		14 20 41.5	
SUR	**Sutherland**	**53.49**	**257**	P	**P**	**14 20 10.5**	**-0.1**
	comp=Z,19nm,1.0s,mb5.0,baz=88,slow=6.9,SNR=7.2						
SUR				LR	LR	14 37 44.3	
	comp=Z,1μm,18.7s,MS5.0,baz=2.5,slow=30						
SUR	**Sutherland**	**53.49**	**257**	*e*P	**P**	**14 20 11.2**	**+0.6**
	comp=Z,20nm,1.0s,mb5.0						
SUR				LR	LR		
	comp=Z,2μm,19.0s,MS5.2						
LBTB	**Lobatse**	**53.95**	**267**	P	**P**	**14 20 15.1**	**+1.1**
	comp=Z,8.2nm,0.9s,mb4.7,baz=133,slow=9.2,SNR=10						
LBTB				LR	LR	14 38 24.2	
	comp=Z,4μm,21.8s,MS5.5,baz=140,slow=31						
LBTB	**Lobatse**	**53.95**	**267**	*e*P	**P**	**14 20 13.7**	**-0.3**
	comp=Z,34nm,1.4s,mb5.1						
LBTB				LR	LR		
	comp=Z,4μm,21.0s,MS5.5						
MATP	**Matopo**	**54.48**	**274**	P	**P**	**14 20 17.8**	**-0.1**
	comp=Z,10nm,0.9s,mb4.8,baz=135,slow=9.4,SNR=18						
LSZ	**Lusaka**	**57.93**	**278**	P	**P**	**14 20 42.9**	**+0.4**
	comp=Z,17nm,1.0s,mb5.0,baz=137,slow=7.5,SNR=11						
LSZ	**Lusaka**	**57.93**	**278**	*e*P	**P**	**14 20 42.0**	**-0.5**
	comp=Z,32nm,1.0s,mb5.3						
LSZ				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
NST	**Nakhon Sawan**	**58.40**	**13**	P	**P**	**14 20 47.0**	**+1.2**
DAV	**Davao City (W)**	**59.44**	**44**	PFAKE		14 21 10.0	+17
DAV				LR	LR		
	comp=Z,681nm,22.0s,MS4.7						
HYB	**Hyderabad**	**59.84**	**349**	*i* P	**P**	**14 20 58.0**	**+2.2**
HYB				*e*S	**S**	**14 29 10.0**	**+2.7**
HYB				LR	LR	14 40 00.0	
	comp=Z,5.6nm,26.0s						
PMG	**Port Moresby**	**60.62**	**75**	LR	LR	14 43 34.9	
	comp=Z,931nm,20.5s,MS4.9,baz=30,slow=32						
PMG	**Port Moresby**	**60.62**	**75**	PFAKE		14 21 10.0	+8.9
PMG				LR	LR		
	comp=Z,6μm,19.0s,MS5.8						
CHG	**Chiang Mai**	**61.29**	**11**	⇑P	**P**	**14 21 12.5**	**+6.8**
	comp=Z,14nm,1.1s,mb5.0						
CHTO	**Chiang Mai**	**61.29**	**11**	*e*P	**P**	**14 21 04.7**	**-1.0**
	comp=Z,13nm,1.3s,mb4.9						
CHTO				LR	LR		
	comp=Z,1μm,20.0s,MS5.1						
KMBO	**Kilima Mbogo**	**61.35**	**297**	P	**P**	**14 21 06.8**	**+0.8**
	comp=Z,3.2nm,0.8s,mb4.5,baz=52,slow=6.2,SNR=6.7						
KMBO				LR	LR	14 41 42.9	
	comp=Z,680nm,21.6s,MS4.8,baz=275,slow=30						
KMBO	**Kilima Mbogo**	**61.35**	**297**	P	**P**	**14 21 06.7**	**+0.6**
	comp=Z,10.0nm,1.3s,mb4.8						
KMBO				LR	LR		
	comp=Z,467nm,21.0s,MS4.6						
SNZO	**South Karori**	**61.60**	**121**	PFAKE		14 21 20.0	+12
SNZO				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
TSUM	**Tsumeb**	**63.36**	**268**	*e*P	**P**	**14 21 20.0**	**+0.5**
	comp=Z,56nm,1.6s,mb5.4						
TSUM				LR	LR		
	comp=Z,5μm,21.0s,MS5.6						
QIZ	**Qiongzhong**	**63.87**	**23**	P	**P**	**14 21 23.0**	**+0.1**
QIZ				S	**S**	**14 30 01.0**	**+2.7**
QIZ				XS	sS	14 30 07.3	+3.7
QIZ				SS	SS	14 34 08.0	+1.5
QIZ				AMB	AMB		
	comp=Z,148nm,9.5s						
QIZ				LR	LR		
	comp=N,882nm,22.9s,MS5.1						
QIZ				LR	LR		
	comp=E,986nm,21.3s,MS5.1						
QIZ				LR	LR		
	comp=Z,1μm,28.7s						
QIZ	**Qiongzhong**	**63.87**	**23**	PFAKE		14 21 30.0	+7.1
QIZ				LR	LR		
	comp=Z,1μm,21.0s,MS5.0						
URZ	**Urewera**	**64.83**	**120**	LR	LR	14 45 10.1	
	comp=Z,1μm,19.4s,MS5.0,baz=255,slow=32						
DZM	**Mont Dzumac**	**66.84**	**99**	LR	LR	14 45 50.2	
	comp=Z,2μm,20.5s,MS5.2,baz=61,slow=32						
SHL	**Shillong**	**67.31**	**3**	*e*P	**P**	**14 21 45.5**	**+0.3**
ATD	**Arta Tunnel**	**67.78**	**311**	LR	LR	14 46 12.0	
	comp=Z,972nm,19.3s,MS5.0,baz=193,slow=31						
KMI	**Kunming**	**68.09**	**14**	P	**P**	**14 21 51.3**	**+1.2**
KMI				AP	pP	14 22 02.3	+9.0
KMI				PCP	PcP	14 22 15.8	-0.3
KMI				PP	PP	14 24 22.5	+2.3
KMI				S	S	14 30 51.8	+2.1
KMI				AMB	AMB		
	comp=Z,15nm,1.8s,mb4.7						
KMI				AMB	AMB		
	comp=Z,210nm,6.3s						
KMI				LR	LR		
	comp=N,2μm,21.6s,MS5.4						
KMI				LR	LR		
	comp=E,1μm,17.5s,MS5.4						
KMI				LR	LR		
	comp=Z,3μm,24.1s						
KMI	**Kunming**	**68.09**	**14**	P	**P**	**14 21 51.2**	**+1.1**
KMI						14 22 15.7	
KMI						14 24 22.5	
KMI				PPP		14 26 02.5	
KMI				S	S	14 30 51.7	+2.0
KMI				SS	SS	14 35 19.2	+7.1
KMI				pmax	pmax		
	comp=Z,15nm,1.8s,mb4.7						
KMI				MLR	MLR		
	comp=Z,3μm,24.1s,MS5.5						
KMI	**Kunming**	**68.09**	**14**	P	**P**	**14 21 51.2**	**+1.1**
	comp=Z,15nm,1.8s,mb4.7						
KMI				pP	pP	14 22 02.2	+8.9
KMI				sP	sP	14 22 07.3	+13
KMI				PcP	PcP	14 22 15.7	-0.4
KMI				PP	PP	14 24 22.5	+2.3
KMI				PPP		14 26 02.5	
KMI				S	S	14 30 51.7	+2.0
KMI				SS	SS	14 35 19.2	+7.1
KMI				LR	LR		
	comp=Z,3μm,24.1s,MS5.5						
GZH	**Guangzhou**	**68.74**	**25**	P	**P**	**14 22 00.3**	**+6.2**
GZH				LR	LR		
	comp=N,1μm,19.9s,MS5.3						
GZH				LR	LR		
	comp=E,768nm,18.3s,MS5.3						
GZH				LR	LR		
	comp=Z,2μm,19.3s,MS5.4						
PKI	**Pulchoki**	**69.30**	**357**	*e*P	**P**	**14 21 57.5**	**-0.1**
DMN	**Daman**	**69.35**	**357**	*e*P	**P**	**14 21 57.5**	**-0.4**
	comp=Z,112nm,1.2s,mb5.7						
JIRN	**Jiri**	**69.36**	**358**	*e*P	**P**	**14 21 56.9**	**-1.1**
	comp=Z,306nm,1.9s,mb5.9						
KKN	**Kakani**	**69.52**	**357**	*e*P	**P**	**14 21 58.9**	**-0.1**
	comp=Z,139nm,1.4s,mb5.7						
KKN	**Kakani**	**69.52**	**357**	*e*P	**P**	**14 21 58.9**	**-0.1**
KKN				pmax	pmax		
	comp=Z,139nm,1.4s,mb5.7						
KOLN	**Koldanda**	**69.58**	**355**	*e*P	**P**	**14 21 59.2**	**-0.2**
GUN	**Gumba**	**69.62**	**358**	*e*P	**P**	**14 21 58.9**	**-0.7**
	comp=Z,395nm,1.6s,mb6.1						
GKN	**Gorkha**	**69.76**	**356**	*e*P	**P**	**14 21 59.8**	**-0.6**
HNR	**Honiara**	**69.98**	**85**	LR	LR	14 49 08.0	
	comp=Z,1μm,21.1s,MS5.1,baz=180,slow=33						
HNR	**Honiara**	**69.98**	**85**	*e*P	**P**	**14 22 03.5**	**+1.7**
	comp=Z,126nm,1.4s,mb5.7						
HNR				LR	LR		
	comp=Z,1μm,19.0s,MS5.2						
**GYA

XAN LR LR
comp=E,1μm,21.1s
XAN LR LR
comp=Z,2μm,19.5s
SSE Sheshan 78.74 28 *e*P **P 14 22 52.5 -0.3**
SSE PCP PcP 14 23 00.5 -1.1
SSE PP PP 14 25 54.0 +3.0
SSE S S 14 32 39.5 -11
SSE AMB AMB
comp=Z,22nm,1.3s,mb4.9
SSE AMB AMB
comp=Z,75nm,3.5s
SSE LR LR
comp=N,827nm,19.7s,MS5.2
SSE LR LR
comp=E,544nm,19.7s,MS5.2
SSE LR LR
comp=Z,1μm,18.8s,MS5.2
NJ2 Nanjing 78.83 26 *e*P **P 14 22 55.5 +2.2**
NJ2 PP PP 14 25 56.5 +4.8
NJ2 S S 14 32 52.0 +0.8
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
NJ2 AMB AMB
comp=Z,140nm,4.5s
NJ2 LR LR
comp=N,2μm,27.7s
NJ2 LR LR
comp=E,2μm,22.2s
NJ2 LR LR
comp=Z,820nm,32.8s
LZH Lanzhou 78.99 13 *e*P **P 14 22 53.5 -0.7**
LZH AP pP 14 22 59.5 +2.0
LZH XP sP 14 23 04.5 +5.8
LZH PP PP 14 25 55.0 +2.0
LZH S S 14 32 52.5 -0.5
LZH XS sS 14 33 05.0 +6.6
LZH AMB AMB
comp=Z,60nm,1.3s,mb5.4
LZH AMB AMB
comp=Z,350nm,5.5s
LZH LR LR
comp=N,3μm,17.6s
LZH LR LR
comp=Z,4μm,19.3s,MS5.7
LZH Lanzhou 78.99 13 *e*P **P 14 22 53.5 -0.7**
LZH *PP pP 14 22 59.5 +2.0
LZH *SP sP 14 23 04.5 +5.8
LZH 14 25 55.0
LZH S S 14 32 52.4 -0.6
LZH *SS sS 14 33 05.0 +6.6
LZH PS 14 33 40.0
LZH SS SS 14 38 05.0 +6.7
LZH pmax pmax
comp=Z,60nm,1.3s,mb5.4
LZH MLR MLR
comp=Z,4μm,19.3s,MS5.7
LZH Lanzhou 78.99 13 *e*P **P 14 22 53.5 -0.7**
comp=Z,60nm,1.3s,mb5.4
LZH pP pP 14 22 59.5 +2.0
LZH sP sP 14 23 04.5 +5.8
LZH PP PP 14 25 55.0 +2.0
LZH S S 14 32 52.4 -0.6
LZH sS sS 14 33 05.0 +6.6
LZH PS 14 33 40.0
LZH SS SS 14 38 05.0 +6.7
LZH LR LR
comp=Z,4μm,19.3s,MS5.7
USHA Ushuaia 81.53 193 LR LR 14 59 13.6
comp=Z,3μm,18.6s,MS5.7,baz=136,slow=36
GTA Gaotai 81.70 9 *e*P **P 14 23 09.3 +0.5**
GTA AP pP 14 23 19.3 +7.2
GTA XP sP 14 23 24.0 +11
GTA PP PP 14 26 20.3 +4.8
GTA S S 14 33 20.0 -1.4
GTA SKS 14 33 22.0
GTA XS sS 14 33 36.8 +10
GTA SS SS 14 38 42.8 +4.0
GTA AMB AMB
comp=Z,21nm,1.0s,mb5.0
GTA AMB AMB
comp=Z,253nm,7.2s
GTA LR LR
comp=N,875nm,20.5s,MS5.3
GTA LR LR
comp=E,1μm,19.0s,MS5.3
GTA LR LR
comp=Z,1μm,19.4s,MS5.2
BTO Baotou 84.52 16 *e*P **P 14 23 21.5 -1.9**
KZA Kyzart 84.56 350 P **P 14 23 24.0 +0.5**
SNR=8.9
ULHL Ulahol 84.60 351 P **P 14 23 24.7 +1.0**
SNR=5.6
UCH Uchtor 84.80 350 P **P 14 23 25.1 +0.3**
SNR=7.2
AML Almayashu 84.82 349 P **P 14 23 21.3 -3.6**
SNR=9.0
HHC Hu-ho-hao-te 85.09 17 *e*P **P 14 23 25.5 -0.7**
HHC AP pP 14 23 30.3 +0.8
HHC XP sP 14 23 32.5 +1.8
HHC PP PP 14 26 45.3 +2.0
HHC SKS 14 33 47.0
HHC S 14 33 55.0
HHC XS sS 14 34 02.5 +1.2
HHC PS 14 34 54.3
HHC SS SS 14 39 32.8 +3.7
HHC AMB AMB
comp=Z,17nm,1.2s,mb5.0
HHC AMB AMB
comp=Z,229nm,7.4s
HHC LR LR
comp=N,2μm,20.8s,MS5.5
HHC LR LR
comp=E,810nm,19.9s,MS5.5
HHC LR LR
comp=Z,2μm,22.0s,MS5.4
KBK Karagaybulak 85.17 350 P **P 14 23 27.1 +0.5**
SNR=9.2
AAK Ala-Archa 85.20 350 *e*P **P 14 23 24.8 -2.0**
comp=Z,26nm,1.4s,mb5.2
AAK LR LR
comp=Z,2μm,19.0s,MS5.4
EKS2 Erkin-Say 85.33 349 P **P 14 23 27.8 +0.4**
SNR=8.6
FRU Bishkek 85.39 350 *e*P **P 14 23 28.0 +0.3**
FRU pmax pmax
comp=Z,230nm,2.8s,mb5.8
BJT Baijiatuau 85.43 21 *e*P **P 14 23 27.6 -0.4**
BJT LR LR
comp=Z,3μm,20.0s,MS5.7
BJI Beijing 85.45 21 *e*P **P 14 23 27.3 -0.7**
BJI S 14 33 55.0
BJI AMB AMB
comp=Z,9.0nm,1.0s,mb4.8
BJI LR LR
comp=N,2μm,19.2s,MS5.6
BJI LR LR
comp=E,1μm,21.7s,MS5.6
BJI LR LR
comp=Z,2μm,21.0s,MS5.5
BJI Beijing 85.45 21 *e*P **P 14 23 27.3 -0.7**
comp=Z,9.0nm,1.0s,mb4.8
BJI PP PP 14 26 59.6 +13
BJI S 14 33 55.1
BJI PS 14 35 39.6
BJI SS SS 14 39 17.5 -17
BJI LR LR
comp=Z,2μm,21.0s,MS5.5
WMQ Urumqi 85.46 359⇑ *i*P **P 14 23 28.0 0.0**
WMQ AP pP 14 23 33.0 +1.6
WMQ XP sP 14 23 35.3 +2.7
WMQ PP PP 14 26 47.8 +1.5
WMQ PPP 14 28 44.3
WMQ SKS 14 33 49.3
WMQ S 14 33 57.3
WMQ AMB AMB
comp=Z,38nm,1.6s,mb5.3
WMQ AMB AMB
comp=Z,30nm,5.9s
WMQ LR LR
comp=N,1μm,17.5s,MS5.5
WMQ LR LR
comp=E,1μm,18.6s,MS5.5
WMQ LR LR
comp=Z,1μm,17.5s,MS5.3
USP Ospenovka 85.83 350 P **P 14 23 29.8 -0.1**
SNR=5.8
DL2 Dalian 86.00 25 P **P 14 23 30.8 0.0**
DL2 S 14 34 06.5
DL2 AMB AMB
comp=Z,10.0nm,1.0s,mb5.0
DL2 AMB AMB
comp=Z,290nm,5.1s
DL2 LR LR
comp=N,240nm,16.8s,MS4.8
DL2 LR LR
comp=E,250nm,16.3s,MS4.8
DL2 LR LR
comp=Z,470nm,17.9s,MS4.9
INCN Inchon 86.44 29 PFAKE 14 23 40.0 +7.1
INCN LR LR
comp=Z,623nm,19.0s,MS5.0
ASF Jabal al Asfar 87.75 318 P **P 14 23 40.0 +0.7**
comp=Z,1.1nm,0.3s,mb4.5,baz=66,slow=23,SNR=2.4
AFI Afiamalu 87.88 107 LR LR 14 55 36.2
comp=Z,468nm,20.9s,MS4.9,baz=225,slow=31
MKAR Makanchi Array 88.60 356 P **P 14 23 41.0 -2.3**
comp=Z,4.1nm,1.0s,mb4.7,baz=152,slow=5.5,SNR=23
MKAR Makanchi Array 88.60 356 P **P 14 23 41.0 -2.3**
MAJO Matsushiro 90.42 38 PFAKE 14 24 00.0 +8.2
MAJO LR LR
comp=Z,419nm,20.0s,MS4.9
MJAR Matsushiro Arr 90.42 38 P **P 14 23 51.6 -0.3**
comp=Z,2.2nm,0.9s,mb4.5,baz=204,slow=5.9,SNR=5.0
MJAR LR LR 15 01 48.3
comp=Z,223nm,21.5s,MS4.6,baz=200,slow=34
SONM Songino Array 90.86 12 LR LR 15 02 31.9
comp=Z,2μm,22.0s,MS5.5,baz=201,slow=34
GNI Garni 90.90 328 PFAKE 14 24 00.0 +6.0
GNI LR LR
comp=Z,2μm,22.0s,MS5.4
RAR Rarotonga 91.01 120 PFAKE 14 24 10.0 +15
RAR LR LR
comp=Z,1.0nm,22.0s
CN2 Changchun 91.65 26 *e*P **P 14 23 59.5 +1.9**
CN2 *e*AP pP 14 24 04.3 +3.4
CN2 *e*S 14 34 58.3
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb5.1
CN2 LR LR
comp=N,700nm,19.0s,MS5.3
CN2 LR LR
comp=E,800nm,19.0s,MS5.3
CN2 LR LR
comp=Z,800nm,17.0s,MS5.2
MAK Makhachkala 92.28 331 *e*P **P 14 24 12.1 +12**
MAK *i* S 14 34 29.7
MAK *i* 14 35 00.9
MAK *e*SS SS 14 41 26.1 +12
MAK pmax pmax
comp=Z,41nm,0.4s,mb6.1
MAK MLR MLR
comp=Z,760nm,19.0s,MS5.2
KURK Kurchatov 92.75 354 *e*P **P 14 24 01.8 -0.9**
comp=Z,67nm,2.2s,mb5.7
KURK LR LR
comp=Z,2μm,21.0s,MS5.6
ZAK Zakamensk 92.92 9⇑ *e*P **P 14 24 02.6 -0.8**
ZAK *e* 14 27 48.8
ZAK pmax pmax
comp=Z,19nm,1.7s,mb5.2
ZAK pmax pmax
comp=Z,10.0nm,2.2s,mb4.9
MDJ Mudanjiang 93.77 28 P **P 14 24 08.5 +1.2**
MDJ AP pP 14 24 12.0 +1.3
MDJ XP sP 14 24 13.3 +1.4
MDJ PP PP 14 27 54.8 +2.3
MDJ S 14 35 19.3
MDJ XS sS 14 35 25.3 +3.0
MDJ AMB AMB
comp=Z,9.0nm,1.2s,mb5.1
MDJ AMB AMB
comp=Z,110nm,3.6s
MDJ LR LR
comp=N,287nm,22.9s,MS4.9
MDJ LR LR
comp=E,382nm,19.8s,MS4.9
MDJ LR LR
comp=Z,442nm,18.3s,MS5.0
MDJ Mudanjiang 93.77 28 PFAKE 14 24 20.0 +13
MDJ LR LR
comp=Z,726nm,20.0s,MS5.1
MOY Mondy 93.94 8 *e*P **P 14 24 07.8 -0.3**
TLY Talaya 94.24 9 *e*P **P 14 24 07.1 -2.4**
TLY *e*S 14 34 41.9
TLY *e*PPS 14 36 37.2
TLY pmax pmax
comp=Z,8.0nm,1.5s,mb4.9
TLY MLR MLR
comp=Z,2μm,21.0s,MS5.5
TLY Talaya 94.24 9 PFAKE 14 24 20.0 +10
TLY LR LR
comp=Z,2μm,21.0s,MS5.5
WAKE Wake Island 94.28 68 PFAKE 14 24 20.0 +10
WAKE LR LR
comp=Z,1μm,20.0s,MS5.4
KIV Kislovodsk 94.94 329 *e*P **P 14 24 10.1 -2.6**
KIV pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
KIV Kislovodsk 94.94 329 PFAKE 14 24 20.0 +7.3
KIV LR LR
comp=Z,950nm,21.0s,MS5.2
HIA Hailar 94.97 20 PFAKE 14 24 20.0 +7.2
HIA LR LR
comp=Z,2μm,20.0s,MS5.6
PLCA Paso Flores 95.47 196 LR LR 15 08 31.4
comp=Z,3μm,18.0s,MS5.8,baz=178,slow=36
PLCA Paso Flores 95.47 196 PFAKE 14 24 30.0 +15
PLCA LR LR
comp=Z,4μm,19.0s,MS5.9
ZAL Zalesovo 95.63 358 P **P 14 24 14.2 -1.7**
comp=Z,1.5nm,0.3s,mb4.9,baz=109,slow=19,SNR=4.8
ZAL LR LR 15 06 33.0
comp=Z,1μm,19.2s,MS5.3,baz=280,slow=35
GOF Gofitskoye 95.73 329 *e*P **P 14 24 22.6 +6.3**
TBI Tubuai 95.78 128 *e*SS SS 14 42 06.2 +2.6
comp=Z,378nm,30.5s
TBI *e*LQ 14 51 03.1
comp=Z,709nm,30.0s
TBI *e*LR LR 14 55 10.0
comp=Z,1μm,23.0s
AKTK Aktyubinsk 95.85 341 P **P 14 24 15.9 -1.0**
AKTO Aktyubinsk 95.85 341 P **P 14 24 15.9 -1.0**
comp=Z,1.0nm,0.7s,mb4.4,baz=162,slow=8.8,SNR=4.7
TRQA Tornquist 95.88 203 PFAKE 14 24 30.0 +13
TRQA LR LR
comp=Z,1μm,21.0s,MS5.4
ANTO Ankara 95.89 320 PFAKE 14 24 30.0 +13
ANTO LR LR
comp=Z,1μm,19.0s,MS5.4
BRVK Borovoye 95.99 349 PFAKE 14 24 30.0 +12
BRVK LR LR
comp=Z,850nm,21.0s,MS5.2
CIT Chita 96.15 15 *e*P **P 14 24 18.4 +0.2**
CIT pmax pmax
comp=Z,49nm,2.8s,mb5.4
TORD Torodi Ar. Bea 96.32 282 P **P 14 24 20.3 +1.3**
comp=Z,1.7nm,1.0s,mb4.4,baz=119,slow=4.6,SNR=3.9
IDI Anoyia 96.45 312 P **P 14 24 20.8 +1.2**
comp=Z,8.3nm,1.1s,mb5.1,baz=186,slow=3.4,SNR=4.1
CHKZ Chkalovo 96.55 349 *e*P **P 14 24 18.8 -1.2**
CHKZ pmax pmax
comp=Z,9.0nm,1.4s,mb5.0
CHKZ Chkalovo 96.55 349 *e*P **P 14 24 18.8 -1.2**
comp=Z,8.7nm,1.4s,mb5.0
NVS Novosibirsk 96.59 357 *e*P **P 14 24 13.1 -7.1**
DBIC Dimbokro 96.90 273 LR LR 15 01 39.9
comp=Z,2μm,21.6s,MS5.5,baz=124,slow=32
DBIC Dimbokro 96.90 273 PFAKE 14 24 30.0 +8.4
DBIC LR LR
comp=Z,2μm,22.0s,MS5.5
ANN Anapa 97.75 326 *e*P **P 14 24 30.3 +4.9**
ANN pmax pmax
comp=Z,181nm,1.2s
PPT Papeete 100.14 125 *e*LQ 14 52 56.4
comp=Z,1μm,26.2s
PPT *e*LR LR 14 57 12.4
comp=Z,1μm,23.0s
YSS Yuzh-Sakhalins 100.82 34 PFAKE 14 24 50.0 +11
YSS LR LR
comp=Z,679nm,19.0s,MS5.2
ARU Arti 101.28 344 *e*P Pdif 14 24 34.2 -7.0
ARU Arti 101.28 344 PFAKE 14 24 50.0 +8.8
ARU LR LR
comp=Z,2μm,20.0s,MS5.5
RKT Rikitea 103.75 139 *e*LQ 14 54 23.9
comp=Z,1μm,34.2s
RKT *e*LR LR 14 58 58.9
comp=Z,866nm,30.8s
OBN Obninsk 106.36 332 PFAKE 14 29 30.0 +15
OBN LR LR
comp=Z,953nm,20.0s,MS5.3
YAK Yakutsk 108.89 19 PFAKE 14 29 30.0 +10
YAK LR LR
comp=Z,2μm,19.0s,MS5.6
OKC Ostrava-Krasne 110.23 319 *e*SS SS 14 45 21.8 -1.2
OKC AMS AMS 15 13 30.0
comp=Z,300nm,19.9s
MIDW Midway 111.17 71 PFAKE 14 29 40.0 +16
MIDW LR LR
comp=Z,597nm,21.0s,MS5.2
DPC Dobruska-Polom 111.46 319 *e*PP PP 14 30 28.8 +24
DPC *e*SS SS 14 45 36.2 -3.2
DPC AMS AMS 15 09 10.0
comp=Z,500nm,24.2s
KHC Kasperske Hory 112.05 317 *e*PP PP 14 30 29.1 +20
KHC *e*SS SS 14 45 34.6 -13
KHC AMS AMS 15 15 10.0
comp=Z,300nm,19.2s
PRU Pruhonice 112.11 318 *e*PP PP 14 30 28.1 +18
PRU *e*SS SS 14 45 35.4 -13
PRU AMS AMS 15 07 10.0
comp=Z,500nm,28.4s
PET Petropavlovsk 112.25 38 PFAKE 14 29 40.0 +14
PET LR LR
comp=Z,506nm,19.0s,MS5.1
LVC Limon Verde 112.38 203 PFAKE 14 29 40.0 +14
LVC LR LR
comp=Z,1μm,19.0s,MS5.5
PVCC Panska Ves 112.43 318 AMS AMS 15 13 50.0
comp=Z,900nm,21.1s
TAOE Nuku Hiva Isla 112.62 127 *e*LR LR 15 02 53.7
comp=Z,2μm,23.7s
BRG Berggiesshubel 112.96 318 *e*(P) Pdif 14 25 44.9 +12
comp=Z,4.1nm,1.2s
BRG Berggiesshubel 112.96 318 *e*P Pdif 14 25 44.9 +12
BRG pmax pmax
comp=Z,4.0nm,1.2s
NKC Novy Kostel 113.31 317 *e*SS SS 14 45 59.4 -4.6
NKC AMS AMS 15 20 10.0
comp=Z,500nm,16.3s
MA2 Magadan 113.43 29 PFAKE 14 29 40.0 +12
MA2 LR LR
comp=Z,5μm,19.0s,MS6.2
CLL Collm 113.70 318 *e*Pdif Pdif 14 25 36.0 -0.4
CLL *e*PKiKP PKiKP 14 29 27.0 -1.8
CLL *e*PP PP 14 30 17.0 -4.2
CLL *e*Sdif Sdif 14 38 03.0 -1.4
CLL *e*PS PS 14 40 02.0 +4.3
CLL *e*SS SS 14 46 03.0 -6.1
CLL Collm 113.70 318 *e*P Pdif 14 25 36.0 -0.4
CLL *e* 14 29 27.0
CLL Collm 113.70 318 *e*Pdif Pdif 14 25 36.0 -0.4
CLL *e*PKP PKiKP 14 29 27.0 -1.8
CLL *e*Sdif Sdif 14 38 03.0 -1.4
ESLA Sonseca Array 116.66 300 PFAKE 14 29 50.0 +15
ESLA LR LR
comp=Z,3μm,20.0s,MS5.9
LVZ Lovozero 116.80 340 PFAKE 14 29 50.0 +15
LVZ LR LR
comp=Z,970nm,20.0s,MS5.4
TIXI Tiksi 116.92 13 *i* PKIKP PKPdf 14 29 34.9 -0.1
TIXI *e* 14 30 41.6
TIXI *e*SS SS 14 46 44.0 -7.4
TIXI pmax pmax
comp=Z,2.0nm,1.2s
TIXI MLR MLR
comp=Z,1μm,21.0s,MS5.4
TIXI Tiksi 116.92 13 PFAKE 14 29 50.0 +15
TIXI LR LR
comp=Z,1μm,21.0s,MS5.4
LPAZ La Paz 118.10 206 PFAKE 14 29 50.0 +13
LPAZ LR LR
comp=Z,734nm,21.0s,MS5.3
SMY Shemya 119.65 44 PFAKE 14 29 50.0 +10
SMY LR LR
comp=Z,636nm,19.0s,MS5.3
KEV Kevo 120.09 339 PFAKE 14 29 50.0 +8.9
KEV LR LR
comp=Z,1μm,20.0s,MS5.5
KONO Kongsberg 120.10 325 PFAKE 14 29 50.0 +8.8
KONO LR LR
comp=Z,949nm,21.0s,MS5.4
NAO01 NORSAR Array S 120.20 326 PFAKE 14 29 50.0 +8.6
NAO01 LR LR
comp=Z,689nm,19.0s,MS5.3
ARCES ARCESS Array B 120.34 339 PKP PKPdf 14 29 39.4 -2.2
comp=Z,1.4nm,0.8s,baz=284,slow=4.9,SNR=3.1
BILL Bilibino 123.96 26 *i* PKIKP PKPdf 14 29 46.4 -2.2
BILL pmax pmax
comp=Z,2.0nm,1.2s
BILL Bilibino 123.96 26 PFAKE 14 30 00.0 +11
BILL LR LR
comp=Z,505nm,21.0s,MS5.2
ESK Eskdalemuir 124.04 316 PFAKE 14 30 00.0 +11
ESK LR LR
comp=Z,631nm,20.0s,MS5.3
NNA Nana 124.59 198 PFAKE 14 30 00.0 +10
NNA LR LR
comp=Z,705nm,19.0s,MS5.3
KBS Kingsbay 128.37 346 PFAKE 14 30 10.0 +13
KBS LR LR
comp=Z,920nm,20.0s,MS5.5
BORG Borgarnes 135.29 325 PFAKE 14 30 20.0 +10
BORG LR LR
comp=Z,880nm,22.0s,MS5.4
OTAV Otavalo 136.77 199 PFAKE 14 30 30.0 +17
OTAV LR LR
comp=Z,3μm,22.0s,MS6.0
PAYG Puerto Ayora 137.49 182 PFAKE 14 30 30.0 +16
PAYG LR LR
comp=Z,2μm,20.0s,MS5.8
KDAK Kodiak Island 139.13 46 PFAKE 14 30 30.0 +13
KDAK LR LR
comp=Z,130nm,20.0s,MS4.7
PMR Palmer 140.94 40 PFAKE 14 30 30.0 +10
PMR LR LR
comp=Z,686nm,22.0s,MS5.4
COLA College 141.20 35 PFAKE 14 30 30.0 +9.1
COLA LR LR
comp=Z,494nm,20.0s,MS5.3
ILAR Eielson Array 141.63 35 PKP PKPdf 14 30 19.5 -2.2
comp=Z,0.5nm,1.0s,baz=318,slow=4.3,SNR=5.5
SDV Santo Domingo 142.22 215 PFAKE 14 30 40.0 +17
SDV LR LR
comp=Z,562nm,21.0s,MS5.3
DAWY Dawson 144.96 35 *e*PKPdf PKPdf 14 30 25.7 -1.8
INK Inuvik 145.58 26 PKPbc PKPbc 14 30 27.2 -1.6
comp=Z,44nm,1.1s,baz=329,slow=2.9,SNR=69
INK Inuvik 145.58 26 *e*PKP PKPdf 14 30 26.9 -1.7
SFJD Kangerlussuaq 146.57 332 *i* P PKPdf 14 30 41.7 +11
comp=Z,33nm,1.0s
SFJD Kangerlussuaq 146.57 332 *i* PKP2 PKPab 14 30 41.7 +8.9
SFJD pmax pmax
comp=Z,33nm,1.0s
RES Resolute Bay 147.20 2 *e*PKP2 PKPab 14 30 30.5 -4.8
SJG San Juan 147.83 230 PKPbc PKPbc 14 30 37.4 +2.1
comp=Z,6.4nm,0.3s,baz=230,slow=22,SNR=6.2
SJG San Juan 147.83 230 PKPbc PKPbc 14 30 37.5 +2.1
SJG LR LR
comp=Z,519nm,21.0s,MS5.3
JTS JuntasAbangare 147.88 192 *e*PKPab PKPab 14 30 38.6 +0.7
JTS LR LR
comp=Z,2μm,20.0s,MS5.8
SKAG Skagway 147.99 42 *e*PKPbc PKPbc 14 30 35.7 0.0
SIT Sitka 148.47 46 PFAKE 14 30 40.0 +6.6
SIT LR LR
comp=Z,718nm,20.0s,MS5.5
DLBC Dease Lake 150.91 42 PKPbc PKPbc 14 30 43.0 0.0
comp=Z,8.7nm,1.1s,baz=293,slow=2.6,SNR=8.2
DLBC Dease Lake 150.91 42 *e*PKPbc PKPbc 14 30 42.6 -0.4
YKA Yellowknife Ar 155.35 26 PKPbc PKPdf 14 30 52.5 +8.8
comp=Z,0.8nm,0.8s,baz=296,slow=2.2,SNR=5.2
YKA Yellowknife Ar 155.35 26 PKPbc PKPdf 14 30 52.5 +8.8
HOPS Hopland 155.88 87 PFAKE 14 31 00.0 +16
HOPS LR LR

comp=Z,651nm,19.0s,MS5.5
SNCC San Nicolas Is 156.23 102 PFAKE 14 31 00.0 +15
SNCC LR LR
comp=Z,1μm,20.0s,MS5.7
OCWA Octopus Mounta 156.27 65 PFAKE 14 31 00.0 +15
OCWA LR LR
comp=Z,953nm,20.0s,MS5.6
SAO San Andreas Ge 156.34 93 PFAKE 14 31 00.0 +15
SAO LR LR
comp=Z,976nm,21.0s,MS5.6
BBSR BB Station 156.65 254 PFAKE 14 31 00.0 +15
BBSR LR LR
comp=Z,601nm,19.0s,MS5.4
WDC Whiskeytown Da 156.70 83 PFAKE 14 31 00.0 +14
WDC LR LR
comp=Z,756nm,19.0s,MS5.5
COR Corvallis 156.80 73 PFAKE 14 31 00.0 +14
COR LR LR
comp=Z,587nm,20.0s,MS5.4
HUMO Hull Mountain 156.80 78 PFAKE 14 31 00.0 +14
HUMO LR LR
comp=Z,776nm,21.0s,MS5.5
YBH Yreka Blue Hor 156.83 80 PFAKE 14 31 00.0 +14
YBH LR LR
comp=Z,689nm,20.0s,MS5.5
CMB Columbia Colle 157.58 91 PFAKE 14 31 00.0 +13
CMB LR LR
comp=Z,872nm,20.0s,MS5.6
ISA Isabella 158.11 98 PFAKE 14 31 00.0 +13
ISA LR LR
comp=Z,183nm,21.0s,MS4.9
MOD Modoc 158.63 81 PFAKE 14 31 00.0 +12
MOD LR LR
comp=Z,664nm,19.0s,MS5.5
PFO Pinyon Flat Ob 158.64 105 PFAKE 14 31 00.0 +12
PFO LR LR
comp=Z,896nm,19.0s,MS5.6
DAC Darwin (Calif) 159.02 97 PFAKE 14 31 00.0 +12
DAC LR LR
comp=Z,813nm,20.0s,MS5.6
NVAR Mina Array Bea 159.26 91 PKP PKPdf 14 30 49.8 +1.1
comp=Z,0.1nm,0.3s,baz=264,slow=1.8,SNR=3.0
NVAR PKPab PKPab 14 31 25.9 0.0
comp=Z,3.2nm,1.0s,baz=221,slow=5.9,SNR=8.1
SCHQ Schefferville 159.34 317 PFAKE 14 31 00.0 +11
SCHQ LR LR
comp=Z,2μm,21.0s,MS5.9
MNV Mina 159.38 91 PFAKE 14 31 00.0 +11
MNV LR LR
comp=Z,1μm,22.0s,MS5.6
HAWA Hanford 159.49 68 PFAKE 14 31 00.0 +11
HAWA LR LR
comp=Z,67nm,22.0s,MS4.4
WVOR Wild Horse Val 159.93 80 PFAKE 14 31 00.0 +11
WVOR LR LR
comp=Z,868nm,19.0s,MS5.6
TPH Tonopah 159.95 93 PFAKE 14 31 00.0 +11
TPH LR LR
comp=Z,921nm,19.0s,MS5.6
TPNV Topopah Spring 160.28 97 PFAKE 14 31 00.0 +10
TPNV LR LR
comp=Z,912nm,22.0s
BMN Battle Mountai 160.62 86 PFAKE 14 31 00.0 +10
BMN LR LR
comp=Z,680nm,19.0s
NEW Newport 160.93 62 PFAKE 14 31 00.0 +9.4
NEW LR LR
comp=Z,862nm,21.0s
BMO Blue Mountains 161.08 73 PFAKE 14 31 00.0 +9.3
BMO LR LR
comp=Z,1μm,21.0s
TUC Tucson 161.87 116 *e*PKPdf PKPdf 14 30 53.1 +1.5
TUC LR LR
comp=Z,541nm,20.0s
ELK Elko 162.16 86 PFAKE 14 31 00.0 +8.2
ELK LR LR
comp=Z,856nm,22.0s
HLID Hailey 163.12 77 PFAKE 14 31 00.0 +7.2
HLID LR LR
comp=Z,1μm,20.0s
MSO Missoula 163.29 66 PFAKE 14 31 00.0 +7.1
MSO LR LR
comp=Z,506nm,19.0s
MVU Marysvale 163.82 96 PFAKE 14 31 00.0 +6.6
MVU LR LR
comp=Z,934nm,22.0s
DUG Dugway 163.84 89 PFAKE 14 31 00.0 +6.5
DUG LR LR
comp=Z,785nm,22.0s
DWPF Disney 163.88 214 PFAKE 14 31 00.0 +6.5
DWPF LR LR
comp=Z,710nm,22.0s
LTX Lajitas 163.97 138 PFAKE 14 31 00.0 +6.4
LTX LR LR
comp=Z,905nm,22.0s
MPU Maple Canyon 164.68 91 PFAKE 14 31 10.0 +16
MPU LR LR
comp=Z,1μm,19.0s
MNTX Cornudas Mount 164.88 128 *e*PKPdf PKPdf 14 30 53.4 -1.0
MNTX LR LR
comp=Z,986nm,20.0s
WES Weston 165.03 278 PFAKE 14 31 00.0 +5.5
WES LR LR
comp=Z,802nm,19.0s
HWUT Hardware Ranch 165.04 85 PFAKE 14 31 10.0 +15
HWUT LR LR
comp=Z,1μm,21.0s
BOZ Bozeman (W) 165.04 69 PFAKE 14 31 10.0 +15
BOZ LR LR
comp=Z,994nm,21.0s
HRV Harvard--Oak R 165.21 279 PFAKE 14 31 10.0 +15
HRV LR LR
comp=Z,653nm,20.0s
SRU San Rafael 165.26 95 *e*PKIKP PKPdf 14 30 56.2 +1.5
AHID Auburn Hatcher 165.50 80 PFAKE 14 31 10.0 +15
AHID LR LR
comp=Z,860nm,20.0s
LBNH Lisbon 165.53 285 PFAKE 14 31 10.0 +15
LBNH LR LR
comp=Z,967nm,20.0s
YMR Madison River 165.60 73 PFAKE 14 31 10.0 +15
YMR LR LR
comp=Z,1μm,22.0s
EGMT Eagleton 165.78 59 PFAKE 14 31 10.0 +15
EGMT LR LR
comp=Z,714nm,20.0s
LKWY Lake 166.01 73 PFAKE 14 31 10.0 +15
LKWY LR LR
comp=Z,2μm,19.0s
ANMO Albuquerque 166.34 116 PFAKE 14 31 10.0 +14
ANMO LR LR
comp=Z,673nm,20.0s
BW06 Boulder Array 166.64 81 PFAKE 14 31 10.0 +14
BW06 LR LR
comp=Z,1μm,20.0s
PDAR Pinedale Array 166.64 81 PKP PKPdf 14 30 55.7 -0.1
comp=Z,0.4nm,0.4s,baz=323,slow=0.7,SNR=6.3
PDAR PKPab PKPab 14 31 57.4 -0.9
comp=Z,1.1nm,0.9s,baz=270,slow=3.0,SNR=4.0
JCT Junction City 166.69 147 PFAKE 14 31 10.0 +14
JCT LR LR
comp=Z,870nm,19.0s
NCB Newcomb 167.19 285 PFAKE 14 31 10.0 +14
NCB LR LR
comp=Z,963nm,20.0s
HKT Hockley 167.46 162 PFAKE 14 31 10.0 +14
HKT LR LR
comp=Z,926nm,21.0s
BINY Binghamton 168.46 276 PFAKE 14 31 10.0 +13
BINY LR LR
comp=Z,1μm,20.0s
LAO LASA Array 168.48 61 PFAKE 14 31 10.0 +13
LAO LR LR
comp=Z,1μm,19.0s
CBN Corbin 168.52 255 PFAKE 14 31 10.0 +13
CBN LR LR
comp=Z,1μm,20.0s
ISCO Idaho Springs 169.10 97 PFAKE 14 31 10.0 +12
ISCO LR LR
comp=Z,1μm,21.0s
AMTX Amarillo 169.31 128 PFAKE 14 31 10.0 +12
AMTX LR LR
comp=Z,945nm,19.0s
NATX Nacogdoches 169.46 165 PFAKE 14 31 10.0 +12
NATX LR LR
comp=Z,899nm,20.0s
SSPA Standing Stone 169.66 267 PFAKE 14 31 10.0 +12
SSPA LR LR
comp=Z,872nm,19.0s
BLA Blacksburg 170.19 244 PFAKE 14 31 10.0 +12
BLA LR LR
comp=Z,70nm,21.0s
LRAL Lakeview Retre 170.35 203 PFAKE 14 31 10.0 +12
LRAL LR LR
comp=Z,811nm,22.0s
RSSD Black Hills 170.59 73 PFAKE 14 31 10.0 +12
RSSD LR LR
comp=Z,1μm,19.0s
WMOK Wichita Mounta 170.76 140 PFAKE 14 31 10.0 +12
WMOK LR LR
comp=Z,673nm,19.0s
MCWV Mont Chateau 170.85 259 PFAKE 14 31 10.0 +11
MCWV LR LR
comp=Z,1μm,20.0s
ERPA Erie 171.43 275 PFAKE 14 31 10.0 +11
ERPA LR LR
comp=Z,753nm,20.0s
OXF Oxford 172.33 193 PFAKE 14 31 10.0 +11
OXF LR LR
comp=Z,1μm,22.0s
MIAR Mount Ida 172.37 167 PFAKE 14 31 10.0 +11
MIAR LR LR
comp=Z,810nm,20.0s
PLAL Pickwick Lake 172.48 202 PFAKE 14 31 10.0 +11
PLAL LR LR
comp=Z,769nm,20.0s
CBKS Cedar Bluff 172.96 114 PFAKE 14 31 10.0 +10
CBKS LR LR
comp=Z,1μm,20.0s
ACSO Alum Creek Sta 173.32 257 PFAKE 14 31 10.0 +10
ACSO LR LR
comp=Z,669nm,22.0s
WVT Waverly 173.46 207 PFAKE 14 31 10.0 +10
WVT LR LR
comp=Z,620nm,19.0s
EYMN Ely 174.07 360 PFAKE 14 31 10.0 +10
EYMN LR LR
comp=Z,1μm,22.0s
WCI Wyandotte Cave 174.50 228 PFAKE 14 31 10.0 +10
WCI LR LR
comp=Z,727nm,21.0s
ECSD EROS,Sioux Fal 175.88 64 *e*PKPdf PKPdf 14 30 60.0 -0.5
CCM Cathedral Cave 176.04 183 PFAKE 14 31 10.0 +10
CCM LR LR
comp=Z,860nm,19.0s

MAN 29 14:22:53.6, 1508N×12207E, h11km, mb2.2, ML3.9, MS1.4, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
POLP	**Polilio Island**	**0.37**	**200**	*e*P	Pg	14 23 01.7	+0.7
POLP				*e*S	Sg	14 23 08.2	+2.2
BALP	**Baler**	**0.81**	**324**	*e*P	Pg	14 23 09.2	-0.2
PCPH	**Palayan**	**1.06**	**297**	*e*P	Pb	14 23 13.4	-0.5
PCPH				*e*S	Sg	14 23 29.0	+1.2
GQP	**Guinayangan**	**1.22**	**163↓**	*e*P	Pn	14 23 15.8	-0.8
GQP				*e*S	Sb	14 23 32.9	+0.4
BOAC	**Boac**	**1.62**	**188**	*e*P	Pn	14 23 22.3	+0.1
CAUP	**Cauayan**	**1.87**	**353**	*e*P	Pn	14 23 25.1	-0.5
PALP	**Palanan**	**2.00**	**10**	*e*P	Pn	14 23 21.7	-5.7
PVCP	**Virac**	**2.50**	**126**	*e*P	Pn	14 23 37.1	+2.9
APYP	**Conner**	**2.88**	**344**	*e*P	Pn	14 23 39.5	+0.1

*ISCJB **29** 14:27:18.7±1.1, 5715S±02×269W±05, h10km, mb3.9/4, Error ellipse: s-maj=40.5km s-min=21.0km az=134.9*
*NEIC **29** 14:27:21.0±1.4, 5691S×2532W, h40km, mb3.8/2, Error ellipse: s-maj=83.6km s-min=15.7km az=60.0*
*IDC **29** 14:27:31.4±9.6, 5721S×2697W, h107km±89km, mb3.6/4, mb1 3.6/5, mb1mx3.5/16, mbtmp3.9/5, ML3.3/1, Error ellipse: s-maj=40.3km s-min=24.5km az=63.0*
ISC 29 14:27:19.8±1.1, 572S±02×267W±05, h10km, n11, σ0§54/8, mb3.9/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**17.58**	**155**	P	**Pn**	**14 31 29.0**	**+4.2**
	0.1nm,0.3s,baz=310,slow=10,SNR=15						
SNAA	**Sanae**	**17.58**	**155**	*e*P	**Pn**	**14 31 21.0**	**-3.8**
	2.4nm,0.8s						
VNDA	**Vanda**	**45.42**	**183**	P	**P**	**14 35 38.7**	**+0.1**
	0.7nm,0.6s,mb3.7,baz=190,slow=7.2,SNR=7.9						
VNDA	**Vanda**	**45.42**	**183**	P	**P**	**14 35 38.7**	**+0.1**
SIV	**San Ignacio**	**48.56**	**314**	P	**P**	**14 36 02.7**	**-0.5**
	0.8nm,0.5s,mb4.0,baz=180,slow=10,SNR=5.9						
LPAZ	**La Paz**	**51.25**	**306**	P	**P**	**14 36 24.2**	**+0.6**
	1.2nm,0.5s,mb4.1,baz=120,slow=5.2,SNR=7.0						
LPAZ	**La Paz**	**51.25**	**306**	*e*P	**P**	**14 36 23.9**	**+0.2**
	1.4nm,0.6s,mb4.1						
TORD	**Torodi Ar. Bea**	**73.95**	**29**	P	**P**	**14 38 55.3**	**+0.1**
	0.8nm,0.5s,mb3.9,baz=196,slow=6.4,SNR=6.6						
BRG	**Berggiesshubel**	**112.81**	**27**	*e*(P)	PKiKP	14 45 53.0	-3.8
BRG				*e*		14 50 12.0	
BRG	comp=N,287nm,17.6s						
BRG	comp=E,152nm,18.9s						
BRG	comp=Z,240nm,17.6s						
INK	**Inuvik**	**146.85**	**319**	*e*PKPbc	PKPbc	14 46 58.5	-3.7
ILAR	**Eielson Array**	**151.06**	**310**	PKPbc	PKPbc	14 47 09.4	-3.5
	comp=Z,0.3nm,0.5s,baz=136,slow=2.6,SNR=6.1						

*ISCJB **29** 14:34:47.7±0.5, 4431N±003×755E±004, h3km±9km, Error ellipse: s-maj=5.3km s-min=4.6km az=132.3*
*ROM **29** 14:34:47.6±0.1, 4430N×755E, h10km, Md2.2/5, Ml2.0/1, Error ellipse: s-maj=3.9km s-min=1.3km az=32.0*
*STR **29** 14:34:50.3±0.6, 4416N×755E, h10km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 29 14:34:48.2±0.5, 4431N±003×756E±004, h6km±7km, n14, σ0§59/21, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DOI	**San Damiano**	**0.30**	**312**	Pg	**Pg**	**14 34 54.2**	**+0.2**
DOI				Sg	**Sg**	**14 34 58.8**	**+0.8**
	143nm,0.1s						
SAOF	**Saorge**	**0.32**	**180**	Pg	**Pg**	**14 34 54.1**	**-0.3**
SAOF				Sg	**Sg**	**14 34 58.5**	**-0.1**
AUTN	**L'Aution**	**0.32**	**197**	Pg	**Pg**	**14 34 54.4**	**-0.1**
AUTN				Sg	**Sg**	**14 34 58.8**	**+0.1**
LUCF	**Luceram**	**0.44**	**200**	Pg	**Pg**	**14 34 56.5**	**-0.2**
IMI	**Imperia**	**0.46**	**149**	Pg	**Pg**	**14 34 56.9**	**-0.2**
	30nm,0.1s						
FIN	**Finale Ligure**	**0.48**	**101**	Pg	**Pg**	**14 34 57.5**	**+0.1**
	14nm,0.1s						
MVIF	**Mont Vial**	**0.50**	**216**	Pg	**Pg**	**14 34 57.7**	**-0.2**
MVIF				Sg	**Sg**	**14 35 04.8**	**+0.4**
QLNO	**Quiliano**	**0.57**	**88**	Pg	**Pg**	**14 34 59.2**	**+0.1**
QLNO				Sg	**Sg**	**14 35 06.7**	**+0.2**
REVF	**Revere**	**0.58**	**194**	Pg	**Pg**	**14 34 59.7**	**+0.3**
BNI	**Bardonecchia**	**0.97**	**320**	Pg	**Pg**	**14 35 06.2**	**-0.7**
BNI				Sg	**Sg**	**14 35 18.9**	**-0.7**
STOF	**St-Etienne Org**	**1.23**	**256**	Pn	**Pn**	**14 35 13.6**	**+1.8**
TAVF	**Tavernes**	**1.28**	**238**	Pn	**Pn**	**14 35 11.1**	**-1.5**
VILF	**Villemus**	**1.40**	**252**	Pn	**Pn**	**14 35 14.1**	**-0.1**
PUYF	**Puyloubier**	**1.55**	**241**	Pn	**Pn**	**14 35 16.5**	**+0.3**
PUYF				Sg	**Sg**	**14 35 37.9**	**-0.1**

*ISCJB **29** 14:44:58.1±0.5, 2822S±009×1264W±0.10, h10km, mb4.0/15, MS4.1/5, Error ellipse: s-maj=13.8km s-min=12.0km az=149.9*
*IDC **29** 14:44:58.3±0.7, 2824S×1265W, h0km, mb4.0/12, mb1 4.1/12, mb1mx4.0/21, mbtmp4.0/12, MS4.2/5, Ms1 4.2/5, ms1mx4.0/16, Error ellipse: s-maj=22.7km s-min=17.3km az=169.0*
*MOS **29** 14:44:58.6±1.7, 2827S×1259W, h10km, mb4.9/1, Error ellipse: s-maj=29.2km s-min=24.9km az=12.7*
*NEIC **29** 14:44:59.8±0.5, 2823S×1264W, h10km, mb4.6/4, Error ellipse: s-maj=19.1km s-min=12.6km az=177.0*
ISC 29 14:44:59.9±0.5, 2825S±009×1262W±009, h10km, n26, σ0§81/23, mb4.0/15, MS4.1/5, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSUM	**Tsumeb**	**29.01**	**79**	LR	LR	14 59 25.8	
	comp=Z,370nm,19.9s,MS4.0,baz=323,slow=30						
SUR	**Sutherland**	**29.08**	**106**	LR	LR	14 59 50.7	
	comp=Z,481nm,19.7s,MS4.1,baz=275,slow=31						
BOSA	**Boshof**	**33.22**	**100**	P	**P**	**14 51 36.5**	**-0.5**
	1.9nm,0.9s,mb4.0,baz=260,slow=17,SNR=2.4						
BOSA	**Boshof**	**33.22**	**100**	P	**P**	**14 51 36.5**	**-0.5**
LBTB	**Lobatse**	**34.22**	**94**	P	**P**	**14 51 45.2**	**-0.5**
	3.9nm,0.8s,mb4.4,baz=262,slow=12,SNR=5.4						
LBTB	**Lobatse**	**34.22**	**94**	*e*P	**P**	**14 51 44.6**	**-1.1**
LBTB				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
LBTB	**Lobatse**	**34.22**	**94**	*e*P	**P**	**14 51 44.6**	**-1.0**
	comp=Z,14nm,1.2s,mb4.8						
BDFB	**Brasilia**	**35.02**	**283**	P	**P**	**14 51 52.6**	**0.0**
	comp=Z,3.2nm,0.6s,mb4.5,baz=97,slow=6.9,SNR=5.6						
BDFB				LR	LR	15 03 34.9	
	comp=Z,494nm,19.2s,MS4.3,baz=136,slow=32						
MATP	**Matopo**	**38.12**	**88**	P	**P**	**14 52 18.6**	**-0.4**
	comp=Z,3.4nm,0.7s,mb4.2,baz=248,slow=7.1,SNR=10.0						
MATP				LR	LR	15 05 50.9	
	comp=Z,532nm,19.0s,MS4.4,baz=322,slow=33						
TRQA	**Tornquist**	**42.05**	**243**	*e*P	**P**	**14 52 51.0**	**-0.6**
	comp=Z,1.5nm,0.5s,mb3.9						
VNA1	**Neumayer--Stat**	**42.51**	**178**	*e*	**P**	**14 52 56.2**	**+0.8**
VNA1				*e*		14 53 03.4	
VNA2	**Neumayer--Watz**	**42.81**	**177**	*e*	**P**	**14 52 57.9**	**0.0**
	baz=347,slow=7.7						
VNA2				*e*		14 53 04.1	
VNA2				*e*		14 53 06.3	
VNA3	**Neumayer Olymp**	**43.06**	**179**	*e*	**P**	**14 52 59.6**	**-0.3**
VNA3				*e*		14 53 06.0	
VNA3				*e*		14 53 07.3	
VNA3				*e*		14 53 16.4	
TORD	**Torodi Ar. Bea**	**43.43**	**21**	P	**P**	**14 53 03.0**	**+0.1**
	comp=Z,3.0nm,1.0s,mb4.0,baz=192,slow=7.0,SNR=9.5						
SNAA	**Sanae**	**43.80**	**176**	P	**P**	**14 53 07.3**	**+1.4**
	comp=Z,0.8nm,0.9s,mb3.4,baz=11,slow=13,SNR=3.6						
SNAA				LR	LR	15 05 46.4	
	comp=Z,111nm,18.6s,MS3.8,baz=236,slow=28						
SNAA	**Sanae**	**43.80**	**176**	*e*	**P**	**14 52 57.1**	**-8.8**
SNAA				*e*		14 53 04.2	
CFAA	**Coronel Fontan**	**47.89**	**252**	P	**P**	**14 53 36.4**	**-1.7**
	comp=Z,0.2nm,0.4s,mb3.5,baz=90,slow=6.1,SNR=3.0						
SAML	**Samuel**	**51.22**	**282**	*e*P	**P**	**14 54 04.0**	**+0.5**
	comp=Z,6.6nm,1.5s,mb4.3						
SAML				*e*		14 54 11.2	
LPAZ	**La Paz**	**52.34**	**271**	P	**P**	**14 54 12.0**	**+0.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=204,slow=4.9,SNR=3.9						
LPAZ	**La Paz**	**52.34**	**271**	P	**P**	**14 54 12.0**	**+0.1**
QSPA	**South Pole Qui**	**61.97**	**180**	*e*P	**P**	**14 55 20.5**	**+0.4**
	comp=Z,9.2nm,1.0s,mb4.9						
VNDA	**Vanda**	**74.42**	**179**	P	**P**	**14 56 38.5**	**+0.4**
	comp=Z,0.9nm,1.0s,mb3.6,baz=190,slow=6.5,SNR=3.0						
BRTR	**Keskin Array B**	**80.17**	**34**	P	**P**	**14 57 11.8**	**+1.4**
	comp=Z,1.4nm,1.0s,mb3.9,baz=172,slow=3.5,SNR=5.4						
AKASG	**Malin Array Be**	**86.87**	**25**	P	**P**	**14 57 43.5**	**-1.3**
	comp=Z,0.3nm,0.3s,mb4.0,baz=221,slow=4.9,SNR=6.0						
NOA	**NORSAR Array B**	**91.07**	**11**	P	**P**	**14 58 05.8**	**+1.2**
	comp=Z,0.9nm,0.7s,mb4.2,baz=199,slow=5.0,SNR=2.4						
ILAR	**Eielson Array**	**133.58**	**335**	PKP	PKPdf	15 04 15.9	-0.7
	comp=Z,0.3nm,0.6s,baz=350,slow=1.9,SNR=7.4						

*CSEM **29** 14:48:37.5, 3772N×2082E, h14km, MD3.5/5, After ATH*
*ATH **29** 14:48:37.1, 3773N×2086E, h5km, MD3.6/4*
*NEIC **29** 14:48:37.5, 3772N×2082E, h14km, MD3.5(ATH), After ATH.*
*ISCJB **29** 14:48:38.3±1.0, 3776N±006×2088E±008, h10km, Error ellipse: s-maj=10.7km s-min=5.4km az=97.7*
ISC 29 14:48:38.7±1.1, 3776N±006×2088E±008, h10km, n12, σ1§20/17, 1D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.48**	**331**	*e*PB	**Pg**	**14 48 46.8**	**-1.3**
VLS				*e*SB	**Sg**	**14 48 54.6**	**+0.2**
VLS	**Valsamata**	**0.48**	**331**	*e*Pg	**Pg**	**14 48 47.1**	**-1.0**
VLS				*e*Sb	**Sg**	**14 48 54.8**	**+0.4**
RLS	**Riolos of Patr**	**0.55**	**57↓**	*e*/PB	**Pg**	**14 48 47.5**	**-2.0**
RLS				*e*SB	**Sg**	**14 48 56.7**	**0.0**
RLS	**Riolos of Patr**	**0.55**	**57**	*e*Pb	**Pg**	**14 48 48.1**	**-1.4**
ITM	**Ithomi**	**1.01**	**124**	*e*PG	**Pg**	**14 48 56.2**	**-2.0**
ITM				*e*SB	**Sg**	**14 49 11.2**	**-0.2**
ITM	**Ithomi**	**1.01**	**124**	*e*Pg	**Pg**	**14 48 56.3**	**-1.9**
ITM				*e*Sb	**Sg**	**14 49 12.3**	**+0.9**
EVR	**Evrytania**	**1.37**	**32**	*e*PB	**Pn**	**14 49 04.6**	**+0.7**
EVR	**Evrytania**	**1.37**	**32**	*e*Pb	**Pn**	**14 49 05.0**	**+1.1**
LKR	**Lokris**	**1.89**	**61**	*e*PG	**Pn**	**14 49 12.5**	**+1.4**
MGER	**Gerania Oros**	**1.90**	**82**	*e*Pb	**Pn**	**14 49 11.4**	**+0.3**
VLI	**Veliai**	**1.94**	**122**	*e*PN	**Pn**	**14 49 14.4**	**+2.6**
VLI	**Veliai**	**1.94**	**122**	*e*Pg	**Pg**	**14 49 15.5**	**-0.5**

*MOS **29** 14:53:49.9±1.4, 4055×10291E, h33km, mb4.8/12, Error ellipse: s-maj=21.4km s-min=10.0km az=117.5*
*ISCJB **29** 14:53:52.3±1.7, 4285±008×10283E±009, h65km±15km, mb4.6/30, Error ellipse: s-maj=18.9km s-min=8.9km az=100.1*
*BJI **29** 14:53:53.0, 4305×10280E, h72km, mB5.0, mb4.8, Ms4.6, Msz4.3*
*IDC **29** 14:53:56.0±3.0, 4365×10274E, h83km±26km, mb4.2/12, mb1 4.2/13, mb1mx4.1/19, mbtmp4.4/13, Error ellipse: s-maj=29.8km s-min=11.9km az=48.0*
*NEIC **29** 14:53:55.0±1.2, 4325×10277E, h73km±9km, mb4.9/15, Error ellipse: s-maj=15.5km s-min=5.6km az=48.0*
ISC 29 14:53:55.2±1.5, 428S±008×10282E±009, h71km±12km, n61, σ0§97/56, mb4.5/30, 1C, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**8.03**	**331**	P	**Pn**	**14 55 47.8**	**-1.3**
	0.6nm,0.3s,baz=137,slow=19,SNR=2.4						
KULM	**Kulim**	**9.74**	**347**	Pn	**Pn**	**14 56 13.2**	**+0.7**
MDRS	**Chennai**	**28.27**	**308**	*ex*	x	15 00 07.0	
MDRS				*ex*	x	15 04 15.0	
WRA	**Warramunga Arr**	**34.43**	**120**	P	**P**	**15 00 36.3**	**+0.6**
	2.4nm,0.4s,mb4.4,baz=303,slow=9.3,SNR=38						
WRAB	**Tennant Creek**	**34.43**	**120**	*e*P	**P**	**15 00 36.1**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**34.43**	**120**	*e*P	**P**	**15 00 36.1**	**+0.3**
	comp=Z,5.8nm,0.6s,mb4.6						
WB2	**Warramunga Arr**	**34.44**	**120**	*e*P	**P**	**15 00 35.9**	**+0.1**
JIRN	**Jiri**	**35.57**	**334**	*e*P	**P**	**15 00 46.9**	**+1.3**
	comp=Z,28nm,0.7s,mb5.3						
ASAR	**Alice Springs**	**35.65**	**126**	P	**P**	**15 00 46.8**	**+0.5**
	comp=Z,3.0nm,0.7s,mb4.3,baz=298,slow=7.9,SNR=69						
ASAR				PcP	PcP	15 03 14.3	+1.0
	comp=Z,1.0nm,0.6s,baz=307,slow=2.6,SNR=6.4						
ASAR				S	**S**	**15 06 16.7**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=298,slow=15,SNR=3.4						
PKI	**Pulchoki**	**35.84**	**333**	*e*P	**P**	**15 00 48.3**	**+0.4**
GUN	**Gumba**	**35.92**	**334**	*e*P	**P**	**15 00 49.9**	**+1.3**
	comp=Z,51nm,0.5s						
DMN	**Daman**	**36.01**	**333**	*e*P	**P**	**15 00 50.3**	**+1.0**
KKN	**Kakani**	**36.09**	**333**	*e*P	**P**	**15 00 50.8**	**+0.8**
	comp=Z,26nm,0.5s,mb5.4						
KKN	**Kakani**	**36.09**	**333**	*e*P	**P**	**15 00 50.8**	**+0.8**
KKN				pmax	pmax		
	comp=Z,26nm,0.5s,mb5.4						
GKN	**Gorkha**	**36.56**	**332**	*e*P	**P**	**15 00 54.8**	**+0.8**
	comp=Z,24nm,0.5s,mb5.4						
KOLN	**Koldanda**	**36.86**	**331**	*e*P	**P**	**15 00 57.6**	**+1.1**
	comp=Z,37nm,0.7s,mb5.4						
NJ2	**Nanjing**	**39.21**	**22**	*e*P	**P**	**15 01 15.0**	**-1.3**
NJ2				PP	PP	15 02 47.0	-0.5
NJ2				S	**S**	**15 07 13.0**	**+1.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,150nm,9.4s						
NJ2				LR	LR		
	comp=N,380nm,19.9s						
NJ2				LR	LR		
	comp=E,480nm,16.4s						
NJ2				LR	LR		
	comp=Z,330nm,15.8s						
SSE	**Sheshan**	**39.30**	**25**	*e*P	**P**	**15 01 15.8**	**-1.3**
SSE				AMB	AMB		

comp=Z,10.0nm,0.8s,mb4.7
SSE AMB AMB
comp=Z,247nm,12.0s
SSE Sheshan 39.30 25 *e*P **P 15 01 15.8 -1.3**
comp=Z,10.0nm,0.8s,mb4.7
NDI New Delhi 40.99 325 *e*P **P 15 01 31.0 0.0**
CTAO Charters Tower 45.10 114 *e*P **P 15 02 05.5 +1.3**
CTAO pmax pmax
comp=Z,11nm,0.8s,mb4.6
CTAO Charters Tower 45.10 114 *e*P **P 15 02 05.5 +1.3**
comp=Z,11nm,0.8s,mb4.7
STKA Stephens Creek 45.55 132⇑*i*P **P 15 02 06.5 -1.2**
comp=Z,6.6nm,0.6s,mb4.5
STKA Stephens Creek 45.55 132 P **P 15 02 06.8 -1.0**
comp=Z,8.5nm,0.6s,mb4.6,baz=310,slow=7.5,SNR=34
STKA PcP PcP 15 03 44.7 -0.6
comp=Z,2.3nm,0.6s,baz=302,slow=5.2,SNR=2.9
SONM Songino Array 51.98 3 P **P 15 02 58.7 +1.6**
comp=Z,8.5nm,0.7s,mb4.9,baz=182,slow=14,SNR=3.8
CN2 Changchun 52.02 21 *e*P **P 15 02 56.5 -0.8**
MJAR Matsushiro Arr 52.35 36 P **P 15 02 59.8 0.0**
comp=Z,1.3nm,1.0s,mb3.9,baz=216,slow=7.8,SNR=4.0
AAK Ala-Archa 53.28 334 *e*P **P 15 03 06.2 -0.4**
AAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
AAK Ala-Archa 53.28 334 *e*P **P 15 03 06.2 -0.5**
comp=Z,1.8nm,0.8s,mb4.2
MKAR Makanchi Array 53.99 343 P **P 15 03 11.9 +0.1**
comp=Z,5.6nm,0.5s,mb4.9,baz=149,slow=8.5,SNR=86
ZAK Zakamensk 54.44 0 *e*P **P 15 03 16.2 +1.1**
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
KURK Kurchatov 58.59 342 *e*P **P 15 03 44.2 -0.4**
KURK pmax pmax
comp=Z,11nm,0.9s,mb4.9
KURK Kurchatov 58.59 342 *e*P **P 15 03 44.2 -0.4**
comp=Z,11nm,0.9s,mb4.9
KLR Kul'dur 58.92 22 *e*P **P 15 03 44.2 -2.6**
KLR *e* 15 04 33.2
ZAL Zalesovo 59.93 348 P **P 15 03 53.6 -0.2**
comp=Z,10nm,0.4s,mb5.2,baz=315,slow=4.6,SNR=32
BRVK Borovoye 63.36 339 *e*P **P 15 04 15.9 -0.9**
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BRVK Borovoye 63.36 339 *e*P **P 15 04 15.9 -0.9**
comp=Z,2.7nm,0.8s,mb4.2
CHKZ Chkalovo 63.73 339 *e*P **P 15 04 18.8 -0.5**
CHKZ pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
CHKZ Chkalovo 63.73 339 *e*P **P 15 04 18.8 -0.5**
comp=Z,6.9nm,0.6s,mb4.7
ARU Arti 70.41 336 *e*P **P 15 05 01.1 -0.5**
ARU pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
ARU Arti 70.41 336 *e*P **P 15 05 01.1 -0.5**
comp=Z,1.4nm,0.5s,mb4.0
RPZ Rata Peaks 71.39 135 P **P 15 05 08.4 +0.8**
comp=Z,14nm,1.0s,mb4.7,baz=315,slow=2.9,SNR=4.5
KIV Kislovodsk 72.09 319 *e*P **P 15 05 11.2 -0.6**
KIV pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
MATP Matopo 73.83 250 P **P 15 05 21.4 -0.6**
comp=Z,0.9nm,0.6s,mb3.7,baz=103,slow=5.8,SNR=3.7
ANN Anapa 75.89 318 *e*P **P 15 05 25.1 -8.8**
BRTR Keskin Array B 76.92 312 P **P 15 05 39.5 -0.2**
comp=Z,1.6nm,0.6s,mb3.9,baz=125,slow=5.2,SNR=5.3
TIXI Tiksi 77.67 8 *e*P **P 15 05 40.8 -3.1**
TIXI pmax pmax
comp=Z,2.0nm,1.3s,mb3.7
OBN Obninsk 80.20 328 *e*P **P 15 05 56.4 -1.4**
OBN *e* 15 06 04.9
OBN *e*SS SS 15 21 12.0 +2.8
OBN pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
OBN MLR MLR
comp=Z,200nm,18.0s
AKASG Malin Array Be 82.99 322 P **P 15 06 11.6 -1.0**
comp=Z,0.2nm,0.3s,baz=92,slow=5.6,SNR=5.5
JOF Joensuu 85.47 334 *e*p **P 15 06 19.0 -6.1**
comp=Z,2.4nm,0.5s,mb4.4
JOF Joensuu 85.47 334 *e*P **P 15 06 19.0 -6.1**
JOF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
FINES FINESS Array B 87.42 332 P **P 15 06 34.6 0.0**
comp=Z,1.0nm,0.4s,mb4.1,baz=107,slow=6.2,SNR=16
KAF Kangasniemi 87.48 333 *e*p **P 15 06 28.4 -6.5**
KAF Kangasniemi 87.48 333 *e*P **P 15 06 28.4 -6.5**
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
MORC Moravsky Berou 90.18 320 *e*P **P 15 06 48.6 +1.0**
WCI Wyandotte Cave 145.20 13 *e*PKIKP PKPdf 15 13 24.5 0.0
MIAR Mount Ida 146.26 25 *e*PKP2 PKPab 15 13 28.5 +0.1
JCT Junction City 146.31 37 *e*PKP2 PKPab 15 13 29.2 +0.6
WVT Waverly 146.81 16 *e*PKP2 PKPab 15 13 29.4 -1.1
TZTN Tazewell 147.36 10 PKPbc PKPbc 15 13 30.1 -0.5
TZTN *e*PKPab PKPab 15 13 33.0 +0.3
PLAL Pickwick Lake 147.82 17 *e*PKPab PKPab 15 13 34.6 +0.1

*CSEM **29** 14:59:07.7±1.7,3897N×2785W, h0km, ML1.5, Error ellipse: s-maj=14.3km s-min=3.5km az=77.0, After PDA*
*PDA **29** 14:59:07.7±1.7,3897N×2785W, h0km, MD3.1, ML1.5, Error ellipse: s-maj=14.3km s-min=3.5km az=77.0*
SVSA 29 14:59:07.7±1.7,3897N×2785W, h0km, MD3.1, ML1.5, Error ellipse: s-maj=14.3km s-min=3.5km az=77.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PGRA	**Graciosa**	**0.12**	**298**	*e*P		Pg	14 59 09.9	0.0
PGRA				*e*S		Sg	14 59 11.3	-0.1
PGRA								
	60nm,0.1s							
PGRA	**Graciosa**	**0.12**	**298**	*e*P		Pg	14 59 09.9	0.0
PGRA				*e*S		Sg	14 59 11.3	-0.1
STGR	**Santa Cruz**	**0.16**	**312**	*e*S		Sg	14 59 13.5	+0.7
STGR								
	41nm,0.2s							
SRBC	**Serra Branca**	**0.16**	**293**	*i* P		Pg	14 59 20.0	+9.2
PVIA	**Vitoria**	**0.18**	**301**	*e*rx			14 59 13.8	
PMAN	**Manadas**	**0.39**	**209**	*e*P		Pg	14 59 14.6	-0.6
PMAN				*e*S		Sg	14 59 20.3	+0.1
PMAN								
	58nm,0.2s							
PMAN	**Manadas**	**0.39**	**209**	*e*P		Pg	14 59 14.6	-0.6
PMAN				*e*S		Sg	14 59 20.3	+0.1
PAMA	**Santo Amaro**	**0.39**	**221**	*e*S		Sg	14 59 20.9	+0.6
PAMA								
	21nm,0.2s							
ROSA	**Rosais**	**0.40**	**230**	*e*P		Pg	14 59 21.7	+6.4
ROSA				*e*S		Sg	14 59 26.5	+6.0
PID	**Ribeirinha**	**0.57**	**202**	*i* P		Pg	14 59 25.0	+6.3
PID				*e*S		Sg	14 59 32.0	+5.9
PID	**Ribeirinha**	**0.57**	**202**	*e*S		Sg	14 59 32.0	+5.9
PICO	**Pico**	**0.65**	**224**	*e*S		Sg	14 59 33.2	+4.5
PLUZ	**Luz**	**0.88**	**273**	*e*S		Sg	14 59 11.7	-24
PLUZ								
	67nm,0.1s							

IDC 29 15:05:15.3±2.4, 403N×12344E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.5/18, mbtmp3.4/3, Error ellipse: s-maj=340.7km s-min=27.1km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.12**	**156**	P		P	15 10 51.3	+0.4
	0.7nm,0.5s,baz=336,slow=9.9,SNR=11							
ASAR	**Alice Springs**	**29.36**	**160**	P		P	15 11 20.2	+0.3
	0.1nm,0.4s,baz=338,slow=7.2,SNR=8.6							
MKAR	**Makanchi Array**	**55.47**	**327**	P		P	15 14 51.9	+0.1
	0.2nm,0.3s,baz=132,slow=4.9,SNR=4.2							

IDC 29 15:15:21.9±2.0, 660S×12928E, h0km, mb3.8/1, mb1 3.7/3, mb1mx3.5/13, mbtmp3.5/3, ML3.4/2, Error ellipse: s-maj=115.1km s-min=30.7km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.15**	**160**	Pn		Pn	15 18 42.8	-0.7
	0.2nm,0.3s,baz=339,slow=13,SNR=27							
WRA				Sn		Sn	15 21 06.9	-14
	0.4nm,0.3s,baz=333,slow=22,SNR=8.1							
ASAR	**Alice Springs**	**17.54**	**166**	P		Pn	15 19 28.6	+0.8
	0.1nm,0.3s,baz=337,slow=11,SNR=18							
ASAR				S		Sn	15 22 32.0	-12
	0.2nm,0.3s,baz=348,slow=25,SNR=5.5							
MKAR	**Makanchi Array**	**67.50**	**327**	P		P	15 26 19.9	+0.2
	0.5nm,0.6s,baz=122,slow=7.5,SNR=8.8							

*SZGRF **29** 15:30:12.1,354S×2867E, h27km, mb4.9, Lake Tanganyika region*
*ISCJB **29** 15:30:34.0±0.3, 037N±004×30.06E±006, h10km, mb4.7/69, MS4.2/5, Error ellipse: s-maj=8.6km s-min=6.0km az=172.2*
*IDC **29** 15:30:34.4±0.6, 034N×30.12E, h0km, mb4.2/18, mb1 4.3/20, mb1mx4.3/25, mbtmp4.3/20, ML4.0/2, MS4.0/5, Ms1 4.0/5, ms1mx3.5/31, Error ellipse: s-maj=20.4km s-min=12.4km az=101.0*
*BJI **29** 15:30:34.7, 057N×29.50E, h27km, mB5.4, mb4.7, Ms5.1, Msz4.7*
*HRVD **29** 15:30:37.8±0.6, 021N×29.96E, h32km±1km, MW5.0/38, Centroid moment Tensor Solution. LP body waves: s15,c16;Mantle waves: s38,c43; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.31±.27; Mθθ0.11±.20; Mφφ2.21±.21; Mrθ-1.68±.25; Mθφ1.66±.17; Mφr0.58±.22; Best double couple: M0 3.30900×10^16 NP1:ϕs 180.00000°, δ51.00000°, λ-135.00000°. NP2: ϕs 58.00000°, δ57.00000°, λ-49.00000°. Principal axes: T 3.1430, Plg4.0000°, Azm120.0000°; N 0.3380, Plg33.0000°, Azm213.0000°; P -3.4750, Plg57.0000°, Azm25.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **29** 15:30:37.9±0.2, 034N×30.11E, mb4.8/37 Error ellipse: s-maj=7.5km s-min=4.6km az=86.0*
NEIC Felt at Fort Portal and Kampala.
*MOS **29** 15:30:37.2±0.9, 034N×3000E, h33km, mb5.0/42, Error ellipse: s-maj=13.2km s-min=4.5km az=98.4*
ISC 29 15:30:36.1±0.3, 037N±004×3007E±006, h10km, (h25km±1.1km: pP-P), n183, s0#87/187, mb4.7/69, MS4.2/5, 12C-10D, Uganda

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**7.33**	**102**	Pn		**Pn**	**15 32 21.1**	**-2.1**
	4.1nm,0.3s,baz=274,slow=15,SNR=61							
KMBO				Lg			15 34 16.8	
	23nm,0.3s,baz=211,slow=23,SNR=9.5							
KMBO				LR		LR	15 35 23.8	
	comp=Z,861nm,18.9s,baz=101,slow=40							
KMBO	**Kilima Mbogo**	**7.33**	**102**⇑	ePn		**Pn**	**15 32 21.3**	**-2.0**
KMBO				*e*Pg		**Pg**	**15 32 48.2**	**-8.3**
KMBO				*e*Sg		**Sg**	**15 34 20.6**	**-11**
DESE	**Dese**	**14.30**	**41**	*e*P		**Pn**	**15 34 00.2**	**+1.6**
LSZ	**Lusaka**	**15.65**	**187**	Pn		**Pn**	**15 34 15.3**	**-1.4**
	0.4nm,0.3s,baz=10,slow=12,SNR=8.1							
LSZ				Lg			15 38 42.2	
	0.8nm,0.3s,baz=130,slow=17,SNR=3.7							
LSZ				LR		LR	15 40 21.6	
	comp=Z,810nm,18.2s,baz=6.3,slow=38							
LSZ	**Lusaka**	**15.65**	**187**	*e*Pn		**Pn**	**15 34 14.9**	**-1.8**
LSZ				*e*P			15 34 19.1	
ATD	**Arta Tunnel**	**16.85**	**48**	LR		LR	15 41 00.1	
	comp=Z,466nm,18.3s,baz=223,slow=37							
MATP	**Matopo**	**20.72**	**184**	P		**P**	**15 35 16.6**	**0.0**
	6.3nm,0.8s,baz=9.7,slow=11,SNR=9.8							
MATP				LR		LR	15 43 37.5	
	comp=Z,529nm,19.5s,MS3.9,baz=9.7,slow=38							
TSUM	**Tsumeb**	**22.98**	**212**	P		**P**	**15 35 39.9**	**-1.0**
	1.1nm,0.2s,mb3.9,baz=56,slow=8.0,SNR=6.1							
TSUM	**Tsumeb**	**22.98**	**212**	*e*P		**P**	**15 35 42.3**	**+1.4**
	13nm,1.0s,mb4.3							
LBTB	**Lobatse**	**25.60**	**189**	P		**P**	**15 36 05.7**	**+0.2**
	5.4nm,0.9s,mb4.1,baz=26,slow=12,SNR=5.2							
LBTB	**Lobatse**	**25.60**	**189**	*e*P		**P**	**15 36 06.0**	**+0.5**
LBTB				pmax		pmax		
	comp=Z,15nm,1.1s,mb4.4							
LBTB	**Lobatse**	**25.60**	**189**	*e*P		**P**	**15 36 06.0**	**+0.5**
	comp=Z,15nm,1.1s,mb4.4							
BOSA	**Boshof**	**29.18**	**189**	P		**P**	**15 36 38.3**	**+0.7**
	comp=Z,3.0nm,0.8s,mb4.1,baz=357,slow=7.6,SNR=4.9							
TORD	**Torodi Ar. Bea**	**30.85**	**295**	P		**P**	**15 36 52.3**	**-0.1**
	comp=Z,8.9nm,0.9s,mb4.6,baz=106,slow=8.6,SNR=40							
SUR	**Sutherland**	**33.72**	**194**	P		**P**	**15 37 18.4**	**+0.9**
	comp=Z,5.1nm,0.9s,mb4.5,baz=29,slow=6.7,SNR=3.6							
CSS	**Prodhromos**	**34.55**	**5**	*e*P		**P**	**15 37 25.7**	**+0.9**
	comp=Z,32nm,1.2s,mb5.1							
DBIC	**Dimbokro**	**35.40**	**281**	P		**P**	**15 37 31.9**	**-0.2**
	comp=Z,2.1nm,0.4s,mb4.4,baz=82,slow=9.5,SNR=12							
DBIC				LR		LR	15 51 11.7	
	comp=Z,163nm,18.6s,MS3.8,baz=111,slow=35							
DBIC	**Dimbokro**	**35.40**	**281**	*e*P		**P**	**15 37 31.6**	**-0.5**
DBIC				pmax		pmax		
	comp=Z,9.0nm,0.8s							
DBIC	**Dimbokro**	**35.40**	**281**	*e*P		**P**	**15 37 31.6**	**-0.4**
	comp=Z,8.7nm,0.8s,mb4.7							
BRTR	**Keskin Array B**	**39.31**	**4**	P		**P**	**15 38 06.7**	**+1.5**
	comp=Z,6.1nm,0.9s,mb4.3,baz=179,slow=8.5,SNR=33							
ANN	**Anapa**	**44.72**	**7**	*e*P		**P**	**15 38 48.3**	**-1.2**
ANN				*e*PP		pP	15 39 00.2	+7.6
ANN				*e*S		**S**	**15 45 31.9**	**+5.8**
ANN				pmax		pmax		
	comp=Z,87nm,1.3s,mb5.4							
KIV	**Kislovodsk**	**44.83**	**13**	*e*P		**P**	**15 38 51.3**	**+1.0**
KIV				pmax		pmax		
	comp=Z,16nm,1.1s,mb4.8							
KIV	**Kislovodsk**	**44.83**	**13**	P		**P**	**15 38 51.0**	**+0.7**
	comp=Z,28nm,1.3s,mb4.9							
MLR	**Muntele Rosu**	**45.08**	**356**⇑	*i*P		**P**	**15 38 53.5**	**+1.2**
MLR	**Muntele Rosu**	**45.08**	**356**⇑	P		**P**	**15 38 53.5**	**+1.2**
PLOR	**Plostina**	**45.40**	**357**⇓	*i*P		**P**	**15 38 55.3**	**+0.5**
PGF	**Pioggiola**	**46.07**	**338**	*e*P		**P**	**15 38 59.5**	**-0.6**
	comp=Z,70nm,1.2s,mb5.2							
PGF	**Pioggiola**	**46.07**	**338**	*e*P		**P**	**15 38 59.5**	**-0.6**
PGF				pmax		pmax		
	comp=Z,35nm,1.2s,mb5.2							
PGF	**Pioggiola**	**46.07**	**338**	*e*P		**P**	**15 38 59.5**	**-0.6**
	comp=Z,35nm,1.2s,mb5.2							
PKSM	**Moragy**	**46.75**	**349**⇓	*i*P		**P**	**15 39 06.3**	**+0.8**
PKSM	**Moragy**	**46.75**	**349**⇓	P		**P**	**15 39 06.3**	**+0.9**
BURAR	**Bucovina Array**	**47.25**	**356**⇓	*i*P		**P**	**15 39 11.6**	**+2.2**
BURAR	**Bucovina Array**	**47.25**	**356**⇓	P		**P**	**15 39 11.6**	**+2.2**
LMR	**La Mourre**	**47.69**	**337**	*e*P		**P**	**15 39 12.3**	**-0.5**
	comp=Z,37nm,1.1s,mb5.0							
LMR	**La Mourre**	**47.69**	**337**	*e*P		**P**	**15 39 12.3**	**-0.5**
LMR				pmax		pmax		
	comp=Z,19nm,1.1s,mb5.0							
LMR	**La Mourre**	**47.69**	**337**	*e*P		**P**	**15 39 12.3**	**-0.5**
	comp=Z,19nm,1.1s,mb5.0							
ARSA	**Arzberg**	**48.39**	**347**⇓	*i*P		**P**	**15 39 19.1**	**+0.8**
	comp=Z,9.5nm,1.1s,mb4.7							
SMRF	**Simiane la Rot**	**48.60**	**336**	*e*P		**P**	**15 39 19.4**	**-0.4**
KECS	**Kecovo**	**48.64**	**352**	*e*P		**P**	**15 39 21.3**	**+1.1**
KECS				*e*			15 39 26.5	
KECS	**Kecovo**	**48.64**	**352**	*e*P		**P**	**15 39 21.3**	**+1.1**
KECS				*e*			15 39 26.5	
KECS				pmax		pmax		
	comp=Z,8.0nm,1.1s,mb4.7							
KBA	**Koelnbreinsper**	**48.76**	**345**⇓	*i*P		**P**	**15 39 21.1**	**0.0**
	comp=Z,19nm,1.6s,mb4.9							
KBA	**Koelnbreinsper**	**48.76**	**345**⇓	*i*P		**P**	**15 39 21.1**	**0.0**
KBA				pmax		pmax		
	comp=Z,19nm,1.6s,mb4.9							
MBDF	**Montbardon**	**48.77**	**338**	*e*P		**P**	**15 39 20.7**	**-0.4**
	comp=Z,28nm,0.8s,mb5.0							
MBDF	**Montbardon**	**48.77**	**338**	*e*P		**P**	**15 39 20.7**	**-0.4**
MBDF				pmax		pmax		
	comp=Z,14nm,0.8s,mb5.0							
MBDF	**Montbardon**	**48.77**	**338**	*e*P		**P**	**15 39 20.7**	**-0.4**
	comp=Z,14nm,0.8s,mb5.0							
VYHS	**Vyhne**	**48.91**	**350**	*i* P		**P**	**15 39 23.1**	**+0.8**
VYHS				*e*			15 39 28.5	
VYHS	**Vyhne**	**48.91**	**350**	*i* P		**P**	**15 39 23.1**	**+0.8**
VYHS				*e*			15 39 28.5	
VYHS				pmax		pmax		
	comp=Z,8.0nm,1.3s,mb4.6							
ZST	**Bratislava**	**48.95**	**349**	*e*P		**P**	**15 39 22.8**	**+0.3**
ZST				pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.7							
BNI	**Bardonecchia**	**49.08**	**338**	*e*P		**P**	**15 39 23.6**	**+0.1**
BNI				*e*			15 39 31.1	
BNI				pmax		pmax		
	comp=Z,12nm,0.8s,mb5.0							
BNI	**Bardonecchia**	**49.08**	**338**	*e*P		**P**	**15 39 23.6**	**+0.1**
	comp=Z,12nm,0.8s,mb5.0							
BNI				*e*			15 39 31.1	
ORIF	**Oris-en-Rattie**	**49.27**	**337**	*e*P		**P**	**15 39 24.6**	**-0.3**
LASF	**Ste Croix**	**49.38**	**335**	*e*P		**P**	**15 39 25.5**	**-0.3**
LPG	**La Plagne**	**49.43**	**338**	*e*P		**P**	**15 39 26.4**	**+0.2**
	comp=Z,19nm,0.9s,mb4.8							
LPG	**La Plagne**	**49.43**	**338**	*e*P		**P**	**15 39 26.4**	**+0.2**
LPG				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.8							
LPG	**La Plagne**	**49.43**	**338**	*e*P		**P**	**15 39 26.4**	**+0.2**
	comp=Z,9.7nm,0.9s,mb4.8							
STHS	**Stebnicka Huta**	**49.45**	**352**	*e*P		**P**	**15 39 27.2**	**+0.9**
STHS				*e*pP		pP	15 39 33.4	+3.9
STHS	**Stebnicka Huta**	**49.45**	**352**	*e*P		**P**	**15 39 27.2**	**+0.9**
STHS				*e*			15 39 33.4	
STHS				pmax		pmax		
	comp=Z,3.0nm,1.1s,mb4.2							
LPL	**La Plagne**	**49.45**	**338**	*e*P		**P**	**15 39 25.9**	**-0.5**
	comp=Z,14nm,0.7s,mb4.8							
LPL	**La Plagne**	**49.45**	**338**	*e*P		**P**	**15 39 25.9**	**-0.5**
LPL				pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.8							
LPL	**La Plagne**	**49.45**	**338**	*e*P		**P**	**15 39 25.9**	**-0.5**
	comp=Z,6.9nm,0.7s,mb4.8							
MTLF	**Montolieu**	**49.50**	**333**	*e*P		**P**	**15 39 26.4**	**-0.4**
NIE	**Niedzica**	**49.58**	**352**	*e*P		**P**	**15 39 28.4**	**+1.1**
VIVF	**Saint-Julien-l**	**49.69**	**336**	*e*P		**P**	**15 39 27.8**	**-0.4**
ESDC	**Sonseca Array**	**49.94**	**326**	P		**P**	**15 39 31.2**	**+1.1**
	comp=Z,5.2nm,0.8s,mb4.6,baz=135,slow=7.2,SNR=14							
ESLA	**Sonseca Array**	**49.94**	**326**	*e*P		**P**	**15 39 30.1**	**0.0**
	comp=Z,3.0nm,1.1s,mb4.2							
DAVA	**Damuels**	**49.94**	**342**⇑	*i*P		**P**	**15 39 26.8**	**-3.3**
	comp=Z,26nm,1.2s,mb5.1							
DAVA	**Damuels**	**49.94**	**342**⇑	*i*P		**P**	**15 39 29.9**	**-0.1**
	comp=Z,26nm,1.2s,mb5.1							
DAVA	**Damuels**	**49.94**	**342**⇑	*i*P		**P**	**15 39 26.8**	**-3.3**
	comp=Z,26nm,1.3s,mb5.1							
VRAC	**Vranov**	**50.11**	**349**⇑	*i*P		**P**	**15 39 31.5**	**+0.1**
VRAC	**Vranov**	**50.11**	**349**⇑	P		**P**	**15 39 31.5**	**+0.1**
EPF	**Esparros**	**50.13**	**332**	*e*P		**P**	**15 39 31.2**	**-0.3**
AKASG	**Malin Array Be**	**50.15**	**359**	P		**P**	**15 39 31.6**	**-0.1**
	comp=Z,0.7nm,0.4s,mb4.0,baz=182,slow=6.5,SNR=13							
GERES	**GERESS Array B**	**50.31**	**346**	P		**P**	**15 39 33.3**	**+0.4**
	comp=Z,1.9nm,0.6s,mb4.3,baz=157,slow=7.2,SNR=17							
TREC	**Trest**	**50.33**	**348**	*e*P		**P**	**15 39 36.1**	**+3.1**
OKC	**Ostrava-Krasne**	**50.33**	**350**	*e*P		**P**	**15 39 33.6**	**+0.5**
OKC				*e*pP		pP	15 39 40.1	+3.9
MORC	**Moravsky Berou**	**50.38**	**349**⇑	*i*P		**P**	**15 39 33.8**	**+0.4**
MORC	**Moravsky Berou**	**50.38**	**349**	*e*P		**P**	**15 39 33.2**	**-0.2**
	comp=Z,6.1nm,0.8s,mb4.7							
ETSF	**Etsaut**	**50.46**	**331**	*e*P		**P**	**15 39 34.2**	**+0.2**
	comp=Z,24nm,1.1s,mb4.9							
ETSF	**Etsaut**	**50.46**	**331**	*e*P		**P**	**15 39 34.2**	**+0.2**
ETSF				pmax		pmax		
	comp=Z,12nm,1.1s,mb4.8							
ETSF	**Etsaut**	**50.46**	**331**	*e*P		**P**	**15 39 34.2**	**+0.2**
	comp=Z,12nm,1.1s,mb4.8							
KHC	**Kasperske Hory**	**50.61**	**346**	*e*P		**P**	**15 39 35.3**	**+0.1**
KHC				*e*pP		pP	15 39 41.9	+3.6
CABF	**La Chapelle**	**50.62**	**339**	*e*P		**P**	**15 39 34.8**	**-0.4**
CAF	**Calviac**	**50.83**	**335**	*e*P		**P**	**15 39 36.6**	**-0.2**
SJPF	**Ste Jean**	**50.95**	**331**	*e*P		**P**	**15 39 37.6**	**-0.1**
	comp=Z,49nm,1.4s,mb5.0							
SJPF	**Ste Jean**	**50.95**	**331**	*e*P		**P**	**15 39 37.6**	**-0.1**
SJPF				pmax		pmax		
	comp=Z,24nm,1.4s,mb4.9							
SJPF	**Ste Jean**	**50.95**	**331**	*e*P		**P**	**15 39 37.6**	**-0.1**
	comp=Z,24nm,1.4s,mb4.9							
DPC	**Dobruska-Polom**	**51.16**	**349**	*e*P		**P**	**15 39 39.5**	**+0.2**
DPC				*e*pP		pP	15 39 46.6	+4.1
PRU	**Pruhonice**	**51.19**	**347**	*e*P		**P**	**15 39 41.7**	**+2.2**
RJF	**Les Rejaudoux**	**51.36**	**334**	*e*P		**P**	**15 39 40.4**	**-0.4**
UPC	**Upice**	**51.37**	**349**	*e*P		**P**	**15 39 41.2**	**+0.3**
UPC				*e*pP		pP	15 39 48.5	+4.4
HINF	**Hinteralfeld**	**51.38**	**340**	*e*P		**P**	**15 39 40.6**	**-0.4**
	comp=Z,12nm,0.6s,mb4.7							
HINF	**Hinteralfeld**	**51.38**	**340**	*e*P		**P**	**15 39 40.6**	**-0.4**
HINF				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb4.7							
HINF	**Hinteralfeld**	**51.38**	**340**	*e*P		**P**	**15 39 40.6**	**-0.4**
	comp=Z,6.3nm,0.6s,mb4.7							
LFF	**La Frestale**	**51.42**	**334**	*e*P		**P**	**15 39 40.7**	**-0.5**
SMF	**Signal de Mont**	**51.49**	**337**	*e*P		**P**	**15 39 41.2**	**-0.6**
	comp=Z,11nm,0.9s,mb4.5							
SMF	**Signal de Mont**	**51.49**	**337**	*e*P		**P**	**15 39 41.2**	**-0.6**
SMF				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.4							
SMF	**Signal de Mont**	**51.49**	**337**	*e*P		**P**	**15 39 41.2**	**-0.6**
	comp=Z,5.3nm,0.9s,mb4.5							
PVCC	**Panska Ves**	**51.69**	**347**	*e*P		**P**	**15 39 43.0**	**-0.3**
PVCC				*e*pP		pP	15 39 50.6	+4.1
HAU	**Haudompre**	**51.72**	**340**	*e*P		**P**	**15 39 42.7**	**-0.8**
GRA1	**Grafenberg Arr**	**51.73**	**344**	*e*P		**P**	**15 39 42.9**	**-0.6**
	comp=Z,13nm,1.1s,mb4.8							
GRA1				*e*pP		pP	15 39 50.4	+3.7
GRF	**Grafenberg Arr**	**51.73**	**344**	*e*P		**P**	**15 39 42.9**	**-0.6**
	comp=Z,13nm,1.1s,mb4.8							
GRF				*e*pP		pP	15 39 50.4	+3.7
GRF	**Grafenberg Arr**	**51.73**	**344**	*e*P		**P**	**15 39 42.9**	**-0.6**
GRF				*e*PP		pP	15 39 50.4	+3.7
GRF				pmax		pmax		
	comp=Z,13nm,1.1s,mb4.8							
GRF	**Grafenberg Arr**	**51.73**	**344**	*e*P		**P**	**15 39 42.9**	**-0.6**
GRF				*e*PP		pP	15 39 50.4	+3.7
GRF				pmax		pm

SGMF	**Saint Gilles**	**55.42**	**334**	*e*P		**P**		**15 40 10.2**	**-0.4**
	comp=Z,23nm,1.1s,mb5.1								
QUIF	**Quistinic**	**55.44**	**333**	*e*P		**P**		**15 40 10.3**	**-0.4**
MOS	**Moscow**	**55.54**	**5**	*e*P		**P**		**15 40 11.7**	**+0.2**
MOS				*e*				15 42 18.2	
ROSF	**Rostrenen**	**55.80**	**334**	*e*P		**P**		**15 40 13.2**	**-0.1**
AAK	**Ala-Archa**	**57.91**	**38**	*e*P		**P**		**15 40 27.3**	**-1.0**
AAK				pmax	pmax				
	comp=Z,6.0nm,1.1s,mb4.5								
AAK	**Ala-Archa**	**57.91**	**38**	*e*P		**P**		**15 40 27.3**	**-1.0**
	comp=Z,5.6nm,1.1s,mb4.5								
ARU	**Arti**	**60.43**	**18**	⇓*i*P		**P**		**15 40 45.5**	**-0.3**
ARU				*e*				15 43 06.4	
ARU				*e*S		**S**		**15 49 16.8**	**+16**
ARU				pmax	pmax				
	comp=Z,24nm,0.9s,mb5.2								
ARU	**Arti**	**60.43**	**18**	*e*P		**P**		**15 40 46.0**	**+0.2**
	comp=Z,18nm,0.8s,mb5.2								
ARU				*e*				15 40 53.0	
FINES	**FINESS Array B**	**60.99**	**358**	P		**P**		**15 40 49.0**	**-0.7**
	comp=Z,2.0nm,1.0s,mb4.2,baz=191,slow=7.2,SNR=4.9								
ZRNK	**Zerenda**	**61.59**	**26**	*e*P		**P**		**15 40 52.7**	**-1.0**
ZRNK				*e*				15 41 00.0	
ZRNK				pmax	pmax				
	comp=Z,5.0nm,0.8s,mb4.7								
ZRNK	**Zerenda**	**61.59**	**26**	*e*P		**P**		**15 40 52.7**	**-1.0**
	comp=Z,5.3nm,0.8s,mb4.7								
ZRNK				*e*				15 41 00.0	
KAF	**Kangasniemi**	**61.66**	**358**	*e*p		**P**		**15 40 53.4**	**-0.7**
	comp=Z,10nm,0.8s,mb5.0,baz=175,slow=6.6								
KAF	**Kangasniemi**	**61.66**	**358**	*e*P		**P**		**15 40 53.4**	**-0.7**
KAF				pmax	pmax				
	comp=Z,10.0nm,0.8s,mb5.0								
NB2	**NORSAR Subarra**	**62.22**	**350**	P		**P**		**15 40 57.0**	**-0.9**
	comp=Z,9.3nm,1.1s,mb4.8,baz=161,slow=6.5								
NOA	**NORSAR Array B**	**62.22**	**350**	P		**P**		**15 40 57.9**	**0.0**
	comp=Z,2.0nm,0.8s,mb4.3,baz=160,slow=6.6,SNR=4.0								
NOA	**NORSAR Array B**	**62.22**	**350**	P		**P**		**15 40 57.9**	**0.0**
BRVK	**Borovoye**	**62.23**	**26**	*e*P		**P**		**15 40 57.5**	**-0.5**
BRVK				*e*				15 41 04.0	
BRVK				pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.5								
BRVK	**Borovoye**	**62.23**	**26**	*e*P		**P**		**15 40 57.5**	**-0.5**
	comp=Z,3.4nm,0.8s,mb4.5								
BRVK				*e*				15 41 04.0	
JOF	**Joensuu**	**62.41**	**1**	*e*p		**P**		**15 40 58.3**	**-0.9**
	comp=Z,3.5nm,0.8s,mb4.5								
JOF	**Joensuu**	**62.41**	**1**	*e*P		**P**		**15 40 58.3**	**-0.9**
JOF				pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.6								
CHKZ	**Chkalovo**	**62.80**	**26**	*e*P		**P**		**15 41 01.1**	**-0.7**
CHKZ				*e*				15 41 08.5	
CHKZ				pmax	pmax				
	comp=Z,8.0nm,0.9s,mb4.8								
CHKZ	**Chkalovo**	**62.80**	**26**	*e*P		**P**		**15 41 01.1**	**-0.7**
	comp=Z,8.3nm,0.9s,mb4.9								
CHKZ				*e*				15 41 08.5	
TMCR	**Tamitsa**	**63.92**	**4**	*e*P		**P**		**15 41 07.4**	**-1.8**
TMCR				pmax	pmax				
	comp=N,50nm,1.1s								
TMCR				pmax	pmax				
	comp=Z,20nm,1.1s,mb5.1								
TMCR				pmax	pmax				
	comp=E,10.0nm,0.8s								
KURK	**Kurchatov**	**64.80**	**32**	P		**P**		**15 41 15.0**	**0.0**
KURK				*e*				15 41 22.7	
KURK				pmax	pmax				
	comp=Z,14nm,1.1s,mb4.9								
KURK	**Kurchatov**	**64.80**	**32**	P		**P**		**15 41 15.0**	**0.0**
	comp=Z,14nm,1.1s,mb4.9								
KURK				*e*				15 41 22.7	
MKAR	**Makanchi Array**	**64.82**	**37**	P		**P**		**15 41 15.3**	**+0.2**
	comp=Z,2.1nm,0.9s,mb4.2,baz=246,slow=6.0,SNR=20								
MKAR	**Makanchi Array**	**64.82**	**37**	P		**P**		**15 41 15.3**	**+0.2**
WMQ	**Urumqi**	**66.92**	**42**	*e*P		**P**		**15 41 29.3**	**+0.6**
APA	**Apatity**	**67.11**	**1**	⇑*i*P		**P**		**15 41 30.2**	**+0.4**
APA				pmax	pmax				
	comp=Z,38nm,1.4s,mb5.2								
ARCES	**ARCESS Array B**	**69.11**	**358**	P		**P**		**15 41 42.2**	**-0.2**
	comp=Z,1.9nm,0.7s,mb4.1,baz=157,slow=6.6,SNR=7.3								
ARCES	**ARCESS Array B**	**69.11**	**358**	P		**P**		**15 41 42.2**	**-0.3**
NVS	**Novosibirsk**	**69.39**	**30**	*i* P		**P**		**15 41 42.8**	**-1.4**
NVS				pmax	pmax				
	comp=N,18nm,1.6s								
NVS				pmax	pmax				
	comp=Z,29nm,1.6s,mb5.0								
NVS				pmax	pmax				
	comp=E,10.0nm,1.4s								
SYO	**Syowa Base**	**69.55**	**176**	⇑*e*P		**P**		**15 41 38.2**	**-6.9**
ZAL	**Zalesovo**	**69.72**	**31**	P		**P**		**15 41 44.2**	**-2.0**
	comp=E,1.2nm,0.8s,mb3.9,baz=143,slow=7.2,SNR=6.9								
ZAL	**Zalesovo**	**69.72**	**31**	P		**P**		**15 41 44.2**	**-2.0**
KMI	**Kunming**	**74.18**	**64**	P		**P**		**15 42 14.0**	**+1.1**
KMI				AP	pP			15 42 21.8	+5.6
KMI				AMB	AMB				
	comp=Z,4.0nm,0.8s,mb4.4								
KMI	**Kunming**	**74.18**	**64**	P		**P**		**15 42 14.0**	**+1.1**
	comp=Z,4.0nm,0.8s,mb4.4								
KMI				pP	pP			15 42 21.8	+5.6
GTA	**Gaotai**	**74.20**	**49**	*e*P		**P**		**15 42 14.3**	**+1.2**
GTA				AP	pP			15 42 21.5	+5.1
GTA				XP	sP			15 42 25.0	+7.4
GTA				AMB	AMB				
	comp=Z,9.0nm,1.1s,mb4.6								
SNAA	**Sanae**	**74.95**	**190**	*e*P		**P**		**15 42 16.7**	**-0.7**
	comp=Z,0.2nm,0.6s								
VNA1	**Neumayer--Stat**	**75.20**	**192**	*e*P		**P**		**15 42 21.0**	**+2.2**
VNA2	**Neumayer--Watz**	**75.23**	**192**	*e*P		**P**		**15 42 25.5**	**+6.5**
	baz=21,slow=5.2								
VNA3	**Neumayer Olymp**	**75.95**	**192**	*e*P		**P**		**15 42 29.7**	**+6.5**
LZH	**Lanzhou**	**76.70**	**53**	*e*P		**P**		**15 42 27.3**	**-0.1**
LZH				AP	pP			15 42 34.8	+4.1
LZH				XP	sP			15 42 38.0	+6.1
LZH				AMB	AMB				
	comp=Z,21nm,1.5s,mb4.8								
LZH	**Lanzhou**	**76.70**	**53**	*e*P		**P**		**15 42 27.3**	**-0.1**
LZH				*PP	pP			15 42 34.8	+4.1
LZH				*SP	sP			15 42 37.9	+6.0
LZH				pmax	pmax				
	comp=Z,21nm,1.5s,mb4.8								
LZH	**Lanzhou**	**76.70**	**53**	*e*P		**P**		**15 42 27.3**	**-0.1**
	comp=Z,21nm,1.5s,mb4.8								
LZH				pP	pP			15 42 34.8	+4.1
LZH				sP	sP			15 42 37.9	+6.0
ZAK	**Zakamensk**	**79.06**	**39**	⇓*i*P		**P**		**15 42 41.6**	**+1.1**
ZAK				pmax	pmax				
	comp=Z,14nm,2.0s,mb4.5								
SONM	**Songino Array**	**80.56**	**42**	P		**P**		**15 42 49.6**	**+0.9**
	comp=Z,5.2nm,0.8s,mb4.5,baz=190,slow=6.0,SNR=3.7								
HHC	**Hu-ho-hao-te**	**83.32**	**49**	*e*P		**P**		**15 43 02.3**	**-0.9**
HHC				AP	pP			15 43 07.0	+0.5
HHC				PP	PP			15 46 16.0	+1.2
HHC				SKS				15 53 19.3	
HHC				SS	SS			15 58 50.0	+1.1
HHC				AMB	AMB				
	comp=Z,7.0nm,1.3s,mb4.5								
HHC				AMB	AMB				
	comp=Z,118nm,5.4s								
HHC				LR	LR				
	comp=N,217nm,20.2s,MS4.9								
HHC				LR	LR				
	comp=E,490nm,23.4s,MS4.9								
HHC				LR	LR				
	comp=Z,183nm,19.0s,MS4.5								
CIT	**Chita**	**85.69**	**38**	*e*P		**P**		**15 43 17.0**	**+1.8**
CIT				*e*				15 48 28.0	
CIT				pmax	pmax				
	comp=Z,50nm,1.6s,mb5.5								
BOD	**Bodaibo**	**86.45**	**32**	*e*P		**P**		**15 43 19.2**	**+0.3**
BOD				pmax	pmax				
	comp=Z,22nm,1.2s,mb5.3								
CPUP	**Villa Florida**	**87.83**	**244**	P		**P**		**15 43 27.8**	**+2.2**
	comp=Z,0.2nm,0.3s,mb3.8,baz=125,slow=12,SNR=2.2								
NJ2	**Nanjing**	**88.78**	**58**	*e*P		**P**		**15 43 26.5**	**-3.6**
NJ2				S				15 54 09.0	
NJ2				AMB	AMB				
	comp=Z,10.0nm,0.8s,mb5.2								
NJ2				AMB	AMB				
	comp=Z,40nm,4.9s								
NJ2				LR	LR				
	comp=N,260nm,27.9s,MS4.6								
NJ2				LR	LR				
	comp=E,240nm,27.3s,MS4.6								
NJ2				LR	LR				
	comp=Z,250nm,24.0s,MS4.5								
TIXI	**Tiksi**	**92.43**	**18**	*e*P		**P**		**15 43 47.2**	**+0.1**
TIXI				pmax	pmax				
	comp=Z,3.0nm,1.6s,mb4.4								
MDJ	**Mudanjiang**	**96.53**	**45**	P		**P**		**15 44 05.5**	**-0.4**
MDJ				AP	pP			15 44 12.3	+3.0
MDJ				XP	sP			15 44 14.8	+4.3
MDJ				AMB	AMB				
	comp=Z,4.0nm,0.6s,mb5.0								
MDJ				AMB	AMB				
	comp=Z,110nm,4.7s								

NEIC ***29*** *15:34:00.6, 3735N×2054E, h8km, MD3.7(ATH), After ATH.*
ATH ***29*** *15:34:00.5, 3735N×2053E, h11km±3km, MD3.7/7*
CSEM ***29*** *15:34:02.5±0.4, 3742N×2065E, h8km, MD3.7, Error ellipse: s-maj=8.7km s-min=3.9km az=66.0*
ISCJB ***29*** *15:34:03.1±1.6, 3744N±007×207E±0.1, h10km, Error ellipse: s-maj=17.2km s-min=8.0km az=125.8*

ISC 29 15:34:03.9±1.6, 3741N±007×207E±01, h10km, n13, σ1§25/16, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VLS	**Valsamata**	**0.77**	**352**	*e*PB		**Pg**	**15 34 16.7**	**-2.1**
RLS	**Riolos of Patr**	**0.87**	**42**	*e*PG		**Pg**	**15 34 19.5**	**-1.1**
RLS				*e*SN		**Sn**	**15 34 34.4**	**-0.5**
ITM	**Ithomi**	**0.98**	**103**	*e*PB		**Pb**	**15 34 21.7**	**-1.2**
LKD	**Levkas**	**1.29**	**357**	*e*P		**Pn**	**15 34 26.0**	**-2.1**
LKD				*e*S		**Sb**	**15 34 47.2**	**+2.2**
EVR	**Evrytania**	**1.73**	**29**	*e*PG		**Pn**	**15 34 35.0**	**+1.1**
EVR	**Evrytania**	**1.73**	**29**	*e*Pg		**Pg**	**15 34 36.4**	**-0.6**
VLI	**Veliai**	**1.89**	**111**	*e*PN		**Pn**	**15 34 37.4**	**+1.1**
VLI	**Veliai**	**1.89**	**111**	*e*Pg		**Pn**	**15 34 38.4**	**+2.1**
MGER	**Gerania Oros**	**2.08**	**73**	*e*PN		**Pn**	**15 34 40.0**	**+1.1**
IGT	**Igoumenitsa**	**2.14**	**352**	*e*S		**Sn**	**15 35 07.1**	**+0.8**
IGT				*e*S		**Sn**	**15 35 10.6**	**+4.3**
KYTH	**Kithira**	**2.17**	**121**	*e*PN		**Pn**	**15 34 40.0**	**0.0**
LKR	**Lokris**	**2.17**	**55**	*e*PB		**Pn**	**15 34 40.6**	**+0.5**
NEO	**Neokhori**	**2.72**	**45**	*e*PN		**Pn**	**15 34 47.7**	**0.0**

IDC 29 15:34:52.1±66.0, 2285S×17953E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.9/11, mbtmp4.0/3, Error ellipse: s-maj=1183.0km s-min=162.2km az=85.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**34.73**	**247**	P		P	15 41 42.0	-1.7
	0.9nm,0.5s,baz=105,slow=12,SNR=3.3							
ASAR	**Alice Springs**	**41.79**	**260**	P		P	15 42 44.2	+0.9
	1.9nm,0.9s,baz=93,slow=7.9,SNR=18							
WB2	**Warramunga Arr**	**42.04**	**265**	*e*P		P	15 42 46.0	+0.7
WRA	**Warramunga Arr**	**42.05**	**265**	P		P	15 42 46.2	+0.8
	1.1nm,0.5s,baz=96,slow=8.3,SNR=23							

NEIC ***29*** *16:09:08.7±1.8, 3019N×8421E, h10km, mb4.0/3, Error ellipse: s-maj=41.8km s-min=16.2km az=205.0*
ISCJB ***29*** *16:09:09.9±0.7, 306N±0.1×8444E±006, h10km, mb3.6/7, Error ellipse: s-maj=15.4km s-min=8.0km az=6.8*
IDC ***29*** *16:09:10.2±1.3, 3046N×8388E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/21, mbtmp3.7/5, Error ellipse: s-maj=39.1km s-min=30.8km az=42.0*
MOS ***29*** *16:09:12.6±2.0, 3049N×8435E, h33km, mb4.1/4, Error ellipse: s-maj=31.6km s-min=19.0km az=115.2*

ISC 29 16:09:10.5±0.7, 305N±01×8441E±006, h10km, n17, σ1§27/20, mb3.6/7, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PTH	**Pithoragarh**	**3.75**	**257**	*e*P		**Pn**	**16 10 08.9**	**+0.5**
PTH				*e*S		**Sn**	**16 10 51.9**	**-0.6**
LGTI	**Lohaghat**	**3.75**	**256**	*e*x		**Pn**	**16 10 13.0**	**+4.6**
LGTI				*e*x		**Sn**	**16 11 01.0**	**+8.4**
JOSI	**Joshimath**	**4.19**	**273**	*e*x		**Pg**	**16 10 38.1**	**+7.3**
KLP	**Kalpa**	**5.40**	**283**	*e*x		**Pb**	**16 10 45.5**	**+0.6**
LSA	**Lhasa**	**5.89**	**96**	*e*Pn		**Pn**	**16 10 37.8**	**0.0**
LSA				*e*Pg		**Pb**	**16 10 52.4**	**-0.9**
MKAR	**Makanchi Array**	**16.40**	**355**	Pn		**Pn**	**16 12 51.0**	**-10**
	0.0nm,0.3s,baz=174,slow=12,SNR=4.1							
KURK	**Kurchatov**	**20.70**	**350**	*e*P		**P**	**16 13 50.7**	**-0.2**
KURK				pmax	pmax			
	comp=Z,10.0nm,1.0s							
KURK	**Kurchatov**	**20.70**	**350**	*e*P		**P**	**16 13 50.7**	**-0.2**
	comp=Z,9.8nm,1.0s							
ZAL	**Zalesovo**	**23.47**	**1**	P		**P**	**16 14 21.5**	**+1.1**
	comp=Z,1.6nm,0.7s,mb3.5,baz=293,slow=10,SNR=7.0							
ZRNK	**Zerenda**	**25.15**	**338**	*e*P		**P**	**16 14 35.1**	**-0.7**
ZRNK				pmax	pmax			
	comp=Z,4.0nm,1.1s,mb3.9							
ZRNK	**Zerenda**	**25.15**	**338**	*e*P		**P**	**16 14 35.1**	**-0.7**
	comp=Z,4.4nm,1.1s,mb3.9							
CHKZ	**Chkalovo**	**25.28**	**341**	*e*P		**P**	**16 14 36.4**	**-0.6**
CHKZ				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb3.8							
CHKZ	**Chkalovo**	**25.28**	**341**	*e*P		**P**	**16 14 36.4**	**-0.6**
	comp=Z,3.1nm,1.0s,mb3.8							
BRTR	**Keskin Array B**	**42.08**	**297**	P		**P**	**16 17 00.5**	**-2.1**
	comp=Z,0.2nm,0.4s,mb3.1,baz=134,slow=7.1,SNR=5.4							
WRA	**Warramunga Arr**	**69.39**	**130**	P		**P**	**16 20 22.5**	**+3.9**
	comp=Z,1.7nm,1.1s,mb3.9,baz=323,slow=6.6,SNR=4.6							
ILAR	**Eielson Array**	**77.05**	**20**	P		**P**	**16 21 05.5**	**+1.7**
	comp=Z,0.4nm,0.9s,mb3.4,baz=312,slow=3.9,SNR=4.9							
TORD	**Torodi Ar. Bea**	**77.25**	**278**	P		**P**	**16 21 04.3**	**-0.7**
	comp=Z,0.6nm,0.8s,mb3.6,baz=60,slow=3.2,SNR=3.6							

MOS ***29*** *16:53:18.4±1.8, 3794N×7262E, h33km, mb4.1/1, Error ellipse: s-maj=20.8km s-min=8.6km az=95.3*
NEIC ***29*** *16:53:24.4±1.6, 3809N×7294E, h80km±17km, mb3.8/5, Error ellipse: s-maj=23.6km s-min=6.3km az=63.0*
ISCJB ***29*** *16:53:27.5±0.4, 3824N±003×7318E±008, h135km±8km, mb3.9/4, Error ellipse: s-maj=10.1km s-min=4.5km az=166.6*
IDC ***29*** *16:53:27.7±21.0, 3830N×7292E, h89km±98km, mb3.8/2, mb1 4.0/4, mb1mx3.4/23, mbtmp4.3/4, ML3.7/2, Error ellipse: s-maj=261.6km s-min=58.8km az=176.0*
NNC ***29*** *16:53:33.6±5.8, 3876N×7307E, h146km±51km, mb3.3, mpv4.2, Error ellipse: s-maj=64.1km s-min=51.2km az=69.0*

ISC 29 16:53:28.6±0.4, 3824N±003×7320E±008, h134km±7km, n53, σ1§34/58, mb3.9/4, 3C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AML	**Almayashu**	**3.90**	**5**	P		**Pn**	**16 54 26.9**	**-0.2**
	SNR=189							
UCH	**Uchtor**	**4.11**	**14**	P		**Pn**	**16 54 30.7**	**+0.9**
	SNR=106							
KZA	**Kyzart**	**4.14**	**22**	P		**Pn**	**16 54 31.3**	**+1.1**
	SNR=46							
EKS2	**Erkin-Say**	**4.43**	**6**	P		**Pn**	**16 54 34.5**	**+0.3**
	SNR=40							
AAK	**Ala-Archa**	**4.50**	**12**	P		**Pn**	**16 54 36.2**	**+1.2**
	SNR=43							
AAK	**Ala-Archa**	**4.50**	**12**	⇓*i*Pn		**Pn**	**16 54 34.9**	**0.0**
AAK				*e*Sn		**Sn**	**16 55 24.5**	**-2.1**
CEP	**Cherat**	**4.53**	**194**	P		**Pn**	**16 54 37.0**	**+1.5**
CHCP	**Chirah Chowk**	**4.58**	**179**	P		**Pn**	**16 54 38.4**	**+2.3**
CHCP				S		**Sn**	**16 55 24.0**	**-4.5**
KBK	**Karagaybulak**	**4.61**	**16**	P		**Pn**	**16 54 37.5**	**+1.1**
	SNR=27							
ULHL	**Ulahol**	**4.63**	**29**	P		**Pn**	**16 54 37.8**	**+1.1**
	SNR=49							
CHMS	**Chumysh**	**4.89**	**14**	P		**Pn**	**16 54 41.3**	**+1.0**
	SNR=9.1							
TKM2	**Tokmak 2**	**5.02**	**21**	P		**Pn**	**16 54 43.8**	**+1.8**
	SNR=6.2							
USP	**Ospenovka**	**5.11**	**11**	P		**Pn**	**16 54 43.5**	**+0.3**
	SNR=37							
KK31	**Karatay Array**	**5.26**	**338**	P		**Pn**	**16 54 43.5**	**-1.7**
	9.9nm,0.2s,baz=152,slow=12,SNR=443							
KK31				⇑S		**Sn**	**16 55 38.6**	**-6.4**
	10nm,0.3s,baz=151,slow=22,SNR=9.7							
THW	**Thamme Wali**	**5.56**	**193**	P		**Pn**	**16 54 49.4**	**+0.1**
SBDP	**Sheikh Budin**	**6.24**	**199**	P		**Pn**	**16 54 58.4**	**0.0**
SARP	**Sargodha**	**6.32**	**184**	P		**Pn**	**16 54 59.0**	**-0.4**
DRP	**Derazinda**	**6.93**	**202**	P		**Pn**	**16 55 07.8**	**+0.1**
SDNR	**Sundarnagar**	**7.41**	**154**	*e*P		**Pn**	**16 55 15.0**	**+1.0**
SDNR				*e*S		**Sn**	**16 56 32.0**	**-4.6**
SMLA	**Simla**	**7.81**	**154**	*i* P		**Pn**	**16 55 19.2**	**-0.3**
	686nm,0.3s							
SMLA				*i* S		**Sn**	**16 56 40.6**	**-5.8**
MKAR	**Makanchi Array**	**10.86**	**35**	P		**Pn**	**16 56 01.5**	**+1.3**
	0.1nm,0.3s,baz=217,slow=16,SNR=3.6							
KURK	**Kurchatov**	**13.05**	**15**	*e*P		**Pn**	**16 56 26.9**	**-2.0**
KOLN	**Koldanda**	**13.60**	**137**	*e*P		**Pn**	**16 56 34.4**	**-1.6**
	9.8nm,0.2s							
KOLN				*e*S		**Sn**	**16 58 56.3**	**-10**
GKN	**Gorkha**	**13.99**	**134**	*e*P		**Pn**	**16 56 39.8**	**-1.2**
	19nm,0.3s							
KKN	**Kakani**	**14.53**	**132**	*e*P		**Pn**	**16 56 45.7**	**-2.0**
	5.0nm,0.2s							
KKN	**Kakani**	**14.53**	**132**	*e*P		**Pn**	**16 56 45.7**	**-2.0**
KKN				pmax	pmax			
	comp=Z,5.0nm,0.2s							
DMN	**Daman**	**14.56**	**133**	*e*P		**Pn**	**16 56 47.8**	**-0.4**
	comp=Z,6.1nm,0.3s							
AB31	**Akbulak array**	**14.56**	**323**	P		**Pn**	**16 56 44.6**	**-3.5**
	comp=Z,2.7nm,0.4s,baz=130,slow=13,SNR=82							
PKI	**Pulchoki**	**14.77**	**133**	*e*P		**Pn**	**16 56 49.8**	**-0.9**
GUN	**Gumba**	**14.79**	**130**	*e*P		**Pn**	**16 56 50.3**	**-0.7**
	comp=Z,11nm,0.4s							
BVA0	**Borovoye Array**	**14.91**	**353**	P		**Pn**	**16 56 51.0**	**-1.6**
	comp=Z,0.8nm,0.8s,baz=162,slow=14,SNR=25							
BRVK	**Borovoye**	**14.95**	**353**	P		**Pn**	**16 56 51.5**	**-1.5**
BRVK				pmax	pmax			
	comp=Z,4.0nm,0.8s							
BRVK	**Borovoye**	**14.95**	**353**	Pn		**Pn**	**16 56 51.5**	**-1.5**
	comp=Z,3.7nm,0.8s							
ZRNK	**Zerenda**	**14.99**	**350**	⇑P		**Pn**	**16 56 52.3**	**-1.2**
	comp=Z,3.9nm,0.7s							
ZRNK	**Zerenda**	**14.99**	**350**	*e*P		**Pn**	**16 56 52.0**	**-1.6**
ZRNK				pmax	pmax			
	comp=Z,6.0nm,0.6s							
ZRNK	**Zerenda**	**14.99**	**350**	*e*Pn		**Pn**	**16 56 52.0**	**-1.6**
	comp=Z,5.6nm,0.6s							
ZRNK				*e*P			16 56 57.0	
JIRN	**Jiri**	**15.16**	**130**	*e*P		**Pn**	**16 56 55.1**	**-0.5**
	comp=Z,18nm,0.3s							
CHKZ	**Chkalovo**	**15.54**	**354**	⇓P		**Pn**	**16 56 58.6**	**-1.7**
	comp=Z,1.3nm,0.6s							
CHKZ	**Chkalovo**	**15.54**	**354**	*e*P		**Pn**	**16 56 58.7**	**-1.6**
CHKZ				pmax	pmax			
	comp=Z,2.0nm,0.6s							
CHKZ	**Chkalovo**	**15.54**	**354**	*e*P		**Pn**	**16 56 58.7**	**-1.6**
	comp=Z,1.7nm,0.6s							
AKTK	**Aktyubinsk**	**16.28**	**323**	P		**Pn**	**16 57 08.3**	**-1.2**
AKTO	**Aktyubinsk**	**16.28**	**323**	⇑P		**Pn**	**16 57 07.9**	**-1.6**
AKTO	**Aktyubinsk**	**16.28**	**323**	P		**Pn**	**16 57 08.3**	**-1.2**
	comp=Z,2.5nm,0.3s,baz=125,slow=13,SNR=36							
ZAL	**Zalesovo**	**17.60**	**23**	P		**Pn**	**16 57 26.7**	**+1.3**
	comp=Z,1.2nm,0.3s,baz=257,slow=2.9,SNR=8.0							
MDRS	**Chennai**	**25.85**	**164**	*e*x		x	16 59 20.0	
MDRS				*e*x		x	17 01 12.0	
JOF	**Joensuu**	**35.27**	**328**	*e*p		**P**	**17 00 11.5**	**+1.1**
FINES	**FINESS Array B**	**37.05**	**324**	P		**P**	**17 00 27.2**	**+1.7**
	comp=Z,0.7nm,0.3s,mb3.7,baz=116,slow=9.7,SNR=14							
FINES	**FINESS Array B**	**37.05**	**324**	P		**P**	**17 00 27.2**	**+1.7**
ARCES	**ARCESS Array B**	**40.23**	**336**	P		**P**	**17 00 53.9**	**+1.9**
	comp=Z,2.7nm,0.7s,mb4.0,baz=116,slow=8.2,SNR=7.0							
ARCES	**ARCESS Array B**	**40.23**	**336**	P		**P**	**17 00 53.9**	**+1.9**
INK	**Inuvik**	**71.90**	**10**	*e*P		**P**	**17 04 40.0**	**+3.0**
INK				pmax	pmax			
	comp=Z,1.0nm,0.4s							
INK	**Inuvik**	**71.90**	**10**	*e*P		**P**	**17 04 40.0**	**+3.0**
	comp=Z,0.5nm,0.4s,mb3.6							
WRAB	**Tennant Creek**	**81.46**	**124**	*e*P		**P**	**17 05 32.8**	**+2.1**
	comp=Z,8.6nm,0.9s,mb4.4							

ATH ***29*** *16:57:21.7, 4035N×2769E, h10km, MD3.8/3*
ISCJB ***29*** *16:57:25.5±0.3, 4029N±002×2731E±002, h9km±3km, Error ellipse: s-maj=2.9km s-min=2.6km az=80.2*
NEIC ***29*** *16:57:25.0, 4029N×2730E, h12km, MD3.2(ISK), MD3.8(ATH), After ISK.*
CSEM ***29*** *16:57:25.8±0.0, 4031N×2739E, h10km, MD3.1, Error ellipse: s-maj=1.3km s-min=1.0km az=23.0*
ISK ***29*** *16:57:25.4, 4029N×2730E, h12km, MD3.1*
SOF ***29*** *16:57:26.8, 4038N×2719E, h10km, MD3.1*
THE ***29*** *16:57:27.0, 4031N×2750E, h20km, ML3.7*

ISC 29 16:57:26.1±0.3, 4028N±002×2731E±002, h8km±3km, n71, σ0§81/91, 4C-8D, Turkey

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

SGKT	**Sivrigoynuk**	**3.63**	**84**	*i* P	**Pn**	**16 58 23.0**	**+0.3**
KIZT	**Kizilcal**	**3.80**	**110**	*e*PN	**Pn**	**16 58 26.1**	**+1.1**
VTS	**Vitosha**	**3.85**	**308**	*e*Pn	**Pn**	**16 58 25.2**	**-0.5**
VTS				*e*Sn	**Sn**	**16 59 10.5**	**-0.6**
AGG	**Agios Georgios**	**4.04**	**253**	*e*Pn	**Pn**	**16 58 28.7**	**+0.4**
TIRR	**Tirgusor**	**4.25**	**11**⇑	*i*P	**Pg**	**16 58 44.2**	**-3.4**
HARR	**Harsova**	**4.43**	**6**⇓	*i*P	**Pg**	**16 58 45.0**	**-6.0**
HARR	**Harsova**	**4.43**	**6**	⇓P	**Pg**	**16 58 45.0**	**-6.0**
FNA	**Florina**	**4.55**	**278**	*e*Pn	**Pn**	**16 58 35.8**	**+0.5**
MLR	**Muntele Rosu**	**5.30**	**350**⇓	*i*P	**Pn**	**16 58 47.9**	**+2.3**
MLR	**Muntele Rosu**	**5.30**	**350**	⇓P	**Pn**	**16 58 47.9**	**+2.3**
VRI	**Vrincioaia**	**5.60**	**356**⇓	*i*P	**Pn**	**16 58 51.8**	**+2.1**
VRI	**Vrincioaia**	**5.60**	**356**	⇓P	**Pn**	**16 58 51.8**	**+2.1**
BZS	**Buzias**	**6.77**	**324**⇑	*i*P	**Pn**	**16 59 05.3**	**-0.5**
BZS	**Buzias**	**6.77**	**324**	⇑P	**Pn**	**16 59 05.3**	**-0.5**
BURAR	**Bucovina Array**	**7.48**	**349**⇑	*i*P	**Pn**	**16 59 17.4**	**+1.8**
BURAR	**Bucovina Array**	**7.48**	**349**	⇓P	**Pn**	**16 59 17.4**	**+1.8**
BURAR	**Bucovina Array**	**7.48**	**349**	⇓P	**Pn**	**16 59 17.4**	**+1.8**

IDC 29 17:11:15.8±8.9, 1961S×17152E, h232km±47km, mb3.8/3, mb1 3.9/4, mb1mx3.6/12, mbtmp4.4/4, 1C, Error ellipse: s-maj=89.7km s-min=79.4km az=113.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**3.65**	**301**⇑	*i*P	Pn	17 12 13.1	-1.5
BKM				S	S	17 12 44.1	-17
DZM	**Mont Dzumac**	**5.34**	**242**	P	Pn	17 12 35.3	+0.1
	1.3nm,0.3s,baz=56,slow=17,SNR=14						
DZM				S	S	17 13 39.0	+0.6
	0.7nm,0.3s,baz=339,slow=22,SNR=2.8						
STKA	**Stephens Creek**	**29.49**	**240**	P	P	17 16 58.3	-0.1
	2.5nm,0.6s,baz=82,slow=12,SNR=8.3						
WB2	**Warramunga Arr**	**34.93**	**263**	*e*P	P	17 17 45.5	-0.2
WRA	**Warramunga Arr**	**34.94**	**263**	P	P	17 17 45.4	-0.4
	0.6nm,0.3s,baz=98,slow=8.4,SNR=52						
ASAR	**Alice Springs**	**35.13**	**257**	P	P	17 17 48.5	+1.1
	11nm,0.5s,baz=81,slow=9.0,SNR=546						

IDC 29 17:15:59.2±64.0, 1670S×17437W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/13, mbtmp3.9/3, MS3.3/1, Ms1 3.3/1, ms1mx2.8/15, Error ellipse: s-maj=1219.0km s-min=185.5km az=80.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**18.86**	**251**	LR	LR	17 26 04.2	
	comp=Z,83nm,20.1s,baz=204,slow=32						
STKA	**Stephens Creek**	**42.58**	**241**	P	P	17 23 57.3	+0.5
	0.6nm,0.3s,baz=81,slow=13,SNR=4.2						
WRA	**Warramunga Arr**	**48.65**	**258**	P	P	17 24 44.8	0.0
	0.2nm,0.5s,baz=96,slow=7.2,SNR=9.1						
ASAR	**Alice Springs**	**48.83**	**253**	P	P	17 24 46.8	+0.5
	2.8nm,0.6s,baz=89,slow=7.9,SNR=111						

*THE **29** 17:17:56.6, 3870N×2156E, h11km, ML2.9*
*ATH **29** 17:17:56.9, 3891N×2146E, h5km, MD3.4/5*
*ISCJB **29** 17:17:57.4±0.4, 3890N±003×2149E±003, h5km, Error ellipse: s-maj=4.1km s-min=3.0km az=107.0*
*NEIC **29** 17:17:57.7, 3891N×2147E, h7km, MD3.4(ATH), After ATH.*
*CSEM **29** 17:17:57.7±0.2, 3893N×2150E, h2km, MD3.4, Error ellipse: s-maj=4.3km s-min=3.5km az=169.0*

ISC 29 17:17:57.6±0.5, 3890N±003×2149E±003, h1km±5km, n24, σ1§11/37, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.25**	**86**⇓	*i*PG	**Pg**	**17 18 01.8**	**-0.6**
EVR				*e*SG	**Sg**	**17 18 06.3**	**+0.7**
EVR	**Evrytania**	**0.25**	**86**	*e*Pg	**Pg**	**17 18 02.1**	**-0.3**
EVR				*e*Sg	**Sg**	**17 18 07.1**	**+1.5**
AGG	**Agios Georgios**	**0.67**	**79**	*e*Pg	**Pg**	**17 18 09.3**	**-1.0**
AGG				*e*Sg	**Sg**	**17 18 19.8**	**+0.8**
LKD	**Levkas**	**0.69**	**254**	*e*Pg	**Pg**	**17 18 09.8**	**-1.0**
LKD				*e*Sg	**Sg**	**17 18 20.9**	**+1.2**
RLS	**Riolos of Patr**	**0.84**	**181**	*e*PB	**Pg**	**17 18 13.7**	**0.0**
RLS				*e*SB	**Sg**	**17 18 25.7**	**+1.1**
RLS	**Riolos of Patr**	**0.84**	**181**	*e*Pb	**Pb**	**17 18 14.1**	**-0.9**
JAN	**Janina**	**0.91**	**327**	*e*PB	**Pg**	**17 18 14.6**	**-0.4**
JAN				*e*SB	**Sg**	**17 18 26.2**	**-0.5**
VLS	**Valsamata**	**1.01**	**225**	*e*PB	**Pg**	**17 18 15.1**	**-1.9**
VLS				*e*SB	**Sg**	**17 18 31.1**	**+1.0**
VLS	**Valsamata**	**1.01**	**225**	*e*Pb	**Pg**	**17 18 15.3**	**-1.7**
VLS				*e*Sb	**Sg**	**17 18 31.5**	**+1.4**
LKR	**Lokris**	**1.20**	**101**	*e*PB	**Pb**	**17 18 21.3**	**+0.1**
XOR	**Xorichti**	**1.40**	**70**	*e*Pg	**Pn**	**17 18 22.2**	**-2.1**
NEO	**Neokhori**	**1.41**	**73**	*e*PB	**Pb**	**17 18 24.7**	**+0.1**
LIT	**Litokhoron**	**1.43**	**32**	*e*Pg	**Pn**	**17 18 23.4**	**-1.2**
LIT				*e*Sg	**Sg**	**17 18 44.9**	**+1.4**
KEK	**Kerkira**	**1.54**	**302**	*e*PG	**Pn**	**17 18 25.2**	**-1.0**
KEK	**Kerkira**	**1.54**	**302**	*e*Pb	**Pb**	**17 18 27.3**	**+0.3**
ITM	**Ithomi**	**1.75**	**169**	*e*Pn	**Pn**	**17 18 30.7**	**+1.7**
FNA	**Florina**	**1.89**	**357**	*e*Pn	**Pn**	**17 18 31.1**	**+0.2**
FNA				*e*Sn	**Sn**	**17 18 57.7**	**+2.4**
FNA	**Florina**	**1.89**	**357**	*e*Pn	**Pn**	**17 18 31.1**	**+0.2**
PAIG	**Paliouri**	**1.98**	**58**	*e*Pn	**Pn**	**17 18 30.5**	**-1.7**
PAIG				*e*Sn	**Sn**	**17 18 56.7**	**-1.0**
BIA	**Bitola**	**2.12**	**357**	*e*Pn	**Pn**	**17 18 35.6**	**+1.4**
BIA	**Bitola**	**2.12**	**357**	*e*Pn	**Pn**	**17 18 35.5**	**+1.3**
SOH	**Sokhos**	**2.40**	**36**	*e*Pn	**Pn**	**17 18 37.1**	**-0.9**
SOH				*e*Sn	**Sn**	**17 19 08.8**	**+0.9**
KNT	**Kendrikon**	**2.50**	**25**	*e*Pn	**Pn**	**17 18 39.1**	**-0.4**
KNT				*e*Sn	**Sn**	**17 19 12.1**	**+1.5**
VAY	**Valandovo**	**2.56**	**19**	*e*Pn	**Pb**	**17 18 43.4**	**-0.8**

MAN 29 17:19:50.0, 662N×12372E, h1km, mb3.7, ML4.8, MS3.5, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.79**	**41**⇑	*i*P	Pg	17 20 05.5	+0.2
CTBH				*i* S	Sg	17 20 18.5	+3.0
PAGZ	**Pagadian**	**1.27**	**345**	*e*P	Pg	17 20 14.1	-0.2
PAGZ	**Pagadian**	**1.27**	**345**	*e*P	Pg	17 20 14.2	-0.1
PAGZ				*e*S	Sg	17 20 32.4	+1.7
IPIL	**Ipil**	**1.63**	**316**⇓	*e*P	Pn	17 20 19.3	-0.5
IPIL				*e*S	Sn	17 20 41.9	+0.5
IPIL	**Ipil**	**1.63**	**316**	*e*P	Pn	17 20 19.4	-0.4
IPIL				*e*S	Sn	17 20 41.5	+0.1
IPIL	**Ipil**	**1.63**	**316**	*e*P	Pn	17 20 19.5	-0.3
IPIL				*e*S	Sn	17 20 41.4	0.0
BUKP	**Musuan**	**1.82**	**47**	*e*P	Pn	17 20 16.3	-6.3
BUKP	**Musuan**	**1.82**	**47**	*e*P	Pn	17 20 21.8	-0.7
CGP	**Cagayan de Oro**	**2.06**	**28**⇓	*e*P	Pn	17 20 27.7	+1.9
CGP				*e*S	Sn	17 20 58.4	+6.2

MAN 29 17:23:05.6, 1664N×12204E, h96km, mb1.9, ML3.7, MS1.6, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAUP	**Cauayan**	**0.37**	**325**	*e*P	Pn	17 23 24.3	+4.2
PALP	**Palanan**	**0.56**	**41**	*e*P	Pn	17 23 23.0	+1.5
BALP	**Baler**	**1.00**	**207**	*e*P	Pn	17 23 26.2	+0.5
BALP				*e*S	Sn	17 23 41.3	+0.5
APYP	**Conner**	**1.44**	**328**	*e*P	Pn	17 23 31.5	+0.6

*NEIC **29** 17:26:37.0, 2735S×7111W, h23km±4km, ML3.5(GUC), After GUC.*

GUC 29 17:26:37.0±0.5, 2735S×7111W, h23km±4km, ML3.5, 3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.37**	**42**⇓	*i*P	Pb	17 26 44.7	-0.3
CDCH				*i* S	Sb	17 26 50.6	+0.1
CPCH	**Copiapo**	**0.67**	**91**⇓	*i*P	Pb	17 26 49.6	-0.5
CPCH				*i* S	Sb	17 26 59.2	+0.2
CPCH				AML	AML	17 27 00.0	
	comp=E,15µm,0.1s						
CPCH	**Copiapo**	**0.67**	**91**	*i*P	Pb	17 26 49.6	-0.5
CPCH				*i* S	Sb	17 26 59.2	+0.2
CRCH	**Chaqaral**	**1.09**	**24**	*e*P	Pn	17 26 56.3	-0.5
CRCH				*i* S	Sb	17 27 10.7	-0.4
CRCH				AML	AML	17 27 16.3	
	comp=E,592nm,0.4s						
CRCH	**Chaqaral**	**1.09**	**24**	*e*P	Pn	17 26 56.3	-0.5
CRCH				*i* S	Sb	17 27 10.7	-0.4
LCO	**Las Campanas**	**1.69**	**168**	*e*P	Pn	17 27 06.0	+1.0
LCO				*i* S	Sn	17 27 28.7	+2.7
TLL	**Tololo Astrono**	**2.82**	**175**	*e*P	Pn	17 27 22.7	+2.1
TLL				*i* S	Sn	17 27 56.8	+3.0
TLL				AML	AML	17 28 13.3	
	comp=N,172nm,0.7s						
TLL	**Tololo Astrono**	**2.82**	**175**	*e*P	Pn	17 27 22.7	+2.1
TLL				*i* S	Sn	17 27 56.8	+3.0

IDC 29 17:34:21.8±5.6, 2957N×9106E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.3/21, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=431.7km s-min=34.5km az=62.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**18.50**	**341**	P	Pn	17 38 39.5	-0.1
	0.1nm,0.3s,baz=167,slow=10,SNR=7.0						
WRA	**Warramunga Arr**	**64.52**	**134**	P	P	17 45 01.2	+0.8
	0.2nm,0.3s,baz=327,slow=6.6,SNR=7.8						
ASAR	**Alice Springs**	**67.06**	**137**	P	P	17 45 16.6	-0.2
	0.4nm,0.8s,baz=314,slow=5.7,SNR=8.3						

*NEIC **29** 17:35:22.0, 4507S×16743E, h85km, ML4.0(WEL), After WEL.*
NEIC Felt at Te Anau.
*BJI **29** 17:35:23.0, 4510S×16740E, h85km, mB5.4, mb5.1, Ms4.5, Msz4.1*

WEL 29 17:35:22.1±0.2, 4508S×16746E, h84km±1km, ML3.9/9, 3D, Error ellipse: s-maj=1.6km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.46**	**208**	PN	Pn	17 35 35.6	-0.3
DCZ				SN	Sn	17 35 46.0	-0.2
DCZ	**Deep Cove**	**0.46**	**208**	P	Pn	17 35 35.6	-0.4
DCZ				S	Sn	17 35 46.0	-0.2
MSZ	**Milford Sound**	**0.52**	**40**	PN	Pn	17 35 36.3	-0.2
MSZ				SN	Sn	17 35 47.0	-0.1
MSZ	**Milford Sound**	**0.52**	**40**	P	Pn	17 35 36.3	-0.2
MSZ				S	Sn	17 35 47.0	-0.2
MLZ	**Mavora Lakes**	**0.57**	**118**	PN	Pn	17 35 36.7	-0.3
MLZ				SN	Sn	17 35 47.4	-0.5
MLZ	**Mavora Lakes**	**0.57**	**118**	P	Pn	17 35 36.7	-0.3
MLZ				S	Sn	17 35 47.4	-0.5
WHZ	**Wether Hill Ro**	**0.89**	**157**	PN	Pn	17 35 40.1	0.0
WHZ				SN	Sn	17 35 53.4	-0.3
WHZ	**Wether Hill Ro**	**0.89**	**157**	*e*P	Pn	17 35 40.2	0.0
WKZ	**Wanaka**	**1.14**	**78**	PN	Pn	17 35 43.1	+0.1
WKZ				SN	Sn	17 35 58.9	+0.1
WKZ	**Wanaka**	**1.14**	**78**	P	Pn	17 35 43.2	+0.1
EAZ	**Earnscleugh**	**1.32**	**97**	⇓PN	Pn	17 35 45.2	-0.1
EAZ				SN	Sn	17 36 01.6	-1.1
EAZ	**Earnscleugh**	**1.32**	**97**	P	Pn	17 35 45.3	0.0
JCZ	**Jackson Bay**	**1.37**	**43**	⇓PN	Pn	17 35 45.4	-0.5
JCZ	**Jackson Bay**	**1.37**	**43**	P	Pn	17 35 45.5	-0.4
TUZ	**Tuapeka**	**1.76**	**121**	PN	Pn	17 35 51.0	-0.1
TUZ				SN	Sn	17 36 11.2	-1.8
TUZ	**Tuapeka**	**1.76**	**121**	P	Pn	17 35 51.0	0.0
APZ	**The Paps**	**1.79**	**168**	PN	Pn	17 35 51.2	-0.2
SYZ	**Scrubby Hill**	**1.88**	**142**	PN	Pn	17 35 52.3	-0.2
LBZ	**Lake Benmore**	**2.06**	**71**	PN	Pn	17 35 53.5	-1.4
LBZ	**Lake Benmore**	**2.06**	**71**	*e*P	Pn	17 35 53.5	-1.5
FOZ	**Fox Glacier**	**2.20**	**47**	PN	Pn	17 35 56.2	-0.6
FOZ	**Fox Glacier**	**2.20**	**47**	*e*P	Pn	17 35 56.2	-0.6
ODZ	**Otahua Downs**	**2.26**	**90**	⇓PN	Pn	17 35 56.5	-1.0
ODZ	**Otahua Downs**	**2.26**	**90**	P	Pn	17 35 56.5	-1.1
HHSZ	**Highcliff Hill**	**2.35**	**111**	PN	Pn	17 35 58.5	-0.3
RPZ	**Rata Peaks**	**2.91**	**63**	PN	Pn	17 36 04.1	-2.2
RPZ	**Rata Peaks**	**2.91**	**63**	*e*P	Pn	17 36 04.2	-2.2
WVZ	**Waitaha Valley**	**3.10**	**51**	PN	Pn	17 36 06.4	-2.4
WVZ	**Waitaha Valley**	**3.10**	**51**	*e*P	Pn	17 36 06.9	-1.9
MQZ	**McQueen's Vall**	**3.97**	**72**	*e*PN	Pn	17 36 18.0	-2.6
MQZ	**McQueen's Vall**	**3.97**	**72**	*e*P	Pn	17 36 18.2	-2.4
LTZ	**Lake Taylor**	**4.16**	**58**	PN	Pn	17 36 20.2	-3.1
LTZ	**Lake Taylor**	**4.16**	**58**	*e*P	Pn	17 36 20.2	-3.1
THZ	**Tophouse**	**5.17**	**52**	*e*PN	Pn	17 36 33.9	-3.0
THZ	**Tophouse**	**5.17**	**52**	*e*P	Pn	17 36 34.2	-2.8
QRZ	**Quartz Range**	**5.65**	**43**	PN	Pn	17 36 41.3	-2.2
QRZ	**Quartz Range**	**5.65**	**43**	*e*P	Pn	17 36 41.4	-2.1
NJ2	**Nanjing**	**88.56**	**320**	*e*P	P	17 48 12.5	+7.1
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
MDJ	**Mudanjiang**	**95.42**	**334**	P	P	17 48 39.0	+1.8
MDJ				AP	pP	17 49 00.5	+0.6
MDJ				XP	sP	17 49 09.5	+0.5
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,69nm,3.8s						
HHC	**Hu-ho-hao-te**	**99.11**	**320**	*e*P	P	17 48 56.0	+2.2
HHC				AP	pP	17 49 16.8	+0.2
HHC				XP	sP	17 49 25.5	-0.2
HHC				PP	PP	17 53 02.3	+5.2
HHC				SKS		17 59 26.5	
HHC				S		18 00 19.0	
HHC				XS	sS	18 00 54.3	-2.9
HHC				PS	PS	18 01 59.3	+4.5
HHC				SS	SS	18 07 13.5	+6.0
HHC				AMB	AMB		
	comp=Z,11nm,1.0s						
HHC				AMB	AMB		
	comp=Z,43nm,3.7s						
HHC				LR	LR		
	comp=N,56nm,20.1s						
HHC				LR	LR		
	comp=E,53nm,21.8s						
HHC				LR	LR		
	comp=Z,69nm,23.9s						

*ISCJB **29** 18:21:23.5±0.2, 4633N±002×1262E±002, h8km, Error ellipse: s-maj=2.4km s-min=1.5km az=27.6*
*ROM **29** 18:21:23.4±0.1, 4633N×1265E, h1km, Md2.5/8, Ml2.1/5, Error ellipse: s-maj=1.9km s-min=1.1km az=6.0*
*CSEM **29** 18:21:23.2±0.1, 4630N×1263E, h20km, ML2.6/7, Error ellipse: s-maj=2.4km s-min=1.5km az=9.0*

IDC 29 17:54:59.9±5.4, 818S×15872E, h69km±63km, mb3.4/4, mb1 3.5/4, mb1mx3.4/13, mbtmp3.7/4, Error ellipse: s-maj=49.2km s-min=37.0km az=121.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.74**	**136**	P	Pn	17 55 27.6	-0.4
	96nm,0.3s,baz=267,slow=4.0,SNR=122						
HNR				S	Sn	17 55 49.5	+0.3
	218nm,0.3s,baz=88,slow=16,SNR=25						
WRA	**Warramunga Arr**	**26.34**	**241**	P	P	18 00 30.0	+0.8
	0.4nm,0.7s,baz=68,slow=9.3,SNR=7.2						
ASAR	**Alice Springs**	**28.32**	**234**	P	P	18 00 47.5	+0.6
	0.2nm,0.5s,baz=65,slow=9.8,SNR=10						
STKA	**Stephens Creek**	**28.45**	**212**	P	P	18 00 47.6	-0.5
	1.1nm,0.4s,baz=44,slow=14,SNR=8.0						
MKAR	**Makanchi Array**	**86.74**	**318**	P	P	18 07 36.5	+0.3
	0.5nm,0.7s,baz=99,slow=5.4,SNR=5.8						

MAN 29 17:55:04.3, 1628N×12244E, h22km, mb2.8, ML4.2, MS1.0, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALP	**Palanan**	**0.78**	**359**⇓	*e*P	Pb	17 55 19.0	-0.1
PALP				*e*S	Sb	17 55 19.0	-10
PALP	**Palanan**	**0.78**	**359**	*e*P	Pb	17 55 18.7	-0.4
CAUP	**Cauayan**	**0.89**	**318**	*e*P	Pb	17 55 20.2	-0.7
BALP	**Baler**	**0.99**	**237**	*e*P	Pb	17 55 22.3	-0.5
BALP				*e*S	Sb	17 55 36.5	+1.1
CVP	**Callao Caves**	**1.53**	**337**	*e*P	Pn	17 55 30.0	-0.3
POLP	**Polillo Island**	**1.62**	**197**	*e*P	Sn	17 55 52.0	+0.4
APYP	**Conner**	**1.94**	**324**	*e*P	Pn	17 55 36.4	+0.4
BOAC	**Boac**	**2.87**	**192**	*e*P	Pn	17 55 49.6	+0.9

*VIE **29** 18:21:23.8±0.2, 4634N×1266E, h8km, mb1.9/3, ML2.2/7, Error ellipse: s-maj=2.3km s-min=0.9km az=23.0 13 km SW of Ampezzo*

ISC 29 18:21:24.0±0.3, 4632N±002×1263E±002, h14km±4km, n41, σ0§84/77, 15C-15D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLNI	**Malnisio**	**0.17**	**184**⇓	*i*Pg	**Pg**	**18 21 27.5**	**-0.5**
MLNI				*i* Sg	**Sg**	**18 21 30.8**	**0.0**
CSMI	**Casera Mimoias**	**0.20**	**5**	*i* Pg	**Pg**	**18 21 28.2**	**-0.3**
CSMI				*i* Sg	**Sg**	**18 21 31.5**	**-0.1**
CSO	**Casso**	**0.21**	**258**⇓	*i*Pg	**Pg**	**18 21 28.2**	**-0.6**
CSO				*i* Sg	**Sg**	**18 21 31.7**	**-0.3**
MPRI	**Monte Prat**	**0.26**	**106**⇓	*i*Pg	**Pg**	**18 21 29.1**	**-0.5**
MPRI				*i* Sg	**Sg**	**18 21 33.4**	**+0.1**
FVI	**Forni Avoltri**	**0.30**	**21**	Pg	**Pg**	**18 21 30.0**	**-0.3**
FVI				Sg	**Sg**	**18 21 34.7**	**+0.3**
	1µm,0.2s						
BOO	**Bordano**	**0.33**	**89**⇑	*i*Pg	**Pg**	**18 21 29.9**	**-0.9**
BOO				*i* Sg	**Sg**	**18 21 34.7**	**-0.6**
CAE	**Caneva**	**0.34**	**203**⇑	*i*Pg	**Pg**	**18 21 30.3**	**-0.6**
CAE				*i* Sg	**Sg**	**18 21 36.1**	**+0.6**
ZOU	**Zoufplan**	**0.34**	**45**⇑	*i*Pg	**Pg**	**18 21 30.6**	**-0.4**
ZOU				*i* Sg	**Sg**	**18 21 35.5**	**-0.1**
BUA	**Buia**	**0.36**	**106**⇓	*e*Pg	**Pg**	**18 21 30.8**	**-0.6**
BUA				*e*Sg	**Sg**	**18 21 36.8**	**+0.6**
AFL	**Alpe Faloria**	**0.38**	**305**⇓	*e*Pg	**Pg**	**18 21 31.9**	**+0.3**
AFL				*e*Sg	**Sg**	**18 21 37.7**	**+1.0**
GMNA	**Gemona**	**0.43**	**95**	Pg	**Pg**	**18 21 30.8**	**-1.7**
GMNA				Sg	**Sg**	**18 21 36.8**	**-1.5**
	99nm,0.2s						
PLRO	**Paularo**	**0.43**	**57**⇓	*i*Pg	**Pg**	**18 21 32.2**	**-0.4**
PLRO				*i* Sg	**Sg**	**18 21 38.6**	**+0.2**
BAD	**Bernadia**	**0.44**	**100**⇓	*e*Pg	**Pg**	**18 21 31.8**	**-0.9**
BAD				*e*Sg	**Sg**	**18 21 38.8**	**+0.3**
FAU	**Forcella Aurin**	**0.46**	**259**⇓	*i*Pg	**Pg**	**18 21 32.3**	**-0.8**
FAU				*i* Sg	**Sg**	**18 21 39.9**	**+0.7**
PTCC	**Patocco-Chiusa**	**0.51**	**80**	Pg	**Pg**	**18 21 33.0**	**-0.3**
PTCC				Sg	**Sg**	**18 21 42.5**	**+1.6**
	16nm,0.2s						
SEST	**Monte Rota**	**0.52**	**327**	Pg	**Pg**	**18 21 34.4**	**+0.2**
	28µm,15.0s						
COLI	**Coloredo**	**0.55**	**109**⇓	*i*Pg	**Pg**	**18 21 34.4**	**-0.5**
COLI				*i* Sg	**Sg**	**18 21 43.0**	**+0.7**
DRE	**Drenchia**	**0.72**	**101**⇓	*e*Pg	**Pg**	**18 21 37.4**	**-0.6**
DRE				*e*Sg	**Sg**	**18 21 48.6**	**+1.1**
BRES	**Bressanone**	**0.72**	**302**	Pg	**Pg**	**18 21 38.2**	**+0.1**
	29nm,0.2s						
CTI	**Castel Tesino**	**0.73**	**249**	Pg	**Pg**	**18 21 38.5**	**+0.3**
	27nm,0.2s						
CADS	**Cadrg**	**0.78**	**96**	*e*Pg	**Pg**	**18 21 37.5**	**-1.6**
CADS				*i* Sg	**Sg**	**18 21 50.5**	**+1.2**
KBA	**Koelnbreinsper**	**0.91**	**33**⇑	*i*Pg	**Pg**	**18 21 41.6**	**-0.1**
KBA				⇑*i*Sg	**Sg**	**18 21 53.1**	**-0.4**
	7.2nm,0.1s						
VOY	**Vojsko**	**0.93**	**107**	*e*Pg	**Pg**	**18 21 42.3**	**+0.4**
VOY				*e*Sg	**Sg**	**18 21 55.5**	**+1.5**
GORS	**Gorjuse**	**0.95**	**89**	*i* Pg	**Pg**	**18 21 41.5**	**-0.9**
GORS				*i* Sg	**Sg**	**18 21 56.5**	**+1.7**
APPI	**Appiano**	**0.98**	**280**	Pg	**Pg**	**18 21 43.2**	**+0.2**
	53nm,0.3s						
TRI	**Trieste**	**1.00**	**127**	Pg	**Pg**	**18 21 42.9**	**-0.4**
TRI				Sg	**Sg**	**18 21 57.7**	**+1.3**
JAVS	**Javornik**	**1.09**	**112**	*i* Pg	**Pg**	**18 21 45.3**	**+0.3**
JAVS				*i* Sg	**Sg**	**18 22 01.0**	**+1.9**
JAVS							
	comp=Z,5.0nm,0.1s						
JAVS	**Javornik**	**1.09**	**112**	*i* Pg	**Pg**	**18 21 45.3**	**+0.3**
JAVS				*i* Sg	**Sg**	**18 22 01.0**	**+1.8**
	comp=Z,5.0nm,0.1s						
WTTA	**Wattenberg**	**1.17**	**325**⇑	*i*Pg	**Pg**	**18 21 46.7**	**+0.1**
WTTA				⇑*i*Sg	**Sg**	**18 22 02.1**	**+0.4**
	comp=Z,10nm,0.3s						
TEOL	**Teolo**	**1.17**	**215**⇑	*e*Pg	**Pg**	**18 21 46.5**	**0.0**
WATA	**Walderalm**	**1.25**	**325**⇑	*i*Pg	**Pg**	**18 21 48.2**	**+0.1**
WATA				⇑*i*Sg	**Sg**	**18 22 04.9**	**+0.6**
	comp=Z,6.9nm,0.2s						
SQTA	**Sankt Quirin**	**1.33**	**313**⇑	*i*Pg	**Pg**	**18 21 49.6**	**0.0**
SQTA				⇓*i*Sg	**Sg**	**18 22 08.4**	**+1.4**
	comp=Z,3.6nm,0.2s						
OBKA	**Obir**	**1.34**	**81**⇑	*i*Pg	**Pg**	**18 21 48.9**	**-1.0**
OBKA				⇓*i*Sg	**Sg**	**18 22 08.5**	**+1.1**
	comp=Z,11nm,0.3s						
MOTA	**Moosalm**	**1.47**	**315**⇑	*i*Pg	**Pg**	**18 21 51.9**	**-0.3**
MOTA				⇓*i*Sg	**Sg**	**18 22 12.4**	**+1.1**
	comp=Z,3.2nm,0.2s						
MABI	**Malga Bissina**	**1.49**	**261**	Pg	**Pg**	**18 21 52.6**	**-0.1**
	comp=Z,11nm,0.4s						
BRMO	**

PLCA	**Paso Flores**	**6.14**	**33**	Pn		**Pn**	**18 57 56.1**	**-0.5**	
	0.3nm,0.3s,baz=206,slow=15,SNR=7.5								
PLCA				LR		LR	19 00 27.8		
	comp=Z,3μm,19.6s,baz=233,slow=40								
USHA	**Ushuaia**	**9.80**	**157**	LR		LR	19 03 27.0		
	comp=Z,485nm,19.8s,baz=122,slow=43								
CFAA	**Coronel Fontan**	**15.26**	**22**	Pn		**Pn**	**19 00 01.9**	**+0.8**	
	0.0nm,0.3s,baz=201,slow=8.6,SNR=3.1								
CFAA				LR		LR	19 06 10.6		
	comp=Z,112nm,21.8s,baz=203,slow=38								
CFAA	**Coronel Fontan**	**15.26**	**22**	Pn		**Pn**	**19 00 01.9**	**+0.8**	
CFAA				LR		LR	19 06 10.6		
LVC	**Limon Verde**	**23.81**	**14**	P		**P**	**19 01 37.2**	**-0.8**	
	3.1nm,0.8s,mb3.8,baz=191,slow=4.3,SNR=4.3								
LVC				LR		LR	19 12 02.2		
	comp=Z,203nm,21.4s,MS3.6,baz=359,slow=40								
CPUP	**Villa Florida**	**24.12**	**42**	P		**P**	**19 01 40.6**	**-0.2**	
	1.1nm,0.4s,mb3.7,baz=209,slow=9.0,SNR=11								
CPUP				LR		LR	19 11 57.3		
	comp=Z,972nm,18.5s,MS4.3,baz=181,slow=39								
CPUP	**Villa Florida**	**24.12**	**42**	*eP*		**P**	**19 01 40.4**	**-0.5**	
CPUP				LR		LR	19 11 57.4		
LPAZ	**La Paz**	**30.14**	**13**	P		**P**	**19 02 35.2**	**+0.3**	
	1.3nm,1.2s,mb3.5,baz=207,slow=11,SNR=3.3								
BDFB	**Brasilia**	**37.72**	**46**	P		**P**	**19 03 41.0**	**+0.4**	
	1.9nm,0.6s,mb4.0,baz=213,slow=10.0,SNR=2.7								
BDFB				LR		LR	19 20 40.0		
	comp=Z,1μm,18.8s,MS4.7,baz=211,slow=39								
VNA3	**Neumayer Olymp**	**39.43**	**152**	*e*		**P**	**19 03 55.2**	**+0.2**	
VNA3				*e*			19 04 01.4		
VNA3				*e*		pP	19 04 05.7	+0.5	
VNA2	**Neumayer--Watz**	**40.16**	**152**	*e*		**P**	**19 04 00.8**	**-0.2**	
	baz=275,slow=7.9								
VNA2				*e*			19 04 07.4		
VNA2				*e*		pP	19 04 11.8	+0.5	
SNAA	**Sanae**	**41.62**	**153**	P		**P**	**19 04 13.4**	**+0.3**	
	1.3nm,0.8s,mb3.6,baz=285,slow=8.4,SNR=18								
SNAA	**Sanae**	**41.62**	**153**	*e*		**P**	**19 04 06.0**	**-7.1**	
SNAA				*e*			19 04 11.7		
SNAA				*e*		pP	19 04 15.5	-7.9	
SNAA	**Sanae**	**41.62**	**153**	*eP*		**P**	**19 04 05.7**	**-7.5**	
	10.0nm,1.1s,mb4.4								
VNDA	**Vanda**	**51.95**	**193**	P		**P**	**19 05 33.9**	**0.0**	
	3.2nm,1.1s,mb4.2,baz=162,slow=8.8,SNR=4.4								
VNDA				LR		LR	19 27 20.2		
	comp=Z,128nm,18.8s,MS4.0,baz=183,slow=36								
DBIC	**Dimbokro**	**81.19**	**71**	LR		LR	19 39 56.4		
	comp=Z,50nm,19.3s,MS3.9,baz=155,slow=32								
STKA	**Stephens Creek**	**95.75**	**211**	LR		LR	19 45 12.7		
	comp=Z,92nm,19.0s,MS4.3,baz=25,slow=31								
ARU	**Arti**	**149.62**	**53**	*e*PKPbc		PKPbc	19 16 11.4	-2.7	

IDC ***29*** *19:32:44.5±1.8,094N×9728E,h0km,mb4.0/4,mb1 4.1/5, mb1mx3.8/19,mbtmp3.9/5,ML3.1/1,Error ellipse: s-maj=52.4km s-min=22.6km az=58.0*

ISCJB ***29*** *19:32:47.3±1.0, 10N±01×973E±01,h33km,mb4.3/13, MS3.8/1,Error ellipse: s-maj=19.2km s-min=14.7km az=116.3*

NEIC ***29*** *19:32:48.9±0.7,097N×9731E,h30km,mb4.3/6,Error ellipse: s-maj=14.2km s-min=10.7km az=56.0*

BJI ***29*** *19:32:49.4, 131N×9762E,h30km,mB4.9,mb4.6,Ms3.9, Msz3.8*

ISC 29 19:32:50.1±1.0,10N±01×974E±01,h35km, (h16km±4.3km:pP-P),n18,σ0s44/18,mb4.3/13,MS3.8/1,1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.34**	**41**	Pn	**Pn**	**19 33 25.9**	**-0.2**
	4.3nm,0.3s,baz=229,slow=5.2,SNR=21						
PSI				Sn	**Sn**	**19 34 03.0**	**+9.4**
	13nm,0.3s,baz=153,slow=17,SNR=4.5						
KULM	**Kulim**	**5.35**	**38**	*eP*	**Pn**	**19 34 07.6**	**+0.2**
PBA	**Port Blair**	**11.51**	**337**	*eP*	x	19 35 21.6	
PBA				*eS*	x	19 35 32.7	
PBA				*ex*	x	19 35 33.0	
	comp=N,50nm,0.5s						
PBA				*ex*	x	19 35 33.7	
	comp=E,42nm,0.3s						
KMI	**Kunming**	**24.50**	**12**	P	**P**	**19 38 05.8**	**-0.2**
KMI				AP		19 38 14.0	
KMI				XP	sP	19 38 17.8	-2.4
KMI				AMB	AMB		
	comp=Z,10.0nm,1.7s,mb4.1						
KMI				LR	LR		
	comp=N,139nm,15.0s,MS3.8						
KMI				LR	LR		
	comp=E,155nm,13.2s,MS3.8						
KMI				LR	LR		
	comp=Z,193nm,12.8s,MS3.8						
LSA	**Lhasa**	**29.12**	**349**	*eP*	**P**	**19 38 48.0**	**+0.5**
	comp=Z,2.4nm,0.6s,mb4.1						
XAN	**Xi'an**	**34.57**	**17**	P	**P**	**19 39 34.5**	**-0.8**
XAN				AP	pP	19 39 39.8	-5.7
XAN				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
LZH	**Lanzhou**	**35.39**	**9**	*eP*	**P**	**19 39 35.4**	**-7.0**
	comp=Z,16nm,1.1s,mb4.9						
LZH				pP	pP	19 39 42.1	-10
LZH				sP	sP	19 39 44.8	-12
GTA	**Gaotai**	**38.26**	**3**	*eP*	**P**	**19 40 07.3**	**+0.5**
GTA				AP	pP	19 40 12.8	-4.2
GTA				XP	sP	19 40 16.5	-4.7
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**41.80**	**122**	P	**P**	**19 40 36.0**	**-0.2**
	comp=Z,0.6nm,0.6s,mb3.4,baz=304,slow=8.9,SNR=6.2						
BJI	**Beijing**	**42.43**	**22**	*eP*	**P**	**19 40 42.0**	**+0.7**
BJI				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.6						
BJI	**Beijing**	**42.43**	**22**	*eP*	**P**	**19 40 42.1**	**+0.8**
	comp=Z,12nm,0.7s,mb4.6						
ASAR	**Alice Springs**	**43.16**	**127**	P	**P**	**19 40 47.5**	**+0.3**
	comp=Z,0.5nm,0.8s,mb3.3,baz=296,slow=7.7,SNR=5.4						
MKAR	**Makanchi Array**	**47.44**	**346**	P	**P**	**19 41 21.6**	**+0.4**
	comp=Z,4.1nm,0.7s,mb4.4,baz=158,slow=7.7,SNR=40						
CN2	**Changchun**	**49.38**	**27**	*eP*	**P**	**19 41 35.8**	**-0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
KURK	**Kurchatov**	**52.00**	**345**	*eP*	**P**	**19 41 55.9**	**+0.1**
ZAL	**Zalesovo**	**53.74**	**351**	P	**P**	**19 42 08.8**	**+0.1**
	comp=Z,3.6nm,0.6s,mb4.5,baz=317,slow=8.0,SNR=16						
ZRNK	**Zerenda**	**56.87**	**340**	*eP*	**P**	**19 42 30.4**	**-0.8**
	comp=Z,1.0nm,0.7s,mb4.0						
CHKZ	**Chkalovo**	**56.94**	**341**	*eP*	**P**	**19 42 31.5**	**-0.3**
	comp=Z,3.4nm,0.8s,mb4.4						

BJI ***29*** *19:39:35.5,6080N×16550E,h10km,mB4.8,mb4.6,Ms4.6, Msz4.3*

KRSC ***29*** *19:39:35.7±0.3,6072N×16577E,h10km±3km,ML4.4*

ISCJB ***29*** *19:39:35.8±0.9,6074N±003×16555E±006,h10km±6km, mb4.4/50,MS4.0/32,Error ellipse: s-maj=6.2km s-min=3.8km az=89.7*

IDC ***29*** *19:39:36.0±0.8,6075N×16551E,h0km,mb4.0/18, mb1 4.3/18,mb1mx4.2/26,mbtmp4.1/18,MS3.9/20, Ms1 3.9/20,ms1mx3.7/40,Error ellipse: s-maj=23.1km s-min=13.7km az=179.0*

MOS ***29*** *19:39:36.0±1.2,6076N×16553E,h13km,mb4.8/23, MS4.2/7,Error ellipse: s-maj=12.8km s-min=6.9km az=84.7*

NEIC ***29*** *19:39:37.5±0.3,6077N×16548E,h10km,mb4.6/25,Error ellipse: s-maj=10.0km s-min=4.3km az=177.0*

ISC 29 19:39:36.4±1.1,6078N±003×16557E±006,h3km±7km, h23km±3.8km:pP-P,n142,σ1s03/142,mb4.4/50,MS4.0/32, 1C,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TILR	**Tilichiki**	**0.42**	**145**	*i* P	**Pg**	**19 39 43.2**	**-1.4**
TILR				*i* S	**Sg**	**19 39 48.7**	**-1.4**
KAMR	**Kamenskoye**	**1.71**	**10**	*i* P	**Pn**	**19 40 07.0**	**-0.1**
KAMR				*eS*	**Sn**	**19 40 30.1**	**+0.6**
KAMR				Smax			
	8μm,1.1s						
OSSR	**Ossora**	**1.98**	**220**	*eP*	**Pn**	**19 40 09.3**	**-1.5**
SMKR	**Semkarok**	**4.72**	**209**	*eP*	**Pn**	**19 40 48.9**	**+0.4**
SRKR	**Sorokina**	**4.73**	**211**	*eP*	**Pn**	**19 40 49.5**	**+0.9**
KBG	**Krutoberegovo**	**4.78**	**200**	*eP*	**Pn**	**19 40 49.1**	**-0.2**
BDR	**Baidarnaya**	**4.79**	**210**	*eP*	**Pn**	**19 40 49.2**	**-0.3**
KBTR	**Krutoberegovo**	**4.80**	**199**	P	**Pn**	**19 40 48.5**	**-1.1**
KBTR				S	**Sn**	**19 41 45.7**	**-0.1**
KBTR	**Krutoberegovo**	**4.80**	**199**	*eP*	**Pn**	**19 40 49.3**	**-0.3**
KBTR				*eS*	**Sn**	**19 41 42.8**	**-3.0**
KLY	**Klyuchi**	**5.16**	**212**	P	**Pn**	**19 40 54.3**	**-0.3**
KLY	**Klyuchi**	**5.16**	**212**	*eP*	**Pn**	**19 40 54.4**	**-0.2**
KRSR	**Krestovskiy**	**5.27**	**212**	*eP*	**Pn**	**19 40 55.4**	**-0.7**
CIRR	**Tsirk**	**5.32**	**211**	*eP*	**Pn**	**19 40 58.1**	**+1.4**
ZLN	**Zelenaya**	**5.39**	**210**	*eP*	**Pn**	**19 40 58.4**	**+0.7**
SRDR	**Sredinnyy**	**5.42**	**217**	*eP*	**Pn**	**19 40 58.5**	**+0.4**
KPT	**Kopyto**	**5.58**	**213**	*eP*	**Pn**	**19 41 01.6**	**+1.3**
BKI	**Bering**	**5.59**	**178**	*eP*	**Pn**	**19 41 01.6**	**+1.1**
KMNR	**Kamenistaya**	**5.77**	**211**	*eP*	**Pn**	**19 41 03.5**	**+0.6**
ESO	**Esso**	**6.06**	**220**	*eP*	**Pn**	**19 41 08.0**	**+1.1**
TUMR	**Tumrok**	**6.21**	**210**	*eP*	**Pn**	**19 41 08.8**	**-0.2**
MKZ	**Mys Kozlova**	**6.57**	**200**	P	**Pn**	**19 41 14.7**	**+0.8**
MKZ	**Mys Kozlova**	**6.57**	**200**	*eP*	**Pn**	**19 41 15.8**	**+1.9**
BILL	**Bilibino**	**7.30**	**2**	*e*PN	**Pn**	**19 41 24.6**	**+0.7**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BILL	**Bilibino**	**7.30**	**2**	*eP*	**Pn**	**19 41 23.4**	**-0.5**
	comp=Z,23nm,0.8s						
BILL	**Bilibino**	**7.30**	**2**	*eP*	**Pn**	**19 41 25.0**	**+1.1**
BILL				Smax			
	comp=Z,30nm,1.1s						
MA2	**Magadan**	**7.48**	**267**	*e*PN	**Pn**	**19 41 25.9**	**-0.5**
MA2				pmax	pmax		
	comp=E,50nm,0.9s						
MA2				pmax	pmax		
	comp=Z,70nm,0.9s						
MA2	**Magadan**	**7.48**	**267**	*eP*	**Pn**	**19 41 25.0**	**-1.3**
	comp=Z,54nm,0.9s						
MA2	**Magadan**	**7.48**	**267**	*eP*	**Pn**	**19 41 27.8**	**+1.4**
MA2				Smax			
	comp=Z,130nm,1.4s						
GNL	**Ganaly**	**8.21**	**214**	*eP*	**Pn**	**19 41 37.2**	**+0.8**
SPN	**Mys Shipunski**	**8.27**	**204**	P	**Pn**	**19 41 36.7**	**-0.5**
SPN	**Mys Shipunski**	**8.27**	**204**	*eP*	**Pn**	**19 41 38.6**	**+1.4**
AVH	**Avacha**	**8.40**	**209**	*eP*	**Pn**	**19 41 39.4**	**+0.4**
APC	**Apacha**	**9.11**	**214**	*eP*	**Pn**	**19 41 50.2**	**+1.4**
SKR	**Severo-Kuril's**	**11.42**	**212**	*e*PN	**Pn**	**19 42 24.0**	**+3.6**
SKR				pmax	pmax		
	comp=Z,70nm,0.8s						
SKR				MLR	MLR		
	comp=Z,2μm,16.0s						
SKR				MLR	MLR		
	comp=N,2μm,14.0s						
SKR				MLR	MLR		
	comp=E,1μm,14.0s						
YAK	**Yakutsk**	**17.09**	**290**	*eP*	**Pn**	**19 43 38.3**	**+2.0**
YAK				pmax	pmax		
	comp=Z,21nm,0.9s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,19nm,1.9s						
YAK				MLR	MLR		
	comp=Z,438nm,12.0s						
YAK				MLR	MLR		
	comp=N,432nm,17.0s						
YAK				MLR	MLR		
	comp=E,313nm,10.0s						
YAK	**Yakutsk**	**17.09**	**290**	*eP*	**Pn**	**19 43 35.5**	**-0.7**
	comp=E,28nm,0.6s						
TIXI	**Tiksi**	**18.00**	**322**	*eP*	**Pn**	**19 43 47.9**	**+0.4**
TIXI				*eS*	**Sn**	**19 47 12.3**	**+3.7**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
TIXI				MLR	MLR		
	comp=Z,637nm,16.0s						
TTA	**Tatalina**	**18.07**	**66**	*eP*	**Pn**	**19 43 50.2**	**+1.7**
TTA				pmax	pmax		
	comp=Z,41nm,1.3s						
TTA	**Tatalina**	**18.07**	**66**	*eP*	**Pn**	**19 43 50.1**	**+1.7**
	comp=Z,41nm,1.3s						
SVW2	**Sparrevohn**	**18.70**	**72**	*eP*	**Pn**	**19 43 56.8**	**+0.7**
COLA	**College**	**21.27**	**59**	*eP*	**P**	**19 44 23.6**	**-0.2**
	comp=Z,3.0nm,1.9s,mb3.3						
HABR	**Khabarovsk**	**21.30**	**248**	*eP*	**P**	**19 44 27.0**	**+2.8**
HABR				*eS*	**S**	**19 48 23.0**	**+1.8**
HABR				pmax	pmax		
	comp=E,65nm,1.6s,mb4.7						
KDAK	**Kodiak Island**	**21.32**	**79**	P	**P**	**19 44 24.7**	**+0.3**
	comp=Z,2.1nm,0.4s,mb3.8,baz=278,slow=6.8,SNR=3.2						
KDAK				LR	LR	19 53 12.7	
	comp=Z,372nm,20.7s,MS3.8,baz=300,slow=38						
NRGR	**Nerungri**	**21.34**	**277**	*eP*	**P**	**19 44 18.5**	**-6.1**
NRGR				S	**S**	**19 48 06.4**	**-16**
NRGR				pmax	pmax		
	comp=Z,24nm,0.4s,mb4.9						
NRGR				smax			
	comp=N,6.0nm,0.3s						
ILAR	**Eielson Array**	**21.69**	**59**	P	**P**	**19 44 28.4**	**0.0**
	comp=N,8.1nm,0.8s,mb4.2,baz=275,slow=10.0,SNR=43						
KLR	**Kul'dur**	**22.29**	**254**	*eP*	**P**	**19 44 33.8**	**-1.0**
KLR				*eS*	**S**	**19 48 38.5**	**-2.2**
KLR				*e*		19 49 28.0	
KLR				MLR	MLR		
	comp=N,700nm,13.0s,MS4.5						
KLR				MLR	MLR		
	comp=E,800nm,13.0s,MS4.5						
KLR				MLR	MLR		
	comp=Z,1μm,13.0s,MS4.5						
EYAK	**Cordova Ski Ar**	**23.43**	**69**	*eP*	**P**	**19 44 44.6**	**-2.2**
DAWY	**Dawson**	**25.02**	**58**	*eP*	**P**	**19 45 01.6**	**+0.1**
BOD	**Bodaibo**	**25.93**	**287**	*eP*	**P**	**19 45 10.1**	**+0.3**
BOD				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.4						
INK	**Inuvik**	**26.16**	**47**	P	**P**	**19 45 11.7**	**-0.2**
	comp=Z,7.9nm,0.8s,mb4.3,baz=288,slow=9.7,SNR=20						
INK				LR	LR	19 56 36.3	
	comp=Z,256nm,19.2s,MS3.8,baz=22,slow=39						
INK	**Inuvik**	**26.16**	**47**	*eP*	**P**	**19 45 11.3**	**-0.6**
INK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
INK	**Inuvik**	**26.16**	**47**	*eP*	**P**	**19 45 11.3**	**-0.6**
	comp=Z,8.7nm,0.8s,mb4.3						
CN2	**Changchun**	**29.23**	**253**	*eP*	**P**	**19 45 40.0**	**+0.6**
CN2				LR	LR		
	comp=N,770nm,16.0s,MS4.5						
CN2				LR	LR		
	comp=E,440nm,16.0s,MS4.5						
CN2				LR	LR		
	comp=Z,590nm,16.0s,MS4.3						
CIT	**Chita**	**29.34**	**276**	*eP*	**P**	**19 45 48.7**	**+8.3**
MJAR	**Matsushiro Arr**	**29.83**	**228**	P	**P**	**19 45 43.7**	**-1.0**
	comp=Z,1.8nm,0.9s,mb3.8,baz=16,slow=11,SNR=5.6						
MJAR				LR	LR	19 59 37.1	
	comp=Z,165nm,18.2s,MS3.7,baz=15,slow=40						
DLBC	**Dease Lake**	**31.51**	**65**	P	**P**	**19 46 00.5**	**+1.0**
JHJ	**Hachijo jima 2**	**32.37**	**223**	LR	LR	19 58 03.1	
	comp=Z,156nm,20.4s,MS3.7,baz=23,slow=34						
SONM	**Songino Array**	**35.58**	**276**	LR	LR	20 01 03.7	
	comp=Z,250nm,20.4s,MS4.0,baz=254,slow=36						
YKA	**Yellowknife Ar**	**35.71**	**52**	P	**P**	**19 46 35.9**	**-0.2**
	comp=Z,0.9nm,0.5s,mb4.0,baz=303,slow=8.2,SNR=7.0						
YKA				LR	LR	20 01 57.8	
	comp=Z,81nm,19.1s,MS3.5,baz=220,slow=38						
BJI	**Beijing**	**36.53**	**258**	*eP*	**P**	**19 46 43.3**	**+0.2**
BJI				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.8						
BJI				LR	LR		
	comp=N,103nm,24.3s,MS3.9						
BJI				LR	LR		
	comp=E,197nm,21.8s,MS3.9						
BJI	**Beijing**	**36.53**	**258**	*eP*	**P**	**19 46 43.2**	**+0.1**
	comp=E,15nm,0.9s,mb4.8						
BJI				LR	LR		
	comp=Z,30nm,34.5s,MS2.8						
HHC	**Hu-ho-hao-te**	**38.14**	**264**	*eP*	**P**	**19 46 56.8**	**0.0**
HHC				AP	pP	19 47 01.8	+4.0
HHC				XP	sP	19 47 03.8	+5.6
HHC				PP	PP	19 48 27.3	+3.5
HHC				PCP	PcP	19 49 13.5	+1.9
HHC				S	**S**	**19 52 48.3**	**-2.2**
HHC				XS	sS	19 52 55.5	+3.3
HHC				SCP	ScP	19 52 58.0	-2.2
HHC				PCS	PcS	19 53 00.0	-0.6
HHC				SS	SS	19 55 25.0	-13
HHC				SCS	ScS	19 57 06.5	-3.2
HHC				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.4						
HHC				AMB	AMB		
	comp=Z,74nm,6.3s						
HHC				LR	LR		
	comp=N,372nm,12.8s,MS4.6						
HHC				LR	LR		
	comp=E,563nm,16.5s,MS4.6						
HHC				LR	LR		
	comp=Z,510nm,11.2s						
ZAL	**Zalesovo**	**41.47**	**298**	P	**P**	**19 47 25.1**	**+0.5**
	comp=Z,0.6nm,0.8s,mb3.3,baz=32,slow=12,SNR=3.1						
ZAL				LR	LR	20 06 58.8	
	comp=Z,585nm,19.4s,MS4.5,baz=70,slow=40						
ZAL	**Zalesovo**	**41.47**	**298**	P	**P**	**19 47 25.1**	**+0.5**
ZAL				LR	LR	20 06 58.8	
SSE	**Sheshan**	**41.53**	**245**	*eP*	**P**	**19 47 20.5**	**-4.5**
SSE				AP	pP	19 47 29.5	+3.5
SSE				XP	sP	19 47 33.5	+7.1
SSE				PCP	PcP	19 49 19.0	-3.4
SSE				S	**S**	**19 53 33.0**	**-8.3**
SSE				XS	sS	19 53 48.0	+5.1
SSE				SCS	ScS	19 57 25.3	-4.3
SSE				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.9						
SSE				AMB	AMB		
	comp=Z,51nm,8.4s						
SSE				LR	LR		
	comp=N,121nm,15.0s,MS4.2						
SSE				LR	LR		
	comp=E,245nm,15.1s,MS4.2						
SSE				LR	LR		
	comp=Z,264nm,17.0s,MS4.2						
SSE	**Sheshan**	**41.53**	**245**	*eP*	**P**	**19 47 20.6**	**-4.4**
	comp=Z,20nm,0.6s,mb4.9						
SSE				pP	pP	19 47 29.4	+3.4
SSE				sP	sP	19 47 33.4	+7.0
SSE				PP	PP	19 48 56.8	-4.0
SSE				PcP	PcP	19 49 19.1	-3.3
SSE				S	**S**	**19 53 32.9**	**-8.4**
SSE				sS	sS	19 53 48.0	+5.1
SSE				ScS	ScS	19 57 25.3	-4.3
SSE				LR	LR		
	comp=Z,260nm,17.0s,MS4.2						
NVS	**Novosibirsk**	**41.53**	**300**	*i* P	**P**	**19 47 23.0**	**-2.0**
NVS				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.3						
NVS				pmax	pmax		
	comp=N,8.0nm,1.6s						
NVS				pmax	pmax		
	comp=E,12nm,1.6s						
NJ2	**Nanjing**	**41.77**	**248**	*eP*	**P**	**19 47 25.0**	**-1.9**
NJ2				AP	pP	19 47 33.3	+5.4
NJ2				XP	sP	19 47 36.5	+8.2
NJ2				PP	PP	19 49 02.0	-1.3
NJ2				XS	sS	19 53 49.0	+2.5
NJ2				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,70nm,4.5s						
NJ2				LR	LR		
	comp=N,290nm,21.6s						
NJ2				LR	LR		
	comp=E,260nm,27.0s						
NJ2				LR	LR		
	comp=Z,100nm,24.5s,MS3.6						
JOW	**Kunigami**	**42.27**	**234**	LR	LR	20 07 59.2	
	comp=Z,102nm,18.9s,MS3.7,baz=352,slow=40						
GTA	**Gaotai**	**45.00**	**273**	*eP*	**P**	**19 47 52.8**	**-0.2**
GTA				AP	pP	19 47 59.0	+4.9
GTA				XP	sP	19 48 02.5	+8.0
GTA				PP	PP	19 49 40.0	+1.9
GTA				S	**S**	**19 54 34.5**	**+2.3**
GTA				XS	sS	19 54 43.3	+9.4
GTA				SS	SS	19 57 49.3	-4.4
GTA				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb4.0						
GTA				AMB	AMB		
	comp=Z,48nm,3.8s						
GTA				LR	LR		
	comp=N,273nm,14.5s,MS4.4						
GTA				LR	LR		
	comp=E,239nm,18.2s,MS4.4						
GTA				LR	LR		
	comp=Z,432nm,14.4s,MS4.5						
LZH	**Lanzhou**	**45.63**	**266**	*eP*	**P**	**19 48 02.0**	**+4.0**
LZH				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.9						
LZH				AMB	AMB		
	comp=Z,65nm,5.3s						
LZH				LR	LR		
	comp=E,602nm,12.0s						
LZH				LR	LR		
	comp=Z,885nm,14.0s,MS4.9						
SUMG	**Summit**	**45.91**	**10**	*eP*	**P**	**19 47 59.2**	**-1.0**
	comp=Z,6.3nm,0.9s,mb4.5						
YBH	**Yreka Blue Hor**	**46.13**	**80**	P	**P**	**19 48 02.7**	**+0.7**
	comp=Z,2.5nm,0.7s,mb4.3,baz=352,slow=2.4,SNR=7.9						
YBH	**Yreka Blue Hor**	**46.13**	**80**	*eP*	**P**	**19 48 02.2**	**+0.2**
YBH				pmax	pmax		
	comp=Z,4.0nm,1.0s						
YBH	**Yreka Blue Hor**	**46.13**	**80**	*eP*	**P**	**19 48 02.1**	**+0.1**
	comp=Z,4.3nm,1.0s,mb4.3						
KURK	**Kurchatov**	**46.43**	**299**	*eP*	**P**	**19 48 03.2**	**-1.2**
KURK				*e*		19 49 51.3	
KURK				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
KURK	**Kurchatov**	**46.43**	**299**	*eP*	**P**	**19 48 03.2**	**-1.2**
	comp=Z,14nm,0.8s,mb5.0						
KURK				*e*PP	PP	19 49 51.3	-1.9
ARCES	**ARCESS Array B**	**46.90**	**342**	P	**P**	**19 48 09.4**	**+1.4**
	comp=Z,3.0nm,1.0s,mb4.2,baz=36,slow=10,SNR=3.9						
ARCES				LR	LR	20 10 58.3	
	comp=Z,90nm,19.6s,MS3.7,baz=190,slow=40						
WDC	**Whiskeytown Da**	**47.10**	**81**	*eP*	**P**	**19 48 09.3**	**-0.3**
WDC				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
WDC	**Whiskeytown Da**	**47.10**	**81**	*eP*	**P**	**19 48 09.3**	**-0.3**
	comp=Z,2.6nm,1.0s,mb4.1						
CHKZ	**Chkalovo**	**47.53**	**307**	*eP*	**P**	**19 48 11.4**	**-1.6**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
CHKZ	**Chkalovo**	**47.53**	**307**	*eP*	**P**	**19 48 11.4**	**-1.5**
	comp=Z,8.4nm,0.8s,mb4.8						
MKAR	**Makanchi Array**	**47.73**	**293**	P	**P**	**19 48 13.4**	**-1.1**
	comp=Z,1.1nm,0.8s,mb3.9,baz=56,slow=7.5,SNR=9.4						
BRVK	**Borovoye**	**48.13**	**306**	*eP*	**P**	**19 48 17.1**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
BRVK	**Borovoye**	**48.13**	**306**	*eP*	**P**	**19 48

comp=Z,5.0nm,0.8s,mb4.5
RSSD Black Hills 52.99 64 *e*P **P** **19 48 53.5 -0.8**
comp=Z,4.9nm,0.8s,mb4.5
MSU Marysvale 53.69 75 *e*P **P** **19 48 59.6 +0.1**
SRU San Rafael 53.99 73 *e*P **P** **19 49 02.0 +0.3**
SRU pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
SRU San Rafael 53.99 73 *e*P **P** **19 49 02.0 +0.4**
comp=Z,5.2nm,0.9s,mb4.5
FINES FINESS Array B 54.21 337 P **P** **19 49 02.2 -1.1**
comp=Z,1.0nm,0.8s,mb3.8,baz=129,slow=29,SNR=3.3
FINES LR LR 20 15 28.5
comp=Z,110nm,19.5s,MS3.9,baz=213,slow=40
FINES FINESS Array B 54.21 337 P **P** **19 49 02.2 -1.1**
FINES LR LR 20 15 28.5
AAK Ala-Archa 54.46 295 *e*P **P** **19 49 05.9 +0.8**
AAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
AAK Ala-Archa 54.46 295 *e*P **P** **19 49 05.9 +0.8**
comp=Z,4.2nm,0.8s,mb4.4
AKTK Aktyubinsk 54.88 312 P **P** **19 49 09.2 +1.1**
AKTO Aktyubinsk 54.88 312 P **P** **19 49 09.2 +1.1**
comp=Z,2.7nm,0.9s,mb4.3,baz=3.7,slow=6.1,SNR=6.5
ORR Orenburg 55.07 315 *e*P **P** **19 49 09.9 +0.4**
ORR pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
KMI Kunming 55.18 259 P **P** **19 49 08.8 -1.5**
KMI AP pP 19 49 13.8 +2.5
KMI XP sP 19 49 16.0 +4.3
KMI PP PP 19 51 16.0 +2.4
KMI PPP 19 52 22.5
KMI S **S** **19 56 50.6 -3.5**
KMI *SS sS 19 56 57.5 +1.7
KMI SS SS 20 00 36.2 -1.7
KMI AMB AMB
comp=Z,3.0nm,1.1s,mb4.2
KMI AMB AMB
comp=Z,93nm,6.9s
KMI LR LR
comp=N,264nm,16.6s,MS4.6
KMI LR LR
comp=E,300nm,16.6s,MS4.6
KMI LR LR
comp=Z,227nm,15.7s,MS4.3
KMI Kunming 55.18 259 P **P** **19 49 08.8 -1.5**
KMI *PP pP 19 49 13.8 +2.5
KMI *SP sP 19 49 16.1 +4.4
KMI 19 51 15.9
KMI PPP 19 52 22.5
KMI S **S** **19 56 50.6 -3.5**
KMI *SS sS 19 56 57.5 +1.7
KMI SS SS 20 00 36.2 -1.8
KMI pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
KMI MLR MLR
comp=Z,230nm,15.7s,MS4.4
KMI Kunming 55.18 259 P **P** **19 49 08.8 -1.5**
comp=Z,3.0nm,1.1s,mb4.2
KMI pP pP 19 49 13.8 +2.5
KMI sP sP 19 49 16.1 +4.4
KMI PP PP 19 51 15.9 +2.3
KMI PPP 19 52 22.5
KMI S **S** **19 56 50.6 -3.5**
KMI sS sS 19 56 57.5 +1.7
KMI SS SS 20 00 36.2 -1.8
KMI LR LR
comp=Z,230nm,15.7s,MS4.4
ECSD EROS,Sioux Fal 56.51 59 *e*P **P** **19 49 19.0 -0.9**
NB2 NORSAR Subarra 56.92 345 P **P** **19 49 20.8 -1.9**
comp=Z,1.6nm,0.6s,mb4.2,baz=14,slow=7.4
NOA NORSAR Array B 56.92 345 P **P** **19 49 21.7 -1.1**
comp=Z,0.9nm,0.6s,mb4.0,baz=15,slow=7.4,SNR=3.1
NOA NORSAR Array B 56.92 345 P **P** **19 49 21.7 -1.1**
QIZ Qiongzhong 57.05 249 P **P** **19 49 22.0 -1.7**
QIZ S **S** **19 57 15.5 -3.6**
QIZ AMB AMB
comp=Z,96nm,10.9s
QIZ LR LR
comp=N,255nm,14.9s,MS4.7
QIZ LR LR
comp=E,370nm,16.3s,MS4.7
QIZ LR LR
comp=Z,172nm,18.9s,MS4.2
SCHQ Schefferville 57.49 33 LR LR 20 14 33.0
comp=Z,70nm,21.8s,MS3.7,baz=75,slow=36
MNTX Cornudas Mount 62.45 74 *e*P **P** **19 50 00.9 0.0**
comp=Z,4.9nm,1.1s,mb4.5
WMOK Wichita Mounta 62.97 67 *e*P **P** **19 50 03.8 -0.5**
WMOK pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
WMOK Wichita Mounta 62.97 67 *e*P **P** **19 50 03.8 -0.5**
comp=Z,5.9nm,0.9s,mb4.7
AKASG Malin Array Be 63.47 331 P **P** **19 50 06.7 -1.0**
comp=Z,1.1nm,0.5s,mb4.2,baz=24,slow=6.4,SNR=5.8
GOF Gofitskoye 64.68 319 *e*P **P** **19 50 17.1 +1.5**
KIV Kislovodsk 65.78 318 *e*P **P** **19 50 21.5 -1.2**
KIV pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
LPIG La Paz 66.44 83 LR LR 20 15 18.2
comp=Z,81nm,21.6s,MS3.9,baz=157,slow=32
DPC Dobruska-Polom 66.49 339 AMS AMS 20 25 10.0
WVT Waverly 66.55 58 *e*P **P** **19 50 28.9 +1.2**
WVT pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
WVT Waverly 66.55 58 *e*P **P** **19 50 28.9 +1.2**
comp=Z,4.6nm,0.8s,mb4.6
OKC Ostrava-Krasne 66.65 338 AMS AMS 20 24 50.0
comp=Z,100nm,19.3s
SOC Sochi 67.06 320 *e*P **P** **19 50 35.8 +4.8**
SOC *ePPP 19 54 40.7
SOC MLR MLR
comp=Z,238nm,17.0s,MS4.5
PRU Pruhonice 67.14 340 AMS AMS 20 26 10.0
comp=Z,200nm,16.2s
NKC Novy Kostel 67.24 342 AMS AMS 20 26 40.0
comp=Z,200nm,17.8s
VRAC Vranov 67.45 339 LR LR 20 22 36.4
comp=Z,137nm,18.5s,MS4.2,baz=290,slow=38
TREC Trest 67.65 339 AMS AMS 20 24 40.0
comp=Z,200nm,13.6s
KHC Kasperske Hory 68.13 341 AMS AMS 20 23 30.0
comp=Z,100nm,19.3s
GERES GERESS Array B 68.39 340 P **P** **19 50 39.4 +0.1**
comp=Z,0.4nm,0.6s,mb3.6,baz=135,slow=36,SNR=3.3
GNI Garni 68.48 315 P **P** **19 50 38.8 -1.1**
comp=Z,1.3nm,0.4s,mb4.3,baz=316,slow=22,SNR=2.5
GNI LR LR 20 25 46.6
comp=Z,160nm,18.1s,MS4.3,baz=224,slow=40
HNR Honiara 70.12 186 LR LR 20 16 41.0
comp=Z,108nm,20.9s,MS4.1,baz=358,slow=32
DAVOX Davos 71.00 343 LR LR 20 29 23.2
comp=Z,75nm,18.4s,MS4.0,baz=268,slow=42
PMG Port Moresby 71.46 199 LR LR 20 19 17.6
comp=Z,52nm,20.1s,MS3.8,baz=35,slow=33
WRA Warramunga Arr 84.30 209 P **P** **19 52 09.8 +0.2**
comp=Z,2.1nm,0.9s,mb4.3,baz=15,slow=5.0,SNR=6.1
STKA Stephens Creek 94.38 200 LR LR 20 34 58.9
comp=Z,74nm,19.4s,MS4.2,baz=198,slow=35

*ATH **29** 19:59:42.4, 34.10N×2526E, h10km, MD3.2/3*
*ISCJB **29** 19:59:45.2±0.7, 3427N±004×254E±02, h10km, Error ellipse: s-maj=20.4km s-min=6.5km az=179.6*
*CSEM **29** 19:59:46.4±0.1, 3427N×2536E, h20km, ML2.7, Error ellipse: s-maj=5.0km s-min=1.9km az=90.0*
*HLW **29** 19:59:47.0, 3447N×2569E, h25km, Mb2.7*
ISC 29 19:59:45.8±0.7, 3433N±004×253E±02, h10km, n8, σ0§84/11, 2D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XRY	**Khrisi**	**0.62**	**29**	*e*PB	**Pb**	**19 59 58.5**	**-0.3**
NPS	**Neapolis**	**0.96**	**14**	*e*PB	**Pb**	**20 00 04.5**	**0.0**
VAM	**Vamos**	**1.42**	**320**	*e*PB	**Pb**	**20 00 12.0**	**-0.4**
SLUM		**2.83**	**182**	⇓P	**Pn**	**20 00 31.8**	**+0.8**
SLUM				S	**Sn**	**20 01 05.0**	**-0.2**
SLUM		**2.83**	**182**	P	**Pn**	**20 00 31.8**	**+0.8**
SLUM				S	**Sn**	**20 01 04.9**	**-0.3**
SWA1		**5.06**	**176**	P	**Pn**	**20 01 02.4**	**+0.8**
SWA1				S	**Sn**	**20 01 57.3**	**-2.9**
SWA2		**5.07**	**179**	P	**Pn**	**20 01 02.6**	**+0.8**
HFRF	**Wahat Farafira**	**7.60**	**159**	⇓P	**Pn**	**20 01 36.5**	**-0.1**

*IDC **29** 20:07:59.8±1.6, 087N×9709E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.7/18, mbtmp3.8/6, ML2.8/1, Error ellipse: s-maj=51.2km s-min=22.0km az=55.0*
*ISCJB **29** 20:08:03.3±1.0, 10N±01×972E±01, h33km, mb4.0/10, Error ellipse: s-maj=19.7km s-min=15.2km az=117.5*
*NEIC **29** 20:08:04.6±0.9, 099N×9724E, h30km, mb4.0/4, Error ellipse: s-maj=19.5km s-min=14.9km az=56.0*
*BJI **29** 20:08:09.3, 171N×9792E, h30km, mB5.0, mb4.5*
ISC 29 20:08:05.9±1.0, 10N±01×973E±01, h35km, n14, σ0§85/15, mb4.0/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.40**	**43**	Pn	**Pn**	**20 08 42.5**	**-0.1**
	1.9nm,0.3s,baz=170,slow=4.1,SNR=8.5						
PSI				Sn	**Sn**	**20 09 20.8**	**+10**
	2.8nm,0.3s,baz=188,slow=13,SNR=9.3						
KULM	**Kulim**	**5.39**	**38**	*e*P	**Pn**	**20 09 24.0**	**+0.2**
KMI	**Kunming**	**24.52**	**12**	P	**P**	**20 13 20.5**	**-1.5**
KMI				AP		20 13 24.8	
KMI				AMB	AMB		
	comp=Z,4.0nm,1.5s,mb3.7						
KMI	**Kunming**	**24.52**	**12**	P	**P**	**20 13 20.6**	**-1.4**
	comp=Z,4.0nm,1.5s,mb3.7						
KMI				pP		20 13 24.7	
LSA	**Lhasa**	**29.10**	**349**	*e*P	**P**	**20 14 03.1**	**-0.1**
	comp=Z,1.5nm,0.5s,mb4.0						
GTA	**Gaotai**	**38.26**	**3**	*e*P	**P**	**20 15 23.8**	**+1.1**
GTA				AP	pP	20 15 27.8	-5.1
GTA				XP	sP	20 15 30.8	-6.3
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**41.87**	**122**	P	**P**	**20 15 52.8**	**+0.2**
	comp=Z,0.7nm,0.8s,mb3.3,baz=300,slow=9.0,SNR=5.6						
ASAR	**Alice Springs**	**43.22**	**127**	P	**P**	**20 16 03.6**	**0.0**
	comp=Z,0.3nm,0.6s,mb3.2,baz=306,slow=7.9,SNR=3.7						
MKAR	**Makanchi Array**	**47.42**	**346**	P	**P**	**20 16 37.7**	**+0.8**
	comp=Z,2.0nm,0.7s,mb4.2,baz=161,slow=7.9,SNR=24						
KURK	**Kurchatov**	**51.98**	**345**	*e*P	**P**	**20 17 11.8**	**+0.3**
	comp=Z,1.9nm,1.0s,mb4.0						
ZAL	**Zalesovo**	**53.73**	**351**	P	**P**	**20 17 24.9**	**+0.5**
	comp=Z,2.1nm,0.5s,mb4.4,baz=300,slow=8.1						
CHKZ	**Chkalovo**	**56.91**	**341**	*e*P	**P**	**20 17 47.6**	**+0.3**
	comp=Z,2.6nm,0.9s,mb4.3						
ARCES	**ARCESS Array B**	**82.72**	**340**	P	**P**	**20 20 23.7**	**-2.3**
	comp=Z,3.8nm,1.1s,mb4.3,baz=116,slow=8.1,SNR=3.8						
ARCES	**ARCESS Array B**	**82.72**	**340**	P	**P**	**20 20 23.7**	**-2.3**

*ISCJB **29** 20:18:28.2±0.5, 3893N×002×2145E±002, h7km±3km, mb3.7/9, Error ellipse: s-maj=3.1km s-min=2.5km az=166.5*
*ATH **29** 20:18:28.8, 3893N×2151E, h15km±2km, MD3.8/22, ML3.5*
*NEIC **29** 20:18:28.7, 3893N×2151E, h14km, mb4.0/1, ML3.5(ATH), After ATH.*
*THE **29** 20:18:28.8, 3893N×2146E, h3km, ML3.6*
*CSEM **29** 20:18:30.5±0.1, 3894N×2146E, h20km, ML3.5, Error ellipse: s-maj=1.7km s-min=1.4km az=22.0*
*MOS **29** 20:18:31.4±1.1, 3894N×2138E, h33km, mb4.2/1, Error ellipse: s-maj=8.0km s-min=5.1km az=77.4*
*IDC **29** 20:18:34.6±1.4, 3900N×2142E, h56km±19km, mb3.5/8, mb1 3.6/15, mb1mx3.5/30, mbtmp3.6/15, ML3.7/7, Error ellipse: s-maj=12.4km s-min=11.4km az=39.0*
*SOF **29** 20:18:42.4, 3963N×2240E, h10km, MD3.4*
*HLW **29** 20:18:49.1, 3783N×2294E, h25km, Mb3.4*
ISC 29 20:18:29.2±0.5, 3890N±002×2147E±002, h5km±3km, n119, σ1§40/150, mb3.7/9, 15C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.26**	**87**	*e*PB	**Pg**	**20 18 33.8**	**-0.6**
EVR				*e*SB	**Sg**	**20 18 37.5**	**-0.4**
EVR	**Evrytania**	**0.26**	**87**	*e*Pg	**Pg**	**20 18 34.0**	**-0.4**
LKD	**Levkas**	**0.67**	**253**	*e*Pg	**Pg**	**20 18 41.5**	**-0.6**
LKD				*e*Sg	**Sg**	**20 18 51.2**	**+0.4**
AGG	**Agios Georgios**	**0.68**	**80**	*e*Pg	**Pg**	**20 18 41.6**	**-0.7**
AGG				*e*Sg	**Sg**	**20 18 52.0**	**+0.8**
RLS	**Riolos of Patr**	**0.84**	**180**	*e*PN	**Pn**	**20 18 45.2**	**-2.5**
RLS				*e*SN	**Sn**	**20 18 58.0**	**-2.5**
JAN	**Janina**	**0.89**	**328**	*e*PN	**Pn**	**20 18 45.7**	**-2.7**
JAN				*e*SN	**Sn**	**20 18 58.3**	**-3.4**
VLS	**Valsamata**	**1.00**	**224**	*e*PB	**Pb**	**20 18 47.2**	**-1.8**
VLS				*e*SN	**Sn**	**20 19 03.3**	**-1.1**
VLS	**Valsamata**	**1.00**	**224**	*e*Pb	**Pb**	**20 18 47.0**	**-2.0**
VLS				*e*Sb	**Sb**	**20 19 03.9**	**+1.4**
VLS	**Valsamata**	**1.00**	**224**	*e*Sb	**Sb**	**20 19 03.9**	**+1.4**
IGT	**Igoumenitsa**	**1.08**	**306**	*e*Pg	**Pg**	**20 18 48.6**	**-1.5**
IGT				*e*Sg	**Sg**	**20 19 04.1**	**0.0**
LKR	**Lokris**	**1.22**	**101**	*e*PN	**Pn**	**20 18 51.6**	**-1.3**
XOR	**Xorichti**	**1.42**	**70**	*e*Pg	**Pg**	**20 18 54.7**	**-1.6**
XOR				*e*Sg	**Sg**	**20 19 14.7**	**-0.1**
KZN	**Kozani**	**1.42**	**9**	*e*PN	**Pn**	**20 18 54.9**	**-0.7**
NEO	**Neokhori**	**1.42**	**73**	*e*PN	**Pn**	**20 18 54.2**	**-1.5**
NEO				*e*SN	**Sn**	**20 19 14.3**	**-0.4**
LIT	**Litokhoron**	**1.43**	**33**	*e*Pg	**Pg**	**20 18 54.8**	**-1.9**
LIT				*e*Sg	**Sg**	**20 19 14.7**	**-0.6**
KEK	**Kerkira**	**1.53**	**302**	*e*PN	**Pn**	**20 18 58.0**	**+0.9**
MGER	**Gerania Oros**	**1.68**	**123**	*e*PN	**Pn**	**20 19 00.0**	**+0.8**
ITM	**Ithomi**	**1.76**	**168**	*e*PN	**Pn**	**20 19 01.7**	**+1.4**
FNA	**Florina**	**1.88**	**358**	*e*Pb	**Pb**	**20 19 12.2**	**-0.8**
FNA				*e*Sb	**Sb**	**20 19 25.6**	**-2.1**
AOS	**Alonnisos**	**1.90**	**81**	*e*Pb	**Pn**	**20 19 01.1**	**-1.1**
NAIG	**Nisos Aigina**	**1.96**	**125**	*e*PN	**Pn**	**20 19 03.5**	**+0.5**
PAIG	**Paliouri**	**1.99**	**58**	*e*Pn	**Pn**	**20 19 02.3**	**-1.2**
PAIG				*e*Sn	**Sn**	**20 19 29.0**	**+0.2**
ATH	**Athens Observa**	**1.99**	**117**	*e*PN	**Pn**	**20 19 04.7**	**+1.2**
PTL	**Penteli**	**2.06**	**114**	*e*PN	**Pn**	**20 19 05.5**	**+1.0**
THE	**Thessaloniki**	**2.08**	**33**	*e*Pn	**Pn**	**20 19 03.5**	**-1.1**
THE				*e*Sn	**Sn**	**20 19 30.8**	**-0.1**
KVR	**Kavouri**	**2.10**	**120**	*e*PN	**Pn**	**20 19 05.4**	**+0.4**
BIA	**Bitola**	**2.12**	**357**	*e*Sn	**Sn**	**20 19 31.4**	**-0.5**
BIA				*e*Sn	**Sn**	**20 19 33.1**	**+1.3**
BIA	**Bitola**	**2.12**	**357**	*i* Pn	**Pn**	**20 19 07.9**	**+2.7**
BIA				*i* Sn	**Sn**	**20 19 37.5**	**+5.6**
BIA				*i* Sg	**Sg**	**20 19 40.0**	**+2.8**
PLG	**Polygyros**	**2.12**	**45**	*e*PB	**Pn**	**20 19 04.1**	**-1.1**
SOH	**Sokhos**	**2.40**	**37**	*e*Pn	**Pn**	**20 19 08.6**	**-0.5**
SOH				*e*Sn	**Sn**	**20 19 39.0**	**+0.1**
OUR	**Ouranopolis**	**2.41**	**53**	*e*Pn	**Pn**	**20 19 08.4**	**-0.8**
OUR				*e*Sn	**Sn**	**20 19 39.4**	**+0.3**
VLI	**Veliai**	**2.47**	**152**	*e*PN	**Pn**	**20 19 12.4**	**+2.3**
VAY	**Valandovo**	**2.56**	**19**	*i* Pn	**Pn**	**20 19 14.2**	**+2.9**
VAY				*i* Sg	**Sn**	**20 19 47.2**	**+4.5**
STIP	**Stip**	**2.84**	**11**	*i* Pn	**Pn**	**20 19 16.0**	**+0.9**
STIP				*i* Sg	**Sn**	**20 19 55.8**	**+6.0**
STIP	**Stip**	**2.84**	**11**	*i* Pn	**Pn**	**20 19 16.0**	**+0.8**
STIP				*i* Sg	**Sn**	**20 19 55.7**	**+6.0**
NVR	**Nevrokopi**	**3.05**	**36**	*e*PN	**Pn**	**20 19 18.1**	**0.0**
SKO	**Skopje**	**3.06**	**360**	*e*Pn	**Pn**	**20 19 21.4**	**+3.1**
MMB	**Musomiste**	**3.19**	**32**	*i* P	**Pn**	**20 19 19.3**	**-0.7**
KKB	**Krupnik**	**3.21**	**22**	*i* P	**Pn**	**20 19 22.9**	**+2.7**
BOZC	**Bozcaada**	**3.67**	**74**	*i* P	**Pn**	**20 19 25.4**	**-1.2**
TIP	**Timpagrande**	**3.68**	**276**	*e*P	**Pn**	**20 19 26.6**	**-0.1**
TIP	**Timpagrande**	**3.68**	**276**	*e*P	**Pn**	**20 19 26.6**	**-0.1**
APE	**Apeiranthos**	**3.69**	**118**	*e*Pn	**Pn**	**20 19 27.0**	**+0.1**
APE	**Apeiranthos**	**3.69**	**118**	*e*PN	**Pn**	**20 19 28.1**	**+1.2**
APE	**Apeiranthos**	**3.69**	**118**	⇑*i*P	**Pn**	**20 19 27.6**	**+0.7**
RZN	**Rozhen**	**3.73**	**41**	*i* P	**Pn**	**20 19 27.1**	**-0.3**
PRK	**Paraskevi**	**3.75**	**83**	*e*PN	**Pn**	**20 19 28.4**	**+0.7**
RDO	**Rodhopi**	**3.84**	**53**	*e*PN	**Pn**	**20 19 28.3**	**-0.6**
VTS	**Vitosha**	**3.91**	**19**	*i* P	**Pn**	**20 19 31.8**	**+1.9**
VTS	**Vitosha**	**3.91**	**19**	⇑*i*P	**Pn**	**20 19 33.2**	**+3.3**
VTS	**Vitosha**	**3.91**	**19**	⇑P	**Pn**	**20 19 33.2**	**+3.3**
PLD	**Plovdiv**	**4.04**	**37**	*i* P	**Pn**	**20 19 32.8**	**+1.2**
ALN	**Alexandroupoli**	**4.04**	**59**	*e*Pn	**Pn**	**20 19 31.4**	**-0.3**
URLA	**Izmir**	**4.05**	**96**	*i* P	**Pn**	**20 19 34.6**	**+2.8**
KDZ	**Kurdzhali**	**4.08**	**46**	*i* P	**Pn**	**20 19 32.2**	**0.0**
VAM	**Vamos**	**4.12**	**147**	*e*PB	**Pn**	**20 19 36.1**	**+3.4**
PGB	**Panagyurishte**	**4.18**	**28**	*i* P	**Pn**	**20 19 34.8**	**+1.2**
SOI	**Samo**	**4.33**	**261**	Pn	**Pn**	**20 19 35.1**	**-0.6**
SMG	**Samos**	**4.39**	**104**	*e*Pn	**Pn**	**20 19 38.0**	**+1.6**
IDI	**Anoyia**	**4.53**	**142**	P	**Pn**	**20 19 40.3**	**+2.0**
	1.4nm,0.3s,baz=293,slow=22,SNR=13						
IDI				S	**Sn**	**20 20 35.5**	**+4.2**
	1.7nm,0.3s,baz=270,slow=20,SNR=2.9						
SCLL	**Scilla**	**4.56**	**264**	Pn	**Pn**	**20 19 39.2**	**+0.4**
KDAG	**Bornova**	**4.56**	**94**	*i* P	**Pn**	**20 19 41.7**	**+2.8**
MTTG	**Motta San Giov**	**4.62**	**261**	Pn	**Pn**	**20 19 39.1**	**-0.6**
MGR	**Morigerati**	**4.74**	**287**	Pn	**Pn**	**20 19 42.3**	**+1.0**
SLCN	**Sala Consilina**	**4.74**	**290**	Pn	**Pn**	**20 19 42.9**	**+1.6**
SGO	**Sicignano**	**5.03**	**291**	P	**Pn**	**20 19 46.5**	**+1.2**
SGO				pmax	pmax		
	comp=Z,6.0nm,0.3s						
SGO	**Sicignano**	**5.03**	**291**	P	**Pn**	**20 19 46.5**	**+1.2**
	comp=Z,6.0nm,0.3s						
BTOK	**Tokmak**	**5.16**	**78**	*i* P	**Pn**	**20 19 45.9**	**-1.2**
RGNG	**Rignano Grg**	**5.28**	**303**	Pn	**Pn**	**20 19 48.5**	**-0.2**
FG5	**Orsara di Pugl**	**5.32**	**298**	P	**Pn**	**20 19 50.3**	**+1.1**
FG5				pmax	pmax		
	comp=Z,31nm,0.6s						
FG5	**Orsara di Pugl**	**5.32**	**298**	Pn	**Pn**	**20 19 50.3**	**+1.1**
	comp=Z,31nm,0.6s						
HAVL	**Avola**	**5.38**	**251**	Pn	**Pn**	**20 19 47.7**	**-2.4**
	comp=Z,103nm,0.4s						
SZH	**Strazhica**	**5.51**	**36**	*i* P	**Pn**	**20 19 53.8**	**+1.9**
VAE	**Valguarnera**	**5.74**	**258**	P	**Pn**	**20 19 58.4**	**+3.4**
	comp=Z,0.9nm,0.3s,baz=101,slow=17,SNR=2.9						
VAE				S	**Sn**	**20 21 02.5**	**+1.2**
	comp=Z,2.1nm,0.3s,baz=345,slow=6.1,SNR=3.8						
SDI	**San Donato**	**6.49**	**298**	P	**Pn**	**20 20 07.5**	**+2.2**
SDI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SDI	**San Donato**	**6.49**	**298**	P	**Pn**	**20 20 07.5**	**+2.2**
	comp=Z,8.0nm,0.7s						
INTR	**Introdacqua**	**6.55**	**301**	Pn	**Pn**	**20 20 06.1**	**-0.1**
	comp=Z,43nm,0.6s						
TKTP	**Tekketepe**	**7.00**	**94**	*i* P	**Pn**	**20 20 14.9**	**+2.6**
VOIR		**7.05**	**21**	⇑*i*P	**Pn**	**20 20 17.1**	**+4.1**
VOIR		**7.05**	**21**	⇑P	**Pn**	**20 20 17.1**	**+4.1**
ESKT	**Eskisehir**	**7.31**	**82**	*i* P	**Pn**	**20 20 18.0**	**+1.4**
SEYT	**Eskypehyr**	**7.31**	**82**	*i* P	**Pn**	**20 20 18.0**	**+1.4**
MLR	**Muntele Rosu**	**7.37**	**25**	P	**Pn**	**20 20 19.7**	**+2.3**
	comp=Z,0.6nm,0.3s,baz=234,slow=4.4,SNR=9.5						
MLR				S	**Sn**	**20 21 39.6**	**-1.9**
	baz=139,slow=20,SNR=1.0						
MLR	**Muntele Rosu**	**7.37**	**25**	⇑*i*P	**Pn**	**20 20 20.5**	**+3.1**
MLR	**Muntele Rosu**	**7.37**	**25**	P	**Pn**	**20 20 19.7**	**+2.3**
MLR				S	**Sn**	**20 21 39.6**	**-1.8**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NRCA	**Norcia**	**7.45**	**304**	Pn	**Pn**	**20 20 19.4**	**+0.9**
	comp=Z,6.4nm,0.5s						
NVLJ	**Novalja**	**7.50**	**321**	*i* Pn	**Pn**	**20 20 19.0**	**-0.2**
NVLJ				*i* Sn	**Sn**	**20 21 38.7**	**-6.0**
NVLJ	**Novalja**	**7.50**	**321**	*i* Pn	**Pn**	**20 20 19.0**	**-0.2**
NVLJ				*i* Sn	**Sn**	**20 21 38.6**	**-6.1**
PKSM	**Moragy**	**7.59**	**345**	⇑*i*P	**Pn**	**20 20 21.1**	**+0.6**
PKSM	**Moragy**	**7.59**	**345**	⇑P	**Pn**	**20 20 21.1**	**+0.6**
PLOR	**Plostina**	**7.93**	**27**	⇑*i*P	**Pn**	**20 20 27.0**	**+1.9**
VRI	**Vrincioaia**	**7.97**	**28**	⇓*i*P	**Pn**	**20 20 28.1**	**+2.5**
SLUM		**8.00**	**156**	P	**Pn**	**20 20 24.1**	**-2.1**
SGKT	**Sivrigoynuk**	**8.32**	**75**	*i* P	**Pn**	**20 20 27.3**	**-3.3**
OBKA	**Obir**	**9.15**	**328**	⇑*i*Pn	**Pn**	**20 20 42.1**	**+0.3**
OBKA				⇑*i*Sn	**Sn**	**20 22 20.9**	**-4.2**
BRTR	**Keskin Array B**	**9.47**	**81**	P	**Pn**	**20 20 49.2**	**+3.0**
	comp=Z,0.3nm,0.3s,baz=266,slow=12,SNR=5.1						
KECS	**Kecovo**	**9.60**	**356**	*e*	**Pn**	**20 20 53.0**	**+5.0**
VYHS	**Vyhne**	**9.77**	**350**	*e*	**Pn**	**20 21 01.5**	**+11**
SWA2		**10.19**	**160**	P	**Pn**	**20 20 54.8**	**-1.3**
SWA1		**10.24**	**159**	P	**Pn**	**20 20 55.4**	**-1.3**
SWA1				S	Sn	20 22 27.7	-24
MOA	**Molln**	**10.36**	**332**	⇑*i*Pn	**Pn**	**20 20 59.6**	**+1.2**
MOA				⇑*i*Sn	**Sn**	**20 22 52.4**	**-2.5**
MOTA	**Moosalm**	**11.33**	**321**	⇑*i*Pn	**Pn**	**20 21 11.5**	**-0.2**
MOTA				⇑*i*Sn	**Sn**	**20 23 15.0**	**-3.6**
GERES	**GERESS Array B**	**11.40**	**333**	P	**Pn**	**20 21 13.6**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=156,slow=14,SNR=4.1						
DAVOX	**Davos**	**11.58**	**317**	P	**Pn**	**20 21 17.0**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=162,slow=20,SNR=3.2						
MMAI	**Mount Meron Ar**	**12.72**	**113**	P	**Pn**	**20 21 31.0**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=311,slow=12,SNR=2.3						
HFRF	**Wahat Farafira**	**13.05**	**152**	P	**Pn**	**20 21 33.1**	**-2.0**
ESDC	**Sonseca Array**	**19.69**	**280**	P	**Pn**	**20 22 58.9**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=74,slow=11,SNR=3.0						
HFS	**Hagfors**	**21.81**	**349**	P	**P**	**20 23 20.8**	**-1.3**
	comp=Z,1.0nm,0.4s,mb3.6,baz=153,slow=11,SNR=10						
FINES	**FINESS Array B**	**22.75**	**6**	P	**P**	**20 23 29.2**	**-2.9**
	comp=Z,0.9nm,0.6s,mb3.4,baz=175,slow=7.5,SNR=7.0						
NB2	**NORSAR Subarra**	**23.06**	**347**	P	**P**	**20 23 35.1**	**-0.4**
	comp=Z,0.8nm,0.5s,mb3.4,baz=160,slow=10						
NOA	**NORSAR Array B**	**23.06**	**347**	P	**P**	**20 23 35.0**	**-0.5**
	comp=Z,1.2nm,0.6s,mb3.5,baz=157,slow=9.2,SNR=4.6						
EKA	**Eskdalemuir Ar**	**23.28**	**323**	P	**P**	**20 23 36.2**	**-1.6**
	comp=Z,1.1nm,0.7s,mb3.4,baz=114,slow=12,SNR=3.7						
JOF	**Joensuu**	**24.77**	**11**	*e*p	**P**	**20 23 46.4**	**-5.4**
ARCES	**ARCESS Array B**	**30.77**	**3**	P	**P**	**20 24 43.3**	**-2.2**
	comp=Z,1.6nm,0.7s,mb4.0,baz=193,slow=11,SNR=5.9						
TORD	**Torodi Ar. Bea**	**31.06**	**220**	P	**P**	**20 24 47.6**	**-0.5**
	comp=Z,0.8nm,0.8s,mb3.6,baz=37,slow=8.3,SNR=6.0						
CHKZ	**Chkalovo**	**36.26**	**50**	*e*P	**P**	**20 25 32.7**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
CHKZ	**Chkalovo**	**36.26**	**50**	*e*P	**P**	**20 25 32.6**	**-0.6**
	comp=Z,2.4nm,1.1s,mb4.0						
MKAR	**Makanchi Array**	**44.29**	**59**	P	**P**	**20 26 38.5**	**-1.3**
	comp=Z,0.5nm,0.4s,mb3.6,baz=281,slow=7.1,SNR=5.7		

SNR=7.8
BSYO Bisya 5.50 144 P Pn 20 50 49.4 +0.4
SNR=7.8
SMDO Samad 5.70 136 P Pn 20 50 52.4 +0.6
SNR=11
IZEF Zefreh 5.76 348 *e*Pn Pn 20 50 51.9 -0.8
WSAR Wadi Sarin 5.95 131 Pn Pn 20 50 54.7 -0.5
comp=E,1.2nm,0.3s,baz=283,slow=5.4,SNR=24
WSAR Sn Sn 20 52 00.1 -1.9
comp=E,0.9nm,0.3s,baz=80,slow=19,SNR=5.2
IPIR Pirpir 5.96 336 *e*Pn Pn 20 50 54.8 -0.6
IPIR *e*Sn Sn 20 52 00.1 -2.2
JMDO Jabal Madar 6.26 140 ⇓P Pn 20 50 59.7 +0.2
IKLH Kalahroud 6.33 343 *e*Pn Pn 20 51 00.2 -0.3
WBK Wadi Bani Khal 6.61 133 ⇓P Pn 20 51 03.9 -0.4
ISFB Sefidab 7.20 350 *e*Pn Pn 20 51 11.7 -0.7
IDMV Damavand 8.43 350 *e*Pn Pn 20 51 29.0 -0.3
WHFO Wadi Hawf 9.29 180 P Pn 20 51 40.7 -0.3
SNR=5.6
RBK Rabkut 9.71 178 ⇑P Pn 20 51 46.7 -0.1
ABTO Aybut 9.86 183 P Pn 20 51 48.2 -0.7
SNR=6.7
GNI Garni 14.88 332 Pn Pn 20 52 57.6 +0.6
comp=E,0.1nm,0.3s,baz=156,slow=20,SNR=2.3
GNI Garni 14.88 332 P Pn 20 52 57.6 +0.5
ASF Jabal al Asfar 15.45 293 Pn Pn 20 53 02.4 -2.1
comp=E,0.3nm,0.3s,baz=126,slow=17,SNR=2.8
MMAI Mount Meron Ar 16.89 294 Pn Pn 20 53 21.9 -0.7
comp=E,0.3nm,0.3s,baz=99,slow=18,SNR=2.6
BRTR Keskin Array B 20.84 312 P P 20 54 08.8 +1.4
comp=E,1.2nm,0.8s,baz=134,slow=12,SNR=8.2
AKTK Aktyubinsk 23.38 7 P P 20 54 34.7 +0.4
AKTK Aktyubinsk 23.38 7 P P 20 54 34.7 +0.4
AKTO Aktyubinsk 23.38 7 P P 20 54 34.7 +0.4
comp=E,1.7nm,0.5s,mb3.8,baz=183,slow=10,SNR=8.8
IDI Anoyia 25.88 295 P P 20 54 58.2 +1.1
comp=E,4.7nm,0.9s,mb4.0,baz=352,slow=8.4,SNR=5.8
MKAR Makanchi Array 29.73 41 P P 20 55 32.1 +0.6
comp=E,1.1nm,0.4s,mb3.9,baz=232,slow=10,SNR=28
ZAL Zalesovo 35.08 32 P P 20 56 18.1 -0.1
comp=E,1.6nm,0.4s,mb4.3,baz=219,slow=6.1,SNR=5.9
FINES FINESS Array B 38.90 339 P P 20 56 50.1 -0.6
comp=E,0.5nm,0.4s,mb3.6,baz=144,slow=10,SNR=9.5
HFS Hagfors 42.67 332 P P 20 57 21.1 -0.6
comp=E,0.4nm,0.3s,mb3.6,baz=134,slow=8.5,SNR=7.0
NOA NORSAR Array B 44.19 332 P P 20 57 33.2 -0.7
comp=E,1.0nm,0.9s,mb3.5,baz=138,slow=6.1,SNR=2.7
ARCES **ARCESS Array B** 45.40 346 P P 20 57 43.0 -0.6
comp=E,1.0nm,0.8s,mb3.7,baz=145,slow=8.7,SNR=4.6
TORD Torodi Ar. Bea 50.51 265 P P 20 58 24.2 +1.2
comp=E,0.3nm,0.5s,mb3.5,baz=71,slow=5.8,SNR=5.6

IDC 29 20:50:04.0±54.0, 1794S×17334W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/14, mbtmp4.1/3, Error ellipse: s-maj=1038.0km s-min=179.5km az=81.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**42.87**	**242**	P	P	20 58 04.2	+0.2
	1.5nm,0.7s,baz=78,slow=9.8,SNR=4.4						
WRA	**Warramunga Arr**	**49.37**	**259**	P	P	20 58 55.1	0.0
	0.6nm,0.7s,baz=97,slow=7.1,SNR=24						
ASAR	**Alice Springs**	**49.42**	**254**	P	P	20 58 56.4	+0.8
	3.9nm,0.6s,baz=89,slow=8.3,SNR=48						

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*ISCJB **29** 20:56:39.7±0.6, 3895N±005×2144E±003, h5km±12km, Error ellipse: s-maj=7.7km s-min=4.3km az=159.6*
*NEIC **29** 20:56:39.5, 3898N×2139E, h4km, MD3.2(ATH), MD3.2(ATH), After ATH.*
*ATH **29** 20:56:39.6, 3898N×2139E, h4km, MD3.2/3*
*CSEM **29** 20:56:40.5±0.2, 3894N×2145E, h5km, ML2.7, Error ellipse: s-maj=5.2km s-min=3.1km az=163.0*
*THE **29** 20:56:40.2, 3893N×2145E, h10km, ML2.7*

ISC 29 20:56:40.4±0.6, 3892N±005×2145E±003, h9km±11km, n9, σ0§88/15, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.28**	**91**	*e*PG	**Pg**	**20 56 45.4**	**-0.6**
EVR				*e*SG	**Sg**	**20 56 50.5**	**+0.6**
LKD	**Levkas**	**0.66**	**251**	*e*Pg	**Pg**	**20 56 52.8**	**-0.2**
LKD				*e*Sg	**Sg**	**20 57 02.5**	**+0.8**
AGG	**Agios Georgios**	**0.70**	**82**	*e*Pg	**Pg**	**20 56 53.1**	**-0.8**
AGG				*e*Sg	**Sg**	**20 57 03.6**	**+0.7**
RLS	**Riolos of Patr**	**0.86**	**179**	*e*PG	**Pg**	**20 56 57.7**	**+0.7**
VLS	**Valsamata**	**1.00**	**222**	*e*PB	**Pb**	**20 56 58.7**	**-1.2**
IGT	**Igoumenitsa**	**1.06**	**306**	*e*Pg	**Pg**	**20 56 59.8**	**-0.9**
IGT				*e*Sg	**Sg**	**20 57 15.5**	**+1.1**
LIT	**Litokhoron**	**1.43**	**34**	*e*Pg	**Pg**	**20 57 06.4**	**-1.4**
LIT				*e*Sg	**Sg**	**20 57 26.8**	**+0.5**
XOR	**Xorichti**	**1.43**	**71**	*e*Pg	**Pg**	**20 57 06.7**	**-1.1**
XOR				*e*Sg	**Sg**	**20 57 26.8**	**+0.4**
NEO	**Neokhori**	**1.44**	**74**	*e*PN	**Pn**	**20 57 07.8**	**+1.3**

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*STR **29** 21:19:15.9±0.3, 4315N×067W, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ISCJB **29** 21:19:16.6±1.0, 4316N±006×068W±005, h5km, Error ellipse: s-maj=8.5km s-min=4.4km az=41.7*
*LDG **29** 21:19:16.7±0.2, 4315N×069W, h5km, Md1.8/2, Error ellipse: s-maj=5.9km s-min=2.6km az=27.0*

ISC 29 21:19:17.1±1.0, 4315N±006×069W±005, h5km, n6, σ0§40/11, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATE	**Arette**	**0.06**	**186**	Pg	**Pg**	**21 19 18.1**	**-0.4**
ATE				Sg	**Sg**	**21 19 19.2**	**-0.3**
ORDF	**Ordiarp**	**0.19**	**291**	Pg	**Pg**	**21 19 20.3**	**-0.5**
ORDF				Sg	**Sg**	**21 19 23.6**	**+0.2**
LARF	**Larrau**	**0.24**	**244**	Pg	**Pg**	**21 19 21.5**	**-0.3**
LARF				Sg	**Sg**	**21 19 25.4**	**+0.4**
ETSF	**Etsaut**	**0.27**	**159**	*e*Pg	**Pg**	**21 19 22.0**	**-0.2**
ETSF				*e*Sg	**Sg**	**21 19 26.1**	**+0.4**
	3.6nm,0.2s						
SJPF	**Ste Jean**	**0.39**	**265**	*e*Pg	**Pg**	**21 19 24.3**	**-0.3**
SJPF				*e*Sg	**Sg**	**21 19 30.4**	**+0.7**
	2.0nm,0.3s						
EPF	**Esparros**	**0.76**	**98**	*e*Sg	**Sg**	**21 19 42.1**	**+0.5**
	2.2nm,0.4s						

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*NIED **29** 21:48:00, 22.10N×121.30E, h53km, Mw4.1 Best double couple: M0=1.65000×10^15 NP1:φs=305.00000°, δ83.00000°, λ=-105.00000°. NP2:φs=191.00000°, δ16.00000°, λ=-25.00000°.*
*BJI **29** 21:48:11.6, 2138N×1212.2E, h10km, ML3.9*
*IDC **29** 21:48:18.2±0.8, 2193N×1209.4E, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.9/20, mbtmp3.9/11, ML4.0/1, MS3.2/1, Ms1 3.2/1, ms1mx2.3/19, Error ellipse: s-maj=27.3km s-min=18.7km az=72.0*
*NEIC **29** 21:48:19.5±0.6, 2196N×1209.4E, h10km, mb4.0/2, Error ellipse: s-maj=12.6km s-min=10.1km az=102.0*
*ISCJB **29** 21:48:19.3±0.4, 2210N±004×1209.8E±004, h10km, mb3.8/11, Error ellipse: s-maj=7.5km s-min=4.2km az=102.2*
*JMA **29** 21:48:23.1±0.2, 2209N×1213.4E, h2km, M4.5*

ISC 29 21:48:21.1±0.4, 2213N±005×12095E±004, h10km, n36, σ1§08/46, mb3.8/11, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**2.11**	**16**	*e*P	**Pn**	**21 48 56.4**	**-0.1**
YHNB	**Yeheng**	**2.55**	**9**	*e*P	**Pn**	**21 49 04.6**	**+2.0**
YHNB				*e*S	**Sn**	**21 49 38.9**	**+5.2**
TATO	**Taipei**	**2.87**	**10**	*e*P	**Pn**	**21 49 07.8**	**+0.9**
YOJ	**Yonaguni jima**	**2.99**	**39**	P	**Pn**	**21 49 10.4**	**+1.8**
YOJ				*e*S	**Sn**	**21 49 45.0**	**+0.5**
HATJ	**Hateruma jima**	**3.25**	**53**	P	**Pn**	**21 49 12.9**	**+0.8**
HATJ				S	**Sn**	**21 49 49.8**	**-1.1**
IRIF	**Iriomote-Funau**	**3.37**	**49**	P	**Pn**	**21 49 15.1**	**+1.4**
IRIF				S	**Sn**	**21 49 53.6**	**-0.1**
JKRS	**Kuro-shima**	**3.51**	**53**	P	**Pn**	**21 49 16.8**	**+1.1**
JKRS				*e*S	**Sn**	**21 49 56.0**	**-1.2**
QZH	**Quanzhou**	**3.54**	**323**	P	**Pn**	**21 49 16.5**	**+0.4**
JIJ	**Ishigaki jima**	**3.68**	**52**	P	**Pn**	**21 49 18.9**	**+0.9**
JIJ				*e*S	**Sn**	**21 50 00.0**	**-1.4**
JTJ	**Tarama**	**4.25**	**53**	P	**Pn**	**21 49 26.8**	**+0.9**
JTJ				S	**Sn**	**21 50 15.2**	**-0.4**
CVP	**Callao Caves**	**4.48**	**169**	*e*P	**Pn**	**21 49 29.0**	**-0.1**
JMJ	**Miyako jima 2**	**4.80**	**55**	P	**Pn**	**21 49 34.8**	**+1.4**
JMJ				*e*S	**Sn**	**21 50 27.9**	**-1.1**
JOGS	**Gusukube**	**4.85**	**57**	P	**Pn**	**21 49 35.8**	**+1.6**
JOGS				*e*S	**Sn**	**21 50 30.2**	**-0.2**
BALP	**Baler**	**6.39**	**175**	*e*P	**Pn**	**21 49 55.9**	**+0.7**
JKE	**Kume jima 2**	**6.76**	**51**	P	**Pn**	**21 50 00.3**	**-0.1**
JOW	**Kunigami**	**8.14**	**54**	Pn	**Pn**	**21 50 18.8**	**-0.6**
	4.0nm,0.3s,baz=199,slow=13,SNR=27						
JOW				Sn	**Sn**	**21 51 45.8**	**-5.7**
	0.9nm,0.3s,baz=119,slow=18,SNR=3.1						
JOW	**Kunigami**	**8.14**	**54**	P	**Pn**	**21 50 19.0**	**-0.4**
LUBP	**Lubang**	**8.38**	**185**	*e*P	**Pn**	**21 50 24.7**	**+2.0**
JTK	**Tokunoshima**	**9.18**	**51**	P	**Pn**	**21 50 31.7**	**-1.9**
JTK				*e*S	**Sn**	**21 52 11.5**	**-5.4**
MJAR	**Matsushiro Arr**	**20.75**	**42**	P	**P**	**21 53 02.3**	**+0.4**
	3.4nm,0.7s,baz=228,slow=8.8,SNR=9.5						
SONM	**Songino Array**	**28.18**	**339**	LR	LR	22 07 01.0	
	comp=Z,44nm,19.1s,baz=285,slow=40						
ASAJ	**Asahikawa**	**28.29**	**34**	P	**P**	**21 54 15.4**	**+0.8**
	5.2nm,0.5s,mb4.4,baz=220,slow=8.7,SNR=6.3						
MKAR	**Makanchi Array**	**39.68**	**318**	P	**P**	**21 55 52.8**	**-0.5**
	1.3nm,0.9s,mb3.6,baz=106,slow=8.9,SNR=7.5						
ZAL	**Zalesovo**	**41.86**	**328**	P	**P**	**21 56 10.8**	**-0.6**
	1.1nm,0.7s,mb3.6,baz=7.6,slow=6.9,SNR=6.7						
ZAL	**Zalesovo**	**41.86**	**328**	P	**P**	**21 56 10.8**	**-0.6**
KURK	**Kurchatov**	**43.54**	**322**	*e*P	**P**	**21 56 24.0**	**-1.0**
	2.4nm,1.1s,mb3.8						
WRA	**Warramunga Arr**	**43.82**	**162**	P	**P**	**21 56 24.2**	**-3.0**
	0.2nm,0.3s,mb3.3,baz=343,slow=9.1,SNR=5.9						
ASAR	**Alice Springs**	**47.24**	**164**	P	**P**	**21 56 52.2**	**-2.1**
	0.2nm,0.3s,mb3.5,baz=340,slow=7.0,SNR=5.4						
ASAR				PcP	PcP	21 58 22.9	-2.6
	0.2nm,0.7s,baz=349,slow=4.5,SNR=4.2						
BRVK	**Borovoye**	**49.20**	**322**	P	**P**	**21 57 08.7**	**-0.8**
CHKZ	**Chkalovo**	**49.22**	**323**	*e*P	**P**	**21 57 08.7**	**-0.9**
	0.9nm,0.5s,mb4.1						
ZRNK	**Zerenda**	**49.91**	**321**	P	**P**	**21 57 14.3**	**-0.5**
JOF	**Joensuu**	**70.38**	**331**	*e*p	**P**	**21 59 31.7**	**-3.5**
ARCES	**ARCESS Array B**	**71.35**	**338**	P	**P**	**21 59 41.4**	**+0.3**
	0.5nm,0.5s,mb3.7,baz=68,slow=8.0,SNR=5.1						
FINES	**FINESS Array B**	**73.10**	**330**	P	**P**	**21 59 51.3**	**-0.3**
	1.1nm,0.8s,mb3.9,baz=69,slow=5.7,SNR=7.7						
NOA	**NORSAR Array B**	**79.93**	**332**	P	**P**	**22 00 30.4**	**+0.2**
	0.8nm,0.6s,mb3.9,baz=55,slow=5.4,SNR=3.9						
GERES	**GERESS Array B**	**84.28**	**321**	P	**P**	**22 00 52.2**	**-0.9**
	0.3nm,0.4s,mb3.7,baz=56,slow=7.1,SNR=4.0						

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*ISCJB **29** 22:01:16.8±1.2, 7398N±003×143E±02, h15km±10km, mb4.0/22, MS3.2/1, Error ellipse: s-maj=7.1km s-min=4.4km az=166.6*
*MOS **29** 22:01:16.1±2.0, 7406N×14.17E, h10km, mb4.4/8, Error ellipse: s-maj=39.7km s-min=6.3km az=95.5*
*HEL **29** 22:01:17.1±0.5, 7413N×1390E, h10km, ML3.8, mb4.3(NEIC), ML2.7(BER)*
*IDC **29** 22:01:17.1±0.7, 7406N×1429E, h0km, mb3.9/13, mb1 4.0/16, mb1mx3.9/25, mbtmp3.8/16, ML3.4/3, MS2.9/2, Ms1 2.9/2, ms1mx2.4/31, Error ellipse: s-maj=20.3km s-min=9.6km az=59.0*
*BER **29** 22:01:18.7±4.5, 7412N×1396E, h10km, MD3.1, ML2.7, ML2.7(NAO)*
*NEIC **29** 22:01:18.4±0.4, 7406N×1398E, h10km, mb4.3/8, Error ellipse: s-maj=8.8km s-min=5.9km az=80.0*
*CSEM **29** 22:01:19.9±0.1, 7410N×1422E, h30km, mb4.3/8, Error ellipse: s-maj=3.2km s-min=1.9km az=101.0*
*NAO **29** 22:01:21.1±4.0, 7420N×1551E, h28km±42km, ML2.7*

ISC 29 22:01:18.1±1.5, 7405N±003×144E±01, h12km±10km, n106, σ1§27/146, mb4.0/22, MS3.2/1, 2C-3D, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJO1	**Bjornoya**	**1.33**	**68**	*e*P	**Pn**	**22 01 43.9**	**+1.4**
BJO1				*e*S	**Sb**	**22 02 00.9**	**+0.9**
BJO1	**Bjornoya**	**1.33**	**68**	*e*P	**Pn**	**22 01 43.5**	**+1.0**
BJO1				*e*S	**Sb**	**22 02 00.9**	**+0.9**
BJO1	**Bjornoya**	**1.33**	**68**	*e*P	**Pn**	**22 01 43.5**	**+1.0**
BJO1				S	**Sb**	**22 02 00.8**	**+0.8**
BJO	**Bjornoya**	**1.38**	**68**	*e*P	**Pn**	**22 01 43.5**	**+0.4**
BJO				*e*S	**Sn**	**22 02 00.9**	**-0.5**
BJO				AML	AML	22 02 09.8	
	comp=Z,360nm,0.4s						
BJO	**Bjornoya**	**1.38**	**68**	*e*P	**Pn**	**22 01 43.5**	**+0.3**
	SNR=50						
BJO				*e*S	**Sn**	**22 02 00.9**	**-0.5**
	comp=Z,360nm,0.4s,SNR=50						
HSP	**Hornsund**	**2.99**	**5**	*e*P	**Pn**	**22 02 03.2**	**-2.1**
HSP				*e*S	**Sn**	**22 02 34.2**	**-6.9**
HSP	**Hornsund**	**2.99**	**5**	*e*P	**Pn**	**22 02 03.2**	**-2.1**
HOPEN	**Hopen**	**3.66**	**43**	*e*P	**Pn**	**22 02 15.9**	**+1.4**
HOPEN				*e*S	**Sn**	**22 02 56.2**	**-1.4**
SPA0	**Spitsbergen Ar**	**4.18**	**6**	Pn	**Pn**	**22 02 20.8**	**-0.9**
	baz=180,slow=14						
SPA0				Sn	**Sn**	**22 03 03.9**	**-6.6**
	baz=152,slow=18						
SPA0	**Spitsbergen Ar**	**4.18**	**6**	*e*P	**Pn**	**22 02 20.8**	**-0.9**
SPA0				*e*S	**Sn**	**22 03 03.9**	**-6.6**
TRO	**Tromso**	**4.66**	**160**	*e*P	**Pn**	**22 02 27.4**	**-1.0**
TRO				*e*S	**Sn**	**22 03 23.1**	**+0.7**
TRO	**Tromso**	**4.66**	**160**	*e*P	**Pn**	**22 02 27.8**	**-0.6**
TRO				*e*S	**Sn**	**22 03 19.0**	**-3.3**
TRO				AML	AML	22 03 28.5	
	comp=Z,9.5nm,0.5s						
TRO	**Tromso**	**4.66**	**160**	*e*P	**Pn**	**22 02 27.8**	**-0.6**
TRO				*e*S	**Sn**	**22 03 19.0**	**-3.3**
TRO	**Tromso**	**4.66**	**160**	*e*P	**Pn**	**22 02 27.8**	**-0.5**
	SNR=49						
TRO				S	**Sn**	**22 03 23.0**	**+0.7**
KBS	**Kingsbay**	**4.94**	**354**	*e*P	**Pn**	**22 02 29.6**	**-2.5**
KBS				*e*S	**Sn**	**22 03 19.9**	**-9.3**
KBS	**Kingsbay**	**4.94**	**354**	Pn	**Pn**	**22 02 29.6**	**-2.5**
KBS				Sn	**Sn**	**22 03 21.5**	**-7.7**
KIF	**Kilpisjarvi**	**5.46**	**155**	*e*P	**Pn**	**22 02 39.3**	**-0.1**
KIF				MPN		22 02 41.0	
	comp=Z,7.6nm,0.2s						
KIF				*e*S	**Sn**	**22 03 37.2**	**-4.8**
ARA0	**ARCESS Array S**	**5.71**	**137**	Pn	**Pn**	**22 02 42.3**	**-0.4**
	baz=333,slow=14						
ARA0				Sn	**Sn**	**22 03 45.9**	**-2.2**
	baz=327,slow=22						
ARA0	**ARCESS Array S**	**5.71**	**137**	*e*P	**Pn**	**22 02 42.9**	**+0.2**
ARA0				*e*S	**Sn**	**22 03 45.6**	**-2.6**
ARCES	**ARCESS Array B**	**5.71**	**137**	Pn	**Pn**	**22 02 42.3**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=328,slow=12,SNR=52						
ARCES				Sn	**Sn**	**22 03 46.3**	**-1.8**
	comp=Z,13nm,0.3s,baz=326,slow=19,SNR=15						
ARCES				LR	LR	22 05 26.9	
	comp=Z,67nm,18.6s,baz=351,slow=44						
ARCES	**ARCESS Array B**	**5.71**	**137**	P	**Pn**	**22 02 42.3**	**-0.4**
ARCES						22 03 46.3	
ARE0	**ARCESS Array S**	**5.71**	**137**	*e*Pn	**Pn**	**22 02 43.6**	**+0.9**
ARE0				*e*Sn	**Sn**	**22 03 46.6**	**-1.5**
ARE0	**ARCESS Array S**	**5.71**	**137**	*e*Pn	**Pn**	**22 02 43.6**	**+0.9**
ARE0				*e*Sn	**Sn**	**22 03 46.6**	**-1.5**
KTK1	**Kautokeino**	**5.78**	**147**	*e*P	**Pn**	**22 02 46.1**	**+2.4**
KTK1				*e*S	**Sn**	**22 03 50.1**	**+0.2**
KTK1	**Kautokeino**	**5.78**	**147**	*e*P	**Pn**	**22 02 46.1**	**+2.4**
KTK1				*e*S	**Sn**	**22 03 49.4**	**-0.6**
KTK1				AML	AML	22 03 53.1	
	comp=Z,40nm,0.6s						
KTK1	**Kautokeino**	**5.78**	**147**	*e*P	**Pn**	**22 02 46.1**	**+2.4**
KTK1				*e*S	**Sn**	**22 03 49.4**	**-0.6**
KEV	**Kevo**	**5.82**	**132**	*e*P	**Pn**	**22 02 44.2**	**-0.1**
KEV				*e*S	**Sn**	**22 03 48.7**	**-2.2**
KEV	**Kevo**	**5.82**	**132**	*e*P	**Pn**	**22 02 45.2**	**+0.9**
KEV				*e*		22 03 47.3	
KEV				pmax	pmax		
	comp=Z,24nm,0.6s						
KEV	**Kevo**	**5.82**	**132**	*e*Pn	**Pn**	**22 02 45.1**	**+0.9**
	comp=Z,24nm,0.6s						
KEV				*e*Sn	**Sn**	**22 03 47.3**	**-3.7**
KEV	**Kevo**	**5.82**	**132**	*e*Pn	**Pn**	**22 02 45.2**	**+0.9**
	comp=Z,24nm,0.6s						
KEV				*e*Sn	**Sn**	**22 03 47.3**	**-3.6**
LOF	**Lofoten**	**5.96**	**183**	*e*P	**Pn**	**22 02 45.6**	**-0.6**
LOF				*e*S	**Sn**	**22 03 49.2**	**-5.2**
LOF				AML	AML	22 03 54.5	
	comp=Z,20nm,0.4s						
LOF	**Lofoten**	**5.96**	**183**	*e*P	**Pn**	**22 02 45.6**	**-0.6**
LOF				*e*S	**Sn**	**22 03 49.2**	**-5.2**

SGF Sodankyl 7.73 143 *e*P Pn 22 03 10.0 -0.5
STOK Stokkvaagen 7.77 184 *e*P Pn 22 03 10.2 -0.9
STOK *e*S Sn 22 04 30.4 -8.6
STOK AML AML 22 04 32.4
comp=Z,7.9nm,0.6s
STOK Stokkvaagen 7.77 184 *e*P Pn 22 03 10.2 -0.9
STOK *e*S Sn 22 04 30.4 -8.6
MOR8 Moi Rana 7.92 180 *e*P Pn 22 03 10.2 -2.9
MOR8 Moi Rana 7.92 180 *e*Pn Pn 22 03 12.3 -0.8
MOR8 *e*Sn Sn 22 04 35.7 -7.0
MOR8 AML AML 22 04 38.2
comp=Z,6.9nm,0.4s
MOR8 Moi Rana 7.92 180 *e*P Pn 22 03 12.3 -0.8
MOR8 *e*S Sn 22 04 35.7 -7.0
MOR8 Moi Rana 7.92 180 *e*Pn Pn 22 03 12.3 -0.8
SNR=50
MOR8 *e*Sn Sn 22 04 35.7 -7.0
SNR=50
APA0 Apatity Array 8.85 128 Pn Pn 22 03 23.4 -2.4
baz=317,slow=9.3
APA0 Sn Sn 22 05 00.3 -5.2
baz=312,slow=28
APA0 Apatity Array 8.85 128 *e*P Pn 22 03 23.4 -2.4
APA0 *e*S Sn 22 05 00.3 -5.2
APA Apatity 8.97 127 ⇑*i*P Pn 22 03 28.0 +0.5
APA *i* 22 05 03.4
APA pmax pmax
comp=Z,14nm,0.8s
KU4 Liikasenvaara 9.23 139 *e*P Pn 22 03 30.7 -0.4
KU4 MPN 22 03 33.9
comp=Z,7.3nm,0.6s
MSF Maaselka 9.55 141 *e*P Pn 22 03 34.9 -0.6
MSF MPN 22 03 38.6
comp=Z,3.2nm,0.5s
NSS Namsos 9.61 186 *e*P Pn 22 03 36.0 -0.3
OUL Oulu 9.83 150 *e*P Pn 22 03 38.9 -0.4
OUL MPN 22 03 42.5
comp=Z,2.9nm,0.5s
KJN Kajaani 11.04 148 *e*P Pn 22 03 55.4 -0.5
KJN MPN 22 03 60.0
comp=Z,4.3nm,0.5s
KJN *e*S Sn 22 05 50.7 -8.5
VAF Ylistaro 11.45 161 *e*P Pn 22 04 02.1 +0.7
SUF Sumiainen 12.14 154 *e*P Pn 22 04 10.8 -0.1
SUF MPN 22 04 18.5
comp=Z,12nm,0.4s
KEF Keuruu 12.52 157 *e*P Pn 22 04 15.8 -0.4
KEF MPN 22 04 20.7
comp=Z,1.0nm,0.4s
JOF Joensuu 12.70 143 *e*P Pn 22 04 15.4 -3.1
JOF MPN 22 04 20.4
comp=Z,1.6nm,0.3s
KAF Kangasniemi 12.74 154 *e*P Pn 22 04 18.8 -0.4
KAF MPN 22 04 23.0
comp=Z,7.5nm,0.5s
NB2 NORSAR Subarra 13.13 187 Pn Pn 22 04 24.1 -0.3
NOA NORSAR Array B 13.13 187 Pn Pn 22 04 24.4 0.0
comp=Z,0.3nm,0.3s,baz=3.7,slow=14,SNR=3.0
FIA0 FINESS Array S 13.37 155 Pn Pn 22 04 26.2 -1.5
baz=348,slow=14
FIA0 Sn Sn 22 06 49.4 -6.8
baz=352,slow=28
FIA0 FINESS Array S 13.37 155 *e*P Pn 22 04 26.2 -1.5
FIA0 *e*S Sn 22 06 49.4 -6.8
FINES FINESS Array B 13.37 155 Pn Pn 22 04 26.1 -1.5
comp=Z,0.3nm,0.3s,baz=353,slow=11,SNR=14
FINES Sn Sn 22 06 49.2 -6.9
comp=Z,0.3nm,0.3s,baz=358,slow=22,SNR=4.4
FINES FINESS Array B 13.37 155 Pn Pn 22 04 26.1 -1.5
FINES Sn Sn 22 06 49.2 -6.9
HFS Hagfors 13.99 182 Pn Pn 22 04 37.4 +1.3
baz=352,slow=11
HFS Hagfors 13.99 182 Pn Pn 22 04 37.2 +1.1
comp=Z,0.2nm,0.3s,baz=8.5,slow=12,SNR=5.8
OBN Obninsk 20.98 143 *e*P P 22 06 10.4 +9.2
OBN *e* 22 06 24.9
OBN pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 22.84 182 *e*PPP 22 06 59.0
AKASG Malin Array Be 24.26 157 P P 22 06 34.8 -0.3
comp=Z,8.4nm,0.6s,mb4.3,baz=346,slow=9.5,SNR=21
ARU Arti 24.59 112 *e*P P 22 06 44.8 +6.7
ARU *e* 22 07 11.8
ARU *e*PPP 22 07 21.7
ARU *e*S S 22 11 01.1 +2.2
ARU *e*SS 22 11 45.7
ARU Arti 24.59 112 *e*P P 22 06 40.6 +2.5
comp=Z,9.0nm,0.6s,mb4.5
ARU Arti 24.59 112 *e*P P 22 06 40.6 +2.5
comp=Z,9.0nm,0.6s,mb4.5
KWP Kalwaria 24.77 167 *e*P P 22 06 40.6 +0.9
KWP pmax pmax
comp=Z,27nm,1.3s,mb4.6
KWP Kalwaria 24.77 167 *e*P P 22 06 40.6 +1.0
comp=Z,27nm,1.3s,mb4.6
KWP Kalwaria 24.77 167 *e*P P 22 06 40.6 +0.9
comp=Z,27nm,1.3s,mb4.6
VRAC Vranov 24.85 177 P P 22 06 41.3 +0.9
comp=Z,3.1nm,0.8s,mb3.9,baz=8.9,slow=11,SNR=3.6
NIE Niedzica 24.85 171 *e*P P 22 06 42.1 +1.7
GERES **GERESS Array B** 25.30 181 P P 22 06 45.6 +1.1
comp=Z,1.4nm,0.8s,mb3.5,baz=10,slow=8.1,SNR=9.1
BURAR **Bucovina Array** 26.95 164 ⇓*i*P P 22 07 00.4 +1.0
ORR Orenburg 28.02 121 *e*P P 22 07 11.9 +2.9
ORR pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
ORR Orenburg 28.02 121 *e*P P 22 07 11.9 +2.9
comp=Z,10.0nm,0.8s,mb4.5
BZS Buzias 28.71 169 ⇓*i*P P 22 07 16.7 +1.5
TIXI Tiksi 28.92 37 *e*P P 22 07 16.5 -0.6
TIXI pmax pmax
comp=Z,2.0nm,1.4s,mb3.6
TIXI Tiksi 28.92 37 *e*P P 22 07 16.5 -0.6
comp=Z,2.0nm,1.4s,mb3.6
MLR Muntele Rosu 29.12 163 P P 22 07 21.1 +2.3
comp=Z,2.5nm,0.7s,mb4.0,baz=153,slow=14,SNR=3.2
MLR Muntele Rosu 29.12 163 ⇑*i*P P 22 07 21.6 +2.8
CHKZ Chkalovo 30.24 101 *e*P P 22 07 30.4 +1.7
CHKZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
CHKZ Chkalovo 30.24 101 *e*P P 22 07 30.4 +1.7
comp=Z,2.0nm,0.6s,mb4.0
CHKZ Chkalovo 30.24 101 *e*P P 22 07 30.4 +1.7
comp=Z,2.0nm,0.6s,mb4.0
TIRR Tirgusor 30.36 160 ⇓*i*P P 22 07 29.8 0.0
ZRNK Zerenda 30.45 103 P P 22 07 33.3 +2.7
ZRNK pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
ZRNK Zerenda 30.45 103 P P 22 07 33.3 +2.7
comp=Z,1.9nm,0.8s,mb3.9
ZRNK Zerenda 30.45 103 P P 22 07 33.3 +2.7
comp=Z,1.9nm,0.8s,mb3.9
BRVK Borovoye 30.70 102 *e*P P 22 07 32.9 +0.1
BRVK pmax pmax
comp=Z,1.0

PDAR	**Pinedale Array**	**57.56**	**314**	P		**P**		**22 11 06.8**	**-0.9**
	comp=Z,0.6nm,0.9s,mb3.6,baz=27,slow=3.6,SNR=4.4								
TORD	**Torodi Ar. Bea**	**61.32**	**194**	P		**P**		**22 11 33.5**	**-0.2**
	comp=Z,1.2nm,0.6s,mb4.2,baz=7.5,slow=7.3,SNR=14								
NVAR	**Mina Array Bea**	**63.42**	**320**	P		**P**		**22 11 46.5**	**-1.1**
	comp=Z,0.2nm,0.5s,mb3.5,baz=322,slow=3.9,SNR=4.0								

IDC ***29*** *22:19:49.6±1.6, 45.78S×75.89W, h0km, mb4.0/6, mb1 4.1/8, mb1mx4.0/17, mbtmp4.0/8, ML3.3/2, MS4.0/13, Ms1 4.0/13, ms1mx3.8/26, Error ellipse: s-maj=54.5km s-min=17.7km az=103.0*

NEIC ***29*** *22:19:50.9±0.7, 45.84S×75.85W, h10km, mb4.1/5, Error ellipse: s-maj=16.7km s-min=10.2km az=100.0*

HRVD ***29*** *22:19:50.9±0.6, 45.90S×76.22W, h22km±2km, MW4.8/45, Centroid moment Tensor Solution. LP body waves: s6,c6;Mantle waves: s45,c54; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.07±.17; Mθθ 0.44±.14; Mφφ=0.37±.14; Mrθ 0.19±.21; Mrφ=-2.08±.11; Mθφ=0.77±.23; Best double couple: M0 2.26100×10^16 NP1:φ=84.00000°, δ 70.00000°, λ 178.00000°. NP2:φ=175.00000°, δ 89.00000°, λ 20.00000°. Principal axes: T 2.3280, Plg 15.0000°, Azm 41.0000°; N -0.1340, Plg 70.0000°, Azm 178.0000°; P -2.1940, Plg 13.0000°, Azm 308.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***29*** *22:19:52.8±0.8, 45.81S±008×757W±02, h33km, mb4.0/9, MS4.0/10 Error ellipse: s-maj=20.1km s-min=11.4km az=22.7*

ISC 29 22:19:54.7±0.7, 4586S±007×757W±02, h35km, n31, σ0 s79/22, mb4.0/9, MS4.0/10, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**6.36**	**38**	Pn	**Pn**	**22 21 25.1**	**-0.8**
	0.2nm,0.3s,baz=223,slow=13,SNR=9.3						
PLCA				LR	LR	22 23 56.8	
	comp=Z,3μm,20.1s,baz=209,slow=39						
USHA	**Ushuaia**	**10.12**	**155**	Pn	**Pn**	**22 22 16.3**	**-1.1**
	0.2nm,0.3s,baz=326,slow=15,SNR=3.1						
USHA				LR	LR	22 27 01.9	
	comp=Z,1μm,18.3s,baz=310,slow=42						
TRQA	**Tornquist**	**12.85**	**58**	*e*Pn	**Pn**	**22 22 55.8**	**+1.0**
CFAA	**Coronel Fontan**	**15.37**	**25**	Pn	**Pn**	**22 23 24.0**	**-4.8**
	0.0nm,0.3s,baz=227,slow=14,SNR=4.0						
CFAA				LR	LR	22 29 38.5	
	comp=Z,158nm,21.3s,baz=82,slow=38						
LVC	**Limon Verde**	**23.84**	**16**	P	**P**	**22 25 11.0**	**+6.4**
	3.1nm,0.7s,mb3.9,baz=196,slow=13,SNR=3.2						
LVC				LR	LR	22 35 12.9	
	comp=Z,302nm,19.8s,MS3.8,baz=193,slow=39						
CPUP	**Villa Florida**	**24.40**	**43**	P	**P**	**22 25 09.3**	**-0.3**
	10nm,0.9s,mb4.2,baz=207,slow=9.1,SNR=21						
CPUP				LR	LR	22 35 26.5	
	comp=Z,1μm,19.3s,MS4.3,baz=193,slow=38						
CPUP	**Villa Florida**	**24.40**	**43**	*e*P	**P**	**22 25 09.4**	**-0.3**
	28nm,0.8s,mb4.8						
LPAZ	**La Paz**	**30.16**	**15**	P	**P**	**22 26 02.1**	**+0.8**
	0.9nm,0.8s,mb3.6,baz=188,slow=7.1,SNR=4.0						
LPAZ	**La Paz**	**30.16**	**15**	*e*P	**P**	**22 26 01.0**	**-0.3**
	1.2nm,0.7s,mb3.7						
SIV	**San Ignacio**	**32.21**	**27**	P	**P**	**22 26 19.2**	**-0.1**
	2.2nm,0.9s,mb4.0,baz=218,slow=10,SNR=9.9						
BDFB	**Brasilia**	**38.03**	**47**	P	**P**	**22 27 09.6**	**+0.1**
	3.5nm,0.7s,mb4.2,baz=191,slow=8.0,SNR=6.7						
BDFB				LR	LR	22 43 15.0	
	comp=Z,579nm,21.6s,MS4.3,baz=35,slow=37						
SAML	**Samuel**	**38.32**	**20**	*e*P	**P**	**22 27 11.5**	**-0.5**
	1.9nm,0.8s,mb3.9						
VNA3	**Neumayer Olymp**	**39.78**	**152**	*e*	**P**	**22 27 30.7**	**+6.6**
VNA3				*e*		22 27 36.8	
VNA2	**Neumayer--Watz**	**40.51**	**152**	*e*	**P**	**22 27 31.3**	**+1.1**
	baz=279,slow=5.2						
VNA2				*e*		22 27 36.9	
SNAA	**Sanae**	**41.97**	**153**	P	**P**	**22 27 43.3**	**+1.2**
	0.6nm,0.8s,mb3.3,baz=283,slow=7.7,SNR=8.6						
SNAA	**Sanae**	**41.97**	**153**	*e*	**P**	**22 27 35.3**	**-6.8**
SNAA				*e*		22 27 39.4	
SNAA	**Sanae**	**41.97**	**153**	*e*P	**P**	**22 27 35.1**	**-7.0**
	4.6nm,0.9s,mb4.1						
OTAV	**Otavalo**	**45.96**	**356**	P	**P**	**22 28 14.2**	**0.0**
ROSC	**El Rosal**	**50.50**	**2**	LR	LR	22 48 32.2	
	comp=Z,117nm,19.5s,MS3.9,baz=187,slow=34						
VNDA	**Vanda**	**51.93**	**193**	P	**P**	**22 28 59.5**	**-0.5**
	1.1nm,1.0s,mb3.7,baz=132,slow=8.4,SNR=2.9						
VNDA				LR	LR	22 50 10.4	
	comp=Z,108nm,20.1s,MS3.9,baz=260,slow=35						
VNDA	**Vanda**	**51.93**	**193**	P	**P**	**22 28 59.5**	**-0.5**
VNDA				LR	LR	22 50 10.4	
RKT	**Rikitea**	**52.54**	**275**	*e*LR	LR	22 44 08.6	
	184nm,26.8s						
JTS	**JuntasAbangare**	**56.50**	**349**	P	**P**	**22 29 32.4**	**-0.8**
TBI	**Tubuai**	**62.50**	**264**	*e*LR	LR	22 48 49.3	
	64nm,27.5s						
TAOE	**Nuku Hiva Isla**	**65.95**	**283**	*e*LR	LR	22 50 18.9	
	423nm,24.9s						
URZ	**Urewera**	**73.82**	**232**	LR	LR	22 57 30.4	
	comp=Z,184nm,19.6s,MS4.4,baz=276,slow=31						
LPIG	**La Paz**	**76.39**	**328**	LR	LR	22 59 02.4	
	comp=Z,5.1nm,20.0s,MS2.8,baz=216,slow=31						
DBIC	**Dimbokro**	**81.67**	**72**	LR	LR	23 03 43.5	
	comp=Z,62nm,18.8s,MS4.0,baz=214,slow=32						
ANMO	**Albuquerque**	**85.09**	**335**	P	**P**	**22 32 28.3**	**+1.5**
	1.9nm,1.0s,mb4.2						
STKA	**Stephens Creek**	**95.56**	**211**	LR	LR	23 07 19.5	
	comp=Z,80nm,20.5s,MS4.2,baz=204,slow=30						
YBH	**Yreka Blue Hor**	**96.74**	**327**	LR	LR	23 12 18.4	
	comp=Z,36nm,18.4s,MS3.9,baz=15,slow=33						

NIED ***29*** *22:41:00, 43.10N×142.20E, h165km, Mw4.3 Best double couple: M0 3.14000×10^15 NP1:φ=52.00000°, δ 76.00000°, λ 162.00000°. NP2:φ=147.00000°, δ 72.00000°, λ 15.00000°.*

ISCJB ***29*** *22:41:03.5±0.2, 43.07N±003×142.15E±003, h155km±1km, mb4.3/38, Error ellipse: s-maj=4.6km s-min=3.6km az=86.6*

MOS ***29*** *22:41:03.5±0.8, 43.11N×142.12E, h157km, mb4.5/15, Error ellipse: s-maj=10.0km s-min=6.9km az=90.6*

BJI ***29*** *22:41:03.0, 43.12N×142.21E, h159km, mB5.2, mb4.5*

IDC ***29*** *22:41:04.8±0.8, 43.11N×142.16E, h149km±4km, mb3.8/15, mb1 4.0/17, mb1mx3.9/25, mbtmp4.3/17, Error ellipse: s-maj=14.0km s-min=12.4km az=157.0*

NEIC ***29*** *22:41:04.3±0.5, 43.13N×142.10E, h144km±5km, mb4.5/24, MW4.3(NIED), Error ellipse: s-maj=5.6km s-min=4.2km az=134.0*

NEIC Recorded [1 JMA] in the Chitose and Obihiro areas. Also recorded [1 JMA] in Aomori Prefecture, Honshu.

JMA ***29*** *22:41:05.0±0.1, 43.08N×142.18E, h148km±1km, M4.2 Broadband fault plane solution: P waves. NP1: φ=147.00000°, δ 68.00000°, λ 19.00000°. NP2:φ=50.00000°, δ 73.00000°, λ 157.00000°. Principal axes: T Plg 28.0000°, Azm 8.0000°; N Plg 62.0000°, Azm 195.0000°; P Plg 3.0000°, Azm 99.0000°;*

JMA Felt I J1.

ISC 29 22:41:04.6±0.2, 4307N±003×14216E±003, h151km±1km, n113, σ0 s84/143, mb4.3/38, 12C-10D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JBT2	**Biratori 2**	**0.33**	**153**	⇑P	**Pn**	**22 41 25.6**	**+0.3**
JBT2				*e*S	**Sn**	**22 41 41.2**	**+0.1**
JFR	**Furan**	**0.33**	**74**	⇑P	**Pn**	**22 41 25.3**	**0.0**
JFR				*e*S	**Sn**	**22 41 40.5**	**-0.6**
JAB	**Ashibetsu**	**0.43**	**6**	⇓P	**Pn**	**22 41 25.9**	**+0.2**
JAB				*e*S	**Sn**	**22 41 41.7**	**-0.1**
JEW	**Eniwo**	**0.57**	**246**	⇑P	**Pn**	**22 41 26.7**	**+0.3**
JEW				*e*S	**Sn**	**22 41 42.5**	**-0.5**
JHR	**Hokuryu**	**0.74**	**335**	⇓P	**Pn**	**22 41 28.1**	**+0.7**
JHR				*e*S	**Sn**	**22 41 45.6**	**+0.7**
JNBK	**Urakawa-nobuka**	**0.91**	**151**	⇑P	**Pn**	**22 41 29.6**	**+1.0**
JNBK				*e*S	**Sn**	**22 41 48.8**	**+1.8**
JKK2	**Kamakawa 2**	**0.91**	**28**	⇓P	**Pn**	**22 41 29.2**	**+0.5**
JKK2				*e*S	**Sn**	**22 41 47.4**	**+0.3**
JCH	**Churui**	**1.00**	**117**	⇓P	**Pn**	**22 41 29.0**	**-0.4**
JCH				*e*S	**Sn**	**22 41 47.0**	**-1.3**
ASAJ	**Asahikawa**	**1.09**	**17**	P	**Pn**	**22 41 30.6**	**+0.4**
	55nm,0.3s,baz=229,slow=10,SNR=133						
ASAJ				S	**Sn**	**22 41 49.5**	**-0.4**
	27nm,0.3s,baz=108,slow=33,SNR=44						
ASAJ				S	**Sn**	**22 41 49.5**	**-0.3**
	comp=Z,55nm,0.3s						
ASAJ				pmax	pmax		
	comp=N,27nm,0.3s						
ASAJ				smax			
JAR	**Ashorobuto**	**1.20**	**79**	⇓P	**Pn**	**22 41 31.7**	**+0.5**
JAR				*e*S	**Sn**	**22 41 52.0**	**+0.4**
JSK	**Shakotan**	**1.26**	**283**	⇓P	**Pn**	**22 41 31.9**	**+0.1**
JSK				*e*S	**Sn**	**22 41 51.8**	**-0.8**
JKB	**Kayabe**	**1.45**	**216**	⇑P	**Pn**	**22 41 33.7**	**+0.1**
JKB				*e*S	**Sn**	**22 41 54.9**	**-1.0**
JYG	**Yagishiri**	**1.46**	**339**	P	**Pn**	**22 41 33.8**	**+0.1**
JYG				*e*S	**Sn**	**22 41 55.4**	**-0.6**
JTKR	**Abashiri--Toko**	**1.56**	**54**	⇓P	**Pn**	**22 41 35.5**	**+0.7**
JTKR				*e*S	**Sn**	**22 41 58.0**	**0.0**
JAK	**Akkeshi**	**1.86**	**91**	⇓P	**Pn**	**22 41 37.7**	**-0.5**
JAK				*e*S	**Sn**	**22 42 02.5**	**-1.4**
JOT	**Ohata**	**1.88**	**206**	⇑P	**Pn**	**22 41 38.3**	**0.0**
JOT				*e*S	**Sn**	**22 42 03.4**	**-0.9**
JSE	**Soyaes**	**1.91**	**9**	P	**Pn**	**22 41 39.0**	**+0.3**
JSE				*e*S	**Sn**	**22 42 05.2**	**+0.3**
JOSM	**Okushiri--Mats**	**2.21**	**244**	⇓P	**Pn**	**22 41 42.5**	**+0.2**
JOSM				*e*S	**Sn**	**22 42 10.3**	**-1.0**
JWK2	**Keihoku**	**2.25**	**355**	⇑P	**Pn**	**22 41 43.5**	**+0.8**
JWK2				*e*S	**Sn**	**22 42 13.5**	**+1.4**
JRA	**Rausu**	**2.32**	**67**	⇓P	**Pn**	**22 41 44.3**	**+0.7**
YUK	**Yuzh-Kuril'sk**	**2.86**	**69**	⇑PN	**Pn**	**22 41 51.1**	**+0.9**
YUK				*e*S	**Sn**	**22 42 26.7**	**+1.3**
YUK				pmax	pmax		
	comp=N,570nm,0.5s						
YUK				pmax	pmax		
	comp=E,570nm,0.5s						
YUK				pmax	pmax		
	comp=Z,2μm,0.5s						
YUK				pmax	pmax		
	comp=Z,4μm,0.9s						
YUK				smax			
	comp=N,760nm,0.5s						
YUK				smax			
	comp=E,760nm,0.5s						
YSS	**Yuzh-Sakhalins**	**3.91**	**6**	α *i*PN	**Pn**	**22 42 04.0**	**+0.4**
YSS				*e*S	**Sn**	**22 42 48.0**	**-1.4**
YSS				pmax	pmax		
	comp=N,670nm,0.7s						
YSS				pmax	pmax		
	comp=E,130nm,0.7s						
YSS				pmax	pmax		
	comp=Z,710nm,0.7s						
YSS				pmax	pmax		
	comp=Z,300nm,2.0s						
YSS				smax			
	comp=N,600nm,2.0s						
YSS				smax			
	comp=N,190nm,1.0s						
YSS				smax			
	comp=E,190nm,1.0s						
YSS	**Yuzh-Sakhalins**	**3.91**	**6**	*e*Pn	**Pn**	**22 42 03.5**	**-0.1**
YSS				*e*Sn	**Sn**	**22 42 50.2**	**+0.7**
KUR	**Kuril'sk**	**4.64**	**60**	*e*PN	**Pn**	**22 42 11.0**	**-2.2**
KUR				*e*S	**Sn**	**22 43 05.0**	**-1.7**
KUR				pmax	pmax		
	comp=E,80nm,0.6s						
KUR				pmax	pmax		
	comp=Z,150nm,0.6s						
KUR				smax			
	comp=N,150nm,0.6s						
KUR				smax			
	comp=E,110nm,0.6s						
MAJO	**Matsushiro**	**7.19**	**206**	*e*PN	**Pn**	**22 42 47.2**	**0.0**
MAJO				pmax	pmax		
	comp=Z,46nm,0.4s						
MAJO	**Matsushiro**	**7.19**	**206**	*e*Pn	**Pn**	**22 42 47.2**	**0.0**
	comp=Z,46nm,0.4s						
MAT	**Matsushiro**	**7.19**	**206**	P	**Pn**	**22 42 46.8**	**-0.4**
MAT	**Matsushiro**	**7.19**	**206**	*e*PN	**Pn**	**22 42 47.0**	**-0.2**
MAT				pmax	pmax		
	comp=Z,37nm,1.0s						
MAT	**Matsushiro**	**7.19**	**206**	*e*P	**Pn**	**22 42 47.0**	**-0.2**
	comp=Z,37nm,1.0s						
MJAR	**Matsushiro Arr**	**7.19**	**206**	P	**Pn**	**22 42 47.4**	**+0.2**
	comp=Z,9.7nm,0.3s,baz=11,slow=14,SNR=52						
HABR	**Khabarovsk**	**7.34**	**320**	*e*PN	**Pn**	**22 42 49.0**	**-0.1**
HABR				*e*S	**Sn**	**22 44 12.5**	**+1.4**
MDJ	**Mudanjiang**	**9.21**	**284**	P	**Pn**	**22 43 14.5**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,13nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,42nm,3.9s						
MDJ				LR	LR		
	comp=N,32nm,16.8s						
MDJ				LR	LR		
	comp=E,69nm,17.9s						
MDJ				LR	LR		
	comp=Z,38nm,18.9s						
JHJ	**Hachijo jima 2**	**10.11**	**191**	P	**Pn**	**22 43 22.4**	**-3.6**
	comp=Z,55nm,0.3s,baz=85,slow=21,SNR=25						
JHJ				S	**Sn**	**22 45 07.5**	**-10**
	comp=Z,17nm,0.3s,baz=62,slow=22,SNR=3.9						
CN2	**Changchun**	**12.17**	**279**	*e*P	**Pn**	**22 43 52.3**	**-0.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CBIJ	**Chichi jima**	**15.94**	**180**	P	**Pn**	**22 44 40.6**	**+0.2**
	comp=Z,20nm,0.3s,baz=0.0,slow=19,SNR=9.7						
CBIJ				S	**S**	**22 47 28.0**	**-10**
	comp=Z,5.1nm,0.3s,baz=322,slow=20,SNR=2.2						
HIA	**Hailar**	**16.69**	**300**	*e*P	**Pn**	**22 44 48.2**	**-1.3**
HIA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HIA	**Hailar**	**16.69**	**300**	*e*Pn	**Pn**	**22 44 48.2**	**-1.3**
	comp=Z,9.8nm,0.6s						
MA2	**Magadan**	**17.35**	**15**	*e*P	**Pn**	**22 44 55.6**	**-1.9**
MA2				pmax	pmax		
	comp=Z,60nm,1.2s						
BJI	**Beijing**	**19.65**	**270**	*e*P	**P**	**22 45 21.0**	**-0.6**
BJI				AMB	AMB		
	comp=Z,16nm,1.0s						
BJI	**Beijing**	**19.65**	**270**	*e*P	**P**	**22 45 21.1**	**-0.5**
	comp=Z,16nm,1.0s						
BJT	**Baijiatuan**	**19.67**	**270**	*e*P	**P**	**22 45 20.7**	**-1.0**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BJT	**Baijiatuan**	**19.67**	**270**	*e*P	**P**	**22 45 20.7**	**-1.0**
	comp=Z,9.2nm,0.6s						
YAK	**Yakutsk**	**20.38**	**343**	*e*P	**P**	**22 45 27.2**	**-2.2**
YAK				*i* S	**S**	**22 49 05.4**	**-3.9**
YAK				*i* *SS	sS	22 49 37.3	-17
YAK				*i*		22 49 40.4	
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,15nm,1.0s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.2s						
YAK				smax			
	comp=N,12nm,1.0s						
YAK				smax			
	comp=E,10.0nm,1.0s						
YAK	**Yakutsk**	**20.38**	**343**	*e*P	**P**	**22 45 26.9**	**-2.5**
	comp=E,36nm,0.6s						
NJ2	**Nanjing**	**21.43**	**247**	*e*P	**P**	**22 45 40.3**	**-0.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
YHNB	**Yeheng**	**25.08**	**230**	*e*P	**P**	**22 46 15.1**	**+0.2**
TLY	**Talaya**	**27.19**	**302**	P	**P**	**22 46 33.9**	**-0.1**
LZH	**Lanzhou**	**30.14**	**270**	*e*P	**P**	**22 46 59.5**	**-0.7**
LZH				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.6						
GTA	**Gaotai**	**31.80**	**278**	*e*P	**P**	**22 47 16.3**	**+1.6**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.3						
ZAL	**Zalesovo**	**38.51**	**307**	P	**P**	**22 48 11.6**	**-0.5**
	comp=Z,1.5nm,0.4s,mb4.0,baz=27,slow=11,SNR=5.5						
MKAR	**Makanchi Array**	**41.66**	**297**	P	**P**	**22 48 38.6**	**+0.7**
	comp=Z,1.4nm,0.5s,mb3.8,baz=82,slow=10,SNR=27						
MKAR				S	**S**	**22 54 45.7**	**+2.5**
	comp=Z,0.2nm,0.4s,baz=81,slow=17,SNR=3.8						
MKAR	**Makanchi Array**	**41.66**	**297**	P	**P**	**22 48 38.6**	**+0.7**
MKAR				S	**S**	**22 54 45.7**	**+2.5**
KDAK	**Kodiak Island**	**42.36**	**46**	P	**P**	**22 48 42.4**	**-1.4**
	comp=Z,4.0nm,0.6s,mb4.2,baz=258,slow=5.5,SNR=5.7						
LSA	**Lhasa**	**42.56**	**269**	*e*P	**P**	**22 48 46.1**	**+0.8**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
LSA	**Lhasa**	**42.56**	**269**	*e*P	**P**	**22 48 46.1**	**+0.8**
	comp=Z,2.4nm,0.6s,mb4.0						
KURK	**Kurchatov**	**42.88**	**303**	*e*P	**P**	**22 48 47.5**	**-0.4**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
KURK	**Kurchatov**	**42.88**	**303**	*e*P	**P**	**22 48 47.5**	**-0.4**
	comp=Z,5.0nm,0.7s,mb4.2						
COLA	**College**	**43.75**	**35**	*e*P	**P**	**22 48 54.6**	**-0.3**
COLA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.3						
COLA	**College**	**43.75**	**35**	*e*P	**P**	**22 48 54.6**	**-0.3**
	comp=Z,6.8nm,0.8s,mb4.3						
ILAR	**Eielson Array**	**44.17**	**36**	P	**P**	**22 48 58.1**	**-0.1**
	comp=Z,4.4nm,0.9s,mb4.1,baz=270,slow=6.7,SNR=48						
CHKZ	**Chkalovo**	**46.77**	**309**	*e*P	**P**	**22 49 18.3**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.4						
CHKZ	**Chkalovo**	**46.77**	**309**	*e*P	**P**	**22 49 18.3**	**-0.3**
	comp=Z,6.3nm,0.6s,mb4.4						
BRVK	**Borovoye**	**47.15**	**309**	*e*P	**P**	**22 49 22.1**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.2						
BRVK	**Borovoye**	**47.15**	**309**	*e*P	**P**	**22 49 22.1**	**+0.5**
	comp=Z,1.6nm,0.3s,mb4.1						
GUN	**Gumba**	**47.40**	**271**	*e*P	**P**	**22 49 24.7**	**+1.1**
	comp=Z,31nm,0.4s,mb5.3						
KKN	**Kakani**	**47.91**	**271**	*e*P	**P**	**22 49 28.6**	**+1.1**
ZRNK	**Zerenda**	**47.91**	**309**	*e*P	**P**	**22 49 27.8**	**+0.3**
ZRNK				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.5						
ZRNK	**Zerenda**	**47.91**	**309**	*e*P	**P**	**22 49 27.8**	**+0.3**
	comp=Z,9.8nm,0.7s,mb4.5						
PKI	**Pulchoki**	**47.94**	**270**	*e*P	**P**	**22 49 28.2**	**+0.5**
	comp=Z,13nm,0.5s,mb4.8						
PKI	**Pulchoki**	**47.94**	**270**	*e*P	**P**	**22 49 28.2**	**+0.5**
PKI				pmax	pmax		
	comp=Z,13nm,0.5s,mb4.8						
DMN	**Daman**	**48.14**	**271**	*e*P	**P**	**22 49 30.1**	**+0.9**
GKN	**Gorkha**	**48.26**	**271**	*e*P	**P**	**22 49 30.8**	**+0.6**
	comp=Z,10nm,0.4s,mb4.8						
INK	**Inuvik**	**48.80**	**29**	P	**P**	**22 49 34.1**	**-0.2**
	comp=Z,4.2nm,0.4s,mb4.4,baz=297,slow=5.4,SNR=42						
INK	**Inuvik**	**48.80**	**29**	*e*P	**P**	**22 49 34.1**	**-0.2**
INK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
INK	**Inuvik**	**48.80**	**29**	*e*P	**P**	**22 49 34.0**	**-0.3**
	comp=Z,4.3nm,0.3s,mb4.6						
KOLN	**Koldanda**	**49.15**	**272**	*e*P	**P**	**22 49 37.9**	**+1.0**
	comp=Z,23nm,0.8s,mb4.9						
ARU	**Arti**	**52.32**	**316**	⇑*i*P	**P**	**22 50 00.5**	**-0.2**
ARU				*e*		22 51 09.0	
ARU				*e*		22 51 57.4	
ARU				*e*S	**S**	**22 57 12.9**	**-1.5**
ARU				*e*SS	SS	23 00 53.9	-0.1
ARU				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.4						
ARU	**Arti**	**52.32**	**316**	*e*P	**P**	**22 50 00.6**	**-0.1**
	comp=Z,5.9nm,0.7s,mb4.3						
AKTK	**Aktyubinsk**	**55.18**	**309**	P	**P**	**22 50 21.5**	**0.0**
AKTO	**Aktyubinsk**	**55.18**	**309**	P	**P**	**22 50 21.5**	**0.0**
	comp=Z,2.1nm,0.6s,mb4.0,baz=59,slow=12,SNR=8.9						
RES	**Resolute Bay**	**56.63**	**15**	*e*P	**P**	**22 50 30.8**	**-0.9**
RES				pmax	pmax		
	comp=Z,26nm,0.7s,mb5.2						
RES	**Resolute Bay**	**56.63**	**15**	*e*P	**P**	**22 50 30.8**	**-1.0**
	comp=Z,26nm,0.7s,mb5.2						
YKA	**Yellowknife Ar**	**58.35**	**32**	P	**P**	**22 50 43.7**	**-0.1**
	comp=Z,3.3nm,0.6s,mb4.3,baz=309,slow=6.5,SNR=19						
YKA	**Yellowknife Ar**	**58.35**	**32**	P	**P**	**22 50 43.7**	**-0.1**
ARCES	**ARCESS Array B**	**58.58**	**338**	P	**P**	**22 50 44.8**	**-0.6**
	comp=Z,1.4nm,0.5s,mb4.1,baz=45,slow=7.4,SNR=20						
JOF	**Joensuu**	**60.95**	**331**	*e*p	**P**	**22 51 00.6**	**-0.9**
	comp=Z,6.0nm,0.5s,mb4.7						
JOF	**Joensuu**	**60.95**	**331**	*e*P	**P**	**22 51 00.6**	**-0.9**
JOF				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.7						
WRA	**Warramunga Arr**	**63.11**	**188**	P	**P**	**22 51 16.8**	**+0.8**
	comp=Z,0.4nm,0.7s,mb3.3,baz=7.5,slow=7.2,SNR=5.3						
KAF	**Kangasniemi**	**63.24**	**332**	*e*p	**P**	**22 51 15.7**	**-1.1**
	comp=Z,4.7nm,0.4s,mb4.7,baz=47,slow=6.3						
KAF	**Kangasniemi**	**63.24**	**332**	*e*P	**P**	**22 51 15.7**	**-1.1**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.7						
OBN	**Obninsk**	**63.65**	**322**	⇑*e*P	**P**	**22 51 19.2**	**-0.4**
OBN				*e*	pP	22 51 52.3	-3.2
OBN				*e*S	**S**	**22 59 38.0**	**-3.6**
OBN				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.4						
FINES	**FINESS Array B**	**63.77**	**331**	P	**P**	**22 51 19.5**	**-0.9**
	comp=Z,7.6nm,0.5s,mb4.8,baz=55,slow=7.5,SNR=150						
MBWA	**Marble Bar**	**67.17**	**203**	P	**P**	**22 51 43.2**	**+1.0**
KIV	**Kislovodsk**	**67.45**	**310**	*e*P	**P**	**22 51 44.2**	**+0.3**
KIV				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.6						
KIV	**Kislovodsk**	**67.45**	**310**	*e*P	**P**	**22 51 44.1**	**+0.2**
	comp=Z,8.8nm,1.0s,mb4.5						
FCC	**Fort Churchill**	**68.37**	**28**	*e*P	**P**	**22 51 49.3**	**-0.4**
FCC				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.5						
FCC	**Fort Churchill**	**68.37**	**28**	*e*P	**P**	**22 51 49.3**	**-0.4**
	comp=Z,2.8nm,0.3s,mb4.5						
NB2	**NORSAR Subarra**	**68.86**	**337**	P	**P**	**22 51 52.0**	**-0.7**
	comp=Z,6.1nm,0.7s,mb4.4,baz=36,slow=6.5						
NOA	**NORSAR Array B**	**68.86**	**337**	P	**P**	**22 51 52.0**	**-0.6**
	comp=Z,4.1nm,0.5s,mb4.4,baz=36,slow=6.3,SNR=18						
**DLMT

GUC.

GUC 29 22:54:45.9±0.6, 3154S×6948W, h134km±17km, MD3.5, ML2.8, 4C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**1.35**	**285**	⇑*i* P	Pn	22 55 12.9	+0.3
CMCH				*i* S	Sn	22 55 33.9	+0.9
CMCH				AML	AML	22 55 35.3	
	comp=N,191nm,0.1s						
CMCH	**Combarbala**	**1.35**	**285**	⇑*i* P	Pn	22 55 12.9	+0.3
CMCH				*i* S	Sn	22 55 33.9	+0.9
TLL	**Tololo Astrono**	**1.77**	**320**	*e*P	Pn	22 55 18.8	+1.4
TLL				*i* S	Sn	22 55 42.8	+1.3
TLL				AML	AML	22 55 45.1	
	comp=E,65nm,0.3s						
TLL	**Tololo Astrono**	**1.77**	**320**	*e*P	Pn	22 55 18.8	+1.4
TLL				*i* S	Sn	22 55 42.8	+1.3
FCH	**Farellones**	**1.91**	**201**	⇓*i* P	Pn	22 55 20.3	+1.3
FCH				*i* S	Sn	22 55 46.4	+1.9
FCH				AML	AML	22 55 51.5	
	comp=E,83nm,0.2s						
CHCH	**Chadas Angostu**	**2.59**	**202**	⇑*i* P	Pn	22 55 28.0	+0.7
CHCH				*i* S	Sn	22 56 00.1	+0.9
CACH	**El Canelo**	**2.74**	**200**	*i* P	Pn	22 55 30.4	+1.1
CACH				*i* S	Sn	22 56 04.2	+1.4
CICH	**Cipreses**	**2.89**	**196**	⇑*i* P	Pn	22 55 32.0	+0.8

IDC ***29*** *23:12:36.0±0.8, 0.19S×9709E, h0km, mb4.2/8, mb1 4.3/9, mb1mx4.1/21, mbtmp4.2/9, ML3.5/1, MS3.5/1, Ms1 3.5/1, ms1mx2.5/16, Error ellipse: s-maj=36.6km s-min=16.0km az=53.0*

ISCJB ***29*** *23:12:39.4±0.6, 0.06S±0.08×973E±0.1, h33km, mb4.2/15, Error ellipse: s-maj=16.3km s-min=9.3km az=117.0*

NEIC ***29*** *23:12:39.8±0.4, 0.12S×9717E, h25km, mb4.2/6, Error ellipse: s-maj=10.9km s-min=6.8km az=59.0*

BJI ***29*** *23:12:39.5, 021S×9667E, h31km, mB5.2, mb4.4*

ISC 29 23:12:42.0±0.6, 003S±008×973E±01, h35km, n26, σ0§89/23, mb4.2/15, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.25**	**30**	*e*Pn	**Pn**	**23 13 29.7**	**-0.8**
	4.7nm,0.3s,baz=221,slow=5.1,SNR=17						
KULM	**Kulim**	**6.26**	**32**	*e*Pn	**Pn**	**23 14 11.7**	**-0.2**
CHTO	**Chiang Mai**	**18.80**	**5**	*e*P	**Pn**	**23 16 58.7**	**-0.4**
	4.6nm,0.8s						
KKM	**Kota Kinabalu**	**19.84**	**72**	*e*P	**Pn**	**23 17 10.5**	**-1.0**
LSA	**Lhasa**	**30.14**	**349**	P	**P**	**23 18 49.4**	**+0.9**
FITZ	**Fitzroy Crossi**	**33.16**	**124**	P	**P**	**23 19 14.7**	**-0.4**
	5.3nm,0.8s,mb4.5,baz=281,slow=8.5,SNR=8.3						
XAN	**Xi'an**	**35.61**	**17**	P	**P**	**23 19 39.3**	**+3.0**
XAN				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
LZH	**Lanzhou**	**36.45**	**9**	*e*P	**P**	**23 19 54.5**	**+11**
LZH				pP	pP	23 19 59.2	+5.6
LZH				sP	sP	23 20 01.6	+3.8
GTA	**Gaotai**	**39.32**	**3**	*e*P	**P**	**23 20 09.3**	**+1.6**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.0						
WRA	**Warramunga Arr**	**41.33**	**121**	P	**P**	**23 20 24.5**	**+0.2**
	comp=Z,7.4nm,0.9s,mb4.3,baz=299,slow=9.1,SNR=20						
WRAB	**Tennant Creek**	**41.33**	**121**	*e*P	**P**	**23 20 24.7**	**+0.3**
	comp=Z,8.1nm,0.7s,mb4.5						
ASAR	**Alice Springs**	**42.60**	**126**	P	**P**	**23 20 35.3**	**+0.6**
	comp=Z,1.6nm,0.7s,mb3.9,baz=302,slow=7.9,SNR=13						
ASAR				PcP	PcP	23 22 27.1	+0.6
	comp=Z,1.0nm,0.8s,baz=303,slow=3.4,SNR=4.1						
WMQ	**Urumqi**	**44.49**	**350**	*e*P	**P**	**23 20 50.5**	**+0.6**
MKAR	**Makanchi Array**	**48.45**	**346**	P	**P**	**23 21 21.8**	**+0.9**
	comp=Z,3.6nm,0.7s,mb4.5,baz=155,slow=8.0,SNR=45						
CTAO	**Charters Tower**	**51.89**	**116**	*e*P	**P**	**23 21 48.1**	**+1.1**
STKA	**Stephens Creek**	**52.48**	**131**	P	**P**	**23 21 50.4**	**-1.0**
	comp=Z,3.8nm,0.9s,mb4.3,baz=293,slow=4.5,SNR=5.0						
MJAR	**Matsushiro Arr**	**52.54**	**42**	LR	LR	23 43 28.7	
	comp=Z,44nm,20.4s,baz=255,slow=35						
KURK	**Kurchatov**	**52.99**	**345**	*e*P	**P**	**23 21 55.6**	**+0.4**
	comp=Z,5.4nm,1.0s,mb4.4						
ZAL	**Zalesovo**	**54.77**	**351**	P	**P**	**23 22 08.4**	**+0.2**
	comp=Z,3.4nm,0.7s,mb4.5,baz=298,slow=6.7,SNR=17						
BRVK	**Borovoye**	**57.49**	**341**	*e*P	**P**	**23 22 26.8**	**-0.8**
	comp=Z,0.7nm,0.4s,mb4.0						
ZRNK	**Zerenda**	**57.83**	**340**	*e*P	**P**	**23 22 29.0**	**-1.0**
	comp=Z,1.6nm,0.8s,mb4.1						
CHKZ	**Chkalovo**	**57.91**	**342**	*e*P	**P**	**23 22 30.1**	**-0.4**
	comp=Z,3.2nm,0.9s,mb4.3						
BRTR	**Keskin Array B**	**70.00**	**313**	P	**P**	**23 23 49.0**	**-1.0**
	comp=Z,0.4nm,0.4s,mb3.7,baz=139,slow=12,SNR=4.2						
AKASG	**Malin Array Be**	**76.28**	**323**	P	**P**	**23 24 26.1**	**-1.0**
	comp=Z,0.3nm,0.2s,mb3.9,baz=93,slow=4.3,SNR=5.9						
CPUP	**Villa Florida**	**144.15**	**221**	PKP	PKPdf	23 32 12.6	-1.4
	comp=Z,3.2nm,0.8s,baz=317,slow=3.3,SNR=8.1						
CFAA	**Coronel Fontan**	**145.68**	**202**	PKPbc	PKPbc	23 32 16.8	-0.2
	comp=Z,1.1nm,1.0s,baz=129,slow=2.3,SNR=10						

ISCJB ***29*** *23:42:27.7±0.8, 377S±02×514E±02, h10km, mb3.9/5, MS4.1/3, Error ellipse: s-maj=33.3km s-min=14.4km az=50.5*

IDC ***29*** *23:42:27.5±1.2, 3777S×5130E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/21, mbtmp3.9/5, ML3.5/1, MS4.1/3, Ms1 4.1/3, ms1mx3.3/22, Error ellipse: s-maj=65.0km s-min=22.8km az=28.0*

NEIC ***29*** *23:42:28.9±0.7, 3779S×5131E, h10km, mb4.1/2, Error ellipse: s-maj=30.2km s-min=13.1km az=205.0*

HRVD ***29*** *23:42:29.0±0.5, 3736S×5143E, h12km±1km, MW4.9/44, Centroid moment Tensor Solution. LP body waves: s17,c19;Mantle waves: s44,c61; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.08±.22; $M_{\theta\theta}$2.81±.17; $M_{\theta\phi}$-0.73±.17; $M_{r\theta}$0.16±.34; $M_{\phi\phi}$0.44±.11; $M_{\phi r}$-0.01±.56; Best double couple: M○2.47700×10^{16} NP1:ϕ81.00000°,δ43.00000°,λ-92.00000°. NP2: ϕ264.00000°,δ47.00000°,λ-88.00000°. Principal axes: T 2.8690, Plg2.0000°, Azm353.0000°; N -0.7850, Plg1.0000°, Azm83.0000°; P -2.0860, Plg88.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 29 23:42:29.6±0.8, 377S±02×514E±02, h10km, n13, σ0§44/9, mb3.9/5, MS4.1/3, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**19.39**	**348**	P	**Pn**	**23 46 56.7**	**0.0**
	0.1nm,0.3s,baz=162,slow=13,SNR=2.3						
BOSA	**Boshof**	**23.59**	**285**	P	**P**	**23 47 40.5**	**-0.1**
LBTB	**Lobatse**	**25.27**	**293**	P	**P**	**23 47 55.8**	**-0.2**
	1.8nm,0.8s,mb3.6,baz=96,slow=9.2,SNR=3.4						
LBTB	**Lobatse**	**25.27**	**293**	*e*P	**P**	**23 47 55.5**	**-0.4**
	4.2nm,1.0s,mb3.9						
ATD	**Arta Tunnel**	**49.59**	**349**	LR	LR	00 09 38.0	
	comp=Z,150nm,20.5s,MS4.0,baz=146,slow=33						
NWAO	**Narrogin (SRO)**	**52.99**	**106**	LR	LR	00 10 02.7	
	comp=Z,141nm,19.8s,MS4.0,baz=213,slow=31						
MBWA	**Marble Bar**	**60.58**	**95**	*e*P	**P**	**23 52 39.3**	**-0.9**
WSAR	**Wadi Sarin**	**60.98**	**8**	LR	LR	00 13 23.3	
	comp=Z,261nm,19.1s,MS4.4,baz=0.0,slow=30						
TORD	**Torodi Ar. Bea**	**68.73**	**307**	P	**P**	**23 53 33.9**	**+0.4**
	2.1nm,1.1s,mb4.0,baz=153,slow=3.0,SNR=4.7						
ASAR	**Alice Springs**	**70.29**	**105**	P	**P**	**23 53 43.3**	**+0.2**
	0.9nm,0.7s,mb3.8,baz=234,slow=6.0,SNR=9.6						
WRA	**Warramunga Arr**	**72.69**	**102**	P	**P**	**23 53 58.2**	**+0.6**
	0.8nm,0.4s,mb4.0,baz=230,slow=4.9,SNR=5.2						
WRAB	**Tennant Creek**	**72.71**	**102**	*e*P	**P**	**23 53 57.8**	**+0.1**
	1.2nm,0.6s,mb4.0						
ILAR	**Eielson Array**	**150.80**	**16**	PKPbc	PKPbc	00 02 19.5	-2.7
	1.4nm,1.0s,baz=309,slow=3.5,SNR=9.0						

IDC ***30*** *00:26:46.2±3.2, 1318N×11949E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/20, mbtmp3.6/3, MS3.7/1, Ms1 3.7/1, ms1mx2.8/21, Error ellipse: s-maj=442.1km s-min=27.6km az=61.0*

ISCJB ***30*** *00:26:49.1±0.7, 131N±0.1×1194E±03, h33km, mb4.0/8, MS3.7/1, Error ellipse: s-maj=42.5km s-min=11.9km az=134.0*

NEIC ***30*** *00:26:51.2±0.5, 1317N×11945E, h35km, mb4.0/5, Error ellipse: s-maj=28.9km s-min=8.2km az=67.0*

ISC 30 00:26:51.3±0.7, 132N±01×1195E±03, h35km, n14, σ0§31/13, mb4.0/8, MS3.7/1, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCPH	**Palayan**	**2.79**	**33**	⇓*e*P	**Pn**	**00 27 20.1**	**-13**
LSA	**Lhasa**	**30.97**	**307**	*e*P	**P**	**00 33 05.1**	**0.0**
	3.2nm,0.2s,mb4.8						
MBWA	**Marble Bar**	**34.15**	**180**	*e*P	**P**	**00 33 32.9**	**-0.1**
WRA	**Warramunga Arr**	**36.02**	**156**	P	**P**	**00 33 48.8**	**-0.2**

CSEM ***30*** *00:06:51.9±0.5, 3896N×2787W, h1km±2km, ML1.0, Error ellipse: s-maj=3.7km s-min=1.3km az=78.0, After PDA*

PDA ***30*** *00:06:51.9±0.5, 3896N×2787W, h1km±2km, MD2.9, ML1.0, Error ellipse: s-maj=3.7km s-min=1.3km az=78.0*

SVSA 30 00:06:51.9±0.5, 3896N×2787W, h1km±2km, MD2.9, ML1.0, Error ellipse: s-maj=3.7km s-min=1.3km az=78.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRBC	**Serra Branca**	**0.15**	**301**	*e*P	Pg	00 06 53.4	-1.4
SRBC				*e*S	Sg	00 06 55.7	-1.1
STGR	**Santa Cruz**	**0.16**	**320**	*e*S	Sg	00 06 57.4	+0.5
STGR							
	14nm,0.2s						
PAMA	**Santo Amaro**	**0.37**	**221**	*e*P	Pg	00 06 58.8	-0.2
PAMA				*e*S	Sg	00 07 04.0	+0.3
PAMA							
	11nm,0.1s						
ROSA	**Rosais**	**0.37**	**230**	*e*P	Pg	00 06 58.0	-1.1
ROSA				*e*S	Sg	00 07 03.1	-0.8
PID	**Ribeirinha**	**0.55**	**200**	*e*P	Pg	00 07 00.9	-1.6
PID				*e*S	Sg	00 07 08.1	-1.5
PICO	**Pico**	**0.63**	**223**	*e*P	Pg	00 07 02.2	-1.8
PICO				*e*S	Sg	00 07 10.6	-1.5
PLUZ	**Luz**	**0.86**	**274**	*e*P	Pg	00 06 53.8	-15
PLUZ				*e*S	Sg	00 06 55.5	-24
PLUZ							
	21nm,0.1s						

NEIC ***30*** *00:23:02.5, 1799N×10189W, h49km, MD3.7(MEX), After MEX.*

MEX 30 00:23:02.3±0.4, 1799N×10190W, h51km±9km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.56**	**132**	*e*P	Pn	00 23 12.8	-1.5
ZIIG				*i* S	Sn	00 23 21.1	-1.8
ZIIG	**Zihuatanejo**	**0.56**	**132**	*i* P	Pn	00 23 12.9	-1.3
ZIIG				*i* S	Sn	00 23 21.1	-1.8
CAIG	**El Cayaco**	**1.81**	**121**	*i* P	Pn	00 23 30.1	-0.9
CAIG				*i* S	Sn	00 23 51.5	-1.4
MOIG	**Morelia**	**1.81**	**22**	*e*P	Pn	00 23 29.8	-1.3
MOIG				*i* S	Sn	00 23 51.9	-1.0
MEIG	**Mezcala**	**2.17**	**91**	*i* P	Pn	00 23 34.7	-1.2
MEIG				*i* S	Sn	00 23 60.0	-1.6
ACX	**Acapulco**	**2.19**	**120**	*i* P	Pn	00 23 37.5	+1.2
ACX				*i* S	Sn	00 24 01.5	-0.7
ACX	**Acapulco**	**2.19**	**120**	*i* P	Pn	00 23 39.2	+2.9
ACX				*i* S	Sn	00 24 05.5	+3.3
PLIG	**Platanillo**	**2.31**	**80**	*e*P	Pn	00 23 36.8	-1.1
PLIG				*i* S	Sn	00 24 02.9	-2.2
PPM	**Popocatepetl**	**3.28**	**70**	*e*P	Pn	00 23 50.0	-1.2
UTMO	**Huajuapan**	**3.90**	**92**	*i* P	Pn	00 23 58.7	-1.0
UTMO				*i* S	Sn	00 24 41.5	-2.7

CSEM ***30*** *00:30:32.6±0.2, 3508N×398W, h12km, MD2.7, Error ellipse: s-maj=4.5km s-min=3.7km az=88.0*

ISCJB ***30*** *00:30:33.3±0.8, 3510N±004×405W±004, h13km±5km, Error ellipse: s-maj=6.3km s-min=5.9km az=25.8*

CNRM ***30*** *00:30:34.0, 3509N×404W, h6km, MD2.7*

MDD ***30*** *00:30:34.9±1.0, 3505N×399W, h11km±12km, mb3.1/7, Error ellipse: s-maj=11.3km s-min=7.2km az=128.0, PRXIMO*

ISC 30 00:30:33.8±0.8, 3509N±004×402W±006, h12km±7km, n17, σ0§80/32, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MPAL	**Palemas**	**0.15**	**24**	*i* P	**Pg**	**00 30 37.0**	**-0.4**
TOU	**Touzarine**	**0.25**	**120**	P	**Pg**	**00 30 39.0**	**0.0**
TOU				S	**Sg**	**00 30 43.0**	**+0.5**
TOU	**Touzarine**	**0.25**	**120**	*i* P	**Pg**	**00 30 39.0**	**0.0**
EMEL	**Melilla**	**0.89**	**76**	P	**Pg**	**00 30 50.3**	**-0.8**
	51nm,0.2s,SNR=7.9						
EMEL				S	**Sg**	**00 31 02.9**	**+0.1**
	83nm,0.2s,SNR=7.9						
EMLI	**Melilla**	**0.90**	**76**	P	**Pg**	**00 30 50.3**	**-0.9**
	51nm,0.2s,SNR=7.9						
EMLI				S	**Sg**	**00 31 02.9**	**0.0**
	83nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.60**	**338**	P	**Pn**	**00 31 01.8**	**-0.1**
	0.2nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**00 31 21.7**	**-0.8**
	1.1nm,0.1s,SNR=5.5						
MIF	**Mishlifen**	**1.95**	**211**	*e*P	**Pn**	**00 31 06.0**	**-0.8**
MIF				*e*S	**Sn**	**00 31 31.0**	**-0.2**
EBER	**Berja**	**2.03**	**26**	P	**Pn**	**00 31 07.9**	**+0.1**
	0.4nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**00 31 32.4**	**-0.7**
	2.9nm,0.3s,SNR=7.9						
EBER	**Berja**	**2.03**	**26**	P	**Pn**	**00 31 07.9**	**+0.1**
	0.4nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**00 31 32.4**	**-0.6**
	2.9nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.82**	**15**	P	**Pn**	**00 31 20.6**	**+1.9**
	0.5nm,0.1s,SNR=6.6						
EQES				S	**Sn**	**00 31 52.7**	**+0.2**
	2.1nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.82**	**15**	P	**Pn**	**00 31 20.6**	**+1.9**
	0.5nm,0.1s,SNR=6.6						
EQES				S	**Sn**	**00 31 52.7**	**+0.2**
	2.1nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.11**	**352**	P	**Pn**	**00 31 24.4**	**+1.7**
	0.1nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**00 31 59.7**	**0.0**
	0.3nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.11**	**352**	P	**Pn**	**00 31 24.4**	**+1.7**
	0.1nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**00 31 59.7**	**0.0**
	0.3nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.43**	**322**	P	**Pn**	**00 31 27.8**	**+0.7**
	0.1nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**00 32 07.2**	**-0.4**
	0.2nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.43**	**322**	P	**Pn**	**00 31 27.8**	**+0.7**
	0.1nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**00 32 07.2**	**-0.4**
	0.2nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.38**	**328**	P	**Pn**	**00 31 41.5**	**+1.3**
	0.2nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**00 32 29.9**	**-1.2**
	0.8nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.38**	**328**	P	**Pn**	**00 31 41.5**	**+1.4**
	0.2nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**00 32 29.9**	**-1.2**
	0.8nm,0.2s,SNR=7.9						

IDC 30 00:35:08.6±4.3, 1084S×6836W, h0km, mb3.9/1, mb1 4.0/2, mb1mx3.5/18, mbtmp3.9/2, ML3.9/1, Error ellipse: s-maj=139.3km s-min=41.8km az=107.0, Western Brazil

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**5.42**	**178**	Pn	Pn	00 36 31.4	+0.7
	2.4nm,0.3s,baz=155,slow=8.8,SNR=52						
TORD	**Torodi Ar. Bea**	**73.48**	**73**	P	P	00 46 43.7	+0.8
	0.4nm,0.4s,baz=256,slow=5.4,SNR=28						
MKAR	**Makanchi Array**	**136.39**	**29**	PKP	PKPdf	00 54 32.2	-0.1
	0.4nm,0.5s,baz=335,slow=3.5,SNR=4.4						

ISCJB ***30*** *00:46:37.5±0.4, 3739S±008×512E±01, h10km, mb4.2/19, MS3.9/10, Error ellipse: s-maj=12.8km s-min=10.1km az=103.4*

IDC ***30*** *00:46:37.5±0.7, 3740S×5116E, h0km, mb4.1/11, mb1 4.1/12, mb1mx4.0/23, mbtmp4.0/12, ML3.3/1, MS3.9/10, Ms1 3.9/10, ms1mx3.6/29, Error ellipse: s-maj=28.6km s-min=17.0km az=31.0*

NEIC ***30*** *00:46:38.9±0.3, 3743S×5112E, h10km, mb4.3/10, Error ellipse: s-maj=11.9km s-min=8.0km az=213.0*

HRVD ***30*** *00:46:38.9±0.6, 3733S×5129E, h18km±2km, MW4.8/39, Centroid moment Tensor Solution. LP body waves: s4,c4;Mantle waves: s39,c47; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.22±.29; $M_{\theta\theta}$1.82±.20; $M_{\phi\phi}$0.40±.17; $M_{r\theta}$-0.23±.45; $M_{\theta\phi}$0.22±.10; $M_{\phi r}$-0.21±.64; Best double couple: M○2.05900×10^{16} NP1:ϕ265.00000°, δ41.00000°,λ-84.00000°. NP2:ϕ77.00000°,δ49.00000°, λ-95.00000°. Principal axes: T 1.8700, Plg4.0000°, Azm171.0000°; N 0.3800, Plg4.0000°, Azm81.0000°; P -2.2480, Plg85.0000°, Azm305.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 30 00:46:38.8±9.4, 3737S±008×512E±01, h9km±58km, n41, σ0§84/31, mb4.2/19, MS3.9/10, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**19.05**	**348**	P	**Pn**	**00 51 03.3**	**+1.2**
	0.1nm,0.3s,baz=144,slow=14,SNR=1.9						
BOSA	**Boshof**	**23.37**	**284**	*e*P	**P**	**00 51 46.5**	**-1.3**
	7.2nm,1.1s,mb4.0						
LBTB	**Lobatse**	**25.02**	**292**	P	**P**	**00 52 02.0**	**-1.1**
	4.0nm,1.0s,mb3.9,baz=104,slow=11,SNR=4.7						
LBTB				LR	LR	00 59 54.0	
	comp=Z,140nm,18.7s,MS3.5,baz=332,slow=32						
LBTB	**Lobatse**	**25.02**	**292**	*e*P	**P**	**00 52 02.7**	**-0.4**
	3.5nm,0.9s,mb3.9						
SUR	**Sutherland**	**25.34**	**272**	LR	LR	00 59 55.9	
	comp=Z,107nm,20.2s,MS3.4,baz=180,slow=32						
SUR	**Sutherland**	**25.34**	**272**	*e*P	**P**	**00 52 06.2**	**+0.2**
MATP	**Matopo**	**25.96**	**304**	P	**P**	**00 52 10.2**	**-1.4**
	1.4nm,0.8s,mb3.5,baz=212,slow=15,SNR=2.5						
MATP				LR	LR	01 00 42.2	
	comp=Z,399nm,21.3s,MS3.9,baz=134,slow=32						
LSZ	**Lusaka**	**29.99**	**311**	P	**P**	**00 52 47.5**	**-0.2**
	3.1nm,1.1s,mb3.9,baz=104,slow=8.3,SNR=2.3						
LSZ	**Lusaka**	**29.99**	**311**	*e*P	**P**	**00 52 48.8**	**+1.1**
	3.9nm,1.1s,mb4.0						
MAW	**Mawson**	**31.00**	**171**	LR	LR	01 03 09.4	
	comp=Z,193nm,20.6s,MS3.8,baz=70,slow=32						
MAW	**Mawson**	**31.00**	**171**	P	**P**	**00 52 55.8**	**-0.7**
TSUM	**Tsumeb**	**34.44**	**292**	LR	LR	01 05 05.3	
	comp=Z,102nm,20.9s,MS3.5,baz=134,slow=32						
TSUM	**Tsumeb**	**34.44**	**292**	*e*P	**P**	**00 53 26.3**	**-0.3**
KMBO	**Kilima Mbogo**	**38.29**	**337**	LR	LR	01 07 30.0	
	comp=Z,248nm,21.6s,MS4.0,baz=94,slow=33						

SNAA	**Sanae**	**43.83**	**202**	P		**P**		**00 54 44.9**	**-0.2**
	0.6nm,0.8s,mb3.4,baz=12,slow=5.2,SNR=6.2								
SNAA	**Sanae**	**43.83**	**202**	*e*		**P**		**00 54 37.4**	**-7.7**
SNAA				*e*				00 54 42.1	
SNAA	**Sanae**	**43.83**	**202**	*eP*		**P**		**00 54 37.5**	**-7.7**
	2.0nm,0.7s,mb4.0								
VNA2	**Neumayer--Watz**	**44.98**	**203**	*e*		**P**		**00 54 55.2**	**+0.8**
	baz=58,slow=5.5								
VNA2				*e*				00 55 00.3	
VNA3	**Neumayer Olymp**	**45.78**	**203**	*e*		**P**		**00 55 01.1**	**+0.4**
VNA3				*e*				00 55 06.3	
QSPA	**South Pole Qui**	**52.82**	**180**	*eP*		**P**		**00 55 54.9**	**+0.3**
	13nm,1.2s,mb4.7								
VNDA	**Vanda**	**58.08**	**166**	LR		LR		01 18 49.9	
	comp=Z,222nm,20.1s,MS4.3,baz=278,slow=33								
DBIC	**Dimbokro**	**68.14**	**297**	P		**P**		**00 57 40.6**	**+1.4**
	2.8nm,0.8s,mb4.3,baz=145,slow=7.1,SNR=3.8								
TORD	**Torodi Ar. Bea**	**68.43**	**307**	P		**P**		**00 57 42.5**	**+1.5**
	2.5nm,1.1s,mb4.2,baz=115,slow=4.7,SNR=9.3								
ASAR	**Alice Springs**	**70.50**	**105**	P		**P**		**00 57 54.1**	**+0.2**
	1.6nm,0.6s,mb4.1,baz=235,slow=5.8,SNR=15								
STKA	**Stephens Creek**	**71.78**	**116**	P		**P**		**00 57 58.9**	**-2.7**
	3.3nm,0.9s,mb4.3,baz=276,slow=6.3,SNR=3.7								
STKA				LR		LR		01 21 44.0	
	comp=Z,117nm,19.4s,MS4.2,baz=14,slow=29								
STKA	**Stephens Creek**	**71.78**	**116**	*eP*		**P**		**00 58 01.4**	**-0.2**
WRA	**Warramunga Arr**	**72.89**	**102**	P		**P**		**00 58 08.5**	**+0.3**
	4.6nm,1.0s,mb4.4,baz=232,slow=5.1,SNR=16								
WRAB	**Tennant Creek**	**72.91**	**102**	*eP*		**P**		**00 58 08.9**	**+0.5**
	6.1nm,0.6s,mb4.7								
BRTR	**Keskin Array B**	**78.40**	**346**	P		**P**		**00 58 40.0**	**+0.3**
	0.2nm,0.4s,mb3.4,baz=170,slow=8.8,SNR=2.8								
CTA	**Charters Tower**	**81.95**	**109**	LR		LR		01 28 52.6	
	comp=Z,87nm,21.7s,MS4.1,baz=49,slow=31								
AAK	**Ala-Archa**	**82.41**	**17**	*eP*		**P**		**00 59 00.3**	**-1.0**
	14nm,1.5s,mb4.7								
MDT	**Midelt**	**87.07**	**316**	LR		LR		01 39 03.2	
	comp=Z,82nm,19.4s,MS4.2,baz=241,slow=36								
MKAR	**Makanchi Array**	**88.31**	**21**	P		**P**		**00 59 30.9**	**+0.1**
	0.1nm,0.3s,mb3.5,baz=211,slow=6.9,SNR=3.9								
CART	**Cartagena**	**88.80**	**321**	*eP*		**P**		**00 59 33.7**	**+0.6**
ZRNK	**Zerenda**	**91.28**	**11**	*eP*		**P**		**00 59 44.4**	**-0.3**
	0.5nm,0.5s,mb4.1								
BRVK	**Borovoye**	**91.58**	**11**	*eP*		**P**		**00 59 45.6**	**-0.5**
	0.7nm,0.4s,mb4.3								
CHKZ	**Chkalovo**	**92.22**	**11**	*eP*		**P**		**00 59 49.1**	**0.0**
	0.6nm,0.4s,mb4.3								
ZAL	**Zalesovo**	**95.46**	**19**	P		**P**		**01 00 02.9**	**-1.1**
	1.1nm,0.4s,mb4.7,baz=206,slow=6.7,SNR=5.1								
INK	**Inuvik**	**148.90**	**3**	PKPbc		PKPbc		01 06 25.5	-1.5
	2.7nm,0.8s,baz=49,slow=4.1,SNR=5.7								
CCM	**Cathedral Cave**	**150.39**	**283**	*e*PKP		PKPdf		01 06 30.1	+4.7
ILAR	**Eielson Array**	**150.54**	**16**	PKPbc		PKPbc		01 06 29.9	-1.2
	2.7nm,0.9s,baz=316,slow=3.2,SNR=23								

LDG ***30*** *00:53:04.9±0.0, 4300N×020E, h11km, Md1.8/1, Ml1.7/5, Error ellipse: s-maj=0.8km s-min=0.5km az=161.0*
STR ***30*** *00:53:04.9±0.1, 4299N×022E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 30 00:53:05.4±0.3, 4300N×020E, h10km±2km, mbLg1.1/5, Error ellipse: s-maj=1.9km s-min=1.8km az=127.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.10**	**299**	Pg	Pg	00 53 07.9	-0.1
LABF				Sg	Sg	00 53 10.0	+0.1
LABF	**Labassere**	**0.10**	**299**	Pg	Pg	00 53 07.9	-0.1
LABF				Lg		00 53 10.0	
EPF	**Esparros**	**0.11**	**72**	*e*Pg	Pg	00 53 08.0	-0.1
EPF				*e*Sg	Sg	00 53 09.8	-0.2
	30nm,0.2s						
EPF	**Esparros**	**0.11**	**72**	Pg	Pg	00 53 08.0	-0.1
EPF				Lg		00 53 09.8	
	15nm,0.2s						
VIEF	**Viey**	**0.17**	**229**	Pg	Pg	00 53 09.0	-0.1
VIEF				Sg	Sg	00 53 11.9	+0.3
VIEF	**Viey**	**0.17**	**229**	Pg	Pg	00 53 09.0	0.0
VIEF				Lg		00 53 11.7	
RESF	**Ens**	**0.21**	**151**	Pg	Pg	00 53 09.8	0.0
RESF				Lg		00 53 13.3	
EBIE	**Bielsa**	**0.31**	**188**	Pg	Pg	00 53 11.6	0.0
	3.1nm,0.1s,SNR=14						
EBIE				Lg		00 53 15.8	
	2.7nm,0.1s,SNR=17						
MELF	**Melles**	**0.43**	**107**	Pg	Pg	00 53 12.9	-0.9
MELF				Lg		00 53 19.1	
ETSF	**Etsaut**	**0.56**	**260**	*e*Pg	Pg	00 53 16.0	-0.3
ETSF				*e*Sg	Sg	00 53 23.3	-0.5
	4.6nm,0.2s						
ETSF	**Etsaut**	**0.56**	**260**	Pg	Pg	00 53 16.0	-0.3
ETSF				Lg		00 53 23.3	
	2.3nm,0.2s						
SALF	**Salau**	**0.77**	**108**	Pg	Pg	00 53 19.5	-0.7
SALF				Sg	Sg	00 53 29.3	-0.8
SALF	**Salau**	**0.77**	**108**	Pg	Pg	00 53 19.7	-0.5
SALF				Lg		00 53 29.3	
CSOR	**Sort**	**0.93**	**132**	Pg	Pg	00 53 23.6	+0.4
CSOR				Lg		00 53 35.6	
SJPF	**Ste Jean**	**1.05**	**277**	*e*Sg	Sg	00 53 38.4	-0.8
	0.8nm,0.2s						
SJPF	**Ste Jean**	**1.05**	**277**	Lg		00 53 38.4	
	0.4nm,0.2s						
CORG	**Organya**	**1.13**	**132**	Pg	Pg	00 53 26.9	-0.1
CORG				Lg		00 53 42.0	
CAVN	**Les Avellanes**	**1.19**	**160**	Pg	Pg	00 53 28.3	+0.1
CAVN				Lg		00 53 43.5	
	1.8nm,0.2s						
CLLI	**Llivia**	**1.41**	**111**	Pg	Pg	00 53 32.1	-0.3
MTLF	**Montolieu**	**1.52**	**76**	*e*Pg	Pg	00 53 33.3	-1.2
MTLF				*e*Sg	Sg	00 53 53.1	-1.1
	3.5nm,0.3s						
MTLF	**Montolieu**	**1.52**	**76**	Pg	Pg	00 53 33.3	-1.2
MTLF				Lg		00 53 53.1	
	1.8nm,0.3s						
LFF	**La Frestale**	**1.98**	**11**	*e*Pg	Pg	00 53 41.7	-1.7
LFF				*e*Sg	Sg	00 54 07.5	-1.6
	1.2nm,0.2s						
LFF	**La Frestale**	**1.98**	**11**	Pg	Pg	00 53 41.7	-1.7
LFF				Lg		00 54 07.5	
	0.6nm,0.2s						
CAF	**Calviac**	**2.35**	**34**	*e*Sg	Sg	00 54 19.0	-2.0
	0.5nm,0.2s						
CAF	**Calviac**	**2.35**	**34**	Lg		00 54 19.0	
	0.2nm,0.2s						
RJF	**Les Rejaudoux**	**2.50**	**22**	*e*Pg	Pg	00 53 51.0	-2.2
RJF				*e*Sg	Sg	00 54 23.3	-2.2
	0.5nm,0.2s						
RJF	**Les Rejaudoux**	**2.50**	**22**	Pg	Pg	00 53 51.0	-2.2
RJF				Lg		00 54 23.3	
	0.2nm,0.2s						

IDC ***30*** *02:02:01.3±0.6, 1604S×173.14W, h0km, mb4.7/13, mb1 4.9/13, mb1mx4.7/20, mbtmp4.7/13, MS4.6/14, Ms1 4.6/14, ms1mx4.3/30, Error ellipse: s-maj=26.0km s-min=14.8km az=132.0*
ISCJB ***30*** *02:02:05.5±0.2, 1606S±006×173.22W±006, h34km, mb4.8/57, MS4.6/26, Error ellipse: s-maj=10.9km s-min=4.8km az=92.0*
MOS ***30*** *02:02:07.2±1.8, 1588S×173.18W, h33km, mb5.0/24, MS4.6/5, Error ellipse: s-maj=14.7km s-min=8.6km az=49.0*
NEIC ***30*** *02:02:07.3±0.2, 1613S×173.11W, mb4.8/41, MS4.7/5, Error ellipse: s-maj=11.6km s-min=4.6km az=142.0*
BJI ***30*** *02:02:07.1, 1610S×17356W, h19km, mB5.3, mb5.0, Ms5.0, Msz4.7*
SZGRF ***30*** *02:02:08.9, 1585S×173.17W, h31km, Tonga Islands*
ISC 30 02:02:07.6±0.2, 1610S±006×17315W±006, h36km, h36km±1.2km; pP-P, n297, σ0.84/155, mb4.8/57, MS4.6/26, 30C-15D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.55**	**32**	Pn	**Pn**	**02 02 38.2**	**-8.1**
	44nm,0.3s,baz=22,slow=2.5,SNR=18						
AFI				Sn	**Sn**	**02 03 07.2**	**-8.9**
	424nm,0.3s,baz=212,slow=23,SNR=12						
AFI	**Afiamalu**	**2.55**	**32**	*e*Pn	**Pn**	**02 02 38.2**	**-8.2**
AFI				*e*Sn	**Sn**	**02 03 11.3**	**-4.8**
RAR	**Rarotonga**	**13.66**	**114**	Pn	**Pn**	**02 05 07.9**	**-11**
	5.7nm,0.3s,baz=262,slow=11,SNR=7.1						
RAR				LR	LR	02 08 54.5	
	comp=Z,4μm,18.9s,baz=286,slow=30						
RAO	**Raoul Island**	**13.81**	**198**	LR	LR	02 09 54.6	
	comp=Z,2μm,19.4s,baz=356,slow=34						
DZM	**Mont Dzumac**	**20.17**	**250**	P	**P**	**02 06 38.5**	**-0.4**
	7.6nm,0.7s,baz=141,slow=21,SNR=6.9						
DZM				LR	LR	02 12 50.7	
	comp=Z,2μm,21.7s,MS4.3,baz=50,slow=32						
PPT	**Papeete**	**22.61**	**97**	*e*LQ		02 11 16.8	
	3μm,27.0s						
PPT				*e*LR	LR	02 12 19.4	
	3μm,23.2s,baz=265						
PPT	**Papeete**	**22.61**	**97**	LR	LR	02 13 36.4	
	comp=Z,1μm,19.3s,MS4.4,baz=294,slow=31						
TBI	**Tubuai**	**23.42**	**112**	*e*LQ		02 11 42.4	
	2μm,28.2s						
TBI				*e*LR	LR	02 12 36.9	
	4μm,25.8s,baz=286						
URZ	**Urewera**	**23.69**	**199**	P	**P**	**02 07 15.8**	**-0.1**
	18nm,0.4s,mb4.9,baz=278,slow=4.0,SNR=18						
PATZ	**Paeroa**	**24.08**	**201**	PN	**P**	**02 07 20.7**	**+1.2**
HNR	**Honiara**	**27.04**	**281**	LR	LR	02 17 21.0	
	comp=Z,4μm,18.6s,MS5.0,baz=177,slow=34						
QRZ	**Quartz Range**	**27.59**	**204**	PN	**P**	**02 07 52.2**	**+0.9**
LTZ	**Lake Taylor**	**29.38**	**202**	*e*PN	**P**	**02 08 07.6**	**+0.4**
RPZ	**Rata Peaks**	**30.63**	**203**	P	**P**	**02 08 18.4**	**+0.1**
	6.0nm,0.5s,mb4.7,baz=135,slow=2.9,SNR=5.9						
TAOE	**Nuku Hiva Isla**	**32.98**	**81**	*e*LR	LR	02 17 02.9	
	4μm,25.0s						
ARMA	**Armidale**	**35.20**	**240**	*eP*	**P**	**02 08 58.0**	**-0.1**
RKT	**Rikitea**	**36.55**	**107**	*e*LQ		02 17 22.8	
	475nm,27.2s						
RKT				*e*LR	LR	02 18 37.6	
	2μm,26.5s,baz=275						
CNB	**Canberra Magne**	**38.52**	**233**	*eP*	**P**	**02 09 26.0**	**-0.4**
	26nm,0.7s,mb5.1						
CTA	**Charters Tower**	**38.73**	**258**	*eP*	**P**	**02 09 29.7**	**+1.6**
	9.6nm,1.1s,mb4.4						
CTA	**Charters Tower**	**38.73**	**258**	*eP*	**P**	**02 09 29.7**	**+1.6**
CTA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CTAO	**Charters Tower**	**38.73**	**258**	*eP*	**P**	**02 09 28.5**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.2						
CTAO	**Charters Tower**	**38.73**	**258**	*eP*	**P**	**02 09 28.5**	**+0.4**
	comp=Z,2.2nm,0.4s,mb4.2						
PMG	**Port Moresby**	**39.23**	**275**	P	**P**	**02 09 30.7**	**-1.7**
	comp=Z,15nm,0.8s,mb4.8,baz=266,slow=3.1,SNR=3.5						
TOO	**Toolangi**	**42.22**	**231**	*eP*	**P**	**02 09 57.9**	**+0.9**
	comp=Z,14nm,0.6s,mb4.8						
TOO	**Toolangi**	**42.22**	**231**	*eP*	**P**	**02 09 57.9**	**+0.9**
TOO				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**43.90**	**241**	*eP*	**P**	**02 10 07.8**	**-2.8**
	comp=Z,13nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**43.90**	**241**	P	**P**	**02 10 08.4**	**-2.2**
	comp=Z,13nm,0.5s,mb4.9,baz=90,slow=9.7,SNR=29						
STKA				LR	LR	02 27 02.1	
	comp=Z,547nm,18.9s,MS4.5,baz=43,slow=34						
WB2	**Warramunga Arr**	**49.91**	**257**	*i*P	**P**	**02 10 57.1**	**-0.4**
WRAB	**Tennant Creek**	**49.91**	**257**	*eP*	**P**	**02 10 57.2**	**-0.4**
WRA	**Warramunga Arr**	**49.92**	**257**	P	**P**	**02 10 57.1**	**-0.6**
	comp=Z,4.4nm,0.5s,mb4.7,baz=91,slow=7.0,SNR=67						
AS31	**Alice Springs**	**50.13**	**252**	*eP*	**P**	**02 10 58.4**	**-0.8**
ASAR	**Alice Springs**	**50.13**	**252**	P	**P**	**02 10 58.5**	**-0.7**
	comp=Z,23nm,0.5s,mb5.5,baz=88,slow=8.1,SNR=296						
ASPA	**Alice Springs**	**50.13**	**252**	*eP*	**P**	**02 10 58.4**	**-0.8**
KAKA	**Kakadu**	**52.69**	**266**	*eP*	**P**	**02 11 18.8**	**+0.5**
	comp=Z,23nm,0.6s,mb5.3						
FORT	**Forrest**	**55.32**	**244**	*eP*	**P**	**02 11 36.5**	**-1.1**
	comp=Z,34nm,0.6s,mb5.5						
FITZ	**Fitzroy Crossi**	**58.31**	**258**	*eP*	**P**	**02 11 59.1**	**+0.4**
	comp=Z,5.1nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**58.31**	**258**	LR	LR	02 35 59.3	
	comp=Z,954nm,19.6s,MS4.9,baz=26,slow=35						
CBIJ	**Chichi jima**	**61.01**	**314**	LR	LR	02 34 08.4	
	comp=Z,680nm,19.6s,MS4.8,baz=111,slow=32						
SBA	**Scott Base**	**62.58**	**185**	*eP*	**P**	**02 12 29.1**	**+1.2**
SBA				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.9						
SBA	**Scott Base**	**62.58**	**185**	*eP*	**P**	**02 12 29.1**	**+1.2**
	comp=Z,9.0nm,0.9s,mb4.9						
VNDA	**Vanda**	**62.71**	**186**	P	**P**	**02 12 27.9**	**-0.8**
	comp=Z,3.5nm,0.9s,mb4.5,baz=3.3,slow=6.8,SNR=12						
VNDA				LR	LR	02 33 31.3	
	comp=Z,222nm,18.4s,MS4.4,baz=18,slow=30						
VNDA	**Vanda**	**62.71**	**186**	P	**P**	**02 12 27.9**	**-0.8**
VNDA				LR	LR	02 33 31.2	
KLBR	**Kellerberrin**	**64.13**	**242**	*i*P	**P**	**02 12 38.0**	**-0.2**
	comp=Z,24nm,0.6s,mb5.4						
NWAO	**Narrogin (SRO)**	**64.49**	**241**	LR	LR	02 41 02.2	
	comp=Z,793nm,18.6s,MS4.9,baz=19,slow=36						
MUN	**Mundaring**	**65.42**	**242**	*eP*	**P**	**02 12 46.5**	**0.0**
MJAR	**Matsushiro Arr**	**69.62**	**320**	LR	LR	02 37 57.4	
	comp=Z,432nm,21.5s,MS4.7,baz=140,slow=31						
JOW	**Kunigami**	**71.09**	**306**	LR	LR	02 38 43.0	
	comp=Z,539nm,21.2s,MS4.8,baz=126,slow=31						
ASAJ	**Asahikawa**	**72.25**	**328**	LR	LR	02 44 10.3	
	comp=Z,267nm,19.5s,MS4.5,baz=354,slow=35						
PET	**Petropavlovsk**	**73.01**	**343**	*eP*	**P**	**02 13 32.5**	**-1.1**
PET				*eS*	S	02 22 59.0	+1.0
PET				*ePS*		02 23 38.1	
PET				pmax	pmax		
	comp=Z,100nm,17.2s						
PET				pmax	pmax		
	comp=Z,100nm,13.4s						
PET				smax			
	comp=E,100nm,14.4s						
PET				smax			
	comp=N,200nm,12.4s						
PET				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.5						
CMB	**Columbia Colle**	**73.12**	**41**	*eP*	**P**	**02 13 33.7**	**-0.5**
CMB				*e*PP	pP	02 13 45.1	-0.3
CMB				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
CMB	**Columbia Colle**	**73.12**	**41**	*eP*	**P**	**02 13 33.7**	**-0.6**
	comp=Z,7.1nm,0.9s,mb4.6						
CMB				*ep*P	pP	02 13 45.1	-0.3
WDC	**Whiskeytown Da**	**73.37**	**38**	*eP*	**P**	**02 13 35.7**	**0.0**
WDC				*e*PP	pP	02 13 47.9	+1.0
WDC				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.8						
WDC	**Whiskeytown Da**	**73.37**	**38**	*eP*	**P**	**02 13 35.7**	**0.0**
	comp=Z,17nm,1.3s,mb4.8						
WDC				*ep*P	pP	02 13 47.9	+1.0
MTUM	**Tungsten Hills**	**73.89**	**43**	*eP*	**P**	**02 13 38.8**	**0.0**
DAC	**Darwin (Calif)**	**73.92**	**44**	*eP*	**P**	**02 13 39.4**	**+0.5**
DAC				pmax	pmax		
	comp=Z,27nm,1.8s,mb4.9						
DAC	**Darwin (Calif)**	**73.92**	**44**	*eP*	**P**	**02 13 39.4**	**+0.5**
	comp=Z,27nm,1.8s,mb4.9						
QSPA	**South Pole Qui**	**73.95**	**180**	*eP*	**P**	**02 13 39.0**	**-0.1**
	comp=Z,25nm,1.2s,mb5.0						
WAKR	**Walker**	**74.00**	**41**	*eP*	**P**	**02 13 39.7**	**+0.3**
WAKR				*ep*P	pP	02 13 51.1	+0.4
YBH	**Yreka Blue Hor**	**74.00**	**37**	*eP*	**P**	**02 13 39.6**	**+0.2**
YBH				*e*PP	pP	02 13 50.7	+0.1
YBH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
YBH	**Yreka Blue Hor**	**74.00**	**37**	*eP*	**P**	**02 13 39.5**	**+0.1**
	comp=Z,6.7nm,0.8s,mb4.6						
YBH				*ep*P	pP	02 13 50.7	+0.1
HUMO	**Hull Mountain**	**74.42**	**36**	*eP*	**P**	**02 13 41.6**	**-0.3**
HUMO				*ep*P	pP	02 13 53.2	+0.1
NVAR	**Mina Array Bea**	**74.68**	**42**	P	**P**	**02 13 43.1**	**-0.2**
	comp=Z,4.7nm,0.6s,mb4.6,baz=231,slow=11,SNR=40						
PAHR	**Pah Rah Range**	**74.75**	**40**	*eP*	**P**	**02 13 44.5**	**+0.7**
	comp=Z,12nm,1.2s,mb4.7						
MNV	**Mina**	**74.78**	**42**	*eP*	**P**	**02 13 43.6**	**-0.3**
MNV				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.8						
MNV	**Mina**	**74.78**	**42**	*eP*	**P**	**02 13 43.6**	**-0.3**
	comp=Z,18nm,1.4s,mb4.8						
TPH	**Tonopah**	**75.18**	**43**	*eP*	**P**	**02 13 46.0**	**-0.2**
TPH				*e*	pP	02 13 59.4	+2.0
TPH				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.9						
TPH	**Tonopah**	**75.18**	**43**	*eP*	**P**	**02 13 46.0**	**-0.2**
	comp=Z,19nm,1.1s,mb4.9						
TPH				*ePcP*	PcP	02 13 59.4	-0.2
TPNV	**Topopah Spring**	**75.19**	**44**	*eP*	**P**	**02 13 45.6**	**-0.7**
TPNV				*e*PP	pP	02 13 56.9	-0.6
TPNV				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
TPNV	**Topopah Spring**	**75.19**	**44**	*eP*	**P**	**02 13 45.6**	**-0.7**
	comp=Z,10nm,1.1s,mb4.7						
TPNV				*ep*P	pP	02 13 56.9	-0.6
MOD	**Modoc**	**75.52**	**38**	*eP*	**P**	**02 13 47.9**	**-0.3**
MOD				*ep*P	pP	02 13 59.5	+0.1
SHPR	**Sheep Range**	**75.68**	**45**	*eP*	**P**	**02 13 48.8**	**-0.2**
SHPR				*ep*P	pP	02 14 00.0	-0.3
TUC	**Tucson**	**76.64**	**50**	*eP*	**P**	**02 13 54.4**	**-0.2**
TUC				*e*PP	pP	02 14 07.0	+1.2
TUC				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
TUC	**Tucson**	**76.64**	**50**	*eP*	**P**	**02 13 54.4**	**-0.2**
	comp=Z,8.4nm,1.1s,mb4.6						
TUC				*ep*P	pP	02 14 07.0	+1.2
WVOR	**Wild Horse Val**	**76.83**	**38**	*eP*	**P**	**02 13 54.7**	**-0.9**
WVOR				*e*PP	pP	02 14 07.1	+0.2
WVOR				*e*SP	sP	02 14 10.4	-0.6
WVOR				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
WVOR	**Wild Horse Val**	**76.83**	**38**	*eP*	**P**	**02 13 54.7**	**-0.9**
	comp=Z,11nm,1.1s,mb4.7						
WVOR				*ep*P	pP	02 14 07.0	+0.2
WVOR				sP	sP	02 14 10.4	-0.7
OCWA	**Octopus Mounta**	**77.14**	**31**	*eP*	**P**	**02 13 57.5**	**+0.1**
	comp=Z,36nm,1.3s,mb5.1						
OCWA				*ep*P	pP	02 14 07.3	-1.3
ARUT	**Antelope Range**	**77.52**	**44**	*eP*	**P**	**02 13 59.1**	**-0.4**
GNW	**Green Mountain**	**77.71**	**32**	*eP*	**P**	**02 14 01.2**	**+0.7**
GNW				*ep*P	pP	02 14 10.2	-1.6
LON	**Longmire**	**77.71**	**33**	*eP*	**P**	**02 14 00.7**	**+0.2**
LON				*e*PP	pP	02 14 11.0	-0.8
ELK	**Elko**	**77.94**	**41**	*eP*	**P**	**02 14 01.3**	**-0.5**
PGC	**Sidney**	**78.11**	**31**	*eP*	**P**	**02 14 03.0**	**+0.3**
SVW2	**Sparrevohn**	**78.20**	**9**	*eP*	**P**	**02 14 03.3**	**0.0**
SVW2				*e*PP	PP	02 16 59.9	-0.4
SSE	**Sheshan**	**78.57**	**307**	*eP*	**P**	**02 14 07.3**	**+2.0**
SSE				PcP	PcP	02 14 15.3	+1.0
SSE				XP	sP	02 14 20.5	-0.3
SSE				PP	PP	02 17 02.5	-0.7
SSE				S	S	02 24 02.5	+3.2
SSE				XS	sS	02 24 19.3	+1.3
SSE				SCS	ScS	02 24 25.3	+1.8
SSE				AMB	AMB		
	comp=Z,23nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,25nm,4.4s						
SSE				LR	LR		
	comp=N,81nm,28.6s,MS4.3						
SSE				LR	LR		
	comp=E,169nm,28.6s,MS4.3						
SSE				LR	LR		
	comp=Z,232nm,20.8s						
SSE	**Sheshan**	**78.57**	**307**	*eP*	**P**	**02 14 07.2**	**+1.9**
	comp=Z,23nm,0.7s,mb5.2						
SSE				PcP	PcP	02 14 15.3	+1.0
SSE				pP	pP	02 14 16.7	+0.1
SSE				sP	sP	02 14 20.4	-0.4
SSE				PP	PP	02 17 02.4	-0.8
SSE				S	S	02 24 02.6	+3.3
SSE				sS	sS	02 24 19.3	+1.3
SSE				ScS	ScS	02 24 25.3	+1.8
SSE				LR	LR		
	comp=Z,230nm,20.8s,MS4.5						
HAWA	**Hanford**	**78.71**	**35**	*eP*	**P**	**02 14 06.1**	**0.0**
HAWA				PcP	PcP	02 14 13.2	-1.6
HAWA				*ep*P	pP	02 14 16.9	-0.5
MVU	**Marysvale**	**78.72**	**44**	*eP*	**P**	**02 14 17.9**	**+0.4**
MSU	**Marysvale**	**78.75**	**44**	*eP*	**P**	**02 14 06.7**	**+0.4**
BMO	**Blue Mountains**	**79.03**	**37**	*eP*	**P**	**02 14 07.1**	**-0.7**
DUG	**Dugway**	**79.20**	**43**	*eP*	**P**	**02 14 08.8**	**0.0**
GAMB	**Gambell**	**79.62**	**1**	*eP*	**P**	**02 14 11.8**	**+0.8**
MDJ	**Mudanjiang**	**79.72**	**322**	P	**P**	**02 14 14.5**	**+2.9**
MDJ				AP	pP	02 14 24.0	+1.1
MDJ				XP	sP	02 14 27.8	+0.7
MDJ				PP	PP	02 17 16.3	+3.5
MDJ				S	S	02 24 17.0	+5.5
MDJ				XS	sS	02 24 33.3	+3.0
MDJ				SCS	ScS	02 24 36.8	+3.9
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,87nm,4.0s						
MDJ				LR	LR		
	comp=N,195nm,20.7s,MS4.6						
MDJ				LR	LR		
	comp=E,211nm,20.7s,MS4.6						
MDJ				LR	LR		
	comp=Z,374nm,21.3s,MS4.7						
PMR	**Palmer**	**79.75**	**11**	*eP*	**P**	**02 14 10.8**	**-1.0**
PMR				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
PMR				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.2						
PMR	**Palmer**	**79.75**	**11**	*eP*	**P**	**02 14 10.8**	**-1

MOOW	**Moose Ponds**	**82.36**	**40**	*e*P		**P**	**02 14 26.1**	**+0.4**	
	comp=Z,12nm,1.5s,mb4.6								
LOHW	**Long Hollow**	**82.38**	**41**	*e*P		**P**	**02 14 25.4**	**-0.4**	
	comp=Z,11nm,1.3s,mb4.6								
LRM	**Limekiln Ridge**	**82.41**	**38**	*e*P		**P**	**02 14 26.2**	**+0.3**	
QLMT	**Earthquake Lak**	**82.50**	**39**	*e*P		**P**	**02 14 26.6**	**+0.2**	
CHMT	**Chamberlain Mo**	**82.53**	**37**	*e*P		**P**	**02 14 26.3**	**-0.2**	
FLWY	**Flagg Ranch**	**82.56**	**40**	*e*P		**P**	**02 14 26.8**	**+0.1**	
BW06	**Boulder Array**	**82.62**	**42**	*e*P		**P**	**02 14 26.1**	**-0.9**	
	comp=Z,6.1nm,0.9s,mb4.6								
SMCO	**Snowmass**	**82.62**	**46**	*e*P		**P**	**02 14 27.0**	**0.0**	
	comp=Z,10nm,0.8s,mb4.9								
SMCO				*e*pP		pP	02 14 36.6	-1.8	
PDAR	**Pinedale Array**	**82.62**	**42**	P		**P**	**02 14 25.9**	**-1.1**	
	comp=Z,4.4nm,0.8s,mb4.6,baz=204,slow=2.8,SNR=36								
BOZ	**Bozeman (W)**	**82.81**	**38**	*e*P		**P**	**02 14 27.5**	**-0.5**	
BOZ				pmax		pmax			
	comp=Z,10.0nm,1.1s,mb4.8								
BOZ	**Bozeman (W)**	**82.81**	**38**	*e*P		**P**	**02 14 27.5**	**-0.5**	
	comp=Z,9.7nm,1.1s,mb4.8								
COLA	**College**	**83.00**	**11**	*e*P		**P**	**02 14 28.3**	**-0.7**	
COLA				*e*			02 14 33.7		
COLA				pmax		pmax			
	comp=Z,15nm,0.8s,mb5.1								
COLA	**College**	**83.00**	**11**	*e*P		**P**	**02 14 28.3**	**-0.6**	
	comp=Z,15nm,0.8s,mb5.1								
COLA				*e*PcP		PcP	02 14 33.7	+0.1	
ILAR	**Eielson Array**	**83.08**	**11**	P		**P**	**02 14 28.5**	**-0.9**	
	comp=Z,4.0nm,0.6s,mb4.6,baz=229,slow=6.3,SNR=80								
HRY	**Holter Researc**	**83.25**	**37**	*e*P		**P**	**02 14 30.6**	**+0.3**	
RWWY	**Rawlins**	**83.63**	**43**	*e*P		**P**	**02 14 31.6**	**-0.6**	
ISCO	**Idaho Springs**	**83.84**	**46**	*e*P		**P**	**02 14 33.9**	**+0.6**	
DAWY	**Dawson**	**84.03**	**14**	*e*P		**P**	**02 14 34.7**	**+0.4**	
GCMT	**Greycliff**	**84.06**	**39**	*e*P		**P**	**02 14 35.1**	**+0.7**	
AMTX	**Amarillo**	**84.59**	**52**	*e*P		**P**	**02 14 36.5**	**-0.6**	
EGMT	**Eagleton**	**85.14**	**37**	*e*P		**P**	**02 14 39.8**	**0.0**	
	comp=Z,12nm,1.3s,mb4.9								
BILL	**Bilibino**	**85.23**	**352**	*ce*P		**P**	**02 14 40.6**	**+0.3**	
BILL				*e*SS		SS	02 30 49.7	+7.4	
BILL				pmax		pmax			
	comp=Z,11nm,1.3s,mb4.8								
BILL	**Bilibino**	**85.23**	**352**	*e*P		**P**	**02 14 39.9**	**-0.4**	
	comp=Z,20nm,1.1s,mb5.2								
BILL				*e*pP		pP	02 14 50.1	-1.6	
BJI	**Beijing**	**86.12**	**313**	P		**P**	**02 14 47.3**	**+2.6**	
BJI				AMB		AMB			
	comp=Z,9.0nm,1.1s,mb4.9								
BJI				LR		LR			
	comp=N,163nm,24.9s,MS4.4								
BJI				LR		LR			
	comp=E,90nm,22.1s,MS4.4								
BJI				LR		LR			
	comp=Z,252nm,25.4s,MS4.5								
BJI	**Beijing**	**86.12**	**313**	P		**P**	**02 14 47.3**	**+2.6**	
	comp=Z,9.0nm,1.1s,mb4.9								
BJI				S			02 24 31.8		
BJI				LR		LR			
	comp=Z,250nm,25.4s,MS4.5								
RSSD	**Black Hills**	**86.81**	**42**	*e*P		**P**	**02 14 47.2**	**-0.9**	
MAW	**Mawson**	**87.21**	**199**	*e*P		**P**	**02 14 50.6**	**+0.5**	
	comp=Z,3.8nm,0.9s,mb4.6								
MAW	**Mawson**	**87.21**	**199**	P		**P**	**02 14 50.7**	**+0.6**	
	comp=Z,4.7nm,0.8s,mb4.8,baz=139,slow=6.2,SNR=4.8								
MAW	**Mawson**	**87.21**	**199**	*e*P		**P**	**02 14 50.6**	**+0.5**	
MAW				pmax		pmax			
	comp=Z,4.0nm,0.9s								
INK	**Inuvik**	**88.88**	**14**	*e*P		**P**	**02 14 58.0**	**0.0**	
HHC	**Hu-ho-hao-te**	**89.67**	**313**	*e*P		**P**	**02 15 04.0**	**+2.3**	
HHC				AP		pP	02 15 14.5	+1.3	
HHC				XP		sP	02 15 18.5	+1.2	
HHC				PP		PP	02 18 38.5	+4.6	
HHC				SKS			02 25 31.0		
HHC				S			02 25 52.8		
HHC				XS		sS	02 26 09.5	0.0	
HHC				PS		PS	02 27 06.0	+5.7	
HHC				SS		SS	02 31 52.3	+5.0	
HHC				AMB		AMB			
	comp=Z,12nm,1.1s,mb5.1								
HHC				AMB		AMB			
	comp=Z,87nm,4.4s								
HHC				LR		LR			
	comp=N,157nm,22.4s,MS4.8								
HHC				LR		LR			
	comp=E,380nm,22.9s,MS4.8								
HHC				LR		LR			
	comp=Z,284nm,22.0s,MS4.7								
YKA	**Yellowknife Ar**	**90.64**	**23**	P		**P**	**02 15 04.6**	**-1.6**	
	comp=Z,0.5nm,0.6s,mb4.0,baz=238,slow=4.8,SNR=4.1								
YKA	**Yellowknife Ar**	**90.64**	**23**	P		**P**	**02 15 04.6**	**-1.6**	
JTS	**JuntasAbangare**	**91.10**	**80**	*e*P		**P**	**02 15 08.0**	**-0.4**	
JTS	**JuntasAbangare**	**91.10**	**80**	*e*P		**P**	**02 15 09.6**	**+1.2**	
KMI	**Kunming**	**91.54**	**296**	P		**P**	**02 15 14.0**	**+3.6**	
KMI				AP		pP	02 15 24.8	+2.9	
KMI				XP		sP	02 15 28.8	+2.8	
KMI				PP		PP	02 18 55.0	+6.3	
KMI				PPP			02 20 56.5		
KMI				SKS			02 25 42.3		
KMI				S			02 26 09.0		
KMI				XS		sS	02 26 27.0	+0.3	
KMI				AMB		AMB			
	comp=Z,7.0nm,1.1s,mb4.9								
KMI				AMB		AMB			
	comp=Z,83nm,6.4s								
KMI				LR		LR			
	comp=N,137nm,19.9s,MS4.7								
KMI				LR		LR			
	comp=E,249nm,17.7s,MS4.7								
KMI				LR		LR			
	comp=Z,276nm,20.7s,MS4.7								
KMI	**Kunming**	**91.54**	**296**	P		**P**	**02 15 13.9**	**+3.5**	
KMI				*PP		pP	02 15 24.8	+2.9	
KMI				*SP		sP	02 15 28.8	+2.8	
KMI							02 18 55.0		
KMI				PPP			02 20 56.5		
KMI							02 25 42.2		
KMI				S			02 26 09.0		
KMI				PS		PS	02 27 27.0	+6.0	
KMI				SS		SS	02 32 20.4	+6.1	
KMI				SSS			02 35 58.0		
KMI				pmax		pmax			
	comp=Z,7.0nm,1.1s,mb4.9								
KMI				MLR		MLR			
	comp=Z,280nm,20.7s,MS4.7								
KMI	**Kunming**	**91.54**	**296**	P		**P**	**02 15 13.9**	**+3.5**	
	comp=Z,7.0nm,1.1s,mb4.9								
KMI				pP		pP	02 15 24.8	+2.9	
KMI				sP		sP	02 15 28.8	+2.8	
KMI				PP		PP	02 18 55.0	+6.3	
KMI				PPP			02 20 56.5		
KMI				SKS			02 25 42.2		
KMI				S			02 26 09.0		
KMI				sS		sS	02 26 26.9	+0.2	
KMI				PS		PS	02 27 27.0	+6.0	
KMI				SS		SS	02 32 20.4	+6.1	
KMI				SSS			02 35 58.0		
KMI				LR		LR			
	comp=Z,280nm,20.7s,MS4.7								
ECSD	**EROS,Sioux Fal**	**91.58**	**45**	*e*P		**P**	**02 15 09.7**	**-0.9**	
SYO	**Syowa Base**	**91.97**	**191**	*e*P		**P**	**02 15 11.6**	**-0.8**	
VNA3	**Neumayer Olymp**	**92.15**	**175**	*e*P		**P**	**02 15 12.8**	**-0.4**	
VNA3				*e*			02 15 13.6		
VNA3				*e*		pP	02 15 23.8	-0.9	
VNA3				*e*			02 15 27.4		
VNA3				*e*			02 15 31.4		
VNA3				*e*			02 15 46.5		
SNAA	**Sanae**	**92.20**	**177**	⇓*i*P		**P**	**02 15 19.9**	**+6.4**	
SNAA				*e*			02 15 21.1		
SNAA				*e*		pP	02 15 29.7	+4.8	
SNAA				*e*		pP	02 15 33.3	+8.4	
SNAA				*e*			02 15 36.5		
SNAA	**Sanae**	**92.20**	**177**	*e*P		**P**	**02 15 16.3**	**+2.8**	
SNAA	**Sanae**	**92.20**	**177**	*e*P		**P**	**02 15 19.7**	**+6.3**	
	comp=Z,4.5nm,1.2s,mb4.7								
CIT	**Chita**	**92.63**	**324**	*e*P		pP	02 15 25.6	-1.3	
CIT				pmax		pmax			
	comp=Z,36nm,1.8s,mb5.5								
VNA2	**Neumayer--Watz**	**92.64**	**175**	*e*P		**P**	**02 15 15.2**	**-0.3**	
VNA2				*e*			02 15 16.2		
VNA2				*e*		pP	02 15 26.3	-0.7	
VNA2				*e*			02 15 29.7		
VNA2				*e*			02 15 34.7		
VNA2				*e*			02 15 49.0		
VNA1	**Neumayer--Stat**	**92.84**	**175**	*e*P		**P**	**02 15 16.6**	**+0.2**	
VNA1				*e*			02 15 17.5		
VNA1				*e*		pP	02 15 27.4	-0.5	
VNA1				*e*			02 15 31.0		
VNA1				*e*			02 15 34.4		
VNA1				*e*			02 15 48.3		
LZH	**Lanzhou**	**93.83**	**306**	*e*P		**P**	**02 15 17.6**	**-3.4**	
LZH				*PP		pP	02 15 28.5	-3.9	
LZH				*SP		sP	02 15 32.4	-4.2	
LZH							02 19 07.2		
LZH							02 25 48.5		
LZH				*eS			02 26 23.4		
LZH				PS		PS	02 27 47.2	+0.9	
LZH				*eSS		SS	02 32 45.9	-1.2	
LZH				pmax		pmax			
	comp=Z,19nm,1.5s,mb5.3								
LZH				MLR		MLR			
	comp=Z,350nm,19.5s,MS4.8								
LZH	**Lanzhou**	**93.83**	**306**	*e*P		**P**	**02 15 17.6**	**-3.4**	
	comp=Z,19nm,1.5s,mb5.3								
LZH				pP		pP	02 15 28.5	-3.9	
LZH				sP		sP	02 15 32.4	-4.2	
LZH				PP		PP	02 19 07.2	+0.5	
LZH				SKS			02 25 48.5		
LZH				*eS			02 26 23.4		
LZH				sS		sS	02 26 40.6	-6.5	
LZH				PS		PS	02 27 47.2	+0.9	
LZH				*eSS		SS	02 32 45.9	-1.2	
LZH				LR		LR			
	comp=Z,350nm,19.5s,MS4.8								
ULM	**Lac du Bonnet**	**94.32**	**39**	LR		LR	02 49 46.7		
	comp=Z,151nm,20.8s,MS4.4,baz=236,slow=30								
TIXI	**Tiksi**	**95.73**	**344**	*e*P		**P**	**02 15 27.9**	**-1.8**	
TIXI				pmax		pmax			
	comp=Z,3.0nm,1.1s,mb4.6								
GTA	**Gaotai**	**97.80**	**309**	*e*P		**P**	**02 15 40.3**	**+1.2**	
GTA				AP		pP	02 15 50.5	0.0	
GTA				XP		sP	02 15 54.5	-0.2	
GTA				PP		PP	02 19 42.5	+5.1	
GTA				SKS			02 26 15.3		
GTA				S			02 27 03.3		
GTA				XS		sS	02 27 21.5	0.0	
GTA				AMB		AMB			
	comp=Z,3.0nm,1.0s,mb4.8								
GTA				AMB		AMB			
	comp=Z,67nm,4.9s								
GTA				LR		LR			
	comp=N,135nm,17.5s,MS4.8								
GTA				LR		LR			
	comp=E,266nm,20.5s,MS4.8								
GTA				LR		LR			
	comp=Z,404nm,21.3s,MS4.9								
WMQ	**Urumqi**	**107.51**	**311**	PDIF		Pdif	02 16 22.5	+0.2	
WMQ				PP		PP	02 20 53.5	+3.3	
WMQ				PP		PP			
	comp=Z,59nm,4.5s								
WMQ				LR		LR			
	comp=N,142nm,22.2s,MS4.6								
WMQ				LR		LR			
	comp=E,120nm,22.2s,MS4.6								
WMQ				LR		LR			
	comp=Z,146nm,24.3s,MS4.5								
MKAR	**Makanchi Array**	**111.48**	**314**	PKiKP		PKiKP	02 20 35.9	-2.0	
	comp=Z,0.4nm,0.6s,baz=54,slow=2.1,SNR=4.4								
ARU	**Arti**	**124.06**	**328**	⇑*i*PKIKP		PKPdf	02 21 02.3	+0.3	
ARCES	**ARCESS Array B**	**125.33**	**352**	PKP		PKPdf	02 21 03.1	-1.3	
	comp=Z,1.1nm,0.5s,baz=72,slow=0.4,SNR=7.5								
FINES	**FINESS Array B**	**132.67**	**348**	PKP		PKPdf	02 21 18.6	+0.2	
	comp=Z,1.0nm,0.7s,baz=67,slow=6.8,SNR=4.2								
OBN	**Obninsk**	**134.84**	**336**	⇑*i*PKIKP		PKPdf	02 21 21.0	-1.5	
OBN				*e*			02 28 32.3		
OBN				pmax		pmax			
	comp=Z,4.0nm,0.6s								
OBN				MLR		MLR			
	comp=Z,200nm,18.0s,MS4.9								
AKASG	**Malin Array Be**	**141.07**	**337**	PKhKP			02 21 27.9		
	comp=Z,1.1nm,0.6s,baz=37,slow=4.0,SNR=7.5								
ELZG	**Elazig**	**144.05**	**315**	*i* P		PKPdf	02 21 39.1	-0.1	
KWP	**Kalwaria**	**144.16**	**342**	*e*PKP		PKPdf	02 21 37.9	-1.5	
OJC	**Ojcow**	**144.39**	**346**	*e*PKP		PKPdf	02 21 38.5	-1.3	
CLL	**Collm**	**144.53**	**353**	*e*PKPdf		PKPdf	02 21 38.0	-2.1	
	comp=Z,9.0nm,1.4s								
CLL	**Collm**	**144.53**	**353**	*e*PKIKP		PKPdf	02 21 38.0	-2.1	
CLL				pmax		pmax			
	comp=Z,9.0nm,1.4s								
STHS	**Stebnicka Huta**	**144.76**	**344**	*e*PKP		PKPdf	02 21 40.9	+0.4	
BRG	**Berggiesshubel**	**144.84**	**352**	*e*PKP		PKPdf	02 21 48.5	+7.9	
	comp=Z,6.2nm,1.7s								
BRG	**Berggiesshubel**	**144.84**	**352**	*e*PKIKP		PKPdf	02 21 48.5	+7.9	
BRG				pmax		pmax			
	comp=Z,6.0nm,1.7s								
UPC	**Upice**	**144.89**	**350**	*e*PKP		PKPdf	02 21 39.9	-0.8	
UPC				*ex*		x	02 21 45.4		
UPC				*epPKP		pPKPdf	02 21 50.0	-2.5	
DPC	**Dobruska-Polom**	**144.99**	**349**	*e*PKP		PKPdf	02 21 40.3	-0.5	
DPC				*epPKP		pPKPdf	02 21 46.2	-6.4	
NIE	**Niedzica**	**145.00**	**345**	*e*PKP		PKPdf	02 21 41.0	+0.1	
BOYT	**Boyabat**	**145.05**	**322**	*i* P		PKPbc	02 21 41.2	+0.8	
PVCC	**Panska Ves**	**145.09**	**351**	*e*PKP		PKPdf	02 21 45.4	+4.4	
PVCC				*epPKP		pPKPdf	02 21 50.2	-2.6	
BURAR	**Bucovina Array**	**145.10**	**338**	⇓*i*P		PKPbc	02 21 41.9	+1.3	
OKC	**Ostrava-Krasne**	**145.12**	**347**	*e*PKP		PKPdf	02 21 41.4	+0.3	
OKC				*epPKP		pPKPdf	02 21 48.3	-4.6	
CRVS	**Cervenica-Dubn**	**145.17**	**343**	*e*PKP		PKPdf	02 21 42.1	+0.9	
UBBA	**Unterbreizbach**	**145.27**	**356**	*e*PKPbc		PKPbc	02 21 40.7	-0.4	
MORC	**Moravsky Berou**	**145.30**	**348**	⇑*i*P		PKPbc	02 21 42.3	+1.1	
MORC	**Moravsky Berou**	**145.30**	**348**	⇑P		PKPbc	02 21 42.3	+1.0	
MOX	**Moxa**	**145.32**	**355**	*e*PKPbc		PKPbc	02 21 41.7	+0.4	
MOX	**Moxa**	**145.32**	**355**	*e*PKP		PKPdf	02 21 41.6	+0.2	
	comp=Z,24nm,1.7s								
MOX	**Moxa**	**145.32**	**355**	*e*PKIKP		PKPdf	02 21 41.6	+0.2	
MOX				pmax		pmax			
	comp=Z,24nm,1.7s								
UCC	**Uccle**	**145.33**	**3**	APKP			02 21 56.2		
KMBO	**Kilima Mbogo**	**145.44**	**243**	PKPbc		PKPbc	02 21 43.5	+1.9	
	comp=Z,13nm,1.3s,baz=47,slow=7.2,SNR=5.4								
KMBO	**Kilima Mbogo**	**145.44**	**243**	⇑*i*PKP2		PKPab	02 21 45.0	+3.1	
KMBO	**Kilima Mbogo**	**145.44**	**243**	*e*PKPab		PKPab	02 21 44.6	+2.7	
WERD	**Werda**	**145.45**	**354**	*e*PKPbc		PKPbc	02 21 41.6	-0.1	
WERD				*epPKPbc		pPKPbc	02 21 51.1	-2.3	
GZT	**Gaziantep**	**145.59**	**314**	*i* P		PKPdf	02 21 43.2	+1.3	
CTKT	**Corum**	**145.60**	**321**	*i* P		PKPdf	02 21 42.3	+0.4	
SNF	**Seneffe**	**145.61**	**3**	PKP		PKPdf	02 21 42.2	+0.3	
PRU	**Pruhonice**	**145.62**	**351**	*e*PKP		PKPdf	02 21 42.5	+0.6	
PRU				*epPKP		pPKPdf	02 21 47.9	-5.8	
NKC	**Novy Kostel**	**145.65**	**354**	*e*PKP		PKPdf	02 21 42.5	+0.5	
NKC				*epPKP		pPKPdf	02 21 51.8	-2.0	
KECS	**Kecovo**	**145.82**	**344**	*e*PKP		PKPdf	02 21 43.3	+1.0	
BALT	**Daday**	**145.86**	**323**	*i* P		PKPdf	02 21 42.8	+0.5	
CFR	**Carcaliu**	**145.93**	**333**	⇓*i*P		PKPdf	02 21 44.9	+2.4	
CFR	**Carcaliu**	**145.93**	**333**	⇓P		PKPdf	02 21 44.9	+2.5	
MANZ	**Manzenberg**	**145.93**	**354**	*e*PKPbc		PKPbc	02 21 43.8	+0.6	
TNS	**Taunus Mts**	**145.94**	**358**	*e*PKPbc		PKPbc	02 21 43.7	+0.5	
VRAC	**Vranov**	**145.94**	**349**	⇑*i*P		PKPdf	02 21 43.6	+1.1	
VRAC	**Vranov**	**145.94**	**349**	⇑P		PKPdf	02 21 43.6	+1.2	
VRI	**Vrincioaia**	**145.97**	**335**	⇓*i*P		PKPdf	02 21 44.0	+1.5	
VRI	**Vrincioaia**	**145.97**	**335**	⇓P		PKPdf	02 21 44.0	+1.5	
PLOR	**Plostina**	**146.02**	**355**	⇓*i*P		PKPdf	02 21 44.9	+2.3	
DOU	**Dourbes**	**146.04**	**3**	PKP		PKPdf	02 21 43.5	+0.9	
BAIF	**Baives**	**146.06**	**3**	*e*PKIKP		PKPdf	02 21 43.2	+0.5	
	comp=Z,30nm,1.0s								
ROTZ	**Rotzenmuhle**	**146.14**	**354**	*e*PKPbc		PKPbc	02 21 44.9	+1.1	
ROTZ				*epPKPbc		pPKPbc	02 21 53.8	-1.7	
VYHS	**Vyhne**	**146.23**	**346**	*e*PKP		PKPdf	02 21 45.0	+2.0	
GRA1	**Grafenberg Arr**	**146.30**	**355**	*e*PKPbc		PKPbc	02 21 45.8	+1.5	
GRF	**Grafenberg Arr**	**146.30**	**355**	*e*PKP2		PKPab	02 21 45.8	+0.7	
GRF				MLR		MLR			
	comp=Z,900nm,20.7s,MS5.5								
PSZ	**Piszkesteto**	**146.49**	**344**	*e*PKIKP		PKPdf	02 21 43.8	+0.4	
ELDT	**Eldivan**	**146.50**	**322**	*i* P		PKPdf	02 21 46.8	+3.3	
WLF	**Walferdange**	**146.51**	**1**	*e*PKPbc		PKPbc	02 21 45.7	+0.8	
WLF	**Walferdange**	**146.51**	**1**	PKPab		PKPab	02 21 45.9	0.0	
WLF				APKPab			02 21 57.2		
KHC	**Kasperske Hory**	**146.60**	**352**	*e*PKP		PKPdf	02 21 45.6	+2.0	
KHC				pPKP		pPKPdf	02 21 55.5	+0.1	
KHC	**Kasperske Hory**	**146.60**	**352**	*e*PKP		PKPdf	02 21 45.6	+2.0	
KHC				*e*			02 21 55.5		
MLR	**Muntele Rosu**	**146.60**	**335**	⇑*i*P		PKPdf	02 21 47.3	+3.7	
MLR	**Muntele Rosu**	**146.60**	**335**	⇑P		PKPdf	02 21 47.3	+3.7	
AVNT	**Avonos**	**146.64**	**318**	*i* P		PKPdf	02 21 50.1	+6.5	
WET	**Wettzell**	**146.68**	**353**	*ep*PKPbc		pPKPbc	02 21 56.4	-0.7	
BRTR	**Keskin Array B**	**146.85**	**321**	PKPbc		PKPbc	02 21 46.8	+0.9	
	comp=Z,7.3nm,0.7s,baz=126,slow=2.1,SNR=54								
BRTR	**Keskin Array B**	**146.85**	**321**	⇑*i*PKP2		PKPab	02 21 47.4	+0.2	
GEC2	**GERESS Array S**	**146.86**	**352**	*e*PKPbc		PKPbc	02 21 46.3	+0.4	
GERES	**GERESS Array B**	**146.86**	**352**	PKPbc		PKPbc	02 21 45.6	-0.3	
	comp=Z,2.2nm,0.7s,baz=30,slow=3.4,SNR=24								
FLN	**La Foliniere**	**146.87**	**9**	*e*PKIKP		PKPdf	02 21 45.2	+1.1	
	comp=Z,33nm,1.0s								
ZST	**Bratislava**	**146.90**	**347**	*e*PKP		PKPdf	02 21 47.3	+3.2	
COBT	**Iskenderun**	**146.92**	**314**	*i* P		PKPdf	02 21 45.9	+1.8	
VOIR		**147.00**	**336**	⇑*i*P		PKPdf	02 21 45.4	+1.1	
VOIR		**147.00**	**336**	⇑P		PKPdf	02 21 45.4	+1.1	
LDF	**La Druitiere**	**147.09**	**9**	*e*PKIKP		PKPdf	02 21 45.5	+1.1	
	comp=Z,16nm,0.9s								
GRR	**Gorron**	**147.18**	**9**	*e*PKIKP		PKPdf	02 21 46.1	+1.5	
	comp=Z,24nm,0.8s								
SGKT	**Sivrigoynuk**	**147.25**	**323**	*i* P		PKPdf	02 21 44.7	0.0	
ANTO	**Ankara**	**147.27**	**321**	⇑*i*P		PKPdf	02 21 49.2	+4.5	
ANTO	**Ankara**	**147.27**	**321**	⇑P		PKPdf	02 21 49.2	+4.4	
MOA	**Molln**	**147.75**	**351**	⇓*i*		PKPab	02 21 58.4	+7.6	
	comp=Z,17nm,1.2s								
MOA	**Molln**	**147.75**	**351**	⇑*i*PKPab		PKPab	02 21 49.3	-1.5	
	comp=Z,14nm,1.3s								
MOA				⇓*i*PKiKP		PKiKP	02 21 58.4	+8.0	
	comp=Z,17nm,1.2s								
CDF	**Champ du Feu**	**147.77**	**359**	*e*PKIKP		PKPdf	02 21 46.7	+1.1	
PRD	**Provadia**	**147.80**	**331**	*e*P		PKPab	02 21 58.3	+7.3	
FUR	**Furstenfeldbru**	**147.81**	**354**	*e*PKPbc		PKPbc	02 21 49.7	+1.1	
BFO	**Black Forest**	**147.83**	**358**	*e*PKPbc		PKPbc	02 21 49.2	+0.6	
BZS	**Buzias**	**148.07**	**340**	⇑*i*P		PKPdf	02 21 50.2	+4.2	
ARSA	**Arzberg**	**148.11**	**349**	⇓*i*		PKPab	02 21 59.6	+7.3	
	comp=Z,16nm,1.4s								
ARSA	**Arzberg**	**148.11**	**349**	⇑*i*PKiKP		PKiKP	02 21 50.4	-0.7	
	comp=Z,5.3nm,0.8s								
ARSA				⇓*i*PKPab		PKPab	02 21 59.6	+7.3	
	comp=Z,16nm,1.4s								
MEST	**Erdemli**	**148.33**	**315**	*i* P		PKPdf	02 21 50.9	+4.5	
PKSM	**Moragy**	**148.40**	**344**	⇑*i*P		PKPdf	02 21 50.1	+3.5	
PKSM	**Moragy**	**148.40**	**344**	⇑P		PKPdf	02 21 50.1	+3.5	
ESKT	**Eskisehir**	**148.64**	**323**	*i* P		PKPdf	02 21 51.5	+4.5	
MOTA	**Moosalm**	**148.64**	**354**	⇓*i*		PKPab	02 22 01.1	+6.7	
	comp=Z,32nm,1.5s								
MOTA	**Moosalm**	**148.64**	**354**	⇓*i*PKiKP		PKiKP	02 21 51.3	-0.9	
	comp=Z,9.3nm,1.2s								
MOTA				⇓*i*PKPab		PKPab	02 22 01.1	+6.7	
	comp=Z,32nm,1.5s								
WTTA	**Wattenberg**	**148.67**	**354**	⇑*i*		PKPab	02 22 00.8	+6.3	
	comp=Z,16nm,0.8s								
WTTA	**Wattenberg**	**148.67**	**354**	⇑*i*PKiKP		PKiKP	02 21 51.9	-0.4	
	comp=Z,7.7nm,0.5s								
WTTA				⇑*i*PKPab		PKPab	02 22 00.8	+6.3	
	comp=Z,16nm,0.8s								
PERS	**Pernice**	**148.78**	**349**	*e*PKPdf		PKPdf	02 21 50.0	+2.8	
PERS				*i* PKPbc		PKPbc	02 22 00.4	+9.3	
DAVA	**Damuels**	**148.80**	**356**	⇑*i*		PKPab	02 22 02.2	+7.2	
	comp=Z,24nm,1.7s								
DAVA	**Damuels**	**148.80**	**356**	⇑*i*PKiKP		PKiKP	02 21 53.2	+0.7	
	comp=Z,11nm,1.2s								
DAVA				⇑*i*PKPab		PKPab	02 22 02.2	+7.2	
	comp=Z,24nm,1.7s								
LOR	**Lormes**	**148.82**	**4**	*e*PKIKP		PKPdf	02 21 48.6	+1.3	
SSF	**Saint Saulge**	**149.00**	**4**	*e*PKIKP		PKPdf	02 21 48.9	+1.3	
MFF	**Saint Martin d**	**149.03**	**9**	*e*PKIKP		PKPdf	02 21 49.0	+1.4	
ERMK	**Ermenek**	**149.12**	**316**	*i* P		PKPdf	02 21 50.4	+2.6	
AVF	**Avril sur Loir**	**149.26**	**5**	*e*PKIKP		PKPdf	02 21 49.3	+1.3	
BRMO	**Bormio**	**149.57**	**355**	P		PKPdf	02 21 55.0	+6.5	
TCF	**Toulx Ste Croi**	**149.65**	**6**	*e*PKIKP		PKPdf	02 21 50.1	+1.5	
	comp=Z,22nm,1.3s								
GDZ	**Gediz**	**149.72**	**324**	*i* P		PKPdf	02 21 52.9	+4.1

FITZ	**Fitzroy Crossi**	**51.91**	**271**	*e*P		**P**	**02 33 12.1**	**-0.1**
	comp=Z,3.2nm,0.4s,mb4.6								
FITZ	**Fitzroy Crossi**	**51.91**	**271**	P		**P**	**02 33 12.5**	**+0.3**
	comp=Z,2.1nm,0.6s,mb4.3,baz=154,slow=12,SNR=12								
CASY	**Casey**	**53.66**	**208**	*e*P		**P**	**02 33 24.2**	**-1.0**
QSPA	**South Pole Qui**	**58.28**	**180**	*e*P		**P**	**02 34 01.4**	**+3.2**
	comp=Z,11nm,0.6s,mb5.1								
SNAA	**Sanae**	**76.74**	**179**	⇓*i*		**P**	**02 35 51.1**	**-3.7**
SNAA				*e*			02 35 53.8		
SNAA	**Sanae**	**76.74**	**179**	*e*P		**P**	**02 35 50.4**	**-4.4**
SNAA				pmax	pmax				
	comp=Z,23nm,0.8s								
SNAA	**Sanae**	**76.74**	**179**	*e*P		**P**	**02 35 50.4**	**-4.4**
	comp=Z,23nm,0.8s,mb5.2								
VNA3	**Neumayer Olymp**	**76.91**	**176**	⇓*i*		**P**	**02 36 00.8**	**+5.0**
VNA3				*e*			02 36 04.7		
VNA2	**Neumayer--Watz**	**77.34**	**177**	⇓*i*		**P**	**02 36 03.3**	**+5.1**
	baz=187,slow=3.6								
VNA2				*e*			02 36 06.8		
VNA1	**Neumayer--Stat**	**77.57**	**177**	⇓*i*		**P**	**02 36 04.9**	**+5.4**
VNA1				*e*			02 36 08.3		
NVAR	**Mina Array Bea**	**89.60**	**43**	P		**P**	**02 37 01.4**	**+0.3**
	comp=Z,0.6nm,0.7s,mb4.0,baz=208,slow=6.4,SNR=4.0								
NVAR	**Mina Array Bea**	**89.60**	**43**	P		**P**	**02 37 01.4**	**+0.3**
HNH	**Hanover**	**122.29**	**55**	*e*PKPdf	PKPdf		02 42 52.8	-5.5	
ARCES	**ARCESS Array B**	**139.89**	**347**	PKP	PKPdf		02 43 27.9	-3.6	
	comp=Z,2.1nm,0.8s,baz=15,slow=3.7,SNR=3.6								
KAF	**Kangasniemi**	**145.73**	**339**	*e*pkp	PKPdf		02 43 38.7	-3.1	
FINES	**FINESS Array B**	**146.32**	**339**	PKPbc	PKPbc		02 43 41.6	-2.5	
	comp=Z,2.9nm,0.5s,baz=52,slow=4.2,SNR=24								
NB2	**NORSAR Subarra**	**150.09**	**350**	PKPa	PKPbc		02 43 52.0	-2.0	
	comp=Z,0.9nm,0.5s,baz=15,slow=2.5								
NOA	**NORSAR Array B**	**150.09**	**350**	PKPbc	PKPbc		02 43 52.2	-1.8	
	comp=Z,0.8nm,0.4s,baz=13,slow=4.1,SNR=5.8								
NOA	**NORSAR Array B**	**150.09**	**350**	PKPbc	PKPbc		02 43 52.2	-1.8	
AKASG	**Malin Array Be**	**152.13**	**321**	PKPbc	PKPbc		02 43 56.7	-2.1	
	comp=Z,0.8nm,0.6s,baz=72,slow=2.5,SNR=4.0								
AKASG	**Malin Array Be**	**152.13**	**321**	PKPbc	PKPbc		02 43 56.7	-2.1	
BRTR	**Keskin Array B**	**152.84**	**296**	PKPbc	PKPbc		02 43 59.3	-1.1	
	comp=Z,0.6nm,0.4s,baz=79,slow=3.2,SNR=5.9								
TORD	**Torodi Ar. Bea**	**161.40**	**181**	PKPab	PKPab		02 44 48.5	+0.2	
	comp=Z,1.4nm,0.7s,baz=178,slow=3.2,SNR=16								

MOS ***30*** *02:29:45.8±1.0, 096N×12657E, h33km, mb5.1/12, Error ellipse: s-maj=18.0km s-min=9.5km az=110.4*
IDC ***30*** *02:29:47.6±2.4, 092N×12664E, h33km±17km, mb4.4/13, mb1 4.4/14, mb1mx4.2/20, mbtmp4.5/14, ML4.5/1, Error ellipse: s-maj=22.9km s-min=10.2km az=76.0*
BJI ***30*** *02:29:48.5, 090N×12670E, h60km, mB4.8, mb4.7, Ms4.3, Msz3.8*
NEIC ***30*** *02:29:50.5±1.5, 086N×12670E, h60km±15km, mb4.8/12, Error ellipse: s-maj=13.1km s-min=6.9km az=66.0*
ISCJB ***30*** *02:29:53.1±1.0, 082N±005×12654E±006, h103km±10km, mb4.6/34, Error ellipse: s-maj=10.4km s-min=7.3km az=113.7*

ISC 30 02:29:54.5±0.8, 082N±005×12654E±006, h99km±8km, h75km±5.0km:pP-P, n72, σ1°12/69, mb4.6/34, 1C-2D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AAI	**Ambon**	**4.77**	**160**	P		**Pn**	**02 31 04.5**	**+0.5**
	422nm,1.1s							
SWI	**Sorong**	**5.00**	**109**	P		**Pn**	**02 31 08.5**	**+1.3**
	71nm,1.2s							
TLE	**Tual**	**8.91**	**136**	P		**Pn**	**02 32 00.5**	**+0.2**
	399nm,1.6s							
TSM	**Tawau**	**9.32**	**292**	P		**Pn**	**02 32 03.7**	**-2.2**
BAKI	**Biak**	**9.77**	**102**	P		**Pn**	**02 32 13.1**	**+1.1**
	326nm,1.6s							
KKM	**Kota Kinabalu**	**11.54**	**297**	P		**Pn**	**02 32 31.3**	**-4.7**
KKM	**Kota Kinabalu**	**11.54**	**297**	*e*Pn		**Pn**	**02 32 36.6**	**+0.7**
KAKA	**Kakadu**	**14.66**	**157**	*e*P		**Pn**	**02 33 12.4**	**-4.4**
	14nm,0.6s							
KAKA	**Kakadu**	**14.66**	**157**	*e*P		**Pn**	**02 33 21.0**	**+4.2**
	57nm,0.6s							
KSM	**Kuching**	**16.24**	**272**	*e*Pn		**Pn**	**02 33 38.0**	**+1.3**
BJII	**Banjamegara**	**18.64**	**244**	P		**Pn**	**02 34 05.7**	**-0.1**
	81nm,1.7s							
FITZ	**Fitzroy Crossi**	**18.82**	**183**	*e*P		**Pn**	**02 34 05.5**	**-2.4**
	18nm,1.0s							
FITZ	**Fitzroy Crossi**	**18.82**	**183**	P		**Pn**	**02 34 05.4**	**-2.5**
	1.1nm,0.3s,baz=3.8,slow=8.7,SNR=21							
WRAB	**Tennant Creek**	**22.00**	**160**	*e*P		**P**	**02 34 39.8**	**-0.7**
WRAB				pmax	pmax			
	comp=Z,215nm,1.0s,mb5.4							
WRAB	**Tennant Creek**	**22.00**	**160**	*e*P		**P**	**02 34 39.8**	**-0.7**
	comp=Z,215nm,1.0s,mb5.4							
WRA	**Warramunga Arr**	**22.00**	**160**	P		**P**	**02 34 39.8**	**-0.7**
	comp=Z,46nm,0.5s,mb5.1,baz=340,slow=11,SNR=164							
WRA				S		**S**	**02 38 37.6**	**+0.4**
	comp=Z,3.9nm,0.9s,baz=330,slow=20,SNR=5.3							
WRA				ScP		ScP	02 42 09.3	+5.9	
	comp=Z,1.1nm,0.8s,baz=339,slow=2.9,SNR=5.9								
WRA	**Warramunga Arr**	**22.00**	**160**	P		**P**	**02 34 39.8**	**-0.7**
WRA				S		**S**	**02 38 37.6**	**+0.4**
WB2	**Warramunga Arr**	**22.00**	**160**	*e*P		**P**	**02 34 39.0**	**-1.6**
GUMO	**Guam**	**22.14**	**54**	P		**P**	**02 34 40.3**	**-1.7**
	comp=Z,13nm,0.3s,mb4.7,baz=234,slow=23,SNR=4.7								
GUMO	**Guam**	**22.14**	**54**	P		**P**	**02 34 40.3**	**-1.7**
MBWA	**Marble Bar**	**22.83**	**197**	*e*P		**P**	**02 34 48.6**	**-0.6**
	comp=Z,18nm,0.8s,mb4.4								
AS31	**Alice Springs**	**25.36**	**164**	*e*P		**P**	**02 35 12.9**	**+0.6**
ASAR	**Alice Springs**	**25.36**	**164**	P		**P**	**02 35 12.8**	**+0.6**
	comp=Z,14nm,0.4s,mb4.8,baz=346,slow=12,SNR=84								
ASAR				PcP		PcP	02 38 44.5	+2.2	
	comp=Z,1.0nm,0.3s,baz=355,slow=1.8,SNR=4.3								
ASAR				S		**S**	**02 39 43.1**	**+12**	
	comp=Z,2.6nm,0.7s,baz=346,slow=20,SNR=6.2								
ASPA	**Alice Springs**	**25.36**	**164**	*e*P		**P**	**02 35 12.9**	**+0.6**
JOW	**Kunigami**	**25.92**	**4**	P		**P**	**02 35 17.6**	**+0.2**
	comp=Z,17nm,0.6s,mb4.7,baz=196,slow=9.1,SNR=9.3								
PSI	**Prapat**	**27.67**	**274**	P		**P**	**02 35 33.8**	**+0.7**
	comp=Z,2.7nm,0.5s,mb4.1,baz=121,slow=9.3,SNR=4.2								
CTA	**Charters Tower**	**28.37**	**138**	P		**P**	**02 35 39.2**	**0.0**
	comp=Z,3.3nm,0.7s,mb4.0,baz=354,slow=10,SNR=3.8								
CTA				ScP		ScP	02 42 28.4	+7.0	
	comp=Z,9.3nm,1.2s,baz=225,slow=2.2,SNR=3.9								
SSE	**Sheshan**	**30.54**	**351**	*e*P		**P**	**02 35 55.5**	**-2.9**
SSE				AMB		AMB			
	comp=Z,27nm,0.7s,mb5.1								
SSE				AMB		AMB			
	comp=Z,27nm,6.7s								
SSE	**Sheshan**	**30.54**	**351**	*e*P		**P**	**02 35 55.5**	**-2.9**
	comp=Z,27nm,0.7s,mb5.1								
FORT	**Forrest**	**31.45**	**177**	*e*P		**P**	**02 36 05.6**	**-0.8**
	comp=Z,34nm,0.6s,mb5.3								
NJ2	**Nanjing**	**31.91**	**348**	*e*P		**P**	**02 36 06.0**	**-4.4**
NJ2				AMB		AMB			
	comp=Z,20nm,0.8s,mb4.9								
NJ2				AMB		AMB			
	comp=Z,70nm,4.3s								
NJ2				LR		LR			
	comp=N,330nm,22.8s								
NJ2				LR		LR			
	comp=E,460nm,20.4s								
NJ2				LR		LR			
	comp=Z,300nm,30.6s								
NWAO	**Narrogin (SRO)**	**34.69**	**194**	P		**P**	**02 36 35.8**	**+1.1**
	comp=Z,18nm,1.1s,mb4.8,baz=17,slow=11,SNR=6.2								
STKA	**Stephens Creek**	**35.50**	**158**	⇓*i*P		**P**	**02 36 39.9**	**-1.7**
	comp=Z,9.8nm,0.5s,mb5.0								
STKA	**Stephens Creek**	**35.50**	**158**	P		**P**	**02 36 40.4**	**-1.2**
	comp=Z,13nm,0.6s,mb5.1,baz=332,slow=8.7,SNR=40								
STKA	**Stephens Creek**	**35.50**	**158**	*e*P		**P**	**02 36 40.2**	**-1.4**
MJAR	**Matsushiro Arr**	**37.16**	**16**	P		**P**	**02 36 53.0**	**-2.6**
	comp=Z,1.0nm,0.3s,mb4.2,baz=192,slow=8.9,SNR=3.7								
LSA	**Lhasa**	**44.26**	**314**	*e*P		**P**	**02 37 54.5**	**+0.5**
LSA				pmax		pmax			
	comp=Z,7.0nm,0.5s,mb4.7								
LSA	**Lhasa**	**44.26**	**314**	*e*P		**P**	**02 37 54.5**	**+0.5**
	comp=Z,6.7nm,0.5s,mb4.6								
GTA	**Gaotai**	**45.51**	**331**	*e*P		**P**	**02 38 05.8**	**+1.9**
GTA				AMB		AMB			
	comp=Z,4.0nm,1.0s,mb4.1								
CIT	**Chita**	**52.18**	**350**	*e*P		**P**	**02 39 03.9**	**+9.0**
CIT				pmax		pmax			
	comp=Z,41nm,1.5s,mb5.2								
MOY	**Mondy**	**55.05**	**341**	*e*P		**P**	**02 39 16.8**	**+0.9**
MKAR	**Makanchi Array**	**59.84**	**326**	P		**P**	**02 39 49.5**	**0.0**
	comp=Z,2.8nm,0.5s,mb4.5,baz=123,slow=8.7,SNR=31								
MKAR	**Makanchi Array**	**59.84**	**326**	*e*P		**P**	**02 39 49.5**	**0.0**
MA2	**Magadan**	**61.56**	**14**	*e*P		**P**	**02 40 00.3**	**-0.9**
MA2				pmax		pmax			
	comp=Z,12nm,1.2s,mb4.8								
AAK	**Ala-Archa**	**62.40**	**319**	*e*P		**P**	**02 40 06.2**	**-0.6**
AAK				pmax		pmax			
	comp=Z,1.0nm,0.9s,mb3.9								
AAK	**Ala-Archa**	**62.40**	**319**	P		**P**	**02 40 07.3**	**+0.5**
	comp=Z,2.4nm,0.8s,mb4.3								
KURK	**Kurchatov**	**64.09**	**328**	*e*P		**P**	**02 40 18.6**	**+0.6**
KURK				pmax		pmax			
	comp=Z,16nm,0.7s,mb5.0								
KURK	**Kurchatov**	**64.09**	**328**	*e*P		**P**	**02 40 18.6**	**+0.6**
	comp=Z,16nm,0.7s,mb5.0								
NVS	**Novosibirsk**	**64.38**	**334**	*i*P		**P**	**02 40 18.2**	**-1.6**
NVS				pmax		pmax			
	comp=N,16nm,1.2s								
NVS				pmax		pmax			
	comp=Z,16nm,1.2s,mb4.7								
NVS				pmax		pmax			
	comp=E,14nm,1.5s								
BRVK	**Borovoye**	**69.73**	**328**	*e*P		**P**	**02 40 53.9**	**+0.2**
BRVK				*e*		pP	02 41 14.6	-4.1	
BRVK				pmax		pmax			
	comp=Z,7.0nm,0.8s,mb4.5								
BRVK	**Borovoye**	**69.73**	**328**	*e*P		**P**	**02 40 53.9**	**+0.2**
	comp=Z,7.0nm,0.8s,mb4.5								
BRVK				*e*PcP		PcP	02 41 14.6	-1.3	
CHKZ	**Chkalovo**	**69.84**	**328**	*e*P		**P**	**02 40 54.4**	**0.0**
CHKZ				pmax		pmax			
	comp=Z,9.0nm,0.9s,mb4.6								
CHKZ	**Chkalovo**	**69.84**	**328**	*e*P		**P**	**02 40 54.4**	**0.0**
	comp=Z,9.2nm,0.9s,mb4.6								
ZRNK	**Zerenda**	**70.37**	**327**	*e*P		**P**	**02 40 57.9**	**+0.3**
ZRNK				*e**PP		pP	02 41 18.3	-4.4	
ZRNK				pmax		pmax			
	comp=Z,17nm,0.7s,mb5.0								
ZRNK	**Zerenda**	**70.37**	**327**	*e*P		**P**	**02 40 57.9**	**+0.3**
	comp=Z,17nm,0.7s,mb5.0								
ZRNK				*e*pP		pP	02 41 18.3	-4.4	
TIXI	**Tiksi**	**70.74**	**1**	*e*P		**P**	**02 40 58.8**	**-1.1**
TIXI				pmax		pmax			
	comp=Z,5.0nm,1.7s,mb4.1								
ARU	**Arti**	**77.29**	**328**	⇓*i*P		**P**	**02 41 37.0**	**-1.0**
ARU				*e*			02 44 31.7		
ARU				*e*PPP			02 46 20.9		
ARU				*e*S		S	02 51 26.2	+6.3	
ARU				*e*SS		SS	02 56 20.0	+0.1	
ARU				pmax		pmax			
	comp=Z,6.0nm,1.3s,mb4.2								
ORR	**Orenburg**	**78.12**	**323**	*i*P		**P**	**02 41 43.5**	**+0.9**
ORR				pmax		pmax			
	comp=Z,10.0nm,1.1s,mb4.5								
VNDA	**Vanda**	**80.58**	**173**	P		**P**	**02 41 57.1**	**+1.1**
	comp=Z,2.6nm,0.3s,mb4.5,baz=318,slow=6.0,SNR=32								
SVW2	**Sparrevohn**	**83.43**	**29**	*e*P		**P**	**02 42 12.9**	**+2.0**
TTA	**Tatalina**	**83.57**	**27**	*e*P		**P**	**02 42 13.2**	**+1.6**
TTA				*e**PP		pP	02 42 31.3	-6.1	
TTA				pmax		pmax			
	comp=Z,11nm,1.3s,mb4.5								
TTA	**Tatalina**	**83.57**	**27**	*e*P		**P**	**02 42 13.2**	**+1.6**
	comp=Z,11nm,1.3s,mb4.5								
TTA				*e*pP		pP	02 42 31.3	-6.1	
KIV	**Kislovodsk**	**85.00**	**314**	*e*P		**P**	**02 42 20.2**	**+1.4**
KIV				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.4								
KIV				MLR		MLR			
	comp=Z,164nm,17.0s								
ILAR	**Eielson Array**	**87.80**	**25**	P		**P**	**02 42 32.0**	**-0.5**
	comp=Z,0.4nm,0.6s,mb3.6,baz=255,slow=4.4,SNR=8.0								
BRTR	**Keskin Array B**	**91.72**	**310**	P		**P**	**02 42 51.1**	**+0.3**
	comp=Z,0.4nm,0.6s,mb3.8,baz=122,slow=7.5,SNR=2.9								
ARCES	**ARCESS Array B**	**93.10**	**340**	P		**P**	**02 42 56.4**	**-0.8**
	comp=Z,1.6nm,0.8s,mb4.4,baz=76,slow=5.4,SNR=5.2								
TORD	**Torodi Ar. Bea**	**123.60**	**286**	PKP	PKPdf		02 48 42.4	+2.1	
	comp=Z,0.5nm,0.3s,baz=89,slow=1.9,SNR=37								
USHA	**Ushuaia**	**124.78**	**170**	PKP	PKPdf		02 48 44.9	+2.3	
	comp=Z,7.2nm,0.9s,baz=211,slow=5.9,SNR=3.6								
PLCA	**Paso Flores**	**137.35**	**161**	PKP	PKPdf		02 49 08.9	+2.6	
	comp=Z,0.8nm,0.7s,baz=256,slow=7.1,SNR=4.2								
CFAA	**Coronel Fontan**	**146.34**	**157**	PKPbc	PKPbc		02 49 26.5	+2.8	
	comp=Z,0.5nm,0.3s,baz=217,slow=1.5,SNR=22								
CFAA	**Coronel Fontan**	**146.34**	**157**	PKPbc	PKPbc		02 49 26.5	+2.8	
CPUP	**Villa Florida**	**154.36**	**172**	PKPbc	PKPbc		02 49 46.1	+2.9	
	comp=Z,0.4nm,0.4s,baz=136,slow=1.7,SNR=5.1								

GUC ***30*** *02:49:15.4±2.8, 4834S×80.45W, h36km*
IDC ***30*** *02:50:04.2±0.6, 4562S×76.13W, h0km, mb4.5/13, mb1 4.6/14, mb1mx4.6/18, mbtmp4.5/14, ML3.5/1, MS5.4/15, Ms1 5.4/15, ms1mx5.1/24, Error ellipse: s-maj=26.7km s-min=14.3km az=100.0*
CSEM ***30*** *02:50:08.4, 4581S×7542W, h40km, ML5.6*
ISCJB ***30*** *02:50:09.1±0.3, 4566S±004×7554W±009, h41km, mb4.9/42, MS5.5/15, Error ellipse: s-maj=9.1km s-min=6.4km az=3.3*
NEIC ***30*** *02:50:09.8±0.3, 4576S×7552W, mb5.1/35, Error ellipse: s-maj=10.9km s-min=6.7km az=96.0*
HRVD ***30*** *02:50:09.9±0.1, 4592S×7617W, h15km, MW5.7/99, Centroid moment Tensor Solution. LP body waves: s83,c149; Mantle waves: s99,c264; Half duration: 1s6 Moment tensor: Scale 10^17 Nm; Mrr~0.04±.04; Mθθ 1.65±.04; Mφφ~1.61±.05; Mrθ~0.11±.13; Mrφ~3.20±.04; Mθφ~1.30±.14; Best double couple: M≈3.81600×10^17 NP1:φ=78.00000°, δ71.00000°, λ-175.00000°. NP2: φ=346.00000°, δ85.00000°, λ-19.00000°. Principal axes: T 3.7080, Plg9.0000°, Azm33.0000°; N 0.2180, Plg71.0000°, Azm151.0000°; P -3.9250, Plg17.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
MOS ***30*** *02:50:10.3±1.3, 4530S×7585W, h33km, mb5.3/24 Error ellipse: s-maj=25.1km s-min=9.5km az=84.6*
BJI ***30*** *02:50:12.8, 4580S×7550W, h36km, mB5.4, Ms5.9, Msz5.7*

ISC 30 02:50:10.6±0.3, 4570S±005×7561W±009, h43km, h43km±2.6km:pP-P, n177, σ1°22/114, mb4.9/42, MS5.5/15, 7C-4D, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
COYC	**Coyhaique**	**2.48**	**88**	*e*P		**Pn**	**02 50 47.0**	**-1.5**
COYC				*i*S		**Sn**	**02 51 30.3**	**+13**
PMCH	**Puerto Montt**	**4.65**	**26**	*e*P		**Pn**	**02 51 17.3**	**-1.0**
PMCH	**Puerto Montt**	**4.65**	**26**	*e*P		**Pn**	**02 51 18.2**	**-0.1**
VLCH	**Valdivia**	**6.15**	**17**	⇓*e*P		**Pn**	**02 51 37.0**	**-1.8**
VLCH	**Valdivia**	**6.15**	**17**	*e*P		**Pn**	**02 51 37.6**	**-1.3**
PLCA	**Paso Flores**	**6.19**	**38**	Pn		**Pn**	**02 51 38.5**	**-0.9**
	0.3nm,0.3s,baz=218,slow=13,SNR=38								
PLCA				Lg			02 53 12.9		
	baz=270,slow=23,SNR=1.4								
PLCA				LR		LR	02 54 13.7		
	comp=Z,62μm,20.3s,baz=202,slow=39								
PLCA	**Paso Flores**	**6.19**	**38**	*e*P		**Pn**	**02 51 39.9**	**+0.4**
PLCA				pmax		pmax			
	comp=Z,215nm,1.4s								
PLCA	**Paso Flores**	**6.19**	**38**	*e*Pn		**Pn**	**02 51 39.9**	**+0.4**
	comp=Z,214nm,1.4s								
CCHI	**Chillan**	**9.47**	**18**	*e*P		**Pn**	**02 52 21.7**	**-2.7**
CCHI	**Chillan**	**9.47**	**18**	*e*P		**Pn**	**02 52 23.7**	**-0.8**
USHA	**Ushuaia**	**10.22**	**156**	Pn		**Pn**	**02 52 30.4**	**-4.3**
	comp=Z,0.5nm,0.3s,baz=313,slow=8.2,SNR=6.9								
USHA				Lg			02 55 20.9		
	comp=Z,0.1nm,0.3s,baz=231,slow=20,SNR=1.4								
USHA				LR		LR	02 57 01.6		
	comp=Z,23μm,18.1s,baz=308,slow=40								
LNV	**Longovilo**	**12.17**	**17**	*e*P		**Pn**	**02 52 56.4**	**-4.8**
LNV	**Longovilo**	**12.17**	**17**	*e*P		**Pn**	**02 52 59.5**	**-1.8**
TRQA	**Tornquist**	**12.70**	**58**	*e*Pn		**Pn**	**02 53 08.7**	**+0.1**
FCH	**Farellones**	**13.02**	**20**	*e*P		**Pn**	**02 53 08.4**	**-4.5**
CFAA	**Coronel Fontan**	**15.20**	**25**	Pn		**Pn**	**02 53 35.7**	**-6.5**
	comp=Z,0.0nm,0.3s,baz=210,slow=11,SNR=14								
CFAA				Lg			02 57 51.6		
	comp=Z,0.0nm,0.3s,baz=300,slow=15,SNR=1.5								
CFAA				LR		LR	02 59 55.3		
	comp=Z,3μm,20.6s,baz=200,slow=39								
TLL	**Tololo Astrono**	**15.96**	**15**	*e*P		**Pn**	**02 53 49.0**	**-3.1**
LPA	**La Plata**	**17.23**	**57**	*ce*P		**Pn**	**02 54 11.0**	**+3.0**
LPA									
	comp=Z,28μm,18.0s								
LVC	**Limon Verde**	**23.68**	**16**	P		**P**	**02 55 18.8**	**+0.6**
	comp=Z,9.0nm,0.8s,mb4.3,baz=192,slow=10,SNR=9.1								
LVC				S		**S**	**02 59 42.3**	**+12**	
	comp=Z,2.3nm,0.9s,baz=30,slow=17,SNR=1.5								
LVC				LR		LR	03 05 28.7		
	comp=Z,7μm,18.6s,MS5.2,baz=36,slow=39								
LVC	**Limon Verde**	**23.68**	**16**	*e*P		**P**	**02 55 21.5**	**+3.3**
	comp=Z,294nm,1.9s,mb5.4								
CPUP	**Villa Florida**	**24.24**	**43**	P		**P**	**02 55 24.1**	**+0.8**
	comp=Z,73nm,1.0s,mb5.1,baz=207,slow=8.8,SNR=86								
CPUP				Lg			03 03 01.8		
	comp=Z,0.2nm,0.4s,baz=34,slow=20,SNR=1.4								
CPUP				LR		LR	03 05 43.6		
	comp=Z,20μm,19.0s,MS5.6,baz=195,slow=38								
CPUP	**Villa Florida**	**24.24**	**43**	*e*P		**P**	**02 55 23.9**	**+0.6**
CPUP				pmax		pmax			
	comp=Z,277nm,1.0s								
CPUP	**Villa Florida**	**24.24**	**43**	*e*P		**P**	**02 55 23.9**	**+0.6**
	comp=Z,277nm,1.0s,mb5.6								
ARE	**Arequipa**	**29.36**	**8**	*e*P		**P**	**02 56 10.0**	**+0.6**
LPAZ	**La Paz**	**29.99**	**14**	P		**P**	**02 56 15.4**	**+0.5**
	comp=Z,11nm,1.1s,mb4.5,baz=159,slow=5.7,SNR=15								
LPAZ				Lg			03 06 01.4		
	comp=Z,0.2nm,0.4s,baz=290,slow=19,SNR=1.9								
LPAZ	**La Paz**	**29.99**	**14**	*e*P		**P**	**02 56 16.7**	**+1.7**
LPAZ				*e*			02 59 23.7		
LPAZ				pmax		pmax			
	comp=Z,94nm,1.8s								
LPAZ	**La Paz**	**29.99**	**14**	*e*P		**P**	**02 56 16.7**	**+1.7**
	comp=Z,94nm,1.8s,mb5.2								
LPAZ				*e*PcP		PcP	02 59 23.7	+7.2	
CAM4	**Nova Friburgo**	**35.55**	**60**	*e*P		**P**	**02 57 04.5**	**+0.9**
CAM4				*i*			02 57 07.0		
CAM4				*i*			02 57 11.5		
CAM4				*i*		pP	02 57 17.6	+2.2	
CAM4				*i*			02 57 24.6		
CAM4				*i*			02 57 45.3		
BDFB	**Brasilia**	**37.87**	**47**	P		**P**	**02 57 24.1**	**+0.8**
	comp=Z,33nm,1.0s,mb5.0,baz=218,slow=6.2,SNR=36								
BDFB				LR		LR	03 14 08.7		
	comp=Z,16μm,19.5s,MS5.8,baz=207,slow=38								
SAML	**Samuel**	**38.15**	**20**	*e*P		**P**	**02 57 25.9**	**+0.2**
	comp=Z,71nm,1.5s,mb5.2								
SAML				*e*pP		pP	02 57 36.6	-0.9	
ATAH	**Atahualpa**	**38.63**	**356**	P		**P**	**02 57 29.1**	**-0.5**
	comp=Z,18nm,1.0s,mb4.8,baz=155,slow=6.8,SNR=4.9								
ATAH				LR		LR	03 11 10.1		
	comp=Z,3μm,18.1s,MS5.2,baz=94,slow=33								
VNA3	**Neumayer Olymp**	**39.88**	**153**	⇑*i*P		**P**	**02 57 40.0**	**-0.1**
VNA3				*e*			02 57 46.8		
VNA3				*e*		pP	02 57 51.7	-0.2	
VNA3				*e*		pP	02 57 53.8	+1.9	
VNA3				*e*			02 57 58.0		
VNA3				*e*			02 58 10.5		
VNA3				*e*			02 58 20.1		
VNA3				*e*			02 59 12.8		
VNA3				*e*			02 59 22.2		
VNA1	**Neumayer--Stat**	**40.31**	**152**	⇑*i*P		**P**	**02 57 44.2**	**+0.5**
VNA1				*e*			02 57 51.1		
VNA1				*e*		pP	02 57 56.9	+1.3	
VNA1				*e*			02 57 59.2		
VNA1				*e*			02 58 03.4		
VNA1				*e*			02 58 15.8		
VNA1				*e*			02 58 22.5		
VNA2	**Neumayer--Watz**	**40.61**	**152**	⇑*i*P		**P**	**02 57 46.5**	**+0.4**
	baz=271,slow=8.2								
VNA2				*e*			02 57 53.0		
VNA2				*e*		pP	02 57 57.8	-0.2	
VNA2				*e*		pP	02 57 59.9	+1.9	
VNA2				*e*			02 58 04.0		
VNA2				*e*			02 58 16.5		
VNA2				*e*			02 58 26.5		
VNA2				*e*			02 59 18.5		
VNA2				*e*			02 59 29.3		
SNAA	**Sanae**	**42.06**	**153

comp=Z,30nm,1.4s,mb5.0
LTX Lajitas 78.91 335 *e*P **P 03 02 09.7 +0.3**
LTX pmax pmax
comp=Z,31nm,1.6s,mb5.0
LTX Lajitas 78.91 335 *e*P **P 03 02 09.7 +0.2**
comp=Z,31nm,1.6s,mb5.0
JCT Junction City 78.94 339 *e*P **P 03 02 08.9 -0.7**
JCT pmax pmax
comp=Z,23nm,1.1s,mb5.0
JCT Junction City 78.94 339 *e*P **P 03 02 08.9 -0.7**
comp=Z,23nm,1.1s,mb5.0
LRAL Lakeview Retre 79.05 350 *e*P **P 03 02 09.2 -0.9**
comp=Z,7.8nm,0.9s,mb4.6
LBTB Lobatse 79.84 115 *e*P **P 03 02 14.5 0.0**
LBTB *e* 03 02 21.1
LBTB pmax pmax
comp=Z,21nm,1.1s,mb5.0
LBTB Lobatse 79.84 115 *e*P **P 03 02 14.5 0.0**
comp=Z,21nm,1.1s,mb5.0
LBTB *e*PcP PcP 03 02 21.1 -0.9
SWET Sewanee 81.08 351 *e*P **P 03 02 25.5 +4.3**
PLAL Pickwick Lake 81.10 350 *e*P **P 03 02 25.0 +3.7**
comp=Z,15nn,1.4s,mb4.7
PLAL *e*PcP PcP 03 02 28.3 +0.8
PLAL *e*pP pP 03 02 36.2 +2.1
DBIC Dimbokro 81.54 71 P **P 03 02 25.6 +2.0**
comp=Z,4.5nm,1.0s,mb4.3,baz=187,slow=7.6,SNR=3.3
DBIC LR LR 03 37 24.5
comp=Z,1μm,18.6s,MS5.3,baz=204,slow=35
DBIC Dimbokro 81.54 71 *e*P **P 03 02 24.8 +1.2**
DBIC pmax pmax
comp=Z,24nm,1.2s
DBIC Dimbokro 81.54 71 *e*P **P 03 02 24.8 +1.2**
comp=Z,24nm,1.2s,mb5.0
WVT Waverly 82.20 350 *e*P **P 03 02 25.5 -1.5**
WVT pmax pmax
comp=Z,23nm,1.4s,mb4.9
WVT Waverly 82.20 350 *e*P **P 03 02 25.5 -1.6**
comp=Z,23nm,1.4s,mb4.9
GLAT Glass 82.53 349 *e*P **P 03 02 33.7 +5.0**
WMOK Wichita Mounta 82.77 341 *e*P **P 03 02 31.2 +1.2**
WMOK *e**PP pP 03 02 42.4 -0.5
WMOK pmax pmax
comp=Z,15nm,1.1s,mb4.9
WMOK Wichita Mounta 82.77 341 *e*P **P 03 02 31.2 +1.2**
comp=Z,14nm,1.1s,mb4.9
WMOK *e*PcP PcP 03 02 37.4 +2.7
WMOK *e*pP pP 03 02 42.4 -0.6
WMOK *e*PP PP 03 05 54.7 +14
CBN Corbin 83.54 359 *e*P **P 03 02 33.9 -0.1**
comp=Z,25nm,0.3s,mb5.8
TUC Tucson 83.94 331 *e*P **P 03 02 36.5 +0.5**
TUC pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
TUC Tucson 83.94 331 *e*P **P 03 02 36.5 +0.5**
comp=Z,5.4nm,1.0s,mb4.6
BNM Barren Site 84.29 335 *e*P **P 03 02 39.0 +1.2**
BNM *e*PcP PcP 03 02 44.7 +3.2
LENM Lemitar 84.41 334 *e*P **P 03 02 40.3 +1.9**
CCM Cathedral Cave 84.56 348 *e*P **P 03 02 38.7 -0.5**
CCM pmax pmax
comp=Z,12nm,0.8s,mb5.1
CCM Cathedral Cave 84.56 348 *e*P **P 03 02 38.7 -0.5**
comp=Z,12nn,0.8s,mb5.1
LAZ Ladron 84.68 334 *e*P **P 03 02 40.4 +0.6**
SLM Saint Louis 84.98 349 *e*P **P 03 02 40.3 -1.0**
SLM pmax pmax
comp=Z,16nm,1.2s,mb5.0
SLM Saint Louis 84.98 349 *e*P **P 03 02 40.2 -1.0**
comp=Z,16nm,1.2s,mb5.0
ANMO Albuquerque 84.98 335 *e*P **P 03 02 40.7 -0.6**
ANMO Albuquerque 84.98 335 *e*P **P 03 02 41.5 +0.1**
comp=Z,8.9nm,1.0s,mb4.8
BLO Bloomington 85.06 352 *e*P **P 03 02 41.7 0.0**
BLO pmax pmax
comp=Z,12nn,0.8s,mb5.1
BLO Bloomington 85.06 352 *e*P **P 03 02 41.7 0.0**
comp=Z,12nn,0.8s,mb5.1
PFO Pinyon Flat Ob 87.17 327 P **P 03 02 54.5 +2.4**
PFO pmax pmax
comp=Z,14nm,1.1s,mb5.1
PFO Pinyon Flat Ob 87.17 327 P **P 03 02 54.5 +2.4**
comp=Z,14nm,1.1s,mb5.1
MVCO Mesa Verde 87.69 334 *e*P **P 03 02 56.1 +1.5**
LSZ Lusaka 88.54 110 *e*P pP 03 03 07.8 -3.9
LSZ pmax pmax
comp=Z,15nn,1.3s,mb5.2
LSZ Lusaka 88.54 110 *e*P pP 03 03 07.8 -3.9
comp=Z,15nn,1.3s
PV01 Paradox Valley 88.57 335 *e*P **P 03 02 59.9 +1.2**
SMCO Snowmass 89.07 336 *e*P **P 03 03 01.4 +0.3**
comp=Z,18nn,1.1s,mb5.3
SMCO *e*pP pP 03 03 17.6 +3.4
ISCO Idaho Springs 89.27 337 *e*P **P 03 03 03.5 +1.4**
ISCO pmax pmax
comp=Z,12nn,1.2s,mb5.1
ISCO Idaho Springs 89.27 337 *e*P **P 03 03 03.5 +1.4**
comp=Z,12nn,1.2s,mb5.1
CCUT Cedar City 89.57 331 *e*P pP 03 03 13.2 -3.4
MSU Marysvale 90.05 332 *e*P **P 03 03 06.8 +1.1**
MSU *e**PP pP 03 03 15.8 -2.9
TMUT Trail Mountain 90.45 333 *e*P **P 03 03 11.4 +3.9**
PHWY Pilot Hill 90.64 338 *e*P **P 03 03 08.8 +0.3**
PHWY *e*pP pP 03 03 20.6 -0.9
TORD Torodi Ar. Bea 90.64 72 P **P 03 03 10.2 +1.8**
comp=Z,1.0nm,1.1s,mb4.0,baz=267,slow=3.8,SNR=5.1
TORD PP PP 03 06 48.8 +4.8
comp=Z,2.1nm,1.1s,baz=237,slow=5.6,SNR=3.8
ECSD EROS,Sioux Fal 90.98 345 *e*P **P 03 03 09.1 -0.9**
DAU Daniels Canyon 91.48 334 *e*P **P 03 03 11.3 -1.0**
DUG Dugway 91.78 332 *e*P **P 03 03 11.3 -2.4**
DUG pmax pmax
comp=Z,6.0nm,1.3s,mb4.8
DUG Dugway 91.78 332 *e*P **P 03 03 11.3 -2.4**
comp=Z,6.2nn,1.3s,mb4.8
NVAR Mina Array Bea 92.12 328 P **P 03 03 12.5 -2.8**
comp=Z,0.4nm,0.3s,mb4.2,baz=48,slow=40,SNR=8.2
PDAR Pinedale Array 93.13 336 P **P 03 03 16.9 -3.0**
comp=Z,0.8nm,1.0s,mb4.1,baz=158,slow=4.3,SNR=4.5
TPAW Teton Pass 94.20 335 *e*P **P 03 03 24.6 -0.3**
comp=Z,4.9nm,1.0s,mb4.9
LAO LASA Array 95.87 339 *e*P **P 03 03 30.4 -2.1**
MCMT McKenzie Canyo 95.98 334 *e*P **P 03 03 33.4 +0.4**
GRF Grafenberg Arr 121.16 49 *e*L 03 58 43.2
comp=Z,857nm,20.7s
GERES GERESS Array B 122.01 51 PKP PKPdf 03 08 59.5 -0.7
comp=Z,1.2nm,0.9s,baz=177,slow=2.4,SNR=6.4
KHC Kasperske Hory 122.10 51 AMS AMS 03 58 00.0
comp=Z,2μm,18.2s
NKC Novy Kostel 122.11 49 AMS AMS 04 02 40.0
comp=Z,1μm,16.2s
CLL Collm 123.00 48 *e*Pdiff Pdif 03 05 32.5 -0.9
comp=Z,10.0nm,1.4s
CLL *e*PKiKP PKiKP 03 09 06.3 +3.9
CLL *e*PP PP 03 10 43.1 +1.6
CLL *e*Sdiff Sdif 03 18 34.3 0.0
CLL *e*PS PS 03 20 48.8 +11
CLL *e*PPS 03 22 05.0
CLL *e*SS SS 03 27 35.8 +13
CLL *e*SSS 03 31 53.5
CLL *e*SSSS 03 35 36.4
CLL *e*LR LR 03 47 55.7
CLL *e*L 03 59 59.6
comp=Z,2μm,20.0s
CLL Collm 123.00 48 *e*Pdif Pdif 03 05 33.0 -0.4
comp=Z,10.0nm,1.4s
CLL *e*PKPdf PKPdf 03 09 02.0 -0.2
comp=Z,6.0nm,0.3s
CLL *e*PS PS 03 20 42.0 +4.3
CLL *e*PPS 03 22 00.0
CLL *e*SSS 03 31 53.0
CLL *e*(SSSS) 03 35 48.0
CLL Collm 123.00 48 *e*P Pdif 03 05 33.0 -0.4
CLL *e* 03 09 02.0
CLL pmax pmax
comp=Z,10.0nm,1.4s
CLL pmax pmax
comp=Z,6.0nm,0.3s
CLL MLR MLR
comp=Z,2μm,22.6s,MS5.7
CLL MLR MLR
comp=Z,3μm,19.7s
CLL Collm 123.00 48 *e*Pdif Pdif 03 05 33.0 -0.4
CLL *e*PKP PKPdf 03 09 02.0 -0.2
CLL LR LR
comp=Z,2μm,22.6s,MS5.7
PRU Pruhonice 123.10 50 AMS AMS 03 58 10.0
comp=Z,2μm,21.8s
ILAR Eielson Array 123.24 331 PKP PKPdf 03 08 60.0 -2.7
comp=Z,0.7nm,0.8s,baz=166,slow=1.7,SNR=8.6
COLA College 123.63 331 *i* PKIKP PKPdf 03 09 03.2 -0.2
COLA College 123.63 331 *e*PKPdf PKPdf 03 09 04.1 +0.7
DPC Dobruska-Polom 124.26 51 AMS AMS 03 59 20.0
comp=Z,2μm,25.4s
BZS Buzias 124.75 58 ⇓*i*P PKPdf 03 09 12.6 +7.1
OKC Ostrava-Krasne 124.99 52 AMS AMS 04 05 10.0
comp=Z,800nm,15.7s
TTA Tatalina 125.51 326 *e*PKIKP PKPdf 03 09 11.5 +4.5
MLR Muntele Rosu 127.29 60 ⇓*i*P PKPdf 03 09 17.0 +6.6
BRTR Keskin Array B 129.22 70 PKP PKPdf 03 09 14.2 +0.2
comp=Z,1.8nm,0.8s,baz=190,slow=3.5,SNR=6.9
BR131 Keskin Array S 129.22 70 *e*PKPdf PKPdf 03 09 14.4 +0.4
AKASG Malin Array Be 131.66 55 PKP PKPdf 03 09 18.8 +0.2
comp=Z,0.2nm,0.3s,baz=186,slow=0.1,SNR=2.7
KIV Kislovodsk 137.17 69 *i* PKHKP 03 09 22.4
KIV pmax pmax
comp=Z,7.0nm,0.8s
OBN Obninsk 137.38 52 ⇓*i*PKIKP PKPdf 03 09 34.5 +5.1
OBN *e* 03 12 14.9
OBN *e*SS SS 03 30 51.0 +32
OBN pmax pmax
comp=Z,5.0nm,0.5s
OBN MLR MLR
comp=Z,2μm,22.0s,MS5.7
BILL Bilibino 141.74 328 *i* PKIKP PKPdf 03 09 39.3 +2.0
BILL Bilibino 141.74 328 *e*PKPdf PKPdf 03 09 42.4 +5.1
HYB Hyderabad 144.53 134 *i* PKP PKPdf 03 09 41.0 -1.2
PET Petropavlovsk 144.66 302 *e*PKIKP pPKPdf 03 09 54.4 -1.6
PET pmax pmax
comp=Z,300nm,4.9s
PET pmax pmax
comp=Z,200nm,6.4s
SKR Severo-Kuril's 145.74 297 *e* PKPdf 03 09 46.0 +1.7
ORR Orenburg 147.22 61 *i* PKP2 PKPab 03 09 49.2 -1.7
ORR pmax pmax
comp=Z,40nm,1.3s
MA2 Magadan 149.33 314 *e*PKHKP PKPdf 03 09 49.2 -1.1
MA2 *e* 03 09 58.9
ARU Arti 149.82 52 *i* PKHKP PKPdf 03 09 54.7 +3.7
ARU Arti 149.82 52 *e*PKPbc PKPbc 03 09 55.2 -0.6
TIXI Tiksi 151.48 344 *e*PKIKP PKPdf 03 09 54.0 +0.4
TIXI *i* 03 09 59.8
TIXI pmax pmax
comp=Z,7.0nm,1.4s
TIXI pmax pmax
comp=Z,24nm,1.1s
NDI New Delhi 152.68 119 *e*P PKPbc 03 10 02.0 -0.5
CHTO Chiang Mai 152.81 169 *e*PKIKP PKPbc 03 10 02.0 -0.8
MJAR Matsushiro Arr 153.09 262 PKPbc PKPbc 03 10 02.1 -1.3
comp=Z,1.9nm,0.7s,baz=158,slow=3.2,SNR=5.8
MAT Matsushiro 153.10 262 *e*PKP PKPbc 03 10 03.3 -0.1
MAT Matsushiro 153.10 262 PKP PKPbc 03 10 03.0 -0.4
ZRNK Zerenda 156.02 60 *e*PKIKP PKPdf 03 09 59.8 -0.3
BRVK Borovoye 156.78 59 *e*PKIKP PKPdf 03 10 00.9 -0.2
CHKZ Chkalovo 156.92 58 *e*PKIKP PKPdf 03 10 10.0 +8.8
AAK Ala-Archa 158.40 87 *e*PKIKP PKPdf 03 10 02.9 -0.2
FRU Bishkek 158.55 87 *e*PKIKP PKPdf 03 10 11.0 +7.8
FRU pmax pmax
comp=Z,40nm,2.0s
KMI Kunming 159.42 176 PKP PKPdf 03 10 07.3 +3.0
KMI PP PP 03 14 26.8 +3.4
KMI SKKS SKKSac 03 21 09.5 +0.7
KMI LR LR
comp=Z,936nm,24.6s,MS5.5
KMI Kunming 159.42 176 PKIKP PKPdf 03 10 07.3 +3.0
KMI 03 14 26.7
KMI PPP 03 18 08.3
KMI MLR MLR
comp=Z,940nm,24.6s,MS5.5
KMI Kunming 159.42 176 PKP PKPdf 03 10 07.3 +3.0
KMI PP PP 03 14 26.7 +3.3
KMI PPP 03 18 08.3
KMI SKKS SKKSac 03 21 09.5 +0.7
KMI SS SS 03 34 23.7 -2.6
KMI SSS 03 40 30.2
KMI LR LR
comp=Z,940nm,24.6s,MS5.5
SSE Sheshan 160.41 228 *e*PKP PKPdf 03 10 06.0 +0.6
SSE PP PP
comp=Z,37nm,4.6s
SSE Sheshan 160.41 228 *e*P PKPdf 03 10 06.1 +0.7
KURK Kurchatov 162.15 64 *e*PKIKP PKPdf 03 10 06.9 -0.3
KURK *e* 03 14 38.4
MDJ Mudanjiang 162.21 276 PKP PKPdf 03 10 09.0 +1.7
MDJ PKS 03 13 42.3
MDJ PP PP 03 14 41.8 +3.4
MDJ SKS SKSdf 03 17 11.8 +3.2
MDJ SS SS 03 35 02.5 +7.0
MDJ PP PP
comp=Z,135nm,4.7s
MDJ LR LR
comp=N,4μm,19.9s
MDJ LR LR
comp=E,2μm,23.2s
MDJ LR LR
comp=Z,6μm,18.8s
NJ2 Nanjing 162.35 224 *e*PKP PKPdf 03 10 09.5 +2.1
NJ2 APKP 03 10 20.0
NJ2 XPKP 03 10 23.5
NJ2 PKP2 PKPab 03 10 58.5 +3.5
NJ2 PKS 03 13 43.0
NJ2 PP PP 03 14 46.0 +6.8
NJ2 PP PP
comp=Z,550nm,9.3s
NJ2 LR LR
comp=N,560nm,30.0s
NJ2 LR LR
comp=E,330nm,34.0s
NJ2 LR LR
comp=Z,180nm,31.6s
NVS Novosibirsk 163.74 48 *e*PKIKP PKPdf 03 10 12.8 +4.0
MKAR Makanchi Array 164.68 78 PKP PKPdf 03 10 09.6 0.0
comp=Z,0.5nm,0.8s,baz=268,slow=5.7,SNR=4.7
MKAR PKPab PKPab 03 11 08.2 +3.0
comp=Z,1.4nm,0.7s,baz=263,slow=4.9,SNR=4.3
MKAR Makanchi Array 164.68 78 PKP PKPdf 03 10 09.6 0.0
MKAR PKPab PKPab 03 11 08.2 +3.0
CN2 Changchun 164.92 270 *e*PKP PKPdf 03 10 11.5 +1.7
CN2 XPKP 03 10 26.0
CN2 *e*SS SS 03 35 29.0 +5.5
CN2 PP PP
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,1μm,17.0s
CN2 LR LR
comp=E,970nm,17.0s
CN2 LR LR
comp=Z,2μm,16.0s
WMQ Urumqi 167.98 93 ⇑PKP PKPdf 03 10 10.8 -1.4
WMQ APKP 03 10 21.5
WMQ XPKP 03 10 25.8
WMQ PKP2 PKPab 03 11 19.5 -0.3
WMQ PP PP 03 15 09.3 +0.8
WMQ PP PP
comp=Z,319nm,4.7s
WMQ LR LR
comp=N,1μm,21.6s
WMQ LR LR
comp=E,885nm,23.2s
WMQ LR LR
comp=Z,1μm,23.2s
LZH Lanzhou 170.38 177 ⇑PKP PKPdf 03 10 14.5 +0.8
LZH APKP 03 10 26.0
LZH XPKP 03 10 30.0
LZH PKS 03 13 45.5
LZH PP PP 03 15 23.8 +3.2
LZH SKS SKSdf 03 17 12.3 -1.3
LZH SKKS SKKSac 03 22 04.8 +0.8
LZH PP PP
comp=Z,375nm,9.5s
LZH LR LR
comp=N,797nm,18.6s
LZH LR LR
comp=Z,1μm,20.3s
HHC Hu-ho-hao-te 172.86 230 *e*PKP PKPdf 03 10 15.3 +0.4
HHC APKP 03 10 26.0
HHC XPKP 03 10 29.0
HHC PKP2 PKPab 03 11 43.3 +1.9
HHC PKS 03 13 46.0
HHC PP PP 03 15 36.3 +3.4
HHC SKS SKSdf 03 17 13.0 -1.5
HHC SKKS SKKSac 03 22 18.0 +2.0
HHC LR LR
comp=N,197nm,19.0s
HHC LR LR
comp=E,265nm,20.2s
HHC LR LR
comp=Z,255nm,21.1s
GTA Gaotai 172.86 150 PKP PKPdf 03 10 15.3 +0.4
GTA PKP2 PKPab 03 11 43.3 +1.9
GTA PKS 03 13 46.8
GTA PP PP 03 15 37.0 +4.1
GTA SKS SKSdf 03 17 09.8 -4.7
GTA PP PP
comp=Z,175nm,8.0s
GTA LR LR
comp=N,753nm,19.0s
GTA LR LR
comp=E,514nm,17.1s
GTA LR LR
comp=Z,1μm,19.0s

*ISCJB **30** 03:08:58.9±1.0, 212S±0.1×683W±0.2, h115km±14km, mb3.7/1, Error ellipse: s-maj=37.7km s-min=13.3km az=38.8*
*IDC **30** 03:08:59.6±1.4, 211.1S×683.7W, h108km±16km, mb3.4/2, mb1 3.3/5, mb1mx3.2/17, mbtmp3.8/5, Error ellipse: s-maj=44.5km s-min=15.3km az=110.0*
*NEIC **30** 03:08:59.7±0.8, 211.7S×682.5W, h95km±11km, Error ellipse: s-maj=22.0km s-min=10.2km az=117.0*
ISC 30 03:09:00.2±1.0, 211S±01×683W±02, h105km±14km, n8, σ0°47/10, mb3.7/1, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.58**	**202**	P	**Pn**	**03 09 27.4**	**-0.3**
	12nn,0.3s,baz=14,slow=11,SNR=114						
LVC				S	**Sn**	**03 09 48.8**	**+0.3**
	24nn,0.3s,baz=248,slow=23,SNR=38						
LVC	**Limon Verde**	**1.58**	**202**	*e*Pn	**Pn**	**03 09 27.1**	**-0.6**
LVC				*e*Sn	**Sn**	**03 09 49.2**	**+0.7**
LPAZ	**La Paz**	**4.83**	**2**	P	**Pn**	**03 10 10.9**	**+0.2**
	0.7nn,0.3s,baz=202,slow=8.4,SNR=32						
SIV	**San Ignacio**	**8.54**	**54**	P	**Pn**	**03 11 00.4**	**-0.6**
	2.0nn,0.3s,baz=245,slow=10,SNR=64						
PLCA	**Paso Flores**	**19.63**	**185**	P	**P**	**03 13 19.9**	**-0.4**
	0.1nn,0.3s,baz=26,slow=12,SNR=4.7						
PLCA	**Paso Flores**	**19.63**	**185**	P	**P**	**03 13 19.9**	**-0.4**
BDFB	**Brasilia**	**19.99**	**78**	P	**P**	**03 13 25.0**	**+0.7**
	2.5nn,1.0s,baz=230,slow=7.9,SNR=2.8						
TORD	**Torodi Ar. Bea**	**76.68**	**70**	P	**P**	**03 20 39.7**	**0.0**
	0.7nn,0.4s,mb3.7,baz=251,slow=5.2,SNR=43						

*IDC **30** 03:22:10.0±0.7, 19.16S×174.79W, h0km, mb4.3/7, mb1 4.5/8, mb1mx4.3/18, mbtmp4.3/8, ML2.5/1, Error ellipse: s-maj=41.7km s-min=17.6km az=115.0*
*ISCJB **30** 03:22:13.4±0.3, 19.21S±0.09×174.8W±0.1, h33km, mb4.5/18, Error ellipse: s-maj=18.5km s-min=8.5km az=68.8*
*MOS **30** 03:22:15.7±1.6, 19.48S×173.72W, h33km, mb5.1/5, Error ellipse: s-maj=50.0km s-min=15.1km az=72.2*
*NEIC **30** 03:22:15.2±0.2, 19.14S×174.78W, h35km, mb4.6/13, Error ellipse: s-maj=14.3km s-min=5.1km az=121.0*
ISC 30 03:22:15.5±0.3, 1917S±008×1747W±01, h35km, n54, σ0°68/42, mb4.5/18, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.95**	**29**	Pn	**Pn**	**03 23 40.5**	**-0.5**
	7.3nn,0.3s,baz=272,slow=23,SNR=4.1						
AFI	**Afiamalu**	**5.95**	**29**	Pn	**Pn**	**03 23 40.5**	**-0.5**
AFI				*e*Sn	**Sn**	**03 24 45.0**	**-2.9**
URZ	**Urewera**	**20.30**	**199**	P	**P**	**03 26 47.3**	**-0.9**
	5.9nn,0.6s,baz=260,slow=3.9,SNR=3.6						
URZ	**Urewera**	**20.30**	**199**	P	**P**	**03 26 47.3**	**-0.9**
HNR	**Honiara**	**26.35**	**288**	PKPdf	**P**	**03 27 47.6**	**-0.6**
RPZ	**Rata Peaks**	**27.23**	**203**	P	**P**	**03 27 56.4**	**+0.3**
	7.2nn,0.6s,mb4.4,baz=10,slow=3.7,SNR=5.7						
STKA	**Stephens Creek**	**41.14**	**243**	P	**P**	**03 29 55.4**	**-0.8**
	3.0nn,0.9s,mb3.9,baz=79,slow=12,SNR=3.8						
SBA	**Scott Base**	**59.41**	**184**	*e*P	**P**	**03 32 14.3**	**-0.1**
SBA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
SBA	**Scott Base**	**59.41**	**184**	*e*P	**P**	**03 32 14.3**	**-0.1**
	comp=Z,10.0nm,1.0s,mb4.8						
VNDA	**Vanda**	**59.51**	**186**	P	**P**	**03 32 14.5**	**-0.6**
	comp=Z,3.1nm,0.9s,mb4.3,baz=358,slow=7.5,SNR=9.5						
VNDA	**Vanda**	**59.51**	**186**	*e*P	**P**	**03 32 14.5**	**-0.6**
VNDA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
VNDA	**Vanda**	**59.51**	**186**	*e*P	**P**	**03 32 14.5**	**-0.6**
	comp=Z,3.8nn,1.0s,mb4.4						
NWAO	**Narrogin (SRO)**	**61.72**	**242**	*e*P	**P**	**03 32 30.2**	**+0.1**
NWAO				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NWAO	**Narrogin (SRO)**	**61.72**	**242**	*e*P	**P**	**03 32 30.2**	**0.0**
	comp=Z,4.6nn,0.5s,mb4.9						
CASY	**Casey**	**66.47**	**205**	*e*P	**P**	**03 33 00.7**	**-0.7**
	comp=Z,1.5nm,0.6s,mb4.2						
KALP	**Kalibo**	**69.17**	**291**	*e*P	**P**	**03 33 19.8**	**+1.5**
QSPA	**South Pole Qui**	**70.89**	**180**	*e*P	**P**	**03 33 28.7**	**-0.2**
	comp=Z,12nn,1.0s,mb4.8						
NVAR	**Mina Array Bea**	**77.96**	**42**	P	**P**	**03 34 10.9**	**+0.9**
	comp=Z,3.1nm,0.9s,mb4.2,baz=214,slow=7.3,SNR=19						
TPNV	**Topopah Spring**	**78.43**	**44**	*e*P	**P**	**03 34 13.1**	**+0.5**
TPNV				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
TPNV	**Topopah Spring**	**78.43**	**44**	*e*P	**P**	**03 34 13.1**	**+0.5**
	comp=Z,3.8nm,1.0s,mb4.3						
MOD	**Modoc**	**78.85**	**38**	*e*P	**P**	**03 34 14.4**	**-0.5**
	comp=Z,1.7nm,0.8s,mb4.0						
MSU	**Marysvale**	**81.98**	**45**	*e*P	**P**	**03 34 33.0**	**+1.3**
TMUT	**Trail Mountain**	**83.04**	**44**	*e*P	**P**	**03 34 37.1**	**-0.1**
TMUT				*e*pP	pP	03 34 49.8	+1.5
TTA	**Tatalina**	**83.15**	**9**	*e*P	**P**	**03 34 38.2**	**+0.4**
HLID	**Hailey**	**83.33**	**39**	*e*P	**P**	**03 34 39.2**	**+0.4**
	comp=Z,4.5nm,0.9s,mb4.5						
HLID				*e*PcP	PcP	03 34 42.9	-0.3
SRU	**San Rafael**	**83.40**	**45**	*e*P	**P**	**03 34 39.7**	**+0.6**
SRU				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
SRU	**San Rafael**	**83.40**	**45**	*e*P	**P**	**03 34 39.7**	**+0.6**
	comp=Z,7.5nm,1.1s,mb4.6						
MNTX	**Cornudas Mount**	**83.48**	**53**	*e*P	**P**	**03 34 39.6**	**+0.1**
	comp=Z,9.1nm,1.3s,mb4.7						
BNM	**Barren Site**	**83.68**	**51**	*e*P	**P**	**03 34 39.5**	**-1.1**
LPM	**Los Pinos Moun**	**83.76**	**51**	*e*P	**P**	**03 34 41.1**	**+0.2**
MAW	**Mawson**	**83.83**	**199**	*e*P	**P**	**03 34 41.8**	**+0.5**
MAW				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MAW	**Mawson**	**83.83**	**199**	*e*P	**P**	**03 34 41.8**	**+0.5**
	comp=Z,1.2nn,0.4s,mb4.4						
PV10	**Paradox Valley**	**84.03**	**46**	*e*P	**P**	**03 34 42.3**	**0.0**
PV10				*e*PcP	PcP	03 34 45.9	-0.3
ANMO	**Albuquerque**	**84.18**	**50**	*e*P	**P**	**03 34 43.4**	**+0.3**
ANMO				pmax	pmax		
	comp=Z,11nm,1.1s						
ANMO	**Albuquerque**	**84.18**	**50**	*e*P	**P**	**03 34 43.4**	**+0.3**
	comp=Z,11nm,1.1s,mb4.9						
PV01	**Paradox Valley**	**84.23**	**46**	*e*P	**P**	**03 34 43.7**	**+0.4**
MCMT	**McKenzie Canyo**	**84.97**	**39**	*e*P	**P**	**03 34 47.2**	**+0.1**
MCMT				*e*pP	pP	03 34 58.2	+0.1
SMCO	**Snowmass**	**85.83**	**46**	*e*P	**P**	**03 34 51.9**	**+0.5**
	comp=Z,3.9nm,0.9s,mb4.6						
PDAR	**Pinedale Array**	**85.90**	**42**	P	**P**	**03 34 51.5**	**-0.2**
	comp=Z,0.8nm,0.8s,mb4.0,baz=217,slow=4.3,SNR=6.0						
ILAR	**Eielson Array**	**86.37**	**12**	P	**P**	**03 34 54.0**	**-0.1**
	comp=Z,3.5nm,1.1s,mb4.5,baz=228,slow=6.0,SNR=21						
ECSD	**EROS,Sioux Fal**	**94.80**	**45**	*e*P	**P**	**03 35 33.0**	**-0.5**
CHKZ	**Chkalovo**	**119.81**	**321**	PKIKP	PKPdf	03 41 03.8	+1.9
CHKZ				pmax	pmax		
	comp=Z,77nm,1.0s						
ARCES	**ARCESS Array B**	**128.14**	**351**	PKP	PKPdf	03 41 16.8	-1.1
	comp=Z,2.0nm,0.7s,baz=17,slow=4.5,SNR=5.1						
AKASG	**Malin Array Be**	**143.25**	**334**	PKHKP		03 41 42.2	
	comp=Z,0.3nm,0.3s,baz=28,slow=4.2,SNR=8.0						
AKASG	**Malin Array Be**	**143.25**	**334**	PKP	PKPdf	03 41 42.2	-3.7
KWP	**Kalwaria**	**146.56**	**339**	*e*PKIKP	PKPdf	03 41 53.2	+1.6
CLL	**Collm**	**147.36**	**351**	⇓*i*PKPbc	PKPbc	03 41 55.5	+0.1
	comp=Z,7.0nm,0.8s						
CLL				*i* PKPab	PKPab	03 41 57.7	+0.4
	comp=Z,6.0nm,0.8s						

CLL				*i* (pPKPbc)		03 42 00.8		
BR131	**Keskin Array S**	**148.13 316**	*e*PKPbc	PKPbc		03 41 57.1	-0.4	
BRTR	**Keskin Array B**	**148.13 316**	PKPbc	PKPbc		03 41 57.9	+0.4	
	comp=Z,1.8nm,0.8s,baz=139,slow=3.6,SNR=11							
ASF	**Jabal al Asfar**	**148.82 301**	PKPbc	PKPbc		03 41 59.2	-0.1	
	comp=Z,1.3nm,0.5s,baz=153,slow=2.3,SNR=2.8							
KHC	**Kasperske Hory**	**149.38 349**	*e*P	PKPdf		03 42 00.0	+3.8	
KHC			x	x		03 42 18.0		
KHC	**Kasperske Hory**	**149.38 349**	*e*P	PKPdf		03 42 00.0	+3.8	
KHC			*e*			03 42 18.0		
GERES	**GERESS Array B**	**149.63 349**	PKPbc	PKPbc		03 42 01.2	0.0	
	comp=Z,1.4nm,0.8s,baz=341,slow=2.8,SNR=10							
TORD	**Torodi Ar. Bea**	**173.09 150**	PKP	PKPdf		03 42 21.3	+0.4	
	comp=Z,1.2nm,1.1s,baz=232,slow=0.8,SNR=3.6							
TORD				PKPab	PKPab	03 43 49.1	+0.8	
	comp=Z,0.8nm,1.0s,baz=212,slow=3.4,SNR=4.1							

MOS ***30*** *03:25:08.6±0.6, 5.96S×147.10E, h33km, mb4.5/4, Error ellipse: s-maj=22.1km s-min=10.5km az=76.3*

ISCJB ***30*** *03:25:11.3±2.2, 6.09S±0.09×1473E±0.1, h66km±20km, mb4.4/17, Error ellipse: s-maj=21.8km s-min=14.3km az=27.7*

IDC ***30*** *03:25:12.8±3.0, 6.10S×147.40E, h66km±26km, mb4.2/8, mb1 4.4/11, mb1mx4.3/16, mbtmp4.5/11, ML4.3/3, MS3.2/2, Ms1 3.2/2, ms1mx2.9/24, Error ellipse: s-maj=24.9km s-min=18.1km az=83.0*

NEIC ***30*** *03:25:12.6±1.6, 6.11S×147.38E, h65km±14km, mb4.8/8, Error ellipse: s-maj=12.9km s-min=11.2km az=91.0*

BJI ***30*** *03:25:12.5, 6.10S×147.40E, h64km, mb5.0*

ISC 30 03:25:13.1±2.0, 612S±009×1474E±0.1, h70km±18km, n45, σ0.8s 89/40, mb4.4/17, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.27 184**		P	**Pn**	**03 26 00.7**	**-1.2**
	44nm,0.3s,baz=351,slow=6.1,SNR=82						
PMG				S	**Sn**	**03 26 41.2**	**+1.5**
	39nm,0.3s,baz=29,slow=16,SNR=15						
PMG				LR	LR	03 27 28.2	
	comp=Z,695nm,22.0s,baz=19,slow=41						
PMG	**Port Moresby**	**3.27 184**		P	**Pn**	**03 26 00.8**	**-1.1**
PMG				S	**Sn**	**03 26 41.2**	**+1.5**
CTA	**Charters Tower**	**13.93 185**		*e*P	**Pn**	**03 28 28.0**	**+1.0**
	7.8nm,0.6s						
CTA	**Charters Tower**	**13.93 185**		P	**Pn**	**03 28 28.0**	**+1.0**
	2.1nm,0.3s,baz=352,slow=14,SNR=19						
CTA	**Charters Tower**	**13.93 185**		*e*P	**Pn**	**03 28 28.0**	**+1.0**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
CTAO	**Charters Tower**	**13.93 185**		*e*P	**Pn**	**03 28 27.8**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,17nm,0.8s						
CTAO	**Charters Tower**	**13.93 185**		*e*Pn	**Pn**	**03 28 27.8**	**+0.8**
	comp=Z,17nm,0.8s						
WRAB	**Tennant Creek**	**18.70 222**		*e*P	**Pn**	**03 29 25.7**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,23nm,0.6s						
WRAB	**Tennant Creek**	**18.70 222**		*e*P	**Pn**	**03 29 25.7**	**-1.1**
	comp=Z,24nm,0.6s						
WB2	**Warramunga Arr**	**18.70 222**		*e*P	**Pn**	**03 29 25.6**	**-1.2**
WRA	**Warramunga Arr**	**18.71 222**		P	**Pn**	**03 29 25.8**	**-1.2**
	comp=Z,2.0nm,0.3s,baz=44,slow=12,SNR=87						
AS31	**Alice Springs**	**21.75 215**		*e*P	**P**	**03 29 59.3**	**+0.6**
ASAR	**Alice Springs**	**21.75 215**		P	**P**	**03 29 59.0**	**+0.3**
	comp=Z,14nm,0.5s,mb4.6,baz=55,slow=8.9,SNR=96						
ASPA	**Alice Springs**	**21.75 215**		*e*P	**P**	**03 29 59.3**	**+0.6**
FITZ	**Fitzroy Crossi**	**24.35 239**		*e*P	**P**	**03 30 24.9**	**+0.6**
	comp=Z,99nm,0.8s,mb5.2						
FITZ	**Fitzroy Crossi**	**24.35 239**		P	**P**	**03 30 24.9**	**+0.6**
	comp=Z,47nm,0.6s,mb5.0,baz=74,slow=9.2,SNR=72						
STKA	**Stephens Creek**	**26.20 191**		*e*P	**P**	**03 30 38.9**	**-2.1**
	comp=Z,4.8nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**26.20 191**		P	**P**	**03 30 38.5**	**-2.5**
	comp=Z,6.6nm,0.7s,mb4.2,baz=10,slow=12,SNR=10						
FORT	**Forrest**	**30.53 214**		*e*P	**P**	**03 31 19.9**	**+0.3**
	comp=Z,10nm,0.5s,mb4.8						
MBWA	**Marble Bar**	**30.69 238**		*e*P	**P**	**03 31 21.9**	**+0.8**
TGY	**Tagaytay City**	**33.07 308**		LR	LR	03 46 10.0	
	comp=Z,25nm,19.4s,baz=267,slow=38						
KKM	**Kota Kinabalu**	**33.40 291**		P	**P**	**03 31 45.6**	**+0.8**
KLBR	**Kellerberrin**	**37.57 224**		*e*P	**P**	**03 32 20.3**	**-0.2**
	comp=Z,12nm,0.5s,mb5.0						
NWAO	**Narrogin (SRO)**	**38.72 223**		P	**P**	**03 32 30.6**	**+0.5**
	comp=Z,7.5nm,0.6s,mb4.7,baz=52,slow=9.3,SNR=6.4						
MJAR	**Matsushiro Arr**	**43.30 349**		P	**P**	**03 33 08.1**	**+0.2**
	comp=Z,3.7nm,1.0s,mb4.1,baz=172,slow=8.7,SNR=9.1						
PSI	**Prapat**	**49.22 279**		P	**P**	**03 33 53.4**	**-0.8**
	comp=Z,2.5nm,0.4s,mb4.5,baz=342,slow=9.6,SNR=3.5						
LZH	**Lanzhou**	**58.57 319**		*e*P	**P**	**03 35 06.8**	**+4.4**
LZH				AMB	AMB		
	comp=Z,21nm,1.2s,mb5.0						
LZH	**Lanzhou**	**58.57 319**		*e*P	**P**	**03 35 06.7**	**+4.3**
LZH				*SP	sP	03 35 17.2	-11
LZH				pmax	pmax		
	comp=Z,21nm,1.2s,mb5.0						
LZH	**Lanzhou**	**58.57 319**		*e*P	**P**	**03 35 06.7**	**+4.3**
	comp=Z,21nm,1.2s,mb5.0						
LZH				pP	pP	03 35 14.6	-6.0
LZH				sP	sP	03 35 17.2	-11
GTA	**Gaotai**	**63.09 320**		*e*P	**P**	**03 35 38.0**	**+4.9**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.3						
ZAK	**Zakamensk**	**67.94 331**		*e*P	**P**	**03 36 05.1**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.4						
ZAK	**Zakamensk**	**67.94 331**		*e*P	**P**	**03 36 05.1**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.4						
VNDA	**Vanda**	**71.77 177**		P	**P**	**03 36 27.1**	**-0.7**
	comp=Z,3.0nm,0.8s,mb4.2,baz=332,slow=5.5,SNR=11						
MKAR	**Makanchi Array**	**77.85 320**		P	**P**	**03 37 03.8**	**+0.8**
	comp=Z,1.3nm,0.8s,mb3.7,baz=101,slow=6.3,SNR=9.7						
TIXI	**Tiksi**	**78.57 354**		*e*P	**P**	**03 37 07.2**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.9						
QSPA	**South Pole Qui**	**83.85 180**		*e*P	**P**	**03 37 35.5**	**+0.6**
	comp=Z,7.6nm,0.7s,mb4.6						
ILAR	**Eielson Array**	**85.43 23**		P	**P**	**03 37 42.5**	**-0.4**
	comp=Z,0.6nm,0.7s,mb3.6,baz=255,slow=5.8,SNR=5.0						
CHKZ	**Chkalovo**	**87.13 325**		*e*P	**P**	**03 37 50.2**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.7						
CHKZ	**Chkalovo**	**87.13 325**		*e*P	**P**	**03 37 50.2**	**-1.1**
	comp=Z,1.5nm,1.0s,mb3.9						
WSAR	**Wadi Sarin**	**91.27 293**		LR	LR	04 18 42.7	
	comp=Z,1μm,20.7s,baz=352,slow=35						
LPAZ	**La Paz**	**138.38 123**		*e*PKIKP	PKPdf	03 44 33.9	+3.6
TORD	**Torodi Ar. Bea**	**145.52 284**		PKPbc	PKPbc	03 44 45.5	+2.3
	comp=Z,7.6nm,0.9s,baz=73,slow=3.7,SNR=44						
SAML	**Samuel**	**146.03 116**		*e*PKPbc	PKPbc	03 44 46.2	+1.4
DBIC	**Dimbokro**	**152.44 273**		PKPbc	PKPbc	03 45 02.9	+1.8
	comp=Z,1.8nm,0.7s,baz=85,slow=4.1,SNR=6.3						
DBIC				PKPab	PKPab	03 45 12.4	+0.9
	comp=Z,2.8nm,0.6s,baz=117,slow=6.8,SNR=8.5						
BDFB	**Brasilia**	**153.53 145**		PKPbc	PKPbc	03 45 05.3	+1.8
	comp=Z,5.3nm,0.7s,baz=231,slow=2.2,SNR=10						
BDFB				PKPab	PKPab	03 45 16.8	+0.7
	comp=Z,6.3nm,0.7s,baz=196,slow=3.7,SNR=7.9						

IDC ***30*** *03:28:48.2±0.4, 3.81S×140.07E, h0km, mb5.4/19, mb1 5.5/23, mb1mx5.5/23, mbtmp5.5/23, ML5.2/4, MS5.6/13, Ms1 5.6/13, ms1mx5.2/24, Error ellipse: s-maj=12.7km s-min=8.6km az=71.0*

BJI ***30*** *03:28:50.6, 3.99S×140.32E, h46km, mB5.7, mb5.4, Ms5.7, Msz5.4*

NEIC ***30*** *03:28:50.0±0.1, 3.75S×140.07E, h12km, mb5.6/51, ME6.1, MS5.7/8, MW5.9, Error ellipse: s-maj=5.1km s-min=3.8km az=78.0, Moment Tension Solution. s11 Moment tensor: Scale 10^18 Nm; Mrr-0.74; Mθθ-0.27; Mϕϕ 1.02; Mrθ-0.22; Mθϕ 0.18; Mϕr 0.46; Best double couple: M0 1.00000×10^18 NP1: ϕs 167.00000°, δ 61.00000°, λ -115.00000°. NP2: ϕs 31.00000°, δ 37.00000°, λ -52.00000°. Principal axes: T 1.1400, Plg 13.0000°, Azm 275.0000°; N -0.1900, Plg 22.0000°, Azm 180.0000°; P -0.9500, Plg 64.0000°, Azm 34.0000°; Broadband fault plane solution: P waves. NP1: ϕs 69.00000°, δ 62.00000°, λ -23.00000°. NP2: ϕs 170.00000°, δ 70.00000°, λ -150.00000°. Principal axes: T Plg 5.0000°, Azm 298.0000°; N Plg 0.0000°, Azm 0.0000°; P Plg 35.0000°, Azm 32.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] at Wamena and [III] at Jayapura and Tana Merah. Felt at Merauke.

ISCJB ***30*** *03:28:51.0±0.2, 3.76S±002×140.10E±003, h30km, mb5.6/121, MS5.5/52 Error ellipse: s-maj=4.3km s-min=3.4km az=146.9*

MOS ***30*** *03:28:51.9±1.3, 3.67S×140.15E, h33km, mb5.7/45, MS5.4/20, Error ellipse: s-maj=9.3km s-min=5.1km az=107.5*

HRVD ***30*** *03:28:52.7±0.1, 3.77S×140.12E, h16km, MW5.9/114, Centroid moment Tensor Solution. LP body waves: s106, c205; Mantle waves: s114, c366; Half duration: 2s3 Moment tensor: Scale 10^18 Nm; Mrr-0.26±.01; Mθθ-0.48±.01; Mϕϕ 0.74±.01; Mrθ-0.48±.02; Mθϕ 0.54±.01; Mϕr 0.27±.02; Best double couple: M0 1.00500×10^18 NP1: ϕs 60.00000°, δ 63.00000°, λ -23.00000°. NP2: ϕs 161.00000°, δ 70.00000°, λ -151.00000°. Principal axes: T 0.9510, Plg 4.0000°, Azm 289.0000°; N 0.1080, Plg 55.0000°, Azm 193.0000°; P -1.0590, Plg 34.0000°, Azm 22.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 30 03:28:53.4±0.2, 375S±002×14013E±003, h32km, h32km±9km: pP-P, n408, σ1s 09/323, mb5.6/120, MS5.5/52, 30C-18D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMPI	**Merauke**	**4.69 177**		P	**Pn**	**03 30 02.6**	**+0.7**
	9μm,0.9s						
BAKI	**Biak**	**4.75 302**		P	**Pn**	**03 30 01.5**	**-1.2**
	2μm,1.1s						
TLE	**Tual**	**7.60 255**		P	**Pn**	**03 30 40.5**	**-1.3**
	3μm,0.8s						
PMG	**Port Moresby**	**8.96 129**		Pn	**Pn**	**03 31 00.4**	**-0.1**
	49nm,0.3s,baz=310,slow=13,SNR=80						
PMG				Lg		03 33 41.7	
	18nm,0.3s,baz=355,slow=19,SNR=1.9						
PMG	**Port Moresby**	**8.96 129**	*c*	*i*P	**Pn**	**03 31 00.7**	**+0.1**
PMG	**Port Moresby**	**8.96 129**	*e*	Pn	**Pn**	**03 31 00.2**	**-0.3**
SWI	**Sorong**	**9.31 288**		P	**Pn**	**03 31 05.6**	**+0.3**
	623nm,0.8s						
KAKA	**Kakadu**	**11.71 220**	⇑	*i*P	**Pn**	**03 31 34.3**	**-3.8**
	1μm,0.3s						
AAI	**Ambon**	**11.91 270**		P	**Pn**	**03 31 40.3**	**-0.5**
	457nm,0.9s						
WRAB	**Tennant Creek**	**17.04 199**		Pn	**Pn**	**03 32 46.0**	**-3.2**
	5μm,1.1s,SNR=38						
WRAB	**Tennant Creek**	**17.04 199**		*e*P	**Pn**	**03 32 44.7**	**-4.5**
WRAB				pmax	pmax		
	comp=Z,2μm,0.9s						
WRAB	**Tennant Creek**	**17.04 199**		*e*Pn	**Pn**	**03 32 44.7**	**-4.5**
	comp=Z,1μm,0.8s						
WRAB				*e*Sn	**Sn**	**03 35 45.2**	**-12**
WRAB				*e*PcP	PcP	03 37 48.0	+15
WB2	**Warramunga Arr**	**17.05 199**		*e*P	**Pn**	**03 32 44.6**	**-4.7**
WB2				*e*S	**Sn**	**03 35 48.0**	**-10**
WRA	**Warramunga Arr**	**17.06 199**		Pn	**Pn**	**03 32 46.5**	**-2.8**
	comp=Z,21nm,0.3s,baz=19,slow=13,SNR=81						
WRA				Sn	**Sn**	**03 35 57.0**	**-0.9**
	comp=Z,20nm,0.3s,baz=15,slow=23,SNR=5.0						
WRA				Lg		03 37 50.8	
	comp=Z,34nm,0.3s,baz=22,slow=29,SNR=5.3						
WRA	**Warramunga Arr**	**17.06 199**		P	**Pn**	**03 32 46.5**	**-2.8**
WRA						03 35 57.0	
CTA	**Charters Tower**	**17.30 160**	⇑	*i*P	**Pn**	**03 32 52.2**	**-0.2**
	comp=Z,166nm,0.6s						
CTA				*e*S	rx	03 37 48.6	
CTA	**Charters Tower**	**17.30 160**		P	**Pn**	**03 32 52.4**	**0.0**
	comp=Z,4.0nm,0.3s,baz=334,slow=12,SNR=50						
CTA				Lg		03 37 59.1	
	comp=Z,8.0nm,0.3s,baz=230,slow=20,SNR=5.6						
CTA	**Charters Tower**	**17.30 160**	⇑	*i*P	**Pn**	**03 32 52.2**	**-0.2**
CTA				pmax	pmax		
	comp=Z,166nm,0.6s						
CTAO	**Charters Tower**	**17.30 160**		*e*P	**Pn**	**03 32 52.2**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,480nm,1.0s						
CTAO	**Charters Tower**	**17.30 160**		*e*Pn	**Pn**	**03 32 52.2**	**-0.2**
	comp=Z,476nm,1.0s						
GUMO	**Guam**	**17.86 15**		P	**Pn**	**03 32 58.6**	**-0.6**
	comp=Z,5.1nm,0.3s,baz=201,slow=5.7,SNR=9.5						
GUMO				LR	LR	03 39 42.9	
	comp=Z,19μm,18.1s,baz=204,slow=36						
CGP	**Cagayan de Oro**	**19.59 308**	⇓	*i*P	**Pn**	**03 33 19.4**	**-0.8**
SCPH	**Surigao**	**19.83 313**	⇓	*e*P	**Pn**	**03 33 21.4**	**-1.7**
	comp=Z,355μm,2.0s						
FITZ	**Fitzroy Crossi**	**20.12 224**		*e*P	**P**	**03 33 22.4**	**-2.1**
	comp=Z,978nm,0.9s						
FITZ				*e*S	**S**	**03 36 55.8**	**-13**
FITZ	**Fitzroy Crossi**	**20.12 224**		P	**P**	**03 33 22.5**	**-2.0**
	comp=Z,570nm,0.9s,baz=45,slow=12,SNR=92						
FITZ				Lg		03 39 27.9	
	comp=Z,1μm,1.0s,baz=39,slow=14,SNR=2.6						
FITZ				LR	LR	03 41 59.1	
	comp=Z,13μm,22.0s,MS5.2,baz=46,slow=40						
PCI	**Palu**	**20.47 277**		P	**P**	**03 33 30.1**	**+1.8**
	comp=Z,1μm,1.1s						
HNR	**Honiara**	**20.48 107**		P	**P**	**03 33 28.1**	**-0.3**
	comp=Z,3μm,0.7s,baz=250,slow=1.2,SNR=65						
HNR	**Honiara**	**20.48 107**		P	**P**	**03 33 27.3**	**-1.1**
HNR				pmax	pmax		
	comp=Z,3μm,0.9s						
AS31	**Alice Springs**	**20.69 196**		*e*P	**P**	**03 33 30.4**	**-0.3**
ASAR	**Alice Springs**	**20.69 196**		P	**P**	**03 33 30.8**	**0.0**
	comp=Z,394nm,0.7s,baz=30,slow=9.9,SNR=452						
ASAR				S	**S**	**03 37 18.9**	**-1.2**
	comp=Z,148nm,1.0s,baz=13,slow=26,SNR=4.2						
ASPA	**Alice Springs**	**20.70 196**		*e*P	**P**	**03 33 30.4**	**-0.3**
PLP	**Palo**	**21.13 315**		*e*P	**P**	**03 33 37.0**	**+1.5**
SNPH	**Sibulan**	**21.27 308**		*i*P	**P**	**03 33 37.5**	**+0.6**
LLP	**Lapu-Lapu**	**21.31 311**		*e*P	**P**	**03 33 40.9**	**+3.5**
RCP	**Roxas**	**23.02 312**	⇓	*e*P	**P**	**03 33 55.6**	**0.0**
TSM	**Tawau**	**23.63 290**		P	**P**	**03 34 02.6**	**+1.0**
PPR	**Puerto Princes**	**25.20 302**	⇓	*i*P	**P**	**03 34 17.9**	**+1.9**
DNP	**Denpasar**	**25.24 258**		P	**P**	**03 34 17.2**	**+0.8**
	comp=Z,804nm,0.9s,mb6.2						
NBBI	**Negara**	**25.77 259**		P	**P**	**03 34 21.6**	**+0.5**
	comp=Z,680nm,1.3s,mb6.0						
KKM	**Kota Kinabalu**	**25.78 292**		P	**P**	**03 34 22.1**	**+0.8**
KKM	**Kota Kinabalu**	**25.78 292**		*e*P	**P**	**03 34 20.6**	**-0.7**
TGY	**Tagaytay City**	**26.01 313**		P	**P**	**03 34 23.7**	**+0.4**
	comp=Z,218nm,0.4s,baz=192,slow=6.1,SNR=9.4						
TGY				S	**S**	**03 38 57.5**	**+5.4**
	comp=Z,253nm,0.3s,baz=61,slow=5.2,SNR=7.6						
KMMI	**Kalianget**	**26.24 262**		P	**P**	**03 34 29.2**	**+3.7**
	comp=Z,784nm,1.0s,mb6.2						
MBWA	**Marble Bar**	**27.94 227**		*e*P	**P**	**03 34 25.4**	**-0.7**
	comp=Z,440nm,1.1s,mb5.9						
CVP	**Callao Caves**	**27.94 320**		*e*P	**P**	**03 34 40.0**	**-0.7**
STKA	**Stephens Creek**	**28.02 177**		*e*P	**P**	**03 34 37.2**	**-4.2**
	comp=Z,31nm,0.6s,mb5.1						
STKA	**Stephens Creek**	**28.02 177**		P	**P**	**03 34 37.2**	**-4.2**
	comp=Z,18nm,0.7s,mb4.8,baz=353,slow=10,SNR=15						
STKA				LR	LR	03 46 54.4	
	comp=Z,40μm,19.0s,MS6.0,baz=351,slow=39						
ARMA	**Armidale**	**28.67 159**		*e*P	**P**	**03 34 49.4**	**+2.2**
FORT	**Forrest**	**29.20 202**		*e*P	**P**	**03 34 50.6**	**-1.3**
	comp=Z,56nm,0.4s,mb5.7						
KSM	**Kuching**	**30.25 279**		*e*P	**P**	**03 35 00.2**	**-0.9**
KSM				*e*PP	PP	03 36 07.0	-2.7
BJII	**Banjamegara**	**30.48 262**		P	**P**	**03 35 06.2**	**+3.0**
	comp=Z,49nm,1.2s,mb5.1						
BKM	**Butte a Klehm**	**30.83 119**	⇑	*i*P	**P**	**03 35 06.8**	**+0.5**
ADE	**Adelaide**	**31.09 182**		*e*P	**P**	**03 35 07.9**	**-0.7**
DZM	**Mont Dzumac**	**31.36 128**		P	**P**	**03 35 11.2**	**+0.2**
	comp=Z,35nm,0.9s,mb5.2,baz=334,slow=3.5,SNR=20						
JOW	**Kunigami**	**32.49 340**		P	**P**	**03 35 21.9**	**+1.0**
	comp=Z,41nm,1.1s,mb5.2,baz=164,slow=12,SNR=12						
JOW				LR	LR	03 48 56.5	
	comp=Z,5μm,18.3s,MS5.2,baz=158,slow=37						
CNB	**Canberra Magne**	**32.55 166**		*e*P	**P**	**03 35 22.5**	**+1.0**
	comp=Z,54nm,1.0s,mb5.4						
NACB	**Ninganchiao**	**33.10 328**		*e*P	**P**	**03 35 23.7**	**-2.6**
NACB				*e*pP	pP	03 35 32.0	-3.6
YHNB	**Yeheng**	**33.62 328**		*e*P	**P**	**03 35 31.1**	**+0.3**
YHNB				*e*pP	pP	03 35 39.1	-1.0
YHNB				*e*sP	sP	03 35 41.9	-2.2
TOO	**Toolangi**	**34.02 172**		*e*P	**P**	**03 35 34.5**	**+0.3**
	comp=Z,14nm,0.8s,mb5.0						
TOO	**Toolangi**	**34.02 172**		*e*P	**P**	**03 35 34.5**	**+0.3**
TOO				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						

WAKE	**Wake Island**	**34.71 48**		*e*P	**P**	**03 35 39.8**	**-0.4**
	comp=Z,334nm,1.3s,mb6.1							
KLBR	**Kellerberrin**	**34.78 215**		*e*P	**P**	**03 35 39.6**	**-1.2**
	comp=Z,74nm,0.9s,mb5.6							
QZH	**Quanzhou**	**35.37 325**		P	**P**	**03 35 45.0**	**-0.9**	
QZH				S	**S**	**03 41 15.0**	**-3.3**	
MUN	**Mundaring**	**35.96 216**		*e*P	**P**	**03 35 50.0**	**-1.0**	
NWAO	**Narrogin (SRO)**	**36.07 214**		P	**P**	**03 35 51.3**	**-0.6**	
	comp=Z,24nm,0.5s,mb5.4,baz=39,slow=12,SNR=20							
NWAO	**Narrogin (SRO)**	**36.07 214**		P	**P**	**03 35 51.3**	**-0.6**	
NWAO				pmax	pmax			
	comp=Z,24nm,0.5s							
NWAO	**Narrogin (SRO)**	**36.07 214**		*e*P	**P**	**03 35 54.5**	**+2.5**	
JHJ	**Hachijo jima 2**	**36.67 360**		LR	LR	03 49 16.2		
	comp=Z,11μm,19.0s,MS5.6,baz=146,slow=33							
GZH	**Guangzhou**	**37.34 317**		P	**P**	**03 36 02.5**	**-0.3**	
GZH				S	**S**	**03 41 50.3**	**+1.9**	
GZH				LR	LR			
	comp=N,3μm,14.9s,MS5.3							
GZH				LR	LR			
	comp=E,3μm,18.7s,MS5.3							
GZH				LR	LR			
	comp=Z,4μm,18.7s,MS5.2							
QIZ	**Qiongzhong**	**37.42 308**		P	**P**	**03 36 02.8**	**-0.6**	
QIZ				S	**S**	**03 41 45.5**	**-4.1**	
QIZ				AMB	AMB			
	comp=Z,83nm,1.0s,mb5.5							
QIZ				LR	LR			
	comp=E,2μm,16.7s							
QIZ				LR	LR			
	comp=Z,3μm,16.2s,MS5.1							
QIZ	**Qiongzhong**	**37.42 308**	*e*	P	**P**	**03 36 02.6**	**-0.8**	
	comp=Z,87nm,1.0s,mb5.5							
SSE	**Sheshan**	**39.08 334**	⇑	P	**P**	**03 36 17.3**	**0.0**	
SSE				AP	pP	03 36 26.0	-0.8	
SSE				XP	sP	03 36 30.3	-0.4	
SSE				PP	PP	03 37 47.5	+0.3	
SSE				PCP	PcP	03 38 28.3	+1.5	
SSE				S	**S**	**03 42 15.8**	**+1.2**	
SSE				XS	sS	03 42 31.3	+1.1	
SSE				AMB	AMB			
	comp=Z,112nm,0.7s,mb5.7							
SSE				AMB	AMB			
	comp=Z,503nm,6.0s							
SSE				LR	LR			
	comp=N,2μm,23.5s,MS5.4							
SSE				LR	LR			
	comp=E,7μm,23.3s,MS5.4							
SSE				LR	LR			
	comp=Z,5μm,20.3s,MS5.3							
SSE	**Sheshan**	**39.08 334**	⇑	P	**P**	**03 36 17.3**	**0.0**	
	comp=Z,112nm,0.7s,mb5.7							
SSE				pP	pP	03 36 26.1	-0.7	
SSE				sP	sP	03 36 30.2	-0.5	
SSE				PP	PP	03 37 47.5	+0.3	
SSE				PcP	PcP	03 38 28.3	+1.5	
SSE				S	**S**	**03 42 15.8**	**+1.2**	
SSE				sS	sS	03 42 31.3	+1.1	
SSE				ScS	ScS	03 46 25.0	+0.9	
SSE				LR	LR			
	comp=Z,5μm,20.3s,MS5.3							
TAU	**Tasmania Unive**	**39.52 172**		*e*P	**P**	**03 36 24.3**	**+3.3**	
TAU				pmax	pmax			
	comp=Z,180nm,1.5s,mb5.6							
TAU	**Tasmania Unive**	**39.52 172**		*e*P	**P**	**03 36 24.3**	**+3.3**	
	comp=Z,175nm,1.5s,mb5.6							
PPI	**Padang Panjang**	**39.83 274**		P	**P**	**03 36 22.3**	**-1.3**	
	comp=Z,325nm,1.1s,mb6.0							
IPM	**Ipoh**	**39.91 281**		P	**P**	**03 36 24.4**	**+0.1**	
MJAR	**Matsushiro Arr**	**40.12 358**		P	**P**	**03 36 25.7**	**-0.4**	
	comp=Z,12nm,0.8s,mb4.7,baz=171,slow=9.4,SNR=32							
MJAR				LR	LR	03 51 41.7		
	comp=Z,3μm,21.5s,MS5.2,baz=135,slow=34							
MJAR	**Matsushiro Arr**	**40.12 358**		P	**P**	**03 36 25.7**	**-0.4**	
MJAR				LR	LR	03 51 41.7		
MAJO	**Matsushiro**	**40.12 358**		*e*P	**P**	**03 36 25.4**	**-0.7**	
MAT	**Matsushiro**	**40.12 358**		P	**P**	**03 36 25.8**	**-0.3**	
MAT				S	**S**	**03 42 25.0**	**-5.3**	
MAT	**Matsushiro**	**40.12 358**		*e*P	**P**	**03 36 26.0**	**-0.1**	
MAT				*e*S	**S**	**03 42 25.0**	**-5.3**	
MAT				pmax	pmax			
	comp=Z,19nm,0.9s,mb4.8							
MAT				MLR	MLR			
	comp=Z,5μm,19.0s,MS5.4							
MAT	**Matsushiro**	**40.12 358**		*e*P	**P**	**03 36 26.0**	**-0.1**	
	comp=Z,19nm,0.9s,mb4.8							
MAT				*e*S	**S**	**03 42 25.0**	**-5.3**	
MAT		

KMI PP PP 03 39 05.5 +1.0
KMI PPP 03 39 51.8
KMI SCP ScP 03 42 39.3 -2.4
KMI PCS PcS 03 42 43.3 -2.0
KMI S **S** **03 44 02.3 +2.0**
KMI XS sS 03 44 19.3 +3.2
KMI SCS ScS 03 47 05.5 -3.1
KMI SS SS 03 47 21.8 -4.1
KMI SSS 03 48 30.5
KMI AMB AMB
comp=Z,49nm,1.3s,mb5.3
KMI LR LR
comp=N,4μm,23.4s,MS5.3
KMI LR LR
comp=E,3μm,22.8s,MS5.3
KMI LR LR
comp=Z,6μm,29.6s
KMI Kunming 46.27 310 P **P** **03 37 16.0 +0.3**
KMI *PP pP 03 37 26.1 +0.8
KMI *SP sP 03 37 30.0 +0.9
KMI 03 38 49.7
KMI 03 39 05.6
KMI PPP 03 39 51.7
KMI S **S** **03 44 02.2 +1.9**
KMI *SS sS 03 44 19.2 +3.1
KMI 03 47 05.4
KMI SS SS 03 47 21.7 -4.2
KMI SSS 03 48 30.6
KMI pmax pmax
comp=Z,49nm,1.3s,mb5.3
KMI MLR MLR
comp=Z,6μm,29.6s,MS5.4
KMI Kunming 46.27 310 P **P** **03 37 16.0 +0.3**
comp=Z,49nm,1.3s,mb5.3
KMI pP pP 03 37 26.1 +0.8
KMI sP sP 03 37 30.0 +0.9
KMI PcP PcP 03 38 49.7 -1.1
KMI PP PP 03 39 05.6 +1.1
KMI PPP 03 39 51.7
KMI ScP ScP 03 42 39.2 -2.5
KMI PcS PcS 03 42 43.2 -2.1
KMI S **S** **03 44 02.2 +1.9**
KMI sS sS 03 44 19.2 +3.1
KMI ScS ScS 03 47 05.4 -3.2
KMI SS SS 03 47 21.7 -4.2
KMI SSS 03 48 30.6
KMI LR LR
comp=Z,6μm,29.6s,MS5.4
CHTO Chiang Mai 46.32 300 P **P** **03 37 14.7 -1.4**
CHTO pmax pmax
comp=Z,70nm,1.1s,mb5.5
CHTO Chiang Mai 46.32 300 *e*P **P** **03 37 16.2 +0.1**
comp=Z,71nm,1.1s,mb5.5
RAO Raoul Island 47.15 127 LR LR 03 55 10.7
comp=Z,5μm,20.3s,MS5.4,baz=152,slow=34
VLA Vladivostok 47.24 352 *e*P **P** **03 37 23.3 0.0**
VLA pmax pmax
comp=Z,51nm,0.8s,mb5.5
VLA Vladivostok 47.24 352 *e*P **P** **03 37 23.4 +0.1**
ASAJ Asahikawa 47.70 2 P **P** **03 37 26.4 -0.4**
comp=Z,30nm,0.8s,mb5.4,baz=226,slow=13,SNR=15
ASAJ Asahikawa 47.70 2 P **P** **03 37 26.5 -0.4**
ASAJ pmax pmax
comp=Z,30nm,0.8s
XAN Xi'an 47.73 324 P **P** **03 37 26.0 -1.1**
XAN S **S** **03 44 15.0 -6.3**
XAN AMB AMB
comp=Z,33nm,1.3s,mb5.2
XAN AMB AMB
comp=Z,349nm,11.0s
XAN LR LR
comp=N,3μm,35.1s,MS5.2
XAN LR LR
comp=E,4μm,35.2s,MS5.2
XAN LR LR
comp=Z,4μm,25.9s
SNY Shenyang 47.80 343 ⇓P **P** **03 37 27.5 -0.1**
SNY AP pP 03 37 37.0 -0.3
SNY XP sP 03 37 41.8 +0.7
SNY S **S** **03 44 17.0 -5.1**
SNY AMB AMB
comp=Z,35nm,0.7s,mb5.5
SNY AMB AMB
comp=Z,820nm,7.1s
SNY LR LR
comp=N,5μm,18.0s
SNY LR LR
comp=Z,5μm,18.3s,MS5.6
YUK Yuzh-Kuril'sk 47.84 6 P **P** **03 37 25.0 -3.0**
YUK *e* 03 39 20.0
YUK *e* 03 44 35.0
YUK pmax pmax
comp=Z,2μm,8.0s
YUK smax
comp=E,3μm,9.0s
URZ Urewera 48.12 140 P **P** **03 37 30.6 +0.5**
comp=E,21nm,0.5s,mb5.5,baz=267,slow=3.2,SNR=18
RPZ Rata Peaks 48.29 150 P **P** **03 37 31.7 +0.3**
comp=E,87nm,0.9s,mb5.8,baz=341,slow=4.3,SNR=26
AFI Afiamalu 48.50 105 LR LR 03 56 59.5
comp=E,4μm,19.5s,MS5.4,baz=273,slow=35
BJT Baijiatuao 48.80 336 *e*P **P** **03 37 34.5 -0.8**
BJT *e*PP pP 03 37 43.2 -1.8
BJT *e*S **S** **03 44 35.4 -0.9**
BJT pmax pmax
comp=Z,121nm,1.4s
BJT Baijiatuau 48.80 336 *e*P **P** **03 37 34.5 -0.8**
comp=Z,122nm,1.4s,mb5.7
BJT *e*pP pP 03 37 43.2 -1.8
BJT *e*S **S** **03 44 35.4 -0.9**
BJI Beijing 48.81 336 P **P** **03 37 34.8 -0.7**
BJI AMB AMB
comp=Z,39nm,1.0s,mb5.4
BJI LR LR
comp=N,3μm,20.9s,MS5.7
BJI LR LR
comp=E,7μm,20.5s,MS5.7
BJI LR LR
comp=Z,6μm,25.5s,MS5.5
BJI Beijing 48.81 336 P **P** **03 37 34.8 -0.7**
comp=Z,39nm,1.0s,mb5.4
BJI S **S** **03 44 16.5 -20**
BJI LR LR
comp=Z,6μm,25.5s,MS5.5
CD2 Chengdu 48.90 317 P **P** **03 37 35.5 -0.6**
CD2 AP pP 03 37 44.0 -1.7
CD2 PP PP 03 39 27.8 -1.7
CD2 S **S** **03 44 33.0 -4.7**
CD2 AMB AMB
comp=Z,31nm,1.0s,mb5.3
CD2 LR LR
comp=N,5μm,18.0s
MDJ Mudanjiang 49.06 350 P **P** **03 37 38.5 +1.1**
MDJ AP pP 03 37 47.5 +0.5
MDJ XP sP 03 37 51.3 +0.4
MDJ PP PP 03 39 31.5 +0.4
MDJ SCP ScP 03 42 54.0 +0.5
MDJ PCS PcS 03 42 57.5 +0.3
MDJ S **S** **03 44 43.3 +3.3**
MDJ XS sS 03 44 58.3 +2.4
MDJ AMB AMB
comp=Z,35nm,1.1s,mb5.3
MDJ AMB AMB
comp=Z,816nm,8.2s
MDJ LR LR
comp=N,5μm,18.4s,MS5.5
MDJ LR LR
comp=E,2μm,20.8s,MS5.5
MDJ LR LR
comp=Z,7μm,18.4s,MS5.7
MDJ Mudanjiang 49.06 350 *e*P **P** **03 37 37.0 -0.4**
comp=Z,34nm,0.9s,mb5.4
CN2 Changchun 49.14 346 *e*P **P** **03 37 38.5 +0.5**
CN2 *e*AP pP 03 37 48.3 +0.6
CN2 *e*XP sP 03 37 52.3 +0.8
CN2 *e*S **S** **03 44 40.5 -0.6**
CN2 AMB AMB
comp=Z,20nm,0.9s,mb5.2
CN2 LR LR
comp=N,2μm,21.0s,MS5.3
CN2 LR LR
comp=E,3μm,21.0s,MS5.3
CN2 LR LR
comp=Z,7μm,19.0s,MS5.7

PBA Port Blair 49.54 289 ⇓*e*x x 03 37 11.7
PBA *e*x x 03 37 25.3
comp=Z,183nm,1.4s
PBA *e*x x 03 43 56.8
YSS Yuzh-Sakhalins 50.54 2 *de*P **P** **03 37 46.8 -1.8**
YSS *e*S **S** **03 44 58.0 -2.6**
YSS *e*SS SS 03 48 34.0 -0.8
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.7
YSS pmax pmax
comp=Z,800nm,10.0s
YSS MLR MLR
comp=Z,2μm,20.0s,MS5.2
YSS MLR MLR
comp=N,2μm,18.0s,MS5.4
YSS MLR MLR
comp=E,3μm,18.0s,MS5.4
YSS Yuzh-Sakhalins 50.54 2 *e*P **P** **03 37 48.6 0.0**
comp=E,95nm,0.9s,mb5.7
HHC Hu-ho-hao-te 51.50 332 ⇑P **P** **03 37 56.0 +0.2**
HHC AP pP 03 38 06.5 +1.0
HHC XP sP 03 38 10.3 +1.0
HHC PCP PcP 03 39 09.8 +0.1
HHC PP PP 03 39 54.3 +1.1
HHC SCP ScP 03 43 03.0 -0.9
HHC PCS PcS 03 43 06.5 -1.1
HHC S **S** **03 45 13.5 -0.4**
HHC SCS ScS 03 47 40.8 -2.9
HHC SS SS 03 48 48.0 -2.0
HHC AMB AMB
comp=Z,40nm,1.3s,mb5.2
HHC AMB AMB
comp=Z,635nm,10.0s
HHC LR LR
comp=N,3μm,20.2s,MS5.5
HHC LR LR
comp=E,3μm,19.2s,MS5.5
HHC LR LR
comp=Z,4μm,20.2s,MS5.4
MIDW Midway 51.78 49 *e*P **P** **03 37 58.2 +0.3**
BTO Baotou 52.03 331 *e*P **P** **03 37 58.3 -1.5**
LZH Lanzhou 52.16 323 ⇑P **P** **03 38 01.0 +0.3**
LZH AP pP 03 38 10.5 +0.1
LZH XP sP 03 38 14.5 +0.3
LZH PP PP 03 40 00.3 +1.1
LZH S **S** **03 45 22.5 -0.5**
LZH SS SS 03 48 57.8 -2.7
LZH AMB AMB
comp=Z,139nm,1.2s,mb5.8
LZH AMB AMB
comp=Z,727nm,7.3s
LZH LR LR
comp=E,2μm,14.5s
LZH LR LR
comp=Z,7μm,18.3s,MS5.7
LZH Lanzhou 52.16 323 ⇑P **P** **03 38 01.0 +0.3**
LZH *PP pP 03 38 10.6 +0.2
LZH *SP sP 03 38 14.5 +0.3
LZH 03 40 00.3
LZH S **S** **03 45 22.6 -0.4**
LZH PS 03 45 36.2
LZH *SS sS 03 45 38.5 -0.4
LZH SS SS 03 48 57.8 -2.7
LZH pmax pmax
comp=Z,139nm,1.2s,mb5.8
LZH MLR MLR
comp=Z,7μm,18.3s,MS5.7
LZH Lanzhou 52.16 323 ⇑P **P** **03 38 01.0 +0.3**
comp=Z,139nm,1.2s,mb5.8
LZH pP pP 03 38 10.6 +0.2
LZH sP sP 03 38 14.5 +0.3
LZH PP PP 03 40 00.3 +1.1
LZH S **S** **03 45 22.6 -0.4**
LZH PS 03 45 36.2
LZH sS sS 03 45 38.5 -0.4
LZH SS SS 03 48 57.8 -2.7
LZH LR LR
comp=Z,7μm,18.3s,MS5.7
HABR Khabarovsk 52.19 356 *e*P **P** **03 38 02.3 +1.3**
HABR *e*S **S** **03 45 28.7 +5.2**
HABR pmax pmax
comp=Z,156nm,1.6s,mb5.7
HABR MLR MLR
comp=Z,2μm,19.4s,MS5.2
KLR Kul'dur 53.26 353 *e*P **P** **03 38 05.3 -3.6**
KLR *i* S **S** **03 45 38.0 0.0**
KLR *e* 03 47 46.0
KLR *e*SSS 03 51 03.5
KLR pmax pmax
comp=E,56nm,1.8s
KLR pmax pmax
comp=Z,240nm,1.8s,mb5.8
KLR pmax pmax
comp=N,800nm,10.0s
KLR pmax pmax
comp=Z,1μm,10.0s
KLR smax
comp=N,2μm,11.0s
KLR smax
comp=E,2μm,11.0s
SHL Shillong 55.08 305 *e*P **P** **03 38 22.0 -0.2**
SHL *i* S **S** **03 46 04.0 +1.4**
HIA Hailar 55.69 344 *di*P **P** **03 38 26.7 +0.2**
HIA Hailar 55.69 344 *i* Pr **P** **03 38 26.8 +0.3**
SKR Severo-Kuril's 55.93 12 *e*P **P** **03 46 21.0 -7.3**
SKR *e*S **S** **03 46 13.0 -1.0**
SKR pmax pmax
comp=Z,1μm,8.0s
SKR pmax pmax
comp=N,1μm,10.0s
SKR pmax pmax
comp=E,1μm,10.0s
SKR smax
comp=N,1μm,14.0s
SKR smax
comp=N,2μm,12.0s
SKR smax
comp=E,2μm,12.0s
GTA Gaotai 56.74 323 ⇑P **P** **03 38 34.5 +0.5**
GTA AP pP 03 38 42.8 -1.0
GTA PP PP 03 40 43.5 +3.2
GTA S **S** **03 46 26.0 +1.3**
GTA XS sS 03 46 41.5 +0.7
GTA SS SS 03 50 15.0 +2.3
GTA AMB AMB
comp=Z,26nm,0.8s,mb5.3
GTA AMB AMB
comp=Z,477nm,8.4s
GTA LR LR
comp=N,1μm,17.5s,MS5.5
GTA LR LR
comp=E,3μm,17.9s,MS5.5
GTA LR LR
comp=Z,3μm,16.0s,MS5.5
CAL Calcutta 56.92 300 *e*P **P** **03 38 41.8 +6.5**
CAL *e*S **S** **03 46 32.4 +5.4**
CAL AMP 04 11 05.3
comp=Z,2μm,16.8s
CAL Calcutta 56.92 300 *ex* x 03 38 41.8
CAL *e*S **S** **03 46 30.4 +3.4**
LSA Lhasa 57.46 309 P **P** **03 38 40.5 +1.4**
LSA Lhasa 57.46 309 *e*P **P** **03 38 39.9 +0.8**
LSA pmax pmax
comp=Z,51nm,0.9s,mb5.5
LSA Lhasa 57.46 309 *e*P **P** **03 38 39.9 +0.8**
comp=Z,51nm,0.9s,mb5.6
PET Petropavlovsk 58.68 13 *di*P **P** **03 38 47.3 -0.4**
PET *e* 03 40 56.6
PET *e*PPP 03 42 22.5
PET *i* S **S** **03 46 51.3 +1.2**
PET *e*PS 03 47 10.5
PET *e*SS SS 03 50 39.5 -3.8
PET pmax pmax
comp=N,400nm,10.0s
PET pmax pmax
comp=Z,900nm,10.4s
PET pmax pmax
comp=N,400nm,10.4s
PET pmax pmax
comp=Z,1μm,8.9s
PET pmax pmax
comp=Z,53nm,1.0s,mb5.5
PET pmax pmax
comp=Z,300nm,11.7s

PET pmax pmax
comp=Z,300nm,12.8s
PET pmax pmax
comp=Z,400nm,12.6s
PET pmax pmax
comp=Z,800nm,12.1s
PET smax
comp=N,1μm,9.3s
PET smax
comp=E,600nm,21.3s
PET smax
comp=N,3μm,34.0s
PET MLR MLR
comp=Z,2μm,20.0s,MS5.2
PET Petropavlovsk 58.68 13 *e*P **P** **03 38 48.6 +0.9**
SONM Songino Array 59.26 334 P **P** **03 38 52.3 +0.6**
comp=Z,7.5nm,0.9s,mb4.7,baz=138,slow=9.3,SNR=5.6
SONM LR LR 04 06 12.2
comp=Z,6μm,19.9s,MS5.7,baz=141,slow=38
SONM PKP2bc 04 08 36.9
comp=Z,9.1nm,1.1s,baz=294,slow=1.5,SNR=6.6
SONM Songino Array 59.26 334 P **P** **03 38 52.3 +0.6**
SONM LR LR 04 06 12.2
SONM ⇑*e* 04 08 36.9
BOK Bokaro 59.46 300 *e*P **P** **03 38 52.6 -0.5**
VIS Vishakhapatnam 59.92 293 *e*P **P** **03 38 58.1 +1.9**
VIS AMb AMB 03 39 06.9
comp=Z,81nm,0.9s,mb5.7
VIS AMS AMS 04 00 29.3
comp=Z,2μm,17.6s,MS5.2
CIT Chita 59.97 341 *e*P **P** **03 38 58.6 +2.0**
CIT pmax pmax
comp=Z,166nm,1.6s,mb5.8
PALK Pallekele 60.30 280 *e*P **P** **03 39 00.6 +1.7**
comp=Z,69nm,1.0s,mb5.6
JIRN Jiri 60.59 305 *e*P **P** **03 39 01.6 +0.8**
comp=Z,11nm,0.3s,mb5.5
RAR Rarotonga 60.83 112 P **P** **03 39 01.1 -1.3**
comp=Z,109nm,0.4s,mb6.3,baz=66,slow=4.4,SNR=16
RAR Rarotonga 60.83 112 P **P** **03 39 01.1 -1.3**
RAR pmax pmax
comp=Z,109nm,0.4s
GUN Gumba 60.94 305 *e*P **P** **03 39 03.6 +0.4**
comp=Z,117nm,0.6s,mb6.2
PKI Pulchoki 61.20 304 *e*P **P** **03 39 04.0 -0.9**
comp=Z,114nm,0.8s,mb6.1
PKI Pulchoki 61.20 304 *e*P **P** **03 39 04.0 -0.9**
PKI pmax pmax
comp=Z,114nm,0.8s,mb6.0
KKN Kakani 61.38 304 *e*P **P** **03 39 06.4 +0.2**
comp=Z,114nm,0.7s,mb6.1
KKN Kakani 61.38 304 *e*P **P** **03 39 06.4 +0.2**
KKN pmax pmax
comp=Z,114nm,0.7s,mb6.1
DMN Daman 61.46 304 *e*P **P** **03 39 07.1 +0.4**
comp=Z,184nm,0.7s,mb6.3
NRGR Nerungri 61.50 350 *e*P **P** **03 39 08.5 +1.5**
NRGR S **S** **03 47 30.6 +4.3**
NRGR pmax pmax
comp=Z,46nm,1.0s,mb5.6
NRGR smax
comp=E,69nm,1.2s
CLNS Chul'man 61.65 351 *e*P **P** **03 39 09.0 +1.0**
CLNS *e* 03 39 49.5
CLNS *e* 03 41 21.5
CLNS *e*S **S** **03 47 32.3 +4.2**
CLNS pmax pmax
comp=Z,29nm,1.0s,mb5.4
CLNS pmax pmax
comp=N,35nm,1.1s
CLNS pmax pmax
comp=E,24nm,0.9s
CLNS pmax pmax
comp=Z,16nm,1.1s,mb5.1
CLNS pmax pmax
comp=N,23nm,1.0s
CLNS pmax pmax
comp=E,22nm,0.9s
CLNS smax
comp=N,298nm,12.5s
CLNS smax
comp=Z,566nm,12.7s
CLNS smax
comp=E,823nm,13.8s
CLNS MLR MLR
comp=N,600nm,16.0s,MS5.2
CLNS MLR MLR
comp=Z,3μm,16.0s,MS5.5
CLNS MLR MLR
comp=E,1μm,15.0s,MS5.2
MDRS Chennai 61.75 287 *e*P **P** **03 39 07.7 -1.0**
GKN Gorkha 61.99 304 *e*P **P** **03 39 10.5 +0.2**
comp=E,249nm,0.6s,mb6.5
BLSP Bilaspur 62.22 297 *e*P **P** **03 39 12.5 +0.7**
BLSP *e*P 03 39 12.5
BLSP AMb AMB 03 39 18.1
comp=Z,72nm,0.5s,mb6.0
ZAK Zakamensk 62.52 334 *e*P **P** **03 39 13.3 -0.6**
ZAK *e* 03 47 42.6
ZAK pmax pmax
comp=Z,87nm,1.4s,mb5.7
ZAK pmax pmax
comp=Z,121nm,1.5s,mb5.8
KOLN Koldanda 62.77 304 *e*P **P** **03 39 15.5 0.0**
comp=Z,138nm,0.8s,mb6.1
DRV Dumont d'Urvil 62.80 180 P **P** **03 39 15.0 -0.7**
DRV S **S** **03 47 51.0 +8.3**
SMY Shemya 63.15 22 *e*P **P** **03 39 18.6 +0.6**
TLY Talaya 63.34 336 *e*P **P** **03 39 18.1 -1.2**
TLY pmax pmax
comp=Z,31nm,0.8s,mb5.5
TLY Talaya 63.34 336 *e*P **P** **03 39 19.6 +0.3**
MA2 Magadan 63.69 6 *ce*P **P** **03 39 19.5 -2.1**
MA2 *e* 03 39 33.8
MA2 *e* 03 41 46.6
MA2 *e*S **S** **03 47 49.4 -4.4**
MA2 *e* 03 48 16.9
MA2 *e*SSS 03 54 50.7
MA2 pmax pmax
comp=Z,60nm,1.2s,mb5.5
MA2 MLR MLR
comp=Z,3μm,17.9s,MS5.5
MA2 Magadan 63.69 6 *e*P **P** **03 39 22.1 +0.5**
TRD Trivandrum 64.15 281 *e*P **P** **03 39 24.7 +0.1**
TRD AMb AMB 03 39 36.7
comp=Z,136nm,0.8s,mb6.0
HYB Hyderabad 64.27 291 *i* P **P** **03 39 26.0 +0.6**
HYB *e*S **S** **03 48 04.0 +3.1**
JBP Jabalpur 64.42 298 ⇓*i* x x 03 36 14.3
JBP *ex* x 03 36 28.8
comp=Z,20nm,1.9s
JBP *i* P 03 39 27.8
MOY Mondy 64.45 334 *e*P **P** **03 39 26.6 0.0**
MOY pmax pmax
comp=Z,67nm,2.7s,mb5.2
BOD Bodaibo 64.87 345 *e*P **P** **03 39 28.6 -0.7**
BOD pmax pmax
comp=Z,34nm,0.8s,mb5.4
KIP Kipapa 65.49 65 *e*P **P** **03 39 33.9 +0.6**
YAK Yakutsk 66.08 355 *e*P **P** **03 39 37.8 +0.6**
YAK *e* 03 40 06.4
YAK *e* 03 42 05.7
YAK *e*S S 03 48 28.1 +4.9
YAK *e* 03 49 32.2
YAK pmax pmax
comp=Z,48nm,0.9s,mb5.5
YAK pmax pmax
comp=N,13nm,1.1s
YAK pmax pmax
comp=N,13nm,1.1s
YAK smax
comp=E,30nm,1.6s
YAK MLR MLR
comp=Z,919nm,18.0s,MS5.0
YAK MLR MLR
comp=N,609nm,17.0s,MS5.1
YAK MLR MLR
comp=E,877nm,19.0s,MS5.1
YAK Yakutsk 66.08 355 *e*P **P** **03 39 36.8 -0.4**
comp=E,73nm,0.6s,mb5.9
LGTI Lohaghat 66.11 304 *e*P **P** **03 39 41.0 +3.7**
WMQ Urumqi 66.70 321 ⇓*i*P **P** **03 39 41.3 +0.2**
WMQ AP pP 03 39 51.5 +0.4
WMQ XP sP 03 39 55.8 +1.0
WMQ PCP PcP 03 40 10.0 0.0

WMQ PP PP 03 42 10.0 +1.9
WMQ SCP 03 44 09.8
WMQ PCS 03 44 13.5
WMQ S S 03 48 29.0 -1.7
WMQ AMB AMB
comp=Z,89nm,0.7s,mb5.9
WMQ AMB AMB
comp=Z,106nm,4.0s
WMQ LR LR
comp=N,5μm,34.3s,MS5.5
WMQ LR LR
comp=E,1μm,31.8s,MS5.5
WMQ LR LR
comp=Z,2μm,26.9s,MS5.1
BHPL Bhopal 66.70 297 *e*P **P 03 39 41.1 0.0**
BHPL AMb AMB 03 39 44.9
comp=Z,44nm,0.7s,mb5.6
BHPL AMS AMS 04 08 54.8
comp=Z,2μm,22.4s,MS5.2
KAD Karad 68.32 290 *e*P **P 03 39 51.6 +0.2**
KAD AMb AMB 03 39 59.9
comp=Z,76nm,1.1s,mb5.6
NDI New Delhi 68.39 303 *e*P **P 03 39 48.0 -3.8**
POO Poona 68.88 291⇑ *i*P **P 03 39 55.0 +0.2**
comp=Z,100nm,1.0s,mb5.7
POO *ex* x 03 40 29.6
POO AMb AMB 03 40 33.7
comp=Z,77nm,1.2s,mb5.5
SDNR Sundarnagar 69.44 306 *e*P **P 03 39 58.0 -0.3**
AJM Ajmer 69.98 300 *e*P **P 03 40 00.6 -1.0**
AJM *i* P 03 40 02.0
AJM AMb AMB 03 40 05.8
PAE Paea 70.10 107 *e*P **P 03 40 04.1 +1.7**
comp=Z,93nm,0.9s,mb5.7
PPT Papeete 70.10 107 *e*P **P 03 40 04.1 +1.7**
comp=Z,66nm,1.3s,mb5.4
PPT Papeete 70.10 107 *e*S S 03 49 13.2 +2.1
comp=Z,3μm,24.8s
PPT *e*SS SS 03 53 44.6 +3.5
comp=Z,1μm,28.5s
PPT *e*LQ 03 58 48.9
comp=Z,15μm,29.2s
PPT *e*LR LR 04 01 24.0
comp=Z,9μm,27.2s
PPT Papeete 70.10 107 P **P 03 40 02.2 -0.2**
comp=Z,42nm,0.8s,mb5.4,baz=79,slow=7.4,SNR=3.5
PPT LR LR 04 07 06.1
comp=Z,2μm,19.9s,MS5.5,baz=269,slow=33
TBI Tubuai 70.55 113 *e*S S 03 49 17.2 +0.8
comp=Z,2μm,27.0s
TBI *e*SS SS 03 53 45.3 -2.7
comp=Z,2μm,32.0s
TBI *e*LQ 03 58 47.0
comp=Z,7μm,30.0s
TBI *e*LR LR 04 01 44.1
comp=Z,5μm,38.2s
DLH Dalhousie 70.57 306 *e*P **P 03 40 06.0 +0.7**
MIR Mirnyy 70.65 198 *d i*P **P 03 40 06.5 +0.8**
MIR pmax pmax
comp=Z,870nm,1.0s,mb6.6
MK31 Makanchi Array 71.47 322 P **P 03 40 10.2 -0.5**
MK31 pmax pmax
comp=Z,62nm,0.9s,mb5.5
MKAR Makanchi Array 71.47 322 P **P 03 40 10.3 -0.4**
comp=Z,42nm,0.7s,mb5.5,baz=118,slow=7.0,SNR=51
MKAR PKP2ab 04 07 59.6
comp=Z,0.6nm,0.7s,baz=299,slow=5.0,SNR=5.3
MKAR Makanchi Array 71.47 322⇑ *e*P **P 03 40 10.3 -0.4**
PMOR Pomariorio Ree 71.64 104 *e*P **P 03 40 13.5 +1.8**
comp=Z,76nm,0.9s,mb5.6
KSH Kashi 72.82 313 *e*P **P 03 40 19.0 +0.2**
KSH *e*AP pP 03 40 29.3 +0.5
KSH *e*XP sP 03 40 33.3 +0.7
KSH *e*PCP PcP 03 40 36.0 +0.2
KSH *e*PP PP 03 43 03.0 +2.0
KSH *e*S S 03 49 39.3 -3.3
KSH *e*SKS 03 50 17.3
KSH *e*SCS ScS 03 50 20.3 -3.7
KSH *e*SS SS 03 54 23.0 +0.2
KSH AMB AMB
comp=Z,51nm,0.6s,mb5.6
KSH AMB AMB
comp=Z,154nm,3.8s
KSH LR LR
comp=N,715nm,12.4s,MS5.4
KSH LR LR
comp=E,1μm,14.9s,MS5.4
KSH LR LR
comp=Z,2μm,20.6s
AKUT Akutan 73.03 30 *e*P **P 03 40 19.5 -0.6**
comp=Z,119nm,0.9s,mb5.8
BHJ Bhuj 73.66 295 *e*P **P 03 40 22.4 -1.3**
BHJ AMb AMB 03 40 29.8
comp=Z,148nm,1.1s,mb5.8
BILL Bilibino 73.93 10⇑ *e*P **P 03 40 25.3 0.0**
BILL *e* 03 43 09.5
BILL *i* S S 03 50 00.0 +4.8
BILL pmax pmax
comp=Z,40nm,1.1s,mb5.3
BILL MLR MLR
comp=Z,2μm,20.0s,MS5.3
BILL Bilibino 73.93 10 *e*P **P 03 40 24.6 -0.7**
comp=Z,17nm,0.8s,mb5.0
FALS False Pass 74.58 30 *e*P **P 03 40 29.1 -0.1**
VNDA Vanda 74.63 175 P **P 03 40 29.1 -0.3**
comp=Z,10nm,0.8s,mb4.8,baz=324,slow=5.6,SNR=24
VNDA LR LR 04 13 08.4
comp=Z,7μm,18.5s,MS6.0,baz=352,slow=36
VNDA Vanda 74.63 175 *e*P **P 03 40 28.8 -0.6**
NVS Novosibirsk 74.79 330 *e*P **P 03 40 27.9 -2.4**
NVS *e*S S 03 50 01.0 -3.8
NVS pmax pmax
comp=N,48nm,1.4s
NVS pmax pmax
comp=Z,68nm,1.4s,mb5.4
NVS pmax pmax
comp=E,36nm,1.3s
NVS smax
comp=N,17nm,1.3s
NVS smax
comp=E,39nm,2.0s
FRU Bishkek 74.91 316 *e*P **P 03 40 32.0 +1.0**
FRU *e* 03 40 51.0
FRU pmax pmax
comp=Z,40nm,2.0s,mb5.0
FRU MLR MLR
comp=E,1μm,20.0s
FRU MLR MLR
comp=Z,2μm,20.0s,MS5.3
AAK Ala-Archa 74.93 316 P **P 03 40 30.6 -0.5**
comp=Z,154nm,1.0s,mb5.9,SNR=8.6
AAK Ala-Archa 74.93 316 *c i*P **P 03 40 30.1 -1.0**
AAK pmax pmax
comp=Z,33nm,1.1s,mb5.2
AAK MLR MLR
comp=Z,2μm,19.0s,MS5.3
KURK Kurchatov 75.37 325 P **P 03 40 32.0 -1.7**
comp=Z,265nm,0.8s,mb6.2,SNR=29
KURK Kurchatov 75.37 325 *e*P **P 03 40 32.6 -1.0**
SBA Scott Base 75.38 174 *e*P **P 03 40 34.7 +1.0**
TIXI Tiksi 75.62 356⇓ *i*P **P 03 40 31.7 -3.4**
TIXI *e*S S 03 50 08.8 -5.1
TIXI *e* 03 50 42.4
TIXI *e*SS SS 03 55 02.6 -2.8
TIXI *e*SSS 03 58 23.2
TIXI pmax pmax
comp=Z,21nm,0.7s,mb5.2
TIXI smax
comp=N,297nm,9.7s
TIXI smax
comp=E,462nm,11.3s
TIXI MLR MLR
comp=Z,1μm,18.0s,MS5.3
TIXI Tiksi 75.62 356 *e*P **P 03 40 33.8 -1.3**
GAMB Gambell 76.26 20 *e*P **P 03 40 38.4 -0.4**
SDPT Sand Point 76.30 30 *e*P **P 03 40 39.4 +0.4**
comp=Z,182nm,0.7s,mb6.1
SDPT LR LR
comp=Z,2μm,21.0s,MS5.5
CHGN Chignik 77.77 30 *e*P **P 03 40 46.9 -0.3**
TAOE Nuku Hiva Isla 79.29 98 *e*S S 03 50 56.0 +2.2
comp=Z,7μm,27.2s
TAOE *e*SS SS 03 56 04.3 +3.5
comp=Z,3μm,26.1s
TAOE *e*LQ 04 02 21.5
comp=Z,15μm,34.8s
TAOE *e*LR LR 04 05 28.4
comp=Z,13μm,27.2s,baz=276
BVA0 Borovoye Array 80.97 325 *i* P **P 03 41 03.9 -0.8**
BVA0 pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BRVK Borovoye 81.04 325 P **P 03 41 04.8 -0.2**
comp=Z,485nm,0.7s,mb6.5,SNR=35
BRVK Borovoye 81.04 325 P **P**
BRVK pmax pmax
comp=Z,46nm,0.9s,mb5.4
BRVK Borovoye 81.04 325 *e*P **P 03 41 04.1 -0.9**
CHKZ Chkalovo 81.05 326 *e*P **P 03 41 04.0 -1.1**
CHKZ pmax pmax
comp=Z,37nm,0.8s,mb5.4
CHKZ Chkalovo 81.05 326 *e*P **P 03 41 04.0 -1.1**
comp=Z,36nm,0.8s,mb5.4
SVW2 Sparrevohn 81.17 26 *e*P **P 03 41 05.8 +0.1**
KDAK Kodiak Island 81.28 30 P **P 03 41 06.0 -0.3**
comp=Z,545nm,0.7s,mb6.6,SNR=9.2
KDAK Kodiak Island 81.28 30 LR LR 04 09 19.9
comp=Z,1μm,21.6s,MS5.3,baz=246,slow=30
KDAK Kodiak Island 81.28 30 *e*P **P 03 41 06.1 -0.2**
MAW Mawson 81.70 202 *e*P **P 03 41 09.1 +0.5**
comp=Z,38nm,0.9s,mb5.3
MAW Mawson 81.70 202 P **P 03 41 08.7 +0.1**
comp=Z,24nm,0.8s,mb5.2,baz=70,slow=6.6,SNR=17
MAW LR LR 04 15 40.8
comp=Z,7μm,19.0s,MS6.1,baz=79,slow=34
ZRNK Zerenda 81.74 325 *e*P **P 03 41 07.8 -1.0**
ZRNK pmax pmax
comp=Z,43nm,0.8s,mb5.4
ZRNK Zerenda 81.74 325 *e*P **P 03 41 07.8 -1.0**
comp=Z,43nm,0.8s,mb5.4
TTA Tatalina 81.76 25 *e*P **P 03 41 08.2 -0.6**
TTA Tatalina 81.76 25 *e*P **P 03 41 08.6 -0.2**
WBK Wadi Bani Khal 83.28 293⇑ P **P 03 41 18.9 +2.1**
SNR=5.9
SLKM Skilak Lake 83.38 28 *e*P **P 03 41 16.0 -1.3**
WSAR Wadi Sarin 83.67 294 P **P 03 41 19.7 +0.9**
comp=Z,12nm,0.6s,mb5.2,baz=96,slow=4.8,SNR=17
WSAR Wadi Sarin 83.67 294 P **P 03 41 19.7 +0.9**
RKT Rikitea 83.86 113 *e*S S 03 51 41.5 +0.5
comp=Z,1μm,22.5s
RKT *e*SS SS 03 57 20.7 +12
comp=Z,824nm,34.8s
RKT *e*LQ 04 04 21.2
comp=Z,2μm,32.8s
RKT *e*LR LR 04 07 50.7
comp=Z,7μm,36.8s
JMDO Jabal Madar 84.05 293⇓ P **P 03 41 22.6 +1.8**
SNR=7.7
BIDO Bidbid 84.16 294⇑ P **P 03 41 22.8 +1.6**
SNR=20
SMDO Samad 84.18 294⇓ P **P 03 41 22.9 +1.6**
SNR=20
PMR Palmer 84.24 27 *e*P **P 03 41 20.0 -1.7**
PMR Palmer 84.24 27 *e*P **P 03 41 20.2 -1.5**
comp=Z,66nm,1.0s,mb5.7
PMR LR LR
comp=Z,6μm,22.0s,MS5.9
HOQ Hoqain 84.91 294⇑ P **P 03 41 25.9 +0.8**
SNR=27
EYAK Cordova Ski Ar 85.50 28 *e*P **P 03 41 26.7 -1.4**
EYAK *e*PcP PcP 03 41 31.3 +0.3
EYAK *e*pP pP 03 41 37.6 -0.7
ARQ Araqi 85.61 294 P **P 03 41 29.4 +0.8**
SNR=19
COLA College 85.83 24 *e*P **P 03 41 28.0 -1.7**
ABKT Aibek 85.99 308 P **P 03 41 30.5 +0.1**
comp=Z,362nm,1.3s,mb6.4,SNR=12
BANOM Banah 86.08 296⇓ P **P 03 41 30.9 0.0**
SNR=48
ASHO Ashiyiah 86.17 295 P **P 03 41 31.7 +0.4**
SNR=13
ILAR Eielson Array 86.19 24 P **P 03 41 29.2 -2.2**
comp=Z,18nm,0.6s,mb5.5,baz=262,slow=4.4,SNR=101
ILAR PKKPbc PKKPbc 03 59 27.7 -2.0
comp=Z,0.4nm,0.8s,baz=29,slow=1.0,SNR=4.8
ILAR PKPPKP 04 07 42.1
comp=Z,0.3nm,0.8s,baz=32,slow=2.1,SNR=4.1
QSPA South Pole Qui 86.20 180 *e*P **P 03 41 33.0 +1.5**
comp=Z,140nm,1.1s,mb6.1
AB31 Akbulak array 86.42 320 *i* PKIKP **P 03 41 31.0 -1.6**
AB31 pmax pmax
comp=Z,25nm,0.9s,mb5.4
AB31 Akbulak array 86.42 320 *i* P **P 03 41 31.0 -1.6**
AB31 pmax pmax
comp=Z,25nm,0.9s,mb5.4
MENT Mentasta 87.05 26 *e*P **P 03 41 37.5 +1.8**
RBK Rabkut 87.23 288 P **P 03 41 38.7 +2.2**
SNR=5.9
WHFO Wadi Hawf 87.68 288 P **P 03 41 40.2 +1.5**
SNR=18
AKTK Aktyubinsk 87.84 321 P **P 03 41 38.5 -1.0**
AKTO Aktyubinsk 87.84 321 P **P 03 41 38.5 -1.0**
comp=Z,4.8nm,0.7s,mb4.8,baz=96,slow=5.1,SNR=16
AKTO Aktyubinsk 87.84 321 P **P 03 41 38.1 -1.4**
AKTO pmax pmax
comp=Z,14nm,1.5s,mb5.0
ABTO Aybut 88.08 287 P **P 03 41 42.6 +2.0**
SNR=5.9
ARU Arti 88.43 327 *e*P **P 03 41 41.0 -1.3**
ARU *e* 03 45 10.5
ARU *e*S 03 52 09.6
ARU *e*SP 03 53 23.2
ARU *e*PS 03 53 32.7
ARU MLR MLR
comp=Z,2μm,19.0s,MS5.6
ARU MLR MLR
comp=N,400nm,18.0s,MS5.2
ARU MLR MLR
comp=E,700nm,17.0s,MS5.2
ARU Arti 88.43 327 *e*P **P 03 41 40.3 -2.0**
DAWY Dawson 89.19 26 *e*P **P 03 41 45.3 -0.5**
DAWY *e*pP pP 03 41 54.3 -1.8
SOKR Solikamsk 89.82 330⇑ *i*P **P 03 41 48.9 +0.1**
SOKR S 03 52 34.0
SOKR pmax pmax
comp=Z,30nm,1.4s,mb5.4
SOKR MLR MLR
comp=Z,3μm,18.0s,MS5.8
ORR Orenburg 90.03 322 *i* P **P 03 41 49.1 -0.7**
ORR pmax pmax
comp=Z,50nm,1.1s,mb5.8
SKAG Skagway 90.42 31 *e*P **P 03 41 52.9 +1.3**
comp=Z,48nm,1.2s,mb5.7
INK Inuvik 92.10 22 *e*P **P 03 41 58.0 -1.4**
INK pmax pmax
comp=Z,14nm,1.0s
INK Inuvik 92.10 22 *e*P **P 03 41 58.0 -1.4**
comp=Z,462nm,1.0s
GNI Garni 96.52 310 *e*P **P 03 42 18.6 -1.0**
GNI pmax pmax
comp=Z,12nm,0.8s
GNI Garni 96.52 310 *e*P **P 03 42 18.6 -1.1**
comp=Z,12nm,0.8s,mb5.4
BHD Baghdad 96.84 303 *ex* x 03 42 18.0
PGC Sidney 97.05 42 *e*P **P 03 42 21.8 -0.2**
comp=Z,12nm,0.7s,mb5.4
KHMM Horse Mountain 97.08 49 *e*P **P 03 42 23.3 +1.1**
ZEI Tsey 97.10 312 *e*P **P 03 42 23.5 +1.2**
ZEI *e**PP pP 03 42 30.7 -1.9
ZEI *e* 03 46 15.7
ZEI pmax pmax
comp=Z,7.0nm,0.9s,mb5.1
HUMO Hull Mountain 97.62 48 *e*P **P 03 42 25.8 +1.2**
comp=Z,14nm,1.0s,mb5.5
YBH Yreka Blue Hor 97.83 49 *e*P **P 03 42 25.7 +0.1**
YBH *e**PP pP 03 42 35.6 -0.3
YBH *e**SP sP 03 42 38.6 -0.9
YBH pmax pmax
comp=Z,13nm,1.1s
YBH Yreka Blue Hor 97.83 49 *e*P **P 03 42 25.7 +0.1**
comp=Z,13nm,1.1s,mb5.4
YBH *e*pP pP 03 42 35.6 -0.3
YBH *e*SP sP 03 42 38.6 -0.9
KIV Kislovodsk 97.94 314 *e*P **P 03 42 25.7 -0.4**
KIV *e* 03 46 24.0
KIV *e*SS SS 04 00 32.3 +0.2
KIV pmax pmax
comp=Z,8.0nm,1.0s,mb5.2
KIV pmax pmax
comp=Z,90nm,5.0s
WDC Whiskeytown Da 98.00 50 *e*P **P 03 42 25.8 -0.5**
WDC pmax pmax
comp=Z,9.0nm,0.8s,mb5.3
WDC Whiskeytown Da 98.00 50 *e*P **P 03 42 25.8 -0.5**
comp=Z,8.9nm,0.8s,mb5.3
NSHM Saint Helena R 98.01 52 *e*P **P 03 42 27.7 +1.3**
NSHM *e*pP pP 03 42 35.8 -0.9
NSHM *e*sP sP 03 42 39.4 -1.0
NVL N'lazarevskaya 98.26 195 *e*P **P 03 42 30.1 +2.6**
NVL pmax pmax
comp=Z,20nm,1.2s,mb5.5
TMCR Tamitsa 98.62 334 *e*P **P 03 42 28.3 -0.8**
TMCR pmax pmax
comp=Z,30nm,1.0s,mb5.8
TMCR pmax pmax
comp=N,40nm,1.1s
TMCR pmax pmax
comp=E,30nm,1.0s
MOD Modoc 99.62 48 *e*Pdif Pdif 03 42 34.7 +1.1
comp=E,22nm,1.1s
MOD *e*PP PP 03 46 34.7 -2.9
CMB Columbia Colle 99.77 52 *e*P Pdif 03 42 35.8 +1.6
CMB pmax pmax
comp=Z,10.0nm,1.2s,mb5.1
CMB Columbia Colle 99.77 52 *e*Pdif Pdif 03 42 35.8 +1.6
comp=Z,10nm,1.2s
APA Apatity 99.80 338⇓ *e*P Pdif 03 42 34.0 -0.3
APA *e*S 03 54 04.0
APA *e*PS PS 03 55 34.0 -3.6
APA pmax pmax
comp=Z,16nm,1.0s,mb5.4
SOC Sochi 100.11 313 *e*P Pdif 03 42 35.1 -0.7
SOC *e* 03 53 11.0
SOC *e*PS PS 03 55 38.6 -2.4
SOC *e*SS SS 04 01 02.5 0.0
SOC *e*SSS 04 04 51.1
SOC pmax pmax
comp=Z,7.0nm,0.6s
YKA Yellowknife Ar 100.34 27 P Pdif 03 42 35.1 -1.7
comp=Z,2.5nm,0.8s,baz=285,slow=4.5,SNR=8.5
YKA PP PP 03 46 41.2 -1.9
comp=Z,1.6nm,0.8s,baz=283,slow=7.7,SNR=3.9
YKA PKKPbc PKKPbc 03 58 52.1 -0.7
comp=Z,0.8nm,0.7s,baz=88,slow=2.9,SNR=4.3
YKA Yellowknife Ar 100.34 27 P Pdif 03 42 35.1 -1.7
YKA 03 46 41.2
YKA Yellowknife Ar 100.34 27 P Pdif 03 42 35.1 -1.7
YKA PP PP 03 46 41.2 -1.9
YKA PKKPbc PKKPbc 03 58 52.1 -0.7
OBN Obninsk 100.81 325⇑ *e*P Pdif 03 42 37.8 -1.1
OBN *i* 03 46 44.1
OBN *e*SS SS 04 01 16.5 +4.3
OBN pmax pmax
comp=Z,6.0nm,0.7s
WVOR Wild Horse Val 100.81 48 *e*P Pdif 03 42 37.9 -1.0
WVOR pmax pmax
comp=Z,7.0nm,0.8s
WVOR Wild Horse Val 100.81 48 *e*Pdif Pdif 03 42 37.9 -1.0
comp=Z,6.1nm,0.8s
SNAA Sanae 100.98 191 *e*Pdiff Pdif 03 42 33.4 -6.2
SNAA *e* 03 42 39.0
SNAA *e* 03 42 41.9
SNAA *e* 03 42 47.6
SNAA *e* 03 42 56.5
SNAA *e* 03 43 06.0
SNAA *e* 03 43 26.5
NVAR Mina Array Bea 101.39 52 P Pdif 03 42 41.0 -0.4
comp=Z,1.0nm,0.8s,baz=63,slow=30,SNR=5.5
BMO Blue Mountains 101.54 45 *e*P Pdif 03 42 44.4 +2.3
BMO pmax pmax
comp=Z,8.0nm,1.1s
BMO Blue Mountains 101.54 45 *e*Pdif Pdif 03 42 44.4 +2.2
comp=Z,8.3nm,1.1s
ANN Anapa 101.64 315 *i* PKiKP 03 47 02.2 -3.8
ANN *e*S Sdif 03 54 17.7 -3.6
ANN pmax pmax
comp=Z,31nm,1.0s
ARCES ARCESS Array B 101.95 341 P Pdif 03 42 42.4 -1.5
comp=Z,23nm,0.8s,baz=65,slow=5.8,SNR=27
ARCES ARCESS Array B 101.95 341 P Pdif 03 42 42.4 -1.5
ARE0 ARCESS Array S 101.95 341 *e*Pdif Pdif 03 42 42.9 -1.0
RES Resolute Bay 102.39 13 *e*P Pdif 03 42 44.4 -1.5
RES pmax pmax
comp=Z,7.0nm,1.0s
RES Resolute Bay 102.39 13 *e*Pdif Pdif 03 42 44.4 -1.5
comp=Z,230nm,1.0s
VNA2 Neumayer--Watz 102.44 190 *e*Pdiff Pdif 03 42 46.8 +0.7
VNA2 *e* 03 42 52.0
VNA2 *e* 03 42 55.6
VNA2 *e* 03 43 00.3
VNA2 *e* 03 43 09.6
VNA2 *e* 03 43 20.8
VNA2 *e* 03 43 43.2
VNA3 Neumayer Olymp 102.56 190 *e*Pdiff Pdif 03 42 44.6 -2.1
VNA3 *e* 03 42 49.8
VNA3 *e* 03 42 53.9
VNA3 *e* 03 42 59.4
VNA3 *e* 03 43 07.8
VNA3 *e* 03 43 17.1
VNA3 *e* 03 43 39.4
HLID Hailey 103.77 46 *e*Pdif Pdif 03 42 53.1 +1.1
comp=Z,4.2nm,1.0s
FINES FINESS Array B 104.62 333 Pdiff Pdif 03 42 55.0 -0.8
comp=Z,1.3nm,0.6s,baz=62,slow=4.5,SNR=7.3
FINES PKiKP PKiKP 03 47 11.9 +0.5
comp=Z,0.9nm,0.8s,baz=167,slow=37,SNR=2.3
MCMT McKenzie Canyo 104.69 45 *e*Pdif Pdif 03 42 59.8 +3.7
DUG Dugway 105.43 49 *e*P Pdif 03 43 01.3 +1.9
DUG *e* 03 47 16.4
DUG pmax pmax
comp=Z,4.0nm,1.2s
DUG Dugway 105.43 49 *e*Pdif Pdif 03 43 01.3 +1.9
comp=Z,4.2nm,1.2s
DUG *e*PKPdf PKiKP 03 47 16.4 +3.4
AKASG Malin Array Be 106.05 322 PKiKP PKiKP 03 47 14.7 +0.5
comp=Z,0.8nm,0.4s,baz=79,slow=5.9,SNR=4.3
AKASG PKKPbc PKKPbc 03 58 42.5 +6.6
comp=Z,0.4nm,0.3s,baz=259,slow=2.6,SNR=4.5
DAU Daniels Canyo 106.57 49 PKPdf PKiKP 03 47 15.9 +0.8
PDAR Pinedale Array 107.40 46 Pdiff Pdif 03 43 10.2 +2.0
comp=Z,1.3nm,0.9s,baz=264,slow=1.5,SNR=8.5
PDAR PKiKP PKiKP 03 47 18.6 +2.0
comp=Z,0.5nm,0.7s,baz=222,slow=1.2,SNR=2.5
HFS Hagfors 110.66 335 PP PP 03 48 00.4 +1.0
comp=Z,4.0nm,0.9s,baz=0.0,slow=0.7,SNR=3.6
NOA NORSAR Array B 111.21 336 Pdiff Pdif 03 43 24.9 -0.2
comp=Z,1.5nm,0.8s,baz=29,slow=7.1,SNR=3.4
NOA PP PP 03 48 05.0 +1.6
comp=Z,1.5nm,0.9s,baz=73,slow=6.1,SNR=4.1
ANMO Albuquerque 111.27 54 *e*PKiKP PKiKP 03 47 20.7 -3.2
VYHS Vyhne 113.16 322 *e* PP 03 48 04.1 -13
VYHS *e* 03 48 43.0
ZST Bratislava 114.34 322 *e* PP 03 48 02.5 -23
BRG Berggiesshubel 115.06 326 *e*PKP PKiKP 03 47 32.8 +1.7
comp=Z,1.7nm,0.7s
BRG *e* 03 48 59.3
comp=Z,4.2nm,1.0s
BRG *e* 03 58 10.7
comp=Z,3.7nm,1.2s
BRG
comp=N,1μm,19.4s
BRG
comp=E,807nm,20.1s
BRG
comp=Z,2μm,18.9s
BRG Berggiesshubel 115.06 326 *e*PKIKP PKiKP 03 47 32.8 +1.7
BRG *e* 03 58 10.7
BRG pmax pmax
comp=Z,2.0nm,0.7s
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG pmax pmax
comp=Z,4.0nm,1.2s
BRG MLR MLR
comp=N,1μm,19.4s,MS5.7
BRG MLR MLR
comp=E,807nm,20.1s,MS5.7
BRG MLR MLR
comp=Z,2μm,18.9s,MS5.7
CLL Collm 115.38 326 *e*PKiKP PKiKP 03 47 33.0 +1.3
CLL *ex* x 03 47 50.0
CLL *ex* x 03 48 47.0
CLL Collm 115.38 326 *i* PP PP 03 48 33.5 +0.5
CLL LmV 03 41 00.0
comp=Z,3μm,19.7s
KHC Kasperske Hory 116.06 324 *e*PKP PKPdf 03 47 32.0 -1.0
KHC x x 03 47 50.5

KHC	**Kasperske Hory**	**116.06**	**324**	*e*PKP		PKPdf	03 47 32.0	-1.0
KHC				*e*			03 47 50.5	
GERES	**GERESS Array B**	**116.11**	**324**	PKiKP		PKiKP	03 47 33.2	+0.1
	comp=Z,0.9nm,0.5s,baz=79,slow=2.9,SNR=10							
GERES				PKKPab		PKKPab	03 58 12.8	+5.0
	comp=Z,0.9nm,0.8s,baz=264,slow=5.4,SNR=4.5							
ECSD	**EROS,Sioux Fal**	**116.20**	**42**	*e*PKPdf		PKPdf	03 47 32.4	-0.9
GRF	**Grafenberg Arr**	**117.15**	**325**	*e*L			04 40 09.1	
	comp=Z,2µm,21.1s							
JCT	**Junction City**	**117.67**	**58**	*e*PKiKP		PKPdf	03 47 36.6	+0.5
WTTA	**Wattenberg**	**118.07**	**323**	⇑*i*P		PKPdf	03 47 37.1	+0.2
	comp=Z,5.4nm,0.6s							
MOTA	**Moosalm**	**118.35**	**323**	⇑*i*P		PKPdf	03 47 38.1	+0.7
	comp=Z,5.7nm,0.9s							
DAVA	**Damuels**	**119.11**	**324**	⇑*i*P		PKPdf	03 47 40.5	+1.6
	comp=Z,8.5nm,0.7s							
DAVA	**Damuels**	**119.11**	**324**	⇑*i*PKiKP		PKiKP	03 47 38.9	-0.1
	comp=Z,8.5nm,0.7s							
HINF	**Hinteralfeld**	**120.60**	**325**	*e*PKIKP		PKPdf	03 47 41.7	-0.1
	comp=Z,14nm,0.9s							
EKA	**Eskdalemuir Ar**	**120.69**	**337**	PKP		PKPdf	03 47 42.0	+0.1
	comp=Z,2.3nm,0.9s,baz=31,slow=3.3,SNR=4.1							
EKA				PKKPbc		PKKPbc	03 57 47.6	+1.1
	comp=Z,1.6nm,0.7s,baz=233,slow=3.9,SNR=4.6							
HAU	**Haudompre**	**120.78**	**326**	*e*PKIKP		PKPdf	03 47 42.4	+0.3
HAU				*e*R				
	comp=Z,2µm,23.0s							
HAU	**Haudompre**	**120.78**	**326**	*e*PKPdf		PKPdf	03 47 42.4	+0.3
HAU				LR		LR		
	comp=Z,2µm,23.0s,MS5.8							
MIAR	**Mount Ida**	**121.62**	**51**	*e*PKIKP		PKPdf	03 47 44.3	+0.6
CABF	**La Chapelle**	**121.69**	**324**	*e*PKIKP		PKPdf	03 47 43.7	-0.1
	comp=Z,17nm,0.8s							
LPG	**La Plagne**	**121.88**	**323**	*e*PKIKP		PKPdf	03 47 45.0	+0.8
	comp=Z,13nm,0.9s							
LPL	**La Plagne**	**121.88**	**323**	*e*PKIKP		PKPdf	03 47 44.8	+0.6
CCM	**Cathedral Cave**	**122.12**	**47**	*e*PKIKP		PKPdf	03 47 43.5	-1.2
BNI	**Bardonecchia**	**122.16**	**323**	*e*PKIKP		PKPdf	03 47 47.8	+3.0
UALR	**University of**	**122.50**	**51**	*e*PKPdf		PKPdf	03 47 45.6	+0.2
LOR	**Lormes**	**122.59**	**326**	*e*PKIKP		PKPdf	03 47 45.7	+0.1
	comp=Z,3.4nm,0.5s							
LOR				*e*R				
	comp=Z,2µm,20.8s							
LOR	**Lormes**	**122.59**	**326**	*e*PKPdf		PKPdf	03 47 45.7	+0.1
LOR				LR		LR		
	comp=Z,2µm,20.8s,MS5.7							
ORIF	**Oris-en-Rattie**	**122.71**	**323**	*e*PKIKP		PKPdf	03 47 46.3	+0.5
	comp=Z,11nm,0.8s							
ORIF				*e*R				
	comp=Z,2µm,18.8s							
FVM	**French Village**	**122.74**	**47**	*e*PKIKP		PKPdf	03 47 45.7	-0.2
SSF	**Saint Saulge**	**122.91**	**326**	*e*PKIKP		PKPdf	03 47 46.6	+0.4
	comp=Z,17nm,0.9s							
AVF	**Avril sur Loir**	**123.15**	**326**	*e*PKIKP		PKPdf	03 47 46.7	0.0
	comp=Z,14nm,1.0s							
SMRF	**Simiane la Rot**	**123.39**	**322**	*e*PKIKP		PKPdf	03 47 47.6	+0.5
	comp=Z,21nm,0.8s							
VIVF	**Saint-Julien-l**	**123.47**	**323**	*e*PKIKP		PKPdf	03 47 47.6	+0.3
	comp=Z,14nm,0.9s							
BGF	**Bois d'Agland**	**123.57**	**326**	*e*PKIKP		PKPdf	03 47 47.7	+0.2
	comp=Z,14nm,0.8s							
LDF	**La Druitiere**	**123.91**	**329**	*e*PKIKP		PKPdf	03 47 48.5	+0.4
FLN	**La Foliniere**	**123.98**	**330**	*e*PKIKP		PKPdf	03 47 48.4	+0.1
	comp=Z,12nm,0.7s							
FLN				*e*R				
	comp=Z,4µm,22.0s							
FLN	**La Foliniere**	**123.98**	**330**	*e*PKPdf		PKPdf	03 47 48.4	+0.1
FLN				LR		LR		
	comp=Z,4µm,22.0s,MS6.0							
TCF	**Toulx Ste Croi**	**124.08**	**326**	*e*PKIKP		PKPdf	03 47 49.1	+0.7
	comp=Z,30nm,0.9s							
GRR	**Gorron**	**124.42**	**329**	*e*PKIKP		PKPdf	03 47 49.2	+0.1
CMIG	**Matias Romero**	**124.49**	**72**	PKP		PKPdf	03 47 48.6	-0.7
	comp=Z,2.4nm,0.7s,baz=337,slow=5.4							
SCHQ	**Schefferville**	**124.58**	**19**	PKP		PKPdf	03 47 47.8	-1.6
	comp=Z,1.9nm,0.7s,baz=127,slow=5.3,SNR=5.0							
OXF	**Oxford**	**124.85**	**50**	*e*PKIKP		PKPdf	03 47 49.3	-0.6
CAF	**Calviac**	**124.96**	**325**	*e*PKIKP		PKPdf	03 47 50.4	+0.3
	comp=Z,11nm,0.9s							
BLO	**Bloomington**	**124.98**	**44**	*e*PKIKP		PKPdf	03 47 49.1	-1.1
RJF	**Les Rejaudoux**	**125.05**	**325**	*e*PKIKP		PKPdf	03 47 50.7	+0.4
	comp=Z,17nm,1.0s							
RJF				*e*R				
	comp=Z,2µm,19.8s							
RJF	**Les Rejaudoux**	**125.05**	**325**	*e*PKPdf		PKPdf	03 47 50.7	+0.4
RJF				LR		LR		
	comp=Z,2µm,19.8s,MS5.7							
MFF	**Saint Martin d**	**125.18**	**327**	*e*PKIKP		PKPdf	03 47 50.9	+0.3
	comp=Z,40nm,1.1s							
WVT	**Waverly**	**125.39**	**48**	*e*PKIKP		PKPdf	03 47 50.0	-1.0
WCI	**Wyandotte Cave**	**125.58**	**45**	*e*PKIKP		PKPdf	03 47 50.6	-0.7
PLAL	**Pickwick Lake**	**125.68**	**49**	*e*PKPdf		PKPdf	03 47 50.2	-1.3
LFF	**La Frestale**	**125.71**	**325**	*e*PKIKP		PKPdf	03 47 51.6	0.0
	comp=Z,30nm,1.0s							
MTLF	**Montolieu**	**125.78**	**323**	*e*PKIKP		PKPdf	03 47 52.0	+0.3
	comp=Z,25nm,1.1s							
SADO	**Sadowa**	**126.58**	**34**	PKP		PKPdf	03 47 52.9	-0.4
	comp=Z,5.8nm,1.0s,baz=144,slow=2.3,SNR=5.0							
SWET	**Sewanee**	**127.18**	**48**	*e*PKPdf		PKPdf	03 47 54.4	0.0
LRAL	**Lakeview Retre**	**127.27**	**51**	*e*PKPdf		PKPdf	03 47 55.1	+0.5
PLCA	**Paso Flores**	**127.59**	**151**	PKP		PKPdf	03 47 56.1	+0.9
	comp=Z,7.5nm,0.6s,baz=229,slow=2.5,SNR=27							
FWV	**Forest Hill**	**129.67**	**43**	*e*PKPdf		PKPdf	03 47 59.0	-0.2
NCB	**Newcomb**	**129.78**	**32**	*e*PKPdf		PKPdf	03 47 59.5	+0.2
SSPA	**Standing Stone**	**129.82**	**38**	*e*PKPdf		PKPdf	03 47 59.2	-0.2
BLA	**Blacksburg**	**130.13**	**43**	*e*PKIKP		PKPdf	03 48 00.1	+0.1
COW	**Cow Castle Cre**	**131.87**	**47**	*e*PKPdf		PKPdf	03 48 04.0	+0.7
TRQA	**Tornquist**	**133.63**	**156**	*e*PKPdf		PKPdf	03 48 08.7	+2.1
TORD	**Torodi Ar. Bea**	**137.90**	**285**	PKhKP			03 48 03.8	
	comp=Z,1.1nm,0.5s,baz=80,slow=3.3,SNR=15							
TORD				PKP		PKPdf	03 48 15.9	+1.4
	comp=Z,4.2nm,0.8s,baz=86,slow=2.5,SNR=8.8							
ATAH	**Atahualpa**	**140.10**	**105**	PKhKP			03 48 15.1	
	comp=Z,4.2nm,0.6s,baz=186,slow=10,SNR=3.8							
OTAV	**Otavalo**	**141.30**	**94**	*e*PKPpre			03 48 18.1	
LVC	**Limon Verde**	**141.39**	**134**	PKhKP			03 48 18.4	
	baz=269,slow=2.9							
ARE	**Arequipa**	**142.85**	**124**	*e*PKIKP		PKPdf	03 48 22.0	-1.5
EFAM	**Famara**	**144.47**	**318**	P		PKPdf	03 48 28.3	+1.9
DBIC	**Dimbokro**	**145.01**	**276**	PKP		PKPdf	03 48 27.1	-0.2
	comp=Z,149nm,0.6s,baz=76,slow=3.3,SNR=138							
CFTV	**Fuerteventura**	**145.31**	**318**	P		PKPbc	03 48 28.8	+1.1
ROSC	**El Rosal**	**145.63**	**87**	PKPbc		PKPbc	03 48 31.7	+3.0
	comp=Z,18nm,0.5s,baz=83,slow=14,SNR=13							
CPUP	**Villa Florida**	**145.66**	**152**	PKPbc		PKPbc	03 48 29.4	+0.7
	comp=Z,50nm,0.7s,baz=210,slow=3.0,SNR=104							
CPUP	**Villa Florida**	**145.66**	**152**	PKPbc		PKPbc	03 48 29.4	+0.7
LPAZ	**La Paz**	**145.69**	**126**	PKPbc		PKPbc	03 48 31.8	+2.9
	comp=Z,131nm,0.9s,baz=245,slow=2.1,SNR=260							
EOSO	**Osorio**	**146.51**	**319**	P		PKPdf	03 48 33.7	+3.8
EBAJ	**Bajamar**	**146.70**	**320**	P		PKPdf	03 48 33.6	+3.4
CCAN	**Las Canadas**	**147.09**	**320**	P		PKPdf	03 48 36.3	+5.5
SDV	**Santo Domingo**	**149.02**	**79**	PKP		PKPdf	03 48 35.9	+2.0
	comp=Z,42nm,0.7s,baz=298,slow=2.6,SNR=16							
SDV				PKPbc		PKPbc	03 48 38.5	+0.4
	comp=Z,52nm,0.8s,baz=290,slow=3.2,SNR=44							
SJG	**San Juan**	**150.58**	**59**	PKP		PKPdf	03 48 39.0	+2.5
	comp=Z,35nm,0.8s,baz=56,slow=2.7,SNR=11							
CPD	**Cerro la Pandu**	**150.81**	**59**	*e*PKIKP		PKPdf	03 48 38.8	+2.0
MTP	**Monte Pirata**	**151.10**	**59**	*e*PKPbc		PKPbc	03 48 43.6	+0.5
SIV	**San Ignacio**	**151.29**	**134**	PKP		PKPdf	03 48 40.4	+2.9
	comp=Z,20nm,0.6s,baz=270,slow=2.4,SNR=11							
SIV				PKPbc		PKPbc	03 48 44.4	+0.8
	comp=Z,62nm,0.7s,baz=242,slow=3.0,SNR=87							
CAM4	**Nova Friburgo**	**153.92**	**174**	⇓*i*P		PKPbc	03 48 52.3	+2.9
CAM4				*i*			03 48 52.3	
CAM4				*i*			03 49 01.0	
CAM4				*i*			03 49 03.9	
BDFB	**Brasilia**	**159.12**	**157**	PKP		PKPdf	03 48 50.2	+2.0
	comp=Z,12nm,1.0s,baz=222,slow=1.3,SNR=11							
BDFB				PKPab		PKPab	03 49 25.5	+0.4
	comp=Z,28nm,0.6s,baz=207,slow=2.4,SNR=10							
BAO	**Brasilia Array**	**159.13**	**158**	PKPdf		PKPdf	03 48 52.0	+3.8

*ISCJB **30** 03:31:55.9±1.1,3067S±006×683W±0.1,h165km±17km, mb4.0/1, Error ellipse: s-maj=19.9km s-min=9.0km az=156.4*

*NEIC **30** 03:31:55.7±2.0,3055S×68.13W,h134km±29km, mb4.0/3, Error ellipse: s-maj=35.9km s-min=14.7km az=56.0*

*GUC **30** 03:31:55.6±0.7,3067S×6807W,h135km,ML4.1*

ISC 30 03:31:56.6±1.1,**3065S**±006×**682W**±01,**h146**km±19km,**n19, σ0s99**/34,**mb4.0**/1,**4C-2D**,**San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MDZ	**Mendoza**	**2.30**	**194**	*e*P		**Pn**	**03 32 32.7**	**-2.3**
MDZ				*e*S		**Sn**	**03 33 00.8**	**-3.8**
TLL	**Tololo Astrono**	**2.32**	**281**	*e*P		**Pn**	**03 32 36.3**	**+1.0**
TLL				*i* S		**Sn**	**03 33 06.9**	**+1.8**
TLL				AML		AML	03 33 17.6	
	comp=N,597nm,0.8s							
TLL	**Tololo Astrono**	**2.32**	**281**	⇑*e*P		**Pn**	**03 32 36.4**	**+1.1**
TLL				*i* S		**Sn**	**03 33 06.9**	**+1.8**
CMCH	**Combarbala**	**2.48**	**257**	*e*P		**Pn**	**03 32 36.1**	**-1.2**
CMCH				*i* S		**Sn**	**03 33 07.4**	**-1.2**
CMCH				AML		AML	03 33 15.5	
	comp=N,1µm,0.8s							
CMCH	**Combarbala**	**2.48**	**257**	*e*P		**Pn**	**03 32 36.1**	**-1.2**
CMCH				*i* S		**Sn**	**03 33 07.4**	**-1.2**
JACH	**Jahuel**	**2.89**	**225**	⇑*i*P		**Pn**	**03 32 42.2**	**-0.2**
JACH				*i* S		**Sn**	**03 33 18.1**	**+0.4**
FCH	**Farellones**	**3.22**	**213**	⇓*i*P		**Pn**	**03 32 46.6**	**+0.1**
FCH				*i* S		**Sn**	**03 33 26.2**	**+1.0**
FCH				AML		AML	03 33 33.2	
	comp=E,120nm,0.5s							
CLCH	**Cerro Calan**	**3.40**	**216**	*e*P		**Pn**	**03 32 48.8**	**0.0**
CLCH				*i* S		**Sn**	**03 33 29.2**	**0.0**
CLCH				AML		AML	03 33 35.2	
	comp=N,208nm,0.6s							
PCH	**Pirque**	**3.57**	**213**	⇑*i*P		**Pn**	**03 32 51.0**	**0.0**
PCH				*i* S		**Sn**	**03 33 33.1**	**-0.1**
PCH	**Pirque**	**3.57**	**213**	⇑*i*P		**Pn**	**03 32 51.1**	**+0.1**
PCH				*i* S		**Sn**	**03 33 33.1**	**-0.1**
TACH	**Talagante**	**3.80**	**217**	*e*P		**Pn**	**03 32 53.3**	**-0.8**
TACH				*i* S		**Sn**	**03 33 38.7**	**-0.1**
TACH	**Talagante**	**3.80**	**217**	*e*P		**Pn**	**03 32 53.8**	**-0.3**
TACH				*i* S		**Sn**	**03 33 38.7**	**0.0**
CHCH	**Chadas Angostu**	**3.89**	**212**	⇓*i*P		**Pn**	**03 32 54.8**	**-0.4**
CACH	**El Canelo**	**4.02**	**210**	*e*P		**Pn**	**03 32 57.2**	**+0.2**
CACH				*i* S		**Sn**	**03 33 45.0**	**+1.1**
CACH	**El Canelo**	**4.02**	**210**	*i* P		**Pn**	**03 32 57.3**	**+0.3**
CACH				*i* S		**Sn**	**03 33 44.6**	**+0.7**
SFDO	**San Fernando**	**4.62**	**210**	*i* P		**Pn**	**03 33 04.4**	**-0.5**
SFDO				*i* S		**Sn**	**03 33 57.0**	**-1.1**
TRQA	**Tornquist**	**8.99**	**147**	*e*Pn		**Pn**	**03 34 04.0**	**+0.9**
	comp=N,0.6nm,0.4s							
PLCA	**Paso Flores**	**10.24**	**190**	Pn		**Pn**	**03 34 22.3**	**+2.5**
	comp=N,6.2nm,1.3s							
OTAV	**Otavalo**	**32.23**	**340**	*e*P		**P**	**03 38 10.3**	**-0.7**
	comp=N,1.3nm,0.4s,mb4.0							

*IDC **30** 03:33:06.3±1.9, 1580S×17272W, h0km, mb4.6/3, mb1 4.8/4, mb1mx4.5/17, mbtmp4.6/4, MS3.8/2, Ms1 3.8/2, ms1mx3.3/28, Error ellipse: s-maj=98.5km s-min=25.7km az=137.0*

*ISCJB **30** 03:33:08.1±5.2, 154S±03×173.1W±0.3, h9km±33km, mb4.5/4, MS5.9/5, Error ellipse: s-maj=61.1km s-min=10.9km az=98.3*

*NEIC **30** 03:33:12.8±0.7, 1542S×17292W, h35km, mb4.7/2, Error ellipse: s-maj=36.0km s-min=13.0km az=142.0*

*MOS **30** 03:33:12.4±1.3, 1534S×17304W, h33km, MS5.8/5, Error ellipse: s-maj=26.0km s-min=17.2km az=50.3*

ISC 30 03:33:08.3±6.3,**154S**±03×**1730W**±03,**h1**km±40km,**n44, σ0s34**/**11**,**mb4.6**/**4**,**MS5.9**/5,**4C-5D**,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.89**	**39**	Pn		**Pn**	**03 33 41.9**	**+0.2**
	75nm,0.3s,baz=23,slow=3.6,SNR=29							
AFI				Sn		**Sn**	**03 34 05.7**	**-0.3**
	141nm,0.3s,baz=20,slow=19,SNR=6.1							
AFI				LR		LR	03 34 30.7	
	comp=Z,1µm,20.5s,baz=101,slow=40							
AFI	**Afiamalu**	**1.89**	**39**	⇓*e*Pn		**Pn**	**03 33 41.5**	**-0.1**
AFI				*e*Sn		**Sn**	**03 34 06.9**	**+0.8**
RAR	**Rarotonga**	**13.83**	**117**	LR		LR	03 40 25.4	
	comp=Z,994nm,20.5s,baz=279,slow=33							
DZM	**Mont Dzumac**	**20.56**	**249**	P		**P**	**03 37 48.2**	**-0.1**
	50nm,0.9s,baz=103,slow=18,SNR=2.7							
PMG	**Port Moresby**	**39.32**	**274**	P		**P**	**03 40 39.0**	**+0.1**
PMG				pmax		pmax		
	comp=Z,26nm,0.7s							
PMG	**Port Moresby**	**39.32**	**274**	P		**P**	**03 40 39.0**	**+0.1**
	comp=Z,26nm,0.7s,mb5.0							
TAU	**Tasmania Unive**	**43.59**	**223**	*e*P		**P**	**03 41 14.3**	**+0.4**
TAU				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.3							
TAU	**Tasmania Unive**	**43.59**	**223**	*e*P		**P**	**03 41 14.3**	**+0.4**
	comp=Z,3.9nm,0.6s,mb4.3							
PDAR	**Pinedale Array**	**82.00**	**42**	P		**P**	**03 45 29.6**	**-0.4**
	comp=Z,4.1nm,0.9s,mb4.5,baz=225,slow=3.3,SNR=10							
ILAR	**Eielson Array**	**82.36**	**11**	P		**P**	**03 45 31.6**	**-0.3**
	comp=Z,3.0nm,0.7s,mb4.5,baz=227,slow=6.2,SNR=5.2							
CLL	**Collm**	**143.84**	**354**	*e*PKPdf		PKPdf	03 52 45.0	-0.3
	comp=Z,5.0nm,0.8s							
CLL	**Collm**	**143.84**	**354**	*e*PKIKP		PKPdf	03 52 45.0	-0.3
CLL				pmax		pmax		
	comp=Z,5.0nm,0.8s							
STHS	**Stebnicka Huta**	**144.12**	**344**	*e*		PKPdf	03 52 43.8	-2.0
STHS				*e*			03 52 53.4	
UPC	**Upice**	**144.22**	**350**	*e*PKP		PKPdf	03 52 43.5	-2.5
UPC				*ex*		x	03 52 49.8	
DPC	**Dobruska-Polom**	**144.32**	**350**	*e*PKP		PKPdf	03 52 43.6	-2.5
DPC				*ex*		x	03 52 51.0	
DPC	**Dobruska-Polom**	**144.32**	**350**	*e*PKIKP		PKPdf	03 52 43.6	-2.5
DPC				*e**PP			03 52 51.0	
DPC				MLR		MLR		
	comp=Z,2µm,23.9s,MS5.9							
OKC	**Ostrava-Krasne**	**144.46**	**348**	*e*PKP		PKPdf	03 52 44.0	-2.4
OKC				*ex*		x	03 52 50.5	
OKC	**Ostrava-Krasne**	**144.46**	**348**	*e*PKIKP		PKPdf	03 52 44.0	-2.4
OKC				*e**PP			03 52 50.5	
OKC				MLR		MLR		
	comp=Z,1µm,18.2s,MS5.8							
CRVS	**Cervenica-Dubn**	**144.53**	**343**	*e*		PKPdf	03 52 44.8	-1.7
CRVS				*e*			03 52 52.9	
MORC	**Moravsky Berou**	**144.64**	**348**	⇑*i*P		PKPdf	03 52 44.5	-2.2
MORC	**Moravsky Berou**	**144.64**	**348**	⇑P		PKPdf	03 52 44.5	-2.2
PRU	**Pruhonice**	**144.95**	**352**	*e*PKP		PKPdf	03 52 45.5	-1.7
PRU				*ex*		x	03 52 51.4	
PRU	**Pruhonice**	**144.95**	**352**	*e*PKIKP		PKPdf	03 52 45.5	-1.7
PRU				*e**PP			03 52 51.4	
PRU				MLR		MLR		
	comp=Z,2µm,19.1s,MS5.9							
NKC	**Novy Kostel**	**144.96**	**354**	*e*PKP		PKPdf	03 52 45.3	-2.0
NKC				*ex*		x	03 52 54.6	
NKC	**Novy Kostel**	**144.96**	**354**	*e*PKIKP		PKPdf	03 52 45.3	-2.0
NKC				*e**PP			03 52 54.6	
NKC				MLR		MLR		
	comp=Z,3µm,18.3s,MS6.1							
KECS	**Kecovo**	**145.18**	**344**	*e*		PKPbc	03 52 45.8	-1.4
KECS				*e*			03 52 54.7	
CFR	**Carcaliu**	**145.36**	**333**	⇓*i*P		PKPbc	03 52 47.9	+0.1
VYHS	**Vyhne**	**145.58**	**346**	*e*PKIKP		PKPdf	03 52 47.2	-1.1
VYHS				*e*			03 52 55.8	
VYHS				*e*			03 52 55.8	
VYHS	**Vyhne**	**145.58**	**346**	*e*		PKPdf	03 52 47.2	-1.1
KMBO	**Kilima Mbogo**	**145.89**	**244**	PKPbc		PKPbc	03 52 47.2	-2.2
	comp=Z,4.8nm,1.2s,baz=63,slow=2.3,SNR=3.9							
KHC	**Kasperske Hory**	**145.92**	**352**	*e*PKP2		PKPab	03 52 49.1	-0.9
KHC				MLR		MLR		
	comp=Z,2µm,19.6s,MS5.8							
MLR	**Muntele Rosu**	**146.01**	**336**	PKPbc		PKPbc	03 52 48.7	-1.1
	comp=Z,5.2nm,0.8s,baz=71,slow=6.6,SNR=4.4							
MLR	**Muntele Rosu**	**146.01**	**336**	⇓*i*P		PKPdf	03 52 50.0	+0.9
MLR	**Muntele Rosu**	**146.01**	**336**	⇓P		PKPdf	03 52 50.0	+1.0
GEC2	**GERESS Array S**	**146.18**	**352**	*e*PKP2		PKPab	03 52 49.5	-1.5
GERES	**GERESS Array B**	**146.18**	**352**	PKPbc		PKPbc	03 52 49.5	-0.9
	comp=Z,2.8nm,0.9s,baz=29,slow=2.2,SNR=7.5							
ZST	**Bratislava**	**146.24**	**348**	*e*PKIKP		PKPdf	03 52 48.6	-0.8
ZST	**Bratislava**	**146.24**	**348**	*e*		PKPdf	03 52 48.6	-0.8
BRTR	**Keskin Array B**	**146.39**	**321**	PKPbc		PKPbc	03 52 50.6	-0.3
	comp=Z,4.7nm,0.8s,baz=119,slow=1.8,SNR=13							
BZS	**Buzias**	**147.45**	**341**	⇓*i*P		PKPdf	03 52 53.0	+1.5
PKSM	**Moragy**	**147.76**	**345**	⇑*i*P		PKPdf	03 52 53.6	+1.6
PKSM	**Moragy**	**147.76**	**345**	⇑P		PKPdf	03 52 53.6	+1.6
ASF	**Jabal al Asfar**	**148.09**	**307**	PKPbc		PKPbc	03 52 55.9	+0.2
	comp=Z,1.5nm,0.5s,baz=124,slow=3.6,SNR=1.9							
MMAI	**Mount Meron Ar**	**148.85**	**309**	PKPbc		PKPbc	03 52 56.5	-1.2
	comp=Z,4.1nm,0.7s,baz=66,slow=8.4,SNR=4.3							

*MOS **30** 03:37:43.9±0.9, 1218N×12523E, h33km, mb5.2/18, Error ellipse: s-maj=15.8km s-min=7.3km az=120.8*

*BJI **30** 03:37:45.4, 1244N×125.11E, h22km, mB4.7, mb4.9*

*NEIC **30** 03:37:47.5±0.3, 1209N×125.14E, mb5.3/19, Error ellipse: s-maj=11.0km s-min=7.0km az=62.0*

NEIC Felt [IV PIVS] at Calbayog and Catbalogan; [III PIVS] at Borongan. Also felt [III PIVS] at Tacloban, Leyte.

*MAN **30** 03:37:47.6, 1230N×12524E, h28km, mb4.2, ML5.1, MS4.0*

MAN F INTENSITY IV - CATBALOGAN & CALBAYOG CITY INTENSITY III - BORONGAN SAMAR & TACLOBAN CITY.

*ISCJB **30** 03:37:48.5±0.4, 1221N±003×125.19E±004, h70km±4km, mb4.8/51, Error ellipse: s-maj=6.0km s-min=4.4km az=127.3*

*IDC **30** 03:37:49.1±4.8, 1207N×12507E, h63km±43km, mb4.4/19, mb1 4.5/21, mb1mx4.4/25, mbtmp4.7/21, ML4.6/2, MS5.4/4, Ms1 5.4/4, ms1mx4.4/32, Error ellipse: s-maj=21.4km s-min=12.6km az=67.0*

ISC 30 03:37:49.7±0.4,**1220N**±003×**12521E**±004,**h66**km±3km, **h50**km±2.8km**:pP-P**,**n144,σ0s93**/142,**mb4.8**/51,**8C-8D, Samar**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.63**	**159**	*e*P		**Pn**	**03 38 02.2**	**-1.4**
BESP				*e*S		**Sn**	**03 38 12.9**	**-0.8**
PLP	**Palo**	**1.05**	**192**	*e*P		**Pn**	**03 38 08.1**	**-0.5**
PLP				*e*S		**Sn**	**03 38 22.3**	**-0.4**
OCLP	**Ormoc**	**1.28**	**207**	*e*P		**Pn**	**03 38 12.1**	**+0.5**
PVCP	**Virac**	**1.73**	**324**	⇑*i*P		**Pn**	**03 38 16.7**	**-0.9**
PVCP				*i* S		**Sn**	**03 38 43.4**	**+4.7**
PVCP	**Virac**	**1.73**	**324**	*e*P		**Pn**	**03 38 16.6**	**-1.0**
MSLP	**Maasin**	**2.08**	**189**	*e*P		**Pn**	**03 38 23.2**	**+0.9**
LLP	**Lapu-Lapu**	**2.23**	**213**	⇓*i*P		**Pn**	**03 38 24.0**	**-0.3**
LLP				*i* S		**Sn**	**03 38 50.2**	**-0.6**
SCPH	**Surigao**	**2.42**	**173**	⇑*e*P		**Pn**	**03 38 26.2**	**-0.6**
RCP	**Roxas**	**2.49**	**256**	*e*P		**Pn**	**03 38 27.8**	**-0.1**
RCP				*e*S		**Sn**	**03 38 57.3**	**+0.1**
AUQP	**San Andres**	**2.71**	**295**	*e*P		**Pn**	**03 38 32.5**	**+1.5**
KALP	**Kalibo**	**2.85**	**260**	*e*P		**Pn**	**03 38 34.0**	**+1.1**
GUIM	**Jordan**	**3.00**	**239**	*e*P		**Pn**	**03 38 34.5**	**-0.4**
GUIM				*e*S		**Sn**	**03 39 09.6**	**-0.1**
OTRP	**Odiongan**	**3.12**	**273**	*e*P		**Pn**	**03 38 36.0**	**-0.5**
GQP	**Guinayangan**	**3.18**	**303**	*e*P		**Pn**	**03 38 37.0**	**-0.3**
GQP				*e*S		**Sn**	**03 39 14.3**	**+0.3**
BUTP	**Butuan**	**3.23**	**173**	*e*P		**Pn**	**03 38 39.5**	**+1.4**
SNPH	**Sibulan**	**3.43**	**215**	⇓*i*P		**Pn**	**03 38 41.5**	**+0.7**
SNPH				*i* S		**Sn**	**03 39 27.0**	**+6.8**
BOAC	**Boac**	**3.51**	**291**	*e*P		**Pn**	**03 38 40.5**	**-1.3**
DCPH	**Dipolog City**	**4.03**	**207**	⇓*e*P		**Pn**	**03 38 44.2**	**-4.

comp=Z,166nm,0.7s,SNR=5.4
BRVK Borovoye 59.57 325 *e*P P **03 47 46.9 +0.4**
BRVK *e**PP pP 03 48 02.0 -1.7
BRVK pmax pmax
comp=Z,14nm,0.8s,mb5.0
BRVK Borovoye 59.57 325 *e*P P **03 47 46.9 +0.4**
BRVK epP pP 03 48 02.0 -1.7
CHKZ Chkalovo 59.62 326 *e*P P **03 47 45.2 -1.6**
CHKZ pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
CHKZ Chkalovo 59.62 326 *e*P P **03 47 45.2 -1.6**
comp=Z,9.8nm,1.0s,mb4.8
ZRNK Zerenda 60.25 325 *e*P P **03 47 51.5 +0.3**
ZRNK *e**PP pP 03 48 04.7 -3.7
BILL Bilibino 61.85 16⇑*e*P P **03 48 02.4 +0.4**
BILL *e*S S **03 56 28.0 +7.4**
BILL pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
BILL MLR MLR
comp=Z,2μm,20.0s
WSAR Wadi Sarin 63.91 290 P P **03 48 15.2 -0.4**
comp=Z,5.9nm,0.7s,mb4.5,baz=86,slow=8.2,SNR=5.3
AB31 Akbulak array 64.75 319 *i* P P **03 48 21.4 +0.3**
AB31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
AKTK Aktyubinsk 66.19 320 P P **03 48 30.7 +0.3**
AKTO Aktyubinsk 66.19 320 P P **03 48 30.7 +0.3**
comp=Z,8.3nm,0.8s,mb4.6,baz=93,slow=8.7,SNR=14
ARU Arti 67.05 326⇓*i* P P **03 48 35.6 -0.3**
ARU pmax pmax
comp=Z,15nm,0.6s,mb5.0
ARU Arti 67.05 326⇓*i* P P **03 48 35.6 -0.3**
ARU *e* pP 03 48 48.3 -5.2
ARU *e*S SKSac 03 58 23.6 -3.7
ARU pmax pmax
comp=Z,15nm,0.6s,mb5.0
ARU Arti 67.05 326 *e*P P **03 48 35.7 -0.2**
ARU epP pP 03 48 49.5 -4.0
ORR Orenburg 68.40 321 *i* P P **03 48 44.7 +0.3**
ORR pmax pmax
comp=Z,30nm,0.8s,mb5.2
GNI Garni 74.99 308 *e*P P **03 49 24.9 +0.9**
GNI pmax pmax
comp=Z,16nm,1.4s
ZEI Tsey 75.47 311 *e*P P **03 49 27.3 +0.5**
ZEI *e**PP pP 03 49 39.9 -4.7
ZEI *e* 03 52 18.4
ZEI pmax pmax
comp=Z,13nm,0.6s,mb4.8
KIV Kislovodsk 76.28 313 *e*P P **03 49 32.4 +1.0**
KIV pmax pmax
comp=Z,19nm,0.7s,mb4.9
COLA College 77.76 26 *e*P P **03 49 39.3 -0.3**
ILAR Eielson Array 78.17 26 P P **03 49 41.3 -0.6**
comp=Z,4.8nm,0.8s,mb4.3,baz=242,slow=5.8,SNR=25
OBN Obninsk 79.33 324⇑*e*P P **03 49 47.2 -1.1**
OBN *e* 03 52 50.9
OBN *e*S S 03 59 49.5 +5.8
OBN pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
OBN MLR MLR
comp=Z,2μm,20.0s
GZT Gaziantep 80.86 306 *i* P P **03 49 56.8 +0.3**
JOF Joensuu 81.01 332 *e*p P **03 49 56.8 -0.5**
comp=Z,6.2nm,0.5s,mb4.7
JOF Joensuu 81.01 332 *e*P P **03 49 56.8 -0.5**
JOF pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
DAWY Dawson 81.49 26 *e*P P **03 50 00.9 +1.1**
DAWY *e*PcP PcP 03 50 06.2 +0.5
ARCES ARCESS Array B 82.04 340 P P **03 50 03.2 +0.5**
comp=Z,4.4nm,0.6s,mb4.5,baz=78,slow=6.7,SNR=13
ARCES LR LR 04 33 34.3
comp=Z,2μm,19.7s,baz=221,slow=41
ASF Jabal al Asfar 82.20 301 P P **03 50 04.7 +1.1**
comp=Z,4.0nm,0.8s,mb4.3,baz=328,slow=4.5,SNR=5.8
SIM Simferopol' 82.27 314 *e*P P **03 50 04.0 +0.1**
SIM pmax pmax
comp=Z,15nm,0.8s,mb4.9
SIM Simferopol' 82.27 314 *e*P P **03 50 04.0 +0.1**
SIM pmax pmax
comp=Z,15nm,0.8s,mb4.9
BOYT Boyabat 82.27 311 *i* P P **03 50 04.0 0.0**
INK Inuvik 82.89 22 P P **03 50 07.7 +0.5**
comp=Z,5.8nm,0.8s,mb4.5,baz=285,slow=5.4,SNR=9.2
INK Inuvik 82.89 22⇑*e*P P **03 50 07.7 +0.5**
INK pmax pmax
comp=Z,15nm,1.1s
INK Inuvik 82.89 22 *e*PcP PcP 03 50 07.7 -4.2
comp=Z,15nm,1.1s
BALT Daday 83.38 311 *i* P P **03 50 09.9 +0.2**
KAF Kangasniemi 83.45 332 *e*p P **03 50 09.5 -0.6**
comp=Z,2.2nm,0.5s,mb4.2
KAF Kangasniemi 83.45 332 *e*P P **03 50 09.5 -0.6**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
BRTR Keskin Array B 83.51 309 P P **03 50 10.2 -0.2**
comp=Z,1.2nm,0.4s,mb4.1,baz=130,slow=3.4,SNR=7.4
BRTR Keskin Array B 83.51 309⇑*e*P P **03 50 10.1 -0.3**
FINES FINESS Array B 83.71 331 P P **03 50 11.2 -0.2**
comp=Z,4.4nm,0.8s,mb4.4,baz=77,slow=5.8,SNR=11
FINES LR LR 04 34 46.3
comp=Z,3μm,21.5s,baz=73,slow=41
AKASG Malin Array Be 84.42 321 P P **03 50 14.1 -1.0**
comp=Z,3.0nm,0.5s,mb4.3,baz=68,slow=4.6,SNR=8.9
SGKT Sivrigoynuk 84.55 310 *i* P P **03 50 13.9 -1.7**
CSS Prodhromos 84.64 304 *e*P P **03 50 16.3 +0.2**
comp=Z,19nm,0.6s,mb5.2
HENT Hendek 85.36 311 *i* P P **03 50 18.3 -1.4**
KMBO Kilima Mbogo 88.23 268 P P **03 50 32.4 -1.3**
comp=Z,4.1nm,0.9s,mb4.5,baz=57,slow=8.2,SNR=5.9
KMBO LR LR 04 29 12.8
comp=Z,2μm,19.5s,baz=90,slow=35
KMBO Kilima Mbogo 88.23 268⇑*e*P P **03 50 33.9 +0.2**
HFS Hagfors 89.87 332 P P **03 50 40.6 -0.8**
comp=Z,2.4nm,0.7s,mb4.4,baz=114,slow=3.6,SNR=7.0
NB2 NORSAR Subarra 90.58 334 P P **03 50 43.1 -1.6**
comp=Z,1.8nm,0.8s,mb4.2,baz=67,slow=4.4
NOA NORSAR Array B 90.58 334 P P **03 50 43.5 -1.2**
comp=Z,1.3nm,0.7s,mb4.2,baz=66,slow=4.6,SNR=4.6
NOA LR LR 04 38 06.0
comp=Z,2μm,20.1s,baz=70,slow=40
OKC Ostrava-Krasne 91.48 322 AMS AMS 04 41 40.0
comp=Z,1μm,18.2s
VNDA Vanda 91.96 173 P P **03 50 50.1 -0.9**
comp=Z,2.4nm,0.5s,mb4.7,baz=323,slow=4.7,SNR=18
DPC Dobruska-Polom 92.38 323 AMS AMS 04 36 40.0
comp=Z,2μm,23.9s
YKA Yellowknife Ar 92.43 24 P P **03 50 53.6 +0.4**
comp=Z,0.7nm,0.8s,mb4.0,baz=300,slow=4.5,SNR=4.1
YKA Yellowknife Ar 92.43 24⇑*e*P P **03 50 53.5 +0.3**
PRU Pruhonice 93.58 323 AMS AMS 04 42 40.0
comp=Z,2μm,19.1s
KHC Kasperske Hory 94.50 322 AMS AMS 04 41 50.0
comp=Z,2μm,19.6s
NKC Novy Kostel 94.70 324 AMS AMS 04 43 50.0
comp=Z,3μm,18.3s
TORD Torodi Ar. Bea 118.58 292 PKP PKPdf 03 56 29.4 -0.6
comp=Z,0.8nm,0.7s,baz=58,slow=2.5,SNR=8.8
CPD Cerro la Pandu 148.01 20 *e*PKP2 PKPab 03 57 28.8 -1.7
MTP Monte Pirata 148.08 20 *e*PKPbc PKPbc 03 57 28.1 +0.3
PLCA Paso Flores 148.38 157 PKPbc PKPbc 03 57 28.9 +0.2
comp=Z,2.3nm,0.6s,baz=203,slow=4.7,SNR=5.5
CPUP Villa Florida 165.74 171 PKPab PKPab 03 58 46.2 -0.2
comp=Z,2.0nm,0.8s,baz=164,slow=5.7,SNR=5.0
CPUP Villa Florida 165.74 171 PKP2 PKPab 03 58 46.2 -0.2
CPUP pmax pmax
comp=Z,2.0nm,0.8s
LPAZ La Paz 166.45 109 PKPab PKPab 03 58 51.7 +2.2
comp=Z,2.0nm,0.9s,baz=342,slow=3.2,SNR=3.6
LPAZ La Paz 166.45 109 PKP2 PKPab 03 58 51.7 +2.2
LPAZ pmax pmax
comp=Z,2.0nm,0.9s

*IDC **30** 03:46:11.5±1.6,371S×140.3E, h0km, mb4.0/4, mb1 4.3/5, mb1mx4.1/11, mbtmp4.0/5, ML4.2/1, MS4.9/1, Ms1 4.9/1, ms1mx3.4/20, Error ellipse: s-maj=87.0km s-min=22.4km az=108.0*

*ISCJB **30** 03:46:14.4±1.2, 38S±0.1×140.1E±0.2, h33km, mb4.0/2, Error ellipse: s-maj=30.1km s-min=14.4km az=15.4*

*NEIC **30** 03:46:16.2±1.0, 381S×140.12E, h35km, mb4.4/1, Error ellipse: s-maj=27.7km s-min=12.9km az=98.0*

ISC 30 03:46:16.3±1.2, 38S±01×1402E±02, h35km, n9, σ0§80/8, mb4.0/2, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.02**	**199**	P	**Pn**	**03 50 09.8**	**-1.6**
	0.9nm,0.3s,baz=19,slow=13,SNR=21						
FITZ	**Fitzroy Crossi**	**20.11**	**224**	P	**P**	**03 50 47.5**	**+0.6**
	22nm,1.0s,baz=57,slow=17,SNR=8.2						
ASAR	**Alice Springs**	**20.65**	**196**	P	**P**	**03 50 53.6**	**+0.9**
	4.8nm,0.6s,baz=30,slow=8.1,SNR=12						
KKM	**Kota Kinabalu**	**25.85**	**292**	P	**P**	**03 51 44.0**	**-0.4**
DZM	**Mont Dzumac**	**31.28**	**128**	LR	LR	04 02 41.4	
	comp=Z,2μm,19.3s,baz=314,slow=32						
QIZ	**Qiongzhong**	**37.49**	**308**	P	**P**	**03 53 26.9**	**+0.3**
	3.7nm,0.7s,mb4.3						
MJAR	**Matsushiro Arr**	**40.18**	**358**	P	**P**	**03 53 48.2**	**-0.9**
	1.6nm,0.8s,mb3.8,baz=183,slow=10,SNR=4.1						
COCO	**West Island**	**43.66**	**256**	P	**P**	**03 54 17.7**	**+0.3**
	70nm,0.8s						
ILAR	**Eielson Array**	**86.22**	**24**	P	**P**	**03 58 54.9**	**+0.8**
	0.1nm,0.7s,baz=251,slow=4.0,SNR=4.7						

*ISCJB **30** 03:46:46.3±4.2, 78N±03×140E±, h33km, mb4.4/7, MS4.3/1, Error ellipse: s-maj=188.1km s-min=17.8km az=158.1*

*NEIC **30** 03:46:49.1±3.6, 777N×139.46E, h35km, mb4.7/4, Error ellipse: s-maj=165.0km s-min=14.9km az=79.0*

*IDC **30** 03:47:10.2±2.4, 463N×128.10E, h0km, mb4.2/3, mb1 4.4/3, mb1mx4.0/17, mbtmp4.2/3, Error ellipse: s-maj=176.3km s-min=24.9km az=67.0*

ISC 30 03:46:48.6±4.3, 78N±03×140E±, h35km, n8, σ0§49/8, mb4.4/7, MS4.3/1, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.09**	**191**	P	**P**	**03 52 37.0**	**+0.1**
	2.9nm,0.6s,mb4.1,baz=346,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**31.81**	**190**	P	**P**	**03 53 09.7**	**-0.1**
	1.4nm,0.6s,mb4.0,baz=353,slow=12,SNR=3.1						
LZH	**Lanzhou**	**43.12**	**316**	*e*P	**P**	**03 54 45.6**	**+0.1**
	27nm,1.3s,mb4.8						
LZH				pP	pP	03 54 55.4	-0.4
LZH				sP	sP	03 54 59.5	-0.4
LZH				LR	LR		
	comp=Z,370nm,17.9s,MS4.3						
MKAR	**Makanchi Array**	**62.29**	**319**	P	**P**	**03 57 02.2**	**-4.9**
	comp=Z,2.4nm,0.7s,mb4.4,baz=118,slow=8.1,SNR=12						
MKAR	**Makanchi Array**	**62.29**	**319**	P	**P**	**03 57 02.2**	**-4.9**
KURK	**Kurchatov**	**65.85**	**322**	*e*P	**P**	**03 57 29.5**	**-0.9**
	comp=Z,5.1nm,0.7s,mb4.7						
BRVK	**Borovoye**	**71.45**	**323**	*e*P	**P**	**03 58 06.0**	**+0.7**
	comp=Z,1.3nm,0.5s,mb4.1						
ZRNK	**Zerenda**	**72.18**	**323**	*e*P	**P**	**03 58 09.9**	**+0.2**
	comp=Z,4.2nm,0.6s,mb4.5						

*CSEM **30** 03:48:01.8±1.1, 3896N×2790W, h1km±3km, ML2.1, Error ellipse: s-maj=1.8km s-min=1.4km az=61.0, After PDA*

*PDA **30** 03:48:01.8±1.1, 3896N×2790W, h1km±3km, MD3.0, ML2.1, Error ellipse: s-maj=1.8km s-min=1.4km az=61.0*

SVSA 30 03:48:01.8±1.1, 3896N×2790W, h1km±3km, MD3.0, ML2.1, Error ellipse: s-maj=1.8km s-min=1.4km az=61.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGRA	**Graciosa**	**0.10**	**316**	*e*P	Pg	03 48 02.8	-0.9
PGRA				*e*S	Sg	03 48 04.3	-0.6
PGRA							
	718nm,0.2s						
PGRA	**Graciosa**	**0.10**	**316**	*e*P	Pg	03 48 02.8	-0.9
PGRA				*e*S	Sg	03 48 04.3	-0.6
SRBC	**Serra Branca**	**0.14**	**304**	*e*P	Pg	03 48 03.6	-0.8
SRBC				*e*S	Sg	03 48 06.0	-0.2
STGR	**Santa Cruz**	**0.15**	**325**	*e*P	Pg	03 48 04.6	0.0
STGR				*e*S	Sg	03 48 07.0	+0.5
STGR							
	231nm,0.2s						
STGR	**Santa Cruz**	**0.15**	**325**	*e*P	Pg	03 48 04.6	0.0
STGR				*e*S	Sg	03 48 07.0	+0.5
PVIA	**Vitoria**	**0.16**	**312**	*e*P	Pg	03 48 04.8	-0.1
PVIA				*e*S	Sg	03 48 07.0	0.0
PVIA							
	54nm,0.2s						
PAMA	**Santo Amaro**	**0.36**	**219**	*e*P	Pg	03 48 08.4	-0.3
PAMA				*e*S	Sg	03 48 13.5	+0.2
PAMA							
	108nm,0.1s						
PMAN	**Manadas**	**0.36**	**205**	*i* P	Pg	03 48 07.6	-1.1
PMAN				*e*S	Sg	03 48 13.1	-0.3
PMAN							
	589nm,0.2s						
PMAN	**Manadas**	**0.36**	**205**	*e*S	Sg	03 48 13.1	-0.3
ROSA	**Rosais**	**0.36**	**229**	*i* P	Pg	03 48 07.7	-1.0
ROSA				*e*S	Sg	03 48 12.8	-0.6
ROSA	**Rosais**	**0.36**	**229**	*e*S	Sg	03 48 12.8	-0.6
PSBA	**Serra de Santa**	**0.48**	**113**	*e*P	Pg	03 48 09.5	-1.6
PSBA				*e*S	Sg	03 48 16.3	-1.1
PSBA							
	82nm,0.2s						
PSBA	**Serra de Santa**	**0.48**	**113**	*e*P	Pg	03 48 09.5	-1.6
PSBA				*e*S	Sg	03 48 16.3	-1.1
ASBA	**Santa Barbara**	**0.51**	**118**	*e*P	Pg	03 48 10.9	-0.6
ASBA				*i* S	Sg	03 48 17.9	-0.1
ASBA							
	43nm,0.1s						
ASBA	**Santa Barbara**	**0.51**	**118**	*e*P	Pg	03 48 10.9	-0.6
ASBA				*i* S	Sg	03 48 17.9	-0.1
PBIS	**Biscoitos**	**0.54**	**111**	*e*S	Sg	03 48 18.8	-0.3
PBIS							
	40nm,0.1s						
PPAD	**Pico dos Padre**	**0.54**	**118**	*e*P	Pg	03 48 11.3	-0.9
PPAD				*e*S	Sg	03 48 18.6	-0.6
PPAD							
	17nm,0.1s						
PPAD	**Pico dos Padre**	**0.54**	**118**	*e*P	Pg	03 48 11.3	-0.9
PPAD				*e*S	Sg	03 48 18.6	-0.6
PID	**Ribeirinha**	**0.55**	**199**	*i* P	Pg	03 48 11.1	-1.2
PID				*e*S	Sg	03 48 18.1	-1.2
PID	**Ribeirinha**	**0.55**	**199**	*e*S	Sg	03 48 18.1	-1.2
PIED	**Piedade**	**0.55**	**193**	*e*S	Sg	03 48 19.0	-0.6
PTEI	**Pico do Teixo**	**0.59**	**218**	*e*P	Pg	03 48 12.3	-0.8
PTEI				*e*S	Sg	03 48 20.0	-0.7
PTEI							
	54nm,0.4s						
ADH	**Angra Heroismo**	**0.60**	**120**	*e*S	Sg	03 48 18.6	-2.4
PVNV	**Vila Nova**	**0.61**	**109**	*e*P	Pg	03 48 12.5	-1.0
PVNV				*e*S	Sg	03 48 20.7	-0.7
PVNV							
	48nm,0.2s						
PVNV	**Vila Nova**	**0.61**	**109**	*e*P	Pg	03 48 12.5	-1.0
PVNV				*e*S	Sg	03 48 20.7	-0.7
PICO	**Pico**	**0.62**	**222**	*e*P	Pg	03 48 12.1	-1.5
PICO				*e*S	Sg	03 48 20.5	-1.2
RIB2	**Ribeirinha**	**0.63**	**117**	*e*S	Sg	03 48 21.1	-1.0
RIB2							
	11nm,0.1s						
PBOI	**Pico dos Bois**	**0.64**	**216**	*e*P	Pg	03 48 13.1	-1.0
PBOI				*e*S	Sg	03 48 21.1	-1.4
PBOI							
	45nm,0.2s						
PCND	**Candelaria**	**0.66**	**222**	*e*S	Sg	03 48 21.9	-1.1
PCND							
	34nm,0.3s						
PFAV	**Pico das Favas**	**0.68**	**111**	*e*S	Sg	03 48 22.3	-1.3
PFAV							
	24nm,0.1s						
PCED	**Cedros**	**0.71**	**243**	*e*P	Pg	03 48 12.7	-2.8
PCED				*e*S	Sg	03 48 21.9	-2.8
PCED							
	32nm,0.4s						
PCED	**Cedros**	**0.71**	**243**	*e*S	Sg	03 48 21.9	-2.8
HOR	**Horta**	**0.72**	**233**	*e*P	Pg	03 48 13.4	-2.2
HOR				*e*S	Sg	03 48 22.3	-2.6
CALA	**Caldeira**	**0.73**	**239**	*e*P	Pg	03 48 13.4	-2.5
CALA				*e*S	Sg	03 48 22.9	-2.5
PTCA	**Ponta do Capel**	**0.80**	**242**	*e*S	Sg	03 48 25.5	-2.0
PTCA							
	28nm,0.2s						
PLUZ	**Luz**	**0.84**	**274**	*e*P	Pg	03 48 03.5	-15
PLUZ				*e*S	Sg	03 48 05.0	-24
PLUZ							
	482nm,0.2s						

*ISCJB **30** 03:49:32.8±2.6, 352N±02×339E±0.1, h45km±27km, Error ellipse: s-maj=36.5km s-min=14.6km az=146.5*

*CSEM **30** 03:49:32.4±0.8, 348.3N×338.8E, h34km±6km, Mw2.7, Error ellipse: s-maj=35.7km s-min=5.9km az=167.0*

*NEIC **30** 03:49:33.2, 3503N×3391E, h46km, MG2.7(NIC), After NIC.*

*NIC **30** 03:49:33.2±0.3, 3503N×3391E, h46km, ML2.7, MW2.7*

ISC 30 03:49:30.1±2.4, 351N±03×341E±01, h63km±20km, n6, σ1§01/9, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHNC	**Paralimni**	**0.11**	**210**	P	**Pn**	**03 49 41.0**	**+1.6**
	3.7nm,0.2s						
PHNC				S	**Sn**	**03 49 46.0**	**-0.2**
CSS	**Prodhromos**	**0.65**	**258**	P	**Pn**	**03 49 43.7**	**-0.1**
	3.7nm,0.2s						
CSS				S	**Sn**	**03 49 52.4**	**-1.5**
MAMC	**Mammari**	**0.73**	**276**	P	**Pn**	**03 49 45.7**	**+0.9**
ALFC	**Alevga**	**1.23**	**273**	P	**Pn**	**03 49 51.6**	**+0.4**
ALFC				S	**Sn**	**03 50 06.5**	**-0.5**
ERMK	**Ermenek**	**1.82**	**328**	*i* P	**Pn**	**03 49 59.9**	**+0.8**
COBT	**Iskenderun**	**2.26**	**50**	*i* P	**Pn**	**03 50 03.3**	**-1.7**

IDC 30 03:55:53.5±4.6, 225S×13842E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/12, mbtmp3.6/3, ML3.2/1, Error ellipse: s-maj=189.1km s-min=29.6km az=86.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.03**	**192**	P	Pn	04 00 04.0	-1.3
	0.1nm,0.3s,baz=17,slow=13,SNR=4.9						
ASAR	**Alice Springs**	**21.73**	**191**	P	P	04 00 48.1	+1.8
	1.6nm,0.6s,baz=27,slow=8.7,SNR=11						
MKAR	**Makanchi Array**	**69.25**	**322**	P	P	04 07 02.0	-0.2
	0.4nm,0.6s,baz=130,slow=8.0,SNR=4.2						

*INMG **30** 04:06:23.9±1.4, 3675N×890W, h15km±6km, ML1.6, Error ellipse: s-maj=9.1km s-min=4.1km az=63.0*

*IGIL **30** 04:06:24.7, 3673N×893W, h0km, ML1.8*

MDD 30 04:06:23.6±1.7, 3674N×896W, h25km±8km, mb3.5/6, 1C, Error ellipse: s-maj=14.6km s-min=9.5km az=62.0, PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MORF	**Marmelete**	**0.62**	**23**	*e*P	Pb	04 06 35.7	-0.1
MORF				*e*S	Sb	04 06 43.8	-0.4
MORF				*e*S	Sb	04 06 43.8	-0.4
MORF				AML	AML	04 06 44.8	
	comp=E,41nm,0.2s						
MORF	**Marmelete**	**0.62**	**23**	*e*P	Pb	04 06 35.7	-0.2
MORF				*e*S	Sb	04 06 43.8	-0.4
PTEO	**Sao Teotonio**	**0.83**	**13**	*e*P	Pb	04 06 38.6	-0.8
PTEO				*e*S	Sb	04 06 49.7	-0.4
PTEO							
	comp=E,6.3nm,0.1s						
EGRO	**El Granado**	**1.42**	**56**	⇑P	Pn	04 06 46.7	-1.1
	comp=E,0.4nm,0.1s,SNR=18						
EGRO				S	Sn	04 07 03.5	-2.3
	comp=E,4.5nm,0.1s,SNR=15						
EMIN	**Mina Concepcio**	**2.09**	**60**	P	Pn	04 06 56.4	-0.7
	comp=E,0.8nm,0.1s,SNR=10						
EMIN				S	Sn	04 07 20.8	-1.6
	comp=E,1.8nm,0.2s,SNR=9.9						
ESPR	**Espera**	**2.49**	**86**	P	Pn	04 07 01.8	-0.8
	comp=E,1.6nm,0.1s,SNR=7.9						
ESPR				S	Sn	04 07 30.1	-2.1
	comp=E,2.2nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.54**	**37**	P	Pn	04 07 01.5	-1.7
	comp=E,0.3nm,0.0s,SNR=5.7						
EBAD				S	Sn	04 07 31.2	-2.1
	comp=E,0.5nm,0.0s						
PTOM	**Tomar**	**2.91**	**8**	*e*Pn	Pn	04 07 07.3	-1.0
PTOM				*e*Sn	Sn	04 07 40.5	-2.0
PTOM							
	comp=E,2.2nm,0.1s						
PCBR	**Castelo Branco**	**3.31**	**20**	*e*Pn	Pn	04 07 13.0	-0.8
PCBR				*e*Sn	Sn	04 07 49.8	-2.6
PCBR							
	comp=E,0.8nm,0.2s						
EADA	**Adamuz**	**3.77**	**66**	P	Pn	04 07 19.3	-0.8
	comp=E,0.4nm,0.1s,SNR=7.9						
EADA				S	Sn	04 07 59.5	-4.1
	comp=E,1.3nm,0.1s,SNR=7.9						
MTE	**Manteigas**	**3.82**	**16**	*e*Pn	Pn	04 07 19.7	-1.2
MTE				*e*Sn	Sn	04 08 02.2	-2.8
MTE							
	comp=E,2.0nm,0.2s						
PVRL	**Vila Real**	**4.63**	**12**	*e*Pn	Pn	04 07 30.8	-1.2
PVRL				*e*Sn	Sn	04 08 21.4	-3.6
EQES	**Quesada**	**4.81**	**75**	S	Sn	04 08 26.1	-3.4
	comp=E,0.4nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**4.91**	**52**	P	Pn	04 07 34.2	-1.6
	comp=E,0.4nm,0.1s,baz=238,slow=14,SNR=7.9						
ESDC				S	Sn	04 08 27.8	-3.9
	comp=E,0.5nm,0.1s,baz=238,slow=24,SNR=3.8						
ELOB	**Lobios**	**5.17**	**7**	S	Sn	04 08 33.7	-4.6
	comp=E,0.4nm,0.1s,SNR=4.0						

IDC 30 04:18:59.3±9.4, 1978S×17863W, h583km±98km, mb2.9/5, mb1 3.3/5, mb1mx3.1/13, mbtmp3.8/5, Error ellipse: s-maj=141.0km s-min=30.4km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WB2	**Warramunga Arr**	**44.11**	**261**	*e*P	P	04 26 17.1	+0.3
ASAR	**Alice Springs**	**44.11**	**256**	P	P	04 26 17.1	+0.3
	1.1nm,0.5s,baz=96,slow=7.9,SNR=16						
ASAR				PcP	PcP	04 27 49.8	+0.9
	0.6nm,0.6s,baz=104,slow=3.5,SNR=5.6						
WRA	**Warramunga Arr**	**44.12**	**261**	P	P	04 26 17.0	+0.1
	0.4nm,0.3s,baz=97,slow=7.6,SNR=40						
NVAR	**Mina Array Bea**	**80.91**	**44**	P	P	04 30 14.2	+0.7
	0.1nm,0.3s,baz=236,slow=10,SNR=3.8						
ILAR	**Eielson Array**	**87.75**	**13**	P	P	04 30 46.8	-0.2
	0.3nm,0.5s,baz=220,slow=5.6,SNR=7.7						
PDAR	**Pinedale Array**	**88.85**	**43**	P	P	04 30 51.9	-0.2
	0.5nm,1.0s,baz=132,slow=2.2,SNR=4.8						
AKASG	**Malin Array Be**	**142.10**	**331**	PKP	PKPdf	04 37 23.9	-1.8
	2.0nm,0.7s,baz=40,slow=4.7,SNR=10						

IDC 30 04:42:02.0±3.9, 505S×15256E, h0km, mb3.1/2, mb1 3.5/2, mb1mx3.3/14, mbtmp3.2/2, Error ellipse: s-maj=173.3km s-min=49.8km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.10**	**229**	P	P	04 47 08.6	-0.8
	0.3nm,0.6s,baz=53,slow=9.9,SNR=7.2						
ASAR	**Alice Springs**	**25.80**	**222**	P	P	04 47 35.9	+1.1
	0.3nm,0.4s,baz=60,slow=8.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**150.15**	**288**	PKPbc	PKPbc	05 01 55.8	+1.0
	0.2nm,0.4s,baz=105,slow=2.3,SNR=5.2						

*NEIC **30** 05:03:12.7, 2755S×7145W, h6km, ML3.2(GUC), After GUC.*

GUC 30 05:03:12.7±0.8, 2755S×7145W, h6km±7km, MD3.6, ML3.1, 3C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.73**	**50**	*e*P	Pg	05 03 27.0	+0.3
CDCH				*i* S	Sg	05 03 38.0	+1.8
CPCH	**Copiapo**	**0.99**	**79**⇑	*i*P	Pg	05 03 31.1	-0.7
CPCH				*i* S	Sg	05 03 46.0	+1.2
CPCH				AML	AML	05 03 48.4	
	comp=E,1μm,0.1s						
CPCH	**Copiapo**	**0.99**	**79**⇑	*i*P	Pg	05 03 31.1	-0.7
CPCH				*i* S	Sg	05 03 46.0	+1.2
LCO	**Las Campanas**	**1.60**	**156**	*e*P	Pn	05 03 42.0	+0.5
LCO				*i* S	Sn	05 04 03.2	+0.6
TLL	**Tololo Astrono**	**2.67**	**168**	*e*P	Pn	05 03 58.1	+1.8
TLL				⇑*i* S	Sn	05 04 32.5	+3.5

TLL				AML	AML	05 04 45.1
	comp=E,73nm,0.5s					
TLL	**Tololo Astrono**	**2.67**	**168**	*eP*	Pn	05 03 58.1 +1.8
TLL				*i* S	Sn	05 04 32.5 +3.5

*ISCJB **30** 05:33:37.8±0.6, 1751S×005×6929W×005, h146km±7km, mb3.9/8, Error ellipse: s-maj=8.0km s-min=7.5km az=164.2*
*NEIC **30** 05:33:39.5±0.7, 1755S×6937W, h153km±9km, mb3.8/4, Error ellipse: s-maj=12.1km s-min=9.9km az=65.0*
*IDC **30** 05:33:40.6±0.9, 1765S×6925W, h160km±7km, mb3.9/8, mb1 3.9/11, mb1mx3.7/20, mbtmp4.3/11, Error ellipse: s-maj=16.7km s-min=9.4km az=100.0*
ISC 30 05:33:38.8±0.5, 1752S×005×6930W×005, h141km±7km, n21, σ0§92/28, mb3.9/8, 2C-1D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.65**	**43**	P	**Pn**	**05 34 15.3**	**+6.0**
	85nm,0.3s,baz=236,slow=7.4,SNR=3744						
LPAZ				S	**Sn**	**05 34 40.0**	**+7.3**
	20nm,0.3s,baz=80,slow=18,SNR=8.0						
LPAZ	**La Paz**	**1.65**	**43**	*i* Pn	**Pn**	**05 34 15.3**	**+6.0**
LPAZ				*e*Sn	**Sn**	**05 34 40.0**	**+7.3**
ARE	**Arequipa**	**2.35**	**296**	*i* P	**Pn**	**05 34 18.5**	**+0.9**
ARE				*i* S	**Sn**	**05 34 47.8**	**+0.4**
LVC	**Limon Verde**	**5.08**	**176**	P	**Pn**	**05 34 53.8**	**+0.7**
	2.7nm,0.3s,baz=338,slow=8.1,SNR=33						
LVC				S	**Sn**	**05 35 49.9**	**-1.2**
	8.1nm,0.3s,baz=204,slow=23,SNR=16						
SIV	**San Ignacio**	**8.02**	**80**	P	**Pn**	**05 35 33.6**	**+1.1**
	9.0nm,0.3s,baz=270,slow=12,SNR=98						
SIV				S	**Sn**	**05 37 01.8**	**+0.1**
	2.4nm,0.3s,baz=334,slow=23,SNR=5.7						
NNA	**Nana**	**9.14**	**306**	*i* Pn	**Pn**	**05 35 45.8**	**-1.6**
	14nm,0.4s						
NNA				*e*Sn	**Sn**	**05 37 22.1**	**-6.5**
SAML	**Samuel**	**10.38**	**36**	*e*Pn	**Pn**	**05 36 04.6**	**+0.6**
	2.0nm,0.6s						
SAML				*e*Sn	**Sn**	**05 37 57.0**	**-1.7**
CFAA	**Coronel Fontan**	**14.06**	**176**	P	**Pn**	**05 36 51.4**	**-0.4**
	0.0nm,0.3s,baz=15,slow=10,SNR=3.3						
CPUP	**Villa Florida**	**14.14**	**130**	P	**Pn**	**05 36 51.7**	**-1.1**
	0.3nm,0.3s,baz=296,slow=13,SNR=5.1						
CPUP	**Villa Florida**	**14.14**	**130**	*e*Pn	**Pn**	**05 36 51.9**	**-0.9**
	3.6nm,0.4s						
BDFB	**Brasilia**	**20.48**	**88**	P	**P**	**05 38 05.5**	**0.0**
	6.2nm,0.4s,baz=262,slow=11,SNR=22						
TRQA	**Tornquist**	**21.45**	**164**	*eP*	**P**	**05 38 17.4**	**+1.6**
	1.7nm,0.6s,mb3.5						
PLCA	**Paso Flores**	**23.16**	**182**	P	**P**	**05 38 32.7**	**0.0**
	2.2nm,0.8s,mb3.7,baz=359,slow=12,SNR=7.6						
PLCA	**Paso Flores**	**23.16**	**182**	*eP*	**P**	**05 38 32.0**	**-0.7**
	2.6nm,0.8s,mb3.7						
CMIG	**Matias Romero**	**42.63**	**322**	P	**P**	**05 41 21.9**	**+0.8**
	1.9nm,0.6s,mb3.9,baz=101,slow=4.9,SNR=5.8						
DBIC	**Dimbokro**	**68.01**	**75**	P	**P**	**05 44 23.6**	**+0.8**
	10nm,0.6s,mb4.7,baz=229,slow=8.3,SNR=23						
ULM	**Lac du Bonnet**	**71.43**	**342**	P	**P**	**05 44 42.5**	**-1.1**
	1.9nm,0.4s,mb4.2,baz=161,slow=7.5,SNR=5.3						
TORD	**Torodi Ar. Bea**	**76.40**	**71**	P	**P**	**05 45 13.0**	**+0.5**
	5.0nm,0.6s,mb4.3,baz=257,slow=5.2,SNR=41						
VNDA	**Vanda**	**80.69**	**190**	P	**P**	**05 45 35.9**	**-0.2**
	0.9nm,1.0s,mb3.4,baz=157,slow=3.2,SNR=5.1						
YKA	**Yellowknife Ar**	**87.33**	**341**	P	**P**	**05 46 09.2**	**-0.4**
	1.0nm,0.6s,mb3.8,baz=134,slow=4.9,SNR=20						
YKA	**Yellowknife Ar**	**87.33**	**341**	P	**P**	**05 46 09.2**	**-0.4**

*CSEM **30** 05:42:55.5±0.5, 3864N×2842W, h0km±2km, ML1.1, Error ellipse: s-maj=1.2km s-min=1.0km az=153.0, After PDA*
*PDA **30** 05:42:55.5±0.5, 3864N×2842W, h0km±2km, MD2.8, ML1.1, Error ellipse: s-maj=1.2km s-min=1.0km az=153.0*
SVSA 30 05:42:55.5±0.5, 3864N×2842W, h0km±2km, MD2.8, ML1.1, Error ellipse: s-maj=1.2km s-min=1.0km az=153.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PICO	**Pico**	**0.14**	**181**	*eP*	Pg	05 42 58.4	+0.2
PICO				*eS*	Sg	05 43 00.4	+0.4
ROSA	**Rosais**	**0.16**	**61**	*eS*	Sg	05 43 01.0	+0.3
PCND	**Candelaria**	**0.17**	**191**	*eS*	Sg	05 43 01.6	+0.5
PCND							
	8.7nm,0.2s						
HOR	**Horta**	**0.20**	**235**	*eS*	Sg	05 43 02.5	+0.6
PCED	**Cedros**	**0.22**	**267**	*eS*	Sg	05 43 03.2	+0.6
PCED							
	9.9nm,0.3s						
CALA	**Caldeira**	**0.23**	**255**	*eP*	Pg	05 43 00.0	+0.1
CALA				*eS*	Sg	05 43 03.4	+0.6
PMAN	**Manadas**	**0.26**	**92**	*eS*	Sg	05 43 04.3	+0.4
PMAN							
	49nm,0.2s						
PID	**Ribeirinha**	**0.31**	**130**	*eP*	Pg	05 43 01.4	0.0
PID				*eS*	Sg	05 43 06.1	+0.7

*BJI **30** 05:43:11.0, 168S×10078E, h27km, mB4.9, mb5.1, Ms4.1, Msz3.7*
*ISCJB **30** 05:43:12.0±0.4, 193S±006×10012E±007, h42km, mb4.7/36, MS4.0/2, Error ellipse: s-maj=11.9km s-min=6.6km az=108.5*
*MOS **30** 05:43:12.1±1.0, 164S×10038E, h33km, mb4.9/18, Error ellipse: s-maj=23.3km s-min=8.9km az=115.7*
*NEIC **30** 05:43:14.2±0.3, 192S×10019E, mb4.7/12, Error ellipse: s-maj=11.4km s-min=5.6km az=55.0*
NEIC Felt [III] at Padang and [II] at Padangpanjang.
*IDC **30** 05:43:14.8±3.6, 182S×10034E, h45km±32km, mb4.3/12, mb1 4.4/13, mb1mx4.1/21, mbtmp4.5/13, ML3.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.3/29, Error ellipse: s-maj=35.2km s-min=12.7km az=51.0*
ISC 30 05:43:14.5±0.4, 189S±006×10016E±007, h44km, h44km±2.1km:pP-P,n79, σ0§93/68, mb4.7/36, MS4.0/2, 3C-1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPI	**Padang Panjang**	**1.44**	**9**	P	**Pn**	**05 43 37.8**	**-0.3**
	3µm,0.8s						
PSI	**Prapat**	**4.82**	**345**	P	**Pn**	**05 44 23.9**	**-0.6**
	4.8nm,0.3s,baz=154,slow=10,SNR=25						
PSI				LR	LR	05 46 33.4	
	comp=Z,260nm,21.4s,baz=354,slow=42						
PSI	**Prapat**	**4.82**	**345**	P	**Pn**	**05 44 23.9**	**-0.6**
PSI				LR	LR	05 46 33.4	
KGM	**Kluang**	**5.00**	**39**	P	**Pn**	**05 44 27.9**	**+0.9**
IPM	**Ipoh**	**6.38**	**8**	P	**Pn**	**05 44 49.7**	**+3.7**
KULM	**Kulim**	**7.15**	**4**	*e*Pn	**Pn**	**05 44 58.1**	**+1.7**
KKM	**Kota Kinabalu**	**17.86**	**64**	*e*Pn	**Pn**	**05 47 21.4**	**+1.7**
QIZ	**Qiongzhong**	**22.86**	**24**	*eP*	**P**	**05 48 13.4**	**-0.5**
	14nm,1.0s,mb4.3						
MBWA	**Marble Bar**	**27.03**	**137**	*eP*	**P**	**05 48 53.8**	**+1.4**
	13nm,1.1s,mb4.4						
FITZ	**Fitzroy Crossi**	**29.74**	**124**	*eP*	**P**	**05 49 16.7**	**+0.2**
	10nm,1.5s,mb4.3						
FITZ	**Fitzroy Crossi**	**29.74**	**124**	P	**P**	**05 49 16.4**	**-0.1**
	1.6nm,0.5s,mb4.0,baz=96,slow=15,SNR=10						
LSA	**Lhasa**	**32.57**	**345**	*eP*	**P**	**05 49 42.8**	**+1.4**
LSA				*e**PP	pP	05 49 53.4	+0.1
LSA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
LSA	**Lhasa**	**32.57**	**345**	*eP*	**P**	**05 49 42.8**	**+1.3**
	comp=Z,8.2nm,0.8s,mb4.7						
LSA				*ep*P	pP	05 49 53.4	+0.1
XAN	**Xi'an**	**36.68**	**12**	P	**P**	**05 50 15.3**	**-1.6**
XAN				AMB	AMB		
	comp=Z,28nm,0.6s,mb5.3						
WRA	**Warramunga Arr**	**37.91**	**121**	P	**P**	**05 50 26.7**	**-0.7**
	comp=Z,3.1nm,0.4s,mb4.4,baz=303,slow=9.2,SNR=61						
WRA				PcP	PcP	05 52 43.6	+0.8
	comp=Z,0.2nm,0.4s,baz=307,slow=2.5,SNR=7.6						
WRA	**Warramunga Arr**	**37.91**	**121**	*i* P	**P**	**05 50 26.7**	**-0.7**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
WRAB	**Tennant Creek**	**37.92**	**121**	*eP*	**P**	**05 50 26.7**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.7						
WRAB	**Tennant Creek**	**37.92**	**121**	*eP*	**P**	**05 50 26.7**	**-0.7**
	comp=Z,9.7nm,0.7s,mb4.6						
WB2	**Warramunga Arr**	**37.92**	**121**	*eP*	**P**	**05 50 26.6**	**-0.9**
NJ2	**Nanjing**	**38.13**	**26**	*eP*	**P**	**05 50 25.5**	**-3.7**
NJ2				AP	pP	05 50 37.0	-4.2
NJ2				XP	sP	05 50 41.0	-5.5
NJ2				PP	PP	05 51 56.0	-0.9
NJ2				S	**S**	**05 56 12.0**	**-7.1**
NJ2				XS	sS	05 56 32.0	-7.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,80nm,8.1s						
NJ2				LR	LR		
	comp=N,240nm,30.6s,MS4.0						
NJ2				LR	LR		
	comp=E,240nm,29.2s,MS4.0						
NJ2				LR	LR		
	comp=Z,210nm,33.2s,MS3.7						
SSE	**Sheshan**	**38.42**	**30**	*eP*	**P**	**05 50 27.5**	**-4.2**
SSE				AMB	AMB		
	comp=Z,59nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,40nm,4.5s						
SSE	**Sheshan**	**38.42**	**30**	*eP*	**P**	**05 50 27.5**	**-4.2**
	comp=Z,59nm,0.7s,mb5.4						
ASPA	**Alice Springs**	**39.19**	**126**	*eP*	**P**	**05 50 38.9**	**+0.8**
ASAR	**Alice Springs**	**39.19**	**126**	P	**P**	**05 50 38.1**	**0.0**
	comp=Z,5.5nm,0.7s,mb4.4,baz=299,slow=8.0,SNR=45						
ASAR				PcP	PcP	05 52 48.0	+1.3
	comp=Z,2.2nm,0.8s,baz=297,slow=2.7,SNR=7.9						
AS31	**Alice Springs**	**39.19**	**126**	*eP*	**P**	**05 50 38.9**	**+0.8**
WSAR	**Wadi Sarin**	**47.52**	**304**	P	**P**	**05 51 46.6**	**+1.4**
	comp=Z,6.5nm,0.9s,mb5.0,baz=88,slow=4.0,SNR=6.0						
STKA	**Stephens Creek**	**49.10**	**132**	*eP*	**P**	**05 51 56.8**	**-0.6**
	comp=Z,8.8nm,1.9s,mb4.5						
STKA	**Stephens Creek**	**49.10**	**132**	P	**P**	**05 51 56.1**	**-1.3**
	comp=Z,2.2nm,0.4s,mb4.6,baz=325,slow=2.4,SNR=4.8						
STKA	**Stephens Creek**	**49.10**	**132**	*eP*	**P**	**05 51 56.6**	**-0.9**
SONM	**Songino Array**	**49.82**	**5**	P	**P**	**05 52 02.8**	**-0.1**
	comp=Z,6.3nm,0.8s,mb4.7,baz=186,slow=9.2,SNR=14						
SONM				PcP	PcP	05 53 21.5	-1.6
	comp=Z,0.9nm,0.4s,baz=184,slow=3.5,SNR=4.0						
AAK	**Ala-Archa**	**50.01**	**335**	*eP*	**P**	**05 52 04.3**	**0.0**
AAK				*PP	pP	05 52 15.6	-1.1
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
AAK	**Ala-Archa**	**50.01**	**335**	*eP*	**P**	**05 52 04.3**	**0.0**
	comp=Z,1.6nm,0.6s,mb4.2						
AAK				pP	pP	05 52 15.6	-1.1
MK31	**Makanchi Array**	**50.97**	**344**	P	**P**	**05 52 11.9**	**+0.3**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.8						
MKAR	**Makanchi Array**	**50.97**	**344**	P	**P**	**05 52 12.0**	**+0.5**
	comp=Z,16nm,0.6s,mb5.1,baz=149,slow=7.9,SNR=145						
MKAR	**Makanchi Array**	**50.97**	**344**	*i* P	**P**	**05 52 12.0**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,16nm,0.6s						
MKAR	**Makanchi Array**	**50.97**	**344**	P	**P**	**05 52 12.0**	**+0.5**
MJAR	**Matsushiro Arr**	**52.09**	**39**	P	**P**	**05 52 19.3**	**-0.6**
	comp=Z,1.7nm,0.4s,mb4.3,baz=264,slow=9.2,SNR=7.9						
KURK	**Kurchatov**	**55.55**	**344**	*c* P	**P**	**05 52 45.3**	**+0.1**
KURK	**Kurchatov**	**55.55**	**344**	*eP*	**P**	**05 52 45.3**	**+0.1**
	comp=Z,17nm,0.8s,mb5.1						
KURK				*ep*P	pP	05 52 58.1	+0.3
ZAL	**Zalesovo**	**57.08**	**349**	P	**P**	**05 52 56.0**	**-0.2**
	comp=Z,14nm,0.5s,mb5.3,baz=316,slow=5.5,SNR=43						
NVS	**Novosibirsk**	**58.24**	**349**	*i* P	**P**	**05 53 02.2**	**-2.1**
VOSK	**Vostochnaya**	**59.68**	**340**	P	**P**	**05 53 13.8**	**-0.5**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**60.56**	**339**	*eP*	**P**	**05 53 20.0**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
ZRNK	**Zerenda**	**60.56**	**339**	*eP*	**P**	**05 53 19.9**	**-0.4**
	comp=Z,2.7nm,0.8s,mb4.4						
CHKZ	**Chkalovo**	**60.59**	**340**	*eP*	**P**	**05 53 20.4**	**-0.1**
CHKZ				*e**PP	pP	05 53 33.5	+0.3
CHKZ				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
CHKZ	**Chkalovo**	**60.59**	**340**	*eP*	**P**	**05 53 20.4**	**-0.2**
	comp=Z,9.2nm,1.0s,mb4.9						
CHKZ				*ep*P	pP	05 53 33.5	+0.3
AB31	**Akbulak array**	**61.62**	**331**	*i* P	**P**	**05 53 27.3**	**-0.2**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.7						
AKTO	**Aktyubinsk**	**63.34**	**331**	P	**P**	**05 53 38.5**	**-0.4**
AKTO				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.3						
GNI	**Garni**	**65.56**	**316**	*i* P	**P**	**05 53 54.9**	**+1.5**
ARU	**Arti**	**67.17**	**336**	*i* P	**P**	**05 54 03.2**	**-0.6**
ARU				*e*		05 56 35.6	
ARU				*e*PPP		05 58 06.6	
ARU				*e*S	S	06 02 56.1	+1.1
ARU				*e*SS	SS	06 07 13.9	-0.8
ARU				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
KIV	**Kislovodsk**	**68.56**	**319**	*i* P	**P**	**05 54 14.2**	**+1.7**
KIV				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.8						
SOC	**Sochi**	**70.38**	**318**	*eP*	**P**	**05 54 22.4**	**-1.3**
SOC				*e*S	S	06 03 31.0	-2.0
SOC				*e*		06 04 09.8	
SOC				*e*SSS		06 11 14.7	
SOC				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
ANN	**Anapa**	**72.36**	**318**	*eP*	**P**	**05 54 35.4**	**-0.3**
ANN				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.0						
BRTR	**Keskin Array B**	**73.36**	**312**	P	**P**	**05 54 42.3**	**+0.7**
	comp=Z,1.1nm,0.6s,mb4.0,baz=130,slow=6.4,SNR=7.0						
BRTR	**Keskin Array B**	**73.36**	**312**	*i* P	**P**	**05 54 42.2**	**+0.6**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TIXI	**Tiksi**	**75.72**	**9**	*c* P	**P**	**05 54 53.8**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.1						
OBN	**Obninsk**	**76.78**	**328**	*eP*	**P**	**05 55 01.3**	**0.0**
OBN				*e*		05 57 50.1	
OBN				*e*S	S	06 04 46.2	+0.9
OBN				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.2						
JOF	**Joensuu**	**82.19**	**334**	*ep*	**P**	**05 55 30.8**	**+0.1**
	comp=Z,3.4nm,0.7s,mb4.4						
JOF	**Joensuu**	**82.19**	**334**	*eP*	**P**	**05 55 30.8**	**+0.1**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
FINES	**FINESS Array B**	**84.09**	**332**	P	**P**	**05 55 40.7**	**+0.1**
	comp=Z,3.0nm,0.6s,mb4.6,baz=114,slow=5.8,SNR=26						
FINES	**FINESS Array B**	**84.09**	**332**	*i* P	**P**	**05 55 41.2**	**+0.7**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FINES	**FINESS Array B**	**84.09**	**332**	P	**P**	**05 55 40.7**	**+0.1**
KAF	**Kangasniemi**	**84.16**	**333**	*ep*	**P**	**05 55 40.8**	**-0.1**
	comp=Z,4.8nm,0.5s,mb4.9						
KAF	**Kangasniemi**	**84.16**	**333**	*eP*	**P**	**05 55 40.8**	**-0.1**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.9						
ARCES	**ARCESS Array B**	**86.42**	**340**	P	**P**	**05 55 52.3**	**+0.1**
	comp=Z,1.3nm,0.5s,mb4.5,baz=104,slow=4.7,SNR=12						
CLL	**Collm**	**89.68**	**321**	*eP*	**P**	**05 56 02.0**	**-5.7**
CLL				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.8						
CLL	**Collm**	**89.68**	**321**	*eP*	**P**	**05 56 02.0**	**-5.7**
	comp=Z,5.0nm,0.9s,mb4.8						
OHCM	**Honcut**	**126.86**	**40**	P	Pdif	05 58 54.5	+0.2
BDFB	**Brasilia**	**144.03**	**240**	PKP	PKPdf	06 02 46.9	+1.8
	comp=Z,1.0nm,0.4s,baz=80,slow=16,SNR=4.6						
CPUP	**Villa Florida**	**144.50**	**216**	PKP	PKPdf	06 02 47.8	+1.9
	comp=Z,3.1nm,0.7s,baz=138,slow=2.8,SNR=17						
LTX	**Lajitas**	**144.52**	**37**	*e*PKIKP	PKPdf	06 02 45.9	0.0
MIAR	**Mount Ida**	**145.07**	**20**	*e*PKIKP	PKPdf	06 02 46.8	-0.1
WVT	**Waverly**	**145.13**	**11**	*e*PKIKP	PKPdf	06 02 46.5	-0.5
TZTN	**Tazewell**	**145.35**	**5**	*e*PKPbc	PKPbc	06 02 47.2	0.0
JCT	**Junction City**	**145.84**	**32**	*e*PKP2	PKPab	06 02 49.8	+0.5
PLAL	**Pickwick Lake**	**146.19**	**12**	*e*PKPdf	PKPdf	06 02 49.2	+0.4
OXF	**Oxford**	**146.34**	**14**	*e*PKP2	PKPab	06 02 49.9	-1.3
SWET	**Sewanee**	**146.36**	**9**	*e*PKPdf	PKPdf	06 02 49.9	+0.8
LRAL	**Lakeview Retre**	**148.30**	**11**	*e*PKPdf	PKPdf	06 02 54.8	+2.5

*ISCJB **30** 05:46:49.9±0.3, 4022N±002×2252E±003, h12km±4km, Error ellipse: s-maj=3.9km s-min=3.2km az=163.9*
*NEIC **30** 05:46:50.8, 4022N×2254E, h6km, MD3.3(ATH), ML3.2(THE), After THE.*
*CSEM **30** 05:46:50.3±0.1, 4022N×2248E, h12km, ML2.9, Error ellipse: s-maj=1.6km s-min=1.4km az=96.0*
*THE **30** 05:46:50.8, 4022N×2254E, h6km, ML2.9*
*ATH **30** 05:46:50.0, 4021N×2250E, h24km±1km, MD3.3/7*
ISC 30 05:46:50.7±0.3, 4021N±002×2254E±003, h12km±4km, n26, σ0§83/42, 2D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIT	**Litokhoron**	**0.12**	**197**	*eP*	**Pg**	**05 46 53.5**	**-0.2**
LIT				*eSg*	**Sg**	**05 46 55.4**	**-0.5**
THE	**Thessaloniki**	**0.53**	**38**	*eP*	**Pg**	**05 47 01.0**	**-0.1**
THE				*eSg*	**Sg**	**05 47 08.6**	**+0.4**
KZN	**Kozani**	**0.59**	**279**	*i* PN	**Pg**	**05 47 01.3**	**-0.9**
KZN				*e*SN	**Sg**	**05 47 10.4**	**+0.3**
KZN	**Kozani**	**0.59**	**279**	*i* Pn	**Pg**	**05 47 00.7**	**-1.5**
KZN				*e*Sn	**Sg**	**05 47 10.4**	**+0.3**
PLG	**Polygyros**	**0.71**	**77**	*e*PN	**Pg**	**05 47 04.4**	**-0.1**
PLG				*e*SN	**Sg**	**05 47 14.4**	**+0.5**
GRG	**Griva**	**0.75**	**352**	*e*Pg	**Pg**	**05 47 04.9**	**-0.4**
GRG				*e*Sg	**Sg**	**05 47 16.1**	**+1.1**
SOH	**Sokhos**	**0.87**	**45**	*e*Pg	**Pg**	**05 47 07.3**	**-0.3**
SOH				*e*Sg	**Sg**	**05 47 19.6**	**+0.6**
PAIG	**Paliouri**	**0.92**	**108**	*e*Pg	**Pg**	**05 47 08.1**	**-0.4**
PAIG				*e*Sg	**Sg**	**05 47 21.1**	**+0.5**
XOR	**Xorichti**	**0.98**	**149**	*e*Pg	**Pg**	**05 47 09.0**	**-0.7**
XOR				*e*Sg	**Sg**	**05 47 23.5**	**+1.0**
KNT	**Kendrikon**	**0.99**	**16**	*e*Pg	**Pg**	**05 47 09.2**	**-0.5**
KNT				*e*Sg	**Sg**	**05 47 23.1**	**+0.5**
NEO	**Neokhori**	**1.05**	**149**	*e*PN	**Pn**	**05 47 10.1**	**-1.1**
NEO				*e*SN	**Sn**	**05 47 24.9**	**-0.9**
FNA	**Florina**	**1.05**	**303**	*e*Pg	**Pg**	**05 47 10.1**	**-0.9**
FNA				*e*Sg	**Sg**	**05 47 25.8**	**+1.1**
VAY	**Valandovo**	**1.11**	**1**	*e*Pg	**Pg**	**05 47 10.9**	**-1.1**
VAY	**Valandovo**	**1.11**	**1**	*i* Pg	**Pg**	**05 47 10.7**	**-1.3**
VAY				*i* Sg	**Sg**	**05 47 26.3**	**-0.1**
VAY	**Valandovo**	**1.11**	**1**	*e*Pg	**Pg**	**05 47 10.9**	**-1.1**
VAY				*i* Sg	**Sg**	**05 47 26.3**	**-0.1**
OUR	**Ouranopolis**	**1.11**	**83**	*e*Pg	**Pg**	**05 47 11.7**	**-0.4**
AGG	**Agios Georgios**	**1.20**	**188**	*e*Pg	**Pg**	**05 47 13.3**	**-0.4**
AGG				*e*Sg	**Sg**	**05 47 30.7**	**+1.3**
BIA	**Bitola**	**1.23**	**312**	*i* Pg	**Pg**	**05 47 12.7**	**-1.6**
BIA	**Bitola**	**1.23**	**312**	*i* Pg	**Pg**	**05 47 12.6**	**-1.7**
BIA				*e*Sg	**Sg**	**05 47 31.3**	**+1.1**
JAN	**Janina**	**1.41**	**247**	*e*PN	**Pn**	**05 47 15.6**	**-0.6**
JAN	**Janina**	**1.41**	**247**	*e*Pn	**Pn**	**05 47 17.3**	**+1.1**
EVR	**Evrytania**	**1.41**	**204**	*e*PN	**Pn**	**05 47 16.2**	**0.0**
NVR	**Nevrokopi**	**1.52**	**41**	*e*PN	**Pn**	**05 47 17.7**	**0.0**
LKR	**Lokris**	**1.60**	**167**	*e*PN	**Pn**	**05 47 19.8**	**+1.0**
KEK	**Kerkira**	**2.16**	**258**	*e*PN	**Pn**	**05 47 26.2**	**-0.3**
VLS	**Valsamata**	**2.53**	**217**	*e*Pb	**Pn**	**05 47 34.0**	**+2.3**

*CSEM **30** 05:50:05.4±1.0, 3897N×2790W, h2km±3km, ML1.5, Error ellipse: s-maj=2.3km s-min=1.6km az=65.0, After PDA*
*PDA **30** 05:50:05.4±1.0, 3897N×2790W, h2km±3km, MD2.7, ML1.5, Error ellipse: s-maj=2.3km s-min=1.6km az=65.0*
SVSA 30 05:50:05.4±1.0, 3897N×2790W, h2km±3km, MD2.7, ML1.5, Error ellipse: s-maj=2.3km s-min=1.6km az=65.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRBC	**Serra Branca**	**0.13**	**301**	*eP*	Pg	05 50 06.8	-1.1
SRBC				*eS*	Sg	05 50 08.7	-0.9
STGR	**Santa Cruz**	**0.14**	**324**	*eP*	Pg	05 50 07.9	-0.2
STGR				*eS*	Sg	05 50 10.2	+0.4
STGR							
	37nm,0.2s						
STGR	**Santa Cruz**	**0.14**	**324**	*eP*	Pg	05 50 07.9	-0.2
STGR				*eS*	Sg	05 50 10.2	+0.4
PVIA	**Vitoria**	**0.15**	**310**	*eS*	Sg	05 50 10.4	0.0
PVIA							
	13nm,0.1s						
PAMA	**Santo Amaro**	**0.36**	**217**	*eS*	Sg	05 50 17.1	0.0
PAMA							
	32nm,0.1s						
ROSA	**Rosais**	**0.37**	**227**	*eP*	Pg	05 50 10.8	-1.6
ROSA				*eS*	Sg	05 50 15.7	-1.5
ASBA	**Santa Barbara**	**0.51**	**119**	*eS*	Sg	05 50 21.3	-0.6
ASBA							
	11nm,0.3s						
PBIS	**Biscoitos**	**0.55**	**112**	*eS*	Sg	05 50 22.5	-0.4
PBIS							
	12nm,0.1s						
PID	**Ribeirinha**	**0.55**	**198**	*eP*	Pg	05 50 14.2	-1.8
PID				*eS*	Sg	05 50 21.2	-2.0
PTEI	**Pico do Teixo**	**0.59**	**217**	*eS*	Sg	05 50 23.8	-0.7
PTEI							
	13nm,0.2s						
PVNV	**Vila Nova**	**0.62**	**109**	*e

JOW LR LR 06 07 44.4
comp=Z,323nm,18.2s,baz=329,slow=43
QIZ Qiongzhong 9.85 262 P **Pn** **06 03 01.5 -1.4**
QIZ S **Sn** **06 04 52.5 0.0**
QIZ LR LR
comp=E,877nm,10.3s
QIZ LR LR
comp=Z,1μm,10.6s
SSE Sheshan 10.44 5 *e*P **Pn** **06 03 12.8 +1.7**
SSE AMB AMB
comp=Z,55nm,0.7s
SSE AMB AMB
comp=Z,75nm,7.6s
SSE Sheshan 10.44 5 *e*P **Pn** **06 03 12.7 +1.6**
comp=Z,55nm,0.7s
WHN Wuhan 11.16 333 *e*P **Pn** **06 03 24.8 +3.9**
WHN LR LR
comp=Z,1μm,14.4s
NJ2 Nanjing 11.42 354 *e*P **Pn** **06 03 30.5 +6.1**
NJ2 AP 06 03 34.8
NJ2 XP 06 03 39.5
NJ2 S **Sn** **06 05 40.0 +9.0**
NJ2 AMB AMB
comp=Z,20nm,1.2s
NJ2 AMB AMB
comp=Z,50nm,5.9s
NJ2 LR LR
comp=N,1μm,10.4s
NJ2 LR LR
comp=E,2μm,11.6s
NJ2 LR LR
comp=Z,530nm,11.2s
JNU Nakatsue 15.66 35 Pn **Pn** **06 04 25.6 +3.7**
comp=Z,1.2nm,0.3s,baz=228,slow=7.8,SNR=16
XAN Xi'an 16.64 326 P **Pn** **06 04 35.8 +1.3**
XAN AP pP 06 04 42.5 -1.7
XAN AMB AMB
comp=Z,8.0nm,1.4s
KMI Kunming 16.66 289 P **Pn** **06 04 35.8 +1.1**
KMI AP pP 06 04 42.0 -2.3
KMI XP sP 06 04 46.0 -1.9
KMI PP 06 04 49.5
KMI PPP 06 04 57.5
KMI S **Sn** **06 07 38.5 -0.3**
KMI XS sS 06 07 48.5 -13
KMI SS 06 07 59.3
KMI SSS 06 08 11.8
KMI AMB AMB
comp=Z,9.0nm,0.8s
KMI AMB AMB
comp=Z,86nm,5.2s
KMI LR LR
comp=N,375nm,12.5s
KMI LR LR
comp=E,297nm,11.0s
KMI LR LR
comp=Z,219nm,12.2s
KMI Kunming 16.66 289 P **Pn** **06 04 35.8 +1.1**
comp=Z,9.0nm,0.8s
KMI pP pP 06 04 41.9 -2.4
KMI sP sP 06 04 45.9 -2.0
KMI PP 06 04 49.5
KMI PPP 06 04 57.5
KMI S **Sn** **06 07 38.6 -0.2**
KMI sS sS 06 07 48.6 -13
KMI SS 06 07 59.2
KMI SSS 06 08 11.7
CD2 Chengdu 17.94 308 P **Pn** **06 04 50.5 -0.1**
CD2 AP pP 06 04 55.5 -3.0
CD2 XP sP 06 05 00.8 -1.3
CD2 PP 06 05 07.0
CD2 S **Sn** **06 08 13.5 +3.6**
CD2 XS sS 06 08 25.0 -2.4
CD2 AMB AMB
comp=Z,10.0nm,0.6s
CD2 AMB AMB
comp=Z,190nm,7.2s
CD2 LR LR
comp=N,870nm,13.4s
CD2 LR LR
comp=Z,550nm,12.0s
KS15 Wonju Array Si 18.03 20 *e*P **Pn** **06 04 52.8 +1.0**
DL2 Dalian 18.24 4 *e*P **Pn** **06 04 59.0 +4.7**
DL2 S **Sn** **06 08 27.3 +10**
DL2 AMB AMB
comp=Z,10.0nm,0.7s
DL2 LR LR
comp=N,220nm,12.8s
DL2 LR LR
comp=E,320nm,12.2s
DL2 LR LR
comp=Z,280nm,12.6s
BJT Baijiatuan 19.61 351 *e*P **Pn** **06 05 10.7 -0.1**
BJT pmax pmax
comp=Z,20nm,0.8s
BJT Baijiatuan 19.61 351 *e*P **Pn** **06 05 10.7 -0.1**
comp=Z,20nm,0.8s
BJI Beijing 19.63 351 P **Pn** **06 05 10.5 -0.5**
BJI S **Sn** **06 08 48.0 -2.6**
BJI AMB AMB
comp=Z,15nm,0.8s
BJI LR LR
comp=N,169nm,11.4s
BJI LR LR
comp=E,444nm,14.2s
BJI Beijing 19.63 351 P **Pn** **06 05 10.4 -0.6**
BJI S **Sn** **06 08 47.9 -2.7**
BJI pmax pmax
comp=Z,15nm,0.8s
BJI Beijing 19.63 351 P **Pn** **06 05 10.4 -0.6**
comp=Z,15nm,0.8s
BJI S **Sn** **06 08 47.9 -2.7**
CHTO Chiang Mai 20.06 268 *e*P **P** **06 05 13.8 -0.4**
CHTO pmax pmax
comp=Z,11nm,1.4s
CHTO Chiang Mai 20.06 268 *e*P **P** **06 05 13.8 -0.4**
comp=Z,11nm,1.4s
LZH Lanzhou 20.99 321 *e*P **P** **06 05 24.0 -0.4**
LZH AP 06 05 31.3
LZH XP sP 06 05 35.0 -0.5
LZH *e*PP 06 05 46.8
LZH *e*S **S** **06 09 12.0 -4.8**
LZH *e*SS 06 09 44.5
LZH AMB AMB
comp=Z,36nm,1.2s
LZH AMB AMB
comp=Z,165nm,4.5s
LZH LR LR
comp=N,709nm,10.5s
LZH LR LR
comp=Z,1μm,13.8s,MS4.4
LZH Lanzhou 20.99 321 *e*P **P** **06 05 24.0 -0.4**
LZH *SP sP 06 05 34.9 -0.6
LZH *e* 06 05 46.8
LZH *e*S **S** **06 09 12.1 -4.7**
LZH *SS sS 06 09 23.2 -5.6
LZH *e*SS 06 09 44.5
LZH pmax pmax
comp=Z,36nm,1.2s
LZH Lanzhou 20.99 321 *e*P **P** **06 05 24.0 -0.4**
comp=Z,36nm,1.2s
LZH pP 06 05 31.2
LZH sP sP 06 05 34.9 -0.6
LZH *e*PP 06 05 46.8
LZH *e*S **S** **06 09 12.1 -4.7**
LZH sS sS 06 09 23.2 -5.6
LZH *e*SS 06 09 44.5
KSM Kuching 21.35 208 *e*P **P** **06 05 27.8 -0.4**
HHC Hu-ho-hao-te 21.43 342 *e*P **P** **06 05 32.0 +3.0**
HHC AP 06 05 39.0
HHC XP sP 06 05 42.8 +2.6
HHC PP 06 05 57.5
HHC S **S** **06 09 27.0 +1.7**
HHC PCP PcP 06 09 35.3 +3.6
HHC SS 06 10 04.0
HHC SCP ScP 06 13 05.8 -1.0
HHC PCS PcS 06 13 10.0 +0.1
HHC AMB AMB
comp=Z,13nm,1.3s,mb4.1
HHC AMB AMB
comp=Z,99nm,5.8s
HHC LR LR
comp=N,467nm,12.3s,MS4.2
HHC LR LR
comp=E,508nm,13.7s,MS4.2
HHC LR LR
comp=Z,547nm,12.9s,MS4.1
MAJO Matsushiro 22.34 41 *e*P **P** **06 05 41.8 +3.0**
MAJO pmax pmax
comp=Z,22nm,1.0s,mb4.5
MAJO Matsushiro 22.34 41 *e*P **P** **06 05 41.8 +3.0**
comp=Z,22nm,1.0s,mb4.5
MAT Matsushiro 22.34 41 P **P** **06 05 42.4 +3.6**
MAT *e*S **S** **06 09 50.0 +7.0**
MAT Matsushiro 22.34 41 *e*P **P** **06 05 42.0 +3.2**
MAT pmax pmax
comp=Z,17nm,1.2s,mb4.3
MAT Matsushiro 22.34 41 *e*P **P** **06 05 42.0 +3.2**
comp=Z,17nm,1.2s,mb4.4
MAT S **S** **06 09 51.0 +8.0**
MJAR Matsushiro Arr 22.34 41 P **P** **06 05 38.9 +0.1**
comp=Z,15nm,1.0s,mb4.4,baz=240,slow=10,SNR=32
CN2 Changchun 23.50 10 *e*P **P** **06 05 52.8 +1.8**
CN2 *e*AP 06 05 59.8
CN2 *e*S **S** **06 10 02.0 -0.7**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.2
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,410nm,13.0s,MS4.1
CN2 LR LR
comp=E,190nm,13.0s,MS4.1
CN2 LR LR
comp=Z,470nm,14.0s,MS4.1
KULM Kulim 24.34 234 *e*P **P** **06 05 58.6 0.0**
GUMO Guam 24.61 103 LR LR 06 14 11.2
comp=Z,116nm,19.4s,MS3.4,baz=57,slow=33
MDJ Mudanjiang 25.15 16 P **P** **06 06 07.5 +1.5**
MDJ AP pP 06 06 13.5 -0.6
MDJ S **S** **06 10 33.5 +4.3**
MDJ XS sS 06 10 43.3 +0.7
MDJ SCP ScP 06 13 18.3 +1.6
MDJ PCS PcS 06 13 20.8 +0.9
MDJ SCS ScS 06 17 07.0 +1.8
MDJ AMB AMB
comp=Z,28nm,0.9s,mb4.8
MDJ AMB AMB
comp=Z,98nm,4.6s
MDJ LR LR
comp=N,142nm,23.0s,MS3.5
MDJ LR LR
comp=E,42nm,20.4s,MS3.5
MDJ LR LR
comp=Z,144nm,21.7s,MS3.5
MDJ Mudanjiang 25.15 16 *e*P **P** **06 06 07.3 +1.3**
comp=Z,27nm,1.0s,mb4.7
GTA Gaotai 25.59 321 *e*P **P** **06 06 10.0 0.0**
GTA AP pP 06 06 18.3 +0.2
GTA XP sP 06 06 22.0 +0.5
GTA PP 06 06 51.8
GTA S **S** **06 10 37.5 +1.4**
GTA XS sS 06 10 52.5 +2.9
GTA AMB AMB
comp=Z,4.0nm,0.8s,mb4.0
GTA AMB AMB
comp=Z,127nm,4.6s
GTA LR LR
comp=N,245nm,9.5s
GTA LR LR
comp=E,246nm,10.3s
GTA LR LR
comp=Z,380nm,14.8s,MS4.0
PSI Prapat 27.26 232 P **P** **06 06 24.7 -0.4**
comp=Z,2.4nm,0.4s,mb4.1,baz=343,slow=19,SNR=4.9
PSI LR LR 06 15 44.5
comp=Z,250nm,19.8s,MS3.8,baz=347,slow=33
PSI Prapat 27.26 232 P **P** **06 06 24.7 -0.4**
HIA Hailar 28.55 359 *e*P **P** **06 06 41.2 +4.6**
SONM Songino Array 29.32 341 P **P** **06 06 42.7 -0.7**
comp=Z,1.3nm,0.7s,mb3.8,baz=159,slow=12,SNR=2.8
WMQ Urumqi 35.53 318⇑ *i*P **P** **06 07 35.3 -2.5**
WMQ PP PP 06 08 55.3 -3.3
WMQ PCP PcP 06 10 05.3 -1.3
WMQ S **S** **06 13 07.5 -4.1**
WMQ AMB AMB
comp=Z,7.0nm,0.5s,mb4.8
WMQ AMB AMB
comp=Z,167nm,5.4s
WMQ LR LR
comp=N,54nm,15.2s,MS4.0
WMQ LR LR
comp=E,194nm,15.2s,MS4.0
WMQ LR LR
comp=Z,75nm,16.5s,MS3.5
FITZ Fitzroy Crossi 38.88 172 P **P** **06 08 04.8 -1.4**
comp=Z,4.2nm,0.9s,mb4.2,baz=273,slow=16,SNR=4.1
MKAR Makanchi Array 40.30 319 P **P** **06 08 17.2 -0.8**
comp=Z,1.9nm,0.7s,mb3.9,baz=119,slow=9.9,SNR=13
MKAR Makanchi Array 40.30 319⇑ *e*P **P** **06 08 18.2 +0.2**
WRAB Tennant Creek 42.66 160 *e*P **P** **06 08 37.0 -0.3**
WRAB *e*PP pP 06 08 44.5 -1.2
WRAB pmax pmax
comp=Z,49nm,1.1s,mb5.2
WRAB Tennant Creek 42.66 160 *e*P **P** **06 08 37.0 -0.4**
comp=Z,49nm,1.1s,mb5.2
WRAB epP pP 06 08 44.5 -1.2
WRA Warramunga Arr 42.66 160 P **P** **06 08 37.3 -0.1**
comp=Z,21nm,1.0s,mb4.8,baz=342,slow=8.9,SNR=61
WRA PcP PcP 06 10 29.5 +0.5
comp=Z,2.1nm,0.7s,baz=344,slow=3.5,SNR=4.9
WB2 Warramunga Arr 42.66 160 *e*P **P** **06 08 37.2 -0.2**
ZAL Zalesovo 42.75 330 P **P** **06 08 37.9 -0.3**
comp=Z,1.5nm,0.5s,mb4.0,baz=34,slow=3.6,SNR=8.4
AAK Ala-Archa 43.98 311⇑ *e*P **P** **06 08 47.7 -0.3**
AAK pmax pmax
comp=Z,5.0nm,1.8s,mb3.9
NVS Novosibirsk 44.03 330 *i* P pP 06 08 59.3 +2.5
KURK Kurchatov 44.26 323 *e*P **P** **06 08 49.6 -0.6**
KURK *e*PP pP 06 08 57.7 -0.9
KURK pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
KURK Kurchatov 44.26 323 *e*P **P** **06 08 49.6 -0.6**
comp=Z,3.7nm,0.9s,mb4.1
KURK epP pP 06 08 57.7 -1.0
ASAR Alice Springs 46.04 162 P **P** **06 09 04.3 -0.1**
comp=Z,0.9nm,0.8s,mb3.8,baz=82,slow=8.3,SNR=5.1
CTA Charters Tower 47.87 146⇑ *i*P **P** **06 09 21.1 +2.4**
comp=Z,11nm,1.1s,mb4.8
CTA Charters Tower 47.87 146 P **P** **06 09 20.6 +2.0**
comp=Z,22nm,1.0s,mb5.1,baz=351,slow=8.1,SNR=10
CTA Charters Tower 47.87 146⇑ *i*P **P** **06 09 21.1 +2.4**
CTA pmax pmax
comp=Z,11nm,1.1s
CTAO Charters Tower 47.87 146 *e*P **P** **06 09 20.4 +1.7**
CTAO *e*PP pP 06 09 28.6 +1.5
CTAO pmax pmax
comp=Z,35nm,1.4s,mb5.2
CTAO Charters Tower 47.87 146 *e*P **P** **06 09 20.4 +1.8**
comp=Z,35nm,1.4s,mb5.2
CTAO epP pP 06 09 28.6 +1.5
BRVK Borovoye 49.93 323 *e*P **P** **06 09 33.7 -0.8**
BRVK pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
BRVK Borovoye 49.93 323 *e*P **P** **06 09 33.7 -0.8**
comp=Z,1.8nm,0.8s,mb4.2
CHKZ Chkalovo 49.96 324 *e*P **P** **06 09 34.3 -0.4**
CHKZ *e*PP pP 06 09 42.7 -0.5
CHKZ pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
CHKZ Chkalovo 49.96 324 *e*P **P** **06 09 34.3 -0.5**
comp=Z,6.4nm,1.2s,mb4.5
CHKZ epP pP 06 09 42.7 -0.5
ZRNK Zerenda 50.62 322 *e*P **P** **06 09 39.6 -0.1**
ZRNK *e*PP pP 06 09 47.6 -0.6
ZRNK pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
ZRNK Zerenda 50.62 322 *e*P **P** **06 09 39.6 -0.1**
comp=Z,7.6nm,1.1s,mb4.5
ZRNK epP pP 06 09 47.6 -0.6
BILL Bilibino 55.32 19⇓ *e*P **P** **06 10 15.1 +0.8**
BILL *e* 06 12 18.3
BILL *e*S **S** **06 17 59.3 +2.7**
BILL pmax pmax
comp=Z,8.0nm,1.5s,mb4.5
STKA Stephens Creek 56.12 158 *e*P **P** **06 10 18.7 -1.4**
comp=Z,4.6nm,0.8s,mb4.6
STKA Stephens Creek 56.12 158 P **P** **06 10 18.6 -1.5**
comp=Z,4.7nm,0.7s,mb4.6,baz=344,slow=6.4,SNR=7.6
AKTK Aktyubinsk 56.68 317 P **P** **06 10 23.5 -0.6**
AKTO Aktyubinsk 56.68 317 P **P** **06 10 23.5 -0.6**
comp=Z,2.7nm,0.9s,mb4.3,baz=94,slow=8.6,SNR=7.6
ARU Arti 57.39 325⇑ *i*P **P** **06 10 28.5 -0.6**
ARU *e* 06 12 31.1
ARU *e*S **S** **06 18 24.6 +0.5**
ARU *e*SS SS 06 22 11.9 -1.9
ARU pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
ARU Arti 57.39 325 *e*P **P** **06 10 28.5 -0.6**
comp=Z,5.3nm,0.5s,mb4.8
ARU epP pP 06 10 36.6 -1.1
TTA Tatalina 69.03 29 *e*P **P** **06 11 47.7 +1.4**
TTA *e*PP pP 06 11 56.5 +1.4
TTA pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
TTA Tatalina 69.03 29 *e*P **P** **06 11 47.7 +1.4**
comp=Z,8.3nm,1.0s,mb4.6
TTA epP pP 06 11 56.5 +1.4
OBN Obninsk 69.70 322⇑ *e*P **P** **06 11 50.2 -0.2**
OBN *e* 06 14 19.4
OBN *e*S S 06 21 00.9 +3.5
OBN pmax pmax
comp=Z,5.0nm,0.4s,mb4.8
ARCES ARCESS Array B 72.46 338 P **P** **06 12 06.2 -1.0**
comp=Z,1.9nm,0.8s,mb4.1,baz=71,slow=9.1,SNR=3.4
ILAR Eielson Array 72.78 27 P **P** **06 12 09.3 +0.2**
comp=Z,0.7nm,0.7s,mb3.7,baz=286,slow=6.1,SNR=9.6
FINES FINESS Array B 74.02 330 P **P** **06 12 16.1 -0.2**
comp=Z,2.4nm,0.8s,mb4.2,baz=60,slow=7.5,SNR=7.0
FINES pP pP 06 12 24.4 -0.8
comp=Z,4.7nm,0.8s,baz=72,slow=6.6,SNR=7.8
FINES FINESS Array B 74.02 330 *i* P **P** **06 12 16.2 -0.1**
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 74.02 330 P **P** **06 12 16.1 -0.2**
FINES pP pP 06 12 24.4 -0.8
AKASG Malin Array Be 74.88 319 P **P** **06 12 20.9 -0.4**
comp=Z,1.3nm,0.7s,mb4.0,baz=64,slow=5.6,SNR=9.0
DAWY Dawson 76.10 26 *e*P **P** **06 12 28.8 +0.4**
DAWY epP pP 06 12 37.5 +0.2
INK Inuvik 76.84 21 *e*P **P** **06 12 34.0 +1.4**
INK *e*PP pP 06 12 40.9 -0.5
INK pmax pmax
comp=Z,7.0nm,1.3s
INK Inuvik 76.84 21 *e*P **P** **06 12 34.0 +1.4**
comp=Z,7.0nm,1.3s,mb4.4
INK epP pP 06 12 40.9 -0.6
SUW Suwalki 77.54 323 *e*P **P** **06 12 36.9 +0.4**
KWP Kalwaria 79.20 319 *e*P **P** **06 12 46.2 +0.5**
NB2 NORSAR Subarra 80.89 332 P **P** **06 12 54.2 -0.6**
comp=Z,3.0nm,0.7s,mb4.3,baz=64,slow=5.3
NOA NORSAR Array B 80.89 332 P **P** **06 12 54.0 -0.8**
comp=Z,1.3nm,0.6s,mb4.0,baz=64,slow=5.5,SNR=4.5
NOA pP pP 06 13 02.5 -1.2
comp=Z,4.4nm,0.9s,baz=64,slow=5.3,SNR=6.7
NOA LR LR 06 53 03.6
comp=Z,61nm,19.2s,MS4.0,baz=40,slow=39
NOA NORSAR Array B 80.89 332 P **P** **06 12 54.0 -0.8**
NOA pP pP 06 13 02.5 -1.2
RES Resolute Bay 82.29 9 *e*P **P** **06 13 02.1 -0.1**
RES *e*PP pP 06 13 10.1 -1.0
RES pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
RES Resolute Bay 82.29 9 *e*P **P** **06 13 02.1 -0.1**
comp=Z,8.6nm,1.0s,mb4.6
RES epP pP 06 13 10.1 -1.0
KMBO Kilima Mbogo 83.76 266 LR LR 06 50 35.8
comp=Z,64nm,19.7s,MS4.0,baz=288,slow=36
KMBO Kilima Mbogo 83.76 266⇑ *e*P **P** **06 13 11.6 +1.8**
CLL Collm 84.29 323 *e*P **P** **06 13 12.0 -0.5**
comp=Z,14nm,1.3s,mb4.9
CLL epP pP 06 13 21.0 -0.5
CLL Collm 84.29 323 *e*P **P** **06 13 12.0 -0.5**
CLL pmax pmax
comp=Z,14nm,1.3s,mb4.9
GERES GERESS Array B 84.96 321 P **P** **06 13 15.0 -0.8**
comp=Z,1.6nm,0.7s,mb4.3,baz=46,slow=3.9,SNR=11
GERES pP pP 06 13 25.2 +0.3
comp=Z,2.0nm,0.8s,baz=73,slow=4.5,SNR=4.6
YKA Yellowknife Ar 86.58 22 P **P** **06 13 25.4 +1.5**
comp=Z,2.3nm,0.8s,mb4.5,baz=313,slow=4.6,SNR=23
YKA pP pP 06 13 32.8 -0.1
comp=Z,3.1nm,0.8s,baz=313,slow=4.6,SNR=13
YKA Yellowknife Ar 86.58 22 P **P** **06 13 25.4 +1.5**
YKA pP pP 06 13 32.8 -0.1
SNAA Sanae 119.60 198 *e*PKPdf PKPdf 06 19 23.3 -7.1
SNAA *e* 06 19 32.3
SNAA *e* 06 19 34.4
VNA2 Neumayer--Watz 121.25 198 *e*PKPdf PKPdf 06 19 33.0 -0.6
baz=321,slow=0.3
VNA2 *e* 06 19 41.5
VNA2 *e* 06 19 44.5
VNA1 Neumayer--Stat 121.64 198 *e*PKPdf PKPdf 06 19 33.3 -1.0
VNA1 *e* 06 19 42.4
VNA1 *e* 06 19 44.5
VNA3 Neumayer Olymp 121.72 197 *e*PKPdf PKPdf 06 19 32.8 -1.7
VNA3 *e* 06 19 42.1
VNA3 *e* 06 19 44.7

IDC 30 06:08:08.6±0.5, 1398N×14508E, h145km±4km, mb3.7/10, mb1 3.8/10, mb1mx3.6/22, mbtmp4.1/10, Error ellipse: s-maj=23.8km s-min=13.5km az=101.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.43**	**208**	P	Pn	06 08 30.9	+1.8
	1μm,0.3s,baz=308,slow=0.8,SNR=543						
GUMO				S	Sn	06 08 45.6	+1.0
	645nm,0.3s,baz=319,slow=19,SNR=80						
JOW	**Kunigami**	**20.25**	**312**	P	P	06 12 33.5	+1.0
	12nm,0.3s,baz=131,slow=13,SNR=10						
WRA	**Warramunga Arr**	**35.32**	**198**	P	P	06 14 49.4	-0.3
	0.8nm,0.6s,baz=18,slow=8.9,SNR=14						
FITZ	**Fitzroy Crossi**	**37.20**	**212**	P	P	06 15 05.9	+0.4
	1.7nm,0.8s,baz=26,slow=13,SNR=7.8						
ASAR	**Alice Springs**	**38.98**	**196**	P	P	06 15 21.4	+0.9
	0.4nm,0.5s,baz=24,slow=7.4,SNR=4.2						
STKA	**Stephens Creek**	**45.71**	**184**	P	P	06 16 13.1	-1.9
	2.7nm,0.9s,baz=354,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**61.35**	**316**	P	P	06 18 09.3	+0.5
	1.7nm,0.4s,baz=91,slow=8.7,SNR=37						
ILAR	**Eielson Array**	**68.13**	**25**	P	P	06 18 51.0	-1.7
	0.6nm,0.4s,baz=252,slow=5.9,SNR=22						
YKA	**Yellowknife Ar**	**82.42**	**27**	P	P	06 20 14.0	-0.4
	0.4nm,0.3s,baz=287,slow=5.1,SNR=16						
NVAR	**Mina Array Bea**	**86.52**	**51**	P	P	06 20 37.4	+2.3
	1.3nm,0.7s,baz=262,slow=8.6,SNR=11						
FINES	**FINESS Array B**	**90.90**	**335**	P	P	06 20 54.0	-1.7
	1.0nm,0.6s,baz=60,slow=3.8,SNR=6.0						
TORD	**Torodi Ar. Bea**	**134.81**	**305**	PKP	PKPdf	06 27 11.1	+1.1
	0.7nm,0.6s,baz=39,slow=2.2,SNR=8.8						
DBIC	**Dimbokro**	**143.79**	**303**	PKP	PKPdf	06 27 24.8	-1.5
	1.9nm,0.4s,baz=24,slow=3.3,SNR=11						
LPAZ	**La Paz**	**147.88**	**98**	PKPbc	PKPbc	06 27 39.5	+3.1
	0.2nm,0.3s,baz=292,slow=5.4,SNR=3.9						

CSEM ***30*** *06:22:29.1±0.7, 3897N×2792W, h6km±7km, ML0.9, Error ellipse: s-maj=6.5km s-min=5.0km az=87.0, After PDA*
PDA ***30*** *06:22:29.1±0.7, 3897N×2792W, h6km±7km, MD2.6, ML0.9, Error ellipse: s-maj=6.5km s-min=5.0km az=87.0*

SVSA 30 06:22:29.1±0.7, 3897N×2792W, h6km±7km, MD2.6, ML0.9, Error ellipse: s-maj=6.5km s-min=5.0km az=87.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRBC	**Serra Branca**	**0.12**	**304**	*e*P	Pg	06 22 30.3	-1.3
SRBC				*e*S	Sg	06 22 32.0	-1.2
STGR	**Santa Cruz**	**0.13**	**328**	*e*S	Sg	06 22 33.5	-0.1
STGR							
	13nm,0.2s						
PAMA	**Santo Amaro**	**0.36**	**215**	*e*P	Pg	06 22 35.3	-0.7
PAMA				*e*S	Sg	06 22 40.2	-0.5
ROSA	**Rosais**	**0.36**	**225**	*e*P	Pg	06 22 34.2	-1.8
ROSA				*e*S	Sg	06 22 39.1	-1.6
PID	**Ribeirinha**	**0.55**	**197**	*e*S	Sg	06 22 43.6	-3.3
PICO	**Pico**	**0.62**	**220**	*e*S	Sg	06 22 46.7	-2.3
PLUZ	**Luz**	**0.83**	**273**	*e*P	Pg	06 22 30.9	-14
PLUZ				*e*S	Sg	06 22 31.7	-24
PLUZ							
	21nm,0.3s						

*CSEM **30** 06:34:26.5±0.1, 3652N×3109E, h80km, MD3.4, Error ellipse: s-maj=2.7km s-min=2.0km az=98.0*
*ISCJB **30** 06:34:27.4±0.4, 3643N±003×3115E±004, h33km, Error ellipse: s-maj=5.1km s-min=3.9km az=118.5*
*NEIC **30** 06:34:30.3, 3674N×3106E, h65km, MD3.3(ISK), After ISK.*
*ISK **30** 06:34:30.5, 3673N×3107E, h57km, MD3.4*
*HLW **30** 06:34:37.8, 3575N×3077E, h33km, Mb3.8*

ISC 30 06:34:29.4±0.4, 3652N±003×3112E±004, h35km, n50, σ1°35/74, 2C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANTB	**Antalya**	**0.53**	**316**	PG	**Pn**	**06 34 40.8**	**+0.3**
ANTB				SG	**Sn**	**06 34 49.4**	**+1.1**
ELL	**Elmali**	**1.00**	**284**	PG	**Pn**	**06 34 48.6**	**+1.7**
ELL				SG	**Sn**	**06 35 01.6**	**+1.9**
ELL	**Elmali**	**1.00**	**284**	Pg	**Pn**	**06 34 48.6**	**+1.7**
ELL				Sg	**Sn**	**06 35 02.6**	**+2.9**
ELL	**Elmali**	**1.00**	**284**	*e*Pg	**Pn**	**06 34 48.6**	**+1.7**
ELL				Sg	**Sn**	**06 35 02.6**	**+2.9**
BCK	**Bucak**	**1.03**	**336**	PG	**Pn**	**06 34 46.5**	**-0.9**
BCK	**Bucak**	**1.03**	**336**	Pg	**Pn**	**06 34 46.6**	**-0.8**
BCK	**Bucak**	**1.03**	**336**	Pg	**Pn**	**06 34 46.6**	**-0.8**
ISP	**Isparta**	**1.41**	**340**	PN	**Pn**	**06 34 52.4**	**-0.2**
ISP				SN	**Sn**	**06 35 06.6**	**-3.3**
ERMK	**Ermenek**	**1.45**	**85**	*i* P	**Pn**	**06 34 53.8**	**+0.7**
ERMK				*i* S	**Sn**	**06 35 14.4**	**+3.5**
FETY	**Fethiye**	**1.64**	**275**	PN	**Pn**	**06 34 56.8**	**+1.1**
FETY	**Fethiye**	**1.64**	**275**	Pn	**Pn**	**06 34 56.9**	**+1.2**
TKTP	**Tekketepe**	**1.65**	**338**	*i* P	**Pn**	**06 34 55.9**	**0.0**
TKTP				*i* S	**Sn**	**06 35 15.3**	**-0.5**
TKTP	**Tekketepe**	**1.65**	**338**	*i* P	**Pn**	**06 34 55.8**	**-0.1**
TKTP				*i* S	**Sn**	**06 35 15.3**	**-0.5**
KONT	**Konya--Tatoy**	**1.74**	**34**	PN	**Pn**	**06 34 58.2**	**+1.1**
KONT	**Konya--Tatoy**	**1.74**	**34**	Pn	**Pn**	**06 34 58.3**	**+1.2**
DALT	**Dalyan (Mudla)**	**2.01**	**278**	PN	**Pn**	**06 35 01.8**	**+1.0**
DALT	**Dalyan (Mudla)**	**2.01**	**278**	Pn	**Pn**	**06 35 01.9**	**+1.1**
DNZL	**Cakiroluk**	**2.03**	**306**	*i* P	**Pn**	**06 35 02.7**	**+1.6**
DNZL				*i* S	**Sn**	**06 35 26.8**	**+1.6**
IKL	**Isikli**	**2.09**	**97**	PN	**Pn**	**06 35 05.6**	**+3.6**
IKL	**Isikli**	**2.09**	**97**	Pn	**Pn**	**06 35 05.6**	**+3.6**
YER	**Yerkesik**	**2.35**	**286**	PN	**Pn**	**06 35 06.5**	**+0.9**
YER				SN	**Sn**	**06 35 34.0**	**+0.8**
YER	**Yerkesik**	**2.35**	**286**	Pn	**Pn**	**06 35 06.5**	**+0.9**
YER				Sg	**Sn**	**06 35 34.5**	**+1.3**
YER	**Yerkesik**	**2.35**	**286**	*e*Pn	**Pn**	**06 35 06.5**	**+0.9**
YER				*e*Sn	**Sn**	**06 35 34.0**	**+0.8**
YER				Sg	**Sn**	**06 35 34.5**	**+1.3**
KIZT	**Kizilcal**	**2.44**	**14**	PN	**Pn**	**06 35 06.1**	**-0.6**
MERS	**Mersin**	**2.76**	**82**	*e*PN	**Pn**	**06 35 14.7**	**+3.5**
AYDN	**Tasoluk**	**2.83**	**295**	*i* P	**Pn**	**06 35 11.9**	**-0.1**
AYDN				*i* S	**Sn**	**06 35 36.5**	**-8.5**
AYDN	**Tasoluk**	**2.83**	**295**	*i* P	**Pn**	**06 35 11.9**	**-0.2**
MANT	**Manisa**	**2.83**	**315**	*i* P	**Pn**	**06 35 11.7**	**-0.5**
MANT				*i* S	**Sn**	**06 35 43.4**	**-1.6**
MANT	**Manisa**	**2.83**	**315**	*i* P	**Pn**	**06 35 11.6**	**-0.5**
MANT				*i* S	**Sn**	**06 35 43.4**	**-1.6**
DAT	**Datca**	**2.85**	**275**	*e*PN	**Pn**	**06 35 14.0**	**+1.6**
GDZ	**Gediz**	**2.88**	**334**	*i* P	**Pn**	**06 35 11.9**	**-0.9**
GDZ				*i* S	**Sn**	**06 35 42.8**	**-3.3**
BDRM	**Kayabasi**	**3.00**	**282**	*i* P	**Pn**	**06 35 15.1**	**+0.7**
BDRM				*i* S	**Sn**	**06 35 47.8**	**-1.3**
ESKT	**Eskisehir**	**3.01**	**356**	*i* P	**Pn**	**06 35 13.3**	**-1.2**
ESKT				*i* S	**Sn**	**06 35 43.0**	**-6.4**
SEYT	**Eskypehyr**	**3.01**	**356**	*i* P	**Pn**	**06 35 13.3**	**-1.2**
BODT	**Bodrum**	**3.10**	**281**	*e*PN	**Pn**	**06 35 17.1**	**+1.3**
BODT	**Bodrum**	**3.10**	**281**	Pn	**Pn**	**06 35 17.1**	**+1.3**
BORA	**Eskisehir**	**3.40**	**351**	*i* P	**Pn**	**06 35 18.0**	**-1.9**
KAMT	**Kaman**	**3.51**	**35**	*e*PN	**Pn**	**06 35 29.4**	**+0.3**
SGKT	**Sivrigoynuk**	**4.12**	**10**	*i* P	**Pn**	**06 35 29.2**	**+0.6**
SGKT				*i* S	**Sn**	**06 36 14.3**	**-2.4**
SGKT	**Sivrigoynuk**	**4.12**	**10**	*i* P	**Pn**	**06 35 29.2**	**-0.6**
SGKT				*i* S	**Sn**	**06 36 14.4**	**-2.3**
COBT	**Iskenderun**	**4.14**	**88**	*i* P	**Pn**	**06 35 33.2**	**+3.1**
AMAG	**Maghara**	**6.11**	**163↑**	*e*P	**Pn**	**06 35 57.4**	**+0.2**
HHAG	**Hagoal**	**6.60**	**173**	P	**Pn**	**06 36 02.8**	**-1.1**
KOT	**Kottamia**	**6.60**	**175**	↓P	**Pn**	**06 36 03.2**	**-0.6**
KOT				S	**Sn**	**06 37 05.3**	**-13**
SUZ		**6.81**	**167**	↓P	**Pn**	**06 36 06.8**	**0.0**
HSAF	**As Saff**	**6.89**	**177**	P	**Pn**	**06 36 06.7**	**-1.2**
SLUM		**7.01**	**226↑**	*e*P	**Pn**	**06 36 08.4**	**-1.1**
SLUM				S	**Sn**	**06 37 14.9**	**-13**
AWBH		**8.38**	**193**	↓P	**Pn**	**06 36 26.3**	**-2.1**
SWA1		**8.54**	**214**	↓P	**Pn**	**06 36 29.0**	**-1.5**
SWA1				S	**Sn**	**06 37 49.9**	**-16**
SWA2		**8.67**	**215**	P	**Pn**	**06 36 31.3**	**-1.0**

*CSEM **30** 06:56:54.8±0.4, 3899N×2784W, h0km±7km, ML1.1, Error ellipse: s-maj=5.4km s-min=4.1km az=50.0, After PDA*
*PDA **30** 06:56:54.8±0.4, 3899N×2784W, h0km±7km, MD2.7, ML1.1, Error ellipse: s-maj=5.4km s-min=4.1km az=50.0*

SVSA 30 06:56:54.8±0.4, 3899N×2784W, h0km±7km, MD2.7, ML1.1, Error ellipse: s-maj=5.4km s-min=4.1km az=50.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STGR	**Santa Cruz**	**0.16**	**305**	*e*S	Sg	06 57 00.4	+0.5
STGR							
	20nm,0.2s						
SRBC	**Serra Branca**	**0.17**	**286**	*e*P	Pg	06 56 57.4	-0.6
SRBC				*e*S	Sg	06 56 59.7	-0.4
PVIA	**Vitoria**	**0.18**	**295**	*e*x		06 57 00.7	
ROSA	**Rosais**	**0.42**	**230**	*e*P	Pg	06 57 01.4	-1.4
ROSA				*e*S	Sg	06 57 07.2	-1.0
PID	**Ribeirinha**	**0.59**	**202**	*e*P	Pg	06 57 04.0	-2.1
PID				*e*S	Sg	06 57 12.0	-1.8
PICO	**Pico**	**0.67**	**224**	*e*S	Sg	06 57 14.5	-1.9
PLUZ	**Luz**	**0.89**	**272**	*e*P	Pg	06 56 57.1	-15
PLUZ				*e*S	Sg	06 56 58.8	-25
PLUZ							
	28nm,0.2s						

*NIED **30** 07:06:00, 4070N×14230E, h62km, Mw3.8 Best double couple: M0 5.27000×10^14 NP1:φs 291.00000°, δ76.00000°, λ30.00000°. NP2:φs 193.00000°, δ61.00000°, λ164.00000°.*

JMA 30 07:06:11.7±0.1, 4069N×14225E, h45km±3km, M3.5, 2C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JANG	**Nango**	**0.64**	**241**	↓P	Pn	07 06 24.7	+0.2
JANG				S	Sn	07 06 33.3	-0.4
JTH	**Tanohata**	**0.81**	**202**	↑P	Pn	07 06 26.5	-0.2
JTH				S	Sn	07 06 36.5	-1.1
JTM	**Tenmabayashi**	**0.90**	**277**	↓P	Pn	07 06 27.8	-0.2
JTM				S	Sn	07 06 39.0	-0.9
JOT	**Ohata**	**1.14**	**308**	↓P	Pn	07 06 31.0	-0.2
JOT				S	Sn	07 06 45.2	-0.5
JAH	**Hinai**	**1.33**	**248**	↓P	Pn	07 06 34.0	+0.2
JAH				S	Sn	07 06 50.0	-0.3
JOM	**Ohasama**	**1.42**	**211**	↑P	Pn	07 06 35.7	+0.7
JOM				S	Sn	07 06 52.1	-0.4
JEM	**Erimo**	**1.49**	**27**	P	Pn	07 06 38.7	+2.7
JEM				S	Sn	07 06 58.0	+3.8
JKB	**Kayabe**	**1.51**	**323**	↓P	Pn	07 06 36.4	+0.2
JKB				S	Sn	07 06 54.5	-0.2
JSR	**Shiriuchi**	**1.62**	**302**	P	Pn	07 06 38.2	+0.4
JSR				*e*S	Sn	07 06 57.5	+0.1

*NIED **30** 07:38:00, 4040N×14140E, h98km, Mw3.8 Best double couple: M0 5.19000×10^14 NP1:φs 32.00000°, δ53.00000°, λ105.00000°. NP2:φs 188.00000°, δ40.00000°, λ70.00000°.*
*ISCJB **30** 07:38:13.4±0.4, 4040N±004×1413E±0.1, h99km±3km, mb3.8/12, Error ellipse: s-maj=13.3km s-min=6.1km az=11.9*
*NEIC **30** 07:38:14.5, 4038N×14136E, h93km, MG3.5(JMA), After JMA.*
*IDC **30** 07:38:14.8±2.3, 4036N×141.12E, h99km±21km, mb3.6/12, mb1 3.7/14, mb1mx3.6/23, mbtmp3.8/14, Error ellipse: s-maj=21.5km s-min=14.9km az=111.0*
*JMA **30** 07:38:14.4±0.1, 4038N×14136E, h93km±1km, M3.5*
JMA Felt II J1.

*MOS **30** 07:38:14.8±1.3, 4047N×141.15E, h113km, mb3.8/1, Error ellipse: s-maj=29.6km s-min=10.5km az=80.3*

ISC 30 07:38:14.4±0.4, 4040N±004×1413E±01, h95km±3km, n32, σ0°80/35, mb3.8/12, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JANG	**Nango**	**0.15**	**100**	P	**Pn**	**07 38 27.4**	**-0.4**
JANG				S	**Sn**	**07 38 36.9**	**-0.8**
JTM	**Tenmabayashi**	**0.43**	**334**	P	**Pn**	**07 38 29.2**	**+0.1**
JTM				S	**Sn**	**07 38 40.0**	**-0.1**
JAH	**Hinai**	**0.56**	**248**	P	**Pn**	**07 38 30.2**	**+0.1**
JAH				S	**Sn**	**07 38 41.6**	**-0.2**
JOM	**Ohasama**	**0.93**	**181**	P	**Pn**	**07 38 33.5**	**-0.1**
JOM				S	**Sn**	**07 38 47.5**	**-0.5**
JOT	**Ohata**	**1.00**	**348**	P	**Pn**	**07 38 34.7**	**+0.3**
JOT				S	**Sn**	**07 38 49.7**	**+0.2**
JIW	**Iwasaki**	**1.02**	**281**	P	**Pn**	**07 38 35.1**	**+0.5**
JMK	**Ichinoseki**	**1.45**	**183**	P	**Pn**	**07 38 39.5**	**-0.2**
JMK				S	**Sn**	**07 38 58.6**	**-0.2**
JYK	**Kaneyama**	**1.66**	**207**	P	**Pn**	**07 38 42.5**	**+0.2**
JYK				S	**Sn**	**07 39 04.3**	**+0.8**
ASAJ	**Asahikawa**	**3.83**	**14**	P	**Pn**	**07 39 11.2**	**0.0**
	1.9nm,0.3s,baz=234,slow=16,SNR=6.2						
ASAJ	**Asahikawa**	**3.83**	**14**	P	**Pn**	**07 39 11.2**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MAT	**Matsushiro**	**4.56**	**213**	P	**Pn**	**07 39 24.1**	**+3.1**
MAT	**Matsushiro**	**4.56**	**213**	P	**Pn**	**07 39 24.0**	**+3.0**
MJAR	**Matsushiro Arr**	**4.56**	**213**	P	**Pn**	**07 39 21.6**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=21,slow=15,SNR=6.8						
MKAR	**Makanchi Array**	**42.35**	**299**	P	**P**	**07 45 58.9**	**-0.1**
	comp=Z,1.0nm,0.9s,mb3.5,baz=81,slow=9.1,SNR=5.8						
KDAK	**Kodiak Island**	**44.69**	**44**	P	**P**	**07 46 18.3**	**+0.5**
	comp=Z,1.9nm,0.4s,mb4.2,baz=139,slow=1.6,SNR=6.2						
ILAR	**Eielson Array**	**46.72**	**34**	P	**P**	**07 46 34.5**	**+0.7**
	comp=Z,1.1nm,0.7s,mb3.7,baz=270,slow=6.1,SNR=21						
WRA	**Warramunga Arr**	**60.38**	**188**	P	**P**	**07 48 11.8**	**-1.8**
	comp=Z,0.5nm,0.4s,mb3.9,baz=7.8,slow=7.7,SNR=4.9						
WRA				pP	pP	07 48 35.0	-2.1
	comp=Z,0.8nm,0.7s,baz=8.2,slow=6.9,SNR=4.8						
ARCES	**ARCESS Array B**	**60.83**	**339**	P	**P**	**07 48 15.6**	**-1.0**
	comp=Z,2.6nm,0.9s,mb4.3,baz=62,slow=8.4,SNR=5.0						
YKA	**Yellowknife Ar**	**60.95**	**31**	P	**P**	**07 48 17.7**	**+0.3**
	comp=Z,0.3nm,0.6s,mb3.5,baz=304,slow=6.4,SNR=4.5						
YKA	**Yellowknife Ar**	**60.95**	**31**	P	**P**	**07 48 17.7**	**+0.3**
ASAR	**Alice Springs**	**64.11**	**188**	P	**P**	**07 48 37.9**	**-0.5**
	comp=Z,0.4nm,0.3s,mb3.7,baz=3.8,slow=7.6,SNR=7.9						
ASAR				pP	pP	07 49 01.1	-1.1
	comp=Z,0.5nm,0.6s,baz=17,slow=13,SNR=6.7						
FINES	**FINESS Array B**	**65.82**	**332**	P	**P**	**07 48 48.9**	**-0.7**
	comp=Z,1.8nm,0.7s,mb4.0,baz=38,slow=9.6,SNR=5.7						
NOA	**NORSAR Array B**	**71.06**	**337**	P	**P**	**07 49 21.1**	**-1.1**
	comp=Z,0.9nm,0.6s,mb3.8,baz=40,slow=6.2,SNR=3.2						
AKASG	**Malin Array Be**	**71.61**	**322**	P	**P**	**07 49 24.7**	**-0.8**
	comp=Z,0.7nm,0.4s,mb3.8,baz=44,slow=6.1,SNR=5.8						
AKASG	**Malin Array Be**	**71.61**	**322**	P	**P**	**07 49 24.7**	**-0.8**
NVAR	**Mina Array Bea**	**73.05**	**54**	P	**P**	**07 49 36.5**	**+2.4**
	comp=Z,0.4nm,0.5s,mb3.5,baz=269,slow=3.6,SNR=5.0						
NVAR	**Mina Array Bea**	**73.05**	**54**	P	**P**	**07 49 36.5**	**+2.4**
PDAR	**Pinedale Array**	**75.37**	**46**	P	**P**	**07 49 48.5**	**+0.9**
	comp=Z,0.4nm,0.7s,mb3.3,baz=320,slow=3.9,SNR=4.5						
LPAZ	**La Paz**	**144.94**	**55**	PKPbc	PKPdf	07 57 41.1	+0.8
	comp=Z,0.5nm,0.5s,baz=78,slow=1.9,SNR=8.2						
VNA2	**Neumayer--Watz**	**145.51**	**198**	*e*	PKPdf	07 57 40.9	-0.4
	baz=138,slow=3.7						
VNA3	**Neumayer Olymp**	**145.78**	**196**	*e*	PKPdf	07 57 44.3	+2.5
VNA1	**Neumayer--Stat**	**145.91**	**198**	*e*	PKPdf	07 57 45.0	+3.0

IDC 30 07:46:24.3±2.1, 1555S×17334W, h0km, mb3.9/6, mb1 4.1/7, mb1mx4.0/17, mbtmp3.8/7, ML1.7/1, MS3.4/6, Ms1 3.4/6, ms1mx3.1/30, Error ellipse: s-maj=123.7km s-min=18.7km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.22**	**43**	Pn	Pn	07 47 00.5	-1.9
	12nm,0.3s,baz=328,slow=3.2,SNR=14						
AFI				Sn	Sn	07 47 26.4	-4.1
	53nm,0.3s,baz=32,slow=22,SNR=9.7						
AFI				LR	LR	07 47 49.2	
	comp=Z,352nm,20.1s,baz=200,slow=38						
RAR	**Rarotonga**	**14.05**	**116**	LR	LR	07 53 19.2	
	comp=Z,152nm,20.6s,baz=290,slow=30						
DZM	**Mont Dzumac**	**20.20**	**248**	LR	LR	07 57 09.7	
	comp=Z,120nm,20.1s,baz=25,slow=32						
CTA	**Charters Tower**	**38.67**	**257**	LR	LR	08 06 18.9	
	comp=Z,43nm,18.2s,baz=298,slow=31						
STKA	**Stephens Creek**	**44.02**	**240**	P	P	07 54 33.9	+0.3
	4.5nm,1.1s,baz=76,slow=4.2,SNR=3.8						
WRA	**Warramunga Arr**	**49.87**	**257**	P	P	07 55 19.0	-0.3
	0.5nm,0.7s,baz=92,slow=7.2,SNR=7.7						
ASAR	**Alice Springs**	**50.12**	**252**	P	P	07 55 21.2	0.0
	1.6nm,0.8s,baz=86,slow=8.2,SNR=25						
YBH	**Yreka Blue Hor**	**73.68**	**37**	LR	LR	08 21 27.4	
	comp=Z,53nm,19.8s,baz=106,slow=28						
NVAR	**Mina Array Bea**	**74.40**	**42**	P	P	07 58 04.8	+0.7
	0.7nm,0.7s,baz=226,slow=9.0,SNR=5.7						
NEW	**Newport**	**80.79**	**34**	LR	LR	08 28 17.1	
	comp=Z,32nm,18.6s,baz=56,slow=31						
PDAR	**Pinedale Array**	**82.33**	**42**	P	P	07 58 48.4	+0.5
	1.0nm,0.9s,baz=241,slow=3.1,SNR=7.5						
ILAR	**Eielson Array**	**82.58**	**11**	P	P	07 58 49.0	-0.1
	0.4nm,0.7s,baz=239,slow=5.6,SNR=8.4						
GERES	**GERESS Array B**	**146.30**	**352**	PKPbc	PKPbc	08 06 07.4	+0.5
	0.4nm,0.2s,baz=197,slow=1.4,SNR=4.0						
BRTR	**Keskin Array B**	**146.31**	**321**	PKPbc	PKPbc	08 06 07.5	+0.6
	1.3nm,0.8s,baz=111,slow=2.8,SNR=6.1						

*THE **30** 08:05:25.0, 3840N×2164E, h6km, ML3.0*
*ISCJB **30** 08:05:26.5±0.5, 3856N±003×2162E±003, h15km, Error ellipse: s-maj=4.9km s-min=3.1km az=134.5*
*NEIC **30** 08:05:26.6, 3862N×2161E, h15km, MD3.4(ATH), After ATH.*
*ATH **30** 08:05:26.7, 3863N×2159E, h15km±3km, MD3.4/10*
*CSEM **30** 08:05:27.0±0.1, 3863N×2160E, h0km±1km, MD3.4, Error ellipse: s-maj=2.1km s-min=1.7km az=130.0*

ISC 30 08:05:26.5±0.6, 3858N±003×2166E±004, h1km±6km, n22, σ1°29/37, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.35**	**19**	*i*P	**Pg**	**08 05 33.5**	**+0.3**
EVR				*e*SB	**Sg**	**08 05 38.8**	**+1.0**
RLS	**Riolos of Patr**	**0.55**	**197**	*e*PN	**Pg**	**08 05 37.5**	**+0.5**
RLS				*e*SN	**Sg**	**08 05 46.7**	**+2.7**
RLS	**Riolos of Patr**	**0.55**	**197**	*e*Pn	**Pg**	**08 05 37.0**	**0.0**
RLS				*e*Sn	**Sg**	**08 05 46.8**	**+2.8**
AGG	**Agios Georgios**	**0.68**	**50**	*e*Pg	**Pg**	**08 05 40.3**	**+0.7**
AGG				*e*Sg	**Sg**	**08 05 52.4**	**+4.0**
LKD	**Levkas**	**0.80**	**279**	*e*Pg	**Pg**	**08 05 40.5**	**-1.4**
LKD				*e*Sg	**Sg**	**08 05 52.8**	**+0.5**
VLS	**Valsamata**	**0.94**	**245**	*e*PN	**Pg**	**08 05 42.7**	**-1.7**
VLS				*e*SN	**Sg**	**08 05 56.4**	**-0.2**
VLS	**Valsamata**	**0.94**	**245**	*e*Pn	**Pg**	**08 05 42.6**	**-1.8**
VLS				*e*Sn	**Sg**	**08 05 56.8**	**+0.2**
LKR	**Lokris**	**1.05**	**86**	*e*PN	**Pb**	**08 05 45.9**	**-1.5**
LKR				*e*SN	**Sn**	**08 06 02.8**	**-0.7**
LKR	**Lokris**	**1.05**	**86**	*e*Pb	**Pb**	**08 05 45.9**	**-1.5**
LKR				*e*Sn	**Sn**	**08 06 01.8**	**-1.7**
JAN	**Janina**	**1.25**	**330**	*e*PN	**Pn**	**08 05 49.4**	**-1.6**
IGT	**Igoumenitsa**	**1.41**	**313**	*e*Pg	**Pg**	**08 05 51.6**	**-1.8**
IGT				*e*Sg	**Sg**	**08 06 12.8**	**+1.2**
NEO	**Neokhori**	**1.42**	**59**	*e*PN	**Pn**	**08 05 53.4**	**+0.1**
ITM	**Ithomi**	**1.42**	**171**	*e*PN	**Pn**	**08 05 55.3**	**+2.0**
ITM	**Ithomi**	**1.42**	**171**	*e*Pn	**Pn**	**08 05 55.2**	**+1.9**
XOR	**Xorichti**	**1.43**	**56**	*e*Pg	**Pg**	**08 05 52.3**	**-1.5**
XOR				*e*Sg	**Sg**	**08 06 13.4**	**+1.1**
LIT	**Litokhoron**	**1.65**	**23**	*e*Pb	**Pb**	**08 05 56.4**	**-1.2**
LIT				*e*Sb	**Sb**	**08 06 20.2**	**+1.4**
KZN	**Kozani**	**1.72**	**3**	*e*PN	**Pn**	**08 05 57.8**	**+0.3**
AOS	**Alonnisos**	**1.83**	**71**	*e*Pb	**Pn**	**08 05 57.5**	**-1.4**
AOS				*e*Sb	**Sb**	**08 06 22.3**	**-1.7**
KEK	**Kerkira**	**1.84**	**308**	*e*PN	**Pn**	**08 05 59.1**	**0.0**
PAIG	**Paliouri**	**2.06**	**49**	*e*Pn	**Pn**	**08 06 01.6**	**-0.6**
PAIG				*e*Sn	**Sn**	**08 06 29.7**	**+1.2**
VLI	**Veliai**	**2.12**	**151**	*e*PN	**Pn**	**08 06 04.7**	**+1.7**
KNT	**Kendrikon**	**2.75**	**20**	*e*Pn	**Pn**	**08 06 11.9**	**+0.3**
KNT				*e*Sn	**Sn**	**08 06 48.2**	**+2.8**

*ISCJB **30** 08:15:50.2±0.5, 009N±008×97.14E±007, h30km, mb4.3/18, Error ellipse: s-maj=12.7km s-min=8.9km az=80.2*
*IDC **30** 08:15:52.1±0.7, 0.12S×96.94E, h30km±4km, mb4.0/14, mb1 4.2/14, mb1mx4.0/22, mbtmp4.2/14, MS3.6/2, Ms1 3.6/2, ms1mx2.8/28, Error ellipse: s-maj=28.9km s-min=12.4km az=48.0*
*NEIC **30** 08:15:52.1±0.4, 002N×9708E, mb4.5/3, Error ellipse: s-maj=10.3km s-min=8.0km az=50.0*
*MOS **30** 08:15:52.1±0.9, 022N×9695E, h33km, mb4.7/4, Error ellipse: s-maj=26.5km s-min=13.3km az=96.2*

ISC 30 08:15:52.7±0.5, 011N±008×9717E±007, h32km, h32km±.6km: pP-P, n35, σ0°77/31, mb4.3/18, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.20**	**33**	Pn	**Pn**	**08 16 40.2**	**-0.5**
	3.7nm,0.3s,baz=190,slow=7.6,SNR=19						
PSI				LR	LR	08 18 11.4	
	comp=Z,1μm,21.2s,baz=175,slow=41						
PSI	**Prapat**	**3.20**	**33**	Pn	**Pn**	**08 16 40.2**	**-0.5**
PPI	**Padang Panjang**	**3.28**	**100**	P	**Pn**	**08 16 40.6**	**-1.2**
	296nm,0.8s						
KULM	**Kulim**	**6.21**	**34**	*e*Pn	**Pn**	**08 17 22.0**	**-0.1**
KKM	**Kota Kinabalu**	**19.90**	**72**	*e*P	**Pn**	**08 20 23.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**33.33**	**124**	P	**P**	**08 22 28.3**	**+0.7**
	4.1nm,1.0s,mb4.3,baz=298,slow=2.5,SNR=3.5						
JOW	**Kunigami**	**40.01**	**46**	LR	LR	08 38 29.6	
	comp=Z,64nm,20.5s,baz=139,slow=34						
WRA	**Warramunga Arr**	**41.49**	**121**	P	**P**	**08 23 37.3**	**+0.6**
	3.4nm,0.9s,mb4.0,baz=300,slow=9.1,SNR=16						
WRA				pP	pP	08 23 46.3	+0.1
	4.1nm,0.9s,baz=300,slow=9.3,SNR=10.0						
WB2	**Warramunga Arr**	**41.51**	**121**	*e*P	**P**	**08 23 37.6**	**+0.8**
ASAR	**Alice Springs**	**42.77**	**126**	P	**P**	**08 23 47.8**	**+0.6**
	2.1nm,0.8s,mb3.9,baz=302,slow=8.1,SNR=14						
SONM	**Songino Array**	**48.21**	**8**	P	**P**	**08 24 31.3**	**+1.2**
	0.8nm,0.5s,mb4.0,baz=186,slow=13,SNR=4.3						
SONM				pP	pP	08 24 40.9	+1.2
	2.2nm,0.7s,baz=192,slow=9.0,SNR=4.5						
MKAR	**Makanchi Array**	**48.29**	**346**	P	**P**	**08 24 32.2**	**+1.4**
	4.2nm,0.6s,mb4.6,baz=157,slow=7.8,SNR=33						
MKAR				pP	pP	08 24 41.6	+1.2
	4.2nm,0.6s,baz=157,slow=7.7,SNR=12						
MKAR	**Makanchi Array**	**48.29**	**346**	P	**P**	**08 24 32.2**	**+1.4**
MKAR				pP	pP	08 24 41.6	+1.2
OPO	**Ambohidratompo**	**52.46**	**246**	P	**P**	**08 25 00.9**	**-1.4**
	5.9nm,1.2s,mb4.4,baz=110,slow=9.4,SNR=3.9						
STKA	**Stephens Creek**	**52.66**	**131**	P	**P**	**08 25 03.4**	**-0.4**
	2.3nm,0.7s,mb4.2,baz=346,slow=10,SNR=4.5						
KURK	**Kurchatov**	**52.83**	**345**	*e*P	**P**	**08 25 05.8**	**+0.7**
KURK				*e**PP	pP	08 25 14.8	0.0
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
KURK	**Kurchatov**	**52.83**	**345**	*e*P	**P**	**08 25 05.8**	**+0.7**
	comp=Z,6.6nm,1.0s,mb4.5						
KURK				*e*pP	pP	08 25 14.8	+0.1
ZAL	**Zalesovo**	**54.62**	**351**	P	**P**	**08 25 19.4**	**+1.2**
	comp=Z,6.2nm,0.3s,mb5.1,baz=306,slow=6.0,SNR=27						
NVS	**Novosibirsk**	**55.74**	**350**	*e*P	**P**	**08 25 25.5**	**-0.7**
NVS				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
NVS				pmax	pmax		
	comp=N,4.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,6.0nm,0.8s						
KLR	**Kul'dur**	**57.24**	**26**	*e*P	**P**	**08 25 35.8**	**-1.1**
ZRNK	**Zerenda**	**57.66**	**340**	*e*P	**P**	**08 25 39.9**	**0.0**
ZRNK				*e**PP	pP	08 25 48.7	-1.0
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
ZRNK	**Zerenda**	**57.66**	**340**	*e*P	**P**	**08 25 39.9**	**0.0**

EYAK	**Cordova Ski Ar**	**6.09**	**197**	P		**Pn**	**08 19 45.9**	**+0.6**
WHY	**Whitehorse**	**6.63**	**147**	Pn		**Pn**	**08 19 53.5**	**+0.7**
WHY				Sn		**Sn**	**08 21 06.6**	**-1.4**
WHY				Sg		Sn	08 21 40.6	+33
WHY				Trac			08 22 16.3	
	comp=Z,15nm,0.8s							
TT01	**Tatalina**	**6.88**	**246**	P		**Pn**	**08 19 54.6**	**-1.5**
MID	**Middleton Isla**	**7.25**	**197**	*e*P		**Pn**	**08 20 02.3**	**+1.0**
SVW2	**Sparrevohn**	**7.95**	**234**	*e*P		**Pn**	**08 20 15.4**	**+4.5**
FNBB	**Fort Nelson**	**11.56**	**122**	Pn		**Pn**	**08 21 04.6**	**+4.2**
YKW3	**Yellowknife Ar**	**12.45**	**95**	Pn		**Pn**	**08 21 10.8**	**-1.7**
YKW3				Pn		**Pn**	**08 21 11.3**	**-1.1**
YKW3				Sn		**Sn**	**08 23 22.5**	**-8.3**
YKW3				Sn		**Sn**	**08 23 23.5**	**-7.3**
YKW3				Trac			08 23 57.9	
	comp=Z,5.0nm,0.8s							
YKW3				Trac			08 23 58.0	
	comp=Z,4.0nm,0.6s							
YKA	**Yellowknife Ar**	**12.48**	**95**	Pn		**Pn**	**08 21 11.3**	**-1.6**
	baz=297,slow=13,SNR=30							
YKA				Sn		**Sn**	**08 23 24.4**	**-7.2**
	baz=294,slow=24,SNR=7.0							
YKA	**Yellowknife Ar**	**12.48**	**95**	Pn		**Pn**	**08 21 11.3**	**-1.6**
YKA				Sn		**Sn**	**08 23 24.4**	**-7.3**
RES	**Resolute Bay**	**17.25**	**41**	Pn		**Pn**	**08 22 13.2**	**-3.0**
RES	**Resolute Bay**	**17.25**	**41**	*e*P		**Pn**	**08 22 14.8**	**-1.4**
PDAR	**Pinedale Array**	**29.68**	**127**	P		**P**	**08 24 24.2**	**+3.3**
	0.5nm,0.8s,mb3.3,baz=306,slow=6.2,SNR=4.4							
NVAR	**Mina Array Bea**	**31.17**	**142**	P		**P**	**08 24 39.1**	**+4.9**
	0.4nm,0.6s,mb3.4,baz=322,slow=5.9,SNR=4.3							
FINES	**FINESS Array B**	**52.16**	**7**	P		**P**	**08 27 27.4**	**+1.7**
	2.1nm,1.0s,mb4.0,baz=339,slow=8.1,SNR=5.1							

*IDC **30** 08:24:42.7±0.8, 3.03S×14.228E, h0km, mb3.9/6, mb1 4.2/7, mb1mx4.0/14, mbtmp4.0/7, ML4.0/1, MS3.6/4, Ms1 3.6/4, ms1mx3.0/23, Error ellipse: s-maj=35.2km s-min=20.0km az=100.0*

*ISCJB **30** 08:24:45.1±1.1, 3.1S±0.1×142.5E±0.3, h33km, mb3.9/6, MS3.6/3, Error ellipse: s-maj=41.1km s-min=13.9km az=22.7*

ISC 30 08:24:47.1±1.1, 31S±01×1425E±03, h35km, n19, σ0s54/10, mb3.9/6, MS3.6/3, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**13.80**	**226**	*e*P	**Pn**	**08 27 55.6**	**-4.6**
	12nm,0.5s						
GUMO	**Guam**	**16.74**	**8**	LR	LR	08 33 55.2	
	comp=Z,65nm,18.4s,baz=170,slow=33						
WB2	**Warramunga Arr**	**18.54**	**205**	*e*P	**Pn**	**08 29 01.4**	**+0.3**
WRA	**Warramunga Arr**	**18.55**	**205**	P	**Pn**	**08 29 01.4**	**+0.3**
	0.5nm,0.3s,baz=11,slow=11,SNR=31						
ASAR	**Alice Springs**	**22.08**	**201**	P	**P**	**08 29 39.8**	**+0.7**
	2.1nm,0.7s,mb3.7,baz=31,slow=10,SNR=23						
FITZ	**Fitzroy Crossi**	**22.26**	**227**	*e*P	**P**	**08 29 40.0**	**-1.0**
	10nm,1.0s,mb4.2						
FITZ	**Fitzroy Crossi**	**22.26**	**227**	P	**P**	**08 29 40.2**	**-0.8**
	2.7nm,0.8s,mb3.7,baz=81,slow=14,SNR=5.2						
FITZ				LR	LR	08 38 52.7	
	comp=Z,197nm,18.9s,MS3.6,baz=221,slow=38						
STKA	**Stephens Creek**	**28.65**	**182**	P	**P**	**08 30 39.7**	**-0.7**
	2.8nm,0.8s,mb4.0,baz=302,slow=4.1,SNR=4.0						
NWAO	**Narrogin (SRO)**	**37.96**	**216**	LR	LR	08 48 32.7	
	comp=Z,130nm,19.9s,MS3.7,baz=288,slow=38						
MJAR	**Matsushiro Arr**	**39.63**	**355**	LR	LR	08 46 24.1	
	comp=Z,83nm,19.0s,MS3.6,baz=40,slow=33						
MKAR	**Makanchi Array**	**72.42**	**321**	P	**P**	**08 36 10.2**	**+0.5**
	1.4nm,0.8s,mb4.0,baz=112,slow=8.7,SNR=9.2						
ZAL	**Zalesovo**	**74.20**	**329**	P	**P**	**08 36 20.1**	**-0.2**
	1.1nm,0.6s,mb4.0,baz=159,slow=4.6,SNR=4.7						
ILAR	**Eielson Array**	**84.62**	**24**	P	**P**	**08 37 16.9**	**-0.1**
	0.7nm,0.7s,mb3.9,baz=258,slow=4.7,SNR=15						
TORD	**Torodi Ar. Bea**	**139.99**	**287**	PKP	PKPdf	08 44 14.2	+2.5
	0.4nm,0.8s,baz=64,slow=3.4,SNR=3.1						
LPAZ	**La Paz**	**144.12**	**123**	PKP	PKPdf	08 44 23.0	+3.9
	2.0nm,0.9s,baz=140,slow=3.3,SNR=6.4						
CPUP	**Villa Florida**	**145.03**	**148**	PKPbc	PKPbc	08 44 21.7	+1.7
	0.2nm,0.4s,baz=180,slow=3.0,SNR=2.9						
SDV	**Santo Domingo**	**146.57**	**79**	PKPbc	PKPbc	08 44 28.3	+3.6
	4.7nm,0.9s,baz=304,slow=3.6,SNR=3.4						
DBIC	**Dimbokro**	**147.29**	**277**	PKPbc	PKPbc	08 44 27.4	+0.6
	3.7nm,1.0s,baz=319,slow=9.0,SNR=4.9						
SIV	**San Ignacio**	**149.95**	**130**	PKPbc	PKPbc	08 44 37.3	+3.6
	1.4nm,0.8s,baz=130,slow=1.2,SNR=7.6						

*ISCJB **30** 08:28:04.6±0.8, 0.16N±0.10×972E±0.1, h29km, mb4.1/10, Error ellipse: s-maj=16.7km s-min=13.0km az=112.3*

*IDC **30** 08:28:05.8±0.9, 0.10S×9689E, h28km±4km, mb3.9/8, mb1 4.0/8, mb1mx3.8/19, mbtmp4.1/8, MS3.1/1, Ms1 3.1/1, ms1mx2.4/25, Error ellipse: s-maj=37.8km s-min=15.0km az=52.0*

*NEIC **30** 08:28:06.0±0.6, 0.06N×97.10E, mb4.3/2, Error ellipse: s-maj=14.8km s-min=12.3km az=70.0*

ISC 30 08:28:07.2±0.8, 02N±01×972E±01, h31km, h31km±.3km: pP-P, n19, σ0s85/17, mb4.1/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.10**	**33**	Pn	**Pn**	**08 28 53.5**	**-0.6**
	2.0nm,0.3s,baz=194,slow=7.0,SNR=13						
PSI				Sn	**Sn**	**08 29 24.3**	**-5.8**
	2.6nm,0.3s,baz=124,slow=21,SNR=6.5						
PSI				LR	LR	08 30 24.4	
	comp=Z,296nm,19.6s,baz=208,slow=40						
PSI	**Prapat**	**3.10**	**33**	Pn	**Pn**	**08 28 53.5**	**-0.6**
PSI				Sn	**Sn**	**08 29 24.3**	**-5.8**
KULM	**Kulim**	**6.12**	**34**	*e*Pn	**Pn**	**08 29 35.7**	**+0.2**
KKM	**Kota Kinabalu**	**19.83**	**73**	*e*P	**Pn**	**08 32 36.2**	**-0.9**
WRA	**Warramunga Arr**	**41.49**	**121**	P	**P**	**08 35 51.1**	**-0.3**
	2.1nm,0.9s,mb3.8,baz=298,slow=9.3,SNR=5.5						
WRA				pP	pP	08 35 59.9	-0.7
	1.0nm,0.5s,baz=304,slow=8.9,SNR=5.3						
ASAR	**Alice Springs**	**42.78**	**126**	P	**P**	**08 36 02.7**	**+0.8**
	0.8nm,0.7s,mb3.5,baz=303,slow=7.6,SNR=6.2						
SONM	**Songino Array**	**48.12**	**8**	P	**P**	**08 36 46.0**	**+1.9**
	0.8nm,0.5s,mb4.0,baz=193,slow=12,SNR=2.6						
SONM				pP	pP	08 36 54.7	+1.3
	2.6nm,0.7s,baz=190,slow=7.5,SNR=5.9						
MKAR	**Makanchi Array**	**48.22**	**346**	P	**P**	**08 36 46.0**	**+1.1**
	3.0nm,0.8s,mb4.4,baz=156,slow=8.5,SNR=13						
MKAR				pP	pP	08 36 54.6	+0.4
	3.3nm,0.6s,baz=158,slow=8.1,SNR=10						
STKA	**Stephens Creek**	**52.67**	**132**	P	**P**	**08 37 18.8**	**+0.2**
	2.1nm,0.7s,mb4.2,baz=88,slow=9.7,SNR=2.9						
STKA	**Stephens Creek**	**52.67**	**132**	P	**P**	**08 37 18.8**	**+0.2**
KURK	**Kurchatov**	**52.77**	**345**	*e*P	**P**	**08 37 19.7**	**+0.4**
	5.3nm,1.2s,mb4.3						
ZAL	**Zalesovo**	**54.55**	**351**	P	**P**	**08 37 32.3**	**0.0**
	4.0nm,0.4s,mb4.8,baz=288,slow=5.5,SNR=13						
ZAL				pP	pP	08 37 41.2	-0.4
	6.9nm,0.6s,baz=321,slow=5.1,SNR=9.1						
CHKZ	**Chkalovo**	**57.68**	**342**	*e*P	**P**	**08 37 54.2**	**-0.5**
	2.8nm,0.9s,mb4.3						
CHKZ				*e*pP	pP	08 38 02.8	-1.4
BRTR	**Keskin Array B**	**69.80**	**313**	P	**P**	**08 39 13.8**	**-0.8**
	1.5nm,0.8s,mb4.0,baz=119,slow=6.4,SNR=6.9						
BRTR				pP	pP	08 39 23.0	-1.2
	0.3nm,0.3s,baz=120,slow=6.3,SNR=3.7						
AKASG	**Malin Array Be**	**76.07**	**323**	P	**P**	**08 39 50.4**	**-1.3**
	1.5nm,0.6s,mb4.1,baz=90,slow=5.7,SNR=7.3						
AKASG				pP	pP	08 39 60.0	-1.4
	0.4nm,0.3s,baz=93,slow=5.1,SNR=3.6						
RKT	**Rikitea**	**124.45**	**118**	*e*LR	LR	08 42 39.4	
	314nm,25.2s						
CPUP	**Villa Florida**	**144.27**	**221**	PKP	PKPdf	08 47 37.3	-2.8
	2.1nm,0.8s,baz=166,slow=3.3,SNR=5.1						
JCT	**Junction City**	**145.47**	**26**	*e*PKPdf	PKPdf	08 47 42.7	+0.6
JCT				*ep*PKPdf	pPKPdf	08 47 51.9	-0.4
CFAA	**Coronel Fontan**	**145.85**	**202**	PKPbc	PKPbc	08 47 41.8	-1.6
	0.2nm,0.5s,baz=276,slow=1.4,SNR=4.1						

*ISCJB **30** 08:36:59.3±0.3, 0.00S±0.04×97.15E±0.04, h31km, mb4.8/78, MS4.2/32, Error ellipse: s-maj=6.2km s-min=5.5km az=34.9*

*MOS **30** 08:37:00.3±1.1, 0.08N×97.14E, h37km, mb5.1/40, MS4.3/8, Error ellipse: s-maj=10.9km s-min=6.2km az=108.0*

*NEIC **30** 08:37:00.8±0.2, 0.02S×97.17E, mb4.8/28, MS3.9/1, Error ellipse: s-maj=6.7km s-min=5.1km az=39.0*

*HRVD **30** 08:37:00.8±0.6, 0.03S×97.16E, h12km±1km, MW4.8/54, Centroid moment Tensor Solution. LP body waves: s16,c19; Mantle waves: s54,c74; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=1.75±.17; Mθθ=0.63±.10; Mφφ=1.12±.12; Mrθ=0.12±.29; Mrφ=-0.99±.07; Mθφ=-1.21±.31; Best double couple: M=2.19300×10^16 NP1: φs=125.00000°, δ=33.00000°, λ=-119.00000°. NP2: φs=339.00000°, δ=62.00000°, λ=-73.00000°. Principal axes: T 2.1750, Plg=15.0000°, Azm=56.0000°; N 0.0380, Plg=15.0000°, Azm=151.0000°; P -2.2110, Plg=68.0000°, Azm=283.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **30** 08:37:01.0±0.5, 0.02N×97.06E, h31km±3km, mb4.3/20, mb1 4.4/21, mb1mx4.4/23, mbtmp4.4/21, ML3.4/1, MS3.9/12, Ms1 3.9/12, ms1mx3.7/24 Error ellipse: s-maj=15.9km s-min=10.3km az=44.0*

*BJI **30** 08:37:01.9, 0.09N×96.78E, h30km, mB5.1, mb4.7, Ms4.8, Msz4.5*

*SZGRF **30** 08:37:02.2, 0.89S×97.84E, h33km, mb4.8, Southwest of Sumatera, Indonesia*

ISC 30 08:37:01.7±0.3, 000S±004×9715E±004, h32km, h32km±.5km: pP-P, n188, σ1s10/189, mb4.8/78, MS4.2/32, 9C-4D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PPI	**Padang Panjang**	**3.27**	**98**	P	**Pn**	**08 37 49.2**	**-1.5**
	475nm,0.9s						
PSI	**Prapat**	**3.30**	**32**	Pn	**Pn**	**08 37 48.4**	**-2.6**
	4.5nm,0.3s,baz=192,slow=9.1,SNR=57						
PSI				LR	LR	08 39 19.2	
	comp=Z,4μm,20.5s,baz=212,slow=43						
PSI	**Prapat**	**3.30**	**32**	Pn	**Pn**	**08 37 48.4**	**-2.6**
PSI				LR	LR	08 39 19.2	
BSI	**Banda Aceh**	**5.77**	**341**	P	**Pn**	**08 38 20.8**	**-4.2**
	106nm,0.9s						
IPM	**Ipoh**	**5.90**	**41**	P	**Pn**	**08 38 26.5**	**-0.3**
KULM	**Kulim**	**6.31**	**34**	*e*Pn	**Pn**	**08 38 30.3**	**-2.1**
KGM	**Kluang**	**6.48**	**72**	P	**Pn**	**08 38 34.7**	**-0.1**
KSM	**Kuching**	**13.23**	**84**	*e*Pn	**Pn**	**08 40 05.0**	**-2.3**
KKM	**Kota Kinabalu**	**19.95**	**72**	P	**Pn**	**08 41 31.6**	**-1.1**
KKM	**Kota Kinabalu**	**19.95**	**72**	*e*P	**Pn**	**08 41 31.2**	**-1.6**
TSM	**Tawau**	**21.13**	**78**	P	**P**	**08 41 43.8**	**0.0**
QIZ	**Qiongzhong**	**22.64**	**33**	P	**P**	**08 41 59.8**	**-0.1**
QIZ				S	**S**	**08 46 06.5**	**+0.3**
QIZ				AMB	AMB		
	comp=Z,145nm,8.7s						
QIZ				LR	LR		
	comp=N,685nm,14.7s,MS4.4						
QIZ				LR	LR		
	comp=E,899nm,14.7s,MS4.4						
QIZ				LR	LR		
	comp=Z,1μm,12.5s,MS4.5						
KMI	**Kunming**	**25.55**	**12**	P	**P**	**08 42 30.0**	**+2.5**
KMI				AP	pP	08 42 38.0	+1.2
KMI				XP	sP	08 42 41.5	+0.7
KMI				PP		08 43 10.5	
KMI				PCP	PcP	08 46 01.3	+3.1
KMI				S	**S**	**08 46 54.3**	**+1.2**
KMI				XS	sS	08 47 08.0	-0.5
KMI				SS		08 47 58.0	
KMI				SSS		08 48 15.0	
KMI				SCP	ScP	08 49 37.0	+1.9
KMI				PCS	PcS	08 49 40.5	+1.8
KMI				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.4						
KMI				AMB	AMB		
	comp=Z,267nm,7.8s						
KMI				LR	LR		
	comp=N,918nm,11.1s,MS4.7						
KMI				LR	LR		
	comp=E,1μm,12.1s,MS4.7						
KMI				LR	LR		
	comp=Z,1μm,11.6s,MS4.6						
KMI	**Kunming**	**25.55**	**12**	P	**P**	**08 42 30.0**	**+2.5**
KMI				*SP	sP	08 42 41.6	+0.8
KMI						08 43 10.5	
KMI				PPP		08 43 21.9	
KMI						08 46 01.3	
KMI				S	**S**	**08 46 54.2**	**+1.1**
KMI				*SS	sS	08 47 08.0	-0.5
KMI				SS		08 47 57.9	
KMI				SSS		08 48 15.0	
KMI				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.4						
KMI				MLR	MLR		
	comp=Z,1μm,11.6s,MS4.6						
KMI	**Kunming**	**25.55**	**12**	P	**P**	**08 42 30.0**	**+2.5**
	comp=Z,13nm,1.1s,mb4.4						
KMI				pP	pP	08 42 38.1	+1.3
KMI				sP	sP	08 42 41.6	+0.8
KMI				PP		08 43 10.5	
KMI				PPP		08 43 21.9	
KMI				PcP	PcP	08 46 01.3	+3.1
KMI				S	**S**	**08 46 54.2**	**+1.1**
KMI				sS	sS	08 47 08.0	-0.5
KMI				SS		08 47 57.9	
KMI				SSS		08 48 15.0	
KMI				ScP	ScP	08 49 37.0	+1.9
KMI				PcS	PcS	08 49 40.4	+1.7
KMI				LR	LR		
	comp=Z,1μm,11.6s,MS4.6						
SHL	**Shillong**	**25.92**	**349**	*e*P	**P**	**08 42 33.0**	**+2.1**
GYA	**Guiyang**	**27.86**	**18**	P	**P**	**08 42 51.3**	**+3.0**
GYA				AP	pP	08 43 01.5	+3.9
GYA				XP	sP	08 43 04.8	+3.3
GYA				PP		08 43 41.5	
GYA				S	**S**	**08 47 32.0**	**+2.6**
GYA				SS		08 48 57.3	
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
GYA				AMB	AMB		
	comp=Z,130nm,3.8s						
GYA				LR	LR		
	comp=N,490nm,15.4s,MS4.3						
GYA				LR	LR		
	comp=E,390nm,15.2s,MS4.3						
GYA				LR	LR		
	comp=Z,410nm,15.0s,MS4.1						
PKI	**Pulchoki**	**29.64**	**339**	*e*P	**P**	**08 43 05.5**	**+1.4**
GUN	**Gumba**	**29.79**	**340**	*e*P	**P**	**08 43 06.1**	**+0.7**
	comp=Z,30nm,0.7s,mb5.2						
DMN	**Daman**	**29.79**	**338**	*e*P	**P**	**08 43 07.2**	**+1.8**
KKN	**Kakani**	**29.89**	**339**	*e*P	**P**	**08 43 06.5**	**+0.2**
GKN	**Gorkha**	**30.32**	**338**	*e*P	**P**	**08 43 10.6**	**+0.5**
KOLN	**Koldanda**	**30.52**	**336**	*e*P	**P**	**08 43 12.6**	**+0.7**
	comp=Z,31nm,0.6s,mb5.3						
CD2	**Chengdu**	**31.38**	**11**	P	**P**	**08 43 25.5**	**+6.1**
CD2				AP	pP	08 43 34.5	+5.7
CD2				XP	sP	08 43 39.5	+6.8
CD2				PP	PP	08 44 29.5	-1.0
CD2				S	**S**	**08 48 29.3**	**+4.7**
CD2				XS	sS	08 48 45.8	+5.7
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
CD2				AMB	AMB		
	comp=Z,180nm,6.0s						
CD2				LR	LR		
	comp=N,930nm,12.6s						
CD2				LR	LR		
	comp=Z,920nm,11.7s,MS4.7						
QZH	**Quanzhou**	**32.33**	**38**	*e*P	**P**	**08 43 29.0**	**+1.2**
QZH				S	**S**	**08 48 42.0**	**+2.5**
QZH				LR	LR		
	comp=Z,990nm,13.0s,MS4.7						
FITZ	**Fitzroy Crossi**	**33.28**	**124**	*e*P	**P**	**08 43 35.8**	**-0.3**
	comp=Z,12nm,1.0s,mb4.8						
FITZ				*e*	pP	08 43 45.5	0.0
FITZ	**Fitzroy Crossi**	**33.28**	**124**	P	**P**	**08 43 36.5**	**+0.4**
	comp=Z,5.8nm,0.9s,mb4.5,baz=288,slow=3.8,SNR=6.9						
FITZ				LR	LR	08 58 49.0	
	comp=Z,134nm,19.3s,MS3.7,baz=111,slow=39						
WHN	**Wuhan**	**34.50**	**27**	P	**P**	**08 43 48.0**	**+1.3**
WHN				S	**S**	**08 49 19.0**	**+5.9**
WHN				LR	LR		
	comp=Z,610nm,20.6s,MS4.3						
XAN	**Xi'an**	**35.62**	**17**	P	**P**	**08 43 56.0**	**-0.3**
XAN				AP	pP	08 44 05.0	-0.8
XAN				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8						
LZH	**Lanzhou**	**36.44**	**9**	*e*P	**P**	**08 44 02.5**	**-0.9**
LZH				AP	pP	08 44 11.5	-1.4
LZH				XP	sP	08 44 15.8	-1.0
LZH				PP	PP	08 45 27.5	+0.9
LZH				*eS	**S**	**08 49 42.3**	**-0.7**
LZH				XS	sS	08 49 57.8	-0.8
LZH				*eSS	SS	08 52 10.0	-13
LZH				AMB	AMB		
	comp=Z,32nm,1.3s,mb5.1						
LZH				AMB	AMB		
	comp=Z,96nm,5.7s						
LZH				LR	LR		
	comp=E,638nm,13.7s						
LZH				LR	LR		
	comp=Z,984nm,17.6s,MS4.6						
LZH	**Lanzhou**	**36.44**	**9**	*e*P	**P**	**08 44 02.5**	**-0.9**
LZH				*PP	pP	08 44 11.6	-1.3
LZH				*SP	sP	08 44 15.7	-1.1
LZH						08 45 27.5	
LZH				*eS	**S**	**08 49 42.3**	**-0.7**
LZH				*SS	sS	08 49 57.8	-0.8
LZH				*eSS	SS	08 52 09.9	-13
LZH				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.1						
LZH				MLR	MLR		
	comp=Z,980nm,17.6s,MS4.6						
LZH	**Lanzhou**	**36.44**	**9**	*e*P	**P**	**08 44 02.5**	**-0.9**
	comp=Z,32nm,1.3s,mb5.1						
LZH				pP	pP	08 44 11.6	-1.3
LZH				sP	sP	08 44 15.7	-1.1
LZH				PP	PP	08 45 27.5	+0.9
LZH				*eS	**S**	**08 49 42.3**	**-0.7**
LZH				sS	sS	08 49 57.8	-0.8
LZH				*eSS	SS	08 52 09.9	-13
LZH				LR	LR		
	comp=Z,980nm,17.6s,MS4.6						
NJ2	**Nanjing**	**37.91**	**31**	*e*P	**P**	**08 44 16.0**	**+0.1**
NJ2				AP	pP	08 44 27.8	+2.4
NJ2				XP	sP	08 44 31.0	+1.7
NJ2				PP	PP	08 45 45.5	+2.8
NJ2				S	**S**	**08 50 05.0**	**-0.3**
NJ2				XS	sS	08 50 23.0	+2.0
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,160nm,6.0s						
NJ2				LR	LR		
	comp=N,900nm,19.0s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,16.1s,MS4.9						
NJ2				LR	LR		
	comp=Z,320nm,24.3s						
SSE	**Sheshan**	**38.42**	**34**	*e*P	**P**	**08 44 20.5**	**+0.3**
SSE				AP	pP	08 44 28.8	-0.9
SSE				XP	sP	08 44 33.3	-0.3
SSE				PCP	PcP	08 46 36.5	+3.4
SSE				S	**S**	**08 50 11.8**	**-1.2**
SSE				SCS	ScS	08 54 30.0	+1.4
SSE				AMB	AMB		
	comp=Z,47nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,109nm,7.7s						
SSE				LR	LR		
	comp=N,460nm,18.9s,MS4.3						
SSE				LR	LR		
	comp=E,197nm,18.9s,MS4.3						
SSE				LR	LR		
	comp=Z,685nm,11.9s						
SSE	**Sheshan**	**38.42**	**34**	*e*P	**P**	**08 44 20.5**	**+0.3**
	comp=Z,47nm,0.7s,mb5.3						
SSE				pP	pP	08 44 28.8	-0.9
SSE				sP	sP	08 44 33.3	-0.3
SSE				PP	PP	08 45 47.0	-1.3
SSE				PcP	PcP	08 46 36.4	+3.3
SSE				S	**S**	**08 50 11.8**	**-1.2**
SSE				sS	sS	08 50 26.7	-2.0
SSE				ScS	ScS	08 54 30.0	+1.4
SSE				LR	LR		
	comp=Z,690nm,11.9s,MS4.7						
GTA	**Gaotai**	**39.30**	**3**	*e*P	**P**	**08 44 28.0**	**+0.5**
GTA				AP	pP	08 44 36.8	-0.2
GTA				XP	sP	08 44 40.8	-0.1
GTA				PP	PP	08 46 04.3	+6.4
GTA				S	**S**	**08 50 29.5**	**+3.2**
GTA				XS	sS	08 50 44.0	+2.0
GTA				SS	SS	08 53 18.0	-2.4
GTA				AMB	AMB		
	comp=Z,5.0nm,1.8s,mb3.9						
GTA				AMB	AMB		
	comp=Z,141nm,7.6s						
GTA				LR	LR		
	comp=N,352nm,12.1s,MS4.5						
GTA				LR	LR		
	comp=E,264nm,12.1s,MS4.5						
GTA				LR	LR		
	comp=Z,373nm,11.4s,MS4.5						
JOW	**Kunigami**	**40.10**	**46**	LR	LR	09 00 22.7	
	comp=Z,169nm,20.1s,MS3.9,baz=58,slow=35						
WRA	**Warramunga Arr**	**41.45**	**121**	P	**P**	**08 44 45.8**	**+0.5**
	comp=Z,8.7nm,1.0s,mb4.4,baz=299,slow=9.3,SNR=24						
WRA				pP	pP	08 44 55.1	+0.2
	comp=Z,14nm,0.9s,baz=304,slow=9.0,SNR=19						
WRAB	**Tennant Creek**	**41.46**	**121**	*e*P	**P**	**08 44 45.3**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,34nm,1.0s,mb4.9						
WRAB	**Tennant Creek**	**41.46**	**121**	*e*P	**P**	**08 44 45.3**	**-0.1**
	comp=Z,34nm,1.0s,mb4.9						
WB2	**Warramunga Arr**	**41.46**	**121**	*e*P	**P**	**08 44 45.6**	**+0.2**
WB2				*i*	pP	08 44 55.3	+0.3
HHC	**Hu-ho-hao-te**	**42.72**	**16**	*e*P	**P**	**08 44 56.5**	**+0.9**
HHC				AP	pP	08 45 06.3	+1.1
HHC				XP	sP	08 45 10.0	+0.9
HHC				PP	PP	08 46 38.5	+3.5
HHC				PCP	PcP	08 46 47.8	+0.9
HHC				S	**S**	**08 51 18.0**	**+0.9**
HHC				XS	sS	08 51 34.3	+1.4
HHC				SCS	ScS	08 54 53.0	-1.3
HHC				AMB	AMB		
	comp=Z,14nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,273nm,6.2s						
HHC				LR	LR		
	comp=N,502nm,11.6s,MS4.8						
HHC				LR	LR		
	comp=E,525nm,14.2s,MS4.8						
HHC				LR	LR		
	comp=Z,439nm,12.7s,MS4.5						
ASAR	**Alice Springs**	**42.72**	**126**	P	**P**	**08 44 56.6**	**+0.9**
	comp=Z,3.4nm,0.8s,mb4.1,baz=302,slow=7.5,SNR=22						
BJT	**Baijiatuao**	**43.44**	**21**	*e*P	**P**	**08 45 00.1**	**-1.4**
BJT				pmax	pmax		
	comp=Z,49nm,1.0s						
BJT	**Baijiatuao**	**43.44**	**21**	*e*P	**P**	**08 45 00.1**	**-1.5**
	comp=Z,49nm,1.0s,mb5.2						
BJI	**Beijing**	**43.47**	**21**	P	**P**	**08 45 02.3**

comp=Z,13nm,0.8s,mb4.7
WMQ LR LR
comp=Z,63nm,19.3s,MS3.5
DL2 Dalian 44.76 27 P **P** **08 45 16.3 +4.3**
DL2 S **S** **08 51 53.5 +6.7**
DL2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
DL2 AMB AMB
comp=Z,220nm,6.6s
DL2 LR LR
comp=N,160nm,12.5s,MS4.3
DL2 LR LR
comp=E,120nm,10.9s,MS4.3
DL2 LR LR
comp=Z,340nm,12.8s,MS4.5
AAK Ala-Archa 47.08 337↓ *e*P **P** **08 45 29.9 -0.5**
AAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
AAK MLR MLR
comp=Z,200nm,21.0s,MS4.1
AAK Ala-Archa 47.08 337 *e*P **P** **08 45 30.3 -0.1**
comp=Z,7.9nm,1.1s,mb4.6
FRU Bishkek 47.20 337 *e*P **P** **08 45 31.5 +0.2**
FRU pmax pmax
comp=Z,90nm,2.5s,mb5.3
SONM Songino Array 48.32 8 P **P** **08 45 40.3 +0.3**
comp=Z,2.7nm,0.5s,mb4.5,baz=191,slow=9.0,SNR=12
SONM pP pP 08 45 49.4 -0.3
comp=Z,8.0nm,0.9s,baz=194,slow=8.7,SNR=13
SONM LR LR 09 08 28.0
comp=Z,263nm,19.4s,MS4.2,baz=5.0,slow=39
SONM Songino Array 48.32 8 P **P** **08 45 40.3 +0.3**
SONM *PP pP 08 45 49.4 -0.3
MK31 Makanchi Array 48.39 346 P **P** **08 45 40.2 -0.3**
MK31 pmax pmax
comp=Z,12nm,0.8s,mb5.0
MKAR Makanchi Array 48.39 346 P **P** **08 45 40.4 -0.1**
comp=Z,12nm,0.7s,mb5.0,baz=157,slow=7.9,SNR=116
MKAR pP pP 08 45 50.0 -0.3
comp=Z,6.1nm,0.5s,baz=166,slow=8.7,SNR=13
MKAR Makanchi Array 48.39 346 *i* P **P** **08 45 40.4 -0.1**
MKAR pmax pmax
comp=Z,12nm,0.7s
KK31 Karatay Array 49.11 334 *i* P **P** **08 45 45.4 -0.6**
KK31 pmax pmax
comp=Z,29nm,1.2s,mb5.2
KKAR Karatay Array 49.11 334 *i* P **P** **08 45 45.4 -0.6**
KKAR pmax pmax
comp=Z,36nm,1.3s,mb5.2
GUMO Guam 49.14 72 LR LR 09 04 46.3
comp=Z,70nm,21.7s,MS3.6,baz=246,slow=34
CN2 Changchun 50.39 26 *e*P **P** **08 45 58.8 +3.0**
CN2 *e*AP pP 08 46 08.5 +3.0
CN2 *e*S **S** **08 53 09.5 +2.6**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,490nm,13.0s,MS4.7
CN2 LR LR
comp=E,200nm,13.0s,MS4.7
CN2 LR LR
comp=Z,270nm,13.0s,MS4.4
ZAK Zakamensk 50.47 5 *e*P **P** **08 45 56.7 +0.3**
ZAK pmax pmax
comp=Z,17nm,1.9s,mb4.8
PMG Port Moresby 50.64 102 LR LR 09 10 23.8
comp=Z,114nm,19.7s,MS3.9,baz=183,slow=40
TLY Talaya 51.79 5 *e*P **P** **08 46 09.7 +3.4**
TLY pmax pmax
comp=Z,14nm,1.1s,mb4.8
TLY MLR MLR
comp=Z,267nm,15.0s,MS4.4
CTA Charters Tower 52.02 116 P **P** **08 46 08.2 +0.3**
comp=Z,6.8nm,1.0s,mb4.5,baz=258,slow=11,SNR=3.3
CTA pP pP 08 46 18.6 +0.8
comp=Z,7.6nm,0.8s,baz=308,slow=6.5,SNR=3.8
CTA LR LR 09 10 33.9
comp=Z,127nm,19.0s,MS4.0,baz=255,slow=39
CTA Charters Tower 52.02 116 P **P** **08 46 08.3 +0.3**
CTA *PP pP 08 46 18.6 +0.8
CTAO Charters Tower 52.02 116 *e*P **P** **08 46 07.4 -0.6**
CTAO pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CTAO Charters Tower 52.02 116 *e*P **P** **08 46 07.4 -0.6**
comp=Z,10nm,1.0s,mb4.7
OPO Ambohidratompo 52.40 246 P **P** **08 46 11.2 +0.3**
comp=Z,6.1nm,0.9s,mb4.5,baz=63,slow=7.8,SNR=5.5
STKA Stephens Creek 52.59 131 *e*P **P** **08 46 11.3 -1.0**
comp=Z,7.8nm,1.3s,mb4.5
STKA Stephens Creek 52.59 131 P **P** **08 46 12.6 +0.3**
comp=Z,4.5nm,0.9s,mb4.4,baz=217,slow=6.9,SNR=5.9
MAT Matsushiro 52.61 42 P **P** **08 46 14.0 +1.6**
MAT *e*S **S** **08 53 41.0 +3.6**
MJAR Matsushiro Arr 52.61 42 P **P** **08 46 12.1 -0.3**
comp=Z,2.2nm,0.8s,mb4.1,baz=234,slow=7.0,SNR=5.4
MJAR pP pP 08 46 21.3 -0.9
comp=Z,4.8nm,0.9s,baz=224,slow=5.9,SNR=6.4
MJAR LR LR 09 09 12.8
comp=Z,138nm,18.9s,MS4.0,baz=275,slow=37
MJAR Matsushiro Arr 52.61 42 P **P** **08 46 12.1 -0.3**
MJAR *PP pP 08 46 21.3 -0.9
MJAR Matsushiro Arr 52.61 42 P **P** **08 46 12.1 -0.3**
MJAR pP pP 08 46 21.3 -0.9
MJAR LR LR 09 09 12.8
KURK Kurchatov 52.93 345 *e*P **P** **08 46 14.1 -0.7**
KURK *e**PP pP 08 46 22.3 -2.3
KURK pmax pmax
comp=Z,34nm,1.2s,mb5.2
KURK Kurchatov 52.93 345 *e*P **P** **08 46 14.1 -0.7**
comp=Z,34nm,1.2s,mb5.2
KURK *e*pP pP 08 46 22.2 -2.3
MDJ Mudanjiang 52.93 29 P **P** **08 46 16.3 +1.5**
MDJ PP PP 08 48 16.3 +1.8
MDJ SCP ScP 08 51 21.0 +2.6
MDJ PCS PcS 08 51 23.5 +1.4
MDJ S **S** **08 53 45.8 +3.9**
MDJ XS sS 08 53 56.5 -1.5
MDJ SCS ScS 08 56 05.0 +3.0
MDJ AMB AMB
comp=Z,6.0nm,1.2s,mb4.4
MDJ AMB AMB
comp=Z,174nm,4.9s
MDJ LR LR
comp=N,103nm,17.4s,MS4.3
MDJ LR LR
comp=E,212nm,17.4s,MS4.3
MDJ LR LR
comp=Z,196nm,16.6s,MS4.2
CIT Chita 53.65 13 *e*P **P** **08 46 21.9 +1.9**
CIT pmax pmax
comp=Z,75nm,1.8s,mb5.3
ZAL Zalesovo 54.72 351 P **P** **08 46 27.6 -0.2**
comp=Z,16nm,0.6s,mb5.2,baz=309,slow=6.1,SNR=66
ZAL pP pP 08 46 37.1 -0.6
comp=Z,19nm,0.4s,baz=305,slow=4.0,SNR=13
ZAL LR LR 09 13 08.6
comp=Z,79nm,19.4s,MS3.8,baz=84,slow=40
ZAL Zalesovo 54.72 351 P **P** **08 46 27.6 -0.2**
ZAL *PP pP 08 46 37.1 -0.6
RDF Al-Radifah 55.38 306 *e*P **P** **08 46 32.9 +0.3**
RDF AMb AMB 08 46 34.2
comp=Z,101nm,0.8s,mb5.9
UMR Umm Al-Rimmam 55.49 307 *e*P **P** **08 46 33.8 +0.4**
UMR AMb AMB 08 46 34.9
comp=Z,70nm,0.8s,mb5.8
NAY Al-Naaiem 55.75 306 *e*P **P** **08 46 35.1 -0.2**
NAY AMb AMB 08 46 35.9
comp=Z,40nm,0.6s,mb5.6
NVS Novosibirsk 55.84 350 *i* P **P** **08 46 33.6 -2.3**
NVS *i* pP 08 46 41.5 -4.3
NVS pmax pmax
comp=Z,14nm,0.8s,mb5.0
NVS pmax pmax
comp=N,26nm,1.5s
NVS pmax pmax
comp=E,9.0nm,1.1s
MIB Mutribah 55.89 307 *e*P **P** **08 46 36.6 +0.3**
MIB AMb AMB 08 46 37.9
comp=Z,119nm,0.7s,mb6.0
KRAR Krasnoyarsk 55.94 357 *i* P **P** **08 46 37.4 +0.8**
KRAR pmax pmax
comp=Z,10.0nm,0.3s,mb5.3
KLR Kul'dur 57.34 26 *e*P **P** **08 46 45.0 -1.6**
KLR *e* 08 46 52.3
KLR *e*S **S** **08 54 51.5 +11**
BVA0 Borovoye Array 57.36 341 *i* P **P** **08 46 45.1 -1.6**
BVA0 pmax pmax
comp=Z,2.0nm,1.2s,mb4.0
BRVK Borovoye 57.43 341 *e*P **P** **08 46 46.0 -1.2**
BRVK *e**PP pP 08 46 54.4 -2.7
BRVK pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
BRVK Borovoye 57.43 341 *e*P **P** **08 46 46.0 -1.2**
comp=Z,9.1nm,1.2s,mb4.7
BRVK *e*pP pP 08 46 54.4 -2.7
ZRNK Zerenda 57.76 340 *e*P **P** **08 46 48.1 -1.4**
ZRNK *e**PP pP 08 46 57.0 -2.4
ZRNK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ZRNK Zerenda 57.76 340 *e*P **P** **08 46 48.1 -1.4**
comp=Z,4.5nm,0.8s,mb4.5
ZRNK *e*pP pP 08 46 57.0 -2.4
CHKZ Chkalovo 57.84 342 *e*P **P** **08 46 49.1 -1.0**
CHKZ pmax pmax
comp=Z,11nm,0.8s,mb4.9
CHKZ Chkalovo 57.84 342 *e*P **P** **08 46 49.1 -1.0**
comp=Z,11nm,0.8s,mb5.0
AB31 Akbulak array 58.55 332 *i* P **P** **08 46 53.3 -1.7**
AB31 pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
BOD Bodaibo 59.19 10 *e*P **P** **08 47 08.6 +9.1**
BOD pmax pmax
comp=Z,13nm,1.6s,mb4.7
KMBO Kilima Mbogo 59.91 269 P **P** **08 47 03.7 -0.8**
comp=Z,4.0nm,0.9s,mb4.4,baz=48,slow=13,SNR=6.8
KMBO LR LR 09 09 42.9
comp=Z,140nm,18.3s,MS4.1,baz=278,slow=33
KMBO Kilima Mbogo 59.91 269 *e*P **P** **08 47 04.8 +0.4**
KMBO pmax pmax
comp=Z,4.0nm,1.0s
KMBO Kilima Mbogo 59.91 269 *e*P **P** **08 47 04.8 +0.4**
comp=Z,4.0nm,1.0s,mb4.4
GNI Garni 62.12 317↑ *e*P **P** **08 47 19.9 +0.4**
GNI pmax pmax
comp=Z,14nm,1.1s
HNR Honiara 63.19 101 P **P** **08 47 27.5 +0.9**
comp=Z,88nm,0.8s,mb6.0,baz=84,slow=3.3,SNR=4.1
HNR LR LR 09 17 19.5
comp=Z,95nm,19.1s,MS4.0,baz=357,slow=38
HNR Honiara 63.19 101 *e*P **P** **08 47 27.0 +0.4**
HNR pmax pmax
comp=Z,85nm,0.8s,mb5.9
HNR Honiara 63.19 101 *e*P **P** **08 47 27.0 +0.5**
comp=Z,85nm,0.8s,mb5.9
ARU Arti 64.27 337↓ *i* P **P** **08 47 31.8 -1.9**
ARU *e* 08 49 50.7
ARU *e*S **S** **08 56 08.8 -0.4**
ARU *e*SS SS 09 00 13.5 -5.5
ARU pmax pmax
comp=Z,14nm,1.2s,mb4.9
ARU Arti 64.27 337 *e*P **P** **08 47 32.0 -1.7**
comp=Z,4.2nm,0.4s,mb4.8
ARU *e*pP pP 08 47 42.0 -1.7
KIV Kislovodsk 65.19 320 *i* P **P** **08 47 39.2 -0.5**
KIV pmax pmax
comp=Z,25nm,1.3s,mb5.1
KIV Kislovodsk 65.19 320 *e*P **P** **08 47 39.3 -0.4**
comp=Z,22nm,0.8s,mb5.2
EIL Elat 66.06 303 *e*P **P** **08 47 45.1 -0.1**
comp=Z,218nm,1.2s,mb6.1
YAK Yakutsk 66.58 16 *e*P **P** **08 47 48.6 0.0**
YAK pmax pmax
comp=Z,18nm,1.3s,mb4.9
SOC Sochi 66.98 318 *d* iP **P** **08 47 48.5 -2.7**
SOC *e* 08 48 18.6
SOC *e* 08 50 23.5
SOC *e*PPP 08 52 03.9
SOC *e*S S 08 56 39.5 -2.8
SOC *e* 08 57 45.0
SOC *e*SS SS 09 01 01.4 +0.3
SOC pmax pmax
comp=Z,23nm,0.9s,mb5.2
SOC MLR MLR
comp=Z,234nm,21.0s,MS4.4
BR131 Keskin Array S 69.88 313 *e*P **P** **08 48 07.9 -1.5**
comp=Z,4.2nm,0.7s,mb4.5
BR131 *e*pP pP 08 48 17.5 -2.0
BRTR Keskin Array B 69.88 313 P **P** **08 48 08.0 -1.3**
comp=Z,5.7nm,0.7s,mb4.6,baz=131,slow=7.1,SNR=33
BRTR pP pP 08 48 17.9 -1.5
comp=Z,1.9nm,0.6s,baz=124,slow=6.1,SNR=5.5
VRSR Storozhevoye 70.51 326 *e*P **P** **08 48 04.2 -9.0**
VRSR pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
VRSR pmax pmax
comp=N,6.0nm,0.9s
VRSR pmax pmax
comp=E,4.0nm,1.2s
LBTB Lobatse 73.32 244 *e*P **P** **08 48 31.0 +1.0**
LBTB pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
LBTB Lobatse 73.32 244 *e*P **P** **08 48 31.0 +0.9**
comp=Z,8.1nm,0.9s,mb4.7
MOS Moscow 73.33 329 *e*P **P** **08 48 38.2 +8.1**
MOS pmax pmax
comp=Z,63nm,1.1s,mb5.5
OBN Obninsk 73.61 329↑ *e*P **P** **08 48 31.0 -0.8**
OBN *e* 08 51 18.1
OBN *e*S S 08 57 57.2 -2.6
OBN pmax pmax
comp=Z,14nm,0.6s,mb5.1
OBN MLR MLR
comp=Z,100nm,21.0s,MS4.1
OBN Obninsk 73.61 329 *e*P **P** **08 48 31.0 -0.8**
comp=Z,54nm,1.4s,mb5.3
BOSA Boshof 74.14 240 P **P** **08 48 34.9 +0.1**
comp=Z,4.6nm,0.8s,mb4.5,baz=62,slow=7.0,SNR=8.5
BOSA Boshof 74.14 240 *e*P **P** **08 48 35.6 +0.7**
BOSA pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BOSA Boshof 74.14 240 *e*P **P** **08 48 35.6 +0.7**
comp=Z,5.0nm,0.8s,mb4.5
TIXI Tiksi 74.37 10 *e*P **P** **08 48 35.0 -1.2**
TIXI *e**PP pP 08 48 44.3 -2.0
AKASG Malin Array Be 76.18 323 P **P** **08 48 45.0 -1.6**
comp=Z,10.0nm,0.7s,mb4.9,baz=94,slow=4.6,SNR=29
AKASG pP pP 08 48 54.7 -2.0
comp=Z,2.2nm,0.4s,baz=94,slow=4.8,SNR=4.5
AKASG Malin Array Be 76.18 323 *i* P **P** **08 48 45.0 -1.6**
AKASG pmax pmax
comp=Z,10.0nm,0.7s
AKASG Malin Array Be 76.18 323 P **P** **08 48 45.0 -1.5**
AKASG pP pP 08 48 54.7 -2.0
VRI Vrincioaia 76.46 317↑ *i* P **P** **08 48 48.3 +0.1**
VRI Vrincioaia 76.46 317↑ P **P** **08 48 48.3 +0.1**
MLR Muntele Rosu 76.91 317↑ *i* P **P** **08 48 51.0 +0.3**
MLR Muntele Rosu 76.91 317↑ P **P** **08 48 51.0 +0.3**
BURAR Bucovina Array 77.89 319↑ *i* P **P** **08 48 56.8 +0.6**
BURAR Bucovina Array 77.89 319↑ P **P** **08 48 56.8 +0.6**
JOF Joensuu 79.21 335 *e*p **P** **08 49 01.6 -1.9**
comp=Z,6.0nm,0.8s,mb4.6
JOF Joensuu 79.21 335 *e*P **P** **08 49 01.6 -1.9**
JOF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
STHS Stebnicka Huta 80.85 320 *e*P **P** **08 49 12.4 0.0**
STHS *e* pP 08 49 21.8 -0.8
STHS pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
STHS Stebnicka Huta 80.85 320 *e*P **P** **08 49 12.4 0.0**
comp=Z,5.6nm,0.8s,mb4.5
STHS *e* pP 08 49 21.8 -0.8
FINES FINESS Array B 81.04 333 P **P** **08 49 12.6 -0.8**
comp=Z,3.5nm,0.7s,mb4.4,baz=100,slow=7.9,SNR=15
FINES pP pP 08 49 22.1 -1.5
comp=Z,2.1nm,0.5s,baz=108,slow=5.4,SNR=5.5
FINES FINESS Array B 81.04 333 *i* P **P** **08 49 12.6 -0.7**
FINES pmax pmax
comp=Z,4.0nm,0.7s
FINES FINESS Array B 81.04 333 P **P** **08 49 12.6 -0.8**
FINES pP pP 08 49 22.1 -1.5
KAF Kangasniemi 81.13 333 *e*p **P** **08 49 12.3 -1.5**
comp=Z,12nm,0.8s,mb4.9
KAF Kangasniemi 81.13 333 *e*P **P** **08 49 12.3 -1.5**
KAF pmax pmax
comp=Z,12nm,0.8s,mb4.9
KECS Kecovo 81.18 319 *e*P **P** **08 49 13.9 -0.2**
KECS *e* pP 08 49 23.0 -1.3
comp=Z,5.3nm,1.5s,mb4.2
KECS *e* pP 08 49 23.0 -1.3
VYHS Vyhne 82.26 319 *e*P **P** **08 49 19.3 -0.5**
VYHS *e*pP **P** **08 49 29.6 -0.5**
VYHS Vyhne 82.26 319 *e*P **P** **08 49 19.3 -0.5**
VYHS *e* pP 08 49 29.7 -0.4
VYHS pmax pmax
comp=Z,10.0nm,1.7s,mb4.5
VYHS Vyhne 82.26 319 *e*P **P** **08 49 19.3 -0.5**
comp=Z,9.5nm,1.7s,mb4.5
VYHS *e* pP 08 49 29.7 -0.4
BILL Bilibino 82.30 21↓ *e*P **P** **08 49 20.7 +0.7**
BILL pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BILL MLR MLR
comp=Z,200nm,19.0s,MS4.5
MORC Moravsky Berou 83.29 320 *e*P **P** **08 49 25.1 0.0**
MORC *e**PP pP 08 49 34.5 -0.9
MORC pmax pmax
comp=Z,18nm,1.6s,mb4.8
MORC Moravsky Berou 83.29 320 *e*P **P** **08 49 25.1 -0.1**
comp=Z,18nm,1.6s,mb4.8
MORC *e*pP pP 08 49 34.5 -0.9
ZST Bratislava 83.36 318 *e*P **P** **08 49 25.3 -0.2**
ARCES ARCESS Array B 83.64 340 P **P** **08 49 26.2 -0.7**
comp=Z,3.0nm,0.8s,mb4.5,baz=94,slow=5.0,SNR=8.3
ARCES pP pP 08 49 36.4 -0.9
comp=Z,9.3nm,1.0s,baz=29,slow=6.1,SNR=5.3
DPC Dobruska-Polom 84.14 321 *e*P **P** **08 49 29.9 +0.4**
DPC *e*PCP PcP 08 49 32.8 -0.5
DPC *e*pP pP 08 49 39.4 -0.4
VNDA Vanda 84.66 169 P **P** **08 49 31.6 -0.5**
comp=Z,0.8nm,0.9s,mb3.9,baz=256,slow=8.0,SNR=3.7
GERES GERESS Array B 85.68 319 P **P** **08 49 36.8 -0.4**
comp=Z,1.5nm,0.7s,mb4.3,baz=106,slow=4.3,SNR=12
BRG Berggiesshubel 85.71 321 *e*P **P** **08 49 46.6 +9.2**
comp=Z,12nm,1.7s,mb4.8
BRG Berggiesshubel 85.71 321 *e*P **P** **08 49 46.6 +9.2**
BRG pmax pmax
comp=Z,12nm,1.7s,mb4.8
KHC Kasperske Hory 85.79 319 *e*P **P** **08 49 38.0 +0.2**
GRF Grafenberg Arr 87.36 320 *e*P **P** **08 49 55.2 +10**
comp=Z,4.0nm,0.8s,mb4.7
GRF Grafenberg Arr 87.36 320 *e*P **P** **08 49 55.2 +10**
GRF pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
NOA NORSAR Array B 88.03 331 P **P** **08 49 47.9 -0.8**
comp=Z,1.6nm,0.7s,mb4.3,baz=94,slow=4.9,SNR=3.8
NOA pP pP 08 49 57.2 -1.8
comp=Z,1.2nm,0.8s,baz=101,slow=17,SNR=2.0
NOA LR LR 09 32 38.5
comp=Z,41nm,18.6s,MS3.9,baz=75,slow=38
NOA NORSAR Array B 88.03 331 P **P** **08 49 47.9 -0.7**
NOA *PP pP 08 49 57.2 -1.8
VNA2 Neumayer--Watz 94.73 199 *e*P **P** **08 50 22.0 +2.2**
VNA1 Neumayer--Stat 95.08 199 *e*P **P** **08 50 22.2 +0.8**
TORD Torodi Ar. Bea 95.32 283 P **P** **08 50 23.0 +0.6**
comp=Z,0.6nm,0.9s,mb4.0,baz=95,slow=3.0,SNR=3.9
VNA3 Neumayer Olymp 95.37 198 *e*P **P** **08 50 24.1 +1.4**
TBI Tubuai 111.39 115 *e*LR LR 08 56 45.4
comp=Z,118nm,24.5s
PPT Papeete 112.14 109 *e*LR LR 08 56 03.7
comp=Z,88nm,25.2s
HUMO Hull Mountain 124.38 35 *e*PKPdf PKPdf 08 55 57.7 +0.4
HUMO *ep*PKPdf pPKPdf 08 56 07.6 -0.4
DLMT Dillon 127.74 26 *e*PKPdf PKPdf 08 56 04.2 +0.5
DLMT *ep*PKPdf pPKPdf 08 56 14.0 -0.4
NVAR Mina Array Bea 129.78 36 PKP PKPdf 08 56 08.3 +0.7
comp=Z,0.7nm,0.8s,baz=287,slow=1.4,SNR=5.4
REDW Red Top Meadow 130.09 27 *e*PKPdf PKPdf 08 56 08.3 +0.1
PDAR Pinedale Array 131.13 26 PKP PKPdf 08 56 09.2 -1.0
comp=Z,0.4nm,0.6s,baz=264,slow=3.0,SNR=3.8
PHWY Pilot Hill 134.07 24 *e*PKPdf PKPdf 08 56 16.2 +0.5
ECSD EROS,Sioux Fal 134.75 14 *e*PKPdf PKPdf 08 56 16.7 -0.3
ANMO Albuquerque 138.82 30 *e*PKIKP PKPdf 08 56 25.8 +1.3
MNTX Cornudas Mount 141.94 32 *e*PKPdf PKPdf 08 56 30.8 +0.6
CPUP Villa Florida 144.08 221 PKP PKPdf 08 56 32.9 -1.0
comp=Z,8.4nm,0.9s,baz=116,slow=3.7,SNR=23
CPUP Villa Florida 144.08 221 *e*PKPdf PKPdf 08 56 32.3 -1.6
CPUP *ep*PKPdf pPKPdf 08 56 42.4 -2.2
MIAR Mount Ida 144.20 15 *e*PKIKP PKPdf 08 56 32.8 -1.4
MIAR *e* 08 56 42.2
LTX Lajitas 144.70 32 *e*PKIKP PKPdf 08 56 35.3 +0.3
LTX *e* 08 56 44.9
PLAL Pickwick Lake 144.86 7 *e*PKPdf PKPdf 08 56 33.4 -1.9
CFAA Coronel Fontan 145.66 202 PKPbc PKPbc 08 56 37.8 +0.8
comp=Z,1.2nm,0.8s,baz=214,slow=1.7,SNR=17
JCT Junction City 145.67 27 *e*PKPab PKPab 08 56 37.8 +0.4
JCT *ep*PKPdf pPKPdf 08 56 47.1 -0.3
NATX Nacogdoches 146.49 18 *e*PKPab PKPab 08 56 40.0 -0.5
LRAL Lakeview Retre 146.91 6 *e*PKPbc PKPbc 08 56 40.5 -0.2
HKT Hockley 147.75 21 *e*PKP2 PKPab 08 56 43.8 -1.7
SIV San Ignacio 153.27 232 PKP PKPdf 08 56 47.9 -0.9
comp=Z,0.6nm,0.7s,baz=260,slow=12,SNR=4.4
SIV PKPbc PKPbc 08 56 57.0 +0.7
comp=Z,1.2nm,0.8s,baz=170,slow=7.7,SNR=6.4

IDC 30 08:46:10.7±2.2,1657S×17286W,h0km,mb3.9/6, mb1 4.2/6,mb1mx4.0/16,mbtmp3.9/6,MS3.5/2,Ms1 3.5/2, ms1mx2.8/31,Error ellipse: s-maj=127.6km s-min=21.6km az=145.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.84**	**22**	Pn	Pn	08 46 49.0	-8.4
	14nm,0.3s,baz=349,slow=14,SNR=24						
AFI				Sn	Sn	08 47 14.5	-18
	95nm,0.3s,baz=28,slow=15,SNR=12						
DZM	**Mont Dzumac**	**20.28**	**251**	P	P	08 50 51.2	+3.4
	7.6nm,0.8s,baz=96,slow=19,SNR=2.7						
DZM				LR	LR	08 56 07.1	
	comp=Z,84nm,20.4s,baz=30,slow=29						
HNR	**Honiara**	**27.41**	**282**	LR	LR	09 01 10.9	
	comp=Z,169nm,20.8s,baz=178,slow=33						
STKA	**Stephens Creek**	**43.92**	**241**	P	P	08 54 19.2	0.0
	3.0nm,0.7s,baz=88,slow=7.4,SNR=8.2						
WRA	**Warramunga Arr**	**50.09**	**258**	P	P	08 55 07.2	-0.2
	0.6nm,0.4s,baz=96,slow=6.8,SNR=22						
ASAR	**Alice Springs**	**50.25**	**253**	P	P	08 55 09.3	+0.7
	3.5nm,0.7s,baz=88,slow=8.3,SNR=44						
NVAR	**Mina Array Bea**	**74.85**	**42**	P	P	08 57 53.9	+0.8
	0.5nm,0.6s,baz=228,slow=11,SNR=4.2						
PDAR	**Pinedale Array**	**82.79**	**42**	P	P	08 58 36.5	-0.2
	0.5nm,0.9s,baz=270,slow=1.5,SNR=3.8						
ILAR	**Eielson Array**	**83.49**	**11**	P	P	08 58 39.4	-1.0
	0.5nm,0.6s,baz=232,slow=6.3,SNR=17						
BRTR	**Keskin Array B**	**147.39**	**320**	PKPbc	PKPbc	09 05 58.0	+1.6
	1.9nm,0.8s,baz=90,slow=1.8,SNR=9.4						

*NEIC **30** 08:46:22.9,3980N×2069E,h5km,MD3.5(ATH),After ATH.*
*ATH **30** 08:46:22.9,3981N×2068E,h5km±4km,MD3.5/7*
*ISCJB **30** 08:46:23.0±0.3,3981N±002×2068E±003,h2km,Error ellipse: s-maj=3.0km s-min=2.6km az=18.1*
*CSEM **30** 08:46:23.5±0.1,3984N×2065E,h2km,MD3.5,Error ellipse: s-maj=2.7km s-min=2.1km az=100.0*
*THE **30** 08:46:23.5,3982N×2065E,h10km,ML2.9*

ISC 30 08:46:23.7±0.3,3980N±002×2067E±003,h2km,n30, σ1°05/49,1D,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.20**	**136**↓	*i* Pg	**Pg**	**08 46 26.4**	**-1.1**
JAN				*e*SG	**Sg**	**08 46 30.2**	**+0.1**
LSK	**Leskovik**	**0.35**	**351**	*i* Pg	**Pg**	**08 46 29.3**	**-1.2**
LSK				*i* Sg	**Sg**	**08 46 35.5**	**+0.4**
LSK	**Leskovik**	**0.35**	**351**	*e*Pg	**Pg**	**08 46 29.3**	**-1.2**
LSK				*i* Sg	**Sg**	**08 46 35.5**	**+0.4**
IGT	**Igoumenitsa**	**0.38**	**225**	*e*Pg	**Pg**	**08 46 30.4**	**-0.5**
IGT				*e*Sg	**Sg**	**08 46 36.4**	**+0.6**
IGT	**Igoumenitsa**	**0.38**	**225**	*e*Pg	**Pg**	**08 46 30.4**	**-0.5**
IGT				*e*Sg	**Sg**	**08 46 36.3**	**+0.5**
SRN	**Sarande**	**0.52**	**279**	*i* Pg	**Pg**	**08 46 33.5**	**-0.2**
SRN	**Sarande**	**0.52**	**279**	*e*Pg	**Pg**	**08 46 33.5**	**-0.2**
KEK	**Kerkira**	**0.68**	**263**	*e*PB	**Pg**	**08 46 35.6**	**-1.1**
KEK				*e*SB	**Sg**	**08 46 47.1**	**+1.5**
KZN	**Kozani**	**0.98**	**59**	*e*PG	**Pg**	**08 46 41.0**	**-1.5**
KZN				*e*SB	**Sg**	**08 46 56.2**	**+1.0**
LKD	**Levkas**	**1.09**	**181**	*e*Pg	**Pg**	**08 46 44.1**	**-0.5**
LKD				*e*Sg	**Sg**	**08 47 00.8**	**+2.0**

FNA	**Florina**	**1.12**	**28**	*e*Pg	**Pg**	**08 46 44.3**	**-0.8**
FNA				*e*Sg	**Sg**	**08 47 00.8**	**+1.1**
EVR	**Evrytania**	**1.25**	**135**	*e*PB	**Pb**	**08 46 46.8**	**-1.1**
EVR				*e*SB	**Sb**	**08 47 04.6**	**+0.2**
OHR	**Ohrid**	**1.31**	**4**	*e*Pg	**Pg**	**08 46 47.9**	**-0.9**
OHR	**Ohrid**	**1.31**	**4**	*i* Pn	**Pn**	**08 46 48.7**	**-0.3**
OHR	**Ohrid**	**1.31**	**4**	*i* Pn	**Pn**	**08 46 48.6**	**-0.4**
BIA	**Bitola**	**1.31**	**22**	*e*Pg	**Pg**	**08 46 48.1**	**-0.8**
BIA				*e*Sg	**Sg**	**08 47 06.7**	**+0.8**
BIA	**Bitola**	**1.31**	**22**	*i* Pn	**Pn**	**08 46 49.8**	**+0.7**
BIA	**Bitola**	**1.31**	**22**	*i* Pn	**Pn**	**08 46 49.7**	**+0.7**
BIA				*e*Sg	**Sg**	**08 47 06.7**	**+0.8**
LIT	**Litokhoron**	**1.43**	**77**	*e*Pg	**Pg**	**08 46 49.7**	**-1.4**
LIT				*e*Sg	**Sg**	**08 47 10.7**	**+1.1**
AGG	**Agios Georgios**	**1.50**	**121**	*e*Pg	**Pg**	**08 46 51.1**	**-1.3**
AGG				*e*Sg	**Sg**	**08 47 12.8**	**+0.9**
VLS	**Valsamata**	**1.62**	**182**	*e*PG	**Pg**	**08 46 53.6**	**-1.2**
GRG	**Griva**	**1.75**	**48**	*e*Pb	**Pb**	**08 46 54.5**	**-2.0**
GRG				*e*Sb	**Sb**	**08 47 18.3**	**-0.7**
GRG	**Griva**	**1.75**	**48**	*e*Pb	**Pb**	**08 46 54.5**	**-2.1**
GRG				*e*Sb	**Sb**	**08 47 18.3**	**-0.7**
RLS	**Riolos of Patr**	**1.85**	**160**	*e*PN	**Pn**	**08 46 58.3**	**+1.9**
PHP	**Peshkopia**	**1.89**	**355**	*e*Pn	**Pg**	**08 47 00.0**	**+0.1**
PHP				*i* Sn	**Sg**	**08 47 26.6**	**+2.2**
XOR	**Xorichti**	**1.99**	**102**	*e*Pn	**Pn**	**08 46 58.2**	**-0.1**
XOR				*e*Sn	**Sn**	**08 47 24.7**	**+0.8**
NEO	**Neokhori**	**2.03**	**103**	*e*PN	**Pn**	**08 47 00.2**	**+1.3**
SKO	**Skopje**	**2.25**	**15**	*e*Pn	**Pn**	**08 47 02.4**	**+0.5**
SKO	**Skopje**	**2.25**	**15**	*e*Pn	**Pn**	**08 47 02.3**	**+0.5**
PAIG	**Palíouri**	**2.32**	**86**	*e*Pn	**Pn**	**08 47 02.4**	**-0.4**
PAIG				*e*Sn	**Sn**	**08 47 32.8**	**+0.9**

IDC 30 09:09:29.1±1.8, 1513S×17360W, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.8/15, mbtmpg3.7/6, ML1.7/1, Error ellipse: s-maj=115.2km s-min=20.5km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.14**	**56**	Pn	Pn	09 10 04.3	-1.8
	13nm,0.3s,baz=55,slow=9.4,SNR=4.3						
AFI				Sn	Sn	09 10 29.4	-4.0
	23nm,0.3s,baz=64,slow=22,SNR=4.4						
STKA	**Stephens Creek**	**44.01**	**240**	P	P	09 17 39.2	+0.9
	1.8nm,0.3s,baz=104,slow=6.3,SNR=11						
WRA	**Warramunga Arr**	**49.72**	**257**	P	P	09 18 22.6	-0.3
	0.2nm,0.5s,baz=89,slow=8.2,SNR=6.5						
ASAR	**Alice Springs**	**50.01**	**252**	P	P	09 18 24.9	-0.3
	0.9nm,0.5s,baz=88,slow=8.1,SNR=14						
PDAR	**Pinedale Array**	**82.19**	**42**	P	P	09 21 52.0	-0.1
	0.4nm,0.8s,baz=235,slow=3.2,SNR=3.9						
ILAR	**Eielson Array**	**82.22**	**11**	P	P	09 21 53.6	+1.5
	0.3nm,0.6s,baz=222,slow=6.5,SNR=6.4						

*ISCJB **30** 09:20:49.9±1.4, 4164N×1006×7480E±005, h3km±7km, Error ellipse: s-maj=10.3km s-min=6.3km az=171.2*
*KNET **30** 09:20:50.0±0.7, 4169N×7480E, h17km±2km, ml1.9, Error ellipse: s-maj=4.1km s-min=2.0km az=13.0*
*NNC **30** 09:20:52.7±136.0, 4135N×7422E, h20km±999km, mb2.8, mpv2.5, Error ellipse: s-maj=3674.4km s-min=997.5km az=47.0*

ISC 30 09:20:50.0±1.3, 4163N±006×7482E±005, h3km±7km, n10, σ0s48/19, 13C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZA	**Kyzart**	**0.55**	**36**	⇑P	**Pg**	**09 21 00.8**	**+0.2**
	9.3nm,0.1s,SNR=22						
KZA				⇑S	**Sg**	**09 21 08.3**	**+0.6**
	61nm,0.2s						
UCH	**Uchtor**	**0.64**	**339**	⇓P	**Pg**	**09 21 02.3**	**+0.1**
	31nm,0.1s,SNR=226						
UCH				⇑S	**Sg**	**09 21 10.8**	**+0.4**
	77nm,0.2s						
AML	**Almayashu**	**0.97**	**301**	⇑P	**Pg**	**09 21 08.4**	**-0.3**
	11nm,0.1s,SNR=27						
AML				⇓S	**Sg**	**09 21 21.3**	**-0.1**
	25nm,0.2s						
AAK	**Ala-Archa**	**1.03**	**347**	⇓P	**Pg**	**09 21 09.4**	**-0.4**
	4.5nm,0.1s,SNR=14						
AAK				⇑S	**Sg**	**09 21 23.0**	**-0.1**
	8.0nm,0.2s						
KBK	**Karagaybulak**	**1.03**	**5**	⇓P	**Pg**	**09 21 09.4**	**-0.3**
	17nm,0.1s,SNR=38						
KBK				⇑S	**Sg**	**09 21 23.4**	**+0.3**
	51nm,0.1s						
ULHL	**Ulahol**	**1.23**	**60**	⇓P	**Pg**	**09 21 12.9**	**-0.7**
	6.1nm,0.1s,SNR=48						
ULHL				⇑S	**Sg**	**09 21 30.0**	**+0.6**
	11nm,0.2s						
CHMS	**Chumysh**	**1.36**	**358**	⇑P	**Pn**	**09 21 15.5**	**-0.4**
	3.9nm,0.1s,SNR=6.5						
CHMS				⇑S	**Sg**	**09 21 33.5**	**-0.4**
	8.2nm,0.1s						
TKM2	**Tokmak 2**	**1.41**	**24**	⇑P	**Pn**	**09 21 16.3**	**-0.3**
TKM2				⇑S	**Sb**	**09 21 34.3**	**-1.1**
	0.4nm,0.4s						
USP	**Ospenovka**	**1.65**	**352**	⇑P	**Pn**	**09 21 20.7**	**+0.8**
	15nm,0.2s,SNR=28						
USP				⇓S	**Sn**	**09 21 41.9**	**+0.4**
	9.9nm,0.2s						
KK31	**Karatay Array**	**3.51**	**296**	⇓Pg	**Pb**	**09 21 53.4**	**+0.6**
	0.9nm,0.6s,baz=131,slow=17,SNR=11						
KK31				⇑Lg		09 22 39.3	
	1.6nm,0.4s,baz=136,slow=29,SNR=12						

IDC 30 09:22:29.5±8.6, 794S×11648E, h277km±93km, mb3.2/5, mb1 3.3/6, mb1mx3.1/18, mbtmpg3.8/6, Error ellipse: s-maj=88.0km s-min=22.9km az=57.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.47**	**139**	P	Pn	09 25 31.6	+1.2
	0.3nm,0.3s,baz=320,slow=16,SNR=9.1						
WRA	**Warramunga Arr**	**21.01**	**126**	P	P	09 26 52.0	-0.2
	1.8nm,0.5s,baz=300,slow=12,SNR=31						
WB2	**Warramunga Arr**	**21.02**	**126**	*e*P	P	09 26 51.9	-0.4
ASAR	**Alice Springs**	**22.88**	**135**	P	P	09 27 10.4	+1.1
	1.8nm,0.5s,baz=310,slow=8.7,SNR=30						
STKA	**Stephens Creek**	**33.37**	**139**	P	P	09 28 41.2	-0.8
	1.9nm,0.8s,baz=309,slow=6.5,SNR=3.5						
SONM	**Songino Array**	**56.24**	**352**	P	P	09 31 41.1	-0.2
	0.5nm,0.4s,baz=166,slow=7.4,SNR=3.1						
MKAR	**Makanchi Array**	**62.40**	**334**	P	P	09 32 23.6	+0.3
	0.3nm,0.4s,baz=155,slow=7.2,SNR=7.4						

*CSEM **30** 09:23:24.5±0.4, 3899N×2786W, h9km±5km, ML1.5, Error ellipse: s-maj=2.6km s-min=2.3km az=82.0, After PDA*
*PDA **30** 09:23:24.5±0.4, 3899N×2786W, h9km±5km, MD2.9, ML1.5, Error ellipse: s-maj=2.6km s-min=2.3km az=82.0*

SVSA 30 09:23:24.5±0.4, 3899N×2786W, h9km±5km, MD2.9, ML1.5, Error ellipse: s-maj=2.6km s-min=2.3km az=82.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGRA	**Graciosa**	**0.10**	**291**	*e*P	Pg	09 23 25.8	-1.2
PGRA				*e*S	Sg	09 23 27.6	-1.2
PGRA							
	87nm,0.2s						
PGRA	**Graciosa**	**0.10**	**291**	*e*P	Pg	09 23 25.8	-1.2
PGRA				*e*S	Sg	09 23 27.6	-1.2
STGR	**Santa Cruz**	**0.14**	**308**	*e*S	Sg	09 23 29.7	-0.1
STGR							
	23nm,0.2s						
SRBC	**Serra Branca**	**0.15**	**287**	*e*P	Pg	09 23 27.0	-0.8
SRBC				*e*S	Sg	09 23 29.2	-0.8
PVIA	**Vitoria**	**0.17**	**297**	*e*P	Pg	09 23 27.6	-0.5
PVIA				*e*S	Sg	09 23 30.2	-0.3
PVIA							
	12nm,0.2s						
PAMA	**Santo Amaro**	**0.40**	**219**	*e*S	Sg	09 23 36.6	-1.1
PMAN	**Manadas**	**0.40**	**207**	*e*P	Pg	09 23 31.0	-1.4
PMAN				*e*S	Sg	09 23 36.1	-1.6
PMAN							
	30nm,0.2s						
PMAN	**Manadas**	**0.40**	**207**	*e*P	Pg	09 23 31.0	-1.4
PMAN				*e*S	Sg	09 23 36.1	-1.6
ROSA	**Rosais**	**0.41**	**228**	*e*P	Pg	09 23 31.0	-1.4
ROSA				*e*S	Sg	09 23 36.4	-1.4
PID	**Ribeirinha**	**0.59**	**201**	*e*P	Pg	09 23 33.9	-1.9
PID				*e*S	Sg	09 23 41.3	-2.2
PICO	**Pico**	**0.66**	**222**	*e*S	Sg	09 23 42.5	-3.4
PLUZ	**Luz**	**0.87**	**272**	*e*P	Pg	09 23 26.7	-15
PLUZ				*e*S	Sg	09 23 28.4	-24
PLUZ							
	37nm,0.1s						

*KRSC **30** 09:28:02.0±0.8, 5545N×16260E, h11km±2km, ML4.8*
*MOS **30** 09:28:02.6±1.0, 5566N×16227E, h27km, mb4.7/22, Error ellipse: s-maj=13.4km s-min=6.2km az=71.5*
*BJI **30** 09:28:03.4, 5591N×16195E, h19km, mB4.6, mb4.5, Ms4.3, Msz3.9*
*ISCJB **30** 09:28:03.8±0.2, 5545N±002×16271E±003, h34km, mb4.3/49, MS3.9/10, Error ellipse: s-maj=3.0km s-min=2.3km az=89.1*
*NEIC **30** 09:28:05.4±0.2, 5565N×16229E, mb4.5/25, Error ellipse: s-maj=8.4km s-min=4.7km az=158.0*
*IDC **30** 09:28:07.0±5.8, 5564N×16237E, h51km±55km, mb3.9/19, mb1 4.0/20, mb1mx4.0/25, mbtmpg4.1/20, ML3.7/1, MS3.6/6, Ms1 3.6/6, ms1mx3.1/29, Error ellipse: s-maj=19.1km s-min=12.2km az=150.0*

ISC 30 09:28:05.3±0.2, 5549N±002×16265E±003, h36km, h36km±.9km:pP-P, n143, σ1s29/182, mb4.3/49, MS3.9/10, 4C-5D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.73**	**8**	P	**Pn**	**09 28 17.5**	**-1.5**
KBTR				S	**Sn**	**09 28 28.7**	**-0.2**
KBTR	**Krutoberegovo**	**0.73**	**8**	*i* P	**Pn**	**09 28 17.4**	**-1.6**
KBG	**Krutoberegovo**	**0.77**	**3**	*i* P	**Pn**	**09 28 18.0**	**-1.6**
KBG				*e*S	**Sn**	**09 28 29.8**	**-0.2**
KBG				Smax			
	52µm,0.7s						
MKZ	**Mys Kozlova**	**1.07**	**210**	P	**Pn**	**09 28 21.7**	**-2.1**
MKZ				S	**Sn**	**09 28 36.2**	**-1.3**
MKZ	**Mys Kozlova**	**1.07**	**210**	*e*P	**Pn**	**09 28 21.7**	**-2.1**
MKZ				*e*S	**Sn**	**09 28 35.9**	**-1.6**
ZLN	**Zelenaya**	**1.17**	**298**	*i* P	**Pn**	**09 28 24.5**	**-0.6**
CIRR	**Tsirk**	**1.24**	**301**	*e*P	**Pn**	**09 28 25.5**	**-0.6**
CIRR				*e*S	**Sn**	**09 28 42.5**	**+0.9**
LGNR	**Loginova**	**1.25**	**299**	*i* P	**Pn**	**09 28 26.0**	**-0.3**
LGNR				*e*S	**Sn**	**09 28 43.8**	**+1.9**
SMKR	**Semkarok**	**1.28**	**329**	*i* P	**Pn**	**09 28 26.0**	**-0.6**
SMKR				*e*S	**Sn**	**09 28 43.5**	**+0.9**
BDR	**Baidarnaya**	**1.35**	**324**	*i* P	**Pn**	**09 28 27.5**	**-0.1**
BDR				*e*S	**Sn**	**09 28 47.3**	**+3.0**
KRSR	**Krestovskiy**	**1.38**	**303**	*i* P	**Pn**	**09 28 27.1**	**-0.9**
KRSR				*e*S	**Sn**	**09 28 45.0**	**-0.1**
KMNR	**Kamenistaya**	**1.39**	**282**	*i* P	**Pn**	**09 28 28.3**	**+0.1**
KMNR				*e*S	**Sn**	**09 28 47.2**	**+1.9**
KLY	**Klyuchi**	**1.39**	**307**	*i* P	**Pn**	**09 28 26.4**	**-1.8**
KLY				*i* S	**Sn**	**09 28 43.8**	**-1.6**
SRKR	**Sorokina**	**1.43**	**325**	*i* P	**Pn**	**09 28 28.5**	**-0.2**
TUMR	**Tumrok**	**1.44**	**263**	*i* P	**Pn**	**09 28 29.0**	**+0.1**
TUMR				*e*S	**Sn**	**09 28 48.2**	**+1.7**
KPT	**Kopyto**	**1.45**	**290**	*i* P	**Pn**	**09 28 28.9**	**-0.1**
KPT				*e*S	**Sn**	**09 28 48.5**	**+1.7**
KOZR	**Kozyr**	**1.66**	**292**	PN	**Pn**	**09 28 32.5**	**+0.7**
KOZ	**Kozyrevsk**	**1.67**	**291**	P	**Pn**	**09 28 32.5**	**+0.5**
KOZ				S	**Sn**	**09 28 55.2**	**+3.1**
KOZ	**Kozyrevsk**	**1.67**	**291**	*i* P	**Pn**	**09 28 32.5**	**+0.5**
KOZ				*i* S	**Sn**	**09 28 55.3**	**+3.2**
SRDR	**Sredinnyy**	**1.85**	**298**	*e*P	**Pn**	**09 28 34.8**	**+0.4**
SRDR				*e*S	**Sn**	**09 28 59.0**	**+2.5**
BKI	**Bering**	**1.92**	**97**	*i* P	**Pn**	**09 28 35.1**	**-0.4**
BKI				*e*S	**Sn**	**09 28 58.4**	**0.0**
BKI				Smax			
	1µm,0.2s						
ESO	**Esso**	**2.27**	**283**	*e*P	**Pn**	**09 28 40.5**	**+0.2**
ESO				*e*S	**Sn**	**09 29 07.0**	**-0.1**
ESO				Smax			
	1µm,1.1s						
KII	**Karymskiy**	**2.36**	**233**	P	**Pn**	**09 28 41.5**	**+0.1**
KII				S	**Sn**	**09 29 10.5**	**+1.4**
KII	**Karymskiy**	**2.36**	**233**	*e*P	**Pn**	**09 28 41.5**	**+0.1**
KII				*e*S	**Sn**	**09 29 10.8**	**+1.7**
SPN	**Mys Shipunski**	**2.85**	**214**	*e*P	**Pn**	**09 28 46.6**	**-1.6**
SPN				*e*S	**Sn**	**09 29 19.1**	**-2.1**
NLC	**Nalytchevo**	**3.02**	**221**	*i* P	**Pn**	**09 28 50.4**	**-0.2**
NLC				*e*S	**Sn**	**09 29 25.2**	**-0.3**
SDLR	**Sedlovina**	**3.12**	**226**	*i* P	**Pn**	**09 28 52.0**	**0.0**
SDLR				*e*S	**Sn**	**09 29 29.6**	**+1.6**
SMAR	**Somma**	**3.17**	**227**	*i* P	**Pn**	**09 28 53.0**	**+0.4**
AVH	**Avacha**	**3.19**	**227**	*i* P	**Pn**	**09 28 53.5**	**+0.6**
UGLR	**Uglovaya**	**3.20**	**226**	*i* P	**Pn**	**09 28 53.4**	**+0.4**
UGLR				*e*S	**Sn**	**09 29 31.2**	**+1.3**
KOK	**Koryaka**	**3.21**	**228**	*i* P	**Pn**	**09 28 53.6**	**+0.3**
GNL	**Ganaly**	**3.27**	**239**	*i* P	**Pn**	**09 28 54.6**	**+0.5**
PET	**Petropavlovsk**	**3.40**	**225**	P	**Pn**	**09 28 56.1**	**+0.3**
PET				S	**Sn**	**09 29 35.4**	**+0.5**
PET	**Petropavlovsk**	**3.40**	**225**	*e*Pg	**Pn**	**09 28 56.1**	**+0.3**
PET				*e*Sg	**Sn**	**09 29 34.9**	**0.0**
PET	**Petropavlovsk**	**3.40**	**225**	*e*P	**Pn**	**09 28 56.2**	**+0.4**
PET				*e*S	**Sn**	**09 29 35.4**	**+0.5**
KRMR	**Karymshinskiy**	**3.76**	**227**	*e*P	**Pn**	**09 29 01.6**	**+0.9**
KRMR				*e*S	**Sn**	**09 29 45.0**	**+1.2**
OSSR	**Ossora**	**3.78**	**3**	*i* P	**Pn**	**09 29 03.5**	**+2.5**
OSSR				Smax			
	300nm,0.8s						
RUS	**Russkaya**	**3.92**	**220**	P	**Pn**	**09 29 02.6**	**-0.3**
RUS				S	**Sn**	**09 29 46.3**	**-1.3**
RUS	**Russkaya**	**3.92**	**220**	*e*P	**Pn**	**09 29 02.6**	**-0.3**
RUS				*e*S	**Sn**	**09 29 46.5**	**-1.1**
GRL	**Gorelyy**	**3.99**	**224**	*e*P	**Pn**	**09 29 05.5**	**+1.6**
APC	**Apacha**	**4.12**	**234**	*i* P	**Pn**	**09 29 07.3**	**+1.6**
APC				*e*S	**Sn**	**09 29 55.1**	**+2.5**
APC				Smax			
	140nm,1.1s						
MIPR	**Malaya Ipel'ka**	**4.74**	**230**	*e*P	**Pn**	**09 29 14.1**	**-0.1**
PAU	**Pauzhetka**	**5.33**	**223**	*e*P	**Pn**	**09 29 22.7**	**+0.4**
PAU				Smax			
	270nm,1.0s						
SKR	**Severo-Kuril's**	**6.21**	**222**	*e*PN	**Pn**	**09 29 33.7**	**-0.8**
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SKR	**Severo-Kuril's**	**6.21**	**222**	*e*P	**Pn**	**09 29 33.7**	**-0.8**
SKR				*e*S	**Sn**	**09 30 42.1**	**-2.1**
KAMR	**Kamenskoye**	**7.23**	**13**	*e*P	**Pn**	**09 29 50.8**	**+2.4**
KAMR				Smax			
	comp=Z,40nm,1.0s						
BILL	**Bilibino**	**12.71**	**6**	⇓*e*PN	**Pn**	**09 31 07.8**	**+4.4**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.5s						
BILL				MLR	MLR		
	comp=Z,200nm,16.0s						
BILL	**Bilibino**	**12.71**	**6**	*e*Pn	**Pn**	**09 31 06.8**	**+3.3**
	comp=Z,18nm,1.6s						
ASAJ	**Asahikawa**	**17.16**	**237**	P	**Pn**	**09 32 02.6**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=36,slow=8.7,SNR=4.4						
ASAJ				LR	LR	09 38 22.7	
	comp=Z,97nm,18.7s,baz=351,slow=36						
ASAJ	**Asahikawa**	**17.16**	**237**	P	**Pn**	**09 32 02.7**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,97nm,18.7s						
HABR	**Khabarovsk**	**18.30**	**259**	*e*P	**Pn**	**09 32 13.3**	**-3.0**
HABR				*e*S	**S**	**09 35 37.4**	**-6.1**
TIXI	**Tiksi**	**21.61**	**331**	*c i*P	**P**	**09 32 51.7**	**-0.3**
TIXI				*i* *PP		09 33 00.5	
TIXI				*i*		09 33 12.7	
TIXI				*i*		09 36 52.9	
TIXI				pmax	pmax		
	comp=Z,29nm,0.8s,mb4.8						
TIXI	**Tiksi**	**21.61**	**331**	*e*P	**P**	**09 32 51.8**	**-0.2**
TTA	**Tatalina**	**22.09**	**53**	*e*P	**P**	**09 32 59.0**	**+1.8**
TTA				pmax	pmax		
	comp=Z,11nm,0.5s,mb4.5						
TTA	**Tatalina**	**22.09**	**53**	*e*P	**P**	**09 32 59.0**	**+1.9**
	comp=Z,11nm,0.5s,mb4.5						
KDAK	**Kodiak Island**	**24.39**	**66**	P	**P**	**09 33 20.4**	**+0.3**
	comp=Z,10nm,0.6s,mb4.5,baz=312,slow=2.2,SNR=19						
KDAK	**Kodiak Island**	**24.39**	**66**	*e*P	**P**	**09 33 20.2**	**+0.1**
	comp=Z,12nm,0.8s,mb4.4						
MAJO	**Matsushiro**	**25.21**	**231**	*e*P	**P**	**09 33 27.4**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.4						
MAJO	**Matsushiro**	**25.21**	**231**	*e*P	**P**	**09 33 27.4**	**-0.2**
	comp=Z,7.7nm,0.6s,mb4.4						
MAT	**Matsushiro**	**25.21**	**231**	P	**P**	**09 33 27.6**	**0.0**
MAT				*e*S	**S**	**09 37 57.0**	**+6.5**
MAT	**Matsushiro**	**25.21**	**231**	*e*P	**P**	**09 33 28.0**	**+0.4**
MAT				S	**S**	**09 37 57.0**	**+6.5**
MAT				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.2						
MAT	**Matsushiro**	**25.21**	**231**	*e*P	**P**	**09 33 28.0**	**+0.4**
	comp=Z,6.2nm,0.7s,mb4.2						
MAT				S	**S**	**09 37 57.0**	**+6.5**
MJAR	**Matsushiro Arr**	**25.21**	**231**	P	**P**	**09 33 27.1**	**-0.5**
	comp=Z,4.4nm,0.7s,mb4.1,baz=31,slow=8.4,SNR=18						
COLA	**College**	**25.67**	**49**	*d i*P	**P**	**09 33 31.7**	**0.0**
COLA	**College**	**25.67**	**49**	*e*P	**P**	**09 33 31.7**	**0.0**
	comp=Z,4.4nm,0.9s,mb4.0						
ILAR	**Eielson Array**	**26.09**	**49**	P	**P**	**09 33 35.0**	**-0.5**
	comp=Z,4.5nm,0.9s,mb4.0,baz=266,slow=8.3,SNR=38						
CN2	**Changchun**	**26.44**	**259**	*e*P	**P**	**09 33 38.5**	**-0.2**
INK	**Inuvik**	**31.06**	**40**	P	**P**	**09 34 20.9**	**+1.1**
	comp=Z,1.0nm,0.5s,mb3.9,baz=231,slow=1.2,SNR=5.1						
INK	**Inuvik**	**31.06**	**40**	*e*P	**P**	**09 34 20.5**	**+0.7**
INK				*e**PP	pP	09 34 30.8	+0.7
INK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
INK	**Inuvik**	**31.06**	**40**	*e*P	**P**	**09 34 20.5**	**+0.7**
	comp=Z,3.5nm,0.6s,mb4.4						
INK				*e*pP	pP	09 34 30.8	+0.7
BJI	**Beijing**	**34.12**	**263**	P	**P**	**09 34 46.0**	**-0.6**
BJI				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.5						
BJI	**Beijing**	**34.12**	**263**	P	**P**	**09 34 46.0**	**-0.6**
	comp=Z,5.0nm,0.7s,mb4.5						
SONM	**Songino Array**	**34.85**	**281**	P	**P**	**09 34 53.1**	**+0.2**
	comp=Z,1.2nm,0.7s,mb3.9,baz=45,slow=7.0,SNR=6.3						
SONM				LR	LR	09 50 08.7	
	comp=Z,108nm,18.5s,MS3.6,baz=256,slow=38						
HHC	**Hu-ho-hao-te**	**36.20**	**268**	*e*P	**P**	**09 35 04.0**	**-0.5**
HHC				AP	pP	09 35 14.0	-0.8
HHC				XP	sP	09 35 17.8	-1.3
HHC				PP	PP	09 36 25.5	-1.6
HHC				PCP	PcP	09 37 31.3	+1.9
HHC				S	**S**	**09 40 39.3**	**-2.8**
HHC				XS	sS	09 40 55.5	-3.7
HHC				SS	SS	09 43 00.5	-20
HHC				SCS	ScS	09 45 17.8	-1.0
HHC				AMB	AMB		
	comp=Z,11nm,0.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,87nm,4.9s						
HHC				LR	LR		
	comp=N,94nm,5.3s						
HHC				LR	LR		
	comp=E,235nm,8.6s						
HHC				LR	LR		
	comp=Z,108nm,12.2s,MS3.8						
SSE	**Sheshan**	**37.96**	**247**	*e*P	**P**	**09 35 18.3**	**-1.1**
SSE				AMB	AMB		
	comp=Z,24nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,33nm,5.3s						
SSE	**Sheshan**	**37.96**	**247**	*e*P	**P**	**09 35 18.2**	**-1.2**
	comp=Z,24nm,0.8s,mb5.0						
NJ2	**Nanjing**	**38.45**	**251**	*e*P	**P**	**09 35 23.3**	**-0.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
YKA	**Yellowknife Ar**	**40.40**	**45**	P	**P**	**09 35 40.0**	**+0.3**
	comp=Z,0.9nm,0.7s,mb3.6,baz=299,slow=8.0,SNR=6.9						
YKA	**Yellowknife Ar**	**40.40**	**45**	P	**P**	**09 35 40.0**	**+0.3**
GTA	**Gaotai**	**43.84**	**276**	*e*P	**P**	**09 36 09.5**	**+1.6**
GTA				AP	pP	09 36 19.8	+1.4
GTA				PP	PP	09 37 54.0	+3.7
GTA				S	**S**	**09 42 38.5**	**+2.1**
GTA				SS	SS	09 45 45.8	-7.4
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
GTA				AMB	AMB		
	comp=Z,83nm,5.7s						
GTA				LR	LR		
	comp=N,137nm,16.7s,MS4.0						
GTA				LR	LR		
	comp=E,98nm,16.7s,MS4.0						
GTA				LR	LR		
	comp=Z,193nm,14.4s,MS4.2						
LZH	**Lanzhou**	**43.86**	**269**	*e*P	**P**	**09 36 06.3**	**-1.7**
LZH				AP	pP	09 36 16.5	-2.0
LZH				XP	sP	09 36 20.5	-2.3
LZH				PP	PP	09 37 49.8	-0.7
LZH				AMB	AMB		
	comp=Z,19nm,1.5s,mb4.6						
LZH				AMB	AMB		
	comp=Z,58nm,7.3s						
LZH				LR	LR		
	comp=E,439nm,15.3s						
LZH				LR	LR		
	comp=Z,587nm,18.7s,MS4.5						
LZH	**Lanzhou**	**43.86**	**269**	*e*P	**P**	**09 36 06.2**	**-1.8**
LZH				*PP	pP	09 36 16.5	-2.0
LZH						09 37 49.7	
LZH				pmax	pmax		
	comp=Z,19nm,1.5s,mb4.6						
LZH	**Lanzhou**	**43.86**	**269**	*e*P	**P**	**09 36 06.2**	**-1.8**
	comp=Z,19nm,1.5s,mb4.6						
LZH				pP	pP	09 36 16.5	-2.0
LZH				sP	sP	09 36 20.4	-2.4
LZH				PP	PP	09 37 49.7	-0

	comp=Z,5.0nm,0.8s,mb4.5								
KMI	**Kunming**	**52.71**	**260**		P		**P**	09 37 15.3	**-0.9**
	comp=Z,5.0nm,0.8s,mb4.5								
KMI					pP		pP	09 37 25.0	-1.9
KMI					sP		sP	09 37 28.7	-2.5
KMI					PP		PP	09 39 16.1	+0.5
KMI					S		**S**	**09 44 40.0**	**-1.6**
KMI					sS		sS	09 44 56.4	-2.8
KMI					SS		SS	09 48 12.9	-7.4
NVAR	**Mina Array Bea**	**53.57**	**73**		P		**P**	**09 37 23.2**	**+0.6**
	comp=Z,1.4nm,0.8s,mb4.0,baz=307,slow=6.1,SNR=12								
PDAR	**Pinedale Array**	**55.08**	**64**		P		**P**	**09 37 34.6**	**+1.0**
	comp=Z,1.2nm,1.0s,mb3.9,baz=338,slow=3.5,SNR=7.3								
DUG	**Dugway**	**55.25**	**68**		*e*P		**P**	**09 37 36.3**	**+1.5**
DUG					pmax		pmax		
	comp=Z,1.0nm,0.9s,mb3.9								
DUG	**Dugway**	**55.25**	**68**		*e*P		**P**	**09 37 36.2**	**+1.5**
	comp=Z,1.4nm,0.9s,mb4.0								
AAK	**Ala-Archa**	**55.36**	**296**⇑		*e*P		**P**	**09 37 33.8**	**-1.8**
AAK					pmax		pmax		
	comp=Z,2.0nm,1.2s,mb4.0								
TPNV	**Topopah Spring**	**55.76**	**73**		*e*P		**P**	**09 37 40.2**	**+1.7**
TPNV					pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.3								
TPNV	**Topopah Spring**	**55.76**	**73**		*e*P		**P**	**09 37 40.2**	**+1.7**
	comp=Z,3.1nm,0.9s,mb4.3								
JOF	**Joensuu**	**56.01**	**336**		*e*p		**P**	**09 37 38.5**	**-1.8**
SRU	**San Rafael**	**57.24**	**67**		*e*P		**P**	**09 37 51.4**	**+2.4**
SRU					*e**PP		pP	09 38 00.4	+0.6
SRU					pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.6								
SRU	**San Rafael**	**57.24**	**67**		*e*P		**P**	**09 37 51.4**	**+2.4**
	comp=Z,3.7nm,0.7s,mb4.5								
SRU					*e*pP		pP	09 38 00.4	+0.6
KAF	**Kangasniemi**	**57.85**	**337**		*e*p		**P**	**09 37 51.6**	**-1.7**
	comp=Z,2.9nm,0.5s,mb4.6,baz=26,slow=6.6								
KAF	**Kangasniemi**	**57.85**	**337**		*e*P		**P**	**09 37 51.6**	**-1.7**
KAF					pmax		pmax		
	comp=Z,3.0nm,0.5s,mb4.6								
FINES	**FINESS Array B**	**58.50**	**337**		P		**P**	**09 37 55.8**	**-2.0**
	comp=Z,5.4nm,0.6s,mb4.8,baz=34,slow=8.8,SNR=32								
FINES					LR		LR	10 05 12.6	
	comp=Z,39nm,18.8s,MS3.5,baz=171,slow=38								
FINES	**FINESS Array B**	**58.50**	**337**		*i* P		**P**	**09 37 56.7**	**-1.1**
FINES					pmax		pmax		
	comp=Z,5.0nm,0.6s								
PV10	**Paradox Valley**	**58.57**	**67**		*e*P		**P**	**09 38 00.5**	**+2.2**
PV01	**Paradox Valley**	**58.99**	**67**		P		**P**	**09 38 02.1**	**+0.9**
SMCO	**Snowmass**	**59.05**	**65**		*e*P		**P**	**09 38 03.9**	**+2.3**
	comp=Z,1.5nm,0.5s,mb4.3								
ISCO	**Idaho Springs**	**59.28**	**64**		*e*P		**P**	**09 38 05.5**	**+2.3**
ISCO					pmax		pmax		
	comp=Z,8.0nm,1.4s,mb4.6								
ISCO	**Idaho Springs**	**59.28**	**64**		*e*P		**P**	**09 38 05.5**	**+2.3**
	comp=Z,7.5nm,1.4s,mb4.5								
OBN	**Obninsk**	**61.29**	**328**⇓		*e*P		**P**	**09 38 14.0**	**-3.0**
OBN					*e*			09 40 27.9	
OBN					*e*S		**S**	**09 46 21.6**	**-13**
OBN					*e*SS		SS	09 50 35.9	+0.6
OBN					pmax		pmax		
	comp=Z,6.0nm,0.5s,mb5.0								
OBN					MLR		MLR		
	comp=Z,100nm,25.0s,MS3.9								
NB2	**NORSAR Subarra**	**61.64**	**345**		P		**P**	**09 38 17.9**	**-1.5**
	comp=Z,1.4nm,0.5s,mb4.3,baz=18,slow=6.9								
NOA	**NORSAR Array B**	**61.64**	**345**		P		**P**	**09 38 17.6**	**-1.7**
	comp=Z,2.2nm,0.7s,mb4.4,baz=19,slow=7.0,SNR=6.6								
NOA					LR		LR	10 11 04.1	
	comp=Z,35nm,20.6s,MS3.5,baz=345,slow=42								
ANMO	**Albuquerque**	**62.51**	**68**⇑		*e*P		**P**	**09 38 26.8**	**+1.6**
ANMO	**Albuquerque**	**62.51**	**68**		*e*P		**P**	**09 38 26.9**	**+1.7**
	comp=Z,0.6nm,0.5s,mb4.0								
SCHQ	**Schefferville**	**62.83**	**30**		P		**P**	**09 38 26.1**	**-1.2**
	comp=Z,2.0nm,0.7s,mb4.4,baz=326,slow=11,SNR=4.0								
MNTX	**Cornudas Mount**	**65.59**	**69**		*e*P		**P**	**09 38 46.8**	**+1.4**
	comp=Z,3.3nm,1.1s,mb4.3								
MNTX					*e*pP		pP	09 38 57.9	+1.5
WMOK	**Wichita Mounta**	**66.64**	**63**		*e*P		**P**	**09 38 52.3**	**+0.2**
WMOK					*e**PP		pP	09 39 02.8	-0.3
WMOK					pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.2								
WMOK	**Wichita Mounta**	**66.64**	**63**		*e*P		**P**	**09 38 52.3**	**+0.2**
	comp=Z,2.1nm,0.8s,mb4.2								
WMOK					*e*pP		pP	09 39 02.8	-0.3
WMOK					*e*sP		sP	09 39 09.9	+2.6
AKASG	**Malin Array Be**	**67.31**	**330**		P		**P**	**09 38 54.4**	**-2.0**
	comp=Z,1.5nm,0.3s,mb4.5,baz=28,slow=6.3,SNR=11								
AKASG	**Malin Array Be**	**67.31**	**330**		*i* P		**P**	**09 38 55.0**	**-1.4**
AKASG					pmax		pmax		
	comp=Z,2.0nm,0.3s								
JCT	**Junction City**	**69.49**	**66**		*e*P		**P**	**09 39 10.5**	**+0.5**
JCT					*e**PP		pP	09 39 21.3	+0.2
JCT					pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.3								
JCT	**Junction City**	**69.49**	**66**		*e*P		**P**	**09 39 10.5**	**+0.5**
	comp=Z,3.4nm,0.7s,mb4.4								
JCT					*e*pP		pP	09 39 21.3	+0.2
GNI	**Garni**	**71.10**	**314**		LR		LR	10 13 39.3	
	comp=Z,70nm,20.9s,MS3.9,baz=173,slow=38								
PLAL	**Pickwick Lake**	**71.64**	**55**		*e*P		**P**	**09 39 23.2**	**+0.1**
	comp=Z,3.8nm,0.8s,mb4.4								
PLAL					*e*pP		pP	09 39 33.8	-0.4
SWET	**Sewanee**	**72.44**	**53**		*e*P		**P**	**09 39 27.6**	**-0.3**
SWET					*e*pP		pP	09 39 38.2	-0.8
GERES	**GERESS Array B**	**72.83**	**339**		P		**P**	**09 39 29.0**	**-1.2**
	comp=Z,0.3nm,0.4s,mb3.5,baz=29,slow=9.3,SNR=4.2								
GERES					LR		LR	10 16 36.0	
	comp=Z,40nm,19.2s,MS3.7,baz=85,slow=40								
PSI	**Prapat**	**73.05**	**249**		P		**P**	**09 39 32.3**	**+0.8**
	comp=Z,1.3nm,0.3s,mb4.3,baz=334,slow=18,SNR=4.0								
BRTR	**Keskin Array B**	**75.69**	**322**		P		**P**	**09 39 45.8**	**-1.1**
	comp=Z,1.0nm,0.7s,mb3.9,baz=61,slow=3.8,SNR=6.1								
WRA	**Warramunga Arr**	**78.89**	**207**		P		**P**	**09 40 04.9**	**+0.1**
	comp=Z,0.6nm,0.7s,mb3.6,baz=12,slow=6.0,SNR=6.5								
ASAR	**Alice Springs**	**82.57**	**206**		P		**P**	**09 40 23.9**	**-0.5**
	comp=Z,1.6nm,0.8s,mb4.4,baz=21,slow=6.8,SNR=7.1								
ASAR	**Alice Springs**	**82.57**	**206**		P		**P**	**09 40 24.0**	**-0.5**
ASAR					pmax		pmax		
	comp=Z,2.0nm,0.9s								
QSPA	**South Pole Qui**	**145.24**	**180**		*e*P		PKPbc	09 47 36.8	-2.0
VNA3	**Neumayer Olymp**	**163.84**	**189**		*e*PKPdf		PKPdf	09 48 03.4	-1.1
VNA3					*e*			09 49 07.2	
VNA2	**Neumayer--Watz**	**163.91**	**192**		*e*PKPdf		PKPdf	09 48 03.1	-1.4
VNA2					*e*			09 49 06.6	
VNA2					*e*			09 52 43.2	
VNA2					*e*			10 01 55.2	

*ISCJB **30** 09:49:26.6±0.8, 0.15N±0.10×97.1E±0.1, h34km, mb3.9/9, MS3.4/3, Error ellipse: s-maj=18.5km s-min=12.7km az=132.5*

*IDC **30** 09:49:27.4±1.0, 0.18S×9670E, h32km±5km, mb3.7/8, mb1 3.8/8, mb1mx3.7/18, mbtmp3.9/8, MS3.3/4, Ms1 3.3/4, ms1mx2.8/32, Error ellipse: s-maj=44.1km s-min=14.4km az=50.0*

*NEIC **30** 09:49:27.6±0.7, 0.09N×9704E, h30km, mb4.0/1, Error ellipse: s-maj=18.9km s-min=13.7km az=67.0*

ISC 30 09:49:28.9±0.8, 018N±010×971E±01, h36km, h36km±2.4km:pP-P, n18, σ1s09/13, mb3.9/9, MS3.4/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.17**	**35**		Pn	**Pn**	**09 50 15.8**	**-0.5**
	1.8nm,0.3s,baz=198,slow=7.8,SNR=15							
PSI					LR	LR	09 51 46.5	
	comp=Z,321nm,20.0s,baz=220,slow=38							
KULM	**Kulim**	**6.19**	**35**	*e*Pn		**Pn**	**09 50 57.2**	**-0.6**
WRA	**Warramunga Arr**	**41.59**	**121**	P		**P**	**09 57 12.1**	**-1.1**
	0.7nm,0.4s,mb3.6,baz=304,slow=9.1,SNR=15							
WRA				pP		pP	09 57 23.6	-0.1
	1.3nm,0.6s,baz=304,slow=9.0,SNR=8.1							
WB2	**Warramunga Arr**	**41.60**	**121**	*e*P		**P**	**09 57 12.9**	**-0.4**
ASAR	**Alice Springs**	**42.87**	**126**	P		**P**	**09 57 24.0**	**+0.4**
	0.8nm,0.7s,mb3.5,baz=298,slow=8.0,SNR=10							
SONM	**Songino Array**	**48.15**	**8**	P		**P**	**09 58 07.8**	**+2.4**
	0.5nm,0.6s,mb3.8,baz=198,slow=9.2,SNR=4.2							
SONM				pP		pP	09 58 17.0	+0.9
	1.4nm,0.8s,baz=186,slow=8.4,SNR=7.4							
SONM				LR		LR	10 21 07.1	
	comp=Z,24nm,21.1s,MS3.2,baz=59,slow=39							
SONM	**Songino Array**	**48.15**	**8**	P		**P**	**09 58 07.8**	**+2.4**
SONM				pP		pP	09 58 17.0	+0.9
MKAR	**Makanchi Array**	**48.20**	**346**	P		**P**	**09 58 07.0**	**+1.2**
	1.4nm,0.6s,mb4.2,baz=156,slow=8.0,SNR=18							
MKAR				pP		pP	09 58 17.0	+0.5
	1.8nm,0.6s,baz=156,slow=8.4,SNR=13							
MJAR	**Matsushiro Arr**	**52.50**	**42**	LR		LR	10 23 03.3	
	comp=Z,40nm,21.4s,MS3.4,baz=45,slow=38							
KURK	**Kurchatov**	**52.75**	**345**	*e*P		**P**	**09 58 40.4**	**+0.2**
	1.2nm,0.6s,mb4.0							
STKA	**Stephens Creek**	**52.75**	**131**	P		**P**	**09 58 41.6**	**+1.4**
	2.2nm,0.7s,mb4.2,baz=312,slow=11,SNR=2.5							
HNR	**Honiara**	**63.27**	**101**	LR		LR	10 30 21.5	
	comp=Z,43nm,19.4s,MS3.6,baz=179,slow=39							
BRTR	**Keskin Array B**	**69.72**	**313**	P		**P**	**10 00 33.2**	**-1.9**
	0.8nm,0.7s,mb3.8,baz=116,slow=8.4,SNR=5.6							
AKASG	**Malin Array Be**	**76.00**	**323**	P		**P**	**10 01 11.5**	**-0.8**
	1.1nm,0.5s,mb4.0,baz=92,slow=4.9,SNR=6.6							
AKASG				pP		pP	10 01 21.8	-1.7
	0.7nm,0.4s,baz=92,slow=5.4,SNR=3.5							
FINES	**FINESS Array B**	**80.85**	**333**	P		**P**	**10 01 39.3**	**+0.2**
	1.0nm,0.7s,mb3.8,baz=115,slow=16,SNR=3.4							
CPUP	**Villa Florida**	**144.19**	**221**	PKP		PKPdf	10 08 59.9	-1.0
	0.3nm,0.4s,baz=85,slow=0.3,SNR=4.7							
CPUP				pPKP		pPKPdf	10 09 09.8	-2.8
	3.1nm,1.0s,baz=141,slow=1.1,SNR=3.4							
CPUP	**Villa Florida**	**144.19**	**221**	PKP		PKPdf	10 08 59.9	-1.0
CPUP				pPKP		pPKPdf	10 09 09.8	-2.8
JCT	**Junction City**	**145.53**	**26**	*e*PKPdf		PKPdf	10 09 04.8	+1.6

IDC 30 10:03:38.8±8.5, 1988S×17450W, h60km±63km, mb3.2/3, mb1 3.7/4, mb1mx3.4/16, mbtmp3.7/4, ML1.8/1, Error ellipse: s-maj=111.5km s-min=23.4km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.48**	**24**	P		Pn	10 05 11.7	+0.2
	1.3nm,0.3s,baz=133,slow=19,SNR=3.4							
AFI				S		Sn	10 06 25.3	+1.3
	2.4nm,0.3s,baz=166,slow=15,SNR=3.5							
ASAR	**Alice Springs**	**47.86**	**256**	P		P	10 12 11.3	+0.7
	0.4nm,0.6s,baz=104,slow=7.1,SNR=7.4							
WRA	**Warramunga Arr**	**47.95**	**261**	P		P	10 12 11.1	-0.2
	0.2nm,0.4s,baz=95,slow=7.8,SNR=12							
NVAR	**Mina Array Bea**	**78.34**	**42**	P		P	10 15 32.4	-0.2
	0.3nm,0.6s,baz=219,slow=7.4,SNR=4.0							
AKASG	**Malin Array Be**	**143.98**	**334**	PKP		PKPdf	10 23 06.5	-0.9
	2.2nm,0.5s,baz=39,slow=4.0,SNR=17							
BRTR	**Keskin Array B**	**148.78**	**315**	PKPbc		PKPbc	10 23 20.7	+1.3
	0.6nm,0.8s,baz=85,slow=3.5,SNR=3.7							

*CSEM **30** 10:07:35.6±0.7, 3900N×2788W, h7km±7km, ML1.5, Error ellipse: s-maj=6.1km s-min=5.0km az=150.0, After PDA*

*PDA **30** 10:07:35.6±0.7, 3900N×2788W, h7km±7km, MD3.0, ML1.5, Error ellipse: s-maj=6.1km s-min=5.0km az=150.0*

SVSA 30 10:07:35.6±0.7, 3900N×2788W, h7km±7km, MD3.0, ML1.5, Error ellipse: s-maj=6.1km s-min=5.0km az=150.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PGRA	**Graciosa**	**0.09**	**290**	*e*P		Pg	10 07 36.5	-1.1
PGRA				*e*S		Sg	10 07 38.1	-0.9
PGRA								
	92nm,0.1s							
PGRA	**Graciosa**	**0.09**	**290**	*e*P		Pg	10 07 36.5	-1.1
PGRA				*e*S		Sg	10 07 38.1	-0.9
STGR	**Santa Cruz**	**0.13**	**310**	*e*S		Sg	10 07 40.2	+0.1
STGR								
	23nm,0.1s							
SRBC	**Serra Branca**	**0.13**	**286**	*e*P		Pg	10 07 36.6	-1.8
SRBC				*e*S		Sg	10 07 38.5	-1.8
PAMA	**Santo Amaro**	**0.40**	**217**	*e*S		Sg	10 07 47.8	-0.7
PAMA								
	17nm,0.1s							
ROSA	**Rosais**	**0.40**	**226**	*e*P		Pg	10 07 41.5	-1.8
ROSA				*e*S		Sg	10 07 46.5	-2.1
PMAN	**Manadas**	**0.40**	**204**	*e*P		Pg	10 07 41.5	-1.9
PMAN				*e*S		Sg	10 07 46.8	-1.9
PMAN								
	75nm,0.1s							
PMAN	**Manadas**	**0.40**	**204**	*e*P		Pg	10 07 41.5	-1.9
PMAN				*e*S		Sg	10 07 46.8	-1.9
PID	**Ribeirinha**	**0.59**	**199**	*e*S		Sg	10 07 51.6	-3.0
PICO	**Pico**	**0.66**	**221**	*e*S		Sg	10 07 51.9	-4.9
CALA	**Caldeira**	**0.77**	**237**	*e*S		Sg	10 07 54.2	-6.1
PLUZ	**Luz**	**0.86**	**272**	*e*P		Pg	10 07 37.3	-15
PLUZ				*e*S		Sg	10 07 38.9	-24
PLUZ								
	46nm,0.2s							

*ISCJB **30** 10:18:57.7±0.3, 4652N±002×1295E±003, h5km, Error ellipse: s-maj=3.0km s-min=2.2km az=94.4*

*ROM **30** 10:18:57.1±0.1, 4650N×1296E, h8km±1km, Md2.4/4, Ml2.0/2, Error ellipse: s-maj=2.2km s-min=1.0km az=12.0*

*VIE **30** 10:18:57.6±0.4, 4651N×1294E, h5km±19km, ML2.0/4, Error ellipse: s-maj=2.5km s-min=1.5km az=31.0 5 km E of Comeglians*

ISC 30 10:18:58.1±0.5, 4651N±002×1295E±003, h7km±7km, n23, σ0s56/44, 11C-7D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ZOU	**Zoufplan**	**0.05**	**20**⇑	*i* Pg		**Pg**	**10 18 59.4**	**-0.4**
ZOU				*i* Sg		**Sg**	**10 19 00.4**	**-0.5**
PLRO	**Paularo**	**0.14**	**73**⇑	*i* Pg		**Pg**	**10 19 01.0**	**-0.2**
PLRO				*i* Sg		**Sg**	**10 19 03.4**	**+0.1**
FVI	**Forni Avoltri**	**0.15**	**308**	Pg		**Pg**	**10 19 01.0**	**-0.2**
FVI				Sg		**Sg**	**10 19 03.6**	**+0.4**
	647nm,0.1s							
BOO	**Bordano**	**0.21**	**150**	*i* Pg		**Pg**	**10 19 02.0**	**-0.4**
BOO				*i* Sg		**Sg**	**10 19 05.6**	**+0.3**
MPRI	**Monte Prat**	**0.27**	**174**	*e*Pg		**Pg**	**10 19 03.1**	**-0.3**
MPRI				*e*Sg		**Sg**	**10 19 07.4**	**+0.5**
PTCC	**Patocco-Chiusa**	**0.30**	**110**	Pg		**Pg**	**10 19 03.5**	**-0.5**
PTCC				Sg		**Sg**	**10 19 08.7**	**+0.8**
	43nm,0.2s							
GMNA	**Gemona**	**0.31**	**139**	Pg		**Pg**	**10 19 03.1**	**-1.0**
GMNA				Sg		**Sg**	**10 19 07.2**	**-1.0**
	284nm,0.9s							
BUA	**Buia**	**0.31**	**157**⇑	*e*Pg		**Pg**	**10 19 03.8**	**-0.4**
BUA				*e*Sg		**Sg**	**10 19 09.1**	**+0.6**
BAD	**Bernadia**	**0.34**	**143**⇑	*i* Pg		**Pg**	**10 19 04.4**	**-0.4**
BAD				*i* Sg		**Sg**	**10 19 10.1**	**+0.8**
LSR	**Lussari**	**0.40**	**94**⇑	*i* Pg		**Pg**	**10 19 05.6**	**-0.3**
LSR				*i* Sg		**Sg**	**10 19 11.8**	**+0.6**
MLNI	**Malnisio**	**0.43**	**213**⇑	*e*Pg		**Pg**	**10 19 05.9**	**-0.5**
MLNI				*e*Sg		**Sg**	**10 19 13.0**	**+1.0**
ROBS	**Robic**	**0.47**	**124**	*i* Pg		**Pg**	**10 19 06.5**	**-0.7**
ROBS				*e*Sn		**Sg**	**10 19 13.1**	**-0.3**
ROBS								
	comp=Z,8.0nm,0.1s							
COLI	**Coloredo**	**0.48**	**141**	⇓*i* Pg		**Pg**	**10 19 07.0**	**-0.4**
COLI				*i* Sg		**Sg**	**10 19 14.8**	**+1.1**
SEST	**Monte Rota**	**0.56**	**296**	Pg		**Pg**	**10 19 08.8**	**-0.1**
SEST				Sg		**Sg**	**10 19 17.0**	**+0.8**
	comp=Z,77nm,1.2s							
DRE	**Drenchia**	**0.59**	**124**	⇓*e*Pg		**Pg**	**10 19 08.9**	**-0.5**
DRE				*e*Sg		**Sg**	**10 19 17.6**	**+0.5**
CADS	**Cadrg**	**0.61**	**117**	*i* Pg		**Pg**	**10 19 09.2**	**-0.7**
CADS				*e*Sg		**Sg**	**10 19 18.5**	**+0.6**
CADS								
	comp=Z,8.0nm,0.1s							
KBA	**Koelnbreinsper**	**0.63**	**25**⇑	*i* Pg		**Pg**	**10 19 10.2**	**-0.1**
KBA				⇓*i* Sg		**Sg**	**10 19 18.8**	**+0.3**
	comp=Z,8.8nm,0.2s							
GORS	**Gorjuse**	**0.75**	**104**	*i* Pg		**Pg**	**10 19 11.9**	**-0.6**
GORS				*e*Sg		**Sg**	**10 19 22.5**	**+0.2**
GORS								
	comp=Z,11nm,0.2s							
VOY	**Vojsko**	**0.81**	**126**	*e*Pg		**Pg**	**10 19 13.7**	**0.0**
VOY				*e*			10 19 27.2	
OBKA	**Obir**	**1.11**	**89**⇑	*i* Pg		**Pg**	**10 19 19.1**	**-0.3**
OBKA				⇓*i* Sg		**Sg**	**10 19 34.5**	**+0.8**
	comp=Z,16nm,0.4s							
WTTA	**Wattenberg**	**1.18**	**311**⇑	*i* Pg		**Pg**	**10 19 20.2**	**-0.4**
WTTA				⇓*i* Sg		**Sg**	**10 19 36.1**	**+0.2**
	comp=Z,7.5nm,0.4s							
PDKS	**Podkum**	**1.49**	**107**	*i* Pg		**Pg**	**10 19 26.0**	**-0.7**
MOA	**Molln**	**1.62**	**33**⇑	*i* Pg		**Pg**	**10 19 29.7**	**+0.6**
MOA				⇑*i* Sg		**Sg**	**10 19 50.7**	**+0.6**
	comp=Z,3.9nm,0.3s							

*MOS **30** 10:22:59.1±1.2, 1654S×7090W, h94km, mb5.3/64, Error ellipse: s-maj=9.9km s-min=5.0km az=106.7*

*ISCJB **30** 10:23:01.0±0.1, 1660S±003×7090W±004, h115km, mb5.2/158, Error ellipse: s-maj=6.1km s-min=3.6km az=126.1*

*IDC **30** 10:23:02.2±0.4, 1659S×7093W, h112km±2km, mb5.0/28, mb1 5.1/29, mb1mx5.1/30, mbtmp5.3/29, MS3.9/12, Ms1 3.9/12, ms1mx3.7/24, Error ellipse: s-maj=12.6km s-min=8.0km az=61.0*

*HRVD **30** 10:23:02.4±0.2, 1680S×7121W, h125km±1km, MW5.2/73, Centroid moment Tensor Solution. LP body waves: s60,c84;Mantle waves: s73,c121; Half duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr~0.73±.02; Mθθ~0.06±.02; Mφφ 0.79±.02; Mrθ 0.23±.01; Mθφ~0.31±.02; Mφr~0.17±.02; Best double couple: M0 0.86600×10^17 NP1: ϕs 329.00000°, δ 55.00000°, λ -107.00000°. Principal axes: T 0.9250, Plg 8.0000°, Azm 71.0000°; N -0.1170, Plg 14.0000°, Azm 339.0000°; P -0.8070, Plg 74.0000°, Azm 191.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **30** 10:23:02.4±0.1, 1665S×7085W, mb5.2/133 Error ellipse: s-maj=5.3km s-min=3.0km az=66.0*

NEIC Felt [IV] at Punta de Bombon.

*BJI **30** 10:23:04.4, 1660S×7080W, h115km, mB5.3*

*LDG **30** 10:23:04.6, 19.19S×7044W, h124km*

ISC 30 10:23:02.9±0.2, 1664S±003×7084W±004, h117km, h117km±.8km:pP-P, n505, σ0s98/388, mb5.2/158, 8C-19D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**0.65**	**286**	⇓*i* P		**Pn**	**10 23 18.0**	**-3.5**
LPAZ	**La Paz**	**2.62**	**83**	P		**Pn**	**10 23 49.5**	**+5.4**
	5μm,0.3s,baz=263,slow=13							
LPAZ				LR		LR	10 24 52.3	
	comp=Z,3μm,20.4s,baz=75,slow=41							
LPAZ	**La Paz**	**2.62**	**83**	*e*Pn		**Pn**	**10 23 49.7**	**+5.6**
LVC	**Limon Verde**	**6.21**	**163**	P		**Pn**	**10 24 30.0**	**-2.1**
	153nm,0.3s,baz=338,slow=9.7,SNR=1343							
LVC				S		**Sn**	**10 25 36.4**	**-5.4**
	352nm,0.3s,baz=200,slow=21,SNR=24							
LVC	**Limon Verde**	**6.21**	**163**	*e*Pn		**Pn**	**10 24 29.9**	**-2.3**
ANCH	**Antofagasta**	**7.02**	**177**	⇓*i* P		**Pn**	**10 24 38.3**	**-4.8**
NNA	**Nana**	**7.43**	**308**	*e*Pn		**Pn**	**10 24 43.5**	**-5.1**
	220nm,0.8s							
SIV	**San Ignacio**	**9.40**	**87**	P		**Pn**	**10 25 14.8**	**-0.5**
	44nm,0.3s,baz=274,slow=12,SNR=346							
ATAH	**Atahualpa**	**12.10**	**321**	P		**Pn**	**10 25 47.0**	**-4.3**
	0.3nm,0.3s,baz=77,slow=14,SNR=3.1							
TLL	**Tololo Astrono**	**13.47**	**180**	⇓*i* P		**Pn**	**10 26 06.8**	**-2.4**
CMCH	**Combarbala**	**14.47**	**181**	⇑*i* P		**Pn**	**10 26 19.4**	**-2.6**
CFAA	**Coronel Fontan**	**15.09**	**171**	P		**Pn**	**10 26 25.2**	**-4.6**
	0.4nm,0.3s,baz=346,slow=13,SNR=30							
CFAA				S		S	10 29 02.0	-24
	0.2nm,0.3s,baz=221,slow=18,SNR=3.0							
CFAA	**Coronel Fontan**	**15.09**	**171**	P		**Pn**	**10 26 25.2**	**-4.6**
CFAA				S		S	10 29 02.0	-24
CPUP	**Villa Florida**	**15.83**	**130**	P		**Pn**	**10 26 36.4**	**-2.7**
	1.7nm,0.3s,baz=292,slow=12,SNR=27							
CPUP	**Villa Florida**	**15.83**	**130**	*e*P		**Pn**	**10 26 36.8**	**-2.3**
CPUP				pmax		pmax		
	comp=Z,53nm,0.6s							
CPUP	**Villa Florida**	**15.83**	**130**	*e*P		**Pn**	**10 26 36.8**	**-2.3**
	comp=Z,53nm,0.6s							
MDZ	**Mendoza**	**16.27**	**174**	*e*P		**Pn**	**10 26 44.7**	**+0.1**
PEL	**Peldehue**	**16.43**	**180**⇑	*i* P		**Pn**	**10 26 44.1**	**-2.4**
LMEL	**Las Melosas**	**17.15**	**178**	⇓*i* P		**Pn**	**10 26 53.8**	**-1.4**
OTAV	**Otavalo**	**18.37**	**335**	*e*P		**P**	**10 27 09.9**	**+1.4**
	comp=Z,52nm,0.8s							
CCHI	**Chillan**	**19.91**	**183**	⇓*i* P		**P**	**10 27 25.1**	**-0.2**
ROSC	**El Rosal**	**21.63**	**351**	P		**P**	**10 27 43.0**	**-0.6**
	comp=Z,11nm,0.4s,mb4.5,baz=69,slow=17,SNR=4.2							
ROSC				PcP		PcP	10 31 42.1	+1.5
	comp=Z,14nm,0.7s,baz=92,slow=23

NHSC epP pP 10 32 15.2 +0.6
COW Cow Castle Cre 50.62 349 *e*P **P** **10 31 49.9 +0.1**
COW epP pP 10 32 17.8 +0.5
COW esP sP 10 32 30.0 -0.4
JSC Jenkinsville 51.60 349 *e*P **P** **10 31 57.0 -0.1**
JSC *e**PP pP 10 32 24.5 -0.2
LRAL Lakeview Retre 51.75 343 *e*P **P** **10 31 57.2 -1.1**
comp=Z,30nm,0.6s,mb5.5
LRAL epP pP 10 32 25.8 -0.1
HKT Hockley 52.21 332 *e*P **P** **10 32 01.8 +0.1**
HKT pmax pmax
comp=Z,27nm,1.0s,mb5.2
HKT Hockley 52.21 332 *e*P **P** **10 32 01.8 +0.1**
comp=Z,27nm,1.0s,mb5.2
NATX Nacogdoches 53.27 335 *e*P **P** **10 32 10.0 +0.5**
comp=Z,37nm,0.6s,mb5.6
SWET Sewanee 53.52 345 *e*P **P** **10 32 10.1 -1.2**
OXF Oxford 53.85 341 *e*P **P** **10 32 11.9 -1.8**
OXF pmax pmax
comp=Z,72nm,1.0s,mb5.7
OXF Oxford 53.85 341 *e*P **P** **10 32 11.9 -1.8**
comp=Z,72nm,1.0s,mb5.7
PLAL Pickwick Lake 53.88 342 *e*P **P** **10 32 11.6 -2.4**
comp=Z,29nm,0.9s,mb5.3
PLAL epP pP 10 32 41.6 -0.1
TZTN Tazewell 54.24 347 *e*P **P** **10 32 15.6 -1.0**
TZTN epP pP 10 32 42.8 -1.6
BLA Blacksburg 54.31 351 *e*P **P** **10 32 16.9 -0.2**
BLA pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
BLA Blacksburg 54.31 351 *e*P **P** **10 32 16.9 -0.2**
comp=Z,4.6nm,0.7s,mb4.6
ELN Prospectdale 54.38 350 *e*P **P** **10 32 17.9 +0.3**
JCT Junction City 54.52 329 *e*P **P** **10 32 17.9 -0.6**
JCT pmax pmax
comp=Z,37nm,0.7s,mb5.5
JCT Junction City 54.52 329 *e*P **P** **10 32 17.9 -0.6**
comp=Z,38nm,0.7s,mb5.5
FWV Forest Hill 54.74 350 *e*P **P** **10 32 20.0 -0.2**
FWV epP pP 10 32 48.3 +0.3
WVT Waverly 54.89 343 *e*P **P** **10 32 19.2 -2.0**
WVT *e**PP pP 10 32 48.8 -0.3
WVT pmax pmax
comp=Z,35nm,0.8s,mb5.4
WVT Waverly 54.89 343 *e*P **P** **10 32 19.2 -2.0**
comp=Z,35nm,0.8s,mb5.4
WVT epP pP 10 32 48.8 -0.3
UALR University of 55.06 338 *e*P **P** **10 32 21.5 -1.0**
comp=Z,71nm,1.0s,mb5.7
UALR epP pP 10 32 50.8 +0.5
MIAR Mount Ida 55.30 337 *e*P **P** **10 32 23.4 -0.8**
UTMT University of 55.38 342 *e*P **P** **10 32 23.6 -1.1**
LTX Lajitas 55.62 325 *e*P **P** **10 32 26.0 -0.4**
LTX pmax pmax
comp=Z,31nm,0.9s,mb5.3
LTX Lajitas 55.62 325 *e*P **P** **10 32 26.0 -0.5**
comp=Z,31nm,0.9s,mb5.3
ASCN Ascension 55.71 88 P **P** **10 32 28.9 +1.8**
comp=Z,1µm,0.7s,SNR=6.2
ASCN Ascension 55.71 88 *e*P **P** **10 32 28.3 +1.2**
comp=Z,155nm,0.8s,mb6.1
LPIG La Paz 55.89 315 P **P** **10 32 28.3 -0.1**
comp=Z,31nm,0.9s,mb5.4,baz=205,slow=0.3,SNR=5.0
SDMD Soldier's Deli 56.03 354 *e*P **P** **10 32 27.5 -2.0**
SDMD epP pP 10 32 55.3 -2.1
SDMD esP sP 10 33 11.1 +0.8
SDMD *e*PcP PcP 10 33 25.0 -1.3
WCI Wyandotte Cave 56.47 345 *e*P **P** **10 32 30.9 -1.6**
USIN University of 56.57 344 *e*P **P** **10 32 32.0 -1.2**
comp=Z,64nm,0.6s,mb5.8
USIN epP pP 10 32 59.6 -1.6
MVL Millersville 56.58 355 *e*P **P** **10 32 32.9 -0.4**
MCWV Mont Chateau 56.63 352 *e*P **P** **10 32 33.8 +0.2**
comp=Z,74nm,0.6s,mb5.9
SIUC Southern Illin 56.76 343 *e*P **P** **10 32 33.5 -1.0**
comp=Z,220nm,0.6s
SIUC epP pP 10 33 00.6 -2.0
SIUC esP sP 10 33 13.6 -1.9
SSPA Standing Stone 57.35 354 *e*P **P** **10 32 37.5 -1.3**
comp=Z,5.8nm,0.6s,mb4.8
FVM French Village 57.37 342 *e*P **P** **10 32 37.4 -1.4**
FVM pmax pmax
comp=Z,77nm,0.6s,mb5.9
FVM French Village 57.37 342 *e*P **P** **10 32 37.4 -1.4**
comp=Z,77nm,0.6s,mb5.9
BLO Bloomington 57.42 346 *e*P **P** **10 32 37.8 -1.4**
BLO *e**PP pP 10 33 06.2 -1.1
BLO pmax pmax
comp=Z,47nm,0.6s,mb5.7
BLO Bloomington 57.42 346 *e*P **P** **10 32 37.8 -1.5**
comp=Z,47nm,0.6s,mb5.7
BLO epP pP 10 33 06.2 -1.2
WMOK Wichita Mounta 57.58 333 *e*P **P** **10 32 39.0 -1.4**
WMOK pmax pmax
comp=Z,31nm,0.9s,mb5.3
WMOK Wichita Mounta 57.58 333 *e*P **P** **10 32 39.0 -1.3**
comp=Z,31nm,0.9s,mb5.3
CCM Cathedral Cave 57.68 341 *e*P **P** **10 32 39.5 -1.5**
CCM pmax pmax
comp=Z,50nm,0.8s,mb5.6
CCM Cathedral Cave 57.68 341 *e*P **P** **10 32 39.5 -1.6**
comp=Z,50nm,0.8s,mb5.6
ACSO Alum Creek Sta 57.70 349 *e*P **P** **10 32 40.1 -1.0**
comp=Z,48nm,0.8s,mb5.6
ACSO epP pP 10 33 08.4 -0.8
SLM Saint Louis 57.91 342 *e*P **P** **10 32 41.3 -1.3**
SLM pmax pmax
comp=Z,50nm,0.6s,mb5.7
SLM Saint Louis 57.91 342 *e*P **P** **10 32 41.3 -1.3**
comp=Z,50nm,0.6s,mb5.7
GDL2 Guadalupe Moun 58.22 327 *e*P **P** **10 32 44.9 +0.1**
MNTX Cornudas Mount 58.38 325 *e*P **P** **10 32 44.2 -1.7**
comp=Z,45nm,1.0s,mb5.5
CPRX Cap Rock 58.61 328 *e*P **P** **10 32 47.2 -0.3**
ALLY Alegheny Colle 58.63 352 *e*P **P** **10 32 47.3 -0.3**
ALLY epP pP 10 33 15.5 -0.3
BINY Binghamton 58.73 356 *e*P **P** **10 32 48.0 -0.3**
comp=Z,28nm,0.8s,mb5.3
BINY epP pP 10 33 16.0 -0.5
HRV Harvard--Oak R 58.85 359 *e*P **P** **10 32 48.4 -0.8**
HRV *e**PP pP 10 33 16.5 -0.9
HRV pmax pmax
comp=Z,21nm,0.8s,mb5.2
HRV Harvard--Oak R 58.85 359 *e*P **P** **10 32 48.4 -0.8**
comp=Z,21nm,0.8s,mb5.2
HRV epP pP 10 33 16.5 -0.8
AMTX Amarillo 59.02 331 *e*P **P** **10 32 49.2 -1.2**
comp=Z,31nm,0.9s,mb5.3
ERPA Erie 59.07 352 *e*P **P** **10 32 50.3 -0.4**
comp=Z,173nm,0.6s
ERPA epP pP 10 33 18.3 -0.6
ACCN Adirondack Com 59.78 358 *e*P **P** **10 32 55.3 -0.3**
RKT Rikitea 60.26 253 *e*S **S** **10 41 08.1 +4.4**
comp=Z,114nm,24.5s
RKT *e*LR LR 10 50 34.1
comp=Z,324nm,30.8s
NCB Newcomb 60.39 357 *e*P **P** **10 32 59.3 -0.4**
comp=Z,34nm,1.3s,mb5.2
NCB epP pP 10 33 26.7 -1.4
KSU1 Kansas State U 60.46 337 *e*P **P** **10 32 59.3 -0.9**
KSU1 epP pP 10 33 28.4 -0.2
KSU1 esP sP 10 33 39.0 -2.4
MIV Mineville/With 60.47 358 *e*P **P** **10 32 59.4 -0.8**
LBNH Lisbon 60.59 359 *e*P **P** **10 33 01.0 -0.1**
LBNH *e**PP pP 10 33 28.6 -0.8
LBNH pmax pmax
comp=Z,22nm,0.9s,mb5.2
LBNH Lisbon 60.59 359 *e*P **P** **10 33 01.0 -0.1**
comp=Z,22nm,0.9s,mb5.2
LBNH epP pP 10 33 28.6 -0.9
WVL Waterville 60.91 1 *e*P **P** **10 33 03.1 -0.1**
BNM Barren Site 60.93 326 *e*P **P** **10 33 03.4 +0.1**
LPM Los Pinos Moun 61.05 326 *e*P **P** **10 33 04.2 0.0**
LPM epP pP 10 33 32.3 -0.3
LONY Lake Ozonia 61.05 357 *e*P **P** **10 33 03.5 -0.7**
LONY epP pP 10 33 31.5 -1.1
LENM Lemitar 61.12 326 *e*P **P** **10 33 04.9 +0.2**
FRNY Flat Rock 61.23 358 *e*P **P** **10 33 03.6 -1.7**
FRNY epP pP 10 33 33.0 -0.8
LAZ Ladron 61.39 326 *e*P **P** **10 33 07.1 +0.6**
CBKS Cedar Bluff 61.44 335 *e*P **P** **10 33 06.7 -0.1**
CBKS pmax pmax
comp=Z,83nm,0.7s,mb5.9
CBKS Cedar Bluff 61.44 335 *e*P **P** **10 33 06.7 -0.2**
comp=Z,83nm,0.7s,mb5.9
ANMO Albuquerque 61.45 327*d i*P **P** **10 33 06.8 -0.1**
ANMO Albuquerque 61.45 327 *e*P **P** **10 33 06.8 -0.1**
comp=Z,22nm,0.8s,mb5.2
SADO Sadowa 61.58 353 P **P** **10 33 06.8 -1.0**
comp=Z,40nm,0.7s,mb5.5,baz=189,slow=6.4,SNR=67
SADO pP pP 10 33 34.9 -1.3
comp=Z,22nm,0.8s,baz=204,slow=5.5,SNR=6.6
SADO PcP PcP 10 33 47.0 -1.3
comp=Z,27nm,0.8s,baz=200,slow=5.8,SNR=6.6
TUC Tucson 61.90 322 *e*P **P** **10 33 09.7 -0.2**
TUC pmax pmax
comp=Z,17nm,0.9s,mb5.1
TUC Tucson 61.90 322 *e*P **P** **10 33 09.7 -0.2**
comp=Z,17nm,0.9s,mb5.1
MVCO Mesa Verde 64.24 327 *e*P **P** **10 33 25.4 +0.1**
ECSD EROS,Sioux Fal 64.55 340 *e*P **P** **10 33 26.2 -1.1**
ISCO Idaho Springs 64.83 331 *e*P **P** **10 33 29.6 +0.4**
ISCO pmax pmax
comp=Z,40nm,0.9s,mb5.2
ISCO Idaho Springs 64.83 331 *e*P **P** **10 33 29.6 +0.3**
comp=Z,40nm,0.9s,mb5.2
GLA Glamis 64.86 320 *e*P **P** **10 33 29.9 +0.5**
SMCO Snowmass 64.99 330 *e*P **P** **10 33 30.9 +0.7**
comp=Z,94nm,0.9s,mb5.6
VNA3 Neumayer Olymp 65.24 162↓ *i*P **P** **10 33 32.2 +0.3**
VNA3 *e* 10 33 36.0
VNA3 *e* 10 33 43.2
VNA3 *e* pP 10 33 59.7 -0.9
VNA3 *e* pP 10 34 03.1 +2.5
VNA3 *e* 10 34 10.3
VNA3 *e* 10 34 34.4
VNA3 *e* 10 34 54.5
VNA3 *e* 10 35 17.4
VNA3 *e* 10 35 40.1
VNA3 *e* 10 35 54.7
VNA3 *e* 10 35 58.9
VNA3 *e* 10 36 36.4
PV10 Paradox Valley 65.41 328 *e*P **P** **10 33 32.6 -0.4**
VNA1 Neumayer--Stat 65.45 161↓ *i*P **P** **10 33 33.9 +0.7**
VNA1 *e* 10 33 37.6
VNA1 *e* 10 33 44.8
VNA1 *e* pP 10 34 00.2 -1.7
VNA1 *e* pP 10 34 03.5 +1.6
VNA1 *e* 10 34 13.1
VNA1 *e* 10 34 34.8
BAR Barrett 65.77 318 *e*P **P** **10 33 36.0 +0.7**
VNA2 Neumayer--Watz 65.82 161↓ *i*P **P** **10 33 35.9 +0.3**
baz=283,slow=6.1
VNA2 *e* 10 33 39.4
VNA2 *e* 10 33 47.1
VNA2 *e* pP 10 34 02.3 -2.0
VNA2 *e* pP 10 34 04.2 -0.1
VNA2 *e* 10 34 15.0
VNA2 *e* 10 34 38.1
VNA2 *e* 10 34 58.0
VNA2 *e* 10 35 23.1
VNA2 *e* 10 35 43.1
VNA2 *e* 10 36 00.2
VNA2 *e* 10 36 04.9
VNA2 *e* 10 36 07.9
VNA2 *e* 10 36 22.3
VNA2 *e* 10 36 41.7
PFO Pinyon Flat Ob 66.25 319 P **P** **10 33 39.0 +0.7**
comp=Z,202nm,0.8s,mb6.0,SNR=11
PFO Pinyon Flat Ob 66.25 319 *e*P **P** **10 33 39.1 +0.8**
PFO pmax pmax
comp=Z,71nm,1.3s,mb5.3
PFO Pinyon Flat Ob 66.25 319 *e*P **P** **10 33 39.1 +0.8**
comp=Z,71nm,1.3s,mb5.3
SRU San Rafael 66.72 327 *e*P **P** **10 33 41.5 +0.2**
SRU pmax pmax
comp=Z,33nm,0.7s,mb5.3
SRU San Rafael 66.72 327 *e*P **P** **10 33 41.5 +0.1**
comp=Z,33nm,0.7s,mb5.3
EYMN Ely 66.89 345 *e*P **P** **10 33 41.1 -1.3**
comp=Z,71nm,0.8s,mb5.5
RWWY Rawlins 67.07 331 *e*P **P** **10 33 43.4 -0.1**
comp=Z,92nm,1.3s,mb5.5
MSU Marysvale 67.16 326 *e*P **P** **10 33 44.8 +0.7**
TMUT Trail Mountain 67.22 327 *e*P **P** **10 33 45.0 +0.6**
ARUT Antelope Range 67.33 324 *e*P **P** **10 33 46.3 +1.1**
SHPR Sheep Range 67.42 322 *e*P **P** **10 33 46.5 +0.8**
SNAA Sanae 67.44 161 P **P** **10 33 46.0 +0.1**
comp=Z,53nm,0.7s,mb5.5,baz=283,slow=6.9,SNR=669
SNAA Sanae 67.44 161↓ *i*P **P** **10 33 37.9 -8.0**
SNAA *e* 10 33 41.8
SNAA *e* 10 33 43.0
SNAA *e* 10 33 49.1
SNAA *e* pP 10 34 07.2 -7.6
SNAA *e* 10 34 19.1
SNAA *e* 10 34 40.7
SNAA *e* 10 35 00.2
SNAA *e* 10 35 33.7
SNAA *e* 10 36 09.3
SNAA *e* 10 36 12.5
SNAA *e* 10 36 28.0
GSC Goldstone 67.58 320 *e*P **P** **10 33 47.4 +0.6**
RSSD Black Hills 67.64 335 *e*P **P** **10 33 46.5 -0.7**
RSSD pmax pmax
comp=Z,31nm,0.8s,mb5.2
RSSD Black Hills 67.64 335 *e*P **P** **10 33 46.5 -0.7**
comp=Z,31nm,0.8s,mb5.2
MWC Mount Wilson 67.65 319 *e*P **P** **10 33 48.1 +0.9**
TAOE Nuku Hiva Isla 67.77 267 *e*LR LR 10 54 13.3
comp=Z,802nm,31.8s
MPU Maple Canyon 67.97 327 *e*P **P** **10 33 49.6 +0.4**
comp=Z,44nm,1.0s,mb5.2
DAU Daniels Canyon 68.07 328 *e*P **P** **10 33 50.5 +0.7**
NLU North Lily Min 68.15 327 *e*P **P** **10 33 51.1 +0.8**
TPNV Topopah Spring 68.36 322 *e*P **P** **10 33 52.9 +1.3**
TPNV pmax pmax
comp=Z,70nm,0.9s,mb5.5
TPNV Topopah Spring 68.36 322 *e*P **P** **10 33 52.9 +1.3**
comp=Z,70nm,0.9s,mb5.5
TCUT Toone Canyon 68.67 328 *e*P **P** **10 33 54.0 +0.4**
NOQ North Oquirrh 68.69 327 *e*P **P** **10 33 52.6 -1.1**
DAC Darwin (Calif) 68.71 321 *e*P **P** **10 33 54.5 +0.7**
DAC pmax pmax
comp=Z,64nm,1.0s,mb5.4
DAC Darwin (Calif) 68.71 321 *e*P **P** **10 33 54.5 +0.7**
comp=Z,64nm,1.0s,mb5.4
DUG Dugway 68.72 327 *e*P **P** **10 33 54.5 +0.7**
DUG pmax pmax
comp=Z,49nm,0.9s,mb5.3
DUG Dugway 68.72 327 *e*P **P** **10 33 54.5 +0.6**
comp=Z,49nm,0.9s,mb5.3
ISA Isabella 68.85 320 *e*P **P** **10 33 55.6 +0.9**
ISA *e**PP pP 10 34 24.2 +0.6
ISA pmax pmax
comp=Z,56nm,0.8s,mb5.5
ISA Isabella 68.85 320 *e*P **P** **10 33 55.6 +0.9**
comp=Z,56nm,0.8s,mb5.5
ISA epP pP 10 34 24.2 +0.6
BW06 Boulder Array 69.00 330 *e*P **P** **10 33 55.1 -0.5**
PDAR Pinedale Array 69.00 330 P **P** **10 33 55.1 -0.5**
comp=Z,12nm,0.8s,mb4.8,baz=132,slow=7.0,SNR=76
PDAR PcP PcP 10 34 18.3 -0.7
comp=Z,4.1nm,0.6s,baz=109,slow=4.1,SNR=4.4
PDAR PKPPKP 11 02 05.7
comp=Z,1.8nm,1.1s,baz=347,slow=2.0,SNR=8.4
PDAR LR LR 11 05 39.3
comp=Z,57nm,20.2s,baz=1.3,slow=37
HWUT Hardware Ranch 69.11 328 *e*P **P** **10 33 56.1 -0.1**
comp=Z,37nm,0.9s,mb5.2
DBIC Dimbokro 69.22 76 P **P** **10 33 57.7 +0.7**
comp=Z,41nm,0.7s,mb5.4,baz=231,slow=6.1,SNR=95
DBIC pP pP 10 34 25.4 -0.6
comp=Z,32nm,0.7s,baz=222,slow=6.3,SNR=6.4
DBIC LR LR 11 02 15.2
comp=Z,101nm,21.6s,baz=224,slow=34
DBIC Dimbokro 69.22 76 P **P** **10 33 57.7 +0.7**
DBIC *PP pP 10 34 25.4 -0.6
DBIC pmax pmax
comp=Z,41nm,0.7s
DBIC pmax pmax
comp=Z,32nm,0.7s
DBIC Dimbokro 69.22 76 *e*P **P** **10 33 57.8 +0.8**
comp=Z,54nm,0.8s,mb5.4
SPUT South Promonto 69.34 328 *e*P **P** **10 33 58.2 +0.5**
TPH Tonopah 69.69 322 *e*P **P** **10 34 00.8 +1.0**
TPH pmax pmax
comp=Z,53nm,0.9s,mb5.4
TPH Tonopah 69.69 322 *e*P **P** **10 34 00.8 +1.0**
comp=Z,53nm,0.9s,mb5.4
AHID Auburn Hatcher 69.74 330 *e*P **P** **10 34 00.5 +0.3**
comp=Z,40nm,0.8s,mb5.3
HVU Hansel Valley 69.85 328 *e*P **P** **10 34 00.7 -0.1**
HVU pmax pmax
comp=Z,48nm,0.8s,mb5.4
HVU Hansel Valley 69.85 328 *e*P **P** **10 34 00.7 -0.1**
comp=Z,48nm,0.8s,mb5.4
MTUM Tungsten Hills 70.00 321 *e*P **P** **10 34 02.6 +0.8**
MTUM epP pP 10 34 31.3 +0.5
REDW Red Top Meadow 70.07 330 *e*P **P** **10 34 02.3 +0.1**
comp=Z,49nm,1.1s,mb5.2
LOHW Long Hollow 70.14 330 *e*P **P** **10 34 02.8 +0.1**
comp=Z,31nm,0.8s,mb5.2
ULM Lac du Bonnet 70.16 343 P **P** **10 34 01.4 -1.3**
comp=Z,71nm,0.6s,mb5.7,baz=155,slow=5.9,SNR=112
ULM pP pP 10 34 29.2 -2.5
comp=Z,31nm,0.8s,baz=143,slow=7.0,SNR=4.6
ULM sP sP 10 34 42.0 -2.4
comp=Z,28nm,0.9s,baz=158,slow=6.1,SNR=3.3
ULM LR LR 11 04 40.0
comp=Z,66nm,20.4s,baz=18,slow=36
ULM Lac du Bonnet 70.16 343 P **P** **10 34 01.4 -1.3**
ULM pP pP 10 34 29.2 -2.5
ULM sP sP 10 34 42.0 -2.4
ULM LR LR 11 04 40.0
TPAW Teton Pass 70.22 330 *e*P **P** **10 34 03.3 +0.2**
comp=Z,47nm,1.0s,mb5.3
MOOW Moose Ponds 70.31 330 *e*P **P** **10 34 03.7 0.0**
ELK Elko 70.40 326 *e*P **P** **10 34 04.4 +0.2**
ELK pmax pmax
comp=Z,19nm,0.8s
ELK Elko 70.40 326 *e*P **P** **10 34 04.4 +0.2**
comp=Z,19nm,0.8s,mb5.0
MNV Mina 70.47 322 *e*P **P** **10 34 05.3 +0.7**
MNV pmax pmax
comp=Z,20nm,0.8s,mb5.0
MNV Mina 70.47 322 *e*P **P** **10 34 05.3 +0.7**
comp=Z,20nm,0.8s,mb5.0
IMW Indian Meadow 70.52 330 *e*P **P** **10 34 05.3 +0.4**
comp=Z,39nm,0.7s,mb5.3
FLWY Flagg Ranch 70.55 331 *e*P **P** **10 34 04.9 -0.1**
comp=Z,98nm,0.9s,mb5.6
NVAR Mina Array Bea 70.56 322 P **P** **10 34 05.9 +0.8**
comp=Z,22nm,0.8s,mb5.0,baz=137,slow=7.6,SNR=153
NVAR pP pP 10 34 33.1 -1.2
comp=Z,2.5nm,0.7s,baz=288,slow=15,SNR=2.6
NVAR sP sP 10 34 45.4 -1.5
comp=Z,6.5nm,0.8s,baz=135,slow=6.2,SNR=3.2
LKWY Lake 70.77 331 *e*P **P** **10 34 07.6 +1.1**
LKWY pmax pmax
comp=Z,63nm,0.8s,mb5.5
LKWY Lake 70.77 331 *e*P **P** **10 34 07.6 +1.1**
comp=Z,63nm,0.8s,mb5.5
YFT Old Faithful 70.89 331 *e*P **P** **10 34 08.8 +1.6**
YMR Madison River 71.11 331 *e*P **P** **10 34 09.3 +0.8**
comp=Z,62nm,1.0s,mb5.4
SCHQ Schefferville 71.27 2 P **P** **10 34 08.9 -0.5**
comp=Z,14nm,0.8s,mb4.8,baz=176,slow=4.1,SNR=18
SCHQ LR LR 11 06 53.3
comp=Z,95nm,18.2s,baz=20,slow=37
SCHQ Schefferville 71.27 2 *e*P **P** **10 34 08.9 -0.5**
comp=Z,19nm,0.8s,mb5.0
WAKR Walker 71.28 322 *e*P **P** **10 34 10.8 +1.3**
BMN Battle Mountai 71.28 324 *e*P **P** **10 34 09.4 -0.1**
GCMT Greycliff 71.38 332 *e*P **P** **10 34 10.4 +0.3**
SAO San Andreas Ge 71.40 319 *e*P **P** **10 34 11.1 +0.9**
SAO pmax pmax
comp=Z,20nm,0.8s,mb5.0
SAO San Andreas Ge 71.40 319 *e*P **P** **10 34 11.1 +0.8**
comp=Z,20nm,0.8s,mb5.0
QLMT Earthquake Lak 71.45 331 *e*P **P** **10 34 11.7 +1.1**
CMB Columbia Colle 71.55 321 *e*P **P** **10 34 11.4 +0.3**
CMB pmax pmax
comp=Z,20nm,1.0s,mb4.9
CMB Columbia Colle 71.55 321 *e*P **P** **10 34 11.4 +0.3**
comp=Z,20nm,1.0s,mb4.9
MAIT Maitri 71.97 160↓ *i*P **P** **10 34 14.4 +0.8**
HLID Hailey 71.97 328 *e*P **P** **10 34 14.4 +0.8**
comp=Z,27nm,0.9s,mb5.1
NVL N'lazarevskaya 72.00 160*d i*P **P** **10 34 13.0 -0.8**
NVL pmax pmax
comp=Z,245nm,1.2s,mb5.9
NVL pmax pmax
comp=N,21nm,0.8s
NVL pmax pmax
comp=E,154nm,2.1s
PAHR Pah Rah Range 72.03 323 *e*P **P** **10 34 15.2 +1.3**
comp=E,120nm,0.9s,mb5.7
MCMT McKenzie Canyo 72.12 330 *e*P **P** **10 34 15.5 +0.9**
BOZ Bozeman (W) 72.16 331 *e*P **P** **10 34 14.6 -0.2**
BOZ pmax pmax
comp=Z,18nm,0.6s,mb5.1
BOZ Bozeman (W) 72.16 331 *e*P **P** **10 34 14.6 -0.2**
comp=Z,18nm,0.6s,mb5.1
DLMT Dillon 72.40 330 *e*P **P** **10 34 16.6 +0.4**
comp=Z,44nm,1.2s,mb5.2
LRM Limekiln Ridge 72.67 331 *e*P **P** **10 34 18.1 +0.3**
OHCM Honcut 73.03 321 *e*P **P** **10 34 20.4 +0.5**
OHCM epP pP 10 34 49.4 +0.1
HRY Holter Researc 73.06 332 *e*P **P** **10 34 20.4 +0.3**
EGMT Eagleton 73.15 334 *e*P **P** **10 34 20.4 -0.2**
comp=Z,53nm,0.7s,mb5.5
NSHM Saint Helena R 73.21 320 *e*P **P** **10 34 21.9 +0.9**
TBI Tubuai 73.38 250 *e*S S 10 43 46.3 +4.7
comp=Z,460nm,24.8s
TBI *e*LR LR 10 56 42.6
comp=Z,295nm,33.8s
WVOR Wild Horse Val 73.42 325 *e*P **P** **10 34 22.1 -0.1**
WVOR pmax pmax
comp=Z,12nm,1.0s,mb4.7
WVOR Wild Horse Val 73.42 325 *e*P **P** **10 34 22.1 -0.1**
comp=Z,12nm,1.0s,mb4.7
QSPA South Pole Qui 73.53 180↓ *i*P **P** **10 34 23.1 +0.3**
comp=Z,129nm,0.9s,mb5.7
PMOR Pomariorio Ree 73.70 259 *e*P **P** **10 34 24.5 +0.7**
comp=Z,60nm,0.9s,mb5.3
CHMT Chamberlain Mo 73.86 331 *e*P **P** **10 34 25.1 +0.3**
MOD Modoc 73.99 324 *e*P **P** **10 34 26.2 +0.6**
comp=Z,81nm,1.0s,mb5.4
MSO Missoula 74.11 331 *e*P **P** **10 34 26.8 +0.5**
BMO Blue Mountains 74.36 328 *e*P **P** **10 34 27.8 +0.1**
BMO pmax pmax
comp=Z,28nm,0.8s,mb5.0
BMO Blue Mountains 74.36 328 *e*P **P** **10 34 27.8 +0.1**
comp=Z,28nm,0.8s,mb5.0
WDC Whiskeytown Da 74.45 322 *e*P **P** **10 34 27.1 -1.1**
WDC pmax pmax
comp=Z,26nm,0.7s,mb5.1
WDC Whiskeytown Da 74.45 322 *e*P **P** **10 34 27.1 -1.1**
comp=Z,26nm,0.7s,mb5.1
PPT Papeete 74.69 256 *e*LR LR 10 57 11.9
comp=Z,225nm,29.5s
LHEM Herd Peak 74.92 323 P **P** **10 34 31.4 +0.5**
HOG Hogback Mounta 75.01 323 P **P** **10 34 32.2 +0.7**
BSMT Bassoo Peak 75.25 331 *e*P **P** **10 34 33.3 +0.5**
YBH Yreka Blue Hor 75.27 322 P **P** **10 34 32.2 -0.7**
comp=Z,31nm,0.9s,mb5.0,baz=88,slow=3.4,SNR=51
YBH pP pP 10 35 00.3 -2.1
comp=Z,21nm,1.0s,baz=88,slow=6.4,SNR=5.0
YBH Yreka Blue Hor 75.27 322 P **P** **10 34 32.2 -0.7**
YBH *PP pP 10 35 00.3 -2.0
YBH pmax pmax
comp=Z,31nm,0.9s
YBH pmax pmax
comp=Z,21nm,1.0s
YBH Yreka Blue Hor 75.27 322 *e*P **P** **10 34 32.4 -0.6**
comp=Z,44nm,1.1s,mb5.1
KHMM Horse Mountain 75.34 321 *e*P **P** **10 34 34.4 +1.1**
WALA Waterton Lakes 75.74 332 *e*P **P** **10 34 35.7 +0.1**
comp=Z,49nm,0.8s,mb5.3
KTRM Thompson Ridge 75.77 322 P **P** **10 34 36.6 +0.9**
HUMO Hull Mountain 75.96 323 *e*P **P** **10 34 36.2 -0.6**
comp=Z,9.6nm,0.5s,mb4.8
BBOR Butler Butte 75.97 323 P **P** **10 34 36.5 -0.4**
WIFE Three Sisters- 76.23 325 P **P** **10 34 39.3 +0.9**
HBO Huckleberry Mo 76.38 324 P **P** **10 34 39.6 +0.4**
KBO Bosley Butte 76.45 322 *e*P **P** **10 34 40.9 +1.3**
HAWA Hanford 76.55 328 *e*P **P** **10 34 40.9 +0.7**
comp=Z,3.5nm,0.8s,mb4.1
HAWA epP pP 10 35 10.1 +0.4
NEW Newport 76.64 330 P **P** **10 34 40.3 -0.4**
comp=Z,5.2nm,0.6s,mb4.5,baz=135,slow=6.7,SNR=7.5
NEW Newport 76.64 330 *e*P **P** **10 34 40.4 -0.3**
NEW pmax pmax
comp=Z,14nm,0.8s

NEW Newport 76.64 330 *e*P P **10 34 40.4 -0.4**
comp=Z,14nm,0.8s,mb4.7
OD2 Odessa Site #2 76.81 329 P P **10 34 42.3 +0.6**
KEBM Edson Butte 76.92 323 *e*P P **10 34 43.4 +1.2**
HOOD Mount Hood Mea 76.96 326 *e*P P **10 34 43.6 +1.1**
SSOR Sweet Springs 77.10 325 P P **10 34 43.5 +0.2**
COR Corvallis 77.39 325 *e*P P **10 34 45.8 +0.9**
COR pmax pmax
comp=Z,81nm,0.8s,mb5.5
COR Corvallis 77.39 325 *e*P P **10 34 45.8 +0.8**
comp=Z,81nm,0.8s,mb5.5
MPOR Mary's Peak 77.48 324 P P **10 34 46.6 +1.2**
FCC Fort Churchill 77.52 348 *e*P P **10 34 44.9 -0.7**
FCC *e**PP pP 10 35 13.3 -1.9
FCC pmax pmax
comp=Z,54nm,0.8s,mb5.3
FCC Fort Churchill 77.52 348 *e*P P **10 34 44.9 -0.7**
comp=Z,54nm,0.8s,mb5.3
FCC *e*pP pP 10 35 13.3 -1.8
TORD Torodi Ar. Bea 77.53 72 P P **10 34 46.2 +0.5**
comp=Z,93nm,0.8s,mb5.5,baz=255,slow=5.0,SNR=340
TORD pP pP 10 35 15.2 0.0
comp=Z,22nm,0.6s,baz=255,slow=5.1,SNR=3.6
TORD sP sP 10 35 27.8 0.0
comp=Z,17nm,0.7s,baz=257,slow=4.6,SNR=2.0
TWW Teanaway 77.73 328 P P **10 34 48.2 +1.4**
LON Longmire 77.97 327 *e*P P **10 34 48.1 0.0**
EDM Edmonton 78.61 336 *e*P P **10 34 50.6 -1.0**
EDM *e**PP pP 10 35 19.5 -1.8
GNW Green Mountain 79.02 327 *e*P P **10 34 54.0 +0.1**
GNW *e*pP pP 10 35 23.1 -0.5
PTEO Sao Teotonio 79.42 46 *e*P P **10 34 58.5 +2.5**
comp=Z,80nm,1.0s,mb5.5
PTEO *i* - 10 35 43.5
OOW Octopus West 79.84 327 P P **10 34 59.7 +1.3**
OCWA Octopus Mounta 79.85 327 *e*P P **10 34 59.1 +0.7**
comp=Z,71nm,1.0s,mb5.5
PGC Sidney 80.03 328 *e*P P **10 35 00.0 +0.6**
comp=Z,120nm,0.8s,mb5.8
MDT Midelt 80.10 51 P P **10 35 01.2 +1.5**
comp=Z,10nm,1.0s,mb4.6,baz=250,slow=4.5,SNR=15
PBEJ Beja 80.24 46 *e*P P **10 35 02.0 +1.5**
comp=Z,25nm,1.6s,mb4.8
PBEJ *i* - pP 10 35 32.5 +2.2
SBA Scott Base 80.25 190 *e*P P **10 35 01.0 +0.4**
SBA pmax pmax
comp=Z,59nm,1.0s,mb5.4
SBA Scott Base 80.25 190 *e*P P **10 35 01.0 +0.4**
comp=Z,59nm,1.0s,mb5.4
EGRO El Granado 80.26 46 P P **10 35 01.9 +1.3**
comp=Z,15nm,1.0s,mb4.8
EVO Evora 80.40 45 *e*P P **10 35 00.4 -0.9**
comp=Z,28nm,0.7s,mb4.9
EVO *e*R
comp=Z,66nm,20.0s
EMIN Mina Concepcio 80.94 46 P P **10 35 05.8 +1.6**
comp=Z,13nm,0.9s,mb4.8
EJIF Jimena Fronter 81.15 48 P P **10 35 07.4 +2.0**
EJIF pmax pmax
comp=Z,9.0nm,2.9s,mb4.1
EJIF Jimena Fronter 81.15 48 P P **10 35 07.4 +2.0**
comp=Z,8.9nm,2.9s,mb4.1
EBAD Badajoz 81.19 45 P P **10 35 06.4 +0.9**
comp=Z,9.4nm,0.6s,mb4.8
VNDA Vanda 81.30 190 P P **10 35 06.5 +0.4**
comp=Z,29nm,0.8s,mb5.2,baz=129,slow=4.8,SNR=150
VNDA LR LR 11 05 43.9
comp=Z,69nm,20.1s,baz=144,slow=32
VNDA Vanda 81.30 190 *e*P P **10 35 06.4 +0.3**
VNDA pmax pmax
comp=Z,39nm,0.9s
VNDA Vanda 81.30 190 *e*P P **10 35 06.4 +0.3**
comp=Z,39nm,0.9s,mb5.2
PCBR Castelo Branco 81.41 44 *e*P P **10 35 07.9 +1.2**
comp=Z,18nm,1.0s,mb4.8
PCBR *i* - 10 35 48.9
MTE Manteigas 81.64 44 *e*P P **10 35 09.5 +1.6**
comp=Z,24nm,1.3s,mb4.9
SYO Syowa Base 81.67 160 ‖ *i*P P **10 35 07.6 -0.5**
SYO Syowa Base 81.67 160 ‖ *e*PcP PcP 10 35 14.2 +0.6
PVRL Vila Real 81.97 43 *e*P P **10 35 12.8 +3.1**
comp=Z,42nm,1.8s,mb5.0
ELOJ Sierra Loja 82.41 48 P P **10 35 14.4 +2.5**
ELOJ pmax pmax
comp=Z,11nm,0.6s,mb4.9
ELOJ Sierra Loja 82.41 48 P P **10 35 14.4 +2.5**
comp=Z,11nm,0.6s,mb4.9
SUR Sutherland 82.63 121 P P **10 35 15.2 +2.1**
comp=Z,374nm,0.8s,SNR=9.5
SUR Sutherland 82.63 121 P P **10 35 15.4 +2.3**
comp=Z,54nm,0.9s,mb5.4,baz=244,slow=4.6,SNR=34
SUR Sutherland 82.63 121 *e*P P **10 35 14.7 +1.6**
comp=Z,64nm,0.9s,mb5.5
PBRG Braganca 82.87 43 *e*P P **10 35 15.1 +0.8**
comp=Z,29nm,1.6s,mb4.8
PBRG *i* - pP 10 35 44.1 -0.1
ERUA La Rua 82.90 42 P P **10 35 14.5 0.0**
ERUA pmax pmax
comp=Z,53nm,2.0s,mb5.0
ERUA La Rua 82.90 42 P P **10 35 14.5 0.0**
comp=Z,53nm,2.0s,mb5.0
ECAL Calabor 82.94 43 P P **10 35 15.9 +1.2**
comp=Z,38nm,1.1s,mb5.1
EBER Berja 83.20 48 P P **10 35 16.9 +0.9**
comp=Z,48nm,1.4s,mb5.1
TSUM Tsumeb 83.22 108 P P **10 35 18.1 +1.9**
comp=Z,30nm,0.6s,mb5.3,baz=243,slow=5.4,SNR=60
TSUM pP pP 10 35 46.7 +0.6
comp=Z,72nm,1.0s,baz=240,slow=4.5,SNR=13
TSUM Tsumeb 83.22 108 *e*P P **10 35 18.0 +1.9**
comp=Z,30nm,0.6s,mb5.3
EPON Pontenova 83.37 41 P P **10 35 19.5 +2.6**
comp=Z,12nm,0.6s,mb4.9
ESLA Sonseca Array 83.71 46 *e*P P **10 35 20.2 +1.6**
comp=Z,2.6nm,0.8s,mb4.1
ESDC Sonseca Array 83.71 46 P P **10 35 19.6 +1.0**
comp=Z,10nm,0.7s,mb4.8,baz=255,slow=5.2,SNR=32
ESDC pP pP 10 35 49.0 +0.4
comp=Z,12nm,0.8s,baz=253,slow=5.1,SNR=5.7
ESDC sP sP 10 36 01.6 +0.5
comp=Z,6.8nm,0.8s,baz=252,slow=5.1,SNR=2.8
EHUE Huescar 83.82 48 P P **10 35 19.0 -0.2**
EHUE pmax pmax
comp=Z,15nm,1.5s,mb4.6
EHUE Huescar 83.82 48 P P **10 35 19.0 -0.2**
comp=Z,15nm,1.5s,mb4.6
GUD Guadarrama 84.03 45 P P **10 35 21.5 +1.3**
GUD pmax pmax
comp=Z,11nm,0.7s,mb4.8
GUD Guadarrama 84.03 45 P P **10 35 21.5 +1.3**
comp=Z,11nm,0.7s,mb4.8
EVIA Vianos 84.25 47 P P **10 35 23.4 +2.0**
EVIA pmax pmax
comp=Z,39nm,0.8s,mb5.3
EVIA Vianos 84.25 47 P P **10 35 23.4 +2.0**
comp=Z,39nm,0.8s,mb5.3
SFJD Kangerlussuaq 84.73 8 P P **10 35 22.2 -1.6**
comp=Z,12nm,0.8s,mb4.9,baz=131,slow=3.1,SNR=4.5
SFJD Kangerlussuaq 84.73 8 *i* P P **10 35 22.6 -1.2**
comp=Z,21nm,1.0s,mb5.0
SFJD Kangerlussuaq 84.73 8 *i* P P **10 35 22.6 -1.2**
SFJD pmax pmax
comp=Z,21nm,1.0s,mb5.0
ETOB Tobarra 84.92 47 P P **10 35 26.0 +1.3**
comp=Z,26nm,0.9s,mb5.2
ECHE Chera 85.74 47 P P **10 35 32.7 +3.9**
ECHE pmax pmax
comp=Z,13nm,0.6s,mb5.0
ECHE Chera 85.74 47 P P **10 35 32.7 +3.9**
comp=Z,13nm,0.6s,mb5.0
YKA Yellowknife Ar 86.02 341 P P **10 35 29.3 -0.8**
comp=Z,38nm,0.7s,mb5.5,baz=133,slow=4.7,SNR=507
YKA pP pP 10 35 58.4 -1.9
comp=Z,18nm,0.6s,baz=134,slow=5.1,SNR=7.7
YKA PKiKP PKiKP 10 40 36.8 -1.3
comp=Z,0.4nm,0.5s,baz=139,slow=1.5,SNR=4.6
YKA PKKPbc PKKPbc 10 53 28.6 -0.5
comp=Z,0.5nm,0.7s,baz=318,slow=3.6,SNR=5.4
YKA LR LR 11 16 57.8
comp=Z,44nm,18.2s,baz=95,slow=38
YKA Yellowknife Ar 86.02 341 P P **10 35 29.3 -0.8**
YKA pP pP 10 35 58.4 -1.9
YKW3 Yellowknife Ar 86.07 341 *e*P P **10 35 29.5 -1.0**
YKW3 *e*pP pP 10 35 58.8 -1.7
BOSA Boshof 87.36 119 P P **10 35 37.5 +0.8**
comp=Z,11nm,0.8s,mb4.9,baz=249,slow=3.6,SNR=18
BOSA pP pP 10 36 06.8 -0.1
comp=Z,7.5nm,0.8s,baz=256,slow=4.6,SNR=3.3
BOSA Boshof 87.36 119 P P **10 35 37.5 +0.8**
BOSA *PP pP 10 36 06.8 -0.1
BOSA pmax pmax
comp=Z,11nm,0.8s,mb4.8
BOSA pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
BOSA Boshof 87.36 119 *e*P P **10 35 37.6 +0.9**
comp=Z,9.8nm,0.7s,mb4.8
ETSF Etsaut 87.44 44 *e*P P **10 35 36.7 -0.4**
comp=Z,23nm,0.9s,mb4.8
ETSF Etsaut 87.44 44 *e*P P **10 35 36.7 -0.4**
ETSF pmax pmax
comp=Z,12nm,0.9s,mb4.8
ETSF Etsaut 87.44 44 *e*P P **10 35 36.7 -0.4**
comp=Z,12nm,0.9s,mb4.8
EBIE Bielsa 87.82 44 P P **10 35 42.0 +3.2**
comp=Z,10nm,0.7s,mb5.0
QUIF Quistinic 88.03 39 *e*P P **10 35 39.2 -0.7**
comp=Z,53nm,1.2s,mb5.1
QUIF Quistinic 88.03 39 *e*P P **10 35 39.2 -0.7**
QUIF pmax pmax
comp=Z,27nm,1.2s,mb5.2
QUIF Quistinic 88.03 39 *e*P P **10 35 39.2 -0.7**
comp=Z,26nm,1.2s,mb5.1
EPF Esparros 88.09 44 *e*P P **10 35 39.6 -0.6**
comp=Z,43nm,1.3s,mb5.0
EPF Esparros 88.09 44 *e*P P **10 35 39.6 -0.6**
EPF pmax pmax
comp=Z,22nm,1.3s,mb5.0
EPF Esparros 88.09 44 *e*P P **10 35 39.6 -0.6**
comp=Z,22nm,1.3s,mb5.0
ROSF Rostrenen 88.16 38 *e*P P **10 35 39.6 -0.9**
comp=Z,12nm,0.8s,mb4.7
ROSF Rostrenen 88.16 38 *e*P P **10 35 39.6 -0.9**
ROSF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
ROSF Rostrenen 88.16 38 *e*P P **10 35 39.6 -0.9**
comp=Z,5.8nm,0.8s,mb4.7
SGMF Saint Gilles 88.55 38 *e*P P **10 35 41.8 -0.5**
comp=Z,24nm,1.1s,mb4.9
SGMF Saint Gilles 88.55 38 *e*P P **10 35 41.8 -0.5**
SGMF pmax pmax
comp=Z,12nm,1.1s,mb4.8
SGMF Saint Gilles 88.55 38 *e*P P **10 35 41.8 -0.5**
comp=Z,12nm,1.1s,mb4.8
LBTB Lobatse 88.73 116 *e*P P **10 35 45.0 +1.8**
LBTB pmax pmax
comp=Z,23nm,0.9s,mb5.2
LBTB Lobatse 88.73 116 *e*P P **10 35 45.0 +1.8**
comp=Z,23nm,0.9s,mb5.2
LFF La Frestale 89.15 42 *e*P P **10 35 44.9 -0.3**
comp=Z,26nm,0.8s,mb5.0
LFF La Frestale 89.15 42 *e*P P **10 35 44.9 -0.3**
LFF pmax pmax
comp=Z,13nm,0.8s,mb5.0
LFF La Frestale 89.15 42 *e*P P **10 35 44.9 -0.3**
comp=Z,13nm,0.8s,mb5.0
MFF Saint Martin d 89.29 41 *e*P P **10 35 45.5 -0.3**
comp=Z,37nm,1.1s,mb5.0
MFF Saint Martin d 89.29 41 *e*P P **10 35 45.5 -0.3**
MFF pmax pmax
comp=Z,19nm,1.1s,mb5.0
MFF Saint Martin d 89.29 41 *e*P P **10 35 45.5 -0.3**
comp=Z,19nm,1.1s,mb5.0
MTLF Montolieu 89.47 44 *e*P P **10 35 45.9 -0.8**
comp=Z,26nm,1.0s,mb4.9
MTLF Montolieu 89.47 44 *e*P P **10 35 45.9 -0.8**
MTLF pmax pmax
comp=Z,13nm,1.0s,mb4.9
MTLF Montolieu 89.47 44 *e*P P **10 35 45.9 -0.8**
comp=Z,13nm,1.0s,mb4.9
MAW Mawson 89.48 164 P P **10 35 46.9 +0.2**
comp=Z,74nm,0.7s,mb5.9,baz=215,slow=5.8,SNR=107
MAW LR LR 11 19 18.0
comp=Z,128nm,19.3s,baz=68,slow=38
MAW Mawson 89.48 164 *e*P P **10 35 46.9 +0.2**
MAW pmax pmax
comp=Z,100nm,0.8s
MAW Mawson 89.48 164 *e*P P **10 35 46.9 +0.2**
comp=Z,100nm,0.8s,mb5.9
GRR Gorron 89.62 39 *e*P P **10 35 46.4 -1.0**
comp=Z,22nm,0.6s,mb5.1
GRR Gorron 89.62 39 *e*P P **10 35 46.4 -1.0**
GRR pmax pmax
comp=Z,11nm,0.6s,mb5.2
GRR Gorron 89.62 39 *e*P P **10 35 46.4 -1.0**
comp=Z,11nm,0.6s,mb5.2
RJF Les Rejaudoux 89.80 42 *e*P P **10 35 47.4 -0.8**
comp=Z,19nm,1.1s,mb4.9
RJF *e*R
comp=Z,151nm,22.7s
RJF Les Rejaudoux 89.80 42 *e*P P **10 35 47.4 -0.8**
RJF pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
RJF MLR MLR
comp=Z,150nm,22.7s
RJF Les Rejaudoux 89.80 42 *e*P P **10 35 47.4 -0.8**
comp=Z,9.6nm,1.1s,mb4.8
RJF LR LR
comp=Z,150nm,22.7s
CAF Calviac 90.00 43 *e*P P **10 35 48.5 -0.6**
comp=Z,10nm,0.7s,mb4.8
CAF Calviac 90.00 43 *e*P P **10 35 48.5 -0.6**
CAF pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
CAF Calviac 90.00 43 *e*P P **10 35 48.5 -0.6**
comp=Z,5.2nm,0.7s,mb4.8
FLN La Foliniere 90.01 39 *e*P P **10 35 48.4 -0.8**
comp=Z,22nm,0.8s,mb5.1
FLN *e*R
comp=Z,65nm,22.8s
FLN La Foliniere 90.01 39 *e*P P **10 35 48.4 -0.8**
FLN pmax pmax
comp=Z,11nm,0.8s,mb5.0
FLN MLR MLR
comp=Z,70nm,22.8s
FLN La Foliniere 90.01 39 *e*P P **10 35 48.4 -0.8**
comp=Z,11nm,0.8s,mb5.0
FLN LR LR
comp=Z,70nm,22.8s
LDF La Druitiere 90.15 39 *e*P P **10 35 49.0 -0.8**
comp=Z,14nm,0.7s,mb4.9
LDF La Druitiere 90.15 39 *e*P P **10 35 49.0 -0.8**
LDF pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
LDF La Druitiere 90.15 39 *e*P P **10 35 49.0 -0.8**
comp=Z,7.0nm,0.7s,mb4.9
LASF Ste Croix 90.85 44 *e*P P **10 35 52.6 -0.5**
comp=Z,52nm,1.4s,mb5.2
BGF Bois d'Agland 91.15 41 *e*P P **10 35 53.6 -0.9**
comp=Z,20nm,0.7s,mb5.0
BGF Bois d'Agland 91.15 41 *e*P P **10 35 53.6 -0.9**
BGF pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
BGF Bois d'Agland 91.15 41 *e*P P **10 35 53.6 -0.9**
comp=Z,10nm,0.7s,mb5.1
AVF Avril sur Loir 91.56 41 *e*P P **10 35 55.1 -1.3**
comp=Z,4.5nm,0.6s,mb4.6
AVF Avril sur Loir 91.56 41 *e*P P **10 35 55.1 -1.3**
AVF pmax pmax
comp=Z,2.0nm,0.6s,mb4.5
AVF Avril sur Loir 91.56 41 *e*P P **10 35 55.1 -1.3**
comp=Z,2.3nm,0.6s,mb4.6
SUMG Summit 91.57 9 *e*P P **10 35 57.1 +0.7**
comp=Z,62nm,1.0s,mb5.8
SUMG *e*pP pP 10 36 26.9 +0.1
SSF Saint Saulge 91.77 41 *e*P P **10 35 56.2 -1.1**
comp=Z,8.8nm,0.9s,mb4.7
SSF Saint Saulge 91.77 41 *e*P P **10 35 56.2 -1.1**
SSF pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
SSF Saint Saulge 91.77 41 *e*P P **10 35 56.2 -1.1**
comp=Z,4.4nm,0.9s,mb4.7
SKAG Skagway 91.94 333 *e*P P **10 35 57.8 -0.3**
comp=Z,14nm,0.6s,mb5.4
RES Resolute Bay 92.39 354 *e*P P **10 35 59.7 -0.5**
RES *e**PP pP 10 36 28.9 -1.6
RES pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
RES Resolute Bay 92.39 354 *e*P P **10 35 59.7 -0.5**
comp=Z,7.5nm,0.8s,mb5.0
RES *e*pP pP 10 36 28.9 -1.6
ORIF Oris-en-Rattie 92.51 44 *e*P P **10 36 00.4 -0.4**
comp=Z,11nm,0.6s,mb5.0
ORIF *e*R
comp=Z,123nm,22.9s
ORIF Oris-en-Rattie 92.51 44 *e*P P **10 36 00.4 -0.4**
ORIF pmax pmax
comp=Z,5.0nm,0.6s,mb5.0
ORIF Oris-en-Rattie 92.51 44 *e*P P **10 36 00.4 -0.4**
comp=Z,5.3nm,0.6s,mb5.0
INK Inuvik 95.77 341 *e*P P **10 36 14.5 -1.2**
INK *e**PP pP 10 36 44.5 -1.6
INK pmax pmax
comp=Z,23nm,0.9s
INK Inuvik 95.77 341 *e*P P **10 36 14.5 -1.2**
comp=Z,23nm,0.9s,mb5.6
INK *e*pP pP 10 36 44.5 -1.6
DAWY Dawson 95.82 336 *e*P P **10 36 14.7 -1.2**
CASY Casey 97.32 181 *e*P P **10 36 23.1 +0.4**
comp=Z,7.3nm,0.7s,mb5.2
GERES GERESS Array B 98.82 42 P P **10 36 28.9 -0.6**
comp=Z,1.2nm,0.8s,mb4.5,baz=242,slow=2.9,SNR=6.2
ILAR Eielson Array 99.09 335 P P **10 36 28.8 -1.9**
comp=Z,3.5nm,0.9s,mb4.9,baz=148,slow=3.1,SNR=37
ILAR PP PP 10 40 21.2 -13
comp=Z,0.7nm,0.8s,baz=98,slow=6.7,SNR=5.9
ILAR PKKPbc PKKPbc 10 52 54.5 -0.9
comp=Z,0.5nm,0.7s,baz=279,slow=3.4,SNR=6.4
COLA College 99.52 335 *e*P Pdif 10 36 31.5 -1.0
ARCES ARCESS Array B 107.68 22 PKKPbc PKKPbc 10 52 29.3 -0.7
comp=Z,2.6nm,0.6s,baz=89,slow=4.2,SNR=13
FINES FINESS Array B 107.76 30 PKKPbc PKKPbc 10 52 29.0 -0.8
comp=Z,1.6nm,0.6s,baz=100,slow=7.6,SNR=4.5
AKASG Malin Array Be 109.03 41 PKiKP PKiKP 10 41 17.8 -0.9
comp=Z,0.4nm,0.3s,baz=266,slow=3.2,SNR=6.7
BR131 Keskin Array S 111.47 53 *e*PKPdf PKiKP 10 41 24.0 +0.8
BRTR Keskin Array B 111.47 53 PKiKP PKiKP 10 41 24.0 +0.8
comp=Z,3.0nm,0.8s,baz=192,slow=4.1,SNR=15
OBN Obninsk 113.43 37 ⇑ *i*PKiKP PKiKP 10 41 22.8 -4.2
OBN *e* 10 41 55.6
OBN *e*PS PS 10 51 41.0 -16
OBN pmax pmax
comp=Z,9.0nm,0.5s
SOC Sochi 116.11 49 *i* PKiKP PKPdf 10 41 31.6 -0.5
SOC *e* 10 42 40.4
SOC *e* 10 48 09.0
SOC *e*PS PS 10 52 22.2 +0.8
SOC pmax pmax
comp=Z,17nm,0.7s
BILL Bilibino 117.35 339 ‖ *i*PKiKP PKPdf 10 41 31.8 -2.7
BILL *e* 10 41 53.7
BILL *e* 10 42 43.8
BILL *e* 10 48 19.9
BILL *e*PS PS 10 52 14.4 -18
BILL pmax pmax
comp=Z,5.0nm,1.0s
KIV Kislovodsk 118.24 49 *e*PKiKP PKPdf 10 41 37.3 +1.1
KIV pmax pmax
comp=Z,15nm,1.1s
GOF Gofitskoye 118.41 47 *e*PKiKP PKPdf 10 41 37.0 +0.5
ZEI Tsey 119.20 50 *e*PKiKP PKPdf 10 41 39.3 +1.2
GNI Garni 120.00 53 *c i*PKiKP PKPdf 10 41 41.1 +1.5
GNI Garni 120.00 53 *e*PKPdf PKPdf 10 41 41.4 +1.8
STKA Stephens Creek 122.60 213 PKP PKPdf 10 41 42.6 -2.0
comp=Z,11nm,0.6s,baz=104,slow=2.9,SNR=36
STKA Stephens Creek 122.60 213 *e*PKPdf PKPdf 10 41 42.7 -1.9
SOKR Solikamsk 122.88 29 *c i*PKiKP PKPdf 10 41 45.2 +0.1
SOKR pmax pmax
comp=Z,20nm,0.9s
TIXI Tiksi 123.77 353 *d i*PKiKP PKPdf 10 41 45.3 -1.5
ARU Arti 125.08 32 *i* PKiKP PKPdf 10 41 49.6 +0.3
ARU *e* 10 43 44.4
ARU *e* 10 48 41.8
ARU *e*SP SP 10 53 28.6 +0.8
ARU *e*PS PS 10 53 38.5 -2.8
ARU Arti 125.08 32 *e*PKPdf PKPdf 10 41 49.8 +0.4
CTA Charters Tower 128.43 226 PKP PKPdf 10 41 55.4 -0.3
comp=Z,4.7nm,0.8s,baz=213,slow=4.0,SNR=8.3
AB31 Akbulak array 128.70 39 *i* PKiKP PKPdf 10 41 57.2 +1.0
AB31 pmax pmax
comp=Z,17nm,0.7s
FORT Forrest 129.47 201 *e*P PKPdf 10 41 57.6 -0.1
comp=Z,27nm,0.6s
NWAO Narrogin (SRO) 130.12 189 PKP PKPdf 10 41 58.4 -0.6
comp=Z,16nm,0.8s,baz=150,slow=4.4,SNR=5.6
MUN Mundaring 131.19 188 *e*P PKPdf 10 42 01.3 +0.3
KLBR Kellerberrin 131.34 190 *e*P PKPdf 10 42 01.2 -0.1
comp=Z,21nm,0.6s
ZRNK Zerenda 132.06 32 *e*PKiKP PKPdf 10 42 03.8 +1.2
YAK Yakutsk 132.40 347 *e*PKiKP PKPdf 10 41 59.3 -4.0
YAK pmax pmax
comp=Z,19nm,1.1s
CHKZ Chkalovo 132.44 30 *e*PKiKP PKPdf 10 42 04.1 +0.8
BRVK Borovoye 132.64 31 *e*PKiKP PKPdf 10 42 04.3 +0.6
BVA0 Borovoye Array 132.71 31 *i* PKiKP PKPdf 10 42 04.8 +1.0
BVA0 pmax pmax
comp=Z,7.0nm,1.6s
ASAR Alice Springs 133.21 212 PKhKP 10 41 48.1
comp=Z,0.7nm,0.4s,baz=141,slow=2.4,SNR=20
ASAR PKP PKPdf 10 42 04.2 -0.6
comp=Z,9.5nm,0.7s,baz=129,slow=1.8,SNR=9.1
ASAR PP PP 10 44 29.2 -3.5
comp=Z,1.0nm,0.7s,baz=156,slow=4.4,SNR=4.1
ASAR Alice Springs 133.21 212 PKHKP 10 41 48.2
ASAR 10 42 04.2
ASAR 10 44 29.3
ASAR pmax pmax
comp=Z,1.0nm,0.4s
ASAR pmax pmax
comp=Z,10.0nm,0.7s
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 133.21 212 PKP PKPdf 10 42 04.2 -0.6
ASAR PP PP 10 44 29.2 -3.5
ASPA Alice Springs 133.21 212 *e*P 10 41 49.8
ASPA *e* 10 42 04.7
ASPA *e*S 10 45 31.6
WB2 Warramunga Arr 136.02 215 *e*P 10 41 55.1
WB2 *e* 10 42 10.5
WB2 *e*S 10 45 41.5
WRA Warramunga Arr 136.03 215 PKhKP 10 41 54.8
comp=Z,1.9nm,0.5s,baz=149,slow=2.8,SNR=24
WRA PKP PKPdf 10 42 10.4 +0.4
comp=Z,17nm,0.5s,baz=146,slow=1.8,SNR=60
WRA Warramunga Arr 136.03 215 PKiKP PKPdf 10 42 10.4 +0.3
WRAB Tennant Creek 136.03 215 *d i*PKiKP PKPdf 10 42 10.4 +0.3
WRAB Tennant Creek 136.03 215 *e*PKPdf PKPdf 10 42 10.5 +0.4
NVS Novosibirsk 136.96 22 *i* PKiKP PKPdf 10 42 11.4 -0.4
NVS pmax pmax
comp=N,4.0nm,0.5s
NVS pmax pmax
comp=E,12nm,1.0s
KURK Kurchatov 138.12 29 *e*PKiKP PKPdf 10 42 14.8 +0.9
ZAL Zalesovo 138.23 21 PKhKP 10 42 03.5
comp=E,2.4nm,0.5s,baz=112,slow=2.6,SNR=6.7
ZAL PKP PKPdf 10 42 13.3 -0.9
comp=E,41nm,0.7s,baz=180,slow=2.2,SNR=88
ZAL SKPbc SKPbc 10 45 39.5 +1.9
comp=E,4.1nm,1.0s,baz=206,slow=3.5,SNR=5.6
ZAL Zalesovo 138.23 21 PKHKP 10 42 03.5
ZAL 10 42 13.3
ZAL pmax pmax
comp=Z,2.0nm,0.5s
ZAL pmax pmax
comp=Z,41nm,0.7s
ZAL pmax pmax
comp=N,4.0nm,1.0s
ZAL Zalesovo 138.23 21 PKP PKPdf 10 42 13.3 -0.9
ZAL SKPbc SKPbc 10 45 39.5 +1.9
BOD Bodaibo 138.73 356 *e*PKHKP 10 42 03.4
BOD pmax pmax
comp=Z,9.0nm,1.0s
YSS Yuzh-Sakhalins 138.97 325 ⇑ *i*PKiKP PKPdf 10 42 16.2 +0.7
YSS Yuzh-Sakhalins 138.97 325 *e*PKPdf PKPdf 10 42 15.6 +0.1
FRU Bishkek 140.68 41 *e*PKiKP PKPdf 10 42 20.0 +1.4
AAK Ala-Archa 140.71 42 *e*PKiKP PKPdf 10 42 18.9 +0.3
MBWA Marble Bar 141.03 196 *e*PKPdf PKPdf 10 42 19.4 +0.2
FITZ Fitzroy Crossi 141.86 206 *e*P PKPdf 10 42 14.8 -5.9
comp=Z,28nm,1.0s
FITZ Fitzroy Crossi 141.86 206 PKhKP 10 42 14.9
comp=Z,13nm,0.6s,baz=185,slow=5.0,SNR=57
FITZ PKP PKPdf 10 42 21.8 +1.1
comp=Z,14nm,0.8s,baz=191,slow=3.6,SNR=11
FITZ Fitzroy Crossi 141.86 206 PKP PKPdf 10 42 21.8 +1.1
MK31 Makanchi Array 142.59 31 PKiKP PKPdf 10 42 18.1 -3.9
MK31 pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 142.59 31 PKhKP 10 42 18.4
comp=Z,11nm,0.7s,baz=321,slow=3.3,SNR=83

MKAR				SKPbc	SKPbc	10 45 51.1	+2.0		
	comp=Z,3.9nm,0.9s,baz=336,slow=2.7,SNR=5.0								
MKAR	**Makanchi Array**	**142.59**	**31**	PKP	PKPdf	10 42 18.4	-3.6		
MKAR				SKPbc	SKPbc	10 45 51.1	+2.0		
KLR	**Kul'dur**	**142.67**	**335**	*e*PKHKP		10 42 14.2			
KLR				pmax	pmax				
	comp=Z,56nm,1.8s								
KAKA	**Kakadu**	**142.85**	**220**	*e*P	PKPdf	10 42 18.0	-4.5		
	comp=Z,10nm,0.5s								
KSH	**Kashi**	**143.22**	**45**	*e*PKP	PKPdf	10 42 22.0	-1.1		
KSH				*e*PKS		10 45 56.5			
KSH				PP	PP				
	comp=Z,167nm,5.4s								
KSH				LR	LR				
	comp=N,229nm,6.5s								
KSH				LR	LR				
	comp=E,283nm,5.4s								
KSH				LR	LR				
	comp=Z,184nm,3.8s								
MOY	**Mondy**	**144.45**	**9**	*e*PKIKP	PKPdf	10 42 25.4	+0.1		
MOY				*e*		10 42 54.8			
MOY				pmax	pmax				
	comp=Z,110nm,2.0s								
CIT	**Chita**	**144.53**	**355**	*e*PKIKP	PKPdf	10 42 25.1	-0.3		
CIT				*e*		10 42 54.4			
CIT				pmax	pmax				
	comp=Z,115nm,1.6s								
TLY	**Talaya**	**144.76**	**6**	*e*PKIKP	PKPdf	10 42 26.0	+0.2		
TLY				*e*		10 42 54.6			
TLY				pmax	pmax				
	comp=Z,114nm,0.7s								
TLY	**Talaya**	**144.76**	**6**	*e*PKPdf	PKPdf	10 42 26.0	+0.2		
GUMO	**Guam**	**145.42**	**270**	PKPbc	PKPbc	10 42 27.0	-0.2		
	comp=Z,112nm,0.9s,baz=200,slow=21,SNR=6.4								
GUMO	**Guam**	**145.42**	**270**	PKP2	PKPab	10 42 27.0	-0.4		
GUMO				pmax	pmax				
	comp=Z,112nm,0.9s								
ZAK	**Zakamensk**	**146.01**	**7**	⇓*i*PKP2	PKPab	10 42 29.1	-0.6		
ZAK				pmax	pmax				
	comp=Z,147nm,0.8s								
ZAK				pmax	pmax				
	comp=Z,184nm,1.2s								
DLH	**Dalhousie**	**146.09**	**56**	*e*P	PKPdf	10 42 30.0	+1.9		
PONG	**Pong**	**146.27**	**57**	*e*P	PKPdf	10 42 29.0	+0.6		
POO	**Poona**	**146.32**	**81**	*ex*	PKPdf	10 42 29.0	+0.5		
HIA	**Hailar**	**146.34**	**347**	*e*PKP2	PKPab	10 42 30.2	-0.7		
AJM	**Ajmer**	**146.53**	**67**	*e*P	PKPdf	10 42 30.8	+2.0		
AJM				AMb	AMB	10 42 37.9			
	comp=Z,39nm,1.1s								
MDJ	**Mudanjiang**	**147.22**	**333**	PKP	PKPdf	10 42 30.0	0.0		
MDJ				APKP		10 43 00.0			
MDJ				XPKP		10 43 11.8			
MDJ				PP	PP	10 45 58.5	0.0		
MDJ				PKS		10 46 05.3			
MDJ				SKS	SKSdf	10 49 28.5	+0.7		
MDJ				S		10 54 32.0			
MDJ				SS	SS	11 04 51.8	+1.2		
MDJ				PP	PP				
	comp=Z,59nm,3.6s								
MDJ				LR	LR				
	comp=N,46nm,36.9s								
MDJ				LR	LR				
	comp=E,15nm,28.1s								
MDJ				LR	LR				
	comp=Z,47nm,35.5s								
MDJ	**Mudanjiang**	**147.22**	**333**	*e*PKPbc	PKPbc	10 42 32.5	+0.1		
SDNR	**Sundarnagar**	**147.24**	**57**	*e*P	PKPdf	10 42 31.4	+1.4		
SDNR				*ex*	x	10 45 42.0			
SDNR				*ex*	x	10 45 47.6			
WMQ	**Urumqi**	**147.37**	**29**	*e*PKP	PKPdf	10 42 31.3	+1.1		
WMQ				APKP		10 43 01.5			
WMQ				XPKP		10 43 14.3			
WMQ				PP	PP	10 46 03.5	+4.2		
WMQ				PP	PP				
	comp=Z,74nm,6.8s								
WMQ				LR	LR				
	comp=N,72nm,27.2s								
WMQ				LR	LR				
	comp=E,46nm,24.3s								
WMQ				LR	LR				
	comp=Z,60nm,22.2s								
SMLA	**Simla**	**147.52**	**58**	*i* P	PKPdf	10 42 30.8	+0.3		
	comp=Z,5μm,0.3s								
SMLA				*i* x	x	10 45 47.7			
MJAR	**Matsushiro Arr**	**147.53**	**313**	PKP	PKPdf	10 42 30.7	+0.2		
	comp=Z,164nm,0.8s,baz=56,slow=1.1,SNR=229								
MJAR				PKPbc	PKPbc	10 42 33.6	+0.4		
	comp=Z,166nm,0.8s,baz=94,slow=2.4,SNR=154								
MJAR				pPKPbc	pPKPbc	10 43 01.8	-2.8		
	comp=Z,23nm,0.8s,baz=96,slow=1.8,SNR=2.7								
MAJO	**Matsushiro**	**147.53**	**313**	*e*PKIKP	PKPdf	10 42 31.2	+0.7		
MAJO				*e*		10 42 33.8			
MAT	**Matsushiro**	**147.53**	**313**	PKP	PKPdf	10 42 33.6	+3.1		
MAT	**Matsushiro**	**147.53**	**313**	*e*PKP	PKPdf	10 42 34.0	+3.5		
NDI	**New Delhi**	**148.28**	**62**	*e*P	PKPdf	10 42 32.0	+0.3		
NDI				*ex*	x	10 43 05.0			
DDI	**Dehra Dun**	**148.51**	**59**	*ex*	PKPbc	10 42 37.5	+1.7		
SONM	**Songino Array**	**148.81**	**4**	PKP	PKPdf	10 42 33.6	+1.0		
	comp=Z,83nm,0.6s,baz=315,slow=1.5,SNR=69								
SONM				PKPbc	PKPbc	10 42 37.3	+0.7		
	comp=Z,83nm,0.6s,baz=328,slow=1.8,SNR=189								
SONM				pPKPbc	pPKPbc	10 43 06.7	-1.3		
	comp=Z,14nm,0.6s,baz=319,slow=1.9,SNR=2.6								
LATR	**Latur**	**148.88**	**82**	*e*P	PKPdf	10 42 30.0	-2.7		
BHPL	**Bhopal**	**149.50**	**72**	*e*P	PKPdf	10 42 35.5	+1.9		
BHPL				AMb	AMB	10 42 41.5			
	comp=Z,44nm,0.8s								
SALM	**Salem**	**149.59**	**95**	*ex*	PKPbc	10 42 42.0	+3.5		
CN2	**Changchun**	**149.60**	**336**	*e*PKP	PKPdf	10 42 33.5	-0.4		
CN2				*e*APKP		10 43 02.0			
CN2				*e*PP	PP	10 46 13.8	+1.5		
PALK	**Pallekele**	**150.68**	**105**	*e*PKPbc	PKPbc	10 42 43.1	+1.9		
HYB	**Hyderabad**	**150.74**	**84**	*i* PKP	PKPdf	10 42 37.5	+1.9		
HYB				*e*		10 42 42.5			
HYB				*e*		10 43 13.0			
MDRS	**Chennai**	**151.84**	**93**	*ex*	PKPbc	10 42 40.7	-3.1		
KS15	**Wonju Array Si**	**153.50**	**325**	*e*PKPbc	PKPbc	10 42 48.3	+0.8		
BLSP	**Bilaspur**	**153.94**	**74**	*e*P	PKPdf	10 42 41.2	+0.9		
BLSP				AMb	AMB	10 42 51.3			
	comp=Z,31nm,1.2s								
DL2	**Dalian**	**155.28**	**336**	PKP	PKPdf	10 42 41.5	-0.7		
VIS	**Vishakhapatnam**	**155.30**	**84**	*ex*	PKPdf	10 42 46.4	+4.2		
HHC	**Hu-ho-hao-te**	**155.78**	**356**	*e*PKP	PKPdf	10 42 44.0	+1.1		
HHC				APKP		10 43 10.5			
HHC				PKP2	PKPab	10 43 13.3	+3.3		
HHC				PKS		10 46 16.0			
HHC				PP	PP	10 46 51.5	+4.2		
HHC				SKS	SKSdf	10 49 39.5	+1.1		
HHC				SS	SS	11 06 28.0	+3.0		
HHC				LR	LR				
	comp=N,120nm,5.9s								
HHC				LR	LR				
	comp=E,156nm,6.1s								
HHC				LR	LR				
	comp=Z,118nm,7.6s								
GTA	**Gaotai**	**155.89**	**18**	PKP1	PKPdf	10 42 44.0	+1.0		
GTA				APKP		10 43 11.0			
GTA				PKS		10 46 17.8			
GTA				PP	PP	10 46 54.0	+6.1		
GTA				SKS	SKSdf	10 49 39.0	+0.5		
GTA				SKKS	SKKSac	10 53 26.3	-0.1		
GTA				SS	SS	11 06 29.3	+3.2		
GTA				PP	PP				
	comp=Z,86nm,6.1s								
GTA				LR	LR				
	comp=N,75nm,16.4s								
GTA				LR	LR				
	comp=E,111nm,20.9s								
GTA				LR	LR				
	comp=Z,67nm,17.5s								
BJI	**Beijing**	**155.90**	**347**	PKP	PKPdf	10 42 43.5	+0.4		
BJI				PP	PP				
	comp=Z,172nm,5.4s								
BJI	**Beijing**	**155.90**	**347**	PKP	PKPdf	10 42 43.4	+0.3		
BJI				PP	PP	10 47 06.1	+18		
BJI				SS	SS	11 06 18.5	-7.7		
BOK	**Bokaro**	**157.05**	**68**	*e*P	PKPdf	10 42 46.3	+1.7		
BOK				AMb	AMB	10 42 49.3			
	comp=Z,26nm,1.5s								
LSA	**Lhasa**	**158.99**	**49**	*e*PKIKP	PKPdf	10 42 49.5	+2.6		
LZH	**Lanzhou**	**160.06**	**13**	*e*PKP	PKPdf	10 42 49.0	+0.9		
LZH				APKP		10 43 21.0			
LZH				XPKP		10 43 33.5			
LZH				PKS		10 46 21.0			
LZH				*e*PP	PP	10 47 13.3	+2.6		
LZH				SKS	SKSdf	10 49 40.0	-2.6		
LZH				SKKS	SKKSac	10 53 47.8	-0.5		
LZH				SS	SS	11 07 09.0	-1.5		
LZH				PP	PP				
	comp=Z,249nm,8.7s								
LZH				LR	LR				
	comp=E,317nm,18.6s								
LZH				LR	LR				
	comp=Z,556nm,20.3s								
SSE	**Sheshan**	**161.91**	**325**	*e*PKP	PKPdf	10 42 51.5	+1.4		
SSE				PP	PP				
	comp=Z,94nm,7.3s								
SSE	**Sheshan**	**161.91**	**325**	*e*P	PKPdf	10 42 51.6	+1.5		
NJ2	**Nanjing**	**162.31**	**332**	*e*PKP	PKPdf	10 42 51.3	+0.8		
NJ2				PKP2	PKPab	10 43 43.3	+4.9		
NJ2				PP	PP	10 47 27.0	+4.2		
NJ2				PP	PP				
	comp=Z,70nm,8.6s								
NJ2				LR	LR				
	comp=N,260nm,33.3s								
NJ2				LR	LR				
	comp=E,280nm,27.6s								
NJ2				LR	LR				
	comp=Z,330nm,31.8s								
XAN	**Xi'an**	**162.67**	**1**	PKP	PKPdf	10 42 52.0	+1.1		
PSI	**Prapat**	**162.96**	**143**	PKP	PKPdf	10 42 51.2	0.0		
	comp=Z,7.7nm,0.9s,baz=284,slow=3.7,SNR=8.0								
PSI				PKPab	PKPab	10 43 42.5	+1.2		
	comp=Z,24nm,0.8s,baz=211,slow=4.3,SNR=17								
PSI	**Prapat**	**162.96**	**143**	PKP	PKPdf	10 42 51.2	0.0		
PSI				PKPab	PKPab	10 43 42.5	+1.2		
KSM	**Kuching**	**164.89**	**184**	*e*PKPdf	PKPdf	10 42 54.2	+1.2		
CD2	**Chengdu**	**164.96**	**18**	PKP	PKPdf	10 42 54.5	+1.5		
KMI	**Kunming**	**169.65**	**34**	PKP	PKPdf	10 42 55.3	-1.1		
KMI				APKP		10 43 24.5			
KMI				PKP2	PKPab	10 44 10.5	-0.2		
KMI				PP	PP	10 48 03.5	+2.9		
KMI	**Kunming**	**169.65**	**34**	PKP	PKPdf	10 42 55.2	-1.2		
KMI				pPKP	pPKPdf	10 43 24.6	-3.7		
GYA	**Guiyang**	**169.96**	**13**	*i* PKP	PKPdf	10 42 57.3	+0.7		
GYA				PKP2	PKPab	10 44 12.5	+0.4		
GYA				PKS		10 46 28.5			
GYA				PP	PP	10 48 02.0	-0.2		
GYA				SKKS	SKKSac	10 54 37.8	-0.3		
GYA				PP	PP				
	comp=Z,140nm,8.9s								
GYA				LR	LR				
	comp=N,210nm,20.9s								
GYA				LR	LR				
	comp=E,190nm,21.4s								
GYA				LR	LR				
	comp=Z,230nm,21.8s								

*SSNC **30** 10:35:06.0,2080N×7053W,h0km,MD4.0,ML2.9*
*ISCJB **30** 10:35:08.7±0.8,200N±02×7070W±007,h33km, Error ellipse: s-maj=31.0km s-min=3.3km az=31.5*
*RSPR **30** 10:35:14.2,2011N×6992W,h222km,8km,MD4.4/9, MD4.4/9*
*NEIC **30** 10:35:14.2,2011N×6992W,h222km,MD4.4(RSPR), After RSPR.*

ISC 30 1§10:35:10.3±0.9,202N±02×7065W±006,h35km,n18, σ1§26/34,13C,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
MASC	**Masc**	**3.36**	**271**	*e*P		**Pn**		**10 35 59.8**	**-0.5**
	baz=74								
MASC				*e*S		**Sn**		**10 36 40.4**	**+1.4**
MASC	comp=N,3.7nm,0.3s			*e*					
	comp=E,4.6nm,0.7s								
AGPR	**Aguadilla, PR**	**3.75**	**116**	*e*S		**Sn**		**10 36 49.3**	**+0.9**
LSP	**Las Mesas**	**3.91**	**120**	⇑*e*P		**Pn**		**10 36 09.4**	**+1.6**
LSP				*e*S		**Sn**		**10 36 53.3**	**+0.9**
CRPR	**Cabo Rojo, PR**	**3.98**	**122**	⇑*e*P		**Pn**		**10 36 10.7**	**+2.0**
CRPR				*e*S		**Sn**		**10 36 55.1**	**+0.9**
MGP	**Maguayo**	**3.99**	**122**	⇑*e*P		**Pn**		**10 36 10.4**	**+1.5**
MGP				*e*S		**Sn**		**10 36 55.0**	**+0.5**
LRS	**Lares**	**4.05**	**117**	⇑*e*P		**Pn**		**10 36 10.8**	**+1.0**
LRS				*e*S		**Sn**		**10 36 55.5**	**-0.4**
MOAC	**Moa**	**4.07**	**278**	*e*P		**Pn**		**10 36 09.9**	**-0.2**
MOAC	baz=90			*e*S		**Sn**		**10 36 55.0**	**-1.5**
MOAC	comp=N,4.1nm,0.8s			*e*					
	comp=E,6.7nm,0.6s								
OBIP	**Obispado Ponce**	**4.37**	**118**	⇑*e*P		**Pn**		**10 36 15.6**	**+1.5**
OBIP				*e*S		**Sn**		**10 37 03.0**	**-0.7**
CELP	**Cerrillos**	**4.37**	**118**	⇑*e*P		**Pn**		**10 36 15.2**	**+1.0**
CELP				*e*S		**Sn**		**10 37 03.1**	**-0.9**
ICM	**Isla Caja Muer**	**4.51**	**119**	⇑*e*P		**Pn**		**10 36 17.5**	**+1.4**
ICM				*e*S		**Sn**		**10 37 06.0**	**-1.4**
SJG	**San Juan**	**4.72**	**115**	⇑*e*P		**Pn**		**10 36 19.4**	**+0.4**
SJG				*e*S		**Sn**		**10 37 10.9**	**-1.5**
RCC	**Rio Carpintero**	**4.74**	**269**	*e*P		**Pn**		**10 36 17.7**	**-1.6**
RCC	baz=77			*e*S		**Sn**		**10 37 12.3**	**-0.8**
RCC	comp=N,14nm,0.7s			*e*					
	comp=E,22nm,0.9s								
CBYP	**Canovanas**	**4.91**	**112**	⇑*e*P		**Pn**		**10 36 21.6**	**+0.1**
CBYP				*e*S		**Sn**		**10 37 14.2**	**-2.8**
CPD	**Cerro la Pandu**	**4.95**	**114**	⇑*e*P		**Pn**		**10 36 22.8**	**+0.7**
CPD				*e*S		**Sn**		**10 37 15.6**	**-2.6**
HUMP	**Col San Antoni**	**4.96**	**113**	⇑*e*P		**Pn**		**10 36 22.6**	**+0.3**
HUMP				*e*S		**Sn**		**10 37 15.8**	**-2.7**
MTP	**Monte Pirata**	**5.24**	**112**	⇑*e*P		**Pn**		**10 36 26.3**	**+0.2**
MTP				*e*S		**Sn**		**10 37 22.2**	**-3.0**
STVI	**Saint Thomas**	**5.67**	**108**	⇑*e*P		**Pn**		**10 36 32.0**	**0.0**
STVI				*e*S		**Sn**		**10 37 31.6**	**-4.3**
TBVI	**Tortola**	**5.97**	**106**	*e*S		**Sn**		**10 37 38.5**	**-4.7**

*IDC **30** 11:06:47.3±3.8, 5996N×16575E, h0km, mb3.4/4, mb1 3.8/4, mb1mx3.5/20, mbtmp3.4/4, MS3.5/1, Ms1 3.5/1, ms1mx2.2/22, Error ellipse: s-maj=135.3km s-min=27.3km az=174.0*
*MOS **30** 11:06:48.7±1.1, 6071N×16537E, h11km, mb3.7/1, Error ellipse: s-maj=78.5km s-min=35.0km az=84.2*
*ISCJB **30** 11:06:50.1±1.7, 608N±02×1656E±03, h10km, mb3.5/4, MS3.5/1, Error ellipse: s-maj=32.2km s-min=22.4km az=13.3*

ISC 30 11:06:51.2±1.8,607N±02×1656E±03,h10km,n7,σ0§99/6, mb3.5/4,MS3.5/1,1D,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
BILL	**Bilibino**	**7.37**	**2**	*de*PN		**Pn**		**11 08 39.0**	**+0.2**
BILL				pmax	pmax				
	comp=Z,4.0nm,1.7s								
ILAR	**Eielson Array**	**21.73**	**59**	P		**P**		**11 11 43.2**	**+0.6**
	comp=Z,1.7nm,0.9s,mb3.5,baz=271,slow=8.6,SNR=17								
ILAR	**Eielson Array**	**21.73**	**59**	P		**P**		**11 11 43.2**	**+0.6**
ILAR				pmax	pmax				
	comp=Z,2.0nm,0.9s								
YKA	**Yellowknife Ar**	**35.76**	**51**	P		**P**		**11 13 48.9**	**-1.4**
	comp=Z,0.2nm,0.4s,mb3.4,baz=304,slow=8.4,SNR=4.3								
MKAR	**Makanchi Array**	**47.76**	**293**	P		**P**		**11 15 28.4**	**0.0**
	comp=Z,0.4nm,0.7s,mb3.6,baz=54,slow=7.6,SNR=4.1								
GUMO	**Guam**	**49.41**	**207**	LR		LR		11 37 09.8	
	comp=Z,48nm,18.1s,MS3.5,baz=141,slow=37								
PDAR	**Pinedale Array**	**51.59**	**69**	P		**P**		**11 15 58.0**	**+0.5**
	comp=Z,0.6nm,0.8s,mb3.6,baz=325,slow=2.3,SNR=5.0								

IDC 30 11:15:31.6±5.5,105S×13818E,h0km,mb3.3/2,mb1 3.3/3, mb1mx3.3/12,mbtmp3.2/3,ML2.9/1,Error ellipse: s-maj=236.2km s-min=28.2km az=83.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
WRA	**Warramunga Arr**	**19.15**	**191**	P		P	Pn	11 19 55.6	-1.6
	0.0nm,0.3s,baz=15,slow=11,SNR=4.6								
ASAR	**Alice Springs**	**22.86**	**190**	P		P		11 20 37.9	+1.4
	0.4nm,0.6s,baz=29,slow=9.4,SNR=8.2								
MKAR	**Makanchi Array**	**68.16**	**322**	P		P		11 26 33.5	0.0
	0.6nm,0.7s,baz=132,slow=4.2,SNR=6.4								

*ISCJB **30** 11:27:43.5±1.0, 3918N±009×742E±02, h10km, mb3.7/4, Error ellipse: s-maj=18.7km s-min=10.3km az=119.4*
*NEIC **30** 11:27:43.9±0.9, 3922N×7383E, h10km, Error ellipse: s-maj=30.5km s-min=15.8km az=63.0*
*NNC **30** 11:27:51.2±11.0, 3998N×7447E, h8km±17km, mb3.4, mpv3.0, Error ellipse: s-maj=84.0km s-min=46.2km az=161.0*
*MOS **30** 11:27:56.8±0.8, 3916N×7346E, h136km, mb3.6/1, Error ellipse: s-maj=35.1km s-min=18.3km az=110.5*
*IDC **30** 11:27:57.7±6.8, 3922N×7374E, h124km±54km, mb3.4/4, mb1 3.5/6, mb1mx3.3/23, mbtmp3.7/6, Error ellipse: s-maj=67.9km s-min=24.8km az=48.0*

ISC 30 11:27:44.9±1.0,3916N±009×742E±02,h10km,n10, σ1§42/13,mb3.7/4,3C-3D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
AAK	**Ala-Archa**	**3.48**	**3**	*e*Pn		**Pn**		**11 28 37.7**	**-1.3**
AAK				*e*Sn		**Sn**		**11 29 22.9**	**+2.7**
TKM2	**Tokmak 2**	**3.90**	**15**	⇓Pn		**Pn**		**11 28 43.8**	**-1.0**
	1.0nm,0.3s								
TKM2				⇓Lg				11 29 26.4	
	9.2nm,0.8s								
KK31	**Karatay Array**	**4.84**	**326**	⇓Pn		**Pn**		**11 28 58.8**	**+1.1**
	1.5nm,0.4s,baz=129,slow=13,SNR=22								
KK31				⇑Pg		**Pg**		**11 29 08.1**	**-9.4**
	3.5nm,0.7s,baz=140,slow=17,SNR=3.7								
KK31				⇑Sn		**Sn**		**11 29 52.4**	**-1.5**
	2.8nm,0.3s,baz=0.0,slow=0.1,SNR=5.4								
KK31				⇑Lg				11 30 11.1	
	11nm,0.6s,baz=133,slow=28,SNR=5.9								
MKAR	**Makanchi Array**	**9.64**	**35**	P		**Pn**		**11 30 15.7**	**+12**
	0.1nm,0.3s,baz=212,slow=13,SNR=3.9								
AKTK	**Aktyubinsk**	**16.07**	**320**	P		**Pn**		**11 31 32.1**	**+1.2**
AKTO	**Aktyubinsk**	**16.07**	**320**	P		**Pn**		**11 31 32.1**	**+1.2**
	0.1nm,0.3s,baz=126,slow=12,SNR=3.7								
ARCES	**ARCESS Array B**	**39.73**	**336**	P		**P**		**11 35 15.9**	**-1.5**
	4.1nm,1.0s,mb4.1,baz=104,slow=7.5,SNR=5.7								
YKA	**Yellowknife Ar**	**78.44**	**4**	P		**P**		**11 39 44.0**	**-1.9**
	0.3nm,0.9s,mb3.2,baz=348,slow=5.4,SNR=3.2								
WRA	**Warramunga Arr**	**81.30**	**124**	P		**P**		**11 40 02.1**	**+0.7**
	0.7nm,0.7s,mb3.7,baz=326,slow=5.0,SNR=11								
ASAR	**Alice Springs**	**83.75**	**127**	P		**P**		**11 40 14.8**	**+0.7**
	0.4nm,0.7s,mb3.6,baz=318,slow=4.5,SNR=6.1								

*IDC **30** 11:30:37.5±0.8, 3790N×1641E, h0km, mb3.9/11, mb1 4.0/18, mb1mx3.9/30, mbtmp3.9/18, ML4.2/7, MS3.4/10, Ms1 3.4/10, ms1mx3.1/33, Error ellipse: s-maj=18.1km s-min=13.0km az=124.0*
*THE **30** 11:30:40.9, 3778N×1656E, h21km, ML4.4*
*PDG **30** 11:30:40.9±0.8, 3795N×1672E, h11km, 3km*
*CSEM **30** 11:30:40.0±0.1, 3759N×1658E, h40km, ML5.7/8, Error ellipse: s-maj=2.2km s-min=1.2km az=153.0*
*ROM **30** 11:30:40.6±0.2, 3763N×1652E, h46km±5km, Md3.4/11, Ml4.2/29, Error ellipse: s-maj=3.5km s-min=2.6km az=56.0*
*NEIC **30** 11:30:40.6, 3763N×1652E, h46km, mb4.2/5, MD3.4(ROM), After ROM.*
*MOS **30** 11:30:40.7±1.1, 3777N×1668E, h34km, mb4.3/2, Error ellipse: s-maj=7.7km s-min=4.6km az=95.2*
*ISCJB **30** 11:30:41.1±0.2, 3781N±002×1661E±002, h46km, mb3.9/12, MS3.4/9, Error ellipse: s-maj=3.0km s-min=2.0km az=158.9*

ISC 30 11:30:42.2±0.2,3778N±002×1652E±002,h46km,n172, σ1§31/215,mb3.9/12,MS3.4/9,11C-17D,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
SOI	**Samo**	**0.47**	**308**	Pg		**Pn**		**11 30 52.7**	**-0.2**
SOI				Sg		**Sn**		**11 31 01.1**	**+0.6**
	14μm,0.9s								
PLAC	**Placanica**	**0.67**	**354**	⇑*i*Pg		**Pn**		**11 30 56.2**	**+0.8**
	2μm,0.7s								
CEL	**Celeste**	**0.69**	**314**	Pg		**Pn**		**11 30 55.9**	**+0.2**
CEL				Sg		**Sn**		**11 31 07.1**	**+1.7**
	8μm,0.7s								
MTTG	**Motta San Giov**	**0.69**	**289**	⇓*i*Pg		**Pn**		**11 30 55.4**	**-0.3**
SCLL	**Scilla**	**0.80**	**307**	⇓*i*Pg		**Pn**		**11 30 57.3**	**+0.2**
MSI	**Messina ING**	**0.88**	**299**	Pg		**Pn**		**11 30 58.5**	**+0.3**
MSRU	**Castanea**	**0.94**	**301**	Pg		**Pn**		**11 30 59.3**	**+0.3**
MSRU				Sg		**Sn**		**11 31 13.2**	**+1.9**
	7μm,0.5s								
MMME	**Mongiuffi-Meli**	**1.02**	**279**	⇓*i*Pg		**Pn**		**11 30 59.9**	**-0.2**
MMME				Sg		**Sn**		**11 31 12.6**	**-0.6**
	7μm,0.3s								
GRI	**Girifalco**	**1.04**	**356**	Pg		**Pn**		**11 31 01.2**	**+0.8**
	2μm,0.7s								
AGST	**Augusta-Monte**	**1.16**	**244**	Pg		**Pn**		**11 30 59.7**	**-2.3**
AGST				Sg		**Sn**		**11 31 12.6**	**-4.0**
HAGA	**Augusta**	**1.20**	**246**	Pg		**Pn**		**11 31 00.3**	**-2.2**
HAGA				Sg		**Sn**		**11 31 13.5**	**-4.1**
	31μm,0.3s								
ESLN	**Serra La Nave**	**1.23**	**266**	Pg		**Pn**		**11 31 01.7**	**-1.3**
	4μm,0.5s								
SERS	**Sersale**	**1.26**	**6**	Pg		**Pn**		**11 31 04.5**	**+1.1**
	1μm,0.8s								
SSY	**Sortino**	**1.31**	**242**	Pg		**Pn**		**11 31 01.8**	**-2.3**
SSY				Sg		**Sn**		**11 31 16.6**	**-3.9**
	17μm,0.3s								
VPL	**Vulcano Piano**	**1.35**	**297**	Pg		**Pn**		**11 31 04.6**	**-0.1**
	7μm,0.4s								
HAVL	**Avola**	**1.38**	**234**	Pg		**Pn**		**11 31 02.9**	**-2.2**
	12μm,0.3s								
TIP	**Timpagrande**	**1.41**	**7**	Pg		**Pn**		**11 31 06.2**	**+0.8**
	730nm,0.8s								
LLI	**Lipari**	**1.41**	**299**	Pg		**Pn**		**11 31 05.7**	**+0.3**
	10μm,0.4s								
MNO	**Monte Soro**	**1.46**	**277**	Pg		**Pn**		**11 31 06.6**	**+0.5**
	2μm,1.0s								
SLNA	**Salina**

JAN eS Sn 11 32 18.5 -4.8
RLS Riolos of Patr 3.92 84 eP Pn 11 31 40.8 +0.9
MS1 Monte Sant'Ang 3.94 354 ePn Pn 11 31 40.6 +0.4
FGMS Monte Sant'Ang 3.95 354 Pg Pn 11 31 40.6 +0.3
FGMS Sg Sn 11 32 23.3 -2.0
108nm,0.2s
RGNG Rignano Grg 3.96 350 Pg Pn 11 31 40.7 +0.3
RGNG Sg Sn 11 32 23.7 -1.8
EVR Evrytania 4.31 73 eP Pn 11 31 47.5 +2.3
ITM Ithomi 4.34 96 ⇓iP Pn 11 31 46.0 +0.4
TIR Tirane 4.40 35 ePn Pn 11 31 46.0 -0.5
ULC Ulcinj 4.67 26 ⇓iPn Pn 11 31 48.9 -1.3
ULC eSn Sn 11 31 41.4 -1.8
OHR Ohrid 4.69 44 ePn Pn 11 31 50.1 -0.4
AGG Agios Georgios 4.73 73 eSn Sn 11 32 44.2 -0.3
AGG eSn Sn 11 32 46.8 +2.3
KZN Kozani 4.80 57 eP Pn 11 31 53.4 +1.5
BUM Brajici-Budva 4.87 21 ⇓iPn Pn 11 31 52.0 -0.9
BUM eSn Sn 11 32 46.4 -1.5
HCY Herceg Novi 4.90 17 ⇓iPn Pn 11 31 52.0 -1.3
HCY eSn Sn 11 32 46.8 -2.0
HCY Herceg Novi 4.90 17 ⇓iPn Pn 11 31 52.0 -1.4
HCY eSn Sn 11 32 46.8 -2.0
BIA Bitola 4.93 47 ePn Pn 11 31 53.2 -0.5
BIA eSn Sn 11 32 49.2 -0.2
BIA Bitola 4.93 47 iPn Pn 11 31 54.6 +0.9
BIA iSn Sn 11 32 48.1 -1.3
TTG Podgorica 5.10 23 ⇓iPn Pn 11 31 55.3 -0.7
TTG eSn Sn 11 32 51.5 -2.1
TREB Trebinje 5.12 15 P Pn 11 31 55.4 -1.0
STON Ston 5.16 10 iPn Pn 11 31 55.9 -1.1
STON iSn Sn 11 32 50.2 -5.0
STON Ston 5.16 10 iPn Pn 11 31 55.8 -1.2
STON iSn Sn 11 32 50.2 -5.0
LKR Lokris 5.17 78 eP Pn 11 31 58.5 +1.4
LIT Litokhoron 5.20 62 ePn Pn 11 31 57.0 -0.4
LIT eSn Sn 11 32 56.3 +0.3
VLI Veliai 5.22 100 eP Pn 11 31 59.4 +1.6
BRY Bratogost 5.34 16 ⇓iPn Pn 11 31 58.6 -0.8
BRY eSn Sn 11 32 57.6 -2.0
NKY Niksic 5.37 20 ⇓iPn Pn 11 31 59.3 -0.5
NKY eSn Sn 11 32 58.1 -2.2
KYTH Kithira 5.42 104 eP Pn 11 32 01.2 +0.7
XOR Xorichti 5.46 71 ePn Pn 11 32 00.5 -0.5
XOR eSn Sn 11 33 02.5 0.0
NEO Neokhori 5.47 72 eP Pn 11 32 01.5 +0.3
PVY Plav 5.49 28 ⇓iPn Pn 11 32 01.4 0.0
PVY eSn Sn 11 33 01.0 -2.2
GRG Griva 5.55 53 ePn Pn 11 32 01.9 -0.4
GRG eSn Sn 11 33 05.0 +0.2
SKO Skopje 5.64 41 ePn Pn 11 32 04.3 +0.8
SKO iSn Sn 11 33 05.1 -1.9
IVA Berane 5.70 26 ⇓iPn Pn 11 32 04.3 0.0
IVA eSn Sn 11 33 06.0 -2.4
VAY Valandovo 5.86 51 ePn Pn 11 32 06.2 -0.3
VAY Valandovo 5.86 51 iPn Pn 11 32 06.6 +0.1
VAY iSn Sn 11 33 08.6 -3.7
PLE Pljevlja 5.96 21 ⇓iPn Pn 11 32 08.3 +0.5
PLE eSn Sn 11 33 12.6 -2.2
PLG Polygyros 5.97 62 eP Pn 11 32 08.2 +0.1
KNT Kendrikon 5.98 54 ePn Pn 11 32 08.1 0.0
KNT eSn Sn 11 33 16.0 +0.7
PAIG Paliouri 5.98 67 ePn Pn 11 32 08.2 0.0
PAIG eSn Sn 11 33 16.2 +0.8
SOH Sokhos 6.11 58 eSn Sn 11 33 18.9 +0.5
KARN Karanos 6.40 110 ePn Pn 11 32 13.7 -0.2
KARN eSn Sn 11 33 26.3 +0.6
BBLS Bajina Basta - 6.46 19 iPn Pn 11 32 15.6 +0.9
VAM Vamos 6.61 109 eP Pn 11 32 13.5 -3.4
NVR Nevrokopi 6.70 56 eP Pn 11 32 18.9 +0.9
DIVS Divcibare 6.83 21 iPn Pn 11 32 19.5 -0.4
DIVS Divcibare 6.83 21 ePn Pn 11 32 19.6 -0.3
DIVS eSn Sn 11 33 37.4 +1.0
GRUS Gruza 6.88 26 iPn Pn 11 32 20.0 -0.5
VTS Vitosha 7.02 45 ⇑iP Pn 11 32 25.1 +2.7
IDI Anoyia 7.18 108 Pn Pn 11 32 24.1 -0.5
5.5nm,0.3s,baz=302,slow=13,SNR=24
IDI Sn Sn 11 33 36.1 -8.7
24nm,0.3s,baz=302,slow=18,SNR=17
BOJS Bojanci 7.78 353 iPn Pn 11 32 33.8 +1.1
BOJS eSn Sn 11 33 56.1 -3.3
PKSM Moragy 8.57 10 ⇓iP Pn 11 32 42.5 -1.2
KARP Karpathos 8.83 101 eP Pn 11 32 46.4 -0.8
OBKA Obir 8.85 351 ⇑iPn Pn 11 32 48.7 +1.2
OBKA ⇑iSn Sn 11 34 22.6 -3.1
PERS Pernice 8.91 354 iPn Pn 11 32 48.7 +0.3
PERS eSn Sn 11 34 23.1 -4.2
MOA Molln 10.20 351 ⇑iPn Pn 11 33 06.9 +0.9
MOA ⇓iSn Sn 11 34 57.5 -1.4
MOA Molln 10.20 351 ⇑iPn Pn 11 33 06.9 +0.7
MOA iSn Sn 11 34 57.5 -1.4
DAVOX Davos 10.25 333 Pn Pn 11 33 05.5 -1.1
0.3nm,0.3s,baz=315,slow=20,SNR=1.9
ZST Bratislava 10.42 2 ePn Pn 11 33 09.0 0.0
MLR Muntele Rosu 10.44 39 Pn Pn 11 33 06.8 -2.4
0.5nm,0.3s,baz=269,slow=11,SNR=5.1
MLR Muntele Rosu 10.44 39 ⇑iP Pn 11 33 09.9 +0.7
MLR Muntele Rosu 10.44 39 P Pn 11 33 06.8 -2.4
MLR pmax pmax
comp=Z,1.0nm,0.3s
MLR Muntele Rosu 10.44 39 ⇑P Pn 11 33 09.9 +0.7
LPG La Plagne 10.62 320 eP Pn 11 33 15.7 +4.0
LPL La Plagne 10.64 320 eP Pn 11 33 15.8 +3.8
ORIF Oris-en-Rattie 10.71 315 eP Pn 11 33 16.5 +3.5
ORIF eR
comp=Z,108nm,20.5s
VYHS Vyhne 10.84 8 ePN Pn 11 33 16.1 +1.4
VYHS e 11 35 05.4
KECS Kecovo 11.08 14 ePN Pn 11 33 19.4 +1.4
GERES GERESS Array B 11.25 350 Pn Pn 11 33 16.9 -3.4
comp=Z,0.3nm,0.3s,baz=184,slow=40,SNR=2.8
GERES Sn Sn 11 35 15.2 -9.4
comp=Z,0.4nm,0.3s,baz=156,slow=22,SNR=12
LASF Ste Croix 11.46 307 eP Pn 11 33 26.5 +3.4
VRAC Vranov 11.52 0 Pn Pn 11 33 21.1 -3.0
comp=Z,0.9nm,0.3s,baz=68,slow=4.5,SNR=3.2
CRVS Cervenica-Dubn 11.68 16 ePN Pn 11 33 25.8 -0.4
BURAR Bucovina Array 11.72 30 ⇑iP Pn 11 33 28.5 +1.8
BURAR Bucovina Array 11.72 30 ⇑iP Pn 11 33 28.5 +1.8
MORU Moravsky Berou 12.02 3 ⇓iP Pn 11 33 31.9 +1.1
MTLF Montolieu 12.21 302 eP Pn 11 33 36.3 +2.8
comp=Z,102nm,1.7s
MTLF Montolieu 12.21 302 eP Pn 11 33 36.3 +2.8
MTLF pmax pmax
comp=Z,51nm,1.7s
MTLF Montolieu 12.21 302 eP Pn 11 33 36.3 +2.8
comp=Z,51nm,1.7s
ANTO Ankara 12.86 76 iP Pn 11 33 45.6 +3.3
BR131 Keskin Array S 13.50 76 ePn Pn 11 33 51.9 +0.8
comp=Z,21nm,0.6s
BRTR Keskin Array B 13.50 76 Pn Pn 11 33 52.1 +1.1
comp=Z,2.2nm,0.3s,baz=241,slow=16,SNR=23
KAMT Kaman 13.55 78 PN Pn 11 33 50.3 -1.4
CLL Collm 13.75 351 ePP 11 34 03.0
CLL LmV 11 40 00.0
comp=Z,100nm,20.4s
CLL Collm 13.75 351 eP Pn 11 33 47.0 -7.5
SJPF Ste Jean 14.52 297 eP Pn 11 34 06.1 +1.2
comp=Z,28nm,1.2s
SJPF Ste Jean 14.52 297 eP Pn 11 34 06.1 +1.2
SJPF pmax pmax
comp=Z,14nm,1.2s
SJPF Ste Jean 14.52 297 eP Pn 11 34 06.1 +1.2
comp=Z,14nm,1.2s
MFF Saint Martin d 15.15 311 eP Pn 11 34 15.3 +2.1
comp=Z,14nm,0.8s
MFF Saint Martin d 15.15 311 eP Pn 11 34 15.3 +2.1
MFF pmax pmax
comp=Z,7.0nm,0.8s
MFF Saint Martin d 15.15 311 eP Pn 11 34 15.3 +2.1
comp=Z,7.2nm,0.8s
AKASG Malin Array Be 15.77 31 Pn Pn 11 34 19.2 -1.9
comp=Z,1.4nm,0.3s,baz=223,slow=10,SNR=30
MMAI Mount Meron Ar 16.11 102 Pn Pn 11 34 23.5 -1.9
comp=Z,2.4nm,0.3s,baz=299,slow=13,SNR=7.9
LDF La Druitiere 16.22 317 eP Pn 11 34 29.0 +2.2
comp=Z,55nm,1.1s
LDF La Druitiere 16.22 317 eP Pn 11 34 29.0 +2.2
LDF pmax pmax
comp=Z,28nm,1.1s
LDF La Druitiere 16.22 317 eP Pn 11 34 29.0 +2.2
comp=Z,28nm,1.1s
GRR Gorron 16.50 315 eP Pn 11 34 33.1 +2.7
comp=Z,44nm,0.9s
GRR Gorron 16.50 315 eP Pn 11 34 33.1 +2.7
GRR pmax pmax
comp=Z,22nm,0.9s
GRR Gorron 16.50 315 eP Pn 11 34 33.1 +2.7
comp=Z,22nm,0.9s
FLN La Foliniere 16.51 317 eP Pn 11 34 32.6 +2.1
comp=Z,43nm,0.9s
FLN eR
comp=Z,80nm,18.2s
FLN La Foliniere 16.51 317 eP Pn 11 34 32.6 +2.1
FLN pmax pmax
comp=Z,22nm,0.9s
FLN La Foliniere 16.51 317 eP Pn 11 34 32.6 +2.1
comp=Z,22nm,0.9s
SGMF Saint Gilles 17.40 313 eP Pn 11 34 44.0 +2.5
comp=Z,6.3nm,0.5s
SGMF Saint Gilles 17.40 313 eP Pn 11 34 44.0 +2.5
SGMF pmax pmax
comp=Z,3.0nm,0.5s
SGMF Saint Gilles 17.40 313 eP Pn 11 34 44.0 +2.5
comp=Z,3.2nm,0.5s
QUIF Quistinic 17.59 311 eP Pn 11 34 46.0 +2.1
ASF Jabal al Asfar 17.60 102 P Pn 11 34 42.1 -1.9
comp=Z,0.3nm,0.3s,baz=26,slow=2.6,SNR=5.6
ASF S S 11 37 46.5 -18
baz=275,slow=5.9,SNR=2.2
MDT Midelt 17.94 260 LR LR 11 42 02.4
comp=Z,72nm,21.0s,baz=67,slow=38
ZEI Tsey 21.43 68 eP P 11 35 29.0 +2.7
ZEI pmax pmax
comp=Z,7.0nm,1.0s,mb4.0
EKA Eskdalemuir Ar 22.04 329 P P 11 35 32.4 -0.5
comp=Z,1.7nm,0.6s,mb3.6,baz=144,slow=10,SNR=5.5
HFS Hagfors 22.45 356 P P 11 35 37.1 0.0
comp=Z,2.0nm,0.6s,mb3.7,baz=170,slow=8.8,SNR=5.1
HFS LR LR 11 45 05.5
comp=Z,64nm,19.7s,MS3.0,baz=145,slow=39
NOA NORSAR Array B 23.52 354 P P 11 35 48.0 -0.2
comp=Z,1.1nm,0.8s,mb3.4,baz=179,slow=10,SNR=2.9
NOA LR LR 11 46 24.5
comp=Z,16nm,21.1s,MS2.5,baz=180,slow=40
FINES FINESS Array B 24.43 11 P P 11 35 57.0 +0.6
comp=Z,1.1nm,0.5s,mb3.6,baz=190,slow=8.5,SNR=8.0
FINES LR LR 11 46 31.4
comp=Z,45nm,19.6s,MS3.0,baz=188,slow=39
TORD Torodi Ar. Bea 27.87 212 P P 11 36 28.9 +1.4
comp=Z,1.1nm,0.6s,mb3.6,baz=17,slow=9.5,SNR=11
AKTK Aktyubinsk 31.95 53 P P 11 37 05.0 +1.5
AKTK Aktyubinsk 31.95 53 P P 11 37 05.1 +1.5
AKTO Aktyubinsk 31.95 53 P P 11 37 05.0 +1.5
comp=Z,1.0nm,0.5s,mb3.9,baz=249,slow=8.1,SNR=4.3
ARCES ARCESS Array B 32.18 6 P P 11 37 06.0 +0.3
comp=Z,1.4nm,0.8s,mb3.9,baz=191,slow=9.2,SNR=3.0
ARCES LR LR 11 51 42.9
comp=Z,33nm,19.9s,MS3.0,baz=274,slow=40
ARCES ARCESS Array B 32.18 6 P P 11 37 06.0 +0.3
DBIC Dimbokro 36.55 217 P P 11 37 44.5 +1.0
comp=Z,4.9nm,0.7s,mb4.4,baz=16,slow=10,SNR=7.6
DBIC LR LR 11 54 16.1
comp=Z,75nm,19.4s,MS3.5,baz=245,slow=39
MKAR Makanchi Array 48.19 57 P P 11 39 19.9 +2.0
comp=Z,1.6nm,0.7s,mb4.2,baz=277,slow=7.2,SNR=15
SONM Songino Array 63.13 49 P P 11 41 08.1 +2.9
comp=Z,1.8nm,0.8s,mb4.2,baz=308,slow=7.3,SNR=6.7
SONM Songino Array 63.13 49 P P 11 41 08.1 +2.9
SONM pmax pmax
comp=Z,2.0nm,0.8s
BDFB Brasilia 80.52 242 LR LR 12 16 57.8
comp=Z,47nm,18.0s,MS3.9,baz=195,slow=34
PDAR Pinedale Array 86.04 323 P P 11 43 20.3 +2.4
comp=Z,0.4nm,0.8s,mb3.7,baz=37,slow=7.6,SNR=4.1
PDAR LR LR 12 23 14.2
comp=Z,32nm,18.4s,MS3.8,baz=258,slow=37
JOW Kunigami 89.34 56 LR LR 12 26 26.1
comp=Z,36nm,21.0s,MS3.8,baz=162,slow=38
CPUP Villa Florida 94.09 240 LR LR 12 24 31.9
comp=Z,59nm,21.8s,MS4.0,baz=218,slow=34

*ISCJB **30** 11:38:33.8±0.5, 3764N±004×1648E±005, h57km±13km, Error ellipse: s-maj=9.5km s-min=4.2km az=94.7*
*ROM **30** 11:38:34.5±0.1, 3762N×1647E, h38km, Md3.0/21, Ml3.5/18, Error ellipse: s-maj=2.4km s-min=1.0km az=91.0*
*CSEM **30** 11:38:34.3±0.2, 3763N×1647E, h40km, ML4.7/8, Error ellipse: s-maj=4.7km s-min=1.9km az=121.0*
*NEIC **30** 11:38:34.5, 3762N×1647E, h38km, MD3.0(ROM), After ROM.*

ISC 30 11:38:34.8±0.4, 3764N±004×1647E±005, h47km±21km, n32, σ0°96/46, 2C-1D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOI	Samo	0.54	323	⇓ePg	Pn	11 38 46.1	-0.3
SOI				Sg	Sn	11 38 54.6	0.0
	2μm,0.8s						
MTTG	Motta San Giov	0.71	301	Pg	Pn	11 38 48.8	+0.3
MTTG				Sg	Sn	11 38 59.4	+0.9
	273nm,0.2s						
CEL	Celeste	0.77	324	⇑ePg	Pn	11 38 49.4	+0.1
CEL				Sg	Sn	11 39 00.4	+0.6
	1μm,0.8s						
PLAC	Placanica	0.81	359	Pg	Pn	11 38 50.0	+0.1
PLAC				Sg	Sn	11 39 00.9	+0.1
	237nm,0.5s						
SCLL	Scilla	0.86	316	Pg	Pn	11 38 50.7	+0.2
	115nm,0.4s						
MSI	Messina ING	0.92	308	Pg	Pn	11 38 51.9	+0.6
MSRU	Castanea	0.98	310	Pg	Pn	11 38 52.7	+0.5
	630nm,0.4s						
MMME	Mongiuffi-Meli	1.00	287	Pg	Pn	11 38 53.2	+0.7
MMME				Sg	Sn	11 39 05.1	-0.4
	619nm,0.3s						
AGST	Augusta-Monte	1.06	249	Pg	Pn	11 38 53.1	-0.1
AGST				Sg	Sn	11 39 05.5	-1.3
	2μm,0.2s						
HAGA	Augusta	1.10	252	i Pg	Pn	11 38 53.7	-0.1
HAGA				Sg	Sn	11 39 06.5	-1.4
	3μm,0.2s						
GRI	Girifalco	1.18	358	Pg	Pn	11 38 55.1	+0.2
	263nm,0.6s						
SSY	Sortino	1.21	247	Pg	Pn	11 38 55.2	-0.1
SSY				Sg	Sn	11 39 09.4	-1.1
	2μm,0.2s						
HAVL	Avola	1.27	238	⇑ePg	Pn	11 38 56.3	+0.3
HAVL				Sg	Sn	11 39 11.1	-0.8
	2μm,0.3s						
VPL	Vulcano Piano	1.38	303	Pg	Pn	11 38 57.9	+0.2
	534nm,0.4s						
SERS	Sersale	1.41	7	Pg	Pn	11 38 58.4	+0.4
	87nm,0.5s						
LLI	Lipari	1.44	304	Pg	Pn	11 38 59.3	+0.8
	1μm,0.8s						
HVZN	Vizzini	1.47	252	Pg	Pn	11 38 59.2	+0.4
HVZN				Sg	Sn	11 39 16.0	-0.8
	3μm,0.4s						
HMDC	Modica	1.50	244	Pg	Pn	11 38 59.7	+0.4
HMDC				Sg	Sn	11 39 17.1	-0.6
	1μm,0.3s						
TIP	Timpagrande	1.56	8	Pg	Pn	11 39 00.2	+0.2
	49nm,0.6s						
GIB	Gibilmanna	1.96	281	Pg	Pn	11 39 07.0	+1.4
	168nm,0.5s						
WDD	Wield Dalam	2.36	222	Pg	Pn	11 39 13.0	+2.0
USI	Ustica	2.80	293	Pg	Pn	11 39 17.4	+0.3
	51nm,0.2s						
LCI	Lecce	2.98	25	Pg	Pn	11 39 18.6	-1.0
	64nm,0.1s						
PE1	Pezze di Greco	3.25	13	ePn	Pn	11 39 21.8	-1.4
VLS	Valsamata	3.31	79	eP	Pn	11 39 24.0	0.0
VLS				eS	Sn	11 39 59.4	-2.7
KEK	Kerkira	3.33	51	Pg	Pn	11 39 23.9	-0.5
KEK				Sg	Sn	11 40 00.2	-2.5
	99nm,0.3s						
KEK	Kerkira	3.33	51	eP	Pn	11 39 23.9	-0.5
CDT	Castel del Mon	3.44	358	ePn	Pn	11 39 25.5	-0.4
ITM	Ithomi	4.37	94	eP	Pn	11 39 40.1	+1.4
LKR	Lokris	5.25	77	eP	Pn	11 39 52.4	+1.7
VLI	Veliai	5.25	98	eP	Pn	11 39 53.3	+2.6
STON	Ston	5.31	10	i Pn	Pn	11 39 49.8	-1.7
STON				i Sn	Sn	11 40 43.8	-7.6

MAN 30 11:48:05.6, 681N×12571E, h40km, mb2.2, ML3.8, MS1.9, Mindanao

*ISCJB **30** 11:55:53.7±0.6, 518N±02×17965W±0.10, h75km±9km, mb3.6/9, Error ellipse: s-maj=25.9km s-min=8.5km az=153.1*
*IDC **30** 11:55:53.0±10.0, 5175N×17970W, h54km±92km, mb3.4/8, mb1 3.8/9, mb1mx3.5/23, mbtmp3.8/9, ML4.5/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/27, Error ellipse: s-maj=55.6km s-min=21.6km az=9.0*
*NEIC **30** 11:55:55.0±0.7, 5172N×17965W, h75km±7km, mb4.2/1, Error ellipse: s-maj=18.8km s-min=8.5km az=167.0*

ISC 30 11:55:54.9±0.6, 518N±01×1797W±01, h73km±8km, n17, σ0°79/19, mb3.6/9, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMKA	Amchitka	0.75	240	P	Pn	11 56 10.5	0.0
AMKA				S	Sn	11 56 22.1	-0.1
ATKA	Atka Island	3.41	80	P	Pn	11 56 45.9	+0.3
ATKA				S	Sn	11 57 24.5	-0.4
SPIA	Saint Paul Isl	7.71	42	P	Pn	11 57 46.0	+1.7
UNV	Unalaska Valle	8.24	70	P	Pn	11 57 51.2	-0.5
KDAK	Kodiak Island	16.67	58	P	Pn	11 59 42.0	-1.8
	1.9nm,0.3s,baz=276,slow=6.7,SNR=14						
ILAR	Eielson Array	21.29	40	P	P	12 00 35.8	+0.4
	0.3nm,0.5s,mb2.9,baz=239,slow=8.7,SNR=9.6						
INK	Inuvik	27.46	36	P	P	12 01 34.0	+0.1
	1.6nm,1.0s,mb3.5,baz=243,slow=6.8,SNR=3.7						
YKA	Yellowknife Ar	35.36	47	P	P	12 02 42.2	-1.0
	0.2nm,0.4s,mb3.3,baz=279,slow=9.2,SNR=9.5						
YKA				LR	LR	12 18 49.6	
	comp=Z,32nm,18.1s,baz=0.0,slow=39						
YKA	Yellowknife Ar	35.36	47	P	P	12 02 42.2	-1.0
NVAR	Mina Array Bea	44.04	83	P	P	12 03 56.1	+0.9
	0.8nm,0.7s,mb3.6,baz=291,slow=7.6,SNR=7.3						
SONM	Songino Array	45.99	296	P	P	12 04 11.5	+0.8
	0.5nm,0.5s,mb3.5,baz=56,slow=9.9,SNR=5.4						
TPNV	Topopah Spring	46.23	83	eP	P	12 04 12.4	-0.2
	2.0nm,0.6s,mb4.0						
PDAR	Pinedale Array	46.70	72	P	P	12 04 16.4	0.0
	1.5nm,0.5s,mb4.0,baz=319,slow=3.2,SNR=16						
SRU	San Rafael	48.37	77	eP	P	12 04 29.9	+0.7
PV10	Paradox Valley	49.73	76	eP	P	12 04 40.2	+0.6
ARCES	ARCESS Array B	57.62	350	P	P	12 05 37.0	-0.2
	3.4nm,0.9s,mb4.4,baz=22,slow=9.7,SNR=2.9						
MKAR	Makanchi Array	59.37	308	P	P	12 05 48.2	-1.2
	0.2nm,0.3s,mb3.6,baz=55,slow=6.4,SNR=3.6						

IDC 30 12:12:09.7±3.7, 2396S×6903E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/19, mbtmp3.8/4, Error ellipse: s-maj=140.6km s-min=30.6km az=43.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	58.84	104	P	P	12 22 10.7	+0.6
	1.0nm,0.6s,baz=250,slow=6.1,SNR=12						
WRA	Warramunga Arr	60.23	100	P	P	12 22 20.0	+0.4
	0.9nm,0.9s,baz=254,slow=7.0,SNR=10.0						
MKAR	Makanchi Array	71.43	10	P	P	12 23 31.6	-0.2
	0.3nm,0.5s,baz=201,slow=7.6,SNR=4.1						
AKASG	Malin Array Be	82.22	336	P	P	12 24 32.6	-0.1
	0.3nm,0.3s,baz=136,slow=4.8,SNR=4.7						

*IDC **30** 12:16:16.9±1.4, 5176N×17548W, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.6/21, mbtmp3.7/5, ML4.0/2, Error ellipse: s-maj=97.8km s-min=23.4km az=143.0*
*ISCJB **30** 12:16:25.7±0.8, 519N±02×1754W±0.1, h79km±7km, mb3.8/4, Error ellipse: s-maj=26.3km s-min=7.8km az=148.6*
*NEIC **30** 12:16:28.3, 5191N×17536W, h65km, mb4.2/2, ML3.6(AEIC), After AEIC.*

ISC 30 12:16:26.8±0.7, 520N±01×1754W±01, h78km±8km, n13, σ1°20/15, mb3.8/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	Atka Island	0.78	71	P	Pn	12 16 42.4	-0.7
ATKA				S	Sn	12 16 54.0	-1.2
AMKA	Amchitka	3.35	262	P	Pn	12 17 17.5	+0.6
AMKA				S	Sn	12 17 55.5	-0.1
OKCD	Okmok Cone D	4.67	69	P	Pn	12 17 36.2	+1.5
UNV	Unalaska Valle	5.70	67	P	Pn	12 17 50.0	+1.1
AKUT	Akutan	6.20	66	ePn	Pn	12 17 57.8	+2.1
KDAK	Kodiak Island	14.33	57	Pn	Pn	12 19 43.7	-2.1
	0.7nm,0.3s,baz=282,slow=9.3,SNR=4.8						
SLKM	Skilak Lake	16.31	49	ePn	Pn	12 20 12.0	+1.0
BILL	Bilibino	18.41	338	eP	Pn	12 20 37.1	+0.4
	7.4nm,1.0s						
ILAR	Eielson Array	19.47	38	P	P	12 20 47.3	-2.0
	0.2nm,0.3s,baz=230,slow=9.6,SNR=34						
WVOR	Wild Horse Val	38.81	81	eP	P	12 23 40.0	-3.9
	3.4nm,0.5s,mb4.4						
PDAR	Pinedale Array	44.11	75	P	P	12 24 27.9	+0.6
	0.8nm,0.6s,mb3.6,baz=296,slow=4.3,SNR=8.8						
WRA	Warramunga Arr	83.93	227	P	P	12 28 47.6	-0.6
	0.3nm,0.5s,mb3.4,baz=37,slow=5.9,SNR=5.2						
ASAR	Alice Springs	87.38	225	P	P	12 29 04.9	-0.4
	0.5nm,0.6s,mb3.6,baz=29,slow=4.0,SNR=5.1						

*ISCJB **30** 12:17:43.8±0.4, 3628N±003×13944E±006, h124km, mb3.8/4, Error ellipse: s-maj=6.3km s-min=4.3km az=164.8*
*IDC **30** 12:17:44.3±0.8, 3620N×13923E, h133km±10km, mb3.4/4, mb1 3.6/5, mb1mx3.2/21, mbtmp3.9/5, Error ellipse: s-maj=33.0km s-min=9.4km az=74.0*
*NEIC **30** 12:17:44.7, 3627N×13941E, h124km, MG3.4(JMA), After JMA.*
*JMA **30** 12:17:44.7±0.1, 3627N×13941E, h124km±1km, M3.4*

ISC 30 12:17:43.9±0.5, 3628N±003×13939E±006, h130km±4km, n22, σ0°53/38, mb3.6/4, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAG	Ashikaga	0.15	19	P	Pn	12 18 01.8	+0.2
JAG				S	Sn	12 18 14.6	-0.4
JRY	Ryogami san	0.48	237	P	Pn	12 18 03.3	+0.5
JRY				S	Sn	12 18 17.4	+0.2
JKT	Katashina	0.50	347	P	Pn	12 18 03.5	+0.5
JKT				S	Sn	12 18 17.3	-0.1
MJAR	Matsushiro Arr	0.99	286	P	Pn	12 18 06.5	-0.1
	12nm,0.3s,baz=230,slow=19,SNR=150						
MJAR				S	Sn	12 18 23.7	-0.3
	14nm,0.3s,baz=32,slow=12,SNR=24						
MAJO	Matsushiro	0.99	286	ePn	Pn	12 18 06.9	+0.2
MAJO				eSn	Sn	12 18 24.2	+0.2
MAT	Matsushiro	0.99	286	P	Pn	12 18 06.8	+0.1
MAT				S	Sn	12 18 23.7	-0.3
MAT	Matsushiro	0.99	286	P	Pn	12 18 07.0	+0.3
MAT				S	Sn	12 18 23.6	-0.4
MAT	Matsushiro	0.99	286	eP	Pn	12 18 07.0	+0.3
MAT				eS	Sn	12 18 24.0	0.0
JYN	Shimob	1.04	222	P	Pn	12 18 07.5	+0.3
JYN				S	Sn	12 18 25.3	+0.4
JOD2	Odawara 2	1.04	194	P	Pn	12 18 07.0	-0.2
JOD2				S	Sn	12 18 24.1	-0.8
JNS	Sasagawa	1.54	358	P	Pn	12 18 12.7	+0.3
JNS				S	Sn	12 18 34.7	+0.6
JIM2	Oshima 3	1.56	179	P	Pn	12 18 12.8	+0.2
JIM2				S	Sn	12 18 34.4	-0.2
JMM	Marumori	1.94	35	P	Pn	12 18 17.4	+0.3
JMM				S	Sn	12 18 42.1	-0.4
JSD	Sado	1.97	333	P	Pn	12 18 17.3	-0.2
JSZ	Suzu	2.00	306	P	Pn	12 18 17.9	0.0
BSO1	Boso 1	2.08	141	P	Pn	12 18 18.9	+0.1
BSO1				S	Sn	12 18 46.0	+0.5
JHJ	Hachijo jima 2	3.17	174	P	Pn	12 18 32.9	+0.2
	53nm,0.3s,baz=87,slow=20,SNR=16						
JHJ				S	Sn	12 19 09.8	-0.6
	40nm,0.3s,baz=269,slow=23,SNR=9.4						
ASAJ	Asahikawa	8.20	16	P	Pn	12 19 37.4	-2.6
	0.4nm,0.3s,baz=272,slow=27,SNR=5.7						
ASAJ				S	Sn	12 21 04.3	-6.7
	0.3nm,0.3s,baz=261,slow=27,SNR=2.1						
ILAR	Eielson Array	51.00	32	P	P	12 26 32.8	+0.5
	0.4nm,0.6s,mb3.2,baz=267,slow=5.4,SNR=6.8						
INK	Inuvik	55.79	27	P	P	12 27 08.0	+0.7

1.4nm,0.8s,mb3.8,baz=284,slow=8.6,SNR=3.1
WRA Warramunga Arr 56.12 186 P **P 12 27 09.5 -0.1**
0.5nm,0.3s,mb3.8,baz=1.0,slow=7.6,SNR=14
FINES FINESS Array B 68.72 332 P **P 12 28 32.7 -0.7**
1.0nm,0.8s,mb3.6,baz=70,slow=6.3,SNR=3.9

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*CSEM **30** 12:18:27.0±0.8, 3898N×2790W, h2km±2km, ML1.7, Error ellipse: s-maj=1.7km s-min=1.2km az=61.0, After PDA*
*PDA **30** 12:18:27.0±0.8, 3898N×2790W, h2km±2km, MD3.2, ML1.7, Error ellipse: s-maj=1.7km s-min=1.2km az=61.0*
SVSA 30 12:18:27.0±0.8, 3898N×2790W, h2km±2km, MD3.2, ML1.7, Error ellipse: s-maj=1.7km s-min=1.2km az=61.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGRA	**Graciosa**	**0.08 310**		*e*P	Pg	12 18 27.7	-0.9
PGRA				*e*S	Sg	12 18 29.2	-0.5
PGRA							
	271nm,0.1s						
PGRA	**Graciosa**	**0.08 310**		*e*P	Pg	12 18 27.7	-0.9
PGRA				*e*S	Sg	12 18 29.2	-0.5
SRBC	**Serra Branca**	**0.12 299**		*e*P	Pg	12 18 28.5	-0.9
SRBC				*e*S	Sg	12 18 30.4	-0.7
STGR	**Santa Cruz**	**0.13 322**		*e*S	Sg	12 18 31.5	+0.2
STGR							
	75nm,0.1s						
PVIA	**Vitoria**	**0.15 308**		*e*P	Pg	12 18 29.7	-0.2
PVIA				*e*S	Sg	12 18 31.9	+0.1
PVIA							
	28nm,0.1s						
PAMA	**Santo Amaro**	**0.37 217**		*e*P	Pg	12 18 33.7	-0.4
PAMA				*e*S	Sg	12 18 38.8	0.0
PAMA							
	44nm,0.1s						
ROSA	**Rosais**	**0.37 226**		*e*P	Pg	12 18 32.7	-1.4
ROSA				*e*S	Sg	12 18 37.9	-1.0
PMAN	**Manadas**	**0.37 203**		*e*P	Pg	12 18 32.6	-1.6
PMAN				*e*S	Sg	12 18 38.2	-0.8
PMAN							
	299nm,0.1s						
PMAN	**Manadas**	**0.37 203**		*e*P	Pg	12 18 32.6	-1.6
PMAN				*e*S	Sg	12 18 38.2	-0.8
ASBA	**Santa Barbara**	**0.52 119**		*e*S	Sg	12 18 43.1	-0.5
ASBA							
	18nm,0.2s						
PBIS	**Biscoitos**	**0.55 113**		*e*S	Sg	12 18 44.0	-0.6
PBIS							
	15nm,0.1s						
PPAD	**Pico dos Padre**	**0.55 120**		*e*S	Sg	12 18 44.0	-0.7
PPAD							
	9.5nm,0.1s						
PID	**Ribeirinha**	**0.56 198**		*e*P	Pg	12 18 36.0	-1.7
PID				*e*S	Sg	12 18 42.8	-2.2
PIED	**Piedade**	**0.57 192**		*e*S	Sg	12 18 44.4	-0.9
PTEI	**Pico do Teixo**	**0.60 217**		*e*S	Sg	12 18 45.5	-0.7
PTEI							
	13nm,0.1s						
PVNV	**Vila Nova**	**0.62 110**		*e*S	Sg	12 18 45.8	-1.1
PVNV							
	14nm,0.1s						
PICO	**Pico**	**0.63 221**		*e*P	Pg	12 18 37.0	-2.0
PICO				*e*S	Sg	12 18 45.4	-1.8
PBOI	**Pico dos Bois**	**0.66 215**		*e*S	Sg	12 18 46.7	-1.4
PBOI							
	14nm,0.1s						
PCND	**Candelaria**	**0.67 221**		*e*S	Sg	12 18 47.2	-1.4
PCND							
	16nm,0.2s						
CALA	**Caldeira**	**0.74 238**		*erx*		12 18 47.7	
PLUZ	**Luz**	**0.84 273**		*e*P	Pg	12 18 28.5	-15
PLUZ				*e*S	Sg	12 18 29.9	-24
PLUZ							
	183nm,0.2s						

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*CSEM **30** 12:20:04.0±1.0, 3897N×2788W, h2km±4km, ML1.4, Error ellipse: s-maj=5.6km s-min=2.1km az=79.0, After PDA*
*PDA **30** 12:20:04.0±1.0, 3897N×2788W, h2km±4km, MD2.7, ML1.4, Error ellipse: s-maj=5.6km s-min=2.1km az=79.0*
SVSA 30 12:20:04.0±1.0, 3897N×2788W, h2km±4km, MD2.7, ML1.4, Error ellipse: s-maj=5.6km s-min=2.1km az=79.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGRA	**Graciosa**	**0.10 307**		*e*P	Pg	12 20 05.2	-0.7
PGRA				*e*S	Sg	12 20 06.8	-0.4
PGRA							
	86nm,0.2s						
PGRA	**Graciosa**	**0.10 307**		*e*P	Pg	12 20 05.2	-0.7
PGRA				*e*S	Sg	12 20 06.8	-0.4
SRBC	**Serra Branca**	**0.14 298**		*e*P	Pg	12 20 07.1	+0.4
SRBC				*e*S	Sg	12 20 09.1	+0.5
STGR	**Santa Cruz**	**0.15 319**		*e*P	Pg	12 20 06.8	0.0
STGR				*e*S	Sg	12 20 09.2	+0.5
STGR							
	28nm,0.1s						
STGR	**Santa Cruz**	**0.15 319**		*e*P	Pg	12 20 06.8	0.0
STGR				*e*S	Sg	12 20 09.2	+0.5
PVIA	**Vitoria**	**0.17 307**		*e*S	Sg	12 20 09.4	+0.1
PVIA							
	14nm,0.1s						
PAMA	**Santo Amaro**	**0.37 219**		*e*P	Pg	12 20 10.8	-0.3
PAMA				*e*S	Sg	12 20 15.9	-0.1
PAMA							
	17nm,0.2s						
PMAN	**Manadas**	**0.37 206**		*e*P	Pg	12 20 09.9	-1.3
PMAN				*e*S	Sg	12 20 15.4	-0.6
PMAN							
	102nm,0.1s						
PMAN	**Manadas**	**0.37 206**		*e*P	Pg	12 20 09.9	-1.3
PMAN				*e*S	Sg	12 20 15.4	-0.6
ROSA	**Rosais**	**0.38 229**		*e*P	Pg	12 20 09.9	-1.3
ROSA				*e*S	Sg	12 20 15.0	-1.1
PID	**Ribeirinha**	**0.56 200**		*e*P	Pg	12 20 13.2	-1.5
PID				*e*S	Sg	12 20 20.1	-1.8
PICO	**Pico**	**0.63 223**		*e*P	Pg	12 20 14.2	-1.9
PICO				*e*S	Sg	12 20 22.6	-1.7
HOR	**Horta**	**0.73 233**		*erx*		12 20 09.5	
PLUZ	**Luz**	**0.86 274**		*e*P	Pg	12 20 05.8	-15
PLUZ				*e*S	Sg	12 20 07.2	-24
PLUZ							
	45nm,0.2s						

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*CSEM **30** 12:22:31.7±1.1, 3898N×2790W, h5km±8km, ML1.5, Error ellipse: s-maj=5.5km s-min=2.6km az=162.0, After PDA*
*PDA **30** 12:22:31.7±1.1, 3898N×2790W, h5km±8km, MD2.6, ML1.5, Error ellipse: s-maj=5.5km s-min=2.6km az=162.0*
SVSA 30 12:22:31.7±1.1, 3898N×2790W, h5km±8km, MD2.6, ML1.5, Error ellipse: s-maj=5.5km s-min=2.6km az=162.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBC	**Serra Branca**	**0.12 295**		*e*P	Pg	12 22 33.5	-0.7
SRBC				*e*S	Sg	12 22 35.4	-0.5
STGR	**Santa Cruz**	**0.13 319**		*e*P	Pg	12 22 34.0	-0.3
STGR				*e*S	Sg	12 22 36.2	+0.2
STGR							
	49nm,0.2s						
STGR	**Santa Cruz**	**0.13 319**		*e*P	Pg	12 22 34.0	-0.3
STGR				*e*S	Sg	12 22 36.2	+0.2
PVIA	**Vitoria**	**0.15 305**		*e*S	Sg	12 22 36.6	0.0
PVIA							
	12nm,0.1s						
PAMA	**Santo Amaro**	**0.38 216**		*e*P	Pg	12 22 38.3	-0.7
PAMA				*e*S	Sg	12 22 43.4	-0.5
PAMA							
	26nm,0.1s						
ROSA	**Rosais**	**0.38 226**		*e*P	Pg	12 22 37.3	-1.7
ROSA				*e*S	Sg	12 22 42.4	-1.5
PMAN	**Manadas**	**0.38 203**		*e*P	Pg	12 22 37.3	-1.8
PMAN				*e*S	Sg	12 22 42.7	-1.4
PMAN							
	126nm,0.1s						
PMAN	**Manadas**	**0.38 203**		*e*P	Pg	12 22 37.3	-1.8
PMAN				*e*S	Sg	12 22 42.7	-1.4
ASBA	**Santa Barbara**	**0.52 120**		*e*S	Sg	12 22 47.4	-1.0
ASBA							
	14nm,0.2s						
PBIS	**Biscoitos**	**0.55 114**		*e*S	Sg	12 22 48.0	-1.4
PBIS							
	16nm,0.1s						
PPAD	**Pico dos Padre**	**0.55 121**		*e*S	Sg	12 22 48.5	-1.1
PPAD							
	13nm,0.1s						
PID	**Ribeirinha**	**0.57 198**		*e*P	Pg	12 22 40.6	-2.0
PID				*e*S	Sg	12 22 47.5	-2.5
PTEI	**Pico do Teixo**	**0.61 216**		*e*S	Sg	12 22 50.0	-1.2
PTEI							
	13nm,0.2s						
PVNV	**Vila Nova**	**0.62 111**		*e*S	Sg	12 22 50.3	-1.4
PVNV							
	9.6nm,0.2s						
PICO	**Pico**	**0.64 221**		*e*P	Pg	12 22 41.6	-2.3
PICO				*e*S	Sg	12 22 49.5	-2.7
PBOI	**Pico dos Bois**	**0.66 215**		*e*S	Sg	12 22 51.0	-2.0
PBOI							
	12nm,0.2s						
PLUZ	**Luz**	**0.84 273**		*e*P	Pg	12 22 33.1	-15
PLUZ				*e*S	Sg	12 22 34.8	-24
PLUZ							
	106nm,0.1s						

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*CSEM **30** 12:24:27.8±0.6, 3897N×2788W, h4km±10km, ML1.1, Error ellipse: s-maj=6.0km s-min=5.3km az=86.0, After PDA*
*PDA **30** 12:24:27.8±0.6, 3897N×2788W, h4km±10km, MD2.7, ML1.1, Error ellipse: s-maj=6.0km s-min=5.3km az=86.0*
SVSA 30 12:24:27.8±0.6, 3897N×2788W, h4km±10km, MD2.7, ML1.1, Error ellipse: s-maj=6.0km s-min=5.3km az=86.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBC	**Serra Branca**	**0.14 298**		*e*P	Pg	12 24 30.1	-0.6
SRBC				*e*S	Sg	12 24 32.2	-0.4
STGR	**Santa Cruz**	**0.15 319**		*e*S	Sg	12 24 32.9	+0.2
STGR							
	18nm,0.3s						
PVIA	**Vitoria**	**0.17 306**		*e*P	Pg	12 24 30.9	-0.2
PVIA				*e*S	Sg	12 24 33.0	-0.3
PVIA							
	9.9nm,0.1s						
PAMA	**Santo Amaro**	**0.37 219**		*e*S	Sg	12 24 39.7	-0.1
PAMA							
	13nm,0.1s						
ROSA	**Rosais**	**0.38 229**		*e*P	Pg	12 24 33.8	-1.3
ROSA				*e*S	Sg	12 24 38.7	-1.3
PID	**Ribeirinha**	**0.56 200**		*e*S	Sg	12 24 43.9	-1.9
PICO	**Pico**	**0.63 223**		*e*S	Sg	12 24 45.7	-2.5
PLUZ	**Luz**	**0.86 274**		*e*P	Pg	12 24 29.6	-15
PLUZ				*e*S	Sg	12 24 31.2	-24
PLUZ							
	47nm,0.2s						

IDC 30 13:15:26.3±2.5, 566S×13030E, h0km, mb3.4/1, mb1 3.6/4, mb1mx3.5/14, mbtmp3.4/4, ML3.5/2, Error ellipse: s-maj=121.3km s-min=27.6km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.18 200**		Pn	Pn	13 18 34.7	0.0
	0.1nm,0.3s,baz=16,slow=15,SNR=19						
FITZ				Sn	Sn	13 20 45.8	-16
	0.1nm,0.3s,baz=56,slow=19,SNR=2.9						
WRA	**Warramunga Arr 14.73 165**			Pn	Pn	13 18 56.2	+0.4
	0.3nm,0.3s,baz=333,slow=13,SNR=17						
WRA				Sn	Sn	13 21 27.9	-12
	0.3nm,0.3s,baz=337,slow=22,SNR=8.0						
ASAR	**Alice Springs 18.23 169**			P	Pn	13 19 40.8	+0.1
	0.3nm,0.3s,baz=351,slow=10,SNR=22						
MKAR	**Makanchi Array 67.28 326**			P	P	13 26 23.0	+0.2
	0.2nm,0.5s,baz=128,slow=8.2,SNR=3.6						

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*ISCJB **30** 13:15:51.7±1.2, 219S±02×1788W±02, h660km±33km, mb3.9/5, Error ellipse: s-maj=34.4km s-min=26.1km az=72.7*
*IDC **30** 13:15:51.6±3.0, 2185S×17888W, h626km±34km, mb3.2/5, mb1 3.4/7, mb1mx3.1/17, mbtmp4.3/7, Error ellipse: s-maj=48.3km s-min=24.1km az=166.0*
*NEIC **30** 13:15:52.1±1.0, 2185S×17884W, h638km±14km, mb4.3/2, Error ellipse: s-maj=23.1km s-min=12.9km az=144.0*
ISC 30 13:15:51.9±1.5, 219S±02×1789W±03, h621km±50km, n13, σ0°45/11, mb4.0/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.45**	**41**	*e*P	**P**	**13 18 15.4**	**0.0**
	33nm,0.9s						
DZM	**Mont Dzumac 13.62 267**			P	**P**	**13 18 47.0**	**+0.6**
	0.3nm,0.3s,baz=153,slow=18,SNR=3.5						
URZ	**Urewera 16.64 191**			P	**P**	**13 19 14.3**	**+0.2**
	1.2nm,0.3s,baz=27,slow=3.6,SNR=6.7						
CTA	**Charters Tower 32.56 267**			P	**P**	**13 21 33.8**	**-0.4**
	3.3nm,0.4s,mb4.3,baz=101,slow=8.7,SNR=12						
CTAO	**Charters Tower 32.56 267**			*e*P	**P**	**13 21 34.0**	**-0.2**
	5.5nm,0.7s,mb4.3						
STKA	**Stephens Creek 36.44 246**			P	**P**	**13 22 05.4**	**-0.9**
	6.4nm,1.2s,mb4.0,baz=160,slow=11,SNR=3.6						
ASAR	**Alice Springs 43.41 258**			P	**P**	**13 23 01.8**	**+0.2**
	2.9nm,0.6s,mb4.0,baz=91,slow=7.9,SNR=50						
ASAR				PcP	PcP	13 24 36.5	+1.0
	0.5nm,0.7s,baz=115,slow=3.2,SNR=4.1						
ASAR				S	**S**	**13 28 46.4**	**+0.2**
	0.3nm,0.9s,baz=85,slow=14,SNR=4.0						
WRA	**Warramunga Arr 43.61 264**			P	**P**	**13 23 02.6**	**-0.6**
	1.6nm,0.3s,mb4.0,baz=96,slow=7.6,SNR=23						
FITZ	**Fitzroy Crossi 52.04 264**			P	**P**	**13 24 06.1**	**+0.4**
	2.9nm,1.1s,mb3.5,baz=272,slow=18,SNR=7.2						
MBWA	**Marble Bar 56.75 258**			*e*P	**P**	**13 24 38.7**	**+0.3**
AKASG	**Malin Array Be 143.84 329**			PKP	PKPdf	13 34 13.9	-3.7
	1.0nm,0.4s,baz=40,slow=4.1,SNR=10						
BRTR	**Keskin Array B 147.16 310**			PKPbc	PKPbc	13 34 26.2	-0.4
	0.7nm,0.7s,baz=147,slow=5.7,SNR=4.3						
GERES	**GERESS Array B 151.33 343**			PKPbc	PKPbc	13 34 35.5	-1.0
	0.4nm,0.3s,baz=343,slow=3.1,SNR=3.2						

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*THE **30** 13:19:41.8, 4206N×2047E, h20km, ML2.9*
*ISCJB **30** 13:19:43.1±0.6, 4184N±004×2071E±005, h8km±6km, Error ellipse: s-maj=8.0km s-min=3.9km az=77.4*
*CSEM **30** 13:19:47.3±0.2, 4173N×2100E, h20km, ML2.3, Error ellipse: s-maj=4.1km s-min=2.2km az=112.0*
*SKO **30** 13:19:47.4, 4170N×2107E, h18km, M2.0, ML2.3*
ISC 30 13:19:43.7±0.6, 4185N±004×2072E±005, h11km±6km, n17, σ1°24/31, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKS	**Kukesi**	**0.32**	**314**	*i* Pg	**Pg**	**13 19 48.3**	**-1.8**
KKS				*i* Sg	**Sg**	**13 19 54.1**	**-0.3**
SAMO	**Samokov**	**0.35**	**117**	*i* Pg	**Pg**	**13 19 49.9**	**-0.8**
SAMO				*i* Sg	**Sg**	**13 19 55.6**	**+0.1**
BELI	**Belica**	**0.45**	**112**	*i* Pg	**Pg**	**13 19 51.5**	**-1.0**
BELI				*i*		13 19 51.5	
BELI				*i* Sg	**Sg**	**13 19 58.1**	**-0.4**
SKO	**Skopje**	**0.55**	**77**	*e*Pg	**Pg**	**13 19 56.0**	**+1.5**
SKO	**Skopje**	**0.55**	**77**	*i* Pg	**Pg**	**13 19 55.6**	**+1.2**
SKO				*e*Lg		13 20 02.7	
	comp=N,101nm,0.3s						
SKO				*i* Sg	**Sg**	**13 20 03.1**	**+1.4**
SKO				*e*Lg		13 20 03.3	
	comp=E,140nm,0.2s						
SKO	**Skopje**	**0.55**	**77**	*i* Pg	**Pg**	**13 19 55.6**	**+1.2**
SKO				*i* Sg	**Sg**	**13 20 03.1**	**+1.4**
BCI	**Bajram Curri**	**0.70**	**317**	*i* Pg	**Pg**	**13 19 59.4**	**+2.1**
BCI				*i* Sg	**Sg**	**13 20 07.8**	**+1.2**
BIA	**Bitola**	**0.95**	**151**	*i* Pg	**Pg**	**13 20 02.0**	**+0.1**
BIA				*i* Sg	**Sg**	**13 20 16.0**	**+1.7**
BIA	**Bitola**	**0.95**	**151**	*i* Pg	**Pg**	**13 20 02.0**	**0.0**
BIA				*i* Sg	**Sg**	**13 20 16.0**	**+1.6**
STIP	**Stip**	**1.11**	**98**	*i* Pg	**Pg**	**13 20 04.3**	**-0.8**
STIP				*i* Sg	**Sg**	**13 20 19.5**	**+0.1**
STIP	**Stip**	**1.11**	**98**	*i* Pg	**Pg**	**13 20 04.2**	**-0.8**
STIP				*i* Sg	**Sg**	**13 20 19.5**	**0.0**
FNA	**Florina**	**1.18**	**155**	*e*Pg	**Pg**	**13 20 05.5**	**-0.8**
FNA				*e*Sg	**Sg**	**13 20 23.5**	**+1.8**
VAY	**Valandovo**	**1.49**	**110**	*e*Pb	**Pb**	**13 20 09.4**	**-1.9**
VAY				*e*Sb	**Sb**	**13 20 30.9**	**+0.7**
VAY	**Valandovo**	**1.49**	**110**	*i* Pg	**Pg**	**13 20 10.7**	**-1.6**
VAY	**Valandovo**	**1.49**	**110**	*i* Pg	**Pg**	**13 20 10.6**	**-1.6**
VAY				*e*Sb	**Sb**	**13 20 30.9**	**+0.8**
GRG	**Griva**	**1.55**	**125**	*e*Pb	**Pb**	**13 20 10.5**	**-1.8**
KNT	**Kendrikon**	**1.78**	**112**	*e*Pn	**Pn**	**13 20 13.7**	**-0.6**
KNT				*e*Sn	**Sn**	**13 20 38.4**	**+1.6**

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*IDC **30** 13:20:31.2±1.0, 1615S×173.11W, h0km, mb3.9/8, mb1 4.2/8, mb1mx4.0/18, mbtmp3.9/8, MS3.2/4, Ms1 3.2/4, ms1mx2.8/33, Error ellipse: s-maj=49.3km s-min=18.7km az=139.0*
*ISCJB **30** 13:20:34.5±0.9, 160S±02×1733W±02, h33km, mb3.9/8, MS3.4/3, Error ellipse: s-maj=38.5km s-min=16.7km az=91.4*
ISC 30 13:20:36.2±0.9, 161S±02×1731W±02, h35km, n17, σ1°50/10, mb3.9/8, MS3.4/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.52**	**31**	Pn	**Pn**	**13 21 08.0**	**-6.7**
	14nm,0.3s,baz=218,slow=2.0,SNR=28						
AFI				Sn	**Sn**	**13 21 33.1**	**-11**
	36nm,0.3s,baz=49,slow=19,SNR=6.6						
DZM	**Mont Dzumac 20.20 250**			LR	LR	13 30 07.2	
	comp=Z,90nm,20.1s,MS3.1,baz=102,slow=28						
PPT	**Papeete 22.58 97**			*e*LR	LR	13 30 48.3	
	79nm,22.2s						
TBI	**Tubuai 23.39 112**			*e*LR	LR	13 31 04.4	
	77nm,26.5s						
URZ	**Urewera 23.70 199**			P	**P**	**13 25 44.9**	**0.0**
	2.9nm,0.3s,mb4.2,baz=126,slow=9.1,SNR=6.9						
HNR	**Honiara 27.07 281**			LR	LR	13 35 31.5	
	comp=Z,135nm,20.7s,MS3.5,baz=179,slow=33						
CTA	**Charters Tower 38.76 258**			LR	LR	13 42 10.8	
	comp=Z,74nm,18.6s,MS3.5,baz=222,slow=34						
STKA	**Stephens Creek 43.93 241**			P	**P**	**13 28 38.0**	**-1.6**
	1.6nm,0.5s,mb4.0,baz=87,slow=11,SNR=4.4						
WRA	**Warramunga Arr 49.95 257**			P	**P**	**13 29 26.7**	**+0.1**
	0.5nm,0.5s,mb3.8,baz=98,slow=6.7,SNR=18						
ASAR	**Alice Springs 50.16 252**			P	**P**	**13 29 27.8**	**-0.4**
	2.0nm,0.5s,mb4.4,baz=89,slow=8.2,SNR=34						
FITZ	**Fitzroy Crossi 58.34 258**			P	**P**	**13 30 29.8**	**+2.0**
	1.1nm,0.9s,mb3.9,baz=58,slow=19,SNR=3.9						
TGY	**Tagaytay City 71.73 291**			LR	LR	13 58 06.3	
	comp=Z,2.8nm,20.6s,baz=268,slow=31						
NVAR	**Mina Array Bea 74.66 42**			P	**P**	**13 32 12.8**	**+0.8**
	0.5nm,0.6s,mb3.6,baz=226,slow=9.9,SNR=6.3						
PDAR	**Pinedale Array 82.59 42**			P	**P**	**13 32 56.0**	**+0.4**
	0.6nm,0.7s,mb3.7,baz=236,slow=1.6,SNR=6.3						
ILAR	**Eielson Array 83.06 11**			P	**P**	**13 32 57.6**	**-0.5**
	0.5nm,0.7s,mb3.7,baz=230,slow=6.1,SNR=13						
GERES	**GERESS Array B 146.86 352**			PKPbc	PKPbc	13 40 17.1	+2.3
	0.3nm,0.3s,baz=300,slow=6.7,SNR=4.2						
BRTR	**Keskin Array B 146.86 321**			PKPbc	PKPbc	13 40 16.8	+2.1
	1.3nm,0.8s,baz=116,slow=2.9,SNR=6.0						

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*CSEM **30** 13:41:09.7±0.9, 3899N×2792W, h11km±4km, ML1.4, Error ellipse: s-maj=7.1km s-min=2.9km az=93.0, After PDA*
*PDA **30** 13:41:09.7±0.9, 3899N×2792W, h11km±4km, MD2.7, ML1.4, Error ellipse: s-maj=7.1km s-min=2.9km az=93.0*
SVSA 30 13:41:09.7±0.9, 3899N×2792W, h11km±4km, MD2.7, ML1.4, Error ellipse: s-maj=7.1km s-min=2.9km az=93.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBC	**Serra Branca**	**0.11 296**		*e*P	Pg	13 41 12.3	-0.2
SRBC				*e*S	Sg	13 41 14.1	-0.5
STGR	**Santa Cruz**	**0.12 323**		*e*S	Sg	13 41 14.6	-0.1
STGR							
	40nm,0.1s						
PVIA	**Vitoria**	**0.13 307**		*e*S	Sg	13 41 14.8	-0.3
PVIA							
	14nm,0.2s						
ROSA	**Rosais**	**0.37 224**		*e*P	Pg	13 41 15.8	-1.2
ROSA				*e*S	Sg	13 41 20.8	-1.2
PAMA	**Santo Amaro**	**0.37 214**		*e*S	Sg	13 41 21.4	-0.6
PAMA							
	15nm,0.2s						
PMAN	**Manadas**	**0.38 201**		*e*P	Pg	13 41 16.4	-0.8
PMAN				*e*S	Sg	13 41 21.5	-0.8
PMAN							
	97nm,0.1s						
PMAN	**Manadas**	**0.38 201**		*e*P	Pg	13 41 16.4	-0.8
PMAN				*e*S	Sg	13 41 21.5	-0.8
PID	**Ribeirinha**	**0.57 196**		*e*P	Pg	13 41 19.1	-1.7
PID				*e*S	Sg	13 41 26.0	-2.2
PICO	**Pico**	**0.63 220**		*e*S	Sg	13 41 27.6	-2.6
PLUZ	**Luz**	**0.83 272**		*e*P	Pg	13 41 11.5	-14
PLUZ				*e*S	Sg	13 41 13.1	-23
PLUZ							
	76nm,0.2s						

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*BJI **30** 13:42:40.6, 2381N×9477E, h113km, mb4.0*
*NEIC **30** 13:42:43.5±0.5, 2377N×9457E, mb4.1/3, Error ellipse: s-maj=12.7km s-min=6.9km az=45.0*
*ISCJB **30** 13:42:45.2±1.2, 238N±0.1×9427E±008, h146km±10km, mb3.9/13, Error ellipse: s-maj=18.4km s-min=9.7km az=60.1*
*IDC **30** 13:42:46.2±6.8, 2381N×9477E, h153km±66km, mb3.6/10, mb1 3.7/10, mb1mx3.4/24, mbtmp4.1/10, MS3.6/2, Ms1 3.6/2, ms1mx2.5/32, Error ellipse: s-maj=34.2km s-min=11.7km az=61.0*
ISC 30 13:42:44.9±1.2, 2373N±009×9431E±009, h134km±11km, n29, σ1°24/35, mb3.9/13, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.87**	**310**	*i* PN	**Pn**	**13 43 30.0**	**+0.1**
SHL				*i* SN	**Sn**	**13 44 03.5**	**-1.1**
LSA	**Lhasa**	**6.58**	**335**	P	**Pn**	**13 44 18.5**	**-0.7**
LSA	**Lhasa**	**6.58**	**335**	*e*Pn	**Pn**	**13 44 18.8**	**-0.4**
	14nm,0.3s						
JIRN	**Jiri**	**8.30**	**300**	*e*Pn	**Pn**	**13 44 43.8**	**+1.5**
JIRN				*e*Sn	**Sn**	**13 46 13.6**	**-0.9**
	59nm,0.3s						
GUN	**Gumba**	**8.66**	**300**	*e*Pn	**Pn**	**13 44 49.2**	**+2.0**
GUN				*e*Sn	**Sn**	**13 46 22.9**	**-0.2**
	58nm,0.3s						
PKI	**Pulchoki**	**8.89**	**297**	*e*Pn	**Pn**	**13 44 51.8**	**+1.5**
PKI				*e*Sn	**Sn**	**13 46 28.5**	**-0.3**
	32nm,0.5s						
KKN	**Kakani**	**9.09**	**298**	*e*Pn	**Pn**	**13 44 54.1**	**+1.2**
KKN				*e*Sn	**Sn**	**13 46 33.1**	**-0.3**
	18nm,0.2s						
DMN	**Daman**	**9.16**	**297**	*e*Pn	**Pn**	**13 44 55.6**	**+1.8**
DMN				*e*Sn	**Sn**	**13 46 33.9**	**-1.2**
	26nm,0.5s						
GKN	**Gorkha**	**9.69**	**298**	*e*Pn	**Pn**	**13 45 02.7**	**+1.7**
GKN				*e*Sn	**Sn**	**13 46 46.6**	**-1.5**
	61nm,0.4s						
KOLN	**Koldanda**	**10.46**	**295**	*e*Pn	**Pn**	**13 45 11.0**	**-0.1**
KOLN				*e*Sn	**Sn**	**13 47 04.6**	**-2.0**
	30nm,0.4s						
PSI	**Prapat 21.28 167**			P	**P**	**13 47 21.8**	**+1.2**
	3.9nm,0.3s,mb4.2,baz=174,slow=14,SNR=7.0						
PSI	**Prapat 21.28 167**			P	**P**	**13 47 21.8**	**+1.2**
MKAR	**Makanchi Array 24.96 340**			P

FINES **FINESS Array B** 59.05 329 P P 13 52 30.6 0.0
0.8nm,0.5s,mb3.8,baz=89,slow=6.7,SNR=5.9
KWP **Kalwaria** 60.52 315 *e*P P 13 52 45.6 +4.9
54nm,0.5s
ARCES **ARCESS Array B** 60.58 338 P P 13 52 41.0 -0.1
1.2nm,0.7s,mb3.9,baz=89,slow=8.9,SNR=4.2
ASAR **Alice Springs** 60.80 138 P P 13 52 41.4 -1.3
1.8nm,0.6s,mb4.1,baz=322,slow=7.1,SNR=33
BOSA **Boshof** 84.41 236 P P 13 55 03.2 +1.1
0.9nm,0.4s,mb3.9,baz=76,slow=4.1,SNR=3.7
BOSA **Boshof** 84.41 236 P P 13 55 03.2 +1.0
MAW **Mawson** 94.02 192 LR LR 14 31 25.8
comp=Z,82nm,20.4s,baz=158,slow=31

IDC 30 13:48:59.8±3.0, 435N×9388E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/22, mbtmp3.5/4, ML3.2/1, Error ellipse: s-maj=115.5km s-min=28.9km az=52.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.27**	**107**	Pn	Pn	13 50 20.9	+1.2
	0.8nm,0.3s,baz=336,slow=18,SNR=5.1						
MKAR	**Makanchi Array**	**43.46**	**348**	P	P	13 57 04.5	0.0
	0.2nm,0.7s,baz=162,slow=8.4,SNR=3.8						
WRA	**Warramunga Arr**	**46.51**	**123**	P	P	13 57 28.9	0.0
	1.0nm,0.6s,baz=300,slow=9.5,SNR=8.9						
ASAR	**Alice Springs**	**47.93**	**127**	P	P	13 57 40.5	+0.6
	0.5nm,0.7s,baz=302,slow=7.6,SNR=7.0						

IDC 30 13:50:57.3±1.5, 013N×9694E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/20, mbtmp3.7/8, ML3.0/1, MS3.6/2, Ms1 3.6/2, ms1mx2.5/36, Error ellipse: s-maj=54.3km s-min=18.9km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.32**	**37**	Pn	Pn	13 51 49.0	-1.4
	1.5nm,0.3s,baz=246,slow=7.5,SNR=7.2						
PSI				LR	LR	13 53 19.2	
	comp=Z,164nm,19.2s,baz=187,slow=44						
WRA	**Warramunga Arr**	**41.70**	**121**	P	P	13 58 48.4	+0.7
	0.8nm,0.6s,baz=301,slow=9.0,SNR=7.3						
ASAR	**Alice Springs**	**42.97**	**126**	P	P	13 58 58.9	+0.8
	0.3nm,0.6s,baz=298,slow=8.3,SNR=3.8						
MKAR	**Makanchi Array**	**48.22**	**347**	P	P	13 59 40.2	+0.6
	0.7nm,0.7s,baz=157,slow=8.0,SNR=8.1						
SONM	**Songino Array**	**48.22**	**9**	P	P	13 59 39.8	+0.1
	0.2nm,0.4s,baz=193,slow=8.6,SNR=2.5						
STKA	**Stephens Creek**	**52.84**	**131**	P	P	14 00 14.2	-0.3
	1.4nm,0.6s,baz=277,slow=8.1,SNR=2.4						
ZAL	**Zalesovo**	**54.56**	**351**	P	P	14 00 26.8	-0.4
	1.5nm,0.5s,baz=272,slow=6.2,SNR=4.3						
RPZ	**Rata Peaks**	**78.64**	**135**	LR	LR	14 37 43.6	
	comp=Z,222nm,21.2s,baz=281,slow=36						
ARCES	**ARCESS Array B**	**83.45**	**340**	P	P	14 03 26.0	-0.7
	2.5nm,0.8s,baz=46,slow=5.2,SNR=4.5						

IDC 30 13:56:30.4±1.8, 011N×9681E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.5/20, mbtmp3.5/5, ML2.9/1, Error ellipse: s-maj=45.4km s-min=23.5km az=67.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.41**	**38**	Pn	Pn	13 57 24.1	-0.8
	1.3nm,0.3s,baz=231,slow=4.4,SNR=6.3						
PSI				Sn	Sn	13 58 06.9	+0.9
	1.0nm,0.3s,baz=200,slow=10,SNR=3.6						
WRA	**Warramunga Arr**	**41.81**	**121**	P	P	14 04 21.9	+0.1
	0.6nm,1.0s,baz=303,slow=8.8,SNR=4.7						
ASAR	**Alice Springs**	**43.07**	**126**	P	P	14 04 32.5	+0.5
	0.2nm,0.5s,baz=296,slow=8.1,SNR=7.6						
MKAR	**Makanchi Array**	**48.20**	**347**	P	P	14 05 12.7	+0.1
	1.2nm,0.6s,baz=157,slow=8.4,SNR=16						
SONM	**Songino Array**	**48.26**	**9**	P	P	14 05 13.0	-0.1
	0.3nm,0.5s,baz=188,slow=8.7,SNR=4.8						

*BJI **30** 14:18:43.2, 1853S×17434W, h126km, mB5.1, mb5.3*
*ISCJB **30** 14:18:44.3±0.2, 1891S×003×175.15W±004, h125km, mb5.0/81, Error ellipse: s-maj=5.5km s-min=4.1km az=76.2*
*MOS **30** 14:18:46.2±2.6, 1833S×17550W, h108km, mb5.0/18, Error ellipse: s-maj=9.2km s-min=7.5km az=76.3*
*IDC **30** 14:18:48.7±0.6, 1898S×175.15W, h158km±5km, mb4.8/24, mb1 4.8/24, mb1mx4.8/25, mbtmp5.2/24, MS3.9/7, Ms1 3.9/7, ms1mx3.4/25, Error ellipse: s-maj=10.6km s-min=8.6km az=132.0*
*ORF **30** 14:18:49.1, 1273S×17707W, h30km, mb5.5*
*NEIC **30** 14:18:49.0±0.2, 1887S×175.16W, mb4.9/47, Error ellipse: s-maj=7.6km s-min=4.6km az=145.0*
*HRVD **30** 14:18:49.0±0.2, 1883S×17464W, h162km±1km, MW5.2/92, Centroid moment Tensor Solution. LP body waves: s53,c87;Mantle waves: s92,c161; Half duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.02±.17; $M_{\theta\theta}$0.78±.19; $M_{\phi\phi}$0.24±.20; $M_{r\theta}$-3.35±.14; $M_{\theta\phi}$0.71±.20; $M_{\phi r}$-7.28±.13; Best double couple: M0 8.09700×10^{16} NP1 ϕs259.00000°, δ6.00000°, λ-36.00000°. NP2: ϕs25.00000°, δ87.00000°, λ-95.00000°. Principal axes: T 8.0310, Plg41.0000°, Azm120.0000°; N 0.1310, Plg5.0000°, Azm25.0000°; P -8.1640, Plg48.0000°, Azm290.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **30** 14:18:49.2, 1949S×175.79W, h160km, Tonga Islands*

ISC 30 14:18:46.1±0.2, 1894S, 003×17508W±004, h127km, h127km±2.6km: pP-P, n310, σ1°01/204, mb5.0/81, 25C-21D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.92**	**33**	P	Pn	14 20 07.2	-4.3
	72nm,0.3s,baz=62,slow=1.1,SNR=88						
AFI				S	Sn	14 21 05.0	-13
	300nm,0.3s,baz=43,slow=22,SNR=21						
AFI	**Afiamalu**	**5.92**	**33**	*e*P	Pn	14 20 07.7	-3.8
AFI				*e*		14 21 05.0	
AFI				pmax	pmax		
	comp=Z,478nm,0.4s						
AFI	**Afiamalu**	**5.92**	**33**	*e*Pn	Pn	14 20 07.7	-3.7
	comp=Z,478nm,0.4s						
AFI				*e*Sn	Sn	14 21 05.0	-13
RAO	**Raoul Island**	**10.59**	**194**	S	Sn	14 23 10.4	-0.7
	comp=Z,147nm,0.3s,baz=77,slow=23,SNR=6.9						
RAO	**Raoul Island**	**10.59**	**194**	*e*Pn	Pn	14 21 18.6	+4.3
RAO				*e*Sn	Sn	14 23 09.2	-1.9
RAR	**Rarotonga**	**14.56**	**102**	P	Pn	14 22 03.5	-2.4
	comp=Z,5.8nm,0.3s,baz=222,slow=6.9,SNR=7.8						
RAR				S	Sn	14 24 36.6	-10
	comp=Z,5.2nm,0.3s,baz=209,slow=19,SNR=2.8						
DZM	**Mont Dzumac**	**17.59**	**257**	P	Pn	14 22 46.3	+3.1
	comp=Z,2.3nm,0.3s,baz=89,slow=18,SNR=20						
MWZ	**Matawai**	**20.38**	**197**	PN	P	14 23 14.3	+1.6
URZ	**Urewera**	**20.42**	**198**	P	P	14 23 13.8	+0.6
	comp=Z,38nm,0.5s,baz=12,slow=5.6,SNR=18						
URZ				S	S	14 26 50.3	-4.5
	comp=Z,4.0nm,0.3s,baz=256,slow=20,SNR=6.9						
URZ	**Urewera**	**20.42**	**198**	*e*PN	P	14 23 13.1	-0.1
BKZ	**Black Stump Fm**	**21.45**	**198**	*e*PN	P	14 23 23.1	-1.0
TSZ	**Takapari Road**	**22.43**	**198**	*e*PN	P	14 23 34.1	-0.3
MRZ	**Mangatainoka R**	**23.09**	**198**	*e*PN	P	14 23 40.2	-0.5
CAW	**Cannon Point**	**23.66**	**199**	*e*PN	P	14 23 45.9	+0.1
PAE	**Paea**	**24.24**	**91**	*e*P	P	14 23 50.9	-0.2
	comp=Z,149nm,1.0s,mb5.3						
PPT	**Papeete**	**24.25**	**91**	*e*P	P	14 23 51.4	+0.2
	comp=Z,129nm,1.2s,mb5.1						
PPT	**Papeete**	**24.25**	**91**	*e*LQ		14 28 33.5	
	comp=Z,916nm,24.8s						
PPT				*e*LR	LR	14 29 16.6	
	comp=Z,1μm,37.0s						
PPT	**Papeete**	**24.25**	**91**	P	P	14 23 50.6	-0.6
	comp=Z,103nm,0.9s,mb5.1,baz=179,slow=3.7,SNR=6.6						
QRZ	**Quartz Range**	**24.27**	**203**	*e*PN	P	14 23 52.7	+1.3
TBI	**Tubuai**	**24.28**	**105**	*e*LQ		14 28 47.5	
	comp=Z,538nm,26.8s						
TBI	**Tubuai**	**24.28**	**105**	*e*P	P	14 23 52.3	+0.8
	comp=Z,345nm,1.2s,mb5.6						
TBI				*e*pP		14 24 22.1	
	comp=Z,247nm,1.3s						
TBI				*e*LR	LR	14 29 25.1	
	comp=Z,567nm,39.5s						
NNZ	**Nelson**	**24.31**	**202**	*e*PN	P	14 23 51.0	-0.7
TVO	**Taravao**	**24.53**	**91**	*e*P	P	14 23 53.9	+0.1
	comp=Z,147nm,1.0s,mb5.3						
THZ	**Tophouse**	**24.95**	**202**	*e*PN	P	14 23 57.6	0.0
DSZ	**Denniston Nort**	**25.34**	**203**	PN	P	14 24 01.5	+0.5
HNR	**Honiara**	**25.96**	**288**	P	P	14 24 07.1	+0.4
	comp=Z,103nm,0.9s,mb5.2,baz=246,slow=1.8,SNR=24						
HNR	**Honiara**	**25.96**	**288**	*e*P	P	14 24 07.2	+0.5
HNR				pmax	pmax		
	comp=Z,114nm,1.0s,mb5.3						
HNR	**Honiara**	**25.96**	**288**	*e*P	P	14 24 07.2	+0.5
	comp=Z,114nm,1.0s,mb5.3						
LTZ	**Lake Taylor**	**26.07**	**202**	PN	P	14 24 06.4	-1.3
PMOR	**Pomariorio Ree**	**26.28**	**86**	*e*P	P	14 24 09.5	0.0
	comp=Z,131nm,1.1s,mb5.3						
PMOR				*e*pP	pP	14 24 42.1	+5.4
	comp=Z,65nm,1.2s						
WVZ	**Waitaha Valley**	**26.89**	**203**	*e*PN	P	14 24 13.2	-1.8
RPZ	**Rata Peaks**	**27.32**	**202**	P	P	14 24 18.7	-0.2
	comp=Z,14nm,0.7s,mb4.6,baz=41,slow=4.9,SNR=9.4						
JCZ	**Jackson Bay**	**28.50**	**205**	*e*PN	P	14 24 28.8	-0.5
ARMA	**Armidale**	**32.23**	**243**	*e*P	P	14 25 02.9	+0.7
TAOE	**Nuku Hiva Isla**	**35.29**	**78**	*e*LR	LR	14 34 09.2	
	comp=Z,914nm,38.9s						
CNB	**Canberra Magne**	**35.38**	**235**	*e*P	P	14 25 30.0	+0.6
	comp=Z,28nm,0.9s,mb5.1						
CTA	**Charters Tower**	**36.41**	**262**	*i*P	P	14 25 38.6	+0.3
	comp=Z,115nm,0.8s,mb5.9						
CTA				*e*S	S	14 31 01.8	-8.5
CTA	**Charters Tower**	**36.41**	**262**	P	P	14 25 38.7	+0.4
	comp=Z,144nm,0.8s,mb6.0,baz=88,slow=10,SNR=155						
CTA				LR	LR	14 36 07.6	
	comp=Z,110nm,22.0s,baz=82,slow=29						
CTA	**Charters Tower**	**36.41**	**262**	*i*P	P	14 25 38.6	+0.3
CTA				*e*S	S	14 31 01.8	-8.5
CTA				pmax	pmax		
	comp=Z,115nm,0.8s						
CTAO	**Charters Tower**	**36.41**	**262**	*e*P	P	14 25 38.6	+0.3
CTAO				pmax	pmax		
	comp=Z,186nm,0.9s,mb6.0						
CTAO	**Charters Tower**	**36.41**	**262**	*e*P	P	14 25 38.6	+0.3
	comp=Z,186nm,0.9s,mb6.0						
RKT	**Rikitea**	**37.58**	**104**	*e*P	P	14 25 49.2	+1.0
	comp=Z,208nm,1.1s,mb5.9						
RKT	**Rikitea**	**37.58**	**104**	*e*LR	LR	14 35 36.8	
	comp=Z,407nm,33.6s						
PMG	**Port Moresby**	**37.75**	**279**	P	P	14 25 49.2	-0.3
	comp=Z,176nm,1.0s,mb5.9,baz=88,slow=4.0,SNR=30						
PMG	**Port Moresby**	**37.75**	**279**	*d*iP	P	14 25 49.7	+0.2
PMG	**Port Moresby**	**37.75**	**279**	*e*P	P	14 25 50.2	+0.7
PMG				pmax	pmax		
	comp=Z,206nm,1.0s						
PMG	**Port Moresby**	**37.75**	**279**	*e*P	P	14 25 50.2	+0.7
	comp=Z,206nm,1.0s,mb5.9						
TOO	**Toolangi**	**39.04**	**233**	*e*P	P	14 26 01.0	+0.7
	comp=Z,8.9nm,0.8s,mb4.7						
TOO	**Toolangi**	**39.04**	**233**	*e*P	P	14 26 01.0	+0.7
TOO				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**40.95**	**243**	*e*P	P	14 26 13.6	-2.5
	comp=Z,26nm,1.1s,mb5.0						
STKA	**Stephens Creek**	**40.95**	**243**	P	P	14 26 14.6	-1.6
	comp=Z,33nm,1.0s,mb5.1,baz=79,slow=8.4,SNR=19						
STKA				LR	LR	14 41 49.3	
	comp=Z,144nm,19.3s,baz=228,slow=34						
WB2	**Warramunga Arr**	**47.55**	**260**	*e*P	P	14 27 07.6	-1.1
WB2				*i*S	S	14 33 49.2	-4.9
WRAB	**Tennant Creek**	**47.55**	**260**	*d*iP	P	14 27 07.8	-0.9
WRAB	**Tennant Creek**	**47.55**	**260**	*e*P	P	14 27 07.7	-1.0
	comp=Z,90nm,0.6s,mb5.8						
WRA	**Warramunga Arr**	**47.56**	**260**	P	P	14 27 07.8	-0.9
	comp=Z,36nm,0.3s,mb5.7,baz=97,slow=6.8,SNR=1095						
WRA				S	S	14 33 48.3	-6.0
	comp=Z,7.0nm,0.9s,baz=93,slow=14,SNR=17						
AS31	**Alice Springs**	**47.57**	**255**	*e*P	P	14 27 08.9	+0.1
AS31				*i*S	S	14 33 50.2	-4.1
ASAR	**Alice Springs**	**47.57**	**255**	P	P	14 27 08.6	-0.3
	comp=Z,105nm,0.8s,mb5.7,baz=91,slow=8.0,SNR=655						
ASAR				S	S	14 33 50.2	-4.1
	comp=Z,5.6nm,0.8s,baz=94,slow=15,SNR=22						
ASPA	**Alice Springs**	**47.57**	**255**	*e*P	P	14 27 08.9	+0.1
ASPA				*i*S	S	14 33 50.2	-4.1
KAKA	**Kakadu**	**50.73**	**269**	*e*P	P	14 27 32.0	-0.8
	comp=Z,60nm,0.7s,mb5.7						
GUMO	**Guam**	**51.01**	**306**	P	P	14 27 35.7	+0.8
	comp=Z,47nm,0.7s,mb5.6,baz=0.0,slow=20,SNR=3.0						
GUMO				LR	LR	14 47 12.8	
	comp=Z,77nm,19.2s,baz=100,slow=33						
FORT	**Forrest**	**52.44**	**245**	*e*P	P	14 27 44.4	-1.2
	comp=Z,102nm,0.8s,mb5.9						
FITZ	**Fitzroy Crossi**	**55.98**	**261**	*e*P	P	14 28 10.9	-0.3
	comp=Z,32nm,1.1s,mb5.3						
FITZ	**Fitzroy Crossi**	**55.98**	**261**	P	P	14 28 11.6	+0.4
	comp=Z,11nm,0.4s,mb5.3,baz=97,slow=6.6,SNR=89						
FITZ				LR	LR	14 49 46.9	
	comp=Z,142nm,20.9s,baz=294,slow=33						
SBA	**Scott Base**	**59.62**	**184**	*e*P	P	14 28 38.6	+2.0
SBA				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.1						
SBA	**Scott Base**	**59.62**	**184**	*e*P	P	14 28 38.6	+2.0
	comp=Z,17nm,0.9s,mb5.1						
VNDA	**Vanda**	**59.72**	**186**	P	P	14 28 37.4	+0.1
	comp=Z,7.3nm,0.9s,mb4.7,baz=4.1,slow=6.8,SNR=21						
MBWA	**Marble Bar**	**60.89**	**256**	*e*P	P	14 28 44.5	-0.7
	comp=Z,89nm,1.0s,mb5.8						
KLBR	**Kellerberrin**	**61.21**	**244**	*e*P	P	14 28 46.3	-1.1
	comp=Z,76nm,0.9s,mb5.7						
MUN	**Mundaring**	**62.48**	**243**	*e*P	P	14 28 56.4	+0.5
CASY	**Casey**	**66.55**	**205**	*i*P	P	14 29 22.7	+0.4
JHJ	**Hachijo jima 2**	**67.36**	**320**	P	P	14 29 25.6	-1.9
	comp=Z,75nm,0.4s,mb5.9,baz=199,slow=13,SNR=13						
TSM	**Tawau**	**69.88**	**282**	P	P	14 29 44.7	+1.6
MJAR	**Matsushiro Arr**	**70.64**	**322**	P	P	14 29 46.9	-0.9
	comp=Z,22nm,0.6s,mb5.2,baz=151,slow=6.1,SNR=84						
MAJO	**Matsushiro**	**70.64**	**322**	*e*P	P	14 29 47.0	-0.8
MAJO				pmax	pmax		
	comp=Z,27nm,0.6s,mb5.2						
MAJO	**Matsushiro**	**70.64**	**322**	*e*P	P	14 29 47.0	-0.8
	comp=Z,27nm,0.6s,mb5.2						
MAT	**Matsushiro**	**70.64**	**322**	P	P	14 29 47.0	-0.8
MAT				*e*S	S	14 38 44.0	-7.5
MAT	**Matsushiro**	**70.64**	**322**	*e*P	P	14 29 47.0	-0.8
MAT				S	S	14 38 45.0	-6.5
MAT				pmax	pmax		
	comp=Z,23nm,0.7s,mb5.1						
MAT	**Matsushiro**	**70.64**	**322**	*e*P	P	14 29 47.0	-0.8
	comp=Z,23nm,0.7s,mb5.1						
MAT				S	S	14 38 45.0	-6.5
TGY	**Tagaytay City**	**71.05**	**293**	P	P	14 29 51.0	+0.7
	comp=Z,64nm,0.4s,baz=134,slow=10,SNR=4.2						
QSPA	**South Pole Qui**	**71.13**	**180**	⇑*i*P	P	14 29 51.3	+0.6
	comp=Z,32nm,1.1s,mb5.1						
JOW	**Kunigami**	**71.33**	**308**	P	P	14 29 51.8	-0.1
	comp=Z,61nm,1.0s,mb5.4,baz=128,slow=7.5,SNR=12						
KKM	**Kota Kinabalu**	**72.06**	**283**	P	P	14 29 56.9	+0.7
KKM	**Kota Kinabalu**	**72.06**	**283**	*e*P	P	14 29 56.6	+0.3
MIR	**Mirnyy**	**73.56**	**205**	*d*iP	P	14 30 06.0	+0.8
MIR				pmax	pmax		
	comp=Z,200nm,1.0s,mb5.8						
ASAJ	**Asahikawa**	**73.72**	**330**	P	P	14 30 06.7	+0.6
	comp=Z,13nm,0.6s,mb4.8,baz=198,slow=9.1,SNR=19						
ASAJ				LR	LR	14 55 36.8	
	comp=Z,74nm,21.5s,baz=165,slow=30						
NACB	**Ninganchiao**	**75.12**	**302**	*e*P	P	14 30 13.5	-0.7
YHNB	**Yeheng**	**75.54**	**303**	*e*P	P	14 30 16.6	0.0
TATO	**Taipei**	**75.60**	**303**	*e*P	P	14 30 16.9	0.0
	comp=Z,150nm,1.4s,mb5.5						
YSS	**Yuzh-Sakhalins**	**75.78**	**332**	⇑*i*P	P	14 30 18.0	+0.1
KSM	**Kuching**	**75.95**	**276**	*e*P	P	14 30 19.4	+0.5
MTUM	**Tungsten Hills**	**77.21**	**43**	*e*P	P	14 30 26.6	+0.6
KS15	**Wonju Array Si**	**77.61**	**317**	*e*P	P	14 30 28.8	+0.6
HUMO	**Hull Mountain**	**77.79**	**37**	*e*P	P	14 30 30.1	+0.9
	comp=Z,2.0nm,0.7s,mb4.0						
NVAR	**Mina Array Bea**	**78.01**	**42**	P	P	14 30 30.7	+0.3
	comp=Z,3.3nm,0.7s,mb4.2,baz=216,slow=7.5,SNR=29						
NVAR				pP	pP	14 31 08.6	+6.2
	comp=Z,10nm,1.2s,baz=218,slow=7.7,SNR=3.8						
MNV	**Mina**	**78.11**	**42**	*e*P	P	14 30 31.0	0.0
MNV				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
MNV	**Mina**	**78.11**	**42**	*e*P	P	14 30 31.0	0.0
	comp=Z,5.0nm,0.9s,mb4.2						
TPNV	**Topopah Spring**	**78.49**	**44**	*e*P	P	14 30 33.1	0.0
TPNV				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
TPNV	**Topopah Spring**	**78.49**	**44**	*e*P	P	14 30 33.1	0.0
	comp=Z,4.3nm,0.8s,mb4.2						
SSE	**Sheshan**	**78.84**	**308**	*e*P	P	14 30 34.8	-0.2
SSE				PCP	PcP	14 30 43.3	0.0
SSE				AP	pP	14 31 05.0	-2.0
SSE				XP	sP	14 31 17.5	-3.1
SSE				S	S	14 40 21.3	-1.2
SSE				SCS	ScS	14 40 44.3	-0.9
SSE				AMB	AMB		
	comp=Z,38nm,1.0s,mb5.2						
SSE				AMB	AMB		
	comp=Z,75nm,6.7s						
SSE				LR	LR		
	comp=N,43nm,26.9s						
SSE				LR	LR		
	comp=E,21nm,26.9s						
SSE				LR	LR		
	comp=Z,39nm,19.5s						
SSE	**Sheshan**	**78.84**	**308**	*e*P	P	14 30 34.8	-0.2
	comp=Z,38nm,1.0s,mb5.2						
SSE				PcP	PcP	14 30 43.3	0.0
SSE				pP	pP	14 31 05.0	-2.0
SSE				sP	sP	14 31 17.6	-3.0
SSE				PP	PP	14 33 32.4	-2.7
SSE				S	S	14 40 21.2	-1.3
SSE				ScS	ScS	14 40 44.2	-1.0
SSE				sS	sS	14 41 13.9	-3.8
SSE				LR	LR		
	comp=Z,40nm,19.5s						
MOD	**Modoc**	**78.87**	**38**	*e*P	P	14 30 36.3	+1.1
TUC	**Tucson**	**79.86**	**51**	*e*P	P	14 30 41.4	+0.9
TUC				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.5						
TUC	**Tucson**	**79.86**	**51**	*e*P	P	14 30 41.4	+0.9
	comp=Z,9.4nm,1.1s,mb4.5						
BMN	**Battle Mountai**	**79.86**	**41**	*e*P	P	14 30 40.4	-0.1
BMN				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.4						
BMN	**Battle Mountai**	**79.86**	**41**	*e*P	P	14 30 40.4	-0.1
	comp=Z,2.9nm,0.5s,mb4.4						
WVOR	**Wild Horse Val**	**80.18**	**39**	*e*P	P	14 30 41.9	-0.3
WVOR				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.4						
WVOR	**Wild Horse Val**	**80.18**	**39**	*e*P	P	14 30 41.9	-0.3
	comp=Z,6.2nm,1.0s,mb4.4						
HABR	**Khabarovsk**	**80.49**	**329**	⇓*i*P	P	14 30 44.3	+0.4
HABR				*e*S	S	14 40 35.9	-4.0
HABR				pmax	pmax		
	comp=Z,72nm,1.0s,mb5.5						
MDJ	**Mudanjiang**	**80.86**	**323**	P	P	14 30 46.5	+0.6
MDJ				AP	pP	14 31 16.8	-1.2
MDJ				XP	sP	14 31 30.0	-1.6
MDJ				PP	PP	14 33 52.0	+0.1
MDJ				S	S	14 40 45.5	+1.7
MDJ				SCS	ScS	14 41 02.5	+0.8
MDJ				XS	sS	14 41 38.3	-0.9
MDJ				AMB	AMB		
	comp=Z,27nm,1.1s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,67nm,4.3s						
MDJ				LR	LR		
	comp=N,45nm,21.7s						
MDJ				LR	LR		
	comp=E,47nm,21.7s						
MDJ				LR	LR		
	comp=Z,50nm,24.4s						
MDJ	**Mudanjiang**	**80.86**	**323**	*e*P	P	14 30 46.3	+0.4
	comp=Z,31nm,1.0s,mb5.1						
NJ2	**Nanjing**	**81.04**	**308**	*e*P	P	14 30 47.8	+1.0
NJ2				AP	pP	14 31 20.3	+1.3
NJ2				XP	sP	14 31 34.8	+2.3
NJ2				PP	PP	14 33 56.0	+2.6
NJ2				S	S	14 40 43.0	-2.6
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,120nm,9.2s						
NJ2				LR	LR		
	comp=N,260nm,28.2s						
NJ2				LR	LR		
	comp=E,450nm,33.7s						
NJ2				LR	LR		
	comp=Z,190nm,33.3s						
SVW2	**Sparrevohn**	**81.28**	**9**	*e*P	P	14 30 46.0	-2.1
PGC	**Sidney**	**81.47**	**32**	*e*P	P	14 30 48.8	-0.3
MSU	**Marysvale**	**82.05**	**45**	*e*P	P	14 30 53.6	+1.5
BMO	**Blue Mountains**	**82.39**	**37**	*e*P	P	14 30 53.7	-0.2
BMO				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.2						
BMO	**Blue Mountains**	**82.39**	**37**	*e*P	P	14 30 53.7	-0.2
	comp=Z,4.0nm,1.1s,mb4.2						
KLR	**Kul'dur**	**82.62**	**328**	*e*P	P	14 30 51.3	-3.8
KGM	**Kluang**	**82.71**	**275**	P	P	14 30 56.7	+1.1
CN2	**Changchun**	**82.78**	**321**	*e*P	P	14 30 55.5	-0.4
CN2				*e*XP	sP	14 31 41.3	-0.4
CN2				*e*S	S	14 41 01.8	-1.6
CN2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.8						
PMR	**Palmer**	**82.89**	**12**	*e*P	P	14 30 53.4	-3.1
PMR				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.7						
PMR	**Palmer**	**82.89**	**12**	*e*P	P	14 30 53.4	-3.1
	comp=Z,7.4nm,0.6s,mb4.7						
TTA	**Tatalina**	**82.96**	**9**	*e*P	P	14 30 55.1	-1.8
MA2	**Magadan**	**83.05**	**343**	*e*P	P	14 30 54.3	-3.0
MA2				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.0						
TMUT	**Trail Mountain**	**83.11**	**45**	*e*P	P	14 30 57.7	+0.1
HLID	**Hailey**	**83.36**	**40**	*e*P	P	14 30 59.0	+0.1
	comp=Z,6.3nm,0.7s,mb4.5						
HVU	**Hansel Valley**	**83.40**	**42**	*e*P	P	14 30 59.5	+0.4
HVU				pmax	pm

comp=Z,4.9nm,0.5s,mb4.7,baz=227,slow=5.4,SNR=96
ILAR pP pP 14 31 51.0 +5.3
comp=Z,8.8nm,1.1s,baz=219,slow=4.8,SNR=4.8
KULM Kulim 86.30 277 *eP* **P 14 31 14.5 +0.8**
KULM *e* 14 31 26.6
BJT Baijiatuau 86.74 314 P **P 14 31 16.0 +0.2**
BJT pmax pmax
comp=Z,13nm,0.6s
BJT Baijiatuau 86.74 314 P **P 14 31 16.0 +0.2**
comp=Z,13nm,0.6s,mb5.0
BJI Beijing 86.75 314 P **P 14 31 06.1 -10**
BJI pmax pmax
comp=Z,18nm,1.1s,mb4.9
BJI MLR MLR
comp=Z,50nm,23.8s
BJI Beijing 86.75 314 P **P 14 31 06.1 -10**
comp=Z,18nm,1.1s,mb4.9
BJI S 14 41 02.4
BJI LR LR
comp=Z,50nm,23.8s
SNG Songkhla 86.95 279 P **P 14 31 19.0 +2.2**
PSI Prapat 87.12 274 P **P 14 31 16.8 -0.8**
comp=Z,19nm,0.9s,mb5.0,baz=157,slow=4.0,SNR=18
DAWY Dawson 87.23 15 *eP* **P 14 31 16.4 -1.7**
GYA Guiyang 88.30 299 ⇓*iP* **P 14 31 24.3 +1.1**
GYA AP pP 14 31 56.5 +0.6
GYA XP sP 14 32 10.3 +1.0
GYA PP PP 14 34 55.0 +2.7
GYA SKS 14 41 39.8
GYA S 14 41 57.8
GYA AMB AMB
comp=Z,40nm,0.9s,mb5.5
GYA AMB AMB
comp=Z,130nm,4.2s
GYA LR LR
comp=N,240nm,20.1s
GYA LR LR
comp=E,210nm,19.8s
GYA LR LR
comp=Z,200nm,19.7s
PLCA Paso Flores 88.32 133 P **P 14 31 23.6 +0.2**
comp=Z,2.1nm,0.7s,mb4.3,baz=305,slow=5.3,SNR=4.1
PLCA LR LR 15 05 47.9
comp=Z,127nm,18.8s,baz=65,slow=32
SYO Syowa Base 88.83 192 ⇓*iP* **P 14 31 25.0 -0.7**
SYO Syowa Base 88.83 192⇑*ePcP* PcP 14 31 29.6 +2.4
XAN Xi'an 89.40 306 P **P 14 31 28.5 +0.1**
XAN AMB AMB
comp=Z,39nm,1.3s,mb5.3
SNAA Sanae 89.47 178⇑*iP* **P 14 31 19.2 -10**
SNAA *e* 14 31 30.5
SNAA *e* 14 32 01.8
SNAA *e* 14 32 07.9
SNAA Sanae 89.47 178 *eP* **P 14 31 19.7 -9.0**
SNAA pmax pmax
comp=Z,3.0nm,0.9s
SNAA Sanae 89.47 178 *eP* **P 14 31 19.7 -9.0**
comp=Z,3.3nm,0.9s,mb4.4
VNA3 Neumayer Olymp 89.49 175⇑*iP* **P 14 31 27.8 -1.0**
VNA3 *e* 14 31 37.9
VNA3 *e* 14 31 40.4
VNA3 *e* pP 14 31 58.3 -3.2
VNA3 *e* pP 14 32 02.5 +1.0
VNA3 *e* 14 32 08.4
VNA2 Neumayer--Watz 89.97 176⇑*iP* **P 14 31 30.5 -0.5**
baz=188,slow=3.0
VNA2 *e* 14 31 32.4
VNA2 *e* 14 31 38.1
VNA2 *e* 14 31 41.3
VNA2 *e* 14 31 43.2
VNA2 *e* 14 32 10.9
VNA2 *e* 14 32 16.3
VNA1 Neumayer--Stat 90.18 176⇑*iP* **P 14 31 32.1 +0.1**
VNA1 *e* 14 31 34.2
VNA1 *e* 14 31 42.8
VNA1 *e* 14 31 44.7
VNA1 *e* pP 14 32 06.4 +1.7
VNA1 *e* 14 32 12.9
NST Nakhon Sawan 90.22 286 P **P 14 31 34.0 +1.8**
HHC Hu-ho-hao-te 90.26 313 *eP* **P 14 31 32.5 +0.1**
HHC AP pP 14 32 04.8 -0.3
HHC XP sP 14 32 18.3 -0.2
HHC PP PP 14 35 10.3 +2.4
HHC SKS 14 41 49.8
HHC S 14 42 12.8
HHC XS sS 14 43 09.5 -2.7
HHC SS SS 14 48 18.5 +0.5
HHC AMB AMB
comp=Z,11nm,0.4s,mb5.3
HHC AMB AMB
comp=Z,156nm,3.0s
HHC LR LR
comp=N,145nm,6.7s
HHC LR LR
comp=E,163nm,5.3s
HHC LR LR
comp=Z,156nm,7.4s
CLNS Chul'man 90.55 332 *eP* **P 14 31 33.0 -0.7**
CLNS pmax pmax
comp=Z,39nm,0.9s,mb5.5
CLNS pmax pmax
comp=N,15nm,0.8s
CLNS pmax pmax
comp=E,16nm,1.1s
KMI Kunming 91.12 296 P **P 14 31 37.8 +1.4**
KMI AP pP 14 32 09.8 +0.7
KMI XP sP 14 32 22.5 0.0
KMI PP PP 14 35 17.8 +3.1
KMI PPP 14 37 19.0
KMI SKS 14 41 56.8
KMI S 14 42 21.8
KMI XS sS 14 43 17.5 -2.7
KMI PS PS 14 43 49.3 +1.0
KMI SS SS 14 48 31.0 +0.7
KMI SSS 14 52 08.5
KMI AMB AMB
comp=Z,34nm,1.3s,mb5.3
KMI AMB AMB
comp=Z,95nm,3.1s
KMI LR LR
comp=N,93nm,6.2s
KMI LR LR
comp=E,125nm,5.5s
KMI LR LR
comp=Z,82nm,7.4s
KMI Kunming 91.12 296 P **P 14 31 37.8 +1.4**
KMI *PP pP 14 32 09.7 +0.6
KMI *SP sP 14 32 22.6 +0.1
KMI 14 35 17.8
KMI PPP 14 37 19.1
KMI 14 41 56.7
KMI S 14 42 21.7
KMI PS PS 14 43 49.3 +1.0
KMI SS SS 14 48 31.1 +0.8
KMI SSS 14 52 08.4
KMI pmax pmax
comp=Z,34nm,1.3s,mb5.3
KMI Kunming 91.12 296 P **P 14 31 37.8 +1.4**
comp=Z,34nm,1.3s,mb5.3
KMI pP pP 14 32 09.7 +0.6
KMI sP sP 14 32 22.6 +0.1
KMI PP PP 14 35 17.8 +3.1
KMI PPP 14 37 19.1
KMI SKS 14 41 56.7
KMI S 14 42 21.7
KMI sS sS 14 43 17.4 -2.8
KMI PS PS 14 43 49.3 +1.0
KMI SS SS 14 48 31.1 +0.8
KMI SSS 14 52 08.4
YAK Yakutsk 91.72 337⇑*eP* **P 14 31 37.4 -1.8**
YAK pmax pmax
comp=Z,14nm,1.0s,mb5.2
INK Inuvik 92.07 14 *eP* **P 14 31 39.0 -1.8**
INK pmax pmax
comp=Z,9.0nm,1.0s
INK Inuvik 92.07 14 *eP* **P 14 31 39.0 -1.8**
comp=Z,8.5nm,1.0s,mb4.9
CD2 Chengdu 92.29 302⇑*iP* **P 14 31 43.3 +1.5**
CD2 AP pP 14 32 18.3 +3.8
CD2 XP sP 14 32 27.8 -0.1
CD2 SKS 14 42 03.5
CD2 S 14 42 34.5
CD2 XS sS 14 43 30.5 -0.3
CD2 SS SS 14 48 53.8 +6.6
CD2 AMB AMB
comp=Z,20nm,1.2s,mb5.2
CD2 AMB AMB
comp=Z,100nm,3.9s
CD2 LR LR
comp=N,150nm,5.2s
CD2 LR LR
comp=Z,120nm,5.4s
CHG Chiang Mai 92.32 289 P **P 14 31 43.1 +1.2**
comp=Z,42nm,0.8s,mb5.7
CHTO Chiang Mai 92.32 289 *eP* **P 14 31 43.0 +1.1**
CHTO pmax pmax
comp=Z,47nm,1.0s,mb5.7
CHTO Chiang Mai 92.32 289 *eP* **P 14 31 43.0 +1.1**
comp=Z,47nm,1.0s,mb5.7
JTS JuntasAbangare 93.40 80 *iP* **P 14 31 48.5 +1.6**
YKA Yellowknife Ar 93.96 24 P **P 14 31 46.6 -2.8**
comp=Z,0.7nm,0.6s,mb4.2,baz=239,slow=4.4,SNR=6.4
LZH Lanzhou 94.03 307 *eP* **P 14 31 50.5 +0.7**
LZH AP pP 14 32 22.5 -0.1
LZH XP sP 14 32 35.8 -0.2
LZH PP PP 14 35 40.5 +3.0
LZH SKS 14 42 12.0
LZH *eS* 14 42 46.8
LZH XS sS 14 43 43.8 -2.5
LZH *eSS* SS 14 49 13.5 +1.5
LZH AMB AMB
comp=Z,26nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,72nm,9.4s
LZH LR LR
comp=E,147nm,17.7s
LZH LR LR
comp=Z,216nm,19.5s
LZH Lanzhou 94.03 307 *eP* **P 14 31 50.4 +0.6**
LZH *PP pP 14 32 22.5 -0.1
LZH 14 35 40.5
LZH 14 42 11.9
LZH 14 42 46.7
LZH *eS* 14 49 13.5 +1.5
LZH pmax pmax
comp=Z,26nm,1.5s,mb5.3
LZH MLR MLR
comp=Z,220nm,19.5s
LZH Lanzhou 94.03 307 *eP* **P 14 31 50.4 +0.6**
comp=Z,26nm,1.5s,mb5.3
LZH pP pP 14 32 22.5 -0.1
LZH sP sP 14 32 35.8 -0.2
LZH PP PP 14 35 40.5 +3.0
LZH SKS 14 42 11.9
LZH *eS* 14 42 46.7
LZH sS sS 14 43 43.8 -2.5
LZH *eSS* SS 14 49 13.5 +1.5
LZH LR LR
comp=Z,220nm,19.5s
ULN Ulaanbaatar 96.00 319⇑*eP* **P 14 31 58.5 -0.3**
SONM Songino Array 96.40 318 P **P 14 31 59.6 -1.0**
comp=Z,2.2nm,0.9s,mb4.6,baz=90,slow=3.1,SNR=13
SONM PP PP 14 35 57.4 +1.5
comp=Z,1.7nm,1.1s,baz=122,slow=6.8,SNR=5.9
SONM LR LR 15 09 35.9
comp=Z,47nm,20.2s,baz=322,slow=32
SONM Songino Array 96.40 318 P **P 14 31 59.6 -1.0**
SONM 14 35 57.4
TIXI Tiksi 97.96 345⇓*eP* **P 14 32 05.2 -2.5**
TIXI pmax pmax
comp=Z,5.0nm,1.4s,mb4.8
GTA Gaotai 98.13 309 *eP* **P 14 32 09.5 +1.1**
GTA AP pP 14 32 41.5 +0.2
GTA XP sP 14 32 53.5 -1.1
GTA AMB AMB
comp=Z,4.0nm,1.2s,mb4.8
LPAZ La Paz 100.08 111 PP PP 14 36 23.3 -0.7
comp=Z,1.1nm,0.8s,baz=201,slow=3.4,SNR=4.1
WMQ Urumqi 107.98 311 PDIF Pdif 14 32 50.8 -1.4
WMQ PP PP 14 37 23.5 +0.8
WMQ PP PP
comp=Z,87nm,4.5s
WMQ LR LR
comp=N,33nm,21.3s
WMQ LR LR
comp=E,56nm,21.2s
WMQ LR LR
comp=Z,41nm,25.1s
ZAL Zalesovo 111.01 321 PKiKP PKiKP 14 37 03.6 -0.7
comp=Z,0.9nm,0.8s,baz=27,slow=6.7,SNR=4.1
MKAR Makanchi Array 112.12 314 Pdiff Pdif 14 33 12.1 +1.4
comp=Z,0.2nm,0.5s,baz=88,slow=4.6,SNR=3.0
MKAR PKiKP PKiKP 14 37 04.8 -1.6
comp=Z,0.7nm,0.4s,baz=125,slow=0.8,SNR=15
MKAR PP PP 14 37 43.7 -8.8
comp=Z,0.5nm,0.6s,baz=98,slow=9.1,SNR=4.3
MKAR PKKPbc PKKPbc 14 47 57.6 -0.1
comp=Z,0.7nm,0.7s,baz=268,slow=4.5,SNR=10
MKAR Makanchi Array 112.12 314 P Pdif 14 33 12.1 +1.5
MKAR 14 37 04.9
MKAR 14 37 43.7
AAK Ala-Archa 117.48 309 *i* PKiKP PKPdf 14 37 15.6 -1.1
CHKZ Chkalovo 119.41 322 *e*PKiKP PKPdf 14 37 18.5 -1.9
ZRNK Zerenda 120.47 321 *e*PKiKP PKPdf 14 37 20.6 -1.9
OPO Ambohidratompo 124.22 230 PKP PKPdf 14 37 27.1 -2.6
comp=Z,1.7nm,0.5s,baz=90,slow=8.1,SNR=3.4
ARU Arti 125.45 327 *i* PKiKP PKPdf 14 37 28.8 -3.2
ARU *e*SP SP 14 49 05.9 -6.3
ARU Arti 125.45 327 *e*PKPdf PKPdf 14 37 30.8 -1.3
AKTK Aktyubinsk 127.70 320 PKP PKPdf 14 37 34.7 -1.6
AKTO Aktyubinsk 127.70 320 PKP PKPdf 14 37 34.7 -1.6
comp=Z,1.2nm,0.6s,baz=125,slow=3.4,SNR=6.5
ARCES ARCESS Array B 127.85 351 PKP PKPdf 14 37 34.1 -2.5
comp=Z,1.5nm,0.5s,baz=61,slow=0.9,SNR=13
FINES FINESS Array B 135.00 346 PKhKP 14 37 37.1
comp=Z,0.6nm,0.7s,baz=111,slow=4.3,SNR=3.8
FINES PKP PKPdf 14 37 49.0 -1.1
comp=Z,0.9nm,0.5s,baz=44,slow=2.3,SNR=9.4
OBN Obninsk 136.63 334⇑*iPKiKP* PKPdf 14 37 53.2 0.0
OBN *e* 14 40 33.0
OBN *i* PS PS 14 50 54.8 -8.3
OBN pmax pmax
comp=Z,6.0nm,0.6s
HFS Hagfors 138.37 353 PKhKP 14 37 46.4
comp=Z,1.4nm,0.5s,baz=98,slow=2.1,SNR=6.1
SOC Sochi 141.85 318 *i* PKiKP PKPdf 14 38 03.9 +1.2
SOC *e* 14 38 49.0
SOC *e* 14 41 10.1
SOC *e* 14 45 08.4
SOC pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 142.90 334 PKhKP 14 37 59.2
comp=Z,1.5nm,0.3s,baz=39,slow=4.2,SNR=12
AKASG Malin Array Be 142.90 334 PKP PKPdf 14 37 59.2 -5.3
SIM Simferopol' 144.48 323 *e*PKiKP PKPdf 14 38 06.0 -1.3
SIM pmax pmax
comp=Z,17nm,0.9s
ELZG Elazig 144.61 311 *i* P PKPdf 14 38 07.9 +0.4
BSEG Bad Segeberg 144.82 354 *e*PKPbc PKPdf 14 38 06.5 -1.4
LVV L'vov 145.60 338 *e*PKiKP PKPdf 14 38 08.7 -0.5
LVV *e* 14 38 50.7
BOYT Boyabat 146.02 318 *i* P PKPdf 14 38 11.4 +1.4
GZT Gaziantep 146.10 310 *i* P PKPdf 14 38 11.8 +1.7
KWP Kalwaria 146.21 339 *e*PKP PKPdf 14 38 11.1 +0.8
CTKT Corum 146.51 317 *i* P PKPdf 14 38 13.1 +2.3
OJC Ojcow 146.60 343 *e*PKP PKPdf 14 38 12.3 +1.4
IBBN Ibbenburen 146.62 357 *e*PKPbc PKPbc 14 38 12.6 -0.1
STHS Stebnicka Huta 146.88 340 *e*PKP PKPdf 14 38 13.1 +1.7
STHS *e* 14 38 23.4
STHS *e* 14 39 01.1
CLZ Clausthal 146.88 354 *e*PKPbc PKPbc 14 38 13.2 -0.3
KSP Ksiaz 146.91 347 *e*PKP PKPdf 14 38 13.4 +2.0
KSP Ksiaz 146.91 347 *e*PKP PKPdf 14 38 12.8 +1.4
BALT Daday 146.91 319 *i* P PKPdf 14 38 13.9 +2.5
BURAR Bucovina Array 146.95 335 ⇓*iP* PKPdf 14 38 14.2 +2.7
BURAR Bucovina Array 146.95 335 ⇓P PKPdf 14 38 14.2 +2.7
CLL Collm 147.07 351 *e*PKPdf PKPdf 14 38 12.0 +0.3
CLL ⇓*i*PKPbc PKPbc 14 38 13.2 -0.8
comp=Z,30nm,1.0s
CLL *i* PKPab PKPab 14 38 16.4 +0.6
CLL *e*PKPbc pPKPbc 14 38 55.0 +7.2
CLL Collm 147.07 351⇓*e*PKIKP PKPdf 14 38 12.0 +0.3
CLL *i* 14 38 13.2
CLL *e* 14 38 55.0
CLL pmax pmax
comp=Z,30nm,1.0s
CLL Collm 147.07 351 *e*PKP PKPdf 14 38 12.0 +0.3
CLL ⇓*i*PKP PKPdf 14 38 13.2 +1.5
CLL *ep*PKP pPKPdf 14 38 55.0 +9.0
NIE Niedzica 147.17 341 *e*PKPd PKPdf 14 38 14.2 +2.3
GTTG Gvttingen 147.22 354 *e*PKPbc PKPbc 14 38 14.4 0.0
CRVS Cervenica-Dubn 147.26 340 *e* PKPdf 14 38 19.2 +7.2
UPC Upice 147.28 347⇑*e*PKPB 14 38 13.0
UPC *ep*PKP pPKPdf 14 38 55.7 +9.4
BRG Berggiesshubel 147.34 349 *e*PKPbc PKPbc 14 38 14.2 -0.5
BRG Berggiesshubel 147.34 349 *e*PKP PKPdf 14 38 13.9 +1.7
comp=Z,5.0nm,0.8s
BRG *e* 14 38 55.5
comp=Z,8.1nm,1.4s
BRG Berggiesshubel 147.34 349 *e*PKIKP PKPdf 14 38 13.9 +1.7
BRG *e* 14 38 55.5
BRG pmax pmax
comp=Z,5.0nm,0.8s
BRG pmax pmax
comp=Z,8.0nm,1.4s
DPC Dobruska-Polom 147.36 346⇑*e*PKPB 14 38 14.6
DPC *ep*PKP pPKPdf 14 38 55.7 +9.2
COBT Iskenderun 147.40 309 *i* P PKPdf 14 38 14.5 +2.2
OKC Ostrava-Krasne 147.40 344⇑*e*PKPB 14 38 13.8
OKC *ep*PKP pPKPdf 14 38 56.6 +10
OKC Ostrava-Krasne 147.40 344 *e*PKP PKPdf 14 38 13.8 +1.5
OKC *e* 14 38 56.6
ELDT Eldivan 147.46 317 *i* P PKPdf 14 38 15.1 +2.8
BUG Bochum--Univer 147.51 357 *e*PKPbc PKPbc 14 38 15.4 +0.2
PVCC Panska Ves 147.56 349⇑*e*PKPB 14 38 15.1
PVCC *ep*PKP pPKPdf 14 38 55.6 +8.8
MORC Moravsky Berou 147.61 345⇑*iP* PKPdf 14 38 15.4 +2.8
MORC Moravsky Berou 147.61 345 *e*PKPbc PKPbc 14 38 15.0 -0.5
BRTR Keskin Array B 147.73 316 PKPbc PKPbc 14 38 15.5 -0.3
comp=Z,10nm,0.7s,baz=134,slow=3.8,SNR=46
BRTR pPKPbc pPKPbc 14 38 55.8 +6.1
comp=Z,5.5nm,1.0s,baz=64,slow=2.9,SNR=1.6
MOX Moxa 147.92 352 *e*PKPbc PKPbc 14 38 16.0 -0.3
MOX *ep*PKPbc pPKPbc 14 38 57.8 +7.6
MOX Moxa 147.92 352 *e*PKP PKPdf 14 38 16.5 +3.4
comp=Z,22nm,1.4s
MOX *e* 14 38 58.3
MOX Moxa 147.92 352 *e*PKP2 PKPab 14 38 16.5 -2.7
MOX pmax pmax
comp=Z,22nm,1.4s
KECS Kecovo 147.94 340 *e*PKP PKPdf 14 38 15.8 +2.6
KECS *e* 14 38 29.1
KECS *e* 14 38 59.2
WERD Werda 148.01 351 *e*PKPbc PKPbc 14 38 16.2 -0.3
PRU Pruhonice 148.08 348⇑*e*PKPB 14 38 16.2
PRU *ep*PKP pPKPdf 14 38 53.2 +5.6
NKC Novy Kostel 148.20 351⇑*e*PKPB 14 38 15.9
NKC *ep*PKP pPKPdf 14 38 59.1 +11
NKC Novy Kostel 148.20 351 *e*PKP PKPdf 14 38 15.9 +2.3
NKC *e* 14 38 59.1
ANTO Ankara 148.21 317 *e*PKIKP PKPdf 14 38 17.2 +3.6
SGKT Sivrigoynuk 148.28 319 *i* P PKPdf 14 38 16.9 +3.2
MLR Muntele Rosu 148.30 331 ⇓*iP* PKPdf 14 38 17.7 +4.0
MLR Muntele Rosu 148.30 331 ⇓P PKPdf 14 38 17.7 +4.0
VYHS Vyhne 148.43 342 *e*PKP PKPdf 14 38 17.0 +3.0
VYHS *e* 14 38 28.7
VYHS *e* 14 38 59.5
MANZ Manzenberg 148.49 351 *e*PKPbc PKPbc 14 38 17.5 -0.3
TNS Taunus Mts 148.66 356 *e*PKPbc PKPbc 14 38 17.5 -0.7
ROTZ Rotzenmuhle 148.69 351 *e*PKPbc PKPbc 14 38 18.1 -0.2
VOIR 148.74 332 ⇓PKIKP PKPdf 14 38 18.6 +4.1
GRA1 Grafenberg Arr 148.90 352 *e*PKPbc PKPbc 14 38 18.7 -0.1
GRA1 *ep*PKPbc pPKPbc 14 39 00.7 +7.9
GRA1 LR LR
comp=Z,2μm,21.1s
GRF Grafenberg Arr 148.90 352 *e*PKPbc PKPbc 14 38 18.7 -0.1
GRF *ep*PKPbc pPKPbc 14 39 00.7 +7.9
BAIF Baives 148.94 1 *e*PKIKP PKPdf 14 38 20.5 +5.7
KHC Kasperske Hory 149.08 349⇑*e*PKPB 14 38 18.9
KHC *ep*PKP pPKPdf 14 38 56.6 +7.3
ZST Bratislava 149.18 344 *e*PKP PKPdf 14 38 18.9 +3.7
WET Wettzell 149.19 350 *e*PKPbc PKPbc 14 38 19.4 -0.1
WLF Walferdange 149.33 358 *e*PKPbc PKPbc 14 38 20.3 +0.4
GEC2 GERESS Array S 149.33 349 *e*PKPbc PKPbc 14 38 19.5 -0.4
GEC2 *ep*PKPbc pPKPbc 14 39 01.4 +7.5
GERES GERESS Array B 149.33 349 PKPbc PKPbc 14 38 19.2 -0.7
comp=Z,3.1nm,0.6s,baz=54,slow=2.3,SNR=19
FLN La Foliniere 149.93 7 *e*PKIKP PKPdf 14 38 20.1 +3.7
comp=Z,40nm,0.6s
ROSF Rostrenen 149.93 11 *e*PKIKP PKPdf 14 38 21.4 +5.0
SGMF Saint Gilles 150.13 10 *e*PKIKP PKPdf 14 38 20.8 +4.1
comp=Z,16nm,0.7s
LDF La Druitiere 150.13 7 *e*PKIKP PKPdf 14 38 20.6 +3.9
comp=Z,24nm,0.7s
MOA Molln 150.17 347⇓*iP* PKPdf 14 38 21.2 +4.5
comp=Z,9.1nm,1.1s
GRR Gorron 150.25 8 *e*PKIKP PKPdf 14 38 21.5 +4.6
comp=Z,40nm,0.7s
QUIF Quistinic 150.35 11 *e*PKIKP PKPdf 14 38 22.3 +5.3
MEZF Maizieres J'vi 150.51 360 *e*PKIKP PKPdf 14 38 22.7 +5.4
CDF Champ du Feu 150.53 357 *e*PKIKP PKPdf 14 38 22.0 +4.7
comp=Z,9.9nm,0.6s
PKSM Moragy 150.53 340⇑*iP* PKPdf 14 38 22.2 +4.9
PKSM Moragy 150.53 340⇑P PKPdf 14 38 22.2 +4.9
BFO Black Forest 150.55 355 *e*PKPbc PKPbc 14 38 22.3 -0.5
BFO *ep*PKPbc pPKPbc 14 39 04.3 +7.4
EIL Elat 150.70 297 *e*PKPbc PKPbc 14 38 23.4 +0.2
HAU Haudompre 150.98 358 *e*PKIKP PKPdf 14 38 23.6 +5.6
comp=Z,17nm,0.6s
KBA Koelnbreinsper 151.09 348⇑*iP* PKPdf 14 38 23.5 +5.4
comp=Z,17nm,1.1s
PERS Pernice 151.13 345 *i* P PKPdf 14 38 23.1 +4.9
HINF Hinteralfeld 151.15 357 *e*PKIKP PKPdf 14 38 23.2 +4.9
comp=Z,9.2nm,0.5s
WTTA Wattenberg 151.22 350⇓*iP* PKPdf 14 38 23.8 +5.5
comp=Z,17nm,0.5s
DAVA Damuels 151.43 353⇑*iP* PKPdf 14 38 25.0 +6.3
comp=Z,23nm,1.4s
LOR Lormes 151.73 2 *e*PKIKP PKPdf 14 38 24.6 +5.5
comp=Z,18nm,0.6s
SSF Saint Saulge 151.92 2 *e*PKIKP PKPdf 14 38 25.2 +5.8
comp=Z,12nm,0.6s
MFF Saint Martin d 152.09 7 *e*PKIKP PKPdf 14 38 24.9 +5.2
BOJS Bojanci 152.15 344 *i* P PKPdf 14 38 26.0 +6.3
AVF Avril sur Loir 152.19 2 *e*PKIKP PKPdf 14 38 25.1 +5.3
comp=Z,5.5nm,0.6s
CABF La Chapelle 152.38 358 *e*PKIKP PKPdf 14 38 25.7 +5.6
comp=Z,15nm,0.6s
BGF Bois d'Agland 152.40 3 *e*PKIKP PKPdf 14 38 25.8 +5.7
TCF Toulx Ste Croi 152.63 4 *e*PKIKP PKPdf 14 38 26.7 +6.2
comp=Z,9.8nm,0.5s
EPF Esparros 155.67 8 *e*PKIKP PKPdf 14 38 30.0 +5.3
ESDC Sonseca Array 157.95 19 PKPab PKPab 14 39 00.6 -0.8
comp=Z,0.9nm,0.5s,baz=337,slow=3.4,SNR=5.2
TORD Torodi Ar. Bea 173.46 151 PKP PKPdf 14 38 39.0 -1.2
comp=Z,2.5nm,0.8s,baz=311,slow=1.0,SNR=14
TORD PKPab PKPab 14 40 09.4 -0.3
comp=Z,3.4nm,1.1s,baz=208,slow=4.8,SNR=7.8
TORD PP PP 14 44 02.8 +1.2
comp=Z,1.3nm,1.0s,baz=208,slow=5.9,SNR=3.9

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*ISCJB **30** 14:27:24.9±0.7, 3873N±002×2654E±004, h10$^{km}_{\pm 4km}$, Error ellipse: s-maj=4.9km s-min=3.5km az=144.4*
*NEIC **30** 14:27:25.8, 3872N×2662E, h27^{km}, MD3.7(ATH), ML3.4(ISK), After ATH.*
*CSEM **30** 14:27:25.5±0.1, 3869N×2660E, h20^{km}, MD3.4, Error ellipse: s-maj=1.4km s-min=1.0km az=95.0*
*ISK **30** 14:27:26.2, 3868N×2662E, h27^{km}, MD3.4*
*ATH **30** 14:27:26.1, 3868N×2646E, h25$^{km}_{\pm 4km}$, MD3.7/5*
ISC 30 14:27:25.9±0.5, 3869N±002×2652E±004, h15$^{km}_{\pm 3km}$, n39, s0^{96}/54, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.33**	**170**	*i* P		**Pg**	**14 27 33.8**	**+1.0**
URLA				*i* S		**Sg**	**14 27 40.6**	**+3.3**
BLCB	**Balcova**	**0.51**	**126**	*i* PG		**Pg**	**14 27 36.1**	**+0.1**
BLCB				*i* SG		**Sg**	**14 27 42.6**	**-0.1**
PRK	**Paraskevi**	**0.59**	**341**	⇑*i* PN		**Pg**	**14 27 38.2**	**+0.6**
PRK				*e*SN		**Sg**	**14 27 46.4**	**+0.9**
AYVA	**Ayvalik**	**0.64**	**12**	*i* P		**Pg**	**14 27 37.6**	**-0.7**
AYVA				*i* S		**Sg**	**14 27 49.1**	**+2.3**
IZM	**Izmir**	**0.65**	**116**	*i* PG		**Pg**	**14 27 38.6**	**0.0**
IZM				*i* SG		**Sg**	**14 27 47.7**	**+0.5**
KDAG	**Bornova**	**0.65**	**116**	*i* P		**Pg**	**14 27 38.6**	**-0.1**
KDAG				*i* S		**Sg**	**14 27 47.1**	**-0.2**
SMG	**Samos**	**1.01**	**166**	*e*PN		**Pn**	**14 27 45.5**	**0.0**
SMG				*e*SN		**Sn**	**14 28 00.1**	**+0.8**

AKS	**Akhisar**	**1.03**	**79**	PG	**Pg**		**14 27 44.7**	**-1.1**
AKS				SG	**Sg**		**14 27 57.1**	**-2.1**
EZN	**Ezine**	**1.15**	**352**	PN	**Pn**		**14 27 47.4**	**0.0**
EZN				SN	**Sn**		**14 28 01.9**	**-1.0**
CANB	**Canakkale**	**1.40**	**17**	PN	**Pn**		**14 27 50.4**	**-0.4**
BALB	**Balikesir**	**1.42**	**47**	PN	**Pn**		**14 27 50.5**	**-0.7**
AYDN	**Tasoluk**	**1.48**	**133**	*i* P	**Pn**		**14 27 52.4**	**+0.4**
AYDN				*i* S	**Sn**		**14 28 12.5**	**+1.5**
BTOK	**Tokmak**	**1.59**	**47**	*i* P	**Pn**		**14 27 54.6**	**+1.1**
BTOK				*i* S	**Sn**		**14 28 17.6**	**+3.8**
MANT	**Manisa**	**1.61**	**96**	*i* P	**Pn**		**14 27 55.4**	**+1.7**
MANT				*i* S	**Sn**		**14 28 15.5**	**+1.3**
MLSB	**Milas**	**1.71**	**144**	*e*PN	**Pn**		**14 27 54.5**	**-0.6**
BODT	**Bodrum**	**1.74**	**159**	*e*PN	**Pn**		**14 27 55.0**	**-0.5**
APE	**Apeiranthos**	**1.79**	**206**	*e*PN	**Pn**		**14 27 56.1**	**-0.2**
APE	**Apeiranthos**	**1.79**	**206**	*e*Pb	**Pb**		**14 27 56.6**	**-1.9**
DST	**Dursunbey**	**1.88**	**60**	*e*PN	**Pn**		**14 27 56.0**	**-1.5**
EDC	**Edincik**	**1.96**	**32**	*e*PN	**Pn**		**14 27 57.5**	**-1.0**
BNT	**Bandirma**	**1.99**	**32**	*e*PN	**Pn**		**14 27 57.8**	**-1.2**
RKY	**Sarkoy-Tekirda**	**2.06**	**14**	*e*PN	**Pn**		**14 28 00.2**	**+0.2**
YER	**Yerkesik**	**2.08**	**137**	*e*PN	**Pn**		**14 27 59.8**	**-0.5**
MRMT	**Marmara Adasi**	**2.09**	**23**	*e*PN	**Pn**		**14 27 59.9**	**-0.4**
KCT	**Karacabey**	**2.12**	**41**	*e*PN	**Pn**		**14 28 00.6**	**-0.2**
DAT	**Datca**	**2.12**	**156**	*e*PN	**Pn**		**14 28 00.6**	**-0.2**
MFT	**Murefte**	**2.18**	**15**	*e*PN	**Pn**		**14 28 02.1**	**+0.5**
DENT	**Denizli**	**2.19**	**114**	*e*PN	**Pn**		**14 28 01.1**	**-0.6**
DNZL	**Cakiroluk**	**2.22**	**116**	*i* P	**Pn**		**14 28 03.0**	**+0.8**
DNZL				*i* S	**Sn**		**14 28 37.9**	**+8.5**
GDZ	**Gediz**	**2.34**	**79**	*i* P	**Pg**		**14 28 09.2**	**-1.6**
GDZ				*i* S	**Sg**		**14 28 41.6**	**+0.3**
DALT	**Dalyan (Mudla)**	**2.54**	**138**	*e*PN	**Pn**		**14 28 06.6**	**0.0**
NAIG	**Nisos Aigina**	**2.56**	**250**	*e*PB	**Pb**		**14 28 10.0**	**-1.6**
RDO	**Rodhopi**	**2.57**	**343**	*e*PN	**Pn**		**14 28 08.2**	**+1.2**
FETY	**Fethiye**	**2.88**	**134**	*e*PN	**Pn**		**14 28 11.3**	**0.0**
YLV	**Yalova**	**2.90**	**49**	*e*PN	**Pn**		**14 28 11.4**	**0.0**
ADVT	**Abdulvahap**	**3.04**	**54**	*e*PN	**Pn**		**14 28 13.3**	**-0.1**
EDRB	**Edirne**	**3.16**	**3**	*e*PN	**Pn**		**14 28 15.5**	**+0.4**
NVR	**Nevrokopi**	**3.35**	**323**	*e*PN	**Pn**		**14 28 19.2**	**+1.4**
ESKT	**Eskisehir**	**3.47**	**75**	*e*P	**Pg**		**14 28 28.5**	**-3.9**
ESKT				*i* S	**Sg**		**14 29 17.8**	**+0.4**

MAN 30 14:40:13.4, 925N×12258E, h26km, mb3.0, ML4.4, MS3.0, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**1.01**	**131**⇑	*e*P	Pn	14 40 30.1	-1.8
DCPH				*i* S	Sb	14 40 43.8	-1.4
GUIM	**Jordan**	**1.36**	**0**	*e*P	Pn	14 40 36.4	-0.3
GUIM				*e*S	Sn	14 40 53.9	0.0
IPIL	**Ipil**	**1.46**	**180**	*e*P	Pn	14 40 38.4	+0.4
IPIL				*e*S	Sn	14 40 55.8	-0.4
PAGZ	**Pagadian**	**1.61**	**150**	*e*P	Pn	14 40 41.3	+1.3
LLP	**Lapu-Lapu**	**1.73**	**52**	*e*P	Pn	14 40 41.4	-0.4
LLP				*e*S	Sn	14 41 02.1	-0.9
CUYO	**Cuyo Island**	**2.21**	**316**	*e*P	Pn	14 40 49.4	+1.0
RCP	**Roxas**	**2.30**	**4**	*e*P	Pn	14 40 51.4	+1.8
MSLP	**Maasin**	**2.41**	**69**	*e*P	Pn	14 40 52.4	+1.3
BUSP	**Coron**	**3.60**	**320**	*e*P	Pn	14 41 08.3	+0.9
ENPP	**El Nido**	**3.66**	**302**	*e*P	Pn	14 41 09.3	+1.0

*ISCJB **30** 15:06:36.6±0.7, 2825N±004×5699E±010, h10km, mb3.7/6, Error ellipse: s-maj=12.9km s-min=5.2km az=33.7*
*IDC **30** 15:06:36.4±1.4, 2817N×5683E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.6/24, mbtmp3.8/7, ML3.8/1, Error ellipse: s-maj=28.7km s-min=25.5km az=130.0*
*THR **30** 15:06:39.8±0.4, 2825N×5688E, h15km, ML3.4*
*NEIC **30** 15:06:39.8, 2825N×5689E, h14km, ML3.4(THR), After THR.*
*CSEM **30** 15:06:40.3±0.1, 2828N×5675E, h37km±2km, ML3.4, Error ellipse: s-maj=5.6km s-min=2.8km az=92.0*

ISC 30 15:06:38.0±0.7, 2823N±004×5699E±009, h10km, n16, σ0§99/22, mb3.7/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.10**	**221**	*e*PG	**Pg**	**15 06 59.4**	**+0.3**
BNDS				*e*SG	**Sg**	**15 07 14.2**	**+0.7**
BNDS				AML	AML	15 07 16.3	
	comp=E,876nm,0.4s						
BNDS				AML	AML	15 07 17.6	
	comp=N,659nm,0.3s						
BNDS	**Bandar-Abbas**	**1.10**	**221**	*e*Pg	**Pg**	**15 06 59.0**	**-0.2**
BNDS				*e*Sg	**Sg**	**15 07 14.0**	**+0.5**
BNDS	**Bandar-Abbas**	**1.10**	**221**	*e*Pg	**Pg**	**15 06 59.4**	**+0.2**
	SNR=91						
BNDS				*e*Sg	**Sg**	**15 07 14.0**	**+0.5**
KRBR	**Kerman**	**1.75**	**354**	*e*PG	**Pg**	**15 07 11.7**	**+0.1**
KRBR				*e*SG	**Sg**	**15 07 34.9**	**+0.5**
KRBR				AML	AML	15 07 46.1	
	comp=E,394nm,0.6s						
KRBR				AML	AML	15 07 46.9	
	comp=N,628nm,0.4s						
KRBR	**Kerman**	**1.75**	**354**	*e*Pg	**Pg**	**15 07 11.0**	**-0.7**
KRBR				*e*Sg	**Sg**	**15 07 34.0**	**-0.4**
ZHSF	**Zahedan**	**3.59**	**67**	*e*PN	**Pn**	**15 07 38.3**	**+4.6**
ZHSF	**Zahedan**	**3.59**	**67**	*e*Pn	**Pn**	**15 07 38.0**	**+4.3**
WSAR	**Wadi Sarin**	**5.19**	**163**	Pn	**Pn**	**15 07 56.0**	**+0.3**
	comp=N,3.5nm,0.3s,baz=338,slow=12,SNR=56						
WSAR				Sn	**Sn**	**15 08 52.1**	**-3.4**
	comp=N,9.7nm,0.3s,baz=213,slow=23,SNR=28						
AKTK	**Aktyubinsk**	**22.19**	**2**	P	**P**	**15 11 33.6**	**-0.6**
AKTK	**Aktyubinsk**	**22.19**	**2**	P	**P**	**15 11 33.6**	**-0.7**
AKTO	**Aktyubinsk**	**22.19**	**2**	P	**P**	**15 11 33.6**	**-0.7**
	comp=N,1.1nm,0.4s,mb3.6,baz=180,slow=8.7,SNR=4.5						
BRTR	**Keskin Array B**	**22.43**	**307**	P	**P**	**15 11 38.1**	**+1.2**
	comp=N,1.8nm,0.8s,mb3.6,baz=116,slow=11,SNR=9.5						
MKAR	**Makanchi Array**	**27.13**	**40**	P	**P**	**15 12 22.5**	**+1.3**
	comp=N,0.2nm,0.4s,mb3.0,baz=227,slow=10,SNR=3.6						
ZAL	**Zalesovo**	**32.76**	**31**	P	**P**	**15 13 12.1**	**+1.1**
	comp=N,1.1nm,0.3s,mb4.3,baz=237,slow=6.6,SNR=3.4						
FINES	**FINESS Array B**	**39.06**	**337**	P	**P**	**15 14 04.5**	**-0.6**
	comp=N,1.5nm,0.5s,mb3.9,baz=137,slow=9.6,SNR=14						
TORD	**Torodi Ar. Bea**	**53.44**	**266**	P	**P**	**15 15 56.3**	**-1.8**
	comp=N,0.7nm,0.6s,mb3.8,baz=57,slow=7.3,SNR=6.4						

IDC 30 15:08:21.7±2.7, 562S×13066E, h0km, mb3.5/1, mb1 3.8/4, mb1mx3.6/14, mbtmp3.6/4, ML3.7/3, Error ellipse: s-maj=123.3km s-min=29.2km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.34**	**201**	Pn	Pn	15 11 32.3	0.0
	0.2nm,0.3s,baz=270,slow=23,SNR=16						
FITZ				Sn	Sn	15 13 44.3	-17
	0.3nm,0.3s,baz=104,slow=22,SNR=5.6						
WRA	**Warramunga Arr**	**14.68**	**166**	Pn	Pn	15 11 49.8	-0.8
	0.4nm,0.3s,baz=334,slow=14,SNR=23						
WRA				Sn	Sn	15 14 21.6	-12
	0.5nm,0.3s,baz=356,slow=23,SNR=8.2						
ASAR	**Alice Springs**	**18.21**	**170**	P	Pn	15 12 36.6	+0.7
	0.2nm,0.3s,baz=347,slow=10,SNR=19						
ASAR				S	Sn	15 15 45.6	-14
	0.1nm,0.3s,baz=352,slow=28,SNR=5.2						
MKAR	**Makanchi Array**	**67.44**	**326**	P	P	15 19 19.4	+0.2
	0.2nm,0.5s,baz=119,slow=7.9,SNR=4.2						

KRSC 30 15:10:10.6±1.0, 5458N×16199E, h19km±1km, ML4.1, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.15**	**261**	*i* P	Pg	15 10 16.0	+1.0
MKZ				*i* S	Sg	15 10 19.1	+1.1
TUMR	**Tumrok**	**1.28**	**304**	*e*P	Pn	15 10 32.3	-1.1
TUMR				*i* S	Sn	15 10 48.5	-1.5
KMNR	**Kamenistaya**	**1.55**	**320**	*e*P	Pn	15 10 36.9	-0.3
KMNR				*e*S	Sn	15 10 56.1	-0.6
KII	**Karymskiy**	**1.59**	**251**	*e*P	Pn	15 10 37.5	-0.1
KII				*e*S	Sn	15 10 56.7	-0.9
ZLN	**Zelenaya**	**1.59**	**335**	*e*P	Pn	15 10 38.3	+0.6
ZLN				*i* S	Sn	15 10 58.6	+0.8
LGNR	**Loginova**	**1.68**	**334**	*e*P	Pn	15 10 40.0	+1.1
LGNR				*i* S	Sn	15 11 01.7	+1.8
CIRR	**Tsirk**	**1.69**	**336**	*e*P	Pn	15 10 40.0	+0.9
CIRR				*e*S	Sn	15 11 01.3	+1.0
KBTR	**Krutoberegovo**	**1.70**	**16**	*e*P	Pn	15 10 40.2	+1.0
KBTR				*e*S	Sn	15 11 04.3	+3.9
KPT	**Kopyto**	**1.72**	**325**	*e*P	Pn	15 10 39.7	+0.2
KPT				*e*S	Sn	15 11 00.2	-0.7
KBG	**Krutoberegovo**	**1.73**	**13**	*e*P	Pn	15 10 42.1	+2.5
KBG				*e*S	Sn	15 11 06.0	+4.9
KBG				Smax			
	900nm,1.0s						
KRSR	**Krestovskiy**	**1.83**	**334**	*e*P	Pn	15 10 41.9	+0.9
KRSR				*e*S	Sn	15 11 03.8	+0.1
SPN	**Mys Shipunski**	**1.89**	**219**	*e*P	Pn	15 10 41.8	0.0
SPN				*e*S	Sn	15 11 03.1	-2.0
KLY	**Klyuchi**	**1.90**	**337**	*e*P	Pn	15 10 41.6	-0.3
KLY				*e*S	Sn	15 11 04.9	-0.4
KOZ	**Kozyrevsk**	**1.91**	**322**	*e*P	Pn	15 10 42.9	+0.8
KOZ				*e*S	Sn	15 11 07.0	+1.3
SMKR	**Semkarok**	**2.03**	**352**	*e*P	Pn	15 10 45.4	+1.7
SMKR				*e*S	Sn	15 11 11.3	+2.8
BDR	**Baidarnaya**	**2.04**	**348**	*e*P	Pn	15 10 45.7	+1.8
BDR				*e*S	Sn	15 11 11.0	+2.1
NLC	**Nalytchevo**	**2.11**	**229**	*e*P	Pn	15 10 46.0	+1.2
NLC				*e*S	Sn	15 11 11.2	+0.7
SRKR	**Sorokina**	**2.13**	**348**	*e*P	Pn	15 10 46.8	+1.7
SRKR				*e*S	Sn	15 11 13.9	+2.8
SRDR	**Sredinnyy**	**2.17**	**324**	*e*P	Pn	15 10 46.9	+1.2
SRDR				*e*S	Sn	15 11 12.7	+0.7
SDLR	**Sedlovina**	**2.25**	**236**	*i* P	Pn	15 10 48.2	+1.4
SDLR				*e*S	Sn	15 11 15.0	+0.9
SMAR	**Somma**	**2.30**	**236**	*e*P	Pn	15 10 48.9	+1.4
SMAR				*e*S	Sn	15 11 16.7	+1.4
ESO	**Esso**	**2.32**	**307**	*e*P	Pn	15 10 47.2	-0.5
ESO				*e*S	Sn	15 11 15.7	+0.1
ESO				Smax			
	190nm,1.1s						
UGLR	**Uglovaya**	**2.32**	**235**	*i* P	Pn	15 10 49.4	+1.6
UGLR				*e*S	Sn	15 11 17.8	+2.0
AVH	**Avacha**	**2.33**	**237**	*e*P	Pn	15 10 49.7	+1.8
KOK	**Koryaka**	**2.37**	**238**	*e*P	Pn	15 10 50.0	+1.6
PET	**Petropavlovsk**	**2.52**	**233**	*e*P	Pn	15 10 52.0	+1.5
PET				*e*S	Sn	15 11 22.7	+2.0
GNL	**Ganaly**	**2.54**	**251**	*e*P	Pn	15 10 51.9	+1.1
KRMR	**Karymshinskiy**	**2.89**	**234**	*e*P	Pn	15 10 58.1	+2.5
RUS	**Russkaya**	**2.99**	**225**	*e*P	Pn	15 10 58.1	+1.1
RUS				*e*S	Sn	15 11 32.9	+0.6
GRL	**Gorelyy**	**3.10**	**231**	*e*P	Pn	15 11 01.0	+2.6
GRL				*e*S	Sn	15 11 37.0	+2.1
APC	**Apacha**	**3.31**	**242**	P	Pn	15 11 03.9	+2.5
APC				Smax			
	60nm,1.0s						
MIPR	**Malaya Ipel'ka**	**3.89**	**236**	*e*P	Pn	15 11 14.7	+5.4
PAU	**Pauzhetka**	**4.42**	**227**	P	Pn	15 11 21.9	+5.3

*TIF **30** 15:33:19.0, 4243N×4375E, h13km±1km*
*ISCJB **30** 15:33:19.8±0.4, 4244N±002×4377E±003, h5km±4km, Error ellipse: s-maj=4.0km s-min=3.3km az=2.8*
*CSEM **30** 15:33:19.3±0.1, 4241N×4371E, h2km, mb3.9, Error ellipse: s-maj=3.2km s-min=1.4km az=120.0*
*MOS **30** 15:33:21.5±1.1, 4250N×4405E, h15km, mb3.9/1, Error ellipse: s-maj=19.8km s-min=7.4km az=89.1*

ISC 30 15:33:20.3±0.4, 4243N±002×4376E±003, h4km±4km, n32, σ1§09/59, 1C-1D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.27**	**303**	P	**Pg**	**15 33 24.7**	**-0.8**
ONI				S	**Sg**	**15 33 28.8**	**-0.2**
ZEI	**Tsey**	**0.35**	**17**	*i* Pg	**Pg**	**15 33 27.2**	**+0.1**
ZEI				*i* Sg	**Sg**	**15 33 32.9**	**+1.2**
AMRG		**0.46**	**280**	P	**Pg**	**15 33 28.7**	**-0.5**
AMRG				S	**Sg**	**15 33 39.6**	**+4.3**
GOR	**Gori**	**0.52**	**150**	P	**Pg**	**15 33 29.8**	**-0.5**
GOR				S	**Sg**	**15 33 38.2**	**+1.1**
LACR	**Lac**	**0.56**	**45**	*i* Pg	**Pg**	**15 33 30.5**	**-0.5**
LACR				*i* Sg	**Sg**	**15 33 38.7**	**+0.4**
KORR	**Kora**	**0.69**	**19**	*e*Pg	**Pg**	**15 33 33.0**	**-0.5**
KORR				*i* Sg	**Sg**	**15 33 43.1**	**+0.6**
ARNR	**Ardon**	**0.85**	**27**	*e*Pg	**Pg**	**15 33 35.9**	**-0.6**
ARNR				*e*Sg	**Sg**	**15 33 48.0**	**+0.5**
VLKR	**Vladikavkaz**	**0.91**	**48**	*e*Pg	**Pg**	**15 33 37.0**	**-0.8**
VLKR				*e*Sg	**Sg**	**15 33 50.1**	**+0.4**
TBLG	**Delisi**	**1.01**	**134**	P	**Pg**	**15 33 38.6**	**-1.1**
TBLG				S	**Sg**	**15 33 53.8**	**+0.9**
TBLG	**Delisi**	**1.01**	**134**	Pg	**Pg**	**15 33 38.6**	**-1.1**
TBLG				*e*Sg	**Sg**	**15 33 53.7**	**+0.8**
KMSR	**Komsomolskaya**	**1.02**	**23**	*e*Pg	**Pg**	**15 33 39.1**	**-0.7**
KMSR				*e*Sg	**Sg**	**15 33 53.5**	**+0.6**
AKH	**Akhalkalaki**	**1.04**	**191**	P	**Pg**	**15 33 38.7**	**-1.5**
AKH				S	**Sg**	**15 33 53.6**	**-0.2**
MTA	**Mtatsminda**	**1.07**	**133**	P	**Pg**	**15 33 39.8**	**-1.0**
MTA				S	**Sg**	**15 33 54.9**	**+0.2**
BTKR	**Batakoyurt**	**1.10**	**31**	*e*Pg	**Pg**	**15 33 40.7**	**-0.7**
BTKR				*e*Sg	**Sg**	**15 33 56.2**	**+0.5**
KZR	**Kazreti**	**1.16**	**155**	P	**Pn**	**15 33 39.7**	**-3.6**
KZR				S	**Sn**	**15 33 56.0**	**-3.5**
PRTR	**Priterechnaya**	**1.37**	**16**	*e*Pg	**Pn**	**15 33 45.1**	**-1.1**
PRTR				*e*Sg	**Sn**	**15 34 04.0**	**-0.7**
DGRG	**David-gareji**	**1.56**	**129**	P	**Pn**	**15 33 49.2**	**+0.5**
DGRG				S	**Sn**	**15 34 11.8**	**+2.5**
KIV	**Kislovodsk**	**1.71**	**333**	*d* PN	**Pn**	**15 33 51.0**	**+0.2**
ARTV	**Artvin**	**1.85**	**228**	*i* P	**Pn**	**15 33 52.3**	**-0.4**
ARTV				*i* S	**Sn**	**15 33 59.9**	**+0.4**
BCA	**Borcka**	**1.87**	**239**	PN	**Pn**	**15 33 52.4**	**-0.6**
BCA				SN	**Sn**	**15 34 17.6**	**+0.5**
KARS	**Kars**	**1.89**	**195**	PN	**Pn**	**15 33 54.4**	**+1.2**
GNI	**Garni**	**2.40**	**162**	PN	**Pn**	**15 34 02.7**	**+2.4**
GNI				SN	**Sn**	**15 34 31.6**	**+1.5**
GNI	**Garni**	**2.40**	**162**	*i* PN	**Pn**	**15 34 02.5**	**+2.2**
GNI				*i* S	**Sn**	**15 34 35.4**	**+5.3**
GNI				pmax	pmax		
	comp=Z,12nm,0.2s						
GNI				smax			
	comp=Z,12nm,0.2s						
GNI	**Garni**	**2.40**	**162**	*i* Pn	**Pn**	**15 34 02.5**	**+2.2**
	comp=Z,12nm,0.2s						
GNI				*i* Sn	**Sn**	**15 34 35.4**	**+5.3**
GOF	**Gofitskoye**	**2.67**	**349**	*e*PN	**Pg**	**15 34 16.1**	**+4.6**
GOF				*i* S	**Sg**	**15 34 45.7**	**-0.5**
GOF				pmax	pmax		
	comp=Z,40nm,0.6s						
GOF				smax			
	comp=N,140nm,0.8s						
GOF				smax			
	comp=E,60nm,0.8s						
GOF	**Gofitskoye**	**2.67**	**349**	*e*Pn	**Pg**	**15 34 16.1**	**+4.6**
	comp=E,40nm,0.6s						
EZM	**Erzurum**	**3.11**	**216**	*e*P	**Pn**	**15 34 11.0**	**+1.0**
SOC	**Sochi**	**3.18**	**293**	*e*PN	**Pn**	**15 34 16.9**	**+5.9**
SOC				*i*		15 34 22.4	
SOC				*e*		15 34 25.3	
SOC				*e*		15 34 59.1	
SOC				*e*		15 35 06.6	
SOC				*e*		15 35 18.1	
SOC				pmax	pmax		
	comp=Z,13nm,0.6s						
SOC				smax			
	comp=E,41nm,0.9s						
SOC	**Sochi**	**3.18**	**293**	*e*Pn	**Pn**	**15 34 16.9**	**+5.9**
	comp=E,13nm,0.6s						
SOC	**Sochi**	**3.18**	**293**	*e*Pg	**Pg**	**15 34 25.3**	**+4.1**
SOC				*e*Sn	**Sn**	**15 34 59.1**	**+10**
SOC				*e*Sg	**Sg**	**15 35 18.1**	**+16**
OBN	**Obninsk**	**13.53**	**342**	*e*P	**Pn**	**15 36 24.5**	**-8.5**
OBN				*e*S	**Sn**	**15 38 59.5**	**-4.3**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.5s						
OBN	**Obninsk**	**13.53**	**342**	*e*P	**Pn**	**15 36 24.5**	**-8.5**
	comp=Z,6.0nm,0.5s						
OBN				*e*S	**Sn**	**15 38 59.5**	**-4.3**

MAN 30 15:34:11.1, 915N×12219E, h27km, mb3.0, ML4.4, MS3.5, 2C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**1.05**	**79**⇑	*e*P	Pn	15 34 28.9	-1.1
SNPH				*e*S	Sn	15 34 43.5	-0.2
DCPH	**Dipolog City**	**1.28**	**116**⇑	*e*P	Pn	15 34 31.7	-1.5
DCPH				*i* S	Sn	15 34 47.5	-1.9
IPIL	**Ipil**	**1.40**	**164**⇓	*i* P	Pn	15 34 34.8	-0.1
IPIL				*e*S	Sn	15 34 52.5	+0.1
IPIL	**Ipil**	**1.40**	**164**	*e*P	Pn	15 34 34.9	0.0
GUIM	**Jordan**	**1.52**	**15**	*e*P	Pn	15 34 36.5	0.0
GUIM				*e*S	Sn	15 34 57.2	+1.8
PAGZ	**Pagadian**	**1.75**	**138**	*e*P	Pn	15 34 40.7	+1.1
CUYO	**Cuyo Island**	**2.05**	**326**	*e*P	Pn	15 34 44.1	+0.3
LLP	**Lapu-Lapu**	**2.10**	**56**	*e*P	Pn	15 34 45.6	+1.2
LLP				*e*S	Sn	15 35 10.4	+0.7
MSLP	**Maasin**	**2.81**	**69**	*e*P	Pn	15 34 56.9	+2.7
ENPP	**El Nido**	**3.41**	**307**	*e*P	Pn	15 35 03.3	+0.8
BUSP	**Coron**	**3.45**	**326**	*e*P	Pn	15 35 04.1	+1.1

MAN 30 16:07:50.2, 1760N×12238E, h37km, mb3.1, ML4.4, MS4.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.54**	**175**⇑	*i* P	Pn	16 08 02.2	+0.9
PALP				*i* S	Sn	16 08 13.8	+4.6
PALP	**Palanan**	**0.54**	**175**	*e*P	Pn	16 08 02.4	+1.1
SGCP	**Mt. Cagua**	**0.71**	**334**	*e*P	Pn	16 08 04.8	+1.0
CAUP	**Cauayan**	**0.84**	**219**	*e*P	Pn	16 08 06.9	+1.3
ABRA	**Dolores**	**1.59**	**272**	*e*P	Pn	16 08 16.8	+1.0
ABRA				*e*S	Sn	16 08 35.3	+1.2
BALP	**Baler**	**2.00**	**203**	*e*P	Pn	16 08 23.1	+1.6
POLP	**Polilio Island**	**2.89**	**188**	*e*P	Pn	16 08 34.1	+0.5

*SKO **30** 16:15:43.9, 4139N×2081E, h15km, M2.2, ML2.7*
*ISCJB **30** 16:15:46.7±0.7, 4109N±003×2088E±005, h5km±6km, Error ellipse: s-maj=6.0km s-min=5.2km az=125.1*
*CSEM **30** 16:15:46.6±0.1, 4113N×2088E, h5km, ML2.7, Error ellipse: s-maj=2.5km s-min=2.1km az=178.0*
*THE **30** 16:15:46.7, 4115N×2089E, h1km, ML2.7*

ISC 30 16:15:46.7±1.0, 4107N±004×2083E±006, h7km±5km, n20, σ0§85/38, 3C, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.05**	**325**	*e*Pg	**Pg**	**16 15 48.3**	**+0.1**
OHR	**Ohrid**	**0.05**	**325**	*i* Pg	**Pg**	**16 15 48.0**	**-0.2**
OHR				*e*Lg		16 15 49.8	
	comp=E,7μm,0.4s						
OHR				*i* Sg	**Sg**	**16 15 49.9**	**+0.6**
OHR				*e*Lg		16 15 49.9	
	comp=N,4μm,0.3s						
OHR	**Ohrid**	**0.05**	**325**	*e*Pg	**Pg**	**16 15 48.3**	**+0.1**
OHR				*i* Sg	**Sg**	**16 15 49.8**	**+0.5**
BIA	**Bitola**	**0.37**	**98**	*e*Pg	**Pg**	**16 15 53.4**	**-0.6**
BIA				*e*Sg	**Sg**	**16 15 58.9**	**0.0**
BIA	**Bitola**	**0.37**	**98**⇑	*i* Pg	**Pg**	**16 15 53.4**	**-0.6**
BIA				*i* Sg	**Sg**	**16 15 59.4**	**+0.5**
BIA	**Bitola**	**0.37**	**98**⇑	*i* Pg	**Pg**	**16 15 53.3**	**-0.7**
BIA				*i* Sg	**Sg**	**16 15 59.4**	**+0.5**
FNA	**Florina**	**0.50**	**125**	*e*Pg	**Pg**	**16 15 56.5**	**+0.1**
FNA				*e*Sg	**Sg**	**16 16 04.0**	**+1.1**
FNA	**Florina**	**0.50**	**125**	*e*Pg	**Pg**	**16 15 56.5**	**+0.1**
FNA				*e*Sg	**Sg**	**16 16 04.1**	**+1.1**
SAMO	**Samokov**	**0.66**	**20**⇑	*i* Pg	**Pg**	**16 15 50.3**	**-9.2**
SAMO				*i* Sg	**Sg**	**16 16 08.4**	**+0.4**
BELI	**Belica**	**0.69**	**28**	*i* Pg	**Pg**	**16 15 50.3**	**-10**
BELI				*i*		16 15 59.4	
BELI				*i* Sg	**Sg**	**16 16 09.6**	**+0.6**
SKO	**Skopje**	**1.01**	**27**	*e*Pg	**Pg**	**16 16 04.5**	**-1.5**
SKO	**Skopje**	**1.01**	**27**	*i* Pg	**Pg**	**16 16 06.1**	**+0.1**
SKO				*i* Sg	**Sg**	**16 16 20.3**	**+1.2**
SKO	**Skopje**	**1.01**	**27**	*e*Pg	**Pg**	**16 16 04.5**	**-1.5**
SKO				*i* Sg	**Sg**	**16 16 20.3**	**+1.2**
GRG	**Griva**	**1.19**	**95**	*e*Pg	**Pg**	**16 16 08.4**	**-1.2**
GRG				*e*Sg	**Sg**	**16 16 25.4**	**+0.3**
STIP	**Stip**	**1.19**	**58**	*i* Pg	**Pg**	**16 16 08.8**	**-0.7**
STIP				*i* Sg	**Sg**	**16 16 25.4**	**+0.4**
VAY	**Valandovo**	**1.33**	**79**	*e*Pg	**Pg**	**16 16 10.5**	**-1.7**
VAY				*e*Sg	**Sg**	**16 16 29.1**	**-0.5**
VAY	**Valandovo**	**1.33**	**79**	*i* Pg	**Pg**	**16 16 10.3**	**-2.0**
VAY				*i* Sg	**Sg**	**16 16 28.8**	**-0.8**
VAY	**Valandovo**	**1.33**	**79**	*e*Pg	**Pg**	**16 16 10.5**	**-1.8**
VAY				*e*Sg	**Sg**	**16 16 29.0**	**-0.6**
KNT	**Kendrikon**	**1.56**	**86**	*e*Pg	**Pn**	**16 16 14.0**	**-0.9

AFI	**Afiamalu**	**7.78**	**43**	P	**P**	**17 12 54.6**	**-0.1**
	2.7nm,0.3s,baz=264,slow=21,SNR=4.3							
AFI	**Afiamalu**	**7.78**	**43**	*e*P	**P**	**17 12 54.5**	**-0.2**
	7.7nm,0.4s							
RPZ	**Rata Peaks**	**25.85**	**200**	P	**P**	**17 15 42.3**	**-0.8**
	2.3nm,0.3s,mb4.3,baz=259,slow=5.2,SNR=7.9							
CNB	**Canberra Magne**	**33.28**	**235**	*e*P	**P**	**17 16 52.0**	**+5.1**
	84nm,2.0s,mb5.0							
CTA	**Charters Tower**	**34.33**	**263**	P	**P**	**17 16 55.5**	**-0.2**
	2.9nm,1.1s,mb3.8,baz=105,slow=16,SNR=3.6							
CTA	**Charters Tower**	**34.33**	**263**	P	**P**	**17 16 55.5**	**-0.2**
CTAO	**Charters Tower**	**34.33**	**263**	*e*P	**P**	**17 16 55.6**	**-0.1**
STKA	**Stephens Creek**	**38.80**	**243**	*e*P	**P**	**17 17 33.6**	**+1.4**
	1.4nm,0.4s,mb3.8							
STKA	**Stephens Creek**	**38.80**	**243**	P	**P**	**17 17 33.5**	**+1.3**
	1.5nm,0.3s,mb4.0,baz=82,slow=9.4,SNR=7.9							
AS31	**Alice Springs**	**45.43**	**256**	*j i*P	**P**	**17 18 24.9**	**+0.8**
ASAR	**Alice Springs**	**45.43**	**256**	P	**P**	**17 18 24.9**	**+0.8**
	2.4nm,0.5s,mb4.0,baz=87,slow=8.2,SNR=99							
ASAR				PcP	PcP	17 19 51.3	+1.2	
	0.3nm,0.5s,baz=102,slow=3.9,SNR=5.2							
ASAR				S	**S**	**17 24 21.2**	**-1.5**	
	0.7nm,0.8s,baz=91,slow=15,SNR=5.7							
ASPA	**Alice Springs**	**45.44**	**256**	*j i*P	**P**	**17 18 24.9**	**+0.8**
WB2	**Warramunga Arr**	**45.45**	**261**	*e*P	**P**	**17 18 23.7**	**-0.5**
WRAB	**Tennant Creek**	**45.45**	**261**	*e*P	**P**	**17 18 23.9**	**-0.3**
	2.8nm,0.4s,mb4.2							
WRA	**Warramunga Arr**	**45.46**	**261**	P	**P**	**17 18 23.7**	**-0.5**
	1.5nm,0.3s,mb3.9,baz=97,slow=7.4,SNR=48							
WRA				PcP	PcP	17 19 51.2	+1.0	
	0.2nm,0.4s,baz=92,slow=3.9,SNR=5.6							
KAKA	**Kakadu**	**48.72**	**270**	*e*P	**P**	**17 18 47.5**	**-1.2**
	34nm,1.9s,mb4.5							
FITZ	**Fitzroy Crossi**	**53.88**	**262**	*e*P	**P**	**17 19 26.2**	**+0.4**
	6.0nm,1.1s,mb3.8							
FITZ	**Fitzroy Crossi**	**53.88**	**262**	P	**P**	**17 19 26.2**	**+0.4**
	0.4nm,0.3s,mb3.2,baz=159,slow=14,SNR=9.0							

*ISCJB **30** 17:15:01.7±0.4,3699N±002×2799E±003,h12km±3km, Error ellipse: s-maj=4.1km s-min=3.5km az=124.4*
*NEIC **30** 17:15:01.5,3705N×2802E,h32km,MD3.3(ISK), MD3.5(ATH),After ATH.*
*ISK **30** 17:15:01.5,3703N×2800E,h11km,MD3.3*
*CSEM **30** 17:15:01.4±0.1,3703N×2801E,h10km,MD3.3,Error ellipse: s-maj=1.4km s-min=1.2km az=165.0*
*ATH **30** 17:15:01.5,3704N×2797E,h23km±2km,MD3.5/6*

ISC 30 17:15:02.0±0.4,3699N±002×2800E±003,h13km±3km,n31, σ1§00/46,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.27**	**58**	*i* PG	**Pg**	**17 15 07.5**	**-0.1**
YER				*i* SG	**Sg**	**17 15 11.6**	**+0.2**
MLSB	**Milas**	**0.35**	**330**	PG	**Pg**	**17 15 08.2**	**-0.9**
MLSB				SG	**Sg**	**17 15 13.3**	**-0.5**
DAT	**Datca**	**0.43**	**232**	PG	**Pg**	**17 15 10.9**	**+0.5**
DAT				SG	**Sg**	**17 15 17.8**	**+1.7**
BDRM	**Kayabasi**	**0.45**	**280**	*i* P	**Pg**	**17 15 10.3**	**-0.5**
BDRM				*i* S	**Sg**	**17 15 18.0**	**+1.1**
BODT	**Bodrum**	**0.55**	**278**	PG	**Pg**	**17 15 12.1**	**-0.7**
BODT				SG	**Sg**	**17 15 21.3**	**+1.1**
DALT	**Dalyan (Mudla)**	**0.56**	**113**	PG	**Pg**	**17 15 12.9**	**0.0**
AYDN	**Tasoluk**	**0.68**	**352**	*i* P	**Pg**	**17 15 14.8**	**-0.4**
AYDN				*i* S	**Sg**	**17 15 24.4**	**+0.4**
ARG	**Arkhangelos**	**0.78**	**172**	*e*PB	**Pb**	**17 15 17.2**	**-0.2**
ARG				*e*SN	**Sn**	**17 15 29.6**	**-0.6**
ARG	**Arkhangelos**	**0.78**	**172**	*e*Pn	**Pn**	**17 15 16.6**	**-2.1**
ARG				*e*Sn	**Sn**	**17 15 30.3**	**+0.1**
NISR	**Nisiros**	**0.79**	**242**	*e*PN	**Pn**	**17 15 17.0**	**-1.9**
NISR				*e*SN	**Sn**	**17 15 29.0**	**-1.6**
FETY	**Fethiye**	**0.94**	**112**	PG	**Pg**	**17 15 19.9**	**-0.3**
DNZL	**Cakiroluk**	**1.09**	**50**	*i* P	**Pb**	**17 15 22.4**	**-0.3**
DNZL				*i* S	**Sb**	**17 15 40.7**	**+3.9**
DENT	**Denizli**	**1.12**	**47**	PN	**Pn**	**17 15 23.0**	**-0.4**
SMG	**Samos**	**1.17**	**308**	*e*PN	**Pn**	**17 15 23.6**	**-0.4**
SMG				*e*SN	**Sn**	**17 15 37.8**	**-2.0**
IZM	**Izmir**	**1.52**	**338**	PN	**Pn**	**17 15 28.6**	**-0.3**
KDAG	**Bornova**	**1.52**	**338**	P	**Pn**	**17 15 28.9**	**0.0**
KDAG				*i* S	**Sn**	**17 15 51.5**	**+2.9**
ELL	**Elmali**	**1.55**	**98**	*e*PN	**Pn**	**17 15 29.9**	**+0.6**
MANT	**Manisa**	**1.56**	**16**	*i* P	**Pn**	**17 15 31.6**	**+2.2**
BLCB	**Balcova**	**1.58**	**332**	*e*PN	**Pn**	**17 15 29.9**	**+0.1**
KARP	**Karpathos**	**1.59**	**205**	*e*PN	**Pn**	**17 15 30.3**	**+0.5**
KARP				*e*SN	**Sn**	**17 15 51.6**	**+1.4**
URLA	**Izmir**	**1.76**	**321**	*i* P	**Pg**	**17 15 35.9**	**+0.1**
URLA				*i* S	**Sg**	**17 16 05.3**	**+6.6**
KHL	**Karahalli**	**1.80**	**42**	*e*PN	**Pn**	**17 15 33.2**	**+0.5**
AKS	**Akhisar**	**1.89**	**356**	*e*PN	**Pn**	**17 15 33.9**	**-0.1**
APE	**Apeiranthos**	**1.98**	**273**	*e*PN	**Pn**	**17 15 35.6**	**+0.5**
APE	**Apeiranthos**	**1.98**	**273**	*e*Pb	**Pb**	**17 15 36.1**	**-1.7**
BCK	**Bucak**	**2.12**	**76**	*e*PN	**Pn**	**17 15 38.0**	**+0.9**
TKTP	**Tekketepe**	**2.12**	**60**	*i* P	**Pg**	**17 15 42.0**	**-0.7**
TKTP				*i* S	**Sg**	**17 16 15.8**	**+5.6**
NPS	**Neapolis**	**2.59**	**229**	*e*PN	**Pn**	**17 15 44.4**	**+0.9**
ALT	**Altintas**	**2.65**	**38**	*e*PN	**Pn**	**17 15 45.3**	**+0.9**
DST	**Dursunbey**	**2.66**	**11**	*e*PN	**Pn**	**17 15 47.4**	**+0.9**
ESKT	**Eskisehir**	**3.38**	**41**	*i* P	**Pg**	**17 16 05.5**	**-1.3**

CASC 30 17:17:38.6±2.0,1293N×8892W,h23km±13km,MD3.5, ML2.5,1C-1D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.71**	**349**	*e*P	Pb	17 17 55.3	+3.1
LFRS				*e*S	Sb	17 18 06.3	+4.7
LCBS	**La Ceiba**	**0.73**	**355**	*e*P	Pb	17 17 55.7	+3.1
LCBS				*e*S	Sb	17 18 06.7	+4.5
SNET	**Serv Nac Est T**	**0.82**	**338**	*e*P	Pb	17 17 54.0	-0.1
SNET				*e*S	Sb	17 18 05.5	+0.9
LBRS	**Las Brisas**	**0.82**	**351**	*e*P	Pb	17 17 57.4	+3.3
BLLM	**Bellamira**	**0.84**	**52**	*e*P	Pb	17 17 56.8	+2.4
BLLM				*e*S	Sb	17 18 09.2	+3.9
CNCH	**Conchagua**	**1.11**	**72**	*e*P	Pn	17 18 00.5	+1.8
CNCH				*e*S	Sb	17 18 15.6	+2.4
SBLS	**San Blas**	**1.14**	**323**	*e*P	Pn	17 18 02.0	+3.0
SBLS				*e*S	Sb	17 18 17.2	+3.3
SNJE	**San Jose**	**1.15**	**325**	*e*P	Pn	17 18 01.9	+2.6
SNJE				*e*S	Sn	17 18 17.2	+3.0
RTR	**El Retiro**	**1.20**	**324**	*e*P	Pn	17 18 02.8	+2.9
RTR				*e*S	Sn	17 18 18.4	+2.9
CRIN	**San Cristobal**	**1.84**	**97**	*e*P	Pn	17 18 10.6	+1.9
CRIN				*i*		17 18 35.0	
	comp=Z,53nm,0.1s						
IXG	**Ixpaco**	**1.94**	**310**	*e*P	Pn	17 18 10.1	0.0
IXG				*e*S	Sn	17 18 35.6	+1.8
LEON	**Leon**	**2.04**	**104**	*e*P	Pn	17 18 10.6	-0.9
LEON				*i*		17 18 39.0	
	comp=Z,37nm,0.2s						
TEL3	**Telica 3**	**2.05**	**100**	*e*P	Pn	17 18 11.5	-0.2
TELN	**Telica**	**2.06**	**99**	*e*P	Pn	17 18 12.1	+0.3
MIRN	**Miramar**	**2.21**	**102**	*e*P	Pn	17 18 13.4	-0.4
COPN	**Copaltepe**	**2.39**	**108**	*e*P	Pn	17 18 15.4	-0.8
TP2	**Tecpan 2**	**2.75**	**312**	*e*P	Pn	17 18 22.1	+0.8
TP2				*e*S	Sn	17 18 56.9	+3.1

*ISCJB **30** 17:19:20.7±0.5,2009N±008×1224E±02,h33km,Error ellipse: s-maj=28.7km s-min=3.6km az=42.9*
*MAN **30** 17:19:21.1,1977N×12244E,h1km,mb3.1,ML4.4,MS6.2*
*JMA **30** 17:19:26.4±0.3,2029N×12269E,h82km,M3.6*

ISC 30 17:19:22.4±0.5,2005N±008×1224E±02,h35km,n13, σ1§31/20,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.84**	**192**	*e*P	**Pn**	**17 19 50.2**	**-1.2**
CVP	**Callao Caves**	**2.41**	**194**	*e*P	**Pn**	**17 19 58.0**	**-1.3**
APYP	**Conner**	**2.45**	**208**	*e*P	**Pn**	**17 19 59.1**	**-0.8**
APYP				*e*S	**Sn**	**17 20 27.6**	**-1.1**
ABRA	**Dolores**	**2.89**	**215**	*e*P	**Pn**	**17 20 06.2**	**+0.2**
ABRA				*e*S	**Sn**	**17 20 39.5**	**0.0**
CAUP	**Cauayan**	**3.14**	**191**	*e*P	**Pn**	**17 20 11.0**	**+1.6**
HATJ	**Hateruma jima**	**4.18**	**17**	P	**Pn**	**17 20 25.0**	**+1.3**
HATJ				*e*S	**Sn**	**17 21 09.5**	**-1.9**
BALP	**Baler**	**4.36**	**191**	*e*P	**Pn**	**17 20 26.2**	**+0.1**
JKRS	**Kuro-shima**	**4.42**	**19**	P	**Pn**	**17 20 28.5**	**+1.6**
JKRS				S	**Sn**	**17 21 15.6**	**-1.4**
YOJ	**Yonaguni jima**	**4.42**	**7**	P	**Pn**	**17 20 28.9**	**+1.9**
IRIF	**Iriomote-Funau**	**4.43**	**15**	P	**Pn**	**17 20 28.6**	**+1.5**
IRIF				S	**Sn**	**17 21 16.6**	**-0.8**
JIJ	**Ishigaki jima**	**4.58**	**20**	P	**Pn**	**17 20 30.3**	**+1.2**
JIJ				S	**Sn**	**17 21 19.1**	**-1.9**
JTJ	**Tarama**	**5.03**	**24**	P	**Pn**	**17 20 36.2**	**+0.9**
JTJ				*e*S	**Sn**	**17 21 30.2**	**-1.9**
JOGS	**Gusukube**	**5.43**	**30**	P	**Pn**	**17 20 42.2**	**+1.3**

IDC 30 17:44:33.5±8.4,1567S×17319W,h0km,mb3.5/3, mb1 3.8/4,mb1mx3.7/17,mbtmp3.6/4,ML1.7/1,MS3.3/3, Ms1 3.3/3,ms1mx2.8/24,Error ellipse: s-maj=387.7km s-min=25.0km az=140.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.22**	**38**	Pn	Pn	17 45 11.2	-0.4
	13nm,0.3s,baz=12,slow=13,SNR=9.8						
AFI				Sn	Sn	17 45 37.5	-2.2
	39nm,0.3s,baz=60,slow=22,SNR=8.7						
AFI				LR	LR	17 45 43.7	
	comp=Z,412nm,21.6s,baz=43,slow=32						
HNR	**Honiara**	**26.93**	**280**	LR	LR	17 59 23.2	
	comp=Z,53nm,20.3s,baz=180,slow=33						
WRA	**Warramunga Arr**	**49.98**	**257**	P	P	17 53 29.7	+0.3
	0.2nm,0.5s,baz=92,slow=6.8,SNR=6.2						
ASAR	**Alice Springs**	**50.22**	**252**	P	P	17 53 31.6	+0.3
	0.6nm,0.5s,baz=88,slow=8.3,SNR=26						
BBB	**Bella Bella**	**78.03**	**26**	LR	LR	18 22 01.4	
	comp=Z,43nm,20.1s,baz=248,slow=29						
ILAR	**Eielson Array**	**82.67**	**11**	P	P	17 56 59.0	+0.2
	0.2nm,0.6s,baz=194,slow=7.3,SNR=3.9						

IDC 30 17:57:30.3±6.0,658S×14793E,h97km±42km,mb3.3/3, mb1 3.4/5,mb1mx3.2/15,mbtmp3.6/5,Error ellipse: s-maj=57.5km s-min=46.3km az=82.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.91**	**195**	P	Pn	17 58 14.0	-0.8
	4.3nm,0.3s,baz=0.2,slow=5.1,SNR=27						
PMG				S	Sn	17 58 50.2	+1.2
	5.2nm,0.3s,baz=225,slow=20,SNR=3.8						
WRA	**Warramunga Arr**	**18.73**	**224**	P	Pn	18 01 40.7	-2.0
	0.1nm,0.3s,baz=52,slow=10,SNR=6.9						
ASAR	**Alice Springs**	**21.69**	**217**	P	P	18 02 13.3	+0.1
	0.5nm,0.6s,baz=50,slow=8.6,SNR=6.7						
FITZ	**Fitzroy Crossi**	**24.57**	**240**	P	P	18 02 40.7	-0.4
	1.5nm,0.7s,baz=72,slow=23,SNR=7.2						
STKA	**Stephens Creek**	**25.86**	**192**	P	P	18 02 53.2	+0.5
	2.4nm,0.9s,baz=53,slow=10,SNR=2.8						
TORD	**Torodi Ar. Bea**	**146.13**	**284**	PKPbc	PKPbc	18 17 00.0	+0.9
	0.5nm,0.4s,baz=77,slow=3.8,SNR=12						

*MOS **30** 18:00:20.6±1.1,5053N×15786E,h51km,mb4.9/47,Error ellipse: s-maj=7.9km s-min=4.4km az=92.7*
MOS Felt (IV) at Severo-Kuril'sk.
*ISCJB **30** 18:00:21.7±0.6,5047N±004×15798E±005,h63km±4km, mb4.7/86,Error ellipse: s-maj=6.7km s-min=3.8km az=114.1*
*KRSC **30** 18:00:21.8±1.0,5045N×15832E,h40km±17km,ML4.6*
*BJI **30** 18:00:21.9,5076N×15789E,h68km,mB4.7,mb4.8,Ms4.4, Msz3.9*
*NEIC **30** 18:00:24.7±0.2,5058N×15790E,mb4.7/58,Error ellipse: s-maj=7.3km s-min=4.5km az=158.0*
NEIC Felt [IV] at Severo-Kuril'sk.
*IDC **30** 18:00:24.2±0.8,5062N×15780E,h69km±8km,mb4.0/18, mb1 4.2/20,mb1mx4.1/25,mbtmp4.3/20,MS3.2/3, Ms1 3.2/3,ms1mx2.5/34,Error ellipse: s-maj=15.9km s-min=12.0km az=149.0*

ISC 30 18:00:23.7±0.5,5051N±004×15792E±005,h67km±3km, h72km±1.1km:pP-P,n276,σ1§10/307,mb4.6/86,17C-10D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.16**	**279**	*j i*PN	**Pn**	**18 00 40.6**	**-3.5**
SKR				*i* S	**Sn**	**18 00 56.5**	**-2.9**
SKR				pmax	pmax		
	comp=E,1μm,0.5s						
SKR				pmax	pmax		
	comp=Z,2μm,0.5s						
SKR				pmax	pmax		
	comp=N,710nm,0.2s						
SKR				pmax	pmax		
	comp=E,2μm,1.0s						
SKR				pmax	pmax		
	comp=Z,3μm,1.0s						
SKR				smax			
	comp=Z,70μm,1.0s						
PAU	**Pauzhetka**	**1.19**	**324**	*i* P	**Pn**	**18 00 45.3**	**+0.8**
PAU				*e*S	**Sn**	**18 01 02.5**	**+2.5**
PAU				Smax			
	comp=Z,13μm,0.5s						
ALID	**Alaid**	**1.55**	**284**	*e*P	**Pn**	**18 00 50.6**	**+1.4**
ALID				*i* S	**Sn**	**18 01 11.9**	**+3.4**
MIPR	**Malaya Ipel'ka**	**1.92**	**338**	*i* P	**Pn**	**18 00 55.1**	**+1.0**
MIPR				*e*S	**Sn**	**18 01 19.5**	**+2.2**
RUS	**Russkaya**	**1.96**	**11**	P	**Pn**	**18 00 53.5**	**-1.3**
RUS				S	**Sn**	**18 01 16.4**	**-2.0**
RUS	**Russkaya**	**1.96**	**11**	*i* P	**Pn**	**18 00 53.4**	**-1.4**
RUS				*e*S	**Sn**	**18 01 16.4**	**-2.0**
GRL	**Gorelyy**	**2.05**	**3**	*i* P	**Pn**	**18 00 56.1**	**+0.2**
GRL				*e*S	**Sn**	**18 01 20.6**	**+0.1**
KRMR	**Karymshinskiy**	**2.33**	**3**	*i* P	**Pn**	**18 00 59.9**	**+0.2**
KRMR				*e*S	**Sn**	**18 01 28.5**	**+1.2**
APC	**Apacha**	**2.47**	**349**	*i* P	**Pn**	**18 01 02.3**	**+0.7**
APC				*e*S	**Sn**	**18 01 31.5**	**+0.8**
APC				Smax			
	comp=Z,610nm,1.0s						
PET	**Petropavlovsk**	**2.56**	**10**	P	**Pn**	**18 01 02.3**	**-0.6**
PET				S	**Sn**	**18 01 31.4**	**-1.5**
PET	**Petropavlovsk**	**2.56**	**10**	*e*Pn	**Pn**	**18 01 02.0**	**-0.9**
PET				*e*Sn	**Sn**	**18 01 30.2**	**-2.7**
PET	**Petropavlovsk**	**2.56**	**10**	*i* P	**Pn**	**18 01 02.3**	**-0.6**
PET				*e*S	**Sn**	**18 01 31.6**	**-1.3**
UGLR	**Uglovaya**	**2.77**	**11**	*e*P	**Pn**	**18 01 05.4**	**-0.2**
UGLR				*e*S	**Sn**	**18 01 36.6**	**-1.3**
AVH	**Avacha**	**2.81**	**10**	*i* P	**Pn**	**18 01 06.4**	**+0.2**
AVH				*e*S	**Sn**	**18 01 39.4**	**+0.4**
NLC	**Nalytchevo**	**2.81**	**18**	P	**Pn**	**18 01 03.9**	**-2.4**
NLC				S	**Sn**	**18 01 34.0**	**-5.0**
NLC	**Nalytchevo**	**2.81**	**18**	*e*P	**Pn**	**18 01 04.1**	**-2.2**
NLC				*e*S	**Sn**	**18 01 34.2**	**-4.8**
SMAR	**Somma**	**2.81**	**11**	*e*P	**Pn**	**18 01 06.0**	**-0.3**
KOK	**Koryaka**	**2.83**	**9**	*i* P	**Pn**	**18 01 07.1**	**+0.7**
KOK				*i* S	**Sn**	**18 01 39.9**	**+0.6**
SDLR	**Sedlovina**	**2.84**	**12**	*i* P	**Pn**	**18 01 05.9**	**-0.7**
SPN	**Mys Shipunski**	**2.91**	**26**	P	**Pn**	**18 01 06.2**	**-1.3**
SPN				S	**Sn**	**18 01 38.1**	**-3.2**
SPN	**Mys Shipunski**	**2.91**	**26**	*e*P	**Pn**	**18 01 06.2**	**-1.3**
SPN				*e*S	**Sn**	**18 01 38.2**	**-3.1**
GNL	**Ganaly**	**3.19**	**0**	*i* P	**Pn**	**18 01 12.1**	**+0.6**
GNL				*e*S	**Sn**	**18 01 51.5**	**+3.1**
MKZ	**Mys Kozlova**	**4.67**	**28**	P	**Pn**	**18 01 29.6**	**-2.1**
MKZ				S	**Sn**	**18 02 18.0**	**-6.6**
MKZ	**Mys Kozlova**	**4.67**	**28**	*e*P	**Pn**	**18 01 29.3**	**-2.4**
MKZ				*e*S	**Sn**	**18 02 19.0**	**-5.6**
TUMR	**Tumrok**	**4.97**	**15**	*e*P	**Pn**	**18 01 36.6**	**+0.8**
KMNR	**Kamenistaya**	**5.44**	**14**	*e*P	**Pn**	**18 01 43.4**	**+1.2**
ESO	**Esso**	**5.45**	**5**	*i* P	**Pn**	**18 01 43.1**	**+0.8**
ESO				Smax			
	comp=Z,30nm,1.8s						
KPT	**Kopyto**	**5.64**	**13**	*e*P	**Pn**	**18 01 45.5**	**+0.6**
KOZ	**Kozyrevsk**	**5.68**	**11**	P	**Pn**	**18 01 45.5**	**0.0**
KOZ	**Kozyrevsk**	**5.68**	**11**	*i* P	**Pn**	**18 01 46.1**	**+0.6**
KOZR	**Kozyr**	**5.70**	**11**	PN	**Pn**	**18 01 45.5**	**-0.2**
ZLN	**Zelenaya**	**5.79**	**16**	*e*P	**Pn**	**18 01 48.2**	**+1.3**
LGNR	**Loginova**	**5.83**	**15**	*e*P	**Pn**	**18 01 48.5**	**+1.0**
CIRR	**Tsirk**	**5.87**	**16**	*e*P	**Pn**	**18 01 49.1**	**+1.1**
SRDR	**Sredinnyy**	**5.92**	**10**	*e*P	**Pn**	**18 01 48.9**	**+0.2**
KRSR	**Krestovskiy**	**5.94**	**14**	*e*P	**Pn**	**18 01 49.5**	**+0.5**
KLY	**Klyuchi**	**6.04**	**15**	P	**Pn**	**18 01 51.5**	**+1.1**
KLY	**Klyuchi**	**6.04**	**15**	*e*P	**Pn**	**18 01 51.8**	**+1.4**
KLY				*e*S	**Sn**	**18 02 58.1**	**-0.1**
BDR	**Baidarnaya**	**6.38**	**17**	*i* P	**Pn**	**18 01 56.1**	**+1.1**
KBTR	**Krutoberegovo**	**6.42**	**25**	P	**Pn**	**18 01 54.3**	**-1.3**
KBTR				S	**Sn**	**18 03 01.3**	**-6.1**
KBTR	**Krutoberegovo**	**6.42**	**25**	*e*P	**Pn**	**18 01 54.2**	**-1.4**
KBTR				*e*S	**Sn**	**18 03 01.2**	**-6.2**
KBG	**Krutoberegovo**	**6.43**	**25**	*e*P	**Pn**	**18 01 54.6**	**-1.1**
KBG				*e*S	**Sn**	**18 03 02.5**	**-5.2**
KBG				Smax			
	comp=Z,250nm,0.8s						
SMKR	**Semkarok**	**6.44**	**18**	*i* P	**Pn**	**18 01 56.1**	**+0.2**
SRKR	**Sorokina**	**6.46**	**16**	*e*P	**Pn**	**18 01 56.4**	**+0.3**
BKI	**Bering**	**6.77**	**43**	*i* P	**Pn**	**18 01 57.8**	**-2.6**
BKI				*e*S	**Sn**	**18 03 06.1**	**-10**
BKI				Smax			
	comp=Z,140nm,0.3s						
KUR	**Kuril'sk**	**8.57**	**236**	PN	**Pn**	**18 02 35.0**	**+10**
MA2	**Magadan**	**9.97**	**339**	*e*PN	**Pn**	**18 02 43.4**	**-0.6**
MA2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MA2				pmax	pmax		
	comp=N,3.0nm,0.3s						
MA2	**Magadan**	**9.97**	**339**	*e*P	**Pn**	**18 02 43.7**	**-0.4**
	comp=N,8.7nm,0.7s						
YSS	**Yuzh-Sakhalins**	**10.63**	**256**	*e*PN	**Pn**	**18 02 57.4**	**+4.3**
YSS				pmax	pmax		
	comp=Z,81nm,1.5s						
YSS	**Yuzh-Sakhalins**	**10.63**	**256**	*e*P	**Pn**	**18 02 57.4**	**+4.3**
	comp=Z,81nm,1.5s						
ASAJ	**Asahikawa**	**12.20**	**244**	P	**Pn**	**18 03 14.8**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=77,slow=9.1,SNR=9.0						
ASAJ				LR	LR	18 08 19.0	
	comp=Z,31nm,19.9s,baz=355,slow=39						
ASAJ	**Asahikawa**	**12.20**	**244**	PN	**Pn**	**18 03 14.9**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,31nm,19.9s						
HABR	**Khabarovsk**	**14.99**	**271**	*e*P	**Pn**	**18 03 49.0**	**-2.7**
HABR				*e*S	**Sn**	**18 06 33.2**	**-3.4**
KLR	**Kul'dur**	**16.90**	**276**	*e*P	**Pn**	**18 04 16.7**	**+1.0**
BILL	**Bilibino**	**18.07**	**10**	*j e*P	**Pn**	**18 04 27.8**	**-2.2**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BILL	**Bilibino**	**18.07**	**10**	*e*P	**Pn**	**18 04 27.1**	**-2.9**
	comp=Z,4.2nm,0.6s						
YAK	**Yakutsk**	**19.28**	**318**	*c i*P	**Pn**	**18 04 41.1**	**-3.5**
YAK				pmax	pmax		
	comp=Z,76nm,0.9s						
YAK				MLR	MLR		
	comp=Z,100nm,18.0s						
YAK	**Yakutsk**	**19.28**	**318**	*e*P	**Pn**	**18 04 40.9**	**-3.7**
	comp=Z,81nm,0.8s						
MAJO	**Matsushiro**	**19.89**	**233**	*e*P	**Pn**	**18 04 50.6**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MAJO	**Matsushiro**	**19.89**	**233**	*e*P	**Pn**	**18 04 50.6**	**-1.2**
	comp=Z,5.2nm,0.5s						
MAT	**Matsushiro**	**19.89**	**233**	P	**Pn**	**18 04 51.0**	**-0.8**
MAT	**Matsushiro**	**19.89**	**233**	*e*P	**Pn**	**18 04 51.0**	**-0.8**
MAT				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MAT	**Matsushiro**	**19.89**	**233**	*e*P	**Pn**	**18 04 51.0**	**-0.8**
	comp=Z,4.8nm,0.7s						
MJAR	**Matsushiro Arr**	**19.89**	**233**	P	**Pn**	**18 04 50.0**	**-1.8**
	comp=Z,0.6nm,0.3s,baz=30,slow=11,SNR=12						
MJAR				pP	pP	18 05 04.9	+1.3
	comp=Z,0.5nm,0.3s,baz=32,slow=8.8,SNR=5.0						
MDJ	**Mudanjiang**	**19.93**	**264**	P	**Pn**	**18 04 49.0**	**-3.3**
MDJ				AP	pP	18 05 03.5	-0.5
MDJ				XP	sP	18 05 12.5	+0.1
MDJ				S	**S**	**18 08 30.0**	**-0.7**
MDJ				XS	sS	18 08 52.5	-1.0
MDJ				SCP	ScP	18 12 34.3	-0.4
MDJ				PCS	PcS	18 12 42.0	+0.2
MDJ				SCS	ScS	18 16 16.8	-0.4
MDJ				AMB	AMB		
	comp=Z,20nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,62nm,4.8s						
MDJ				LR	LR		
	comp=Z,72nm,24.6s						
MDJ	**Mudanjiang**	**19.93**	**264**	*e*P	**Pn**	**18 04 48.4**	**-3.8**
	comp=Z,25nm,1.0s						
MDJ				*e*		18 04 54.7	
CN2	**Changchun**	**22.95**	**266**	*e*P	**P**	**18 05 21.5**	**-0.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
HIA	**Hailar**	**24.46**	**282**	*e*P	**P**	**18 05 34.3**	**-1.9**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HIA	**Hailar**	**24.46**	**282**	*e*P	**P**	**18 05 34.3**	**-2.0**
	com

INK Inuvik 36.76 35 P **P** 18 07 24.4 -0.2
comp=Z,1.3nm,0.5s,mb4.1,baz=263,slow=14,SNR=4.4
INK Inuvik 36.76 35 *eP* **P** 18 07 23.9 -0.7
INK *e* 18 08 49.8
INK pmax pmax
comp=Z,3.0nm,0.9s
INK Inuvik 36.76 35 *eP* **P** 18 07 23.9 -0.8
comp=Z,2.8nm,0.9s,mb4.2
INK *eP* PP 18 08 49.8 +0.4
KRAR Krasnoyarsk 38.00 304⇑ *eP* **P** 18 07 34.6 -0.5
DLBC Dease Lake 40.71 50 P **P** 18 07 58.1 +0.4
comp=Z,2.6nm,0.7s,mb4.2,baz=243,slow=7.4,SNR=5.4
LZH Lanzhou 41.00 271 *eP* **P** 18 07 59.8 -0.3
LZH AMB AMB
comp=Z,23nm,1.2s,mb4.9
LZH AMB AMB
comp=Z,127nm,5.9s
LZH LR LR
comp=E,539nm,15.3s
LZH LR LR
comp=Z,787nm,18.7s
LZH Lanzhou 41.00 271 *eP* **P** 18 07 59.7 -0.4
LZH pmax pmax
comp=Z,23nm,1.2s,mb4.9
LZH MLR MLR
comp=Z,790nm,18.7s
LZH Lanzhou 41.00 271 *eP* **P** 18 07 59.7 -0.4
comp=Z,23nm,1.2s,mb4.9
LZH LR LR
comp=Z,790nm,18.7s
GTA Gaotai 41.59 278 *eP* **P** 18 08 05.3 +0.4
GTA AMB AMB
comp=Z,3.0nm,1.0s,mb4.0
ZAL Zalesovo 43.09 304 P **P** 18 08 15.1 -2.1
comp=Z,3.0nm,0.4s,mb4.3,baz=49,slow=7.7,SNR=15
ZAL Zalesovo 43.09 304 *i* P **P** 18 08 15.8 -1.3
ZAL pmax pmax
comp=Z,3.0nm,0.4s
NVS Novosibirsk 43.51 306 *i* P **P** 18 08 18.0 -2.5
NVS *e* 18 10 03.7
NVS pmax pmax
comp=Z,26nm,0.9s,mb5.0
NVS pmax pmax
comp=N,5.0nm,0.8s
NVS pmax pmax
comp=E,15nm,0.9s
YKA Yellowknife Ar 46.00 40 P **P** 18 08 39.7 -0.6
comp=E,1.6nm,0.6s,mb3.9,baz=296,slow=7.4,SNR=8.1
YKA Yellowknife Ar 46.00 40 *i* P **P** 18 08 39.7 -0.6
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 46.00 40 P **P** 18 08 39.7 -0.6
RES Resolute Bay 46.23 21 *eP* **P** 18 08 41.4 -0.7
RES pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
RES Resolute Bay 46.23 21 *eP* **P** 18 08 41.4 -0.7
comp=Z,1.5nm,0.6s,mb3.9
WMQ Urumqi 46.58 290⇑ *iP* **P** 18 08 45.3 +0.4
WMQ AP pP 18 09 03.3 +1.6
WMQ XP sP 18 09 12.0 +2.7
WMQ PCP PcP 18 10 19.5 +1.5
WMQ PP PP 18 10 35.3 0.0
WMQ PPP 18 11 21.5
WMQ S **S** **18 15 26.5 -2.3**
WMQ XS sS 18 15 58.5 +1.2
WMQ AMB AMB
comp=Z,9.0nm,0.6s,mb4.7
WMQ AMB AMB
comp=Z,102nm,5.1s
WMQ LR LR
comp=N,24nm,21.8s
WMQ LR LR
comp=E,22nm,18.6s
WMQ LR LR
comp=Z,38nm,20.7s
KURK Kurchatov 47.98 303*c* *iP* **P** 18 08 54.7 -1.0
KURK Kurchatov 47.98 303 *eP* **P** 18 08 54.5 -1.3
comp=Z,14nm,0.3s,mb5.2
MK31 Makanchi Array 48.08 297 P **P** 18 08 55.4 -1.1
MK31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
MKAR Makanchi Array 48.08 297 P **P** 18 08 55.5 -1.0
comp=Z,3.9nm,0.4s,mb4.6,baz=60,slow=6.8,SNR=122
MKAR Makanchi Array 48.08 297 *iP* **P** 18 08 55.5 -1.0
MKAR pmax pmax
comp=Z,4.0nm,0.4s
KMI Kunming 49.05 260 P **P** 18 09 05.3 +1.4
KMI AMB AMB
comp=Z,12nm,1.0s,mb4.8
KMI Kunming 49.05 260 P **P** 18 09 05.2 +1.3
KMI pmax pmax
comp=Z,12nm,1.0s,mb4.8
KMI Kunming 49.05 260 P **P** 18 09 05.2 +1.3
comp=Z,12nm,1.0s,mb4.8
CHKZ Chkalovo 50.48 310 P **P** 18 09 12.7 -2.1
CHKZ pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
CHKZ Chkalovo 50.48 310 *eP* **P** 18 09 12.7 -2.1
comp=Z,7.9nm,0.5s,mb4.9
BVA0 Borovoye Array 50.96 309 *iP* **P** 18 09 16.7 -1.7
BRVK Borovoye 50.99 309 *eP* **P** 18 09 17.0 -1.6
BRVK pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
BRVK Borovoye 50.99 309 *eP* **P** 18 09 17.0 -1.6
comp=Z,5.7nm,0.6s,mb4.8
EDM Edmonton 51.43 50 *eP* **P** 18 09 21.2 -0.8
ZRNK Zerenda 51.68 310 *eP* **P** 18 09 22.0 -1.8
ZRNK pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
ZRNK Zerenda 51.68 310 *eP* **P** 18 09 22.0 -1.9
comp=Z,5.2nm,0.5s,mb4.8
LSA Lhasa 53.24 274 *eP* **P** 18 09 37.1 +1.8
LSA pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
LSA Lhasa 53.24 274 *eP* **P** 18 09 37.1 +1.7
comp=Z,2.9nm,0.5s,mb4.6
ARU Arti 54.40 318⇑ *iP* **P** 18 09 42.0 -1.8
ARU *e* 18 11 43.8
ARU *eS* **S** **18 17 14.6 -2.5**
ARU *eSS* SS 18 20 56.0 -4.1
ARU pmax pmax
comp=Z,11nm,0.8s,mb4.9
ARU Arti 54.40 318 P **P** 18 09 41.7 -2.1
MOD Modoc 54.53 65 *eP* **P** 18 09 45.3 +0.6
comp=Z,27nm,1.1s,mb5.2
AAK Ala-Archa 55.02 297*c* *iP* **P** 18 09 46.9 -1.4
AAK pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
AAK Ala-Archa 55.02 297 *eP* **P** 18 09 46.8 -1.5
comp=Z,7.1nm,0.6s,mb4.9
ARCES ARCESS Array B 55.33 342 P **P** 18 09 48.2 -2.2
comp=Z,1.2nm,0.4s,mb4.3,baz=40,slow=8.7,SNR=14
CHTO Chiang Mai 56.05 258 *eP* **P** 18 09 57.1 +1.4
CHTO pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
CHTO Chiang Mai 56.05 258 *eP* **P** 18 09 57.1 +1.4
comp=Z,3.7nm,0.7s,mb4.5
FCC Fort Churchill 56.36 37 *eP* **P** 18 09 57.0 -0.9
FCC pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
FCC Fort Churchill 56.36 37 *eP* **P** 18 09 57.0 -0.9
comp=Z,3.3nm,0.7s,mb4.5
HLID Hailey 56.81 60 *eP* **P** 18 10 01.4 +0.3
comp=Z,5.9nm,1.2s,mb4.5
MCMT McKenzie Canyo 56.85 58 *eP* **P** 18 10 01.2 -0.2
BOZ Bozeman (W) 56.98 57 *eP* **P** 18 10 02.0 -0.3
BOZ pmax pmax
comp=Z,13nm,1.5s,mb4.7
BOZ Bozeman (W) 56.98 57 *eP* **P** 18 10 01.9 -0.3
comp=Z,13nm,1.5s,mb4.7
JIRN Jiri 57.80 275 *eP* **P** 18 10 09.2 +1.2
comp=Z,32nm,0.9s,mb5.3
GUN Gumba 57.82 276 *eP* **P** 18 10 09.1 +0.9
comp=Z,17nm,0.5s,mb5.3
NVAR Mina Array Bea 57.94 67 P **P** 18 10 09.6 +0.5
comp=Z,2.9nm,0.7s,mb4.4,baz=304,slow=5.9,SNR=25
ELK Elko 58.19 63 *eP* **P** 18 10 10.8 0.0
ELK pmax pmax
comp=Z,4.0nm,0.8s
ELK Elko 58.19 63 *eP* **P** 18 10 10.8 0.0
comp=Z,3.8nm,0.8s,mb4.5
KKN Kakani 58.29 276 *eP* **P** 18 10 12.6 +1.2
comp=Z,30nm,0.6s,mb5.5
KKN Kakani 58.29 276 *eP* **P** 18 10 12.6 +1.2
KKN pmax pmax
comp=Z,30nm,0.6s,mb5.5

PKI Pulchoki 58.36 276 *eP* **P** 18 10 12.9 +1.0
AB31 Akbulak array 58.45 310 *i* P **P** 18 10 11.2 -1.4
AB31 pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
IMW Indian Meadow 58.50 58 *eP* **P** 18 10 13.9 +1.0
comp=Z,11nm,1.2s,mb4.8
DMN Daman 58.52 276 *eP* **P** 18 10 14.4 +1.3
comp=Z,45nm,0.8s,mb5.5
GKN Gorkha 58.55 277 *eP* **P** 18 10 14.2 +0.9
TPAW Teton Pass 58.76 58 *eP* **P** 18 10 15.9 +1.2
comp=Z,8.0nm,1.2s,mb4.6
LOHW Long Hollow 58.87 58 *eP* **P** 18 10 16.6 +1.1
comp=Z,8.5nm,1.1s,mb4.7
JOF Joensuu 59.34 335 *ep* **P** 18 10 16.8 -2.0
KOLN Koldanda 59.37 277 *eP* **P** 18 10 19.9 +1.0
DUG Dugway 59.93 62 *eP* **P** 18 10 21.1 -1.7
DUG pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
DUG Dugway 59.93 62 *eP* **P** 18 10 21.1 -1.8
comp=Z,2.3nm,0.6s,mb4.4
PDAR Pinedale Array 60.00 58 P **P** 18 10 24.0 +0.7
comp=Z,4.6nm,0.9s,mb4.5,baz=320,slow=3.9,SNR=31
TPNV Topopah Spring 60.15 67 *eP* **P** 18 10 24.1 -0.2
TPNV pmax pmax
comp=Z,15nm,1.4s,mb4.8
TPNV Topopah Spring 60.15 67 *eP* **P** 18 10 24.1 -0.2
comp=Z,16nm,1.4s,mb4.8
KAF Kangasniemi 61.33 336 *ep* **P** 18 10 30.6 -1.7
comp=Z,5.7nm,0.5s,mb4.9,baz=33,slow=6.3
KAF Kangasniemi 61.33 336 *eP* **P** 18 10 30.6 -1.7
KAF pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
MSU Marysvale 61.44 63 *eP* **P** 18 10 31.7 -1.4
TMUT Trail Mountain 61.45 62 *eP* **P** 18 10 33.4 +0.2
FINES FINESS Array B 61.95 336 P **P** 18 10 34.8 -1.7
comp=Z,5.8nm,0.5s,mb4.8,baz=43,slow=7.3,SNR=57
FINES LR LR 18 40 07.2
comp=Z,26nm,19.7s,baz=111,slow=38
FINES FINESS Array B 61.95 336 *i* P **P** 18 10 35.5 -1.0
FINES pmax pmax
comp=Z,6.0nm,0.5s
SRU San Rafael 61.96 62 *eP* **P** 18 10 37.3 +0.7
SRU pmax pmax
comp=Z,11nm,0.8s,mb4.9
SRU San Rafael 61.96 62 *eP* **P** 18 10 37.2 +0.6
comp=Z,11nm,0.8s,mb4.9
PV10 Paradox Valley 63.31 61 *eP* **P** 18 10 45.9 +0.4
ISCO Idaho Springs 64.20 58 *eP* **P** 18 10 52.1 +0.7
ISCO pmax pmax
comp=Z,10.0nm,1.2s,mb4.5
ISCO Idaho Springs 64.20 58 *eP* **P** 18 10 52.1 +0.7
comp=Z,10nm,1.2s,mb4.5
KULM Kulim 65.53 247 P **P** 18 11 06.1 +6.1
NB2 NORSAR Subarra 65.64 343 P **P** 18 10 59.9 -0.9
comp=Z,14nm,0.7s,mb4.9,baz=22,slow=6.9
NOA NORSAR Array B 65.64 343 P **P** 18 11 00.3 -0.5
comp=Z,16nm,0.7s,mb4.9,baz=22,slow=6.6,SNR=44
GOF Gofitskoye 69.36 317 *eP* **P** 18 11 23.6 -0.7
AKASG Malin Array Be 70.12 328 P **P** 18 11 27.6 -1.3
comp=Z,3.9nm,0.4s,mb4.6,baz=31,slow=6.2,SNR=27
AKASG Malin Array Be 70.12 328 *i* P **P** 18 11 27.6 -1.3
AKASG pmax pmax
comp=Z,4.0nm,0.4s
MNTX Cornudas Mount 70.19 64 *eP* **P** 18 11 29.1 -0.3
comp=Z,7.1nm,1.1s,mb4.4
KIV Kislovodsk 70.39 316 *eP* **P** 18 11 30.4 -0.1
KIV pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
KIV Kislovodsk 70.39 316 P **P** 18 11 31.0 +0.5
comp=Z,6.1nm,0.8s,mb4.5
CTAO Charters Tower 71.03 192 P **P** 18 11 34.2 -0.2
CTAO pmax pmax
comp=Z,51nm,1.8s,mb5.0
CTAO Charters Tower 71.03 192 P **P** 18 11 34.2 -0.3
comp=Z,51nm,1.8s,mb5.0
SOC Sochi 71.98 318 *eP* **P** 18 11 38.6 -1.5
SOC *eS* S 18 20 52.2 -4.2
SOC *eSS* SS 18 25 28.0 -6.1
SOC *eSSS* 18 28 45.7
SOC pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
GNI Garni 72.45 312 *iP* **P** 18 11 43.0 +0.1
GNI pmax pmax
comp=Z,15nm,1.5s
WRA Warramunga Arr 73.16 203 P **P** 18 11 46.9 -0.2
comp=Z,1.2nm,0.7s,mb3.8,baz=16,slow=6.0,SNR=12
WRA pP pP 18 12 05.9 +0.7
comp=Z,1.5nm,0.7s,baz=19,slow=6.3,SNR=6.6
WRA Warramunga Arr 73.16 203 *iP* **P** 18 11 46.9 -0.3
WRA pmax pmax
comp=Z,1.0nm,0.7s
OJC Ojcow 73.48 333 *eP* **P** 18 11 48.9 -0.1
STHS Stebnicka Huta 73.78 332 *eP* **P** 18 11 51.0 +0.2
STHS pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
STHS Stebnicka Huta 73.78 332 *eP* **P** 18 11 51.0 +0.2
comp=Z,9.8nm,0.8s,mb4.6
FITZ Fitzroy Crossi 73.99 212 P **P** 18 11 52.8 +0.8
comp=Z,2.3nm,1.0s,mb3.9,baz=110,slow=5.5,SNR=2.9
BURAR Bucovina Array 74.12 329⇓ *iP* **P** 18 11 52.8 0.0
BURAR Bucovina Array 74.12 329⇓ P **P** 18 11 53.0 +0.2
UPC Upice 74.25 336 *eP* **P** 18 11 53.7 +0.1
CLL Collm 74.27 338⇑ *iP* **P** 18 11 53.1 -0.6
comp=Z,15nm,1.1s,mb4.6
CLL *ep* pP 18 12 11.0 -0.7
CLL Collm 74.27 338⇑ *iP* **P** 18 11 53.1 -0.6
CLL pmax pmax
comp=Z,15nm,1.1s,mb4.6
OKC Ostrava-Krasne 74.29 334 *eP* **P** 18 11 53.9 +0.1
DPC Dobruska-Polom 74.32 336 *eP* **P** 18 11 53.6 -0.3
BRG Berggiesshubel 74.44 337 *eP* **P** 18 11 54.5 -0.1
comp=Z,9.7nm,1.5s,mb4.3
BRG Berggiesshubel 74.44 337 *eP* **P** 18 11 54.5 -0.2
BRG pmax pmax
comp=Z,10.0nm,1.5s,mb4.3
MORC Moravsky Berou 74.51 335⇑ *iP* **P** 18 11 54.9 -0.2
MORC Moravsky Berou 74.51 335 *eP* **P** 18 11 55.0 -0.1
comp=Z,13nm,1.0s,mb4.6
KECS Kecovo 74.83 332 *eP* **P** 18 11 56.5 -0.4
KECS pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
KECS Kecovo 74.83 332 *eP* **P** 18 11 56.5 -0.4
comp=Z,3.4nm,0.8s,mb4.1
PRU Pruhonice 75.11 337 *eP* **P** 18 11 58.6 +0.1
PLOR Plostina 75.17 327⇑ P **P** 18 11 59.2 +0.4
VRAC Vranov 75.19 335⇑ *iP* **P** 18 11 59.7 +0.7
VRAC Vranov 75.19 335⇑ P **P** 18 11 59.7 +0.7
CFR Carcaliu 75.23 326⇓ *iP* **P** 18 11 59.2 0.0
CFR Carcaliu 75.23 326⇓ P **P** 18 11 58.8 -0.4
VYHS Vyhne 75.31 333 *eP* **P** 18 11 59.8 +0.1
VYHS pmax pmax
comp=Z,6.0nm,1.2s,mb4.2
VYHS Vyhne 75.31 333 *eP* **P** 18 11 59.8 +0.1
comp=Z,5.5nm,1.2s,mb4.2
NKC Novy Kostel 75.40 338 *eP* **P** 18 12 00.8 +0.6
PSZ Piszkesteto 75.52 332 *eP* **P** 18 12 00.5 -0.3
HARR Harsova 75.72 326⇓ P **P** 18 12 02.1 +0.1
MLR Muntele Rosu 75.73 327⇓ *iP* **P** 18 12 01.9 -0.1
MLR Muntele Rosu 75.73 327⇓ P **P** 18 12 01.9 -0.1
VOIR 76.08 328⇓ *iP* **P** 18 12 04.6 +0.6
VOIR 76.08 328⇑ P **P** 18 12 04.2 +0.1
KHC Kasperske Hory 76.14 337 *eP* **P** 18 12 05.1 +0.7
GERES GERESS Array B 76.38 337 P **P** 18 12 05.9 +0.2
comp=Z,1.0nm,0.4s,mb3.9,baz=34,slow=6.0,SNR=15
ASAR Alice Springs 76.84 203 P **P** 18 12 09.0 +0.6
comp=Z,0.5nm,0.6s,baz=17,slow=5.7,SNR=10
ASAR pP pP 18 12 27.7 +1.2
comp=Z,0.6nm,0.5s,baz=16,slow=5.3,SNR=5.1
BZS Buzias 77.05 330⇑ P **P** 18 12 09.9 +0.4
BAIF Baives 77.33 343 *eP* **P** 18 12 12.2 +1.1
BRTR Keskin Array B 77.73 319 P **P** 18 12 13.3 0.0
comp=Z,3.8nm,0.7s,mb4.2,baz=46,slow=3.6,SNR=26
BRTR Keskin Array B 77.73 319 *iP* **P** 18 12 13.8 +0.5
BRTR pmax pmax
comp=Z,4.0nm,0.7s
CDF Champ du Feu 78.28 341 *eP* **P** 18 12 17.5 +1.1
comp=Z,5.1nm,0.6s,mb4.1
CDF Champ du Feu 78.28 341 *eP* **P** 18 12 17.5 +1.1
CDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
CDF Champ du Feu 78.28 341 *eP* **P** 18 12 17.5 +1.1
comp=Z,2.5nm,0.6s,mb4.1
MIB Mutribah 79.31 304 *eP* **P** 18 12 21.9 -0.1
MIB AMb AMB 18 12 23.8
comp=Z,26nm,0.8s,mb5.1

FLN La Foliniere 79.39 346 *eP* **P** 18 12 23.4 +0.9
LDF La Druitiere 79.50 345 *eP* **P** 18 12 24.1 +1.1
comp=Z,18nm,1.0s,mb4.6
LDF La Druitiere 79.50 345 *eP* **P** 18 12 24.1 +1.1
LDF pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
LDF La Druitiere 79.50 345 *eP* **P** 18 12 24.1 +1.1
comp=Z,8.9nm,1.0s,mb4.5
NAY Al-Naaiem 79.80 304 *eP* **P** 18 12 24.4 -0.3
NAY AMb AMB 18 12 26.6
comp=Z,9.9nm,1.0s,mb4.6
GRR Gorron 79.81 346 *eP* **P** 18 12 26.1 +1.3
comp=Z,26nm,0.8s,mb4.8
GRR Gorron 79.81 346 *eP* **P** 18 12 26.1 +1.3
GRR pmax pmax
comp=Z,13nm,0.8s,mb4.8
GRR Gorron 79.81 346 *eP* **P** 18 12 26.1 +1.3
comp=Z,13nm,0.8s,mb4.8
RDF Al-Radifah 79.90 303 *eP* **P** 18 12 25.3 +0.1
RDF AMb AMB 18 12 29.0
comp=Z,51nm,1.2s,mb5.2
LOR Lormes 80.07 342 *eP* **P** 18 12 27.4 +1.3
SGMF Saint Gilles 80.20 347 *eP* **P** 18 12 27.6 +0.8
comp=Z,26nm,0.9s,mb4.8
SGMF Saint Gilles 80.20 347 *eP* **P** 18 12 27.6 +0.8
SGMF pmax pmax
comp=Z,13nm,0.9s,mb4.8
SGMF Saint Gilles 80.20 347 *eP* **P** 18 12 27.6 +0.8
comp=Z,13nm,0.9s,mb4.8
ROSF Rostrenen 80.22 347 *eP* **P** 18 12 28.2 +1.2
comp=Z,15nm,0.8s,mb4.6
ROSF Rostrenen 80.22 347 *eP* **P** 18 12 28.2 +1.2
ROSF pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
ROSF Rostrenen 80.22 347 *eP* **P** 18 12 28.2 +1.2
comp=Z,7.6nm,0.8s,mb4.6
SSF Saint Saulge 80.34 343 *eP* **P** 18 12 28.1 +0.5
QUIF Quistinic 80.62 347 *eP* **P** 18 12 30.2 +1.1
comp=Z,33nm,1.1s,mb4.8
QUIF Quistinic 80.62 347 *eP* **P** 18 12 30.2 +1.1
QUIF pmax pmax
comp=Z,17nm,1.1s,mb4.8
QUIF Quistinic 80.62 347 *eP* **P** 18 12 30.2 +1.1
comp=Z,17nm,1.1s,mb4.8
AVF Avril sur Loir 80.63 343 *eP* **P** 18 12 30.3 +1.2
comp=Z,8.9nm,0.7s,mb4.4
AVF Avril sur Loir 80.63 343 *eP* **P** 18 12 30.3 +1.2
AVF pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
AVF Avril sur Loir 80.63 343 *eP* **P** 18 12 30.3 +1.2
comp=Z,4.4nm,0.7s,mb4.4
BGF Bois d'Agland 80.95 343 *eP* **P** 18 12 31.7 +0.9
LPL La Plagne 81.15 340 *eP* **P** 18 12 33.2 +1.3
LPG La Plagne 81.16 340 *eP* **P** 18 12 33.4 +1.4
comp=Z,8.0nm,0.7s,mb4.3
LPG La Plagne 81.16 340 *eP* **P** 18 12 33.4 +1.4
LPG pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
LPG La Plagne 81.16 340 *eP* **P** 18 12 33.4 +1.4
comp=Z,4.0nm,0.7s,mb4.4
TCF Toulx Ste Croi 81.32 343 *eP* **P** 18 12 33.9 +1.1
comp=Z,9.4nm,0.8s,mb4.4
TCF Toulx Ste Croi 81.32 343 *eP* **P** 18 12 33.9 +1.1
TCF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
TCF Toulx Ste Croi 81.32 343 *eP* **P** 18 12 33.9 +1.1
comp=Z,4.7nm,0.8s,mb4.4
MFF Saint Martin d 81.43 345 *eP* **P** 18 12 34.2 +0.8
comp=Z,17nm,0.9s,mb4.6
MFF Saint Martin d 81.43 345 *eP* **P** 18 12 34.2 +0.8
MFF pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
MFF Saint Martin d 81.43 345 *eP* **P** 18 12 34.2 +0.8
comp=Z,8.3nm,0.9s,mb4.6
MBDF Montbardon 81.89 340 *eP* **P** 18 12 36.8 +1.0
VIVF Saint-Julien-l 82.22 341 *eP* **P** 18 12 38.6 +1.1
RJF Les Rejaudoux 82.40 343 *eP* **P** 18 12 39.4 +0.9
SBF Sospel 82.56 339 *eP* **P** 18 12 40.0 +0.7
comp=Z,203nm,1.5s,mb5.4
SBF Sospel 82.56 339 *eP* **P** 18 12 40.0 +0.7
SBF pmax pmax
comp=Z,101nm,1.5s,mb5.4
SBF Sospel 82.56 339 *eP* **P** 18 12 40.0 +0.7
comp=Z,101nm,1.5s,mb5.4
CAF Calviac 82.67 343 *eP* **P** 18 12 40.7 +0.8
SMRF Simiane la Rot 82.87 340 *eP* **P** 18 12 42.0 +1.1
LFF La Frestale 82.89 344 *eP* **P** 18 12 42.1 +1.1
PGF Pioggiola 83.43 337 *eP* **P** 18 12 44.7 +0.9
comp=Z,26nm,0.9s,mb4.8
PGF Pioggiola 83.43 337 *eP* **P** 18 12 44.7 +0.9
PGF pmax pmax
comp=Z,13nm,0.9s,mb4.8
PGF Pioggiola 83.43 337 *eP* **P** 18 12 44.7 +0.9
comp=Z,13nm,0.9s,mb4.8
MTLF Montolieu 84.16 342 *eP* **P** 18 12 48.4 +0.8
PLCA Paso Flores 145.28 93 PKPbc PKPbc 18 19 52.7 -0.9
comp=Z,4.4nm,0.7s,baz=271,slow=4.4,SNR=9.5
PLCA Paso Flores 145.28 93 PKIKP PKPbc 18 19 52.7 -0.9
PLCA pmax pmax
comp=Z,4.0nm,0.7s

*ISCJB **30** 18:43:06.4±2.3,59N±0.1×950E±02,h121km±18km, mb4.0/14, Error ellipse: s-maj=37.7km s-min=10.9km az=112.2*
*IDC **30** 18:43:06.6±3.3,590N×9504E,h104km±29km, mb3.6/9, mb1 3.8/10,mb1mx3.6/22,mbtmp4.0/10, Error ellipse: s-maj=49.1km s-min=14.3km az=55.0*
*NEIC **30** 18:43:07.5±2.0,589N×9497E,h118km±16km,mb4.2/5, Error ellipse: s-maj=29.9km s-min=9.8km az=56.0*
ISC 30 18:43:07.6±2.1,59N±01×950E±02,h114km±17km,n24, σ0°84/25,mb4.0/14,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.00**	**128**	P	**Pn**	**18 44 21.4**	**+1.0**
	16nm,0.3s,baz=307,slow=11,SNR=89						
PSI				S	**Sn**	**18 45 15.8**	**-1.4**
	8.0nm,0.3s,baz=342,slow=23,SNR=3.0						
KULM	**Kulim**	**5.67**	**96**	*e*Pn	**Pn**	**18 44 29.8**	**+0.3**
KKM	**Kota Kinabalu**	**21.11**	**89**	*eP*	**P**	**18 47 44.3**	**+1.2**
LSA	**Lhasa**	**23.93**	**352**	*eP*	**P**	**18 48 08.7**	**-2.4**
	3.8nm,0.7s,mb3.8						
LSA				*e*		18 48 31.3	
FITZ	**Fitzroy Crossi**	**38.53**	**129**	*eP*	**P**	**18 50 19.1**	**+0.2**
	6.3nm,0.5s,mb4.7						
AAK	**Ala-Archa**	**40.82**	**337**	P	**P**	**18 50 38.2**	**+0.3**
	2.8nm,1.1s,mb4.0						
MKAR	**Makanchi Array**	**42.17**	**347**	P	**P**	**18 50 48.9**	**0.0**
	0.7nm,0.5s,mb3.7,baz=169,slow=8.5,SNR=16						
MKAR	**Makanchi Array**	**42.17**	**347**	P	**P**	**18 50 48.9**	**0.0**
SONM	**Songino Array**	**42.89**	**11**	P	**P**	**18 50 54.6**	**-0.2**
	0.8nm,0.7s,mb3.6,baz=188,slow=7.4,SNR=7.4						
SONM				PcP	PcP	18 52 44.2	+0.7
	1.0nm,0.5s,baz=200,slow=4.3,SNR=7.7						
WRA	**Warramunga Arr**	**46.46**	**125**	P	**P**	**18 51 23.0**	**0.0**
	3.3nm,0.3s,mb4.6,baz=307,slow=8.5,SNR=58						
WRAB	**Tennant Creek**	**46.46**	**125**	*eP*	**P**	**18 51 22.2**	**-0.8**
	10nm,0.6s,mb4.7						
KURK	**Kurchatov**	**46.70**	**346**	P	**P**	**18 51 24.7**	**-0.2**
	0.9nm,0.8s,mb3.5						
ASPA	**Alice Springs**	**48.03**	**129**	*eP*	**P**	**18 51 35.8**	**+0.6**
ASAR	**Alice Springs**	**48.03**	**129**	P	**P**	**18 51 35.9**	**+0.7**
	2.7nm,0.5s,mb4.3,baz=300,slow=7.9,SNR=59						
AS31	**Alice Springs**	**48.03**	**129**	*eP*	**P**	**18 51 35.8**	**+0.6**
ZAL	**Zalesovo**	**48.59**	**352**	P	**P**	**18 51 39.7**	**+0.2**
	0.8nm,0.5s,mb3.9,baz=309,slow=8.0,SNR=3.6						
ZAL	**Zalesovo**	**48.59**	**352**	P	**P**	**18 51 39.7**	**+0.2**
STKA	**Stephens Creek**	**58.16**	**133**	P	**P**	**18 52 48.3**	**-1.2**
	2.7nm,0.9s,mb4.3,baz=303,slow=15,SNR=4.5						
STKA	**Stephens Creek**	**58.16**	**133**	P	**P**	**18 52 47.1**	**-2.4**
BRTR	**Keskin Array B**	**64.34**	**311**	P	**P**	**18 53 31.7**	**+0.6**
	0.4nm,0.7s,mb3.4,baz=104,slow=6.1,SNR=3.1						
FINES	**FINESS Array B**	**74.82**	**332**	P	**P**	**18 54 35.7**	**+0.3**
	0.6nm,0.4s,mb3.6,baz=104,slow=5.7,SNR=9.1						
FINES	**FINESS Array B**	**74.82**	**332**	P	**P**	**18 54 35.7**	**+0.2**
ARCES	**ARCESS Array B**	**77.38**	**340**	P	**P**	**18 54 49.7**	**-0.2**
	2.0nm,0.8s,mb3.9,baz=102,slow=6.8,SNR=5.8						
ARCES	**ARCESS Array B**	**77.38**	**340**	P	**P**	**18 54 49.7**	**-0.2**

*ISCJB **30** 18:46:46.1±0.8,3438N±005×2692E±009,h10km, Error ellipse: s-maj=11.4km s-min=7.3km az=156.2*
*CSEM **30** 18:46:46.7±0.1,3436N×2704E,h10km,ML3.0, Error*

ellipse: s-maj=3.7km s-min=2.0km az=97.0
*HLW **30** 18:46:50.5, 34.39N 26.99E, h33km, Mb3.0*
*ATH **30** 18:46:54.2, 34.92N 26.72E, h10km, MD3.3/3*
ISC 30 18:46:47.5±0.8, 3440N±005×2687E±009, h10km, n9, σ1°43/12, 2D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XRY	**Khrisi**	**1.08**	**296**	*e*PG	**Pg**	**18 47 10.0**	**+1.7**
KARP	**Karpathos**	**1.17**	**12**	*e*PB	**Pb**	**18 47 07.9**	**-1.9**
NPS	**Neapolis**	**1.35**	**310**	*e*PG	**Pg**	**18 47 12.5**	**-0.9**
SLUM		**3.22**	**206**	⇓P	**Pn**	**18 47 39.0**	**+0.9**
SLUM				S	**Sn**	**18 48 14.8**	**-1.7**
SWA1		**5.21**	**191**	P	**Pn**	**18 48 06.5**	**+1.0**
SWA1				S	**Sn**	**18 49 02.1**	**-3.6**
SWA2		**5.28**	**194**	P	**Pn**	**18 48 07.4**	**+1.0**
SWA2				S	**Sn**	**18 49 03.6**	**-3.7**
AWBH		**6.30**	**163**	P	**Pn**	**18 48 21.2**	**+0.7**
AMAG	**Maghara**	**6.53**	**123**	P	**Pn**	**18 48 23.4**	**-0.2**
HFRF	**Wahat Farafira**	**7.33**	**170**	⇓P	**Pn**	**18 48 35.7**	**+1.1**

IDC 30 19:00:26.3±5.6, 1564S×17370W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/15, mbtmp3.7/3, ML1.6/1, MS3.6/1, Ms1 3.6/1, ms1mx2.5/27, Error ellipse: s-maj=302.2km s-min=23.2km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.53**	**47**	Pn	Pn	19 01 08.7	+0.1
	6.5nm,0.3s,baz=143,slow=5.1,SNR=2.5						
AFI				Sn	Sn	19 01 40.8	+0.6
	38nm,0.3s,baz=138,slow=22,SNR=9.1						
HNR	**Honiara**	**26.44**	**280**	LR	LR	19 15 06.4	
	comp=Z,114nm,18.2s,baz=179,slow=33						
WRA	**Warramunga Arr**	**49.51**	**257**	P	P	19 09 19.1	+0.6
	0.4nm,0.5s,baz=93,slow=7.2,SNR=18						
ASAR	**Alice Springs**	**49.76**	**252**	P	P	19 09 20.6	+0.1
	1.5nm,0.6s,baz=89,slow=8.2,SNR=23						
BRTR	**Keskin Array B**	**146.16**	**321**	PKPbc	PKPbc	19 20 08.5	+0.1
	0.3nm,0.5s,baz=126,slow=2.0,SNR=3.5						

MAN 30 19:01:33.9, 1807N×12052E, h25km, mb2.4, ML4.0, MS1.3, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.27**	**20**	⇓*i*P	Pb	19 01 42.0	+1.5
PIP				*e*S	Sb	19 01 49.4	+4.3
ABRA	**Dolores**	**0.46**	**156**	*e*P	Pb	19 01 43.8	+0.5
ABRA				*e*S	Sb	19 01 53.5	+3.8
APYP	**Conner**	**0.72**	**106**	*e*P	Pb	19 01 48.1	+0.3
APYP				*e*S	Sb	19 01 59.4	+2.2

NNC 30 19:05:34.5±5.1, 3942N×7168E, h26km±23km, mb3.3, mpv3.1, 6C-3D, Error ellipse: s-maj=43.6km s-min=32.7km az=75.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**3.79**	**347**	Pn	Pn	19 06 33.5	+2.4
	11nm,0.7s,baz=155,slow=11,SNR=105						
KK31				⇑Pg	Pn	19 06 45.2	+14
	5.1nm,0.8s,baz=166,slow=16,SNR=29						
KK31				⇑Sn	Sn	19 07 23.2	+8.4
	2.0nm,0.3s,baz=172,slow=24,SNR=3.8						
KK31				⇑Lg		19 07 34.0	
	5.8nm,0.4s,baz=152,slow=28,SNR=4.1						
TKM2	**Tokmak 2**	**4.58**	**39**	⇓Pn	Pn	19 06 44.2	+2.2
	0.4nm,0.6s						
TKM2				⇓Lg		19 07 54.3	
	4.7nm,1.4s						
AB31	**Akbulak array**	**12.92**	**323**	⇑Pn	Pn	19 08 34.7	-1.6
	0.4nm,0.5s,baz=339,slow=36,SNR=8.7						
AB31				⇓Sn	Sn	19 10 56.3	-2.8
	0.6nm,0.5s,baz=131,slow=25,SNR=4.8						
AKTO	**Aktyubinsk**	**14.63**	**323**	⇑Pn	Pn	19 09 02.8	+3.1
	0.1nm,0.9s						
AKTO				⇑Sn	Sn	19 11 39.0	-2.0
	0.2nm,1.8s						

*IDC **30** 19:20:14.5±0.5, 1324N×8960W, h0km, mb4.6/22, mb1 4.7/24, mb1mx4.7/26, mbtmp4.5/24, ML4.2/2, MS4.3/17, Ms1 4.2/17, ms1mx4.1/28, Error ellipse: s-maj=21.5km s-min=10.7km az=55.0*
*CASC **30** 19:20:16.7±2.0, 1274N×9004W, h20km±11km, MD4.5, ML4.3, mb4.8(NEIC)*
*MOS **30** 19:20:17.9±1.2, 1314N×8962W, h33km, mb5.0/31, Error ellipse: s-maj=13.9km s-min=5.3km az=116.1*
*ISCJB **30** 19:20:19.3±0.4, 1295N±004×8978W±003, h56km±3km, mb4.8/85, MS4.3/21, Error ellipse: s-maj=7.4km s-min=2.8km az=71.9*
*NEIC **30** 19:20:20.1±0.5, 1298N×8970W, h47km±5km, mb4.8/75, MS5.0/1, Error ellipse: s-maj=6.2km s-min=3.8km az=47.0*
*BJI **30** 19:20:20.1, 1300N×8970W, h47km, mB5.2, Ms5.1, Msz4.9*
ISC 30 19:20:21.2±0.3, 1302N±004×8973W±003, h52km±3km, n256, σ1°12/237, mb4.8/85, MS4.3/21, 8C-8D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNET	**Serv Nac Est T**	**0.82**	**36**	⇓*e*P	**Pn**	**19 20 36.9**	**+0.4**
SNET				*e*S	**Sn**	**19 20 56.8**	**+9.0**
IXG	**Ixpaco**	**1.35**	**329**	⇑*e*P	**Pn**	**19 20 41.6**	**-2.0**
IXG				*e*S	**Sn**	**19 21 02.7**	**+2.3**
MTO2	**Montecristo 2**	**1.42**	**15**	*e*P	Px	19 20 49.7	
MTO2				*e*S	Sx	19 21 13.4	
PCG	**Pacaya**	**1.61**	**328**	*e*P	**Pn**	**19 20 48.1**	**+1.0**
FUG	**Fuego 3**	**1.78**	**323**	*e*P	**Pn**	**19 20 48.0**	**-1.5**
CNCH	**Conchagua**	**1.86**	**82**	*e*P	Px	19 20 55.1	
CNCH				*e*S	Sx	19 21 28.3	
TP2	**Tecpan 2**	**2.15**	**325**	⇓*e*P	**Pn**	**19 20 53.2**	**-1.4**
TP2				*e*S	**Sn**	**19 21 21.4**	**+1.3**
JAT	**Jato**	**2.26**	**305**	*e*P	**Pn**	**19 20 54.0**	**-2.1**
CRIN	**San Cristobal**	**2.63**	**97**	⇓*e*P	**Pn**	**19 21 02.3**	**+1.2**
LEON	**Leon**	**2.83**	**102**	*e*P	**Pn**	**19 21 04.3**	**+0.4**
TEL3	**Telica 3**	**2.85**	**99**	⇓*e*P	**Pn**	**19 21 04.1**	**-0.1**
TELN	**Telica**	**2.86**	**98**	*e*P	**Pn**	**19 21 04.7**	**+0.5**
MIRN	**Miramar**	**3.00**	**101**	*e*P	**Pn**	**19 21 06.1**	**-0.1**
CNGN	**Cerro Negro**	**3.00**	**100**	⇓*e*P	**Pn**	**19 21 06.2**	**0.0**
MOMJ	**Momotombo**	**3.17**	**101**	*e*P	**Pn**	**19 21 08.4**	**-0.1**
COPN	**Copaltepe**	**3.18**	**105**	⇑*e*P	**Pn**	**19 21 08.0**	**-0.6**
APYN	**Apoyeque**	**3.39**	**103**	⇓*e*P	**Pn**	**19 21 11.7**	**+0.1**
TISN	**Laguna Tiscapa**	**3.49**	**104**	⇑*e*P	**Pn**	**19 21 12.6**	**-0.3**
MGAN	**Managua**	**3.51**	**104**	*e*P	**Pn**	**19 21 13.0**	**-0.2**
MGAN				*i*		19 21 57.6	
	comp=N,1μm,0.3s						
MGAN				*e*S	**Sn**	**19 21 58.6**	**+5.1**
TICN	**Ticuantepe**	**3.55**	**106**	*e*P	**Pn**	**19 21 14.3**	**+0.5**
APON	**Apoyo**	**3.74**	**107**	⇓*e*P	**Pn**	**19 21 16.2**	**-0.1**
CCIG	**Comitan**	**3.99**	**325**	*i* P	**Pn**	**19 21 19.4**	**-0.4**
CCIG				*i* S	**Sn**	**19 22 19.0**	**+14**
CONN	**Concepcion**	**4.26**	**109**	⇑*e*P	**Pn**	**19 21 23.3**	**-0.3**
LIM1	**Limonal**	**4.95**	**117**	*i* P	**Pn**	**19 21 32.7**	**-0.3**
JTS	**JuntasAbangare**	**5.41**	**120**	*e*P	**Pn**	**19 21 38.4**	**-0.8**
JTS				*e*		19 22 39.8	
JTS				pmax	pmax		
	comp=Z,117nm,0.6s						
JTS	**JuntasAbangare**	**5.41**	**120**	*e*Pn	**Pn**	**19 21 38.4**	**-0.8**
	comp=Z,117nm,0.6s						
JTS				*e*Sn	**Sn**	**19 22 39.8**	**-0.3**
CGA2	**Cerro Gallo 2**	**5.96**	**120**	*e*P	**Pn**	**19 21 47.4**	**+0.6**
PRS1	**Puriscal**	**6.11**	**119**	*e*P	**Pn**	**19 21 50.2**	**+1.4**
CMIG	**Matias Romero**	**6.42**	**310**	Pn	**Pn**	**19 21 49.7**	**-3.3**
	comp=Z,1.8nm,0.3s,baz=133,slow=9.8,SNR=18						
CMIG				Sn	**Sn**	**19 23 13.0**	**+8.1**
	comp=Z,4.7nm,0.3s,baz=116,slow=22,SNR=5.1						
CMIG	**Matias Romero**	**6.42**	**310**	*i* P	**Pn**	**19 21 51.4**	**-1.6**
CMIG				*i* S	**Sn**	**19 23 08.9**	**+4.1**
LCR2	**La Lucha 2**	**6.49**	**120**	*e*P	**Pn**	**19 21 54.0**	**-0.1**
URSC	**Urasca**	**6.64**	**118**	*e*P	**Pn**	**19 21 56.7**	**+0.7**
TUIG	**Tuzandepetl**	**6.73**	**318**	*i* P	**Pn**	**19 21 57.5**	**+0.2**
TUIG				*i* S	**Sn**	**19 23 12.6**	**-0.1**
HUIG	**Huatulco**	**6.76**	**295**	*i* P	**Pn**	**19 21 56.1**	**-1.6**
HUIG				*i* S	**Sn**	**19 23 13.7**	**+0.5**
BUS	**Buena Vista**	**6.79**	**120**	*e*P	**Pn**	**19 21 59.4**	**+1.2**
BUS				*e*S	**Sn**	**19 23 17.4**	**+3.2**
OXX	**Oaxaca**	**7.87**	**302**	*e*P	**Pn**	**19 22 12.8**	**-0.1**
VHO	**Vista Hermosa**	**7.87**	**302**	*e*P	**Pn**	**19 22 11.1**	**-1.9**
VHO				*i* S	**Sn**	**19 23 39.0**	**-1.7**
PPM	**Popocatepetl**	**10.45**	**306**	*i* P	**Pn**	**19 22 49.0**	**+0.7**
YAIG	**Yautepec**	**10.69**	**304**	*i* P	**Pn**	**19 22 51.1**	**-0.4**
PLIG	**Platanillo**	**10.82**	**301**	*i* P	**Pn**	**19 22 53.3**	**0.0**
CAIG	**El Cayaco**	**10.94**	**293**	*i* P	**Pn**	**19 22 52.9**	**-2.0**
SOR	**Soroa**	**11.63**	**32**	*e*P	**Pn**	**19 23 09.7**	**+5.3**
	baz=241						
SOR				*e*S	Sn	19 25 43.7	+31
	comp=N,2.1nm,9.3s						
SOR				*e*			
	comp=E,2.0nm,11.0s						
MOIG	**Morelia**	**12.83**	**303**	*i* P	**Pn**	**19 23 18.9**	**-1.9**
PAYG	**Puerto Ayora**	**13.62**	**182**	*e*P	**Pn**	**19 23 31.3**	**-0.2**
	comp=E,96nm,1.1s						
SFJM	**Santa Fe**	**14.74**	**302**	*e*P	**Pn**	**19 23 51.7**	**+5.2**
DWPF	**Disney**	**16.89**	**26**	P	**Pn**	**19 24 15.2**	**+1.3**
	comp=E,47nm,1.0s						
OTAV	**Otavalo**	**16.92**	**138**	*e*P	**Pn**	**19 24 13.8**	**-0.4**
	comp=E,22nm,1.4s						
ROSC	**El Rosal**	**17.23**	**117**	P	**Pn**	**19 24 21.9**	**+3.8**
	comp=E,2.4nm,0.3s,baz=89,slow=19,SNR=18						
HKT	**Hockley**	**17.77**	**342**	*e*P	**Pn**	**19 24 26.7**	**+2.0**
HKT				pmax	pmax		
	comp=Z,33nm,1.2s						
HKT	**Hockley**	**17.77**	**342**	*e*P	**Pn**	**19 24 26.7**	**+2.0**
	comp=Z,33nm,1.2s						
SDV	**Santo Domingo**	**19.19**	**100**	P	**Pn**	**19 24 40.7**	**-1.1**
	comp=Z,1.8nm,0.3s,baz=297,slow=4.4,SNR=9.2						
SDV	**Santo Domingo**	**19.19**	**100**	*e*P	**Pn**	**19 24 40.5**	**-1.4**
	comp=Z,24nm,0.8s						
NATX	**Nacogdoches**	**19.20**	**347**	*e*P	**Pn**	**19 24 41.3**	**-0.6**
	comp=Z,77nm,0.8s						
JCT	**Junction City**	**19.71**	**333**	*e*P	**Pn**	**19 24 46.5**	**-1.6**
JCT				pmax	pmax		
	comp=Z,18nm,0.8s						
JCT	**Junction City**	**19.71**	**333**	*e*P	**Pn**	**19 24 46.5**	**-1.5**
	comp=Z,18nm,0.8s						
LRAL	**Lakeview Retre**	**20.08**	**7**	*e*P	**P**	**19 24 52.4**	**+2.2**
	comp=Z,35nm,1.2s						
LTX	**Lajitas**	**20.76**	**324**	*e*P	**P**	**19 24 59.1**	**+1.5**
LTX				pmax	pmax		
	comp=Z,73nm,0.9s						
LTX	**Lajitas**	**20.76**	**324**	*e*P	**P**	**19 24 59.1**	**+1.5**
	comp=Z,73nm,0.9s						
OXF	**Oxford**	**21.40**	**1**	*e*P	**P**	**19 25 05.6**	**+1.2**
OXF				pmax	pmax		
	comp=Z,172nm,0.8s,mb5.4						
OXF	**Oxford**	**21.40**	**1**	*e*P	**P**	**19 25 05.5**	**+1.1**
	comp=Z,172nm,0.8s,mb5.4						
MIAR	**Mount Ida**	**21.71**	**351**	*e*P	**P**	**19 25 07.1**	**-0.7**
MIAR				pmax	pmax		
	comp=Z,66nm,1.0s,mb5.0						
MIAR	**Mount Ida**	**21.71**	**351**	*e*P	**P**	**19 25 07.1**	**-0.7**
	comp=Z,66nm,1.0s,mb5.0						
UALR	**University of**	**21.79**	**354**	*e*P	**P**	**19 25 08.8**	**+0.2**
	comp=Z,176nm,1.0s,mb5.4						
PLAL	**Pickwick Lake**	**21.92**	**4**	*e*P	**P**	**19 25 10.5**	**+0.6**
	comp=Z,32nm,1.0s,mb4.7						
SWET	**Sewanee**	**22.36**	**8**	*e*P	**P**	**19 25 15.5**	**+0.8**
LPIG	**La Paz**	**22.37**	**302**	P	**P**	**19 25 13.5**	**-1.3**
	comp=Z,20nm,0.4s,mb5.0,baz=115,slow=2.9,SNR=3.7						
LPIG				LR	LR	19 35 20.1	
	comp=Z,1μm,18.1s,MS4.4,baz=225,slow=40						
HBAR	**Harrisburg**	**22.45**	**358**	P	**P**	**19 25 17.0**	**+1.4**
HBAR				*e*		19 25 28.2	
JSC	**Jenkinsville**	**22.52**	**19**	*e*P	**P**	**19 25 17.2**	**+0.8**
GNAR	**Gosnell**	**22.85**	**359**	*e*P	**P**	**19 25 21.6**	**+1.7**
	comp=Z,1μm,0.9s						
ATAH	**Atahualpa**	**22.86**	**150**	P	**P**	**19 25 21.6**	**+1.6**
	comp=Z,17nm,1.0s,mb4.4,baz=325,slow=6.3,SNR=6.8						
ATAH				LR	LR	19 33 21.6	
	comp=Z,503nm,19.0s,MS4.0,baz=105,slow=34						
WVT	**Waverly**	**23.07**	**4**	*e*P	**P**	**19 25 22.2**	**0.0**
WVT				pmax	pmax		
	comp=Z,52nm,1.1s,mb4.9						
WVT	**Waverly**	**23.07**	**4**	*e*P	**P**	**19 25 22.2**	**-0.1**
	comp=Z,52nm,1.1s,mb4.9						
WMOK	**Wichita Mounta**	**23.13**	**341**	*e*P	**P**	**19 25 20.8**	**-2.0**
WMOK				pmax	pmax		
	comp=Z,34nm,1.1s,mb4.7						
WMOK	**Wichita Mounta**	**23.13**	**341**	*e*P	**P**	**19 25 20.8**	**-1.9**
	comp=Z,34nm,1.1s,mb4.7						
MNTX	**Cornudas Mount**	**23.51**	**325**	*e*P	**P**	**19 25 25.9**	**-0.5**
	comp=Z,32nm,0.9s,mb4.8						
PARMO	**Parma**	**23.54**	**360**	*e*P	**P**	**19 25 27.5**	**+0.8**
MTP	**Monte Pirata**	**23.82**	**75**	P	**P**	**19 25 27.7**	**-1.6**
TZTN	**Tazewell**	**24.07**	**12**	*e*P	**P**	**19 25 31.3**	**-0.2**
AMTX	**Amarillo**	**24.31**	**336**	*e*P	**P**	**19 25 32.8**	**-0.9**
	comp=Z,54nm,0.8s,mb5.0						
AMTX				*e*PcP	PcP	19 29 13.6	+1.2
PCRV	**Puerto La Cruz**	**24.74**	**94**	P	**P**	**19 25 38.5**	**+0.9**
	comp=Z,4.6nm,0.6s,mb4.2,baz=252,slow=6.4,SNR=2.3						
FVM	**French Village**	**24.87**	**359**	*e*P	**P**	**19 25 37.4**	**-1.4**
FVM				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.5						
FVM	**French Village**	**24.87**	**359**	*e*P	**P**	**19 25 37.4**	**-1.4**
	comp=Z,11nm,0.7s,mb4.5						
USIN	**University of**	**24.91**	**4**	*e*P	**P**	**19 25 40.0**	**+0.8**
	comp=Z,112nm,0.9s,mb5.4						
CCM	**Cathedral Cave**	**24.97**	**357**	*e*P	**P**	**19 25 39.6**	**-0.1**
CCM				pmax	pmax		
	comp=Z,79nm,1.1s,mb5.2						
CCM	**Cathedral Cave**	**24.97**	**357**	*e*P	**P**	**19 25 39.6**	**-0.2**
	comp=Z,79nm,1.1s,mb5.2						
SLM	**Saint Louis**	**25.52**	**359**	*e*P	**P**	**19 25 44.4**	**-0.3**
SLM				pmax	pmax		
	comp=Z,40nm,0.6s,mb5.1						
SLM	**Saint Louis**	**25.52**	**359**	*e*P	**P**	**19 25 44.4**	**-0.3**
	comp=Z,40nm,0.6s,mb5.1						
FWV	**Forest Hill**	**25.73**	**16**	*e*P	**P**	**19 25 46.5**	**0.0**
BNM	**Barren Site**	**26.04**	**327**	*e*P	**P**	**19 25 50.4**	**+0.9**
LPM	**Los Pinos Moun**	**26.17**	**327**	*e*P	**P**	**19 25 51.6**	**+1.0**
LENM	**Lemitar**	**26.24**	**326**	*e*P	**P**	**19 25 52.4**	**+1.1**
LAZ	**Ladron**	**26.51**	**326**	*e*P	**P**	**19 25 54.7**	**+1.1**
ANMO	**Albuquerque**	**26.57**	**328**	P	**P**	**19 25 55.4**	**+1.1**
	comp=Z,4.0nm,0.8s,mb4.0,baz=152,slow=11,SNR=9.0						
ANMO				PcP	PcP	19 29 19.4	+1.9
	comp=Z,1.6nm,0.7s,baz=170,slow=6.1,SNR=3.6						
ANMO	**Albuquerque**	**26.57**	**328**	*c* *i*P	**P**	**19 25 54.6**	**+0.4**
ANMO	**Albuquerque**	**26.57**	**328**	*e*P	**P**	**19 25 54.3**	**+0.1**
	comp=Z,4.7nm,0.9s,mb4.0						
CBKS	**Cedar Bluff**	**27.18**	**343**	*e*P	**P**	**19 25 59.3**	**-0.4**
CBKS				pmax	pmax		
	comp=Z,49nm,1.2s,mb4.9						
CBKS	**Cedar Bluff**	**27.18**	**343**	*e*P	**P**	**19 25 59.3**	**-0.4**
	comp=Z,49nm,1.2s,mb4.9						
TUC	**Tucson**	**27.22**	**318**	*e*P	**P**	**19 26 01.7**	**+1.7**
TUC				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.3						
TUC	**Tucson**	**27.22**	**318**	*e*P	**P**	**19 26 01.7**	**+1.6**
	comp=Z,8.8nm,0.9s,mb4.3						
ACSO	**Alum Creek Sta**	**27.75**	**11**	*e*P	**P**	**19 26 04.5**	**-0.2**
	comp=Z,7.6nm,0.8s,mb4.4						
NNA	**Nana**	**27.94**	**152**	P	**P**	**19 26 05.6**	**-0.9**
	comp=Z,21nm,1.1s,mb4.7						
SDMD	**Soldier's Deli**	**28.65**	**21**	*e*P	**P**	**19 26 12.1**	**-0.8**
MVCO	**Mesa Verde**	**29.36**	**328**	*e*P	**P**	**19 26 19.8**	**+0.7**
SSPA	**Standing Stone**	**29.41**	**19**	*e*P	**P**	**19 26 18.9**	**-0.6**
	comp=Z,4.0nm,0.6s,mb4.3						
BBSR	**BB Station**	**29.94**	**46**	*e*P	**P**	**19 26 25.1**	**+0.8**
	comp=Z,45nm,1.2s,mb5.1						
PV01	**Paradox Valley**	**30.11**	**329**	*e*P	**P**	**19 26 26.8**	**+1.1**
ISCO	**Idaho Springs**	**30.13**	**335**	*e*P	**P**	**19 26 26.2**	**+0.3**
ISCO				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
ISCO	**Idaho Springs**	**30.13**	**335**	*e*P	**P**	**19 26 26.2**	**+0.3**
	comp=Z,6.0nm,0.9s,mb4.3						
PV10	**Paradox Valley**	**30.53**	**329**	*e*P	**P**	**19 26 29.0**	**-0.4**
ECSD	**EROS,Sioux Fal**	**31.17**	**350**	*e*P	**P**	**19 26 34.0**	**-1.2**
PHWY	**Pilot Hill**	**31.35**	**337**	*e*P	**P**	**19 26 37.0**	**+0.3**
BINY	**Binghamton**	**31.43**	**20**	*e*P	**P**	**19 26 37.0**	**-0.4**
	comp=Z,26nm,0.9s,mb5.0						
PFO	**Pinyon Flat Ob**	**31.81**	**315**	*e*P	**P**	**19 26 41.8**	**+1.1**
PFO				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
PFO	**Pinyon Flat Ob**	**31.81**	**315**	*e*P	**P**	**19 26 41.8**	**+1.0**
	comp=Z,14nm,1.0s,mb4.8						
MSU	**Marysvale**	**32.28**	**326**	*e*P	**P**	**19 26 46.0**	**+1.2**
MSU				*e*		19 29 34.2	
MSU	**Marysvale**	**32.28**	**326**	*e*P	**P**	**19 26 46.0**	**+1.2**
MSU				*e*PcP	PcP	19 29 34.2	+2.2
MSU				*e*ScP	ScP	19 33 10.0	-1.3
RWWY	**Rawlins**	**32.37**	**335**	*e*P	**P**	**19 26 46.2**	**+0.6**
	comp=Z,26nm,1.0s,mb5.0						
ARUT	**Antelope Range**	**32.48**	**324**	*e*P	**P**	**19 26 48.4**	**+1.8**
ARUT				*e*		19 29 35.3	
SADO	**Sadowa**	**32.91**	**14**	P	**P**	**19 26 49.3**	**-1.0**
	comp=Z,13nm,0.6s,mb5.0,baz=213,slow=9.4,SNR=23						
DAU	**Daniels Canyon**	**33.19**	**329**	*e*P	**P**	**19 26 53.7**	**+0.9**
RSSD	**Black Hills**	**33.34**	**341**	*e*P	**P**	**19 26 54.5**	**+0.4**
RSSD				*e*		19 29 35.2	
RSSD				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.0						
RSSD	**Black Hills**	**33.34**	**341**	*e*P	**P**	**19 26 54.5**	**+0.4**
	comp=Z,13nm,0.6s,mb5.0						
RSSD				*e*PcP	PcP	19 29 35.2	+0.2
RSSD				*e*ScP	ScP	19 33 23.9	+9.0
TPNV	**Topopah Spring**	**33.63**	**320**	*e*P	**P**	**19 26 58.3**	**+1.7**
TPNV				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
TPNV	**Topopah Spring**	**33.63**	**320**	*e*P	**P**	**19 26 58.3**	**+1.7**
	comp=Z,11nm,1.0s,mb4.7						
TCUT	**Toone Canyon**	**33.80**	**330**	*e*P	**P**	**19 26 58.8**	**+0.7**
DUG	**Dugway**	**33.83**	**327**	*e*P	**P**	**19 26 59.7**	**+1.3**
DUG				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
DUG	**Dugway**	**33.83**	**327**	*e*P	**P**	**19 26 59.7**	**+1.3**
	comp=Z,9.5nm,1.1s,mb4.6						
LONY	**Lake Ozonia**	**34.05**	**19**	*e*P	**P**	**19 26 59.1**	**-1.1**
DAC	**Darwin (Calif)**	**34.09**	**318**	*e*P	**P**	**19 27 01.8**	**+1.1**
DAC				*e*		19 29 38.9	
DAC				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
DAC	**Darwin (Calif)**	**34.09**	**318**	*e*P	**P**	**19 27 01.8**	**+1.2**
	comp=Z,5.6nm,0.9s,mb4.5						
DAC				*e*PcP	PcP	19 29 38.9	+1.8
SAML	**Samuel**	**34.23**	**128**	*e*P	**P**	**19 26 59.7**	**-2.1**
	comp=Z,13nm,0.9s,mb4.8						
PDAR	**Pinedale Array**	**34.25**	**334**	P	**P**	**19 27 01.4**	**-0.6**
	comp=Z,2.4nm,0.6s,mb4.3,baz=125,slow=10,SNR=17						
PDAR				PcP	PcP	19 29 38.0	+0.4
	comp=Z,0.9nm,0.7s,baz=157,slow=4.6,SNR=4.0						
PDAR				ScP	ScP	19 33 25.2	+7.1
	comp=Z,0.6nm,0.8s,baz=142,slow=5.1,SNR=6.3						
PDAR				LR	LR	19 43 32.5	
	comp=Z,313nm,19.6s,MS4.0,baz=33,slow=41						
HWUT	**Hardware Ranch**	**34.25**	**330**	*e*P	**P**	**19 27 02.2**	**+0.1**
	comp=Z,4.0nm,0.4s,mb4.7						
HWUT				*e*PcP	PcP	19 29 38.9	+1.3
BGU	**Big Grassy Mou**	**34.48**	**328**	*e*P	**P**	**19 27 12.1**	**+8.2**
FRNY	**Flat Rock**	**34.57**	**20**	*e*P	**P**	**19 27 04.0**	**-0.8**
EYMN	**Ely**	**34.85**	**358**	*e*P	**P**	**19 27 05.7**	**-1.5**
	comp=Z,39nm,1.1s,mb5.2						
TPH	**Tonopah**	**34.94**	**320**	P	**P**	**19 27 09.1**	**+1.2**
TPH				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
TPH	**Tonopah**	**34.94**	**320**	P	**P**	**19 27 09.1**	**+1.2**
	comp=Z,11nm,0.9s,mb4.8						
HVU	**Hansel Valley**	**34.98**	**329**	*e*P	**P**	**19 27 09.1**	**+0.8**
HVU				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
HVU	**Hansel Valley**	**34.98**	**329**	*e*P	**P**	**19 27 09.1**	**+0.8**
	comp=Z,9.4nm,1.0s,mb4.7						
REDW	**Red Top Meadow**	**35.29**	**333**	*e*P	**P**	**19 27 11.4**	**+0.4**
	comp=Z,26nm,0.8s,mb5.2						
MTUM	**Tungsten Hills**	**35.35**	**318**	*e*P	**P**	**19 27 13.6**	**+2.1**
LOHW	**Long Hollow**	**35.38**	**333**	*e*P	**P**	**19 27 12.0**	**+0.2**
	comp=Z,12nm,0.7s,mb4.9						
LOHW				*e*PcP	PcP	19 29 41.4	+0.6
TPAW	**Teton Pass**	**35.44**	**333**	*e*P	**P**	**19 27 12.3**	**+0.1**
	comp=Z,28nm,1.1s,mb5.1						
ELK	**Elko**	**35.52**	**326**	*e*P	**P**	**19 27 13.8**	**+0.8**
ELK				*e*		19 29 42.8	
ELK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ELK	**Elko**	**35.52**	**326**	*e*P	**P**	**19 27 13.8**	**+0.8**
	comp=Z,5.7nm,0.8s,mb4.5						
ELK				*e

SCHQ				PcP	PcP	19 30 13.0	-0.1	
	comp=Z,2.1nm,0.5s,baz=209,slow=10,SNR=4.5							
SCHQ				LR	LR	19 50 38.1		
	comp=Z,268nm,20.5s,MS4.2,baz=237,slow=40							
SCHQ	**Schefferville**	**45.41**	**18**	*eP*	**P**	**19 28 33.4**	**-1.2**	
	comp=Z,84nm,1.1s,mb5.5							
FCC	**Fort Churchill**	**45.77**	**357**	*eP*	**P**	**19 28 36.3**	**-1.2**	
FCC				pmax	pmax			
	comp=Z,27nm,1.1s,mb5.1							
FCC	**Fort Churchill**	**45.77**	**357**	*eP*	**P**	**19 28 36.3**	**-1.1**	
	comp=Z,28nm,1.1s,mb5.1							
BDFB	**Brasilia**	**50.14**	**123**	P	**P**	**19 29 12.6**	**+1.4**	
	comp=Z,9.2nm,0.9s,mb4.8,baz=299,slow=9.0,SNR=9.2							
BDFB				LR	LR	19 52 57.3		
	comp=Z,348nm,19.1s,MS4.4,baz=310,slow=39							
BDFB	**Brasilia**	**50.14**	**123**	P	**P**	**19 29 12.6**	**+1.4**	
BDFB				LR	LR	19 52 57.3		
CPUP	**Villa Florida**	**50.23**	**141**	P	**P**	**19 29 14.0**	**+2.1**	
	comp=Z,5.5nm,1.1s,mb4.5,baz=313,slow=9.3,SNR=6.6							
CPUP				LR	LR	19 51 13.0		
	comp=Z,123nm,21.5s,MS3.9,baz=61,slow=37							
CPUP	**Villa Florida**	**50.23**	**141**	*eP*	**P**	**19 29 14.0**	**+2.1**	
CPUP				pmax	pmax			
	comp=Z,28nm,1.2s							
CPUP	**Villa Florida**	**50.23**	**141**	*eP*	**P**	**19 29 14.0**	**+2.2**	
	comp=Z,28nm,1.2s,mb5.2							
YKA	**Yellowknife Ar**	**52.50**	**346**	P	**P**	**19 29 27.7**	**-1.2**	
	comp=Z,15nm,0.8s,mb5.0,baz=146,slow=7.7,SNR=105							
YKA				PcP	PcP	19 30 38.7	-0.1	
	comp=Z,2.4nm,0.8s,baz=148,slow=4.1,SNR=5.7							
YKA				LR	LR	19 55 28.0		
	comp=Z,483nm,19.6s,MS4.5,baz=145,slow=40							
YKA	**Yellowknife Ar**	**52.50**	**346**	P	**P**	**19 29 27.7**	**-1.2**	
YKA						19 30 38.7		
YKA	**Yellowknife Ar**	**52.50**	**346**	P	**P**	**19 29 27.7**	**-1.2**	
YKA				PcP	PcP	19 30 38.7	-0.1	
YKA				LR	LR	19 55 28.0		
YKW3	**Yellowknife Ar**	**52.56**	**346**	*eP*	**P**	**19 29 28.1**	**-1.2**	
YKW3				*e*		19 29 36.5		
DLBC	**Dease Lake**	**54.45**	**335**	LR	LR	19 56 24.4		
	comp=Z,264nm,19.7s,MS4.3,baz=138,slow=40							
DLBC	**Dease Lake**	**54.45**	**335**	*eP*	**P**	**19 29 43.7**	**+0.5**	
PLCA	**Paso Flores**	**56.36**	**163**	P	**P**	**19 29 57.6**	**+0.7**	
	comp=Z,4.5nm,1.2s,mb4.4,baz=338,slow=12,SNR=4.5							
PLCA				LR	LR	19 50 43.3		
	comp=Z,235nm,18.3s,MS4.3,baz=353,slow=32							
PLCA	**Paso Flores**	**56.36**	**163**	*eP*	**P**	**19 29 57.2**	**+0.3**	
PLCA				*e*	pP	19 30 07.5	-3.6	
PLCA				pmax	pmax			
	comp=Z,9.0nm,1.0s							
PLCA	**Paso Flores**	**56.36**	**163**	*eP*	**P**	**19 29 57.2**	**+0.4**	
	comp=Z,9.4nm,1.0s,mb4.8							
PLCA				*e*	pP	19 30 07.5	-3.6	
RCBR	**Riachuelo**	**56.65**	**106**	*eP*	**P**	**19 29 59.0**	**+0.1**	
	comp=Z,34nm,1.0s,mb5.3							
TRQA	**Tornquist**	**57.08**	**154**	P	**P**	**19 30 00.5**	**-1.5**	
	comp=Z,8.7nm,1.4s,mb4.6							
RES	**Resolute Bay**	**61.72**	**358**	*eP*	**P**	**19 30 31.7**	**-2.3**	
RES				pmax	pmax			
	comp=Z,13nm,0.8s,mb5.1							
RES	**Resolute Bay**	**61.72**	**358**	*eP*	**P**	**19 30 31.7**	**-2.3**	
	comp=Z,13nm,0.8s,mb5.1							
INK	**Inuvik**	**62.01**	**343**	LR	LR	20 02 43.0		
	comp=Z,403nm,18.8s,MS4.6,baz=37,slow=41							
INK	**Inuvik**	**62.01**	**343**	*eP*	**P**	**19 30 34.5**	**-1.4**	
INK				pmax	pmax			
	comp=Z,12nm,0.9s							
INK	**Inuvik**	**62.01**	**343**	*eP*	**P**	**19 30 34.5**	**-1.4**	
	comp=Z,12nm,0.9s,mb5.0							
ILAR	**Eielson Array**	**64.61**	**337**	P	**P**	**19 30 51.9**	**-1.2**	
	comp=Z,8.2nm,1.0s,mb4.7,baz=115,slow=4.4,SNR=52							
KDAK	**Kodiak Island**	**64.71**	**328**	LR	LR	19 58 11.1		
	comp=Z,162nm,18.8s,MS4.2,baz=107,slow=35							
COLA	**College**	**65.03**	**336**⇓	*eP*	**P**	**19 30 55.0**	**-0.9**	
PPT	**Papeete**	**66.43**	**244**	LR	LR	19 52 49.4		
	comp=Z,323nm,21.2s,MS4.5,baz=63,slow=29							
SUMG	**Summit**	**66.60**	**15**	*eP*	**P**	**19 31 05.0**	**-1.0**	
	comp=Z,15nm,0.9s,mb5.0							
CHGN	**Chignik**	**67.46**	**326**	*eP*	**P**	**19 31 10.7**	**-0.7**	
TTA	**Tatalina**	**67.77**	**333**	*eP*	**P**	**19 31 11.9**	**-1.5**	
TTA				pmax	pmax			
	comp=Z,9.0nm,1.1s,mb4.7							
TTA	**Tatalina**	**67.77**	**333**	*eP*	**P**	**19 31 11.9**	**-1.4**	
	comp=Z,9.1nm,1.1s,mb4.7							
JMIC	**Jan Mayen**	**74.91**	**20**	LR	LR	20 06 29.4		
	comp=Z,238nm,18.1s,MS4.5,baz=278,slow=37							
ESK	**Eskdalemuir**	**77.44**	**36**	P	**P**	**19 32 08.8**	**-2.0**	
ESDC	**Sonseca Array**	**78.59**	**52**	P	**P**	**19 32 15.4**	**-1.8**	
	comp=Z,2.3nm,0.8s,mb4.2,baz=297,slow=5.7,SNR=7.2							
BILL	**Bilibino**	**83.18**	**338**	*ceP*	**P**	**19 32 41.3**	**-0.4**	
BILL				pmax	pmax			
	comp=Z,12nm,0.8s,mb5.0							
BILL				MLR	MLR			
	comp=Z,100nm,14.0s,MS4.3							
BILL	**Bilibino**	**83.18**	**338**	*eP*	**P**	**19 32 41.0**	**-0.7**	
	comp=Z,12nm,0.9s,mb4.9							
BILL				*e*	pP	19 32 54.6	-2.1	
DBIC	**Dimbokro**	**83.55**	**85**	P	**P**	**19 32 44.2**	**+0.6**	
	comp=Z,5.5nm,0.6s,mb4.9,baz=262,slow=5.3,SNR=11							
DBIC	**Dimbokro**	**83.55**	**85**	*eP*	**P**	**19 32 43.8**	**+0.2**	
DBIC				pmax	pmax			
	comp=Z,7.0nm,0.6s							
DBIC	**Dimbokro**	**83.55**	**85**	*eP*	**P**	**19 32 43.8**	**+0.2**	
	comp=Z,7.1nm,0.6s,mb5.0							
NB2	**NORSAR Subarra**	**83.94**	**29**	P	**P**	**19 32 44.9**	**-0.7**	
	comp=Z,1.8nm,0.6s,mb4.4,baz=287,slow=5.1							
NOA	**NORSAR Array B**	**83.94**	**29**	P	**P**	**19 32 45.3**	**-0.3**	
	comp=Z,3.7nm,0.8s,mb4.5,baz=289,slow=5.0,SNR=8.2							
NOA				LR	LR	20 08 30.7		
	comp=Z,116nm,19.7s,MS4.3,baz=55,slow=35							
AFI	**Afiamalu**	**85.56**	**255**	LR	LR	20 04 19.9		
	comp=Z,123nm,20.8s,MS4.3,baz=105,slow=31							
ARCES	**ARCESS Array B**	**86.36**	**19**	P	**P**	**19 32 56.2**	**-1.5**	
	comp=Z,1.7nm,0.6s,mb4.5,baz=284,slow=4.9,SNR=12							
ARCES	**ARCESS Array B**	**86.36**	**19**	P	**P**	**19 32 56.2**	**-1.5**	
TORD	**Torodi Ar. Bea**	**88.45**	**77**	P	**P**	**19 33 05.9**	**-1.9**	
	comp=Z,1.9nm,0.6s,mb4.5,baz=291,slow=4.7,SNR=32							
GERES	**GERESS Array B**	**88.94**	**40**	P	**P**	**19 33 08.0**	**-2.0**	
	comp=Z,1.1nm,0.8s,mb4.2,baz=298,slow=2.9,SNR=7.2							
FINES	**FINESS Array B**	**90.43**	**26**	P	**P**	**19 33 15.4**	**-1.6**	
	comp=Z,1.5nm,0.8s,mb4.3,baz=230,slow=4.7,SNR=4.7							
OBN	**Obninsk**	**98.53**	**28**	*eP*	**P**	**19 33 51.7**	**-2.3**	
OBN				*e*		19 37 54.2		
OBN				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb5.1							
OBN				MLR	MLR			
	comp=Z,200nm,21.0s,MS4.6							
SONM	**Songino Array**	**117.74**	**348**	PKP	PKPdf	19 39 01.3	-0.2	
	comp=Z,1.4nm,0.8s,baz=39,slow=0.7,SNR=11							
BOSA	**Boshof**	**117.94**	**116**	PKP	PKPdf	19 39 03.2	+1.3	
	comp=Z,2.7nm,0.9s,baz=244,slow=3.6,SNR=4.8							
LSZ	**Lusaka**	**119.94**	**100**	*e*PKIKP	PKPdf	19 39 07.6	+1.9	
MKAR	**Makanchi Array**	**120.03**	**6**	PKP	PKPdf	19 39 05.1	-0.8	
	comp=Z,0.2nm,0.4s,baz=298,slow=2.6,SNR=4.2							
HHC	**Hu-ho-hao-te**	**122.89**	**341**	*e*PKP	PKPdf	19 39 10.0	-1.4	
HHC				XPKP		19 39 34.8		
HHC				PP	PP	19 40 52.0	+1.7	
HHC				PKS		19 42 45.3		
HHC				SKS	SKSdf	19 46 11.0	-8.0	
HHC				PP	PP			
	comp=Z,54nm,6.3s							
HHC				LR	LR			
	comp=N,67nm,8.0s							
HHC				LR	LR			
	comp=E,73nm,6.1s							
HHC				LR	LR			
	comp=Z,79nm,5.9s							
WMQ	**Urumqi**	**123.39**	**2**	PKP	PKPdf	19 39 11.0	-1.4	
WMQ				XPKP		19 39 36.5		
WMQ				PP	PP	19 40 58.0	+4.3	
WMQ				PP	PP			
	comp=Z,99nm,3.8s							
WMQ				PP	PP			
	comp=Z,21nm,8.5s							
WMQ				LR	LR			
	comp=N,183nm,20.0s,MS4.8							
WMQ				LR	LR			
	comp=E,125nm,22.9s,MS4.8							
WMQ				LR	LR			
	comp=Z,195nm,20.0s,MS4.8							
GTA	**Gaotai**	**127.09**	**351**	*e*PKP	PKPdf	19 39 21.0	+1.6	
NJ2	**Nanjing**	**127.48**	**329**	*e*PKP	PKPdf	19 39 16.8	-3.4	
NJ2				PP	PP	19 41 25.0	+4.0	
NJ2				PKS		19 42 51.0		
NJ2				PPP		19 44 07.0		
NJ2				PP	PP			
	comp=Z,60nm,7.2s							
NJ2				LR	LR			
	comp=N,2μm,22.8s							
NJ2				LR	LR			
	comp=E,2μm,25.5s							
NJ2				LR	LR			
	comp=Z,310nm,32.6s							
LZH	**Lanzhou**	**129.50**	**346**	*e*PKP	PKPdf	19 39 24.0	0.0	
LZH				*e*PP	PP	19 41 35.5	+1.3	
LZH				SKS	SKSdf	19 46 26.8	-4.5	
LZH				PP	PP			
	comp=Z,95nm,8.6s							
LZH				LR	LR			
	comp=N,145nm,18.5s							
LZH				LR	LR			
	comp=Z,298nm,20.3s,MS5.0							
LZH	**Lanzhou**	**129.50**	**346**	*e*PKIKP	PKPdf	19 39 24.0	0.0	
LZH				*e*		19 41 35.5		
LZH						19 46 26.7		
LZH				*e*SS	SS	19 58 51.5	-1.0	
LZH				MLR	MLR			
	comp=Z,300nm,20.3s,MS5.0							
LZH	**Lanzhou**	**129.50**	**346**	*e*PKP	PKPdf	19 39 24.0	0.0	
LZH				pPKP	pPKPdf	19 39 43.2	+3.5	
LZH				sPKP		19 39 51.9		
LZH				*e*PP	PP	19 41 35.5	+1.3	
LZH				SKS	SKSdf	19 46 26.7	-4.6	
LZH				SKKS	SKKSac	19 48 22.6	-4.2	
LZH				*e*SS	SS	19 58 51.5	-1.0	
LZH				LR	LR			
	comp=Z,300nm,20.3s,MS5.0							
WB2	**Warramunga Arr**	**137.27**	**255**	*e*P	PKPdf	19 39 45.2	+6.6	
WRA	**Warramunga Arr**	**137.28**	**255**	PKP	PKPdf	19 39 39.8	+1.1	
	comp=Z,1.3nm,1.1s,baz=100,slow=1.8,SNR=6.0							
WRA				SKPab		19 43 23.6		
	comp=Z,0.3nm,0.6s,baz=89,slow=3.4,SNR=4.7							
ASAR	**Alice Springs**	**137.40**	**249**	PKhKP		19 39 36.8		
	comp=Z,0.5nm,0.8s,baz=123,slow=4.2,SNR=4.7							
GYA	**Guiyang**	**137.65**	**338**	PKP	PKPdf	19 39 40.5	+1.2	
KMI	**Kunming**	**140.19**	**342**	PKP	PKPdf	19 39 45.5	+1.5	
KMI	**Kunming**	**140.19**	**342**	P	PKPdf	19 39 45.6	+1.6	
FITZ	**Fitzroy Crossi**	**145.59**	**257**	*e*P	PKPdf	19 39 53.9	+0.4	
	comp=Z,16nm,1.0s							
FITZ	**Fitzroy Crossi**	**145.59**	**257**	PKPbc	PKPbc	19 39 53.9	+0.1	
	comp=Z,5.2nm,1.0s,baz=163,slow=8.9,SNR=12							
CHG	**Chiang Mai**	**147.23**	**345**	⇑P	PKPdf	19 39 59.4	+3.1	
	comp=Z,20nm,0.8s							
CHTO	**Chiang Mai**	**147.23**	**345**	*e*PKP2	PKPab	19 39 59.1	-1.3	
NST	**Nakhon Sawan**	**149.87**	**341**	P	PKPbc	19 40 06.8	+1.4	
MBWA	**Marble Bar**	**150.74**	**250**	*e*PKPbc	PKPbc	19 40 07.0	-0.5	

CASC 30 19:27:08.3±1.9, 13.14N×89.56W, h142km±37km, MD3.9, 1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
LFRS	**El Faro**	**0.68**	**45**	*eP*		Pn	19 27 36.6	+6.8
SBLS	**San Blas**	**0.70**	**355**	*eP*		Pn	19 27 35.9	+5.9
SBLS				*eS*		Sn	19 27 53.4	+7.0
SNJE	**San Jose**	**0.73**	**356**	*eP*		Pn	19 27 36.5	+6.4
SNJE				*eS*		Sn	19 27 54.1	+7.3
RTR	**El Retiro**	**0.76**	**353**	*eP*		Pn	19 27 36.6	+6.3
RTR				*eS*		Sn	19 27 54.4	+7.2
LCBS	**La Ceiba**	**0.76**	**47**	*eP*		Pn	19 27 38.3	+7.9
LCBS				*eS*		Sn	19 27 56.0	+8.9
LBRS	**Las Brisas**	**0.78**	**40**	*eP*		Pn	19 27 38.7	+8.2
RBDL	**Robledal**	**0.98**	**353**	*eP*		Pn	19 27 39.7	+7.6
BLLM	**Bellamira**	**1.32**	**77**	*eP*		Pn	19 27 44.6	+9.3
IXG	**Ixpaco**	**1.35**	**320**⇓	*eP*		Pn	19 27 36.1	+0.5
IXG				*eS*		Sn	19 27 58.8	+2.2
TP2	**Tecpan 2**	**2.17**	**319**	*eP*		Pn	19 27 46.1	+1.2
TP2				*eS*		Sn	19 28 15.8	+2.7

*NEIC **30** 19:43:27.1, 1904N×6807W, h25km, MD3.5(RSPR), After RSPR.*

RSPR 30 19:43:27.1, 1904N×6807W, h25km±29km, MD3.5/15, MD3.5/15, 13C-5D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
AGPR	**Aguadilla, PR**	**1.07**	**122**⇑	*eP*		Pn	19 43 44.4	-2.1
MPR	**Mayaguez**	**1.20**	**133**⇑	*eP*		Pn	19 43 45.8	-2.5
MPR				*eS*		Sn	19 44 01.2	-2.7
LSP	**Las Mesas**	**1.26**	**132**⇓	*eP*		Pn	19 43 46.5	-2.7
CRPR	**Cabo Rojo, PR**	**1.37**	**138**⇑	*eP*		Pn	19 43 48.2	-2.4
CRPR				*eS*		Sn	19 44 05.3	-2.6
LRS	**Lares**	**1.38**	**122**⇓	*eP*		Pn	19 43 47.7	-3.0
MGP	**Maguayo**	**1.38**	**138**⇑	*eP*		Pn	19 43 48.4	-2.4
MGP				*eS*		Sn	19 44 05.9	-2.4
AOPR	**Arecibo Observ**	**1.43**	**119**⇑	*eP*		Pn	19 43 48.3	-3.1
OBIP	**Obispado Ponce**	**1.70**	**125**⇑	*eP*		Pn	19 43 52.9	-2.4
OBIP				*eS*		Sn	19 44 13.8	-2.3
CELP	**Cerrillos**	**1.71**	**124**⇓	*eP*		Pn	19 43 53.4	-1.9
CELP				*eS*		Sn	19 44 14.0	-2.3
ICM	**Isla Caja Muer**	**1.86**	**128**⇑	*eP*		Pn	19 43 55.5	-1.9
ICM				*eS*		Sn	19 44 17.2	-2.8
SJG	**San Juan**	**2.04**	**117**⇑	*eP*		Pn	19 43 58.3	-1.5
SJG				*eS*		Sn	19 44 21.4	-3.0
SJG	**San Juan**	**2.04**	**117**⇓	*eP*		Pn	19 43 58.2	-1.6
SJG				*eS*		Sn	19 44 21.6	-2.8
CBYP	**Canovanas**	**2.23**	**110**⇑	*eP*		Pn	19 44 00.7	-1.8
CPD	**Cerro la Pandu**	**2.27**	**116**⇓	*eP*		Pn	19 44 01.4	-1.6
CPD				*eS*		Sn	19 44 27.9	-2.3
HUMP	**Col San Antoni**	**2.28**	**113**⇑	*eP*		Pn	19 44 01.6	-1.6
HUMP				*eS*		Sn	19 44 27.9	-2.6
MTP	**Monte Pirata**	**2.56**	**111**⇑	*eP*		Pn	19 44 04.8	-2.2
MTP				*eS*		Sn	19 44 35.5	-1.8
STVI	**Saint Thomas**	**3.02**	**103**⇑	*eP*		Pn	19 44 12.5	-0.8
STVI				*eS*		Sn	19 44 46.6	-2.1
TBVI	**Tortola**	**3.33**	**100**⇑	*eP*		Pn	19 44 16.9	-0.8
TBVI				*eS*		Sn	19 44 54.1	-2.4

*IDC **30** 19:43:41.1±0.6, 2056N×9187E, h0km, mb4.3/19, mb1 4.4/19, mb1mx4.4/22, mbtmp4.3/19, MS4.1/11, Ms1 4.1/11, ms1mx3.8/22, Error ellipse: s-maj=20.2km s-min=15.5km az=45.0*

*ISCJB **30** 19:43:41.2±1.0, 2064N±003×9190E±003, h10km±6km, mb4.5/67, MS4.2/32, Error ellipse: s-maj=5.8km s-min=4.1km az=14.4*

*LDG **30** 19:43:42.0±0.2, 2066N×9160E, h10km, Mb4.8/11, Ms4.0/7, Error ellipse: s-maj=12.5km s-min=5.6km az=158.0*

*BJI **30** 19:43:43.9, 2059N×9184E, h29km, mB4.8, mb4.7, ML4.7, Ms4.6, Msz4.2*

*MOS **30** 19:43:44.3±0.9, 2061N×9193E, h33km, mb4.8/34, MS4.2/14, Error ellipse: s-maj=8.6km s-min=5.2km az=113.3*

*HRVD **30** 19:43:45.6±0.3, 2054N×9204E, h21km±1km, MW4.9/73, Centroid moment Tensor Solution. LP body waves: s20,c28;Mantle waves: s73,c121; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr-0.03±.14; Mθθ-2.55±.10; Mφφ2.58±.11; Mrt-0.26±.17; Mθφ 1.90±.09; Mφr0.21±.20; Best double couple: Mo3.20900×1016 NP1:ϕs63.00000°, δ85.00000°, λ-2.00000°. NP2: ϕs153.00000°, δ88.00000°, λ-175.00000°. Principal axes: T 3.2110, Plg2.0000°, Azm288.0000°; N -0.0060, Plg84.0000°, Azm178.0000°; P -3.2070, Plg6.0000°, Azm18.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **30** 19:43:45.6±0.2, 2063N×9193E, mb4.7/31, MS4.5/1 Error ellipse: s-maj=5.5km s-min=3.9km az=203.0*

NEIC Felt in Bandarban, Chittagong, Khagrachari and Rangamati, Bangladesh.

ISC 30 19:43:46.5±1.0, 2070N±003×9188E±003, h31km±7km, h30km±1.9km: pP-P, n224, σ1§12/247, mb4.5/67, MS4.2/32, 16C-8D, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
AGT	**Agartala**	**3.23**	**350**	*ex*		x	19 50 00.0	
CAL	**Calcutta**	**3.78**	**300**	*ex*		**Pn**	**19 44 45.7**	**+3.2**
SHL	**Shillong**	**4.85**	**0**	*i* PN		**Pn**	**19 44 59.0**	**+1.7**
SHL				*ex*		x	19 45 07.5	
SHL				*ex*		x	19 45 26.5	
SHL				*e*SN		**Sn**	**19 45 52.5**	**+0.1**
SHL				*ex*		x	19 50 00.0	
SHBG	**Sahibganj**	**5.94**	**320**	*eP*		**Pn**	**19 45 11.5**	**-0.8**
SHBG				*eS*		**Sn**	**19 46 17.0**	**-2.3**
BOK	**Bokaro**	**6.35**	**300**	*eP*		**Pn**	**19 45 18.2**	**+0.3**
BOK				*eS*		**Sn**	**19 46 25.5**	**-3.8**
BOK				AML	AML		19 46 31.2	
	comp=E,423nm,0.7s							
BOK				AML	AML		19 46 31.8	
	comp=N,582nm,0.4s							
SLGI	**Shiliguri**	**6.77**	**333**	*ex*		**Pn**	**19 45 23.9**	**+0.3**
CHG	**Chiang Mai**	**6.91**	**104**	⇑P		**Pn**	**19 45 23.1**	**-2.5**
	comp=N,142nm,0.7s							
CHTO	**Chiang Mai**	**6.91**	**104**	*eP*		**Pn**	**19 45 23.0**	**-2.6**
CHTO				pmax	pmax			
	comp=Z,49nm,0.6s							
CHTO	**Chiang Mai**	**6.91**	**104**	*eP*n		**Pn**	**19 45 23.0**	**-2.7**
	comp=Z,49nm,0.6s							
CHTO				*e*			19 45 30.1	
GTK	**Gangtok**	**7.25**	**336**	*ex*		x	19 45 48.0	
VIS	**Vishakhapatnam**	**8.60**	**251**	*i* P		**Pn**	**19 45 46.1**	**-2.7**
VIS				*i* S		**Sn**	**19 47 16.7**	**-8.1**
VIS				AML	AML		19 47 19.7	
	comp=N,265nm,0.8s							
VIS				AML	AML		19 47 20.9	
	comp=E,146nm,0.2s							
JIRN	**Jiri**	**8.66**	**324**	*eP*		**Pn**	**19 45 50.1**	**+0.5**
	comp=E,417nm,0.4s							
JIRN				*eS*		**Sn**	**19 47 24.2**	**-2.0**
LSA	**Lhasa**	**8.99**	**356**	*eP*		**Pn**	**19 45 54.8**	**+0.7**
LSA				*e*			19 47 29.8	
LSA				pmax	pmax			
	comp=Z,63nm,0.4s							
LSA	**Lhasa**	**8.99**	**356**	*eP*n		**Pn**	**19 45 54.8**	**+0.7**
	comp=Z,63nm,0.4s							
LSA				*eS*n		**Sn**	**19 47 29.8**	**-4.5**
PBA	**Port Blair**	**9.03**	**175**	*ex*		x	19 45 24.7	
PBA				*ex*		x	19 46 54.9	
PBA				*ex*		x	19 47 02.4	
	comp=E,610nm,0.9s							
PBA				*ex*		x	19 47 05.2	
	comp=N,376nm,0.5s							
GUN	**Gumba**	**9.03**	**324**	*eP*		**Pn**	**19 45 55.2**	**+0.6**
	comp=N,288nm,0.4s							
PKI	**Pulchoki**	**9.04**	**320**	*eP*		**Pn**	**19 45 54.8**	**0.0**
	comp=N,469nm,0.7s							
PKI	**Pulchoki**	**9.04**	**320**	*eP*		**Pn**	**19 45 54.8**	**0.0**
PKI				pmax	pmax			
	comp=Z,469nm,0.7s							
BLSP	**Bilaspur**	**9.19**	**281**	*eP*		**Pn**	**19 45 56.7**	**-0.2**
BLSP				*eS*		**Sn**	**19 47 32.8**	**-6.5**
BLSP				AML	AML		19 47 52.9	
	comp=N,309nm,0.6s							
BLSP				AML	AML		19 47 54.2	
	comp=E,147nm,0.4s							
DMN	**Daman**	**9.25**	**319**	*eP*		**Pn**	**19 45 57.5**	**-0.2**
	comp=E,952nm,0.9s							
KKN	**Kakani**	**9.28**	**321**	*eP*		**Pn**	**19 45 58.3**	**+0.2**
	comp=E,102nm,0.3s							
KKN	**Kakani**	**9.28**	**321**	*eP*		**Pn**	**19 45 58.3**	**+0.2**
KKN				pmax	pmax			
	comp=Z,102nm,0.3s							
NST	**Nakhon Sawan**	**9.30**	**121**	⇓P		**Pn**	**19 45 54.5**	**-3.9**
	comp=Z,144nm,0.5s							
GKN	**Gorkha**	**9.82**	**319**	*eP*		**Pn**	**19 46 05.1**	**-0.4**
	comp=Z,289nm,0.3s							
KOLN	**Koldanda**	**10.32**	**315**	*eP*		**Pn**	**19 46 11.6**	**-0.8**
	comp=Z,498nm,0.5s							
ALBI	**Allahabad**	**10.35**	**298**	*eP*		**Pn**	**19 46 12.5**	**-0.2**
KMI	**Kunming**	**10.94**	**64**	P		**Pn**	**19 46 23.8**	**+3.0**
KMI				AP			19 46 29.0	
KMI				PP			19 46 32.5	
KMI				XP			19 46 33.5	
KMI				PPP			19 46 39.5	
KMI				S		**Sn**	**19 48 24.5**	**+2.4**
KMI				XS			19 48 33.0	
KMI				SS			19 48 37.8	
KMI				SSS			19 48 49.0	
KMI				AMB	AMB			
	comp=Z,17nm,1.7s							
KMI				AMB	AMB			
	comp=Z,108nm,4.2s							
KMI				LR	LR			
	comp=N,2μm,10.2s							
KMI				LR	LR			
	comp=E,1μm,9.7s							
KMI				LR	LR			
	comp=Z,1μm,9.9s							
KMI	**Kunming**	**10.94**	**64**	P		**Pn**	**19 46 23.7**	**+2.9**
KMI				S		**Sn**	**19 48 24.4**	**+2.3**
KMI				pmax	pmax			
	comp=Z,17nm,1.7s							
KMI	**Kunming**	**10.94**	**64**	P		**Pn**	**19 46 23.7**	**+2.9**
	comp=Z,17nm,1.7s							
KMI				pP			19 46 29.1	
KMI				PP			19 46 32.4	
KMI				sP			19 46 33.5	
KMI				PPP			19 46 39.5	
KMI				S		**Sn**	**19 48 24.4**	**+2.3**
KMI				sS			19 48 33.1	
KMI				SS			19 48 37.8	
KMI				SSS			19 48 49.1	
KKTK	**Khon Kaen**	**11.25**	**111**	P		**Pn**	**19 46 25.0**	**-0.1**
JBP	**Jabalpur**	**11.31**	**285**⇓	*eP*		**Pn**	**19 46 27.5**	**+1.6**
JBP				*i* x		x	19 48 27.8	
NGP	**Nagp

POO ePPP 19 48 05.5
POO i S **Sn** **19 50 36.0 -17**
POO i SS 19 50 53.5
POO i SSS 19 51 06.5
POO i PCP PcP 19 52 51.2 +24
SDNR Sundarnagar 17.16 312 eP **Pn** **19 47 44.4 +0.6**
SDNR ex x 19 50 53.0
PALK Pallekele 17.18 221 P **Pn** **19 47 43.8 -0.3**
KULM Kulim 17.52 150 ePn **Pn** **19 47 51.5 +3.1**
ENH Enshi 18.52 55 P **Pn** **19 47 57.0 -3.5**
comp=Z,0.9nm,1.1s
LZH Lanzhou 18.57 32 eP **Pn** **19 47 59.5 -1.8**
LZH AP pP 19 48 07.0 -2.1
LZH XP sP 19 48 11.5 -1.5
LZH ePP 19 48 15.5
LZH eS **Sn** **19 51 22.8 -5.1**
LZH XS sS 19 51 34.5 -10
LZH eSS 19 51 46.8
LZH AMB AMB
comp=Z,79nm,1.3s
LZH AMB AMB
comp=Z,252nm,4.2s
LZH LR LR
comp=N,912nm,9.6s
LZH LR LR
comp=Z,1µm,12.5s
LZH Lanzhou 18.57 32 eP **Pn** **19 47 59.5 -1.8**
LZH eS **Sn** **19 51 22.7 -5.2**
LZH pmax pmax
comp=Z,79nm,1.3s
LZH Lanzhou 18.57 32 eP **Pn** **19 47 59.5 -1.8**
comp=Z,79nm,1.3s
LZH pP pP 19 48 07.1 -2.0
LZH sP sP 19 48 11.5 -1.5
LZH ePP 19 48 15.6
LZH eS **Sn** **19 51 22.7 -5.2**
LZH sS sS 19 51 34.5 -10
LZH eSS 19 51 46.8
TRD Trivandrum 18.82 232⇑ ex x 19 48 35.4
TRD i x x 19 51 59.4
GTA Gaotai 19.86 18 eP **Pn** **19 48 14.5 -2.2**
GTA AP pP 19 48 22.8 -0.4
GTA XP sP 19 48 27.8 +0.7
GTA PP 19 48 35.8
GTA S **Sn** **19 51 57.0 -2.0**
GTA XS sS 19 52 09.8 -0.2
GTA SS 19 52 27.3
GTA AMB AMB
comp=Z,12nm,1.4s
GTA AMB AMB
comp=Z,282nm,6.1s
GTA LR LR
comp=N,668nm,14.4s
GTA LR LR
comp=E,797nm,12.5s
GTA LR LR
comp=Z,691nm,17.5s
GZH Guangzhou 20.06 79 P **P** **19 48 18.3 +1.2**
GZH S **S** **19 52 04.8 +3.9**
GZH LR LR
comp=N,2µm,16.7s,MS4.4
GZH LR LR
comp=E,535nm,19.9s,MS4.4
GZH LR LR
comp=Z,666nm,11.0s
XAN Xi'an 20.11 45 P **P** **19 48 15.5 -2.1**
XAN AP 19 48 23.8
XAN S **S** **19 51 51.5 -10**
XAN AMB AMB
comp=Z,27nm,0.7s
XAN AMB AMB
comp=Z,37nm,2.9s
XAN LR LR
comp=N,854nm,14.0s,MS4.3
XAN LR LR
comp=E,459nm,15.1s,MS4.3
XAN LR LR
comp=Z,487nm,20.1s,MS3.9
WHN Wuhan 22.47 60 P **P** **19 48 42.8 -0.3**
WHN S **S** **19 52 44.5 -3.8**
WHN LR LR
comp=Z,1µm,19.9s,MS4.3
KSH Kashi 23.20 327 eP **P** **19 48 52.0 +1.3**
KSH eAP 19 48 59.3
KSH eXP sP 19 49 02.0 -1.0
KSH ePP 19 49 23.0
KSH ePPP 19 49 33.0
KSH ePCP PcP 19 52 39.0 +0.9
KSH eS **S** **19 52 58.8 -1.5**
KSH eXS sS 19 53 11.3 -3.6
KSH eSS 19 53 47.3
KSH AMB AMB
comp=Z,61nm,1.4s,mb4.8
KSH LR LR
comp=N,1µm,12.4s
KSH LR LR
comp=E,1µm,8.0s
KSH LR LR
comp=Z,1µm,18.7s
WMQ Urumqi 23.32 352 P **P** **19 48 52.0 0.0**
WMQ AP 19 49 01.5
WMQ XP sP 19 49 05.5 +1.2
WMQ PP 19 49 24.0
WMQ PPP 19 49 34.0
WMQ PCP PcP 19 52 39.8 +1.5
WMQ S **S** **19 52 59.3 -3.0**
WMQ XS sS 19 53 14.5 -2.5
WMQ SS 19 53 47.0
WMQ AMB AMB
comp=Z,20nm,1.0s,mb4.5
WMQ LR LR
comp=N,267nm,21.6s,MS4.2
WMQ LR LR
comp=E,869nm,24.1s,MS4.2
WMQ LR LR
comp=Z,171nm,19.1s,MS3.5
QZH Quanzhou 24.97 75 eP **P** **19 49 06.8 -0.4**
QZH S **S** **19 53 25.5 -3.3**
BTO Baotou 25.16 34 eP **P** **19 49 07.5 -1.4**
HHC Hu-ho-hao-te 26.15 35 eP **P** **19 49 18.5 +0.6**
HHC AP pP 19 49 27.5 +0.7
HHC XP sP 19 49 32.0 +1.4
HHC PP 19 50 00.5
HHC PCP PcP 19 52 45.3 +0.7
HHC S **S** **19 53 46.5 -1.1**
HHC XS sS 19 54 01.5 -0.9
HHC SS 19 54 54.8
HHC SCP ScP 19 56 21.5 -0.5
HHC PCS PcS 19 56 25.5 0.0
HHC SCS ScS 20 00 09.5 -2.3
HHC AMB AMB
comp=Z,9.0nm,0.4s,mb4.7
HHC AMB AMB
comp=Z,57nm,3.8s
HHC LR LR
comp=N,476nm,11.4s,MS4.3
HHC LR LR
comp=E,381nm,13.5s,MS4.3
HHC LR LR
comp=Z,440nm,17.6s,MS4.0
KSM Kuching 26.24 134 P **P** **19 49 24.0 +5.2**
AAK Ala-Archa 26.30 330*c* i P **P** **19 49 20.0 +0.7**
AAK pmax pmax
comp=Z,9.0nm,1.7s,mb4.0
AAK MLR MLR
comp=Z,900nm,25.0s,MS4.2
AAK Ala-Archa 26.30 330 eP **P** **19 49 19.8 +0.5**
comp=Z,16nm,1.0s,mb4.5
FRU Bishkek 26.40 331 eP **P** **19 49 28.5 +8.3**
FRU pmax pmax
comp=Z,40nm,2.0s,mb4.6
MK31 Makanchi Array 27.18 345 P **P** **19 49 28.1 +0.9**
MK31 pmax pmax
comp=Z,66nm,1.2s,mb5.0
MKAR Makanchi Array 27.18 345 P **P** **19 49 28.3 +1.1**
comp=Z,4.2nm,0.7s,mb4.1,baz=159,slow=9.6,SNR=54
MKAR Makanchi Array 27.18 345 P **P** **19 49 28.3 +1.1**
NACB Ninganchiao 27.66 77 P **P** **19 49 30.3 -1.2**
KKM Kota Kinabalu 27.73 118 eP **P** **19 49 31.9 -0.2**
KKM epP pP 19 49 40.5 -0.6
SSE Sheshan 28.25 63 eP **P** **19 49 35.0 -1.7**
SSE AP pP 19 49 43.8 -1.9
SSE XP sP 19 49 47.8 -1.7
SSE PCP PcP 19 52 46.5 -3.1
SSE S **S** **19 54 20.0 -0.7**
SSE XS sS 19 54 35.0 -0.5
SSE SCS ScS 20 00 22.0 +0.9
SSE AMB AMB
comp=Z,29nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,50nm,4.7s
SSE LR LR
comp=N,524nm,20.4s,MS4.1
SSE LR LR
comp=E,109nm,20.4s,MS4.1
SSE LR LR
comp=Z,205nm,29.2s
SSE Sheshan 28.25 63 eP **P** **19 49 35.0 -1.7**
comp=Z,29nm,0.7s,mb5.0
SSE pP pP 19 49 43.7 -2.0
SSE sP sP 19 49 47.7 -1.8
SSE PP PP 19 50 39.6 -1.2
SSE PcP PcP 19 52 46.6 -3.0
SSE S **S** **19 54 20.0 -0.7**
SSE sS sS 19 54 35.0 -0.5
SSE ScS ScS 20 00 22.0 +0.9
SSE LR LR
comp=Z,210nm,29.2s,MS3.6
BJT Baijiatuao 28.31 42 eP **P** **19 49 37.4 +0.1**
BJT e*PP pP 19 49 45.8 -0.5
BJT pmax pmax
comp=Z,26nm,1.3s
BJT Baijiatuao 28.31 42 eP **P** **19 49 37.4 +0.1**
comp=Z,26nm,1.3s,mb4.7
BJT epP pP 19 49 45.8 -0.5
BJI Beijing 28.33 42 P **P** **19 49 37.3 -0.1**
BJI AMB AMB
comp=Z,8.0nm,0.9s,mb4.3
BJI LR LR
comp=N,394nm,21.8s,MS4.1
BJI LR LR
comp=E,432nm,21.8s,MS4.1
BJI LR LR
comp=Z,147nm,36.3s
BJI Beijing 28.33 42 P **P** **19 49 37.3 -0.1**
comp=Z,8.0nm,0.9s,mb4.3
BJI LR LR
comp=Z,150nm,36.3s,MS3.3
SONM Songino Array 29.51 20 P **P** **19 49 48.6 +0.6**
comp=Z,2.9nm,0.8s,mb4.1,baz=194,slow=9.0,SNR=30
ULN Ulaanbaatar 29.75 21⇓ eP **P** **19 49 50.1 0.0**
ZAK Zakamensk 30.97 14 eP **P** **19 50 00.6 -0.2**
ZAK *e* 19 51 01.0
ZAK pmax pmax
comp=Z,14nm,1.5s,mb4.6
ZAK pmax pmax
comp=Z,15nm,1.8s,mb4.5
KURK Kurchatov 31.73 344*d* i P **P** **19 50 08.4 +0.9**
KURK Kurchatov 31.73 344 eP **P** **19 50 08.2 +0.7**
comp=Z,24nm,1.1s,mb5.0
TLY Talaya 32.27 14 eP **P** **19 50 09.2 -3.0**
TLY pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
TLY MLR MLR
comp=Z,437nm,18.0s,MS4.2
ZAL Zalesovo 33.62 352 P **P** **19 50 24.5 +0.4**
comp=Z,3.0nm,0.8s,mb4.3,baz=300,slow=8.6,SNR=17
ZAL LR LR 20 07 20.4
comp=Z,225nm,19.1s,MS3.9,baz=299,slow=42
ZAL Zalesovo 33.62 352 *i* P **P** **19 50 25.6 +1.5**
ZAL pmax pmax
comp=Z,3.0nm,0.8s
JOW Kunigami 33.79 72 P **P** **19 50 25.1 -0.4**
comp=Z,10nm,0.7s,mb4.9,baz=134,slow=27,SNR=2.6
NVS Novosibirsk 34.71 351 eP **P** **19 50 32.6 -1.0**
NVS *e* 19 51 58.9
NVS *i* S **S** **19 56 00.3 -1.3**
NVS pmax pmax
comp=Z,14nm,1.3s,mb4.7
NVS pmax pmax
comp=N,16nm,1.6s
NVS pmax pmax
comp=E,10.0nm,1.4s
NVS pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
NVS pmax pmax
comp=N,14nm,1.6s
NVS smax
comp=N,17nm,2.0s
NVS smax
comp=E,26nm,1.9s
KRAR Krasnoyarsk 35.27 1 *i* P **P** **19 50 40.8 +2.4**
KRAR MLR MLR
comp=Z,200nm,24.0s,MS3.8
CIT Chita 35.52 23 eP **P** **19 50 40.9 +0.4**
CN2 Changchun 36.18 43 eP **P** **19 50 48.0 +1.8**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
BVA0 Borovoye Array 36.27 338 *i* P **P** **19 50 48.0 +1.1**
BVA0 pmax pmax
comp=Z,1.0nm,1.2s,mb3.6
BRVK Borovoye 36.34 338 eP **P** **19 50 47.3 -0.2**
BRVK pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
BRVK Borovoye 36.34 338 eP **P** **19 50 47.3 -0.2**
comp=Z,3.9nm,1.0s,mb4.3
ZRNK Zerenda 36.71 337 eP **P** **19 50 50.8 +0.1**
ZRNK pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
ZRNK Zerenda 36.71 337 eP **P** **19 50 50.8 +0.1**
comp=Z,5.9nm,0.9s,mb4.4
CHKZ Chkalovo 36.73 339 eP **P** **19 50 51.6 +0.8**
CHKZ pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
CHKZ Chkalovo 36.73 339 eP **P** **19 50 51.6 +0.7**
comp=Z,6.7nm,0.6s,mb4.7
AB31 Akbulak array 38.19 326 *i* P **P** **19 51 03.9 +0.7**
AB31 pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
MDJ Mudanjiang 39.21 44 P **P** **19 51 12.3 +0.6**
MDJ AP pP 19 51 18.5 -2.4
MDJ XP sP 19 51 21.0 -3.6
MDJ PP PP 19 52 41.8 -0.1
MDJ SCP ScP 19 57 08.5 +1.8
MDJ PCS PcS 19 57 11.0 +0.8
MDJ XS sS 19 57 22.5 -2.5
MDJ AMB AMB
comp=Z,4.0nm,1.3s,mb4.0
MDJ AMB AMB
comp=Z,63nm,5.2s
MDJ LR LR
comp=N,197nm,20.7s,MS4.0
MDJ LR LR
comp=E,115nm,19.9s,MS4.0
MDJ LR LR
comp=Z,85nm,18.2s,MS3.6
AKTO Aktyubinsk 39.89 326 LR LR 20 10 52.4
comp=Z,507nm,19.9s,MS4.4,baz=0.0,slow=41
BOD Bodaibo 40.45 18 eP **P** **19 51 22.3 +0.2**
BOD pmax pmax
comp=Z,7.0nm,1.5s,mb4.2
RDF Al-Radifah 40.87 291 eP **P** **19 51 26.1 +0.6**
RDF AMb AMB 19 51 26.9
comp=Z,32nm,0.5s,mb5.2
MIB Mutribah 41.08 292 eP **P** **19 51 27.8 +0.5**
MIB AMb AMB 19 51 37.4
comp=Z,64nm,0.7s,mb5.4
NAY Al-Naaiem 41.15 291 eP **P** **19 51 28.1 +0.3**
NAY AMb AMB 19 51 37.8
comp=Z,23nm,0.7s,mb4.9
ORR Orenburg 42.26 326 eP **P** **19 51 37.8 +0.9**
ORR pmax pmax
comp=Z,20nm,1.3s,mb4.6
KLR Kul'dur 42.58 38 eP **P** **19 51 36.2 -3.3**
MAJO Matsushiro 43.20 58 P **P** **19 51 47.0 +2.4**
MAJO pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
MAJO Matsushiro 43.20 58 P **P** **19 51 47.0 +2.4**
comp=Z,6.9nm,0.8s,mb4.4
MJAR Matsushiro Arr 43.21 58 P **P** **19 51 44.1 -0.5**
comp=Z,1.4nm,0.7s,mb3.8,baz=270,slow=8.6,SNR=6.8
MJAR LR LR 20 12 00.4
comp=Z,158nm,19.4s,MS3.9,baz=305,slow=39
ARU Arti 43.38 334 eP **P** **19 51 45.4 -0.6**
ARU *e* 19 53 25.6
ARU ePPP 19 54 03.5
ARU eS **S** **19 58 13.8 +1.8**
ARU MLR MLR
comp=Z,400nm,19.0s,MS4.3
ARU MLR MLR
comp=N,300nm,18.0s,MS4.3
ARU MLR MLR
comp=E,200nm,18.0s,MS4.3
ARU Arti 43.38 334 eP **P** **19 51 45.1 -1.0**
GNI Garni 44.45 307 *i* P **P** **19 51 57.5 +2.9**
GNI MLR MLR
comp=Z,200nm,24.0s
GNI Garni 44.45 307 P **P** **19 51 55.3 +0.7**
comp=Z,3.8nm,0.7s,mb4.2
SOKR Solikamsk 46.18 336*d* i P pP 19 52 20.7 +3.1
SOKR S **S** **19 58 48.0 -4.5**
SOKR pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
SOKR MLR MLR
comp=Z,360nm,27.0s,MS4.2
KIV Kislovodsk 46.77 311 eP **P** **19 52 14.2 +1.3**
KIV pmax pmax
comp=Z,11nm,1.0s,mb4.7
KIV Kislovodsk 46.77 311 eP **P** **19 52 14.2 +1.2**
comp=Z,11nm,1.0s,mb4.8
ASAJ Asahikawa 47.88 49 LR LR 20 15 24.8
comp=Z,113nm,19.8s,MS3.9,baz=284,slow=40
YAK Yakutsk 48.81 23⇑ eP **P** **19 52 30.8 +2.1**
YAK MLR MLR
comp=Z,200nm,14.0s,MS4.3
YAK Yakutsk 48.81 23 P **P** **19 52 24.7 -4.0**
VRHR Novokhopersk 49.45 320 eP **P** **19 52 33.6 0.0**
VRHR pmax pmax
comp=N,7.0nm,0.5s
VRHR pmax pmax
comp=E,2.0nm,0.5s
VRHR pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
GUMO Guam 50.95 89 LR LR 20 11 55.9
comp=Z,91nm,19.6s,MS3.8,baz=328,slow=33
EIL Elat 51.85 292 eP **P** **19 52 51.2 -0.6**
comp=Z,119nm,0.9s
SIM Simferopol' 52.99 311 eP **P** **19 53 01.0 +0.8**
SIM pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
SIM MLR MLR
comp=Z,290nm,20.5s,MS4.3
OBN Obninsk 53.58 324 *i* P **P** **19 53 04.7 +0.2**
OBN *e* 19 55 08.5
OBN pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
OBN MLR MLR
comp=Z,200nm,22.0s,MS4.1
OBN Obninsk 53.58 324 P **P** **19 53 04.6 +0.1**
comp=Z,26nm,1.0s,mb5.1
TIXI Tiksi 55.24 13⇑ eP **P** **19 53 15.8 -0.8**
TIXI pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
TIXI MLR MLR
comp=Z,300nm,20.0s,MS4.4
MA2 Magadan 56.73 31 P **P** **19 53 25.7 -1.5**
MA2 pmax pmax
comp=Z,16nm,1.3s,mb4.9
MA2 Magadan 56.73 31 P **P** **19 53 25.7 -1.5**
comp=Z,16nm,1.3s,mb4.9
AKASG Malin Array Be 57.00 318 P **P** **19 53 28.4 -0.8**
comp=Z,4.7nm,0.9s,mb4.5,baz=81,slow=6.4,SNR=12
KMBO Kilima Mbogo 57.65 255 LR LR 20 16 48.1
comp=Z,176nm,21.7s,MS4.1,baz=94,slow=34
WRA Warramunga Arr 57.95 131 P **P** **19 53 34.9 -1.0**
comp=Z,2.6nm,0.8s,mb4.3,baz=320,slow=7.1,SNR=14
WRA Warramunga Arr 57.95 131 *i* P **P** **19 53 34.9 -0.9**
WRA pmax pmax
comp=Z,3.0nm,0.8s
WRAB Tennant Creek 57.95 131 *i* P **P** **19 53 35.2 -0.7**
WRAB Tennant Creek 57.95 131 eP **P** **19 53 35.1 -0.7**
comp=Z,9.1nm,0.8s,mb4.9
VRI Vrincioaia 58.25 312⇑ *i* P **P** **19 53 39.6 +1.7**
VRI Vrincioaia 58.25 312 ⇑P **P** **19 53 39.6 +1.6**
PLOR Plostina 58.30 312⇓ *i* P **P** **19 53 40.2 +1.9**
MLR Muntele Rosu 58.78 311⇑ *i* P **P** **19 53 43.0 +1.3**
MLR Muntele Rosu 58.78 311 ⇑P **P** **19 53 43.0 +1.3**
BURAR Bucovina Array 59.36 314⇑ *i* P **P** **19 53 46.4 +0.7**
BURAR Bucovina Array 59.36 314 ⇑P **P** **19 53 46.4 +0.7**
ASAR Alice Springs 60.17 135 P **P** **19 53 50.5 -0.7**
comp=Z,2.0nm,0.6s,mb4.3,baz=313,slow=6.9,SNR=24
FINES FINESS Array B 60.49 330 P **P** **19 53 53.0 -0.5**
comp=Z,1.4nm,0.6s,mb4.2,baz=115,slow=7.7,SNR=9.8
FINES LR LR 20 22 09.9
comp=Z,266nm,20.3s,MS4.4,baz=98,slow=38
FINES FINESS Array B 60.49 330 *i* P **P** **19 53 53.2 -0.3**
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 60.49 330 P **P** **19 53 53.0 -0.5**
FINES LR LR 20 22 09.9
BZS Buzias 61.82 311⇓ P **P** **19 54 03.5 +1.0**
ARCES ARCESS Array B 62.56 339 P **P** **19 54 07.7 +0.3**
comp=Z,2.7nm,0.7s,mb4.5,baz=87,slow=6.2,SNR=7.0
ARCES LR LR 20 24 30.7
comp=Z,240nm,19.0s,MS4.4,baz=197,slow=39
NIE Niedzica 62.65 316 eP **P** **19 54 09.1 +1.1**
PKSM Moragy 63.88 312⇑ *i* P **P** **19 54 15.8 -0.3**
PKSM Moragy 63.88 312 ⇑P **P** **19 54 15.8 -0.3**
BILL Bilibino 65.15 24⇑ eP **P** **19 54 24.7 +0.3**
BILL pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
BILL MLR MLR
comp=Z,200nm,19.0s,MS4.3
BILL Bilibino 65.15 24 P **P** **19 54 23.7 -0.8**
comp=Z,17nm,1.6s,mb4.8
DPC Dobruska-Polom 65.20 317 eP **P** **19 54 25.6 +0.8**
PRU Pruhonice 66.37 317 eP **P** **19 54 40.7 +8.4**
BRG Berggiesshubel 66.69 318 eP **P** **19 54 34.6 +0.3**
comp=Z,3.7nm,1.1s,mb4.3
BRG
comp=N,348nm,23.2s
BRG
comp=E,190nm,26.5s
BRG
comp=Z,153nm,15.1s
BRG Berggiesshubel 66.69 318 eP **P** **19 54 34.6 +0.3**
BRG pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
BRG MLR MLR
comp=N,348nm,23.2s,MS4.5
BRG MLR MLR
comp=E,190nm,26.5s,MS4.5
BRG MLR MLR
comp=Z,153nm,15.1s
GERES GERESS Array B 67.02 315 P **P** **19 54 36.5 +0.1**
comp=Z,2.1nm,0.7s,mb4.3,baz=74,slow=5.8,SNR=18
KHC Kasperske Hory 67.07 316 eP **P** **19 54 37.3 +0.5**
KHC Kasperske Hory 67.07 316 *i* P **P** **19 54 37.6 +0.8**
NB2 NORSAR Subarra 67.61 329 P **P** **19 54 39.4 -0.8**
comp=Z,2.4nm,0.8s,mb4.3,baz=86,slow=6.5
NOA NORSAR Array B 67.61 329 P **P** **19 54 38.7 -1.5**
comp=Z,1.6nm,0.8s,mb4.1,baz=86,slow=6.3,SNR=3.9
NOA LR LR 20 27 01.7
comp=Z,240nm,18.7s,MS4.5,baz=65,slow=38
NOA NORSAR Array B 67.61 329 P **P** **19 54 38.7 -1.5**
NOA LR LR 20 27 01.7
STKA Stephens Creek 70.71 137 LR LR 20 28 39.1
comp=Z,166nm,19.4s,MS4.3,baz=193,slow=38
PGF Pioggiola 71.19 309 eP **P** **19 55 02.2 -0.1**
CDF Champ du Feu 71.30 316 eP **P** **19 55 02.9 -0.1**
LSZ Lusaka 72.03 245 eP **P** **19 55 06.5 -0.9**
LSZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
LSZ Lusaka 72.03 245 eP **P** **19 55 06.5 -0.9**
comp=Z,3.2nm,0.8s,mb4.3
SBF Sospel 72.05 311 eP **P** **19 55 07.1 -0.4**
LPG La Plagne 72.20 313 eP **P** **19 55 08.6 +0.2**
comp=Z,13nm,0.8s,mb4.6
LPG La Plagne 72.20 313 eP **P** **19 55 08.6 +0.2**
LPG pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LPG La Plagne 72.20 313 eP **P** **19 55 08.6 +0.2**
comp=Z,6.7nm,0.8s,mb4.6
LPL La Plagne 72.21 313 eP **P** **19 55 08.7 +0.2**
comp=Z,10nm,0.8s,mb4.5
LPL La Plagne 72.21 313 eP **P** **19 55 08.7 +0.2**
LPL pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LPL La Plagne 72.21 313 eP **P** **19 55 08.7 +0.2**
comp=Z,5.1nm,0.8s,mb4.5
MBDF Montbardon 72.34 312 eP **P** **19 55 09.0 -0.2**
CABF La Chapelle 72.43 314 eP **P** **19 55 09.5 -0.3**
LMR La Mourre 72.82 310 eP **P** **19 55 11.7 -0.4**
comp=Z,216nm,1.7s,mb5.5
LMR La Mourre 72.82 310 eP **P** **19 55 11.7 -0.4**
LMR pmax pmax

	comp=Z,108nm,1.7s,mb5.5							
LMR	**La Mourre**	**72.82**	**310**	*e*P		**P**	**19 55 11.7**	**-0.4**
	comp=Z,108nm,1.7s,mb5.5							
SMRF	**Simiane la Rot**	**73.34**	**311**	*e*P		**P**	**19 55 14.9**	**-0.3**
	comp=Z,20nm,0.7s,mb4.8							
SMRF	**Simiane la Rot**	**73.34**	**311**	*e*P		**P**	**19 55 14.9**	**-0.3**
	comp=Z,20nm,0.7s,mb5.2							
LOR	**Lormes**	**73.78**	**315**	*e*P		**P**	**19 55 17.4**	**-0.4**
	comp=Z,20nm,1.3s,mb4.6							
LOR				*e*R				
	comp=Z,263nm,21.0s							
LOR	**Lormes**	**73.78**	**315**	*e*P		**P**	**19 55 17.4**	**-0.4**
LOR				pmax	pmax			
	comp=Z,10.0nm,1.3s,mb4.6							
LOR				MLR	MLR			
	comp=Z,260nm,21.0s,MS4.5							
LOR	**Lormes**	**73.78**	**315**	*e*P		**P**	**19 55 17.4**	**-0.4**
	comp=Z,10nm,1.3s,mb4.6							
LOR				LR	LR			
	comp=Z,260nm,21.0s,MS4.5							
SSF	**Saint Saulge**	**74.06**	**315**	*e*P		**P**	**19 55 19.1**	**-0.3**
	comp=Z,16nm,1.0s,mb4.6							
SSF	**Saint Saulge**	**74.06**	**315**	*e*P		**P**	**19 55 19.1**	**-0.3**
SSF				pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.6							
SSF	**Saint Saulge**	**74.06**	**315**	*e*P		**P**	**19 55 19.1**	**-0.3**
	comp=Z,7.8nm,1.0s,mb4.6							
AVF	**Avril sur Loir**	**74.23**	**314**	*e*P		**P**	**19 55 19.9**	**-0.5**
	comp=Z,11nm,0.9s,mb4.5							
AVF	**Avril sur Loir**	**74.23**	**314**	*e*P		**P**	**19 55 19.9**	**-0.5**
AVF				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.4							
AVF	**Avril sur Loir**	**74.23**	**314**	*e*P		**P**	**19 55 19.9**	**-0.5**
	comp=Z,5.4nm,0.9s,mb4.5							
TCF	**Toulx Ste Croi**	**75.11**	**314**	*e*P		**P**	**19 55 25.2**	**-0.3**
	comp=Z,15nm,0.9s,mb4.6							
TCF	**Toulx Ste Croi**	**75.11**	**314**	*e*P		**P**	**19 55 25.2**	**-0.3**
TCF				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.7							
TCF	**Toulx Ste Croi**	**75.11**	**314**	*e*P		**P**	**19 55 25.2**	**-0.3**
	comp=Z,7.7nm,0.9s,mb4.6							
FLN	**La Foliniere**	**76.24**	**317**	*e*P		**P**	**19 55 31.8**	**-0.1**
FLN				*e*R				
	comp=Z,178nm,22.2s							
FLN	**La Foliniere**	**76.24**	**317**	*e*P		**P**	**19 55 31.8**	**-0.1**
FLN				LR	LR			
	comp=Z,180nm,22.3s,MS4.3							
MFF	**Saint Martin d**	**76.61**	**315**	*e*P		**P**	**19 55 33.7**	**-0.3**
EPF	**Esparros**	**77.27**	**311**	*e*P		**P**	**19 55 37.3**	**-0.4**
SJPF	**Ste Jean**	**78.34**	**312**	*e*P		**P**	**19 55 43.2**	**-0.5**
LBTB	**Lobatse**	**78.82**	**238**	*e*P		**P**	**19 55 45.7**	**-0.6**
LBTB				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.2							
LBTB	**Lobatse**	**78.82**	**238**	*e*P		**P**	**19 55 45.7**	**-0.6**
	comp=Z,2.2nm,0.7s,mb4.2							
BOSA	**Boshof**	**80.84**	**235**	P		**P**	**19 55 57.7**	**+0.4**
	comp=Z,3.1nm,1.0s,mb4.2,baz=65,slow=9.2,SNR=5.4							
BOSA	**Boshof**	**80.84**	**235**	P		**P**	**19 55 57.7**	**+0.4**
BOSA				pmax	pmax			
	comp=Z,9.0nm,1.3s,mb4.5							
BOSA	**Boshof**	**80.84**	**235**	P		**P**	**19 55 57.6**	**+0.4**
	comp=Z,9.0nm,1.3s,mb4.5							
TAU	**Tasmania Unive**	**81.27**	**142**	P		**P**	**19 56 01.2**	**+1.7**
TAU				pmax	pmax			
	comp=Z,28nm,1.2s,mb5.1							
TAU	**Tasmania Unive**	**81.27**	**142**	P		**P**	**19 56 01.2**	**+1.7**
	comp=Z,28nm,1.2s,mb5.1							
ESDC	**Sonseca Array**	**81.38**	**309**	P		**P**	**19 56 00.6**	**+0.4**
	comp=Z,16nm,0.7s,mb4.1,baz=72,slow=3.8,SNR=5.4							
ILAR	**Eielson Array**	**83.72**	**22**	P		**P**	**19 56 13.2**	**+0.9**
	comp=Z,0.9nm,0.8s,mb3.9,baz=299,slow=5.5,SNR=7.3							
INK	**Inuvik**	**85.31**	**15**	P		**P**	**19 56 21.2**	**+0.8**
	comp=Z,1.5nm,0.6s,mb4.3,baz=266,slow=1.1,SNR=6.1							
INK	**Inuvik**	**85.31**	**15**	*e*P		**P**	**19 56 19.2**	**-1.2**
INK				pmax	pmax			
	comp=Z,8.0nm,1.0s							
INK	**Inuvik**	**85.31**	**15**	*e*P		**P**	**19 56 19.2**	**-1.2**
	comp=Z,8.1nm,1.0s,mb4.8							
TORD	**Torodi Ar. Bea**	**85.61**	**282**	P		**P**	**19 56 22.7**	**+0.8**
	comp=Z,1.7nm,0.8s,mb4.3,baz=67,slow=4.6,SNR=11							
DBIC	**Dimbokro**	**93.93**	**279**	P		**P**	**19 57 01.9**	**+0.7**
	comp=Z,2.6nm,0.8s,mb4.7,baz=90,slow=3.0,SNR=2.5							
DBIC				LR	LR		20 41 29.9	
	comp=Z,92nm,20.7s,MS4.2,baz=152,slow=37							
DBIC	**Dimbokro**	**93.93**	**279**	*e*P		**P**	**19 57 01.8**	**+0.7**
DBIC				pmax	pmax			
	comp=Z,8.0nm,1.1s							
DBIC	**Dimbokro**	**93.93**	**279**	*e*P		**P**	**19 57 01.8**	**+0.7**
	comp=Z,8.0nm,1.1s,mb5.1							
YKA	**Yellowknife Ar**	**94.47**	**12**	P		**P**	**19 57 02.6**	**-1.0**
	comp=Z,1.0nm,0.8s,mb4.3,baz=326,slow=5.2,SNR=5.8							
YKA	**Yellowknife Ar**	**94.47**	**12**	*e*P		**P**	**19 57 04.0**	**+0.4**
SDV	**Santo Domingo**	**145.94**	**328**	*e*PKPdf		PKPdf	20 03 23.3	+1.2
CPUP	**Villa Florida**	**151.25**	**253**	PKPbc		PKPbc	20 03 35.9	-0.9
	comp=Z,0.4nm,0.4s,baz=32,slow=2.7,SNR=5.7							
CPUP	**Villa Florida**	**151.25**	**253**	*e*PKPbc		PKPbc	20 03 36.1	-0.7

CASC 30 19:50:16.5±2.6, 1259N×8986W, h20km±49km, MD3.9, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**1.27**	**10**	*e*P	Pn	19 50 43.5	+4.4
SBLS				*e*S	Sn	19 51 02.0	+6.5
LFRS	**El Faro**	**1.29**	**37**	*e*P	Pn	19 50 44.4	+5.1
SNJE	**San Jose**	**1.30**	**11**	*e*P	Pn	19 50 44.4	+4.9
RTR	**El Retiro**	**1.32**	**9**	*e*P	Pn	19 50 44.3	+4.5
RTR				*e*S	Sn	19 51 02.6	+5.9
RBDL	**Robledal**	**1.53**	**6**	*e*P	Pn	19 50 47.2	+4.6
IXG	**Ixpaco**	**1.68**	**340**	*e*P	Pn	19 50 44.0	-0.8
IXG				*e*S	Sn	19 51 06.8	+1.1
TP2	**Tecpan 2**	**2.46**	**333**	*e*P	Pn	19 50 57.5	+2.0
TP2				*e*S	Sn	19 51 27.4	+2.5

*IDC **30** 20:01:03.2±24.0, 2428S×17797W, h419km±89km, mb3.5/5, mb1 3.6/6, mb1mx3.3/16, mbtmp4.3/6, Error ellipse: s-maj=314.7km s-min=86.1km az=78.0*
*ISCJB **30** 20:01:29.6±6.0, 2465S×1796E±07, h536km±39km, **n15**, σ0°47/15, **mb4.0/7, 1D, South of Fiji Islands***

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.36**	**280**	P	**P**	**20 04 11.5**	**0.0**
	0.5nm,0.3s,baz=97,slow=17,SNR=6.6						
CTA	**Charters Tower**	**31.11**	**272**	*e*P	**P**	**20 07 04.4**	**+0.4**
	5.6nm,0.3s,mb4.6						
CTA	**Charters Tower**	**31.11**	**272**	P	**P**	**20 07 04.7**	**+0.7**
	7.7nm,0.4s,mb4.6,baz=90,slow=9.7,SNR=30						
CTAO	**Charters Tower**	**31.11**	**272**	⇓*e*P	**P**	**20 07 04.5**	**+0.4**
STKA	**Stephens Creek**	**34.06**	**249**	P	**P**	**20 07 28.7**	**-0.4**
	2.4nm,0.8s,mb3.8,baz=105,slow=12,SNR=7.5						
STKA	**Stephens Creek**	**34.06**	**249**	P	**P**	**20 07 28.7**	**-0.4**
AS31	**Alice Springs**	**41.53**	**262**	*e*P	**P**	**20 08 30.4**	**+0.5**
ASAR	**Alice Springs**	**41.53**	**262**	P	**P**	**20 08 30.4**	**+0.5**
	1.0nm,0.6s,mb3.6,baz=94,slow=7.4,SNR=20						
ASPA	**Alice Springs**	**41.53**	**262**	*e*P	**P**	**20 08 30.4**	**+0.5**
WB2	**Warramunga Arr**	**41.97**	**267**	*e*P	**P**	**20 08 32.4**	**-1.0**
WRAB	**Tennant Creek**	**41.97**	**267**	*e*P	**P**	**20 08 32.9**	**-0.5**
	4.5nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**41.98**	**267**	P	**P**	**20 08 33.1**	**-0.4**
	2.0nm,0.3s,mb4.1,baz=97,slow=8.4,SNR=68						
WRA				ScP	ScP	20 13 21.0	+5.5
	0.5nm,1.0s,baz=91,slow=3.7,SNR=4.6						
FITZ	**Fitzroy Crossi**	**50.39**	**266**	*e*P	**P**	**20 09 37.5**	**+0.2**
	2.6nm,0.6s,mb3.8						
FITZ	**Fitzroy Crossi**	**50.39**	**266**	P	**P**	**20 09 37.5**	**+0.2**
	1.9nm,0.7s,mb3.6,baz=104,slow=16,SNR=6.7						
QSPA	**South Pole Qui**	**65.33**	**180**	*e*P	**P**	**20 11 18.6**	**0.0**
	2.1nm,0.7s,mb3.7						

IDC 30 20:01:58.4±5.1, 225S×14008E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/12, mbtmp3.3/3, Error ellipse: s-maj=197.1km s-min=30.1km az=88.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.46**	**197**	P	Pn	20 06 15.2	-0.3
	0.1nm,0.3s,baz=19,slow=12,SNR=15						
ASAR	**Alice Springs**	**22.11**	**195**	P	P	20 06 55.8	+0.5
	0.3nm,0.6s,baz=20,slow=11,SNR=5.5						
MKAR	**Makanchi Array**	**70.27**	**322**	P	P	20 13 13.7	+0.2
	0.5nm,0.8s,baz=116,slow=5.3,SNR=4.3						

OTT 30 20:08:46.4±0.6, 6947N×6924W, h18km, MN2.2/3, 114km south from Clyde River, Nu Baffin Island Seismic Zone, Northwest Territories, Baffin Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GIFN	**Gifford Fjord,**	**4.35**	**283**	PN	Pn	20 09 50.5	-1.0
GIFN				SN	Sn	20 10 39.0	-2.7
GIFN				Trac		20 10 58.2	
	comp=Z,2.2nm,0.2s						
ILON	**Igloolik, Nuna**	**4.44**	**275**	SN	Sn	20 10 41.2	-2.9
ILON				LG		20 10 60.0	
SRLN	**Sarcpa Lake, N**	**5.15**	**266**	PN	Pn	20 10 02.2	-0.3
SRLN				SN	Sn	20 10 58.5	-2.9
SRLN				LG		20 11 23.1	
SRLN				Trac		20 11 29.0	
	comp=Z,0.8nm,0.2s						
AP3N	**Apex site 3 Nu**	**5.36**	**277**	PN	Pn	20 10 05.0	-0.5
AP3N				SN	Sn	20 11 02.9	-3.7
AP3N				Trac		20 11 30.2	
	comp=Z,0.5nm,0.1s						
FRB	**Frobisher Bay**	**5.76**	**177**	SN	Sn	20 11 14.0	-2.5
FRB				LG		20 11 47.2	
QILN	**Qililugaq Expl**	**7.00**	**254**	PN	Pn	20 10 26.6	-1.4
QILN				SN	Sn	20 11 41.4	-5.8
QILN				LG		20 12 18.7	

CASC 30 20:22:21.2±2.2, 1263N×8967W, h20km±82km, MD3.7, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**1.15**	**31**	*e*P	Pn	20 22 50.7	+8.5
SBLS	**San Blas**	**1.21**	**2**	*e*P	Pn	20 22 49.5	+6.6
SNJE	**San Jose**	**1.23**	**3**	*e*P	Pn	20 22 50.4	+7.1
RTR	**El Retiro**	**1.26**	**1**	*e*P	Pn	20 22 51.0	+7.3
RTR				*e*S	Sn	20 23 08.7	+8.7
RBDL	**Robledal**	**1.48**	**359**	*e*P	Pn	20 22 53.4	+6.8
IXG	**Ixpaco**	**1.72**	**334**	*e*P	Pn	20 22 49.8	-0.2
IXG				*e*S	Sn	20 23 12.9	+1.7

*NEIC **30** 20:28:57.1, 3821S×17623E, h155km, MG4.0(WEL), After WEL.*
WEL 30 20:28:57.1±0.2, 3824S×17625E, h158km±2km, ML3.9/5, 7C, Error ellipse: s-maj=1.6km s-min=1.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATZ	**Paeroa**	**0.14**	**178**	PN	Pn	20 29 18.7	+0.6
URZ	**Urewera**	**0.68**	**92**	⇑PN	Pn	20 29 20.0	-0.2
URZ				SN	Sn	20 29 37.5	-0.4
URZ	**Urewera**	**0.68**	**92**	P	Pn	20 29 20.0	-0.2
RATZ	**Rangitukua**	**0.73**	**211**	PN	Pn	20 29 20.8	+0.2
KATZ	**Kakaramea**	**0.86**	**210**	PN	Pn	20 29 21.6	+0.2
KATZ	**Kakaramea**	**0.86**	**210**	P	Pn	20 29 21.8	+0.4
BKZ	**Black Stump Fm**	**0.95**	**169**	PN	Pn	20 29 22.3	+0.2
BKZ				SN	Sn	20 29 41.3	0.0
BKZ	**Black Stump Fm**	**0.95**	**169**	P	Pn	20 29 22.4	+0.3
BKZ				S	Sn	20 29 41.3	0.0
KRVZ	**Karewarewa**	**0.98**	**209**	PN	Pn	20 29 23.5	+0.1
MWZ	**Matawai**	**1.01**	**96**	PN	Pn	20 29 22.8	+0.1
MWZ				SN	Sn	20 29 41.9	-0.3
MWZ	**Matawai**	**1.01**	**96**	P	Pn	20 29 23.0	+0.4
WTVZ	**West Tongariro**	**1.02**	**210**	PN	Pn	20 29 22.8	+0.1
WTVZ	**West Tongariro**	**1.02**	**210**	P	Pn	20 29 22.8	+0.1
OTVZ	**Oturere**	**1.03**	**206**	PN	Pn	20 29 23.3	+0.5
TWVZ	**Taurewa**	**1.05**	**217**	⇑PN	Pn	20 29 23.1	+0.1
TWVZ	**Taurewa**	**1.05**	**217**	P	Pn	20 29 22.6	-0.3
NGZ	**Ngauruhoe**	**1.07**	**208**	PN	Pn	20 29 23.2	+0.1
NGZ	**Ngauruhoe**	**1.07**	**208**	P	Pn	20 29 23.3	+0.2
WPVZ	**Whakapapa**	**1.11**	**210**	PN	Pn	20 29 23.4	-0.1
WPVZ	**Whakapapa**	**1.11**	**210**	P	Pn	20 29 23.4	-0.1
TUVZ	**Tukino**	**1.13**	**204**	P	Pn	20 29 24.0	+0.3
HIZ	**Hauiti**	**1.13**	**255**	PN	Pn	20 29 23.6	0.0
FWVZ	**Far West T-bar**	**1.16**	**208**	PN	Pn	20 29 23.9	0.0
FWVZ	**Far West T-bar**	**1.16**	**208**	P	Pn	20 29 23.9	0.0
TRVZ	**Turoa**	**1.20**	**207**	PN	Pn	20 29 24.6	+0.4
WNVZ	**Wahianoa**	**1.20**	**205**	⇑PN	Pn	20 29 24.5	+0.2
WNVZ	**Wahianoa**	**1.20**	**205**	P	Pn	20 29 24.5	+0.2
MOVZ	**Moawhango**	**1.23**	**198**	⇑PN	Pn	20 29 24.3	-0.3
MOVZ				SN	Sn	20 29 45.6	0.0
MOVZ	**Moawhango**	**1.23**	**198**	P	Pn	20 29 24.3	-0.3
PKVZ	**Pokaka**	**1.27**	**214**	PN	Pn	20 29 24.9	0.0
KNZ	**Kokohu**	**1.36**	**126**	PN	Pn	20 29 26.2	+0.4
KNZ				SN	Sn	20 29 47.9	+0.1
VRZ	**Vera Road**	**1.47**	**232**	PN	Pn	20 29 27.0	+0.1
VRZ	**Vera Road**	**1.47**	**232**	P	Pn	20 29 27.0	+0.1
PUZ	**Puketiti**	**1.59**	**85**	PN	Pn	20 29 28.1	0.0
PUZ				SN	Sn	20 29 51.3	-0.7
PUZ				SN	Sn	20 29 51.5	-0.4
PUZ	**Puketiti**	**1.59**	**85**	*e*P	Pn	20 29 28.1	0.0
MXZ	**Matakaoa Point**	**1.76**	**68**	PN	Pn	20 29 29.8	-0.1
MXZ				SN	Sn	20 29 54.8	-0.4
MXZ	**Matakaoa Point**	**1.76**	**68**	*e*P	Pn	20 29 29.8	-0.1
WAZ	**Wanganui**	**1.81**	**213**	⇑PN	Pn	20 29 30.1	-0.4
WAZ	**Wanganui**	**1.81**	**213**	*e*P	Pn	20 29 30.2	-0.3
TSZ	**Takapari Road**	**1.83**	**187**	⇑PN	Pn	20 29 30.3	-0.5
TSZ				SN	Sn	20 29 55.7	-1.0
TSZ	**Takapari Road**	**1.83**	**187**	P	Pn	20 29 30.3	-0.5
PXZ	**Pawanui**	**1.85**	**165**	PN	Pn	20 29 31.0	0.0
PXZ				SN	Sn	20 29 56.4	-0.6
PKE	**Pukeiti**	**2.01**	**241**	PN	Pn	20 29 32.7	0.0
PKE	**Pukeiti**	**2.01**	**241**	P	Pn	20 29 32.7	-0.1
BFZ	**Birch Farm**	**2.44**	**180**	PN	Pn	20 29 36.7	-1.2
BFZ				SN	Sn	20 30 08.1	-1.1
BFZ	**Birch Farm**	**2.44**	**180**	P	Pn	20 29 36.7	-1.1
MRZ	**Mangatainoka R**	**2.48**	**192**	⇑PN	Pn	20 29 36.8	-1.5
MRZ				SN	Sn	20 30 07.9	-2.1
MRZ	**Mangatainoka R**	**2.48**	**192**	P	Pn	20 29 36.8	-1.5
KIW	**Kapiti Island**	**2.82**	**201**	P	Pn	20 29 40.2	-2.2
MTW	**Mount Morrison**	**2.98**	**191**	P	Pn	20 29 42.0	-2.4
CAW	**Cannon Point**	**3.01**	**197**	P	Pn	20 29 42.6	-2.2
PAWZ	**Paruwai Farm**	**3.21**	**191**	P	Pn	20 29 44.8	-2.5
MRW	**Makara Radio**	**3.22**	**201**	P	Pn	20 29 44.9	-2.6
WEL	**Wellington**	**3.25**	**200**	P	Pn	20 29 45.4	-2.5
MSWZ	**Moikau Station**	**3.27**	**193**	P	Pn	20 29 45.4	-2.7
SNZO	**South Karori**	**3.29**	**201**	P	Pn	20 29 45.7	-2.7
TCW	**Tory Channel**	**3.34**	**207**	P	Pn	20 29 46.3	-2.7
NNZ	**Nelson**	**3.71**	**216**	*e*P	Pn	20 29 50.6	-3.1
QRZ	**Quartz Range**	**3.87**	**227**	*e*P	Pn	20 29 51.9	-3.9
THZ	**Tophouse**	**4.36**	**215**	*e*P	Pn	20 29 58.4	-3.8
KHZ	**Kahutara**	**4.66**	**206**	*e*P	Pn	20 30 02.6	-3.5
LTZ	**Lake Taylor**	**5.46**	**212**	*e*P	Pn	20 30 12.1	-4.5

*IDC **30** 20:42:07.6±8.4, 3630N×7131E, h215km±88km, mb3.3/4, mb1 3.2/6, mb1mx2.9/21, mbtmp3.7/6, MS3.2/1, Ms1 3.2/1, ms1mx2.1/20, Error ellipse: s-maj=66.8km s-min=46.3km az=100.0*
*ISCJB **30** 20:42:09.9±0.6, 3671N±005×712E±02, h224km±13km, mb3.4/4, Error ellipse: s-maj=23.1km s-min=7.6km az=10.6*
*NNC **30** 20:42:14.8±1.6, 3736N×7094E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=18.3km s-min=11.0km az=64.0*
ISC 30 20:42:10.8±0.6, 3670N±005×712E±02, h220km±14km, n12, σ1°41/15, mb3.4/4, 4C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.92**	**169**	P	**Pn**	**20 43 02.4**	**+1.8**
CHCP	**Chirah Chowk**	**3.46**	**151**	P	**Pn**	**20 43 09.1**	**+2.3**
CHCP				S	**S**	**20 43 49.0**	**-2.0**
THW	**Thamme Wali**	**3.92**	**174**	P	**Pn**	**20 43 13.6**	**+1.3**
THW				S	**S**	**20 43 59.0**	**-1.9**
KK31	**Karatay Array**	**6.42**	**355**	⇑Pn	**Pn**	**20 43 44.3**	**+0.6**
	0.7nm,0.3s,baz=182,slow=13,SNR=64						
KK31				⇑Sn	**S**	**20 44 54.6**	**-3.0**
	8.2nm,0.7s,baz=187,slow=25,SNR=15						
TKM2	**Tokmak 2**	**7.06**	**27**	⇑Pn	**Pn**	**20 43 53.1**	**+1.2**
	0.5nm,0.9s						
TKM2				⇑Sn	**S**	**20 45 11.1**	**-1.4**
	3.3nm,1.4s						
MKAR	**Makanchi Array**	**13.02**	**36**	P	**Pn**	**20 45 08.3**	**+0.6**
	0.2nm,0.3s,baz=216,slow=11,SNR=8.5						
AKTO	**Aktyubinsk**	**16.70**	**329**	P	**P**	**20 45 52.1**	**+1.1**
	0.3nm,0.3s,baz=144,slow=9.2,SNR=3.8						
MLR	**Muntele Rosu**	**34.85**	**299**	LR	LR	21 06 24.4	
	comp=Z,39nm,18.9s,baz=53,slow=42						
FINES	**FINESS Array B**	**37.42**	**326**	P	**P**	**20 49 02.7**	**-0.1**
	0.4nm,0.4s,mb3.3,baz=119,slow=11,SNR=8.5						
ARCES	**ARCESS Array B**	**41.03**	**337**	P	**P**	**20 49 32.6**	**+0.1**
	1.9nm,0.7s,mb3.6,baz=111,slow=7.0,SNR=8.1						
NOA	**NORSAR Array B**	**44.34**	**323**	P	**P**	**20 49 58.5**	**-0.6**
	1.5nm,0.7s,mb3.4,baz=96,slow=7.7,SNR=3.8						
TORD	**Torodi Ar. Bea**	**65.91**	**269**	P	**P**	**20 52 31.1**	**-2.0**
	0.5nm,0.6s,mb3.4,baz=52,slow=6.6,SNR=7.5						

IDC 30 21:08:13.2±2.2, 548S×13053E, h0km, mb3.7/1, mb1 3.9/4, mb1mx3.7/12, mbtmp3.7/4, ML4.0/3, Error ellipse: s-maj=95.8km s-min=27.5km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.42**	**200**	Pn	Pn	21 11 26.6	+1.7
	0.8nm,0.3s,baz=42,slow=14,SNR=33						
FITZ				Sn	Sn	21 13 45.0	-10
	0.1nm,0.3s,baz=112,slow=19,SNR=4.1						
WRA	**Warramunga Arr**	**14.85**	**166**	Pn	Pn	21 11 43.0	-1.3
	0.7nm,0.3s,baz=347,slow=14,SNR=36						
WRA				Sn	Sn	21 14 14.9	-15
	0.5nm,0.3s,baz=334,slow=22,SNR=6.9						
ASAR	**Alice Springs**	**18.37**	**170**	P	Pn	21 12 29.4	0.0
	0.3nm,0.3s,baz=344,slow=8.5,SNR=9.6						
MKAR	**Makanchi Array**	**67.26**	**326**	P	P	21 19 09.6	+0.2
	0.3nm,0.3s,baz=109,slow=7.9,SNR=9.9						

*ISCJB **30** 21:22:44.7±0.7, 2412S±004×670W±0.1, h196km±18km, mb3.2/2, Error ellipse: s-maj=18.5km s-min=6.5km az=17.3*
*IDC **30** 21:22:45.5±1.3, 2407S×6682W, h170km±23km, mb2.9/2, mb1 3.3/7, mb1mx3.2/19, mbtmp3.7/7, Error ellipse: s-maj=27.8km s-min=13.3km az=97.0*
*NEIC **30** 21:22:46.2±0.7, 2409S×6741W, h256km±19km, mb3.7/3, Error ellipse: s-maj=29.9km s-min=10.3km az=93.0*
*GUC **30** 21:22:48.5±0.5, 2423S×6726W, h180km, ML3.7*
ISC 30 21:22:45.5±0.7, 2413S±004×669W±01, h181km±17km, n16, σ1°26/23, mb3.3/2, 1C-1D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.35**	**309**	P	**Pn**	**21 23 28.5**	**+2.0**
	4.2nm,0.3s,baz=136,slow=7.5,SNR=80						
LVC				S	**Sn**	**21 23 58.9**	**+0.6**
	18nm,0.3s,baz=358,slow=20,SNR=75						
CEN1	**Los Morros**	**3.07**	**283**	⇓*i*P	**Pn**	**21 23 37.4**	**+2.4**
CEN1				*i* S	**Sn**	**21 24 14.2**	**+0.6**
CEN1				AML	AML	21 24 15.8	
	comp=E,172nm,0.4s						
CPN1	**Cerro Paranal**	**3.19**	**260**	*e*P	**Pn**	**21 23 37.9**	**+1.3**
CPN1				*i* S	**Sn**	**21 24 15.9**	**-0.4**
CPN1				AML	AML	21 24 17.5	
	comp=E,120nm,0.5s						
ANCH	**Antofagasta**	**3.20**	**277**	⇑*i*P	**Pn**	**21 23 37.7**	**+1.1**
ANCH				*i* S	**Sn**	**21 24 15.0**	**-1.5**
CRCH	**Chaqaral**	**4.00**	**236**	*i* S	**Sn**	**21 24 32.6**	**-1.7**
CDCH	**Caldera**	**4.57**	**229**	*i* S	**Sn**	**21 24 46.1**	**-1.4**
CFAA	**Coronel Fontan**	**7.54**	**188**	P	**Pn**	**21 24 33.9**	**+1.2**
	comp=E,0.2nm,0.3s,baz=9.6,slow=14,SNR=16						
CFAA				S	**Sn**	**21 25 56.9**	**-0.5**
	comp=E,0.2nm,0.3s,baz=268,slow=19,SNR=5.8						
LPAZ	**La Paz**	**7.88**	**352**	P	**Pn**	**21 24 37.6**	**+0.5**
	comp=E,2.2nm,0.3s,baz=156,slow=7.6,SNR=55						
LPAZ				S	**Sn**	**21 26 04.1**	**-1.4**
	comp=E,0.0nm,0.3s,baz=279,slow=23,SNR=2.1						
LPAZ	**La Paz**	**7.88**	**352**	P	**Pn**	**21 24 37.6**	**+0.5**
LPAZ				S	**Sn**	**21 26 04.1**	**-1.4**
SIV	**San Ignacio**	**9.79**	**35**	P	**Pn**	**21 25 00.5**	**-1.7**
	comp=E,0.9nm,0.3s,baz=232,slow=15,SNR=11						
TRQA	**Tornquist**	**14.52**	**164**	*e*Pn	**Pn**	**21 26 02.2**	**-0.3**
	comp=E,4.0nm,0.7s						
SAML	**Samuel**	**15.52**	**14**	*e*P	**Pn**	**21 26 12.7**	**-2.0**
	comp=E,4.1nm,1.1s						
BDFB	**Brasilia**	**19.68**	**68**	P	**P**	**21 27 01.2**	**+0.5**
	comp=E,0.6nm,0.3s,baz=247,slow=11,SNR=12						
SNAA	**S

*ISCJB **30** 21:48:22.6±1.6, 530N±07×1744E±03, h88km±24km, mb3.8/9, Error ellipse: s-maj=110.9km s-min=18.6km az=155.7*
*IDC **30** 21:48:22.2±9.8, 5308N×17436E, h64km±117km, mb3.6/8, mb1 3.7/9, mb1mx3.5/23, mbtmp3.9/9, ML4.3/1, Error ellipse: s-maj=131.4km s-min=28.9km az=160.0*
*NEIC **30** 21:48:23.6±0.9, 5296N×17445E, h86km±18km, mb4.1/1, Error ellipse: s-maj=62.7km s-min=10.4km az=165.0*
ISC 30 21:48:22.7±1.5, 530N±07×1745E±04, h80km±27km, n13, σ0°73/14, mb3.8/9, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMY	**Shemya**	**0.35**	**227**	*e*Pg	**Pn**	**21 48 36.6**	**+1.3**
SMY				*e*Sg	**Sn**	**21 48 43.8**	**-0.8**
KDAK	**Kodiak Island**	**19.18**	**62**	P	**Pn**	**21 52 40.2**	**-1.3**
	0.8nm,0.3s,baz=314,slow=17,SNR=4.8						
KDAK	Kodiak Island	19.18	62	P	Pn	21 52 40.2	-1.3
COLA	**College**	**22.39**	**43**	P	**P**	**21 53 15.0**	**+0.7**
	9.0nm,1.0s,mb4.0						
ILAR	**Eielson Array**	**22.77**	**44**	P	**P**	**21 53 18.6**	**+0.3**
	0.9nm,0.5s,mb3.3,baz=258,slow=7.9,SNR=8.9						
INK	**Inuvik**	**28.62**	**38**	P	**P**	**21 54 12.2**	**+0.7**
	0.5nm,0.5s,mb3.4,baz=281,slow=5.2,SNR=3.1						
SONM	**Songino Array**	**42.24**	**292**	P	**P**	**21 56 08.2**	**+0.2**
	1.0nm,0.5s,mb3.8,baz=62,slow=7.7,SNR=8.6						
ARCES	**ARCESS Array B**	**55.73**	**347**	P	**P**	**21 57 50.5**	**-0.4**
	1.6nm,0.8s,mb4.1,baz=32,slow=10.0,SNR=4.1						
MKAR	**Makanchi Array**	**55.78**	**304**	P	**P**	**21 57 50.7**	**-0.6**
	1.4nm,0.3s,mb4.5,baz=48,slow=6.7,SNR=47						
FINES	**FINESS Array B**	**63.21**	**344**	P	**P**	**21 58 41.8**	**-0.6**
	0.6nm,0.6s,mb3.7,baz=76,slow=8.0,SNR=4.2						
NOA	**NORSAR Array B**	**65.56**	**351**	P	**P**	**21 58 57.8**	**0.0**
	0.9nm,0.6s,mb3.8,baz=23,slow=5.8,SNR=3.2						
NOA	**NORSAR Array B**	**65.56**	**351**	P	**P**	**21 58 57.8**	**0.0**
BRTR	**Keskin Array B**	**81.66**	**331**	P	**P**	**22 00 32.6**	**+0.5**
	0.6nm,0.7s,mb3.5,baz=48,slow=3.4,SNR=4.1						

CASC 30 21:49:15.2±2.4, 1408N×9167W, h59km±13km, MD3.9, ML4.1,1C-3D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.24**	**9**	*e*P	Pn	21 49 25.5	+0.7
JAT				*e*S	Sn	21 49 32.1	+0.4
FUG	**Fuego 3**	**0.88**	**66**	*i*P	Pn	21 49 32.2	+0.5
TP2	**Tecpan 2**	**0.94**	**42**	*e*P	Pn	21 49 32.6	+0.2
TP2				*e*S	Sn	21 49 46.7	+1.6
PCG	**Pacaya**	**1.08**	**73**	*e*P	Pn	21 49 35.7	+1.5
PCG				*e*S	Sn	21 49 50.8	+2.4
IXG	**Ixpaco**	**1.19**	**85**	*e*P	Pn	21 49 36.1	+0.5
IXG				*e*S	Sn	21 49 53.8	+2.9
IXG				AML	AML	21 50 00.1	
	comp=E,17μm,0.5s						
RTR	**El Retiro**	**1.98**	**95**	*e*P	Pn	21 49 51.8	+5.5
SBLS	**San Blas**	**2.00**	**97**	*e*P	Pn	21 49 51.9	+5.2
SBLS				*e*S	Sn	21 50 17.6	+7.0
SNJE	**San Jose**	**2.02**	**96**	*e*P	Pn	21 49 52.4	+5.5
LFRS	**El Faro**	**2.58**	**100**	*e*P	Pn	21 49 60.0	+5.5
LFRS				*e*S	Sn	21 50 30.6	+5.9
LCBS	**La Ceiba**	**2.65**	**99**	*e*P	Pn	21 50 01.5	+6.0
LCBS				*e*S	Sn	21 50 33.0	+6.6
TEL3	**Telica 3**	**4.93**	**107**	*e*P	Pn	21 50 27.8	+1.1
LEON	**Leon**	**4.94**	**109**	*e*P	Pn	21 50 25.3	-1.5
CNGN	**Cerro Negro**	**5.09**	**107**	*e*P	Pn	21 50 30.0	+1.1
MIRN	**Miramar**	**5.10**	**108**	*e*P	Pn	21 50 29.2	+0.3
COPN	**Copaltepe**	**5.30**	**110**	*e*P	Pn	21 50 33.3	+1.6
COPN				*i*		21 50 38.0	
	comp=Z,107nm,0.5s						
APYN	**Apoyeque**	**5.50**	**109**	*e*P	Pn	21 50 36.0	+1.5

*ISCJB **30** 21:52:29.8±0.4, 5152N±002×687E±004, h0km, Error ellipse: s-maj=3.7km s-min=2.5km az=85.1*
*NEIC **30** 21:52:30.5, 5161N×695E, h1km, ML2.9(LDG), After LDG.*
*CSEM **30** 21:52:30.5±0.1, 5161N×695E, h1km, ML2.9/8, Error ellipse: s-maj=2.3km s-min=1.0km az=95.0, Suspected Mining induced.*
*LDG **30** 21:52:30.5±0.2, 5161N×695E, h1km, Ml2.9/8, Error ellipse: s-maj=2.8km s-min=1.9km az=30.0, Suspected Mining induced.*
*BNS **30** 21:52:31.5±0.8, 5156N×692E, h1km, ML1.9*
*BUG **30** 21:52:31.1, 5159N×700E, h1km, ML1.3*
*BGR **30** 21:52:32.1±0.5, 5150N×694E, h1km, ML2.2/4, Error ellipse: s-maj=5.6km s-min=3.3km az=119.0*
ISC 30 21:52:30.3±0.4, 5155N±002×689E±003, h0km, n47, σ1°23/91, 1C-2D, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAUG	**Laupendahl**	**0.21**	**170**	*i*Pg	**Pg**	**21 52 35.5**	**+1.2**
LAUG				*e*Sg	**Sg**	**21 52 39.2**	**+2.3**
	238nm,0.6s						
BUG	**Bochum--Univer**	**0.26**	**115**	*i*Pg	**Pg**	**21 52 36.3**	**+0.9**
WTSB	**Winterswijk**	**0.42**	**352**	*i*Pg	**Pg**	**21 52 38.9**	**+0.5**
	8.8nm,0.6s						
WTSB				*i* x	x	21 52 40.3	
WTSB				*e*Sg	**Sg**	**21 52 45.0**	**+1.2**
RODG	**Roetgen-Dahlhe**	**0.60**	**228**	*e*Pg	**Pg**	**21 52 43.5**	**+1.6**
RODG				*e*Sg	**Sg**	**21 52 52.3**	**+2.5**
BNS	**Bensberg**	**0.62**	**163**	*e*Pg	**Pg**	**21 52 43.2**	**+1.0**
HOBG	**Hohbusch**	**0.64**	**154**	*e*Pg	**Pg**	**21 52 43.3**	**+0.8**
IBBN	**Ibbenburen**	**0.93**	**35**	*e*Pg	**Pg**	**21 52 49.1**	**+1.0**
	SNR=2.5						
IBBN				*e*Sg	**Sg**	**21 53 03.1**	**+3.0**
STB	**Steinbach**	**0.96**	**182**	*e*Pg	**Pg**	**21 52 50.1**	**+1.3**
STB				*e*Sg	**Sg**	**21 53 03.6**	**+2.4**
	38nm,0.4s						
KLL	**Kalltalsperre**	**0.98**	**202**	*e*Pg	**Pg**	**21 52 50.0**	**+1.0**
KLL				*e*Sg	**Sg**	**21 53 03.4**	**+1.7**
	53nm,0.7s						
HGN	**Heimansgroeve**	**0.99**	**218**	*e*Pn	**Pn**	**21 52 50.4**	**-1.1**
	7.4nm,0.3s						
HGN				*e*Pg	**Pg**	**21 52 51.4**	**+2.1**
	9.2nm,0.3s						
HGN				*e*Sn	**Sn**	**21 53 04.6**	**-1.6**
HGN				*e*Sg	**Sg**	**21 53 05.7**	**+3.5**
BEBN	**Eben Emael**	**1.07**	**226**	P	**Pg**	**21 52 51.8**	**+0.8**
BEBN				S	**Sg**	**21 53 06.4**	**+1.6**
	comp=N,28nm,0.0s						
MEM	**Membach**	**1.10**	**211**	P	**Pg**	**21 52 51.9**	**+0.6**
MEM				S	**Sg**	**21 53 08.0**	**+2.5**
	comp=N,50nm,0.0s						
HILG	**Hillesheim**	**1.27**	**186**	*e*Pg	**Pg**	**21 52 55.2**	**+0.5**
HILG				*e*Sg	**Sg**	**21 53 12.3**	**+1.1**
BGG	**Burgeitz**	**1.38**	**168**	*e*Pg	**Pg**	**21 52 56.6**	**-0.2**
BCLA	**Clavier**	**1.51**	**222**	P	**Pn**	**21 52 59.5**	**+0.8**
BCLA				S	**Sg**	**21 53 19.0**	**0.0**
	comp=Z,16nm,0.0s						
TNS	**Taunus Mts**	**1.66**	**143**	*e*Pn	**Pn**	**21 53 00.4**	**-0.3**
	SNR=2.9						
TNS				*e*Sg	**Sg**	**21 53 22.8**	**-0.8**
WLF	**Walferdange**	**1.95**	**194**	*e*Pg	**Pg**	**21 53 07.6**	**-0.1**
	SNR=2.3						
WLF				*e*Sg	**Sg**	**21 53 32.6**	**-0.3**
SNF	**Seneffe**	**1.95**	**239**	P	**Pn**	**21 53 04.1**	**-0.6**
SNF				S	**Sn**	**21 53 28.4**	**-1.5**
	comp=Z,11nm,0.0s						
GIVF	**Givet**	**1.96**	**223**	*e*Pg	**Pg**	**21 53 08.2**	**+0.4**
GIVF				*e*Sn	**Sn**	**21 53 28.4**	**-1.6**
GIVF				*e*Sg	**Sg**	**21 53 34.4**	**+1.2**
	comp=Z,23nm,0.3s						
GIVF	**Givet**	**1.96**	**223**	*e*Pn	**Pn**	**21 53 03.8**	**-0.9**
GIVF				*e*Pg	**Pg**	**21 53 08.2**	**+0.4**
GIVF				*e*Sn	**Sn**	**21 53 28.4**	**-1.6**
GIVF				*e*Sg	**Sg**	**21 53 34.4**	**+1.2**
GIVF	**Givet**	**1.96**	**223**	*e*Pg	**Pg**	**21 53 08.2**	**+0.4**
GIVF				*e*Sn	**Sn**	**21 53 28.4**	**-1.6**
GIVF				*e*Sg	**Sg**	**21 53 34.4**	**+1.2**
	comp=Z,12nm,0.3s						
DOU	**Dourbes**	**2.06**	**226**	P	**Pn**	**21 53 06.6**	**+0.4**
DOU				S	**Sn**	**21 53 32.8**	**+0.3**
	comp=Z,15nm,0.0s						
CLZ	**Clausthal**	**2.19**	**81**	*e*Sg	**Sg**	**21 53 40.8**	**+0.2**
BAIF	**Baives**	**2.27**	**230**	*e*Pg	**Pg**	**21 53 13.8**	**+0.1**
BAIF				*e*Sn	**Sn**	**21 53 35.6**	**-2.0**
	comp=Z,11nm,0.3s						
BAIF	**Baives**	**2.27**	**230**	*e*Pn	**Pn**	**21 53 08.0**	**-1.0**
BAIF				*e*Pg	**Pg**	**21 53 13.8**	**+0.1**
BAIF				*e*Sn	**Sn**	**21 53 35.6**	**-2.0**
BAIF	**Baives**	**2.27**	**230**	*e*Pg	**Pg**	**21 53 13.8**	**+0.1**
BAIF				*e*Sn	**Sn**	**21 53 35.6**	**-2.0**
	comp=Z,5.3nm,0.3s						
RFYF	**Reffroy**	**3.07**	**198**	*e*Pn	**Pn**	**21 53 19.0**	**-1.0**
MOX	**Moxa**	**3.12**	**105**	*e*Pn	**Pn**	**21 53 21.0**	**+0.3**
	SNR=2.0						
MOX				*e*Sg	**Sg**	**21 54 08.7**	**-1.8**
CDF	**Champ du Feu**	**3.15**	**175**	*e*Pn	**Pn**	**21 53 20.3**	**-0.9**
CDF				*e*Sg	**Sg**	**21 54 10.0**	**-1.7**
	comp=Z,5.0nm,0.5s						
CDF	**Champ du Feu**	**3.15**	**175**	*e*Pn	**Pn**	**21 53 20.3**	**-0.9**
CDF				*e*Sg	**Sg**	**21 54 10.0**	**-1.7**
	comp=Z,2.5nm,0.5s						
MEZF	**Maizieres J'vi**	**3.28**	**202**	*e*Pn	**Pn**	**21 53 21.9**	**-1.0**
MEZF				*e*Sg	**Sg**	**21 54 15.4**	**-0.2**
	comp=Z,9.3nm,0.4s						
MEZF	**Maizieres J'vi**	**3.28**	**202**	*e*Pn	**Pn**	**21 53 21.9**	**-1.0**
MEZF				*e*Sg	**Sg**	**21 54 15.4**	**-0.2**
	comp=Z,4.7nm,0.4s						
BFO	**Black Forest**	**3.36**	**163**	*e*Pn	**Pn**	**21 53 23.7**	**-0.3**
	SNR=1.4						
BFO				*e*Sn	**Sn**	**21 54 01.1**	**-3.5**
SFTF	**Sexfontaines**	**3.56**	**200**	*e*Sg	**Sg**	**21 54 24.4**	**-0.3**
	comp=Z,4.6nm,0.3s						
SFTF	**Sexfontaines**	**3.56**	**200**	*e*Sg	**Sg**	**21 54 24.4**	**-0.3**
	comp=Z,2.3nm,0.3s						
TANN	**Tannenbergstha**	**3.70**	**106**	*e*Pn	**Pn**	**21 53 28.7**	**0.0**
	SNR=1.5						
TANN				*e*Sg	**Sg**	**21 54 28.5**	**-0.8**
CLL	**Collm**	**3.83**	**91**	*e*Sg	**Sg**	**21 54 40.0**	**+6.5**
LOR	**Lormes**	**4.72**	**206**	*e*Pn	**Pn**	**21 53 42.0**	**-0.8**
	baz=34						
LOR				*e*Sn	**Sn**	**21 54 35.0**	**-3.2**
LOR				*e*Sg	**Sg**	**21 55 00.9**	**-1.1**
	comp=Z,3.3nm,0.3s						
LOR	**Lormes**	**4.72**	**206**	*e*Pn	**Pn**	**21 53 42.0**	**-0.8**
LOR				*e*Sn	**Sn**	**21 54 35.0**	**-3.2**
LOR				*e*Sg	**Sg**	**21 55 00.9**	**-1.1**
	comp=Z,1.6nm,0.3s						
SSF	**Saint Saulge**	**5.01**	**208**	*e*Pn	**Pn**	**21 53 45.5**	**-1.2**
LDF	**La Druitiere**	**5.40**	**239**	*e*Pn	**Pn**	**21 53 50.6**	**-1.5**
LDF				*e*Sn	**Sn**	**21 54 50.4**	**-4.5**
	comp=Z,1.7nm,0.3s						
LDF	**La Druitiere**	**5.40**	**239**	*e*Pn	**Pn**	**21 53 50.6**	**-1.5**
LDF				*e*Sn	**Sn**	**21 54 50.4**	**-4.5**
	comp=Z,0.9nm,0.3s						
FLN	**La Foliniere**	**5.50**	**242**	*e*Pn	**Pn**	**21 53 52.5**	**-0.9**
	baz=58						
FLN				*e*Sn	**Sn**	**21 54 52.9**	**-4.5**
BGF	**Bois d'Agland**	**5.66**	**210**	*e*Pn	**Pn**	**21 53 54.4**	**-1.3**
GRR	**Gorron**	**5.92**	**241**	*e*Pn	**Pn**	**21 53 57.3**	**-1.9**
GRR				*e*Sn	**Sn**	**21 55 01.5**	**-6.2**
	comp=Z,6.9nm,0.3s						
GRR	**Gorron**	**5.92**	**241**	*e*Pn	**Pn**	**21 53 57.3**	**-1.9**
GRR				*e*Sn	**Sn**	**21 55 01.5**	**-6.2**
	comp=Z,3.5nm,0.3s						
TCF	**Toulx Ste Croi**	**6.10**	**212**	*e*Pn	**Pn**	**21 54 00.4**	**-1.4**

*KRSC **30** 22:26:43.4±1.1, 5460N×16197E, h19km±1km, ML4.0*
*MOS **30** 22:26:43.9±0.6, 5461N×16171E, h15km, mb4.2/1, Error ellipse: s-maj=33.4km s-min=11.5km az=81.5*
*ISCJB **30** 22:26:44.5±0.6, 5460N±002×16184E±008, h20km±4km, Error ellipse: s-maj=7.8km s-min=2.8km az=31.9*
ISC 30 22:26:45.0±0.7, 5462N±002×16184E±008, h17km±3km, n42, σ0°87/76, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.09**	**224**	P	**Pg**	**22 26 48.5**	**+0.1**
MKZ				S	**Sg**	**22 26 51.7**	**+1.0**
MKZ	**Mys Kozlova**	**0.09**	**224**	*i* P	**Pg**	**22 26 48.6**	**+0.2**
MKZ				*i* S	**Sg**	**22 26 51.7**	**+1.0**
TUMR	**Tumrok**	**1.18**	**305**	*e*P	**Pn**	**22 27 04.8**	**-2.0**
TUMR				*e*S	**Sb**	**22 27 20.6**	**-1.3**
KMNR	**Kamenistaya**	**1.46**	**322**	*e*P	**Pn**	**22 27 09.3**	**-1.3**
KMNR				*e*S	**Sn**	**22 27 28.5**	**-0.9**
ZLN	**Zelenaya**	**1.52**	**338**	*i* P	**Pn**	**22 27 10.7**	**-0.7**
ZLN				*i* S	**Sn**	**22 27 30.7**	**-0.1**
LGNR	**Loginova**	**1.60**	**336**	*e*P	**Pn**	**22 27 12.4**	**-0.2**
LGNR				*e*S	**Sn**	**22 27 34.4**	**+1.5**
CIRR	**Tsirk**	**1.62**	**338**	*i* P	**Pn**	**22 27 12.8**	**0.0**
CIRR				*e*S	**Sn**	**22 27 33.4**	**+0.1**
KPT	**Kopyto**	**1.63**	**326**	*e*P	**Pn**	**22 27 12.7**	**-0.3**
KBTR	**Krutoberegovo**	**1.69**	**19**	P	**Pn**	**22 27 14.1**	**+0.4**
KBTR				S	**Sn**	**22 27 36.8**	**+1.9**
KBTR	**Krutoberegovo**	**1.69**	**19**	*e*P	**Pn**	**22 27 12.5**	**-1.2**
KBTR				*e*S	**Sn**	**22 27 35.5**	**+0.6**
KBG	**Krutoberegovo**	**1.71**	**16**	*e*P	**Pn**	**22 27 14.1**	**0.0**
KBG				*e*S	**Sn**	**22 27 35.6**	**0.0**
KBG				Smax			
	530nm,0.7s						
KRSR	**Krestovskiy**	**1.76**	**336**	*e*P	**Pn**	**22 27 14.4**	**-0.3**
KRSR				*e*S	**Sn**	**22 27 36.3**	**-0.4**
KOZR	**Kozyr**	**1.82**	**323**	PN	**Pn**	**22 27 15.8**	**+0.2**
KOZR				S	**Sn**	**22 27 39.4**	**+1.1**
KLY	**Klyuchi**	**1.82**	**339**	P	**Pn**	**22 27 14.4**	**-1.2**
KLY				S	**Sn**	**22 27 37.4**	**-1.0**
KLY	**Klyuchi**	**1.82**	**339**	*e*P	**Pn**	**22 27 14.9**	**-0.7**
KLY				*i* S	**Sn**	**22 27 37.2**	**-1.2**
KOZ	**Kozyrevsk**	**1.83**	**323**	P	**Pn**	**22 27 15.8**	**+0.2**
KOZ				S	**Sn**	**22 27 39.4**	**+1.0**
KOZ	**Kozyrevsk**	**1.83**	**323**	*e*P	**Pn**	**22 27 15.9**	**+0.3**
KOZ				*e*S	**Sn**	**22 27 39.3**	**+0.9**
SPN	**Mys Shipunski**	**1.87**	**216**	P	**Pn**	**22 27 14.6**	**-1.6**
SPN				S	**Sn**	**22 27 37.6**	**-1.8**
SPN	**Mys Shipunski**	**1.87**	**216**	*e*P	**Pn**	**22 27 14.3**	**-1.9**
SPN				*e*S	**Sn**	**22 27 37.6**	**-1.8**
SMKR	**Semkarok**	**1.98**	**354**	*e*P	**Pn**	**22 27 17.8**	**+0.1**
SMKR				*e*S	**Sn**	**22 27 43.4**	**+1.3**
BDR	**Baidarnaya**	**1.98**	**350**	*e*P	**Pn**	**22 27 17.9**	**+0.1**
BDR				*e*S	**Sn**	**22 27 43.5**	**+1.2**
NLC	**Nalytchevo**	**2.07**	**226**	P	**Pn**	**22 27 18.4**	**-0.6**
NLC				S	**Sn**	**22 27 44.2**	**-0.2**
NLC	**Nalytchevo**	**2.07**	**226**	*e*P	**Pn**	**22 27 17.9**	**-1.1**
NLC				*e*S	**Sn**	**22 27 44.0**	**-0.4**
SRKR	**Sorokina**	**2.07**	**350**	*e*P	**Pn**	**22 27 18.9**	**-0.1**
SRDR	**Sredinnyy**	**2.08**	**326**	*e*P	**Pn**	**22 27 18.9**	**-0.3**
SRDR				*e*S	**Sn**	**22 27 45.4**	**+0.6**
SDLR	**Sedlovina**	**2.20**	**234**	*e*P	**Pn**	**22 27 20.4**	**-0.4**
SDLR				*e*S	**Sn**	**22 27 47.8**	**+0.1**
ESO	**Esso**	**2.22**	**307**	*e*P	**Pn**	**22 27 20.3**	**-0.8**
ESO				*e*S	**Sn**	**22 27 47.7**	**-0.4**
ESO				Smax			
	160nm,0.9s						
SMAR	**Somma**	**2.25**	**234**	*e*P	**Pn**	**22 27 21.4**	**-0.1**
SMAR				*e*S	**Sn**	**22 27 49.2**	**+0.3**
UGLR	**Uglovaya**	**2.27**	**233**	*e*P	**Pn**	**22 27 21.6**	**-0.2**
UGLR				*e*S	**Sn**	**22 27 51.1**	**+1.6**
AVH	**Avacha**	**2.28**	**235**	*e*P	**Pn**	**22 27 22.0**	**+0.1**
AVH				*e*S	**Sn**	**22 27 51.6**	**+2.0**
KOK	**Koryaka**	**2.31**	**236**	*e*P	**Pn**	**22 27 22.1**	**-0.2**
GNL	**Ganaly**	**2.47**	**250**	*e*P	**Pn**	**22 27 24.3**	**-0.2**
PET	**Petropavlovsk**	**2.47**	**231**	P	**Pn**	**22 27 24.8**	**+0.2**
PET				S	**Sn**	**22 27 55.1**	**+0.7**
PET	**Petropavlovsk**	**2.47**	**231**	*e*PN	**Pn**	**22 27 24.3**	**-0.3**
PET				*e*S	**Sn**	**22 27 53.8**	**-0.6**
PET				pmax	pmax		
	comp=Z,64nm,0.6s						
PET				smax			
	comp=E,123nm,0.6s						
PET				smax			
	comp=N,143nm,0.6s						
PET	**Petropavlovsk**	**2.47**	**231**	*e*P	**Pn**	**22 27 25.1**	**+0.5**
PET				*e*S	**Sn**	**22 27 55.4**	**+1.0**
KRMR	**Karymshinskiy**	**2.84**	**232**	*e*P	**Pn**	**22 27 30.3**	**+0.7**
RUS	**Russkaya**	**2.96**	**223**	P	**Pn**	**22 27 31.0**	**-0.2**
RUS				S	**Sn**	**22 28 06.0**	**-0.3**
RUS	**Russkaya**	**2.96**	**223**	*e*P	**Pn**	**22 27 30.7**	**-0.5**
RUS				*e*S	**Sn**	**22 28 05.6**	**-0.7**
GRL	**Gorelyy**	**3.05**	**229**	*e*P	**Pn**	**22 27 32.0**	**-0.5**
GRL				*e*S	**Sn**	**22 28 08.7**	**0.0**
APC	**Apacha**	**3.25**	**240**	*e*P	**Pn**	**22 27 36.0**	**+0.7**
APC				Smax			
	comp=N,40nm,0.8s						
MIPR	**Malaya Ipel'ka**	**3.84**	**234**	*e*P	**Pn**	**22 27 45.2**	**+1.9**
PAU	**Pauzhetka**	**4.38**	**226**	*e*P	**Pn**	**22 27 52.1**	**+1.4**

*IDC **30** 23:07:33.2±2.2, 1402S×17074E, h0km, mb4.0/6, mb1 4.2/7, mb1mx4.1/15, mbtmp4.0/7, ML3.6/1, MS3.6/12, Ms1 3.6/12, ms1mx3.4/25, Error ellipse: s-maj=65.3km s-min=24.3km az=126.0*
*ISCJB **30** 23:07:36.1±0.6, 1412S±0.10×1708E±0.1, h30km, mb4.3/10, MS3.6/8, Error ellipse: s-maj=17.5km s-min=11.8km az=73.5*
*NEIC **30** 23:07:37.6±0.4, 1404S×17080E, h30km, mb4.7/5, Error ellipse: s-maj=13.5km s-min=9.2km az=128.0*
ISC 30 23:07:34.6±10.0, 141S±01×1709E±01, h9km±63km, n31, σ0°67/21, mb4.3/10, MS3.6/8, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.01**	**207**	Pn	**Pn**	**23 09 45.1**	**+0.2**
	0.6nm,0.3s,baz=12,slow=19,SNR=7.2						
DZM				Sn	Sn	23 11 03.3	-23
	0.4nm,0.3s,baz=132,slow=19,SNR=3.4						
DZM				LR	LR	23 11 53.7	
	comp=Z,130nm,19.9s,baz=253,slow=29						
HNR	**Honiara**	**11.62**	**292**	LR	LR	23 13 22.3	
	comp=Z,142nm,21.4s,baz=176,slow=30						
AFI	**Afiamalu**	**16.86**	**92**	LR	LR	23 16 35.9	
	comp=Z,157nm,18.2s,baz=58,slow=32						
RAO	**Raoul Island**	**18.36**	**147**	LR	LR	23 17 07.7	
	comp=Z,626nm,20.4s,baz=0.9,slow=31						
PMG	**Port Moresby**	**23.64**	**279**	P	**P**	**23 12 47.2**	**+0.9**
CTA	**Charters Tower**	**24.25**	**252**	P	**P**	**23 12 52.1**	**+0.3**
	5.7nm,0.9s,mb4.0,baz=74,slow=13,SNR=4.3						
CTA				LR	LR	23 20 41.3	
	comp=Z,141nm,21.0s,MS3.4,baz=63,slow=33						
CTAO	**Charters Tower**	**24.25**	**252**	*e*P	**P**	**23 12 52.6**	**+0.8**
	7.0nm,0.8s,mb4.1						
RAR	**Rarotonga**	**28.85**	**108**	LR	LR	23 23 04.2	
	comp=Z,58nm,19.2s,MS3.2,baz=179,slow=32						
STKA	**Stephens Creek**	**32.10**	**231**	LR	LR	23 24 35.8	
	comp=Z,70nm,19.7s,MS3.4,baz=29,slow=32						
STKA	**Stephens Creek**	**32.10**	**231**	*e*P	**P**	**23 14 01.1**	**-0.9**
TAU	**Tasmania Unive**	**35.18**	**211**	*e*P	**P**	**23 14 28.7**	**-0.1**
WRA	**Warramunga Arr**	**35.36**	**255**	P	**P**	**23 14 29.2**	**-1.1**
	0.4nm,0.6s,mb3.5,baz=89,slow=9.6,SNR=5.1						
ASAR	**Alice Springs**	**36.16**	**249**	P	**P**	**23 14 36.5**	**-0.7**
	3.1nm,0.6s,mb4.4,baz=74,slow=9.1,SNR=32						
PPT	**Papeete**	**38.19**	**101**	*e*LR	LR	23 25 28.2	
	96nm,27.2s						
TBI	**Tubuai**	**38.61**	**110**	*e*LR	LR	23 25 40.0	
	143nm,32.8s						
MBWA	**Marble Bar**	**49.07**	**254**	P	**P**	**23 16 22.7**	**+0.7**
NWAO	**Narrogin (SRO)**	**52.08**	**239**	*e*P	**P**	**23 16 44.9**	**+0.1**
	46nm,1.5s,mb5.2						
MJAR	**Matsushiro Arr**	**58.99**	**330**	P	**P**	**23 17 33.9**	**-0.6**
	0.4nm,0.3s,mb4.0,baz=146,slow=9.5,SNR=4.5						
MJAR				LR	LR	23 38 50.2	
	comp=Z,107nm,21.9s,MS3.9,baz=200,slow=32						
MJAR	**Matsushiro Arr**	**58.99**	**330**	P	**P**	**23 17 33.9**	**-0.6**
MJAR				LR	LR	23 38 50.2	
VNDA	**Vanda**	**63.65**	**182**	*e*P	**P**	**23 18 05.4**	**-0.6**
	0.4nm,0.5s,mb3.7						
SBA	**Scott Base**	**63.85**	**181**	P	**P**	**23 18 07.6**	**+0.3**
YBH	**Yreka Blue Hor**	**82.51**	**44**	LR	LR	23 47 05.5	
	comp=Z,42nm,20.2s,MS3.8,baz=273,slow=29						
MAW	**Mawson**	**83.80**	**202**	P	**P**	**23 20 03.9**	**-0.4**
SONM	**Songino Array**	**84.05**	**322**	P	**P**	**23 20 06.2**	**+0.7**
	1.2nm,0.8s,mb4.1,baz=129,slow=4.6,SNR=9.5						
SONM				LR	LR	23 59 35.1	
	comp=Z,42nm,18.4s,MS3.9,baz=74,slow=37						
ILAR	**Eielson Array**	**84.84**	**17**	P	**P**	**23 20 09.0**	**-0.5**
	1.3nm,0.7s,mb4.2,baz=244,slow=6.0,SNR=11						
LPIG	**La Paz**	**85.77**	**64**	LR	LR	23 54 37.0	
	comp=Z,51nm,18.2s,MS4.0,baz=324,slow=33						
LOHW	**Long Hollow**	**91.48**	**45**	*e*P	**P**	**23 20 41.1**	**-0.2**
	2.3nm,0.6s,mb4.7						
PDAR	**Pinedale Array**	**91.95**	**46**	LR	LR	23 56 50.4	
	comp=Z,26nm,20.6s,MS3.7,baz=80,slow=32						
RWWY	**Rawlins**	**93.32**	**48**	*e*P	**P**	**23 20 49.1**	**-0.7**
	10nm,0.4s,mb5.6						
SNAA	**Sanae**	**94.38**	**182**	P	**P**	**23 20 55.9**	**+1.2**
PHWY	**Pilot Hill**	**94.49**	**49**	*e*P	**P**	**23 20 56.1**	**+1.0**

*ISCJB **30** 23:18:43.3±0.4, 6777N±002×20.15E±007, h0km, Error ellipse: s-maj=3.6km s-min=3.3km az=15.7*
*IDC **30**

FIA0	**FINESS Array S**	**6.86**	**156**	*e*P		**Pn**	**23 20 27.6**	**+0.7**
FIA0				*e*S		**Sn**	**23 21 43.7**	**-2.0**
FIA0				*e*SG		**Sg**	**23 22 20.1**	**-5.3**
FINES	**FINESS Array B**	**6.86**	**156**	Pn		**Pn**	**23 20 27.9**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=345,slow=13,SNR=7.2							
FINES				Pg		**Pg**	**23 20 47.4**	**-9.2**
	comp=Z,0.1nm,0.3s,baz=341,slow=16,SNR=5.8							
FINES				Sn		**Sn**	**23 21 45.1**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=349,slow=20,SNR=3.8							
FINES				Lg			23 22 17.3	
	comp=Z,0.4nm,0.3s,baz=346,slow=29,SNR=6.6							
NB2	**NORSAR Subarra**	**7.83**	**214**	*e*P		**Pn**	**23 20 39.9**	**-0.2**
NB2				*e*SG		**Sg**	**23 22 48.9**	**-7.6**
NB2	**NORSAR Subarra**	**7.83**	**214**	Pn		**Pn**	**23 20 39.9**	**-0.2**
NB2				Lg			23 22 48.9	
	baz=19,slow=37							
NOA	**NORSAR Array B**	**7.83**	**214**	Pn		**Pn**	**23 20 40.2**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=41,slow=22,SNR=2.9							
NOA				Lg			23 22 51.0	
	comp=Z,0.6nm,0.3s,baz=353,slow=17,SNR=3.5							
HFS	**Hagfors**	**8.22**	**204**	Lg			23 23 04.5	
	baz=17,slow=28							
HFS	**Hagfors**	**8.22**	**204**	*e*			23 23 04.5	
HFS	**Hagfors**	**8.22**	**204**	Lg			23 23 04.5	
	baz=17,slow=28							
HFS	**Hagfors**	**8.22**	**204**	Pn		**Pn**	**23 20 44.5**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=43,slow=24,SNR=2.5							
HFS				Lg			23 23 03.1	
	comp=Z,0.4nm,0.3s,baz=26,slow=23,SNR=5.4							
SPA0	**Spitsbergen Ar**	**10.48**	**356**	Pn		**Pn**	**23 21 15.7**	**-0.8**
	baz=152,slow=14							
SPA0	**Spitsbergen Ar**	**10.48**	**356**	*e*P		**Pn**	**23 21 15.7**	**-0.8**

*ISCJB **30** 23:23:53.4±0.8, 2940S±006×178.1W±0.2, h222km±7km, mb3.7/6, Error ellipse: s-maj=28.9km s-min=7.0km az=29.0*

*IDC **30** 23:23:54.4±1.4, 2948S×17820W, h209km±5km, mb3.6/4, mb1 3.7/4, mb1mx3.5/13, mbtmp4.1/4, Error ellipse: s-maj=88.1km s-min=23.4km az=162.0*

*NEIC **30** 23:23:54.1±0.8, 2961S×17805W, h217km±7km, mb4.0/3, Error ellipse: s-maj=21.4km s-min=13.7km az=151.0*

ISC 30 23:23:54.2±0.8, 2961S×006×1780W±02, h216km±7km, n23, σ1§01/19, mb3.7/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.37**	**17**	P		**Pn**	**23 24 22.9**	**+0.2**
	656nm,0.3s,baz=79,slow=7.4,SNR=71							
RAO				S		**S**	**23 24 44.4**	**-0.6**
	381nm,0.3s,baz=90,slow=23,SNR=14							
BFZ	**Birch Farm**	**11.99**	**201**	SN		**S**	**23 28 54.1**	**+1.9**
TIWZ	**Tintock**	**12.19**	**202**	SN		**S**	**23 28 58.4**	**+1.4**
MRZ	**Mangatainoka R**	**12.20**	**204**	SN		**S**	**23 28 56.8**	**-0.3**
KIW	**Kapiti Island**	**12.61**	**205**	SN		**S**	**23 29 06.3**	**-0.5**
TCW	**Tory Channel**	**13.16**	**206**	SN		**S**	**23 29 18.3**	**-1.1**
THZ	**Tophouse**	**14.17**	**209**	*e*PN		**Pn**	**23 27 07.1**	**+1.6**
KHZ	**Kahutara**	**14.47**	**206**	*e*PN		**Pn**	**23 27 13.2**	**+4.0**
KHZ				SN		**S**	**23 29 47.9**	**-1.8**
MQZ	**McQueen's Vall**	**15.91**	**205**	SN		**S**	**23 30 18.4**	**-3.6**
AFI	**Afiamalu**	**16.66**	**22**	P		**P**	**23 27 34.2**	**0.0**
CTA	**Charters Tower**	**33.64**	**278**	P		**P**	**23 30 14.9**	**+0.6**
	1.9nm,0.4s,mb4.0,baz=99,slow=13,SNR=3.0							
CTAO	**Charters Tower**	**33.64**	**278**	*e*P		**P**	**23 30 14.3**	**0.0**
	1.4nm,0.2s,mb4.2							
STKA	**Stephens Creek**	**34.63**	**256**	P		**P**	**23 30 23.0**	**+0.2**
	1.4nm,0.5s,mb3.7,baz=94,slow=8.4,SNR=3.0							
PMG	**Port Moresby**	**38.24**	**295**	*e*P		**P**	**23 30 53.5**	**+0.3**
	3.4nm,0.5s,mb4.1							
RKT	**Rikitea**	**38.96**	**91**	*e*LR		LR	23 31 49.4	
	111nm,32.2s							
ASAR	**Alice Springs**	**43.12**	**266**	P		**P**	**23 31 33.5**	**+0.4**
	0.9nm,0.5s,mb3.5,baz=98,slow=6.4,SNR=16							
WRA	**Warramunga Arr**	**44.04**	**271**	P		**P**	**23 31 39.5**	**-0.9**
	0.6nm,0.3s,mb3.4,baz=108,slow=6.3,SNR=36							
SNAA	**Sanae**	**78.94**	**178**	*e*P		**P**	**23 35 33.2**	**-0.5**
	0.2nm,0.3s,mb3.2							
FINES	**FINESS Array B**	**144.39**	**340**	PKP		PKPdf	23 43 02.5	-1.9
	0.5nm,0.3s,baz=58,slow=3.6,SNR=12							
NB2	**NORSAR Subarra**	**147.97**	**352**	PKPa		PKPbc	23 43 13.0	-0.8
	comp=Z,0.9nm,0.7s,baz=24,slow=2.9							
NOA	**NORSAR Array B**	**147.97**	**352**	PKPbc		PKPbc	23 43 13.8	0.0
	comp=Z,1.5nm,0.8s,baz=16,slow=4.2,SNR=4.0							
NOA	**NORSAR Array B**	**147.97**	**352**	PKPbc		PKPbc	23 43 13.8	0.0
AKASG	**Malin Array Be**	**150.65**	**324**	PKPbc		PKPbc	23 43 20.8	+0.3
	comp=Z,1.7nm,0.3s,baz=45,slow=3.3,SNR=8.3							

*ISCJB **30** 23:32:34.1±0.7, 3207S±002×7198W±007, h38km±8km, mb4.3/5, MS3.6/1, Error ellipse: s-maj=9.6km s-min=3.9km az=172.7*

*IDC **30** 23:32:34.9±4.8, 3206S×7202W, h33km±34km, mb4.2/5, mb1 4.0/11, mb1mx3.8/21, mbtmp4.0/11, ML3.9/6, MS3.7/1, Ms1 3.6/1, ms1mx2.8/17, Error ellipse: s-maj=38.1km s-min=18.1km az=108.0*

*NEIC **30** 23:32:34.6, 32.11S×7179W, h29km, mb4.2/1, ML4.1(GUC), After GUC.*

*GUC **30** 23:32:34.6±0.9, 32.11S×7179W, h29km±3km, MD4.2, ML4.1*

ISC 30 23:32:33.4±0.9, 3211S±002×7194W±006, h15km±4km, n46, σ0§81/72, mb4.3/5, MS3.6/1, 15C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.43**	**59**	⇓*i*P		**Pg**	**23 32 42.5**	**+0.5**
CHNG				*i* S		**Sg**	**23 32 48.2**	**+0.3**
CHNG				AML		AML	23 32 48.9	
	comp=N,16μm,0.7s							
PACH	**Papudo**	**0.60**	**136**	⇓*i*P		**Pg**	**23 32 45.1**	**-0.2**
PACH				*i* S		**Sg**	**23 32 52.6**	**-0.7**
ROCH	**El Roble**	**1.17**	**138**	⇑*i*P		**Pn**	**23 32 54.2**	**-0.8**
ROCH				*i* S		**Sb**	**23 33 09.2**	**-0.9**
CMCH	**Combarbala**	**1.22**	**41**	⇑*i*P		**Pn**	**23 32 54.6**	**-1.2**
CMCH				*i* S		**Sb**	**23 33 10.6**	**-1.2**
CMCH				AML		AML	23 33 15.6	
	comp=E,33μm,0.5s							
CMCH	**Combarbala**	**1.22**	**41**	⇑*i*P		**Pn**	**23 32 54.6**	**-1.2**
CMCH				*i* S		**Sb**	**23 33 10.6**	**-1.2**
JACH	**Jahuel**	**1.27**	**117**	⇑*i*P		**Pn**	**23 32 55.6**	**-1.0**
JACH				*i* S		**Sb**	**23 33 10.4**	**-2.8**
LCH	**Las Cruces**	**1.40**	**167**	⇓*i*P		**Pn**	**23 32 58.1**	**-0.3**
LCCH				*i* S		**Sn**	**23 33 15.9**	**-0.6**
OVCH	**Ovalle**	**1.62**	**23**	*e*P		**Pn**	**23 33 01.7**	**+0.4**
OVCH				*i* S		**Sn**	**23 33 22.0**	**+0.1**
OVCH				AML		AML	23 33 30.0	
	comp=E,6μm,0.5s							
OVCH	**Ovalle**	**1.62**	**23**	*e*P		**Pn**	**23 33 01.7**	**+0.4**
OVCH				*i* S		**Sn**	**23 33 22.0**	**+0.1**
RCDM	**Rinconada Maip**	**1.68**	**146**	⇑*i*P		**Pn**	**23 33 02.4**	**+0.2**
RCDM				*i* S		**Sn**	**23 33 23.0**	**-0.3**
RCDM				AML		AML	23 33 35.0	
	comp=N,2μm,0.4s							
RCDM	**Rinconada Maip**	**1.68**	**146**	⇑*i*P		**Pn**	**23 33 02.4**	**+0.2**
RCDM				*i* S		**Sn**	**23 33 23.0**	**-0.3**
SAN	**Santiago**	**1.72**	**142**	*e*P		**Pn**	**23 33 02.5**	**-0.2**
SAN				*i* S		**Sn**	**23 33 24.4**	**0.0**
SAN				AML		AML	23 33 33.5	
	comp=N,2μm,0.5s							
SAN	**Santiago**	**1.72**	**142**	*e*P		**Pn**	**23 33 02.5**	**-0.2**
SAN				*i* S		**Sn**	**23 33 24.4**	**0.0**
DSCH	**Colegio Aleman**	**1.73**	**139**	*e*P		**Pn**	**23 33 02.4**	**-0.4**
DSCH				*i* S		**Sn**	**23 33 24.1**	**-0.5**
CLCH	**Cerro Calan**	**1.75**	**138**	⇑*i*P		**Pn**	**23 33 03.4**	**+0.3**
CLCH				*i* S		**Sn**	**23 33 24.5**	**-0.5**
CLCH				AML		AML	23 33 37.7	
	comp=E,4μm,0.5s							
CLCH				AML		AML	23 33 38.3	
	comp=E,5μm,0.5s							
TACH	**Talagante**	**1.76**	**152**	⇑*i*P		**Pn**	**23 33 03.7**	**+0.4**
TACH				*i* S		**Sn**	**23 33 25.1**	**-0.2**
FSR	**Penalolen**	**1.81**	**140**	*e*P		**Pn**	**23 33 04.5**	**+0.5**
FSR				*i* S		**Sn**	**23 33 27.0**	**+0.3**
FSR				AML		AML	23 33 34.5	
	comp=N,3μm,0.4s							
FSR	**Penalolen**	**1.81**	**140**	*e*P		**Pn**	**23 33 04.5**	**+0.5**
FSR				*i* S		**Sn**	**23 33 27.0**	**+0.3**
ANTU	**Antumapu**	**1.83**	**143**	⇑*i*P		**Pn**	**23 33 04.5**	**+0.3**
ANTU				*i* S		**Sn**	**23 33 27.4**	**+0.4**
ANTU				AML		AML	23 33 38.0	
	comp=N,3μm,0.9s							
ANTU	**Antumapu**	**1.83**	**143**	⇑*i*P		**Pn**	**23 33 04.5**	**+0.3**
ANTU				*i* S		**Sn**	**23 33 27.4**	**+0.4**
FCH	**Farellones**	**1.85**	**132**	⇑*i*P		**Pn**	**23 33 04.7**	**+0.2**
FCH				*i* S		**Sn**	**23 33 28.0**	**+0.4**
FCH				AML		AML	23 33 35.7	
	comp=E,1μm,0.5s							
PCH	**Pirque**	**1.93**	**142**	⇑*i*P		**Pn**	**23 33 06.0**	**+0.4**
PCH				*i* S		**Sn**	**23 33 29.8**	**+0.2**
CHCH	**Chadas Angostu**	**2.12**	**150**	*e*P		**Pn**	**23 33 08.8**	**+0.6**
CHCH				*i* S		**Sn**	**23 33 34.4**	**+0.2**
TLL	**Tololo Astrono**	**2.16**	**27**	*e*P		**Pn**	**23 33 09.3**	**+0.5**
TLL				AML		AML	23 33 43.6	
	comp=E,6μm,0.5s							
LMEL	**Las Melosas**	**2.27**	**141**	⇑*i*P		**Pn**	**23 33 10.9**	**+0.6**
LMEL				*i* S		**Sn**	**23 33 39.2**	**+1.3**
LMEL				AML		AML	23 33 48.9	
	comp=N,1μm,0.6s							
LMEL	**Las Melosas**	**2.27**	**141**	⇑*i*P		**Pn**	**23 33 10.9**	**+0.6**
LMEL				S		**Sn**	**23 33 39.2**	**+1.3**
CACH	**El Canelo**	**2.30**	**151**	⇑*i*P		**Pn**	**23 33 12.0**	**+1.3**
CICH	**Cipreses**	**2.55**	**151**	⇓*i*P		**Pn**	**23 33 15.2**	**+1.0**
SFDO	**San Fernando**	**2.62**	**163**	*e*P		**Pn**	**23 33 15.5**	**+0.4**
CFAA	**Coronel Fontan**	**3.19**	**82**	Pn		**Pn**	**23 33 24.9**	**+2.0**
	comp=N,3.2nm,0.3s,baz=246,slow=11,SNR=133							
CFAA				Sn		**Sn**	**23 34 02.5**	**+1.9**
	comp=N,3.6nm,0.3s,baz=59,slow=15,SNR=4.9							
CFAA	**Coronel Fontan**	**3.19**	**82**	Pn		**Pn**	**23 33 24.9**	**+2.0**
CFAA				Sn		**Sn**	**23 34 02.5**	**+1.9**
PLCA	**Paso Flores**	**8.68**	**173**	Pn		**Pn**	**23 34 37.9**	**-0.5**
	comp=N,0.2nm,0.3s,baz=248,slow=11,SNR=6.4							
PLCA	**Paso Flores**	**8.68**	**173**	Pn		**Pn**	**23 34 37.9**	**-0.5**
LVC	**Limon Verde**	**9.83**	**17**	Pn		**Pn**	**23 34 54.7**	**+0.6**
	comp=N,0.3nm,0.3s,baz=216,slow=12,SNR=2.7							
LVC				Sn		**Sn**	**23 37 03.1**	**+19**
	comp=N,0.5nm,0.3s,baz=220,slow=16,SNR=2.8							
CPUP	**Villa Florida**	**13.99**	**69**	Pn		**Pn**	**23 35 51.0**	**+0.1**
	comp=N,0.3nm,0.3s,baz=224,slow=12,SNR=4.2							
CPUP				Sn		**Sn**	**23 38 40.6**	**+15**
	comp=N,0.4nm,0.3s,baz=23,slow=19,SNR=3.6							
LPAZ	**La Paz**	**16.12**	**13**	Pn		**Pn**	**23 36 20.2**	**+0.9**
	comp=N,0.2nm,0.3s,baz=186,slow=5.0,SNR=9.2							
SIV	**San Ignacio**	**18.84**	**34**	P		**Pn**	**23 36 51.1**	**-2.1**
	comp=N,0.2nm,0.3s,baz=225,slow=13,SNR=10.0							
USHA	**Ushuaia**	**22.85**	**175**	P		**P**	**23 37 35.4**	**-0.6**
	comp=N,11nm,1.1s,mb4.2,baz=32,slow=3.0,SNR=3.1							
BDFB	**Brasilia**	**27.24**	**59**	P		**P**	**23 38 15.4**	**-1.3**
	comp=N,11nm,1.1s,mb4.3,baz=229,slow=6.4,SNR=9.9							
BDFB				LR		LR	23 50 02.5	
	comp=N,168nm,21.7s,MS3.6,baz=258,slow=38							
SNAA	**Sanae**	**53.31**	**158**	P		**P**	**23 41 51.2**	**-0.5**
	comp=N,0.9nm,0.8s,mb3.8,baz=289,slow=7.1,SNR=12							
SNAA	**Sanae**	**53.31**	**158**	*e*P		**P**	**23 41 42.8**	**-8.8**
	comp=N,2.6nm,0.8s,mb4.2							
DBIC	**Dimbokro**	**74.50**	**72**	P		**P**	**23 44 10.5**	**-0.7**
	comp=N,7.6nm,0.9s,mb4.6,baz=185,slow=10,SNR=6.8							
TORD	**Torodi Ar. Bea**	**83.48**	**70**	P		**P**	**23 45 00.0**	**-0.4**
	comp=N,4.0nm,0.8s,mb4.5,baz=283,slow=5.1,SNR=30							
WRA	**Warramunga Arr**	**122.45**	**210**	PKP		PKPdf	23 51 26.9	-1.1
	comp=N,0.4nm,0.6s,baz=168,slow=1.6,SNR=4.9							
MKAR	**Makanchi Array**	**155.42**	**46**	PKPab		PKPab	23 52 50.9	-0.8
	comp=N,1.2nm,0.7s,baz=285,slow=4.6,SNR=11							
MKAR	**Makanchi Array**	**155.42**	**46**	PKPab		PKPab	23 52 50.9	-0.8

*IDC **31** 00:01:40.2±8.9, 3591N×7191E, h0km, mb3.9/3, mb1 4.0/5, mb1mx3.5/22, mbtmp3.9/5, ML3.5/2, Error ellipse: s-maj=153.1km s-min=47.2km az=160.0*

*MOS **31** 00:01:43.5±0.7, 3600N×7184E, h33km, mb3.6/1, Error ellipse: s-maj=26.7km s-min=10.0km az=87.4*

*ISCJB **31** 00:02:01.6±1.2, 3722N±005×720E±0.1, h129km±14km, mb3.6/3, Error ellipse: s-maj=15.2km s-min=6.1km az=131.3*

*NEIC **31** 00:02:04.1±1.4, 3720N×7216E, h143km±16km, mb4.0/6, Error ellipse: s-maj=18.2km s-min=5.7km az=61.0*

*NNC **31** 00:02:11.1±6.1, 3800N×7147E, h200km±77km, mb2.3, mpv3.6, Error ellipse: s-maj=63.5km s-min=41.1km az=169.0*

ISC 31 00:02:02.1±1.0, 3718N±005×720E±01, h120km±12km, n30, σ1§10/36, mb3.8/3, 5C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.77**	**19**	*e*Pn		**Pn**	**00 03 25.2**	**-0.2**
AAK				*e*Sn		**Sn**	**00 04 28.6**	**-1.7**
KK31	**Karatay Array**	**6.02**	**350**	⇓P		**Pn**	**00 03 27.4**	**-1.4**
	9.3nm,0.3s,baz=176,slow=12,SNR=264							
KK31				S		**Sn**	**00 04 29.0**	**-7.4**
	9.5nm,0.3s,baz=168,slow=21,SNR=15							
TKM2	**Tokmak 2**	**6.36**	**25**	⇑P		**Pn**	**00 03 34.2**	**+0.8**
	1.6nm,0.9s							
TKM2				⇑S		**Sn**	**00 04 45.0**	**+0.4**
	1.0nm,0.8s							
SMLA	**Simla**	**7.40**	**143**	*i* P		**Pn**	**00 03 48.0**	**+0.5**
	272nm,0.3s							
SMLA				*i* S		**Sn**	**00 05 07.6**	**-2.1**
MKAR	**Makanchi Array**	**12.27**	**35**	Pn		**Pn**	**00 04 52.7**	**+0.1**
	0.0nm,0.3s,baz=219,slow=11,SNR=6.8							
MKAR	**Makanchi Array**	**12.27**	**35**	Pn		**Pn**	**00 04 52.7**	**+0.1**
KOLN	**Koldanda**	**13.55**	**131**	*e*P		**Pn**	**00 05 10.0**	**+0.7**
	4.6nm,0.3s							
GKN	**Gorkha**	**14.03**	**127**	*e*P		**Pn**	**00 05 15.9**	**+0.4**
	12nm,0.4s							
KURK	**Kurchatov**	**14.34**	**17**	*e*P		**Pn**	**00 05 20.8**	**+1.4**
KKN	**Kakani**	**14.59**	**126**	*e*P		**Pn**	**00 05 22.5**	**-0.1**
DMN	**Daman**	**14.60**	**127**	*e*P		**Pn**	**00 05 23.3**	**+0.5**
PKI	**Pulchoki**	**14.82**	**126**	*e*P		**Pn**	**00 05 26.7**	**+1.2**
GUN	**Gumba**	**14.90**	**124**	*e*P		**Pn**	**00 05 26.5**	**0.0**
AB31	**Akbulak array**	**14.90**	**328**	⇓P		**Pn**	**00 05 22.8**	**-3.8**
	0.6nm,0.4s,baz=132,slow=13,SNR=20							
AB31				⇑S		**Sn**	**00 07 51.0**	**-20**
	0.9nm,0.4s,baz=150,slow=22,SNR=7.5							
JIRN	**Jiri**	**15.27**	**124**	*e*P		**Pn**	**00 05 31.4**	**+0.2**
	15nm,0.6s							
ZRNK	**Zerenda**	**15.91**	**353**	*e*P		**Pn**	**00 05 40.2**	**+1.1**
ZRNK				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ZRNK	**Zerenda**	**15.91**	**353**	*e*Pn		**Pn**	**00 05 40.2**	**+1.1**
	comp=Z,1.4nm,0.3s							
BRVK	**Borovoye**	**15.92**	**356**	*e*P		**Pn**	**00 05 41.0**	**+1.8**
BRVK				pmax		pmax		
	comp=Z,1.0nm,0.4s							
BRVK	**Borovoye**	**15.92**	**356**	*e*P		**Pn**	**00 05 41.0**	**+1.8**
	comp=Z,0.6nm,0.4s							
CHKZ	**Chkalovo**	**16.52**	**357**	*e*P		**Pn**	**00 05 48.6**	**+2.0**
CHKZ				pmax		pmax		
	comp=Z,1.0nm,0.4s							
CHKZ	**Chkalovo**	**16.52**	**357**	*e*P		**Pn**	**00 05 48.6**	**+2.0**
	comp=Z,0.7nm,0.4s							
AKTK	**Aktyubinsk**	**16.62**	**327**	P		**Pn**	**00 05 47.6**	**-0.2**
AKTO	**Aktyubinsk**	**16.62**	**327**	⇑P		**Pn**	**00 05 46.4**	**-1.4**
	comp=Z,0.1nm,0.8s							
AKTO				⇑S		**S**	**00 08 34.8**	**-18**
	comp=Z,0.2nm,1.7s							
AKTO	**Aktyubinsk**	**16.62**	**327**	P		**Pn**	**00 05 47.6**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=131,slow=10,SNR=14							
ULN	**Ulaanbaatar**	**27.73**	**56**	*e*P		**P**	**00 07 37.4**	**-1.7**
JOF	**Joensuu**	**35.69**	**329**	*e*p		**P**	**00 08 48.8**	**+0.1**
HIA	**Hailar**	**36.24**	**55**	*e*P		**P**	**00 08 51.5**	**-2.0**
FINES	**FINESS Array B**	**37.37**	**325**	P		**P**	**00 09 02.8**	**-0.3**
	comp=Z,0.5nm,0.3s,mb3.9,baz=117,slow=9.8,SNR=15							
ARCES	**ARCESS Array B**	**40.83**	**337**	P		**P**	**00 09 31.7**	**0.0**
	comp=Z,2.7nm,0.9s,mb4.1,baz=121,slow=8.7,SNR=8.4							
NOA	**NORSAR Array B**	**44.32**	**323**	P		**P**	**00 09 59.7**	**-0.3**
	comp=Z,0.8nm,0.7s,mb3.5,baz=94,slow=7.6,SNR=3.2							

*IDC **31** 00:08:08.8±0.7, 820S×11879E, h0km, mb4.2/8, mb1 4.3/10, mb1mx4.1/19, mbtmp4.2/10, ML4.3/2, MS3.5/5, Ms1 3.5/5, ms1mx3.0/26, Error ellipse: s-maj=42.3km s-min=15.8km az=62.0*

*ISCJB **31** 00:08:11.6±0.5, 817S±009×11907E±009, h33km, mb4.0/9, MS3.5/4, Error ellipse: s-maj=16.9km s-min=5.6km az=93.2*

*NEIC **31** 00:08:12.4±3.3, 8.15S×11889E, h23km±24km, mb4.1/3, Error ellipse: s-maj=14.3km s-min=8.6km az=55.0*

ISC 31 00:08:13.9±0.5, 816S±009×1190E±01, h35km, n26, σ0§85/27, mb4.1/10, MS3.5/4, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.83**	**147**	*e*P		**Pn**	**00 11 00.6**	**+0.5**
	24nm,0.9s							
FITZ				*e*S		**Sn**	**00 13 09.3**	**-1.5**
FITZ	**Fitzroy Crossi**	**11.83**	**147**	Pn		**Pn**	**00 11 00.7**	**+0.6**
	0.8nm,0.3s,baz=324,slow=10,SNR=40							
FITZ				Sn		**Sn**	**00 13 07.7**	**-3.2**
	0.6nm,0.3s,baz=190,slow=19,SNR=3.3							
FITZ				LR		LR	00 16 11.3	
	comp=Z,103nm,19.3s,baz=314,slow=41							
MBWA	**Marble Bar**	**12.94**	**177**	*e*Pn		**Pn**	**00 11 15.8**	**+0.6**
KAKA	**Kakadu**	**14.02**	**110**	*e*P		**Pn**	**00 11 29.6**	**-0.3**
	17nm,0.6s							
WRA	**Warramunga Arr**	**18.95**	**130**	P		**Pn**	**00 12 32.6**	**-0.3**
	1.5nm,0.3s,baz=305,slow=12,SNR=78							
WRA				S		**S**	**00 15 55.8**	**-9.4**
	0.1nm,0.3s,baz=302,slow=26,SNR=3.0							
WRAB	**Tennant Creek**	**18.96**	**130**	*e*P		**Pn**	**00 12 33.0**	**+0.1**
	18nm,0.8s							
WRAB				*e*S		**S**	**00 15 56.4**	**-8.8**
WB2	**Warramunga Arr**	**18.96**	**130**	*e*P		**Pn**	**00 12 32.6**	**-0.4**
WB2				*e*S		**S**	**00 15 56.0**	**-9.4**
ASAR	**Alice Springs**	**21.05**	**139**	P		**P**	**00 12 56.0**	**+1.3**
	9.6nm,0.5s,mb4.4,baz=320,slow=11,SNR=64							
ASAR				S		**S**	**00 16 48.9**	**+1.7**
	1.4nm,0.8s,baz=306,slow=21,SNR=5.1							
KULM	**Kulim**	**22.62**	**306**	*e*P		**P**	**00 13 10.4**	**-1.1**
PSI	**Prapat**	**22.75**	**298**	LR		LR	00 21 47.3	
	comp=Z,103nm,21.6s,MS3.2,baz=349,slow=36							
NWAO	**Narrogin (SRO)**	**24.69**	**183**	P		**P**	**00 13 31.8**	**+0.2**
	6.2nm,0.6s,mb4.3,baz=10,slow=12							
NWAO	**Narrogin (SRO)**	**24.69**	**183**	P		**P**	**00 13 31.8**	**+0.2**
CTA	**Charters Tower**	**28.96**	**117**	LR		LR	00 27 51.2	
	comp=Z,117nm,18.6s,MS3.5,baz=256,slow=41							
STKA	**Stephens Creek**	**31.63**	**141**	P		**P**	**00 14 32.6**	**-0.9**
	2.2nm,0.3s,mb4.4,baz=343,slow=9.0,SNR=6.6							
STKA				LR		LR	00 28 33.1	
	comp=Z,62nm,19.5s,MS3.3,baz=26,slow=39							
SONM	**Songino Array**	**56.85**	**350**	P		**P**	**00 17 56.6**	**+1.7**
	1.0nm,0.7s,mb4.0,baz=166,slow=9.3,SNR=8.0							
MKAR	**Makanchi Array**	**63.69**	**333**	P		**P**	**00 18 42.1**	**+0.3**
	0.9nm,0.7s,mb3.9,baz=152,slow=6.4,SNR=11							
VNDA	**Vanda**	**72.82**	**171**	P		**P**	**00 19 39.1**	**+0.2**
	1.2nm,0.5s,mb4.1,baz=318,slow=8.9,SNR=3.5							
BRVK	**Borovoye**	**73.61**	**332**	*e*P		**P**	**00 19 43.9**	**+0.3**
	0.4nm,0.3s,mb3.8							
CHKZ	**Chkalovo**	**73.85**	**332**	*e*P		**P**	**00 19 44.6**	**-0.4**
CHKZ				*e*PcP		PcP	00 19 58.3	-2.0
ZRNK	**Zerenda**	**74.14**	**331**	*e*P		**P**	**00 19 47.1**	**+0.4**
	2.2nm,1.1s,mb4.0							
AKTK	**Aktyubinsk**	**78.51**	**325**	P		**P**	**00 20 10.6**	**-1.0**
AKTO	**Aktyubinsk**	**78.51**	**325**	P		**P**	**00 20 10.6**	**-1.0**
	0.3nm,0.3s,mb3.8,baz=54,slow=17,SNR=2.8							
KMBO	**Kilima Mbogo**	**81.62**	**270**	LR		LR	00 52 16.6	
	comp=Z,70nm,18.6s,MS4.0,baz=114,slow=32							
BOSA	**Boshof**	**89.36**	**241**	P		**P**	**00 21 07.3**	**+0.5**
	0.8nm,0.6s,mb4.2,baz=157,slow=4.9,SNR=4.6							
TORD	**Torodi Ar. Bea**	**118.26**	**281**	PKP		PKPdf	00 26 57.1	-0.3
	0.4nm,0.9s,baz=20,slow=2.8,SNR=6.5							
CPUP	**Villa Florida**	**145.52**	**186**	PKPbc		PKPbc	00 27 50.2	+1.8
	0.5nm,0.3s,baz=146,slow=3.2,SNR=6.0							

*NIED **31** 00:21:00, 2480N×12540E, h44km, Mw3.8 Best double couple: M₀5.26000×10¹⁴ NP1:φ₀55.00000°, δ79.00000°, λ102.00000°. NP2:φ₀186.00000°, δ16.00000°, λ43.00000°.*

*JMA **31** 00:21:24.2, 2483N×12539E, h50km±1km, M3.7*

JMA Felt I J1.

*ISCJB **31** 00:21:24.4±0.4, 250N±0.1×12530E±007, h47km±8km,

NEM2	**Nemuro 2**	**3.55**	**14**	P		**Pn**	**00 33 35.1**	**-1.0**
NEM2				*e*S		**Sn**	**00 34 15.6**	**-1.2**
JMM	**Marumori**	**3.57**	**236**	P		**Pn**	**00 33 35.4**	**-0.9**
JMM				*e*S		**Sn**	**00 34 14.9**	**-2.3**
JTKR	**Abashiri--Toko**	**4.07**	**354**	P		**Pn**	**00 33 44.1**	**+1.0**
JTKR				*e*S		**Sn**	**00 34 29.8**	**+0.4**
MAT	**Matsushiro**	**6.02**	**238**	P		**Pn**	**00 34 10.7**	**+0.8**
MAT				S		**Sn**	**00 35 19.0**	**+1.6**

*LDG **31** 00:35:26.6±0.6, 1507S×16731E, h10km, Mb4.4/2, Error ellipse: s-maj=80.8km s-min=41.7km az=37.0*
*ISCJB **31** 00:35:39.0±1.0, 1566S±007×16749E±008, h137km±10km, mb4.1/8, Error ellipse: s-maj=13.6km s-min=11.4km az=117.8*
*IDC **31** 00:35:40.1±6.5, 1563S×16742E, h128km±64km, mb3.9/4, mb1 4.1/5, mb1mx3.8/14, mbtmp4.4/5, Error ellipse: s-maj=55.2km s-min=36.1km az=154.0*
*NEIC **31** 00:35:40.6±1.1, 1565S×16745E, h130km±9km, mb4.0/5, Error ellipse: s-maj=9.9km s-min=8.0km az=212.0*

ISC 31 00:35:40.1±1.0, 1563S±007×16750E±008, h128km±10km, n36, σ0°77/22, mb4.1/8, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKM	**Butte a Klehm**	**2.15**	**161**	⇑*i*P	**Pn**	**00 36 14.3**	**-1.5**
BKM				S	**Sn**	**00 36 43.2**	**+0.1**
DZM	**Mont Dzumac**	**6.48**	**189**	P	**Pn**	**00 37 13.4**	**+0.3**
	12nm,0.3s,baz=43,slow=18,SNR=99						
DZM				S	**Sn**	**00 38 25.9**	**+0.2**
	5.3nm,0.3s,baz=132,slow=23,SNR=9.6						
HNR	**Honiara**	**9.61**	**309**	*e*Pn	**Pn**	**00 37 55.8**	**+0.6**
RAO	**Raoul Island**	**19.09**	**138**	*e*P	**P**	**00 39 54.2**	**+1.5**
	89nm,0.3s						
AFI	**Afiamalu**	**20.11**	**88**	*e*P	**P**	**00 40 04.0**	**+0.3**
CTAO	**Charters Tower**	**20.70**	**255**	*e*P	**P**	**00 40 11.7**	**+1.6**
	2.5nm,0.4s						
PMG	**Port Moresby**	**20.79**	**285**	*e*P	**P**	**00 40 11.0**	**0.0**
STKA	**Stephens Creek**	**28.59**	**231**	P	**P**	**00 41 23.5**	**-0.6**
	1.7nm,0.6s,mb4.0,baz=63,slow=11,SNR=3.3						
WRAB	**Tennant Creek**	**31.83**	**257**	*e*P	**P**	**00 41 52.3**	**-0.3**
	0.8nm,0.5s,mb3.7						
WRA	**Warramunga Arr**	**31.84**	**257**	P	**P**	**00 41 52.1**	**-0.5**
	1.7nm,0.6s,mb4.0,baz=85,slow=8.7,SNR=14						
ASAR	**Alice Springs**	**32.57**	**250**	P	**P**	**00 41 59.0**	**-0.1**
	6.3nm,0.6s,mb4.5,baz=76,slow=9.2,SNR=38						
MBWA	**Marble Bar**	**45.53**	**256**	*e*P	**P**	**00 43 47.0**	**+0.2**
	13nm,1.0s,mb4.5						
NWAO	**Narrogin (SRO)**	**48.49**	**240**	*e*P	**P**	**00 44 09.4**	**-0.3**
SBA	**Scott Base**	**62.24**	**180**	*e*P	**P**	**00 45 46.3**	**-1.8**
KS15	**Wonju Array Si**	**64.62**	**326**	P	**P**	**00 46 03.1**	**-0.7**
MDJ	**Mudanjiang**	**69.18**	**332**	*e*P	**P**	**00 46 32.7**	**0.0**
QSPA	**South Pole Qui**	**74.40**	**180**	*e*P	**P**	**00 47 04.9**	**+1.0**
	2.2nm,0.7s,mb4.0						
MA2	**Magadan**	**76.17**	**351**	*e*P	**P**	**00 47 13.5**	**-0.5**
ULN	**Ulaanbaatar**	**82.99**	**324**	*e*P	**P**	**00 47 51.0**	**+0.1**
	3.6nm,1.0s,mb4.1						
SONM	**Songino Array**	**83.35**	**324**	P	**P**	**00 47 52.9**	**+0.2**
	1.0nm,0.5s,mb3.8,baz=140,slow=7.6,SNR=11						
ARCES	**ARCESS Array B**	**121.18**	**345**	PKP	PKPdf	00 54 16.6	-1.1
	1.2nm,0.5s,baz=70,slow=1.4,SNR=9.9						
CABF	**La Chapelle**	**145.44**	**337**	*e*PKP1	PKPbc	00 55 02.6	-0.5
FLN	**La Foliniere**	**145.52**	**346**	*e*PKP1	PKPbc	00 55 02.3	-1.0
	20nm,0.8s						
LDF	**La Druitiere**	**145.59**	**345**	*e*PKP1	PKPbc	00 55 02.9	-0.6
	13nm,0.7s						
LOR	**Lormes**	**145.66**	**340**	*e*PKP1	PKPbc	00 55 03.0	-0.7
	11nm,0.8s						
SSF	**Saint Saulge**	**145.96**	**340**	*e*PKP1	PKPbc	00 55 03.9	-0.7
	7.0nm,0.6s						
GRR	**Gorron**	**145.96**	**346**	*e*PKP1	PKPbc	00 55 04.5	-0.1
	32nm,1.0s						
LPL	**La Plagne**	**146.10**	**335**	*e*PKP1	PKPbc	00 55 05.2	+0.1
LPG	**La Plagne**	**146.11**	**335**	*e*PKP1	PKPbc	00 55 05.5	+0.4
	5.4nm,0.6s						
AVF	**Avril sur Loir**	**146.24**	**340**	*e*PKP1	PKPbc	00 55 05.1	-0.4
SGMF	**Saint Gilles**	**146.45**	**348**	*e*PKP1	PKPbc	00 55 05.5	-0.6
	67nm,1.3s						
ROSF	**Rostrenen**	**146.51**	**349**	*e*PKP1	PKPbc	00 55 05.3	-1.0
BGF	**Bois d'Agland**	**146.61**	**341**	*e*PKP1	PKPbc	00 55 06.1	-0.5
	9.2nm,0.7s						
QUIF	**Quistinic**	**146.90**	**348**	*e*PKP1	PKPbc	00 55 06.8	-0.6
TCF	**Toulx Ste Croi**	**147.05**	**341**	*e*PKP1	PKPbc	00 55 07.0	-0.8
	28nm,1.2s						
MFF	**Saint Martin d**	**147.45**	**344**	*e*PKP1	PKPbc	00 55 08.6	-0.3
	16nm,0.8s						

WEL 31 01:05:55.7±0.4, 3754S×17658E, h187km±3km, ML3.5/13, Error ellipse: s-maj=5.8km s-min=5.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.83**	**150**	PN	Pn	01 06 22.8	-0.1
URZ				SN	Sn	01 06 43.7	-0.3
MWZ	**Matawai**	**1.09**	**137**	PN	Pn	01 06 24.9	+0.2
MWZ				SN	Sn	01 06 47.0	-0.3
MXZ	**Matakaoa Point**	**1.37**	**92**	PN	Pn	01 06 27.0	-0.1
MXZ				SN	Sn	01 06 52.2	+0.9
PUZ	**Puketiti**	**1.43**	**112**	PN	Pn	01 06 27.3	-0.3
BKZ	**Black Stump Fm**	**1.63**	**182**	PN	Pn	01 06 29.3	-0.1
BKZ				SN	Sn	01 06 55.6	0.0
KNZ	**Kokohu**	**1.71**	**150**	PN	Pn	01 06 30.6	+0.4
TWVZ	**Taurewa**	**1.78**	**210**	PN	Pn	01 06 31.5	+0.6
FWVZ	**Far West T-bar**	**1.90**	**205**	PN	Pn	01 06 32.7	+0.6
WNVZ	**Wahianoa**	**1.95**	**203**	PN	Pn	01 06 32.9	+0.3
PXZ	**Pawanui**	**2.50**	**175**	PN	Pn	01 06 38.3	-0.5
TSZ	**Takapari Road**	**2.56**	**191**	PN	Pn	01 06 38.7	-0.8
BFZ	**Birch Farm**	**3.15**	**185**	PN	Pn	01 06 45.4	-1.1
MRZ	**Mangatainoka R**	**3.21**	**194**	PN	Pn	01 06 45.6	-1.7
TIWZ	**Tintock**	**3.28**	**189**	PN	Pn	01 06 46.7	-1.3
KIW	**Kapiti Island**	**3.56**	**201**	PN	Pn	01 06 49.7	-1.8
CAW	**Cannon Point**	**3.75**	**198**	PN	Pn	01 06 51.3	-2.6

*ISCJB **31** 01:20:05.0±1.7, 413N±0.1×7268E±0.10, h10km, Error ellipse: s-maj=19.0km s-min=9.7km az=150.8*
*KNET **31** 01:20:05.1±0.9, 4137N×7289E, h10km±3km, ml2.0, Error ellipse: s-maj=7.1km s-min=4.6km az=139.0*
*NNC **31** 01:20:09.8±11.0, 4145N×7257E, h20km±60km, mb2.3, mpv1.8, Error ellipse: s-maj=69.1km s-min=33.1km az=161.0*

ISC 31 01:20:04.7±1.8, 412N±01×727E±01, h10km, n8, σ1°24/15, 8C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**1.23**	**38**	⇑P	**Pn**	**01 20 23.8**	**-4.2**
	5.7nm,0.1s,SNR=12						
AML				⇓S	**Sb**	**01 20 38.5**	**-5.5**
	20nm,0.2s						
UCH	**Uchtor**	**1.74**	**52**	⇓P	**Pn**	**01 20 33.6**	**-1.4**
	7.0nm,0.2s,SNR=28						
UCH				⇓S	**Sn**	**01 20 54.6**	**-2.6**
	15nm,0.2s						
AAK	**Ala-Archa**	**2.00**	**42**	⇑P	**Pn**	**01 20 37.8**	**-0.8**
	1.5nm,0.1s						
AAK				⇑S	**Sn**	**01 21 02.7**	**-1.0**
	14nm,0.3s						
KZA	**Kyzart**	**2.13**	**64**	⇑P	**Pn**	**01 20 40.4**	**0.0**
	5.4nm,0.2s,SNR=23						
KZA				⇑S	**Sn**	**01 21 07.1**	**+0.2**
	12nm,0.4s						
KBK	**Karagaybulak**	**2.26**	**48**	⇓P	**Pn**	**01 20 42.6**	**+0.5**
	2.6nm,0.1s,SNR=5.8						
KBK				⇑S	**Sn**	**01 21 11.7**	**+1.7**
	14nm,0.3s						
USP	**Ospenovka**	**2.50**	**32**	⇓P	**Pn**	**01 20 44.8**	**-0.6**
	1.8nm,0.1s,SNR=7.7						
USP				⇓S	**Sn**	**01 21 16.0**	**0.0**
	14nm,0.3s						
KK31	**Karatay Array**	**2.52**	**321**	Pn	**Pn**	**01 20 46.0**	**+0.4**
	0.6nm,0.3s,baz=131,slow=14,SNR=25						
KK31				Lg		01 21 21.6	
	3.5nm,0.4s,baz=142,slow=28,SNR=10						
TKM2	**Tokmak 2**	**2.80**	**50**	⇑P	**Pn**	**01 20 52.2**	**+2.7**
	0.1nm,0.5s						
TKM2				⇑S	**Sn**	**01 21 24.9**	**+1.6**
	0.2nm,0.5s						

*ISCJB **31** 01:33:18.8±0.5, 5075N±003×13026W±006, h10km, Error ellipse: s-maj=6.6km s-min=2.7km az=93.9*
*NEIC **31** 01:33:19.7, 5064N×13049W, h10km, MW4.1(PGC), After PGC.*
*PGC **31** 01:33:19.7, 5064N×13049W, h10km, MLSn3.5/2, Mw4.1/9, Mw4.1, 216km southwest of Pt. Hardy, Bc West of Vancouver Island, British Columbia*

ISC 31 01:33:20.4±0.5, 5076N±003×13024W±006, h10km, n83, σ1°31/139, 4C, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.35**	**94**	⇑Pn	**Pn**	**01 33 44.8**	**-0.4**
HOLB				Sn	**Sn**	**01 34 02.8**	**-0.4**
	comp=Z,336nm,0.3s						
HOLB				Trac		01 34 03.4	
	comp=Z,336nm,0.3s						
HOLB	**Holberg**	**1.35**	**94**	⇑*i*Pn	**Pn**	**01 33 44.8**	**-0.4**
HOLB				*e*Sn	**Sn**	**01 34 02.8**	**-0.4**
BPBC	**Brooks Peninsu**	**1.69**	**110**	Pn	**Pn**	**01 33 48.8**	**-1.2**
BPBC				Sn	**Sn**	**01 34 09.1**	**-2.5**
	comp=Z,266nm,0.2s						
BPBC				Trac		01 34 10.8	
	comp=Z,266nm,0.2s						
BPBC	**Brooks Peninsu**	**1.69**	**110**	*e*Pn	**Pn**	**01 33 48.8**	**-1.2**
BPBC				*e*Sn	**Sn**	**01 34 09.1**	**-2.5**
PHC	**Port Hardy**	**1.79**	**91**	⇑Pn	**Pn**	**01 33 51.2**	**0.0**
PHC				Sn	**Sn**	**01 34 13.4**	**-0.6**
PHC				Trac		01 34 14.7	
	comp=Z,225nm,0.3s						
PHC	**Port Hardy**	**1.79**	**91**	⇑Pn	**Pn**	**01 33 51.2**	**0.0**
PHC				*e*Sn	**Sn**	**01 34 13.4**	**-0.6**
BBB	**Bella Bella**	**1.95**	**42**	Pn	**Pn**	**01 33 54.0**	**+0.6**
BBB				Sn	**Sn**	**01 34 18.1**	**0.0**
BBB				Trac		01 34 20.2	
	comp=Z,104nm,0.2s						
BBB	**Bella Bella**	**1.95**	**42**	Pn	**Pn**	**01 33 54.0**	**+0.6**
BBB				*e*Sn	**Sn**	**01 34 18.1**	**0.0**
MAYB	**Maynard**	**1.99**	**99**	⇑Pn	**Pn**	**01 33 53.9**	**-0.2**
MAYB				Sn	**Sn**	**01 34 18.4**	**-0.7**
	comp=Z,47nm,0.2s						
MAYB				Trac		01 34 20.0	
	comp=Z,47nm,0.2s						
MAYB	**Maynard**	**1.99**	**99**	⇑*i*Pn	**Pn**	**01 33 53.9**	**-0.2**
MAYB				*e*Sn	**Sn**	**01 34 18.4**	**-0.7**
BNB	**Barry Inlet**	**2.04**	**333**	Pn	**Pn**	**01 33 53.2**	**-1.6**
BNB				Sn	**Sn**	**01 34 17.4**	**-2.9**
	comp=Z,2μm,0.5s						
BNB				Trac		01 34 22.9	
	comp=Z,2μm,0.5s						
BNB	**Barry Inlet**	**2.04**	**333**	*e*Pn	**Pn**	**01 33 53.2**	**-1.6**
BNB				*e*Sn	**Sn**	**01 34 17.4**	**-2.9**
EDB	**Eliza Dome**	**2.19**	**113**	Pn	**Pn**	**01 33 55.5**	**-1.3**
EDB				Sn	**Sn**	**01 34 21.5**	**-2.5**
EDB				Trac		01 34 27.2	
	comp=Z,26nm,0.2s						
EDB	**Eliza Dome**	**2.19**	**113**	Pn	**Pn**	**01 33 55.5**	**-1.3**
EDB				*e*Sn	**Sn**	**01 34 21.5**	**-2.5**
WOSB	**Woss**	**2.42**	**103**	⇑Pn	**Pn**	**01 34 00.1**	**+0.1**
WOSB				Sn	**Sn**	**01 34 29.3**	**-0.4**
	comp=Z,28nm,0.1s						
WOSB				Trac		01 34 30.8	
	comp=Z,28nm,0.1s						
WOSB	**Woss**	**2.42**	**103**	Pn	**Pn**	**01 34 00.1**	**+0.1**
WOSB				*e*Sn	**Sn**	**01 34 29.3**	**-0.4**
MOBC	**Moresby Island**	**2.64**	**338**	Pn	**Pn**	**01 34 01.0**	**-2.1**
MOBC				Sn	**Sn**	**01 34 32.6**	**-2.5**
MOBC				Trac		01 34 42.2	
	comp=Z,24nm,0.5s						
MOBC	**Moresby Island**	**2.64**	**338**	*e*Pn	**Pn**	**01 34 01.0**	**-2.1**
MOBC				*e*Sn	**Sn**	**01 34 32.6**	**-2.5**
NCRB	**Newcastle Ridg**	**2.69**	**96**	Pn	**Pn**	**01 34 03.9**	**+0.2**
NCRB				Sn	**Sn**	**01 34 35.7**	**-0.7**
	comp=Z,32nm,0.3s						
NCRB				Trac		01 34 43.8	
	comp=Z,32nm,0.3s						
NCRB	**Newcastle Ridg**	**2.69**	**96**	*e*Pn	**Pn**	**01 34 03.9**	**+0.2**
NCRB				*e*Sn	**Sn**	**01 34 35.7**	**-0.7**
BNAB	**Bonilla**	**2.75**	**355**	Pn	**Pn**	**01 34 03.3**	**-1.2**
BNAB				Sn	**Sn**	**01 34 38.4**	**+0.7**
	comp=Z,14nm,0.4s						
BNAB				Trac		01 34 47.6	
	comp=Z,14nm,0.4s						
BNAB	**Bonilla**	**2.75**	**355**	*e*Pn	**Pn**	**01 34 03.3**	**-1.2**
BNAB				*e*Sn	**Sn**	**01 34 38.4**	**+0.7**
ETB	**Estevan Point**	**2.76**	**119**	*e*Pn	**Pn**	**01 34 03.7**	**-1.0**
VIB	**Van Inlet**	**2.87**	**331**	Pn	**Pn**	**01 34 04.5**	**-1.7**
VIB				Sn	**Sn**	**01 34 33.9**	**-6.8**
	comp=Z,10.0nm,0.4s						
VIB				Trac		01 34 46.2	
	comp=Z,10.0nm,0.4s						
VIB	**Van Inlet**	**2.87**	**331**	*e*Pn	**Pn**	**01 34 04.5**	**-1.7**
VIB				*e*Sn	**Sn**	**01 34 33.9**	**-6.8**
GDR	**Gold River**	**2.88**	**108**	Pn	**Pn**	**01 34 05.8**	**-0.4**
GDR				Sn	**Sn**	**01 34 39.5**	**-1.4**
	comp=Z,19nm,0.4s						
GDR				Trac		01 35 02.1	
	comp=Z,19nm,0.4s						
GDR	**Gold River**	**2.88**	**108**	*e*Pn	**Pn**	**01 34 05.8**	**-0.4**
GDR				*e*Sn	**Sn**	**01 34 39.5**	**-1.4**
CBB	**Campbell River**	**3.21**	**101**	Pn	**Pn**	**01 34 11.4**	**+0.6**
CBB				Sn	**Sn**	**01 34 48.9**	**-0.2**
CBB				Trac		01 34 50.1	
	comp=Z,14nm,0.3s						
CBB	**Campbell River**	**3.21**	**101**	Pn	**Pn**	**01 34 11.4**	**+0.6**
CBB				*e*Sn	**Sn**	**01 34 48.9**	**-0.2**
BTB	**Buttle Lake**	**3.30**	**111**	Pn	**Pn**	**01 34 11.9**	**-0.2**
BTB				Sn	**Sn**	**01 34 50.9**	**-0.5**
	comp=Z,28nm,0.3s						
BTB				Trac		01 34 54.0	
	comp=Z,28nm,0.3s						
BTB	**Buttle Lake**	**3.30**	**111**	*e*Pn	**Pn**	**01 34 11.9**	**-0.2**
BTB				*e*Sn	**Sn**	**01 34 50.9**	**-0.5**
OZB	**Mount Ozzard**	**3.56**	**119**	Pn	**Pn**	**01 34 15.3**	**-0.4**
OZB				Sn	**Sn**	**01 34 54.9**	**-2.9**
OZB				Trac		01 34 58.1	
	comp=Z,9.0nm,0.2s						
OZB	**Mount Ozzard**	**3.56**	**119**	*e*Pn	**Pn**	**01 34 15.3**	**-0.4**
OZB				*e*Sn	**Sn**	**01 34 54.9**	**-2.9**
RUBB	**Prince Rupert**	**3.57**	**360**	Pn	**Pn**	**01 34 15.8**	**0.0**
RUBB				Sn	**Sn**	**01 34 58.9**	**+0.9**
RUBB				Trac		01 35 37.9	
	comp=Z,68nm,0.9s						
RUBB	**Prince Rupert**	**3.57**	**360**	*e*Pn	**Pn**	**01 34 15.8**	**0.0**
RUBB				*e*Sn	**Sn**	**01 34 58.9**	**+0.9**
NDB	**Naden**	**3.60**	**334**	Pn	**Pn**	**01 34 15.2**	**-1.0**
NDB				Trac		01 34 56.9	
	comp=Z,12nm,0.4s						
NDB	**Naden**	**3.60**	**334**	*e*Pn	**Pn**	**01 34 15.2**	**-1.0**
ALB	**Alberni**	**3.80**	**111**	Pn	**Pn**	**01 34 18.9**	**0.0**
ALB				Sn	**Sn**	**01 35 03.8**	**+0.2**
	comp=Z,4.0nm,0.2s						
ALB				Trac		01 35 04.8	
	comp=Z,4.0nm,0.2s						
ALB	**Alberni**	**3.80**	**111**	*e*Pn	**Pn**	**01 34 18.9**	**0.0**
ALB				*e*Sn	**Sn**	**01 35 03.8**	**+0.2**
TXB	**Texada**	**3.88**	**104**	Pn	**Pn**	**01 34 20.3**	**+0.3**
TXB				Trac		01 35 00.8	
	comp=Z,10.0nm,0.4s						
TXB				Sn	**Sn**	**01 35 03.7**	**-1.9**
	comp=Z,10.0nm,0.4s						
TXB	**Texada**	**3.88**	**104**	*e*Pn	**Pn**	**01 34 20.3**	**+0.3**
TXB				*e*Sn	**Sn**	**01 35 03.7**	**-1.9**
MGB	**Mount Grey**	**4.00**	**114**	Pn	**Pn**	**01 34 21.3**	**-0.4**
MGB				Sn	**Sn**	**01 35 05.4**	**-3.2**
MGB				Trac		01 35 09.1	
	comp=Z,8.0nm,0.3s						
MGB	**Mount Grey**	**4.00**	**114**	*e*Pn	**Pn**	**01 34 21.3**	**-0.4**
MGB				*e*Sn	**Sn**	**01 35 05.4**	**-3.2**
SHB	**Sechelt**	**4.26**	**103**	Pn	**Pn**	**01 34 26.1**	**+0.9**
SHB				Sn	**Sn**	**01 35 15.0**	**+0.1**
SHB				Trac		01 35 19.4	
	comp=Z,23nm,0.3s						
SHB	**Sechelt**	**4.26**	**103**	*e*Pn	**Pn**	**01 34 26.1**	**+0.9**
SHB				*e*Sn	**Sn**	**01 35 15.0**	**+0.1**
NLLB	**Nanaimo Lost L**	**4.32**	**108**	Pn	**Pn**	**01 34 26.1**	**0.0**
NLLB				Sn	**Sn**	**01 35 14.8**	**-1.7**
NLLB				Trac		01 35 19.2	
	comp=Z,5.0nm,0.2s						
NLLB	**Nanaimo Lost L**	**4.32**	**108**	*e*Pn	**Pn**	**01 34 26.1**	**0.0**
NLLB				*e*Sn	**Sn**	**01 35 14.8**	**-1.7**
PFB	**Port Renfrew**	**4.36**	**118**	*e*Pn	**Pn**	**01 34 26.9**	**+0.3**
WPB	**Watts Point**	**4.65**	**101**	Pn	**Pn**	**01 34 31.7**	**+1.1**
WPB				Trac		01 35 27.8	
	comp=Z,5.0nm,0.5s						
WPB	**Watts Point**	**4.65**	**101**	*e*Pn	**Pn**	**01 34 31.7**	**+1.1**
BIB	**Bowen Island**	**4.67**	**104**	Pn	**Pn**	**01 34 31.3**	**+0.4**
BIB				Sn	**Sn**	**01 35 25.7**	**+0.6**
	comp=Z,3.0nm,0.0s						
BIB				Trac		01 35 48.5	
	comp=Z,3.0nm,0.0s						
BIB	**Bowen Island**	**4.67**	**104**	*e*Pn	**Pn**	**01 34 31.3**	**+0.4**
BIB				*e*Sn	**Sn**	**01 35 25.7**	**+0.6**
LZB	**Mount Lazard**	**4.69**	**115**	Pn	**Pn**	**01 34 32.3**	**+1.1**
LZB				Sn	**Sn**	**01 35 24.3**	**-1.4**
LZB				Trac		01 35 29.1	
	comp=Z,1.0nm,0.2s						
LZB	**Mount Lazard**	**4.69**	**115**	*e*Pn	**Pn**	**01 34 32.3**	**+1.1**
LZB				*e*Sn	**Sn**	**01 35 24.3**	**-1.4**
GOBB	**Galiano Island**	**4.72**	**110**	Pn	**Pn**	**01 34 32.1**	**+0.6**
GOBB				Sn	**Sn**	**01 35 24.2**	**-2.2**
	comp=Z,4.0nm,0.2s						
GOBB				Trac		01 35 30.8	
	comp=Z,4.0nm,0.2s						
GOBB	**Galiano Island**	**4.72**	**110**	*e*Pn	**Pn**	**01 34 32.1**	**+0.6**
GOBB				*e*Sn	**Sn**	**01 35 24.2**	**-2.2**
PGC	**Sidney**	**4.89**	**113**	Pn	**Pn**	**01 34 34.7**	**+0.8**
PGC				Sn	**Sn**	**01 35 29.2**	**-1.4**
PGC				Trac		01 35 33.6	
PGC	**Sidney**	**4.89**	**113**	*e*Pn	**Pn**	**01 34 35.4**	**+1.5**
PGC				Sn	**Sn**	**01 35 31.1**	**+0.6**
OCWA	**Octopus Mounta**	**4.99**	**125**	*e*Pn	**Pn**	**01 34 37.1**	**+1.8**
SNB	**Saturna Island**	**5.00**	**111**	Pn	**Pn**	**01 34 37.0**	**+1.6**
SNB				Sn	**Sn**	**01 35 33.6**	**+0.4**
SNB				Trac		01 35 38.0	
	comp=Z,1.0nm,0.2s						
SNB	**Saturna Island**	**5.00**	**111**	*e*Pn	**Pn**	**01 34 37.0**	**+1.6**
SNB				*e*Sn	**Sn**	**01 35 33.6**	**+0.4**
HNB	**Haney**	**5.16**	**104**	*e*Pn	**Pn**	**01 34 39.9**	**+2.2**
FSB	**Fort Saint Jam**	**5.18**	**42**	Pn	**Pn**	**01 34 40.1**	**+2.3**
FSB				Sn	**Sn**	**01 35 38.5**	**+0.9**
	comp=Z,6.0nm,0.3s						
FSB				Trac		01 35 41.4	
	comp=Z,6.0nm,0.3s						
FSB	**Fort Saint Jam**	**5.18**	**42**	*e*Pn	**Pn**	**01 34 40.1**	**+2.3**
FSB				*e*Sn	**Sn**	**01 35 38.1**	**+0.5**
MCW	**Mount Constitu**	**5.24**	**111**	P	**Pn**	**01 34 41.0**	**+2.3**
LLLB	**Lillooet**	**5.32**	**88**	*e*Pn	**Pn**	**01 34 42.1**	**+2.3**
VDB	**Vedder Mountai**	**5.54**	**105**	Pn	**Pn**	**01 34 44.2**	**+1.3**
VDB				P		01 34 44.2	
VDB	**Vedder Mountai**	**5.54**	**105**	*e*Pn	**Pn**	**01 34 44.2**	**+1.3**
MBW	**Mount Baker**	**5.76**	**107**	P	**Pn**	**01 34 48.7**	**+2.8**
CMW	**Cultus Mountai**	**5.78**	**111**	P	**Pn**	**01 34 48.2**	**+2.1**
RPW	**Rockport**	**6.13**	**109**	P	**Pn**	**01 34 53.2**	**+2.3**
NLW	**Nelson Butte**	**7.00**	**109**	P	**Pn**	**01 35 05.2**	**+2.3**
DLBC	**Dease Lake**	**7.69**	**1**	Pn	**Pn**	**01 35 13.9**	**+1.5**
COR	**Corvallis**	**7.75**	**140**	Pn	**Pn**	**01 35 12.8**	**-0.5**
NEW	**Newport**	**8.90**	**101**	Pn	**Pn**	**01 35 29.6**	**+0.7**
HUMO	**Hull Mountain**	**9.57**	**146**	Pn	**Pn**	**01 35 36.5**	**-1.6**
CHMT	**Chamberlain Mo**	**11.84**	**102**	*e*Pn	**Pn**	**01 36 12.0**	**+2.8**
HLID	**Hailey**	**12.94**	**118**	*e*Pn	**Pn**	**01 36 25.6**	**+1.3**
DLMT	**Dillon**	**12.97**	**108**	*e*Pn	**Pn**	**01 36 27.2**	**+2.5**
EGMT	**Eagleton**	**13.62**	**94**	*e*Pn	**Pn**	**01 36 37.5**	**+4.0**
	5.6nm,1.1s						
ELK	**Elko**	**14.47**	**128**	Pn	**Pn**	**01 36 45.0**	**-0.1**
IMW	**Indian Meadow**	**14.76**	**110**	*e*Pn	**Pn**	**01 36 48.3**	**-0.8**
	2.4nm,0.6s						
IMW				*e*		01 37 00.2	
TPAW	**Teton Pass**	**14.99**	**112**	*e*P	**Pn**	**01 37 03.3**	**+11**

PRE 31 01:52:54.8±1.4, 2118S×3335E, h5km, ML3.6, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BFT	**Belfast (SA)**	**5.42**	**213**	*e*P	Pn	01 54 17.4	+1.2
BFT				*e*S	Sn	01 55 16.5	-2.4
BFT				AML	AML	01 55 53.6	
	comp=Z,22nm,0.6s						
POGA	**Pongola**	**6.37**	**194**	*e*P	Pn	01 54 29.0	-0.2
POGA				*e*S	Sn	01 55 39.5	-2.7
POGA				AML	AML	01 56 08.6	
	comp=Z,6.9nm,0.7s						
KSR	**Koster**	**7.53**	**231**	*e*P	Pn	01 54 45.9	+0.8
KSR				*e*S	Sn	01 56 08.4	-2.5
KSR				AML	AML	01 57 09.3	
	comp=Z,7.5nm,0.4s						
LBTB	**Lobatse**	**8.09**	**240**	*e*P	Pn	01 54 54.6	+1.7
LBTB				*e*S	Sn	01 56 21.4	-3.3
LBTB				AML	AML	01 56 41.6	
	comp=Z,5.8nm,0.7s						
SWZ	**Schweizer**	**9.45**	**229**	*e*P	Pn	01 55 13.1	+1.6
SWZ				*e*S	Sn	01 56 53

19nm,0.5s,mb4.9,baz=89,slow=8.3,SNR=207
FITZ Fitzroy Crossi 52.93 261 P **P 02 31 53.3 +0.6**
1.5nm,0.9s,mb3.3,baz=56,slow=11,SNR=6.3
ILAR Eielson Array 85.89 13 P **P 02 35 08.3 -0.9**
0.2nm,0.4s,mb3.1,baz=228,slow=5.4,SNR=4.4
PDAR Pinedale Array 87.40 43 P **P 02 35 17.9 +1.5**
0.1nm,0.4s,mb2.8,baz=224,slow=4.8,SNR=3.7

NEIC ***31*** *02:52:07.9, 6639N×14253W, h12km, ML3.2(AEIC), After AEIC.*

PGC 31 02:52:10.3, 6630N×14182W, h1km, ML3.3/2, 272km northwest of Dawson, Yt Eastern Alaska., Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**1.58**	**317**	P	Pn	02 52 31.5	-7.9
BM3				S	Sn	02 52 49.9	-10
DAWY	**Dawson**	**2.46**	**154**	Pn	Pn	02 52 50.0	-1.6
DAWY				Sn	Sn	02 53 21.2	-1.1
DAWY				Sg	Sg	02 53 27.7	-1.8
DAWY				Trac		02 53 38.2	
	comp=Z,79nm,0.5s						
DAWY	**Dawson**	**2.46**	**154**	P	Pn	02 52 50.0	-1.6
DOT	**Dot Lake**	**2.82**	**201**	P	Pn	02 52 52.9	-3.6
DOT				S	Sn	02 53 30.5	-0.7
COLA	**College**	**2.88**	**243**	*e*Pg	Pg	02 52 57.4	-8.2
COLA				*e*Sg	Sg	02 53 29.6	-13
COLD	**Coldfoot**	**3.45**	**290**	P	Pn	02 52 58.3	-6.9
COLD				S	Sn	02 53 36.0	-11
MENT	**Mentasta**	**3.47**	**194**	*e*Pn	Pn	02 53 01.8	-3.7
MENT				*e*Pg	Pg	02 53 14.6	-2.2
MENT				*e*Sn	Sn	02 53 43.1	-4.0
MENT				*e*Sg	Sg	02 53 58.0	-3.8
INK	**Inuvik**	**3.80**	**54**	Pn	Pn	02 53 09.4	-0.6
INK				Sn	Sn	02 53 53.0	-2.3
INK				Sg	Sg	02 58.2	-4.1
INK				Trac		02 54 14.7	
	comp=Z,31nm,0.7s						
INK	**Inuvik**	**3.80**	**54**	*e*Pn	Pn	02 53 08.8	-1.1
INK				*e*Pg	Pg	02 53 21.7	-1.4
INK				*e*Sg	Sg	02 54 12.9	+0.6
MCK	**McKinley**	**3.96**	**233**	P	Pn	02 53 07.1	-5.1
TRF	**Thorofare Moun**	**4.60**	**236**	P	Pn	02 53 15.3	-5.7
IM3	**Indian Mountai**	**4.86**	**272**	P	Pn	02 53 16.5	-7.9
HYT	**Haines Junctio**	**5.82**	**159**	Pn	Pn	02 53 37.1	-0.6
HYT				Sg	Sg	02 55 11.2	-6.1
HYT				Trac		02 55 31.9	
	comp=Z,11nm,0.6s						
EYAK	**Cordova Ski Ar**	**6.03**	**199**	*e*Pn	Pn	02 53 38.4	-2.2
WHY	**Whitehorse**	**6.45**	**148**	Pn	Pn	02 53 45.0	-1.4
WHY				Sg	Sg	02 55 33.6	-3.9
WHY				Trac		02 55 50.0	
	comp=Z,4.0nm,0.8s						
TTA	**Tatalina**	**6.97**	**248**	*e*Pn	Pn	02 53 46.1	-7.4
YKW3	**Yellowknife Ar**	**12.28**	**95**	P	Pn	02 55 03.2	-3.0
YKW3				Sn	Sn	02 57 14.7	-9.0
YKW3				Trac		02 57 19.5	
	comp=Z,2.0nm,0.5s						

ISCJB ***31*** *02:53:07.2±0.4, 4022N±002×2254E±004, h13km±4km, Error ellipse: s-maj=4.5km s-min=3.6km az=13.9*
NEIC ***31*** *02:53:07.4, 4018N×2248E, h21km, MD3.2(ATH), After ATH.*
ATH ***31*** *02:53:07.4, 4018N×2248E, h21km±2km, MD3.2/5*
CSEM ***31*** *02:53:08.0±0.1, 4021N×2251E, h10km, ML2.6, Error ellipse: s-maj=1.7km s-min=1.4km az=108.0*
THE ***31*** *02:53:08.0, 4022N×2253E, h1km, ML2.6*

ISC 31 02:53:07.9±0.4, 4021N±002×2252E±003, h11km±4km, n20, σ0°88/33, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIT	**Litokhoron**	**0.11**	**193**	*e*Pg	**Pg**	**02 53 10.6**	**-0.3**
LIT				*e*Sg	**Sg**	**02 53 12.4**	**-0.5**
THE	**Thessaloniki**	**0.54**	**39**	*e*Pg	**Pg**	**02 53 18.0**	**-0.5**
THE				*e*Sg	**Sg**	**02 53 25.7**	**+0.2**
KZN	**Kozani**	**0.58**	**280**	*e*PN	**Pg**	**02 53 18.0**	**-1.3**
KZN				*e*SN	**Sg**	**02 53 27.0**	**0.0**
PLG	**Polygyros**	**0.72**	**77**	*e*PN	**Pn**	**02 53 21.9**	**-2.2**
PLG				*e*SN	**Sg**	**02 53 32.4**	**+1.0**
GRG	**Griva**	**0.75**	**353**	*e*Pg	**Pg**	**02 53 22.0**	**-0.5**
GRG				*e*Sg	**Sg**	**02 53 33.0**	**+0.8**
SOH	**Sokhos**	**0.88**	**46**	*e*Pg	**Pg**	**02 53 24.2**	**-0.6**
SOH				*e*Sg	**Sg**	**02 53 36.9**	**+0.6**
SOH	**Sokhos**	**0.88**	**46**	*e*Pg	**Pg**	**02 53 24.2**	**-0.7**
SOH				*e*Sg	**Sg**	**02 53 36.9**	**+0.6**
PAIG	**Paliouri**	**0.93**	**107**	*e*Pg	**Pg**	**02 53 25.3**	**-0.6**
PAIG				*e*Sg	**Sg**	**02 53 38.9**	**+0.8**
PAIG	**Paliouri**	**0.93**	**107**	*e*Pg	**Pg**	**02 53 25.3**	**-0.6**
PAIG				*e*Sg	**Sg**	**02 53 38.8**	**+0.8**
KNT	**Kendrikon**	**0.99**	**17**	*e*Pg	**Pg**	**02 53 26.3**	**-0.7**
KNT				*e*Sg	**Sg**	**02 53 40.4**	**+0.5**
XOR	**Xorichti**	**0.99**	**148**	*e*Pg	**Pg**	**02 53 26.8**	**-0.3**
XOR				*e*Sg	**Sg**	**02 53 40.7**	**+0.8**
FNA	**Florina**	**1.04**	**303**	*e*Pg	**Pg**	**02 53 27.4**	**-0.7**
FNA				*e*Sg	**Sg**	**02 53 42.6**	**+0.9**
NEO	**Neokhori**	**1.05**	**149**	*e*PN	**Pn**	**02 53 27.1**	**-1.5**
OUR	**Ouranopolis**	**1.12**	**83**	*e*Pg	**Pg**	**02 53 29.0**	**-0.6**
AGG	**Agios Georgios**	**1.20**	**187**	*e*Pg	**Pg**	**02 53 30.5**	**-0.5**
AGG				*e*Sg	**Sg**	**02 53 48.5**	**+1.9**
JAN	**Janina**	**1.40**	**247**	*e*PN	**Pn**	**02 53 33.9**	**+0.5**
EVR	**Evrytania**	**1.41**	**203**	*e*PN	**Pn**	**02 53 33.6**	**+0.1**
LSK	**Leskovik**	**1.48**	**268**	*e*PN	**Pn**	**02 53 36.0**	**+1.6**
NVR	**Nevrokopi**	**1.52**	**41**	*e*PN	**Pn**	**02 53 36.2**	**+1.1**
LKR	**Lokris**	**1.60**	**167**	*e*PN	**Pn**	**02 53 36.0**	**-0.2**

IDC 31 02:53:46.1±4.8, 6635N×14645E, h138km±54km, mb3.2/4, mb1 3.3/6, mb1mx3.2/14, mbtmp3.6/6, Error ellipse: s-maj=61.5km s-min=25.9km az=138.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.85**	**166**	P	Pn	02 54 31.4	+0.5
	3.9nm,0.3s,baz=7.4,slow=5.1,SNR=8.9						
PMG				S	Sn	02 55 06.2	+0.6
	21nm,0.3s,baz=135,slow=23,SNR=31						
CTA	**Charters Tower**	**13.38**	**181**	P	Pn	02 56 57.3	+6.8
	0.5nm,0.3s,baz=348,slow=14,SNR=4.8						
WRA	**Warramunga Arr**	**17.70**	**220**	P	Pn	02 57 42.6	-1.4
	0.1nm,0.3s,baz=47,slow=12,SNR=8.8						
ASAR	**Alice Springs**	**20.79**	**214**	P	P	02 58 17.4	+1.2
	0.6nm,0.8s,baz=50,slow=8.8,SNR=5.5						
FITZ	**Fitzroy Crossi**	**23.28**	**239**	P	P	02 58 40.9	-0.4
	1.9nm,1.1s,baz=131,slow=18,SNR=4.4						
MKAR	**Makanchi Array**	**77.63**	**321**	P	P	03 05 27.5	+0.4
	0.3nm,0.4s,baz=108,slow=7.4,SNR=5.1						
ILAR	**Eielson Array**	**86.27**	**23**	P	P	03 06 11.7	-0.5
	0.7nm,0.6s,baz=252,slow=5.2,SNR=8.1						
TORD	**Torodi Ar. Bea**	**144.71**	**283**	PKP	PKPdf	03 13 07.4	+1.1
	0.8nm,0.7s,baz=65,slow=3.1,SNR=11						

CSEM ***31*** *03:00:21.7±0.8, 3898N×2785W, h5km±10km, ML1.1, After PDA*
PDA ***31*** *03:00:21.7±0.8, 3898N×2785W, h5km±10km, MD2.6, ML1.1*

SVSA 31 03:00:21.7±0.8, 3898N×2785W, h5km±10km, MD2.6, ML1.1, Error ellipse: s-maj=6.5km s-min=5.8km az=0.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STGR	**Santa Cruz**	**0.15**	**310**	*e*P	Pg	03 00 24.6	-0.2
STGR				*e*S	Sg	03 00 27.1	+0.2
STGR							
	21nm,0.1s						
STGR	**Santa Cruz**	**0.15**	**310**	*e*P	Pg	03 00 24.6	-0.2
STGR				*e*S	Sg	03 00 27.1	+0.2
SRBC	**Serra Branca**	**0.16**	**291**	*i* P	Pg	03 00 24.0	-0.8
SRBC				*e*S	Sg	03 00 26.0	-1.0
SRBC	**Serra Branca**	**0.16**	**291**	*e*S	Sg	03 00 26.0	-1.0
PVIA	**Vitoria**	**0.18**	**300**	*erx*		03 00 26.3	
PAMA	**Santo Amaro**	**0.39**	**221**	*e*P	Pg	03 00 28.5	-0.8
PAMA				*e*S	Sg	03 00 34.3	-0.2
PAMA							
	14nm,0.2s						
ROSA	**Rosais**	**0.40**	**230**	*e*P	Pg	03 00 28.2	-1.2
ROSA				*e*S	Sg	03 00 33.2	-1.4
PID	**Ribeirinha**	**0.58**	**201**	*e*P	Pg	03 00 30.6	-2.2
PID				*e*S	Sg	03 00 38.1	-2.2
PICO	**Pico**	**0.66**	**223**	*e*P	Pg	03 00 32.4	-1.9
PICO				*e*S	Sg	03 00 40.5	-2.3
PLUZ	**Luz**	**0.88**	**273**	*e*P	Pg	03 00 23.8	-15
PLUZ				*e*S	Sg	03 00 25.5	-24
PLUZ							
	19nm,0.1s						

ISCJB ***31*** *03:17:33.2±0.4, 5157N±002×687E±004, h0km, Error ellipse: s-maj=4.1km s-min=3.0km az=22.9*
BNS ***31*** *03:17:33.8±0.6, 5165N×696E, h1km, ML2.1*
BUG ***31*** *03:17:33.9, 5161N×699E, h1km, ML1.5*
CSEM ***31*** *03:17:34.0±0.1, 5166N×695E, h1km, ML3.0/4, Error ellipse: s-maj=3.2km s-min=1.5km az=89.0*
LDG ***31*** *03:17:35.3±0.3, 5156N×695E, h1km, Ml2.8/5, Error ellipse: s-maj=5.8km s-min=2.6km az=26.0, Suspected Mining induced.*
NEIC ***31*** *03:17:35.4±4.8, 5150N×684E, h10km, ML2.8(LDG), Error ellipse: s-maj=54.2km s-min=10.7km az=212.0*
BGR ***31*** *03:17:36.1±0.5, 5157N×712E, h1km, ML2.2/3, Error ellipse: s-maj=7.8km s-min=4.4km az=101.0*

ISC 31 03:17:33.9±0.4, 5158N±002×694E±004, h0km, n41, σ1°15/66, 3D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZER	**Hlnxe**	**0.06**	**311**	Pg	**Pg**	**03 17 36.0**	**+1.0**
BZER				Sg	**Sg**	**03 17 38.1**	**+2.4**
LAUG	**Laupendahl**	**0.23**	**179**	*e*Pg	**Pg**	**03 17 39.3**	**+0.9**
BUG	**Bochum--Univer**	**0.25**	**124**	*i*Pg	**Pg**	**03 17 39.5**	**+0.8**
BUG				*e*Sg	**Sg**	**03 17 43.3**	**+1.3**
WTSB	**Winterswijk**	**0.39**	**347**	*e*Pg	**Pg**	**03 17 40.9**	**-0.6**
	60nm,0.3s						
WTSB				*e*Sg	**Sg**	**03 17 46.2**	**-0.3**
BNS	**Bensberg**	**0.64**	**166**	*e*Pg	**Pg**	**03 17 47.3**	**+1.1**
HOBG	**Hohbusch**	**0.65**	**157**	*e*Pg	**Pg**	**03 17 47.0**	**+0.6**
IBBN	**Ibbenburen**	**0.89**	**35**	*e*Pg	**Pg**	**03 17 51.3**	**+0.4**
	SNR=4.3						
IBBN				*e*Sg	**Sg**	**03 18 03.6**	**+1.3**
STB	**Steinbach**	**0.99**	**184**	*e*Pg	**Pg**	**03 17 53.8**	**+0.9**
STB				*e*Sg	**Sg**	**03 18 08.4**	**+2.6**
	45nm,0.5s						
KLL	**Kalltalsperre**	**1.02**	**203**	*e*Pg	**Pg**	**03 17 53.9**	**+0.5**
HGN	**Heimansgroeve**	**1.04**	**218**	*e*Pg	**Pg**	**03 17 54.8**	**+1.0**
	17nm,0.1s						
HGN				*e*Sg	**Sg**	**03 18 10.3**	**+3.1**
BEBN	**Eben Emael**	**1.12**	**226**	||P	**Pg**	**03 17 56.1**	**+0.8**
BEBN				S	**Pn**	**03 17 57.6**	**+0.8**
BEBN	**Eben Emael**	**1.12**	**226**	P	**Pg**	**03 17 56.1**	**+0.8**
BEBN				S	**Sg**	**03 18 13.7**	**+3.8**
	comp=E,30nm,0.0s						
MEM	**Membach**	**1.14**	**211**	||P	**Pg**	**03 17 56.3**	**+0.6**
MEM				S	**Pn**	**03 17 57.4**	**+0.3**
MEM	**Membach**	**1.14**	**211**	P	**Pg**	**03 17 56.3**	**+0.6**
MEM				S	**Sg**	**03 18 14.2**	**+3.7**
BGG	**Burgeitz**	**1.40**	**169**	*e*Pg	**Pg**	**03 18 00.1**	**-0.6**
BCLA	**Clavier**	**1.56**	**222**	P	**Pn**	**03 18 02.3**	**-0.5**
BCLA				S	**Sn**	**03 18 25.4**	**+1.7**
	comp=Z,16nm,0.0s						
TNS	**Taunus Mts**	**1.66**	**144**	*e*Pn	**Pn**	**03 18 05.0**	**+0.7**
	SNR=2.1						
TNS				*e*Sg	**Sg**	**03 18 27.3**	**-0.1**
WLF	**Walferdange**	**1.98**	**195**	*e*Sg	**Sg**	**03 18 38.9**	**+1.2**
GIVF	**Givet**	**2.00**	**223**	*e*Pg	**Pg**	**03 18 12.6**	**+0.4**
GIVF				*e*Sg	**Sg**	**03 18 38.3**	**+0.2**
	comp=Z,18nm,0.2s						
GIVF	**Givet**	**2.00**	**223**	*e*Pn	**Pn**	**03 18 08.0**	**-0.9**
GIVF				*e*Pg	**Pg**	**03 18 12.6**	**+0.4**
GIVF				*e*Sg	**Sg**	**03 18 38.3**	**+0.2**
GIVF	**Givet**	**2.00**	**223**	*e*Pg	**Pg**	**03 18 12.6**	**+0.4**
GIVF				*e*Sg	**Sg**	**03 18 38.3**	**+0.2**
	comp=Z,9.1nm,0.2s						
BAIF	**Baives**	**2.31**	**230**	*e*Pg	**Pg**	**03 18 18.0**	**-0.2**
BAIF				*e*Sn	**Sn**	**03 18 39.9**	**-2.4**
	comp=Z,13nm,0.5s						
BAIF	**Baives**	**2.31**	**230**	*e*Pn	**Pn**	**03 18 12.3**	**-0.9**
BAIF				*e*Pg	**Pg**	**03 18 18.0**	**-0.2**
BAIF				*e*Sn	**Sn**	**03 18 39.9**	**-2.4**
BAIF	**Baives**	**2.31**	**230**	*e*Pg	**Pg**	**03 18 18.0**	**-0.2**
BAIF				*e*Sn	**Sn**	**03 18 39.9**	**-2.4**
	comp=Z,6.5nm,0.5s						
MOX	**Moxa**	**3.09**	**106**	*e*Sg	**Sg**	**03 19 10.4**	**-3.0**
CDF	**Champ du Feu**	**3.18**	**176**	*e*Pn	**Pn**	**03 18 24.5**	**-0.7**
CDF				*e*Sg	**Sg**	**03 19 13.8**	**-2.4**
	comp=Z,5.9nm,0.5s						
MEZF	**Maizieres J'vi**	**3.32**	**202**	*e*Pn	**Pn**	**03 18 26.2**	**-0.8**
BFO	**Black Forest**	**3.38**	**164**	*e*Pn	**Pn**	**03 18 27.4**	**-0.4**
	SNR=3.3						
TANN	**Tannenbergstha**	**3.68**	**106**	*e*Sg	**Sg**	**03 19 27.6**	**-4.6**
BRG	**Berggiesshubel**	**4.46**	**96**	SG	**Sg**	**03 19 57.1**	**0.0**
	comp=Z,1.1nm,0.7s						
LOR	**Lormes**	**4.76**	**206**	*e*Pn	**Pn**	**03 18 46.1**	**-0.8**
	baz=31						
CABF	**La Chapelle**	**5.01**	**187**	*e*Pn	**Pn**	**03 18 49.4**	**-0.9**
SSF	**Saint Saulge**	**5.05**	**208**	*e*Pn	**Pn**	**03 18 49.7**	**-1.2**
AVF	**Avril sur Loir**	**5.34**	**207**	*e*Pn	**Pn**	**03 18 53.4**	**-1.5**
LDF	**La Druitiere**	**5.44**	**239**	*e*Pn	**Pn**	**03 18 55.1**	**-1.1**
LDF				*e*Sn	**Sn**	**03 19 54.5**	**-5.0**
	comp=Z,1.4nm,0.3s						
LDF	**La Druitiere**	**5.44**	**239**	*e*Pn	**Pn**	**03 18 55.1**	**-1.1**
LDF				*e*Sn	**Sn**	**03 19 54.5**	**-5.0**
	comp=Z,0.7nm,0.3s						
FLN	**La Foliniere**	**5.54**	**242**	*e*Pn	**Pn**	**03 18 56.8**	**-0.8**
	baz=63						
BGF	**Bois d'Agland**	**5.70**	**210**	*e*Pn	**Pn**	**03 18 58.4**	**-1.4**
GRR	**Gorron**	**5.96**	**241**	*e*Pn	**Pn**	**03 19 01.9**	**-1.4**
GRR				*e*Sn	**Sn**	**03 20 05.6**	**-6.7**
	comp=Z,4.7nm,0.3s						
GRR	**Gorron**	**5.96**	**241**	*e*Pn	**Pn**	**03 19 01.9**	**-1.4**
GRR				*e*Sn	**Sn**	**03 20 05.6**	**-6.7**
	comp=Z,2.3nm,0.3s						
TCF	**Toulx Ste Croi**	**6.15**	**212**	*e*Pn	**Pn**	**03 19 04.6**	**-1.3**

IDC ***31*** *03:52:25.4±1.1, 1214N×14364E, h0km, mb3.9/8, mb1 4.2/8, mb1mx3.9/21, mbtmp3.9/8, Error ellipse: s-maj=38.2km s-min=22.7km az=126.0*
ISCJB ***31*** *03:52:28.9±0.8, 1211N±01×1436E±01, h33km, mb3.9/11, Error ellipse: s-maj=24.4km s-min=10.2km az=92.5*
NEIC ***31*** *03:52:28.4±7.0, 1213N×14368E, h18km±43km, mb4.1/3, Error ellipse: s-maj=22.1km s-min=15.8km az=111.0*

ISC 31 03:52:30.9±0.8, 1211N±01×1436E±01, h35km, n15, σ0°88/17, mb3.9/11, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.90**	**39**	Pn	**Pn**	**03 52 59.3**	**-1.6**
	30nm,0.3s,baz=197,slow=19,SNR=6.1						
GUMO				Sn	**Sn**	**03 53 24.6**	**+1.0**
	56nm,0.3s,baz=218,slow=23,SNR=8.4						
GUMO	**Guam**	**1.90**	**39**	Pn	**Pn**	**03 52 59.3**	**-1.6**
GUMO				Sn	**Sn**	**03 53 24.6**	**+1.0**
WRA	**Warramunga Arr**	**33.13**	**196**	P	**P**	**03 59 04.0**	**+0.3**
	0.4nm,0.6s,mb3.5,baz=19,slow=9.6,SNR=4.6						
SONM	**Songino Array**	**47.27**	**326**	P	**P**	**04 01 01.2**	**+0.5**
	0.5nm,0.5s,mb3.7,baz=146,slow=5.4,SNR=4.8						
KURK	**Kurchatov**	**64.95**	**320**	*e*P	**P**	**04 03 07.3**	**+0.3**
	1.9nm,0.8s,mb4.2						
CHKZ	**Chkalovo**	**70.28**	**323**	*e*P	**P**	**04 03 40.1**	**-0.5**
	0.8nm,0.7s,mb3.8						
BRVK	**Borovoye**	**70.41**	**322**	*e*P	**P**	**04 03 42.1**	**+0.7**
	0.9nm,0.6s,mb3.9						
ILAR	**Eielson Array**	**70.41**	**25**	P	**P**	**04 03 39.9**	**-1.5**
	0.8nm,0.7s,mb3.8,baz=254,slow=4.4,SNR=8.3						
AKTK	**Aktyubinsk**	**78.00**	**319**	P	**P**	**04 04 26.1**	**+0.4**
AKTO	**Aktyubinsk**	**78.00**	**319**	P	**P**	**04 04 26.1**	**+0.4**
	0.3nm,0.4s,mb3.6,baz=90,slow=5.1,SNR=3.6						
YKA	**Yellowknife Ar**	**84.72**	**27**	P	**P**	**04 05 01.4**	**+0.1**
	0.5nm,0.4s,mb4.0,baz=286,slow=5.0,SNR=4.3						
YKA	**Yellowknife Ar**	**84.72**	**27**	P	**P**	**04 05 01.4**	**+0.1**
ARCES	**ARCESS Array B**	**88.12**	**342**	P	**P**	**04 05 17.4**	**-0.6**
	0.9nm,0.6s,mb4.2,baz=73,slow=8.1,SNR=6.8						
NVAR	**Mina Array Bea**	**88.78**	**51**	P	**P**	**04 05 22.5**	**+1.5**
	0.6nm,0.6s,mb4.1,baz=261,slow=5.4,SNR=5.3						
FINES	**FINESS Array B**	**91.99**	**335**	P	**P**	**04 05 34.9**	**-1.1**
	0.7nm,0.4s,mb4.4,baz=80,slow=5.1,SNR=12						

NEIC ***31*** *04:15:56.2±0.6, 385N×9534E, h30km, mb4.2/4, Error ellipse: s-maj=18.5km s-min=7.6km az=220.0*
ISCJB ***31*** *04:15:59.8±2.7, 4.1N±0.1×957E±0.1, h72km±24km, mb3.9/13, Error ellipse: s-maj=24.8km s-min=15.8km az=111.0*
IDC ***31*** *04:16:00.1±6.0, 397N×9559E, h62km±48km, mb3.6/9, mb1 3.8/10, mb1mx3.6/23, mbtmp3.9/10, ML3.0/1, Error ellipse: s-maj=78.5km s-min=18.9km az=55.0*

ISC 31 04:16:00.9±2.7, 40N±01×956E±01, h65km±24km, n19, σ0°36/20, mb3.9/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.53**	**110**	P	**Pn**	**04 16 53.2**	**-0.1**
	1.4nm,0.3s,baz=315,slow=9.3,SNR=7.3						
KULM	**Kulim**	**5.18**	**76**	*e*Pn	**Pn**	**04 17 16.1**	**+0.2**
KULM				*e*Sn	**Sn**	**04 18 14.1**	**-0.3**
MKAR	**Makanchi Array**	**44.13**	**347**	P	**P**	**04 24 02.9**	**+0.1**
	0.8nm,0.5s,mb3.8,baz=159,slow=7.8,SNR=12						
MKAR	**Makanchi Array**	**44.13**	**347**	P	**P**	**04 24 02.9**	**+0.1**
SONM	**Songino Array**	**44.62**	**10**	P	**P**	**04 24 06.9**	**+0.2**
	0.4nm,0.4s,mb3.5,baz=187,slow=8.2,SNR=5.7						
SONM				PcP	PcP	04 25 49.1	+0.5
	0.5nm,0.5s,baz=197,slow=4.2,SNR=4.2						
ULN	**Ulaanbaatar**	**44.77**	**11**	*e*P	**P**	**04 24 08.5**	**+0.6**
	1.0nm,0.6s,mb3.7						
WRA	**Warramunga Arr**	**44.90**	**123**	P	**P**	**04 24 08.4**	**-0.5**
	1.2nm,0.6s,mb3.8,baz=302,slow=9.2,SNR=11						
WRAB	**Tennant Creek**	**44.90**	**123**	*e*P	**P**	**04 24 09.8**	**+0.8**
	2.9nm,0.6s,mb4.2						
ASAR	**Alice Springs**	**46.38**	**128**	P	**P**	**04 24 20.6**	**0.0**
	0.3nm,0.4s,mb3.4,baz=302,slow=8.5,SNR=4.3						
ZAL	**Zalesovo**	**50.53**	**352**	P	**P**	**04 24 52.0**	**-0.6**
	1.7nm,0.4s,mb4.4,baz=324,slow=10,SNR=5.7						
ZAL	**Zalesovo**	**50.53**	**352**	P	**P**	**04 24 52.0**	**-0.6**
ZRNK	**Zerenda**	**53.46**	**340**	*e*P	**P**	**04 25 14.6**	**+0.2**
	0.8nm,0.5s,mb4.0						
CHKZ	**Chkalovo**	**53.55**	**342**	*e*P	**P**	**04 25 15.1**	**+0.1**
	3.1nm,0.6s,mb4.5						
AKTK	**Aktyubinsk**	**56.00**	**332**	P	**P**	**04 25 32.7**	**0.0**
AKTO	**Aktyubinsk**	**56.00**	**332**	P	**P**	**04 25 32.7**	**0.0**
	0.5nm,0.4s,mb3.9,baz=124,slow=7.3,SNR=3.4						
FINES	**FINESS Array B**	**76.77**	**332**	P	**P**	**04 27 45.4**	**0.0**
	0.5nm,0.6s,mb3.4,baz=146,slow=4.5,SNR=3.9						
ARCES	**ARCESS Array B**	**79.35**	**340**	P	**P**	**04 27 59.4**	**-0.2**
	2.0nm,0.8s,mb4.0,baz=80,slow=5.9,SNR=4.9						
ARCES	**ARCESS Array B**	**79.35**	**340**	P	**P**	**04 27 59.4**	**-0.2**
NOA	**NORSAR Array B**	**83.77**	**331**	P	**P**	**04 28 22.3**	**-0.6**
	1.3nm,0.9s,mb3.8,baz=261,slow=3.0,SNR=3.3						

IDC ***31*** *05:19:00.2±0.5, 5347N×16606W, h0km, mb4.4/24, mb1 4.5/26, mb1mx4.4/30, mbtmp4.4/26, ML4.3/2, MS3.5/13, Ms1 3.5/13, ms1mx3.3/35, Error ellipse: s-maj=17.4km s-min=12.2km az=162.0*
BJI ***31*** *05:19:02.8, 54.16N×165.43W, h33km, mB5.0, mb4.8, Ms4.5, Msz4.2*
MOS ***31*** *05:19:04.5±0.9, 5362N×16596W, h36km, mb4.9/22, Error ellipse: s-maj=12.0km s-min=7.8km az=77.2*
NEIC ***31*** *05:19:06.0±0.3, 5340N×16592W, h35km, mb4.5/34, ML4.4(AEIC), Error ellipse: s-maj=8.2km s-min=4.6km az=173.0*
NEIC Felt at Dutch Harbor and Unalaska.
ISCJB ***31*** *05:19:07.4±0.5, 5350N±005×16592W±004, h64km±3km, mb4.5/71, Error ellipse: s-maj=8.8km s-min=4.0km az=158.2*

ISC 31 05:19:08.4±0.5, 5352N±005×16593W±004, h59km±3km, h51km±3.3km: pP-P, n172, σ0°96/166, mb4.5/71, MS3.6/17, 3C-2D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.47**	**314**	P	**Pn**	**05 19 19.0**	**-1.0**
UNV				S	**Sn**	**05 19 29.6**	**+1.2**
AKA	**Akutan**	**0.62**	**9**	P	**Pn**	**05 19 21.6**	**0.0**
AKUT	**Akutan**	**0.62**	**9**	P	**Pn**	**05 19 21.7**	**0.0**
AKUT				S	**Sn**	**05 19 34.5**	**+3.2**
AKLV	**Akutan Long Va**	**0.64**	**359**	P	**Pn**	**05 19 21.9**	**0.0**
AKLV				S	**Sn**	**05 19 33.9**	**+2.2**
OKCD	**Okmok Cone D**	**1.31**	**267**	P	**Pn**	**05 19 29.7**	**-0.8**
OKCD				S	**Sn**	**05 19 46.8**	**-0.2**
OKCE	**Okmok Cone E**	**1.34**	**267**	P	**Pn**	**05 19 30.4**	**-0.5**
OKCE				S	**Sn**	**05 19 47.9**	**+0.2**
FALS	**False Pass**	**1.99**	**47**	P	**Pn**	**05 19 39.7**	**-0.1**
FALS				S	**Sn**	**05 20 05.4**	**+1.8**
SDPT	**Sand Point**	**3.67**	**58**	P	**Pn**	**05 20 02.1**	**-0.6**
SPIA	**Saint Paul Isl**	**4.41**	**328**	P	**Pn**	**05 20 15.2**	**+2.4**
CHGN	**Chignik**	**5.15**	**54**	*e*P	**Pn**	**05 20 22.2**	**-0.8**
ATKA	**Atka Island**	**5.18**	**259**	P	**Pn**	**05 20 23.2**	**-0.1**
KDAK	**Kodiak Island**	**8.66**	**55**	Pn	**Pn**	**05 21 08.9**	**-2.2**
	4.6nm,0.3s,baz=237,slow=7.7,SNR=53						
KDAK

YKA LR LR 05 36 59.8
NEW Newport 30.73 80 P **P** **05 25 17.1 -0.7**
comp=E,0.9nm,0.5s,mb3.9,baz=358,slow=11,SNR=3.1
EDM Edmonton 30.78 69 *eP* **P** **05 25 19.2 +0.9**
YBH Yreka Blue Hor 30.95 95 LR LR 05 35 21.0
comp=E,92nm,18.0s,MS3.5,baz=244,slow=32
PAHR Pah Rah Range 34.19 95 *eP* **P** **05 25 49.1 +1.1**
comp=E,7.5nm,1.0s,mb4.6
RES Resolute Bay 34.42 26 *eP* **P** **05 25 49.5 -0.6**
RES pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
RES Resolute Bay 34.42 26 *eP* **P** **05 25 49.5 -0.6**
comp=Z,2.1nm,0.6s,mb4.2
ASAJ Asahikawa 34.48 276 LR LR 05 39 08.6
comp=Z,81nm,18.9s,MS3.5,baz=154,slow=35
MCMT McKenzie Canyo 35.03 82 *eP* **P** **05 25 55.6 +0.3**
EGMT Eagleton 35.15 76 *eP* **P** **05 25 56.8 +0.5**
comp=Z,6.3nm,0.6s,mb4.7
BOZ Bozeman (W) 35.30 80 *eP* **P** **05 25 58.8 +1.1**
BOZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BOZ Bozeman (W) 35.30 80 *eP* **P** **05 25 58.8 +1.1**
comp=Z,1.7nm,0.6s,mb4.2
NVAR Mina Array Bea 35.65 95 P **P** **05 26 01.8 +1.2**
comp=Z,1.5nm,0.7s,mb4.0,baz=304,slow=7.8,SNR=13
NVAR PcP PcP 05 28 28.4 +0.4
comp=Z,1.1nm,0.6s,baz=305,slow=3.2,SNR=7.3
NVAR Mina Array Bea 35.65 95 P **P** **05 26 01.8 +1.2**
NVAR PcP PcP 05 28 28.4 +0.4
ELK Elko 36.01 90 *eP* **P** **05 26 04.6 +0.9**
ELK pmax pmax
comp=Z,2.0nm,0.9s
ELK Elko 36.01 90 *eP* **P** **05 26 04.6 +0.9**
comp=Z,2.0nm,0.9s,mb4.0
FFC Flin Flon 36.34 62 *eP* **P** **05 26 06.4 -0.2**
FFC pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
FFC Flin Flon 36.34 62 *eP* **P** **05 26 06.4 -0.1**
comp=Z,2.0nm,0.7s,mb4.2
GCMT Greycliff 36.38 79 *eP* **P** **05 26 08.0 +1.1**
TPNV Topopah Spring 37.85 95 *eP* **P** **05 26 20.2 +0.8**
TPNV pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
TPNV Topopah Spring 37.85 95 *eP* **P** **05 26 20.1 +0.8**
comp=Z,3.9nm,0.7s,mb4.2
BW06 Boulder Array 38.17 83 *eP* **P** **05 26 21.8 -0.2**
comp=Z,1.2nm,0.6s,mb3.8
PDAR Pinedale Array 38.17 83 P **P** **05 26 22.5 +0.5**
comp=Z,0.6nm,0.5s,mb3.6,baz=290,slow=3.6,SNR=5.6
FCC Fort Churchill 38.59 53 *eP* **P** **05 26 26.1 +0.5**
FCC pmax pmax
comp=Z,5.0nm,0.5s,mb4.5
FCC Fort Churchill 38.59 53 *eP* **P** **05 26 26.1 +0.5**
comp=Z,5.2nm,0.5s,mb4.5
RSSD Black Hills 40.62 77 *eP* **P** **05 26 42.5 +0.1**
RSSD pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
RSSD Black Hills 40.62 77 *eP* **P** **05 26 42.5 0.0**
comp=Z,1.6nm,0.6s,mb3.8
ULM Lac du Bonnet 41.77 65 P **P** **05 26 51.2 -0.7**
comp=Z,0.9nm,0.3s,mb3.9,baz=301,slow=7.0,SNR=4.4
ULM LR LR 05 45 24.1
comp=Z,55nm,19.3s,MS3.4,baz=337,slow=38
ULM Lac du Bonnet 41.77 65 P **P** **05 26 51.2 -0.7**
ULM LR LR 05 45 24.1
MAJO Matsushiro 41.81 269 *eP* **P** **05 26 52.2 0.0**
MAT Matsushiro 41.81 269 P **P** **05 26 51.7 -0.5**
MAT Matsushiro 41.81 269 *eP* **P** **05 26 52.0 -0.2**
MAT pmax pmax
comp=Z,11nm,0.9s,mb4.5
MAT Matsushiro 41.81 269 *eP* **P** **05 26 52.0 -0.2**
comp=Z,11nm,0.9s,mb4.5
MJAR Matsushiro Arr 41.81 269 P **P** **05 26 49.8 -2.3**
comp=Z,5.1nm,1.0s,mb4.1,baz=32,slow=6.7,SNR=8.0
MJAR LR LR 05 42 05.8
comp=Z,83nm,19.6s,MS3.6,baz=45,slow=33
MDJ Mudanjiang 41.82 285 P **P** **05 26 51.8 -0.5**
MDJ AP pP 05 27 03.0 -4.4
MDJ XP sP 05 27 07.8 -6.5
MDJ PP PP 05 28 28.5 -1.4
MDJ PCP PcP 05 28 48.0 +0.6
MDJ SCP ScP 05 32 35.0 +2.5
MDJ PCS PcS 05 32 38.3 -0.7
MDJ S **S** **05 33 07.0 +1.3**
MDJ XS sS 05 33 24.0 -7.3
MDJ SCS ScS 05 36 51.5 +1.9
MDJ AMB AMB
comp=Z,5.0nm,0.9s,mb4.1
MDJ AMB AMB
comp=Z,67nm,5.2s
MDJ LR LR
comp=N,7.0nm,15.2s,MS3.3
MDJ LR LR
comp=E,37nm,18.2s,MS3.3
MDJ LR LR
comp=Z,39nm,22.8s,MS3.2
SMCO Snowmass 41.92 85 *eP* **P** **05 26 54.4 +1.2**
comp=Z,5.5nm,1.3s,mb4.0
TUC Tucson 44.30 96 *eP* **P** **05 27 13.4 +1.0**
TUC pmax pmax
comp=Z,1.0nm,0.9s,mb3.5
TUC Tucson 44.30 96 *eP* **P** **05 27 13.3 +1.0**
comp=Z,1.3nm,0.9s,mb3.7
CN2 Changchun 44.69 287 *eP* **P** **05 27 18.5 +3.0**
ANMO Albuquerque 45.04 90 PcP PcP 05 28 58.9 +0.7
comp=Z,1.9nm,0.6s,baz=287,slow=4.2,SNR=6.6
ECSD EROS,Sioux Fal 45.13 73 *eP* **P** **05 27 17.9 -1.0**
BNM Barren Site 45.49 90 *eP* **P** **05 27 22.5 +0.7**
KS15 Wonju Array Si 47.35 278 *eP* **P** **05 27 36.5 +0.2**
MNTX Cornudas Mount 47.96 92 *eP* **P** **05 27 41.0 -0.1**
comp=Z,2.9nm,0.9s,mb4.3
DAG Danmarks Havn 48.32 10⇑ *iP* **P** **05 27 43.8 -0.1**
comp=Z,4.2nm,0.4s,mb4.8
DAG Danmarks Havn 48.32 10⇑ *iP* **P** **05 27 43.8 -0.1**
DAG pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
SUMG Summit 49.05 18 *eP* **P** **05 27 50.4 +1.0**
comp=Z,9.6nm,0.8s,mb4.9
LTX Lajitas 50.68 93 *eP* **P** **05 28 02.0 +0.2**
LTX pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
LTX Lajitas 50.68 93 *eP* **P** **05 28 02.0 +0.2**
comp=Z,4.7nm,0.9s,mb4.4
TLY Talaya 51.32 307 *eP* **P** **05 28 06.5 -0.1**
TLY pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
ULN Ulaanbaatar 52.12 302 *eP* **P** **05 28 11.9 -0.7**
ULN *e* 05 29 24.4
ULN pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
ULN Ulaanbaatar 52.12 302 *eP* **P** **05 28 11.9 -0.7**
comp=Z,4.7nm,0.6s,mb4.6
ULN *e*PcP PcP 05 29 24.4 +0.6
BJI Beijing 52.40 289 P **P** **05 28 15.0 +0.3**
BJI AMB AMB
comp=Z,7.0nm,0.5s,mb4.8
BJI Beijing 52.40 289 P **P** **05 28 15.0 +0.3**
comp=Z,7.0nm,0.5s,mb4.8
SONM Songino Array 52.48 302 P **P** **05 28 15.1 -0.1**
comp=Z,1.2nm,0.5s,mb4.1,baz=53,slow=6.2,SNR=12
SONM PcP PcP 05 29 25.7 +0.6
comp=Z,2.6nm,0.5s,baz=66,slow=2.3,SNR=9.9
SCHQ Schefferville 53.15 46 P **P** **05 28 19.2 -1.0**
comp=Z,2.9nm,0.9s,mb4.2,baz=331,slow=10,SNR=3.1
SCHQ LR LR 05 52 25.3
comp=Z,47nm,18.5s,MS3.6,baz=95,slow=38
HHC Hu-ho-hao-te 54.43 292 *eP* **P** **05 28 30.3 +0.8**
HHC AP pP 05 28 42.8 -2.4
HHC XP sP 05 28 48.0 -3.9
HHC PCP PcP 05 29 34.5 +2.0
HHC PP PP 05 30 33.3 +1.2
HHC SCP ScP 05 33 27.3 +1.6
HHC PCS PcS 05 33 32.3 +0.2
HHC S **S** **05 36 02.5 -1.2**
HHC XS sS 05 36 24.0 -6.1
HHC SCS ScS 05 38 12.5 -0.9
HHC SS SS 05 39 44.3 -2.3
HHC AMB AMB
comp=Z,15nm,0.4s,mb5.3
HHC AMB AMB
comp=Z,93nm,4.9s
HHC LR LR
comp=N,130nm,4.7s
HHC LR LR
comp=E,146nm,7.5s
HHC LR LR
comp=Z,88nm,7.8s
WVT Waverly 55.21 75 *eP* **P** **05 28 34.4 -0.8**
WVT pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
WVT Waverly 55.21 75 *eP* **P** **05 28 34.4 -0.8**
comp=Z,3.9nm,1.0s,mb4.4
SSE Sheshan 55.74 277 P **P** **05 28 38.5 -0.5**
SSE AMB AMB
comp=Z,28nm,1.4s,mb5.1
SSE AMB AMB
comp=Z,20nm,3.4s
SSE Sheshan 55.74 277 P **P** **05 28 38.6 -0.4**
comp=Z,28nm,1.4s,mb5.1
NJ2 Nanjing 56.42 280 *eP* **P** **05 28 47.8 +3.9**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
KEV Kevo 56.67 355 *ep* **P** **05 28 44.7 -0.9**
comp=Z,4.1nm,0.6s,mb4.6
KEV Kevo 56.67 355 *eP* **P** **05 28 44.7 -0.9**
KEV pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
ARCES ARCESS Array B 56.97 355 P **P** **05 28 46.6 -1.1**
comp=Z,2.9nm,0.8s,mb4.4,baz=4.3,slow=7.3,SNR=11
ARCES PcP PcP 05 29 41.8 -0.6
comp=Z,2.8nm,0.8s,baz=13,slow=3.2,SNR=6.5
ARCES LR LR 05 54 41.8
comp=Z,47nm,18.4s,MS3.6,baz=43,slow=38
ARCES ARCESS Array B 56.97 355 P **P** **05 28 46.7 -1.0**
ARCES 05 29 41.8
ZAL Zalesovo 57.97 319 P **P** **05 28 53.3 -1.5**
comp=Z,4.1nm,0.3s,mb4.9,baz=78,slow=7.2,SNR=6.1
ZAL LR LR 05 55 04.1
comp=Z,69nm,21.4s,MS3.7,baz=80,slow=37
ZAL Zalesovo 57.97 319 *i* P **P** **05 28 54.5 -0.2**
ZAL pmax pmax
comp=Z,4.0nm,0.4s
WHN Wuhan 60.16 282 *eP* **P** **05 29 10.0 +0.1**
GTA Gaotai 61.78 299 *eP* **P** **05 29 21.0 +0.1**
GTA AP pP 05 29 36.8 0.0
GTA AMB AMB
comp=Z,7.0nm,0.7s,mb4.9
LZH Lanzhou 62.06 294 *eP* **P** **05 29 22.5 -0.3**
LZH AP pP 05 29 36.5 -2.3
LZH XP sP 05 29 42.3 -3.1
LZH PP PP 05 31 41.5 +1.6
LZH AMB AMB
comp=Z,21nm,1.4s,mb5.1
LZH AMB AMB
comp=Z,53nm,7.5s
LZH LR LR
comp=E,199nm,16.4s
LZH LR LR
comp=Z,315nm,18.5s,MS4.5
LZH Lanzhou 62.06 294 *eP* **P** **05 29 22.5 -0.3**
comp=Z,21nm,1.4s,mb5.1
LZH pP pP 05 29 36.4 -2.4
LZH sP sP 05 29 42.3 -3.1
LZH PP PP 05 31 41.5 +1.6
LZH LR LR
comp=Z,320nm,18.5s,MS4.5
KURK Kurchatov 62.86 320 *c iP* **P** **05 29 27.9 -0.3**
KURK Kurchatov 62.86 320 *eP* **P** **05 29 27.6 -0.5**
comp=Z,3.2nm,0.3s,mb4.9
JOF Joensuu 63.11 351 *ep* **P** **05 29 29.0 -0.8**
comp=Z,1.2nm,0.4s,mb4.4
CHKZ Chkalovo 63.32 326 *eP* **P** **05 29 30.9 -0.3**
CHKZ *e* 05 30 07.4
CHKZ pmax pmax
comp=Z,3.0nm,0.3s,mb4.9
CHKZ Chkalovo 63.32 326 *eP* **P** **05 29 30.9 -0.3**
comp=Z,2.7nm,0.3s,mb4.8
CHKZ *e*PcP PcP 05 30 07.4 -0.5
BRVK Borovoye 63.95 326 *eP* **P** **05 29 35.7 +0.4**
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
BRVK Borovoye 63.95 326 *eP* **P** **05 29 35.7 +0.4**
comp=Z,2.9nm,0.8s,mb4.4
KAF Kangasniemi 64.30 354 *ep* **P** **05 29 36.9 -0.7**
comp=Z,3.3nm,0.4s,mb4.7,baz=4.7,slow=6.2
KAF Kangasniemi 64.30 354 *eP* **P** **05 29 36.9 -0.7**
KAF pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
WMQ Urumqi 64.43 310⇓ *iP* **P** **05 29 39.3 +0.8**
WMQ AP pP 05 29 52.3 -2.2
WMQ XP sP 05 29 57.5 -3.7
WMQ PCP PcP 05 30 13.3 +0.9
WMQ PP PP 05 32 03.0 +2.3
WMQ SCP 05 34 10.8
WMQ PCS 05 34 15.8
WMQ S **S** **05 38 13.0 +0.4**
WMQ XS sS 05 38 34.5 -5.2
WMQ PS 05 38 39.3
WMQ AMB AMB
comp=Z,4.0nm,1.1s,mb4.4
WMQ AMB AMB
comp=Z,120nm,4.3s
WMQ LR LR
comp=N,32nm,21.1s
WMQ LR LR
comp=Z,28nm,21.1s,MS3.4
ZRNK Zerenda 64.46 327 *eP* **P** **05 29 38.8 +0.1**
ZRNK pmax pmax
comp=Z,14nm,0.8s,mb5.0
ZRNK Zerenda 64.46 327 *eP* **P** **05 29 38.8 +0.1**
comp=Z,14nm,0.8s,mb5.0
MKAR Makanchi Array 64.49 315 P **P** **05 29 38.2 -0.7**
comp=Z,2.6nm,0.3s,mb4.7,baz=46,slow=6.1,SNR=45
MKAR Makanchi Array 64.49 315 *i* P **P** **05 29 38.2 -0.7**
MKAR pmax pmax
comp=Z,3.0nm,0.3s
ARU Arti 64.51 334 *eP* **P** **05 29 39.4 +0.4**
ARU pmax pmax
comp=Z,12nm,0.6s,mb5.1
ARU Arti 64.51 334 *eP* **P** **05 29 39.4 +0.4**
comp=Z,12nm,0.6s,mb5.1
FINES FINESS Array B 64.98 354 P **P** **05 29 41.2 -0.9**
comp=Z,1.5nm,0.3s,mb4.5,baz=12,slow=5.8,SNR=37
FINES LR LR 05 57 20.7
comp=Z,37nm,20.4s,MS3.6,baz=349,slow=35
NB2 NORSAR Subarra 65.76 2 P **P** **05 29 46.6 -0.5**
comp=Z,1.9nm,0.7s,mb4.2,baz=2.0,slow=6.9
NOA NORSAR Array B 65.76 2 P **P** **05 29 46.1 -1.0**
comp=Z,2.0nm,0.7s,mb4.3,baz=360,slow=6.2,SNR=5.0
NOA LR LR 06 00 39.0
comp=Z,24nm,19.8s,MS3.4,baz=15,slow=38
CD2 Chengdu 65.97 290 P **P** **05 29 49.5 +1.1**
CD2 AMB AMB
comp=Z,30nm,0.7s,mb5.4
AKTK Aktyubinsk 70.01 332 P **P** **05 30 14.1 +0.2**
AKTO Aktyubinsk 70.01 332 P **P** **05 30 14.1 +0.2**
comp=Z,5.4nm,0.4s,mb4.8,baz=42,slow=6.4,SNR=30
KMI Kunming 70.97 287 P **P** **05 30 20.3 +0.7**
KMI AP pP 05 30 35.8 -0.1
KMI PP PP 05 33 00.3 +2.9
KMI S S 05 39 30.3 -0.6
KMI XS sS 05 39 54.8 -3.5
KMI SS SS 05 44 06.3 +1.7
KMI AMB AMB
comp=Z,8.0nm,1.3s,mb4.5
KMI AMB AMB
comp=Z,68nm,3.7s
KMI LR LR
comp=N,85nm,17.2s,MS4.3
KMI LR LR
comp=E,96nm,15.2s,MS4.3
KMI LR LR
comp=Z,66nm,20.2s,MS3.9
KMI Kunming 70.97 287 P **P** **05 30 20.2 +0.6**
KMI *PP pP 05 30 35.8 -0.1
KMI *SP sP 05 30 42.6 +0.1
KMI 05 33 00.3
KMI S S 05 39 30.2 -0.7
KMI *SS sS 05 39 54.7 -3.6
KMI SS SS 05 44 06.3 +1.7
KMI pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
KMI MLR MLR
comp=Z,70nm,20.2s,MS3.9
KMI Kunming 70.97 287 P **P** **05 30 20.2 +0.6**
comp=Z,8.0nm,1.3s,mb4.5
KMI pP pP 05 30 35.8 -0.1
KMI sP sP 05 30 42.6 +0.1
KMI PP PP 05 33 00.3 +2.9
KMI S S 05 39 30.2 -0.7
KMI sS sS 05 39 54.7 -3.6
KMI SS SS 05 44 06.3 +1.7
AAK Ala-Archa 71.10 317 *d iP* **P** **05 30 19.7 -0.7**
AAK pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
AAK Ala-Archa 71.10 317 *eP* **P** **05 30 19.9 -0.5**
comp=Z,11nm,0.8s,mb4.8
LSA Lhasa 73.78 298 *eP* **P** **05 30 37.8 +1.4**
LSA pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
LSA Lhasa 73.78 298 *eP* **P** **05 30 37.8 +1.4**
comp=Z,7.2nm,0.6s,mb4.8
PMG Port Moresby 74.20 228 P **P** **05 30 38.3 -0.5**
comp=Z,12nm,0.6s,mb5.0,baz=156,slow=2.6,SNR=4.0
AKASG Malin Array Be 75.37 350 P **P** **05 30 44.6 -0.9**
comp=Z,2.6nm,0.5s,mb4.4,baz=12,slow=5.8,SNR=13
AKASG Malin Array Be 75.37 350 *i* P **P** **05 30 44.7 -0.9**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
GUN Gumba 77.96 301 *eP* **P** **05 31 00.8 +0.6**
comp=Z,21nm,0.4s,mb5.4
JIRN Jiri 78.00 300 *eP* **P** **05 31 01.1 +0.7**
comp=Z,29nm,0.6s,mb5.4
GERES GERESS Array B 78.01 0 P **P** **05 31 01.3 +0.8**
comp=Z,0.9nm,0.6s,mb3.9,baz=12,slow=5.1,SNR=5.0
KKN Kakani 78.37 301 *eP* **P** **05 31 01.9 -0.5**
comp=Z,12nm,0.5s,mb5.1
PKI Pulchoki 78.48 301 *eP* **P** **05 31 03.5 +0.4**
comp=Z,19nm,0.8s,mb5.1
GKN Gorkha 78.52 302 *eP* **P** **05 31 03.5 +0.2**
comp=Z,35nm,0.8s,mb5.3
DMN Daman 78.60 301 *eP* **P** **05 31 04.5 +0.8**
comp=Z,25nm,0.8s,mb5.2
KOLN Koldanda 79.24 302 *eP* **P** **05 31 07.5 +0.3**
DAVOX Davos 80.01 3 P **P** **05 31 11.6 +0.2**
comp=Z,1.7nm,0.4s,mb4.3,baz=307,slow=5.1
GNI Garni 83.02 337 LR LR 06 15 22.9
comp=Z,35nm,19.4s,MS3.8,baz=160,slow=41
BRTR Keskin Array B 85.60 345 P **P** **05 31 41.0 +0.6**
comp=Z,1.4nm,0.6s,mb4.4,baz=16,slow=2.3,SNR=7.6
WRAB Tennant Creek 89.35 234 *i* P **P** **05 31 48.1 -10**
WRA Warramunga Arr 89.36 234 P **P** **05 31 58.0 -0.4**
comp=Z,2.0nm,1.0s,mb4.4,baz=36,slow=5.9,SNR=9.1
FITZ Fitzroy Crossi 92.23 242 P **P** **05 32 11.3 -0.5**
comp=Z,2.0nm,0.8s,mb4.5,baz=52,slow=12,SNR=3.5
ASAR Alice Springs 92.74 233 P **P** **05 32 13.4 -0.7**
comp=Z,1.1nm,0.7s,mb4.4,baz=19,slow=4.8,SNR=7.9
WSAR Wadi Sarin 94.39 320 P **P** **05 32 22.1 +0.4**
comp=Z,5.4nm,0.8s,mb5.0,baz=302,slow=5.2,SNR=5.0
TORD Torodi Ar. Bea 112.76 13 PKiKP PKiKP 05 37 37.6 -0.7
comp=Z,0.3nm,0.5s,baz=336,slow=3.1,SNR=6.7
CPUP Villa Florida 121.66 92 PKP PKPdf 05 37 54.0 -1.5
comp=Z,0.4nm,0.4s,baz=315,slow=4.3,SNR=3.6
PLCA Paso Flores 124.33 114 PKP PKPdf 05 37 58.7 -1.9
comp=Z,3.1nm,0.7s,baz=311,slow=5.3,SNR=7.2
TRQA Tornquist 127.31 106 *e*PKPdf PKPdf 05 38 04.9 -1.4
QSPA South Pole Qui 143.29 180 *e*PKPdf PKPdf 05 38 29.7 -6.3
TSUM Tsumeb 145.63 354 PKPbc PKPbc 05 38 40.7 +0.4
comp=Z,2.5nm,0.5s,baz=1.1,slow=6.0,SNR=40
TSUM Tsumeb 145.63 354 *e*PKPdf PKPdf 05 38 40.5 +0.5
LBTB Lobatse 150.24 339 *e*PKIKP PKPdf 05 38 53.4 +5.8
LBTB *e* 05 39 00.1
BOSA Boshof 153.79 337 PKPbc PKPbc 05 39 01.1 +0.3
comp=Z,1.4nm,0.6s,baz=347,slow=3.9,SNR=2.9
BOSA PKPab PKPab 05 39 14.3 +0.4
comp=Z,3.4nm,0.6s,baz=357,slow=3.8,SNR=7.3
BOSA Boshof 153.79 337 *e*PKP2 PKPab 05 39 14.0 +0.1
VNA3 Neumayer Olymp 159.37 158 *e*PKPdf PKPdf 05 38 56.6 -3.5
VNA3 *e* 05 39 01.8
VNA3 *e* 05 39 35.1
VNA3 *e* 05 39 49.7
VNA2 Neumayer--Watz 160.10 159 *e*PKPdf PKPdf 05 38 57.4 -3.5
baz=359,slow=1.9
VNA2 *e* 05 39 02.6
VNA2 *e* 05 39 38.3
VNA2 *e* 05 39 45.7
VNA2 *e* 05 39 59.1

NIED ***31*** *05:22:00.2 30.5N×126.6E, h38km, Mw4.4 Best double couple: M0=4.13000×10^15 NP1:ϕs=110.00000°,δ61.00000°, λ73.00000°. NP2:ϕs=322.00000°,δ33.00000°,λ117.00000°.*
MOS ***31*** *05:22:55.5±1.1, 27.5N×126.22E, h33km, mb4.5/8, Error ellipse: s-maj=24.0km s-min=12.6km az=103.9*
JMA ***31*** *05:22:57.0±0.2, 30.5N×126.64E, h19km, M4.4*
ISCJB ***31*** *05:22:57.3±0.4, 27.5N±0.05×126.63E±0.05, h55km±4km, mb4.1/16, Error ellipse: s-maj=10.1km s-min=3.8km az=93.1*
NEIC ***31*** *05:22:58.9±0.4, 25.40N×126.61E, mb4.4/7, Error ellipse: s-maj=9.9km s-min=8.7km az=151.0*
IDC ***31*** *05:22:58.7±0.6, 25.41N×126.49E, h48km±5km, mb3.7/10, mb1 3.9/11, mb1mx3.8/21, mbtmp4.0/11, MS3.3/6, Ms1 3.3/6, ms1mx2.8/28, Error ellipse: s-maj=22.8km s-min=14.2km az=77.0*
ISC 31 05:22:58.6±0.4, 25.31N±0.05×126.61E±0.05, h50km±4km, h49km±1.5km: pP-P, n62, σ1.9 01/65, mb 4.1/16, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.03**	**9**	P		**Pn**	**05 23 16.1**	**-0.6**
JKE				*e*S		**Sn**	**05 23 29.8**	**-0.2**
JOGS	**Gusukube**	**1.22**	**244**	P		**Pn**	**05 23 19.6**	**+0.3**
JOGS				*e*S		**Sn**	**05 23 35.5**	**+0.8**
JMJ	**Miyako jima 2**	**1.29**	**248**	P		**Pn**	**05 23 20.3**	**0.0**
JJT2	**Tamagusuku 2**	**1.32**	**51**	P		**Pn**	**05 23 20.4**	**-0.2**
NAH1	**Naha**	**1.32**	**47**	P		**Pn**	**05 23 20.5**	**-0.2**
NAH1				*e*S		**Sn**	**05 23 39.2**	**+2.1**
JAGN	**Aguni-jima**	**1.40**	**24**	P		**Pn**	**05 23 21.1**	**-0.6**
JAGN				*e*S		**Sn**	**05 23 41.3**	**+2.3**
JTJ	**Tarama**	**1.85**	**249**	P		**Pn**	**05 23 27.7**	**-0.3**
JTJ				*e*S		**Sn**	**05 23 52.2**	**+2.0**
JIH	**Iheya**	**2.11**	**35**	P		**Pn**	**05 23 30.8**	**-0.6**
JIH				*e*S		**Sn**	**05 23 58.1**	**+1.7**
JOW	**Kunigami**	**2.13**	**44**	P		**Pn**	**05 23 31.8**	**0.0**
JOW	47nm,0.3s,baz=192,slow=14,SNR=44			LR		LR	05 24 43.2	
	comp=Z,1μm,21.1s,baz=132,slow=49							
JOW	**Kunigami**	**2.13**	**44**	P		**Pn**	**05 23 31.6**	**-0.2**
JOW				*e*S		**Sn**	**05 24 04.9**	**+7.9**
JIJ	**Ishigaki jima**	**2.43**	**248**	P		**Pn**	**05 23 34.9**	**-1.0**
JIJ				*e*S		**Sn**	**05 24 08.4**	**+4.0**
JKRS	**Kuro-shima**	**2.59**	**246**	P		**Pn**	**05 23 37.4**	**-0.7**
IRIF	**Iriomote-Funau**	**2.79**	**250**	P		**Pn**	**05 23 39.8**	**-1.0**
HATJ	**Hateruma jima**	**2.84**	**245**	P		**Pn**	**05 23 41.2**	**-0.3**
JTK	**Tokunoshima**	**3.24**	**40**	P		**Pn**	**05 23 46.3**	**-0.6**
YOJ	**Yonaguni jima**	**3.38**	**256**	P		**Pn**	**05 23 47.9**	**-0.9**
JAM	**Amami Oshima**	**4.09**	**40**	P		**Pn**	**05 23 57.7**	**-0.9**
JMZ	**Minamidaito 2**	**4.19**	**82**	P		**Pn**	**05 23 56.9**	**-3.1**
JMZ				*e*S		**Sn**	**05 24 40.0**	**-7.8**
JZK	**Kikaishima**	**4.24**	**44**	P		**Pn**	**05 24 00.3**	**-0.4**
TATO	**Taipei**	**4.66**	**267**	*e*Pn		**Pn**	**05 24 07.7**	**+1.4**
YHNB	**Yeheng**	**4.79**	**263**	*e*Pn		**Pn**	**05 24 09.4**	**+1.1**
JNN	**Nakanoshima**	**5.37**	**32**	P		**Pn**	**05 24 15.3**	**-0.8**
SGCP	**Mt. Cagua**	**8.21**	**212**	*e*P		**Pn**	**05 24 53.3**	**-1.8**
APYP	**Conner**	**8.93**	**215**	*e*P		**Pn**	**05 25 04.3**	**-0.7**
CAUP	**Cauayan**	**9.44**	**209**	*e*P		**Pn**	**05 25 13.4**	**+1.4**
BALP	**Baler**	**10.62**	**207**	*e*P		**Pn**	**05 25 27.7**	**-0.4**
JHJ	**Hachijo jima 2**	**13.88**	**53**	LR		LR	05 30 58.5	
	comp=Z,105nm,19.9s,baz=79,slow=34							
CBIJ	**Chichi jima**	**14.10**	**79**	LR		LR	05 31 26.4	
	comp=Z,48nm,18.0s,baz=191,slow=36							
MJAR	**Matsushiro Arr**	**14.97**	**39**	P		**Pn**	**05 26 31.1**	**+4.1**
	0.3nm,0.3s,baz=227,slow=10.0,SNR=8.0							
GUMO	**Guam**	**20.76**	**121**	LR		LR	05 33 52.4	
	comp=Z,40nm,19.4s,baz=347,slow=31							
SONM	**Songino Array**	**27.57**	**330**	P		**P**	**05 28 41.1**	**+0.1**
	0.6nm,0.5s,mb3.5,baz=132,slow=8.3,SNR=4.5							
MKAR	**Makanchi Array**	**41.08**	**313**	P		**P**	**05 30 36.6**	**-0.8**
	0.7nm,0.4s,mb3.7,baz=96,slow=9.3,SNR=5.5							
MKAR				pP		pP	05 30 48.9	-1.7
	0.5nm,0.3s,baz=97,slow=8.9,SNR=1.9							
FITZ	**Fitzroy Crossi**	**43.16**	**181**	pP		pP	05 31 08.2	+0.6
	3.1nm,0.7s,baz=331,slow=10,SNR=4.4							
WRAB	**Tennant Creek**	**45.59**	**170**	*e*P		**P**	**05 31 15.1**	**+1.3**
WRAB				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.6							
WRAB	**Tennant Creek**	**45.59**	**170**	*e*P		**P**	**05 31 15.1**	**+1.3**
	comp=Z,5.7nm,0.8s,mb4.5							
WRA	**Warramunga Arr**	**45.60**	**170**	P		**P**	**05 31 14.8**	**+1.0**
	comp=Z,1.3nm,0.7s,mb4.0,baz=348,slow=8.8,SNR=8.1							

WRA					pP		pP	05 31 27.8	+0.6		
	comp=Z,4.2nm,0.9s,baz=351,slow=8.5,SNR=13										
ASAR	**Alice Springs**	**49.19**	**171**		P		**P**	**05 31 43.3**	**+1.5**		
	comp=Z,2.3nm,1.1s,mb4.1,baz=7.5,slow=7.8,SNR=5.9										
ASAR					pP		pP	05 31 56.6	+1.4		
	comp=Z,1.1nm,0.8s,baz=5.4,slow=7.8,SNR=5.2										
CHKZ	**Chkalovo**	**49.99**	**320**	*eP*			**P**	**05 31 46.9**	**-0.9**		
CHKZ					pmax		pmax				
	comp=Z,1.0nm,0.3s,mb4.3										
CHKZ	**Chkalovo**	**49.99**	**320**	*eP*			**P**	**05 31 46.9**	**-0.9**		
	comp=Z,1.0nm,0.3s,mb4.3										
BRVK	**Borovoye**	**50.07**	**319**	*eP*			**P**	**05 31 49.8**	**+1.4**		
BRVK					pmax		pmax				
	comp=Z,3.0nm,0.8s,mb4.4										
BRVK	**Borovoye**	**50.07**	**319**	*eP*			**P**	**05 31 49.8**	**+1.4**		
	comp=Z,3.0nm,0.8s,mb4.4										
ZRNK	**Zerenda**	**50.81**	**319**	*eP*			**P**	**05 31 53.4**	**-0.6**		
ZRNK					pmax		pmax				
	comp=Z,2.0nm,0.4s,mb4.4										
ZRNK	**Zerenda**	**50.81**	**319**	*eP*			**P**	**05 31 53.4**	**-0.6**		
	comp=Z,1.6nm,0.4s,mb4.3										
KDAK	**Kodiak Island**	**64.12**	**36**	LR			LR	06 04 07.9			
	comp=Z,49nm,18.8s,baz=273,slow=38										
ILAR	**Eielson Array**	**65.94**	**28**	pP			pP	05 33 52.5	-0.9		
	comp=Z,0.3nm,0.5s,baz=260,slow=5.4,SNR=3.7										
INK	**Inuvik**	**70.31**	**23**	P			**P**	**05 34 05.2**	**-1.7**		
	comp=Z,2.4nm,0.9s,mb4.1,baz=287,slow=6.8,SNR=8.2										
INK					pP		pP	05 34 20.7	-0.3		
	comp=Z,1.2nm,0.8s,baz=268,slow=11,SNR=1.9										
INK					LR		LR	06 04 47.7			
	comp=Z,32nm,19.1s,baz=124,slow=36										
INK	**Inuvik**	**70.31**	**23**	*eP*			**P**	**05 34 07.0**	**+0.1**		
INK					*PP		pP	05 34 20.7	-0.3		
INK					pmax		pmax				
	comp=Z,3.0nm,0.9s										
INK	**Inuvik**	**70.31**	**23**	*eP*			**P**	**05 34 07.0**	**+0.2**		
	comp=Z,2.9nm,0.9s,mb4.2										
INK					pP		pP	05 34 20.7	-0.3		
INK					LR		LR	06 04 47.7			
FINES	**FINESS Array B**	**72.94**	**330**		P		**P**	**05 34 21.9**	**-0.8**		
	comp=Z,1.0nm,0.4s,mb4.1,baz=57,slow=5.2,SNR=13										
FINES					pP		pP	05 34 35.0	-1.9		
	comp=Z,0.8nm,0.4s,baz=51,slow=6.1,SNR=3.2										
FINES	**FINESS Array B**	**72.94**	**330**		P		**P**	**05 34 21.9**	**-0.8**		
FINES					pP		pP	05 34 35.0	-1.9		
AKASG	**Malin Array Be**	**75.28**	**319**		P		**P**	**05 34 35.5**	**-0.9**		
	comp=Z,0.4nm,0.3s,mb3.8,baz=57,slow=5.7,SNR=5.8										
AKASG	**Malin Array Be**	**75.28**	**319**		P		**P**	**05 34 35.5**	**-0.9**		
BRTR	**Keskin Array B**	**76.44**	**308**		P		**P**	**05 34 43.1**	**+0.1**		
	comp=Z,0.8nm,0.8s,mb3.7,baz=83,slow=5.1,SNR=4.5										
BRTR					pP		pP	05 34 56.5	-0.7		
	comp=Z,0.9nm,0.5s,baz=112,slow=3.6,SNR=3.9										
RES	**Resolute Bay**	**76.72**	**10**	*eP*			**P**	**05 34 44.3**	**-0.2**		
RES					pmax		pmax				
	comp=Z,2.0nm,0.7s,mb4.2										
RES	**Resolute Bay**	**76.72**	**10**	*eP*			**P**	**05 34 44.3**	**-0.3**		
	comp=Z,2.1nm,0.7s,mb4.2										
NB2	**NORSAR Subarra**	**79.49**	**333**		P		**P**	**05 34 59.2**	**-0.7**		
	comp=Z,3.9nm,0.9s,mb4.3,baz=56,slow=5.6										
NOA	**NORSAR Array B**	**79.49**	**333**		P		**P**	**05 34 58.5**	**-1.3**		
	comp=Z,2.0nm,0.7s,mb4.1,baz=58,slow=5.3,SNR=5.2										
YKW3	**Yellowknife Ar**	**79.93**	**24**	*eP*			**P**	**05 35 02.8**	**+0.5**		
YKA	**Yellowknife Ar**	**79.97**	**24**	P			**P**	**05 35 03.2**	**+0.8**		
	comp=Z,2.1nm,0.8s,mb4.1,baz=300,slow=5.4,SNR=10										
YKA					pP		pP	05 35 17.0	+0.2		
	comp=Z,1.0nm,0.7s,baz=303,slow=5.6,SNR=4.4										
YKA	**Yellowknife Ar**	**79.97**	**24**	P			**P**	**05 35 03.2**	**+0.8**		
YKA					pP		pP	05 35 17.0	+0.2		
FFC	**Flin Flon**	**90.06**	**26**	*eP*			**P**	**05 35 53.5**	**+0.5**		
FFC					pmax		pmax				
	comp=Z,3.0nm,0.8s,mb4.7										
FFC	**Flin Flon**	**90.06**	**26**	*eP*			**P**	**05 35 53.5**	**+0.4**		
	comp=Z,2.9nm,0.8s,mb4.7										

*NEIC **31** 05:45:54.7, 36.92S×177.60E, h155km, MG4.3(WEL), After WEL.*

WEL 31 05:45:55.0±0.2, 36.94S×177.59E, h152km±1km, ML4.2/8, Error ellipse: s-maj=1.9km s-min=1.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.67**	**208**	PN	Pn	05 46 17.6	+0.1
WIZ	**White Island**	**0.67**	**208**	P	Pn	05 46 17.6	0.0
MXZ	**Matakaoa Point**	**0.85**	**138**	PN	Pn	05 46 18.7	-0.1
MXZ				SN	Sn	05 46 37.2	+0.3
MXZ	**Matakaoa Point**	**0.85**	**138**	P	Pn	05 46 18.7	-0.1
MXZ				S	Sn	05 46 37.2	+0.3
PUZ	**Puketiti**	**1.25**	**155**	PN	Pn	05 46 22.3	0.0
PUZ				SN	Sn	05 46 42.8	-0.3
PUZ	**Puketiti**	**1.25**	**155**	P	Pn	05 46 22.3	0.0
PUZ				S	Sn	05 46 42.8	-0.3
URZ	**Urewera**	**1.38**	**196**	PN	Pn	05 46 23.8	+0.3
URZ				SN	Sn	05 46 45.4	+0.1
URZ	**Urewera**	**1.38**	**196**	P	Pn	05 46 23.8	+0.3
MWZ	**Matawai**	**1.40**	**182**	PN	Pn	05 46 23.9	+0.2
MWZ				SN	Sn	05 46 45.8	+0.2
MWZ	**Matawai**	**1.40**	**182**	P	Pn	05 46 23.9	+0.2
KNZ	**Kokohu**	**2.08**	**178**	PN	Pn	05 46 31.3	0.0
KNZ	**Kokohu**	**2.08**	**178**	P	Pn	05 46 31.3	+0.1
BKZ	**Black Stump Fm**	**2.39**	**201**	PN	Pn	05 46 34.7	-0.2
BKZ	**Black Stump Fm**	**2.39**	**201**	*eP*	Pn	05 46 34.7	-0.2
KATZ	**Kakaramea**	**2.53**	**216**	PN	Pn	05 46 37.5	+1.0
KATZ	**Kakaramea**	**2.53**	**216**	P	Pn	05 46 37.9	+1.3
KRVZ	**Karewarewa**	**2.65**	**215**	PN	Pn	05 46 38.7	+0.7
HIZ	**Hauiti**	**2.68**	**233**	P	Pn	05 46 40.4	+1.9
WTVZ	**West Tongariro**	**2.69**	**215**	PN	Pn	05 46 38.9	+0.4
OTVZ	**Oturere**	**2.69**	**214**	PN	Pn	05 46 39.2	+0.6
TWVZ	**Taurewa**	**2.73**	**218**	PN	Pn	05 46 39.6	+0.6
TWVZ	**Taurewa**	**2.73**	**218**	P	Pn	05 46 39.6	+0.6
NGZ	**Ngauruhoe**	**2.73**	**214**	PN	Pn	05 46 39.9	+0.8
NGZ	**Ngauruhoe**	**2.73**	**214**	P	Pn	05 46 39.9	+0.8
TUVZ	**Tukino**	**2.79**	**213**	PN	Pn	05 46 40.0	+0.3
TUVZ	**Tukino**	**2.79**	**213**	P	Pn	05 46 40.0	+0.2
FWVZ	**Far West T-bar**	**2.82**	**214**	PN	Pn	05 46 40.5	+0.4
FWVZ	**Far West T-bar**	**2.82**	**214**	P	Pn	05 46 40.5	+0.3
TRVZ	**Turoa**	**2.86**	**214**	PN	Pn	05 46 41.1	+0.4
WNVZ	**Wahianoa**	**2.86**	**213**	PN	Pn	05 46 40.9	+0.2
WNVZ	**Wahianoa**	**2.86**	**213**	P	Pn	05 46 40.9	+0.2
MOVZ	**Moawhango**	**2.86**	**210**	PN	Pn	05 46 40.1	-0.6
MOVZ	**Moawhango**	**2.86**	**210**	P	Pn	05 46 40.1	-0.6
MOVZ				S	Sn	05 47 15.6	-0.4
MTVZ	**Mangateitei**	**2.96**	**214**	PN	Pn	05 46 42.1	+0.2
PXZ	**Pawanui**	**3.14**	**190**	PN	Pn	05 46 43.0	-1.2
TSZ	**Takapari Road**	**3.37**	**202**	PN	Pn	05 46 45.5	-1.7
TSZ	**Takapari Road**	**3.37**	**202**	P	Pn	05 46 45.5	-1.7
WAZ	**Wanganui**	**3.48**	**215**	PN	Pn	05 46 48.5	-0.1
WAZ	**Wanganui**	**3.48**	**215**	P	Pn	05 46 48.5	-0.1
BFZ	**Birch Farm**	**3.88**	**195**	PN	Pn	05 46 51.8	-2.0
BFZ	**Birch Farm**	**3.88**	**195**	*eP*	Pn	05 46 51.8	-2.0
MRZ	**Mangatainoka R**	**4.04**	**202**	PN	Pn	05 46 53.3	-2.5
MRZ	**Mangatainoka R**	**4.04**	**202**	P	Pn	05 46 53.3	-2.5
TIWZ	**Tintock**	**4.06**	**199**	PN	Pn	05 46 53.9	-2.1
KIW	**Kapiti Island**	**4.44**	**207**	P	Pn	05 46 58.3	-2.8
MTW	**Mount Morrison**	**4.52**	**200**	P	Pn	05 46 58.6	-3.5
CAW	**Cannon Point**	**4.61**	**204**	P	Pn	05 47 00.0	-3.2
PAWZ	**Paruwai Farm**	**4.75**	**200**	P	Pn	05 47 01.6	-3.5
MSWZ	**Moikau Station**	**4.83**	**201**	P	Pn	05 47 02.7	-3.5
MRW	**Makara Radio**	**4.84**	**207**	P	Pn	05 47 03.2	-3.1
TCW	**Tory Channel**	**4.99**	**210**	P	Pn	05 47 04.9	-3.4
NNZ	**Nelson**	**5.39**	**216**	*eP*	Pn	05 47 10.8	-2.8
QRZ	**Quartz Range**	**5.54**	**224**	*eP*	Pn	05 47 12.4	-3.2
BSWZ	**Blackbirch Sta**	**5.57**	**210**	P	Pn	05 47 13.0	-3.0
THZ	**Tophouse**	**6.04**	**216**	*eP*	Pn	05 47 18.7	-3.5
KHZ	**Kahutara**	**6.30**	**208**	*eP*	Pn	05 47 21.7	-4.0
DSZ	**Denniston Nort**	**6.57**	**221**	*eP*	Pn	05 47 26.7	-2.6
LTZ	**Lake Taylor**	**7.13**	**213**	*eP*	Pn	05 47 32.1	-4.6
MQZ	**McQueen's Vall**	**7.74**	**208**	*eP*	Pn	05 47 39.1	-5.8
FOZ	**Fox Glacier**	**8.96**	**220**	*eP*	Pn	05 47 55.7	-5.4
LBZ	**Lake Benmore**	**9.33**	**215**	*eP*	Pn	05 48 01.8	-4.2
ODZ	**Otahua Downs**	**9.65**	**211**	*eP*	Pn	05 48 05.4	-4.9
JCZ	**Jackson Bay**	**9.80**	**221**	*eP*	Pn	05 48 07.7	-4.5

MEX 31 05:46:25.2±0.6, 1599N×9819W, h5km, MD3.6, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.41**	**9**	*i* P	Pg	05 46 32.7	-0.3
PNIG				*i* S	Sg	05 46 38.6	+0.2
VHO	**Vista Hermosa**	**1.77**	**52**	*i* P	Pn	05 46 51.6	-4.8
VHO				*i* S	Sn	05 47 15.6	-3.7
UTMO	**Huajuapan**	**1.87**	**11**	*e*P	Pn	05 46 56.0	-1.8
UTMO				*i* S	Sn	05 47 18.7	-3.1

*IDC **31** 05:54:24.5±0.9, 5476N×161.14E, h0km, mb4.0/16, mb1 4.2/16, mb1mx4.1/21, mbtmp4.0/16, MS3.1/2, Ms1 3.1/2, ms1mx2.5/19, Error ellipse: s-maj=25.6km s-min=17.3km az=158.0*

*MOS **31** 05:54:25.8±1.3, 5463N×16163E, h16km, mb4.3/7, Error ellipse: s-maj=12.4km s-min=6.2km az=76.8*

*KRSC **31** 05:54:25.5±0.7, 5461N×16187E, h17km±1km, ML4.6*

*ISCJB **31** 05:54:26.8±0.5, 5461N±002×16174E±003, h19km±3km, mb4.1/34, MS3.7/5, Error ellipse: s-maj=3.5km s-min=2.3km az=57.6*

*NEIC **31** 05:54:34.8±0.4, 5434N×16089E, mb4.3/12, Error ellipse: s-maj=11.9km s-min=7.3km az=168.0*

*BJI **31** 05:54:34.7, 5430N×16090E, h106km, mB4.3, mb4.2*

ISC 31 05:54:27.1±0.6, 5465N±002×16165E±004, h11km±3km, h90km±7.4km: pP-P, n124, σ1°§13/166, mb4.1/34, MS3.7/5, 1C-1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.10**	**152**	*i* P	**Pg**	**05 54 30.0**	**+0.1**
MKZ				*e*S	**Sg**	**05 54 33.0**	**+1.1**
TUMR	**Tumrok**	**1.07**	**307**	*e*P	**Pb**	**05 54 46.4**	**-1.3**
TUMR				*e*S	**Sb**	**05 55 02.6**	**+0.9**
KMNR	**Kamenistaya**	**1.37**	**325**	*i* P	**Pn**	**05 54 51.7**	**-0.5**
KMNR				*e*S	**Sn**	**05 55 10.1**	**-0.2**
KII	**Karymskiy**	**1.43**	**245**	P	**Pn**	**05 54 52.0**	**-0.9**
KII				S	**Sn**	**05 55 10.5**	**-1.1**
KII	**Karymskiy**	**1.43**	**245**	*i* P	**Pn**	**05 54 51.9**	**-1.0**
KII				*e*S	**Sn**	**05 55 11.0**	**-0.6**
ZLN	**Zelenaya**	**1.45**	**341**	*i* P	**Pn**	**05 54 53.0**	**-0.3**
ZLN				*e*S	**Sn**	**05 55 12.5**	**+0.2**
LGNR	**Loginova**	**1.54**	**340**	*i* P	**Pn**	**05 54 54.5**	**0.0**
LGNR				*e*S	**Sn**	**05 55 16.1**	**+1.7**
KPT	**Kopyto**	**1.55**	**329**	*i* P	**Pn**	**05 54 54.2**	**-0.5**
KPT				*e*S	**Sn**	**05 55 15.0**	**+0.2**
CIRR	**Tsirk**	**1.56**	**341**	*i* P	**Pn**	**05 54 54.5**	**-0.2**
CIRR				*e*S	**Sn**	**05 55 15.2**	**+0.3**
KRSR	**Krestovskiy**	**1.69**	**339**	*i* P	**Pn**	**05 54 55.9**	**-0.6**
KRSR				*e*S	**Sn**	**05 55 18.6**	**+0.5**
KBTR	**Krutoberegovo**	**1.70**	**23**	P	**Pn**	**05 54 54.7**	**-2.0**
KBTR				S	**Sn**	**05 55 15.6**	**-2.8**
KBTR	**Krutoberegovo**	**1.70**	**23**	*e*P	**Pn**	**05 54 54.7**	**-2.0**
KBTR				*e*S	**Sn**	**05 55 16.5**	**-1.9**
KBG	**Krutoberegovo**	**1.72**	**20**	*i* P	**Pn**	**05 54 56.6**	**-0.4**
KBG				*e*S	**Sn**	**05 55 18.8**	**-0.1**
KBG				Smax			
	3μm,1.0s						
KOZR	**Kozyr**	**1.74**	**326**	PN	**Pn**	**05 54 57.3**	**+0.1**
KOZR				S	**Sn**	**05 55 20.2**	**+0.9**
KOZ	**Kozyrevsk**	**1.74**	**325**	P	**Pn**	**05 54 57.3**	**+0.1**
KOZ				S	**Sn**	**05 55 20.2**	**+0.8**
KOZ	**Kozyrevsk**	**1.74**	**325**	*i* P	**Pn**	**05 54 57.4**	**+0.2**
KOZ				*e*S	**Sn**	**05 55 20.6**	**+1.2**
KLY	**Klyuchi**	**1.76**	**342**	P	**Pn**	**05 54 56.4**	**-1.1**
KLY				S	**Sn**	**05 55 18.4**	**-1.5**
KLY	**Klyuchi**	**1.76**	**342**	*i* P	**Pn**	**05 54 56.4**	**-1.1**
KLY				*e*S	**Sn**	**05 55 19.4**	**-0.5**
SPN	**Mys Shipunski**	**1.83**	**212**	P	**Pn**	**05 54 56.1**	**-2.3**
SPN				S	**Sn**	**05 55 17.7**	**-3.9**
SPN	**Mys Shipunski**	**1.83**	**212**	*e*P	**Pn**	**05 54 56.0**	**-2.4**
SPN				*e*S	**Sn**	**05 55 18.9**	**-2.6**
BDR	**Baidarnaya**	**1.94**	**353**	*i* P	**Pn**	**05 54 59.9**	**-0.1**
BDR				*e*S	**Sn**	**05 55 25.3**	**+0.9**
SMKR	**Semkarok**	**1.94**	**357**	*i* P	**Pn**	**05 55 00.2**	**+0.2**
SMKR				*e*S	**Sn**	**05 55 25.1**	**+0.7**
SRDR	**Sredinnyy**	**2.00**	**328**	*e*P	**Pn**	**05 55 00.4**	**-0.4**
SRDR				*e*S	**Sn**	**05 55 27.2**	**+1.4**
NLC	**Nalytchevo**	**2.01**	**224**	P	**Pn**	**05 54 59.7**	**-1.3**
NLC				S	**Sn**	**05 55 24.4**	**-1.7**
NLC	**Nalytchevo**	**2.01**	**224**	*e*P	**Pn**	**05 54 59.6**	**-1.4**
NLC				*e*S	**Sn**	**05 55 24.4**	**-1.7**
SRKR	**Sorokina**	**2.03**	**353**	*i* P	**Pn**	**05 55 01.2**	**0.0**
SRKR				*e*S	**Sn**	**05 55 26.9**	**+0.4**
ESO	**Esso**	**2.12**	**308**	*e*P	**Pn**	**05 55 01.8**	**-0.6**
ESO				*e*S	**Sn**	**05 55 28.5**	**-0.2**
ESO				Smax			
	540nm,0.8s						
SDLR	**Sedlovina**	**2.13**	**231**	*i* P	**Pn**	**05 55 02.6**	**0.0**
SDLR				*e*S	**Sn**	**05 55 30.2**	**+1.1**
SMAR	**Somma**	**2.18**	**232**	*i* P	**Pn**	**05 55 03.3**	**0.0**
SMAR				*e*S	**Sn**	**05 55 30.9**	**+0.7**
UGLR	**Uglovaya**	**2.21**	**230**	*e*P	**Pn**	**05 55 03.8**	**+0.2**
UGLR				*e*S	**Sn**	**05 55 32.0**	**+1.1**
AVH	**Avacha**	**2.21**	**232**	*e*P	**Pn**	**05 55 03.8**	**+0.1**
AVH				*e*S	**Sn**	**05 55 32.0**	**+1.1**
KOK	**Koryaka**	**2.24**	**234**	*i* P	**Pn**	**05 55 04.4**	**+0.3**
KOK				*e*S	**Sn**	**05 55 33.0**	**+1.3**
GNL	**Ganaly**	**2.38**	**248**	*e*P	**Pn**	**05 55 06.5**	**+0.5**
GNL				*e*S	**Sn**	**05 55 36.3**	**+1.2**
PET	**Petropavlovsk**	**2.41**	**229**	*d i*PN	**Pn**	**05 55 06.4**	**0.0**
PET				*i* S	**Sn**	**05 55 36.4**	**+0.5**
PET	**Petropavlovsk**	**2.41**	**229**	*e*Pn	**Pn**	**05 55 06.2**	**-0.2**
PET	**Petropavlovsk**	**2.41**	**229**	*e*P	**Pn**	**05 55 06.2**	**-0.2**
PET				*e*S	**Sn**	**05 55 35.3**	**-0.6**
BKI	**Bering**	**2.56**	**76**	*e*P	**Pn**	**05 55 05.5**	**-3.0**
BKI				*e*S	**Sn**	**05 55 32.7**	**-6.9**
BKI				Smax			
	100nm,0.3s						
KRMR	**Karymshinskiy**	**2.77**	**230**	*i* P	**Pn**	**05 55 11.9**	**+0.5**
KRMR				*e*S	**Sn**	**05 55 45.3**	**+0.5**
RUS	**Russkaya**	**2.90**	**221**	P	**Pn**	**05 55 12.1**	**-1.1**
RUS				S	**Sn**	**05 55 46.0**	**-2.1**
RUS	**Russkaya**	**2.90**	**221**	*i* P	**Pn**	**05 55 12.0**	**-1.2**
RUS				*e*S	**Sn**	**05 55 46.1**	**-2.0**
GRL	**Gorelyy**	**2.99**	**227**	*e*P	**Pn**	**05 55 15.1**	**+0.7**
GRL				*e*S	**Sn**	**05 55 51.2**	**+1.0**
APC	**Apacha**	**3.17**	**239**	*e*P	**Pn**	**05 55 17.5**	**+0.6**
APC				*e*S	**Sn**	**05 55 55.3**	**+0.5**
APC				Smax			
	160nm,0.8s						
MIPR	**Malaya Ipel'ka**	**3.77**	**233**	*e*P	**Pn**	**05 55 25.9**	**+0.8**
PAU	**Pauzhetka**	**4.32**	**224**	*e*P	**Pn**	**05 55 34.5**	**+1.8**
PAU				*e*S	**Sn**	**05 56 24.3**	**+1.3**
PAU				Smax			
	130nm,0.8s						
SKR	**Severo-Kuril's**	**5.20**	**223**	*e*PN	**Pn**	**05 55 48.0**	**+3.1**
MA2	**Magadan**	**7.71**	**314**	*e*PN	**Pn**	**05 56 23.4**	**+4.2**
MA2	**Magadan**	**7.71**	**314**	*e*Pn	**Pn**	**05 56 23.3**	**+4.1**
KAMR	**Kamenskoye**	**8.18**	**15**	*e*P	**Pn**	**05 56 27.7**	**+1.9**
BILL	**Bilibino**	**13.61**	**7**	*e*P	**Pn**	**05 57 42.4**	**+2.3**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.7s						
ASAJ	**Asahikawa**	**16.22**	**237**	LR	LR	06 04 14.2	
	comp=Z,63nm,19.0s,baz=358,slow=37						
HABR	**Khabarovsk**	**17.59**	**260**	*e*P	**Pn**	**05 58 29.2**	**-2.9**
HABR				*e*S	**Sn**	**06 01 44.8**	**-3.1**
TIXI	**Tiksi**	**22.08**	**333**	*e*P	**P**	**05 59 21.2**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0						
TIXI				MLR	MLR		
	comp=Z,500nm,21.0s,MS3.9						
TIXI	**Tiksi**	**22.08**	**333**	*e*P	**P**	**05 59 20.8**	**-1.3**
VLA	**Vladivostok**	**22.53**	**252**	*e*P	**P**	**05 59 26.6**	**-0.3**
VLA				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.4						
MDJ	**Mudanjiang**	**22.87**	**257**	P	**P**	**05 59 22.5**	**-8.0**
MDJ				AP		05 59 43.8	
MDJ				XP	sP	05 59 57.0	+22
MDJ				S	**S**	**06 03 20.5**	**-20**
MDJ				XS	sS	06 03 58.0	+12
MDJ				SCP	ScP	06 06 41.5	-17
MDJ				PCS	PcS	06 06 53.3	-6.9
MDJ				SCS	ScS	06 10 26.8	-18
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb3.8						
MDJ				AMB	AMB		
	comp=Z,79nm,5.2s						
TTA	**Tatalina**	**23.05**	**52**	*e*P	**P**	**05 59 32.9**	**+0.5**
MAJO	**Matsushiro**	**24.24**	**231**	*e*P	**P**	**05 59 35.0**	**-8.9**
MJAR	**Matsushiro Arr**	**24.24**	**231**	P	**P**	**05 59 42.0**	**-1.9**
	comp=Z,2.9nm,0.8s,mb3.8,baz=19,slow=9.0,SNR=6.4						
CN2	**Changchun**	**25.73**	**260**	*e*P	**P**	**05 59 50.0**	**-7.5**
COLA	**College**	**26.66**	**47**	*e*P	**P**	**06 00 05.1**	**-0.8**
ILAR	**Eielson Array**	**27.07**	**47**	P	**P**	**06 00 08.7**	**-0.9**
	comp=Z,1.7nm,0.8s,mb3.6,baz=268,slow=8.3,SNR=22						
INK	**Inuvik**	**32.08**	**39**	P	**P**	**06 00 53.0**	**-1.0**
	comp=Z,1.7nm,0.7s,mb4.0,baz=280,slow=5.9,SNR=13						
INK	**Inuvik**	**32.08**	**39**	*e*P	**P**	**06 00 53.5**	**-0.6**
SONM	**Songino Array**	**34.46**	**282**	PcP	PcP	06 03 48.2	-1.8
	comp=Z,0.7nm,0.7s,baz=70,slow=2.4,SNR=5.4						
HHC	**Hu-ho-hao-te**	**35.60**	**268**	*e*P	**P**	**06 01 18.5**	**-6.1**
HHC				AP	pP	06 01 43.5	+15
HHC				XP	sP	06 01 57.0	+28
HHC				PP	PP	06 02 40.5	-4.9
HHC				PCP	PcP	06 03 49.0	-4.3
HHC				S	**S**	**06 03 42.0**	**-18**
HHC				SCP	ScP	06 07 25.3	-14
HHC				PCS	PcS	06 07 34.5	-6.0
HHC				SS	SS	06 09 04.3	-31
HHC				SCS	ScS	06 11 25.5	-18
HHC				AMB	AMB		
	comp=Z,7.0nm,0.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,96nm,5.0s						
HHC				LR	LR		
	comp=N,125nm,8.3s						
HHC				LR	LR		
	comp=E,422nm,18.6s						
HHC				LR	LR		
	comp=Z,110nm,6.9s						
DLBC	**Dease Lake**	**36.39**	**55**	*e*P	**P**	**06 01 32.5**	**+1.1**
DLBC				*e*pP	pP	06 01 57.4	+23
NJ2	**Nanjing**	**37.63**	**251**	*e*P	**P**	**06 01 36.0**	**-6.0**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
YKA	**Yellowknife Ar**	**41.40**	**44**	P	**P**	**06 02 12.5**	**-0.9**
	comp=Z,0.9nm,0.5s,mb3.6,baz=300,slow=8.0,SNR=5.6						
YKA				PcP	PcP	06 04 10.1	-1.2
	comp=Z,0.6nm,0.6s,baz=287,slow=3.5,SNR=4.2						
YKA				LR	LR	06 22 52.2	
	comp=Z,26nm,18.9s,MS3.1,baz=270,slow=41						
YKA	**Yellowknife Ar**	**41.40**	**44**	P	**P**	**06 02 12.5**	**-0.9**
YKA						06 04 10.2	
YKA	**Yellowknife Ar**	**41.40**	**44**	P	**P**	**06 02 12.5**	**-0.9**
YKA				PcP	PcP	06 04 10.2	-1.2
YKA				LR	LR	06 22 52.2	
LZH	**Lanzhou**	**43.28**	**269**	*e*P	**P**	**06 02 21.8**	**-6.9**
LZH				AP	pP	06 02 47.5	+15
LZH				XP	sP	06 03 00.8	+27
LZH				PP	PP	06 04 04.8	-4.4
LZH				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.6						
LZH				AMB	AMB		
	comp=Z,49nm,6.5s						
LZH				LR	LR		
	comp=N,148nm,14.3s						
LZH				LR	LR		
	comp=Z,295nm,17.8s,MS4.2						
LZH	**Lanzhou**	**43.28**	**269**	*e*P	**P**	**06 02 21.7**	**-7.0**
LZH						06 04 04.7	
LZH				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.6						
LZH				MLR	MLR		
	comp=Z,290nm,17.8s,MS4.2						
LZH	**Lanzhou**	**43.28**	**269**	*e*P	**P**	**06 02 21.7**	**-7.0**
	comp=Z,17nm,1.3s,mb4.6						
LZH				pP	pP	06 02 47.5	+15
LZH				sP	sP	06 03 00.8	+27
LZH				PP	PP	06 04 04.7	-4.5
LZH				LR	LR		
	comp=Z,290nm,17.8s,MS4.2						
EDM	**Edmonton**	**47.11**	**55**	*e*P	**P**	**06 02 59.4**	**+0.3**
WMQ	**Urumq

MBWA	**Marble Bar**	**83.59**	**219**	*e*P	**P**	**06**	**06**	**47.5 -7.9**
ESDC	**Sonseca Array**	**85.24**	**349**	P	**P**	**06**	**07**	**02.8 -0.9**
	comp=Z,2.1nm,0.7s,mb4.4,baz=1.2,slow=4.8,SNR=11							
SBA	**Scott Base**	**132.27**	**179**	*e*PKIKP	PKPdf	06	13	33.0 -8.2
QSPA	**South Pole Qui**	**144.40**	**180**	*e*PKPdf	PKPdf	06	13	58.9 -4.4

IDC 31 05:59:59.5±3.0, 3038S×13847E, h0km, mb1 3.4/4, mb1mx3.3/13, mbtmp3.2/4, ML2.9/4, Error ellipse: s-maj=82.1km s-min=14.8km az=42.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
STKA	**Stephens Creek**	**3.07**	**120**	Pn	Pn	06	00	49.3 +0.1
	0.4nm,0.3s,baz=305,slow=13,SNR=9.3							
STKA				Pg	Pg	06	00	56.6 -1.7
	1.3nm,0.3s,baz=296,slow=15,SNR=8.9							
STKA				Sn	Sn	06	01	25.0 -1.6
	2.2nm,0.3s,baz=308,slow=16,SNR=6.2							
STKA				Lg		06	01	35.5
	4.0nm,0.3s,baz=0.0,slow=20,SNR=6.1							
ASAR	**Alice Springs**	**7.83**	**328**	Pn	Pn	06	01	56.0 +1.4
	0.1nm,0.3s,baz=146,slow=13,SNR=6.0							
ASAR				Sn	Sn	06	03	24.7 +0.9
	0.2nm,0.3s,baz=151,slow=21,SNR=4.1							
WRA	**Warramunga Arr**	**11.04**	**339**	Pn	Pn	06	02	38.6 -0.1
	0.1nm,0.3s,baz=161,slow=12,SNR=14							
WRA				Sn	Sn	06	04	42.8 0.0
	0.1nm,0.3s,baz=162,slow=23,SNR=4.9							
FITZ	**Fitzroy Crossi**	**16.90**	**313**	Pn	Pn	06	03	56.3 -1.0
	0.1nm,0.3s,baz=150,slow=16,SNR=4.0							

ISCJB 31 06:17:04.4±3.9, 20N×01.0×96.12E±0.10, h1km±24km, mb4.6/25, MS4.0/10, Error ellipse: s-maj=20.5km s-min=12.0km az=83.9
IDC 31 06:17:05.7±1.1, 209N×96.06E, h0km, mb4.2/10, mb1 4.3/11, mb1mx4.1/20, mbtmp4.1/11, ML3.3/1, MS3.9/9, Ms1 3.9/9, ms1mx3.5/24, Error ellipse: s-maj=42.0km s-min=15.9km az=48.0
BJI 31 06:17:08.2, 191N×9638E, h38km, mB4.8, mb4.7, Ms4.3, Msz4.1
MOS 31 06:17:09.4±0.9, 2.13N×96.13E, h33km, mb4.9/7, Error ellipse: s-maj=19.2km s-min=12.1km az=111.8
NEIC 31 06:17:13.7±2.9, 220N×9635E, h53km±24km, mb4.9/9, Error ellipse: s-maj=31.7km s-min=8.5km az=52.0
ISC 31 06:17:14.6±3.1, 22N±01×964E±02, h57km±25km, n42, σ0§94/40, mb4.5/25, MS4.0/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
PSI	**Prapat**	**2.59**	**78**	Pn	**Pn**	**06**	**17**	**53.9 -0.1**
	4.4nm,0.3s,baz=258,slow=11,SNR=32							
PSI				LR	LR	06	19	06.6
	comp=Z,728nm,18.5s,baz=24,slow=41							
KULM	**Kulim**	**5.21**	**54**	*e*Pn	**Pn**	**06**	**18**	**29.3 -0.6**
SHL	**Shillong**	**23.59**	**350**	*e*P	**P**	**06**	**22**	**19.0 -1.1**
JIRN	**Jiri**	**27.10**	**340**	*e*P	**P**	**06**	**22**	**52.6 +0.8**
	29nm,0.6s,mb5.0							
PKI	**Pulchoki**	**27.29**	**338**	*e*P	**P**	**06**	**22**	**55.0 +1.4**
	27nm,0.9s,mb4.8							
PKI	**Pulchoki**	**27.29**	**338**	*e*P	**P**	**06**	**22**	**55.0 +1.4**
PKI				pmax	pmax			
	comp=Z,27nm,0.9s,mb4.8							
GUN	**Gumba**	**27.43**	**339**	*e*P	**P**	**06**	**22**	**55.5 +0.6**
	comp=Z,30nm,0.6s,mb5.0							
DMN	**Daman**	**27.44**	**338**	*e*P	**P**	**06**	**22**	**55.9 +1.0**
KKN	**Kakani**	**27.54**	**338**	*e*P	**P**	**06**	**22**	**57.0 +1.2**
	comp=Z,37nm,1.0s,mb5.0							
KKN	**Kakani**	**27.54**	**338**	*e*P	**P**	**06**	**22**	**57.0 +1.2**
KKN				pmax	pmax			
	comp=Z,37nm,1.0s,mb5.0							
LSA	**Lhasa**	**27.76**	**350**	*e*P	**P**	**06**	**22**	**57.2 -0.6**
LSA				pmax	pmax			
	comp=Z,15nm,0.8s,mb4.7							
LSA	**Lhasa**	**27.76**	**350**	*e*P	**P**	**06**	**22**	**57.2 -0.6**
	comp=Z,15nm,0.8s,mb4.7							
GKN	**Gorkha**	**27.97**	**337**	*e*P	**P**	**06**	**23**	**00.4 +0.7**
	comp=Z,23nm,0.6s,mb5.0							
KOLN	**Koldanda**	**28.18**	**335**	*e*P	**P**	**06**	**23**	**01.7 +0.2**
	comp=Z,26nm,0.9s,mb4.8							
XAN	**Xi'an**	**33.73**	**19**	P	**P**	**06**	**23**	**48.8 -1.6**
XAN				AMB	AMB			
	comp=Z,23nm,1.2s,mb5.0							
FITZ	**Fitzroy Crossi**	**35.19**	**126**	P	**P**	**06**	**24**	**02.5 -0.5**
	comp=Z,1.7nm,0.7s,mb4.1,baz=315,slow=10,SNR=6.0							
GTA	**Gaotai**	**37.13**	**4**	*e*P	**P**	**06**	**24**	**20.0 +0.5**
GTA				AP	pP	06	24	31.3 -2.8
GTA				XP	sP	06	24	36.8 -4.0
GTA				AMB	AMB			
	comp=Z,8.0nm,1.0s,mb4.5							
GTA				AMB	AMB			
	comp=Z,64nm,3.8s							
GTA				LR	LR			
	comp=N,198nm,16.3s,MS4.1							
GTA				LR	LR			
	comp=E,167nm,17.1s,MS4.1							
GTA				LR	LR			
	comp=Z,215nm,16.0s,MS4.0							
HHC	**Hu-ho-hao-te**	**40.80**	**18**	*e*P	**P**	**06**	**24**	**52.0 +1.7**
HHC				AMB	AMB			
	comp=Z,20nm,0.5s,mb5.0							
HHC				AMB	AMB			
	comp=Z,93nm,3.2s							
BJI	**Beijing**	**41.69**	**23**	P	**P**	**06**	**24**	**58.5 +1.0**
BJI				S	**S**	**06**	**31**	**20.0 +10**
BJI				AMB	AMB			
	comp=Z,12nm,1.0s,mb4.5							
BJI				LR	LR			
	comp=N,189nm,18.5s,MS4.1							
BJI				LR	LR			
	comp=E,158nm,17.3s,MS4.1							
BJI				LR	LR			
	comp=Z,132nm,16.5s,MS3.9							
BJI	**Beijing**	**41.69**	**23**	P	**P**	**06**	**24**	**58.6 +1.1**
BJI				S	**S**	**06**	**31**	**20.1 +10**
BJI				pmax	pmax			
	comp=Z,12nm,1.0s,mb4.5							
BJI				MLR	MLR			
	comp=Z,130nm,16.5s,MS3.9							
BJI	**Beijing**	**41.69**	**23**	P	**P**	**06**	**24**	**58.6 +1.1**
	comp=Z,12nm,1.0s,mb4.5							
BJI				S	**S**	**06**	**31**	**20.1 +10**
BJI				LR	LR			
	comp=Z,130nm,16.5s,MS3.9							
WRA	**Warramunga Arr**	**43.27**	**122**	P	**P**	**06**	**25**	**11.0 +0.6**
	comp=Z,1.3nm,0.6s,mb3.8,baz=302,slow=8.9,SNR=13							
ASAR	**Alice Springs**	**44.66**	**127**	P	**P**	**06**	**25**	**22.5 +1.0**
	comp=Z,1.1nm,0.6s,mb3.9,baz=298,slow=7.7,SNR=13							
MK31	**Makanchi Array**	**46.05**	**347**	P	**P**	**06**	**25**	**31.9 -0.6**
MK31				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.5							
MKAR	**Makanchi Array**	**46.05**	**347**	P	**P**	**06**	**25**	**32.0 -0.5**
	comp=Z,9.0nm,0.9s,mb4.7,baz=159,slow=7.3,SNR=43							
SONM	**Songino Array**	**46.23**	**9**	P	**P**	**06**	**25**	**34.0 0.0**
	comp=Z,2.9nm,0.5s,mb4.4,baz=189,slow=9.4,SNR=28							
MJAR	**Matsushiro Arr**	**51.48**	**43**	LR	LR	06	49	40.8
	comp=Z,108nm,18.4s,MS3.9,baz=120,slow=38							
ZAL	**Zalesovo**	**52.40**	**351**	P	**P**	**06**	**26**	**20.7 -0.3**
	comp=Z,5.4nm,0.5s,mb4.7,baz=313,slow=6.1,SNR=18							
ZAL				LR	LR	06	53	47.3
	comp=Z,114nm,20.6s,MS3.9,baz=112,slow=42							
NVS	**Novosibirsk**	**53.52**	**351**	*e*P	**P**	**06**	**26**	**25.3 -3.9**
STKA	**Stephens Creek**	**54.65**	**132**	LR	LR	06	51	57.4
	comp=Z,129nm,21.2s,MS4.0,baz=354,slow=38							
CHKZ	**Chkalovo**	**55.49**	**342**	*e*P	**P**	**06**	**26**	**42.8 -0.7**
CHKZ				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.7							
CHKZ	**Chkalovo**	**55.49**	**342**	*e*P	**P**	**06**	**26**	**42.8 -0.7**
	comp=Z,6.6nm,0.8s,mb4.7							
KMBO	**Kilima Mbogo**	**59.23**	**267**	LR	LR	06	49	42.2
	comp=Z,87nm,18.9s,MS3.9,baz=96,slow=33							
BRTR	**Keskin Array B**	**67.82**	**312**	P	**P**	**06**	**28**	**11.9 +5.4**
	comp=Z,1.9nm,1.1s,mb4.0,baz=104,slow=8.7,SNR=4.8							
TIXI	**Tiksi**	**72.31**	**10**	*e*P	**P**	**06**	**28**	**25.9 -8.1**
TIXI				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.4							
AKASG	**Malin Array Be**	**73.95**	**322**	P	**P**	**06**	**28**	**41.6 -2.0**
	comp=Z,0.3nm,0.3s,mb3.7,baz=93,slow=4.8,SNR=4.7							
FINES	**FINESS Array B**	**78.71**	**333**	P	**P**	**06**	**29**	**09.5 -1.2**
	comp=Z,1.1nm,0.6s,mb4.0,baz=98,slow=6.7,SNR=7.0							
FINES				LR	LR	07	09	23.2
	comp=Z,57nm,18.1s,MS4.0,baz=157,slow=40							
ARCES	**ARCESS Array B**	**81.29**	**340**	P	**P**	**06**	**29**	**23.4 -1.1**
	comp=Z,2.1nm,0.6s,mb4.2,baz=103,slow=5.3,SNR=14							
ARCES				LR	LR	07	11	31.6
	comp=Z,79nm,19.3s,MS4.1,baz=179,slow=40							
ARCES	**ARCESS Array B**	**81.29**	**340**	P	**P**	**06**	**29**	**23.4 -1.2**
ARCES				LR	LR	07	11	31.6
GERES	**GERESS Array B**	**83.50**	**319**	P	**P**	**06**	**29**	**36.3 +0.1**
	comp=Z,0.2nm,0.2s,mb3.8,baz=108,slow=4.3,SNR=4.2							
URZ	**Urewera**	**84.09**	**129**	LR	LR	07	09	50.6
	comp=Z,146nm,19.2s,MS4.4,baz=230,slow=38							
VNDA	**Vanda**	**87.00**	**169**	LR	LR	07	02	59.3
	comp=Z,87nm,20.4s,MS4.2,baz=182,slow=32							

IDC 31 06:19:46.2±1.6, 5465N×161.41E, h0km, mb3.5/5, mb1 3.9/5, mb1mx3.6/21, mbtmp3.5/5, Error ellipse: s-maj=120.9km s-min=21.6km az=140.0
MOS 31 06:19:46.3±0.6, 5457N×161.89E, h16km, mb4.4/3, Error ellipse: s-maj=16.8km s-min=9.0km az=77.1
ISCJB 31 06:19:47.6±0.5, 5460N±002×161.80E±005, h20km±3km, mb3.8/9, Error ellipse: s-maj=5.0km s-min=2.6km az=40.9
KRSC 31 06:19:47.2±1.0, 5462N×161.75E, h17km±2km, ML4.3
NEIC 31 06:19:53.3±1.9, 5456N×161.48E, h58km±20km, mb4.4/3, Error ellipse: s-maj=23.2km s-min=15.5km az=127.0
ISC 31 06:19:48.2±0.6, 5462N±002×16177E±005, h17km±3km, n61, σ1§06/102, mb3.8/9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
MKZ	**Mys Kozlova**	**0.07**	**201**	P	**Pg**	**06**	**19**	**51.0 -0.5**
MKZ				S	**Sg**	**06**	**19**	**53.6 0.0**
MKZ	**Mys Kozlova**	**0.07**	**201**	*i* P	**Pg**	**06**	**19**	**51.0 -0.5**
MKZ				*e*S	**Sg**	**06**	**19**	**53.9 +0.3**
TUMR	**Tumrok**	**1.15**	**306**	*e*P	**Pn**	**06**	**20**	**07.8 -1.7**
TUMR				*e*S	**Sb**	**06**	**20**	**23.2 -1.0**
KMNR	**Kamenistaya**	**1.44**	**323**	*i* P	**Pn**	**06**	**20**	**12.9 -0.5**
KMNR				*e*S	**Sn**	**06**	**20**	**31.6 -0.3**
KII	**Karymskiy**	**1.48**	**248**	P	**Sn**	**06**	**20**	**13.2 -0.8**
KII				S	**Sn**	**06**	**20**	**30.5 -2.5**
KII	**Karymskiy**	**1.48**	**248**	*e*P	**Pn**	**06**	**20**	**13.0 -1.0**
KII				*e*S	**Sn**	**06**	**20**	**31.4 -1.6**
ZLN	**Zelenaya**	**1.50**	**339**	*i* P	**Pn**	**06**	**20**	**14.4 +0.1**
ZLN				*e*S	**Sn**	**06**	**20**	**34.4 +0.9**
LGNR	**Loginova**	**1.59**	**338**	*i* P	**Pn**	**06**	**20**	**16.0 +0.5**
LGNR				*e*S	**Sn**	**06**	**20**	**37.5 +1.8**
CIRR	**Tsirk**	**1.61**	**339**	*e*P	**Pn**	**06**	**20**	**15.9 +0.1**
CIRR				*e*S	**Sn**	**06**	**20**	**37.4 +1.3**
KPT	**Kopyto**	**1.61**	**327**	*e*P	**Pn**	**06**	**20**	**15.6 -0.2**
KPT				*e*S	**Sn**	**06**	**20**	**36.9 +0.7**
KBTR	**Krutoberegovo**	**1.70**	**20**	P	**Pn**	**06**	**20**	**16.5 -0.5**
KBTR				S	**Sn**	**06**	**20**	**37.0 -1.4**
KBTR	**Krutoberegovo**	**1.70**	**20**	*e*P	**Pn**	**06**	**20**	**16.4 -0.6**
KBTR				*e*S	**Sn**	**06**	**20**	**38.9 +0.5**
KBG	**Krutoberegovo**	**1.72**	**18**	*e*P	**Pn**	**06**	**20**	**16.9 -0.4**
KBG				*e*S	**Sn**	**06**	**20**	**39.3 +0.4**
KBG				Smax				
	1µm,0.8s							
KRSR	**Krestovskiy**	**1.74**	**337**	*e*P	**Pn**	**06**	**20**	**17.4 -0.2**
KRSR				*e*S	**Sn**	**06**	**20**	**39.6 +0.2**
KOZR	**Kozyr**	**1.80**	**324**	PN	**Pn**	**06**	**20**	**18.9 +0.5**
KOZR				S	**Sn**	**06**	**20**	**40.9 0.0**
KOZ	**Kozyrevsk**	**1.80**	**324**	P	**Pn**	**06**	**20**	**18.9 +0.4**
KOZ				S	**Sn**	**06**	**20**	**40.9 0.0**
KOZ	**Kozyrevsk**	**1.80**	**324**	*i* P	**Pn**	**06**	**20**	**18.9 +0.4**
KOZ				*e*S	**Sn**	**06**	**20**	**40.5 -0.4**
KLY	**Klyuchi**	**1.81**	**340**	P	**Pn**	**06**	**20**	**17.9 -0.7**
KLY				S	**Sn**	**06**	**20**	**38.8 -2.3**
KLY	**Klyuchi**	**1.81**	**340**	*e*P	**Pn**	**06**	**20**	**17.8 -0.8**
KLY				*e*S	**Sn**	**06**	**20**	**40.3 -0.8**
SPN	**Mys Shipunski**	**1.84**	**215**	P	**Pn**	**06**	**20**	**17.7 -1.3**
SPN				S	**Sn**	**06**	**20**	**38.3 -3.6**
SPN	**Mys Shipunski**	**1.84**	**215**	*e*P	**Pn**	**06**	**20**	**17.3 -1.7**
SPN				*e*S	**Sn**	**06**	**20**	**39.9 -2.0**
SMKR	**Semkarok**	**1.97**	**355**	*e*P	**Pn**	**06**	**20**	**21.2 +0.4**
SMKR				*e*S	**Sn**	**06**	**20**	**45.6 +0.5**
BDR	**Baidarnaya**	**1.98**	**351**	*e*S	**Sn**	**06**	**20**	**46.9 +1.7**
NLC	**Nalytchevo**	**2.04**	**226**	P	**Pn**	**06**	**20**	**20.9 -0.8**
NLC				S	**Sn**	**06**	**20**	**44.2 -2.6**
NLC	**Nalytchevo**	**2.04**	**226**	*e*P	**Pn**	**06**	**20**	**21.0 -0.7**
NLC				*e*S	**Sn**	**06**	**20**	**45.6 -1.2**
SRDR	**Sredinnyy**	**2.06**	**326**	*e*P	**Pn**	**06**	**20**	**21.7 -0.3**
SRDR				*e*S	**Sn**	**06**	**20**	**45.8 -1.5**
SRKR	**Sorokina**	**2.07**	**351**	*e*P	**Pn**	**06**	**20**	**21.1 -1.0**
SRKR				*e*S	**Sn**	**06**	**20**	**47.3 -0.1**
SDLR	**Sedlovina**	**2.17**	**233**	*e*P	**Pn**	**06**	**20**	**23.7 +0.2**
SDLR				*e*S	**Sn**	**06**	**20**	**50.3 +0.3**
ESO	**Esso**	**2.19**	**308**	*e*P	**Pn**	**06**	**20**	**23.2 -0.6**
ESO				*e*S	**Sn**	**06**	**20**	**49.0 -1.5**
ESO				Smax				
	380nm,0.4s							
SMAR	**Somma**	**2.22**	**233**	*e*P	**Pn**	**06**	**20**	**24.7 +0.5**
SMAR				*e*S	**Sn**	**06**	**20**	**50.8 -0.4**
UGLR	**Uglovaya**	**2.25**	**232**	*e*P	**Pn**	**06**	**20**	**24.9 +0.4**
UGLR				*e*S	**Sn**	**06**	**20**	**51.0 -0.8**
AVH	**Avacha**	**2.25**	**234**	*e*P	**Pn**	**06**	**20**	**25.1 +0.5**
AVH				*e*S	**Sn**	**06**	**20**	**51.9 0.0**
KOK	**Koryaka**	**2.28**	**236**	*e*P	**Pn**	**06**	**20**	**25.7 +0.7**
KOK				*e*S	**Sn**	**06**	**20**	**54.1 +1.4**
GNL	**Ganaly**	**2.44**	**249**	*e*P	**Pn**	**06**	**20**	**27.8 +0.7**
GNL				*e*S	**Sn**	**06**	**20**	**58.2 +1.7**
PET	**Petropavlovsk**	**2.44**	**230**	P	**Pn**	**06**	**20**	**28.3 +1.0**
PET				S	**Sn**	**06**	**20**	**57.1 +0.4**
PET	**Petropavlovsk**	**2.44**	**230**	*e*PN	**Pn**	**06**	**20**	**29.2 +1.9**
PET				*e*S	**Sn**	**06**	**20**	**57.4 +0.7**
PET				pmax	pmax			
	comp=Z,72nm,0.5s							
PET				smax				
	comp=E,194nm,0.7s							
PET				smax				
	comp=N,350nm,0.6s							
PET				MLR	MLR			
	comp=Z,100nm,11.0s							
PET	**Petropavlovsk**	**2.44**	**230**	*e*Pn	**Pn**	**06**	**20**	**27.6 +0.3**
PET				*e*Sn	**Sn**	**06**	**20**	**53.6 -3.2**
PET	**Petropavlovsk**	**2.44**	**230**	*e*P	**Pn**	**06**	**20**	**27.3 0.0**
PET				*e*S	**Sn**	**06**	**20**	**56.9 +0.2**
BKI	**Bering**	**2.50**	**75**	*e*S	**Sn**	**06**	**20**	**55.9 -2.1**
KRMR	**Karymshinskiy**	**2.81**	**232**	*e*P	**Pn**	**06**	**20**	**33.2 +0.9**
KRMR				*e*S	**Sn**	**06**	**21**	**06.8 +1.0**
RUS	**Russkaya**	**2.93**	**223**	P	**Pn**	**06**	**20**	**33.7 -0.2**
RUS				S	**Sn**	**06**	**21**	**06.6 -2.1**
RUS	**Russkaya**	**2.93**	**223**	*e*P	**Pn**	**06**	**20**	**33.7 -0.2**
RUS				*e*S	**Sn**	**06**	**21**	**07.8 -0.9**
GRL	**Gorelyy**	**3.02**	**228**	*e*P	**Pn**	**06**	**20**	**36.2 +0.9**
GRL				*e*S	**Sn**	**06**	**21**	**10.6 -0.5**
APC	**Apacha**	**3.22**	**240**	*e*P	**Pn**	**06**	**20**	**39.4 +1.4**
APC				*e*S	**Sn**	**06**	**21**	**17.2 +1.3**
MIPR	**Malaya Ipel'ka**	**3.81**	**234**	*e*P	**Pn**	**06**	**20**	**48.3 +2.3**
PAU	**Pauzhetka**	**4.35**	**225**	*e*P	**Pn**	**06**	**20**	**54.1 +0.6**
MA2	**Magadan**	**7.78**	**314**	*e*PN	**Pn**	**06**	**21**	**43.8 +3.3**
MA2				pmax	pmax			
	comp=Z,3.0nm,0.5s							
MA2	**Magadan**	**7.78**	**314**	*e*Pn	**Pn**	**06**	**21**	**43.8 +3.2**
	comp=Z,2.8nm,0.5s							
TIXI	**Tiksi**	**22.14**	**333**	*e*P	**P**	**06**	**24**	**42.0 -0.9**
TIXI				pmax	pmax			
	comp=Z,3.0nm,1.2s,mb3.6							
MJAR	**Matsushiro Arr**	**24.28**	**232**	P	**P**	**06**	**25**	**04.0 -0.4**
	comp=Z,1.7nm,0.6s,mb3.6,baz=26,slow=9.3,SNR=6.0							
ILAR	**Eielson Array**	**27.04**	**47**	P	**P**	**06**	**25**	**30.1 +0.6**
	comp=Z,0.4nm,0.6s,mb3.1,baz=255,slow=6.8,SNR=7.6							
KURK	**Kurchatov**	**47.78**	**302**	*e*P	**P**	**06**	**28**	**22.1 -2.3**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.7s,mb4.0							
KURK	**Kurchatov**	**47.78**	**302**	*e*P	**P**	**06**	**28**	**22.1 -2.3**
	comp=Z,1.5nm,0.7s,mb4.1							
NVAR	**Mina Array Bea**	**54.31**	**72**	P	**P**	**06**	**29**	**16.2 +2.7**
	comp=Z,0.2nm,0.4s,mb3.4,baz=294,slow=6.7,SNR=4.5							
AAK	**Ala-Archa**	**55.30**	**296**	*e*P	**P**	**06**	**29**	**15.4 -5.3**
AAK				pmax	pmax			
	comp=Z,1.0nm,0.3s,mb4.3							
AAK	**Ala-Archa**	**55.30**	**296**	*e*P	**P**	**06**	**29**	**15.4 -5.3**
	comp=Z,1.4nm,0.3s,mb4.5							
PDAR	**Pinedale Array**	**55.92**	**63**	P	**P**	**06**	**29**	**27.6 +2.4**
	comp=Z,0.2nm,0.5s,mb3.5,baz=308,slow=5.5,SNR=4.0							
WMOK	**Wichita Mounta**	**67.49**	**62**	*e*P	**P**	**06**	**30**	**42.8 -0.4**
WMOK				pmax	pmax			
	comp=Z,3.0nm,0.4s,mb4.7							
WMOK	**Wichita Mounta**	**67.49**	**62**	*e*P	**P**	**06**	**30**	**42.8 -0.4**
	comp=Z,3.0nm,0.4s,mb4.7							
WRA	**Warramunga Arr**	**77.89**	**206**	P	**P**	**06**	**31**	**44.9 -0.1**
	comp=Z,0.4nm,0.7s,mb3.5,baz=23,slow=6.3,SNR=3.4							
TRQA	**Tornquist**	**146.20**	**79**	*e*PKPab	PKPab	06	39	28.1 -0.1

IDC 31 06:31:08.6±1.6, 709N×7796W, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.4/20, mbtmp3.4/4, ML1.6/1, Error ellipse: s-maj=48.8km s-min=34.5km az=38.0
ISCJB 31 06:31:13.7±1.4, 686N±009×7778W±009, h33km, mb3.4/4, Error ellipse: s-maj=16.4km s-min=8.3km az=86.7
NEIC 31 06:31:14.1±2.5, 699N×7793W, h37km±20km, mb3.6/1, Error ellipse: s-maj=28.6km s-min=17.8km az=130.0
ISC 31 06:31:16.1±4.1, 685N±009×7779W±010, h32km±32km, n9, σ0§58/10, mb3.4/4, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
ROSC	**El Rosal**	**3.97**	**120**	Pn	**Pn**	**06**	**32**	**13.9 -0.8**
	0.7nm,0.3s,baz=290,slow=15,SNR=3.7							
ROSC				Sn	**Sn**	**06**	**33**	**00.3 +0.1**
	1.7nm,0.3s,baz=81,slow=23,SNR=4.4							
OTAV	**Otavalo**	**6.61**	**186**	*e*Pn	**Pn**	**06**	**32**	**51.3 +0.4**
	4.4nm,0.6s							
OTAV				*e*Sn	**Sn**	**06**	**34**	**05.0 -0.1**
SDV	**Santo Domingo**	**7.37**	**74**	*e*Pn	**Pn**	**06**	**33**	**01.8 +0.3**
	13nm,0.6s							
SDV				*e*Sn	**Sn**	**06**	**34**	**24.3 +0.3**
SAML	**Samuel**	**21.41**	**137**	*e*P	**P**	**06**	**36**	**00.7 -0.5**
	2.1nm,0.7s,mb3.6							
LPAZ	**La Paz**	**24.90**	**158**	P	**P**	**06**	**36**	**37.3 +1.2**
	0.6nm,0.8s,mb3.2,baz=330,slow=14,SNR=3.3							
CPUP	**Villa Florida**	**38.50**	**150**	P	**P**	**06**	**38**	**35.0 -0.3**
	0.2nm,0.3s,mb3.3,baz=319,slow=15,SNR=2.4							
TORD	**Torodi Ar. Bea**	**78.27**	**78**	P	**P**	**06**	**43**	**12.1 -0.6**
	0.4nm,0.7s,mb3.4,baz=274,slow=7.3,SNR=4.0							
ASAR	**Alice Springs**	**145.28**	**238**	PKPbc	PKPbc	06	50	47.9 -2.4
	0.3nm,0.5s,baz=112,slow=3.2,SNR=5.5							
WRA	**Warramunga Arr**	**146.23**	**244**	PKPbc	PKPbc	06	50	51.0 -2.3
	0.6nm,0.8s,baz=100,slow=3.7,SNR=4.8							

IDC 31 06:49:47.3±5.0, 212S×10046E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/18, mbtmp3.4/3, Error ellipse: s-maj=190.6km s-min=30.4km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
WRA	**Warramunga Arr**	**37.53**	**121**	P	P	06	57	03.2 +0.2
	0.4nm,0.4s,baz=304,slow=9.2,SNR=7.0							
SONM	**Songino Array**	**50.02**	**5**	P	P	06	58	44.9 +1.5
	0.4nm,0.6s,baz=193,slow=6.8,SNR=4.1							
MKAR	**Makanchi Array**	**51.27**	**344**	P	P	06	58	51.8 -1.1
	0.2nm,0.4s,baz=152,slow=9.3,SNR=4.2							

IDC 31 06:50:03.9±0.9, 5438N×16196E, h0km, mb3.7/9, mb1 4.0/9, mb1mx3.8/21, mbtmp3.7/9, MS3.5/2, Ms1 3.5/2, ms1mx2.7/31, Error ellipse: s-maj=33.0km s-min=19.5km az=142.0
MOS 31 06:50:04.4±0.5, 5460N×16169E, h18km, mb4.1/3, Error ellipse: s-maj=20.6km s-min=8.5km az=83.0
KRSC 31 06:50:05.4±1.4, 5462N×16165E, h19km±1km, ML4.5
ISCJB 31 06:50:06.0±1.1, 5460N±002×16173E±004, h29km±9km, mb3.7/11, MS3.5/2, Error ellipse: s-maj=4.5km s-min=2.4km az=40.3
NEIC 31 06:50:10.1±0.7, 5448N×16163E, h50km, mb3.9/1, Error ellipse: s-maj=28.5km s-min=13.4km az=141.0
ISC 31 06:50:06.2±0.5, 5462N±002×16169E±005, h19km±3km, n60, σ0§90/97, mb3.7/11, MS3.5/2, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
MKZ	**Mys Kozlova**	**0.07**	**157**	*i* P	**Pg**	**06**	**50**	**09.1 -0.7**
MKZ				*i* S	**Sg**	**06**	**50**	**12.5 +0.3**
TUMR	**Tumrok**	**1.11**	**308**	*i* P	**Pn**	**06**	**50**	**24.5 -2.2**
TUMR				*e*S	**Sb**	**06**	**50**	**40.3 -0.5**
KMNR	**Kamenistaya**	**1.41**	**325**	*i* P	**Pn**	**

GRL	**Gorelyy**	**2.99**	**228**	*eP*	**Pn**	**06 50 53.7**	**+1.2**
GRL				*eS*	**Sn**	**06 51 28.3**	**+0.5**
APC	**Apacha**	**3.18**	**240**	*eP*	**Pn**	**06 50 56.4**	**+1.3**
APC				*eS*	**Sn**	**06 51 31.3**	**-1.2**
MIPR	**Malaya Ipel'ka**	**3.77**	**233**	*eP*	**Pn**	**06 51 04.1**	**+0.9**
OSSR	**Ossora**	**4.71**	**9**	*eP*	**Pn**	**06 51 16.1**	**0.0**
TIXI	**Tiksi**	**22.12**	**333**	*eP*	**P**	**06 55 00.9**	**+0.5**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.7						
MJAR	**Matsushiro Arr**	**24.24**	**231**	P	**P**	**06 55 21.2**	**-0.5**
	comp=Z,2.5nm,0.8s,mb3.7,baz=28,slow=10,SNR=7.5						
ILAR	**Eielson Array**	**27.08**	**47**	P	**P**	**06 55 46.9**	**-0.6**
	comp=Z,1.0nm,1.0s,mb3.3,baz=265,slow=7.5,SNR=8.8						
YKA	**Yellowknife Ar**	**41.41**	**44**	P	**P**	**06 57 51.3**	**0.0**
	comp=Z,0.5nm,0.6s,mb3.4,baz=303,slow=8.3,SNR=3.0						
YKA	**Yellowknife Ar**	**41.41**	**44**	P	**P**	**06 57 51.3**	**0.0**
ZAL	**Zalesovo**	**42.77**	**302**	LR	LR	07 18 18.8	
	comp=Z,34nm,19.7s,MS3.2,baz=266,slow=39						
CHKZ	**Chkalovo**	**49.66**	**309**	P	**P**	**06 58 55.9**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
CHKZ	**Chkalovo**	**49.66**	**309**	P	**P**	**06 58 55.9**	**-0.7**
	comp=Z,0.8nm,0.6s,mb3.9						
NVAR	**Mina Array Bea**	**54.36**	**72**	P	**P**	**06 59 33.7**	**+2.1**
	comp=Z,1.5nm,0.9s,mb3.9,baz=293,slow=5.1,SNR=9.1						
PDAR	**Pinedale Array**	**55.97**	**63**	P	**P**	**06 59 42.8**	**-0.5**
	comp=Z,0.3nm,0.7s,mb3.5,baz=255,slow=6.5,SNR=3.3						
FINES	**FINESS Array B**	**59.09**	**337**	P	**P**	**07 00 06.1**	**+0.9**
	comp=Z,0.5nm,0.6s,mb3.7,baz=24,slow=15,SNR=3.8						
FINES	**FINESS Array B**	**59.09**	**337**	P	**P**	**07 00 06.1**	**+0.9**
HNR	**Honiara**	**63.82**	**182**	LR	LR	07 25 45.1	
	comp=Z,60nm,18.3s,MS3.8,baz=179,slow=34						
AKASG	**Malin Array Be**	**67.78**	**330**	P	**P**	**07 01 06.7**	**+4.0**
	comp=Z,0.5nm,0.3s,mb4.1,baz=28,slow=6.7,SNR=4.8						
AKASG	**Malin Array Be**	**67.78**	**330**	P	**P**	**07 01 06.7**	**+4.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WRA	**Warramunga Arr**	**77.86**	**206**	P	**P**	**07 02 02.5**	**0.0**
	comp=Z,0.4nm,0.8s,mb3.4,baz=19,slow=6.0,SNR=4.3						
ESDC	**Sonseca Array**	**85.28**	**349**	P	**P**	**07 02 44.0**	**+2.3**
	comp=Z,0.8nm,0.6s,mb4.0,baz=8,slow=4.9,SNR=4.9						
QSPA	**South Pole Qui**	**144.37**	**180**	*e*PKPdf	PKPdf	07 09 39.3	-1.7

MOS 31 06:58:56.3±1.6, 6033N×16848E, h10km, mb4.4/2, Error ellipse: s-maj=36.4km s-min=19.6km az=106.6, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BILL	**Bilibino**	**7.80**	**354**	*e*PN	Pn	07 00 51.7	+1.9
MA2	**Magadan**	**8.92**	**273**	PN	Pn	07 01 05.3	+0.1
MA2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MA2				pmax	pmax		
	comp=E,5.0nm,0.6s						
TIXI	**Tiksi**	**19.23**	**322**	*e*P	Pn	07 03 23.8	+2.3
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.5s						
COLA	**College**	**20.27**	**58**	*e*P	P	07 03 33.6	+1.7
ULN	**Ulaanbaatar**	**36.72**	**279**	*e*P	P	07 06 06.1	+2.5
KURK	**Kurchatov**	**47.91**	**301**	*e*P	P	07 07 36.1	+1.5
ARU	**Arti**	**51.16**	**318**	*e*P	P	07 08 01.2	+1.7
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
AAK	**Ala-Archa**	**55.95**	**297**	*e*P	P	07 08 36.6	+1.9
AAK				pmax	pmax		
	comp=Z,4.0nm,1.7s						

*ISCJB **31** 07:04:26.5±0.5, 2134S×0054×6771W±0.09, h161km±7km, mb4.0/10, Error ellipse: s-maj=13.6km s-min=6.8km az=30.3*
*IDC **31** 07:04:27.2±0.6, 2125S×6766W, h150km±6km, mb4.0/7, mb1 4.1/12, mb1mx3.8/20, mbtmp4.5/12, Error ellipse: s-maj=14.3km s-min=8.0km az=116.0*
*NEIC **31** 07:04:27.2±0.6, 2127S×6776W, h150km±6km, mb4.2/3, Error ellipse: s-maj=11.3km s-min=7.6km az=110.0*
*GUC **31** 07:04:30.0±0.6, 2214S×6769W, h190km, ML4.6*
ISC 31 07:04:27.2±0.5, 2136S±005×6777W±009, h149km±7km, n32, σ1§40/36, mb4.0/10, 1C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.64**	**220**	P	**Pn**	**07 05 00.6**	**+2.5**
	89nm,0.3s,baz=7.1,slow=8.7,SNR=989						
LVC				S	**Sn**	**07 05 25.4**	**+3.6**
	153nm,0.3s,baz=109,slow=22,SNR=34						
CEN1	**Los Morros**	**3.02**	**228**	*i*↑P	**Pn**	**07 05 18.6**	**+3.8**
CEN1				*e*S	**Sn**	**07 05 55.2**	**+3.7**
CEN1				AML	AML	07 05 59.7	
	comp=N,742nm,0.7s						
ANCH	**Antofagasta**	**3.36**	**226**	*i* P	**Pn**	**07 05 19.9**	**+0.8**
ANCH				*i* S	**Sn**	**07 05 58.2**	**-1.1**
ANCH				AML	AML	07 06 00.7	
	comp=N,1μm,0.1s						
ANCH	**Antofagasta**	**3.36**	**226**	*i* P	**Pn**	**07 05 19.9**	**+0.8**
ANCH				*i* S	**Sn**	**07 05 58.2**	**-1.1**
LPAZ	**La Paz**	**5.05**	**356**	P	**Pn**	**07 05 42.2**	**+0.9**
	comp=N,4.9nm,0.3s,baz=171,slow=7.5,SNR=117						
LPAZ				S	**Sn**	**07 06 39.5**	**+0.4**
	comp=N,0.8nm,0.3s,baz=180,slow=20,SNR=2.7						
CRCH	**Chaqaral**	**5.61**	**207**	*e*P	**Pn**	**07 05 47.6**	**-1.0**
CDCH	**Caldera**	**6.34**	**206**	*e*P	**Pn**	**07 05 55.8**	**-2.5**
CDCH				*i* S	**Sn**	**07 07 01.7**	**-8.0**
CDCH	**Caldera**	**6.34**	**206**	*e*P	**Pn**	**07 05 55.8**	**-2.5**
CDCH				*e*S	**Sn**	**07 07 01.7**	**-8.0**
CPCH	**Copiapo**	**6.42**	**201**	*e*P	**Pn**	**07 05 57.4**	**-2.0**
SIV	**San Ignacio**	**8.29**	**51**	P	**Pn**	**07 06 22.4**	**-2.0**
	comp=N,17nm,0.3s,baz=244,slow=10,SNR=242						
SIV				S	**Sn**	**07 07 49.1**	**-7.6**
	comp=N,3.7nm,0.3s,baz=315,slow=24,SNR=7.1						
CFAA	**Coronel Fontan**	**10.21**	**182**	P	**Pn**	**07 06 47.9**	**-2.1**
	comp=N,0.2nm,0.3s,baz=0.0,slow=14,SNR=14						
CFAA				S	**Sn**	**07 08 35.7**	**-7.2**
	comp=N,0.3nm,0.3s,baz=277,slow=19,SNR=6.2						
CFAA	**Coronel Fontan**	**10.21**	**182**	P	**Pn**	**07 06 47.9**	**-2.1**
CFAA				S	**Sn**	**07 08 35.7**	**-7.2**
CPUP	**Villa Florida**	**10.76**	**119**	P	**Pn**	**07 06 58.2**	**+1.0**
	comp=N,1.7nm,0.3s,baz=295,slow=12,SNR=16						
TRQA	**Tornquist**	**17.38**	**165**	*e*P	**Pn**	**07 08 20.3**	**-0.2**
	comp=N,4.5nm,0.4s						
PLCA	**Paso Flores**	**19.46**	**186**	P	**P**	**07 08 43.6**	**+1.4**
	comp=N,0.8nm,0.3s,baz=4.3,slow=12,SNR=16						
BDFB	**Brasilia**	**19.57**	**76**	P	**P**	**07 08 43.4**	**-0.1**
	comp=N,3.9nm,0.3s,baz=267,slow=9.5,SNR=52						
PCRV	**Puerto La Cruz**	**31.49**	**6**	P	**P**	**07 10 34.9**	**+0.2**
	comp=N,3.2nm,0.5s,mb4.3,baz=4,slow=14,SNR=3.1						
USHA	**Ushuaia**	**33.43**	**181**	P	**P**	**07 10 52.8**	**+1.2**
	comp=N,6.5nm,0.8s,mb4.4,baz=348,slow=9.3,SNR=4.1						
SNAA	**Sanae**	**62.07**	**161**	P	**P**	**07 14 32.6**	**+0.7**
	comp=N,0.2nm,0.6s,mb3.1,baz=276,slow=7.9,SNR=8.0						
DBIC	**Dimbokro**	**67.68**	**73**	P	**P**	**07 15 07.0**	**-1.2**
	comp=N,5.2nm,0.4s,mb4.6,baz=220,slow=7.5,SNR=14						
QSPA	**South Pole Qui**	**68.83**	**180**	*e*P	**P**	**07 15 16.7**	**+1.4**
	comp=N,2.2nm,0.5s,mb4.1						
PDAR	**Pinedale Array**	**74.52**	**329**	P	**P**	**07 15 48.4**	**-0.9**
	comp=N,0.4nm,0.7s,mb3.1,baz=123,slow=6.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**76.31**	**70**	P	**P**	**07 15 59.3**	**-0.2**
	comp=N,16nm,0.6s,mb4.8,baz=257,slow=5.4,SNR=148						
TSUM	**Tsumeb**	**79.06**	**106**	*e*P	**P**	**07 16 16.4**	**+1.6**
	comp=N,2.4nm,0.6s,mb4.0						
BOSA	**Boshof**	**82.58**	**118**	P	**P**	**07 16 34.4**	**+0.9**
	comp=N,2.4nm,0.8s,mb4.0,baz=266,slow=4.9,SNR=5.4						
YKA	**Yellowknife Ar**	**91.41**	**340**	P	**P**	**07 17 14.3**	**-2.0**
	comp=N,0.6nm,0.7s,mb3.8,baz=134,slow=5.0,SNR=5.3						
ASAR	**Alice Springs**	**130.52**	**206**	PKP	PKPdf	07 23 20.3	+0.2
	comp=N,0.3nm,0.4s,baz=317,slow=39,SNR=4.3						
ASAR				SKPbc	SKPbc	07 26 30.2	+0.5
	comp=N,0.3nm,0.4s,baz=140,slow=3.1,SNR=4.5						
WRA	**Warramunga Arr**	**133.60**	**209**	PKP	PKPdf	07 23 26.9	+1.0
	comp=N,0.4nm,0.6s,baz=167,slow=1.8,SNR=5.8						
WRA				SKPbc	SKPbc	07 26 41.2	+0.6
	comp=N,0.8nm,1.2s,baz=159,slow=3.0,SNR=5.1						
MKAR	**Makanchi Array**	**144.89**	**37**	PKP	PKPdf	07 23 46.3	-0.1
	comp=N,3.5nm,0.7s,baz=315,slow=3.5,SNR=35						
MJAR	**Matsushiro Arr**	**152.81**	**309**	PKPbc	PKPbc	07 24 05.9	-0.5
	comp=N,0.4nm,0.3s,baz=73,slow=2.7,SNR=3.1						
MJAR				PKPab	PKPab	07 24 17.2	-0.7
	comp=N,0.8nm,0.3s,baz=100,slow=6.3,SNR=4.1						
MJAR	**Matsushiro Arr**	**152.81**	**309**	PKPbc	PKPbc	07 24 05.9	-0.5
MJAR				PKPab	PKPab	07 24 17.2	-0.7
SONM	**Songino Array**	**153.17**	**9**	PKPbc	PKPbc	07 24 08.1	+1.0
	comp=N,0.2nm,0.4s,baz=202,slow=1.6,SNR=2.8						
SONM				PKPab	PKPab	07 24 19.9	+0.5
	comp=N,0.5nm,0.5s,baz=313,slow=2.7,SNR=4.7						

*ISCJB **31** 07:15:15.4±3.8, 54S±02×1514E±03, h97km±31km, mb4.0/7, Error ellipse: s-maj=49.9km s-min=25.1km az=73.6*
*IDC **31** 07:15:16.2±5.4, 551S×15154E, h96km±43km, mb3.8/6, mb1 4.0/7, mb1mx3.8/15, mbtmp4.1/7, Error ellipse: s-maj=53.5km s-min=29.0km az=116.0*
*NEIC **31** 07:15:16.5±2.5, 551S×15152E, h98km±20km, mb4.4/3, Error ellipse: s-maj=32.2km s-min=17.0km az=124.0*
ISC 31 07:15:16.6±3.4, 55S±02×1515E±03, h95km±28km, n14, σ0§36/15, mb4.0/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.82**	**228**	P	**Pn**	**07 16 40.3**	**-0.1**
	3.1nm,0.3s,baz=31,slow=11,SNR=6.9						
PMG				S	**Sn**	**07 17 45.9**	**+0.2**
	2.6nm,0.3s,baz=128,slow=22,SNR=6.7						
PMG	**Port Moresby**	**5.82**	**228**	*e*Pn	**Pn**	**07 16 40.2**	**-0.2**
PMG				S	**Sn**	**07 17 45.9**	**+0.2**
KAKA	**Kakadu**	**20.15**	**248**	*e*P	**P**	**07 19 43.0**	**-0.1**
	5.0nm,0.4s						
WRAB	**Tennant Creek**	**22.03**	**228**	*e*P	**P**	**07 20 03.9**	**+0.6**
	16nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**22.04**	**228**	P	**P**	**07 20 02.7**	**-0.7**
	13nm,0.8s,mb4.3,baz=52,slow=9.9,SNR=98						
ASAR	**Alice Springs**	**24.79**	**221**	P	**P**	**07 20 29.9**	**+0.2**
	8.0nm,0.7s,mb4.3,baz=54,slow=9.3,SNR=64						
FITZ	**Fitzroy Crossi**	**28.21**	**241**	*e*P	**P**	**07 20 59.9**	**-0.4**
	4.4nm,0.4s,mb4.3						
FITZ	**Fitzroy Crossi**	**28.21**	**241**	P	**P**	**07 21 00.3**	**0.0**
	2.5nm,0.4s,mb4.1,baz=59,slow=7.1,SNR=16						
SONM	**Songino Array**	**66.22**	**329**	P	**P**	**07 25 54.6**	**+0.4**
	0.4nm,0.5s,mb3.5,baz=149,slow=3.8,SNR=4.5						
MKAR	**Makanchi Array**	**79.99**	**319**	P	**P**	**07 27 15.2**	**-0.2**
	0.2nm,0.4s,mb3.3,baz=99,slow=9.4,SNR=3.8						
MKAR	**Makanchi Array**	**79.99**	**319**	P	**P**	**07 27 15.2**	**-0.2**
NVAR	**Mina Array Bea**	**93.51**	**52**	P	**P**	**07 28 21.7**	**0.0**
	0.2nm,0.5s,mb3.7,baz=258,slow=7.0,SNR=3.8						
NVAR	**Mina Array Bea**	**93.51**	**52**	P	**P**	**07 28 21.7**	**0.0**
TORD	**Torodi Ar. Bea**	**149.28**	**287**	PKPbc	PKPbc	07 34 54.3	+0.1
	1.3nm,0.6s,baz=83,slow=2.2,SNR=16						

*ISCJB **31** 07:27:00.1±1.2, 219S±0.1×17945W±0.10, h565km±17km, mb4.2/14, Error ellipse: s-maj=19.6km s-min=10.4km az=113.1*
*IDC **31** 07:27:00.9±1.9, 2201S×17938W, h566km±20km, mb3.7/10, mb1 3.8/13, mb1mx3.7/19, mbtmp4.6/13, Error ellipse: s-maj=27.3km s-min=14.0km az=151.0*
*NEIC **31** 07:27:01.1±1.0, 2195S×17940W, h568km±12km, mb4.2/4, Error ellipse: s-maj=16.3km s-min=9.6km az=149.0*
ISC 31 07:27:00.2±1.1, 220S±01×17931W±010, h556km±15km, n26, σ0§92/23, mb4.2/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**10.77**	**43**	P	**P**	**07 29 26.7**	**+0.7**
	4.2nm,0.3s,baz=201,slow=9.0,SNR=6.3						
AFI				S	**S**	**07 31 24.3**	**-1.5**
	1.6nm,0.3s,baz=55,slow=19,SNR=3.5						
DZM	**Mont Dzumac**	**13.21**	**267**	P	**P**	**07 29 52.5**	**+1.4**
	0.9nm,0.3s,baz=111,slow=14,SNR=31						
URZ	**Urewera**	**16.50**	**190**	P	**P**	**07 30 23.7**	**-0.3**
	0.7nm,0.3s,baz=8.9,slow=4.1,SNR=4.4						
URZ				S	**S**	**07 33 02.3**	**-7.9**
	0.9nm,0.3s,baz=91,slow=21,SNR=12						
CTA	**Charters Tower**	**32.16**	**267**	P	**P**	**07 32 43.2**	**+0.6**
	21nm,0.5s,mb4.9,baz=94,slow=10,SNR=54						
PMG	**Port Moresby**	**34.53**	**286**	P	**P**	**07 33 03.2**	**+0.6**
	16nm,0.7s,mb4.7,baz=131,slow=11,SNR=5.0						
STKA	**Stephens Creek**	**36.05**	**246**	P	**P**	**07 33 14.0**	**-1.2**
	18nm,0.6s,mb4.8,baz=92,slow=9.5,SNR=44						
STKA	**Stephens Creek**	**36.05**	**246**	P	**P**	**07 33 14.0**	**-1.2**
ASAR	**Alice Springs**	**43.01**	**258**	P	**P**	**07 34 10.9**	**0.0**
	25nm,0.8s,mb4.8,baz=100,slow=8.0,SNR=225						
ASAR				PcP	PcP	07 35 48.5	0.0
	1.4nm,0.5s,baz=106,slow=3.3,SNR=4.8						
WRAB	**Tennant Creek**	**43.20**	**264**	*e*P	**P**	**07 34 11.6**	**-0.8**
	31nm,0.9s,mb4.8						
WRA	**Warramunga Arr**	**43.21**	**264**	P	**P**	**07 34 11.9**	**-0.7**
	14nm,0.7s,mb4.6,baz=97,slow=7.7,SNR=160						
WRA				ScP	ScP	07 38 46.7	-0.9
	2.5nm,1.1s,baz=102,slow=4.0,SNR=6.4						
FITZ	**Fitzroy Crossi**	**51.64**	**264**	P	**P**	**07 35 15.5**	**-0.1**
	5.8nm,0.5s,mb4.1,baz=73,slow=6.2,SNR=43						
MBWA	**Marble Bar**	**56.35**	**259**	*e*P	**P**	**07 35 48.1**	**-0.8**
	18nm,0.7s,mb4.4						
QSPA	**South Pole Qui**	**68.08**	**180**	*e*P	**P**	**07 37 06.0**	**+1.3**
	3.0nm,0.8s,mb3.9						
MAW	**Mawson**	**79.75**	**200**	P	**P**	**07 38 10.6**	**-0.1**
	2.3nm,0.7s,mb3.6,baz=153,slow=4.5,SNR=3.9						
NVAR	**Mina Array Bea**	**82.94**	**44**	P	**P**	**07 38 29.1**	**+2.0**
	1.4nm,0.8s,mb3.5,baz=210,slow=7.2,SNR=8.4						
SNAA	**Sanae**	**86.55**	**179**	*e*	**P**	**07 38 34.9**	**-10**
VNA3	**Neumayer Olymp**	**86.73**	**177**	*e*	**P**	**07 38 44.2**	**-1.3**
VNA2	**Neumayer--Watz**	**87.16**	**177**	*e*	**P**	**07 38 47.8**	**+0.3**
	baz=185,slow=3.8						
HLID	**Hailey**	**88.25**	**41**	*e*P	**P**	**07 38 53.1**	**+0.5**
	1.0nm,0.7s,mb3.6						
ILAR	**Eielson Array**	**90.04**	**13**	P	**P**	**07 38 59.9**	**-1.0**
	0.3nm,0.8s,mb3.2,baz=224,slow=4.7,SNR=4.4						
PDAR	**Pinedale Array**	**90.88**	**44**	P	**P**	**07 39 05.3**	**+0.5**
	0.5nm,0.8s,mb3.5,baz=251,slow=4.5,SNR=5.0						
ARCES	**ARCESS Array B**	**130.15**	**349**	PKP	PKPdf	07 45 05.6	-1.6
	2.5nm,0.9s,baz=27,slow=3.0,SNR=5.2						
AKASG	**Malin Array Be**	**143.69**	**329**	PKP	PKPdf	07 45 29.5	-2.6
	1.8nm,0.4s,baz=43,slow=4.0,SNR=12						
AKASG	**Malin Array Be**	**143.69**	**329**	PKP	PKPdf	07 45 29.5	-2.6
BRTR	**Keskin Array B**	**146.90**	**310**	PKPbc	PKPbc	07 45 39.8	-0.7
	1.3nm,0.6s,baz=125,slow=4.7,SNR=5.7						
GERES	**GERESS Array B**	**151.27**	**342**	PKPbc	PKPbc	07 45 50.1	-1.0
	0.4nm,0.3s,baz=34,slow=2.5,SNR=3.8						

*ISCJB **31** 07:29:33.7±0.4, 1361N±005×12037E±005, h74km±4km, mb4.8/15, Error ellipse: s-maj=8.2km s-min=7.4km az=21.3*
*MAN **31** 07:29:33.9, 1360N×12037E, h58km, mb2.9, ML4.3, MS2.1*
*IDC **31** 07:29:34.2±1.1, 1470N×12035E, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/18, mbtmp4.2/4, Error ellipse: s-maj=56.9km s-min=9.8km az=50.0*
*MOS **31** 07:29:35.8±1.4, 1470N×12027E, h33km, mb5.0/7, Error ellipse: s-maj=40.9km s-min=11.5km az=126.1*
*NEIC **31** 07:29:36.4±0.6, 1461N×12021E, h25km, mb4.9/11, Error ellipse: s-maj=29.8km s-min=10.7km az=45.0*
ISC 31 07:29:34.8±0.4, 1360N±005×12039E±005, h67km±4km, n41, σ0§84/43, mb4.8/15, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.20**	**313**	*e*P	**Pn**	**07 29 44.6**	**-0.5**
LUBP				*e*S	**Sn**	**07 29 52.0**	**-0.5**
TGY	**Tagaytay City**	**0.73**	**46**	Pg	**Pn**	**07 29 50.3**	**+0.5**
	1μm,0.3s,baz=34,slow=4.1,SNR=212						
TGY				Lg		07 30 01.6	
	4μm,0.3s,baz=143,slow=23,SNR=75						
TGY	**Tagaytay City**	**0.73**	**46**	*i*↑P	**Pn**	**07 29 50.4**	**+0.6**
TGY				*i* S	**Sn**	**07 30 01.9**	**+1.1**
BOAC	**Boac**	**1.42**	**95**	*e*P	**Pn**	**07 29 57.6**	**-0.9**
BOAC				*e*S	**Sn**	**07 30 14.3**	**-2.2**
BUSP	**Coron**	**1.60**	**187**	*e*P	**Pn**	**07 30 01.1**	**+0.2**
POLP	**Polilio Island**	**1.87**	**53**	*e*P	**Pn**	**07 30 04.5**	**-0.1**
OTRP	**Odiongan**	**2.01**	**128**	*e*P	**Pn**	**07 30 06.5**	**0.0**
GQP	**Guinayangan**	**2.02**	**81**	*i*↑*e*P	**Pn**	**07 30 07.7**	**+1.1**
GQP				*e*S	**Sn**	**07 30 31.9**	**+1.1**
SCZP	**Santa Cruz**	**2.21**	**348**	*e*P	**Pn**	**07 30 08.6**	**-0.7**
BALP	**Baler**	**2.42**	**28**	*e*P	**Pn**	**07 30 12.3**	**+0.3**
ENPP	**El Nido**	**2.56**	**202**	*e*P	**Pn**	**07 30 14.2**	**+0.2**
CUYO	**Cuyo Island**	**2.80**	**167**	*e*P	**Pn**	**07 30 16.9**	**-0.3**
BOLP	**Bolinao**	**2.81**	**351**	*e*P	**Pn**	**07 30 17.0**	**-0.3**
CAUP	**Cauayan**	**3.60**	**22**	*e*P	**Pn**	**07 30 33.2**	**+5.0**
PVCP	**Virac**	**3.66**	**90**	*e*P	**Pn**	**07 30 29.7**	**+0.8**
LSA	**Lhasa**	**31.42**	**305**	*e*P	**P**	**07 35 51.6**	**+2.1**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.5						
LSA	**Lhasa**	**31.42**	**305**	*e*P	**P**	**07 35 51.6**	**+2.0**
	comp=Z,3.4nm,0.3s,mb4.5						
JIRN	**Jiri**	**34.80**	**299**	*e*P	**P**	**07 36 20.1**	**+1.2**
	comp=Z,50nm,0.7s,mb5.5						
GUN	**Gumba**	**35.13**	**299**	*e*P	**P**	**07 36 22.9**	**+1.1**
	comp=Z,34nm,0.4s,mb5.5						
PKI	**Pulchoki**	**35.44**	**299**	*e*P	**P**	**07 36 24.9**	**+0.5**
	comp=Z,26nm,0.6s,mb5.2						
PKI	**Pulchoki**	**35.44**	**299**	*e*P	**P**	**07 36 24.9**	**+0.5**
PKI				pmax	pmax		
	comp=Z,26nm,0.6s,mb5.2						
KKN	**Kakani**	**35.61**	**299**	*e*P	**P**	**07 36 26.2**	**+0.3**
	comp=Z,12nm,0.6s,mb5.0						
KKN	**Kakani**	**35.61**	**299**	*e*P	**P**	**07 36 26.2**	**+0.3**
KKN				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.0						
DMN	**Daman**	**35.71**	**299**	*e*P	**P**	**07 36 27.3**	**+0.6**
ULN	**Ulaanbaatar**	**35.92**	**345**	*e*P	**P**	**07 36 27.4**	**-1.2**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ULN	**Ulaanbaatar**	**35.92**	**345**	*e*P	**P**	**07 36 27.4**	**-1.3**
	comp=Z,1.3nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**36.05**	**157**	P	pP	07 36 45.4	-0.7
	comp=Z,2.6nm,0.8s,baz=338,slow=9.5,SNR=8.8						
SONM	**Songino Array**	**36.07**	**344**	P	**P**	**07 36 28.8**	**-1.0**
	comp=Z,4.5nm,0.5s,mb4.6,baz=165,slow=9.9,SNR=48						
GKN	**Gorkha**	**36.21**	**299**	*e*P	**P**	**07 36 31.0**	**-0.1**
	comp=Z,28nm,0.8s,mb5.2						
KOLN	**Koldanda**	**37.04**	**298**	*e*P	**P**	**07 36 38.5**	**+0.4**
	comp=Z,15nm,0.8s,mb5.0						
ASAR	**Alice Springs**	**39.32**	**160**	P	pP	07 37 15.1	+1.2
	comp=Z,2.3nm,0.7s,baz=338,slow=7.3,SNR=11						
MKAR	**Makanchi Array**	**45.94**	**324**	P	**P**	**07 37 50.8**	**0.0**
	comp=Z,1.5nm,0.7s,mb3.8,baz=126,slow=9.3,SNR=9.5						
KURK	**Kurchatov**	**50.11**	**326**	*e*P	**P**	**07 38 22.7**	**-0.4**
KURK				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
KURK	**Kurchatov**	**50.11**	**326**	*e*P	**P**	**07 38 22.7**	**-0.4**
	comp=Z,14nm,0.8s,mb4.9						
BRVK	**Borovoye**	**55.76**	**326**	*e*P	**P**	**07 39 04.4**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
BRVK	**Borovoye**	**55.76**	**326**	*e*P	**P**	**07 39 04.3**	**-0.3**
	comp=Z,3.7nm,0.6s,mb4.6						
CHKZ	**Chkalovo**	**55.85**	**327**	*e*P	**P**	**07 39 04.4**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
CHKZ	**Chkalovo**	**55.85**	**327**	*e*P	**P**	**07 39 04.4**	**-0.9**
	comp=Z,3.8nm,0.6s,mb4.6						
ZRNK	**Zerenda**	**56.42**	**325**	*e*P	**P**	**07 39 08.6**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
ZRNK	**Zerenda**	**56.42**	**325**	*e*P	**P**	**07 39 08.6**	**-0.8**
	comp=Z,8.8nm,0.6s,mb4.8						
ARCES	**ARCESS Array B**	**79.07**	**339**	P	**P**	**07 41 30.5**	**-1.3**
	comp=Z,1.5nm,0.8s,mb3.9,baz=79,slow=6.5,SNR=5.2						

IDC 31 08:00:19.7±3.0, 5241N×3496E, h0km, mb1 3.6/2, mb1mx3.2/18, mbtmp3.6/2, ML2.9/3, Error ellipse: s-maj=35.6km s-min=11.8km az=116.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKASG	**Malin Array Be**	**3.97**	**247**	Pn	Pn	08 01 19.6	-2.2
	1.1nm,0.3s,baz=55,slow=11,SNR=2.8						
AKASG				Pg	Pg	08 01 30.1	-5.6
	2.0nm,0.3s,baz=59,slow=16,SNR=4

PMAN	**Manadas**	**2.14**	**155**	*e*P	Pn	08 19 58.9	-5.2
PMAN				*e*S	Sn	08 20 22.7	-8.0
PICO	**Pico**	**2.17**	**163**	*e*P	Pn	08 19 59.8	-4.7
PICO				*e*S	Sn	08 20 23.5	-7.9
PCND	**Candelaria**	**2.19**	**164**	*e*S	Sn	08 20 24.9	-7.0
PCND	40nm,0.3s						
PTEI	**Pico do Teixo**	**2.19**	**161**	*e*S	Sn	08 20 24.9	-7.0
PTEI	37nm,0.2s						
PBOI	**Pico dos Bois**	**2.24**	**162**	*e*S	Sn	08 20 26.0	-7.2
PBOI	12nm,0.2s						
PID	**Ribeirinha**	**2.30**	**157**	*e*P	Pn	08 20 01.9	-4.5
PID				*e*S	Sn	08 20 26.9	-7.8
PSBA	**Serra de Santa**	**2.34**	**140**	*e*P	Pn	08 20 01.8	-5.1
PSBA				*e*S	Sn	08 20 27.7	-7.9
PSBA	28nm,0.3s						
PSBA	**Serra de Santa**	**2.34**	**140**	*e*P	Pn	08 20 01.8	-5.1
PSBA				*e*S	Sn	08 20 27.7	-7.9
ASBA	**Santa Barbara**	**2.37**	**141**	*e*P	Pn	08 20 02.9	-4.5
ASBA				*e*S	Sn	08 20 28.8	-7.7
ASBA	11nm,0.3s						
ASBA	**Santa Barbara**	**2.37**	**141**	*e*P	Pn	08 20 02.9	-4.5
ASBA				*e*S	Sn	08 20 28.8	-7.7
PBIS	**Biscoitos**	**2.38**	**139**	*e*P	Pn	08 20 03.2	-4.2
PPAD	**Pico dos Padre**	**2.41**	**140**	*e*P	Pn	08 20 03.7	-4.1
PVNV	**Vila Nova**	**2.43**	**138**	*e*P	Pn	08 20 03.8	-4.3
RIB2	**Ribeirinha**	**2.49**	**139**	*e*P	Pn	08 20 04.5	-4.4
PFAV	**Pico das Favas**	**2.50**	**137**	*e*P	Pn	08 20 05.0	-4.1

*ISCJB **31** 08:20:59.4±0.8, 1099N±005×6236W±005, h122km±7km, Error ellipse: s-maj=9.8km s-min=5.2km az=80.6*
*FUNV **31** 08:21:00.2, 1107N×6229W, h120km, MW2.8*
*NEIC **31** 08:21:01.2, 1101N×6198W, h138km, MD3.2(TRN), After TRN.*
*TRN **31** 08:21:01.2, 1101N×6198W, h138km, MD3.2*

ISC 31 08:21:00.1±0.9, 1098N±004×6235W±005, h120km±8km, n16, σ0§84/26, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.36**	**160**	*e*P	**Pn**	**08 21 17.9**	**+0.7**
GUIV				*e*S	**Sn**	**08 21 29.7**	**-0.4**
ITEV	**Isla Los Testi**	**0.85**	**296**	*e*P	**Pn**	**08 21 19.8**	**-0.9**
ITEV				*e*S	**Sn**	**08 21 35.3**	**-0.9**
CRUV	**Carupano**	**0.93**	**251**	*e*P	**Pn**	**08 21 21.4**	**0.0**
CRUV				*e*S	**Sn**	**08 21 37.9**	**+0.4**
TRN	**Trinidad (W)**	**0.99**	**110**	*e*P	**Pn**	**08 21 22.9**	**+0.9**
TRN				*e*S	**Sn**	**08 21 37.3**	**-1.1**
GUNV	**Guanoco**	**1.00**	**216**	*e*P	**Pn**	**08 21 23.9**	**+1.8**
GUNV				*e*S	**Sn**	**08 21 40.1**	**+1.4**
GRW	**Mount Saint Ca**	**1.35**	**30**	*e*P	**Pn**	**08 21 26.7**	**+1.0**
GRW				*e*S	**Sn**	**08 21 45.5**	**+0.3**
GRHS	**Sauteurs**	**1.41**	**29**	*e*P	**Pn**	**08 21 26.9**	**+0.4**
GRHS				*e*S	**Sn**	**08 21 46.1**	**-0.5**
GRSS	**Sisters**	**1.49**	**29**⇑	*e*P	**Pn**	**08 21 28.2**	**+0.8**
GRSS				*e*S	**Sn**	**08 21 48.3**	**+0.2**
GRIC	**Isle de Caille**	**1.49**	**30**	*e*P	**Pn**	**08 21 28.0**	**+0.6**
GRIC				*e*S	**Sn**	**08 21 47.4**	**-0.8**
GRCU	**Cariacou**	**1.72**	**31**	*e*P	**Pn**	**08 21 30.1**	**0.0**
GRCU				*e*S	**Sn**	**08 21 52.0**	**-0.9**
IBAV	**Isla La Blanqu**	**2.34**	**291**	*e*P	**Pn**	**08 21 37.4**	**-0.4**
PCRV	**Puerto La Cruz**	**2.39**	**251**	*e*P	**Pn**	**08 21 38.9**	**+0.4**
GURV	**El Guri**	**3.28**	**193**	*e*S	**Sn**	**08 22 26.8**	**-1.9**
CUPV	**Cœpira**	**3.51**	**255**	*e*P	**Pn**	**08 21 53.3**	**+0.3**
CAOV	**Caicara del Or**	**5.35**	**228**	*e*P	**Pn**	**08 22 16.8**	**-0.9**
BAUV	**El Baul**	**5.96**	**251**	*e*P	**Pn**	**08 22 25.3**	**-0.7**

*CSEM **31** 09:14:36.4, 3759N×2099E, h3km, MD3.6/6, After ATH*
*NEIC **31** 09:14:36.4, 3759N×2099E, h3km, MD3.6(ATH), After ATH.*

ATH 31 09:14:36.4, 3759N×2099E, h4km, MD3.6/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.60**	**39**	*e*PG	Pg	09 14 47.9	0.0
RLS				*e*SG	Sg	09 14 56.2	+0.5
VLS	**Valsamata**	**0.67**	**332**	*e*PG	Pg	09 14 49.4	+0.2
VLS				*e*SG	Sg	09 14 58.7	+0.9
ITM	**Ithomi**	**0.85**	**118**	*e*PG	Pg	09 14 52.6	-0.1
EVR	**Evrytania**	**1.47**	**26**	*e*PB	Pb	09 15 04.0	-0.3
VLI	**Velíai**	**1.78**	**119**	*e*PB	Pb	09 15 09.9	+0.3
LKR	**Lokris**	**1.91**	**56**	*e*PN	Pn	09 15 12.0	+2.3
KYTH	**Kithira**	**2.10**	**128**	*e*PN	Pn	09 15 14.5	+2.2
KEK	**Kerkira**	**2.32**	**337**	*e*PN	Pn	09 15 17.4	+2.1

IDC 31 09:14:49.6±4.8, 2128S×17617W, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.9/15, mbtmp4.1/5, Error ellipse: s-maj=149.4km s-min=92.6km az=170.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**35.12**	**265**	P	P	09 21 47.0	+2.3
	2.0nm,0.4s,baz=90,slow=9.6,SNR=7.5						
STKA	**Stephens Creek**	**39.01**	**245**	P	P	09 22 17.2	-0.5
	1.4nm,0.9s,baz=90,slow=14,SNR=3.6						
ASAR	**Alice Springs**	**46.01**	**257**	P	P	09 23 14.8	+0.1
	1.3nm,0.4s,baz=100,slow=8.1,SNR=28						
ASAR				PcP	PcP	09 24 52.0	+0.7
	0.3nm,0.6s,baz=107,slow=4.1,SNR=4.1						
ASPA	**Alice Springs**	**46.02**	**257**	*e*P	P	09 23 14.6	-0.1
WB2	**Warramunga Arr**	**46.18**	**262**	*e*P	P	09 23 15.2	-0.8
WRA	**Warramunga Arr**	**46.19**	**262**	P	P	09 23 15.9	-0.2
	0.8nm,0.3s,baz=96,slow=7.8,SNR=34						
KAKA	**Kakadu**	**49.70**	**271**	*e*P	P	09 23 43.6	+0.3
	16nm,1.5s						
FITZ	**Fitzroy Crossi**	**54.62**	**262**	*e*P	P	09 24 20.0	+0.1
	4.4nm,1.2s						
FITZ	**Fitzroy Crossi**	**54.62**	**262**	P	P	09 24 19.8	-0.1
	0.9nm,0.5s,baz=106,slow=11,SNR=16						

WEL 31 09:32:23.0±0.4, 3655S×17757E, h189km±5km, ML3.6/11, Error ellipse: s-maj=6.1km s-min=5.1km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**1.62**	**160**	PN	Pn	09 32 56.7	-0.1
PUZ				SN	Sn	09 33 23.0	0.0
URZ	**Urewera**	**1.75**	**192**	PN	Pn	09 32 58.5	+0.4
URZ				SN	Sn	09 33 25.2	-0.1
MWZ	**Matawai**	**1.78**	**181**	PN	Pn	09 32 58.7	+0.2
MWZ				SN	Sn	09 33 26.1	+0.1
KNZ	**Kokohu**	**2.47**	**178**	PN	Pn	09 33 06.0	+0.2
BKZ	**Black Stump Fm**	**2.75**	**198**	PN	Pn	09 33 09.5	+0.4
WNVZ	**Wahianoa**	**3.18**	**209**	PN	Pn	09 33 15.4	+1.1
PXZ	**Pawanui**	**3.52**	**189**	PN	Pn	09 33 17.7	-0.7
TSZ	**Takapari Road**	**3.73**	**199**	PN	Pn	09 33 20.7	-0.2
WAZ	**Wanganui**	**3.80**	**212**	PN	Pn	09 33 22.5	+0.6
BFZ	**Birch Farm**	**4.25**	**194**	PN	Pn	09 33 26.4	-1.2
MRZ	**Mangatainoka R**	**4.39**	**200**	PN	Pn	09 33 28.0	-1.4
TIWZ	**Tintock**	**4.42**	**197**	PN	Pn	09 33 28.9	-0.8
KIW	**Kapiti Island**	**4.78**	**205**	PN	Pn	09 33 32.6	-1.7
CAW	**Cannon Point**	**4.96**	**202**	PN	Pn	09 33 34.5	-2.0
MRW	**Makara Radio**	**5.18**	**205**	PN	Pn	09 33 37.3	-2.2
TCW	**Tory Channel**	**5.32**	**208**	PN	Pn	09 33 39.1	-2.1
TUWZ	**Tuamarina**	**5.64**	**209**	PN	Pn	09 33 43.0	-2.3
NNZ	**Nelson**	**5.70**	**214**	PN	Pn	09 33 43.2	-2.9
QRZ	**Quartz Range**	**5.81**	**221**	PN	Pn	09 33 45.6	-2.1
THZ	**Tophouse**	**6.35**	**213**	PN	Pn	09 33 53.2	-1.4

*ISCJB **31** 09:59:60.0±0.8, 3814N±003×2274E±004, h9km±6km, Error ellipse: s-maj=5.7km s-min=4.2km az=151.3*
*NEIC **31** 10:00:00.3, 3812N×2266E, h23km, ML3.1(ATH), After ATH.*
*CSEM **31** 10:00:00.4±0.1, 3811N×2266E, h3km, ML3.1, Error ellipse: s-maj=1.9km s-min=1.6km az=67.0*
*ATH **31** 10:00:00.3, 3812N×2266E, h23km±1km, MD3.4/11, ML3.1*
*THE **31** 10:00:02.4, 3820N×2285E, h3km, ML3.0*

ISC 31 10:00:00.6±0.7, 3811N±003×2270E±004, h12km±5km, n27, σ1§24/38, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MGER	**Gerania Oros**	**0.46**	**106**	*e*PB	**Pg**	**10 00 10.0**	**+0.4**
LKR	**Lokris**	**0.58**	**23**	*e*PN	**Pg**	**10 00 11.9**	**-0.1**
LKR				*e*SN	**Sg**	**10 00 21.1**	**+1.4**
NAIG	**Nisos Aigina**	**0.71**	**119**	*e*PN	**Pn**	**10 00 15.0**	**-1.5**
ATH	**Athens Observa**	**0.81**	**100**	*e*PN	**Pn**	**10 00 16.8**	**-1.0**
ATH				*e*SN	**Sn**	**10 00 28.6**	**-1.1**
KVR	**Kavouri**	**0.89**	**108**	*e*PN	**Pn**	**10 00 17.8**	**-1.1**
PTL	**Penteli**	**0.92**	**94**	*e*PN	**Pn**	**10 00 19.0**	**-0.3**
AGG	**Agios Georgios**	**0.95**	**342**	*e*Pg	**Pg**	**10 00 19.4**	**+0.4**
AGG				*e*Sg	**Sg**	**10 00 32.8**	**+1.4**
RLS	**Riolos of Patr**	**0.98**	**267**	*e*PN	**Pn**	**10 00 18.6**	**-1.5**
RLS				*e*SN	**Sn**	**10 00 31.6**	**-2.2**
EVR	**Evrytania**	**1.07**	**319**	*e*PN	**Pn**	**10 00 20.3**	**-1.0**
ITM	**Ithomi**	**1.12**	**214**	*e*PN	**Pn**	**10 00 21.8**	**-0.2**
NEO	**Neokhori**	**1.26**	**19**	*e*PN	**Pn**	**10 00 24.4**	**+0.4**
XOR	**Xorichti**	**1.31**	**17**	*e*Pg	**Pg**	**10 00 24.8**	**-1.0**
XOR				*e*Sg	**Sg**	**10 00 42.2**	**-0.5**
AOS	**Alonnisos**	**1.40**	**41**	*e*Pg	**Pg**	**10 00 26.0**	**-1.5**
VLI	**Velíai**	**1.41**	**172**	*e*PN	**Pn**	**10 00 26.9**	**+1.0**
VLS	**Valsamata**	**1.67**	**273**	*e*PN	**Pn**	**10 00 30.0**	**+0.4**
LKD	**Levkas**	**1.72**	**291**	*e*Pb	**Pb**	**10 00 33.5**	**+1.4**
LKD				*e*Sb	**Sb**	**10 00 57.7**	**+4.1**
PAIG	**Paliouri**	**1.96**	**22**	*e*Pb	**Pb**	**10 00 33.9**	**-2.4**
PAIG				*e*Sb	**Sb**	**10 00 58.8**	**-1.8**
LIT	**Litokhoron**	**1.99**	**355**	*e*Pb	**Pb**	**10 00 35.1**	**-1.6**
LIT				*e*Sb	**Sb**	**10 01 00.5**	**-0.9**
PLG	**Polygyros**	**2.33**	**14**	*e*PN	**Pn**	**10 00 39.5**	**+0.8**
OUR	**Ouranopolis**	**2.43**	**24**	*e*Pn	**Pn**	**10 00 40.4**	**+0.4**
OUR				*e*Sn	**Sn**	**10 01 10.4**	**+0.7**
APE	**Apeiranthos**	**2.48**	**114**	*e*Pn	**Pn**	**10 00 42.1**	**+1.4**
APE				*e*Sn	**Sn**	**10 01 15.0**	**+2.2**
VAM	**Vamos**	**2.96**	**156**	*e*PN	**Pn**	**10 00 48.5**	**+1.2**
KNT	**Kendrikon**	**3.05**	**3**	*e*Pn	**Pn**	**10 00 49.6**	**+1.0**
KNT				*e*Sn	**Sn**	**10 01 26.7**	**+1.8**
MMB	**Musomiste**	**3.56**	**12**	*e*P	**Pn**	**10 00 58.0**	**+2.4**
KKB	**Krupnik**	**3.76**	**4**	*e*P	**Pn**	**10 01 00.0**	**+1.7**
RZN	**Rozhen**	**3.89**	**23**	*e*P	**Pn**	**10 01 00.0**	**-0.1**
KDZ	**Kurdzhali**	**4.10**	**30**	*e*P	**Pn**	**10 01 02.0**	**-1.1**

*ISCJB **31** 10:01:01.0±0.6, 6472N±002×3076E±0.1, h0km, Error ellipse: s-maj=7.4km s-min=3.6km az=3.6*
*HEL **31** 10:01:02.6±0.2, 6471N×3070E, h0km, ML2.1, ML2.2(NAO), Explosion*
*BER **31** 10:01:02.9±4.6, 6467N×3055E, h0km, ML2.2(NAO), Suspected explosion*
*IDC **31** 10:01:03.9±1.8, 6467N×3045E, h0km, mb1 3.0/4, mb1mx2.9/22, mbtmp3.0/4, ML2.4/4, Error ellipse: s-maj=23.8km s-min=7.5km az=101.0*
*NAO **31** 10:01:03.7±1.7, 6469N×3028E, ML2.2*

ISC 31 10:01:01.8±0.6, 6473N±002×3076E±01, h0km, n22, σ1§31/38, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSF	**Maaselka**	**1.36**	**332**	*e*P	**Pg**	**10 01 27.5**	**-0.3**
MSF				*e*S	**Sg**	**10 01 45.8**	**+0.4**
KJN	**Kajaani**	**1.41**	**244**	*e*P	**Pn**	**10 01 27.9**	**-0.7**
KJN				*e*S	**Sg**	**10 01 46.6**	**-0.4**
KU4	**Liikasenvaara**	**1.70**	**346**	*e*P	**Pn**	**10 01 33.3**	**+0.6**
KU4				*e*S	**Sn**	**10 01 55.9**	**+0.8**
JOF	**Joensuu**	**1.84**	**170**	*e*P	**Pn**	**10 01 34.0**	**-0.6**
JOF				*e*S	**Sn**	**10 01 57.5**	**-1.2**
OUL	**Oulu**	**2.03**	**282**	*e*P	**Pn**	**10 01 38.9**	**+1.6**
OUL				*e*S	**Sn**	**10 02 05.1**	**+1.8**
SUF	**Sumiainen**	**2.82**	**226**	*e*P	**Pn**	**10 01 49.8**	**+1.7**
SUF				*e*S	**Sn**	**10 02 22.8**	**0.0**
SUF				*e*SG	**Sg**	**10 02 30.3**	**-2.1**
APA0	**Apatity Array**	**3.05**	**18**	*e*P	**Pn**	**10 01 52.9**	**+1.6**
APA0				*e*SG	**Sg**	**10 02 38.5**	**-1.4**
APA0	**Apatity Array**	**3.05**	**18**	Pn	**Pn**	**10 01 52.9**	**+1.6**
	baz=185,slow=12						
APA0				Lg		10 02 38.5	
	baz=184,slow=28						
SGF	**Sodankyl**	**3.19**	**331**	*e*P	**Pn**	**10 01 54.2**	**+1.0**
SGF				*e*SB	**Sb**	**10 02 37.7**	**-1.1**
SGF				MSG		10 02 46.9	
	comp=Z,3.7nm,0.2s						
KAF	**Kangasniemi**	**3.25**	**218**	*e*P	**Pn**	**10 01 55.9**	**+1.9**
KEF	**Keuruu**	**3.63**	**228**	*e*P	**Pn**	**10 02 01.1**	**+1.8**
KEF				MSG		10 02 59.1	
	comp=Z,4.1nm,0.2s						
FIA0	**FINESS Array S**	**3.88**	**214**	*e*P	**Pn**	**10 02 04.2**	**+1.5**
FIA0				MSG		10 03 07.8	
	comp=Z,2.6nm,0.2s						
FIA0	**FINESS Array S**	**3.88**	**214**	Pn	**Pn**	**10 02 03.4**	**+0.7**
	baz=39,slow=12						
FIA0				Lg		10 03 00.8	
	baz=43,slow=28						
FIA0				Rg		10 03 21.9	
	baz=39,slow=37						
FINES	**FINESS Array B**	**3.88**	**214**	Pn	**Pn**	**10 02 03.0**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=38,slow=13,SNR=7.1						
FINES				Pg	**Pg**	**10 02 09.9**	**-6.3**
	comp=Z,0.2nm,0.3s,baz=40,slow=14,SNR=8.0						
FINES				Sn	**Sn**	**10 02 48.1**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=39,slow=24,SNR=3.5						
FINES				Lg		10 03 02.6	
	comp=Z,0.6nm,0.3s,baz=33,slow=28,SNR=6.0						
VJF	**Virojoki**	**4.43**	**200**	*e*P	**Pn**	**10 02 11.5**	**+1.3**
VJF				*e*SG	**Sg**	**10 03 17.9**	**-6.2**
VJF				MSG		10 03 18.5	
	comp=Z,6.0nm,0.4s						
ARA0	**ARCESS Array S**	**5.22**	**340**	Pn	**Pn**	**10 02 21.6**	**+0.5**
	baz=152,slow=16						
ARA0				Sn	**Sn**	**10 03 20.6**	**-1.4**
	baz=156,slow=22						
ARA0				Lg		10 03 43.1	
	baz=138,slow=37						
ARA0	**ARCESS Array S**	**5.22**	**340**	*e*P	**Pn**	**10 02 21.6**	**+0.5**
ARA0				*e*S	**Sn**	**10 03 20.6**	**-1.4**
ARA0				*e*SG	**Sg**	**10 03 43.1**	**-6.4**
ARCES	**ARCESS Array B**	**5.22**	**340**	Pn	**Pn**	**10 02 21.6**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=153,slow=12,SNR=39						
ARCES				Sn	**Sn**	**10 03 21.4**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=158,slow=24,SNR=5.2						
ARCES				Lg		10 03 45.2	
	comp=Z,0.9nm,0.3s,baz=154,slow=29,SNR=7.4						
HFS	**Hagfors**	**9.07**	**247**	Pn	**Pn**	**10 03 11.5**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=57,slow=13,SNR=6.4						
HFS				Lg		10 05 46.0	
	comp=Z,0.3nm,0.3s,baz=58,slow=28,SNR=4.1						
NOA	**NORSAR Array B**	**9.57**	**256**	Pn	**Pn**	**10 03 17.8**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=51,slow=15,SNR=2.0						
NOA				Lg		10 06 01.9	
	comp=Z,0.2nm,0.3s,baz=21,slow=2.7,SNR=4.1						
SPA0	**Spitsbergen Ar**	**14.17**	**348**	Pn	**Pn**	**10 04 21.5**	**-2.3**
	baz=156,slow=16						
SPA0	**Spitsbergen Ar**	**14.17**	**348**	*e*P	**Pn**	**10 04 21.5**	**-2.3**

*ISCJB **31** 10:03:19.2±0.7, 2295±0.1×6820W±02, h134km±10km, mb3.3/2, Error ellipse: s-maj=25.0km s-min=18.5km az=46.5*
*IDC **31** 10:03:19.7±0.8, 2294S×6825W, h123km±12km, mb3.3/3, mb1 3.1/5, mb1mx3.1/17, mbtmp3.5/5, Error ellipse: s-maj=31.4km s-min=24.9km az=120.0*

ISC 31 10:03:20.5±0.7, 2305±01×6820W±02, h127km±11km, n11, σ0§79/11, mb3.4/2, 3C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.71**	**298**	P	**Pn**	**10 03 40.4**	**-0.2**
	112nm,0.3s,baz=118,slow=7.0,SNR=2551						
LVC				S	**Sn**	**10 03 55.5**	**-0.3**
	840nm,0.3s,baz=274,slow=20,SNR=286						
LPAZ	**La Paz**	**6.63**	**1**	P	**Pn**	**10 04 56.7**	**+1.2**
	0.3nm,0.3s,baz=158,slow=8.7,SNR=7.7						
SIV	**San Ignacio**	**9.67**	**46**	P	**Pn**	**10 05 32.7**	**-3.7**
	2.3nm,0.3s,baz=237,slow=12,SNR=41						
CPUP	**Villa Florida**	**10.48**	**111**	P	**Pn**	**10 05 48.1**	**+0.9**
	0.3nm,0.3s,baz=275,slow=12,SNR=2.9						
BDFB	**Brasilia**	**20.41**	**73**	P	**P**	**10 07 46.5**	**-1.0**
	1.7nm,0.3s,baz=280,slow=8.4,SNR=4.0						
VNA3	**Neumayer Olymp**	**58.51**	**161**⇑	*i*	**P**	**10 13 03.7**	**+0.4**
VNA1	**Neumayer--Stat**	**58.71**	**160**⇑	*i*	**P**	**10 13 04.9**	**+0.1**
VNA2	**Neumayer--Watz**	**59.08**	**160**⇑	*i*	**P**	**10 13 07.2**	**-0.1**
	baz=289,slow=8.0						
SNAA	**Sanae**	**60.71**	**161**	P	**P**	**10 13 18.0**	**-0.4**
	0.1nm,0.4s,mb3.2,baz=291,slow=7.6,SNR=6.7						
TORD	**Torodi Ar. Bea**	**77.26**	**70**	P	**P**	**10 15 00.7**	**0.0**
	0.8nm,0.5s,mb3.7,baz=255,slow=6.0,SNR=14						
WRA	**Warramunga Arr**	**132.01**	**209**	PKP	PKPdf	10 22 19.4	+0.5
	0.3nm,0.9s,baz=153,slow=1.8,SNR=6.3						

*ISCJB **31** 10:16:09.7±0.4, 4428N±002×657E±003, h15km±4km, Error ellipse: s-maj=4.0km s-min=3.3km az=151.0*
*STR **31** 10:16:10.8±0.2, 4428N×658E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **31** 10:16:10.7±0.1, 4427N×658E, h2km, Md2.4/1, Ml2.4/3, Error ellipse: s-maj=1.3km s-min=1.0km az=88.0*

ISC 31 10:16:10.4±0.4, 4427N±002×657E±003, h15km±4km, n17, σ0§55/30, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SURF	**Saint Ours**	**0.27**	**39**	Pg	**Pg**	**10 16 16.6**	**+0.4**
SURF				Sg	**Sg**	**10 16 20.2**	**+0.1**
OG25	**Le Caire**	**0.37**	**285**	Pg	**Pg**	**10 16 16.9**	**-1.1**
OG25				Sg	**Sg**	**10 16 22.8**	**-0.3**
MBDF	**Montbardon**	**0.48**	**17**	*e*Pg	**Pg**	**10 16 20.1**	**+0.2**
MBDF	45nm,0.4s			*e*Sg	**Sg**	**10 16 26.2**	**-0.1**
OG22	**Abries**	**0.61**	**26**	Pg	**Pg**	**10 16 22.8**	**+0.4**
OG22				Sg	**Sg**	**10 16 31.2**	**+0.7**
AUTN	**L'Aution**	**0.67**	**114**	Pg	**Pg**	**10 16 23.1**	**-0.5**
LUCF	**Luceram**	**0.67**	**124**	Pg	**Pg**	**10 16 22.9**	**-0.7**
LUCF				Sg	**Sg**	**10 16 32.7**	**+0.2**
SBF	**Sospel**	**0.74**	**123**	*e*Pg	**Pg**	**10 16 24.4**	**-0.5**
SBF	57nm,0.4s			*e*Sg	**Sg**	**10 16 34.8**	**+0.1**
TAVF	**Tavernes**	**0.75**	**210**	Pg	**Pg**	**10 16 25.1**	**0.0**
TAVF				Sg	**Sg**	**10 16 37.5**	**+2.5**
SAOF	**Saorge**	**0.76**	**112**	Pg	**Pg**	**10 16 25.3**	**+0.1**
ORIF	**Oris-en-Rattie**	**0.81**	**323**	*e*Pg	**Pg**	**10 16 26.1**	**-0.1**
LMR	**La Mourre**	**0.94**	**183**	*e*Pg	**Pg**	**10 16 28.3**	**-0.3**
LMR				*e*Sg	**Sg**	**10 16 40.1**	**-0.8**
LMR				*e*Sn	**Sn**	**10 16 42.4**	**+0.3**
PUYF	**Puyloubier**	**0.97**	**221**	Pg	**Pg**	**10 16 29.2**	**0.0**
PRAF	**Pradon**	**1.11**	**246**	Pg	**Pg**	**10 16 32.7**	**+0.8**
LPG	**La Plagne**	**1.23**	**6**	*e*Pg	**Pg**	**10 16 34.2**	**+0.1**
LPG	9.2nm,0.4s			*e*Sg	**Sg**	**10 16 50.0**	**-0.2**
LPL	**La Plagne**	**1.25**	**5**	*e*Pg	**Pg**	**10 16 34.3**	**-0.2**
LPL	11nm,0.3s			*e*Sg	**Sg**	**10 16 51.0**	**+0.2**
VIVF	**Saint-Julien-l**	**1.48**	**294**	*e*Sn	**Sn**	**10 16 55.3**	**-0.1**
VIVF	10nm,0.4s			*e*Sg	**Sg**	**10 16 57.7**	**-0.4**
PGF	**Pioggiola**	**2.47**	**133**	*e*Pn	**Pn**	**10 16 50.0**	**0.0**
PGF				*e*Sn	**Sn**	**10 17 19.7**	**-0.1**

*ISCJB **31** 10:36:07.6±0.6, 3691N±003×2677E±003, h7km±5km, Error ellipse: s-maj=4.6km s-min=3.4km az=164.8*
*NEIC **31** 10:36:07.8, 3688N×2676E, h26km, MD3.3(ISK), MD3.4(ATH), After ATH.*
*ATH **31** 10:36:07.8, 3688N×2676E, h26km±2km, MD3.4/6*
*CSEM **31** 10:36:07.3±0.1, 3693N×2678E, h10km, MD3.4, Error ellipse: s-maj=1.9km s-min=1.2km az=170.0*
*ISK **31** 10:36:07.5, 3695N×2677E, h18km, MD3.3*

ISC 31 10:36:08.3±0.5, 3692N±003×2677E±003, h13km±5km, n38, σ1§06/58, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NISR	**Nisiros**	**0.42**	**136**⇑	*i*PB	**Pg**	**10 36 16.9**	**+0.2**
NISR				*e*SB	**Sg**	**10 36 23.0**	**+0.6**
BODT	**Bodrum**	**0.46**	**71**	PG	**Pg**	**10 36 17.2**	**-0.2**
BODT				SG	**Sg**	**10 36 23.4**	**-0.2**
BODT	**Bodrum**	**0.46**	**71**	Pg	**Pg**	**10 36 17.2**	**-0.2**
BDRM	**Kayabasi**	**0.56**	**75**	*i* P	**Pg**	**10 36 19.0**	**-0.4**
BDRM				*i* S	**Sg**	**10 36 30.4**	**+3.6**
DAT	**Datca**	**0.68**	**106**	*i* PG	**Pg**	**10 36 21.7**	**+0.2**
DAT				*i* SG	**Sg**	**10 36 31.1**	**+0.6**
SMG	**Samos**	**0.79**	**4**	*e*PN	**Pn**	**10 36 23.9**	**-1.3**
SMG				*e*SN	**Sn**	**10 36 36.0**	**-0.9**
MLSB	**Milas**	**0.89**	**65**	PG	**Pg**	**10 36 25.0**	**-0.6**
MLSB				SG	**Sg**	**10 36 37.1**	**-0.1**
APE	**Apeiranthos**	**1.00**	**279**	*e*PG	**Pg**	**10 36 26.4**	**-1.2**
APE				*e*SG	**Sg**	**10 36 40.5**	**-0.2**
APE	**Apeiranthos**	**1.00**	**279**	*e*P	**Pg**	**10 36 27.1**	**-0.5**
APE				*e*S	**Sg**	**10 36 42.8**	**+2.1**
APE	**Apeiranthos**	**1.00**	**279**	*e*PN	**Pn**	**10 36 27.4**	**-0.7**
APE				*e*SN	**Sn**	**10 36 41.1**	**-1.0**
APE	**Apeiranthos**	**1.00**	**279**	*e*P	**Pg**	**10 36 27.1**	**-0.5**
APE	**Apeiranthos**	**1.00**	**

20nm,0.4s
STHS Stebnicka Huta 1.71 117 *e*PN Pn 11 16 10.3 +1.6
STHS *e*SN Sn 11 16 34.7 +3.5
KSP Ksiaz 1.78 291 *e*Pg Pg 11 16 10.5 -1.3
KSP *e*Sg Sg 11 16 33.6 -1.3
UPC Upice 1.88 280 *e*SG Sg 11 16 35.6 -2.4
KECS Kecovo 2.03 149 *e*PN Pn 11 16 14.3 +1.3
KECS *e* 11 16 36.8
MOA Molln 3.88 234⇑*i*Sg Sg 11 17 39.1 -3.1
comp=Z,5.0nm,0.5s

IDC ***31*** *11:39:30.4±0.6, 1155S×16587E, h0km, mb4.5/14, mb1 4.6/17,mb1mx4.6/21,mbtmp4.6/17,ML4.0/2,MS4.2/14, Ms1 4.2/14,ms1mx3.9/21, Error ellipse: s-maj=19.6km s-min=16.2km az=121.0*
MOS ***31*** *11:39:34.6±1.1, 1165S×16581E, h33km, mb5.1/15, Error ellipse: s-maj=13.4km s-min=10.1km az=18.9*
BJI ***31*** *11:39:35.3, 11.13S×16585E, h19km, mB4.9, mb4.9, Ms4.8, Msz4.3*
ISCJB ***31*** *11:39:35.5±0.4, 1177S±005×16578E±006, h43km, mb4.8/40, MS4.2/24, Error ellipse: s-maj=8.6km s-min=7.3km az=142.1*
NEIC ***31*** *11:39:37.4±0.4, 1167S×16582E, mb4.8/19, Error ellipse: s-maj=10.7km s-min=8.4km az=109.0*
HRVD ***31*** *11:39:37.4±0.4, 1173S×16577E, h22km±1km, MW4.9/58, Centroid moment Tensor Solution. LP body waves: s17,c24;Mantle waves: s58,c85; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.23±.17; Mθθ2.09±.11; Mφφ-0.85±.10; Mrθ0.59±.16; Mrφ0.14±.07; Mθφ-1.75±.26; Best double couple: M◎2.53400×10^16 NP1:ϕs304.00000°,δ68.00000°,λ-149.00000°. NP2: ϕs304.00000°,δ68.00000°,λ-47.00000°. Principal axes: T 2.2060, Plg12.0000°, Azm4.0000°; N 0.6570, Plg39.0000°, Azm104.0000°; P -2.8620, Plg48.0000°, Azm261.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 31 11:39:37.5±0.4, 1174S±005×16585E±006, h46km, h46km±2.0km:pP-P,n100,σ1s09/87, mb4.8/40, MS4.2/24, 3C-10D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.24**	**291**	Pn		**Pn**	**11 41 04.6**	**-2.5**
	19nm,0.3s,baz=72,slow=1.5,SNR=14							
HNR				Sn		**Sn**	**11 42 17.4**	**+0.3**
	13nm,0.3s,baz=92,slow=20,SNR=3.4							
HNR	**Honiara**	**6.24**	**291**	*e*P		**Pn**	**11 41 05.7**	**-1.4**
HNR				pmax	pmax			
	comp=Z,187nm,0.8s							
HNR	**Honiara**	**6.24**	**291**	*e*Pn		**Pn**	**11 41 05.7**	**-1.4**
	comp=Z,187nm,0.8s							
DZM	**Mont Dzumac**	**10.29**	**177**	Pn		**Pn**	**11 42 02.7**	**+0.2**
	comp=Z,6.5nm,0.3s,baz=16,slow=19,SNR=80							
DZM				LR		LR	11 45 31.4	
	comp=Z,704nm,21.7s,baz=346,slow=34							
PMG	**Port Moresby**	**18.52**	**275**	P		**Pn**	**11 43 49.1**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=85,slow=9.8,SNR=5.5							
PMG	**Port Moresby**	**18.52**	**275**	*e*P		**Pn**	**11 43 50.9**	**+0.3**
PMG				pmax	pmax			
	comp=Z,23nm,0.9s							
PMG	**Port Moresby**	**18.52**	**275**	*e*P		**Pn**	**11 43 50.9**	**+0.2**
	comp=Z,23nm,0.9s							
CTA	**Charters Tower**	**20.58**	**244**	*i*P		**P**	**11 44 13.7**	**+1.2**
	comp=Z,21nm,1.2s							
CTA	**Charters Tower**	**20.58**	**244**	P		**P**	**11 44 12.9**	**+0.4**
	comp=Z,28nm,1.1s,baz=73,slow=12,SNR=15							
CTA				LR		LR	11 51 06.9	
	comp=Z,870nm,19.9s,MS4.1,baz=62,slow=34							
CTA	**Charters Tower**	**20.58**	**244**	*i*P		**P**	**11 44 13.7**	**+1.2**
CTA				pmax	pmax			
	comp=Z,21nm,1.2s							
CTAO	**Charters Tower**	**20.58**	**244**	*e*P		**P**	**11 44 13.7**	**+1.2**
CTAO				pmax	pmax			
	comp=Z,66nm,1.4s							
CTAO	**Charters Tower**	**20.58**	**244**	*e*P		**P**	**11 44 13.7**	**+1.2**
	comp=Z,66nm,1.4s							
AFI	**Afiamalu**	**21.92**	**98**	LR		LR	11 51 07.5	
	comp=Z,523nm,21.1s,MS3.9,baz=295,slow=32							
ARMA	**Armidale**	**22.80**	**213**	*i*P		**P**	**11 44 37.3**	**+1.1**
RAO	**Raoul Island**	**23.07**	**141**	LR		LR	11 51 47.5	
	comp=Z,453nm,19.5s,MS3.9,baz=121,slow=32							
URZ	**Urewera**	**28.26**	**161**	LR		LR	11 54 47.8	
	comp=Z,338nm,18.5s,MS4.0,baz=357,slow=32							
STKA	**Stephens Creek**	**30.02**	**224**	P		**P**	**11 45 42.1**	**+0.2**
	comp=Z,9.2nm,0.8s,mb4.6,baz=10,slow=7.6,SNR=7.0							
STKA				LR		LR	11 57 26.0	
	comp=Z,532nm,19.4s,MS4.2,baz=40,slow=36							
STKA	**Stephens Creek**	**30.02**	**224**	*e*P		**P**	**11 45 40.2**	**-1.7**
WB2	**Warramunga Arr**	**31.34**	**251**	*e*P		**P**	**11 45 53.5**	**-0.1**
WRAB	**Tennant Creek**	**31.34**	**251**	*e*P		**P**	**11 45 53.1**	**-0.5**
WRAB	**Tennant Creek**	**31.34**	**251**	*e*P		**P**	**11 45 52.7**	**-0.8**
	comp=Z,27nm,1.1s,mb5.0							
WRA	**Warramunga Arr**	**31.35**	**251**	P		**P**	**11 45 53.3**	**-0.4**
	comp=Z,15nm,1.1s,mb4.7,baz=80,slow=9.1,SNR=36							
WRA				PcP		PcP	11 48 48.0	+1.3
	comp=Z,1.6nm,0.9s,baz=87,slow=3.0,SNR=4.2							
RPZ	**Rata Peaks**	**32.17**	**173**	P		**P**	**11 46 02.5**	**+1.6**
	comp=Z,25nm,0.7s,mb5.1,baz=62,slow=3.6,SNR=5.8							
AS31	**Alice Springs**	**32.58**	**244**	*e*P		**P**	**11 46 03.5**	**-1.0**
ASAR	**Alice Springs**	**32.58**	**244**	P		**P**	**11 46 03.8**	**-0.7**
	comp=Z,7.6nm,0.9s,mb4.6,baz=74,slow=9.5,SNR=47							
ASAR				PcP		PcP	11 48 49.9	-0.2
	comp=Z,2.9nm,1.0s,baz=84,slow=3.0,SNR=7.6							
ASPA	**Alice Springs**	**32.59**	**244**	*e*P		**P**	**11 46 03.5**	**-1.0**
KAKA	**Kakadu**	**32.66**	**265**	*e*P		**P**	**11 46 04.6**	**-0.6**
	comp=Z,6.0nm,0.6s,mb4.7							
RAR	**Rarotonga**	**34.21**	**110**	LR		LR	11 56 44.2	
	comp=Z,330nm,20.7s,MS4.0,baz=277,slow=30							
FITZ	**Fitzroy Crossi**	**39.31**	**256**	*e*P		**P**	**11 47 01.7**	**-0.3**
	comp=Z,14nm,0.9s,mb4.7							
FITZ	**Fitzroy Crossi**	**39.31**	**256**	P		**P**	**11 47 01.7**	**-0.3**
	comp=Z,7.6nm,0.9s,mb4.4,baz=50,slow=6.7,SNR=11							
FITZ				LR		LR	12 02 29.8	
	comp=Z,422nm,19.3s,MS4.3,baz=85,slow=35							
PPT	**Papeete**	**43.43**	**103**	LR		LR	12 02 15.9	
	comp=Z,298nm,18.0s,MS4.2,baz=159,slow=31							
MBWA	**Marble Bar**	**45.08**	**252**	*e*P		**P**	**11 47 48.7**	**-0.3**
	comp=Z,17nm,0.9s,mb4.9							
KLBR	**Kellerberrin**	**48.43**	**238**	*e*P		**P**	**11 48 15.1**	**-0.1**
	comp=Z,26nm,1.2s,mb5.1							
NWAO	**Narrogin (SRO)**	**49.17**	**237**	LR		LR	12 09 12.7	
	comp=Z,746nm,18.7s,MS4.7,baz=243,slow=36							
MJAR	**Matsushiro Arr**	**54.63**	**333**	P		**P**	**11 48 58.3**	**-3.3**
	comp=Z,1.5nm,0.6s,mb4.2,baz=168,slow=7.3,SNR=4.9							
MAT	**Matsushiro**	**54.63**	**333**	P		**P**	**11 49 00.2**	**-1.4**
MAT				S		**S**	**11 56 46.8**	**+8.7**
MAT	**Matsushiro**	**54.63**	**333**	*e*P		**P**	**11 49 00.0**	**-1.6**
MAT				*e*S		**S**	**11 56 47.0**	**+8.9**
SSE	**Sheshan**	**60.42**	**316**	P		**P**	**11 49 44.5**	**+2.2**
SSE				PP		PP	11 51 56.8	+1.0
SSE				S		**S**	**11 57 56.0**	**+2.0**
SSE				AMB		AMB		
	comp=Z,30nm,0.7s,mb5.4							
SSE				AMB		AMB		
	comp=Z,43nm,5.8s							
SSE				LR		LR		
	comp=N,35nm,20.5s,MS3.8							
SSE				LR		LR		
	comp=E,58nm,20.4s,MS3.8							
SSE				LR		LR		
	comp=Z,75nm,19.2s,MS3.9							
SSE	**Sheshan**	**60.42**	**316**	P		**P**	**11 49 44.4**	**+2.1**
	comp=Z,30nm,0.7s,mb5.4							
SSE				pP		pP	11 49 58.3	+3.1
SSE				sP		sP	11 50 04.3	+3.9
SSE				PP		PP	11 51 56.8	+1.0
SSE				S		**S**	**11 57 56.0**	**+2.0**
SSE				sS		sS	11 58 20.7	+5.1
SSE				SS		SS	12 01 55.9	+3.6
NJ2	**Nanjing**	**62.59**	**316**	*e*P		**P**	**11 49 58.0**	**+1.1**
NJ2				AP		pP	11 50 11.3	+1.4
NJ2				PP		PP	11 52 17.5	+2.6
NJ2				S		**S**	**11 58 21.0**	**-0.5**
NJ2				XS		sS	11 58 36.0	-7.1
NJ2				AMB		AMB		
	comp=Z,20nm,1.0s,mb5.2							
NJ2				AMB		AMB		
	comp=Z,140nm,4.7s							
NJ2				LR		LR		
	comp=N,680nm,25.6s,MS4.7							
NJ2				LR		LR		
	comp=E,370nm,27.8s,MS4.7							
NJ2				LR		LR		
	comp=Z,90nm,25.0s,MS3.8							
VLA	**Vladivostok**	**62.80**	**333**	*e*P		**P**	**11 50 00.1**	**+1.8**
VLA				pmax		pmax		
	comp=Z,57nm,2.5s,mb5.3							
MDJ	**Mudanjiang**	**65.01**	**332**	P		**P**	**11 50 13.3**	**+0.5**
MDJ				AP		pP	11 50 25.0	-0.9
MDJ				XP		sP	11 50 30.0	-1.1
MDJ				PP		PP	11 52 36.8	+0.6
MDJ				S		S	11 58 54.8	+3.3
MDJ				AMB		AMB		
	comp=Z,3.0nm,0.8s,mb4.4							
MDJ				AMB		AMB		
	comp=Z,69nm,4.8s							
MDJ				LR		LR		
	comp=N,17nm,18.6s,MS3.7							
MDJ				LR		LR		
	comp=E,44nm,19.7s,MS3.7							
MDJ				LR		LR		
	comp=Z,65nm,24.9s							
VNDA	**Vanda**	**65.80**	**181**	P		**P**	**11 50 17.2**	**-0.8**
	comp=Z,2.5nm,0.9s,mb4.3,baz=353,slow=7.6,SNR=3.6							
VNDA				LR		LR	12 13 04.3	
	comp=Z,117nm,21.0s,MS4.1,baz=13,slow=30							
VNDA	**Vanda**	**65.80**	**181**	*e*P		**P**	**11 50 18.2**	**+0.2**
VNDA				*e*PP		pP	11 50 31.8	+0.8
VNDA				pmax		pmax		
	comp=Z,13nm,1.4s							
VNDA	**Vanda**	**65.80**	**181**	*e*P		**P**	**11 50 18.2**	**+0.3**
	comp=Z,13nm,1.4s,mb4.8							
VNDA				*e*pP		pP	11 50 31.8	+0.8
CN2	**Changchun**	**66.39**	**329**	*e*P		**P**	**11 50 20.8**	**-0.9**
CN2				*e*XP		sP	11 50 38.8	-1.2
CN2				*e*S		S	11 59 07.0	-1.4
CN2				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.8							
CN2				LR		LR		
	comp=N,200nm,16.0s,MS4.7							
CN2				LR		LR		
	comp=E,300nm,16.0s,MS4.7							
CN2				LR		LR		
	comp=Z,400nm,17.0s,MS4.7							
KULM	**Kulim**	**67.02**	**281**	*e*P		**P**	**11 50 25.9**	**+0.2**
KLR	**Kul'dur**	**67.73**	**337**	*e*P		**P**	**11 50 29.4**	**-0.8**
PSI	**Prapat**	**68.07**	**278**	P		**P**	**11 50 31.6**	**-0.7**
	comp=Z,8.3nm,0.7s,mb4.9,baz=139,slow=19,SNR=8.5							
GYA	**Guiyang**	**68.89**	**304**	⇑*i*P		**P**	**11 50 38.5**	**+1.0**
GYA				AP		pP	11 50 51.5	+0.8
GYA				PP		PP	11 53 13.8	+3.8
GYA				S		S	11 59 38.8	+0.4
GYA				SS		SS	12 04 06.8	+2.6
GYA				AMB		AMB		
	comp=Z,20nm,0.6s,mb5.2							
GYA				AMB		AMB		
	comp=Z,90nm,4.2s							
GYA				LR		LR		
	comp=N,240nm,19.4s,MS4.5							
GYA				LR		LR		
	comp=E,180nm,19.8s,MS4.5							
GYA				LR		LR		
	comp=Z,160nm,18.8s,MS4.3							
BJI	**Beijing**	**69.09**	**321**	P		**P**	**11 50 39.3**	**+0.6**
BJI				S		S	11 59 46.8	+6.2
BJI				AMB		AMB		
	comp=Z,9.0nm,0.8s,mb4.8							
BJI				LR		LR		
	comp=N,79nm,25.9s,MS4.0							
BJI				LR		LR		
	comp=E,95nm,28.8s,MS4.0							
BJI				LR		LR		
	comp=Z,111nm,30.2s,MS3.9							
BJI	**Beijing**	**69.09**	**321**	P		**P**	**11 50 39.3**	**+0.6**
	comp=Z,9.0nm,0.8s,mb4.8							
BJI				S		S	11 59 46.7	+6.1
KMI	**Kunming**	**71.57**	**302**	P		**P**	**11 50 55.5**	**+1.6**
KMI				AP		pP	11 51 08.5	+1.4
KMI				S		S	12 00 09.8	+0.1
KMI				LR		LR		
	comp=Z,66nm,23.2s,MS3.8							
KMI	**Kunming**	**71.57**	**302**	P		**P**	**11 50 55.5**	**+1.6**
KMI				pP		pP	11 51 08.6	+1.5
KMI				S		S	12 00 09.8	+0.1
HHC	**Hu-ho-hao-te**	**72.43**	**320**	*e*P		**P**	**11 51 00.5**	**+1.5**
HHC				AP		pP	11 51 13.5	+1.3
HHC				PCP		PcP	11 51 18.0	+1.4
HHC				PP		PP	11 53 44.8	+4.4
HHC				S		S	12 00 20.8	+1.3
HHC				SKS			12 00 56.5	
HHC				SCS		ScS	12 01 00.5	-1.6
HHC				AMB		AMB		
	comp=Z,11nm,0.5s,mb5.0							
HHC				AMB		AMB		
	comp=Z,110nm,5.0s							
HHC				LR		LR		
	comp=N,128nm,17.6s							
HHC				LR		LR		
	comp=E,155nm,12.3s							
HHC				LR		LR		
	comp=Z,187nm,16.7s,MS4.4							
CHTO	**Chiang Mai**	**72.60**	**294**	*e*P		**P**	**11 51 01.3**	**+1.3**
CHTO				pmax		pmax		
	comp=Z,24nm,1.5s,mb4.9							
CHTO	**Chiang Mai**	**72.60**	**294**	*e*P		**P**	**11 51 01.3**	**+1.3**
	comp=Z,24nm,1.5s,mb4.9							
CD2	**Chengdu**	**73.11**	**307**	⇑*i*P		**P**	**11 51 04.3**	**+1.3**
CD2				AMB		AMB		
	comp=Z,20nm,1.3s,mb4.9							
LZH	**Lanzhou**	**75.30**	**312**	*e*P		**P**	**11 51 20.5**	**+4.7**
LZH				AP		pP	11 51 30.5	+1.4
LZH				*e*S		S	12 00 57.5	+5.7
LZH				AMB		AMB		
	comp=Z,25nm,1.4s,mb5.0							
LZH				AMB		AMB		
	comp=Z,87nm,8.2s							
LZH				LR		LR		
	comp=E,398nm,16.5s							
LZH				LR		LR		
	comp=Z,587nm,18.3s,MS4.9							
LZH	**Lanzhou**	**75.30**	**312**	*e*P		**P**	**11 51 20.5**	**+4.7**
LZH				*PP		pP	11 51 30.6	+1.5
LZH				*SP		sP	11 51 35.2	+1.0
LZH				*e*			11 54 12.3	
LZH				*eS		S	12 00 57.5	+5.7
LZH				*SS		sS	12 01 14.7	+0.7
LZH				PS			12 01 38.6	
LZH				pmax		pmax		
	comp=Z,25nm,1.4s,mb5.0							
LZH	**Lanzhou**	**75.30**	**312**	*e*P		**P**	**11 51 20.5**	**+4.7**
	comp=Z,25nm,1.4s,mb5.0							
LZH				pP		pP	11 51 30.6	+1.5
LZH				sP		sP	11 51 35.2	+1.0
LZH				*ePP		PP	11 54 12.3	+7.5
LZH				*eS		S	12 00 57.5	+5.7
LZH				sS		sS	12 01 14.7	+0.7
LZH				PS			12 01 38.6	
LZH				*eSS		SS	12 05 50.8	+8.5
CIT	**Chita**	**77.81**	**330**	*e*P		**P**	**11 51 29.6**	**-0.4**
CIT				pmax		pmax		
	comp=Z,26nm,2.4s,mb4.7							
QSPA	**South Pole Qui**	**78.27**	**180**	*e*P		**P**	**11 51 33.1**	**+0.6**
	comp=Z,28nm,1.0s,mb5.2							
YAK	**Yakutsk**	**78.79**	**344**	*e*P		**P**	**11 51 36.3**	**+0.9**
YAK				pmax		pmax		
	comp=Z,12nm,0.5s,mb5.1							
ULN	**Ulaanbaatar**	**78.92**	**324**	*e*P		**P**	**11 51 36.3**	**+0.2**
ULN				*e*PP		pP	11 51 49.5	0.0
ULN				pmax		pmax		
	comp=Z,8.0nm,1.0s,mb4.6							
ULN	**Ulaanbaatar**	**78.92**	**324**	*e*P		**P**	**11 51 36.3**	**+0.1**
	comp=Z,8.1nm,1.0s,mb4.6							
ULN				*e*pP		pP	11 51 49.5	0.0
SONM	**Songino Array**	**79.29**	**324**	P		**P**	**11 51 38.1**	**0.0**
	comp=Z,2.9nm,0.8s,mb4.3,baz=142,slow=6.1,SNR=16							
BILL	**Bilibino**	**79.57**	**0**	*e*P		**P**	**11 51 37.3**	**-2.4**
BILL				pmax		pmax		
	comp=Z,13nm,1.3s,mb4.7							
BILL	**Bilibino**	**79.57**	**0**	*e*P		**P**	**11 51 37.3**	**-2.3**
	comp=Z,13nm,1.3s,mb4.7							
GTA	**Gaotai**	**79.61**	**314**	*e*P		**P**	**11 51 41.5**	**+1.6**
GTA				AP		pP	11 51 52.5	-0.8
GTA				PP		PP	11 54 46.8	+5.8
GTA				S		S	12 01 43.0	+4.5
GTA				SKS			12 01 49.5	
GTA				AMB		AMB		
	comp=Z,15nm,0.9s,mb4.9							
GTA				AMB		AMB		
	comp=Z,70nm,4.6s							
GTA				LR		LR		
	comp=N,96nm,17.9s,MS4.4							
GTA				LR		LR		
	comp=E,140nm,19.8s,MS4.4							
GTA				LR		LR		
	comp=Z,115nm,19.8s,MS4.2							
ZAK	**Zakamensk**	**82.33**	**325**	*e*P		**P**	**11 51 54.1**	**-0.3**
ZAK				pmax		pmax		
	comp=Z,10.0nm,1.5s,mb4.5							
TLY	**Talaya**	**82.76**	**326**	*e*P		**P**	**11 51 56.0**	**-0.6**
TLY				*e*PP		pP	11 52 09.2	-0.8
TLY				pmax		pmax		
	comp=Z,9.0nm,1.3s,mb4.6							
TLY	**Talaya**	**82.76**	**326**	*e*P		**P**	**11 51 56.0**	**-0.6**
	comp=Z,9.4nm,1.3s,mb4.7							
TLY				*e*pP		pP	11 52 09.2	-0.8
COLA	**College**	**83.91**	**18**	*e*P		**P**	**11 52 01.4**	**-1.1**
COLA				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.8							
COLA	**College**	**83.91**	**18**	*e*P		**P**	**11 52 01.4**	**-1.1**
	comp=Z,5.7nm,0.8s,mb4.8							
MAW	**Mawson**	**84.12**	**202**	LR		LR	12 22 17.4	
	comp=Z,121nm,21.2s,MS4.2,baz=253,slow=30							
ILAR	**Eielson Array**	**84.13**	**18**	P		**P**	**11 52 01.1**	**-2.6**
	comp=Z,0.9nm,0.6s,mb4.1,baz=258,slow=5.0,SNR=20							
NVAR	**Mina Array Bea**	**86.39**	**50**	P		**P**	**11 52 16.4**	**+1.4**
	comp=Z,0.8nm,0.8s,mb4.0,baz=208,slow=5.0,SNR=2.6							
TIXI	**Tiksi**	**86.79**	**349**	*e*P		**P**	**11 52 15.1**	**-1.8**
TIXI				*e*S			12 02 41.7	
TIXI				*e*SS		SS	12 08 33.2	-0.3
TIXI				pmax		pmax		
	comp=Z,3.0nm,1.4s,mb4.3							
WMQ	**Urumqi**	**89.66**	**315**	⇓*i*P		**P**	**11 52 31.0**	**+0.5**
WMQ				AP		pP	11 52 44.5	+0.4
WMQ				PP		PP	11 56 05.5	+2.7
WMQ				PPP			11 58 04.8	
WMQ				SKS			12 02 55.5	
WMQ				S			12 03 16.8	
WMQ				AMB		AMB		
	comp=Z,20nm,1.5s,mb5.2							
WMQ				LR		LR		
	comp=N,106nm,24.7s,MS4.5							
WMQ				LR		LR		
	comp=E,230nm,26.8s,MS4.5							
WMQ				LR		LR		
	comp=Z,47nm,24.6s,MS3.8							
SYO	**Syowa Base**	**91.15**	**197**	⇑*e*PcP		PcP	11 52 38.4	0.0
PDAR	**Pinedale Array**	**93.94**	**47**	LR		LR	12 31 11.4	
	comp=Z,82nm,19.3s,MS4.2,baz=157,slow=33							
MKAR	**Makanchi Array**	**94.10**	**317**	P		**P**	**11 52 51.5**	**+0.4**
	comp=Z,6.0nm,0.7s,mb5.2,baz=94,slow=6.4,SNR=62							
ZAL	**Zalesovo**	**94.19**	**324**	P		**P**	**11 52 50.3**	**-1.2**
	comp=Z,1.8nm,0.7s,mb4.6,baz=26,slow=2.8,SNR=12							
ZAL				LR		LR	12 39 35.1	
	comp=Z,68nm,18.1s,MS4.2,baz=275,slow=38							
SNAA	**Sanae**	**96.43**	**184**	*e*P		**P**	**11 52 55.2**	**-6.5**
SNAA				*e*			11 53 00.6	
SNAA				*e*		pP	11 53 07.2	-8.2
SNAA				*e*		pP	11 53 12.8	-2.6
SNAA				*e*			11 53 15.7	
SNAA				*e*			11 53 26.2	
SNAA	**Sanae**	**96.43**	**184**	*e*P		**P**	**11 52 57.7**	**-4.0**
SNAA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
SNAA	**Sanae**	**96.43**	**184**	*e*P		**P**	**11 52 57.7**	**-4.0**
	comp=Z,1.5nm,0.8s,mb4.5							
VNA3	**Neumayer Olymp**	**97.16**	**181**	*e*P		**P**	**11 53 03.3**	**-1.7**
VNA3				*e*			11 53 10.3	
VNA3				*e*		pP	11 53 16.3	-2.3
KURK	**Kurchatov**	**97.24**	**320**	*e*P		**P**	**11 53 05.4**	**0.0**
VNA2	**Neumayer--Watz**	**97.40**	**182**	*e*P		**P**	**11 53 06.2**	**+0.1**
VNA2				*e*			11 53 12.9	
VNA2				*e*		pP	11 53 19.7	0.0
VNA2				*e*			11 53 24.7	
VNA2				*e*			11 53 28.6	
VNA2				*e*			11 53 34.6	
ARCES	**ARCESS Array B**	**117.03**	**345**	PKP		PKPdf	11 58 15.7	-1.6
	comp=Z,2.3nm,0.7s,baz=82,slow=2.0,SNR=17							
OBN	**Obninsk**	**121.45**	**329**	*i* PKIKP		PKPdf	11 58 25.0	-0.8
OBN				pmax		pmax		
	comp=Z,9.0nm,0.9s							
FINES	**FINESS Array B**	**122.45**	**338**	PKP		PKPdf	11 58 25.7	-2.0
	comp=Z,1.7nm,0.9s,baz=258,slow=7.0,SNR=4.6							
BOSA	**Boshof**	**124.68**	**223**	PKP		PKPdf	11 58 33.1	+1.1
	comp=Z,2.9nm,1.1s,baz=174,slow=5.3,SNR=3.5							
NOA	**NORSAR Array B**	**127.40**	**345**	PKP		PKPdf	11 58 36.4	-0.8
	comp=Z,0.4nm,0.5s,baz=148,slow=12,SNR=2.8							
AKASG	**Malin Array Be**	**127.50**	**327**	PKP		PKPdf	11 58 37.5	+0.1
	comp=Z,1.0nm,0.5s,baz=61,slow=9.2,SNR=8.1							
BRTR	**Keskin Array B**	**129.51**	**312**	PKP		PKPdf	11 58 42.0	+0.8
	comp=Z,0.7nm,0.5s,baz=149,slow=3.0,SNR=7.4							
GERES	**GERESS Array B**	**136.37**	**333**	PKP		PKPdf	11 58 55.5	+1.4
	comp=Z,0.3nm,0.3s,baz=27,slow=9.0,SNR=5.0							
ESDC	**Sonseca Array**	**150.75**	**344**	PKPbc		PKPbc	11 59 22.3	-2.4
	comp=Z,0.4nm,0.5s,baz=330,slow=5.1,SNR=4.7							
ESDC				PKPab		PKPab	11 59 31.2	-0.6
	comp=Z,1.2nm,0.7s,baz=47,slow=1.9,SNR=5.4							
TORD	**Torodi Ar. Bea**	**164.47**	**277**	PKP		PKPdf	11 59 36.6	+0.6
	comp=Z,2.4nm,1.0s,baz=18,slow=1.6,SNR=8.7							
TORD				PKPab		PKPab	12 00 32.2	+1.2
	comp=Z,0.8nm,0.9s,baz=74,slow=6.2,SNR=2.9							

CSEM 31 12:12:47.4±0.6, 4285N×627W, h0km, mb4.0/1, Error ellipse: s-maj=6.5km s-min=4.0km az=146.0, After MDD, Spain

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ERUA	**La Rua**	**0.79**	**235**	Pg		Pg	12 13 01.2	-1.4
	6.5nm,1.1s,SNR=7.9							
ERUA				Lg			12 13 13.8	
	20nm,0.2s,SNR=12							
EPON	**Pontenova**	**0.80**	**307**	Pg		Pg	12 13 01.0	-1.7
	5.5nm,0.3s,SNR=8.2							
EPON				Lg			12 13 15.0	
	6.9nm,0.4s,SNR=4.6							
EARI	**Arriondas**	**0.90**	**60**	Pg		Pg	12 13 04.2	-0.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAWK	**Haweek**	**0.27**	**302**	⇑P	**Pb**	**12 28 31.0**	**-0.9**
HAWK				⇑S	**Sb**	**12 28 35.2**	**-0.9**
HAWK	**Haweek**	**0.27**	**302**	⇑*i*P	**Pb**	**12 28 31.0**	**-1.0**
FKH	**Fakeheh**	**0.27**	**238**	*e*Pg	**Pb**	**12 28 30.9**	**-1.1**
FKH				*e*Sg	**Sb**	**12 28 36.4**	**+0.1**
MARH	**Ras Al Marh**	**0.39**	**205**	⇑P	**Pb**	**12 28 32.2**	**-1.8**
MARH				⇑S	**Sb**	**12 28 38.1**	**-1.4**
MARH	**Ras Al Marh**	**0.39**	**205**	⇑*i*P	**Pb**	**12 28 32.2**	**-1.8**
ROOS	**tl_alroos**	**0.55**	**112**	⇑P	**Pb**	**12 28 36.8**	**+0.1**
ROOS				⇑S	**Sb**	**12 28 46.5**	**+2.4**
ROOS	**tl_alroos**	**0.55**	**112**	⇑*i*P	**Pb**	**12 28 36.8**	**+0.1**
ROOS				⇑*i*S	**Sb**	**12 28 46.5**	**+2.4**
BHL	**Bhannes**	**0.97**	**241**	*e*Pg	**Pb**	**12 28 44.7**	**+0.8**
BHL				*e*Sg	**Sb**	**12 28 59.3**	**+3.0**
WRDH	**Warideh**	**1.15**	**349**	⇑P	**Pn**	**12 28 46.4**	**-0.2**
WRDH				⇑S	**Sb**	**12 29 02.0**	**+0.7**
WRDH	**Warideh**	**1.15**	**349**	⇑*i*P	**Pn**	**12 28 46.4**	**-0.2**
WRDH				⇑*i*S	**Sb**	**12 29 02.0**	**+0.7**
SLNF	**Slenfeh**	**1.27**	**343**	⇑P	**Pn**	**12 28 47.0**	**-1.2**
SLNF				⇑S	**Sn**	**12 29 04.6**	**-0.1**
SLNF	**Slenfeh**	**1.27**	**343**	⇑*i*P	**Pn**	**12 28 47.0**	**-1.3**
SLNF				⇑*i*S	**Sn**	**12 29 04.6**	**-0.1**
BTCH	**Batrach**	**1.66**	**354**	⇑P	**Pn**	**12 28 52.8**	**-0.9**
BTCH	**Batrach**	**1.66**	**354**	⇑*i*P	**Pn**	**12 28 52.8**	**-0.9**

SZGRF ***31*** *12:37:50.6, 1763S×17683W, h33km, Fiji Islands region*
ISCJB ***31*** *12:38:19.2± 1.1, 1790S±006×17865W±006, h515km± 13km, mb4.3/53, Error ellipse: s-maj=10.9km s-min=6.9km az=90.2*
MOS ***31*** *12:38:20.9± 1.1, 1726S×17883W, h509km, mb4.3/22, Error ellipse: s-maj=13.6km s-min=8.9km az=45.5*
NEIC ***31*** *12:38:21.1±0.7, 1785S×17863W, h524km±8km, mb4.3/38, Error ellipse: s-maj=9.7km s-min=4.6km az=146.0*
IDC ***31*** *12:38:21.5± 1.5, 1791S×17864W, h536km± 18km, mb3.9/14, mb1 4.1/16, mb1mx4.0/20, mbtmp4.9/16, Error ellipse: s-maj=15.3km s-min=10.3km az=139.0*
BJI ***31*** *12:38:21.0, 1780S×17860W, h524km, mB4.4, mb4.5*
ISC 31 12:38:21.2±1.0, 1792S±006×17861W±006, h527km±12km, n209, σ0§99/126, mb4.3/53, 21C-10D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.69**	**60**	P	**P**	**12 40 14.4**	**-0.7**
	7.0nm,0.3s,baz=228,slow=16,SNR=15						
DZM	**Mont Dzumac**	**14.64**	**251**	P	**P**	**12 41 28.2**	**+1.1**
	4.3nm,0.3s,baz=69,slow=18,SNR=27						
WCZ	**Waipu Caves**	**19.00**	**198**	PN	**P**	**12 42 12.9**	**+3.7**
URZ	**Urewera**	**20.61**	**190**	P	**P**	**12 42 22.5**	**-1.3**
	32nm,0.6s,baz=48,slow=1.4,SNR=23						
NNZ	**Nelson**	**24.22**	**195**	PN	**P**	**12 42 54.9**	**-1.3**
THZ	**Tophouse**	**24.85**	**195**	PN	**P**	**12 42 59.1**	**-2.6**
KHZ	**Kahutara**	**25.32**	**194**	PN	**P**	**12 43 05.0**	**-0.8**
LTZ	**Lake Taylor**	**25.97**	**195**	PN	**P**	**12 43 10.7**	**-0.9**
RPZ	**Rata Peaks**	**27.16**	**197**	P	**P**	**12 43 20.8**	**-1.2**
	9.9nm,0.6s,mb4.6,baz=244,slow=2.6,SNR=10						
LBZ	**Lake Benmore**	**28.02**	**197**	PN	**P**	**12 43 28.7**	**-0.9**
JCZ	**Jackson Bay**	**28.16**	**200**	PN	**P**	**12 43 30.6**	**-0.3**
ARMA	**Armidale**	**29.77**	**240**	*e*P	**P**	**12 43 47.0**	**+2.2**
CTA	**Charters Tower**	**33.26**	**261**	*e*P	**P**	**12 44 15.3**	**+0.7**
	6.4nm,0.8s,mb4.2						
CTA	**Charters Tower**	**33.26**	**261**	P	**P**	**12 44 14.3**	**-0.3**
	7.3nm,0.6s,mb4.4,baz=94,slow=12,SNR=7.0						
CTA	**Charters Tower**	**33.26**	**261**	*e*P	**P**	**12 44 15.3**	**+0.7**
CTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CTAO	**Charters Tower**	**33.26**	**261**	*e*P	**P**	**12 44 15.2**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.4						
CTAO	**Charters Tower**	**33.26**	**261**	*e*P	**P**	**12 44 15.2**	**+0.6**
	comp=Z,12nm,1.0s,mb4.4						
CNB	**Canberra Magne**	**33.27**	**232**	*e*P	**P**	**12 44 16.6**	**+1.9**
	comp=Z,49nm,0.6s,mb5.2						
TOO	**Toolangi**	**37.01**	**231**	*e*P	**P**	**12 44 47.6**	**+1.7**
	comp=Z,32nm,0.5s,mb5.1						
TOO	**Toolangi**	**37.01**	**231**	*e*P	**P**	**12 44 47.6**	**+1.7**
TOO				pmax	pmax		
	comp=Z,32nm,0.5s,mb5.1						
TAU	**Tasmania Unive**	**38.10**	**222**	*e*P	**P**	**12 44 55.3**	**+0.5**
TAU				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.5						
TAU	**Tasmania Unive**	**38.10**	**222**	*e*P	**P**	**12 44 55.3**	**+0.5**
	comp=Z,10nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**36.46**	**241**	⇓*i*P	**P**	**12 44 57.5**	**-0.2**
	comp=Z,16nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**38.46**	**241**	P	**P**	**12 44 57.5**	**-0.2**
	comp=Z,18nm,0.5s,mb4.9,baz=89,slow=9.7,SNR=81						
WB2	**Warramunga Arr**	**44.43**	**260**	*e*P	**P**	**12 45 45.0**	**0.0**
WRAB	**Tennant Creek**	**44.43**	**260**	*e*P	**P**	**12 45 45.4**	**+0.4**
WRAB	**Tennant Creek**	**44.43**	**260**	*e*P	**P**	**12 45 45.0**	**0.0**
	comp=Z,8.0nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**44.44**	**260**	P	**P**	**12 45 45.2**	**+0.1**
	comp=Z,5.1nm,0.5s,mb4.3,baz=97,slow=6.9,SNR=208						
WRA				S	**S**	**12 51 38.2**	**-3.3**
	comp=Z,0.7nm,0.7s,baz=96,slow=13,SNR=3.9						
ASAR	**Alice Springs**	**44.60**	**254**	P	**P**	**12 45 47.3**	**+1.0**
	comp=Z,74nm,0.6s,baz=89,slow=8.2,SNR=803						
ASAR				S	**S**	**12 51 39.6**	**-4.1**
	comp=Z,2.9nm,0.9s,baz=91,slow=16,SNR=15						
GUMO	**Guam**	**47.73**	**309**	P	**P**	**12 46 10.7**	**+0.6**
	comp=Z,32nm,0.6s,mb5.0,baz=186,slow=15,SNR=4.6						
FORT	**Forrest**	**49.83**	**245**	*e*P	**P**	**12 46 26.0**	**+0.4**
	comp=Z,45nm,0.6s,mb5.1						
FITZ	**Fitzroy Crossi**	**52.84**	**261**	*e*P	**P**	**12 46 48.5**	**+1.1**
	comp=Z,3.0nm,0.8s,mb3.7						
KLBR	**Kellerberrin**	**58.65**	**244**	*e*P	**P**	**12 47 27.6**	**-0.1**
	comp=Z,10nm,0.6s,mb4.2						
VNDA	**Vanda**	**60.42**	**185**	P	**P**	**12 47 40.3**	**+0.8**
	comp=Z,0.9nm,0.5s,mb3.4,baz=355,slow=6.5,SNR=3.9						
CASY	**Casey**	**66.05**	**205**	*e*P	**P**	**12 48 15.6**	**0.0**
MJAR	**Matsushiro Arr**	**67.80**	**323**	P	**P**	**12 48 25.9**	**-0.5**
	comp=Z,10nm,0.7s,mb4.5,baz=158,slow=6.2,SNR=28						
MAJO	**Matsushiro**	**67.80**	**323**	*e*P	**P**	**12 48 26.0**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.6						
MAJO	**Matsushiro**	**67.80**	**323**	*e*P	**P**	**12 48 25.9**	**-0.5**
	comp=Z,9.2nm,0.5s,mb4.6						
MAT	**Matsushiro**	**67.80**	**323**	P	**P**	**12 48 26.0**	**-0.5**
MAT	**Matsushiro**	**67.80**	**323**	*e*P	**P**	**12 48 26.0**	**-0.5**
MAT				pmax	pmax		
	comp=Z,16nm,0.7s,mb4.7						
MAT	**Matsushiro**	**67.80**	**323**	*e*P	**P**	**12 48 26.0**	**-0.5**
	comp=Z,16nm,0.7s,mb4.7						
YSS	**Yuzh-Sakhalins**	**73.34**	**333**	*e*P	**P**	**12 48 58.4**	**-0.8**
YSS				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.2						
MWC	**Mount Wilson**	**77.49**	**48**	*e*P	**P**	**12 49 22.7**	**+0.4**
KHMM	**Horse Mountain**	**77.53**	**39**	*e*P	**P**	**12 49 23.3**	**+0.9**
NJ2	**Nanjing**	**77.80**	**310**	*e*P	**P**	**12 49 25.5**	**+1.6**
NJ2				AMB	AMB		
	comp=Z,60nm,1.1s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,60nm,6.6s						
HABR	**Khabarovsk**	**77.93**	**331**	*e*P	**P**	**12 49 25.0**	**+0.4**
ISA	**Isabella**	**77.96**	**46**	*e*P	**P**	**12 49 25.6**	**+0.8**
ISA				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.0						
ISA	**Isabella**	**77.96**	**46**	*e*P	**P**	**12 49 25.6**	**+0.8**
	comp=Z,8.9nm,1.0s,mb4.0						
CMB	**Columbia Colle**	**77.98**	**43**	*e*P	**P**	**12 49 25.2**	**+0.3**
CMB				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.0						
CMB	**Columbia Colle**	**77.98**	**43**	*e*P	**P**	**12 49 25.2**	**+0.3**
	comp=Z,7.1nm,0.9s,mb4.0						
WDC	**Whiskeytown Da**	**78.08**	**40**	*e*P	**P**	**12 49 25.3**	**-0.1**
MDJ	**Mudanjiang**	**78.08**	**325**	P	**P**	**12 49 26.0**	**+0.5**
MDJ				AMB	AMB		
	comp=Z,15nm,0.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,70nm,6.2s						
YBH	**Yreka Blue Hor**	**78.65**	**39**	*e*P	**P**	**12 49 29.6**	**+1.1**
YBH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
YBH	**Yreka Blue Hor**	**78.65**	**39**	*e*P	**P**	**12 49 29.6**	**+1.1**
	comp=Z,5.9nm,0.8s,mb4.0						
WAKR	**Walker**	**78.86**	**43**	*e*P	**P**	**12 49 30.1**	**+0.5**
HUMO	**Hull Mountain**	**79.03**	**38**	*e*P	**P**	**12 49 31.0**	**+0.5**
	comp=Z,5.7nm,1.0s,mb3.9						
GLA	**Glamis**	**79.21**	**50**	*e*P	**P**	**12 49 33.0**	**+1.5**
PAHR	**Pah Rah Range**	**79.56**	**42**	*e*P	**P**	**12 49 33.7**	**+0.4**
	comp=Z,7.8nm,0.9s,mb4.0						
NVAR	**Mina Array Bea**	**79.56**	**44**	P	**P**	**12 49 33.9**	**+0.5**
	comp=Z,4.5nm,0.8s,mb3.9,baz=216,slow=7.3,SNR=38						
MNV	**Mina**	**79.67**	**44**	*e*P	**P**	**12 49 34.3**	**+0.4**
MNV				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.0						
MNV	**Mina**	**79.67**	**44**	*e*P	**P**	**12 49 34.3**	**+0.4**
	comp=Z,8.7nm,1.2s,mb4.0						
CN2	**Changchun**	**79.91**	**322**	*e*P	**P**	**12 49 35.5**	**+0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.1						
TPNV	**Topopah Spring**	**80.17**	**46**	*e*P	**P**	**12 49 37.1**	**+0.6**
TPNV				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.0						
TPNV	**Topopah Spring**	**80.17**	**46**	*e*P	**P**	**12 49 37.1**	**+0.6**
	comp=Z,9.7nm,1.3s,mb4.0						
MOD	**Modoc**	**80.22**	**40**	*e*P	**P**	**12 49 37.3**	**+0.5**
MA2	**Magadan**	**81.16**	**345**	*e*P	**P**	**12 49 39.7**	**-1.9**
MA2				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.1						
MA2	**Magadan**	**81.16**	**345**	*e*P	**P**	**12 49 39.7**	**-1.9**
	comp=Z,5.1nm,0.6s,mb4.1						
WVOR	**Wild Horse Val**	**81.54**	**40**	*e*P	**P**	**12 49 43.6**	**0.0**
WVOR				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.3						
WVOR	**Wild Horse Val**	**81.54**	**40**	*e*P	**P**	**12 49 43.6**	**0.0**
	comp=Z,11nm,0.9s,mb4.3						
GAMB	**Gambell**	**81.61**	**3**	*e*P	**P**	**12 49 43.4**	**-0.6**
TUC	**Tucson**	**81.86**	**52**	*e*P	**P**	**12 49 46.7**	**+1.5**
TUC				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb3.9						
TUC	**Tucson**	**81.86**	**52**	*e*P	**P**	**12 49 46.7**	**+1.4**
	comp=Z,5.2nm,1.0s,mb3.9						
GNW	**Green Mountain**	**82.09**	**34**	*e*P	**P**	**12 49 46.6**	**+0.2**
CCUT	**Cedar City**	**82.46**	**47**	*e*P	PcP	12 49 58.7	+6.8
TAT	**Tatalina**	**82.52**	**10**	*e*P	**P**	**12 49 47.1**	**-1.5**
ARUT	**Antelope Range**	**82.52**	**46**	*e*P	**P**	**12 49 49.4**	**+0.8**
ARUT				*e*		12 50 07.5	
PMR	**Palmer**	**82.66**	**14**	*e*P	**P**	**12 49 47.6**	**-1.7**
ELK	**Elko**	**82.80**	**43**	*e*P	**P**	**12 49 50.2**	**+0.2**
ELK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ELK	**Elko**	**82.80**	**43**	*e*P	**P**	**12 49 50.2**	**+0.2**
	comp=Z,6.9nm,1.0s,mb4.1						
BMO	**Blue Mountains**	**83.67**	**39**	*e*P	**P**	**12 49 54.3**	**-0.1**
BMO				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.9						
BMO	**Blue Mountains**	**83.67**	**39**	*e*P	**P**	**12 49 54.3**	**-0.1**
	comp=Z,2.9nm,0.7s,mb3.9						
MSU	**Marysvale**	**83.74**	**46**	*e*P	**P**	**12 49 55.2**	**+0.5**
MAW	**Mawson**	**83.78**	**200**	P	**P**	**12 49 55.1**	**+0.2**
	comp=Z,2.9nm,0.7s,mb3.9,baz=122,slow=13,SNR=3.0						
SRU	**San Rafael**	**85.16**	**46**	*e*P	**P**	**12 50 02.4**	**+0.7**
MNTX	**Cornudas Mount**	**85.74**	**55**	*e*P	**P**	**12 50 05.6**	**+1.2**
COLA	**College**	**85.83**	**13**	⇑*i*P	**P**	**12 50 02.5**	**-2.4**
COLA	**College**	**85.83**	**13**	*e*P	**P**	**12 50 02.5**	**-2.3**
	comp=Z,4.3nm,0.6s,mb4.3						
PV10	**Paradox Valley**	**85.86**	**48**	*e*P	**P**	**12 50 05.3**	**+0.3**
DLBC	**Dease Lake**	**85.92**	**23**	*e*P	**P**	**12 50 04.4**	**-0.9**
ILAR	**Eielson Array**	**85.94**	**13**	P	**P**	**12 50 03.2**	**-2.2**
	comp=Z,3.0nm,0.5s,mb4.2,baz=226,slow=5.0,SNR=58						
PV01	**Paradox Valley**	**86.09**	**48**	*e*P	**P**	**12 50 06.4**	**+0.3**
LTX	**Lajitas**	**86.16**	**58**	*e*P	**P**	**12 50 07.7**	**+1.2**
LTX				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.3						
LTX	**Lajitas**	**86.16**	**58**	*e*P	**P**	**12 50 07.7**	**+1.3**
	comp=Z,6.0nm,0.7s,mb4.3						
ANMO	**Albuquerque**	**86.25**	**52**	⇓*i*P	**P**	**12 50 05.3**	**-1.6**
ANMO	**Albuquerque**	**86.25**	**52**	*e*P	**P**	**12 50 07.0**	**+0.1**
	comp=Z,1.0nm,0.5s,mb3.7						
MCMT	**McKenzie Canyo**	**86.37**	**41**	*e*P	**P**	**12 50 08.0**	**+0.5**
BILL	**Bilibino**	**86.42**	**354**	⇓*i*P	**P**	**12 50 05.3**	**-2.4**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.2						
BILL	**Bilibino**	**86.42**	**354**	*e*P	**P**	**12 50 06.8**	**-0.9**
	comp=Z,5.0nm,0.8s,mb4.2						
BSMT	**Bassoo Peak**	**86.74**	**37**	*e*P	**P**	**12 50 09.0**	**-0.2**
DLMT	**Dillon**	**86.79**	**40**	*e*P	**P**	**12 50 10.1**	**+0.7**
	comp=Z,6.7nm,0.8s,mb4.3						
REDW	**Red Top Meadow**	**86.93**	**43**	*e*P	**P**	**12 50 08.9**	**-1.2**
	comp=Z,13nm,1.1s,mb4.5						
DAWY	**Dawson**	**87.15**	**16**	*e*P	**P**	**12 50 10.2**	**-0.9**
CHMT	**Chamberlain Mo**	**87.16**	**39**	*e*P	**P**	**12 50 10.7**	**-0.5**
MOOW	**Moose Ponds**	**87.18**	**42**	*e*P	**P**	**12 50 11.4**	**+0.2**
	comp=Z,1.9nm,0.8s,mb3.8						
LOHW	**Long Hollow**	**87.20**	**42**	*e*P	**P**	**12 50 11.6**	**+0.3**
	comp=Z,2.2nm,0.6s,mb4.0						
QLMT	**Earthquake Lak**	**87.26**	**41**	*e*P	**P**	**12 50 12.6**	**+1.0**
FLWY	**Flagg Ranch**	**87.36**	**42**	*e*P	**P**	**12 50 13.1**	**+1.0**
	comp=Z,5.8nm,0.6s,mb4.4						
BW06	**Boulder Array**	**87.49**	**44**	*e*P	**P**	**12 50 12.7**	**-0.1**
	comp=Z,4.3nm,0.7s,mb4.2						
PDAR	**Pinedale Array**	**87.49**	**44**	P	**P**	**12 50 12.6**	**-0.2**
	comp=Z,3.1nm,0.6s,mb4.1,baz=220,slow=3.4,SNR=35						
BOZ	**Bozeman (W)**	**87.52**	**40**	*e*P	**P**	**12 50 13.2**	**+0.3**
BOZ				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.2						
BOZ	**Bozeman (W)**	**87.52**	**40**	*e*P	**P**	**12 50 13.2**	**+0.4**
	comp=Z,7.4nm,1.5s,mb4.2						
SMCO	**Snowmass**	**87.67**	**48**	*e*P	**P**	**12 50 14.4**	**+0.9**
RWWY	**Rawlins**	**88.58**	**45**	*e*P	**P**	**12 50 17.6**	**-0.1**
	comp=Z,6.0nm,1.0s,mb4.4						
YAK	**Yakutsk**	**89.52**	**338**	*e*P	**P**	**12 50 19.9**	**-2.2**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
SNAA	**Sanae**	**90.59**	**179**	*e*P	**P**	**12 50 28.7**	**+1.6**
VNA3	**Neumayer Olymp**	**90.74**	**176**	⇑*i*P	**P**	**12 50 27.5**	**-0.3**
VNA2	**Neumayer--Watz**	**91.18**	**177**	⇑*i*P	**P**	**12 50 28.9**	**-0.9**
	baz=200,slow=5.2						
VNA1	**Neumayer--Stat**	**91.41**	**177**	⇑*i*P	**P**	**12 50 30.5**	**-0.4**
RSSD	**Black Hills**	**91.71**	**44**	*e*P	**P**	**12 50 32.3**	**0.0**
RSSD				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
RSSD	**Black Hills**	**91.71**	**44**	*e*P	**P**	**12 50 32.3**	**+0.1**
	comp=Z,3.7nm,0.8s,mb4.5						
INK	**Inuvik**	**91.95**	**15**	*e*P	**P**	**12 50 31.5**	**-1.9**
INK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
INK	**Inuvik**	**91.95**	**15**	*e*P	**P**	**12 50 31.5**	**-1.9**
	comp=Z,4.6nm,0.8s,mb4.6						
ULN	**Ulaanbaatar**	**93.04**	**320**	*e*P	**P**	**12 50 38.2**	**-0.2**
YKA	**Yellowknife Ar**	**94.42**	**25**	P	**P**	**12 50 43.1**	**-1.6**
	comp=Z,1.5nm,0.8s,mb4.2,baz=247,slow=5.0,SNR=9.0						
TIXI	**Tiksi**	**96.12**	**345**	*e*P	**P**	**12 50 49.8**	**-2.5**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.4						
MKAR	**Makanchi Array**	**109.00**	**314**	PKiKP	PKiKP	12 55 49.2	-1.6
	comp=Z,0.8nm,0.5s,baz=213,slow=1.0,SNR=14						
ARU	**Arti**	**122.75**	**326**	*i* PKIKP	PKPdf	12 56 15.6	-1.5
ARU	**Arti**	**122.75**	**326**	*e*PKPdf	PKPdf	12 56 15.5	-1.6
ARCES	**ARCESS Array B**	**126.29**	**350**	PKP	PKPdf	12 56 22.2	-1.6
	comp=Z,2.3nm,0.6s,baz=27,slow=0.9,SNR=11						
BOSA	**Boshof**	**128.30**	**207**	PKP	PKPdf	12 56 28.8	+1.1
	comp=Z,1.1nm,0.6s,baz=66,slow=9.1,SNR=3.2						
FINES	**FINESS Array B**	**133.15**	**344**	PKP	PKPdf	12 56 35.5	-1.4
	comp=Z,1.0nm,0.5s,baz=77,slow=4.1,SNR=3.8						
NOA	**NORSAR Array B**	**136.36**	**353**	PKP	PKPdf	12 56 41.9	-1.0
	comp=Z,0.9nm,0.7s,baz=13,slow=4.1,SNR=3.4						
SOC	**Sochi**	**138.84**	**317**	*e*PKHKP		12 56 38.3	
SOC				pmax	pmax		
	comp=Z,11nm,0.2s						
AKASG	**Malin Array Be**	**140.48**	**332**	PKhKP		12 56 42.1	
	comp=Z,0.7nm,0.3s,baz=44,slow=4.1,SNR=6.6						
AKASG				PKP	PKPdf	12 56 50.4	0.0
	comp=Z,1.2nm,0.4s,baz=49,slow=2.8,SNR=4.7						
KWP	**Kalwaria**	**144.00**	**336**	*e*PKP	PKPdf	12 56 55.5	-1.1
BURAR	**Bucovina Array**	**144.53**	**332**	⇓*i*P	PKPdf	12 56 58.2	+0.7
OJC	**Ojcow**	**144.56**	**340**	*e*PKP	PKPdf	12 56 57.0	-0.5
BRTR	**Keskin Array B**	**144.65**	**315**	PKP	PKPdf	12 56 56.8	-0.9
	comp=Z,4.0nm,0.5s,baz=133,slow=3.8,SNR=26						
STHS	**Stebnicka Huta**	**144.73**	**337**	*e*PKP	PKPdf	12 56 57.9	+0.1
STHS				*e*PP	PP	13 00 16.6	-4.8
KSP	**Ksiaz**	**145.07**	**343**	*e*PKP	PKPdf	12 56 59.4	+1.0
VRI	**Vrincioaia**	**145.09**	**328**	⇓*i*P	PKPdf	12 56 58.5	0.0
PLOR	**Plostina**	**145.14**	**329**	⇑*i*P	PKPdf	12 56 59.3	+0.8
ANTO	**Ankara**	**145.15**	**315**	*e*PKIKP	PKPdf	12 56 59.3	+0.7
IBBN	**Ibbenburen**	**145.32**	**353**	*e*PKPbc	PKPbc	12 56 58.8	-1.2
CLZ	**Clausthal**	**145.41**	**350**	*e*PKPbc	PKPbc	12 56 59.7	-0.5
OKC	**Ostrava-Krasne**	**145.42**	**341**	⇑*e*PKPB	PKPbc	12 56 59.8	-0.4
CLL	**Collm**	**145.43**	**347**	*e*PKPbc	PKPbc	12 56 59.6	-0.7
CLL	**Collm**	**145.43**	**347**	⇑*i*PKPbc	PKPbc	12 56 59.6	-0.6
	comp=Z,25nm,1.0s						
CLL	**Collm**	**145.43**	**347**	⇑*i*PKIKP	PKPdf	12 56 59.7	+0.7
CLL				pmax	pmax		
	comp=Z,25nm,1.0s						
UPC	**Upice**	**145.45**	**343**	⇑*e*PKPB	PKPbc	12 56 59.8	-0.5
DPC	**Dobruska-Polom**	**145.50**	**343**	⇑*e*PKPB	PKPbc	12 57 00.4	-0.1
DPC				*e*PKPAB	PKPab	12 57 02.0	+0.2
BRG	**Berggiesshubel**	**145.63**	**346**	*e*PKP	PKPdf	12 57 00.7	+1.3
	comp=Z,14nm,1.3s						
BRG	**Berggiesshubel**	**145.63**	**346**	*e*PKIKP	PKPdf	12 57 00.6	+1.2
BRG				pmax	pmax		
	comp=Z,14nm,1.3s						
MORC	**Moravsky Berou**	**145.66**	**341**	⇑*i*P	PKPdf	12 57 00.6	+1.2
MLR	**Muntele Rosu**	**145.74**	**329**	⇓*i*P	PKPdf	12 57 00.6	+1.0
GTTG	**Gyttingen**	**145.77**	**350**	*e*PKPbc	PKPbc	12 57 00.4	-0.8
KECS	**Kecovo**	**145.78**	**337**	*e*PKP	PKPdf	12 57 00.6	+1.0
KECS				*e*PP	PP	13 00 22.9	-4.7
PVCC	**Panska Ves**	**145.80**	**345**	⇑*e*PKPB	PKPbc	12 57 00.8	-0.5
PRU	**Pruhonice**	**146.31**	**345**	⇑*e*PKPB	PKPbc	12 57 02.4	-0.4
PRU				*e*PKPAB	PKPab	12 57 04.7	-0.3
MOX	**Moxa**	**146.34**	**348**	*e*PKPbc	PKPbc	12 57 01.8	-1.1
MOX	**Moxa**	**146.34**	**348**	*e*PKP	PKPdf	12 57 01.9	+1.3
WERD	**Werda**	**146.39**	**347**	*e*PKPbc	PKPbc	12 57 02.4	-0.6
NKC	**Novy Kostel**	**146.56**	**347**	⇑*e*PKPB	PKPbc	12 57 02.9	-0.6
NKC				*e*PKPAB	PKPab	12 57 06.2	+0.2
SMOL	**Smolenice**	**146.81**	**340**	*e*PKP	PKPbc	12 57 04.5	+0.4
ROTZ	**Rotzenmuhle**	**147.06**	**347**	*e*PKPbc	PKPbc	12 57 04.4	-0.4
TNS	**Taunus Mts**	**147.28**	**352**	*e*PKPbc	PKPbc	12 57 04.8	-0.6
GRF	**Grafenberg Arr**	**147.33**	**348**	*e*PKPbc	PKPbc	12 57 03.8	-1.7
KHC	**Kasperske Hory**	**147.34**	**345**	⇑*e*PKPB	PKPbc	12 57 05.0	-0.5
KHC				*e*PKPAB	PKPab	12 57 08.6	-0.6
GEC2	**GERESS Array S**	**147.57**	**345**	*e*PKPbc	PKPbc	12 57 05.5	-0.6
GERES	**GERESS Array B**	**147.57**	**345**	PKPbc	PKPbc	12 57 05.7	-0.4
	comp=Z,8.8nm,0.6s,baz=20,slow=2.9,SNR=31						
BZS	**Buzias**	**147.66**	**333**	⇓*i*P	PKPbc	12 57 05.3	-1.0
BZS	**Buzias**	**147.66**	**333**	⇓PKIKP	PKPbc	12 57 05.4	-0.9
GIVF	**Givet**	**147.78**	**356**	*e*PKP1	PKPbc	12 57 06.0	-0.6
	comp=Z,25nm,0.7s						
BAIF	**Baives**	**147.86**	**357**	*e*PKP1	PKPbc	12 57 06.4	-0.5
	comp=Z,15nm,0.5s						
WLF	**Walferdange**	**148.10**	**354**	*e*PKPbc	PKPbc	12 57 07.0	-0.5
PKSM	**Moragy**	**148.37**	**337**	⇓*i*P	PKP

TTG	**Podgorica**	**2.49**	**98**	⇑*i*Pn	**Pn**	**12 49 16.7**	**-0.3**
TTG				*e*Sn	**Sn**	**12 49 48.5**	**+1.1**
PLE	**Pljevlja**	**2.59**	**78**	⇑*i*Pn	**Pn**	**12 49 17.5**	**-0.9**
PLE				*e*Sn	**Sn**	**12 49 49.6**	**-0.3**
ULC	**Ulcinj**	**2.60**	**108**	⇑*i*Pn	**Pn**	**12 49 17.9**	**-0.7**
ULC				*e*Sn	**Sn**	**12 49 51.8**	**+1.6**
BOJS	**Bojanci**	**2.73**	**350**	*i* Pn	**Pn**	**12 49 19.9**	**-0.3**
IVA	**Berane**	**2.92**	**88**	⇑*i*Pn	**Pn**	**12 49 22.1**	**-0.8**
IVA				*e*Sn	**Sn**	**12 49 57.7**	**-0.3**
PVY	**Plav**	**2.99**	**93**	⇓*i*Pn	**Pn**	**12 49 23.4**	**-0.5**
PVY				*e*Sn	**Sn**	**12 49 59.7**	**0.0**
CRE	**Caprese Michel**	**3.02**	**287**	Pg	**Pn**	**12 49 25.6**	**+1.4**
SFI	**Santa Sofia**	**3.17**	**291**	Pg	**Pn**	**12 49 29.7**	**+3.4**
GOLS	**Golise**	**3.20**	**356**	*i* Pn	**Pn**	**12 49 26.0**	**-0.7**
VOY	**Vojsko**	**3.52**	**336**	*e*Pn	**Pn**	**12 49 30.8**	**-0.4**
VOY				*e*Sn	**Sn**	**12 50 13.4**	**+0.4**
VOY				*e*		12 50 32.8	
VOY	**Vojsko**	**3.52**	**336**	*e*Pn	**Pn**	**12 49 30.8**	**-0.4**
VOY				*e*Sn	**Sn**	**12 50 13.4**	**+0.4**
OBKA	**Obir**	**3.82**	**346**	⇓*i*Sn	**Sn**	**12 50 22.5**	**+2.3**
OBKA	**Obir**	**3.82**	**346**	⇑*i*Pn	**Pn**	**12 49 35.5**	**+0.3**
OBKA				⇓*i*Sn	**Sn**	**12 50 22.5**	**+2.3**
PTCC	**Patocco-Chiusa**	**4.03**	**334**	Pg	**Pn**	**12 49 37.9**	**-0.2**
KBA	**Koelnbreinsper**	**4.63**	**338**	⇓*i*Pn	**Pn**	**12 49 46.5**	**0.0**
KBA				⇑*i*Sn	**Sn**	**12 50 42.8**	**+2.4**
MOA	**Molln**	**5.16**	**347**	⇑*i*Sn	**Sn**	**12 50 54.0**	**+0.6**
MOA	**Molln**	**5.16**	**347**	⇑*i*Pn	**Pn**	**12 49 53.2**	**-0.6**
MOA				⇑*i*Sn	**Sn**	**12 50 54.0**	**+0.6**

IDC 31 12:50:25.5±2.2, 333N×12787E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.4/18, mbtmp3.4/3, Error ellipse: s-maj=164.7km s-min=24.2km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.98**	**165**	P	P	12 55 40.7	-1.0
	0.3nm,0.5s,baz=344,slow=10,SNR=8.9						
ASAR	**Alice Springs**	**27.47**	**168**	P	P	12 56 14.6	+1.3
	0.3nm,0.9s,baz=342,slow=11,SNR=3.2						
MKAR	**Makanchi Array**	**58.53**	**325**	P	P	13 00 23.9	+0.2
	0.7nm,0.5s,baz=114,slow=7.9,SNR=11						

*PDG **31** 12:51:25.3±1.1, 4301N×1608E, h5km±1km*
*NEIC **31** 12:51:26.7, 4291N×1604E, h10km, MD3.3(PDG), ML3.4(ROM), ML3.5(LDG), After ROM.*
*ISCJB **31** 12:51:26.6±0.2, 4290N±002×1596E±002, h10km, Error ellipse: s-maj=2.8km s-min=2.2km az=15.6*
*ROM **31** 12:51:26.7±0.7, 4291N×1604E, h10km, Ml3.4/24, Error ellipse: s-maj=12.7km s-min=3.3km az=117.0*
*CSEM **31** 12:51:28.9±0.1, 4290N×1589E, h30km, ML3.7/7, Error ellipse: s-maj=2.6km s-min=1.2km az=29.0*
*LDG **31** 12:51:29.3±0.1, 4310N×1597E, h10km, Ml3.5/7, Error ellipse: s-maj=5.6km s-min=2.8km az=13.0*

ISC 31 12:51:27.5±0.2, 4286N±002×1595E±002, h10km, n85, σ1°35/122, 12C-8D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGRT	**San Giovanni R**	**1.12**	**188**	Pg	**Pn**	**12 51 47.4**	**-1.8**
SGRT				Sg	**Sn**	**12 52 04.8**	**+0.2**
MSAG	**Monte S. Angel**	**1.15**	**182**	Pg	**Pn**	**12 51 48.5**	**-1.1**
MSAG				Sg	**Sn**	**12 52 05.4**	**0.0**
	2µm,0.7s						
FGMS	**Monte Sant'Ang**	**1.16**	**180**	Pg	**Pn**	**12 51 48.4**	**-1.3**
FG2	**Serracapriola**	**1.21**	**209**	Pg	**Pn**	**12 51 49.3**	**-1.1**
	546nm,0.3s						
RGNG	**Rignano Grg**	**1.22**	**193**	Pg	**Pn**	**12 51 49.5**	**-1.1**
STON	**Ston**	**1.28**	**89**	*i* Pg	**Pn**	**12 51 48.2**	**-3.3**
STON				*i* Sg	**Sn**	**12 52 05.6**	**-3.1**
STON	**Ston**	**1.28**	**89**	*i* Pg	**Pn**	**12 51 48.1**	**-3.4**
STON				*i* Sg	**Sn**	**12 52 05.5**	**-3.2**
TRIV	**Trivento**	**1.51**	**224**	Pg	**Pn**	**12 51 55.6**	**+1.0**
	569nm,0.6s						
BSSO	**Busso**	**1.66**	**218**	Pg	**Pn**	**12 51 58.2**	**+1.6**
	482nm,1.0s						
FG5	**Orsara di Pugl**	**1.66**	**198**	Pg	**Pn**	**12 51 58.1**	**+1.5**
	571nm,0.8s						
INTR	**Introdacqua**	**1.74**	**241**	Pg	**Pn**	**12 51 57.6**	**-0.1**
	581nm,0.6s						
TERO	**Teramo**	**1.75**	**263**	Pg	**Pn**	**12 51 58.1**	**+0.3**
	250nm,0.7s						
MIDA	**Miranda**	**1.75**	**226**	Pg	**Pn**	**12 51 58.7**	**+0.8**
	334nm,0.5s						
RNI2	**Rionero Sannit**	**1.77**	**230**	Pg	**Pn**	**12 52 01.1**	**+3.0**
	295nm,0.5s						
TREB	**Trebinje**	**1.77**	**94**	P	**Pn**	**12 51 56.4**	**-1.8**
TREB				S	**Sn**	**12 52 20.5**	**-0.2**
SGTA	**Sant Agata di**	**1.78**	**194**	Pg	**Pn**	**12 52 01.2**	**+2.9**
	483nm,0.8s						
CDT	**Castel del Mon**	**1.80**	**172**	*e*Pn	**Pn**	**12 51 59.3**	**+0.8**
FAGN	**Fagnano**	**1.85**	**252**	Pg	**Pn**	**12 52 00.9**	**+1.7**
AOI	**Ancona**	**1.85**	**293**	Pg	**Pn**	**12 51 59.6**	**+0.4**
	466nm,1.1s						
NVLJ	**Novalja**	**1.87**	**336**	*i* Pn	**Pn**	**12 51 59.5**	**0.0**
NVLJ				*i* Sn	**Sn**	**12 52 25.2**	**+2.0**
BRY	**Bratogost**	**1.91**	**88**	⇑*i*Pn	**Pn**	**12 51 58.3**	**-1.7**
BRY				*e*Sn	**Sn**	**12 52 25.4**	**+1.3**
CAFE	**Carife**	**1.91**	**196**	Pg	**Pn**	**12 52 02.7**	**+2.6**
	371nm,0.7s						
HCY	**Herceg Novi**	**1.92**	**102**	⇓*i*Pn	**Pn**	**12 51 59.1**	**-1.1**
HCY				*e*Sn	**Sn**	**12 52 26.1**	**+1.6**
VULT	**Monte Vulture**	**1.92**	**188**	Pg	**Pn**	**12 52 03.1**	**+2.8**
	831nm,0.6s						
VAGA	**Valle Agricola**	**1.93**	**222**	Pg	**Pn**	**12 52 00.5**	**+0.1**
	768nm,1.3s						
VVLD	**Villa Vallelon**	**1.99**	**241**	Pg	**Pn**	**12 52 02.0**	**+0.8**
	372nm,0.6s						
MOCO	**Biccari - m.te**	**2.00**	**222**	Pg	**Pn**	**12 51 57.1**	**-4.2**
	347nm,0.7s						
SNAL	**S. Angelo Dei**	**2.02**	**196**	Pg	**Pn**	**12 52 01.4**	**-0.1**
	476nm,0.7s						
CING	**Cingoli**	**2.08**	**285**	Pg	**Pn**	**12 52 02.3**	**-0.1**
	237nm,1.1s						
BLY	**Banja Luka**	**2.08**	**25**	P	**Pn**	**12 52 00.7**	**-1.8**
BLY				S	**Sn**	**12 52 27.4**	**-1.1**
NRCA	**Norcia**	**2.09**	**270**	Pg	**Pn**	**12 52 02.5**	**0.0**
	95nm,0.6s						
MRLC	**Muro Lucano**	**2.13**	**190**	Pg	**Pn**	**12 52 06.3**	**+3.2**
	324nm,0.5s						
LNSS	**Leonessa**	**2.16**	**264**	Pg	**Pn**	**12 52 04.3**	**+0.8**
	700nm,0.9s						
FIAM	**Fiamignano**	**2.18**	**255**	Pg	**Pn**	**12 52 06.1**	**+2.4**
	248nm,0.8s						
UPM	**Unac-Piva**	**2.19**	**80**	⇑*i*Pn	**Pn**	**12 52 02.8**	**-1.2**
UPM				*e*Sn	**Sn**	**12 52 31.6**	**+0.4**
NKY	**Niksic**	**2.24**	**90**	⇓*i*Pn	**Pn**	**12 52 03.6**	**-1.0**
NKY				*e*Sn	**Sn**	**12 52 33.4**	**+1.1**
BUM	**Brajici-Budva**	**2.25**	**103**	⇑*i*Pn	**Pn**	**12 52 03.8**	**-1.0**
BUM				*e*Sn	**Sn**	**12 52 34.0**	**+1.5**
CERT	**Cerreto**	**2.38**	**248**	Pg	**Pn**	**12 52 06.7**	**+0.1**
MNS	**Montasola**	**2.46**	**260**	Pg	**Pn**	**12 52 08.3**	**+0.6**
	178nm,1.2s						
TTG	**Podgorica**	**2.48**	**99**	⇓*i*Pn	**Pn**	**12 52 06.4**	**-1.5**
TTG				*e*Sn	**Sn**	**12 52 39.0**	**+0.8**
MURB	**Monte Urbino**	**2.54**	**280**	Pg	**Pn**	**12 52 09.1**	**+0.3**
	207nm,0.3s						
PLE	**Pljevlja**	**2.56**	**78**	⇑*i*Pn	**Pn**	**12 52 08.1**	**-1.0**
PLE				*e*Sn	**Sn**	**12 52 40.6**	**+0.4**
CMPR	**Campora**	**2.59**	**191**	Pg	**Pn**	**12 52 08.9**	**-0.5**
	114nm,0.8s						
ULC	**Ulcinj**	**2.60**	**109**	⇓*i*Pn	**Pn**	**12 52 08.6**	**-1.0**
ULC				*e*Sn	**Sn**	**12 52 43.1**	**+1.8**
BOJS	**Bojanci**	**2.69**	**349**	*e*Pn	**Pn**	**12 52 11.5**	**+0.7**
BOJS				*i* Sn	**Sn**	**12 52 45.9**	**+2.6**
BADI	**Badiali**	**2.79**	**285**	Pg	**Pn**	**12 52 13.5**	**+1.4**
	113nm,0.9s						
IVA	**Berane**	**2.90**	**89**	⇑*i*Pn	**Pn**	**12 52 13.2**	**-0.4**
IVA				*e*Sn	**Sn**	**12 52 49.8**	**+1.2**
SACS	**San Casciano d**	**2.97**	**271**	Pg	**Pn**	**12 52 15.1**	**+0.4**
	83nm,1.0s						
PVY	**Plav**	**2.98**	**94**	⇓*i*Pn	**Pn**	**12 52 13.4**	**-1.3**
PVY				*e*Sn	**Sn**	**12 52 50.9**	**+0.5**
CRE	**Caprese Michel**	**3.02**	**286**	Pg	**Pn**	**12 52 15.8**	**+0.5**
	30nm,0.4s						
GOLS	**Golise**	**3.15**	**356**	*e*Pn	**Pn**	**12 52 15.8**	**-1.4**
PDKS	**Podkum**	**3.27**	**348**	*i* Pn	**Pn**	**12 52 20.7**	**+1.9**
VOY	**Vojsko**	**3.49**	**336**	*e*Pn	**Pn**	**12 52 21.7**	**-0.1**
VOY				*e*Sn	**Sn**	**12 53 05.8**	**+2.6**
VOY				*e*		12 53 22.0	
OBKA	**Obir**	**3.78**	**345**	⇑*i*Pn	**Pn**	**12 52 26.4**	**+0.7**
OBKA				⇑*i*Sn	**Sn**	**12 53 13.7**	**+3.4**
OBKA	**Obir**	**3.78**	**345**	Pn	**Pn**	**12 52 26.4**	**+0.6**
OBKA				Sn	**Sn**	**12 53 13.7**	**+3.4**
ARSA	**Arzberg**	**4.40**	**356**	⇓*i*Pn	**Pn**	**12 52 34.0**	**-0.2**
ARSA				⇓*i*Sn	**Sn**	**12 53 27.6**	**+2.0**
KBA	**Koelnbreinsper**	**4.60**	**337**	⇑*i*Pn	**Pn**	**12 52 37.9**	**+0.8**
KBA				⇑*i*Sn	**Sn**	**12 53 33.2**	**+2.7**
MOA	**Molln**	**5.13**	**347**	⇑*i*Pn	**Pn**	**12 52 44.8**	**+0.5**
MOA				⇑*i*Sn	**Sn**	**12 53 44.6**	**+1.1**
PGF	**Pioggiola**	**5.13**	**269**	*e*Pn	**Pn**	**12 52 44.7**	**+0.3**
WTTA	**Wattenberg**	**5.36**	**327**	⇓*i*Pn	**Pn**	**12 52 49.5**	**+2.1**
WTTA				⇑*i*Sn	**Sn**	**12 53 53.3**	**+4.1**
WTTA	**Wattenberg**	**5.36**	**327**	Pn	**Pn**	**12 52 49.5**	**+2.0**
WTTA				Sn	**Sn**	**12 53 53.3**	**+4.1**
SBF	**Sospel**	**6.29**	**282**	*e*Pn	**Pn**	**12 52 59.5**	**-0.8**
MBDF	**Montbardon**	**6.90**	**289**	*e*Pn	**Pn**	**12 53 07.6**	**-1.1**
MBDF				*e*Sn	**Sn**	**12 54 21.2**	**-6.0**
	15nm,0.7s						
MBDF	**Montbardon**	**6.90**	**289**	*e*Pn	**Pn**	**12 53 07.6**	**-1.1**
MBDF				*e*Sn	**Sn**	**12 54 21.2**	**-6.0**
	7.3nm,0.7s						
LMR	**La Mourre**	**6.93**	**277**	*e*Pn	**Pn**	**12 53 08.3**	**-0.8**
LPG	**La Plagne**	**7.12**	**295**	*e*Pn	**Pn**	**12 53 10.0**	**-1.7**
LPG				*e*Sn	**Sn**	**12 54 25.5**	**-7.1**
	9.0nm,0.5s						
LPG	**La Plagne**	**7.12**	**295**	*e*Pn	**Pn**	**12 53 10.0**	**-1.7**
LPG				*e*Sn	**Sn**	**12 54 25.5**	**-7.1**
	4.5nm,0.5s						
LPL	**La Plagne**	**7.14**	**295**	*e*Pn	**Pn**	**12 53 10.5**	**-1.4**
LPL				*e*Sn	**Sn**	**12 54 26.4**	**-6.7**
	12nm,0.5s						
LPL	**La Plagne**	**7.14**	**295**	*e*Pn	**Pn**	**12 53 10.5**	**-1.4**
LPL				*e*Sn	**Sn**	**12 54 26.4**	**-6.7**
	6.1nm,0.5s						
ORIF	**Oris-en-Rattie**	**7.56**	**289**	*e*Pn	**Pn**	**12 53 16.9**	**-0.8**
ORIF				*e*Sn	**Sn**	**12 54 37.4**	**-6.1**
	3.4nm,0.5s						
ORIF	**Oris-en-Rattie**	**7.56**	**289**	*e*Pn	**Pn**	**12 53 16.9**	**-0.8**
ORIF				*e*Sn	**Sn**	**12 54 37.4**	**-6.1**
	1.7nm,0.5s						
SMRF	**Simiane la Rot**	**7.64**	**282**	*e*Pn	**Pn**	**12 53 17.8**	**-1.0**
CABF	**La Chapelle**	**7.96**	**301**	*e*Pn	**Pn**	**12 53 20.9**	**-2.3**
HINF	**Hinteralfeld**	**8.10**	**311**	*e*Pn	**Pn**	**12 53 22.9**	**-2.2**
HINF				*e*Sn	**Sn**	**12 54 47.5**	**-9.2**
	5.8nm,0.5s						
HINF	**Hinteralfeld**	**8.10**	**311**	*e*Pn	**Pn**	**12 53 22.9**	**-2.2**
HINF				*e*Sn	**Sn**	**12 54 47.5**	**-9.2**
	2.9nm,0.5s						
CDF	**Champ du Feu**	**8.23**	**315**	*e*Pn	**Pn**	**12 53 24.5**	**-2.4**
VIVF	**Saint-Julien-l**	**8.39**	**288**	*e*Pn	**Pn**	**12 53 27.6**	**-1.5**
HAU	**Haudompre**	**8.48**	**311**	*e*Sn	**Sn**	**12 54 57.1**	**-9.1**
	9.9nm,0.4s						
HAU	**Haudompre**	**8.48**	**311**	*e*Sn	**Sn**	**12 54 57.1**	**-9.1**
	4.9nm,0.4s						
CLL	**Collm**	**8.68**	**348**	*e*Sg	Sx	12 56 08.0	
LASF	**Ste Croix**	**8.88**	**282**	*e*Pn	**Pn**	**12 53 34.9**	**-0.9**
SMF	**Signal de Mont**	**9.41**	**298**	*e*Pn	**Pn**	**12 53 39.8**	**-3.3**
SMF				*e*Sn	**Sn**	**12 55 20.0**	**-8.9**
	4.5nm,0.5s						
SMF	**Signal de Mont**	**9.41**	**298**	*e*Pn	**Pn**	**12 53 39.8**	**-3.3**
SMF				*e*Sn	**Sn**	**12 55 20.0**	**-8.9**
	2.2nm,0.5s						
LOR	**Lormes**	**9.62**	**301**	*e*Pn	**Pn**	**12 53 43.8**	**-2.2**
BGF	**Bois d'Agland**	**10.03**	**296**	*e*Pn	**Pn**	**12 53 49.7**	**-1.9**

*MOS **31** 13:00:03.7±1.2, 2296S×6628W, h236km, mb4.7/23, Error ellipse: s-maj=17.0km s-min=7.8km az=118.4*
*ISCJB **31** 13:00:05.8±0.2, 2314S±003×6645W±004, h260km, mb4.5/67, Error ellipse: s-maj=4.8km s-min=4.5km az=11.5*
*GUC **31** 13:00:06.0±0.5, 2333S×6673W, h266km, MD4.4*
*IDC **31** 13:00:06.6±0.7, 2286S×6614W, h246km±6km, mb4.1/13, mb1 4.2/19, mb1mx4.2/21, mbtmp4.7/19, Error ellipse: s-maj=13.8km s-min=11.0km az=55.0*
*NEIC **31** 13:00:08.3±0.3, 2293S×6613W, mb4.6/60, Error ellipse: s-maj=9.9km s-min=6.4km az=55.0*
*BJI **31** 13:00:10.2, 2290S×6610W, h265km, mB4.9*

ISC 31 13:00:07.7±0.2, 2309S±004×6641W±005, h261km, h261km±2.0km:pP-P, n179, σ1°32/156, mb4.5/67, 12C-3D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.35**	**281**	P	**Pn**	**13 00 51.8**	**-2.5**
	757nm,0.3s,baz=95,slow=5.8,SNR=4955						
LVC				S	**S**	**13 01 25.8**	**-5.4**
	156nm,0.3s,baz=250,slow=21,SNR=15						
LVC	**Limon Verde**	**2.35**	**281**	*e*Pn	**Pn**	**13 00 51.5**	**-2.8**
CEN1	**Los Morros**	**3.50**	**264**	⇓*i*P	**Pn**	**13 01 05.8**	**-0.5**
CEN1				*i* S	**S**	**13 01 50.5**	**-2.3**
ANCH	**Antofagasta**	**3.72**	**260**	⇑*i*P	**Pn**	**13 01 06.4**	**-2.4**
ANCH				*i* S	**S**	**13 01 52.2**	**-5.1**
CPN1	**Cerro Paranal**	**3.96**	**247**	⇑*i*P	**Pn**	**13 01 09.5**	**-1.9**
CPN1				*i* S	**S**	**13 01 57.8**	**-4.5**
CRCH	**Chaqaral**	**5.01**	**229**	*e*P	**Pn**	**13 01 21.4**	**-2.6**
CRCH				*e*S	**S**	**13 02 18.9**	**-6.0**
CDCH	**Caldera**	**5.63**	**224**	*e*P	**Pn**	**13 01 27.9**	**-3.6**
CDCH				*i* S	**S**	**13 02 32.0**	**-6.6**
LPAZ	**La Paz**	**6.96**	**346**	P	**Pn**	**13 01 44.5**	**-3.4**
	4.3nm,0.3s,baz=155,slow=9.5,SNR=77						
LPAZ				S	**S**	**13 03 00.8**	**-7.7**
	1.6nm,0.3s,baz=263,slow=23,SNR=12						
LPAZ	**La Paz**	**6.96**	**346**	P	**Pn**	**13 01 44.5**	**-3.4**
LPAZ				S	**S**	**13 03 00.8**	**-7.7**
ARE	**Arequipa**	**8.14**	**323**	⇑*i*P	**Pn**	**13 01 58.0**	**-4.8**
ARE				*e*S	**S**	**13 03 23.0**	**-13**
CFAA	**Coronel Fontan**	**8.63**	**190**	P	**Pn**	**13 02 06.5**	**-2.4**
	0.2nm,0.3s,baz=21,slow=13,SNR=29						
CFAA				S	**S**	**13 03 39.4**	**-7.6**
	1.1nm,0.3s,baz=260,slow=22,SNR=16						
SIV	**San Ignacio**	**8.67**	**36**	P	**Pn**	**13 02 04.1**	**-5.3**
	7.8nm,0.3s,baz=222,slow=12,SNR=301						
SIV				S	**S**	**13 03 34.2**	**-14**
	0.4nm,0.3s,baz=240,slow=16,SNR=3.3						
CPUP	**Villa Florida**	**8.87**	**113**	P	**Pn**	**13 02 07.7**	**-4.1**
	1.2nm,0.3s,baz=279,slow=12,SNR=21						
CPUP	**Villa Florida**	**8.87**	**113**	*e*P	**Pn**	**13 02 08.2**	**-3.6**
CPUP				pmax	pmax		
	comp=Z,96nm,0.5s						
CPUP	**Villa Florida**	**8.87**	**113**	*e*Pn	**Pn**	**13 02 08.2**	**-3.7**
	comp=Z,96nm,0.5s						
NNA	**Nana**	**14.85**	**316**	*e*P	**Pn**	**13 03 24.8**	**-0.8**
	comp=Z,22nm,0.9s						
TRQA	**Tornquist**	**15.39**	**167**	*e*P	**Pn**	**13 03 29.9**	**-2.1**
	comp=Z,27nm,0.6s						
TRQA				*e*S	**S**	**13 06 14.5**	**-5.5**
VAO	**Valinhos**	**17.90**	**94**	⇑*i*P	**P**	**13 03 56.7**	**-1.7**
VAO				*i*		13 03 58.7	
VAO				*i*		13 04 00.0	
VAO				*i*		13 04 07.0	
VAO				*e*		13 04 14.5	
PLCA	**Paso Flores**	**17.93**	**190**	P	**P**	**13 04 00.0**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=8.9,slow=12,SNR=41						
PLCA	**Paso Flores**	**17.93**	**190**	*e*P	**P**	**13 03 59.3**	**+0.5**
PLCA				pmax	pmax		
	comp=Z,32nm,0.8s						
PLCA	**Paso Flores**	**17.93**	**190**	*e*P	**P**	**13 03 59.3**	**+0.6**
	comp=Z,32nm,0.8s						
BDFB	**Brasilia**	**18.86**	**70**	P	**P**	**13 04 06.8**	**-1.9**
	comp=Z,4.7nm,0.3s,baz=250,slow=12,SNR=164						
ATAH	**Atahualpa**	**19.72**	**322**	P	**P**	**13 04 16.9**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=153,slow=2.2,SNR=4.7						
CAM4	**Nova Friburgo**	**22.01**	**93**	⇑*i*P	**P**	**13 04 39.0**	**-1.7**
CAM4				*i*		13 04 46.5	
CAM3	**Guarapari**	**24.13**	**89**	⇑*i*P	**P**	**13 04 58.2**	**-1.8**
CAM3				*i*		13 04 59.8	
CAM3				*i*		13 05 10.7	
OTAV	**Otavalo**	**25.98**	**332**	*e*P	**P**	**13 05 19.2**	**+2.6**
	comp=Z,6.1nm,0.8s,mb4.1						
EFI	**East Falkland**	**29.25**	**169**	*e*P	**P**	**13 05 46.9**	**+1.3**
EFI	**East Falkland**	**29.25**	**169**	*e*P	**P**	**13 05 46.8**	**+1.1**
	comp=Z,9.4nm,0.5s,mb4.5						
USHA	**Ushuaia**	**31.73**	**182**	P	**P**	**13 06 10.1**	**+2.8**
	comp=Z,15nm,1.0s,mb4.5,baz=1.1,slow=11,SNR=4.0						
SDV	**Santo Domingo**	**32.05**	**352**	*e*P	**P**	**13 06 07.3**	**-2.8**
	comp=Z,6.5nm,0.8s,mb4.2						
JTS	**JuntasAbangare**	**37.82**	**329**	⇓*e*P	**P**	**13 06 59.9**	**+0.7**
JTS	**JuntasAbangare**	**37.82**	**329**	*e*P	**P**	**13 07 00.1**	**+0.9**
	comp=Z,8.4nm,0.7s,mb4.3						
VNA3	**Neumayer Olymp**	**57.83**	**161**	⇑*i*P	**P**	**13 09 33.5**	**+1.4**
VNA3				*e*		13 09 36.0	
VNA3				*e*		13 09 38.5	
VNA3				*e*		13 09 43.8	
VNA3				*e*		13 09 53.4	
VNA3				*e*		13 10 23.8	
VNA3				*e*	pP	13 10 32.2	+2.5
VNA3				*e*		13 11 02.5	
VNA1	**Neumayer--Stat**	**58.02**	**160**	⇑*i*P	**P**	**13 09 36.0**	**+2.6**
VNA1				*e*		13 09 37.3	
VNA1				*e*		13 09 41.4	
VNA1				*e*		13 09 55.4	
VNA1				*e*		13 10 23.3	
VNA1				*e*	pP	13 10 32.2	+1.2
VNA1				*e*		13 11 01.3	
VNA2	**Neumayer--Watz**	**58.39**	**161**	⇑*i*P	**P**	**13 09 37.4**	**+1.5**
	baz=274,slow=8.4						
VNA2				*e*		13 09 39.4	
VNA2				*e*		13 09 42.4	
VNA2				*e*		13 09 43.8	
VNA2				*e*		13 09 47.4	
VNA2				*e*		13 09 49.5	
VNA2				*e*		13 09 53.2	
VNA2				*e*		13 10 01.3	
VNA2				*e*		13 10 06.5	
VNA2				*e*		13 10 24.0	
VNA2				*e*	pP	13 10 34.7	+1.0
VNA2				*e*		13 11 04.6	
LRAL	**Lakeview Retre**	**59.17**	**340**	*e*P	**P**	**13 09 39.5**	**-1.7**
	comp=Z,13nm,0.9s,mb4.4						
SNAA	**Sanae**	**60.03**	**161**	⇑*i*P	**P**	**13 09 39.5**	**-7.6**
SNAA				*e*		13 09 41.5	
SNAA				*e*		13 09 43.4	
SNAA				*e*		13 09 45.7	
SNAA				*e*		13 09 47.4	
SNAA	**Sanae**	**60.03**	**161**	*e*P	**P**	**13 09 45.7**	**-1.4**
SNAA	**Sanae**	**60.03**	**161**	*e*P	**P**	**13 09 39.3**	**-7.8**
	comp=Z,7.5nm,0.7s,mb4.3						
SWET	**Sewanee**	**60.87**	**342**	*e*P	**P**	**13 09 51.3**	**-1.5**
PLAL	**Pickwick Lake**	**61.30**	**340**	*e*P	**P**	**13 09 53.7**	**-2.0**
	comp=Z,19nm,1.1s,mb4.5						
OXF	**Oxford**	**61.31**	**338**	*e*P	**P**	**13 09 53.8**	**-1.9**
OXF				pmax	pmax		
	comp=Z,37nm,1.2s,mb4.8						
OXF	**Oxford**	**61.31**	**338**	*e*P	**P**	**13 09 53.8**	**-1.9**
	comp=Z,37nm,1.2s,mb4.8						
BLA	**Blacksburg**	**61.41**	**347**	*e*P	**P**	**13 09 55.4**	**-1.0**
BLA				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.3						
BLA	**Blacksburg**	**61.41**	**347**	*e*P	**P**	**13 09 55.4**	**-1.0**
	comp=Z,1.5nm,1.0s,mb3.5						
ELN	**Prospectdale**	**61.50**	**347**	*e*P	**P**	**13 09 56.8**	**-0.2**
FWV	**Forest Hill**	**61.85**	**347**	*e*P	**P**	**13 09 58.9**	**-0.4**
JCT	**Junction City**	**62.16**	**328**	*e*P	**P**	**13 10 01.2**	**-0.2**
JCT				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.7						
JCT	**Junction City**	**62.16**	**328**	*e*P	**P**	**13 10 01.1**	**-0.2**
	comp=Z,16nm,0.8s,mb4.7						
WVT	**Waverly**	**62.29**	**340**	*e*P	**P**	**13 10 00.2**	**-2.0**
WVT				*e**PP	pP	13 10 58.9	-1.8
WVT				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.0						
WVT	**Waverly**	**62.29**	**340**	*e*P	**P**	**13 10 00.1**	**-2.0**
	comp=Z,40nm,1.1s,mb5.0						
WVT				*e*pP	pP	13 10 58.9	-1.8
MIAR	**Mount Ida**	**62.86**	**335**	*e*P	**P**	**13 10 04.8**	**-1.2**
MIAR				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.4						
MIAR	**Mount Ida**	**62.86**	**335**	*e*P	**P**	**13 10 04.8**	**-1.2**
	comp=Z,10.0nm,1.1s,mb4.4						
LTX	**Lajitas**	**63.26**	**324**	*e*P	**P**	**13 10 08.5**	**-0.1**
LTX				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
LTX	**Lajitas**	**63.26**	**324**	*e*P	**P**	**13 10 08.5**	**-0.1**
	comp=Z,3.

comp=Z,10nm,1.1s,mb4.5
TSUM Tsumeb 77.38 106 *e*P **P** **13 11 33.5 -0.3**
comp=Z,16nm,0.9s,mb4.8
TSUM *e*pP pP 13 12 32.8 -2.2
HVU Hansel Valley 77.50 326 *e*P **P** **13 11 34.7 +0.2**
HVU pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
HVU Hansel Valley 77.50 326 *e*P **P** **13 11 34.7 +0.2**
comp=Z,4.9nm,0.9s,mb4.2
ULM Lac du Bonnet 77.54 341 P **P** **13 11 33.5 -1.1**
comp=Z,3.6nm,0.7s,mb4.2,baz=157,slow=7.0,SNR=10
ULM pP pP 13 12 33.3 -2.6
comp=Z,1.4nm,0.5s,baz=160,slow=1.8,SNR=2.6
SCHQ Schefferville 77.60 360 P **P** **13 11 33.0 -2.0**
comp=Z,1.4nm,0.6s,mb3.9,baz=262,slow=14,SNR=3.7
MTUM Tungsten Hills 77.61 320 *e*P **P** **13 11 36.2 +1.2**
REDW Red Top Meadow 77.72 328 *e*P **P** **13 11 35.8 +0.1**
comp=Z,17nm,1.4s,mb4.6
REDW *e*PcP PcP 13 11 44.0 -0.6
LOHW Long Hollow 77.79 329 *e*P **P** **13 11 36.6 +0.6**
comp=Z,7.0nm,0.8s,mb4.4
TPAW Teton Pass 77.86 329 *e*P **P** **13 11 37.5 +1.0**
comp=Z,13nm,1.2s,mb4.5
MOOW Moose Ponds 77.96 329 *e*P **P** **13 11 37.2 +0.2**
comp=Z,14nm,1.7s,mb4.4
MOOW *e*pP pP 13 12 39.6 +1.3
ELK Elko 78.05 324 *e*P **P** **13 11 38.4 +0.9**
ELK pmax pmax
comp=Z,10.0nm,0.9s
ELK Elko 78.05 324 *e*P **P** **13 11 38.4 +0.9**
comp=Z,9.7nm,0.9s,mb4.5
MNV Mina 78.09 321 *e*P **P** **13 11 38.9 +1.2**
MNV pmax pmax
comp=Z,8.0nm,1.1s,mb4.4
MNV Mina 78.09 321 *e*P **P** **13 11 38.9 +1.2**
comp=Z,8.4nm,1.1s,mb4.4
NVAR Mina Array Bea 78.17 321 P **P** **13 11 39.5 +1.4**
comp=Z,5.9nm,0.9s,mb4.3,baz=139,slow=6.6,SNR=31
FLWY Flagg Ranch 78.19 329 *e*P **P** **13 11 39.7 +1.4**
comp=Z,21nm,1.3s,mb4.7
YMR Madison River 78.75 329 *e*P **P** **13 11 42.7 +1.3**
comp=Z,21nm,1.3s,mb4.7
YMR *e*pP pP 13 12 45.3 +2.6
HLID Hailey 79.62 327 *e*P **P** **13 11 47.1 +1.1**
comp=Z,16nm,0.9s,mb4.7
HLID *e*pP pP 13 12 50.8 +3.2
PAHR Pah Rah Range 79.65 321 *e*P **P** **13 11 47.6 +1.4**
comp=Z,36nm,0.9s,mb5.1
MCMT McKenzie Canyo 79.77 328 *e*P **P** **13 11 47.7 +0.9**
MCMT *e*pP pP 13 12 51.0 +2.6
DLMT Dillon 80.04 329 *e*P **P** **13 11 48.7 +0.4**
comp=Z,21nm,1.4s,mb4.7
OHCM Honcut 80.64 320 *e*P **P** **13 11 52.1 +0.7**
BOSA Boshof 80.67 117 P **P** **13 11 51.3 -0.2**
comp=Z,3.1nm,0.4s,mb4.4,baz=256,slow=5.1,SNR=15
BOSA Boshof 80.67 117 *e*P **P** **13 11 50.8 -0.8**
BOSA pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
BOSA Boshof 80.67 117 *e*P **P** **13 11 50.8 -0.7**
comp=Z,3.2nm,0.4s,mb4.4
MDT Midelt 81.02 49 P **P** **13 11 52.9 -0.5**
comp=Z,4.4nm,0.7s,mb4.3,baz=237,slow=3.8,SNR=6.0
MOD Modoc 81.63 322 *e*P **P** **13 11 57.1 +0.5**
comp=Z,9.1nm,0.8s,mb4.6
BMO Blue Mountains 82.01 326 *e*P **P** **13 11 58.9 +0.3**
BMO pmax pmax
comp=Z,13nm,1.3s,mb4.5
BMO Blue Mountains 82.01 326 *e*P **P** **13 11 58.9 +0.3**
comp=Z,13nm,1.3s,mb4.5
BMO *e*pP pP 13 13 01.8 +1.3
WDC Whiskeytown Da 82.06 320 *e*P **P** **13 11 58.1 -0.7**
WDC pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
WDC Whiskeytown Da 82.06 320 *e*P **P** **13 11 58.1 -0.7**
comp=Z,7.1nm,0.7s,mb4.5
MAW Mawson 82.14 163 P **P** **13 12 01.6 +2.4**
comp=Z,4.8nm,0.7s,mb4.3,baz=225,slow=10.0,SNR=4.5
MAW Mawson 82.14 163 *e*P **P** **13 12 03.0 +3.7**
LBTB Lobatse 82.26 114 *e*P **P** **13 11 59.4 -0.5**
LBTB pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
LBTB Lobatse 82.26 114 *e*P **P** **13 11 59.4 -0.4**
comp=Z,3.6nm,0.6s,mb4.3
ESPR Espera 82.53 45 P **P** **13 12 02.3 +1.0**
comp=Z,9.8nm,0.8s,mb4.7
EMIN Mina Concepcio 82.54 44 P **P** **13 12 01.2 -0.1**
comp=Z,12nm,0.9s,mb4.7
EBAD Badajoz 82.91 43 P **P** **13 12 03.1 -0.1**
comp=Z,7.8nm,0.8s,mb4.6
WALA Waterton Lakes 83.37 331 *e*P **P** **13 12 05.2 -0.3**
comp=Z,3.0nm,0.7s,mb4.2
HUMO Hull Mountain 83.58 322 *e*P **P** **13 12 06.4 -0.2**
comp=Z,7.7nm,1.2s,mb4.4
EBAN Banos Encina 84.62 45 P **P** **13 12 11.2 -0.7**
EBAN pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
EBAN Banos Encina 84.62 45 P **P** **13 12 11.2 -0.7**
comp=Z,6.7nm,0.6s,mb4.7
FCC Fort Churchill 84.71 346 *e*P **P** **13 12 11.3 -1.0**
FCC pmax pmax
comp=Z,11nm,0.6s,mb4.9
FCC Fort Churchill 84.71 346 *e*P **P** **13 12 11.3 -1.0**
comp=Z,12nm,0.6s,mb4.9
EQES Quesada 84.88 45 P **P** **13 12 14.5 +1.3**
comp=Z,2.5nm,0.6s,mb4.2
ESDC Sonseca Array 85.37 43 P **P** **13 12 15.5 -0.1**
comp=Z,4.8nm,0.8s,mb4.4,baz=237,slow=4.8,SNR=19
ESLA Sonseca Array 85.37 43 *e*P **P** **13 12 15.6 0.0**
comp=Z,1.8nm,0.9s,mb3.9
LSZ Lusaka 88.23 106 *e*P **P** **13 12 31.3 +2.0**
LSZ e*PP pP 13 13 30.9 -1.3
LSZ pmax pmax
comp=Z,20nm,1.4s,mb4.8
LSZ Lusaka 88.23 106 *e*P **P** **13 12 31.3 +2.0**
comp=Z,20nm,1.4s,mb4.8
LSZ *e*pP pP 13 13 30.9 -1.3
YKA Yellowknife Ar 93.46 340 P **P** **13 12 52.8 -0.7**
comp=Z,3.1nm,0.7s,mb4.4,baz=130,slow=4.4,SNR=22
YKA pP pP 13 13 52.5 -4.2
comp=Z,0.4nm,0.7s,baz=126,slow=4.4,SNR=1.7
YKA Yellowknife Ar 93.46 340 P **P** **13 12 52.9 -0.7**
YKA pP pP 13 13 52.5 -4.2
KIP Kipapa 99.53 289 *e*P Pdif 13 13 20.3 -0.6
BILL Bilibino 124.84 339 *i* PKIKP PKPdf 13 18 35.8 -0.6
ASAR Alice Springs 129.50 204 PKP PKPdf 13 18 46.9 +1.6
comp=Z,2.2nm,0.8s,baz=151,slow=2.2,SNR=21
ASAR SKPbc 13 21 46.0
comp=Z,2.2nm,0.8s,baz=149,slow=4.6,SNR=12
TIXI Tiksi 130.64 354 *i* PKIKP PKPdf 13 18 47.1 -0.3
WRA Warramunga Arr 132.68 207 PKP PKPdf 13 18 53.2 +2.0
comp=Z,1.2nm,0.6s,baz=161,slow=1.7,SNR=30
WRA SKPbc SKPbc 13 21 57.3 +3.8
comp=Z,8.4nm,1.0s,baz=156,slow=3.0,SNR=25
KURK Kurchatov 141.33 36 *i* PKIKP PKPdf 13 19 08.9 +1.7
ZAL Zalesovo 142.34 28 PKP PKPdf 13 19 09.1 0.0
comp=Z,0.8nm,0.6s,baz=229,slow=1.7,SNR=3.4
BOD Bodaibo 145.31 360 *e*PKP2 PKPab 13 19 13.4 -1.6
BOD pmax pmax
comp=Z,20nm,0.9s
MKAR Makanchi Array 145.48 39 PKPbc PKPbc 13 19 15.6 +0.5
comp=Z,4.6nm,0.7s,baz=302,slow=2.7,SNR=15
MKAR SKPbc SKPbc 13 22 31.6 +2.6
comp=Z,2.0nm,0.8s,baz=336,slow=2.7,SNR=6.4
YSS Yuzh-Sakhalins 146.61 323 *i* PKP2 PKPab 13 19 19.9 -0.2
NDI New Delhi 146.90 73 *e*P PKPdf 13 19 18.5 +1.6
HABR Khabarovsk 149.47 331 *e*PKHKP 13 19 24.3
KLR Kul'dur 150.23 336 *e*PKIKP PKPdf 13 19 24.0 +1.7
WMQ Urumqi 150.31 40 PKP PKPdf 13 19 19.5 -2.9
WMQ PKP2 PKPab 13 19 33.8 -1.3
WMQ PP PP 13 23 04.8 -0.6
WMQ PP PP
comp=Z,110nm,4.9s
WMQ LR LR
comp=N,23nm,18.0s
WMQ LR LR
comp=Z,32nm,17.1s
TLY Talaya 150.44 13 *e*PKIKP PKPdf 13 19 28.1 +5.5
TLY pmax pmax
comp=Z,8.0nm,0.9s
CIT Chita 151.12 0 *e*PKIKP PKPdf 13 19 30.7 +7.1
ZAK Zakamensk 151.59 14 *e*PKIKP PKPbc 13 19 38.0 +7.2
ZAK pmax pmax
comp=Z,2.0nm,0.8s
ZAK pmax pmax
comp=Z,4.0nm,1.2s
KOLN Koldanda 152.56 74 *e*P PKPbc 13 19 39.7 +6.7
comp=Z,17nm,0.8s
GKN Gorkha 153.46 73 *e*P PKPbc 13 19 42.0 +7.0
comp=Z,25nm,0.7s
DMN Daman 153.90 74 *e*P PKPbc 13 19 43.0 +7.1
KKN Kakani 154.04 74 *e*P PKPbc 13 19 43.1 +6.9
PKI Pulchoki 154.17 74 *e*P PKPbc 13 19 42.9 +6.4
GUN Gumba 154.56 73 *e*P PKPbc 13 19 45.1 +7.8
SONM Songino Array 154.65 11 PKP PKPdf 13 19 29.8 +1.1
comp=Z,0.9nm,0.9s,baz=90,slow=1.5,SNR=4.4
SONM PKPbc PKPbc 13 19 38.3 +0.9
comp=Z,0.8nm,0.6s,baz=317,slow=1.5,SNR=5.9
SONM PKPab PKPab 13 19 50.9 -2.5
comp=Z,0.5nm,0.5s,baz=274,slow=2.6,SNR=4.0
MDJ Mudanjiang 154.84 332 PKP PKPdf 13 19 28.8 -0.2
MDJ PP PP
comp=Z,53nm,5.0s
JIRN Jiri 154.86 74 *e*P PKPbc 13 19 45.8 +7.9
MJAR Matsushiro Arr 154.87 308 PKPbc PKPbc 13 19 38.4 +0.4
comp=Z,0.4nm,0.4s,baz=0.0,slow=0.0,SNR=4.1
MJAR PKPab PKPab 13 19 55.0 +0.6
comp=Z,3.4nm,0.9s,baz=75,slow=2.3,SNR=7.1
MAT Matsushiro 154.87 308 *e*PKP PKPdf 13 19 27.9 -1.2
CN2 Changchun 157.14 337 *e*PKP PKPdf 13 19 36.3 +4.3
HHC Hu-ho-hao-te 162.21 5 *e*PKP PKPdf 13 19 33.5 -4.3
HHC PKP2 PKPab 13 20 24.0 -2.3
HHC APKP 13 20 46.3
HHC XPKP 13 21 14.8
HHC PKS 13 23 05.5
HHC PP PP 13 24 09.0 -2.0
HHC PP PP
comp=Z,40nm,5.1s
HHC LR LR
comp=N,92nm,5.3s
HHC LR LR
comp=E,80nm,6.3s
HHC LR LR
comp=Z,71nm,6.3s
LZH Lanzhou 164.54 31 *e*PKP PKPdf 13 19 38.5 -1.4
LZH XPKP 13 21 13.3
KMI Kunming 169.89 76 PKP PKPdf 13 19 42.8 -1.0
NJ2 Nanjing 169.93 334 *e*PKP PKPdf 13 19 40.0 -3.8
NJ2 APKP 13 20 51.8
NJ2 PKP2 PKPab 13 20 59.0 -1.3
NJ2 XPKP 13 21 21.5
NJ2 PP PP 13 24 50.0 -0.7
NJ2 PP PP
comp=Z,50nm,7.3s
NJ2 LR LR
comp=N,460nm,28.3s
NJ2 LR LR
comp=E,320nm,26.3s
NJ2 LR LR
comp=Z,220nm,29.3s

CSEM ***31*** *13:09:21.6±0.6, 42.89N×16.02E, h10km, ML3.5/3, Error ellipse: s-maj=13.0km s-min=3.7km az=131.0*
ROM 31 13:09:23.0±0.3, 4300N×1584E, h10km, Md2.7/4, Ml2.8/2, Error ellipse: s-maj=8.1km s-min=2.5km az=89.0, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGRT	**San Giovanni R**	**1.25**	**183**	Pg	Pg	13 09 46.0	-1.0
SGRT				Sg	Sg	13 10 02.7	-0.6
	136nm,0.7s						
MSAG	**Monte S. Angel**	**1.29**	**178**	Pg	Pg	13 09 46.5	-1.3
MSAG				Sg	Sg	13 10 03.9	-0.7
	204nm,0.7s						
FGMS	**Monte Sant'Ang**	**1.30**	**176**	Pg	Pg	13 09 46.7	-1.2
FGMS				Sg	Sg	13 10 04.5	-0.3
	54nm,0.4s						
RGNG	**Rignano Grg**	**1.34**	**188**	Pg	Pg	13 09 47.7	-1.1
RGNG				Sg	Sg	13 10 05.3	-0.9
STON	**Ston**	**1.38**	**95**	*i* Pg	Pg	13 09 46.0	-3.4
STON				*i* Sg	Sg	13 10 04.7	-2.6

TEH ***31*** *13:12:37.7, 28.17N×54.10E, h18km, Mn3.6*
CSEM ***31*** *13:12:40.9±0.1, 2870N×5396E, h5km, ML3.4, Error ellipse: s-maj=2.2km s-min=0.9km az=145.0*
ISCJB ***31*** *13:12:41.7±0.6, 2862N±004×5395E±004, h10km, Error ellipse: s-maj=6.4km s-min=5.3km az=156.4*
THR ***31*** *13:12:41.9±0.3, 2877N×5391E, h15km±5km, ML3.4*
ISC 31 13:12:43.0±0.6, 2865N±005×5392E±004, h10km, n15, σ1s9.03, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**0.90**	**247**	*e*PG	**Pg**	**13 12 59.6**	**-0.7**
GHIR				*e*SG	**Sg**	**13 13 12.7**	**+0.8**
GHIR				AML	AML	13 13 23.4	
	comp=E,1μm,0.4s						
GHIR				AML	AML	13 13 23.7	
	comp=N,1μm,0.3s						
GHIR	**Ghir-Karzin**	**0.90**	**247**	*e*Pg	**Pg**	**13 12 59.6**	**-0.6**
	SNR=90						
GHIR				*e*Sg	**Sg**	**13 13 12.6**	**+0.7**
	SNR=90						
ISRV	**Sarvestan**	**1.02**	**316**	*e*Pn	**Pn**	**13 12 59.0**	**-4.3**
ISRV				*e*Sn	**Sn**	**13 13 22.6**	**+4.9**
IMOK	**Mook**	**1.13**	**291**	*e*Pn	**Pn**	**13 13 04.2**	**-0.7**
BNDS	**Bandar-Abbas**	**2.35**	**121**	*e*PN	**Pn**	**13 13 23.1**	**+1.5**
BNDS				*e*SG	**Sg**	**13 13 57.9**	**-0.5**
BNDS				AML	AML	13 14 06.9	
	comp=E,219nm,0.5s						
BNDS				AML	AML	13 14 12.4	
	comp=N,204nm,0.6s						
BNDS	**Bandar-Abbas**	**2.35**	**121**	*e*Pn	**Pn**	**13 13 23.1**	**+1.5**
	SNR=52						
BNDS				*e*Sg	**Sg**	**13 13 57.9**	**-0.5**
	SNR=90						
IMEH	**Mehriz**	**2.80**	**12**	*e*Pn	**Pn**	**13 13 27.6**	**-0.3**
KRBR	**Kerman**	**2.82**	**61**	*e*PN	**Pn**	**13 13 28.0**	**-0.1**
KRBR				AML	AML	13 14 16.2	
	comp=E,102nm,0.5s						
KRBR				AML	AML	13 14 17.6	
	comp=N,129nm,0.8s						
ISAD	**Sadrabad**	**3.26**	**357**	*e*Pn	**Pn**	**13 13 32.9**	**-1.3**
ISAD				*e*Sn	**Sn**	**13 14 16.8**	**+3.7**
IBAF	**Bafgh**	**3.27**	**26**	*e*Pn	**Pn**	**13 13 33.8**	**-0.4**
IBAF				*e*Sn	**Sn**	**13 14 13.9**	**+0.8**
ICHK	**Chekchek**	**3.61**	**7**	*e*Pn	**Pn**	**13 13 34.9**	**-4.1**
IGAR	**Garneh**	**3.88**	**338**	*e*Pn	**Pn**	**13 13 44.8**	**+2.1**
IGAR				*e*Sn	**Sn**	**13 14 35.8**	**+7.4**
NASN	**Na'in**	**4.25**	**347**	*e*PN	**Pn**	**13 13 46.9**	**-0.9**
IZEF	**Zefreh**	**4.45**	**343**	*e*Pn	**Pn**	**13 13 50.2**	**-0.4**
IPIR	**Pirpir**	**4.80**	**328**	*e*Pn	**Pn**	**13 13 50.4**	**-4.9**

ISCJB ***31*** *13:13:50.9±0.4, 4065S±003×17556E±005, h57km±6km, mb3.4/2, Error ellipse: s-maj=7.5km s-min=3.5km az=60.1*
NEIC ***31*** *13:13:51.8, 4058S×17548E, h36km, ML3.9(WEL), After WEL.*
WEL ***31*** *13:13:52.2±0.1, 4064S×17554E, h36km±1km, ML3.8/17, Error ellipse: s-maj=1.4km s-min=0.7km az=90.0*
WEL Felt from Manawatu to Wellington, maximum reported intensity MM 5.
IDC ***31*** *13:13:55.7±2.2, 40.13S×17580E, h98km±22km, mb3.2/2, mb1 3.4/4, mb1mx3.3/13, mbtmp3.5/4, Error ellipse: s-maj=43.6km s-min=27.0km az=131.0*
ISC 31 13:13:51.6±0.4, 4065S±003×17556E±005, h47km±6km, n87, σ0s91/94, mb3.4/2, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRZ	**Mangatainoka R**	**0.02**	**127**	P*	**Pn**	**13 13 57.7**	**-1.1**
MRZ				S*	**Sn**	**13 14 02.0**	**-2.0**
MRZ	**Mangatainoka R**	**0.02**	**127**	P	**Pn**	**13 13 57.7**	**-1.1**
TIWZ	**Tintock**	**0.28**	**117**	P*	**Pn**	**13 14 00.7**	**+0.5**
MTW	**Mount Morrison**	**0.51**	**185**	P*	**Pn**	**13 14 03.5**	**+0.7**
MTW	**Mount Morrison**	**0.51**	**185**	P	**Pn**	**13 14 03.5**	**+0.8**
BFZ	**Birch Farm**	**0.52**	**93**	P*	**Pn**	**13 14 03.6**	**+0.7**
BFZ				S*	**Sn**	**13 14 12.3**	**+1.3**
BFZ	**Birch Farm**	**0.52**	**93**	P	**Pn**	**13 14 03.6**	**+0.7**
KIW	**Kapiti Island**	**0.54**	**247**	P*	**Pn**	**13 14 02.8**	**-0.3**
KIW				S*	**Sn**	**13 14 10.9**	**-0.5**
CAW	**Cannon Point**	**0.59**	**219**	P*	**Pn**	**13 14 04.1**	**+0.3**
CAW				S*	**Sn**	**13 14 13.4**	**+0.9**
CAW	**Cannon Point**	**0.59**	**219**	P	**Pn**	**13 14 04.1**	**+0.3**
TSZ	**Takapari Road**	**0.67**	**27**	P*	**Pn**	**13 14 04.1**	**-0.6**
TSZ				S*	**Sn**	**13 14 13.0**	**-1.2**
TSZ	**Takapari Road**	**0.67**	**27**	P	**Pn**	**13 14 04.1**	**-0.6**
PAWZ	**Paruwai Farm**	**0.74**	**188**	P*	**Pn**	**13 14 06.2**	**+0.5**
TRWZ	**Traveller**	**0.75**	**173**	P*	**Pn**	**13 14 07.3**	**+1.4**
MSWZ	**Moikau Station**	**0.80**	**197**	P*	**Pn**	**13 14 06.8**	**+0.4**
MSWZ				S*	**Sn**	**13 14 18.2**	**+0.8**
MSWZ	**Moikau Station**	**0.80**	**197**	P	**Pn**	**13 14 07.0**	**+0.5**
MRW	**Makara Radio**	**0.87**	**228**	P*	**Pn**	**13 14 07.7**	**+0.3**
MRW	**Makara Radio**	**0.87**	**228**	P	**Pn**	**13 14 07.7**	**+0.2**
WEL	**Wellington**	**0.87**	**223**	P*	**Pn**	**13 14 07.8**	**+0.3**
WEL	**Wellington**	**0.87**	**223**	P	**Pn**	**13 14 07.8**	**+0.3**
BHW	**Baring Head**	**0.92**	**214**	P*	**Pn**	**13 14 08.5**	**+0.4**
BHW	**Baring Head**	**0.92**	**214**	P	**Pn**	**13 14 08.5**	**+0.4**
SNZO	**South Karori**	**0.92**	**224**	P*	**Pn**	**13 14 08.6**	**+0.4**
SNZO	**South Karori**	**0.92**	**224**	*e*Pn	**Pn**	**13 14 08.8**	**+0.7**
SNZO				*e*Sn	**Sn**	**13 14 21.1**	**+0.7**
WAZ	**Wanganui**	**1.00**	**334**	PN	**Pn**	**13 14 09.4**	**+0.2**
WAZ	**Wanganui**	**1.00**	**334**	P	**Pn**	**13 14 09.4**	**+0.2**
TCW	**Tory Channel**	**1.12**	**240**	P*	**Pn**	**13 14 10.8**	**-0.1**
TCW	**Tory Channel**	**1.12**	**240**	P	**Pn**	**13 14 10.8**	**-0.1**
PXZ	**Pawanui**	**1.17**	**58**	PN	**Pn**	**13 14 11.4**	**-0.1**
MOVZ	**Moawhango**	**1.25**	**7**	PN	**Pn**	**13 14 12.4**	**-0.2**
MOVZ	**Moawhango**	**1.25**	**7**	P	**Pn**	**13 14 12.5**	**-0.1**
DUWZ	**D'Urville Isla**	**1.26**	**263**	PN	**Pn**	**13 14 12.6**	**-0.1**
MTVZ	**Mangateitei**	**1.27**	**357**	PN	**Pn**	**13 14 13.2**	**+0.4**
WNVZ	**Wahianoa**	**1.32**	**1**	PN	**Pn**	**13 14 14.0**	**+0.4**
WNVZ	**Wahianoa**	**1.32**	**1**	P	**Pn**	**13 14 14.0**	**+0.4**
TRVZ	**Turoa**	**1.35**	**360**	PN	**Pn**	**13 14 14.4**	**+0.4**
PKVZ	**Pokaka**	**1.37**	**353**	PN	**Pn**	**13 14 14.5**	**+0.3**
DRZ	**Dome Shelter**	**1.38**	**0**	PN	**Pn**	**13 14 15.2**	**+0.9**
FWVZ	**Far West T-bar**	**1.40**	**360**	PN	**Pn**	**13 14 15.0**	**+0.4**
FWVZ	**Far West T-bar**	**1.40**	**360**	P	**Pn**	**13 14 15.0**	**+0.4**
WPVZ	**Whakapapa**	**1.45**	**359**	PN	**Pn**	**13 14 15.8**	**+0.6**
WPVZ	**Whakapapa**	**1.45**	**359**	P	**Pn**	**13 14 15.8**	**+0.5**
TUWZ	**Tuamarina**	**1.45**	**237**	PN	**Pn**	**13 14 14.9**	**-0.4**
NGZ	**Ngauruhoe**	**1.48**	**1**	PN	**Pn**	**13 14 16.3**	**+0.6**
NGZ	**Ngauruhoe**	**1.48**	**1**	P	**Pn**	**13 14 16.3**	**+0.6**
OTVZ	**Oturere**	**1.49**	**3**	PN	**Pn**	**13 14 16.3**	**+0.4**
WTVZ	**West Tongariro**	**1.53**	**1**	PN	**Pn**	**13 14 17.1**	**+0.6**
WTVZ	**West Tongariro**	**1.53**	**1**	P	**Pn**	**13 14 17.1**	**+0.6**
KRVZ	**Karewarewa**	**1.56**	**2**	PN	**Pn**	**13 14 17.3**	**+0.5**
TWVZ	**Taurewa**	**1.58**	**356**	PN	**Pn**	**13 14 17.4**	**+0.3**
TWVZ	**Taurewa**	**1.58**	**356**	P	**Pn**	**13 14 17.4**	**+0.3**
RAEZ	**Rainy Point**	**1.63**	**326**	P	**Pn**	**13 14 18.8**	**+1.0**
VRZ	**Vera Road**	**1.65**	**338**	PN	**Pn**	**13 14 18.3**	**+0.3**
VRZ	**Vera Road**	**1.65**	**338**	P	**Pn**	**13 14 18.3**	**+0.3**
BKZ	**Black Stump Fm**	**1.65**	**26**	PN	**Pn**	**13 14 17.5**	**-0.5**
BKZ	**Black Stump Fm**	**1.65**	**26**	P	**Pn**	**13 14 17.5**	**-0.5**
BSWZ	**Blackbirch Sta**	**1.66**	**230**	PN	**Pn**	**13 14 17.9**	**-0.2**
BSWZ	**Blackbirch Sta**	**1.66**	**230**	P	**Pn**	**13 14 17.9**	**-0.3**
KATZ	**Kakaramea**	**1.68**	**4**	PN	**Pn**	**13 14 18.8**	**+0.4**
RITZ	**Rihia Road**	**1.69**	**8**	PN	**Pn**	**13 14 19.0**	**+0.4**
RITZ	**Rihia Road**	**1.69**	**8**	P	**Pn**	**13 14 19.0**	**+0.4**
NNZ	**Nelson**	**1.75**	**250**	PN	**Pn**	**13 14 19.2**	**-0.2**
NNZ	**Nelson**	**1.75**	**250**	*e*P	**Pn**	**13 14 19.2**	**-0.2**
NRZ	**Ngariki Road**	**1.81**	**316**	P	**Pn**	**13 14 21.3**	**+1.0**
PKE	**Pukeiti**	**1.89**	**320**	P	**Pn**	**13 14 22.6**	**+1.2**
NWEZ	**Newall Road**	**1.90**	**316**	P	**Pn**	**13 14 22.8**	**+1.4**
HIZ	**Hauiti**	**2.20**	**345**	PN	**Pn**	**13 14 26.0**	**+0.3**
HIZ	**Hauiti**	**2.20**	**345**	P	**Pn**	**13 14 26.0**	**+0.3**
THZ	**Tophouse**	**2.29**	**240**	PN	**Pn**	**13 14 25.9**	**-0.9**
THZ	**Tophouse**	**2.29**	**240**	*e*P	**Pn**	**13 14 25.9**	**-1.0**
QRZ	**Quartz Range**	**2.31**	**265**	PN	**Pn**	**13 14 26.2**	**-0.9**
QRZ	**Quartz Range**	**2.31**	**265**	*e*P	**Pn**	**13 14 26.2**	**-0.9**
KHZ	**Kahutara**	**2.33**	**220**	PN	**Pn**	**13 14 26.4**	**-0.9**
KHZ	**Kahutara**	**2.33**	**220**	*e*P	**Pn**	**13 14 26.4**	**-0.9**
URZ	**Urewera**	**2.67**	**27**	P	**Pn**	**13 14 29.9**	**-2.2**
	1.0nm,0.3s,baz=226,slow=10,SNR=5.6						
URZ				S	**Sn**	**13 15 00.8**	**-2.4**
	4.1nm,0.3s,baz=280,slow=12,SNR=8.3						
URZ	**Urewera**	**2.67**	**27**	PN	**Pn**	**13 14 29.8**	**-2.2**
URZ	**Urewera**	**2.67**	**27**	*e*P	**Pn**	**13 14 30.3**	**-1.8**
MWZ	**Matawai**	**2.77**	**34**	PN	**Pn**	**13 14 31.4**	**-2.0**
MWZ	**Matawai**	**2.77**	**34**	*e*P	**Pn**	**13 14 31.4**	**-2.0**
DSZ	**Denniston Nort**	**3.04**	**248**	*e*P	**Pn**	**13 14 36.0**	**-1.1**
LTZ	**Lake Taylor**	**3.26**	**228**	*e*P	**Pn**	**13 14 38.6**	**-1.5**
MQZ	**McQueen's Vall**	**3.74**	**214**	*e*P	**Pn**	**13 14 44.0**	**-2.8**
RPZ	**Rata Peaks**	**4.54**	**226**	P	**Pn**	**13 15 08.9**	**+11**
	2.0nm,0.3s,baz=312,slow=3.2,SNR=11						
ODZ	**Otahua Downs**	**5.69**	**218**	*e*P	**Pn**	**13 15 10.7**	**-2.7**
ASAR	**Alice Springs**	**38.72**	**283**	P	**P**	**13 21 10.9**	**-0.1**
	0.2nm,0.3s,mb3.3,baz=120,slow=6.4,SNR=4.9						
WRA	**Warramunga Arr**	**40.68**	**288**	P	**P**	**13 21 26.6**	**-0.7**
	0.4nm,0.4s,mb3.4,baz=126,slow=8.3,SNR=8.4						
TORD	**Torodi Ar. Bea**	**152.08**	**193**	PKPbc	PKPbc	13 33 41.1	-0.5
	0.8nm,1.1s,baz=182,slow=3.6,SNR=4.0						

ISCJB ***31*** *13:16:29.7±0.4, 962N±004×12687E±004, h32km, mb4.2/23, MS3.7/6, Error ellipse: s-maj=6.0km s-min=5.5km az=61.2*
MOS ***31*** *13:16:29.9±1.1, 949N×12632E, h33km, mb4.6/7, Error ellipse: s-maj=38.7km s-min=11.1km az=110.3*
MAN ***31*** *13:16:30.9, 959N×12678E, h26km, mb3.9, ML4.9, MS4.5*
IDC ***31*** *13:16:31.6±0.7, 946N×12631E, h33km±5km, mb4.0/15, mb1 4.1/15, mb1mx4.0/23, mbtmp4.1/15, MS3.7/7, Ms1 3.8/7, ms1mx3.2/25, Error ellipse: s-maj=34.3km s-min=12.3km az=71.0*
NEIC ***31*** *13:16:31.4±0.4, 962N×12661E, mb4.5/6, Error ellipse: s-maj=18.9km s-min=8.7km az=72.0*
ISC 31 13:16:31.8±0.4, 961N±004×12682E±004, h34km, h34km±1.8km:pP-P,n62, σ1s26/65, mb4.2/23, MS3.7/6, 5C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**1.32**	**278**	↓*e*P	**Pn**	**13 16 52.1**	**-1.7**
SCPH				*e*S	**Sn**	**13 17 02.9**	**-7.3**
BUTP	**Butuan**	**1.34**	**242**	*e*P	**Pn**	**13 16 52.6**	**-1.5**
BIPH	**Bislig**	**1.48**	**198**	↑*e*P	**Pn**	**13 16 54.7**	**-1.4**
BIPH				*e*S	**Sn**	**13 17 19.2**	**+4.9**
MSLP	**Maasin**	**2.00**	**285**	*e*P	**Pn**	**13 17 03.8**	**+0.6**
PLP	**Palo**	**2.38**	**311**	*e*P	**Pn**	**13 17 08.6**	**+0.3**
PLP				*i* S	**Sn**	**13 17 43.5**	**+7.2**
CGP	**Cagayan de Oro**	**2.39**	**242**	↑*e*P	**Pn**	**13 17 08.6**	**+0.1**
CGP				*e*S	**Sn**	**13 17 35.4**	**-1.2**
BUKP	**Musuan**	**2.44**	**225**	*e*P	**Pn**	**13 17 10.5**	**+1.3**
OCLP	**Ormoc**	**2.60**	**304**	*e*P	**Pn**	**13 17 12.6**	**+1.1**
MATI	**Mati**	**2.70**	**192**	*e*P	**Pn**	**13 17 13.2**	**+0.4**
DAV	**Davao City (W)**	**2.80**	**206**	↑*e*P	**Pn**	**13 17 20.0**	**+5.8**
DAV	**Davao City (W)**	**2.80**	**206**	*e*Pn	**Pn**	**13 17 19.1**	**+4.9**
LLP	**

STKA	**Stephens Creek**	**43.60**	**162**	P		**P**	**13 24 31.4**	**-1.3**
	2.1nm,0.7s,mb4.0,baz=319,slow=13,SNR=5.7							
STKA	**Stephens Creek**	**43.60**	**162**	*eP*		**P**	**13 24 31.2**	**-1.5**
ZAK	**Zakamensk**	**45.07**	**339**	*eP*		**P**	**13 24 45.4**	**+1.0**
ZAK				pmax	pmax			
	comp=Z,6.0nm,2.2s,mb4.0							
DZM	**Mont Dzumac**	**50.01**	**129**	LR		LR	13 47 19.9	
	comp=Z,136nm,19.0s,MS4.0,baz=294,slow=37							
MKAR	**Makanchi Array**	**52.88**	**323**	P		**P**	**13 25 43.1**	**-1.1**
	comp=Z,1.8nm,0.7s,mb4.1,baz=121,slow=8.3,SNR=22							
MKAR				pP		pP	13 25 53.0	-1.5
	comp=Z,2.2nm,0.7s,baz=126,slow=8.4,SNR=9.4							
MKAR				PcP		PcP	13 26 52.7	-0.3
	comp=Z,1.0nm,0.6s,baz=104,slow=4.4,SNR=3.8							
ZAL	**Zalesovo**	**55.47**	**331**	P		**P**	**13 26 00.8**	**-2.3**
	comp=Z,1.3nm,0.3s,mb4.5,baz=340,slow=5.3,SNR=5.0							
ZAL				LR		LR	13 52 26.9	
	comp=Z,95nm,18.2s,MS3.9,baz=91,slow=39							
KURK	**Kurchatov**	**56.92**	**326**	*eP*		**P**	**13 26 12.1**	**-1.3**
KURK				*e**SP		sP	13 26 25.4	-2.4
KURK				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.4							
KURK	**Kurchatov**	**56.92**	**326**	*eP*		**P**	**13 26 12.1**	**-1.3**
	comp=Z,3.0nm,0.7s,mb4.4							
KURK				*es*P		sP	13 26 25.4	-2.4
TIXI	**Tiksi**	**62.00**	**1**	*eP*		**P**	**13 26 48.4**	**-0.1**
TIXI				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.7							
BRVK	**Borovoye**	**62.59**	**325**	*eP*		**P**	**13 26 51.5**	**-0.9**
BRVK				*e**PP		pP	13 27 00.7	-2.2
BRVK				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.5							
BRVK	**Borovoye**	**62.59**	**325**	*eP*		**P**	**13 26 51.5**	**-0.9**
	comp=Z,2.7nm,0.7s,mb4.5							
BRVK				*ep*P		pP	13 27 00.7	-2.2
ZRNK	**Zerenda**	**63.27**	**325**	*eP*		**P**	**13 26 55.6**	**-1.3**
ZRNK				*e**PP		pP	13 27 04.2	-3.2
ZRNK				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.5							
ZRNK	**Zerenda**	**63.27**	**325**	*eP*		**P**	**13 26 55.6**	**-1.3**
	comp=Z,2.7nm,0.7s,mb4.5							
ZRNK				*ep*P		pP	13 27 04.2	-3.2
AKTK	**Aktyubinsk**	**69.17**	**320**	P		**P**	**13 27 33.7**	**-1.1**
AKTO	**Aktyubinsk**	**69.17**	**320**	P		**P**	**13 27 33.7**	**-1.1**
	comp=Z,1.5nm,0.7s,mb4.0,baz=101,slow=10,SNR=8.0							
ILAR	**Eielson Array**	**79.80**	**26**	P		**P**	**13 28 37.8**	**+1.3**
	comp=Z,0.5nm,0.7s,mb3.5,baz=253,slow=4.6,SNR=7.0							
ILAR				pP		pP	13 28 48.9	+1.6
	comp=Z,1.1nm,0.8s,baz=242,slow=5.2,SNR=9.4							
JOF	**Joensuu**	**84.02**	**333**	*e*pkp		**P**	**13 28 58.5**	**-0.2**
INK	**Inuvik**	**84.70**	**22**	*eP*		**P**	**13 29 02.5**	**+0.3**
INK				*e**PP		pP	13 29 13.6	+0.6
INK				pmax	pmax			
	comp=Z,1.0nm,0.8s							
INK	**Inuvik**	**84.70**	**22**	*eP*		**P**	**13 29 02.5**	**+0.4**
	comp=Z,1.4nm,0.8s,mb4.1							
INK				*ep*P		pP	13 29 13.6	+0.6
ARCES	**ARCESS Array B**	**85.00**	**340**	P		**P**	**13 29 03.3**	**-0.3**
	comp=Z,3.9nm,0.7s,mb4.6,baz=76,slow=6.5,SNR=11							
KAF	**Kangasniemi**	**86.46**	**332**	*e*pkp		**P**	**13 29 11.2**	**+0.3**
FINES	**FINESS Array B**	**86.73**	**332**	P		**P**	**13 29 11.0**	**-1.2**
	comp=Z,2.2nm,0.7s,mb4.5,baz=104,slow=8.0,SNR=9.4							
FINES				pP		pP	13 29 20.4	-2.6
	comp=Z,0.7nm,0.4s,baz=88,slow=6.1,SNR=2.8							
DAG	**Danmarks Havn**	**91.48**	**352**	⇓*iP*		**P**	**13 29 34.3**	**-0.3**
	comp=Z,3.4nm,0.9s,mb4.7							
DAG	**Danmarks Havn**	**91.48**	**352**	⇓*eP*		**P**	**13 29 34.3**	**-0.3**
DAG				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.6							
NOA	**NORSAR Array B**	**93.59**	**334**	P		**P**	**13 29 42.5**	**-1.9**
	comp=Z,0.8nm,0.7s,mb4.2,baz=68,slow=0.1,SNR=3.4							
NOA				LR		LR	14 16 05.0	
	comp=Z,30nm,18.7s,MS3.8,baz=270,slow=38							
YKA	**Yellowknife Ar**	**94.14**	**24**	P		**P**	**13 29 47.9**	**+1.0**
	comp=Z,0.4nm,0.7s,mb4.0,baz=291,slow=4.4,SNR=3.5							
YKA				pP		pP	13 29 59.8	+2.0
	comp=Z,1.3nm,0.7s,baz=299,slow=4.7,SNR=7.8							
YKA	**Yellowknife Ar**	**94.14**	**24**	P		**P**	**13 29 47.9**	**+1.0**
YKA				pP		pP	13 29 59.8	+2.0

IDC 31 13:38:52.3±2.1,639S×12929E,h0km,mb3.7/1,mb1 4.1/4, mb1mx3.8/15,mbtmp3.9/4,ML3.8/3, Error ellipse: s-maj=90.9km s-min=27.5km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.18**	**197**	Pn	Pn	13 41 49.2	+2.2
	0.4nm,0.3s,baz=12,slow=18,SNR=21						
FITZ				Sn	Sn	13 43 52.3	-11
	0.3nm,0.3s,baz=198,slow=20,SNR=4.9						
WRA	**Warramunga Arr**	**14.34**	**160**	Pn	Pn	13 42 15.8	-0.8
	0.2nm,0.3s,baz=340,slow=12,SNR=19						
WRA				Sn	Sn	13 44 43.4	-13
	0.5nm,0.3s,baz=330,slow=22,SNR=7.5						
ASAR	**Alice Springs**	**17.74**	**166**	P	Pn	13 43 00.0	-0.7
	2.0nm,0.3s,baz=341,slow=10.0,SNR=164						
ASAR				S	Sn	13 46 05.0	-14
	0.1nm,0.3s,baz=349,slow=25,SNR=4.7						
MKAR	**Makanchi Array**	**67.33**	**327**	P	P	13 49 49.2	+0.1
	0.4nm,0.4s,baz=114,slow=7.3,SNR=6.9						

*ISCJB **31** 13:59:08.0±0.7, 3388N±005×3666E±004, h1km±6km, Error ellipse: s-maj=8.4km s-min=5.1km az=125.7*
*CSEM **31** 13:59:08.1, 3390N×3662E, h13km, Mc2.6, After NSSC*
*NSSC **31** 13:59:08.1, 3390N×3662E, h13km±3km*
*GII **31** 14:00:04.7±1.4, 3410N×3644E, h0km, ML2.3/1*
ISC 31 13:59:08.4±0.7, 3388N±004×3665E±005, h2km±6km, n17, σ0°98/30, 4D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARH	**Ras Al Marh**	**0.20**	**315**	⇑P	**Pg**	**13 59 12.3**	**0.0**
MARH	**Ras Al Marh**	**0.20**	**315**	⇑*iP*	**Pg**	**13 59 12.3**	**0.0**
QASN	**Qassioun**	**0.47**	**222**	⇓P	**Pg**	**13 59 17.4**	**0.0**
QASN				⇓S	**Sg**	**13 59 24.7**	**+1.2**
QASN	**Qassioun**	**0.47**	**222**	⇓*iP*	**Pg**	**13 59 17.4**	**0.0**
QASN				⇓*iS*	**Sg**	**13 59 24.7**	**+1.2**
TOTH	**TOTAH**	**0.55**	**200**	⇑P	**Pg**	**13 59 18.6**	**-0.4**
TOTH	**TOTAH**	**0.55**	**200**	⇑*iP*	**Pg**	**13 59 18.5**	**-0.5**
ROOS	**tl_alroos**	**0.60**	**61**	⇑P	**Pg**	**13 59 19.9**	**0.0**
ROOS				⇑S	**Sg**	**13 59 29.5**	**+1.8**
ROOS	**tl_alroos**	**0.60**	**61**	⇑*iP*	**Pg**	**13 59 19.9**	**0.0**
ROOS				⇑*iS*	**Sg**	**13 59 29.5**	**+1.8**
KSDI	**Kefar Szold**	**1.08**	**231**	Pg	**Pg**	**13 59 27.7**	**-1.4**
KSDI				Sg	**Sg**	**13 59 44.6**	**+1.5**
ZALF	**Zalf**	**1.11**	**149**	⇑P	**Pg**	**13 59 29.1**	**-0.6**
ZALF				⇑S	**Sg**	**13 59 44.3**	**+0.1**
ZALF	**Zalf**	**1.11**	**149**	⇑*iP*	**Pg**	**13 59 29.1**	**-0.6**
ZALF				⇑*iS*	**Sg**	**13 59 44.3**	**+0.1**
SALA	**Sala**	**1.17**	**177**	⇑P	**Pg**	**13 59 29.9**	**-0.9**
SALA				⇑S	**Sg**	**13 59 45.9**	**0.0**
SALA	**Sala**	**1.17**	**177**	⇑*iP*	**Pg**	**13 59 29.9**	**-0.9**
SALA				⇑*iS*	**Sg**	**13 59 45.9**	**-0.1**
MMC2	**Mount Meron ar**	**1.34**	**231**	Pn	**Sn**	**13 59 32.6**	**-1.5**
MMC2				Sn	**Sn**	**13 59 52.5**	**-0.1**
MMA0	**Mount Meron ar**	**1.36**	**231**	Pn	**Pn**	**13 59 33.0**	**-1.4**
MMA0				Sn	**Sn**	**13 59 52.8**	**-0.1**
MMLI	**Mount Malkishu**	**1.77**	**216**	Pn	**Pn**	**13 59 39.8**	**-0.3**
MMLI				Sn	**Sn**	**14 00 04.3**	**+1.1**
SLTI	**Sal'it**	**2.12**	**220**	Pn	**Pn**	**13 59 44.3**	**-0.6**
SLTI				Sn	**Sn**	**14 00 13.8**	**+2.0**

IDC 31 14:11:46.0±2.1,698S×13036E,h0km,mb3.1/1,mb1 3.5/4, mb1mx3.4/14,mbtmp3.3/4,ML2.8/3, Error ellipse: s-maj=78.1km s-min=25.9km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.97**	**202**	Pn	Pn	14 14 38.3	+0.3
	0.0nm,0.3s,baz=17,slow=17,SNR=4.6						
FITZ				Sn	Sn	14 16 45.6	-6.6
	0.1nm,0.3s,baz=229,slow=8.1,SNR=4.7						
WRA	**Warramunga Arr**	**13.45**	**164**	Pn	Pn	14 14 58.0	-0.1
	0.1nm,0.3s,baz=344,slow=10,SNR=6.5						
WRA				Sn	Sn	14 17 29.7	+1.4
	0.1nm,0.3s,baz=329,slow=23,SNR=4.0						
ASAR	**Alice Springs**	**16.94**	**169**	Pn	Pn	14 15 44.8	+0.4
	0.2nm,0.3s,baz=345,slow=9.8,SNR=20						
MKAR	**Makanchi Array**	**68.41**	**327**	P	P	14 22 49.7	+0.2
	0.1nm,0.5s,baz=132,slow=8.0,SNR=2.7						

*ISCJB **31** 15:16:43.8±0.3, 1547N±003×9307W±003, h104km±3km, mb4.6/59, Error ellipse: s-maj=6.3km s-min=3.5km az=64.3*
*NEIC **31** 15:16:43.6±0.4, 1544N×9288W, mb4.7/48, MD4.8(MEX), Error ellipse: s-maj=8.2km s-min=5.3km az=37.0*
*IDC **31** 15:16:43.2±0.6, 1562N×9280W, h88km±4km, mb4.1/19, mb1 4.3/20, mb1mx4.2/26, mbtmp4.4/20, MS3.5/8, Ms1 3.5/8, ms1mx3.2/22, Error ellipse: s-maj=18.6km s-min=8.2km az=41.0*
*BJI **31** 15:16:43.5, 1540N×9290W, h90km, mB4.9, Ms4.9, Msz4.4*
*CASC **31** 15:16:44.5±2.6, 1531N×9311W, h20km±413km, MD4.3, ML4.8, mb4.7(NEIC)*
*MOS **31** 15:16:44.5±1.1, 1558N×9275W, h108km, mb4.6/16, Error ellipse: s-maj=12.9km s-min=5.2km az=110.4*
*MEX **31** 15:16:45.4±1.4, 1531N×9332W, h50km±68km, MD4.8*
ISC 31 15:16:45.1±0.3, 1549N±003×9305W±003, h97km±3km, h92km±3.6km:pP-P,n210,σ1§44/218, mb4.6/59, 1C-3D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**1.18**	**48**	*eP*	**Pn**	**15 17 07.7**	**+0.4**
CCIG				*i* S	**Sn**	**15 17 26.9**	**+2.8**
CCIG	**Comitan**	**1.18**	**48**	*i* P	**Pn**	**15 17 08.0**	**+0.7**
CCIG				*i* S	**Sn**	**15 17 25.2**	**+1.1**
SCX	**San Cristobal**	**1.30**	**18**	*i* P	**Pn**	**15 17 09.3**	**+0.5**
SCX				*i* S	**Sn**	**15 17 30.2**	**+3.5**
JAT	**Jato**	**1.79**	**130**	*eP*	**Pn**	**15 17 14.4**	**-0.5**
TP2	**Tecpan 2**	**2.08**	**109**	*eP*	**Pn**	**15 17 18.5**	**0.0**
TP2				*eS*	**Sn**	**15 17 46.1**	**+2.0**
FUG	**Fuego 3**	**2.37**	**116**	*eP*	**Pn**	**15 17 24.2**	**+1.8**
CMIG	**Matias Romero**	**2.38**	**312**	P	**Pn**	**15 17 20.9**	**-1.5**
	84nm,0.3s,baz=135,slow=11,SNR=574						
CMIG				S	**Sn**	**15 17 50.4**	**-0.7**
	543nm,0.3s,baz=120,slow=20,SNR=24						
CMIG	**Matias Romero**	**2.38**	**312**	*i* P	**Pn**	**15 17 20.9**	**-1.6**
CMIG				*i* S	**Sn**	**15 17 46.6**	**-4.5**
CMIG	**Matias Romero**	**2.38**	**312**	*i* P	**Pn**	**15 17 20.8**	**-1.6**
PCG	**Pacaya**	**2.60**	**114**	*eP*	**Pn**	**15 17 27.5**	**+2.1**
TUIG	**Tuzandepetl**	**2.85**	**333**	*i* P	**Pn**	**15 17 28.9**	**+0.1**
TUIG				*i* S	**Sn**	**15 18 00.5**	**-1.9**
HUIG	**Huatulco**	**2.96**	**276**	*i* P	**Pn**	**15 17 25.5**	**-4.7**
HUIG				*i* S	**Sn**	**15 17 55.6**	**-9.4**
HUIG	**Huatulco**	**2.96**	**276**	*i* P	**Pn**	**15 17 25.7**	**-4.5**
HUIG				*i* S	**Sn**	**15 17 55.8**	**-9.2**
EVV	**El Vigia**	**3.68**	**324**	*eP*	**Pn**	**15 17 37.5**	**-2.4**
OXX	**Oaxaca**	**3.87**	**295**	*i* P	**Pn**	**15 17 42.0**	**-0.4**
OXX				*i* S	**Sn**	**15 18 16.0**	**-11**
VHO	**Vista Hermosa**	**3.87**	**295**	*eP*	**Pn**	**15 17 40.7**	**-1.7**
VHO				*i* S	**Sn**	**15 18 21.6**	**-5.3**
SCIG		**3.89**	**27**	*i* P	**Pn**	**15 17 43.0**	**+0.2**
SCIG				*i* S	**Sn**	**15 18 28.3**	**+0.9**
PNIG	**Pinotepa**	**4.97**	**281**	*i* P	**Pn**	**15 17 56.0**	**-1.2**
PNIG				*i* S	**Sn**	**15 18 46.2**	**-7.3**
UTMO	**Huajuapan**	**5.12**	**298**	*eP*	**Pn**	**15 17 58.9**	**-0.4**
UTMO				*i* S	**Sn**	**15 18 53.0**	**-4.1**
LVIG	**Laguna Verde**	**5.30**	**323**	*i* P	**Pn**	**15 18 05.4**	**+3.6**
LVIG				*i* S	**Sn**	**15 18 56.9**	**-4.6**
LVIG	**Laguna Verde**	**5.30**	**323**	*i* P	**Pn**	**15 18 09.2**	**+7.4**
LVIG				*i* S	**Sn**	**15 18 54.5**	**-6.9**
PPM	**Popocatepetl**	**6.41**	**305**	*eP*	**Pn**	**15 18 17.4**	**+0.6**
PPM				*eP*		15 18 19.0	
PPM				*i* S	**Sn**	**15 19 24.8**	**-3.7**
PPM	**Popocatepetl**	**6.41**	**305**	*i* P	**Pn**	**15 18 18.2**	**+1.3**
PPM				*i* S	**Sn**	**15 19 33.6**	**+5.1**
CRIN	**San Cristobal**	**6.45**	**115**	*eP*	**Pn**	**15 18 18.0**	**+0.6**
YAIG	**Yautepec**	**6.66**	**301**	*i* P	**Pn**	**15 18 20.9**	**+0.6**
ACX	**Acapulco**	**6.74**	**283**	*i* P	**Pn**	**15 18 18.1**	**-3.2**
MEIG	**Mezcala**	**6.75**	**292**	*i* P	**Pn**	**15 18 21.0**	**-0.5**
MEIG				*i* S	**Sn**	**15 19 35.1**	**-1.7**
PLIG	**Platanillo**	**6.82**	**296**	*i* P	**Pn**	**15 18 21.1**	**-1.3**
PLIG				*i* S	**Sn**	**15 19 32.9**	**-5.6**
PLIG	**Platanillo**	**6.82**	**296**	*i* P	**Pn**	**15 18 23.2**	**+0.8**
PLIG				*i* S	**Sn**	**15 19 30.8**	**-7.7**
CNGN	**Cerro Negro**	**6.84**	**115**	*eP*	**Pn**	**15 18 23.0**	**+0.3**
UNM	**Universidad Na**	**6.99**	**304**	*eP*	**Pn**	**15 18 19.0**	**-5.7**
MOMJ	**Momotombo**	**7.02**	**115**	*eP*	**Pn**	**15 18 25.3**	**+0.1**
CAIG	**El Cayaco**	**7.10**	**284**	*i* P	**Pn**	**15 18 23.3**	**-3.0**
CAIG				*i* S	**Sn**	**15 19 39.6**	**-5.9**
CAIG	**El Cayaco**	**7.10**	**284**	*i* P	**Pn**	**15 18 23.3**	**-3.0**
CAIG				*i* S	**Sn**	**15 19 44.2**	**-1.3**
MOIG	**Morelia**	**8.81**	**299**	*i* P	**Pn**	**15 18 51.0**	**+1.5**
MRX	**Morelia**	**8.82**	**300**	*eP*	**Pn**	**15 18 53.0**	**+3.3**
JTS	**JuntasAbangare**	**9.43**	**122**	*c iP*	**Pn**	**15 18 56.7**	**-1.3**
JTS	**JuntasAbangare**	**9.43**	**122**	*ePn*	**Pn**	**15 18 56.8**	**-1.2**
	94nm,1.1s						
CGA2	**Cerro Gallo 2**	**9.98**	**122**	*eP*	**Pn**	**15 19 06.1**	**+0.6**
LCR2	**La Lucha 2**	**10.51**	**122**	*eP*	**Pn**	**15 19 12.4**	**-0.2**
URSC	**Urasca**	**10.65**	**121**	*eP*	**Pn**	**15 19 15.9**	**+1.4**
SFJM	**Santa Fe**	**10.72**	**299**	*i* P	**Pn**	**15 19 12.0**	**-3.6**
BUS	**Buena Vista**	**10.82**	**122**	⇓*eP*	**Pn**	**15 19 16.7**	**-0.1**
LNIG	**Linares**	**11.13**	**328**	*i* P	**Pn**	**15 19 23.8**	**+2.7**
SOR	**Soroa**	**11.95**	**51**	*eP*	**Pn**	**15 19 31.8**	**-0.3**
	baz=254						
SOR				*eS*	**Sn**	**15 21 28.6**	**-15**
	comp=N,3μm,0.6s						
SOR				*e*			
	comp=E,3μm,0.7s						
MGV	**Manicaragua**	**14.01**	**60**	*eP*	**Pn**	**15 19 59.1**	**-0.1**
MGV				*eS*	**Sn**	**15 22 28.7**	**-4.7**
	comp=N,2μm,0.3s						
MGV				*e*		15 22 28.7	
	comp=E,2μm,0.7s						
HKT	**Hockley**	**14.62**	**350**	*eP*	**Pn**	**15 20 06.7**	**-0.3**
HKT				pmax	pmax		
	comp=Z,35nm,1.2s						
HKT	**Hockley**	**14.62**	**350**	*eP*	**Pn**	**15 20 06.7**	**-0.3**
	comp=Z,35nm,1.2s						
CCCC	**Cccc**	**15.58**	**66**	*eP*	**Pn**	**15 20 22.1**	**+2.9**
JCT	**Junction City**	**16.16**	**339**	*eP*	**Pn**	**15 20 27.3**	**+0.9**
JCT				pmax	pmax		
	comp=Z,21nm,0.5s						
JCT	**Junction City**	**16.16**	**339**	*eP*	**Pn**	**15 20 27.3**	**+0.9**
	comp=Z,20nm,0.5s						
JCT				*eS*	S	15 23 08.9	-23
NATX	**Nacogdoches**	**16.27**	**355**	*eP*	**Pn**	**15 20 28.9**	**+1.2**
	comp=Z,28nm,0.7s						
RCC	**Rio Carpintero**	**17.12**	**72**	*eP*	**Pn**	**15 20 36.9**	**-1.4**
LPIG	**La Paz**	**18.35**	**301**	LR	LR	15 28 27.6	
	comp=Z,62nm,19.7s,baz=213,slow=38						
MIAR	**Mount Ida**	**18.98**	**359**	*eP*	**Pn**	**15 20 58.5**	**-2.1**
MIAR				*eS*	**S**	**15 24 14.6**	**-15**
MIAR				pmax	pmax		
	comp=Z,95nm,1.0s						
MIAR	**Mount Ida**	**18.98**	**359**	*eP*	**Pn**	**15 20 58.5**	**-2.1**
	comp=Z,95nm,1.0s						
MIAR				*eS*	**S**	**15 24 14.6**	**-15**
UALR	**University of**	**19.22**	**2**	*eP*	**Pn**	**15 21 00.8**	**-2.6**
	comp=Z,30nm,0.7s						
OXF	**Oxford**	**19.23**	**9**	*eP*	**Pn**	**15 21 02.5**	**-0.9**
OXF				*eS*	**S**	**15 24 22.6**	**-11**
OXF				pmax	pmax		
	comp=Z,113nm,1.1s						
OXF	**Oxford**	**19.23**	**9**	*eP*	**Pn**	**15 21 02.5**	**-0.9**
	comp=Z,113nm,1.1s						
OXF				*eS*	**S**	**15 24 22.6**	**-11**
GDL2	**Guadalupe Moun**	**19.57**	**330**	*eP*	**Pn**	**15 21 06.9**	**-0.5**
MNTX	**Cornudas Mount**	**19.67**	**327**	*eP*	**Pn**	**15 21 06.8**	**-1.8**
	comp=Z,17nm,0.8s						
WMOK	**Wichita Mounta**	**19.85**	**346**	*eP*	**Pn**	**15 21 06.9**	**-3.8**
WMOK				*eS*	**S**	**15 24 41.2**	**-5.2**
WMOK				pmax	pmax		
	comp=Z,13nm,0.7s						
WMOK	**Wichita Mounta**	**19.85**	**346**	*eP*	**Pn**	**15 21 06.9**	**-3.8**
	comp=Z,13nm,0.7s						
WMOK				*eS*	**S**	**15 24 41.2**	**-5.2**
PLAL	**Pickwick Lake**	**19.92**	**12**	*eP*	**Pn**	**15 21 07.9**	**-3.6**
	comp=Z,66nm,0.8s						
CPRX	**Cap Rock**	**20.03**	**333**	*eP*	**P**	**15 21 11.0**	**+0.8**
SWET	**Sewanee**	**20.66**	**17**	*eP*	**P**	**15 21 15.2**	**-1.7**
AMTX	**Amarillo**	**20.81**	**340**	*eP*	**P**	**15 21 19.0**	**+0.4**
	comp=Z,59nm,0.5s						
OTAV	**Otavalo**	**20.92**	**135**	*eP*	**P**	**15 21 18.9**	**-0.8**
	comp=Z,7.5nm,1.0s						
WVT	**Waverly**	**21.08**	**12**	*eP*	**P**	**15 21 20.0**	**-1.5**
WVT				*e*		15 21 27.1	
JSC	**Jenkinsville**	**21.52**	**27**	*eP*	**P**	**15 21 25.8**	**-0.4**
BNM	**Barren Site**	**22.25**	**329**	*eP*	**P**	**15 21 35.5**	**+1.6**
LPM	**Los Pinos Moun**	**22.39**	**329**	*eP*	**P**	**15 21 36.9**	**+1.6**
LENM	**Lemitar**	**22.44**	**328**	*eP*	**P**	**15 21 37.3**	**+1.4**
CCM	**Cathedral Cave**	**22.54**	**4**	*eP*	**P**	**15 21 34.6**	**-2.3**
CCM				pmax	pmax		
	comp=Z,21nm,0.6s,mb4.6						
CCM	**Cathedral Cave**	**22.54**	**4**	*eP*	**P**	**15 21 34.6**	**-2.4**
	comp=Z,21nm,0.6s,mb4.6						
TZTN	**Tazewell**	**22.61**	**20**	*eP*	**P**	**15 21 36.1**	**-1.6**
LAZ	**Ladron**	**22.71**	**329**	*eP*	**P**	**15 21 40.2**	**+1.5**
ANMO	**Albuquerque**	**22.82**	**331**	P	**P**	**15 21 40.0**	**+0.1**
	comp=Z,11nm,0.7s,mb4.3,baz=145,slow=12,SNR=25						
ANMO	**Albuquerque**	**22.82**	**331**	*eP*	**P**	**15 21 39.6**	**-0.3**
ANMO				pmax	pmax		
	comp=Z,9.0nm,0.6s						
ANMO	**Albuquerque**	**22.82**	**331**	*eP*	**P**	**15 21 39.6**	**-0.3**
	comp=Z,9.2nm,0.6s,mb4.3						
SDV	**Santo Domingo**	**22.86**	**104**	P	**P**	**15 21 36.5**	**-3.8**
	comp=Z,11nm,0.6s,mb4.3,baz=309,slow=7.0,SNR=16						
SDV	**Santo Domingo**	**22.86**	**104**	*eP*	**P**	**15 21 36.2**	**-4.0**
	comp=Z,19nm,0.8s,mb4.5						
USIN	**University of**	**22.89**	**11**	P	**P**	**15 21 37.7**	**-2.8**
	comp=Z,30nm,0.8s,mb4.7						
TUC	**Tucson**	**23.25**	**319**	*eP*	**P**	**15 21 45.1**	**+1.3**
TUC				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb3.9						
TUC	**Tucson**	**23.25**	**319**	*eP*	**P**	**15 21 45.1**	**+1.3**
	comp=Z,5.3nm,0.8s,mb3.9						
WCI	**Wyandotte Cave**	**23.43**	**13**	*eP*	**P**	**15 21 43.2**	**-2.2**
WCI				pmax	pmax		
	comp=Z,17nm,0.7s,mb4.5						
WCI	**Wyandotte Cave**	**23.43**	**13**	*eP*	**P**	**15 21 43.2**	**-2.2**
	comp=Z,17nm,0.7s,mb4.5						
CBKS	**Cedar Bluff**	**23.97**	**347**	*eP*	**P**	**15 21 49.7**	**-0.7**
CBKS				pmax	pmax		
	comp=Z,17nm,0.7s,mb4.5						
CBKS	**Cedar Bluff**	**23.97**	**347**	*eP*	**P**	**15 21 49.7**	**-0.7**
	comp=Z,17nm,0.7s,mb4.5						
ELN	**Prospectdale**	**24.25**	**24**	*eP*	**P**	**15 21 51.9**	**-1.0**
FWV	**Forest Hill**	**24.53**	**24**	*eP*	**P**	**15 21 54.0**	**-1.5**
MVCO	**Mesa Verde**	**25.61**	**331**	*eP*	**P**	**15 22 07.1**	**+1.8**
SJG	**San Juan**	**25.88**	**80**	P	**P**	**15 22 05.1**	**-2.6**
	comp=Z,9.5nm,0.4s,mb4.6,baz=336,slow=20,SNR=3.6						
SJG				PcP	PcP	15 25 33.6	-0.6
	comp=Z,20nm,0.2s,baz=318,slow=20,SNR=3.7						
PV01	**Paradox Valley**	**26.39**	**332**	*eP*	**P**	**15 22 14.3**	**+2.0**
SMCO	**Snowmass**	**26.58**	**335**	*eP*	**P**	**15 22 14.4**	**+0.4**
	comp=Z,29nm,1.2s,mb4.7						
ISCO	**Idaho Springs**	**26.60**	**338**	*eP*	**P**	**15 22 14.5**	**+0.3**
ISCO				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.1						
ISCO	**Idaho Springs**	**26.60**	**338**	*eP*	**P**	**15 22 14.5**	**+0.3**
	comp=Z,6.4nm,1.0s,mb4.1						
PV10	**Paradox Valley**	**26.80**	**331**	*eP*	**P**	**15 22 17.3**	**+1.2**
PHWY	**Pilot Hill**	**27.88**	**340**	*eP*	**P**	**15 22 26.5**	**+0.9**
SRU	**San Rafael**	**28.09**	**330**	*eP*	**P**	**15 22 29.3**	**+1.8**
SRU				pmax	pmax		
	comp=Z,30nm,1.5s,mb4.6						
SRU	**San Rafael**	**28.09**	**330**	*eP*	**P**	**15 22 29.3**	**+1.8**
	comp=Z,30nm,1.5s,mb4.6						
PCRV	**Puerto La Cruz**	**28.19**	**97**	LR	LR	15 33 08.7	
	comp=Z,134nm,21.3s,baz=124,slow=35						
MSU	**Marysvale**	**28.46**	**327**	*eP*	**P**	**15 22 31.5**	**+0.7**
TMUT	**Trail Mountain**	**28.57**	**330**	*eP*	**P**	**15 22 33.6**	**+1.9**
ARUT	**Antelope Range**	**28.61**

EDM	**Edmonton**	**40.91**	**341**	*e*P		**P**	**15 24 15.3**	**-2.4**
PGC	**Sidney**	**41.40**	**330**	*e*P		**P**	**15 24 22.6**	**+0.9**
	comp=Z,12nm,0.7s,mb4.8							
FCC	**Fort Churchill**	**43.21**	**359**	*e*P		**P**	**15 24 34.3**	**-2.1**
FCC				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.2							
FCC	**Fort Churchill**	**43.21**	**359**	*e*P		**P**	**15 24 34.2**	**-2.2**
	comp=Z,4.4nm,0.8s,mb4.2							
SCHQ	**Schefferville**	**44.20**	**22**	PcP	PcP		15 26 25.6	-1.9
	comp=Z,2.5nm,0.5s,baz=198,slow=17,SNR=6.9							
SCHQ				LR	LR		15 44 29.6	
	comp=Z,57nm,21.9s,baz=146,slow=38							
YKA	**Yellowknife Ar**	**49.35**	**347**	P		**P**	**15 25 22.9**	**-1.6**
	comp=Z,5.6nm,0.7s,mb4.6,baz=149,slow=7.6,SNR=30							
YKA				pP	pP		15 25 44.3	-3.5
	comp=Z,1.1nm,0.5s,baz=147,slow=7.7,SNR=2.6							
YKA	**Yellowknife Ar**	**49.35**	**347**	P		**P**	**15 25 22.9**	**-1.6**
YKA				pP	pP		15 25 44.3	-3.5
DLBC	**Dease Lake**	**50.89**	**336**	*e*P		**P**	**15 25 37.9**	**+1.8**
FRB	**Frobisher Bay**	**51.11**	**14**	P		**P**	**15 25 34.9**	**-2.8**
	comp=Z,6.7nm,0.7s,mb4.8,baz=222,slow=6.8,SNR=6.0							
CPUP	**Villa Florida**	**54.17**	**140**	P		**P**	**15 25 58.1**	**-2.2**
	comp=Z,1.3nm,0.7s,mb4.1,baz=317,slow=7.4,SNR=5.1							
BDFB	**Brasilia**	**54.17**	**123**	P		**P**	**15 25 58.7**	**-1.6**
	comp=Z,20nm,0.8s,mb5.2,baz=288,slow=7.4,SNR=28							
DAWY	**Dawson**	**57.93**	**338**	*e*P		**P**	**15 26 26.7**	**-0.3**
INK	**Inuvik**	**58.73**	**344**	*e*P		**P**	**15 26 31.9**	**-0.8**
INK				pmax	pmax			
	comp=Z,26nm,0.8s							
INK	**Inuvik**	**58.73**	**344**	*e*P		**P**	**15 26 31.9**	**-0.7**
	comp=Z,26nm,0.8s,mb5.3							
RES	**Resolute Bay**	**59.21**	**359**	*e*P		**P**	**15 26 34.0**	**-2.0**
RES				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.5							
RES	**Resolute Bay**	**59.21**	**359**	*e*P		**P**	**15 26 34.0**	**-2.0**
	comp=Z,3.9nm,0.8s,mb4.5							
PLCA	**Paso Flores**	**59.71**	**160**	P		**P**	**15 26 39.9**	**+0.5**
	comp=Z,3.2nm,0.8s,mb4.4,baz=342,slow=18,SNR=2.5							
PLCA	**Paso Flores**	**59.71**	**160**	P		**P**	**15 26 39.9**	**+0.5**
PMR	**Palmer**	**60.64**	**333**	*e*P		**P**	**15 26 45.6**	**-0.1**
PMR				pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8							
PMR	**Palmer**	**60.64**	**333**	*e*P		**P**	**15 26 45.6**	**-0.2**
	comp=Z,9.8nm,0.9s,mb4.8							
SLKM	**Skilak Lake**	**60.71**	**332**	*e*P		**P**	**15 26 46.4**	**+0.2**
ILAR	**Eielson Array**	**61.08**	**337**	P		**P**	**15 26 48.4**	**-0.3**
	comp=Z,15nm,0.9s,mb5.0,baz=121,slow=4.8,SNR=109							
ILAR				sP	sP		15 27 17.9	-5.7
	comp=Z,2.3nm,0.9s,baz=144,slow=4.3,SNR=2.4							
COLA	**College**	**61.49**	**337**	*d*P		**P**	**15 26 51.2**	**-0.3**
SVW2	**Sparrevohn**	**63.38**	**331**	*e*P		**P**	**15 27 02.7**	**-1.4**
TTA	**Tatalina**	**64.12**	**333**	*e*P		**P**	**15 27 08.2**	**-0.8**
BORG	**Borgarnes**	**68.32**	**26**	LR	LR		15 54 36.5	
	comp=Z,55nm,21.7s,baz=221,slow=33							
JMIC	**Jan Mayen**	**73.69**	**20**	LR	LR		16 00 22.3	
	comp=Z,64nm,21.6s,baz=268,slow=36							
EKA	**Eskdalemuir Ar**	**77.36**	**36**	P		**P**	**15 28 25.9**	**-3.2**
	comp=Z,1.4nm,0.7s,mb3.8,baz=280,slow=6.3,SNR=5.7							
EKA				pP	pP		15 28 50.8	-3.5
	comp=Z,2.5nm,0.9s,baz=288,slow=5.1,SNR=3.7							
EKA				sP	sP		15 29 00.6	-4.2
	comp=Z,3.9nm,0.9s,baz=279,slow=5.7,SNR=5.0							
EKA	**Eskdalemuir Ar**	**77.36**	**36**	P		**P**	**15 28 26.0**	**-3.2**
EKA				*PP	pP		15 28 50.8	-3.5
KBS	**Kingsbay**	**77.75**	**11**	*e*P		**P**	**15 28 31.1**	**-0.3**
BILL	**Bilibino**	**79.71**	**338**	*e*P		**P**	**15 28 41.9**	**-0.2**
BILL				pmax	pmax			
	comp=Z,21nm,0.8s,mb5.0							
BILL	**Bilibino**	**79.71**	**338**	*e*P		**P**	**15 28 41.9**	**-0.2**
	comp=Z,21nm,0.8s,mb5.0							
NB2	**NORSAR Subarra**	**83.33**	**28**	P		**P**	**15 28 59.6**	**-1.6**
	comp=Z,1.0nm,0.5s,mb3.9,baz=292,slow=5.3							
NOA	**NORSAR Array B**	**83.33**	**28**	P		**P**	**15 28 59.2**	**-2.0**
	comp=Z,1.9nm,0.7s,mb4.0,baz=292,slow=4.8,SNR=5.3							
NOA				LR	LR		16 02 03.0	
	comp=Z,46nm,21.8s,baz=280,slow=33							
ARCES	**ARCESS Array B**	**85.05**	**18**	P		**P**	**15 29 08.1**	**-1.8**
	comp=Z,1.6nm,0.6s,mb4.1,baz=283,slow=4.8,SNR=14							
DAVOX	**Davos**	**87.45**	**42**	LR	LR		16 03 50.1	
	comp=Z,43nm,20.8s,baz=262,slow=32							
CLL	**Collm**	**87.75**	**37**	*e*P		**P**	**15 29 23.0**	**-0.1**
CLL	**Collm**	**87.75**	**37**	*e*SS	SS		15 45 42.0	-4.0
TIXI	**Tiksi**	**88.60**	**348**	*e*P		**P**	**15 29 22.1**	**-5.0**
TIXI				pmax	pmax			
	comp=Z,7.0nm,0.7s,mb4.8							
MA2	**Magadan**	**89.32**	**333**	*e*P		**P**	**15 29 30.8**	**+0.3**
MA2				pmax	pmax			
	comp=Z,10.0nm,1.7s,mb4.6							
FINES	**FINESS Array B**	**89.59**	**25**	P		**P**	**15 29 30.7**	**-1.0**
	comp=Z,0.5nm,0.4s,mb4.0,baz=268,slow=3.9,SNR=3.9							
FINES	**FINESS Array B**	**89.59**	**25**	P		**P**	**15 29 30.7**	**-1.1**
TORD	**Torodi Ar. Bea**	**91.02**	**76**	P		**P**	**15 29 35.4**	**-2.9**
	comp=Z,0.2nm,0.5s,mb3.8,baz=282,slow=5.9,SNR=4.0							
YAK	**Yakutsk**	**95.73**	**341**	*e*P		**P**	**15 29 59.5**	**-0.6**
YAK				pmax	pmax			
	comp=Z,13nm,0.8s,mb5.4							
OBN	**Obninsk**	**97.82**	**27**	*e*P		**P**	**15 30 07.8**	**-1.7**
OBN				pmax	pmax			
	comp=Z,6.0nm,0.4s,mb5.5							
KURK	**Kurchatov**	**113.68**	**6**	*i* PKIKP	PKiKP		15 35 11.0	-1.1
SONM	**Songino Array**	**114.61**	**346**	PKP	PKiKP		15 35 12.8	-1.1
	comp=Z,0.7nm,0.9s,baz=234,slow=1.3,SNR=5.7							
MKAR	**Makanchi Array**	**117.87**	**4**	PKP	PKPdf		15 35 17.7	-2.4
	comp=Z,0.9nm,0.6s,baz=353,slow=2.1,SNR=8.2							
HHC	**Hu-ho-hao-te**	**119.48**	**339**	*e*PKP	PKPdf		15 35 24.3	+1.1
HHC				XPKP			15 36 01.5	
HHC				PP	PP		15 36 51.3	+5.1
HHC				PKS			15 38 59.8	
HHC				SKS	SKSdf		15 42 25.5	-0.9
HHC				SKKS	SKKSac		15 43 33.0	-3.9
HHC				SS	SS		15 53 01.8	+0.3
HHC				PP	PP			
	comp=Z,70nm,6.1s							
HHC				LR	LR			
	comp=N,59nm,4.8s							
HHC				LR	LR			
	comp=E,79nm,5.0s							
HHC				LR	LR			
	comp=Z,72nm,6.5s							
WMQ	**Urumqi**	**120.98**	**359**	||PKP	PKPdf	15 35 25.8	-0.3
WMQ				PP	PP		15 37 00.0	+3.6
WMQ				PP	PP			
	comp=Z,98nm,6.0s							
WMQ				PP	PP			
	comp=Z,9.0nm,7.6s							
WMQ				LR	LR			
	comp=N,22nm,21.2s							
WMQ				LR	LR			
	comp=E,26nm,16.0s							
WMQ				LR	LR			
	comp=Z,15nm,17.3s							
BOSA	**Boshof**	**121.90**	**114**	PKP	PKPdf		15 35 27.3	-0.6
	comp=Z,5.3nm,0.8s,baz=271,slow=1.0,SNR=10							
NJ2	**Nanjing**	**123.70**	**327**	*e*PKP	PKPdf		15 35 35.0	+3.7
NJ2				XPKP			15 36 10.0	
NJ2				PP	PP		15 37 22.0	+7.1
NJ2				PKS			15 39 09.0	
NJ2				PPP			15 40 02.0	
NJ2				PP	PP			
	comp=Z,550nm,6.4s							
NJ2				LR	LR			
	comp=N,450nm,30.6s							
NJ2				LR	LR			
	comp=E,390nm,29.4s							
NJ2				LR	LR			
	comp=Z,260nm,33.8s							
GTA	**Gaotai**	**124.08**	**348**	PKP	PKPdf		15 35 30.5	-1.6
GTA				XPKP			15 36 11.5	
LZH	**Lanzhou**	**126.28**	**343**	*e*PKP	PKPdf		15 35 36.5	+0.2
LZH				LR	LR			
	comp=N,135nm,18.5s							
LZH				LR	LR			
	comp=Z,207nm,20.3s							
LZH	**Lanzhou**	**126.28**	**343**	*e*PKP	PKPdf		15 35 36.5	+0.2
LZH				pPKP	pPKPdf		15 36 04.9	+1.9
LZH				sPKP			15 36 19.7	
LZH				LR	LR			
	comp=Z,210nm,20.3s							
WRA	**Warramunga Arr**	**134.75**	**257**	PKP	PKPdf		15 35 53.0	+0.6
	comp=Z,0.7nm,0.7s,baz=12,slow=0.8,SNR=4.9							
LSA	**Lhasa**	**134.90**	**355**	*e*PKIKP	PKPdf		15 35 54.8	+2.2
ASAR	**Alice Springs**	**135.18**	**252**	PKP	PKPdf		15 35 53.7	+0.6
	comp=Z,0.8nm,1.0s,baz=88,slow=2.3,SNR=4.0							
ASAR	**Alice Springs**	**135.18**	**252**	PKP	PKPdf		15 35 53.7	+0.6
KMI	**Kunming**	**136.80**	**339**	PKP	PKPdf		15 35 57.0	+0.9
KMI				LR	LR			
	comp=Z,31nm,16.0s							
KMI	**Kunming**	**136.80**	**339**	PKP	PKPdf		15 35 56.9	+0.8
KMI				pPKP	pPKPdf		15 36 08.6	-14
KMI				sPKP			15 36 15.7	
KMI				LR	LR			
	comp=Z,30nm,16.0s							

NIED ***31*** *15:24:00, 36.30N × 141.80E, h23km, Mw4.0 Best double couple: M0 1.03000 × 10^15 NP1:φ=24.00000°, δ=67.00000°, λ=86.00000°. NP2:φ=214.00000°, δ=24.00000°, λ=99.00000°.*

ISCJB ***31*** *15:24:08.1±1.6, 36.22N±0.03 × 141.97E±0.05, h29km±11km, mb4.1/28, MS3.4/3, Error ellipse: s-maj=7.3km s-min=4.7km az=33.0*

MOS ***31*** *15:24:09.1±1.1, 36.31N × 141.95E, h33km, mb4.4/11, Error ellipse: s-maj=13.3km s-min=8.6km az=122.0*

JMA ***31*** *15:24:09.0±0.1, 36.30N × 141.84E, h70km±3km, M3.9*

IDC ***31*** *15:24:10.6±0.7, 36.19N × 141.91E, h34km±5km, mb3.8/14, mb1 4.0/18, mb1mx3.9/25, mbtmp4.1/18, ML3.9/4, MS3.3/3, Ms1 3.3/3, ms1mx2.7/24, Error ellipse: s-maj=18.2km s-min=13.0km az=94.0*

BJI ***31*** *15:24:10.0, 36.46N × 141.15E, h5km, mB4.3, mb4.5, Ms3.9*

NEIC ***31*** *15:24:11.0±0.3, 36.23N × 141.90E, mb4.3/11, Error ellipse: s-maj=6.6km s-min=6.3km az=157.0*

ISC 31 15:24:09.2±1.4, 3624N±003×14190E±005, h25km±10km, h37km±2.0km:pP-P, n71, σ0.86/83, mb4.1/28, MS3.4/3, 5C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.00**	**238**	⇑P	**Pn**	**15 24 27.8**	**+0.1**
CHOJ				S	**Sb**	**15 24 41.4**	**+0.8**
JHO	**Hitachi**	**1.13**	**289**	||P	**Pn**	**15 24 28.3**	**-1.2**
JHO				eS	**Sn**	**15 24 44.4**	**+0.1**
ONAJ	**Iwakimizuishiy**	**1.23**	**315**	||P	**Pn**	**15 24 29.6**	**-1.3**
JFK	**Kawauchi**	**1.39**	**324**	||P	**Pn**	**15 24 31.9**	**-1.2**
BSO1	**Boso 1**	**1.75**	**206**	P	**Pn**	**15 24 38.2**	**+0.2**
BSO1				eS	**Sn**	**15 24 59.9**	**+0.4**
JFT	**Otama**	**1.79**	**316**	||P	**Pn**	**15 24 38.6**	**+0.1**
JFT				eS	**Sn**	**15 24 59.4**	**-1.0**
BSO3	**Boso 3**	**1.83**	**219**	P	**Pn**	**15 24 39.6**	**+0.5**
BSO3				eS	**Sn**	**15 25 00.9**	**-0.5**
JMM	**Marumori**	**1.85**	**332**	⇑P	**Pn**	**15 24 38.6**	**-0.7**
JAG	**Ashikaga**	**1.98**	**276**	⇑P	**Pn**	**15 24 40.6**	**-0.6**
JRY	**Ryogami san**	**2.43**	**266**	P	**Pn**	**15 24 47.2**	**-0.2**
JRY				eS	**Sn**	**15 25 16.1**	**-0.3**
JOD2	**Odawara 2**	**2.48**	**248**	P	**Pn**	**15 24 48.7**	**+0.6**
JIM2	**Oshima 3**	**2.52**	**234**	P	**Pn**	**15 24 48.5**	**-0.1**
JIM2				eS	**Sn**	**15 25 17.1**	**-1.4**
JNS	**Sasagawa**	**2.60**	**308**	P	**Pn**	**15 24 50.6**	**+1.0**
MJAR	**Matsushiro Arr**	**2.99**	**277**	Pn	**Pn**	**15 24 55.7**	**+0.7**
	22nm,0.3s,baz=97,slow=9.6,SNR=118						
MJAR				Sn	**Sn**	**15 25 35.2**	**+5.1**
	11nm,0.3s,baz=82,slow=18,SNR=6.5						
MJAR	**Matsushiro Arr**	**2.99**	**277**	Pn	**Pn**	**15 24 55.7**	**+0.7**
MJAR				Sn	**Sn**	**15 25 35.2**	**+5.1**
MAJO	**Matsushiro**	**2.99**	**277**	⇑iP	**Pn**	**15 24 56.3**	**+1.2**
MAT	**Matsushiro**	**2.99**	**277**	P	**Pn**	**15 24 56.4**	**+1.3**
MAT				S	**Sn**	**15 25 34.7**	**+4.6**
MAT	**Matsushiro**	**2.99**	**277**	*e*P	**Pn**	**15 24 56.0**	**+0.9**
MAT				eS	**Sn**	**15 25 35.0**	**+4.9**
JHJ	**Hachijo jima 2**	**3.57**	**210**	Pn	**Pn**	**15 25 02.8**	**-0.2**
	55nm,0.3s,baz=86,slow=5.0,SNR=20						
JHJ				Sn	**Sn**	**15 25 43.3**	**-1.0**
	74nm,0.3s,baz=75,slow=23,SNR=8.8						
ASAJ	**Asahikawa**	**7.89**	**4**	Pn	**Pn**	**15 26 01.4**	**-0.9**
	1.3nm,0.3s,baz=221,slow=11,SNR=11						
ASAJ				LR	LR	15 30 06.3	
	comp=Z,131nm,18.7s,baz=169,slow=45						
ASAJ	**Asahikawa**	**7.89**	**4**	P	**Pn**	**15 26 01.4**	**-0.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,131nm,18.7s						
CBIJ	**Chichi jima**	**9.12**	**178**	Pn	**Pn**	**15 26 16.9**	**-2.3**
	comp=Z,2.9nm,0.3s,baz=286,slow=20,SNR=4.6						
CBIJ				Sn	**Sn**	**15 27 52.1**	**-9.0**
	comp=Z,3.9nm,0.3s,baz=264,slow=19,SNR=3.5						
HABR	**Khabarovsk**	**13.22**	**340**	*e*P	**Pn**	**15 27 24.6**	**+9.2**
HABR				eS	**Sn**	**15 29 47.6**	**+6.0**
SSE	**Sheshan**	**17.98**	**259**	P	**Pn**	**15 28 16.8**	**-0.6**
SSE				AMB	AMB		
	comp=Z,44nm,0.7s						
SSE				AMB	AMB		
	comp=Z,43nm,3.6s						
SSE	**Sheshan**	**17.98**	**259**	P	**Pn**	**15 28 16.8**	**-0.6**
	comp=Z,44nm,0.7s						
MA2	**Magadan**	**24.05**	**11**	*e*P	**P**	**15 29 23.1**	**+0.7**
MA2	**Magadan**	**24.05**	**11**	*e*P	**P**	**15 29 23.1**	**+0.7**
YAK	**Yakutsk**	**26.93**	**347**	*e*P	**P**	**15 29 48.4**	**-0.1**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.3						
YAK	**Yakutsk**	**26.93**	**347**	*e*P	**P**	**15 29 48.3**	**-0.1**
	comp=Z,8.8nm,0.8s,mb4.3						
ULN	**Ulaanbaatar**	**28.12**	**305**	*e*P	**P**	**15 29 59.6**	**+0.4**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
ULN	**Ulaanbaatar**	**28.12**	**305**	*e*P	**P**	**15 29 59.6**	**+0.4**
	comp=Z,1.3nm,0.6s,mb3.7						
SONM	**Songino Array**	**28.55**	**305**	P	**P**	**15 30 03.7**	**+0.7**
	comp=Z,4.1nm,0.8s,mb4.2,baz=110,slow=7.3,SNR=30						
SONM				LR	LR	15 41 49.0	
	comp=Z,50nm,21.1s,MS3.1,baz=280,slow=37						
ZAK	**Zakamensk**	**31.07**	**309**	*e*P	**P**	**15 30 25.5**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.0						
TLY	**Talaya**	**31.15**	**312**	*e*P	**P**	**15 30 26.8**	**+0.8**
TLY				*e*		15 30 36.8	
TLY				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.2						
TLY				MLR	MLR		
	comp=Z,79nm,17.0s,MS3.5						
TLY	**Talaya**	**31.15**	**312**	*e*P	**P**	**15 30 27.1**	**+1.1**
	comp=Z,2.1nm,0.8s,mb4.0						
ZAL	**Zalesovo**	**42.75**	**313**	P	**P**	**15 32 04.8**	**+0.3**
	comp=Z,1.4nm,0.3s,mb4.2,baz=18,slow=6.2,SNR=8.2						
ZAL	**Zalesovo**	**42.75**	**313**	P	**P**	**15 32 04.8**	**+0.3**
MKAR	**Makanchi Array**	**44.87**	**303**	P	**P**	**15 32 21.8**	**+0.3**
	comp=Z,2.4nm,0.6s,mb4.2,baz=87,slow=9.9,SNR=25						
MKAR				pP	pP	15 32 31.8	+2.7
	comp=Z,0.8nm,0.6s,baz=82,slow=8.8,SNR=4.9						
MKAR	**Makanchi Array**	**44.87**	**303**	P	**P**	**15 32 21.8**	**+0.3**
MKAR				pP	pP	15 32 31.8	+2.7
KURK	**Kurchatov**	**46.73**	**309**	*e*P	**P**	**15 32 36.1**	**-0.1**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
KURK	**Kurchatov**	**46.73**	**309**	*e*P	**P**	**15 32 36.1**	**-0.1**
	comp=Z,4.6nm,0.7s,mb4.5						
ILAR	**Eielson Array**	**49.96**	**32**	P	**P**	**15 33 00.2**	**-0.9**
	comp=Z,0.3nm,0.6s,mb3.5,baz=282,slow=7.3,SNR=5.1						
ILAR				pP	pP	15 33 12.5	+3.8
	comp=Z,0.5nm,0.7s,baz=272,slow=5.9,SNR=4.2						
CHKZ	**Chkalovo**	**51.14**	**314**	P	**P**	**15 33 09.2**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
CHKZ	**Chkalovo**	**51.14**	**314**	P	**P**	**15 33 09.2**	**-0.8**
	comp=Z,1.3nm,0.5s,mb4.1						
AAK	**Ala-Archa**	**51.21**	**299**	*e*P	**P**	**15 33 12.8**	**+2.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.9						
BRVK	**Borovoye**	**51.45**	**313**	*e*P	**P**	**15 33 12.6**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BRVK	**Borovoye**	**51.45**	**313**	*e*P	**P**	**15 33 12.6**	**+0.2**
	comp=Z,0.8nm,0.6s,mb3.8						
ZRNK	**Zerenda**	**52.23**	**313**	P	**P**	**15 33 18.7**	**+0.5**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**52.23**	**313**	P	**P**	**15 33 18.7**	**+0.6**
	comp=Z,2.4nm,0.6s,mb4.3						
INK	**Inuvik**	**54.92**	**27**	P	**P**	**15 33 38.9**	**+1.0**
	comp=Z,0.6nm,0.5s,mb3.9,baz=308,slow=6.5,SNR=5.3						
INK	**Inuvik**	**54.92**	**27**	P	**P**	**15 33 38.9**	**+1.0**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**54.92**	**27**	*e*P	**P**	**15 33 38.8**	**+0.9**
	comp=Z,0.6nm,0.6s,mb3.8						
FITZ	**Fitzroy Crossi**	**56.19**	**199**	*e*P	**P**	**15 33 48.4**	**+1.4**
	comp=Z,3.9nm,1.1s,mb4.3						
WRAB	**Tennant Creek**	**56.32**	**189**	*e*P	**P**	**15 33 52.0**	**+4.1**
WRAB	**Tennant Creek**	**56.32**	**189**	*e*P	**P**	**15 33 48.4**	**+0.4**
	comp=Z,1.8nm,0.4s,mb4.5						
WB2	**Warramunga Arr**	**56.33**	**189**	*e*P	**P**	**15 33 48.0**	**0.0**
WRA	**Warramunga Arr**	**56.33**	**189**	P	**P**	**15 33 48.0**	**0.0**
	comp=Z,0.4nm,0.4s,mb3.9,baz=6.7,slow=7.5,SNR=15						
ARU	**Arti**	**57.21**	**319**	⇑*e*P	**P**	**15 33 51.1**	**-3.2**
ARU				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
ASAR	**Alice Springs**	**60.06**	**188**	P	**P**	**15 34 14.4**	**+0.4**
	comp=Z,0.3nm,0.7s,mb3.5,baz=357,slow=5.6,SNR=6.4						
ASAR				pP	pP	15 34 23.4	+1.6
	comp=Z,0.5nm,0.6s,baz=14,slow=14,SNR=4.1						
ARCES	**ARCESS Array B**	**64.88**	**340**	P	**P**	**15 34 46.3**	**0.0**
	comp=Z,3.6nm,1.1s,mb4.3,baz=65,slow=5.8,SNR=3.8						
OBN	**Obninsk**	**68.96**	**324**	*e*P	**P**	**15 35 11.3**	**-1.0**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
FINES	**FINESS Array B**	**69.70**	**333**	P	**P**	**15 35 16.9**	**+0.1**
	comp=Z,1.5nm,0.8s,mb4.0,baz=57,slow=7.0,SNR=5.8						
FINES				pP	pP	15 35 27.2	+2.5
	comp=Z,1.3nm,0.8s,baz=81,slow=8.6,SNR=3.7						
FINES	**FINESS Array B**	**69.70**	**333**	P	**P**	**15 35 16.9**	**+0.1**
FINES				pP	pP	15 35 27.2	+2.5
YBH	**Yreka Blue Hor**	**70.52**	**52**	LR	LR	15 59 17.9	
	comp=Z,34nm,21.7s,MS3.6,baz=328,slow=30						
KIV	**Kislovodsk**	**71.72**	**311**	*e*P	**P**	**15 35 31.5**	**+2.3**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
NOA	**NORSAR Array B**	**75.07**	**338**	P	**P**	**15 35 48.9**	**0.0**
	comp=Z,1.2nm,0.8s,mb3.9,baz=38,slow=5.6,SNR=2.9						
NVAR	**Mina Array Bea**	**75.15**	**53**	P	**P**	**15 35 48.8**	**-0.6**
	comp=Z,0.3nm,0.4s,mb3.6,baz=299,slow=1.9,SNR=4.2						
AKASG	**Malin Array Be**	**75.16**	**323**	P	**P**	**15 35 48.9**	**-0.6**
	comp=Z,2.3nm,0.5s,mb4.3,baz=44,slow=5.4,SNR=7.0						
AKASG				pP	pP	15 36 00.7	+3.3
	comp=Z,1.4nm,0.5s,baz=45,slow=6.0,SNR=3.5						
FRB	**Frobisher Bay**	**77.46**	**13**	P	**P**	**15 36 02.3**	**-0.1**
	comp=Z,7.5nm,0.8s,mb4.7,baz=7.1,slow=8.1,SNR=2.6						
GERES	**GERESS Array B**	**83.59**	**329**	P	**P**	**15 36 35.4**	**0.0**
	comp=Z,0.5nm,0.5s,mb3.9,baz=90,slow=1.3,SNR=3.9						
LPAZ	**La Paz**	**146.75**	**61**	PKPbc	PKPbc	15 43 50.3	+1.3
	comp=Z,0.5nm,0.4s,baz=333,slow=2.3,SNR=3.0						

ISCJB ***31*** *16:45:57.7±0.4, 4828N±003×722E±004, h13km, Error ellipse: s-maj=4.2km s-min=3.2km az=128.7*

STR ***31*** *16:45:58.0±0.1, 4828N × 726E, h10km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG ***31*** *16:45:58.4±0.0, 4827N × 728E, h13km, Md2.0/2, Ml2.2/5, Error ellipse: s-maj=0.9km s-min=0.7km az=132.0*

ISC 31 16:45:57.7±0.5, 4828N±003×726E±004, h19km±4km, n20, σ0.57/32, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	**Echery**	**0.09**	**230**	Pg	**Pg**	**16 46 01.4**	**0.0**
ECH				Sg	**Sg**	**16 46 03.4**	**-0.5**
CDF	**Champ du Feu**	**0.14**	**4**	*e*Pg	**Pg**	**16 46 02.1**	**+0.2**
CDF				*e*Sg	**Sg**	**16 46 04.4**	**-0.3**
	23nm,0.2s						
WLS	**Welschbruch**	**0.15**	**24**	Pg	**Pg**	**16 46 02.3**	**+0.2**
WLS				Sg	**Sg**	**16 46 04.9**	**-0.1**
MOF	**Molkenrain**	**0.43**	**192**	Pg	**Pg**	**16 46 07.0**	**+0.4**
MOF				Sg	**Sg**	**16 46 13.0**	**+0.4**
HINF	**Hinteralfeld**	**0.54**	**211**	*e*Pg	**Pg**	**16 46 08.6**	**+0.1**
HINF	**Hinteralfeld**	**0.54**	**211**	*e*P	**Pg**	**16 46 09.8**	**+1.3**
HINF				*e*Sg	**Sg**	**16 46 15.8**	**+0.1**
	14nm,0.2s						
HAU	**Haudompre**	**0.67**	**247**	*e*Pg	**Pg**	**16 46 11.4**	**+0.4**
HAU	**Haudompre**	**0.67**	**247**	*e*P	**Pb**	**16 46 12.5**	**+1.7**
HAU				*e*Sg	**Sg**	**16 46 20.6**	**+0.7**
	4.8nm,0.2s						
BFO	**Black Forest**	**0.71**	**85**	*e*Pg	**Pg**	**16 46 12.0**	**+0.2**
BFO				*e*Sg	**

	comp=Z,1.7nm,0.3s,baz=23,slow=12,SNR=62							
WRA				S		S	17 20 49.8	-5.9
	comp=Z,0.1nm,0.3s,baz=39,slow=20,SNR=4.5							
AS31	**Alice Springs**	**21.51**	**206**	⇑*i*	P	**P**	**17 18 10.3**	**+1.0**
ASAR	**Alice Springs**	**21.51**	**206**	P	P	**P**	**17 18 08.9**	**-0.4**
	comp=Z,4.8nm,0.6s,mb4.0,baz=36,slow=8.1,SNR=70							
ASPA	**Alice Springs**	**21.51**	**206**	⇑*i*	P	**P**	**17 18 10.3**	**+1.0**
FITZ	**Fitzroy Crossi**	**22.64**	**232**	*e*	P	**P**	**17 18 22.3**	**+1.0**
	comp=Z,50nm,0.4s,mb5.2							
FITZ	**Fitzroy Crossi**	**22.64**	**232**	P	P	**P**	**17 18 22.2**	**+0.9**
	comp=Z,31nm,0.5s,mb4.9,baz=49,slow=9.5,SNR=208							
FITZ				LR	LR		17 26 55.2	
	comp=Z,81nm,18.3s,baz=295,slow=36							
STKA	**Stephens Creek**	**27.38**	**185**	P	P	**P**	**17 19 02.8**	**-1.8**
	comp=Z,4.1nm,0.9s,mb4.0,baz=12,slow=7.6,SNR=4.3							
STKA				LR	LR		17 29 27.4	
	comp=Z,75nm,18.6s,baz=26,slow=35							
STKA	**Stephens Creek**	**27.38**	**185**	*e*P	P	**P**	**17 19 03.1**	**-1.6**
STKA				LR	LR		17 29 27.4	
DZM	**Mont Dzumac**	**27.78**	**131**	P	P	**P**	**17 19 08.8**	**+0.5**
	comp=Z,4.3nm,0.6s,mb4.2,baz=80,slow=22,SNR=9.7							
FORT	**Forrest**	**30.26**	**208**	*e*P		**P**	**17 19 30.9**	**+0.7**
	comp=Z,40nm,0.8s,mb5.1							
KLBR	**Kellerberrin**	**36.65**	**219**	*e*P		**P**	**17 20 25.6**	**-0.1**
	comp=Z,24nm,0.9s,mb5.1							
NWAO	**Narrogin (SRO)**	**37.88**	**218**	P	P	**P**	**17 20 36.0**	**0.0**
	comp=Z,15nm,0.9s,mb4.8,baz=45,slow=7.1,SNR=13							
MUN	**Mundaring**	**37.90**	**220**	*e*P		**P**	**17 20 36.6**	**+0.4**
RAO	**Raoul Island**	**45.53**	**129**	LR	LR		17 35 47.0	
	comp=Z,223nm,20.4s,baz=336,slow=31							
RPZ	**Rata Peaks**	**45.73**	**153**	P	P	**P**	**17 21 41.5**	**+1.4**
	comp=Z,21nm,0.8s,mb4.9,baz=137,slow=0.5,SNR=8.5							
ZAK	**Zakamensk**	**64.97**	**332**	*e*P		**P**	**17 23 59.8**	**+1.7**
ZAK				*e*		pP	17 24 24.8	+5.0
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.9s,mb3.9							
VNDA	**Vanda**	**73.61**	**176**	P	P	**P**	**17 24 50.4**	**-1.1**
	comp=Z,1.4nm,0.8s,mb3.8,baz=359,slow=6.1,SNR=5.3							
VNDA	**Vanda**	**73.61**	**176**	*e*P		**P**	**17 24 51.4**	**-0.1**
VNDA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
VNDA	**Vanda**	**73.61**	**176**	*e*P		**P**	**17 24 51.4**	**-0.1**
	comp=Z,2.7nm,1.0s,mb3.9							
MKAR	**Makanchi Array**	**74.53**	**321**	P		**P**	**17 24 57.0**	**+0.2**
	comp=Z,0.9nm,0.7s,mb3.6,baz=104,slow=10,SNR=4.5							
MKAR				pP		pP	17 25 24.1	+5.1
	comp=Z,3.3nm,0.8s,baz=108,slow=7.8,SNR=9.8							
ZAL	**Zalesovo**	**76.23**	**328**	P		**P**	**17 25 06.0**	**-0.6**
	comp=Z,0.8nm,0.3s,mb4.0,baz=106,slow=3.5,SNR=3.9							
ZAL				pP		pP	17 25 32.3	+3.4
	comp=Z,1.4nm,0.7s,baz=357,slow=8.8,SNR=4.5							
ILAR	**Eielson Array**	**85.20**	**24**	P		**P**	**17 25 52.7**	**-1.7**
	comp=Z,3.0nm,0.7s,mb4.3,baz=256,slow=5.3,SNR=28							
QSPA	**South Pole Qui**	**85.49**	**180**	*e*P		**P**	**17 25 55.5**	**-0.3**
	comp=Z,6.0nm,0.8s,mb4.6							
YKA	**Yellowknife Ar**	**99.12**	**27**	LR	LR		18 10 11.4	
	comp=Z,23nm,19.4s,baz=270,slow=34							
DBIC	**Dimbokro**	**149.10**	**275**	PKPbc	PKPbc		17 33 07.3	+1.5
	comp=Z,7.1nm,0.8s,baz=237,slow=3.5,SNR=5.5							
DBIC				pPKPbc	pPKPbc		17 33 34.4	+5.0
	comp=Z,5.8nm,0.7s,baz=31,slow=3.7,SNR=3.3							
DBIC	**Dimbokro**	**149.10**	**275**	PKPbc	PKPbc		17 33 07.3	+1.5
DBIC				pPKPbc	pPKPbc		17 33 34.4	+5.0

MAN 31 17:14:19.4, 957N×12536E, h1km, mb2.0, ML3.7, MS1.7, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.24**	**32**	⇓*e*P	Pg	17 14 24.3	+0.1
SCPH				*e*S	Sg	17 14 39.8	+12
MSLP	**Maasin**	**0.74**	**319**	*e*P	Pg	17 14 33.6	0.0
BUKP	**Musuan**	**1.71**	**190**	*e*P	Pn	17 14 50.5	+0.1

*IDC **31** 17:44:14.1±3.2, 1031N×9173E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/21, mbtmp3.8/6, Error ellipse: s-maj=130.6km s-min=20.7km az=64.0*

*ISCJB **31** 17:44:16.7±2.5, 103N±03×917E±07, h33km, mb3.9/8, Error ellipse: s-maj=103.7km s-min=14.7km az=124.1*

*NEIC **31** 17:44:18.4±2.0, 1030N×9172E, h30km, mb4.1/2, Error ellipse: s-maj=86.1km s-min=12.3km az=62.0*

ISC 31 17:44:19.3±2.5, 103N±03×917E±06, h35km, n9, σ0§63/9, mb3.9/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.22**	**349**	P	**P**	**17 51 27.0**	**-0.3**
	2.3nm,0.9s,mb4.0,baz=170,slow=8.8,SNR=14						
SONM	**Songino Array**	**39.40**	**16**	P	**P**	**17 51 45.4**	**-0.2**
	0.4nm,0.3s,mb3.7,baz=209,slow=7.9,SNR=3.1						
KURK	**Kurchatov**	**41.69**	**348**	*e*P	**P**	**17 52 04.4**	**-0.1**
	2.0nm,1.1s,mb3.7						
ZAL	**Zalesovo**	**43.85**	**354**	P	**P**	**17 52 21.5**	**-0.5**
	0.6nm,0.4s,mb3.6,baz=231,slow=3.4,SNR=4.0						
WRA	**Warramunga Arr**	**51.65**	**126**	P	**P**	**17 53 22.2**	**-0.3**
	0.7nm,0.5s,mb3.9,baz=308,slow=8.1,SNR=16						
WRAB	**Tennant Creek**	**51.66**	**126**	*e*P	**P**	**17 53 22.3**	**-0.2**
	2.7nm,0.5s,mb4.4						
WB2	**Warramunga Arr**	**51.66**	**126**	*e*P	**P**	**17 53 22.2**	**-0.4**
ASAR	**Alice Springs**	**53.34**	**130**	P	**P**	**17 53 35.4**	**+0.4**
	0.5nm,0.6s,mb3.6,baz=305,slow=7.1,SNR=12						
ILAR	**Eielson Array**	**93.39**	**21**	P	**P**	**17 57 32.5**	**+1.7**
	0.4nm,0.6s,mb4.0,baz=310,slow=5.5,SNR=4.7						

IDC 31 17:59:45.6±4.8, 2014S×17696W, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.9/16, mbtmp4.0/5, ML2.2/1, MS3.7/1, Ms1 3.7/1, ms1mx2.3/24, Error ellipse: s-maj=196.4km s-min=32.8km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.94**	**39**	Pn	Pn	18 01 42.4	+0.2
	1.9nm,0.3s,baz=12,slow=16,SNR=2.3						
PMG	**Port Moresby**	**36.22**	**282**	LR	LR	18 17 48.2	
	comp=Z,126nm,19.8s,baz=59,slow=30						
STKA	**Stephens Creek**	**38.82**	**244**	P	P	18 07 12.1	-0.1
	3.0nm,0.9s,baz=96,slow=9.2,SNR=2.8						
ASAR	**Alice Springs**	**45.55**	**256**	P	P	18 08 08.1	+1.0
	1.1nm,0.6s,baz=94,slow=7.7,SNR=28						
WRA	**Warramunga Arr**	**45.62**	**261**	P	P	18 08 08.2	+0.6
	0.5nm,0.5s,baz=97,slow=8.5,SNR=16						
FITZ	**Fitzroy Crossi**	**54.04**	**262**	P	P	18 09 11.3	-0.5
	1.6nm,0.9s,baz=96,slow=9.2,SNR=6.3						

IDC 31 18:02:06.5±1.3, 1106N×13901E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/19, mbtmp3.6/4, Error ellipse: s-maj=60.6km s-min=23.5km az=89.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.14**	**189**	P	P	18 08 26.3	-0.6
	0.4nm,0.9s,baz=13,slow=9.0,SNR=4.0						
ASAR	**Alice Springs**	**34.87**	**188**	P	P	18 09 00.3	+1.0
	0.6nm,0.5s,baz=16,slow=12,SNR=19						
MKAR	**Makanchi Array**	**59.43**	**318**	P	P	18 12 10.9	0.0
	0.8nm,0.7s,baz=96,slow=8.8,SNR=12						
ILAR	**Eielson Array**	**73.30**	**25**	P	P	18 13 39.9	+0.1
	0.4nm,0.7s,baz=235,slow=6.3,SNR=4.4						

*MAN **31** 18:06:50.4, 2091N×11996E, h74km, mb5.2, ML5.8, MS5.4*

*IDC **31** 18:06:52.0±0.8, 2061N×12029E, h0km, mb3.9/10, mb1 4.2/10, mb1mx4.0/20, mbtmp4.0/10, MS3.1/2, Ms1 3.1/2, ms1mx2.1/31, Error ellipse: s-maj=36.7km s-min=16.5km az=76.0*

*ISCJB **31** 18:06:56.3±1.1, 2056N±005×120.1E±0.1, h43km±10km, mb4.1/13, Error ellipse: s-maj=22.4km s-min=9.0km az=171.1*

*BJI **31** 18:06:57.9, 2103N×120.10E, h19km, mB4.2, mb4.2, Ms3.8, Msz3.6*

*NEIC **31** 18:06:58.3±2.6, 2060N×12022E, h46km±25km, mb4.7/4, Error ellipse: s-maj=29.4km s-min=11.7km az=75.0*

ISC 31 18:06:57.8±1.0, 2058N±005×1202E±01, h40km±10km, n32, σ0§96/29, mb4.1/13, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APYP	**Conner**	**2.88**	**159**	*e*P	**Pn**	**18 07 40.4**	**-0.9**
SGCP	**Mt. Cagua**	**2.92**	**142**	*e*P	**Pn**	**18 07 41.0**	**-0.7**
ABRA	**Dolores**	**2.96**	**170**	*e*P	**Pn**	**18 07 41.2**	**-1.0**
CVP	**Callao Caves**	**3.26**	**151**	⇑*e*P	**Pn**	**18 07 47.0**	**+0.7**
CAUP	**Cauayan**	**3.94**	**156**	*e*P	**Pn**	**18 07 57.6**	**+1.9**
PALP	**Palanan**	**4.09**	**148**	⇑*i*P	**Pn**	**18 07 59.0**	**+1.2**
PALP				*i* S	**Sn**	**18 08 49.3**	**+4.8**
PALP	**Palanan**	**4.09**	**148**	*e*P	**Pn**	**18 07 58.0**	**+0.1**
BOLP	**Bolinao**	**4.18**	**183**	*e*P	**Pn**	**18 08 00.1**	**+1.0**
YHNB	**Yeheng**	**4.22**	**15**	*e*P	**Pn**	**18 07 59.8**	**+0.2**
BALP	**Baler**	**4.99**	**164**	*e*P	**Pn**	**18 08 09.3**	**-0.9**
ENPP	**El Nido**	**9.35**	**185**	*e*P	**Pn**	**18 09 09.0**	**-0.9**
CBIJ	**Chichi jima**	**21.14**	**68**	LR	LR	18 17 46.1	
	comp=Z,71nm,20.6s,baz=137,slow=31						
MJAR	**Matsushiro Arr**	**22.39**	**41**	P	**P**	**18 11 52.0**	**-0.6**
	2.9nm,0.9s,mb3.7,baz=242,slow=10,SNR=9.1						
GUMO	**Guam**	**24.59**	**102**	LR	LR	18 19 36.5	
	comp=Z,37nm,19.2s,baz=266,slow=31						
MDJ	**Mudanjiang**	**25.21**	**16**	P	**P**	**18 12 20.5**	**+0.8**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,36nm,3.5s						
FITZ	**Fitzroy Crossi**	**38.81**	**172**	P	**P**	**18 14 19.2**	**+0.5**
	comp=Z,1.3nm,0.8s,mb3.7,baz=148,slow=21,SNR=2.6						
MKAR	**Makanchi Array**	**40.36**	**319**	P	**P**	**18 14 32.1**	**+0.5**
	comp=Z,0.3nm,0.6s,mb3.2,baz=120,slow=8.5,SNR=3.8						
WRAB	**Tennant Creek**	**42.59**	**160**	*e*P	**P**	**18 14 49.2**	**-0.7**
	comp=Z,15nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**42.59**	**160**	P	**P**	**18 14 49.9**	**0.0**
	comp=Z,7.9nm,0.9s,mb4.5,baz=342,slow=9.0,SNR=35						
WB2	**Warramunga Arr**	**42.59**	**160**	*e*P	**P**	**18 14 49.8**	**-0.1**
ZAL	**Zalesovo**	**42.82**	**330**	P	**P**	**18 14 51.4**	**-0.3**
	comp=Z,0.5nm,0.3s,mb3.8,baz=348,slow=11,SNR=3.3						
AS31	**Alice Springs**	**45.97**	**162**	*e*P	pP	18 15 24.5	-3.8
ASAR	**Alice Springs**	**45.97**	**162**	P	**P**	**18 15 17.3**	**+0.4**
	comp=Z,2.3nm,0.9s,mb4.1,baz=345,slow=7.0,SNR=14						
ASPA	**Alice Springs**	**45.97**	**162**	*e*P	pP	18 15 24.5	-3.8
CTA	**Charters Tower**	**47.80**	**146**	*e*P	**P**	**18 15 33.3**	**+2.1**
	comp=Z,7.2nm,0.8s,mb4.8						
CTAO	**Charters Tower**	**47.80**	**146**	*e*P	**P**	**18 15 33.5**	**+2.4**
	comp=Z,11nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**56.05**	**158**	*e*P	**P**	**18 16 30.1**	**-2.5**
	comp=Z,3.5nm,1.1s,mb4.3						
STKA	**Stephens Creek**	**56.05**	**158**	P	**P**	**18 16 31.9**	**-0.8**
	comp=Z,3.4nm,1.1s,mb4.3,baz=299,slow=18,SNR=3.0						
ILAR	**Eielson Array**	**72.84**	**27**	P	**P**	**18 18 20.4**	**-2.0**
	comp=Z,0.3nm,0.6s,mb3.4,baz=274,slow=6.2,SNR=3.0						
FINES	**FINESS Array B**	**74.08**	**330**	P	**P**	**18 18 29.8**	**+0.2**
	comp=Z,2.2nm,0.9s,mb4.1,baz=72,slow=6.2,SNR=6.3						
YKA	**Yellowknife Ar**	**86.64**	**22**	P	**P**	**18 19 37.5**	**+0.4**
	comp=Z,1.4nm,0.8s,mb4.2,baz=326,slow=4.5,SNR=5.7						
YKA	**Yellowknife Ar**	**86.64**	**22**	P	**P**	**18 19 37.5**	**+0.4**

*IDC **31** 18:24:55.9±0.7, 2039N×12006E, h0km, mb3.9/11, mb1 4.1/11, mb1mx4.0/21, mbtmp4.0/11, MS3.4/4, Ms1 3.4/4, ms1mx2.7/30, Error ellipse: s-maj=35.9km s-min=14.9km az=69.0*

*MAN **31** 18:24:55.1, 2076N×120.12E, h6km, mb3.7, ML4.8, MS6.8*

*NEIC **31** 18:25:00.9±0.4, 2048N×12008E, h30km, mb4.6/8, Error ellipse: s-maj=18.2km s-min=7.8km az=70.0*

*ISCJB **31** 18:25:00.8±2.2, 2054N±005×120.1E±0.1, h33km±17km, mb4.1/20, MS3.5/6, Error ellipse: s-maj=17.0km s-min=7.3km az=143.5*

*MOS **31** 18:25:00.6±0.7, 1989N×11898E, h33km, mb4.7/8, Error ellipse: s-maj=99.8km s-min=11.8km az=120.5*

*BJI **31** 18:25:05.0, 2106N×11968E, h30km, mB4.4, mb3.7, ML3.6, Ms4.1, Msz3.9*

ISC 31 18:25:02.4±0.8, 2053N±005×1202E±01, h43km±9km, n55, σ1§11/58, mb4.1/20, MS3.5/6, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APYP	**Conner**	**2.83**	**159**	*e*P	**Pn**	**18 25 44.8**	**-0.4**
SGCP	**Mt. Cagua**	**2.87**	**142**	*e*P	**Pn**	**18 25 43.8**	**-1.9**
ABRA	**Dolores**	**2.91**	**170**	*e*P	**Pn**	**18 25 45.0**	**-1.2**
CVP	**Callao Caves**	**3.21**	**151**	⇓*e*P	**Pn**	**18 25 51.0**	**+0.7**
CAUP	**Cauayan**	**3.89**	**156**	*e*P	**Pn**	**18 26 01.0**	**+1.3**
PALP	**Palanan**	**4.05**	**148**	⇑*i*P	**Pn**	**18 26 03.2**	**+1.4**
PALP				*i* S	**Sn**	**18 26 53.4**	**+5.5**
PALP	**Palanan**	**4.05**	**148**	*e*P	**Pn**	**18 26 03.1**	**+1.3**
BOLP	**Bolinao**	**4.13**	**184**	*e*P	**Pn**	**18 26 03.0**	**0.0**
YHNB	**Yeheng**	**4.27**	**15**	*e*P	**Pn**	**18 26 03.6**	**-1.2**
QZH	**Quanzhou**	**4.63**	**342**	P	**Pn**	**18 26 04.5**	**-5.4**
QZH				S	**Sn**	**18 26 53.8**	**-8.6**
BALP	**Baler**	**4.94**	**164**	*e*P	**Pn**	**18 26 14.7**	**+0.6**
LUBP	**Lubang**	**6.76**	**179**	*e*P	**Pn**	**18 26 42.0**	**+2.9**
GZH	**Guangzhou**	**6.85**	**293**	P	**Pn**	**18 26 32.3**	**-7.9**
GZH				S	**Sn**	**18 27 42.3**	**-15**
GZH				Smax			
	comp=N,46nm,0.8s						
GZH				Smax			
	comp=E,39nm,1.4s						
GZH				LR	LR		
	comp=N,722nm,11.2s						
GZH				LR	LR		
	comp=E,817nm,12.6s						
GZH				LR	LR		
	comp=Z,1μm,10.6s						
BUSP	**Coron**	**8.48**	**180**	*e*P	**Pn**	**18 27 06.6**	**+4.0**
ENPP	**El Nido**	**9.30**	**185**	*e*P	**Pn**	**18 27 12.4**	**-1.5**
LZH	**Lanzhou**	**21.10**	**321**	*e*P	**P**	**18 29 50.0**	**+6.8**
LZH				*PP		18 30 05.7	
LZH				*SP	sP	18 30 11.2	+12
LZH				*e*S	**S**	**18 33 31.7**	**-3.9**
LZH				*SS	sS	18 33 41.5	-11
LZH				*e*SS		18 34 01.3	
LZH				pmax	pmax		
	comp=Z,22nm,1.1s,mb4.4						
LZH				MLR	MLR		
	comp=Z,400nm,12.9s,MS4.0						
LZH	**Lanzhou**	**21.10**	**321**	*e*P	**P**	**18 29 50.0**	**+6.8**
	comp=Z,22nm,1.1s,mb4.4						
LZH				pP		18 30 05.7	
LZH				sP	sP	18 30 11.2	+12
LZH				PP		18 31 10.5	
LZH				*e*S	**S**	**18 33 31.7**	**-3.9**
LZH				sS	sS	18 33 41.5	-11
LZH				*e*SS		18 34 01.3	
LZH				LR	LR		
	comp=Z,400nm,12.9s,MS4.0						
CBIJ	**Chichi jima**	**21.15**	**68**	LR	LR	18 36 32.3	
	comp=Z,62nm,18.9s,MS3.0,baz=223,slow=33						
MJAR	**Matsushiro Arr**	**22.42**	**41**	P	**P**	**18 29 58.2**	**+0.9**
	comp=Z,2.6nm,0.7s,mb3.8,baz=238,slow=9.9,SNR=6.4						
MJAR				LR	LR	18 38 28.2	
	comp=Z,117nm,21.6s,MS3.3,baz=240,slow=36						
GUMO	**Guam**	**24.57**	**102**	LR	LR	18 39 45.8	
	comp=Z,69nm,19.4s,MS3.2,baz=275,slow=36						
GTA	**Gaotai**	**25.69**	**322**	*e*P	**P**	**18 30 29.5**	**+1.0**
GTA				AP	pP	18 30 36.0	-3.8
GTA				XP	sP	18 30 39.5	-5.5
GTA				PP		18 31 04.0	
GTA				S	**S**	**18 34 43.0**	**-11**
GTA				AMB	AMB		
	comp=Z,2.0nm,1.2s,mb3.5						
GTA				AMB	AMB		
	comp=Z,89nm,5.0s						
GTA				LR	LR		
	comp=N,218nm,12.2s,MS4.1						
GTA				LR	LR		
	comp=E,308nm,14.8s,MS4.1						
GTA				LR	LR		
	comp=Z,205nm,10.6s,MS3.9						
PSI	**Prapat**	**27.20**	**232**	LR	LR	18 41 34.8	
	comp=Z,155nm,18.4s,MS3.6,baz=346,slow=37						
FITZ	**Fitzroy Crossi**	**38.76**	**172**	*e*P	**P**	**18 32 29.5**	**+6.9**
	comp=Z,4.5nm,0.9s,mb4.2						
FITZ	**Fitzroy Crossi**	**38.76**	**172**	P	**P**	**18 32 21.1**	**-1.6**
	comp=Z,1.7nm,0.8s,mb3.8,baz=2,slow=18,SNR=3.5						
MKAR	**Makanchi Array**	**40.41**	**319**	P	**P**	**18 32 35.8**	**-0.5**
	comp=Z,0.3nm,0.3s,mb3.5,baz=106,slow=8.9,SNR=8.0						
WRAB	**Tennant Creek**	**42.54**	**160**	*e*P	**P**	**18 32 54.0**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**42.54**	**160**	*e*P	**P**	**18 32 54.0**	**+0.2**
	comp=Z,15nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**42.54**	**160**	P	**P**	**18 32 52.7**	**-1.1**
	comp=Z,7.3nm,0.8s,mb4.5,baz=342,slow=9.0,SNR=38						
WB2	**Warramunga Arr**	**42.55**	**160**	*e*P	**P**	**18 32 52.7**	**-1.2**
ZAL	**Zalesovo**	**42.87**	**330**	P	**P**	**18 32 56.9**	**+0.4**
	comp=Z,0.9nm,0.8s,mb3.6,baz=341,slow=6.9,SNR=6.1						
NVS	**Novosibirsk**	**44.14**	**330**	*e*P	**P**	**18 33 08.6**	**+1.9**
KURK	**Kurchatov**	**44.36**	**323**	*e*P	**P**	**18 33 08.8**	**+0.3**
KURK				pmax	pmax		
	comp=Z,18nm,1.8s,mb4.5						
KURK	**Kurchatov**	**44.36**	**323**	*e*P	**P**	**18 33 08.8**	**+0.2**
	comp=Z,18nm,1.8s,mb4.5						
AS31	**Alice Springs**	**45.91**	**162**	*e*P	**P**	**18 33 21.3**	**+0.5**
ASPA	**Alice Springs**	**45.91**	**162**	*e*P	**P**	**18 33 21.3**	**+0.5**
ASAR	**Alice Springs**	**45.92**	**162**	P	**P**	**18 33 20.2**	**-0.6**
	comp=Z,1.6nm,0.8s,mb4.0,baz=345,slow=7.1,SNR=22						
CTA	**Charters Tower**	**47.76**	**146**	*e*P	**P**	**18 33 37.8**	**+2.6**
	comp=Z,8.0nm,0.8s,mb4.8						
CTA	**Charters Tower**	**47.76**	**146**	*e*P	**P**	**18 33 37.8**	**+2.6**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CTAO	**Charters Tower**	**47.76**	**146**	*e*P	**P**	**18 33 38.0**	**+2.8**
CTAO				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
CTAO	**Charters Tower**	**47.76**	**146**	*e*P	**P**	**18 33 38.0**	**+2.8**
	comp=Z,11nm,0.8s,mb4.9						
BRVK	**Borovoye**	**50.03**	**323**	*e*P	**P**	**18 33 52.8**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
BRVK	**Borovoye**	**50.03**	**323**	*e*P	**P**	**18 33 52.8**	**+0.1**
	comp=Z,1.2nm,0.8s,mb4.0						
CHKZ	**Chkalovo**	**50.07**	**324**	*e*P	**P**	**18 33 52.7**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
CHKZ	**Chkalovo**	**50.07**	**324**	*e*P	**P**	**18 33 52.7**	**-0.2**
	comp=Z,2.2nm,0.9s,mb4.2						
ZRNK	**Zerenda**	**50.72**	**322**	*e*P	**P**	**18 33 58.2**	**+0.3**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
ZRNK	**Zerenda**	**50.72**	**322**	*e*P	**P**	**18 33 58.2**	**+0.3**
	comp=Z,6.3nm,1.3s,mb4.4						
TIXI	**Tiksi**	**51.38**	**4**	*e*P	**P**	**18 34 00.2**	**-2.6**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.9						
STKA	**Stephens Creek**	**56.00**	**158**	P	**P**	**18 34 35.3**	**-1.3**
	comp=Z,2.3nm,0.8s,mb4.3,baz=343,slow=13,SNR=4.1						
STKA	**Stephens Creek**	**56.00**	**158**	*e*P	**P**	**18 34 35.8**	**-0.8**
AKTK	**Aktyubinsk**	**56.78**	**317**	P	**P**	**18 34 42.4**	**+0.2**
AKTO	**Aktyubinsk**	**56.78**	**317**	P	**P**	**18 34 42.4**	**+0.2**
	comp=Z,1.1nm,0.5s,mb4.1,baz=98,slow=7.1,SNR=3.2						
FINES	**FINESS Array B**	**74.13**	**330**	P	**P**	**18 36 33.4**	**-0.9**
	comp=Z,0.9nm,0.9s,mb3.7,baz=54,slow=9.7,SNR=5.2						
GERES	**GERESS Array B**	**85.06**	**321**	P	**P**	**18 37 33.5**	**-0.1**
	comp=Z,0.3nm,0.5s,mb3.7,baz=123,slow=4.9,SNR=3.6						
YKA	**Yellowknife Ar**	**86.69**	**22**	P	**P**	**18 37 42.5**	**+0.8**
	comp=Z,1.5nm,0.8s,mb4.3,baz=316,slow=5.2,SNR=6.8						
YKA	**Yellowknife Ar**	**86.69**	**22**	P	**P**	**18 37 42.5**	**+0.8**

*CSEM **31** 18:28:23.3, 3734N×2087E, h11km, MD3.5/5, After ATH*

*NEIC **31** 18:28:23.3, 3734N×2087E, h11km, MD3.5(ATH), After ATH.*

ATH 31 18:28:23.3, 3734N×2087E, h11km±1km, MD3.5/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ITM	**Ithomi**	**0.86**	**100**	*e*PB	Pb	18 28 39.7	-0.5
RLS	**Riolos of Patr**	**0.86**	**33**	*e*PG	Pg	18 28 39.0	-0.9
VLS	**Valsamata**	**0.86**	**345**	*e*PB	Pb	18 28 39.8	-0.5
VLS				*e*SB	Sb	18 28 52.3	+0.4
EVR	**Evrytania**	**1.74**	**25**	*e*PN	Pn	18 28 55.2	+1.8
EVR				*e*SN	Sn	18 29 19.1	+3.5
VLI	**Veliai**	**1.77**	**110**	*e*PN	Pn	18 28 56.1	+2.3
KYTH	**Kithira**	**2.04**	**121**	*e*PN	Pn	18 28 59.5	+2.0

*ISCJB **31** 18:38:57.0±1.1, 3779S×006×17642E±0.10, h244km±9km, Error ellipse: s-maj=12.2km s-min=9.8km az=164.2*

*NEIC **31** 18:39:02.0, 3778S×17645E, h194km, MG4.8(WEL), After WEL.*

*WEL **31** 18:39:02.9±0.2, 3778S×17635E, h184km±2km, ML4.7/22, Error ellipse: s-maj=1.3km s-min=1.1km az=90.0*

ISC 31 18:38:59.4±0.9, 3783S±005×17632E±008, h222km±7km, n119, σ1§02/119, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGRZ	**Tauranga**	**0.10**	**335**	PN	**Pn**	**18 39 27.1**	**-1.1**
TGRZ				SN		18 39 46.1	
TGRZ	**Tauranga**	**0.10**	**335**	P	**Pn**

MRZ	Mangatainoka R	2.89	191	P	Pn	18 39 49.0 +0.1
TIWZ	Tintock	2.97	186	PN	Pn	18 39 50.1 +0.2
KIW	Kapiti Island	3.22	199	PN	Pn	18 39 52.5 -0.2
KIW	Kapiti Island	3.22	199	P	Pn	18 39 52.5 -0.2
MTW	Mount Morrison	3.39	190	PN	Pn	18 39 54.3 -0.4
MTW	Mount Morrison	3.39	190	P	Pn	18 39 54.3 -0.4
CAW	Cannon Point	3.42	196	PN	Pn	18 39 54.8 -0.2
CAW	Cannon Point	3.42	196	P	Pn	18 39 54.8 -0.2
DUWZ	D'Urville Isla	3.51	211	PN	Pn	18 39 55.8 -0.2
TRWZ	Traveller	3.60	188	PN	Pn	18 39 57.1 -0.1
PAWZ	Paruwai Farm	3.62	191	PN	Pn	18 39 56.9 -0.5
PAWZ	Paruwai Farm	3.62	191	P	Pn	18 39 56.9 -0.5
MRW	Makara Radio	3.62	200	PN	Pn	18 39 57.0 -0.4
WEL	Wellington	3.66	199	PN	Pn	18 39 57.7 -0.1
WEL	Wellington	3.66	199	P	Pn	18 39 57.7 -0.2
MSWZ	Moikau Station	3.68	193	PN	Pn	18 39 57.6 -0.5
TCW	Tory Channel	3.73	204	PN	Pn	18 39 58.5 -0.2
TCW	Tory Channel	3.73	204	P	Pn	18 39 58.5 -0.3
BHW	Baring Head	3.75	197	PN	Pn	18 39 58.5 -0.5
BHW	Baring Head	3.75	197	P	Pn	18 39 58.5 -0.4
TUWZ	Tuamarina	4.04	206	PN	Pn	18 40 01.9 -0.6
NNZ	Nelson	4.08	213	PN	Pn	18 40 02.3 -0.6
NNZ	Nelson	4.08	213	*eP*	Pn	18 40 02.3 -0.6
QRZ	Quartz Range	4.20	223	PN	Pn	18 40 03.8 -0.6
QRZ	Quartz Range	4.20	223	*eP*	Pn	18 40 03.8 -0.6
CMWZ	Cape Campbell	4.24	202	PN	Pn	18 40 04.9 0.0
CMWZ	Cape Campbell	4.24	202	P	Pn	18 40 05.3 +0.4
CMWZ				S		18 40 55.5
BSWZ	Blackbirch Sta	4.32	205	PN	Pn	18 40 05.6 -0.3
BSWZ	Blackbirch Sta	4.32	205	P	Pn	18 40 05.6 -0.2
THZ	Tophouse	4.73	213	*eP*	Pn	18 40 10.2 -0.8
KHZ	Kahutara	5.06	204	P	Pn	18 40 14.6 -0.4
DSZ	Denniston Nort	5.24	220	*eP*	Pn	18 40 16.7 -0.6
LTZ	Lake Taylor	5.84	211	*eP*	Pn	18 40 24.0 -0.9
CRLZ	Canterbury Las	6.39	205	*eP*	Pn	18 40 30.9 -1.1
MQZ	McQueen's Vall	6.50	204	*eP*	Pn	18 40 31.7 -1.7
WVZ	Waitaha Valley	6.75	217	*eP*	Pn	18 40 36.6 0.0
RPZ	Rata Peaks	7.11	213	*eP*	Pn	18 40 41.1 -0.1
FOZ	Fox Glacier	7.63	219	*eP*	Pn	18 40 46.4 -1.4
LBZ	Lake Benmore	8.02	213	*eP*	Pn	18 40 52.3 -0.6
ODZ	Otahua Downs	8.38	209	*eP*	Pn	18 40 57.1 -0.3
JCZ	Jackson Bay	8.46	220	*eP*	Pn	18 40 56.8 -1.8
VNA3	Neumayer Olymp	71.15	178	*e*	P	18 50 00.5 +6.6
VNA3				*e*		18 50 02.5
VNA2	Neumayer--Watz	71.52	179	*e*	P	18 50 02.9 +6.8
VNA2				*e*		18 50 05.0

*ISCJB **31** 18:42:52.4±0.8, 1249N±008×8905W±005, h51km±10km, mb3.9/8, MS3.6/5, Error ellipse: s-maj=14.0km s-min=5.8km az=56.1*

*IDC **31** 18:42:53.0±3.8, 1334N×8881W, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.9/20, mbtmp3.8/7, ML3.4/1, MS3.6/5, Ms1 3.5/5, ms1mx3.0/23, Error ellipse: s-maj=78.4km s-min=38.7km az=6.0*

*CASC **31** 18:42:52.5±2.2, 1246N×8895W, h14km±14km, MD4.3, ML3.6, mb4.3(NEIC)*

*NEIC **31** 18:42:54.5±1.4, 1269N×8882W, h43km±23km, mb4.3/3, Error ellipse: s-maj=59.9km s-min=13.1km az=213.0*

ISC 31 18:42:54.7±0.7, 1261N±008×8899W±005, h45km±10km, n40, σ0°91/40, mb3.9/8, MS3.6/5, 1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VSM	San Miguel	1.07	40	*eP*	Px	18 43 26.9	
VSM				*eS*	Sx	18 43 46.3	
SNET	Serv Nac Est T	1.10	347	*eP*	Px	18 43 12.8	
SNET				*eS*	Sx	18 43 31.6	
BOQS	Boqueron	1.16	346	⇓*iP*	Px	18 43 27.9	
BOQS				*eS*	Sx	18 43 46.6	
SBLS	San Blas	1.38	333	*eP*	Px	18 43 29.7	
SBLS				*eS*	Sx	18 43 51.5	
SNJE	San Jose	1.39	334	*eP*	Px	18 43 31.0	
SNJE				*eS*	Sx	18 43 51.9	
RTR	El Retiro	1.44	333	*eP*	Px	18 43 31.3	
RTR				*eS*	Sx	18 43 53.7	
MTO2	Montecristo 2	1.82	348	*eP*	Px	18 43 38.2	
MTO2				*eS*	Sx	18 44 04.1	
CRIN	San Cristobal	1.89	87	*eP*	**Pn**	**18 43 24.8 +0.3**	
CRIN				*eS*	**Sn**	**18 43 48.6 +1.5**	
LEON	Leon	2.05	95	*eP*	**Pn**	**18 43 25.9 -0.8**	
LEON				*eS*	**Sn**	**18 43 51.2 +0.1**	
	comp=Z,428nm,0.6s						
TEL3	Telica 3	2.09	91	*eP*	**Pn**	**18 43 26.5 -0.7**	
MIRN	Miramar	2.23	94	*eP*	**Pn**	**18 43 27.8 -1.3**	
CNGN	Cerro Negro	2.23	92	*eP*	**Pn**	**18 43 28.9 -0.3**	
CNGN				*eS*	**Sn**	**18 43 55.1 -0.5**	
	comp=Z,219nm,0.4s						
COPN	Copaltepe	2.38	100	*eP*	**Pn**	**18 43 29.6 -1.5**	
COPN				*eS*	**Sn**	**18 43 58.0 -1.1**	
	comp=Z,428nm,0.2s						
APYN	Apoyeque	2.60	98	*eP*	**Pn**	**18 43 33.6 -0.6**	
APYN				*eS*	**Sn**	**18 44 05.4 +0.9**	
	comp=Z,996nm,0.2s						
XAVN	Gruta Xavier	2.64	100	*eP*	**Pn**	**18 43 36.2 +1.5**	
XAVN				*eS*	**Sn**	**18 44 06.1 +0.7**	
	comp=Z,356nm,0.3s						
MGAN	Managua	2.71	99	*eP*	**Pn**	**18 43 35.1 -0.6**	
MGAN				*eS*	**Sn**	**18 44 07.8 +0.4**	
	comp=E,401nm,0.2s						
TICN	Ticuantepe	2.75	102	*eP*	**Pn**	**18 43 36.0 -0.3**	
TICN				*eS*	**Sn**	**18 44 08.6 +0.4**	
	comp=Z,1μm,0.4s						
JTS	JuntasAbangare	4.57	120	*eP*	**Pn**	**18 44 00.1 -1.2**	
CGA2	Cerro Gallo 2	5.12	120	*eP*	**Pn**	**18 44 08.9 +0.1**	
CGA2				*eS*	**Sn**	**18 45 05.6 -1.1**	
PRS1	Puriscal	5.27	119	*eP*	**Pn**	**18 44 11.0 +0.1**	
PRS1				*eS*	**Sn**	**18 45 10.1 -0.3**	
LCR2	La Lucha 2	5.66	120	*eP*	**Pn**	**18 44 17.2 +1.1**	
LCR2				*eS*	**Sn**	**18 45 19.5 -0.3**	
URSC	Urasca	5.80	118	*eP*	**Pn**	**18 44 19.7 +1.5**	
BUS	Buena Vista	5.96	120	*eP*	**Pn**	**18 44 20.6 +0.4**	
BUS				*eS*	**Sn**	**18 45 28.3 +1.1**	
CMIG	Matias Romero	7.24	309	Pn	**Pn**	**18 44 38.3 +0.5**	
	comp=Z,0.7nm,0.3s,baz=132,slow=8.2,SNR=6.0						
CMIG				Sn	**Sn**	**18 45 58.2 -0.5**	
	comp=Z,0.2nm,0.3s,baz=36,slow=9.1,SNR=2.5						
JCT	Junction City	20.41	332	*eP*	**P**	**18 47 28.6 +0.8**	
	comp=Z,12nm,0.8s						
LTX	Lajitas	21.52	323	*eP*	**P**	**18 47 42.1 +2.3**	
	comp=Z,5.4nm,0.9s,mb4.0						
ATAH	Atahualpa	22.14	151	LR	LR	18 55 14.3	
	comp=Z,58nm,18.7s,MS3.0,baz=47,slow=32						
PDAR	Pinedale Array	34.94	333	P	**P**	**18 49 42.5 +0.4**	
	comp=Z,0.3nm,0.5s,mb3.4,baz=120,slow=8.9,SNR=3.6						
REDW	Red Top Meadow	35.99	332	*eP*	**P**	**18 49 52.1 +0.9**	
	comp=Z,4.8nm,0.8s,mb4.5						
NVAR	Mina Array Bea	36.61	320	P	**P**	**18 49 55.6 -0.8**	
	comp=Z,0.2nm,0.3s,mb3.4,baz=142,slow=15,SNR=2.4						
ULM	Lac du Bonnet	37.96	353	P	**P**	**18 50 06.1 -1.8**	
	comp=Z,4.0nm,0.8s,mb4.2,baz=176,slow=10,SNR=3.1						
ULM				LR	LR	19 07 47.3	
	comp=Z,49nm,19.3s,MS3.3,baz=21,slow=40						
ULM	Lac du Bonnet	37.96	353	P	**P**	**18 50 06.1 -1.8**	
ULM				LR	LR	19 07 47.3	
SCHQ	Schefferville	45.58	18	P	**P**	**18 51 08.8 -1.3**	
	comp=Z,2.3nm,0.8s,mb4.1,baz=186,slow=7.8,SNR=4.0						
BDFB	Brasilia	49.30	124	LR	LR	19 15 19.7	
	comp=Z,87nm,19.6s,MS3.8,baz=88,slow=39						
YKA	Yellowknife Ar	53.08	345	P	**P**	**18 52 07.7 +0.3**	
	comp=Z,1.5nm,0.9s,mb3.9,baz=138,slow=7.8,SNR=7.0						
ILAR	Eielson Array	65.28	336	P	**P**	**18 53 31.9 +0.1**	
	comp=Z,0.5nm,0.9s,mb3.5,baz=118,slow=2.3,SNR=4.1						
NOA	NORSAR Array B	83.96	29	LR	LR	19 30 32.7	
	comp=Z,20nm,18.6s,MS3.5,baz=60,slow=34						
AFI	Afiamalu	86.15	255	LR	LR	19 23 34.5	
	comp=Z,94nm,19.1s,MS4.2,baz=47,slow=28						
SNAA	Sanae	100.66	161	*e*	PP	19 00 42.9 -2.5	
SNAA				*e*		19 00 44.5	
WRA	Warramunga Arr	137.87	254	PKP	PKPdf	19 02 22.2 +8.0	
	comp=Z,0.4nm,0.6s,baz=90,slow=2.7,SNR=9.5						

*NEIC **31** 18:53:36.5, 3154S×7095W, h109km, MG3.7(GUC), After GUC.*

GUC 31 18:53:36.5±0.8, 3154S×7095W, h109km±6km, MD3.9, ML3.7, 12C-24D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	Los Chungos	0.58	234	⇓*iP*	Pn	18 53 54.2	+0.4
CHNG				*i* S	Sn	18 54 07.1	+0.3
CHNG				AML	AML	18 54 08.0	
	comp=E,2μm,0.4s						
CHNG	Los Chungos	0.58	234	⇓*iP*	Pn	18 53 54.2	+0.4
CHNG				*i* S	Sn	18 54 07.1	+0.3
CHNG				AML	AML	18 54 08.0	
	comp=E,2μm,0.4s						
PACH	Papudo	1.08	202	⇓*iP*	Pn	18 53 59.1	+0.7
PACH				*i* S	Sn	18 54 15.7	+0.7
PACH	Papudo	1.08	202	⇓*iP*	Pn	18 53 59.1	+0.7
PACH				*i* S	Sn	18 54 15.7	+0.7
JACH	Jahuel	1.18	165	⇓*iP*	Pn	18 54 00.1	+0.5
JACH				*i* S	Sn	18 54 17.7	+0.7
JACH	Jahuel	1.18	165	⇓*iP*	Pn	18 54 00.1	+0.5
JACH				*i* S	Sn	18 54 17.7	+0.7
TLL	Tololo Astrono	1.37	5	⇑*iP*	Pn	18 54 02.1	+0.4
TLL				AML	AML	18 54 22.0	
	comp=N,2μm,0.6s						
TLL	Tololo Astrono	1.37	5	⇑*iP*	Pn	18 54 02.1	+0.4
TLL				AML	AML	18 54 22.0	
	comp=N,2μm,0.6s						
ROCH	El Roble	1.43	182	*eP*	Pn	18 54 03.5	+1.1
ROCH				*i* S	Sn	18 54 22.5	+0.4
ROCH	El Roble	1.43	182	*eP*	Pn	18 54 03.5	+1.1
ROCH				*i* S	Sn	18 54 22.5	+0.4
PEL	Peldehue	1.62	172	⇓*iP*	Pn	18 54 05.3	+0.6
PEL				*i* S	Sn	18 54 26.6	+0.5
PEL				AML	AML	18 54 27.5	
	comp=N,2μm,0.4s						
PEL	Peldehue	1.62	172	⇓*iP*	Pn	18 54 05.3	+0.6
PEL				*i* S	Sn	18 54 26.6	+0.5
PEL				AML	AML	18 54 27.5	
	comp=N,2μm,0.4s						
PEL	Peldehue	1.62	172	⇓*iP*	Pn	18 54 05.3	+0.6
PEL				*i* S	Sn	18 54 26.6	+0.5
LSCH	La Serena	1.64	351	⇓*iP*	Pn	18 54 05.2	+0.2
LSCH	La Serena	1.64	351	⇓*iP*	Pn	18 54 05.2	+0.2
FCH	Farellones	1.87	163	⇑*iP*	Pn	18 54 09.2	+1.4
FCH				*i* S	Sn	18 54 33.8	+2.1
FCH				AML	AML	18 54 34.6	
	comp=N,579nm,0.3s						
FCH	Farellones	1.87	163	⇑*iP*	Pn	18 54 09.2	+1.4
FCH				*i* S	Sn	18 54 33.8	+2.1
FCH				AML	AML	18 54 34.6	
	comp=N,579nm,0.3s						
CLCH	Cerro Calan	1.89	169	⇑*iP*	Pn	18 54 08.9	+0.9
CLCH				*i* S	Sn	18 54 32.9	+0.9
CLCH				AML	AML	18 54 34.3	
	comp=N,984nm,0.5s						
CLCH	Cerro Calan	1.89	169	⇑*iP*	Pn	18 54 08.9	+0.9
CLCH				*i* S	Sn	18 54 32.9	+0.9
CLCH				AML	AML	18 54 34.3	
	comp=N,984nm,0.5s						
SAN	Santiago	1.93	173	*i* S	Sn	18 54 33.6	+0.7
SAN				AML	AML	18 54 35.0	
	comp=N,470nm,0.4s						
SAN	Santiago	1.93	173	*i* S	Sn	18 54 33.6	+0.7
SAN				AML	AML	18 54 35.0	
	comp=N,470nm,0.4s						
RCDM	Rinconada Maip	1.95	176	⇓*iP*	Pn	18 54 09.5	+0.7
RCDM				*i* S	Sn	18 54 33.7	+0.2
RCDM				AML	AML	18 54 35.7	
	comp=E,1μm,0.2s						
RCDM	Rinconada Maip	1.95	176	⇓*iP*	Pn	18 54 09.5	+0.7
RCDM				*i* S	Sn	18 54 33.7	+0.2
RCDM				AML	AML	18 54 35.7	
	comp=E,1μm,0.2s						
RCDM	Rinconada Maip	1.95	176	⇓*iP*	Pn	18 54 09.5	+0.7
RCDM				*i* S	Sn	18 54 33.7	+0.2
LCCH	Las Cruces	2.00	195	⇑*iP*	Pn	18 54 09.9	+0.4
LCCH				*i* S	Sn	18 54 34.7	+0.1
LCCH	Las Cruces	2.00	195	⇑*iP*	Pn	18 54 09.9	+0.4
LCCH				*i* S	Sn	18 54 34.7	+0.1
ANTU	Antumapu	2.04	173	*eP*	Pn	18 54 10.6	+0.6
ANTU				*i* S	Sn	18 54 36.3	+0.7
ANTU				AML	AML	18 54 38.1	
	comp=E,788nm,0.2s						
ANTU	Antumapu	2.04	173	*eP*	Pn	18 54 10.6	+0.6
ANTU				*i* S	Sn	18 54 36.3	+0.7
ANTU				AML	AML	18 54 38.1	
	comp=E,788nm,0.2s						
ANTU	Antumapu	2.04	173	*eP*	Pn	18 54 10.6	+0.6
ANTU				*i* S	Sn	18 54 36.3	+0.7
PCH	Pirque	2.11	170	⇓*iP*	Pn	18 54 11.2	+0.4
PCH	Pirque	2.11	170	⇓*iP*	Pn	18 54 11.2	+0.4
TACH	Talagante	2.11	180	⇓*iP*	Pn	18 54 11.3	+0.5
TACH				*i* S	Sn	18 54 36.8	-0.3
TACH	Talagante	2.11	180	⇓*iP*	Pn	18 54 11.3	+0.5
TACH				*i* S	Sn	18 54 36.8	-0.3
MDZ	Mendoza	2.23	128	*eP*	Pn	18 54 14.9	+2.5
MDZ				S	Sn	18 54 42.7	+2.9
CHCH	Chadas Angostu	2.40	174	⇓*iP*	Pn	18 54 15.0	+0.4
CHCH				*i* S	Sn	18 54 44.2	+0.4
CHCH	Chadas Angostu	2.40	174	⇓*iP*	Pn	18 54 15.0	+0.4
CHCH				*i* S	Sn	18 54 44.2	+0.4
LNV	Longovilo	2.44	189	⇓*iP*	Pn	18 54 15.0	-0.1
LNV	Longovilo	2.44	189	⇓*iP*	Pn	18 54 15.0	-0.1
CACH	El Canelo	2.59	174	⇑*iP*	Pn	18 54 18.0	+0.9
CACH				*eS*	Sn	18 54 50.6	+2.5
CACH	El Canelo	2.59	174	⇑*iP*	Pn	18 54 18.0	+0.9
CACH				*eS*	Sn	18 54 50.6	+2.5
CICH	Cipreses	2.81	171	⇑*iP*	Pn	18 54 21.2	+1.3
CICH				*i* S	Sn	18 54 54.8	+1.4
CICH	Cipreses	2.81	171	⇑*iP*	Pn	18 54 21.2	+1.3
CICH				*i* S	Sn	18 54 54.8	+1.4
SFDO	San Fernando	3.07	181	⇓*iP*	Pn	18 54 24.0	+0.6
SFDO				*eS*	Sn	18 54 59.3	-0.2
SFDO	San Fernando	3.07	181	⇓*iP*	Pn	18 54 24.0	+0.6
SFDO				*eS*	Sn	18 54 59.3	-0.2

ISC 31 18:55:11.0±0.7, 3738N±006×3792E±004, h0km, n6, σ0°47/12, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GZT	Gaziantep	0.28	266	*i* P	**Pg**	**18 55 15.5**	**-0.9**
GZT				*i* S	**Sg**	**18 55 20.0**	**0.0**
ATAB	Bozova	0.32	73	*i* P	**Pg**	**18 55 16.8**	**-0.3**
ATAB				*i* S	**Sg**	**18 55 22.0**	**+0.7**
URFA	Urfa	0.72	85	PG	**Pg**	**18 55 24.4**	**-0.5**
URFA				SG	**Sg**	**18 55 34.1**	**-0.2**
MYA	Malataya	1.03	23	PG	**Pg**	**18 55 31.2**	**+0.4**
MYA				SG	**Sg**	**18 55 44.5**	**+0.3**
ELZG	Elazig	1.40	37	*i* P	**Pn**	**18 55 37.8**	**-0.1**
ELZG				*i* S	**Sg**	**18 55 55.8**	**-0.3**
COBT	Iskenderun	1.58	238	*i* P	**Pn**	**18 55 40.4**	**+0.1**
COBT				*i* S	**Sn**	**18 56 02.2**	**+0.8**

CASC 31 18:57:32.5±2.2, 1200N×8915W, h97km±140km, MD4.1, ML3.4, 1C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCBS	La Ceiba	1.66	6	*eP*	Pn	18 58 08.6	+8.1
LCBS				*eS*	Sn	18 58 31.3	+9.5
CNCH	Conchagua	1.81	45	*eP*	Pn	18 58 12.9	+11
CNCH				*eS*	Sn	18 58 37.3	+12
SNJE	San Jose	1.91	347	*eP*	Pn	18 58 13.6	+10
SNJE				*eS*	Sn	18 58 39.4	+12
CRIN	San Cristobal	2.17	71	⇑*eP*	Pn	18 58 07.8	+0.7
CRIN				*eS*	Sn	18 58 34.9	+1.4
RBDL	Robledal	2.17	346	*eP*	Pn	18 58 17.6	+11
RBDL				*eS*	Sn	18 58 44.4	+11
LEON	Leon	2.24	79	*eP*	Pn	18 58 08.6	+0.5
LEON				*eS*	Sn	18 58 35.2	-0.1
	comp=Z,147nm,0.7s						
TEL3	Telica 3	2.32	76	⇓*eP*	Pn	18 58 09.6	+0.5
TEL3				*eS*	Sn	18 58 36.6	-0.5
	comp=Z,276nm,0.5s						
MIRN	Miramar	2.42	79	*eP*	Pn	18 58 11.4	+1.0
MIRN				*eS*	Sn	18 58 41.0	+1.4
CNGN	Cerro Negro	2.44	78	*eP*	Pn	18 58 11.6	+0.8
COPN	Copaltepe	2.51	86	⇓*eP*	Pn	18 58 13.1	+1.6
COPN				*eS*	Sn	18 58 42.2	+0.6
	comp=Z,182nm,0.6s						
APYN	Apoyeque	2.75	85	*eP*	Pn	18 58 16.5	+1.8
APYN				*eS*	Sn	18 58 48.0	+0.8
	comp=Z,389nm,0.2s						
TP2	Tecpan 2	3.32	327	*eP*	Pn	18 58 23.3	+0.9

*NEIC **31** 18:59:22.7, 3604S×17844E, h216km, MG4.3(WEL), After WEL.*

WEL 31 18:59:24.4±0.4, 3614S×17840E, h208km±4km, ML4.2/5, Error ellipse: s-maj=5.6km s-min=3.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	1.42	183	PN	Pn	18 59 58.2	+0.1
MXZ				SN	Sn	19 00 24.4	0.0
MXZ	Matakaoa Point	1.42	183	P	Pn	18 59 58.2	+0.1
MXZ				S	Sn	19 00 24.4	0.0
WIZ	White Island	1.69	215	PN	Pn	18 59 59.9	-0.6
WIZ	White Island	1.69	215	P	Pn	19 00 00.1	-0.4
PUZ	Puketiti	1.93	183	PN	Pn	19 00 03.0	+0.2
PUZ				SN	Sn	19 00 32.3	-0.5
PUZ	Puketiti	1.93	183	P	Pn	19 00 03.0	+0.2
PUZ				S	Sn	19 00 34.8	+2.0
MWZ	Matawai	2.30	197	PN	Pn	19 00 06.7	+0.1
MWZ				SN	Sn	19 00 39.1	-0.4
MWZ	Matawai	2.30	197	P	Pn	19 00 06.7	+0.1
MARZ	Manawahe	2.30	216	PN	Pn	19 00 06.5	-0.1
URZ	Urewera	2.35	206	PN	Pn	19 00 06.9	-0.3
URZ				SN	Sn	19 00 39.5	-1.1
URZ	Urewera	2.35	206	P	Pn	19 00 06.9	-0.3
PATZ	Paeroa	2.81	217	PN	Pn	19 00 12.8	+0.5
PATZ	Paeroa	2.81	217	P	Pn	19 00 12.8	+0.5
KNZ	Kokohu	2.93	191	PN	Pn	19 00 13.4	-0.2
KNZ				SN	Sn	19 00 52.3	+0.1
KNZ	Kokohu	2.93	191	P	Pn	19 00 13.4	-0.2
BKZ	Black Stump Fm	3.38	206	PN	Pn	19 00 18.3	-0.6
BKZ				SN	Sn	19 01 00.9	-0.8
BKZ	Black Stump Fm	3.38	206	P	Pn	19 00 18.3	-0.6
HIZ	Hauiti	3.69	229	P	Pn	19 00 23.4	+0.8
OTVZ	Oturere	3.72	215	PN	Pn	19 00 22.6	-0.4
NGZ	Ngauruhoe	3.76	215	PN	Pn	19 00 23.3	-0.2
NGZ	Ngauruhoe	3.76	215	P	Pn	19 00 23.3	-0.1
WPVZ	Whakapapa	3.81	216	PN	Pn	19 00 23.9	-0.2
WPVZ	Whakapapa	3.81	216	P	Pn	19 00 23.9	-0.1
FWVZ	Far West T-bar	3.84	215	PN	Pn	19 00 23.9	-0.6
FWVZ	Far West T-bar	3.84	215	P	Pn	19 00 23.9	-0.6
MOVZ	Moawhango	3.88	212	PN	Pn	19 00 23.4	-1.5
MOVZ	Moawhango	3.88	212	P	Pn	19 00 23.4	-1.5
TRVZ	Turoa	3.88	215	PN	Pn	19 00 23.9	-1.0
WNVZ	Wahianoa	3.88	214	PN	Pn	19 00 24.1	-0.9
MTVZ	Mangateitei	3.98	215	PN	Pn	19 00 25.4	-0.9
PXZ	Pawanui	4.07	197	PN	Pn	19 00 26.1	-1.2
TSZ	Takapari Road	4.36	205	PN	Pn	19 00 28.8	-2.1
WAZ	Wanganui	4.50	216	PN	Pn	19 00 31.8	-0.9
WAZ	Wanganui	4.50	216	*eP*	Pn	19 00 31.8	-0.9
BFZ	Birch Farm	4.84	200	PN	Pn	19 00 35.1	-1.8
BFZ	Birch Farm	4.84	200	P	Pn	19 00 35.1	-1.8
MRZ	Mangatainoka R	5.03	205	PN	Pn	19 00 36.6	-2.7
MRZ	Mangatainoka R	5.03	205	P	Pn	19 00 36.6	-2.7
TIWZ	Tintock	5.03	202	PN	Pn	19 00 37.2	-2.2
KIW	Kapiti Island	5.45	209	PN	Pn	19 00 41.8	-2.8
KIW	Kapiti Island	5.45	209	P	Pn	19 00 41.8	-2.9
MTW	Mount Morrison	5.50	203	PN	Pn	19 00 42.3	-3.0
MTW	Mount Morrison	5.50	203	P	Pn	19 00 42.0	-3.3
CAW	Cannon Point	5.60	207	PN	Pn	19 00 43.5	-3.1
CAW	Cannon Point	5.60	207	P	Pn	19 00 43.5	-3.1
TRWZ	Traveller	5.66	201	PN	Pn	19 00 44.8	-2.6
PAWZ	Paruwai Farm	5.72	203	PN	Pn	19 00 45.1	-3.1
PAWZ	Paruwai Farm	5.72	203	P	Pn	19 00 45.1	-3.1
MSWZ	Moikau Station	5.81	204	PN	Pn	19 00 46.3	-3.1
MSWZ	Moikau Station	5.81	204	P	Pn	19 00 46.3	-3.0
MRW	Makara Radio	5.85	209	PN	Pn	19 00 46.4	-3.3
MRW	Makara Radio	5.85	209	P	Pn	19 00 46.4	-3.4
TCW	Tory Channel	6.00	211	PN	Pn	19 00 48.2	-3.6
TCW	Tory Channel	6.00	211	P	Pn	19 00 48.2	-3.6
TUWZ	Tuamarina	6.32	212	PN	Pn	19 00 52.0	-4.0
NNZ	Nelson	6.41	216	*eP*	Pn	19 00 53.3	-3.7
QRZ	Quartz Range	6.56	223	*eP*	Pn	19 00 54.8	-4.2
BSWZ	Blackbirch Sta	6.59	211	P	Pn	19 00 56.1	-3.2
KHZ	Kahutara	7.31	210	*eP*	Pn	19 01 04.8	-3.9
LTZ	Lake Taylor	8.15	214	*eP*	Pn	19 01 15.1	-4.4
MQZ	McQueen's Vall	8.75	209	*eP*	Pn	19 01 22.3	-5.0
ODZ	Otahua Downs	10.66	211	*eP*	Pn	19 01 48.3	-3.5
VNA3	Neumayer Olymp	72.76	177	*e*	P	19 10 33.0	+3.1
VNA2	Neumayer--Watz	73.16	178	*e*	P	19 10 35.4	+3.2
	baz=198,slow=6.0						

**GUC 31 19:26:48.4±0.7, 2990S×7197W, h1km±3km, MD3.5, ML3.5, 1D,

s-maj=34.6km s-min=11.8km az=76.0
*NEIC **31** 19:52:20.7±1.1, 2729N×140.13E, h456km±11km, mb4.1/2, Error ellipse: s-maj=26.4km s-min=10.9km az=77.0*
*JMA **31** 19:52:22.4±0.2, 2758N×14077E, h467km, M3.9*

ISC 31 19:52:20.9±0.6, 2737N±007×1406E±03, h470km±9km, n33, σ0§97/35, mb3.4/9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.43**	**101**	P	**P**	**19 53 20.8**	**+0.2**
	31nm,0.3s,baz=296,slow=20,SNR=87						
CBIJ				S	**S**	**19 54 06.5**	**-2.5**
	52nm,0.3s,baz=262,slow=23,SNR=6.2						
CBIJ	**Chichi jima**	**1.43**	**101**	*e*S	**S**	**19 54 08.9**	**-0.1**
JHHJ	**Haha-jima-NKT**	**1.58**	**117**	S	**S**	**19 54 10.3**	**+0.2**
JHJ	**Hachijo jima 2**	**5.78**	**353**	P	**P**	**19 53 51.5**	**-2.2**
	17nm,0.3s,baz=257,slow=22,SNR=6.9						
JHJ				S	**S**	**19 55 05.9**	**-3.6**
	11nm,0.3s,baz=73,slow=22,SNR=4.8						
BSO1	**Boso 1**	**7.27**	**2**	P	**P**	**19 54 09.9**	**+1.0**
BSO1				*e*S	**S**	**19 55 37.3**	**-0.1**
BSO3	**Boso 3**	**7.41**	**359**	P	**P**	**19 54 11.2**	**+0.8**
BSO3				*e*S	**S**	**19 55 38.2**	**-1.9**
JIE	**Ise**	**7.76**	**335**	P	**P**	**19 54 15.5**	**+1.4**
JOD2	**Odawara 2**	**7.98**	**351**	P	**P**	**19 54 17.4**	**+1.1**
JEG	**Eigenji**	**8.54**	**336**	P	**P**	**19 54 25.2**	**+2.9**
JRY	**Ryogami san**	**8.74**	**351**	P	**P**	**19 54 24.4**	**-0.1**
JYT	**Yasato**	**8.84**	**358**	P	**P**	**19 54 26.2**	**+0.7**
JAG	**Ashikaga**	**9.08**	**354**	P	**P**	**19 54 27.4**	**-0.7**
JHO	**Hitachi**	**9.21**	**360**	P	**P**	**19 54 30.6**	**+1.0**
MJAR	**Matsushiro Arr**	**9.37**	**348**	P	**P**	**19 54 30.8**	**-0.5**
	1.8nm,0.3s,baz=175,slow=11,SNR=12						
MAT	**Matsushiro**	**9.37**	**348**	P	**P**	**19 54 31.1**	**-0.1**
MAT	**Matsushiro**	**9.37**	**348**	P	**P**	**19 54 31.0**	**-0.2**
MAT				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MAT	**Matsushiro**	**9.37**	**348**	P	**P**	**19 54 31.0**	**-0.2**
	comp=Z,9.6nm,0.7s						
JFK	**Kawauchi**	**9.97**	**1**	P	**P**	**19 54 39.3**	**+1.6**
WRA	**Warramunga Arr**	**47.42**	**188**	P	**P**	**20 00 11.5**	**-0.1**
	comp=Z,0.3nm,0.4s,mb3.1,baz=5.7,slow=7.6,SNR=19						
MKAR	**Makanchi Array**	**49.22**	**309**	P	**P**	**20 00 24.5**	**-0.6**
	comp=Z,0.3nm,0.6s,mb2.8,baz=86,slow=9.2,SNR=5.9						
MKAR	**Makanchi Array**	**49.22**	**309**	P	**P**	**20 00 24.5**	**-0.6**
ASAR	**Alice Springs**	**51.15**	**188**	P	**P**	**20 00 39.2**	**0.0**
	comp=Z,0.3nm,0.6s,mb2.8,baz=0.7,slow=5.5,SNR=4.5						
KURK	**Kurchatov**	**51.80**	**314**	*e*P	**P**	**20 00 43.1**	**-0.9**
CHKZ	**Chkalovo**	**56.73**	**318**	*e*P	**P**	**20 01 18.4**	**-0.5**
ARCES	**ARCESS Array B**	**72.82**	**341**	P	**P**	**20 03 00.4**	**-0.5**
	comp=Z,0.9nm,0.6s,mb3.5,baz=69,slow=7.9,SNR=9.9						
JOF	**Joensuu**	**74.22**	**333**	*e*p	**P**	**20 03 08.8**	**0.0**
	comp=Z,1.9nm,0.5s,mb3.9						
KAF	**Kangasniemi**	**76.62**	**334**	*e*p	**P**	**20 03 22.3**	**+0.1**
	comp=Z,2.2nm,0.5s,mb3.9,baz=55,slow=5.1						
KAF	**Kangasniemi**	**76.62**	**334**	*e*P	**P**	**20 03 22.3**	**+0.1**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.9						
FINES	**FINESS Array B**	**77.08**	**333**	P	**P**	**20 03 24.9**	**+0.1**
	comp=Z,1.7nm,0.4s,mb3.9,baz=78,slow=5.0,SNR=33						
HFS	**Hagfors**	**82.62**	**336**	P	**P**	**20 03 53.6**	**-0.3**
	comp=Z,2.0nm,0.9s,mb3.6,baz=133,slow=3.9,SNR=11						
NOA	**NORSAR Array B**	**82.83**	**338**	P	**P**	**20 03 55.3**	**+0.3**
	comp=Z,0.8nm,0.8s,mb3.3,baz=48,slow=5.4,SNR=2.7						
PLCA	**Paso Flores**	**151.11**	**126**	PKPbc	PKPbc	20 11 22.2	+2.2
	comp=Z,0.9nm,0.4s,baz=40,slow=4.1,SNR=3.8						
LPAZ	**La Paz**	**151.20**	**73**	PKPbc	PKPbc	20 11 25.1	+4.8
	comp=Z,0.4nm,0.5s,baz=12,slow=9.3,SNR=3.0						

IDC 31 19:53:23.4±70.0, 2114S×17926E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/13, mbtmp3.9/3, Error ellipse: s-maj=1257.0km s-min=159.0km az=83.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.20**	**244**	P	P	20 00 17.9	-1.4
	4.0nm,1.0s,baz=90,slow=7.1,SNR=3.1						
ASAR	**Alice Springs**	**41.88**	**258**	P	P	20 01 16.2	+0.9
	1.4nm,0.6s,baz=99,slow=7.7,SNR=17						
WRA	**Warramunga Arr**	**41.98**	**263**	P	P	20 01 16.8	+0.6
	0.4nm,0.3s,baz=96,slow=7.7,SNR=42						

*ISCJB **31** 20:08:23.7±0.7, 4373N±006×10523W±008, h0km, mb4.3/1, Error ellipse: s-maj=9.6km s-min=7.8km az=100.2*
*NEIC **31** 20:08:24.6±0.5, 4372N×105.16W, h0km, ML3.2, Error ellipse: s-maj=8.6km s-min=5.8km az=146.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.
*IDC **31** 20:08:24.1±1.6, 4397N×10563W, h0km, mb4.1/1, mb1 4.1/3, mb1mx3.5/23, mbtmp3.9/3, ML3.2/2, Error ellipse: s-maj=49.0km s-min=8.0km az=148.0*

ISC 31 20:08:24.4±0.7, 4373N±006×10514W±008, h0km, n23, σ0§99/26, mb4.3/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.89**	**64**	*e*P	**Pg**	**20 08 43.8**	**+2.3**
PHWY	**Pilot Hill**	**2.44**	**186**	*e*P	**Pn**	**20 09 05.4**	**0.0**
RWWY	**Rawlins**	**2.54**	**217**	*e*P	**Pn**	**20 09 07.2**	**+0.3**
LAO	**LASA Array**	**3.06**	**346**	*e*P	**Pn**	**20 09 14.3**	**+0.3**
BW06	**Boulder Array**	**3.37**	**255**	*e*Pn	**Pn**	**20 09 17.6**	**-0.6**
BW06				*e*Sn	**Sn**	**20 10 03.4**	**+4.5**
PDAR	**Pinedale Array**	**3.37**	**255**	Pn	**Pn**	**20 09 17.9**	**-0.4**
	2.1nm,0.3s,baz=76,slow=16,SNR=50						
PDAR				Pg	**Pg**	**20 09 23.5**	**-5.4**
	8.2nm,0.3s,baz=77,slow=18,SNR=75						
PDAR				Lg		20 10 01.2	
	18nm,0.3s,baz=68,slow=32,SNR=14						
GCMT	**Greycliff**	**3.83**	**304**	*e*Pn	**Pn**	**20 09 24.8**	**+0.3**
LKWY	**Lake**	**3.88**	**284**	P	**Pn**	**20 09 25.4**	**+0.2**
LOHW	**Long Hollow**	**3.96**	**270**	*e*Pn	**Pn**	**20 09 28.2**	**+1.8**
FLWY	**Flagg Ranch**	**4.03**	**277**	*e*P	**Pn**	**20 09 26.6**	**-0.7**
MOOW	**Moose Ponds**	**4.06**	**272**	*e*Pn	**Pn**	**20 09 27.1**	**-0.7**
REDW	**Red Top Meadow**	**4.17**	**267**	*e*Pn	**Pn**	**20 09 29.8**	**+0.6**
IMW	**Indian Meadow**	**4.20**	**274**	*e*Pn	**Pn**	**20 09 30.4**	**+0.8**
TPAW	**Teton Pass**	**4.22**	**269**	*e*Pn	**Pn**	**20 09 30.4**	**+0.4**
AHID	**Auburn Hatcher**	**4.46**	**260**	*e*Pn	**Pn**	**20 09 31.3**	**-1.9**
HWUT	**Hardware Ranch**	**5.19**	**248**	*e*Pn	**Pn**	**20 09 43.6**	**+0.3**
HWUT				*e*Pg	**Pg**	**20 09 54.5**	**-9.3**
DLMT	**Dillon**	**5.57**	**290**	*e*Pn	**Pn**	**20 09 48.5**	**0.0**
	5.1nm,0.7s						
DAU	**Daniels Canyon**	**5.63**	**236**	*e*P	**Pn**	**20 09 51.0**	**+1.8**
SPUT	**South Promonto**	**5.92**	**248**	*e*Pn	**Pn**	**20 09 53.0**	**-0.2**
SRU	**San Rafael**	**6.13**	**223**	*e*P	**Pn**	**20 09 55.0**	**-1.2**
	17nm,0.8s						
CHMT	**Chamberlain Mo**	**6.54**	**302**	*e*P	**Pn**	**20 10 02.0**	**+0.1**
ULM	**Lac du Bonnet**	**9.09**	**41**	Pn	**Pn**	**20 10 35.1**	**-1.7**
	0.7nm,0.3s,baz=229,slow=13,SNR=4.1						
ULM				Lg		20 13 04.8	
	0.2nm,0.3s,baz=295,slow=19,SNR=1.5						
ARCES	**ARCESS Array B**	**61.40**	**18**	P	**P**	**20 18 40.8**	**-1.5**
	2.3nm,0.9s,mb4.3,baz=327,slow=8.1,SNR=5.3						

*ISCJB **31** 20:13:42.2±2.1, 3396N±006×256E±0.1, h2km±19km, Error ellipse: s-maj=20.5km s-min=10.2km az=164.9*
*CSEM **31** 20:13:42.4±0.2, 3394N×2568E, h2km, ML3.4, Error ellipse: s-maj=9.6km s-min=3.6km az=76.0*
*HLW **31** 20:13:45.1, 34.14N×2569E, h33km, Mb3.4*
*ATH **31** 20:13:47.4, 3428N×2549E, h29km, MD3.1/4*

ISC 31 20:13:44.1±2.1, 3401N±006×255E±01, h10km±18km, n10, σ0§95/12, 1C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.87**	**9**	*e*PN	**Pg**	**20 14 00.0**	**-0.9**
NPS	**Neapolis**	**1.25**	**3**	*e*PN	**Pn**	**20 14 06.1**	**-1.5**
GVD	**Gavdhos**	**1.45**	**305**	*e*PN	**Pn**	**20 14 11.3**	**+0.9**
KARP	**Karpathos**	**2.03**	**41**	*e*PN	**Pn**	**20 14 19.5**	**+1.1**
SLUM		**2.53**	**186**	P	**Pn**	**20 14 25.8**	**+0.6**
SLUM				S	**Sn**	**20 14 55.5**	**-0.4**
SWA1		**4.74**	**178**	⇑P	**Pn**	**20 14 56.0**	**+0.5**
SWA1				S	**Sn**	**20 15 47.7**	**-2.8**
SWA2		**4.75**	**181**	⇓P	**Pn**	**20 14 56.1**	**+0.4**
AWBH		**6.36**	**152**	P	**Pn**	**20 15 18.1**	**+0.2**
HFRF	**Wahat Farafira**	**7.25**	**160**	P	**Pn**	**20 15 30.0**	**0.0**
HDK1	**Dakhla**	**9.08**	**157**	P	**Pn**	**20 15 55.7**	**+0.5**

*ISCJB **31** 20:39:29.6±0.9, 3764N±004×2094E±006, h7km±5km, Error ellipse: s-maj=9.6km s-min=5.9km az=108.6*
*ATH **31** 20:39:29.8, 3761N×2096E, h9km±3km, MD3.5/6*
*NEIC **31** 20:39:29.8, 3761N×2096E, h9km, MD3.5(ATH), After ATH.*
*CSEM **31** 20:39:30.2±0.2, 3761N×2085E, h2km±2km, MD3.5, Error ellipse: s-maj=8.4km s-min=2.8km az=66.0*
*THE **31** 20:39:33.6, 3767N×2080E, h20km*

ISC 31 20:39:30.3±0.9, 3763N±004×2096E±006, h4km±5km, n16, σ0§94/25, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.58**	**43**	*e*PB	**Pg**	**20 39 41.3**	**-0.2**
RLS				*e*SB	**Sg**	**20 39 50.2**	**+1.2**
VLS	**Valsamata**	**0.61**	**332**	*e*PG	**Pg**	**20 39 41.7**	**-0.4**
VLS				*e*SB	**Sg**	**20 39 51.8**	**+1.7**
ITM	**Ithomi**	**0.90**	**120**	*e*PG	**Pg**	**20 39 46.4**	**-1.0**
LKD	**Levkas**	**1.10**	**347**	*e*Pg	**Pg**	**20 39 51.3**	**0.0**
LKD				*e*Sg	**Sg**	**20 40 05.3**	**-0.3**
EVR	**Evrytania**	**1.45**	**27**	*e*PG	**Pg**	**20 39 57.0**	**-0.9**
AGG	**Agios Georgios**	**1.76**	**37**	*e*Pb	**Pb**	**20 40 02.2**	**-0.8**
AGG				*e*Sb	**Sb**	**20 40 24.5**	**-0.9**
VLI	**Veliai**	**1.83**	**119**	*e*PG	**Pg**	**20 40 03.9**	**-1.4**
LKR	**Lokris**	**1.90**	**57**	*e*PN	**Pn**	**20 40 04.5**	**+1.0**
IGT	**Igoumenitsa**	**1.96**	**346**	*e*Pb	**Pn**	**20 40 03.6**	**-0.7**
IGT				*e*Sb	**Sn**	**20 40 26.7**	**-2.5**
KYTH	**Kithira**	**2.14**	**128**	*e*PN	**Pn**	**20 40 08.0**	**+1.2**
NEO	**Neokhori**	**2.44**	**46**	*e*PB	**Pn**	**20 40 11.4**	**+0.6**
XOR	**Xorichti**	**2.46**	**45**	*e*Pn	**Pn**	**20 40 12.2**	**+1.0**
LIT	**Litokhoron**	**2.74**	**25**	*e*Pn	**Pn**	**20 40 15.7**	**+0.8**
LIT				*e*Sn	**Sn**	**20 40 48.5**	**0.0**
FNA	**Florina**	**3.16**	**6**	*e*Pn	**Pn**	**20 40 21.0**	**+0.2**
FNA				*e*Sn	**Sn**	**20 40 57.8**	**-1.2**
GRG	**Griva**	**3.50**	**18**	*e*Pn	**Pn**	**20 40 26.1**	**+0.6**
GRG				*e*Sn	**Sn**	**20 41 07.0**	**-0.4**
SOH	**Sokhos**	**3.69**	**30**	*e*Pn	**Pn**	**20 40 29.0**	**+1.0**
SOH				*e*Sn	**Sn**	**20 41 12.3**	**+0.5**

IDC 31 20:44:55.1±1.6, 565S×12956E, h0km, mb3.5/2, mb1 4.1/5, mb1mx3.8/15, mbtmp3.9/5, ML4.2/3, Error ellipse: s-maj=59.8km s-min=24.6km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.95**	**197**	Pn	Pn	20 48 00.7	+0.3
	1.0nm,0.3s,baz=28,slow=14,SNR=38						
FITZ				Sn	Sn	20 50 10.2	-15
	0.5nm,0.3s,baz=178,slow=16,SNR=3.4						
WRA	**Warramunga Arr**	**14.95**	**162**	Pn	Pn	20 48 27.9	+0.3
	0.8nm,0.3s,baz=347,slow=13,SNR=29						
WRA				Sn	Sn	20 51 00.1	-14
	1.0nm,0.3s,baz=339,slow=21,SNR=9.5						
ASAR	**Alice Springs**	**18.39**	**167**	P	Pn	20 49 10.6	-0.9
	1.1nm,0.3s,baz=347,slow=11,SNR=71						
ASAR				S	Sn	20 52 19.6	-18
	0.1nm,0.3s,baz=330,slow=16,SNR=3.5						
CTA	**Charters Tower**	**21.66**	**133**	P	P	20 49 48.2	+1.0
	1.1nm,0.4s,baz=313,slow=12,SNR=3.7						
MKAR	**Makanchi Array**	**66.86**	**327**	P	P	20 55 49.0	+0.2
	0.1nm,0.4s,baz=133,slow=8.1,SNR=3.1						

*ISCJB **31** 20:53:16.5±0.7, 3396N±008×13686E±008, h363km±5km, mb2.9/2, Error ellipse: s-maj=14.7km s-min=8.6km az=111.2*
*IDC **31** 20:53:17.3±1.3, 3399N×13685E, h357km±26km, mb3.0/2, mb1 3.2/5, mb1mx2.8/24, mbtmp3.8/5, Error ellipse: s-maj=57.5km s-min=20.1km az=70.0*
*JMA **31** 20:53:17.2±0.2, 3400N×13681E, h362km±2km, M3.1*

ISC 31 20:53:17.6±0.7, 3400N±008×13683E±009, h357km±5km, n23, σ0§70/33, mb2.9/2, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.40**	**346**	P	**Pn**	**20 54 03.2**	**+0.8**
JIE				S	**S**	**20 54 38.5**	**+0.2**
JKN2	**Miekihoku**	**0.52**	**298**	P	**Pn**	**20 54 03.1**	**+0.5**
JKN2				*e*S	**S**	**20 54 38.3**	**-0.4**
JWZ	**Kozaga**	**1.04**	**244**	P	**Pn**	**20 54 04.1**	**-0.1**
JWZ				*e*S	**S**	**20 54 40.4**	**-1.2**
JWY	**Kouya**	**1.05**	**282**	P	**Pn**	**20 54 04.8**	**+0.6**
JGM	**Miyama**	**1.70**	**357**	P	**Pn**	**20 54 08.2**	**+0.7**
JGM				*e*S	**S**	**20 54 47.9**	**+0.3**
JWT	**Wachi**	**1.74**	**318**	P	**Pn**	**20 54 08.9**	**+0.2**
JWT				S	**S**	**20 54 46.7**	**-1.4**
JAI	**Aioi**	**1.99**	**265**	P	**Pn**	**20 54 09.5**	**+0.1**
JYN	**Shimob**	**2.06**	**43**	P	**Pn**	**20 54 10.5**	**+0.6**
JOD2	**Odawara 2**	**2.25**	**55**	P	**Pn**	**20 54 12.0**	**+0.7**
JIM2	**Oshima 3**	**2.27**	**71**	P	**Pn**	**20 54 11.3**	**-0.1**
JMN	**Monobe**	**2.47**	**265**	P	**Pn**	**20 54 13.2**	**+0.2**
JHJ	**Hachijo jima 2**	**2.62**	**109**	P	**Pn**	**20 54 15.1**	**+0.9**
	11nm,0.3s,baz=47,slow=16,SNR=3.8						
JRY	**Ryogami san**	**2.63**	**40**	P	**Pn**	**20 54 15.1**	**+0.8**
JRY				*e*S	**S**	**20 55 00.3**	**+0.4**
MJAR	**Matsushiro Arr**	**2.78**	**24**	P	**Pn**	**20 54 15.7**	**+0.2**
	1.9nm,0.3s,baz=188,slow=8.1,SNR=28						
MJAR				S	**S**	**20 55 01.6**	**-0.5**
	0.6nm,0.3s,baz=202,slow=9.5,SNR=5.8						
MAT	**Matsushiro**	**2.78**	**24**	P	**Pn**	**20 54 15.7**	**+0.2**
MAT				S	**S**	**20 55 01.7**	**-0.4**
MAT	**Matsushiro**	**2.78**	**24**	P	**Pn**	**20 54 15.7**	**+0.2**
MAT				S	**S**	**20 55 02.4**	**+0.3**
JHS	**Saijyo**	**3.22**	**289**	P	**Pn**	**20 54 20.1**	**+0.6**
JAG	**Ashikaga**	**3.24**	**41**	P	**Pn**	**20 54 18.6**	**-1.0**
BSO1	**Boso 1**	**3.50**	**78**	P	**Pn**	**20 54 19.8**	**-2.2**
BSO1				*e*S	**S**	**20 55 09.6**	**-4.3**
JTO	**Tosashimizu**	**3.55**	**252**	P	**Pn**	**20 54 22.6**	**0.0**
ASAJ	**Asahikawa**	**11.05**	**22**	P	**Pn**	**20 55 47.5**	**-0.5**
	1.8nm,0.3s,baz=233,slow=10.0,SNR=12						
MKAR	**Makanchi Array**	**42.64**	**304**	P	**P**	**21 00 40.1**	**-0.2**
	0.3nm,0.4s,mb2.7,baz=81,slow=10,SNR=4.2						
WRA	**Warramunga Arr**	**53.69**	**183**	P	**P**	**21 02 03.2**	**-0.6**
	0.3nm,0.3s,mb3.1,baz=0.3,slow=7.6,SNR=12						

*IDC **31** 21:33:35.3±1.4, 1268N×8891W, h0km, mb4.0/7, mb1 4.1/10, mb1mx3.9/24, mbtmp4.0/10, ML3.5/3, MS3.6/7, Ms1 3.6/7, ms1mx3.2/27, Error ellipse: s-maj=45.2km s-min=17.9km az=50.0*
*ISCJB **31** 21:33:39.6±0.9, 1242N±008×8904W±006, h55km±9km, mb4.3/15, MS3.6/7, Error ellipse: s-maj=14.9km s-min=6.7km az=65.2*
*CASC **31** 21:33:39.1±2.7, 1229N×8902W, h17km±15km, MD4.3, ML3.5, mb4.4(NEIC)*
*NEIC **31** 21:33:40.4±3.5, 1261N×8891W, h34km±27km, mb4.4/9, Error ellipse: s-maj=22.5km s-min=8.6km az=223.0*

ISC 31 21:33:40.6±0.7, 1253N±008×8904W±006, h40km±9km, n56, σ1§09/53, mb4.3/15, MS3.6/7, 6C-9D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**1.17**	**40**	⇑*e*P	Px	21 34 15.6	
VSM				*e*S	Sx	21 34 35.8	
BLLM	**Bellamira**	**1.20**	**41**	⇑*e*P	Px	21 34 15.5	
BLLM				*e*S	Sx	21 34 34.4	
BOQS	**Boqueron**	**1.22**	**349**	⇓*e*P	Px	21 34 16.5	
BOQS				*e*S	Sx	21 34 35.5	
CNCH	**Conchagua**	**1.39**	**58**	*e*P	Px	21 34 18.1	
CNCH				*e*S	Sx	21 34 38.9	
SBLS	**San Blas**	**1.42**	**337**	*e*P	Px	21 34 19.0	
SBLS				*e*S	Sx	21 34 41.3	
SNJE	**San Jose**	**1.44**	**338**	*e*P	Px	21 34 19.4	
SNJE				*e*S	Sx	21 34 41.9	
RTR	**El Retiro**	**1.48**	**337**	*e*P	Px	21 34 20.1	
RTR				*e*S	Sx	21 34 42.7	
RBDL	**Robledal**	**1.70**	**338**	*e*P	Px	21 34 23.5	
RBDL				*e*S	Sx	21 34 48.3	
MTO2	**Montecristo 2**	**1.89**	**350**	⇓*e*P	Px	21 34 27.1	
MTO2				*e*S	Sx	21 34 55.1	
CRIN	**San Cristobal**	**1.95**	**85**	⇓*e*P	**Pn**	**21 34 11.4**	**+0.2**
CRIN				*e*S	**Sn**	**21 34 38.7**	**+4.3**
	comp=Z,396nm,0.6s						
LEON	**Leon**	**2.10**	**93**	⇓*e*P	**Pn**	**21 34 12.1**	**-1.2**
LEON				*e*S	**Sn**	**21 34 37.7**	**-0.5**
	comp=Z,400nm,0.6s						
TEL3	**Telica 3**	**2.14**	**89**	⇓*e*P	**Pn**	**21 34 13.1**	**-0.7**
TEL3				*e*S	**Sn**	**21 34 41.1**	**+1.9**
TELN	**Telica**	**2.16**	**88**	*e*P	**Pn**	**21 34 14.3**	**+0.3**
MIRN	**Miramar**	**2.28**	**92**	⇓*e*P	**Pn**	**21 34 14.9**	**-0.8**
CNGN	**Cerro Negro**	**2.29**	**90**	⇓*e*P	**Pn**	**21 34 15.2**	**-0.6**
COPN	**Copaltepe**	**2.42**	**98**	⇓*e*P	**Pn**	**21 34 17.2**	**-0.4**
MOMJ	**Momotombo**	**2.44**	**93**	⇑*e*P	**Pn**	**21 34 17.1**	**-0.9**
APYN	**Apoyeque**	**2.64**	**96**	⇑*e*P	**Pn**	**21 34 19.8**	**-0.9**
XAVN	**Gruta Xavier**	**2.68**	**98**	*e*P	**Pn**	**21 34 22.9**	**+1.7**
XAVN				*e*S	**Sn**	**21 34 54.3**	**+1.9**
	comp=Z,578nm,0.5s						
TISN	**Laguna Tiscapa**	**2.73**	**98**	*e*P	**Pn**	**21 34 22.6**	**+0.6**
MGAN	**Managua**	**2.75**	**98**	*e*P	**Pn**	**21 34 21.3**	**-0.9**
MGAN				*e*S	**Sn**	**21 34 53.8**	**-0.5**
TP2	**Tecpan 2**	**2.96**	**320**	*e*P	**Pn**	**21 34 27.7**	**+2.6**
CONN	**Concepcion**	**3.47**	**106**	⇓*e*P	**Pn**	**21 34 30.9**	**-1.2**
MADN	**Villa Maderas**	**3.61**	**108**	⇓*e*P	**Pn**	**21 34 34.3**	**+0.3**
JTS	**JuntasAbangare**	**4.58**	**119**	Pn	**Pn**	**21 34 46.7**	**-0.7**
	comp=Z,4.6nm,0.3s,baz=310,slow=16,SNR=16						
JTS				Sn	**Sn**	**21 35 34.7**	**-4.7**
	comp=Z,3.1nm,0.3s,baz=274,slow=19,SNR=2.4						
PRS1	**Puriscal**	**5.28**	**118**	*e*P	**Pn**	**21 34 57.5**	**+0.5**
PRS1				*e*S	**Sn**	**21 35 56.0**	**-0.6**
LAJ	**Bijagual**	**5.50**	**118**	*e*P	**Pn**	**21 34 55.2**	**-4.9**
LAJ				*e*S	**Sn**	**21 35 52.2**	**-10**
LCR2	**La Lucha 2**	**5.67**	**119**	*e*P	**Pn**	**21 35 02.7**	**+0.5**
LCR2				*e*S	**Sn**	**21 36 06.0**	**0.0**
URSC	**Urasca**	**5.81**	**117**	*e*P	**Pn**	**21 35 05.4**	**+1.1**
BUS	**Buena Vista**	**5.97**	**119**	⇑*e*P	**Pn**	**21 35 07.8**	**+1.4**
CMIG	**Matias Romero**	**7.25**	**309**	Pn	**Pn**	**21 35 22.9**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=78,slow=16,SNR=2.0						
CMIG				Sn	**Sn**	**21 36 43.2**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=90,slow=23,SNR=2.6						
CMIG	**Matias Romero**	**7.25**	**309**	Pn	**Pn**	**21 35 22.9**	**-1.1**
CMIG				Sn	**Sn**	**21 36 43.2**	**-1.8**
SDV	**Santo Domingo**	**18.44**	**100**	P	**Pn**	**21 37 52.4**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=309,slow=13,SNR=6.1						
SDV	**Santo Domingo**	**18.44**	**100**	*e*P	**Pn**	**21 37 52.2**	**-0.9**
JCT	**Junction City**	**20.45**	**333**	*e*P	**P**	**21 38 16.0**	**+1.3**
	comp=Z,15nm,0.7s						
LTX	**Lajitas**	**21.55**	**323**	*e*P	**P**	**21 38 28.6**	**+2.1**
	comp=Z,7.0nm,0.6s,mb4.3						
MIAR	**Mount Ida**	**22.30**	**350**	*e*P	**P**	**21 38 35.5**	**+1.0**
	comp=Z,47nm,1.0s,mb4.9						
UALR	**University of**	**22.35**	**353**	*e*P	**P**	**21 38 36.1**	**+1.1**
	comp=Z,14nm,0.7s,mb4.5						
LPIG	**La Paz**	**23.20**	**303**	LR	LR	21 49 06.6	
	comp=Z,196nm,19.6s,MS3.6,baz=172,slow=40						
WMOK	**Wichita Mounta**	**23.81**	**340**	*e*P	**P**	**21 38 49.3**	**-0.5**
	comp=Z,12nm,1.2s,mb4.2						
MNTX	**Cornudas Mount**	**24.30**	**324**	*e*P	**P**	**21 38 54.8**	**+0.6**
	comp=Z,6.2nm,1.2s,mb3.9						
SADO	**Sadowa**	**33.23**	**13**	P	**P**	**21 40 13.1**	**-0.7**
	comp=Z,4.2nm,0.5s,mb4.6,baz=223,slow=8.6,SNR=7.9						
RSSD	**Black Hills**	**34.02**	**341**	*e*P	**P**	**21 40 24.9**	**+4.2**
PDAR	**Pinedale Array**	**34.99**	**333**	P	**P**	**21 40 30.4**	**+1.3**
	comp=Z,0.4nm,0.7s,mb3.5,baz=121,slow=8.5,SNR=3.5						
EYMN	**Ely**	**35.37**	**357**	*e*P	**P**	**21 40 31.2**	**-1.1**
	comp=Z,5.3nm,0.6s,mb4.7						
REDW	**Red Top Meadow**	**36.04**	**333**	*e*P	**P**	**21 40 39.0**	**+1.0**
	comp=Z,10nm,1.0s,mb4.7						
ULM	**Lac du Bonnet**	**38.03**	**353**	P	**P**	**21 40 53.6**	**-1.3**
	comp=Z,3.7nm,0.8s,mb4.2,baz=164,slow=9.6,SNR=5.2						
ULM				LR	LR	21 58 34.5	
	comp=Z,97nm,18.4s,MS3.6,baz=73,slow=40						
SIV	**San Ignacio**	**39.60**	**135**	P	**P**	**21 41 08.3**	**+0.1**
	comp=Z,3.9nm,0.8s,mb4.2,baz=312,slow=9.1,SNR=9.3						
FFC	**Flin Flon**	**43.31**	**349**	*e*P	**P**	**21 41 39.2**	**+0.6**
	comp=Z,6.7nm,1.2s,mb4.2						
SCHQ	**Schefferville**	**45.66**	**18**	P	**P**	**21 41 55.3**	**-2.1**
	comp=Z,3.2nm,0.6s,mb4.4,baz=211,slow=6.6,SNR=5.8						

MOIG			*i* S	Sn	21 53 53.2	-2.8
MOIG	**Morelia**	**6.50 298**	*i* P	Pn	21 52 46.1	+2.7
MOIG			*i* S	Sn	21 53 56.6	+0.7

*ISCJB **31** 21:52:48.8±0.4,5840N±003×970E±004,h0km,mb2.9/1, Error ellipse: s-maj=4.7km s-min=3.3km az=19.7*
*CSEM **31** 21:52:49.5±0.1,5834N×963E,h1km,ML2.1, Error ellipse: s-maj=2.2km s-min=1.5km az=24.0, Mining explosion.*
*BER **31** 21:52:50.4±3.2,5823N×967E,h0km±9km,MD2.3,ML2.1, ML2.1(NAO)*
*HEL **31** 21:52:50.3±0.3,5835N×959E,h0km,ML2.5,ML2.1(UPP), ML2.1(BER), Explosion*
*IDC **31** 21:52:51.0±1.6,5834N×962E,h0km,mb3.0/1,mb1 3.3/6, mb1mx3.1/23,mbtmp3.2/6,ML2.7/5, Error ellipse: s-maj=12.6km s-min=12.6km az=125.0*
*NAO **31** 21:52:54.6±3.0,5854N×971E,h4km±12km,ML2.1*
*UPP **31** 21:52:55.9,5841N×1041E,h0km,ML2.1, Suspected Mining explosion.*

ISC 31 21:52:49.7±0.4,5834N±003×967E±004,h0km,n46, σ1§05/78,mb2.9/1,1C,Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SNART	**Snartemo**	**1.30**	**271**	*e*P		**Pg**	**21 53 13.9**	**-0.7**
SNART				*e*S		**Sg**	**21 53 30.4**	**-1.0**
SNART				AML		AML	21 53 38.3	
	comp=Z,36nm,0.5s							
KONO	**Kongsberg**	**1.31**	**358**	*e*P		**Pg**	**21 53 14.7**	**-0.2**
KONO				*e*S		**Sg**	**21 53 33.4**	**+1.5**
FINU	**Finntorp**	**1.81**	**53**	*e*P		**Pn**	**21 53 22.9**	**+0.8**
MUD	**Monsted U'grnd**	**1.91**	**188**	↑*i*P		**Pn**	**21 53 23.4**	**-0.1**
MUD				*i*			21 53 32.0	
MUD				*i* S		**Sn**	**21 54 00.0**	**+12**
NASU	**Vaermlandsnaes**	**1.93**	**71**	P		**Pn**	**21 54 24.4**	**+0.6**
BLS5	**Blasjo**	**1.99**	**304**	*e*P		**Pn**	**21 53 24.9**	**+0.3**
ODD1	**Odda**	**2.23**	**316**	*e*P		**Pn**	**21 53 27.7**	**-0.1**
ODD1				*e*S		**Sn**	**21 53 57.1**	**+1.1**
ODD1				AML		AML	21 54 07.4	
	comp=Z,20nm,0.6s							
ODD1	**Odda** SNR=50	**2.23**	**316**	*e*P		**Pn**	**21 53 27.7**	**-0.1**
ODD1				*e*S		**Sn**	**21 53 57.1**	**+1.1**
	comp=Z,20nm,0.6s,SNR=50							
KMY	**Karmoy**	**2.46**	**293**	*e*Pg		**Pg**	**21 53 33.6**	**-3.4**
HFS	**Hagfors**	**2.74**	**47**	*e*P		**Pn**	**21 53 35.3**	**+0.4**
HFS				*e*PG		**Pg**	**21 53 40.9**	**-1.3**
HFS				*e*S		**Sn**	**21 54 07.4**	**-1.3**
HFS				*e*SG		**Sg**	**21 54 15.3**	**-2.5**
HFS	**Hagfors** baz=237,slow=16	**2.74**	**47**	Pn		**Pn**	**21 53 35.3**	**+0.4**
HFS				Pg		**Pg**	**21 53 40.9**	**-1.3**
	baz=230,slow=16							
HFS				Sn		**Sn**	**21 54 07.4**	**-1.3**
	baz=233,slow=28							
HFS				Lg			21 54 15.3	
	baz=228,slow=28							
HFS	**Hagfors**	**2.74**	**47**	Pn		**Pn**	**21 53 35.4**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=229,slow=15,SNR=44							
HFS				Pg		**Pg**	**21 53 40.1**	**-2.1**
	comp=Z,1.4nm,0.3s,baz=232,slow=15,SNR=20							
HFS				Sn		**Sn**	**21 54 07.5**	**-1.2**
	comp=Z,1.9nm,0.3s,baz=235,slow=23,SNR=7.9							
HFS				Lg			21 54 15.6	
	comp=Z,2.6nm,0.3s,baz=233,slow=30,SNR=8.6							
HFS	**Hagfors** SNR=90	**2.74**	**47**	Pg		**Pg**	**21 53 40.9**	**-1.3**
HFS				Sn		**Sn**	**21 54 07.4**	**-1.3**
	SNR=50							
ASKU	**Askersund**	**2.75**	**76**	*e*P		**Pn**	**21 53 36.0**	**+0.9**
NB2	**NORSAR Subarra**	**2.82**	**15**	*e*P		**Pn**	**21 53 35.4**	**-0.6**
NB2				*e*PG		**Pg**	**21 53 43.0**	**-0.7**
NB2				*e*S		**Sn**	**21 54 10.2**	**-0.4**
NB2				*e*SG		**Sg**	**21 54 20.4**	**+0.1**
NB2	**NORSAR Subarra** baz=200,slow=16	**2.82**	**15**	Pn		**Pn**	**21 53 35.4**	**-0.6**
NB2				Pg		**Pg**	**21 53 43.0**	**-0.7**
NB2				Sn		**Sn**	**21 54 10.2**	**-0.4**
	baz=201,slow=28							
NB2				Lg			21 54 20.4	
NB2	**NORSAR Subarra** SNR=90	**2.82**	**15**	Pg		**Pg**	**21 53 43.0**	**-0.7**
NB2				Sn		**Sn**	**21 54 10.2**	**-0.5**
	SNR=50							
NOA	**NORSAR Array B**	**2.82**	**15**	Pn		**Pn**	**21 53 35.0**	**-1.0**
	comp=Z,1.1nm,0.3s,baz=196,slow=15,SNR=6.7							
NOA				Pg		**Pg**	**21 53 40.7**	**-3.0**
	comp=Z,1.2nm,0.3s,baz=196,slow=15,SNR=6.8							
NOA				Sn		**Sn**	**21 54 09.9**	**-0.8**
	comp=Z,1.7nm,0.3s,baz=39,slow=24,SNR=4.8							
NOA				Lg			21 54 21.9	
	comp=Z,1.7nm,0.3s,baz=180,slow=15,SNR=4.2							
EGD	**Espegrend**	**2.99**	**312**	*e*P		**Pn**	**21 53 38.6**	**+0.2**
EGD				*e*Sg		**Sg**	**21 54 27.3**	**+1.5**
EGD				AML		AML	21 54 32.8	
	comp=Z,17nm,0.6s							
BER	**Bergen**	**3.02**	**315**	*e*P		**Pn**	**21 53 38.4**	**-0.4**
BER				*e*PG		**Pg**	**21 53 47.1**	**-0.5**
BER				AML		AML	21 54 29.6	
	comp=Z,9.6nm,0.3s							
BER	**Bergen**	**3.02**	**315**	*e*P		**Pn**	**21 53 38.4**	**-0.4**
BER				*e*Pg		**Pg**	**21 53 47.1**	**-0.5**
BER				*e*Sg		**Sg**	**21 54 27.3**	**+0.5**
BER				AML		AML	21 54 29.6	
	comp=Z,9.6nm,0.3s							
RUND	**Rundenannen**	**3.03**	**315**	*e*PG		**Pg**	**21 53 43.6**	**-4.2**
RUND				AML		AML	21 54 28.3	
	comp=Z,16nm,0.6s							
NRAU	**Nora**	**3.04**	**64**	*e*P		**Pn**	**21 53 39.6**	**+0.5**
COP	**Copenhagen**	**3.06**	**149**	*i* P		**Pn**	**21 53 40.1**	**+0.8**
COP				*i*			21 53 50.4	
COP				*e*S		**Sn**	**21 54 27.8**	**+11**
COP	**Copenhagen**	**3.06**	**149**	*e*P		**Pn**	**21 53 40.1**	**+0.8**
EKSU	**Eksjoe**	**3.10**	**102**	*e*P		**Pn**	**21 53 40.9**	**+1.1**
ASK	**Askoy**	**3.14**	**315**	*e*P		**Pn**	**21 53 40.7**	**+0.3**
ESKU	**Eskilstuna**	**3.61**	**73**	*e*P		**Pn**	**21 53 48.1**	**+1.3**
BACU	**Backbrunna**	**4.12**	**65**	*e*P		**Pn**	**21 53 55.1**	**+1.2**
OSTU	**Oestervaala**	**4.27**	**61**	*e*P		**Pn**	**21 53 57.6**	**+1.6**
BSD	**Bornholm Skovb**	**4.33**	**136**	*i* P		**Pn**	**21 53 56.4**	**-0.4**
BSD				*e*S		**Sn**	**21 54 59.2**	**+11**
BSD				*i* LG			21 55 05.9	
BSD	**Bornholm Skovb**	**4.33**	**136**	*e*P		**Pn**	**21 53 56.4**	**-0.4**
RAF	**Rauma**	**6.69**	**61**	*e*P		**Pn**	**21 54 29.2**	**+0.1**
RAF				*e*SG		**Sg**	**21 56 17.3**	**-7.2**
EKA	**Eskdalemuir Ar**	**7.66**	**252**	Pn		**Pn**	**21 54 41.3**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=53,slow=14,SNR=3.7							
MEF	**Metsahovi**	**7.77**	**70**	*e*P		**Pn**	**21 54 43.0**	**-1.0**
MEF				*e*S		**Sn**	**21 56 08.8**	**-3.9**
MEF				MSN			21 56 12.0	
	comp=Z,1.4nm,0.3s							
VAF	**Ylistaro**	**7.92**	**48**	*e*P		**Pn**	**21 54 48.3**	**+2.2**
KEF	**Keuruu**	**8.47**	**57**	*e*P		**Pn**	**21 54 54.2**	**+0.6**
KEF				*e*S		**Sn**	**21 56 24.6**	**-5.3**
KEF				MSN			21 56 25.1	
	comp=Z,0.7nm,0.3s							
PVF	**Pernaja**	**8.54**	**68**	*e*P		**Pn**	**21 54 53.7**	**-0.9**
FIA0	**FINESS Array S**	**8.81**	**62**	*e*P		**Pn**	**21 54 58.1**	**-0.1**
FIA0				*e*S		**Sn**	**21 56 33.1**	**-5.1**
FIA0				MSN			21 56 36.0	
	comp=Z,0.4nm,0.3s							
FIA0	**FINESS Array S** baz=246,slow=12	**8.81**	**62**	Pn		**Pn**	**21 54 58.1**	**-0.2**
FIA0				Sn		**Sn**	**21 56 32.2**	**-6.0**
	baz=243,slow=22							
FIA0				Lg			21 57 25.6	
	baz=257,slow=28							
FINES	**FINESS Array B**	**8.81**	**62**	Pn		**Pn**	**21 54 57.5**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=259,slow=15,SNR=17							
FINES				Lg			21 57 27.1	
	comp=Z,0.2nm,0.3s,baz=260,slow=22,SNR=3.6							
KAF	**Kangasniemi**	**9.09**	**58**	*e*P		**Pn**	**21 55 02.1**	**0.0**
ARA0	**ARCESS Array S** baz=212,slow=14	**13.15**	**25**	Pn		**Pn**	**21 55 54.0**	**-3.7**
ARA0	**ARCESS Array S**	**13.15**	**25**	*e*P		**Pn**	**21 55 54.0**	**-3.7**
ARCES	**ARCESS Array B**	**13.15**	**25**	Pn		**Pn**	**21 55 54.4**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=217,slow=14,SNR=4.6							
MKAR	**Makanchi Array**	**43.48**	**72**	P		**P**	**22 00 54.0**	**-0.6**
	comp=Z,0.1nm,0.4s,mb2.9,baz=318,slow=6.6,SNR=4.1							

IDC 31 21:58:09.2±1.6,077N×12318E,h0km,mb3.5/3,mb1 3.8/4, mb1mx3.5/18,mbtmp3.6/4,ML3.8/1, Error ellipse: s-maj=148.7km s-min=22.6km az=65.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.91**	**173**	P		Pn	22 02 31.1	-0.8
	0.2nm,0.3s,baz=8.2,slow=18,SNR=7.9							
WRA	**Warramunga Arr**	**23.31**	**153**	P		P	22 03 19.1	+0.2
	0.8nm,0.8s,baz=334,slow=8.5,SNR=17							
ASAR	**Alice Springs**	**26.43**	**157**	P		P	22 03 48.2	+0.6
	0.3nm,0.6s,baz=342,slow=15,SNR=2.6							
MKAR	**Makanchi Array**	**58.06**	**328**	P		P	22 08 04.2	+0.1
	0.3nm,0.3s,baz=125,slow=8.3,SNR=11							

IDC 31 22:09:49.8±18.0,033N×1858W,h0km,mb3.7/3, mb1 3.8/4,mb1mx3.5/22,mbtmp3.9/4,ML4.2/1,Error ellipse: s-maj=521.7km s-min=80.1km az=179.0,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**15.07**	**65**	Pn		Pn	22 13 24.5	+0.5
	1.1nm,0.3s,baz=243,slow=15,SNR=19							
TORD	**Torodi Ar. Bea**	**23.79**	**57**	P		P	22 15 04.4	+0.2
	2.6nm,0.7s,baz=237,slow=10,SNR=15							
BRTR	**Keskin Array B**	**61.57**	**44**	P		P	22 20 09.3	+0.4
	0.7nm,0.6s,baz=254,slow=5.1,SNR=5.0							
AKASG	**Malin Array Be**	**64.43**	**31**	P		P	22 20 28.0	+0.1
	0.1nm,0.3s,baz=234,slow=6.7,SNR=4.2							

*IDC **31** 22:13:10.8±5.5,2457S×17984W,h483km±39km,mb3.4/4, mb1 3.6/4,mb1mx3.3/11,mbtmp4.3/4, Error ellipse: s-maj=90.1km s-min=32.4km az=135.0*
*ISCJB **31** 22:13:11.3±2.9,2455S×1799W±0.2,h502km±36km, mb4.1/9, Error ellipse: s-maj=43.1km s-min=17.1km az=127.0*
*NEIC **31** 22:13:12.6±1.7,2454S×17979W,h511km±18km,mb4.4/7, Error ellipse: s-maj=31.9km s-min=12.0km az=153.0*

ISC 31 22:13:12.8±2.2,246S±02×1798W±02,h513km±25km,n19, σ0§76/15,mb4.2/9,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.93**	**278**	P		**P**	**22 16 02.5**	**+1.5**
	0.6nm,0.3s,baz=82,slow=17,SNR=10							
AFI	**Afiamalu**	**13.00**	**37**	*e*P		**P**	**22 16 01.0**	**-0.8**
CTA	**Charters Tower**	**31.71**	**271**	*e*P		**P**	**22 18 54.6**	**+0.6**
	7.3nm,0.4s,mb4.6							
CTAO	**Charters Tower**	**31.71**	**271**	*e*P		**P**	**22 18 53.9**	**-0.1**
	9.0nm,0.3s,mb4.8							
STKA	**Stephens Creek**	**34.69**	**249**	*e*P		**P**	**22 19 17.8**	**-1.3**
	4.5nm,1.4s,mb3.8							
STKA	**Stephens Creek**	**34.69**	**249**	P		**P**	**22 19 18.0**	**-1.1**
	2.5nm,0.6s,mb3.9,baz=105,slow=11,SNR=7.5							
ASAR	**Alice Springs**	**42.16**	**261**	P		**P**	**22 20 20.1**	**+0.3**
	1.4nm,0.5s,mb3.8,baz=95,slow=7.1,SNR=17							
WB2	**Warramunga Arr**	**42.58**	**267**	*e*P		**P**	**22 20 22.6**	**-0.6**
WRAB	**Tennant Creek**	**42.59**	**267**	*e*P		**P**	**22 20 22.8**	**-0.4**
	7.2nm,0.5s,mb4.5							
WRA	**Warramunga Arr**	**42.59**	**267**	P		**P**	**22 20 22.9**	**-0.4**
	5.8nm,0.5s,mb4.3,baz=104,slow=8.1,SNR=51							
WRA				ScP		ScP	22 25 08.9	+3.2
	1.6nm,1.0s,baz=103,slow=3.8,SNR=6.8							
KAKA	**Kakadu**	**46.60**	**276**	*e*P		**P**	**22 20 53.4**	**-0.8**
	4.9nm,0.6s,mb4.2							
FITZ	**Fitzroy Crossi**	**51.01**	**266**	*e*P		**P**	**22 21 27.4**	**+0.5**
	6.3nm,0.6s,mb4.1							
MJAR	**Matsushiro Arr**	**72.58**	**326**	P		**P**	**22 23 47.7**	**+0.1**
	1.2nm,0.6s,mb3.5,baz=187,slow=4.5,SNR=4.2							
MAW	**Mawson**	**77.20**	**200**	*e*P		**P**	**22 24 14.0**	**+0.5**
TPNV	**Topopah Spring**	**85.53**	**46**	*e*P		**P**	**22 24 57.4**	**+1.1**
	26nm,1.9s,mb4.5							
FINES	**FINESS Array B**	**139.16**	**341**	PKhKP			22 31 32.4	
	1.0nm,0.9s,baz=64,slow=3.2,SNR=4.2							
FINES				PKP		PKPdf	22 31 42.2	+1.2
	1.0nm,0.9s,baz=11,slow=1.9,SNR=3.9							
AKASG	**Malin Array Be**	**145.66**	**327**	PKPbc		PKPbc	22 31 53.7	-0.3
	1.2nm,0.5s,baz=46,slow=4.0,SNR=9.4							
AKASG	**Malin Array Be**	**145.66**	**327**	PKPbc		PKPbc	22 31 53.7	-0.3
BRTR	**Keskin Array B**	**148.16**	**306**	PKPbc		PKPbc	22 32 01.6	+0.9
	1.0nm,0.6s,baz=60,slow=4.9,SNR=5.4							

*ISCJB **31** 22:15:56.4±0.7,6217S±008×1549E±0.4,h10km,mb4.0/3, MS3.8/2, Error ellipse: s-maj=24.0km s-min=10.8km az=170.4*
*IDC **31** 22:15:56.9±7.2,6213S×15498E,h0km,mb4.0/2, mb1 4.1/3,mb1mx4.0/10,mbtmp3.9/3,ML2.8/1,MS3.8/2, Ms1 3.8/2,ms1mx2.9/26, Error ellipse: s-maj=438.0km s-min=36.8km az=77.0*
*NEIC **31** 22:15:58.5±0.6,6215S×15497E,h10km,mb3.9/3, Error ellipse: s-maj=21.5km s-min=9.2km az=84.0*

ISC 31 22:15:57.9±0.7,6219S±007×1548E±03,h10km,n14, σ0§91/11,mb4.0/3,MS3.8/2,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.57**	**174**	Pn		**Pn**	**22 19 37.3**	**-0.2**
	0.0nm,0.3s,baz=339,slow=15,SNR=4.7							
VNDA	**Vanda**	**15.57**	**174**	*e*Pn		**Pn**	**22 19 39.6**	**+2.2**
	1.7nm,0.8s							
SBA	**Scott Base**	**16.19**	**171**	*e*Pn		**Pn**	**22 19 44.5**	**-0.9**
CASY	**Casey**	**19.35**	**238**	P		**Pn**	**22 20 24.4**	**-0.2**
TAU	**Tasmania Unive**	**19.82**	**344**	*e*P		**Pn**	**22 20 28.7**	**-1.5**
	4.4nm,0.7s							
MAW	**Mawson**	**35.94**	**221**	LR		LR	22 37 26.2	
	comp=Z,177nm,20.4s,MS3.8,baz=240,slow=36							
ASAR	**Alice Springs**	**41.05**	**330**	P		**P**	**22 23 42.1**	**+0.7**
	3.1nm,0.8s,mb4.0,baz=164,slow=8.2,SNR=18							
CTAO	**Charters Tower**	**42.48**	**248**	P		**P**	**22 23 53.8**	**+0.6**
WRA	**Warramunga Arr**	**44.54**	**332**	P		**P**	**22 24 09.0**	**-0.8**
	1.2nm,0.7s,mb3.8,baz=166,slow=7.2,SNR=7.6							
WRAB	**Tennant Creek**	**44.55**	**332**	*e*P		**P**	**22 24 11.2**	**+1.3**
	3.7nm,0.8s,mb4.3							
PMG	**Port Moresby**	**52.98**	**351**	*e*P		**P**	**22 25 14.9**	**+0.2**
AFI	**Afiamalu**	**53.76**	**42**	P		**P**	**22 25 20.2**	**-0.1**
PPT	**Papeete**	**58.82**	**67**	LR		LR	22 45 13.7	
	comp=Z,83nm,20.7s,MS3.8,baz=179,slow=30							
AKASG	**Malin Array Be**	**148.79**	**274**	PKPbc		PKPbc	22 35 44.9	-0.7
	0.3nm,0.3s,baz=118,slow=2.3,SNR=4.3							

IDC 31 22:33:16.2±6.3,3072S×17814W,h0km,mb3.7/2, mb1 4.0/2,mb1mx3.8/13,mbtmp3.7/2,Error ellipse: s-maj=254.9km s-min=57.7km az=156.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.98**	**267**	P		P	22 41 16.9	-0.2
	1.0nm,0.8s,baz=103,slow=8.0,SNR=5.4							
WRA	**Warramunga Arr**	**43.99**	**273**	P		P	22 41 25.8	+0.6
	1.1nm,0.6s,baz=113,slow=7.8,SNR=18							
VNA3	**Neumayer Olymp**	**77.99**	**176**	*e*		P	22 45 20.2	+3.8
VNA2	**Neumayer--Watz** baz=183,slow=6.2	**78.42**	**177**	*e*		P	22 45 22.7	+3.9
FINES	**FINESS Array B**	**145.41**	**340**	PKPbc		PKPbc	22 52 54.5	-1.6
	0.7nm,0.8s,baz=22,slow=1.5,SNR=6.0							

*ISCJB **31** 22:45:28.7±0.3,2640S±004×2756E±003,h10km,mb3.9/7, Error ellipse: s-maj=5.3km s-min=3.7km az=154.9*
*PRE **31** 22:45:28.2±1.1,2642S×2758E,h2km,ML3.7*
*IDC **31** 22:45:29.4±1.4,2639S×2756E,h0km,mb4.0/7, mb1 4.2/11,mb1mx4.0/25,mbtmp4.1/11,ML4.3/3, Error ellipse: s-maj=32.9km s-min=17.6km az=26.0*
*NEIC **31** 22:45:30.1±0.4,2639S×2756E,h5km,mb3.9/1, Error ellipse: s-maj=11.8km s-min=8.7km az=70.0*

ISC 31 22:45:30.3±0.3,2637S±003×2757E±003,h10km,n34, σ1§03/48,mb3.9/7,South Africa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ERPM	**east rand prop**	**0.61**	**79**	*e*P		**Pg**	**22 45 40.6**	**-1.6**
ERPM				*e*S		**Sg**	**22 45 48.2**	**-2.0**
ERPM				AML		AML	22 45 49.9	
	comp=Z,2μm,0.5s							
KSR	**Koster**	**0.79**	**310**	*e*P		**Pg**	**22 45 44.6**	**-1.0**
KSR				*e*S		**Sg**	**22 45 55.6**	**-0.2**
KSR				AML		AML	22 46 04.9	
	comp=Z,669nm,0.9s							
SLR	**Silverton**	**0.90**	**46**	*e*P		**Pg**	**22 45 46.1**	**-1.4**
SLR				*e*S		**Sg**	**22 45 59.3**	**+0.1**
SLR				AML		AML	22 46 04.9	
	comp=Z,732nm,0.5s							
SWZ	**Schweizer**	**2.16**	**247**	*e*P		**Pn**	**22 46 05.8**	**-0.5**
SWZ				*e*S		**Sn**	**22 46 32.8**	**-0.3**
SWZ				AML		AML	22 46 46.2	
	comp=Z,385nm,0.6s							
LBTB	**Lobatse**	**2.23**	**307**	Pn		**Pn**	**22 46 09.5**	**+2.2**
	comp=Z,148nm,0.3s,baz=138,slow=15,SNR=910							
LBTB				Pg		**Pg**	**22 46 10.9**	**-2.1**
	comp=Z,145nm,0.3s,baz=143,slow=13,SNR=841							
LBTB				Lg			22 46 39.8	
	comp=Z,229nm,0.3s,baz=45,slow=20,SNR=34							
LBTB				Rg			22 46 47.0	
	comp=Z,189nm,0.4s,baz=247,slow=22,SNR=8.8							
BFT	**Belfast (SA)**	**2.33**	**74**	*e*P		**Pn**	**22 46 08.8**	**+0.2**
BFT				*e*S		**Sn**	**22 46 36.9**	**-0.3**
BFT				AML		AML	22 46 49.7	
	comp=Z,261nm,0.4s							
POGA	**Pongola**	**3.75**	**106**	*e*P		**Pn**	**22 46 28.3**	**+0.2**
POGA				*e*S		**Sn**	**22 47 12.5**	**+0.3**
POGA				AML		AML	22 47 28.8	
	comp=Z,203nm,0.4s							
HVD	**Hendrik Verwoe**	**4.60**	**203**	*e*P		**Pn**	**22 46 38.1**	**-1.7**
HVD				*e*S		**Sn**	**22 47 25.7**	**-7.7**
HVD				AML		AML	22 48 00.2	
	comp=Z,78nm,0.7s							
UPI	**Upington**	**5.96**	**249**	*e*P		**Pn**	**22 46 58.0**	**-0.5**
UPI				*e*S		**Sn**	**22 48 03.4**	**-3.4**
UPI				AML		AML	22 48 05.0	
	comp=Z,22nm,0.2s							
GRM	**Grahamstown**	**6.99**	**187**	*e*P		**Pn**	**22 47 12.0**	**-0.6**
SUR	**Sutherland**	**8.40**	**223**	Pn		**Pn**	**22 47 31.5**	**-0.6**
	comp=Z,2.7nm,0.3s,baz=49,slow=14,SNR=30							
SUR				Sn		**Sn**	**22 49 00.4**	**-6.6**
	comp=Z,2.2nm,0.3s,baz=311,slow=23,SNR=4.5							
SUR				Lg			22 49 45.3	
	comp=Z,3.8nm,0.3s,baz=336,slow=22,SNR=4.2							
SUR	**Sutherland**	**8.40**	**223**	Pn		**Pn**	**22 47 31.5**	**-0.6**
SUR				Sn		**Sn**	**22 49 00.4**	**-6.6**
SUR				Lg			22 49 45.3	
CVNA	**Calvinia**	**8.53**	**231**	*e*P		**Pn**	**22 47 33.5**	**-0.3**
CVNA				*e*S		**Sn**	**22 49 05.4**	**-4.7**
CVNA				AML		AML	22 49 20.6	
	comp=Z,31nm,0.7s							
CER	**Ceres**	**10.01**	**224**	*e*S		**Sn**	**22 49 40.1**	**-6.3**
CER				AML		AML	22 50 19.2	
	comp=Z,4.9nm,0.6s							
LSZ	**Lusaka**	**11.05**	**3**	Pn		**Pn**	**22 48 07.9**	**-0.4**
	comp=Z,2.8nm,0.3s,baz=185,slow=13,SNR=40							
LSZ				Sn		**Sn**	**22 50 08.0**	**-4.0**
	comp=Z,1.4nm,0.3s,baz=43,slow=14,SNR=5.6							
LSZ				Lg			22 51 11.5	
	comp=Z,0.9nm,0.3s,baz=240,slow=22,SNR=3.8							
TSUM	**Tsumeb**	**11.64**	**306**	Pn		**Pn**	**22 48 16.3**	**-0.2**
	comp=Z,3.1nm,0.3s,baz=120,slow=10,SNR=104							
TSUM				Sn		**Sn**	**22 50 18.6**	**-7.9**
	comp=Z,0.4nm,0.3s,baz=74,slow=22,SNR=2.1							
TSUM				Lg			22 51 28.7	
	comp=Z,0.9nm,0.3s,baz=57,slow=21,SNR=4.0							
DBIC	**Dimbokro**	**45.47**	**312**	P		**P**	**22 53 50.4**	**+0.9**
	comp=Z,0.9nm,0.3s,mb4.1,baz=116,slow=9.3,SNR=6.6							
DBIC	**Dimbokro**	**45.47**	**312**	*e*P		**P**	**22 53 50.7**	**+1.2**
	comp=Z,0.6nm,0.3s,mb3.9							
MAW	**Mawson**	**46.48**	**162**	*e*P		**P**	**22 53 57.5**	**0.0**
TORD	**Torodi Ar. Bea**	**46.65**	**324**	P		**P**	**22 53 59.4**	**+0.6**
	comp=Z,1.3nm,0.4s,mb4.2,baz=136,slow=6.2,SNR=37							
VNA1	**Neumayer--Stat**	**48.78**	**195**	*e*		**P**	**22 54 16.7**	**+1.3**
VNA2	**Neumayer--Watz** baz=25,slow=11	**48.79**	**195**	*e*		**P**	**22 54 16.4**	**+1.0**
VNA3	**Neumayer Olymp**	**49.53**	**195**	*e*		**P**	**22 54 21.0**	**-0.1**
EIL	**Elat**	**56.16**	**8**	*e*P		**P**	**22 55 11.0**	**+0.9**
CART	**Cartagena**	**69.04**	**336**	*e*P		**P**	**22 56 36.9**	**+0.8**
ESDC	**Sonseca Array**	**71.98**	**335**	P		**P**	**22 56 55.2**	**+1.1**
	comp=Z,0.9nm,0.5s,mb4.0,baz=156,slow=5.8,SNR=7.6							
VNDA	**Vanda**	**72.85**	**171**	*e*P		**P**	**22 56 59.5**	**+0.3**
GERES	**GERESS Array B**	**75.89**	**351**	P		**P**	**22 57 18.8**	**+1.8**
	comp=Z,0.6nm,0.8s,mb3.6,baz=160,slow=8.2,SNR=4.0							
NWAO	**Narrogin (SRO)**	**75.91**	**120**	*e*P		**P**	**22 57 18.2**	**+1.1**
AKASG	**Malin Array Be**	**76.74**	**1**	P		**P**	**22 57 21.3**	**-0.5**
	comp=Z,0.4nm,0.5s,mb3.6,baz=183,slow=5.0,SNR=4.2							
AKASG	**Malin Array Be**	**76.74**	**1**	P		**P**	**22 57 21.3**	**-0.5**
MBWA	**Marble Bar**	**82.71**	**110**	*e*P		**P**	**22 57 55.3**	**+1.1**
FINES	**FINESS Array B**	**87.50**	**359**	P		**P**	**22 58 18.7**	**+0.5**
	comp=Z,0.8nm,0.6s,mb4.2,baz=173,slow=3.8,SNR=7.2							
MKAR	**Makanchi Array**	**87.99**	**34**	P		**P**	**22 58 21.4**	**+0.8**
	comp=Z,0.4nm,0.6s,mb3.8,baz=235,slow=4.3,SN

*IDC **31** 23:29:56.1±1.3, 1927N×7048W, h0km, mb3.7/3, mb1 4.2/5, mb1mx3.7/22, mbtmp4.0/5, ML5.1/2, MS2.6/1, Ms1 2.6/1, ms1mx2.3/24, Error ellipse: s-maj=28.3km s-min=24.0km az=57.0*

*NEIC **31** 23:29:59.5, 2062N×6990W, h25km, MD4.4(RSPR), After RSPR.*

*RSPR **31** 23:29:59.5, 2062N×6990W, h25km±32km, MD4.5/14, MD4.5/14*

*SSNC **31** 23:30:29.4, 1901N×7223W, h25km, MD4.0, ML3.9*

ISC 31 23:29:54.0±0.5, **1959N**±007×**7071W**±003, **h10**km, **n32,** σ1§**42**/46, **mb3.8**/3, **11C-6D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res ISC
MASC	**Masc**	**3.37**	**281**	*e*P		**Pn**	**23 30 53.9**	**+7.3**
MASC				*e*S		**Sn**	**23 31 28.8**	**+2.2**
	comp=N,9μm,0.5s							
MASC				*e*				
	comp=E,1μm,0.5s							
AGPR	**Aguadilla, PR**	**3.58**	**108**	*e*P		**Pn**	**23 30 50.0**	**+0.4**
MPR	**Mayaguez**	**3.65**	**111**	*e*Pn		**Pn**	**23 30 51.5**	**+1.0**
MPR				*e*Sn		**Sn**	**23 31 42.6**	**+9.2**
LSP	**Las Mesas**	**3.71**	**112**	*e*P		**Pn**	**23 30 52.3**	**+1.0**
CRPR	**Cabo Rojo, PR**	**3.75**	**114**	*e*P		**Pn**	**23 30 52.9**	**+1.0**
CRPR				*e*S		**Sn**	**23 31 38.6**	**+2.4**
MGP	**Maguayo**	**3.77**	**114**	*e*P		**Pn**	**23 30 54.4**	**+2.2**
LRS	**Lares**	**3.88**	**109**	*e*P		**Pn**	**23 30 53.6**	**0.0**
AOPR	**Arecibo Observ**	**3.94**	**108**	*e*P		**Pn**	**23 30 53.9**	**-0.7**
MOAC	**Moa**	**4.13**	**286**	*e*P		**Pn**	**23 30 56.8**	**-0.4**
MOAC				*e*S		**Sn**	**23 31 43.5**	**-2.1**
	comp=N,8μm,0.4s							
MOAC				*e*				
	comp=E,6μm,0.8s							
OBIP	**Obispado Ponce**	**4.18**	**111**	*e*P		**Pn**	**23 30 58.3**	**+0.6**
CELP	**Cerrillos**	**4.19**	**110**	*e*P		**Pn**	**23 30 58.2**	**+0.3**
ICM	**Isla Caja Muer**	**4.31**	**112**	*e*P		**Pn**	**23 31 00.1**	**+0.5**
SJG	**San Juan**	**4.56**	**108**	*e*P		**Pn**	**23 31 03.0**	**0.0**
SJG	**San Juan**	**4.56**	**108**	*e*S		**Sn**	**23 31 51.3**	**-4.8**
SJG	**San Juan**	**4.56**	**108**	*e*P		**Pn**	**23 31 03.2**	**+0.2**
SJG	**San Juan**	**4.56**	**108**	Pn		**Pn**	**23 31 02.4**	**-0.6**
	comp=E,11nm,0.3s,baz=315,slow=11,SNR=6.6							
SJG				Sn		**Sn**	**23 31 51.9**	**-4.1**
	comp=E,43nm,0.3s,baz=334,slow=22,SNR=9.3							
SJG	**San Juan**	**4.56**	**108**	*e*P		**Pn**	**23 31 03.0**	**0.0**
SJG				*e*S		**Sn**	**23 31 51.3**	**-4.8**
RCC	**Rio Carpintero**	**4.71**	**276**	*e*P		**Pn**	**23 31 03.9**	**-1.2**
RCC				*e*S		**Sn**	**23 31 56.2**	**-3.6**
	comp=N,112nm,0.3s							
RCC				*e*				
	comp=E,52nm,0.5s							
CBYP	**Canovanas**	**4.78**	**105**	*e*P		**Pn**	**23 31 04.2**	**-1.8**
CBYP				*e*S		**Sn**	**23 31 58.1**	**-3.2**
CPD	**Cerro la Pandu**	**4.79**	**108**	*e*P		**Pn**	**23 31 05.8**	**-0.4**
CPD				*e*S		**Sn**	**23 31 57.1**	**-4.7**
HUMP	**Col San Antoni**	**4.82**	**107**	*e*P		**Pn**	**23 31 05.5**	**-1.1**
HUMP				*e*S		**Sn**	**23 31 57.1**	**-5.3**
MTP	**Monte Pirata**	**5.10**	**106**	*e*P		**Pn**	**23 31 09.2**	**-1.3**
MTP				*e*S		**Sn**	**23 32 04.6**	**-4.8**
HLGC	**Holguin**	**5.19**	**285**	*e*P		**Pn**	**23 31 14.8**	**+3.1**
CULB	**Culebra**	**5.25**	**103**	*e*P		**Pn**	**23 31 11.1**	**-1.4**
CULB	**Culebra**	**5.25**	**103**	*e*S		**Sn**	**23 32 06.7**	**-6.3**
LMGC	**Las Mercedes**	**5.95**	**276**	*e*P		**Pn**	**23 31 22.2**	**+0.1**
LMGC				*e*S		**Sn**	**23 32 29.0**	**-1.2**
	comp=N,34nm,0.7s							
LMGC				*e*				
	comp=E,43nm,0.4s							
MGV	**Manicaragua**	**9.03**	**288**	*e*P		**Sn**	**23 33 37.0**	**-9.0**
SDV	**Santo Domingo**	**10.64**	**180**	Pn		**Pn**	**23 32 27.9**	**+1.5**
	comp=E,3.0nm,0.3s,baz=6.3,slow=9.2,SNR=11							
SDV				Sn		**Sn**	**23 34 23.9**	**-1.7**
	comp=E,0.7nm,0.3s,baz=334,slow=22,SNR=3.5							
SDV				LR		LR	23 35 41.8	
	comp=E,37nm,21.0s,baz=60,slow=34							
PCRV	**Puerto La Cruz**	**11.04**	**147**	Pn		**Pn**	**23 32 34.8**	**+2.9**
	comp=E,2.9nm,0.3s,baz=39,slow=5.0,SNR=8.1							
PCRV				Sn		**Sn**	**23 34 31.2**	**-4.3**
	comp=E,1.1nm,0.3s,baz=44,slow=23,SNR=2.9							
LPAZ	**La Paz**	**35.74**	**176**	P		**P**	**23 36 53.8**	**+0.9**
	comp=E,0.7nm,0.6s,mb3.8,baz=352,slow=7.1,SNR=4.2							
NVAR	**Mina Array Bea**	**45.12**	**305**	P		**P**	**23 38 17.2**	**+6.7**
	comp=E,0.5nm,0.7s,mb3.5,baz=101,slow=8.6,SNR=2.5							
ESDC	**Sonseca Array**	**60.05**	**55**	P		**P**	**23 40 05.4**	**+4.3**
	comp=E,1.1nm,0.7s,mb4.0,baz=273,slow=7.7,SNR=6.3							

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*ISCJB **31** 23:44:47.6±0.6, 5159N±004×683E±006, h0km, Error ellipse: s-maj=5.9km s-min=5.1km az=110.4*

*BNS **31** 23:44:49.0±0.5, 5164N×701E, h1km, ML1.6*

*CSEM **31** 23:44:49.3±0.2, 5163N×696E, h1km, ML2.5/2, Error ellipse: s-maj=5.3km s-min=2.9km az=4.0*

*LDG **31** 23:44:49.9±0.2, 5159N×698E, h1km, Ml2.5/2, Error ellipse: s-maj=4.3km s-min=2.2km az=25.0, Suspected Mining induced.*

*BGR **31** 23:44:50.1±1.1, 5160N×699E, h1km, ML1.9/1, Error ellipse: s-maj=23.3km s-min=7.8km az=82.0*

*NEIC **31** 23:44:51.6±5.2, 5137N×677E, h5km, ML2.5(LDG), Error ellipse: s-maj=59.2km s-min=12.9km az=209.0*

ISC 31 23:44:48.4±0.6, **5162N**±004×**689E**±006, **h0**km, **n27,** σ1§**00**/38, **2C, Germany**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res ISC
LAUG	**Laupendahl**	**0.27**	**173**	*e*Pg		**Pg**	**23 44 54.4**	**+0.9**
BUG	**Bochum--Univer**	**0.30**	**127**	*e*Pg		**Pg**	**23 44 54.4**	**+0.3**
	SNR=7.4							
WTSB	**Winterswijk**	**0.35**	**351**	*i*Pg		**Pg**	**23 44 56.6**	**+1.4**
	20nm,0.5s							
WTSB	**Winterswijk**	**0.35**	**351**	*i*Pg		**Pg**	**23 44 56.6**	**+1.4**
HOBG	**Hohbusch**	**0.69**	**156**	*e*Pg		**Pg**	**23 45 01.9**	**+0.2**
IBBN	**Ibbenburen**	**0.88**	**37**	*e*Pg		**Pg**	**23 45 06.2**	**+1.0**
	SNR=2.0							
STB	**Steinbach**	**1.02**	**182**	*e*Pg		**Pg**	**23 45 08.9**	**+0.9**
STB				*e*Sg		**Sg**	**23 45 23.4**	**+2.1**
	16nm,0.3s							
KLL	**Kalltalsperre**	**1.04**	**201**	*e*Pg		**Pg**	**23 45 09.2**	**+0.9**
HGN	**Heimansgroeve**	**1.05**	**216**	*e*Pg		**Pg**	**23 45 09.7**	**+1.3**
	12nm,0.1s							
HGN				*e*Sg		**Sg**	**23 45 24.5**	**+2.5**
BGG	**Burgeitz**	**1.44**	**168**	*e*Pg		**Pg**	**23 45 15.0**	**-1.0**
TNS	**Taunus Mts**	**1.71**	**144**	*e*Pn		**Pn**	**23 45 19.8**	**+0.4**
	SNR=1.3							
TNS				*e*Sg		**Sg**	**23 45 42.8**	**-0.5**
	SNR=2.3							
GIVF	**Givet**	**2.00**	**222**	*e*Pg		**Pg**	**23 45 27.6**	**+0.8**
GIVF				*e*Sg		**Sg**	**23 45 53.4**	**+0.6**
	9.5nm,0.3s							
GIVF	**Givet**	**2.00**	**222**	*e*Pn		**Pn**	**23 45 23.0**	**-0.5**
GIVF				*e*Pg		**Pg**	**23 45 27.6**	**+0.8**
GIVF				*e*Sg		**Sg**	**23 45 53.4**	**+0.6**
GIVF	**Givet**	**2.00**	**222**	*e*Pg		**Pg**	**23 45 27.6**	**+0.8**
GIVF				*e*Sg		**Sg**	**23 45 53.4**	**+0.6**
BAIF	**Baives**	**2.31**	**229**	*e*Pg		**Pg**	**23 45 33.0**	**+0.4**
BAIF				*e*Sn		**Sn**	**23 45 54.9**	**-1.9**
	4.5nm,0.4s							
BAIF	**Baives**	**2.31**	**229**	*e*Pn		**Pn**	**23 45 27.2**	**-0.5**
BAIF				*e*Pg		**Pg**	**23 45 33.0**	**+0.4**
BAIF				*e*Sn		**Sn**	**23 45 54.9**	**-1.9**
BAIF	**Baives**	**2.31**	**229**	*e*Pg		**Pg**	**23 45 33.0**	**+0.4**
BAIF				*e*Sn		**Sn**	**23 45 54.9**	**-1.9**
CDF	**Champ du Feu**	**3.22**	**175**	*e*Pn		**Pn**	**23 45 39.5**	**-0.7**
BFO	**Black Forest**	**3.42**	**164**	*e*Pn		**Pn**	**23 45 42.5**	**-0.5**
	SNR=1.4							
LOR	**Lormes**	**4.78**	**206**	*e*Pn		**Pn**	**23 46 00.8**	**-0.9**
CABF	**La Chapelle**	**5.04**	**186**	*e*Pn		**Pn**	**23 46 04.4**	**-0.8**
SSF	**Saint Saulge**	**5.07**	**207**	*e*Pn		**Pn**	**23 46 04.4**	**-1.2**
AVF	**Avril sur Loir**	**5.36**	**207**	*e*Pn		**Pn**	**23 46 08.4**	**-1.2**
SMF	**Signal de Mont**	**5.36**	**203**	*e*Pn		**Pn**	**23 46 08.7**	**-1.0**
FLN	**La Foliniere**	**5.53**	**242**	*e*Pn		**Pn**	**23 46 11.9**	**-0.1**
	baz=58							
BGF	**Bois d'Agland**	**5.72**	**209**	*e*Pn		**Pn**	**23 46 13.5**	**-1.0**
TCF	**Toulx Ste Croi**	**6.16**	**212**	*e*Pn		**Pn**	**23 46 19.8**	**-0.8**

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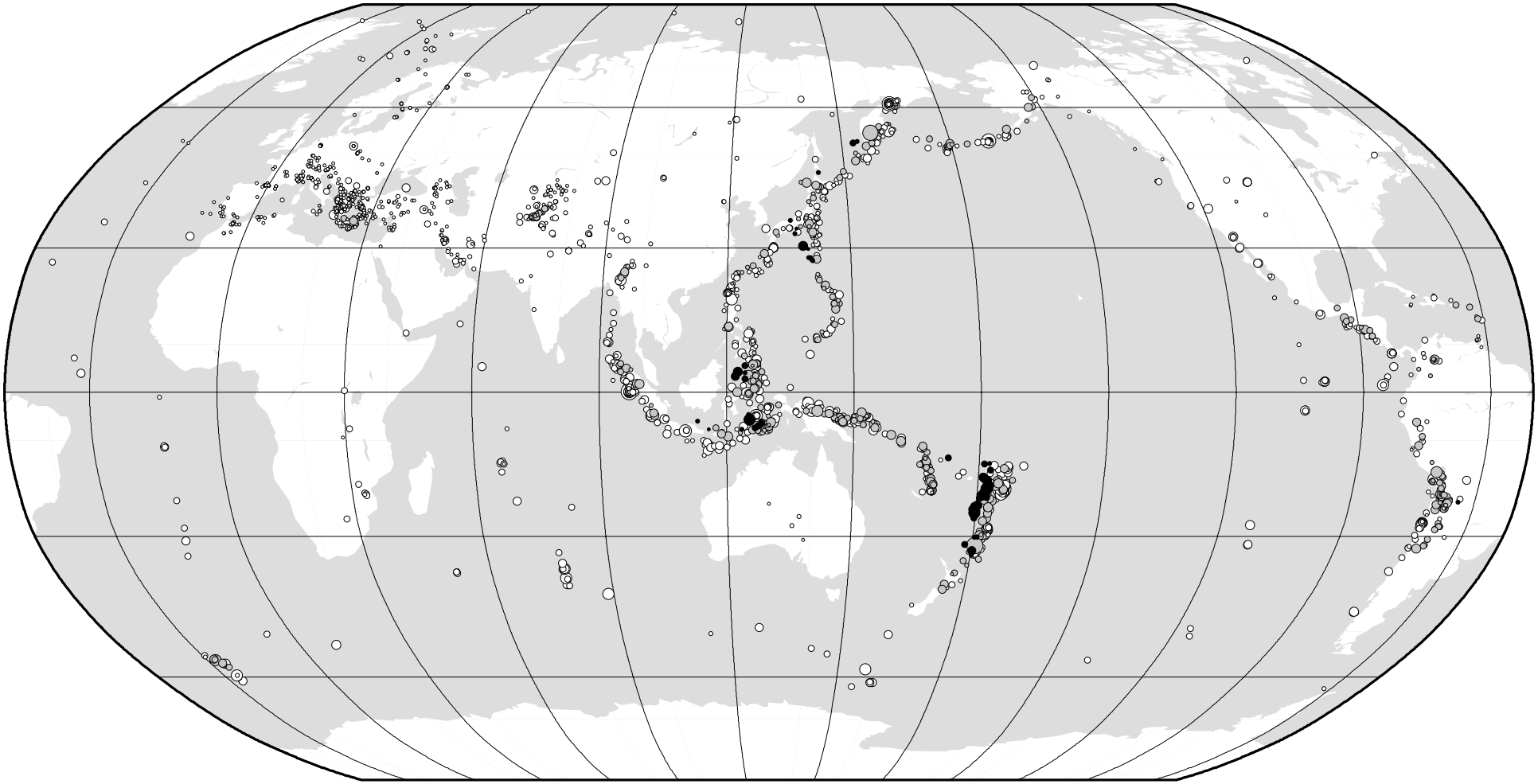
*NEIC **31** 23:50:59.7, 1544N×9477W, h5km, MD4.0(MEX), After MEX.*

MEX 31 23:50:59.7±1.2, **1544N×9477W, h5**km±27km, **MD4.0, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res ISC
HUIG	**Huatulco**	**1.33**	**284**	*i* P		Pn	23 51 21.4	-3.5
HUIG				*i* S		Sb	23 51 37.0	-5.4
CMIG	**Matias Romero**	**1.64**	**356**	*i* P		Pn	23 51 25.3	-3.9
CMIG				*i* S		Sn	23 51 45.6	-5.1
SCX	**San Cristobal**	**2.42**	**58**	*i* P		Pn	23 51 38.1	-1.8
SCX				*i* S		Sn	23 52 08.1	-1.9
OXX	**Oaxaca**	**2.48**	**311**	*i* P		Pn	23 51 40.8	0.0
VHO	**Vista Hermosa**	**2.49**	**311**	*i* P		Pn	23 51 37.8	-3.0
VHO				*i* S		Sn	23 52 09.2	-2.3
TUIG	**Tuzandepetl**	**2.60**	**7**	*e*P		Pn	23 51 39.3	-3.1
TUIG				*i* S		Sn	23 52 09.7	-4.6

ISC Computed Locations for May 2006



Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

2405 Events